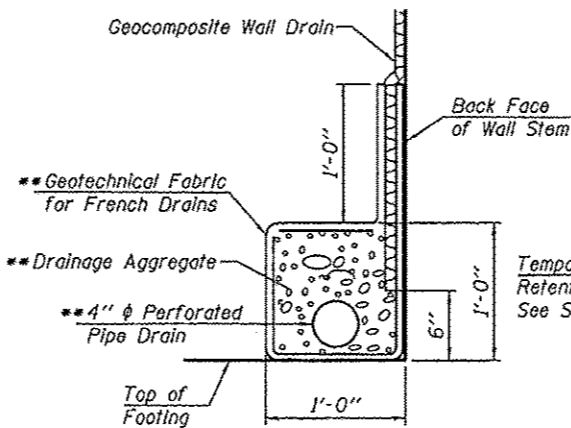


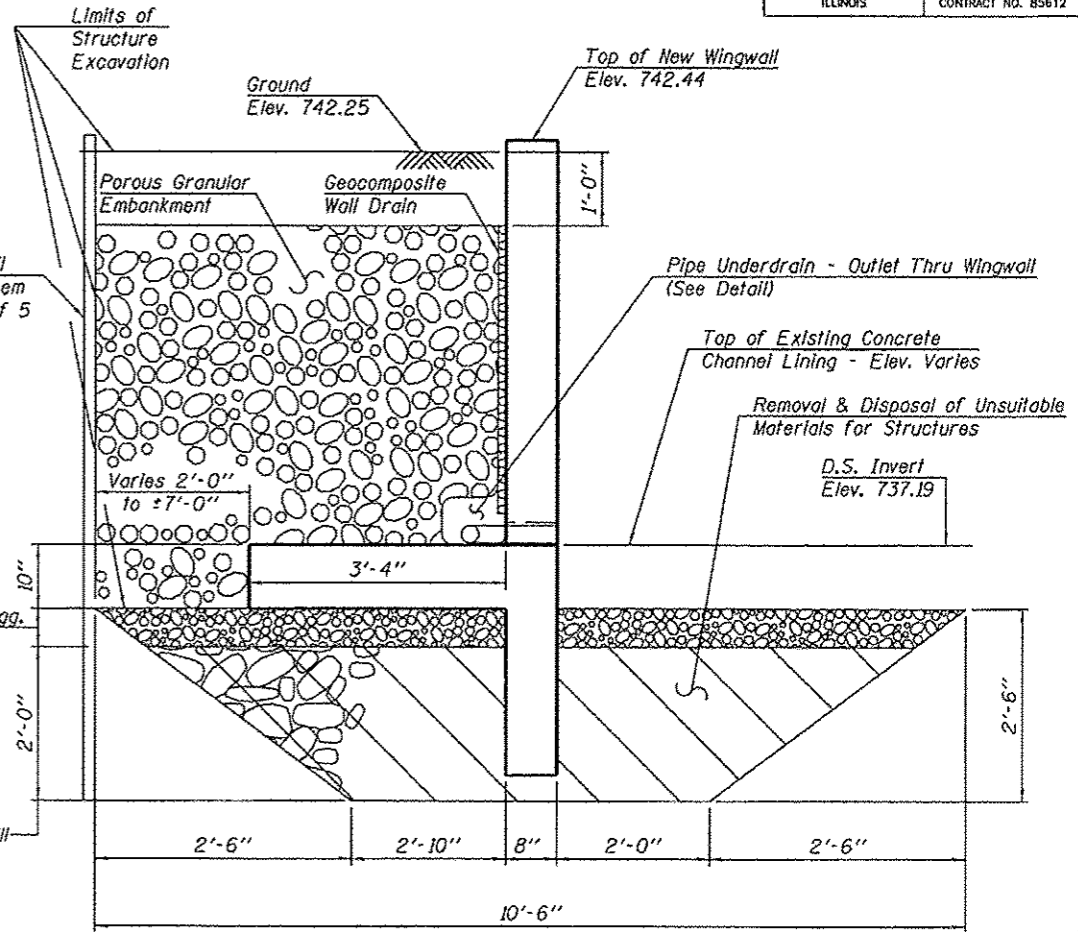
**SW. WALL - SOUTH ELEVATION**  
Showing Wing Reinforcement

\*Denotes Dimension along Existing Culvert Skew



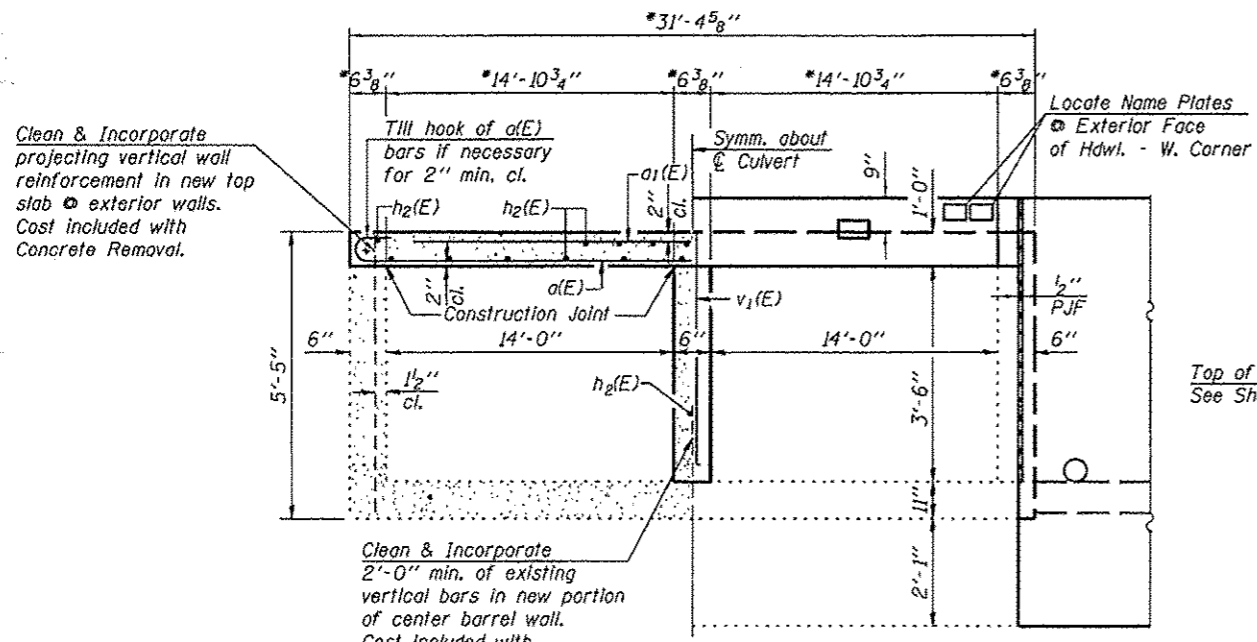
**PIPE UNDERDRAIN DETAIL**

\*\* Included in the cost of "Pipe Underdrains for Structures"



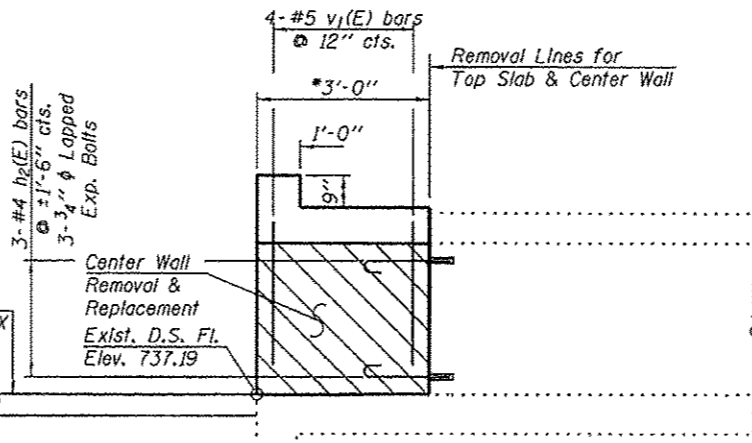
**SECTION THRU CULVERT DOWNSTREAM WING**

A cantilevered sheet piling design does not appear feasible and additional members or other retentions systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.



**HALF SECTION THRU BARREL**

**HALF END ELEVATION**

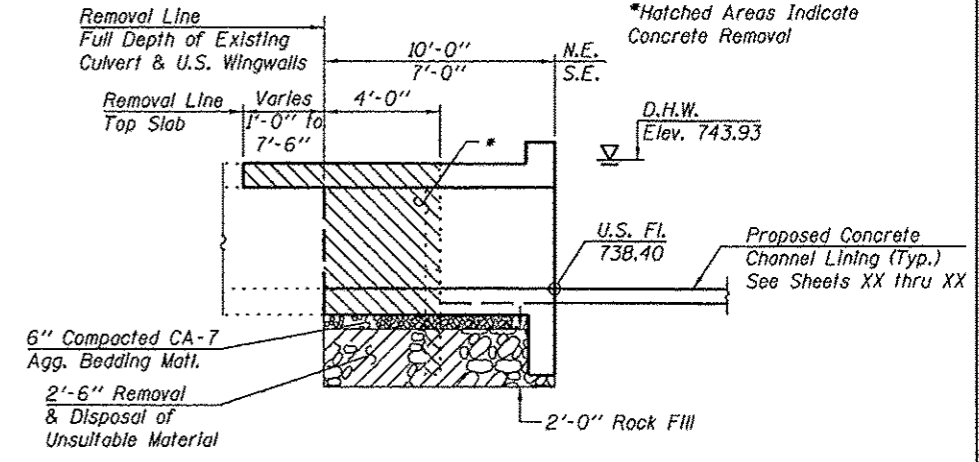
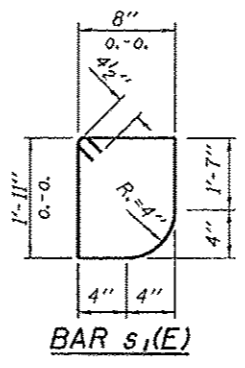
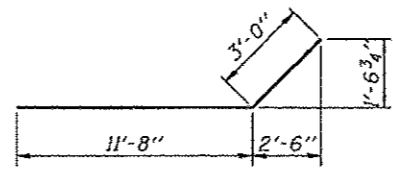
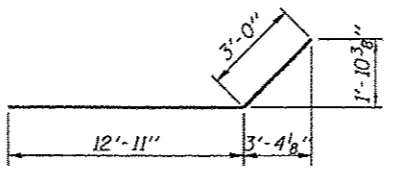
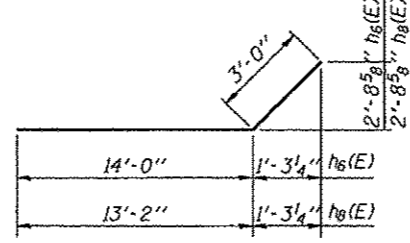
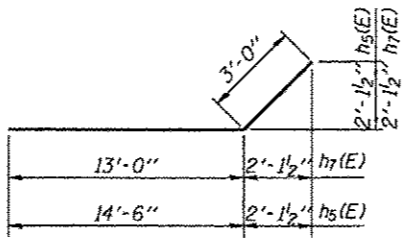
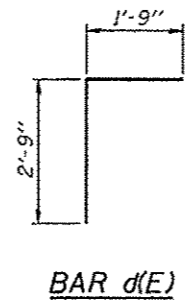
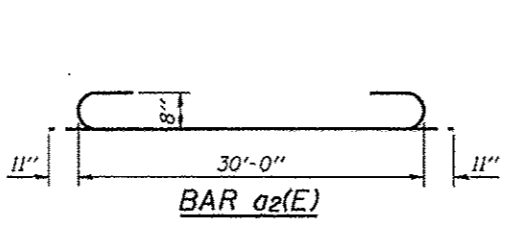
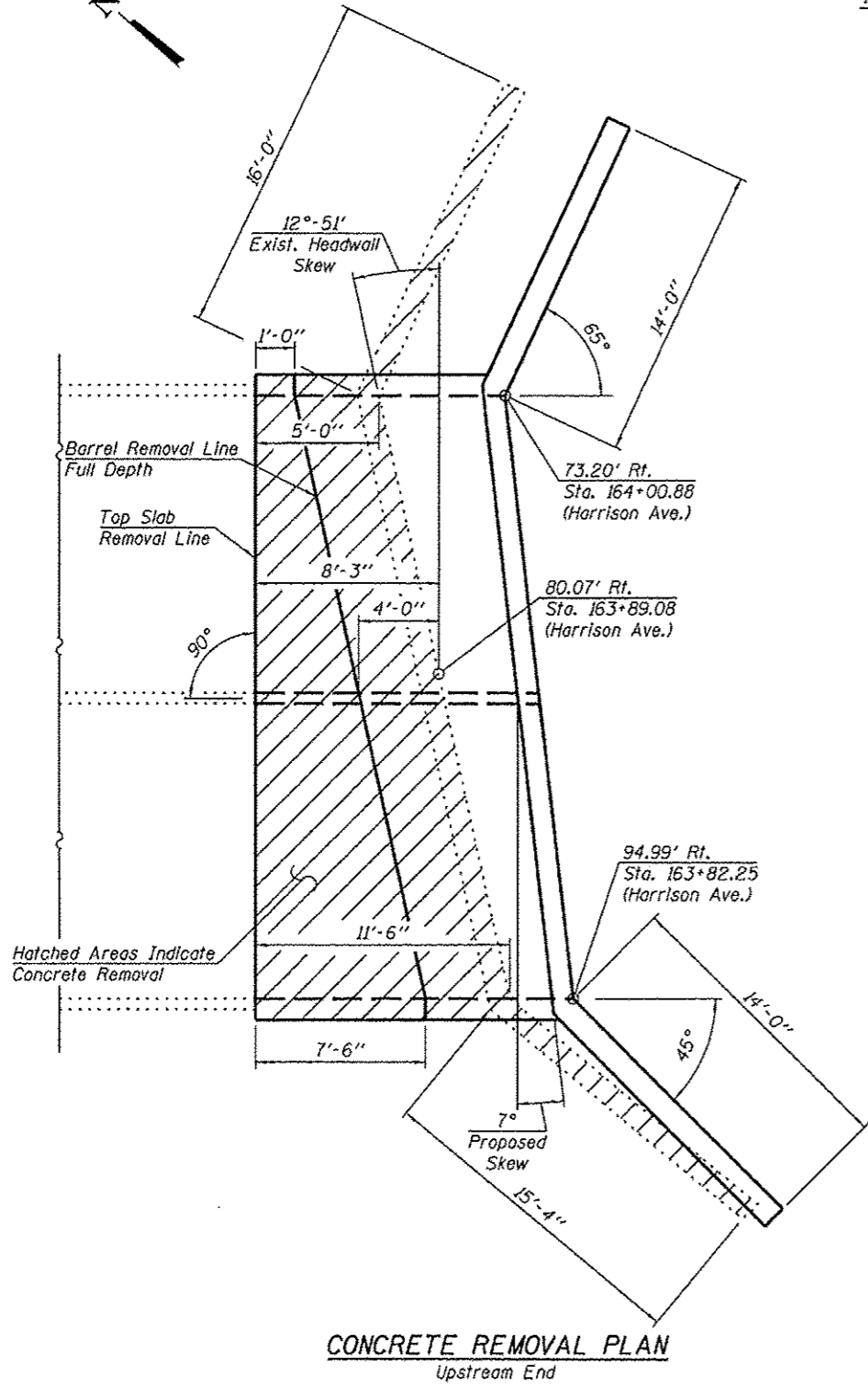


**SECTION THRU CULVERT DOWNSTREAM END**

**SOUTHEAST DRAINAGE WAY RE-BUILT 2011 BY CITY OF ROCKFORD SEC. 01-00509-00-RP F.A.P. RT. 525 STA. 163+07.39 STR. NO. 101-5006 LOADING HS-20**

**LETTERING FOR NAME PLATE**  
Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost Included with Name Plates.



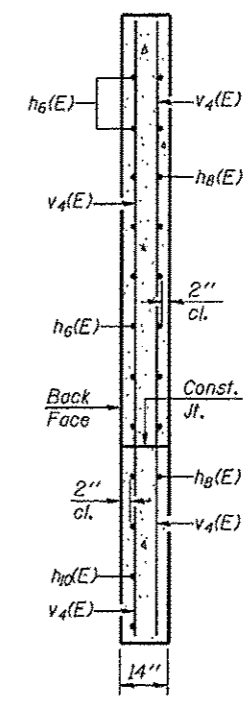
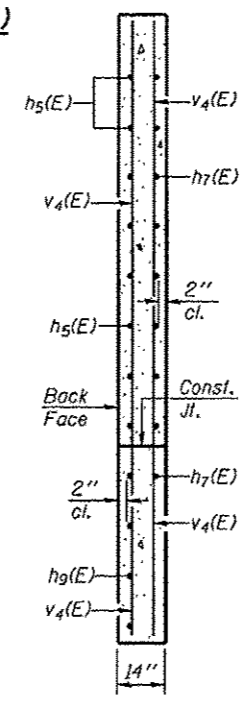


**SECTION THRU CULVERT EXTENSION**

Notes:  
 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.  
 Bars indicated thus 12x4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

**BILL OF MATERIAL (Upstream End)**

Bar	No.	Size	Length	Shape
a2(E)	44	#8	31'-10"	
a3(E)	48	#8	30'-0"	
d(E)	29	#4	4'-6"	
h3(E)	62	#6	13'-9"	
h4(E)	77	#6	9'-6"	
h5(E)	12	#8	17'-6"	
h6(E)	12	#8	17'-0"	
h7(E)	16	#6	16'-0"	
h8(E)	16	#6	16'-2"	
h9(E)	3	#8	15'-11"	
h10(E)	3	#8	14'-8"	
h11(E)	3	#6	30'-0"	
v2(E)	27	#4	5'-3"	
v3(E)	18	#4	2'-8"	
v4(E)	56	#5	8'-6"	
s1(E)	31	#4	5'-9"	
Structure Excavation			Cu. Yd.	198
Rock Fill			Ton	48
Removal & Disposal of Unsuitable Materials for Structures			Cu. Yd.	28
Geocomposite Wall Drain			Sq. Yd.	14
Concrete Removal			Cu. Yd.	26.4
Concrete Box Culverts			Cu. Yd.	30.4
Reinforcement Bars, Epoxy Coated			Pound	13,050
Expansion Bolts 3/4 inch x 15 inch			Each	49
Porous Granular Embankment			Cu. Yd.	90
Protective Coat			Sq. Yd.	7



**SECTION B-B**

**SECTION D-D**

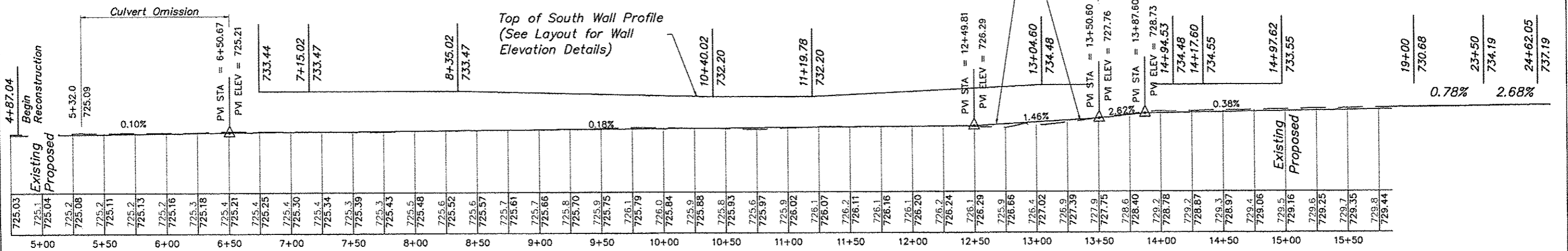
REVISIONS	

BENCH MARK: Arrow Bolt on Fire Hydrant  
Station 144+49 166' Rt.  
Elev.=736.01

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612

Existing Structure: Concrete Paved Channel  
Extremely Poor Condition

Centerline Profile of Existing Channel  
Centerline Profile of Proposed Channel

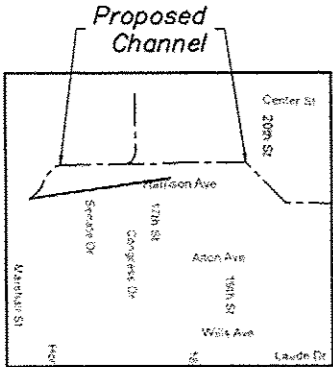


**CHANNEL PROFILE**

**DESIGN SPECIFICATIONS**  
AASHTO LRFD Bridge Design Specifications,  
6th Edition 2012 & 2013 Interim Revisions

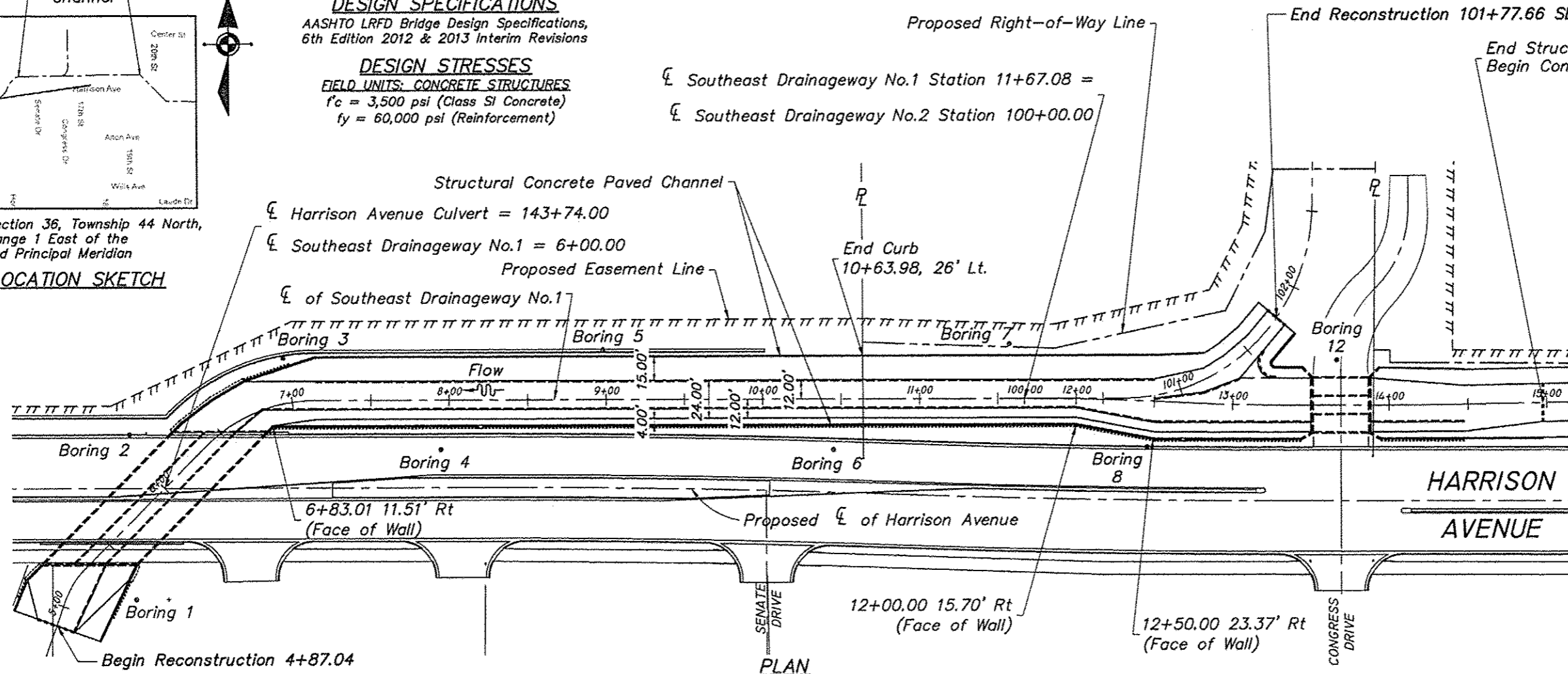
**DESIGN STRESSES**  
FIELD UNITS: CONCRETE STRUCTURES  
f<sub>c</sub> = 3,500 psi (Class SI Concrete)  
f<sub>y</sub> = 60,000 psi (Reinforcement)

℄ Southeast Drainageway No.1 Station 11+67.08 =  
℄ Southeast Drainageway No.2 Station 100+00.00



Section 36, Township 44 North,  
Range 1 East of the  
3rd Principal Meridian

**LOCATION SKETCH**



**PLAN**

End Reconstruction 101+77.66 SEDW No. 2

End Structural Concrete Paved Channel -  
Begin Concrete Paved Channel 14+97.62

**INDEX OF SHEETS**

General Plan & Elevation	1
General Notes & Summary	2
Typical Sections	3
Channel Plan & Layout	4 - 11
Reinforcing Details	12 - 53
Channel Cross-Sections	54 - 69
Details	70 - 73



*Ali A. Gharami*  
ILLINOIS STRUCTURAL ENGINEER NO. 081-005060  
(EXPIRES 11/30/2016)

6/11/15  
Date

**GENERAL PLAN & ELEVATION  
SOUTHEAST DRAINAGE WAY No.1  
ALONG HARRISON AVENUE  
CITY OF ROCKFORD  
WINNEBAGO COUNTY  
STATION 4+87.04 to 15+00.00**

SHEET 1 OF 73

REVISIONS		
REV. NO.	DESCRIPTION	DATE



**GENERAL NOTES**

1. It will be the responsibility of the Contractor to verify all dimensions and conditions in the field prior to construction and ordering materials.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60.
4. Reinforcing shall be lapped a minimum as shown on the plans where laps occur. Radius bars shall be factory bent and delivered to the site with appropriate radius. Field bending will only be allowed to achieve form clearance except as noted.
5. All Construction Joints shall be bonded.
6. Where bars are designated to be cut in the field, they shall be cut using a saw. Flame cutting will not be allowed. Cut ends shall be given a coat of epoxy paint in accordance with Section 508.04 of the Standard Specifications.
7. Because of the design, the Flow Line center portion of the channel and cutoff wall shall be poured before the slope and vertical walls to prevent sliding. Refer to Stage Line as shown on the Plan Sheets.
8. All exposed faces shall be given a "normal" finish. All exposed edges shall have a 3/4" X 45° chamfer except as shown otherwise. Vertical edges shall be continued a minimum of 12" below finished grade level.
9. Where specified in the details, a 6" Hollow Bulb Dumbbell Type non-metallic Water Seal shall be installed. This item is specific to the joints between the Culvert Wing Walls and the vertical walls of the Structural Concrete Channel. This item shall be included with the cost of Concrete Box Culverts.
10. Backfill behind the wall shall be placed to the lines and grades shown on the plans. The Contractor shall take care to ensure the use of suitable material and proper compaction in fill areas. Compaction shall be performed with a loose thickness of no more than 8" and each lift shall be compacted to a density equal or greater than 95% standard proctor maximum dry density (ASTM D-698) taking care not to over compact the material directly adjacent to the geocomposite wall drain. Moisture shall be within -2 to +3 percent of optimum. No heavy equipment will be allowed within 6 feet of the wall during backfilling and compaction. Compaction shall be by hand method, "walk behind" equipment in the areas within 6 feet of the back face of the wall.
11. Concrete shall be in accordance with Section 503 of the Standard Specifications for Road and Bridge Construction. All channel concrete shall be Class Sl concrete.
12. Channel flows must be maintained throughout the project. Normal flows shall be allowed to pass at the rate that it enters the jobsite. High flows shall be allowed to pass without causing damage to upstream properties. Where the channel bottom is undercut by 2 feet or more for Rock Fill and no cutoff wall is protecting the edge, the Contractor shall pour lean concrete along the Stage edge to protect it until the next Stage is placed. This work shall be included in the cost of Rock Fill.
13. Smooth Dowel Bars used in channel expansion joints shall be included in the unit price for Concrete Structures.
14. Removal and Disposal of Unsuitable Materials for Structures is an estimated quantity to be used at the discretion of the Engineer. All or none of it may be used to remove wet or organic soils below footings and foundations.

Pay Code	Description	Units	Quantity
20300100	CHANNEL EXCAVATION	CU YD	5279
20700220	POROUS GRANULAR EMBANKMENT	CU YD	1,590
35101800	AGGREGATE BASE COURSE, TYPE B 6"	SQ YD	5,290
50200450	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS FOR STRUCTURES	CU YD	100
50300255	CONCRETE STRUCTURES	CU YD	1,607.7
50800205	REINFORCEMENT BARS (EPOXY COATED)	POUND	153,648
50901720	BICYCLE RAILING	FOOT	20
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	395
Z0054500	ROCK FILL	TON	3,677

15. The Contractor is reminded that because of the large number and range in sizes of Reinforcement Bars, that exceptional care must be taken to maintain control of the material. Only those bars that will be used in the reasonable future should be delivered to the job. The provisions of Article 508.03 shall be strictly adhered to. Bars shall be separated into bundles of the same size and length and tags left in place until the last bar is used.
16. A Butyl-Rubber Membrane shall be installed according to the IDOT Standard Specifications onto the back of the vertical walls and extend a minimum of 12 inches on both sides of the expansion joints from the base of the wall to 2 inches from the top of the wall. Waterproof Membrane material shall meet the requirements of Art. 1060.09 of the IDOT Standard Specifications. Prior to placing the Waterproof Membrane, Mastic Joint Sealer shall be placed in the joint and filled flush with the face of the back wall. Joint shall be clean of all debris before placing mastic. Excess mastic should be troweled smooth to provide a uniform surface for the Waterproof Membrane. Mastic Joint Sealer material shall meet the requirements of Section 1055 of the IDOT Standard Specifications. Waterproof Membrane and Mastic Joint Sealer will not be paid for separately but shall be included with the cost of Concrete Structures.
17. Field bend reinforcing where noted as required to fit channel profile and maintain cover distance. This is particularly noted with footnote ② on the individual plan sheets.
18. Reinforcement Bars noted thus 8 x 2-#5... indicate 8 lines of bars with 2 lengths per line lapped as noted by minimum lap length.
19. Reinforcement Bars that are dimensioned '3" cl.' are 3" clear from the indicated face. A single mat of steel reinforcement that is dimensioned 4" (without 'cl.') is the actual distance to the center of the steel reinforcement mat from the bottom face of concrete.
20. Construction joints are shown on the plans for constructability and convenience of the Contractor. Construction joints at locations other than those noted must receive the expressed approval of the Structural Engineer.

**GENERAL NOTES**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

Sheet 2 of 73

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PROJECT AND LOCATION  
 HARRISON AVENUE  
 RECONSTRUCTION 2012  
 PHASE 1  
 ROCKFORD, ILLINOIS

DRAWN BY: JWH  
 APPROVED BY: CTB  
 DATE: 6/12/15  
 SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING  
 GENERAL NOTES

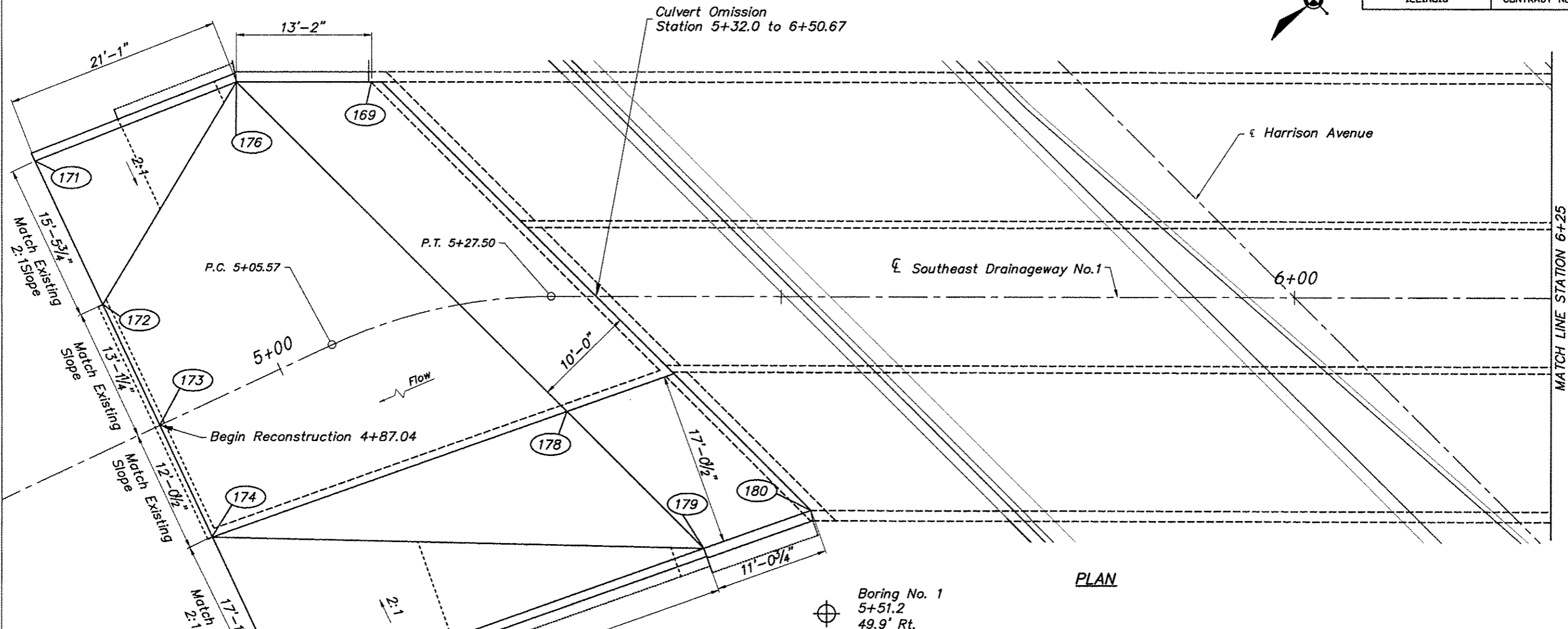
JOB NUMBER  
 11-128

SHEET NUMBER  
 405 of 588



BENCH MARK: Arrow Bolt on Fire Hydrant  
Station 144+49 166' Rt.  
Elev.=736.01

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



PLAN

DATA  
PI STA = 5+16.76  
Δ = 25°14'13" (RT)  
D = 114°35'30"  
R = 50.00'  
T = 11.19'  
L = 22.02'  
E = 1.24'  
P.C. STA = 5+05.57  
P.T. STA = 5+27.59

Point No.	Station *	Offset *	Elevation	Top of Wall	Bottom of Wall
169	5+15.51	23.04' Lt.		732.08	725.09
171	4+87.04	28.59' Lt.		733.00	
** 172	4+87.04	13.11' Lt.	725.32		
** 173	4+87.04	0.00' Rt.	725.04		
** 174	4+87.04	12.05' Rt.	725.32		
175	4+87.04	29.18' Rt.		733.58	
176	5+07.19	27.26' Lt.		732.08	725.07
178	5+29.14	11.29' Rt.	725.06		
179	5+42.49	24.63' Rt.		732.43	725.06
180	5+52.92	20.92' Rt.		732.43	725.09

\* Southeast Drainage Way No. 1 Alignment  
\*\* Match existing channel section

**STRUCTURAL CONCRETE CHANNEL LAYOUT  
SOUTHEAST DRAINAGE WAY  
ALONG HARRISON AVENUE  
CITY OF ROCKFORD  
WINNEBAGO COUNTY  
STATION 4+87.75 TO 5+32.00**

Sheet 4 of 73

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PROJECT AND LOCATION  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

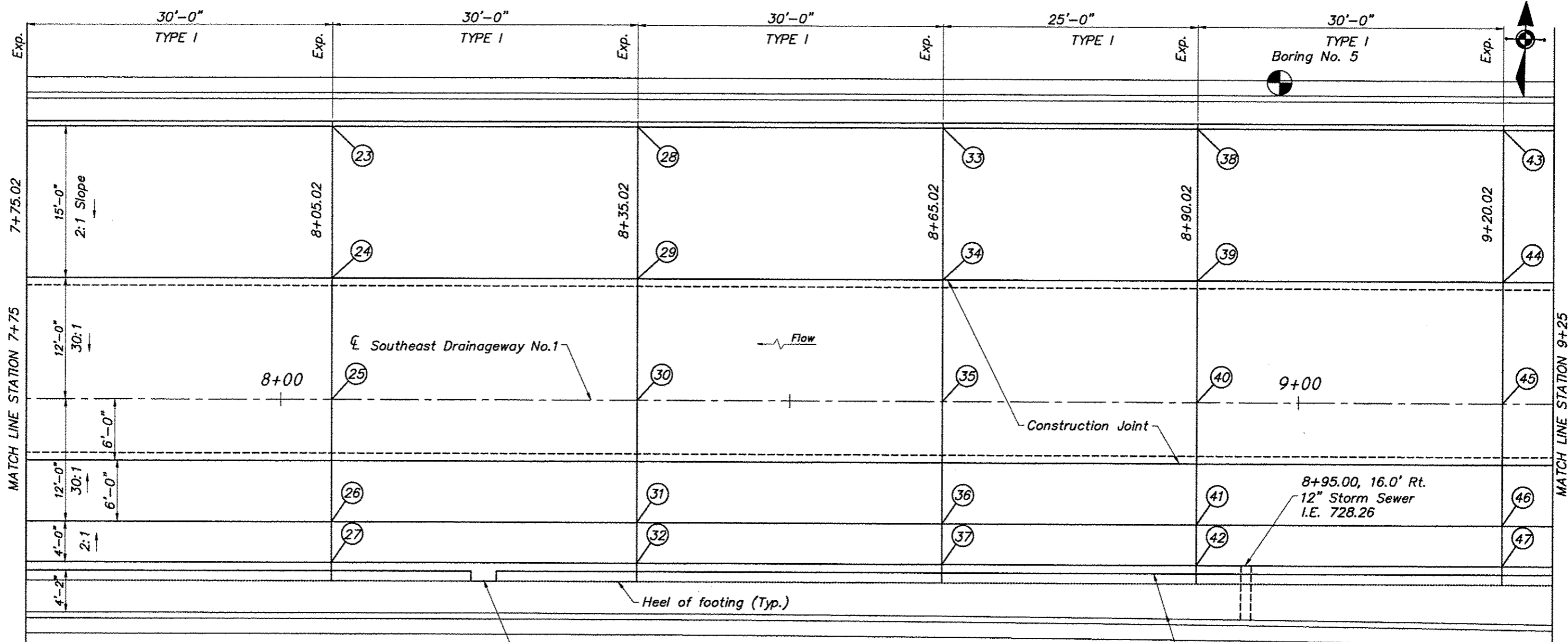
DRAWN BY: JWH  
APPROVED BY: CTB  
DATE: 6/12/15  
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING  
CHANNEL NO.1 4+88 TO 5+32

JOB NUMBER  
11-128  
SHEET NUMBER  
407 of 588





Light Pole 8+20.0 T/W 733.47

**PLAN**

Concrete Median Surface between guardrail and top of wall, (provide openings for guardrail posts).

Point No.	Station *	Offset *	Elevation	Top of Wall	Bottom of Wall
23	8+05.02	27.00' Lt.		733.39	
24	8+05.02	12.00' Lt.	725.89		
25	8+05.02	0.00' Rt.	725.49		
26	8+05.02	12.00' Rt.	725.89		
27	8+05.02	16.00' Rt.		733.47	727.89
28	8+35.02	27.00' Lt.		733.44	
29	8+35.02	12.00' Lt.	725.94		
30	8+35.02	0.00' Rt.	725.54		
31	8+35.02	12.00' Rt.	725.94		
32	8+35.02	16.00' Rt.		733.47	727.94
33	8+65.02	27.00' Lt.		733.50	
34	8+65.02	12.00' Lt.	726.00		
35	8+65.02	0.00' Rt.	725.60		
36	8+65.02	12.00' Rt.	726.00		
37	8+65.02	16.00' Rt.		733.28	728.00

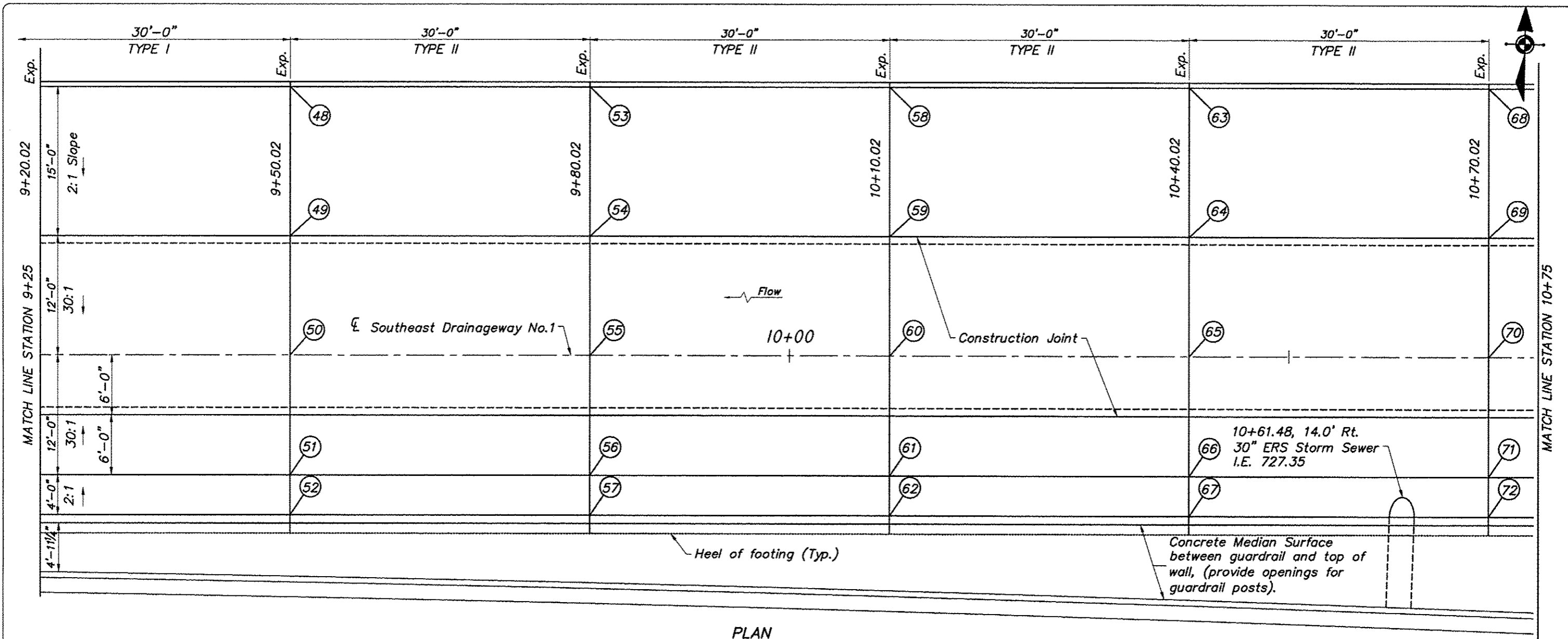
Point No.	Station *	Offset *	Elevation	Top of Wall	Bottom of Wall
38	8+90.02	27.00' Lt.		733.54	
39	8+90.02	12.00' Lt.	726.04		
40	8+90.02	0.00' Rt.	725.64		
41	8+90.02	12.00' Rt.	726.04		
42	8+90.02	16.00' Rt.		733.13	728.04
43	9+20.02	27.00' Lt.		733.59	
44	9+20.02	12.00' Lt.	726.09		
45	9+20.02	0.00' Rt.	725.69		
46	9+20.02	12.00' Rt.	726.09		
47	9+20.02	16.00' Rt.		732.94	728.09

\* Southeast Drainage Way No. 1 Alignment

**STRUCTURAL CONCRETE CHANNEL LAYOUT  
SOUTHEAST DRAINAGE WAY  
ALONG HARRISON AVENUE  
CITY OF ROCKFORD  
WINNEBAGO COUNTY  
STATION 7+75.00 TO 9+25.00**

REVISIONS		
REV. NO.	DESCRIPTION	DATE





PLAN

Point No.	Station *	Offset *	Elevation	Top of Wall	Bottom of Wall
48	9+50.02	27.00' Lt.		733.65	
49	9+50.02	12.00' Lt.	726.15		
50	9+50.02	0.00' Rt.	725.75		
51	9+50.02	12.00' Rt.	726.15		
52	9+50.02	16.00' Rt.		732.76	728.15
53	9+80.02	27.00' Lt.		733.70	
54	9+80.02	12.00' Lt.	726.20		
55	9+80.02	0.00' Rt.	725.80		
56	9+80.02	12.00' Rt.	726.20		
57	9+80.02	16.00' Rt.		732.57	728.20
58	10+10.02	27.00' Lt.		733.76	
59	10+10.02	12.00' Lt.	726.26		
60	10+10.02	0.00' Rt.	725.86		
61	10+10.02	12.00' Rt.	726.26		
62	10+10.02	16.00' Rt.		732.38	728.26

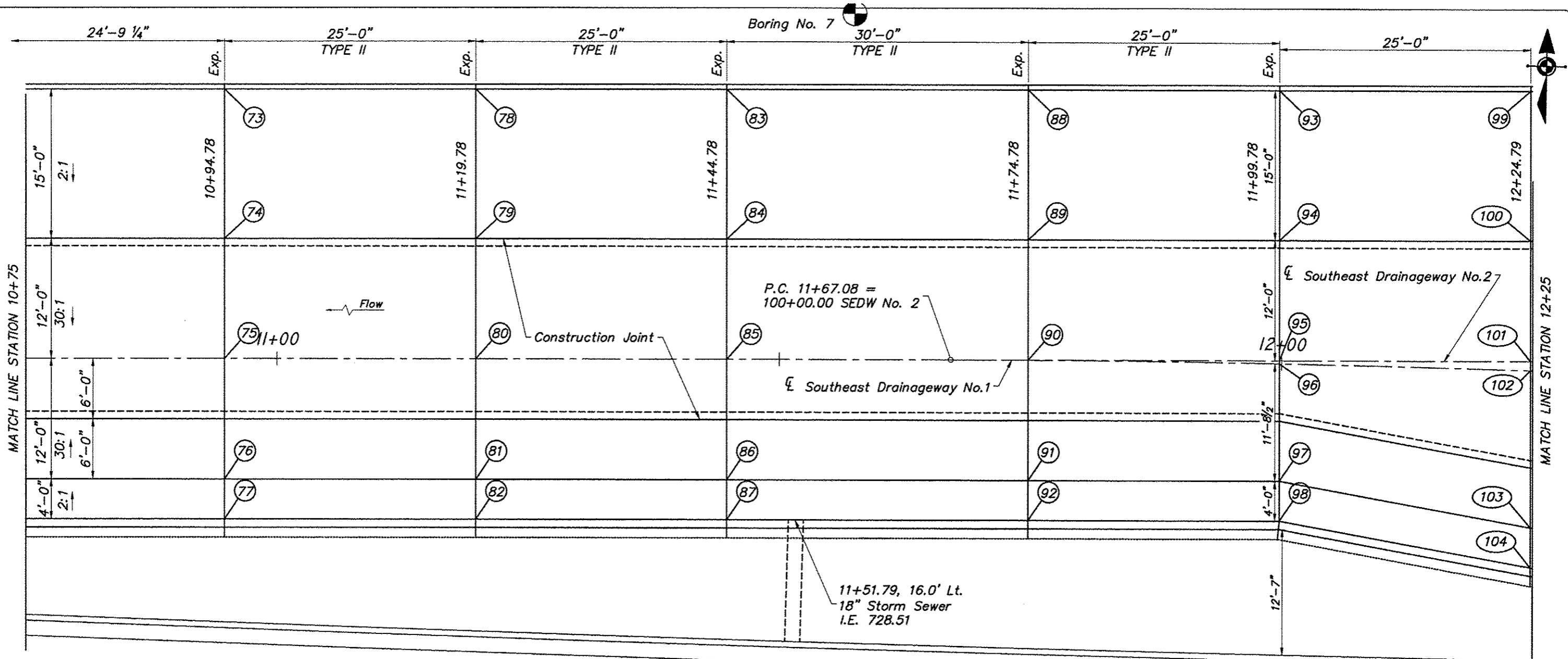
Point No.	Station *	Offset *	Elevation	Top of Wall	Bottom of Wall
63	10+40.02	27.00' Lt.		733.81	
64	10+40.02	12.00' Lt.	726.31		
65	10+40.02	0.00' Rt.	725.91		
66	10+40.02	12.00' Rt.	726.31		
67	10+40.02	16.00' Rt.		732.20	728.31
68	10+70.02	27.00' Lt.		733.86	
69	10+70.02	12.00' Lt.	726.36		
70	10+70.02	0.00' Rt.	725.96		
71	10+70.02	12.00' Rt.	726.36		
72	10+70.02	16.00' Rt.		732.20	728.36

\* Southeast Drainage Way No. 1 Alignment



STRUCTURAL CONCRETE CHANNEL LAYOUT  
 SOUTHEAST DRAINAGE WAY  
 ALONG HARRISON AVENUE  
 CITY OF ROCKFORD  
 WINNEBAGO COUNTY  
 STATION 9+25.00 TO 10+75.00

REVISIONS		
REV. NO.	DESCRIPTION	DATE



Point No.	Station *	Offset *	Elevation	Top of Wall	Bottom of Wall
73	10+94.78	27.00' Lt.		733.91	
74	10+94.78	12.00' Lt.	726.41		
75	10+94.78	0.00' Rt.	726.01		
76	10+94.78	12.00' Rt.	726.41		
77	10+94.78	16.00' Rt.		732.20	728.41
78	11+19.78	27.00' Lt.		733.95	
79	11+19.78	12.00' Lt.	726.45		
80	11+19.78	0.00' Rt.	726.05		
81	11+19.78	12.00' Rt.	726.45		
82	11+19.78	16.00' Rt.		732.20	728.45
83	11+44.78	27.00' Lt.		734.00	
84	11+44.78	12.00' Lt.	726.50		
85	11+44.78	0.00' Rt.	726.10		
86	11+44.78	12.00' Rt.	726.50		
87	11+44.78	16.00' Rt.		732.51	728.50

\* Southeast Drainage Way No. 1 Alignment

Point No.	Station *	Offset *	Elevation	Top of Wall	Bottom of Wall
88	11+74.67	27.02' Lt.		734.05	
89	11+74.73	12.02' Lt.	726.55		
90	11+74.78	0.00' Rt.	726.15		
91	11+74.84	11.98' Rt.	726.55		
92	11+74.85	15.98' Rt.		732.88	728.55
93	11+99.30	27.29' Lt.		734.10	
94	11+99.56	12.29' Lt.	726.60		
95	11+99.78	0.30' Lt.	726.25		
96	11+99.78	0.00' Rt.	726.20		
97	12+00.00	11.70' Rt.	726.60		
98	12+00.07	15.70' Rt.		733.19	728.60
99	12+23.91	27.91' Lt.		734.14	
100	12+24.38	12.92' Lt.	726.64		
101	12+24.76	0.92' Lt.	726.34		
102	12+24.79	0.00' Rt.	726.24		
103	12+25.30	15.68' Rt.	726.64		
104	12+25.43	19.69' Rt.		733.50	728.64

**PLAN**

DATA  
 PI STA = 12+17.58  
 $\Delta = 03'12'50''$  (RT)  
 $D = 03'10'59''$   
 $R = 1,800.00'$   
 $T = 50.50'$   
 $L = 100.96'$   
 $E = 0.71'$   
 P.C. STA = 11+67.08  
 P.R.C. STA = 12+68.04

**STRUCTURAL CONCRETE CHANNEL LAYOUT  
 SOUTHEAST DRAINAGE WAY  
 ALONG HARRISON AVENUE  
 CITY OF ROCKFORD  
 WINNEBAGO COUNTY  
 STATION 10+75.00 TO 12+25.00**

Sheet 8 of 73

**FEHR GRAHAM**

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ILLINOIS DESIGN FIRM NO. 184-003525

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PROJECT AND LOCATION  
 HARRISON AVENUE  
 RECONSTRUCTION 2012  
 PHASE 1  
 ROCKFORD, ILLINOIS

DRAWN BY: JWH  
 APPROVED BY: CTB  
 DATED: 6/12/15  
 SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

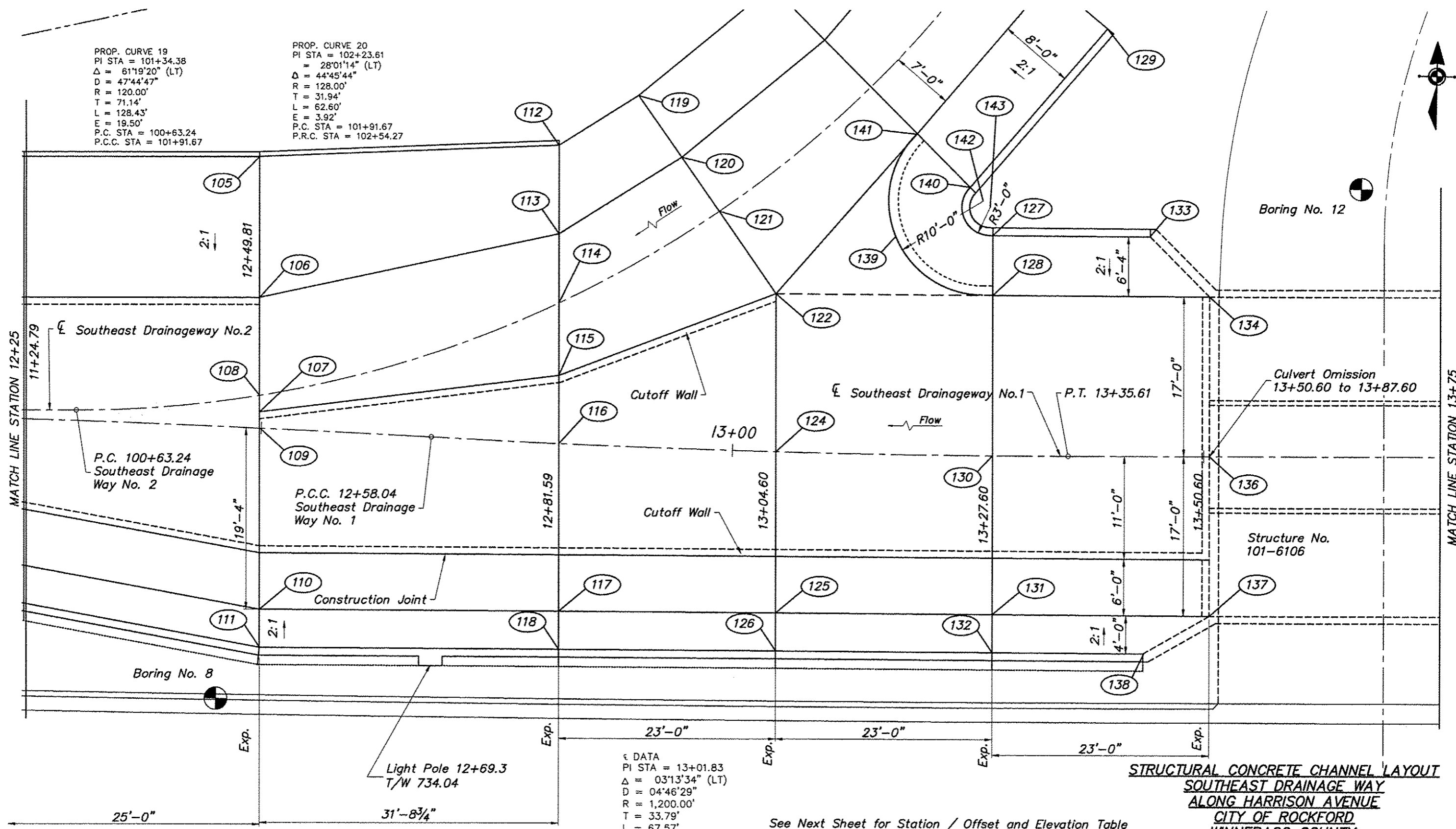
DRAWING  
 CHANNEL NO.1 10+75 TO 12+25

JOB NUMBER  
 11-128

SHEET NUMBER  
 411 of 588

PROP. CURVE 19  
 PI STA = 101+34.38  
 $\Delta = 61^{\circ}19'20"$  (LT)  
 $D = 47^{\circ}44'47"$   
 $R = 120.00'$   
 $T = 71.14'$   
 $L = 128.43'$   
 $E = 19.50'$   
 P.C. STA = 100+63.24  
 P.C.C. STA = 101+91.67

PROP. CURVE 20  
 PI STA = 102+23.61  
 $\Delta = 28^{\circ}01'14"$  (LT)  
 $\Delta = 44^{\circ}45'44"$   
 $R = 128.00'$   
 $T = 31.94'$   
 $L = 62.60'$   
 $E = 3.92'$   
 P.C. STA = 101+91.67  
 P.R.C. STA = 102+54.27



P.C. 100+63.24  
 Southeast Drainage  
 Way No. 2

P.C.C. 12+58.04  
 Southeast Drainage  
 Way No. 1

Cutoff Wall

SE Southeast Drainage Way No.1 P.T. 13+35.61

Culvert Omission  
 13+50.60 to 13+87.60

Structure No.  
 101-6106

Construction Joint

Boring No. 8

Boring No. 12

Light Pole 12+69.3  
 T/W 734.04

DATA  
 PI STA = 13+01.83  
 $\Delta = 03^{\circ}13'34"$  (LT)  
 $D = 04^{\circ}46'29"$   
 $R = 1,200.00'$   
 $T = 33.79'$   
 $L = 67.57'$   
 $E = 0.48'$   
 P.C.C. STA = 12+68.04  
 P.T. STA = 13+35.61

See Next Sheet for Station / Offset and Elevation Table

**STRUCTURAL CONCRETE CHANNEL LAYOUT  
 SOUTHEAST DRAINAGE WAY  
 ALONG HARRISON AVENUE  
 CITY OF ROCKFORD  
 WINNEBAGO COUNTY  
 STATION 12+25.00 TO 13+50.60**

PLAN

Sheet 9 of 73

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PROJECT AND LOCATION  
 HARRISON AVENUE  
 RECONSTRUCTION 2012  
 PHASE 1  
 ROCKFORD, ILLINOIS

DRAWN BY: JWH  
 APPROVED BY: CTB  
 DATE: 6/12/15  
 SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING  
 CHANNEL NO.1 12+25 TO 13+51

JOB NUMBER  
 11-128  
 SHEET NUMBER  
 412 of 588

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612

Point No.	Station *	Offset *	Elevation	Top of Wall	Bottom of Wall
105	12+48.51	28.87' Lt.		734.26	
106	12+49.18	13.89' Lt.	726.76		
107	12+49.73	1.74' Lt.	726.36		
108	12+49.65	3.49' Lt.	726.42		
109	12+49.81	0.00' Rt.	726.29		
110	12+50.71	19.31' Rt.	726.69		
111	12+50.90	23.33' Rt.		733.81	728.69
112	12+80.12	31.73' Lt.		731.48	
113	12+80.56	22.29' Lt.	726.76		
114	12+80.90	14.96' Lt.	726.53		
115	12+81.26	7.28' Lt.	726.75		
116	12+81.59	0.00' Rt.	726.75		
117	12+82.38	17.85' Rt.	727.15		
118	12+82.55	21.87' Rt.		734.21	729.15

\* Refers to Southeast Drainage Way No. 1 alignment

See Previous Sheet for Plan View

Point No.	Station *	Offset *	Elevation	Top of Wall	Bottom of Wall
119	12+88.58	37.42' Lt.		730.82	
120	12+93.51	31.01' Lt.	726.82		
121	12+97.77	25.38' Lt.	726.59		
122	13+04.16	16.82 Lt.	726.95		
124	13+04.60	0.00' Rt.	727.09		
125	13+05.04	17.16' Rt.	727.49		
126	13+05.14	21.19' Rt.		734.48	729.49
127	13+27.44	23.43' Lt.		731.77	730.90
128	13+27.49	17.09' Lt.	727.62		
129	13+39.75	45.52' Lt.		731.77	730.97
130	13+27.60	0.00' Rt.	727.42		
131	13+27.71	16.91' Rt.	727.62		
132	13+27.74	20.94' Rt.		734.48	729.62
133	13+44.24	23.36' Lt.		731.77	730.90
134	13+50.60	17.00' Lt.	727.76		
136	13+50.60	0.00' Rt.	727.76		
137	13+50.60	17.00' Rt.	727.76		
138	13+50.69	21.00' Rt.		734.48	729.72
139	13+16.94	23.21' Lt.	727.26		
140	13+24.95	28.55' Lt.		731.77	730.90
141	13+19.07	34.14' Lt.	726.90		
142	13+26.35	27.09' Lt.		10' Rad. Pt.	
143	13+27.13	26.43' Lt.		3' Rad. Pt.	

**STRUCTURAL CONCRETE CHANNEL LAYOUT  
SOUTHEAST DRAINAGE WAY  
ALONG HARRISON AVENUE  
CITY OF ROCKFORD  
WINNEBAGO COUNTY  
STATION 12+25.00 TO 13+50.60**

Sheet 10 of 73

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PROJECT AND LOCATION:  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

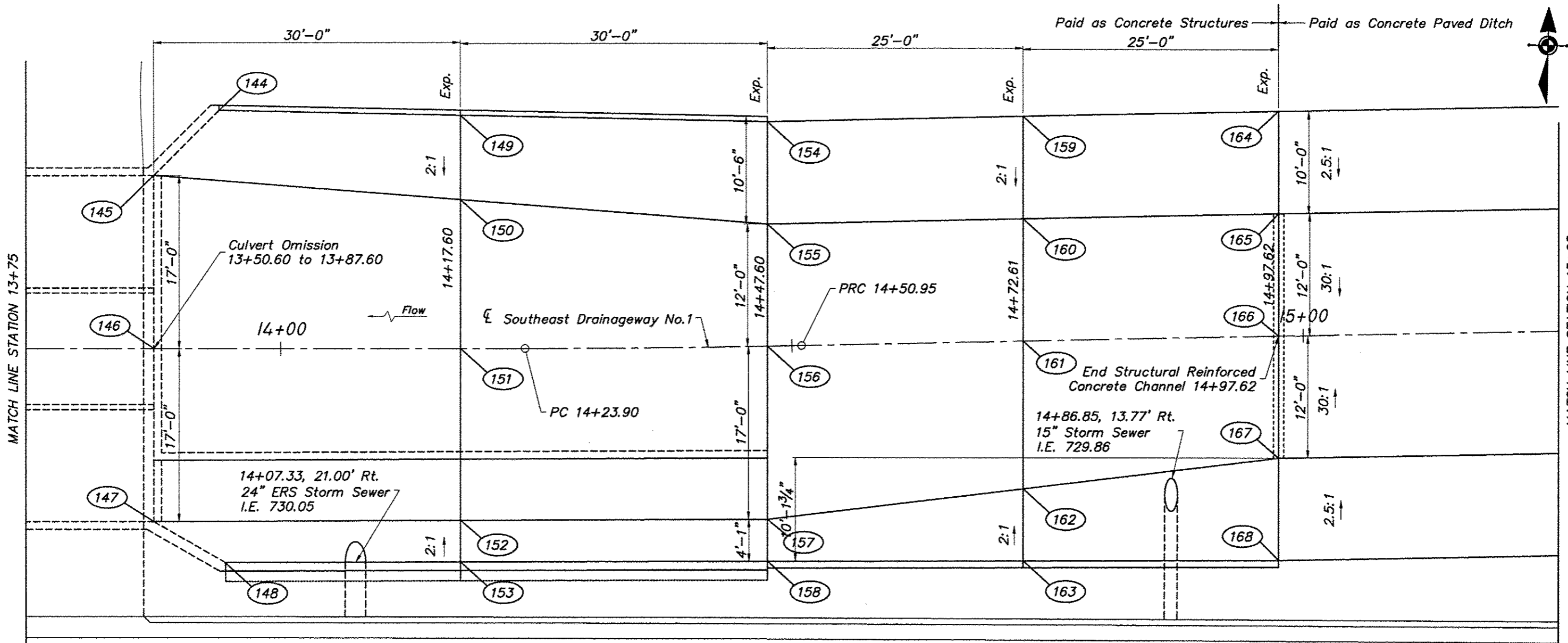
DRAWN BY: JWH  
APPROVED BY: CTB  
DATE: 6/12/15  
SCALE: 1=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:  
CHANNEL NO.1 12+25 TO 13+51

JOB NUMBER:  
11-128

SHEET NUMBER:  
413 of 588



PLAN

Point No.	Station *	Offset *	Elevation	Top of Wall	Bottom of Wall
144	13+93.97	23.36' Lt.		731.77	
145	13+87.60	17.00' Lt.	728.73		
146	13+87.60	0.00' Rt.	728.73		
147	13+87.60	17.00' Rt.	728.73		
148	13+94.53	21.00' Rt.		734.48	730.85
149	14+17.60	22.87' Lt.		733.39	
150	14+17.60	14.62' Lt.	729.24		
151	14+17.60	0.00' Rt.	728.84		
152	14+17.60	16.88' Rt.	729.24		
153	14+17.60	20.94' Rt.		734.55	731.24
154	14+48.05	22.00' Lt.		734.36	
155	14+47.84	12.00' Lt.	729.36		
156	14+47.61	0.00' Rt.	728.96		
157	14+47.27	17.00' Rt.	729.36		
158	14+47.20	21.09' Rt.		734.55	731.36

Point No.	Station *	Offset *	Elevation	Top of Wall	Bottom of Wall
159	14+73.07	22.00' Lt.		734.45	
160	14+72.86	12.00' Lt.	729.45		
161	14+72.61	0.00' Rt.	729.05		
162	14+72.30	14.52' Rt.	729.45		
163	14+72.16	21.56' Rt.		734.05	732.96
164	14+98.04	22.00' Lt.		733.55	
165	14+97.85	12.00' Lt.	729.55		
166	14+97.62	0.00' Rt.	729.15		
167	14+97.38	12.00' Rt.	729.55		
168	14+97.19	22.00' Rt.		733.55	733.55

\* Southeast Drainage Way No. 1 Alignment

∠ DATA  
 PI STA = 14+37.43  
 Δ = 01°17'30" (LT)  
 D = 04°46'29"  
 R = 1,200.00'  
 T = 13.53'  
 L = 27.05'  
 E = 0.08'  
 P.C. STA = 14+23.90  
 P.C.C. STA = 14+50.95

∠ DATA  
 PI STA = 19+65.89  
 Δ = 03°53'58" (RT)  
 D = 00°22'44"  
 R = 15,127.01'  
 T = 514.94'  
 L = 1,029.48'  
 E = 8.76'  
 P.C. STA = 14+50.95  
 P.T. STA = 24+80.43

**STRUCTURAL CONCRETE CHANNEL LAYOUT**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**  
**STATION 13+87.60 TO 14+97.62**

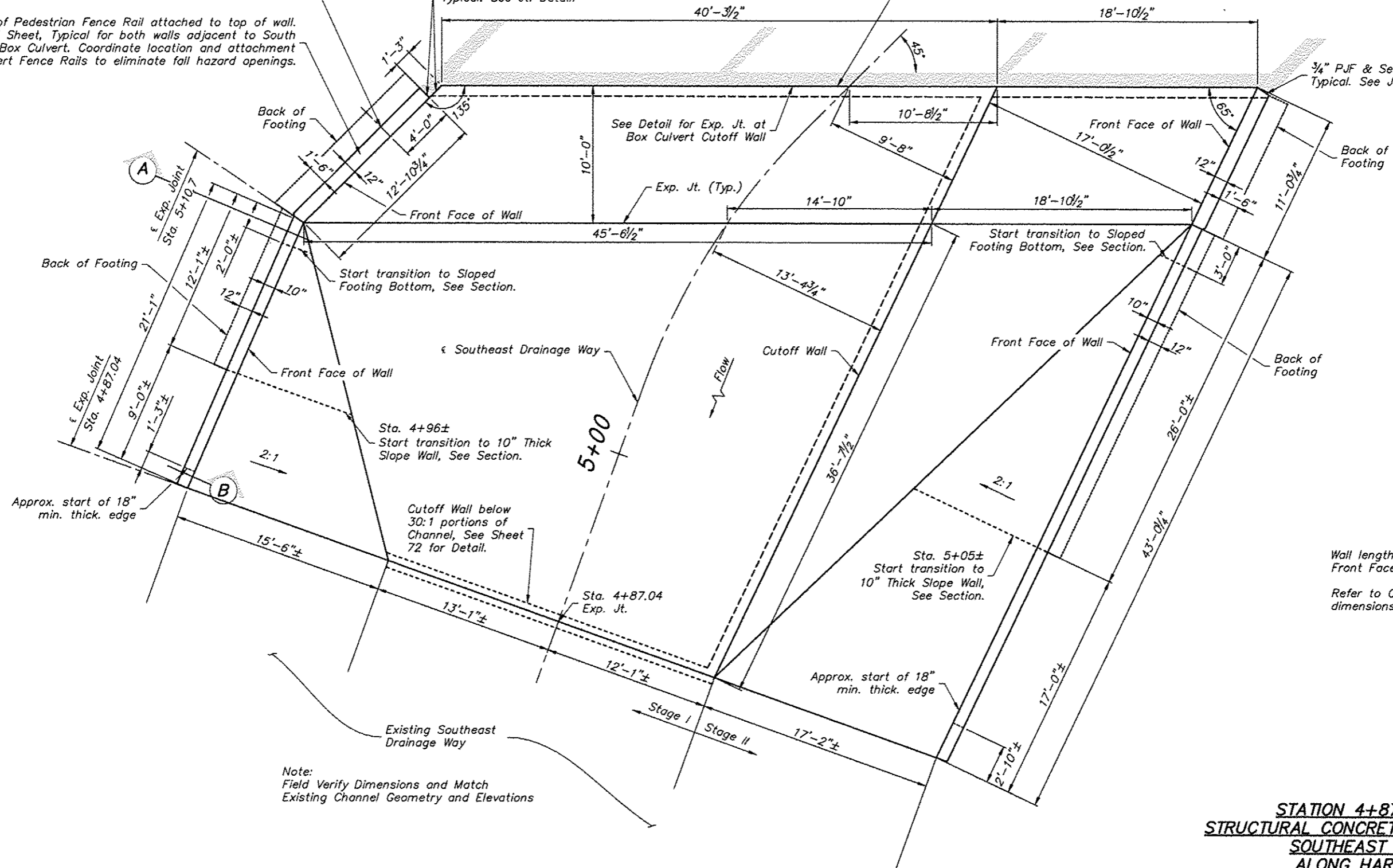




12"Ø Storm Sewer Pipe Opening (Field Verify Location and Elevation)

10 LF of Pedestrian Fence Rail attached to top of wall. See Detail Sheet, Typical for both walls adjacent to South end of Box Culvert. Coordinate location and attachment with Culvert Fence Rails to eliminate fall hazard openings.

Limits of Proposed Box Culvert.  
Structure No. 101-6105  
Refer to Culvert Plans for Culvert Details.  
(Culvert Omission Sta. 5+32.00 to Sta. 6+50.97)



Wall length dimensions are measured along Front Face of Wall, unless noted otherwise.  
Refer to Channel Layout Plan for additional dimensions and channel elevations.

Note:  
Field Verify Dimensions and Match Existing Channel Geometry and Elevations

**STATION 4+87.04 TO 5+32.00**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

**PLAN**  
(Showing Dimensions)

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HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

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APPROVED BY: CTB  
DATE: 6/12/15  
SCALE: N.T.S.

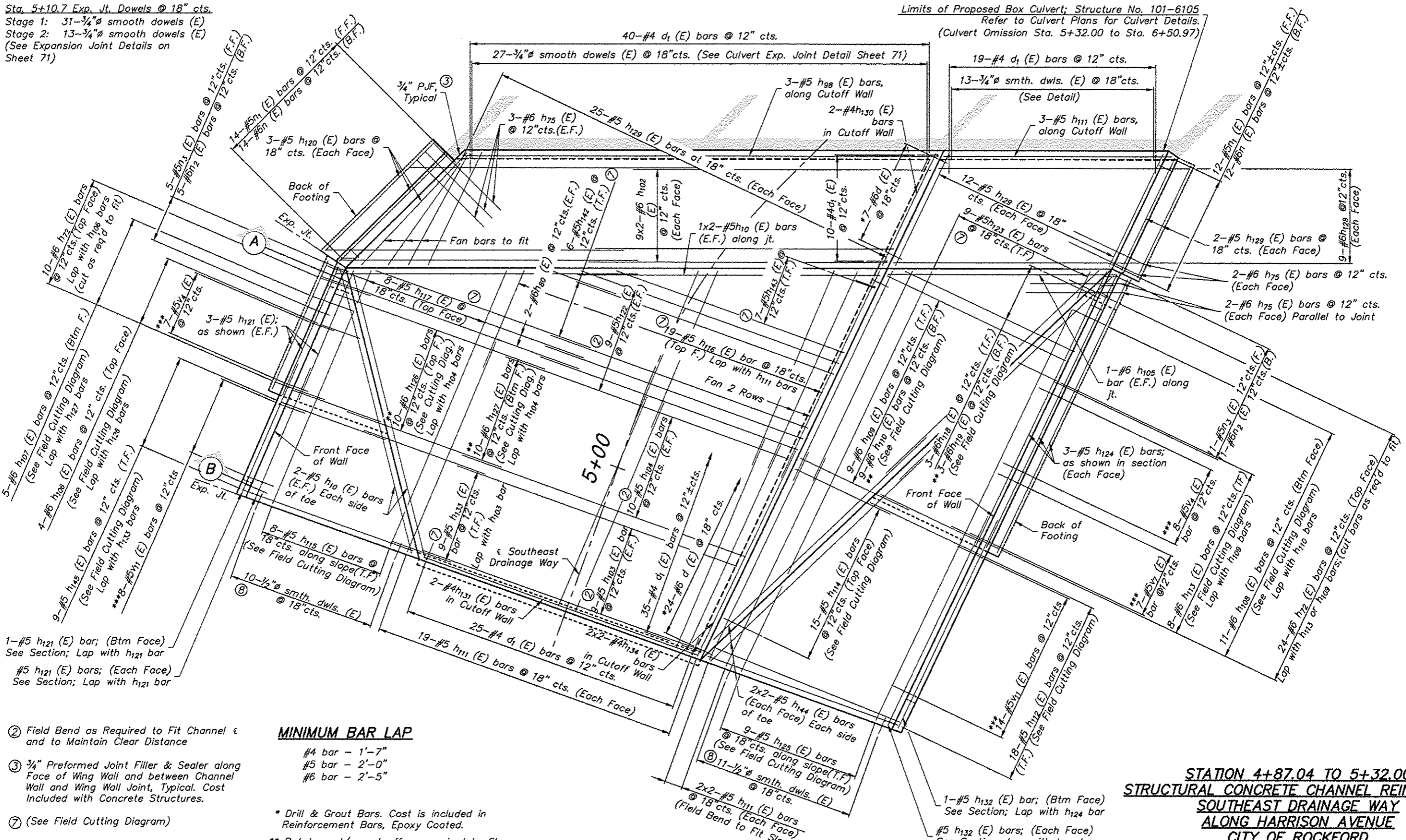
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:  
4+87.04 TO 5+32.00

JOB NUMBER:  
11-128  
SHEET NUMBER:  
415 of 588

Sta. 5+10.7 Exp. Jt. Dowels @ 18" cts.  
 Stage 1: 31-3/4" smooth dowels (E)  
 Stage 2: 13-3/4" smooth dowels (E)  
 (See Expansion Joint Details on Sheet 71)

Limits of Proposed Box Culvert; Structure No. 101-6105  
 Refer to Culvert Plans for Culvert Details.  
 (Culvert Omission Sta. 5+32.00 to Sta. 6+50.97)



- ② Field Bend as Required to Fit Channel and to Maintain Clear Distance
- ③ 3/4" Preformed Joint Filler & Sealer along Face of Wing Wall and between Channel Wall and Wing Wall Joint, Typical. Cost Included with Concrete Structures.
- ⑦ (See Field Cutting Diagram)
- ⑧ 1/2" x 1'-6" smooth dowels (E) installed similar to typical Expansion Joint Detail. Cost included with Concrete Structures.

**MINIMUM BAR LAP**

- #4 bar - 1'-7"
- #5 bar - 2'-0"
- #6 bar - 2'-5"

- \* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.
- \*\* Rotate and/or cut off as required to fit
- \*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

**PLAN**  
 (Showing Reinforcement)

**STATION 4+87.04 TO 5+32.00**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

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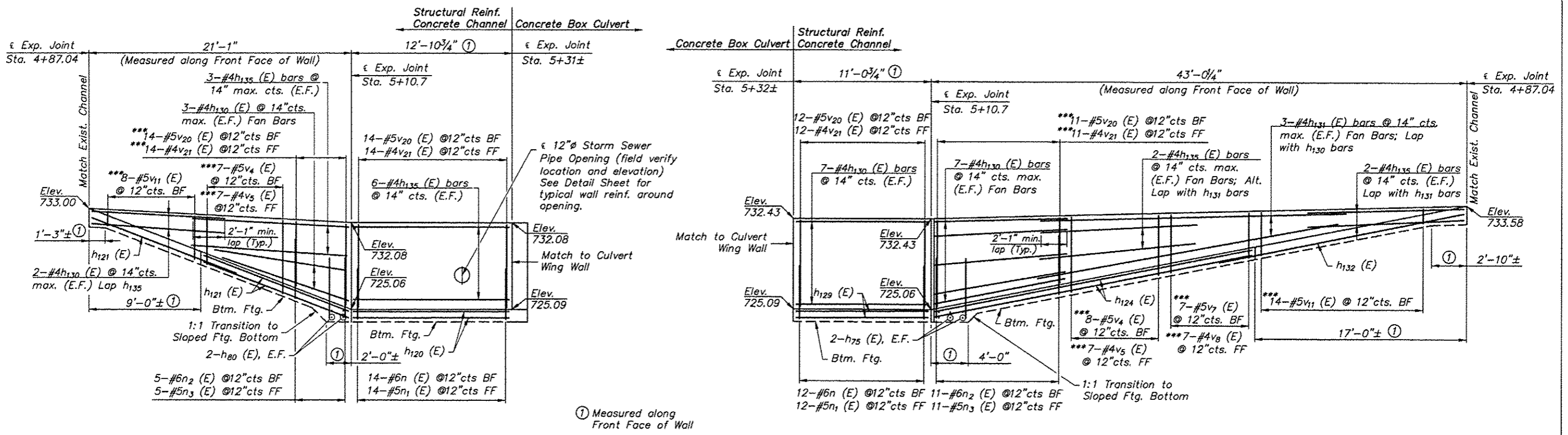
PROJECT AND LOCATION  
 HARRISON AVENUE  
 RECONSTRUCTION 2012  
 PHASE 1  
 ROCKFORD, ILLINOIS

DRAWN BY: JWH  
 APPROVED BY: CTB  
 DATE: 6/12/15  
 SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

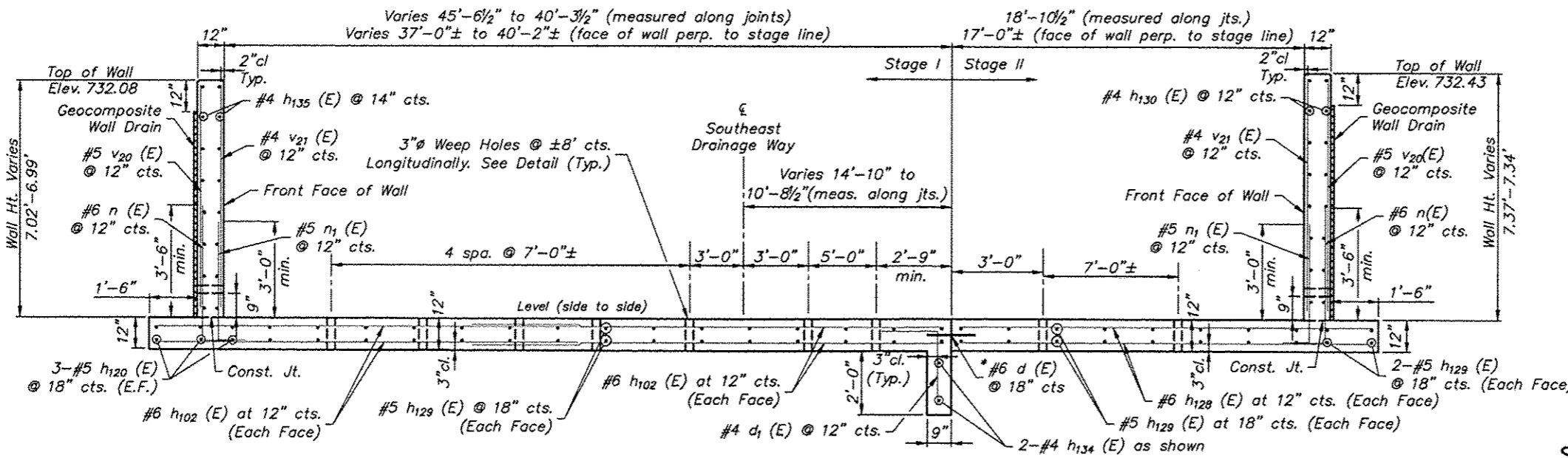
DRAWING  
 4+87.04 TO 5+32.00

JOB NUMBER  
 11-128  
 SHEET NUMBER  
 416 of 588



**WEST WALL ELEVATION**  
(Looking at Inside/Front Face of Wall)

**EAST WALL ELEVATION**  
(Looking at Inside/Front Face of Wall)



**CHANNEL SECTION**  
(Looking Upstream)  
Sta. 5+10.7 to 5+32.00

Dimensions at right L's to Face of Walls for each Stage unless otherwise noted. See Plan View for dimension orientation with respect to ε of Channel and Stage Line. Refer to Layout Plan for additional dimensions and elevations.

