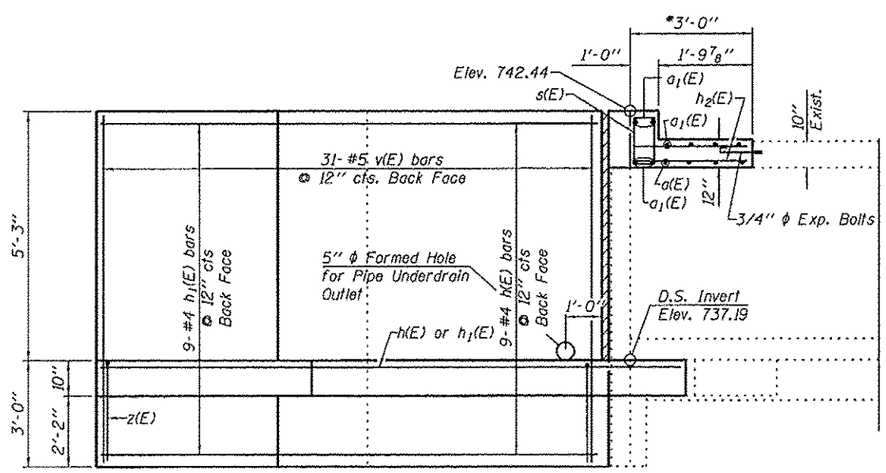
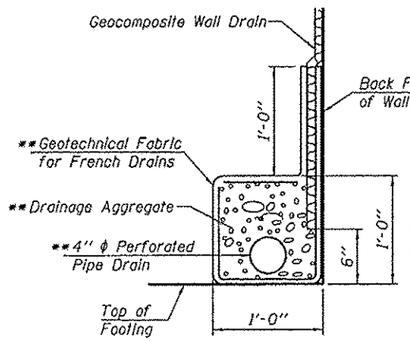
F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



SW. WALL - SOUTH ELEVATION

Showing Wing Reinforcement

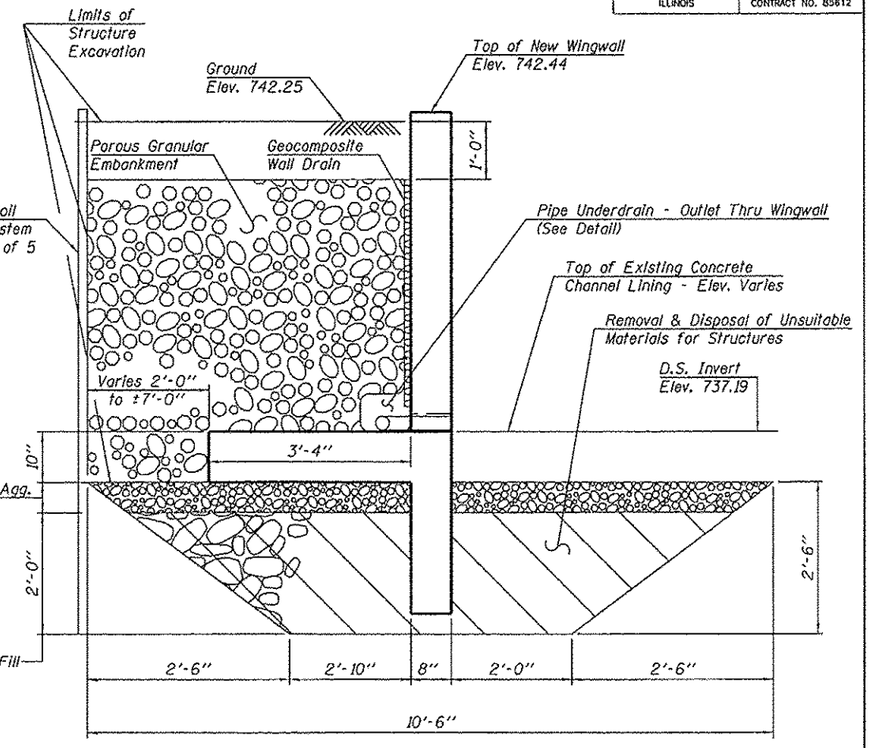


PIPE UNDERDRAIN DETAIL

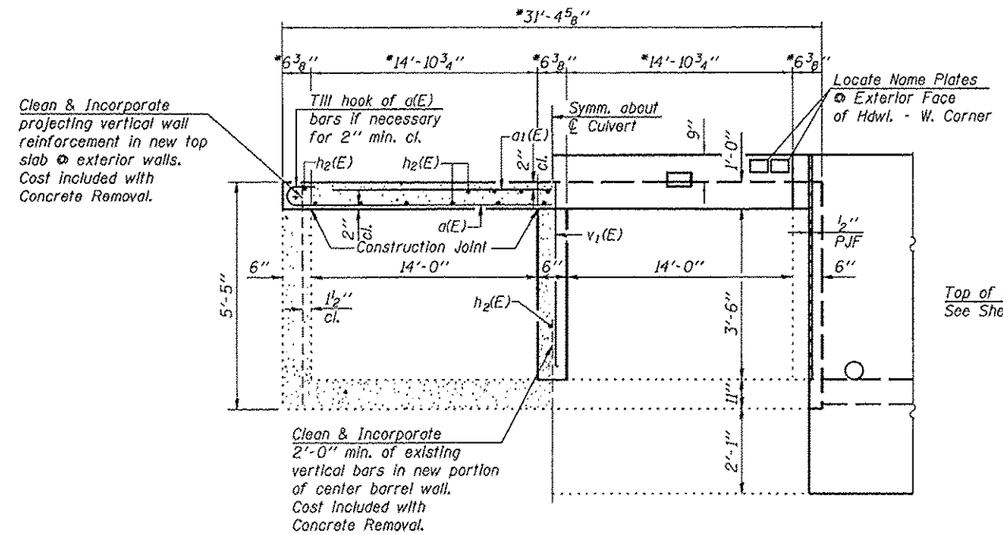
** Included in the cost of "Pipe Underdrains for Structures"

*Denotes Dimension along Existing Culvert Skew

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

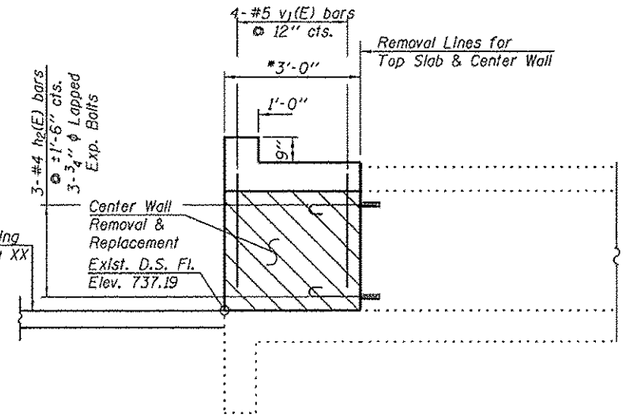


SECTION THRU CULVERT DOWNSTREAM WING



HALF SECTION THRU BARREL

HALF END ELEVATION



SECTION THRU CULVERT DOWNSTREAM END

SOUTHEAST DRAINAGE WAY
RE-BUILT 201_ 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.

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

OWNER/DEVELOPER
CITY OF ROCKFORD
ROCKFORD, IL

PROJECT AND LOCATION:
STRATEGIC REGIONAL ARTERIAL (SRA)
HARRISON AVE (IL 251 AND FAP 0525)
11TH ST TO 20TH ST
WINNEBAGO COUNTY, ILLINOIS

DRAWN BY: A.D.S.
APPROVED BY: A.R.K. R.E.A.
DATE: 6/12/15
SCALE: SCALE 1 SCALE 2

REVISIONS		

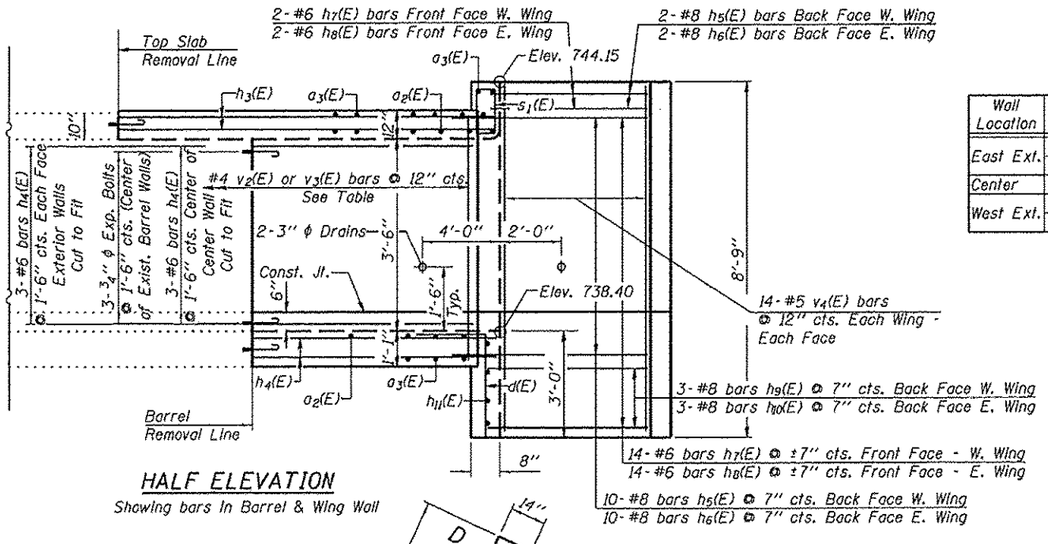
DRAWING:
CULVERT DOWNSTREAM DETAILS
HARRISON AVE. - 20TH STREET
INTERSECTION
S.N. 101-5006

JOB NUMBER: 13-1070

SHEET NUMBER: 401 of 588

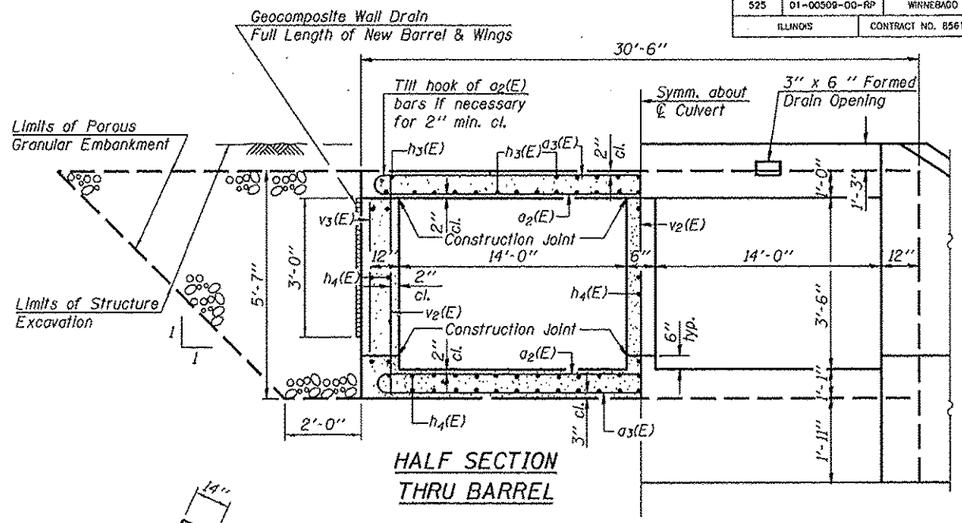
F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612

Wall Location	Bar	No. Req'd
East Ext.	$v_2(E)$	10
	$v_3(E)$	10
Center	$v_2(E)$	9
West Ext.	$v_2(E)$	8
	$v_3(E)$	8

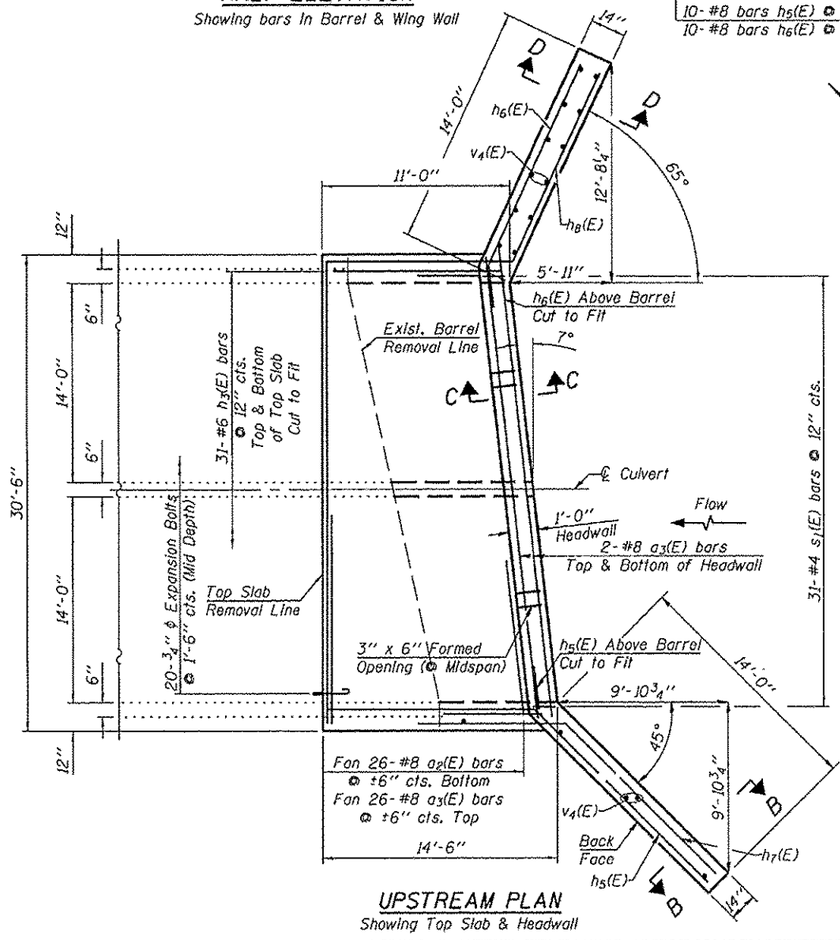


HALF ELEVATION

Showing bars In Barrel & Wing Wall

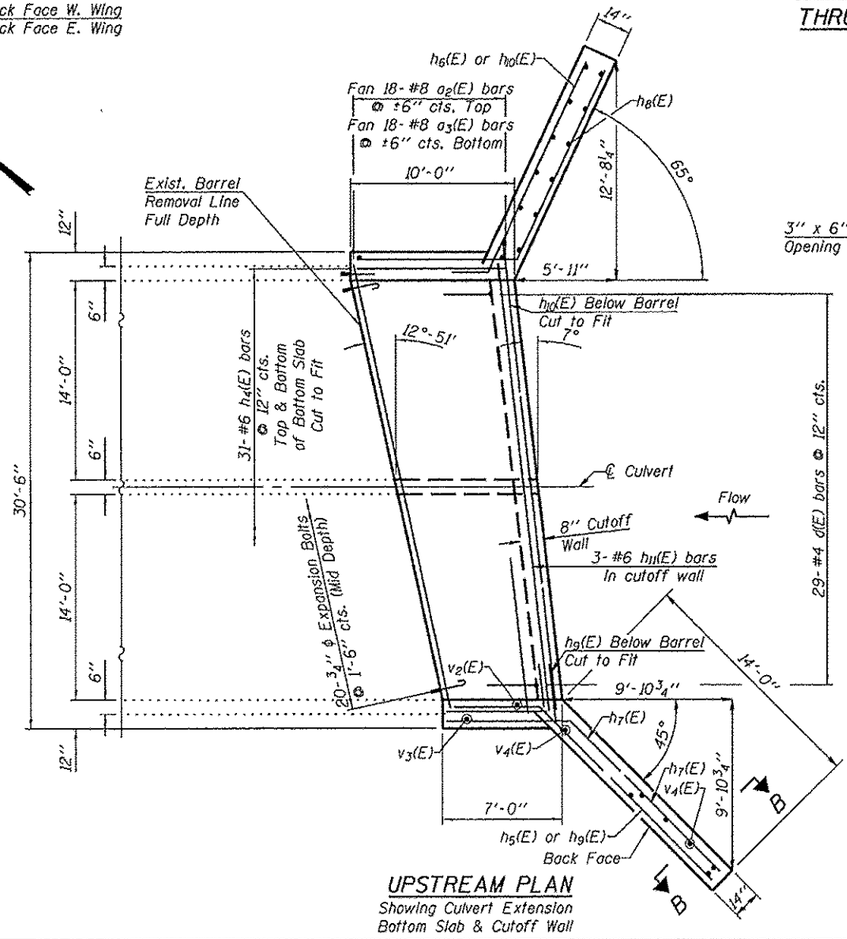


HALF SECTION THRU BARREL



UPSTREAM PLAN

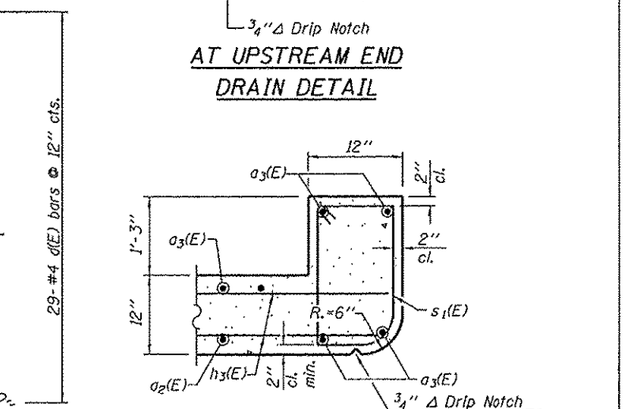
Showing Top Slab & Headwall



UPSTREAM PLAN

Showing Culvert Extension Bottom Slab & Cutoff Wall

HALF END ELEVATION



AT UPSTREAM END DRAIN DETAIL

SECTION C-C

See Sheet 5 of 5 for Section B-B & Section D-D

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

OWNER/DEVELOPER
CITY OF ROCKFORD
ROCKFORD, IL

PROJECT AND LOCATION:
STRATEGIC REGIONAL ARTERIAL (SRA)
HARRISON AVE (IL 251 AND FAP 0525)
11TH ST TO 20TH ST
WINNEBAGO COUNTY, ILLINOIS

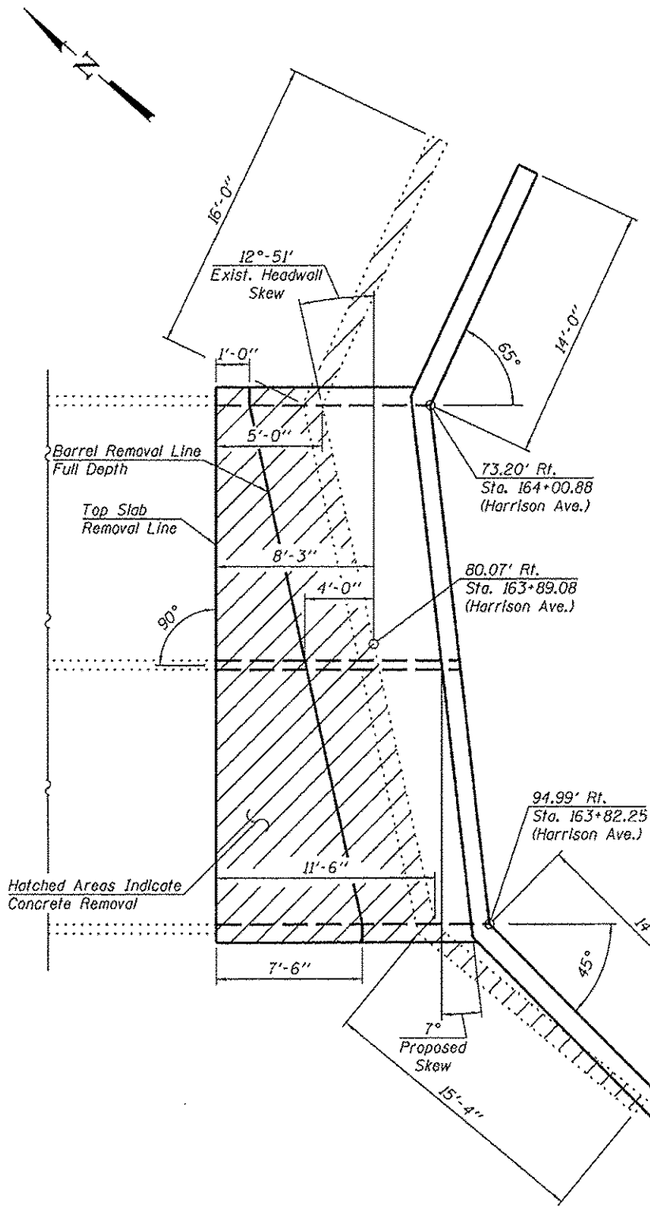
DRAWN BY: A.D.S.
APPROVED BY: A.R.K. R.E.A.
DATE: 6/12/15
SCALE: SCALE 1 SCALE 2

REVISIONS

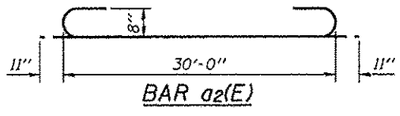
DRAWING:
CULVERT UPSTREAM PLAN & ELEVATION
HARRISON AVE. - 20TH STREET INTERSECTION
S.N. 101-5006

JOB NUMBER: 13-1070
SHEET NUMBER: 402 of 588

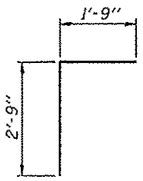
F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



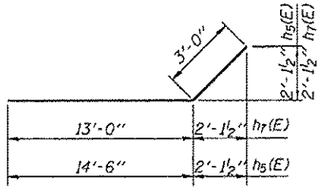
CONCRETE REMOVAL PLAN
Upstream End



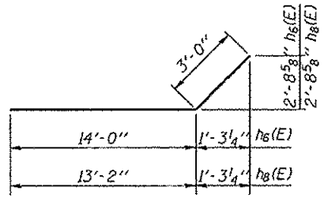
BAR $a_2(E)$



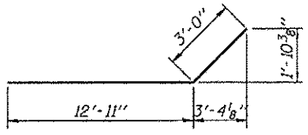
BAR $d(E)$



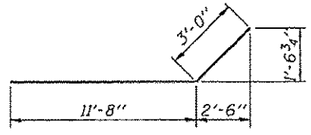
BARS $h_5(E)$ & $h_7(E)$



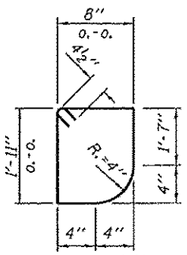
BARS $h_6(E)$ & $h_8(E)$



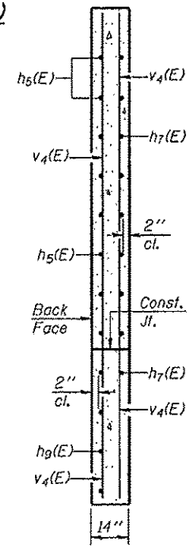
BAR $h_9(E)$



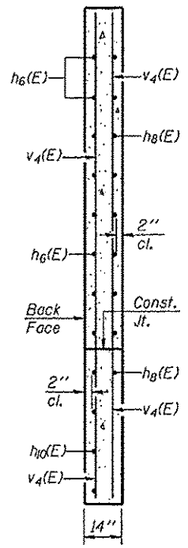
BAR $h_{10}(E)$



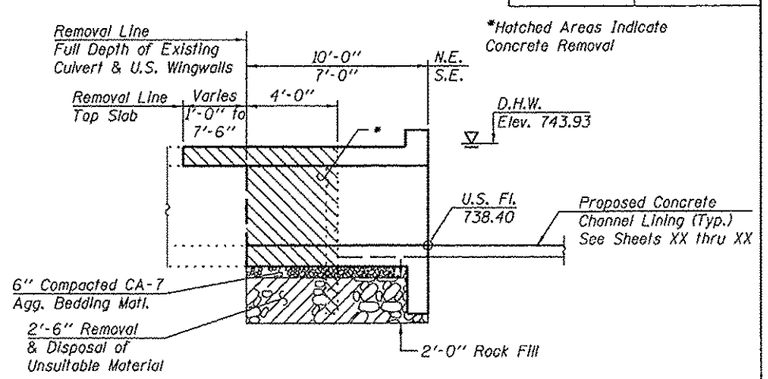
BAR $s_1(E)$



SECTION B-B



SECTION D-D



*Hatched Areas Indicate Concrete Removal

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
$a_2(E)$	44	#8	31'-10"	C
$a_3(E)$	48	#8	30'-0"	—
$d(E)$	29	#4	4'-6"	⌐
$h_3(E)$	62	#6	13'-9"	—
$h_4(E)$	77	#6	9'-6"	—
$h_5(E)$	12	#8	17'-6"	—
$h_6(E)$	12	#8	17'-0"	—
$h_7(E)$	16	#6	16'-0"	—
$h_8(E)$	16	#6	16'-2"	—
$h_9(E)$	3	#8	15'-11"	—
$h_{10}(E)$	3	#8	14'-8"	—
$h_{11}(E)$	3	#6	30'-0"	—
$v_2(E)$	27	#4	5'-3"	—
$v_3(E)$	18	#4	2'-8"	—
$v_4(E)$	56	#5	8'-6"	—
$s_1(E)$	31	#4	5'-9"	D

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 ¾ inch x 15 inch	Each	49
Porous Granular Embankment	Cu. Yd.	90
Protective Coat	Sq. Yd.	7

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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ILLINOIS
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ROCKFORD, IL

PROJECT AND LOCATION:
STRATEGIC REGIONAL ARTERIAL (SRA)
HARRISON AVE (IL 251 AND FAP 0525)
11TH ST TO 20TH ST
WINNEBAGO COUNTY, ILLINOIS

DRAWN BY: A.D.S.
APPROVED BY: A.R.K. R.E.A.
DATE: 6/12/15
SCALE: SCALE 1 SCALE 2

REVISIONS

DRAWING:
CULVERT UPSTREAM DETAILS
HARRISON AVE. - 20TH STREET
INTERSECTION
S.N. 101-5006

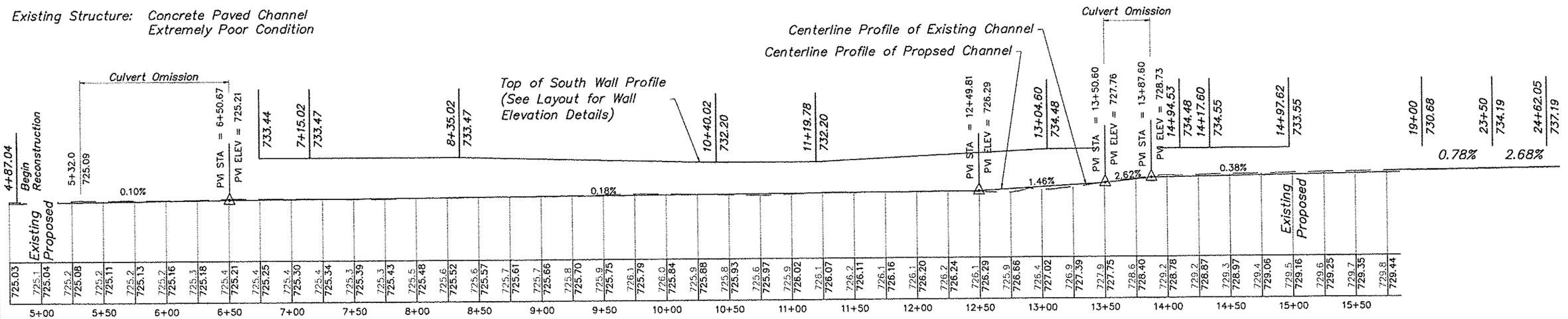
JOB NUMBER:
13-1070

SHEET NUMBER
403 of 588

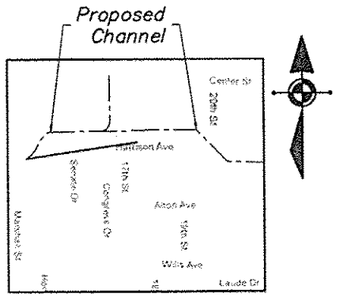
F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612

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

Existing Structure: Concrete Paved Channel
Extremely Poor Condition



CHANNEL PROFILE



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

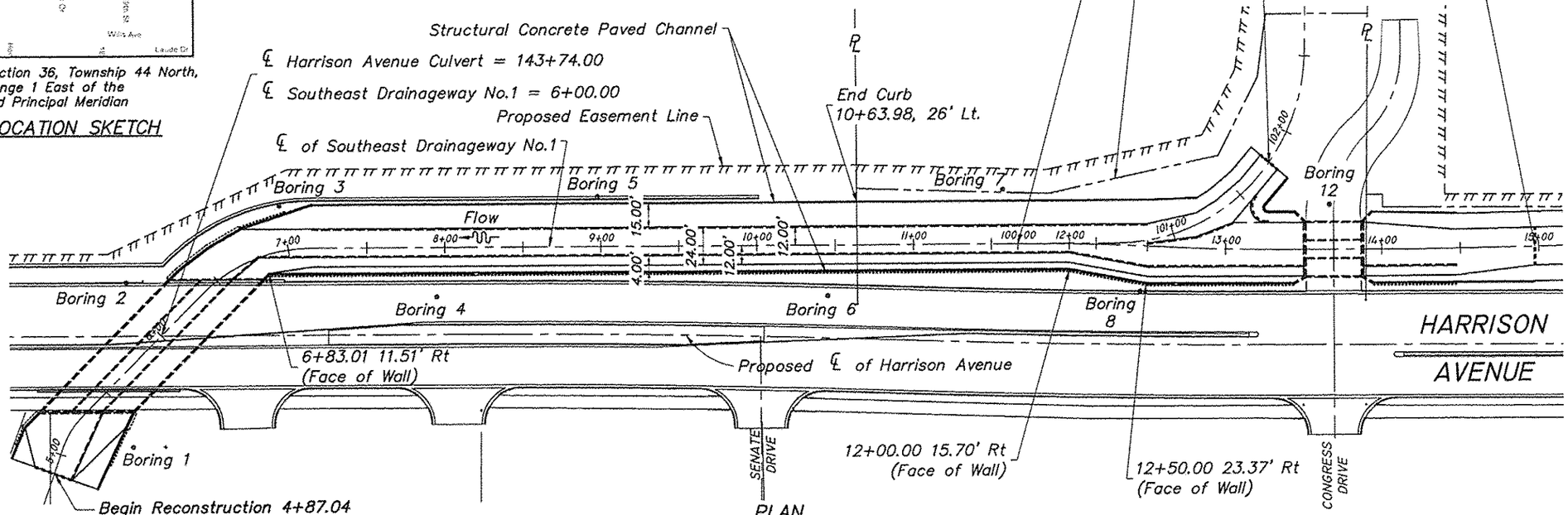
LOCATION SKETCH

DESIGN SPECIFICATIONS

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

DESIGN STRESSES

FIELD UNITS: CONCRETE STRUCTURES
f'c = 3,500 psi (Class SI Concrete)
fy = 60,000 psi (Reinforcement)



PLAN

End Reconstruction 101+77.66 SEDW No. 2

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

INDEX OF SHEETS

ALI A. GHARAIT
081-005060
LICENSED
STRUCTURAL
ENGINEER
OF
MOLINE
STATE OF ILLINOIS

ILLINOIS STRUCTURAL ENGINEER NO. 081-005060
(EXPIRES 11/30/2016)

Date 6/12/15

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

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

McClure
Engineering Associates, Inc.
7282 Argus Drive Rockford, Illinois 61107-5837
(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000818

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

DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=40' hor.
1"=10' ver.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING
GENERAL PLAN & ELEVATION
STRUCTURAL CONCRETE
PAVED CHANNEL NO.1

JOB NUMBER
11-128

SHEET NUMBER
404 of 588

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 ¾" 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-metalic 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 SI 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

FEHR GRAHAM
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7282 Argus Drive Rockford, Illinois 61107-5637
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Design Firm License: Illinois 184-000816

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

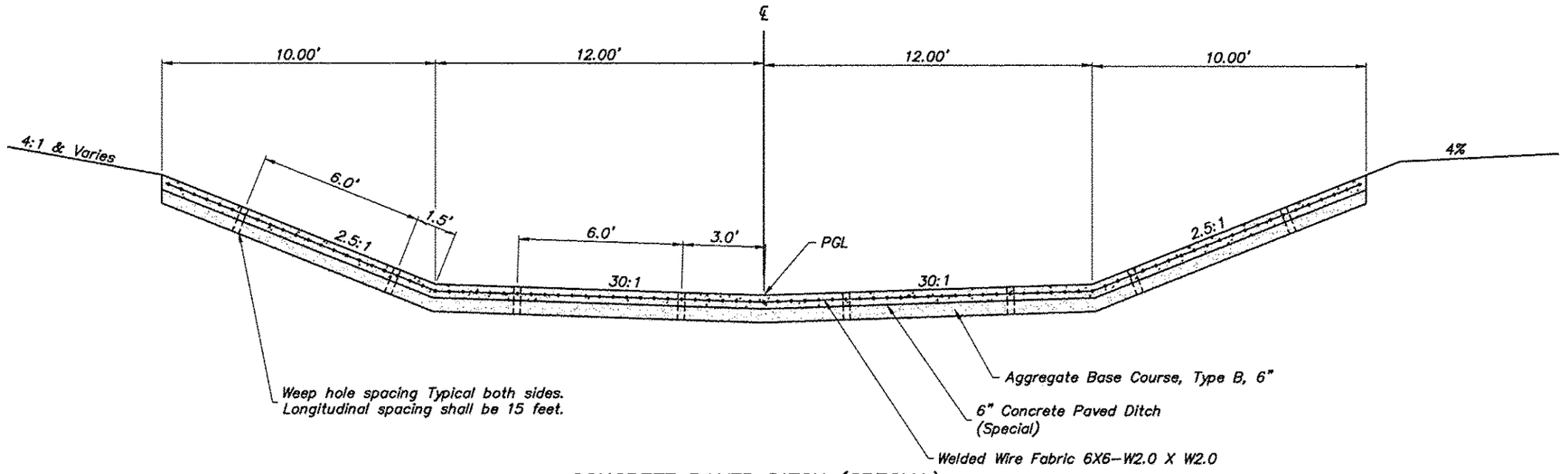
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
GENERAL NOTES

JOB NUMBER: 11-128
SHEET NUMBER: 405 of 588

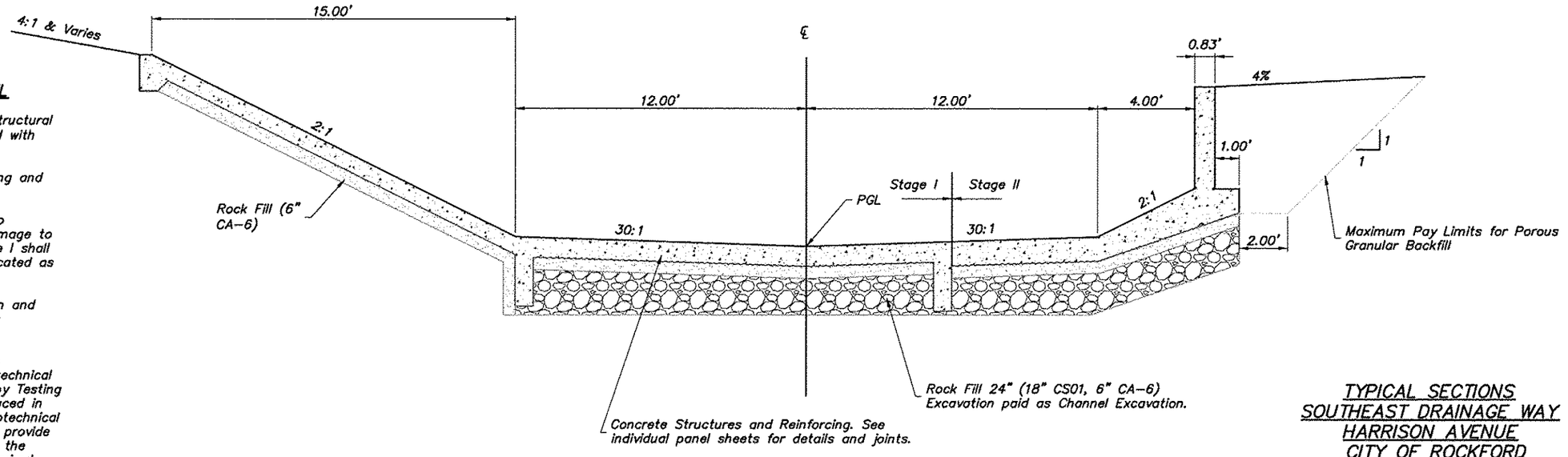
F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



CONCRETE PAVED DITCH (SPECIAL)

CONCRETE PAVED DITCH (SPECIAL)

1. Concrete Paved Ditch (Special) and Structural Concrete Channel shall be constructed with Class SI concrete.
2. Welded wire fabric 6 X 6 – W2.0 X w2.0 shall be placed at the midpoint of the 6" slab for Concrete Paved Ditch (Special). The cost of the welded wire fabric shall be included in the unit price for Concrete Paved Ditch (Special).
3. Construction joints shall be placed at 15-foot intervals and expansion joints shall be placed at 90-foot intervals.
4. Contraction joints shall be either tooled to a depth of no less than ¾" or saw cut and sealed with a polysulfide joint sealer.
5. The Contractor shall stage his work to maintain drainage flows and avoid damage to the work.
6. Weep holes shall be installed as shown and shall be included in the unit price for Concrete Paved Ditch (Special).



STRUCTURAL CONCRETE CHANNEL

STRUCTURAL CONCRETE CHANNEL

1. Concrete Paved Ditch (Special) and Structural Concrete Channel shall be constructed with Class SI concrete.
2. See the individual sheets for reinforcing and jointing details.
3. The Contractor shall stage his work to maintain drainage flows and avoid damage to the work. The area indicated as Stage I shall be constructed prior to the area indicated as Stage II.
4. Weep holes shall be installed as shown and shall be included in the unit price for Concrete Structures.
5. Rock Fill requirement is based on the recommendations outlined in the Geotechnical Report prepared December 31, 2013 by Testing Services Corporation and may be reduced in thickness, if in the opinion of the Geotechnical Engineer, the soils in the channel will provide sufficient bearing strength to support the required design stresses. Minimum required bearing pressure for the sloped footing with integral vertical channel wall is 750 psf.

TYPICAL SECTIONS
SOUTHEAST DRAINAGE WAY
HARRISON AVENUE
CITY OF ROCKFORD
WINNEBAGO COUNTY

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

PROJECT AND LOCATION:
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

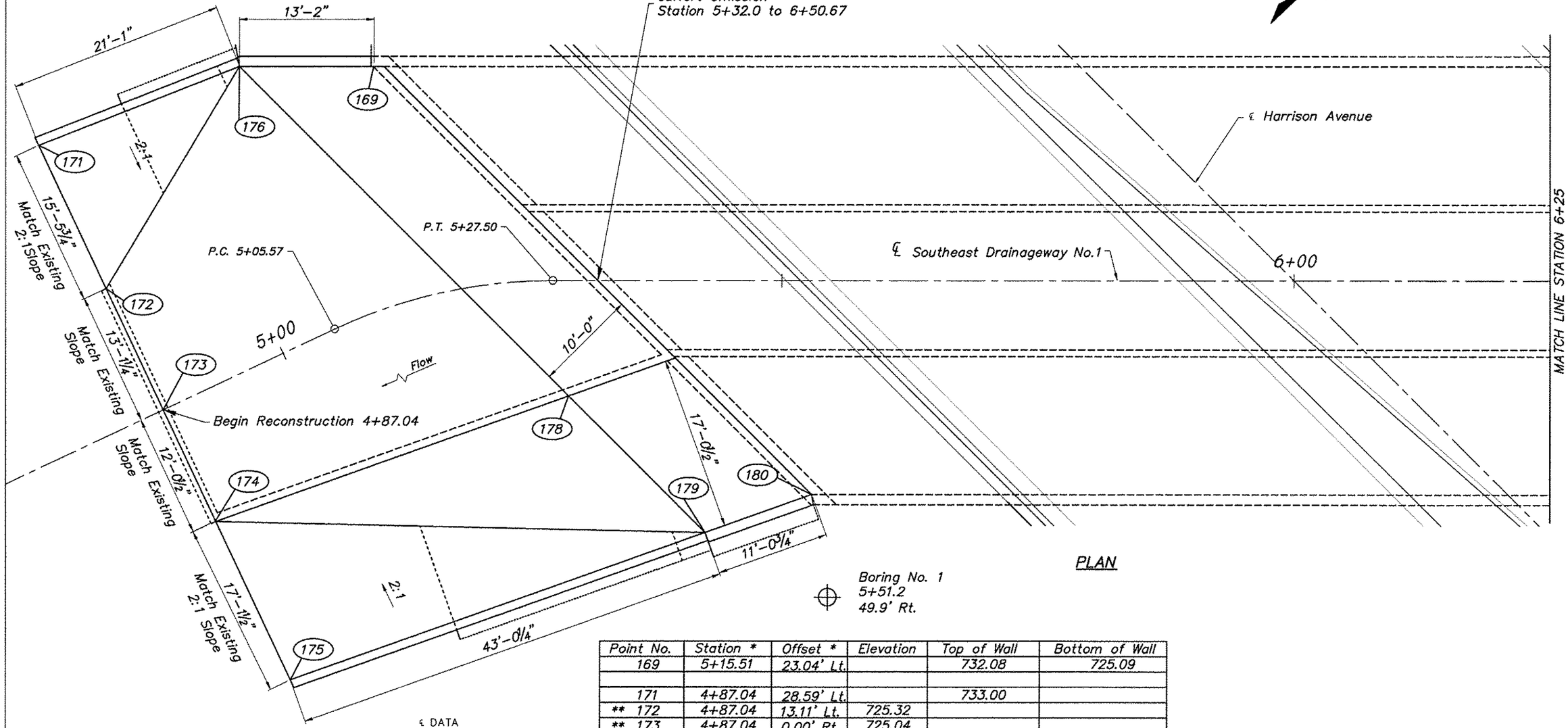
DRAWING:
TYPICAL SECTIONS

JOB NUMBER
11-128

SHEET NUMBER
406 of 588

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

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



PLAN

Boring No. 1
5+51.2
49.9' Rt.

℄ 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

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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Design Firm License: Illinois 184-000816

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

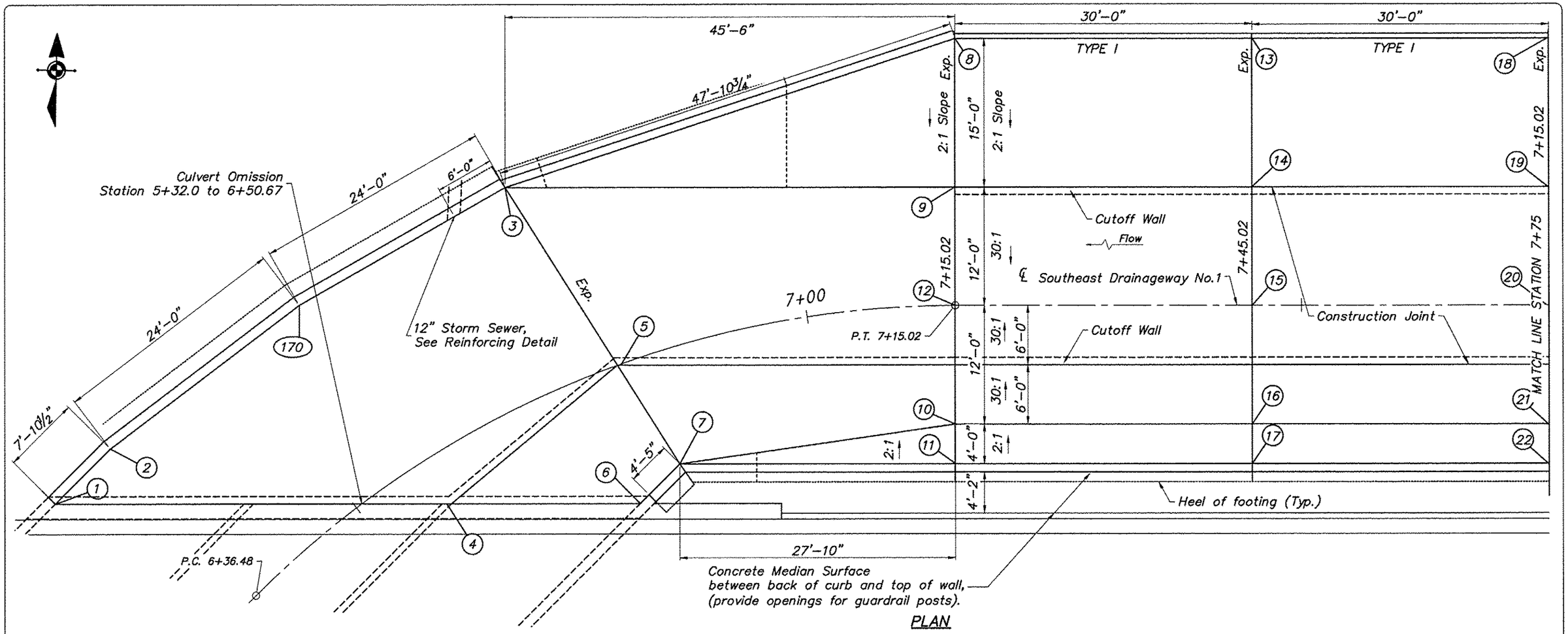
DRAWN BY: JWH
APPROVED BY: CTB
DATED: 6/12/15
SCALED: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

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

JOB NUMBER
11-128

SHEET NUMBER
407 of 588



PLAN

Point No.	Station *	Offset *	Elevation	Top of Wall	Bottom of Wall
1	6+28.70	20.92' Lt.		732.70	725.21
2	6+36.55	20.92' Lt.		732.70	725.25
3	6+76.44	20.87' Lt.		732.97	725.50
4	6+58.32	5.16' Rt.	725.21		
5	6+80.18	0.01' Rt.	725.26		
6	6+78.46	13.39' Rt.		733.04	725.21
7	6+83.01	11.51' Rt.		733.04	725.31
8	7+15.02	27.00' Lt.		733.22	
9	7+15.02	12.00' Lt.	725.72		
10	7+15.02	12.00' Rt.	725.72		
11	7+15.02	16.00' Rt.		733.47	727.72
12	7+15.02	0.00' Rt.	725.32		
13	7+45.02	27.00' Lt.		733.28	
14	7+45.02	12.00' Lt.	725.78		
15	7+45.02	0.00' Rt.	725.38		
16	7+45.02	12.00' Rt.	725.78		
17	7+45.02	16.00' Rt.		733.47	727.78

* Southeast Drainage Way No. 1 Alignment

Point No.	Station *	Offset *	Elevation	Top of Wall	Bottom of Wall
18	7+75.02	27.00' Lt.		733.33	
19	7+75.02	12.00' Lt.	725.83		
20	7+75.02	0.00' Rt.	725.43		
21	7+75.02	12.00' Rt.	725.83		
22	7+75.02	16.00' Rt.		733.47	727.83
170	6+56.49	20.05' Lt.		732.84	725.38

℄ DATA
PI STA = 6+77.90
Δ = 45°00'00" (RT)
D = 57°17'45"
R = 100.00'
T = 41.42'
L = 78.54'
E = 8.24'
P.C. STA = 6+36.48
P.T. STA = 7+15.02

STRUCTURAL CONCRETE CHANNEL LAYOUT
SOUTHEAST DRAINAGE WAY
ALONG HARRISON AVENUE
CITY OF ROCKFORD
WINNEBAGO COUNTY
STATION 6+50.67 TO 7+75.00

Sheet 5 of 73

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003529
ILLINOIS
IOWA
WISCONSIN

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

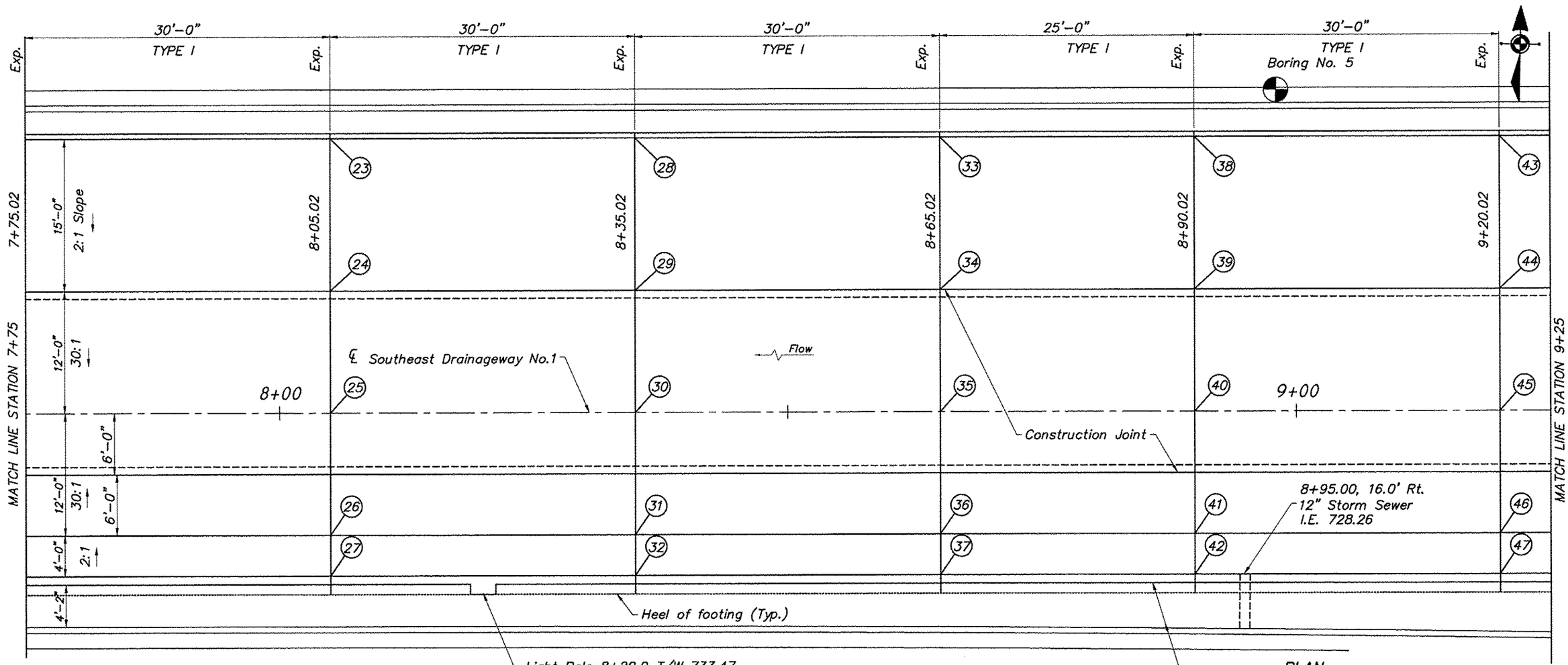
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=5'

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
CHANNEL NO.1 6+51 TO 7+75

JOB NUMBER: 11-128
SHEET NUMBER: 408 of 588



PLAN

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

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

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

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

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Design Firm License: Illinois 184-000816

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

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

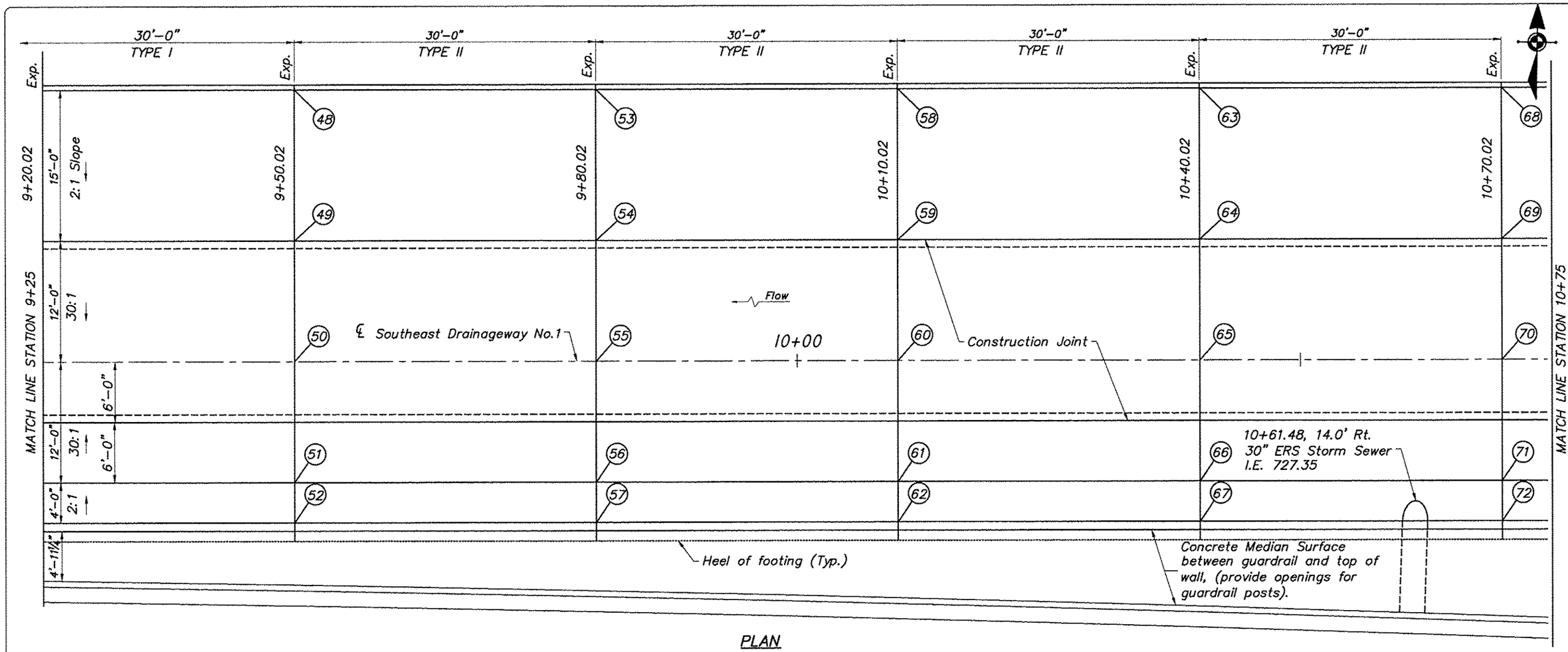
REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
CHANNEL NO.1 7+75 TO 9+25

JOB NUMBER
11-128

SHEET NUMBER
409 of 588



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

Boring No. 6

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

Sheet 7 of 73

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

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Design Firm License: Illinois 184-000616

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

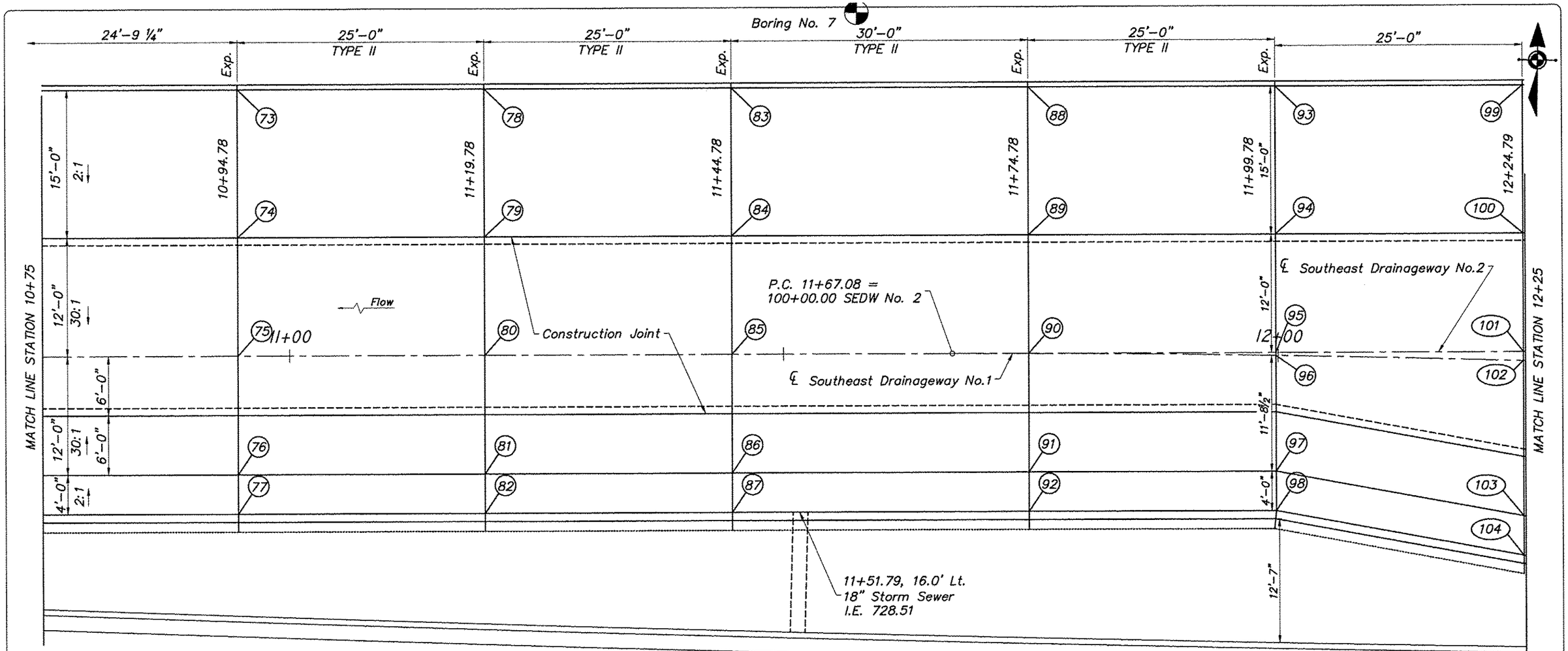
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING
CHANNEL NO.1 9+25 TO 10+75

JOB NUMBER
11-128

SHEET NUMBER
410 of 588



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
Δ = 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

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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Design Firm License: Illinois 184-000816

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

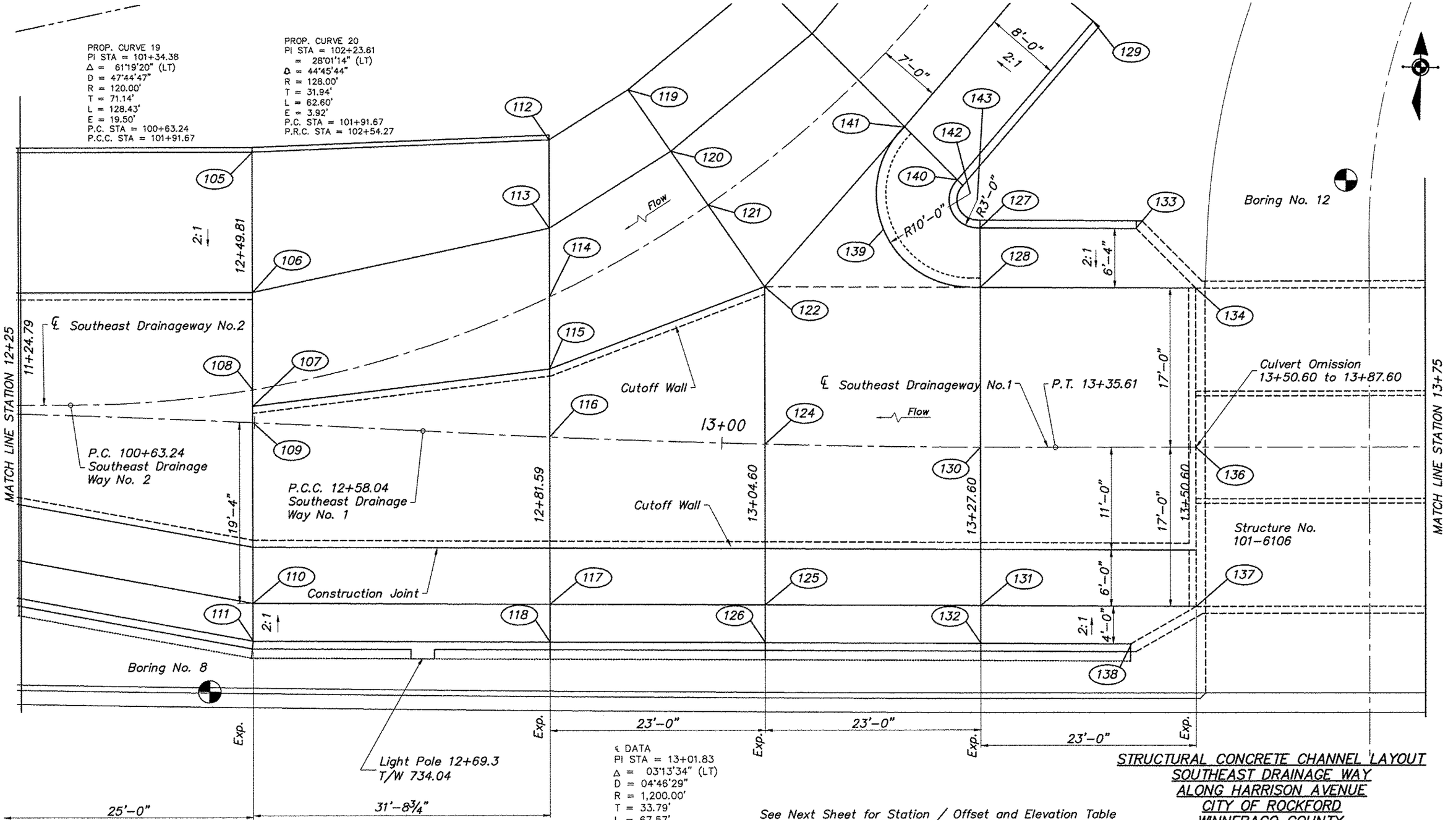
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

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

JOB NUMBER
11-128

SHEET NUMBER
411 of 588



℄ DATA
PI STA = 13+01.83
Δ = 03°13'34" (LT)
D = 04°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

PLAN

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

FEHR GRAHAM
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Design Firm License: Illinois 184-000816

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

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

McClure Engineering Associates, Inc.
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(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000818

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

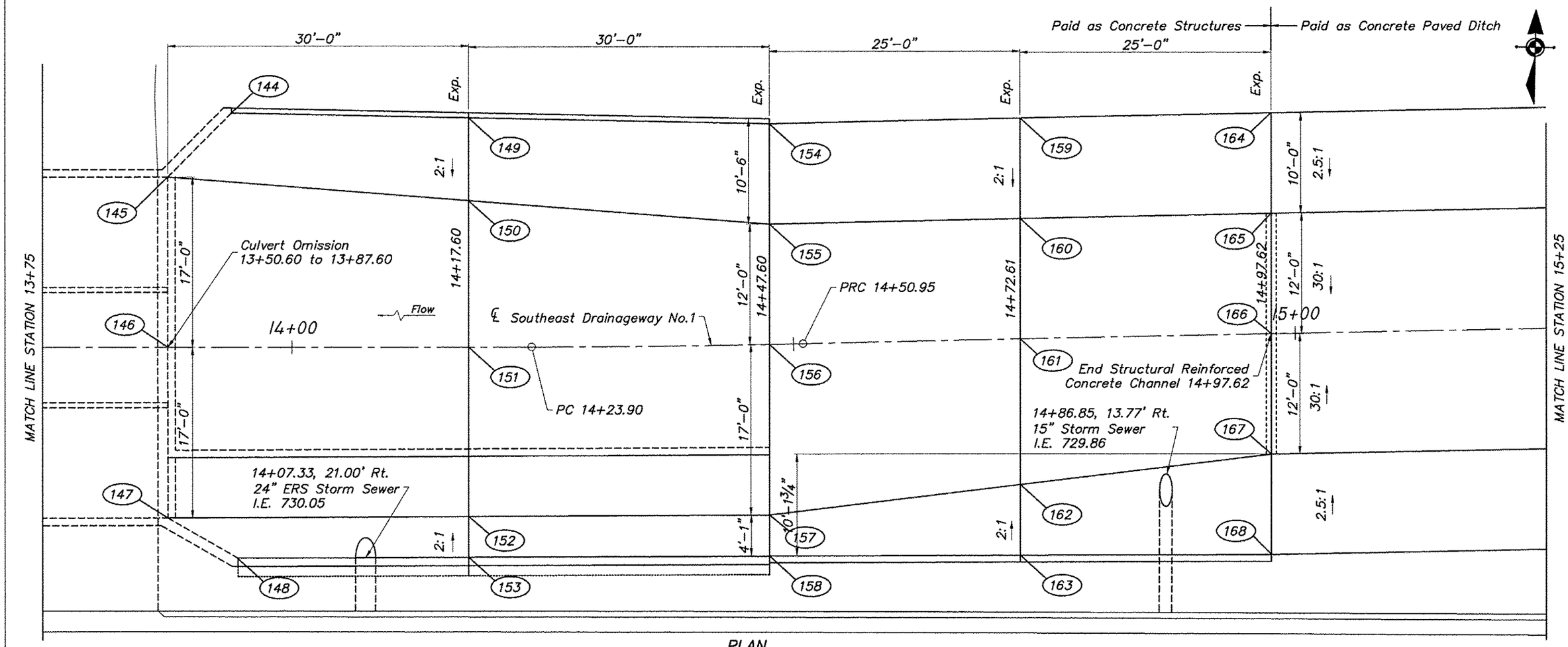
DRAWN BY: JWH
APPROVED BY: CTB
DATED: 6/12/15
SCALE: 1=5'

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
CHANNEL NO.1 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.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

FEHR GRAHAM
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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 13+88 TO 14+98

JOB NUMBER
11-128

SHEET NUMBER
414 of 588

℄ 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.

¾" PJF & Sealer, Typical. See Jt. Detail.

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)

40'-3½"

18'-10½"

¾" PJF & Sealer, Typical. See Jt. Detail.

1'-3"

135°

45°

65°

Back of Footing

4'-0"

1'-6"

12"

12'-10¾"

See Detail for Exp. Jt. at Box Culvert Cutoff Wall

10'-0"

10'-8½"

9'-8"

Front Face of Wall

17'-0½"

12"

1'-6"

11'-0¾"

Back of Footing

A

℄ Exp. Joint Sta. 5+10.7

Exp. Jt. (Typ.)

