PRELIMINARY ENGINEERING
IMN-080-6(235)239--0E-52
JOHNSON Co.

LETTING DATE 8/1/2017

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	**Title Sheets**
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D Sheets	**Mainline Plan and Profile Sheets**
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 15	I80
E Sheets	**Side Road Plan and Profile Sheets**
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* E.22 - 23	Jasper Ave.
* E.24 - 25	340th Ave.
* E.26 - 27	Barn Entrance
* E.28 - 29	US 6 Entrance
F Sheets	**Detour or Temporary Pavement Sheets**
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* F.2	Loop F Detour
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G.9 - 12	Horizontal Control Tab. & Super for all Alignments
G.13	Superelevation Data
J Sheets	**Traffic Control and Staging Sheets**
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* J.1	Staging Notes Stage
* J.2	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.3 - 8	Staging and Traffic Control Sheets Stage 1
* J.9 - 14	Staging and Traffic Control Sheets Stage 2
* J.15 - 20	Staging and Traffic Control Sheets Stage 3
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* K.2	Ireland Ave. RAMP "A" Plan and Profile Sheets
* K.3	Ireland Ave. RAMP "D" Plan and Profile Sheets
* K.4 - 7	Interchange Layout Sheets I380
* K.8 - 9	I380 RAMP "A" Plan and Profile Sheets
* K.10 - 11	I380 RAMP "B" Plan and Profile Sheets
* K.12 - 13	I380 RAMP "C" Plan and Profile Sheets
* K.14	I380 RAMP "D" Plan and Profile Sheets
* K.15 - 18	I380 RAMP "E" Plan and Profile Sheets
* K.19 - 23	I380 RAMP "F" Plan and Profile Sheets
* K.24 - 27	I380 RAMP "G" Plan and Profile Sheets
* K.28 - 31	I380 RAMP "H" Plan and Profile Sheets
* K.32	Interchange Layout Sheets IA965
* K.33	IA965 RAMP "B" Plan and Profile Sheets
* K.34	IA965 RAMP "C" Plan and Profile Sheets
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L.2	Geometric & Staking I80 Sta. 687+04 to Sta. 690+97
L.3	Geometric & Staking I80 Sta. 696+13 to Sta. 700+51
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V.10 - 62	Bridge Situation Plans
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Y.9 - 13	Ireland Ave Ramp D
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Y.65 - 75	I80 Ramp C
Y.76 - 86	I80 Ramp D
Y.87 - 128	I80 Ramp E
Y.129 - 186	I80 Ramp F
Y.187 - 232	I80 Ramp G
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Z.4 - 9	I80/I380/Ramp F Infield (West of I380)
Z.10 - 25	I80/I380/Ramp F Infield (East of I380)

* Color Plan Sheets

IOWA DOT

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

INTERSTATE ROAD SYSTEM

JOHNSON COUNTY

PRELIMINARY ENGINEERING

I-80/380/US 218 System Interchange near Iowa City

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.

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www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS

TOTAL 792
PROJECT IDENTIFICATION NUMBER
02-52-080-010
PROJECT NUMBER
IMN-080-6(235)239--0E-52
R.O.W. PROJECT NUMBER
IMN-080-6(236)239--0E-52

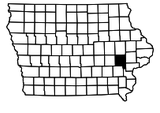
For Project Location Map
Refer to Sheet A.2

I80 DESIGN DATA RURAL		
2004 AADT	49,800	V.P.D.
2040 AADT	91,340	V.P.D.
20-- DHV	--	V.P.H.
TRUCKS	--	%
Total Design ESALs	--	

I380 DESIGN DATA RURAL		
2004 AADT	32,700	V.P.D.
2040 AADT	74,540	V.P.D.
20-- DHV	--	V.P.H.
TRUCKS	--	%
Total Design ESALs	--	

US218 DESIGN DATA RURAL		
2004 AADT	18,200	V.P.D.
2040 AADT	52,220	V.P.D.
20-- DHV	--	V.P.H.
TRUCKS	--	%
Total Design ESALs	--	