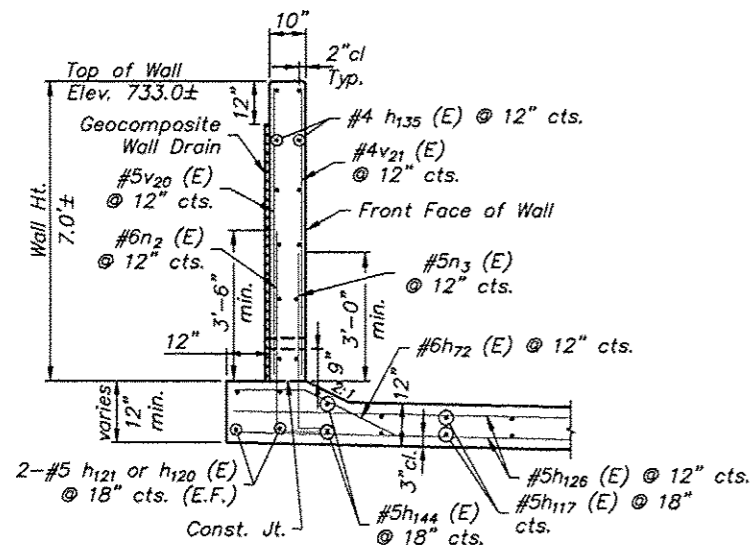
- \* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.
- \*\* Refer to Layout Plan for additional dimensions and channel elevations.
- \*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

**MINIMUM BAR LAP**

#4 bar	1'-7"
#5 bar	2'-0"
#6 bar	2'-5"

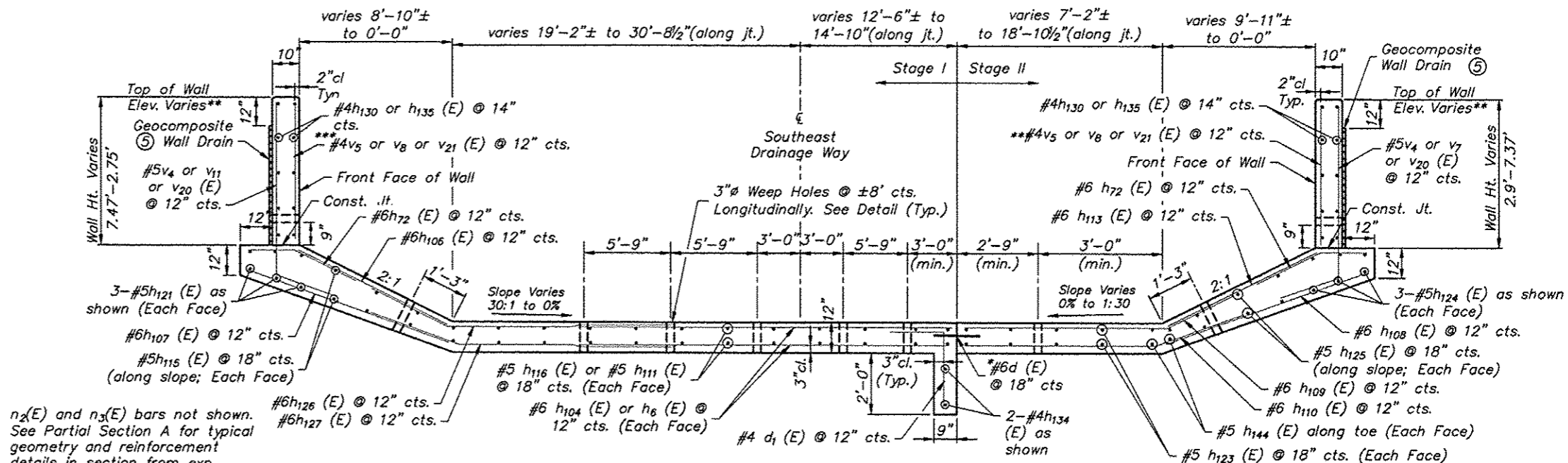
**STATION 4+87.04 TO 5+32.00**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

REVISIONS		
REV. NO.	DESCRIPTION	DATE



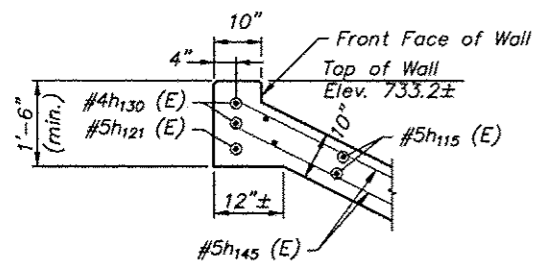
**PARTIAL SECTION A**

Typical from exp. joint to sloped footing transition. Dimensions at right L's to face of wall. Other side of channel similar.



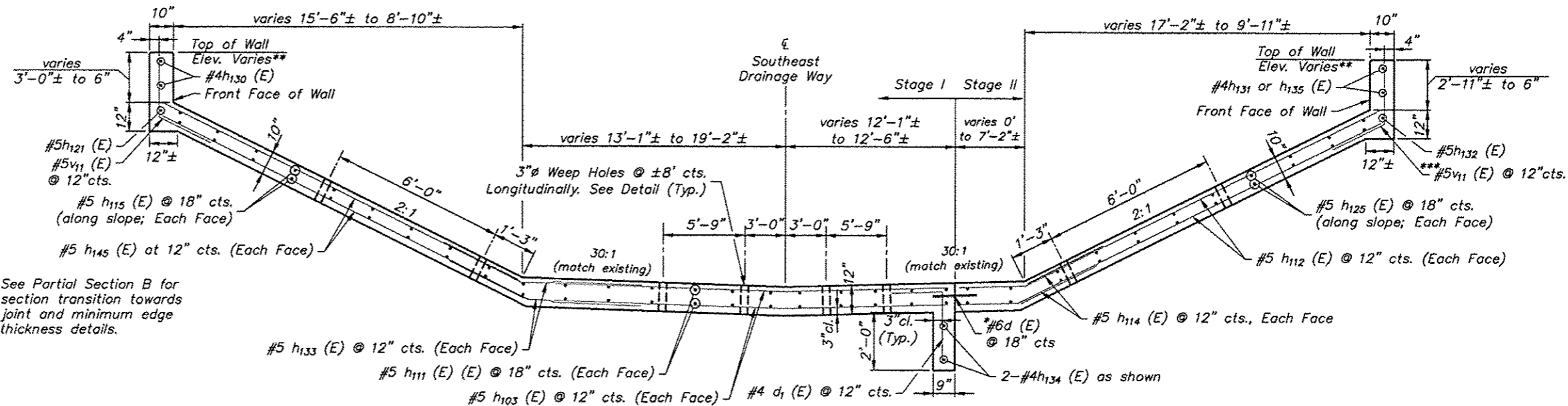
**CHANNEL SECTION**

(Looking Upstream)  
Sta. 4+96±LT / 5+05±RT to 5+10.7  
Dimensions at right L's to Face of Walls for each Stage unless otherwise noted. See Plan View for dimension orientation with respect to ε of Channel and Stage Line. Refer to Layout Plan for additional dimensions and elevations.



**PARTIAL SECTION B**

Dimensions at right L's to face of wall. Other side of channel similar.



**CHANNEL SECTION**

(Looking Upstream)  
Sta. 4+87.04 to 4+96±LT / 5+05±RT  
Dimensions at right L's to Face of Walls for each Stage unless otherwise noted. See Plan View for dimension orientation with respect to ε of Channel and Stage Line. Refer to Layout Plan for additional dimensions and elevations.

**MINIMUM BAR LAP**

- #4 bar - 1'-7"
- #5 bar - 2'-0"
- #6 bar - 2'-5"

⑤ eliminate weep holes and wall drain when wall height reduces to 30"

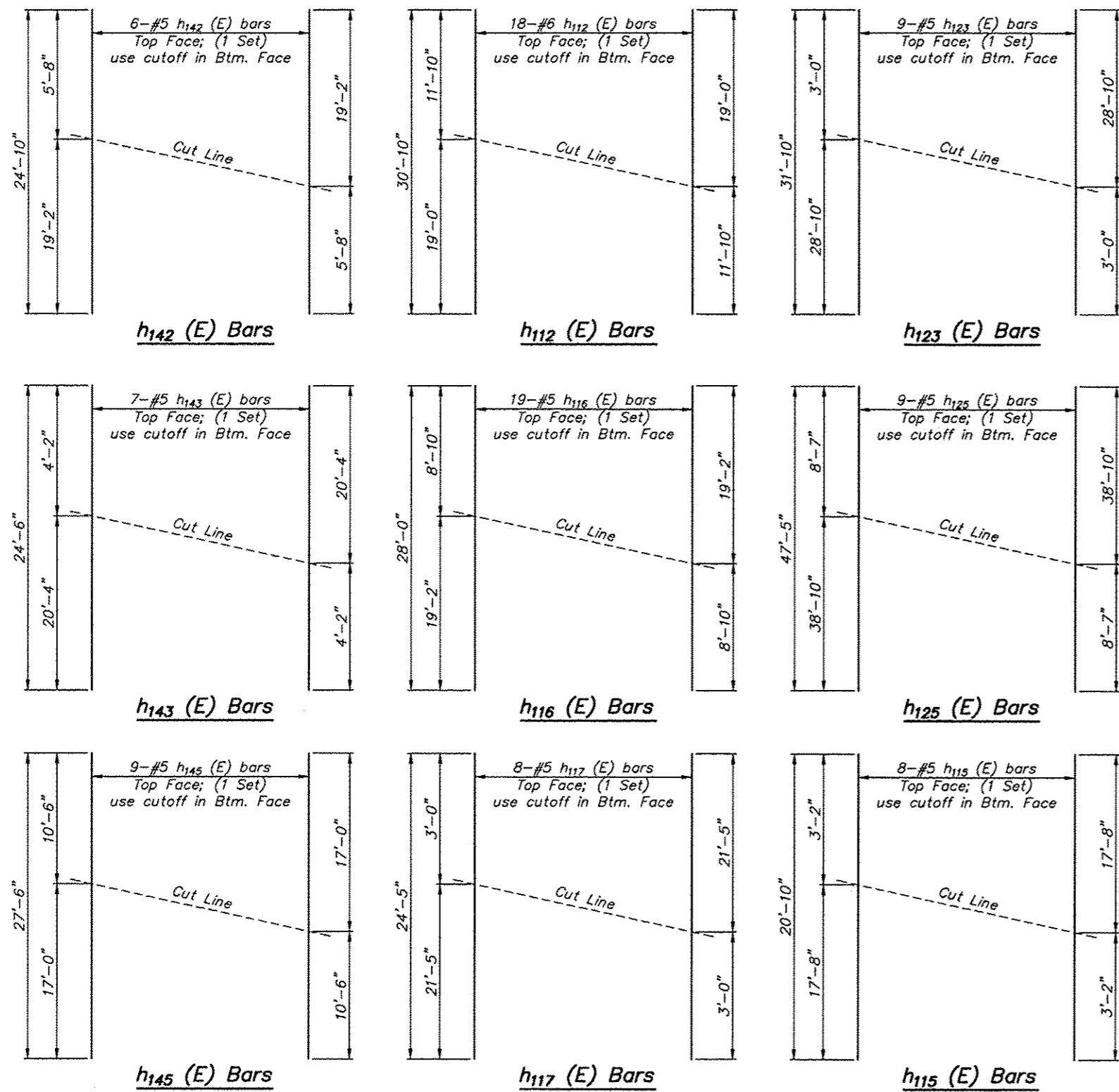
\* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

\*\* Refer to Layout Plan for additional dimensions and channel elevations.

\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

**STATION 4+87.04 TO 5+32.00**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

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**FIELD CUTTING DIAGRAMS**

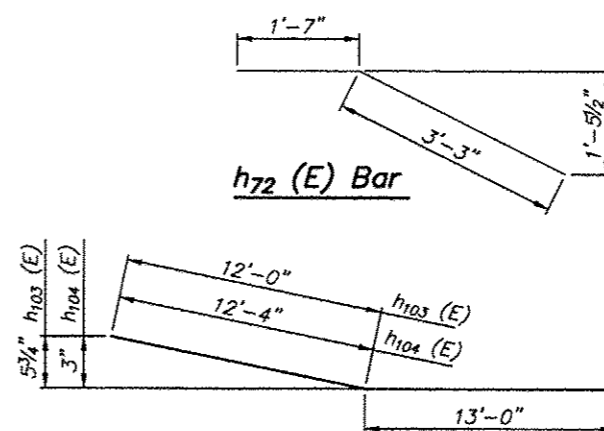
Order Bars full length. Cut as shown and use remainder of Bars in other face or opposite end as noted. Make all cuts normal to bar axis.

**BILL OF MATERIAL**

(This Section Only)

Bar	No.	Size	Length	Shape
h <sub>142</sub> (E)	6	#5	24'-10"	—
h <sub>143</sub> (E)	7	#5	24'-6"	—
h <sub>102</sub> (E)	36	#6	25'-1"	—
h <sub>103</sub> (E)	18	#5	25'-0"	—
h <sub>104</sub> (E)	20	#5	25'-4"	—
h <sub>144</sub> (E)	16	#5	24'-10"	—
h <sub>145</sub> (E)	9	#5	27'-6"	—
h <sub>133</sub> (E)	9	#5	16'-8"	—
h <sub>105</sub> (E)	2	#6	19'-3"	—
h <sub>106</sub> (E)	4	#6	12'-0"	—
h <sub>80</sub> (E)	4	#6	23'-0"	—
h <sub>107</sub> (E)	5	#6	14'-8"	—
h <sub>72</sub> (E)	34	#6	4'-10"	—
h <sub>108</sub> (E)	11	#6	15'-11"	—
h <sub>109</sub> (E)	9	#6	27'-6"	—
h <sub>110</sub> (E)	9	#6	27'-6"	—
h <sub>111</sub> (E)	49	#5	19'-2"	—
h <sub>75</sub> (E)	14	#6	8'-0"	—
h <sub>112</sub> (E)	18	#5	30'-10"	—
h <sub>98</sub> (E)	3	#5	40'-0"	—
h <sub>113</sub> (E)	8	#6	14'-5"	—
h <sub>114</sub> (E)	15	#5	12'-10"	—
h <sub>115</sub> (E)	8	#5	20'-10"	—
h <sub>116</sub> (E)	19	#5	28'-0"	—
h <sub>117</sub> (E)	8	#5	24'-5"	—
h <sub>118</sub> (E)	3	#6	23'-8"	—
h <sub>119</sub> (E)	3	#6	23'-8"	—
h <sub>120</sub> (E)	6	#5	13'-0"	—
h <sub>121</sub> (E)	9	#5	12'-5"	—
h <sub>122</sub> (E)	18	#5	23'-0"	—
h <sub>123</sub> (E)	9	#5	31'-10"	—

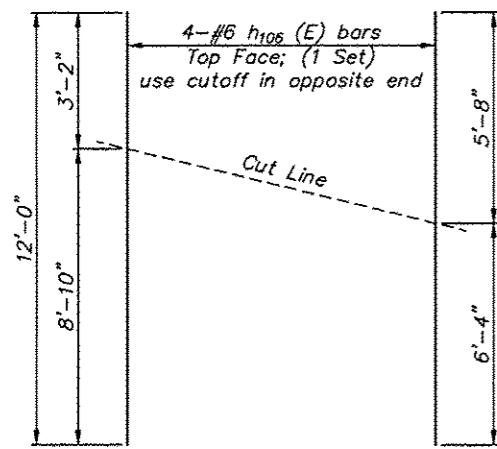
h <sub>124</sub> (E)	6	#5	26'-0"	—
h <sub>125</sub> (E)	9	#5	47'-5"	—
h <sub>126</sub> (E)	10	#6	34'-4"	—
h <sub>127</sub> (E)	10	#6	34'-4"	—
h <sub>128</sub> (E)	18	#6	21'-1"	—
h <sub>129</sub> (E)	78	#5	10'-6"	—
h <sub>130</sub> (E)	40	#4	10'-6"	—
h <sub>131</sub> (E)	8	#4	24'-6"	—
h <sub>132</sub> (E)	3	#5	20'-0"	—
h <sub>134</sub> (E)	4	#4	19'-2"	—
h <sub>135</sub> (E)	26	#4	12'-6"	—
d (E)	31	#6	1'-6"	—
d <sub>1</sub> (E)	129	#4	3'-11"	—
n (E)	26	#6	5'-3"	—
n <sub>1</sub> (E)	26	#5	4'-7"	—
n <sub>2</sub> (E)	16	#6	5'-9"	—
n <sub>3</sub> (E)	16	#5	5'-1"	—
v <sub>4</sub> (E)	15	#5	7'-10"	—
v <sub>5</sub> (E)	15	#4	4'-7"	—
v <sub>7</sub> (E)	7	#5	6'-4"	—
v <sub>8</sub> (E)	7	#4	3'-0"	—
v <sub>11</sub> (E)	22	#5	5'-8"	—
v <sub>20</sub> (E)	51	#5	6'-9"	—
v <sub>21</sub> (E)	51	#4	6'-9"	—
Concrete Structures		Cu. Yd.	115.7	
Reinforcement Bars, Epoxy Coated		Pound	15162	
1/2" Dowels (E)		Each	21	
3/4" Dowels (E)		Each	84	
Geocomposite Wall Drain		Sq. Yd.	36.3	



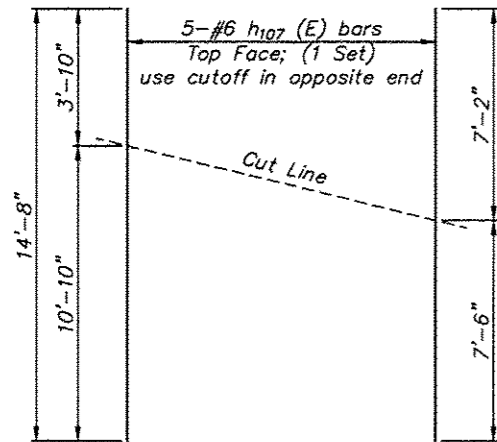
**h<sub>103</sub> & h<sub>104</sub> (E) Bars**

**STATION 4+87.04 TO 5+32.00**  
**STRUCTURAL CONCRETE CHANNEL**  
**REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

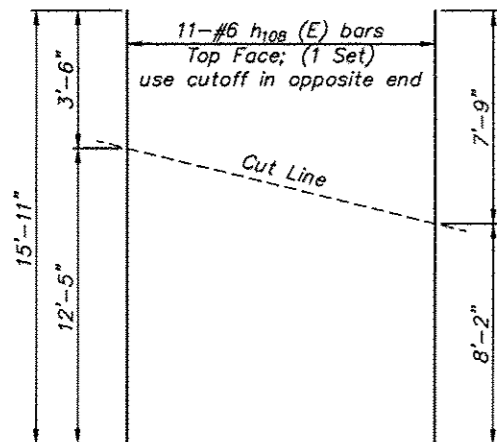




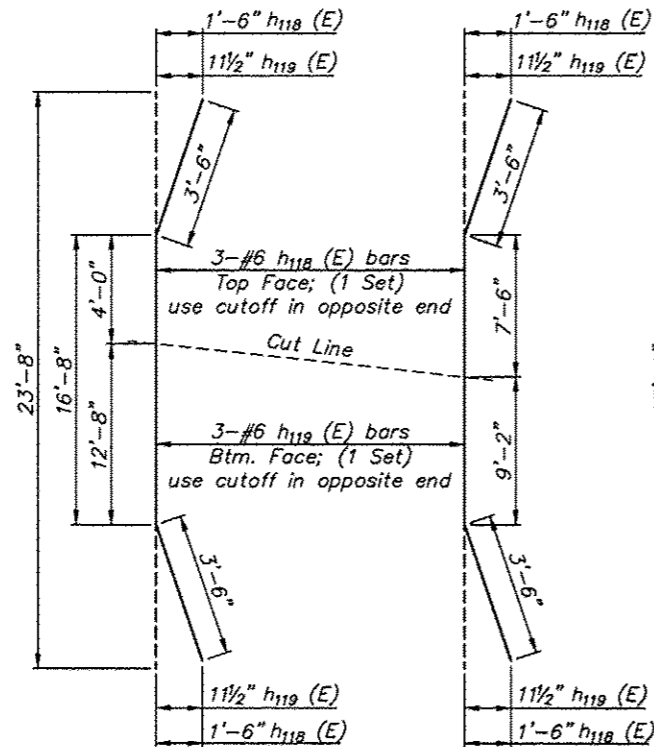
**h106 (E) Bars**



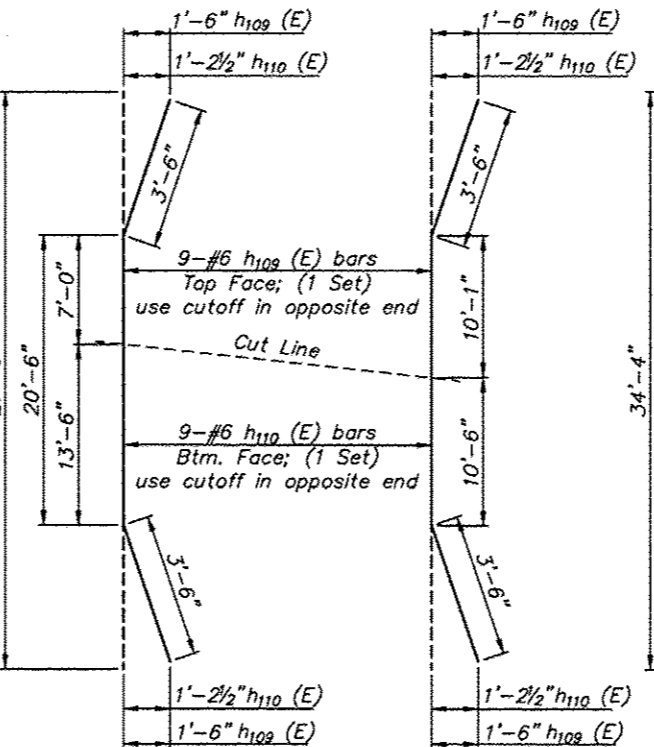
**h107 (E) Bars**



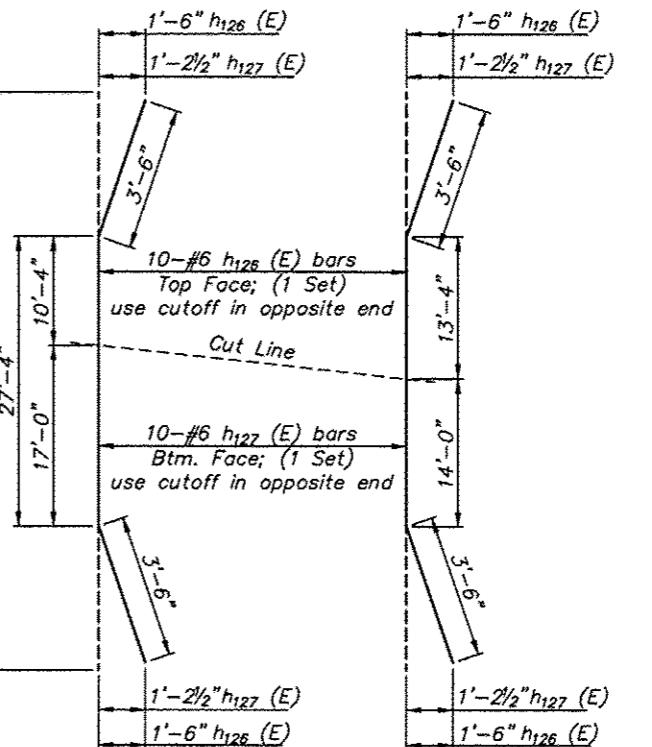
**h108 (E) Bars**



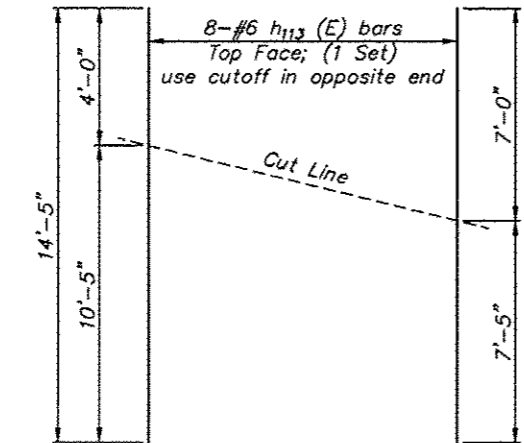
**h118 & h119 (E) Bars**



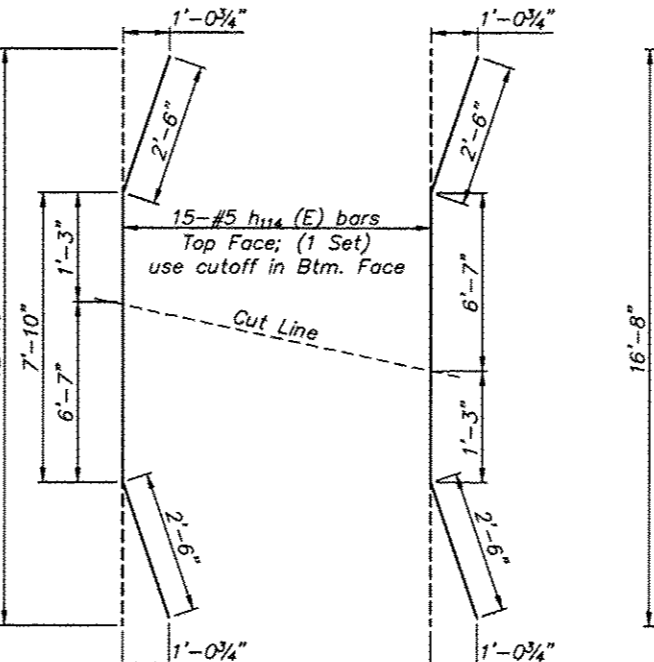
**h109 & h110 (E) Bars**



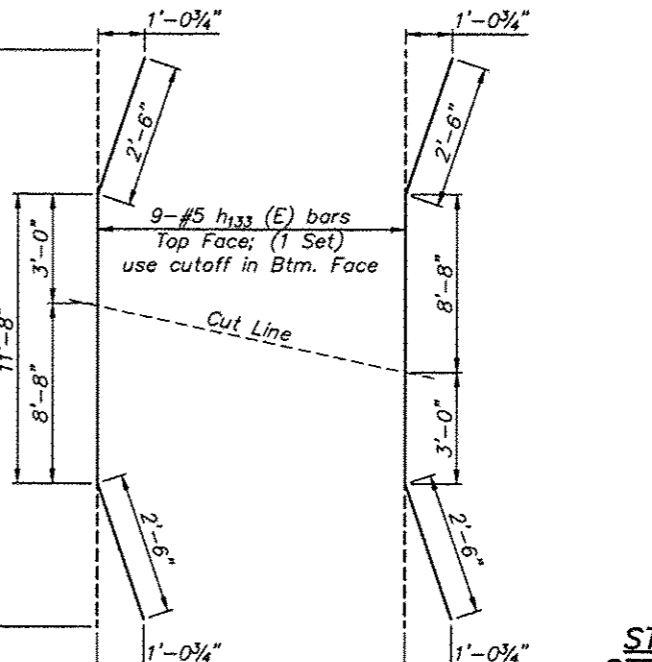
**h126 & h127 (E) Bars**



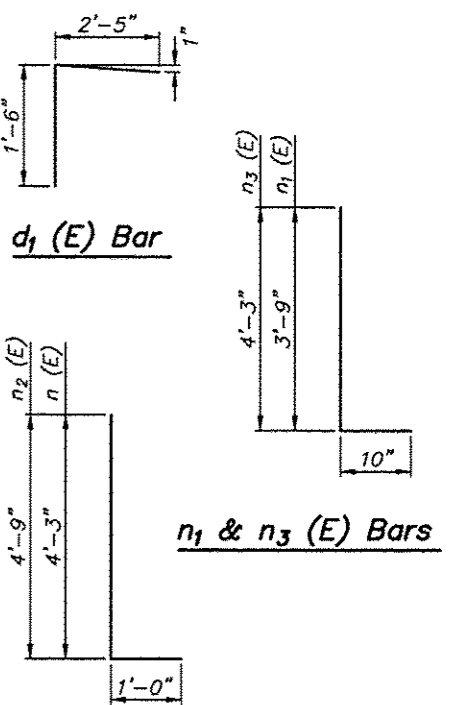
**h113 (E) Bars**



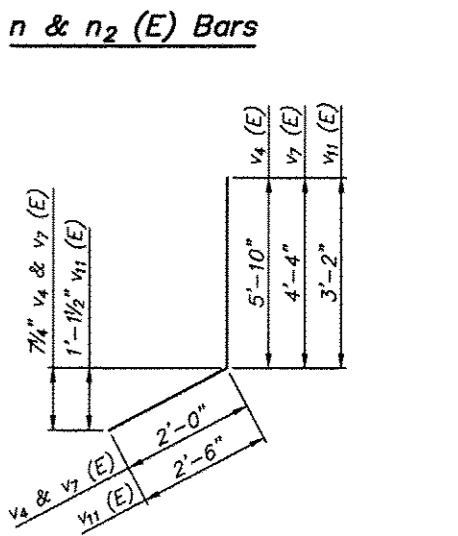
**h114 (E) Bars**



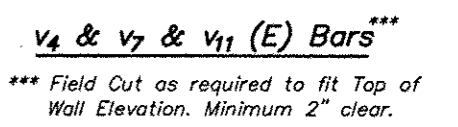
**h133 (E) Bars**



**n1 & n3 (E) Bars**



**n & n2 (E) Bars**



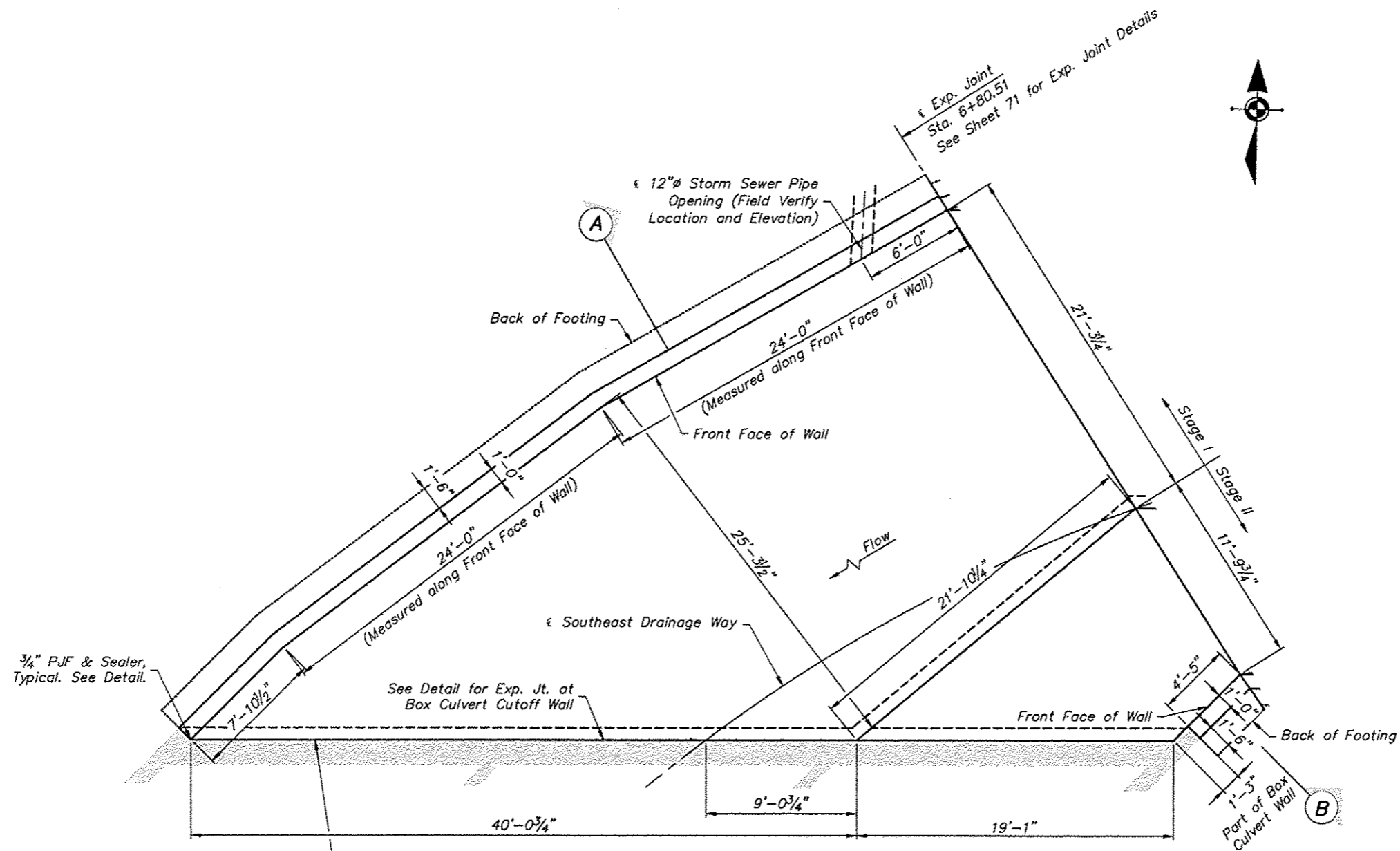
**v4 & v7 & v11 (E) Bars**

\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

**FIELD CUTTING DIAGRAMS**  
Order Bars full length. Cut as shown and use remainder of Bars in other face or opposite end as noted. Make all cuts normal to bar axis.

**STATION 4+87.04 TO 5+32.00**  
**STRUCTURAL CONCRETE CHANNEL**  
**REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

REVISIONS		
REV. NO.	DESCRIPTION	DATE



Limits of Proposed Box Culvert.  
 Structure No. 101-6105  
 Refer to Culvert Plans for Culvert Details.  
 (Culvert Omission Sta. 5+32.00 to Sta. 6+50.97)

**PLAN**  
 (Showing Dimensions)

NOTE:  
 Refer to Channel Layout Plan  
 for additional dimensions and  
 channel elevations.

**STATION 6+50.97 TO 6+80.51**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

Sheet 18 of 73

**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL  
 ILLINOIS DESIGN FIRM NO. 194-003523

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 7282 Argus Drive Rockford, Illinois 61107-6837  
 (616) 398-2332 FAX (815) 398-2498  
 Design Firm License: Illinois 184-000816  
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PROJECT AND LOCATION  
 HARRISON AVENUE  
 RECONSTRUCTION 2012  
 PHASE 1  
 ROCKFORD, ILLINOIS

DRAWN BY: JWH  
 APPROVED BY: CTB  
 DATE: 6/12/15  
 SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING  
 6+50.97 TO 6+80.51

JOB NUMBER  
 11-128

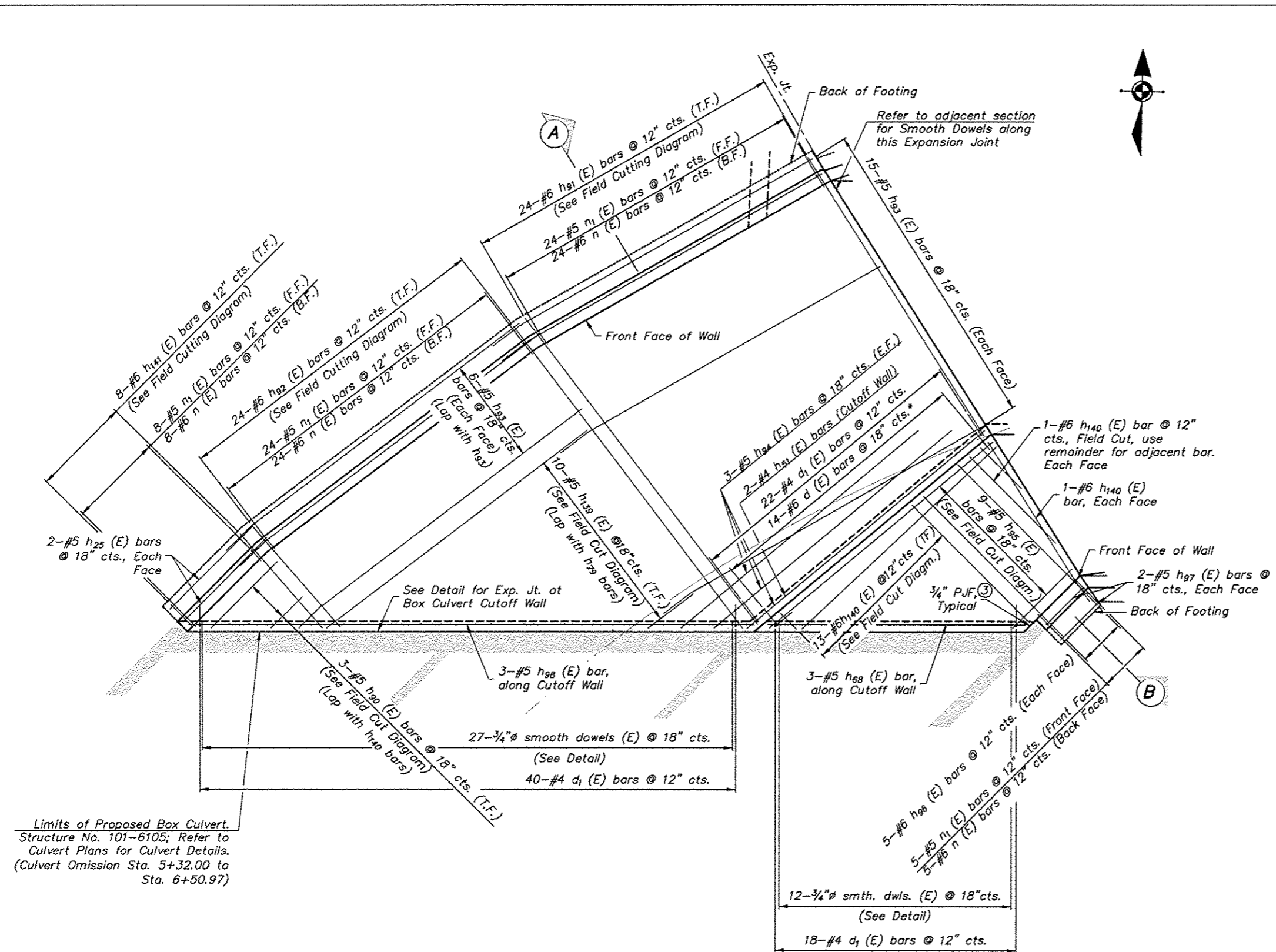
SHEET NUMBER  
 421 of 588

**BILL OF MATERIAL**  
(This Section Only)

Bar	No.	Size	Length	Shape
h <sub>139</sub> (E)	10	#5	27'-6"	—
h <sub>90</sub> (E)	3	#5	9'-10"	—
h <sub>91</sub> (E)	24	#6	50'-6"	—
h <sub>92</sub> (E)	24	#6	36'-4"	—
h <sub>93</sub> (E)	42	#5	26'-3"	—
h <sub>140</sub> (E)	17	#6	13'-4"	—
h <sub>94</sub> (E)	6	#5	21'-10"	—
h <sub>95</sub> (E)	9	#5	26'-7"	—
h <sub>96</sub> (E)	5	#6	14'-0"	—
h <sub>97</sub> (E)	4	#5	3'-8"	—
h <sub>68</sub> (E)	3	#5	18'-0"	—
h <sub>98</sub> (E)	3	#5	40'-0"	—
h <sub>141</sub> (E)	8	#6	11'-4"	—
h <sub>25</sub> (E)	4	#5	8'-3"	—
h <sub>51</sub> (E)	2	#4	21'-10"	—
h <sub>99</sub> (E)	16	#4	3'-9"	—
h <sub>100</sub> (E)	32	#4	26'-3"	—
h <sub>101</sub> (E)	16	#4	8'-3"	—
d (E)	14	#6	1'-6"	—
d <sub>1</sub> (E)	80	#4	3'-11"	└
n (E)	61	#6	5'-3"	└
n <sub>1</sub> (E)	61	#5	4'-7"	└
v <sub>16</sub> (E)	56	#5	7'-0"	—
v <sub>17</sub> (E)	5	#5	7'-3"	—
v <sub>18</sub> (E)	56	#4	7'-0"	—
v <sub>19</sub> (E)	5	#4	7'-3"	—
Concrete Structures		Cu. Yd.	67.2	
Reinforcement Bars, Epoxy Coated		Pound	8262	
3/4" Dowels (E)		Each	39	
Geocomposite Wall Drain		Sq. Yd.	43.7	

**STATION 6+50.97 TO 6+80.51**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

Sheet 19 of 73

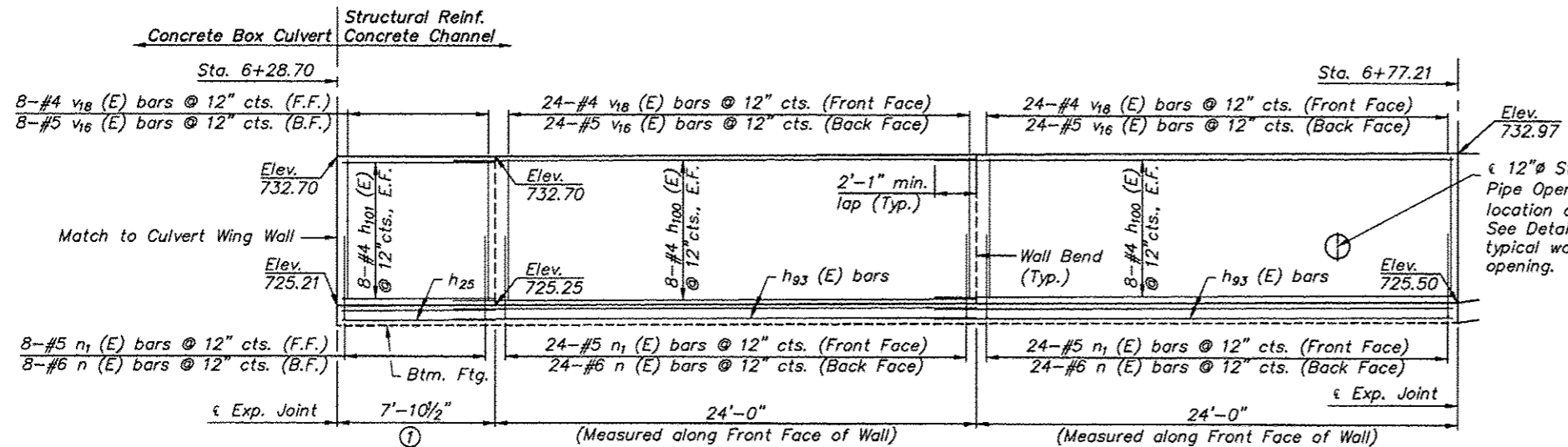


**PLAN**  
(Showing Reinforcement)

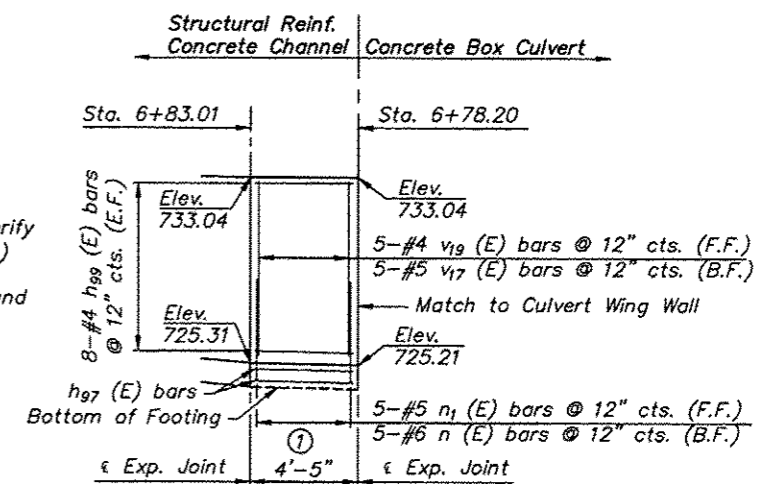
Limits of Proposed Box Culvert.  
Structure No. 101-6105; Refer to  
Culvert Plans for Culvert Details.  
(Culvert Omission Sta. 5+32.00 to  
Sta. 6+50.97)

**MINIMUM BAR LAP**  
#4 bar - 1'-7"  
#5 bar - 2'-0"  
#6 bar - 2'-5"

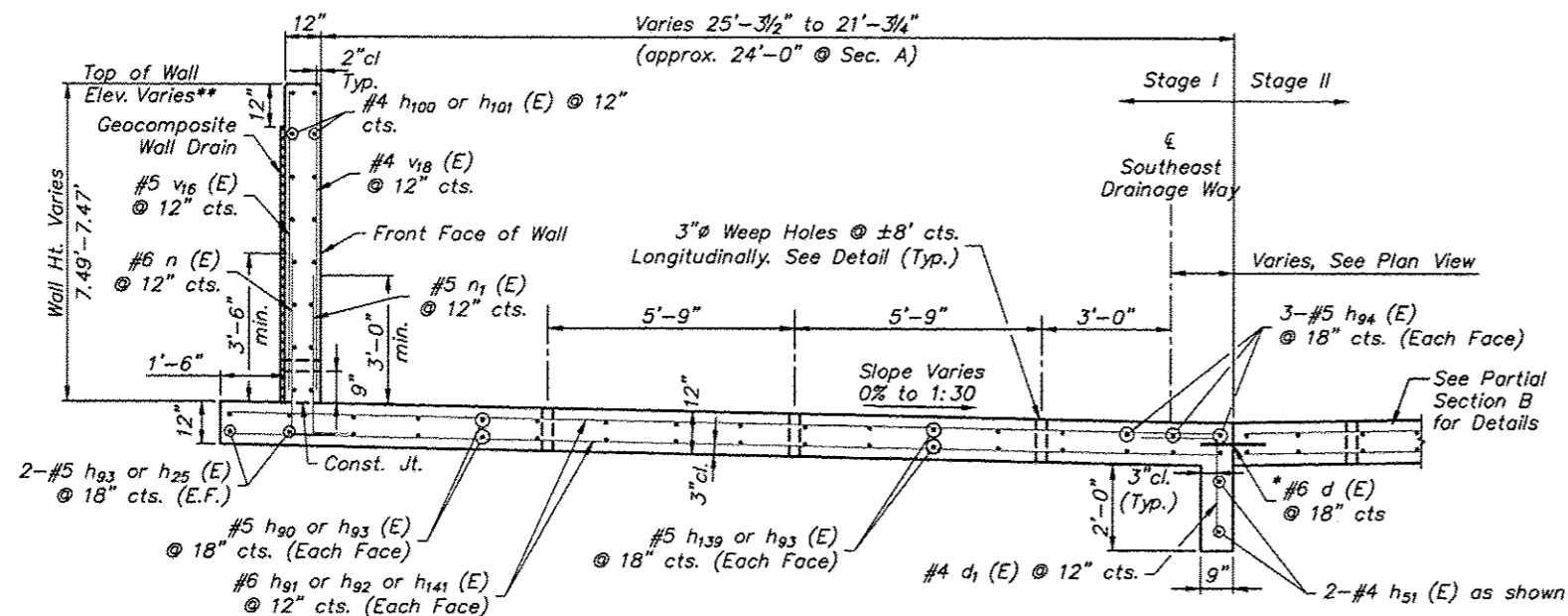
\* Drill & Grout Bars. Cost is included in  
Reinforcement Bars, Epoxy Coated.  
③ 3/4" Preformed Joint Filler & Sealer along  
Face of Wing Wall and between Channel  
Wall and Wing Wall Joint. Cost  
Included with Concrete Structures.



**NORTH WALL ELEVATION**  
(Looking at Inside/Front Face of Wall)



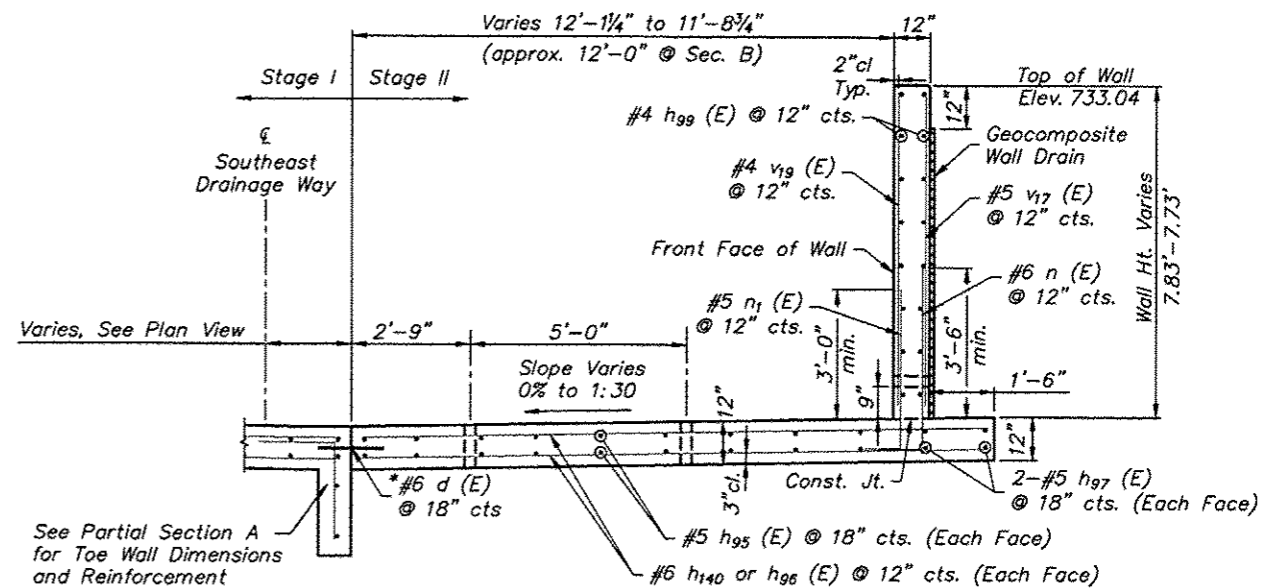
**SOUTH WALL ELEVATION**  
(Looking at Inside/Front Face of Wall)



**PARTIAL CHANNEL SECTION A**

Showing Dimensions and Reinforcement for Typical Channel Section  
(Looking Upstream)

Dimensions at right L's to Face of Wall.



**PARTIAL CHANNEL SECTION B**

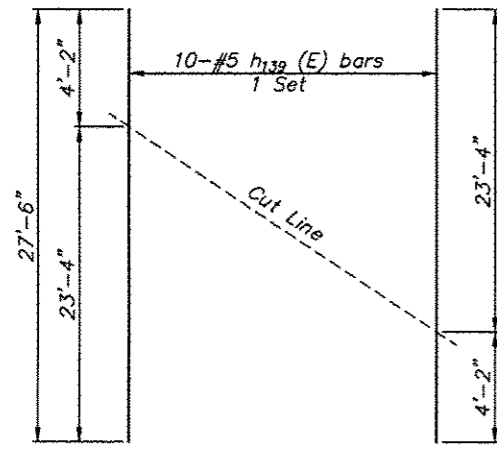
Showing Dimensions and Reinforcement for Typical Channel Section  
(Looking Upstream)

Dimensions at right L's to Face of Wall.

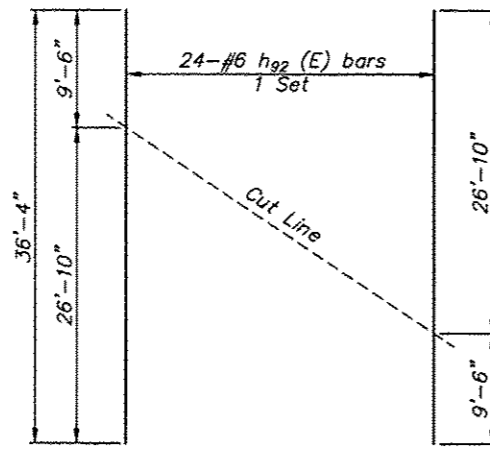
**STATION 6+50.97 TO 6+80.51**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

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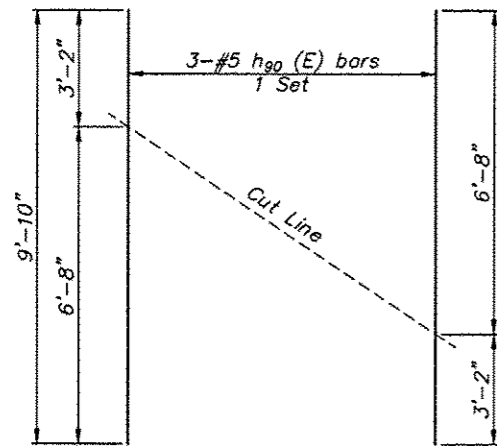
\* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.  
\*\* Refer to Layout Plan for additional dimensions and channel wall elevations.



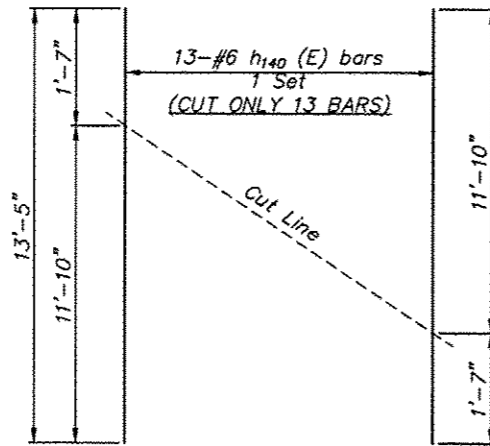
**h<sub>139</sub> (E) Bars**



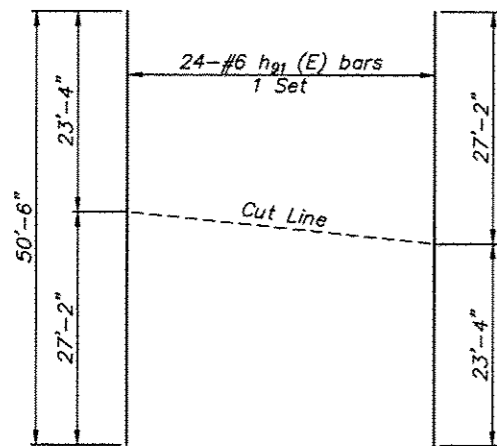
**h<sub>92</sub> (E) Bars**



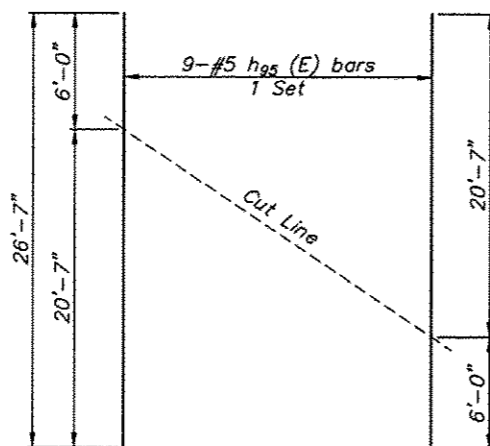
**h<sub>90</sub> (E) Bars**



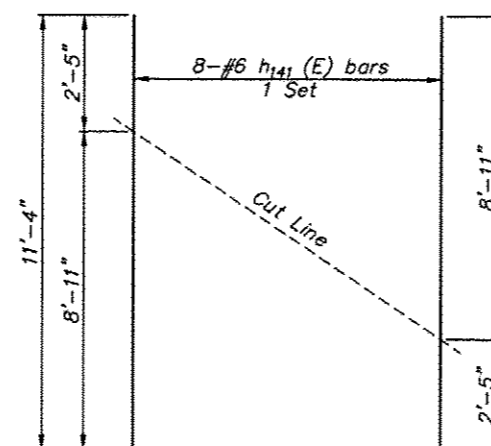
**h<sub>140</sub> (E) Bars**



**h<sub>91</sub> (E) Bars**

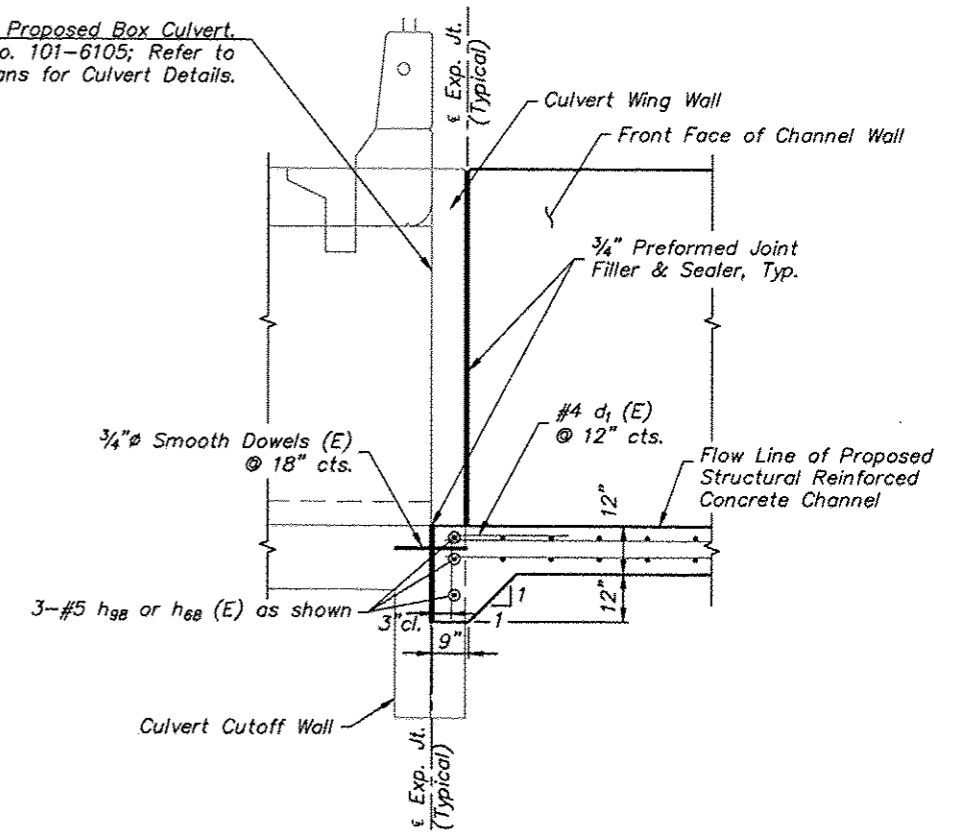


**h<sub>95</sub> (E) Bars**

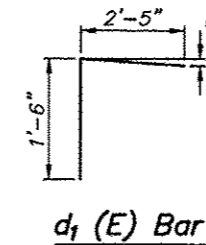


**h<sub>141</sub> (E) Bars**

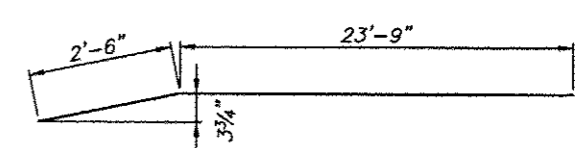
Limits of Proposed Box Culvert.  
Structure No. 101-6105; Refer to  
Culvert Plans for Culvert Details.



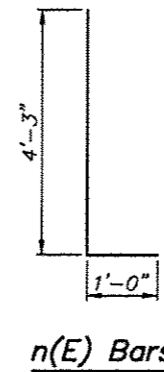
**CULVERT/CHANNEL JOINT DETAIL**  
Dimensions at right L's to joint.



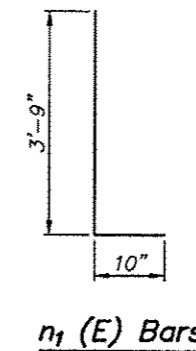
**d<sub>1</sub> (E) Bar**



**h<sub>93</sub> (E) Bars**  
**h<sub>100</sub> (E) Bars**



**n(E) Bars**



**n<sub>1</sub> (E) Bars**

**FIELD CUTTING DIAGRAMS**

Order Bars full length. Cut as shown for use in Top Face and use remainder of Bars in Bottom Face. Make all cuts normal to bar axis.

**STATION 6+50.97 TO 6+80.51**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

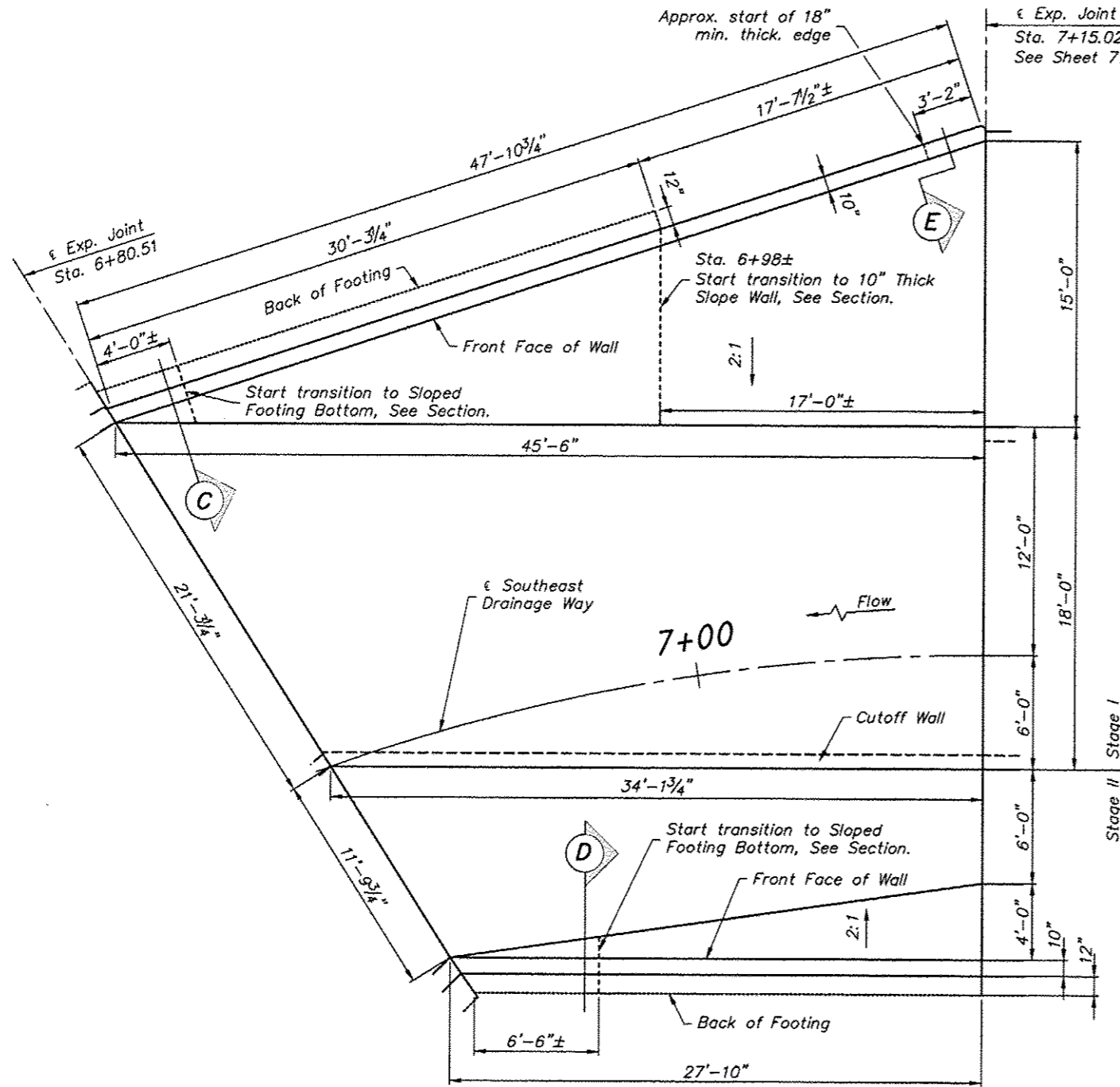
REVISIONS		
REV. NO.	DESCRIPTION	DATE



**BILL OF MATERIAL**

(This Section Only)

Bar	No.	Size	Length	Shape
h <sub>65</sub> (E)	11	#5	50'-0"	—
h <sub>66</sub> (E)	24	#5	33'-11"	—
h <sub>67</sub> (E)	11	#5	16'-6"	—
h <sub>68</sub> (E)	16	#5	18'-0"	—
h <sub>69</sub> (E)	28	#5	15'-0"	—
h <sub>70</sub> (E)	28	#4	18'-6"	—
h <sub>71</sub> (E)	12	#6	15'-4"	—
h <sub>72</sub> (E)	47	#6	4'-10"	—
h <sub>73</sub> (E)	3	#6	29'-5"	∩
h <sub>74</sub> (E)	14	#6	11'-4"	—
h <sub>75</sub> (E)	6	#6	8'-0"	—
h <sub>76</sub> (E)	3	#6	29'-5"	∩
h <sub>77</sub> (E)	17	#5	27'-7"	—
h <sub>78</sub> (E)	6	#6	11'-8"	—
h <sub>79</sub> (E)	11	#6	13'-4"	—
h <sub>80</sub> (E)	2	#6	22'-10"	—
h <sub>81</sub> (E)	4	#5	30'-5"	—
h <sub>82</sub> (E)	1	#5	20'-10"	—
h <sub>82</sub> (E)	17	#6	21'-3"	∩
h <sub>83</sub> (E)	17	#6	21'-3"	∩
h <sub>84</sub> (E)	30	#4	15'-0"	—
h <sub>85</sub> (E)	10	#6	21'-4"	∩
h <sub>86</sub> (E)	10	#6	21'-4"	∩
h <sub>87</sub> (E)	7	#6	9'-0"	—
h <sub>146</sub> (E)	34	#5	20'-3"	∩
d (E)	23	#6	1'-6"	—
d <sub>1</sub> (E)	34	#4	3'-11"	└
n <sub>2</sub> (E)	40	#6	5'-3"	└
n <sub>3</sub> (E)	40	#5	4'-7"	└
v <sub>4</sub> (E)	9	#5	7'-10"	└
v <sub>5</sub> (E)	9	#4	4'-7"	—
v <sub>7</sub> (E)	8	#5	6'-4"	└
v <sub>8</sub> (E)	8	#4	3'-0"	—
v <sub>11</sub> (E)	15	#5	5'-8"	└
v <sub>12</sub> (E)	6	#4	12'-1"	—
v <sub>13</sub> (E)	6	#5	12'-1"	—
v <sub>14</sub> (E)	14	#4	12'-7"	—
v <sub>15</sub> (E)	14	#5	12'-7"	—



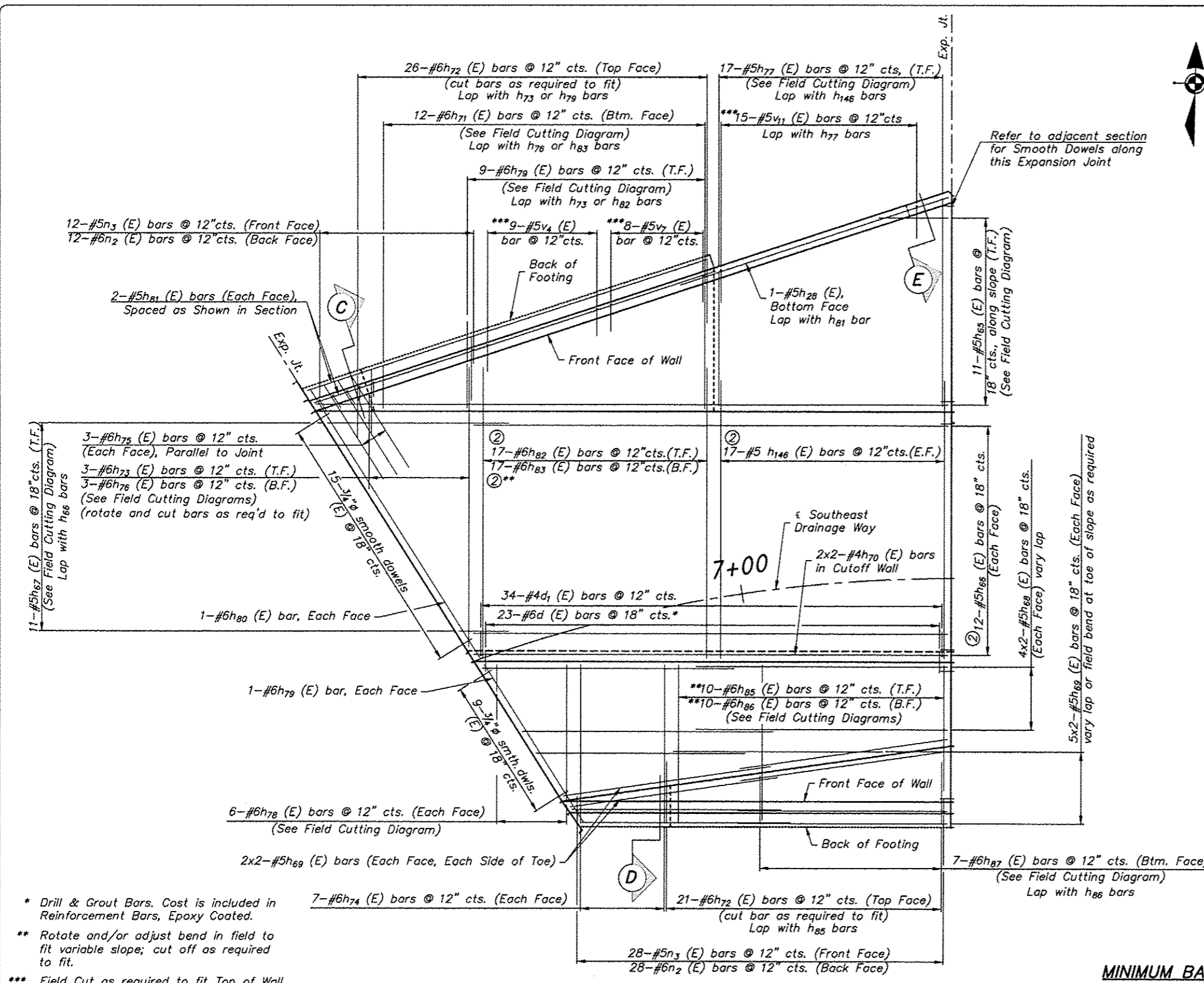
**PLAN**  
(Showing Dimensions)

NOTE:  
Wall length dimensions are measured along Front Face of Wall, unless noted otherwise.  
Refer to Channel Layout Plan for additional dimensions and channel elevations.

**BILL OF MATERIAL (cont.)**  
(This Section Only)

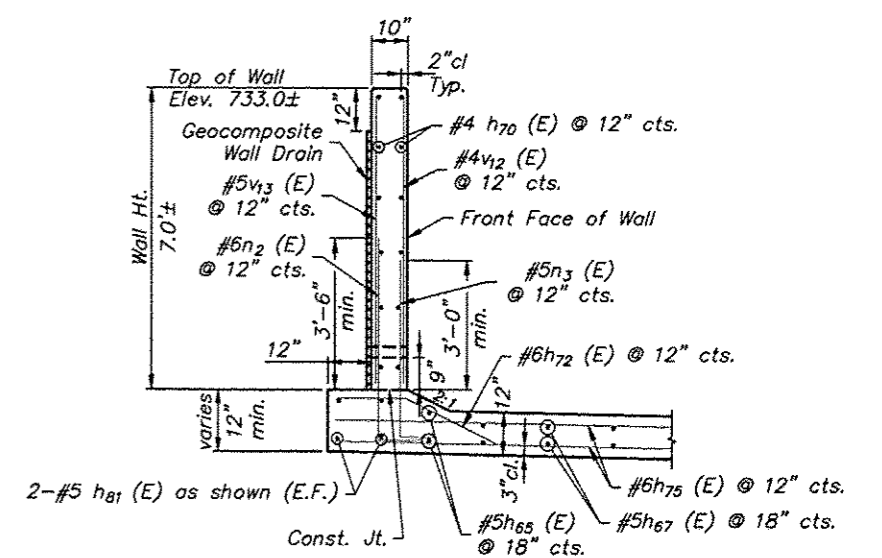
Concrete Structures	Cu. Yd.	72.0
Reinforcement Bars, Epoxy Coated	Pound	9143
3/4" Dowels (E)	Each	24
Geocomposite Wall Drain	Sq. Yd.	32.0

**STATION 6+80.51 TO 7+15.02**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**



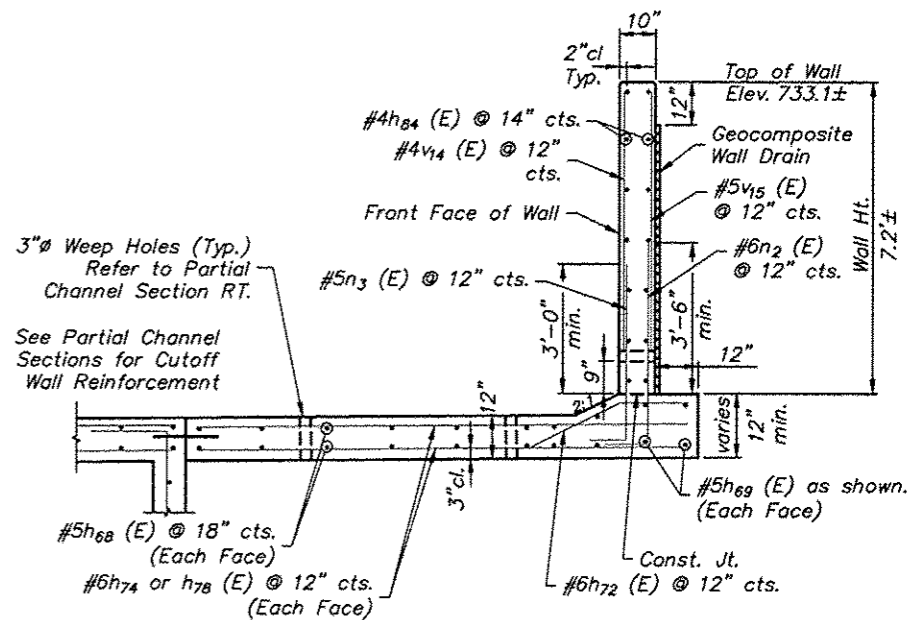
**PLAN**  
(Showing Reinforcement)

- \* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.
- \*\* Rotate and/or adjust bend in field to fit variable slope; cut off as required to fit.
- \*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.
- ② Field Bend as Required to Fit Channel and to Maintain Clear Distance



**PARTIAL SECTION C**

Typical from exp. joint to sloped footing transition.  
Dimensions at right L's to face of wall.



**PARTIAL SECTION D**

Typical from exp. joint to sloped footing transition.  
Dimensions at right L's to face of wall.

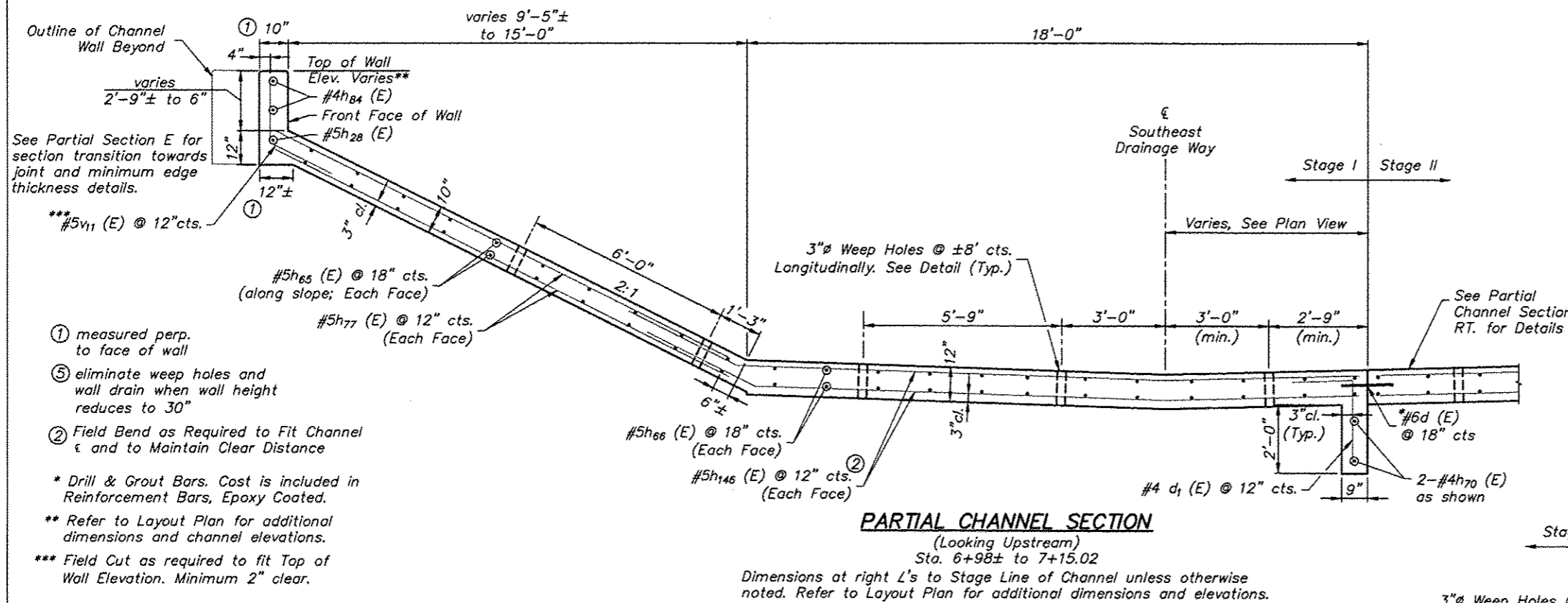
**MINIMUM BAR LAP**

- #4 bar - 1'-7"
- #5 bar - 2'-0"
- #6 bar - 2'-5"

**STATION 6+80.51 TO 7+15.02**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

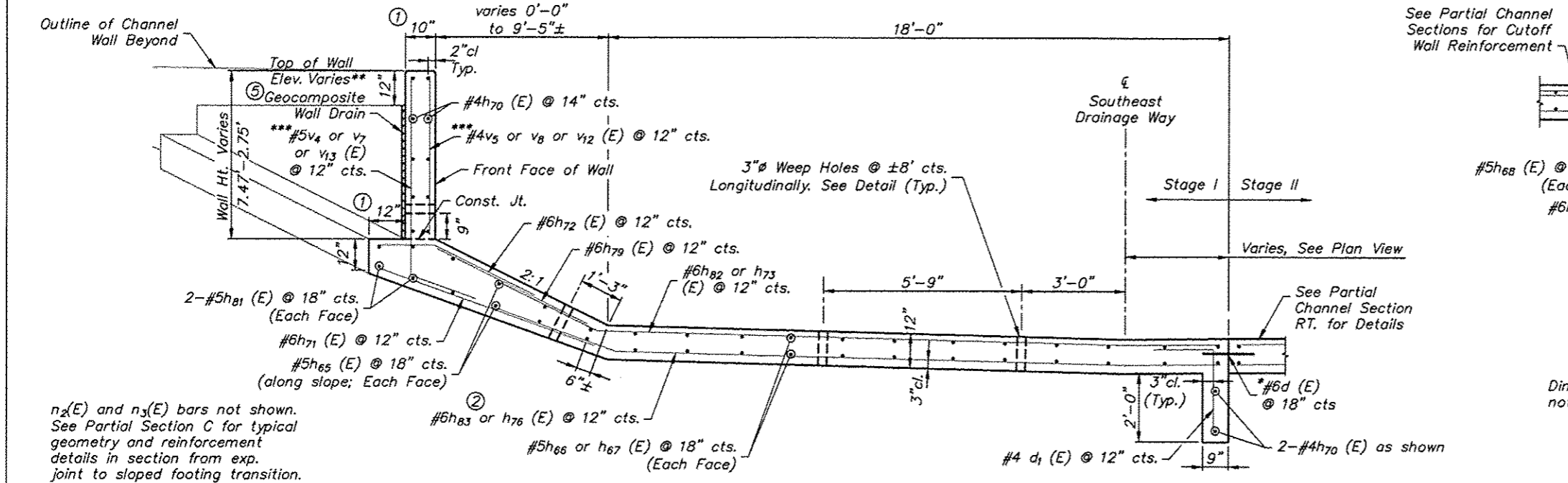
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING	6+80.51 TO 7+15.02
JOB NUMBER	11-128
SHEET NUMBER	426 of 588



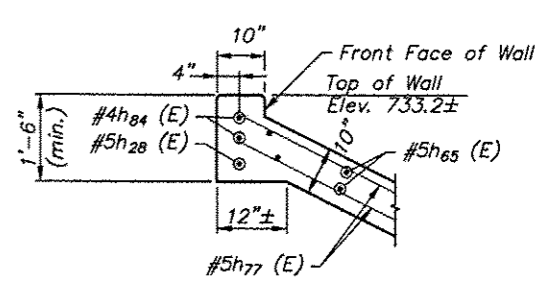
**PARTIAL CHANNEL SECTION**  
(Looking Upstream)  
Sta. 6+98± to 7+15.02

Dimensions at right L's to Stage Line of Channel unless otherwise noted. Refer to Layout Plan for additional dimensions and elevations.