14'-10"

18'-10½"

Front Face of Wall

45'-6½"

Start transition to Sloped Footing Bottom, See Section.

Start transition to Sloped Footing Bottom, See Section.

3'-0"

Back of Footing

21'-1"

12'-1"±

2'-0"±

12"

10"

13'-4¾"

℄ Southeast Drainage Way

Cutoff Wall

Flow

10"

12"

Front Face of Wall

Back of Footing

℄ Exp. Joint Sta. 4+87.04

9'-0"±

1'-3"±

Front Face of Wall

Sta. 4+96±
Start transition to 10" Thick Slope Wall, See Section.

5+00

36'-7½"

2:1

26'-0"±

2:1

B

Approx. start of 18" min. thick. edge

Cutoff Wall below 30:1 portions of Channel, See Sheet 72 for Detail.

15'-6"±

Sta. 4+87.04
Exp. Jt.

Sta. 5+05±
Start transition to 10" Thick Slope Wall, See Section.

43'-0¼"

13'-1"±

12'-1"±

Stage I

Stage II

17'-2"±

Approx. start of 18" min. thick. edge

17'-0"±

2'-10"±

Existing Southeast Drainage Way

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

Wall length dimensions are measured along Front Face of Wall, unless noted otherwise.

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

PLAN
(Showing Dimensions)

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

Sheet 12 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

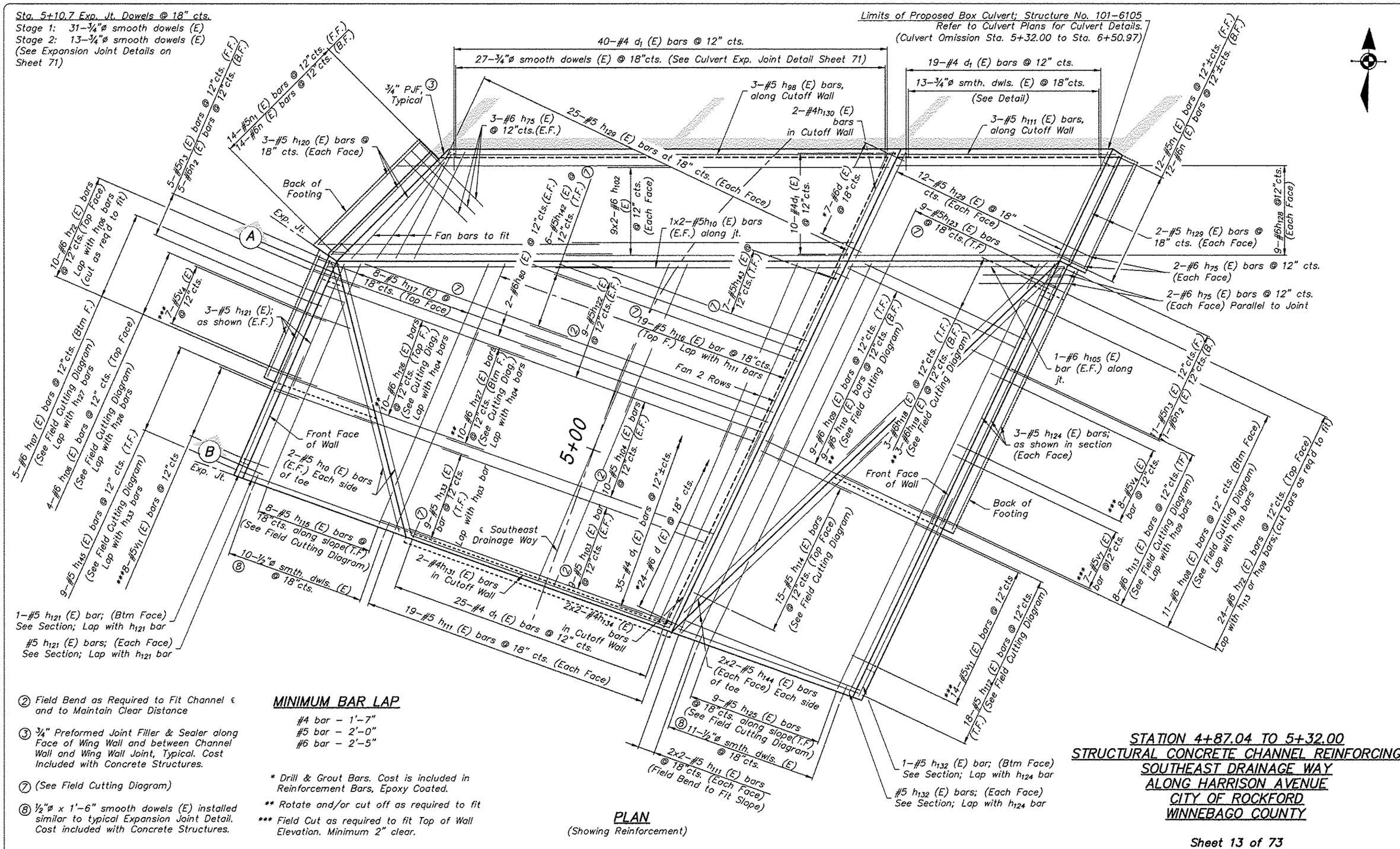
DRAWING:
4+87.04 TO 5+32.00

JOB NUMBER:
11-128

SHEET NUMBER:
415 OF 588

Sta. 5+10.7 Exp. Jt. Dowels @ 18" cts.
Stage 1: 31–¾"ø smooth dowels (E)
Stage 2: 13–¾"ø 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 ¾" 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 ½"ø 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

Sheet 13 of 73

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

DRAWN BY: JWH
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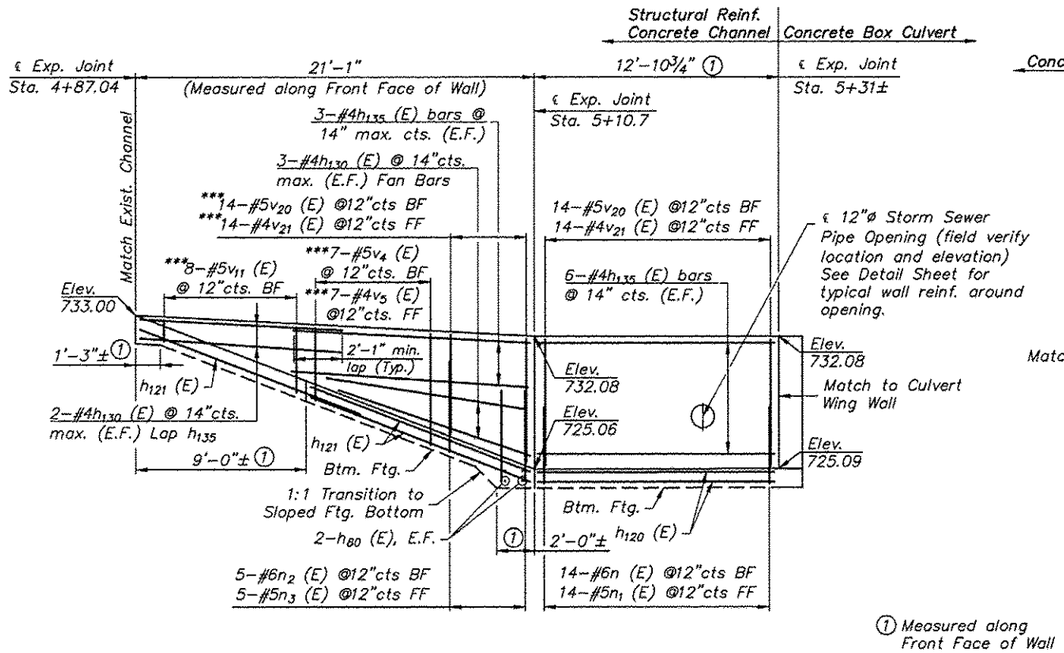
4+87.04 TO 5+32.00

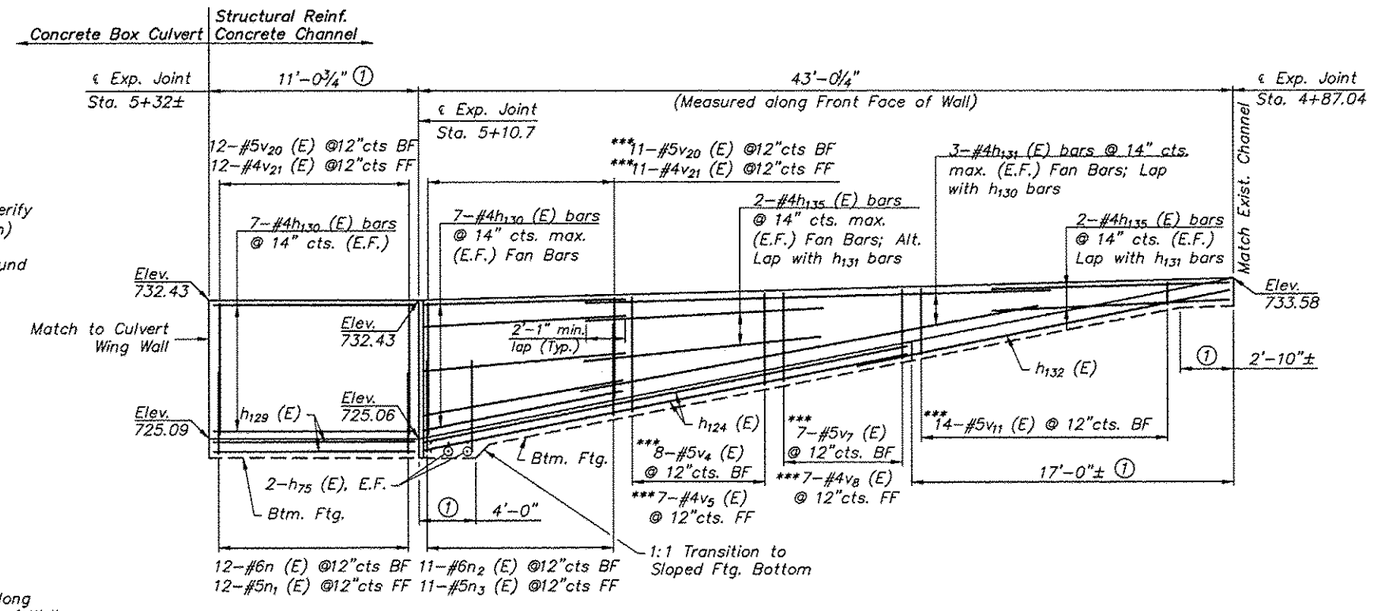
JOB NUMBER:
11–128

SHEET NUMBER:
416 of 588



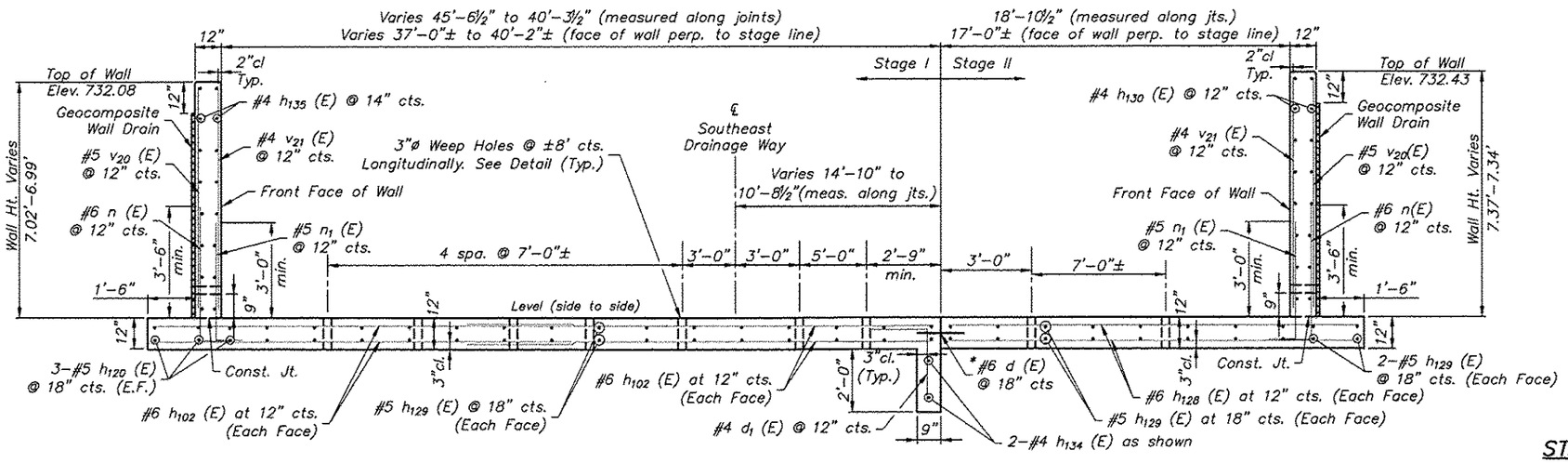
WEST WALL ELEVATION

(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 ℄ 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

Sheet 14 of 73

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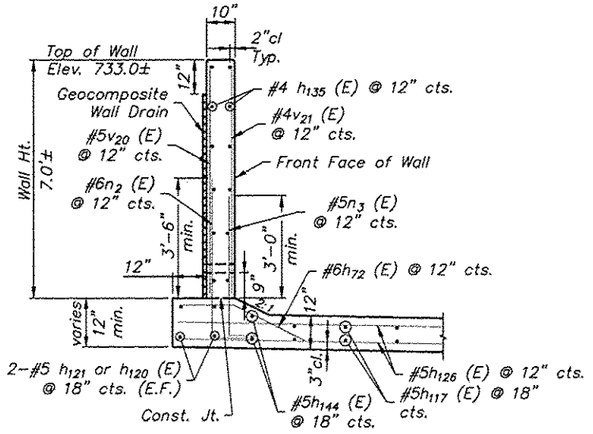
PROJECT AND LOCATION:
HARRISON AVENUE
RECONSTRUCTION 2012
PHASE 1
ROCKFORD, ILLINOIS

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

REVISIONS		
REV. NO.	DESCRIPTION	DATE

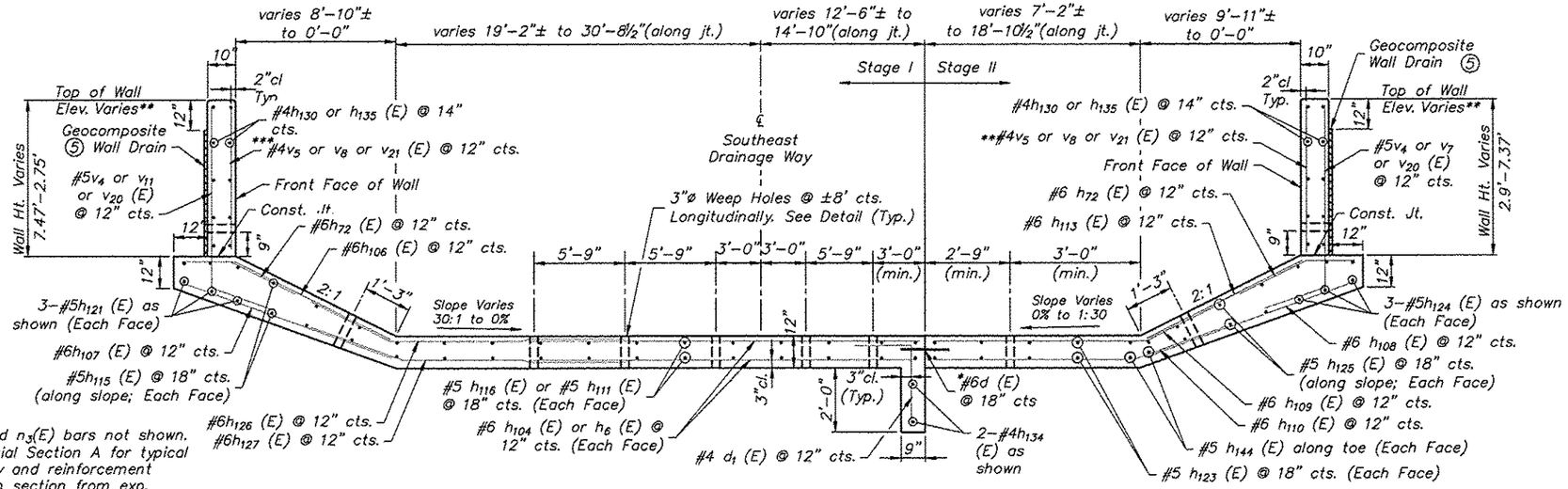
DRAWING:
4+87.04 TO 5+32.00

JOB NUMBER: 11-128
SHEET NUMBER: 417 of 588



PARTIAL SECTION A

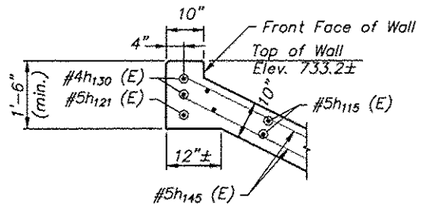
Typical from exp. joint to sloped footing transition. Dimensions at right ℄'s to face of wall. Other side of channel similar.



n2(E) and n3(E) bars not shown. See Partial Section A for typical geometry and reinforcement details in section from exp. joint to sloped footing transition.

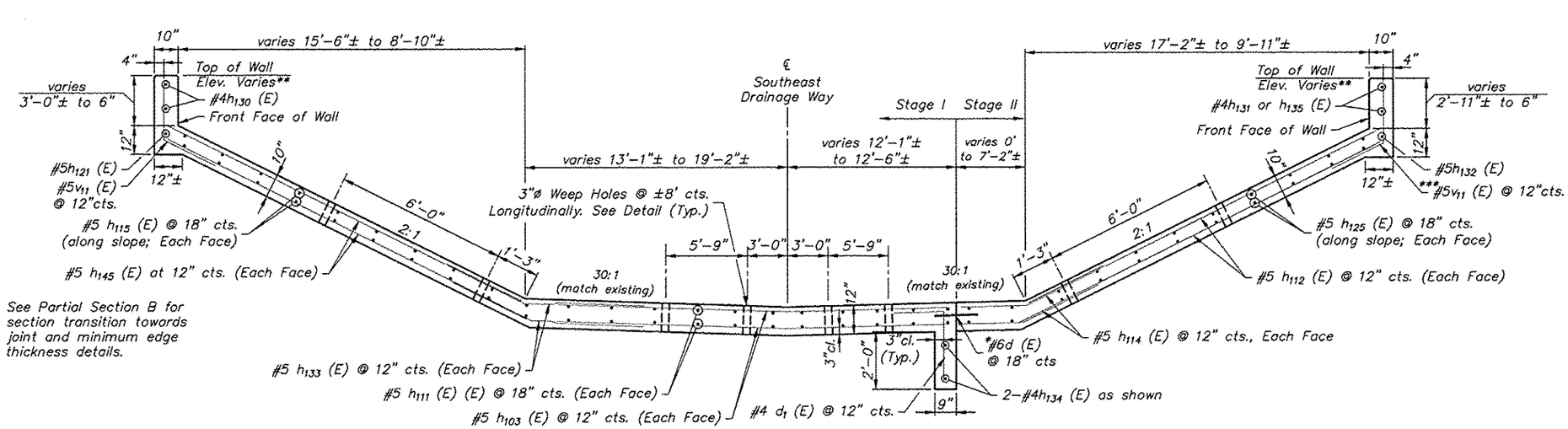
CHANNEL SECTION

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



PARTIAL SECTION B

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



See Partial Section B for section transition towards joint and minimum edge thickness details.

CHANNEL SECTION

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

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.*

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

Sheet 15 of 73

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Design Firm License: Illinois 184-000816

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

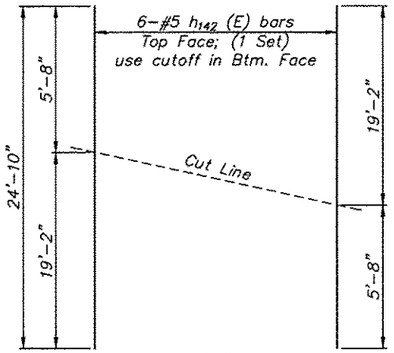
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

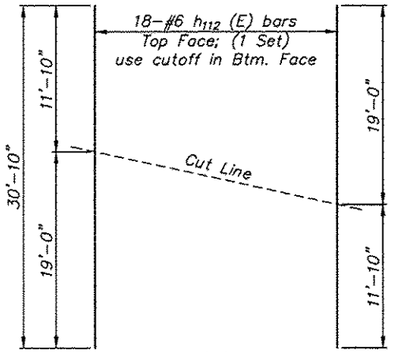
DRAWING:
4+87.04 TO 5+32.00

JOB NUMBER:
11-128

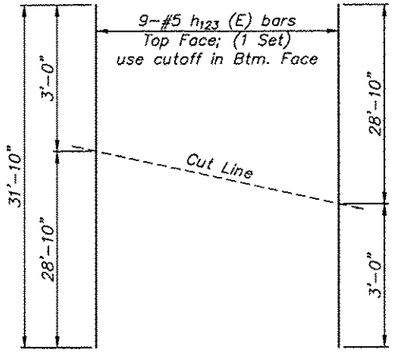
SHEET NUMBER:
418 of 588



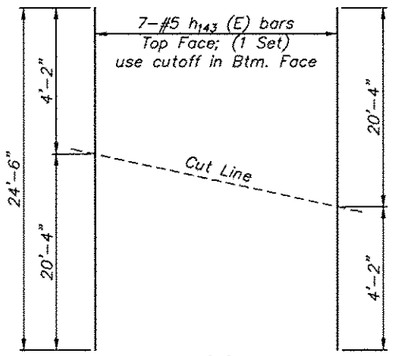
h_{142} (E) Bars



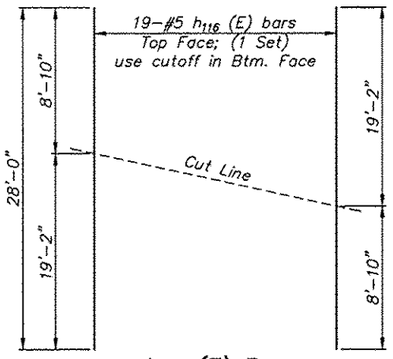
h_{112} (E) Bars



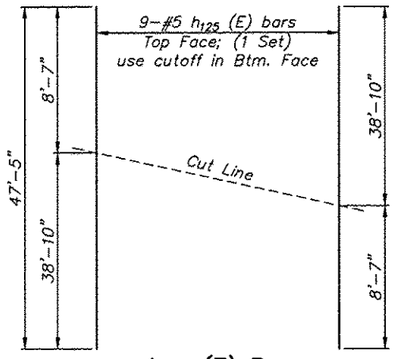
h_{123} (E) Bars



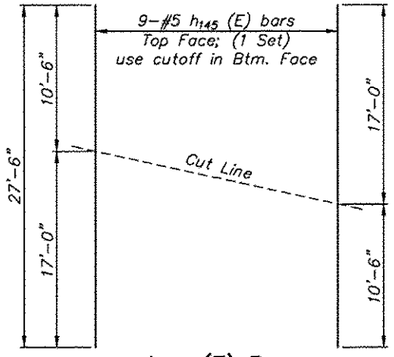
h_{143} (E) Bars



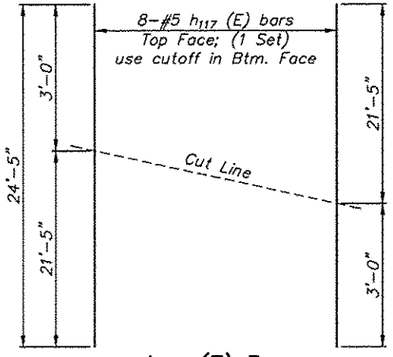
h_{116} (E) Bars



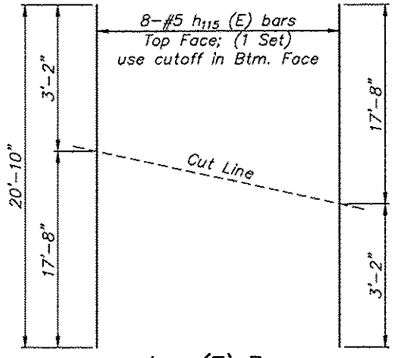
h_{125} (E) Bars



h_{145} (E) Bars



h_{117} (E) Bars



h_{115} (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.

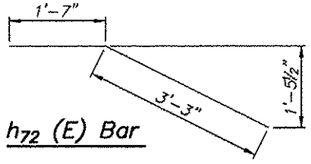
BILL OF MATERIAL

(This Section Only)

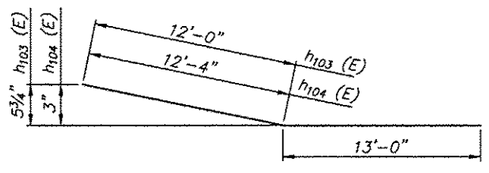
Bar	No.	Size	Length	Shape
h_{142} (E)	6	#5	24'-10"	
h_{143} (E)	7	#5	24'-6"	
h_{102} (E)	36	#6	25'-1"	
h_{103} (E)	18	#5	25'-0"	
h_{104} (E)	20	#5	25'-4"	
h_{144} (E)	16	#5	24'-10"	
h_{145} (E)	9	#5	27'-6"	
h_{133}(E)	9	#5	16'-8"	
h_{105} (E)	2	#6	19'-3"	
h_{106} (E)	4	#6	12'-0"	
h_{80} (E)	4	#6	23'-0"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

h_{124} (E)	6	#5	26'-0"	
h_{125}(E)	9	#5	47'-5"	
h_{126} (E)	10	#6	34'-4"	
h_{127} (E)	10	#6	34'-4"	
h_{128} (E)	18	#6	21'-1"	
h_{129} (E)	78	#5	10'-6"	
h_{130} (E)	40	#4	10'-6"	
h_{131} (E)	8	#4	24'-6"	
h_{132} (E)	3	#5	20'-0"	
h_{134} (E)	4	#4	19'-2"	
h_{135} (E)	26	#4	12'-6"	
d (E)	31	#6	1'-6"	
d_1 (E)	129	#4	3'-11"	
n (E)	26	#6	5'-3"	
n_1 (E)	26	#5	4'-7"	
n_2 (E)	16	#6	5'-9"	
n_3 (E)	16	#5	5'-1"	
v_4 (E)	15	#5	7'-10"	
v_5 (E)	15	#4	4'-7"	
v_7 (E)	7	#5	6'-4"	
v_8 (E)	7	#4	3'-0"	
v_{11} (E)	22	#5	5'-8"	
v_{20} (E)	51	#5	6'-9"	
v_{21} (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_{72} (E) Bar



h_{103} & h_{104} (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

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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.

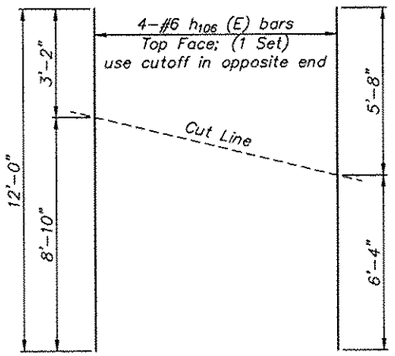
REVISIONS

REV. NO.	DESCRIPTION	DATE

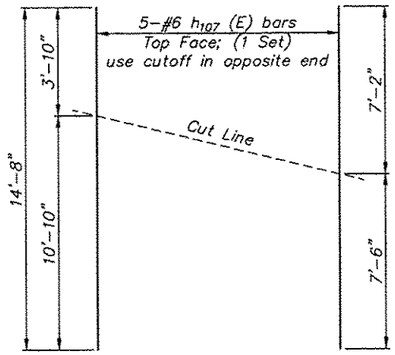
DRAWING:
4+87.04 TO 5+32.00

JOB NUMBER:
11-128

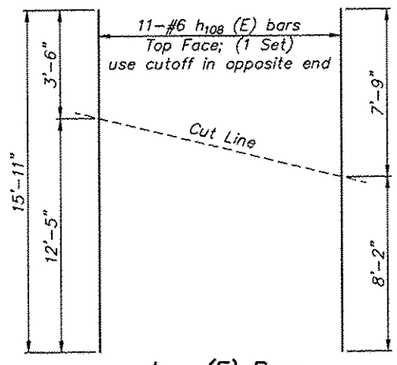
SHEET NUMBER:
419 of 588



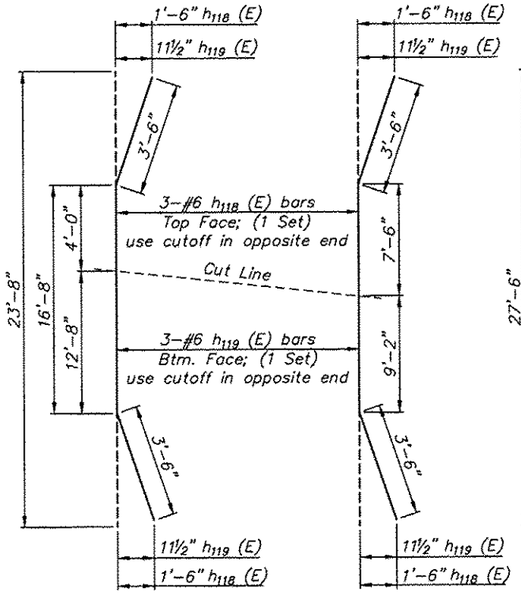
h_{106} (E) Bars



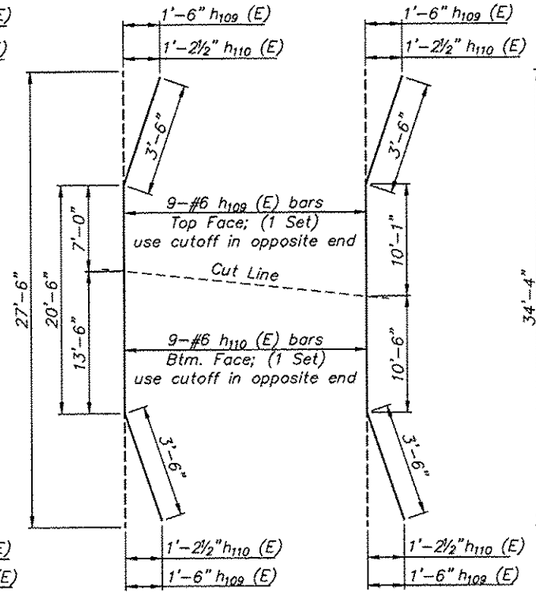
h_{107} (E) Bars



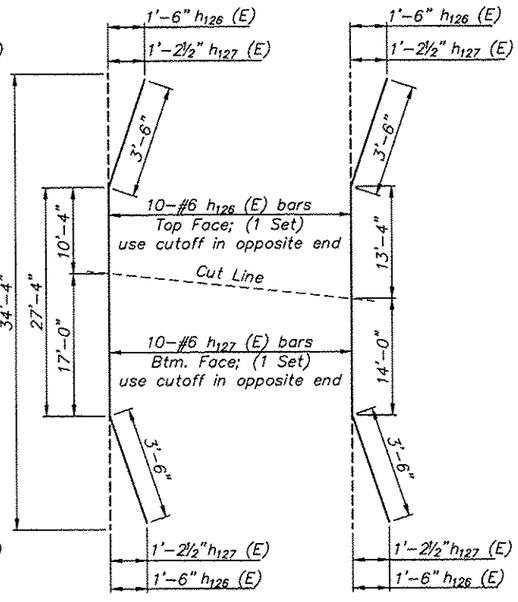
h_{108} (E) Bars



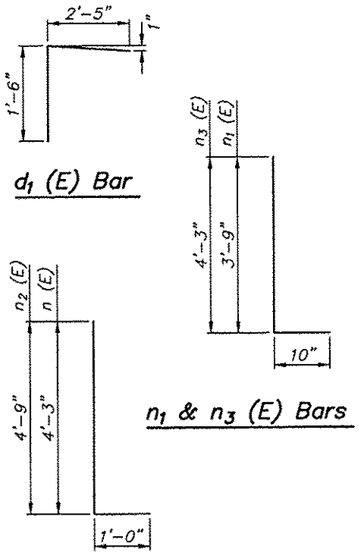
h_{118} & h_{119} (E) Bars



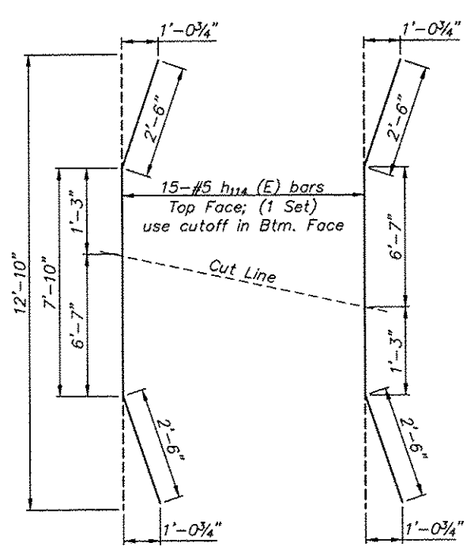
h_{109} & h_{110} (E) Bars



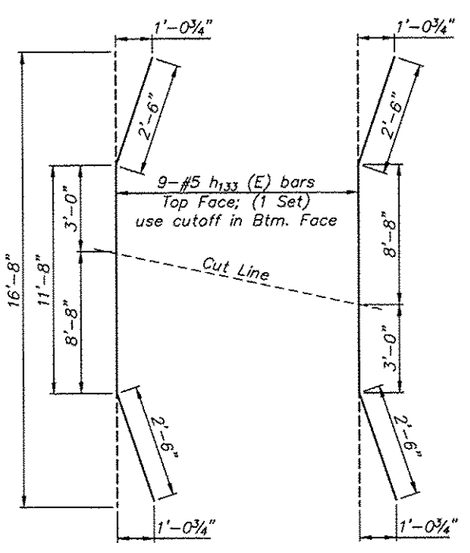
h_{126} & h_{127} (E) Bars



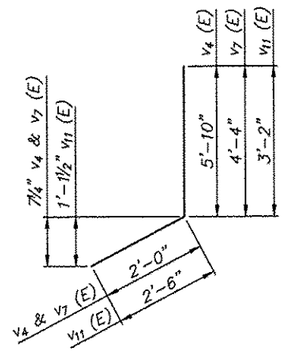
h_{113} (E) Bars



h_{114} (E) Bars



h_{133} (E) Bars



v_4 & v_7 & v_{11} (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

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

McClure Engineering Associates, Inc.
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Design Firm License: Illinois 184-000816

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

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

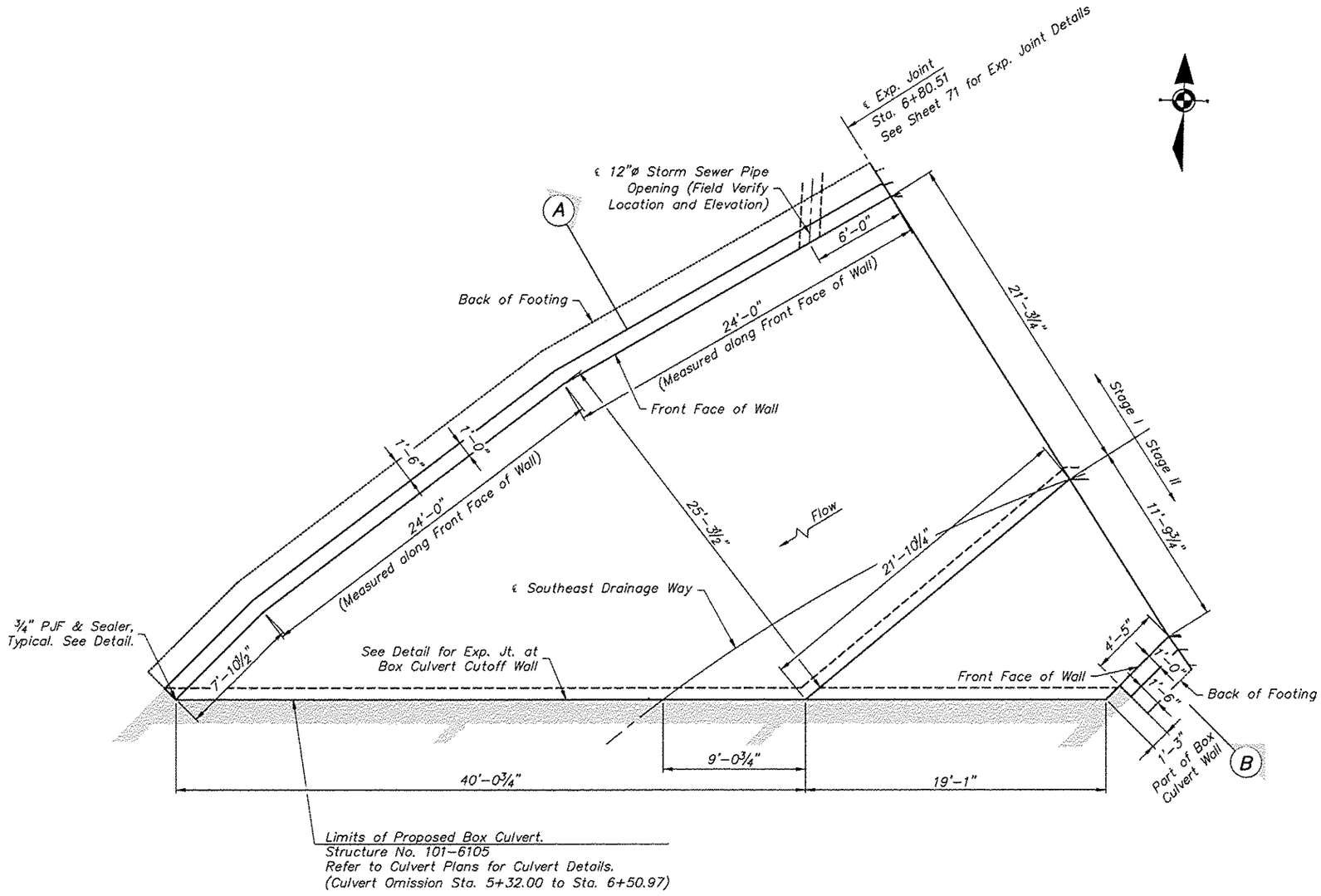
REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
4+87.04 TO 5+32.00

JOB NUMBER:
11-128

SHEET NUMBER:
420 of 588



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

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

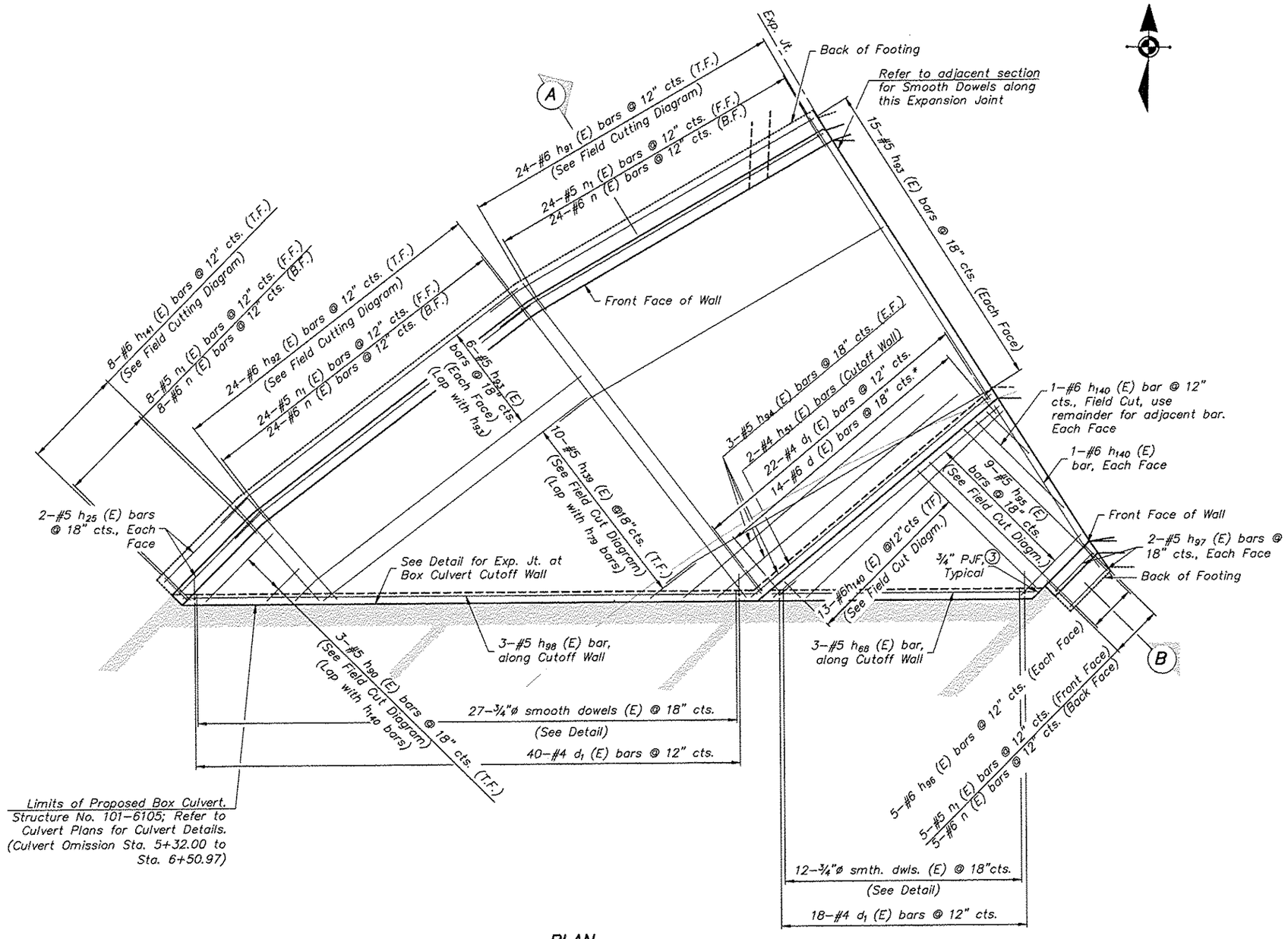
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
6+50.97 TO 6+80.51

JOB NUMBER:
11-128

SHEET NUMBER:
421 of 588



PLAN
(Showing Reinforcement)

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

BILL OF MATERIAL
(This Section Only)

Bar	No.	Size	Length	Shape
h_{139} (E)	10	#5	27'-6"	
h_{90} (E)	3	#5	9'-10"	
h_{91} (E)	24	#6	50'-6"	
h_{92} (E)	24	#6	36'-4"	
h_{93} (E)	42	#5	26'-3"	
h_{140} (E)	17	#6	13'-4"	
h_{94} (E)	6	#5	21'-10"	
h_{95} (E)	9	#5	26'-7"	
h_{96} (E)	5	#6	14'-0"	
h_{97} (E)	4	#5	3'-8"	
h_{68} (E)	3	#5	18'-0"	
h_{98} (E)	3	#5	40'-0"	
h_{141} (E)	8	#6	11'-4"	
h_{25} (E)	4	#5	8'-3"	
h_{51} (E)	2	#4	21'-10"	
h_{99} (E)	16	#4	3'-9"	
h_{100} (E)	32	#4	26'-3"	
h_{101} (E)	16	#4	8'-3"	
d (E)	14	#6	1'-6"	
d_1 (E)	80	#4	3'-11"	
n (E)	61	#6	5'-3"	
n_1 (E)	61	#5	4'-7"	
v_{16} (E)	56	#5	7'-0"	
v_{17} (E)	5	#5	7'-3"	
v_{18} (E)	56	#4	7'-0"	
v_{19} (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

* 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, Typical. Cost Included with Concrete Structures.

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

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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Design Firm License: Illinois 184-000816

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

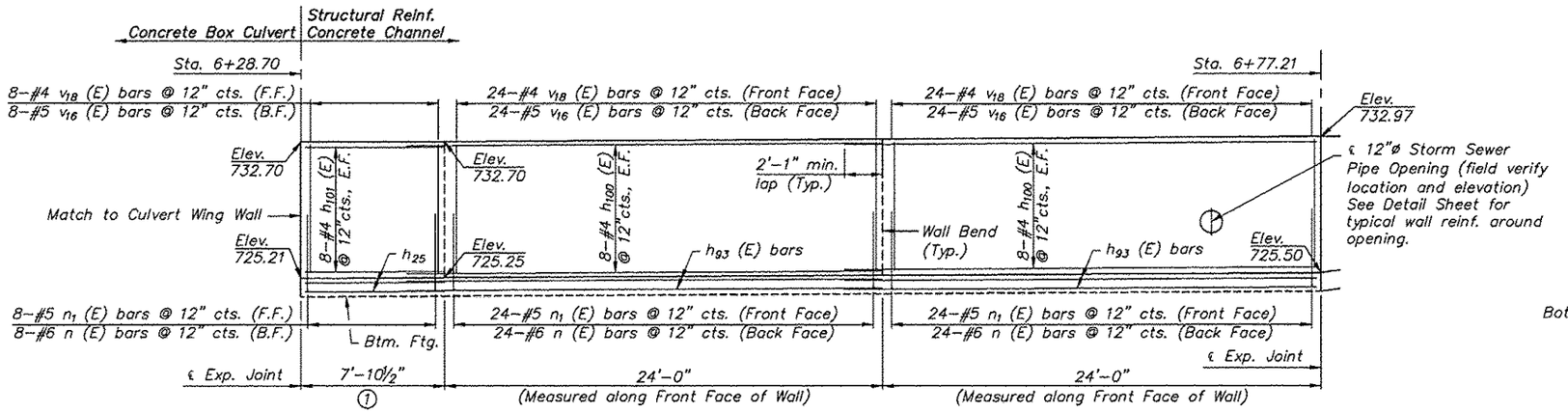
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
6+50.97 TO 6+80.51

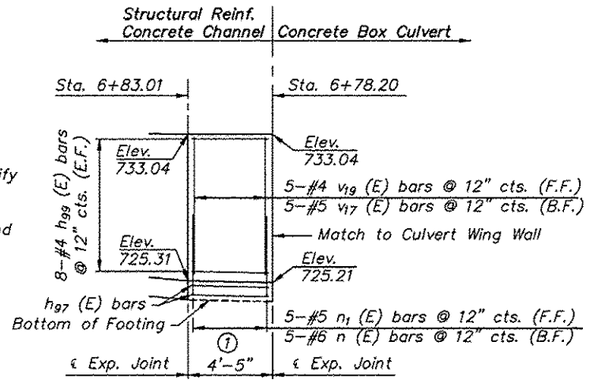
JOB NUMBER:
11-128

SHEET NUMBER:
422 of 588



NORTH WALL ELEVATION

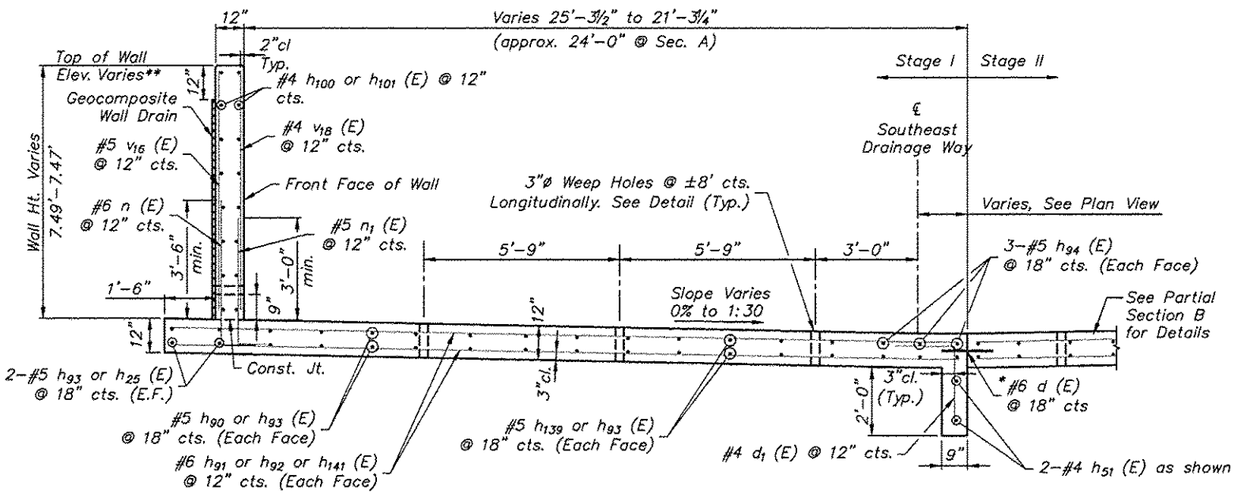
(Looking at Inside/Front Face of Wall)



SOUTH WALL ELEVATION

(Looking at Inside/Front Face of Wall)

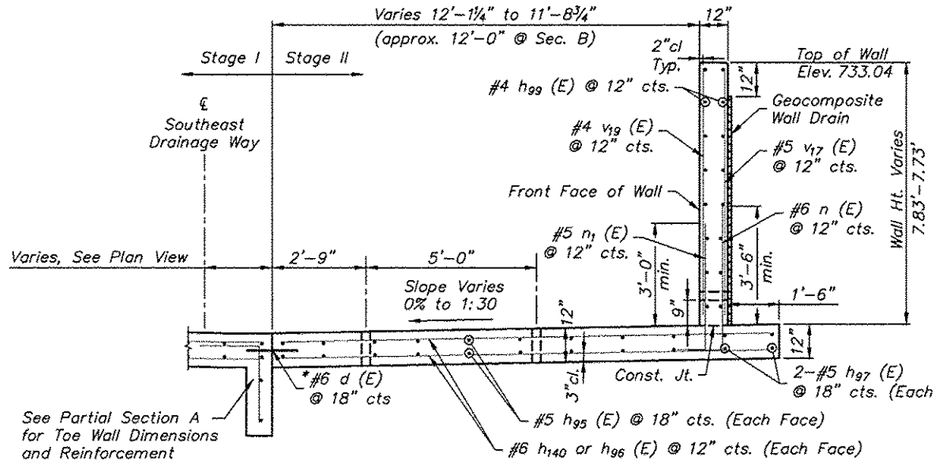
① Measured along Front Face of Wall



PARTIAL CHANNEL SECTION A

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

Dimensions at right ℄'s to Face of Wall.



PARTIAL CHANNEL SECTION B

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

Dimensions at right ℄'s to Face of Wall.

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

** Refer to Layout Plan for additional dimensions and channel wall 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 20 of 73

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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PROJECT AND LOCATION:
HARRISON AVENUE
RECONSTRUCTION 2012
PHASE 1
ROCKFORD, ILLINOIS

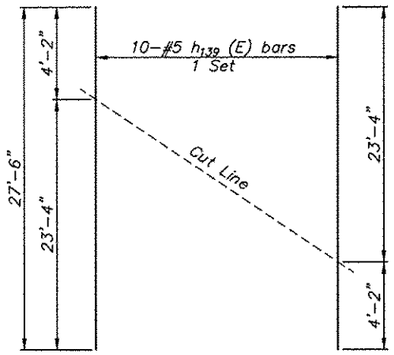
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

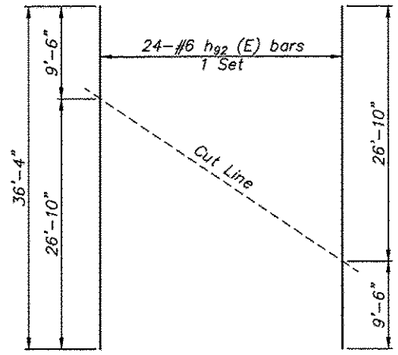
DRAWING:
6+50.97 TO 6+80.51

JOB NUMBER:
11-128

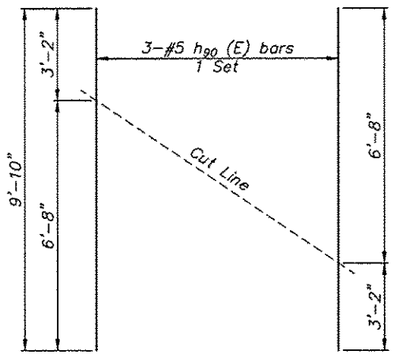
SHEET NUMBER:
423 of 588



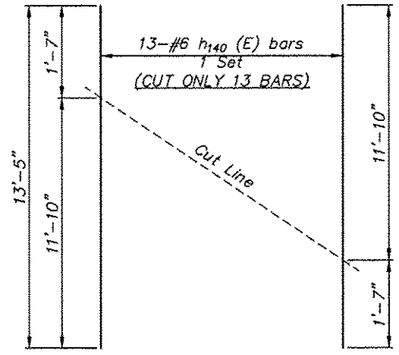
h_{139} (E) Bars



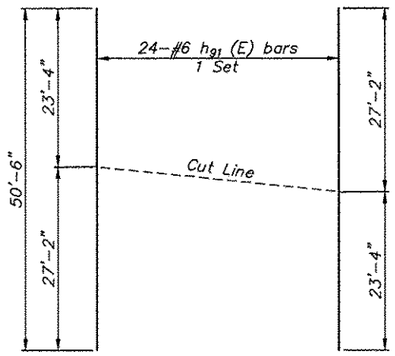
h_{92} (E) Bars



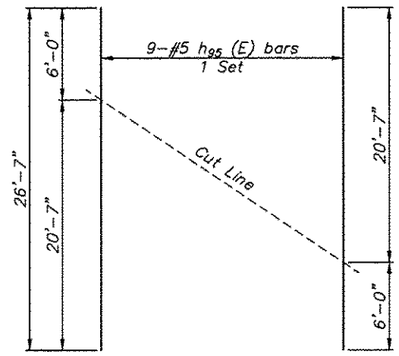
h_{90} (E) Bars



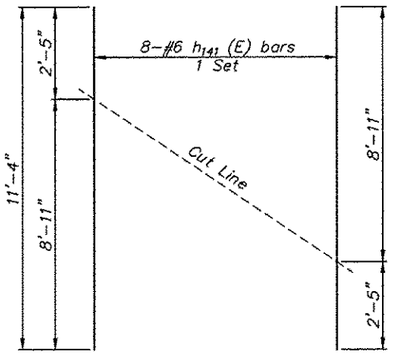
h_{140} (E) Bars



h_{91} (E) Bars



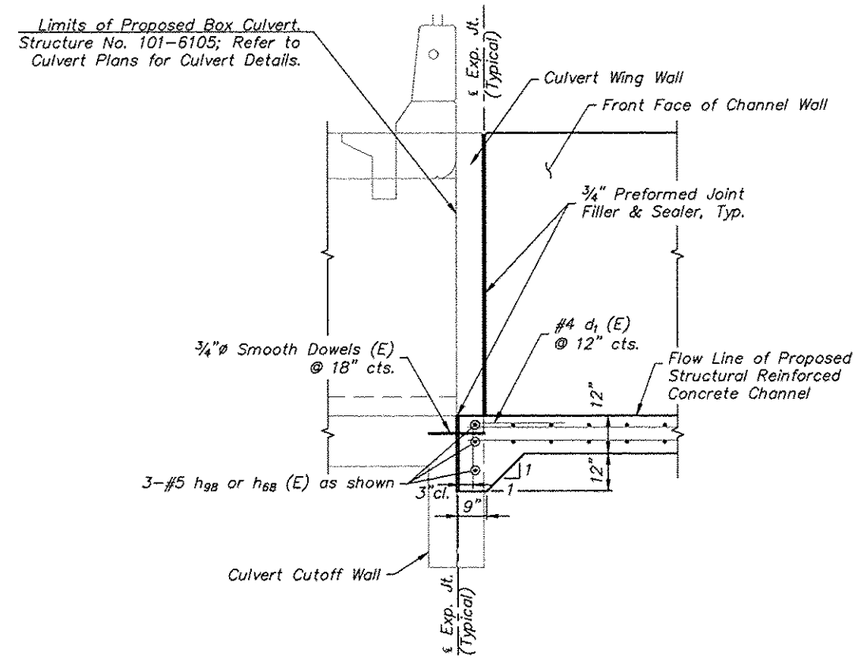
h_{95} (E) Bars



h_{141} (E) Bars

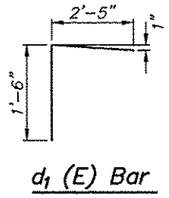
FIELD CUTTING DIAGRAMS

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.

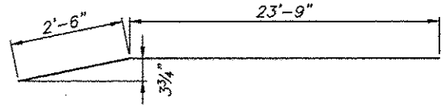


CULVERT/CHANNEL JOINT DETAIL

Dimensions at right L's to Joint.

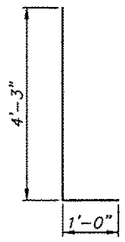


d_1 (E) Bar

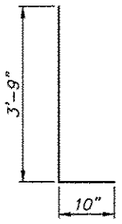


h_{93} (E) Bars

h_{100} (E) Bars



n(E) Bars



n_1 (E) Bars

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

Sheet 21 of 73

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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Design Firm License: Illinois 184-000816

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

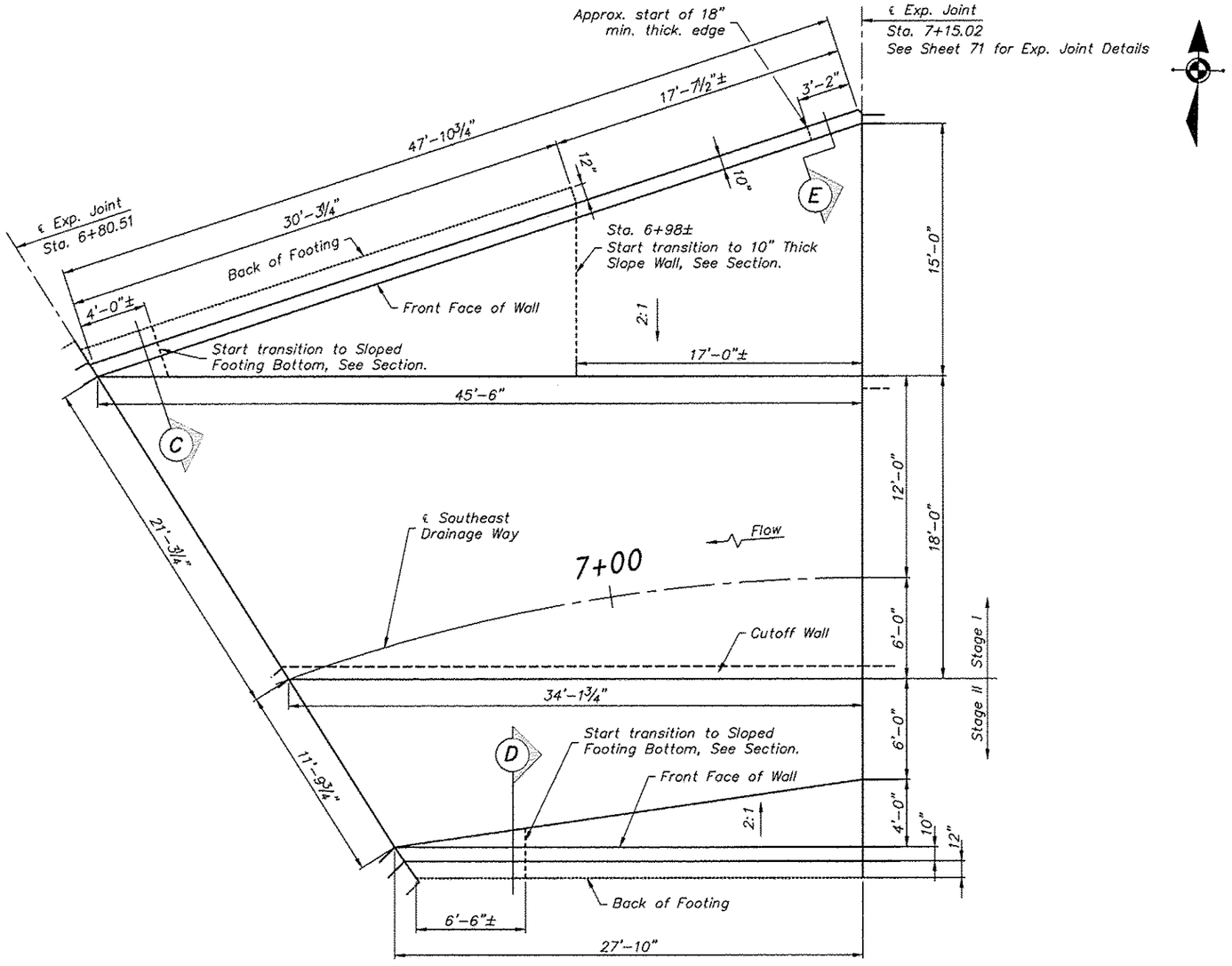
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
6+50.97 TO 6+80.51

JOB NUMBER:
11-128

SHEET NUMBER:
424 of 588



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
(This Section Only)

Bar	No.	Size	Length	Shape
h_{65} (E)	11	#5	50'-0"	
h_{66} (E)	24	#5	33'-11"	
h_{67} (E)	11	#5	16'-6"	
h_{68} (E)	16	#5	18'-0"	
h_{69} (E)	28	#5	15'-0"	
h_{70} (E)	28	#4	18'-6"	
h_{71} (E)	12	#6	15'-4"	
h_{72} (E)	47	#6	4'-10"	
h_{73} (E)	3	#6	29'-5"	
h_{74} (E)	14	#6	11'-4"	
h_{75} (E)	6	#6	8'-0"	
h_{76} (E)	3	#6	29'-5"	
h_{77} (E)	17	#5	27'-7"	
h_{78} (E)	6	#6	11'-8"	
h_{79} (E)	11	#6	13'-4"	
h_{80} (E)	2	#6	22'-10"	
h_{81} (E)	4	#5	30'-5"	
h_{28} (E)	1	#5	20'-10"	
h_{82} (E)	17	#6	21'-3"	
h_{83} (E)	17	#6	21'-3"	
h_{84} (E)	30	#4	15'-0"	
h_{85} E)	10	#6	21'-4"	
h_{86} (E)	10	#6	21'-4"	
h_{87} (E)	7	#6	9'-0"	
h_{146} (E)	34	#5	20'-3"	
d (E)	23	#6	1'-6"	
d_1 (E)	34	#4	3'-11"	
n_2 (E)	40	#6	5'-3"	
n_3 (E)	40	#5	4'-7"	
v_4 (E)	9	#5	7'-10"	
v_5 (E)	9	#4	4'-7"	
v_7 (E)	8	#5	6'-4"	
v_8 (E)	8	#4	3'-0"	
v_{11} (E)	15	#5	5'-8"	
v_{12} (E)	6	#4	12'-1"	
v_{13} (E)	6	#5	12'-1"	
v_{14} (E)	14	#4	12'-7"	
v_{15} (E)	14	#5	12'-7"	

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

Sheet 22 of 73

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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ILLINOIS
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Design Firm License: Illinois 184-000816

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

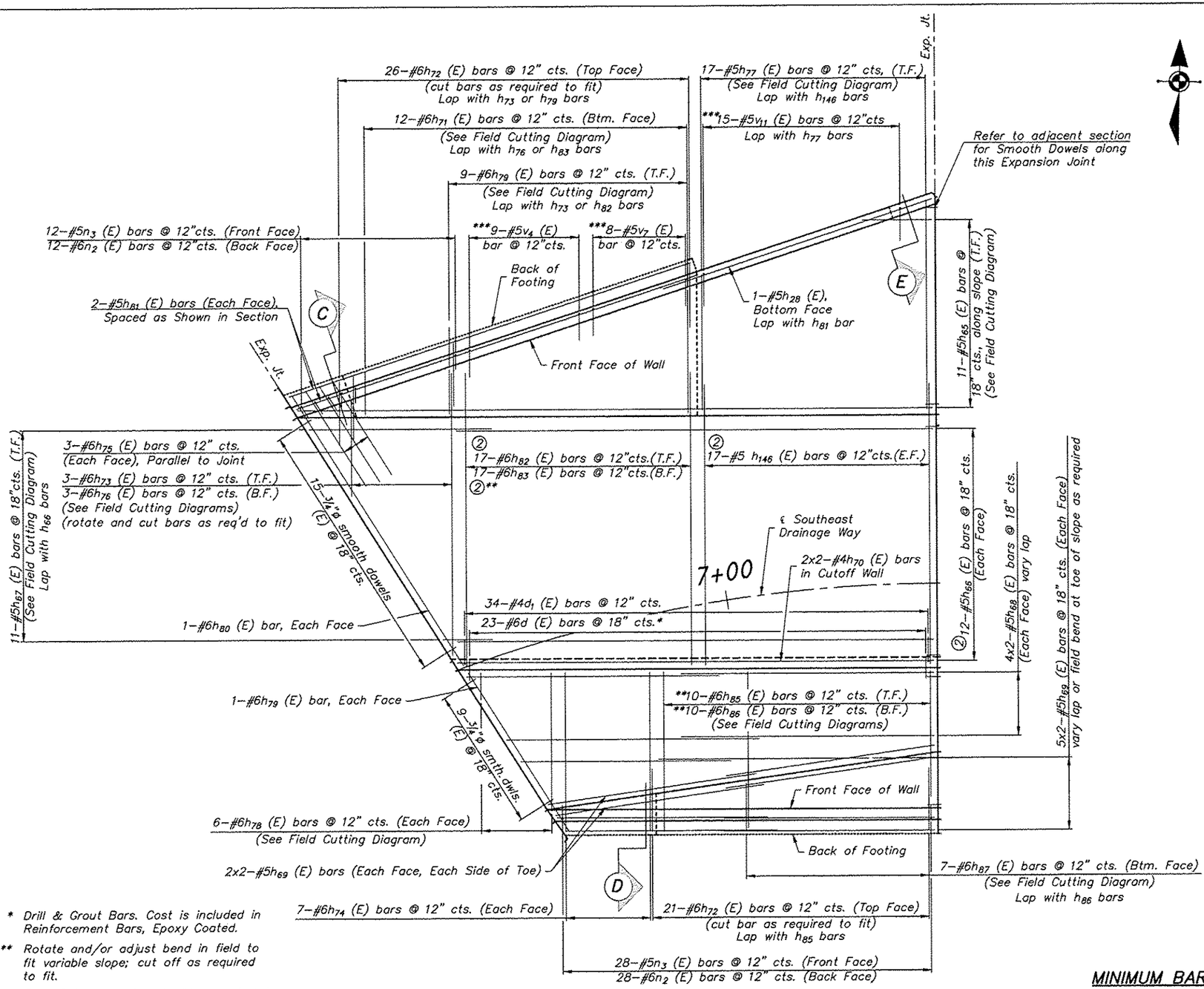
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
6+80.51 TO 7+15.02

JOB NUMBER:
11-128

SHEET NUMBER:
425 of 588



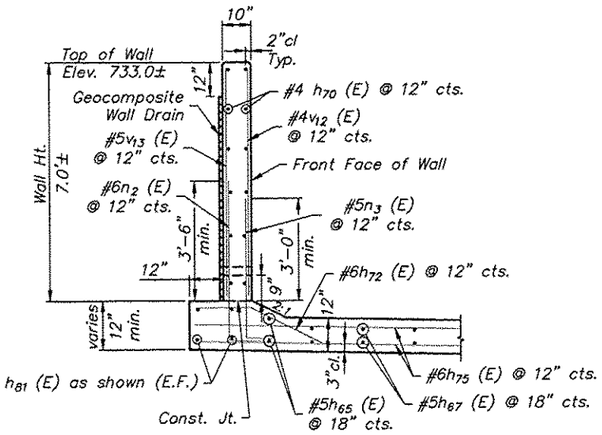
* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

** Rotate and/or adjust bend in field to fit variable slope; cut off as required to fit.

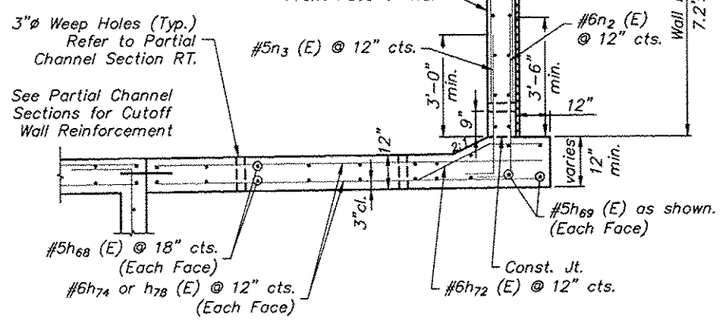
*** Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

② Field Bend as Required to Fit Channel ℄ and to Maintain Clear Distance

PLAN
(Showing Reinforcement)



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

Sheet 23 of 73

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

McClure Engineering Associates, Inc.
7282 Argus Drive Rockford, Illinois 61107-6837
(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000816

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

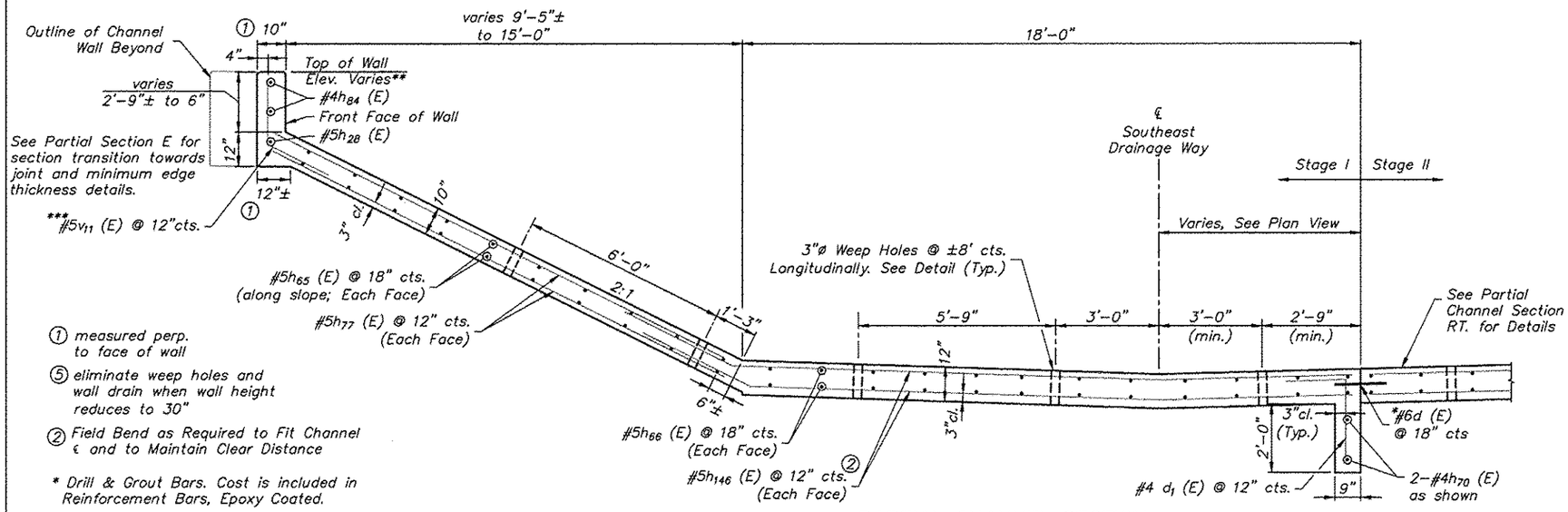
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
6+80.51 TO 7+15.02

JOB NUMBER:
11-128

SHEET NUMBER:
426 of 588



① measured perp. to face of wall

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

② Field Bend as Required to Fit Channel ℄ and to Maintain Clear Distance

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

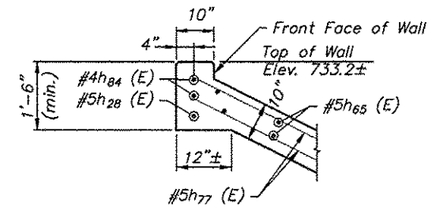
** Refer to Layout Plan for additional dimensions and channel elevations.