D Events
D2 - April 23, 2013
D3 - June 21, 2013
D5 - October 18, 2013
D8 - August 1, 2017



INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Elijah D. Gansen	Primary Signature Block
CD.1	David R. Claman	Hydraulic Design
CS.1	Robert L. Stanley	Geotechnical Design

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN – Date: 3/20/2015
Revised 4/21/2015

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER A.1

12:26:03 PM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235A1.sht

STA. 1260+00.00
BEGIN CONSTRUCTION

STA. 722+50.00
END PROJECT
END CONSTRUCTION

STA. 557+90.00
BEGIN PROJECT
BEGIN CONSTRUCTION

STA. 1089+20.00
END CONSTRUCTION

T-80N
(TIFFIN CORPORATE LIMITS)
T-79N

LOCATION MAP SCALE
0 0.1 0.2 0.3
Miles

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER A.2

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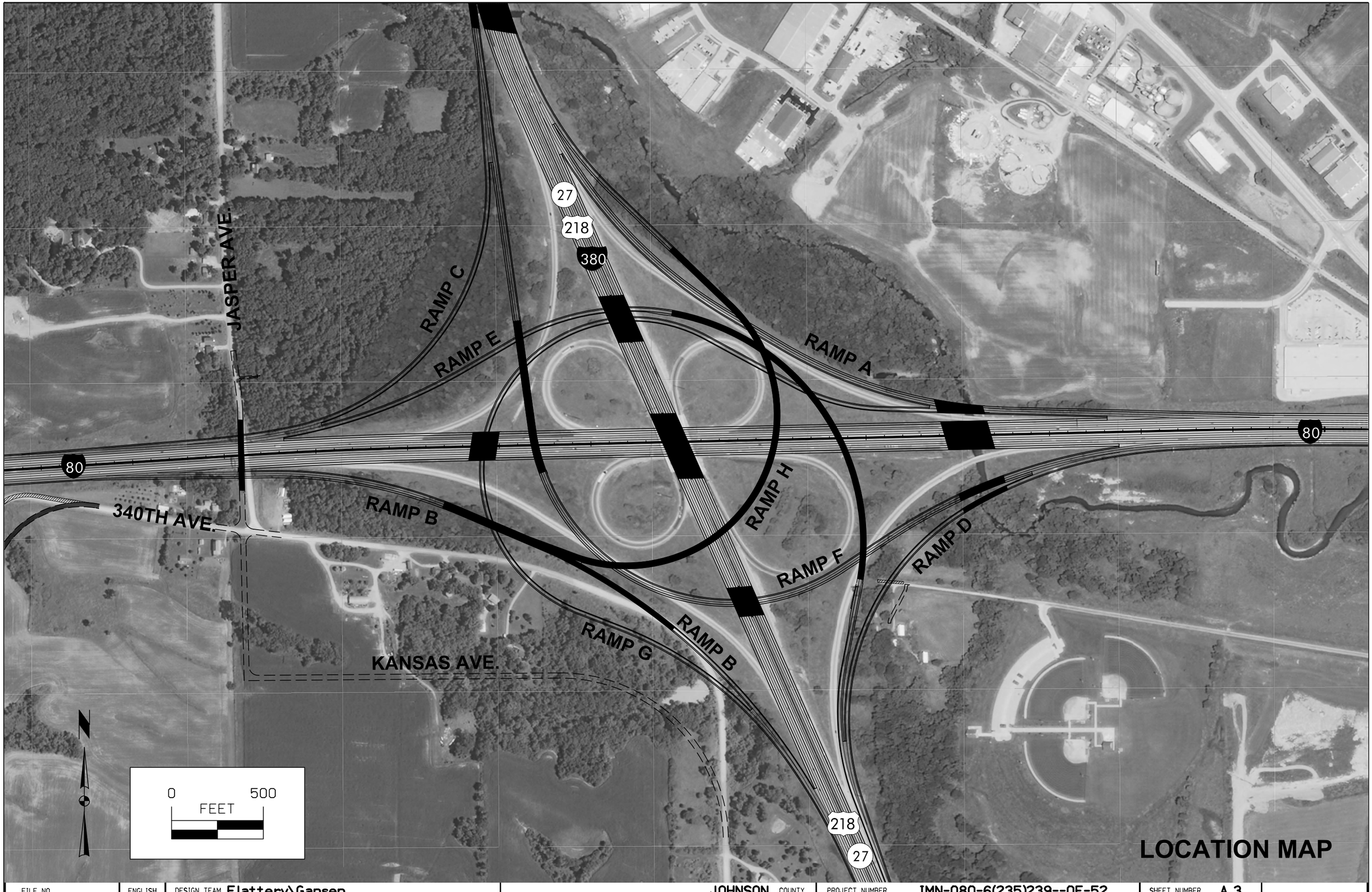