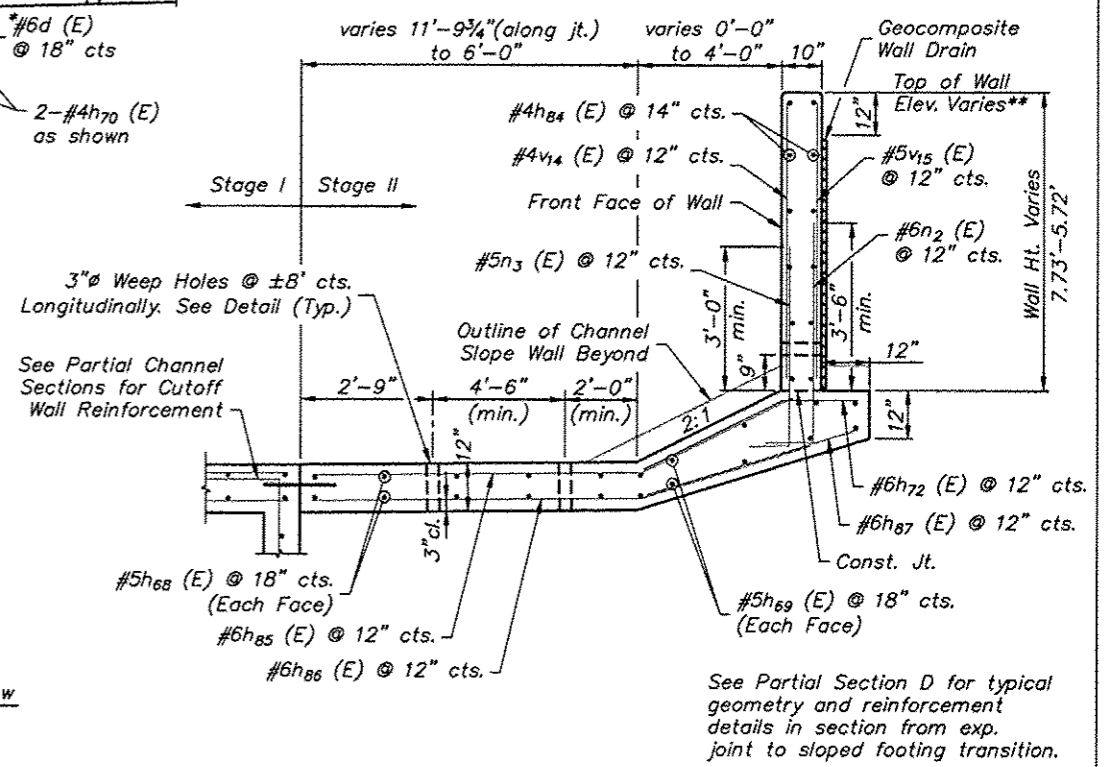
**PARTIAL CHANNEL SECTION**  
(Looking Upstream)  
Sta. 6+80.51 to 6+98±

Dimensions at right L's to Stage Line of Channel unless otherwise noted. Refer to Layout Plan for additional dimensions and elevations.



**PARTIAL SECTION E**

Dimensions at right L's to face of wall.

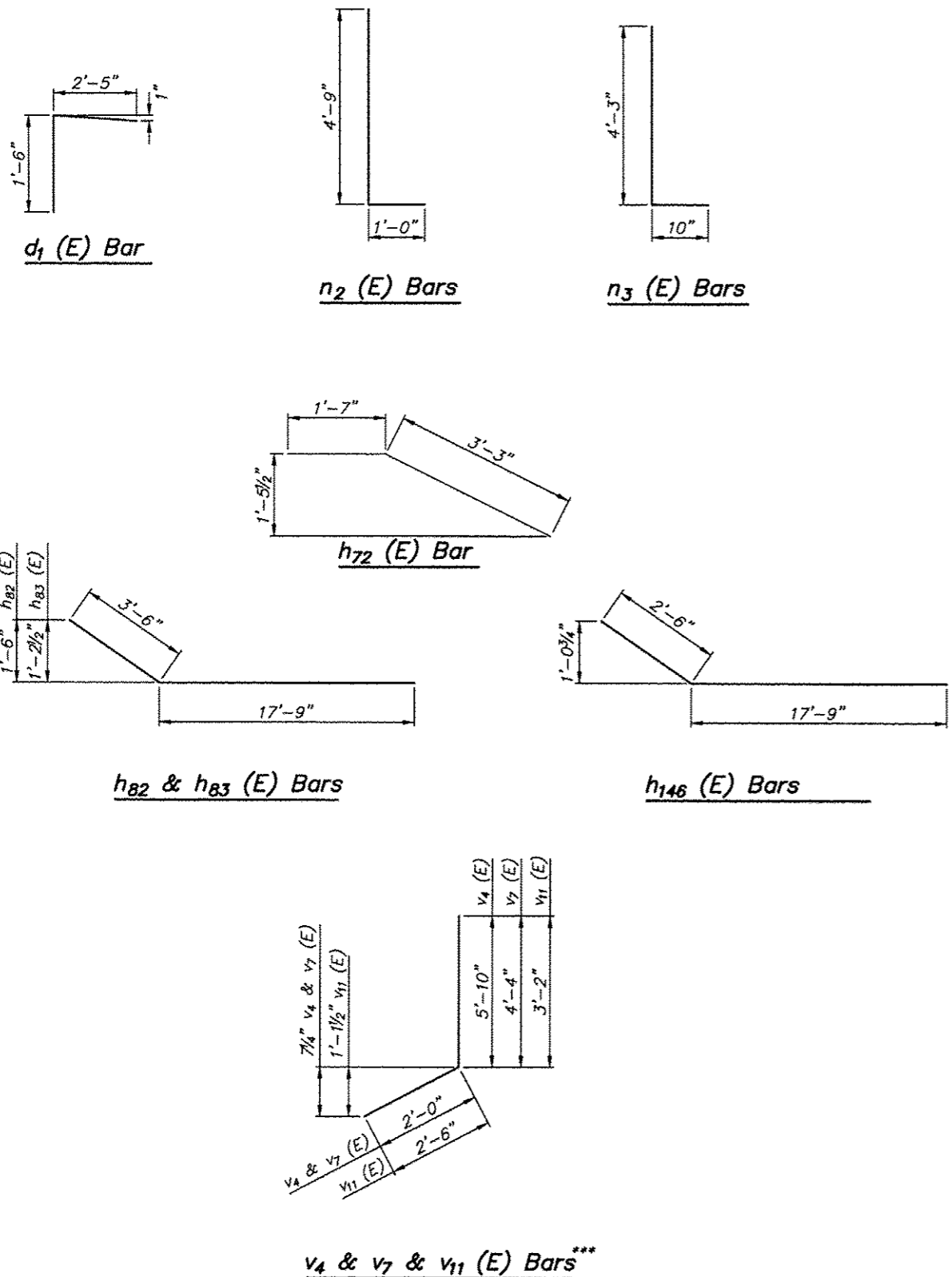


**PARTIAL CHANNEL SECTION RT.**  
(Looking Upstream)  
Sta. 6+80.51 to 7+15.02

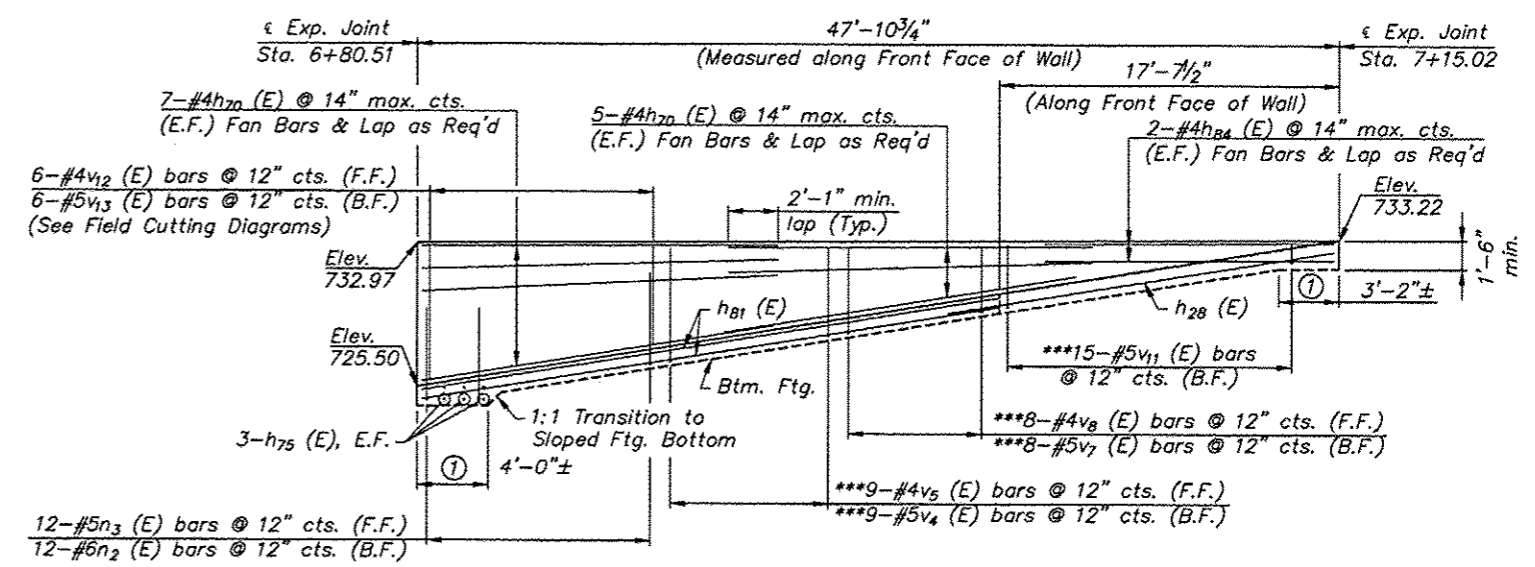
Dimensions at right L's to Stage Line of Channel unless otherwise noted. Refer to Layout Plan for additional dimensions and elevations.

**STATION 6+80.51 TO 7+15.02**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

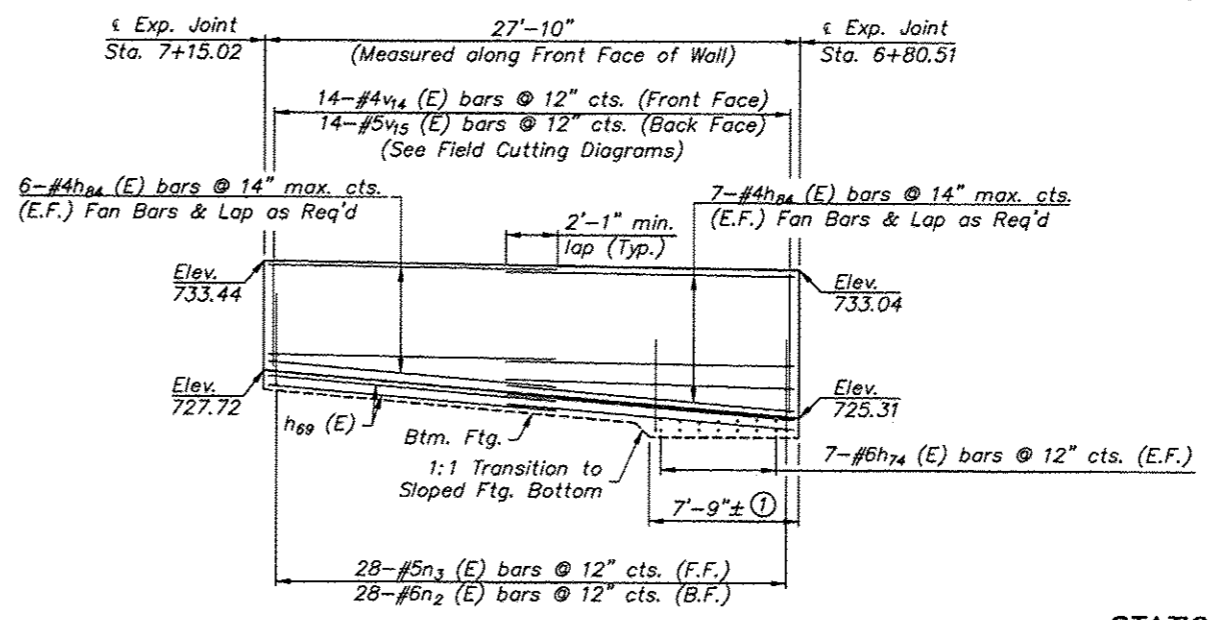
**MINIMUM BAR LAP**  
#5 bar - 2'-0"



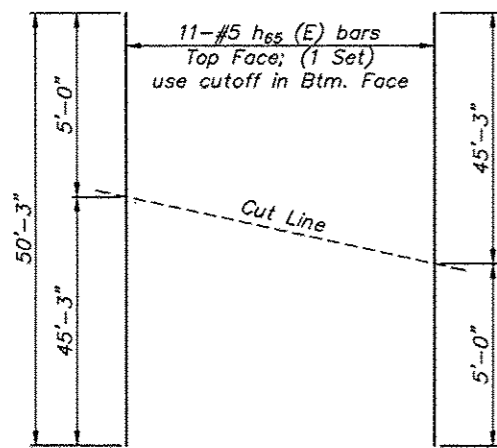
\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.



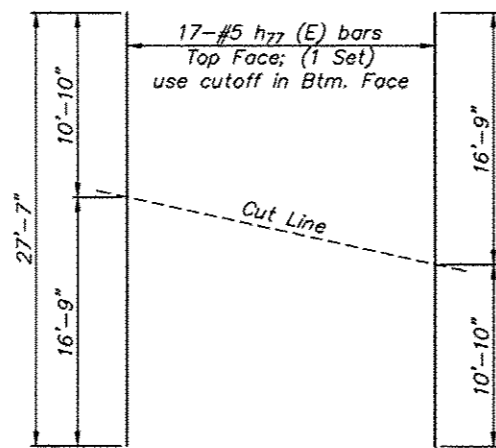
① Measured along Front Face of Wall



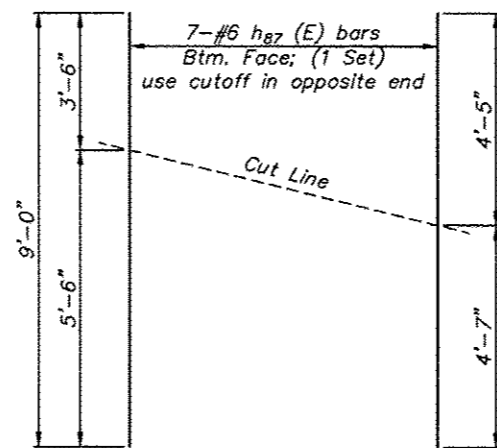
**STATION 6+80.51 TO 7+15.02**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**



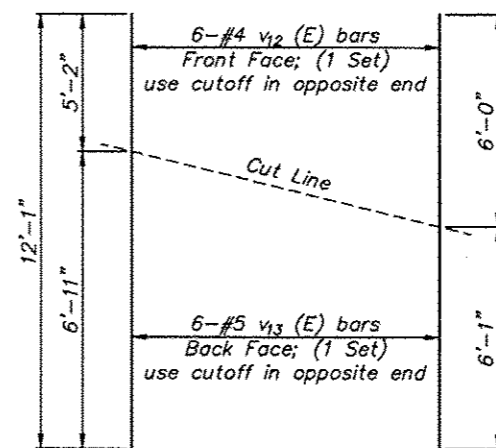
**h65 (E) Bars**



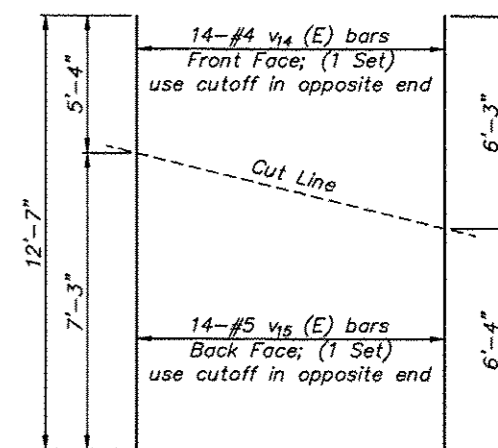
**h77 (E) Bars**



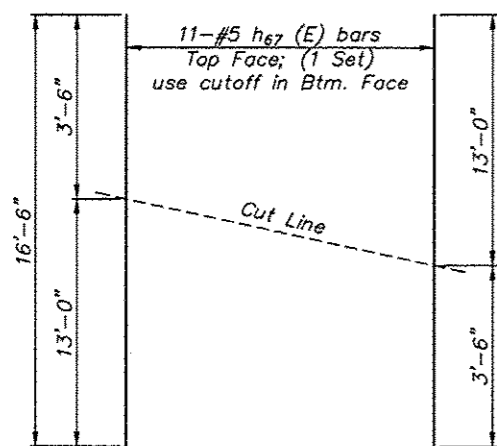
**h87 (E) Bars**



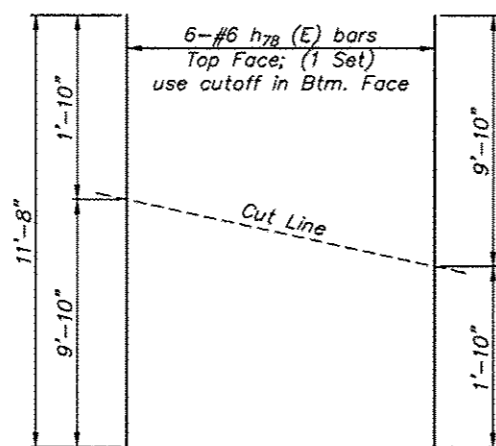
**v12 & v13 (E) Bars**



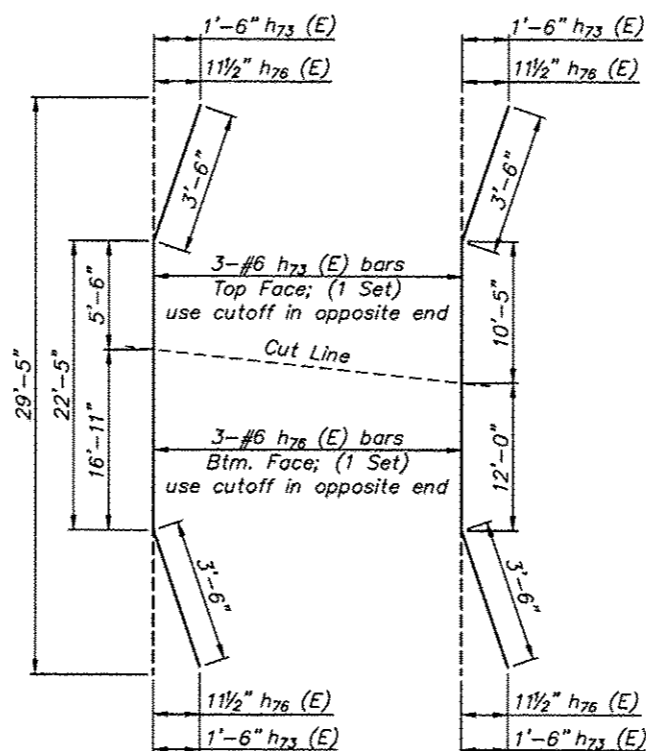
**v14 & v15 (E) Bars**



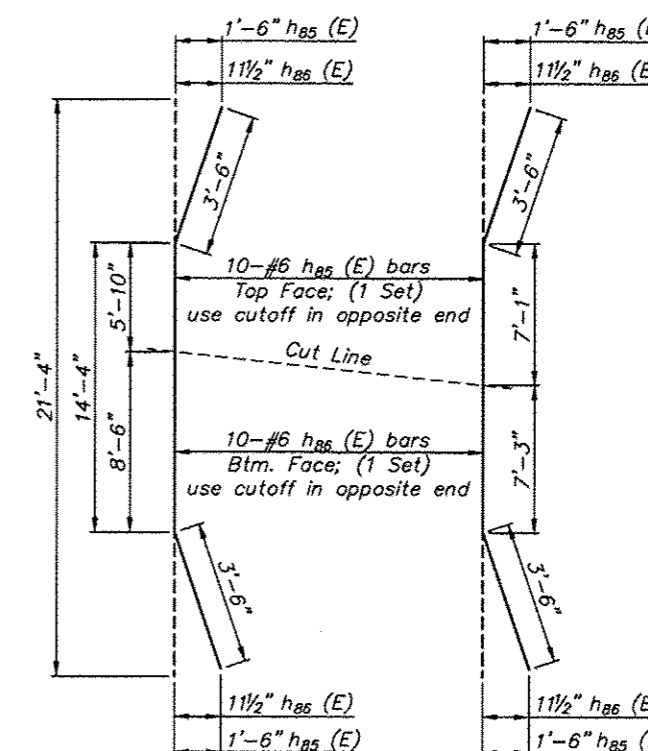
**h67 (E) Bars**



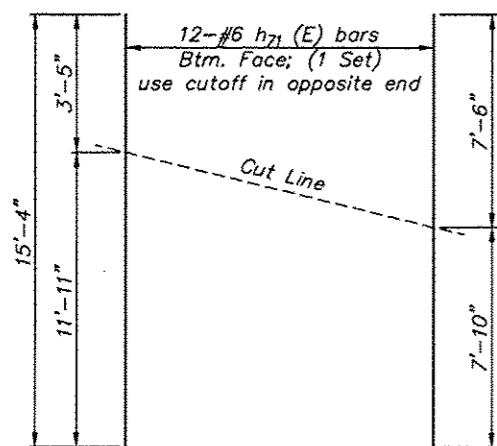
**h78 (E) Bars**



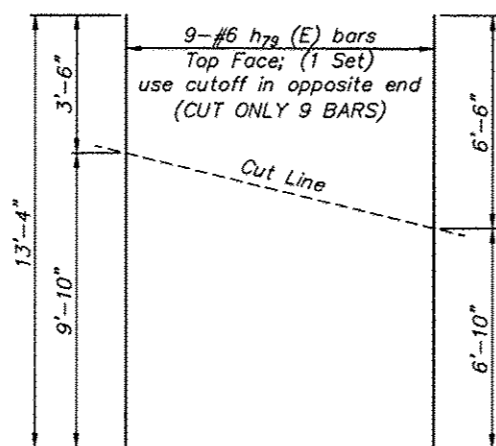
**h73 & h76 (E) Bars**



**h85 & h86 (E) Bars**



**h71 (E) Bars**



**h79 (E) Bars**

**FIELD CUTTING DIAGRAMS**

Order Bars full length. Cut as shown and use remainder of Bars in other face or opposite end as noted. Make all cuts normal to bar axis.

**STATION 6+80.51 TO 7+15.02  
STRUCTURAL CONCRETE CHANNEL REINFORCING  
SOUTHEAST DRAINAGE WAY  
ALONG HARRISON AVENUE  
CITY OF ROCKFORD  
WINNEBAGO COUNTY**

REVISIONS		
REV. NO.	DESCRIPTION	DATE

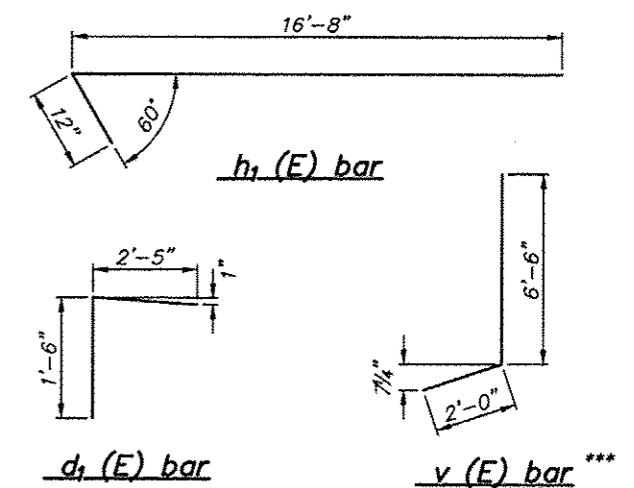


**BILL OF MATERIAL**  
(For One 30' Panel Only)

Bar	No.	Size	Length	Shape
h (E)	54	#5	29'-6"	—
h <sub>1</sub> (E)	30	#5	17'-8"	—
h <sub>2</sub> (E)	30	#5	20'-4"	—
h <sub>3</sub> (E)	30	#6	11'-11"	—
h <sub>4</sub> (E)	30	#6	11'-8"	—
h <sub>5</sub> (E)	14	#4	29'-6"	—
d (E)	19	#6	1'-6"	—
d <sub>1</sub> (E)	60	#4	3'-11"	—
v (E)	30	#5	8'-6"	—
v <sub>1</sub> (E)	30	#4	5'-3"	—
Concrete Structures			Cu. Yd.	53.7
Reinforcement Bars, Epoxy Coated			Pound	4760
3/4" Dowels (E)			Each	31
Geocomposite Wall Drain			Sq. Yd.	15.0

**MINIMUM BAR LAP**

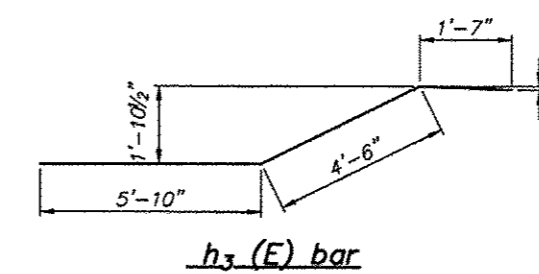
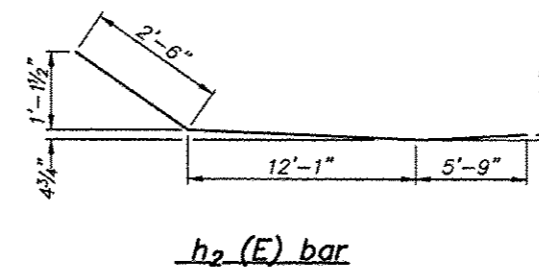
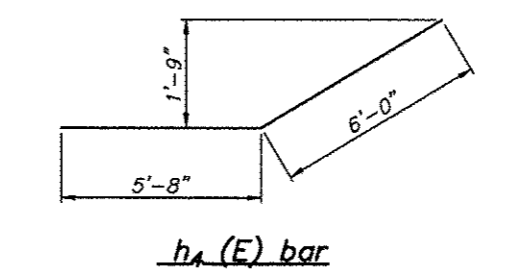
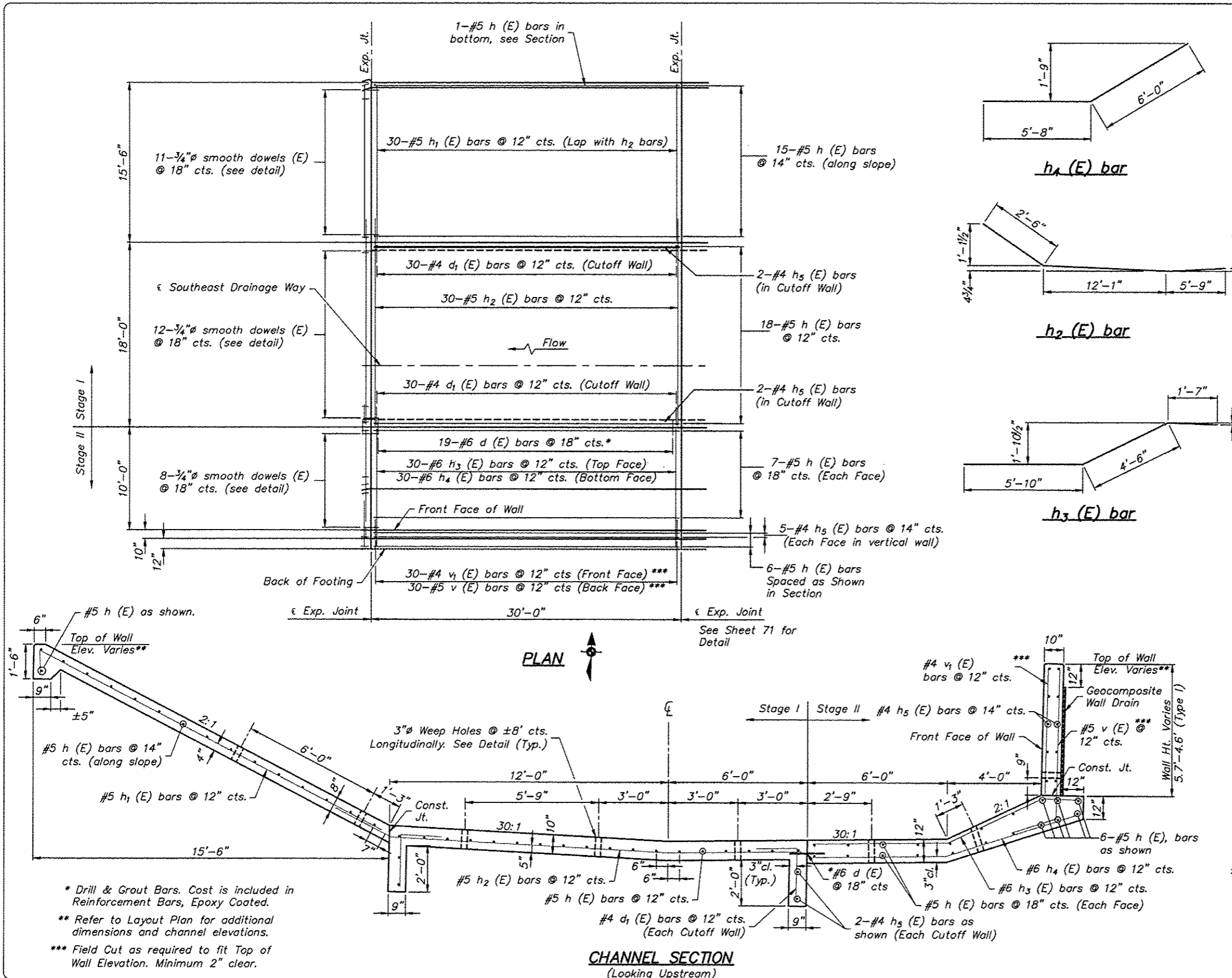
- #4 bar - 1'-7"
- #5 bar - 2'-0"
- #6 bar - 2'-5"



Use Sheet 31 with this Sheet for Typical Wall Elevations. Refer to Sheets 5 - 8 for Typical Use Locations. Refer to Sheet 70 for Light Pole Base Detail when applicable.

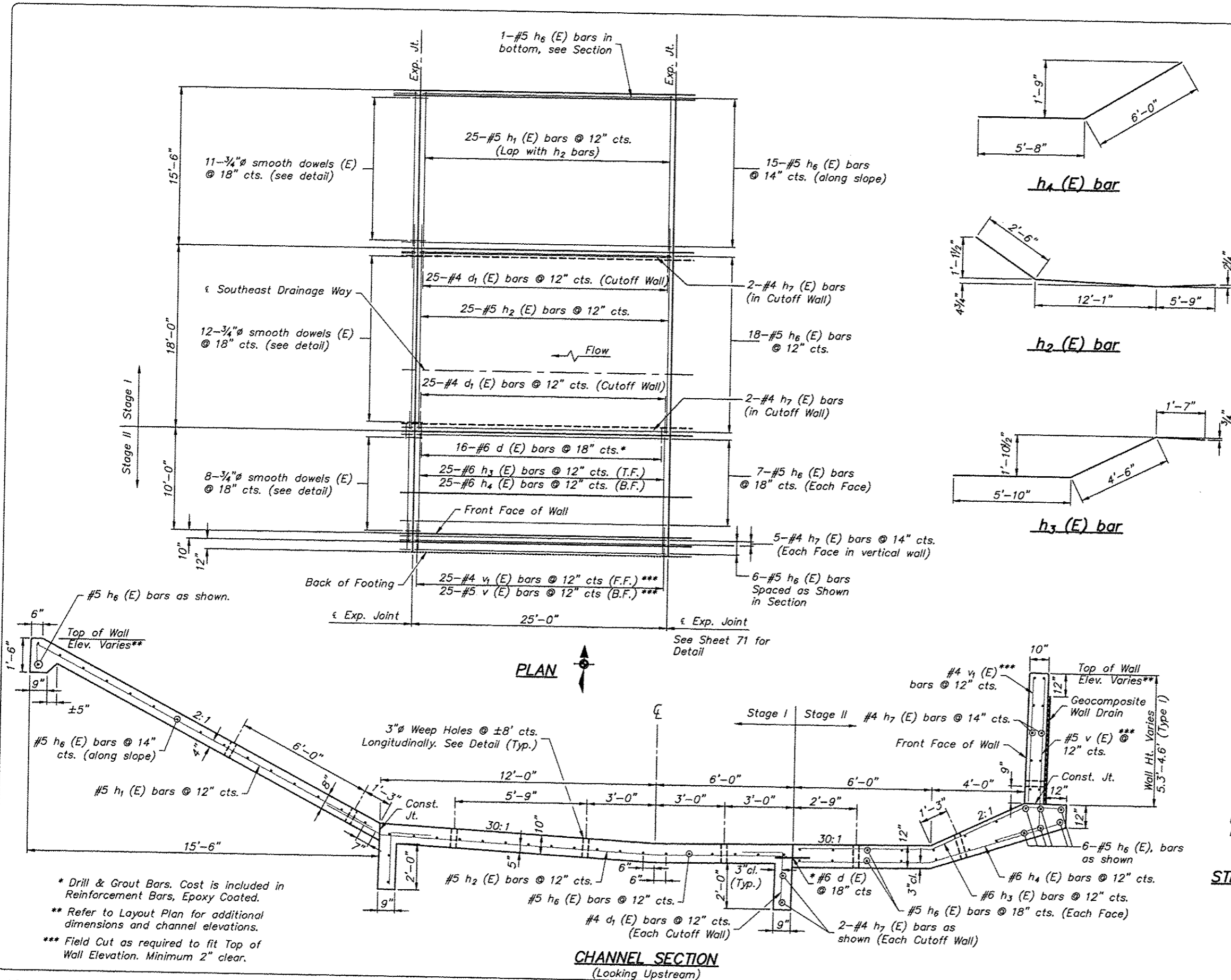
**30' PANEL, TYPE I (TYPICAL)**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

Sheet 27 of 73



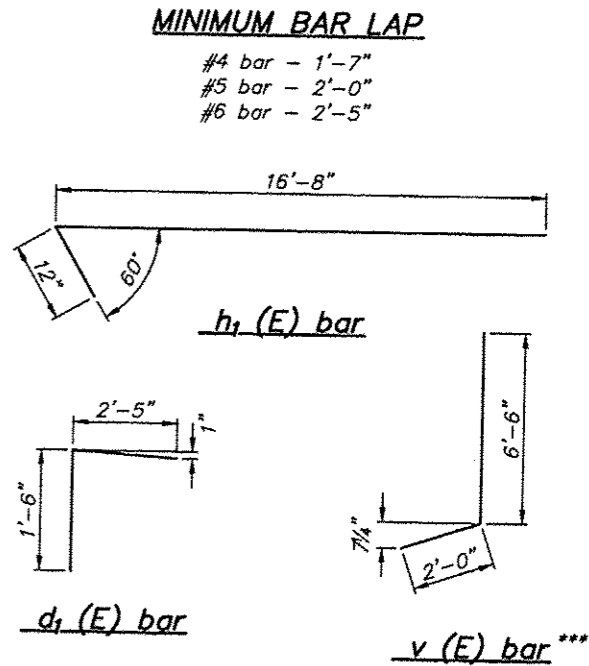
\* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.  
\*\* Refer to Layout Plan for additional dimensions and channel elevations.  
\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.





**BILL OF MATERIAL**  
(For one 25' Panel Only)

Bar	No.	Size	Length	Shape
$h_6$ (E)	54	#5	24'-6"	—
$h_1$ (E)	25	#5	17'-8"	—
$h_2$ (E)	25	#5	20'-4"	—
$h_3$ (E)	25	#6	11'-11"	—
$h_4$ (E)	25	#6	11'-8"	—
$h_7$ (E)	14	#4	24'-6"	—
d (E)	16	#6	1'-6"	—
$d_1$ (E)	50	#4	3'-11"	—
v (E)	25	#5	8'-6"	—
$v_1$ (E)	25	#4	5'-3"	—
Concrete Structures			Cu. Yd.	44.5
Reinforcement Bars, Epoxy Coated			Pound	3962
3/4" Dowels (E)			Each	31
Geocomposite Wall Drain			Sq. Yd.	11.0

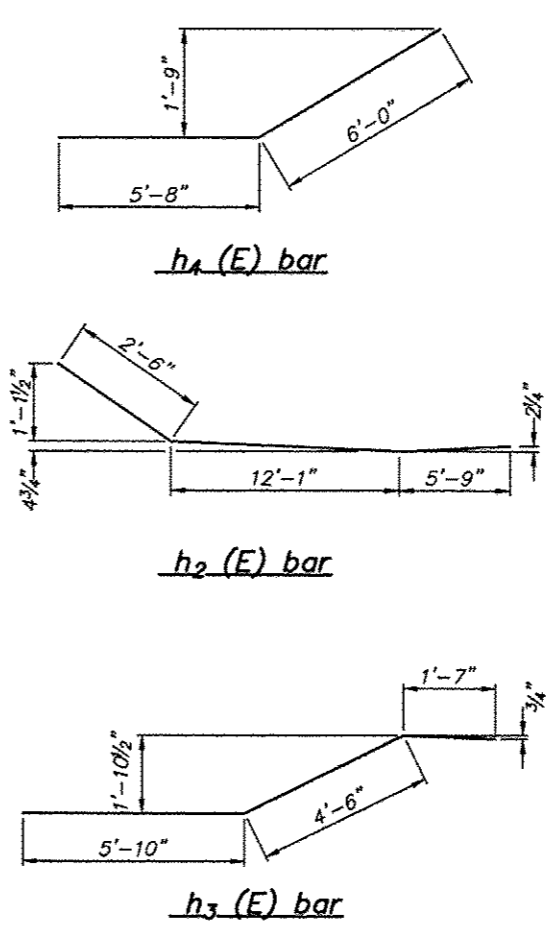
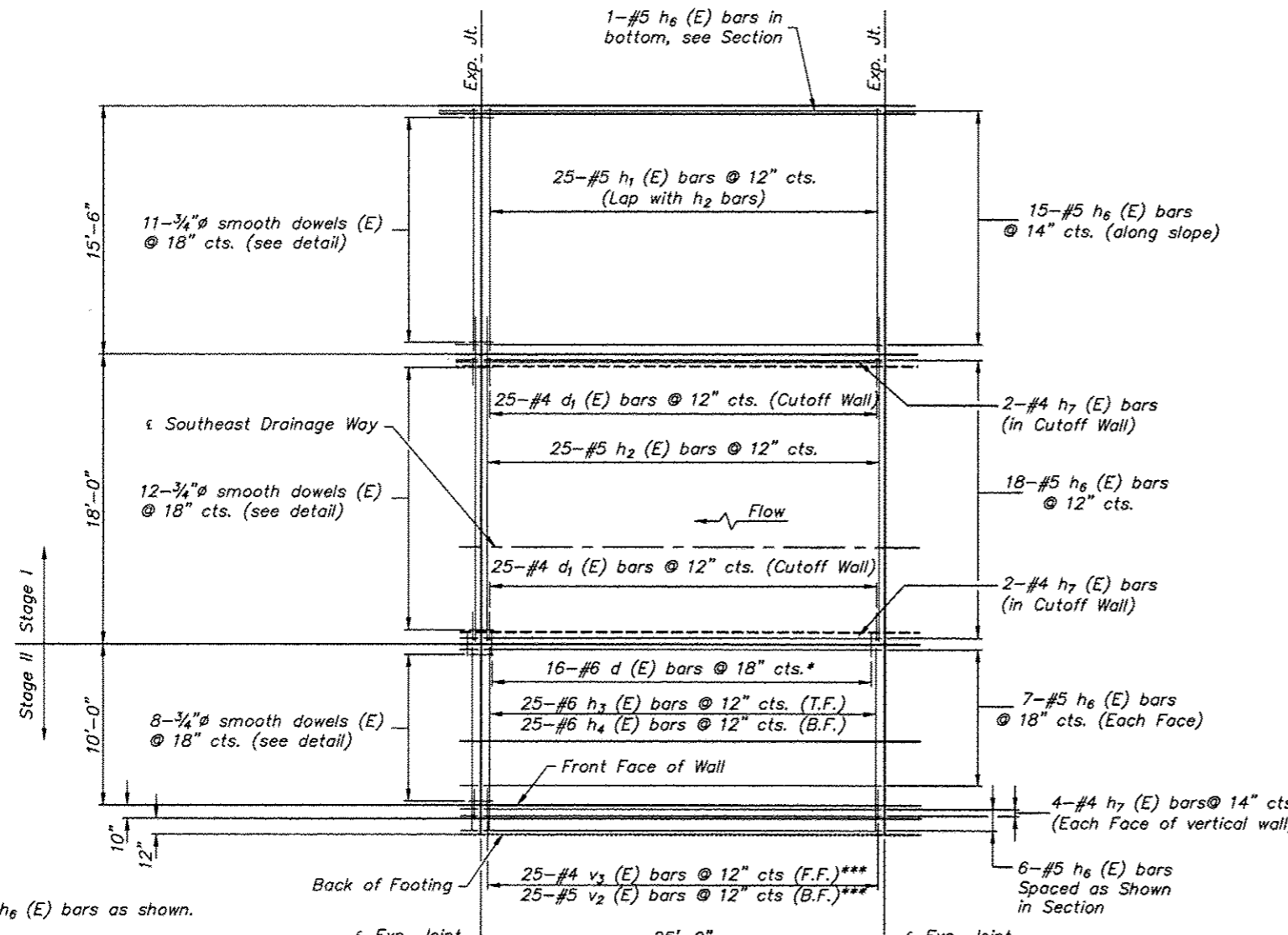


**25' PANEL, TYPE I (TYPICAL)**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

\* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.  
 \*\* Refer to Layout Plan for additional dimensions and channel elevations.  
 \*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

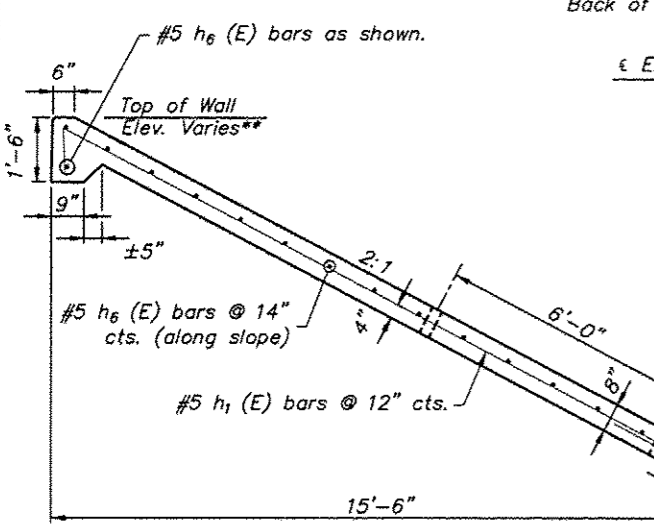
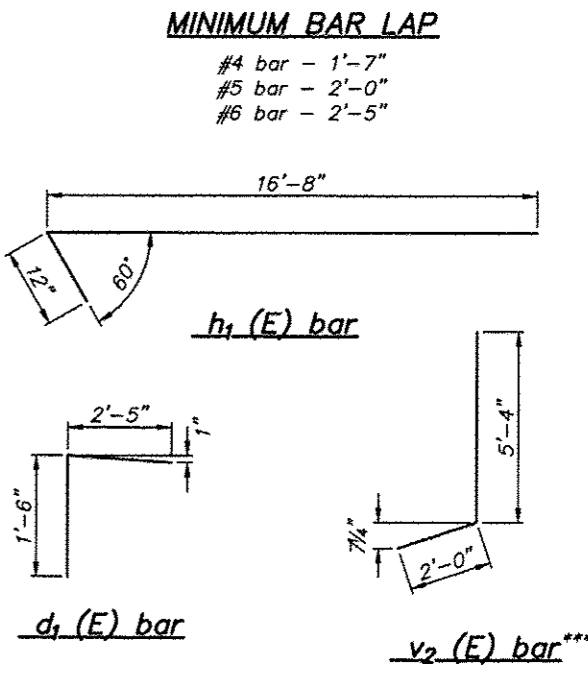
Use Sheet 31 with this Sheet for Typical Wall Elevations  
 Refer to Sheets 5 - 8 for Typical Use Locations.

REVISIONS		
REV. NO.	DESCRIPTION	DATE



**BILL OF MATERIAL**  
(For One 25' Panel Only)

Bar	No.	Size	Length	Shape
h <sub>6</sub> (E)	54	#5	24'-6"	—
h <sub>1</sub> (E)	25	#5	17'-8"	—
h <sub>2</sub> (E)	25	#5	20'-4"	—
h <sub>3</sub> (E)	25	#6	11'-11"	—
h <sub>4</sub> (E)	25	#6	11'-8"	—
h <sub>7</sub> (E)	12	#4	24'-6"	—
d (E)	16	#6	1'-6"	—
d <sub>1</sub> (E)	50	#4	3'-11"	—
v <sub>2</sub> (E)	25	#5	7'-4"	—
v <sub>3</sub> (E)	25	#4	4'-1"	—
Concrete Structures			Cu. Yd.	44.0
Reinforcement Bars, Epoxy Coated			Pound	3879
3/4" Dowels (E)			Each	31
Geocomposite Wall Drain			Sq. Yd.	9.0

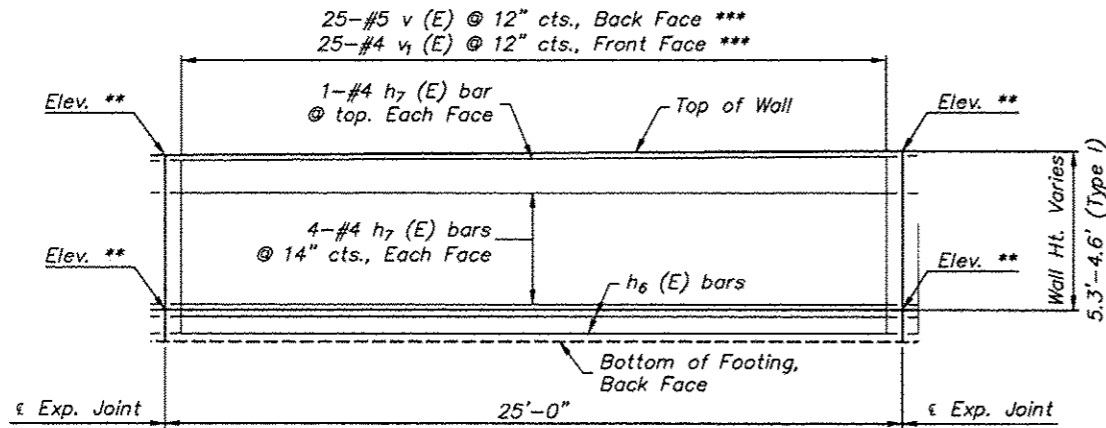


\* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.  
\*\* Refer to Layout Plan for additional dimensions and channel elevations.  
\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

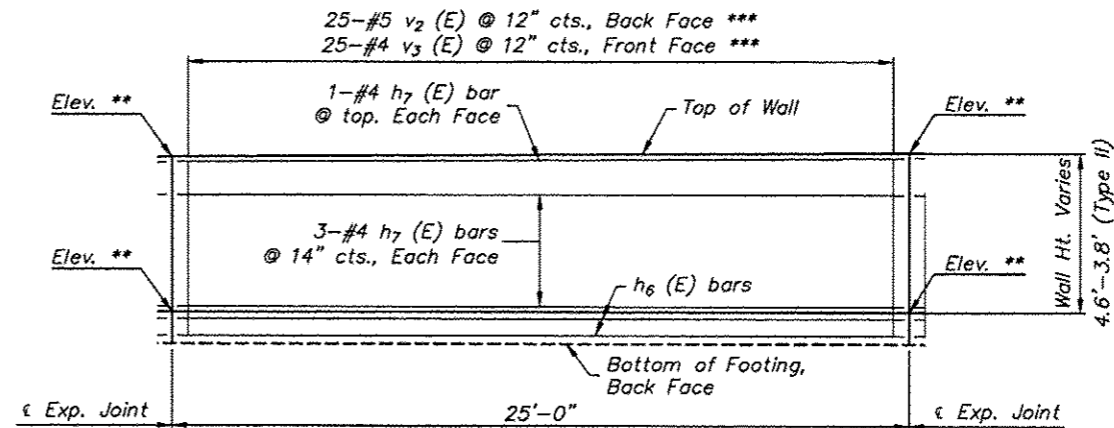
**25' PANEL, TYPE II (TYPICAL)**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

Sheet 30 of 73

<p><b>FEHR GRAHAM</b> ENGINEERING &amp; ENVIRONMENTAL ILLINOIS DESIGN FIRM NO. 184-003525 ©2013 FEHR-GRAHAM</p>	<p>ILLINOIS IOWA WISCONSIN</p>	<p><b>McClure</b> Engineering Associates, Inc. 7262 Argus Drive (615) 398-2332 Design Firm License: Illinois 184-000816 Copyright 2013 By McClure Engineering Associates, Inc.</p>	<p>PROJECT AND LOCATION: HARRISON AVENUE RECONSTRUCTION 2012 PHASE 1 ROCKFORD, ILLINOIS</p>	<p>DRAWN BY: JWH APPROVED BY: CTB DATE: 6/12/15 SCALE: N.T.S.</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>REV. NO.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV. NO.	DESCRIPTION	DATE										<p>DRAWING: 25' PANEL, TYPE II (TYPICAL)</p>	<p>JOB NUMBER: 11-128</p>
					REV. NO.	DESCRIPTION	DATE												
<p>SHEET NUMBER: 433 of 588</p>																			

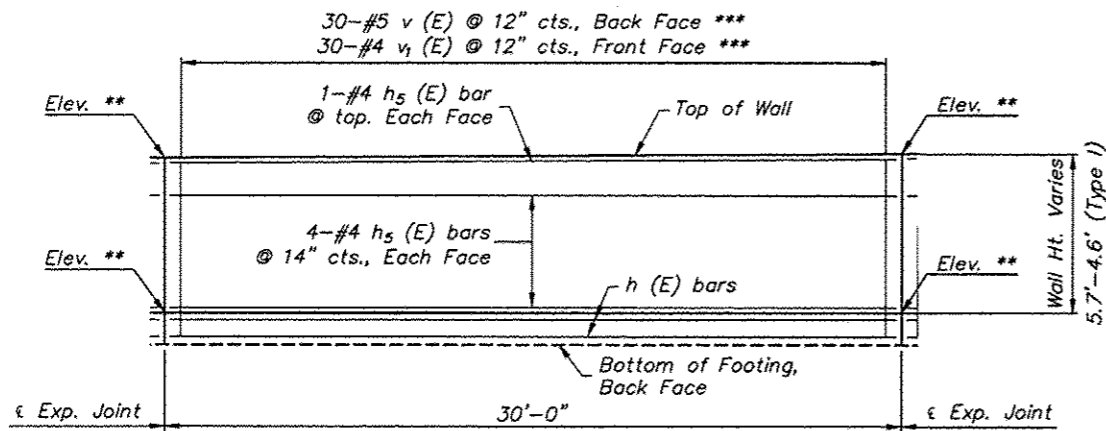


**SOUTH WALL ELEVATION - TYPE I**  
(Looking at Inside/Front Face of Wall)

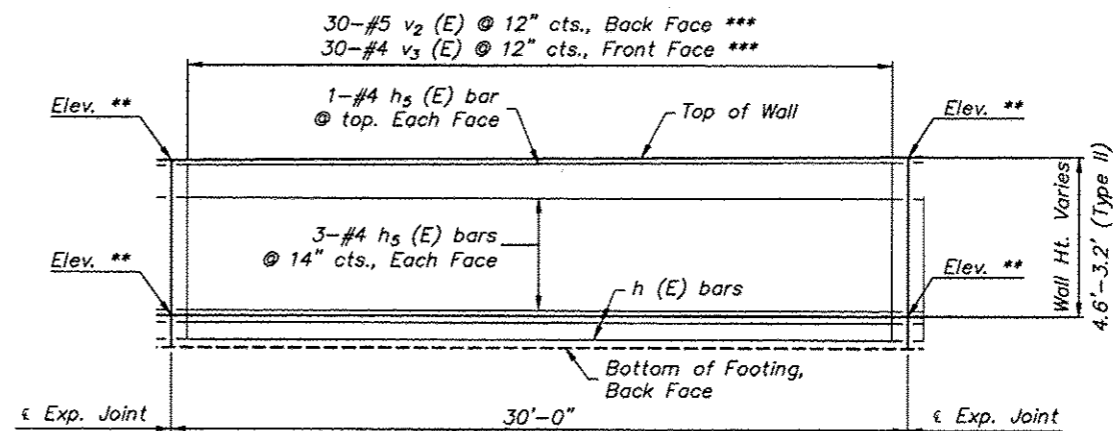


**SOUTH WALL ELEVATION - TYPE II**  
(Looking at Inside/Front Face of Wall)

**TYPICAL 25' PANELS**



**SOUTH WALL ELEVATION - TYPE I**  
(Looking at Inside/Front Face of Wall)



**SOUTH WALL ELEVATION - TYPE II**  
(Looking at Inside/Front Face of Wall)

**TYPICAL 30' PANELS**

**NOTES:**  
 Work this Sheet with Sheets 27 thru 30.  
 See Plan & Section Views for schedule of reinforcing bars.  
 \*\* Refer to Layout Plan for additional dimensions and channel elevations.  
 \*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

**25' & 30' PANEL WALL ELEVATIONS (TYPICAL)  
 STRUCTURAL CONCRETE CHANNEL REINFORCING  
 SOUTHEAST DRAINAGE WAY  
 ALONG HARRISON AVENUE  
 CITY OF ROCKFORD**

Sheet 31 of 73

REVISIONS		
REV. NO.	DESCRIPTION	DATE



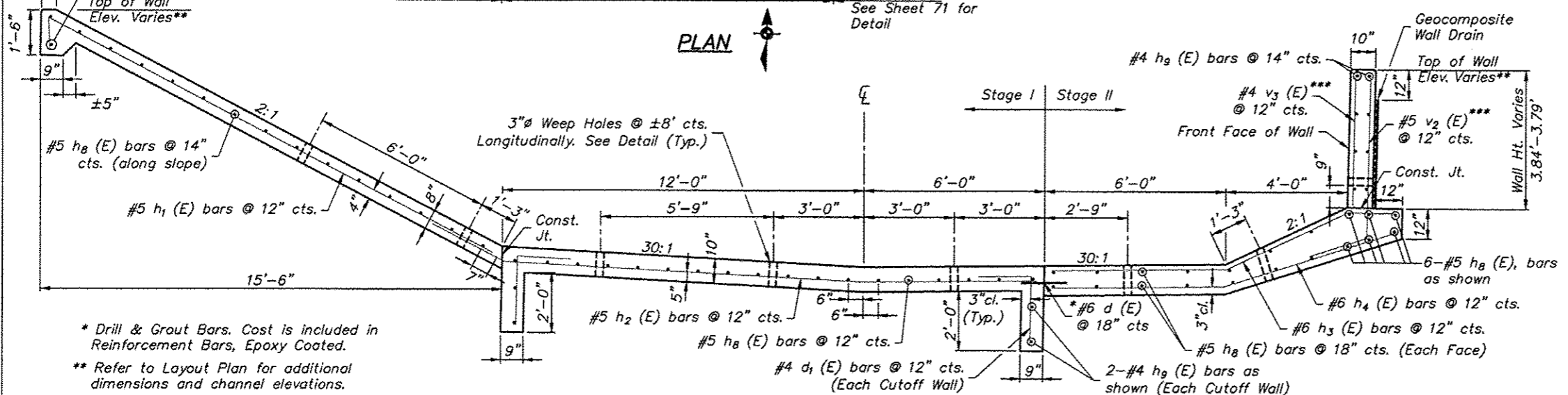
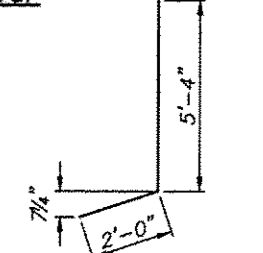
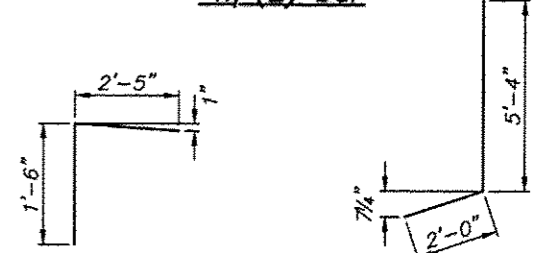
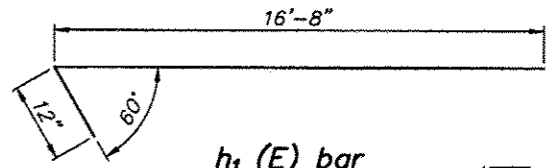
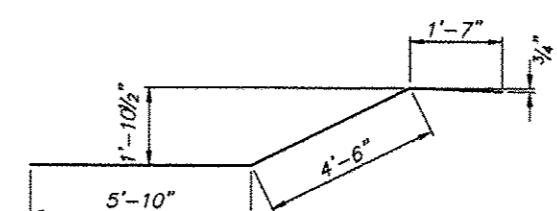
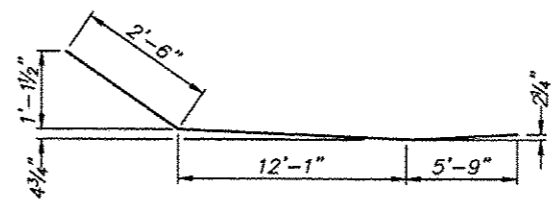
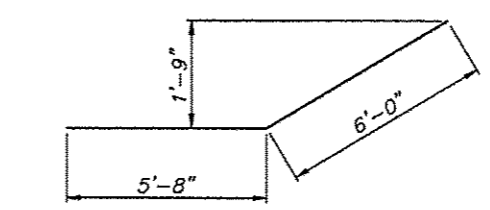
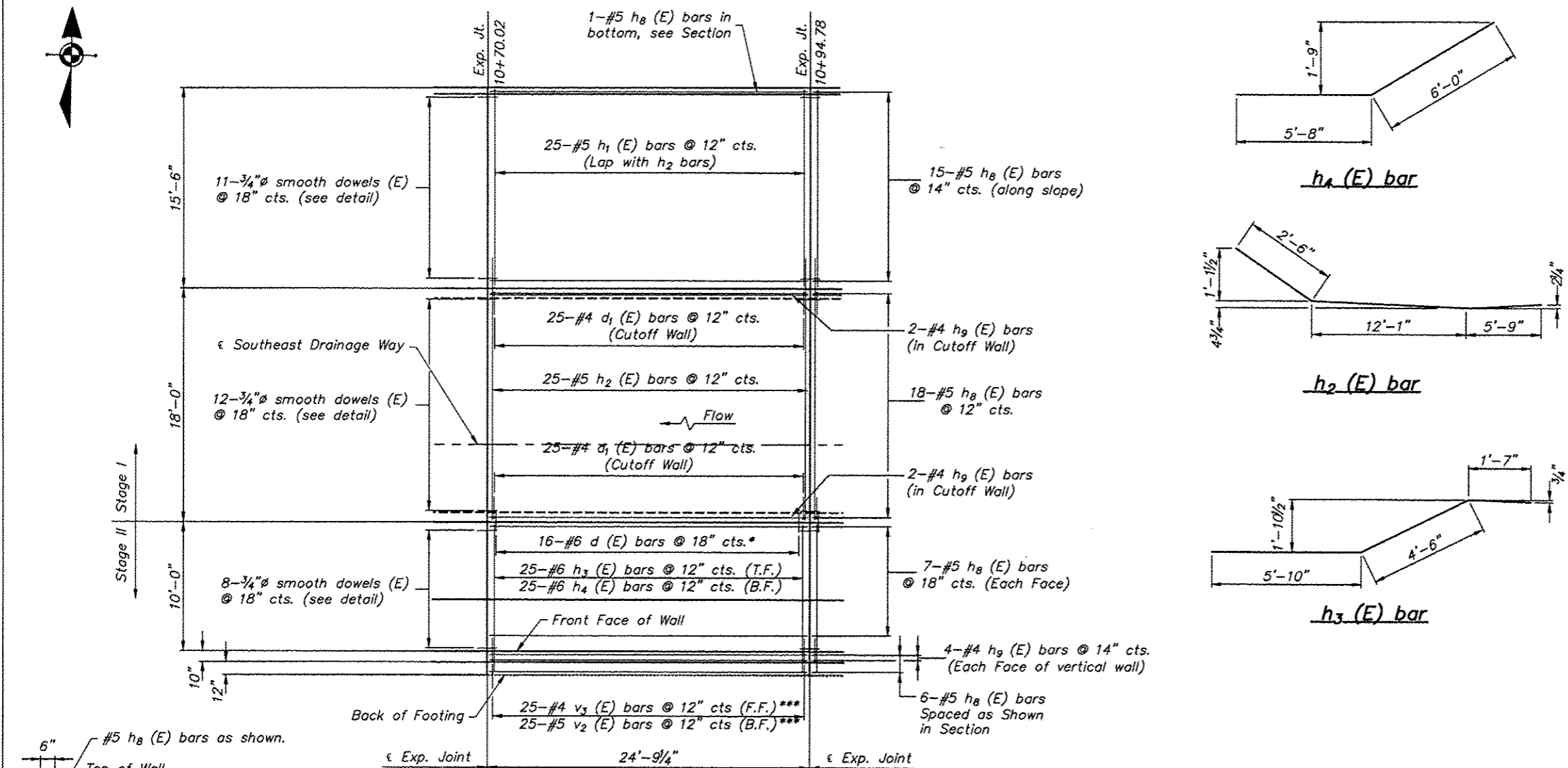


**BILL OF MATERIAL**  
(This Section Only)

Bar	No.	Size	Length	Shape
$h_8$ (E)	54	#5	24'-3"	—
$h_1$ (E)	25	#5	17'-8"	—
$h_2$ (E)	25	#5	20'-4"	—
$h_3$ (E)	25	#6	11'-11"	—
$h_4$ (E)	25	#6	11'-8"	—
$h_9$ (E)	12	#4	24'-3"	—
$d$ (E)	16	#6	1'-6"	—
$d_1$ (E)	50	#4	3'-11"	—
$v_2$ (E)	25	#5	7'-4"	—
$v_3$ (E)	25	#4	4'-1"	—
Concrete Structures			Cu. Yd.	43.1
Reinforcement Bars, Epoxy Coated			Pound	3863
3/4" Dowels (E)			Each	31
Geocomposite Wall Drain			Sq. Yd.	9.0

**MINIMUM BAR LAP**

- #4 bar - 1'-7"
- #5 bar - 2'-0"
- #6 bar - 2'-5"



Wall reinforcement similar to 25' Panel, Type II. Use Sheet 31 with this Sheet for Typical Wall Elevations  
**STATION 10+70.02 TO 10+94.78**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

\* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.  
 \*\* Refer to Layout Plan for additional dimensions and channel elevations.  
 \*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

**CHANNEL SECTION**  
(Looking Upstream)

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ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525  
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PROJECT AND LOCATION:  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

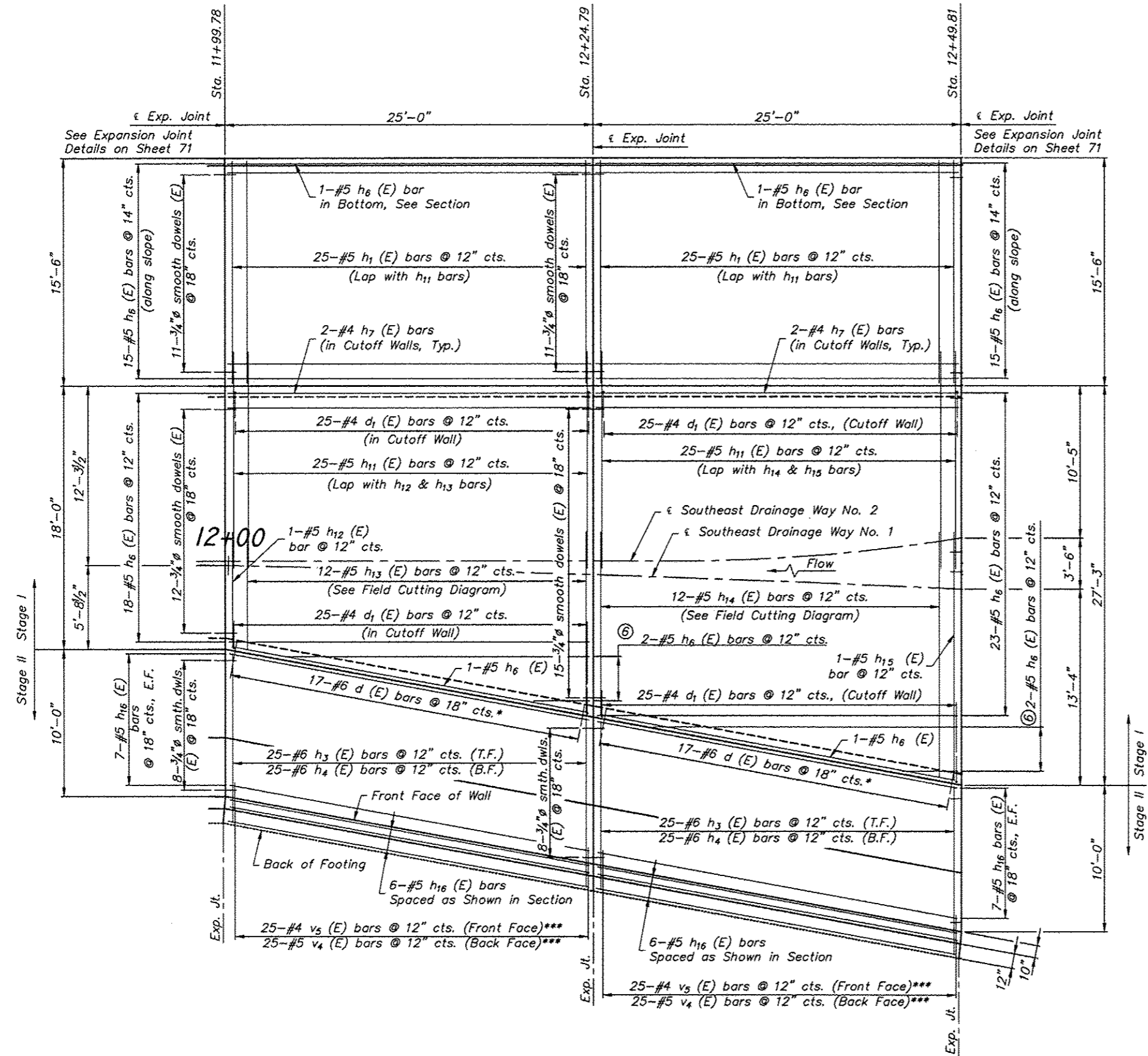
DRAWN BY: JWH  
APPROVED BY: CTB  
DATE: 6/12/15  
SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:  
10+70.02 TO 10+94.78

JOB NUMBER:  
11-128

SHEET NUMBER:  
435 of 588



PLAN

**BILL OF MATERIAL**  
(This Section Only)

Bar	No.	Size	Length	Shape
h <sub>6</sub> (E)	79	#5	24'-6"	—
h <sub>1</sub> (E)	50	#5	17'-8"	—
h <sub>3</sub> (E)	50	#6	11'-11"	—
h <sub>4</sub> (E)	50	#6	11'-8"	—
h <sub>7</sub> (E)	8	#4	24'-6"	—
h <sub>10</sub> (E)	20	#4	24'-10"	—
h <sub>11</sub> (E)	50	#5	15'-6"	—
h <sub>12</sub> (E)	1	#5	7'-10"	—
h <sub>13</sub> (E)	12	#5	20'-3"	—
h <sub>14</sub> (E)	12	#5	29'-1"	—
h <sub>15</sub> (E)	1	#5	16'-10"	—
h <sub>16</sub> (E)	40	#5	24'-10"	—
d (E)	34	#6	1'-6"	—
d <sub>1</sub> (E)	100	#4	3'-11"	—
v <sub>4</sub> (E)	50	#5	7'-10"	—
v <sub>5</sub> (E)	50	#4	4'-7"	—
Concrete Structures			Cu. Yd.	95.7
Reinforcement Bars, Epoxy Coated			Pound	8561
3/4" Dowels (E)			Each	65
Geocomposite Wall Drain			Sq. Yd.	22.0

**MINIMUM BAR LAP**

- #4 bar - 1'-7"
- #5 bar - 2'-0"
- #6 bar - 2'-5"

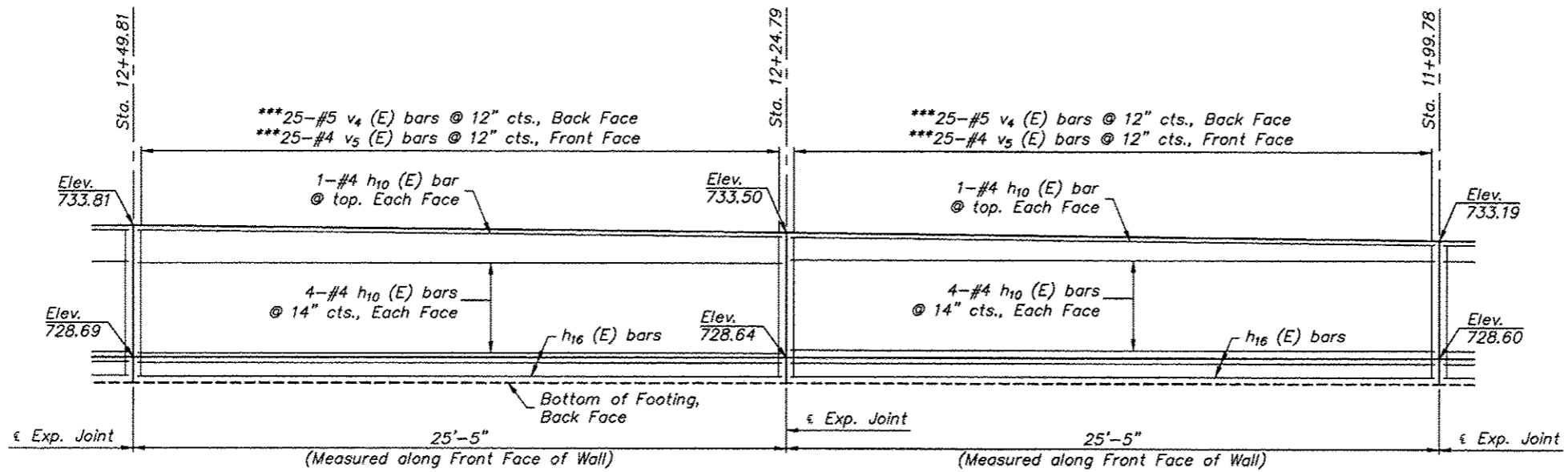
\* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

\*\* Refer to Layout Plan for additional dimensions and channel elevations.

\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

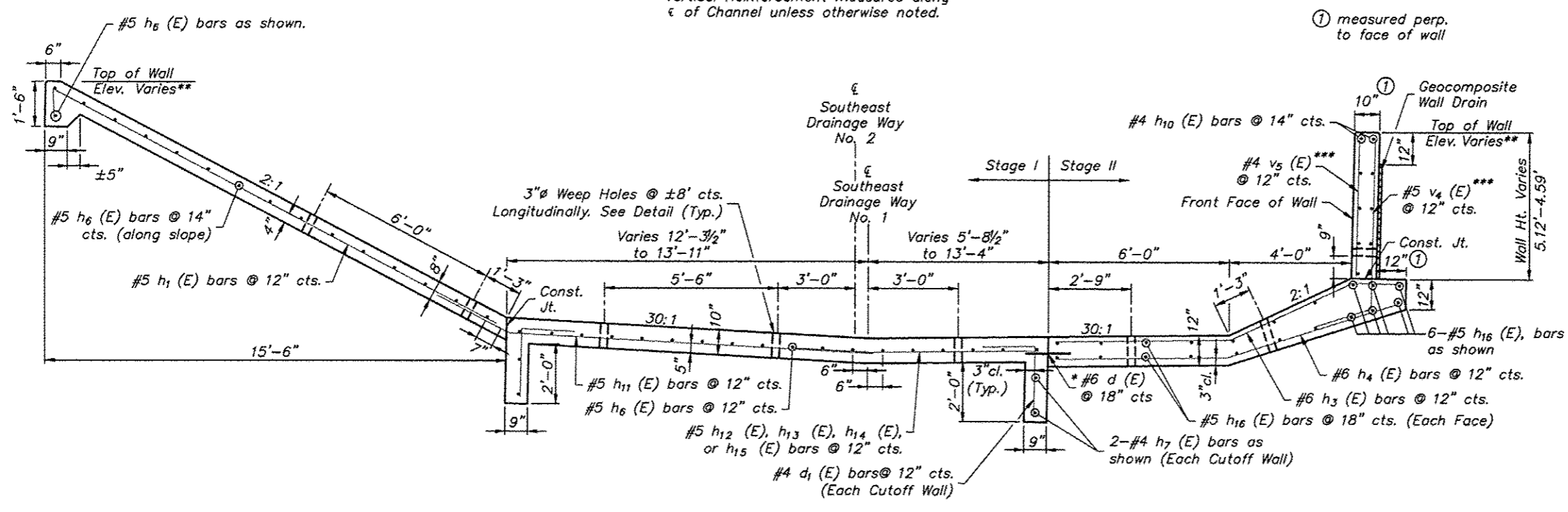
⑥ Order h<sub>6</sub> bars full length. Cut to fit taper and use remainder of bars in opposite end.

**STATION 11+99.78 TO 12+49.81**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**



**SOUTH WALL ELEVATION**  
(Looking at Inside/Front Face of Wall)

Vertical Reinforcement measured along  $\epsilon$  of Channel unless otherwise noted.



**CHANNEL SECTION**  
(Looking Upstream)

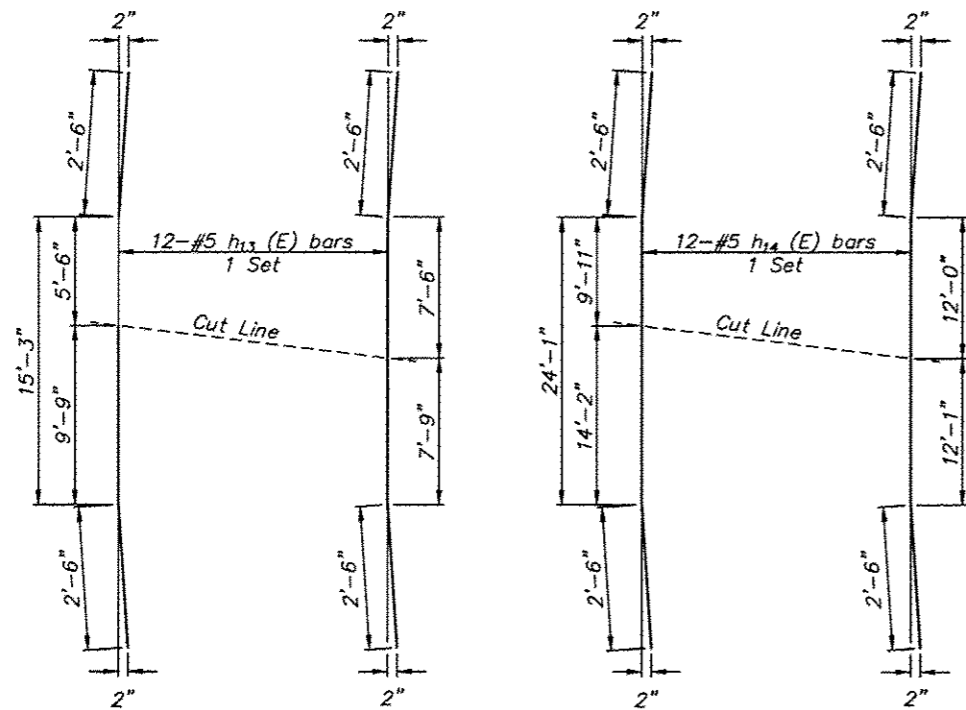
Dimensions at right L's to overall  $\epsilon$  of Channel unless otherwise noted. Refer to Layout Plan for additional dimensions and elevations.

- \* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.
- \*\* Refer to Layout Plan for additional dimensions and channel elevations.
- \*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

**STATION 11+99.78 TO 12+49.81**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING	
11+99.78 TO 12+49.81	

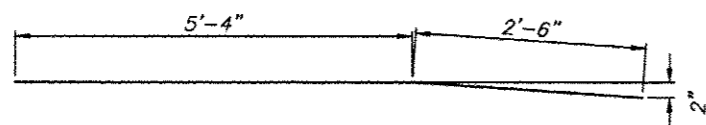


**h<sub>13</sub> (E) Bars**

**h<sub>14</sub> (E) Bars**

**FIELD CUTTING DIAGRAMS**

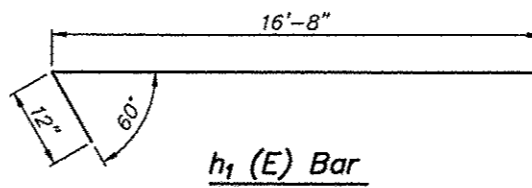
Order Bars full length. Cut as shown and use remainder of Bars in opposite end. Make all cuts normal to bar axis.



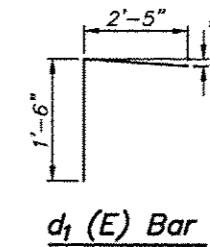
**h<sub>12</sub> (E) Bar**



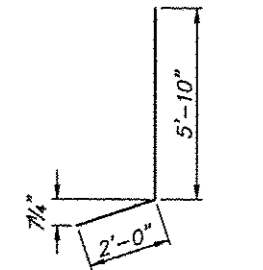
**h<sub>15</sub> (E) Bar**



**h<sub>1</sub> (E) Bar**

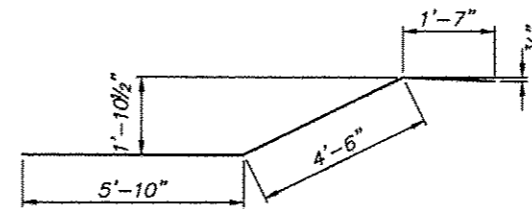


**d<sub>1</sub> (E) Bar**

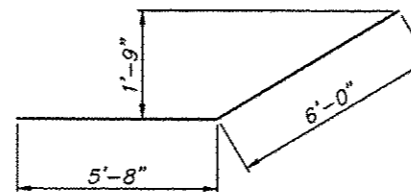


**v<sub>4</sub> (E) Bar\*\*\***

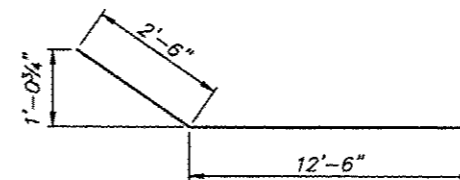
\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.