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

PARTIAL CHANNEL SECTION

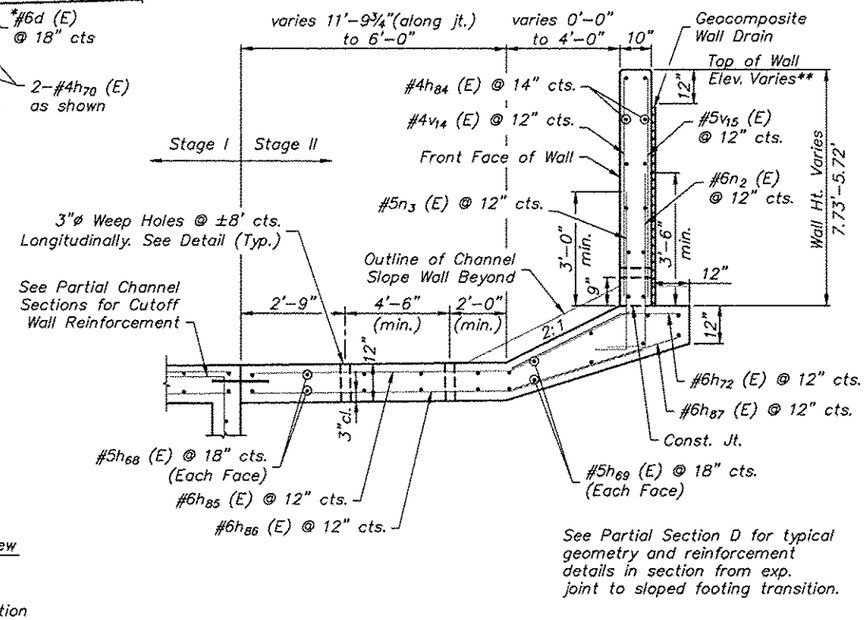
(Looking Upstream)
Sta. 6+98± to 7+15.02

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



PARTIAL SECTION E

Dimensions at right ℄'s to face of wall.

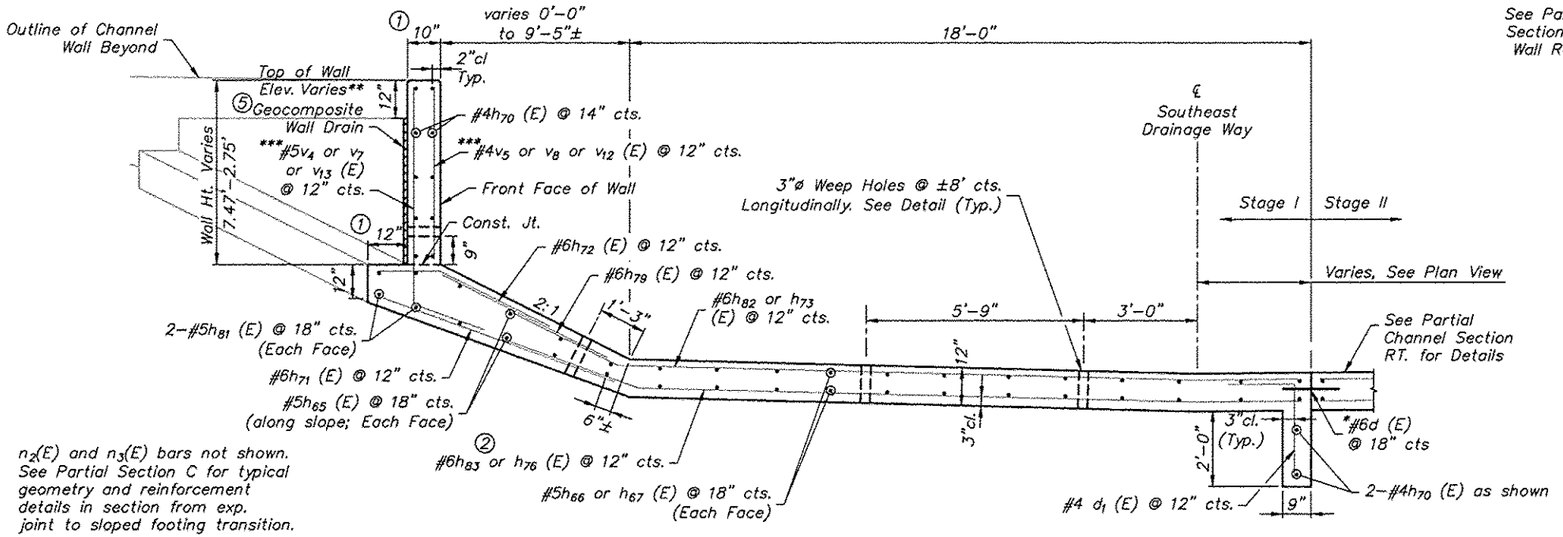


See Partial Section D for typical geometry and reinforcement details in section from exp. joint to sloped footing transition.

PARTIAL CHANNEL SECTION RT.

(Looking Upstream)
Sta. 6+80.51 to 7+15.02

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



n_2(E) and n_3(E) bars not shown. See Partial Section C for typical geometry and reinforcement details in section from exp. joint to sloped footing transition.

PARTIAL CHANNEL SECTION

(Looking Upstream)
Sta. 6+80.51 to 6+98±

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

MINIMUM BAR LAP

#5 bar – 2'-0"

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

Sheet 24 of 73

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
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McClure Engineering Associates, Inc.
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Design Firm License: Illinois 184-000818

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

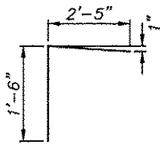
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

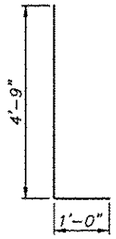
DRAWING:
6+80.51 TO 7+15.02

JOB NUMBER:
11-128

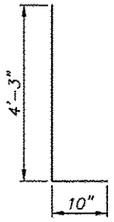
SHEET NUMBER:
427 of 588



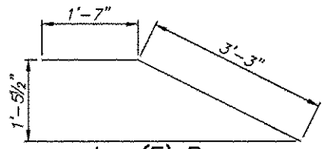
d_1 (E) Bar



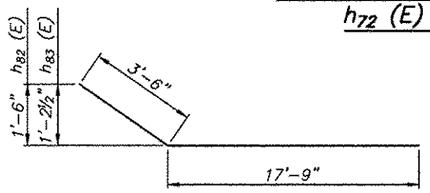
n_2 (E) Bars



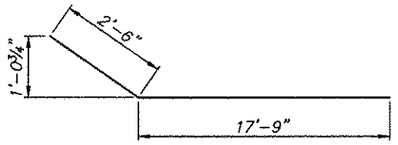
n_3 (E) Bars



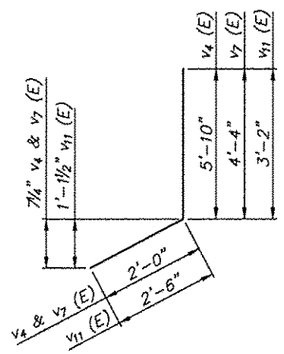
h_{72} (E) Bar



h_{82} & h_{83} (E) Bars

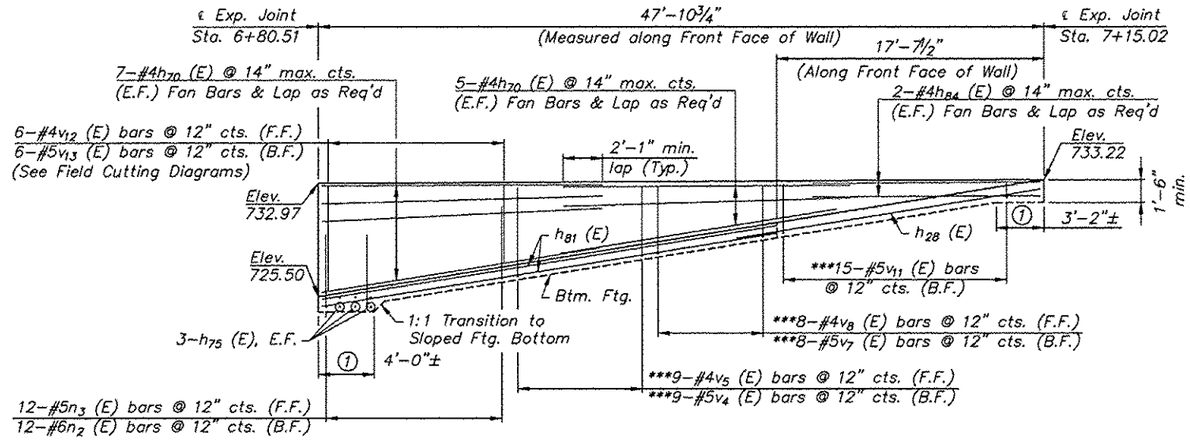


h_{146} (E) Bars



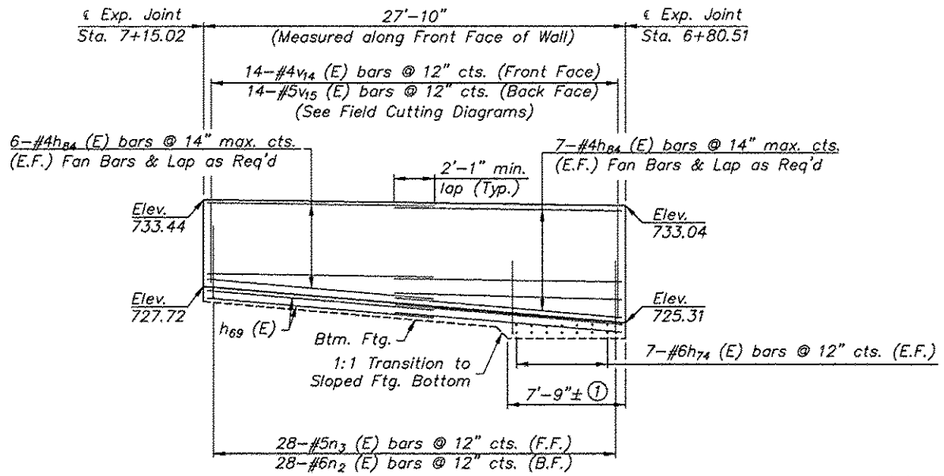
v_4 & v_7 & v_{11} (E) Bars***

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



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

① Measured along Front Face of Wall



SOUTH WALL ELEVATION
(Looking at Inside/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

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

McClure Engineering Associates, Inc.
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(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000616

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

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

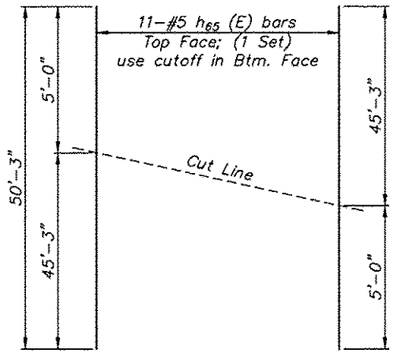
REVISIONS

REV. NO.	DESCRIPTION	DATE

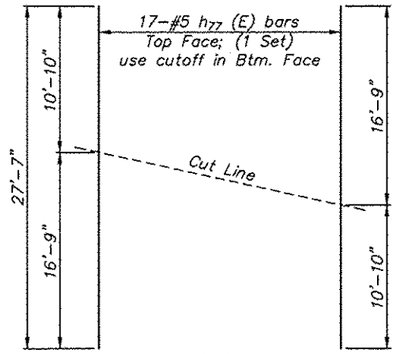
DRAWING:
6+80.51 TO 7+15.02

JOB NUMBER:
11-128

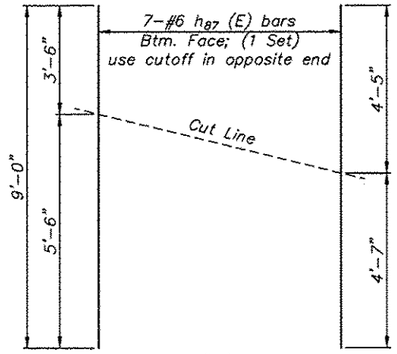
SHEET NUMBER:
428 of 588



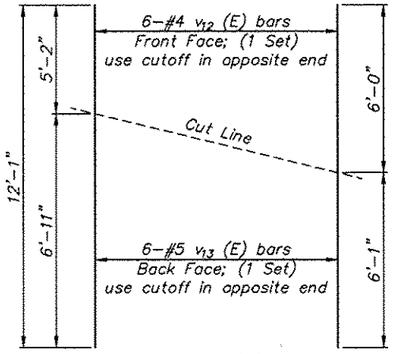
h_{65} (E) Bars



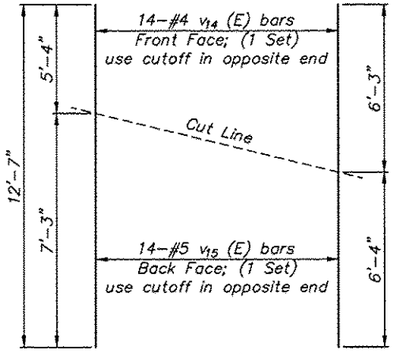
h_{77} (E) Bars



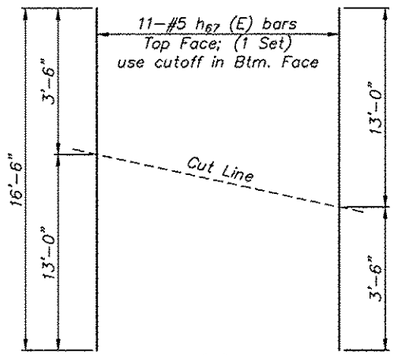
h_{87} (E) Bars



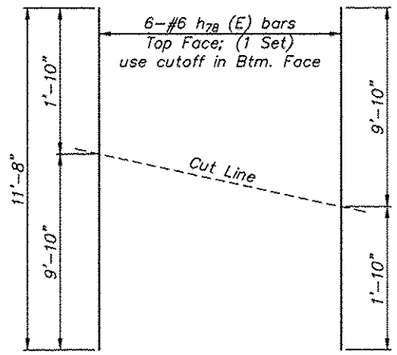
v_{12} & v_{13} (E) Bars



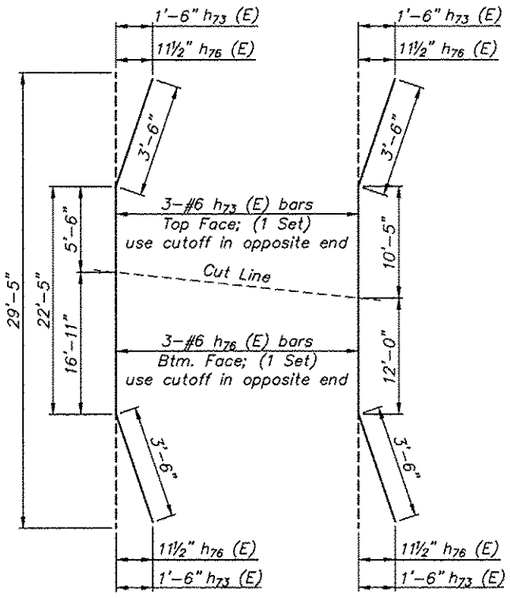
v_{14} & v_{15} (E) Bars



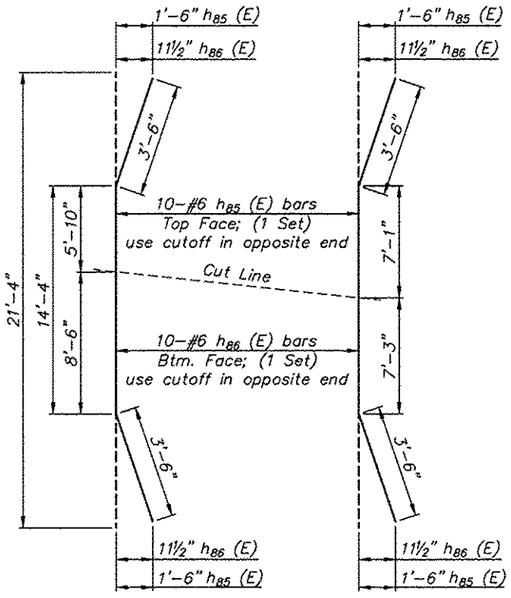
h_{67} (E) Bars



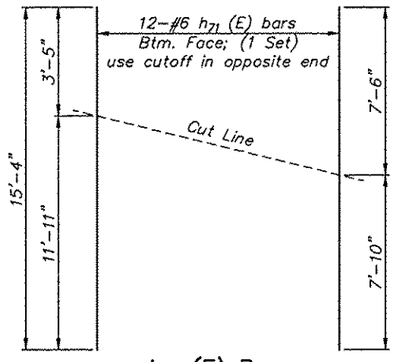
h_{78} (E) Bars



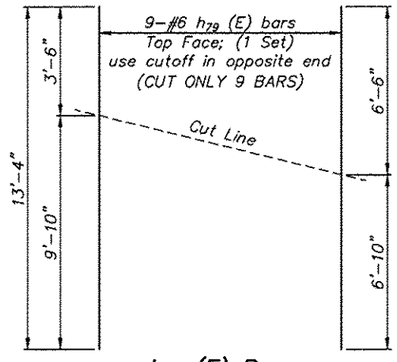
h_{73} & h_{76} (E) Bars



h_{85} & h_{86} (E) Bars



h_{71} (E) Bars



h_{79} (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

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

McClure Engineering Associates, Inc.
7282 Argus Drive Rockford, Illinois 61107-5837
(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000816

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

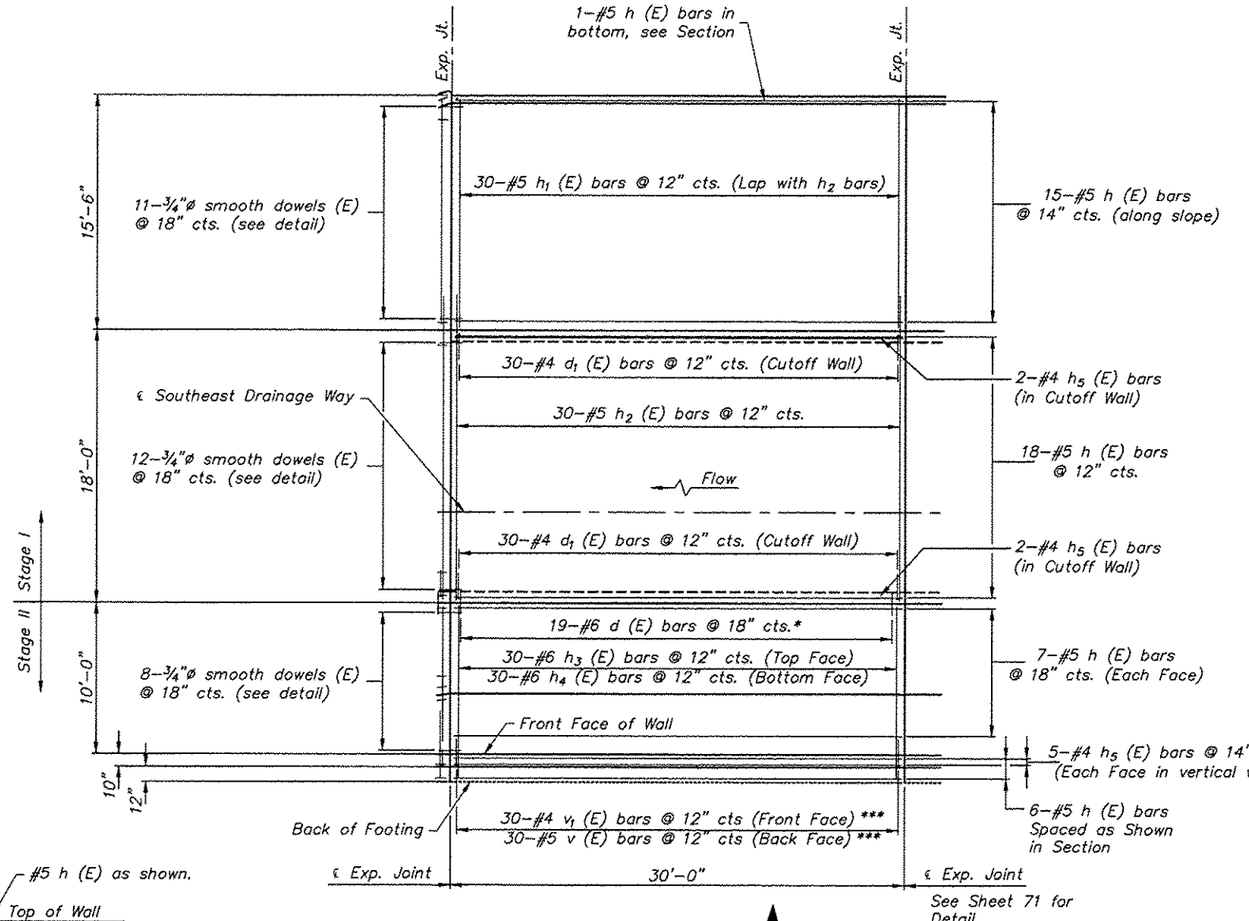
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

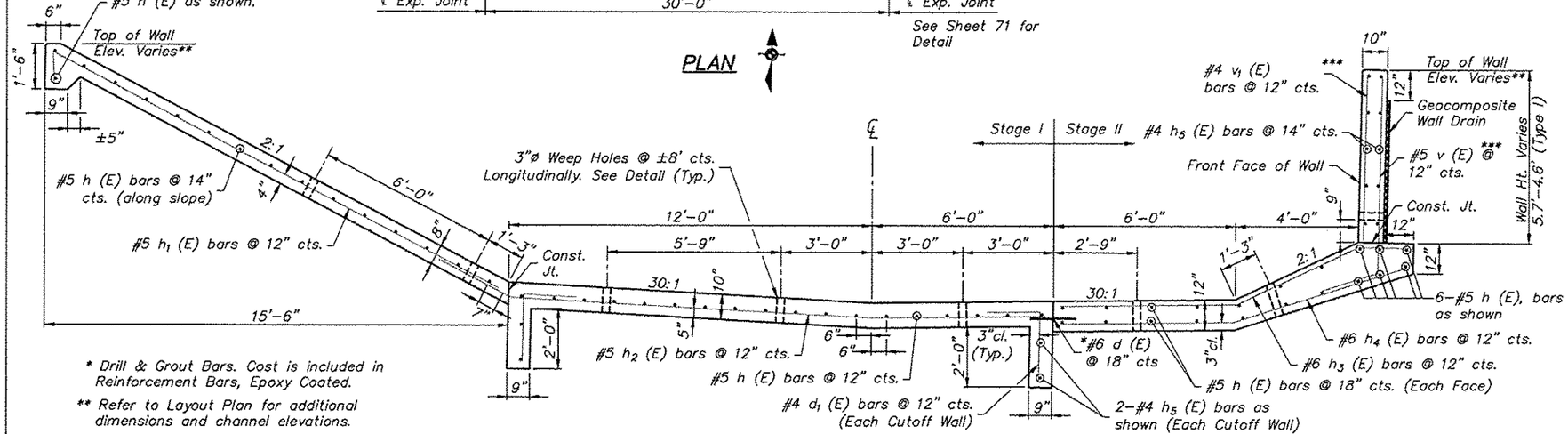
DRAWING:
6+80.51 TO 7+15.02

JOB NUMBER:
11-128

SHEET NUMBER:
429 of 588



PLAN

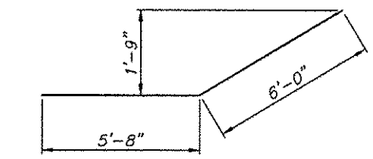


CHANNEL SECTION
(Looking Upstream)

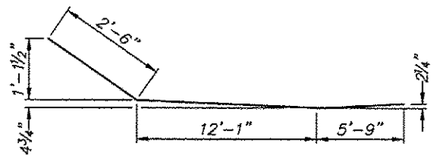
* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

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

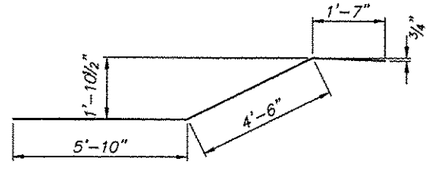
*** Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.



h_4 (E) bar



h_2 (E) bar



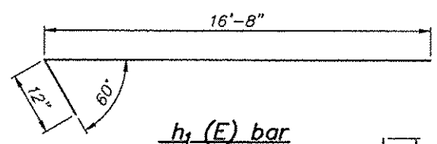
h_3 (E) bar

BILL OF MATERIAL
(For One 30' Panel Only)

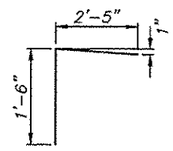
Bar	No.	Size	Length	Shape
h (E)	54	#5	29'-6"	
h_1 (E)	30	#5	17'-8"	
h_2 (E)	30	#5	20'-4"	
h_3 (E)	30	#6	11'-11"	
h_4 (E)	30	#6	11'-8"	
h_5 (E)	14	#4	29'-6"	
d (E)	19	#6	1'-6"	
d_1 (E)	60	#4	3'-11"	
v (E)	30	#5	8'-6"	
v_1 (E)	30	#4	5'-3"	
Concrete Structures			Cu. Yd.	53.7
Reinforcement Bars, Epoxy Coated			Pound	4760
3/4" Dowels (E)			Each	31
Geocomposite Wall Drain			Sq. Yd.	15.0

MINIMUM BAR LAP

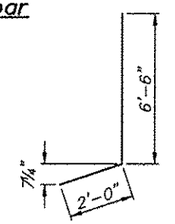
#4 bar – 1'–7"
#5 bar – 2'–0"
#6 bar – 2'–5"



h_1 (E) bar



d_1 (E) bar



v (E) bar ***

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

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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Design Firm License: Illinois 184-000616

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.

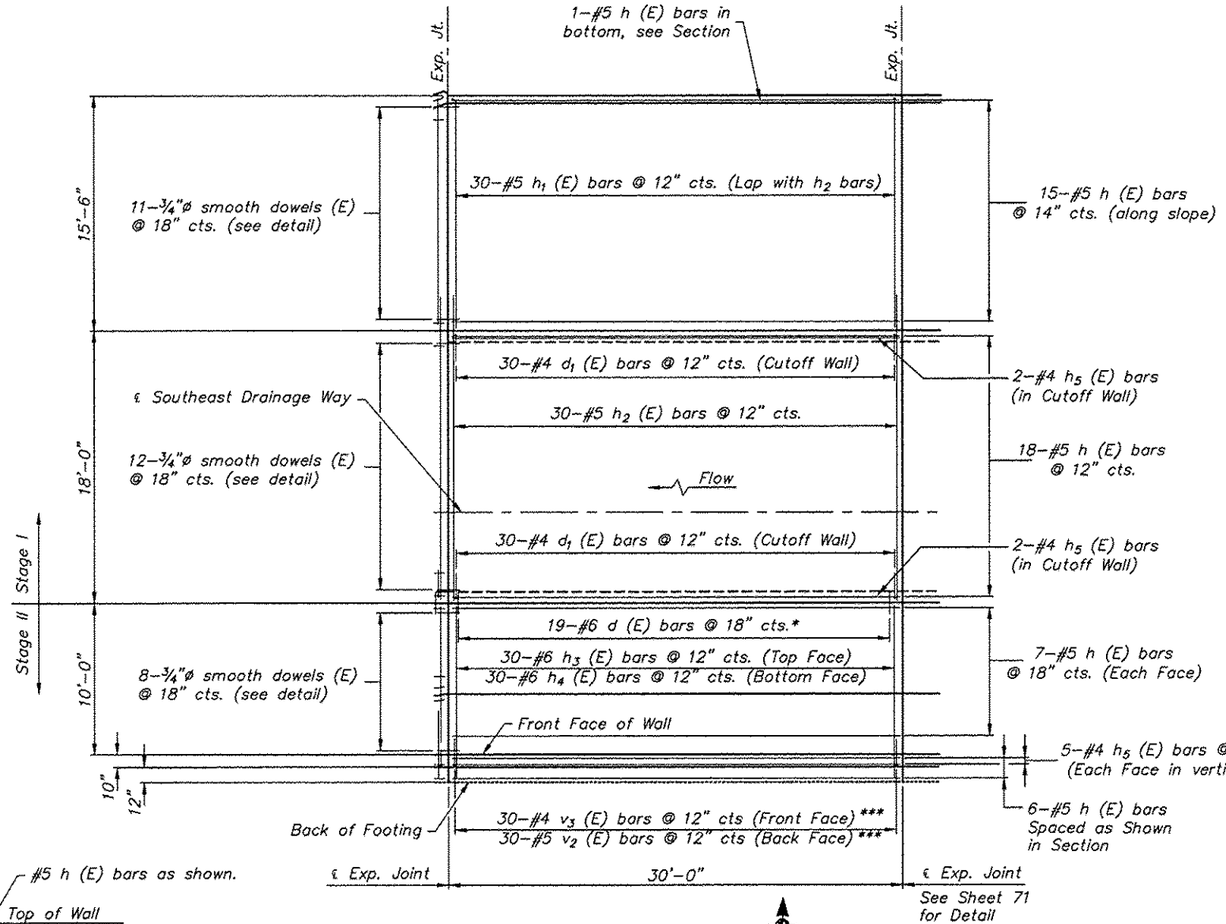
REVISIONS

REV. NO.	DESCRIPTION	DATE

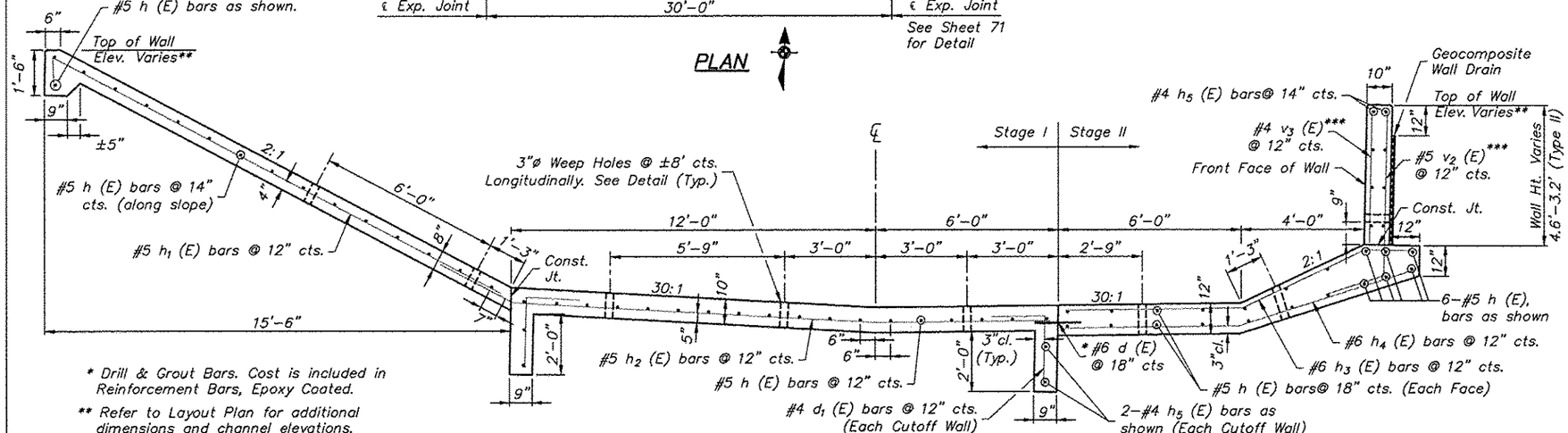
DRAWING
30' PANEL, TYPE I (TYPICAL)

JOB NUMBER
11-128

SHEET NUMBER
430 of 588



PLAN

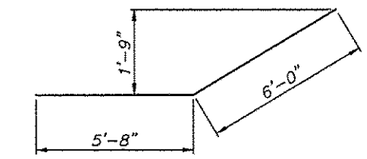


* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

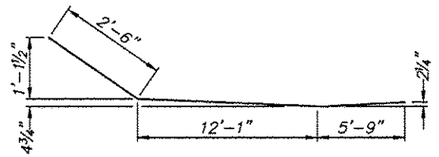
** Refer to Layout Plan for additional dimensions and channel elevations.

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

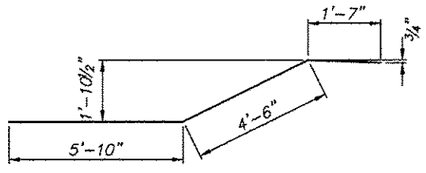
CHANNEL SECTION
(Looking Upstream)



h_4 (E) bar



h_2 (E) bar



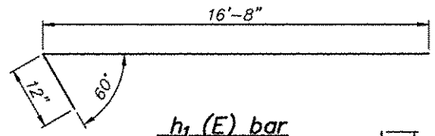
h_3 (E) bar

BILL OF MATERIAL
(For One 30' Panel Only)

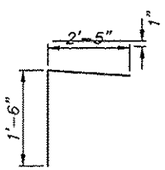
Bar	No.	Size	Length	Shape
h (E)	54	#5	29'-6"	
h_1 (E)	30	#5	17'-8"	
h_2 (E)	30	#5	20'-4"	
h_3 (E)	30	#6	11'-11"	
h_4 (E)	30	#6	11'-8"	
h_5 (E)	14	#4	29'-6"	
d (E)	19	#6	1'-6"	
d_1 (E)	60	#4	3'-11"	
v_2 (E)	30	#5	7'-4"	
v_3 (E)	30	#4	4'-1"	
Concrete Structures			Cu. Yd.	52.2
Reinforcement Bars, Epoxy Coated			Pound	4700
3/4" Dowels (E)			Each	31
Geocomposite Wall Drain			Sq. Yd.	10.0

MINIMUM BAR LAP

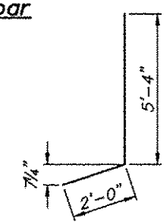
#4 bar – 1'–7"
#5 bar – 2'–0"
#6 bar – 2'–5"



h_1 (E) bar



d_1 (E) bar



v_2 (E) bar***

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

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

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

McClure Engineering Associates, Inc.
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(815) 398-2332 FAX (815) 398-2498
Design Firm License: Illinois 184-000816

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.

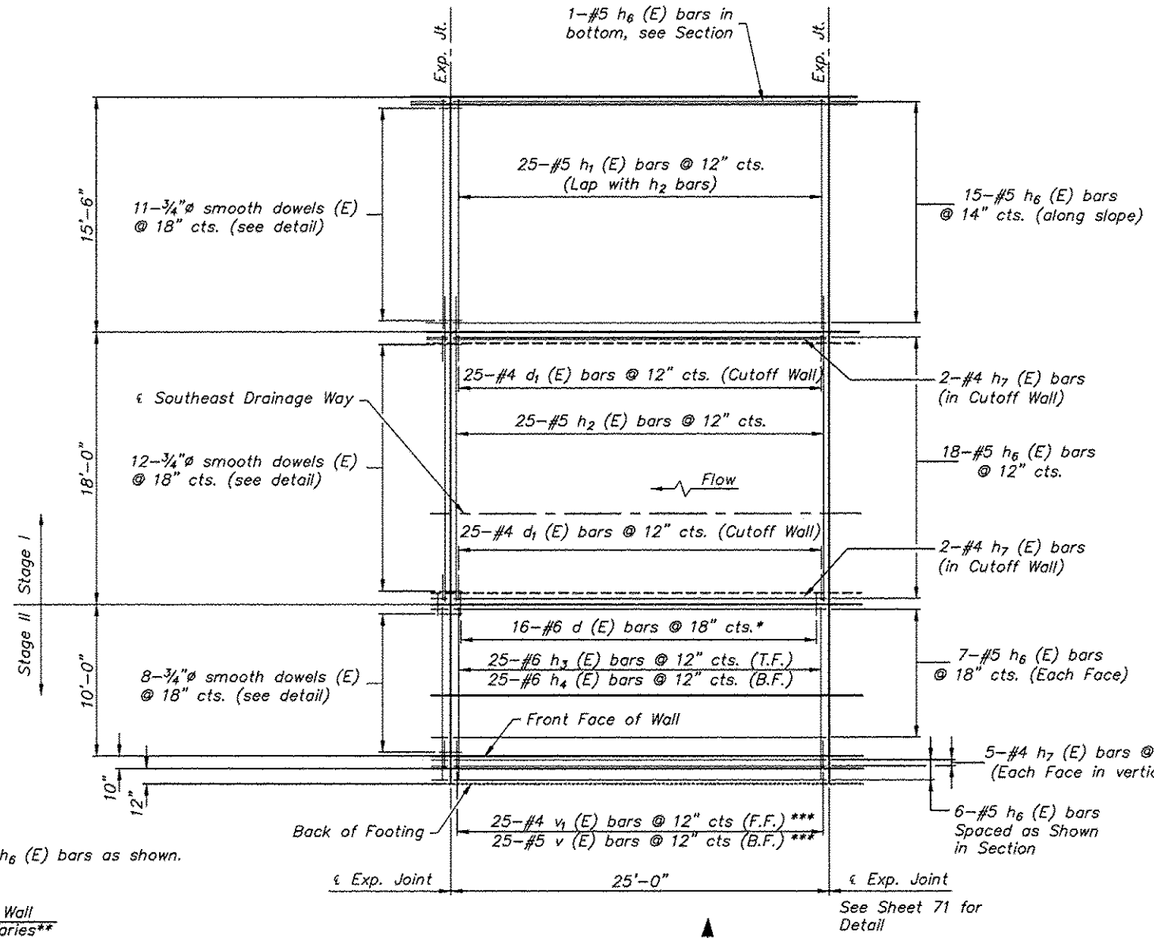
REVISIONS

REV. NO.	DESCRIPTION	DATE

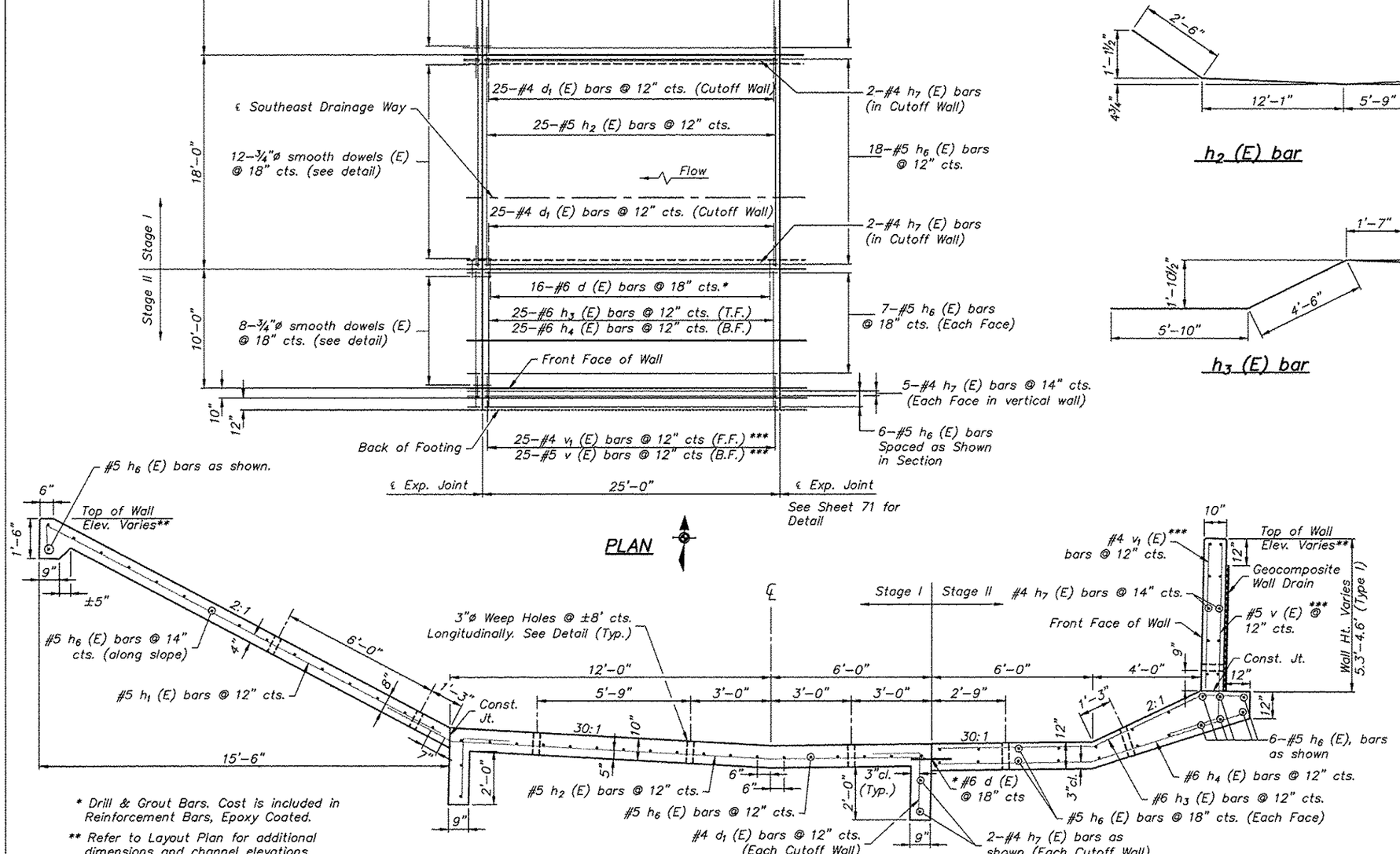
DRAWING:
30' PANEL, TYPE II (TYPICAL)

JOB NUMBER:
11-128

SHEET NUMBER:
431 of 588



PLAN

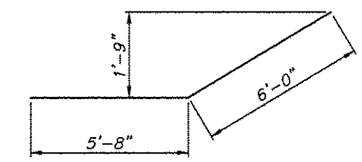


CHANNEL SECTION
(Looking Upstream)

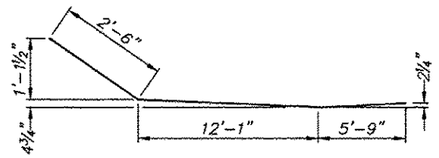
* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

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

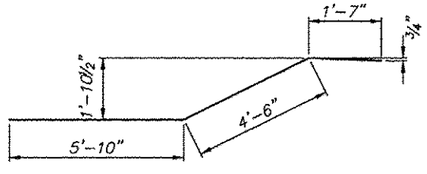
*** Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.



h_4 (E) bar



h_2 (E) bar



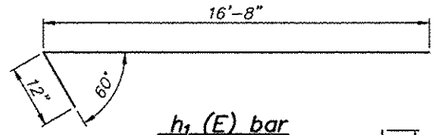
h_3 (E) bar

BILL OF MATERIAL
(For one 25' Panel Only)

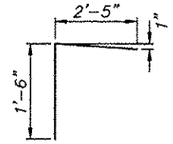
Bar	No.	Size	Length	Shape
h_6 (E)	54	#5	24'-6"	
h_1 (E)	25	#5	17'-8"	
h_2 (E)	25	#5	20'-4"	
h_3 (E)	25	#6	11'-11"	
h_4 (E)	25	#6	11'-8"	
h_7 (E)	14	#4	24'-6"	
d (E)	16	#6	1'-6"	
d_1 (E)	50	#4	3'-11"	
v (E)	25	#5	8'-6"	
v_1 (E)	25	#4	5'-3"	
Concrete Structures			Cu. Yd.	44.5
Reinforcement Bars, Epoxy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

MINIMUM BAR LAP

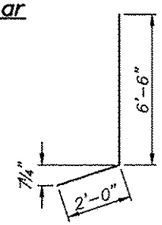
#4 bar – 1'–7"
#5 bar – 2'–0"
#6 bar – 2'–5"



h_1 (E) bar



d_1 (E) bar



v (E) bar ***

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

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

FEHR GRAHAM
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Design Firm License: Illinois 184-000816

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

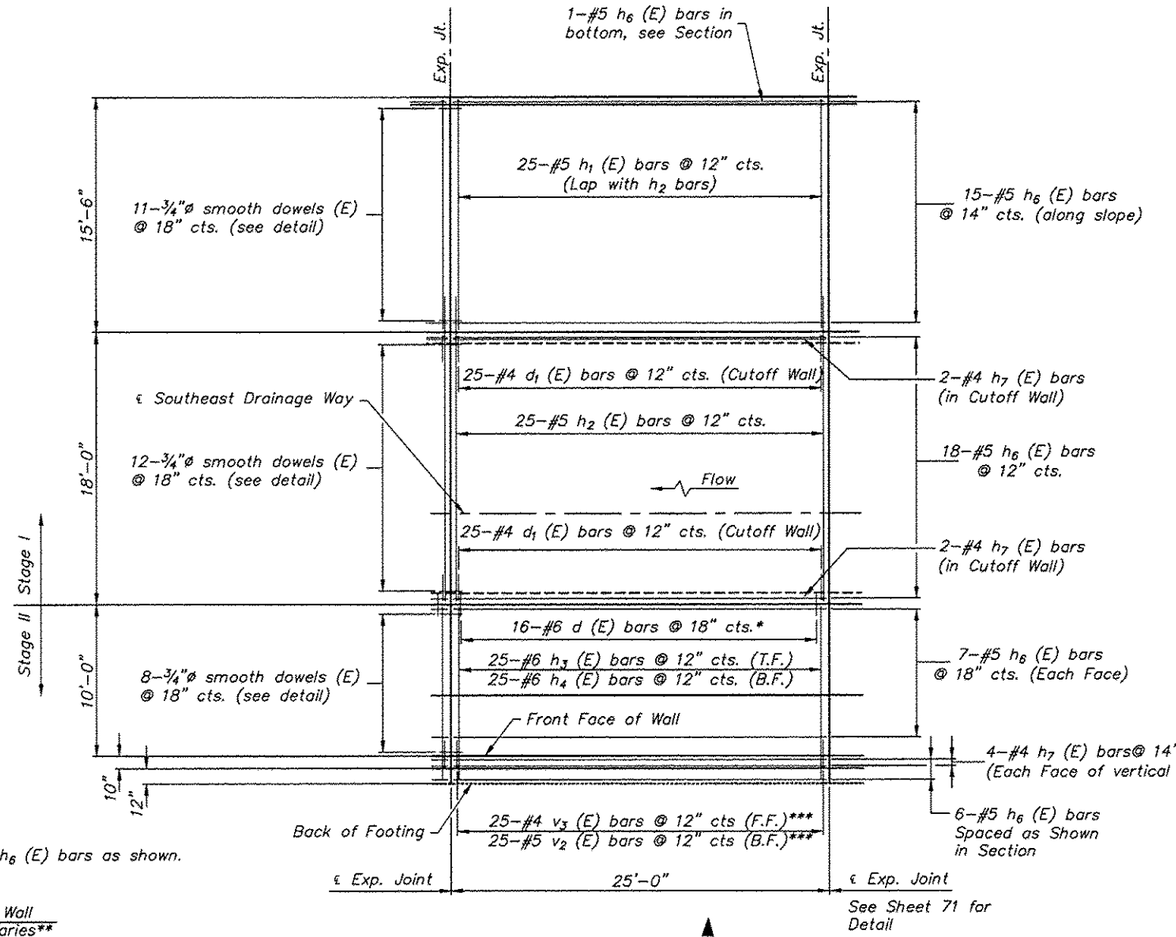
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

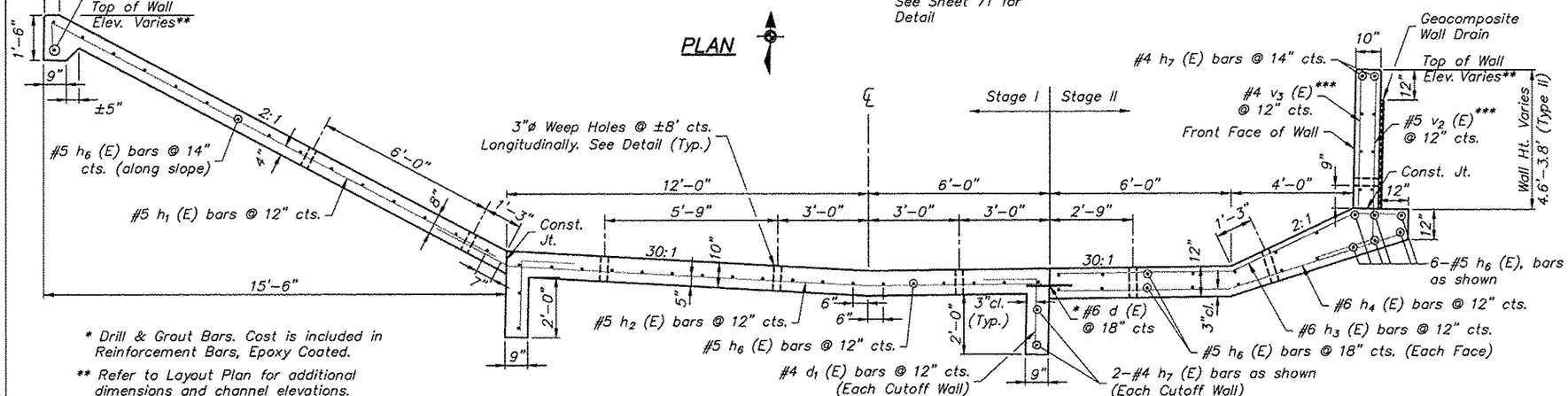
DRAWING:
25' PANEL, TYPE I (TYPICAL)

JOB NUMBER:
11-128

SHEET NUMBER:
432 of 588



PLAN

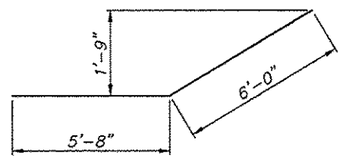


* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

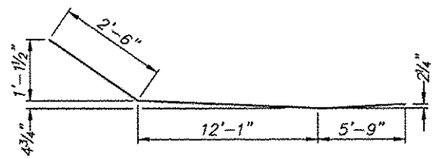
** Refer to Layout Plan for additional dimensions and channel elevations.

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

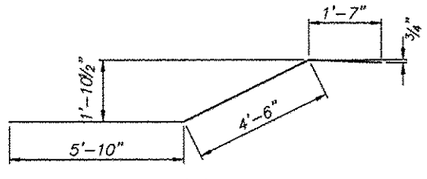
CHANNEL SECTION
(Looking Upstream)



h_4 (E) bar



h_2 (E) bar



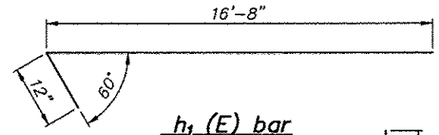
h_3 (E) bar

BILL OF MATERIAL
(For One 25' Panel Only)

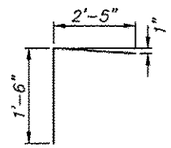
Bar	No.	Size	Length	Shape
h_6 (E)	54	#5	24'-6"	
h_1 (E)	25	#5	17'-8"	
h_2 (E)	25	#5	20'-4"	
h_3 (E)	25	#6	11'-11"	
h_4 (E)	25	#6	11'-8"	
h_7 (E)	12	#4	24'-6"	
d (E)	16	#6	1'-6"	
d_1 (E)	50	#4	3'-11"	
v_2 (E)	25	#5	7'-4"	
v_3 (E)	25	#4	4'-1"	
Concrete Structures			Cu. Yd.	44.0
Reinforcement Bars, Epoxy Coated			Pound	3879
3/4" Dowels (E)			Each	31
Geocomposite Wall Drain			Sq. Yd.	9.0

MINIMUM BAR LAP

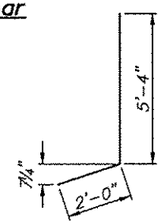
#4 bar – 1'–7"
#5 bar – 2'–0"
#6 bar – 2'–5"



h_1 (E) bar



d_1 (E) bar



v_2 (E) bar***

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

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

Sheet 30 of 73

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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ILLINOIS
IOWA
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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
DATED: 6/12/15
SCALE: N.T.S.

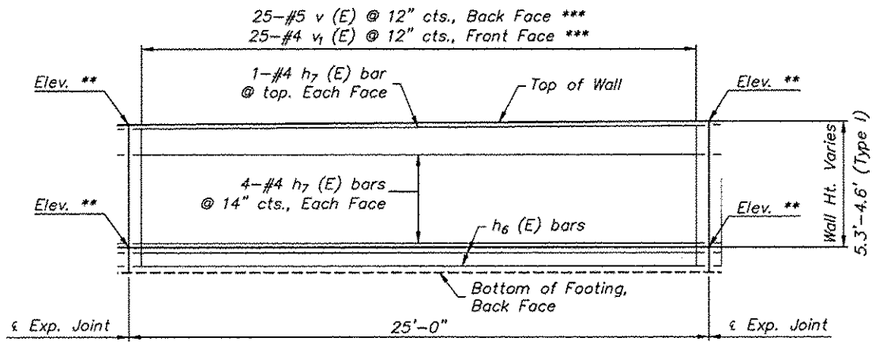
REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
25' PANEL, TYPE II (TYPICAL)

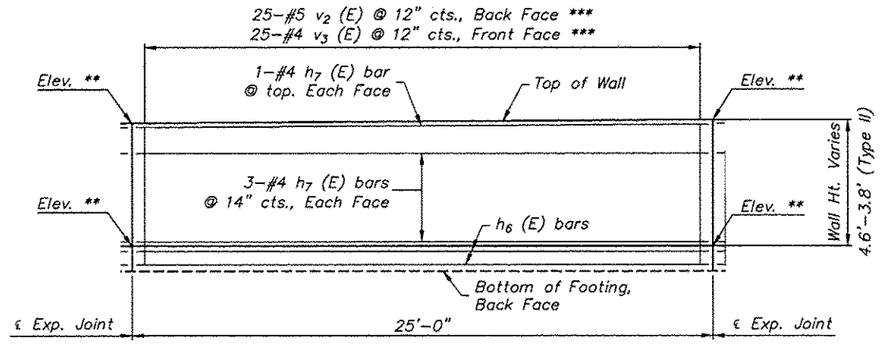
JOB NUMBER:
11-128

SHEET NUMBER:
433 of 588



SOUTH WALL ELEVATION – TYPE I

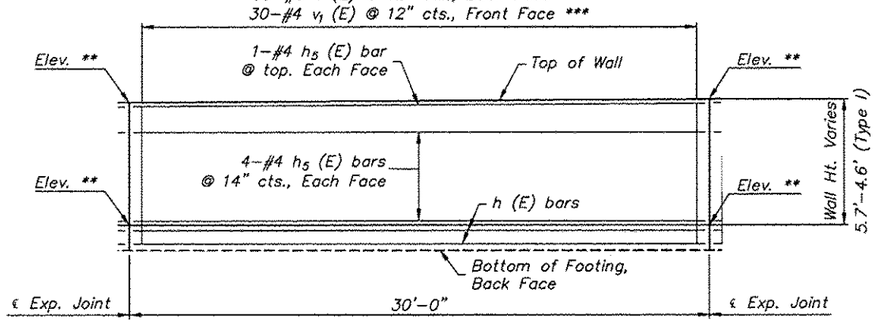
(Looking at Inside/Front Face of Wall)



SOUTH WALL ELEVATION – TYPE II

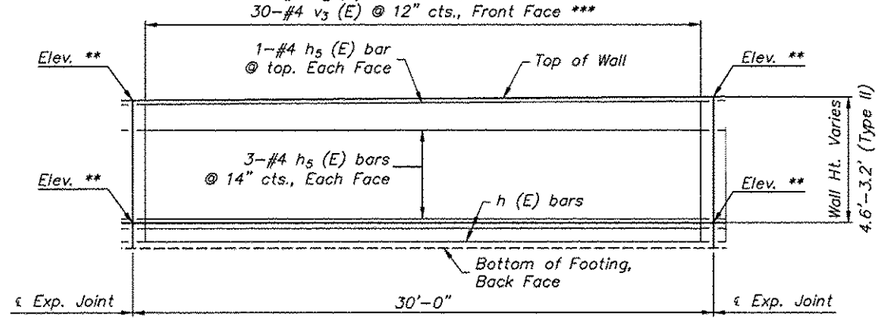
(Looking at Inside/Front Face of Wall)

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

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Design Firm License: Illinois 184-000616

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.

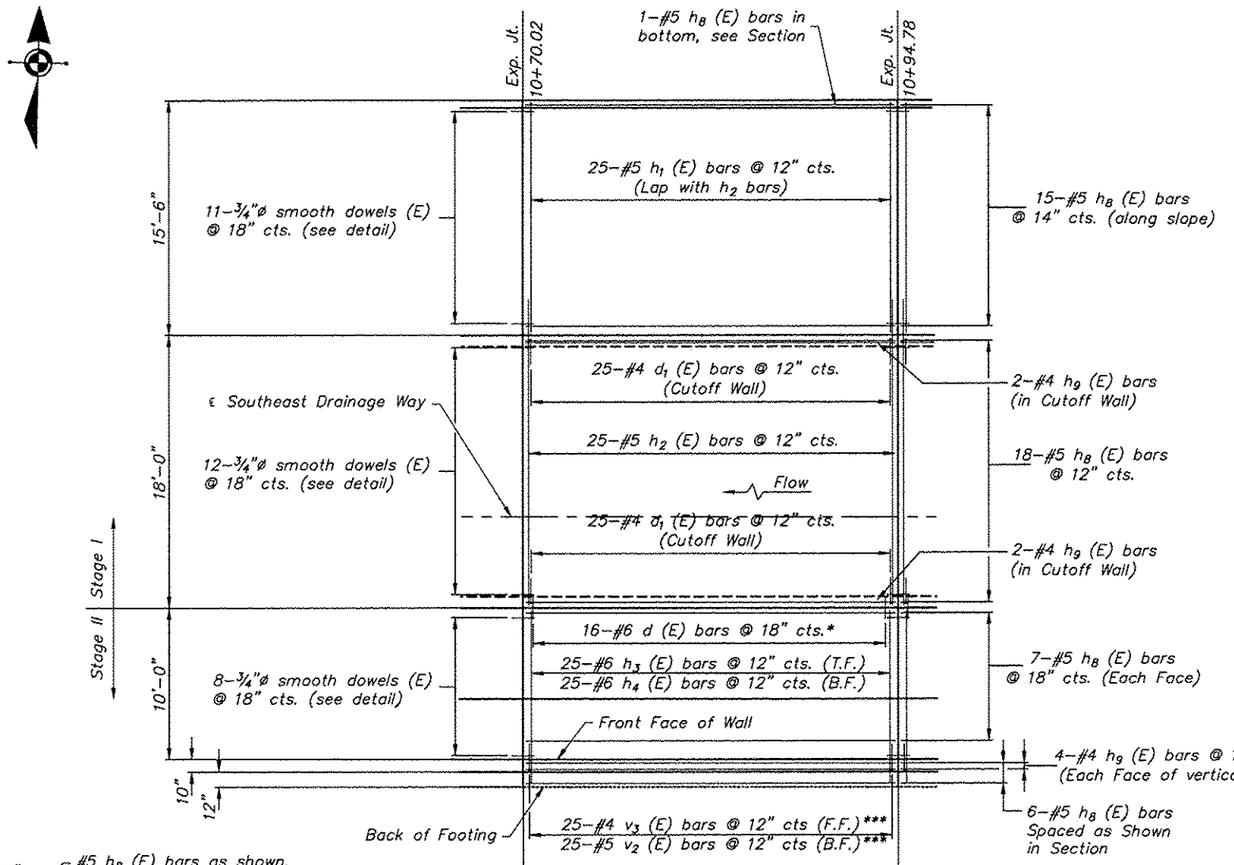
REVISIONS

REV. NO.	DESCRIPTION	DATE

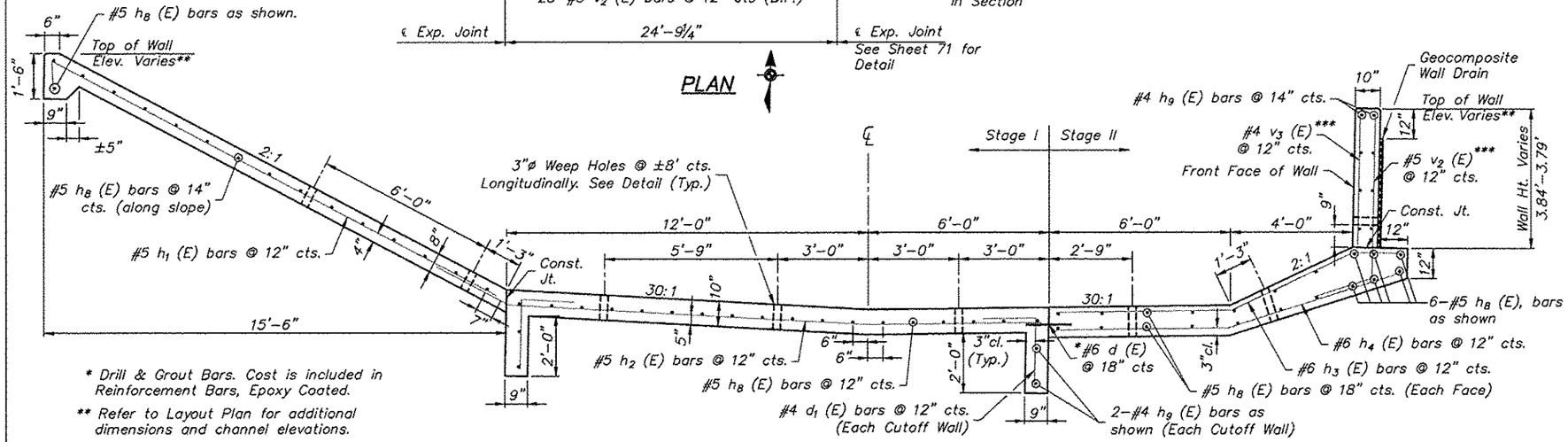
DRAWING:
25' & 30' PANEL WALL ELEVATIONS
(TYPICAL)

JOB NUMBER:
11-128

SHEET NUMBER:
434 of 588



PLAN

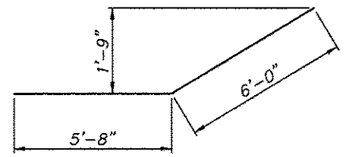


* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

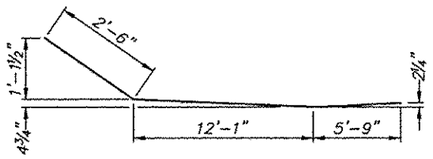
** Refer to Layout Plan for additional dimensions and channel elevations.

