LETTING DATE 04-17-2012

JOHNSON Co. PCC PAVEMENT - GRADE AND REPLACE IM-80-6(306)244--13-52

INDEX OF SHEETS

Iowa Department of Transportation

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

INTERSTATE ROAD SYSTEM

JOHNSON COUNTY

PCC PAVEMENT - GRADE AND REPLACE

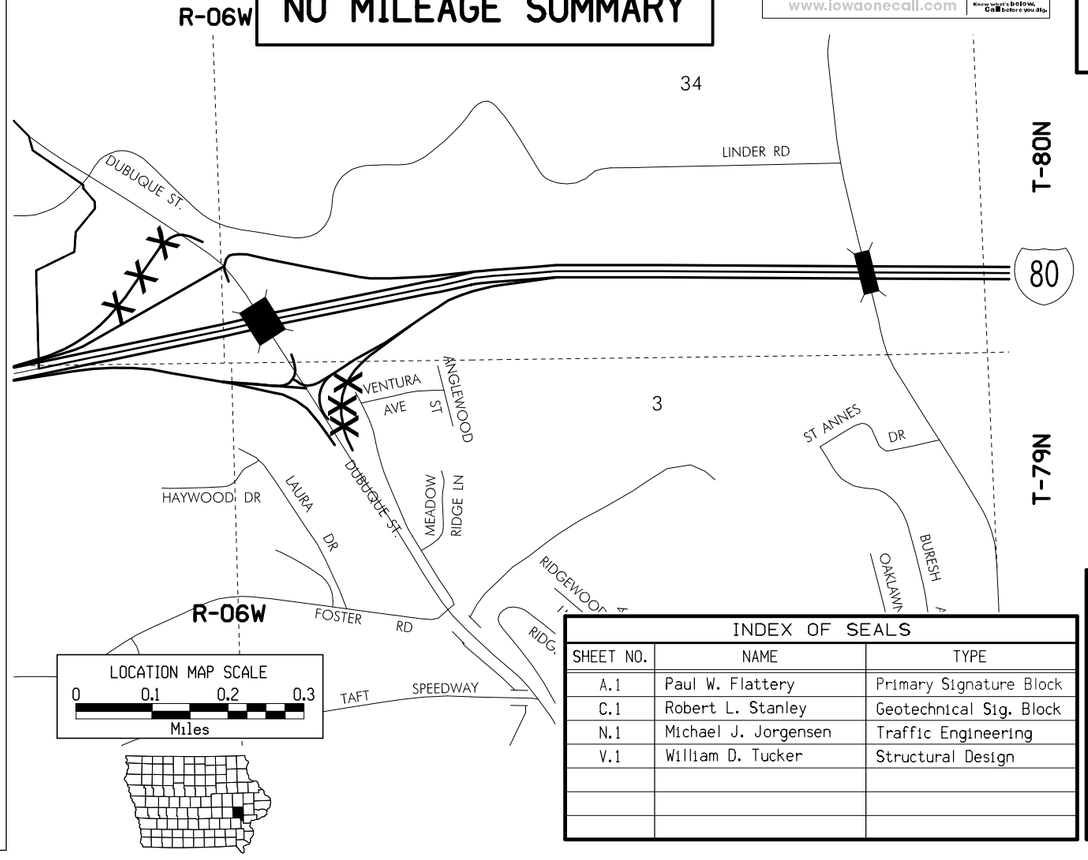
Dubuque St. Interchange in Iowa City

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.15 of the Specifications.

R-06W **NO MILEAGE SUMMARY**



IOWA ONE CALL 1-800-292-8989 811 www.iowaonecall.com Know what's below. Call before you dig.

REVISIONS

	TOTAL
	242
PROJECT IDENTIFICATION NUMBER	
98-52-080-010	
PROJECT NUMBER	
IM-80-6(306)244--13-52	
R.O.W. PROJECT NUMBER	

04-30-02 Dubuque Ramp C 101-4

DESIGN DATA RURAL

2010 AADT	7550	V.P.D.
2030 AADT	11219	V.P.D.
2030 DHV	--	V.P.H.
TRUCKS	3	%
Total Design ESALs	--	

04-30-02 Dubuque Ramp A 101-4

DESIGN DATA RURAL

2010 AADT	2402	V.P.D.
2030 AADT	3569	V.P.D.
2030 DHV	--	V.P.H.
TRUCKS	5	%
Total Design ESALs	--	

04-30-02 Dubuque Ramp B 101-4

DESIGN DATA RURAL

2010 AADT	7550	V.P.D.
2030 AADT	11219	V.P.D.
2030 DHV	--	V.P.H.
TRUCKS	3	%
Total Design ESALs	--	

04-30-02 Dubuque Ramp D 101-4

DESIGN DATA RURAL

2010 AADT	2402	V.P.D.
2030 AADT	3569	V.P.D.
2030 DHV	--	V.P.H.
TRUCKS	6	%
Total Design ESALs	--	

04-30-02 Dubuque St. 101-5

DESIGN DATA URBAN

2010 AADT	11124	V.P.D.
2030 AADT	17674	V.P.D.
2030 DHV	--	V.P.H.
TRUCKS	3	%
Total Design ESALs	--	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Paul W. Flattery	Primary Signature Block
C.1	Robert L. Stanley	Geotechnical Sig. Block
N.1	Michael J. Jorgensen	Traffic Engineering
V.1	William D. Tucker	Structural Design

ROADWAY DESIGN

LICENSED PROFESSIONAL ENGINEER Paul W. Flattery 15282 IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Paul W. Flattery — 02-07-2012

Signature — Date

Paul W. Flattery

Printed or Typed Name

My license renewal date is December 31, 2013

Pages or sheets covered by this seal: A.1,B.1-B.11,C.1-C.13,D1-D7,G.1-G.12 K.1-K.11,M.1-M.10,U.1-U.3,W.1-W.122

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER A.1	REVISED

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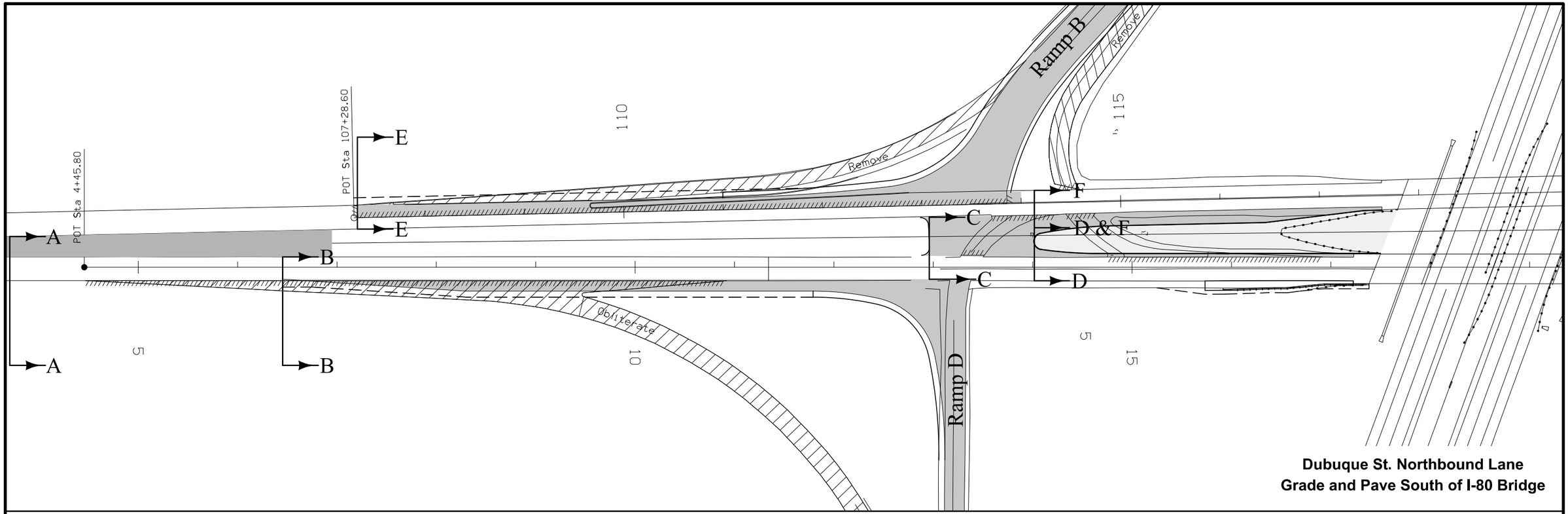
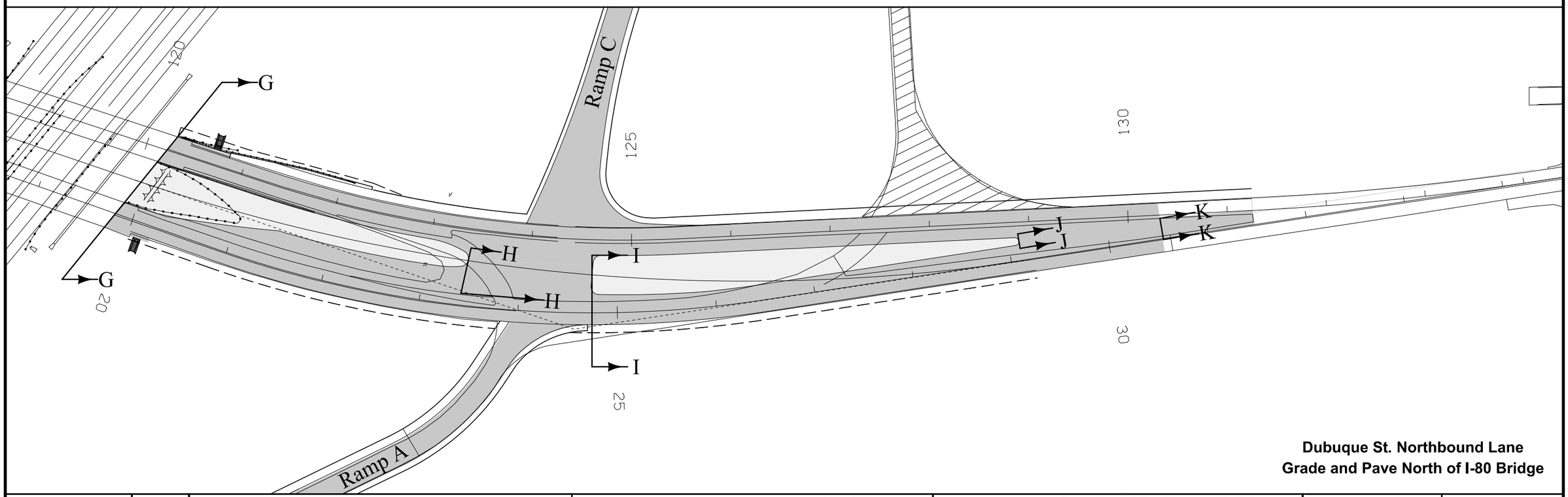


Dubuque St. Northbound Lane
Grade and Pave South of I-80 Bridge



Dubuque St. Northbound Lane
Grade and Pave North of I-80 Bridge

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER B.1

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Grading

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION			(R) Feet	(X) Inches	(BW) Feet
Dubuque St. NBL	4+45.80	6+50.00		26.1	6	25.5
Dubuque St. NBL	6+50.00	8+30.00		①	22	20.7
Dubuque St. NBL	8+30.00	11+80.00		34.9	22	20.7

Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

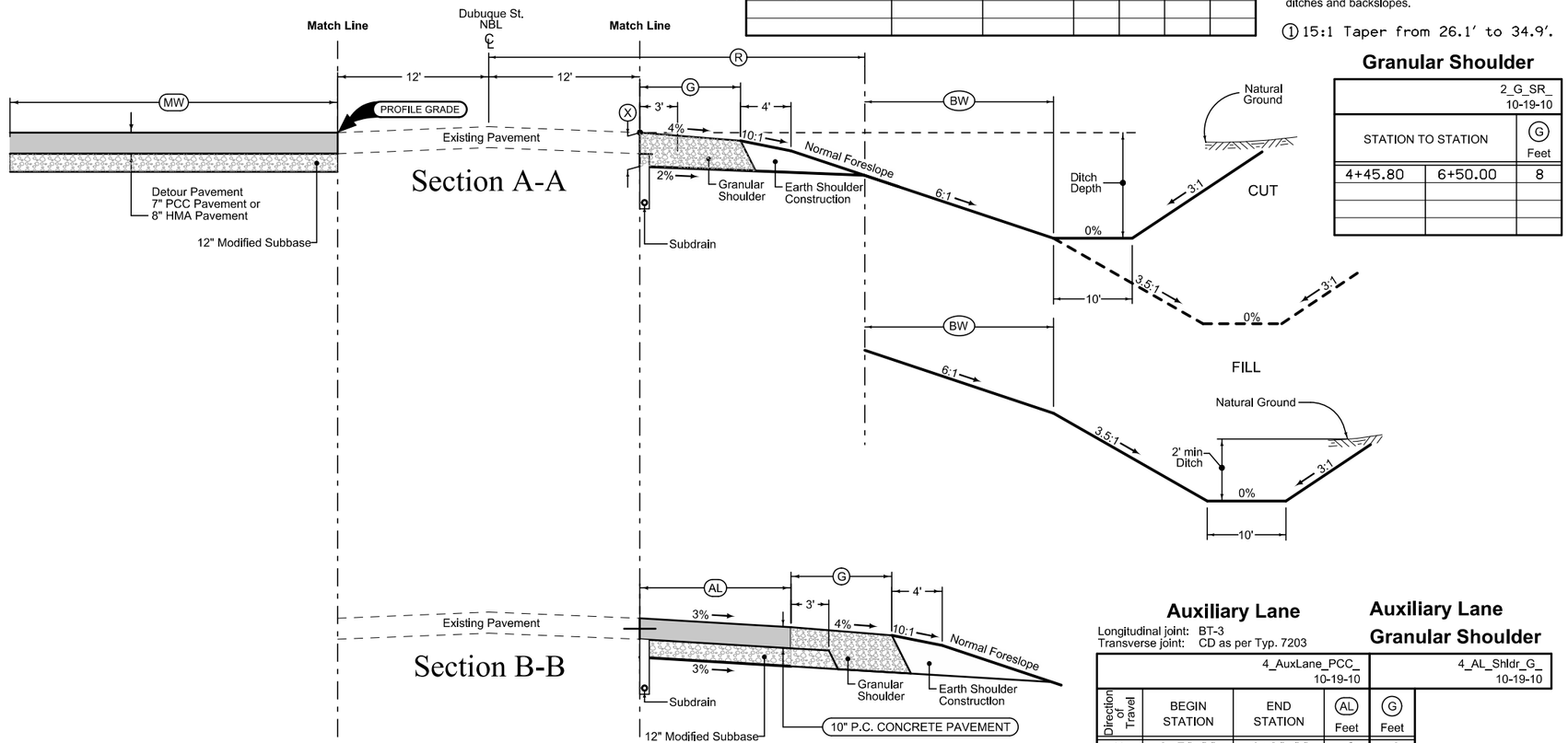
① 15:1 Taper from 26.1' to 34.9'.

Detour Median

BEGIN STATION	END STATION	(MW) Feet
2+95.00	6+95.00	10.4 to 25.0

UAC Ex. Median

BEGIN STATION	END STATION
7+25.00	12+87.50



Granular Shoulder

2_G_SR_ 10-19-10

STATION TO STATION		(G) Feet
4+45.80	6+50.00	8

Auxiliary Lane

Longitudinal joint: BT-3
Transverse joint: CD as per Typ. 7203

4_AuxLane_PCC_ 10-19-10

Direction of Travel	BEGIN STATION	END STATION	(AL) Feet	(G) Feet
N	6+50.00	6+80.00	2	6
N	6+80.00	8+30.00	2-12	6
N	8+30.00	11+80.00	12	6
N	11+80.00	13+10.00	12-?	6

Auxiliary Lane Granular Shoulder

4_AL_Shldr_G_ 10-19-10

Median Jointing: See L sheets.

Proposed Median

BEGIN STATION	END STATION	(MW) Feet
12+87.50	14+00.00	38 to 40

Raised Median Jointing: See L sheets.

Proposed Raised Median

BEGIN STATION	END STATION	(MW) Feet	(C) Feet
14+00.00	14+08.31	0.0 to 15.6	15.4 to 7.2
14+08.31	14+65.82	15.6 to 28.2	7.2 to 3.5
14+65.82	17+23.00	28.2 to 43.0	3.5

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

Dubuque St. Northbound Lane
Grade and Pave South of I-80 Bridge
1 of 2

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER B.2

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Grading

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION			Ⓡ Feet	Ⓧ Inches	(BW) Feet
Dubuque St. SBL	107+31.89	113+85.65		34.9	22	20.7

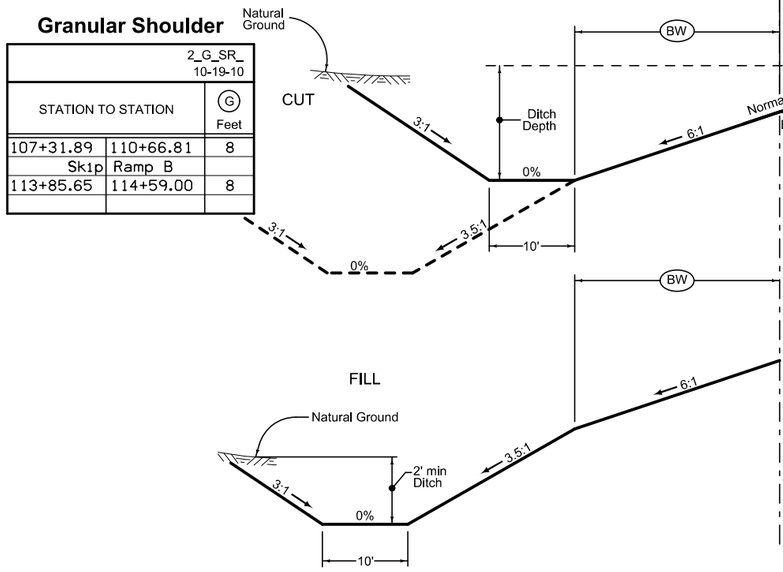
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

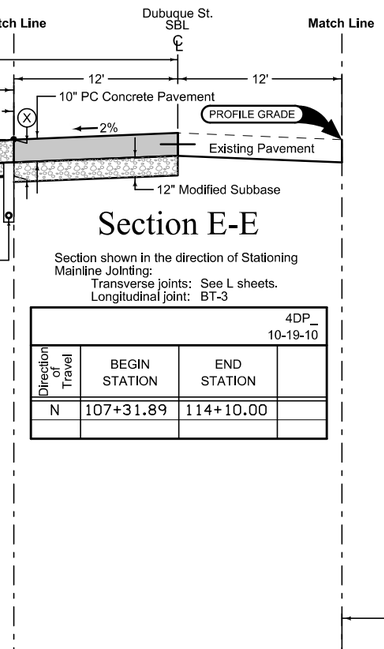
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

Granular Shoulder

2_G_SR_
10-19-10

STATION TO STATION		Ⓖ Feet
107+31.89	110+66.81	8
Skip	Ramp B	
113+85.65	114+59.00	8



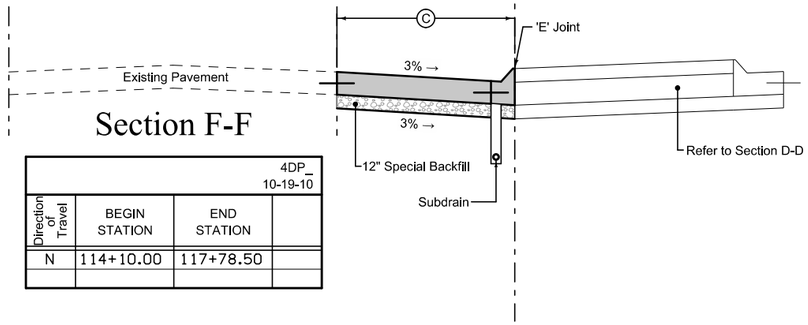


Section E-E

Section shown in the direction of Stationing
Mainline Jointing:
Transverse joints: See L sheets.
Longitudinal joint: BT-3

4DP_
10-19-10

Direction of Travel	BEGIN STATION	END STATION	
N	107+31.89	114+10.00	



Section F-F

4DP_
10-19-10

Direction of Travel	BEGIN STATION	END STATION	
N	114+10.00	117+78.50	

Ⓒ lane Jointing:
Longitudinal joint: L-3 or KT-3
Transverse Joint: CD as per Typ. 7203.

BEGIN STATION	END STATION	Ⓒ Feet
114+10.00	114+19.00	26.9 to 18.5
114+19.00	114+88.00	18.5 to 15.5
114+88.00	116+45.00	15.5
116+45.00	117+41.50	15.5 to 3.5
117+41.50	117+62.70	3.5

See Tab 100-24 for pavement quantities.

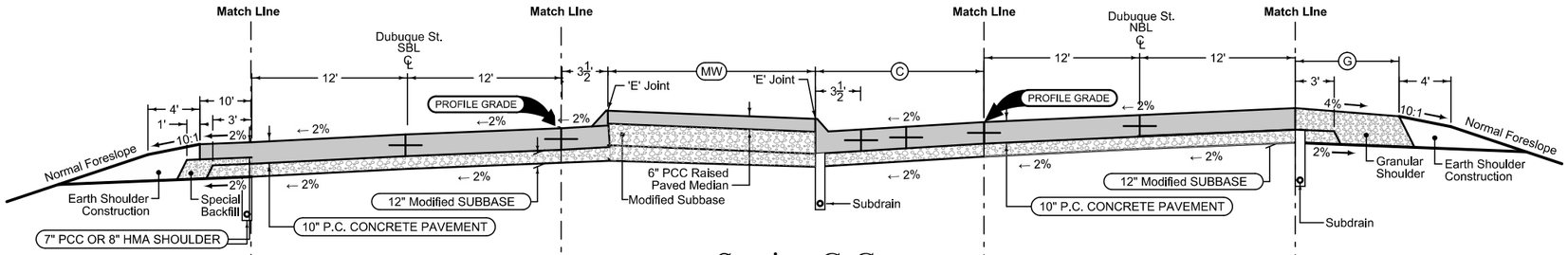
See Tab 112-9 for shoulder quantities.

Dubuque St. Southbound Lane
Grade and Pave South of I-80 Bridge
2 of 2

Paved Shoulder Alternates

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

1L_P_ALT_ 10-19-10	
BEGIN STATION	END STATION
120+43.00	130+31.68



Section G-G

Mainline SBL Jointing: See L Sheets

BEGIN STATION	END STATION
120+92.3	130+31.68

Raised Median Jointing: See L Sheets

Proposed Raised Median

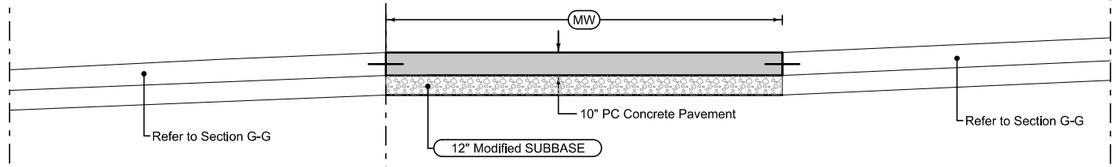
BEGIN STATION	END STATION	(MW) Feet	(C) Feet
20+00.00	20+31.00	46.0 to 48.2	x
20+31.00	21+44.00	48.2 to 27.5	3.5 to 24.0
21+44.00	23+45.00	27.5 to 0.0	24.0

Mainline NBL Jointing: See L Sheets

BEGIN STATION	END STATION
20+53.3	24+81.40

Granular Shoulder

2_G_SR_ 10-19-10		
STATION TO STATION		(G) Feet
20+02.26	23+78.40	8
Skip	Ramp A	
24+52.40	29+35.60	8



Section H-H

Proposed Median Jointing: See L Sheets

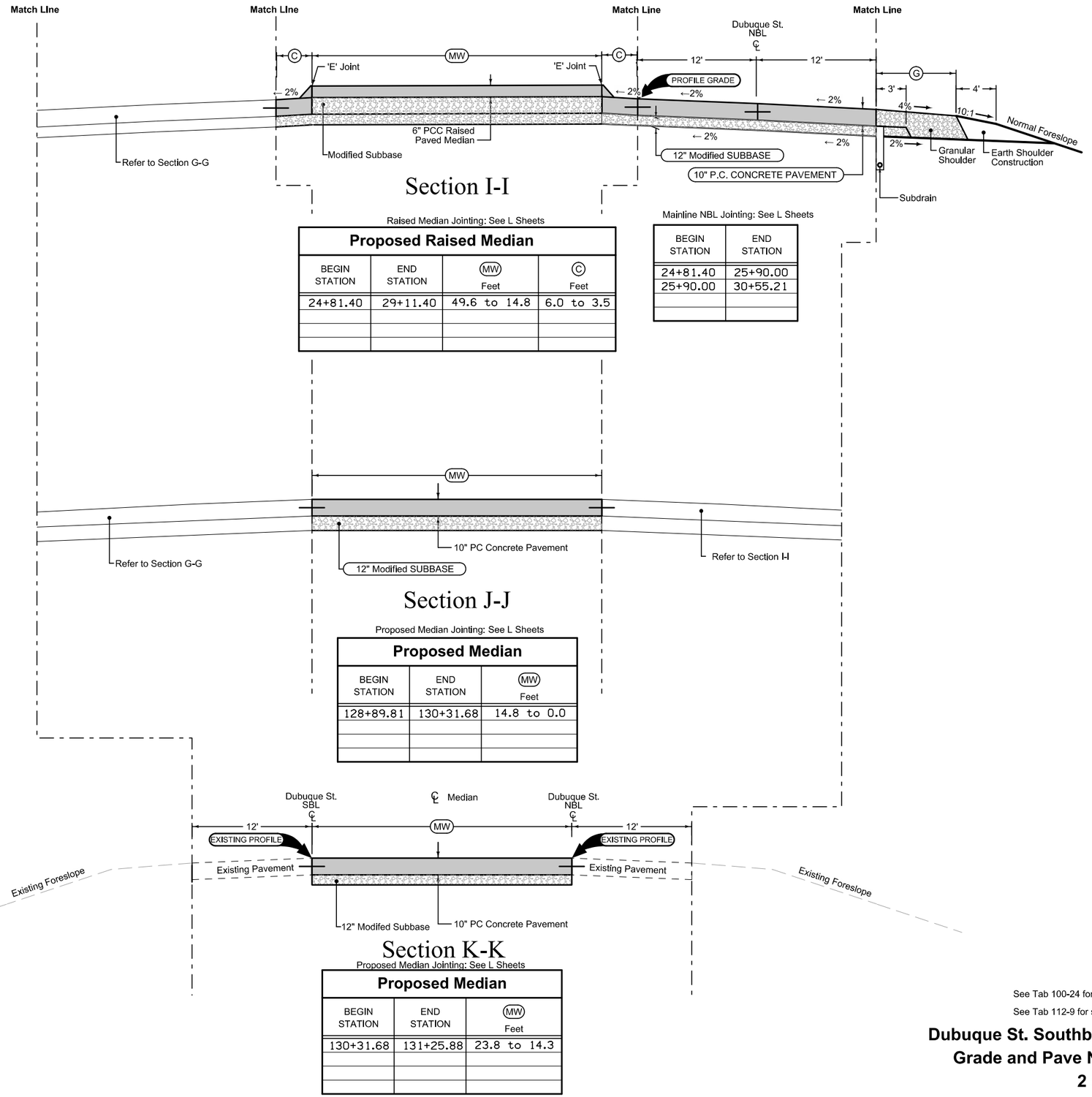
Proposed Median

BEGIN STATION	END STATION	(MW) Feet
23+45.00	24+81.40	52.5 to 49.6

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

Dubuque St. Southbound and Northbound
Grade and Pave North of I-80 Bridge
1 of 2



Granular Shoulder

2_G_SR_
10-19-10

STATION TO STATION		G Feet
24+81.40	30+53.00	8

Proposed Raised Median

BEGIN STATION	END STATION	MW Feet	C Feet
24+81.40	29+11.40	49.6 to 14.8	6.0 to 3.5

BEGIN STATION	END STATION
24+81.40	25+90.00
25+90.00	30+55.21

Proposed Median

BEGIN STATION	END STATION	MW Feet
128+89.81	130+31.68	14.8 to 0.0

Proposed Median

BEGIN STATION	END STATION	MW Feet
130+31.68	131+25.88	23.8 to 14.3

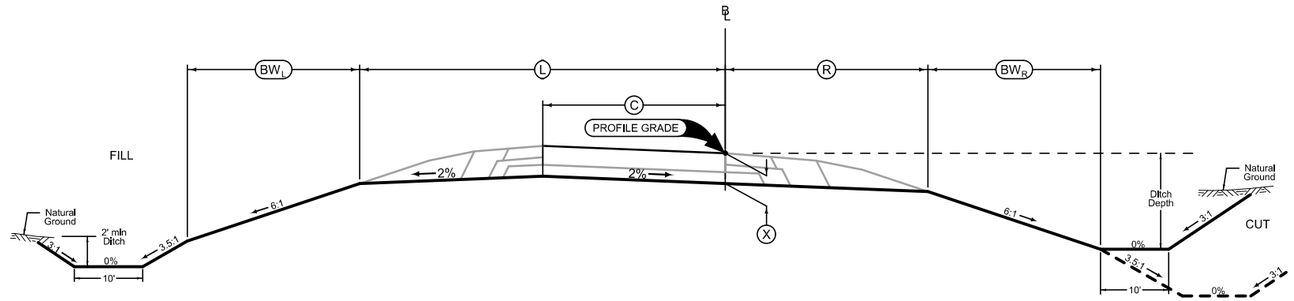
See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

Dubuque St. Southbound and Northbound
Grade and Pave North of I-80 Bridge
2 of 2

LOCATION				DIMENSIONS					
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW_L) Feet	(BW_R) Feet
Dub.St.	A	1915+69.75	1919+20.00	43.5	17.8	24	22	20	20
Dub.St.	A	1919+20.00	1919+60.00	①	17.8	①	22	20	20
Dub.St.	A	1919+60.00		②	②	20	22	20	20
Dub.St.	B	2914+50		37.8	②	20	22	16.9	②
Dub.St.	B	2914+50	2916+10	③	②	③	22	16.9	②
Dub.St.	B	2916+10	2919+20	53.8	②	36	22	16.9	②
Dub.St.	B	2919+20	2920+80.46	④	②	④	22	16.9	②
Dub.St.	C	3508+50	3509+20	33.8	19.5	16	22	16.9	16.7
Dub.St.	C	3509+20	3511+20	33.8	⑤	⑤	22	16.9	16.7
Dub.St.	C	3511+20	3516+23.51	33.8	27.5	24	22	16.9	16.7

1R_Grade
10-18-11



Section view is in direction of traffic.

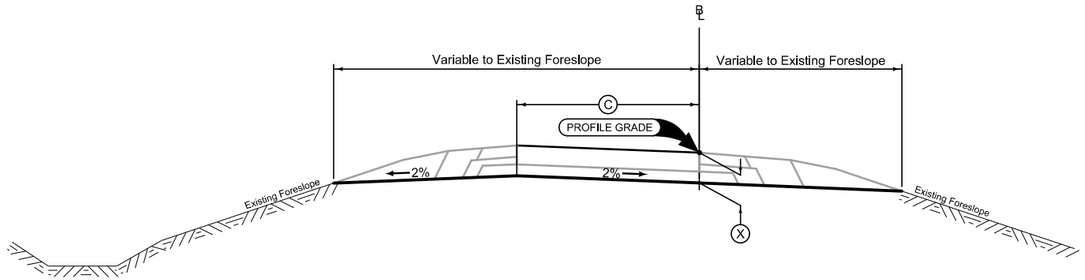
Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or superelevated curves.

RAMP GRADING

① Constant Taper from 1919+20 to 1919+60.
② UAC Existing Foreslope.
③ Constant Taper from 2914+50 to 2916+10.
④ Variable Width and Slopes, See K sheets for details.
⑤ Constant Taper from 3509+20 to 3511+20.

LOCATION				DIMENSIONS					
INTERCHANGE	RAMP	STATION TO STATION		(C) Feet	(X) Inches				
Dub.St.	A	1919+60.00	1928+84.92	20	22				
Dub.St.	B	2908+15.57	2914+50.00	20	22				

Grade2
Modified



Section view is in direction of traffic.

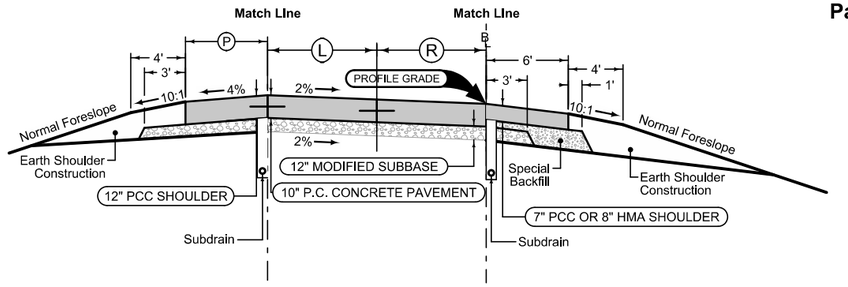
Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or superelevated curves.

RAMP GRADING FOR INLAY

Auxiliary Lane
Full Depth Shoulder

Shoulder Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: C at 20' spacing

		1RP_ 10-19-10	2_AL_Shldr_FullPCC_ 10-19-10
BEGIN STATION	END STATION	(P) Feet	
1919+20	1915+69.8	6	



Section shown in the direction of traffic.

Ramp Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: CD at 20' spacing.

		1RP_ Modified	
BEGIN STATION	END STATION	(L) Feet	(R) Feet
1919+20	1915+69.75	12	12
1919+60	1919+20	①	12
	1919+60	8	12

① Constant Taper from 1919+20 to 1919+60.

Paved Shoulder Alternates

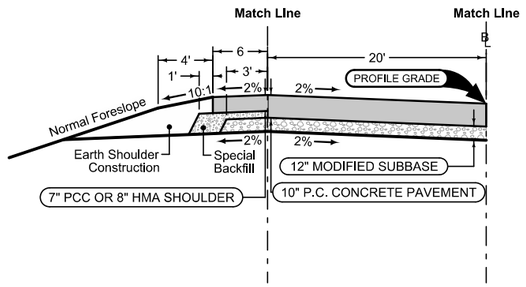
PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

	1L_P_ALT_ 10-19-10	
BEGIN STATION	END STATION	Feet
1929+85.29	1917+05.09	

Paved Shoulder Alternates

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

	1L_P_ALT_ 10-19-10	
BEGIN STATION	END STATION	Feet
1929+85.29	1919+20	



Section shown in the direction of traffic.

Ramp Jointing:
Transverse joints: CD at 20' spacing.
Staging requires KT-3 Longitudinal joint at 10' Lt.

	1RP_ 10-19-10	
BEGIN STATION	END STATION	
1928+84.92	1919+60	

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

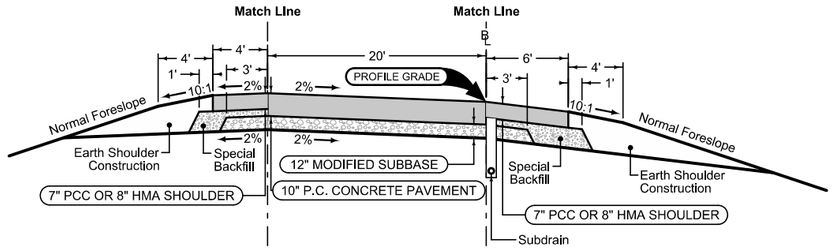
Dubuque St.

Dubuque St. Ramp A

Paved Shoulder Alternates

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

	1L_P_ALT_ 10-19-10
BEGIN STATION	END STATION
2905+51.61	2920+80.44



Section shown in the direction of traffic.

Ramp Jointing:
Transverse joints: CD at 20' spacing.
Staging requires KT-2 Longitudinal joint at 10' Lt.

	1RP_ 10-19-10
BEGIN STATION	END STATION
2905+51.61	2914+50

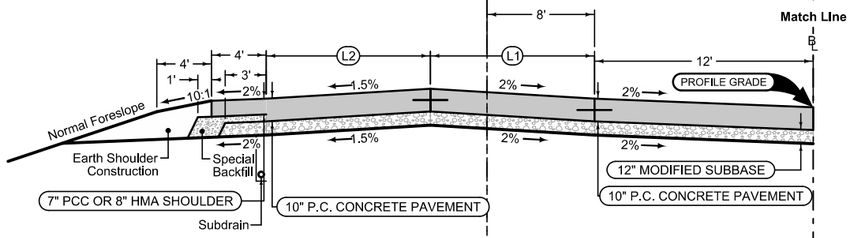
Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

2_AuxLane_PCC_ 10-19-10				
STATION TO STATION		(L2) Feet	(L1) Feet	(P) Feet
2914+50	2915+70	0	①	4
2915+70	2916+90	②	12	4
2916+90	2920+54.90	12	12	4

① 10:1 Taper from 8' to 12'

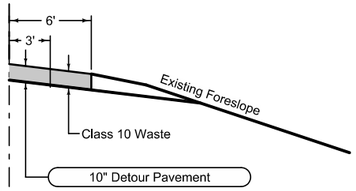
② 10:1 Taper from 0' to 12'



Section shown in the direction of traffic.

Ramp Jointing:
Transverse joints: CD at 20' spacing.
Longitudinal Joints: L-3 or KT-2

	1RP_ 10-19-10
BEGIN STATION	END STATION
2914+50	2520+54.90



(for Staging)
Inlay Paved Shoulder
Detour Pavement

PCC Detour Pavement Jointing:
Transverse joints: C Joint as per Typ. 7203.
Longitudinal Joints: B joint against Existing Pavement

BEGIN STATION	END STATION
2905+51.61	2520+54.90

Paved Shoulder Alternates

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

	1L_P_ALT_ 10-19-10
BEGIN STATION	END STATION
2905+51.61	2920+80.44

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

Dubuque St. Ramp B

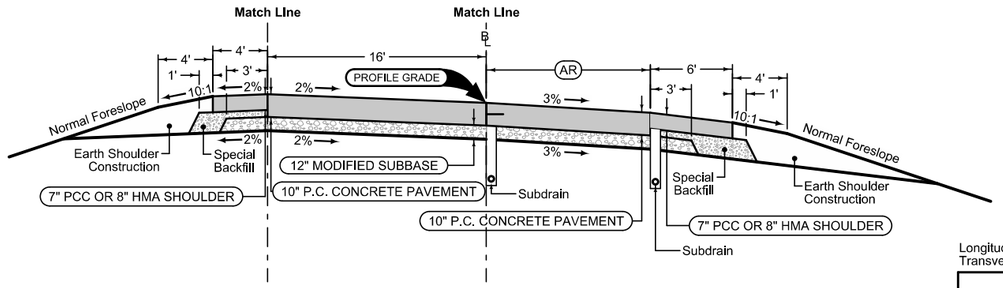
ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER B.8

5:24:54 PM 2/21/2012 jbuttol W:\Projects\52080010C98\Design\Project_306\52080306b01.sht

Paved Shoulder Alternates

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

	1L_P_ALT_ 10-19-10
BEGIN STATION	END STATION
3516+30	3505+28.6



Section shown in the direction of traffic.

Ramp Jointing:
Transverse joints: CD at 20' spacing.

	1RP_ 10-19-10
BEGIN STATION	END STATION
3516+23.51	3503+00

Auxiliary Lane

Longitudinal joint: L-3 or KT-2
Transverse joint: Match Mainline

		2_AuxLane_PCC_ 10-19-10
STATION TO STATION		(AR) Feet
3516+21.48	3511+20	8
3511+20	3509+20	①
3509+20	3503+00	0

① 25:1 Taper from 8' to 0'

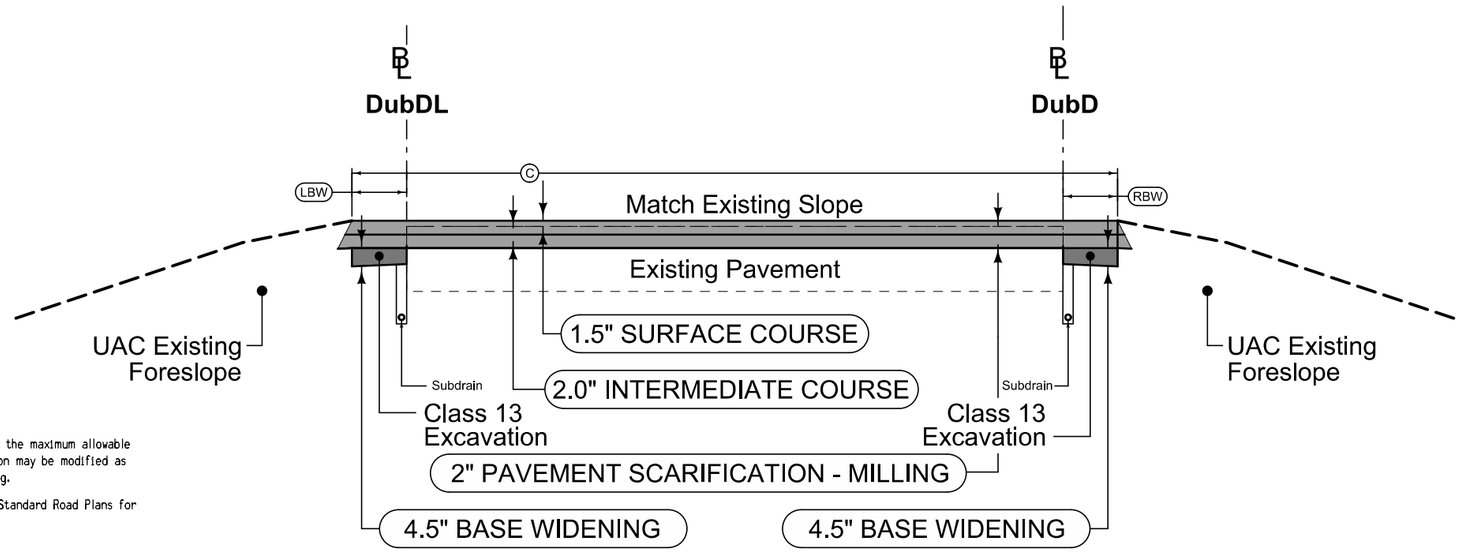
Paved Shoulder Alternates

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

	1L_P_ALT_ 10-19-10
BEGIN STATION	END STATION
3516+21.48	3503+00

See Tab 100-24 for pavement quantities.
See Tab 112-9 for shoulder quantities.

Dubuque St. Ramp C



Notes:

(1) Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of special shaping.

Refer to tabulation listing of superelevated curves and Standard Road Plans for additional requirements through superelevated curves.

(2) Refer to Tab 104-9 for additional subdrain locations.
Refer to Standard Road Plan RF-19C for details of subdrain installation.

(3) Refer to Tab 112-9 for Shoulder Quantities.

(4) Tack Coat estimated for 2 applications and incidental to Intermediate.

(5) Bid item.

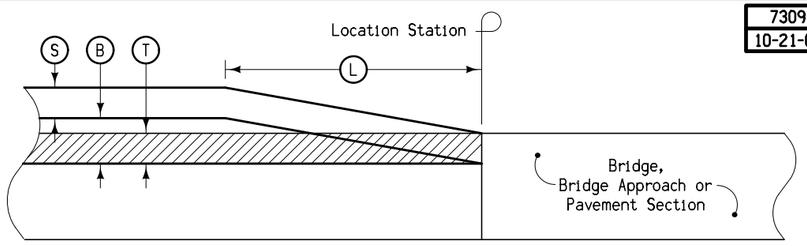
DESIGN RATES Mainline	
ITEM	RATE
Surface Course (1.5")	145 lbs./cu. ft.
Intermediate Course (2")	145 lbs./cu. ft.
Base Course (4.5")	145 lbs./cu. ft.
Tack Coat (per Application)	0.05 gal./sq. yd.
Asphalt Binder (1.5" course)	6% asphalt
Asphalt Binder (2" course)	6% asphalt
Asphalt Binder (4.5" course)	6% asphalt

Design Quantities Per Location

Baseline	STATION TO STATION		(C) Feet	(LBW) Feet	(RBW) Feet	(4) Tack Coat Gallons	(5) Asphalt Binder Tons	(5) Hot Mix Asphalt Tons Surface	(5) Hot Mix Asphalt Tons Intermediate	(5) Pavement Scarification Sq. Yds.	Remarks
DubDL	14920+28.3	14927+90.7	30	6	4	259.1	28.5	209	266	1695	
DubD	4927+90.7	4931+20.5	30	6	4	112.1	11.1	91	94	733	
						372	40	300	360	2428	

Posted Speed Limit	Runout Ratio (ft per inch)
45 or More	50
20 to 45	25
Under 20	10

* Based on turning maneuvers at side roads and intersections.



7309
10-21-03

(S) Surface Course
(B) Intermediate Course
(T) Milling (Avg. Depth)

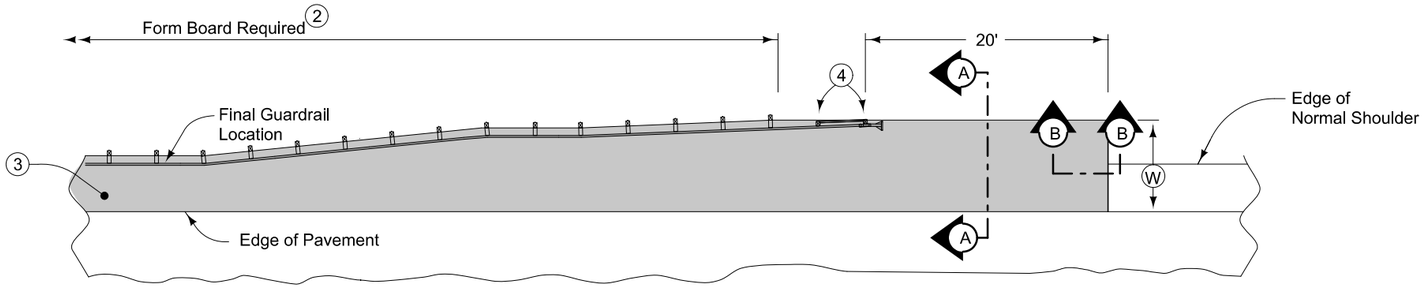
Location Station	(L) Feet	(S) Inches	(B) Inches	(T) Inches
14920+28.3	37.5	1.5	2	2
4927+90.7	75	1.5	2	2

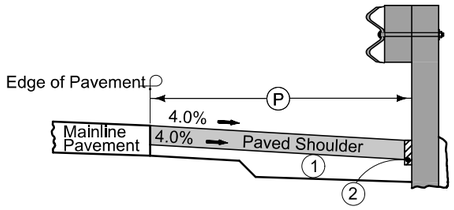
SURFACE NOTCH - INTERMEDIATE RUNOUT FOR RESURFACING OF MILLED AREAS

See Tab 100-24 for pavement quantities.

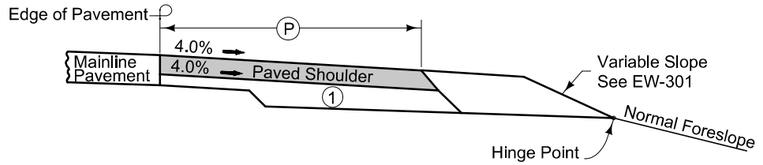
See Tab 112-9 for shoulder quantities.

Dubuque St. Ramp D

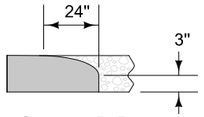




Typical Section with Form Board



Section A-A



Section B-B
Roll down at granular shoulder or earth.

6" HMA Paved Shoulder at guardrail. 7" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse joints in shoulder at mid-panel of the mainline pavement. Place longitudinal joint at W/2 from edge of mainline pavement when W is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal & reinstallation of guardrail will be allowed with no additional payment.

Refer to Shoulder tabulation (112-9) for quantities.

(1) 6" subgrade treatment.

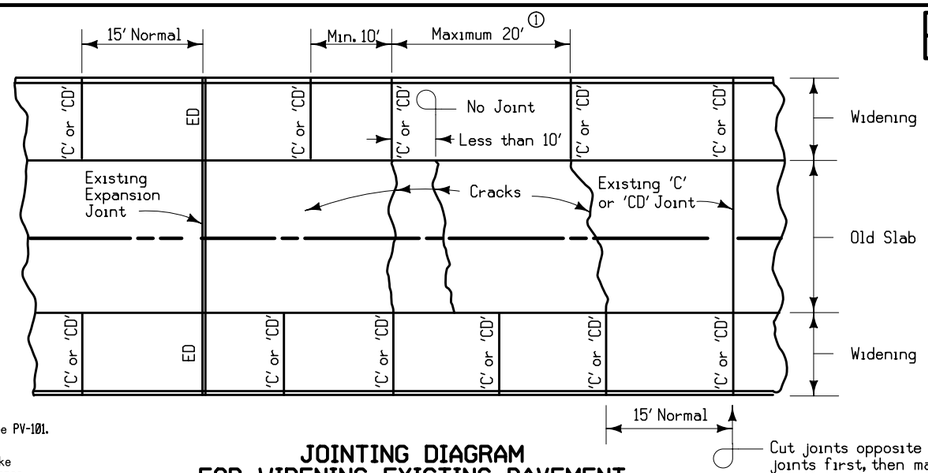
(2) When guardrail posts are installed prior to construction of paved shoulder, nail 1" x 6" untreated form boards along the face of guardrail posts for the length shown. This board is to prevent shoulder material from contacting the sides of the posts and altering the function of the guardrail. Form board not required for final 2 posts.

(3) Continue paved shoulder to existing paved shoulder or 20' beyond the end of guardrail.

(4) Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement.

PAVED SHOULDER AT GUARDRAIL

7203
04-19-11

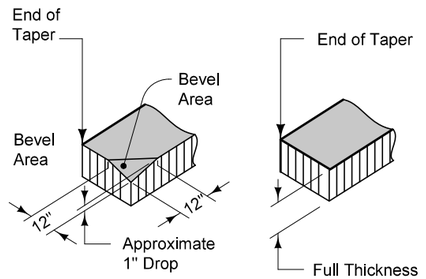


For joint details see PV-101.

① If more than 20' make extra joint ½ distance.

JOINTING DIAGRAM FOR WIDENING EXISTING PAVEMENT

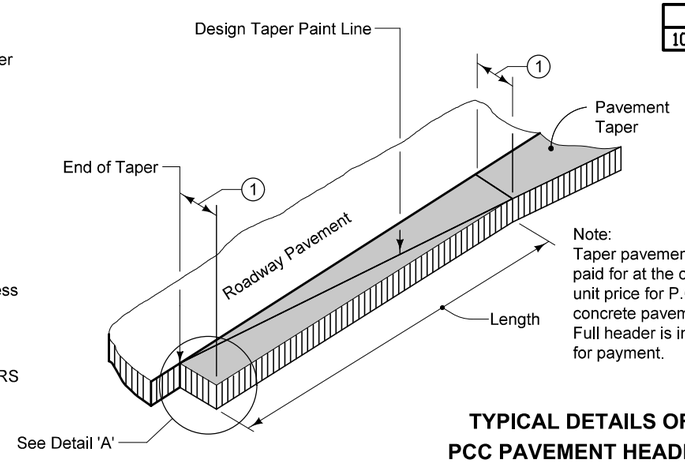
7101
10-19-10



DETAIL 'A' FOR GRANULAR SHOULDERS

DETAIL 'A' FOR PAVED SHOULDERS

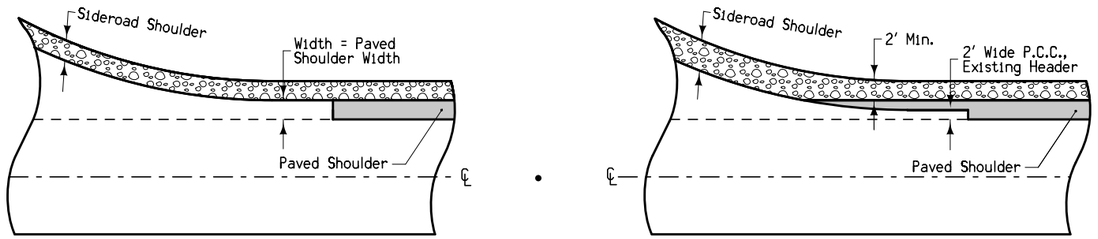
① Normal width is 2'-0". Construct 4'-0" width when butting into 4' wide HMA shoulders (See Typical 7154A).



Note: Taper pavement to be paid for at the contract unit price for P.C. concrete pavement. Full header is included for payment.

TYPICAL DETAILS OF PCC PAVEMENT HEADER

7154B
10-20-09

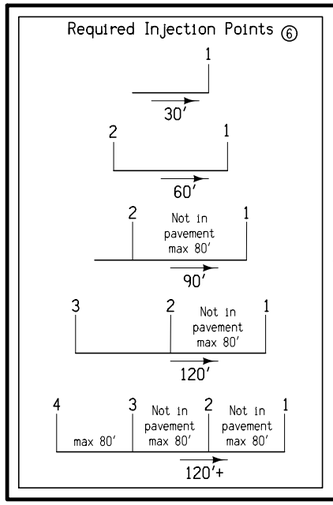


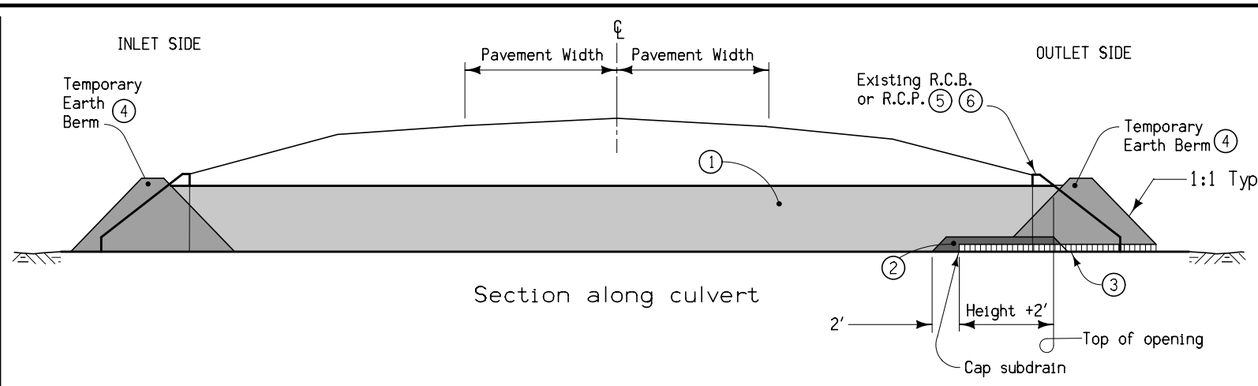
With Newly Constructed Returns

At UAC Returns

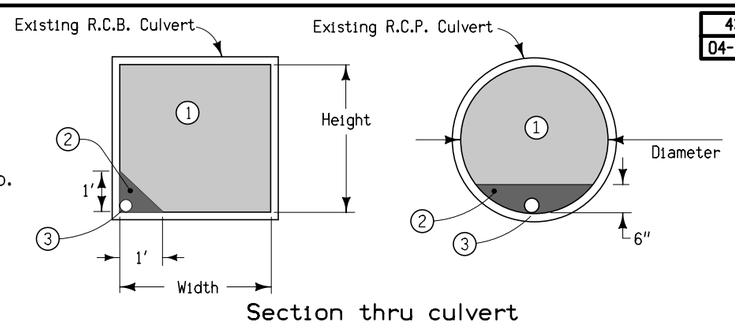
PAVED SHOULDER DETAIL AT RETURNS

4315
04-15-08





Section along culvert



Section thru culvert

① Flowable Mortar.
② Granular Backfill.
③ 4" subdrain at flowline elevation of culvert shall be extended into the culvert a distance of 2' plus the height of the culvert. Granular Backfill covers subdrain and extends an additional 2'. Subdrain and granular backfill are incidental to flowable mortar.
④ Ends of culvert shall be plugged sufficiently to retain flowable mortar. Temporary earth berms are incidental to flowable mortar.
⑤ Removal of headwalls may be required.
⑥ Outlet shall be filled first. See injection point detail for additional information.

DETAILS OF CULVERT ABANDONMENT WITH FLOWABLE MORTAR (Rectangular structures less than 8' in either height or width. Circular structures less than 10' Dia.)

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER B.12

5:24:56 PM 2/21/2012 jbuttol W:\Projects\52080010C98\Design\Project_306\52080306b01.sht

100-1D
10-18-05

PROJECT DESCRIPTION

Dubuque St. Interchange in Iowa City

100-1A
07-15-97

ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built
1	2101-0850002	CLEARING AND GRUBBING	UNIT	133	
2	2102-0425070	SPECIAL BACKFILL	TON	4495.2	
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	31662	
4	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	10	
5	2102-5020010	OBLITERATE OLD ROADBED	STA	42.5	
6	2105-8425005	TOPSOIL, FURNISH AND SPREAD	CY	7731	
7	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	3694	
8	2115-0100000	MODIFIED SUBBASE	CY	10154.1	
9	2121-7425010	GRANULAR SHOULDERS, TYPE A	TON	802.8	
10	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	136	
11	2212-5070310	PATCHES, FULL-DEPTH REPAIR	SY	132.1	
12	2213-2713300	EXCAVATION, CLASS 13, FOR WIDENING	CY	141.9	
13	2214-5145150	PAVEMENT SCARIFICATION	SY	2428	
14	2301-0685550	BRIDGE APPROACH PAVEMENT, AS PER PLAN	SY	438.8	
15	2301-1033100	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 10 IN.	SY	20334.3	
16	2301-4875006	MEDIAN, P.C. CONCRETE, 6 IN.	SY	4094.9	
17	2301-6911722	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES	LS	1	
18	2303-0031500	HOT MIX ASPHALT MIXTURE (1,000,000 ESAL), BASE COURSE, 1/2 IN. MIX	TON	277.7	
19	2303-0032500	HOT MIX ASPHALT MIXTURE (1,000,000 ESAL), INTERMEDIATE COURSE, 1/2 IN. MIX	TON	360	
20	2303-0033504	HOT MIX ASPHALT MIXTURE (1,000,000 ESAL), SURFACE COURSE, 1/2 IN. MIX, FRICTION L-4	TON	300	
21	2303-0246422	ASPHALT BINDER, PG 64-22	TON	40	
22	2303-6911000	HOT MIX ASPHALT PAVEMENT SAMPLES	LS	1	
23	2304-0100000	DETOUR PAVEMENT	SY	5070.8	
24	2416-0100015	APRONS, CONCRETE, 15 IN. DIA.	EACH	4	
25	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	2	
26	2435-0140148	MANHOLE, STORM SEWER, SW-401, 48 IN.	EACH	2	
27	2435-0250800	INTAKE, SW-508	EACH	9	
28	2435-0251000	INTAKE, SW-510	EACH	3	
29	2435-0251224	INTAKE, SW-512, 24 IN.	EACH	3	
30	2435-0254600	INTAKE, SW-546	EACH	2	
31	2502-2308110	CONTINUOUS TRENCH DRAIN (500-20)	LF	200	
32	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	10642.5	
33	2502-8220193	SUBDRAIN OUTLET (RF-19C)	EACH	19	
34	2502-8220196	SUBDRAIN OUTLET, RF-19E	EACH	38	
35	2503-0110015	STORM SEWER GRAVITY MAIN, TRENCHED, 15 IN.	LF	1277	
36	2503-0110024	STORM SEWER GRAVITY MAIN, TRENCHED, 24 IN.	LF	158	
37	2503-0120015	STORM SEWER GRAVITY MAIN, TRENCHLESS, 15 IN.	LF	67	
38	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	556	
39	2505-4008300	STEEL BEAM GUARDRAIL	LF	137.5	
40	2505-4008400	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION	EACH	2	
41	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	2	
42	2505-4021700	STEEL BEAM GUARDRAIL END TERMINAL	EACH	2	
43	2506-4984000	FLOWABLE MORTAR	CY	4.5	
44	2510-6745850	REMOVAL OF PAVEMENT	SY	28888.1	
45	2513-0001081	CONCRETE BARRIER, TAPERED END, BA-108	EACH	4	
46	2513-0474990	CONCRETE BARRIER, REINFORCED, AS PER PLAN	LF	300	
47	2518-6910000	SAFETY CLOSURE	EACH	18	
48	2520-3350010	FIELD LABORATORY	EACH	1	
49	2526-8285000	CONSTRUCTION SURVEY	LS	1	
50	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	471.54	
51	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS	STA	168.51	
52	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	179.9	
53	2528-8400256	TEMPORARY TRAFFIC SIGNALS	EACH	6	
54	2528-8445110	TRAFFIC CONTROL	LS	1	
55	2528-8445113	FLAGGERS	EACH		
56	2528-8445115	PILOT CARS	EACH		
57	2533-4980005	MOBILIZATION	LS	1	
58	2601-2633100	MOWING	ACRE	18.5	
59	2601-2634100	MULCHING	ACRE	18.5	
60	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	18.5	
61	2601-2640350	SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT	SQ	4.4	
62	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	18.5	
63	2601-2643110	WATERING FOR SOD, SPECIAL DITCH CONTROL, OR SLOPE PROTECTION	MGAL	8.8	
64	2601-2643300	MOBILIZATION FOR WATERING	EACH	1	
65	2601-2643401	TURF REINFORCEMENT MAT	SQ	6	
66	2601-2700010	OUTLET OR CHANNEL SCOUR PROTECTION	SF	64	
67	2602-0000020	SILT FENCE	LF	2401.3	
68	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	162	
69	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	1014.5	
70	2602-0000306	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 6 IN. DIA.	LF	600	

100-1A
07-15-97

ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built
		SEE SHEETS N.1 AND V.1 FOR ADDITIONAL QUANTITIES			

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	2101-0850002	**CLEARING AND GRUBBING**
		A list of quantities will be furnished by the Resident Construction Engineer at the
		pre-construction meeting.
-	-	-
2	2102-0425070	**SPECIAL BACKFILL**
		Refer to Tabs. 100-24 and 112-9 for locations and details.
-	-	-
3	2102-2710070	**EXCAVATION, CLASS 10, ROADWAY AND BORROW**
		Includes 3,545 cu. yds. Stage 1 suitable material, 2,675 to be Wasted. Refer to "T" sheets.
		7,315 cu. yds. Stage 2A suitable material, 5,186 to be Wasted. Refer to "T" sheets.
		4,445 cu. yds. Stage 2B suitable material, 4,369 to be Wasted. Refer to "T" sheets.
		16,263 cu. yds. Stage 3 suitable material, 14,536 to be Wasted. Refer to "T" sheets.
		94 cu. yds. for beam guardrail installations. Refer to Tab. 107-23 for locations and details.
		Special attention should be given to Section 2107.03, C, Standard Specifications series of 2009,
		in this project.
-	-	-
4	2102-2712015	**EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS**
		A. Refer to Tab. 103-7 on Sheet C.11.
		B. Dispose of excess material according to Article 1106.07 of the current
		specifications.
-	-	-
5	2102-5020010	**OBLITERATE OLD ROADBED**
		A. The work consists of obliterating Ramp C from Station 3893+46 to 3915+37 and Loop D from
		4918+06 to 4938+65 as shown on Typical 4302.
		B. Method of measurement will be in stations measured along centerline of old roadbed.
		C. Basis of payment will be the contract unit price for the number of stations of old roadbed
		obliterated. Payment is full compensation for construction as shown on Typical 4302. Excavation will
		not be paid separately. Pavement removal is bid separately.
-	-	-
6	2105-8425005	**TOPSOIL, FURNISH AND SPREAD**
		The Contractor shall provide all the required topsoil and
		follow provisions in Section 2105 of the current specifications.
		The Contractor is allowed to strip 1' from impacted foreslopes within the
		construction limits, place wasted Class 10 material in escavated area, and
		be responsible for stockpile location until final topsoil placement.
		Method of Mesurement:
		The quantity of topsoil furnished and spread will be measured in
		cubic yards and will be computed on the depth of topsoil specified
		in the contract document over the area involved and includes 40% to account
		for compaction shrinkage and hauling losses. Sufficent field
		measurements will be taken to assure reasonable conformity with the
		required final thickness of topsoil in place.
		Basis of Payment:
		The Contractor will be paid the contract unit price for topsoil,
		furnish and spread per cubic yard of topsoil placed, measured as
		provided above.
		Overhaul will not be paid for on this item.
-	-	-
7	2107-0875100	**COMPACTION WITH MOISTURE CONTROL**
		Refer to Tab. 103-6.
		Cubic yards shown on the contract documents as determined by the template fill volume. Shrinkage