**h<sub>3</sub> (E) Bar**



**h<sub>4</sub> (E) Bar**



**h<sub>11</sub> (E) Bar**

**STATION 11+99.78 TO 12+49.81**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

Sheet 35 of 73

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ENGINEERING & ENVIRONMENTAL

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PROJECT AND LOCATION:  
 HARRISON AVENUE  
 RECONSTRUCTION 2012  
 PHASE 1  
 ROCKFORD, ILLINOIS

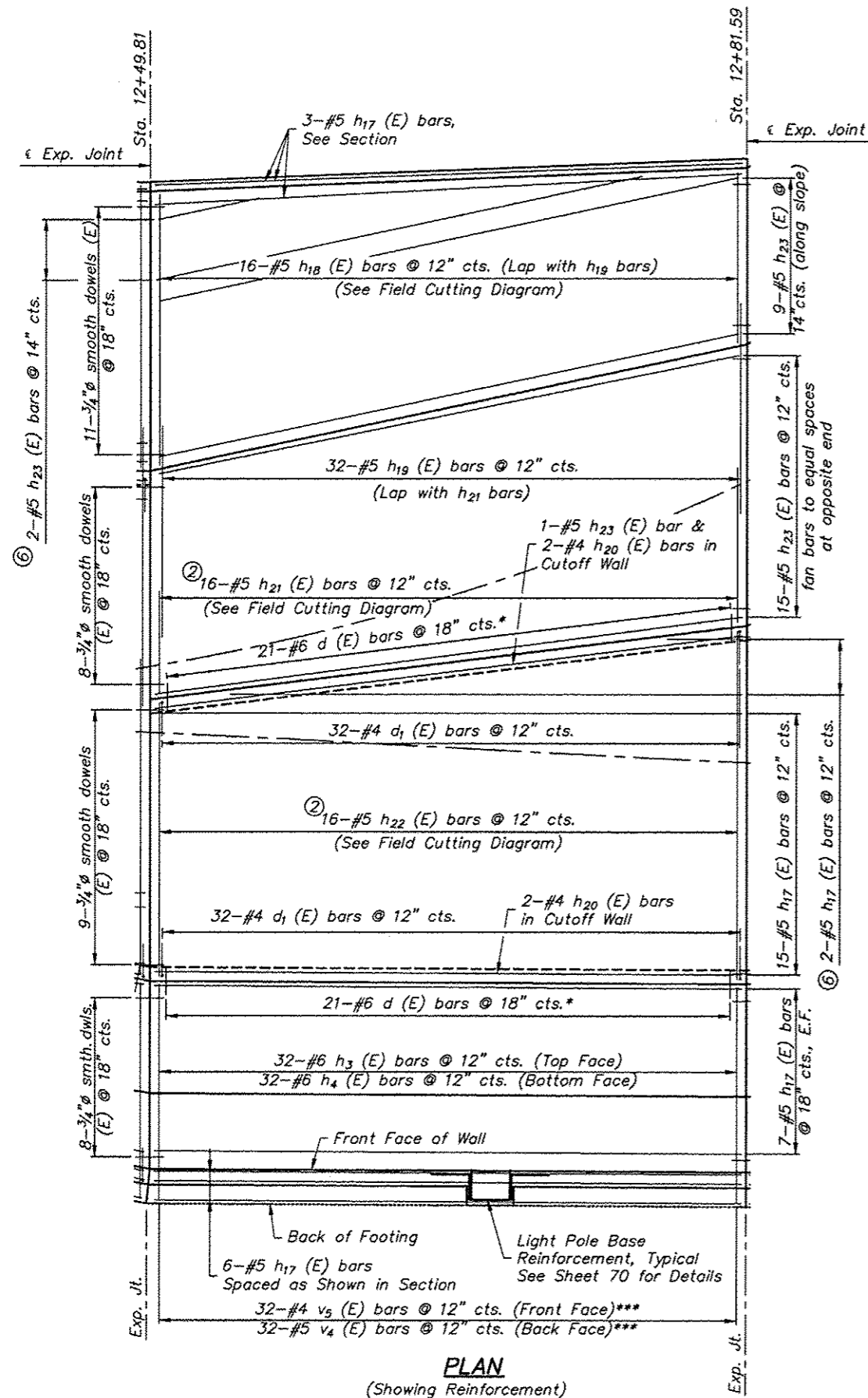
DRAWN BY: JWH  
 APPROVED BY: CTB  
 DATE: 6/12/15  
 SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

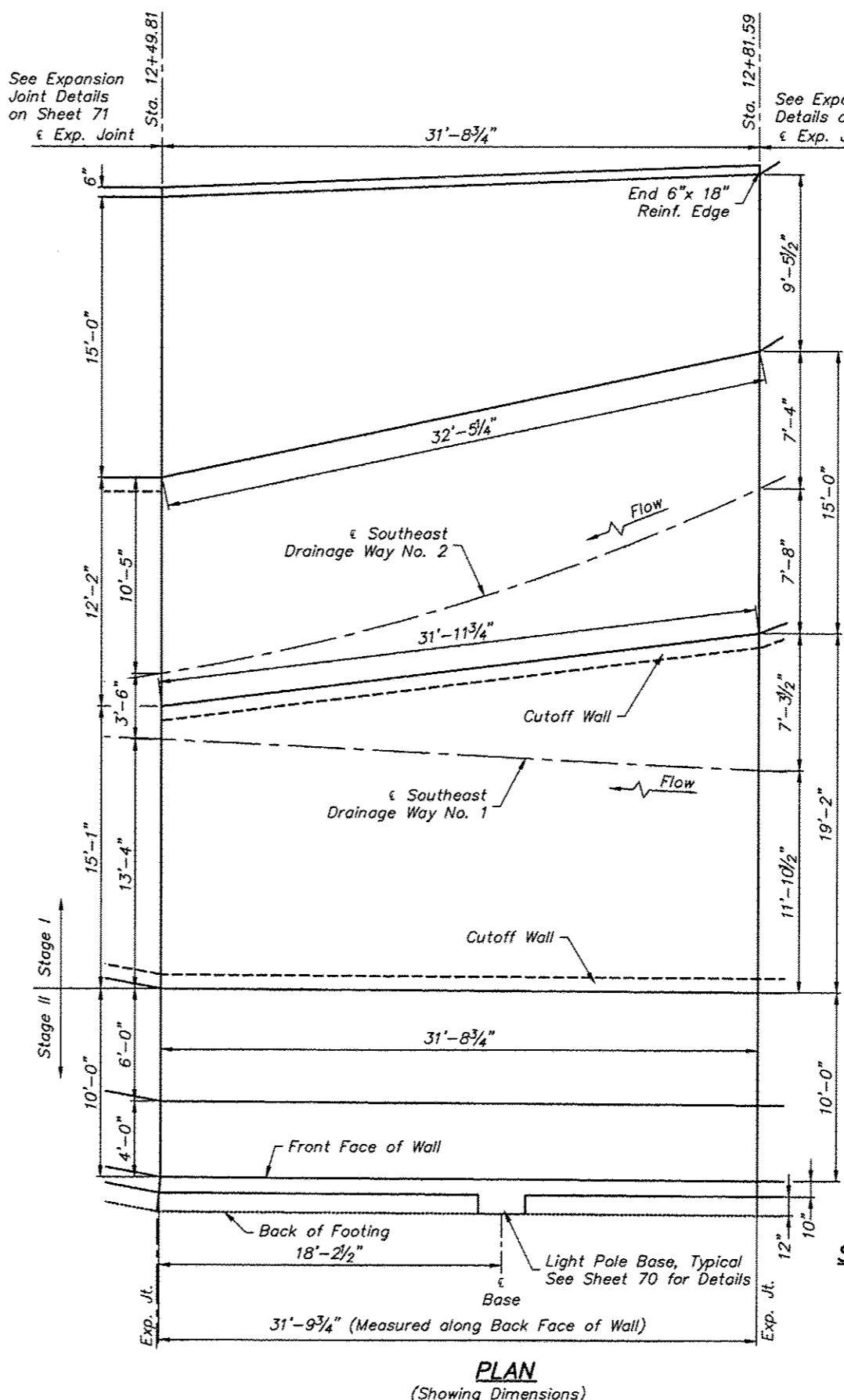
DRAWING:  
 11+99.78 TO 12+49.81

JOB NUMBER:  
 11-128

SHEET NUMBER:  
 438 of 588



**PLAN**  
(Showing Reinforcement)



**PLAN**  
(Showing Dimensions)

**MINIMUM BAR LAP**

- #4 bar - 1'-7"
- #5 bar - 2'-0"
- #6 bar - 2'-5"

- \* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.
- \*\* Refer to Layout Plan for additional dimensions and channel elevations.
- \*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

- ② Field Bend as Required to Fit Channel & to Maintain Clear Distance
- ⑥ Order h6 bars full length. Cut to fit taper and use remainder of bars in opposite end.

**STATION 12+49.81 TO 12+81.59**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING	12+49.81 TO 12+81.59
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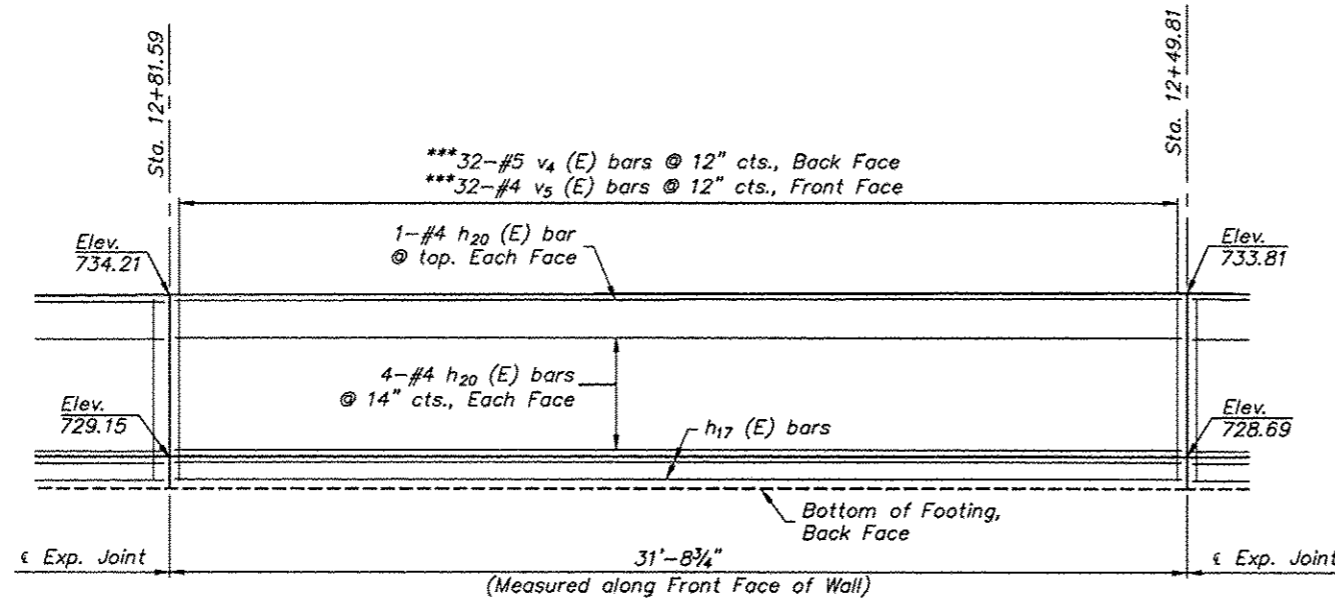
JOB NUMBER	11-128
SHEET NUMBER	439 of 588



**BILL OF MATERIAL**

(This Section Only)

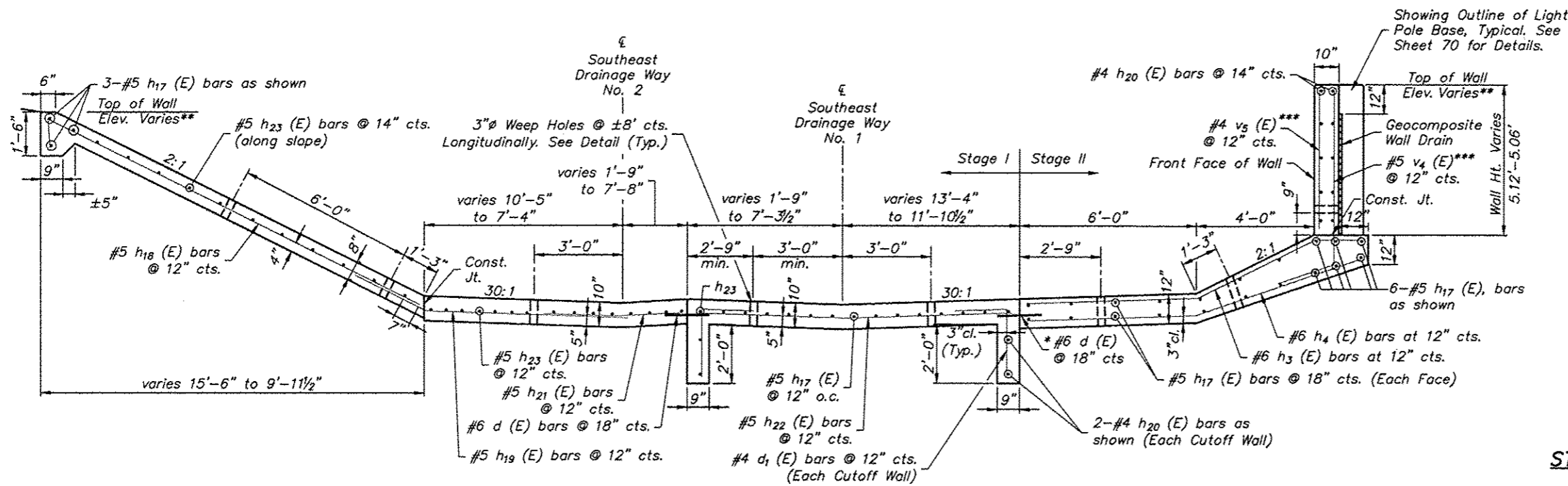
Bar	No.	Size	Length	Shape
h <sub>17</sub> (E)	40	#5	31'-2"	—
h <sub>18</sub> (E)	16	#5	29'-2"	∩
h <sub>19</sub> (E)	32	#5	11'-6"	∩
h <sub>3</sub> (E)	32	#6	11'-11"	∩
h <sub>4</sub> (E)	32	#6	11'-8"	∩
h <sub>20</sub> (E)	14	#4	31'-2"	—
h <sub>21</sub> (E)	16	#5	13'-9"	∩
h <sub>22</sub> (E)	16	#5	33'-2"	—
h <sub>23</sub> (E)	26	#5	31'-6"	—
d (E)	42	#6	1'-6"	—
d <sub>1</sub> (E)	64	#4	3'-11"	└
v <sub>4</sub> (E)	32	#5	7'-10"	∩
v <sub>5</sub> (E)	32	#4	4'-7"	—
Concrete Structures			Cu. Yd.	66.7
Reinforcement Bars, Epoxy Coated			Pound	5854
3/4" Dowels			Each	36
Geocomposite Wall Drain			Sq. Yd.	14.5



**SOUTH WALL ELEVATION**

(Looking at Inside/Front Face of Wall)

Reinforcement for Light Pole Base not shown, Refer to Light Pole Base Detail Sheet.



**CHANNEL SECTION**

(Looking Upstream)

Dimensions at right L's to overall  $\epsilon$  of Channel unless otherwise noted. Refer to Layout Plan for additional dimensions and elevations.

- \* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.
- \*\* Refer to Layout Plan for additional dimensions and channel elevations.
- \*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

**STATION 12+49.81 TO 12+81.59**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

Sheet 37 of 73

**FEHR GRAHAM**

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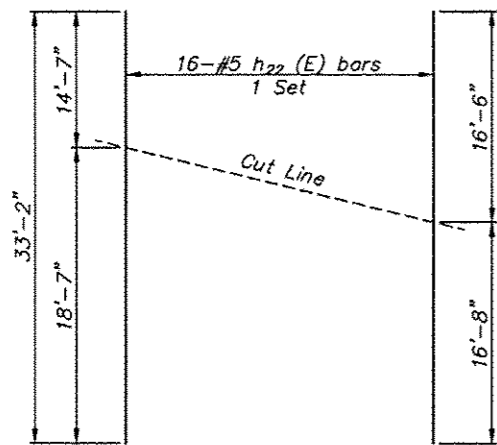
PROJECT AND LOCATION:  
 HARRISON AVENUE  
 RECONSTRUCTION 2012  
 PHASE 1  
 ROCKFORD, ILLINOIS

DRAWN BY: JWH  
 APPROVED BY: CTB  
 DATE: 6/12/15  
 SCALE: 1"=5'

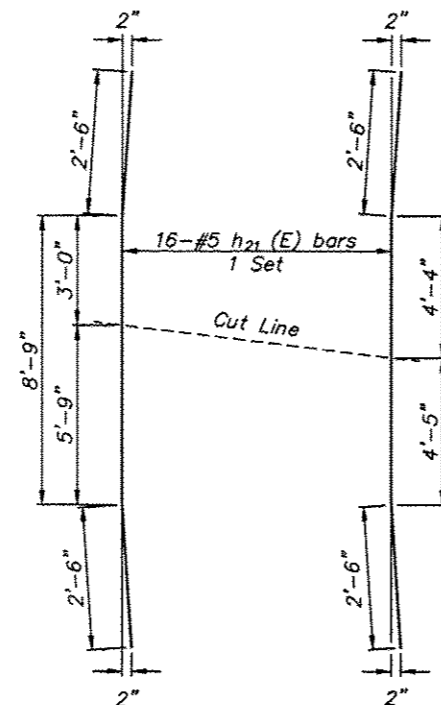
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING	
12+49.81 TO 12+81.59	

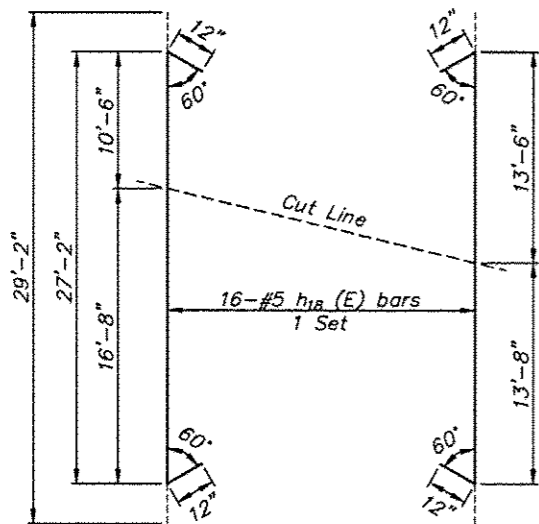
JOB NUMBER: 11-128
SHEET NUMBER: 440 of 588



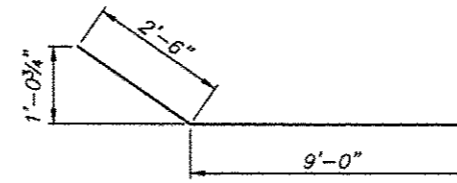
**h22 (E) Bars**



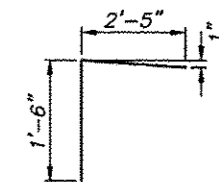
**h21 (E) Bars**



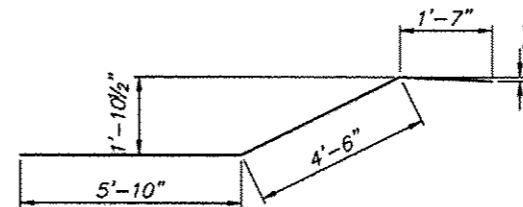
**h18 (E) Bars**



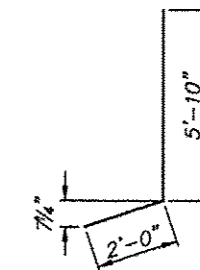
**h19 (E) Bar**



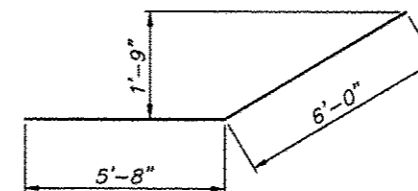
**d1 (E) Bar**



**h3 (E) Bar**



**v4 (E) Bar\*\*\***



**h4 (E) Bar**

\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

**FIELD CUTTING DIAGRAMS**

Order Bars full length. Cut as shown and use remainder of Bars in opposite end. Make all cuts normal to bar axis.

**STATION 12+49.81 TO 12+81.59**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

Sheet 38 of 73

**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL  
 ILLINOIS DESIGN FIRM NO. 184-003225

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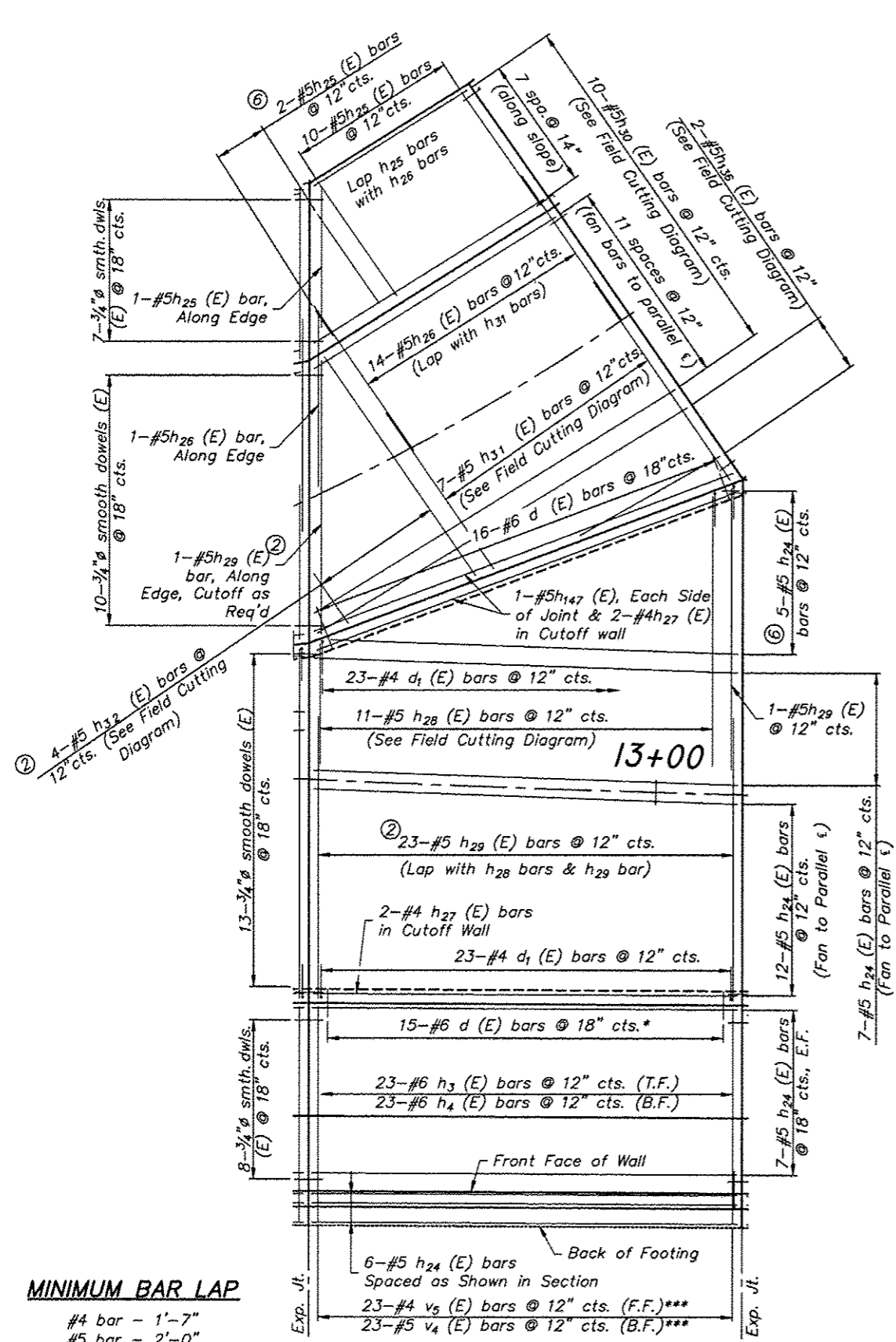
PROJECT AND LOCATION:  
 HARRISON AVENUE  
 RECONSTRUCTION 2012  
 PHASE 1  
 ROCKFORD, ILLINOIS

DRAWN BY: JWH  
 APPROVED BY: CTB  
 DATE: 6/12/15  
 SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

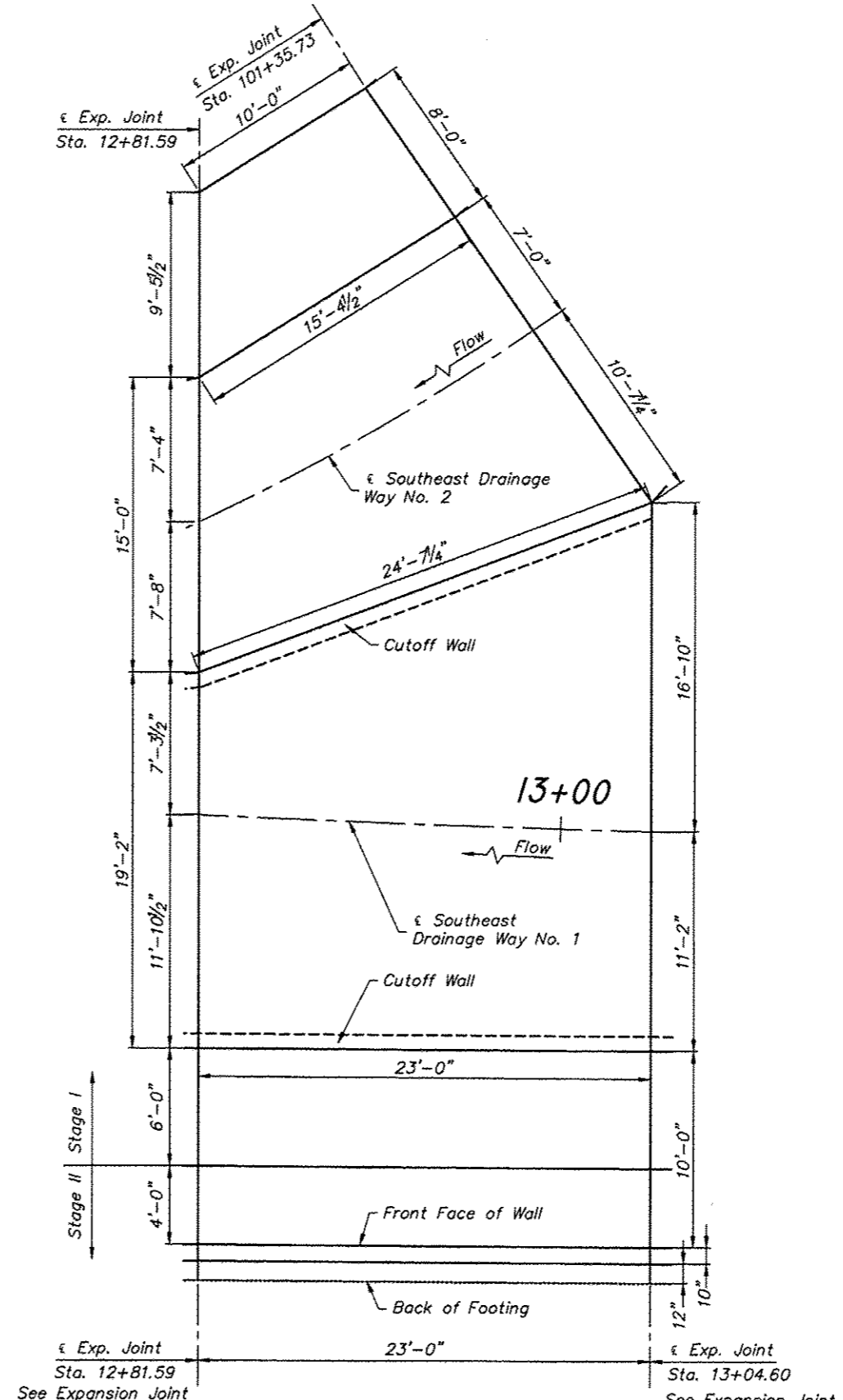
DRAWING	
12+49.81 TO 12+81.59	

JOB NUMBER	11-128
SHEET NUMBER	441 of 588



**MINIMUM BAR LAP**  
 #4 bar - 1'-7"  
 #5 bar - 2'-0"  
 #6 bar - 2'-5"

**PLAN**  
(Showing Reinforcement)



**PLAN**  
(Showing Dimensions)

**BILL OF MATERIAL**  
(This Section Only)

Bar	No.	Size	Length	Shape
h <sub>24</sub> (E)	44	#5	22'-6"	—
h <sub>25</sub> (E)	13	#5	8'-3"	—
h <sub>26</sub> (E)	15	#5	9'-6"	—
h <sub>3</sub> (E)	23	#6	11'-11"	—
h <sub>4</sub> (E)	23	#6	11'-8"	—
h <sub>27</sub> (E)	14	#4	22'-6"	—
h <sub>28</sub> (E)	11	#5	20'-10"	—
h <sub>29</sub> (E)	25	#5	15'-0"	—
h <sub>30</sub> (E)	10	#5	32'-0"	—
h <sub>136</sub> (E)	2	#5	31'-6"	—
h <sub>147</sub> (E)	2	#5	23'-9"	—
h <sub>31</sub> (E)	7	#5	22'-10"	—
h <sub>32</sub> (E)	4	#5	17'-4"	—
d (E)	31	#6	1'-6"	—
d <sub>1</sub> (E)	46	#4	3'-11"	—
v <sub>4</sub> (E)	23	#5	7'-10"	—
v <sub>5</sub> (E)	23	#4	4'-7"	—
Concrete Structures			Cu. Yd.	46.8
Reinforcement Bars, Epoxy Coated			Pound	4085
3/4" Dowels (E)			Each	38
Geocomposite Wall Drain			Sq. Yd.	10.0

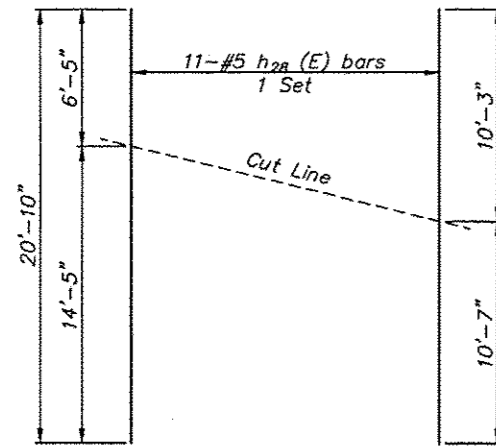
\* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.  
 \*\* Refer to Layout Plan for additional dimensions and channel elevations.  
 \*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

② Field Bend as Required to Fit Channel & and to Maintain Clear Distance  
 ⑥ Order h<sub>6</sub> bars full length. Cut to fit taper and use remainder of bars in opposite end.

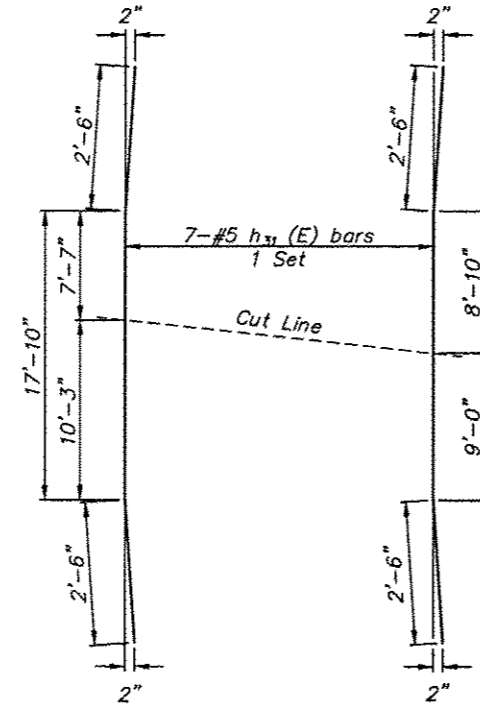
**STATION 12+81.59 TO 13+04.60**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

REVISIONS		
REV. NO.	DESCRIPTION	DATE

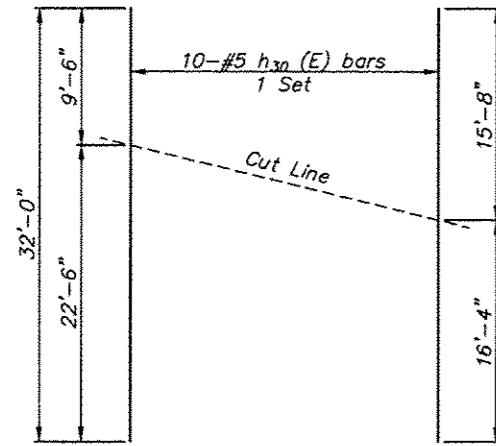




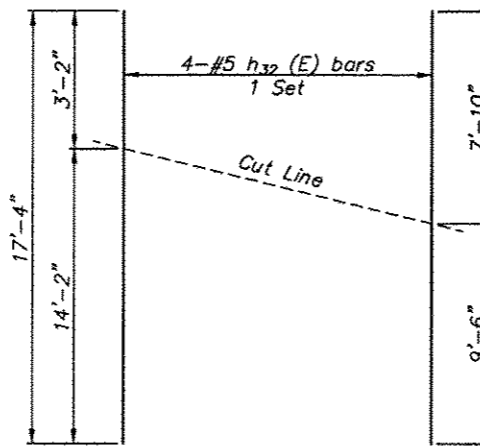
**h<sub>28</sub> (E) Bars**



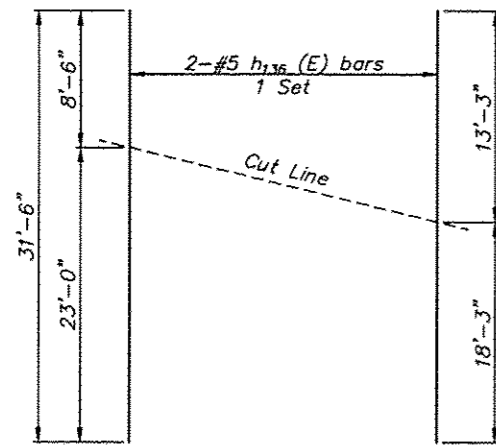
**h<sub>31</sub> (E) Bars**



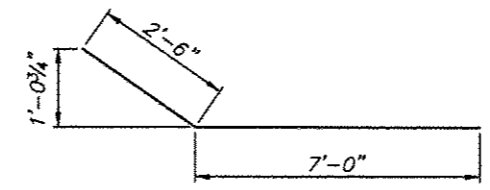
**h<sub>30</sub> (E) Bars**



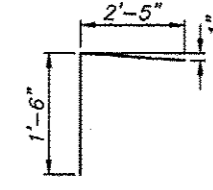
**h<sub>32</sub> (E) Bars**



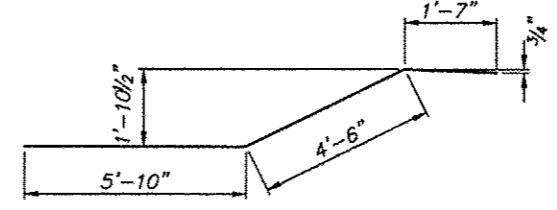
**h<sub>136</sub> (E) Bars**



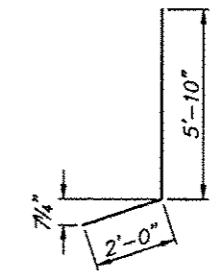
**h<sub>26</sub> (E) Bar**



**d<sub>1</sub> (E) Bar**

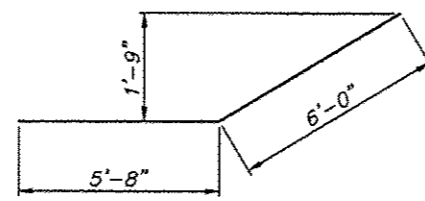


**h<sub>3</sub> (E) Bar**



**v<sub>4</sub> (E) Bar\*\*\***

\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.



**h<sub>4</sub> (E) Bar**

**FIELD CUTTING DIAGRAMS**

Order Bars full length. Cut as shown and use remainder of Bars in opposite end. Make all cuts normal to bar axis.

**STATION 12+81.59 TO 13+04.60  
STRUCTURAL CONCRETE CHANNEL REINFORCING  
SOUTHEAST DRAINAGE WAY  
ALONG HARRISON AVENUE  
CITY OF ROCKFORD  
WINNEBAGO COUNTY**

Sheet 41 of 73

**FEHR GRAHAM**

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PROJECT AND LOCATION  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

DRAWN BY: JWH  
APPROVED BY: CTB  
DATE: 6/12/15  
SCALE: 1"=5'

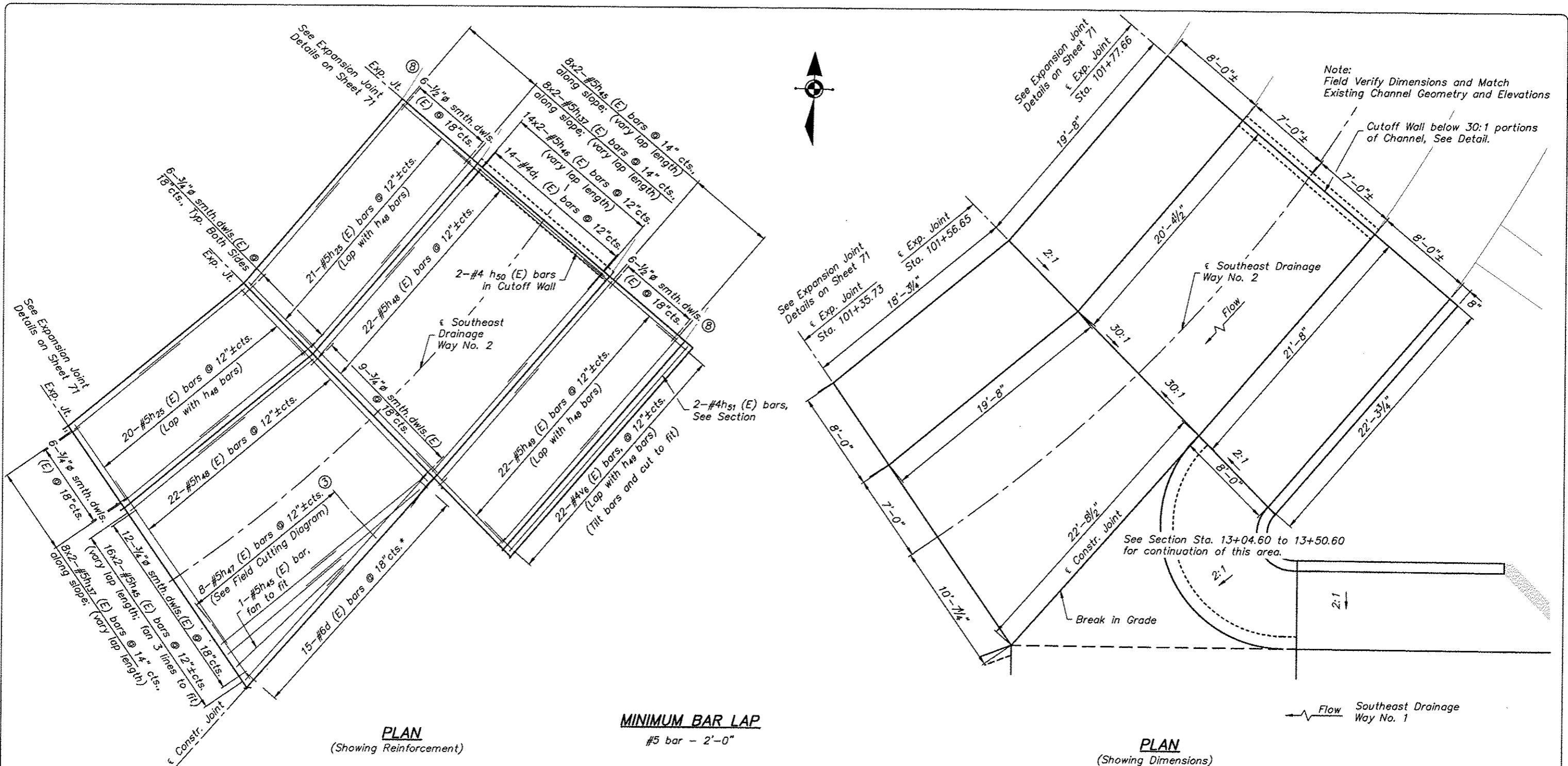
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING  
12+81.59 TO 13+04.60

JOB NUMBER  
11-128

SHEET NUMBER  
444 of 588





**PLAN**  
(Showing Reinforcement)

**MINIMUM BAR LAP**

#5 bar - 2'-0"

- ③ Lap h<sub>47</sub> bars with h<sub>48</sub> bars
- ⑥ 1/2" ø x 1'-6" smooth dowels (E) installed similar to typical Expansion Joint Detail. Cost included with Concrete Structures.
- \* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

Note:  
Bars noted thus, 8x2-#5 indicates 8 lines of bars with 2 lengths per line.

**PLAN**  
(Showing Dimensions)

**STATION 101+35.73 TO 101+77.66**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

Sheet 42 of 73

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PROJECT AND LOCATION:  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

DRAWN BY: JWH  
APPROVED BY: CTB  
DATE: 6/12/15  
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:  
101+35.73 TO 101+77.66

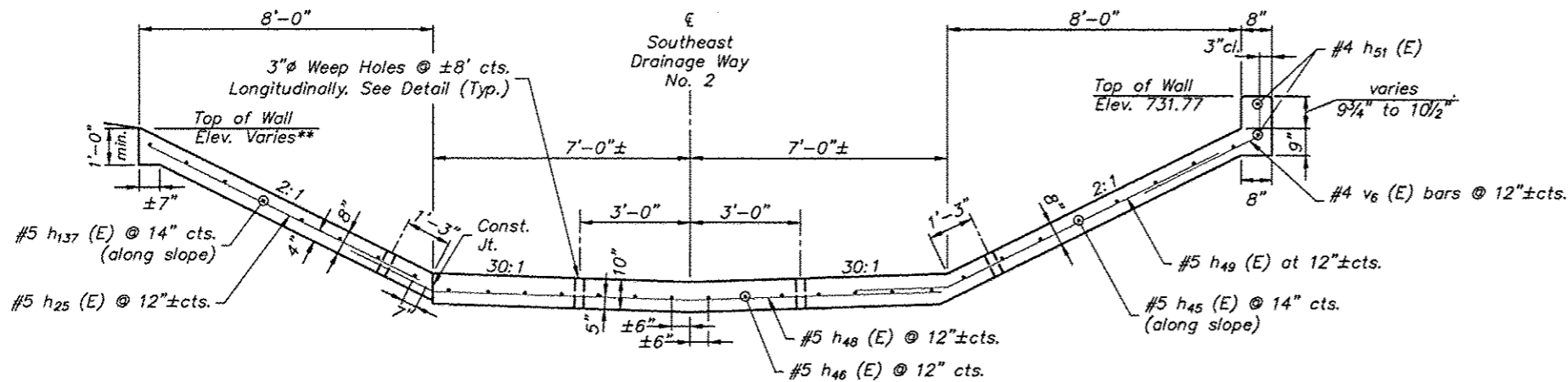
JOB NUMBER:  
11-128

SHEET NUMBER:  
445 of 588

**BILL OF MATERIAL**

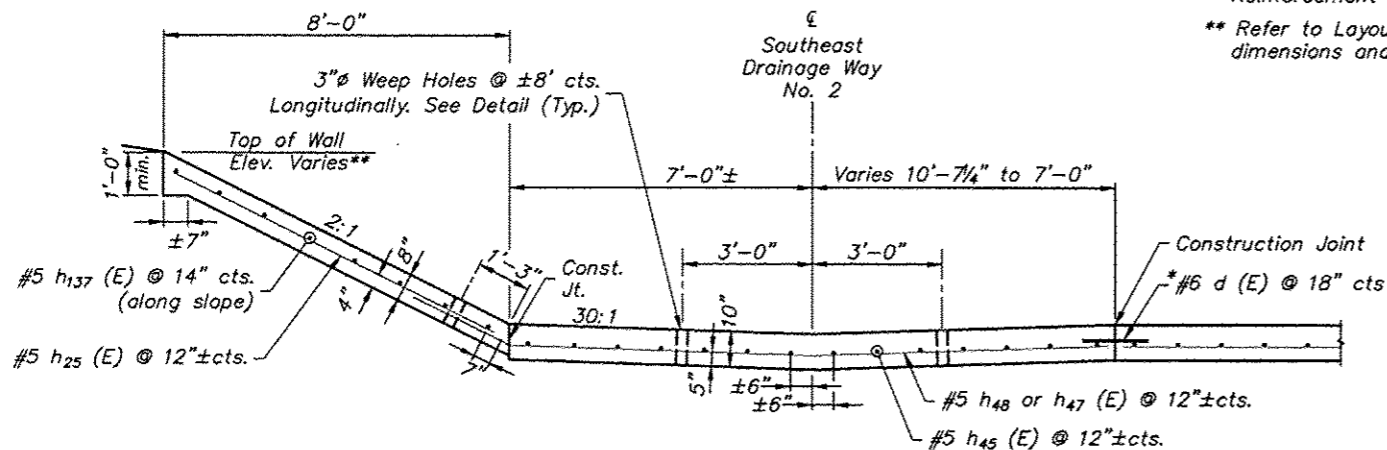
(This Section Only)

Bar	No.	Size	Length	Shape
h <sub>45</sub> (E)	49	#5	12'-0"	—
h <sub>46</sub> (E)	28	#5	11'-8"	—
h <sub>137</sub> (E)	32	#5	11'-0"	—
h <sub>47</sub> (E)	8	#5	8'-5"	—
h <sub>48</sub> (E)	44	#5	16'-4"	—
h <sub>25</sub> (E)	41	#5	8'-3"	—
h <sub>49</sub> (E)	22	#5	10'-9"	—
h <sub>50</sub> (E)	2	#4	13'-6"	—
h <sub>51</sub> (E)	2	#4	21'-10"	—
d (E)	15	#6	1'-6"	—
d <sub>1</sub> (E)	14	#4	3'-11"	—
v <sub>6</sub> (E)	22	#4	4'-5"	—
Concrete Structures			Cu. Yd.	34.1
Reinforcement Bars, Epoxy Coated			Pound	2923
3/4" Dowels (E)			Each	39
1/2" Dowels (E)			Each	12



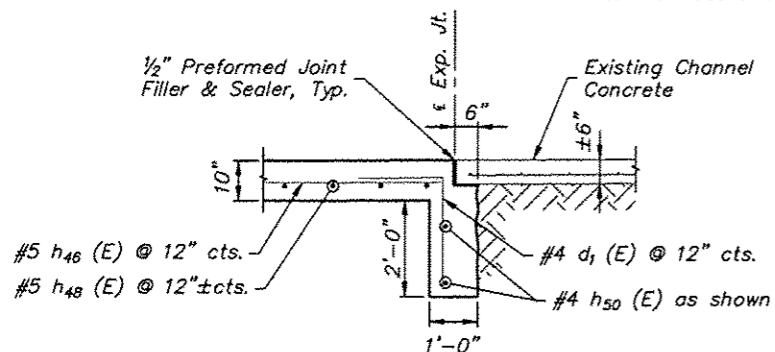
**CHANNEL SECTION A**

(Looking Upstream)  
Sta. 101+56.65 to Sta. 101+77.66



**CHANNEL SECTION B**

(Looking Upstream)  
Sta. 101+35.73 to Sta. 101+56.65

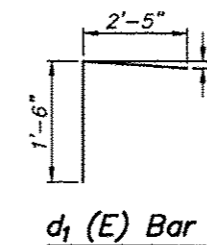


**CUTOFF WALL DETAIL**

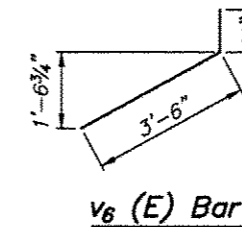
(Perp. to Flow Line @ Sta. 101+77.66)

\* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

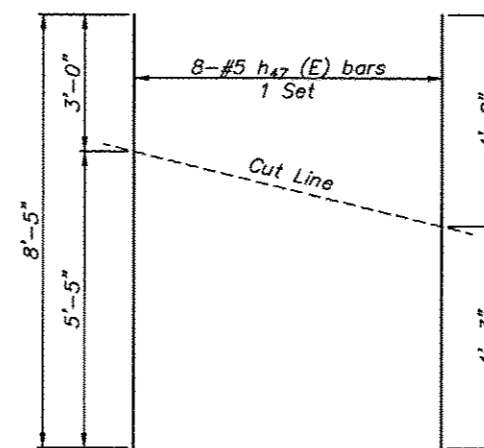
\*\* Refer to Layout Plan for additional dimensions and channel elevations.



**d<sub>1</sub> (E) Bar**



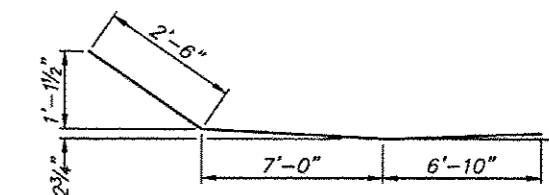
**v<sub>6</sub> (E) Bar**



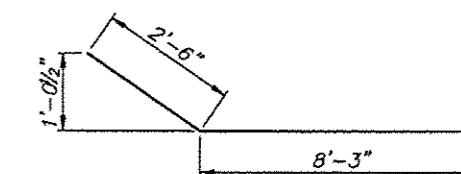
**h<sub>47</sub> (E) Bars**

**FIELD CUTTING DIAGRAM**

Order Bars full length. Cut as shown and use remainder of Bars in opposite end. Make all cuts normal to bar axis.



**h<sub>48</sub> (E) Bar**

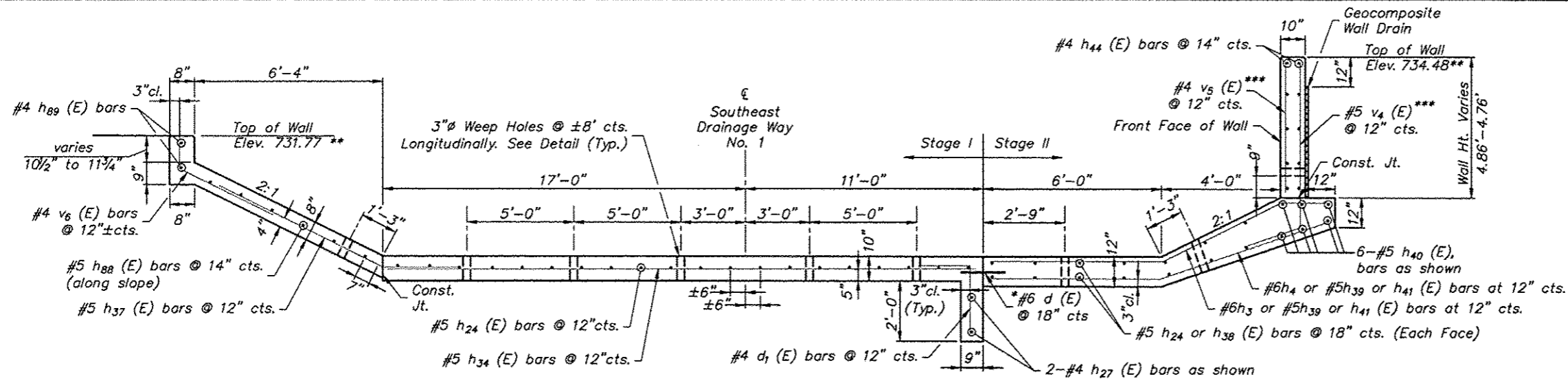


**h<sub>49</sub> (E) Bar**

**STATION 101+35.73 TO 101+77.66**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

Sheet 43 of 73

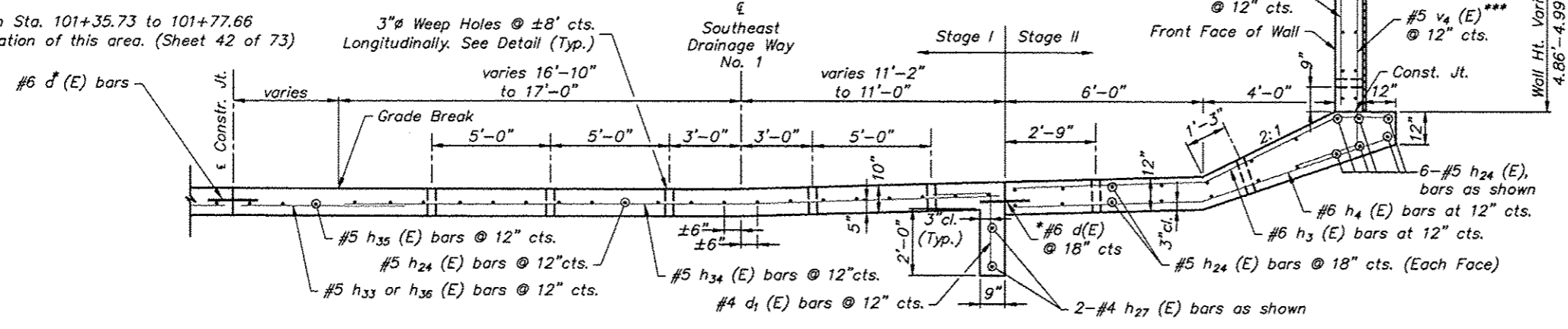




**CHANNEL SECTION**

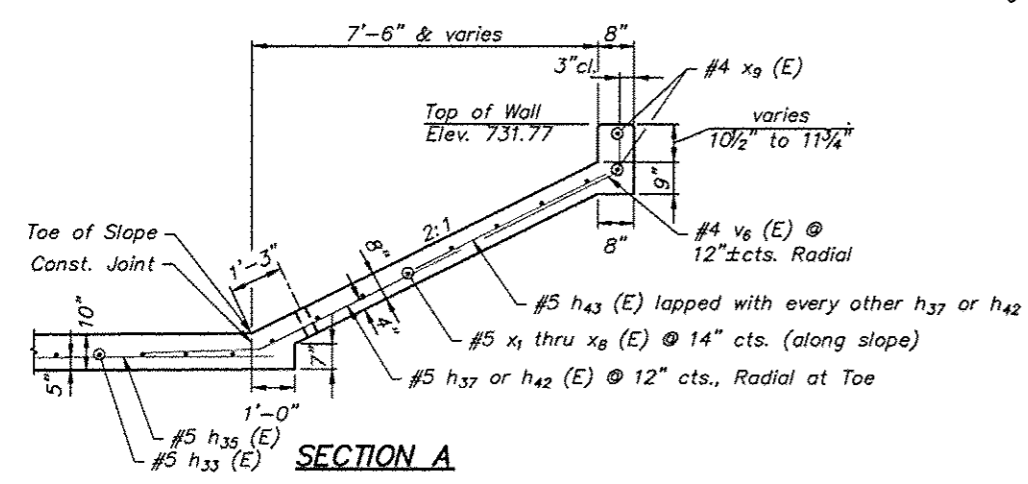
(Looking Upstream)  
Sta. 13+27.60 to 13+50.60  
Dimensions at right L's to overall  $\epsilon$  of Channel.

See Section Sta. 101+35.73 to 101+77.66 for continuation of this area. (Sheet 42 of 73)



**CHANNEL SECTION**

(Looking Upstream)  
Sta. 13+04.60 to 13+27.60  
Dimensions at right L's to overall  $\epsilon$  of Channel.



**SECTION A**

Dimensions at right L's to Face of Curb/Wall.

**MINIMUM BAR LAP**

#5 bar - 2'-0"

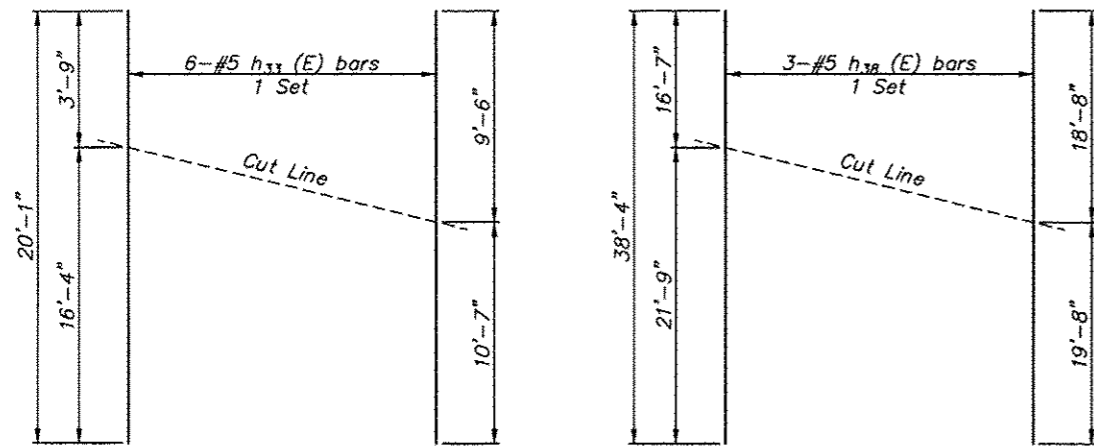
- \* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.
- \*\* Refer to Layout Plan for additional dimensions and channel elevations.
- \*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

**BILL OF MATERIAL**  
(This Section Only)

Bar	No.	Size	Length	Shape
h <sub>24</sub> (E)	85	#5	22'-6"	—
h <sub>33</sub> (E)	6	#5	20'-1"	—
h <sub>34</sub> (E)	46	#5	27'-6"	—
h <sub>3</sub> (E)	39	#6	11'-11"	—
h <sub>4</sub> (E)	39	#6	11'-8"	—
h <sub>27</sub> (E)	14	#4	22'-6"	—
h <sub>35</sub> (E)	6	#5	23'-3"	—
h <sub>36</sub> (E)	3	#5	10'-11"	—
h <sub>37</sub> (E)	45	#5	8'-8"	—
h <sub>38</sub> (E)	3	#5	38'-4"	—
h <sub>39</sub> (E)	10	#5	9'-5"	—
h <sub>40</sub> (E)	6	#5	15'-6"	—
h <sub>41</sub> (E)	4	#5	5'-9"	—
h <sub>47</sub> (E)	3	#5	8'-5"	—
h <sub>42</sub> (E)	7	#5	8'-0"	—
h <sub>43</sub> (E)	11	#5	4'-7"	—
h <sub>88</sub> (E)	3	#5	38'-6"	—
h <sub>44</sub> (E)	10	#4	15'-6"	—
x <sub>1</sub> (E)	1	#5	23'-3"	—
x <sub>2</sub> (E)	1	#5	20'-9"	—
x <sub>3</sub> (E)	1	#5	18'-4"	—
x <sub>4</sub> (E)	1	#5	15'-10"	—
x <sub>5</sub> (E)	1	#5	13'-4"	—
x <sub>6</sub> (E)	1	#5	10'-11"	—
x <sub>7</sub> (E)	1	#5	8'-8"	—
x <sub>8</sub> (E)	1	#5	3'-6"	—
x <sub>9</sub> (E)	2	#4	5'-10"	—
h <sub>89</sub> (E)	2	#4	16'-2"	—
h <sub>68</sub> (E)	6	#5	18'-0"	—
d (E)	30	#6	1'-6"	—
d <sub>1</sub> (E)	80	#4	3'-11"	—
v <sub>4</sub> (E)	39	#5	7'-10"	—
v <sub>5</sub> (E)	39	#4	4'-7"	—
v <sub>6</sub> (E)	24	#4	4'-5"	—
Concrete Structures		Cu. Yd.	85.7	
Reinforcement Bars, Epoxy Coated		Pound	7366	
3/4" Dowels (E)		Each	81	
Geocomposite Wall Drain		Sq. Yd.	17.0	

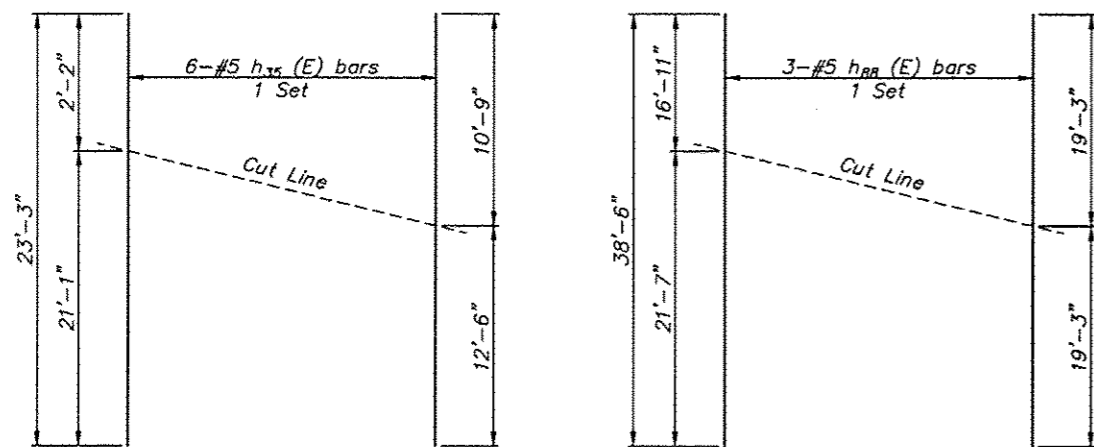
**STATION 13+04.60 TO 13+50.60**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

REVISIONS		
REV. NO.	DESCRIPTION	DATE



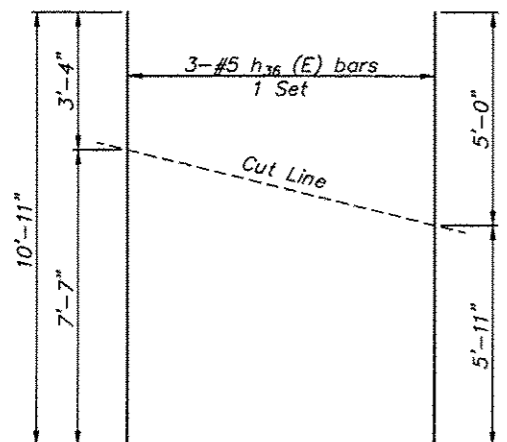
**h33 (E) Bars**

**h38 (E) Bars**



**h35 (E) Bars**

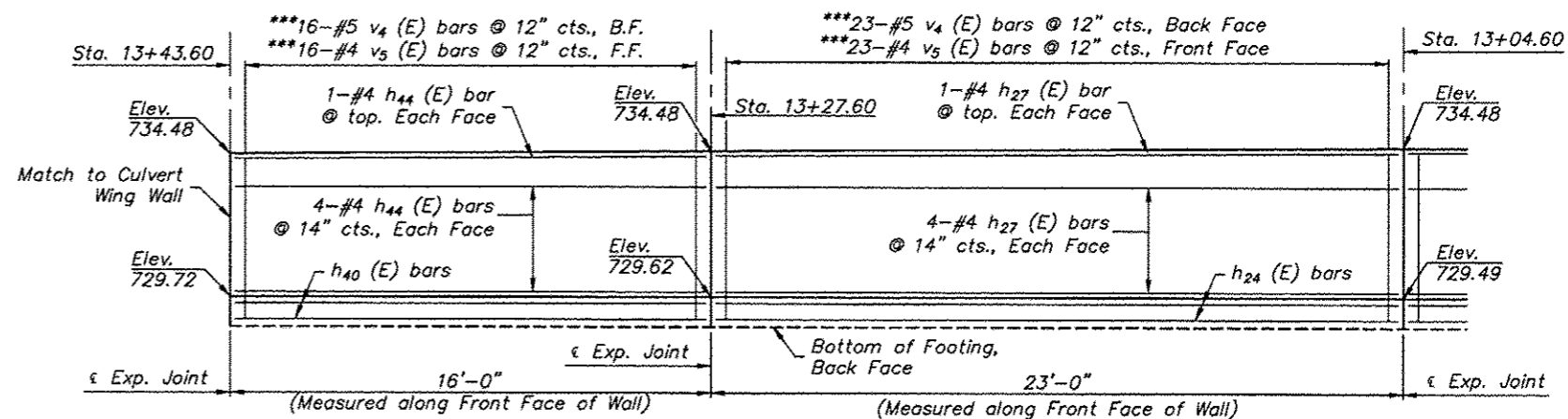
**h88 (E) Bars**



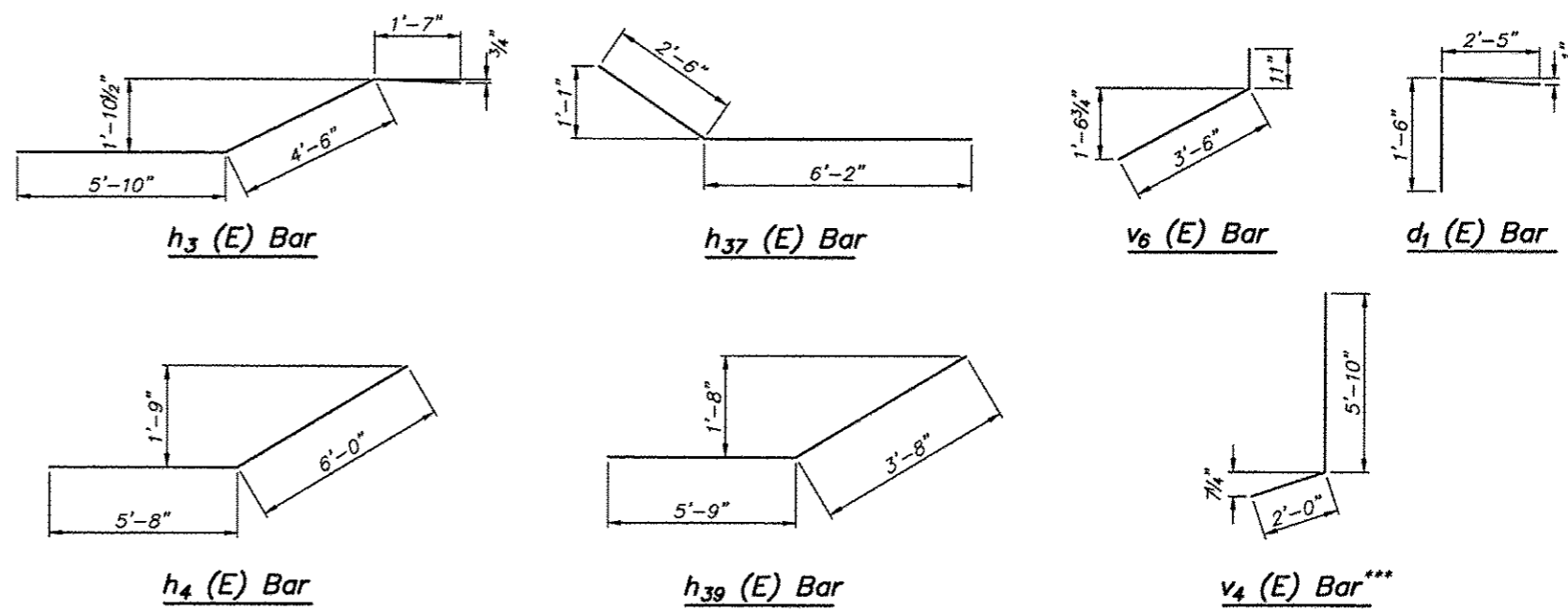
**h36 (E) Bars**

**FIELD CUTTING DIAGRAMS**

Order Bars full length. Cut as shown and use remainder of Bars in opposite end (or bottom). Make all cuts normal to bar axis.



**SOUTH WALL ELEVATION**  
(Looking at Inside/Front Face of Wall)



\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

**BAR BENDING DIMENSIONS**

Bar	A		B		R	
	Ft.	In.	In.	Ft.	In.	
x <sub>1</sub> (E)	22	5	10	9	7	
x <sub>2</sub> (E)	19	11	10	8	6	
x <sub>3</sub> (E)	17	6	10	7	6	
x <sub>4</sub> (E)	15	0	10	6	6	
x <sub>5</sub> (E)	12	6	10	5	5	
x <sub>6</sub> (E)	10	7	10	4	4	
x <sub>7</sub> (E)	8	8	-	3	8	
x <sub>8</sub> (E)	3	6	-	2	8	
x <sub>9</sub> (E)	5	9	1	2	6	

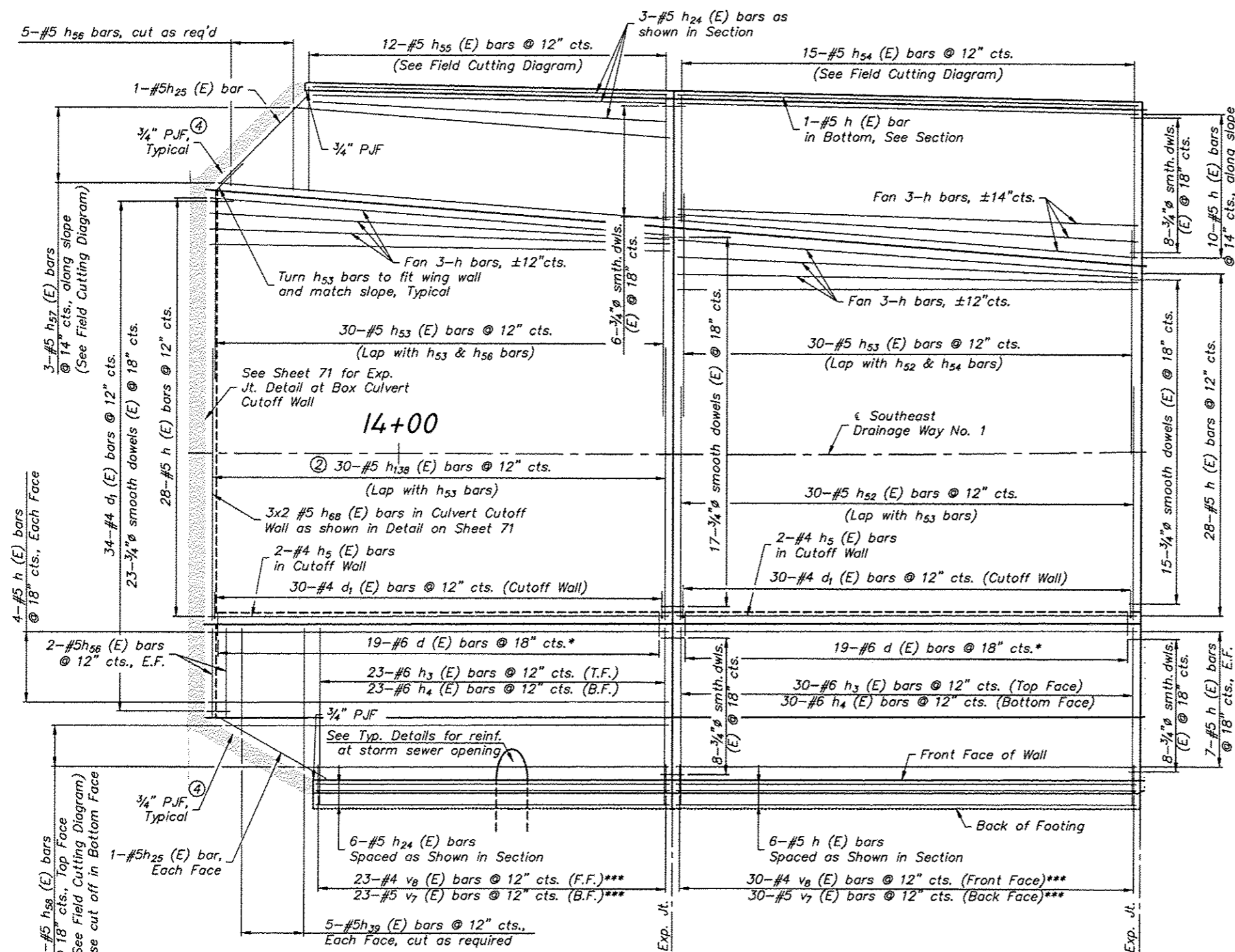
**MINIMUM BAR LAP**

#5 bar - 2'-0"

**STATION 13+04.60 TO 13+50.60**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**







**BILL OF MATERIAL**  
(This Section Only)

Bar	No.	Size	Length	Shape
h (E)	95	#5	29'-6"	—
h <sub>52</sub> (E)	30	#5	15'-0"	—
h <sub>53</sub> (E)	60	#5	14'-8"	—
h <sub>3</sub> (E)	53	#6	11'-11"	—
h <sub>4</sub> (E)	53	#6	11'-8"	—
h <sub>5</sub> (E)	12	#4	29'-6"	—
h <sub>138</sub> (E)	30	#5	17'-4"	—
h <sub>24</sub> (E)	9	#5	22'-6"	—
h <sub>54</sub> (E)	15	#5	22'-1"	—
h <sub>55</sub> (E)	12	#5	18'-6"	—
h <sub>56</sub> (E)	9	#5	5'-8"	—
h <sub>39</sub> (E)	10	#5	9'-5"	—
h <sub>25</sub> (E)	3	#5	8'-3"	—
h <sub>57</sub> (E)	3	#5	53'-2"	—
h <sub>58</sub> (E)	3	#5	52'-0"	—
h <sub>27</sub> (E)	8	#4	22'-6"	—
h <sub>68</sub> (E)	6	#5	18'-0"	—
d (E)	38	#6	1'-6"	—
d <sub>1</sub> (E)	98	#4	3'-11"	—
v <sub>7</sub> (E)	53	#5	6'-4"	—
v <sub>8</sub> (E)	53	#4	3'-0"	—
Concrete Structures			Cu. Yd.	99.8
Reinforcement Bars, Epoxy Coated			Pound	9292
3/4" Dowells (E)			Each	85
Geocomposite Wall Drain			Sq. Yd.	14.2

**MINIMUM BAR LAP**

#5 bar - 2'-0"

\* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

**PLAN**  
(Showing Reinforcement)

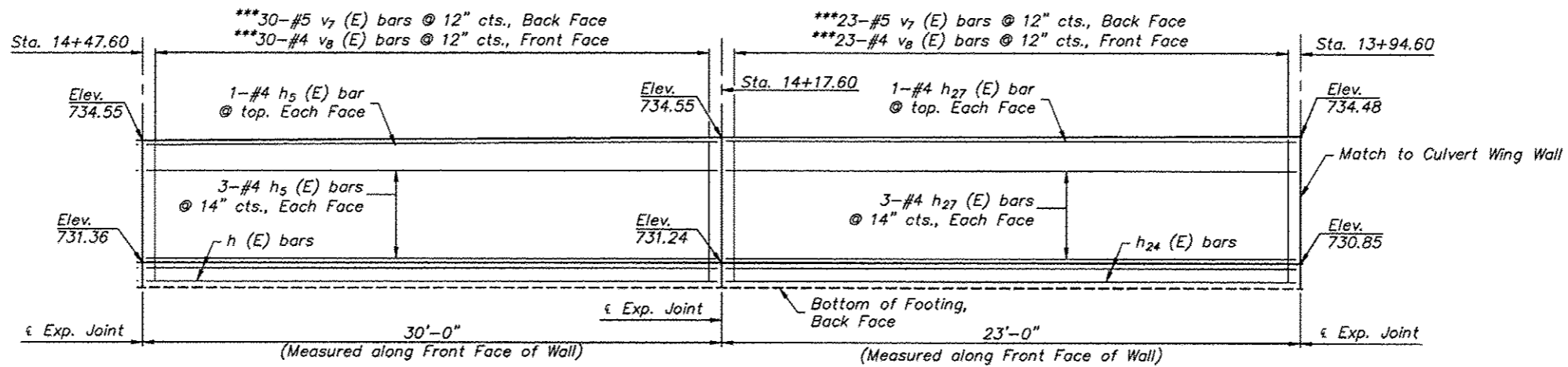
- ② Field Bend as Required to Fit Channel and to Maintain Clear Distance
- ③ 3/4" Prefomed Joint Filler & Sealer along Face of Wing Wall and between Channel Wall and Wing Wall Joint, Typical. Cost Included with Concrete Structures.

**STATION 13+87.60 TO 14+47.60**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

REVISIONS		
REV. NO.	DESCRIPTION	DATE

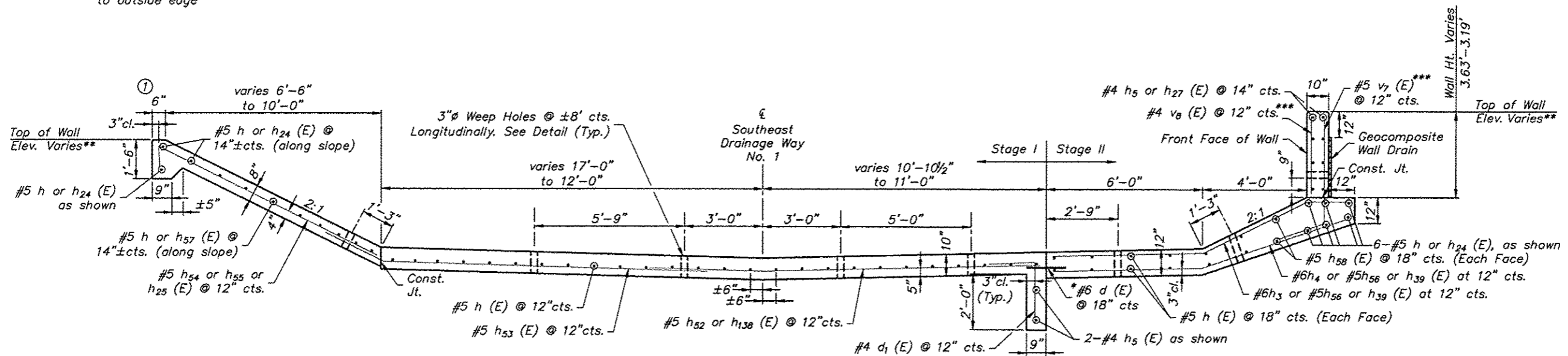
DRAWING	
13+87.60 TO 14+47.60	

JOB NUMBER	11-128
SHEET NUMBER	451 of 588



**SOUTH WALL ELEVATION**  
(Looking at Inside/Front Face of Wall)

① measured perp. to outside edge



**CHANNEL SECTION**  
(Looking Upstream)

\* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

\*\* Refer to Layout Plan for additional dimensions and channel elevations.

\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

Dimensions at right L's to overall  $\epsilon$  of Channel unless otherwise noted. Refer to Layout Plan for additional dimensions and elevations.

**STATION 13+87.60 TO 14+47.60**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

Sheet 49 of 73

**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

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**McClure**  
Engineering Associates, Inc.  
7282 Argus Drive Rockford, Illinois 61107-5837  
(815) 398-2332 FAX (815) 398-2488  
Design Firm License: Illinois 184-000818  
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PROJECT AND LOCATION  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

DRAWN BY: JWH  
APPROVED BY: CTB  
DATE: 6/12/15  
SCALE: N.T.S.

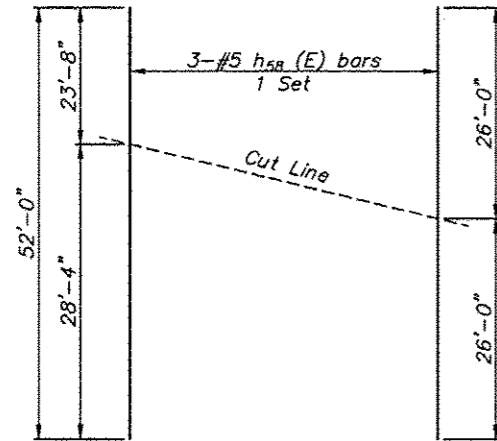
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING  
13+87.60 TO 14+47.60

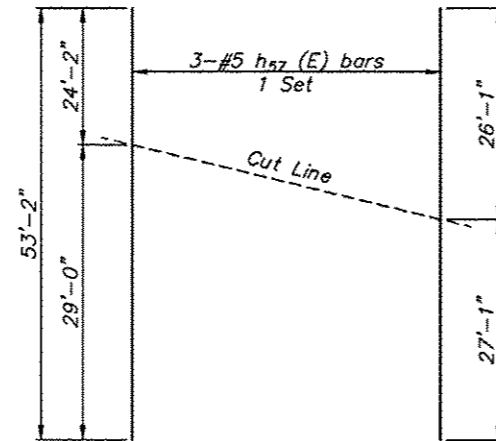
JOB NUMBER  
11-128

SHEET NUMBER  
452 of 588

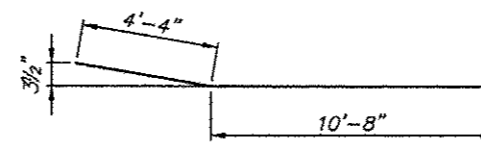
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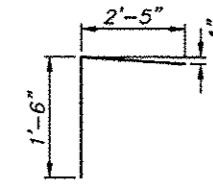
**h58 (E) Bars**



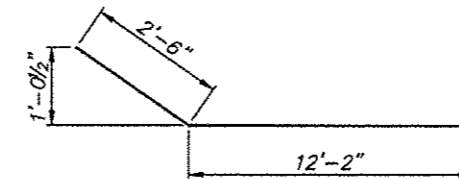
**h57 (E) Bars**



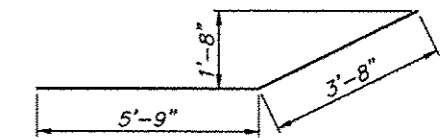
**h52 (E) Bar**



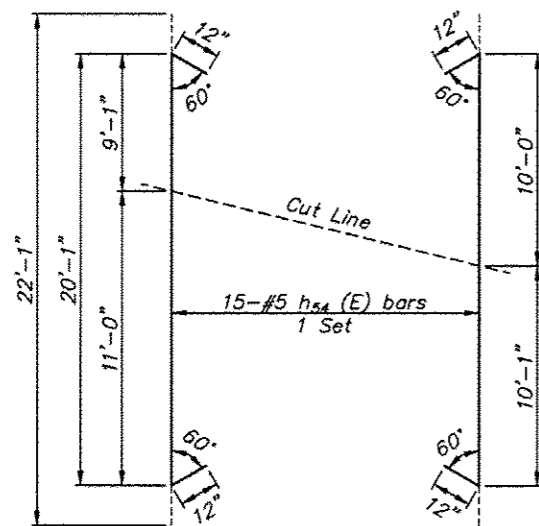
**d1 (E) Bar**



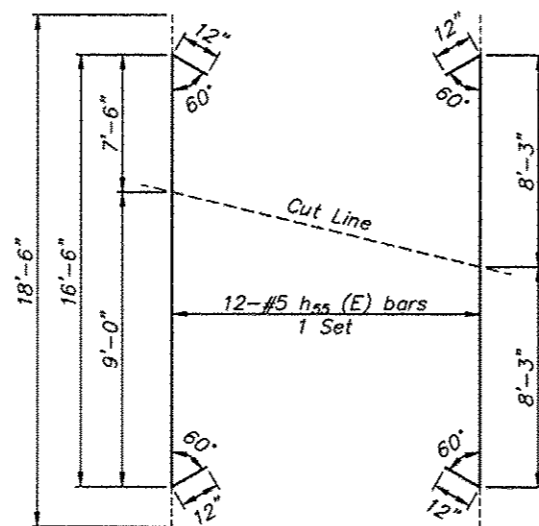
**h53 (E) Bar**



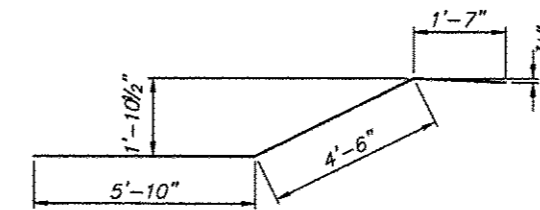
**h39 (E) Bar**



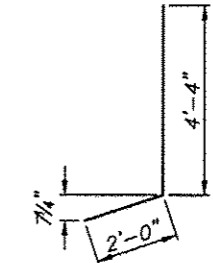
**h54 (E) Bars**



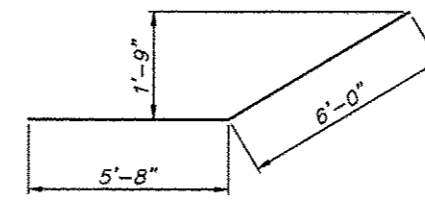
**h55 (E) Bars**



**h3 (E) Bar**



**v7 (E) Bar\*\*\***



**h4 (E) Bar**

\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

**FIELD CUTTING DIAGRAMS**

Order Bars full length. Cut as shown and use remainder of Bars in opposite end (or bottom). Make all cuts normal to bar axis.