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER A.3

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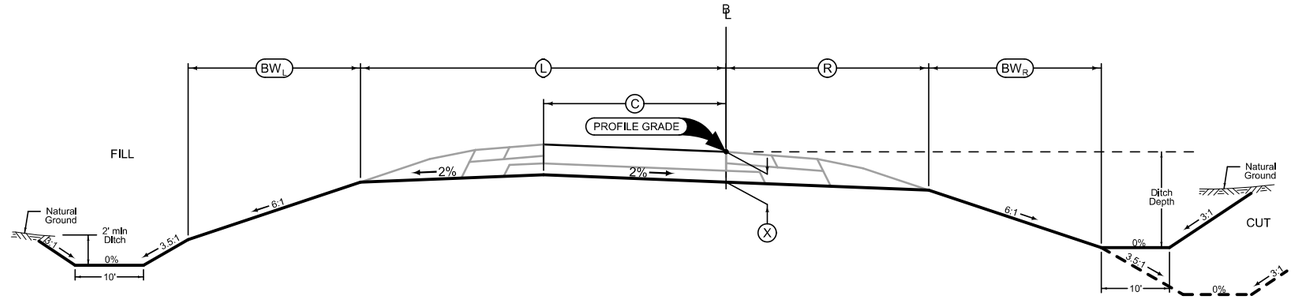
LOCATION				DIMENSIONS					
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW_L) Feet	(BW_R) Feet
Ireland Ave	A	1566+30.20	1590+00.00	43.5	16.1	24	18	19.7	20.1
Ireland Ave	D	4561+33.50	4580+95.81	30.4	16.1	16	18	20.3	20.1
I80/I380/US218	A	1530+63.64	1576+25.00	40.1	20.3	24	18	20.1	18.2
I80/I380/US218	B	2513+50.00	2540+18.74	42.3	19.5	24	18	19.8	19.7
I80/I380/US218	B	2540+18.74	2562+13.49	40.3	16.1	16	18	20.3	20.1
I80/I380/US218	C	3519+00.00	3543+35.09	30.9	21.0	16	18	20.2	14.4
I80/I380/US218	D	4541+82.66	4567+79.79	35.5	19.8	16	18	15.7	15.6
I80/I380/US218	E	5519+00.00	5591+95.08	33.9	19.3	16	18	16.9	16.7
I80/I380/US218	F	6502+50.06	6572+25.00	40.1	19.5	24	18	20.1	19.7
I80/I380/US218	G	7504+21.04	7562+75.00	30.4	16.1	16	18	20.3	20.1
I80/I380/US218	H	8537+06.52	8578+73.96	35.5	16.1	16	18	19.7	20.1
IA 965	B	2498+22.67	2518+95.00	40.1	19.5	24	18	20.1	16.7
IA 965	C	5508+55.71	5514+00.00	32.8	15.8	16	18	19.7	16.2