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
		will not be included in moisture and density control quantity.
-	-	-
8	2115-0100000	MODIFIED SUBBASE
		Refer to Tab 100-24 for locations and details.
-	-	-
9	2121-7425010	GRANULAR SHOULDERS, TYPE A
		Typical 7110 and Tabulation 112-9 for locations and details.
-	-	-
10	2123-7450000	SHOULDER CONSTRUCTION, EARTH
		See Tab. 112-9 for locations and Details.
		Requires 3570 cu. yds. of Topsoil for Earth Shoulder Fill.
		No payment for overhaul allowed for this material.
-	-	-
11	2212-5070310	PATCHES, FULL-DEPTH REPAIR
		Refer to Tab. 102-6C for locations and details.
-	-	-
12	2213-2713300	EXCAVATION, CLASS 13, FOR WIDENING
		Refer to Tab.100-24 and Sheet B.10 Ramp D Typical for locations and details.
-	-	-
13	2214-5145150	PAVEMENT SCARIFICATION
		Refer to Sheet B.10 Ramp D Typical for locations and details.
-	-	-
14	2301-0685550	BRIDGE APPROACH PAVEMENT, AS PER PLAN
		Refer to Tab. 112-6 for locations and details.
		Includes 150.5 SY of Double Reinforced Pavement, 111.1 SY or Single Reinforced Pavement, and 176.24 SY
		of Non-reinforced Pavement.
-	-	-
15	2301-1033100	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 10 IN.
		Refer to Tab 100-24 for locations and details.
-	-	-
16	2301-4875006	MEDIAN, P.C. CONCRETE, 6 IN.
		Refer to Tab. 100-24 for locations and details.
-	-	-
17	2301-6911722	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES
		- -
-	-	-
18	2303-0031500	HOT MIX ASPHALT MIXTURE (1,000,000 ESAL), BASE COURSE, 1/2 IN. MIX
		Refer to Tab.100-24 and Sheet B.10 Ramp D Typical for locations and details.
-	-	-
19	2303-0032500	HOT MIX ASPHALT MIXTURE (1,000,000 ESAL), INTERMEDIATE COURSE, 1/2 IN. MIX
20	2303-0033504	HOT MIX ASPHALT MIXTURE (1,000,000 ESAL), SURFACE COURSE, 1/2 IN. MIX, FRICTION L-4
21	2303-0246422	ASPHALT BINDER, PG 64-22
		Refer to Sheet B.10 Ramp D Typical for locations and details.
	2303-0246422	ASPHALT BINDER, PG 64-22
		Estimated at 6%.
-	-	-
22	2303-6911000	HOT MIX ASPHALT PAVEMENT SAMPLES
		- -
-	-	-
23	2304-0100000	DETOUR PAVEMENT
		Refer to Tab. 100-24 for locations and details.
-	-	-
24	2416-0100015	APRONS, CONCRETE, 15 IN. DIA.
25	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.
26	2435-0140148	MANHOLE, STORM SEWER, SW-401, 48 IN.
27	2435-0250800	INTAKE, SW-508
28	2435-0251000	INTAKE, SW-510
29	2435-0251224	INTAKE, SW-512, 24 IN.
30	2435-0254600	INTAKE, SW-546
		Refer to Tab. 105-4B in the M Sheets.
-	-	-
31	2502-2308110	CONTINUOUS TRENCH DRAIN (500-20)
		Method of Measurement:
		Measurement will be in Linear feet.
		Basis of Payment:
		A. Payment for Continuous Trench Drain will be the contract unit price per linear foot.
		B. Payment is full compensation for:
		-Purchasing the manufactured continuous trench drain materials.
		-Furnishing all equipment, tools, and labor to the construct trench drain.
		C. Connection to manhole, pipe, or apron is incidental to Continuous Trench Drain.
-	-	-
32	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.
33	2502-8220193	SUBDRAIN OUTLET (RF-19C)
34	2502-8220196	SUBDRAIN OUTLET, RF-19E
		Refer to Tab 104-9 for locations and details.
-	-	-
35	2503-0110015	STORM SEWER GRAVITY MAIN, TRENCHED, 15 IN.
36	2503-0110024	STORM SEWER GRAVITY MAIN, TRENCHED, 24 IN.
		Refer to Tab. 105-4B in the M Sheets.
-	-	-
37	2503-0120015	STORM SEWER GRAVITY MAIN, TRENCHLESS, 15 IN.
		- -
-	-	-
38	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL
		Refer Tab. 110-7A for locations and details.
		All removed Guardrail, Posts and Hardware shall become property of the Contractor.
-	-	-
39	2505-4008300	STEEL BEAM GUARDRAIL
40	2505-4008400	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION
41	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED
42	2505-4021700	STEEL BEAM GUARDRAIL END TERMINAL
		See Tab. 108-8A for locations and details.
-	-	-
43	2506-4984000	FLOWABLE MORTAR
		Includes 4.5 cu.yds. for fill and abandon culvert. Refer to Tab. 110-9
		in the C Sheets and typical 4315 in the B Sheets.
		Silt inside existing culverts need not be removed prior to placing flowable mortar.
-	-	-
44	2510-6745850	REMOVAL OF PAVEMENT
		A. Refer to Tabs.110-1 and 102-5.
-	-	-
45	2513-0001081	CONCRETE BARRIER, TAPERED END, BA-108
		Refer Tab 108-18 and Sheet U.1 for locations and details.
-	-	-
46	2513-0474990	CONCRETE BARRIER, REINFORCED, AS PER PLAN
		Refer to Tab 108-18 and Sheet U.2 and U.3 for locations and details.
-	-	-
47	2518-6910000	SAFETY CLOSURE
		Refer to Tab. 108-13A and J Sheets for locations and details.
-	-	-
48	2520-3350010	FIELD LABORATORY
		- -
-	-	-
49	2526-8285000	CONSTRUCTION SURVEY
		- -
-	-	-
50	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED
51	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS
52	2527-9263180	PAVEMENT MARKINGS REMOVED
		Refer to Tab. 108-22 for locations and details.
-	-	-
53	2528-8400256	TEMPORARY TRAFFIC SIGNALS
		See N Sheets for Bid item reference Notes, Tab. 108-28 for locations and details.
-	-	-
54	2528-8445110	TRAFFIC CONTROL
		- -
-	-	-
55	2528-8445113	FLAGGERS
		- -
-	-	-
56	2528-8445115	PILOT CARS
		- -
-	-	-
57	2533-4980005	MOBILIZATION

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
		- -
-	-	-
58	2601-2633100	**MOWING**
		All areas disturbed and seeded to stabilizing crop during grading and paving shall be mowed in
		October or November following completion of grading and paving.
-	-	-
59	2601-2634100	**MULCHING**
		Mulch: Rate--1½ tons of dry cereal straw per acre. All mulch is to be consolidated into the soil with
		the mulch stabilizer. Mulch shall be Certified Noxious Weed Seed Free Mulch as certified by the
		Iowa Crop Improvement Association or adjacent states Crop Improvement Associations.
-	-	-
60	2601-2636043	**SEEDING AND FERTILIZING (RURAL)**
		Included for all disturbed areas including borrow following final construction.
		Seed Mixture:
		Fescue, Tall (Turf Type) 55 lbs. per acre
		Ryegrass, Perennial 45 lbs. per acre
		Fescue, Creeping Red 35 lbs. per acre
		Fertilizer: Rate--750 lbs. of 13-13-13 or equivalent commercial fertilizer per acre.
-	-	-
61	2601-2640350	**SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT**
		Approximate locations:
-	-	-
62	2601-2642100	**STABILIZING CROP - SEEDING AND FERTILIZING**
		Included for all disturbed areas.
		This item may be deleted if permanent seeding is accomplished by May 31.
		Seed Mixture:
		Spring--March 1 to May 20
		Oats 2 bu. per acre
		Grain Rye 25 lbs. per acre
		Red Clover 5 lbs. per acre
		Timothy 5 lbs. per acre
		Summer--May 21 to July 20
		Oats 3 bu. per acre
		Grain Rye 35 lbs. per acre
		Red Clover 5 lbs. per acre
		Timothy 5 lbs. per acre
		Fall--July 21 to September 30
		Oats 2 bu. per acre
		Grain Rye 35 lbs. per acre
		Red Clover 5 lbs. per acre
		Timothy 5 lbs. per acre
		Fertilizer: Rate--450 lbs. of 13-13-13 or equivalent commercial fertilizer per acre.
-	-	-
63	2601-2643110	**WATERING FOR SOD, SPECIAL DITCH CONTROL, OR SLOPE PROTECTION**
		Estimate is based on four waterings of the special ditch control. Rate: 0.5 gal/sq foot.
-	-	-
64	2601-2643300	**MOBILIZATION FOR WATERING**
		Included for the 2nd, 3rd and 4th waterings of the special ditch control
-	-	-
65	2601-2643401	**TURF REINFORCEMENT MAT**
		Refer to Tab 104-8A for locations and details.
-	-	-
66	2601-2700010	**OUTLET OR CHANNEL SCOUR PROTECTION**
		Refer Tab 104-8A for locations and details.
		Method of Measurement will be in square feet of actual area covered. Basis of Payment will include
		all material, equipment, and labor needed to install the Scourstop as defined by
		Standard Road Plan RF-39.
-	-	-
67	2602-0000020	**SILT FENCE**
		Refer to Tab. 100-17.
		The tabulation includes estimated locations for placement of "Silt Fence" to address erosion to
		be encountered during construction. Verify the specific locations with the Engineer prior to
		beginning placement. Bid item includes 25% additional quantity for other locations of erosion.
-	-	-
68	2602-0000030	**SILT FENCE FOR DITCH CHECKS**
		Refer to Tab 100-18.
		The tabulation includes estimated locations for placement of "Silt Fence for Ditch Checks" to
		address erosion to be encountered during construction. Verify the specific locations with the
		Engineer prior to beginning placement. Bid item includes 50% additional
		quantity for field adjustments and replacements.
-	-	-
69	2602-0000101	**MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK**

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
		Refer to Tab 100-17 and 100-18.
-	-	-
70	2602-0000306	**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 6 IN. DIA.**
		This item is included for the temporary perimeter sediment control and water velocity reduction on slopes.
		Wattles and sediment logs shall consist of wood excelsior or straw contained in a tube of ultraviolet (UV)
		degradable open weave fabric (synthetic netting). Wattle or sediment log installation shall be as per
		manufacturer''s recommended installation procedures.
		Filter socks shall be continuous, tubular, knitted mesh netting with 3/8" opening, constructed of
		5-mil thickness, photodegradable HDPE. The filter material shall be compost from an approved source
		meeting Article 4169.08 of the Standard Specifications. The sock shall be filled by blowing the
		filter material into the tube with a special pneumatic blower truck or similar device. Hand filling is
		not an acceptable means to fill the sock. Compost filter socks shall be installed as per manufacturer''s
		recommended installation procedures.
		Approximate Locations:
		Inlet and Outlet Protection
		Critical Perimeter Protection
-	-	-

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
BA-108	04-19-11	Concrete Barrier Tapered End Section
BA-200	10-18-11	Steel Beam Guardrail Components
BA-201	10-19-10	Steel Beam Guardrail Barrier Transition Section
BA-202	10-18-11	Steel Beam Guardrail Bolted End Anchor
BA-205	10-18-11	Steel Beam Guardrail End Terminal
BA-250	10-18-11	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post
EC-201	04-20-10	Silt Fence
EW-101	04-19-11	Embankment and Rebuilding Embankments
EW-301	04-19-11	Guardrail Grading
PM-110	04-19-11	Line Types
PM-111	10-18-11	Symbols and Legends
PM-120	04-19-11	Stop Lines and Islands
PM-210	10-18-11	Separation in Two-Lane Roadway
PM-310	04-19-11	Entrance and Exit Ramps
PV-101	04-17-12	Joints
PV-102	04-19-11	PCC Curb Details
PV-104	04-19-11	Ramped Median Nose
PV-302	04-17-12	Superelevation Details Four Lane Roadway Depressed Median
PV-303	04-19-11	Superelevation Details Ramps
RF-2	10-18-11	Construction of Type "C" Concrete Adaptors for Pipe Culvert Connections
RF-3	10-18-11	Concrete Aprons
RF-14	10-18-11	Connected Pipe Joints
RF-19C	10-19-10	Subdrains (Longitudinal)
RF-19E	10-20-09	Outlets for Longitudinal, Transverse and Backslope Subdrains
RF-21	10-18-11	Culvert Pipe Tee Sections
RF-39	04-19-11	Scour Protection for Bridge End Drain
RG-2	10-19-04	Details for Hot Mix Asphalt Resurfacing (Double Course)
RG-8	10-17-06	Hot Mix Asphalt Base Widening
RK-23	04-19-11	Bridge Approach (Multi-Lane, Curbed Roadway)
RK-25	04-17-12	Double Reinforced 10" Approach
RR-4	04-19-11	Full Depth PCC Patch with Dowels
SI-111	10-20-09	Support Structures - Wood Posts
SI-131	10-18-11	Installation - Type 'A' Signs
SI-172	10-18-11	Delineators
SI-173	04-20-10	Object Markers
SI-211	10-19-10	Object Marker and Delineator Placement with Guardrail
SI-881	04-19-11	Special Signs for Workzones
SW-101	04-21-09	Trench Bedding and Backfill Zones
SW-102	04-21-09	Rigid Gravity Pipe Trench Bedding
SW-401	04-21-09	Circular Storm Sewer Manhole
SW-508	10-20-09	Single Open-Throat Intake, Large Box
SW-510	10-18-11	Double Open-Throat Curb Intake, Large Box
SW-512	10-20-09	Circular Area Intake
SW-546	04-19-11	Single Open-Throat Barrier Intake
SW-602	10-20-09	Castings for Storm Sewer Manholes
SW-604	10-20-09	Castings for Area Intakes
TC-1	10-18-11	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-233	10-18-11	Pavement Marking Operations Two-Lane
TC-251	04-17-12	Temporary Road Closure
TC-402	04-17-12	Shoulder Closure (Multi-Lane)
TC-416	04-17-12	Partial Lane Closure on Ramps
TC-418	04-17-12	Lane Closure on Divided Highway

INDEX OF TABULATIONS

POLLUTION PREVENTION PLAN

This Base Pollution Prevention Plan (PPP) includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed per plan revisions or by contract modification, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The prime contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITES
- A. Designer:
  1. Prepares Base PPP included in the project plan.
  2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
  3. Signature authority on the Base PPP and NOI.
- B. Contractor/Subcontractor:
  1. Affected contractors/subcontractors are co-permittees with the IDOT and will sign a certification statement adhering to the requirements of the NPDES permit and this PPP plan. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
  2. Submit a detailed schedule according to Article 2602 of the Specifications and any additional plan notes.
  3. Install and maintain appropriate controls.
  4. Supervise and implement good housekeeping practices.
  5. Conduct joint required inspections of the site with inspection staff.
  6. Signature authority on Co-Permittee Certification Statements and storm water inspection reports.
- C. RCE/Inspector:
  1. Update PPP whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the discharge of pollutants from the project.
  2. Maintain an up-to-date list that identifies contractors and subcontractors as co-permittees.
  3. Make these plans available to the DNR upon their request.
  4. Conduct joint required inspections of the site with the contractor/subcontractor.
  5. Complete an inspection report after each inspection.
  6. Signature authority on storm water inspection reports and Notice of Discontinuation (NOD).

II. PROJECT SITE DESCRIPTION
- A. This Pollution Prevention Plan (PPP) is for the construction Grade and Pave of Dubuque St. and the Dubuque St. interchange in Iowa City.
- B. This PPP covers approximately 215.9 acres with an estimated 23.5 acres being disturbed. The portion of the PPP covered by this contract has 23.5 acres disturbed.
- C. The PPP is located in an area of soil association (Fayette). The estimated average SCS runoff curve number for this PPP after completion will be 97.
- D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including:
  1. Drainage patterns – Plan and Profile sheets and Situation plans.
  2. Proposed Slopes – Cross Sections.
  3. Areas of Soil Disturbance – construction limits shown on Plan and Profile sheets.
  4. Location of Structural Controls – Tabulations on C sheets.
  5. Locations of Non-structural Controls – Tabulations on C sheets.
  6. Locations of Stabilization Practices – generally within construction limits shown on Plan and Profile sheets.
  7. Surface Waters (including wetlands) – Plan and Profile sheets.
  8. Locations where storm water is discharged – Plan and Profile sheets.
- E. The base site map is amended by contract modifications and progress payments of completed erosion control work.
- F. Runoff from this work will flow into various unnamed ditches and waterways which flow into Ralston Creek, other small creeks and the Iowa River. Ralston Creek is a tributary of the Iowa River and the Iowa River is a tributary of the Mississippi River.

III. CONTROLS
- A. The contractor’s work plan and sequence of operations specified in Article 2602.03 for accomplishment of storm water controls should clearly describe the intended sequence of major activities and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Section 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B.
  1. EROSION AND SEDIMENT CONTROLS
     a. Stabilization Practices
        1) Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized.
        2) Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased.
        3) Temporary stabilizing seeding shall be completed as the disturbed areas are constructed. If construction activity is not planned to occur in a disturbed area for at least 21 days, the area shall be stabilized by temporary seeding or mulching within 14 days. Other stabilizing methods shall be used outside the seeding time period.
        4) Stabilization measures to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Additional items may be found in the Inspector’s Daily Reports (IDR) or Contract Modifications.
     b. Structural Practices
        1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site.
        2) Structural items to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B sheets of the plan or are referenced in the Standard Road Plans Tabulation.
     c. Storm Water Management
        1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

110-12A
04-19-11

POLLUTION PREVENTION PLAN

  2. OTHER CONTROLS
     a. Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
        1) Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
        2) Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
        3) Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
        4) Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
        5) Spill Prevention and Control - Implement procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.
        6) Concrete Residuals and Washout Wastes - Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located.
        7) Vehicle and Equipment Cleaning - Employ washing practices that prevent contamination of surface and ground water from wash water.
        8) Vehicle and Equipment Fueling and Maintenance - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onside fuels and proper disposal of used engine oil or other fluids on site.
        9) Litter Management - Ensure employees properly dispose of litter.
  3. APPROVED STATE OR LOCAL PLANS
     During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

IV. MAINTENANCE PROCEDURES
The contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS
- A. Inspections shall be made jointly by the contractor and the contracting authority at least once every seven calendar days and after each rain event that is ½" or greater. Storm water monitoring inspections will include:
  1. Date of the inspection.
  2. Summary of the scope of the inspection.
  3. Name and qualifications of the personnel making the inspection.
  4. Rainfall amount.
  5. Review erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
  6. Major observations related to the implementation of the PPP.
  7. Identify corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water monitoring inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found and complete all actions within 3 calendar days of the inspection.

VI. NON-STORM WATER DISCHARGES
This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of patio blocks, Class A stone, erosion stone or other appropriate materials.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION
Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS
- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - May include Plan Revisions or Contract Modifications for new items and fieldbook entries made by the inspector.
- C. IDR - Inspector’s Daily Report – this contains the inspector’s daily diary and item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials.
- E. Signature Authority - Representative from Designer, Contractor/Subcontractor, or RCE/Inspector authorized to sign various storm water documents.

102-5
Modified

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Milepost	End Milepost				Type	Depth IN	Type	Depth IN	Type	Depth IN	Type	Depth IN	Source	Type	Durability Class	Type	
	Johnson	I-80		242.17	244.87	1995		IMN-80-6(194)240--OE-52	ACC	2								CR.ST.			Ramp D Info
	Johnson	I-80		242.17	244.87	1963		I-IG-80-6(5)245	PCC	10	GSB	4						C.LST.	I		GND 1988

102-6C
10-18-11

FULL-DEPTH PATCHES

Refer to Standard Roads Plans RR-1, RR-2, RR-4, RR-18, and RR-26

Count	Location Station or Milepost	Lane	Dimension Length	Width	Patch Thickness	PCC Patches With Dowels RR-4	Without Dowels RR-2	C R C RR-18	HMA Patches	Composite HMA	Subbase Patches RR-26	Subbase Patch w/ 'EF' Joint RR-1	Patch Subdrain RR-1 or RR-26	'CD' Joints	'CT' Joints	'EF' Joints RR-1	Anchor Lugs Removal	Remarks
		L, R, or B	FT	FT	IN	SY	SY	SY	SY	TON	SY	SY	No.	No.	No.	No.	No.	
1	4925+05	R	6.0	6.0	8.0	4.0												DBQ st on ramp D
2	4925+25	R	6.0	6.0	8.0	4.0												DBQ st on ramp D
3	4625+51	L	6.0	6.0	8.0	4.0												DBQ st on ramp D
4	4625+51	L	6.0	14.0	8.0	9.3												DBQ st on ramp D
5	4926+88	L	6.0	6.0	8.0	4.0												DBQ st on ramp D
6	4926+88	L	6.0	14.0	8.0	9.3												DBQ st on ramp D
7	4927+05	L	6.0	6.0	8.0	4.0												DBQ st on ramp D
8	4927+05	L	6.0	14.0	8.0	9.3												DBQ st on ramp D
9	4928+10	L	6.0	6.0	8.0	4.0												DBQ st on ramp D
10	4928+10	L	6.0	14.0	8.0	9.3												DBQ st on ramp D
11	4928+60	L	6.0	6.0	8.0	4.0												DBQ st on ramp D
12	4928+60	L	6.0	14.0	8.0	9.3												DBQ st on ramp D
13	4929+14	L	8.0	6.0	8.0	5.3												DBQ st on ramp D
14	4929+14	L	8.0	14.0	8.0	12.4												DBQ st on ramp D
15	4929+53	L	6.0	6.0	8.0	4.0												DBQ st on ramp D
16	4929+53	L	6.0	14.0	8.0	9.3												DBQ st on ramp D
17	4929+93	L	6.0	6.0	8.0	4.0												DBQ st on ramp D
18	4929+93	L	6.0	14.0	8.0	9.3												DBQ st on ramp D
19	4930+51	L	6.0	6.0	8.0	4.0												DBQ st on ramp D
20	4930+51	L	6.0	14.0	8.0	9.3												DBQ st on ramp D
	Total					132.1												

100-18
04-20-10

TABULATION OF SILT FENCES FOR DITCH CHECKS

Refer to EC-201

Location Station	Side	Length LF	Remarks
Dubuque St.			
20+00 - 23+00	Rt	12.0	12ft every 200ft
26+50 - 29+00	Rt	12.0	12ft every 200ft
Ramp A			
1919+50 - 1925+00	Rt	24.0	12ft every 200ft
1919+50 - 1925+00	Lt	24.0	12ft every 200ft
Ramp C			
3506+40 - 3509+50	Lt	24.0	12ft every 200ft
3507+00 - 3509+50	Rt	12.0	12ft every 200ft
Total		162.0	Tab Quantity x 50%
		54.0	Cleanout Quantity

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location Begin Station	Location End Station	Side	Length LF	Remarks
Dubuque St				
16+00.0	17+40.0	Rt	160.0	
26+60.0	27+50.0	Lt	110.0	
Ramp B				
2908+90.0	2911+00.0	Rt	250.0	
2909+80.0	2910+40.0	Lt	80.0	
2916+00.0	2919+00.0	Lt	340.0	
Ramp C				
3503+00.0	3510+10.0	Lt	781.0	
3508+80.0	3510+60.0	Rt	200.0	
	Total		2401.3	Tab Quantity x 25%
			960.5	Cleanout Quantity

212-1
10-18-11

SOILS DESIGN

Sounding and test boring data shown on plans were accumulated for designing and estimating purposes. Their appearance on the plan does not constitute a guarantee that conditions other than those indicated will not be encountered.

213-3
10-18-11

SUBSOIL TILLAGE

All borrow areas, stockpile areas, haul roads, and areas used for equipment on this project require subsoil tillage to an average depth of 16 to 20 inches prior to placement of topsoil and/or stabilizing crop seeding. Complete this tillage at 3 foot maximum centers and at right angles to the finished slope.

Use tillage equipment equipped with an arrowhead type shoe that will provide lateral displacement and limit the movement of the subsoil to the surface. Obtain the Engineer's approval for the equipment. This work is incidental to other work on the project.

Following the subsoil tillage, the area is to remain in a "loosened" condition. Additional compaction or the operation of heavy equipment, other than required for topsoil placement and shaping, will not be allowed on areas which have received subsoil tillage.

232-6
10-18-11

EROSION CONTROL (SELECTIVE CLEARING)

Selective clearing will be required on this project. Do not remove any trees outside of the construction limits without the Engineer's approval.

262-6
10-18-05

UTILITIES (NOT A POINT 25 PROJECT)

This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

111-01
04-17-12

COORDINATED OPERATIONS

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
IM-NHS-80-6(221)243--03-52	PCC Pavement - Grade and Replace
IMN-80-6(284)240--0E-52	PCC Patching
IM-80-6(277)243--13-52	Traffic Signs
IM-080-6(278)244--13-52	Traffic Signals
IM-080-6(281)244--13-52	Barrier Rail
IM-080-6(319)244--13-52	Traffic Signs

104-8A
04-20-10

(1) Not a Bid Item

SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN

Refer to Standard Road Plan RF-39 or RF-40

Location			Shoulder				Rock Flume RF-40			Scour Protection RF-39		Remarks
Bridge Station	Bridge Corner	Distance DI-1 or DI-2	Panels Required	PCC	Polymer Grid (1)	Modified Subbase (1)	Macadam Stone Base (1)	Engineering Fabric (1)	Erosion Stone (1)	Outlet or Channel Scour Protection	Turf Reinforced Mat (TRM)	
			A B C or D	Sq.Yds.	Sq.Yds.	Tons	Material Tons	Sq.Yds.	Tons	Sq. Feet	Squares	
119+02.3	NW	38.0	B and C	25.3	25.3	21.200				32.0	3.0	
20+10.0	NE	34.0	A	12.7	12.7	11.900				32.0	3.0	
Totals				38.0						64.0	6.0	

107-23
10-18-11

GRADING FOR GUARDRAIL INSTALLATIONS

(1) Lane(s) to which the installation is adjacent.

Refer to EW-301

Location				Foreslope at Guardrail	Dimensions (Feet)									Earthwork		Remarks
No.	(1) Direction of Traffic	Station	Side		X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10	Embankment In Place	
														CY	CY	
1	SB	120+27.3	Lt		45.0	14.0	131.8	17.3			175.2	17.3	87.0	40.3		
2	NB	17+39.3	Rt		45.0	8.0	82.3	12.0	94.8	12.0	138.3	13.3	69.0	53.1		
													Total	93.4		

108-18
10-18-11

CONCRETE BARRIER

See BA-100, BA-101, BA-102, and BA-103

No.	Begin Station	End Station	Side	Barrier Type		Transition Section		Footing	Remarks
				Standard Road Plan	Length	Detail Sheet	L	Length	
					LF			LF	
	15+77.1	16+07.1	Med.			U.1	12.0		NBL
	15+87.0	17+47.0	Med.	U.2	160.0				NBL - S.W. Corner
	120+19.0	121+69.0	Med.	U.2	150.0				SBL - N.E. Corner
	121+69.0	121+81.0	Med.			U.1	12.0		SBL
		Totals			310.0		24.0		

Expansion Joints		
Station	Side	Remarks
17+47.1	Lt	
120+18.9	Rt	

108-8A
10-19-10

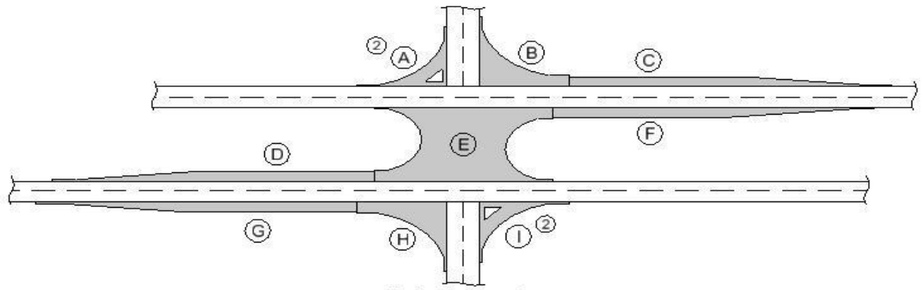
STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE END POST

Refer to BA-200, BA-201, BA-202, BA-205, BA-250, SI-172, SI-173 and SI-211.

(1) See Standards for list of materials.

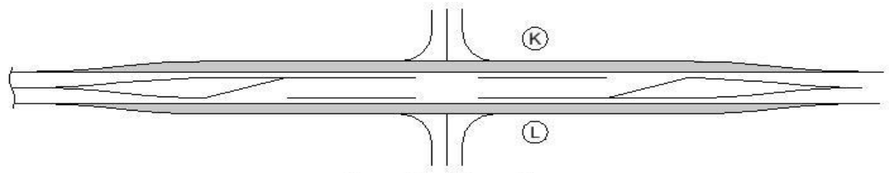
Location Station			Layout Lengths				Delineators and Object Markers					Bid Items (1)						Remarks
			VT1	VF	VT2	ET	Type	Delineator	Object Marker			End Anchor Bolted	Barrier Transition Section	Steel Beam Guardrail	End Terminal		Adapter	
								Type 1	Type 2	Type 3					Standard	Flared for Cable Connection		
						Terminal		White		OM-3L	OM-3R							
No.	Station	Offset	LF	LF	LF	LF		No.	No.	No.	No.	BA-202 Type	BA-201 No.	BA-200 LF	BA-205 No.	BA-206 No.	BA-210 No.	
1	120+32.3	-16.5	40.625	87.50		50.0						A		100.0	1			
2	17+34.3	17	40.625	18.75	6.25	50.0						A		37.5	1			
	Totals											2		137.5	2			

TABULATION OF PAVEMENT

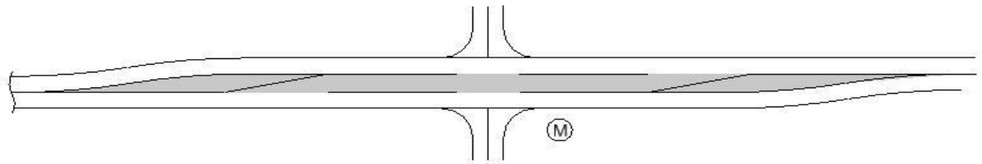


Typical Intersection

Ramp or Loop Taper (3)



Channelized Intersection
Widen Existing Roadway



Channelized Intersection
Reconstructed Roadway

(1) Quantity includes Pavement Header.

(2) Does not include Island area.

(3) Refer to PV-410, PV-411, PV-412, and PV-414.

Location						Area (1)													Total Area By Pavement Thickness			Special Backfill	Modified Subbase	Remarks
Road Identification	Station to Station		Width	Length	Area	A (2)	B	C	D	E	F	G	H	I (2)	J	K	L	M	SY			TONS	CY	
			FT	FT	SY														10 IN	6 IN	Detour			
Dubuque St South of I-80																								
Dubuque St (DUBNB)	6+46.4	11+80.0	Vari.									585.3	464.9						1050.2				432.6	Rt. Turn Bay and Radii for Ramp D
Dubuque St (DUBNB) Med./Curb	12+89.3	17+24.3	Vari.		291.9														291.9			183.9		Includes 187 LF of Curb
Dubuque St (DUBNB) Raised Median	14+02.5	17+51.0	Vari.		1220.3															1220.3		1409.4		Raised Median Pavement
Dubuque St (DUBSB) Med./Curb	112+98.3	117+65.0	Vari.							334.7	471.9								806.6			508.1		Includes 359 LF of Curb
Dubuque St (DUBSB Outside	107+32.6	113+85.6	12.0	653.0	870.7														870.7				359.2	
Ramp B	2908+00.0	2914+48.9	20.0	648.9	1442.0														1442.0				618.6	
Ramp B	2914+48.9	2916+10.4	Vari.		555.8														555.8				291.1	
Ramp B	2916+10.4	2920+80.5	36.0	470.1	1880.4	296.3													2176.7				821.7	
Detour Pavement																								
Dubuque St. S. Median	2+95.0	6+95.0	24.5	400.0	1088.9																1088.9		363.0	
Dubuque St. S. Median Detour	12+47.5	12+96.3								68.2											68.2		22.7	
NB Detour widening Rt side	20+03.0	23+80.0	12.0	377.0	502.7																502.7		167.6	
NB Detour widening Rt side	24+85.0	34+02.0	12.0	917.0	1222.7																1222.7		407.6	
Dubuque St. N. Median	27+32.0	31+47.0																1095.0			1095.0		365.0	
Ramp B Rt. Sh. Detour Pavement	2906+00.0	2922+40.0	6.0	1640.0	1093.3																1093.3		364.4	
Dubuque St. North of I-80																								
Dubuque St (DUBNB)	20+53.3	30+55.2	24.0	1001.9	2671.8					600.6	594.4								4033.1				1441.1	Includes 809 LF of Curb
Dubuque St (DUBNB) Raised Med.	19+97.0	23+46.0	Vari.		1204.8															1371.1			452.5	
Dubuque St (DUBNB) Raised Med.	24+75.0	29+12.0	Vari.		1337.1															1503.4			496.1	
Dubuque St (DUBSB)	120+92.3	129+00.0	24.0	807.7	2153.9					421.8									2742.0				993.7	Includes 597 LF of Curb
Dubuque St (DUBSB) Gore Area	129+00.0	131+26.8	Vari.		636.8														803.1				265.0	Gore area/tie to existing (Northend)
Ramp C	3508+50.0	3509+20.0	16.0	70.0	124.4														124.4				56.5	
Ramp C	3509+20.0	3511+20.0	Vari.	200.0	450.9														450.9				192.8	
Ramp C	3511+20.0	3516+23.5	24.0	503.5	1342.7	81.4	381.3												1805.4				706.6	
Ramp A	1915+81.8	1919+20.0	24.0	338.2	901.9	48.4													950.3				388.0	
Ramp A	1919+20.0	1919+60.0	Vari.	40.0	177.9														177.9				67.5	
Ramp A	1919+60.0	1928+84.0	20.0	924.0	2053.3														2053.3				880.9	
	Totals																		20334.3	4094.9	5070.8	2101.5	10154.1	

SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) Bid Item
(3) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(4) Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Location								Quantities													
Road Identification	(1) Direction Of Traffic	Station to Station		Side	(P) Width	(G) Width	(L) Length	Class 13 (3) Excavation Widening	HMA Base Widening (3)		Hot Mix Asphalt		Paved Shoulder	Reinforced Paved Shoulder	Special Backfill		Modified Subbase	Granular Shoulder		Earth Shoulder Construction		Remarks
					FT	FT	FT	CY (2)	TON (2)	TON/STA	TON	TON/STA	SY (2)	SY (2)	TON (2)	TON/STA	CY (2)	TON (2)	TON/STA	STA (2)	CY (4)	
Dubuque St.	NB	4+45.8	6+50.0	Rt		8.0	204.2											58.605	28.700	2.0	12.9	
	NB	6+50.0	6+80.0	Rt			30.0													0.3	11.9	
	NB	6+80.0	8+29.0	Rt			149.0													1.5	59.0	
	NB	8+29.0	11+79.0	Rt			350.0													3.5	138.7	
	NB	20+02.3	23+78.4	Rt		8.0	376.1											326.490	86.800	3.8	236.8	
	NB	24+54.4	30+55.2	Rt		8.0	600.8											521.494	86.800	6.0	378.3	
	NB	15+73.4	16+05.9	Rt	9.5		32.5				12.971	39.875	34.3		10.816	33.250				0.3		Paved Shld at Guardrail-See Typ. 7156
	NB	16+05.9	16+55.9	Rt	8.8		50.0				18.484	36.975	48.9		15.397	30.800				0.5		Paved Shld at Guardrail-See Typ. 7156
	NB	16+55.9	16+93.7	Rt	6.2		37.8				9.874	26.100	26.1		8.209	21.700				0.4		Paved Shld at Guardrail-See Typ. 7156
	NB	16+93.7	17+22.6	Rt	4.3		28.8				5.229	18.125	13.8		4.241	14.700				0.3		Paved Shld at Guardrail-See Typ. 7156
Dubuque St.	SB	107+31.9	110+66.8	Lt		8.0	334.9													3.3	135.2	
	SB	113+85.7	114+59.0	Lt		8.0	73.4													0.7	6.0	
	SB	120+43.0	130+31.7	Lt	10.0		988.7				594.938	60.175	1098.5		546.740	55.300				9.9	563.9	
	SB	120+82.3	121+59.6	Lt	10.1		77.2				33.039	42.775	86.7		27.034	35.000				0.8		Paved Shld at Guardrail-See Typ. 7156
	SB	121+59.6	121+98.4	Lt	13.7		38.9				22.263	57.275	59.2		18.774	48.300				0.4		Paved Shld at Guardrail-See Typ. 7156
	SB	121+98.4	122+31.6	Lt	13.3		33.2				18.545	55.825	48.9		15.348	46.200				0.3		Paved Shld at Guardrail-See Typ. 7156
Ramp A		1915+69.8	1929+85.3	Lt	6.0		1415.5				307.882	21.750	943.7		544.987	38.500				14.2	576.7	
		1917+05.1	1919+25.0	Rt	8.0		219.9				74.934	34.075	195.5		116.992	53.200				2.2	86.3	
		1919+25.0	1929+85.3	Rt	4.0		1060.3				176.803	16.675	471.2		244.927	23.100				10.6	365.2	
Ramp B		2905+51.6	2920+80.4	Lt	4.0		1528.8				221.680	14.500	679.5							15.3		
		2905+51.6	2920+80.4	Rt	6.0		1528.8				332.521	21.750	1019.2							15.3		
Ramp C		3516+30.0	3505+28.6	Lt	6.0		1101.4				239.555	21.750	734.3		285.263	25.900				11.0	461.0	
		3516+21.5	3503+00.0	Rt	4.0		1321.5				191.615	14.500	587.3		555.022	42.000				13.2	538.4	
Ramp D (DUBDL)		14920+26.9	14927+90.8	Lt			763.9	63.7	124.608	16.313										7.6		
Ramp D (DUBDL)		14922+07.1	14927+90.8	Rt			583.7	32.4	63.475	10.875										5.8		
Ramp D (DUBD)		4927+90.8	4931+20.5	Lt			329.7	27.5	53.782	16.313										3.3		
Ramp D (DUBD)		4927+90.8	4931+20.5	Rt			329.7	18.3	35.855	10.875										3.3		
			Totals					141.9	277.720		2260.333		6047.1		2393.749			906.589		135.9	3570.3	

PAVEMENT SMOOTHNESS + PCC TEXTURE

Road Identification	Begin Station	End Station	Proposed Posted Speed			Remarks
			35 or less	40 - 45	over 45	
Dubuque St.			x			
Ramp A					x	
Ramp B					x	
Ramp C					x	
Ramp D					x	

110-9
10-18-11

CULVERT ABANDONMENT

Refer to Details 4315 and 4316

* Not a bid item

Location Station	Description	Fill Material		4" Perforated Subdrain*	Remarks
		Flowable Mortar	Granular Backfill*		
		CY	TON	LF	
30+57.5	24" x 40' RCP	4.5	0.2	4.0	Remove intake and apron, plug and abandon pipe

110-7A
04-17-12

REMOVAL OF STEEL BEAM GUARDRAIL

* Not a bid item

(1) Lane(s) to which the installation is adjacent.

No.	Location (1) Direction of Traffic	Station to Station		Side	Guardrail and End Terminal/Anchor*
					LF
1	NB	17+33.0	16+78.0	Rt	60
2	NB	17+48.0		Lt	Median - 218
3	SB	120+90.0	129+30.0	Lt	60
4	SB	120+20.0		Rt	Median - 218
			Total		556

108-28
08-01-08

TEMPORARY TRAFFIC SIGNALS

No.	Location Station	Type			Remarks
		One Lane Traffic	Haul Road	Intersection	
1	South Terminal			X	Stage 2A
1	North Terminal			X	Stage 2A
1	South Terminal			X	Stage 2B
1	North Terminal			X	Stage 2B
1	South Terminal			X	Stage 3A
1	North Terminal			X	Stage 3A

110-1
08-01-08

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

* Not a Bid Item

Begin Station	End Station	Pavement Type	Area	Saw Cut*	Intakes and Utility Accesses	Remarks
			SY	LF	No.	
2+95.0	6+95.0		1088.9			For removal of Detour pavement found on Tab 100-24
12+47.5	12+96.3		68.2			For removal of Detour pavement found on Tab 100-24
20+03.0	23+80.0		502.7			For removal of Detour pavement found on Tab 100-24
24+85.0	34+02.0		1222.7			For removal of Detour pavement found on Tab 100-24
27+32.0	31+47.0		1095.0			For removal of Detour pavement found on Tab 100-24
2906+00.0	2922+40.0		1093.3			For removal of Detour pavement found on Tab 100-24
19+76.0	29+22.0		2636.7	12.0		
107+32.0	113+85.0		896.2	678.0		
120+21.0	131+25.0		3663.0	348.0		
1916+06.0	1928+85.0		2655.8	16.0		Ramp A
2907+19.0	2920+19.0		5246.1	237.0		Ramp B
2918+84.0	2925+95.0		1062.8			Ramp B (free Right)
2914+49.0	2919+79.0		1037.3			Ramp B (Right turn)
3916+23.0	3897+97.0		4043.3			Ramp C
4914+06.0	4927+42.0		2576.1			Loop D
	Totals		28888.1	1291.0		

108-13A
08-01-08

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
Stage 1			See Stage 1 J Sheets.
2916+68	1		Ramp B
2920+20	1		Ramp B
14919+32	1		Ramp D
Stage 2A			See Stage 2A J Sheets.
109+70	1		Dub.St. SBL
127+06	1		Dub.St. SBL
129+17	1		Dub.St. SBL
130+63	1		Dub.St. SBL
13+55	1		B/D Crossing
1915+95	1		Ramp A
1929+80	1		Ramp A Taper @ I-80
Stage 2B			See Stage 2B J Sheets.
113+62	1		Dub.St. SBL
123+35	1		Dub.St. SBL
125+25	1		Dub.St. SBL
3907+66	1		Remove (221) Old Ramp C
Stage 3			See Stage 2C J Sheets.
4+65	1		Dub.St. NBL
14+02	1		Dub.St. NBL
29+43	1		Dub.St. NBL
124+00	1		A/C Crossing
Total	18		

112-6
10-21-08

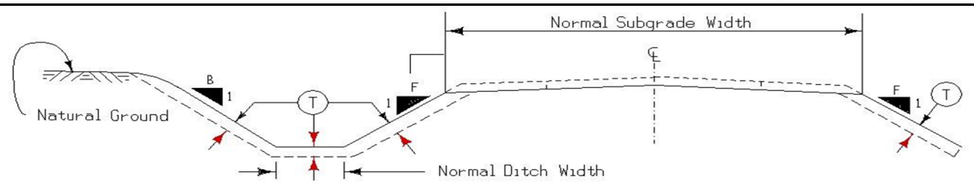
BRIDGE APPROACH SECTION

Refer to the RK-Series.

* Not a bid item

Location		Approach Pavement					Fixed or Movable Abutment	Subdrain					Modified Subbase*	Polymer Grid*	Remarks
Bridge Station	End	(T) Thickness	Pay Length	Non-Reinf. Pavement Area	Single-Reinf. Pavement Area	Double-Reinf. Pavement Area		Perforated Subdrain 4"*	Subdrain Outlet*		Porous Backfill*	Class 'A'* Crushed Stone Backfill			
		Inches	FT	SY	SY	SY	F or M	LF	STA	Side	CY	CY	TON	SY	
119+02.25	Rt	10.0	70.4	84.4	53.3	75.9	F	55.0	120+82.55	Lt	9.0		223.400	241.1	SBL Approach
18+64.26	Rt	10.0	71.3	91.8	57.8	74.6	F	59.0	20+43.54	Rt	10.0		222.000	239.4	NBL Approach
		Totals	141.7	176.2	111.1	150.5		114.0		0	19.0		445.400	480.5	

TABULATION OF SPREADING TOPSOIL



Perform this work according to Section 2105. Prior to placing topsoil on any cohesive soil, scarify the area to be covered to a minimum depth of 3 inches.

Appropriate adjustments have been made in the template quantities to reflect the placement of topsoil on foreslope, backslope and ditch bottom as detailed hereon.

Placement Description								Topsoil Excavation Available From			
Area	Quantity	Location		Side	Slope	(T)	Remarks	Amount Reserved	Station to Station		Remarks
No.	CY	Station to Station		L. or R.	B. or F.	IN		CY			
		Stage 2A	Dub. St. SBL								
1	154.0	13+75.0	12+25.0	L.	F.	8.0		7731.0	Contractor	Furnish	
		Stage 2A	Dub. St. SBL								
2	403.0	120+28.0	15+00	L.	Both	8.0					
		Stage 2A	Ramp B								
3	1002.0	2914+25.0	2920+00.0	L.	Both	8.0					
		Stage 2B	Dub. St. SBL								
4	437.0	7+00.0	11+00.0	L.	F.	8.0					
		Stage 2B	Dub. St. SBL								
5	795.0	127+00.0	130+50.0	L.	F.	8.0					
		Stage 3	Dub. St. NBL								
6	2024.0	4+50.0	13+00.0	R.	Both	8.0					
		Stage 3	Dub. St. NBL								
7	1589.0	19+87.0	29+00.0	R.	Both	8.0					
		Stage 3	Ramp A								
8	1327.0	1916+25.0	1922+50.0	Both	Both	8.0					
	7731.0	Total									

TEMPORARY LANE SEPARATOR SYSTEM

See TC-61

Station to Station		Length LF	Remarks
STAGE 1			
NONE			
STAGE 2A			
2+95.0	13+00.0	1005	
14+00.0	26+00.0	1200	
STAGE 2B			
28+35.0	34+00.0	565	
STAGE 3			
107+25.0	112+60.0	535	
113+95.0	123+75.0	980	
	TOTAL	4285	

PAVEMENT MARKING LINE TYPES

See PM Series

*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.

BLW4: Broken Lane Line (White) @ 0.25 | ELY4: Edge Line Left (Yellow) @ 1.00 | ELW4: Edge Line Right (White) @ 1.00 | DCY4: Double Centerline (Yellow) @ 2.00 | SLW2: Stop Line (White) @ 6.00
CHW8: Channelizing Line (White) @ 2.00 | SLW4: Solid Lane Line (White) @ 1.00 | CHY8: Channelizing Line (Yellow) @ 2.00 | DLW4: Dotted Line (White) @ 0.33

Location								Length by Line Type (Unfactored)														Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BLW4	ELY4	ELW4	DCY4	SLW2	CHW8	SLW4	CHY8	DLW4						
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
STAGE 1																						
NONE																						
STAGE 2A																						
Dubuque St.	BOP			Wet Retroreflective Removable Tape		X		4.95														Blackout Tape for centerline
Dubuque St.	2+95.8	7+00.0	NB	Wet Retroreflective Removable Tape	X				4.04													Blackout Tape for edge line
Dubuque St.	4+45.8	7+00.0	NB	Wet Retroreflective Removable Tape	X					6.34												Includes 380' at BOP
Dubuque St.	7+00.0	20+00.0	BOTH	Waterborne/Solvent Paint	X	X	X			26.00	13.00											
Dubuque St.	11+40.0		NB	Wet Retroreflective Removable Tape			X					0.12										
Dubuque St.	15+00.0		SB	Wet Retroreflective Removable Tape	X							0.12										
Dubuque St.	20+00.0	25+70.0	NB	Waterborne/Solvent Paint	X						5.70											
Dubuque St.	20+00.0	21+15.0	NB	Removal			X			1.15												Break for Left Turn Lane
Dubuque St.	21+15.0	24+70.0	NB	Waterborne/Solvent Paint		X		3.55														
Dubuque St.	24+70.0	25+70.0	NB	Waterborne/Solvent Paint		X								1.00								
Dubuque St.	25+70.0		NB	Waterborne/Solvent Paint		X	X					0.24										
Dubuque St.	28+35.0		SB	Waterborne/Solvent Paint	X							0.62										
Dubuque St.	20+00.0	31+20.0	NB	Waterborne/Solvent Paint			X			11.20												
Dubuque St.	31+20.0	34+00.0	NB	Waterborne/Solvent Paint	X		X						2.80		2.80							
Dubuque St.	28+35.0	31+20.0	NB	Waterborne/Solvent Paint	X				2.85													
Dubuque St.	24+85.0	34+00.0	NB	Removal			X			9.15												
Dubuque St.	103+03.6	109+65.0	SB	Removal		X		6.61														
Dubuque St.	103+03.6	109+65.0	SB	Wet Retroreflective Removable Tape	X	X			6.61													Blackout Tape for left
South Dubuqu																						
Dubuque St.	2+95.8	7+00.0	SB	Wet Retroreflective Removable Tape	X		X						4.04		4.04							
Ramp B	2905+00.0	2908+15.0	EB	Wet Retroreflective Removable Tape			X			3.15												Blackout Tape for Right Edge
Ramp B	2905+00.0	2908+00.0	EB	Wet Retroreflective Removable Tape	X		X						3.00		3.00							
Ramp B	2908+00.0	2921+90.0	EB	Removal			X		13.90													
Ramp B	2908+00.0	2920+00.0	EB	Waterborne/Solvent Paint	X		X		12.00	12.00												
Ramp B	2920+00.0	2921+90.0	EB	Waterborne/Solvent Paint	X		X						2.00		2.00							
STAGE 2B																						
Dubuque St.	22+40.0		NB	Waterborne/Solvent Paint	X		X					0.24										
Dubuque St.	25+70.0		NB	Removal	X		X					0.24										
Dubuque St.	25+00.0		SB	Waterborne/Solvent Paint		X						0.12										
Dubuque St.	28+35.0		SB	Removal	X							0.12										
Dubuque St.	22+40.0	24+70.0	NB	Removal	X			2.30														
Dubuque St.	24+70.0	25+65.0	NB	Removal	X									0.95								
Dubuque St.	22+40.0	28+55.0	NB	Removal		X					6.15											
Dubuque St.	26+50.0	28+80.0	SB	Waterborne/Solvent Paint	X		X						2.30		2.30							
Ramp B	2905+00.0	2908+15.0	EB	Wet Retroreflective Removable Tape			X						3.15									
Ramp B	2908+15.0	2914+50.0	EB	Wet Retroreflective Removable Tape	X		X		6.35	6.35												
Ramp B	2914+50.0	2916+10.0	EB	Wet Retroreflective Removable Tape	X		X						1.60		1.60							
Ramp B	2916+10.0	2920+15.0	EB	Wet Retroreflective Removable Tape	X		X		4.05	4.05												
STAGE 3																						
Dubuque St.	BOP		NB	Removal		X		5.00														
Dubuque St.	BOP		NB	Wet Retroreflective Removable Tape			X			2.50												
Dubuque St.	BOP		NB	Waterborne/Solvent Paint			X			11.55												
Dubuque St.	7+00.0	20+00.0	BOTH	Removal	X	X				13.00	13.00											
South Dubuqu																						
Dubuque St.	2+95.8	7+00.0	SB	Wet Retroreflective Removable Tape	X		X						4.04		4.04							
Dubuque St.	102+78.6	120+20.0	SB	Removal		X	X	17.41	17.41													
Dubuque St.	102+78.6	106+51.6	SB	Waterborne/Solvent Paint		X			3.73													
Dubuque St.	106+51.6	112+60.0	SB	Waterborne/Solvent Paint		X	X			6.08	6.08											
Dubuque St.	112+60.0		SB	Wet Retroreflective Removable Tape			X					0.12										
Dubuque St.	113+95.0		SB	Wet Retroreflective Removable Tape			X					0.12										
Dubuque St.	113+95.0	120+20.0	SB	Waterborne/Solvent Paint		X	X			6.25	6.25											
Dubuque St.	120+20.0	123+73.0	SB	Wet Retroreflective Removable Tape	X	X	X			7.06	3.53											
Dubuque St.	122+10.0	123+73.0	SB	Wet Retroreflective Removable Tape		X									1.63							
Dubuque St.	123+73.0		SB	Wet Retroreflective Removable Tape		X	X					0.24										
Dubuque St.	124+65.0		SB	Wet Retroreflective Removable Tape	X							0.34										
Dubuque St.	124+65.0	125+90.0	SB	Wet Retroreflective Removable Tape		X			2.50													
Dubuque St.	125+90.0	134+50.0	SB	Wet Retroreflective Removable Tape	X	X	X			17.20	8.60											
Ramp B	2914+50.0	2920+65.0	EB	Wet Retroreflective Removable Tape	X				6.15													

PAVEMENT MARKING LINE TYPES

See PM Series

*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.

BLW4: Broken Lane Line (White) @ 0.25 | ELY4: Edge Line Left (Yellow) @ 1.00 | ELW4: Edge Line Right (White) @ 1.00 | DCY4: Double Centerline (Yellow) @ 2.00 | SLW2: Stop Line (White) @ 6.00
CHW8: Channelizing Line (White) @ 2.00 | SLW4: Solid Lane Line (White) @ 1.00 | CHY8: Channelizing Line (Yellow) @ 2.00 | DLW4: Dotted Line (White) @ 0.33

Location								Length by Line Type (Unfactored)													Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BLW4	ELY4	ELW4	DCY4	SLW2	CHW8	SLW4	CHY8	DLW4					
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
STAGE 4 (FIN																					
Dubuque St.	BOP		NB	Removal		X								11.55							
Dubuque St.	BOP		NB	Waterborne/Solvent Paint		X		9.20													
Dubuque St.	BOP	2+94.8	NB	Waterborne/Solvent Paint		X		7.71													
Dubuque St.	2+94.8	12+80.0	NB	Waterborne/Solvent Paint	X	X	X	9.85	9.85	9.85											
Dubuque St.	8+30.0	12+80.0	NB	Waterborne/Solvent Paint		X								4.50							
Dubuque St.	12+80.0		NB	Waterborne/Solvent Paint		X	X					0.54									
Dubuque St.	13+40.0	23+35.0	NB	Waterborne/Solvent Paint	X	X	X	9.95	9.95	9.95											
Dubuque St.	21+44.0	23+35.0	NB	Waterborne/Solvent Paint	X	X								3.82							
Dubuque St.	24+70.0	26+50.0	NB	Waterborne/Solvent Paint		X										1.80					
Dubuque St.	24+70.0	31+50.0	NB	Waterborne/Solvent Paint	X		X		6.80	6.80											
Dubuque St.	25+75.0	31+50.0	NB	Waterborne/Solvent Paint	X				2.00												Channelizing
Dubuque St.	102+78.6	106+51.6	SB	Removal		X			3.73												
Dubuque St.	106+51.6	112+60.0	SB	Removal		X	X			6.08	6.08										
Dubuque St.	113+95.0	120+20.0	SB	Removal		X	X			6.25	6.25										
Dubuque St.	112+60.0		SB	Removal			X					0.12									
Dubuque St.	113+95.0		SB	Removal			X					0.12									
South Dubuqu																					
Dubuque St.	2+95.8	7+00.0	SB	Removal	X		X						4.04		4.04						
Dubuque St.	102+78.6	113+05.0	SB	Waterborne/Solvent Paint	X	X	X	10.26	10.26	10.26											
Dubuque St.	114+20.0		SB	Waterborne/Solvent Paint	X	X	X					0.45									
Dubuque St.	114+20.0	116+45.0	SB	Waterborne/Solvent Paint		X								2.25							
Dubuque St.	114+20.0	123+95.0	SB	Waterborne/Solvent Paint	X	X	X	9.75	9.75	9.75											
Dubuque St.	124+70.0		SB	Waterborne/Solvent Paint		X	X					0.46									
Dubuque St.	124+70.0	131+20.0	SB	Waterborne/Solvent Paint	X	X	X	6.50	6.50	6.50											
Dubuque St.	131+20.0	134+25.0	SB	Waterborne/Solvent Paint	X	X	X		3.05	6.10											
Ramp A	1915+90.0	1919+20.0	WB	Waterborne/Solvent Paint		X								3.30							
Ramp A	1915+90.0	1929+85.0	WB	Waterborne/Solvent Paint	X		X		13.95	13.95											
Ramp B	2914+50.0	2920+65.0	EB	Removal	X				6.15												
Ramp B	2907+20.0	2920+95.0	EB	Waterborne/Solvent Paint	X		X		13.75	13.75											
Ramp B	2916+10.0	2920+95.0	EB	Waterborne/Solvent Paint		X		4.85						4.85							
Ramp B	2920+95.0		EB	Waterborne/Solvent Paint								.71+.12									
Ramp C	3503+00.0	3505+30.0	WB	Waterborne/Solvent Paint	X					12.30											Includes taper edge line
Ramp C	3505+30.0	3516+30.0	WB	Waterborne/Solvent Paint	X		X		11.00	11.00											
Ramp C	3511+20.0	3516+30.0	WB	Waterborne/Solvent Paint		X		5.10													
Ramp D	14920+25.0	14929+44.3	EB	Waterborne/Solvent Paint	X		X		9.19	9.19											
Ramp D	4929+44.3	4933+65.0	EB	Waterborne/Solvent Paint	X		X		4.21	4.21											
				Factored Total: Waterborne/Solvent Paint				19.18	128.85	196.70	62.07	16.02	14.20	19.72	14.20	0.60	-	-	-	-	-	-	
				Factored Total: Wet Retroreflective Removable Tape				1.24	29.71	46.65	24.26	6.36	31.67	-	28.63	-	-	-	-	-	-	-	
				Factored Total: Removal				7.83	41.19	35.63	62.97	3.60	8.08	12.50	8.08	-	-	-	-	-	-	-	
				Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							471.54										
				Bid Quantity: Wet Retroreflective Removable Tape Markings							168.51										
				Bid Quantity: Pavement Markings Removed							179.90										

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

(1) Refer to RL-13, EW-203, or EW-204.

Refer to Soils Sheets

* Not a bid item

Location						Longitudinal Subdrain (RF-19C)							Subdrain Outlet			Porous* Backfill	Class "A"* Crushed Stone	Remarks
Line No.	Road or Lane Ident.	Station to Station		Side	Depth D	Shoulder		Backslope		Bridge Berm (1)			RF-19C, RF-19E, or RF-19F					
						Size	Length	Size	Length	Size	Type	Length	Station	Size	Standard Road Plan and Type			
					IN	IN	FT	IN	FT	IN		FT		IN		CY	CY	
1	SBL	114+78.0	116+36.0	RT	24.0	4.0	162.0						114+78.0	6.0	RF-19C	7.5		STAGE 1
													116+36.0	6.0	RF-19C			
2	SBL	116+36.0	117+08.5	RT	24.0	4.0	74.5						116+36.0	6.0	RF-19C	3.4		STAGE 1 CAP @ 117+08.5
3	NBL	14+70.0	16+25.0	LT	24.0	4.0	159.0						14+70.0	6.0	RF-19C	7.4		STAGE 1
													16+25.0	6.0	RF-19C			
4	NBL	16+25.0	16+67.7	LT	24.0	4.0	44.7						16+25.0	6.0	RF-19C	2.1		STAGE 1 CAP @ 16+67.7
5	SBL	107+31.9	112+00.0	LT	42.0	4.0	508.1						107+31.9	6.0	RF-19E	47.0	0.2	STAGE 2
													112+00.0	6.0	RF-19E		0.2	
6	SBL	112+00.0	2918+00.0	LT	42.0	4.0	430.0						112+00.0	6.0	RF-19E	39.8	0.2	STAGE 2 FOLLOW RAMP B
													2918+00.0	6.0	RF-19E		0.2	
7	SBL	120+97.3	123+92.0	LT	24.0	4.0	314.7						123+92.0	6.0	RF-19E	14.6	0.2	STAGE 2 CAP @ 120+97.3
8	SBL	125+50.0	130+30.0	LT	24.0	4.0	520.0						125+50.0	6.0	RF-19E	24.1	0.2	STAGE 2
													130+30.0	6.0	RF-19E		0.2	
9	RAMP B	2908+00.0	2913+00.0	RT	42.0	4.0	540.0						2908+00.0	6.0	RF-19E	50.0	0.2	STAGE 2 (SEE NOTE 1)
													2913+00.0	6.0	RF-19E		0.2	
10	RAMP B	2913+00.0	2918+00.0	RT	42.0	4.0	540.0						2913+00.0	6.0	RF-19E	50.0	0.2	STAGE 2
													2918+00.0	6.0	RF-19E		0.2	
11	RAMP B	2915+00.0	2918+00.0	LT	42.0	4.0	340.0						2915+00.0	6.0	RF-19E	31.5	0.2	STAGE 2
													2918+00.0	6.0	RF-19E		0.2	
12	RAMP B	2918+00.0	2920+93.0	LT	42.0	4.0	313.0						2918+00.0	6.0	RF-19E	29.0	0.2	STAGE 2 CAP @ 2920+93
13	RAMP C	3507+28.0	3512+00.0	LT	42.0	4.0	512.0						3507+28.0	6.0	RF-19E	47.4	0.2	STAGE 2 (SEE NOTE 1)
													3512+00.0	6.0	RF-19E		0.2	
14	RAMP C	3512+00.0	125+50.0	LT	42.0	4.0	511.5						3512+00.0	6.0	RF-19E	47.4	0.2	STAGE 2
													125+50.0	6.0	RF-19E		0.2	FOLLOW DUBUQUE ST.
15	NBL	6+50.0	11+50.0	RT	42.0	4.0	540.0						6+50.0	6.0	RF-19E	50.0	0.2	STAGE 3
													11+50.0	6.0	RF-19E		0.2	
16	NBL	11+50.0	14921+80.0	RT	42.0	4.0	323.6						11+50.0	6.0	RF-19E	30.0	0.2	STAGE 3
													14921+80.0	6.0	RF-19E		0.2	FOLLOW RAMP D
17	NBL	20+57.3	21+51.0	LT	24.0	4.0	95.7						20+57.3	6.0	RF-19C	4.4		STAGE 3
18	NBL	21+51.0	23+10.0	LT	24.0	4.0	163.0						21+51.0	6.0	RF-19C	7.5		STAGE 3
													23+10.0	6.0	RF-19C			
19	NBL	23+10.0	24+74.3	LT	24.0	4.0	168.3						23+10.0	6.0	RF-19C	7.8		STAGE 3
													24+74.3	6.0	RF-19C			
20	NBL	24+74.3	26+00.0	LT	24.0	4.0	134.5						24+74.3	6.0	RF-19C	6.2		STAGE 3
													26+00.0	6.0	RF-19C			
21	NBL	26+00.0	27+00.0	LT	24.0	4.0	104.0						26+00.0	6.0	RF-19C	4.8		STAGE 3
													27+00.0	6.0	RF-19C			
22	NBL	27+00.0	28+00.0	LT	24.0	4.0	104.0						27+00.0	6.0	RF-19C	4.8		STAGE 3
													28+00.0	6.0	RF-19C			
23	NBL	28+00.0	29+00.0	LT	24.0	4.0	104.0						28+00.0	6.0	RF-19C	4.8		STAGE 3
													29+00.0	6.0	RF-19C			
24	NBL	26+50.0	30+55.2	RT	36.0	4.0	445.2						26+50.0	6.0	RF-19E	34.4	0.2	STAGE 3
													30+55.2	6.0	RF-19E		0.2	
25	RAMP A	24+70.0	1918+00.0	LT	24.0	4.0	316.5						24+70.0	6.0	RF-19E	14.7	0.2	STAGE 3 FOLLOW DUBUQUE ST
													1918+00.0	6.0	RF-19E		0.2	ONTO RAMP A
26	RAMP A	1918+00.0	1923+00.0	LT	24.0	4.0	540.0						1918+00.0	6.0	RF-19E	25.0	0.2	STAGE 3
													1923+00.0	6.0	RF-19E		0.2	
27	RAMP A	1923+00.0	1927+28.2	LT	36.0	4.0	468.2						1923+00.0	6.0	RF-19E	36.1	0.2	STAGE 3 (SEE NOTE 1)
													1927+28.2	6.0	RF-19E		0.2	
28	RAMP A	1915+84.0	1921+00.0	RT	42.0	4.0	556.0						1915+84.0	6.0	RF-19E	51.5	0.2	STAGE 3
													1921+00.0	6.0	RF-19E		0.2	
29	RAMP D	14920+50.0	14926+00.0	LT	36.0	4.0	590.0						14920+50.0	6.0	RF-19E	45.5	0.2	STAGE 3
													14926+00.0	6.0	RF-19E		0.2	
30	RAMP D	14921+80.0	14927+00.0	RT	36.0	4.0	560.0						14921+80.0	6.0	RF-19E	43.2	0.2	STAGE 3
													14927+00.0	6.0	RF-19E		0.2	
31	RAMP D	14927+00.0	4931+20.0	RT	36.0	4.0	460.0						14927+00.0	6.0	RF-19E	35.5	0.2	STAGE 3 (SEE NOTE 1)
													4931+20.0	6.0	RF-19E		0.2	
																		19 RF-19C
																		38 RF-19E
	Totals						10642.5		0.0						57	807.4	7.6	

NOTE: ALL LONGITUDINAL SUBDRAINS ARE TYPE 7 WITH PCC OR TYPE 8 WITH HMA (ACC) UNLESS OTHERWISE NOTED IN REMARKS COLUMN.
NOTE: ALL LONGITUDINAL SUBDRAINS MAY BE ADJUSTED IN FIELD AS NECCESSARY.
NOTE: ALL RF-19C LONGITUDINAL SUBDRAINS ARE TYPE 12 INSTALLATION. SEE STANDARD ROAD PLAN RF-19C FOR DETAILS.

NOTE 1: LONGITUDINAL SUBDRAINS WERE INSTALLED IN PROJECT IN-NHS-080-6(221)243--03-52. THE INTENTION IS FOR THE NEW LONGITUDINAL SUBDRAINS OUTLETS TO BE INSTALLED ADJACENT TO EXISTING OUTLETS. ANY EXISTING LONGITUDINAL SUBDRAINS AND OUTLETS ENCOUNTERED SHALL REMAIN FUNCTIONAL. ANY EXISTING LONGITUDINAL SUBDRAINS OR OUTLETS DAMAGED SHALL BE REPAIRED AND NEW OUTLETS INSTALLED AS NEEDED.

EMBANKMENT WITH MOISTURE CONTROL

Moisture content shall be within the limits of minus _2_ and plus _2_ percentage points of Optimum Moisture Content for maximum density within the area described and listed below.

Moisture Control is required for all Class 10 fill placed for Ramp C and Ramp B. Stability berms placed outside the normal foreslope template and topsoil will not require Moisture Control.

SHRINKAGE DATA

Material	%	Remarks
TOPSOIL	40%	
CLASS 10	30%	
		10 Cu. Yds. BOULDERS

GEOTECHNICAL DESIGN

LICENSED PROFESSIONAL ENGINEER — Robert L. Stanley 08468 — IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Robert Stanley — 2-21-15
Signature — Date

Robert L. Stanley
Printed or Typed Name

My license renewal date is December 31, 2012

Pages or sheets covered by this seal: C.14 and Q.1 - Q.2

SURVEY SYMBOLS

Interstate Highway Symbol
U.S. Highway Symbol
Iowa Highway Symbol
County Road Highway Symbol
Evergreen Tree
Deciduous Tree
Fruit Tree
Shrub (Bushes)
Timber
Hedge
Stump
Swamp
Rock Outcrop
Broken Concrete
Revetment (Rip Rap)
Cemetery
Grave
Cave
Sink Hole
Board Fence
Chain Link Fence
Barbwire Fence
Security Fence
Woven Fence
Barbwire and Woven Fence
Terrace
Earth Dam or Dike (Existing)
Earth Dam or Dike (Proposed)
Tile Outlet
Edge of Water
Existing Drainage
Proposed Drainage
Right of Way Rail or Lot Corner
Concrete Monument
Well
Windmill
Beehive Intake
Existing Intake
Proposed Intake
Existing Utility Access (Manhole)
Proposed Utility Access (Manhole)

STANDARD SYMBOLS

Fire Hydrant
WH Water Hydrant (Rural)
ST Septic Tank
C Cistern
LP L.P. Gas Tank (No Footing)
UST Underground Storage Tank
Latrine
Luminaire
Traffic Signal
Traffic Signal with Luminaire
TP Telephone Pedestal
TVP Television Pedestal
Telephone Pole
Telephone Pole (Second Company)
Telephone Pole (Third Company)
Telephone Pole (Fourth Company)
Telephone Pole (Fifth Company)
Power Pole
Power Pole (Second Company)
Power Pole (Third Company)
Power Pole (Fourth Company)
Power Pole (Fifth Company)
Electrical Highline Tower (Metal or Concrete)
Telephone Riser Pole
Power Riser Pole
Telegraph Pole
Satellite TV Dish
W Existing Water Line
W2 Existing Water Line (Second Company)
San. Existing Sanitary Sewer Line
T Existing Telephone Line
T2 Existing Telephone Line (Second Company)
FO Existing Fiber Optics Telephone Line
St. S. Existing Storm Sewer Line
G Existing Gas Line
G-HP Existing High Pressure Gas Line
G2 Existing Gas Line (Second Company)
G2-HP Existing High Pressure Gas Line (Second Company)
E Existing Power Line
E2 Existing Power Line (Second Company)
TV Cable Television Line

UTILITY LEGEND

X
T G.T.E.
TT SOUTH SLOPE TELEPHONE COMPANY
FO-1 MCLEOD
FO-2 L.C.N.
E IOWA DOT
GHP-1 WILLIAMS PIPELINE COMPANY
GHP-2 MID-AMERICAN ENERGY
St. S. IOWA DOT

Guardrail (Beam or Cable)
GP Guard Post (one or two)
Guard Post (over two)
FP Filler Pipe
GV Gas Valve
WV Water Valve
SL Speed Limit Sign
MM Mile Marker Post
SIGN Sign
WHU Water Hook Up
RT Radio Tower
TA Tower Anchor
EB Electric Box
TCB Traffic Signal Control Box
RRB Rail Road Signal Control Box
TSB Telephone Switch Box

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING	**Design Color No.**	
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

Reference Point
Station
Survey Line
Section Corner
Ground Line Intercept
Saw Cut
Guardrail
Clearing & Grubbing Area
Pavement Removal

RIGHT-OF-WAY LEGEND

Proposed Right-of-Way
Existing and Proposed Right-of-Way
Easement and Existing Right-of-Way
Borrow
Easement (Temporary)
Easement
Excess
A/C Access Control

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, & K)

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER D.1

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EAST LUCAS TWP.
T-79N R-6W
SEC. 4

Ramp B

Remove

SBL STA. 14+00
End Outside Lane Construction
Begin Shoulder Construction

SBL STA. 15+00
End Shoulder Construction

115

SBL STA. 107+31.89
Begin Outside Lane Construction

110

POT Sta 107+28.60

POT Sta 4+45.80

Dubuque Street

SIGN

24"x 203.1' CONC. PIPE

Sta. 918+50.00
Dual 236'x30' CONT.
I-BEAM BRIDGE
SKEWED

NBL STA. 4+45.80
Begin 8' Shoulder

5

NBL STA. 6+50
Begin Ramp D Turn Lane

Obliterate

10

NBL STA. 12+87.5
Begin B/D Median Crossing

NBL STA. 13+10
End Ramp D Turn Lane

5

15

NBL STA. 17+23
End Raised Median

Ramp D

15" C.M.P.