**STATION 13+87.60 TO 14+47.60  
STRUCTURAL CONCRETE CHANNEL REINFORCING  
SOUTHEAST DRAINAGE WAY  
ALONG HARRISON AVENUE  
CITY OF ROCKFORD  
WINNEBAGO COUNTY**

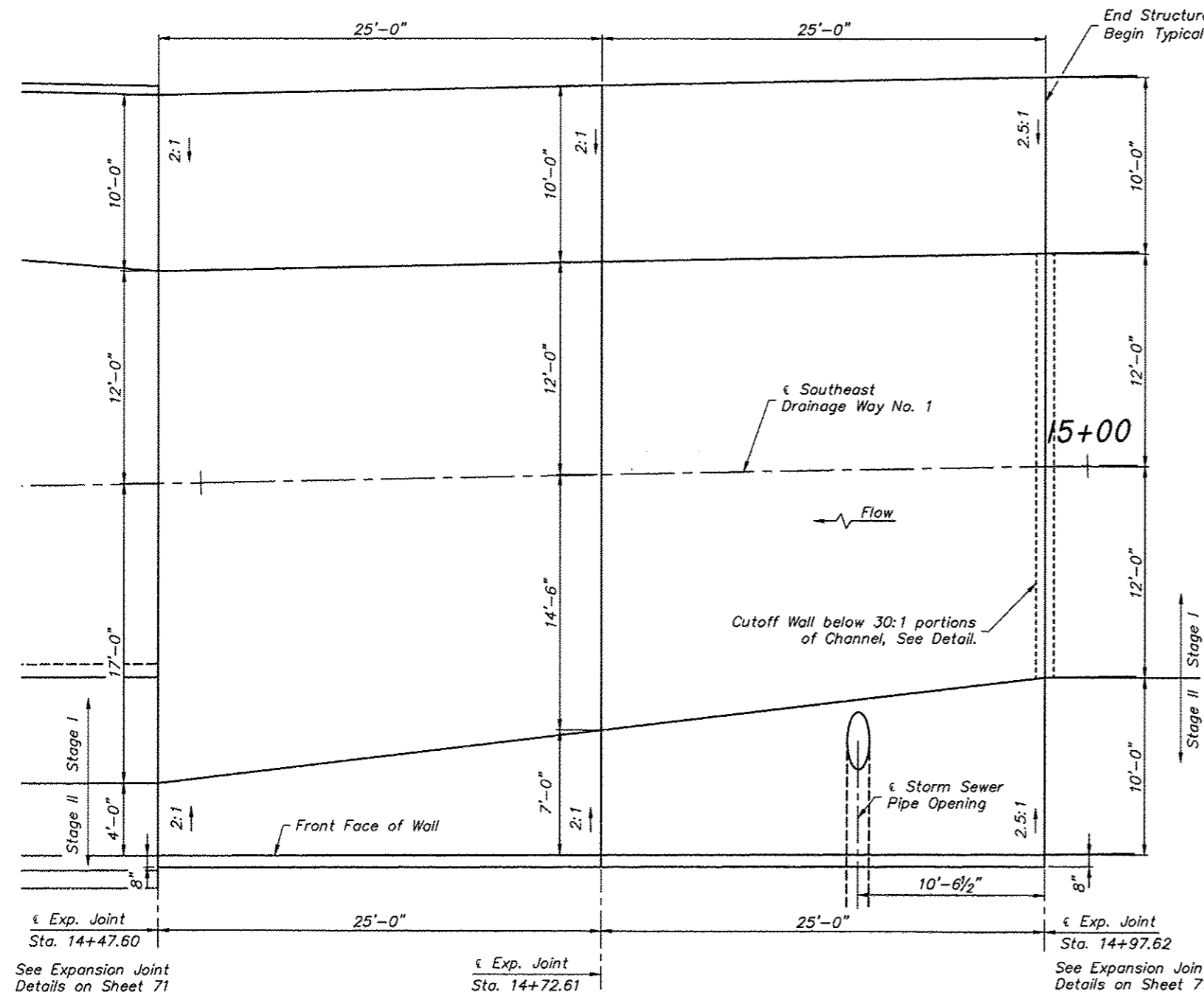
Sheet 50 of 73

REVISIONS		
REV. NO.	DESCRIPTION	DATE

**BILL OF MATERIAL**

(This Section Only)

Bar	No.	Size	Length	Shape
$h_6$ (E)	97	#5	24'-6"	—
$h_{59}$ (E)	25	#5	14'-6"	—
$h_{60}$ (E)	50	#5	18'-10"	—
$h_{61}$ (E)	2	#4	23'-6"	—
$h_{62}$ (E)	25	#5	16'-10"	—
$h_{63}$ (E)	25	#5	15'-4"	—
$h_{64}$ (E)	50	#5	10'-4"	—
$d_1$ (E)	24	#4	3'-11"	┌
$v_{11}$ (E)	25	#5	5'-8"	—
$v_{10}$ (E)	14	#5	3'-6"	—
Concrete Structures			Cu. Yd.	66.5
Reinforcement Bars, Epoxy Coated			Pound	5510
1/2" Dowells (E)			Each	16
3/4" Dowells (E)			Each	31
Geocomposite Wall Drain			Sq. Yd.	3.1



Note:  
Field Verify Dimensions and Match to  
Proposed Typical Concrete Lined  
Channel Geometry and Elevations.

**PLAN**  
(Showing Dimensions)

**STATION 14+47.60 TO 14+97.62**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

Sheet 51 of 73

**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

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PROJECT AND LOCATION:  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

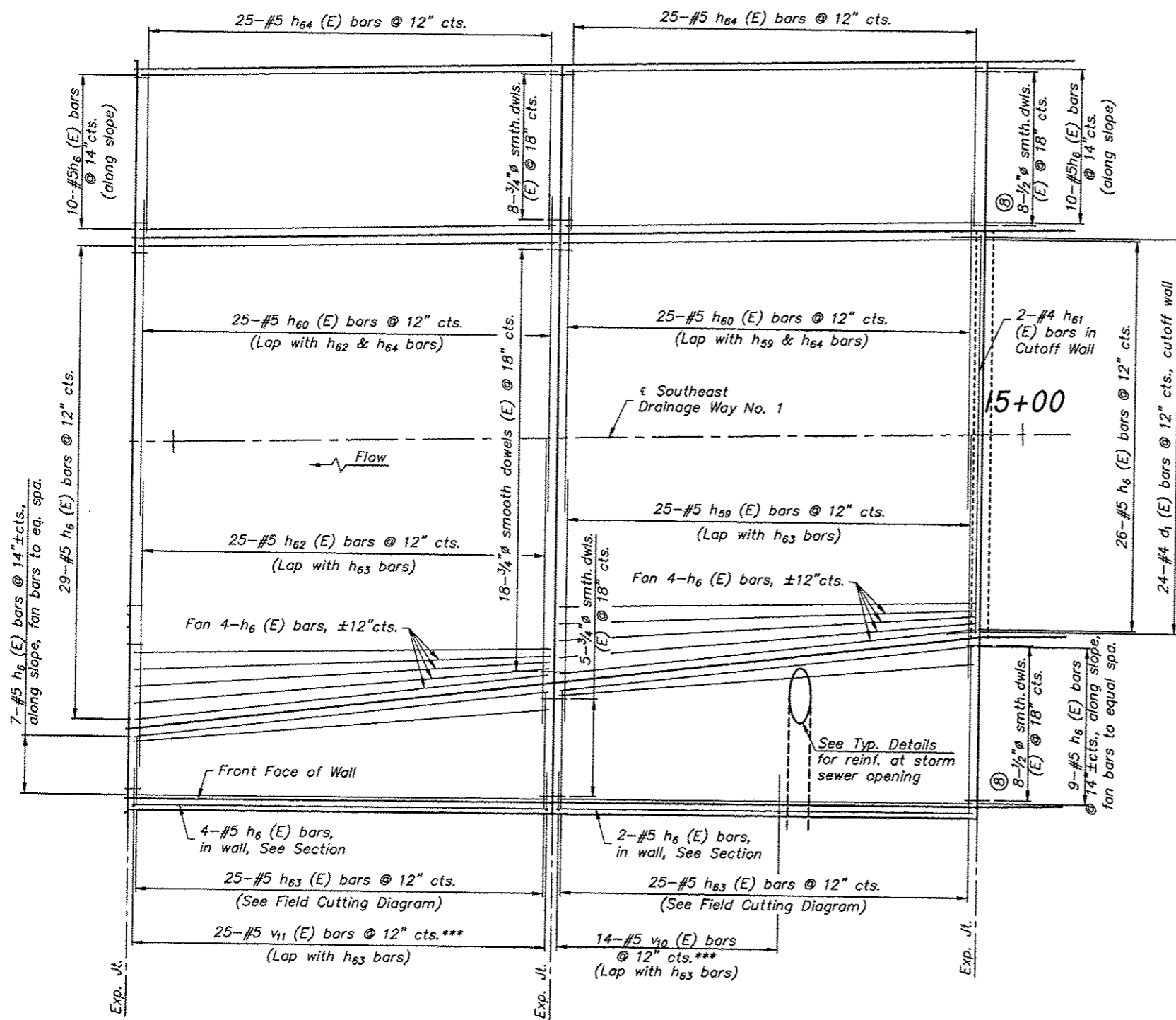
DRAWN BY: JWH  
APPROVED BY: CTB  
DATE: 6/12/15  
SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:  
14+47.60 TO 14+97.62

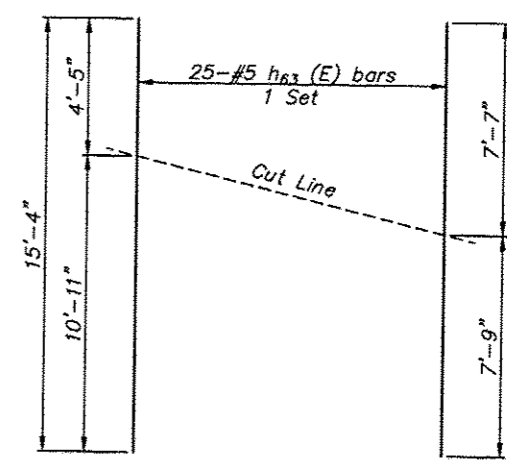
JOB NUMBER:  
11-128

SHEET NUMBER:  
454 of 588



**PLAN**  
(Showing Reinforcement)

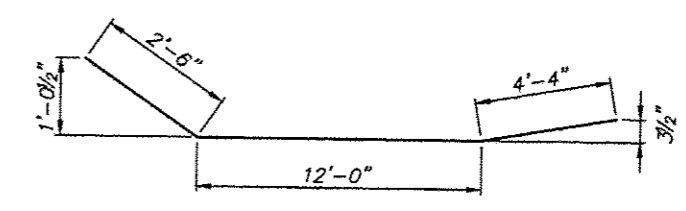
**MINIMUM BAR LAP**  
#5 bar - 2'-0"



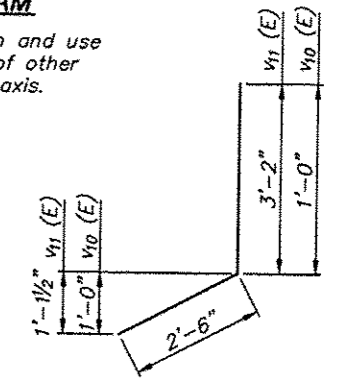
**h63 (E) Bars**

**FIELD CUTTING DIAGRAM**

Order Bars full length. Cut as shown and use remainder of Bars in opposite end of other panel. Make all cuts normal to bar axis.

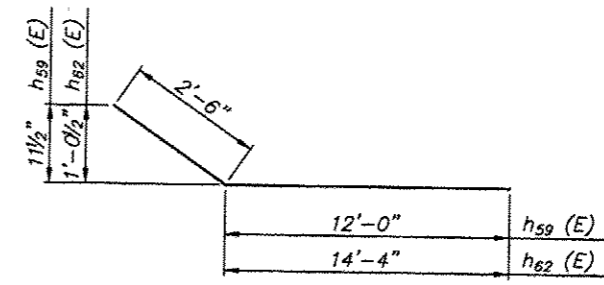


**h60 (E) Bar**



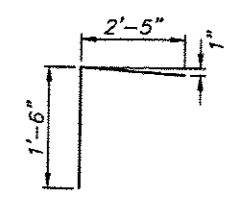
**v11 & v10 (E) Bar\*\*\***

\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.  
Field Bend v10 Bars as required to fit variable slope. Maintain 3" minimum clear distance.



**h59 & h62 (E) Bars**

Field Bend or rotate h59 Bars as required to fit variable slope. Maintain 3" minimum clear distance.



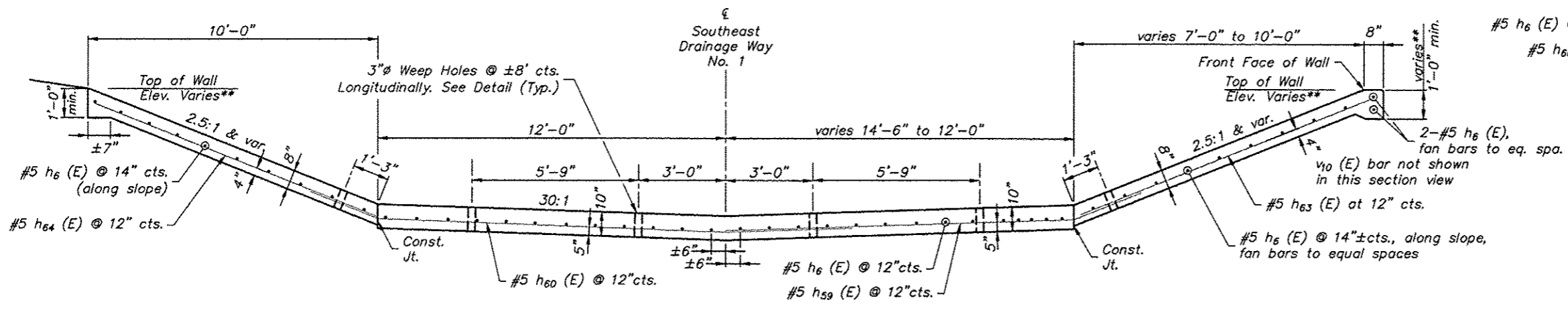
**d1 (E) Bar**

ⓑ 1/2" φ x 1'-6" smooth dowels (E) installed similar to typical Expansion Joint Detail. Cost included with Concrete Structures.  
\* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

**STATION 14+47.60 TO 14+97.62**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

REVISIONS		
REV. NO.	DESCRIPTION	DATE

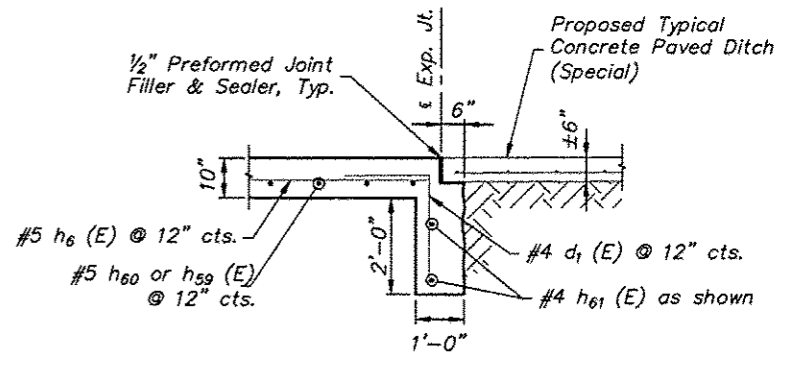
DRAWING:	14+47.60 TO 14+97.62
JOB NUMBER:	11-128
SHEET NUMBER:	455 of 588



**CHANNEL SECTION**

(Looking Upstream - near to Sta. 14+97.62)  
Sta. 14+72.61 to Sta. 14+97.62

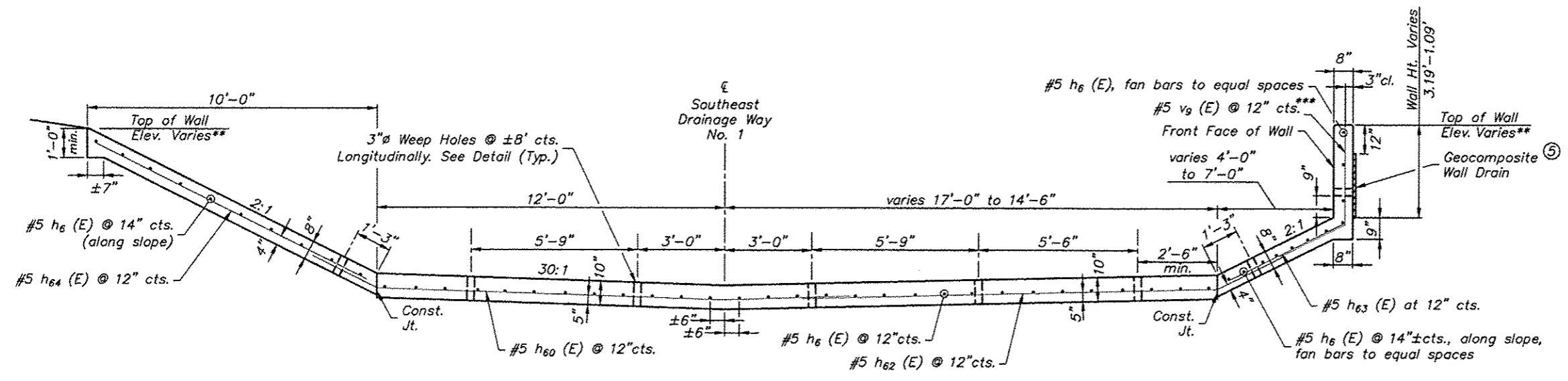
Dimensions at right L's to overall ε of Channel. Refer to Layout Plan for additional dimensions and elevations.



**CUTOFF WALL DETAIL**

(Perp. to Flow Line @ Sta. 14+97.62)

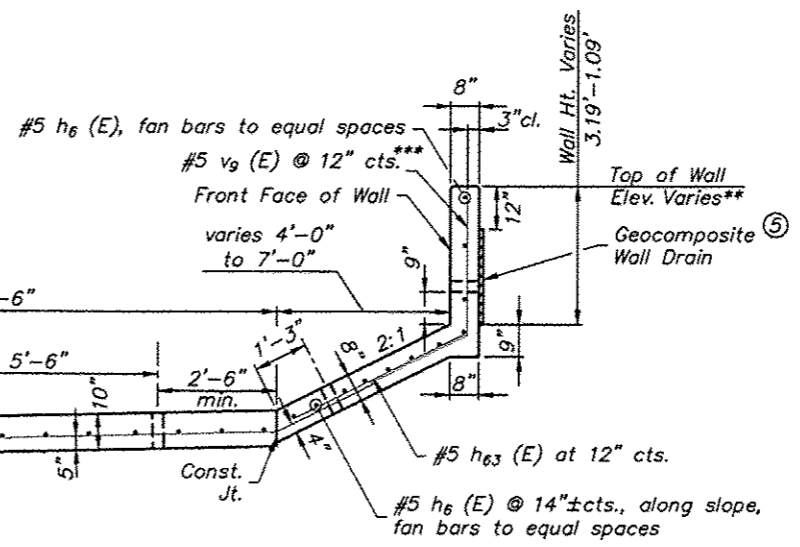
\*\* Refer to Layout Plan for additional dimensions and channel elevations.  
\*\*\* Field Cut and/or tilt bars as required to fit Top of Wall Elevation. Minimum 2" clear.  
Field Bend h59 & v10 Bars as required to fit variable slope. Maintain 3" minimum clear distance.



**CHANNEL SECTION**

(Looking Upstream - near to Sta. 14+47.60)  
Sta. 14+47.60 to Sta. 14+72.61

Dimensions at right L's to overall ε of Channel. Refer to Layout Plan for additional dimensions and elevations.



⑤ eliminate weep holes and wall drain when wall height reduces to 30"

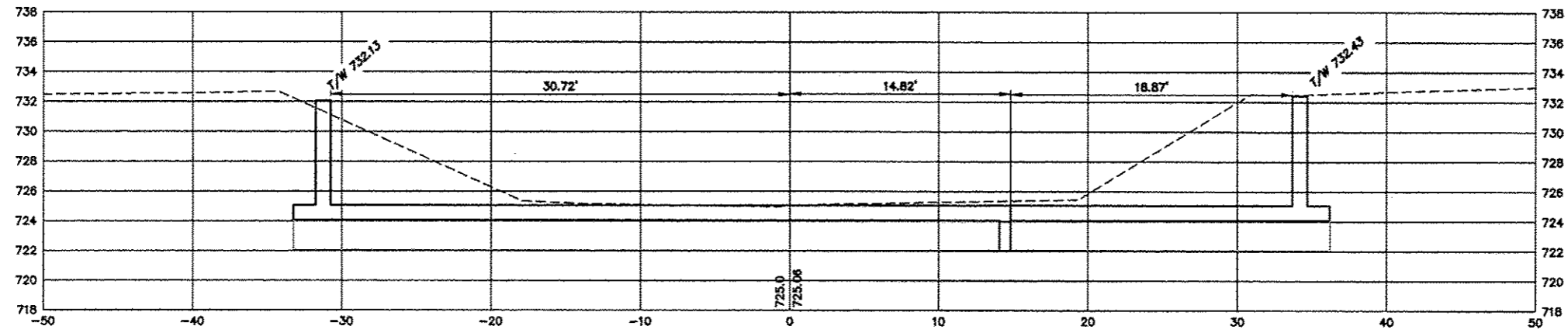
**STATION 14+47.60 TO 14+97.62**  
**STRUCTURAL CONCRETE CHANNEL REINFORCING**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

REVISIONS		
REV. NO.	DESCRIPTION	DATE

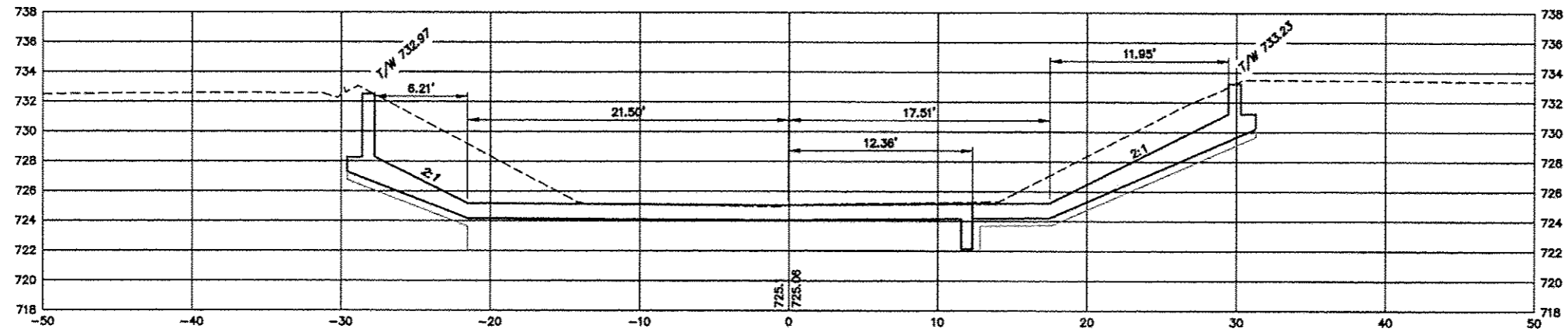


F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612

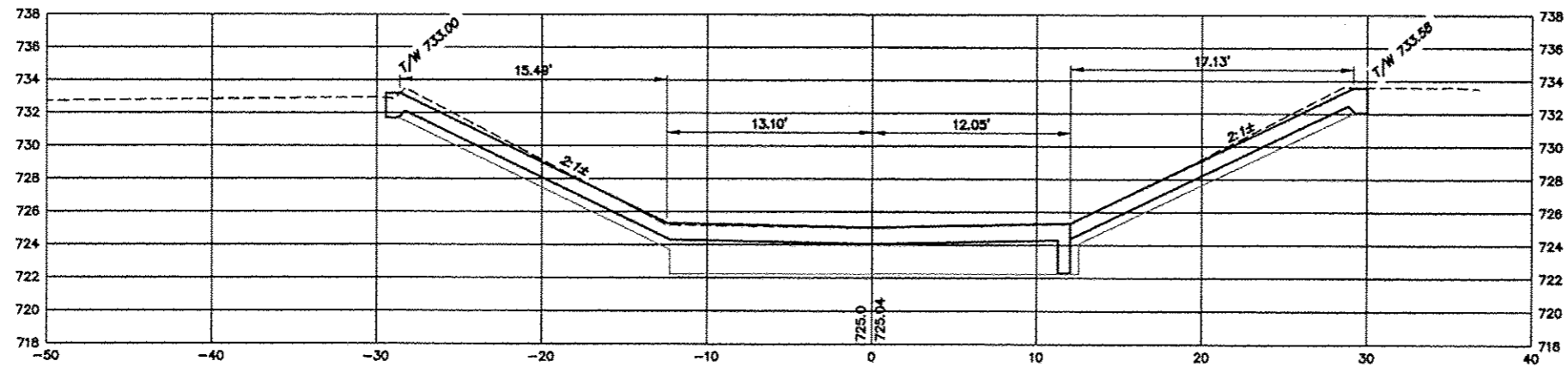
5+18.6 SKEWED



5+00



4+87.04



CROSS SECTIONS  
HARRISON AVENUE  
STRUCTURAL CHANNEL  
CITY OF ROCKFORD  
WINNEBAGO COUNTY  
STATION 4+87 TO 5+19

Sheet 54 of 73

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PROJECT AND LOCATION  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

DRAWN BY: MS  
APPROVED BY: JWH  
DATE: 6/12/15  
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1"=5' ver.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

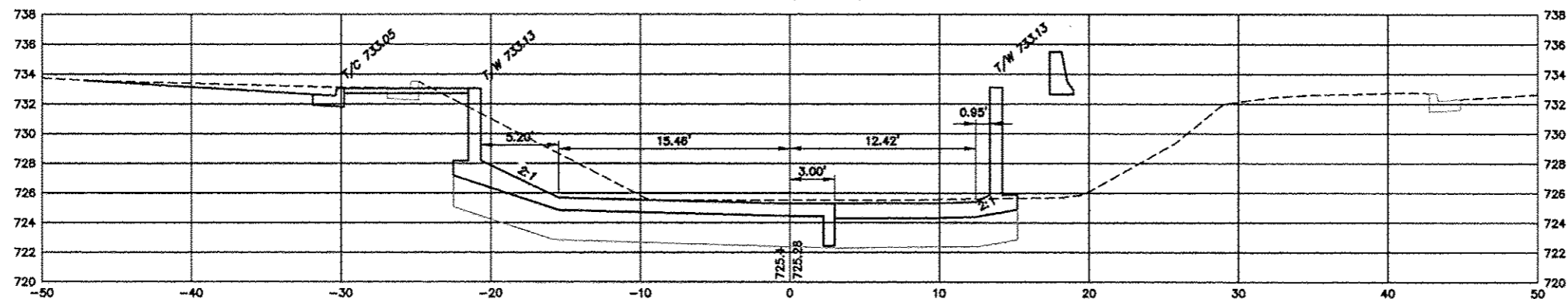
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4+87 TO 5+19

JOB NUMBER  
11-128

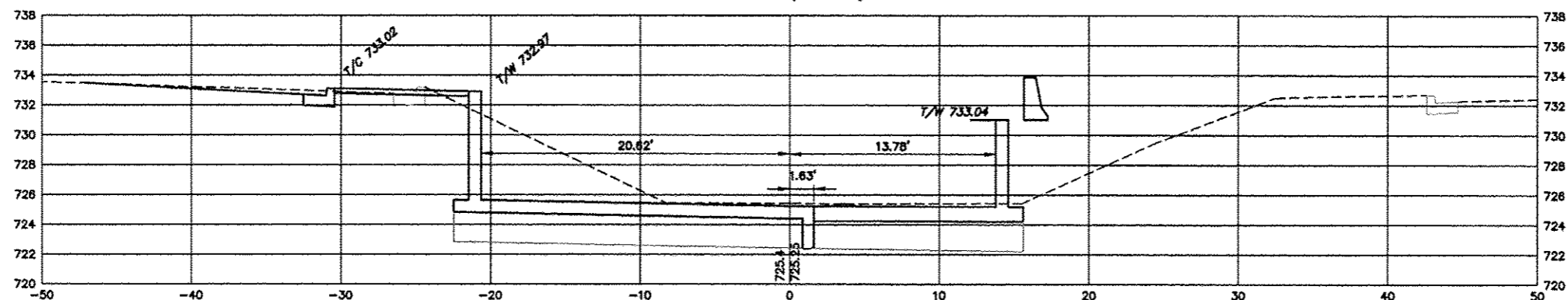
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ILLINOIS		CONTRACT NO. 85612

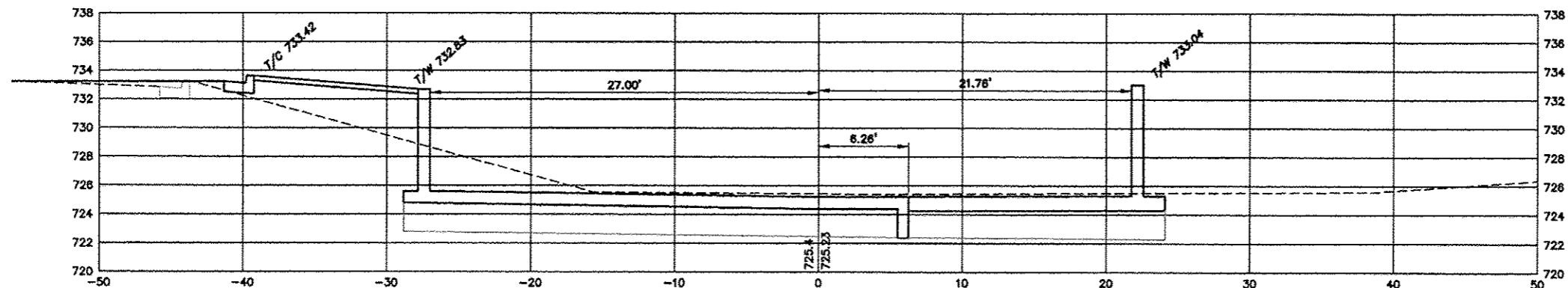
6+90 (SKEW)



6+75 (SKEW)



6+60 (SKEW)



**CROSS SECTIONS  
HARRISON AVENUE  
STRUCTURAL CHANNEL  
CITY OF ROCKFORD  
WINNEBAGO COUNTY  
STATION 6+60 TO 6+90**

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HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

DRAWN BY: MS  
APPROVED BY: JWH  
DATE: 6/12/15  
SCALE: 1"=5' hor.  
1"=5' ver.

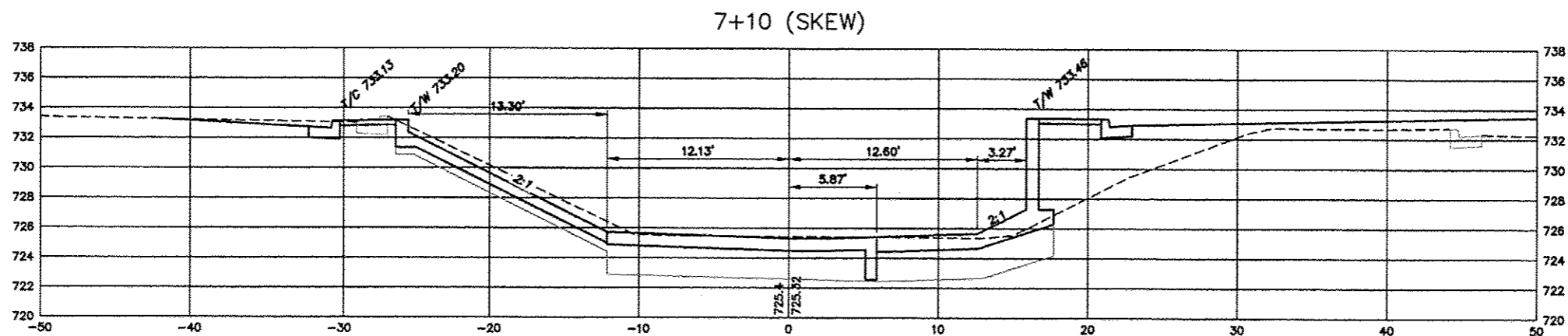
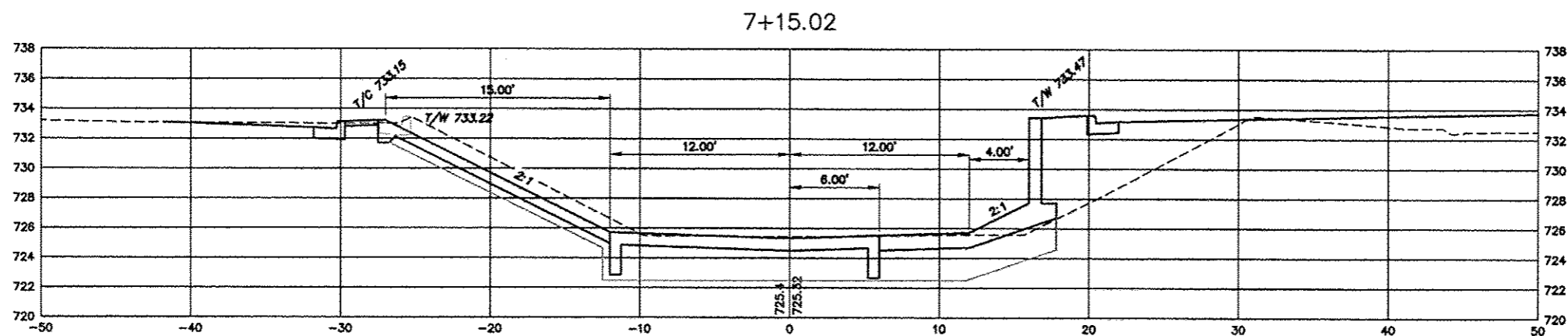
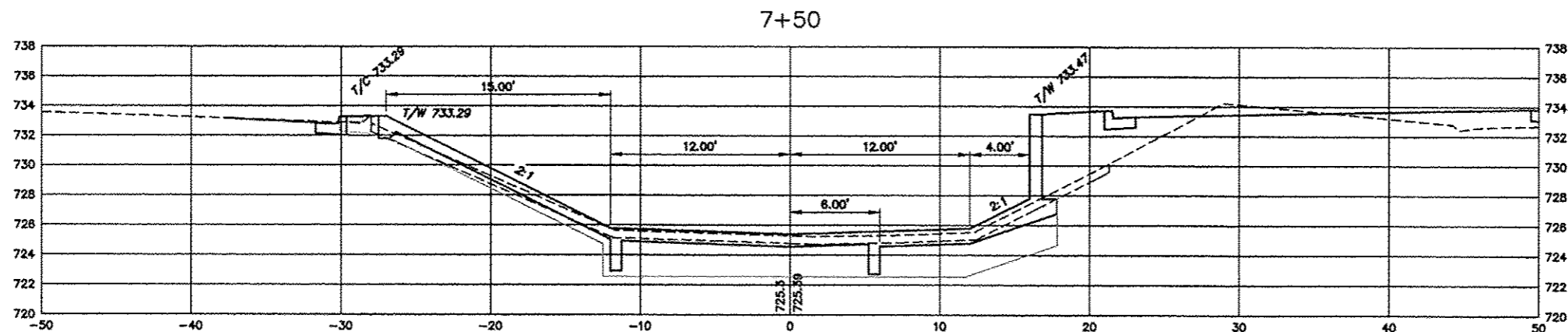
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING  
CROSS SECTIONS  
6+60 TO 6+90

JOB NUMBER  
11-128

SHEET NUMBER  
458 of 588

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



**CROSS SECTIONS  
HARRISON AVENUE  
STRUCTURAL CHANNEL  
CITY OF ROCKFORD  
WINNEBAGO COUNTY  
STATION 7+10 TO 7+50**

Sheet 56 of 73

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HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

DRAWN BY: MS  
APPROVED BY: JWH  
DATE: 6/12/15  
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1"=5' ver.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

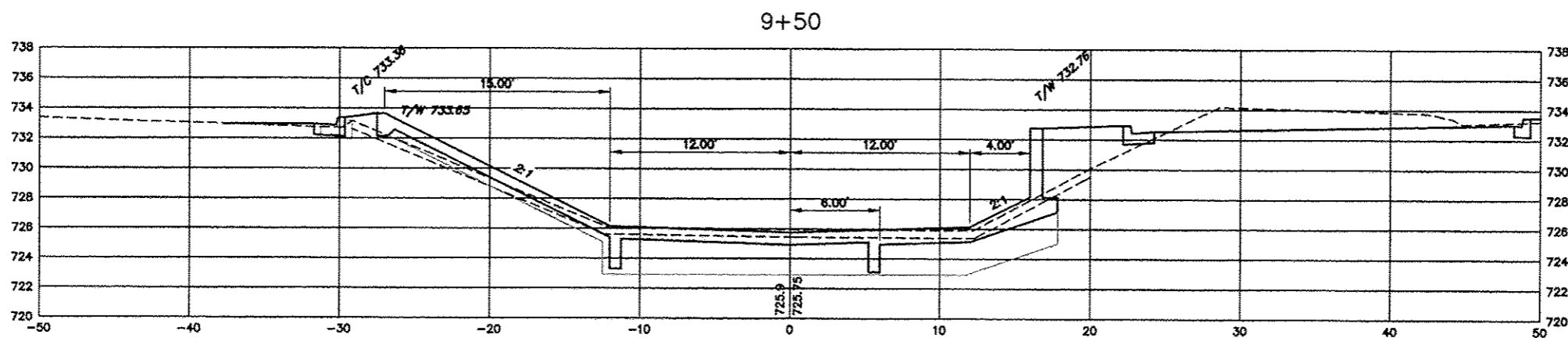
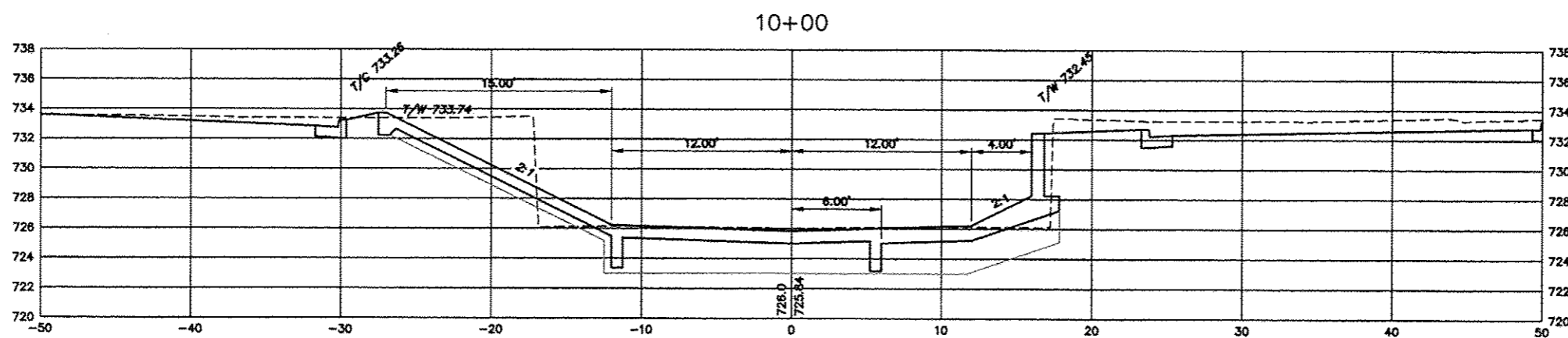
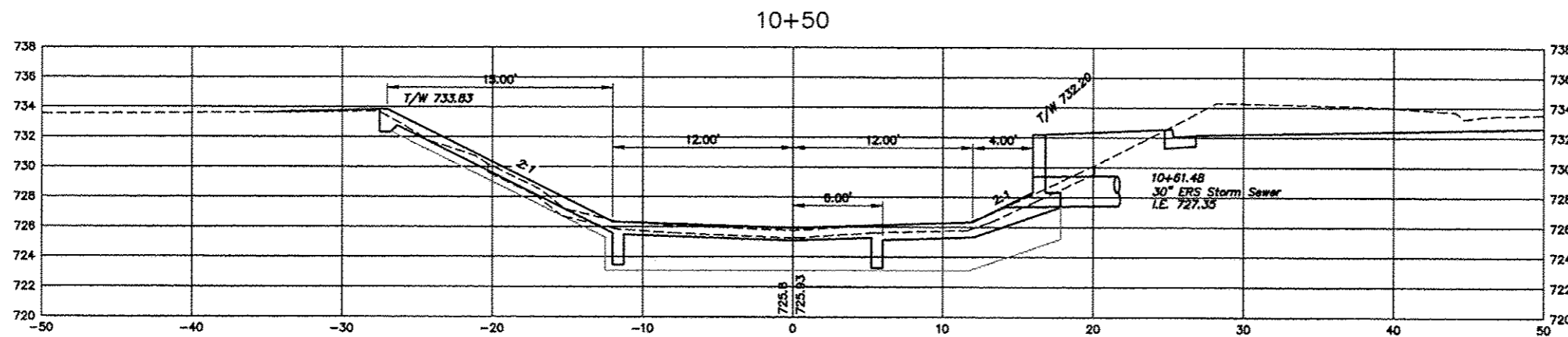
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CROSS SECTIONS  
7+10 TO 7+50

JOB NUMBER  
11-128

SHEET NUMBER  
459 of 588



F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



**CROSS SECTIONS  
HARRISON AVENUE  
STRUCTURAL CHANNEL  
CITY OF ROCKFORD  
WINNEBAGO COUNTY  
STATION 9+50 TO 10+50**

Sheet 58 of 73

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HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

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APPROVED BY: JWH  
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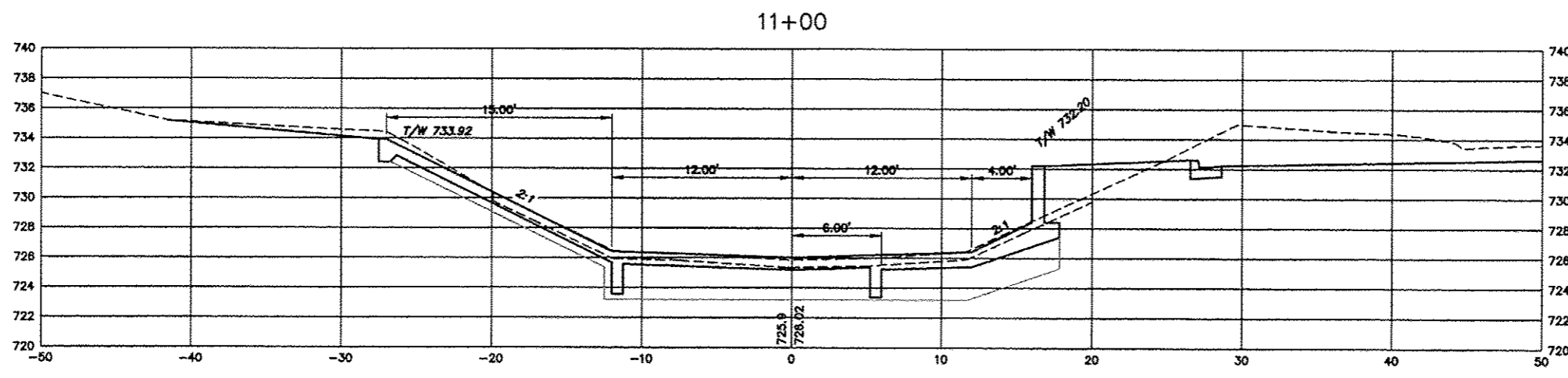
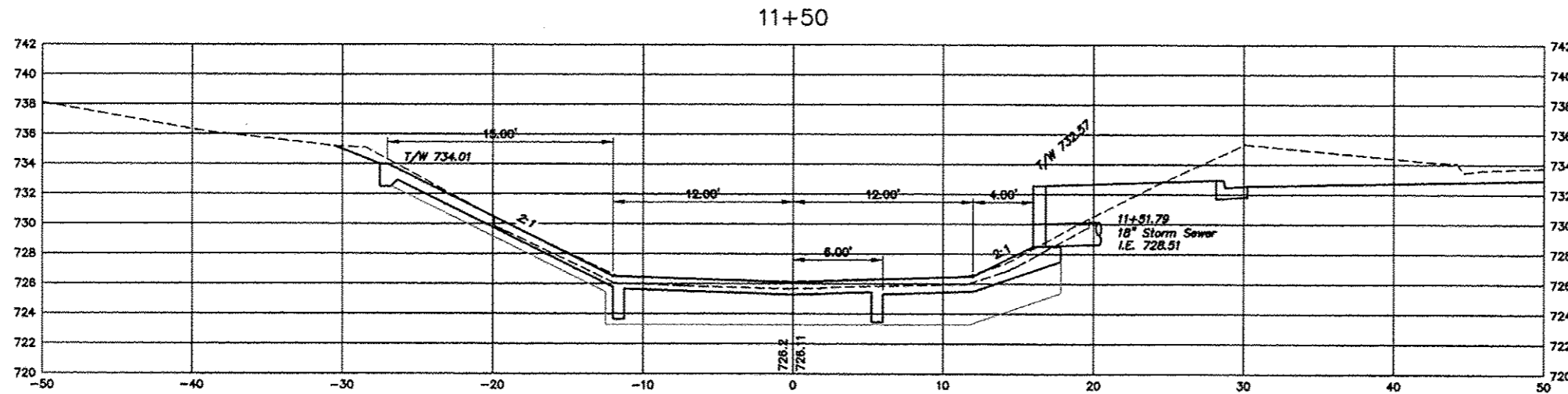
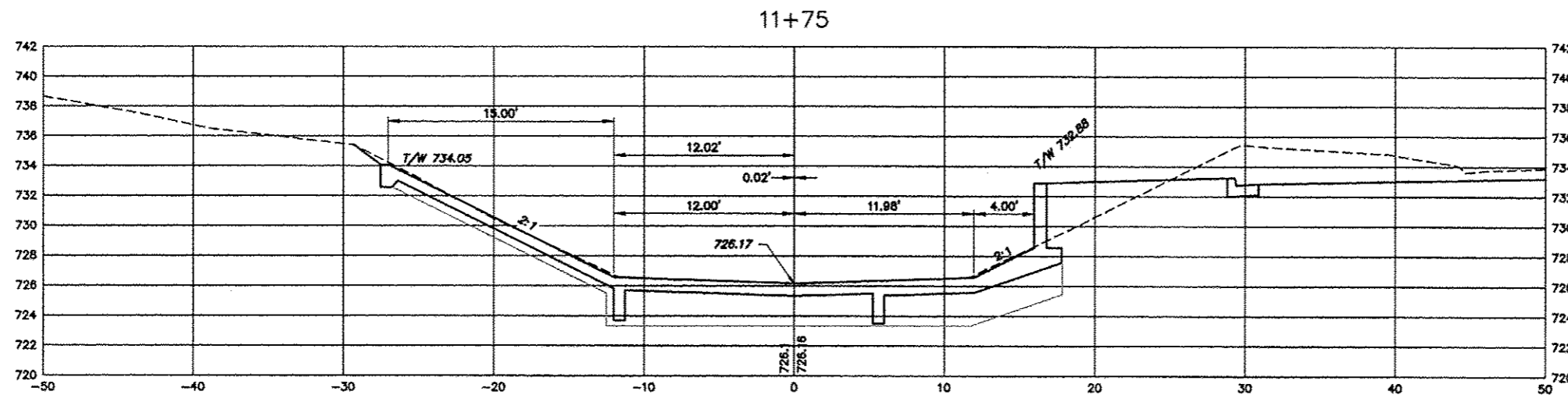
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING  
CROSS SECTIONS  
9+50 TO 10+50

JOB NUMBER  
11-128

SHEET NUMBER  
461 of 588

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



**CROSS SECTIONS  
HARRISON AVENUE  
STRUCTURAL CHANNEL  
CITY OF ROCKFORD  
WINNEBAGO COUNTY  
STATION 11+00 TO 11+75**

Sheet 59 of 73

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RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

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APPROVED BY: CTB  
DATE: 6/12/15  
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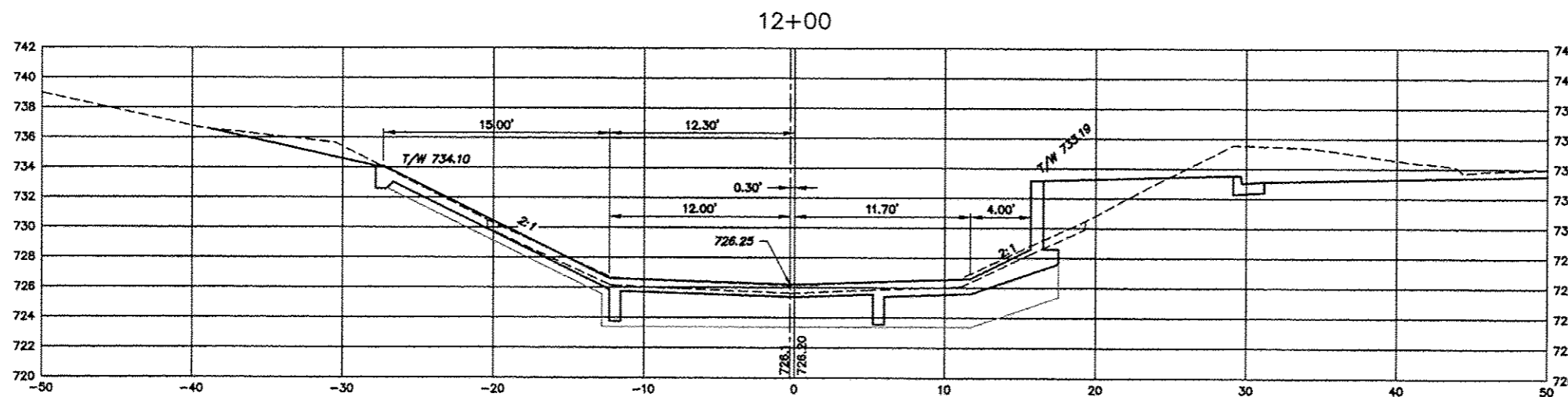
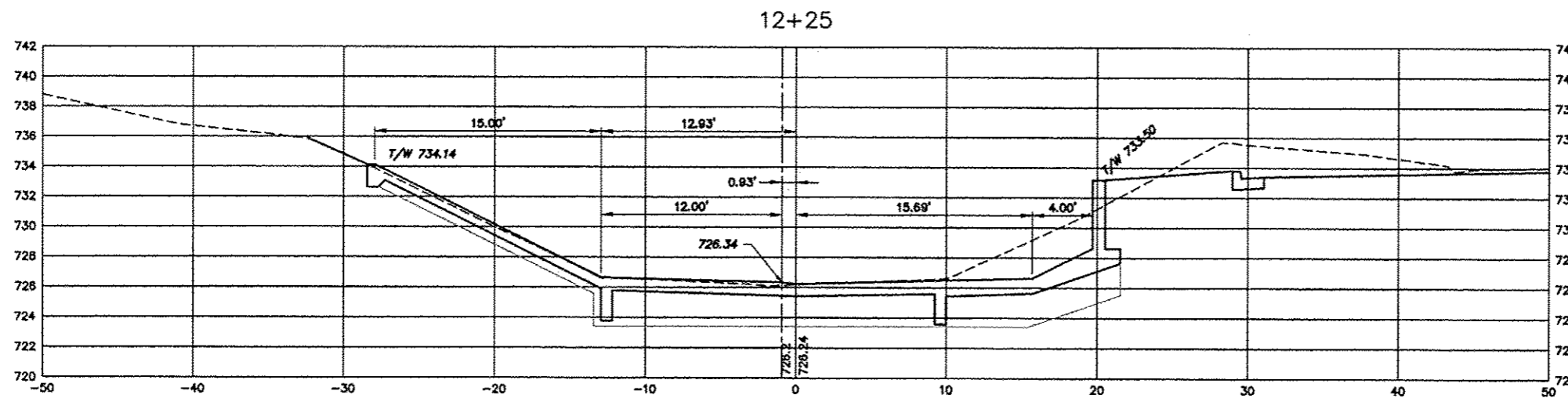
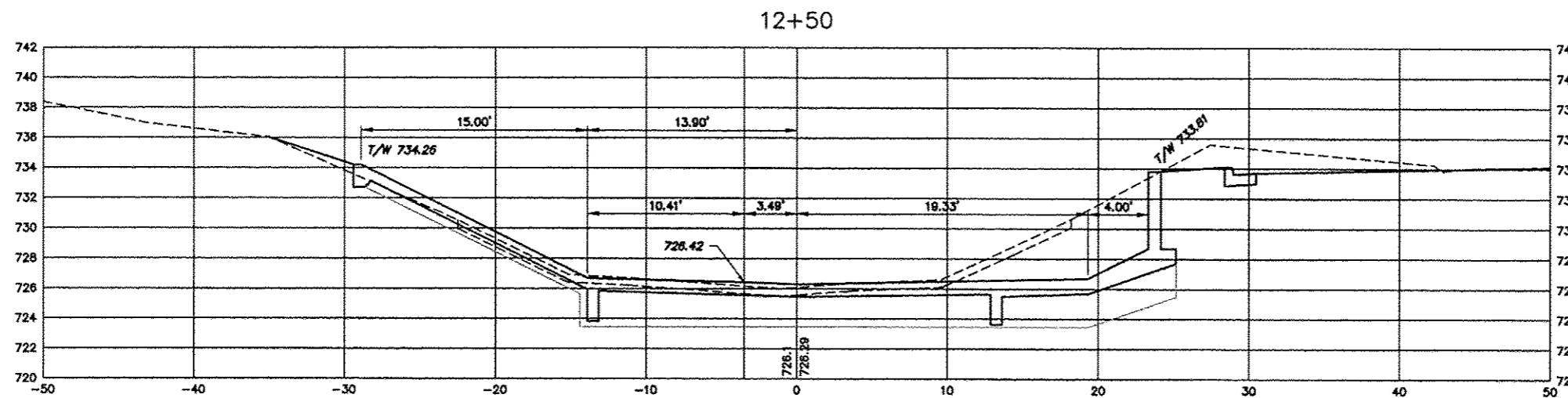
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REV. NO.	DESCRIPTION	DATE

DRAWING  
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11+00 TO 11+75

JOB NUMBER  
11-128  
SHEET NUMBER  
462 of 588



F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



CROSS SECTIONS  
HARRISON AVENUE  
STRUCTURAL CHANNEL  
CITY OF ROCKFORD  
WINNEBAGO COUNTY  
STATION 12+00 TO 12+50

Sheet 60 of 73

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HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

DRAWN BY: MS  
APPROVED BY: JWH  
DATE: 6/12/15  
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REVISIONS		
REV. NO.	DESCRIPTION	DATE

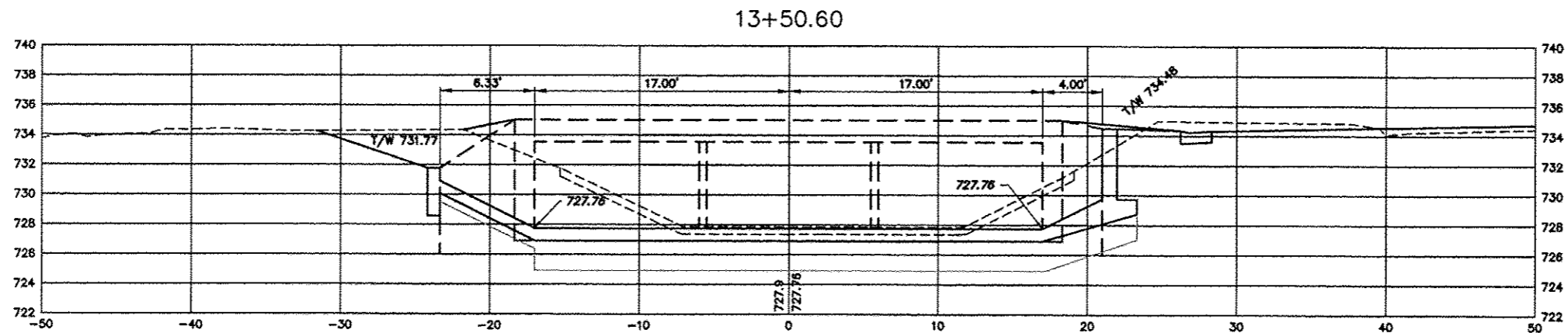
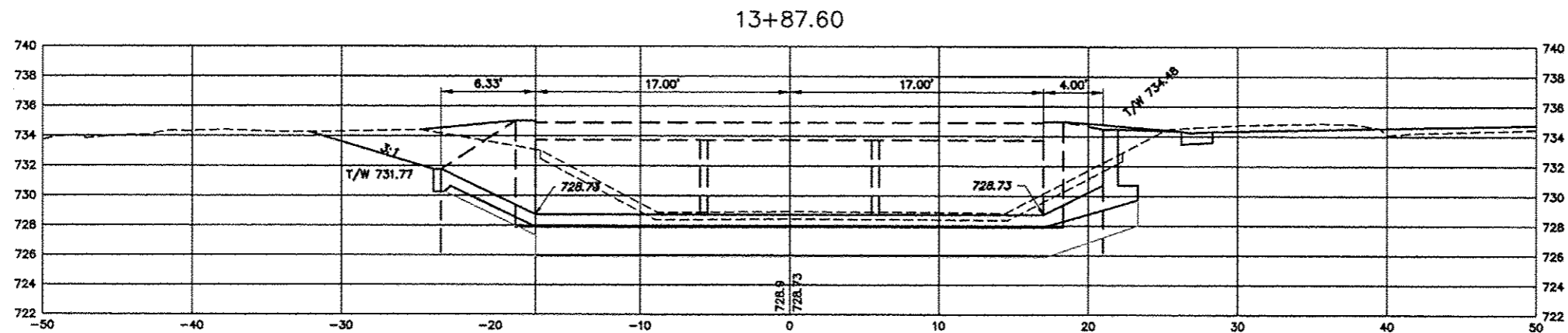
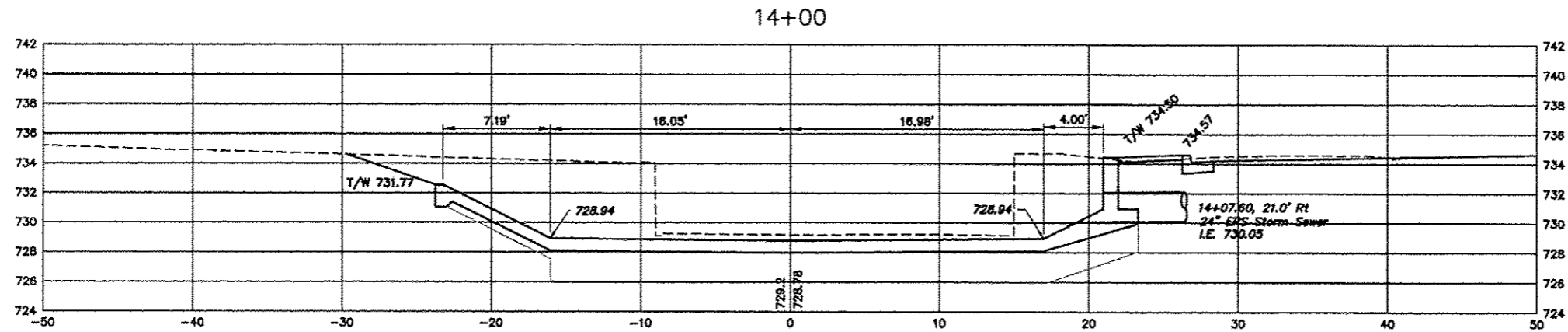
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CROSS SECTIONS  
12+00 TO 12+50

JOB NUMBER  
11-128

SHEET NUMBER  
463 of 588



F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



**CROSS SECTIONS  
HARRISON AVENUE  
STRUCTURAL CHANNEL  
CITY OF ROCKFORD  
WINNEBAGO COUNTY  
STATION 13+51 TO 14+00**

Sheet 62 of 73

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HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

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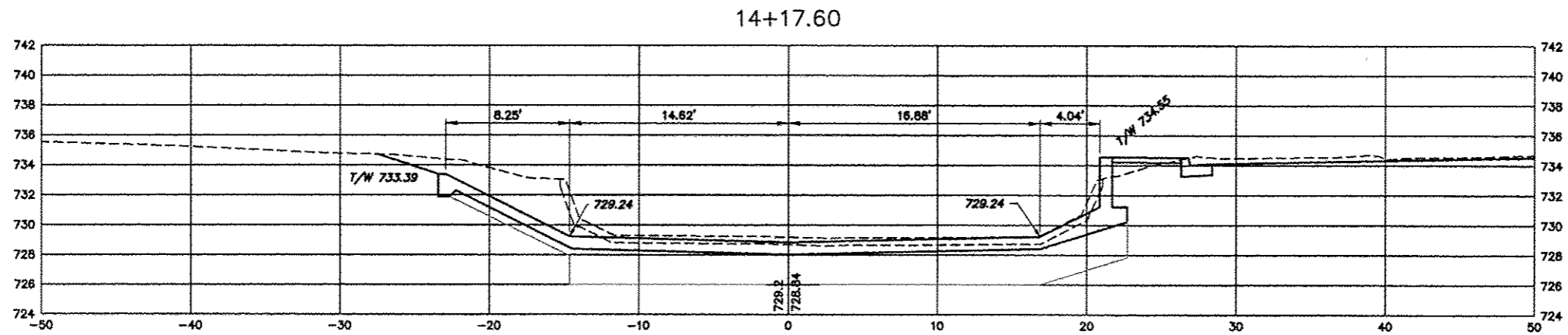
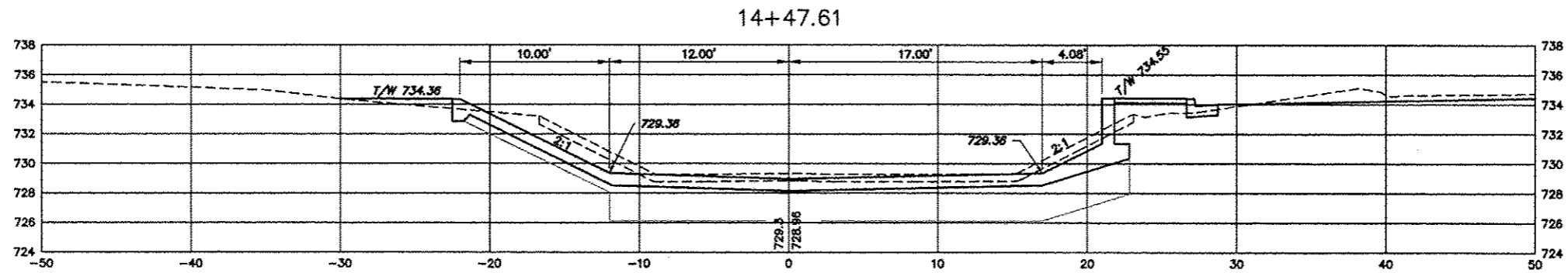
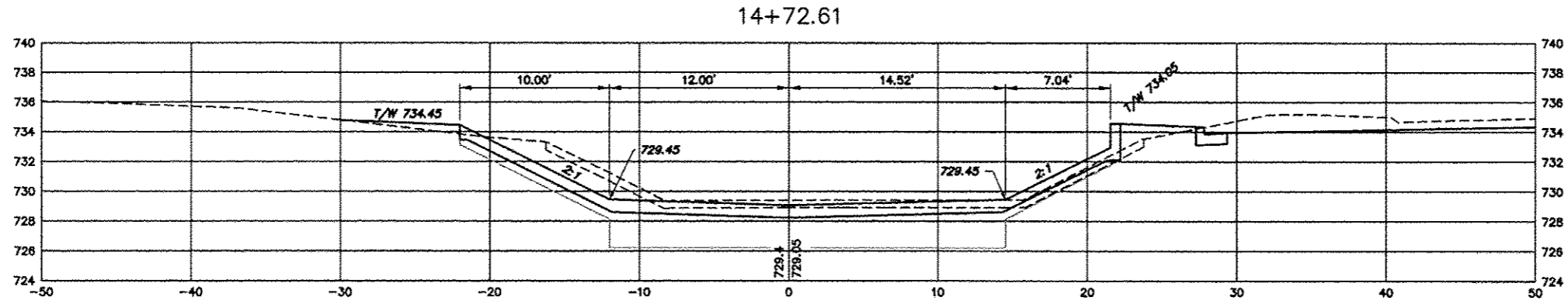
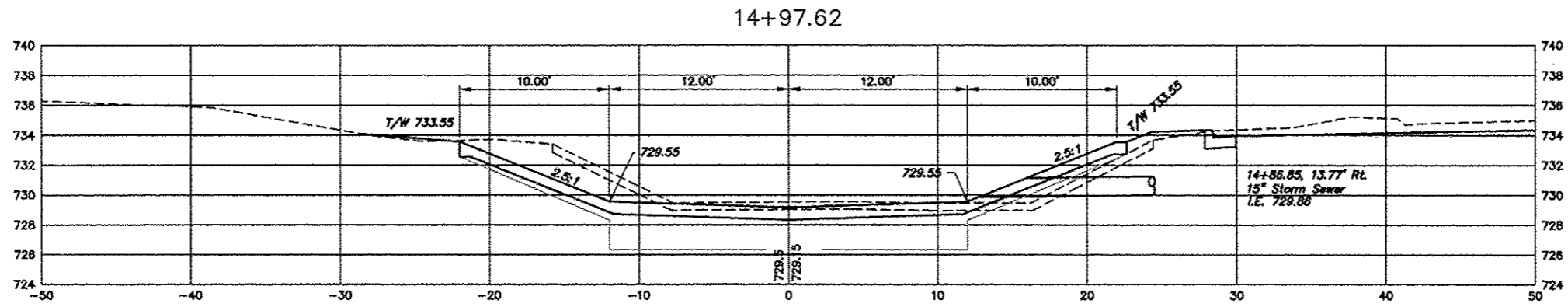
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REV. NO.	DESCRIPTION	DATE

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JOB NUMBER  
11-128

SHEET NUMBER  
465 of 588

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



CROSS SECTIONS  
HARRISON AVENUE  
STRUCTURAL CHANNEL  
CITY OF ROCKFORD  
WINNEBAGO COUNTY  
STATION 14+18 TO 14+98

Sheet 63 of 73

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HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

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DATE 6/12/15  
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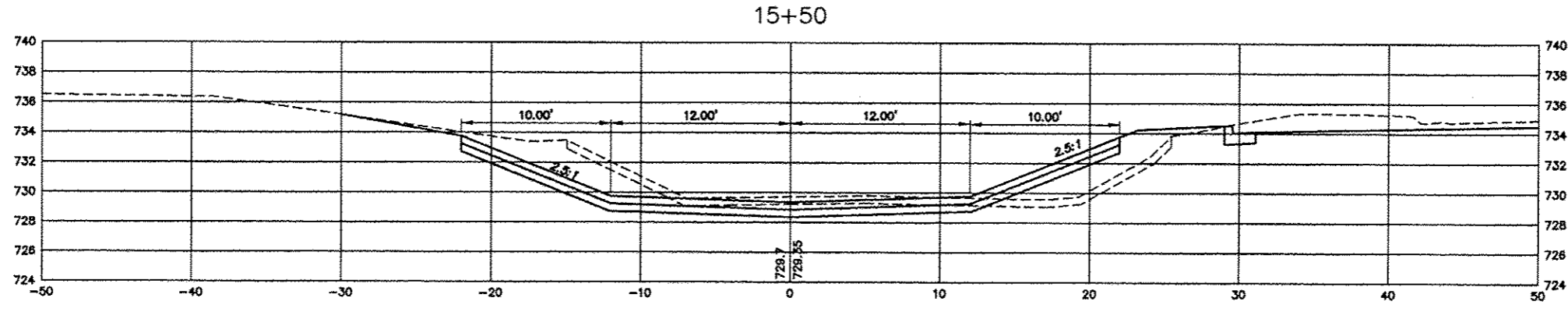
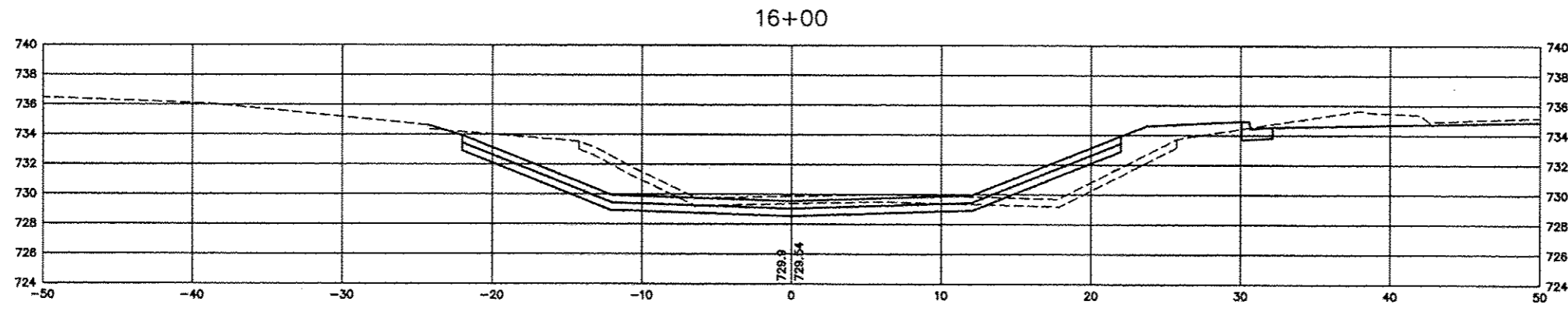
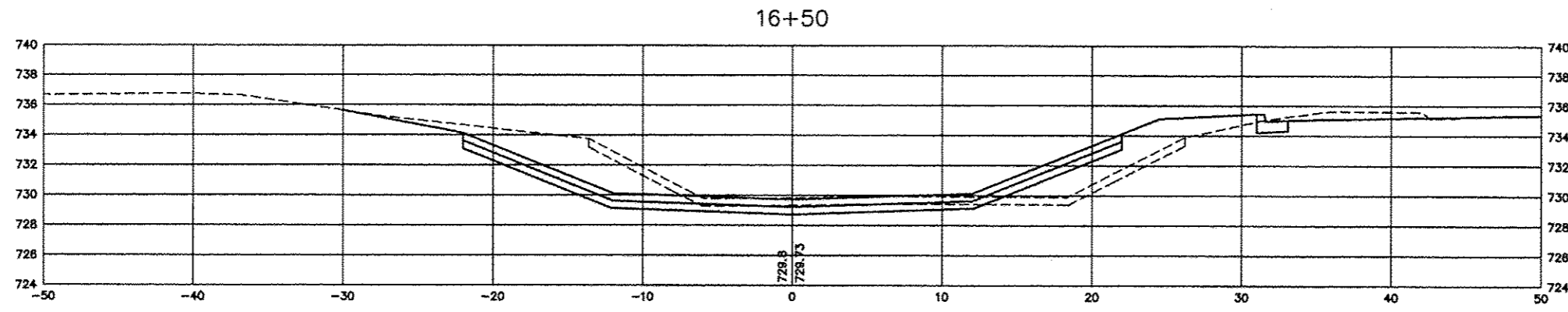
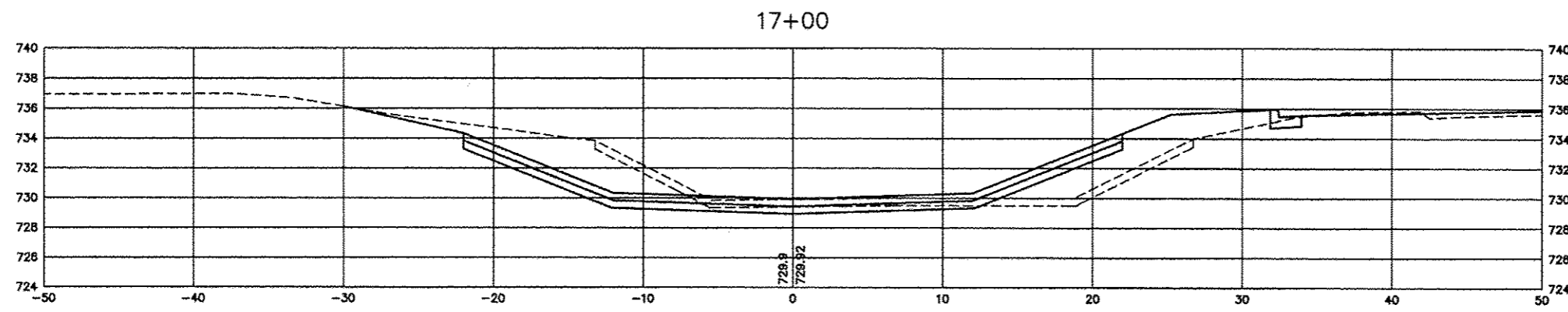
REVISIONS		
REV. NO.	DESCRIPTION	DATE

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14+18 TO 14+98

JOB NUMBER  
11-128

SHEET NUMBER  
466 of 588

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612

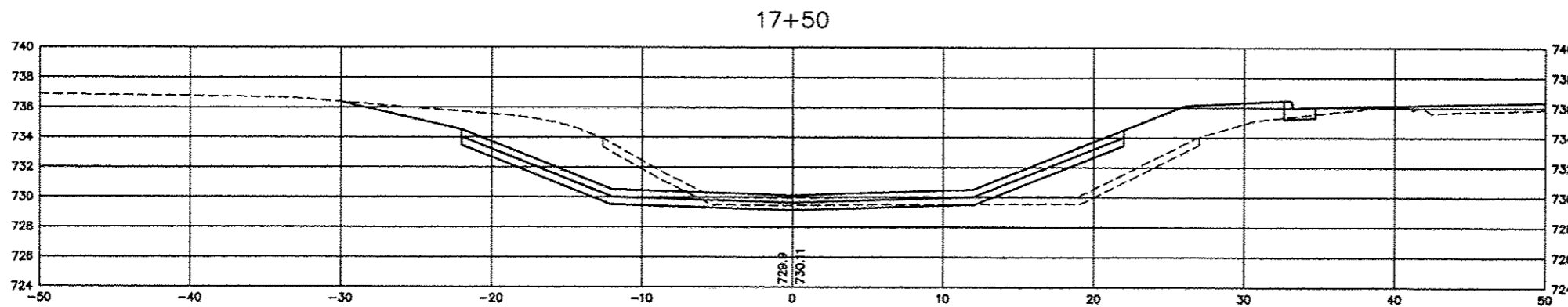
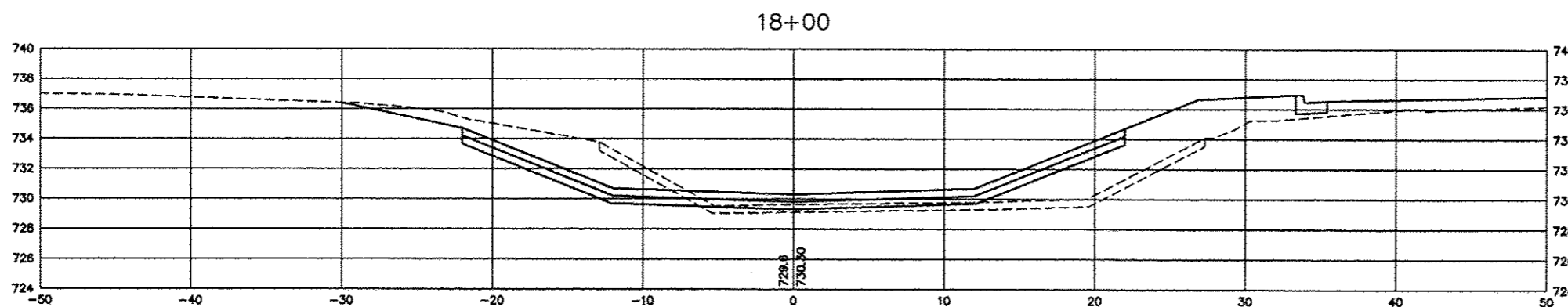
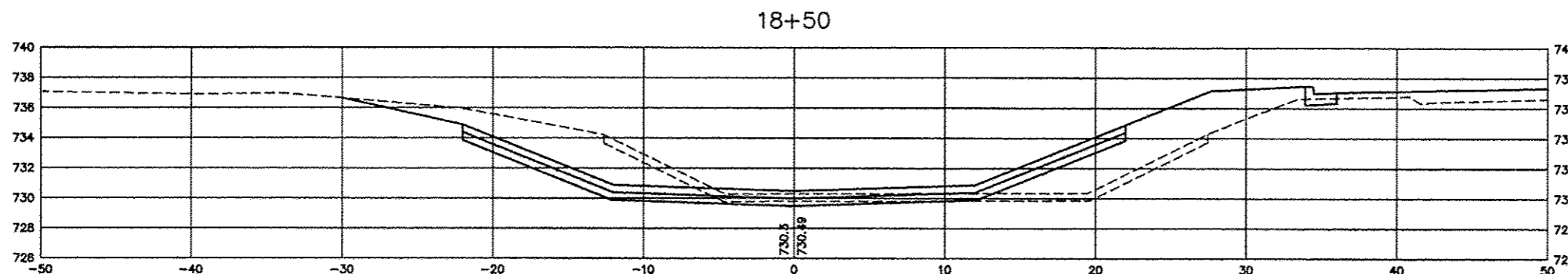
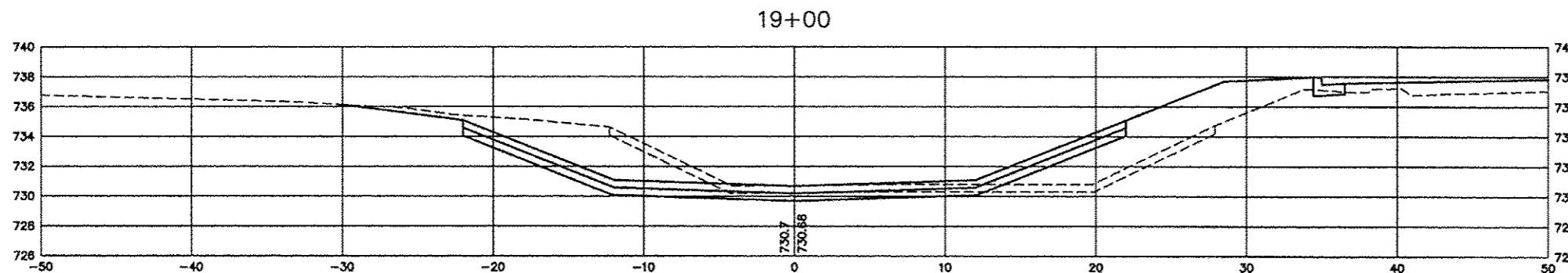


**CROSS SECTIONS  
HARRISON AVENUE  
PAVED DITCH  
CITY OF ROCKFORD  
WINNEBAGO COUNTY**

Sheet 64 of 73

REVISIONS		
REV. NO.	DESCRIPTION	DATE

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



**CROSS SECTIONS  
HARRISON AVENUE  
PAVED DITCH  
CITY OF ROCKFORD  
WINNEBAGO COUNTY**

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PROJECT AND LOCATION  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

DRAWN BY: MS  
APPROVED BY: JWH  
DATE: 6/12/15  
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REVISIONS		
REV. NO.	DESCRIPTION	DATE

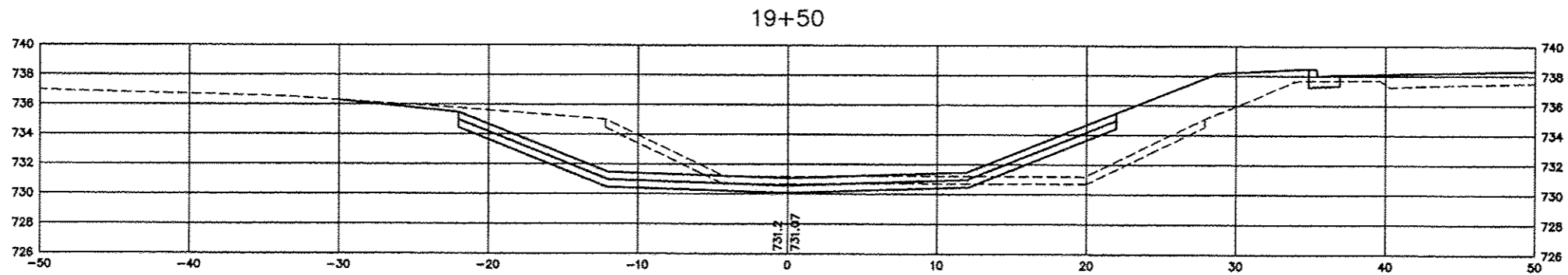
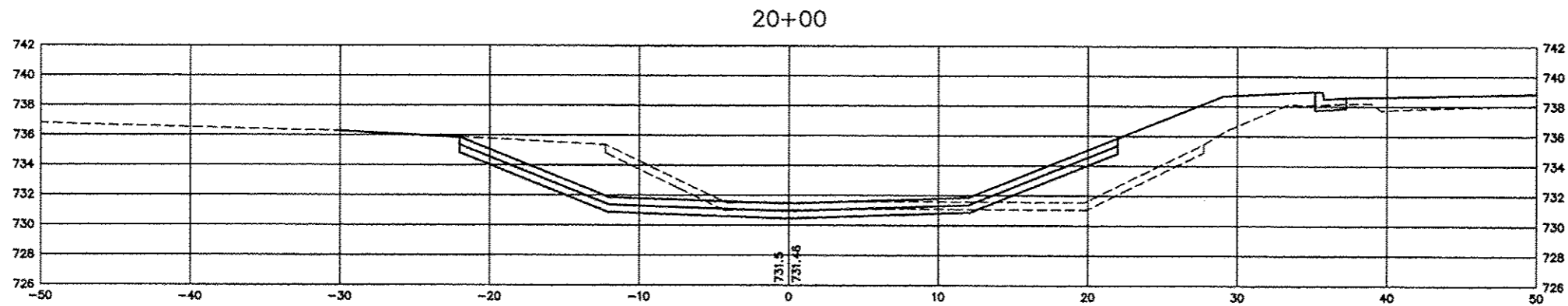
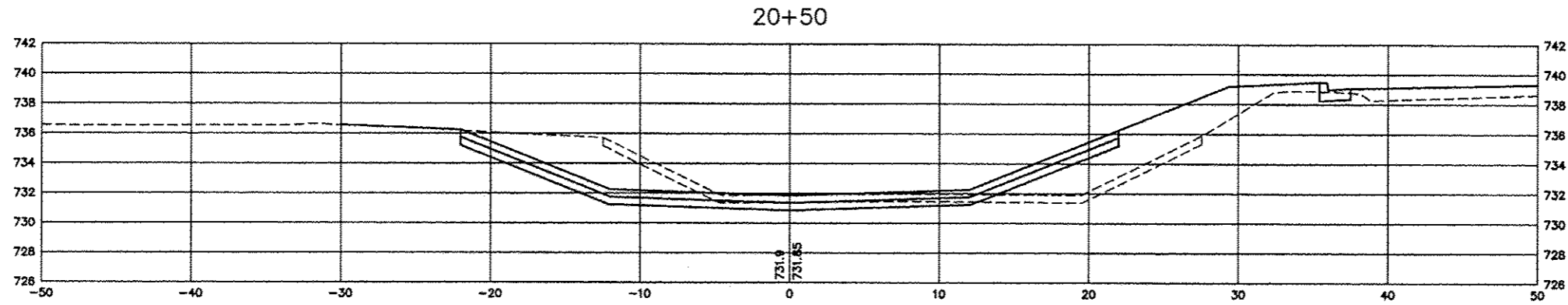
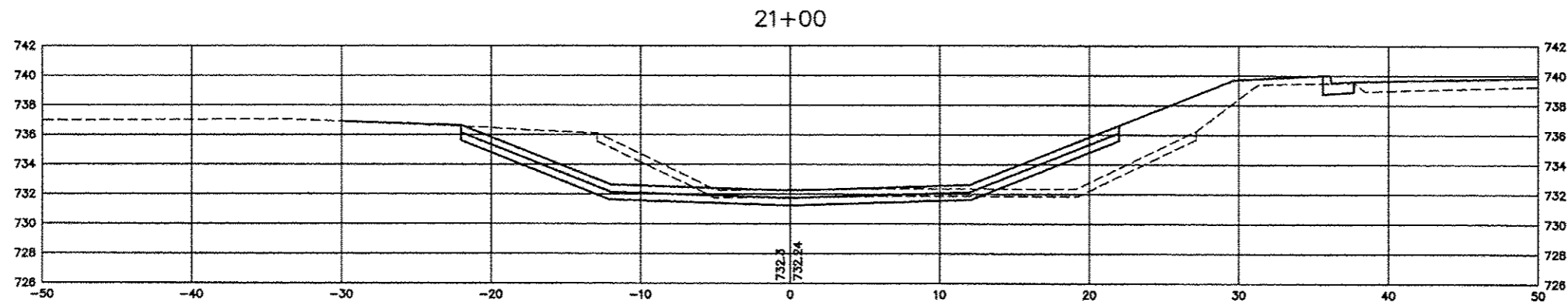
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17+50 TO 19+00

JOB NUMBER  
11-128

SHEET NUMBER  
468 of 588



F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



**CROSS SECTIONS  
HARRISON AVENUE  
PAVED DITCH  
CITY OF ROCKFORD  
WINNEBAGO COUNTY**

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PROJECT AND LOCATION  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

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APPROVED BY: JWH  
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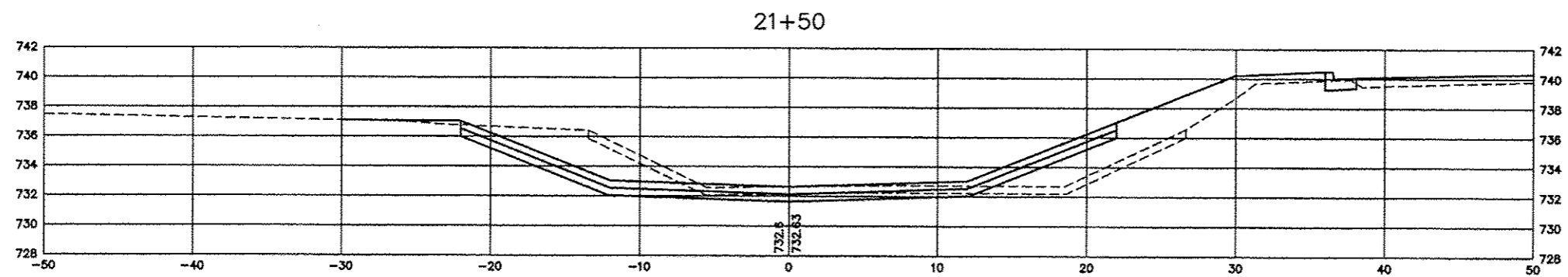
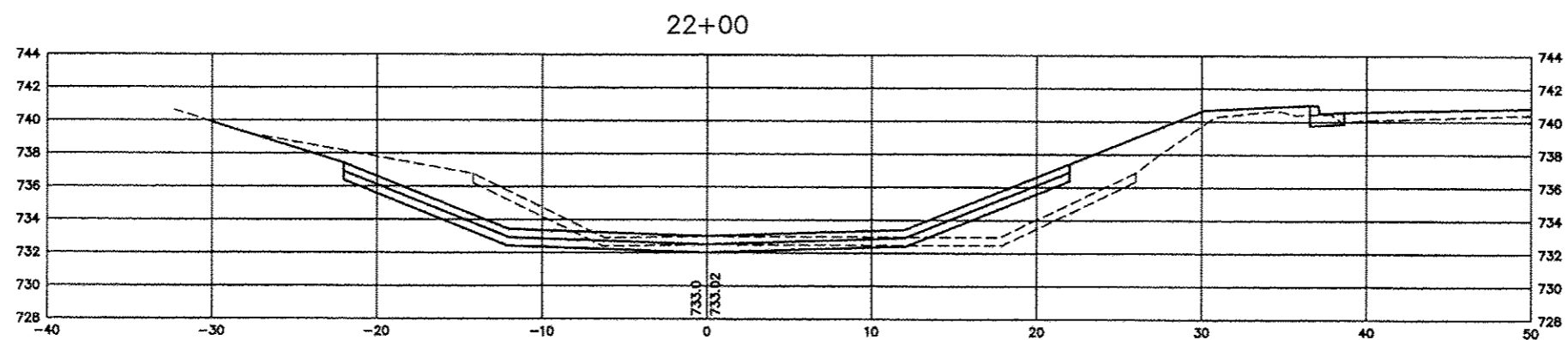
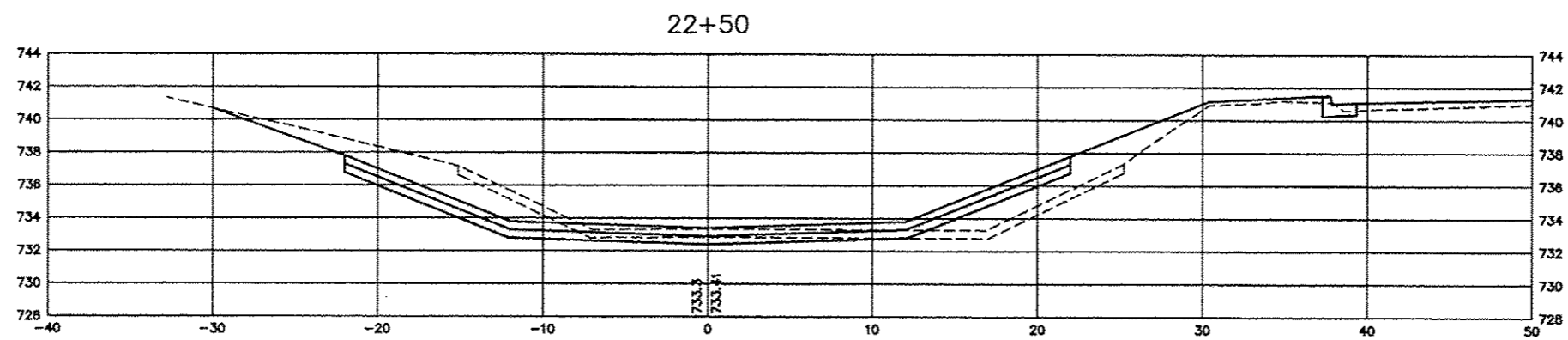
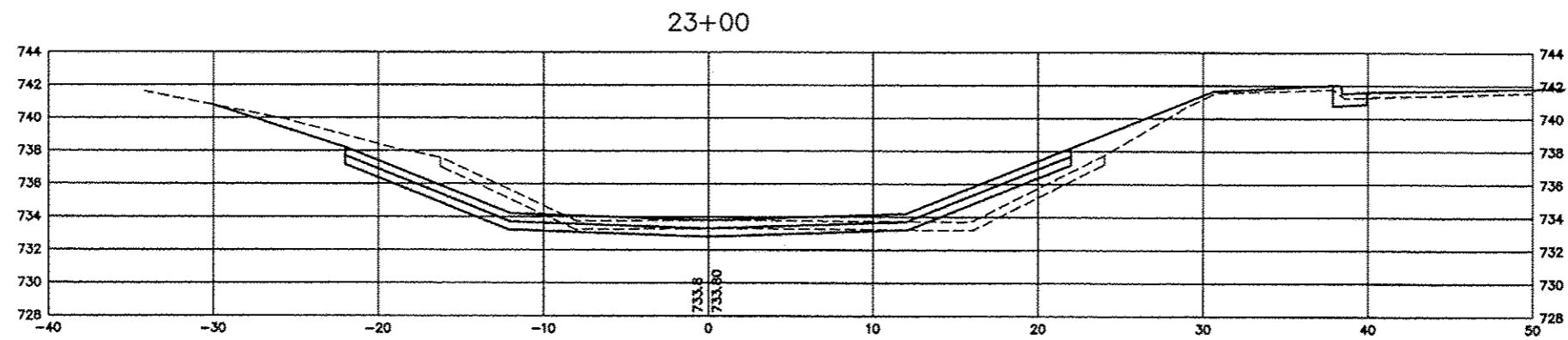
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JOB NUMBER  
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SHEET NUMBER  
469 of 588

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 05612



**CROSS SECTIONS  
HARRISON AVENUE  
PAVED DITCH  
CITY OF ROCKFORD  
WINNEBAGO COUNTY**

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HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

DRAWN BY: MS  
APPROVED BY: JWH  
DATE: 6/12/15  
SCALE: 1"=5' hor.  
1"=5' ver.