G_1R_Grade
04-15-14



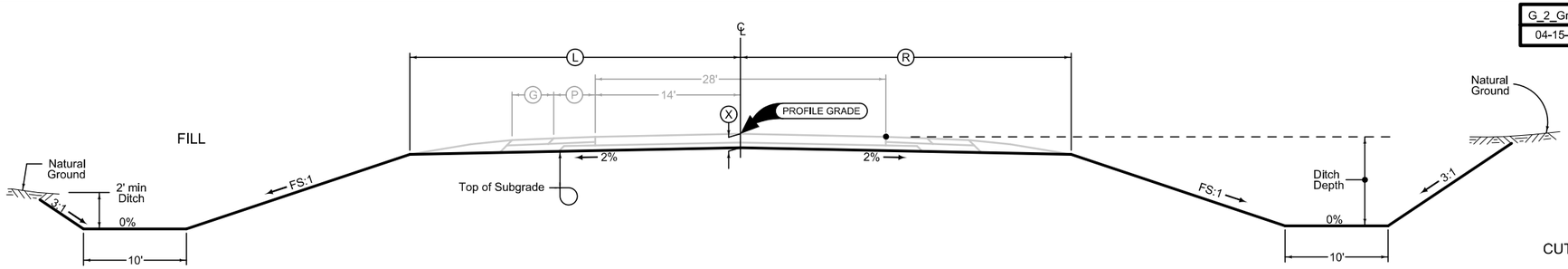
Section view is in direction of traffic.

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

RAMP GRADING

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	FS
Jasper Ave	30622+89.02	30627+00.00	32.50	24.6	14.0	3:1

G_2_Grade
04-15-14

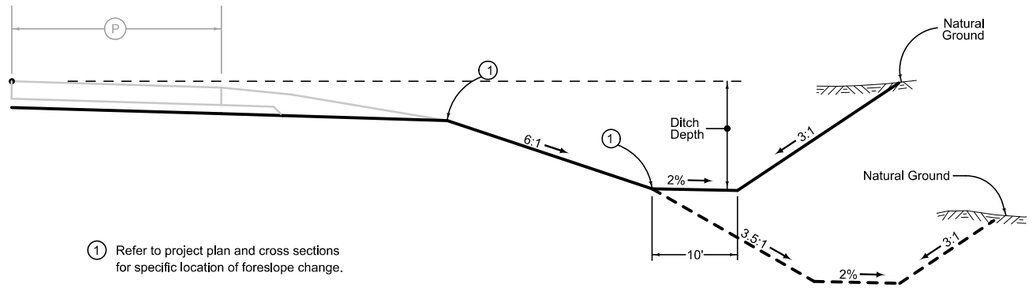


Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See plan & profile sheets and cross sections for additional details of ditches and backslopes.

2 LANE GRADING

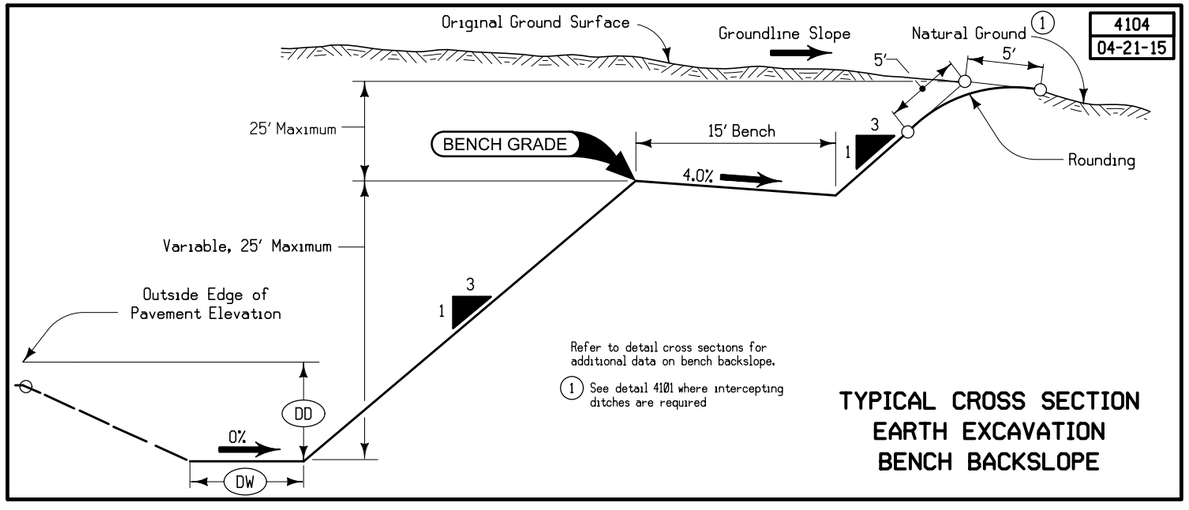
Ditch



(1) Refer to project plan and cross sections for specific location of foreslope change.