80

0 FEET 50

DUBUQUE STREET

C ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER D.2	

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Stg. 1 S.Med.Det. Sta. 2+94

Stage 1 S.Med.Det.
C = 353

Stage 1 S.Med.Det.
F+30% = 0
Waste = 353
353

Stg. 1 S.Med.Det.

Stg. 2B SBL

Stage 2B SBL
C = 1267

Stage 2B SBL
F+30% = 10
Waste = 1257
1267

Stg. 2B SBL

Stg. 3 NBL

Stage 3 NBL
C = 2454

Stage 3 NBL
F+30% = 1110
Waste = 1344
2454

Stg. 3 NBL

Stg. 1 S.Med.

Stage 1 S.Median
C = 462

Stg. 2A SBL

Stage 2A SBL
C = 552

Stage 2A SBL
F+30% = 134
Waste = 418
552

Stg. 2A SBL

Stage 1 S.Median
F+30% = 130
Waste = 332
462

Stg. 1 S.Med.

UAC

UAC

UAC

770 765 760 755 750 745 740 735 730 725 720 715 710 705 700 695 690 685

Lt

Rt

See Dubuque Street Southbound Ditch Bar Graph

UAC Ditch Elevation

UAC Median

Crossover

Raised Median

UAC Ditch

DUBUQUE STREET NORTHBOUND

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER D.3

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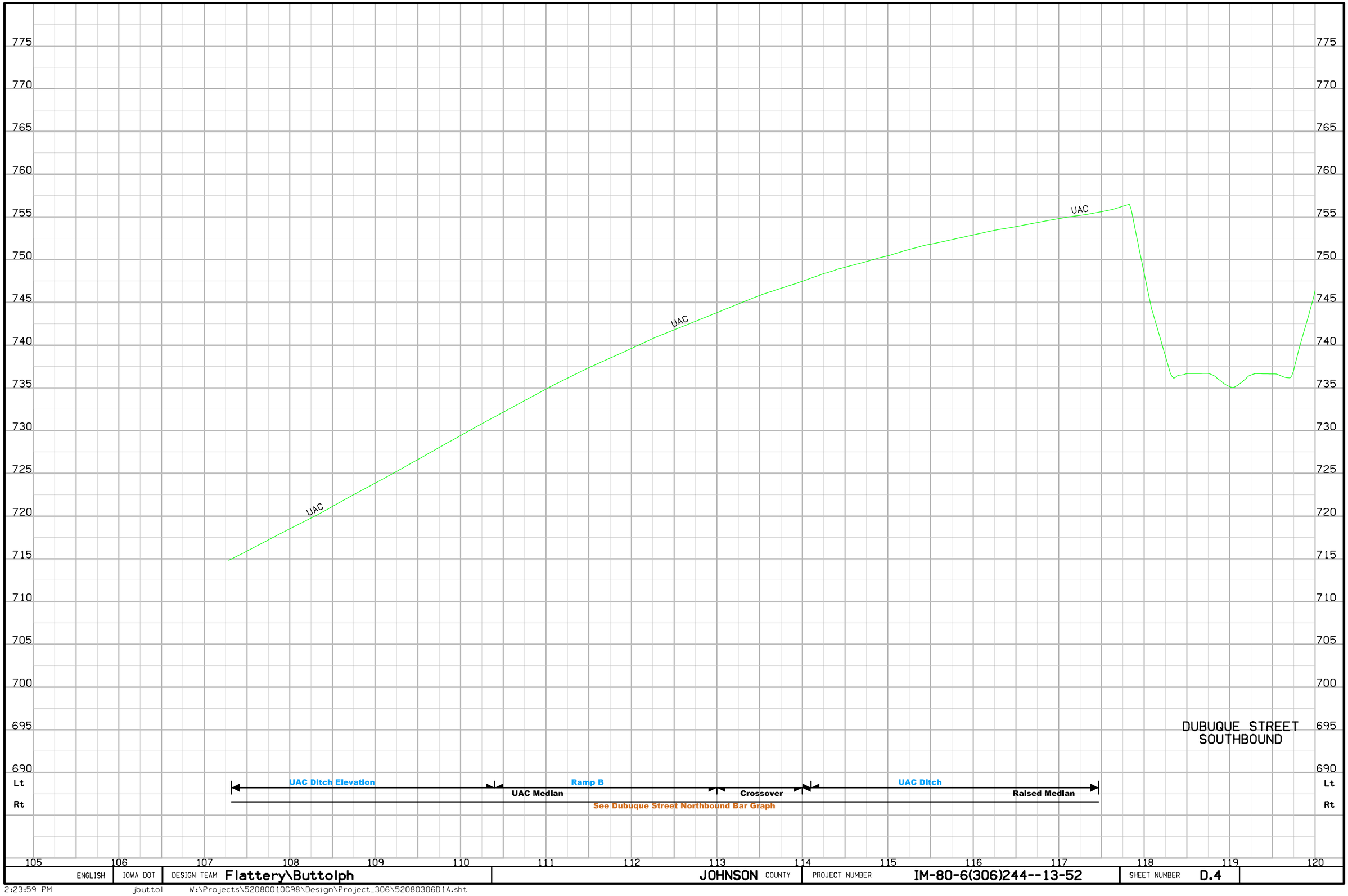

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER D.4

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EAST LUCAS TWP.
T-80N R-6W
SEC. 33

Ramp C

Interstate 80

SBL Sta. 120+21.28
Begin SBL Reconstruction

PC Sta 121+27.80

SBL Curve Data
Δ = 21° 00′ 00.00″ (LT)
T = 212.40
L = 420.03
R = 1,146.00
E = 19.52
e = .020
L = 62
x = 62
m = 19

PT Sta 125+47.83

SBL STA. 130+31.68
End SBL Reconstruction

PC Sta 131+16.23

SBL Curve Data
Δ = 5° 54′ 37.88″ (LT)
T = 147.90
L = 295.53
R = 2,864.93
E = 3.82
e = .040
L = 62
x = 62
m = 19

PT Sta 134+11.75

Dubuque Street

PI Sta 132+64.13

PC Sta 20+86.70

PI Sta 123+40.20

PI Sta 123+73.85

NBL STA. 19+82.24
Begin NBL Reconstruction

NBL Curve Data
Δ = 28° 07′ 59.99″ (LT)
T = 287.15
L = 562.71
R = 1,146.00
E = 35.43
e = .020
L = 62
x = 62
m = 19

PT Sta 26+49.41

SBL STA. 30+55.21
End NBL Reconstruction

Ramp A

0 FEET 50

DUBUQUE STREET

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER D.5

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Stg. 1 Rt.Sh.

Stage 1 Rt. Shldr.
C = 1905

Stage 1 Rt.Shldr.
F+30% = 738
Waste = 1167
1905

Stg. 1 N.Med.Det.

Stage 1 N.Med.Det.
C = 232

Stage 1 N.Med.Det.
F+30% = 2
Waste = 230
232

Stg. 1 N.Med.Det.

Stg. 1 Rt.Sh.

Stg. 3 NBL

Stage 3 NBL
C = 7504

Stage 3 NBL
F+30% = 204
Waste = 7300
7504

Stg. 3 NBL

Bridge EOS Tie-In
19+86.79
757.71

VPI +75.001
Elv 755.60

Len 300.00 ft

-1.120%

-1.780%

-1.72% Rt. Ditch Grade

+85 Rt.
752.79

+00 Rt.
747.37

+0.92% Rt.
Ditch Grade

+75 Rt.
748.06

Tie-In EOS
29+23.31
742.28

+50 Rt.
744.50

-2.40% Rt. Ditch Grade

+23 Rt.
737.94

DUBUQUE STREET
NORTHBOUND

Lt Med Rt

See Dubuque Street Southbound Ditch Bar Graph

Raised Median
Ditch Grade

Crossover
Ramp A

Raised Median
Ditch Grade

Lt Med Rt

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER D.6

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Stg. 2A

Stage 2A
C = 2041

Stage 2A
F+30% = 1866
Waste = 175
2041

Stg. 2A

Stg. 2B

Stage 2B
C = 1606

Stage 2B
F+30% = 66
Waste = 1540
1606

Stg. 2B

VPI +20.000
Elv 756.79

Len 200.00 ft

-0.240%

-1.900%

Bridge EOS Tie-In
120+16.78
757.04

Tie-In EOS
130+31.68
739.47

775 770 765 760 755 750 745 740 735 730 725 720 715 710 705 700 695 690

DUBUQUE STREET
SOUTHBOUND

Lt Med Rt	Toe Ditch	Raised Median	Ramp C	Crossover	Raised Median	Toe Ditch	Gore	Lt Med Rt

See Dubuque Street Northbound Bar Graph

120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135
757.02	756.92	756.77	756.57	756.32	756.02	755.66	755.26	754.80	754.32	753.85	753.37	752.90	752.42	751.95	751.47
751.00	750.52	750.05	749.57	749.10	748.62	748.15	747.67	747.20	746.72	746.25	745.77	745.30	744.82	744.35	743.87
743.40	742.92	742.45	741.97	741.50	741.02	740.55	740.07	739.60							

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER D.7

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THE DATUM PLANE FOR THIS SURVEY IS RELATIVE TO THAT OF USC&GS NAVD-88 DATUM USC&GS BM # 26-FDR-1964 ELEV=682.046 WAS FOUND AND USED AS DATUM BENCH BENCHS WERE SET & RUN THROUGH OUT THIS SURVEY TO BM # 501 ELEV=744.673 CONSULTANT 1998 SURVEY

BM # 566 THIS SURVEY ELEV=682.046
=BM # 26-FDR-1964 ELEV=682.046

BM # 556 THIS SURVEY ELEV=744.673
=BM # 501 ELEV=744.673 CONSULTANT 1998 SURVEY PROJ # 99-275

BENCHMARKS — ELEVATION

No. 500 Sta. 524+24.82 275.01 Rt. CUT-X-NW-CORNER-CONC-SLAB OF THE EAST MOST HISTORICAL MONUMENT---------- 725.532
No. 501 Sta. 541+26.76 95.72 Rt. FD\IHC-BM-ON-INLET-HDWL 6.0 X 6.0 RCB---------- 716.211
No. 502 Sta. 557+55.03 100.54 Lt. FD\IHC-BM-ON-INLET-HDWL 4.0 X 4.0 RCB = BM 51A ELEV = 738.36 GRADING PLANS PROJECT NO. I-80-6(12)238---------- 738.113
No. 503 Sta. 567+54.01 112.27 Rt. FD\IHC-BM-SE-WING-BRIDGE = BM 51C ELEV = 768.83 GRADING PLANS PROJECT NO. I-80-6(12)238---------- 768.519
No. 504 Sta. 568+71.96 664.93 Rt. FD\IHC-BM-ON-INLET-HDWL 6.0 X 4.0 RCB = BM 51B ELEV = 760.19 GRADING PLANS PROJECT NO. I-80-6(12)238---------- 759.878
No. 505 Sta. 572+43.12 232.39 Lt. FD\IHC-BM-ON-INLET-HDWL 5.0 X 5.0 RCB = BM 56B ELEV = 736.39 GRADING PLANS PROJECT NO. I-80-6(12)238---------- 736.150
No. 506 Sta. 576+04.56 174.78 Lt. FD\IHC-BM-ON-OUTLET-HDWL 42" CIR RCB W\ FLUME = BM 56A ELEV = 736.54 GRADING PLANS PROJECT NO. I-80-6(12)238---------- 736.266
No. 507 Sta. 582+71.85 157.29 Rt. SET\RR-SPK-N-SIDE-FE-POST------ 741.725
No. 508 Sta. 593+92.17 141.09 Lt. SET\RR-SPK-S-SIDE-P-POLE------- 741.525
No. 509 Sta. 607+05.87 79.46 Rt. FD\IHC-BM-ON-INLET-HDWL 5.0 X 5.0 RCB = BM 58A ELEV = 738.31 GRADING PLANS PROJECT NO. I-80-6(12)238---------- 738.221
No. 510 Sta. 615+76.60 326.96 Rt. FD\RR-SPK-E-SIDE-P-POLE-------- 759.073
No. 511 Sta. 620+62.57 65.33 Rt. FD\X-SOUTH-CONC-BASE-OF OVERHEAD SIGN= BM # 501 PROJECT NUMBER IM-80-6(171)240--13-52 ELEVATION=768.539---------- 768.176
No. 512 Sta. 621+03.40 106.71 Lt. FD\IHC-BM-NW-WING-BRIDGE = BM 60A ELEV = 789.74 GRADING PLANS PROJECT NO.I-80-6(12)238=BM # 500 PROJECT NUMBER IM-80-6(171)240--13-52 ELEVATION=789.96---------- 789.582
No. 514 Sta. 628+04.84 138.29 Rt. FD-X-NORTH-SIDE-CONC-BASE LIGHT POLE = BM # 502 PROJECT NUMBER IM-80-6(171)240--13-52 ELEVATION=759.83---------- 759.429
No. 513 Sta. 630+59.60 585.67 Rt. SET\RR-SPK-N-SIDE-P-POLE------- 799.211
No. 521 Sta. 635+58.50 2288.24 Lt. FD\IHC-BM-SW-WING-N-BOUND I-380 BRIDGE OVER CLEAR CREEK = BM 22 ELEV. = 691.61 PAVING PLANS PROJECT NO. I-IG-380-6(19)243--04-52------- 691.493
No. 520 Sta. 638+65.25 1150.14 Lt. FD\X-E-BOLT-LIGHT-POLE BASE = BM 19 ELEV = 699.26 PAVING PLANS PROJECT NO. I-IG-380-6(19)243--04-52 NO.---------- 699.144
No. 519 Sta. 643+13.57 149.65 Lt. FD\IHC-BM-NW-WING-S-BOUND I-380 BRIDGE OVER I-80--------- 737.910
No. 515 Sta. 643+29.80 85.69 Rt. CUT-X-S-SIDE-OF-THE-SOUTH CONC BASE OVERHEAD SIGN-------- 717.715
No. 518 Sta. 646+13.45 174.79 Rt. FD\IHC-BM-SE-WING-N-BOUND I-380 BRIDGE OVER I-80--------- 746.360
No. 517 Sta. 650+98.04 1260.64 Rt. FD\X-NW-BOLT-LIGHT-POLE = BM 3 ELEV. = 737.37 PAVING PLANS PROJECT NO. I-IG-380-6(19)243--04-52------- 737.313
No. 516 Sta. 654+99.08 2289.74 Rt. CUT-X-CL-S-EDGE-EAST-CONC BASE OVERHEAD SIGN---------- 741.143
No. 522 Sta. 659+46.08 96.58 Lt. FD\IHC-BM-SW-WING-RAMP BRG FROM I-80 W.BOUND TO I-380 N.BOUND---------- 683.510
No. 523 Sta. 661+62.64 113.94 Rt. FD\X-CONC-WHEELGUARD-SE END OF RAMP BRIDGE FROM I-380 N.BOUND TO I-80 EAST BOUND---------- 678.333
No. 524 Sta. 678+73.49 137.92 Rt. SET\RR-SPK-N-SIDE-WOOD FENCE POST---------- 668.615
No. 525 Sta. 691+40.06 60.42 Rt. FD\IHC-BM-SW-WING-I-80 E.BOUND BR. OVER HWY 6--------- 713.964
No. 526 Sta. 693+80.06 69.22 Lt. FD\IHC-BM-ON-INLET-HDWL 8.0 X 8.0 RCB = BM 115B ELEV. = 678.77 PCC PAVING PROJECT PLANS NO. I-IG-80-6(5)245---------- 678.693
No. 527 Sta. 697+44.64 61.02 Rt. FD\IHC-BM-SE-WING-I-80 E.BOUND BRIDGE OVER HWY 6------ 716.522
No. 528 Sta. 710+29.21 67.34 Rt. CUT-X-S-SIDE-CONC-BASE LIGHT POLE IN BETWEEN RAMP & I-80 E.BOUND---------- 732.764
No. 530 Sta. 724+64.11 15.45 Lt. FD\IHC-BM-SW-WING-I-80 W.BOUND BRG OVER HWY 965 = 119A ELEV. = 734.10 PCC PAVING PROJECT PLANS NO.I-IG-80-6(5)245---------- 733.923
No. 529 Sta. 725+22.02 792.31 Rt. CUT-X-N.SIDE-CONC-BASE TRAFFIC SIGNAL SW QUAD HWY 965 & WEST ENTRANCE INTO MALL---------- 714.224
No. 531 Sta. 727+10.65 340.80 Lt. CUT-X-ON-INLET-HDWL 6.0 X 6.0 RCB---------- 705.436
No. 532 Sta. 730+69.65 374.01 Lt. FD\IHC-BM-ON-INLET-HDWL 6.0 X 4.0 RCB = BM 180-3 ELEV. = 719.61 PCC PAVEMENT-GRADE/NEW PROJECT PLANS NO. STPN-965-0(4)--25-52---------- 719.458
No. 533 Sta. 741+85.18 66.23 Lt. CUT-X-S-SIDE-CONC-BASE LIGHT IN BETWEEN W.BOUND I-80 @ RAMP---------- 756.604
No. 534 Sta. 752+67.26 167.30 Lt. SET\RR-SPK-S-SIDE-WOOD FENCE POST---------- 754.423
No. 535 Sta. 760+93.81 109.17 Rt. FD/SQUARE-SE-COR-OUTLET HDWL 10.0 X 8.0 RCB---------- 698.887
No. 536 Sta. 775+94.09 139.04 Rt. SET\RR-SPK-N-SIDE-WOOD FENCE POST---------- 741.799
No. 537 Sta. 794+03.83 92.93 Lt. CUT-X-N-CONC-BASE-SIGN POST---------- 756.861
No. 538 Sta. 801+22.85 105.19 Lt. FD\IHC-BM-NE-WING-BRIDGE------ 788.482
No. 539 Sta. 804+22.55 60.12 Rt. FD\IHC-BM-SW-WING-I-80 E.BOUND BRG OVER RAILROAD------ 771.178
No. 540 Sta. 816+89.42 174.97 Rt. SET\RR-SPK-N-SIDE-WOOD FENCE POST---------- 771.590
No. 541 Sta. 835+89.00 152.26 Lt. FD\IHC-BM-ON-INLET-HDWL 5.0 X 5.0 RCB = BM 127E ELEV. = 708.41 PCC PROJECT PLANS NO. I-IG-80-6(5)245---------- 708.195
No. 542 Sta. 850+40.28 103.95 Rt. FD\IHC-BM-CONC-HANDRAIL SE END OF THE N.BOUND OVERPASS OVER I-80---------- 739.233
No. 543 Sta. 868+25.59 67.99 Rt. FD\IHC-BM-HANDRAIL-SW-END E.BOUND I-80 BRIDGE OVER IOWA RIVER---------- 674.887
No. 544 Sta. 879+17.38 146.72 Rt. SET\RR-SPK-N-SIDE-P-POLE------- 664.789
No. 545 Sta. 887+50.81 99.63 Lt. SW-BOLT-ON-S-SIGN-POST--------- 687.615
No. 546 Sta. 901+75.33 75.27 Rt. CUT-X-S-SIDE-CONC-BASE LIGHT POLE---------- 714.944
No. 547 Sta. 918+49.96 113.37 Lt. FD\IHC-BM-NE-WING-N.BOUND OVERPASS BRG OVER I-80 = BM 5-D ELEV. = 758.18 PCC PROJECT PLANS NO. I-IG-80-6(5)245---------- 758.132
No. 548 Sta. 928+93.65 158.27 Rt. FD\IHC-BM-ON-INLET-HDWL 3.0 X 3.0 RCB---------- 733.773
No. 549 Sta. 945+79.85 103.30 Rt. CUT-X-ON-OUTLET-HDWL 24" CIR RCB W\FLUME---------- 733.455
No. 550 Sta. 960+44.75 110.20 Lt. FD\IHC-BM-NE-WING OVERPASS BRG OVER I-80 = 155B ELEV.= 768.23 PCC PAVING PROJECT PLANS NO. I-80-7(22)249---------- 768.323
No. 551 Sta. 971+84.07 163.97 Rt. FD\IHC-BM-ON-INLET-HDWL 4.0 X 4.0 RCB = BM 156D ELEV. = 723.29 PCC PAVING PROJECT PLANS NO. I-80-7(22)249---------- 723.392
No. 552 Sta. 987+82.36 80.71 Rt. CUT-X-NE-BOLT-N.SIGN-POST------ 751.721
No. 553 Sta. 1000+33.99 104.03 Rt. FD\IHC-BM-ON-INLET-HDWL 4.0 X 4.0 RCB = BM 161C ELEV. = 711.31 PCC PAVING PROJECT PLANS NO. I-80-7(22)249---------- 711.536
No. 554 Sta. 1006+18.99 98.22 Rt. FD\IHC-BM-ON-INLET-HDWL 5.0 X 5.0 RCB = BM 162C ELEV. = 658.68 PCC PAVING PROJECT PLANS NO. I-80-7(22)249---------- 698.872
No. 555 Sta. 1014+90.66 149.98 Lt. SET-RR\SPK-S.SIDE-WOOD FENCE POST---------- 721.521
No. 556 Sta. 1029+23.28 118.33 Rt. FD\IHC-BM-SE-WING-N.BOUND OVERPASS BRIDGE OVER I-80 =BM # 501 EL=744.673 CONSULTANT 1998 SURVEY ON IOWA # 1---------- 744.673
No. 557 Sta. 1039+87.03 141.38 Rt. FD\IHC-BM-ON-INLET-HDWL 4.0 X 4.0 RCB = BM C ELEV. = 708.98 PCC PAVING PROJECT PLANS NO. I-80-7(22)249---------- 709.339
No. 558 Sta. 1058+28.12 80.92 Rt. FD\IHC-BM-ON-INLET-HDWL 4.0 X 4.0 RCB---------- 725.524
No. 559 Sta. 1075+80.90 151.12 Lt. SET\RR-SPK-S.SIDE-P.POLE------- 750.833
No. 560 Sta. 1087+79.71 138.35 Rt. SET\RR-SPK-N.SIDE-WOOD FENCE POST---------- 768.823
No. 561 Sta. 1098+90.14 79.24 Lt. IHC-INLET-HDWL-5X4-RCB =BM-174A EL=763.37 PCC PAVING PLANS PROJ NO.I-80-7(22)249---------- 763.576
No. 562 Sta. 1108+19.33 138.32 Lt. RR-SPK-S-SIDE-FE-POST---------- 777.106
No. 563 Sta. 1117+72.07 138.51 Lt. SET-RR-SPK-S-SIDE-FE-POST------ 778.808

DETAILS OF REFERENCE INFORMATION

All References are Plumb Distances unless otherwise noted.

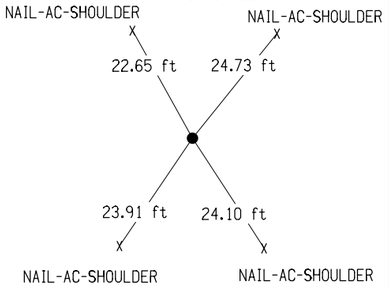
No. 564 Sta. 1127+59.19 62.71 Lt. IHCBM-INLET-HDWL-10X4RCB
=BM-174B EL=769.60
PCC PAVING PLANS PROJ
NO.I-80-7(22)249---------- 769.678
No. 565 Sta. 1136+82.12 151.68 Rt. RR-SPK-N-SIDE-P-POLE---------- 785.687

MISCELLANEOUS LOCATIONS
No. 566 ********** FD-USGS-DISK-OUTLET-HDWL
4.0 X 2.0 RCB
NAVD 88 EL=682.046---------- 682.046
No. 10 ********** GPS-POINT-G010
FENO MONUMENT
ORTHO ELEVATION =772.61-------- 772.620
No. 11 ********** GPS-POINT-G011
FENO MONUMENT
ORTHO ELVATION =722.71--------- 722.698
No. 12 ********** GPS-POINT-G012
ORTHO ELEVATION=678.00
FD\ REBAR---------- 677.999
No. 13 ********** GPS-POINT-G013
ORTHO ELEVATION=709.82
FD\ REBAR---------- 709.794
No. 14 ********** GPS-POINT-G014
ORTHO ELEVATION=738.81
FD\ REBAR---------- 738.784
No. 15 ********** GPS-POINT-G015
ORTHO ELEVATION=753.53--------- 753.454
No. 16 ********** GPS-POINT-G016
ORTHO ELEVATION=712.30
FOUND REBAR---------- 712.224
No. 17 ********** GPS-POINT-G017
ORTHO ELEVATION=759.29
FOUND REBAR---------- 759.248
No. 18 ********** GPS-POINT-G018
ORTHO ELEVATION=767.97
FOUND REBAR---------- 767.891
No. 19 ********** GPS-POINT-G019
ORTHO ELEVATION=753.14
FOUND REBAR---------- 753.060
No. 20 ********** GPS-POINT-G020
ORTHO ELEVATION=736.72
FOUND REBAR---------- 736.657
No. 21 ********** GPS-POINT-G021
ORTHO ELEVATION=666.29
FOUND REBAR---------- 666.313
No. 22 ********** GPS-POINT-G022
ORTHO ELEVATION=729.94
FOUND REBAR---------- 729.959
No. 23 ********** GPS-POINT-G023
ORTHO ELAVATION=742.52
FOUND REBAR---------- 742.560
No. 25 ********** GPS-POINT-G025
ORTHO ELEVATION=752.12
FOUND REBAR---------- 752.145
No. 26 ********** GPS-POINT-G026
ORTHO ELEVATION=723.40
FOUND REBAR---------- 723.407
No. 27 ********** GPS-POINT-G027
ORTHO ELEVATION=736.11
FOUND REBAR---------- 736.138
No. 28 ********** GPS-POINT-G028
ORTHO ELEVATION=739.97
FOUND REBAR---------- 739.954
No. 29 ********** GPS-POINT-G029
ORTHO ELEVATION=750.52
FOUND REBAR---------- 750.507
No. 30 ********** GPS-POINT-G030
ORTHO ELEVATION=767.65
FOUND REBAR---------- 767.606
No. 31 ********** GPS-POINT-G031
ORTHO ELEVATION=774.18
FOUND REBAR---------- 774.115

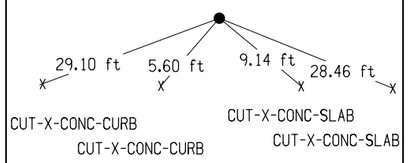
DETAILS OF REFERENCE INFORMATION

All References are Plumb Distances unless otherwise noted.

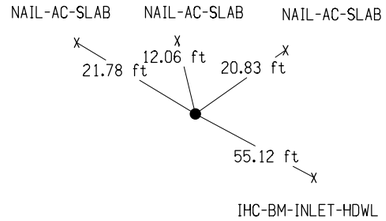
POT 488+00.88
POINT # 50
FD-IRON-PIN---16"DEEP
XC=2133198.794, YC=622563.994



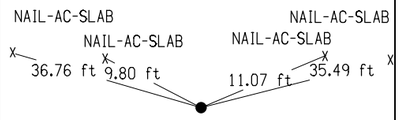
GPS 524+92.56, 112.25 RT.
POINT # G035
FD-FENO-MONU---6"DEEP
XC=2136888.350, YC=622395.920



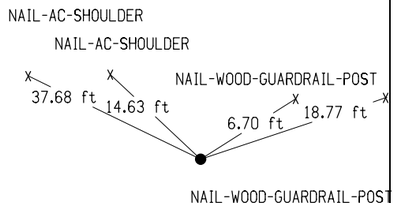
CP 540+77.82, 70.37 RT.
POINT # 51
SET-IRON-PIN---7"DEEP
XC=2138474.065, YC=622413.816



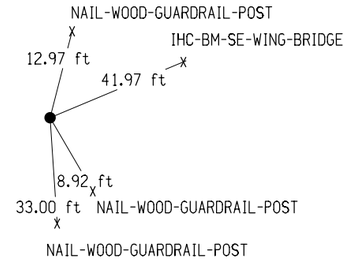
CP 550+08.12, 65.86 RT.
POINT # 52
SET-IRON-PIN---6"DEEP
XC=2139404.330, YC=622404.257



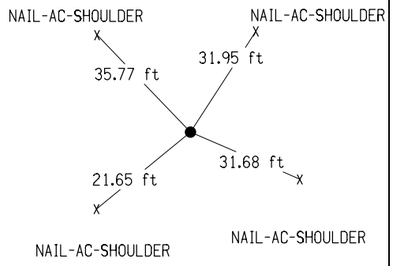
GPS 565+60.58, 68.86 RT.
POINT # G036
FD-REBAR---6"DEEP
XC=2140956.560, YC=622377.780



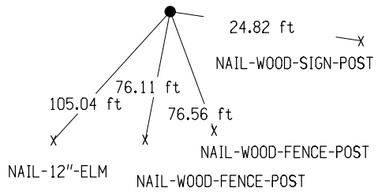
CP 567+15.66, 129.38 RT.
POINT # 53
SET-IRON-PIN---8"DEEP
XC=2141110.705, YC=622314.914



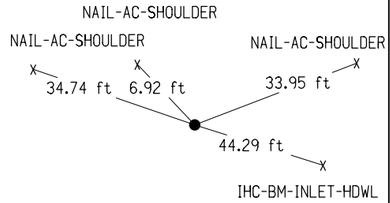
PI 579+28.07
POINT # 54
FOUND IRON-PIN--10"DEEP
XC=2142324.940, YC=622425.944



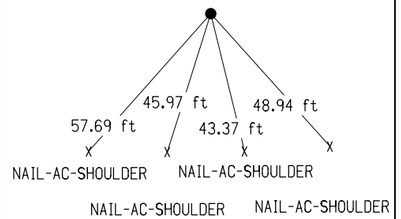
CP 592+79.39, 65.13 RT.
POINT # 55
SET-IRON-PIN---6"DEEP
XC=2143678.017, YC=622445.384



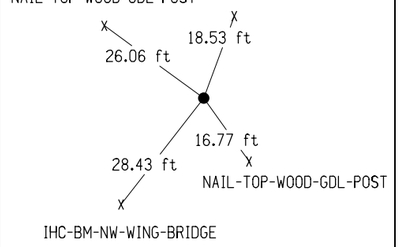
CP 606+64.52, 63.57 RT
POINT # 56
SET-IRON-PIN---6"DEEP
XC=2145060.352, YC=622533.473



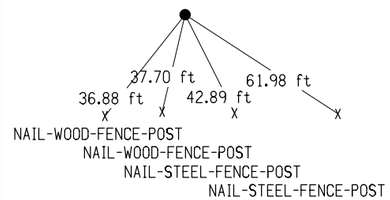
CP 620+05.22, 101.08 LT.
POINT # G037
FD-REBAR---6"DEEP
XC=2146388.140, YC=622781.550



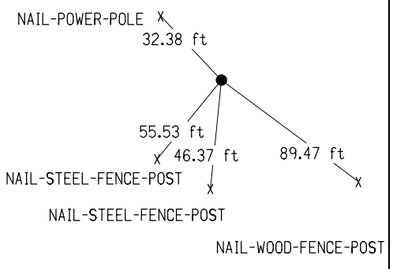
CP 621+22.20, 128.00 LT.
POINT # 57
SET-IRON-PIN---5"DEEP
XC=2146503.210, YC=622815.726
NAIL-TOP-WOOD-GDL-POST



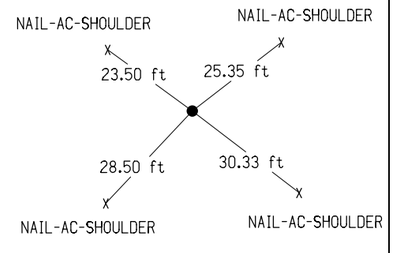
GPS 622+06.63, 124.20 RT.
POINT # G010
FD-FENO-MONU--5"DEEP
XC=2146602.820, YC=622569.130



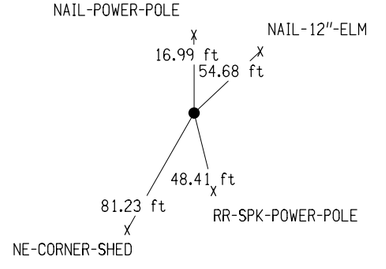
CP 622+69.02, 422.05 RT
POINT # 58
SET-IRON-PIN---6"DEEP
XC=2146681.540, YC=622275.331



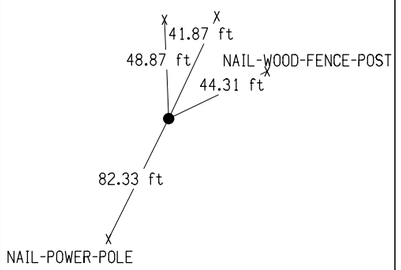
PI 625+84.74
POINT # 49
FD-IRON-PIN---5"DEEP
XC=2146972.845, YC=622716.871



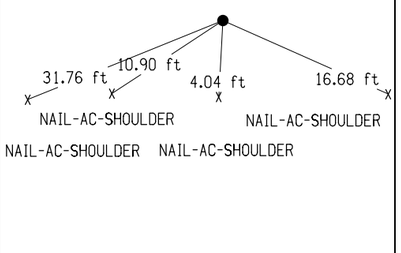
CP 630+48.78, 538.33 RT
POINT # 59
SET-IRON-PIN---6"DEEP
XC=2147449.066, YC=622189.177



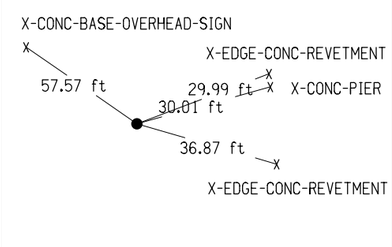
CP 636+29.98, 628.91 RT
POINT # 60
SET-IRON-PIN---7"DEEP
XC=2148032.168, YC=622111.768
NAIL-WOOD-FENCE-POST NAIL-STEEL-FENCE-POST



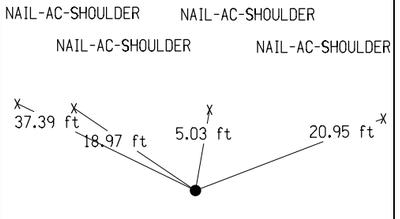
CP 636+43.43, 62.48 LT.
POINT # 64
SET-IRON-PIN---6"DEEP
XC=2148029.975, YC=622803.284



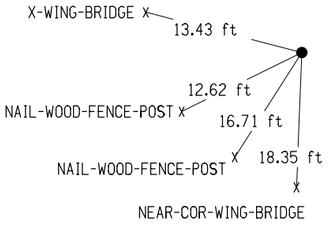
GPS 643+76.36, 119.54 RT
POINT # G011
FD-FENO-MONU---6"DEEP
XC=2148766.830, YC=622637.890



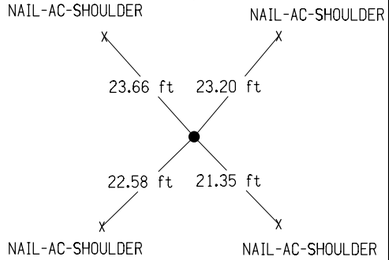
CP 653+78.73, 64.05 RT.
POINT # 67
SET-IRON-PIN---5"DEEP
XC=2149767.696, YC=622716.034



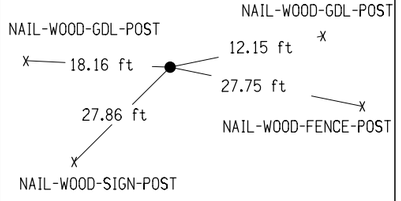
GPS 661+60.29, 63.62 RT.
POINT # G012
FD-REBAR---8"DEEP
XC=2150549.040, YC=622734.140



PI 676+17.64
POINT # 47
FD-IRON-PIN---5"DEEP
XC=2152004.582, YC=622830.701



GPS 691+03.90, 63.64 RT.
POINT # G013
FD-REBAR---5"DEEP
XC=2153490.580, YC=622760.510



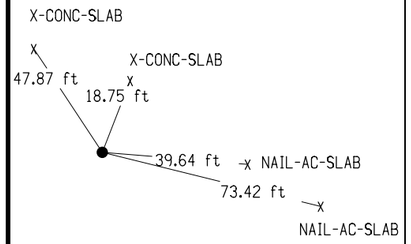
DETAILS OF REFERENCE INFORMATION

All References are Plumb Distances unless otherwise noted.

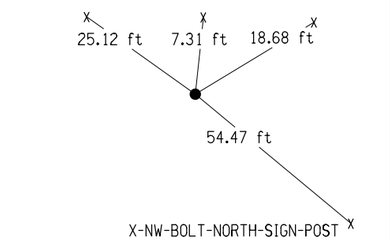
ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER G.3

9:14:44 AM 2/15/2012 jbuttol W:\Projects\52080010C98\Design\Project_306\52080306G.sht

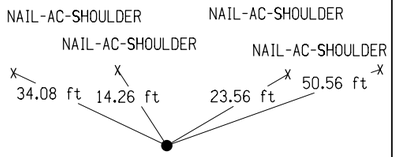
CP 696+27.39, 182.54 RT.
POINT # 68
SET-IRON-PIN---4"DEEP
XC=2154013.542, YC=622639.299



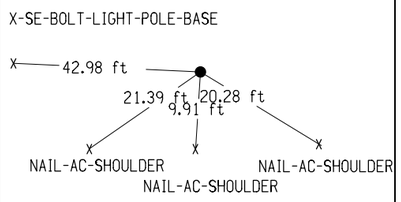
CP 702+45.98, 67.96 RT.
POINT # 69
SET-IRON-PIN---2"DEEP
XC=2154632.637, YC=622751.154
NAIL-AC-SHOULDER



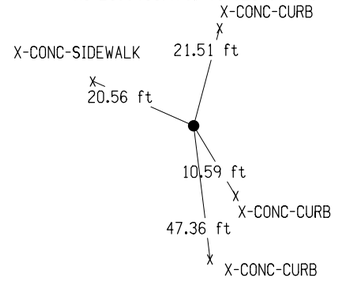
GPS 714+90.54, 70.59 RT.
POINT # G014
FD-REBAR---7"DEEP
XC=2155877.170, YC=622743.040



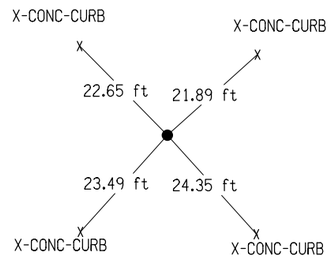
CP 723+72.19, 74.01 LT.
POINT # 70
SET-IRON-PIN---4"DEEP
XC=2156759.449, YC=622883.747



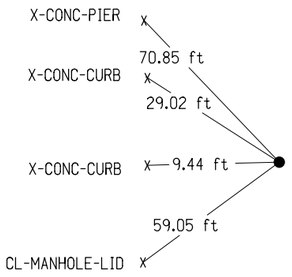
CP 725+28.79, 849.21 RT
POINT # 71
SET-IRON-PIN---4"DEEP
XC=2156911.976, YC=621959.843



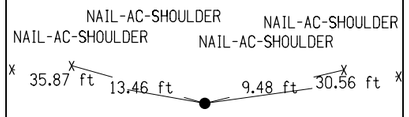
CP 725+70.68, 892.11 LT
POINT # 73
SET-IRON-PIN---4"DEEP
XC=2156961.548, YC=623700.957



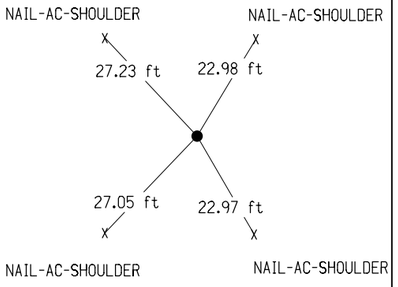
CP 726+50.69, 130.32 RT.
POINT # 72
SET-IRON-PIN---4"DEEP
XC=2157037.044, YC=622678.188



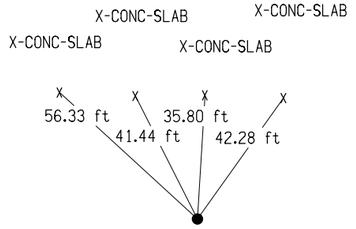
CP 733+40.52, 62.80 RT.
POINT # 74
SET-IRON-PIN---6"DEEP
XC=2157727.165, YC=622742.670



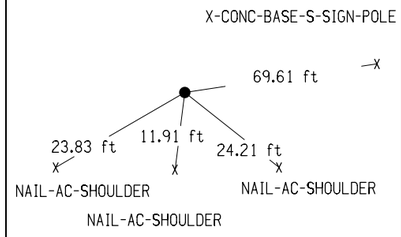
CP 740+38.90, 0.76 RT
POINT # 1
FD-REBAR---1"DEEP
XC=2158425.814, YC=622801.630



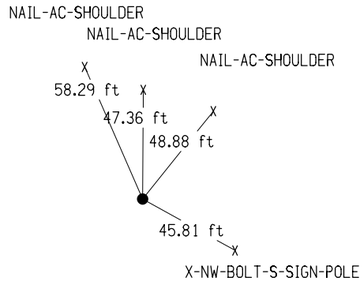
GPS 744+32.20, 104.94 RT.
POINT # G015
FD-REBAR---8"DEEP
XC=2158811.110, YC=622682.600



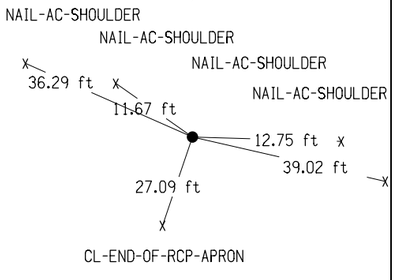
PI 749+37.94
POINT # 46
FD/CONC MONU---4"DEEP
XC=2159324.850, YC=622798.423



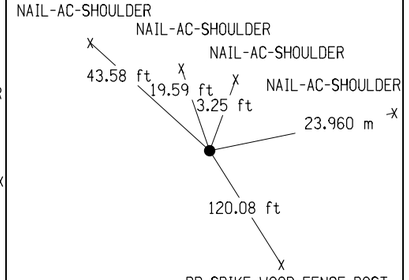
CP 755+99.57, 104.09 RT.
POINT # 75
SET-IRON-PIN---4"DEEP
XC=2159937.950, YC=622484.594



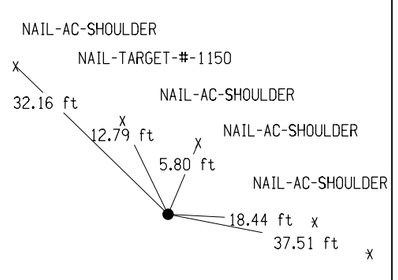
GPS 764+95.39, 62.39 RT
POINT # G016
FD-REBAR---8"DEEP
XC=2160799.980, YC=622251.780



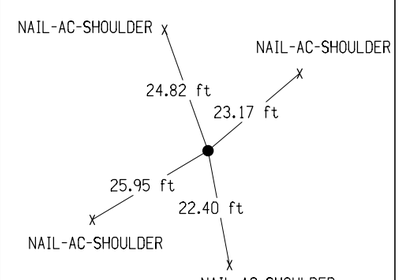
CP 775+01.71, 62.29 RT
POINT # 76
SET-IRON-PIN---5"DEEP
XC=2161756.755, YC=621939.895



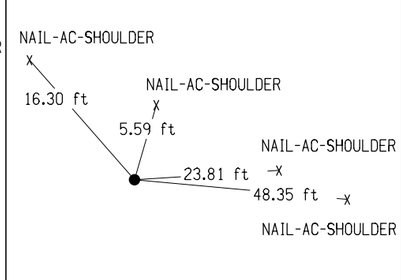
GPS 783+42.19, 63.51 RT
POINT # G017
FD-REBAR---8"DEEP
XC=2162555.440, YC=621678.170



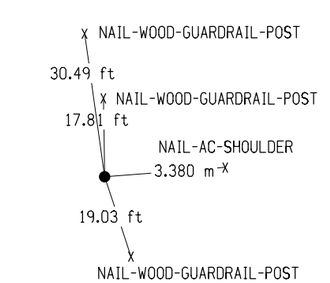
CP 784+42.93, 0.20 RT
POINT # 3
FD-REBAR---14"DEEP
XC=2162670.850, YC=621707.128



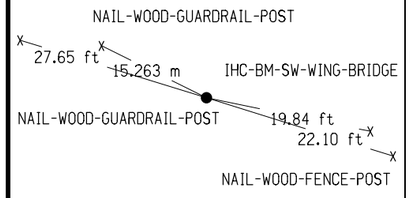
CP 791+34.67, 61.62 RT
POINT # 77
SET-IRON-PIN---4"DEEP
XC=2163309.464, YC=621434.275



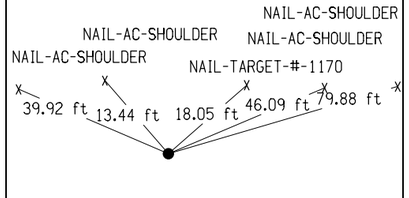
CP 800+78.11, 125.02 LT
POINT # 78
SET-IRON-PIN---4"DEEP
XC=2164264.285, YC=621319.237



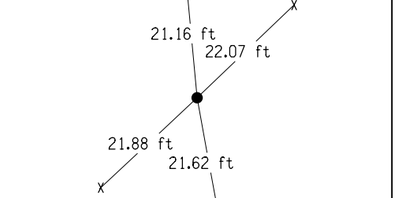
GPS 804+02.83, 62.15 RT
POINT # G018
FD-REBAR---9"DEEP
XC=2164514.980, YC=621040.620



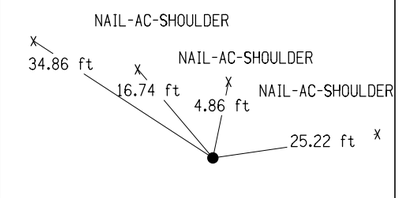
CP 813+57.46, 62.01 RT
POINT # 79
SET-IRON-PIN---3"DEEP
XC=2165422.619, YC=620744.800



POST 820+22.36
POINT # 4
FD-REBAR---10"DEEP
XC=2166073.977, YC=620597.619



GPS 823+04.29, 63.52 RT
POINT # G019
FD-REBAR---6"DEEP
XC=2166324.940, YC=620452.790



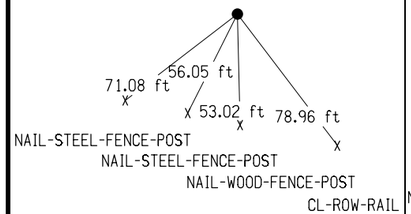
DETAILS OF REFERENCE INFORMATION

All References are Plumb Distances unless otherwise noted.

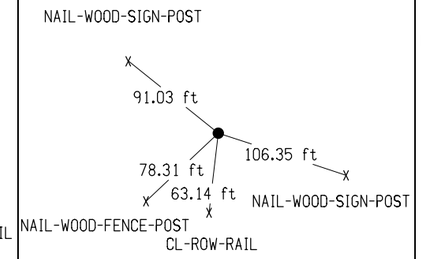
ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER G.4

9:14:44 AM 2/15/2012 jbuttol W:\Projects\52080010C98\Design\Project_306\52080306G.sht

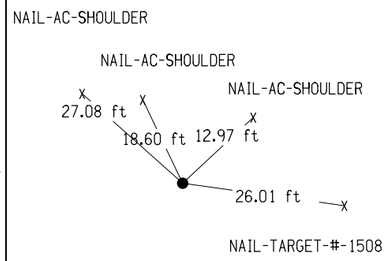
PI 839+10.31
POINT # 9
SET-IRON-PIN---4"DEEP
XC=2167868.913, YC=620012.313



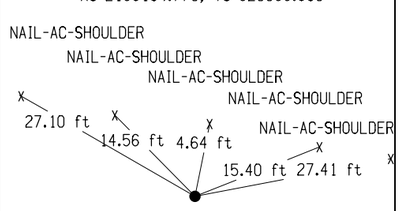
POST 839+47.97, 146.41 RT
POINT # 45
FD-IRON-PIN---2"DEEP
XC=2167924.978, YC=620013.005



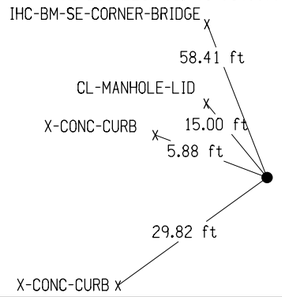
CP 839+53.58, 120.32 RT
POINT # 80
SET-IRON-PIN---4"DEEP
XC=2167934.390, YC=620037.983



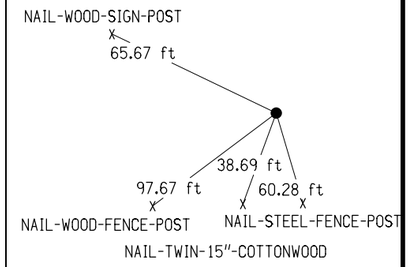
GPS 841+51.48, 63.59 RT
POINT # G020
FD-REBAR---7"DEEP
XC=2168139.770, YC=620066.830



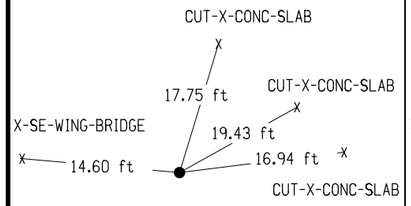
CP 850+37.65, 162.30 RT
POINT # 81
SET-IRON-PIN---4"DEEP
XC=2169021.930, YC=619887.959



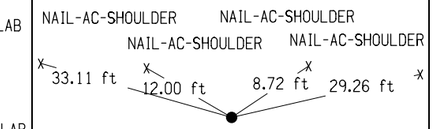
CP 860+12.24, 119.66 RT
POINT # 82
SET-IRON-PIN---6"DEEP
XC=2170006.079, YC=619919.014



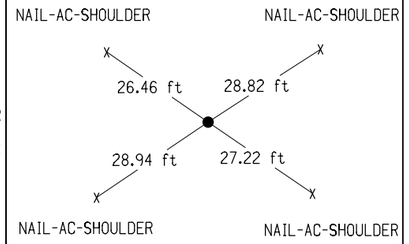
GPS 872+79.25, 69.39 RT
POINT # G021
FD-REBAR-8"DEEP
XC=2171272.370, YC=619984.900



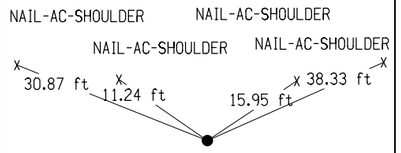
CP 884+13.63, 63.09 RT
POINT # 83
SET-IRON-PIN---7"DEEP
XC=2172406.582, YC=620005.198



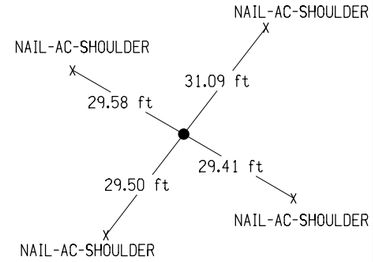
POST 889+89.37
POINT # 44
FD-REBAR---6"DEEP
XC=2172981.506, YC=620075.383



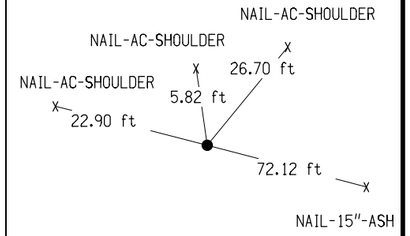
PI 895+41.62
POINT # 111
SET-HINGE-NAIL
XC=2173533.713, YC=620082.195



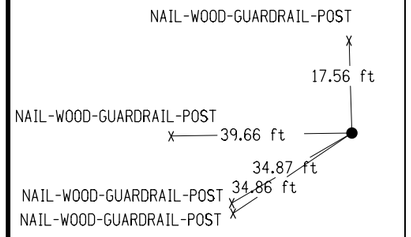
POT 900+92.24
POINT # 43
FD-IRON-PIN---4"DEEP
XC=2174076.154, YC=620194.995



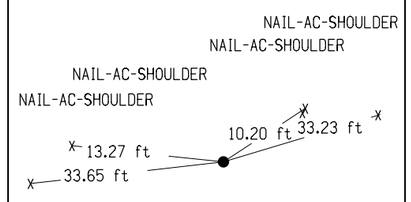
GPS 910+12.51, 63.26RT
POINT # G022
FD-REBAR-6"-DEEP
XC=2174990.030, YC=620320.420



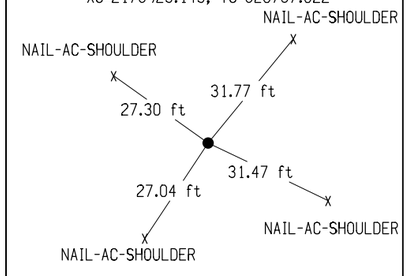
CP 917+95.14, 127.06 LT
POINT # 84
SET-IRON-PIN---4"DEEP
XC=2175717.520, YC=620666.093



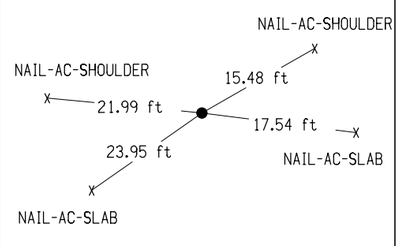
CP 925+15.16, 61.69 RT
POINT # 85
SET-IRON-PIN---4"DEEP
XC=2176460.891, YC=620627.886



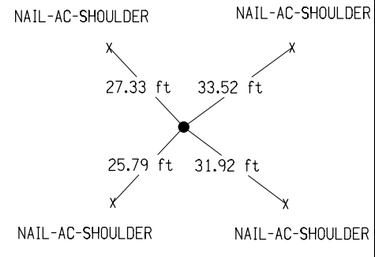
PC 930+00.13
POINT # 103
SET-IRON-PIN---8"DEEP
XC=2176923.143, YC=620787.022



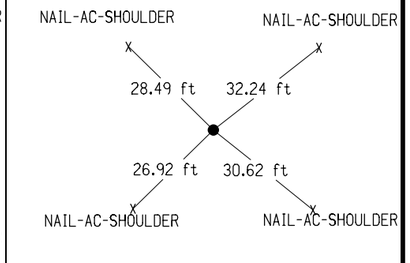
GPS 932+86.52, 63.74 RT
POINT # G023
FD-REBAR-6"-DEEP
XC=2177214.720, YC=620775.320



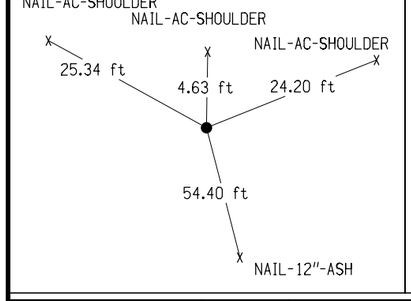
PT 942+21.91
POINT # 105
SET-IRON-PIN---6"DEEP
XC=2178136.704, YC=620906.832



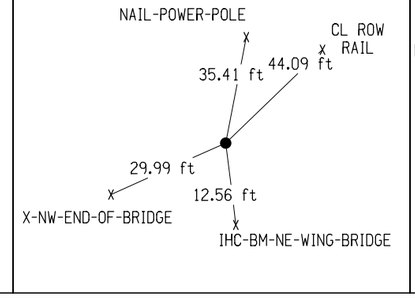
POT 942+23.53
POINT # 42
FD-REBAR-3"-DEEP
XC=2178138.331, YC=620906.818



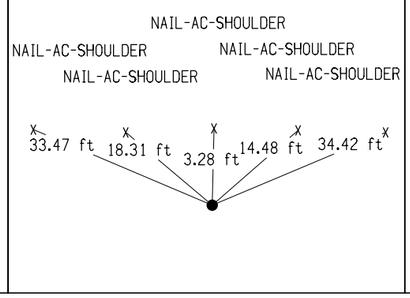
GPS 949+63.99, 60.67 RT
POINT # G024
FD-REBAR-8"-DEEP
XC=2178878.260, YC=620840.070



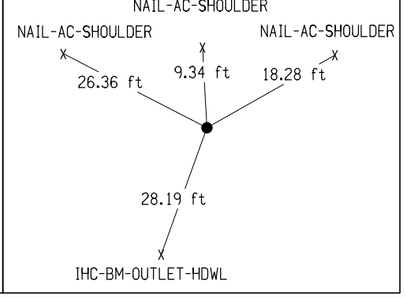
CP 960+42.86, 122.56 LT
POINT # 86
SET-IRON-PIN---6"DEEP
XC=2179958.600, YC=621014.436



CP 966+18.31, 60.60 RT
POINT # 87
SET-IRON-PIN---5"DEEP
XC=2180532.527, YC=620826.554



CP 977+54.38, 66.74 RT
POINT # 88
SET-IRON-PIN---5"DEEP
XC=2181668.512, YC=620811.082



DETAILS OF REFERENCE INFORMATION

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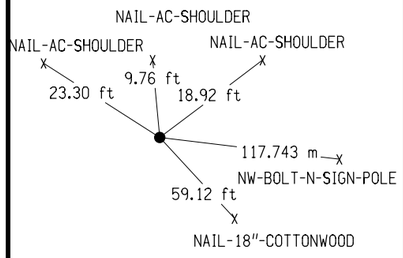
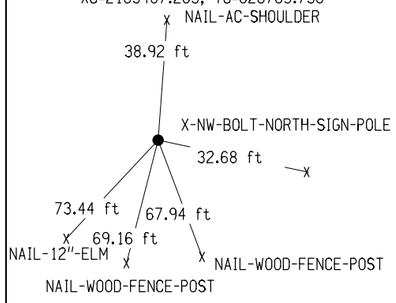
ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER G.5

9:14:45 AM 2/15/2012 jbuttol W:\Projects\52080010C98\Design\Project_306\520803066.sht

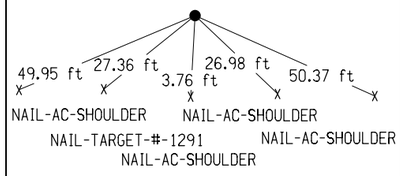
GPS 986+64.53, 67.25 RT
POINT # G025
FD-REBAR-6"-DEEP
XC=2182578.630, YC=620803.100



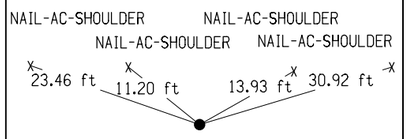
CP 995+73.44, 97.14 RT
POINT # 89
SET-IRON-PIN---6"DEEP
XC=2183487.263, YC=620765.738



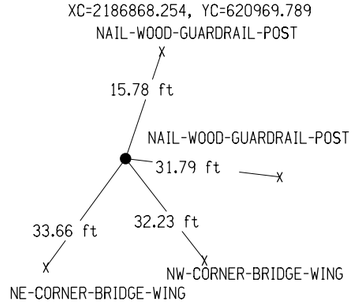
CP 1011+08.02, 62.78 LT
POINT # 90
SET-IRON-PIN---6"DEEP
XC=2185023.099, YC=620913.049



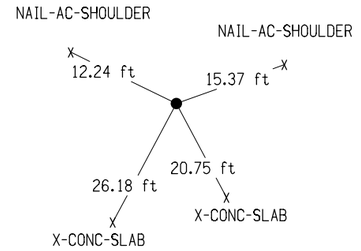
GPS 1018+29.48, 64.44 RT
POINT # G026
FD-REBAR---8"DEEP
XC=2185743.490, YC=620779.910



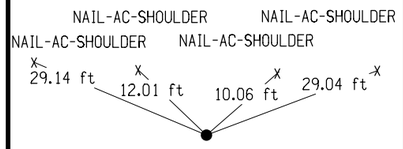
CP 1029+52.64, 134.67 LT
POINT # 91
SET-IRON-PIN---5"DEEP
XC=2186868.254, YC=620969.789



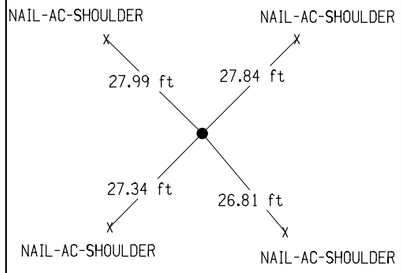
CP 1039+73.96, 62.62 RT
POINT # 92
SET-IRON-PIN---5"DEEP
XC=2187887.913, YC=620764.114



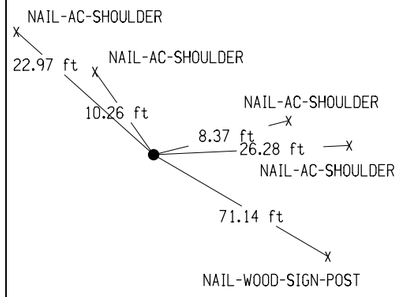
GPS 1049+99.14, 64.43 RT
POINT # G027
FD-REBAR---8"DEEP
XC=2188913.050, YC=620753.890



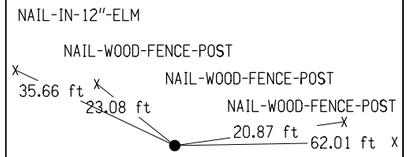
POST 1054+10.67
POINT # 93
FD-REBAR---6"DEEP
XC=2189325.090, YC=620814.936



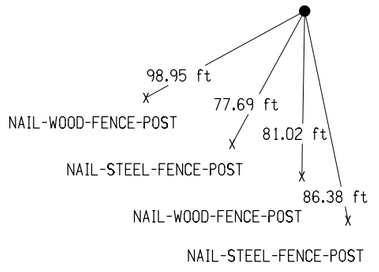
GPS 1065+84.20, 61.90 RT
POINT # G028
FD-REBAR---8"DEEP
XC=2190476.310, YC=620625.020



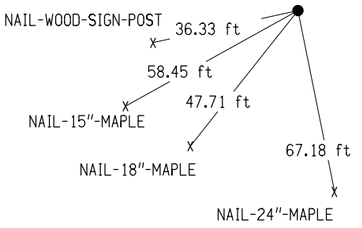
PI 1066+45.52
POINT # 100
SET-IRON-PIN---5"DEEP
XC=2190559.895, YC=620804.794



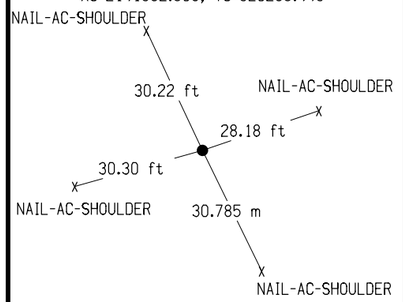
CP 1071+34.39, 61.20 RT
POINT # 94
SET-IRON-PIN---6"DEEP
XC=2191002.120, YC=620485.238



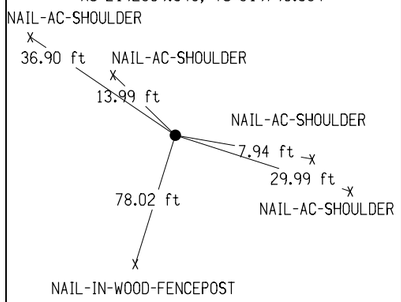
GPS 1076+49.17, 61.80 RT
POINT # G029
FD-REBAR---8"DEEP
XC=2191479.420, YC=620308.180



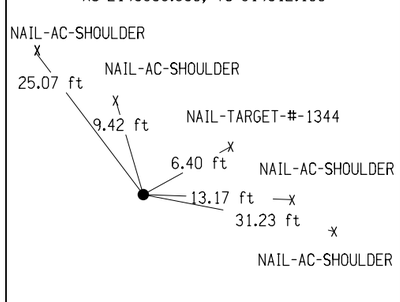
POT 1078+44.97
POINT # 41
FD-REBAR---2"DEEP
XC=2191682.508, YC=620285.996



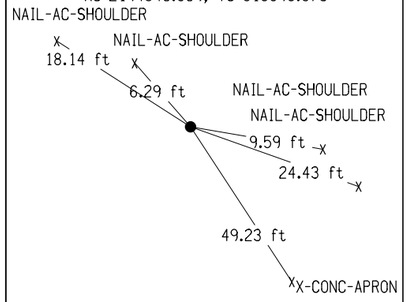
CP 1088+94.23, 61.10 RT
POINT # 95
SET-IRON-PIN---4"DEEP
XC=2192609.348, YC=619790.364



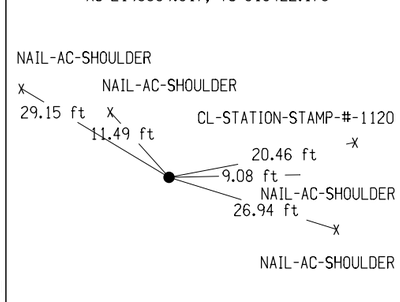
GPS 1100+29.11, 63.50 RT
POINT # G030
FD-REBAR---8"DEEP
XC=2193638.530, YC=619312.100



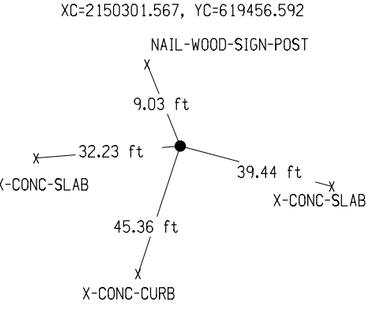
CP 1110+21.59, 60.28 RT
POINT # 96
SET-IRON-PIN---5"DEEP
XC=2194540.809, YC=618898.673



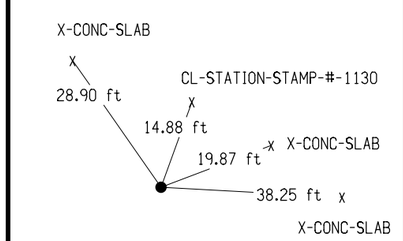
CP 1121+55.38, 61.23 RT
POINT # 97
SET-IRON-PIN---6"DEEP
XC=2195569.617, YC=618422.175



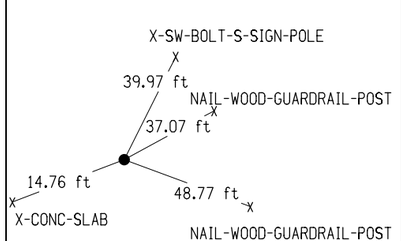
POT 1127+45.33
POINT # 61
FD-REBAR---17"DEEP
XC=2150301.567, YC=619456.592



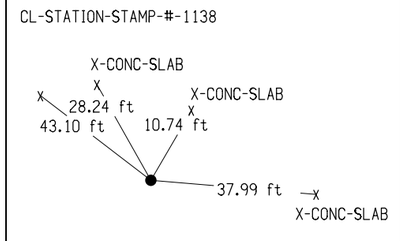
GPS 1131+73.12, 64.73 RT
POINT # G031
FD-REBAR---9"DEEP
XC=2196492.000, YC=617992.060



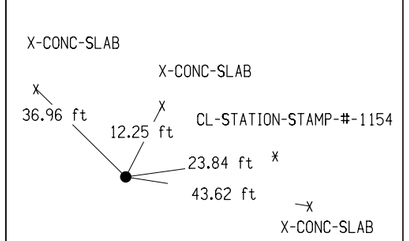
CP 1138+11.57, 16.44 LT
POINT # 62
SET-IRON-PIN---6"DEEP
XC=2149856.717, YC=620425.741



CP 1140+14.50, 61.20 RT
POINT # 98
SET-IRON-PIN---6"DEEP
XC=2197257.252, YC=617642.293



GPS 1155+51.73, 62.61 RT
POINT # G032
FD-REBAR---6"DEEP
XC=2198652.080, YC=616996.140



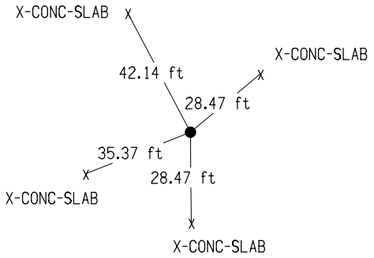
DETAILS OF REFERENCE INFORMATION

All References are Plumb Distances unless otherwise noted.