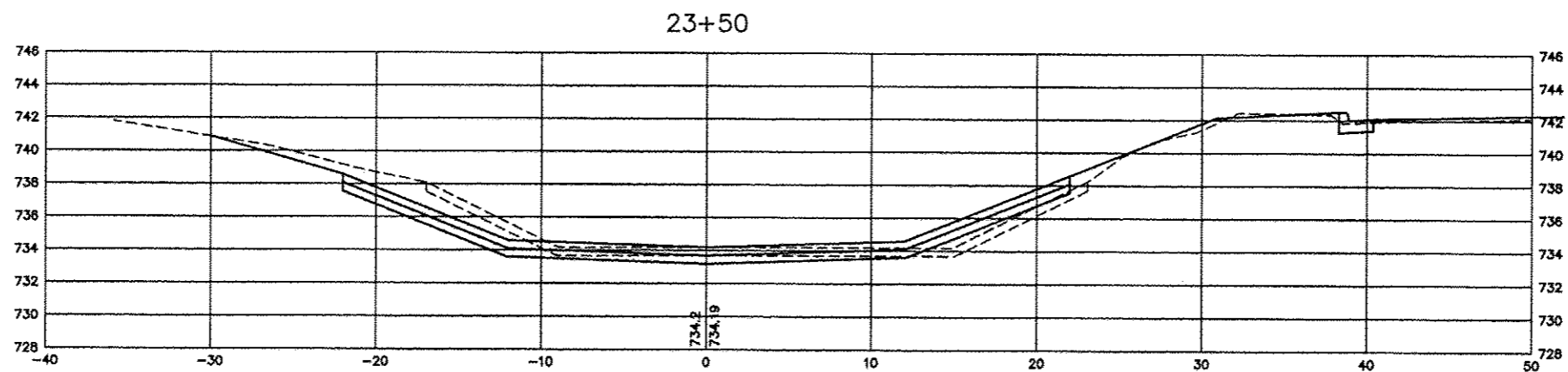
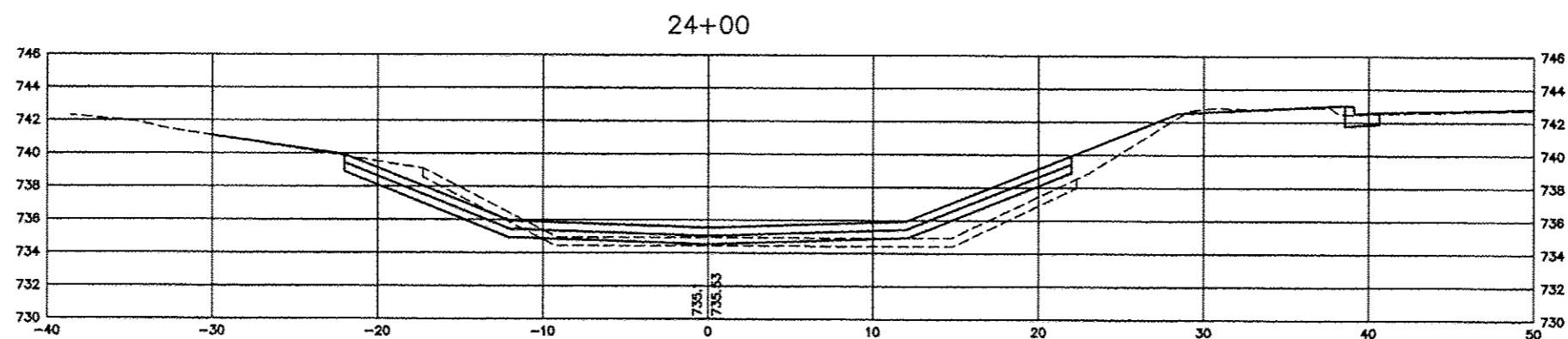
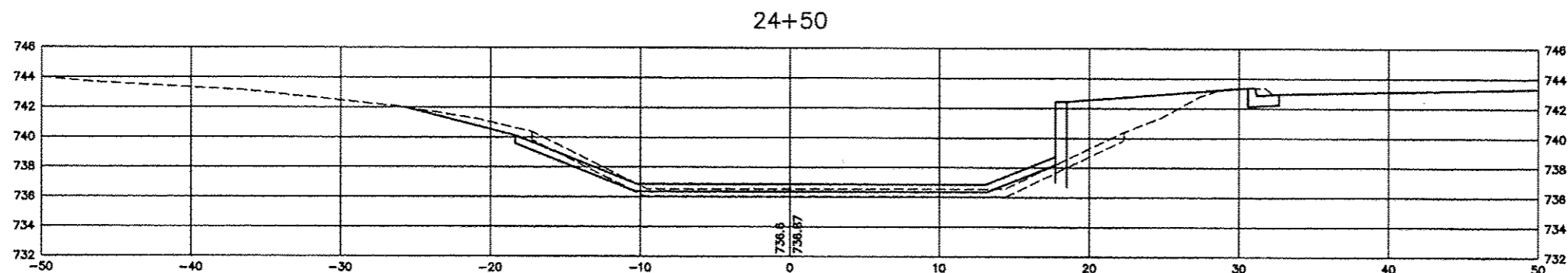
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING  
CROSS SECTIONS  
21+50 TO 23+00

JOB NUMBER  
11-128

SHEET NUMBER  
470 of 588

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



**CROSS SECTIONS  
HARRISON AVENUE  
PAVED DITCH  
CITY OF ROCKFORD  
WINNEBAGO COUNTY**

Sheet 68 of 73

**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003523

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PROJECT AND LOCATION:  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

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REVISIONS		
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DRAWING:  
CROSS SECTIONS  
23+50 TO 24+50

JOB NUMBER:  
11-128

SHEET NUMBER:  
471 of 588

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612

Station	Distance Between Stations (ft.)	Cut End Area (s.f.)	Cut Average End Area (s.f.)	Cut Volume (c.y.)	Cumulative Cut Volume (c.y.)	Fill End Area (s.f.)	Fill Average End Area (s.f.)	Fill Volume (c.y.)	Cumulative Fill Volume (c.y.)	Cumulative C&F Volume (c.y.)
04+87		99				0				
05+00	13	195	147	71	71	0	0	0	0	71
05+32	32	300	248	293	364	0	0	0	0	364
CULVERT										
06+51		181			364	59		0		364
06+90	39	134	143	208	571	24	42	60	60	511
07+15	25	101	118	109	680	20	22	20	81	599
07+50	35	77	89	115	796	24	22	29	109	686
08+00	50	87	82	152	947	20	22	41	150	797
08+50	50	87	87	161	1109	19	20	36	186	922
09+00	50	90	89	164	1272	19	19	35	221	1051
09+50	50	81	86	158	1431	23	21	39	260	1171
10+00	50	80	81	149	1580	15	19	35	295	1284
10+50	50	87	84	155	1735	17	16	30	325	1409
11+00	50	100	94	173	1908	15	16	30	355	1553
11+50	50	99	100	184	2092	16	16	29	383	1709
12+00	50	102	101	186	2278	19	18	32	416	1862
12+50	50	158	130	241	2519	6	13	23	439	2080
12+82	32	148	153	181	2700	4	5	6	445	2255
13+04	22	175	162	132	2832	0	2	2	447	2385
13+27	23	198	187	159	2991	0	0	0	447	2544
13+51	24	197	198	173	3163	0	0	0	447	2717
CULVERT										
13+87		171			3163	0			447	2717
14+18	31	142	157	180	3343	3	2	2	448	2895
14+48	30	123	133	147	3490	9	6	7	455	3035
14+73	25	97	110	102	3592	7	8	7	462	3130
14+98	25	94	96	88	3680	10	9	8	470	3210
15+50	52	47	71	136	3816	23	17	32	502	3314
16+00	50	49	48	89	3905	24	24	44	545	3360
16+50	50	60	50	92	3997	29	27	49	595	3402
17+00	50	49	50	92	4088	36	33	60	655	3434
17+50	50	56	53	97	4186	42	39	72	727	3459
18+00	50	41	49	90	4276	57	50	92	819	3457
18+50	50	52	47	86	4362	49	53	98	917	3445
19+00	50	55	54	99	4461	48	49	90	1007	3454
19+50	50	55	55	102	4562	50	49	91	1097	3465
20+00	50	51	53	98	4661	53	52	95	1193	3468
20+50	50	48	50	92	4752	45	49	91	1283	3469
21+00	50	47	48	86	4840	41	43	80	1363	3477
21+50	50	42	45	82	4923	40	41	75	1438	3485
22+00	50	43	43	79	5001	35	38	69	1508	3494
22+50	50	41	42	78	5079	28	32	58	1566	3513
23+00	50	34	38	69	5149	20	24	44	1610	3538
23+50	50	31	33	60	5209	11	16	29	1639	3570
24+00	50	15	23	43	5251	25	18	33	1672	3579
24+50	50	15	15	28	5279	25	25	46	1719	3560

**CROSS SECTIONS  
HARRISON AVENUE  
PAVED DITCH  
CITY OF ROCKFORD  
WINNEBAGO COUNTY**

Sheet 69 of 73

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PROJECT AND LOCATION  
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RECONSTRUCTION 2012  
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ROCKFORD, ILLINOIS

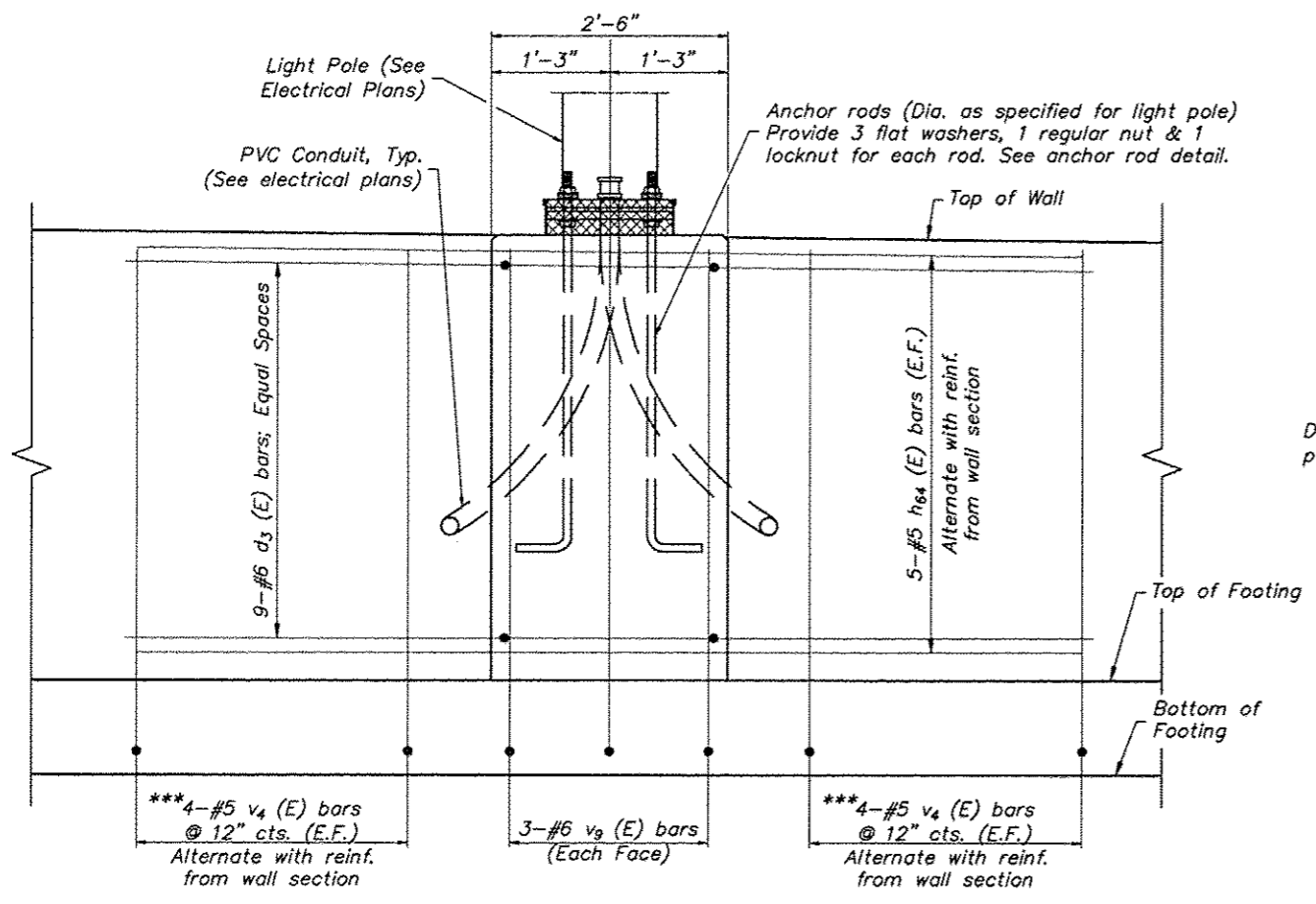
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APPROVED BY: JWH  
DATE: 6/12/15  
SCALE: 1"=5' hor.  
1"=5' ver.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING  
CHANNEL  
EXCAVATION

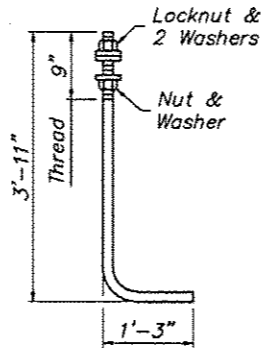
JOB NUMBER  
11-128

SHEET NUMBER  
472 of 588

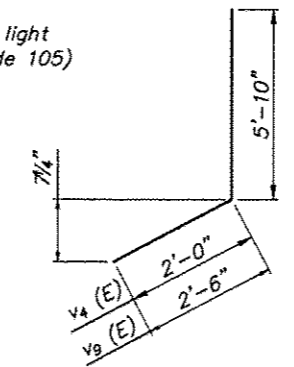


**TYPICAL LIGHT POLE BASE ELEVATION**  
(Looking at Back Face of Wall)

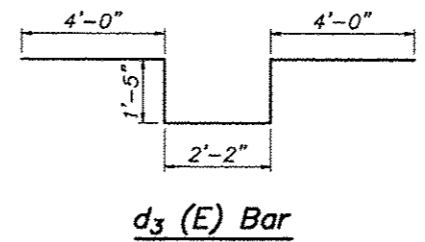
Note:  
Wall reinforcement not shown for clarity. See channel section sheets for wall reinforcement details and light pole base dimensions.



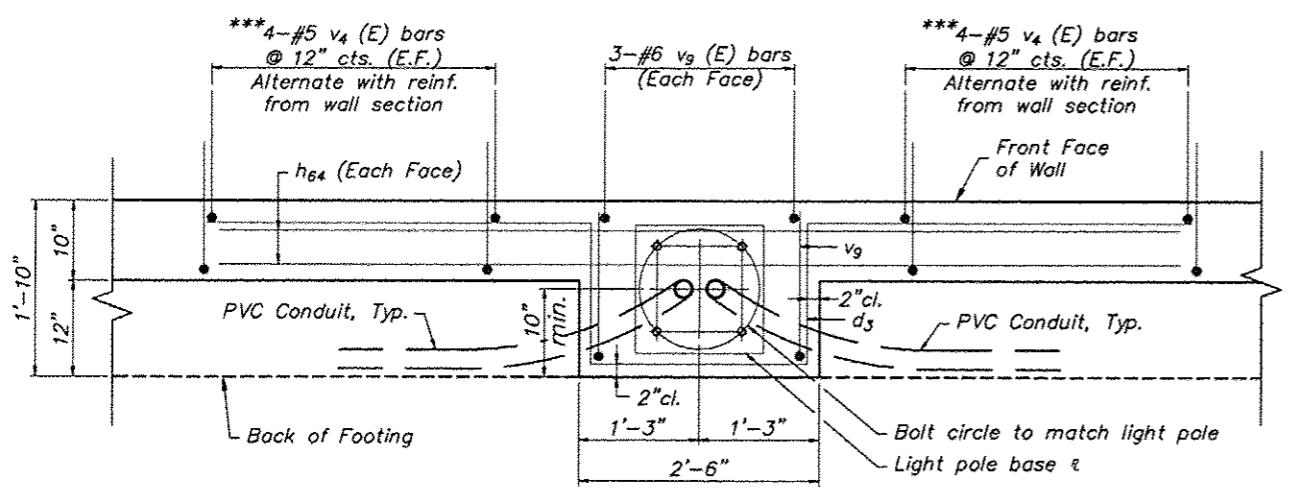
**ANCHOR ROD**  
Diameter as specified for light poles. (ASTM F 1554 Grade 105)



**V4 & V9 (E) Bars**  
\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

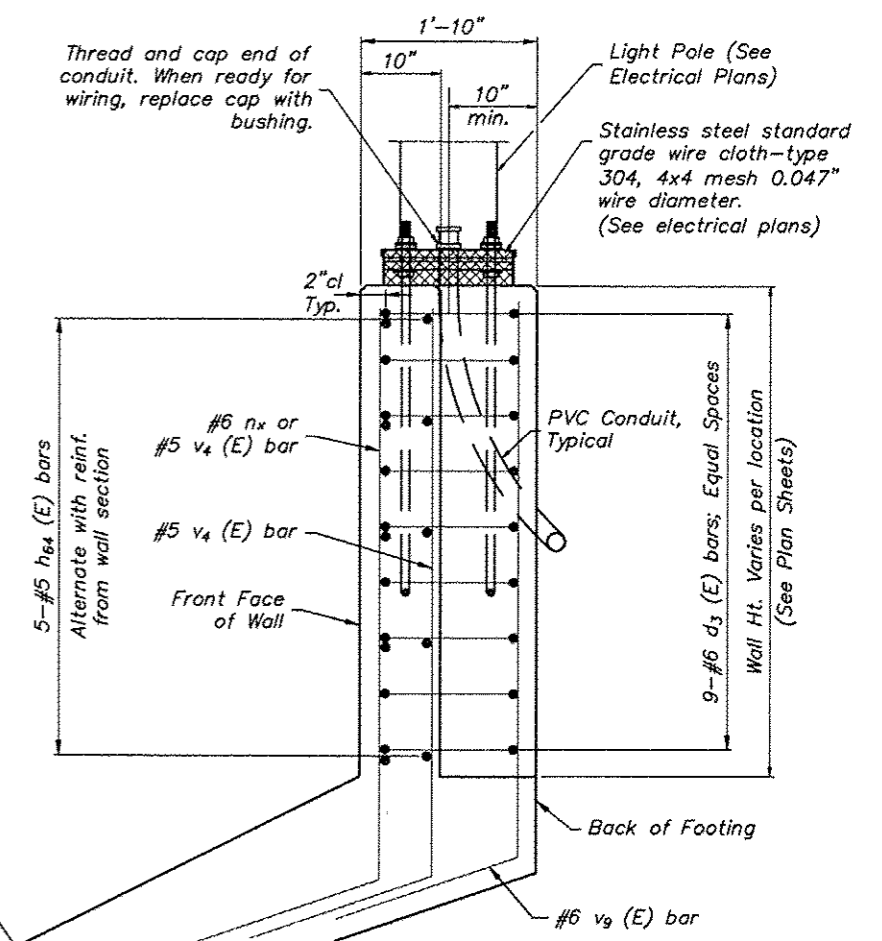


**d3 (E) Bar**



**TYPICAL LIGHT POLE BASE PLAN**

\*\*\* Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.



**TYPICAL LIGHT POLE BASE SECTION**

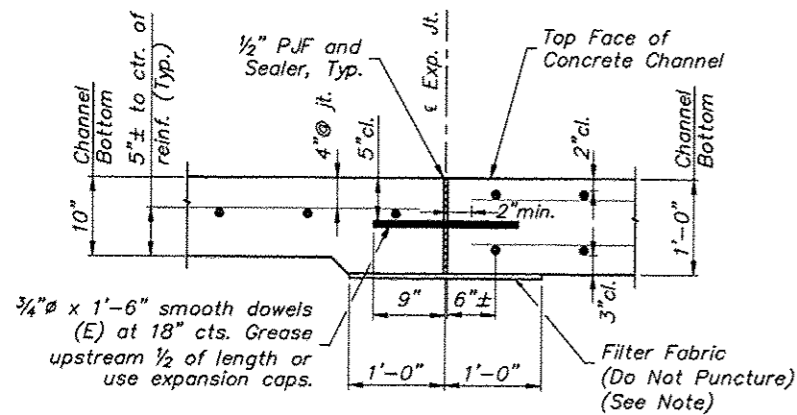
**BILL OF MATERIAL**  
(for one (1) Light Pole Base)

Bar	No.	Size	Length	Shape
h64 (E)	10	#5	10'-4"	—
d3 (E)	9	#6	13'-0"	—
v9 (E)	6	#6	7'-10"	J
v4 (E)	16	#5	7'-10"	J
Concrete Structures			Cu. Yd.	0.5
Reinforcement Bars, Epoxy Coated			Pound	485

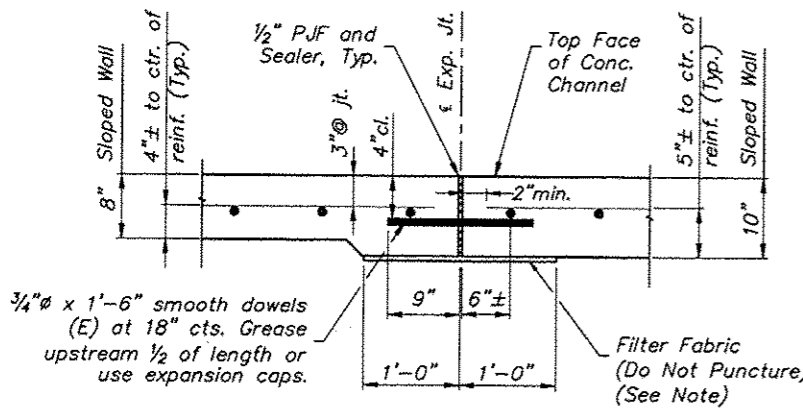
Light Pole Bases Located at Sta. 8+20.0 and Sta. 12+69.3  
See Channel Layout Plan

**CHANNEL DETAILS**  
**STRUCTURAL CONCRETE CHANNEL DETAILS**  
**SOUTHEAST DRAINAGE WAY**  
**ALONG HARRISON AVENUE**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

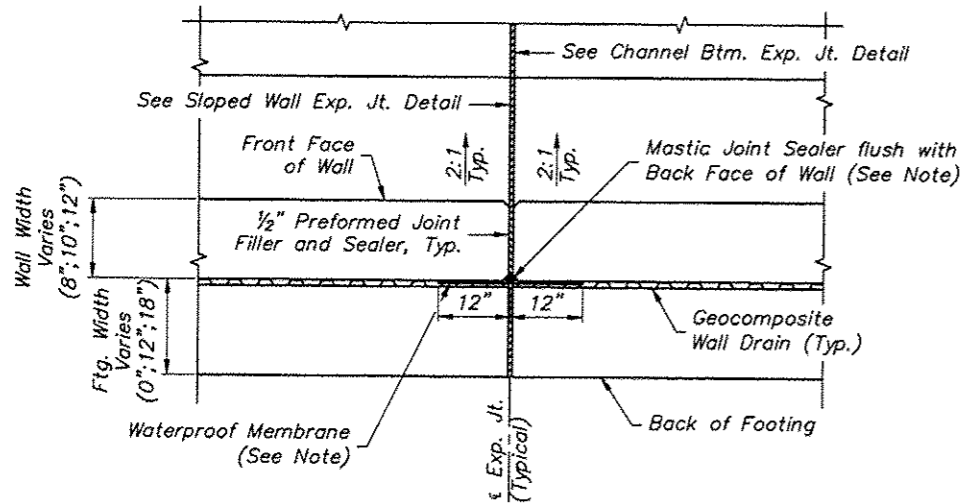
REVISIONS		
REV. NO.	DESCRIPTION	DATE



**Channel Bottom Exp. Jt.**



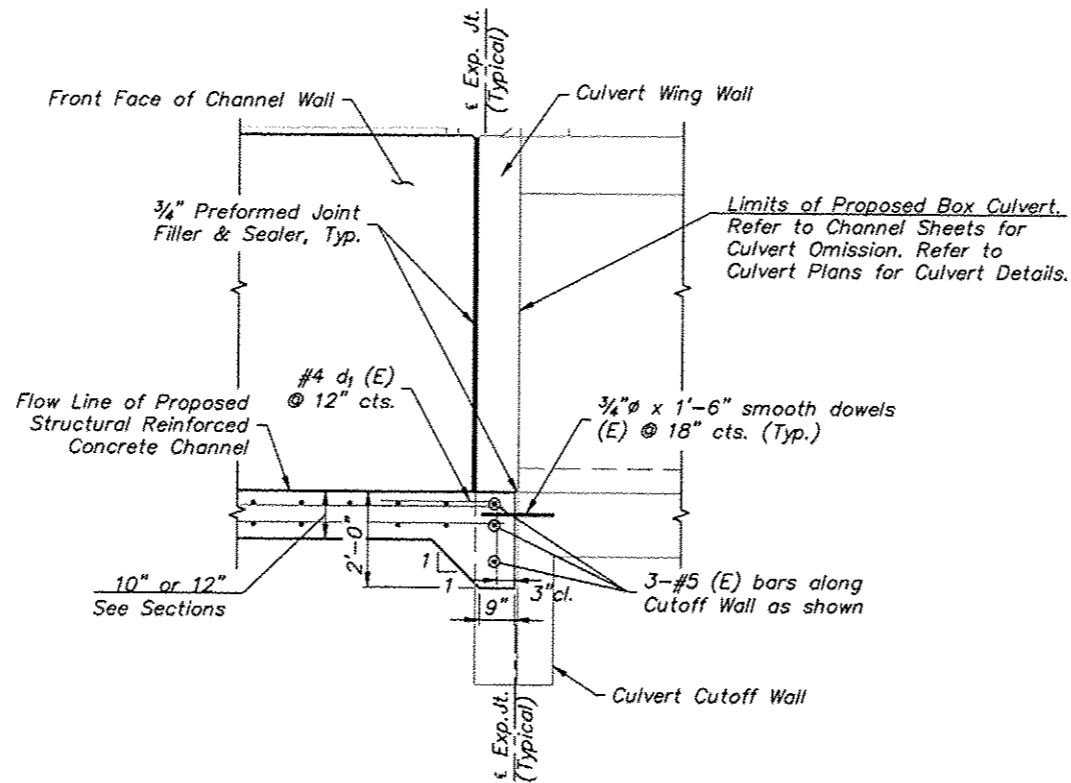
**Sloped Wall Exp. Jt.**



**Vertical Wall Exp. Jt. - Plan View**

**TYPICAL EXPANSION JOINTS**

Typical details for Transverse Expansion Joints between panel sections. Dimensions at right L's to Joint. Eliminate 1:1 transition when depth on either side of joint match.



**TYPICAL CULVERT/CHANNEL EXP. JOINT**

Typical detail for Expansion Joint at Box Culvert Cutoff Wall. Dimensions at right L's to Joint.

**Expansion Joint Notes:**

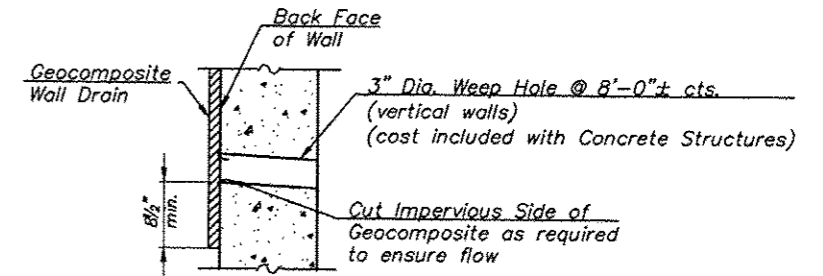
No separate payment will be made for Expansion Joints, Construction Joints, or Water Seals, all costs in connection therewith shall be included in the Contract Unit Price for Concrete Structures or associated item of work.

Dowel Bar spacing is measured along the slope.

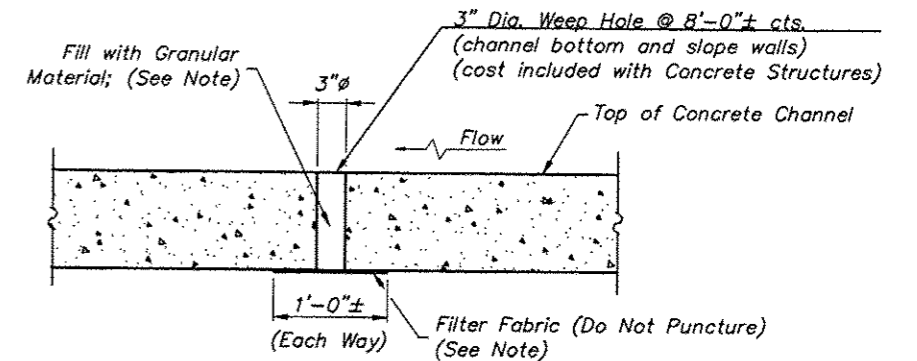
Dowel bars are required only in the base slab and in sloped walls, not in the vertical walls. Dowel bar count shown for information only. Dowel Bars shall be in accordance with Art. 1006.11(b) and drilled in accordance with the applicable portions of Section 584 of the IDOT Standard Specification, or as approved by the Engineer. Grout will only be required if necessary to maintain a perpendicular plane alignment. Dowel Bars, Drilling, (grout if necessary) and Installation of dowel bars will not be paid for separately but shall be included with the cost of Concrete Structures.

A 2-foot min. width strip of Filter Fabric shall be centered on each transverse expansion joint prior to concrete placement. Filter Fabric shall be held in position along the fabric edges without puncturing the center 18-inches. Filter Fabric shall be according to the requirements of the applicable portions of Section 282 and Section 1080 of the IDOT Standard Specifications with either the 6 or 8 oz/sq yd material allowed. Overlap free edges by 12 in. Cost for Filter Fabric shall be included with Concrete Structures.

A Butyl-Rubber Membrane shall be installed according to the IDOT Standard Specifications onto the back of the vertical walls and extend a minimum of 12 inches on both sides of the expansion joints from the base of the wall to 2 inches from the top of the wall. Waterproof Membrane material shall meet the requirements of Art. 1060.09 of the IDOT Standard Specifications. Prior to placing the Waterproof Membrane, Mastic Joint Sealer shall be placed in the joint and filled flush with the face of the back wall. Joint shall be clean of all debris before placing mastic. Excess mastic should be troweled smooth to provide a uniform surface for the Waterproof Membrane. Mastic Joint Sealer material shall meet the requirements of Section 1055 of the IDOT Standard Specifications. Waterproof Membrane and Mastic Joint Sealer will not be paid for separately but shall be included with the cost of Concrete Structures.



**TYPICAL WALL WEEP HOLE**



**TYPICAL CHANNEL WEEP HOLE**

**Weep Hole Notes:**

Place Weep Holes at 8'-0"± longitudinal spacing and not more than 4'-0" from transverse joint at ends of panel. See individual channel sections for Weep Hole layout in the transverse direction.

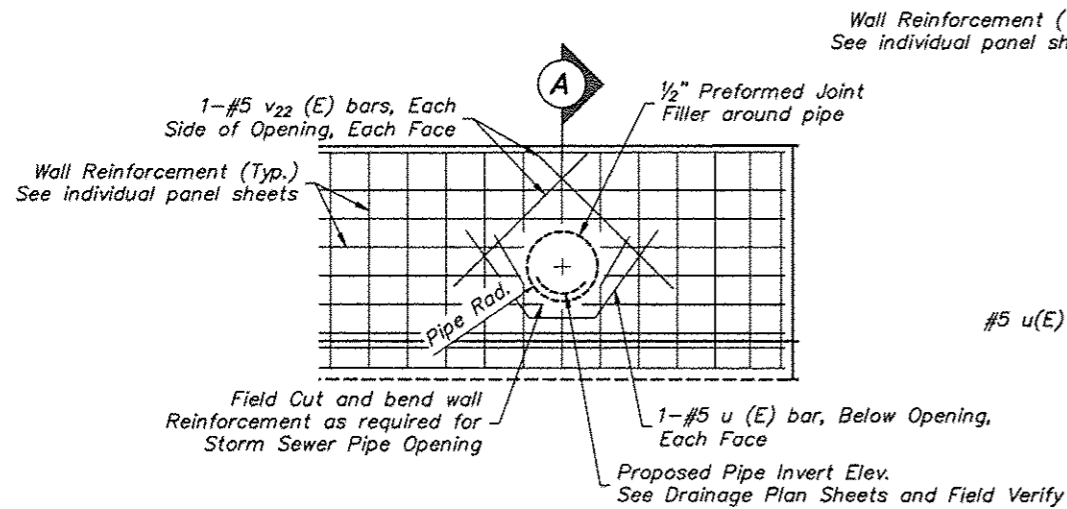
Adjust spacing of Weep Holes as necessary to miss reinforcing.

Filter Fabric shall be according to the requirements of the applicable portions of Section 282 and Section 1080 of the IDOT Standard Specifications with either the 6 or 8 oz/sq yd material allowed. Cost for Filter Fabric shall be included with Concrete Structures.

Fill Channel Weep Holes with granular material prior to allowing flow on completed work. Granular Material shall be gap graded crushed rock and lightly cemented mixture for bonding only. Must pass water. Aggregate shall be CA 11 in accordance with Art. 1004.01 of the IDOT Standard Specifications or as approved by the Engineer. Cost for filling Weep Holes shall be included with Concrete Structures.

**CHANNEL DETAILS  
STRUCTURAL CONCRETE CHANNEL DETAILS  
SOUTHEAST DRAINAGE WAY  
ALONG HARRISON AVENUE  
CITY OF ROCKFORD  
WINNEBAGO COUNTY**

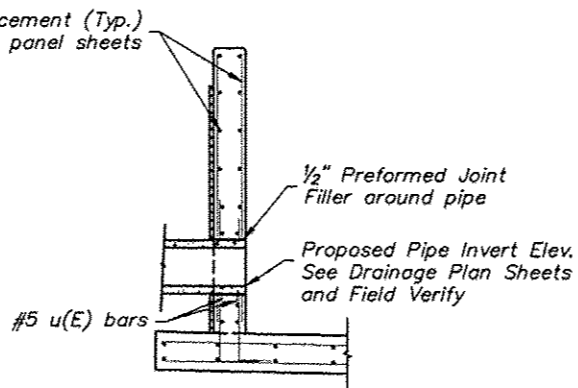




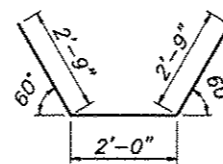
**ELEVATION**  
(Looking at Inside/Front Face of Wall)

**STORM SEWER PIPE OPENING  
IN VERTICAL CHANNEL WALL**

Typical Detail for Pipe Penetrations in Channel Wall



**SECTION A**



**u(E) Bar**

Notes:  
Verify pipe location dimensions and invert elevations with Drainage Plan Sheets and field information.

Cut pipe flush with front face of channel wall. Install 1/2" preformed joint filler around the perimeter of pipe.

Move wall reinforcement up to one-half the required center-to-center bar spacing to avoid conflicts. If necessary, field cut and/or bend wall reinforcement as required for storm sewer pipe openings.

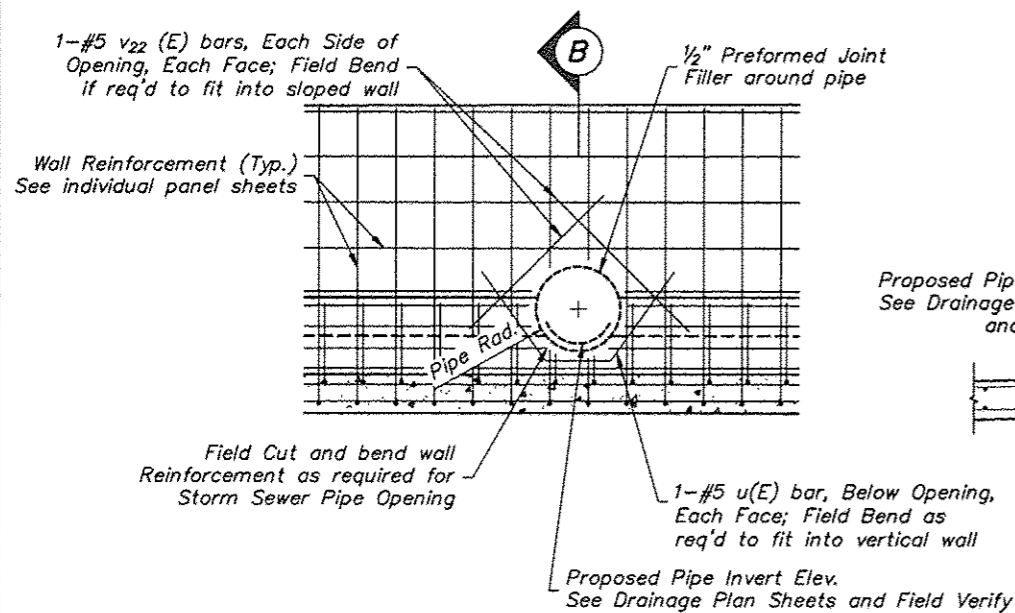
**BILL OF MATERIAL**  
(for one (1) Pipe Opening)

Bar	No.	Size	Length	Shape
u (E)	2	#5	7'-6"	U
v22 (E)	4	#5	4'-6"	—
Reinforcement Bars, Epoxy Coated			Pound	34

Seven (7) storm sewer pipes penetrate the Structural Concrete Channel. See Channel Layout Plan for locations.

**STORM SEWER PENETRATIONS**

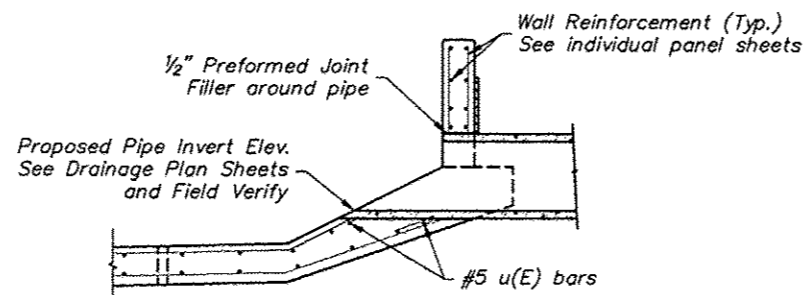
Station	Offset	Size	Invert
6+71.51	20.2' Lt	12"	726.60
8+95.00	16.0' Rt	12"	728.26
10+61.48	14.0' Rt	30" ERS	727.35
11+51.79	16.0' Rt	18"	728.51
14+07.33	21.0' Rt	24" ERS	730.05
14+86.85	13.77' Rt	15"	729.86



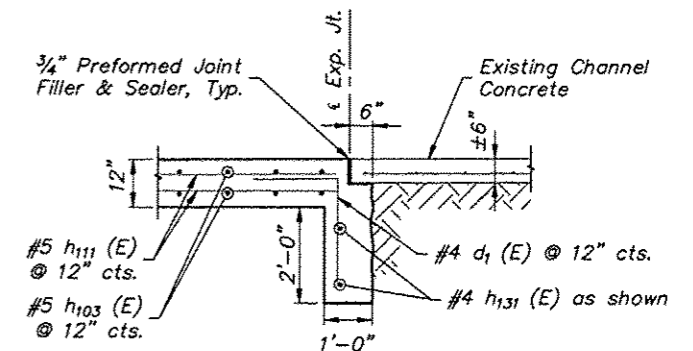
**ELEVATION**  
(Looking at Inside/Front Face of Wall)

**STORM SEWER PIPE OPENING  
IN SLOPED CHANNEL WALL**

Typical Detail for Pipe Penetrations in Channel Wall



**SECTION B**



**CUTOFF WALL DETAIL**

(Perp. to Flow Line @ Sta. 4+87.04)  
See Channel Section Station 4+87.04 to 5+32.00 for additional information.

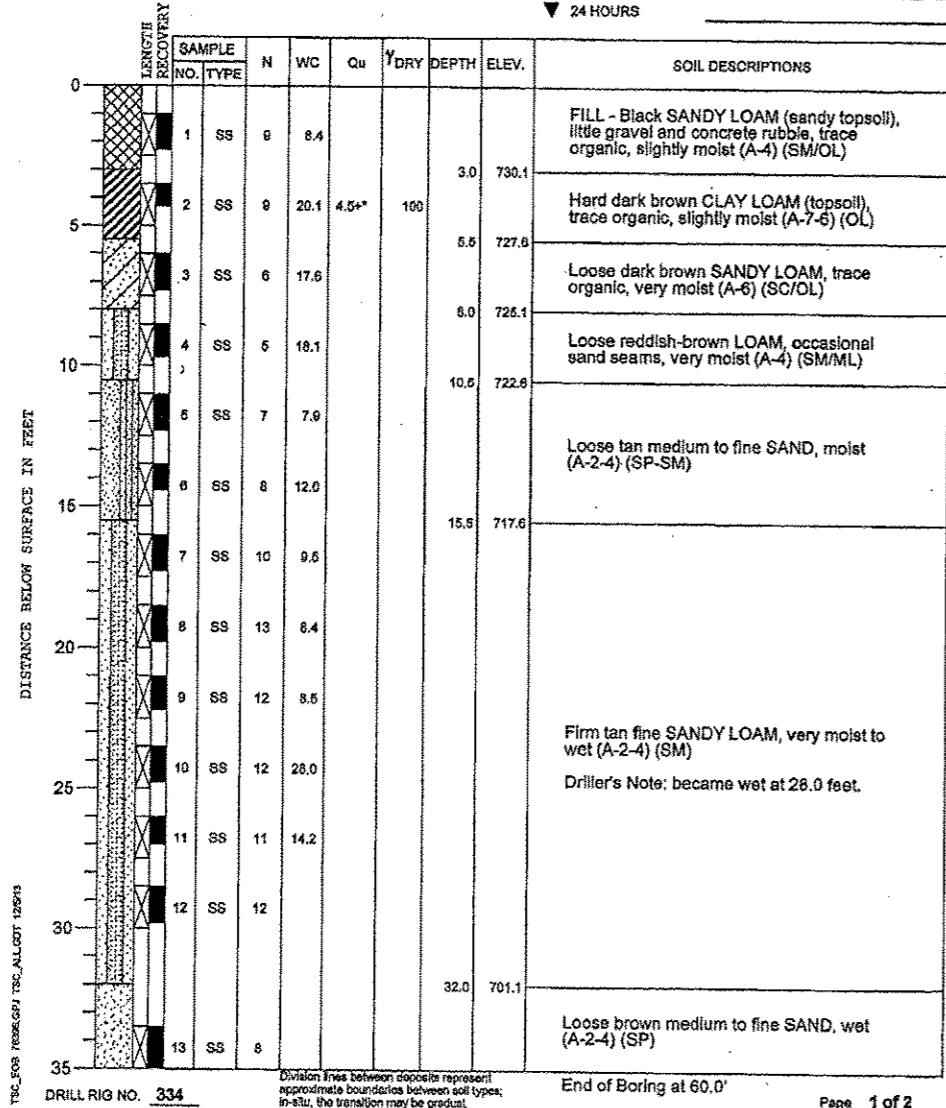
**CHANNEL DETAILS  
STRUCTURAL CONCRETE CHANNEL DETAILS  
SOUTHEAST DRAINAGE WAY  
ALONG HARRISON AVENUE  
CITY OF ROCKFORD  
WINNEBAGO COUNTY**

Sheet 72 of 73

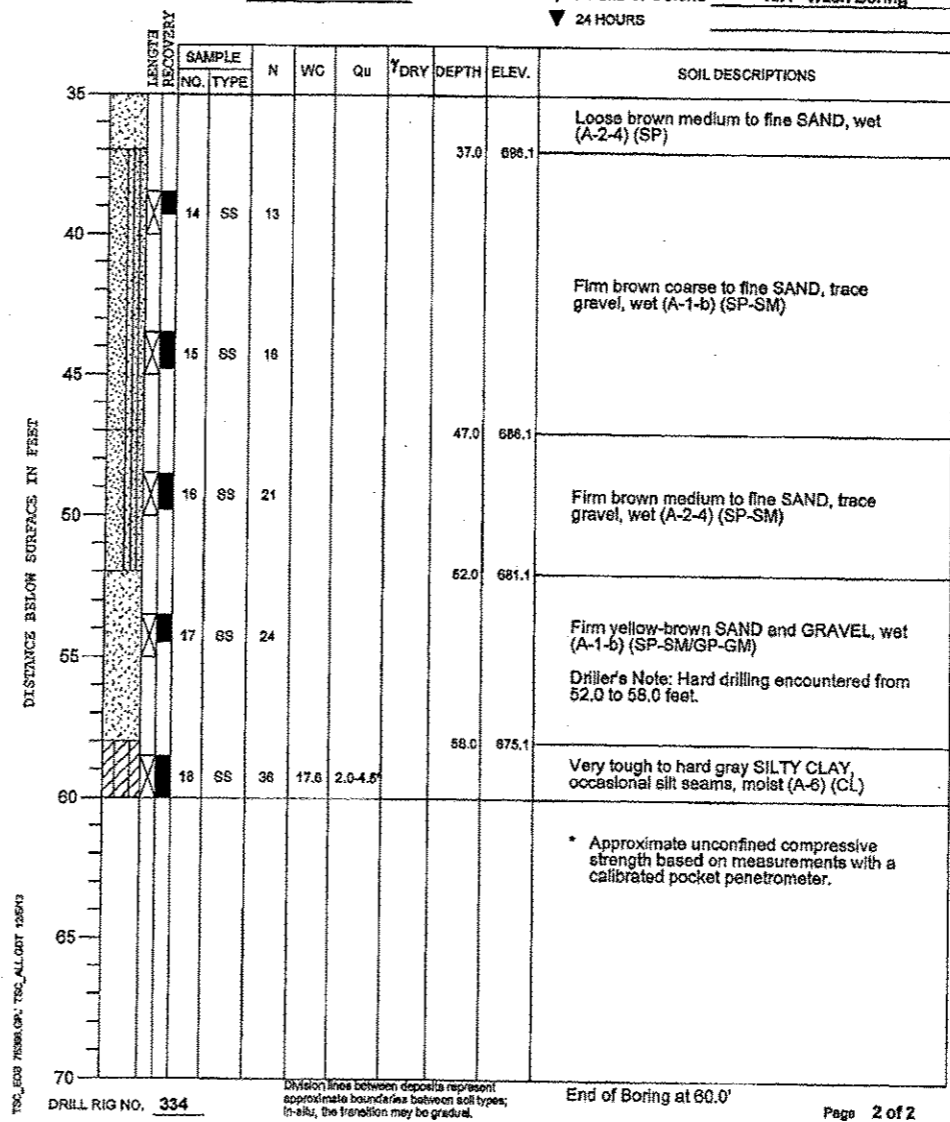


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois  
 CLIENT Fehr Graham, Rockford, Illinois  
 BORING 1 DATE STARTED 10-2-13 DATE COMPLETED 10-2-13 JOB L-76,396  
 ELEVATIONS  
 GROUND SURFACE 733.1  
 END OF BORING 673.1  
 WATER LEVEL OBSERVATIONS  
 WHILE DRILLING Dry to 6'  
 AT END OF BORING N/A - Wash Boring  
 24 HOURS



PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois  
 CLIENT Fehr Graham, Rockford, Illinois  
 BORING 1 DATE STARTED 10-2-13 DATE COMPLETED 10-2-13 JOB L-76,396  
 ELEVATIONS  
 GROUND SURFACE 733.1  
 END OF BORING 673.1  
 WATER LEVEL OBSERVATIONS  
 WHILE DRILLING Dry to 6'  
 AT END OF BORING N/A - Wash Boring  
 24 HOURS



No.	Station	Offset	Elevation
1	143+75	70' Rt	733.1
2	143+52	34' Lt	733.3
3	144+50	82' Lt	733.1
4	145+50	24' Lt	734.6
5	146+53	87' Lt	733.1
6	147+99	27' Lt	734.8
7	149+11	96' Lt	735.7
8	150+00	34' Lt	736.0
9	not drilled		
10	161+26	73' Lt	734.5
11	164+23	106' Rt	738.9
12	151+21	89' Lt	734.6

SOIL BORINGS  
HARRISON AVENUE  
ON THE SOUTHEAST DRAINAGE WAY  
CITY OF ROCKFORD  
WINNEBAGO COUNTY

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RECONSTRUCTION 2012  
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ROCKFORD, ILLINOIS

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SCALE: NA

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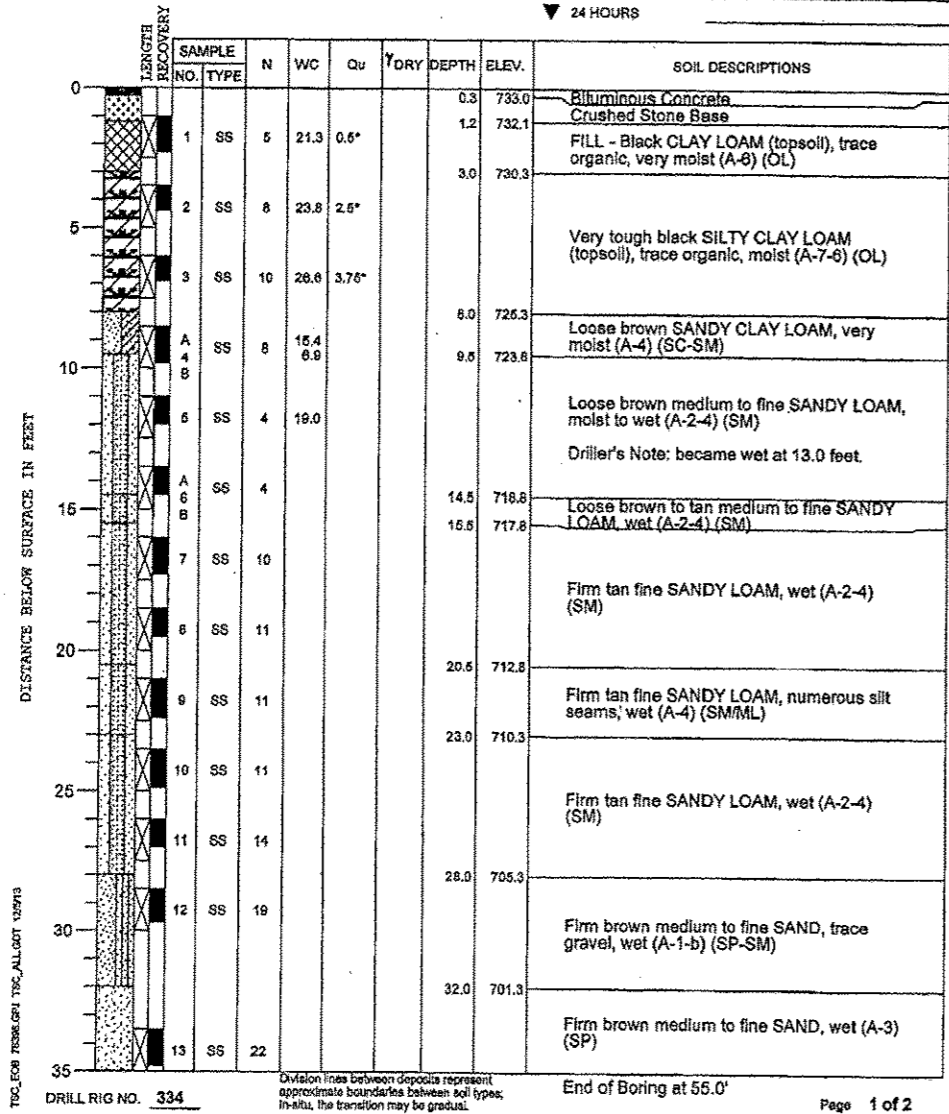
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SOIL BORING NO. 1

JOB NUMBER  
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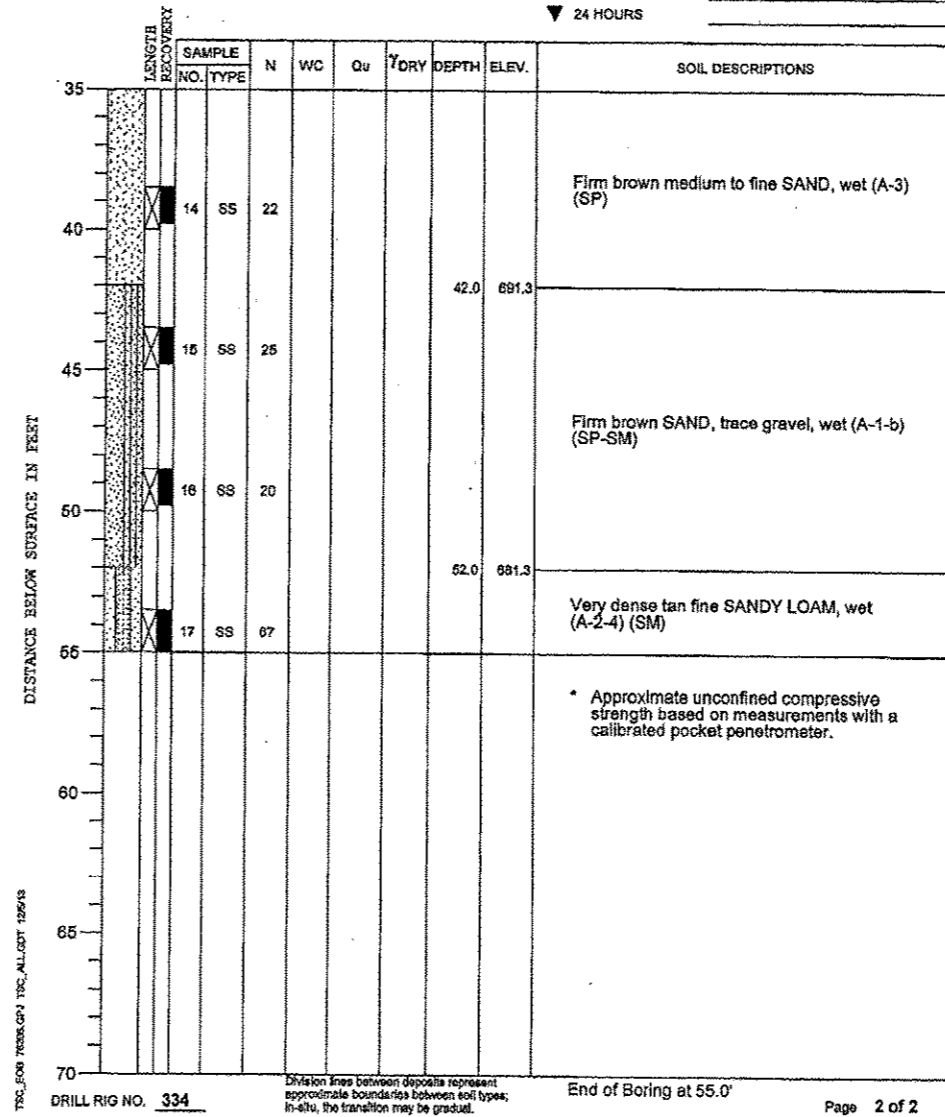
SHEET NUMBER  
477 of 588

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois  
 CLIENT Fehr Graham, Rockford, Illinois  
 BORING 2 DATE STARTED 10-3-13 DATE COMPLETED 10-3-13 JOB L-76,396  
 ELEVATIONS WATER LEVEL OBSERVATIONS  
 GROUND SURFACE 733.3 WHILE DRILLING Dry to 6'  
 END OF BORING 678.3 AT END OF BORING N/A - Wash Boring  
 24 HOURS



PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois  
 CLIENT Fehr Graham, Rockford, Illinois  
 BORING 2 DATE STARTED 10-3-13 DATE COMPLETED 10-3-13 JOB L-76,396  
 ELEVATIONS WATER LEVEL OBSERVATIONS  
 GROUND SURFACE 733.3 WHILE DRILLING Dry to 6'  
 END OF BORING 678.3 AT END OF BORING N/A - Wash Boring  
 24 HOURS



**SOIL BORINGS**  
**HARRISON AVENUE**  
**ON THE SOUTHEAST DRAINAGE WAY**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

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PROJECT AND LOCATION  
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 RECONSTRUCTION 2012  
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REV. NO.	DESCRIPTION	DATE

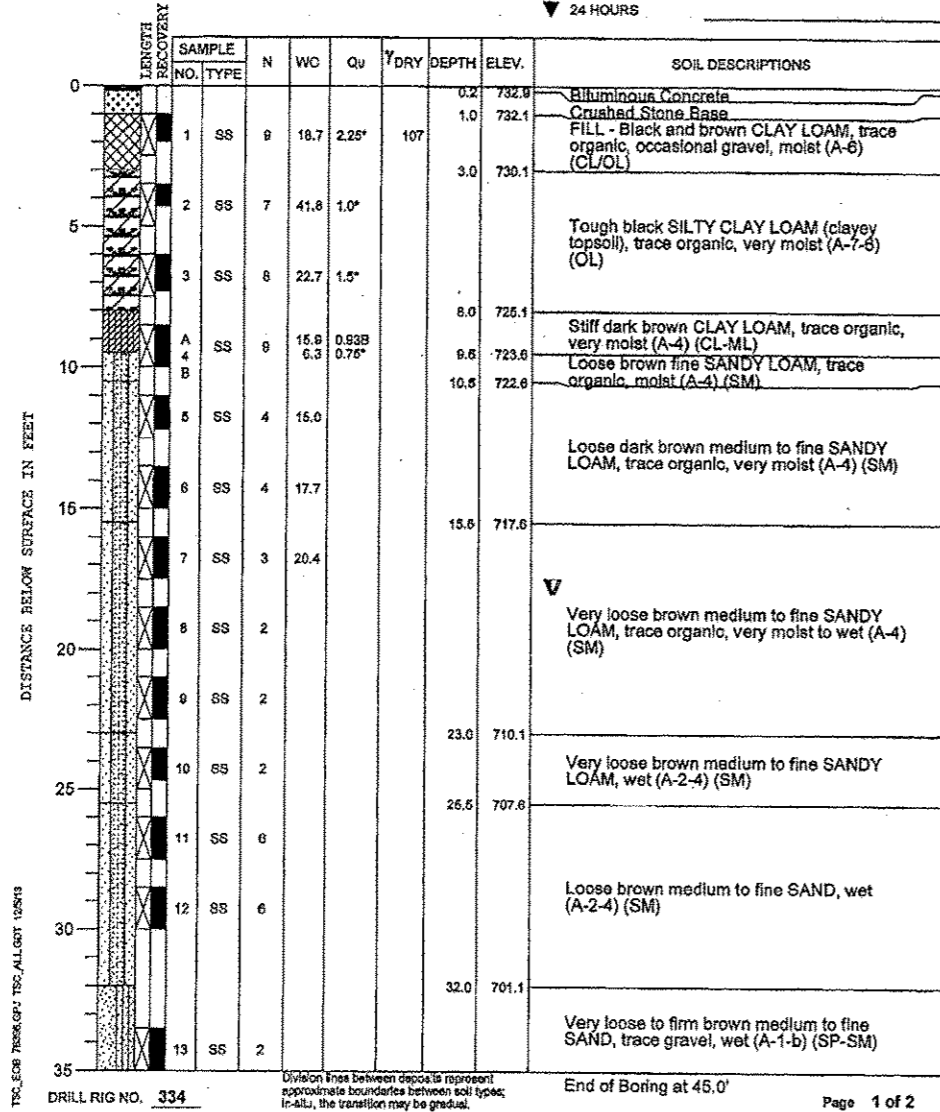
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 SOIL BORING NO. 2

JOB NUMBER  
 11-128

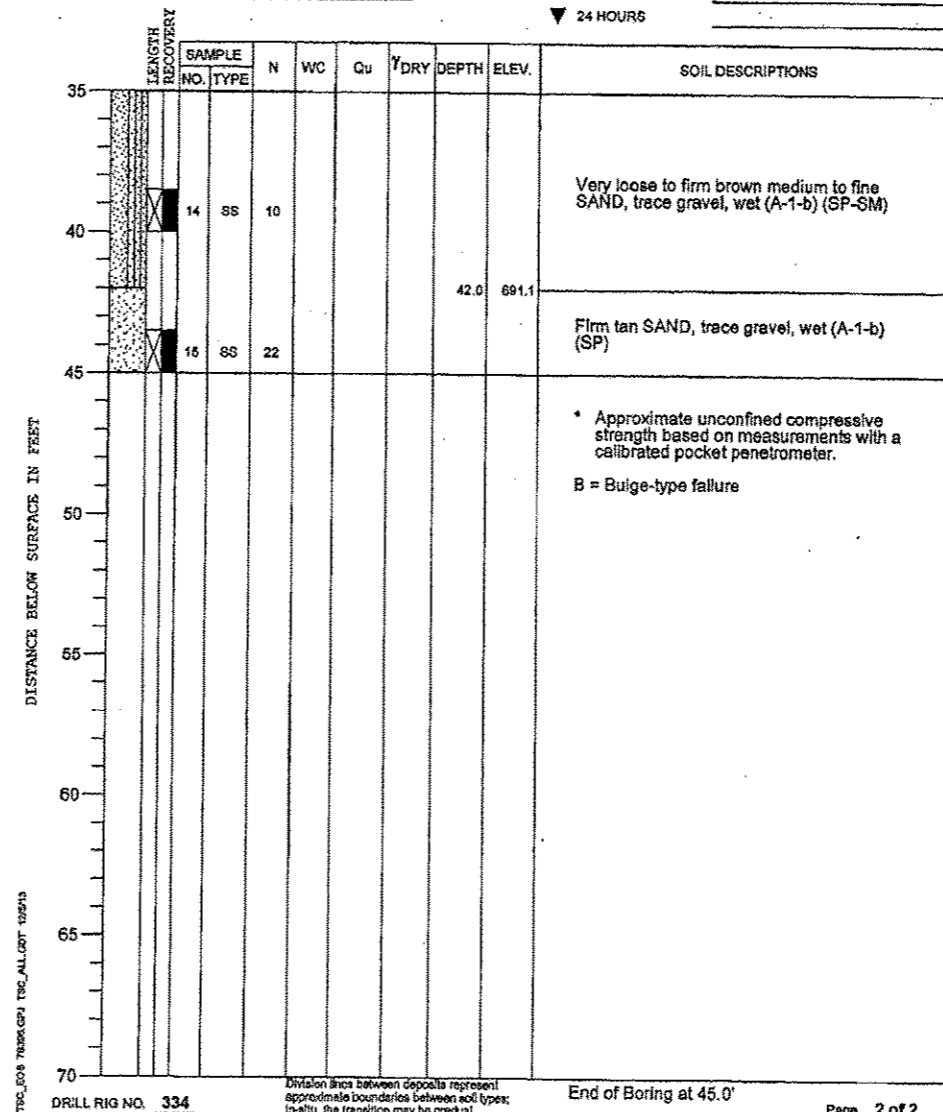
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois  
 CLIENT Fehr Graham, Rockford, Illinois  
 BORING 3 DATE STARTED 9-30-13 DATE COMPLETED 9-30-13 JOB L-76,396  
 ELEVATIONS WATER LEVEL OBSERVATIONS  
 GROUND SURFACE 733.1 WHILE DRILLING 18.0'  
 END OF BORING 688.1 AT END OF BORING 18.0'  
 24 HOURS



PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois  
 CLIENT Fehr Graham, Rockford, Illinois  
 BORING 3 DATE STARTED 9-30-13 DATE COMPLETED 9-30-13 JOB L-76,396  
 ELEVATIONS WATER LEVEL OBSERVATIONS  
 GROUND SURFACE 733.1 WHILE DRILLING 18.0'  
 END OF BORING 688.1 AT END OF BORING 18.0'  
 24 HOURS



SOIL BORINGS  
 HARRISON AVENUE  
 ON THE SOUTHEAST DRAINAGE WAY  
 CITY OF ROCKFORD  
 WINNEBAGO COUNTY

**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL  
 ILLINOIS DESIGN FIRM NO. 184-003523

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PROJECT AND LOCATION  
 HARRISON AVENUE  
 RECONSTRUCTION 2012  
 PHASE 1  
 ROCKFORD, ILLINOIS

DRAWN BY: JWH  
 APPROVED BY: CTB  
 DATE: 6/12/15  
 SCALE: NA

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING  
 SOIL BORINGS:  
 SOIL BORING NO. 3

JOB NUMBER  
 11-128

SHEET NUMBER  
 479 of 588

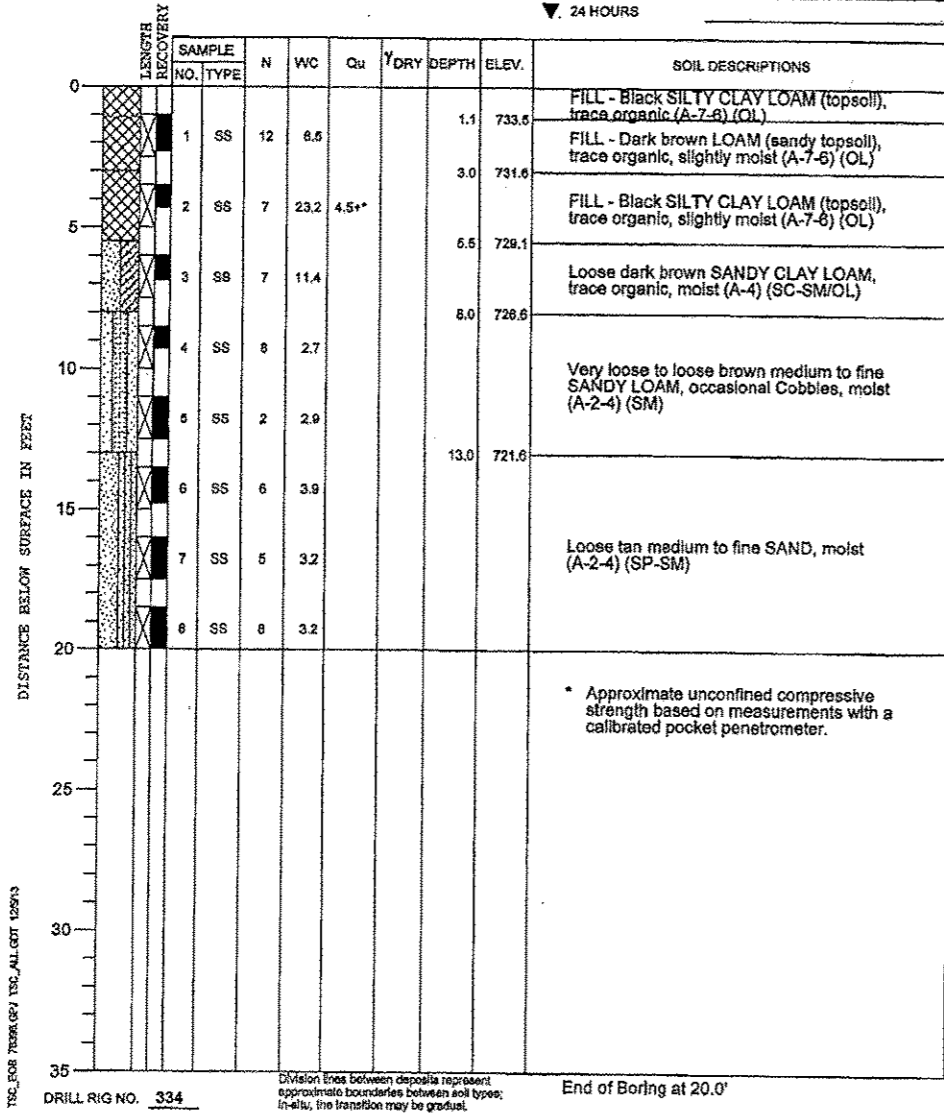
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois

CLIENT Fehr Graham, Rockford, Illinois

BORING 4 DATE STARTED 10-8-13 DATE COMPLETED 10-8-13 JOB L-78,386

ELEVATIONS WATER LEVEL OBSERVATIONS  
GROUND SURFACE 734.6 WHILE DRILLING Dry  
END OF BORING 714.6 AT END OF BORING Dry  
24 HOURS

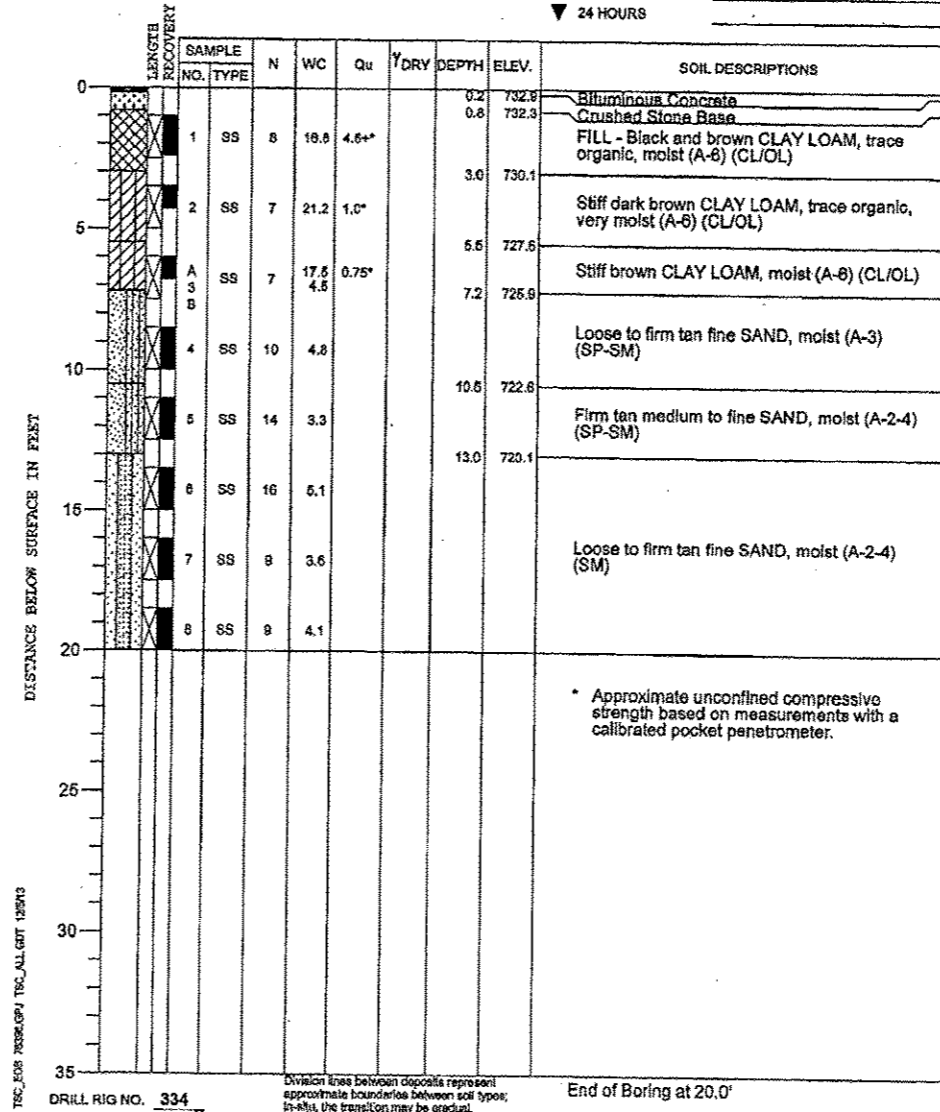


PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois

CLIENT Fehr Graham, Rockford, Illinois

BORING 5 DATE STARTED 9-30-13 DATE COMPLETED 9-30-13 JOB L-78,386

ELEVATIONS WATER LEVEL OBSERVATIONS  
GROUND SURFACE 733.1 WHILE DRILLING Dry  
END OF BORING 713.1 AT END OF BORING Dry  
24 HOURS