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

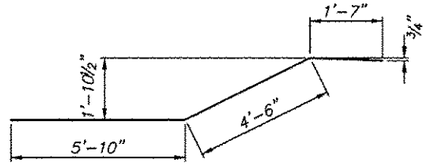
CHANNEL SECTION
(Looking Upstream)



h_4 (E) bar



h_2 (E) bar



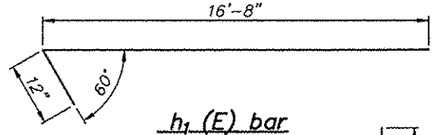
h_3 (E) bar

BILL OF MATERIAL
(This Section Only)

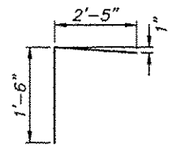
Bar	No.	Size	Length	Shape
h_8 (E)	54	#5	24'-3"	
h_1 (E)	25	#5	17'-8"	
h_2 (E)	25	#5	20'-4"	
h_3 (E)	25	#6	11'-11"	
h_4 (E)	25	#6	11'-8"	
h_9 (E)	12	#4	24'-3"	
d (E)	16	#6	1'-6"	
d_1 (E)	50	#4	3'-11"	
v_2 (E)	25	#5	7'-4"	
v_3 (E)	25	#4	4'-1"	
Concrete Structures			Cu. Yd.	43.1
Reinforcement Bars, Epoxy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

MINIMUM BAR LAP

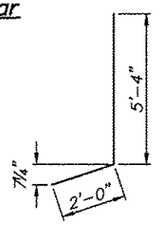
#4 bar – 1'-7"
#5 bar – 2'-0"
#6 bar – 2'-5"



h_1 (E) bar



d_1 (E) bar



v_2 (E) bar***

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

Sheet 32 of 73

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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ILLINOIS
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WISCONSIN

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(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000616

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

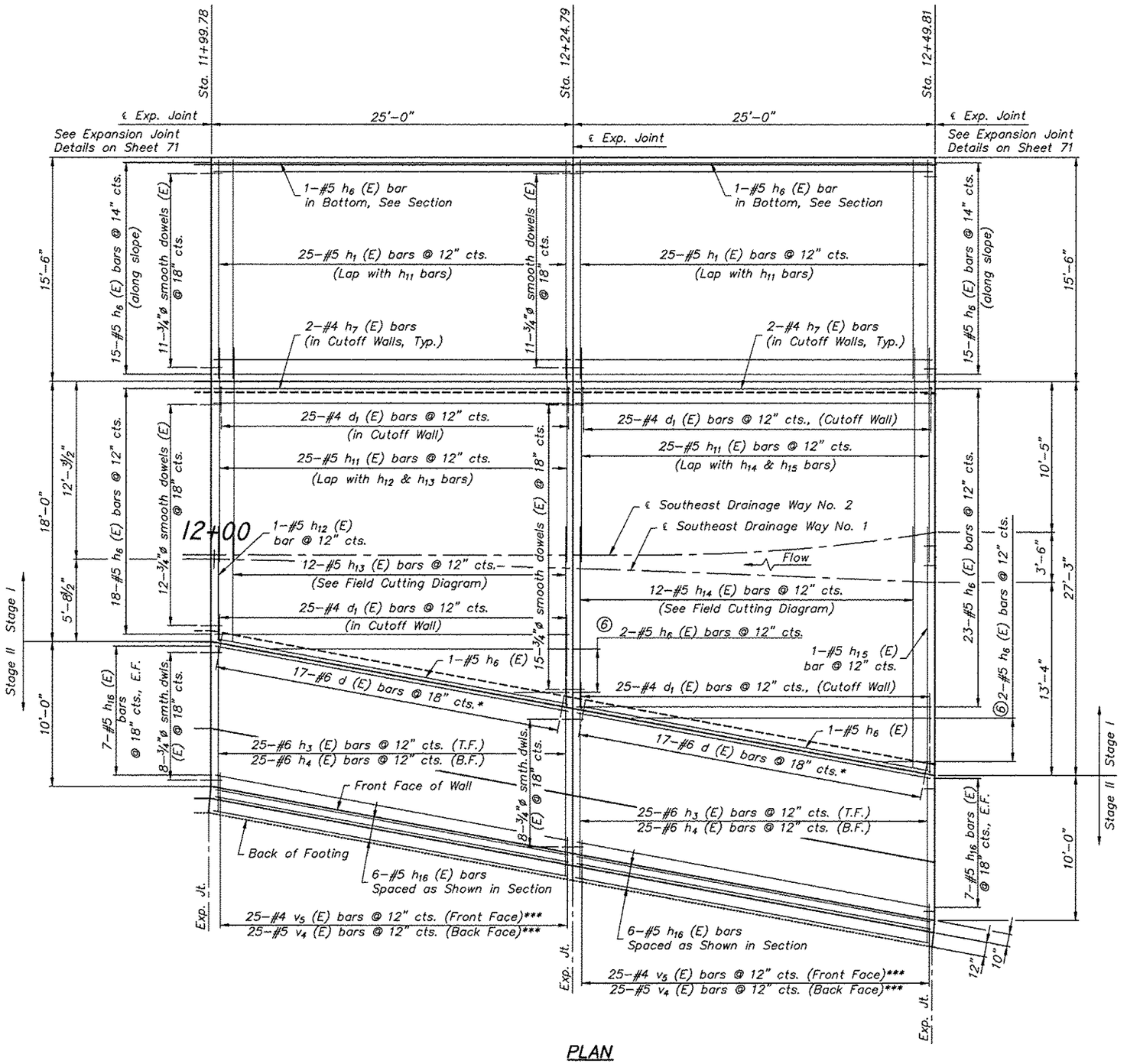
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: N.T.S.

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_6 (E)	79	#5	24'-6"	
h_1 (E)	50	#5	17'-8"	
h_3 (E)	50	#6	11'-11"	
h_4 (E)	50	#6	11'-8"	
h_7 (E)	8	#4	24'-6"	
h_{10} (E)	20	#4	24'-10"	
h_{11} (E)	50	#5	15'-6"	
h_{12} (E)	1	#5	7'-10"	
h_{13} (E)	12	#5	20'-3"	
h_{14} (E)	12	#5	29'-1"	
h_{15} (E)	1	#5	16'-10"	
h_{16} (E)	40	#5	24'-10"	
d (E)	34	#6	1'-6"	
d_1 (E)	100	#4	3'-11"	
v_4 (E)	50	#5	7'-10"	
v_5 (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_6 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

Sheet 33 of 73

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003585
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WISCONSIN

McClure Engineering Associates, Inc.
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(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000616

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

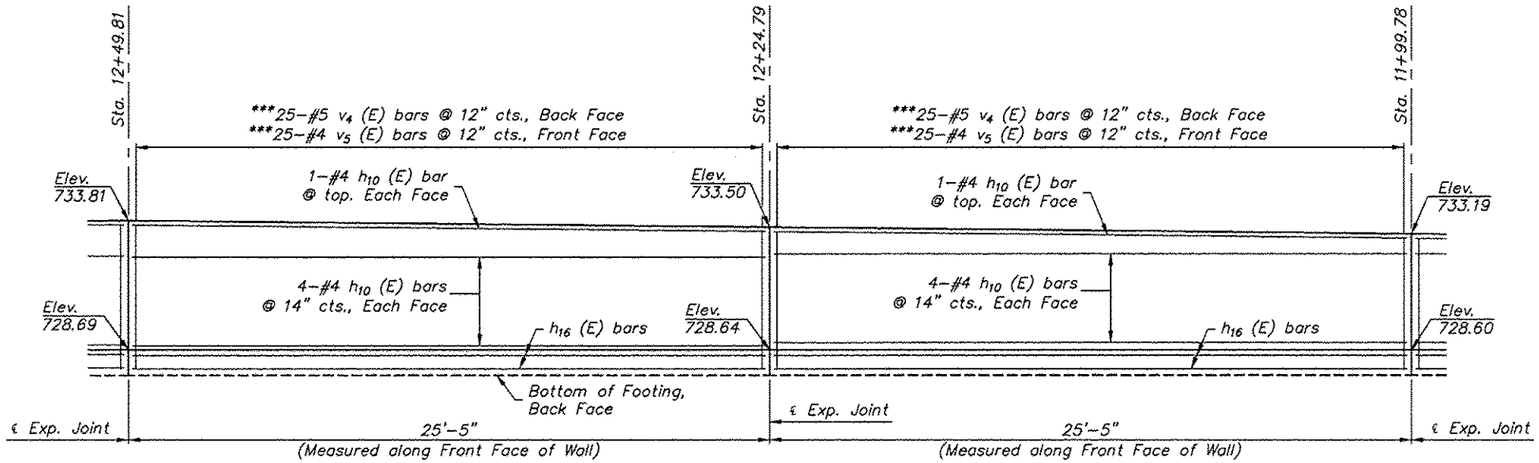
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
11+99.78 TO 12+49.81

JOB NUMBER:
11-128

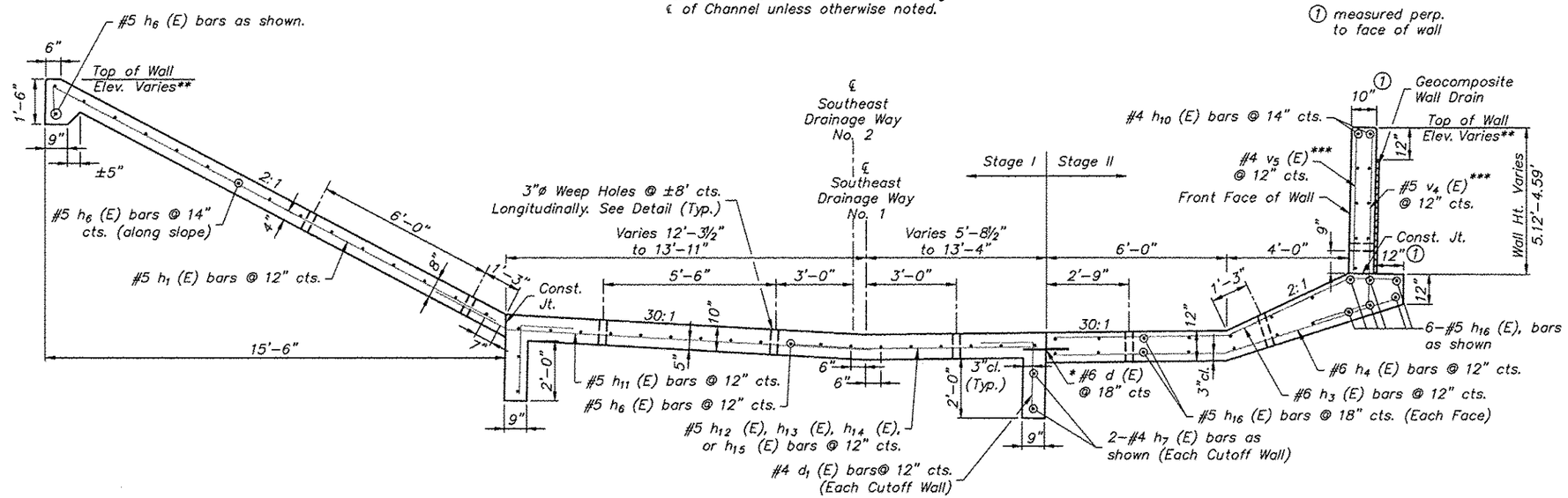
SHEET NUMBER:
436 of 588



SOUTH WALL ELEVATION

(Looking at Inside/Front Face of Wall)

Vertical Reinforcement measured along ℄ of Channel unless otherwise noted.



CHANNEL SECTION

(Looking Upstream)

Dimensions at right ∠'s to overall ℄ 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

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

McClure Engineering Associates, Inc.
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(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000818

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

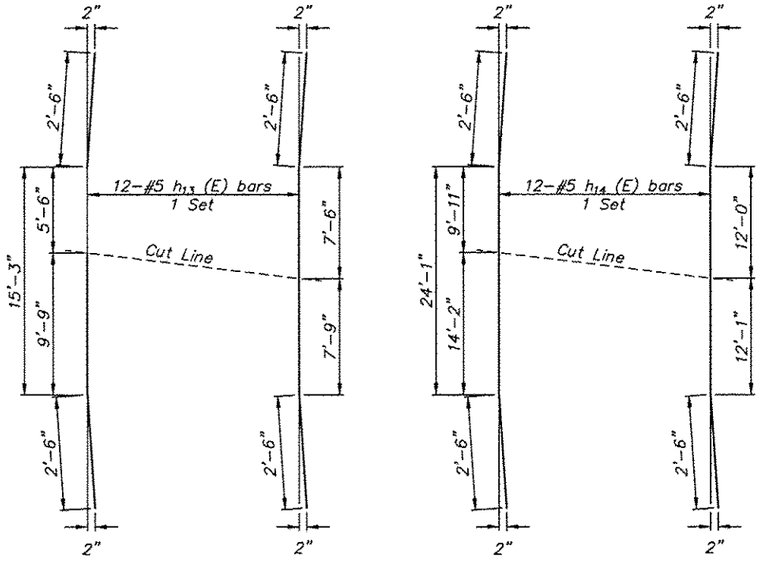
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
11+99.78 TO 12+49.81

JOB NUMBER:
11-128

SHEET NUMBER:
437 of 588

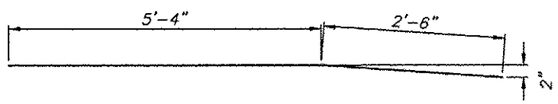


h_{13} (E) Bars

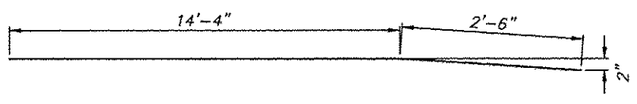
h_{14} (E) Bars

FIELD CUTTING DIAGRAMS

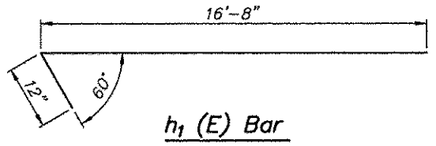
Order Bars full length. Cut as shown and use remainder of Bars in opposite end. Make all cuts normal to bar axis.



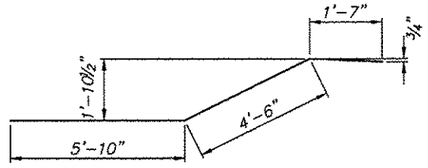
h_{12} (E) Bar



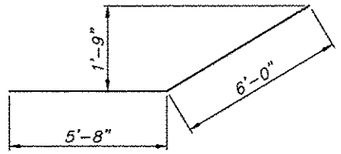
h_{15} (E) Bar



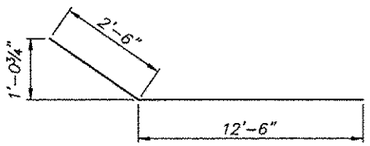
h_1 (E) Bar



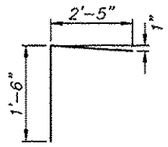
h_3 (E) Bar



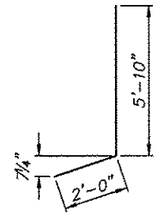
h_4 (E) Bar



h_{11} (E) Bar



d_1 (E) Bar



v_4 (E) Bar***

*** 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

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

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Design Firm License: Illinois 184-000616

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

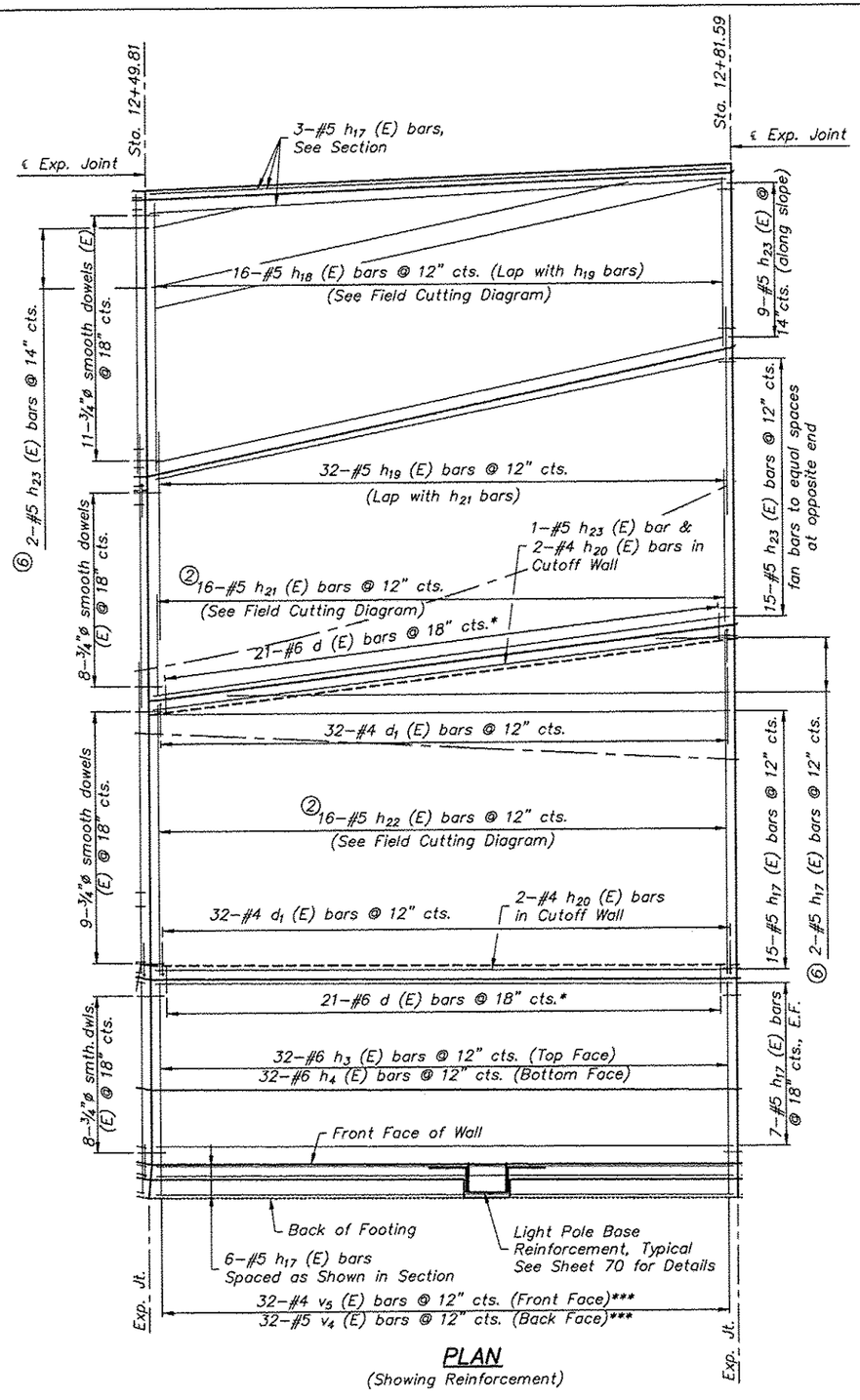
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

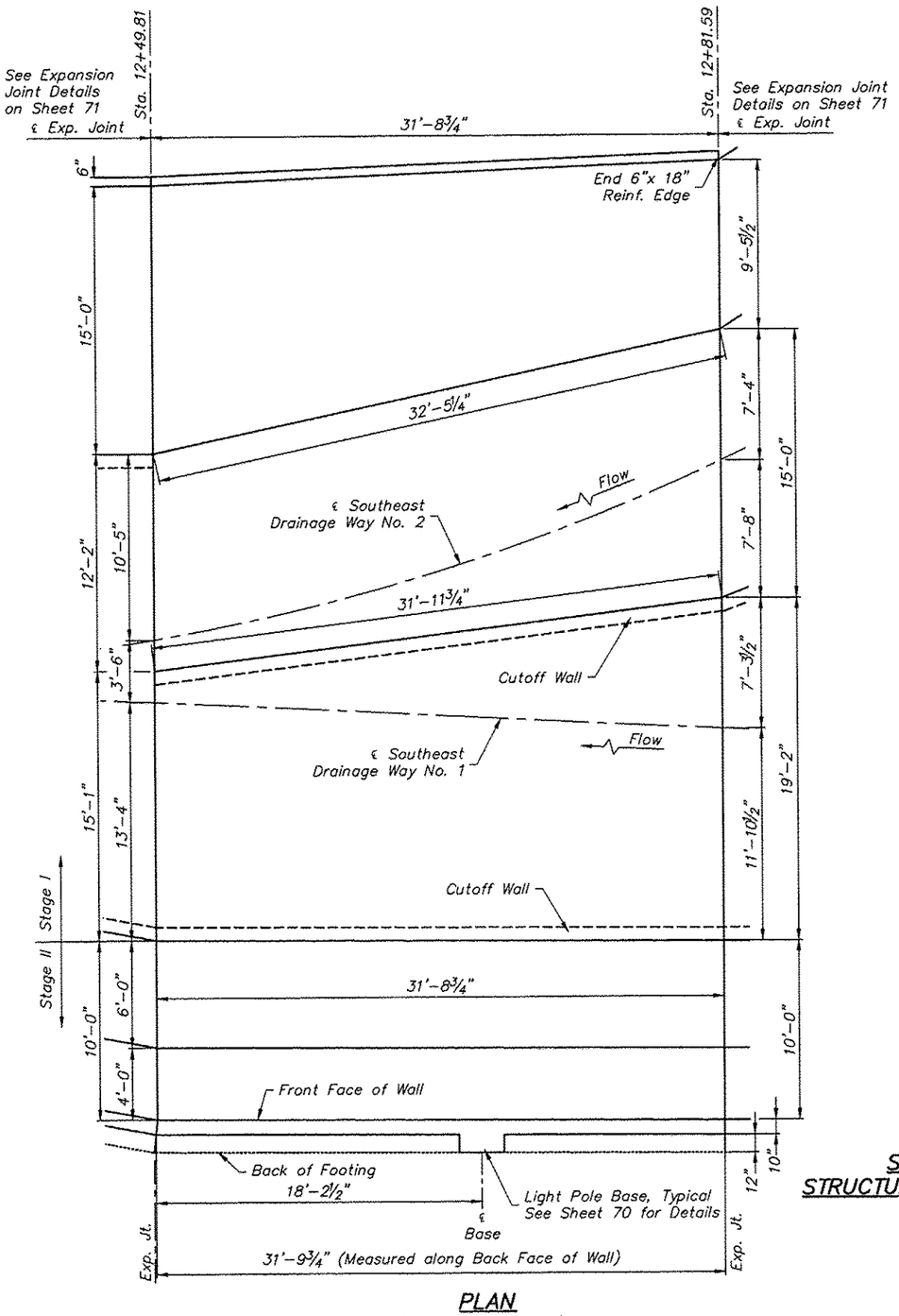
DRAWING:
11+99.78 TO 12+49.81

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 ℄ and to Maintain Clear Distance

⑥ Order h_6 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

Sheet 36 of 73

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ENGINEERING & ENVIRONMENTAL
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McClure Engineering Associates, Inc.
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PROJECT AND LOCATION:
HARRISON AVENUE
RECONSTRUCTION 2012
PHASE 1
ROCKFORD, ILLINOIS

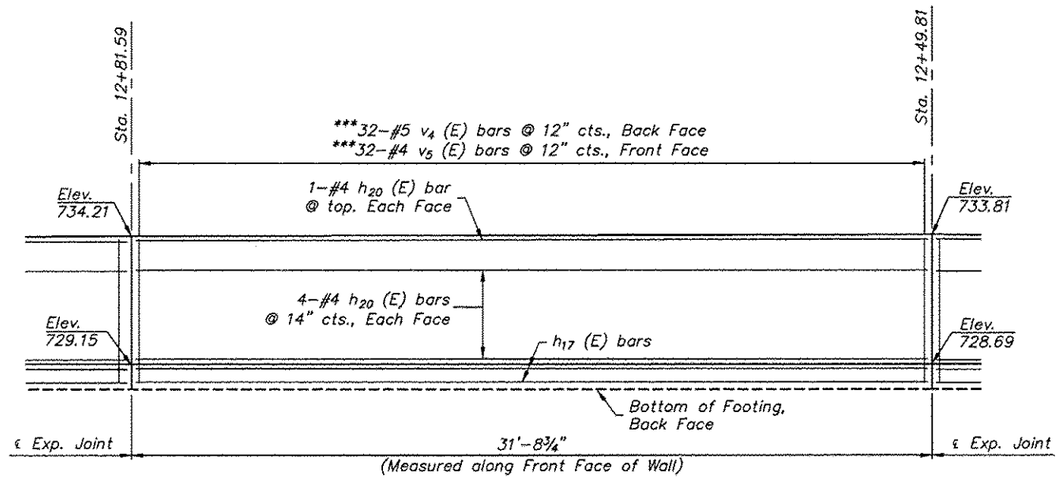
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
12+49.81 TO 12+81.59

JOB NUMBER:
11-128

SHEET NUMBER:
439 of 588



SOUTH WALL ELEVATION

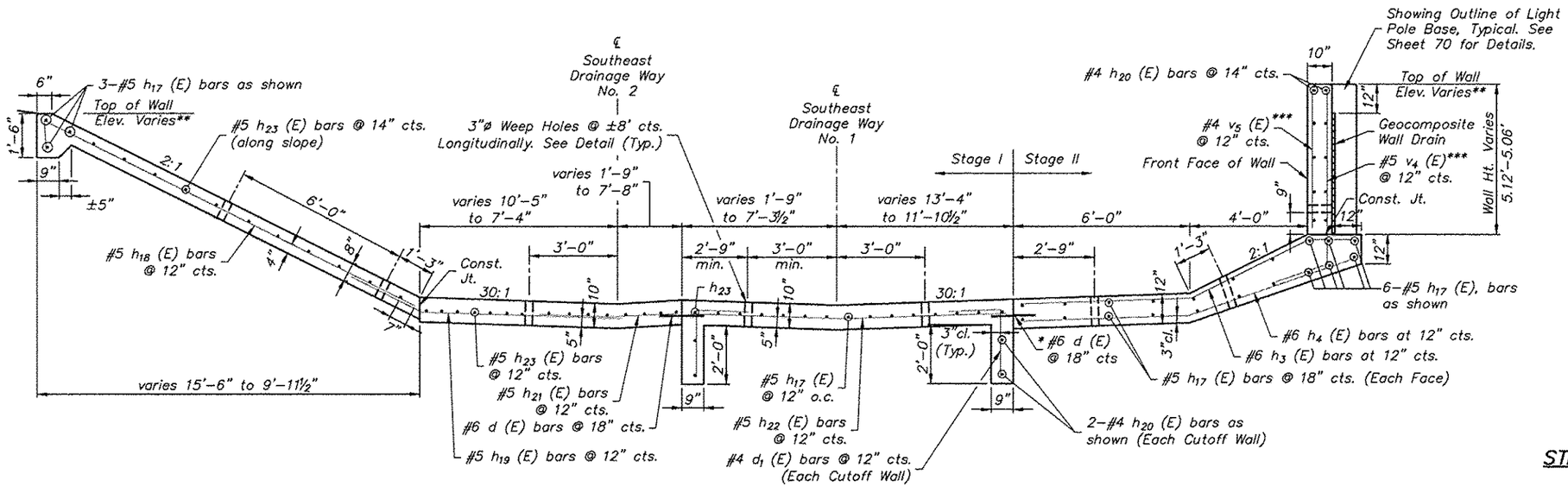
(Looking at Inside/Front Face of Wall)

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

BILL OF MATERIAL

(This Section Only)

Bar	No.	Size	Length	Shape
h_{17} (E)	40	#5	31'-2"	
h_{18} (E)	16	#5	29'-2"	
h_{19} (E)	32	#5	11'-6"	
h_3 (E)	32	#6	11'-11"	
h_4 (E)	32	#6	11'-8"	
h_{20} (E)	14	#4	31'-2"	
h_{21} (E)	16	#5	13'-9"	
h_{22} (E)	16	#5	33'-2"	
h_{23} (E)	26	#5	31'-6"	
d (E)	42	#6	1'-6"	
d_1 (E)	64	#4	3'-11"	
v_4 (E)	32	#5	7'-10"	
v_5 (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



CHANNEL SECTION

(Looking Upstream)

Dimensions at right ℄'s to overall ℄ 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
ENGINEERING & ENVIRONMENTAL
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Design Firm License: Illinois 184-000816

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

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

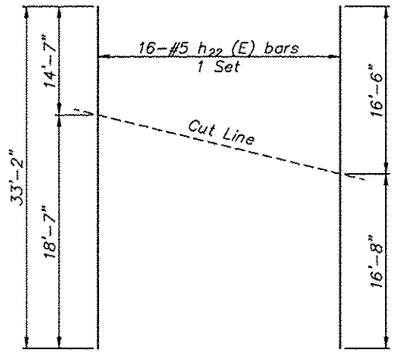
REVISIONS

REV. NO.	DESCRIPTION	DATE

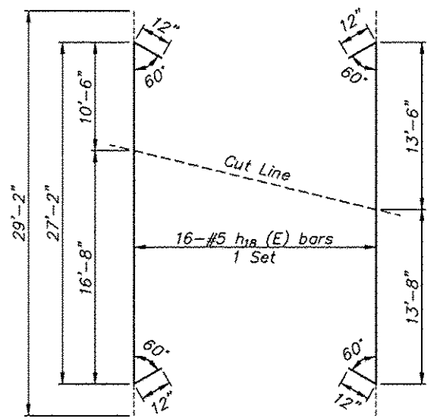
DRAWING:
12+49.81 TO 12+81.59

JOB NUMBER:
11-128

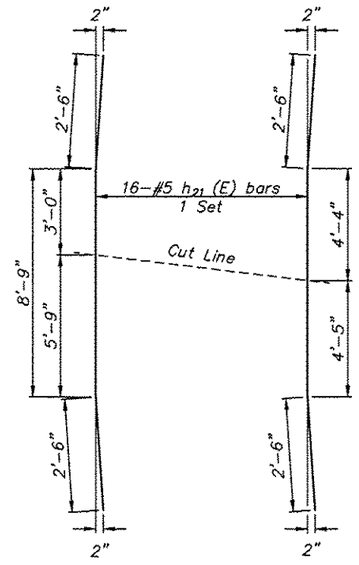
SHEET NUMBER:
440 of 588



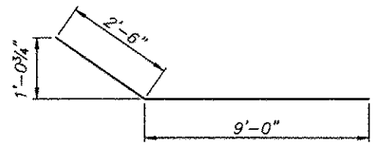
h_{22} (E) Bars



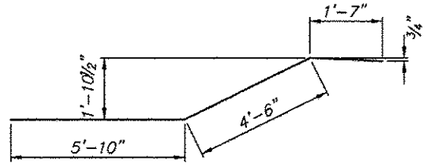
h_{18} (E) Bars



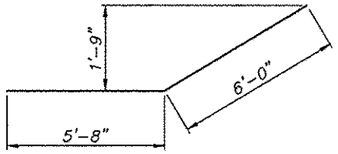
h_{21} (E) Bars



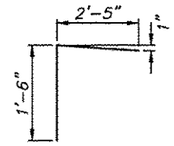
h_{19} (E) Bar



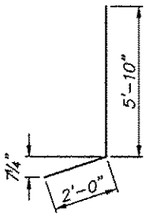
h_3 (E) Bar



h_4 (E) Bar



d_1 (E) Bar



v_4 (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

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
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(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000816

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

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

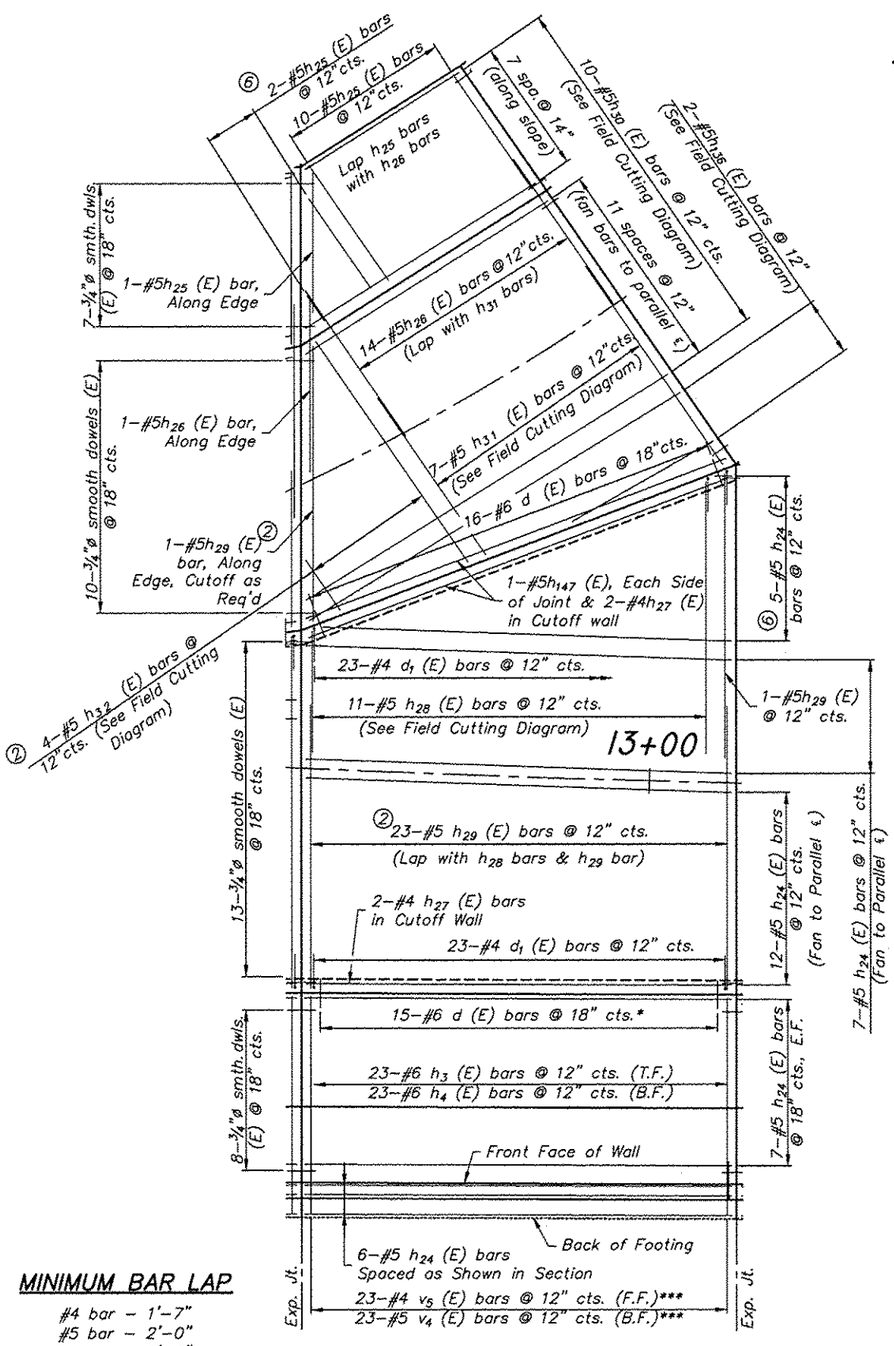
REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
12+49.81 TO 12+81.59

JOB NUMBER:
11-128

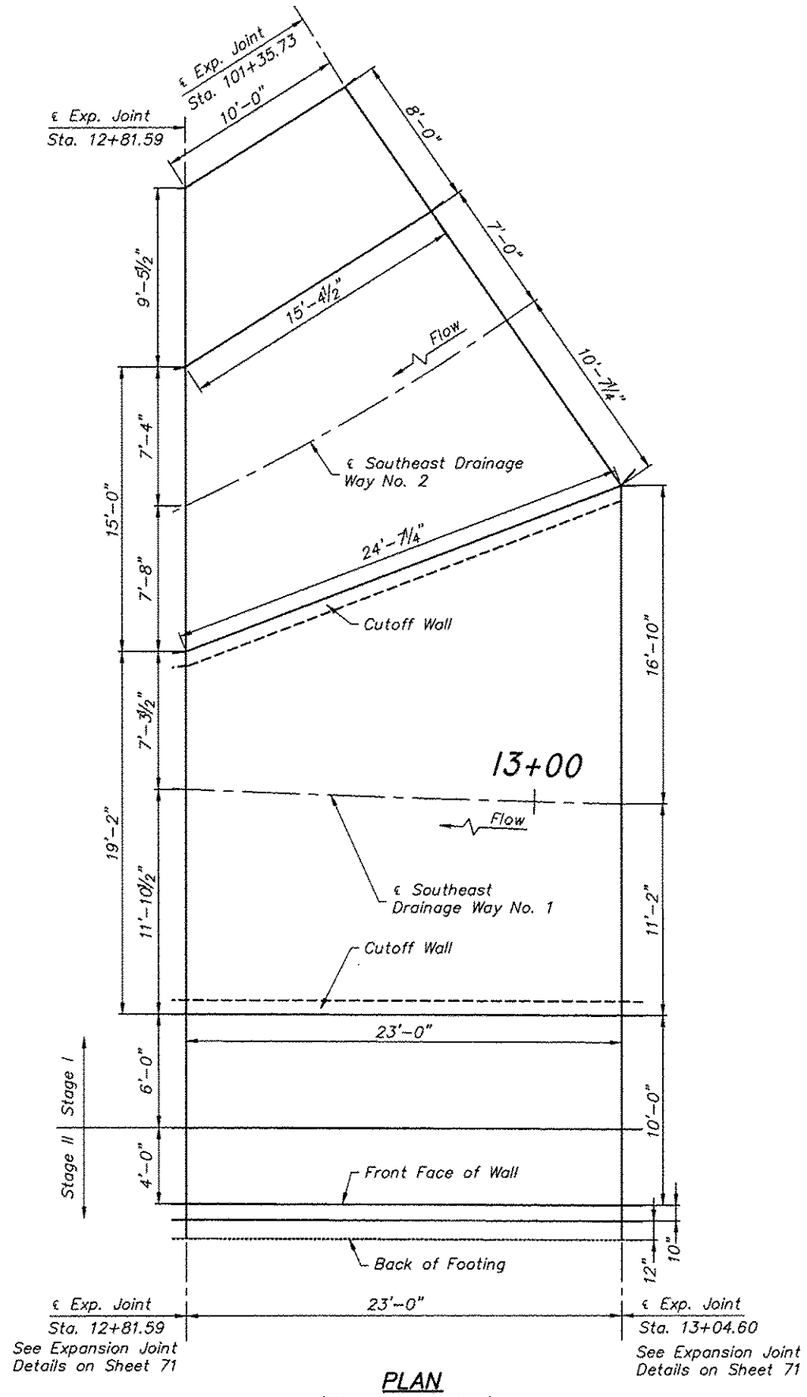
SHEET NUMBER:
441 of 588



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_{24} (E)	44	#5	22'-6"	
h_{25} (E)	13	#5	8'-3"	
h_{26} (E)	15	#5	9'-6"	
h_3 (E)	23	#6	11'-11"	
h_4 (E)	23	#6	11'-8"	
h_{27} (E)	14	#4	22'-6"	
h_{28} (E)	11	#5	20'-10"	
h_{29} (E)	25	#5	15'-0"	
h_{30} (E)	10	#5	32'-0"	
h_{136} (E)	2	#5	31'-6"	
h_{147} (E)	2	#5	23'-9"	
h_{31} (E)	7	#5	22'-10"	
h_{32} (E)	4	#5	17'-4"	
d (E)	31	#6	1'-6"	
d_1 (E)	46	#4	3'-11"	
v_4 (E)	23	#5	7'-10"	
v_5 (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_6 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

Sheet 39 of 73

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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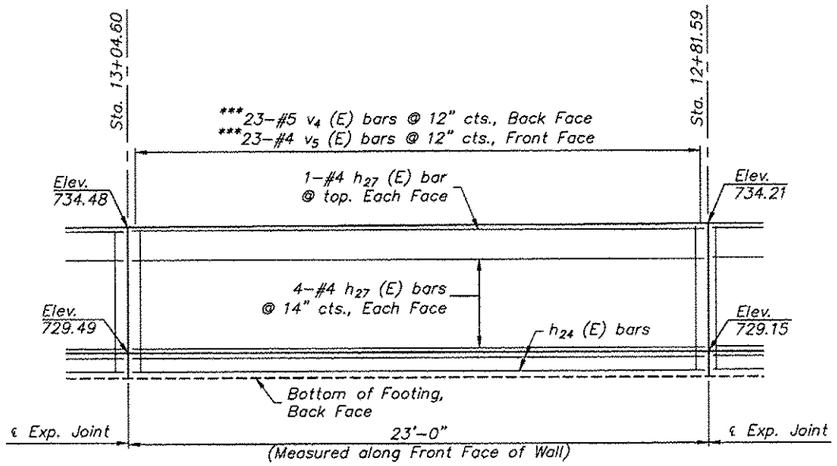


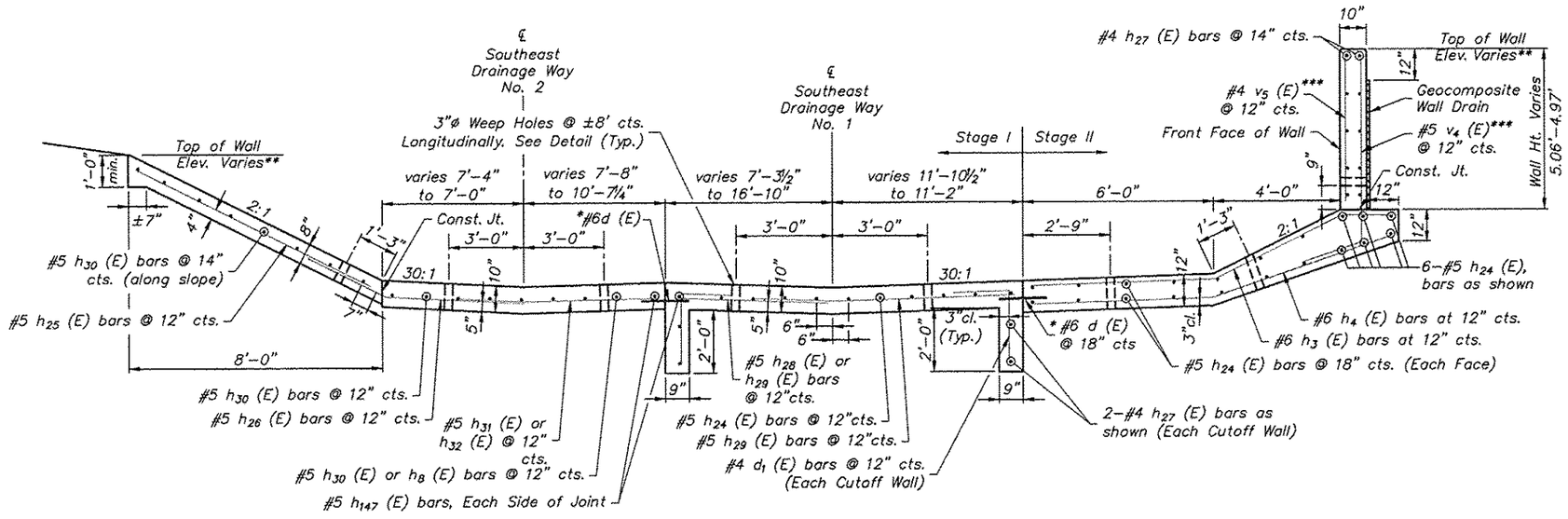
SOUTH WALL ELEVATION

(Looking at Inside/Front Face of Wall)

* 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)

Refer to Plan View for dimension orientation with respect to ℄ of Channels. Refer to Layout Plan for additional dimensions and elevations.

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

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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PROJECT AND LOCATION:
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PHASE 1
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DRAWN BY: JWH
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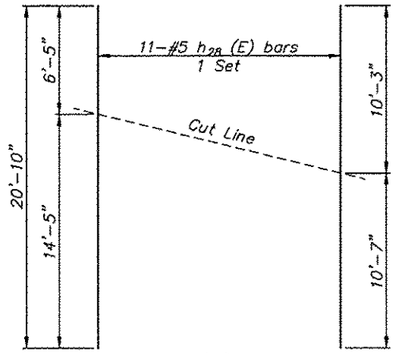
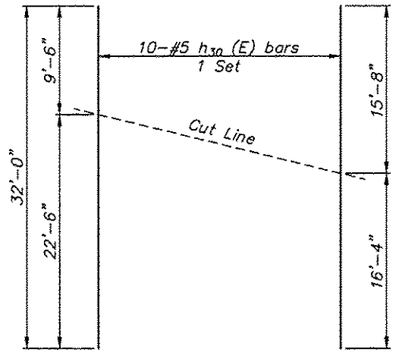
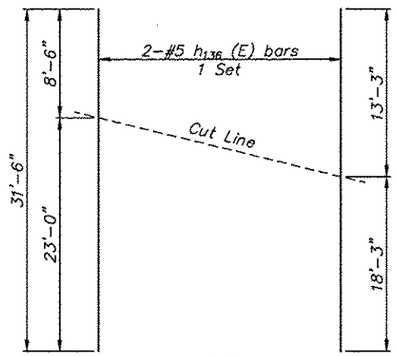


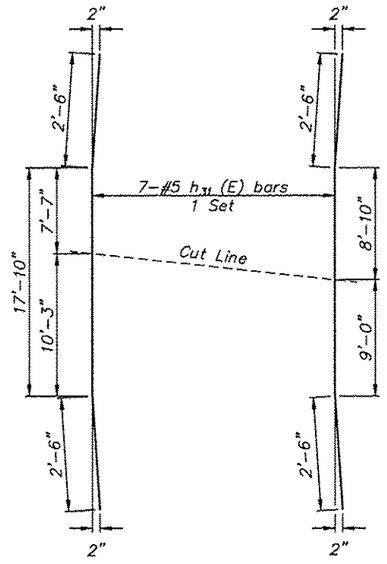
h_{28} (E) Bars



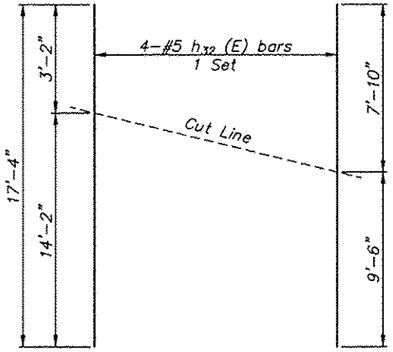
h_{30} (E) Bars



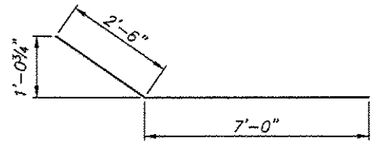
h_{136} (E) Bars



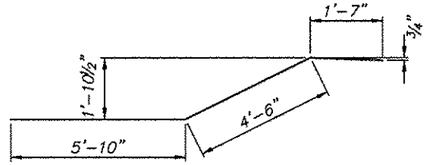
h_{31} (E) Bars



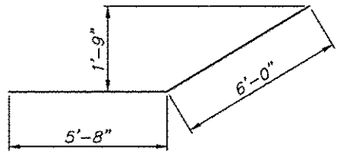
h_{32} (E) Bars



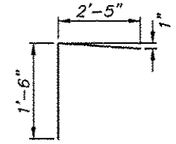
h_{26} (E) Bar



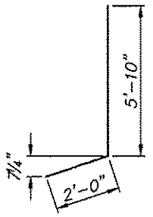
h_3 (E) Bar



h_4 (E) Bar



d_1 (E) Bar



v_4 (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+81.59 TO 13+04.60
STRUCTURAL CONCRETE CHANNEL REINFORCING
SOUTHEAST DRAINAGE WAY
ALONG HARRISON AVENUE
CITY OF ROCKFORD
WINNEBAGO COUNTY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
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Design Firm License: Illinois 184-000818

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

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

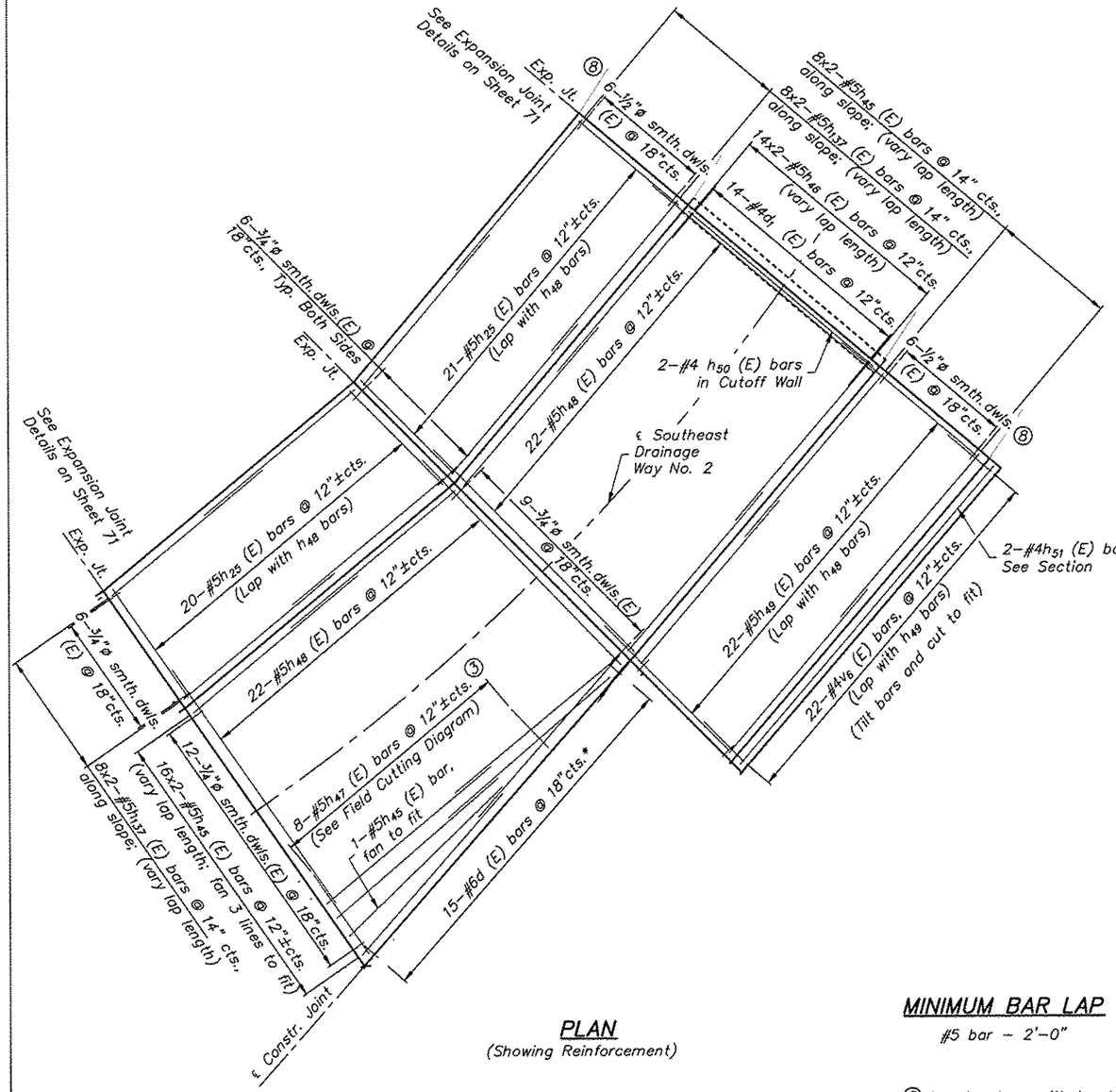
REVISIONS

REV. NO.	DESCRIPTION	DATE

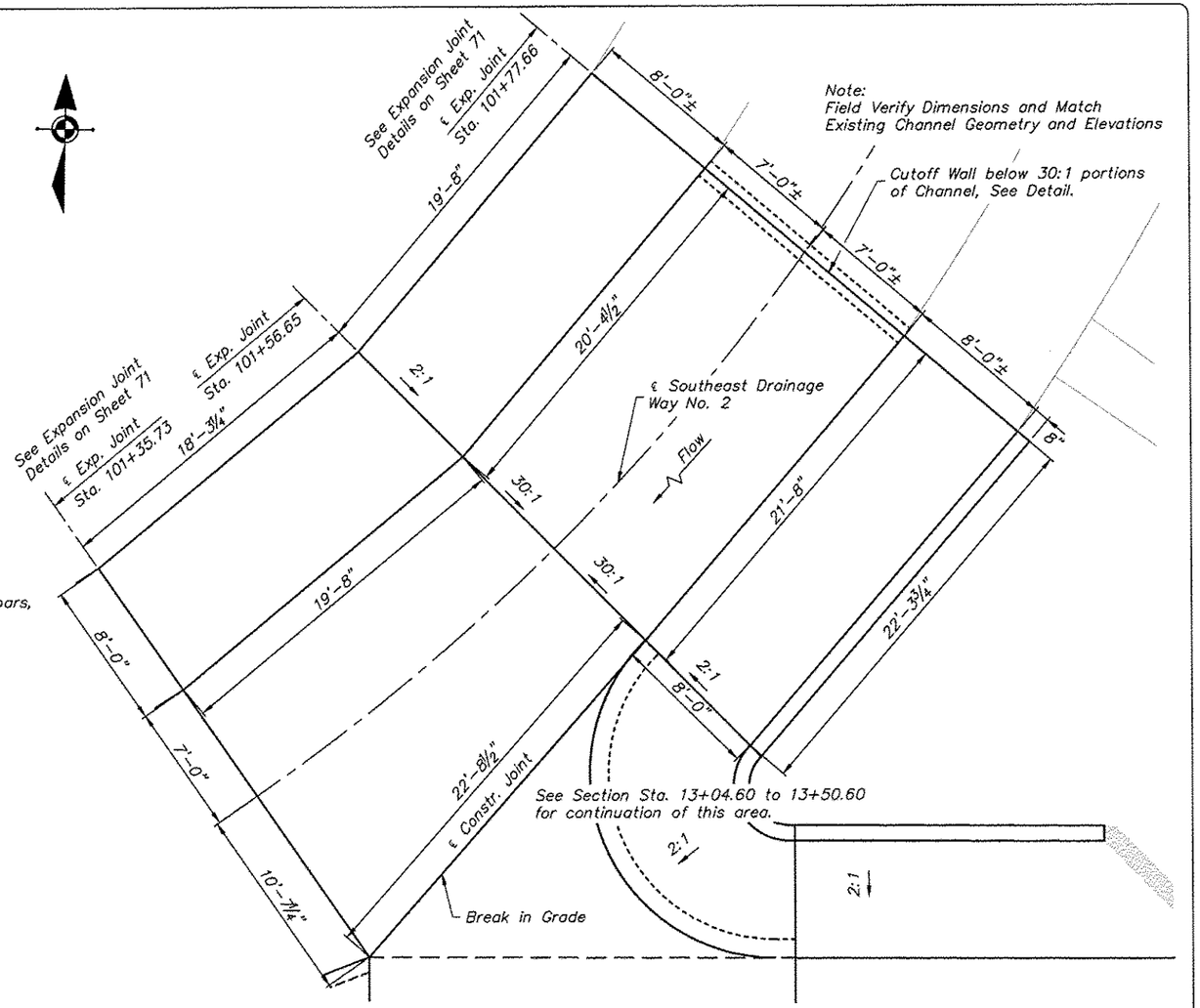
DRAWING:
12+81.59 TO 13+04.60

JOB NUMBER:
11-128

SHEET NUMBER:
444 of 588



PLAN
(Showing Reinforcement)



PLAN
(Showing Dimensions)

MINIMUM BAR LAP

#5 bar – 2'–0"

③ Lap h_{47} bars with h_{48} bars

⑧ ½" 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.

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

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FEHR GRAHAM
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Design Firm License: Illinois 184-000615

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

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SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
101+35.73 TO 101+77.66

JOB NUMBER:
11-128

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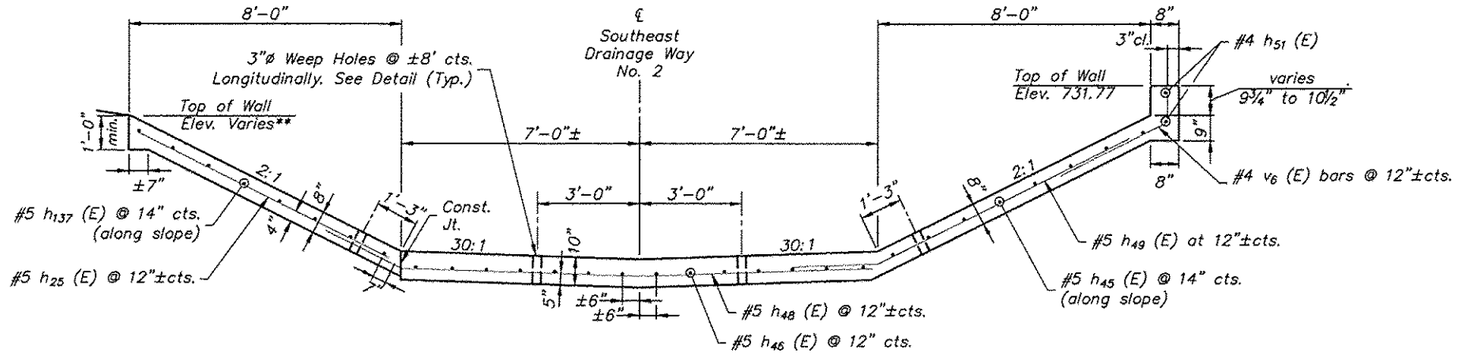
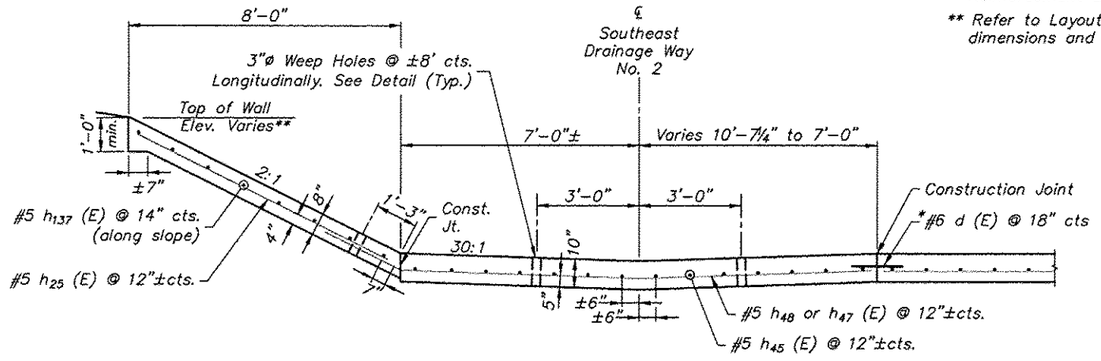


CHANNEL SECTION A

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

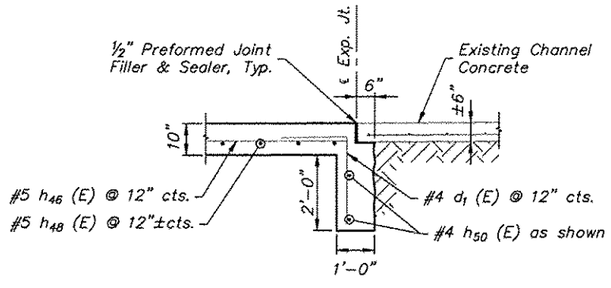
* Drill & Grout Bars. Cost is included in Reinforcement Bars, Epoxy Coated.

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



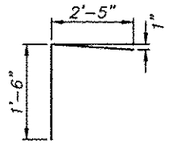
CHANNEL SECTION B

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

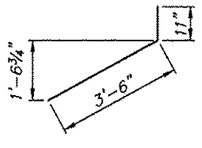


CUTOFF WALL DETAIL

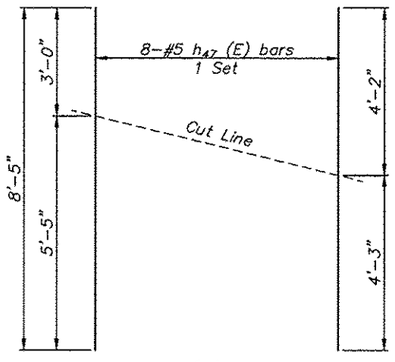
(Perp. to Flow Line @ Sta. 101+77.66)



d_1 (E) Bar



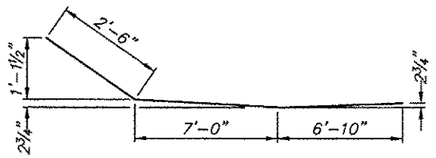
v_6 (E) Bar



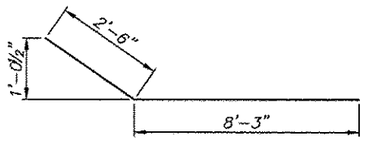
h_{47} (E) Bars

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_{48} (E) Bar



h_{49} (E) Bar

BILL OF MATERIAL

(This Section Only)

Bar	No.	Size	Length	Shape
h_{45} (E)	49	#5	12'-0"	
h_{46} (E)	28	#5	11'-8"	
h_{137} (E)	32	#5	11'-0"	
h_{47} (E)	8	#5	8'-5"	
h_{48} (E)	44	#5	16'-4"	
h_{25} (E)	41	#5	8'-3"	
h_{49} (E)	22	#5	10'-9"	
h_{50} (E)	2	#4	13'-6"	
h_{51} (E)	2	#4	21'-10"	
d (E)	15	#6	1'-6"	
d_1 (E)	14	#4	3'-11"	
v_6 (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

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

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:
101+35.73 TO 101+77.66

JOB NUMBER:
11-128

SHEET NUMBER:
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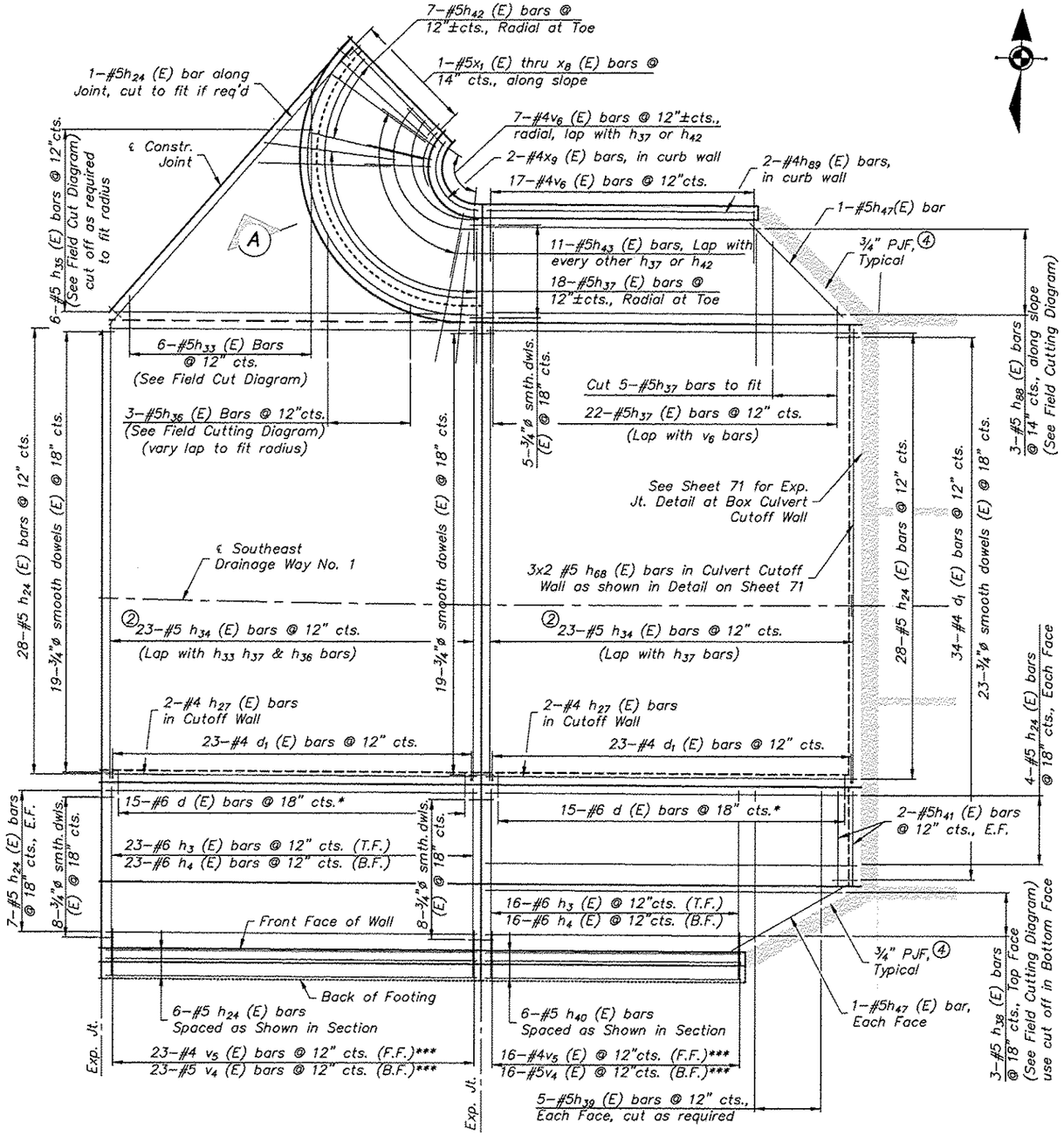


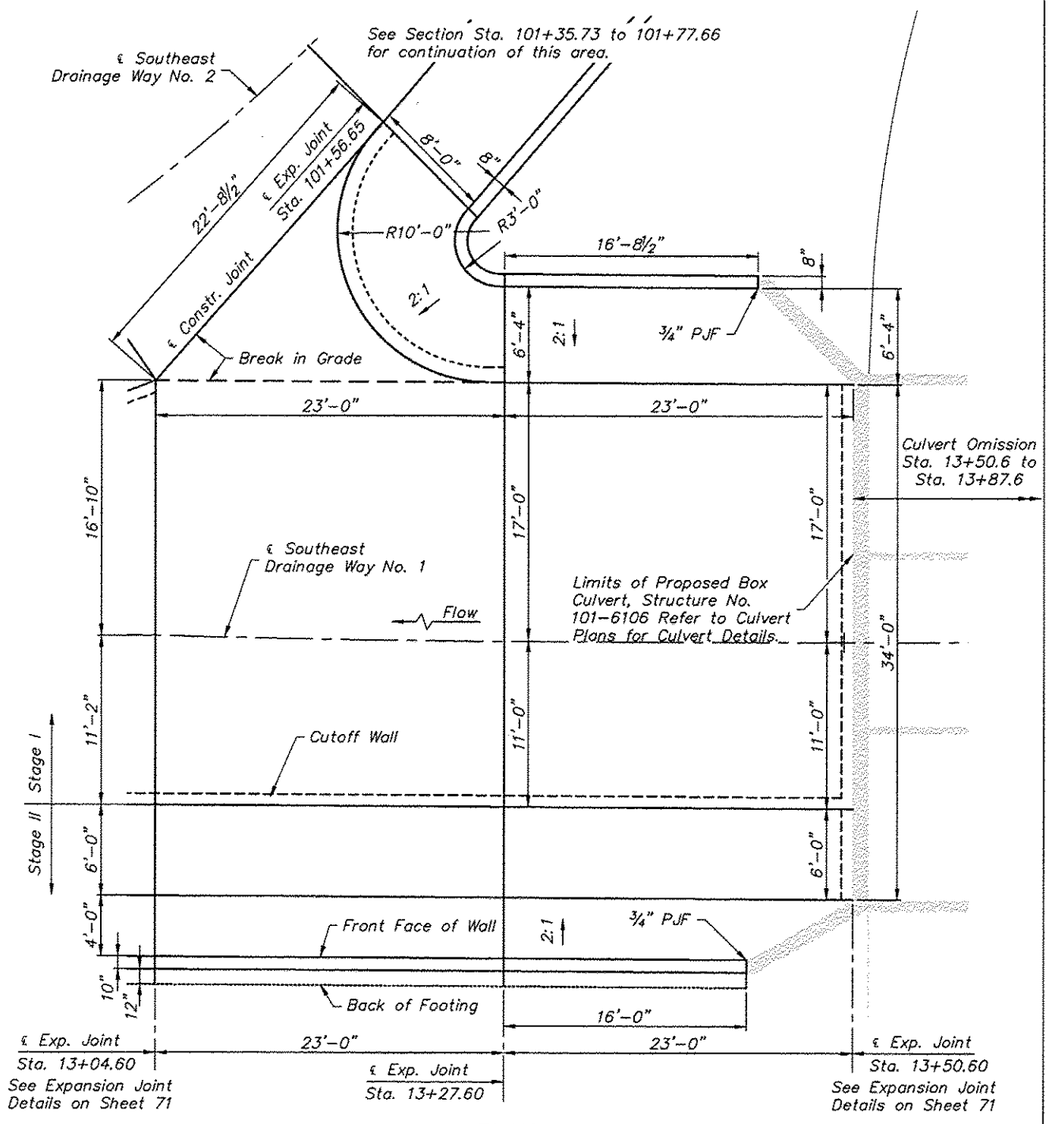
MINIMUM BAR LAP

#5 bar – 2'-0"

PLAN
(Showing Reinforcement)

* 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 Dimensions)

② Field Bend as Required to Fit Channel ℄ and to Maintain Clear Distance

④ ¾" Preformed Joint Filler & Sealer along Face of Wing Wall and between Channel Wall and Wing Wall Joint, Typical. Cost Included with Concrete Structures.