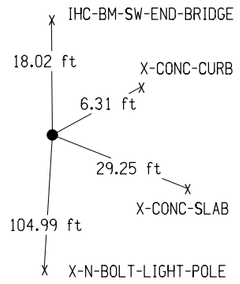
ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER G.6

9:14:45 AM 2/15/2012 jbuttol W:\Projects\52080010C98\Design\Project_306\52080306G.sht

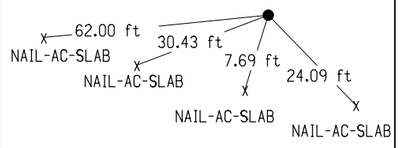
POT 1155+97.06
POINT # 39
FD-IRON-PIN---4"DEEP
XC=2198719.495, YC=617033.962



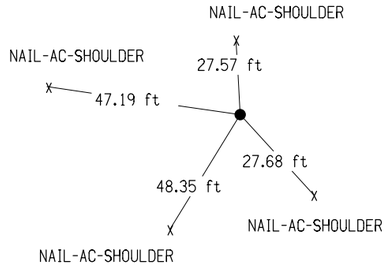
CP 1161+94.29, 100.45 LT
POINT # 63
SET-IRON-PIN---5"DEEP
XC=2148819.348, YC=622572.435



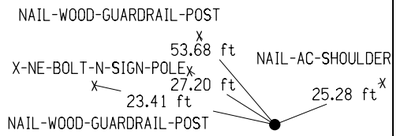
CP 1167+66.68, 471.49 RT
POINT # 66
SET-IRON-PIN---5"DEEP
XC=2149112.026, YC=623326.805



CP 1180+19.46, 15.10 RT
POINT # 65
SET-IRON-PIN---6"DEEP
XC=2148189.359, YC=624289.321



TS 1183+81.20
POINT # 48
FD-ROW-RAIL---12"DEEP
XC=2148029.718, YC=624614.281



DETAILS OF REFERENCE INFORMATION

All References are Plumb Distances unless otherwise noted.

ALIGNMENT COORDINATES

101-16
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
I80	I-80 ℄																		
1		488+00.88	622,563.99	2,133,198.79															
CUR1								575+94.28	622,430.99	2,141,991.19	579+28.07	622,425.94	2,142,324.94	582+61.53	622,446.80	2,142,658.08			
CUR2								621+27.54	622,688.31	2,146,516.54	625+84.74	622,716.87	2,146,972.84	630+41.82	622,727.21	2,147,429.93			
CUR3								673+07.90	622,823.70	2,151,694.93	676+17.64	622,830.70	2,152,004.58	679+27.34	622,829.34	2,152,314.32			
CUR4								740+40.31	622,802.38	2,158,427.23	749+37.94	622,798.42	2,159,324.85	758+21.10	622,520.14	2,160,178.25			
CUR5								820+16.63	620,599.40	2,166,068.53	839+10.31	620,012.31	2,167,868.91	857+70.08	620,035.67	2,169,762.46			
CUR6								889+87.89	620,075.36	2,172,980.02	895+41.62	620,082.20	2,173,533.71	900+91.93	620,194.93	2,174,075.85			
CUR7								930+00.13	620,787.02	2,176,923.14	936+13.34	620,911.87	2,177,523.51	942+21.91	620,906.83	2,178,136.70			
CUR8								1054+10.26	620,814.94	2,189,324.68	1066+45.52	620,804.79	2,190,559.90	1078+43.53	620,286.60	2,191,681.20			
2		1155+97.06	617,033.96	2,198,719.50															
DubNB	Dubuque St.NBL ℄																		
22100		4+45.80	619,352.26	2,176,563.59															
DUBNB1								20+86.70	620,746.81	2,175,698.84	23+73.85	620,990.85	2,175,547.51	26+49.41	621,134.70	2,175,299.00			
22113		35+29.41	621,575.54	2,174,537.38															
DubSB	Dubuque St. SBL ℄																		
22104		107+28.60	619,556.68	2,176,378.28															
DUBSB1								121+27.80	620,729.81	2,175,615.69	123+40.20	620,907.89	2,175,499.93	125+47.83	621,032.66	2,175,328.04			
DUBSB2								131+16.23	621,366.54	2,174,868.05	132+64.13	621,453.43	2,174,748.36	134+11.75	621,527.52	2,174,620.35			
22103		135+07.62	621,575.54	2,174,537.38															
DubA	Ramp A Survey ℄																		
20003		1913+57.00	621,144.73	2,175,308.59															
DUBA3								1915+73.50	621,036.20	2,175,495.93	1916+06.89	621,019.46	2,175,524.82	1916+36.33	621,029.73	2,175,556.59			
DUBA2								1916+36.33	621,029.73	2,175,556.59	1917+05.09	621,050.88	2,175,622.02	1917+70.53	621,035.59	2,175,689.06			
DUBA1								1923+78.23	620,900.51	2,176,281.56	1926+33.62	620,843.74	2,176,530.55	1928+84.92	620,865.51	2,176,785.01			
20000		1936+99.92	620,934.99	2,177,597.04															
DubB	Ramp B Survey ℄																		
20004		2900+00.00	620,126.65	2,173,983.54															
DUBB1								2905+51.61	620,210.96	2,174,528.67	2908+33.16	620,253.99	2,174,806.92	2911+09.26	620,201.60	2,175,083.55			
DUBB2								2918+84.66	620,057.30	2,175,845.40	2920+68.51	620,023.09	2,176,026.04	2922+34.61	619,874.13	2,176,133.80			
20007		2926+35.11	619,549.65	2,176,368.56															
DubC	Ramp C Survey ℄																		
DUBC1								3893+45.70	620,138.97	2,173,322.43	3897+21.23	620,178.74	2,173,695.85	3900+95.68	620,266.91	2,174,060.88			
DUBC2								3901+95.68	620,290.39	2,174,158.09	3906+24.16	620,390.99	2,174,574.58	3910+15.75	620,740.16	2,174,822.91			
DUBC3								3913+88.55	621,043.97	2,175,038.98	3915+37.09	621,165.02	2,175,125.07	3916+22.71	621,252.29	2,175,004.86			
DubDL	Ramp D Lane Survey ℄																		
RDL1		14919+07.20	620,161.35	2,175,999.53															
RDL4								14919+07.20	620,161.35	2,175,999.53	14920+04.40	620,079.86	2,176,052.50	14920+61.44	620,130.50	2,176,135.46			
RDL3		14927+90.78	620,510.07	2,176,758.26															
DubD	Ramp D Loop Survey ℄																		
20015		4914+05.60	619,358.07	2,176,574.09															
DUBD3								4918+06.10	619,708.55	2,176,380.27	4922+13.13	620,064.74	2,176,183.28	4924+73.44	620,305.03	2,176,511.81			
DUBD2								4929+44.34	620,583.03	2,176,891.90	4932+22.12	620,747.02	2,177,116.10	4934+89.38	620,790.15	2,177,390.51			
DUBD1								4934+89.38	620,790.15	2,177,390.51	4938+64.61	620,848.41	2,177,761.19	4942+38.77	620,857.83	2,178,136.30			
Ramp A	Ramp A Const. ℄																		
31100		1915+55.79	621,004.95	2,175,479.96															
31101		1915+69.75	621,009.24	2,175,493.24															
DUBA2								1916+36.33	621,029.73	2,175,556.59	1917+05.09	621,050.88	2,175,622.02	1917+70.53	621,035.59	2,175,689.06			
DUBA1								1923+78.23	620,900.51	2,176,281.56	1926+33.62	620,843.74	2,176,530.55	1928+84.92	620,865.51	2,176,785.01			
20000		1936+99.92	620,934.99	2,177,597.04															
Ramp B	Ramp B Const. ℄																		
20004		2900+00.00	620,126.65	2,173,983.54															
DUBB1								2905+51.61	620,210.96	2,174,528.67	2908+33.16	620,253.99	2,174,806.92	2911+09.26	620,201.60	2,175,083.55			
RAMPB2								2918+83.31	620,057.55	2,175,844.08	2919+62.29	620,042.85	2,175,921.67	2920+40.19	620,050.58	2,176,000.27			
RAMPB4		2920+93.97	620,055.85	2,176,053.80															
Ramp C	Ramp C Const. ℄																		
22124		3503+00.00	620,316.60	2,174,263.07															
RAMPC1								3503+00.00	620,316.60	2,174,263.07	3504+40.23	620,347.89	2,174,399.77	3505+80.00	620,397.94	2,174,530.76			
RAMPC2								3505+80.00	620,397.94	2,174,530.76	3507+48.88	620,458.23	2,174,688.51	3509+16.34	620,552.08	2,174,828.91			
22123		3516+35.88	620,951.96	2,175,427.10															

ALIGNMENT COORDINATES

101-16
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
RetAL	Ramp A NE Radii ℄																		
31121		0+00.00	621,042.38	2,175,454.17															
RETA1								0+00.00	621,042.38	2,175,454.17	0+14.67	621,033.17	2,175,465.58	0+29.10	621,027.83	2,175,479.24			
RETA2								0+29.10	621,027.83	2,175,479.24	0+52.82	621,019.19	2,175,501.33	0+75.68	621,021.39	2,175,524.95			
RETA3								0+75.68	621,021.39	2,175,524.95	0+83.95	621,022.16	2,175,533.19	0+92.16	621,024.70	2,175,541.06			
31125		0+92.16	621,024.70	2,175,541.06															
RetB_L	Ramp B NW Radii ℄																		
RETB11		0+00.00	620,086.18	2,175,898.57															
RETB13								0+00.00	620,086.18	2,175,898.57	0+57.71	620,080.80	2,175,956.03	1+13.44	620,101.16	2,176,010.03			
RETB10		1+13.44	620,101.15	2,176,010.03															
RetB_R	Ramp B SW Radii ℄																		
RETB1		0+00.00	620,069.33	2,175,781.87															
RETB5								0+64.00	620,055.32	2,175,844.32	1+28.36	620,041.23	2,175,907.12	1+92.08	620,042.72	2,175,971.47			
RETB6								1+92.08	620,042.72	2,175,971.47	2+51.90	620,044.11	2,176,031.26	3+03.06	619,997.20	2,176,068.37			
RETB7								3+03.06	619,997.20	2,176,068.37	3+86.66	619,931.63	2,176,120.23	4+70.15	619,861.53	2,176,165.80			
RETB3		4+70.15	619,861.53	2,176,165.80															
RetC_L	Ramp C NW Radii ℄																		
RETC3		0+00.00	620,824.74	2,175,222.40															
RETC7								0+00.00	620,824.74	2,175,222.40	0+81.42	620,869.99	2,175,290.09	1+62.21	620,928.72	2,175,346.49			
RETC6								1+62.21	620,928.72	2,175,346.49	2+13.47	620,965.68	2,175,382.00	2+41.99	621,000.26	2,175,344.16			
RETC5								2+41.99	621,000.26	2,175,344.16	2+84.25	621,028.77	2,175,312.97	3+26.42	621,053.59	2,175,278.78			
RETC1		3+26.42	621,053.59	2,175,278.78															
RetC_R	Ramp C SW Radii ℄																		
RETC10		0+00.00	620,838.13	2,175,285.62															
RETC13								0+00.00	620,838.13	2,175,285.62	0+88.13	620,887.11	2,175,358.89	1+75.95	620,924.86	2,175,438.53			
RETC12		1+75.95	620,924.86	2,175,438.53															
RetD_R	Ramp C SE Radii ℄																		
RETD1		0+00.00	619,988.03	2,176,197.59															
RETD5								0+00.00	619,988.03	2,176,197.59	0+33.13	620,016.19	2,176,180.13	0+66.00	620,047.48	2,176,169.24			
RETD6								0+66.00	620,047.48	2,176,169.24	1+14.62	620,093.40	2,176,153.25	1+52.27	620,126.74	2,176,188.64			
RETD7								1+52.27	620,126.74	2,176,188.64	2+04.96	620,162.87	2,176,226.99	2+57.27	620,190.21	2,176,272.04			
RETD3		2+57.27	620,190.21	2,176,272.04															
DB_RNose	B/D North Median Nose Radii ℄																		
BDR1								0+00.00	620,039.72	2,176,123.18	0+16.72	620,053.93	2,176,114.37	0+33.23	620,065.19	2,176,102.01			
BDR2								0+33.23	620,065.19	2,176,102.01	0+88.23	620,102.23	2,176,061.35	0+72.37	620,049.68	2,176,077.57			
BDR3								0+72.37	620,049.68	2,176,077.57	0+89.09	620,033.70	2,176,082.51	1+05.60	620,019.68	2,176,091.62			
AC_RNose	A/C South Median Nose Radii ℄																		
ACS6		3000+00.00	620,902.26	2,175,533.62															
ACSC1								3000+00.00	620,902.26	2,175,533.62	3000+11.49	620,910.63	2,175,525.76	3000+22.88	620,917.01	2,175,516.20			
ACSC2								3000+22.88	620,917.01	2,175,516.20	3000+47.43	620,930.63	2,175,495.77	3000+42.97	620,907.59	2,175,504.25			
ACSC3								3000+42.97	620,907.59	2,175,504.25	3000+61.84	620,889.88	2,175,510.77	3000+80.27	620,875.77	2,175,523.29			
ACS7		3000+80.27	620,875.77	2,175,523.29															
Detour11	Ramp C Detour ℄																		
1100		11000+00.00	620,301.97	2,174,589.31															
DETOUR11-1								11003+29.17	620,598.66	2,174,731.87	11004+13.65	620,659.73	2,174,790.25	11004+97.83	620,728.57	2,174,839.21			

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{scs}	Horizontal Alignment Data												Remarks
			Spiral Data								Curve Data				
			θs	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E	
I80	I-80 ℄															
CUR1											4° 26′ 53.84″ LT	333.79′	667.24′	8,594.37′	6.48′	
CUR2											2° 17′ 08.53″ RT	457.20′	914.28′	22,918.31′	4.56′	
CUR3											1° 32′ 54.91″ RT	309.74′	619.43′	22,918.31′	2.09′	
CUR4											17° 48′ 28.25″ RT	897.63′	1,780.78′	5,729.58′	69.89′	
CUR5											18° 46′ 02.12″ LT	1,893.69′	3,753.45′	11,459.16′	155.42′	
CUR6											11° 02′ 25.40″ LT	553.73′	1,104.04′	5,729.58′	26.70′	
CUR7											12° 13′ 03.89″ RT	613.21′	1,221.77′	5,729.58′	32.72′	
CUR8											24° 19′ 57.71″ RT	1,235.26′	2,433.27′	5,729.58′	131.64′	
DubNB	Dubuque St.NBL ℄															
DUBNB1											28° 07′ 59.99″ LT	287.15′	562.71′	1,146.00′	35.43′	
DubSB	Dubuque St. SBL ℄															
DUBSB1											21° 00′ 00.00″ LT	212.40′	420.03′	1,146.00′	19.52′	
DUBSB2											5° 54′ 37.88″ LT	147.90′	295.53′	2,864.93′	3.82′	
DubA	Ramp A Survey ℄															
DUBA3											48° 00′ 00.00″ LT	33.39′	62.83′	75.00′	7.10′	
DUBA2											30° 45′ 25.00″ RT	68.76′	134.20′	250.00′	9.28′	
DUBA1											17° 43′ 59.88″ LT	255.39′	506.69′	1,637.10′	19.80′	
DubB	Ramp B Survey ℄															
DUBB1											19° 30′ 59.98″ RT	281.55′	557.65′	1,637.10′	24.03′	
DUBB2											43° 23′ 25.98″ RT	183.85′	349.95′	462.10′	35.23′	
DubC	Ramp C Survey ℄															
DUBC1											7° 29′ 59.45″ LT	375.53′	749.98′	5,729.58′	12.29′	
DUBC2											41° 00′ 00.00″ LT	428.47′	820.06′	1,146.00′	77.48′	
DUBC3											89° 26′ 35.99″ LT	148.55′	234.16′	150.00′	61.11′	
DubDL	Ramp D Lane Survey ℄															
RDL4											88° 22′ 14.00″ LT	97.20′	154.24′	100.00′	39.45′	
DubD	Ramp D Loop Survey ℄															
DUBD3											82° 45′ 42.00″ RT	407.03′	667.34′	462.00′	153.73′	
DUBD2											27° 15′ 00.00″ RT	277.78′	545.04′	1,146.00′	33.18′	
DUBD1											7° 29′ 36.09″ RT	375.23′	749.39′	5,730.00′	12.27′	
Ramp A	Ramp A Const. ℄															
DUBA2											30° 45′ 25.00″ RT	68.76′	134.20′	250.00′	9.28′	
DUBA1											17° 43′ 59.88″ LT	255.39′	506.69′	1,637.10′	19.80′	
Ramp B	Ramp B Const. ℄															
DUBB1											19° 30′ 59.98″ RT	281.55′	557.65′	1,637.10′	24.03′	
RAMPB2											16° 20′ 30.98″ LT	78.97′	156.87′	550.00′	5.64′	
Ramp C	Ramp C Const. ℄															
RAMPC1											8° 01′ 17.07″ LT	140.23′	280.00′	2,000.00′	4.91′	
RAMPC2											12° 50′ 50.75″ LT	168.88′	336.34′	1,500.00′	9.48′	
RetAL	Ramp A NE Radii ℄															
RETA1											17° 33′ 08.70″ LT	14.67′	29.10′	95.00′	1.13′	
RETA2											26° 41′ 16.33″ LT	23.72′	46.58′	100.00′	2.77′	
RETA3											12° 35′ 07.28″ LT	8.27′	16.47′	75.00′	0.45′	
RetB_L	Ramp B NW Radii ℄															
RETB13											25° 59′ 55.03″ LT	57.71′	113.44′	250.00′	6.58′	
RetB_R	Ramp B SW Radii ℄															
RETB5											13° 58′ 42.48″ LT	64.36′	128.08′	525.00′	3.93′	
RETB6											52° 59′ 10.30″ RT	59.81′	110.97′	120.00′	14.08′	
RETB7											5° 19′ 06.80″ RT	83.60′	167.09′	1,800.00′	1.94′	
RetC_L	Ramp C NW Radii ℄															
RETC7											12° 23′ 31.74″ LT	81.42′	162.21′	750.00′	4.41′	
RETC6											91° 25′ 20.60″ LT	51.26′	79.78′	50.00′	21.60′	
RETC5											6° 26′ 57.69″ LT	42.26′	84.42′	750.00′	1.19′	

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER G.10

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SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{scs}	Horizontal Alignment Data												Remarks
			Spiral Data								Curve Data				
			θs	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E	
RetC_R	Ramp C SW Radii ℄														
RETC13											8° 24′ 04.27″ RT	88.13′	175.95′	1,200.00′	3.23′	
RetD_R	Ramp C SE Radii ℄														
RETD5											12° 36′ 15.82″ RT	33.13′	66.00′	300.00′	1.82′	
RETD6											65° 54′ 33.23″ RT	48.62′	86.27′	75.00′	14.38′	
RETD7											12° 01′ 55.05″ RT	52.69′	105.00′	500.00′	2.77′	
DB_RNose	B/D North Median														
BDR1	Nose Radii ℄										15° 51′ 56.81″ LT	16.72′	33.23′	120.00′	1.16′	
BDR2											149° 29′ 28.50″ LT	55.00′	39.14′	15.00′	42.01′	
BDR3											15° 51′ 56.81″ LT	16.72′	33.23′	120.00′	1.16′	
AC_RNose	A/C South Median														
ACSC1	Nose Radii ℄										13° 06′ 28.91″ LT	11.49′	22.88′	100.00′	0.66′	
ACSC2											143° 54′ 18.22″ LT	24.55′	20.09′	8.00′	17.82′	
ACSC3											21° 22′ 17.03″ LT	18.87′	37.30′	100.00′	1.76′	
Detour11	Ramp C Detour ℄														
DETOUR11-1											8° 17′ 16.26″ LT	84.48′	168.66′	1,166.00′	3.06′	

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER G.11

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SUPERELEVATION DATA

See PV-300 Series

Road Identification	Circular Curve or Spiral Curve Name	Radius	Superelevation Data			Standard Road Plan	Section A-A	Section B-B	Section C-C	Section D-D	Section E-E	Section F-F	Case A	Case B	Case C	Case S	Case T	Case U	Remarks
			e	L	x														
		FT	%	FT	FT														
Dub. St. NBL																			
DUBNB	DUBNB1	1146	2	62	62	PV-302	2016	2078	2140	2140				2086.7					Beg. DUBNB1 Sec. A-A I-80 Bridge
							2754.81	2692.81	2630.81	2630.81				2649.41					All Gutter slopes Match Super.
Dub. St. SBL																			
DUBSB	DUBSB1	1146	2	62	62	PV-302	12046	12108	12170	12170				12127.8					Beg. SUBSB1 Sec. A-A I-80 Bridge
														12547.83					Hold 2% Slope until next Curve C-C
	SUBSB2	2865	4	62	62	PV-302			13072.83	13134.83			13116.23						All Gutter slopes Match Super.
													13411.75						SUBSB2 Sec. D-D Match Ex. Pavement.
Ramp A																			
RampA	DUBA2	250	NC																
	DUBA1	1637	5.8	180	62	PV-303			192378.23	192432.23						192376.3679	192376.3679		
									192884.92	192830.92						192886.7821	192886.7821		
Ramp B																			
RampB	DUBB1	1637	8	300	75	PV-303													Match Ex. Ramp B Taper 5.6% slope
							291244.26		291109.26	291019.26						291169.26	291169.26	291056.76	End DUBB1 D-D Match Ramp D Taper
	RampB1	550	NC																
Ramp C																			
RampC	RampC1	2000	5.6	168	62	PV-303													Match Ex. Ramp C Taper 5.6% slope
									350880	350589.3						350637.3	350637.3		RampC1 & RampC2 C-C 5.6% slopes
	RampC2	1500	6	186	62	PV-303			350880	350989.3									RampC1 & RampC2 C-C 6.0% slopes
							350984.54		350916.34	350860.54						350922.54	350922.54		
Ramp D	UAC Existing																		

108-26A
08-01-08

STAGING NOTES

Stage 1
NBL Moved to Outside Lane and normal traffic patterns North of I-80 Bridges. SBL traffic move from Inside to Outside lane. Dubuque St. Ramp B traffic moved to 4' Lt. and Ramp B to Dubuque St. NBL closed. Dubuque St. SBL to Ramp D closed.
Ramp A and Ramp C Open to Traffic.

A and B shall not be done at the same time, and NBL traffic will be moved by Shoulder closure:
A. Grade and Detour Pave Median Crossing for Existing Ramp C at North EOP.
B. 10' Wide Detour Pavement in NBL Rt. Shoulder from NBL Sta. 27+00 to NBL Sta. 34+02.
C. Grade and Detour Pave Median Crossing at South end of Project.
D. Grade and Pave Raised Median South of I-80 bridges and new Ramp D and B crossing.
E. Grade and Detour Pave Median Crossing Radius just South of the South of I-80 bridges and new Ramp D and B crossing.
F. Replace NBL I-80 Bridge NW and SW Quadrant End Posts, and Replace SBL I-80 Bridge NE and SE Quadrant End Posts.
G. Grade and Pave Ramp C Median Detour Crossing.
H. 6' Wide Detour Pavement in Ramp B Rt. Shoulder.

Stage 2A
NBL & SBL Placed two lane two way on NBL by South Median detour pavement, then Slide Rt. 10' at Sta. 27+00 using North end shoulder detour pavement.
Dubuque St. Ramp A Closes.
Dubuque St. Ramp B traffic moved to 6' Rt. and all traffic using existing to SBL movement while Ramp B to Dubuque St. NBL is closed.
Dubuque St. to Ex. Ramp C: NBL to existing crossover using Temporary Traffic Signals and SBL using Ramp C Detour crossing.
Dubuque St. to Ramp D: NBL using existing exit and SBL using Temporary Traffic Signals to Ramp D.

A. Grade and Pave Dubuque St. SBL outside lane from SBL Sta. 112+40 to SBL Sta. 114+00.
B. Grade and Pave Lt. half of Ramp B and Ramp B Lt. Shoulder.
C. Grade and Pave SBL from I-80 bridges north to EOP SBL Sta. 120+16.78 to Sta. 127+00.
D. Grade and Pave East 1/2 of Ramps A/C Median Crossing.
E. Grade and Detour Pave West 1/2 of Ramps A/C Median Crossing
F. Grade new Ramp C from Ramp C Sta. 3515+50 to 3516+23.51.
G. Pave new Ramp C from Ramp C Sta. 3508+50 to 3516+23.51.
H. Replace SBL I-80 Bridge NW and SW Quadrant End Posts and Guardrail.

Stage 2B
NBL & SBL Placed two lane two way on NBL by South Median detour pavement, then Slide Rt. 10' at Sta. 27+00 using North end shoulder detour pavement.
Dubuque St. Ramp A Closed.
Dubuque St. Ramp B traffic moved to Lt. Shoulder and all traffic using new intersection to inside SBL while Ramp B to Dubuque St. NBL is closed.
Dubuque St. to New Ramp C: NBL & SBL using Temporary Traffic Signals at new crossing location then Ramp C Detour to I-80.
Dubuque St. to Ramp D: NBL using existing exit and SBL using Temporary Traffic Signals to Ramp D.

A. Grade and Pave Rt. half of Ramp B and Ramp B Rt. Shoulder.
B. Grade and Pave Dubuque St. SBL outside lane from SBL Sta. 107+28.60 to Sta. 112+40.
C. Obliterate Old Ramp B to SBL Curve.
D. Grade and Pave Entire SBL from SBL Sta. 127+00 to EOP Sta. 130+31.68.
E. Obliterate Old Ramp C.

Stage 3
NBL & SBL Placed two lane two way on SBL by South Median detour pavement, two lane two way to EOP to Normal traffic using new north gore.
Dubuque St. Ramp A Closed.
Dubuque St. Ramp B to Dubuque St. traffic using Temporary Signals to SBL lanes. Through and south turning movements allowed. North turning
movements prohibited.
Dubuque St. to Ramp C traffic using Temporary Signals to New Ramp C.
Dubuque St. to Ramp D traffic using new B/D Crossover to Ramp D.
Ramp D Shift traffic to Rt.12' of Ramp for item I, then Ramp D Shift traffic to Lt. 6' of Ramp and Lt. Shoulder for Item J.

A. Grade and Pave New NBL Turn Lane to Ramp D from Sta. 4+50 to Ramp D.
B. Replace NBL I-80 Bridge NE and SE Quadrant End Posts and Place Guardrail.
C. Grade and Pave NBL North of I-80 Bridges to EOP NBL Sta. 19+86.78 to 29+11.33.
D. Remove NBL Detour shoulder pavement and new shoulder from 29+11.33 to 34+02.
E. Grade and Pave All Raised Median North of I-80 Bridges.
F. Grade and Pave Dubuque St. Ramp C Turn Lanes and West 1.2 of Ramps A/C Median Crossing.
G. Grade and Pave Ramp A Sta. 1919+60 to Dubuque St.
H. Obliterate Old NBL to Ramp D Curve.
I. Ramp D Mill and Patch Lt. 6' of Ramp, Resurface Lt. 6', and Pave Lt. Shoulder.
J. Ramp D Mill and Patch Rt. 14' of Ramp, Resurface Rt. 14', and Pave Rt. Shoulder.

Stage 4
Open all Roadways to expected traffic patterns with Shoulder Closure for Detour Pavement removal.

A. Remove detour pavement at B/D Crossover.

Stage 5
Open all Roadways to expected traffic patterns.

108-23A
08-01-08

TRAFFIC CONTROL PLAN

Maintain one lane of Dubuque St. traffic in each direction.

Dubuque St. Ramp B & C shall be open at all times. Dubuque Ramp B to Dubuque St. Northbound can be closed as per staging notes.

Ramp A Detour by others.

Dubuque St. Ramp A & D can be closed as per staging notes. When Special Events occcur Ramp A and D shall be open.

Minimum 11' lanes to be used in all lane shift areas. When 11' lanes are used, the edge and centerlines will be painted.

All Shifting and Mergind Drum lines will require Tape white edge line. Waterborne Paint will be allowed where the Shifting and Merging Drum line location pavement is scheduled for removal.

Ramp B will reequire white edge lines in conjuction with the placed devices.

When Staging requires traffic to be placed on the shoulder, a white edge line will be required at the Shoulder line. Removal of this line will be required at the end of Staging need.

102-15
08-01-08

TABULATION OF SPECIAL EVENTS

Event	Location	Date
All University of Iowa Home Football games.	Kinnick Stadium	After 8-1-2012
		See latest schedule

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White
SHADING	**Design Color No.**	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

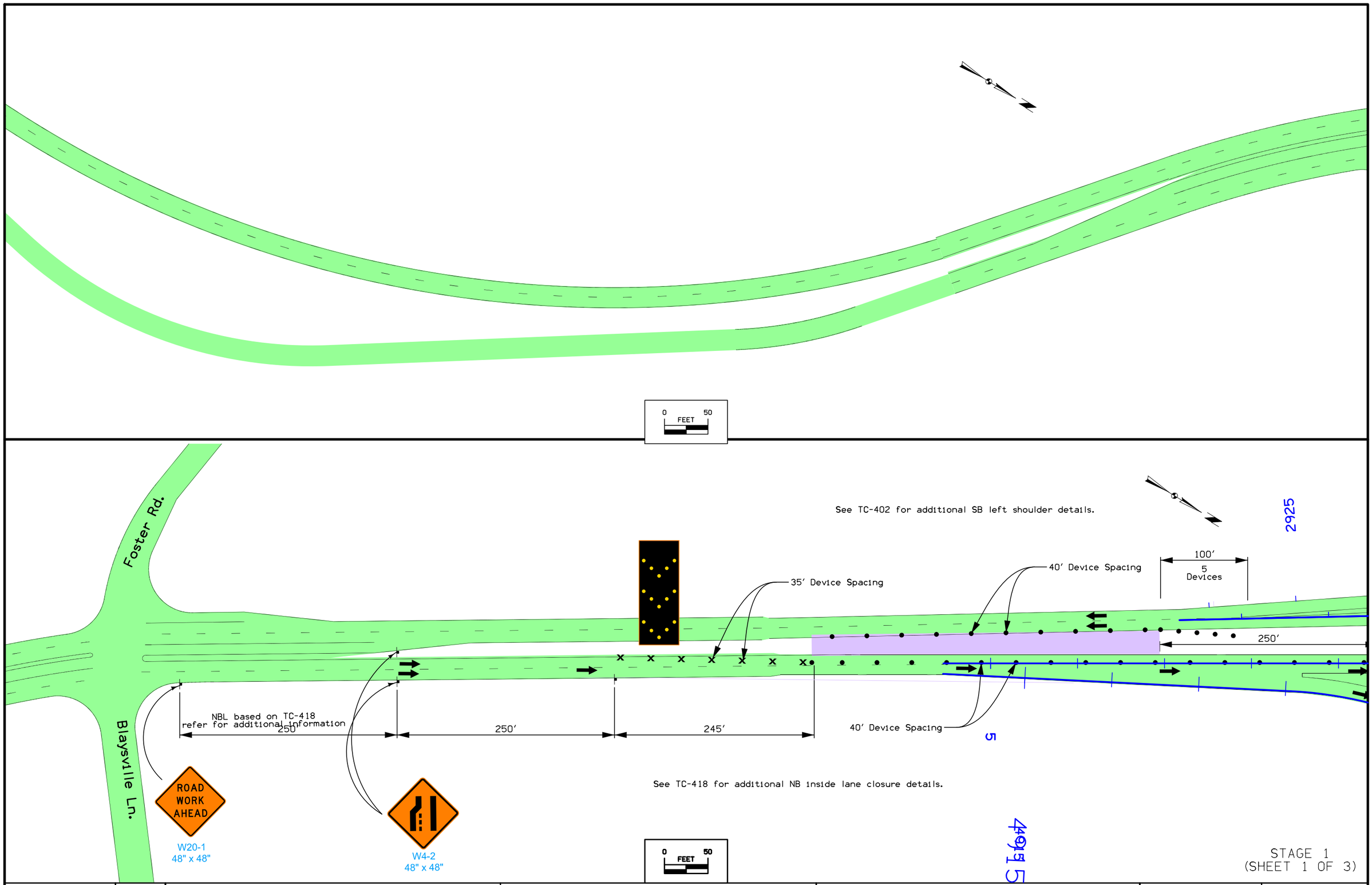
PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

●	Channelizing Device	▪▪▪	Crash Cushion
×	Drum	○→	Traffic Signal
▫	Temporary Lane Separator	♩	Flagger
◆	Tubular Marker	○-○-●	Temporary Floodlighting
♦	Channelizer Marker	⊢	Traffic Sign
△	Concrete Barrier Marker	⁞	Type III Barricade
ς	Delineator	☀	Type A Warning Light
	Temporary Barrier Rail	←	Direction of Traffic
	Pavement Removal		Safety Closure

NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)



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110
115
120
Remove
40' Device Spacing
280' (min.)
50'
5
Devices
50'
5
Devices
40' Device Spacing
Obliterate
10
5
15
20
40' Device Spacing
100'
5
Devices
40' Device Spacing
SHOULDER
DROP
OFF
W8-9A
48" x 48"
1
OF 3)
4920
14920
Ramp D
Ramp D
See TC-402 for additional NB right shoulder details.
Ramp A
0 FEET 50
4920
Ex. Ramp C
125
130
135
SHOULDER
DROP
OFF
W8-9A
48" x 48"
ROAD
WORK
AHEAD
W20-1
48" x 48"
100'
5
Devices
250'
250'
40' Device Spacing
25
30
35
END
ROAD WORK
G20-2A
48" x 24"
0 FEET 50
STAGE 1
(SHEET 2 OF 3)

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER	IM-80-6(306)244--13-52	SHEET NUMBER J.4

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Ex. Ramp C

I-80

Ramp B

100'
5
Devices

40' Device Spacing

2905

2910

See TC-402 for additional right shoulder closure details.

2900

2915

0 FEET 50

See TC-417 for closure details

115

Remove

Ramp B

Remove

40' Device Spacing

Ramp D

W8-9A
48" x 48"

SHOULDER DROP OFF

4920

4920

50'
5
Devices

10

Obliterate

2920

See TC-402 for additional right shoulder closure details.

2915

110

250'

4915

0 FEET 50

STAGE 1
(SHEET 3 OF 3)

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER J.5

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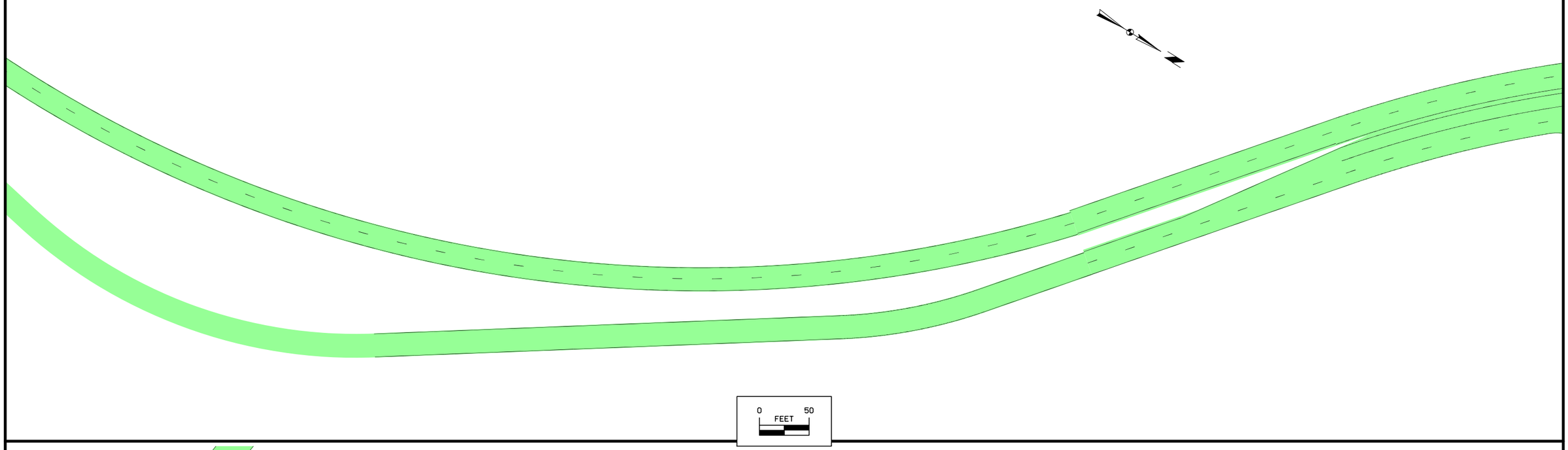

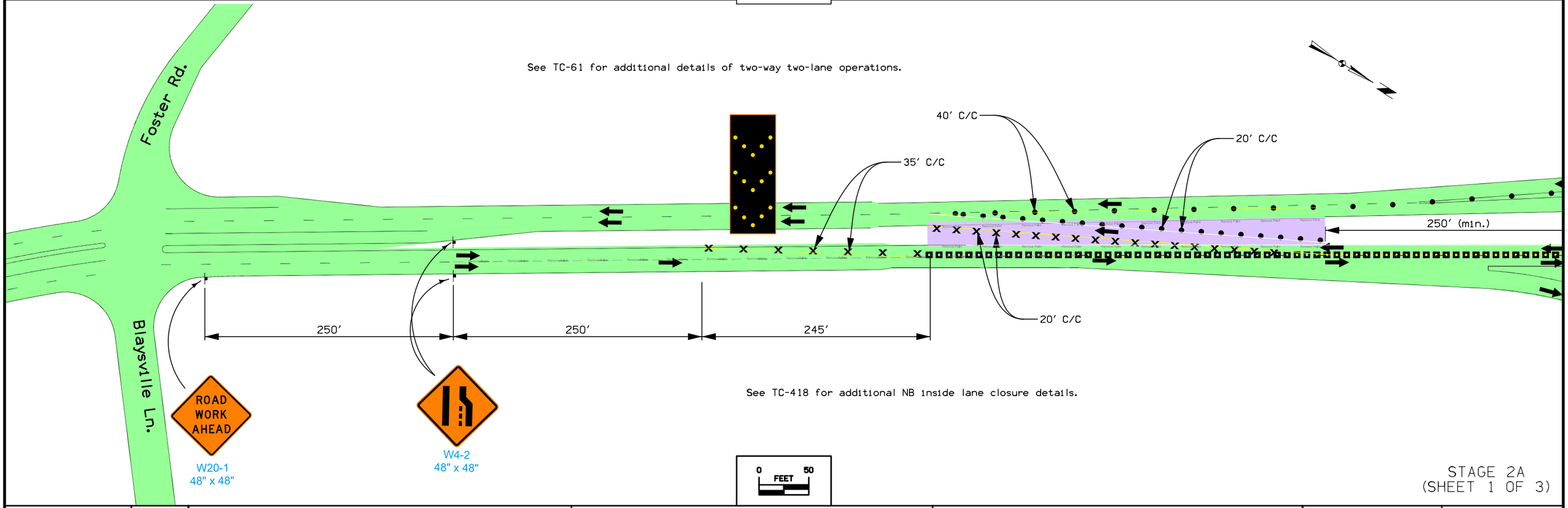

STAGE 2A
(SHEET 1 OF 3)

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER J.6

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W1-4R
48" x 48"

250' (min.)

250'

70'

70'

Ramp D

Ramp D

2A
OF 3)

W3-3
48" x 48"

0 FEET 50

LEFT LANE
MUST
TURN LEFT

R3-7
24" x 36"

250'

Ramp A

W3-3
48" x 48"

Ex. Ramp C

W3-3
48" x 48"

250'

250'

238'

250'

70'

183'

50'

W1-4L
48" x 48"

ROAD
WORK
AHEAD

W20-1
48" x 48"

END
ROAD WORK

G20-2A
48" x 24"

0 FEET 50

STAGE 2A
(SHEET 2 OF 3)

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER J.7

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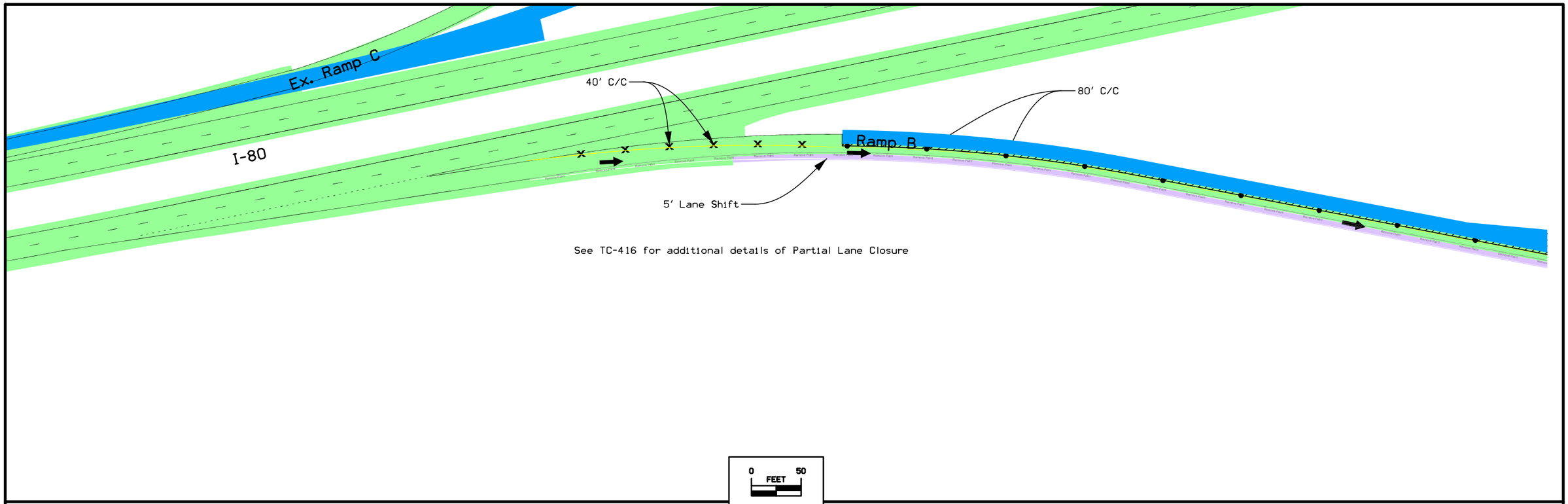
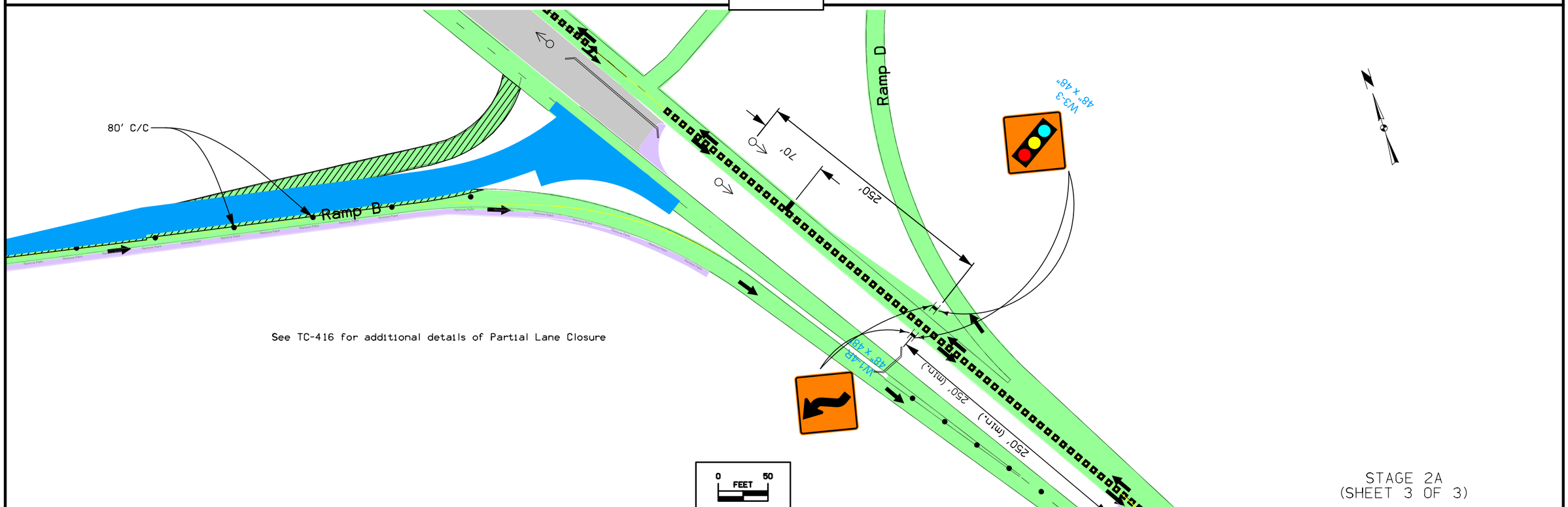


See TC-416 for additional details of Partial Lane Closure



See TC-416 for additional details of Partial Lane Closure

STAGE 2A
(SHEET 3 OF 3)

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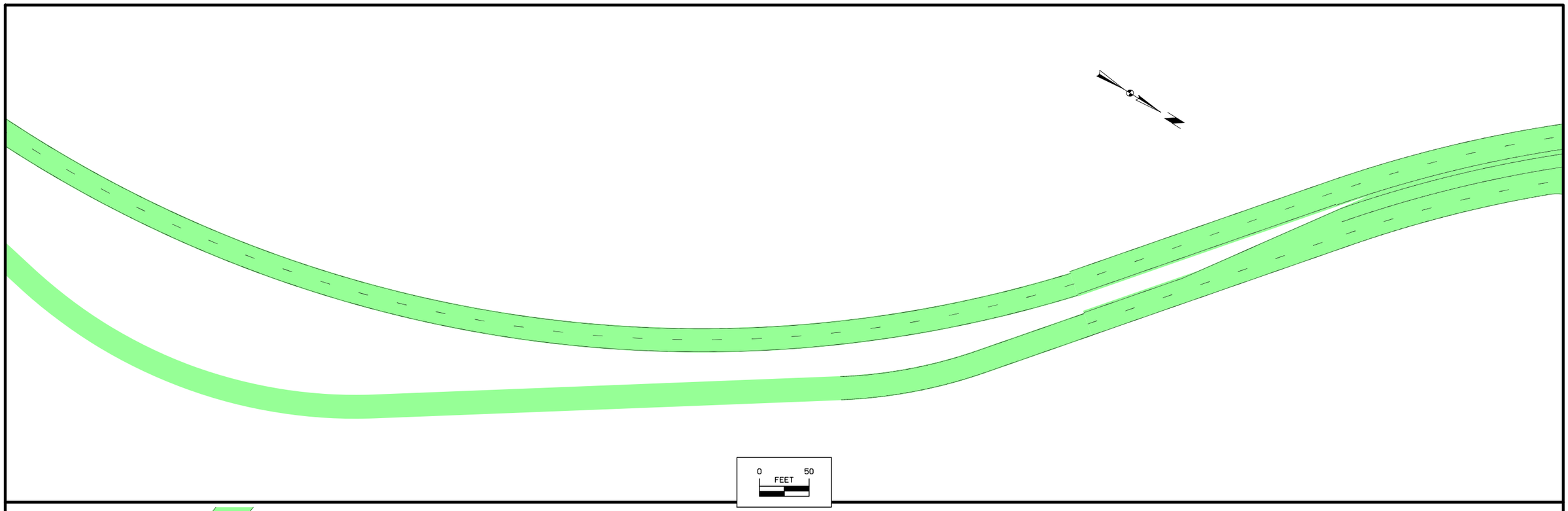

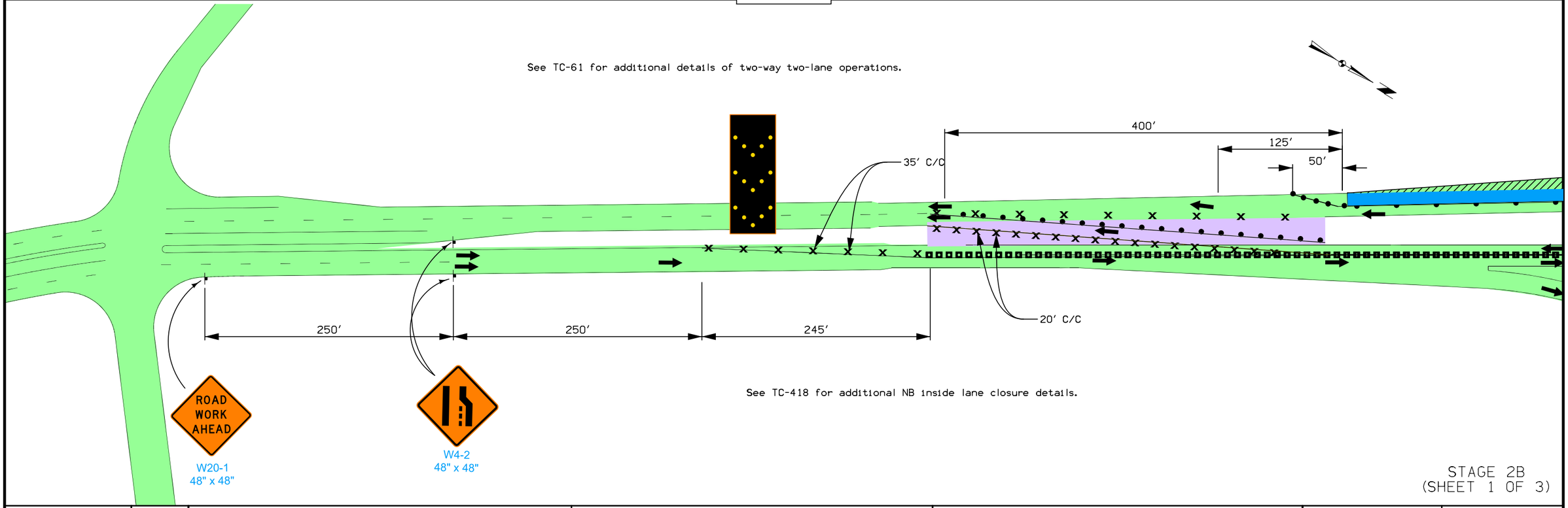

STAGE 2B
(SHEET 1 OF 3)

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER J.9

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70

70′

250′

Ramp D

Ramp D

W3-3
48" x 48"

70′

250′

W3-3
48" x 48"

Ramp A

W3-3
48" x 48"

245′

40′ C/C

W1-4L
48" x 48"

ROAD WORK AHEAD

W20-1
48" x 48"

250′

END ROAD WORK

G20-2A
48" x 24"

50′
5
Devices

40′ C/C

40′ C/C

40′ C/C

0 FEET 50

STAGE 2B
(SHEET 2 OF 3)

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER J.10

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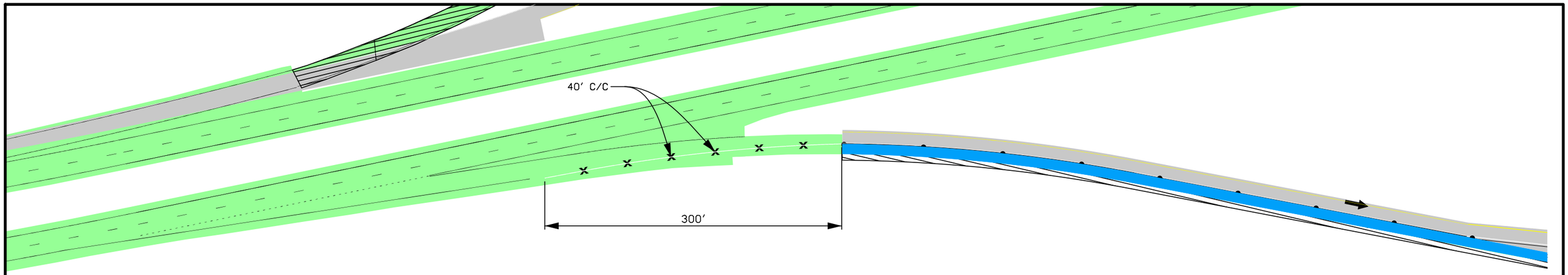
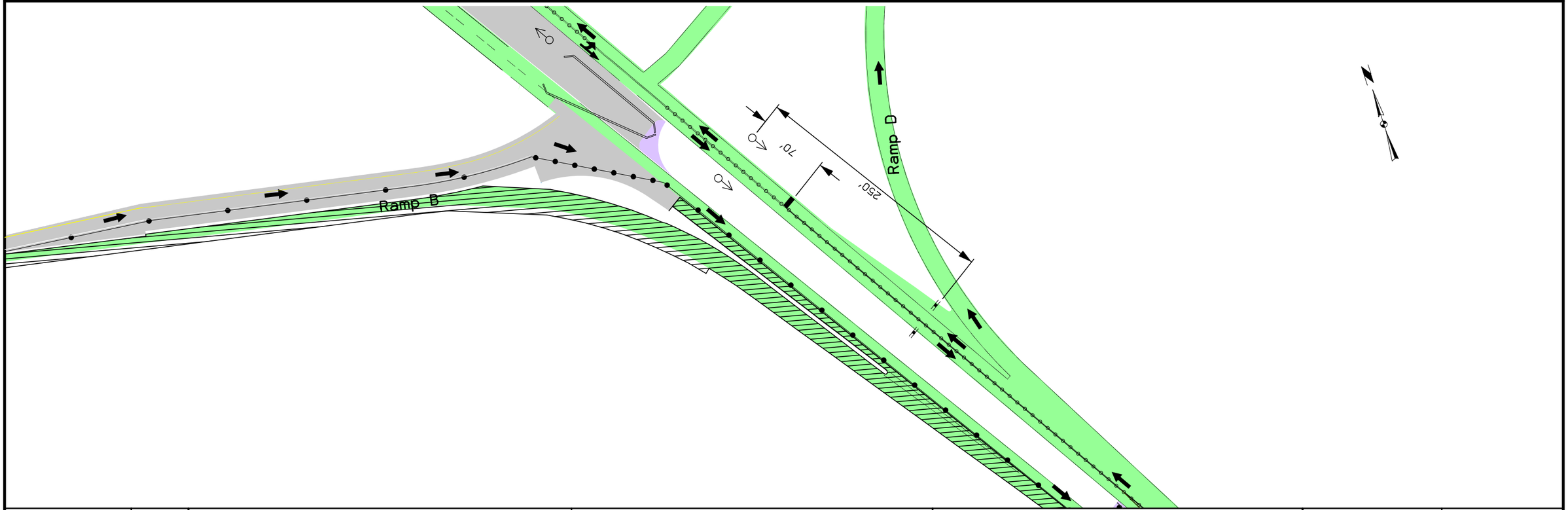


See TC-416 for additional partial lane closure on ramp details



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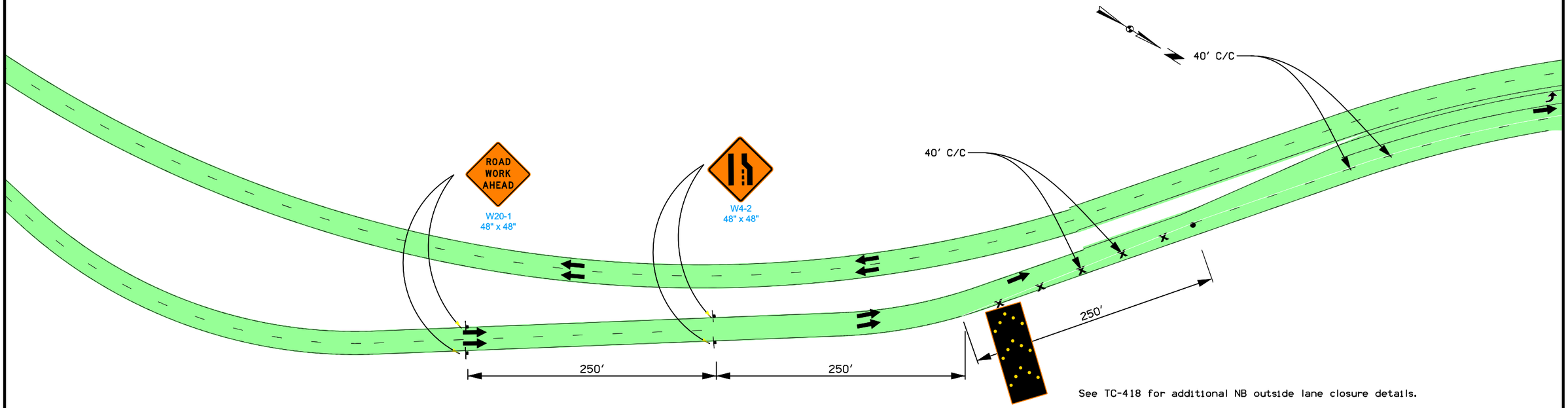

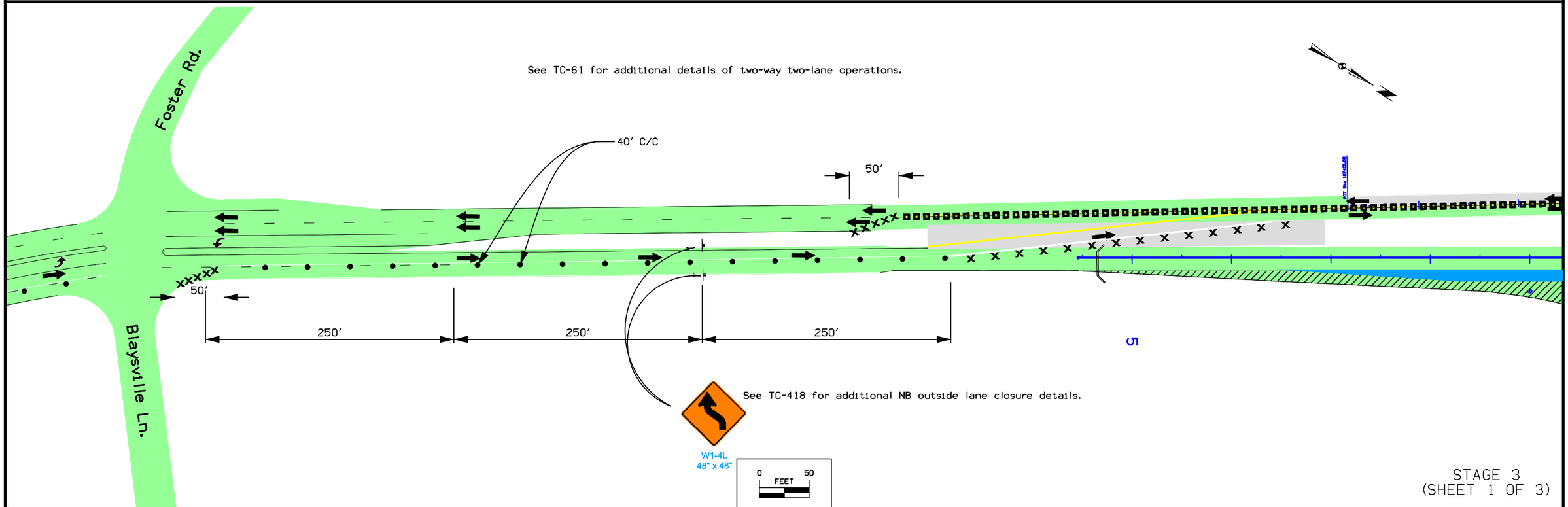

STAGE 3
(SHEET 1 OF 3)

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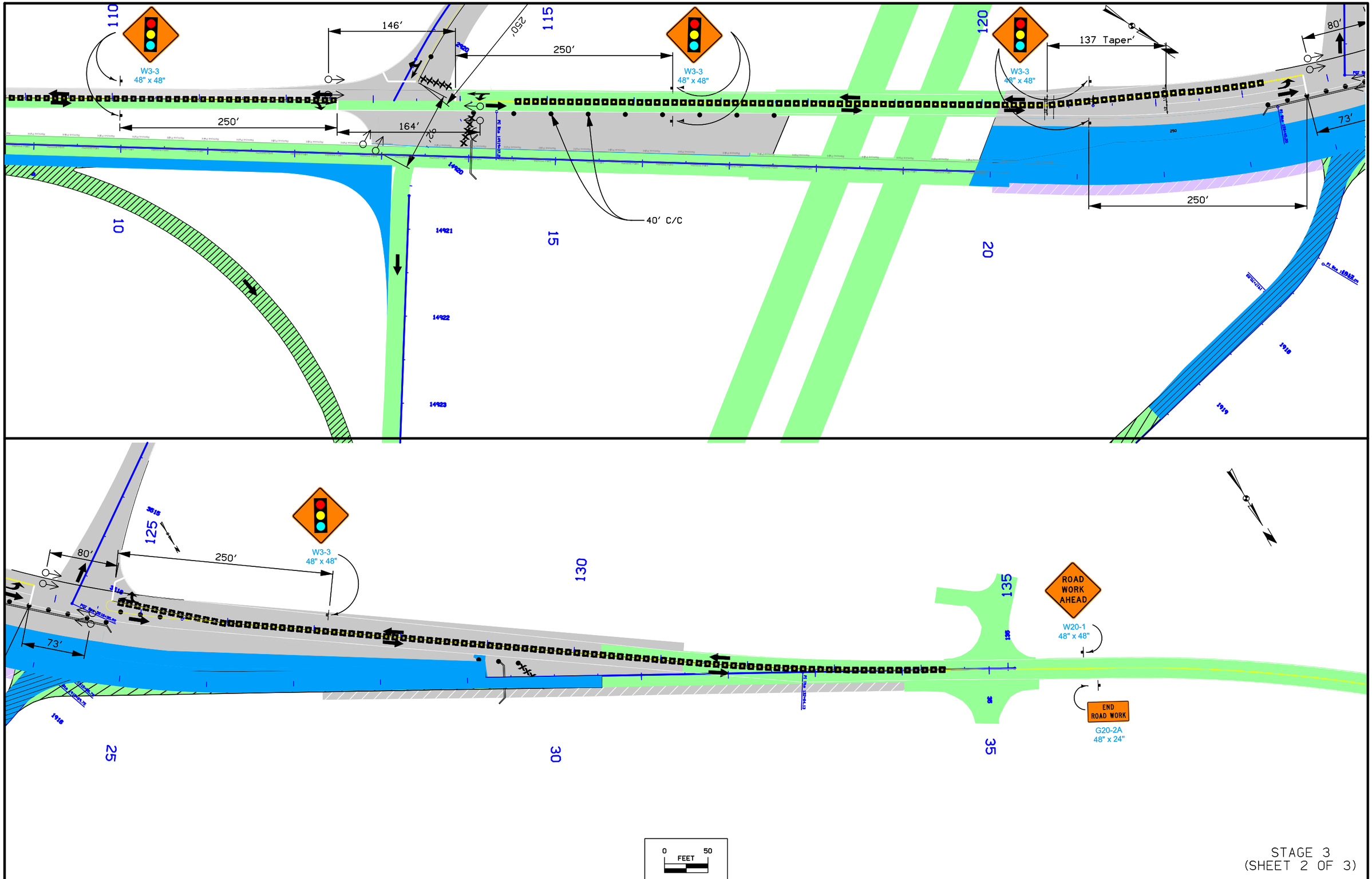

STAGE 3
(SHEET 2 OF 3)

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER	IM-80-6(306)244--13-52	SHEET NUMBER J.13

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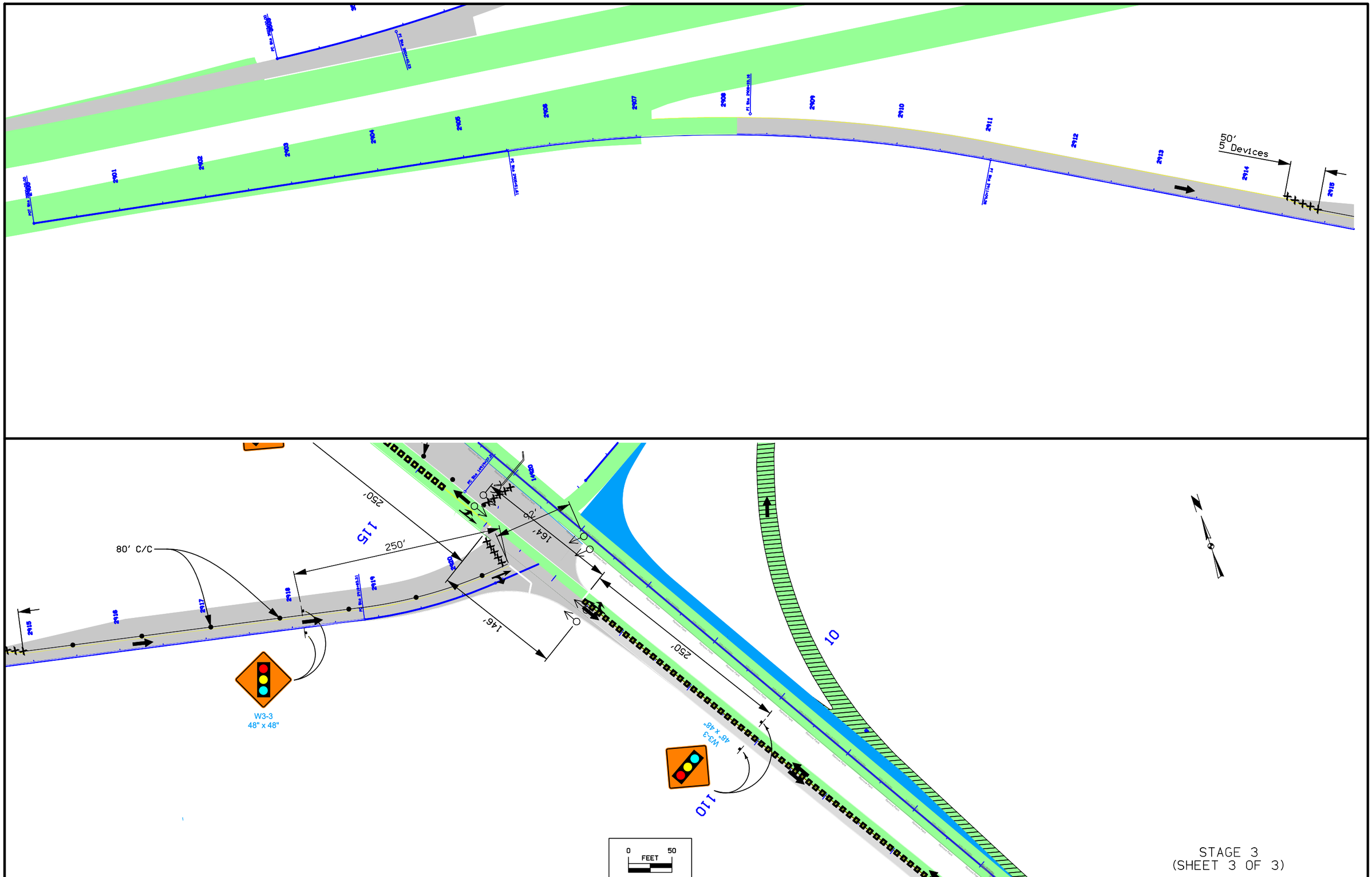

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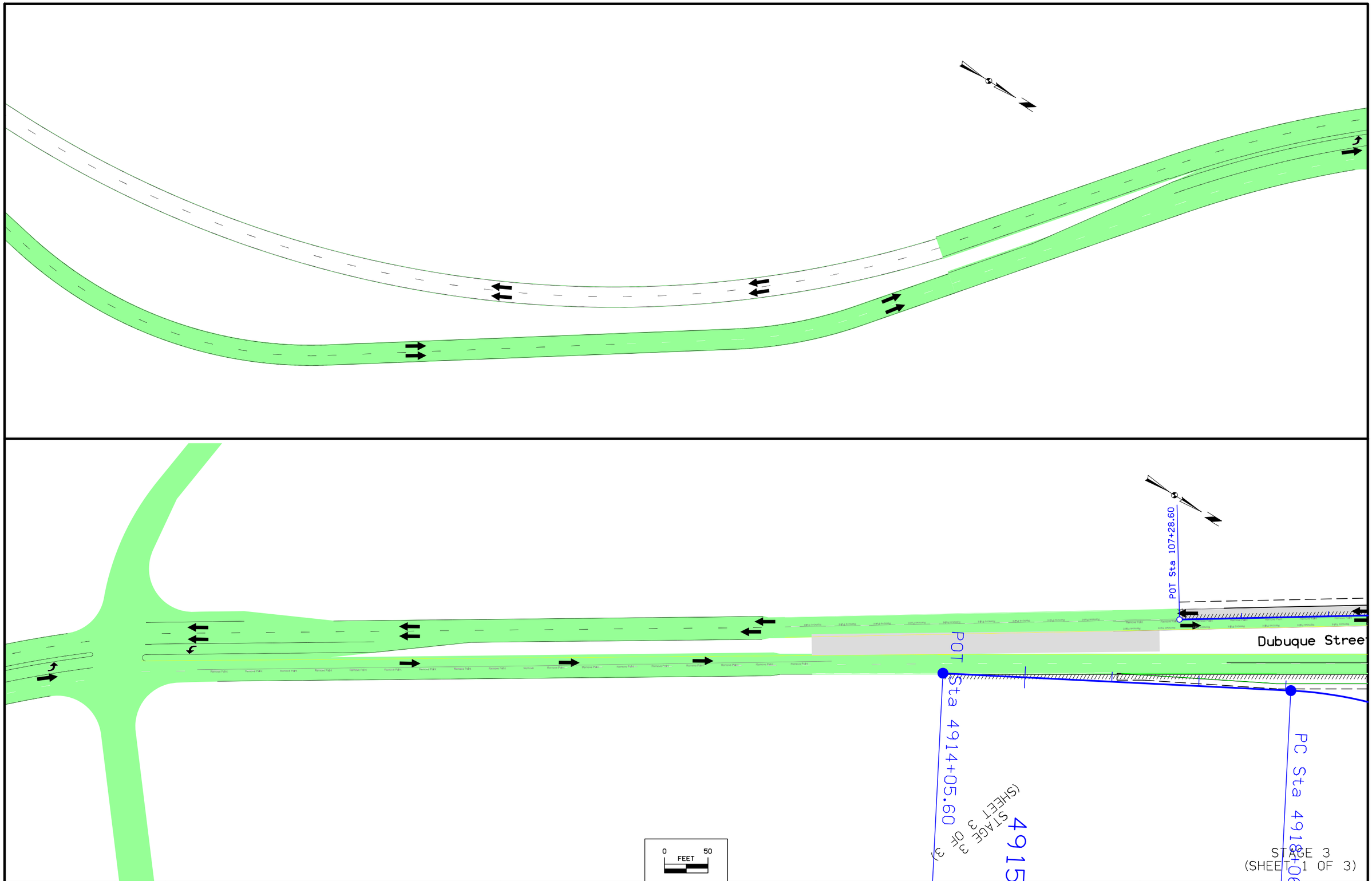

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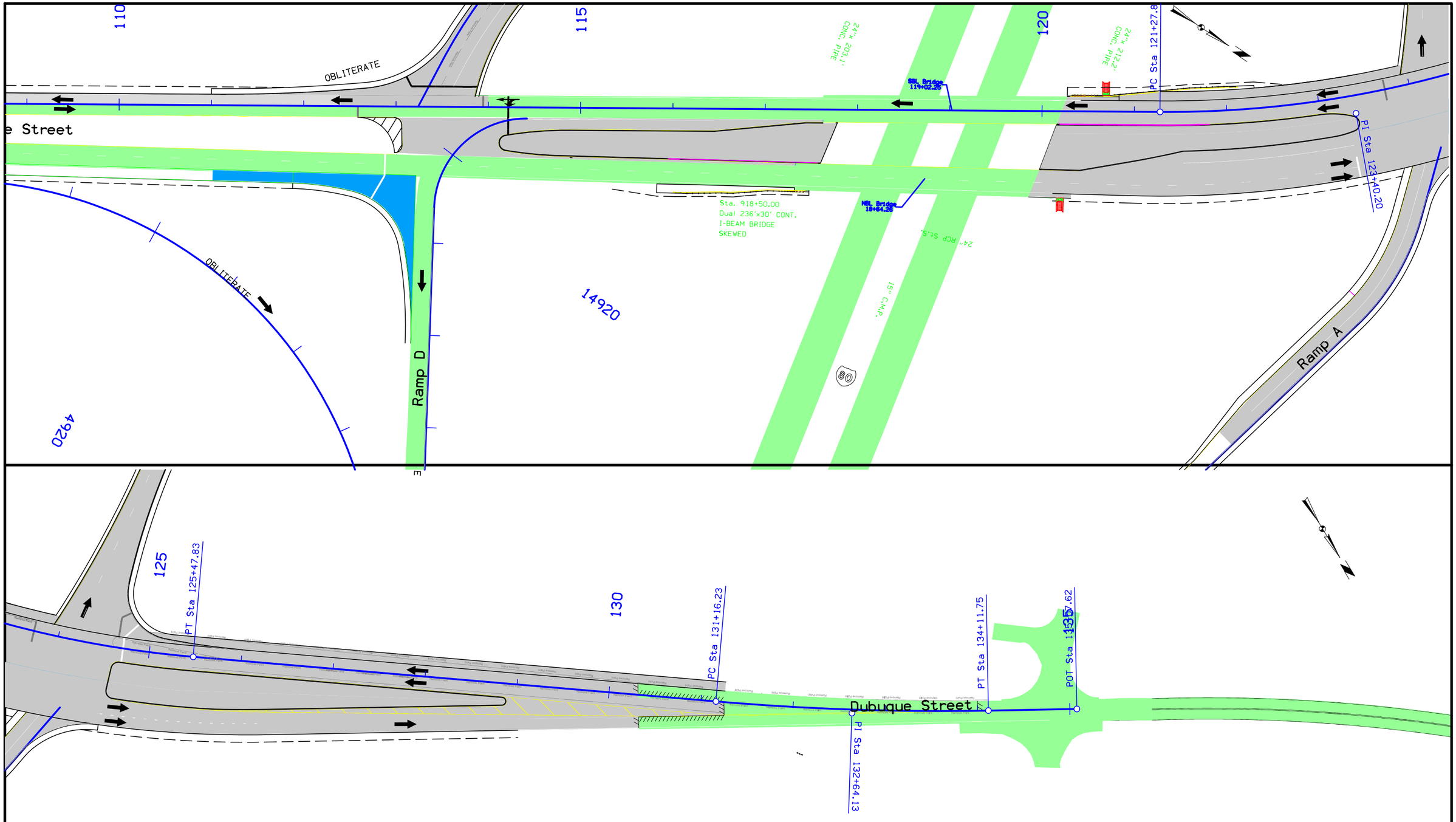

STAGE 3
(SHEET 2 OF 3)

C ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER J.16	

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Sta. 909+93.4 7.6 Rt.
24" x 64.9' RCP
DA=Median F-R.