SOIL BORINGS  
HARRISON AVENUE  
ON THE SOUTHEAST DRAINAGE WAY  
CITY OF ROCKFORD  
WINNEBAGO COUNTY

**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003283

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PROJECT AND LOCATION  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

DRAWN BY: JWH  
APPROVED BY: CTB  
DATE: 6/12/15  
SCALE: NA

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING  
SOIL BORINGS:  
SOIL BORING NO. 4 & 5

JOB NUMBER  
11-128

SHEET NUMBER  
480 of 588



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

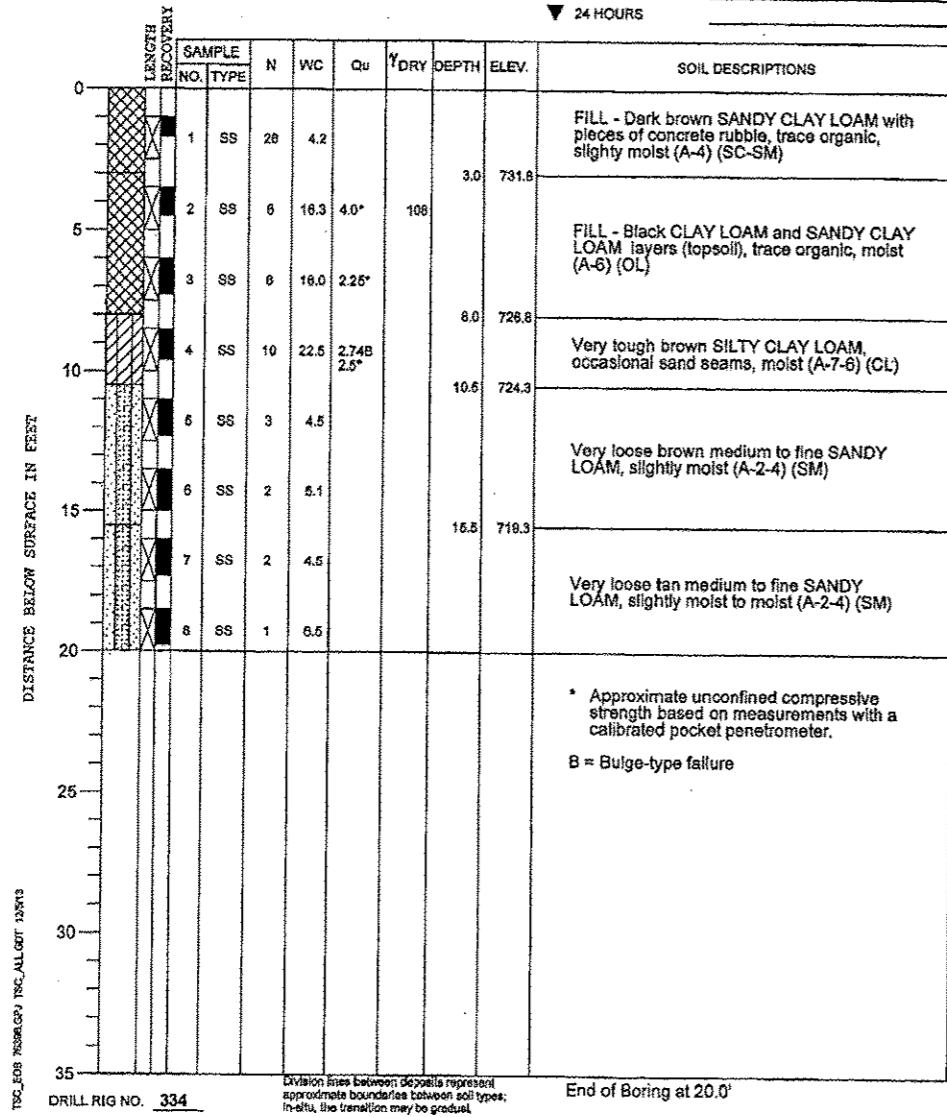
PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois

CLIENT Fehr Graham, Rockford, Illinois

BORING 6 DATE STARTED 10-8-13 DATE COMPLETED 10-8-13 JOB L-76,396

ELEVATIONS  
GROUND SURFACE 734.8  
END OF BORING 714.8

WATER LEVEL OBSERVATIONS  
▽ WHILE DRILLING Dry  
▽ AT END OF BORING Dry  
▽ 24 HOURS



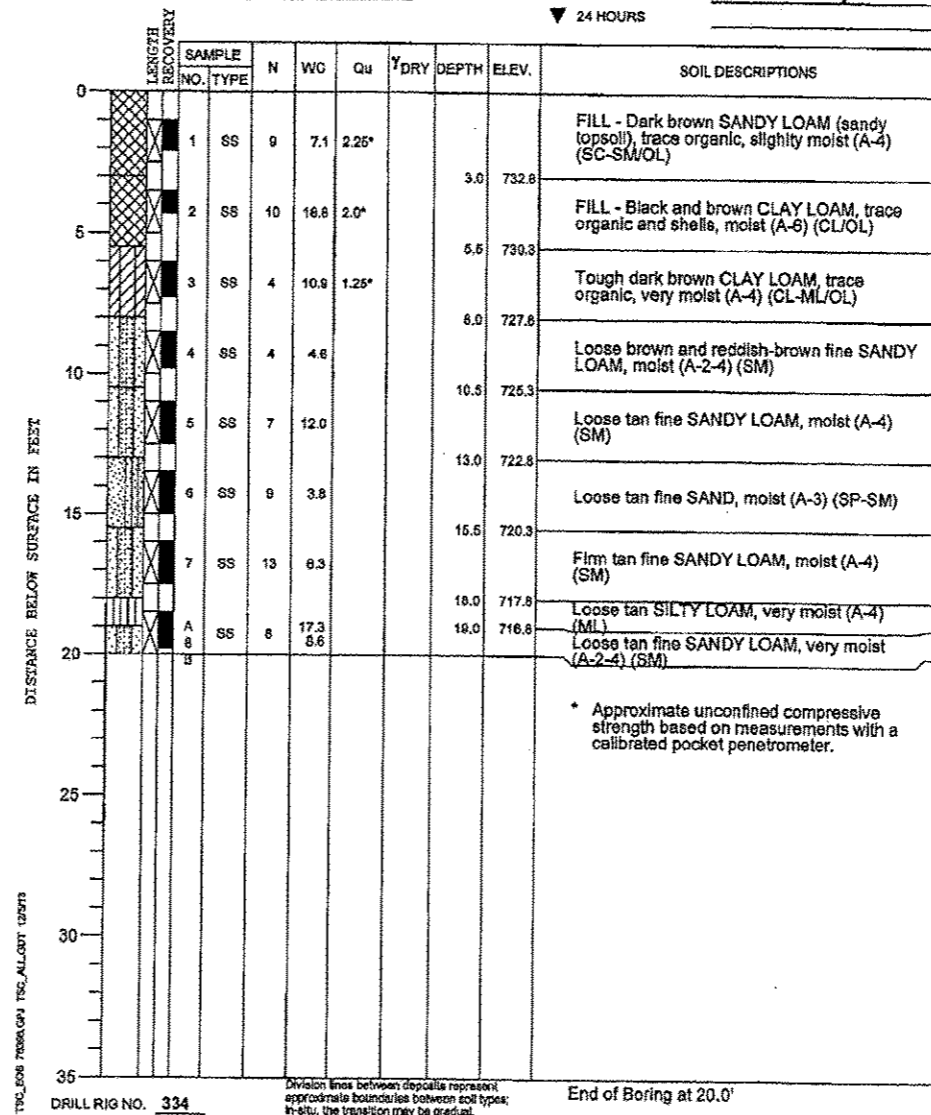
PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois

CLIENT Fehr Graham, Rockford, Illinois

BORING 7 DATE STARTED 9-30-13 DATE COMPLETED 9-30-13 JOB L-76,396

ELEVATIONS  
GROUND SURFACE 735.8  
END OF BORING 715.8

WATER LEVEL OBSERVATIONS  
▽ WHILE DRILLING Dry  
▽ AT END OF BORING Dry  
▽ 24 HOURS



**SOIL BORINGS  
HARRISON AVENUE  
ON THE SOUTHEAST DRAINAGE WAY  
CITY OF ROCKFORD  
WINNEBAGO COUNTY**

**FEHR GRAHAM**

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ILLINOIS DESIGN FIRM NO. 184-003525

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PROJECT AND LOCATION  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

DRAWN BY: JWH  
APPROVED BY: CTB  
DATE: 6/12/15  
SCALE: NA

REVISIONS		
REV. NO.	DESCRIPTION	DATE

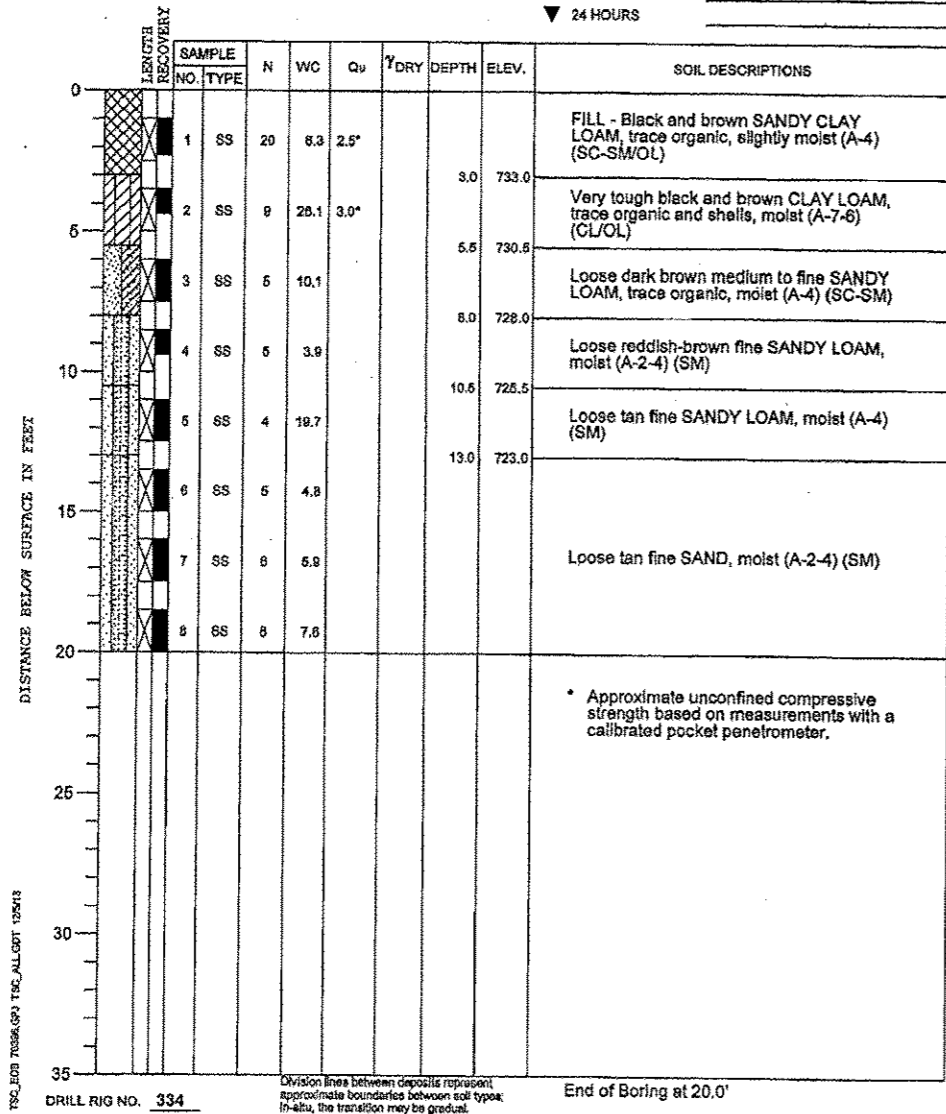
DRAWING  
SOIL BORINGS:  
SOIL BORING NO. 6 & 7

JOB NUMBER  
11-128

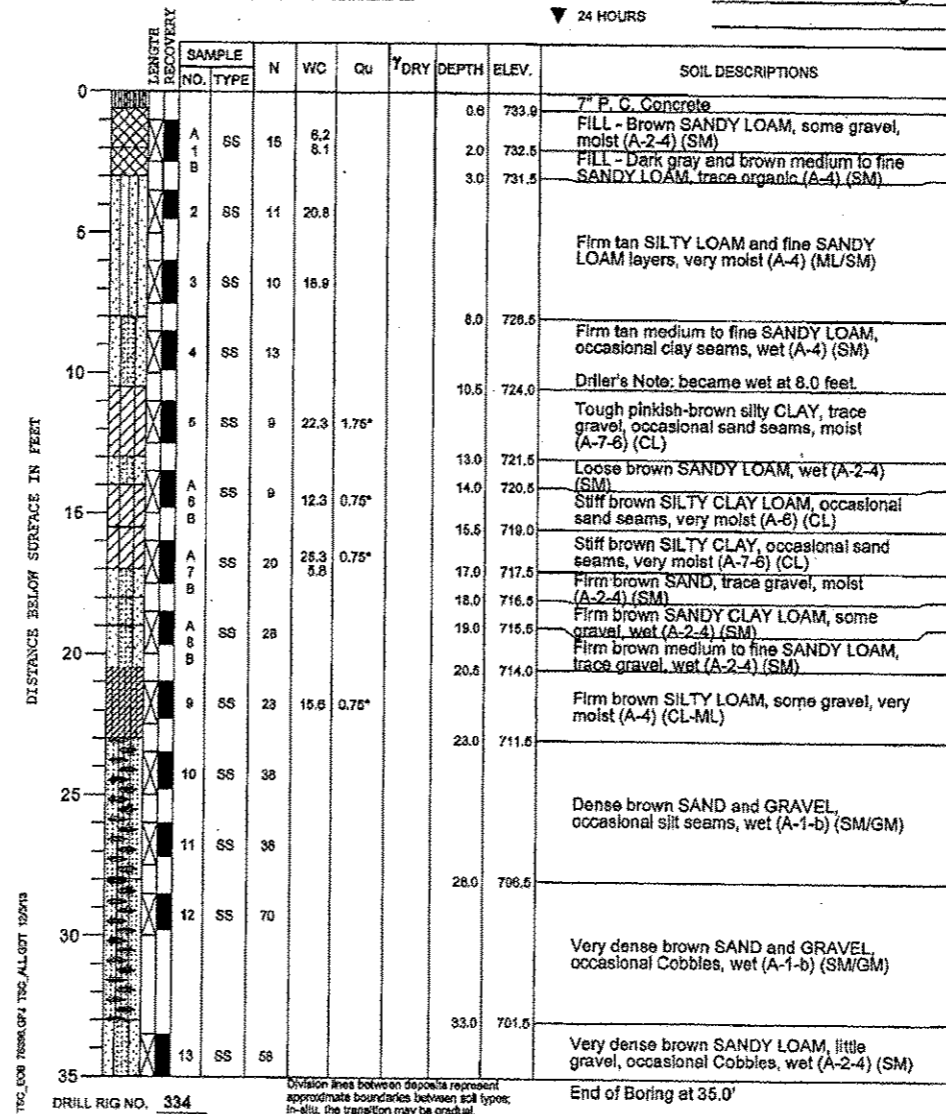
SHEET NUMBER  
481 of 588

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois  
 CLIENT Fehr Graham, Rockford, Illinois  
 BORING 8 DATE STARTED 10-1-13 DATE COMPLETED 10-1-13 JOB L-76,396  
 ELEVATIONS  
 GROUND SURFACE 736.0  
 END OF BORING 718.0  
 WATER LEVEL OBSERVATIONS  
 WHILE DRILLING Dry  
 AT END OF BORING Dry  
 24 HOURS



PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois  
 CLIENT Fehr Graham, Rockford, Illinois  
 BORING 10 DATE STARTED 10-8-13 DATE COMPLETED 10-5-13 JOB L-76,396  
 ELEVATIONS  
 GROUND SURFACE 734.5  
 END OF BORING 699.5  
 WATER LEVEL OBSERVATIONS  
 WHILE DRILLING Dry to 5'  
 AT END OF BORING N/A - Wash Boring  
 24 HOURS



SOIL BORINGS  
HARRISON AVENUE  
ON THE SOUTHEAST DRAINAGE WAY  
CITY OF ROCKFORD  
WINNEBAGO COUNTY

**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

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PROJECT AND LOCATION  
HARRISON AVENUE  
RECONSTRUCTION 2012  
PHASE 1  
ROCKFORD, ILLINOIS

DRAWN BY: JWH  
APPROVED BY: CTB  
DATE: 6/12/15  
SCALE: NA

REVISIONS		
REV. NO.	DESCRIPTION	DATE

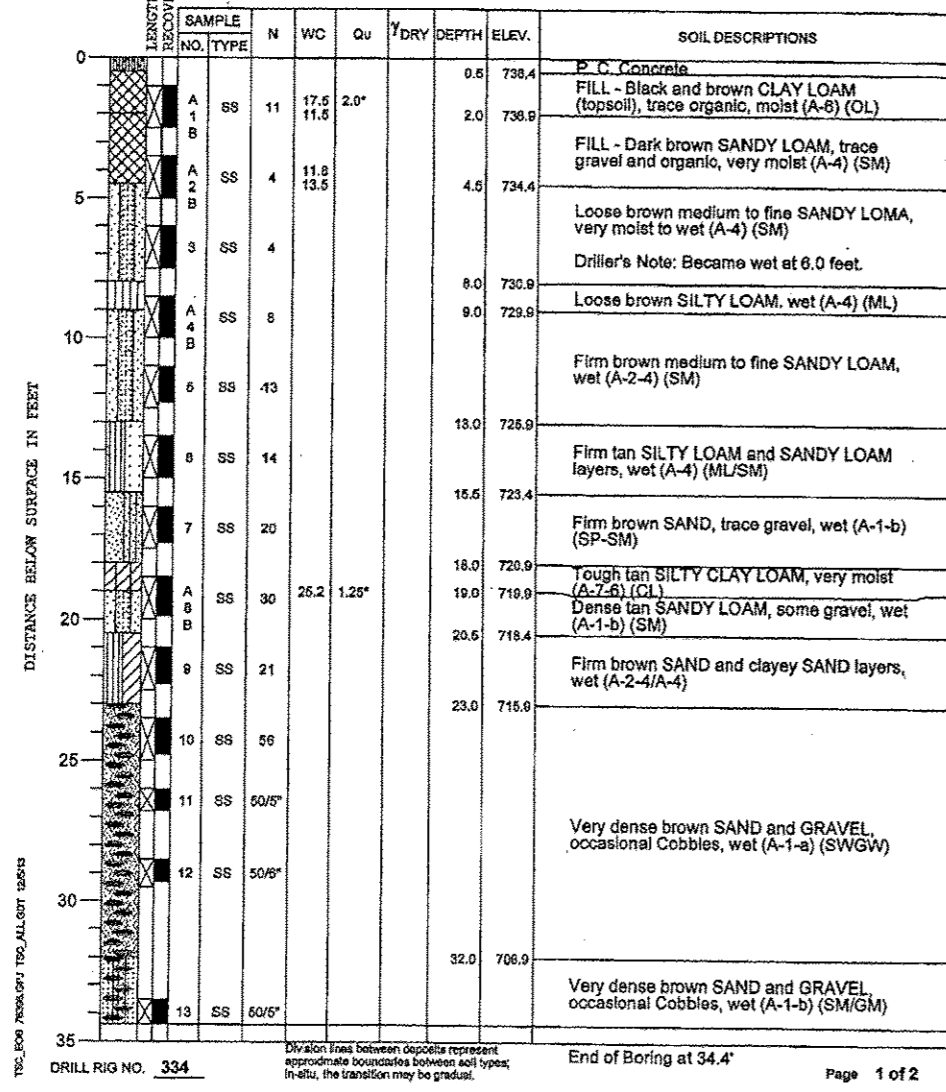
DRAWING  
SOIL BORINGS:  
SOIL BORING NO. 8 & 10

JOB NUMBER  
11-128

SHEET NUMBER  
482 of 588

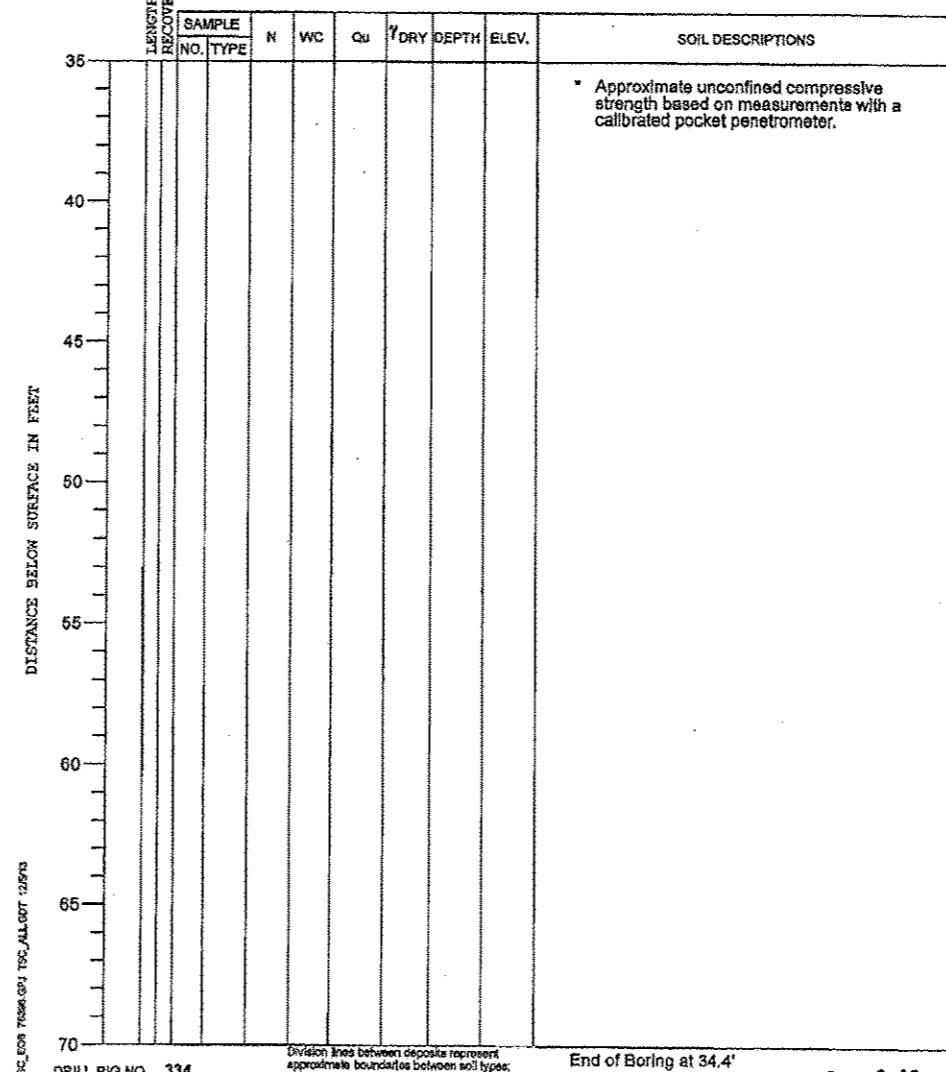
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois  
 CLIENT Fehr Graham, Rockford, Illinois  
 BORING 11 DATE STARTED 10-3-13 DATE COMPLETED 10-3-13 JOB L-76,396  
 ELEVATIONS WATER LEVEL OBSERVATIONS  
 GROUND SURFACE 738.9 WHILE DRILLING Dry to 5'  
 END OF BORING 704.5 AT END OF BORING N/A - Wash Boring  
 24 HOURS



DRILL RIG NO. 334 End of Boring at 34.4' Page 1 of 2

PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois  
 CLIENT Fehr Graham, Rockford, Illinois  
 BORING 11 DATE STARTED 10-3-13 DATE COMPLETED 10-3-13 JOB L-76,396  
 ELEVATIONS WATER LEVEL OBSERVATIONS  
 GROUND SURFACE 738.9 WHILE DRILLING Dry to 5'  
 END OF BORING 704.5 AT END OF BORING N/A - Wash Boring  
 24 HOURS



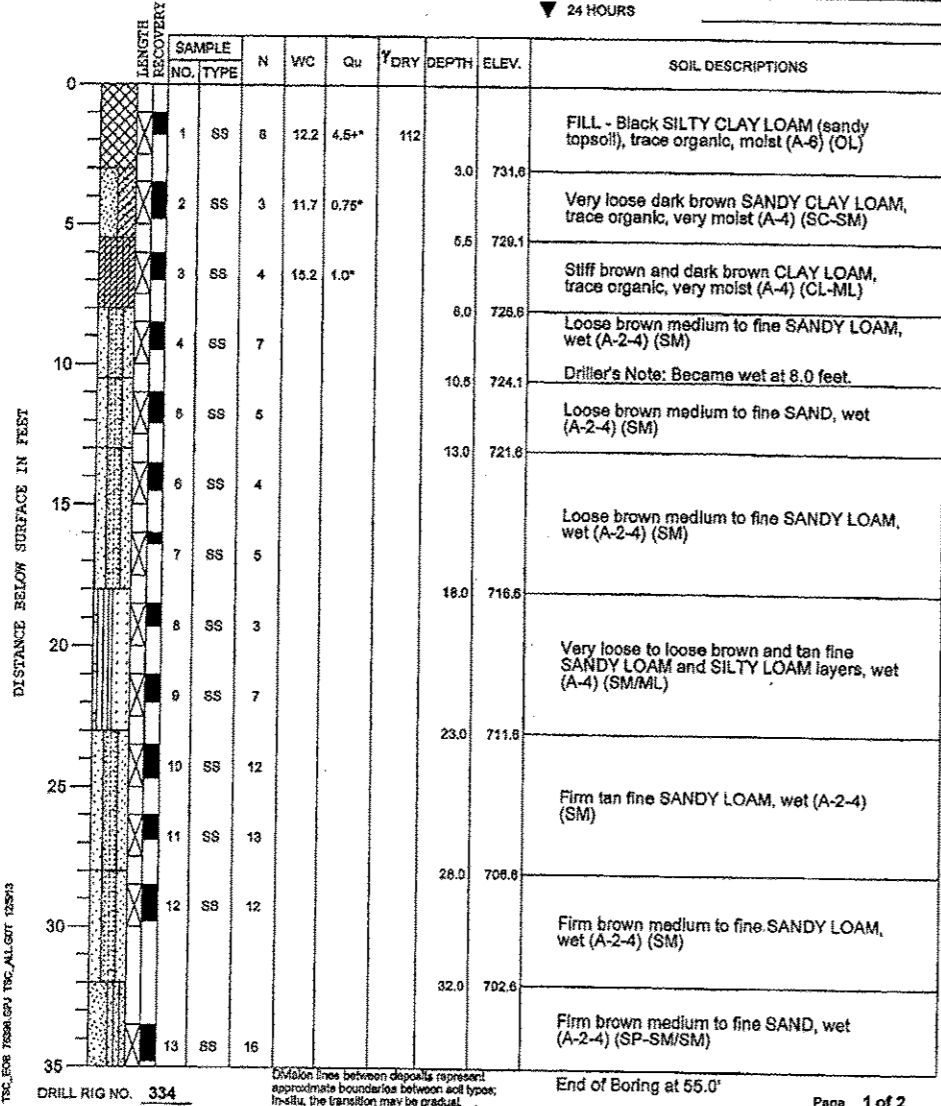
DRILL RIG NO. 334 End of Boring at 34.4' Page 2 of 2

SOIL BORINGS  
HARRISON AVENUE  
ON THE SOUTHEAST DRAINAGE WAY  
CITY OF ROCKFORD  
WINNEBAGO COUNTY

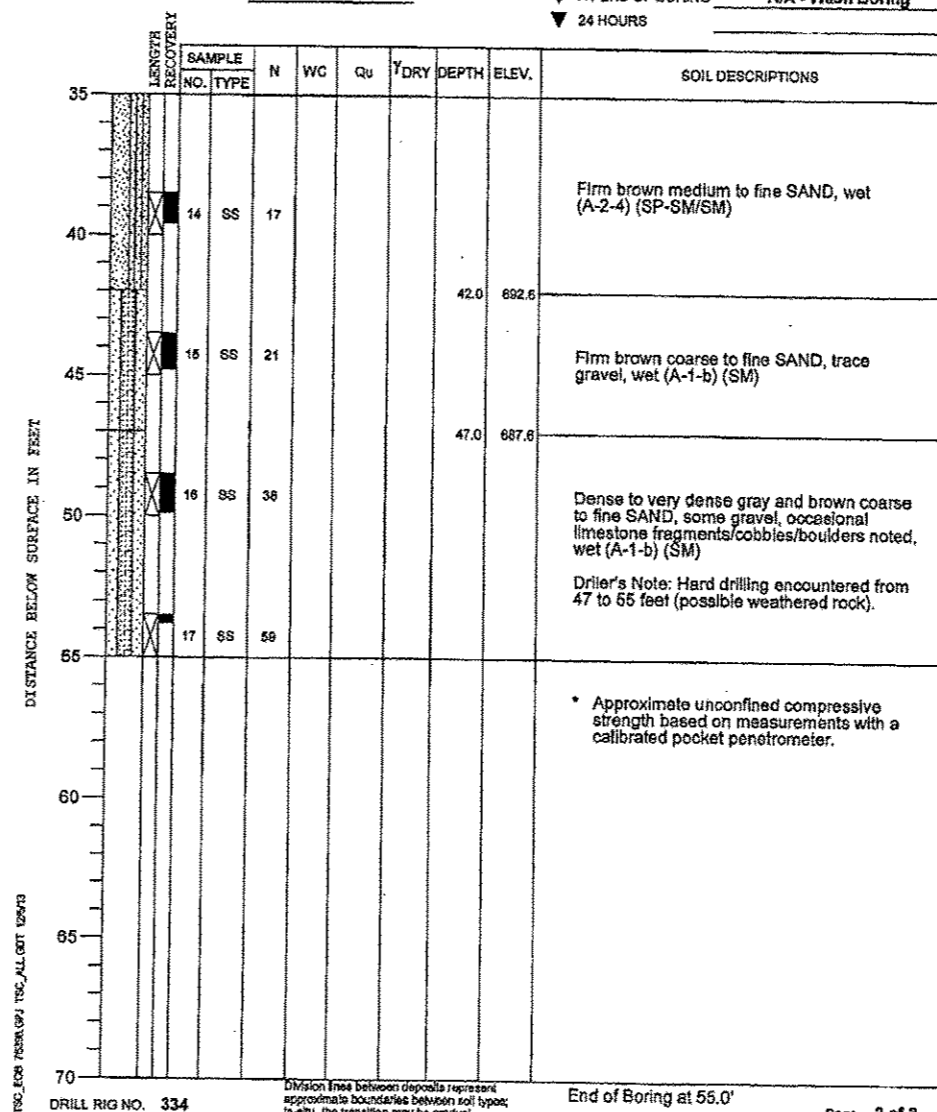
REVISIONS		
REV. NO.	DESCRIPTION	DATE

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois  
 CLIENT Fehr Graham, Rockford, Illinois  
 BORING 12 DATE STARTED 10-1-13 DATE COMPLETED 10-1-13 JOB L-76,396  
 ELEVATIONS WATER LEVEL OBSERVATIONS  
 GROUND SURFACE 734.6 WHILE DRILLING Dry to 6'  
 END OF BORING 679.6 AT END OF BORING N/A - Wash Boring  
 24 HOURS



PROJECT Harrison Avenue Structures, 11th Street to 20th Street, Rockford, Illinois  
 CLIENT Fehr Graham, Rockford, Illinois  
 BORING 12 DATE STARTED 10-1-13 DATE COMPLETED 10-1-13 JOB L-76,396  
 ELEVATIONS WATER LEVEL OBSERVATIONS  
 GROUND SURFACE 734.6 WHILE DRILLING Dry to 6'  
 END OF BORING 679.6 AT END OF BORING N/A - Wash Boring  
 24 HOURS



**SOIL BORINGS**  
**HARRISON AVENUE**  
**ON THE SOUTHEAST DRAINAGE WAY**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**

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PROJECT AND LOCATION:  
 HARRISON AVENUE  
 RECONSTRUCTION 2012  
 PHASE 1  
 ROCKFORD, ILLINOIS

DRAWN BY: JWH  
 APPROVED BY: CTB  
 DATE: 6/12/15  
 SCALE: NA

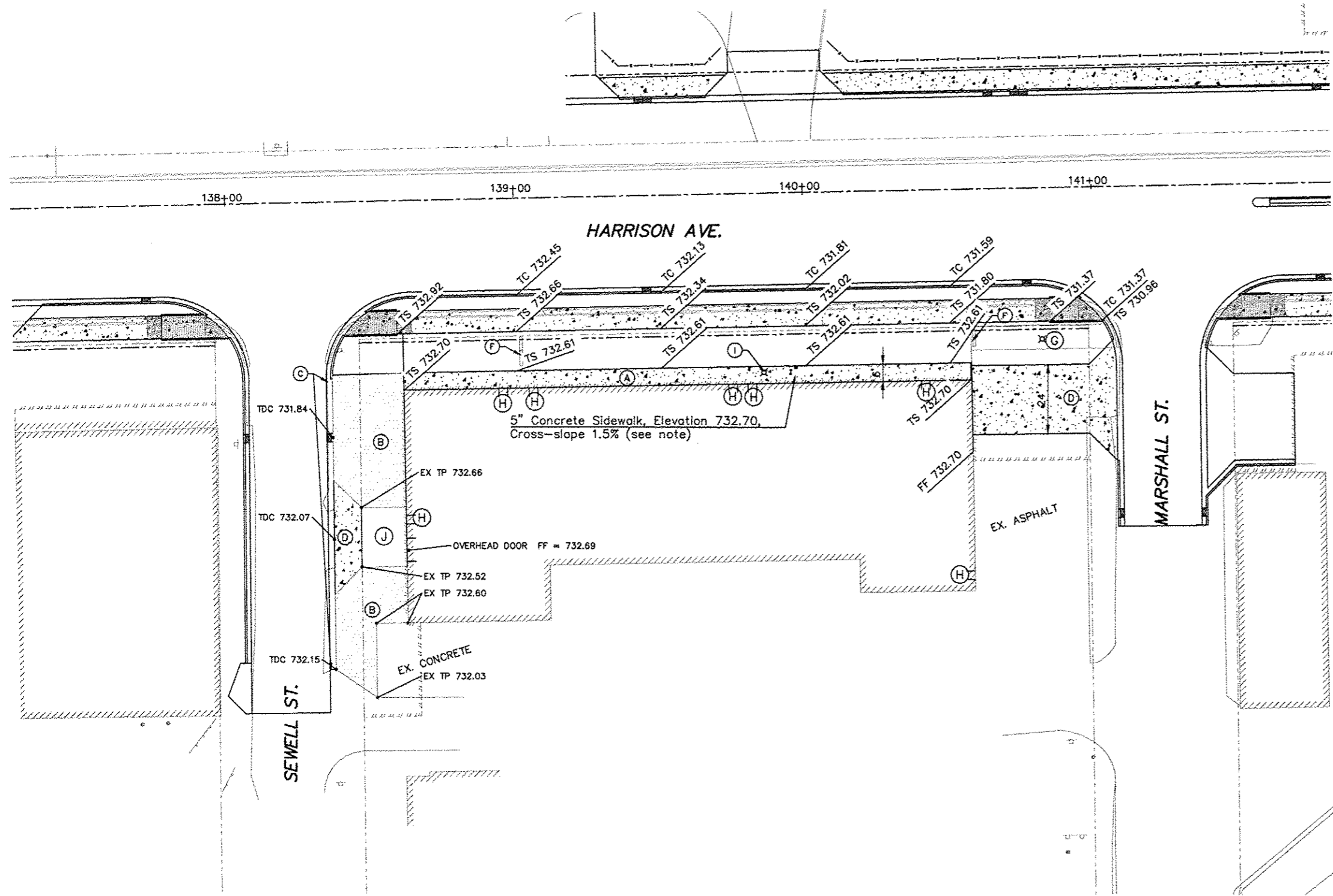
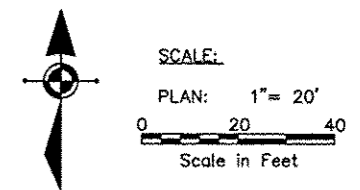
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:  
 SOIL BORINGS:  
 SOIL BORING NO. 12

JOB NUMBER:  
11-128

SHEET NUMBER:  
484 of 588

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 05612



### SITE LEGEND

- (A) NEW PCC SIDEWALK, 5' W/ THICKENED EDGE
- (B) NEW 4" HMA PARKING AREA ON 12" AGGREGATE BASE COURSE, TYPE B
- (C) PROPOSED CURB AND GUTTER 8-6-18 (DEPRESSED FOR FULL PARKING WIDTH)
- (D) NEW 8" PCC DRIVEWAY PAVEMENT
- (E) GRASS AREA BETWEEN SIDEWALKS (SEE LANDSCAPE PLANS)
- (F) EXISTING PYLON SIGN
- (G) EXISTING LIGHT POLE TO REMAIN
- (H) EXISTING ENTRANCE MAN DOORS (FF = 732.7 ±)
- (I) EXISTING POLE. COORDINATE W/ OWNER FOR REMOVAL
- (J) EXISTING CONCRETE DRIVE TO REMAIN. SAWCUT AT R.O.W.

**NOTE:**

1. The PCC Sidewalk at the front of the building shall have a thickened edge on the front side and be placed on a 6" aggregate base course.
2. Each doorway shall have a 42" reinforced concrete frost footing and be anchored to the building foundation with #4 drilled and grouted reinforcement bars.
3. Where driveway pavement is placed adjacent to a concrete foundation, it shall be pinned to the concrete foundation with a minimum of #4 reinforcement bars at 18" centers. expansion joint shall be placed at the curb line.

### LEGEND

- COMBINATION CONCRETE CURB & GUTTER
- TEMPORARY EASEMENT
- PCC SIDEWALK 5'
- PCC DRIVEWAY PAVEMENT, 8'
- HOT-MIX ASPHALT, 4' ON 12" AGGREGATE BASE

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PROJECT AND LOCATION  
HARRISON AVENUE RECONSTRUCTION  
IL 251 AND FAP 0525  
11TH ST. TO 20TH ST.

DRAWN BY: RCS  
APPROVED BY: JWH  
DATE: 6/12/2015  
SCALE:

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:  
RJ-BOWERS SITE PLAN

JOB NUMBER:  
13-1070  
SHEET NUMBER:  
485 of 588

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



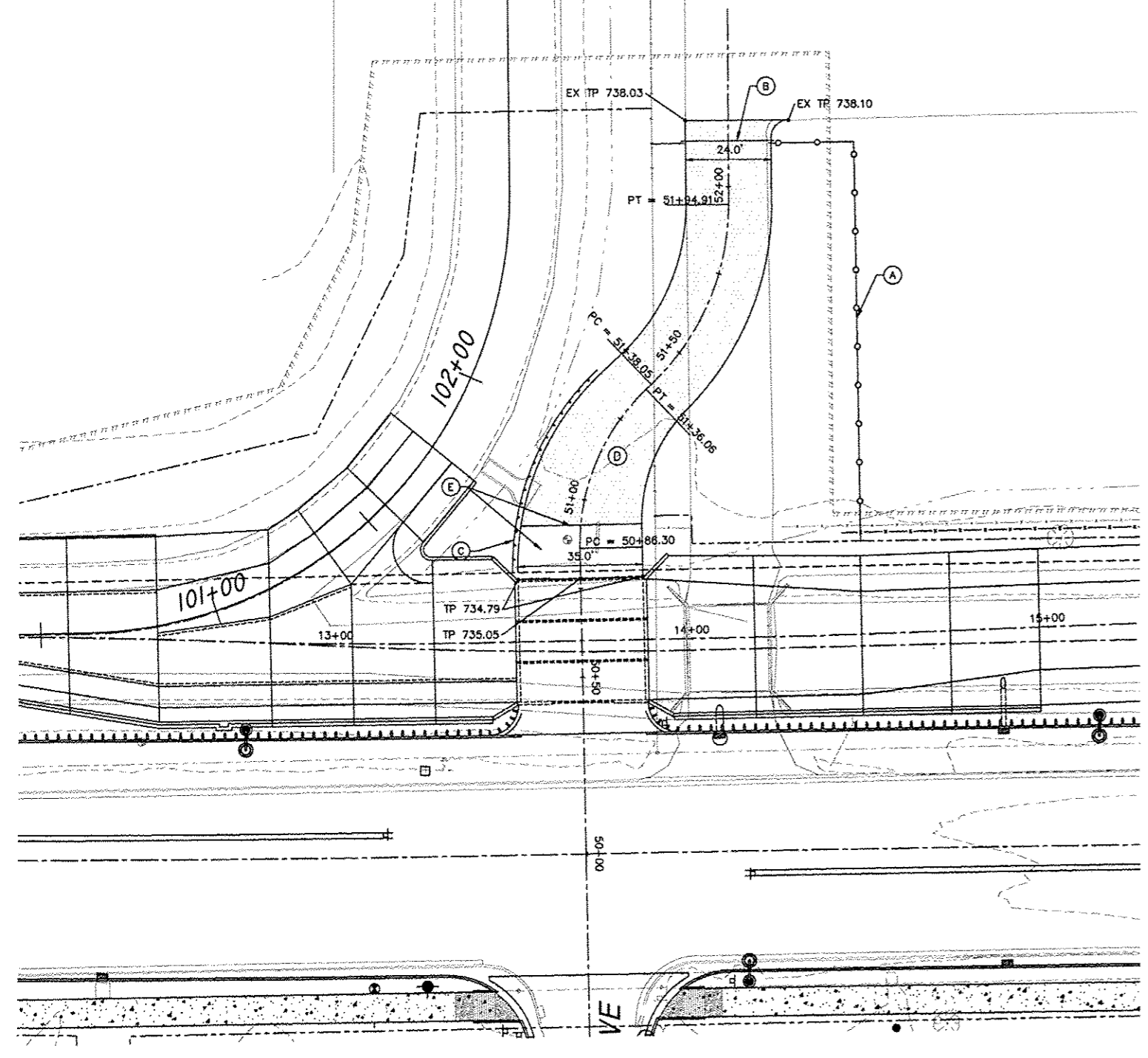
SCALE:  
 PLAN: 1" = 20'  
 0 20 40  
 Scale in Feet

### SITE LEGEND

- (A) CHAINLINK FENCE, 8" (SPECIAL)
- (B) EXISTING GATE RELOCATION
- (C) GUARDRAIL, TYPE A
- (D) 4" HOT-MIX ASPHALT PAVEMENT ON 12" AGGREGATE BASE
- (E) APPROACH SLAB PER SN 101-6106 PLAN. HOT MIX ASPHALT DEPTH SHALL BE THICKENED TO DEPTH OF FOUNDATION SLAB UNDER APPROACH SLAB (SEE APPROACH SLAB PER SN 101-6106 PLAN)

### LEGEND

- PROPOSED CONCRETE CURB AND GUTTER, 66.18
- BOUNDARY LINE
- 4" HOT-MIX ASPHALT PAVEMENT ON 12" AGGREGATE BASE
- TEMPORARY EASEMENT



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PROJECT AND LOCATION:  
 HARRISON AVENUE RECONSTRUCTION  
 IL 251 AND FAP 0525  
 11TH ST. TO 20TH ST.

DRAWN BY: RCS  
 APPROVED BY: JWH  
 DATE: 6/12/2015  
 SCALE:

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:  
 RL LEEK ENTRANCE SITE PLAN

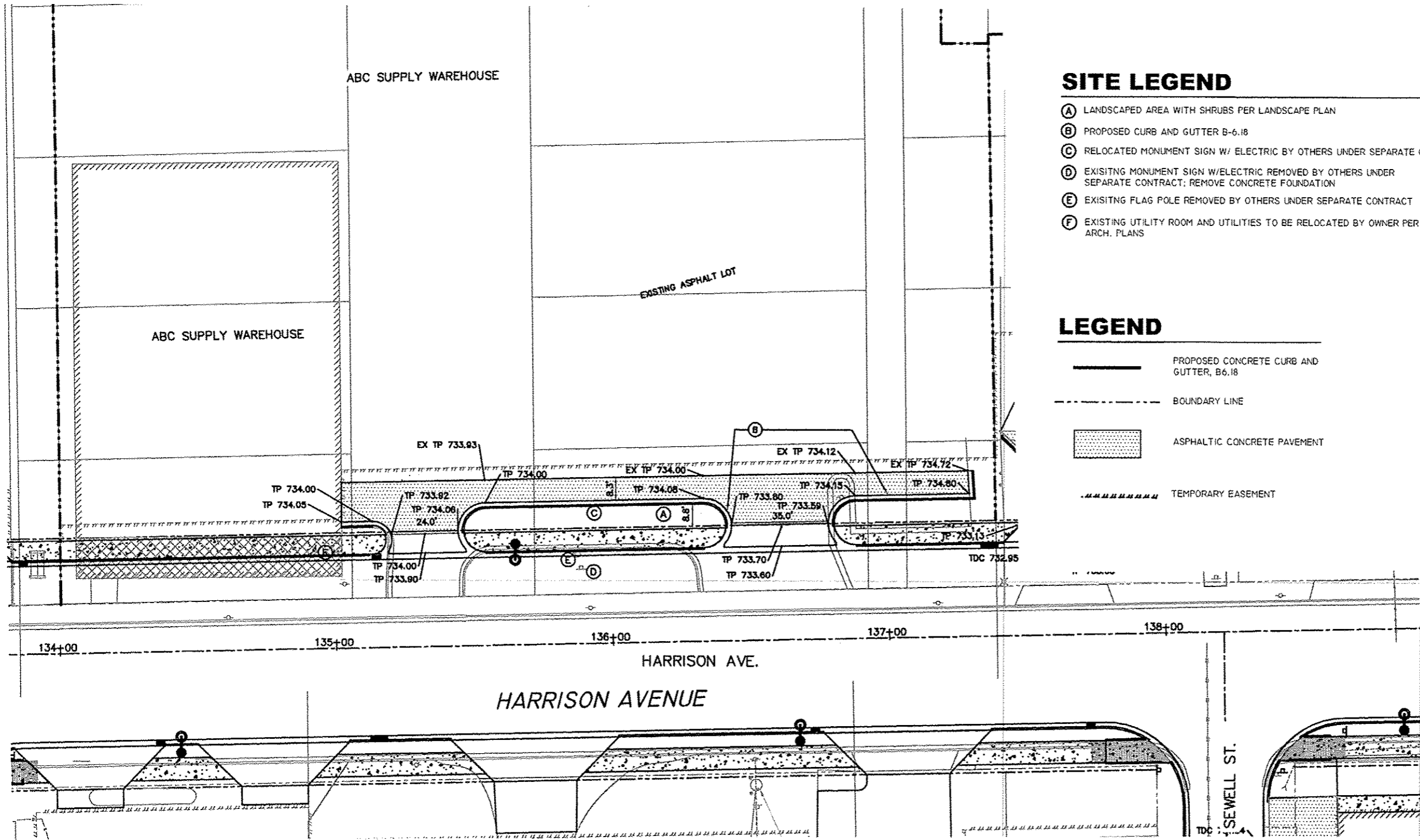
JOB NUMBER:  
 13-1070

SHEET NUMBER:  
 486 of 588





F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



### SITE LEGEND

- (A) LANDSCAPED AREA WITH SHRUBS PER LANDSCAPE PLAN
- (B) PROPOSED CURB AND GUTTER B-6.18
- (C) RELOCATED MONUMENT SIGN W/ ELECTRIC BY OTHERS UNDER SEPARATE CONTRACT
- (D) EXISTING MONUMENT SIGN W/ELECTRIC REMOVED BY OTHERS UNDER SEPARATE CONTRACT; REMOVE CONCRETE FOUNDATION
- (E) EXISTING FLAG POLE REMOVED BY OTHERS UNDER SEPARATE CONTRACT
- (F) EXISTING UTILITY ROOM AND UTILITIES TO BE RELOCATED BY OWNER PER ARCH. PLANS

### LEGEND

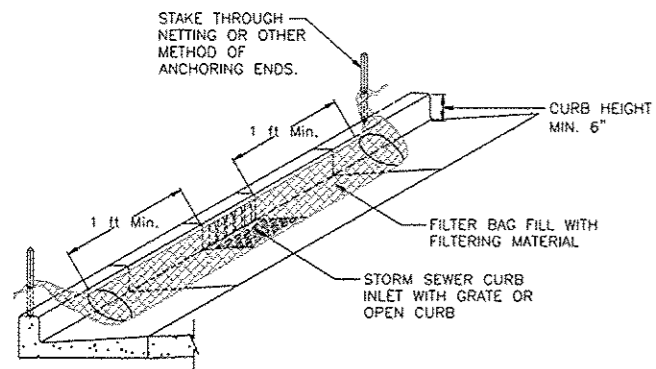
- PROPOSED CONCRETE CURB AND GUTTER, B6.18
- BOUNDARY LINE
- ASPHALTIC CONCRETE PAVEMENT
- TEMPORARY EASEMENT



SCALE:  
 PLAN: 1" = 20'  
 0 20 40  
 Scale in Feet

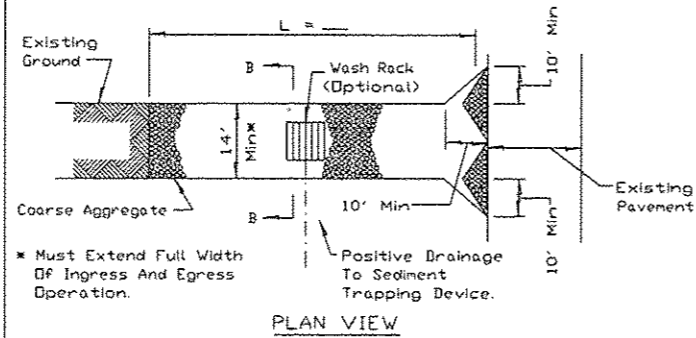
REV. NO.	REVISIONS DESCRIPTION	DATE

**INLET PROTECTION – PAVED AREAS  
CURB PROTECTION**



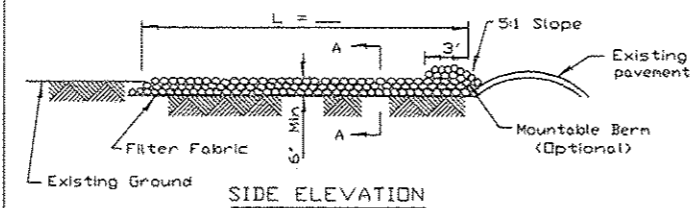
REFERENCE Project	STANDARD DWG. NO. IUM-561C
Designed _____ Date _____	SHEET 1 OF 1
Checked _____ Date _____	DATE 01-11-11
Approved _____ Date _____	

**STABILIZED CONSTRUCTION ENTRANCE PLAN**



\* Must Extend Full Width Of Ingress And Egress Operation.  
Positive Drainage To Sediment Trapping Device.

PLAN VIEW

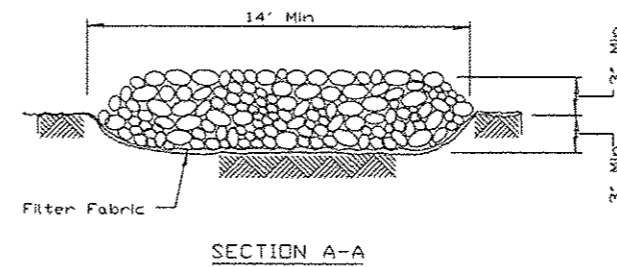


SIDE ELEVATION

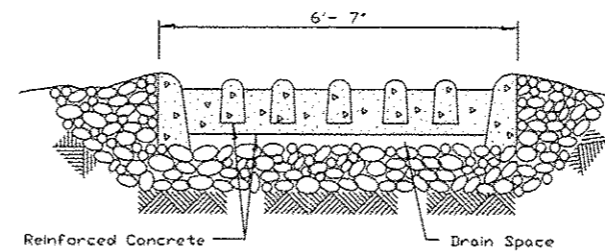
- NOTES:
1. Filter fabric shall meet the requirements of material specification 592 GEOTEXTILE, Table I or 2, Class I, II or IV and shall be placed over the cleared area prior to the placing of rock.
  2. Rock or reclaimed concrete shall meet one of the following IDOT coarse aggregate gradation, CA-1, CA-2, CA-3 or CA-4 and be placed according to construction specification 25 ROCKFILL using placement Method 1 and Class III compaction.
  3. Any drainage facilities required because of washing shall be constructed according to manufacturers specifications.
  4. If wash racks are used they shall be installed according to the manufacturer's specifications.

REFERENCE Project	STANDARD DWG. NO. IL-630
Designed _____ Date _____	SHEET 1 OF 2
Checked _____ Date _____	DATE 8-10-94
Approved _____ Date _____	

**STABILIZED CONSTRUCTION ENTRANCE PLAN**



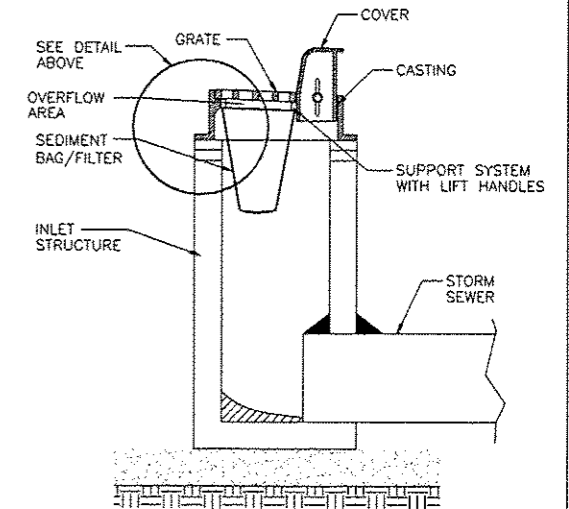
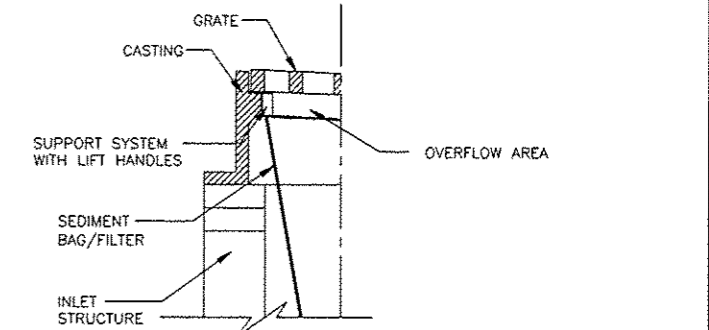
SECTION A-A



SECTION B-B

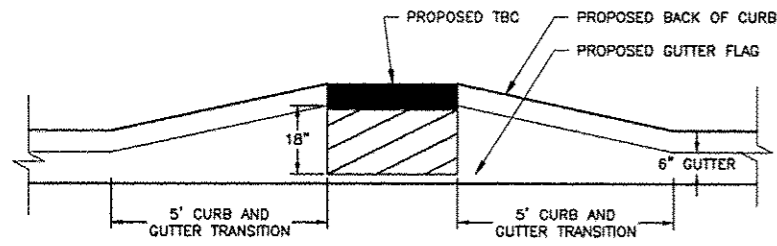
REFERENCE Project	STANDARD DWG. NO. IL-630
Designed _____ Date _____	SHEET 2 OF 2
Checked _____ Date _____	DATE 8-10-94
Approved _____ Date _____	

**INLET PROTECTION – PAVED AREAS  
DROP-IN PROTECTION**

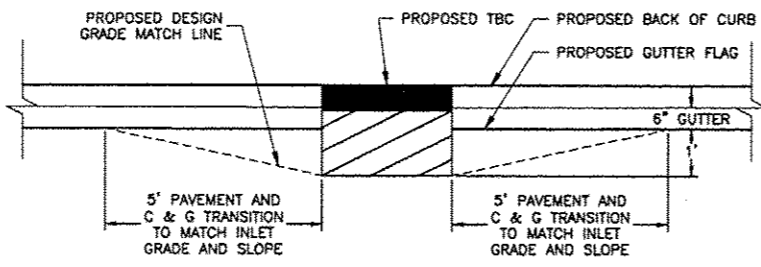


REFERENCE Project	STANDARD DWG. NO. IUM-561D
Designed _____ Date _____	SHEET 1 OF 1
Checked _____ Date _____	DATE 01-11-11
Approved _____ Date _____	

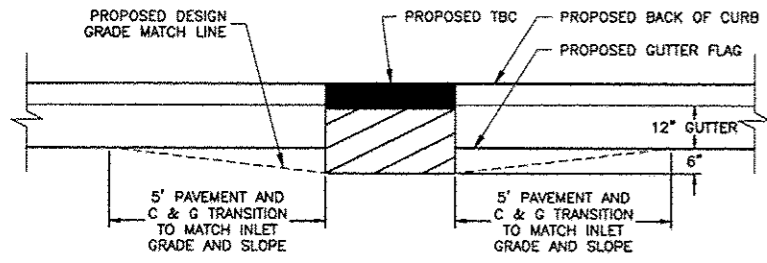
REVISIONS		
REV. NO.	DESCRIPTION	DATE



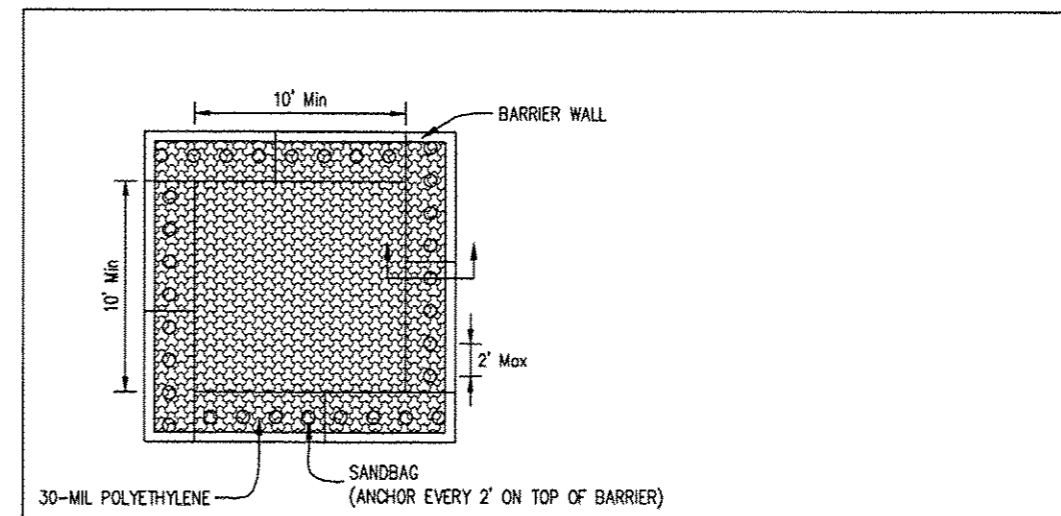
DETAIL OF CURB AND GUTTER FOR INLET ON 20th STREET AT STATION 1006+16.00, 6.58' LT N.T.S.



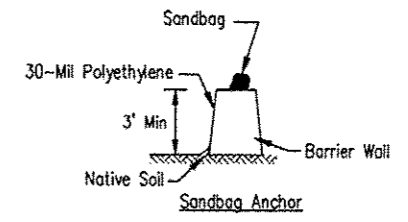
DETAIL OF PAVEMENT TRANSITION AREA FOR INLET ON HARRISON AT STATION 122+50.00, 5.50' LT N.T.S.



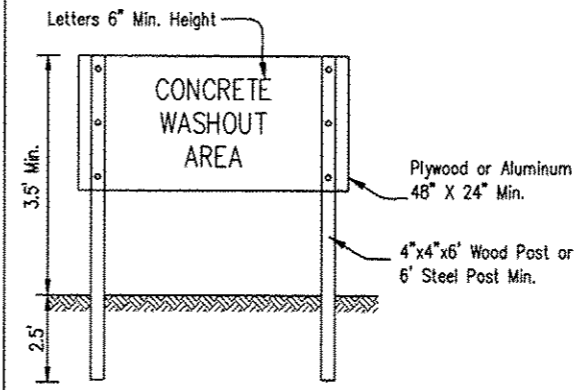
DETAIL OF PAVEMENT TRANSITION AREA FOR INLET ON HARRISON AT STATION 124+59.62, 7.00' RT N.T.S.



PLAN VIEW



BARRIER WALL ANCHOR SECTION

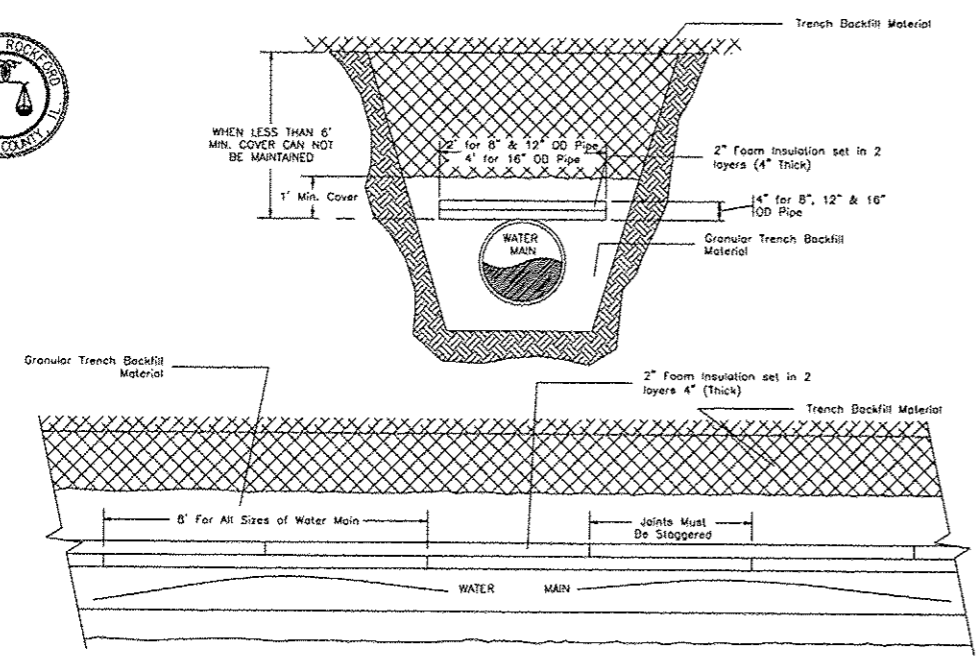


SIGN DETAIL

- NOTES:
- Maintaining temporary concrete washout facilities shall include removing and disposing of hardened concrete and/or slurry and returning the facilities to a functional condition.
  - Facility shall be cleaned or reconstructed in a new area once washout becomes two-thirds full.

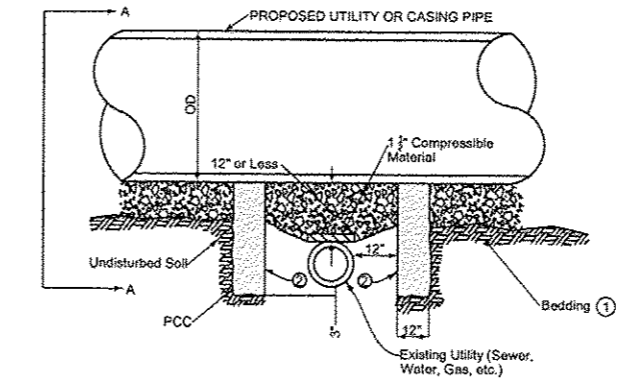
E. P. E. 10/31/16	DESIGNED BY B. JOHNSON	TEMPORARY CONCRETE WASHOUT FACILITY - BARRIER WALL		DATE 8/18

REVISIONS		
REV. NO.	DESCRIPTION	DATE



(USE MUST BE APPROVED BY THE ENGINEER)

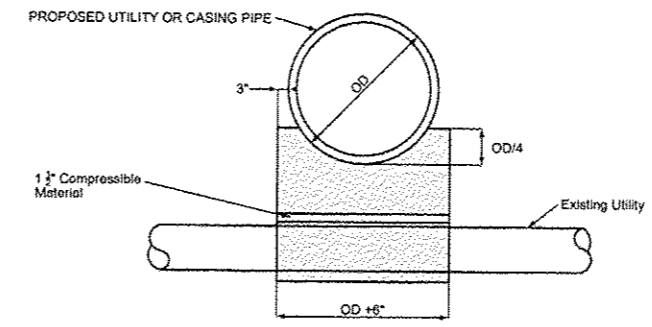
**WATER MAIN INSULATION DETAIL**  
N.T.S.



- Install pipe support for all new sewers 12 INCHES IN DIAMETER OR LARGER WHEN CLEARANCE BETWEEN BOTTOM OF NEW SEWER AND TOP OF EXISTING LINE IS 12 INCHES OR LESS.
- COMPLY WITH FIGURE 3010.101.
  - FORM INTERIOR SURFACE OF FOOTINGS. KEEP THE 12 INCH UTILITY CLEAR ZONE FREE OF CONCRETE.

OD = Outside pipe diameter

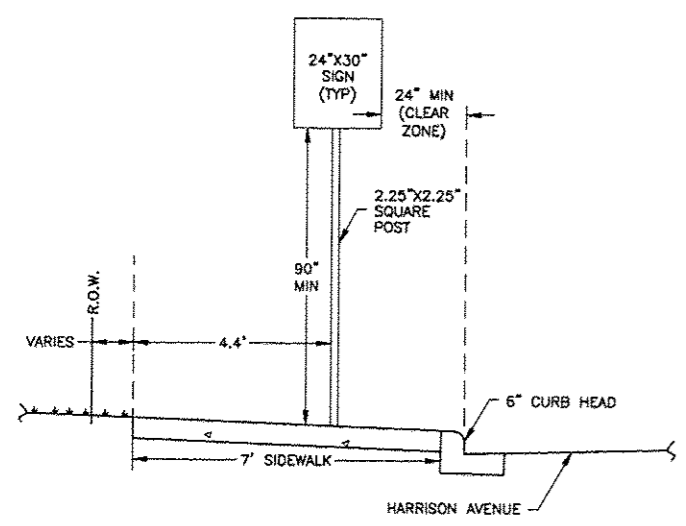
NOTE:  
WHEN MINIMUM SEPARATION REQUIREMENTS ARE NOT MET, PROPOSED UTILITIES CROSSING OVER EXISTING UTILITIES MUST BE SUPPORTED. AT NO TIME SHALL CROSSING UTILITIES REST DIRECTLY ON ONE ANOTHER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE PROPOSED UTILITY OR CROSSING PIPE.



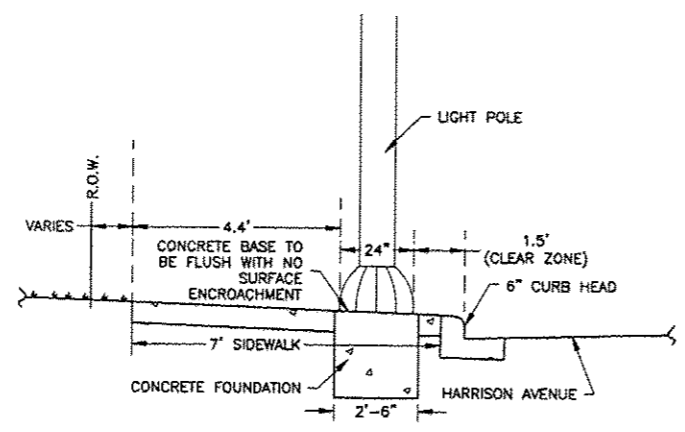
**SECTION A-A**

**PIPE SUPPORT DETAIL**  
N.T.S.

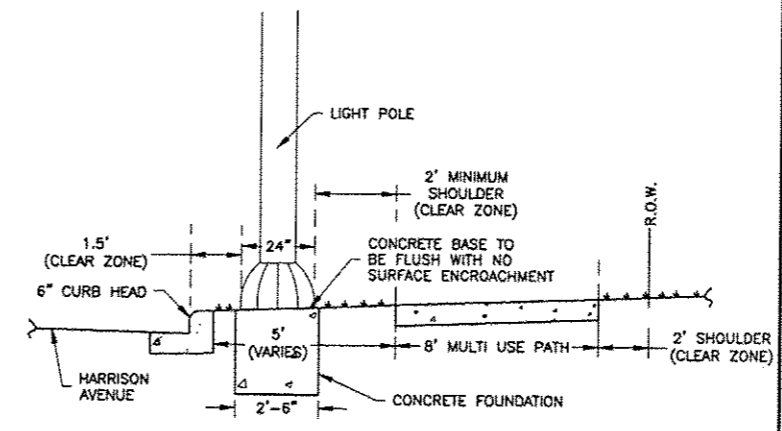
DTL-FOAM.DWG



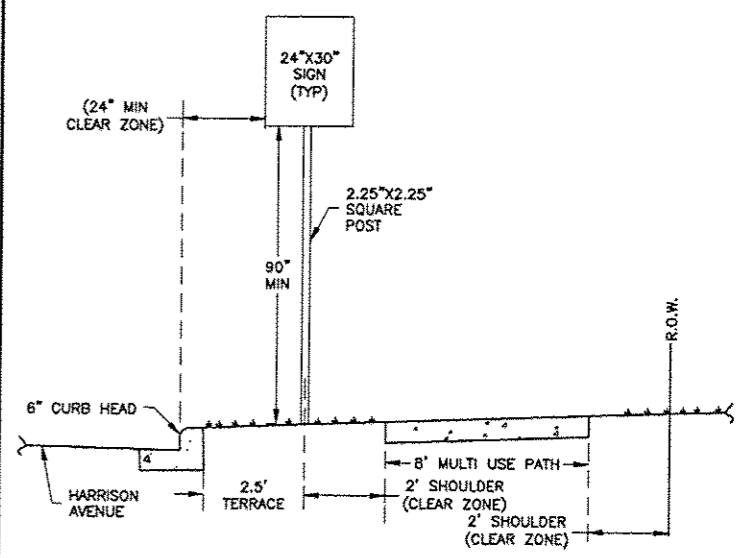
**SIGN PLACEMENT WITH SIDEWALK (NORTH SIDE)**  
N.T.S.



**LIGHT POLE PLACEMENT WITH SIDEWALK (NORTH SIDE)**  
N.T.S.



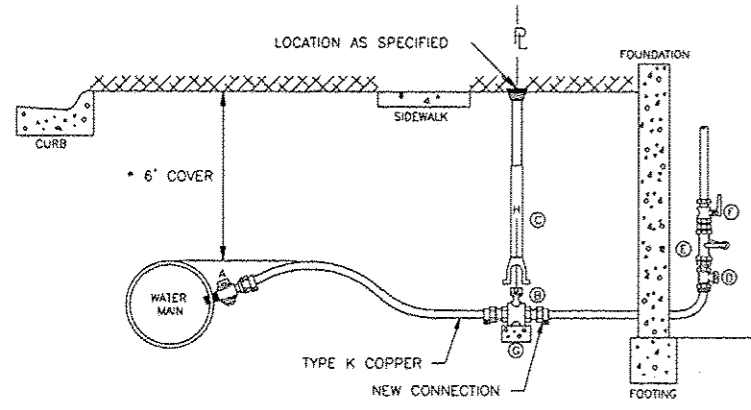
**LIGHT POLE PLACEMENT WITH MULTI USE PATH (SOUTH SIDE)**  
N.T.S.



**SIGN PLACEMENT WITH MULTI USE PATH (SOUTH SIDE)**  
N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

ITEM	DESCRIPTION	SIZE
A	CORPORATION STOP	3/4"-2"
B	CURB STOP	3/2"-2"
C	CURB BOX	EXTENDABLE
D	METER STOP	3/4"-2"
E	METER SPREAD	3/2"-2"
F	METER STOP HOUSE SIDE	3/2"-2"
G	BRICK	CEMENT
H	RDD	36"

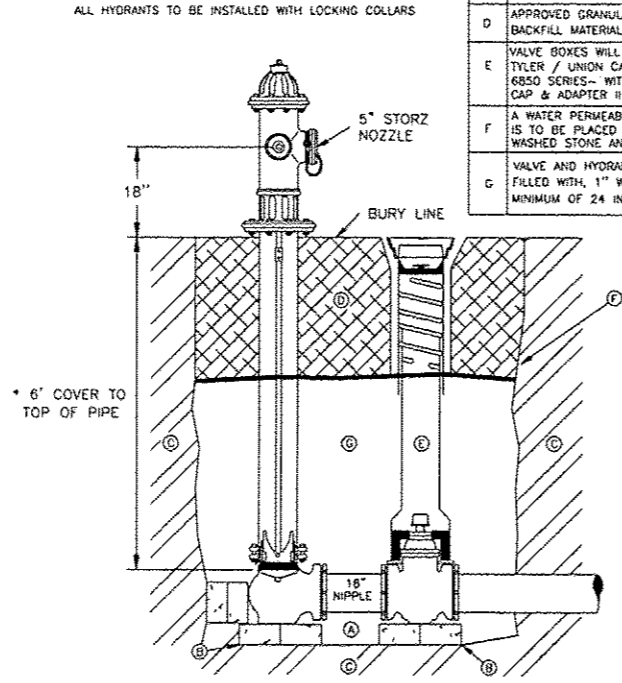


\* UNLESS OTHERWISE INDICATED ON PLANS

**CITY OF ROCKFORD  
WATER SERVICE DETAIL**  
N.T.S.

DTL-WSER

ITEM	DESCRIPTION
A	APPROVED BEDDING MATERIAL
B	6" x 4" x 4" CONCRETE BLOCKING 3500 PSI STRENGTH TYPE
C	UNDISTURBED SOIL
D	APPROVED GRANULAR, TRENCH BACKFILL MATERIAL
E	VALVE BOXES WILL BE THE TYLER / UNION CAST IRON 6850 SERIES- WITH DEBRIS CAP & ADAPTER II INSTALLED
F	A WATER PERMEABLE GEOTEXTILE IS TO BE PLACED BETWEEN 1" WASHED STONE AND BACKFILL
G	VALVE AND HYDRANT TO BE BACK FILLED WITH 1" WASHED STONE MINIMUM OF 24 INCHES IN DEPTH

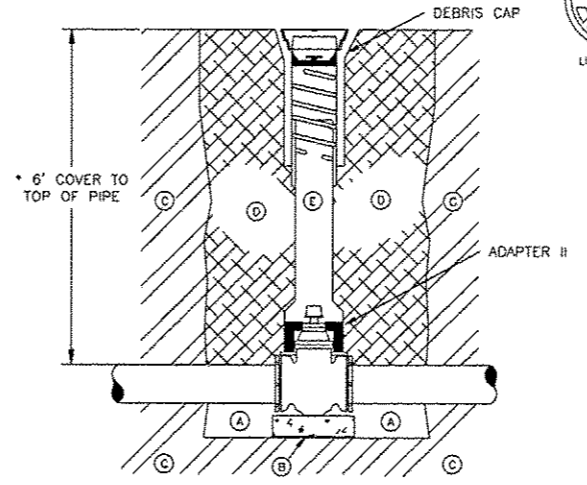


\* UNLESS OTHERWISE INDICATED ON PLANS

**CITY OF ROCKFORD  
FIRE HYDRANT COMPLETE**  
N.T.S.

DTL-FH

ITEM	DESCRIPTION
A	APPROVED BEDDING MATERIAL
B	16" x 4" x 4" CONCRETE BLOCKING
C	UNDISTURBED SOIL
D	APPROVED GRANULAR, TRENCH BACKFILL MATERIAL
E	VALVE BOXES WILL BE THE TYLER/UNION CAST IRON 6850 SERIES- WITH DEBRIS CAP & ADAPTER II INSTALLED

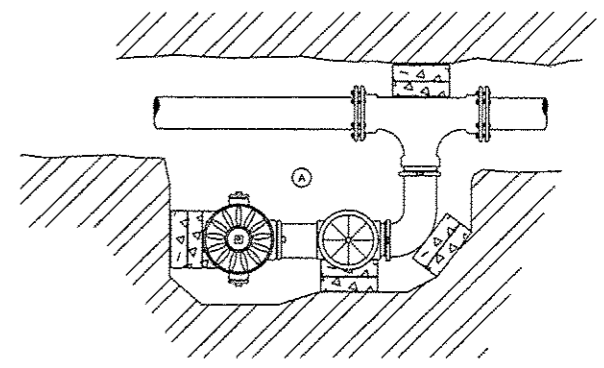


\* UNLESS OTHERWISE INDICATED ON PLANS

**CITY OF ROCKFORD  
VALVE & VALVE BOX DETAIL**  
N.T.S.

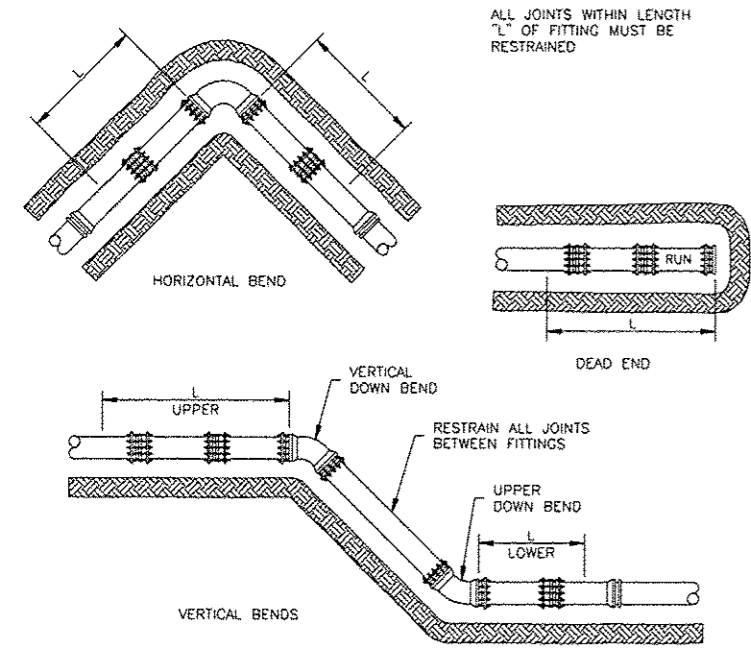
DTL-VB

ITEM	DESCRIPTION
A	SEE FIRE HYDRANT DETAIL SHEET FOR CONSTRUCTION SPECIFICATIONS.



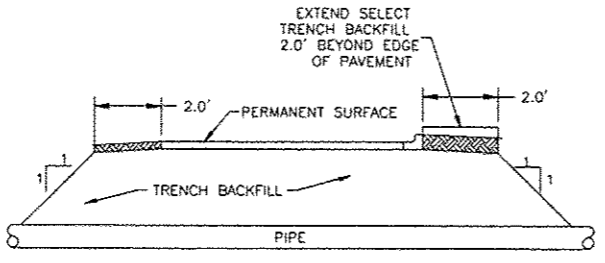
**CITY OF ROCKFORD  
OFFSET FIRE HYDRANT  
COMPLETE WITH ELL**  
N.T.S.

DTL-FHO



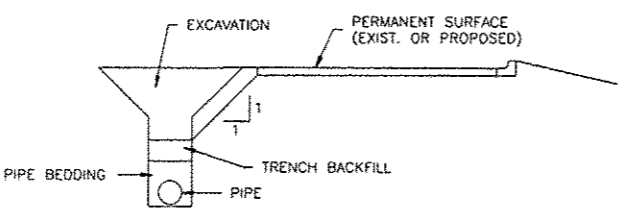
**RESTRAINING GLAND RESTRAINT**  
N.T.S.

WDL-WV



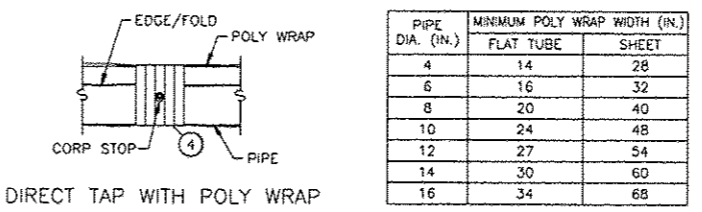
**TYPICAL SECTION OF PIPE  
CROSSING UNDER PERMANENT SURFACE**  
N.T.S.

NOTE:  
THESE MINIMUM SECTIONS APPLY WHEREVER PIPE IS ADJACENT TO, OR CROSSES UNDER AN EXISTING OR NEW ROADWAY, PARKING LOT, SIDEWALK, DRIVEWAY, STRUCTURE OR PAVEMENT.