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

Sheet 44 of 73

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

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13+04.60 TO 13+50.60

JOB NUMBER:
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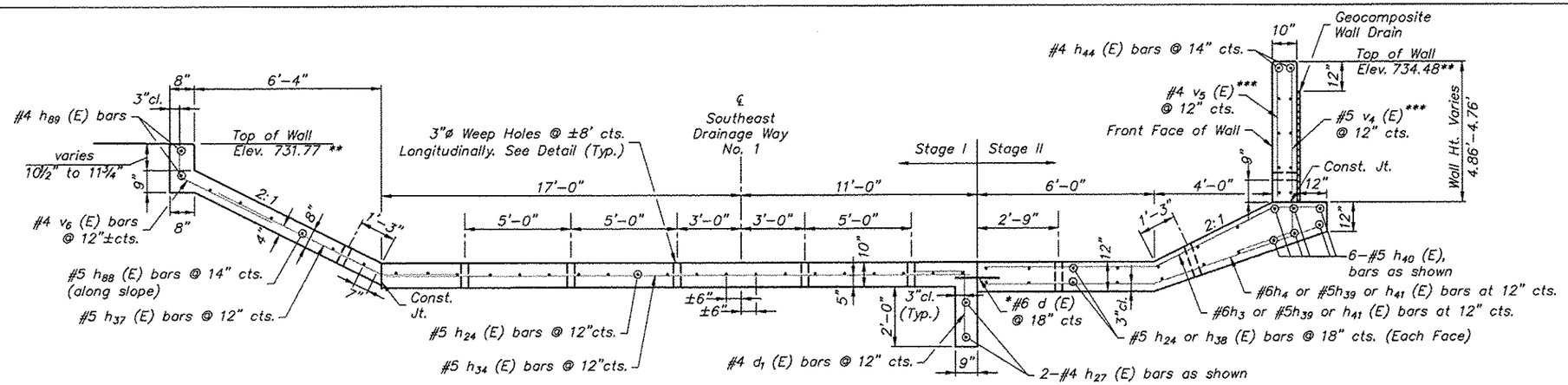
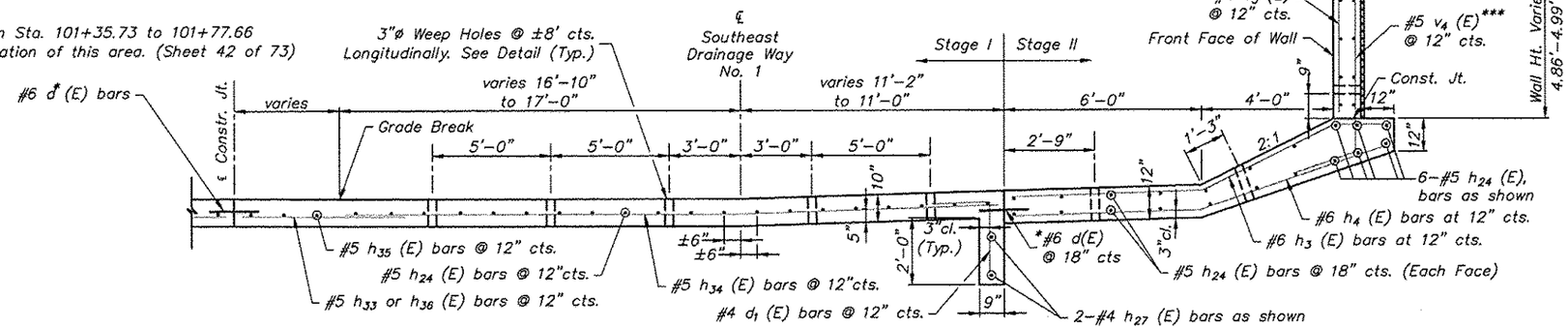
447 of 588



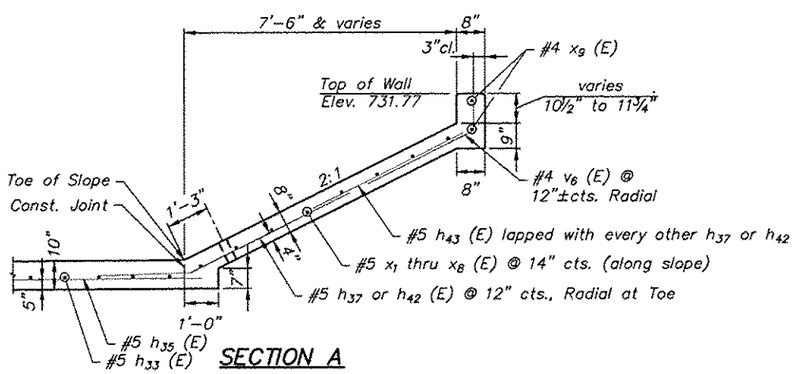
CHANNEL SECTION

(Looking Upstream)
Sta. 13+27.60 to 13+50.60
Dimensions at right ℄'s to overall ℄ of Channel.



CHANNEL SECTION

(Looking Upstream)
Sta. 13+04.60 to 13+27.60
Dimensions at right ℄'s to overall ℄ of Channel.



SECTION A

Dimensions at right ℄'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_{24} (E)	85	#5	22'-6"	
h_{33} (E)	6	#5	20'-1"	
h_{34} (E)	46	#5	27'-6"	
h_3 (E)	39	#6	11'-11"	
h_4 (E)	39	#6	11'-8"	
h_{27} (E)	14	#4	22'-6"	
h_{35} (E)	6	#5	23'-3"	
h_{36} (E)	3	#5	10'-11"	
h_{37} (E)	45	#5	8'-8"	
h_{38} (E)	3	#5	38'-4"	
h_{39} (E)	10	#5	9'-5"	
h_{40} (E)	6	#5	15'-6"	
h_{41} (E)	4	#5	5'-9"	
h_{47} (E)	3	#5	8'-5"	
h_{42} (E)	7	#5	8'-0"	
h_{43} (E)	11	#5	4'-7"	
h_{88} (E)	3	#5	38'-6"	
h_{44} (E)	10	#4	15'-6"	
x_1 (E)	1	#5	23'-3"	
x_2 (E)	1	#5	20'-9"	
x_3 (E)	1	#5	18'-4"	
x_4 (E)	1	#5	15'-10"	
x_5 (E)	1	#5	13'-4"	
x_6 (E)	1	#5	10'-11"	
x_7 (E)	1	#5	8'-8"	
x_8 (E)	1	#5	3'-6"	
x_9 (E)	2	#4	5'-10"	
h_{89} (E)	2	#4	16'-2"	
h_{68} (E)	6	#5	18'-0"	
d (E)	30	#6	1'-6"	
d_1 (E)	80	#4	3'-11"	
v_4 (E)	39	#5	7'-10"	
v_5 (E)	39	#4	4'-7"	
v_6 (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
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RECONSTRUCTION 2012
PHASE 1
ROCKFORD, ILLINOIS

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13+04.60 TO 13+50.60

JOB NUMBER:
11-128

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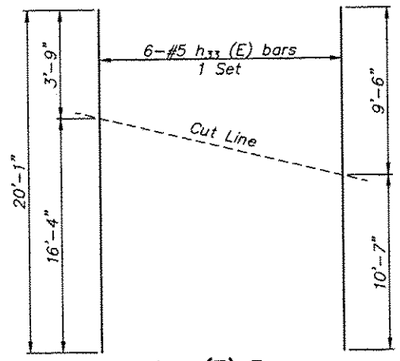
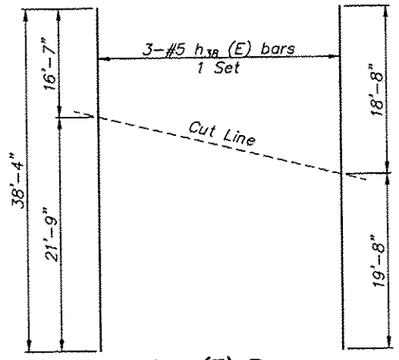
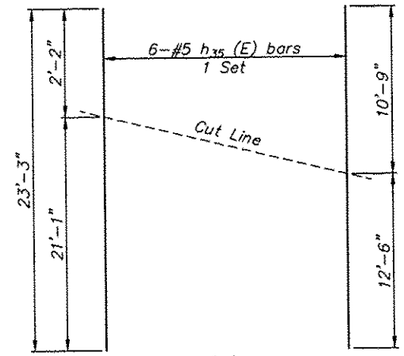


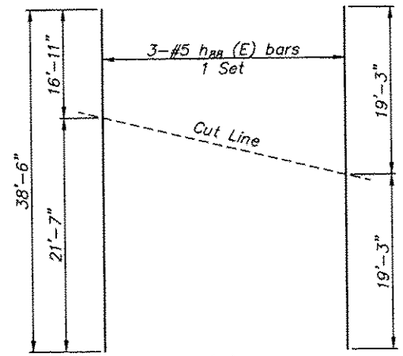
h_{33} (E) Bars



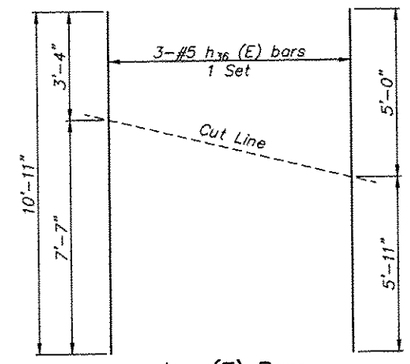
h_{38} (E) Bars



h_{35} (E) Bars



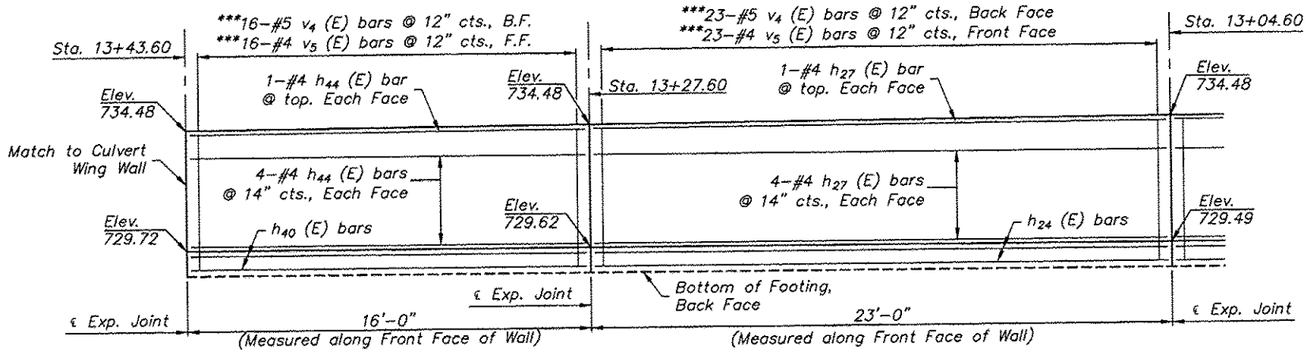
h_{88} (E) Bars



h_{36} (E) Bars

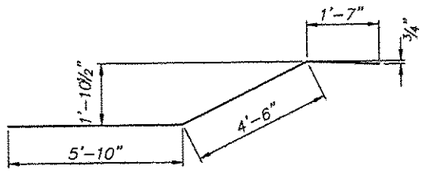
FIELD CUTTING DIAGRAMS

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

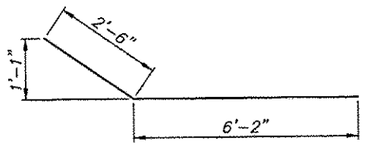


SOUTH WALL ELEVATION

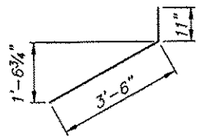
(Looking at Inside/Front Face of Wall)



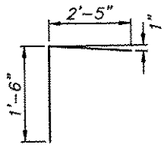
h_3 (E) Bar



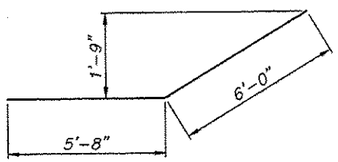
h_{37} (E) Bar



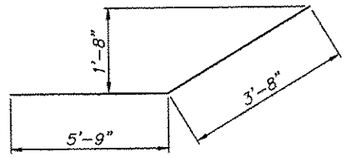
v_6 (E) Bar



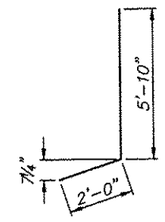
d_1 (E) Bar



h_4 (E) Bar

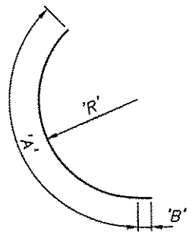


h_{39} (E) Bar



v_4 (E) Bar***

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



Bars x_1 (E) thru x_8 (E)

Bar x_9 (E)

BAR BENDING DIMENSIONS

Bar	A		B	R	
	Ft.	In.	In.	Ft.	In.
x_1 (E)	22	5	10	9	7
x_2 (E)	19	11	10	8	6
x_3 (E)	17	6	10	7	6
x_4 (E)	15	0	10	6	6
x_5 (E)	12	6	10	5	5
x_6 (E)	10	1	10	4	4
x_7 (E)	8	8	–	3	8
x_8 (E)	3	6	–	2	8
x_9 (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

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
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McClure Engineering Associates, Inc.
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Rockford, Illinois 61107-5837
(815) 398-2332
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Design Firm License: Illinois 184-000616

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

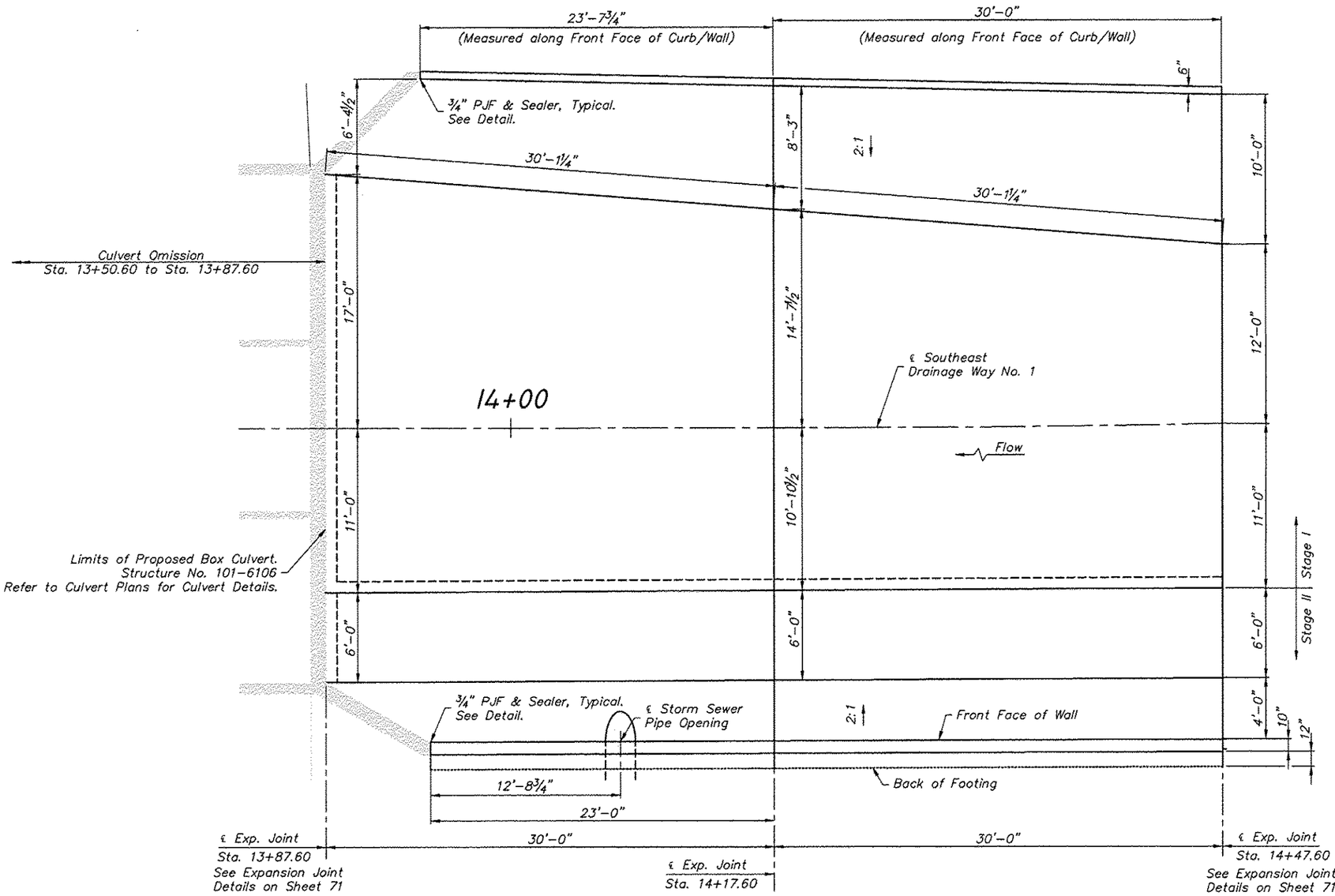
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: 1"=5'

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
13+04.60 TO 13+50.60

JOB NUMBER:
11-128

SHEET NUMBER:
449 of 588



PLAN
(Showing Dimensions)

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

Sheet 47 of 73

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

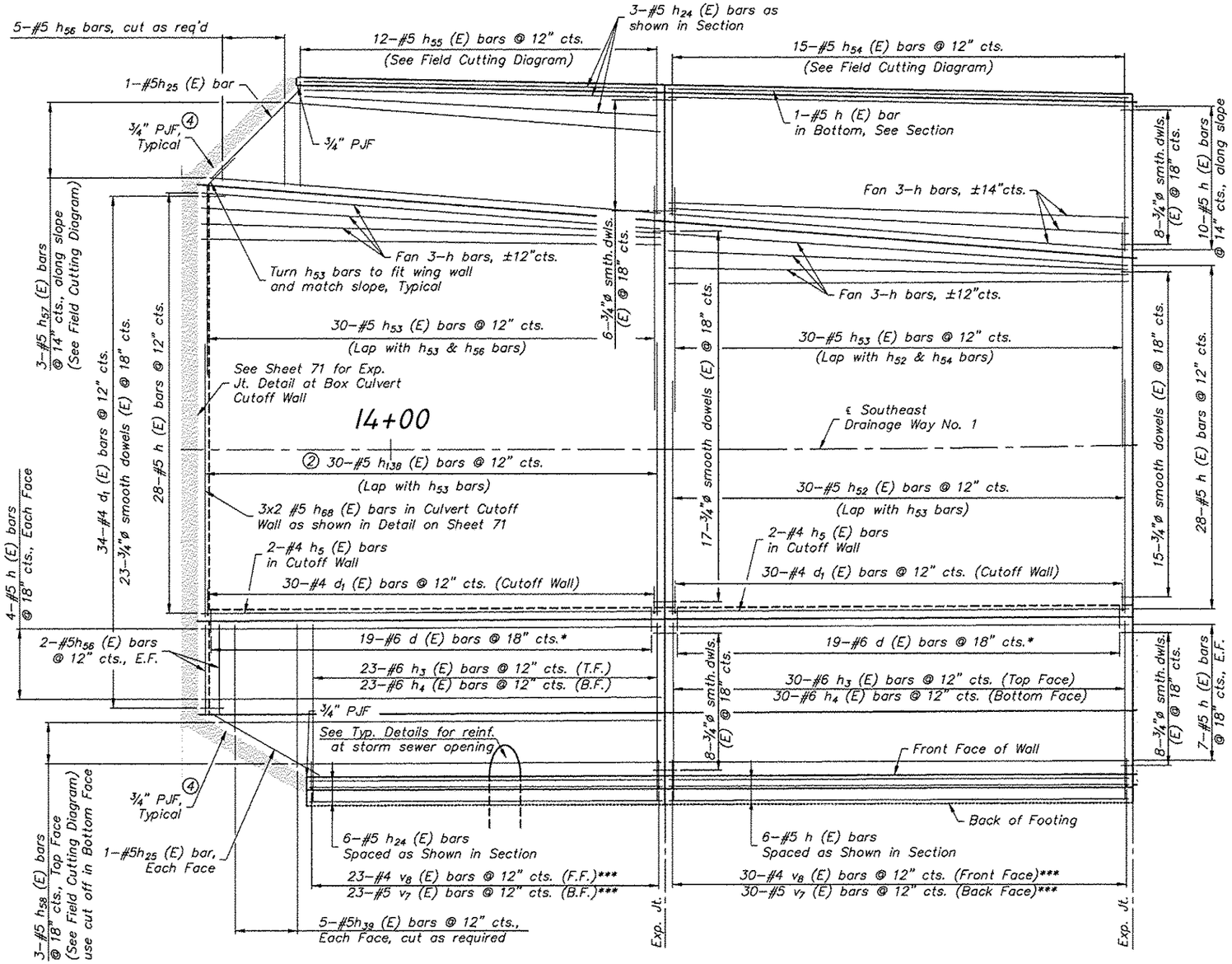
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
13+87.60 TO 14+47.60

JOB NUMBER:
11-128

SHEET NUMBER:
450 of 588



PLAN
(Showing Reinforcement)

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.

BILL OF MATERIAL
(This Section Only)

Bar	No.	Size	Length	Shape
h (E)	95	#5	29'-6"	
h_{52} (E)	30	#5	15'-0"	
h_{53} (E)	60	#5	14'-8"	
h_3 (E)	53	#6	11'-11"	
h_4 (E)	53	#6	11'-8"	
h_5 (E)	12	#4	29'-6"	
h_{138} (E)	30	#5	17'-4"	
h_{24} (E)	9	#5	22'-6"	
h_{54} (E)	15	#5	22'-1"	
h_{55} (E)	12	#5	18'-6"	
h_{56} (E)	9	#5	5'-8"	
h_{39} (E)	10	#5	9'-5"	
h_{25} (E)	3	#5	8'-3"	
h_{57} (E)	3	#5	53'-2"	
h_{58} (E)	3	#5	52'-0"	
h_{27}(E)	8	#4	22'-6"	
h_{68} (E)	6	#5	18'-0"	
d (E)	38	#6	1'-6"	
d_1 (E)	98	#4	3'-11"	
v_7 (E)	53	#5	6'-4"	
v_8 (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.

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

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: N.T.S.

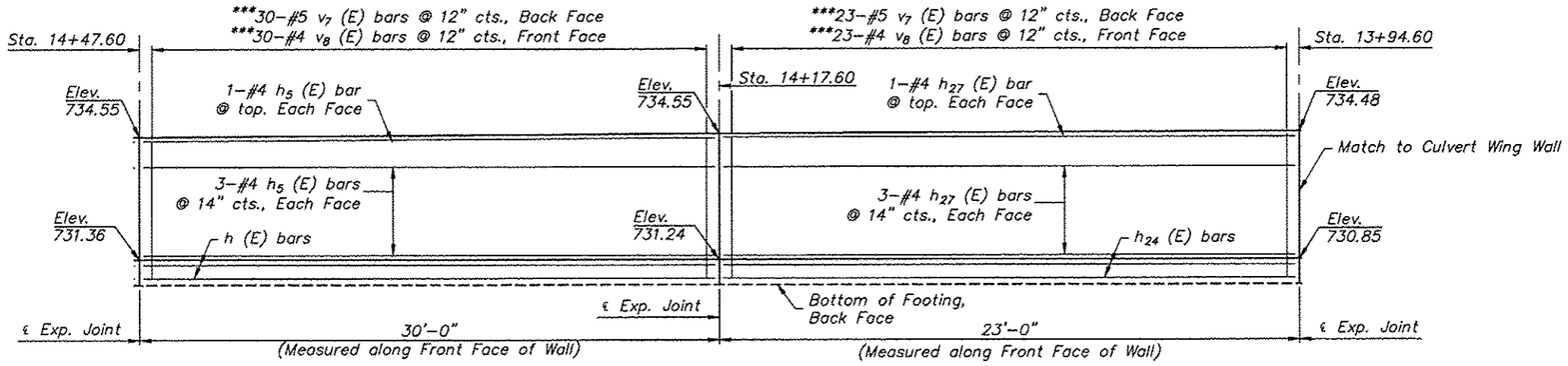
REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
13+87.60 TO 14+47.60

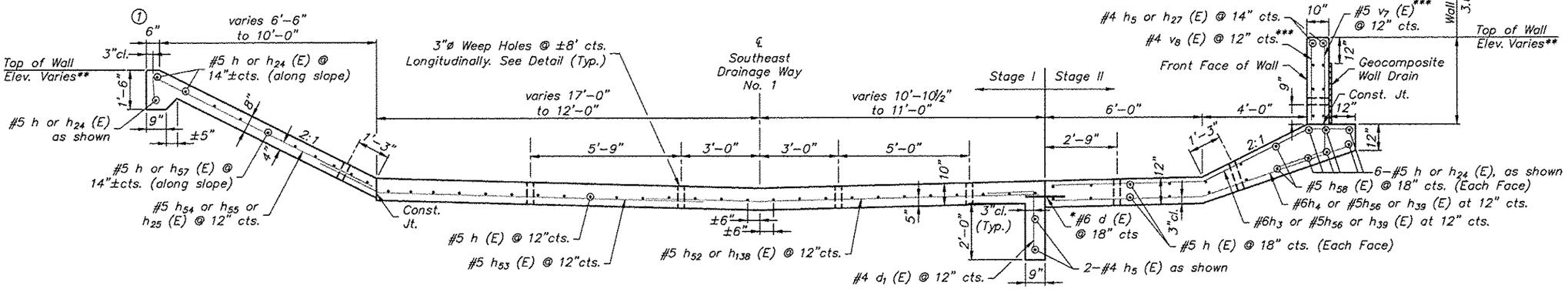
JOB NUMBER:
11-128

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)

Dimensions at right ∠'s to overall ℄ 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 13+87.60 TO 14+47.60
STRUCTURAL CONCRETE CHANNEL REINFORCING
SOUTHEAST DRAINAGE WAY
ALONG HARRISON AVENUE
CITY OF ROCKFORD
WINNEBAGO COUNTY

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RECONSTRUCTION 2012
PHASE 1
ROCKFORD, ILLINOIS

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

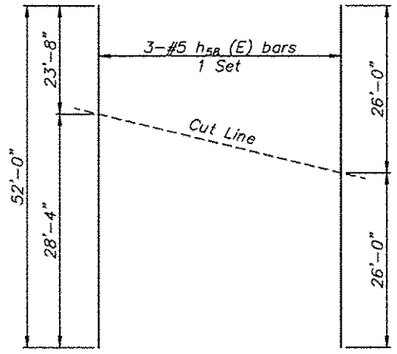
REVISIONS

REV. NO.	DESCRIPTION	DATE

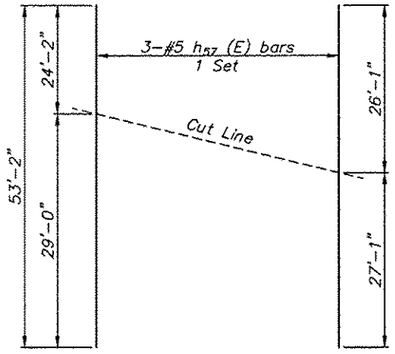
DRAWING:
13+87.60 TO 14+47.60

JOB NUMBER:
11-128

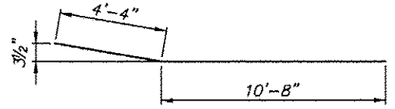
SHEET NUMBER:
452 of 588



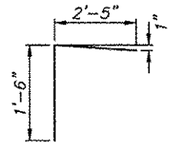
h_{58} (E) Bars



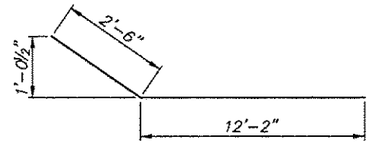
h_{57} (E) Bars



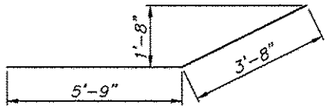
h_{52} (E) Bar



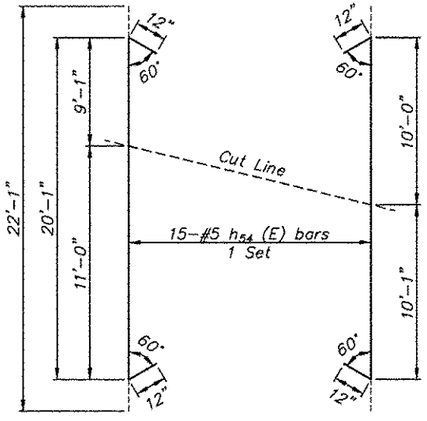
d_1 (E) Bar



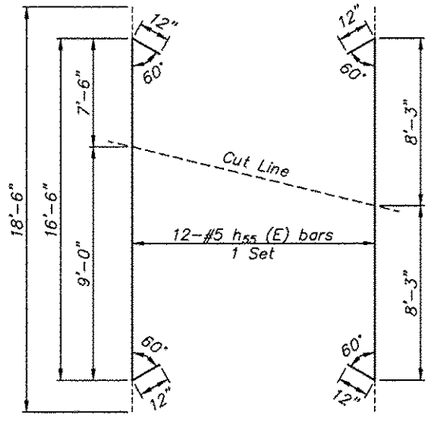
h_{53} (E) Bar



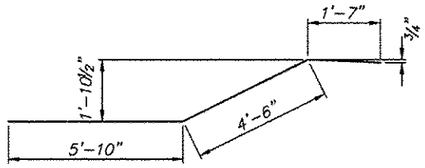
h_{39} (E) Bar



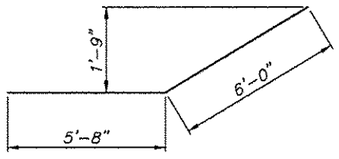
h_{54} (E) Bars



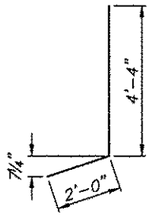
h_{55} (E) Bars



h_3 (E) Bar



h_4 (E) Bar



v_7 (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

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
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7282 Argus Drive Rockford, Illinois 61107-5637
(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000816

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

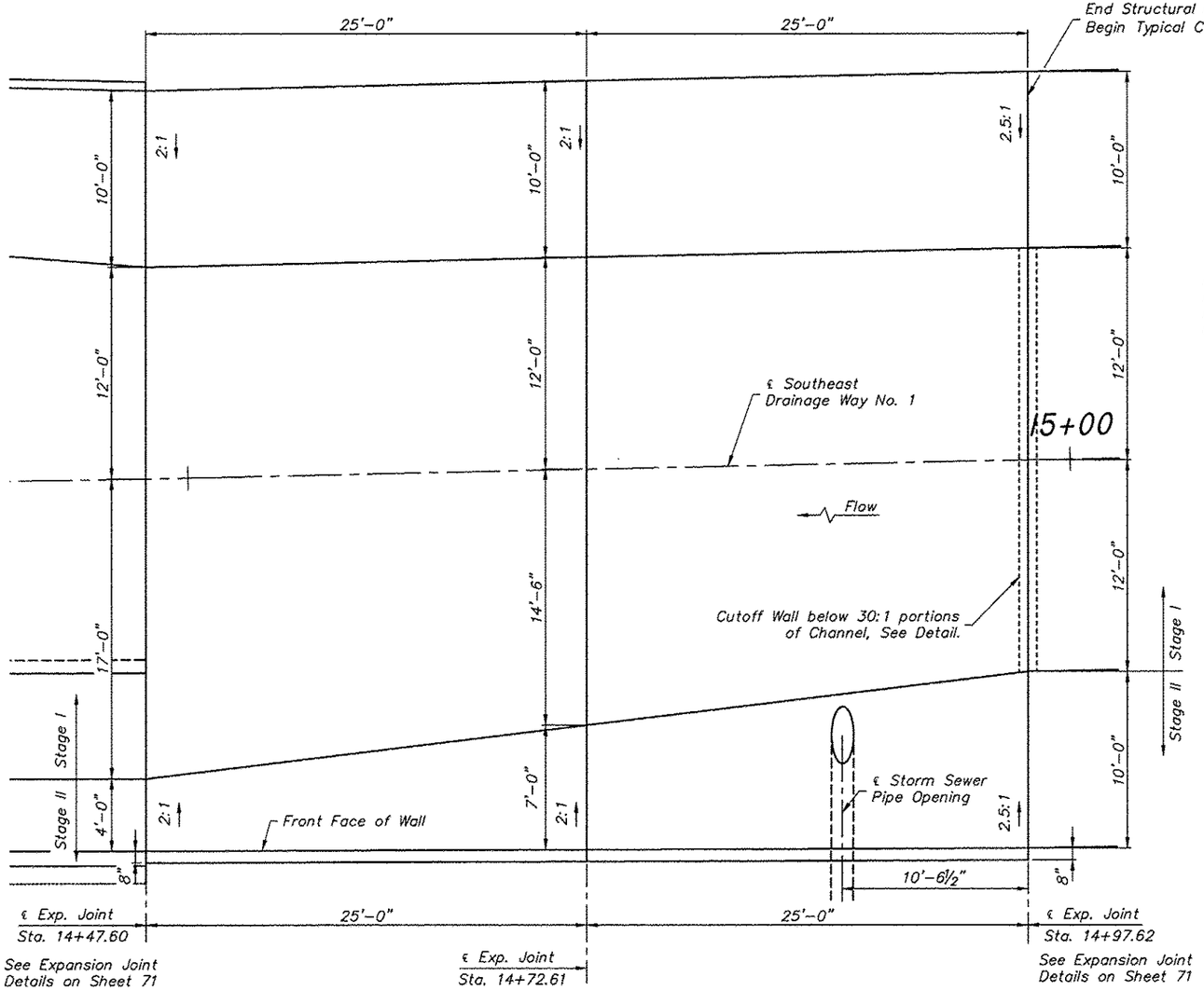
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
13+87.60 TO 14+47.60

JOB NUMBER:
11-128

SHEET NUMBER:
453 of 588



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

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

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

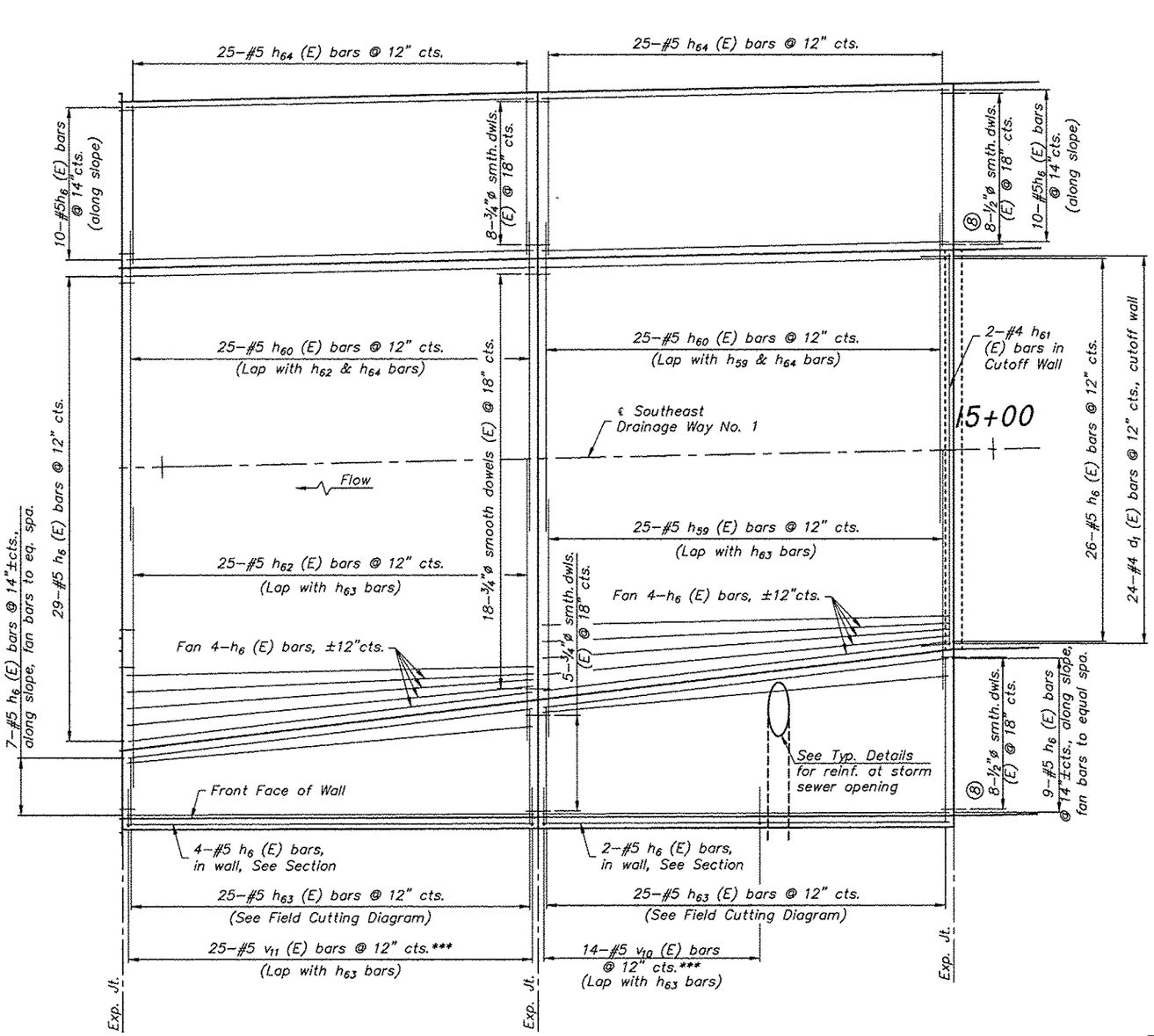
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

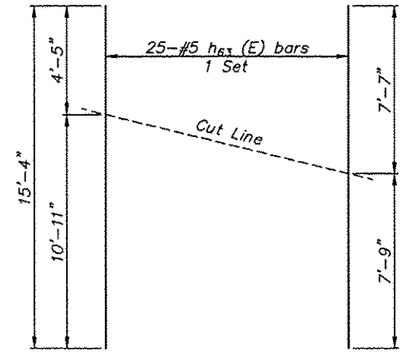
DRAWING:
14+47.60 TO 14+97.62

JOB NUMBER:
11-128

SHEET NUMBER:
454 of 588



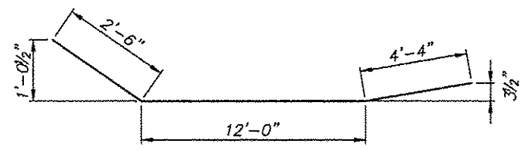
PLAN
(Showing Reinforcement)



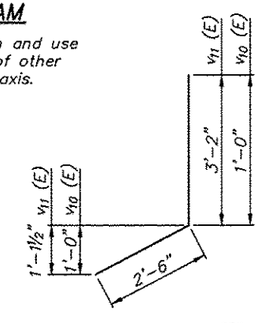
h63 (E) Bars

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.



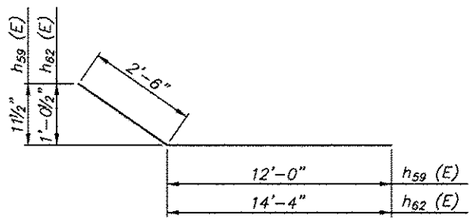
h60 (E) Bar



v11 & v10 (E) Bar***

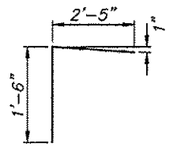
*** Field Cut as required to fit Top of Wall Elevation. Minimum 2" clear.

Field Bend v_{10} Bars as required to fit variable slope. Maintain 3" minimum clear distance.



h59 & h62 (E) Bars

Field Bend or rotate h_{59} Bars as required to fit variable slope. Maintain 3" minimum clear distance.



d1 (E) Bar

MINIMUM BAR LAP

#5 bar – 2'–0"

⑧ ½" 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.

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

Sheet 52 of 73

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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Design Firm License: Illinois 184-000816

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

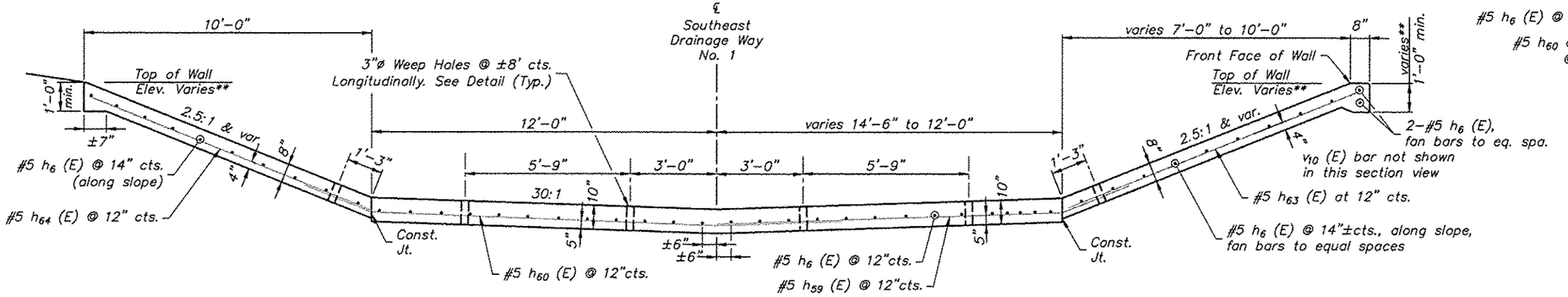
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
14+47.60 TO 14+97.62

JOB NUMBER: 11-128

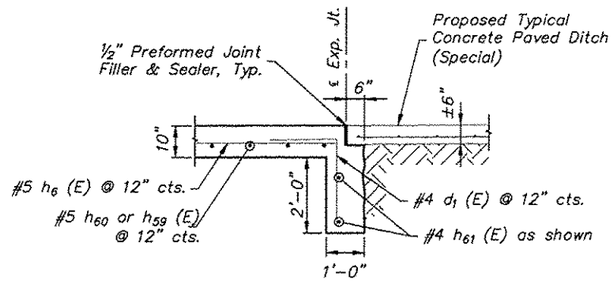
SHEET NUMBER: 455 of 588



CHANNEL SECTION

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

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



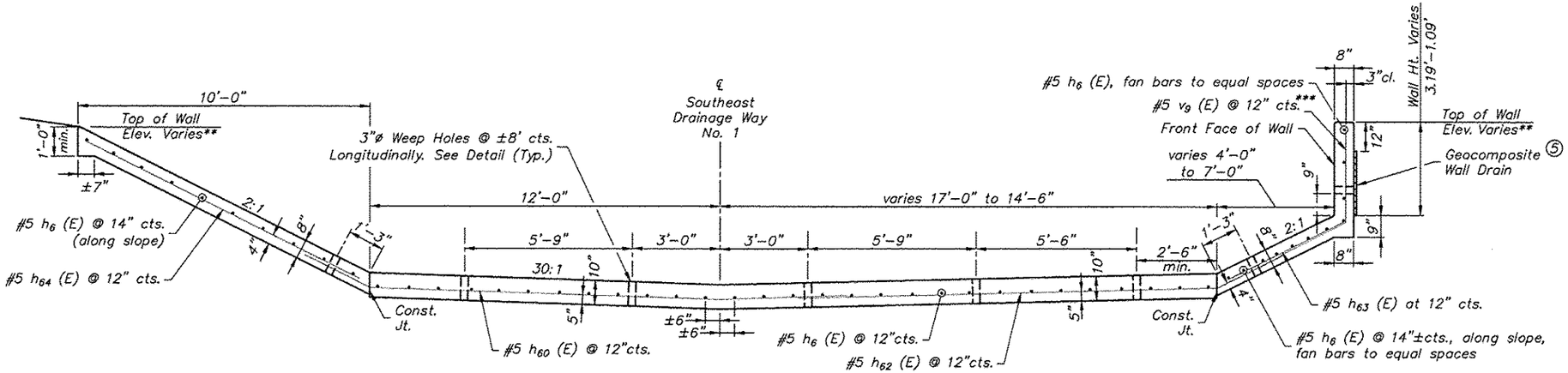
CUTOFF WALL DETAIL

(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 h_{59} & v_{10} 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 ℄'s to overall ℄ 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

Sheet 53 of 73

FEHR GRAHAM
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PHASE 1
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APPROVED BY: CTB
DATE: 6/12/15
SCALE: N.T.S.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

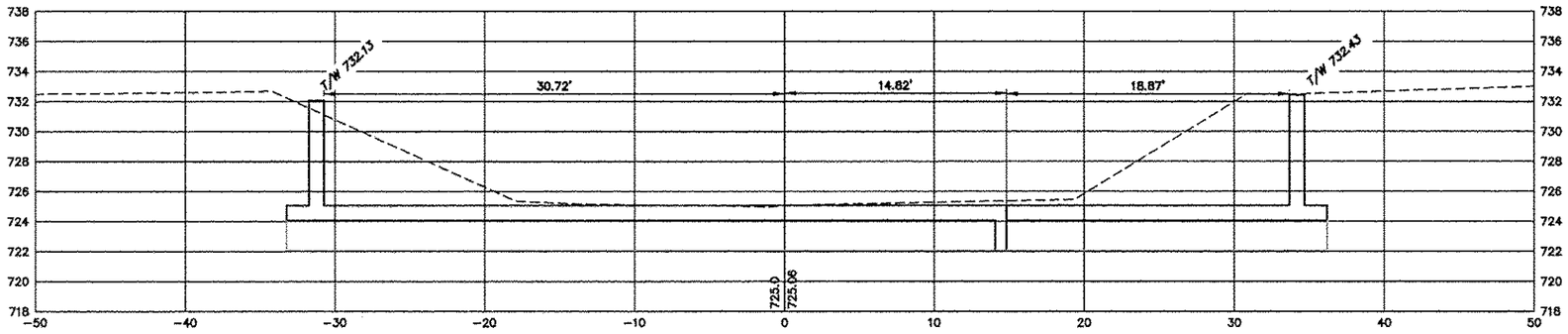
DRAWING:
14+47.60 TO 14+97.62

JOB NUMBER:
11-128

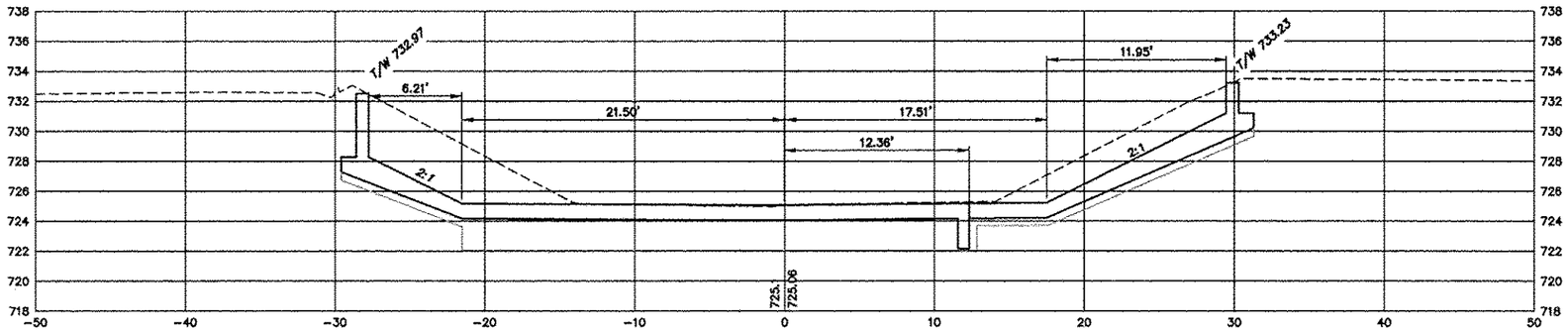
SHEET NUMBER:
456 of 588

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

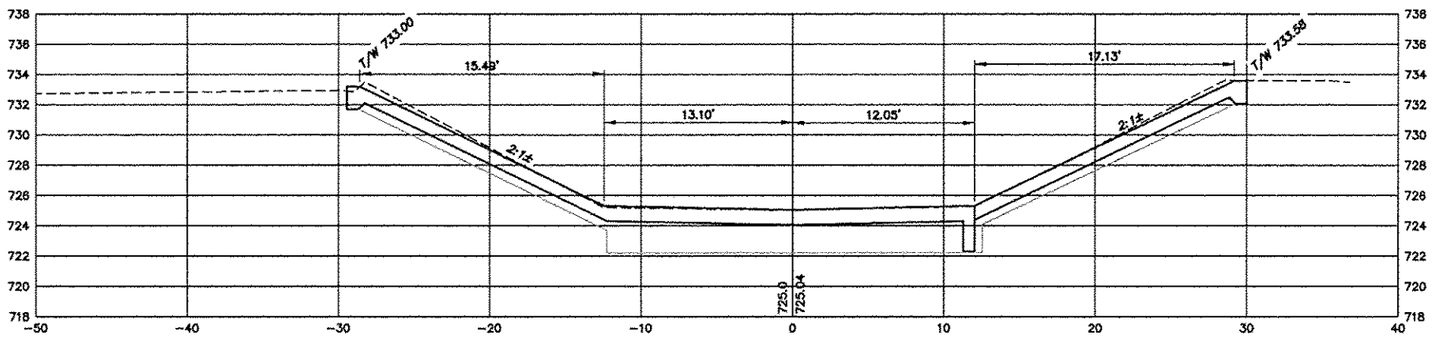
5+18.6 SKEWED



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

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

McClure Engineering Associates, Inc.
7262 Argus Drive Rockford, Illinois 61107-5837
(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000816

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

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

REVISIONS		
REV. NO.	DESCRIPTION	DATE

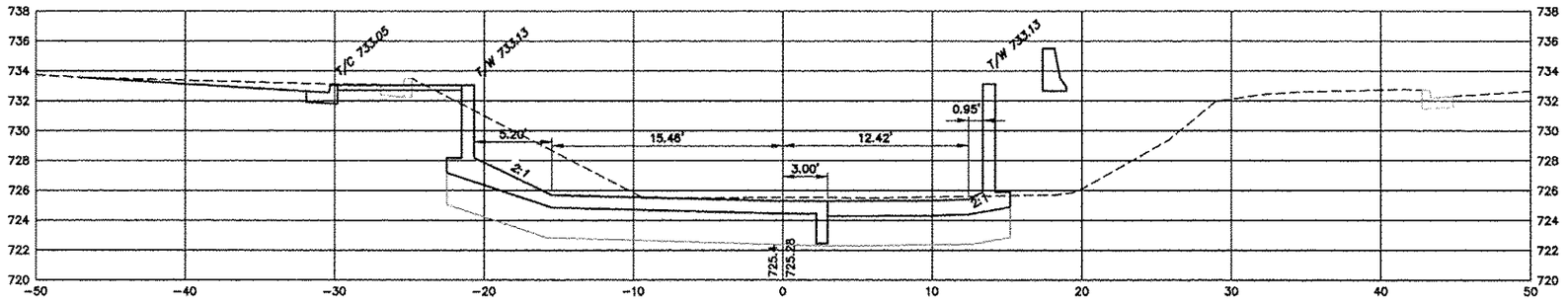
DRAWING:
CROSS SECTIONS
4+87 TO 5+19

JOB NUMBER:
11-128

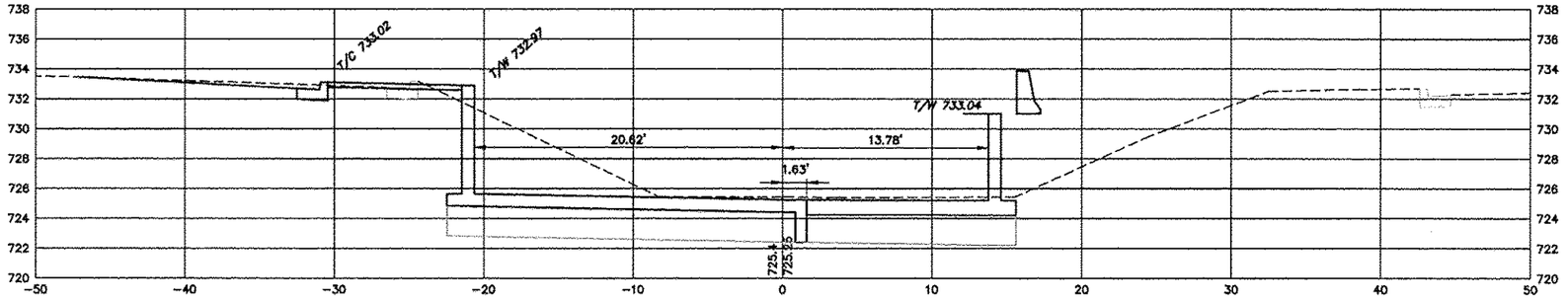
SHEET NUMBER:
457 of 588

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

6+90 (SKEW)



6+75 (SKEW)



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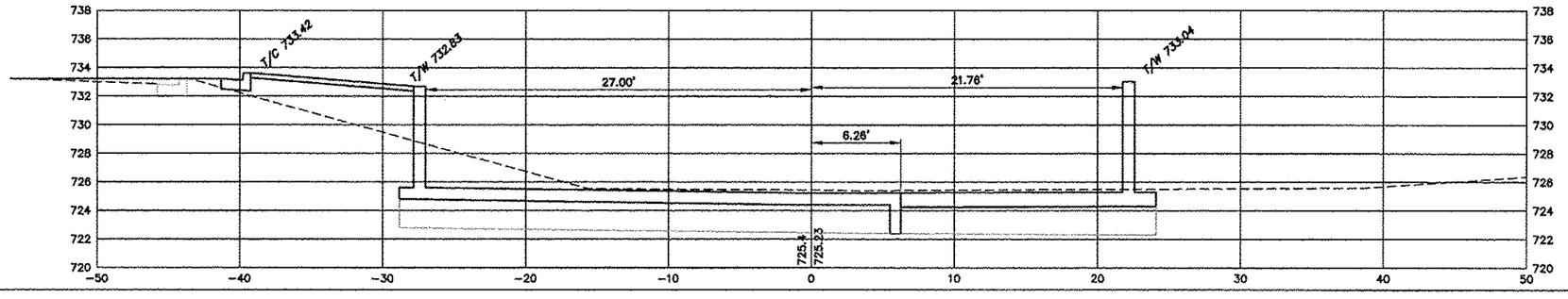

CROSS SECTIONS
HARRISON AVENUE
STRUCTURAL CHANNEL
CITY OF ROCKFORD
WINNEBAGO COUNTY
STATION 6+60 TO 6+90

Sheet 55 of 73

FEHR GRAHAM
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McClure Engineering Associates, Inc.
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Design Firm License: Illinois 184-000818

PROJECT AND LOCATION:
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

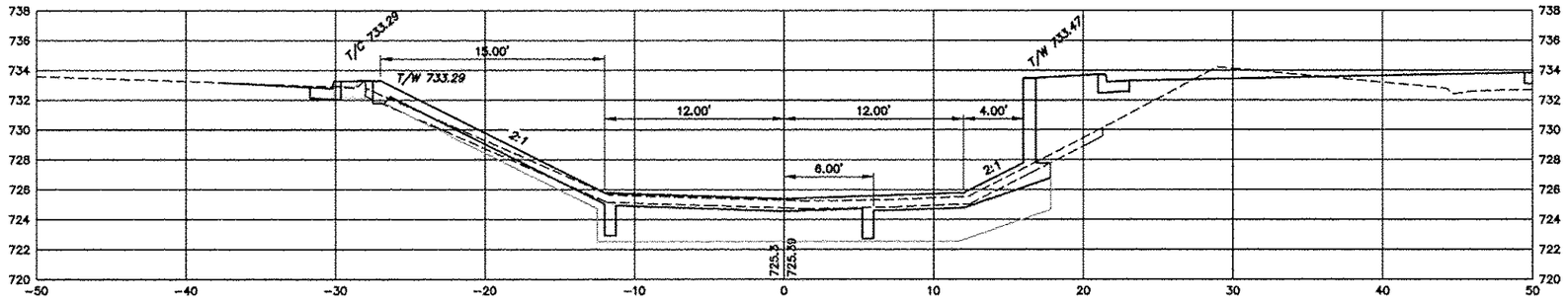
DRAWING:
CROSS SECTIONS
6+60 TO 6+90

JOB NUMBER
11-128

SHEET NUMBER
458 of 588

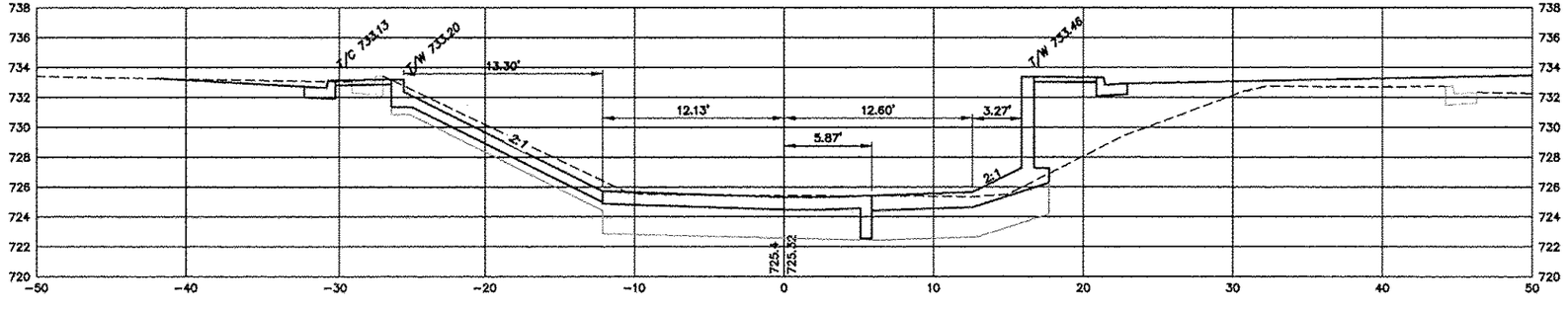
F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612

7+50



7+15.02

7+10 (SKEW)



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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McClure Engineering Associates, Inc.
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Design Firm License: Illinois 184-000815