FORESLOPE AND DITCH GRADING FOR I80/I380/US218

4104
04-21-15



Refer to detail cross sections for additional data on bench backslope.

(1) See detail 4101 where intercepting ditches are required

TYPICAL CROSS SECTION EARTH EXCAVATION BENCH BACKSLOPE

FILE NO.	ENGLISH	DESIGN TEAM Holst \ Thede	JOHNSON COUNTY	PROJECT NUMBER IM-NHS-380-6(326)2--03-52	SHEET NUMBER B.1

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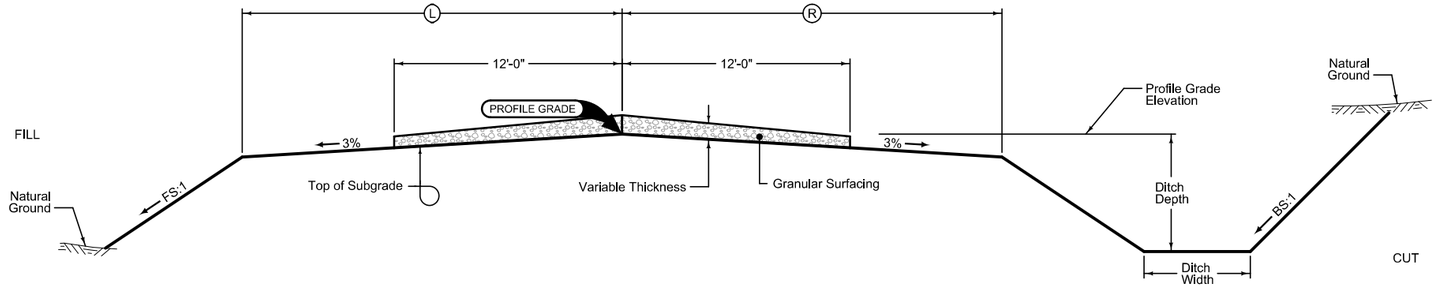
LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	FS	BS
Kansas Ave.	1600+46.24	1631+49.96	14	14	3:1	3:1
Jasper Ave.	30609+09.42	30618+86.20	14	14	3:1	3:1
340th Street	1695+30.00	1704+20.00	14	14	3:1	3:1
340th Street	1710+92.00	1712+01.78	14	14	3:1	3:1
340th Street	1712+30.11	1714+00.00	14	14	3:1	3:1

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

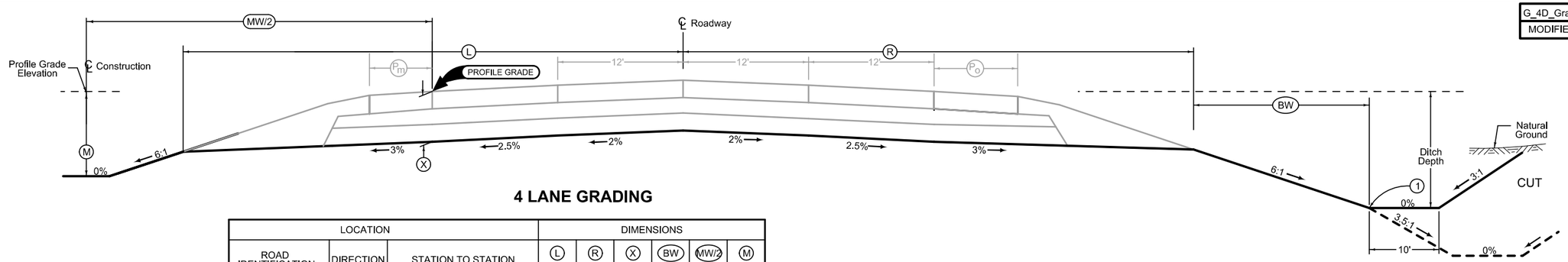
See plan & profile sheets and cross sections for additional details of ditches and backslopes.