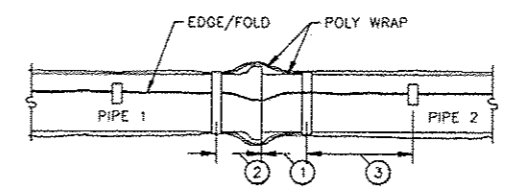
**TYPICAL SECTION OF PIPE  
PARALLEL TO PERMANENT SURFACE**  
N.T.S.

DTL-THBK



**DIRECT TAP WITH POLY WRAP**

PIPE DIA. (IN.)	MINIMUM POLY WRAP WIDTH (IN.)	
	FLAT TUBE	SHEET
4	14	28
6	16	32
8	20	40
10	24	48
12	27	54
14	30	60
16	34	68

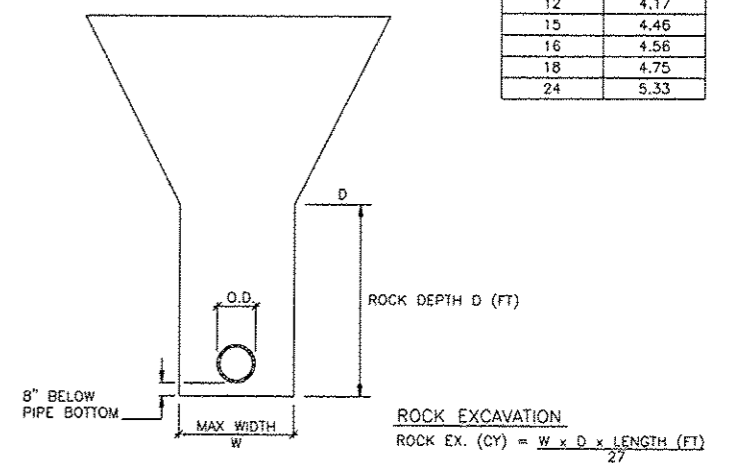


**POLY WRAP INSTALLATION AT PIPE JOINTS**

**POLYETHYLENE ENCASEMENT  
(POLY WRAP) INSTALLATION DETAIL**  
N.T.S.

DTL-INSUL

PIPE DIA. (IN.)	MAX. PAY WIDTH (FT.)
<4	3.00
4	3.33
6	3.58
8	3.78
10	3.97
12	4.17
15	4.46
16	4.56
18	4.75
24	5.33



NOTE:  
ROCK EXCAVATION WILL BE PAID ON WATER SERVICE AND MAIN CONSTRUCTION WHERE APPLICABLE/SPECIFIED.

**ROCK EXCAVATION  
PAY LIMIT SCHEDULE**  
N.T.S.

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
**CITY OF ROCKFORD**  
425 E. STATE ST.  
ROCKFORD, ILLINOIS

PROJECT AND LOCATION:  
**HARRISON AVENUE RECONSTRUCTION**  
IL 251 AND FAP 0525  
11TH ST TO 20TH ST

DRAWN BY: B.F.  
APPROVED BY: B.B.  
DATE: 6/12/15  
SCALE:

REVISIONS		
REV. NO.	DESCRIPTION	DATE

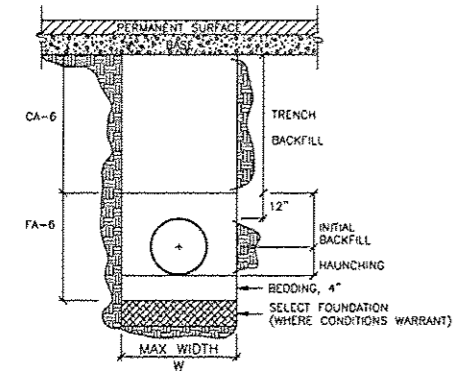
DRAWING:  
**STANDARD DETAILS**

JOB NUMBER:  
**13-1070**

SHEET NUMBER:  
**492 of 588**

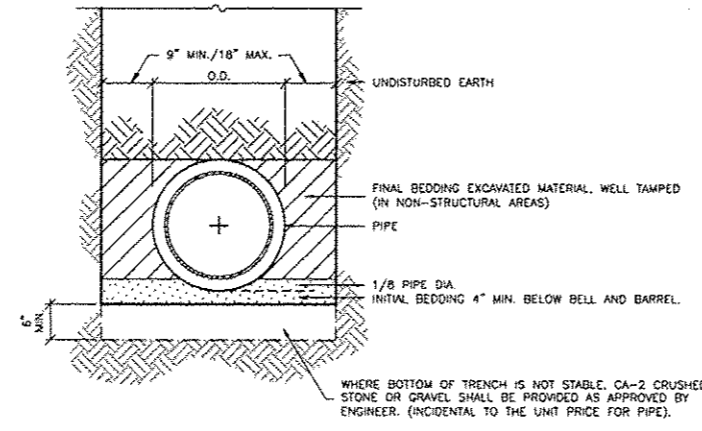


PIPE DIA. (IN.)	MAX. PAY WIDTH (FT.)
<4	3.00
4	3.33
6	3.58
8	3.78
10	3.97
12	4.17
15	4.46
16	4.56
18	4.75
24	5.33



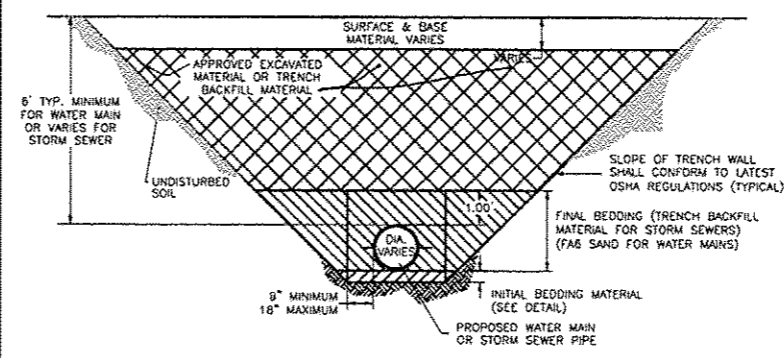
NOTE: THESE ITEMS WILL BE INCIDENTAL ON WATER SERVICES. TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR OPTIMUM DENSITY.

**TRENCH BACKFILL AND SELECT FOUNDATION MATERIAL PAY LIMIT SCHEDULE**  
N.T.S.



- NOTES:
1. SEE TRENCH BACKFILL DETAIL FOR FINAL BEDDING IN STRUCTURAL AREAS
  2. INITIAL BEDDING SHALL CONFORM TO ARTICLE 1003.04 OR ARTICLE 1004.05 OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
  3. INITIAL BEDDING SHALL BE INCIDENTAL TO THE CONTRACT.

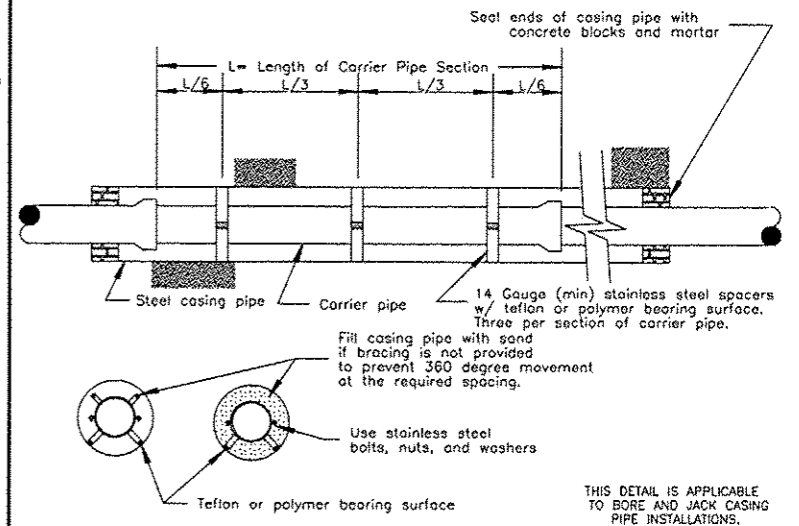
**PIPE BEDDING DETAIL**  
N.T.S.



- NOTES:
1. THE CONTRACTOR SHALL INSURE THAT ALL TRENCHING OPERATIONS CONFORM TO THE LATEST OSHA REGULATIONS.
  2. FINAL BEDDING MATERIAL SHALL BE INCIDENTAL TO THE CONTRACT.
  3. TRENCH BACKFILL MATERIAL SHALL BE COMPACTED AT A MAXIMUM OF 12" INCREMENTS TO 95% STANDARD PROCTOR OPTIMUM DENSITY.
  4. APPROVED EXCAVATED MATERIAL SHALL MEET THE REQUIREMENTS OF ARTICLE 1003.04 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. NO COMPENSATION WILL BE ALLOWED AS TRENCH BACKFILL FOR THE PORTION OF THE TRENCH BACKFILLED WITH EXCAVATED MATERIAL.
  5. AS-LIME (FA20/FA21) WILL NOT BE ALLOWED FOR TRENCH BACKFILL MATERIAL.
  6. TRENCH BACKFILL IS INCIDENTAL TO CONTRACT.

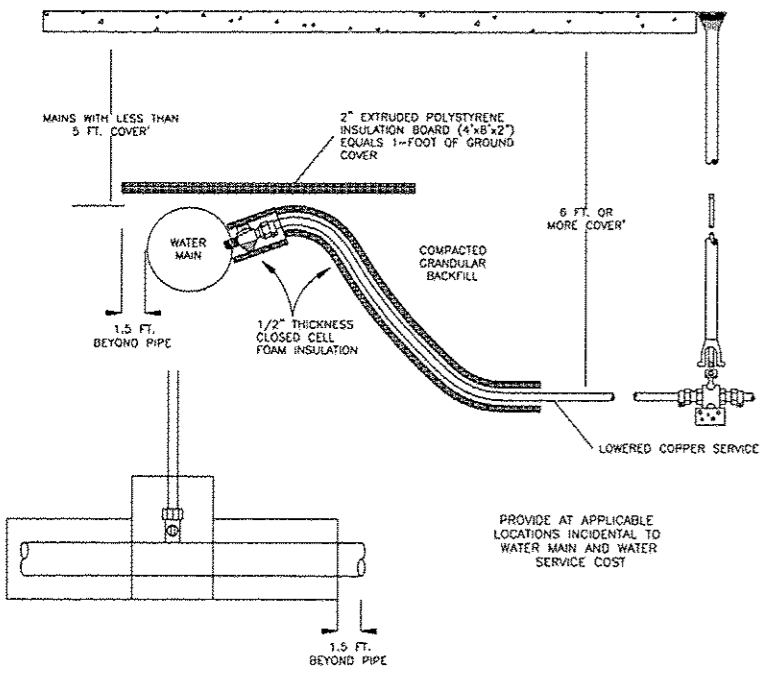
**TRENCH BACKFILL DETAIL**  
N.T.S.

DTL-TRENCH BACKFILL(EGA)



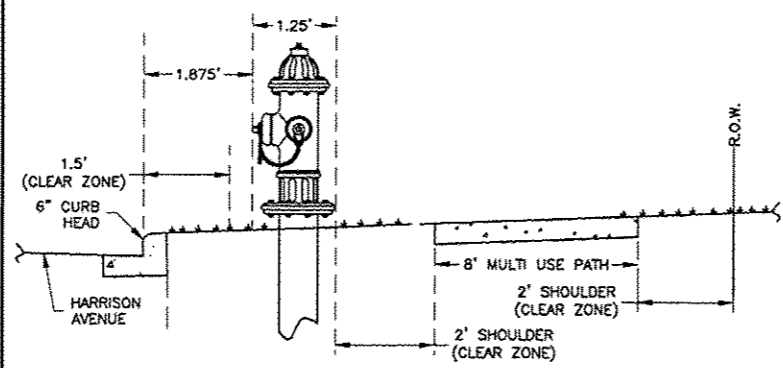
THIS DETAIL IS APPLICABLE TO BORE AND JACK CASING PIPE INSTALLATIONS.

**WATER MAIN CASING DETAIL**  
N.T.S.

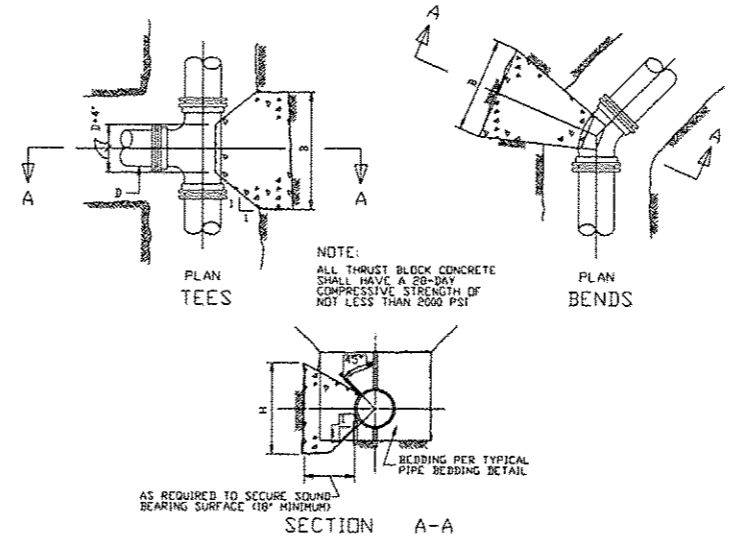


PROVIDE AT APPLICABLE LOCATIONS INCIDENTAL TO WATER MAIN AND WATER SERVICE COST

**FREEZE PROTECTION**  
N.T.S.



**FIRE HYDRANT PLACEMENT WITH MULTI USE PATH (SOUTH SIDE)**  
N.T.S.



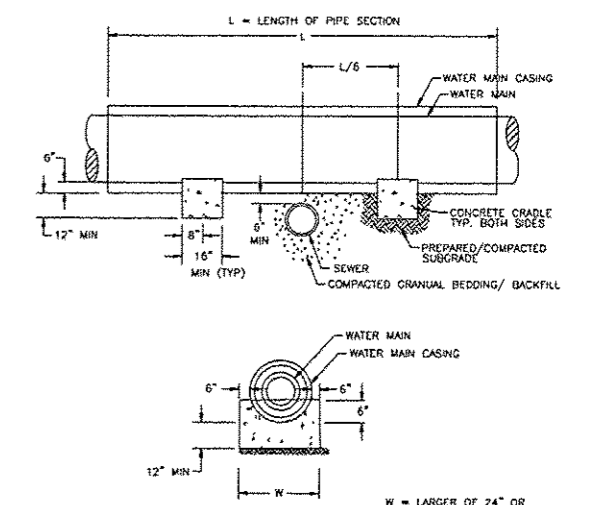
NOTE: ALL THRUST BLOCK CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF NOT LESS THAN 2800 PSI

THRUST BLOCK DIMENSION TABLE

PIPE SIZE	90° BENDS		45° BENDS		1/2" ELLS		TEES	
	D	H	D	H	D	H	D	H
6"	12	24	9	10	7	14	11	22
8"	16	32	12	24	9	18	14	28
10"	20	40	15	30	11	22	17	34
12"	24	48	18	36	13	26	21	42
16"	32	64	24	48	17	34	28	56

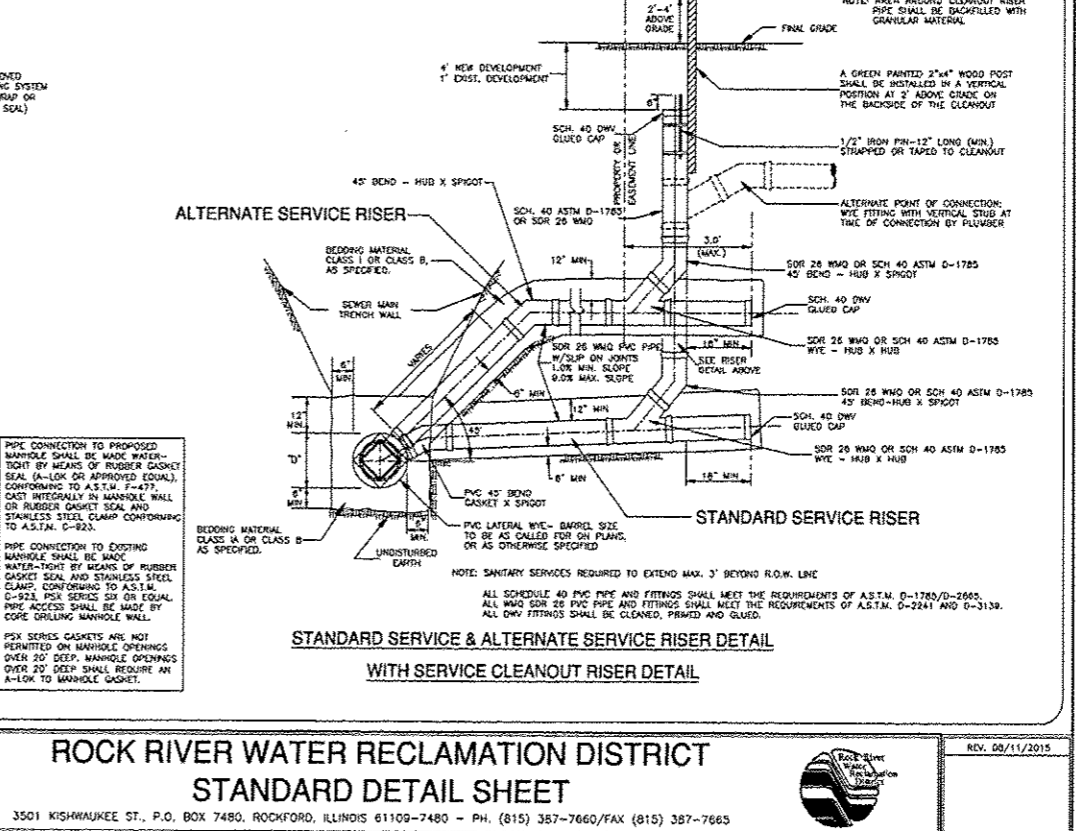
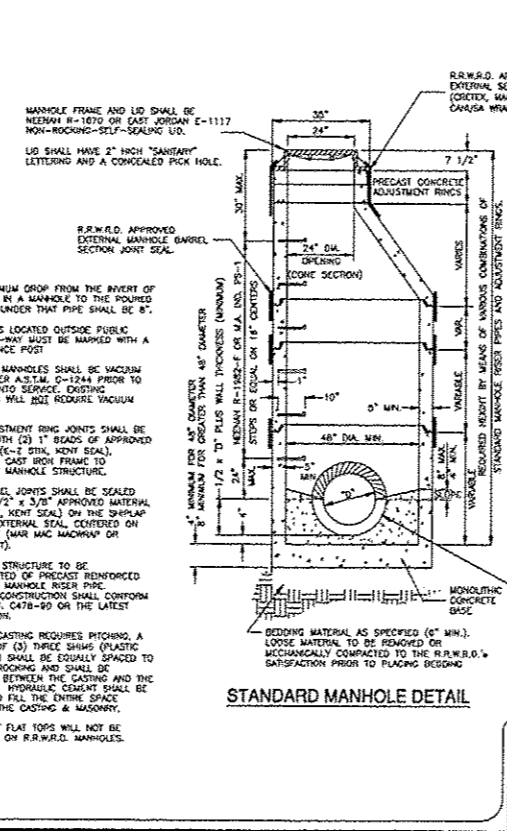
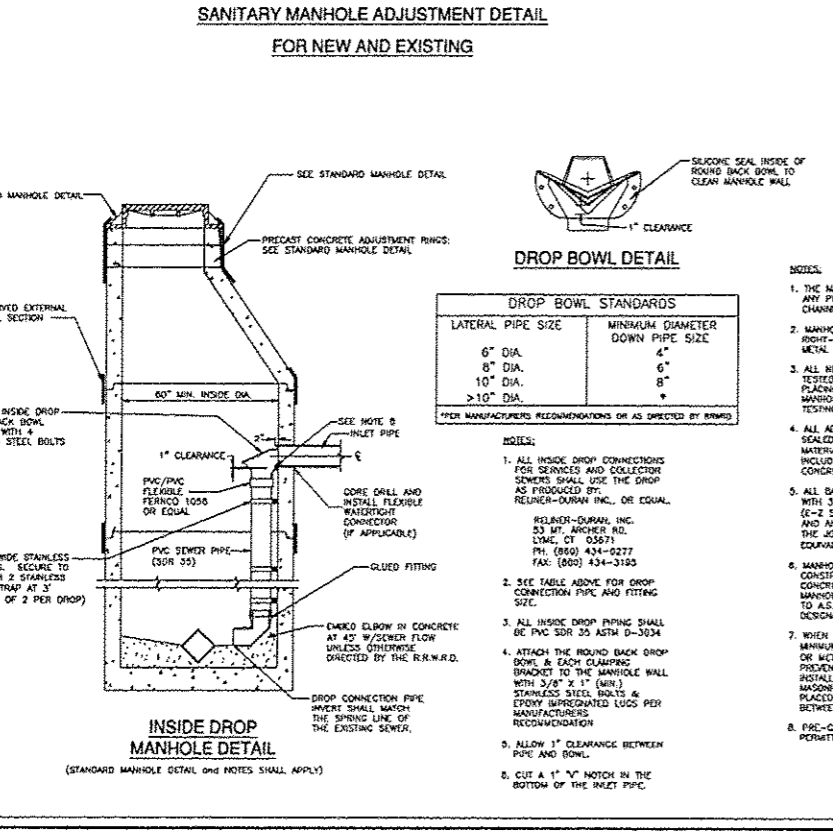
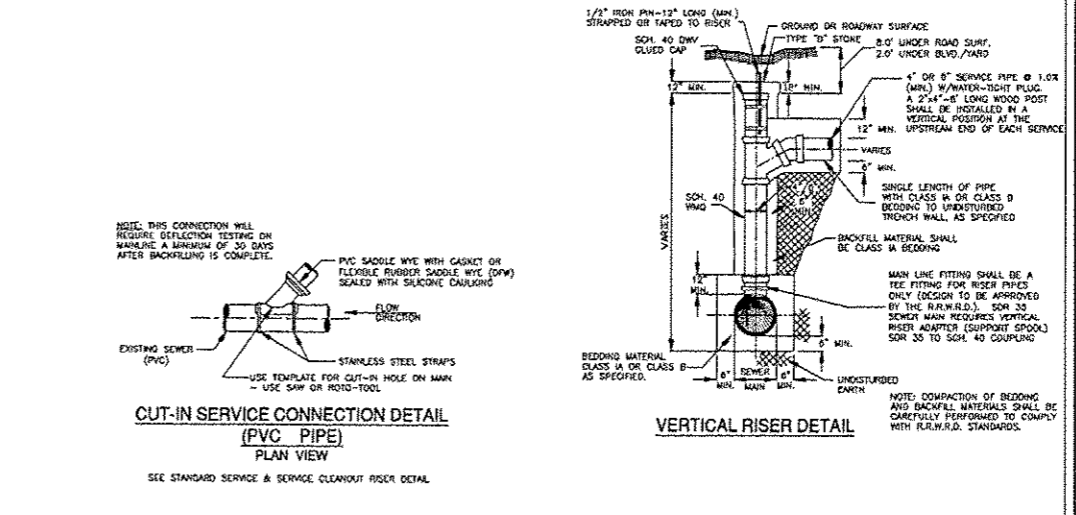
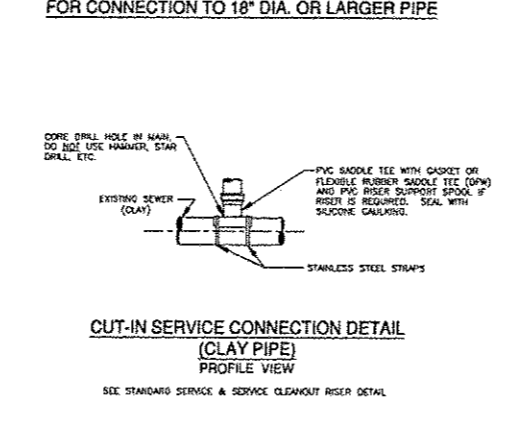
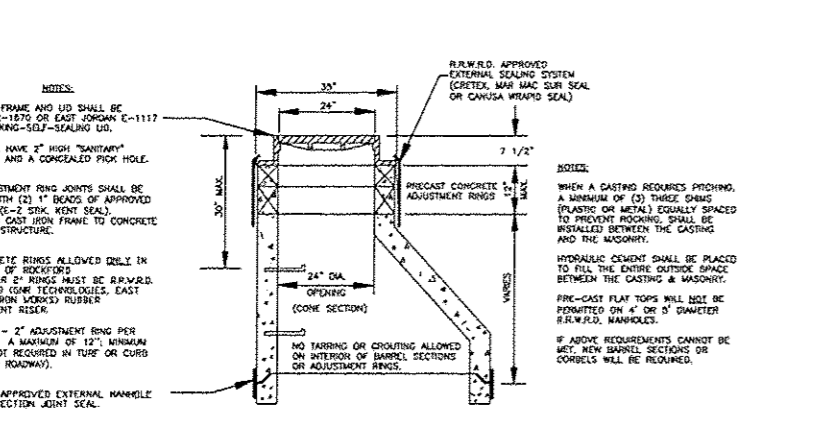
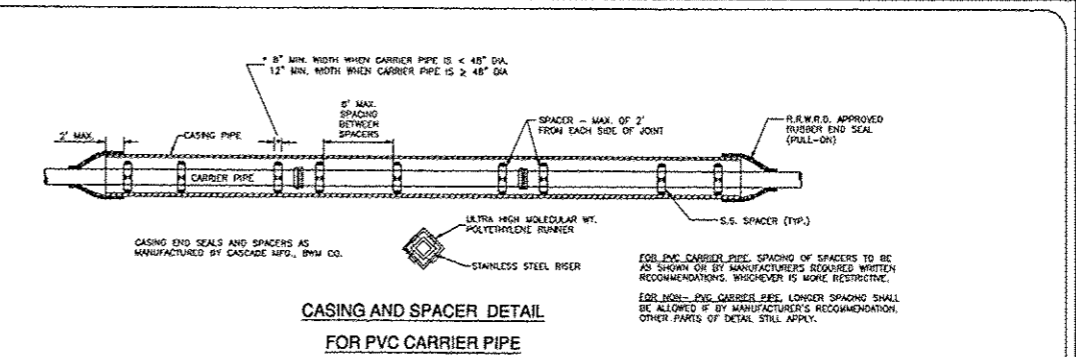
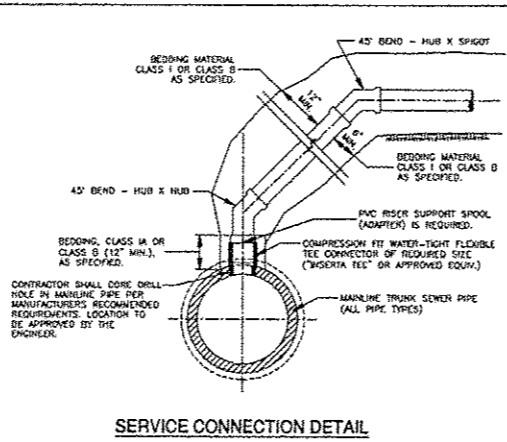
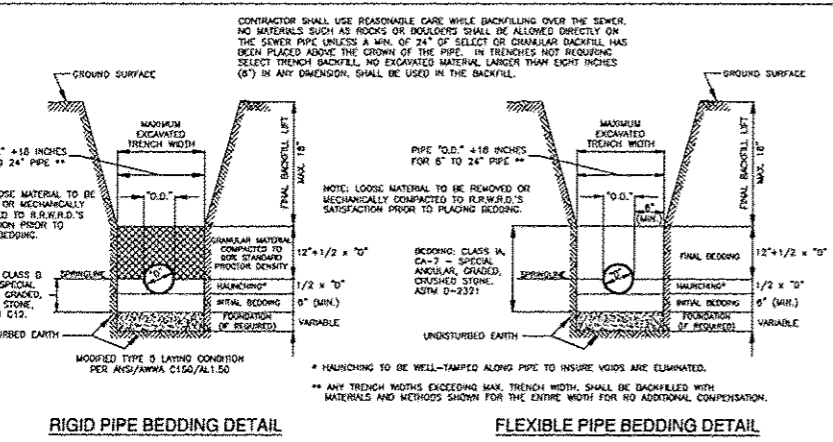
\* DIMENSIONS SHOWN ARE MINIMUM \* DIMENSIONS SHOWN ARE INCHES

**THRUST BLOCK DETAILS**  
N.T.S.



- NOTE:
1. CONCRETE CRADLES ARE REQUIRED WHEN WATER MAIN CROSSES OVER SEWER PIPES WITH A VERTICAL CLEARANCE OF LESS THAN 18".
  2. CRADLES TO BE BUILT ON UNDISTURBED EARTH PREPARED/COMPACTED TO THE SATISFACTION OF THE ENGINEER.
  3. CONCRETE TO BE CLASS SI-PER FOOT SECTION 1020.04.
  4. CONCRETE CRADLES TO BE MEASURED AND PAID FOR AS CLASS SI CONCRETE (MISCELLANEOUS).

**CONCRETE CRADLES**  
N.T.S.



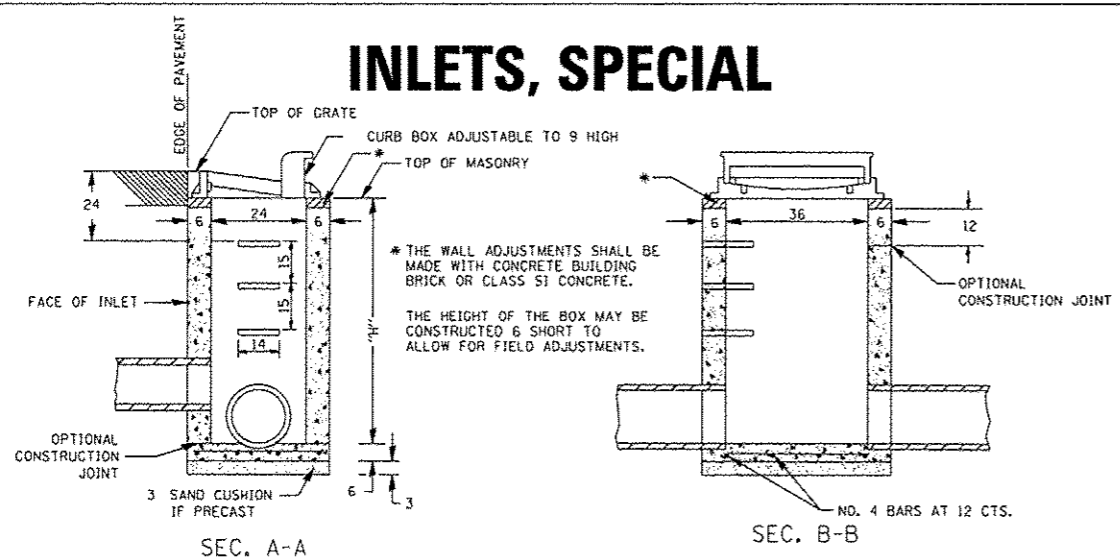
**ROCK RIVER WATER RECLAMATION DISTRICT**

**STANDARD DETAIL SHEET**

3501 KISHWAUJEE ST., P.O. BOX 7480, ROCKFORD, ILLINOIS 61109-7480 - PH. (815) 387-7660/FAX (815) 387-7665

REV. 08/11/2015

# INLETS, SPECIAL



**NOTES**

SEE STANDARD 602701 FOR DETAILS OF STEPS.

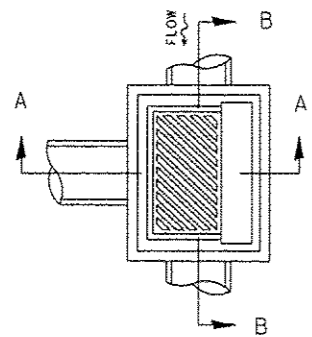
EXCEPT AS NOTED HEREON INLET SPECIAL SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 602 OF THE STANDARD SPECIFICATIONS.

THE SIDE WALLS MAY BE BUILT AS PRECAST SEGMENTED SECTIONS.

ALL VOIDS AROUND PIPE ENTRANCE, BOTH INSIDE AND OUTSIDE, SHALL BE SEALED WITH MORTAR.

WEIGHT OF CAST IRON FRAME & GRATE = 530 lbs. ± .

STEPS SHALL BE OMITTED WHEN DEPTH OF "H" IS LESS THAN 5 FT.

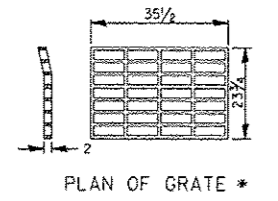
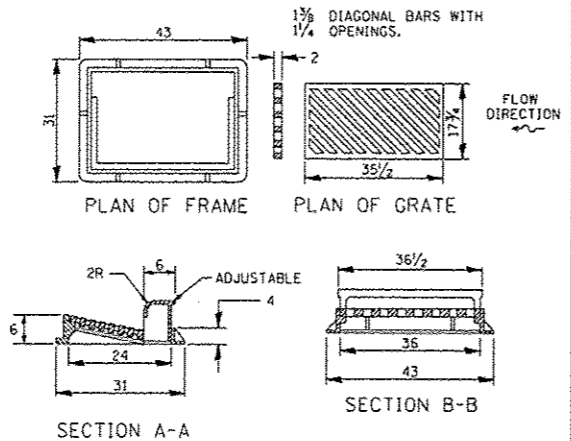


## DETAIL OF FRAME & GRATE

**NOTES**

CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT. PRECAST CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 504.01 THRU 504.05 OF THE STANDARD SPECIFICATIONS EXCEPT THAT CONCRETE STRENGTH SHALL BE 4,000 psi AFTER 28 DAYS.

THE CONTRACT UNIT PRICE EACH FOR INLETS, SPECIAL SHALL INCLUDE THE COST OF CONSTRUCTING THE INLET BOX, FURNISHING AND INSTALLING THE FRAME AND GRATE, THE CAST IRON STEPS (IF USED), THE PRECAST FLOOR SLABS, SAND CUSHION (WHEN USED) AND REINFORCEMENT BARS.



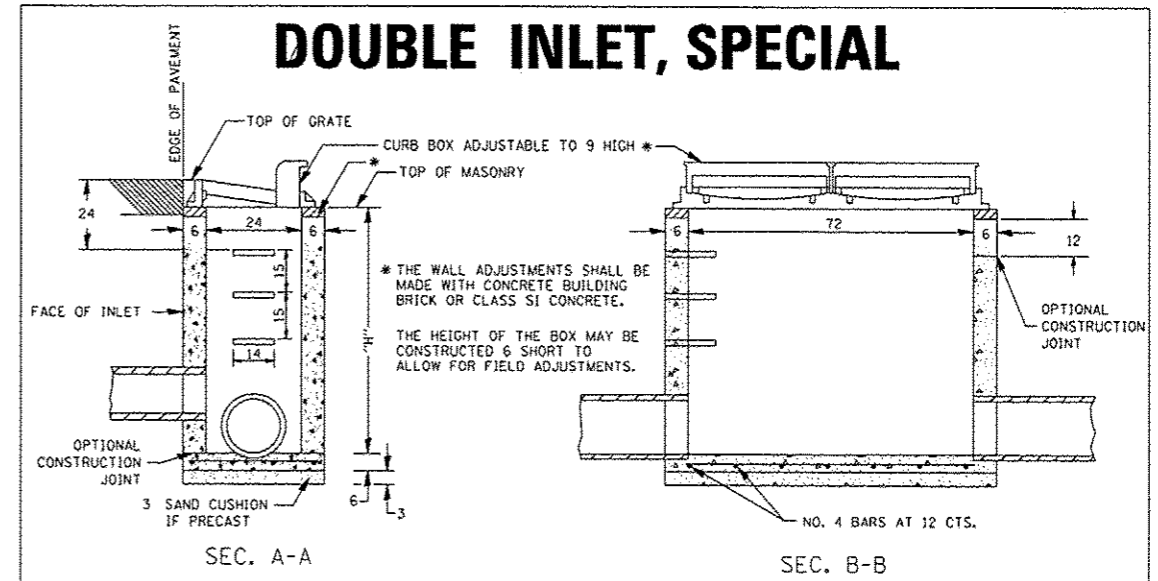
\* THIS GRATE TO BE USED WITHOUT CURB BOX WHEN INLET IS IN DRIVEWAY.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-13-11						
REVISED -						
REVISED -						
SCALE: 1/8" = 1'-0"	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.	

**INLETS, SPECIAL 10.2**

# DOUBLE INLET, SPECIAL



**NOTES**

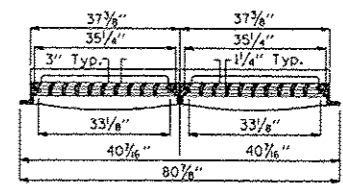
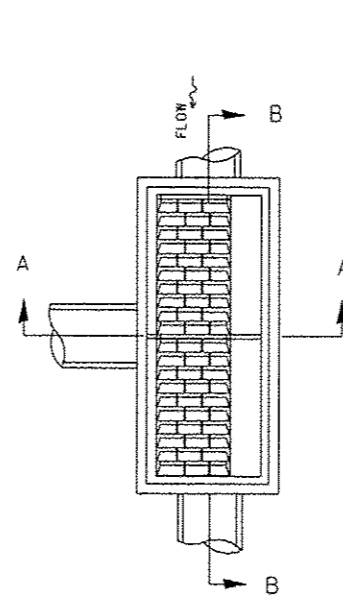
SEE STANDARD 602701 FOR DETAILS OF STEPS.

EXCEPT AS NOTED HEREON DOUBLE INLET SPECIAL SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 602 OF THE STANDARD SPECIFICATIONS.

THE SIDE WALLS MAY BE BUILT AS PRECAST SEGMENTED SECTIONS.

ALL VOIDS AROUND PIPE ENTRANCE, BOTH INSIDE AND OUTSIDE, SHALL BE SEALED WITH MORTAR.

R-3295-2 DOUBLE UNIT STEPS SHALL BE OMITTED WHEN DEPTH OF "H" IS LESS THAN 5 FOOT.



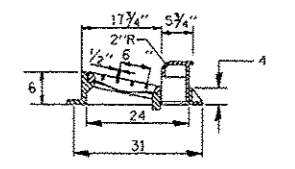
SECTION B-B

## DETAIL OF FRAME & GRATE

**NOTES**

CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT. PRECAST CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 504.01 THRU 504.05 OF THE STANDARD SPECIFICATIONS EXCEPT THAT CONCRETE STRENGTH SHALL BE 4,000 psi AFTER 28 DAYS.

THE CONTRACT UNIT PRICE EACH FOR INLET SPECIAL SHALL INCLUDE THE COST OF CONSTRUCTING THE INLET BOX, FURNISHING AND INSTALLING THE FRAME AND GRATE, THE CAST IRON STEPS (IF USED), THE PRECAST FLOOR SLABS, SAND CUSHION (WHEN USED) AND REINFORCEMENT BARS.



SECTION A-A

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

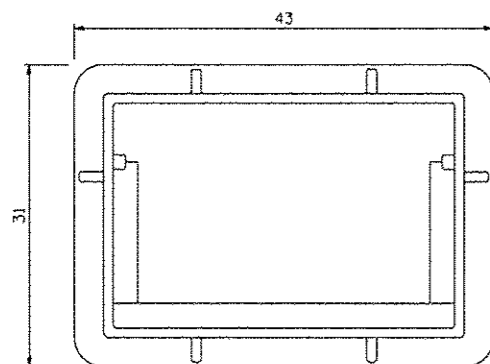
REVISED - 10-13-11	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -						
REVISED -						
REVISED -						
SCALE: 1/8" = 1'-0"	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.	

**DOUBLE INLET, SPECIAL 12.2**

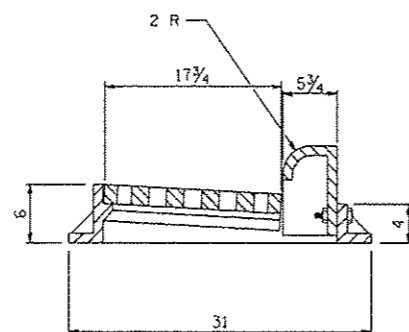
REVISIONS		
REV. NO.	DESCRIPTION	DATE

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612

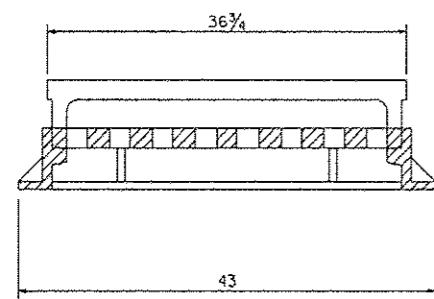
# FRAME AND GRATE FOR INLETS, SPECIAL



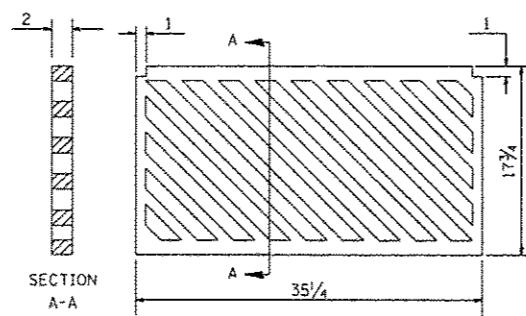
PLAN OF FRAME  
WITHOUT GRATE AND CURB BOX



TRANSVERSE SECTION



LONGITUDINAL SECTION



PLAN OF GRATE

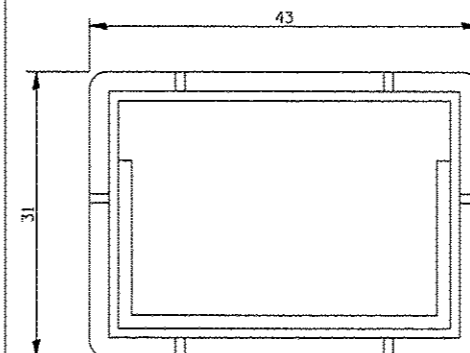
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

R 3067 OR EQUIVALENT  
APPROXIMATE WEIGHT - 510 LBS.

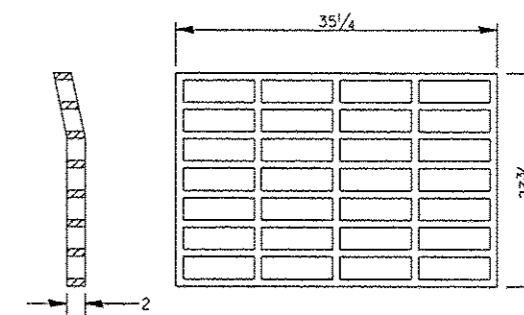
REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-13-11						
REVISED -						
REVISED -						
SCALE: 1/8" = 1' / 1/4" = 1'		SHEET NO.	OF	SHEETS	STA.	TO STA.
		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		CONTRACT NO.	

FRAME AND GRATE FOR INLETS, SPECIAL 13.2c

# FRAME AND GRATE FOR INLETS, SPECIAL

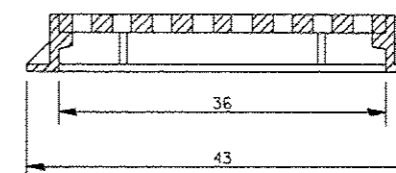


PLAN OF FRAME



PLAN OF GRATE \*

\* THIS GRATE TO BE USED WITHOUT CURB BOX WHEN INLET IS IN DRIVEWAY.



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

APPROXIMATE WEIGHT OF CAST IRON FRAME & GRATE - 530 LBS.

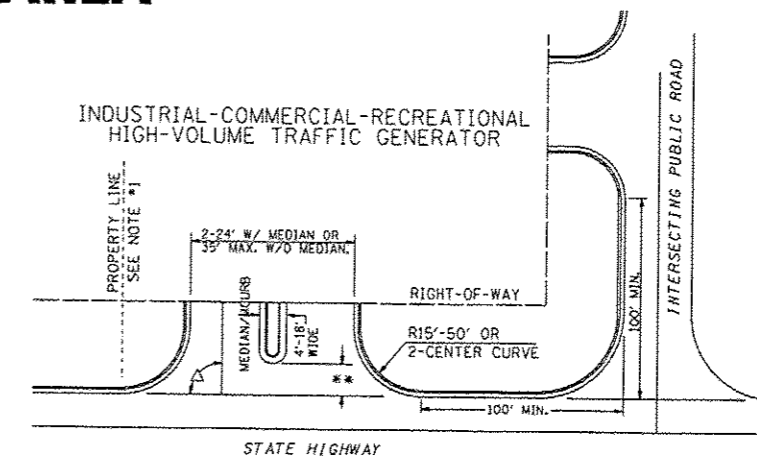
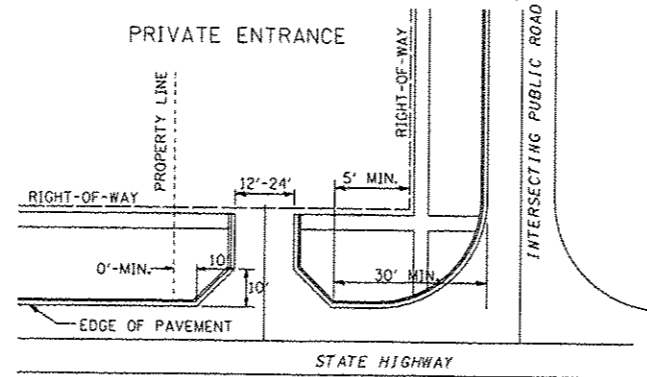
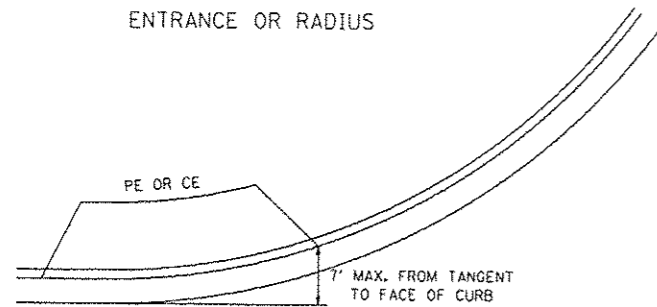
REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-14-11						
REVISED -						
REVISED -						
SCALE: 1/8" = 1' / 1/4" = 1'		SHEET NO.	OF	SHEETS	STA.	TO STA.
		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		CONTRACT NO.	

FRAME AND GRATE FOR INLETS, SPECIAL 13.2d

REVISIONS		
REV. NO.	DESCRIPTION	DATE

# ENTRANCE APPROACHES – URBAN AREA

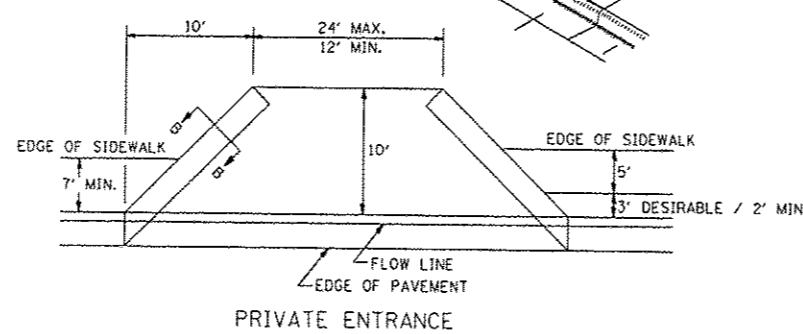
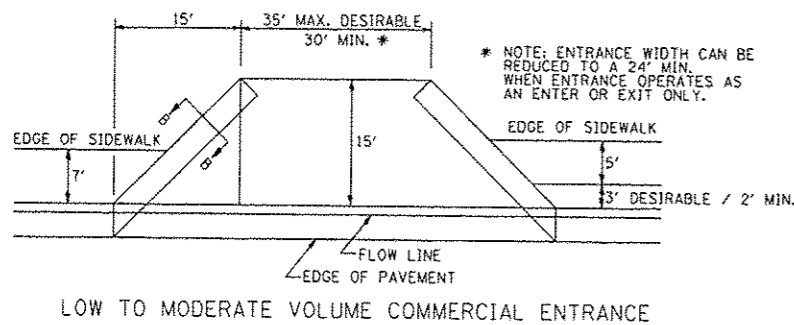
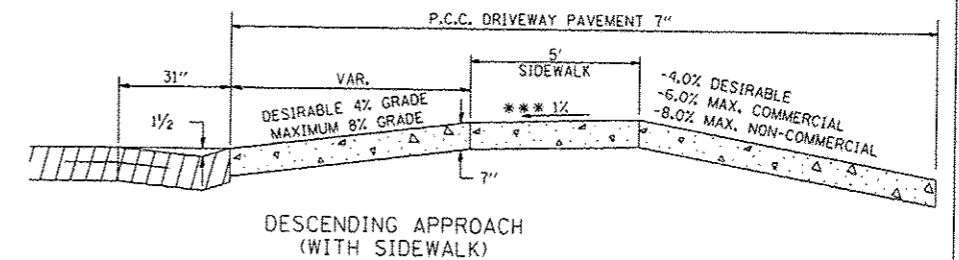
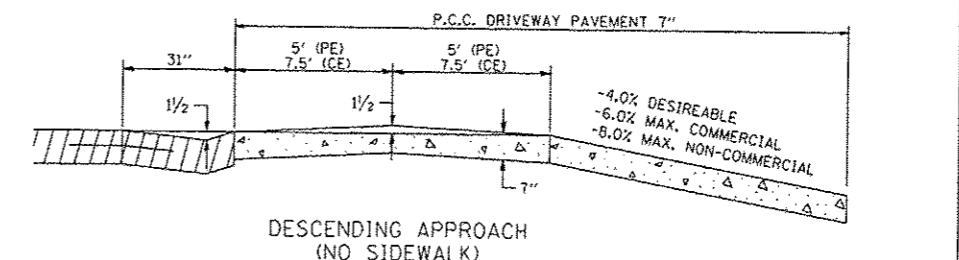
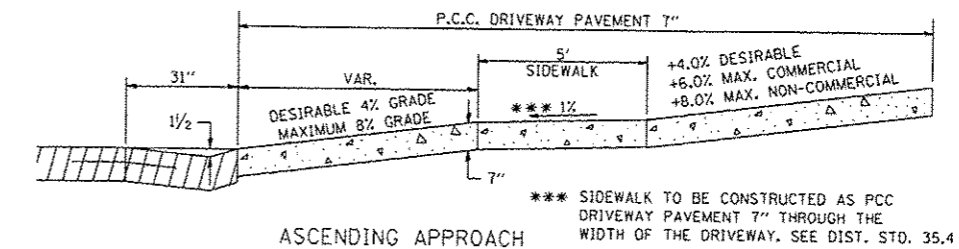
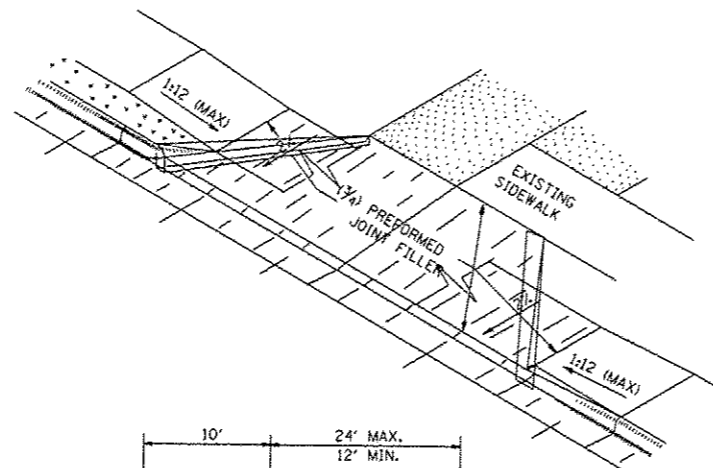
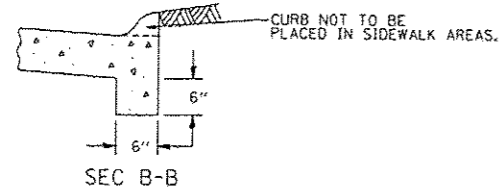
F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



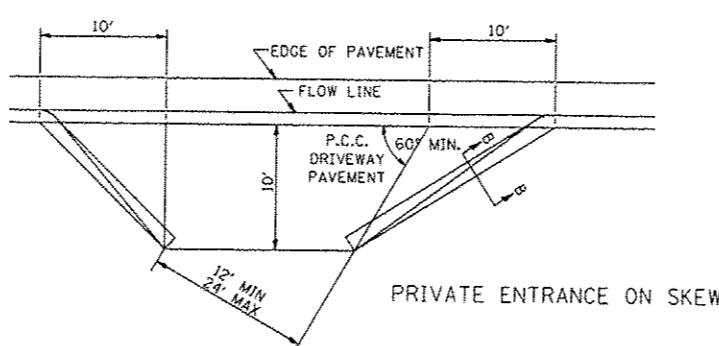
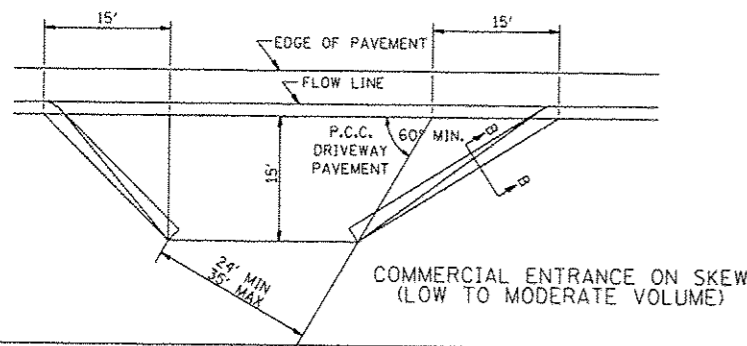
A MINIMUM OF 440 FEET SHALL BE MAINTAINED BETWEEN CENTER LINES OF ADJACENT DRIVEWAYS.  $\Delta$  90° DESIRABLE, 45° MIN. ANGLE PERMITTED ONLY FOR ONE-WAY DRIVEWAYS. 60° MIN. ANGLE FOR TWO-WAY DRIVEWAYS.

NOTE: \*1 ENCROACHMENT ON THE ADJACENT PROPERTY OWNER LAND REQUIRES HIS OR HER WRITTEN APPROVAL.

\*\* 4'-10" IF HIGHWAY CURBED. AT EDGE OF SHOULDER IF HIGHWAY UNCURBED.



NOTE: CURVED ENTRANCE RETURNS MAY BE USED FOR LOW TO MODERATE VOLUME LOCATIONS WITH REVIEW ON A CASE-BY-CASE BASIS.



FILE NAME *	USER NAME * 1001/District 2	DESIGNED -	REVISED - 6-27-14
District 2 Standard		DRAWN -	REVISED - 12-07-10
		CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

REGION 2 / DISTRICT 2 STANDARD

SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
						CONTRACT NO.	
						FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT	

ENTRANCE APPROACHES – URBAN AREA 25.1

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF ROCKFORD  
425 E. STATE ST.  
ROCKFORD, ILLINOIS

PROJECT AND LOCATION:  
HARRISON AVENUE RECONSTRUCTION  
IL 251 AND FAP 0525  
11TH ST TO 20TH ST

DRAWN BY: B.F.  
APPROVED BY: B.B.  
DATE: 6/12/15  
SCALE:

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:  
DISTRICT 2 DETAILS

JOB NUMBER:  
13-1070

SHEET NUMBER:  
497 of 588

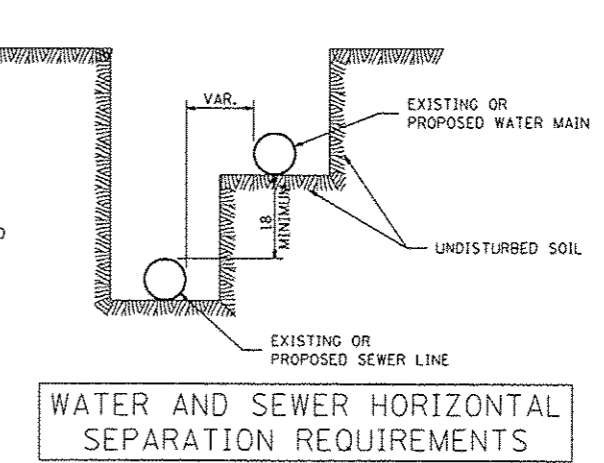
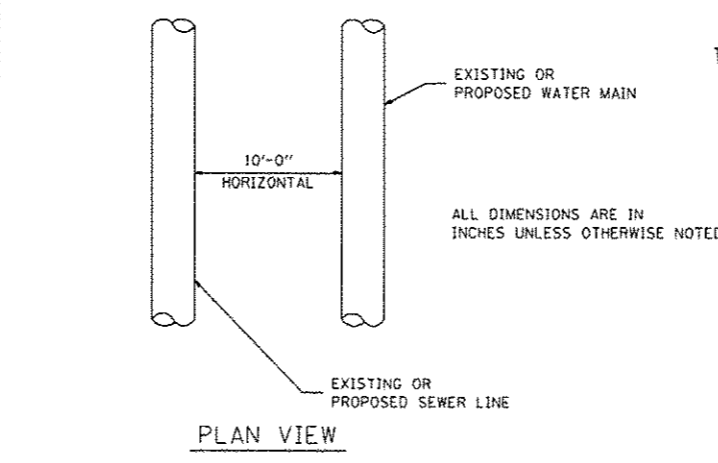
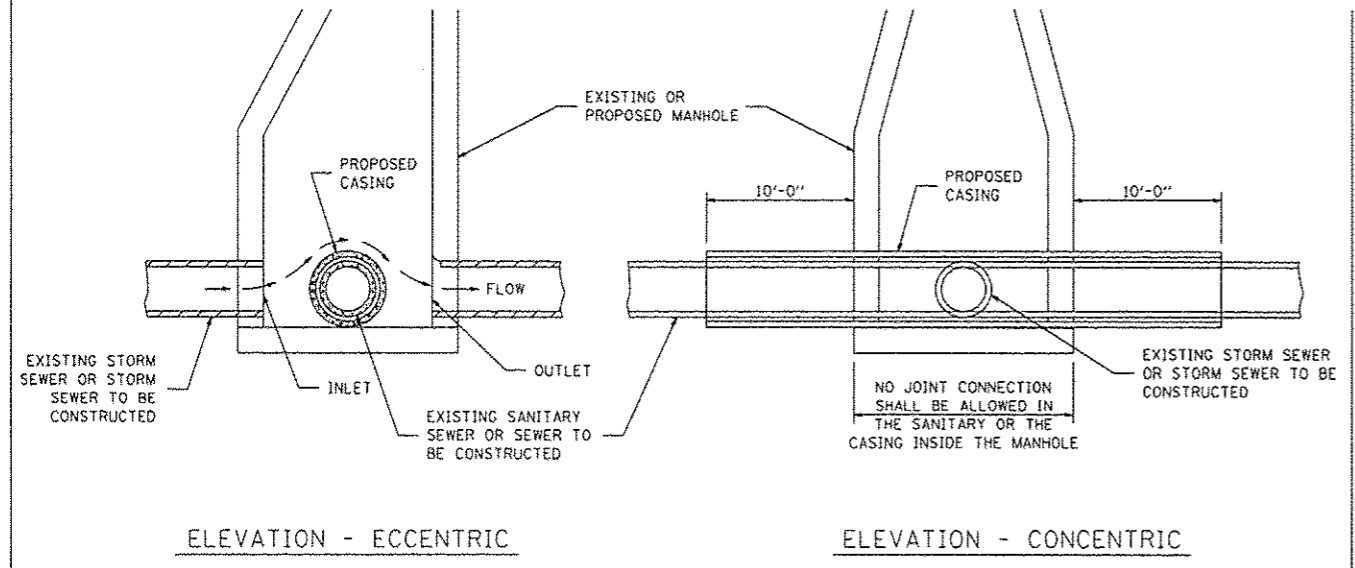


# SEWER AND WATER MAIN CROSSINGS

THIS DETAIL IS FOR UNKNOWN UTILITIES UNLESS QUANTITIES ARE INCLUDED IN THE PLANS THE EXTRA WORK WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04.

WHEN PROPOSED SEWER (OR WATER) IS LOCATED 10'-0" OR MORE FROM EXISTING WATER (OR SEWER) NO SPECIAL CONSTRUCTION REQUIRED.

WHEN PROPOSED SEWER (OR WATER) IS LOCATED LESS THAN 10'-0" FROM EXISTING WATER (OR SEWER) DETAILS BELOW SHALL APPLY.



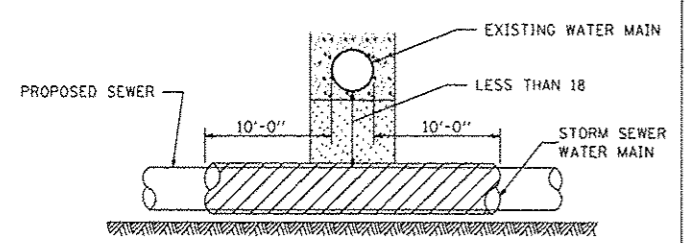
AT GRADE CROSSING OF SANITARY AND STORM SEWER

WATER AND SEWER HORIZONTAL SEPARATION REQUIREMENTS

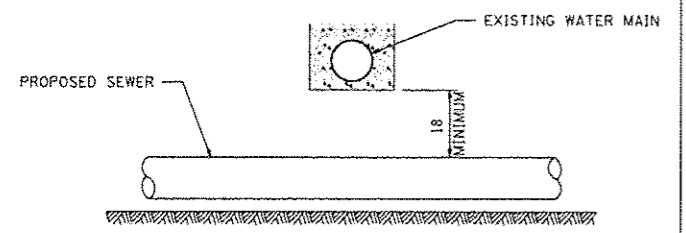
CASING SHALL BE CAST IRON WITH AN INSIDE DIAMETER 2" LARGER IN DIAMETER THAN ENCASED PIPE OUTSIDE DIAMETER WITH BOTH ENDS OF CASING SEALED

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

POINT LOADS SHALL NOT BE ALLOWED BETWEEN SEWER OR SEWER CASING AND WATER MAIN  
PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH

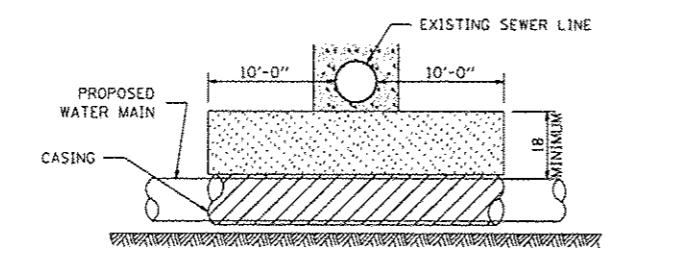


PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH  
MAINTAIN 18 MINIMUM VERTICAL SEPARATION FOR 10 FT. HORIZONTALLY



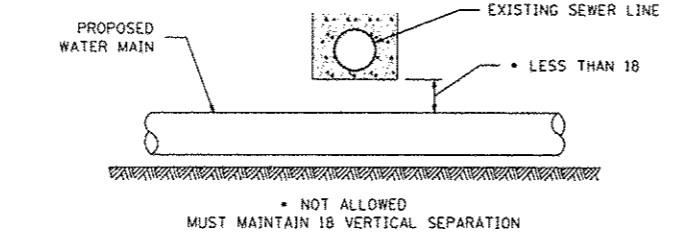
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED  
**PROPOSED SEWER LINE BELOW EXISTING WATER MAIN**

PROVIDE ADEQUATE SUPPORT FOR EXISTING SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT  
PLACE TRENCH BACKFILL FOR 10 FT. ON EITHER SIDE OF SEWER LINE



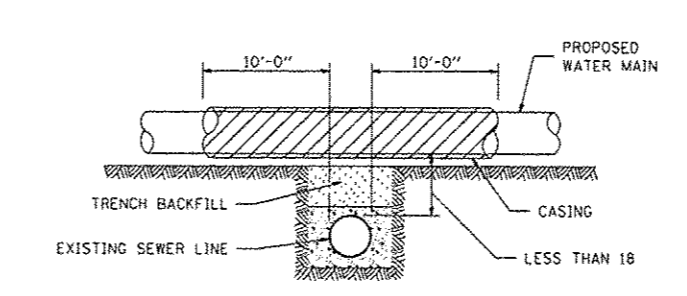
CASING SHALL BE CAST IRON WITH AN INSIDE DIAMETER 2" LARGER IN DIAMETER THAN ENCASED PIPE OUTSIDE DIAMETER WITH BOTH ENDS OF CASING SEALED

PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH  
MAINTAIN 18 MINIMUM VERTICAL SEPARATION FOR 10 FT. HORIZONTALLY



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED  
**PROPOSED WATER MAIN BELOW EXISTING SEWER LINE**

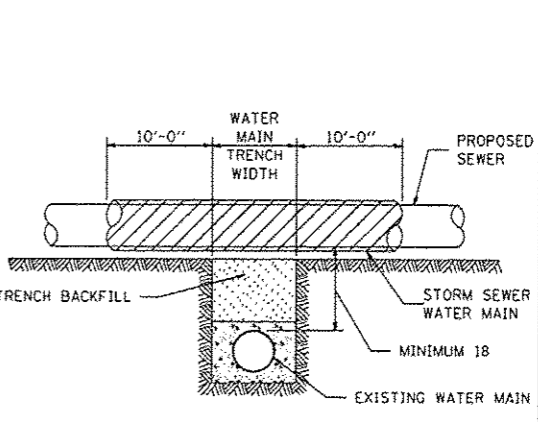
POINT LOADS SHALL NOT BE ALLOWED BETWEEN WATER MAIN OR WATER MAIN CASING AND SEWER



CASING SHALL BE CAST IRON WITH AN INSIDE DIAMETER 2" LARGER IN DIAMETER THAN ENCASED PIPE OUTSIDE DIAMETER WITH BOTH ENDS OF CASING SEALED

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED  
**PROPOSED WATER MAIN ABOVE EXISTING SEWER LINE**

PROVIDE ADEQUATE SUPPORT FOR SEWER TO PREVENT SETTLING AND BREAKING THE WATER MAIN.



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED  
**EXISTING WATER MAIN BELOW PROPOSED SEWER LINE WITH MINIMUM 18 VERTICAL SEPARATION**

FILE NAME District 2 Standard	USER NAME 1001/District 2	DESIGNED -	REVISED 10-17-11
		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

REGION 2 / DISTRICT 2 STANDARD

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	

## SEWER AND WATER MAIN CROSSINGS 32.1

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF ROCKFORD  
425 E. STATE ST.  
ROCKFORD, ILLINOIS

PROJECT AND LOCATION:  
HARRISON AVENUE RECONSTRUCTION  
IL 251 AND FAP 0525  
11TH ST TO 20TH ST

DRAWN BY: B.F.  
APPROVED BY: B.B.  
DATE: 6/12/15  
SCALE:

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:  
DISTRICT 2 DETAILS

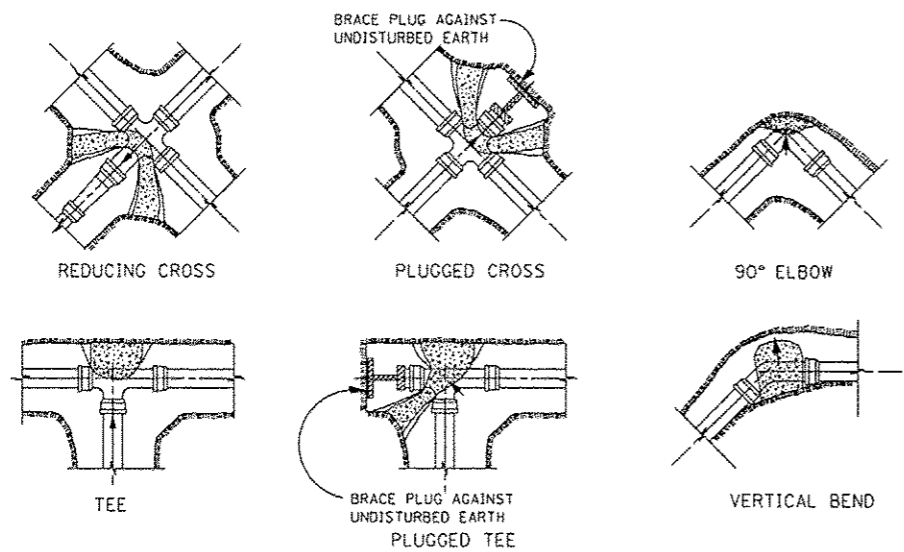
JOB NUMBER:  
13-1070

SHEET NUMBER:  
498 of 588





# THRUST BLOCK DETAILS



NOTES:  
 ALL BLOCKS TO BEAR AGAINST UNDISTURBED EARTH.  
 ARROWS INDICATE DIRECTION OF THRUST.  
 ALL BLOCKS TO BE CLASS S1 CONCRETE.  
 ALL FITTINGS SHOWN IN PLAN EXCEPT VERTICAL BEND.

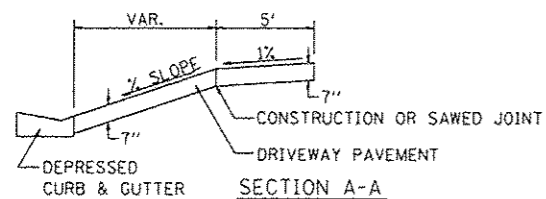
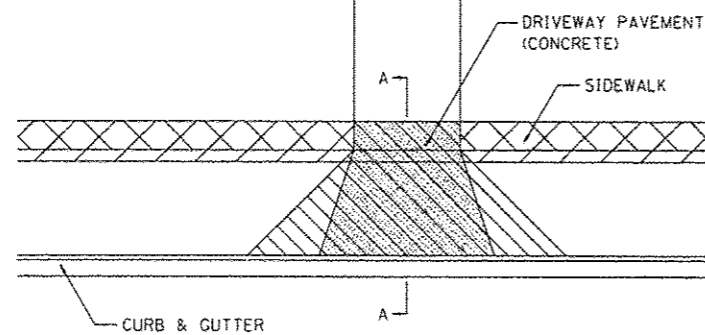
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

REVISED - 10-03-11	REGION 2 / DISTRICT 2 STANDARD		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -							
REVISED -							
REVISED -							
SCALE: 1:8000	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.

**THRUST BLOCK DETAILS 34.4**

# SIDEWALK AND DRIVEWAY PAVEMENT PAY AREAS

- PAY FOR AS
- SIDEWALK REMOVAL
  - DRIVEWAY PAVEMENT REMOVAL
  - PCC SIDEWALK 5
  - PCC DRIVEWAY PAVEMENT 7



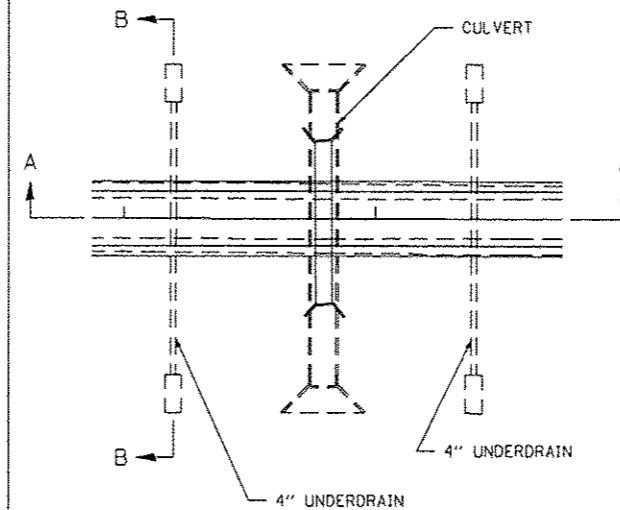
FOR DETAILS ON DIMENSIONS AND GRADES, SEE DISTRICT STANDARD 25.1 OR PLANS.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-03-11							
REVISED -							
REVISED -							
SCALE: 1:8000	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.

**SIDEWALK AND DRIVEWAY PAVEMENT PAY AREAS 35.4**

# UNDERDRAIN FOR ACROSS ROAD (AR) CULVERTS



NOTES:

IN SAG CONDITIONS INSTALL PIPE UNDERDRAINS ON BOTH SIDES OF CULVERT.

ON HIGHWAY GRADES GREATER THAN 2% INSTALL PIPE UNDERDRAINS ON THE HIGH SIDE OF THE CULVERT.

THIS WORK SHALL BE COMPLETED ACCORDING TO SECTION 601 OF THE STANDARD SPECIFICATION.

THE UNDERDRAIN SHALL EXTEND UNTIL INTERSECTING WITH THE SIDE SLOPES. THE PIPES SHALL DRAIN INTO CONCRETE HEADWALLS. (SEE ARTICLE 601.05 OF THE STANDARD SPECIFICATIONS AND HIGHWAY STANDARDS 601101).

THE UNDERDRAIN SHALL BE A MINIMUM OF 12" BELOW THE EXISTING PAVEMENT.

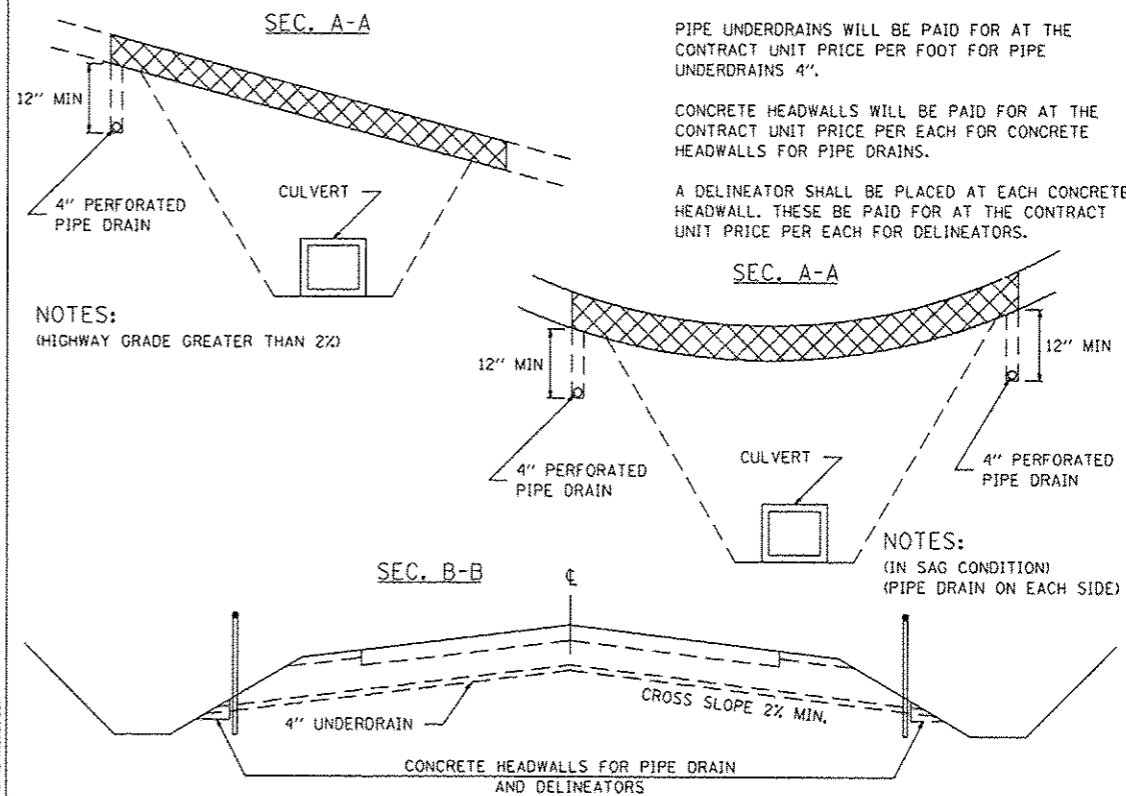
THE TRENCH FOR THE UNDERDRAIN SHALL BE BACKFILLED WITH CA11 OR CA16.

THE TRENCH SHALL BE WRAPPED USING A FABRIC ENVELOPE MEETING THE REQUIREMENTS OF ARTICLE 1080.05 OF THE STANDARD SPECIFICATIONS. FABRIC ENCASING THE PIPE SHALL BE ELIMINATED.

PIPE UNDERDRAINS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR PIPE UNDERDRAINS 4".

CONCRETE HEADWALLS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR CONCRETE HEADWALLS FOR PIPE DRAINS.

A DELINEATOR SHALL BE PLACED AT EACH CONCRETE HEADWALL. THESE BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR DELINEATORS.



NOTES:  
 (HIGHWAY GRADE GREATER THAN 2%)

NOTES:  
 (IN SAG CONDITION)  
 (PIPE DRAIN ON EACH SIDE)

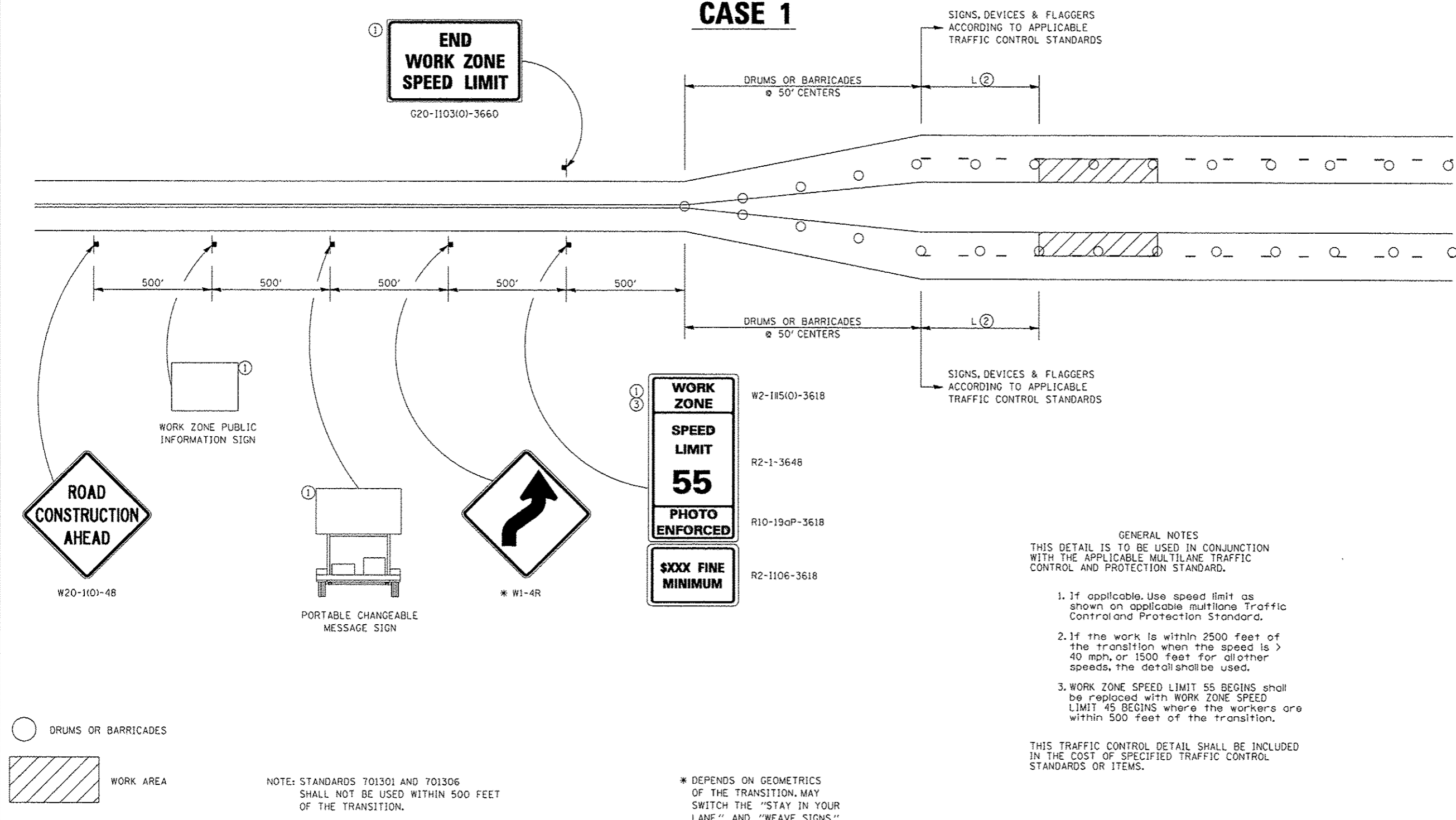
REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 7-05-12							
REVISED -							
REVISED -							
SCALE: 1:8000	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.

**UNDERDRAIN FOR ACROSS ROAD (AR) CULVERTS 37.2**

REVISIONS		
REV. NO.	DESCRIPTION	DATE

# TRAFFIC CONTROL FOR TRANSITION AREAS

## CASE 1



FILE NAME *	USER NAME * 1007/District 2	DESIGNED -	REVISED - 8-27-13
District 2 Standard		DRAWN -	REVISED - 1-16-13
		CHECKED -	REVISED -
		DATE -	REVISED -
PLOT SCALE * 1/8" = 1'			
PLOT DATE * Tue Sep 03 08:27:27 2013			

<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>		<b>REGION 2 / DISTRICT 2 STANDARD</b>		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SCALE:	SHEET NO. OF SHEETS	STA.	TO STA.	CONTRACT NO.				
				FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF ROCKFORD  
425 E. STATE ST.  
ROCKFORD, ILLINOIS

PROJECT AND LOCATION:  
HARRISON AVENUE RECONSTRUCTION  
IL 251 AND FAP 0525  
11TH ST TO 20TH ST

DRAWN BY: B.F.  
APPROVED BY: B.B.  
DATE: 6/12/15  
SCALE:

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:  
DISTRICT 2 DETAILS

JOB NUMBER:  
13-1070

SHEET NUMBER:  
500 of 588