PROJECT AND LOCATION:
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

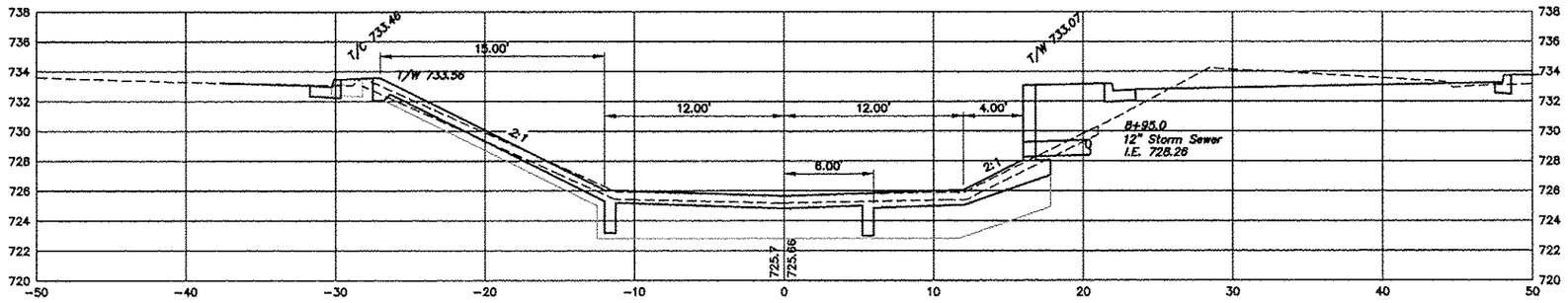
DRAWING:
CROSS SECTIONS
7+10 TO 7+50

JOB NUMBER:
11-128

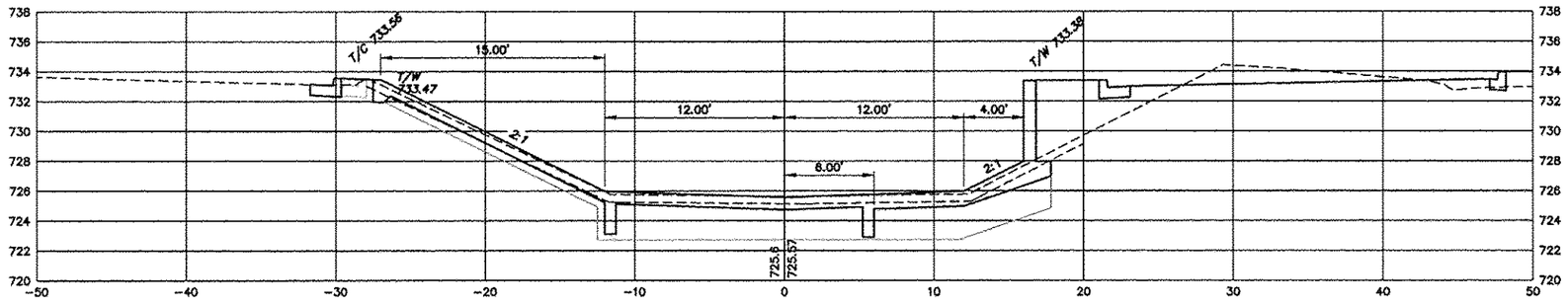
SHEET NUMBER:
459 of 588

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

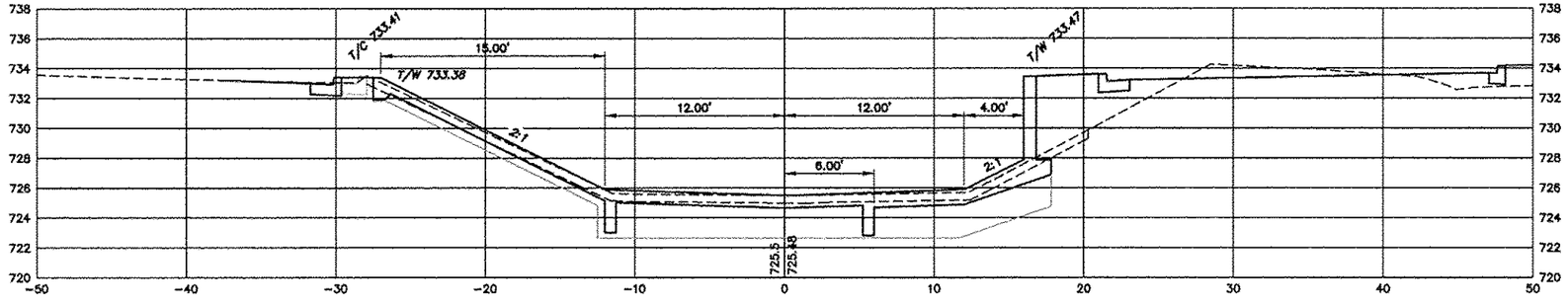
9+00



8+50



8+00



CROSS SECTIONS
HARRISON AVENUE
STRUCTURAL CHANNEL
CITY OF ROCKFORD
WINNEBAGO COUNTY
STATION 8+00 TO 9+00

Sheet 57 of 73

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

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

REVISIONS

REV. NO.	DESCRIPTION	DATE

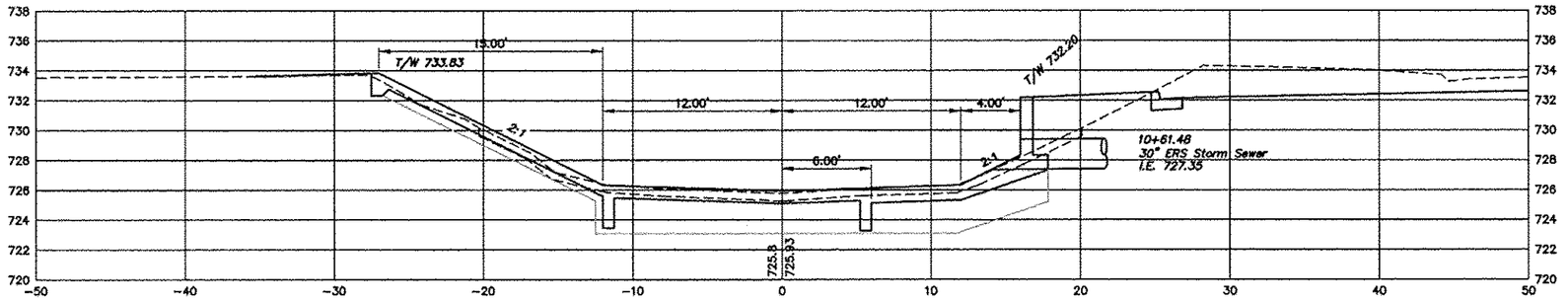
DRAWING
CROSS SECTIONS
8+00 TO 9+00

JOB NUMBER
11-128

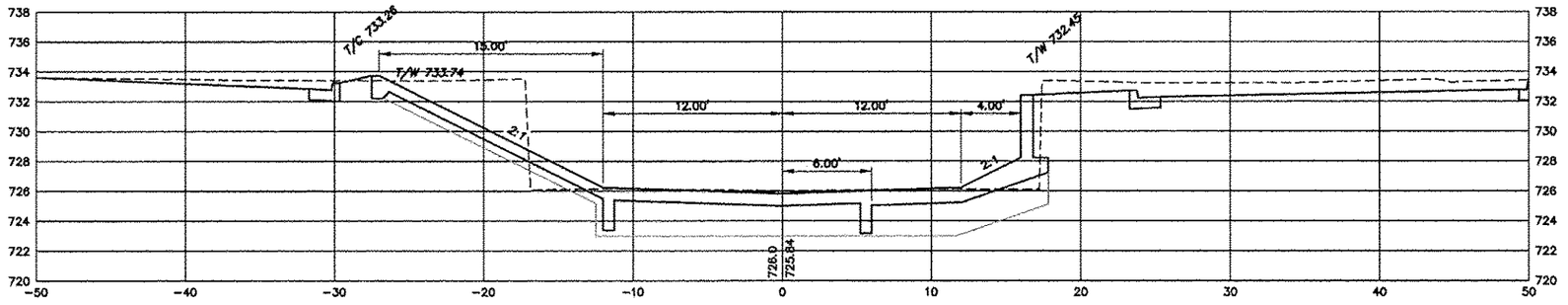
SHEET NUMBER
460 of 588

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

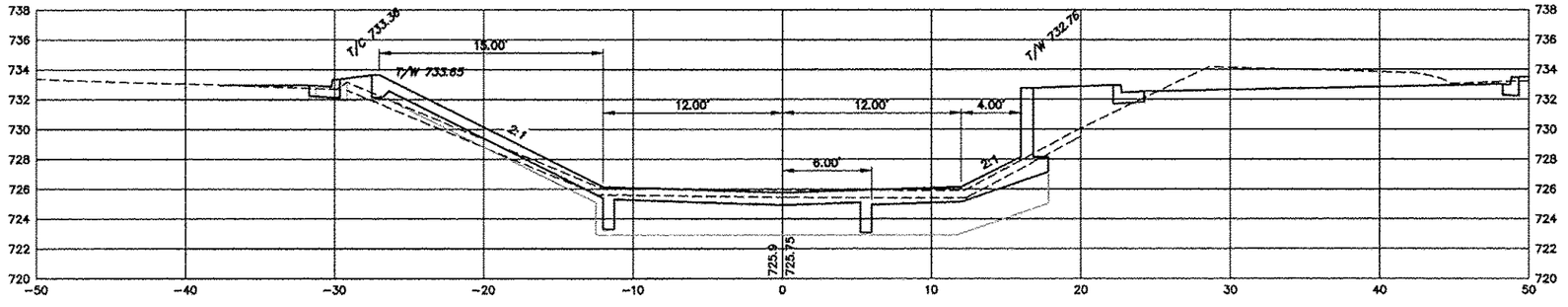
10+50



10+00



9+50



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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Design Firm License: Illinois 184-000816

PROJECT AND LOCATION:
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

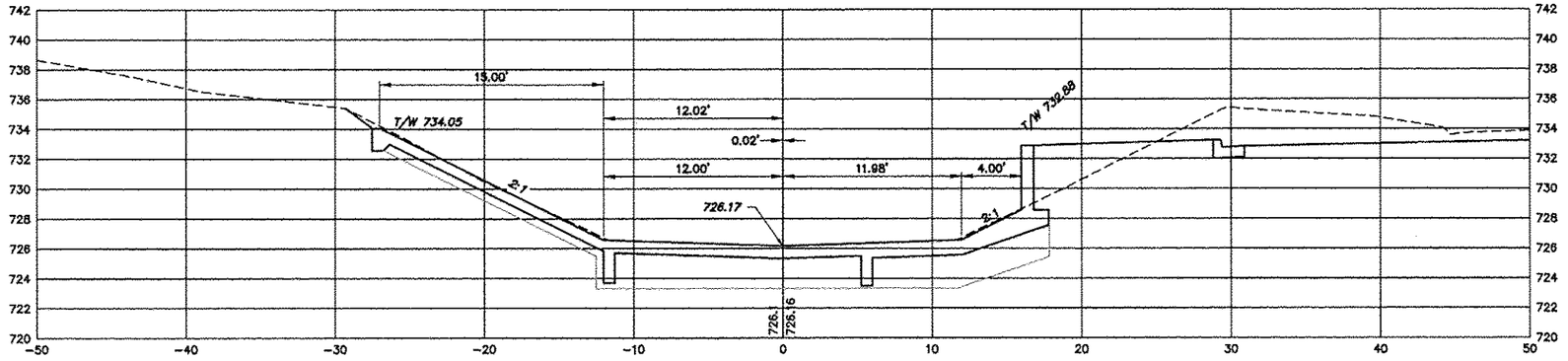
DRAWING:
CROSS SECTIONS
9+50 TO 10+50

JOB NUMBER: 11-128

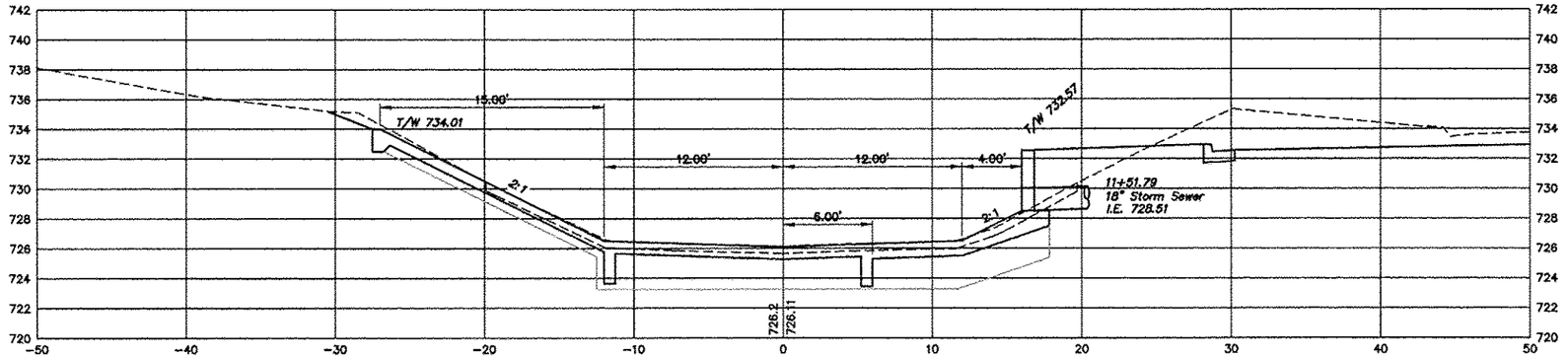
SHEET NUMBER: 461 of 588

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

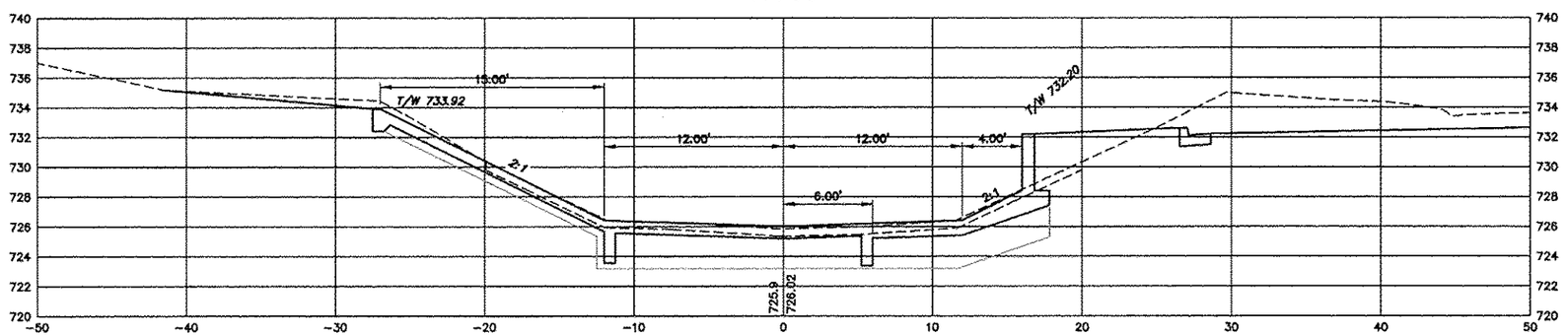
11+75



11+50



11+00



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

Sheet 59 of 73

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
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Design Firm License: Illinois 184-000810

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

DRAWN BY: JWH
APPROVED BY: CTB
DATED 6/12/15
SCALE 1"=40' hor.
1"=10' ver.

REVISIONS

REV. NO.	DESCRIPTION	DATE

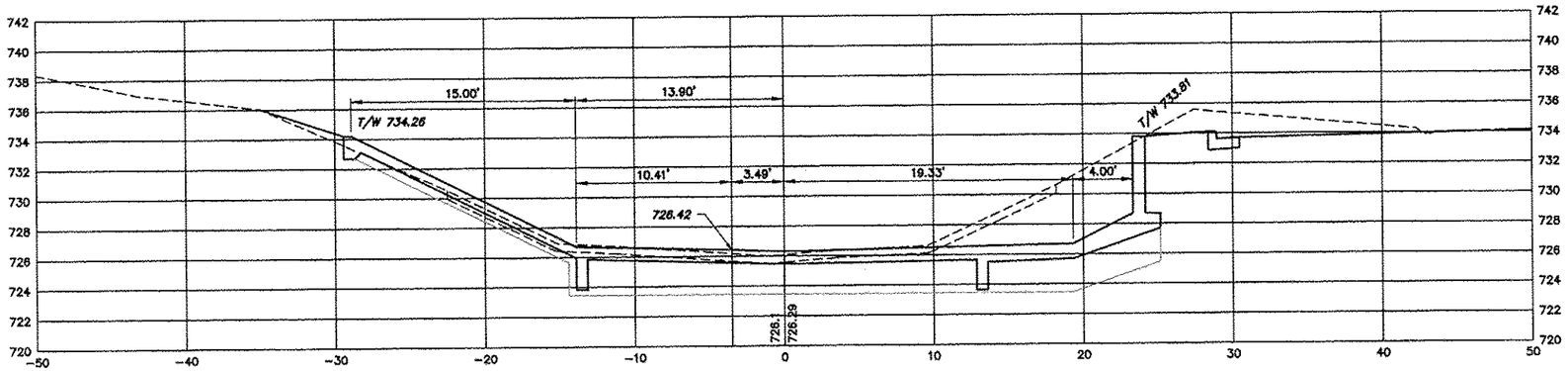
DRAWING
CROSS SECTIONS
11+00 TO 11+75

JOB NUMBER
11-128

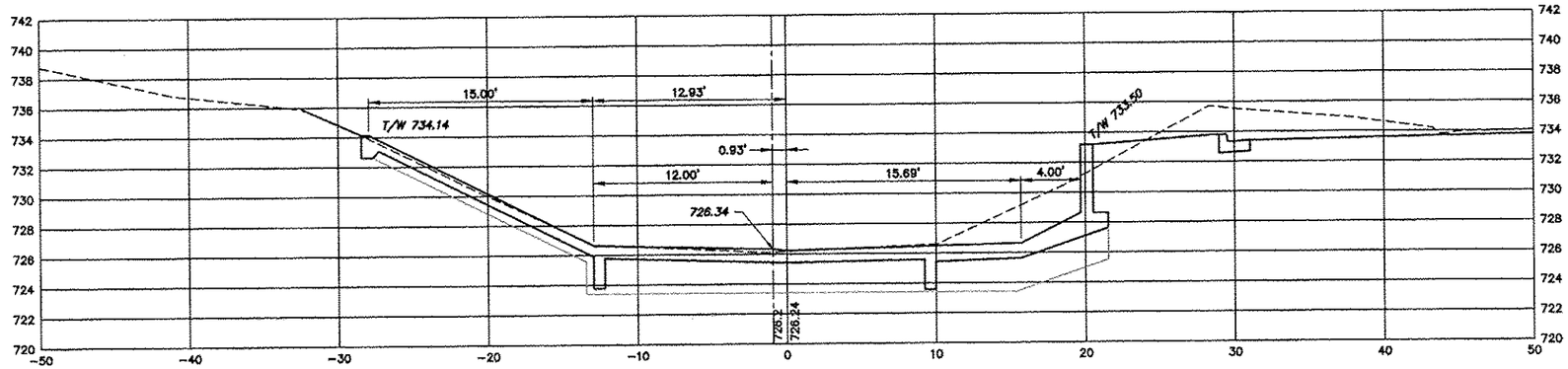
SHEET NUMBER
462 of 588

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

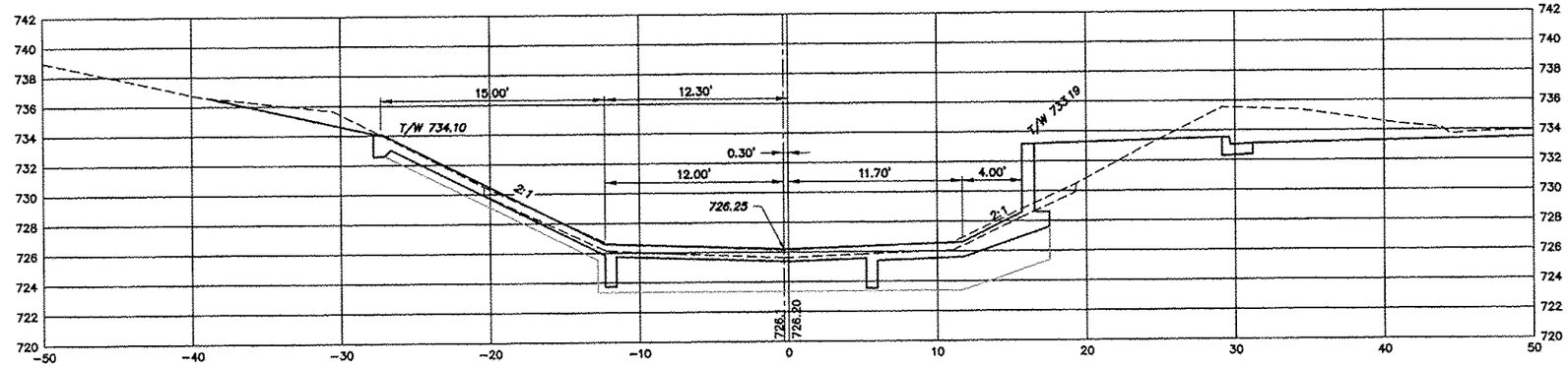
12+50



12+25



12+00



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

Sheet 60 of 73

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

McClure Engineering Associates, Inc.
7262 Argus Drive Rockford, Illinois 61107-5837
(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000816

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

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

REVISIONS		
REV. NO.	DESCRIPTION	DATE

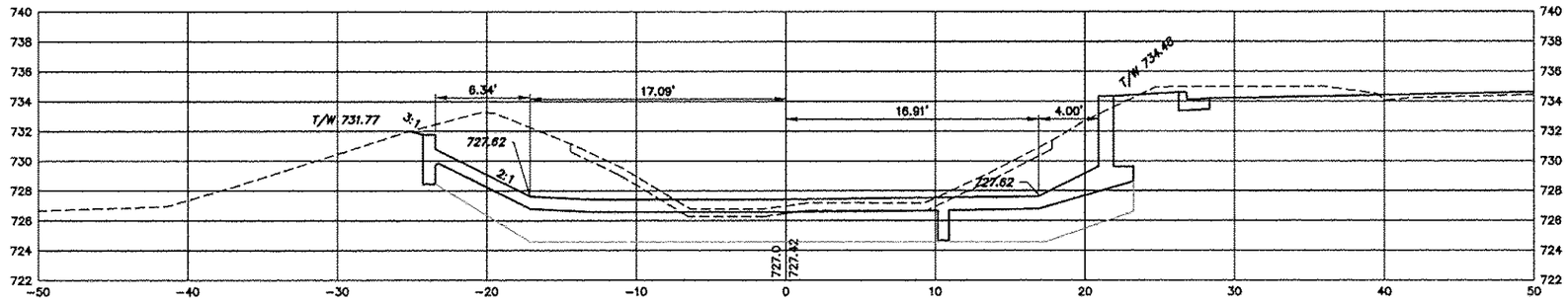
DRAWING:
CROSS SECTIONS
12+00 TO 12+50

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

13+27.60



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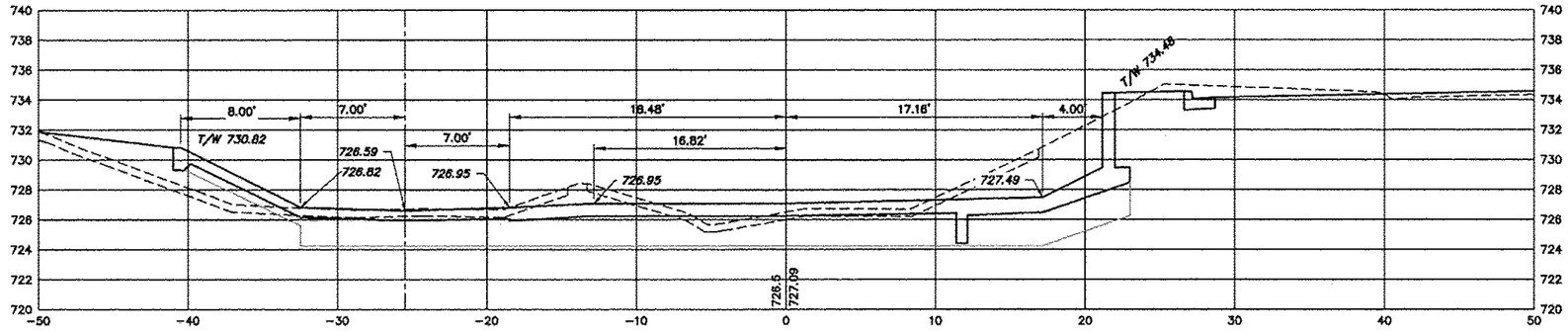

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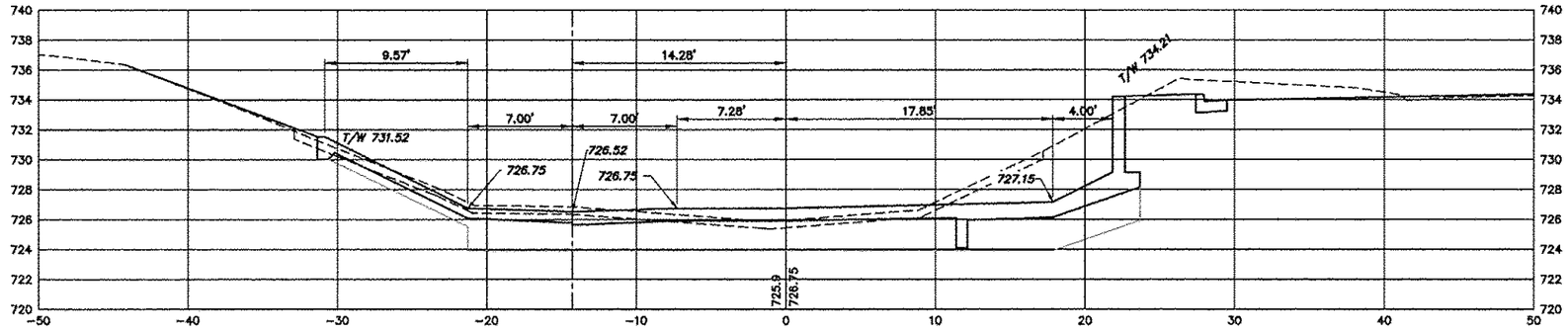

CROSS SECTIONS
HARRISON AVENUE
STRUCTURAL CHANNEL
CITY OF ROCKFORD
WINNEBAGO COUNTY
STATION 12+81 TO 13+28

Sheet 61 of 73

FEHR GRAHAM
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7282 Argus Drive Rockford, Illinois 61107-5837
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Design Firm License: Illinois 184-000818

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

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

REVISIONS		
REV. NO.	DESCRIPTION	DATE

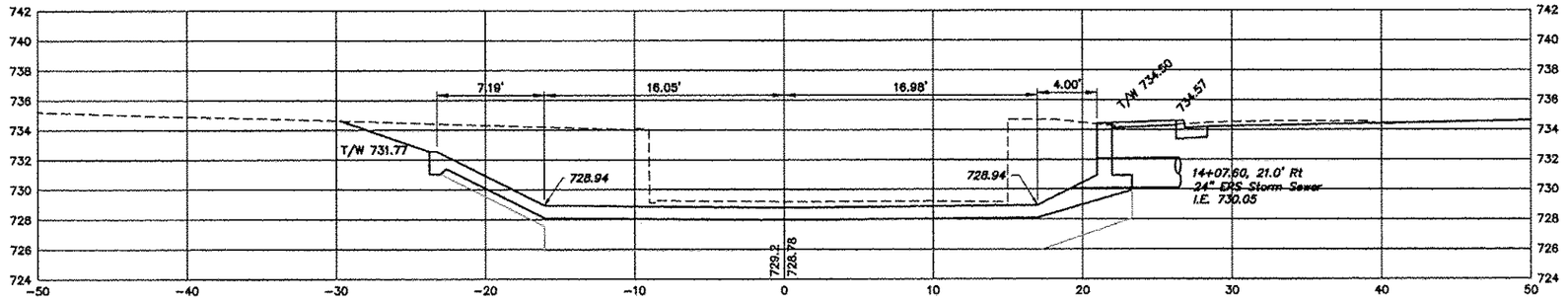
DRAWING:
CROSS SECTIONS
12+81 TO 13+28

JOB NUMBER:
11-128

SHEET NUMBER:
464 of 588

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

14+00



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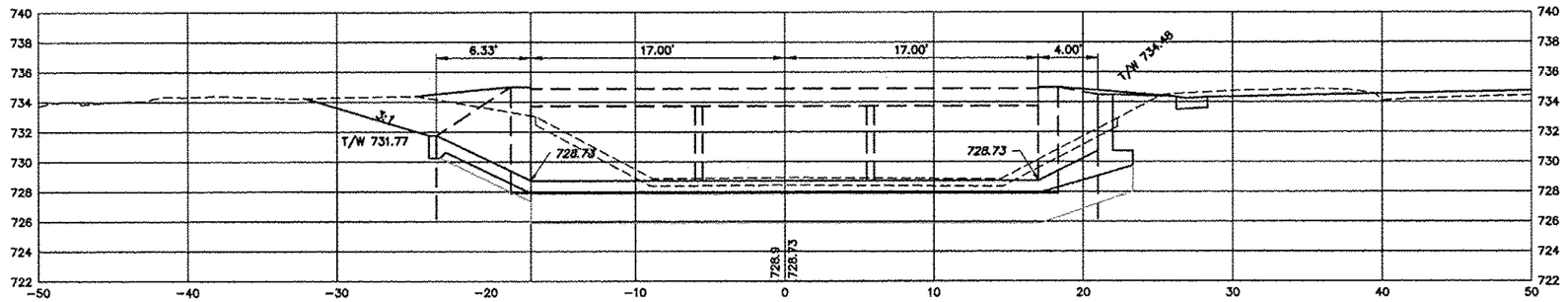

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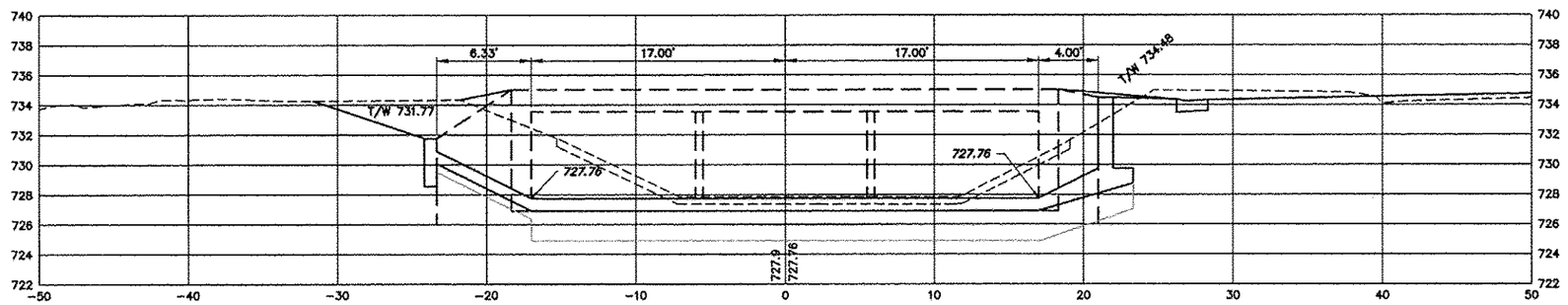

CROSS SECTIONS
HARRISON AVENUE
STRUCTURAL CHANNEL
CITY OF ROCKFORD
WINNEBAGO COUNTY
STATION 13+51 TO 14+00

Sheet 62 of 73

FEHR GRAHAM
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ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
WISCONSIN

McClure Engineering Associates, Inc.
7262 Argus Drive Rockford, Illinois 61107-5837
(815) 398-2332 FAX (815) 398-2498
Design Firm License: Illinois 184-000816

PROJECT AND LOCATION
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

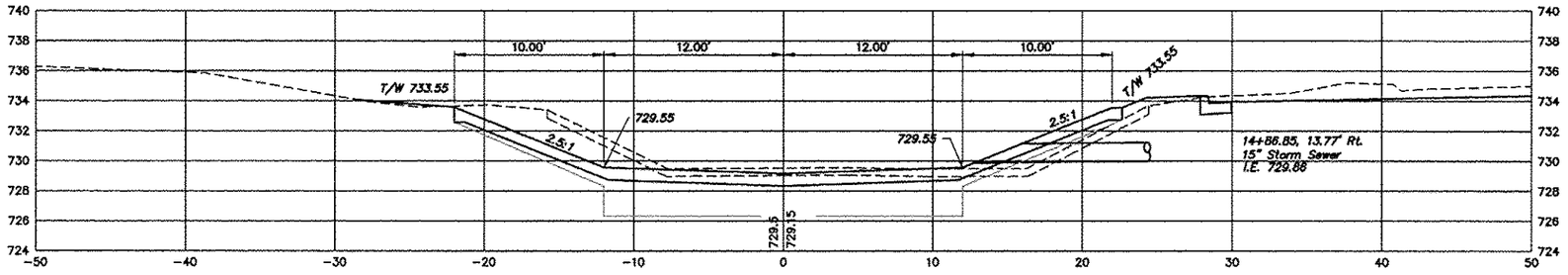
DRAWING
CROSS SECTIONS
13+51 TO 14+00

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

14+97.62



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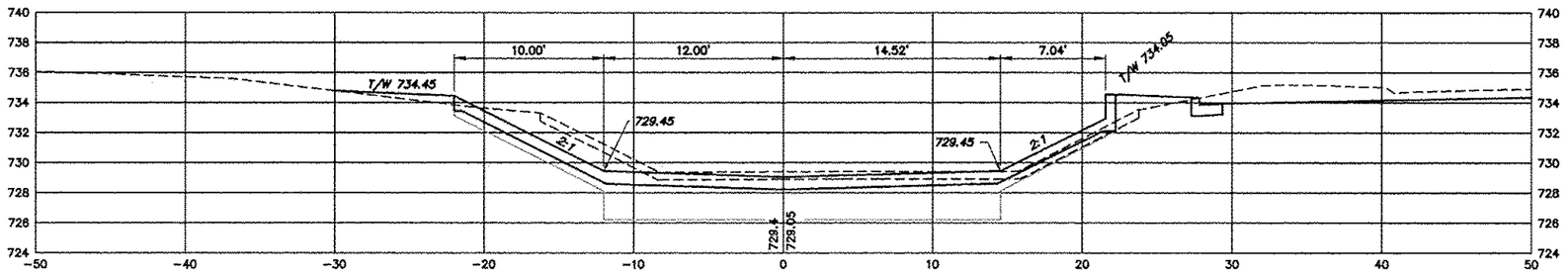

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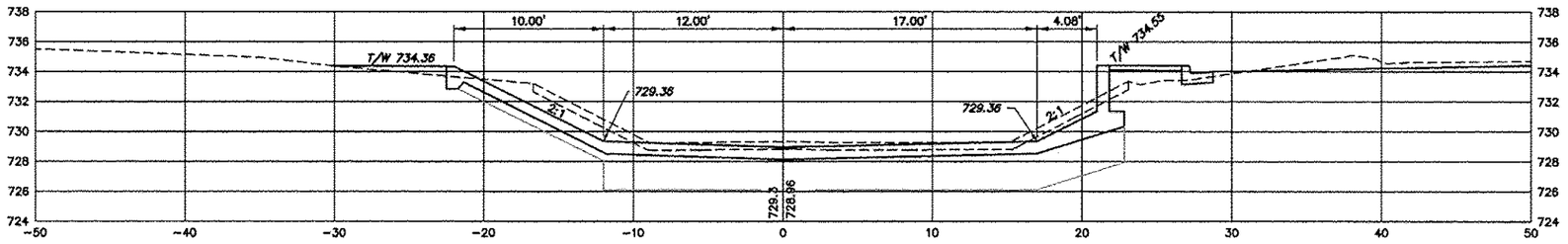

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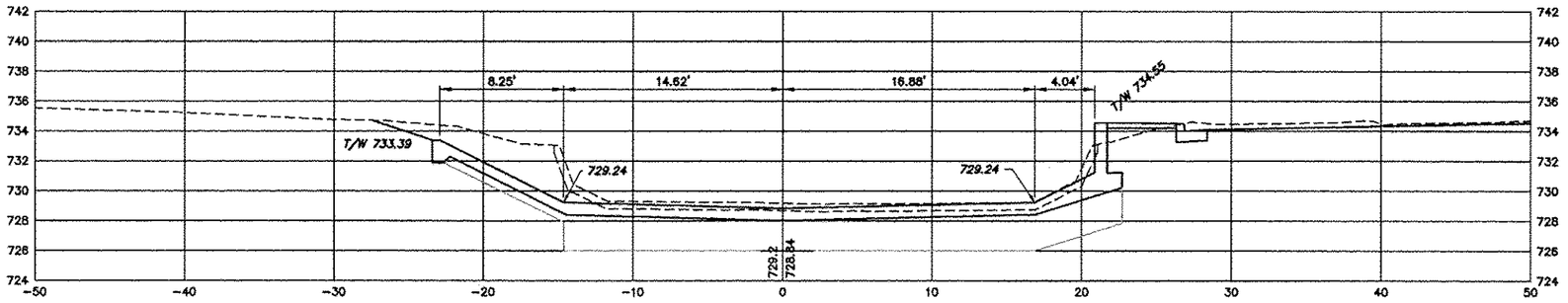

CROSS SECTIONS
HARRISON AVENUE
STRUCTURAL CHANNEL
CITY OF ROCKFORD
WINNEBAGO COUNTY
STATION 14+18 TO 14+98

Sheet 63 of 73

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
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McClure Engineering Associates, Inc.
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Design Firm License: Illinois 184-000816

PROJECT AND LOCATION
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

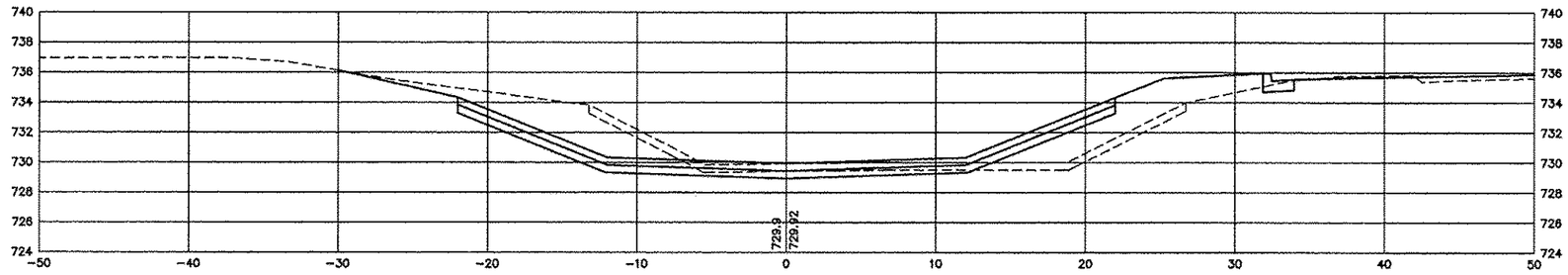
DRAWING
CROSS SECTIONS
14+18 TO 14+98

JOB NUMBER
11-128

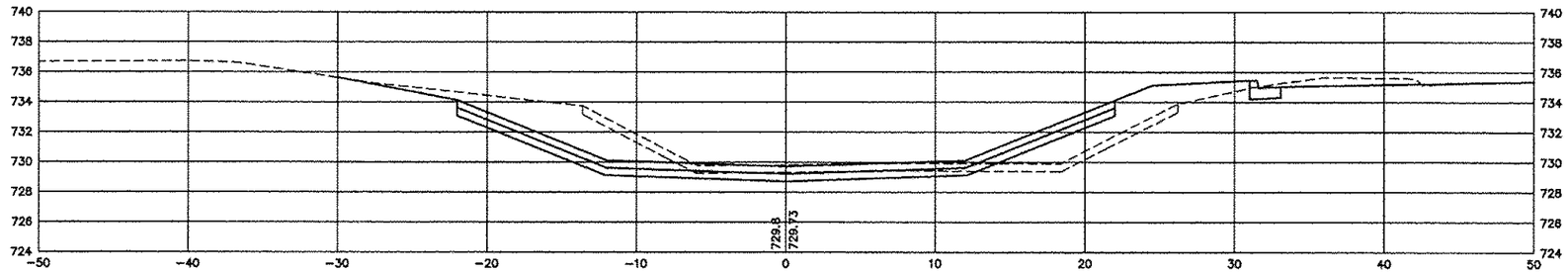
SHEET NUMBER
466 of 588

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

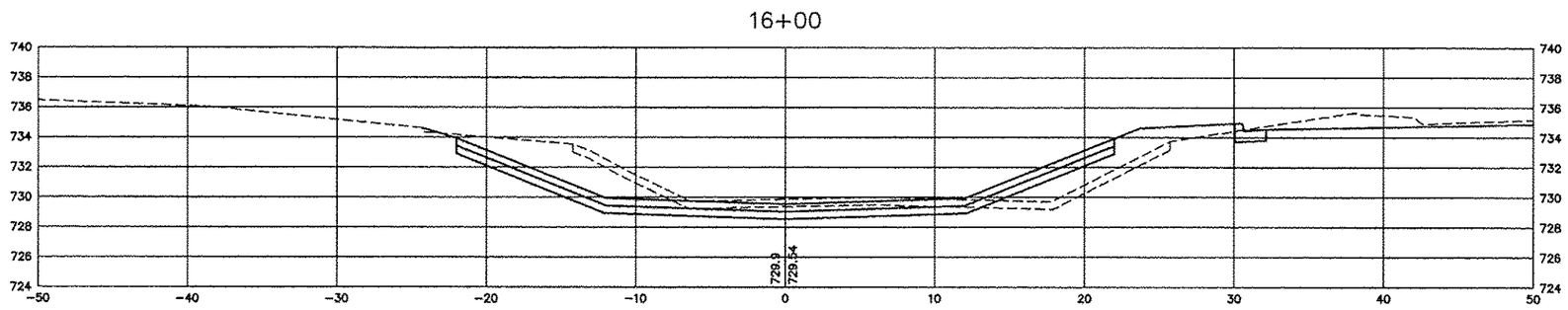
17+00



16+50



16+00



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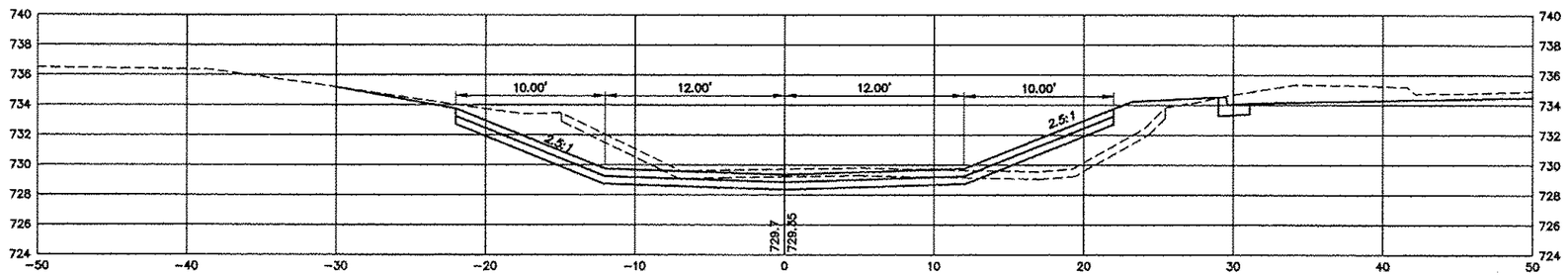

CROSS SECTIONS
HARRISON AVENUE
PAVED DITCH
CITY OF ROCKFORD
WINNEBAGO COUNTY

Sheet 64 of 73

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

McClure Engineering Associates, Inc.
7262 Argus Drive Rockford, Illinois 61107-5637
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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
SCALE: 1"=5' hor.
1"=5' ver.

REVISIONS

REV. NO.	DESCRIPTION	DATE

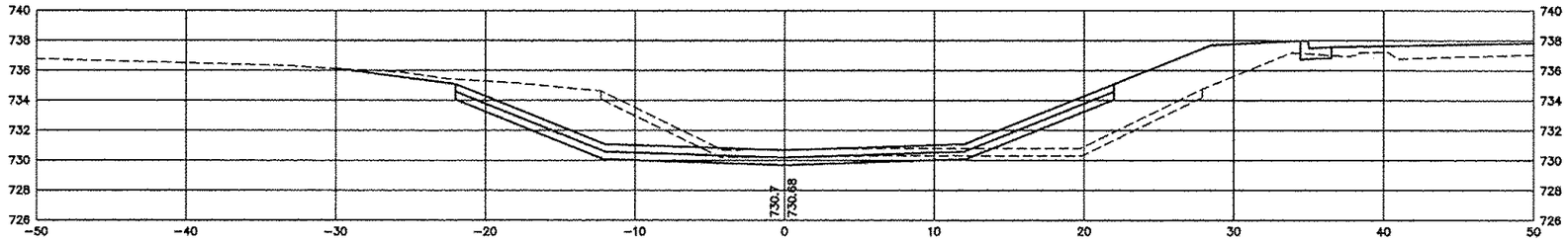
DRAWING
CROSS SECTIONS
15+50 TO 17+00

JOB NUMBER
11-128

SHEET NUMBER
467 of 588

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

19+00



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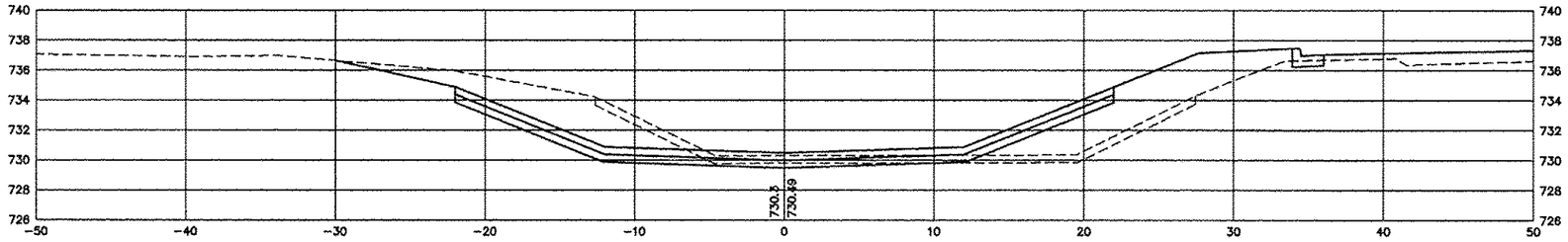

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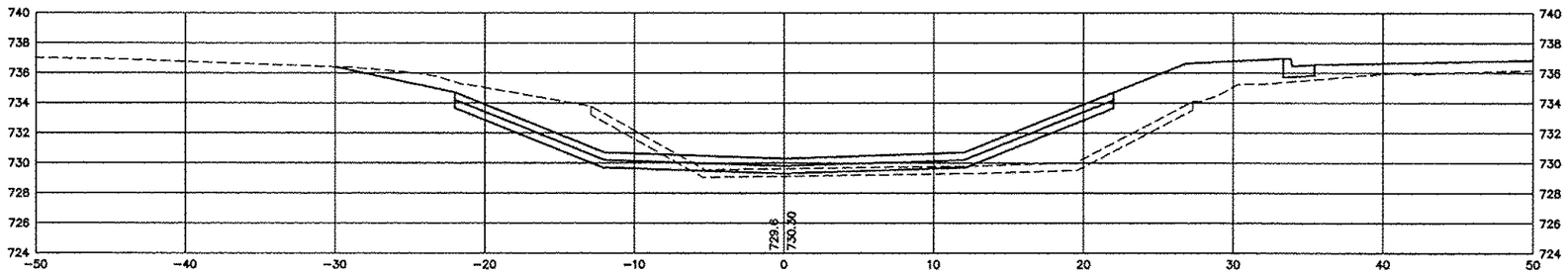

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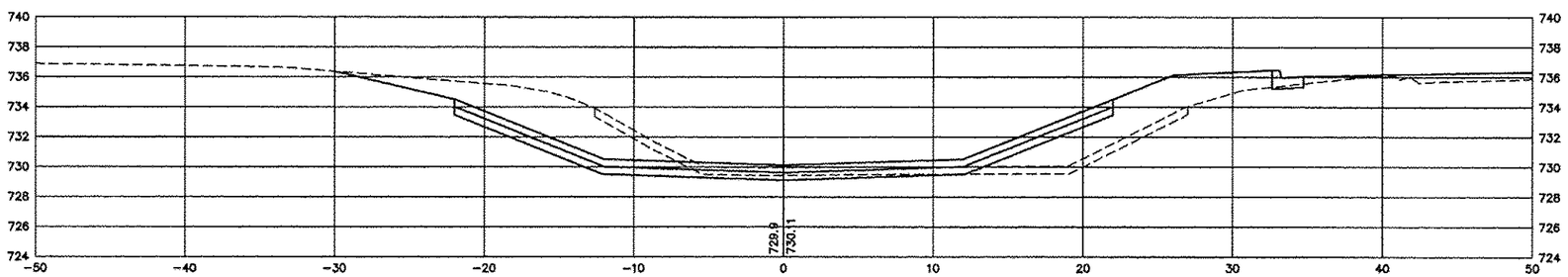

CROSS SECTIONS
HARRISON AVENUE
PAVED DITCH
CITY OF ROCKFORD
WINNEBAGO COUNTY

Sheet 65 of 73

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PROJECT AND LOCATION
HARRISON AVENUE
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ROCKFORD, ILLINOIS

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DRAWING
CROSS SECTIONS
17+50 TO 19+00

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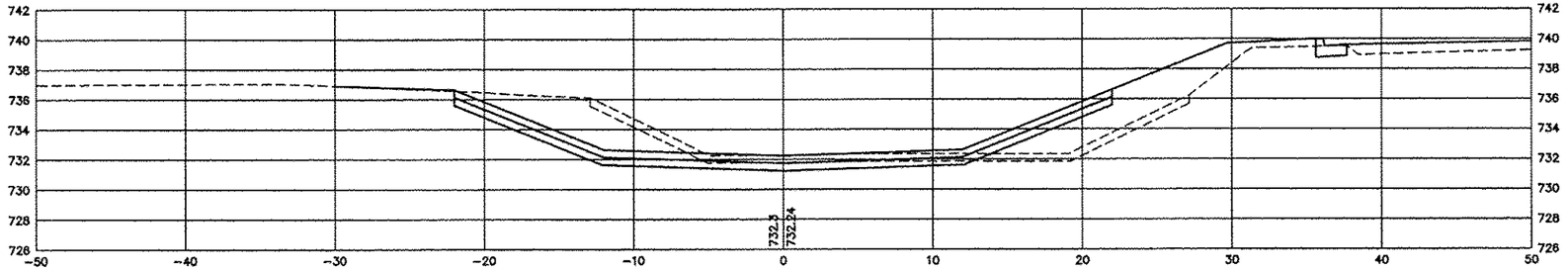
F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612

21+00



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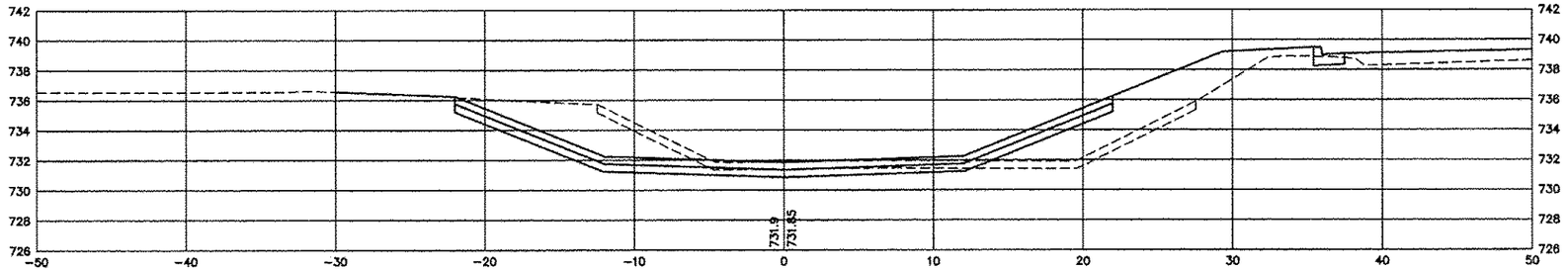

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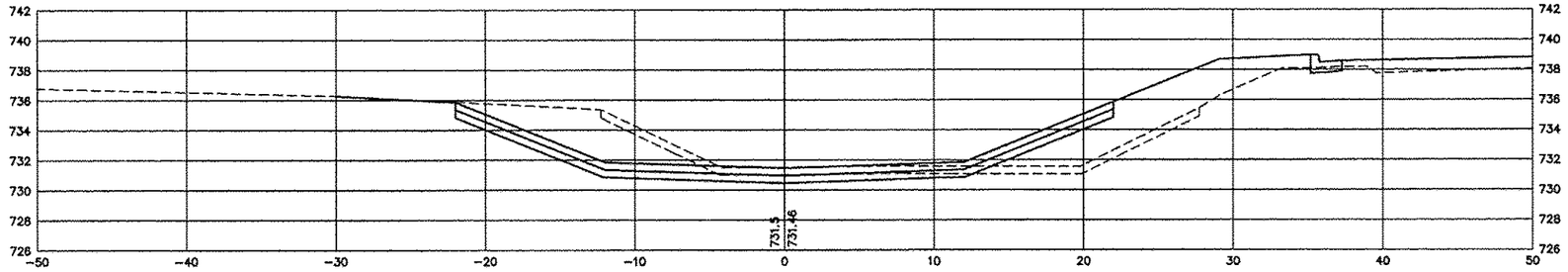

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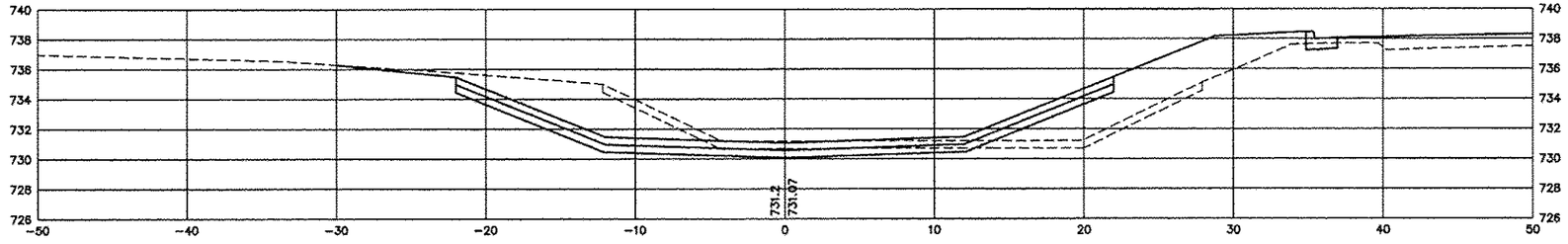

CROSS SECTIONS
HARRISON AVENUE
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WINNEBAGO COUNTY

Sheet 66 of 73

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HARRISON AVENUE
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REVISIONS		
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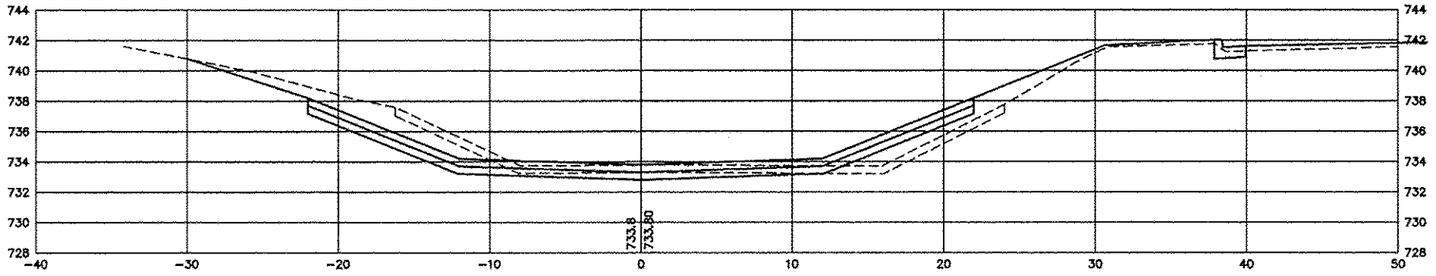
DRAWING:
CROSS SECTIONS
19+50 TO 21+00

JOB NUMBER
11-128

SHEET NUMBER
469 of 588

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

23+00



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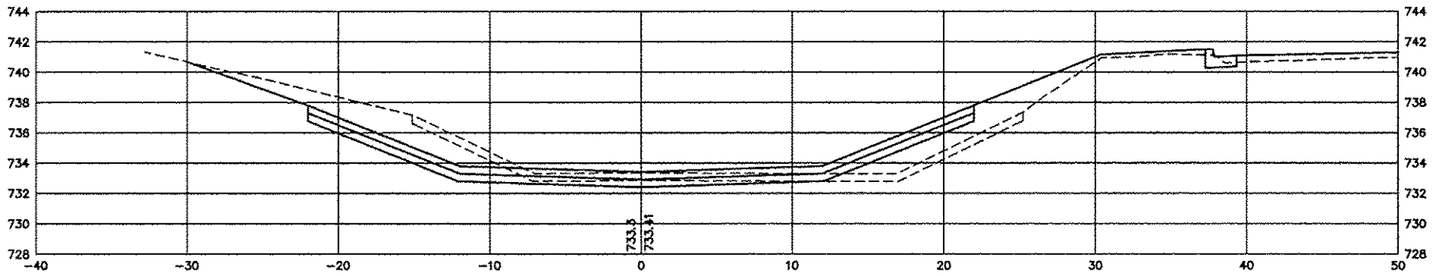

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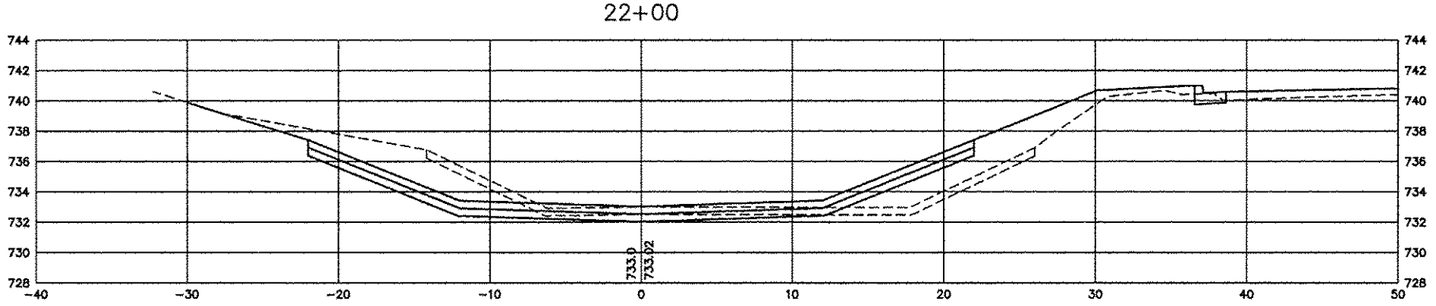

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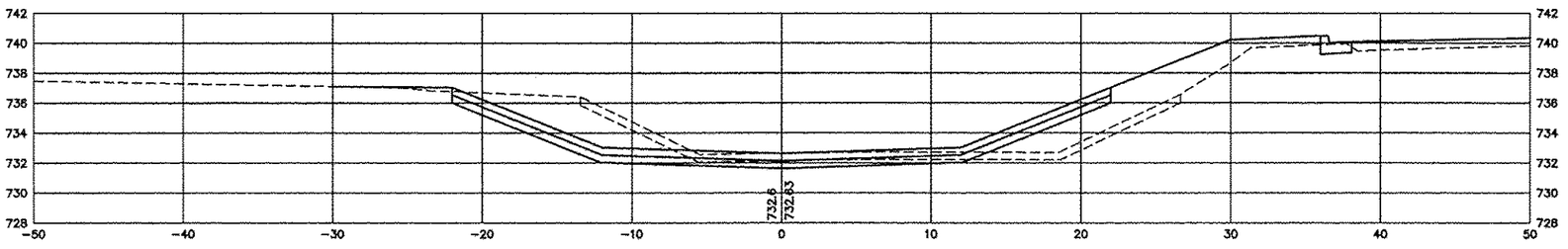

CROSS SECTIONS
HARRISON AVENUE
PAVED DITCH
CITY OF ROCKFORD
WINNEBAGO COUNTY

Sheet 67 of 73

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RECONSTRUCTION 2012
PHASE 1
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REVISIONS		
REV. NO.	DESCRIPTION	DATE

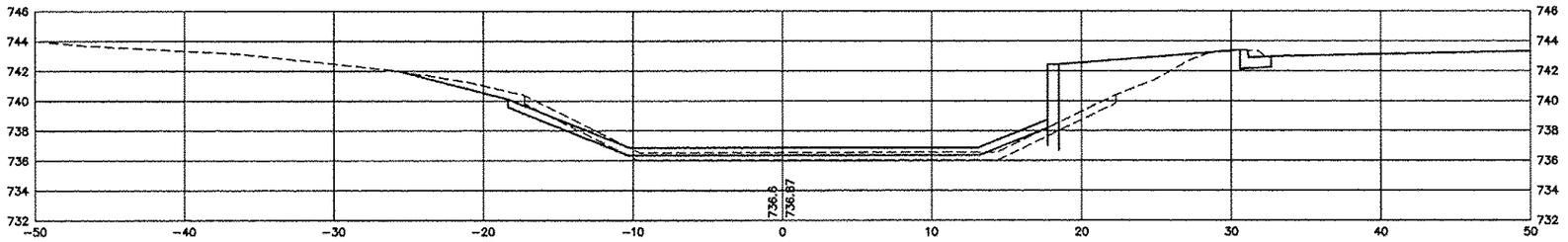
DRAWING
CROSS SECTIONS
21+50 TO 23+00

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

24+50



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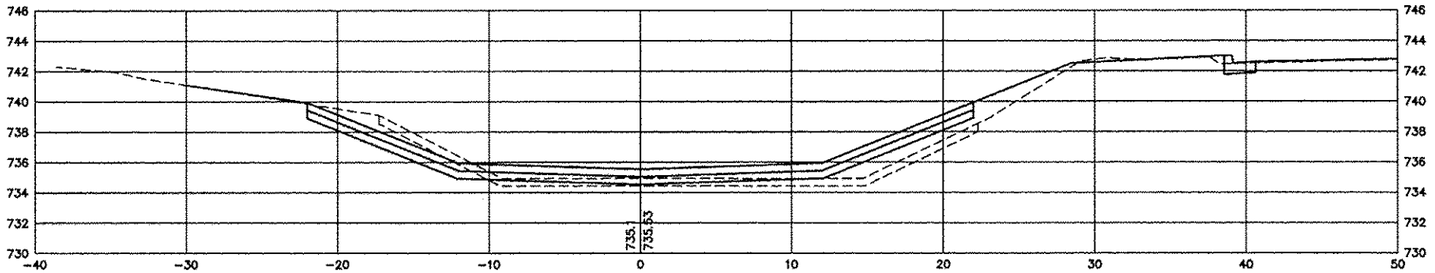

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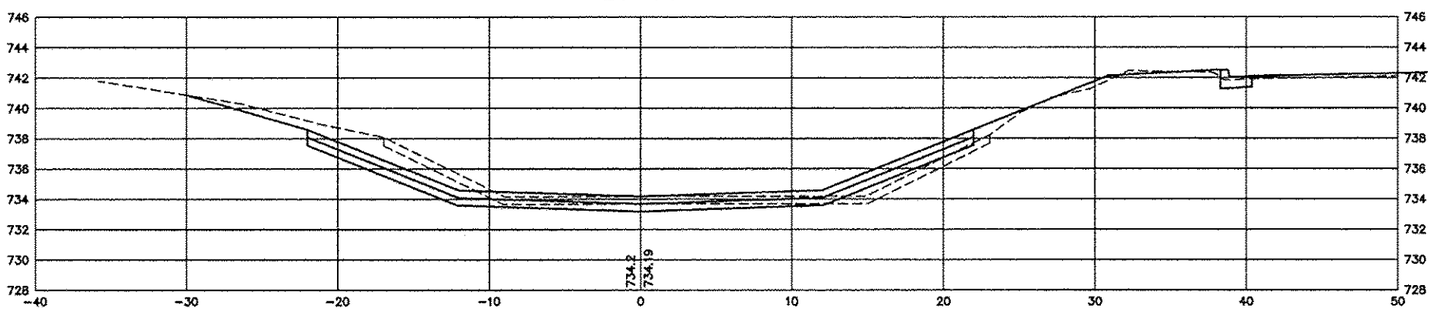

CROSS SECTIONS
HARRISON AVENUE
PAVED DITCH
CITY OF ROCKFORD
WINNEBAGO COUNTY

Sheet 68 of 73

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

DRAWN BY: MS
APPROVED BY: JWH
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SCALE: 1"=5' hor.
1"=5' ver.

REVISIONS

REV. NO.	DESCRIPTION	DATE

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		151			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	50	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	4275	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	88	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

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
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Design Firm License: Illinois 184-000816

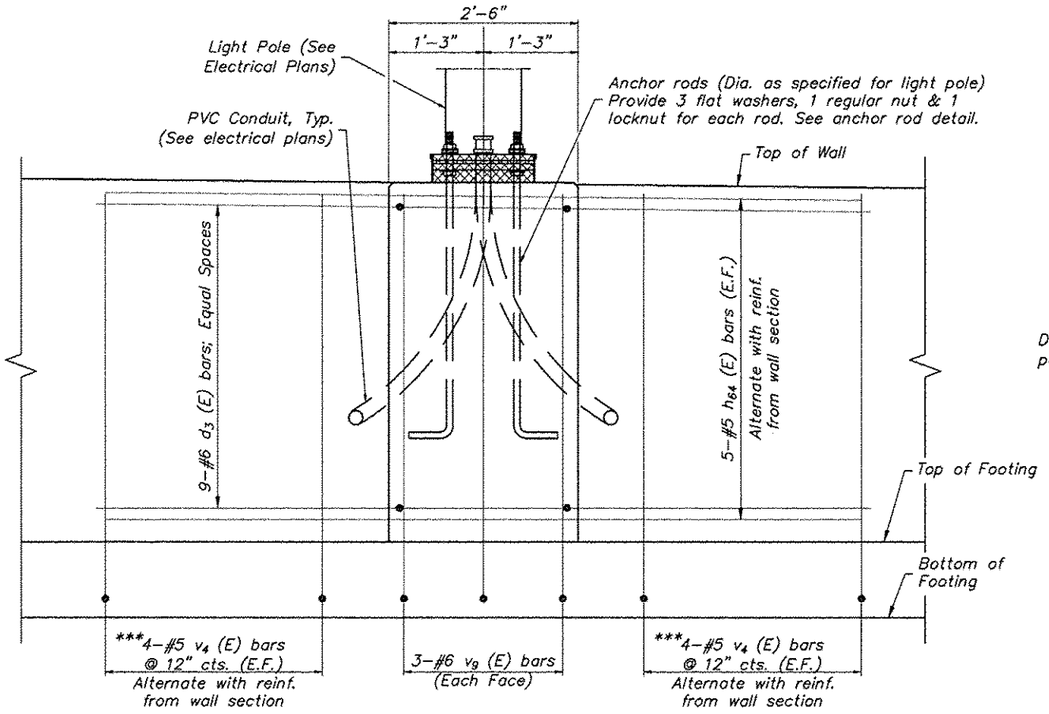
PROJECT AND LOCATION:
HARRISON AVENUE
RECONSTRUCTION 2012
PHASE 1
ROCKFORD, ILLINOIS

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

REVISIONS		
REV. NO.	DESCRIPTION	DATE

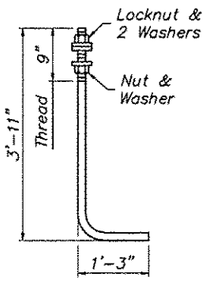
DRAWING:
CHANNEL
EXCAVATION

JOB NUMBER: 11-128
SHEET NUMBER: 472 of 588



TYPICAL LIGHT POLE BASE ELEVATION

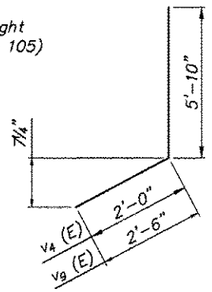
(Looking at Back Face of Wall)



ANCHOR ROD

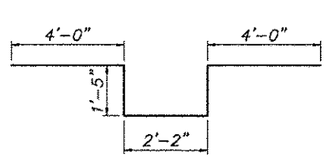
Diameter as specified for light poles. (ASTM F 1554 Grade 105)

Note:
Cost of anchor rods is included with Concrete Structures.