Ramp B

I15

PI Sta 1492+04.10

OBLITERATE

PI Sta 4922+13.

OBLITERATE

4920

PC Sta 4918+06.10

(SHEET 1 OF 3)
STAGE 3

Dubuque Street

I10

4915

STAGE 3
(SHEET 3 OF 3)

0 FEET 50

C ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER J.17	

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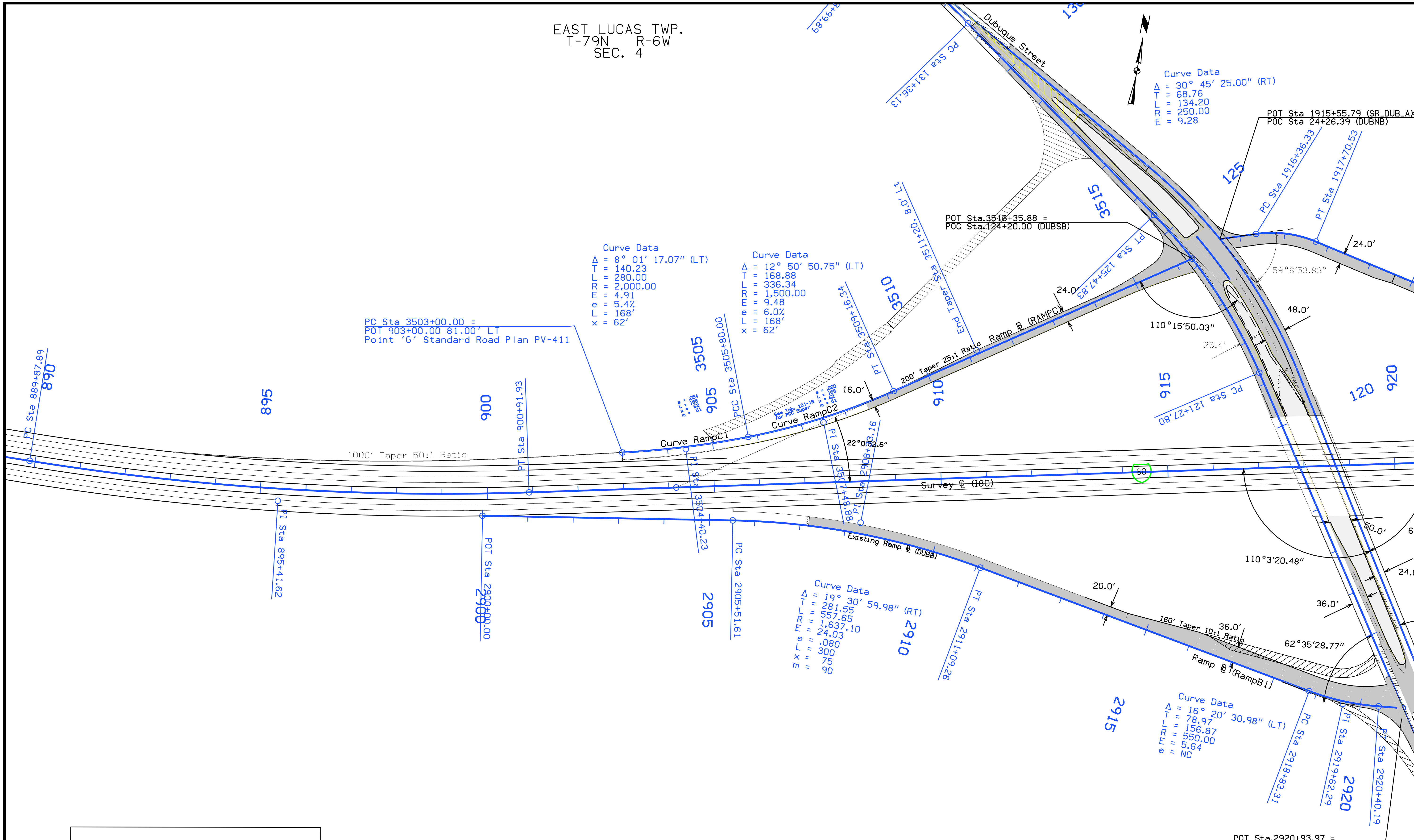

EAST LUCAS TWP.
T-79N R-6W
SEC. 4
Dubuque Street
N
Curve Data
Δ = 30° 45′ 25.00″ (RT)
T = 68.76
L = 134.20
R = 250.00
E = 9.28
POT Sta 1915+55.79 (SR_DUB_A)=
POC Sta 24+26.39 (DUBNB)
PC Sta 131+36.13
PC Sta 1916+36.33
PT Sta 1917+70.53
125
3515
POT Sta.3516+35.88 =
POC Sta.124+20.00 (DUBSB)
PT Sta 125+47.83
24.0′
59°6′53.83″
Curve Data
Δ = 8° 01′ 17.07″ (LT)
T = 140.23
L = 280.00
R = 2,000.00
E = 4.91
e = 5.4%
L = 168′
x = 62′
Curve Data
Δ = 12° 50′ 50.75″ (LT)
T = 168.88
L = 336.34
R = 1,500.00
E = 9.48
e = 6.0%
L = 168′
x = 62′
PC Sta 3503+00.00 =
POT 903+00.00 81.00′ LT
Point 'G' Standard Road Plan PV-411
3505
3510
PCC Sta 3505+80.00
PT Sta 3508+16.34
End Taper Sta 3511+20, 8.0′ LT
Ramp ℄ (RAMPC)
200′ Taper 25:1 Ratio
24.0′
110°15′50.03″
48.0′
26.4′
16.0′
Curve RampC1
Curve RampC2
22°0′52.6″
PC Sta 121+27.80
915
120
920
910
905
890
895
900
PC Sta 889+87.89
PT Sta 900+91.93
1000′ Taper 50:1 Ratio
Survey ℄ (I80)
80
PI Sta 895+41.62
POT Sta 2900+00.00
2900
PI Sta 3504+40.23
PC Sta 2905+51.61
2905
PI Sta 3507+48.88
PI Sta 2908+33.16
Existing Ramp ℄ (DUBB)
Curve Data
Δ = 19° 30′ 59.98″ (RT)
T = 281.55
L = 557.65
R = 1,637.10
E = 24.03
e = .080
L = 300
x = 75
m = 90
2910
PT Sta 2911+09.26
20.0′
110°3′20.48″
50.0′
24.0′
36.0′
160′ Taper 10:1 Ratio
36.0′
62°35′28.77″
Ramp ℄ (RampB1)
2915
Curve Data
Δ = 16° 20′ 30.98″ (LT)
T = 78.97
L = 156.87
R = 550.00
E = 5.64
e = NC
PC Sta 2918+83.31
PI Sta 2919+62.29
2920
PT Sta 2920+40.19
POT Sta.2920+93.97 =
POC Sta. 113+23.96 (DUBSB)

For Ramp Terminal Intersection Jointing Details
Refer to Sheet No. K.9 and K.10
For ramp Terminal Intersection Staking Details
Refer to Sheet No. K.7 and K.8
For Ramp Terminal Intersection Edge Profiles
Refer to Sheet No. K.11-K.15

0 100
FEET

Geometric Plan
Proposed Interchange Improvements of
Interstate 80 with Dubuque Street
Johnson County

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER K.1

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EAST LUCAS TWP.
T-80N R-6W
SEC. 34

Sta 1915+55.79 (SR_DUB_A)=
Sta 24+26.39 (DUBNB)

PT Sta 1917+70.53

1916+36.33

1920

24.0′

20.0′

9°6′53.83″

Existing Ramp B (SR_DUB_A)

PC Sta 1923+78.23

1925

Curve Data
Δ = 17° 43′ 59.88″ (LT)
T = 255.39
L = 506.69
R = 1,637.10
E = 19.80
e = 0.058
max = 180
m = 62
= 54

PT Sta 1928+84.92

PC Sta 930+00.13

1930

1935

PI Sta 936+13.34

POT Sta 1936+99.92

940

PT Sta 942+21.91

945

48.0′

120

920

925

80

20.0′

Existing Ramp E (DUBD)

PCC Sta 4934+89.38

Curve Data
Δ = 7° 29′ 36.09″ (RT)
T = 375.23
L = 749.39
R = 5,730.00
E = 12.27

PT Sta 4942+38.77

20.0′

PC Sta 4929+44.34

Curve Data
Δ = 27° 15′ 00.00″ (RT)
T = 277.78
L = 545.04
R = 1,146.00
E = 33.18
(UAC)

50.0′

69°56′39.52″

°3′20.48″

24.0′

115

36.0′

90°29′38.07″

20.2′

Existing Ramp B (DUBDL)

POT Sta 14927+90.78

62°35′28.77″

14925

DBL)

8″ (LT)

PC Sta 2918+83.31

PI Sta 2919+62.29

PT Sta 2920+40.19

2920

PT Sta 14920+61.44

80' LEASE

36.0′

110

22.3′

T Sta.2920+93.97 =
C Sta. 113+23.96 (DUBSB)

Dubuque Street

For Ramp Terminal Intersection Jointing Details
Refer to Sheet No. K.9 and K.10
For ramp Terminal Intersection Staking Details
Refer to Sheet No. K.7 and K.8
For Ramp Terminal Intersection Edge Profiles
Refer to Sheet No. K.11-K.15

0 100
FEET

Geometric Plan
Proposed Interchange Improvements of Interstate 80 with Dubuque Street
Johnson County

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER K.2

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EAST LUCAS TWP.
T-80N R-6W
SEC. 34

Curve Data
Δ = 30° 45' 25.00" (RT)
T = 68.76
L = 134.20
R = 250.00
e = 9.28
E = NC

PC Sta 1916+26.33
PI Sta 1917+05.09
PT Sta 1915+69.75
PI Sta 1917+70.53
PC Sta 1916+26.33
PC Sta 1923+78.23
PI Sta 1926+33.62
PT Sta 1928+84.92
End Ramp A Construction

Curve Data
Δ = 17° 43' 59.88" (LT)
T = 255.39
L = 506.69
R = 1,637.10
E = 19.80
e = 0.058
L = 180
x = 62
m = 54

24.0'
16.0'

1920 1925 1930

SIGN

POT Sta 1915+55.79 =
POC Sta 24+26.39 (DUBNB)

0 FEET 50

Stg. 3 Ramp A

Stage 3 Ramp A
C = 6305

Stage 3 Ramp A
F+30% = 413
Waste = 5892
6305

Stg. 3 Ramp A

Tie in =
Sta. 1915+69.75
Elev 751.73

Elv 759.69
K = 129
Len 500.00 ft

+2.040%
-1.840%

Tie in
Sta 1927+28.21
Elev 745.56

+95 Lt.
753.36
+1.00% Lt.
DG
+70 Lt.
753.11
+3.60% Lt.
Ditch Grade
+3.60% Rt.
Ditch Grade
+3.20% Lt.
Ditch Grade
+75 Rt.
750.69
+85 Rt.
747.45
+30 Lt.
748.07
+20 Lt.
747.75

760
755
750
745
740
735

SR V Ditch
SR Ditch
Ditch Grade
Ditch Grade
UAC Existing V Ditch
5' Ditch

751.84 752.35 752.86 753.37 753.88 754.39 754.89 755.35 755.76 756.12 756.43 756.69 756.90 757.07 757.19 757.26 757.28 757.25 757.17 757.05 756.87 756.65 756.38 756.06 755.69 755.27 754.82 754.36 753.90 753.44 752.98 752.52 752.06 751.60 751.14 750.68 750.22 749.76 749.30 748.84 748.38 747.92 747.46 747.00 746.54 746.08 745.62

+50 1916 +50 1917 +50 1918 +50 1919 +50 1920 +50 1921 +50 1922 +50 1923 +50 1924 +50 1925 +50 1926 +50 1927 +50 1928 +50 1929 +50 1930 +50

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER K.3

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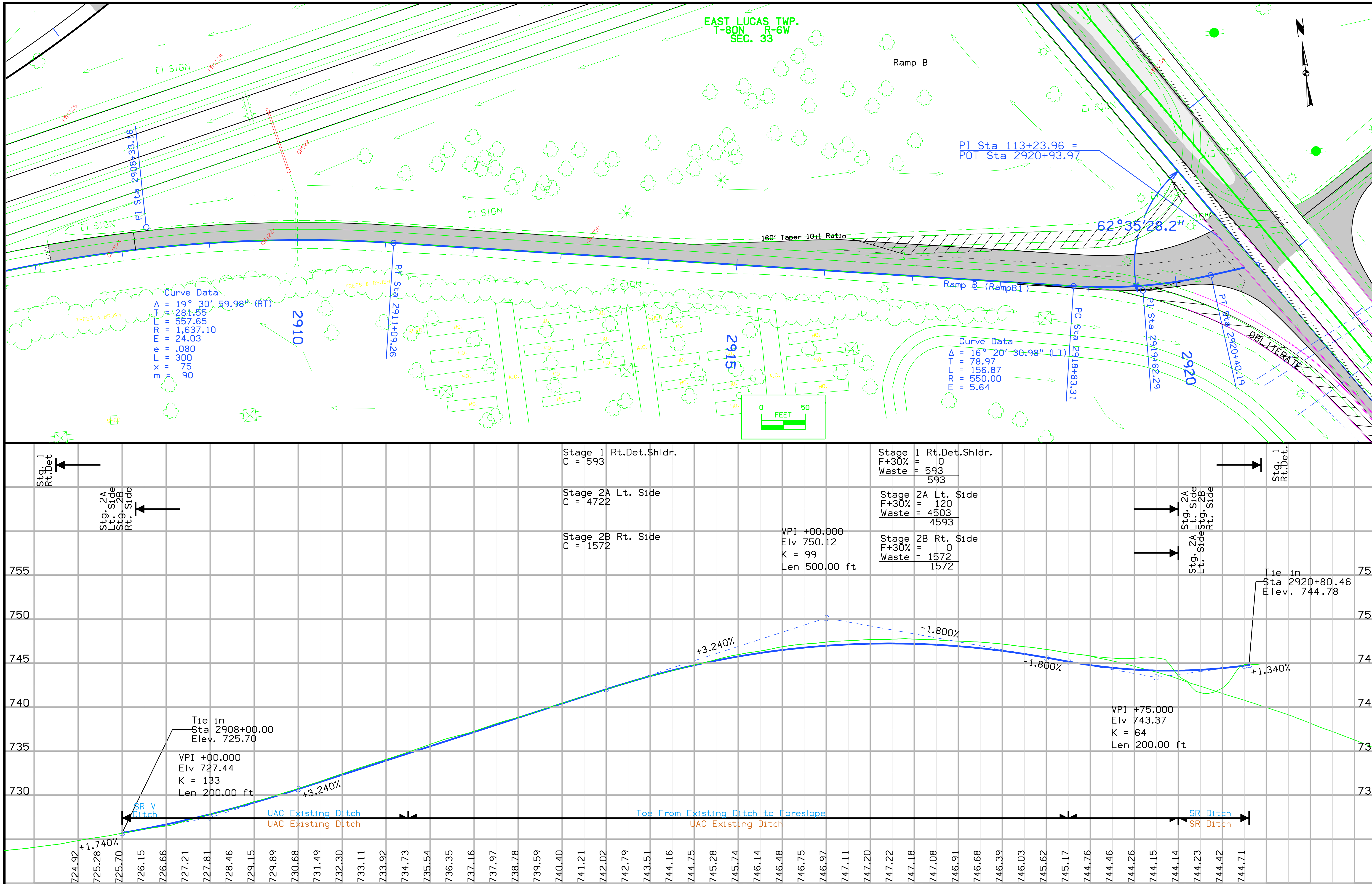
EAST LUCAS TWP.
T-80N R-6W
SEC. 33
Ramp B
SIGN
PI Sta 2908+33.16
PT Sta 2911+09.26
PI Sta 113+23.96 =
POT Sta 2920+93.97
62°35'28.2"
160' Taper 10:1 Ratio
Ramp B ℄ (RampBI)
Curve Data
Δ = 19° 30' 59.98" (RT)
T = 281.55
L = 557.65
R = 1,637.10
E = 24.03
e = .080
L = 300
x = 75
m = 90
2910
2915
2920
Curve Data
Δ = 16° 20' 30.98" (LT)
T = 78.97
L = 156.87
R = 550.00
E = 5.64
PC Sta 2918+83.31
PI Sta 2919+62.29
PT Sta 2920+40.19
OBLITERATE
0 50
FEET
Stg. 1 Rt.Det
Stg. 2A Lt. Side
Stg. 2B Rt. Side
Stage 1 Rt.Det.Shldr.
C = 593
Stage 2A Lt. Side
C = 4722
Stage 2B Rt. Side
C = 1572
Stage 1 Rt.Det.Shldr.
F+30% = 0
Waste = 593
593
Stage 2A Lt. Side
F+30% = 120
Waste = 4503
4593
Stage 2B Rt. Side
F+30% = 0
Waste = 1572
1572
VPI +00.000
Elv 750.12
K = 99
Len 500.00 ft
Tie in
Sta 2920+80.46
Elev. 744.78
+3.240%
-1.800%
-1.800%
+1.340%
VPI +75.000
Elv 743.37
K = 64
Len 200.00 ft
Tie in
Sta 2908+00.00
Elev. 725.70
VPI +00.000
Elv 727.44
K = 133
Len 200.00 ft
+3.240%
+1.740%
SR V Ditch
UAC Existing Ditch
UAC Existing Ditch
Toe From Existing Ditch to Foreslope
UAC Existing Ditch
SR Ditch
SR Ditch
755
750
745
740
735
730
724.92
725.28
725.70
726.15
726.66
727.21
727.81
728.46
729.15
729.89
730.68
731.49
732.30
733.11
733.92
734.73
735.54
736.35
737.16
737.97
738.78
739.59
740.40
741.21
742.02
742.79
743.51
744.16
744.75
745.28
745.74
746.14
746.48
746.75
746.97
747.11
747.20
747.22
747.18
747.08
746.91
746.68
746.39
746.03
745.62
745.17
744.76
744.46
744.26
744.15
744.14
744.23
744.42
744.71
+50 2908 +50 2909 +50 2910 +50 2911 +50 2912 +50 2913 +50 2914 +50 2915 +50 2916 +50 2917 +50 2918 +50 2919 +50 2920 +50

ENGLISH | IOWA DOT | DESIGN TEAM **Flattery\Buttolph** | **JOHNSON** COUNTY | PROJECT NUMBER **IM-80-6(306)244--13-52** | SHEET NUMBER **K.4**

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EAST LUCAS TWP.
T-80N R-6W
SEC. 33

PC Sta 3503+00.00 =
POT 903+00.00 81.00' LT
Point 'G' Standard road plan PV-411

Curve Data
Δ = 8° 01' 17.07" (LT)
T = 140.23
L = 280.00
R = 2,000.00
E = 4.91

Curve Data
Δ = 12° 50' 50.75" (LT)
T = 168.88
L = 336.34
R = 1,500.00
E = 9.48

OBLITERATE

Ramp C

PI Sta 3516+35.88 (Ramp C)=
POC Sta. 124+20.00 (DUBSB)

PC Sta 3505+80.00

PT Sta 3509+16.34

Begin Taper
Sta 3509+20.00

End Taper
Sta 3511+20.00

200' Taper 25:1 Ratio

Ramp C

PI Sta 3504+40.23

PI Sta 3507+48.88

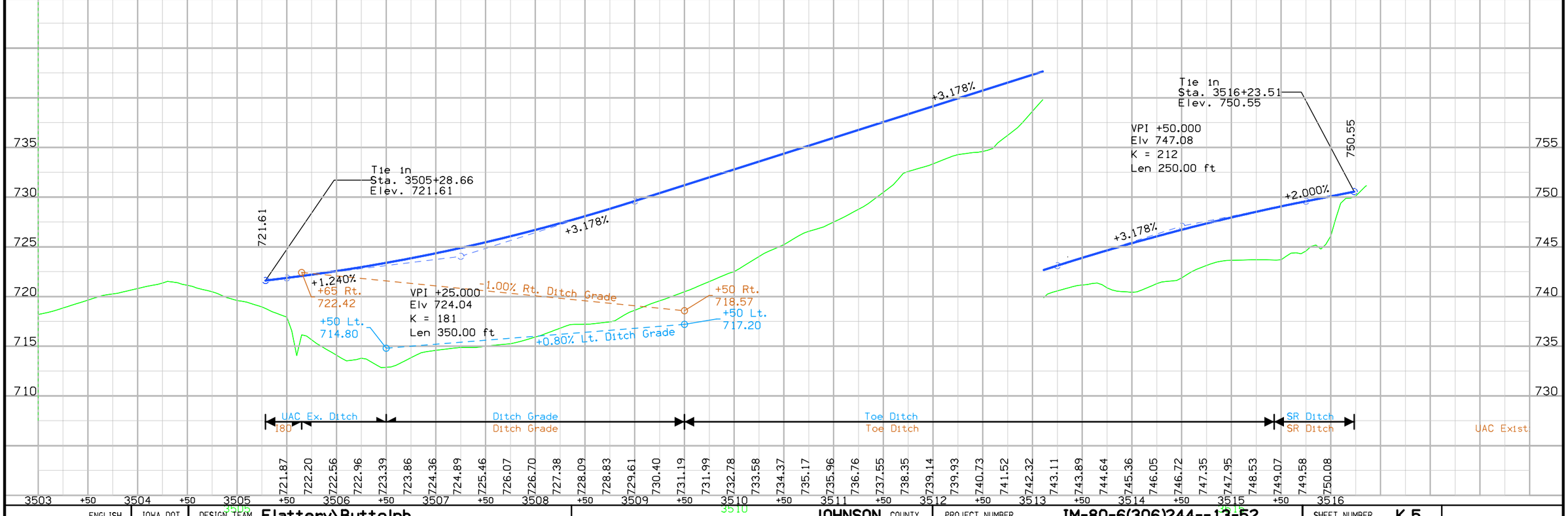
110°15'50.03"

SIGN

0 FEET 50

3505 3510 3515

CN1523 CN1227 CN1522 CN1525 CN1229



ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER K.5

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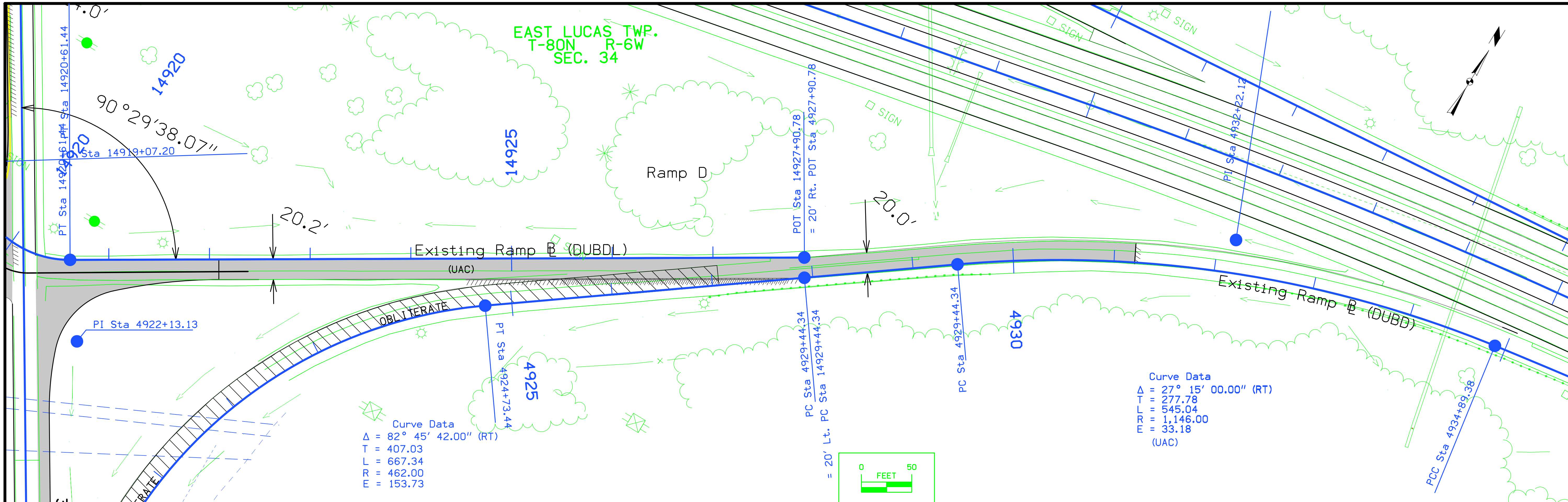
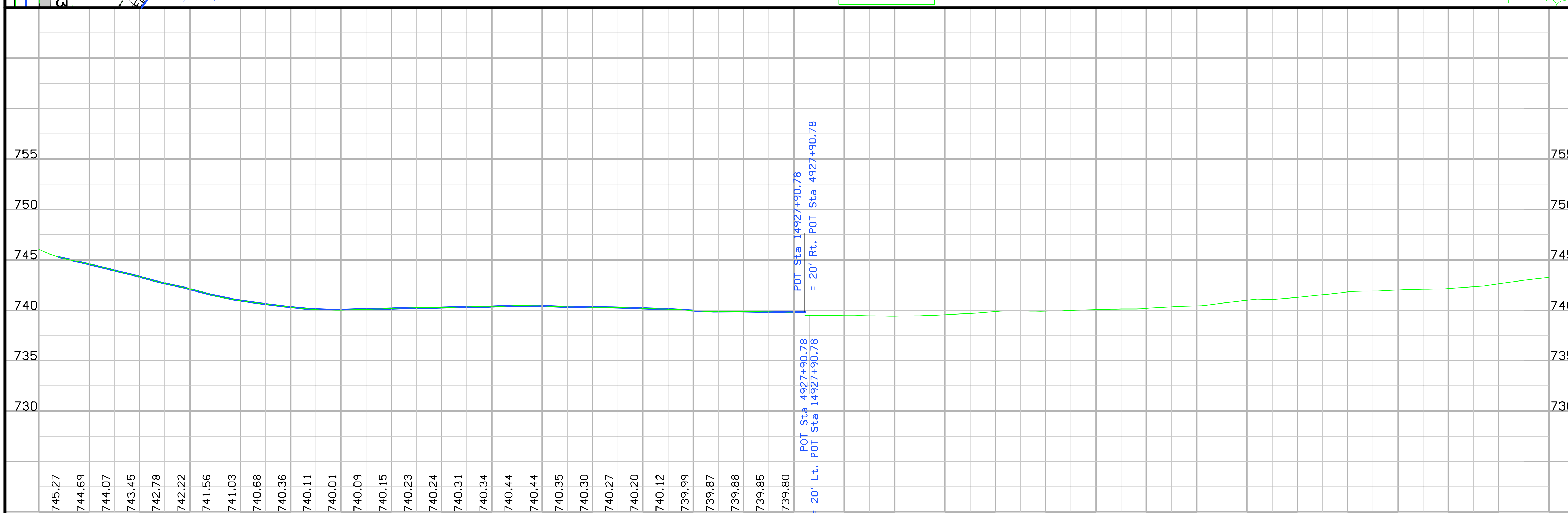

EAST LUCAS TWP.
T-80N R-6W
SEC. 34
14920
14925
4925
4930
Ramp D
90°29'38.07"
PT Sta 14920+61.44
Sta 14919+07.20
20.2'
20.0'
Existing Ramp B (DUBDL)
(UAC)
OBLITERATE
PI Sta 4922+13.13
PT Sta 4924+73.44
POT Sta 14927+90.78 = 20' Rt. POT Sta 4927+90.78
PC Sta 4929+44.34
PC Sta 14929+44.34 = 20' Lt.
PC Sta 4929+44.34
PI Sta 4932+22.12
PCC Sta 4934+89.38
Existing Ramp B (DUBD)
SIGN
Curve Data
Δ = 82° 45' 42.00" (RT)
T = 407.03
L = 667.34
R = 462.00
E = 153.73
Curve Data
Δ = 27° 15' 00.00" (RT)
T = 277.78
L = 545.04
R = 1,146.00
E = 33.18
(UAC)
0 50
FEET


755
750
745
740
735
730
POT Sta 14927+90.78 = 20' Rt. POT Sta 4927+90.78
POT Sta 4927+90.78 POT Sta 14927+90.78 = 20' Lt.
745.27
744.69
744.07
743.45
742.78
742.22
741.56
741.03
740.68
740.36
740.11
740.01
740.09
740.15
740.23
740.24
740.31
740.34
740.44
740.44
740.35
740.30
740.27
740.20
740.12
739.99
739.87
739.88
739.85
739.80
+50
14921
+50
14922
+50
14923
+50
14924
+50
14925
+50
14926
+50
14927
+50
4928
+50
4929
+50
4930
+50
4931
+50
4932
+50
4933
+50
4934
+50
4935

ENGLISH	IOWA DOT	DESIGN TEAM **Flattery\Buttolph**	**JOHNSON** COUNTY	PROJECT NUMBER	**IM-80-6(306)244--13-52**	SHEET NUMBER	**K.6**

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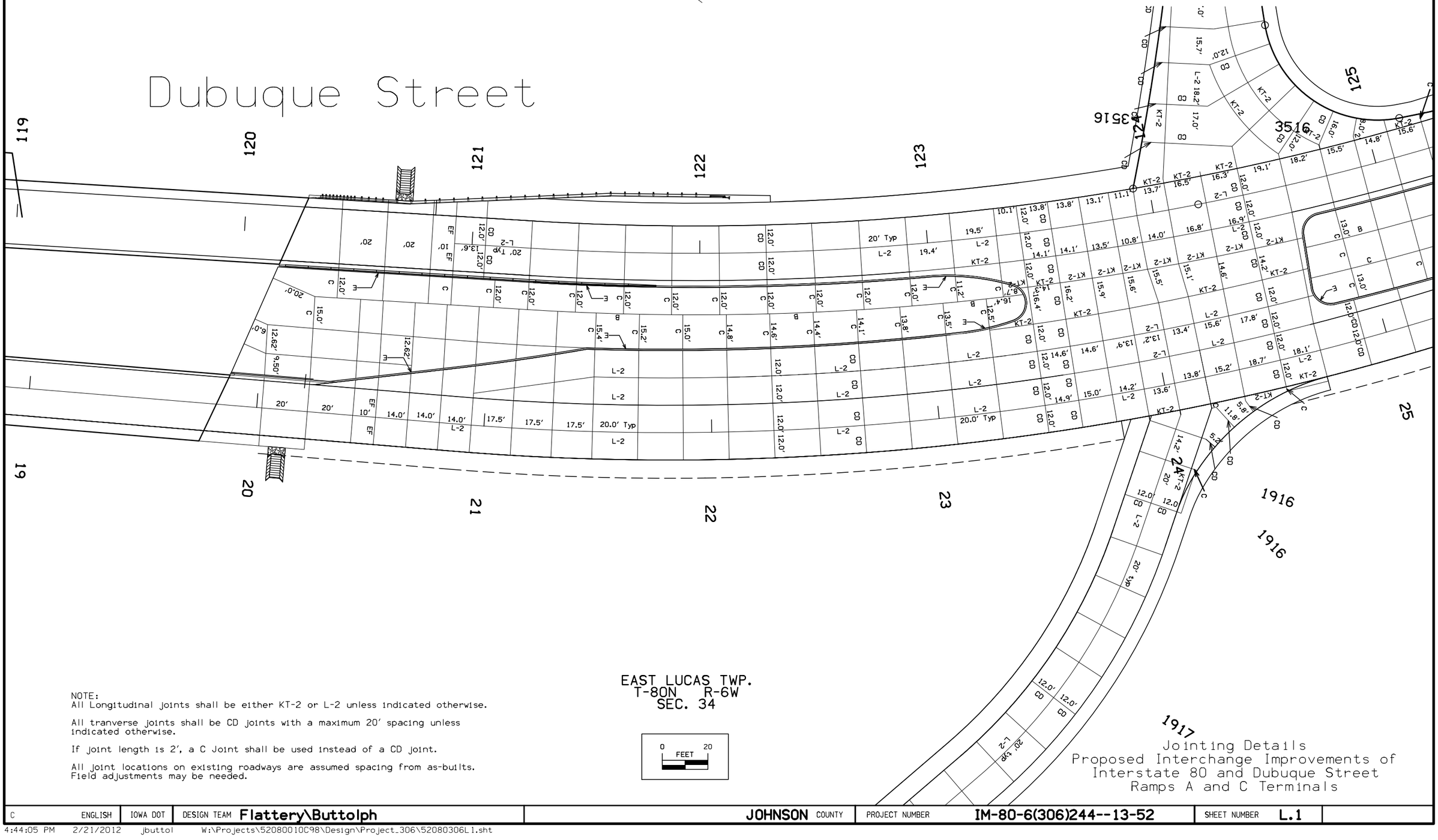
EAST LUCAS TWP.
T-80N R-6W
SEC. 34

Dubuque Street



EAST LUCAS TWP.
T-80N R-6W
SEC. 34

0 20
FEET

NOTE:
All Longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.

All tranverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.

If joint length is 2', a C Joint shall be used instead of a CD joint.

All joint locations on existing roadways are assumed spacing from as-builts. Field adjustments may be needed.

Jointing Details
Proposed Interchange Improvements of Interstate 80 and Dubuque Street Ramps A and C Terminals

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER	IM-80-6(306)244--13-52	SHEET NUMBER L.1

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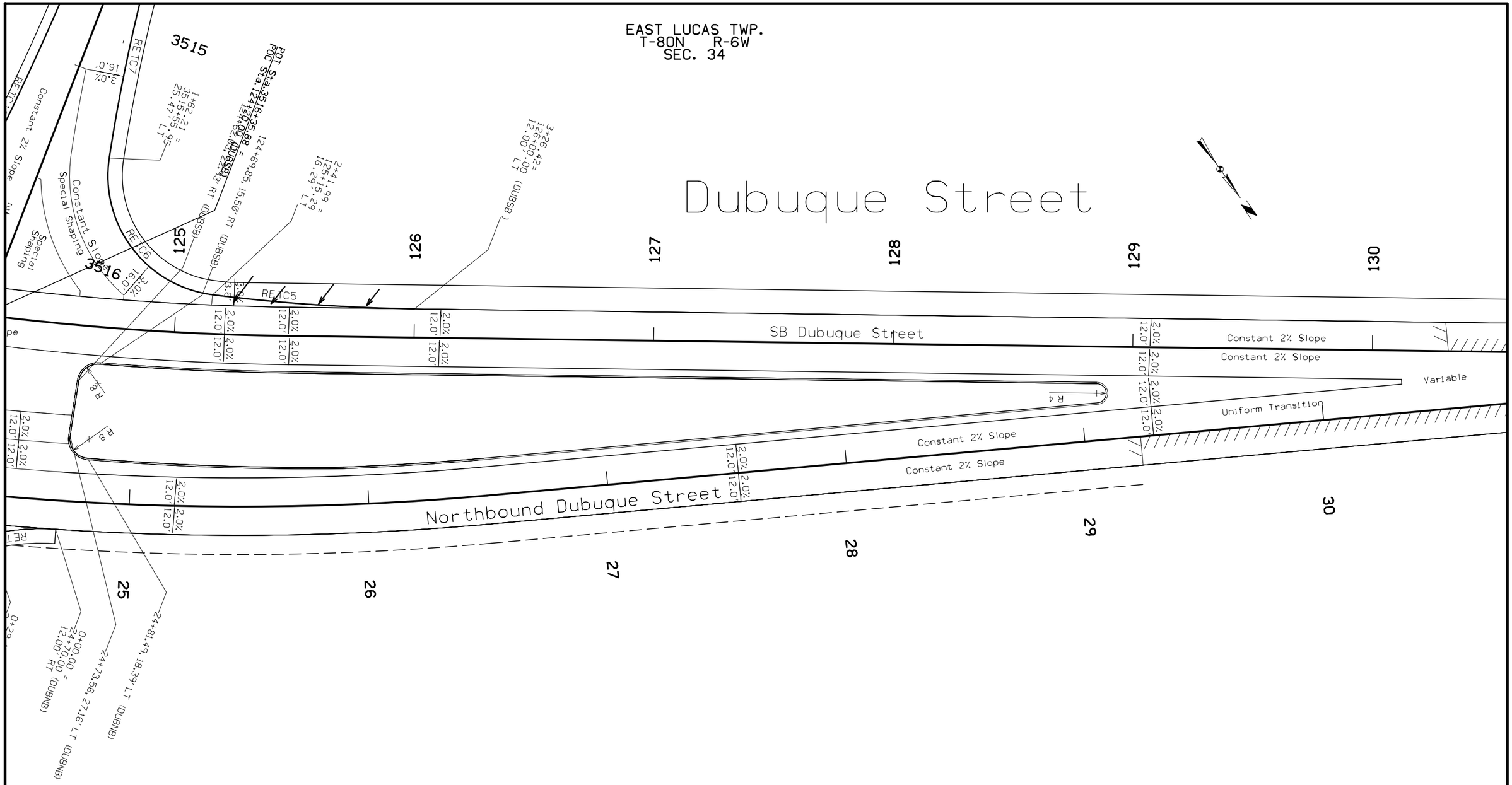
EAST LUCAS TWP.
T-80N R-6W
SEC. 34



NOTE:
All Longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.

All tranverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.

If joint length is 2', a C Joint shall be used instead of a CD joint.

All joint locations on existing roadways are assumed spacing from as-builts. Field adjustments may be needed.

0 20
FEET

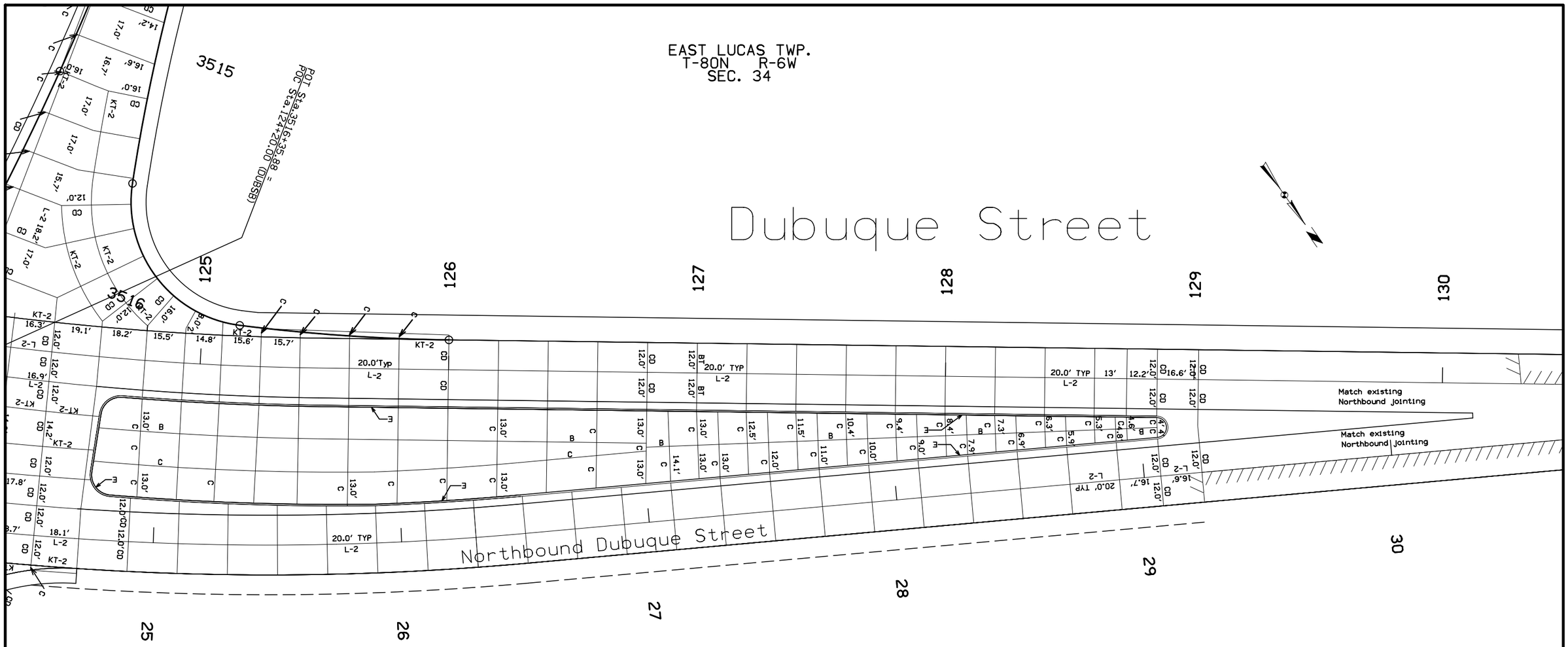
EAST LUCAS TWP.
T-80N R-6W
SEC. 34

Geometric and Staking Details
Proposed Interchange Improvements of
Interstate 80 and Dubuque Street
Ramps A and C Terminals

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER L.2

4:44:08 PM 2/21/2012 jbuttol W:\Projects\52080010C98\Design\Project_306\52080306L2.sht

EAST LUCAS TWP.
T-80N R-6W
SEC. 34



NOTE:
All Longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.

All tranverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.

If joint length is 2', a C Joint shall be used instead of a CD joint.

All joint locations on existing roadways are assumed spacing from as-builts. Field adjustments may be needed.

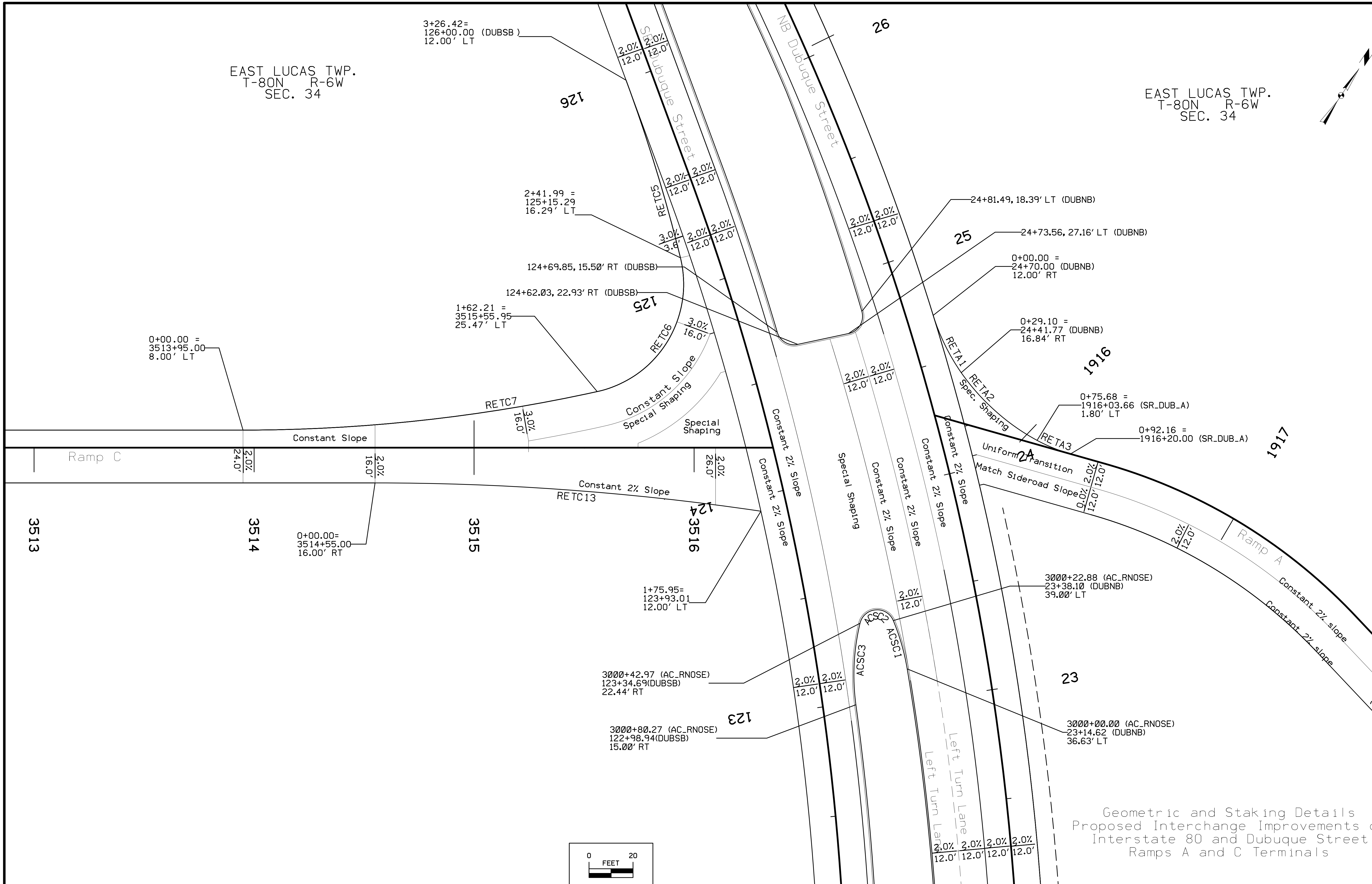
0 20
FEET

EAST LUCAS TWP.
T-80N R-6W
SEC. 34

Jointing Details
Proposed Interchange Improvements of Interstate 80 and Dubuque Street Ramps A and C Terminals

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER	IM-80-6(306)244--13-52	SHEET NUMBER L.3

4:44:11 PM 2/21/2012 jbuttol W:\Projects\52080010C98\Design\Project_306\52080306L3.sht



EAST LUCAS TWP.
T-80N R-6W
SEC. 34
EAST LUCAS TWP.
T-80N R-6W
SEC. 34
3+26.42=
126+00.00 (DUBSB)
12.00' LT
SB Dubuque Street
NB Dubuque Street
2+41.99 =
125+15.29
16.29' LT
124+69.85, 15.50' RT (DUBSB)
124+62.03, 22.93' RT (DUBSB)
1+62.21 =
3515+55.95
25.47' LT
0+00.00 =
3513+95.00
8.00' LT
24+81.49, 18.39' LT (DUBNB)
24+73.56, 27.16' LT (DUBNB)
0+00.00 =
24+70.00 (DUBNB)
12.00' RT
0+29.10 =
24+41.77 (DUBNB)
16.84' RT
0+75.68 =
1916+03.66 (SR_DUB_A)
1.80' LT
0+92.16 =
1916+20.00 (SR_DUB_A)
RETC5
RETC6
RETC7
RETC13
RETA1
RETA2
RETA3
Constant Slope
Special Shaping
Constant 2% Slope
Uniform Transition
Match Sideroad Slope
Ramp C
Ramp A
0+00.00=
3514+55.00
16.00' RT
1+75.95=
123+93.01
12.00' LT
3000+22.88 (AC_RNOSE)
23+38.10 (DUBNB)
39.00' LT
3000+42.97 (AC_RNOSE)
123+34.69(DUBSB)
22.44' RT
3000+80.27 (AC_RNOSE)
122+98.94(DUBSB)
15.00' RT
3000+00.00 (AC_RNOSE)
23+14.62 (DUBNB)
36.63' LT
ACSC1
ACSC2
ACSC3
Left Turn Lane
3513
3514
3515
3516
123
124
125
126
23
25
26
1916
1917
2.0%
12.0'
FEET
0
20
Geometric and Staking Details
Proposed Interchange Improvements of
Interstate 80 and Dubuque Street
Ramps A and C Terminals

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER L.4

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EAST LUCAS TWP.
T-80N R-6W
SEC. 34

EAST LUCAS TWP.
T-80N R-6W
SEC. 34

N

2000+00.00 (BD_LNOSE)
114+87.78 (DUBSB)
24.62' RT

2001+49.23 (BD_LNOSE)
14+65.82 (DUBNB)
14.00' LT

2000+91.62 (BD_LNOSE)
14+08.40 (DUBNB)
18.14' LT

2000+69.20 (BD_LNOSE)
114+18.92 (DUBSB)
30.59' RT

Left Turn Lane

BDNC1

BDNC3

BDNC2

Ramp B

Ramp D

0+00.00 (RETB_L) =
2919+34.97 (RampB1)
36.00' LT

1+13.44 =
2920+54.85 (RampB1)
49.38' LT

RETB13

Uniform Transition

Uniform Trans.

Special Shaping

Constant Slope

Uniform Transition

Special Shaping

Uniform Transition

Transition

RETB5

RETB6

0+00.00 (RETB_R) =
2918+20.00 (RampB1)

1+92.08 =
2920+11.05 (RampB1)
5.79 RT

POT Sta 113+23.96 =
PI Sta 2920+93.95

112+98.31 (DUBSB)
12.00' Rt

3+02.81 =
112+67.09 (DUBSB)
19.77' LT

RETB7

Southbound Dubuque Street (UAC)

Northbound Dubuque Street (UAC)

12+96.25 (DUBNB)
20.39' LT

RETD7

2+56.43 =
14922+09.13 (DUBDL)
20.09' RT

Uni. Trans.

1+51.16 =
14921+04.61 (DUBDL)
30.94' RT

RETD6

12+88.26 (DUBNB)
12.00' LT

13+06.30 (DUBSB)
19.78' Rt

(Detour Pav't)
12+88.26
12.00' LT

R 40.0'
(Detour Pav't)

(Detour Pav't)
112+58.72
19.78' Rt

0+64.57 =
12+44.07 (DUBNB)
30.92 RT

RETD5

0+00.00 (RETD_R) =
11+80.00 (DUBNB)
24.00 RT

4+70.15=
111+00.00
12.00 LT

2920

Constant Slope

350' Right Turn Lane

Geometric and Staking Details
Proposed Interchange Improvements of
Interstate 80 with Dubuque Street
Ramps B and D Terminals

0 FEET 20

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER L.5

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EAST LUCAS TWP.
T-80N R-6W
SEC. 34

EAST LUCAS TWP.
T-80N R-6W
SEC. 34

POT Sta.3516+35.88 =
POC Sta.124+20.00 (DUBSB)

3514
3515
3516
1916
1917
1918
25
26
23
24

Ramp C
Ramp A

NOTE:
All Longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.

All tranverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.

If joint length is 2', a C Joint shall be used instead of a CD joint.

All joint locations on existing roadways are assumed spacing from as-builts. Field adjustments may be needed.

0 20
FEET

Jointing Details
Proposed Interchange Improvements
Interstate 80 with Dubuque Street
Ramps A and C Terminals

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER L.6

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EAST LUCAS TWP.
T-80N R-6W
SEC. 34

EAST LUCAS TWP.
T-80N R-6W
SEC. 34

NB Dubuque Street (UAC)

SB Dubuque Street (UAC)

Ramp B

Ramp D (UAC)

POT Sta. 113+23.96 =
PI Sta. 2920+93.97

POT Sta. 13+45.54 =
POC Sta. 14920+13.23

NOTE:
All Longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.

All tranverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.

If joint lenght is 2', a C Joint shall be used instead of a CD joint.

All joint locations on existing roadways are assumed spacing from as-builts. Field adjustments may be needed.