2_GradeGran
10-19-10



GRADING AND GRANULAR SURFACING

G_4D_Grade
MODIFIED



4 LANE GRADING

LOCATION				DIMENSIONS					
ROAD IDENTIFICATION	DIRECTION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet	(MW/2) Feet	(M) Feet
I-380	Both	1260+00.00	1326+00.00	52.8	48.9	18	17.2	29	2.4

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) Refer to project plan and cross sections for specific location of foreslope change.

FILE NO.	ENGLISH	DESIGN TEAM Holst \ Thede	JOHNSON COUNTY	PROJECT NUMBER IM-NHS-380-6(326)2--03-52	SHEET NUMBER B.2

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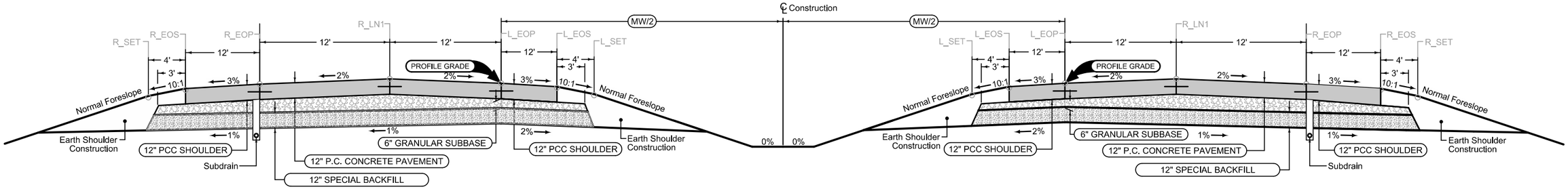

Mainline Jointing:
Transverse joints: CD at 20' spacing
Longitudinal joint: L-2

4DP_
10-19-10

Direction of Travel	BEGIN STATION	END STATION	(MW) Feet
	557+90.00	564+40.00	50 - 34

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

INTERSTATE 80

FILE NO.	ENGLISH	DESIGN TEAM Holst \ Thede	JOHNSON COUNTY	PROJECT NUMBER IM-NHS-380-6(326)2--03-52	SHEET NUMBER B.3

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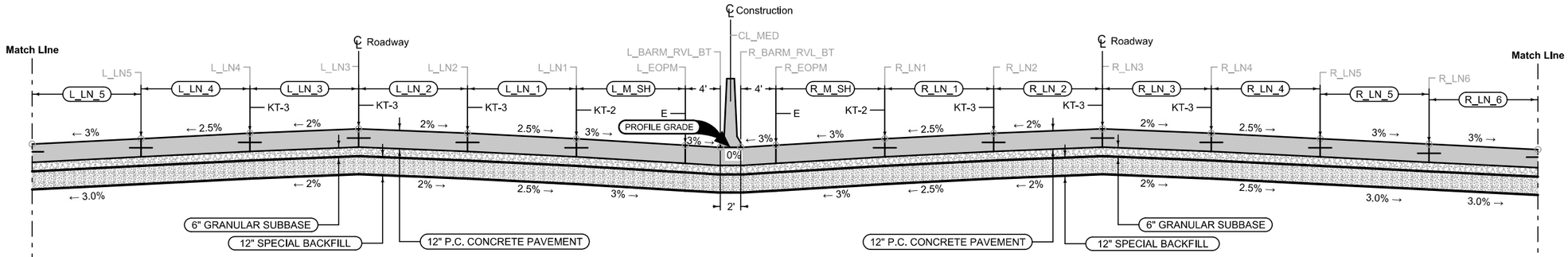
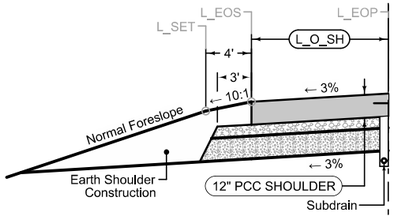
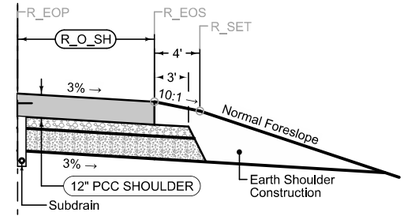