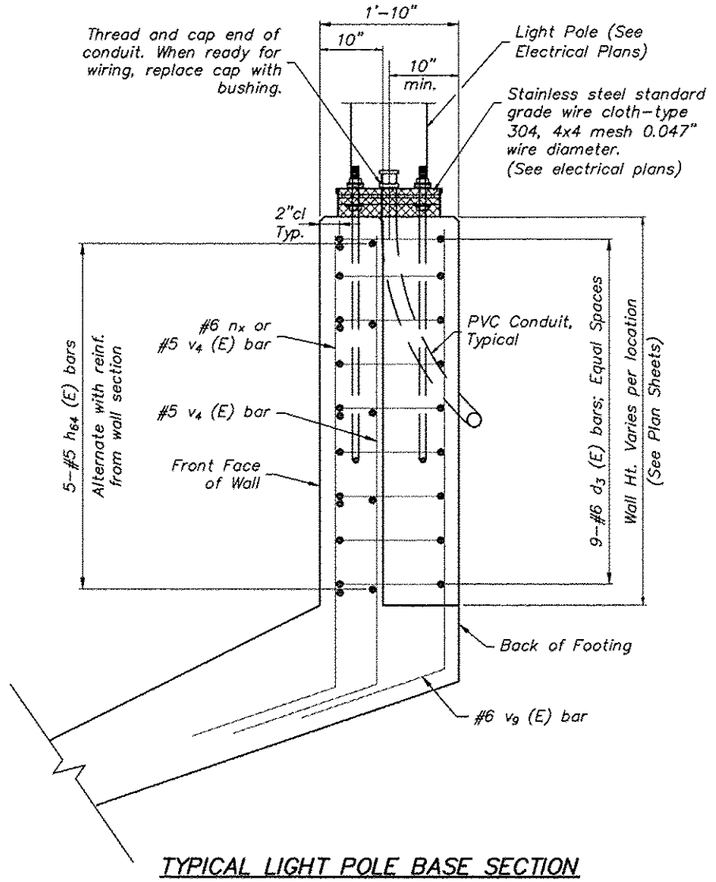


v_4 & v_9 (E) Bars***

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

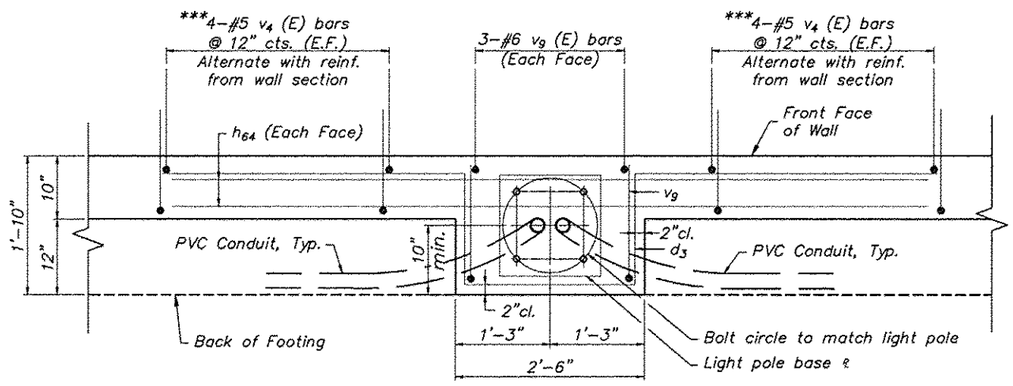


d_3 (E) Bar



TYPICAL LIGHT POLE BASE SECTION

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



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

TYPICAL LIGHT POLE BASE PLAN

BILL OF MATERIAL

(for one (1) Light Pole Base)

Bar	No.	Size	Length	Shape
h_{64} (E)	10	#5	10'-4"	
d_3 (E)	9	#6	13'-0"	
v_9 (E)	6	#6	7'-10"	
v_4 (E)	16	#5	7'-10"	
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

Sheet 70 of 73

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
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RECONSTRUCTION 2012
PHASE 1
ROCKFORD, ILLINOIS

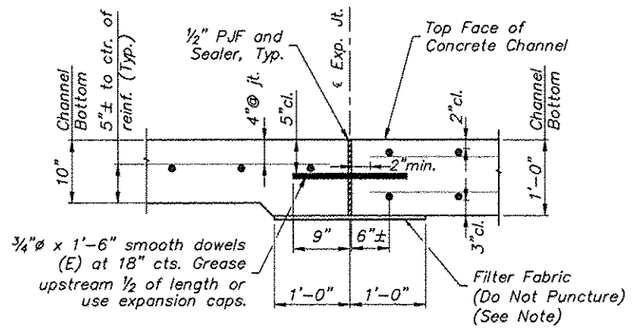
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: NO.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

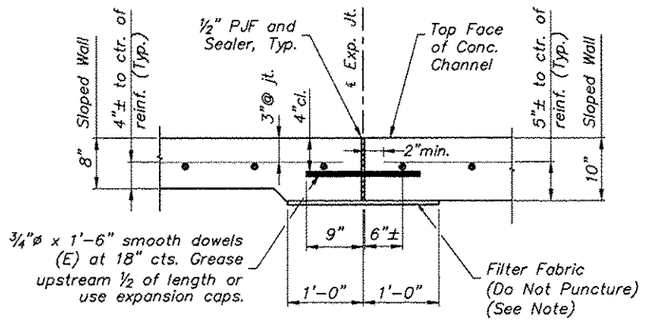
DRAWING:
CHANNEL DETAILS NO.1

JOB NUMBER:
11-128

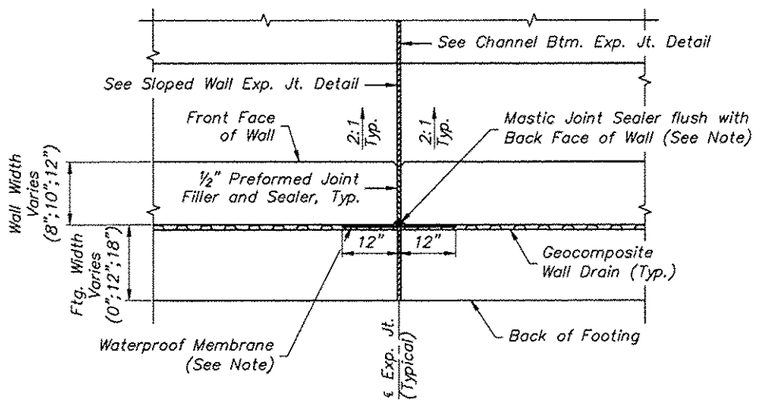
SHEET NUMBER:
473 of 588



Channel Bottom Exp. Jt.



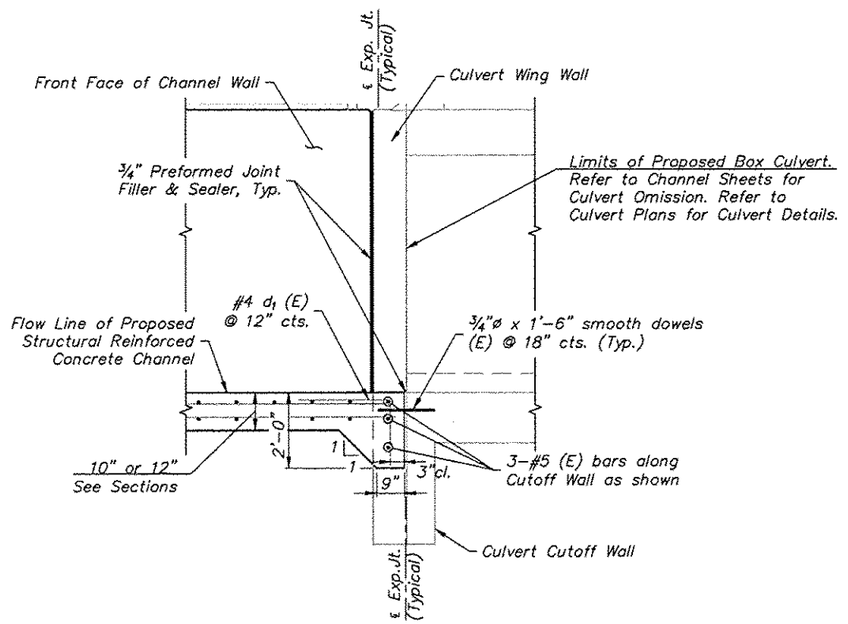
Sloped Wall Exp. Jt.



Vertical Wall Exp. Jt. – Plan View

TYPICAL EXPANSION JOINTS

Typical details for Transverse Expansion Joints between panel sections. Dimensions at right ℄'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 ℄'s to Joint.

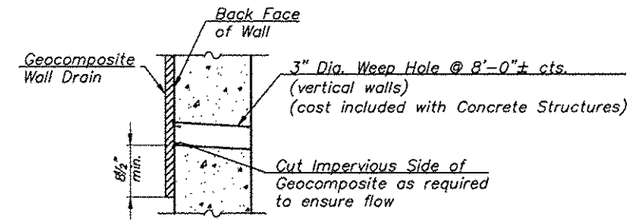
Expansion Joint Notes:
No separate payment will be made for Expansion Joints, Construction Joints, or Water Seals, all costs in connection therewith shall be included in the Contract Unit Price for Concrete Structures or associated item of work.

Dowel Bar spacing is measured along the slope.

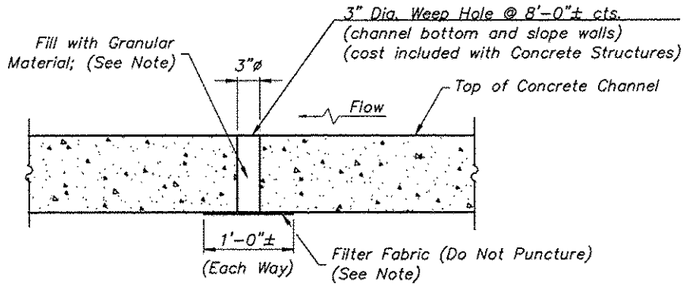
Dowel bars are required only in the base slab and in sloped walls, not in the vertical walls. Dowel bar count shown for information only. Dowel Bars shall be in accordance with Art. 1006.11(b) and drilled in accordance with the applicable portions of Section 584 of the IDOT Standard Specification, or 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

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

McClure Engineering Associates, Inc.
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(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000818

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

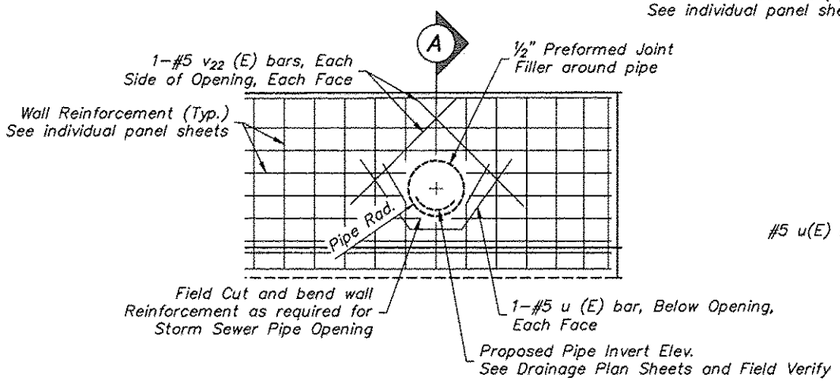
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: NO.

REVISIONS

REV. NO.	DESCRIPTION	DATE

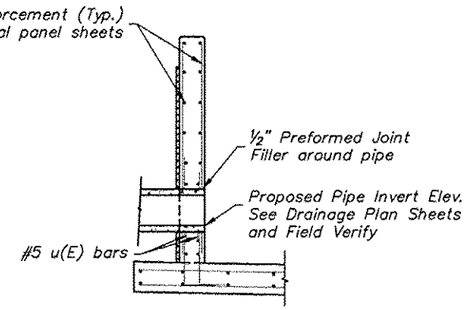
DRAWING:
CHANNEL DETAILS NO.2

JOB NUMBER: 11-128
SHEET NUMBER: 474 of 588



ELEVATION

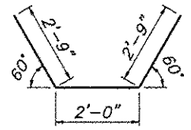
(Looking at Inside/Front Face of Wall)



SECTION A

STORM SEWER PIPE OPENING IN VERTICAL CHANNEL WALL

Typical Detail for Pipe Penetrations in Channel Wall



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 ½" preformed joint filler around the perimeter of pipe.

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

BILL OF MATERIAL

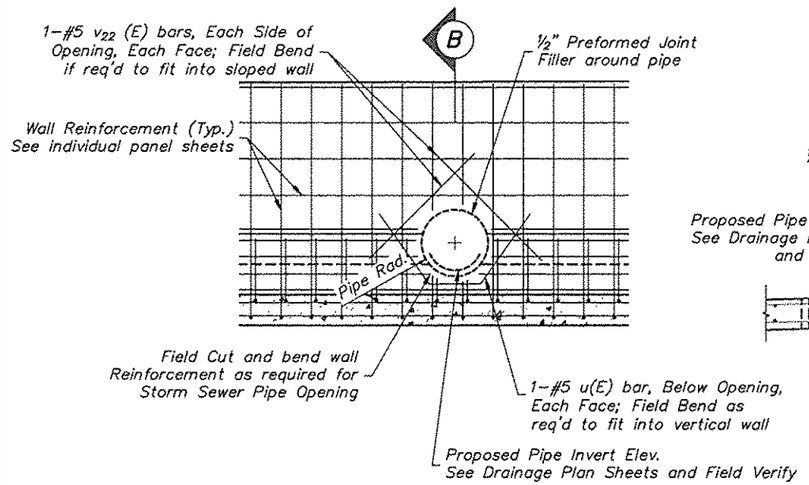
(for one (1) Pipe Opening)

Bar	No.	Size	Length	Shape
u (E)	2	#5	7'-6"	◡
v_{22} (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.

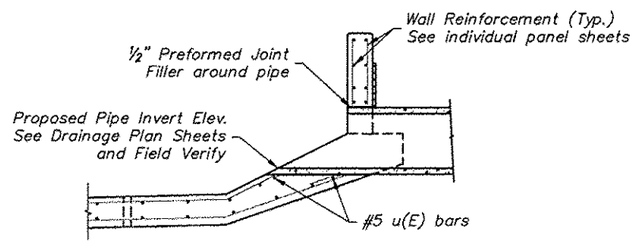
STORM SEWER PENETRATIONS

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

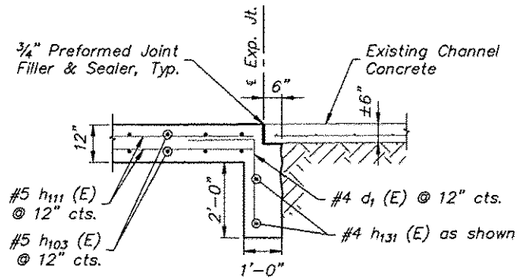
(Looking at Inside/Front Face of Wall)



SECTION B

STORM SEWER PIPE OPENING IN SLOPED CHANNEL WALL

Typical Detail for Pipe Penetrations in Channel Wall



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

McClure Engineering Associates, Inc.
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(815) 398-2332 FAX (815) 398-2498
Design Firm License: Illinois 184-000816

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

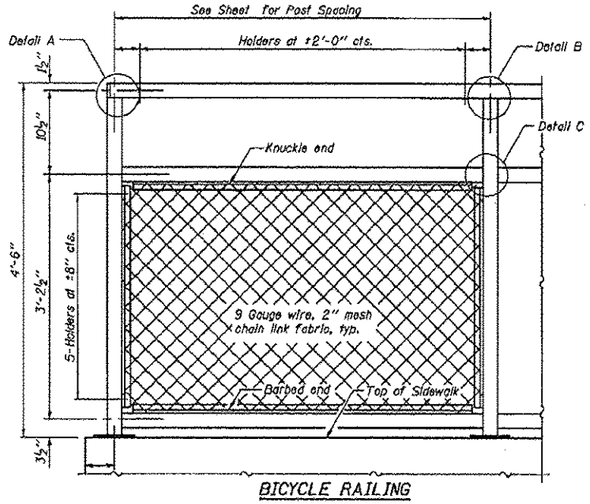
DRAWN BY: JWH
APPROVED BY: CTB
DATE: 6/12/15
SCALE: n.t.s.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

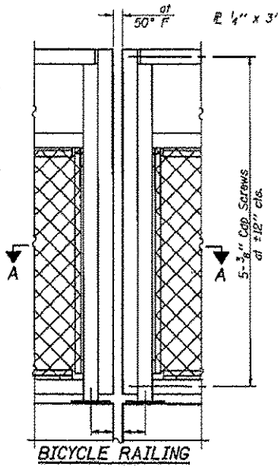
DRAWING:
CHANNEL DETAILS NO.3

JOB NUMBER: 11-128

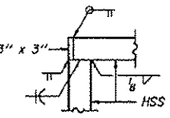
SHEET NUMBER: 475 of 588



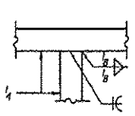
BICYCLE RAILING



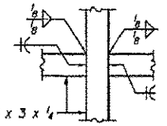
BICYCLE RAILING



DETAIL A



DETAIL B



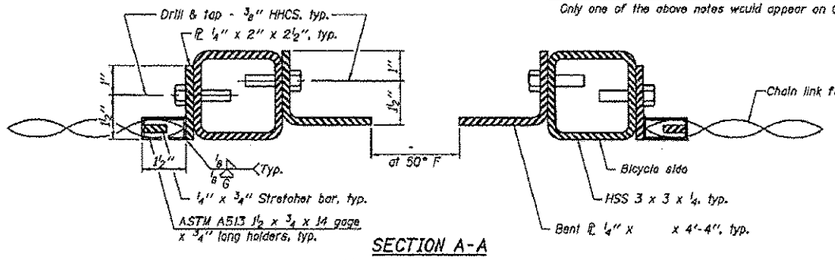
DETAIL C

The designer should add the appropriate note as applicable.

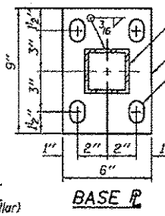
A. When railing is galvanized:
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

B. When railing is painted:
All post, railing, splices, anchor devices, and bent plates shall be painted using the (List the appropriate paint system for Structural Steel).

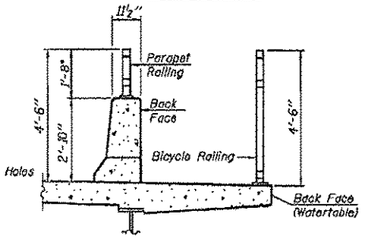
Only one of the above notes would appear on Contract Plans.



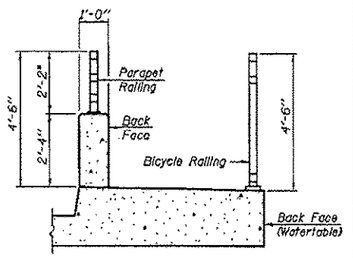
SECTION A-A



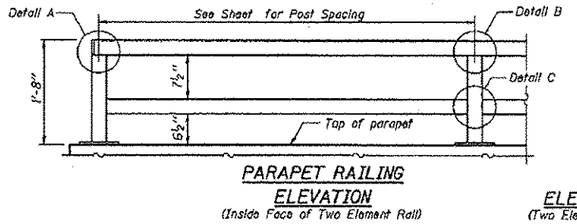
BASE ℄



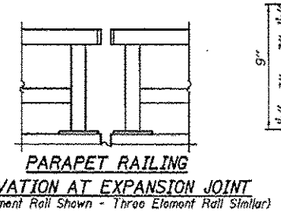
SECTION THRU DECK



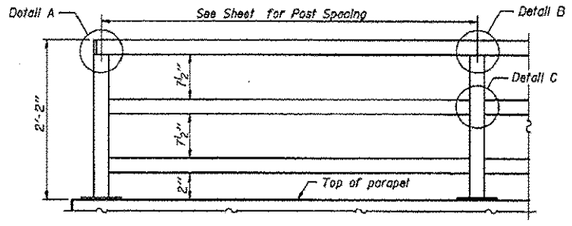
SECTION THRU SIDEWALK



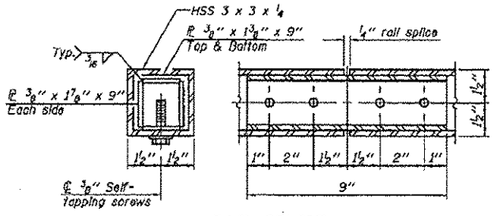
PARAPET RAILING ELEVATION
(Inside Face of Two Element Rail)



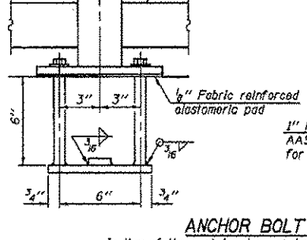
PARAPET RAILING ELEVATION AT EXPANSION JOINT
(Two Element Rail Shown - Three Element Rail Similar)

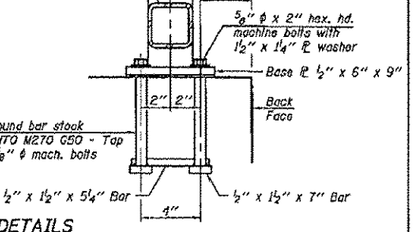


PARAPET RAILING ELEVATION
(Inside Face of Three Element Rail)



RAIL SPLICE





ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting ⅝" ϕ anchor rods according to Article 509.05 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Bicycle Railing	Foot	20
Parapet Railing	Foot	

R-29 1-12-15 (10'-0" Maximum Post Spacing)

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BICYCLE RAILING
STRUCTURE NO.

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

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

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

McClure Engineering Associates, Inc.
7282 Argus Drive Rockford, Illinois 61107-5837
(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000818

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:
CHANNEL DETAILS NO.4

JOB NUMBER:
11-128

SHEET NUMBER:
476 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 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

SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS	9	8.4			3.0	730.1	FILL - Black SANDY LOAM (sandy topsoil), little gravel and concrete rubble, trace organic, slightly moist (A-4) (SM/OL)
2	SS	9	20.1	4.5+*	100	5.5	727.6	Hard dark brown CLAY LOAM (topsoil), trace organic, slightly moist (A-7-6) (OL)
3	SS	6	17.6			8.0	725.1	Loose dark brown SANDY LOAM, trace organic, very moist (A-6) (SC/OL)
4	SS	5	18.1			10.5	722.6	Loose reddish-brown LOAM, occasional sand seams, very moist (A-4) (SM/ML)
5	SS	7	7.9					Loose tan medium to fine SAND, moist (A-2-4) (SP-SM)
6	SS	8	12.0			15.5	717.6	
7	SS	10	9.5					Firm tan fine SANDY LOAM, very moist to wet (A-2-4) (SM)
8	SS	13	8.4					Driller's Note: became wet at 28.0 feet.
9	SS	12	8.5					
10	SS	12	28.0					
11	SS	11	14.2					
12	SS	12				32.0	701.1	
13	SS	8						Loose brown medium to fine SAND, wet (A-2-4) (SP)

DISTANCE BELOW SURFACE IN FEET

End of Boring at 60.0'

DRILL RIG NO. 334

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC_SOB 7656K.GPJ TSC_ALL.GDT 12/5/13

Page 1 of 2

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

SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
						37.0	696.1	Loose brown medium to fine SAND, wet (A-2-4) (SP)
14	SS	13						Firm brown coarse to fine SAND, trace gravel, wet (A-1-b) (SP-SM)
15	SS	16				47.0	686.1	
16	SS	21						Firm brown medium to fine SAND, trace gravel, wet (A-2-4) (SP-SM)
17	SS	24				52.0	681.1	Firm yellow-brown SAND and GRAVEL, wet (A-1-b) (SP-SM/GP-GM)
18	SS	36	17.6	2.0-4.5*				Driller's Note: Hard drilling encountered from 52.0 to 58.0 feet.
						58.0	675.1	Very tough to hard gray SILTY CLAY, occasional silt seams, moist (A-6) (CL)

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

End of Boring at 60.0'

DRILL RIG NO. 334

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC_SOB 7656K.GPJ TSC_ALL.GDT 12/5/13

Page 2 of 2

BORING LOCATION TABLE

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

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

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7282 Argus Drive Rockford, Illinois 61107-5637
(815) 398-2332 FAX (815) 398-2486
Design Firm License: Illinois 184-000816

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. 1

JOB NUMBER:
11-128

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
GROUND SURFACE 733.3
END OF BORING 678.3
WATER LEVEL OBSERVATIONS
▼ WHILE DRILLING Dry to 6'
▽ AT END OF BORING N/A - Wash Boring
▼ 24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.3	733.0	Bituminous Concrete
							1.2	732.1	Crushed Stone Base
1	SS		5	21.3	0.5*				FILL - Black CLAY LOAM (topsoil), trace organic, very moist (A-6) (OL)
							3.0	730.3	
2	SS		8	23.8	2.5*				Very tough black SILTY CLAY LOAM (topsoil), trace organic, moist (A-7-6) (OL)
3	SS		10	26.6	3.75*				
							6.0	725.3	
A 4 B	SS		8	15.4 6.8			9.5	723.8	Loose brown SANDY CLAY LOAM, very moist (A-4) (SC-SM)
5	SS		4	19.0					Loose brown medium to fine SANDY LOAM, moist to wet (A-2-4) (SM)
									Driller's Note: became wet at 13.0 feet.
A 6 B	SS		4				14.5	718.8	
							15.5	717.8	Loose brown to tan medium to fine SANDY LOAM, wet (A-2-4) (SM)
7	SS		10						Firm tan fine SANDY LOAM, wet (A-2-4) (SM)
8	SS		11						
							20.5	712.8	
9	SS		11						Firm tan fine SANDY LOAM, numerous silt seams, wet (A-4) (SM/ML)
							23.0	710.3	
10	SS		11						Firm tan fine SANDY LOAM, wet (A-2-4) (SM)
11	SS		14						
							28.0	705.3	
12	SS		19						Firm brown medium to fine SAND, trace gravel, wet (A-1-b) (SP-SM)
							32.0	701.3	
13	SS		22						Firm brown medium to fine SAND, wet (A-3) (SP)
									End of Boring at 55.0'

DISTANCE BELOW SURFACE IN FEET
TSC_FOR 76396.GPJ TSC_ALL.GDT 12/9/13
DRILL RIG NO. 334
Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.
Page 1 of 2

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
GROUND SURFACE 733.3
END OF BORING 678.3
WATER LEVEL OBSERVATIONS
▼ WHILE DRILLING Dry to 6'
▽ AT END OF BORING N/A - Wash Boring
▼ 24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
14	SS		22						Firm brown medium to fine SAND, wet (A-3) (SP)
							42.0	691.3	
15	SS		25						Firm brown SAND, trace gravel, wet (A-1-b) (SP-SM)
16	SS		20				52.0	681.3	
17	SS		67						Very dense tan fine SANDY LOAM, wet (A-2-4) (SM)
									End of Boring at 55.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET
TSC_FOR 76396.GPJ TSC_ALL.GDT 12/9/13
DRILL RIG NO. 334
Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.
Page 2 of 2

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

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

McClure Engineering Associates, Inc.
7282 Argus Drive Rockford, Illinois 61107-5837
(815) 398-2332 FAX (815) 398-2486
Design Firm License: Illinois 184-000616

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. 2

JOB NUMBER:
11-128

SHEET NUMBER:
478 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 3 DATE STARTED 9-30-13 DATE COMPLETED 9-30-13 JOB L-76,396

ELEVATIONS
GROUND SURFACE 733.1
END OF BORING 688.1

WATER LEVEL OBSERVATIONS
▽ WHILE DRILLING 18.0'
▽ AT END OF BORING 18.0'
▼ 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γDRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.2	732.9	Bituminous Concrete
							1.0	732.1	Crushed Stone Base
	1	SS	9	18.7	2.25*	107			FILL - Black and brown CLAY LOAM, trace organic, occasional gravel, moist (A-6) (CL/OL)
	2	SS	7	41.6	1.0*		3.0	730.1	
	3	SS	8	22.7	1.5*				Tough black SILTY CLAY LOAM (clayey topsoil), trace organic, very moist (A-7-6) (OL)
							8.0	725.1	
	A 4 B	SS	9	15.9 0.3	0.93B 0.75*		9.5	723.0	Stiff dark brown CLAY LOAM, trace organic, very moist (A-4) (CL-ML)
							10.5	722.6	Loose brown fine SANDY LOAM, trace organic, moist (A-4) (SM)
	5	SS	4	15.0					Loose dark brown medium to fine SANDY LOAM, trace organic, very moist (A-4) (SM)
	6	SS	4	17.7					
							15.5	717.6	
	7	SS	3	20.4					▼ Very loose brown medium to fine SANDY LOAM, trace organic, very moist to wet (A-4) (SM)
	8	SS	2						
	9	SS	2						
	10	SS	2				23.0	710.1	Very loose brown medium to fine SANDY LOAM, wet (A-2-4) (SM)
	11	SS	6				25.5	707.6	Loose brown medium to fine SAND, wet (A-2-4) (SM)
	12	SS	6						
							32.0	701.1	Very loose to firm brown medium to fine SAND, trace gravel, wet (A-1-b) (SP-SM)
	13	SS	2						

DISTANCE BELOW SURFACE IN FEET

TSC_EGR 76596.GPJ TSC_ALLGDT 12/9/13

DRILL RIG NO. 334

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 45.0'

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
GROUND SURFACE 733.1
END OF BORING 688.1

WATER LEVEL OBSERVATIONS
▽ WHILE DRILLING 18.0'
▽ AT END OF BORING 18.0'
▼ 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γDRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	14	SS	10				42.0	691.1	Very loose to firm brown medium to fine SAND, trace gravel, wet (A-1-b) (SP-SM)
	15	SS	22						Firm tan SAND, trace gravel, wet (A-1-b) (SP)

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

B = Bulge-type failure

DISTANCE BELOW SURFACE IN FEET

TSC_EGR 76596.GPJ TSC_ALLGDT 12/9/13

DRILL RIG NO. 334

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 45.0'

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

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
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(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000816

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-76,396
ELEVATIONS
GROUND SURFACE 734.6
END OF BORING 714.6
WATER LEVEL OBSERVATIONS
▼ WHILE DRILLING Dry
▽ AT END OF BORING Dry
▼ 24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							1.1	733.5	FILL - Black SILTY CLAY LOAM (topsoil), trace organic (A-7-6) (OL)
1	SS		12	6.5			3.0	731.6	FILL - Dark brown LOAM (sandy topsoil), trace organic, slightly moist (A-7-6) (OL)
2	SS		7	23.2	4.5+*		5.5	729.1	FILL - Black SILTY CLAY LOAM (topsoil), trace organic, slightly moist (A-7-6) (OL)
3	SS		7	11.4			8.0	726.6	Loose dark brown SANDY CLAY LOAM, trace organic, moist (A-4) (SC-SM/OL)
4	SS		8	2.7					Very loose to loose brown medium to fine SANDY LOAM, occasional Cobbles, moist (A-2-4) (SM)
5	SS		2	2.9			13.0	721.6	
6	SS		6	3.9					Loose tan medium to fine SAND, moist (A-2-4) (SP-SM)
7	SS		5	3.2					
8	SS		8	3.2					

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 20.0'

DRILL RIG NO. 334

TSC_FOR 76398.GPJ TSC_ALL.GDT 12/5/13

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-76,396
ELEVATIONS
GROUND SURFACE 733.1
END OF BORING 713.1
WATER LEVEL OBSERVATIONS
▼ WHILE DRILLING Dry
▽ AT END OF BORING Dry
▼ 24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.2	732.9	Bituminous Concrete
							0.6	732.5	Crushed Stone Base
1	SS		6	16.8	4.5+*		3.0	730.1	FILL - Black and brown CLAY LOAM, trace organic, moist (A-6) (CL/OL)
2	SS		7	21.2	1.0*		5.5	727.6	Stiff dark brown CLAY LOAM, trace organic, very moist (A-6) (CL/OL)
A 3 B	SS		7	17.5 4.5	0.75*		7.2	725.9	Stiff brown CLAY LOAM, moist (A-6) (CL/OL)
4	SS		10	4.8			10.5	722.6	Loose to firm tan fine SAND, moist (A-3) (SP-SM)
6	SS		14	3.3			13.0	720.1	Firm tan medium to fine SAND, moist (A-2-4) (SP-SM)
8	SS		16	5.1					Loose to firm tan fine SAND, moist (A-2-4) (SM)
7	SS		9	3.6					
8	SS		9	4.1					

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 20.0'

DRILL RIG NO. 334

TSC_SOIL 76398.GPJ TSC_ALL.GDT 12/5/13

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

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
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Design Firm License: Illinois 184-000816

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

SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γDRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS	28	4.2			3.0	731.8	FILL - Dark brown SANDY CLAY LOAM with pieces of concrete rubble, trace organic, slighty moist (A-4) (SC-SM)
2	SS	6	18.3	4.0*	108			FILL - Black CLAY LOAM and SANDY CLAY LOAM layers (topsoil), trace organic, moist (A-6) (OL)
3	SS	6	16.0	2.25*		8.0	726.8	
4	SS	10	22.5	2.74B 2.5*		10.5	724.3	Very tough brown SILTY CLAY LOAM, occasional sand seams, moist (A-7-6) (CL)
5	SS	3	4.5					Very loose brown medium to fine SANDY LOAM, slightly moist (A-2-4) (SM)
6	SS	2	5.1			15.5	719.3	
7	SS	2	4.5					Very loose tan medium to fine SANDY LOAM, slightly moist to moist (A-2-4) (SM)
8	SS	1	6.5					

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

B = Bulge-type failure

DISTANCE BELOW SURFACE IN FEET

DRILL RIG NO. 334

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 20.0'

TSC_EOB 76396.GPJ TSC_ALLGDT 12/5/13

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

SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γDRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS	9	7.1	2.25*		3.0	732.8	FILL - Dark brown SANDY LOAM (sandy topsoil), trace organic, slighity moist (A-4) (SC-SM/OL)
2	SS	10	16.8	2.0*		5.5	730.3	FILL - Black and brown CLAY LOAM, trace organic and shells, moist (A-6) (CL/OL)
3	SS	4	10.9	1.25*		8.0	727.8	Tough dark brown CLAY LOAM, trace organic, very moist (A-4) (CL-ML/OL)
4	SS	4	4.6			10.5	725.3	Loose brown and reddish-brown fine SANDY LOAM, moist (A-2-4) (SM)
5	SS	7	12.0			13.0	722.8	Loose tan fine SANDY LOAM, moist (A-4) (SM)
6	SS	9	3.8			15.5	720.3	Loose tan fine SAND, moist (A-3) (SP-SM)
7	SS	13	6.3			18.0	717.8	Firm tan fine SANDY LOAM, moist (A-4) (SM)
A 8 B	SS	8	17.3 8.6			19.0	716.8	Loose tan SILTY LOAM, very moist (A-4) (ML)
								Loose tan fine SANDY LOAM, very moist (A-2-4) (SM)

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

DRILL RIG NO. 334

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 20.0'

TSC_EOB 76396.GPJ TSC_ALLGDT 12/5/13

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

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
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McClure Engineering Associates, Inc.
7262 Argus Drive Rockford, Illinois 61107-5637
(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000816

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 716.0

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

SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS	20	8.3	2.5*		3.0	733.0	FILL - Black and brown SANDY CLAY LOAM, trace organic, slightly moist (A-4) (SC-SM/OL)
2	SS	9	26.1	3.0*		5.5	730.5	Very tough black and brown CLAY LOAM, trace organic and shells, moist (A-7-6) (CL/OL)
3	SS	5	10.1			8.0	728.0	Loose dark brown medium to fine SANDY LOAM, trace organic, moist (A-4) (SC-SM)
4	SS	5	8.9			10.5	725.5	Loose reddish-brown fine SANDY LOAM, moist (A-2-4) (SM)
5	SS	4	19.7			13.0	723.0	Loose tan fine SANDY LOAM, moist (A-4) (SM)
6	SS	5	4.8					
7	SS	6	6.9					Loose tan fine SAND, moist (A-2-4) (SM)
8	SS	8	7.8					

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

DRILL RIG NO. 334

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 20.0'

TSC_EOB 76396.GPJ TSC_ALLGDT 12/5/13

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

SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
						0.9	733.8	7" P. C. Concrete
A 1 B	SS	15	6.2 6.1			2.0	732.5	FILL - Brown SANDY LOAM, some gravel, moist (A-2-4) (SM)
						3.0	731.5	FILL - Dark gray and brown medium to fine SANDY LOAM, trace organic (A-4) (SM)
2	SS	11	20.8					Firm tan SILTY LOAM and fine SANDY LOAM layers, very moist (A-4) (ML/SM)
3	SS	10	16.9					
4	SS	13				8.0	726.5	Firm tan medium to fine SANDY LOAM, occasional clay seams, wet (A-4) (SM)
						10.5	724.0	Driller's Note: became wet at 8.0 feet.
5	SS	9	22.3	1.75*		13.0	721.5	Tough pinkish-brown silty CLAY, trace gravel, occasional sand seams, moist (A-7-6) (CL)
A 6 B	SS	9	12.3	0.75*		14.0	720.5	Loose brown SANDY LOAM, wet (A-2-4) (SM)
						15.5	719.0	Stiff brown SILTY CLAY LOAM, occasional sand seams, very moist (A-6) (CL)
A 7 B	SS	20	25.3 5.8	0.75*		17.0	717.5	Stiff brown SILTY CLAY, occasional sand seams, very moist (A-7-6) (CL)
						18.0	716.5	Firm brown SAND, trace gravel, moist (A-2-4) (SM)
A 8 B	SS	26				19.0	715.5	Firm brown SANDY CLAY LOAM, some gravel, wet (A-2-4) (SM)
						20.5	714.0	Firm brown medium to fine SANDY LOAM, trace gravel, wet (A-2-4) (SM)
9	SS	23	15.8	0.75*				Firm brown SILTY LOAM, some gravel, very moist (A-4) (CL-ML)
10	SS	38				23.0	711.5	
11	SS	38						Dense brown SAND and GRAVEL, occasional silt seams, wet (A-1-b) (SM/GM)
12	SS	70				28.0	706.5	
								Very dense brown SAND and GRAVEL, occasional Cobbles, wet (A-1-b) (SM/GM)
13	SS	58				32.0	701.5	Very dense brown SANDY LOAM, little gravel, occasional Cobbles, wet (A-2-4) (SM)

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

DRILL RIG NO. 334

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 35.0'

TSC_EOB 76396.GPJ TSC_ALLGDT 12/5/13

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

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
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Design Firm License: Illinois 184-000615

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
GROUND SURFACE 738.9
END OF BORING 704.5

WATER LEVEL OBSERVATIONS
▽ WHILE DRILLING Dry to 5'
▽ AT END OF BORING N/A - Wash Boring
▼ 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.5	738.4	P. C. Concrete
	A 1 B	SS	11	17.6 11.5	2.0*		2.0	736.9	FILL - Black and brown CLAY LOAM (topsoil), trace organic, moist (A-6) (OL)
	A 2 B	SS	4	11.8 13.5			4.5	734.4	FILL - Dark brown SANDY LOAM, trace gravel and organic, very moist (A-4) (SM)
	3	SS	4				6.0	732.9	Loose brown medium to fine SANDY LOMA, very moist to wet (A-4) (SM) Driller's Note: Became wet at 6.0 feet.
	A 4 B	SS	8				9.0	729.9	Loose brown SILTY LOAM, wet (A-4) (ML)
	5	SS	13				13.0	725.9	Firm brown medium to fine SANDY LOAM, wet (A-2-4) (SM)
	6	SS	14				15.5	723.4	Firm tan SILTY LOAM and SANDY LOAM layers, wet (A-4) (ML/SM)
	7	SS	20				18.0	720.9	Firm brown SAND, trace gravel, wet (A-1-b) (SP-SM)
	A 8 B	SS	30	25.2	1.25*		19.0	719.9	Tough tan SILTY CLAY LOAM, very moist (A-7-6) (CL)
	9	SS	21				20.5	718.4	Dense tan SANDY LOAM, some gravel, wet (A-1-b) (SM)
	10	SS	56				23.0	715.9	Firm brown SAND and clayey SAND layers, wet (A-2-4/A-4)
	11	SS	50/5"				32.0	706.9	Very dense brown SAND and GRAVEL, occasional Cobbles, wet (A-1-a) (SWGW)
	12	SS	50/6"						
	13	SS	50/5"						Very dense brown SAND and GRAVEL, occasional Cobbles, wet (A-1-b) (SM/GM)

DISTANCE BELOW SURFACE IN FEET

End of Boring at 34.4'

DRILL RIG NO. 334

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

Page 1 of 2

TSC_SOB 7636.GPJ TSC_ALLGDT 12/5/13

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
GROUND SURFACE 738.9
END OF BORING 704.5

WATER LEVEL OBSERVATIONS
▽ WHILE DRILLING Dry to 6'
▽ AT END OF BORING N/A - Wash Boring
▼ 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
									* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

End of Boring at 34.4'

DRILL RIG NO. 334

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

Page 2 of 2

TSC_SOB 7636.GPJ TSC_ALLGDT 12/5/13

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

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

McClure Engineering Associates, Inc.
7262 Argus Drive Rockford, Illinois 61107-5637
(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000816

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. 11

JOB NUMBER:
11-128

SHEET NUMBER:
483 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 12 DATE STARTED 10-1-13 DATE COMPLETED 10-1-13 JOB L-76,396

ELEVATIONS
GROUND SURFACE 734.6
END OF BORING 679.6

WATER LEVEL OBSERVATIONS
▼ WHILE DRILLING Dry to 6'
▽ AT END OF BORING N/A - Wash Boring
▼ 24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS		8	12.2	4.5+*	112	3.0	731.6	FILL - Black SILTY CLAY LOAM (sandy topsoil), trace organic, moist (A-6) (OL)
2	SS		3	11.7	0.75*		5.5	729.1	Very loose dark brown SANDY CLAY LOAM, trace organic, very moist (A-4) (SC-SM)
3	SS		4	15.2	1.0*		8.0	726.6	Stiff brown and dark brown CLAY LOAM, trace organic, very moist (A-4) (CL-ML)
4	SS		7				10.5	724.1	Loose brown medium to fine SANDY LOAM, wet (A-2-4) (SM)
5	SS		5				13.0	721.6	Driller's Note: Became wet at 8.0 feet.
6	SS		4				18.0	716.6	Loose brown medium to fine SAND, wet (A-2-4) (SM)
7	SS		5				23.0	711.6	Loose brown medium to fine SANDY LOAM, wet (A-2-4) (SM)
8	SS		3				26.0	708.6	Very loose to loose brown and tan fine SANDY LOAM and SILTY LOAM layers, wet (A-4) (SM/ML)
9	SS		7				32.0	702.6	Firm tan fine SANDY LOAM, wet (A-2-4) (SM)
10	SS		12						Firm brown medium to fine SANDY LOAM, wet (A-2-4) (SM)
11	SS		13						Firm brown medium to fine SAND, wet (A-2-4) (SP-SM/SM)
12	SS		12						End of Boring at 55.0'
13	SS		16						

DISTANCE BELOW SURFACE IN FEET: 0, 5, 10, 15, 20, 25, 30, 35

DRILL RIG NO. 334

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

Page 1 of 2

TSC_EOB 76396.GPJ TSC_ALL.GDT 12/9/13

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
GROUND SURFACE 734.6
END OF BORING 679.6

WATER LEVEL OBSERVATIONS
▼ WHILE DRILLING Dry to 6'
▽ AT END OF BORING N/A - Wash Boring
▼ 24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
14	SS		17				42.0	692.6	Firm brown medium to fine SAND, wet (A-2-4) (SP-SM/SM)
15	SS		21				47.0	687.6	Firm brown coarse to fine SAND, trace gravel, wet (A-1-b) (SM)
16	SS		38						Dense to very dense gray and brown coarse to fine SAND, some gravel, occasional limestone fragments/cobbles/boulders noted, wet (A-1-b) (SM)
17	SS		59						Driller's Note: Hard drilling encountered from 47 to 55 feet (possible weathered rock).
									* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET: 35, 40, 45, 50, 55, 60, 65, 70

DRILL RIG NO. 334

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 55.0'

Page 2 of 2

TSC_EOB 76396.GPJ TSC_ALL.GDT 12/9/13

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

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

McClure Engineering Associates, Inc.
7282 Argus Drive Rockford, Illinois 61107-5837
(815) 398-2332 FAX (815) 398-2486
Design Firm License: Illinois 184-000816

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

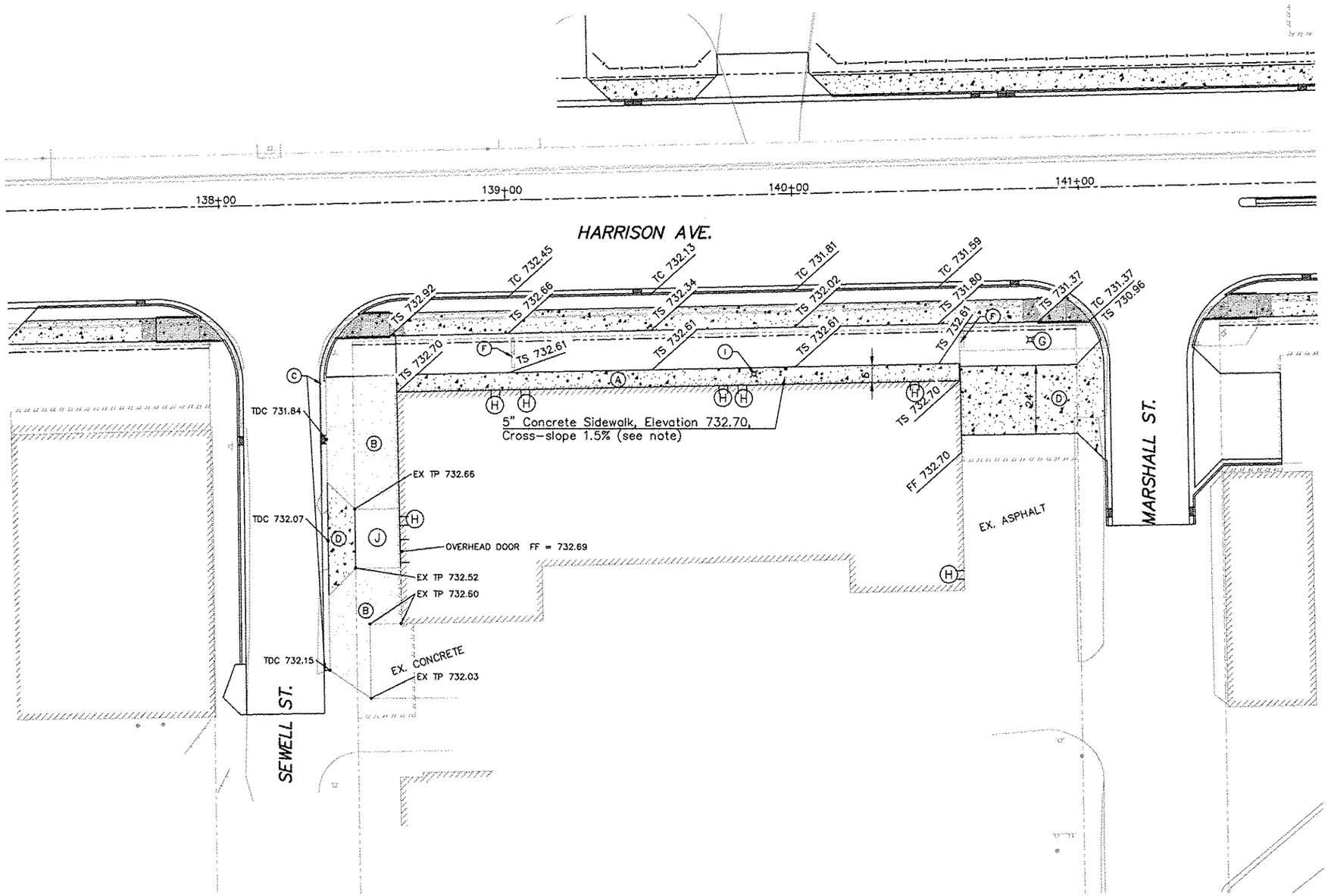
DRAWING:
SOIL BORINGS:
SOIL BORING NO. 12

JOB NUMBER:
11-128

SHEET NUMBER:
484 of 588

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

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



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 B-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

FEHR GRAHAM
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Design Firm License: Illinois 184-000816

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:

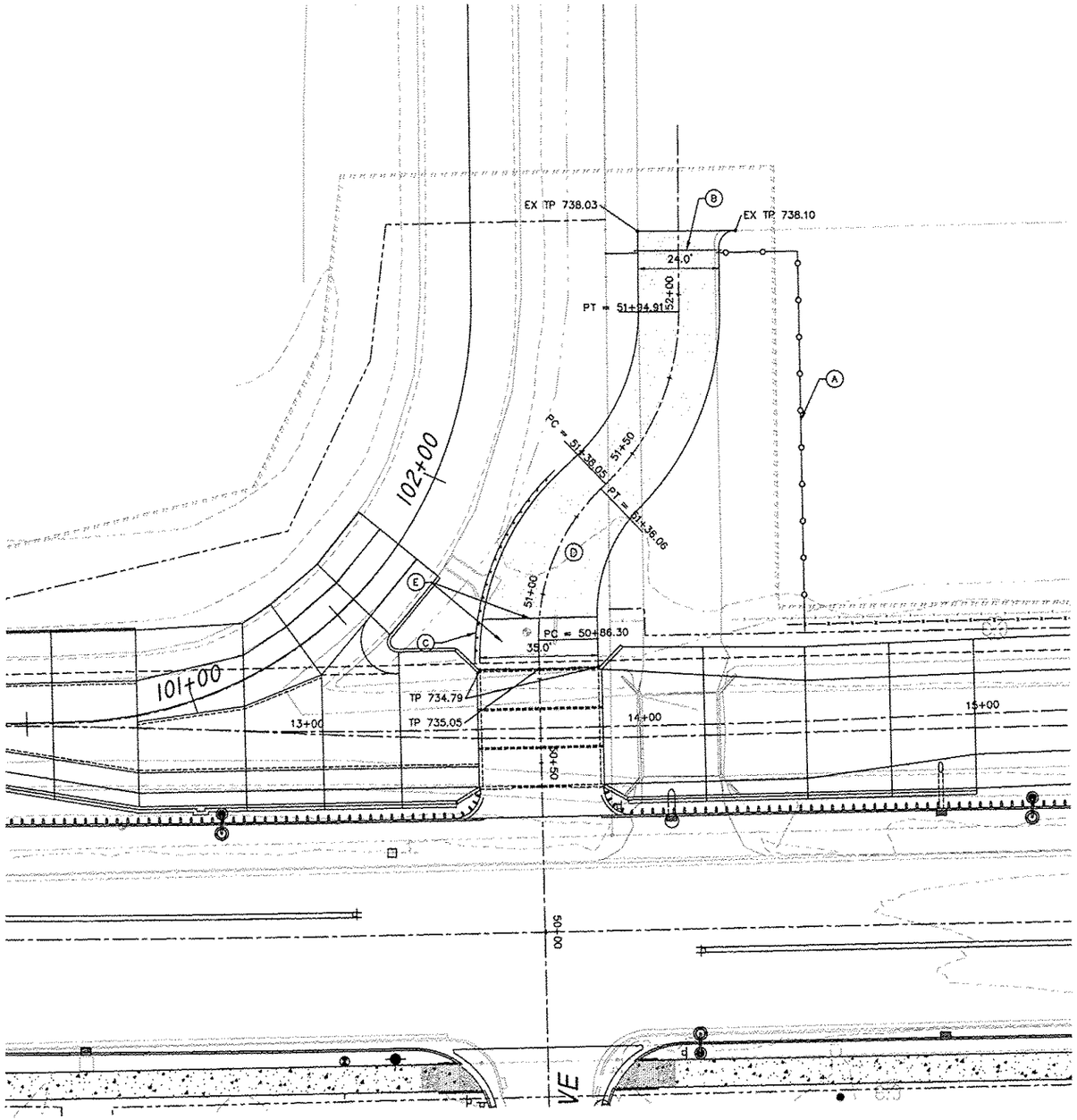
REVISIONS		
REV. NO.	DESCRIPTION	DATE

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



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, B6.18
- BOUNDARY LINE
- 4" HOT-MIX ASPHALT PAVEMENT ON 12" AGGREGATE BASE
- TEMPORARY EASEMENT

SCALE:

PLAN: 1"= 20'

0 20 40

Scale in Feet

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

ILLINOIS
IOWA
WISCONSIN

McClure Engineering Associates, Inc.
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(815) 398-2032 FAX (815) 398-2496
Design Firm License: Illinois 184-000816

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:

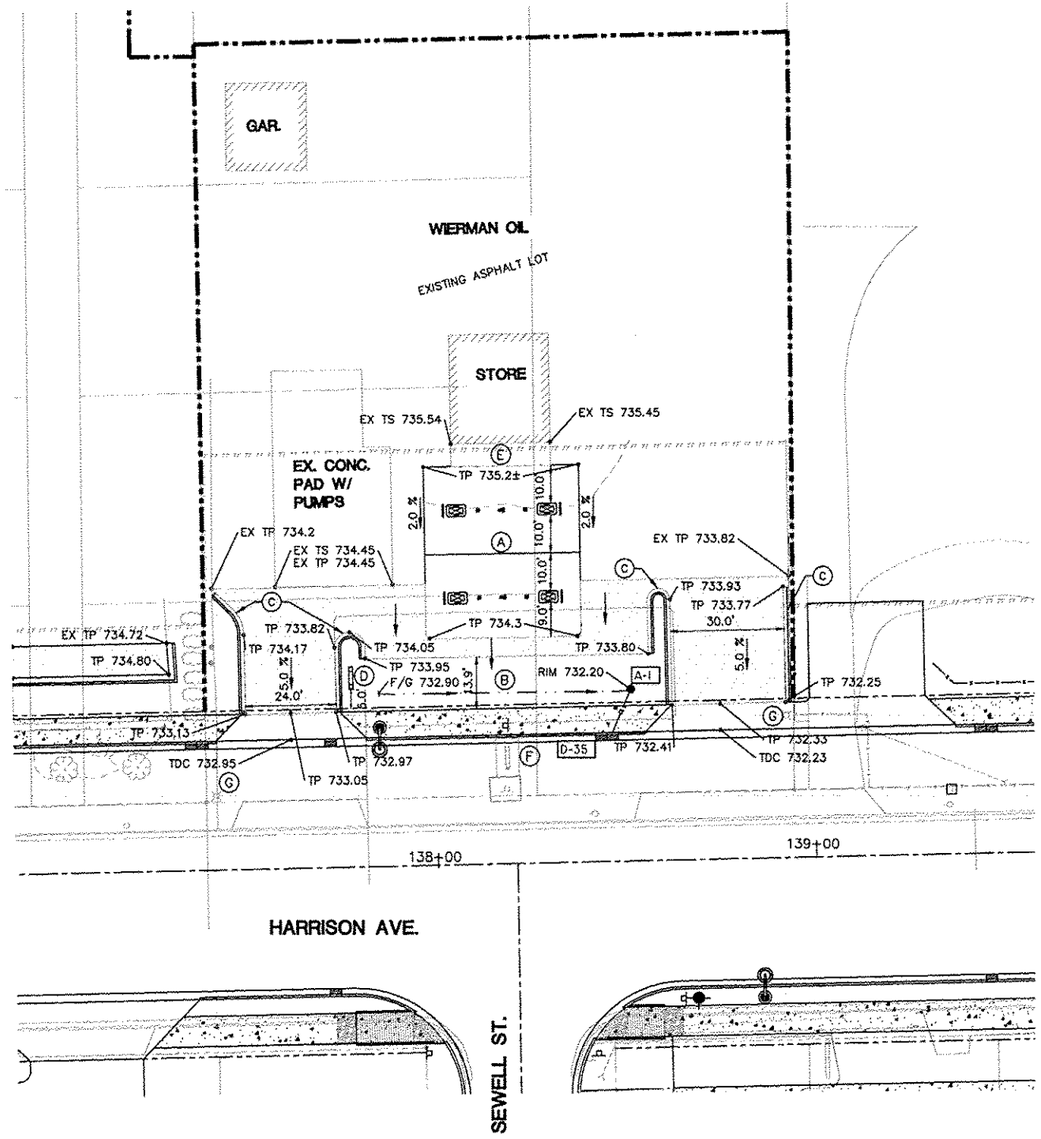
REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
RL LEEK ENTRANCE SITE PLAN

JOB NUMBER:
13-1070

SHEET NUMBER:
486 of 588



SITE LEGEND

- (A) NEW CONCRETE PAD W/ NEW PUMPS AND CANOPY(BY OTHERS UNDER SEPARATE CONTRACT)
- (B) LANDSCAPED AREA WITH SHRUBS AND DRAINAGE AREA SWALE
- (C) PROPOSED CURB AND GUTTER B-6.12
- (D) RELOCATED PYLON SIGN (BY OTHERS UNDER SEPARATE CONTRACT)
- (E) EXISTING CONCRETE SIDEWALK
- (F) REMOVE CONCRETE FOUNDATION; EXISITNG PYLON SIGN REMOVED BY OTHERS UNDER SEPARATE CONTRACT
- (G) REMOVE CONCRETE FOUNDATION; SALVAGE EXISTING LIGHTING FIXTURE. COORDINATE REMOVAL OF EXISTING UNDERGROUND ELECTRICAL WIRING AND CONDUIT.

SCALE:

PLAN: 1"= 20'

0 20 40

Scale in Feet

LEGEND

- PROPOSED CONCRETE CURB AND GUTTER, B6.12
- BOUNDARY LINE
- ASPHALTIC CONCRETE PAVEMENT
- TEMPORARY EASEMENT

PROPOSED STRUCTURES

A-1 INLET
INLET TYPE A
STA 138+52 45.4'LT
TYPE 8 FRAME & OPEN LID
RIM = 732.20
I.E. = 729.13 OUT 12"

D-35 DOUBLE INLET SPECIAL
STA 138+45.22 34.08' LT
TBC EL = 732.79
INV = 729.00 IN 12"
INV. = 728.90 OUT 12"

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ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
WISCONSIN

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

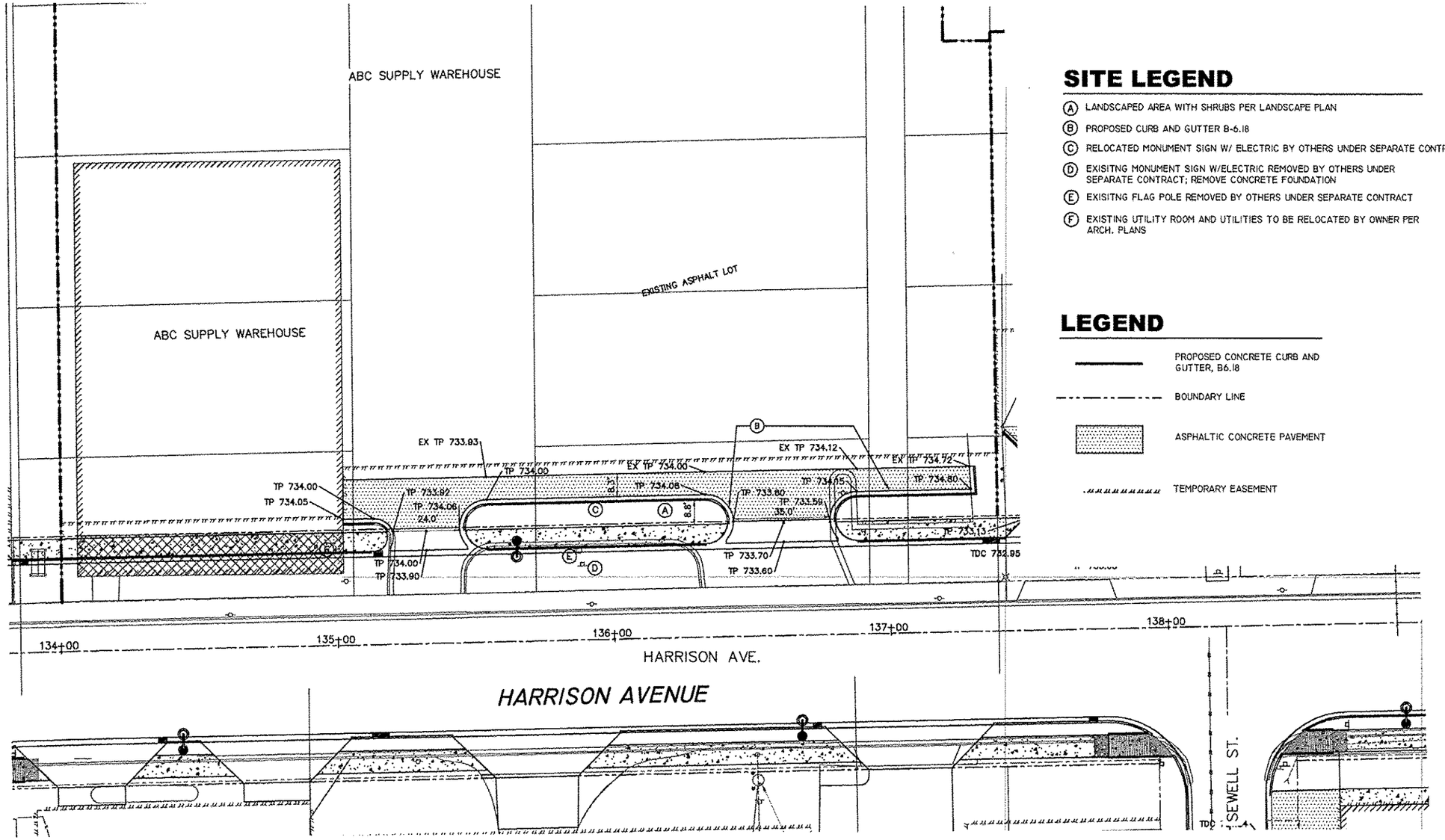
REV. NO.	DESCRIPTION	DATE

DRAWING:
WIERMAN OIL SITE PLAN

JOB NUMBER:
13-1070

SHEET NUMBER:
487 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) EXISITNG MONUMENT SIGN W/ELECTRIC REMOVED BY OTHERS UNDER SEPARATE CONTRACT; REMOVE CONCRETE FOUNDATION
- (E) EXISITNG FLAG POLE REMOVED BY OTHERS UNDER SEPARATE CONTRACT
- (F) EXISTING UTILITY ROOM AND UTILITIES TO BE RELOCATED BY OWNER PER ARCH. PLANS

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

LEGEND

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

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

McClure Engineering Associates, Inc.
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(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000816

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

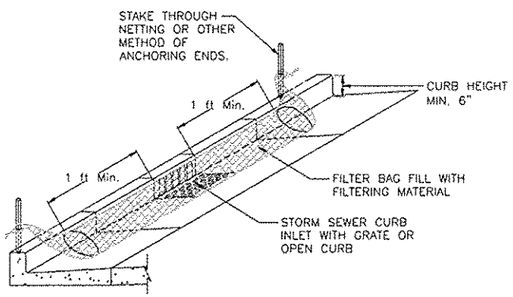
DRAWING:
ABC SUPPLY SITE PLAN

JOB NUMBER:
13-1070

SHEET NUMBER:
488 of 588

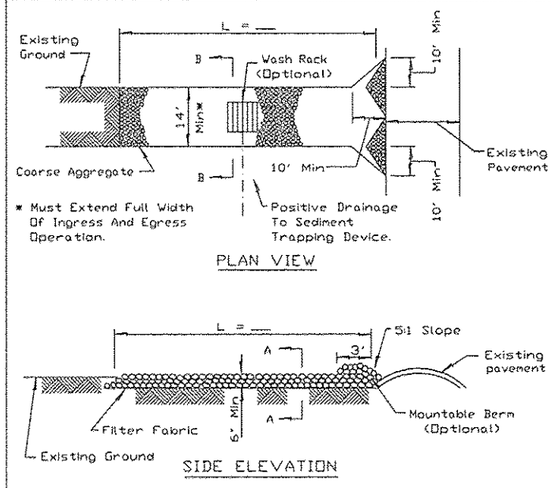
F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612

INLET PROTECTION – PAVED AREAS CURB PROTECTION



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

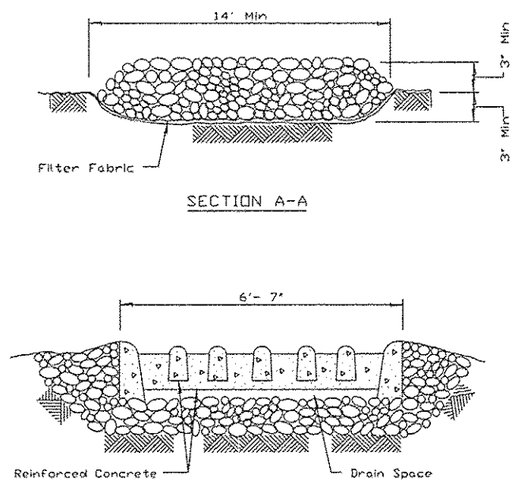
STABILIZED CONSTRUCTION ENTRANCE PLAN



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.

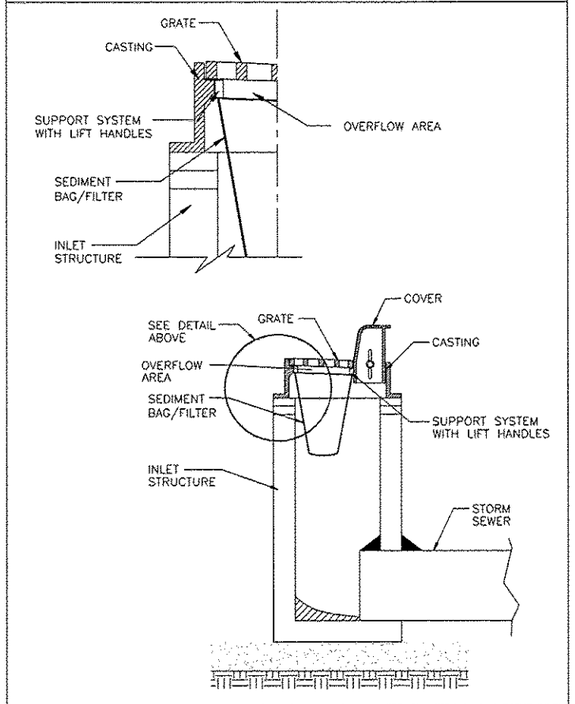
REFERENCE		STANDARD DWG. NO.
Project	NRCS Natural Resources Conservation Service	IL-630
Designed ____ Date ____		SHEET 1 OF 2
Checked ____ Date ____		DATE 8-10-94
Approved ____ Date ____		

STABILIZED CONSTRUCTION ENTRANCE PLAN



REFERENCE		STANDARD DWG. NO.
Project	NRCS Natural Resources Conservation Service	IL-630
Designed ____ Date ____		SHEET 2 OF 2
Checked ____ Date ____		DATE 8-10-94
Approved ____ Date ____		

INLET PROTECTION – PAVED AREAS DROP-IN PROTECTION



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

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

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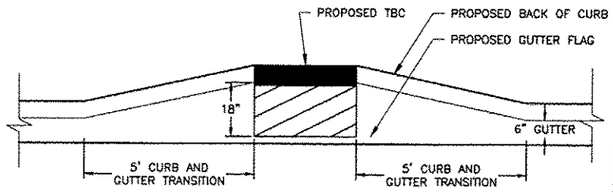
JOB NUMBER:
13-1070

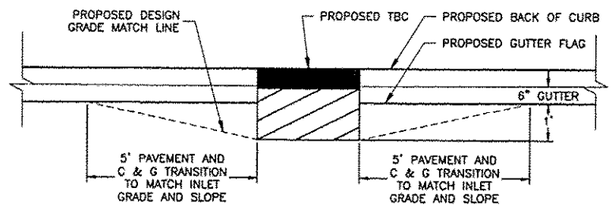
SHEET NUMBER:
489 of 588

PLOT DATE: 6/20/15

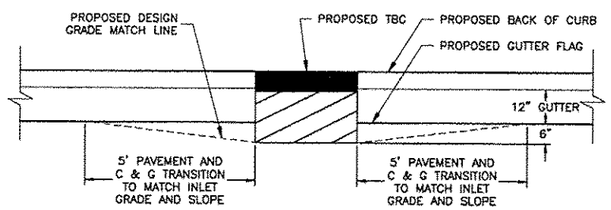
F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



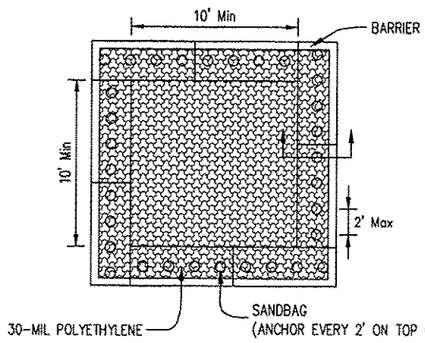
DETAIL OF CURB AND GUTTER FOR
INLET ON 20th STREET AT STATION 1006+16.00, 6.58' LT
N.T.S.