0 FEET 20

Jointing Details
Proposed Interchange Improvements
Interstate 80 with Dubuque Street Ramps B and D Terminals

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER	IM-80-6(306)244--13-52	SHEET NUMBER L.7

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RETB_RP

Tie in Sta 0+00.00 =
Sta. 2918+20.00 0.00' LT
Elev. 746.11

Sta. 0+60.00 =
Sta. 2918+79.97, 2.00' RT
Elev. 745.04

Sta. 0+80.00 =
Sta. 2918+99.88, 2.69' RT
Elev. 744.71

Sta. 1+00.00 =
Sta. 2919+19.76, 3.34' RT
Elev. 744.45

Sta. 1+20.00 =
Sta. 2919+39.62, 3.94' RT
Elev. 744.25

Sta. 1+40.00 =
Sta. 2919+59.46, 4.51' RT
Elev. 744.11

Sta. 1+60.00 =
Sta. 2919+79.28, 5.03' RT
Elev. 744.04

Sta. 1+80.00 =
Sta. 2919+99.09, 5.51' RT
Elev. 744.03

Sta. 2+28.79 =
Sta. 2920+46.37, 13.26' RT
Elev. 744.00

Sta. 2+48.30 =
Sta. 113+17.93, 36.62' LT
Elev. 743.70

Sta. 2+68.30 =
Sta. 113+00.51, 27.90' LT
Elev. 743.30

Sta. 2+88.30 =
Sta. 112+81.42, 22.02' LT
Elev. 742.61

Sta. 3+02.86 =
Sta. 112+67.10, 19.77' LT
Elev. 742.10

Sta 3+70.09=
Sta. 112+00.00 14.78' LT
Elev.739.31

Tie in Sta 4+70.15 =
Sta. 111+00.00 12.00' LT
Elev.734.60

-1.783%
-1.650%
-1.300%
-1.000%
-0.700%
-0.350%
-0.055%
-0.059%
-1.499%
-2.051%
-3.450%
-3.515%
-4.147%
-4.707%

Sta. 2919+34.97 36.00' LT
Elev.744.82

Sta 0+27.40 =
Sta. 2919+64.29 36.00' LT
Elev.744.76

Sta 0+47.40 =
Sta. 2919+85.69 38.31' LT
Elev.744.85

Sta 0+57.40 =
Sta. 2919+96.38 39.38' LT
Elev.744.93

Sta 0+67.40 =
Sta. 2920+07.08 40.66' LT
Elev.745.12

Sta 0+77.40 =
Sta. 2920+17.77 42.14' LT
Elev.745.34

Sta 0+93.40 =
Sta. 2919+34.88 44.93' LT
Elev.745.86

Sta 1+03.40 =
Sta. 2920+45.11 46.97' LT
Elev.746.32

Tie in Sta 1+13.44 =
Sta. 113+85.80 -12.00' LT
Elev.746.92

-0.207%
+0.433%
+0.800%
+1.900%
+2.200%
+3.250%
+4.600%
+5.976%

RETB_LP

Terminal Edge Profiles
Proposed Interchange of
I-80 with Dubuque Street
Ramp B

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER L.8

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RETC_LP

Tie in Sta 0+00 =
Sta. 3513+95.00 (RAMPC), 8.00 Lt
Elev. 745.06

Sta. 0+78.14 =
Sta. 3514+73.00 (RampC), 12.07' LT
Elev. 747.03

Sta. 1+27.63 =
Sta. 3515+22.01 (RampC), 18.83' LT
Elev. 747.94

Sta. 1+70.62 =
Sta. 3515+63.97 (RampC), 27.96' LT
Elev. 748.70

Sta. 1+92.19 =
Sta. 124+39.87 (DUBSB), 21.97' LT
Elev. 748.89

Sta. 2+12.43 =
Sta. 124+87.58 (DUBSB), 26.77' LT
Elev. 748.98

Sta. 2+41.99 =
Sta. 125+15.29 (DUBSB), 16.29' LT
Elev. 748.67

Tie in Sta 3+26.42 =
Sta 126+00.__ (DUBSB) 12.00' Lt
Elev. 747.19

+2.521%
+1.839%
+1.768%
+0.881%
+0.445%
-1.049%
-1.753%

RETC_RP

Tie in Sta. 0+00.00 =
Sta 3514+55.00 (RampC),16.0' RT
Elev. 747.17

Sta. 0+69.29 =
Sta 3515+24.25 (RampC), 18.00' RT
Elev. 748.87

Sta. 1+03.84 =
Sta 3515+58.71 (RampC), 20.49' RT
Elev. 749.68

Sta. 1+36.02 =
Sta 3515+92.71 (RampC), 23.93'
Elev. 750.42

Tie in Sta. 1+75.95 =
Sta 123+93.01 (DUBSB), 12.
Elev. 751.12

+2.460%
+2.344%
+2.300%
+1.765%

752 750 748 746 744 742 754 752 750 748 746

0 +20 +40 +60 +80 1 +20 +40 +60 +80 2 +20 +40 +60 +80 3 +20

Terminal Edge Profiles
Proposed Interchange of
I-80 with Dubuque Street
Ramp C

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER L.9

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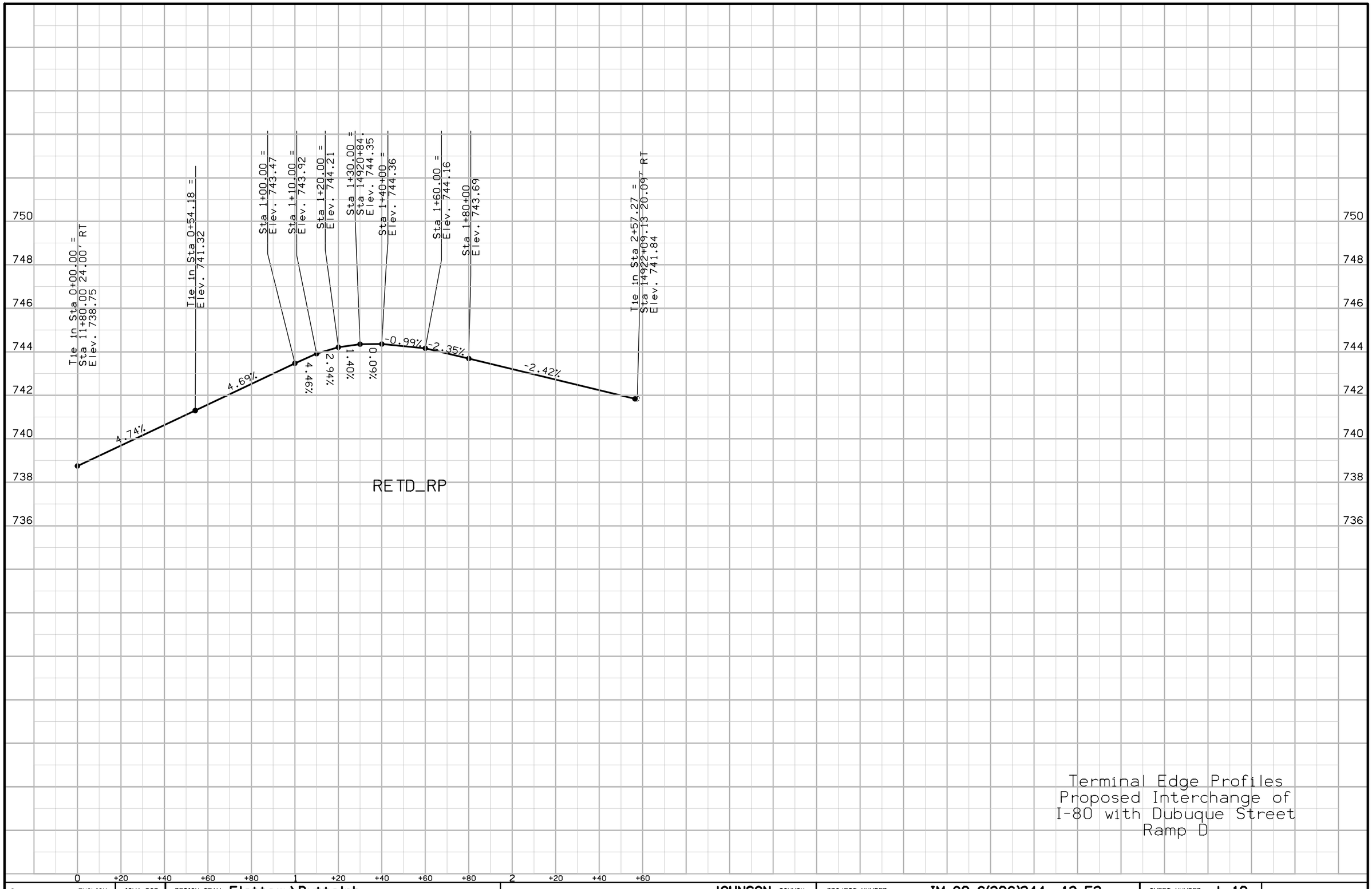

Terminal Edge Profiles
Proposed Interchange of
I-80 with Dubuque Street
Ramp D

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER	IM-80-6(306)244--13-52	SHEET NUMBER L.10

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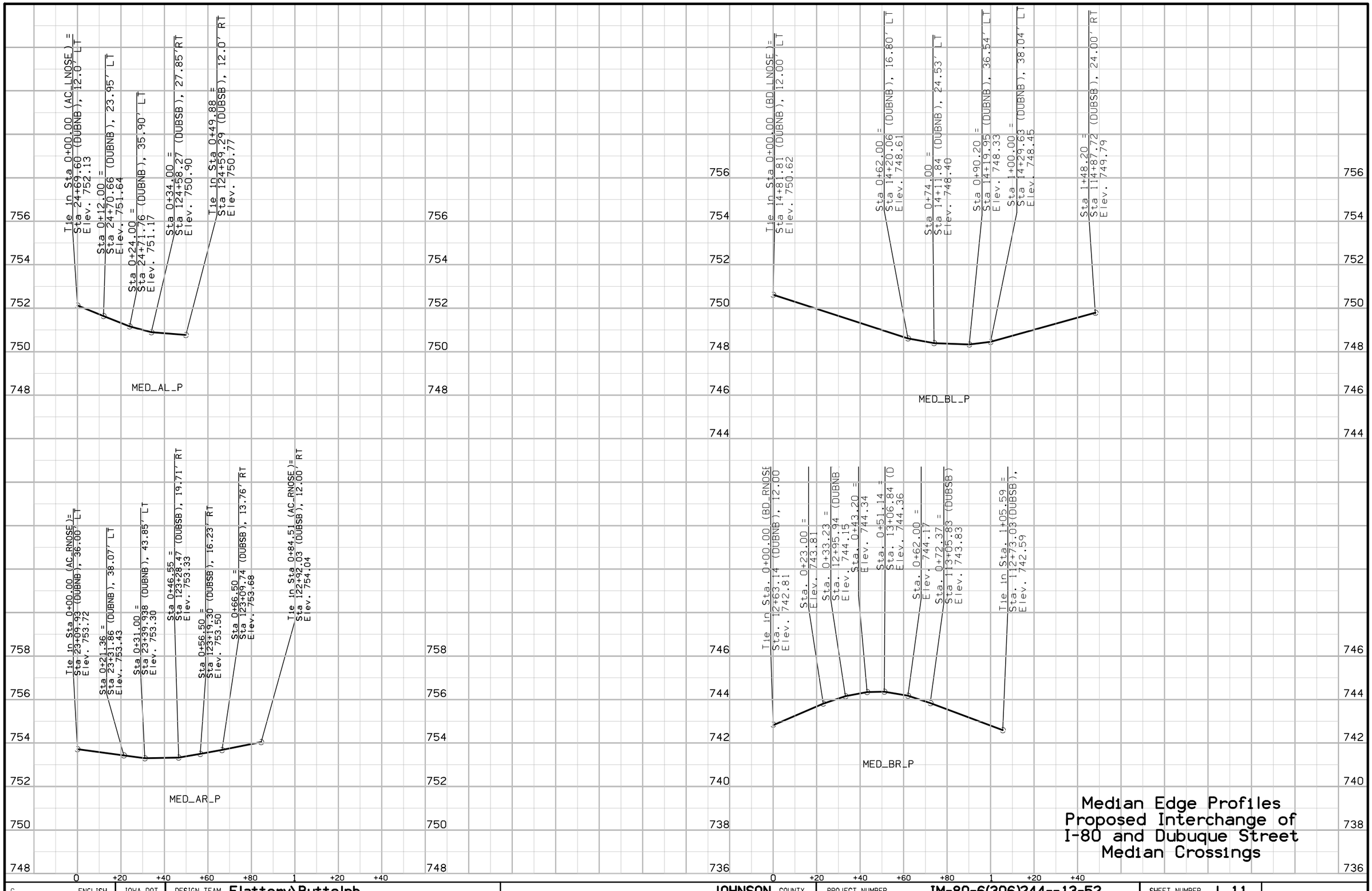

Median Edge Profiles Proposed Interchange of I-80 and Dubuque Street Median Crossings

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER L.11	

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STORM SEWER

* Bid Item
** For SW-545

For bedding and backfill purposes under Primary roads, use material complying with Article 4120.04 (Class A Crushed Stone) of the Standard Specifications for all bedding and backfill. Place and compact the material according to Article 2435.03, A and Article 2552.03, E (Class I materials).

INTAKES AND UTILITY ACCESSES

No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade Elev.	Bottom Well Elev.	Extension Length** FT	Notes
1	17+10.0, 14.0'LT	SW-546	755.8	751		
2	16+25.0, 14.0'LT	SW-546	754.2	749.15		
3	117+50.0, 14.5'RT	SW-508	755.5	750.71		
4	116+36.0, 24.5'RT	SW-510	753.2	748.11		
5	14+70.0, 14.0'LT	SW-508	750.3	745.56		
6	114+78.0, 24.7'RT	SW-510	749.3	744.24		
7	114+75.0, 52.0'LT	RF-3(15")	744.5	744.09		(1)
10	20+13.0, 14.0'LT	SW-508	757.4	752.55		
12	21+51.0, 36.6'LT	SW-508	755.2	750.15		
13	23+10.0, 44.1'RT	RF-3(24")	747.4			(1)
14	23+10.0, 36.6'LT	SW-508	752.7	746.2		
15	23+10.0, 119.7'LT	RF-3(24")	746.34			(1)
16	24+74.3, 35.0'LT	SW-510	749.8	746.05		
17	26+00.0, 15.6'LT	SW-508	748	743.2		
18	26+00.0, 35.0'LT	SW-401(48")	748.9	742.73		
19	26+00.0, 112.0'LT	RF-3(15")	744	742.54		
20	27+00.0, 15.6'LT	SW-508	746.2	741.43		
22	28+00.0, 15.6'LT	SW-508	744.4	739.43		
24	29+00.0, 15.6'LT	SW-508	742.6	737.42		
25	29+00.0, 84.0'LT	RF-3(15")	736.88			
34	12+99, 38.2'LT	SW-401	744	739.27		(6), 48"
36	12+65, 31.0'LT	RF-3(15")	738.82			
98	4+22.0, 21.9' LT	SW-512(24")	699.41	696.94		(2), Type 4B Casting
100	7+05.0, 24'LT	SW-512(24")	712.39	709.5		Type 4B Casting
t102	5+90.4, 23.3'LT	RF-21				(4)
102	5+90.4,23.3'LT	SW-512(24")	706.13	703.63		(5), Type 4B Casting

BID ITEMS:

Aprons, Concrete, 15 In. Dia.	**4**	**Each**
Aprons, Concrete, 24 In. Dia.	**2**	**Each**
MH, Storm Sewer, SW-401, 48 In.	**2**	**Each**
Intake, SW-508	**9**	**Each**
Intake, SW-510	**3**	**Each**
Intake, SW-512, 24 In.	**3**	**Each**
Intake, SW-546	**2**	**Each**

NOTES:
(1) Form grade of the apron shall match the invert of the pipe.
(2) Remove existing intake for detour pavement. Cap 12 inch pipe per RF-21 for duration of project. Install new intake after detour pavement is removed.
(3) Match existing flow lines at structure t102. RF-21 tee section and concrete pipe cap included in length of pipe bid for P-101
(4) Remove existing grate intake for detour pavement, replace with RF-21 15-inch tee and concrete pipe cap. 15-inch tee shall be included in length of pipe bid for P-101
(5) Remove tee section and install new intake after detour pavement is removed.
(6) See sheet M.11 for Continuous Trench Drain details.
(7) Trench drain slope shall match pavement slope.

PIPES

Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 6 ft length is added to Design Length to account for estimated length to center of structures.

Line Number	Intake/ Utility Access No. From	To	Class 'D'	Pipe Diameter IN	Bid* Length FT	Design Length FT	Slope %	Flow Lines: Inlet Elevation	Outlet Elevation	Other Elevation	Pipe Profile Sheet No.	Notes
P-1	1	2	2000	15	82	78	2.01	751.52	749.95		M.8	
P-2	2	4	2000	15	27	22.69	4.57	749.95	748.91		M.8	
P-3	3	4	2000	15	113	108.46	2.12	751.21	748.91		M.9	
P-4	4	6	2000	15	154	149.95	2.58	748.91	748.04		M.9	
P-5	5	6	2000	15	24	19.13	5.33	746.06	745.04		M.8	
P-6	6	7	2000	15	67	64.74	1	744.74	744.09		M.9	Trenchless
P-10	10	11	2000	15	138	134	1.57	753.05	750.95		M.9	
P-12	12	14	2000	15	154	150	1.47	750.65	748.45		M.9	
P-13	13	14	2000	24	83	81	0.5	747.4	747		M.9	
P-14	14	15	2000	24	75	73	0.5	746.7	746.34		M.9	
Trench2	---	16	(6)		100	100	(7)					
P-16	16	18	2000	15	120	115.53	1.67	746.55	744.62		M.10	
P-17	17	18	2000	15	18	13.37	1	743.7	743.53		M.10	
P-18	18	19	2000	15	71	68.92	1	743.23	742.54		M.10	
P-20	20	22	2000	15	100	96	1.78	741.93	740.23		M.10	
P-22	22	24	2000	15	100	96	1.78	739.93	738.22		M.10	
P-24	24	25	2000	15	61	58.3	1.78	737.92	736.88		M.10	
Trench1	---	34	(6)		100	100	(7)					
eP-100	e100	Out		15				704.127	UAC			For Information Only
P-100	100	102t	2000	15	115	113	5.22	710	704.13		M.8	(3),(4)

BID ITEMS:

SS Gravity Main, Trenched, 15 In.	**1277**	**LF**
SS Gravity Main, Trenched, 24 In.	**158**	**LF**
SS Gravity Main, Trenchless, 15 In.	**67**	**LF**
Continuous Trench Drain	**200**	**LF**

SURVEY SYMBOLS

UTILITY LEGEND

PLAN VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	
Gray, Dark	(112)	Existing Topographic Features, Utilities, and Labels
Black	(17)	Proposed Storm Sewer Details, Alignment, Stationing, Tic Marks, and Alignment Annotation
SHADING	Design Color No.	
Gray, Light	(48)	Proposed Pavement Shading

PROFILE VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	
Gray, Dark	(112)	Existing Ground Line Profile and Existing Utilities Information
Black	(17)	Proposed Pipes and Intakes

PLAN VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

- Plug and Abandon Existing Pipe or Structure
- Removal of Existing Pipe or Structure
- Previously Constructed Pipe or Structure
- Direction of Pipe Flow

PROFILE VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

- Existing Ground
- Proposed Ground
- Previously Constructed Pipe or Structure
- Proposed Pipe or Structure

Reference Point
Survey Line
Station
Section Corner
Ground Line Intercept
Saw Cut
Guardrail
Clearing & Grubbing Area
Pavement Removal

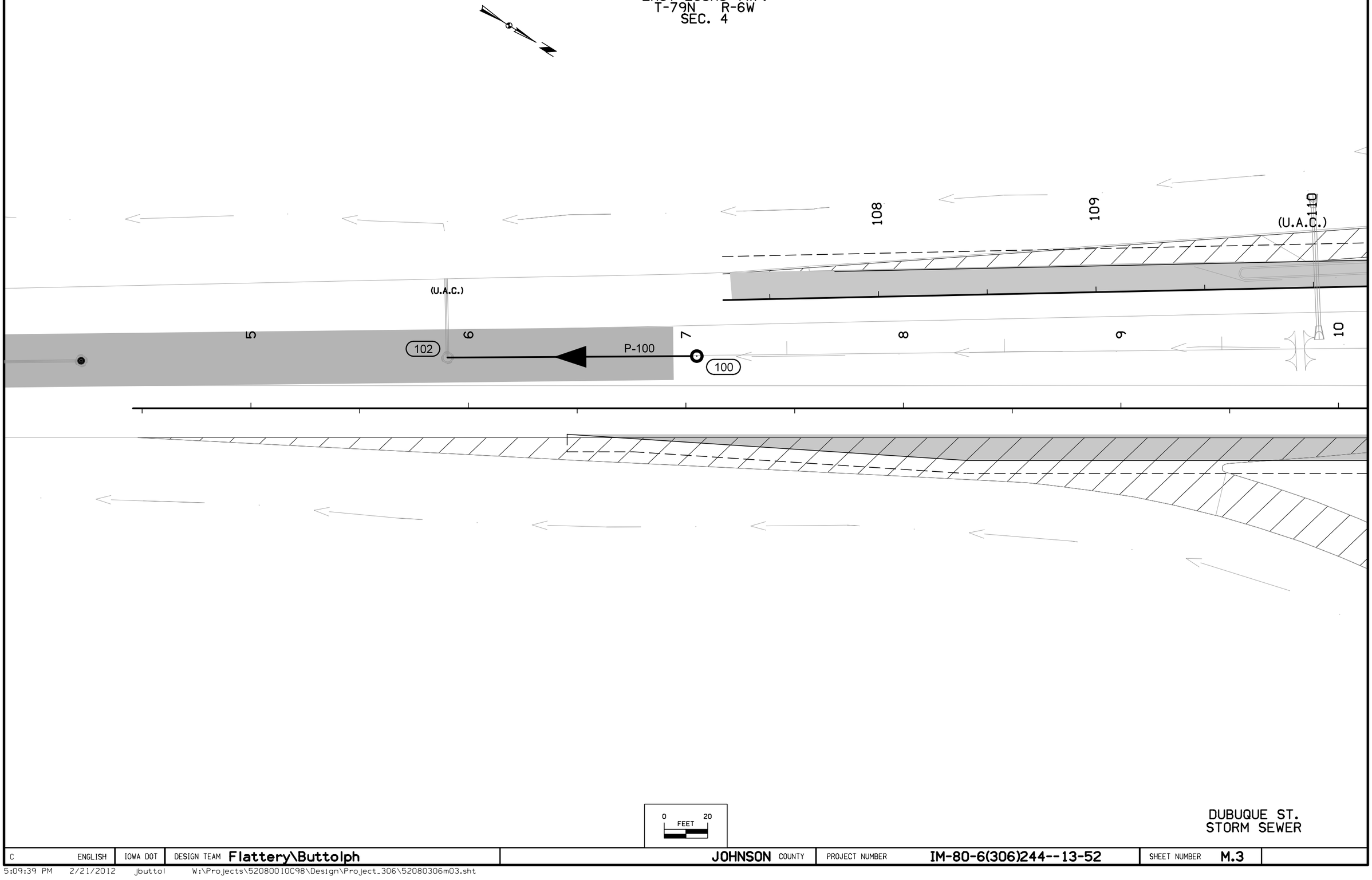
RIGHT-OF-WAY LEGEND

- Proposed Right-of-Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Borrow
- Easement (Temporary)
- Easement
- Excess
- A/C Access Control

STORM SEWER LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES M)

EAST LUCAS TWP.
T-79N R-6W
SEC. 4



0 20
FEET

DUBUQUE ST.
STORM SEWER

C ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER M.3	

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EAST LUCAS TWP.
T-79N R-6W
SEC. 4

Install 100' Trench Drain

P-34 P-6 P-5 P-4 P-3 P-2 P-1

34 36 7 6 5 4 3 2 1

12 13 14 15 16 17 18

112 113 114 115 116 117 118

0 20
FEET

DUBUQUE ST.
STORM SEWER

C ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER	IM-80-6(306)244--13-52	SHEET NUMBER M.4	

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EAST LUCAS TWP.
T-80N R-6W
SEC. 33

Install 100' Trench Drain

P-10

P-12

P-13

10 12 14 15 16 13

119 120 121 122 123 124 125 19 20 21 22 23 24 25

SIGN

0 20
FEET

DUBUQUE ST.
STORM SEWER

C	ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER M.5	

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EAST LUCAS TWP.
T-80N R-6W
SEC. 33

125 126 127 128 129 130 31

(REMOVE)

(REMOVE)

(Fill & Abandon)

16 17 18 19 20 22 24 25

P-16 P-17 P-18 P-20 P-22 P-24

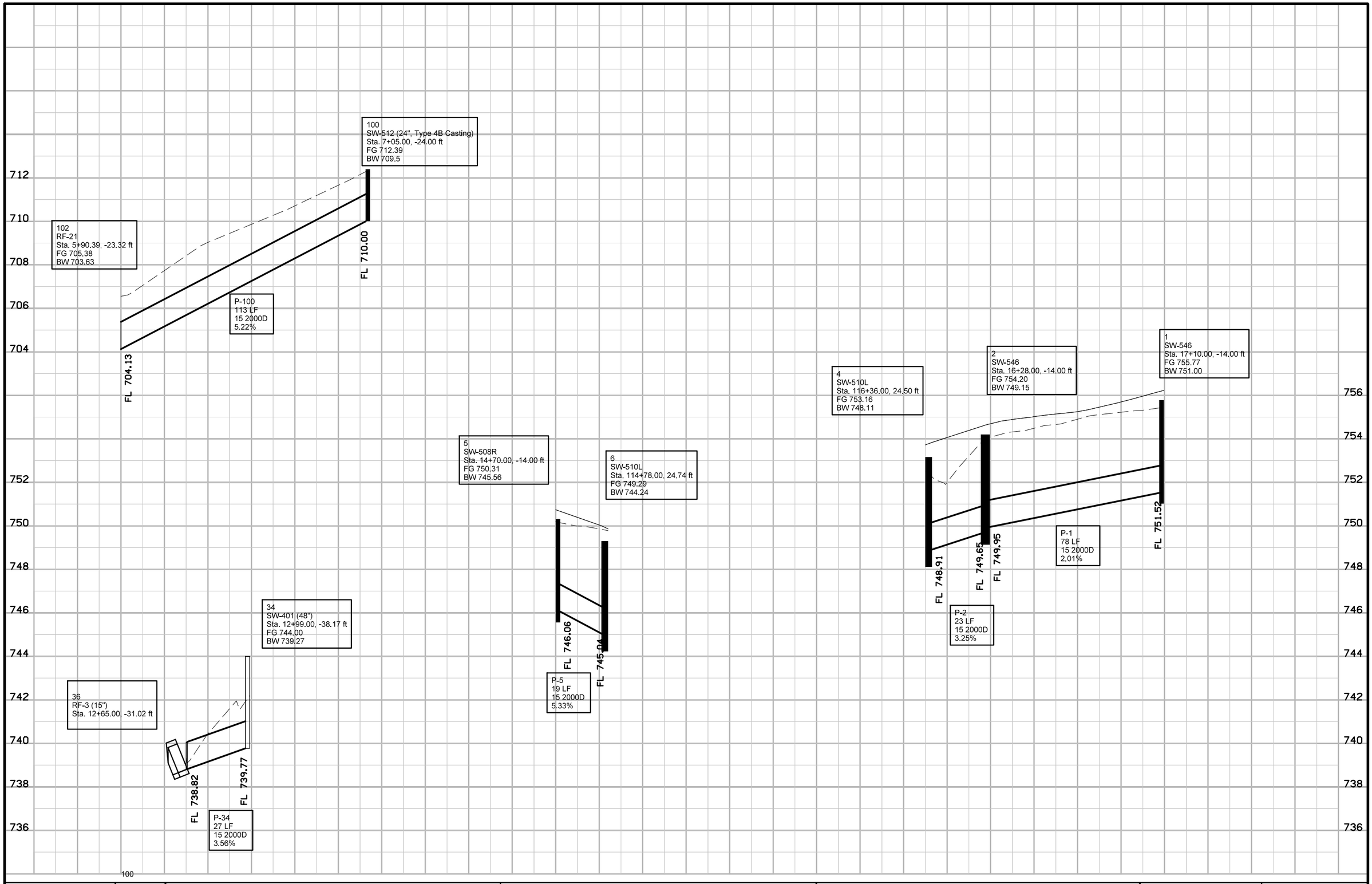
25 27 28 29 30

0 FEET 20

DUBUQUE ST.
STORM SEWER

C ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER M.6	

5:09:43 PM 2/21/2012 jbuttol W:\Projects\52080010C98\Design\Project_306\52080306m03.sht



ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER M.7

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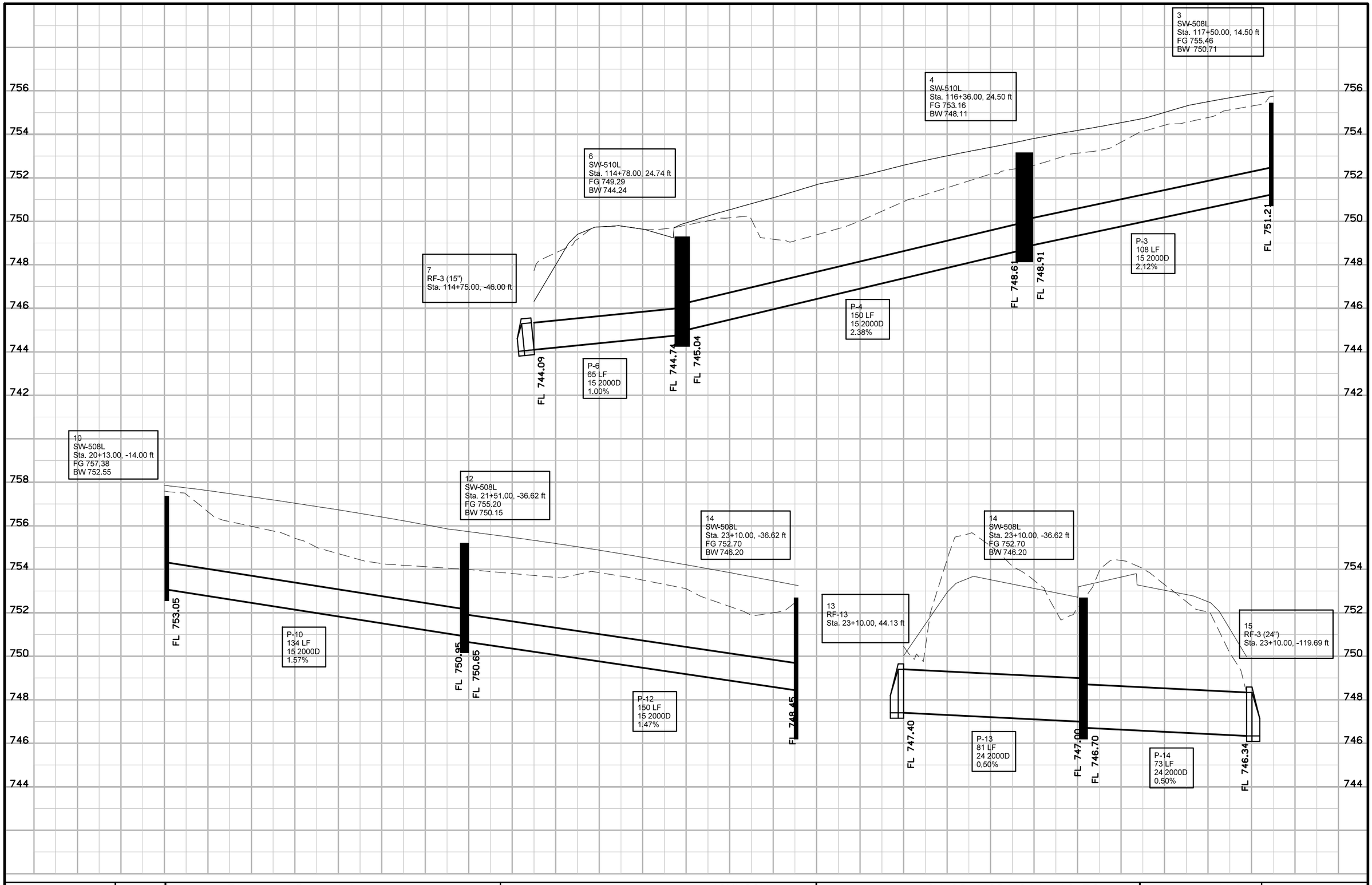

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER M.8

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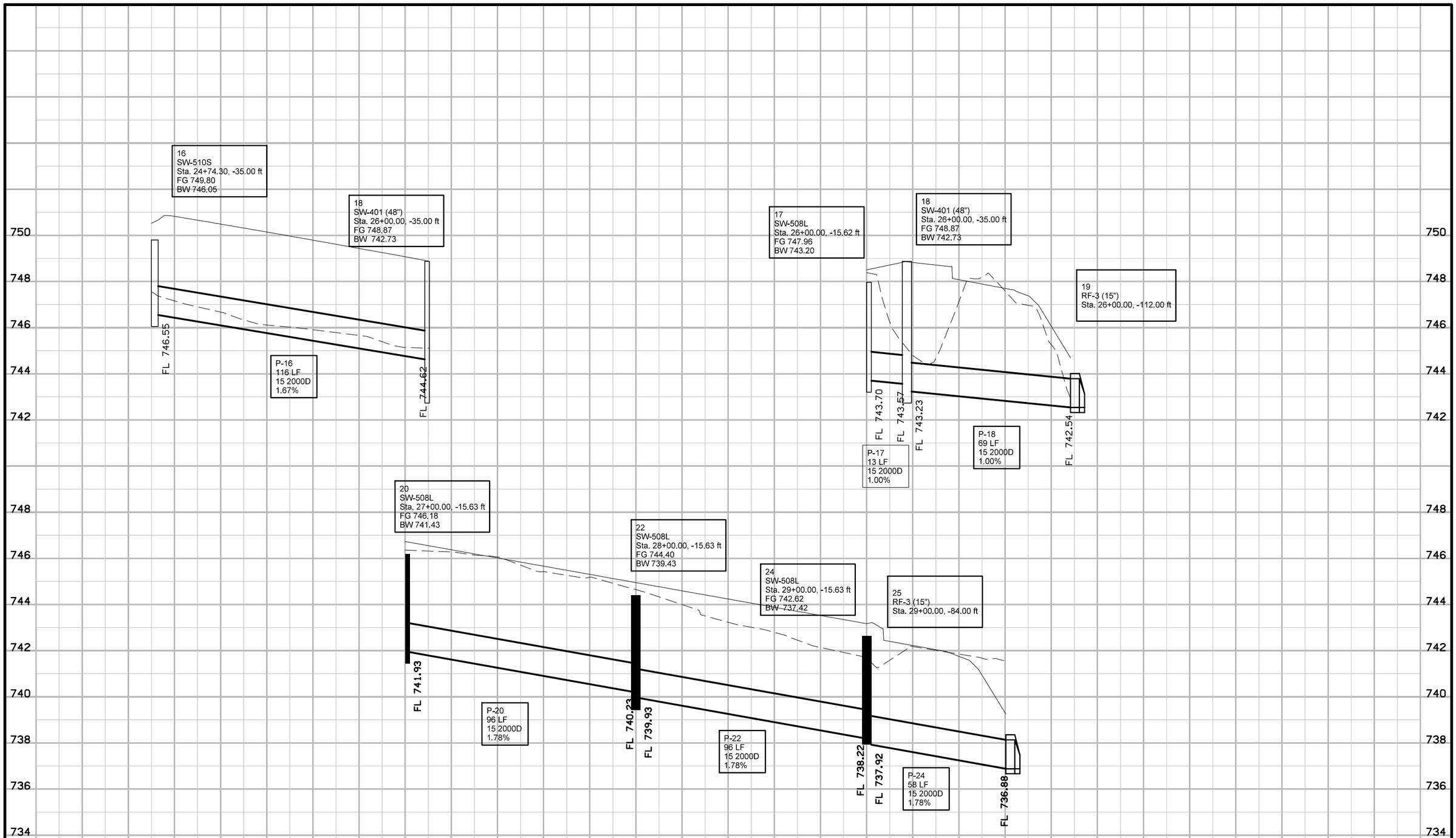

17 19

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER M.9

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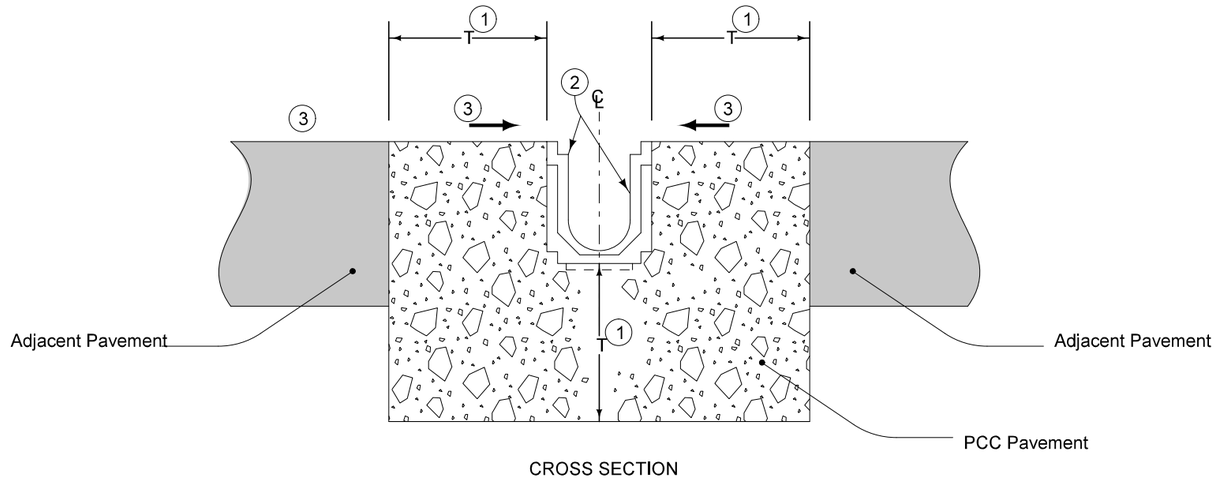


CROSS SECTION

DESCRIPTION.

Construct a continuous trench drain designed, manufactured, and supplied by one of the following:

-Zurn Industries, Inc. or a designated distributor, telephone (815) 806-9826.
-ABT, Inc. or a designated distributor, telephone (708) 862-7870.
-Hubbell Power Systems, Inc. or a designated distributor, telephone (865) 635-2139.
-Approved equivalent.

MATERIALS.

A. Meet the specifications set forth by the manufacturer.

B. Class C concrete complying with Section 2403 of the Standard Specifications.

CONSTRUCTION.

A. Install continuous trench drain according to the manufacturer's recommendation and the contract documents.

B. Install casting certified for 40,000 pound load (H-20) according to AASHTO M 306.

C. Use duct tape or wood block to cover drain during paving operations.

METHOD OF MEASUREMENT.

Measurement for Continuous Trench Drain will be in linear feet.

BASIS OF PAYMENT.

A. Payment for Continuous Trench Drain will be the contract unit price per linear foot.

B. Payment is full compensation for:
-Purchasing the manufactured continuous trench drain materials.
-Furnishing all equipment, tools, and labor to the construct trench drain.

C. Connection to manhole, pipe, or apron is incidental to Continuous Trench Drain.

(1) Same as thickness of adjacent pavement

(2) Continuous Trench Drain

(3) Match adjacent pavement cross slope

Possible Contract Item:
Continuous Trench Drain

MODIFIED 500-20
CONTINUOUS TRENCH DRAIN

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.
1	2525-8400256	TEMPORARY TRAFFIC SIGNALS	EACH	6	

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
1	2528-8400256	TEMPORARY TRAFFIC SIGNALS This item for the installation of temporary traffic signals for traffic control during construction of this project. Item shall also include temporary signage and pavement markings used to indicate stop lines for each signal, as shown on the detailed plans. Refer to Tabulation 108-28 and the detailed plans for locations and details. Contractor may re-use equipment in place or remove and re-install from a prior stage as necessary. All equipment shall be maintained through the duration of the project and be removed at the end of the project. All equipment and materials shall become property of the Contractor at the end of the project. MEASUREMENT: Each. PAYMENT: The Contractor shall be paid the contract unit price for each Temporary Traffic Signal installed.

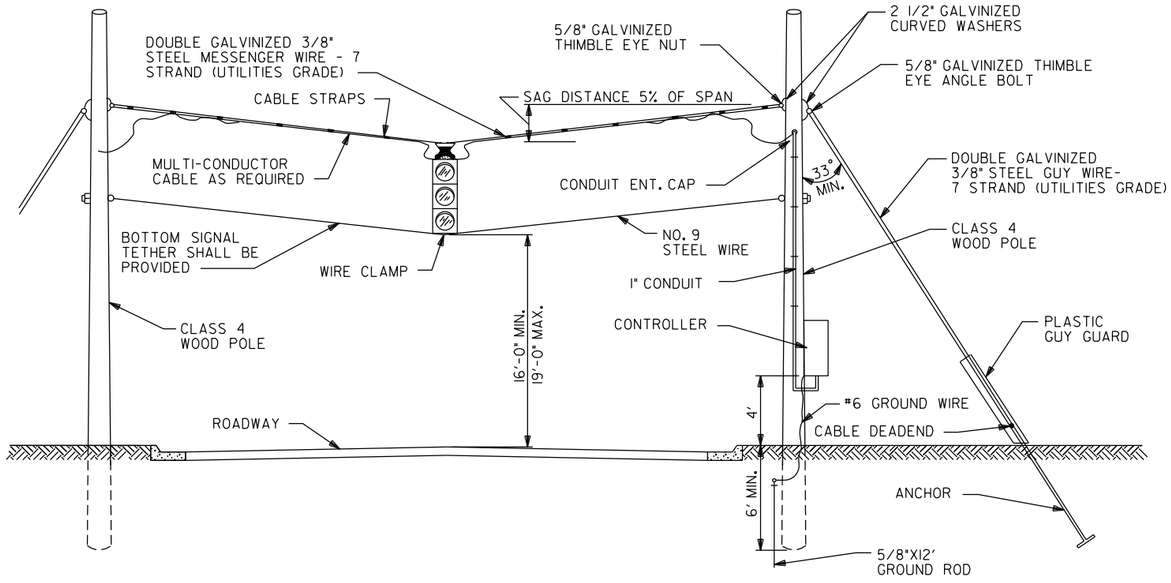
TEMPORARY TRAFFIC SIGNALS

108-28
04-18-06

No.	Location Station	Type			Remarks
		One Lane Traffic	Haul Road	Intersection	
1	South Terminal			x	Stage 2A
2	North Terminal			x	Stage 2A
3	South Terminal			x	Stage 2B
4	North Terminal			x	Stage 2B
5	South Terminal			x	Stage 3A
6	North Terminal			x	Stage 3A

SIGNAL LEGEND

- POWER SOURCE
- TRAFFIC SIGNAL CABINET AND CONTROLLER
- FIBER OPTIC CABINET AND CONTROLLER
- TRAFFIC SIGNAL POLE, FOOTING SYMBOL, AND IDENTIFYING NUMBER
- LUMINAIRE
- TRAFFIC SIGNAL HEAD WITH BACKPLATE SYMBOL AND IDENTIFYING NUMBER
- TRAFFIC SIGNAL HEAD SYMBOL AND IDENTIFYING NUMBER
- DETECTOR AREA SYMBOL AND IDENTIFYING NUMBER
- 36"x48"x36" TYPE III HANDHOLE SYMBOL AND IDENTIFYING NUMBER
- 30"x48"x36" TYPE II HANDHOLE SYMBOL AND IDENTIFYING NUMBER
- 24"x24"x28" TYPE I HANDHOLE SYMBOL AND IDENTIFYING NUMBER
- DETECTION CAMERA AND IDENTIFYING NUMBER
- MAST ARM MOUNTED SIGN AND IDENTIFYING LETTER
- TRENCHED SIGNAL CONDUIT
- PUSHED SIGNAL CONDUIT
- PORTABLE TRAFFIC SIGNAL



TYPICAL DETAILS FOR

WOOD POST SPAN ASSEMBLY

NO SCALE

TRAFFIC SIGNAL DESIGN

I hereby certify that this plan was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Michael J. Jorgensen 12101 LICENSED PROFESSIONAL ENGINEER IOWA

Signature — Date: 02/06/2012

Michael J. Jorgensen
Printed or Typed Name

My license renewal date is December 31, 20 12

Pages or sheets covered by this seal: Sheet N.1 - Sheet N.6

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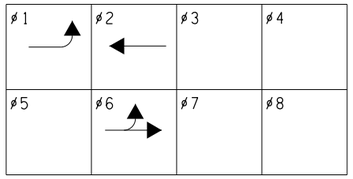
skenton
2/17/2012

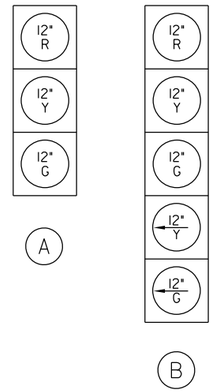
PHASE DIAGRAM

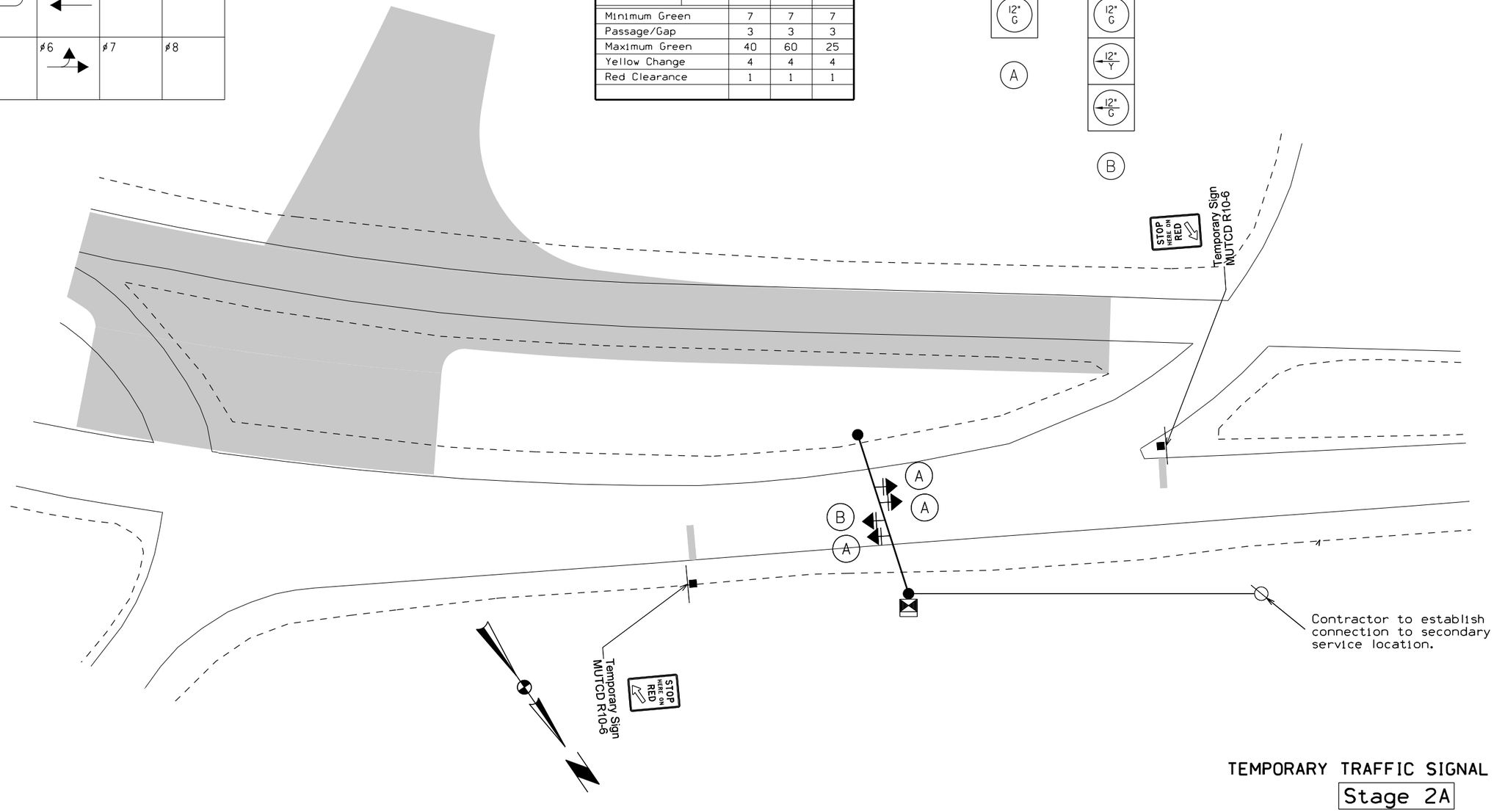


INITIAL RECOMMENDED TIMINGS (Seconds)			
Phase	NB left	NB	SB
Minimum Green	7	7	7
Passage/Gap	3	3	3
Maximum Green	40	60	25
Yellow Change	4	4	4
Red Clearance	1	1	1

TRAFFIC SIGNAL FACES

All signal faces shall be LED





TEMPORARY TRAFFIC SIGNAL LAYOUT

Stage 2A

I-80 & Dubuque St
(North Terminal)

ENGLISH 10000 Resolution	Iowa Department of Transportation	OFFICE OF TRAFFIC & SAFETY	DESIGN TEAM JORGENSEN/KENTON	JOHNSON COUNTY	PROJECT NUMBER IM-080-6(306)243--13-52	SHEET NUMBER N.2

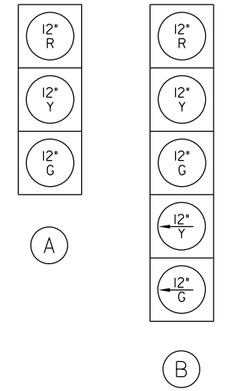
PHASE DIAGRAM

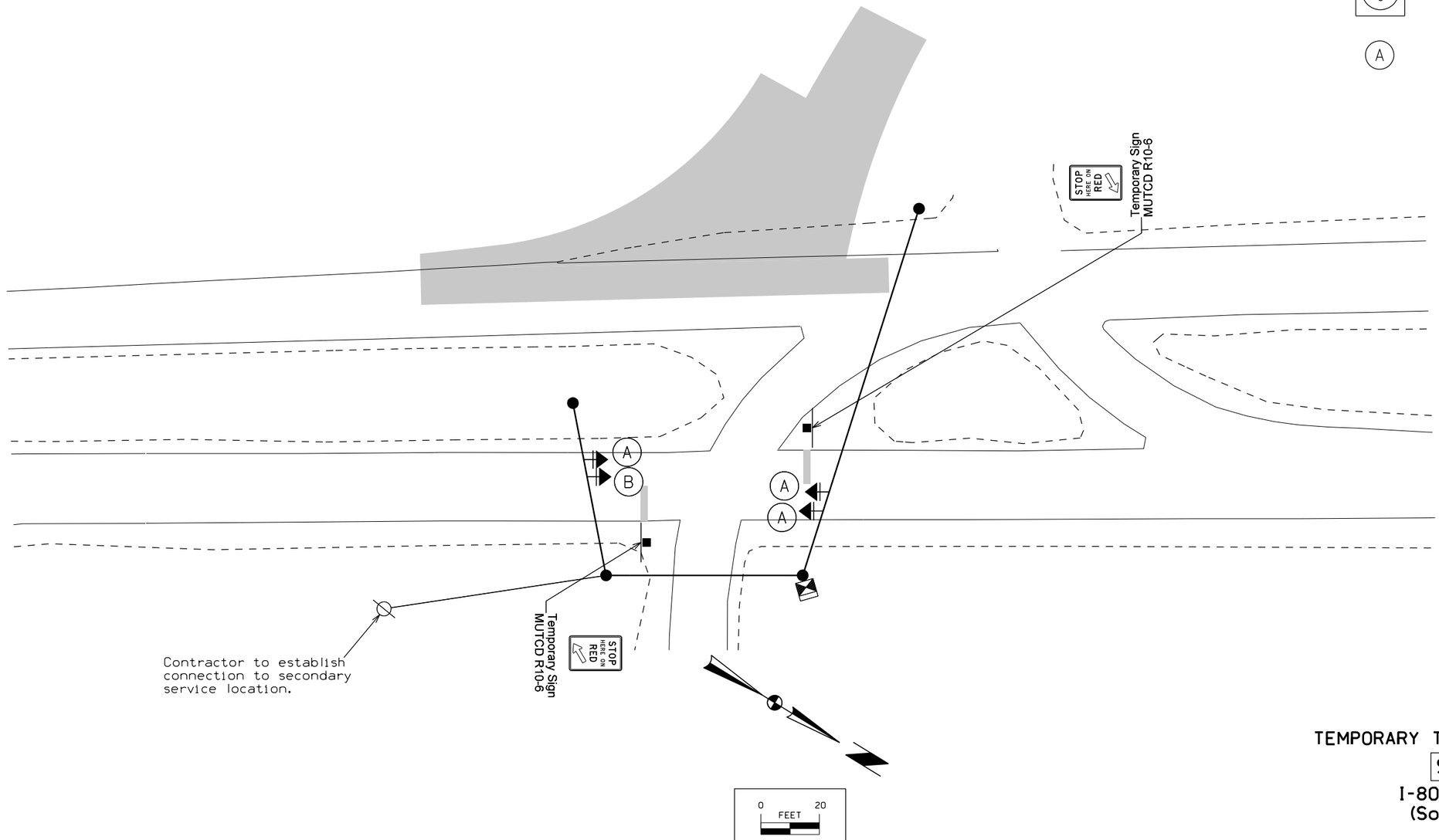
∅1	∅2	∅3	∅4
∅5	∅6	∅7	∅8

INITIAL RECOMMENDED TIMINGS (Seconds)			
Phase	SB left	NB	SB
Minimum Green	7	7	7
Passage/Gap	3	3	3
Maximum Green	15	40	40
Yellow Change	4	4	4
Red Clearance	1	1	1

TRAFFIC SIGNAL FACES

All signal faces shall be LED





TEMPORARY TRAFFIC SIGNAL LAYOUT

Stage 2A

I-80 & Dubuque St
(South Terminal)

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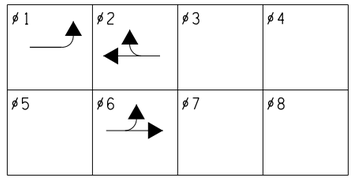
skenton
2/17/2012

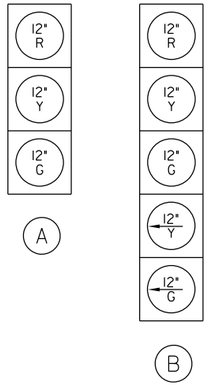
ENGLISH 10000 Resolution	Iowa Department of Transportation	OFFICE OF TRAFFIC & SAFETY	DESIGN TEAM JORGENSEN/KENTON	JOHNSON COUNTY	PROJECT NUMBER IM-080-6(306)243--13-52	SHEET NUMBER N.3	

PHASE DIAGRAM



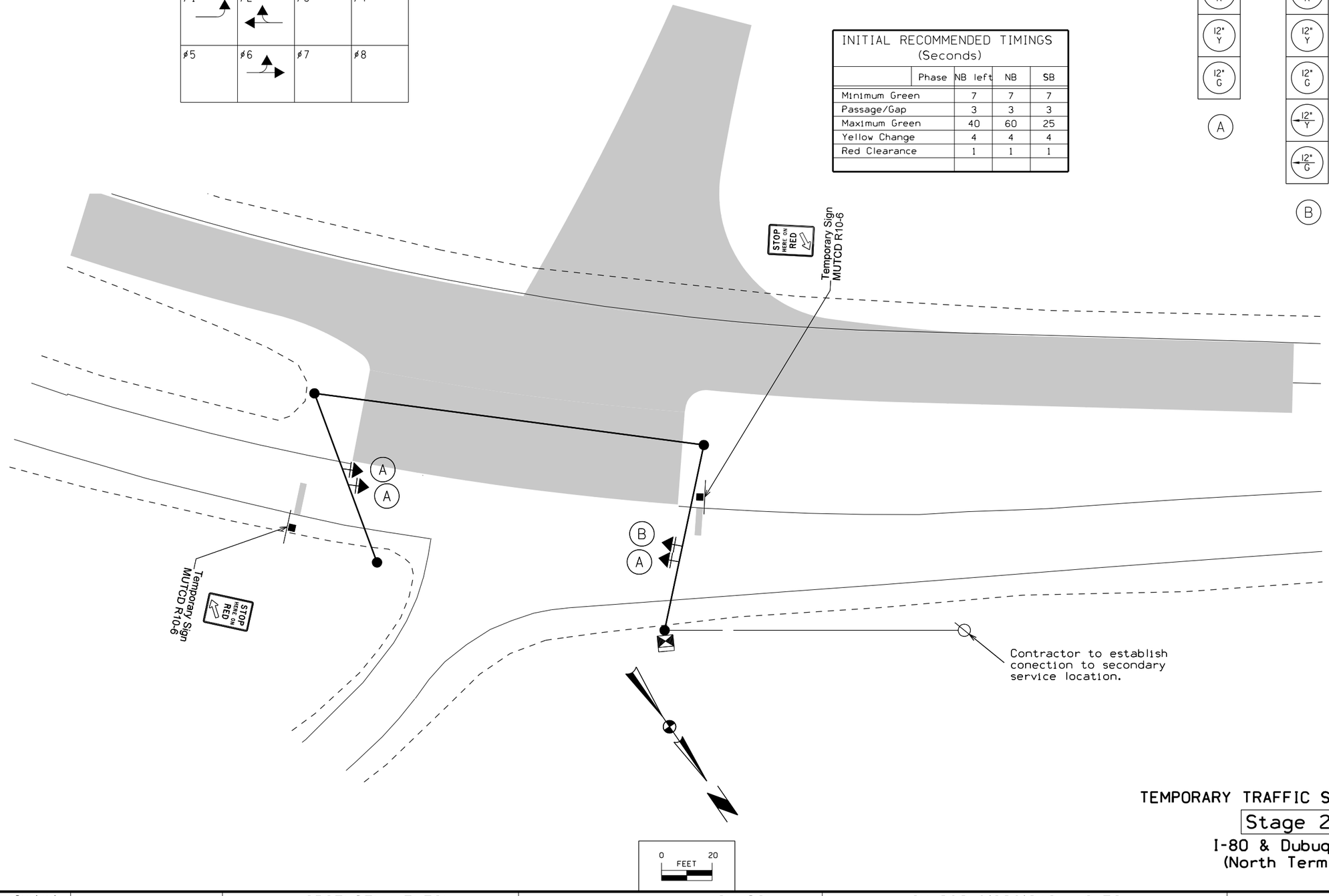
TRAFFIC SIGNAL FACES

All signal faces shall be LED



INITIAL RECOMMENDED TIMINGS (Seconds)

Phase	NB left	NB	SB
Minimum Green	7	7	7
Passage/Gap	3	3	3
Maximum Green	40	60	25
Yellow Change	4	4	4
Red Clearance	1	1	1



TEMPORARY TRAFFIC SIGNAL LAYOUT

Stage 2B

I-80 & Dubuque St
(North Terminal)

ENGLISH 10000 Resolution	Iowa Department of Transportation	OFFICE OF TRAFFIC & SAFETY	DESIGN TEAM JORGENSEN/KENTON	JOHNSON COUNTY	PROJECT NUMBER IM-080-6(306)243--13-52	SHEET NUMBER N.4

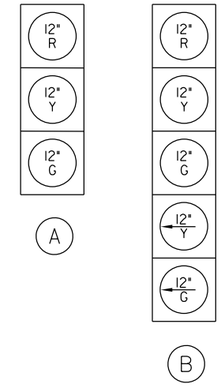
PHASE DIAGRAM

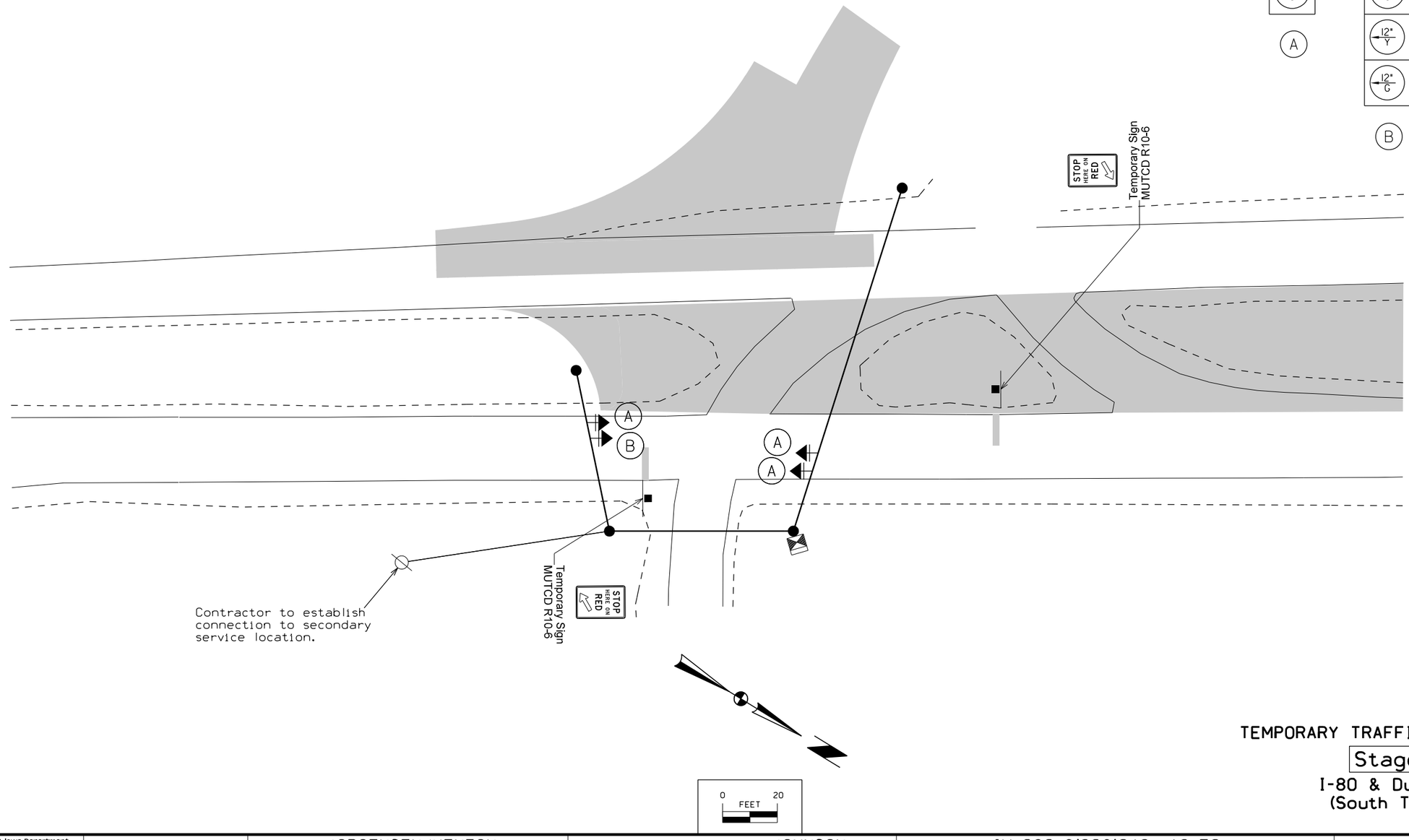
ø1	ø2	ø3	ø4
ø5	ø6	ø7	ø8

INITIAL RECOMMENDED TIMINGS (Seconds)			
Phase	NB	SB	SB left
Minimum Green	7	7	7
Passage/Gap	3	3	3
Maximum Green	45	25	15
Yellow Change	4	4	4
Red Clearance	1	1	1

TRAFFIC SIGNAL FACES

All signal faces shall be LED





TEMPORARY TRAFFIC SIGNAL LAYOUT

Stage 2B

I-80 & Dubuque St
(South Terminal)

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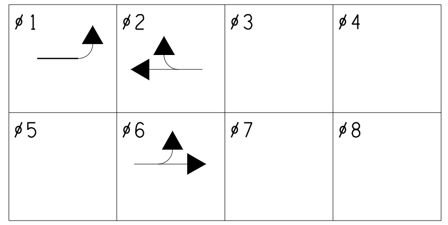
skenton
2/17/2012

ENGLISH 10000 Resolution	Iowa Department of Transportation	OFFICE OF TRAFFIC & SAFETY	DESIGN TEAM JORGENSEN/KENTON	JOHNSON COUNTY	PROJECT NUMBER IM-080-6(306)243--13-52	SHEET NUMBER N.5	

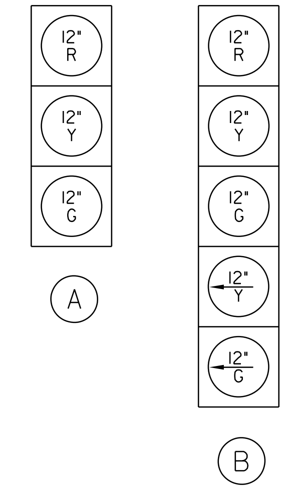
PHASE DIAGRAM

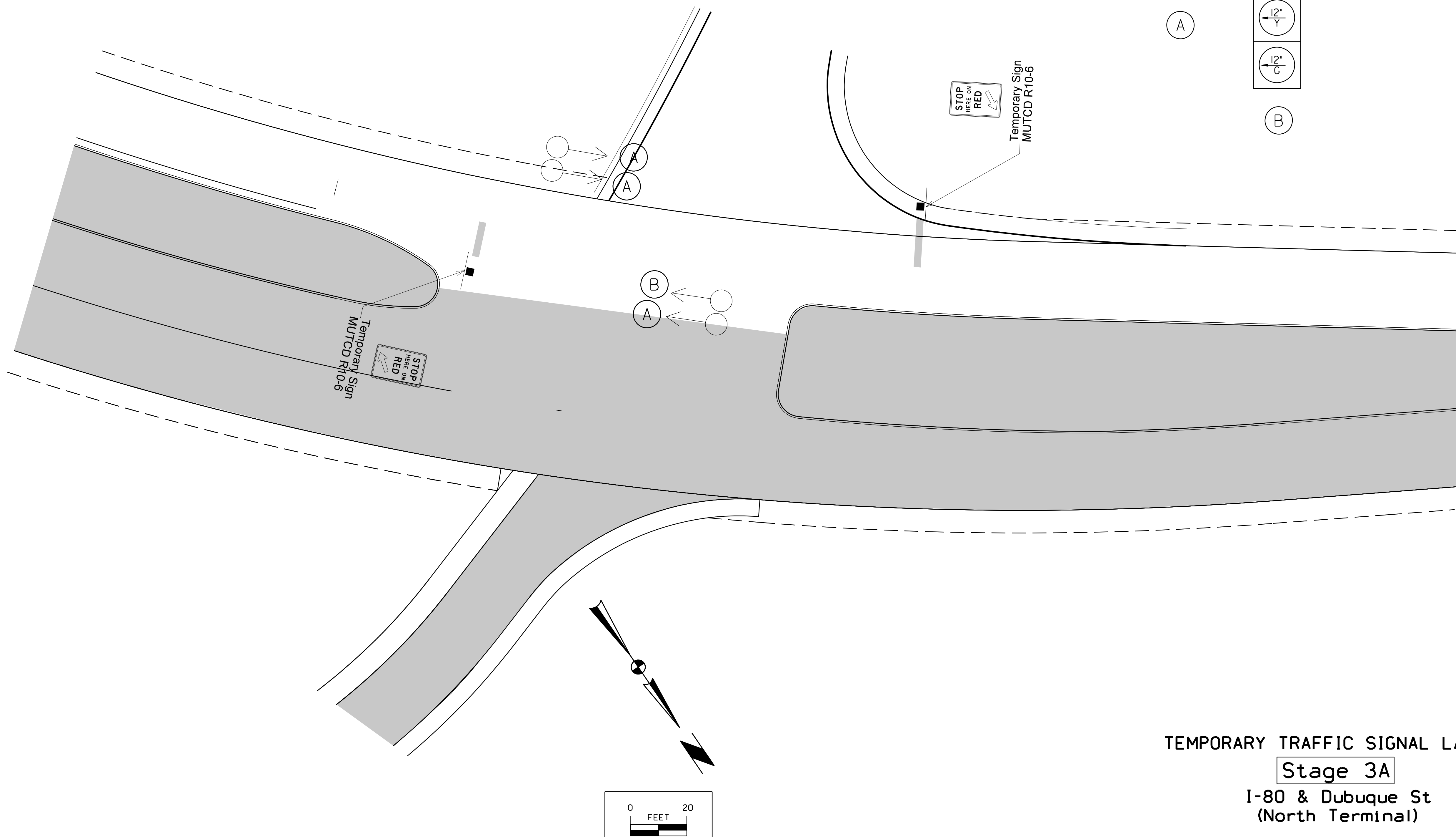


INITIAL RECOMMENDED TIMINGS (Seconds)			
Phase	NB left	NB	SB
Minimum Green	7	7	7
Passage/Gap	3	3	3
Maximum Green	40	60	25
Yellow Change	4	4	4
Red Clearance	1	1	1

TRAFFIC SIGNAL FACES

All signal faces shall be LED





TEMPORARY TRAFFIC SIGNAL LAYOUT

Stage 3A

I-80 & Dubuque St
(North Terminal)

PHASE DIAGRAM

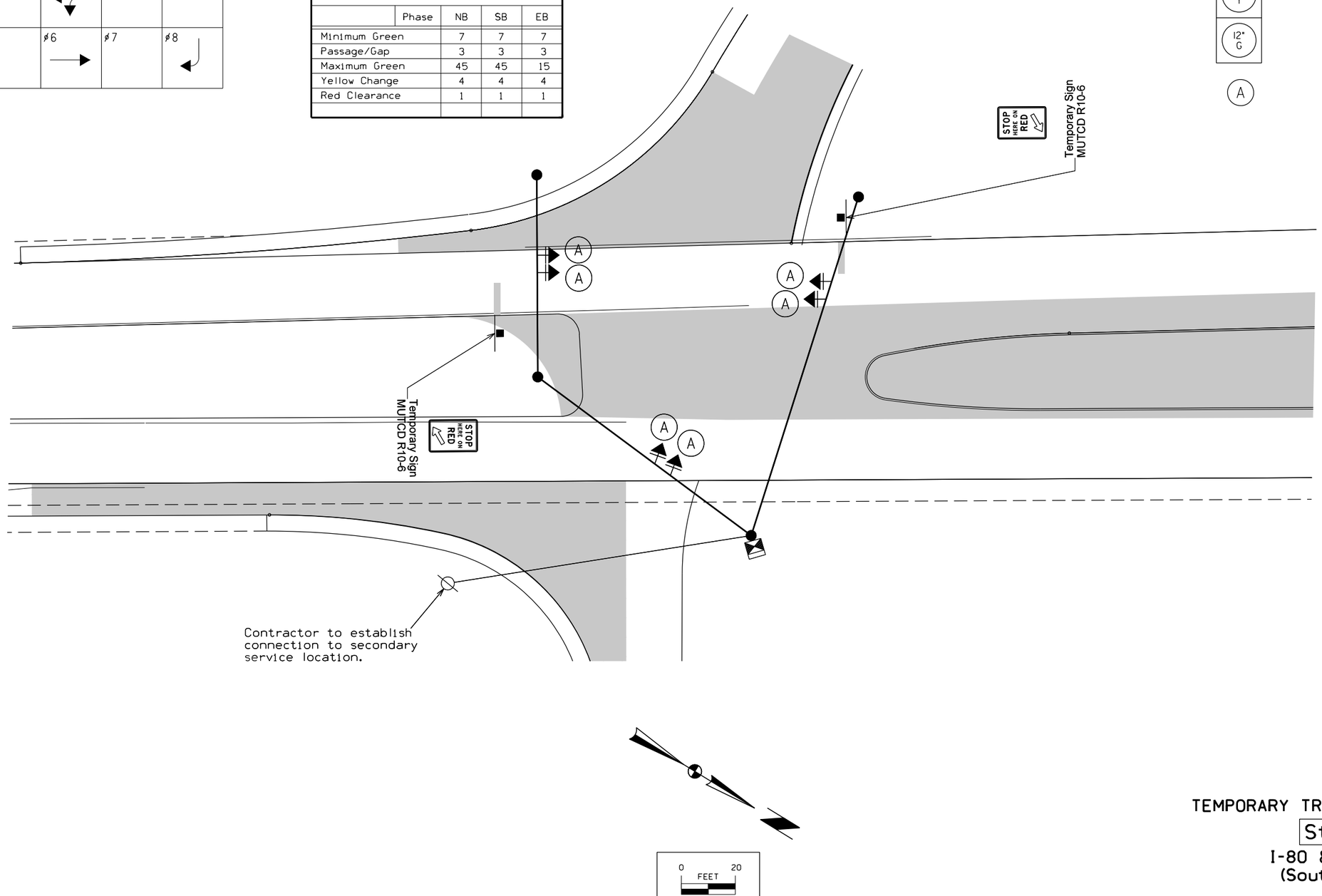
ø1	ø2	ø3	ø4
ø5	ø6	ø7	ø8

INITIAL RECOMMENDED TIMINGS (Seconds)			
Phase	NB	SB	EB
Minimum Green	7	7	7
Passage/Gap	3	3	3
Maximum Green	45	45	15
Yellow Change	4	4	4
Red Clearance	1	1	1

TRAFFIC SIGNAL FACES

All signal faces shall be LED

12" R
12" Y
12" G
A



TEMPORARY TRAFFIC SIGNAL LAYOUT

Stage 3A

I-80 & Dubuque St
(South Terminal)

ENGLISH 10000 Resolution	Iowa Department of Transportation	OFFICE OF TRAFFIC & SAFETY	DESIGN TEAM JORGENSEN/KENTON	JOHNSON COUNTY	PROJECT NUMBER IM-080-6(306)243--13-52	SHEET NUMBER N.7

EAST LUCAS TWP.
T-79N R-6W
SEC. 4

RAMP C

Dubuque Street

POT Sta.3516+35.88 =
POC Sta.124+20.00 (DUBSB)

T-1476

T-1477

T-1478

Note: Special Attention should be given to Section 2107.03.C, Standard Specification Series of 2009, on this project.