Mainline Jointing:
Transverse joints: CD at 20' spacing

8DP_Closed_

BEGIN STATION	END STATION	L_LN_5 Feet	L_LN_4 Feet	L_LN_3 Feet	L_LN_2 Feet	L_LN_1 Feet	L_M_SH Feet	R_M_SH Feet	R_LN_1 Feet	R_LN_2 Feet	R_LN_3 Feet	R_LN_4 Feet	R_LN_5 Feet	R_LN_6 Feet
564+40.00	571+00.00	--	--	0 - 9.43	12	12	12	12	12	12	--	--	--	--
571+00.00	572+80.00	--	--	9.43 - 12	12	12	12	12	12	12	0 - 12	--	--	--
572+80.00	582+79.40	--	--	12	12	12	12	12	12	12	12	--	--	--
582+79.40	583+11.79	--	--	12	12	12	12	12	12	12	12	12	--	--
583+11.79	587+00.00	--	--	12	12	12	12	12	12	12	12	12	--	--
587+00.00	590+00.00	--	12	12	12	12	12	12	12	12	12	12	--	--
590+00.00	596+70.00	--	12	12	12	12	12	12	12	12	12	12	--	--
596+70.00	598+50.00	--	12	12	12	12	12	12	12	12	12	12	0 - 12	--
598+50.00	600+00.00	--	12	12	12	12	12	12	12	12	12	12	12	--
600+00.00	603+00.00	12	12	12	12	12	12	12	12	12	12	12	12	--
603+00.00	609+00.00	12	12	12	12	12	12	12	12	12	12	12	12	--
609+00.00	613+50.00	12	12	12	12	12	12	12	12	12	12	12	12	--
613+50.00	619+00.00	12	12	12	12	12	12	12	12	12	12	12	--	--
619+00.00	620+70.60	--	12	12	12	12	12	12	12	12	12	12	--	--
620+70.60	623+28.43	--	12	12	12	12	12	12	12	12	12	12	--	--
623+28.43	668+16.04	--	12	12	12	12	12	12	12	12	12	12	--	--
668+16.04	668+77.78	--	12	12	12	12	12	12	12	12	12	12	--	--
668+77.78	671+60.12	--	12	12	12	12	12	12	12	12	12	12	--	--
671+60.12	672+25.00	--	12	12	12	12	12 - 11.9	12	12	12	12	12	12	--
672+25.00	677+26.98	--	12	12	12	12	11.9 - 8.82	12 - 9.77	12	12	12	12	12	12
677+26.98	677+79.76	12	12	12	12	12	8.82 - 8.48	9.77 - 9.43	12	12	12	12	12	12
677+79.76	680+75.12	12	12	12	12	12	8.48 - 8	9.43 - 8	12	12	12	12	12	12
680+75.12	683+75.00	12	12	12	12	12	8	8	12	12	12	12	12	12
683+75.00	689+02.66	12	12	12	12	12	8	8	12	12	12	12	12	12 - 1.4
689+02.66	689+75.00	Bridge App.	Bridge App.	Bridge App.	Bridge App.	Bridge App.	Bridge App.	8	12	12	12	12	12	1.4 - 0
689+75.00	690+31.73	Bridge App.	Bridge App.	Bridge App.	Bridge App.	Bridge App.	Bridge App.	8	12	12	12	12	12	--

Full Depth PCC Shoulder

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

6D_Closed_P_FullPCC_ 04-19-11

BEGIN STATION	END STATION	L_O_SH Feet
564+40.00	582+79.40	12
Ramp Taper		
590+00.00	600+00.00	12
600+00.00	603+00.00	12-6
603+00.00	609+00.00	6
Ramp Taper		
623+28.43	668+16.04	12
Ramp Taper		
677+26.98	690+31.73	12