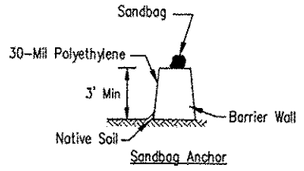
DETAIL OF PAVEMENT TRANSITION AREA
FOR INLET ON HARRISON AT STATION 122+50.00, 5.50' LT
N.T.S.



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

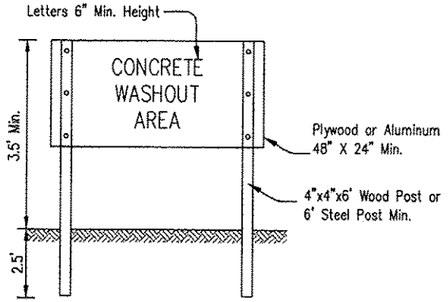


PLAN VIEW



Sandbag Anchor

BARRIER WALL ANCHOR SECTION



SIGN DETAIL

NOTES:

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

Sheet 3 of 3	TEMPORARY CONCRETE WASHOUT FACILITY – BARRIER WALL	Designed — Date Drawn B. JOHNSON 6/08

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

PLOT DATE: 7/14/15

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

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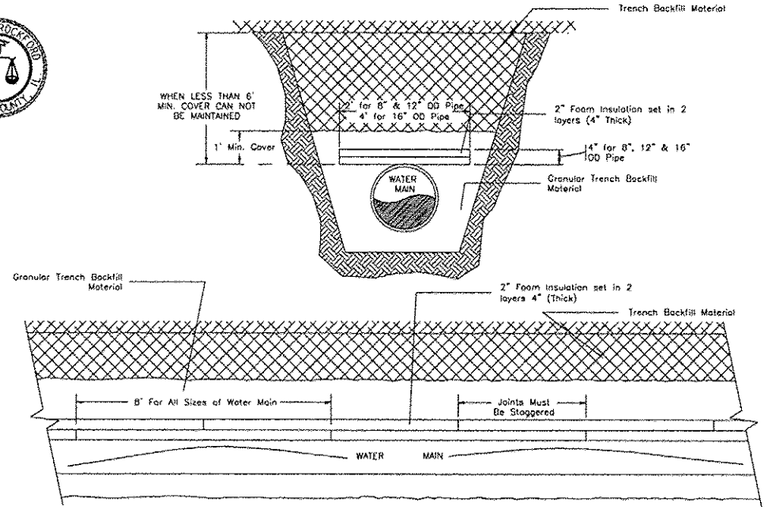
JOB NUMBER:
13-1070

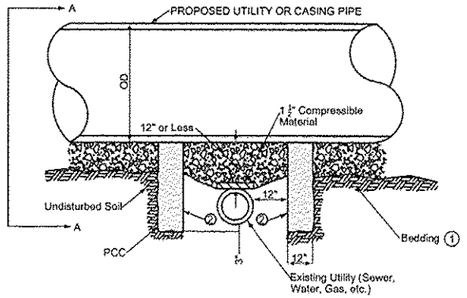
SHEET NUMBER:
490 of 588

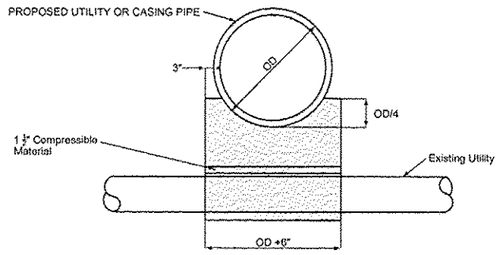
F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612



(USE MUST BE APPROVED BY THE ENGINEER)

WATER MAIN INSULATION DETAIL
N.T.S.





SECTION A-A

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.

(1) COMPLY WITH FIGURE 3010.101.

(2) FORM INTERIOR SURFACE OF FOOTINGS. KEEP THE 12 INCH UTILITY CLEAR ZONE FREE OF CONCRETE.

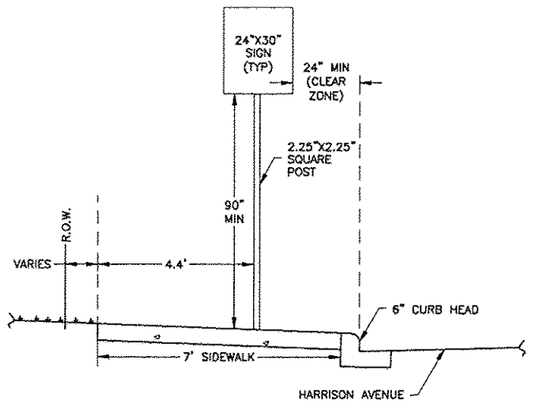
OD = Outside pipe diameter

NOTE:

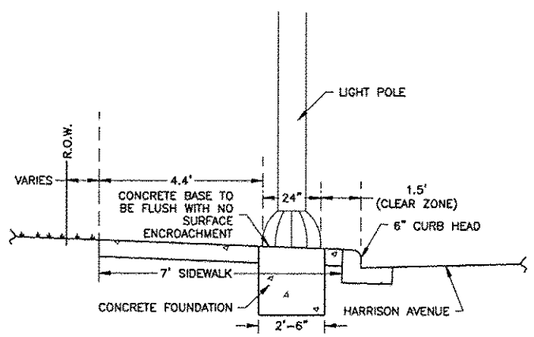
WHEN MINIMUM SEPARATION REQUIREMENTS ARE NOT MET, PROPOSED UTILITIES CROSSING OVER EXISTING UTILITIES MUST BE SUPPORTED. AT NO TIME SHALL CROSSING UTILITIES REST DIRECTLY ON ONE ANOTHER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE PROPOSED UTILITY OR CROSSING PIPE.

PIPE SUPPORT DETAIL
N.T.S.

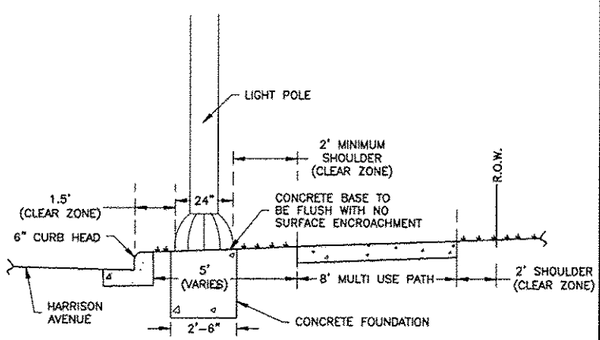
DTL-FOAM.DWG



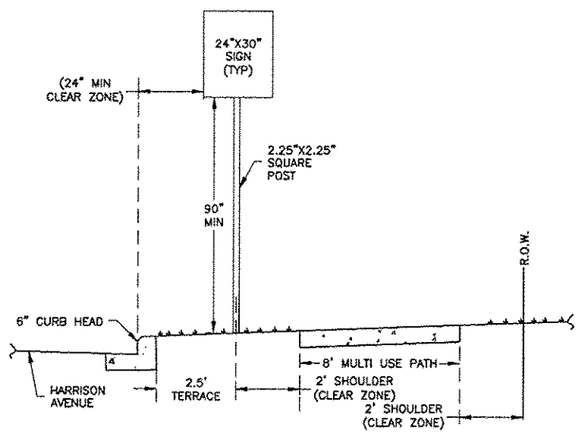
SIGN PLACEMENT WITH SIDEWALK (NORTH SIDE)
N.T.S.



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.

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

PLOT DATE: 6/27/15

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:

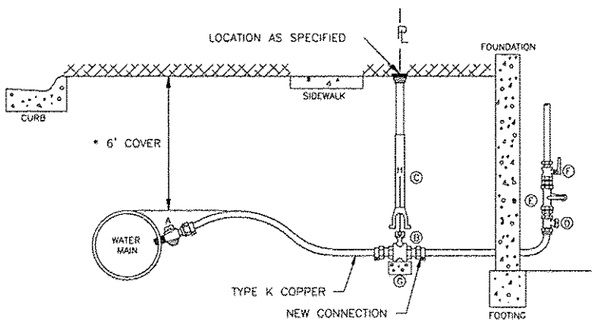
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
STANDARD DETAILS
G:\EGLPT\11\11-126\11-126 General Pages.dwg, STD Det 3

JOB NUMBER:
13-1070

SHEET NUMBER:
491 of 588

ITEM	DESCRIPTION	SIZE
A	CORPORATION STOP	¾"–2"
B	CURB STOP	¾"–2"
C	CURB BOX	EXTENDABLE
D	METER STOP	¾"–2"
E	METER SPREAD	⅝"–2"
F	METER STOP HOUSE SIDE	⅝"–2"
G	BRICK	CEMENT
H	ROD	36"



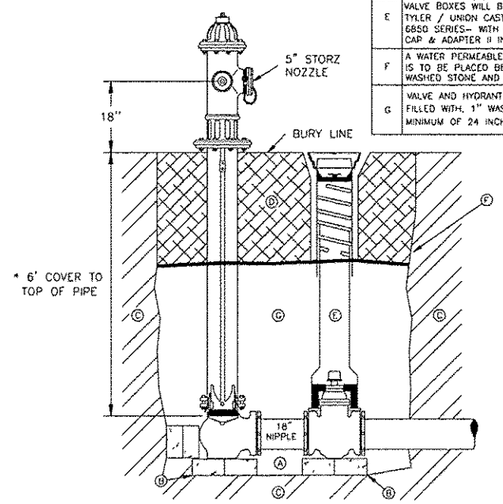
* UNLESS OTHERWISE INDICATED ON PLANS

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

DTL–WSER

ALL HYDRANTS TO BE INSTALLED WITH LOCKING COLLARS

ITEM	DESCRIPTION
A	APPROVED BEDDING MATERIAL
B	8"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

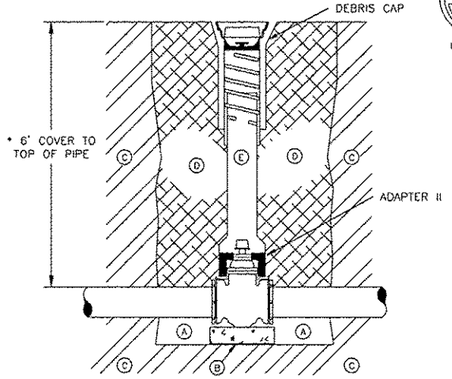


* UNLESS OTHERWISE INDICATED ON PLANS

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

DTL–FH

ITEM	DESCRIPTION
A	APPROVED BEDDING MATERIAL
B	16"x8"x4" 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



LID DETAIL

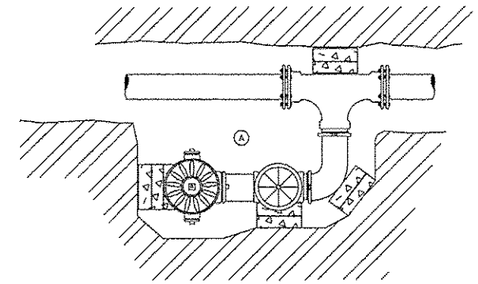
* UNLESS OTHERWISE INDICATED ON PLANS

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

DTL–VB

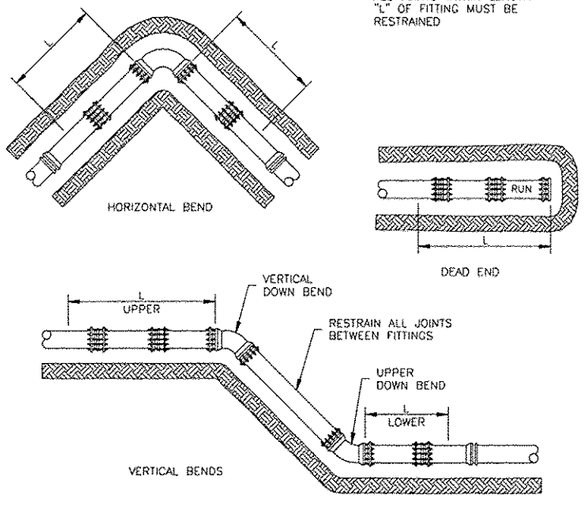
F.A.P. RTE.	SECTION	COUNTY
525	01–00509–00–RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612

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



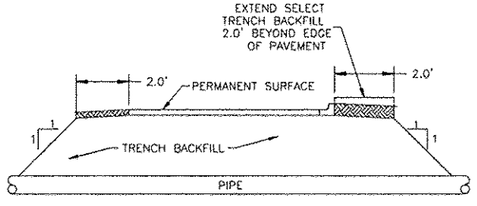
CITY OF ROCKFORD
OFFSET FIRE HYDRANT
COMPLETE WITH ELL
N.T.S.

DTL–FHO



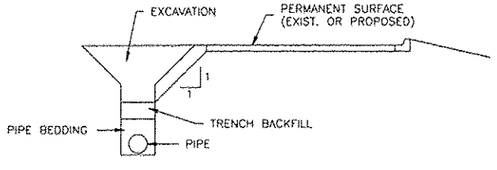
RESTRAINING GLAND RESTRAINT
N.T.S.

WDTL–W



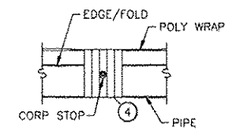
TYPICAL SECTION OF PIPE
CROSSING UNDER PERMANENT SURFACE
N.T.S.

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.



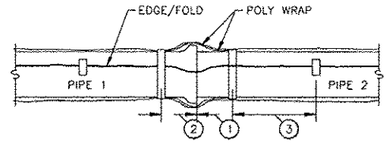
TYPICAL SECTION OF PIPE
PARALLEL TO PERMANENT SURFACE
N.T.S.

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



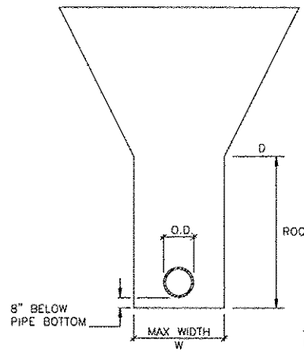
1. EXTEND POLY WRAP FOR PIPE 1 A MINIMUM OF 12" BEYOND BELL ONTO PIPE 2. SECURE TO PIPE 2 WITH TAPE OR PLASTIC TIE STRAPS.
2. EXTEND POLY WRAP FOR PIPE 2 ONTO PIPE 1 A MINIMUM OF 12" BEYOND THE PIPE 1 BELL. INSTALL OVER THE PIPE 1 POLY WRAP AND SECURE THE END WITH TAPE OR PLASTIC TIE STRAPS.
3. SECURE THE CUT EDGE ON POLY SHEETS EVERY 3'–0". SECURE THE FOLD ON POLY TUBES EVERY 4'–0". IF INSTALLED BELOW THE WATER TABLE, SECURE EVERY 2'–0".
4. INSTALL 2 TO 3 WRAPS OF POLYETHYLENE ADHESIVE TAPE COMPLETELY AROUND THE PIPE AND POLY WRAP AT TAPPING LOCATION. MOUNT TAPPING MACHINE OVER THE TAPE AND INSTALL CORPORATION THROUGH THE TAPE AND POLY WRAP. REPAIR ANY DAMAGE TO POLY WRAP IF NEEDED.
5. POLY WRAP SHALL BE A MINIMUM OF 8 MILS THICK AND SHALL BE FURNISHED IN TUBE FORM .

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



ROCK EXCAVATION

ROCK EX. (CY) = $\frac{W \times D \times \text{LENGTH (FT)}}{27}$

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

ROCK EXCAVATION
PAY LIMIT SCHEDULE
N.T.S.

DTL–ROCK

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

ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 7/14/15

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

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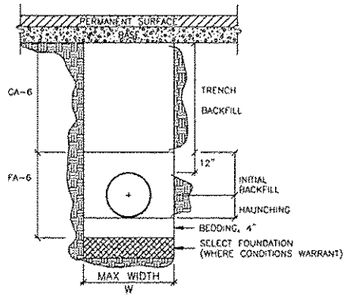
JOB NUMBER:
13–1070

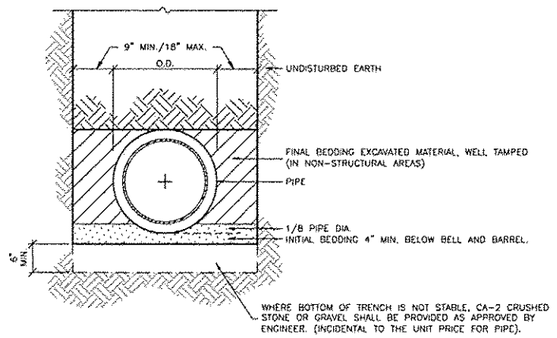
SHEET NUMBER:
492 of 588

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.

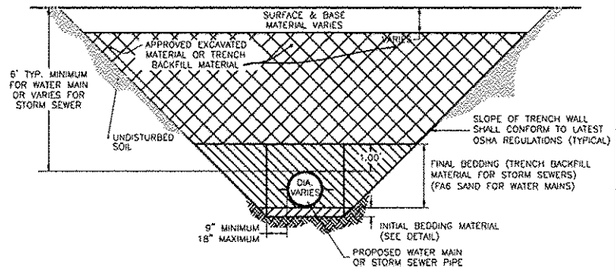
TRENCH BACKFILL AND SELECT FOUNDATION MATERIAL PAY LIMIT SCHEDULE
N.T.S.



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.



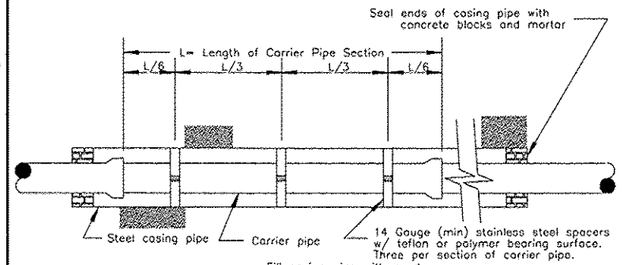
NOTES:

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. AG-LIME (FA20/FA21) WILL NOT BE ALLOWED FOR TRENCH BACKFILL MATERIAL.
6. TRENCH BACKFILL IS INCIDENTAL TO CONTRACT.

TRENCH BACKFILL DETAIL
N.T.S.

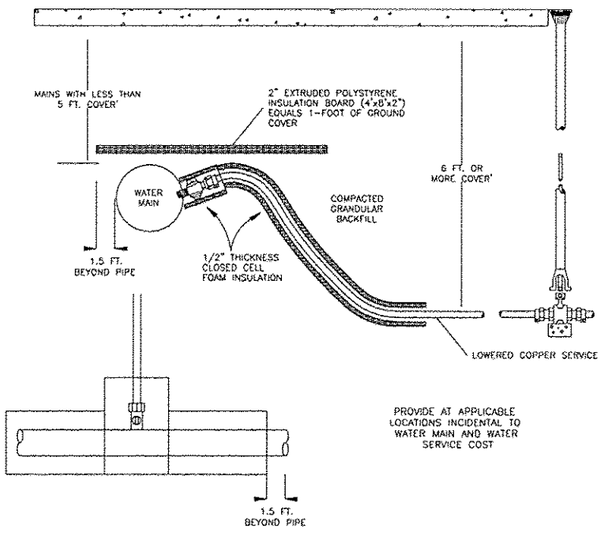
DTL-TRENCH BACKFILL(FGA)

F.A.P. RTE.	SECTION	COUNTY
525	01-00309-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85612

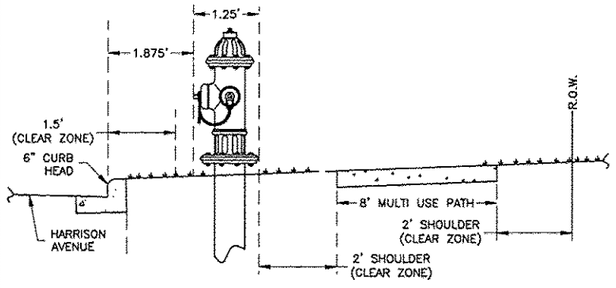


THIS DETAIL IS APPLICABLE TO BORE AND JACK CASING PIPE INSTALLATIONS.

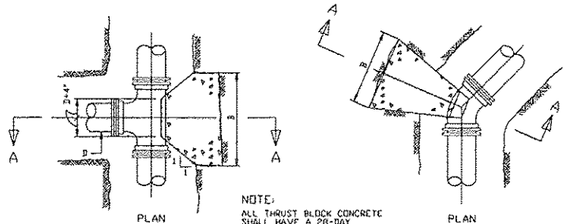
WATER MAIN CASING DETAIL
N.T.S.



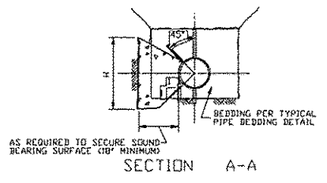
FREEZE PROTECTION
N.T.S.



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 2000 PSI



SECTION A-A

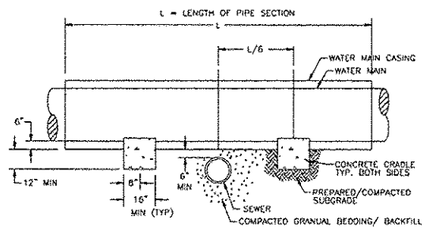
BENDS AND TEES

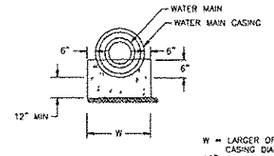
THRUST BLOCK DIMENSION TABLE*

PIPE SIZE	90° BENDS		45° BENDS		22 1/2 ° ELLS 11 1/4 ° ELLS		TEES	
D	H	B	H	B	H	B	H	B
6"	12	24	9	18	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	56	26	44	20	34	28	48

*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 IDOT SECTION 1020.04.
4. CONCRETE CRADLES TO BE MEASURED AND PAID FOR AS CLASS SI CONCRETE (MISCELLANEOUS).

CONCRETE CRADLES
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:
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DRAWN BY: B.F.
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STANDARD DETAILS

G:\EGLPT\11\11-126\11-126 General Pages.dwg, STD Det 2 (2)

JOB NUMBER:
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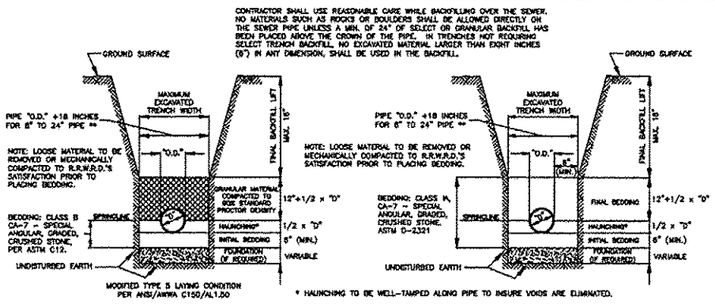
SHEET NUMBER:
493 of 588

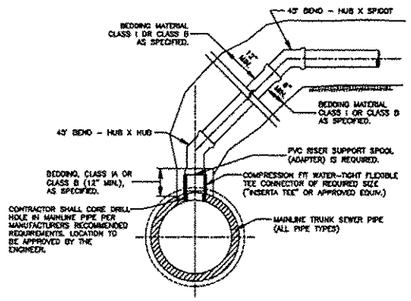
PLOT DATE: 7/14/15

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

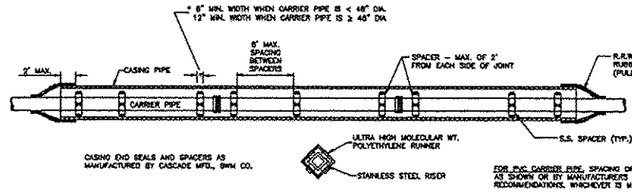


RIGID PIPE BEDDING DETAIL

FLEXIBLE PIPE BEDDING DETAIL



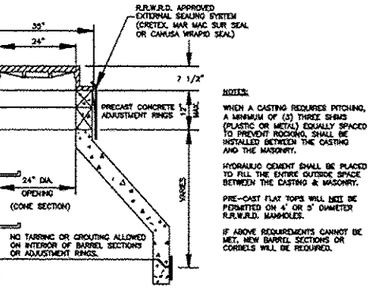
SERVICE CONNECTION DETAIL
FOR CONNECTION TO 18" DIA. OR LARGER PIPE



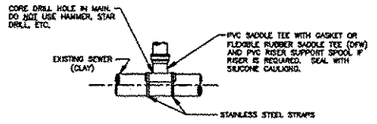
CASING AND SPACER DETAIL
FOR PVC CARRIER PIPE

FOR PVC CARRIER PIPE, SPACING OF SPACERS TO BE AS SHOWN OR BY MANUFACTURER'S REQUIRED WRITTEN RECOMMENDATIONS, WHICHEVER IS MORE RESTRICTIVE.

FOR NON-PVC CARRIER PIPE, LONGER SPACING SHALL BE ALLOWED IF BY MANUFACTURER'S RECOMMENDATION. OTHER PARTS OF DETAIL STILL APPLY.

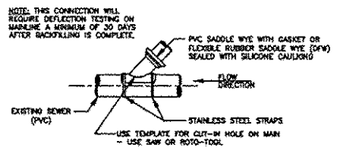


SANITARY MANHOLE ADJUSTMENT DETAIL
FOR NEW AND EXISTING



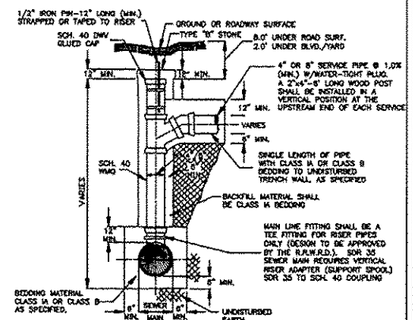
CUT-IN SERVICE CONNECTION DETAIL
(CLAY PIPE)
PROFILE VIEW

SEE STANDARD SERVICE & SERVICE CLEANOUT RISER DETAIL

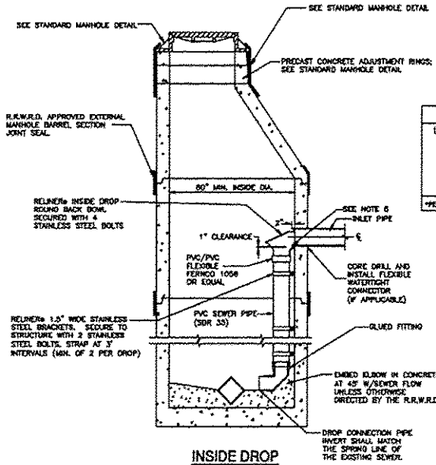


CUT-IN SERVICE CONNECTION DETAIL
(PVC PIPE)
PLAN VIEW

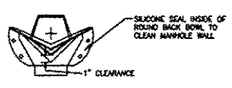
SEE STANDARD SERVICE & SERVICE CLEANOUT RISER DETAIL



VERTICAL RISER DETAIL



INSIDE DROP
MANHOLE DETAIL
(STANDARD MANHOLE DETAIL and NOTES SHALL APPLY)

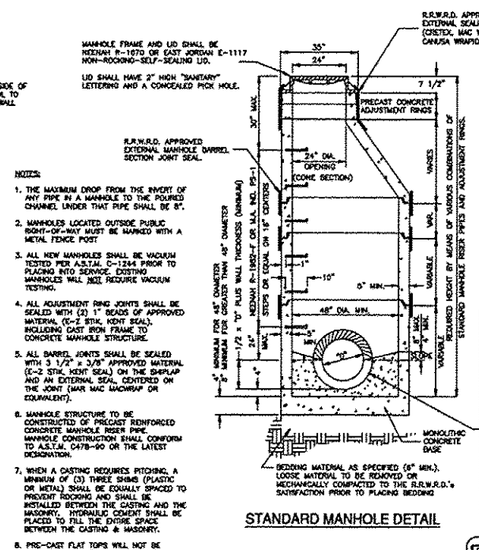


DROP BOWL DETAIL

DROP BOWL STANDARDS	
LATERAL PIPE SIZE	MINIMUM DIAMETER DOWN PIPE SIZE
6" DIA.	4"
8" DIA.	6"
10" DIA.	8"
>10" DIA.	*

*PER MANUFACTURERS RECOMMENDATIONS OR AS DIRECTED BY RRWRD

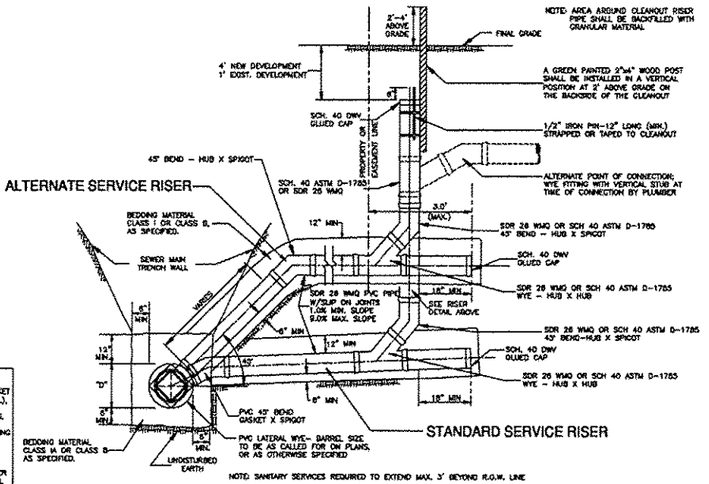
NOTES:
1. ALL INSIDE DROP CONNECTIONS FOR SERVICES AND COLLECTOR SEWERS SHALL USE THE DROP AS PRODUCED BY: RELINER-DURAN INC., OR EQUAL.
RELINER-DURAN, INC.
53 MT. ARCHER RD.
LYME, CT 03971
PH. (860) 434-0277
FAX: (860) 434-3195
2. SEE TABLE ABOVE FOR DROP CONNECTION PIPE AND FITTING SIZE.
3. ALL INSIDE DROP PIPING SHALL BE PVC SDR 35 ASTM D-3034
4. ATTACH THE ROUND BACK DROP BOWL, @ EACH CLAMPING BRACKET TO THE MANHOLE WALL WITH 3/8" X 1" (MIN.) STAINLESS STEEL BOLTS & EPOXY IMPREGNATED LUGS PER MANUFACTURERS RECOMMENDATION
5. ALLOW 1" CLEARANCE BETWEEN PIPE AND BOWL.
6. CUT A 1" "V" NOTCH IN THE BOTTOM OF THE INLET PIPE.



STANDARD MANHOLE DETAIL

PIPE CONNECTION TO PROPOSED MANHOLE SHALL BE MADE WATER-TIGHT BY MEANS OF RUBBER GASKET SEAL AND STAINLESS STEEL CLAMP, CONFORMING TO A.S.T.M. C-923. PSX SERIES GASKETS ARE NOT PERMITTED ON MANHOLE OPENINGS OVER 20' DEEP. MANHOLE OPENINGS OVER 20' DEEP SHALL REQUIRE AN A-LOK TO MANHOLE GASKET.

PIPE CONNECTION TO EXISTING MANHOLE SHALL BE MADE WATER-TIGHT BY MEANS OF RUBBER GASKET SEAL AND STAINLESS STEEL CLAMP, CONFORMING TO A.S.T.M. C-923. PSX SERIES SIX OR EQUAL PIPE ACCESS SHALL BE MADE BY CORE DRILLING MANHOLE WALL.



NOTE: SANITARY SERVICES REQUIRED TO EXTEND MAX. 3' BEYOND R.O.W. LINE

ALL SCHEDULE 40 PVC PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF A.S.T.M. D-1785/D-2665. ALL WMQ SDR 26 PVC PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF A.S.T.M. D-2241 AND D-3139. ALL DWV FITTINGS SHALL BE CLEANED, PRIMED AND GLUED.

STANDARD SERVICE & ALTERNATE SERVICE RISER DETAIL
WITH SERVICE CLEANOUT RISER DETAIL

NOTE: TRENCH BACKFILL AND/OR BEDDING MATERIAL SHALL BE INCIDENTAL TO THE CONTRACT.

ROCK RIVER WATER RECLAMATION DISTRICT
STANDARD DETAIL SHEET

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

REV. 08/11/2015

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:
RRWRD DETAILS

G:\EGLPT\11\11-126\11-126 General Pages.dwg, RRWRD Det

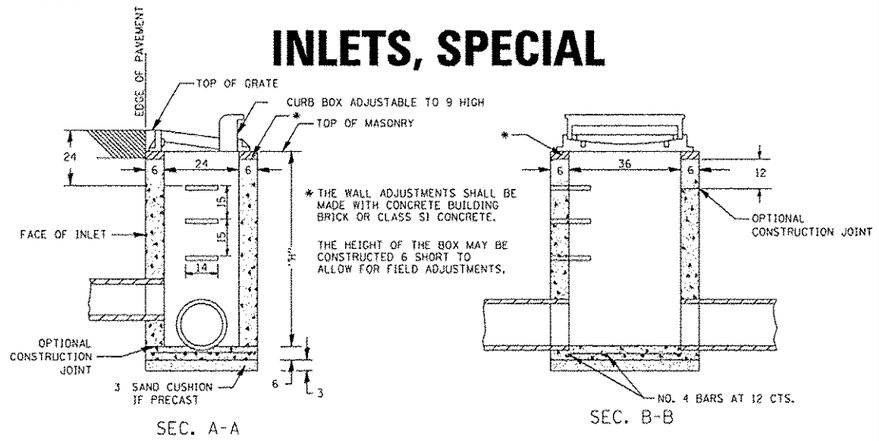
JOB NUMBER:
13-1070

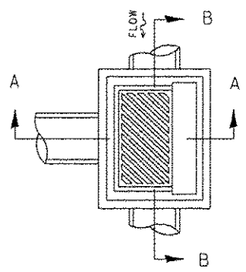
SHEET NUMBER:
494 of 588

PLOT DATE: 6/27/15

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 65612

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.

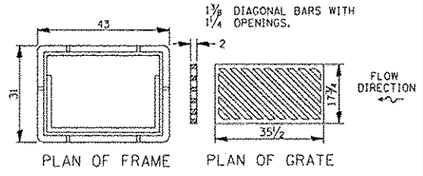
WEIGHT OF CAST IRON FRAME & GRATE = 530 lbs. ± .
STEPS SHALL BE OMITTED WHEN DEPTH OF "H" IS LESS THAN 5 ft.

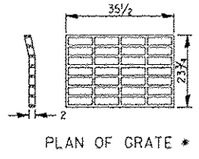
DETAIL OF FRAME & GRATE

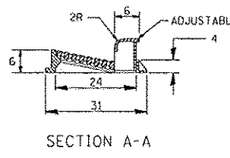
NOTES

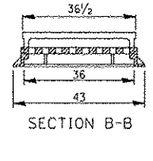
CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT. PRECAST CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 504.01 THRU 504.05 OF THE STANDARD SPECIFICATIONS EXCEPT THAT CONCRETE STRENGTH SHALL BE 4,000 psi AFTER 28 DAYS.

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.

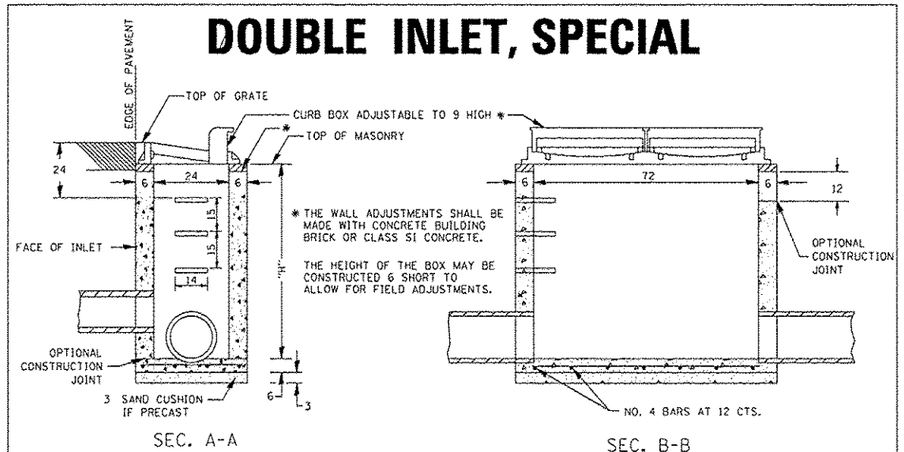
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

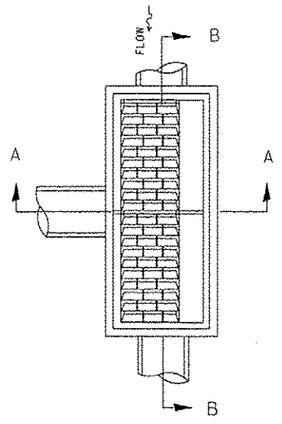
REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-13-11						
REVISED -				CONTRACT NO.		
REVISED -	SCALE: 1.0000 " / in. SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLOT DATE = Thu Nov 13 11:30:08 2014

INLETS, SPECIAL 10.2

DOUBLE INLET, SPECIAL





NOTES

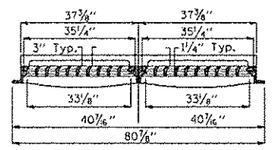
SEE STANDARD 602701 FOR DETAILS OF STEPS.

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.

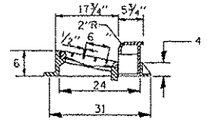


DETAIL OF FRAME & GRATE

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.



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 -				CONTRACT NO.		
REVISED -	SCALE: 1.0000 " / in. SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLOT DATE = Tue Oct 09 09:38:34 2012

DOUBLE INLET, SPECIAL 12.2

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

G:\EGLPT\11\11-126\11-126 General Pages.dwg, DIST 2 Det 2

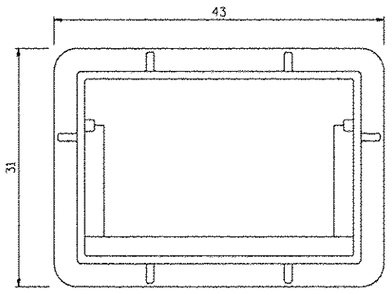
JOB NUMBER:
13-1070

SHEET NUMBER:
495 of 588

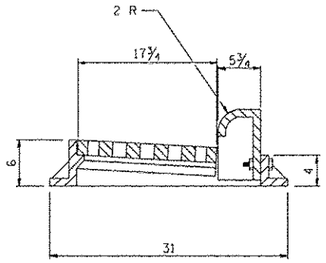
PLOT DATE: 6/20/15

F.A.P. RTE.	SECTION	COUNTY
523	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 85512

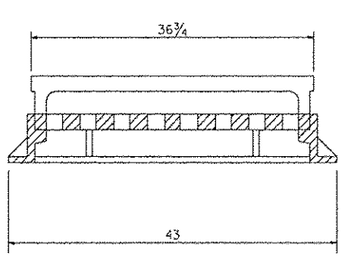
FRAME AND GRATE FOR INLETS, SPECIAL



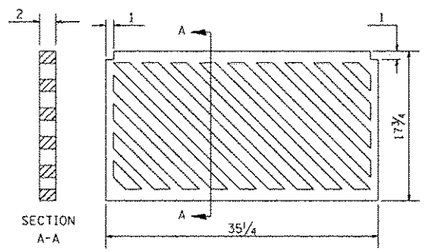
PLAN OF FRAME
WITHOUT GRATE AND CURB BOX



TRANSVERSE SECTION



LONGITUDINAL SECTION



PLAN OF GRATE

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

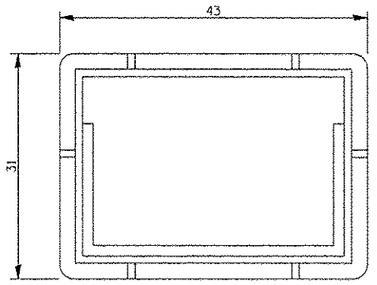
R 3067 OR EQUIVALENT
APPROXIMATE WEIGHT - 510 LBS.

REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-13-11						
REVISED -				CONTRACT NO.		
REVISED -	SCALE: 1.0000 " / in. SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

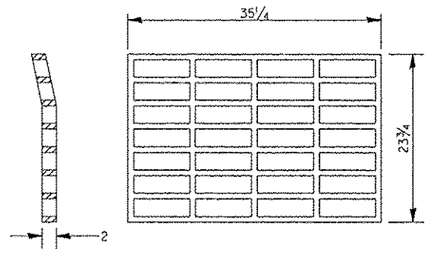
PLOT DATE = Thu Nov 13 11:28:12 2014

FRAME AND GRATE FOR INLETS, SPECIAL 13.2c

FRAME AND GRATE FOR INLETS, SPECIAL

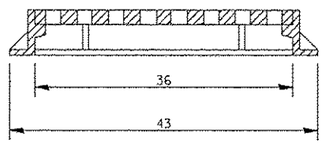


PLAN OF FRAME



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 -				CONTRACT NO.		
REVISED -	SCALE: 1.0000 " / in. SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLOT DATE = Thu Nov 13 11:38:13 2014

FRAME AND GRATE FOR INLETS, SPECIAL 13.2d

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
G:\EGLPT\11\11-126\11-126 General Pages.dwg, DIST 2 Det 3

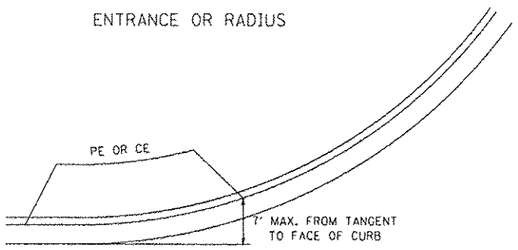
JOB NUMBER:
13-1070

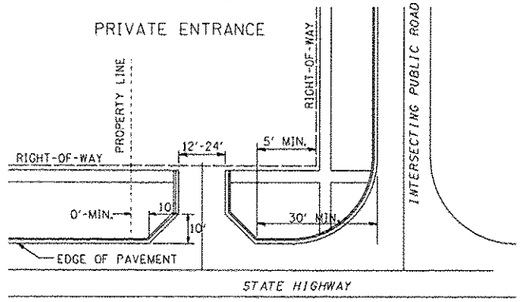
SHEET NUMBER:
496 of 588

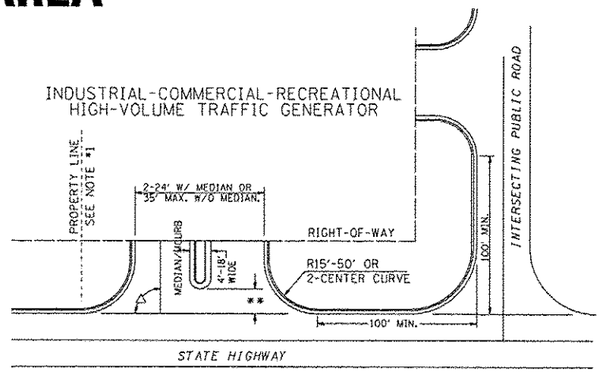
PLOT DATE: 8/20/15

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

ENTRANCE APPROACHES – URBAN AREA



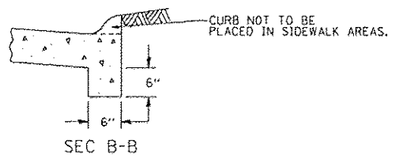




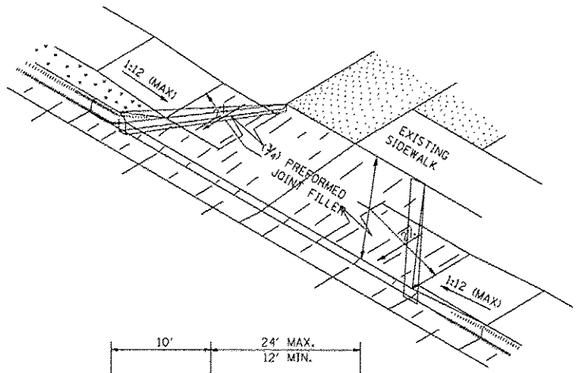
A MINIMUM OF 440 FEET SHALL BE MAINTAINED BETWEEN CENTER LINES OF ADJACENT DRIVEWAYS.
△ 90° DESIRABLE, 45° MIN. ANGLE PERMITTED ONLY FOR ONE-WAY DRIVEWAYS.
60° MIN. ANGLE FOR TWO-WAY DRIVEWAYS.

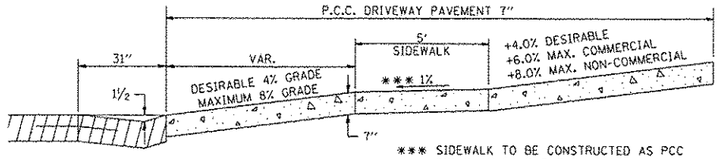
NOTE: #1 ENCROACHMENT ON THE ADJACENT PROPERTY OWNER LAND REQUIRES HIS OR HER WRITTEN APPROVAL.

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



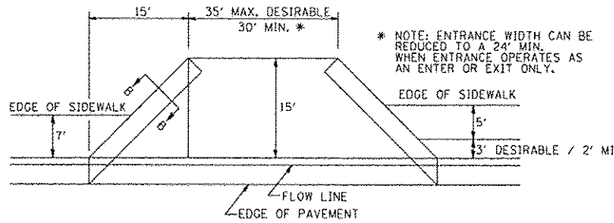
SEC B-B





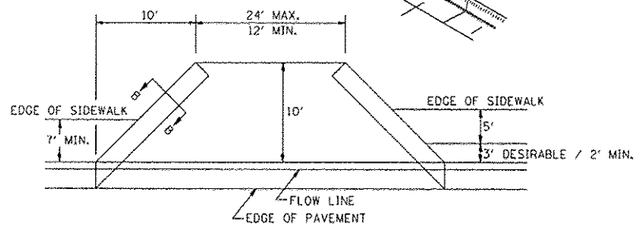
*** SIDEWALK TO BE CONSTRUCTED AS PCC DRIVEWAY PAVEMENT 7" THROUGH THE WIDTH OF THE DRIVEWAY. SEE DIST. STD. 35.4

ASCENDING APPROACH

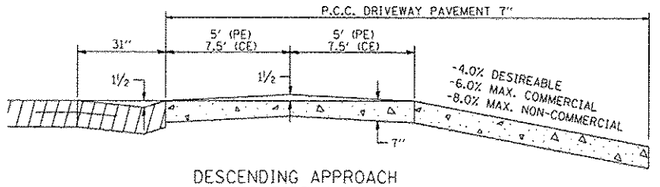


* NOTE: ENTRANCE WIDTH CAN BE REDUCED TO A 24' MIN. WHEN ENTRANCE OPERATES AS AN ENTER OR EXIT ONLY.

LOW TO MODERATE VOLUME COMMERCIAL ENTRANCE

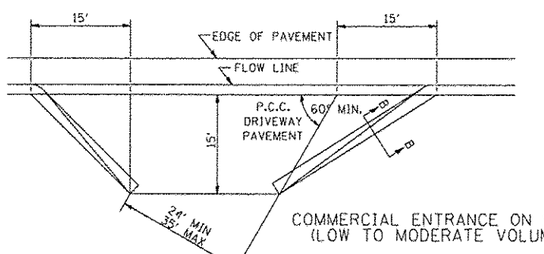


PRIVATE ENTRANCE

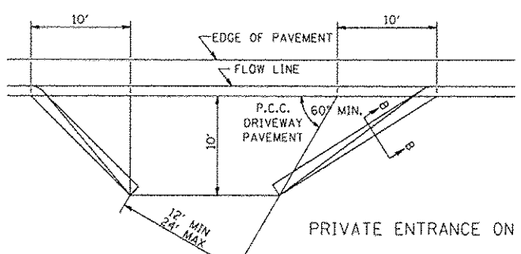


DESCENDING APPROACH
(NO SIDEWALK)

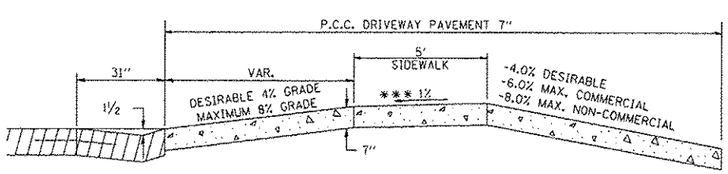
NOTE: CURVED ENTRANCE RETURNS MAY BE USED FOR LOW TO MODERATE VOLUME LOCATIONS WITH REVIEW ON A CASE-BY-CASE BASIS.



COMMERCIAL ENTRANCE ON SKEW
(LOW TO MODERATE VOLUME)



PRIVATE ENTRANCE ON SKEW



DESCENDING APPROACH
(WITH SIDEWALK)

FILE NAME =	USER NAME = IDOT/District 2	DESIGNED -	REVISED - 6-27-14
District 2 Standard		DRAWN -	REVISED - 12-07-10
	PLOT SCALE = 1.8808 '/ in.	CHECKED -	REVISED -
	PLOT DATE = Thu Nov 13 11:26:59 2014	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
G:\EGLPT\11\11-126\11-126 General Pages.dwg, DIST 2 Det 4

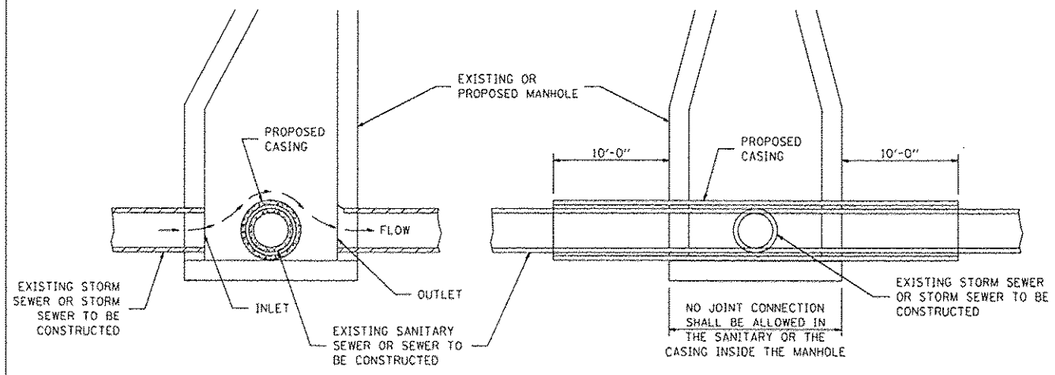
JOB NUMBER: 13-1070

SHEET NUMBER: 497 of 588

PLOT DATE: 6/20/15

F.A.P. RTE.	SECTION	COUNTY
525	01-00509-00-RP	WINNEBAGO
ILLINOIS		CONTRACT NO. 65612

SEWER AND WATER MAIN CROSSINGS



ELEVATION - ECCENTRIC

ELEVATION - CONCENTRIC

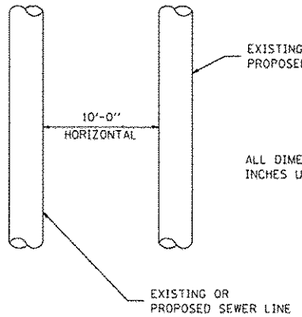
CASING SHALL BE CAST IRON WITH AN INSIDE DIAMETER 2" LARGER IN DIAMETER THAN ENCASED PIPE OUTSIDE DIAMETER WITH BOTH ENDS OF CASING SEALED

AT GRADE CROSSING OF SANITARY AND STORM SEWER

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

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.

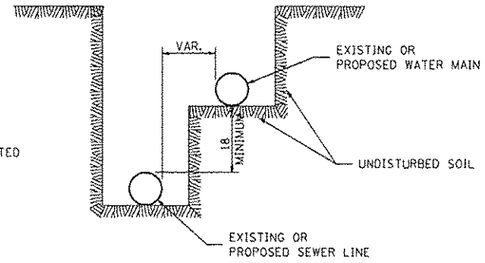
WHEN PROPOSED SEWER (OR WATER) IS LOCATED 10'-0" OR MORE FROM EXISTING WATER (OR SEWER) NO SPECIAL CONSTRUCTION REQUIRED.



PLAN VIEW

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

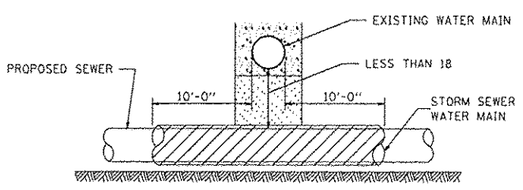
WHEN PROPOSED SEWER (OR WATER) IS LOCATED LESS THAN 10'-0" FROM EXISTING WATER (OR SEWER) DETAILS BELOW SHALL APPLY.



WATER AND SEWER HORIZONTAL SEPARATION REQUIREMENTS

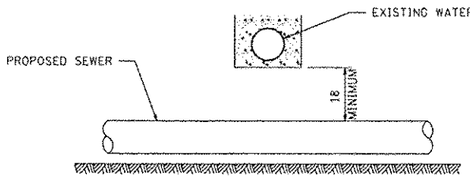
POINT LOADS SHALL NOT BE ALLOWED BETWEEN SEWER OR SEWER CASING AND WATER MAIN

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

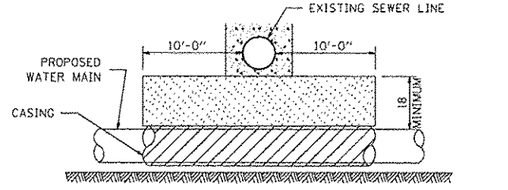


ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

PROPOSED SEWER LINE BELOW EXISTING WATER MAIN

PROVIDE ADEQUATE SUPPORT FOR EXISTING SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT

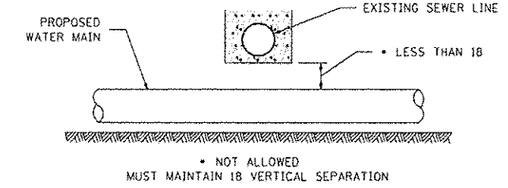
PLACE TRENCH BACKFILL FOR 10 FT. ON EITHER SIDE OF SEWER LINE



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

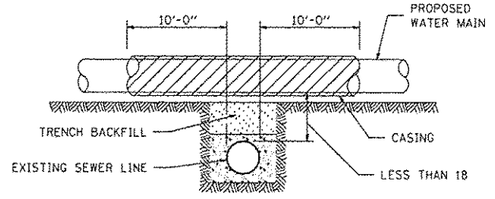


* NOT ALLOWED
MUST MAINTAIN 18 VERTICAL SEPARATION

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

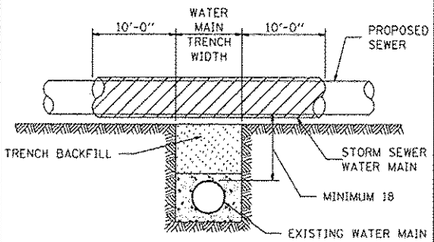


CASING SHALL BE CAST IRON WITH AN INSIDE DIAMETER 2" LARGER IN DIAMETER THAN ENCASED PIPE OUTSIDE DIAMETER WITH BOTH ENDS OF CASING SEALED

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 = IDOT/District 2	DESIGNED -	REVISED - 10-17-11
		DRAWN -	REVISED -
	PLOT SCALE = 1.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = Tue Oct 09 09:35:02 2012	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		

SEWER AND WATER MAIN CROSSINGS **32.1**

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

PLOT DATE: 6/20/15

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

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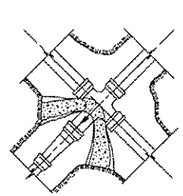
JOB NUMBER:
13-1070

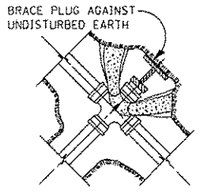
SHEET NUMBER:
498 of 588

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

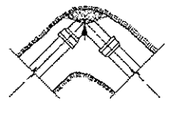
THRUST BLOCK DETAILS



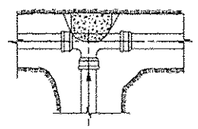
REDUCING CROSS



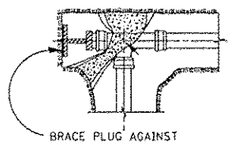
PLUGGED CROSS



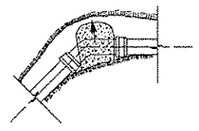
90° ELBOW



TEE



PLUGGED TEE



VERTICAL BEND

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

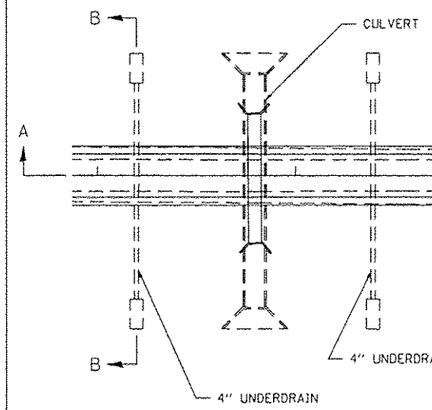
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

REVISED - 10-03-11	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -						
REVISED -				CONTRACT NO.		
REVISED -	SCALE: 1.8000 ' / in. SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

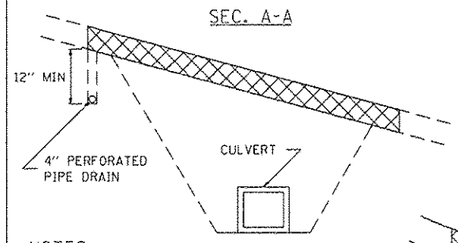
PLOT DATE = Tue Oct 09 09:36:52 2012

THRUST BLOCK DETAILS 34.4

UNDERDRAIN FOR ACROSS ROAD (AR) CULVERTS

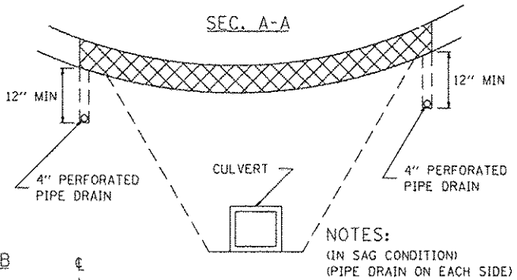


SEC. A-A



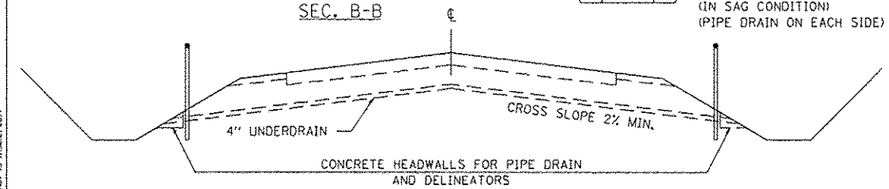
NOTES:
(HIGHWAY GRADE GREATER THAN 2%)

SEC. A-A



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

SEC. B-B



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.

REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 7-05-12						
REVISED -				CONTRACT NO.		
REVISED -	SCALE: 1.8000 ' / in. SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLOT DATE = Thu Nov 13 11:08:24 2014

UNDERDRAIN FOR ACROSS ROAD (AR) CULVERTS 37.2

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

G:\EGLPT\11\11-126\11-126 General Pages.dwg, DIST 2 Det 7

JOB NUMBER:
13-1070

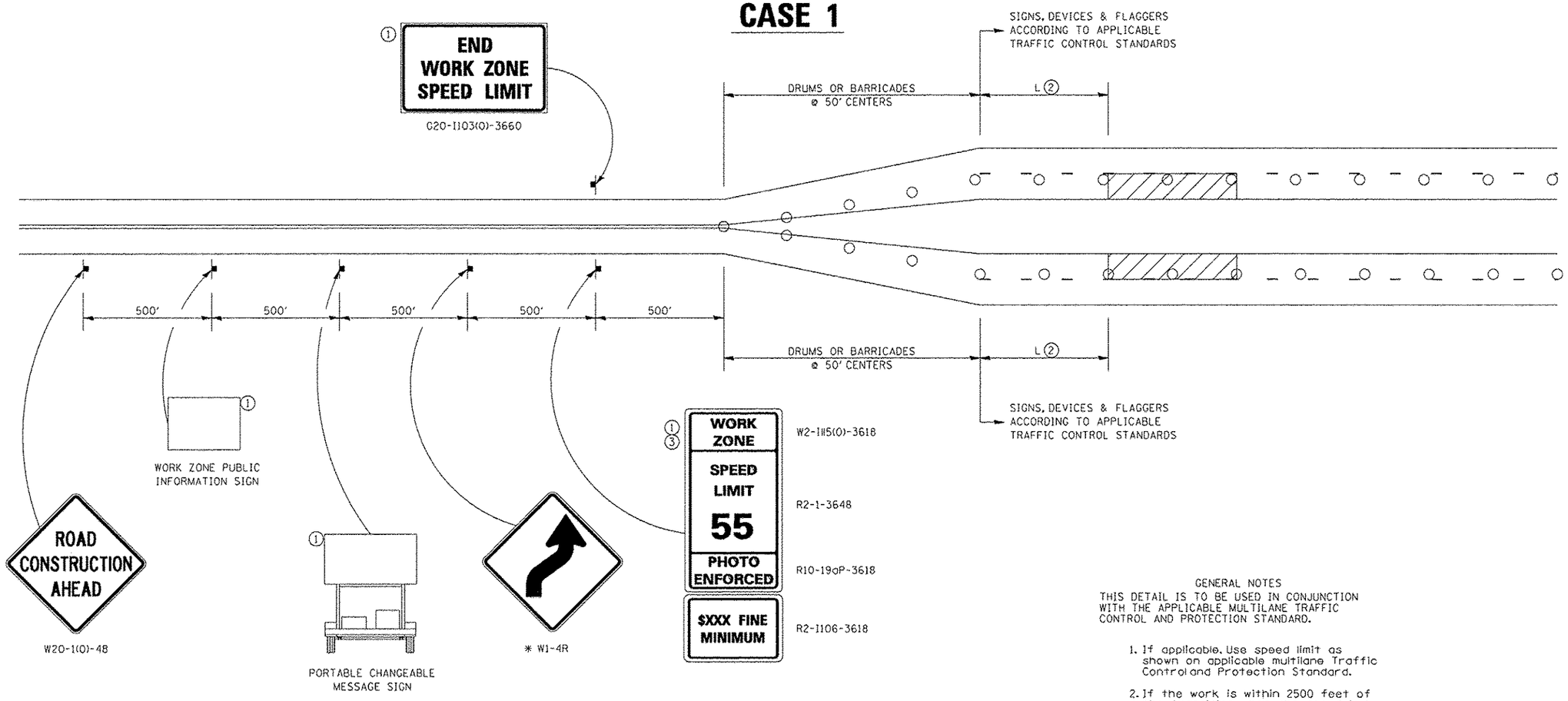
SHEET NUMBER:
499 of 588

PLOT DATE: 6/20/15

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

TRAFFIC CONTROL FOR TRANSITION AREAS

CASE 1



DRUMS OR BARRICADES

WORK AREA

NOTE: STANDARDS 701301 AND 701306 SHALL NOT BE USED WITHIN 500 FEET OF THE TRANSITION.

* DEPENDS ON GEOMETRICS OF THE TRANSITION. MAY SWITCH THE "STAY IN YOUR LANE" AND "WEAVE SIGNS"

GENERAL NOTES

THIS DETAIL IS TO BE USED IN CONJUNCTION WITH THE APPLICABLE MULTILANE TRAFFIC CONTROL AND PROTECTION STANDARD.

1. If applicable, Use speed limit as shown on applicable multilane Traffic Control and Protection Standard.
2. If the work is within 2500 feet of the transition when the speed is > 40 mph, or 1500 feet for all other speeds, the detail shall be used.
3. WORK ZONE SPEED LIMIT 55 BEGINS shall be replaced with WORK ZONE SPEED LIMIT 45 BEGINS where the workers are within 500 feet of the transition.

THIS TRAFFIC CONTROL DETAIL SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

FILE NAME = District 2 Standard	USER NAME = IDOT/District 2	DESIGNED -	REVISED - 8-27-13	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
		DRAWN -	REVISED - 1-16-13				
	PLOT SCALE = 1.0000 ' / in.	CHECKED -	REVISED -		SCALE: / SHEET NO. OF SHEETS / STA. / TO STA.		CONTRACT NO.
	PLOT DATE = Tue Sep 03 09:37:27 2013	DATE -	REVISED -			FED. ROAD DIST. NO.	ILLINOIS / FED. AID PROJECT

TRAFFIC CONTROL FOR TRANSITION AREAS SHEET 1 OF 4 38.1

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

G:\EGLPT\11\11-126\11-126 General Pages.dwg, DIST 2 Det 8

JOB NUMBER:
13-1070

SHEET NUMBER:
500 of 588

PLOT DATE: 6/20/15