C	ENGLISH	IOWA DOT	DESIGN TEAM	Stanley/Schappaugh	Johnson	COUNTY	PROJECT NUMBER IM-080-6(306)244--13-52	SHEET NUMBER Q.1

10:39:19 AM 1/26/2012 rschapp W:\Projects\52080010C98\Soils\Project_306\5208030601.sht

RAMP C

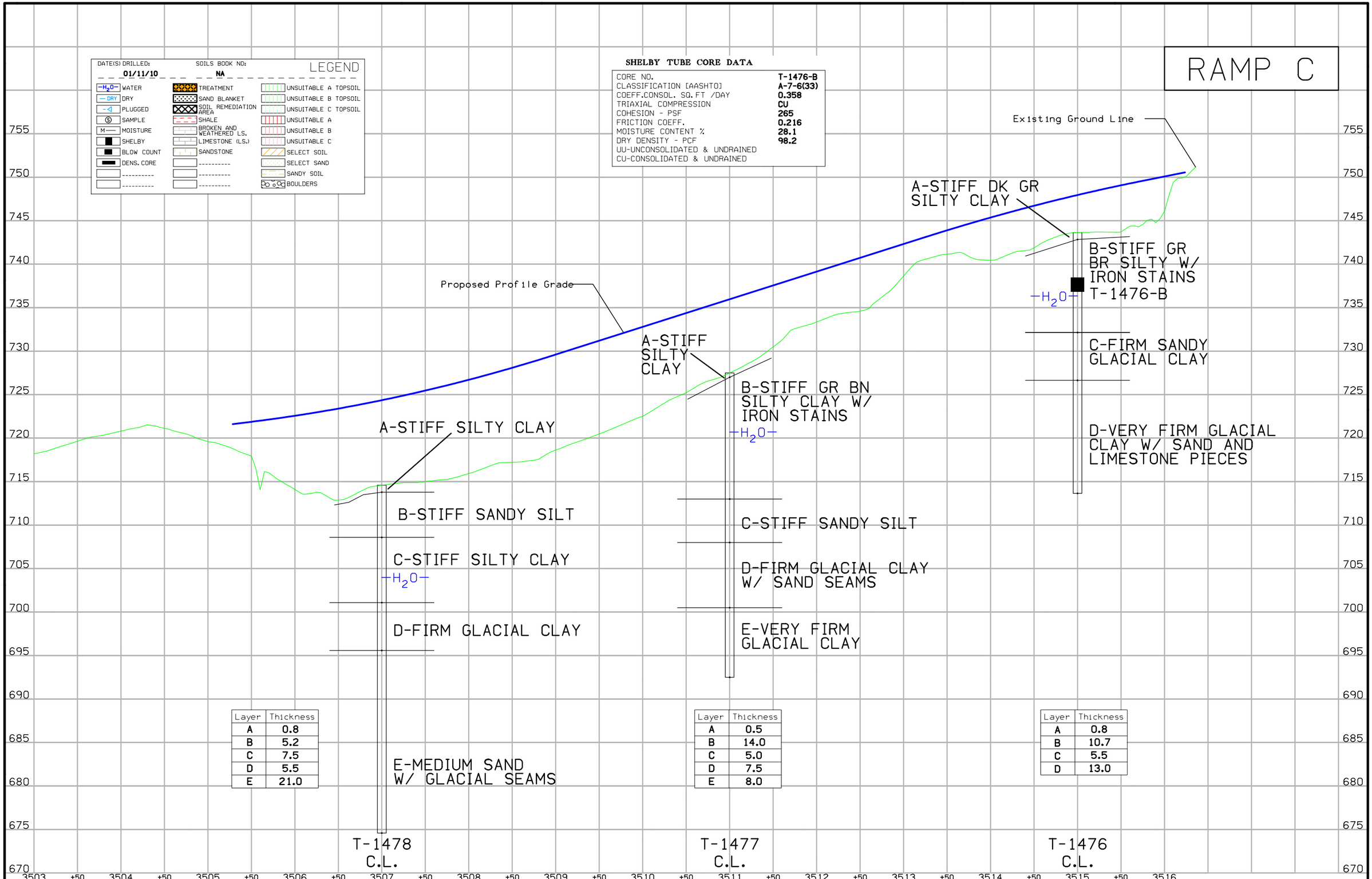
DATE(S) DRILLED: 01/11/10 — SOILS BOOK NO: NA

LEGEND

$-H_2O-$ WATER	TREATMENT	UNSUITABLE A TOPSOIL
DRY	SAND BLANKET	UNSUITABLE B TOPSOIL
PLUGGED	SOIL REMEDIATION AREA	UNSUITABLE C TOPSOIL
SAMPLE	SHALE	UNSUITABLE A
MOISTURE	BROKEN AND WEATHERED LS.	UNSUITABLE B
SHELBY	LIMESTONE (LS.)	UNSUITABLE C
BLOW COUNT	SANDSTONE	SELECT SOIL
DENS. CORE	----------	SELECT SAND
----------	----------	SANDY SOIL
----------	----------	BOULDERS

SHELBY TUBE CORE DATA

CORE NO.	T-1476-B
CLASSIFICATION [AASHTO]	A-7-6(33)
COEFF.CONSOL. SQ.FT /DAY	0.358
TRIAXIAL COMPRESSION	CU
COHESION - PSF	265
FRICTION COEFF.	0.216
MOISTURE CONTENT %	28.1
DRY DENSITY - PCF	98.2
UU-UNCONSOLIDATED & UNDRAINED	
CU-CONSOLIDATED & UNDRAINED	



Layer	Thickness
A	0.8
B	5.2
C	7.5
D	5.5
E	21.0

Layer	Thickness
A	0.5
B	14.0
C	5.0
D	7.5
E	8.0

Layer	Thickness
A	0.8
B	10.7
C	5.5
D	13.0

ENGLISH	IOWA DOT	DESIGN TEAM	Stanley/Schappaugh	Johnson	COUNTY	PROJECT NUMBER	IM-080-6(306)244--13-52	SHEET NUMBER	Q.2

10:39:23 AM 1/26/2012 rschapp W:\Projects\52080010C98\Soils\Project_306\5208030602.sht

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Plan EW-101 and RL-1B.

STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK
Stage 1						
S.Detour						
2+94	144	144	144			
4+50	24	24	24			
4+75	25	25	25			
5+00	25	25	25			
5+25	26	26	26			
5+50	25	25	25			
5+75	20	20	20			
6+00	20	20	20			
6+25	22	22	22			
6+50	22	22	22			
6+75						
S.Median						
12+75	13	13	13	7	9	9
13+00	41	41	41	7	9	9
13+25	54	54	54			
13+50	54	54	54			
13+75	51	51	51			
14+00	34	34	34			
14+25	25	25	25			
14+50	15	15	15			
14+65	9	9	9			
14+75	22	22	22			
15+00	15	15	15	7	9	9
15+25	9	9	9	15	20	20
15+50	10	10	10	15	20	20
15+75	14	14	14	11	14	14
16+00	17	17	17	7	9	9
16+25	1	1	1	1	1	1
16+27	16	16	16	7	9	9
16+50	19	19	19	8	10	10
16+75	18	18	18	8	10	10
17+00	6	6	6	3	4	4
17+10	9	9	9	4	5	5
17+25	10	10	10	1	1	1
17+38						
Rt.ShldrNBL						
20+13	13	13	13			
20+29	16	16	16	3	4	4
20+50	30	30	30	15	20	20
20+86.7	54	54	54	33	43	43
21+43.5	7	7	7	4	5	5
21+50	57	57	57	40	52	52
22+00	70	70	70	56	73	73
22+50	60	60	60	74	96	96
23+00	8	8	8	19	25	25
23+10	52	52	52	39	51	51
23+50	208	208	208			
23+80						
Skip Ramp A						
24+85	93	93	93			
25+00	214	214	214	7	9	9
25+50	218	218	218	25	33	33
26+00	219	219	219	33	43	43
26+49.4	3	3	3			
26+50	237	237	237	29	38	38
27+00	137	137	137	24	31	31
27+50	36	36	36	23	30	30
28+00	35	35	35	21	27	27
28+50	25	25	25	18	23	23
29+00	18	18	18	20	26	26
29+50	17	17	17	25	33	33
30+00	19	19	19	19	25	25
30+50	20	20	20	16	21	21
31+00	15	15	15	16	21	21
31+47.2	24	24	24	7	9	9
32+00						
N.Med.Detour						
27+50	41	41	41			
28+00	47	47	47	1	1	1
28+50	34	34	34	1	1	1
29+00	30	30	30			
29+50	31	31	31			
30+00	26	26	26			
30+50	23	23	23			
31+00						
amp B Sh St						
2907+25	15	15	15			
2907+50	16	16	16			
2907+75	15	15	15			
2908+00	8	8	8			
2908+15.6	5	5	5			
2908+25	14	14	14			
2908+50	15	15	15			
2908+75	13	13	13			
2909+00	12	12	12			
2909+25	11	11	11			
2909+50	11	11	11			
2909+75	10	10	10			
2910+00	10	10	10			
2910+25	10	10	10			
2910+50	10	10	10			
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2913+50	9	9	9			
2913+75	8	8	8			
2914+00	8	8	8			
2914+25	6	6	6			
2914+50	5	5	5			
2914+75	5	5	5			
2915+00	6	6	6			
2915+25	6	6	6			
2915+50	6	6	6			
2915+75	6	6	6			
2916+00	2	2	2			
2916+10	3	3	3			
2916+25	5	5	5			
2916+50	5	5	5			
2916+75	6	6	6			
2917+00	7	7	7			
2917+25	9	9	9			
2917+50	9	9	9			
2917+75	9	9	9			
2918+00	6	6	6			
2918+20	1	1	1			
2918+25	8	8	8			
2918+50	9	9	9			
2918+75	3	3	3			
2918+83.3	7	7	7			
2919+00						

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Plan EW-101 and RL-1B.

STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK							
2919+00	13	13	13										
2919+25	17	17	17										
2919+50	20	20	20										
2919+75	23	23	23										
2920+00	24	24	24										
2920+25	15	15	15										
2920+40.2	10	10	10										
2920+50	27	27	27										
2920+75	15	15	15										
2920+94													
Total	3545	3545	3545	669	870	870							

STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK							

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Plan EW-101 and RL-1B.

STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK
Stage 2A						
Dub.St. SBL						
12+25	67	67	67			
12+50	64	64	64			
12+75	52	52	52	12	16	16
13+00	63	63	63	23	30	30
13+25	69	69	69	17	22	22
13+50	55	55	55	7	9	9
13+75	68	68	68			
14+00	56	56	56			
14+25	18	18	18			
14+50	15	15	15	3	4	4
14+65	13	13	13	13	17	17
14+75	12	12	12	28	36	36
15+00						
Dub.St. SBL						
120+28	59	59	59	229	298	298
120+50	68	68	68	23	30	30
120+75	66	66	66	26	34	34
121+00	69	69	69	22	29	29
121+25	8	8	8	2	3	3
121+27.8	65	65	65	18	23	23
121+50	21	21	21	5	7	7
121+57	57	57	57	9	12	12
121+75	82	82	82	11	14	14
122+00	68	68	68	9	12	12
122+20	17	17	17	2	3	3
122+25	89	89	89	9	12	12
122+50	92	92	92	8	10	10
122+75	89	89	89	9	12	12
123+00	24	24	24	3	4	4
123+07	62	62	62	7	9	9
123+25	129	129	129	10	13	13
123+50	163	163	163	14	18	18
123+75	116	116	116	86	112	112
124+00	74	74	74	165	215	215
124+25	70	70	70	165	215	215
124+50	38	38	38	94	122	122
124+65.5	20	20	20	52	68	68
124+75	53	53	53	108	140	140
125+00	53	53	53	69	90	90
125+25	48	48	48	43	56	56
125+47.8	4	4	4	4	5	5
125+50	49	49	49	45	59	59
125+75	10	10	10	9	12	12
125+80	40	40	40	37	48	48
126+00	51	51	51	48	62	62
126+25	53	53	53	43	56	56
126+50	59	59	59	33	43	43
126+75	13	13	13	5	7	7
126+80	62	62	62	10	13	13
127+00						
Ramp B Lt.						
2908+15.6	8	8	8			
2908+25	20	20	20			
2908+50	19	19	19			
2908+75	19	19	19			
2909+00	18	18	18			
2909+25	19	19	19			
2909+50	20	20	20			
2909+75	19	19	19			
2910+00	20	20	20			
2910+25	22	22	22			
2910+50	25	25	25			
2910+75	28	28	28			
2911+00	11	11	11			
2911+09.3	19	19	19			
2911+25	31	31	31			
2911+50	31	31	31			
2911+75	29	29	29			
2912+00	29	29	29			
2912+25	27	27	27			
2912+50	25	25	25			
2912+75	25	25	25			
2913+00	26	26	26			
2913+25	26	26	26			
2913+50	25	25	25			
2913+75	26	26	26			
2914+00	27	27	27			
2914+25	39	39	39			
2914+50	47	47	47	1	1	1
2914+75	47	47	47	3	4	4
2915+00	54	54	54	8	10	10
2915+25	55	55	55	16	21	21
2915+50	58	58	58	20	26	26
2915+75	62	62	62	20	26	26
2916+00	23	23	23	9	12	12
2916+10	33	33	33	11	14	14
2916+25	62	62	62	9	12	12
2916+50	80	80	80	2	3	3
2916+75	110	110	110			
2917+00	144	144	144			
2917+25	177	177	177			
2917+50	211	211	211			
2917+75	242	242	242			
2918+00	227	227	227			
2918+20	63	63	63			
2918+25	353	353	353			
2918+50	438	438	438			
2918+75	165	165	165			
2918+83.3	334	334	334			
2919+00	498	498	498			
2919+25	398	398	398			
2919+50	173	173	173			
2919+75	35	35	35			
2920+00						
Total	7315	7315	7315	1634	2129	2129

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Plan EW-101 and RL-1B.

STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK
Stage 2B						
DUB ST SBL						
7+00	25	25	25			
7+17.2	15	15	15			
7+25	31	31	31	4	5	5
7+50	38	38	38	4	5	5
7+75	51	51	51			
8+00	53	53	53			
8+25	49	49	49			
8+50	68	68	68			
8+75	83	83	83			
9+00	79	79	79			
9+25	74	74	74			
9+50	74	74	74			
9+75	83	83	83			
10+00	85	85	85			
10+25	81	81	81			
10+50	85	85	85			
10+75	37	37	37			
10+84.9	41	41	41			
11+00	38	38	38			
11+25	39	39	39			
11+50	41	41	41			
11+75	43	43	43			
12+00	54	54	54			
12+25						
Dub. St. SBL						
127+00	81	81	81	3	4	4
127+25	132	132	132			
127+50	200	200	200			
127+75	217	217	217			
128+00	219	219	219			
128+25	197	197	197			
128+50	129	129	129			
128+75	80	80	80			
129+00	69	69	69	1	1	1
129+25	56	56	56	9	12	12
129+50	51	51	51	16	21	21
129+75	52	52	52	12	16	16
130+00	53	53	53	6	8	8
130+25	7	7	7	1	1	1
130+28.5	28	28	28	2	3	3
130+50	13	13	13			
130+75	12	12	12			
131+00	7	7	7			
131+16.2	3	3	3			
131+25						
Ramp B Rt.						
2908+15.6	11	11	11			
2908+25	29	29	29			
2908+50	27	27	27			
2908+75	28	28	28			
2909+00	28	28	28			
2909+25	28	28	28			
2909+50	29	29	29			
2909+75	29	29	29			
2910+00	28	28	28			
2910+25	27	27	27			
2910+50	28	28	28			
2910+75	28	28	28			
2911+00	10	10	10			
2911+09.3	17	17	17			
2911+25	29	29	29			
2911+50	29	29	29			
2911+75	28	28	28			
2912+00	28	28	28			
2912+25	28	28	28			
2912+50	27	27	27			
2912+75	27	27	27			
2913+00	26	26	26			
2913+25	25	25	25			
2913+50	24	24	24			
2913+75	24	24	24			
2914+00	23	23	23			
2914+25	22	22	22			
2914+50	23	23	23			
2914+75	24	24	24			
2915+00	26	26	26			
2915+25	28	28	28			
2915+50	29	29	29			
2915+75	29	29	29			
2916+00	12	12	12			
2916+10	19	19	19			
2916+25	32	32	32			
2916+50	34	34	34			
2916+75	36	36	36			
2917+00	38	38	38			
2917+25	40	40	40			
2917+50	42	42	42			
2917+75	43	43	43			
2918+00	34	34	34			
2918+20	9	9	9			
2918+25	45	45	45			
2918+50	48	48	48			
2918+75	17	17	17			
2918+83.3	35	35	35			
2919+00	55	55	55			
2919+25	61	61	61			
2919+50	68	68	68			
2919+75	58	58	58			
2920+00						
Total	4445	4445	4445	58	76	76

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Plan EW-101 and RL-1B.

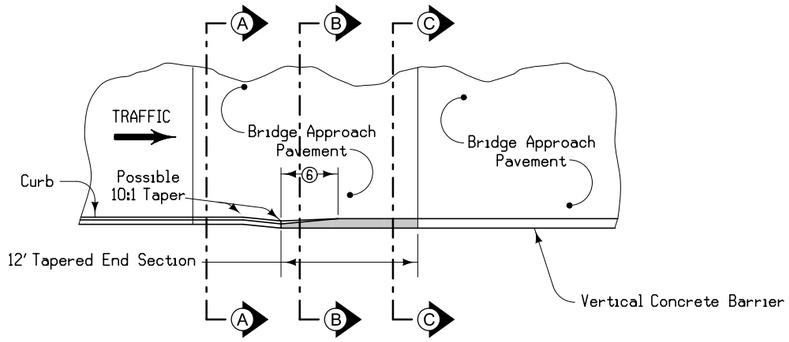
STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK
Stage 3						
Dub.St. NBL						
4+50	15	15	15	1	1	1
4+75	37	37	37	2	3	3
5+00	58	58	58	2	3	3
5+25	54	54	54	2	3	3
5+50	46	46	46	3	4	4
5+75	34	34	34	4	5	5
6+00	24	24	24	4	5	5
6+25	34	34	34	2	3	3
6+50	53	53	53			
6+75	72	72	72			
7+00	58	58	58			
7+17.2	26	26	26			
7+25	79	79	79			
7+50	75	75	75			
7+75	68	68	68			
8+00	63	63	63			
8+25	59	59	59			
8+50	49	49	49			
8+75	48	48	48			
9+00	56	56	56			
9+25	78	78	78	2	3	3
9+50	107	107	107	13	17	17
9+75	134	134	134	39	51	51
10+00	160	160	160	51	66	66
10+25	150	150	150	37	48	48
10+50	143	143	143	23	30	30
10+75	64	64	64	9	12	12
10+84.9	105	105	105	17	22	22
11+00	199	199	199	31	40	40
11+25	124	124	124	24	31	31
11+50	33	33	33	18	23	23
11+75	30	30	30	37	48	48
12+00	29	29	29	68	88	88
12+25	29	29	29	121	157	157
12+50	27	27	27	201	261	261
12+75	34	34	34	143	186	186
13+00						
Dub.St. NBL						
19+87	41	41	41	89	116	116
20+00	76	76	76	13	17	17
20+13	76	76	76			
20+25	23	23	23			
20+29	123	123	123			
20+50	156	156	156			
20+75	77	77	77			
20+86.7	275	275	275			
21+25	146	146	146			
21+43.5	54	54	54			
21+50	225	225	225			
21+75	251	251	251			
22+00	275	275	275			
22+25	291	291	291			
22+50	306	306	306			
22+75	318	318	318	1	1	1
23+00	129	129	129			
23+10	201	201	201			
23+25	259	259	259			
23+50	208	208	208			
23+75	261	261	261			
24+00	291	291	291			
24+25	297	297	297			
24+50	304	304	304			
24+75	274	274	274	5	7	7
25+00	231	231	231	11	14	14
25+25	225	225	225	12	16	16
25+50	213	213	213	15	20	20
25+75	203	203	203	9	12	12
26+00	196	196	196	1	1	1
26+25	183	183	183			
26+49.4	4	4	4			
26+50	186	186	186			
26+75	180	180	180			
27+00	164	164	164			
27+25	146	146	146			
27+50	131	131	131			
27+75	120	120	120			
28+00	109	109	109			
28+25	100	100	100			
28+50	92	92	92			
28+75	84	84	84			
29+00						
Ramp A						
1916+25	341	341	341			
1916+50	351	351	351	1	1	1
1916+75	374	374	374	2	3	3
1917+00	408	408	408	2	3	3
1917+25	407	407	407	1	1	1
1917+50	276	276	276	2	3	3
1917+75	186	186	186	3	4	4
1918+00	176	176	176	4	5	5
1918+25	174	174	174	7	9	9
1918+50	172	172	172	11	14	14
1918+75	173	173	173	13	17	17
1919+00	140	140	140	13	17	17
1919+20	35	35	35	4	5	5
1919+25	161	161	161	19	25	25
1919+50	145	145	145	19	25	25
1919+75	143	143	143	20	26	26
1920+00	146	146	146	20	26	26
1920+25	147	147	147	20	26	26
1920+50	147	147	147	22	29	29
1920+75	149	149	149	22	29	29
1921+00	151	151	151	24	31	31
1921+25	147	147	147	24	31	31
1921+50	133	133	133	22	29	29
1921+75	115	115	115	19	25	25
1922+00	106	106	106	14	18	18
1922+25	64	64	64	6	8	8
1922+40	32	32	32	2	3	3
1922+50	51	51	51			
1922+75	57	57	57			
1923+00	64	64	64			
1923+25	67	67	67			
1923+50	68	68	68			
1923+75	67	67	67			
1924+00	69	69	69			
1924+25	74	74	74			
1924+50	76	76	76			
1924+75	76	76	76			
1925+00	76	76	76			
1925+25	75	75	75			
1925+50	73	73	73			
1925+75	71	71	71			
1926+00	72	72	72			
1926+25	72	72	72			
1926+50	68	68	68			
1926+75	65	65	65			
1927+00	65	65	65			
1927+25						

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

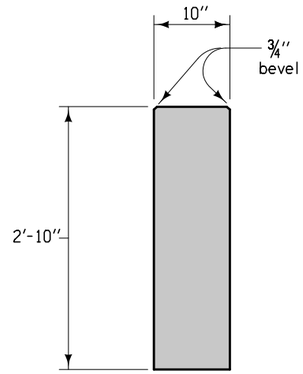
Refer to Standard Plan EW-101 and RL-1B.

STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK							
1927+25													
Total	16263	16263	16263	1326	1727	1727							

STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK							



PLAN



TYPICAL SECTION
FULL HEIGHT BARRIER

Install a 'C' joint in concrete approach barrier to match the location of each joint in both roadway and bridge approach pavement.

Sidewalk will be measured and paid for separately.

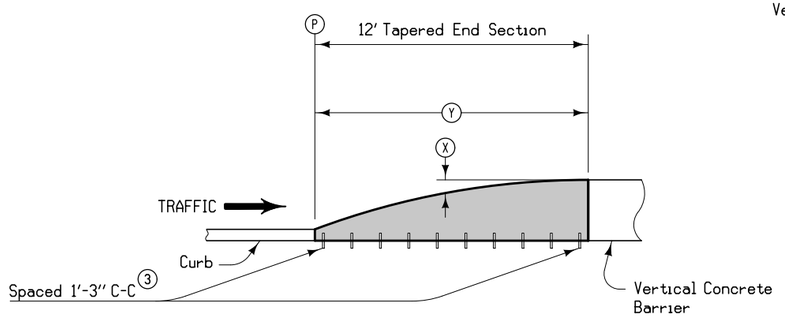
Approximately 0.66 cubic yards of concrete are required to construct barrier as shown. Amount may vary depending on individual site requirements.

(3) #8 x 8 inch deformed bars or 1 inch diameter smooth bars. Center within barrier.

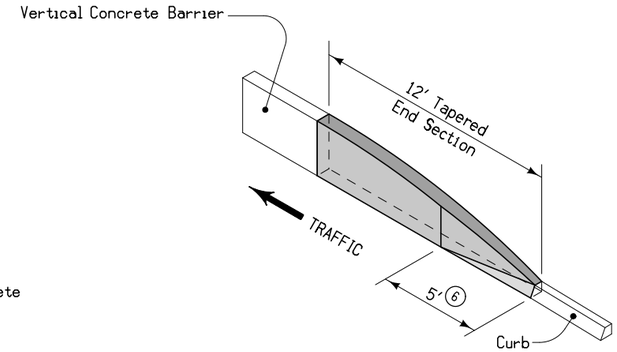
(5) Bottom width of barrier is maintained at 10 inches.

(6) Bottom width of barrier transitions from 10 inches to 4.5 inches in order to match curb.

Contract Item:
Concrete Barrier, Tapered End, BA-108

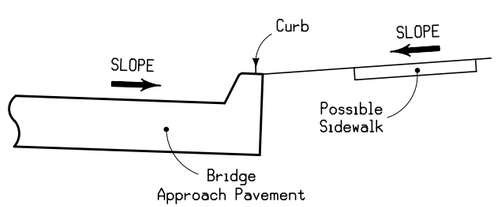


ELEVATION

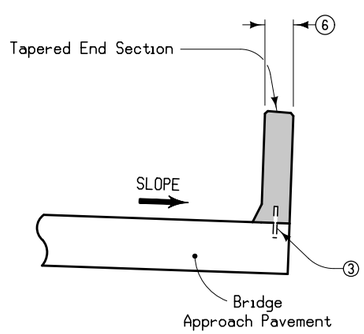


ISOMETRIC VIEW

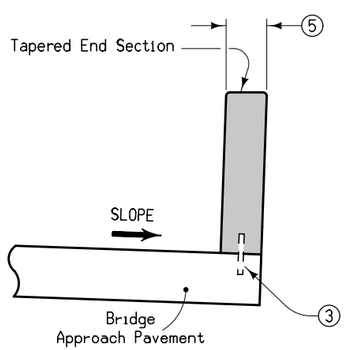
OFFSETS FOR ROUNDED BARRIER TOP															
Y = Distance from (P)	ft.	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
X = Offset to Rounded Top	ft.	2.33	2.08	1.83	1.58	1.33	1.08	0.83	0.60	0.40	0.23	0.10	0.03	0.00



SECTION A-A



SECTION B-B



SECTION C-C

MODIFIED
STANDARD ROAD PLAN

REVISION	
1	04-19-11

BA-108
SHEET 1 of 1

REVISIONS: Changed to 5 quantities in the table. Decreased length to 12 feet and removed extraneous information.

APPROVED BY DESIGN METHODS ENGINEER

CONCRETE BARRIER
TAPERED END SECTION

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER U.1

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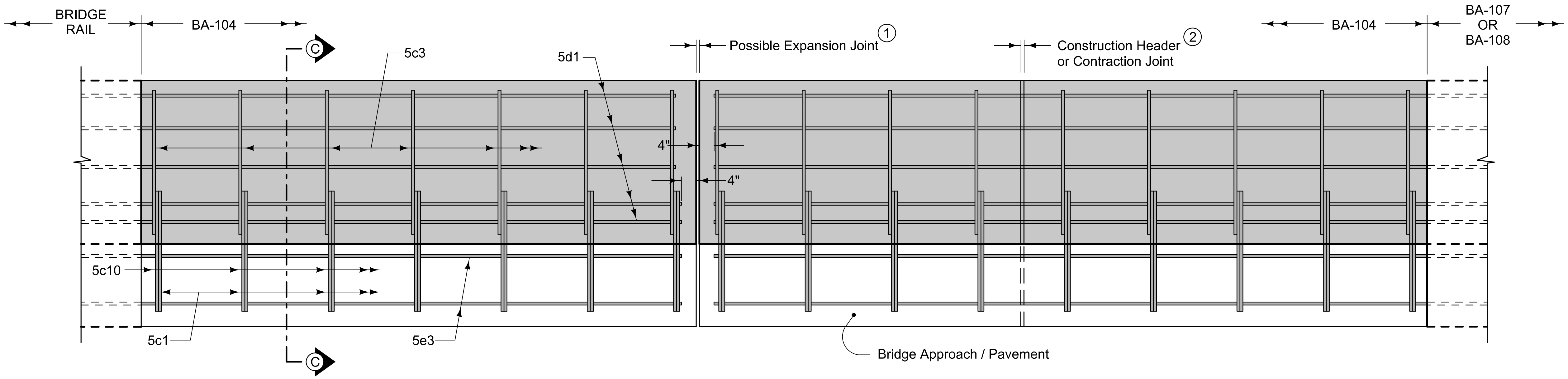
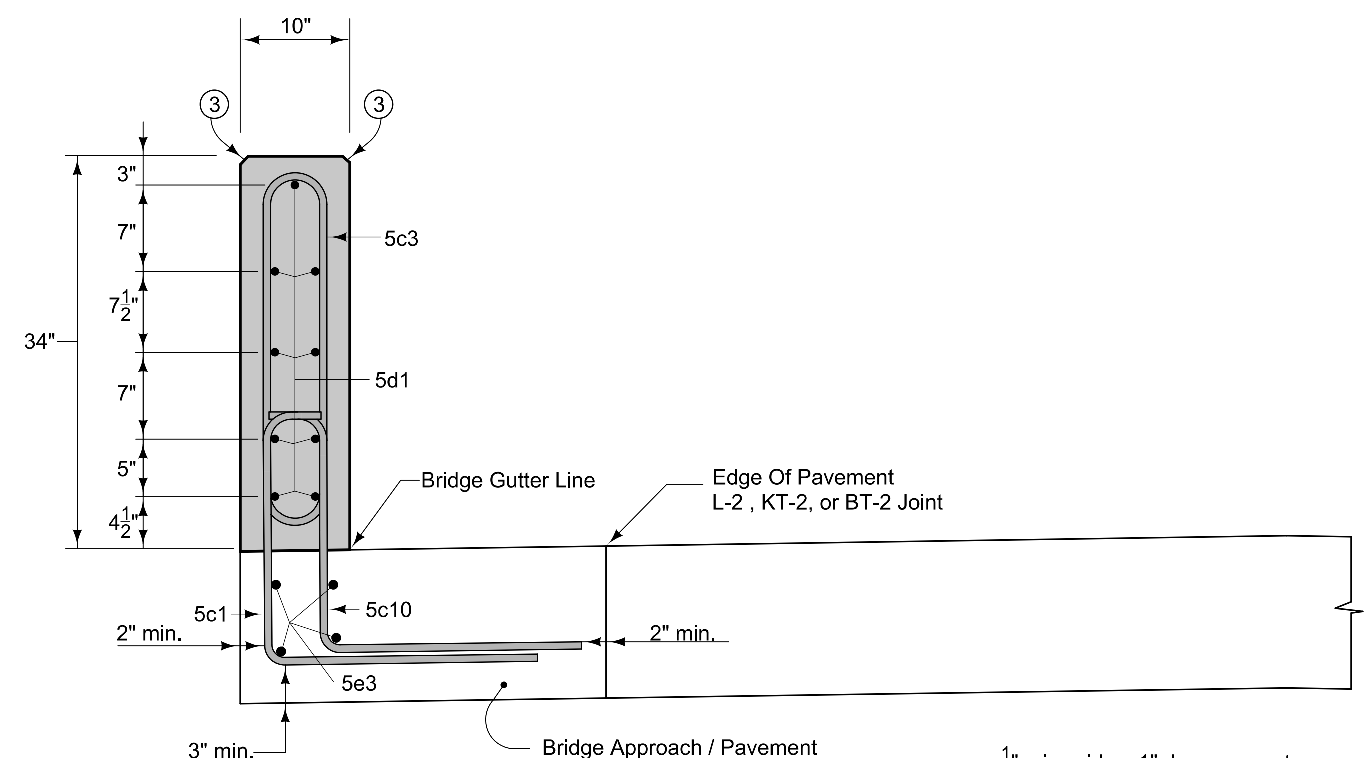


ELEVATION



SECTION C-C

Use Grade 60 epoxy-coated reinforcing bars. Provide 2 inches minimum cover. Anchor all reinforcement to prevent movement. Secure each section at the front, back, and at 3'-6" intervals using a method approved by the Engineer.

① Expansion joints are necessary only where specifically required by project plans. Conform expansion material to the shape of the barrier. No sealer is required.

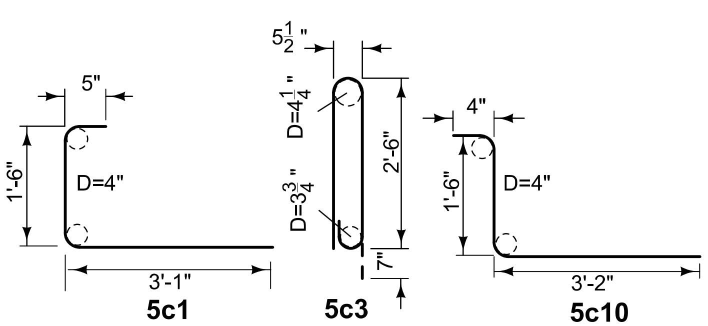
② Where abutting sections are placed as separate pours, a butt joint may be used. Extend longitudinal reinforcement into the abutting section a minimum of 1'-6". Align contraction joint locations with pavement joint locations.

③ Fillet all exposed corners with a $\frac{3}{4}$ inch dressed and beveled strip.

Possible Contract Item:
Concrete Barrier, BA-104

Possible Tabulation:
108-18B

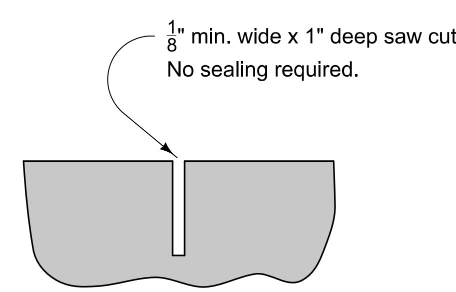
BENT BAR DETAILS



ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

REINFORCING BAR LIST Per Section (Approximately 20')				
Bar	Number of Bars	Length	Weight	Spacing
5c1	14	5'-0"	73	1'-6"
5c3	14	6'-1"	89	1'-6"
5c10	14	5'-0"	73	1'-6"
5d1	9	19'-4"	181	as shown
5e3	4	19'-4"	81	as shown

ESTIMATED QUANTITIES FOR BARRIER Per Linear Foot	
Concrete - Cu. Yds.	0.08
Reinforcing Steel - Lbs.	24.8



SAWED CONTRACTION JOINT

Saw cut top and front face. Saw cut back if exposed.

MODIFIED

STANDARD ROAD PLAN

REVISION	
NEW	04-20-10

BA-104

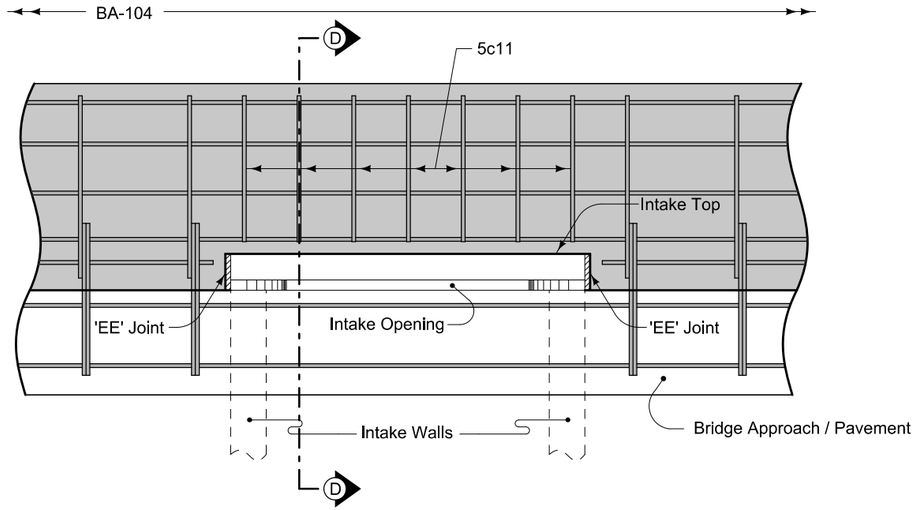
SHEET 1 of 1

REVISIONS: Changed 5c1 and 5c2 quantities in bar table. MODIFICATIONS: Switched to show a vertical face barrier tied to bridge approach pavement.

APPROVED BY DESIGN METHODS ENGINEER

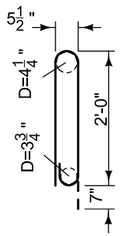
VERTICAL CONCRETE BARRIER

ENGLISH	IOWA DOT	DESIGN TEAM Flattery\Buttolph	JOHNSON COUNTY	PROJECT NUMBER IM-80-6(306)244--13-52	SHEET NUMBER U.2



ELEVATION AT INTAKE OPENING

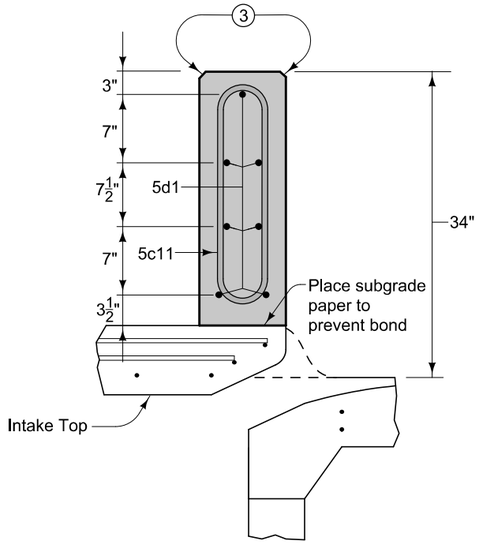
BENT BAR DETAILS



5c11

ALL DIMENSIONS ARE OUT TO OUT.
D = PIN DIAMETER.

REINFORCING BAR LIST For barrier over intake (approximately 5')				
Bar	Number of Bars	Length	Weight	Spacing
5c11	7	5'-1"	37	9"



SECTION D-D

Use Grade 60 epoxy-coated reinforcing bars. Provide 2 inches minimum cover. Anchor all reinforcement to prevent movement. Secure each section at the front, back, and at 3'-6" intervals using a method approved by the Engineer.

(3) Fillet all exposed corners with a $\frac{3}{4}$ inch dressed and beveled strip.

VERTICAL CONCRETE BARRIER OVER OPEN-THROAT CURB INTAKE

ESTIMATED BRIDGE RAIL RETROFIT QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.
1	2401-6750001	REMOVALS, AS PER PLAN	LS	1.00	
2	2403-0100000	STRUCTURAL CONCRETE (MISCELLANEOUS)	CY	13.8	
3	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	2159	

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
1	2401-6750001	**REMOVALS, AS PER PLAN** - -
2	2403-0100000	**STRUCTURAL CONCRETE (MISCELLANEOUS)** INCLUDES ALL PREFORMED EXPANSION JOINT FILLER REQUIRED. INCLUDES FURNISHING AND INSTALLING 1 INCH DIAMETER PLASTIC CONDUIT. INCLUDES FURNISHING AND PLACING CONCRETE SEALER.
3	2404-7775005	**REINFORCING STEEL, EPOXY COATED** - -

STRUCTURAL DESIGN

LICENSED PROFESSIONAL ENGINEER
William D. Tucker
11362
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

William D. Tucker 2-16-2012
Signature Date

William D. Tucker
Printed or Typed Name

My license renewal date is December 31, 2013

Pages or sheets covered by this seal: V.1 THRU V.12

DESIGN FOR REPAIRS TO 20°39'15" SKEW (L.A.)

DUAL 236'-0 x 30'-0 CONTINUOUS I-BEAM BRIDGES

52'-0 END SPANS TWO 66'-0 INTERIOR SPANS

QUANTITIES

STA. 18+64.40 (N.B. DUBUQUE ST. OVER I-80)
STA. 119+02.80 (S.B. DUBUQUE ST. OVER I-80)

FEBRUARY, 2010

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 12 FILE NO. 30402 DESIGN NO. 110

RETROFIT BARRIER RAILING NOTES:

IT IS THE INTENT OF THIS DESIGN TO CONSTRUCT 4 RETROFIT BARRIER RAIL END SECTIONS ON THE APPROACH ENDS OF THE EXISTING DUAL 236'-0 x 30'-0 CONTINUOUS I-BEAM BRIDGES OVER I-80, ON DUBUQUE STREET IN IOWA CITY, AT STATION 18+64.40 (N.B.) AND STATION 119+02.80 (S.B.).

COPIES OF ORIGINAL DESIGN PLANS WILL BE MADE AVAILABLE TO THE BRIDGE CONTRACTOR. CONTACT THE OFFICE OF CONTRACTS - HIGHWAY DIVISION - IOWA D.O.T. - AMES. DIMENSIONS SHOWN ON THESE PLANS ARE BASED ON DESIGN PLANS (ORIGINAL DESIGN NO. 7459, DECK REPAIR AND OVERLAY DESIGN NO. 176, RETROFIT RAIL AND OVERLAY DESIGN NO. 1077, AND REPAIR DESIGNS NO. 389 & 489).

ALL DIMENSIONS AND DETAILS SHOWN IN THESE PLANS PERTINENT TO NEW CONSTRUCTION IN RELATION TO EXISTING PORTIONS OF THE STRUCTURE SHALL BE VERIFIED IN THE FIELD BY THE BRIDGE CONTRACTOR BEFORE STARTING CONSTRUCTION.

FAINT LINES ON PLANS INDICATE EXISTING PORTIONS OF THE BRIDGE.

UTILITY COMPANIES AND MUNICIPALITIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE CONTRACTOR OF THE CONSTRUCTION STARTING DATE.

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A $\frac{3}{4}$" DRESSED AND BEVELED STRIP.

ALL REINFORCING STEEL IS TO BE GRADE 60 AND EPOXY COATED.

ANY REMOVALS REQUIRED SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE STANDARD SPECIFICATIONS. ANY DAMAGE TO OTHER PORTIONS OF THE EXISTING STRUCTURE NOT NOTED FOR REMOVAL SHALL BE THE RESPONSIBILITY OF THE BRIDGE CONTRACTOR AND SHALL BE REPAIRED AT NO COST TO THE STATE.

THE PRICE BID FOR "REMOVALS, AS PER PLAN" SHALL INCLUDE ALL COSTS ASSOCIATED WITH REMOVAL OF PORTIONS OF THE EXISTING RAIL AND PAVING SUPPORT AS NECESSARY, AND CUTTING THE EXISTING LONGITUDINAL REINFORCING TO PROVIDE 2 INCHES MINIMUM CLEARANCE AS NEEDED.

EXISTING BRIDGE RAIL END IS NOT TO BE REMOVED UNTIL AUTHORIZED BY THE ENGINEER.

KEYWAY DIMENSIONS SHOWN ON THE PLANS ARE BASED ON NOMINAL DIMENSIONS UNLESS STATED OTHERWISE. IN ADDITION, THE BEVEL USED ON THE KEYWAY SHALL BE LIMITED TO A MAXIMUM OF 10 DEGREES FROM VERTICAL.

THESE BRIDGE PLANS LABEL ALL REINFORCING STEEL WITH ENGLISH NOTATION (5a1 IS $\frac{5}{8}$ INCH DIAMETER BAR). ENGLISH REINFORCING STEEL RECEIVED IN THE FIELD MAY DISPLAY THE FOLLOWING "BAR DESIGNATION". THE "BAR DESIGNATION" IS THE STAMPED IMPRESSION ON THE REINFORCING BARS, AND IS EQUIVALENT TO THE BAR DIAMETER IN MILLIMETERS.

ENGLISH SIZE	3	4	5	6	7	8	9	10	11
BAR DESIGNATION	10	13	16	19	22	25	29	32	36

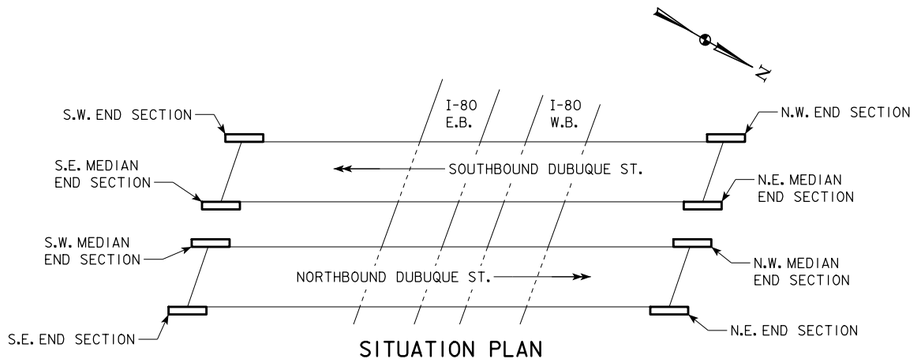
THE TOP AND INTERIOR FACES OF THE EXISTING CONCRETE RAILING ARE TO BE CLEANED AND SEALED IN ACCORDANCE WITH STANDARD SPECIFICATION 2403.03,P,3. IF NEW SECTIONS OF RAIL ARE CONSTRUCTED, THE NEW SECTIONS SHALL NOT BE SEALED. ALL COSTS ASSOCIATED WITH CLEANING AND SEALING OF THE CONCRETE RAILS SHALL BE INCLUDED IN THE UNIT PRICE BID ITEM "STRUCTURAL CONCRETE".

THE BRIDGE CONTRACTOR SHALL DRESS UP THE SLOPES AROUND THE WINGS WHICH ARE DISTURBED DURING CONSTRUCTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL AND NO EXTRA PAYMENT WILL BE MADE.

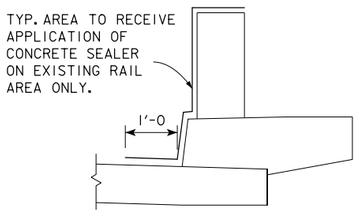
DOWEL SETTING NOTE:

THE 5b1 & 5b2 BARS SHALL BE SET AS DOWELS IN DRILLED HOLES. THE HOLE DEPTHS SHALL BE AS SHOWN. THE DOWELS SHALL BE INSTALLED IN ACCORDANCE WITH THE GROUT MANUFACTURER'S RECOMMENDATIONS. THE FOLLOWING SYSTEM SHALL BE USED AS A BONDING AGENT FOR THE DOWELS :

POLYMER GROUT SYSTEM IN ACCORDANCE WITH STANDARD 2301.03,E OF THE STANDARD SPECIFICATIONS AND CURRENT SUPPLEMENTAL SPECIFICATIONS OF THE IOWA D.O.T. HIGHWAY DIVISION.



SITUATION PLAN



DETAIL OF CONCRETE SEALER AREA

SPECIFICATIONS:

DESIGN: AASHTO SERIES OF 2002.
CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2009, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

DESIGN STRESSES:

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 2002.
REINFORCING STEEL IN ACCORDANCE WITH SECTION 8, GRADE 60.
CONCRETE IN ACCORDANCE WITH SECTION 8, f'c = 3,500 PSI.

DESIGN HISTORY AT THIS SITE

DES. NO.	TYPE OF WORK
7459	ORIGINAL DESIGN
176	DECK REPAIR & OVERLAY (N.B.)
1077	RETROFIT RAIL & OVERLAY (S.B.)
1077	RETROFIT RAIL (N.B.)
389	REPLACE JT. & RAIL ENDS. (S.B.)
489	REPLACE JT. & RAIL ENDS. (N.B.)

LOCATION:

DUBUQUE ST. (S.B. & N.B.) OVER I-80
IN IOWA CITY
T-80 N R-6 W
SECTION 34
EAST LUCAS TOWNSHIP
JOHNSON COUNTY
MAINT. NO. 5244.30080 (S.B.)
5244.40080 (N.B.)
FHWA NO. 032110 (S.B.)
032120 (N.B.)

DESIGN FOR REPAIRS TO 20°39'15" SKEW (L.A.)

DUAL 236'-0 x 30'-0 CONTINUOUS I-BEAM BRIDGES

52'-0 END SPANS — TWO 66'-0 INTERIOR SPANS

GENERAL NOTES

STA. 18+64.40 (N.B. DUBUQUE ST. OVER I-80)
STA. 119+02.80 (S.B. DUBUQUE ST. OVER I-80)

FEBRUARY, 2010

JOHNSON COUNTY

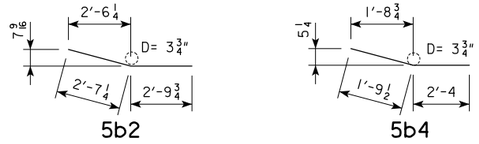
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 12 FILE NO. 30402 DESIGN NO. 110

S.B. EPOXY REINF. BAR LIST - N.W. END SECT.

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6a1	END SECTION, FTG., VERT.	——	3	4'-3	19
6a2	END SECTION, FTG. & RAIL, VERT.	——	13	6'-2	120
6a3	END SECTION, FTG. & RAIL, VERT.	——	8	1'-7	19
6a4	TRANSITION SECTION, VERT.	——	2	1'-7	5
5a5	TRANSITION SECTION, VERT.	——	3	1'-4	4
5b1	END SECTION, FTG., HORIZ., B.F.	——	5	5'-3	27
5b2	END SECTION, FTG., HORIZ., F.F.	⟋⟍	5	5'-5	28
5b3	END SECTION, RAIL, HORIZ., B.F.	——	3	4'-8	15
5b4	END SECTION, RAIL, HORIZ., F.F.	⟋⟍	3	4'-2	13
5b5	END SECTION, RAIL, HORIZ., B.F.	——	3	3'-6	11
8b6	END SECTION, RAIL, HORIZ., F.F.	——	3	4'-3	34
5b7	TRANSITION SECTION, LONGIT.	——	2	4'-1	9
	REINF. STEEL EPOXY COATED - TOTAL (LBS)				304

S.B. BENT BAR DETAILS - N.W. END SECT.



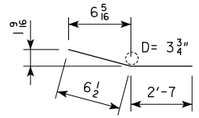
5b2 5b4

NOTE: BAR DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

S.B. EPOXY REINF. BAR LIST-N.E. MEDIAN END SECT.

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6a1	END SECTION, FTG., VERT.	——	3	4'-3	19
6a2	END SECTION, FTG. & RAIL, VERT.	——	7	6'-2	65
6a3	END SECTION, RAIL, VERT.	——	8	1'-7	19
6a4	TRANSITION SECTION, VERT.	——	2	1'-7	5
5a5	TRANSITION SECTION, VERT.	——	3	1'-4	4
5b1	END SECTION, FTG., HORIZ., B.F.	——	5	3'-3	17
5b2	END SECTION, FTG., HORIZ., F.F.	⟋⟍	5	3'-2	17
5b3	END SECTION, RAIL, HORIZ., B.F.	——	3	4'-2	13
8b4	END SECTION, RAIL, HORIZ., F.F.	——	3	4'-2	33
5b5	TRANSITION SECTION, LONGIT.	——	2	4'-1	9
	REINF. STEEL EPOXY COATED - TOTAL (LBS)				201

S.B. BENT BAR DETAILS - N.E. MEDIAN END SECT.



5b2

NOTE: BAR DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

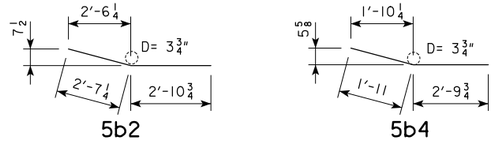
CONCRETE PLACEMENT SUMMARY

SECTION		TOTAL
S.B. - N.W. END SECTION		1.6
S.B. - N.E. MEDIAN END SECTION		0.9
S.B. - TRANSITION SECTION	2 @ 0.2 CU. YDS. PER SECTION	0.4
N.B. - S.E. END SECTION		1.5
N.B. - S.W. MEDIAN END SECTION		0.8
N.B. - TRANSITION SECTION	2 @ 0.3 CU. YDS. PER SECTION	0.6
	TOTAL (CU. YDS.)	5.8

N.B. EPOXY REINF. BAR LIST - S.E. END SECT.

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6a1	END SECTION, FTG., VERT.	——	3	4'-3	19
6a2	END SECTION, FTG. & RAIL, VERT.	——	13	6'-2	120
6a3	END SECTION, FTG. & RAIL, VERT.	——	2	1'-7	5
6a4	TRANSITION SECTION, VERT.	——	6	1'-6	14
5a5	TRANSITION SECTION, VERT.	——	3	1'-4	4
5b1	END SECTION, FTG., HORIZ., B.F.	——	5	5'-3	27
5b2	END SECTION, FTG., HORIZ., F.F.	⟋⟍	5	5'-6	29
5b3	END SECTION, RAIL, HORIZ., B.F.	——	3	4'-8	15
5b4	END SECTION, RAIL, HORIZ., F.F.	⟋⟍	3	4'-9	15
5b5	TRANSITION SECTION, LONGIT.	——	4	4'-10	20
8b6	TRANSITION SECTION, LONGIT.	——	2	4'-10	26
	REINF. STEEL EPOXY COATED - TOTAL (LBS)				294

N.B. BENT BAR DETAILS - S.E. END SECT.



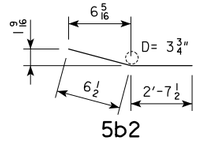
5b2 5b4

NOTE: BAR DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

N.B. EPOXY REINF. BAR LIST-S.W. MEDIAN END SECT.

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6a1	END SECTION, FTG., VERT.	——	3	4'-3	19
6a2	END SECTION, FTG. & RAIL, VERT.	——	7	6'-2	65
6a3	END SECTION, RAIL, VERT.	——	2	1'-7	5
6a4	TRANSITION SECTION, VERT.	——	6	1'-6	14
5a5	TRANSITION SECTION, VERT.	——	3	1'-4	4
5b1	END SECTION, FTG., HORIZ., B.F.	——	5	3'-3	17
5b2	END SECTION, FTG., HORIZ., F.F.	⟋⟍	5	3'-2	17
5b3	END SECTION, RAIL, HORIZ.	——	6	2'-8	17
5b4	TRANSITION SECTION, LONGIT.	——	4	4'-10	20
8b5	TRANSITION SECTION, LONGIT.	——	2	4'-10	26
	REINF. STEEL EPOXY COATED - TOTAL (LBS)				204

N.B. BENT BAR DETAILS - S.W. MEDIAN END SECT.



5b2

NOTE: BAR DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

DESIGN FOR REPAIRS TO 20°39'15" SKEW (L.A.)

DUAL 236'-0 x 30'-0 CONTINUOUS I-BEAM BRIDGES

52'-0 END SPANS — TWO 66'-0 INTERIOR SPANS

GENERAL NOTES & QUANTITIES

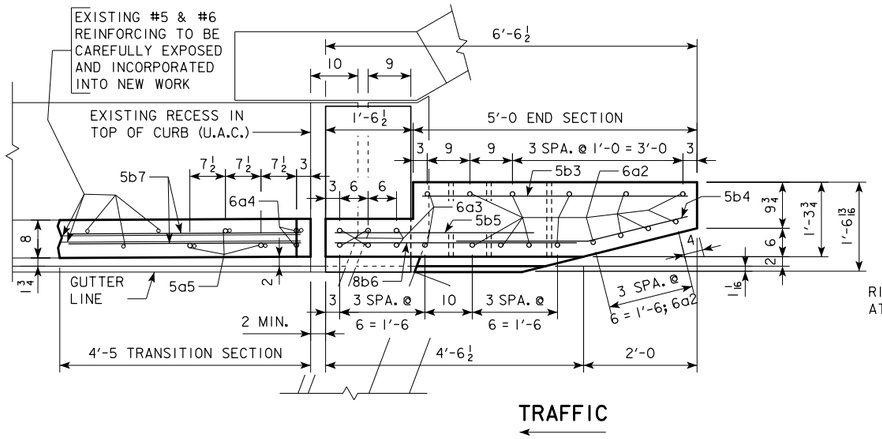
STA. 18+64.40 (N.B. DUBUQUE ST. OVER I-80)
STA. 119+02.80 (S.B. DUBUQUE ST. OVER I-80)

FEBRUARY, 2010

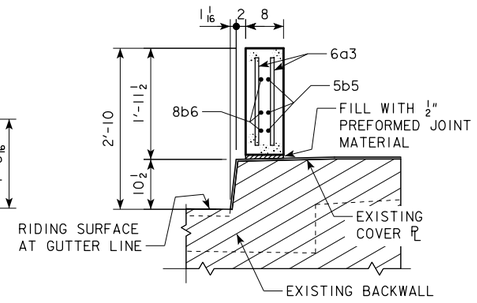
JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

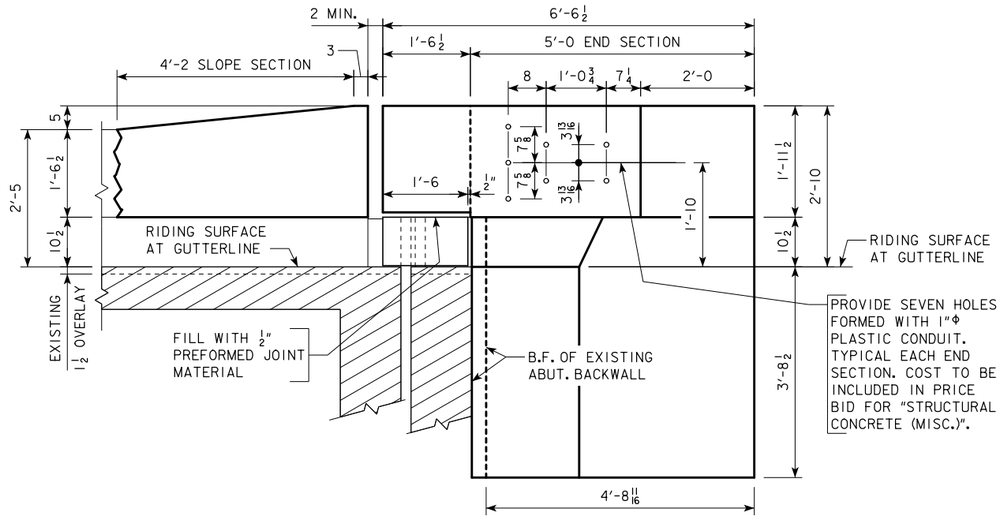
DESIGN SHEET NO. 3 OF 12 FILE NO. 30402 DESIGN NO. 110



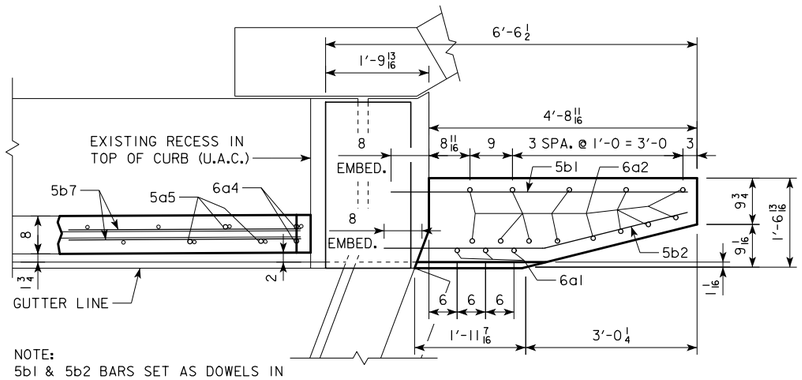
PLAN VIEW OF END SECT. REINF.
(N.W. CORNER)



SECTION A-A

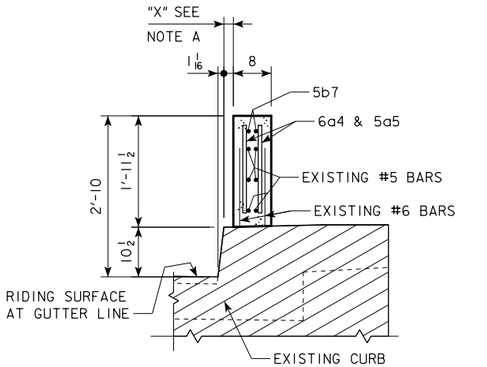


PART LONGIT. SECT. NEAR GUTTER LINE
(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(N.W. CORNER)

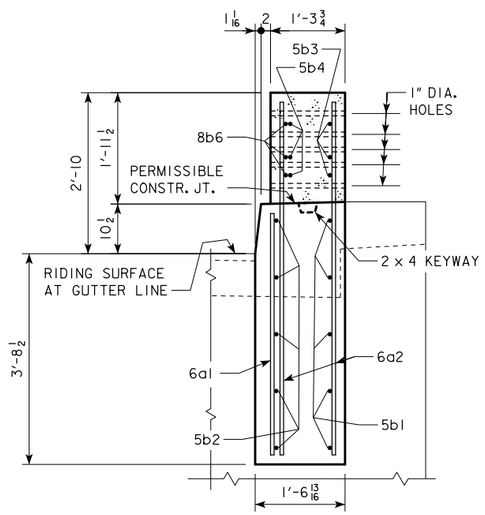


NOTE:
5b1 & 5b2 BARS SET AS DOWELS IN DRILLED HOLES - SEE "DOWEL SETTING NOTE" ON DESIGN SHEET 2.

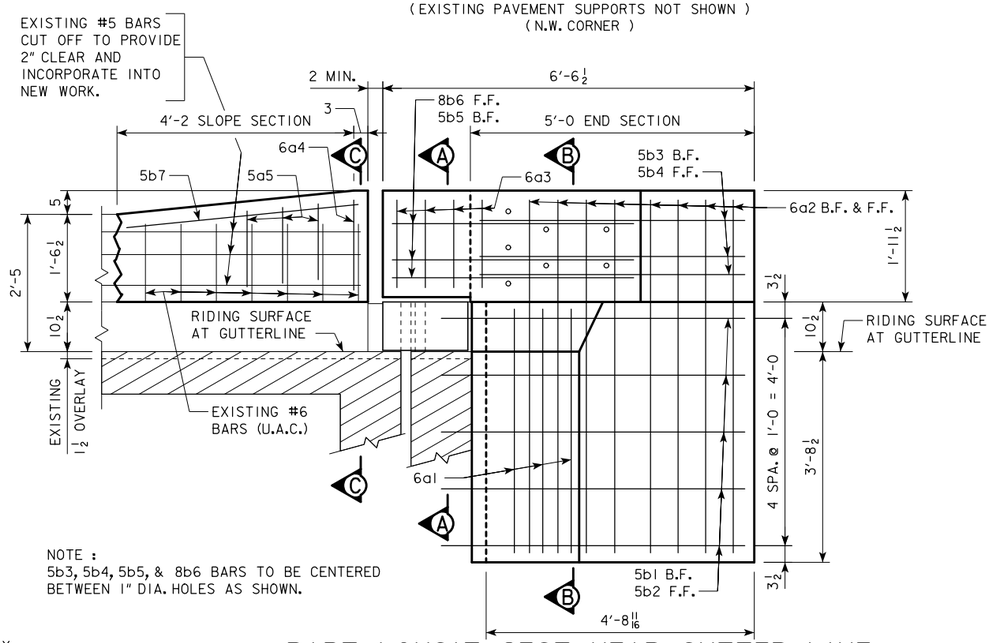
PLAN VIEW OF END SECT. FOOTING REINF.
(SHOWING RAIL END SECTION FOOTING DETAILS)



SECTION C-C



SECTION B-B



NOTE :
5b3, 5b4, 5b5, & 8b6 BARS TO BE CENTERED BETWEEN 1" DIA. HOLES AS SHOWN.

PART LONGIT. SECT. NEAR GUTTER LINE
(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(N.W. CORNER)

NOTE:
EXISTING REINFORCING IS TO BE CAREFULLY EXPOSED AND INCORPORATED INTO NEW TRANSITION SECTIONS.

NOTE A:
DIMENSION "X" SHALL MATCH EXISTING DIMENSION AT BREAK LINE FOR NEW TRANSITION SECTION OF BARRIER RAIL AND TRANSITION TO 2" AT OPPOSITE END OF TRANSITION SECTION.

NOTE: FOR DOWEL SETTING NOTES SEE DESIGN SHEET #2.

DESIGN FOR REPAIRS TO 20°39'15" SKEW (L.A.)

DUAL 236'-0 x 30'-0 CONTINUOUS I-BEAM BRIDGES

52'-0 END SPANS — TWO 66'-0 INTERIOR SPANS

S.B. RETROFIT N.W. END SECT. DTLS.

STA. 18+64.40 (N.B. DUBUQUE ST. OVER I-80)
STA. 119+02.80 (S.B. DUBUQUE ST. OVER I-80)

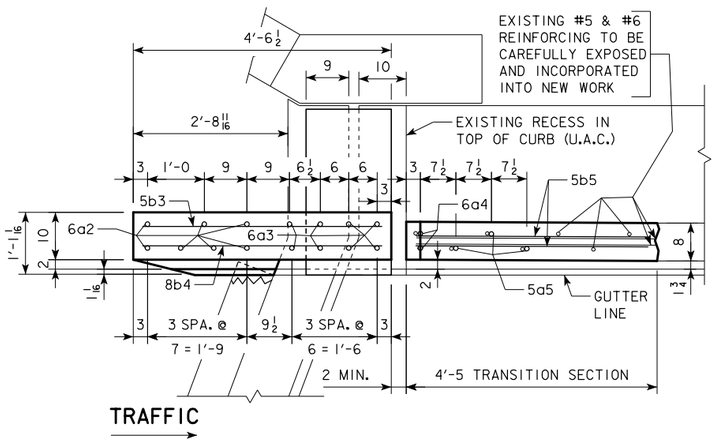
FEBRUARY, 2010

JOHNSON COUNTY

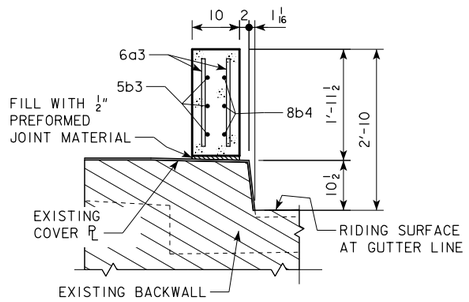
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 4 OF 12 FILE NO. 30402 DESIGN NO. 110

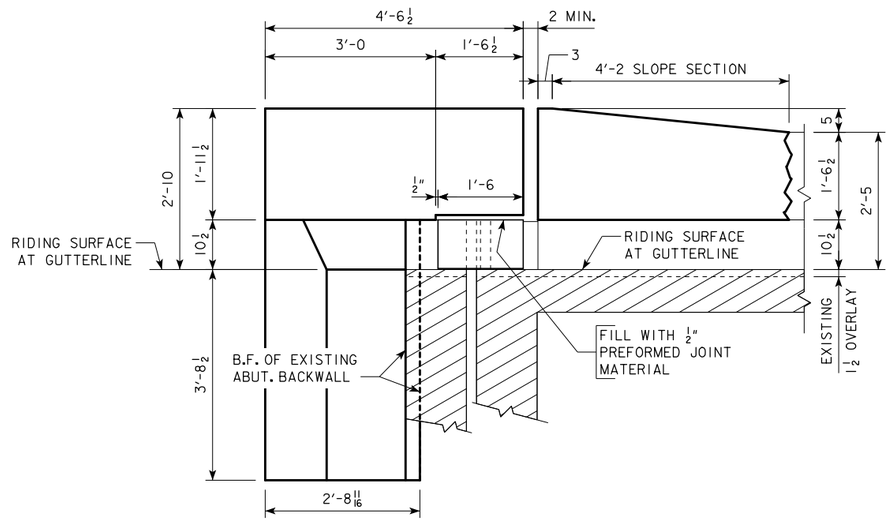
DESIGN TEAM WDT / BDK	JOHNSON COUNTY	PROJECT NUMBER IM-080-6(306)244--13-52	SHEET NUMBER V.4



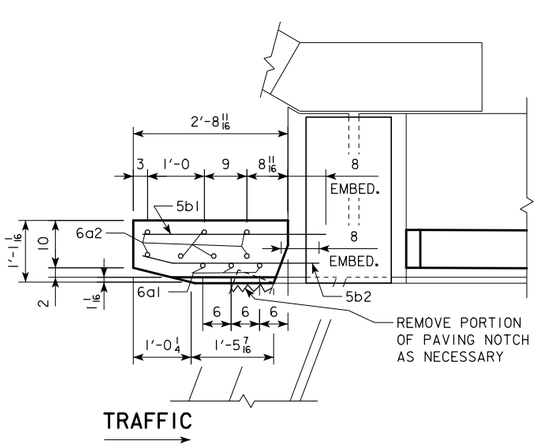
PLAN VIEW OF END SECT. REINF.
(N.E. CORNER)



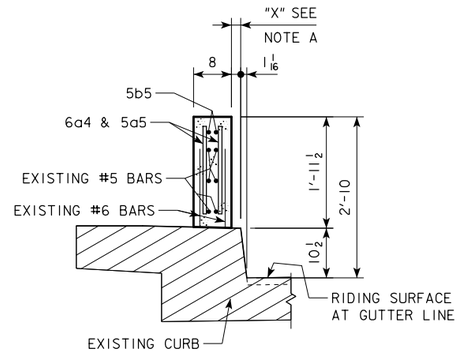
SECTION A-A



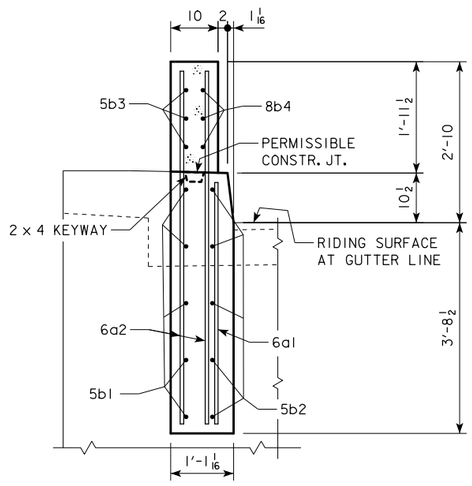
PART LONGIT. SECT. NEAR GUTTER LINE
(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(N.E. CORNER)



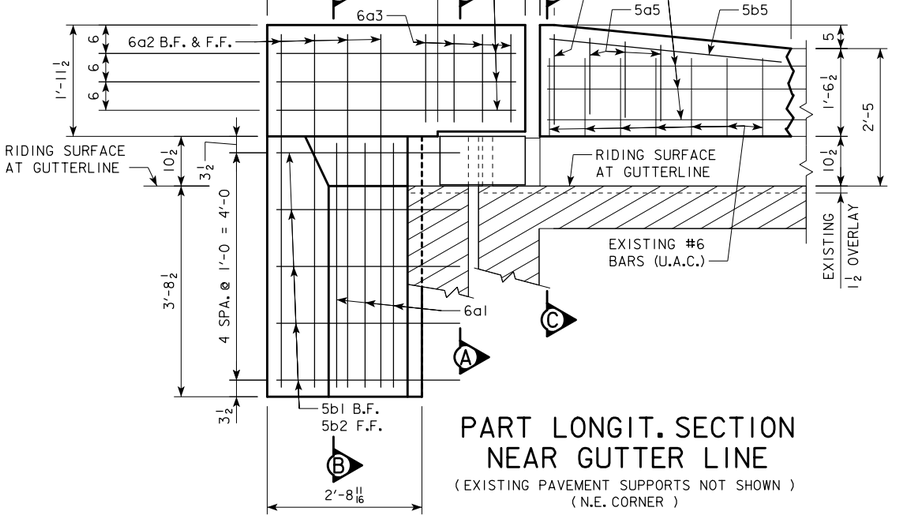
PLAN VIEW OF END SECT. FOOTING REINF.
(SHOWING RAIL END SECTION FOOTING DETAILS)



SECTION C-C



SECTION B-B



PART LONGIT. SECTION NEAR GUTTER LINE
(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(N.E. CORNER)

NOTE:
EXISTING REINFORCING IS TO BE CAREFULLY EXPOSED AND INCORPORATED INTO NEW TRANSITION SECTIONS.

NOTE A:
DIMENSION "X" SHALL MATCH EXISTING DIMENSION AT BREAK LINE FOR NEW TRANSITION SECTION OF BARRIER RAIL AND TRANSITION TO 2" AT OPPOSITE END OF TRANSITION SECTION.

NOTE: FOR DOWEL SETTING NOTES SEE DESIGN SHEET #2.

DESIGN FOR REPAIRS TO 20°39'15" SKEW (L.A.)

DUAL 236'-0 x 30'-0 CONTINUOUS I-BEAM BRIDGES

52'-0 END SPANS — TWO 66'-0 INTERIOR SPANS

S.B. RETRO. N.E. MEDIAN END SECT. DTLS.

STA. 18+64.40 (N.B. DUBUQUE ST. OVER I-80)
STA. 119+02.80 (S.B. DUBUQUE ST. OVER I-80)

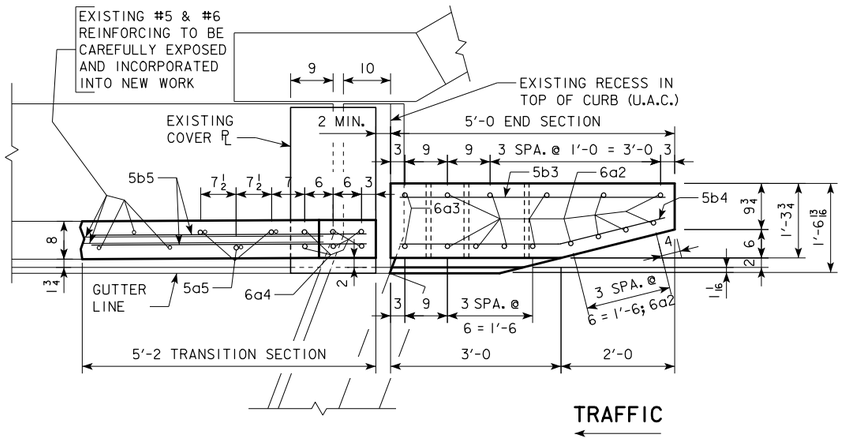
FEBRUARY, 2010

JOHNSON COUNTY

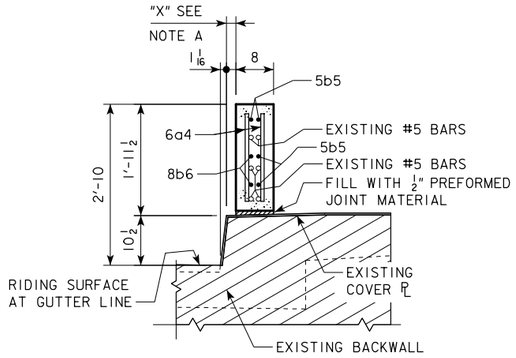
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 5 OF 12 FILE NO. 30402 DESIGN NO. 110

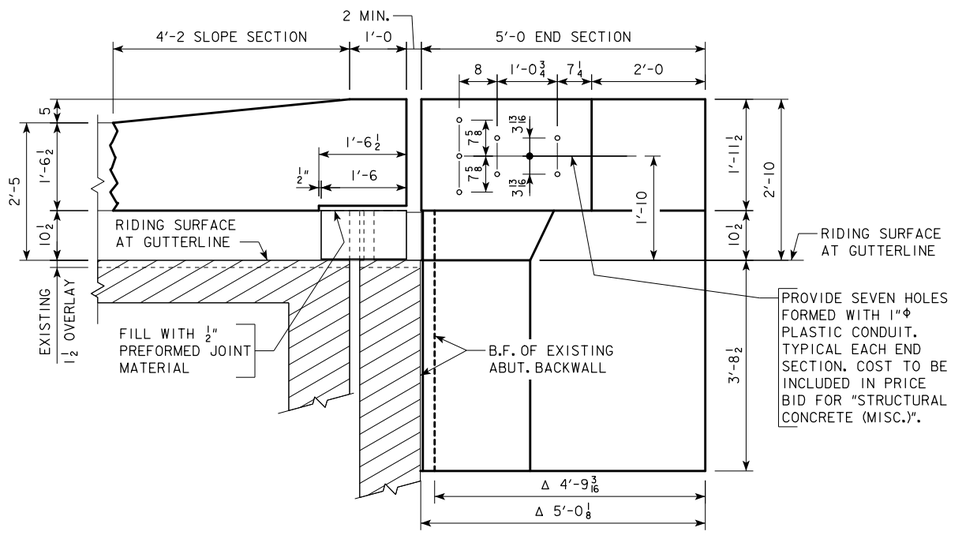
DESIGN TEAM WDT / BDK | JOHNSON COUNTY | PROJECT NUMBER IM-080-6(306)244--13-52 | SHEET NUMBER V.5



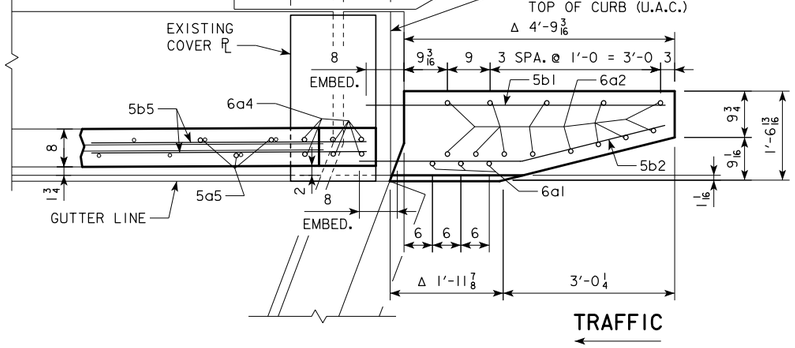
PLAN VIEW OF END SECT. REINF.
(S.E. CORNER)



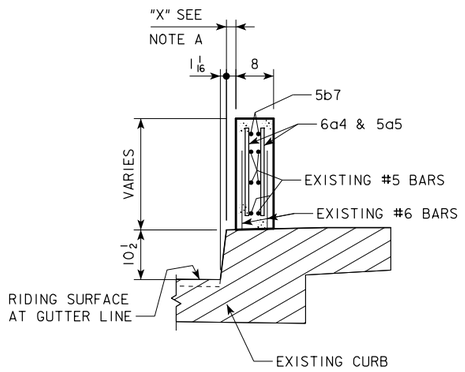
SECTION A-A



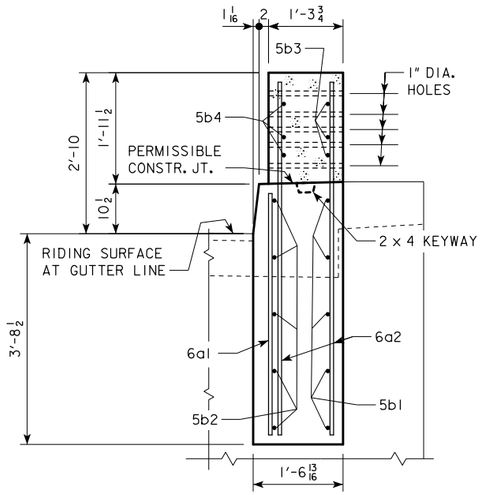
PART LONGIT. SECT. NEAR GUTTER LINE
(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(S.E. CORNER)



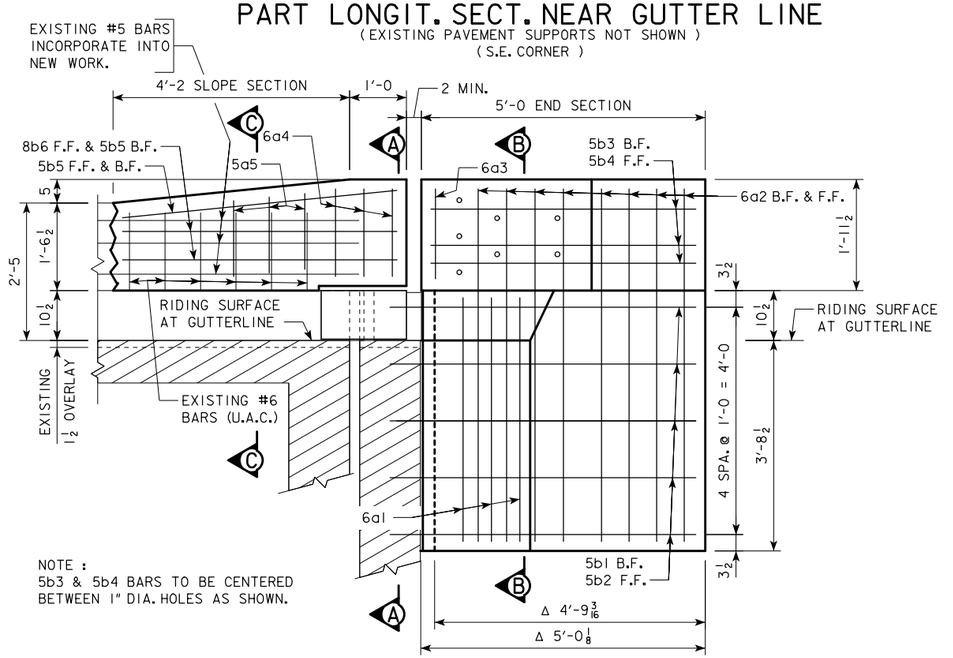
PLAN VIEW OF END SECT. FOOTING REINF.
(SHOWING RAIL END SECTION FOOTING DETAILS)



SECTION C-C



SECTION B-B



PART LONGIT. SECT. NEAR GUTTER LINE
(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(S.E. CORNER)

Δ BASED ON AN EXISTING JOINT OPENING OF 2 INCHES OR GREATER. IF THE EXISTING JOINT OPENING IS LESS THAN 2 INCHES, THIS DIMENSION WILL INCREASE TO PROVIDE THE MINIMUM 2 INCH JOINT OPENING.

NOTE: EXISTING REINFORCING IS TO BE CAREFULLY EXPOSED AND INCORPORATED INTO NEW TRANSITION SECTIONS.

NOTE A: DIMENSION "X" SHALL MATCH EXISTING DIMENSION AT BREAK LINE FOR NEW TRANSITION SECTION OF BARRIER RAIL AND TRANSITION TO 2" AT OPPOSITE END OF TRANSITION SECTION.

NOTE: FOR DOWEL SETTING NOTES SEE DESIGN SHEET #2.

DESIGN FOR REPAIRS TO 20°39'15" SKEW (L.A.)

DUAL 236'-0 x 30'-0 CONTINUOUS I-BEAM BRIDGES

52'-0 END SPANS — TWO 66'-0 INTERIOR SPANS

N.B. RETROFIT S.E. END SECT. DTLS.

STA. 18+64.40 (N.B. DUBUQUE ST. OVER I-80)
STA. 119+02.80 (S.B. DUBUQUE ST. OVER I-80)

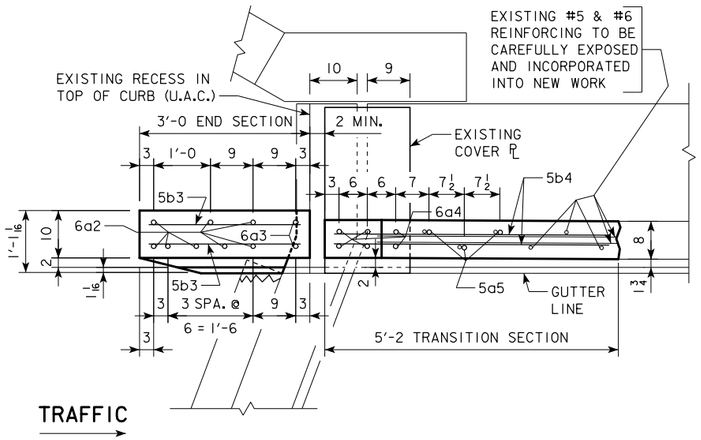
FEBRUARY, 2010

JOHNSON COUNTY

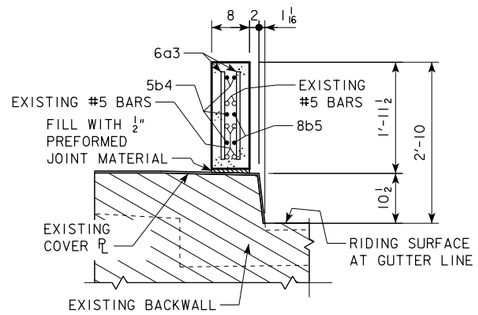
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 6 OF 12 FILE NO. 30402 DESIGN NO. 110

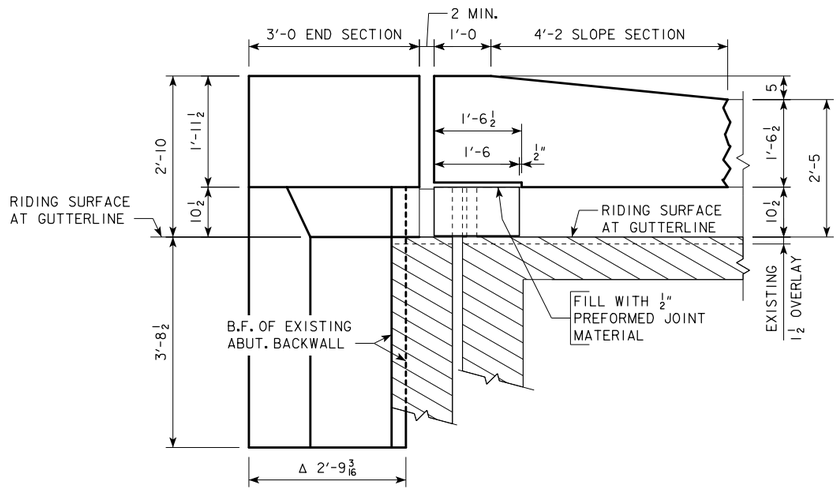
DESIGN TEAM WDT / BDK	JOHNSON COUNTY	PROJECT NUMBER IM-080-6(306)244--13-52	SHEET NUMBER V.6



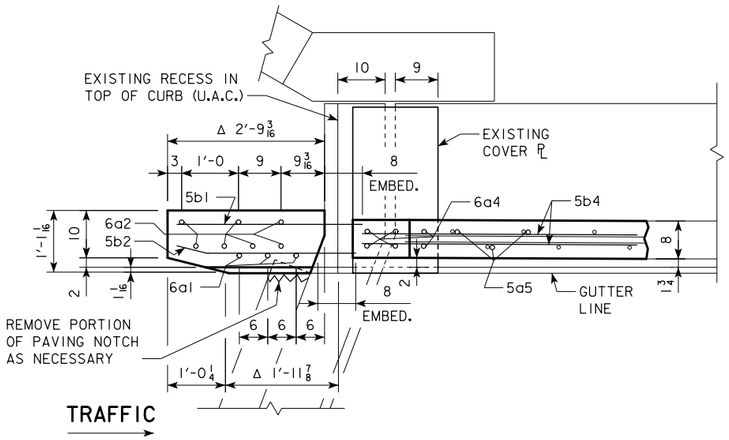
PLAN VIEW OF END SECT. REINF.
(S.W. CORNER)



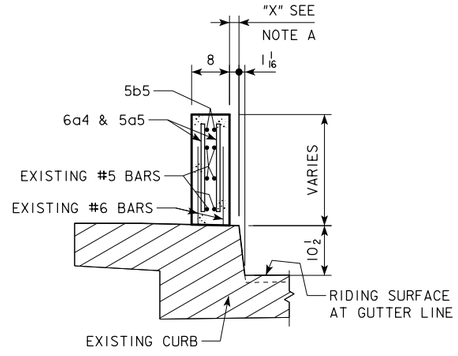
SECTION A-A



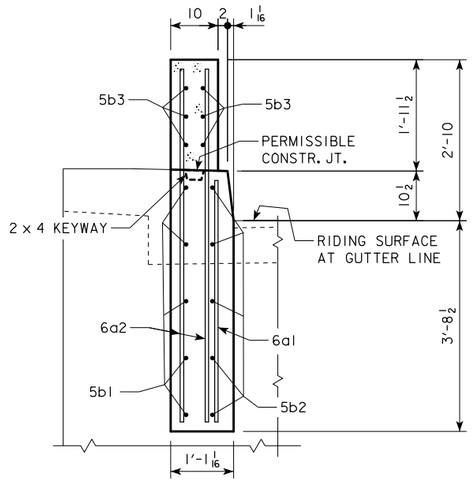
PART LONGIT. SECT. NEAR GUTTER LINE
(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(S.W. CORNER)



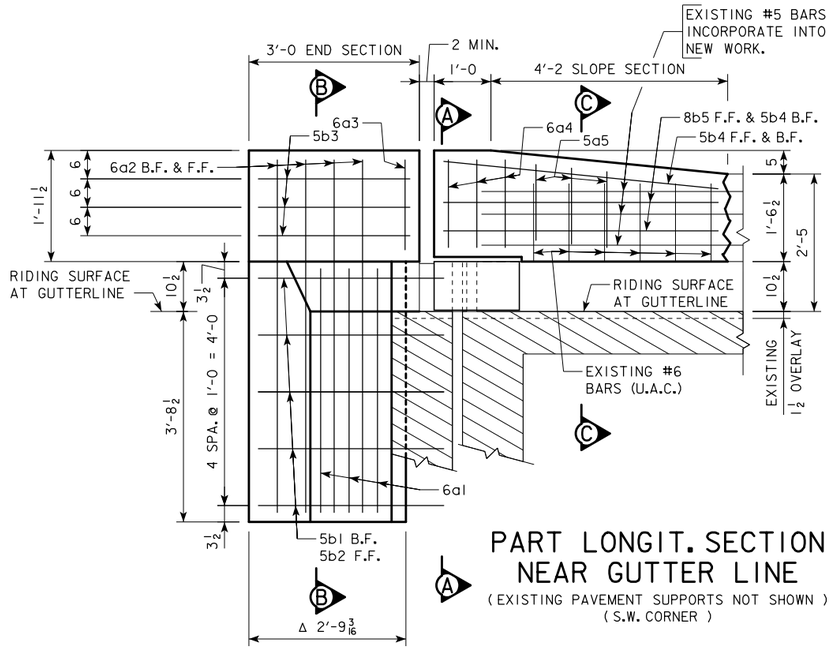
PLAN VIEW OF END SECT. FOOTING REINF.
(SHOWING RAIL END SECTION FOOTING DETAILS)



SECTION C-C



SECTION B-B



PART LONGIT. SECTION NEAR GUTTER LINE
(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(S.W. CORNER)

Δ BASED ON AN EXISTING JOINT OPENING OF 2 INCHES OR GREATER. IF THE EXISTING JOINT OPENING IS LESS THAN 2 INCHES, THIS DIMENSION WILL INCREASE TO PROVIDE THE MINIMUM 2 INCH JOINT OPENING.

NOTE:
EXISTING REINFORCING IS TO BE CAREFULLY EXPOSED AND INCORPORATED INTO NEW TRANSITION SECTIONS.

NOTE A:
DIMENSION "X" SHALL MATCH EXISTING DIMENSION AT BREAK LINE FOR NEW TRANSITION SECTION OF BARRIER RAIL AND TRANSITION TO 2" AT OPPOSITE END OF TRANSITION SECTION.

NOTE: FOR DOWEL SETTING NOTES SEE DESIGN SHEET #2.

DESIGN FOR REPAIRS TO 20°39'15" SKEW (L.A.)

DUAL 236'-0 x 30'-0 CONTINUOUS I-BEAM BRIDGES

52'-0 END SPANS — TWO 66'-0 INTERIOR SPANS

N.B. RETRO. S.W. MEDIAN END SECT. DTLS.

STA. 18+64.40 (N.B. DUBUQUE ST. OVER I-80)
STA. 119+02.80 (S.B. DUBUQUE ST. OVER I-80)

FEBRUARY, 2010

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 7 OF 12 FILE NO. 30402 DESIGN NO. 110

DESIGN TEAM WDT / BDK	JOHNSON COUNTY	PROJECT NUMBER IM-080-6(306)244--13-52	SHEET NUMBER V.7

N.B. EPOXY REINF. BAR LIST - N.W. MEDIAN END SECT.

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6a1	END SECTION, FTG., VERT., F.F. & B.F.	——	8	3'-10	46
6a2	END SECTION, FTG. & RAIL, VERT.	——	2	5'-9	17
6a3	END SECTION, FTG. & RAIL, VERT.	——	2	5'-8	17
6a4	END SECTION, FTG. & RAIL, VERT.	——	2	5'-6	17
6a5	END SECTION, FTG. & RAIL, VERT.	——	2	5'-3	16
6a6	END SECTION, FTG. & RAIL, VERT.	——	2	4'-11	15
6a7	END SECTION, FTG. & RAIL, VERT.	——	2	4'-6	14
6a8	END SECTION, RAIL, VERT.	——	6	1'-2	11
5b1	END SECTION, FTG., HORIZ., B.F.	——	5	6'-10	36
5b2	END SECTION, FTG., HORIZ., F.F.	——	5	6'-11	36
5b3	END SECTION, RAIL, HORIZ., B.F.	——	1	4'-3	4
5b4	END SECTION, RAIL, HORIZ., B.F.	——	1	3'-3	3
5b5	END SECTION, RAIL, HORIZ., B.F.	——	1	1'-10	2
5b6	END SECTION, RAIL, HORIZ., F.F. & B.F.	——	2	5'-9	12
8b7	END SECTION, FTG., HORIZ., F.F.	——	1	5'-11	16
8b8	END SECTION, FTG., HORIZ., F.F.	——	1	4'-11	13
8b9	END SECTION, RAIL, HORIZ., F.F.	——	1	3'-7	10
5b10	END SECTION, RAIL, HORIZ., B.F.	——	3	3'-1	10
	REINF. STEEL EPOXY COATED - TOTAL (LBS)				295

N.B. EPOXY REINF. BAR LIST - N.E. END SECT.

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6a1	END SECTION, FTG., VERT., F.F. & B.F.	——	8	3'-10	46
6a2	END SECTION, FTG. & RAIL, VERT.	——	2	5'-9	17
6a3	END SECTION, FTG. & RAIL, VERT.	——	2	5'-8	17
6a4	END SECTION, FTG. & RAIL, VERT.	——	2	5'-6	17
6a5	END SECTION, FTG. & RAIL, VERT.	——	2	5'-3	16
6a6	END SECTION, FTG. & RAIL, VERT.	——	2	4'-11	15
6a7	END SECTION, FTG. & RAIL, VERT.	——	2	4'-6	14
6a8	END SECTION, RAIL, VERT.	——	6	1'-2	11
5b1	END SECTION, FTG., HORIZ., B.F.	——	5	6'-10	36
5b2	END SECTION, FTG., HORIZ., F.F.	——	5	6'-9	35
5b3	END SECTION, RAIL, HORIZ., B.F.	——	1	4'-3	4
5b4	END SECTION, RAIL, HORIZ., B.F.	——	1	3'-3	3
5b5	END SECTION, RAIL, HORIZ., B.F.	——	1	1'-10	2
5b6	END SECTION, RAIL, HORIZ., F.F. & B.F.	——	2	5'-9	12
8b7	END SECTION, FTG., HORIZ., F.F.	——	1	5'-3	14
8b8	END SECTION, FTG., HORIZ., F.F.	——	1	4'-3	11
8b9	END SECTION, RAIL, HORIZ., F.F.	——	1	2'-11	8
5b10	END SECTION, RAIL, HORIZ., B.F.	——	3	2'-5	8
	REINF. STEEL EPOXY COATED - TOTAL (LBS)				286

CONCRETE PLACEMENT SUMMARY

SECTION	TOTAL
N.B. - N.E. END SECTION	2.0
N.B. - N.W. MEDIAN END SECTION	2.0
S.B. - S.W. END SECTION	2.0
S.B. - S.E. MEDIAN END SECTION	2.0
TOTAL (CU. YDS.)	8.0

S.B. EPOXY REINF. BAR LIST - S.E. MEDIAN END SECT.

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6a1	END SECTION, FTG., VERT., F.F. & B.F.	——	8	3'-10	46
6a2	END SECTION, FTG. & RAIL, VERT.	——	2	5'-9	17
6a3	END SECTION, FTG. & RAIL, VERT.	——	2	5'-8	17
6a4	END SECTION, FTG. & RAIL, VERT.	——	2	5'-6	17
6a5	END SECTION, FTG. & RAIL, VERT.	——	2	5'-3	16
6a6	END SECTION, FTG. & RAIL, VERT.	——	2	4'-11	15
6a7	END SECTION, FTG. & RAIL, VERT.	——	2	4'-6	14
6a8	END SECTION, RAIL, VERT.	——	6	1'-2	11
5b1	END SECTION, FTG., HORIZ., B.F.	——	5	6'-10	36
5b2	END SECTION, FTG., HORIZ., F.F.	——	5	6'-11	36
5b3	END SECTION, RAIL, HORIZ., B.F.	——	1	4'-3	4
5b4	END SECTION, RAIL, HORIZ., B.F.	——	1	3'-3	3
5b5	END SECTION, RAIL, HORIZ., B.F.	——	1	1'-10	2
5b6	END SECTION, RAIL, HORIZ., F.F. & B.F.	——	2	5'-9	12
8b7	END SECTION, FTG., HORIZ., F.F.	——	1	5'-6	15
8b8	END SECTION, FTG., HORIZ., F.F.	——	1	4'-6	12
8b9	END SECTION, RAIL, HORIZ., F.F.	——	1	3'-2	8
5b10	END SECTION, RAIL, HORIZ., B.F.	——	3	2'-8	8
	REINF. STEEL EPOXY COATED - TOTAL (LBS)				289

S.B. EPOXY REINF. BAR LIST - S.W. END SECT.

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6a1	END SECTION, FTG., VERT., F.F. & B.F.	——	8	3'-10	46
6a2	END SECTION, FTG. & RAIL, VERT.	——	2	5'-9	17
6a3	END SECTION, FTG. & RAIL, VERT.	——	2	5'-8	17
6a4	END SECTION, FTG. & RAIL, VERT.	——	2	5'-6	17
6a5	END SECTION, FTG. & RAIL, VERT.	——	2	5'-3	16
6a6	END SECTION, FTG. & RAIL, VERT.	——	2	4'-11	15
6a7	END SECTION, FTG. & RAIL, VERT.	——	2	4'-6	14
6a8	END SECTION, RAIL, VERT.	——	6	1'-2	11
5b1	END SECTION, FTG., HORIZ., B.F.	——	5	6'-10	36
5b2	END SECTION, FTG., HORIZ., F.F.	——	5	6'-9	35
5b3	END SECTION, RAIL, HORIZ., B.F.	——	1	4'-3	4
5b4	END SECTION, RAIL, HORIZ., B.F.	——	1	3'-3	3
5b5	END SECTION, RAIL, HORIZ., B.F.	——	1	1'-10	2
5b6	END SECTION, RAIL, HORIZ., F.F. & B.F.	——	2	5'-9	12
8b7	END SECTION, FTG., HORIZ., F.F.	——	1	5'-3	14
8b8	END SECTION, FTG., HORIZ., F.F.	——	1	4'-3	11
8b9	END SECTION, RAIL, HORIZ., F.F.	——	1	2'-11	8
5b10	END SECTION, RAIL, HORIZ., B.F.	——	3	2'-5	8
	REINF. STEEL EPOXY COATED - TOTAL (LBS)				286

DESIGN FOR REPAIRS TO 20°39'15" SKEW (L.A.)

DUAL 236'-0 x 30'-0 CONTINUOUS I-BEAM BRIDGES

52'-0 END SPANS TWO 66'-0 INTERIOR SPANS

GENERAL NOTES & QUANTITIES

STA. 18+64.40 (N.B. DUBUQUE ST. OVER I-80)
STA. 119+02.80 (S.B. DUBUQUE ST. OVER I-80)

FEBRUARY, 2010

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 8 OF 12 FILE NO. 30402 DESIGN NO. 110

DESIGN TEAM WDT / BDK | JOHNSON COUNTY | PROJECT NUMBER IM-080-6(306)244--13-52 | SHEET NUMBER V.8

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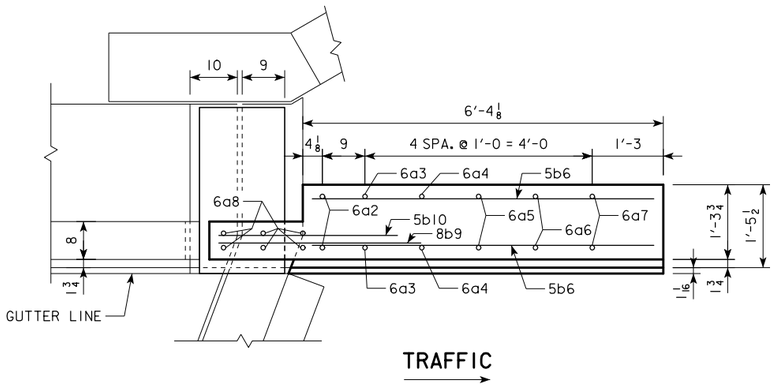
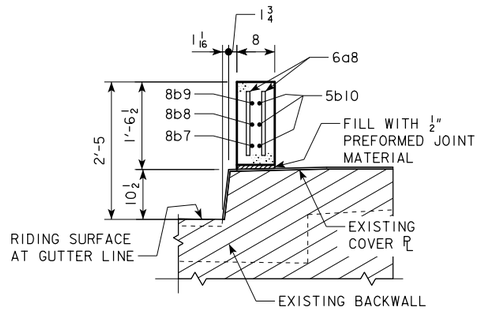
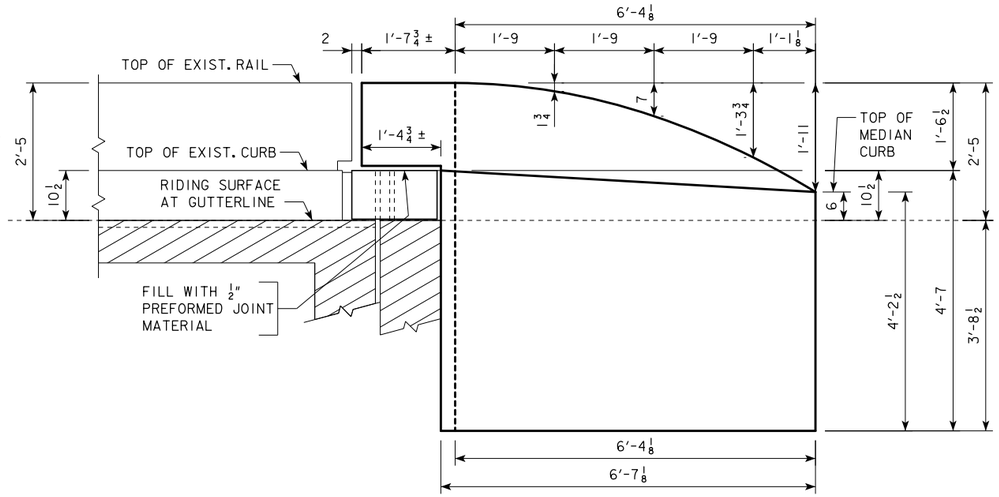


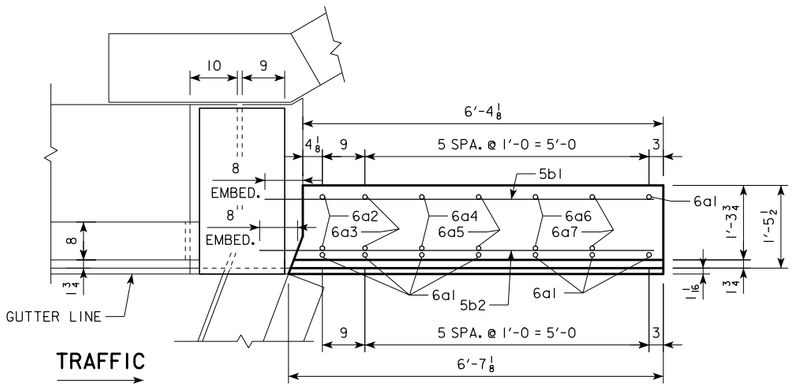
PLAN VIEW OF END SECT. REINF.
(N.W. CORNER - MEDIAN)



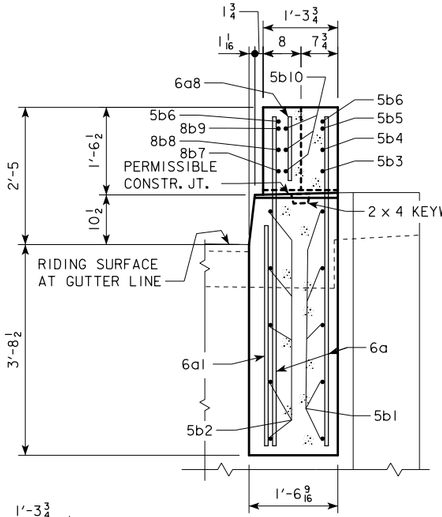
SECTION A-A



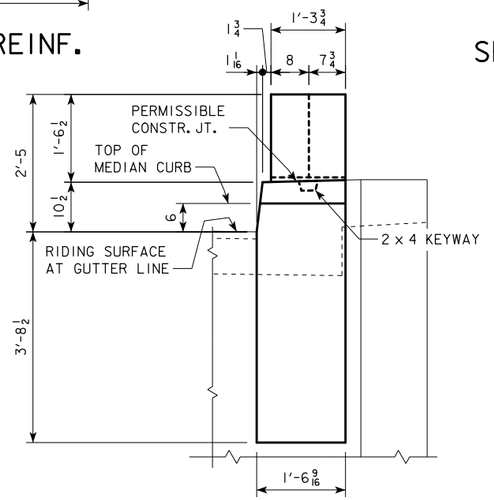
PART LONGIT. SECT. NEAR GUTTER LINE
(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(N.W. CORNER - MEDIAN)



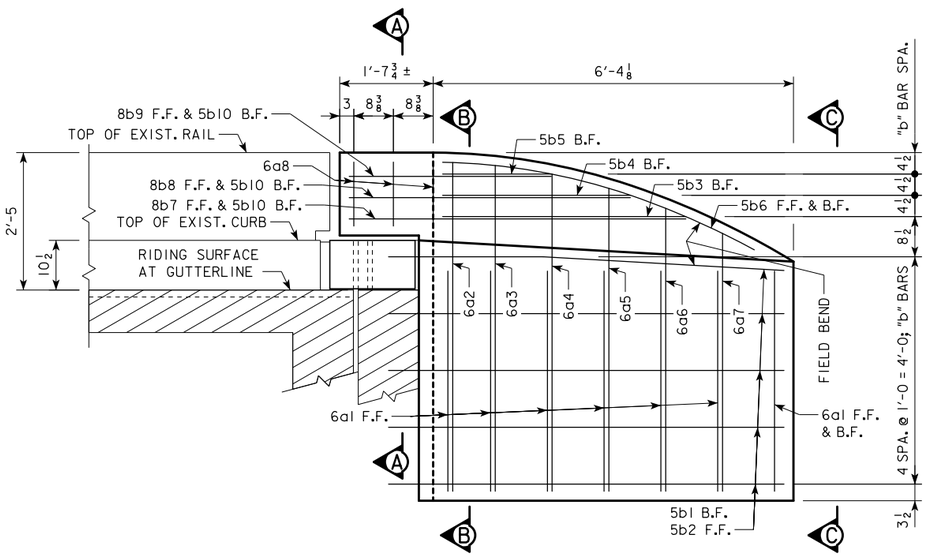
PLAN VIEW OF END SECT. FOOTING REINF.
(N.W. CORNER - MEDIAN)



SECTION B-B



VIEW C-C



PART LONGIT. SECT. NEAR GUTTER LINE
(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(N.W. CORNER - MEDIAN)

NOTE: FOR DOWEL SETTING NOTES SEE DESIGN SHEET #2.
FIELD BEND NECESSARY ON ONE 5b1 AND 5b2, AND BOTH 5b6 BARS.

DESIGN FOR REPAIRS TO 20°39'15" SKEW (L.A.)

DUAL 236'-0 x 30'-0 CONTINUOUS I-BEAM BRIDGES

52'-0 END SPANS — TWO 66'-0 INTERIOR SPANS

N.B. RETROFIT N.W. MEDIAN END SECT. DTLS.

STA. 18+64.40 (N.B. DUBUQUE ST. OVER I-80)
STA. 119+02.80 (S.B. DUBUQUE ST. OVER I-80)

FEBRUARY, 2010

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 9 OF 12 FILE NO. 30402 DESIGN NO. 110

DESIGN TEAM WDT / BDK	JOHNSON COUNTY	PROJECT NUMBER IM-080-6(306)244--13-52	SHEET NUMBER V.9

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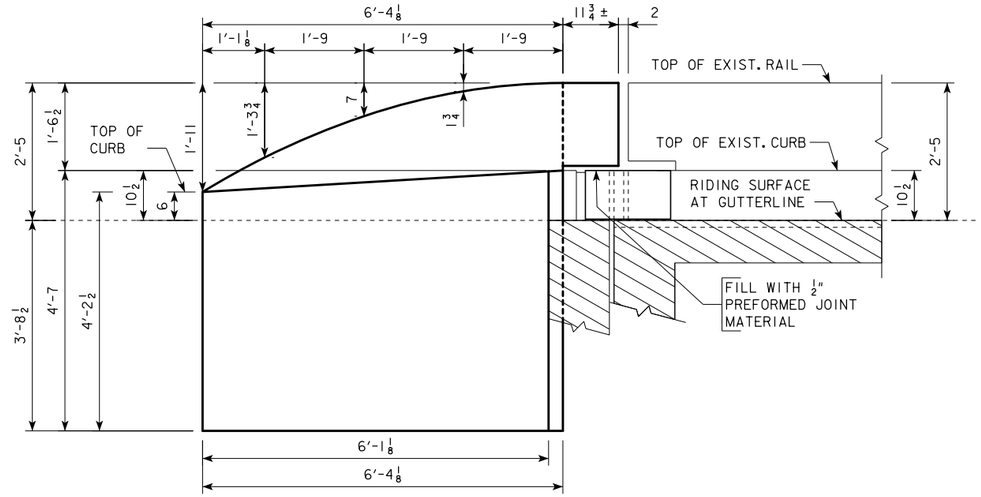
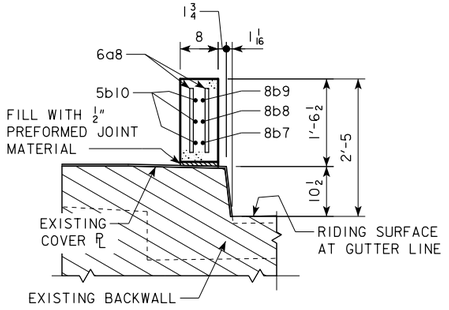
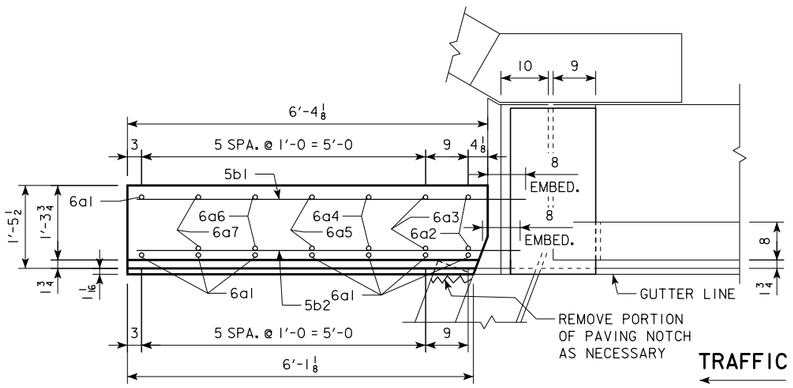


PART LONGIT. SECT. NEAR GUTTER LINE

(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(N.E. CORNER)

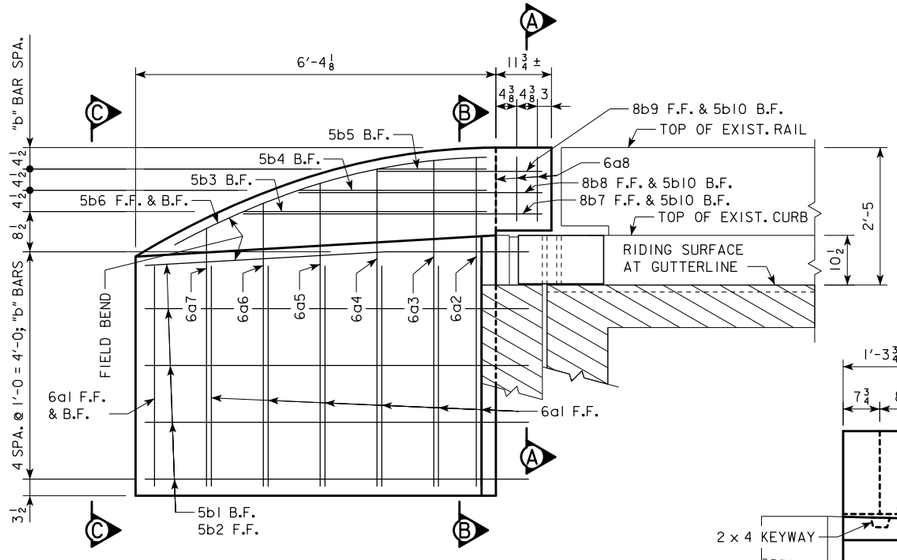


SECTION A-A



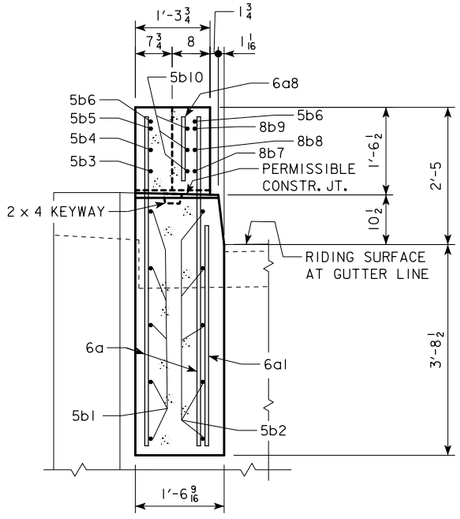
PLAN VIEW OF END SECT. FOOTING REINF.

(N.E. CORNER)

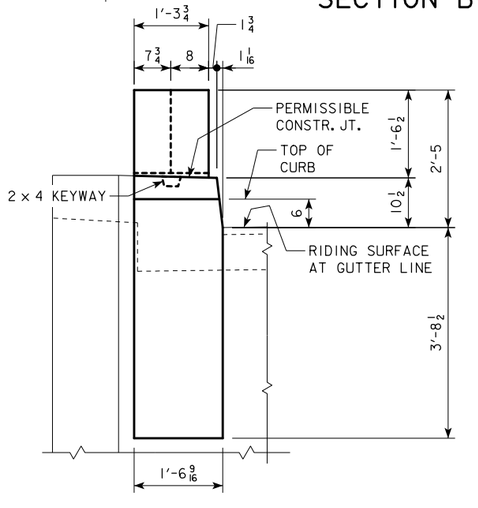


PART LONGIT. SECT. NEAR GUTTER LINE

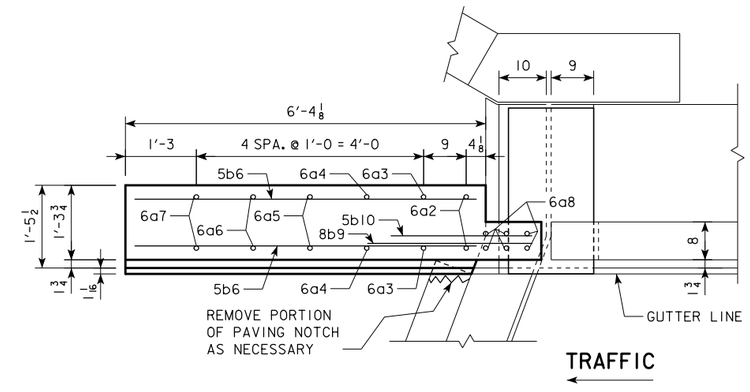
(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(N.E. CORNER)



SECTION B-B



VIEW C-C



PLAN VIEW OF END SECT. REINF.

(N.E. CORNER)

NOTE: FOR DOWEL SETTING NOTES SEE DESIGN SHEET #2.
FIELD BEND NECESSARY ON ONE 5b1 AND 5b2,
AND BOTH 5b6 BARS.

DESIGN FOR REPAIRS TO 20°39'15" SKEW (L.A.)

DUAL 236'-0 x 30'-0 CONTINUOUS I-BEAM BRIDGES

52'-0 END SPANS — TWO 66'-0 INTERIOR SPANS

N.B. RETROFIT N.E. END SECT. DTLS.

STA. 18+64.40 (N.B. DUBUQUE ST. OVER I-80)
STA. 119+02.80 (S.B. DUBUQUE ST. OVER I-80)

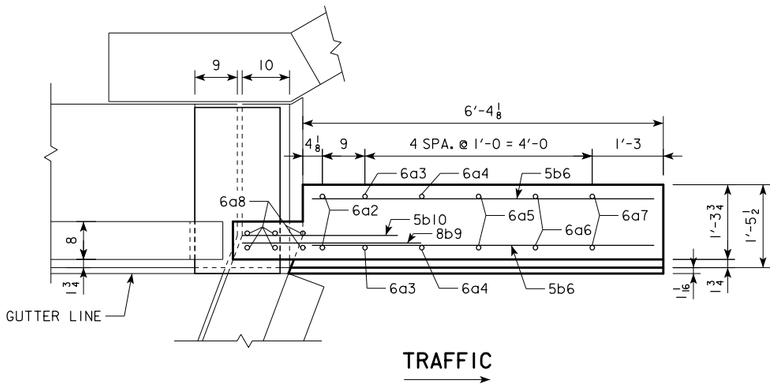
FEBRUARY, 2010

JOHNSON COUNTY

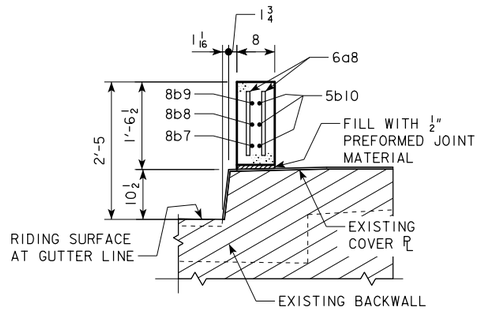
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 10 OF 12 FILE NO. 30402 DESIGN NO. 110

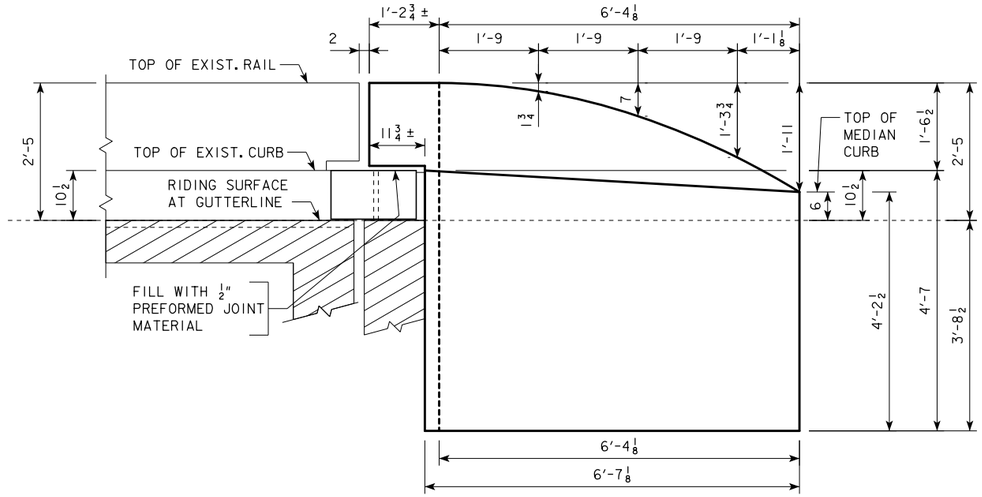
DESIGN TEAM WDT / BDK	JOHNSON COUNTY	PROJECT NUMBER IM-080-6(306)244--13-52	SHEET NUMBER V.10



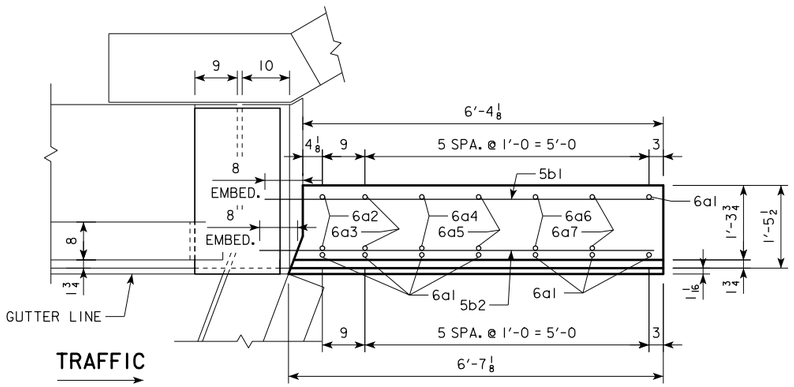
PLAN VIEW OF END SECT. REINF.
(S.E. CORNER - MEDIAN)



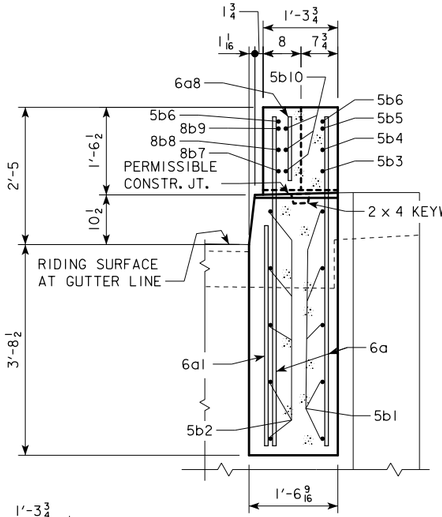
SECTION A-A



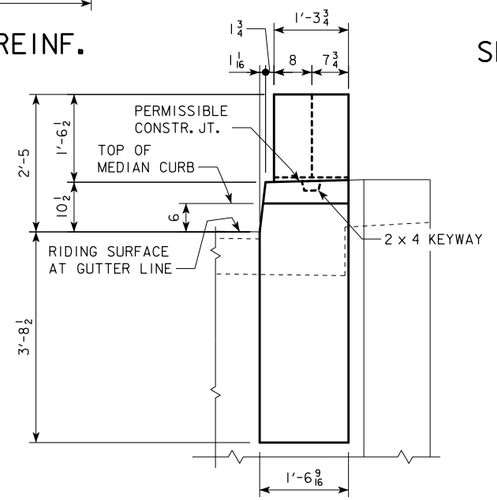
PART LONGIT. SECT. NEAR GUTTER LINE
(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(S.E. CORNER - MEDIAN)



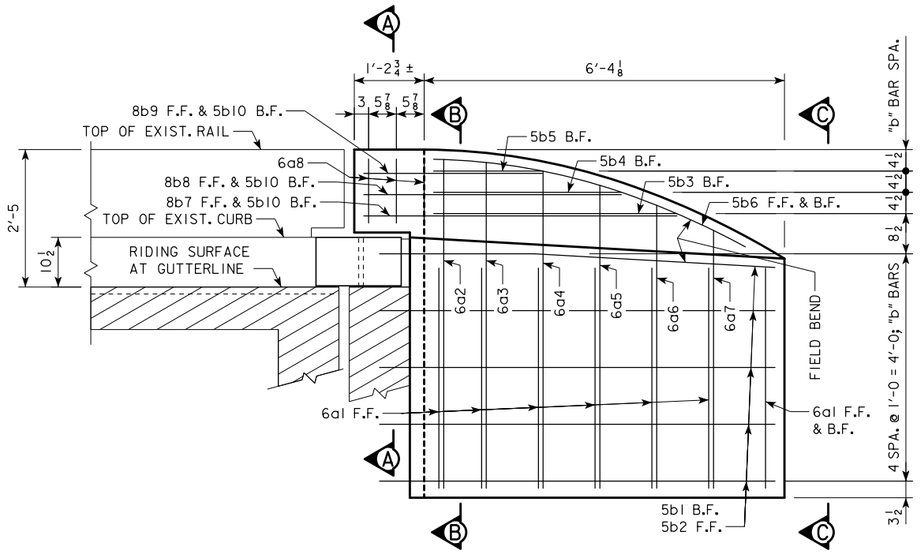
PLAN VIEW OF END SECT. FOOTING REINF.
(S.E. CORNER - MEDIAN)



SECTION B-B



VIEW C-C



PART LONGIT. SECT. NEAR GUTTER LINE
(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(S.E. CORNER - MEDIAN)

NOTE: FOR DOWEL SETTING NOTES SEE DESIGN SHEET #2.
FIELD BEND NECESSARY ON ONE 5b1 AND 5b2, AND BOTH 5b6 BARS.

DESIGN FOR REPAIRS TO 20°39'15" SKEW (L.A.)

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52'-0 END SPANS — TWO 66'-0 INTERIOR SPANS

S.B. RETROFIT S.E. MEDIAN END SECT. DTLS.

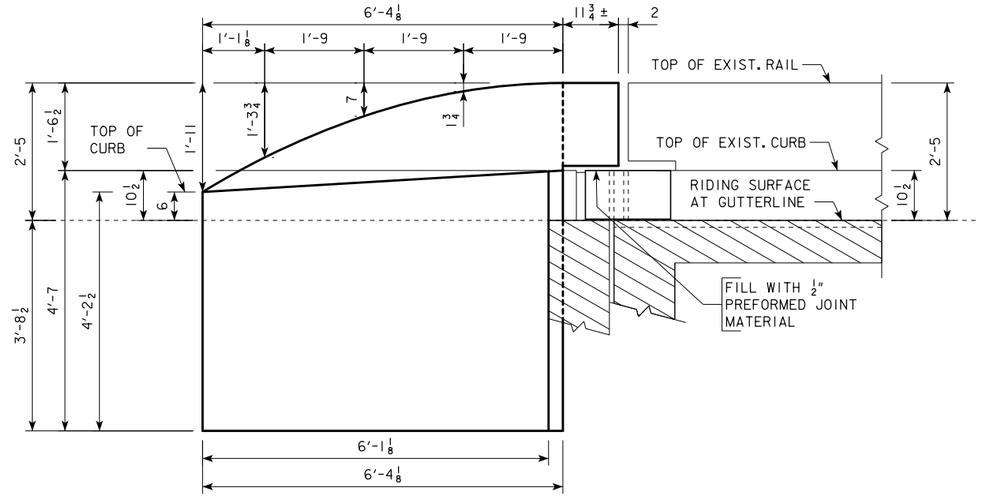
STA. 18+64.40 (N.B. DUBUQUE ST. OVER I-80)
STA. 119+02.80 (S.B. DUBUQUE ST. OVER I-80)

FEBRUARY, 2010

JOHNSON COUNTY

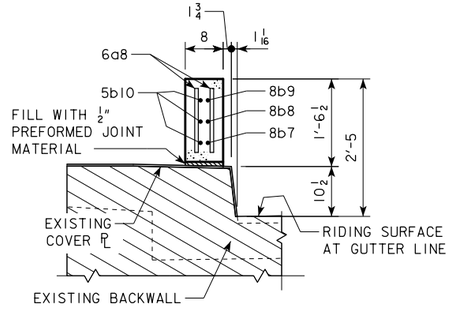
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 11 OF 12 FILE NO. 30402 DESIGN NO. 110

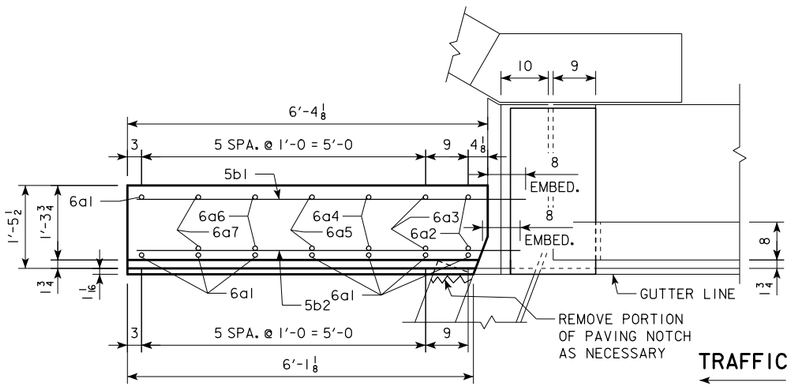


PART LONGIT. SECT. NEAR GUTTER LINE

(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(N.E. CORNER)

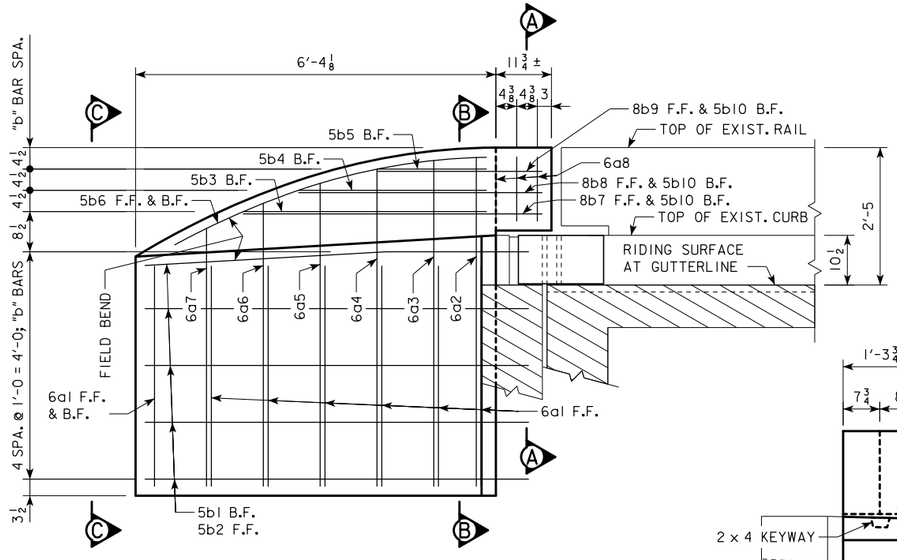


SECTION A-A



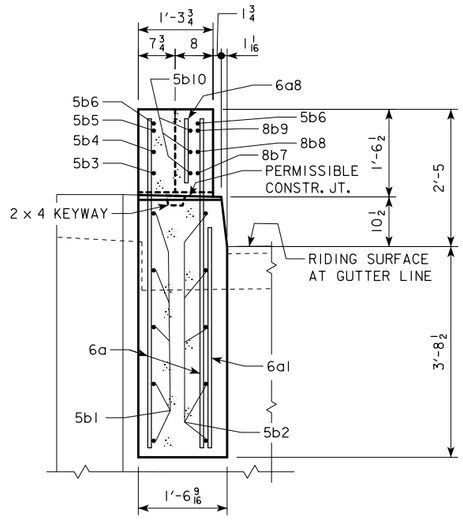
PLAN VIEW OF END SECT. FOOTING REINF.

(N.E. CORNER)

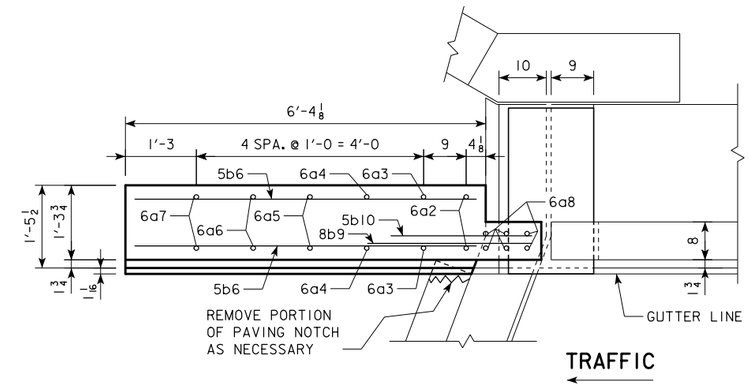


PART LONGIT. SECT. NEAR GUTTER LINE

(EXISTING PAVEMENT SUPPORTS NOT SHOWN)
(N.E. CORNER)

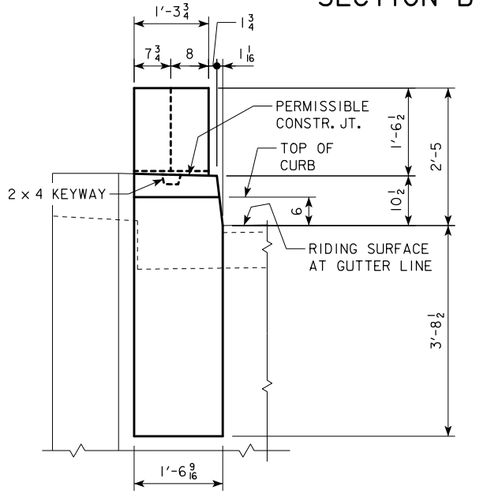


SECTION B-B



PLAN VIEW OF END SECT. REINF.

(N.E. CORNER)



VIEW C-C

NOTE: FOR DOWEL SETTING NOTES SEE DESIGN SHEET #2.
FIELD BEND NECESSARY ON ONE 5b1 AND 5b2, AND BOTH 5b6 BARS.

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FEBRUARY, 2010

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 12 OF 12 FILE NO. 30402 DESIGN NO. 110

DESIGN TEAM WDT / BDK	JOHNSON COUNTY	PROJECT NUMBER IM-080-6(306)244--13-52	SHEET NUMBER V.12