Full Depth PCC Shoulder

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

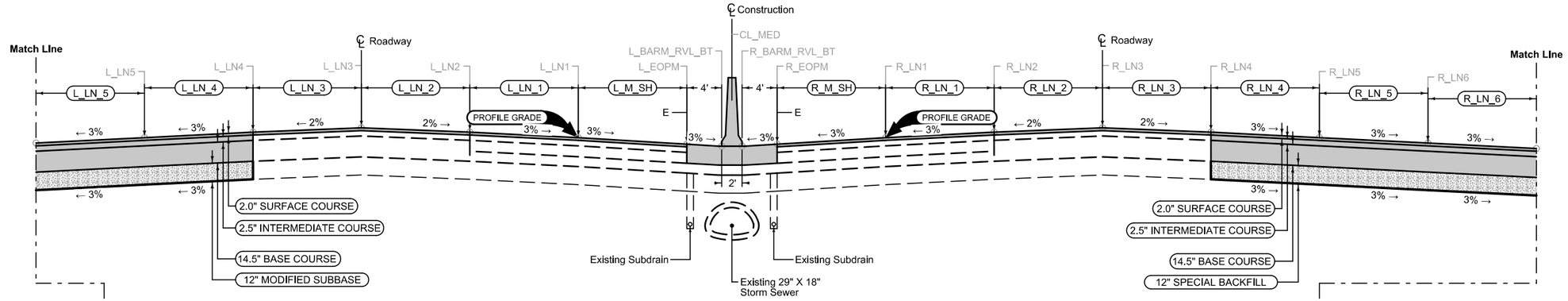
6D_Closed_P_FullPCC_ 04-19-11

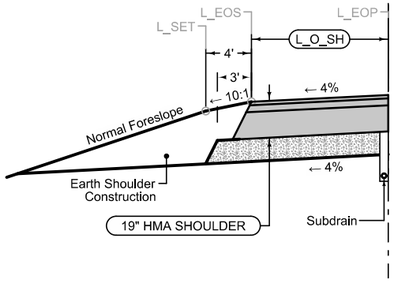
BEGIN STATION	END STATION	R_O_SH Feet
564+40.00	583+11.79	12
Ramp Taper		
587+00.00	596+70.00	12
596+70.00	598+50.00	12-6
598+50.00	613+50.00	6
Ramp Taper		
620+70.60	668+77.78	12
Ramp Taper		
672+25.00	686+75.06	6
686+75.06	689+75.00	6 - 12
689+75.00	690+31.73	12

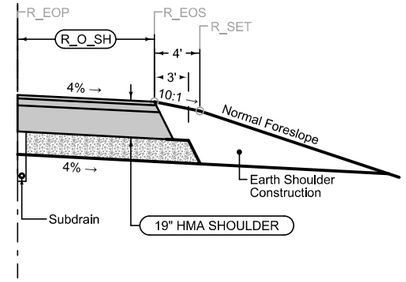
See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

INTERSTATE 80







8DP_Closed_

BEGIN STATION	END STATION	L_LN_5 Feet	L_LN_4 Feet	L_LN_3 Feet	L_LN_2 Feet	L_LN_1 Feet	L_M_SH Feet	R_M_SH Feet	R_LN_1 Feet	R_LN_2 Feet	R_LN_3 Feet	R_LN_4 Feet	R_LN_5 Feet	R_LN_6 Feet
696+78.20	698+15.26	12	12	12	12	12	8	Bridge App.	Bridge App.	Bridge App.	Bridge App.	Bridge App.	Bridge App.	–
698+15.26	701+25.00	12	12	12	12	12	8	8	12	12	12	12	12	–

Full Depth HMA Shoulder

6D_Closed_P_FullHMA_

BEGIN STATION	END STATION	L_O_SH Feet
696+78.20	701+25.00	12

Full Depth HMA Shoulder

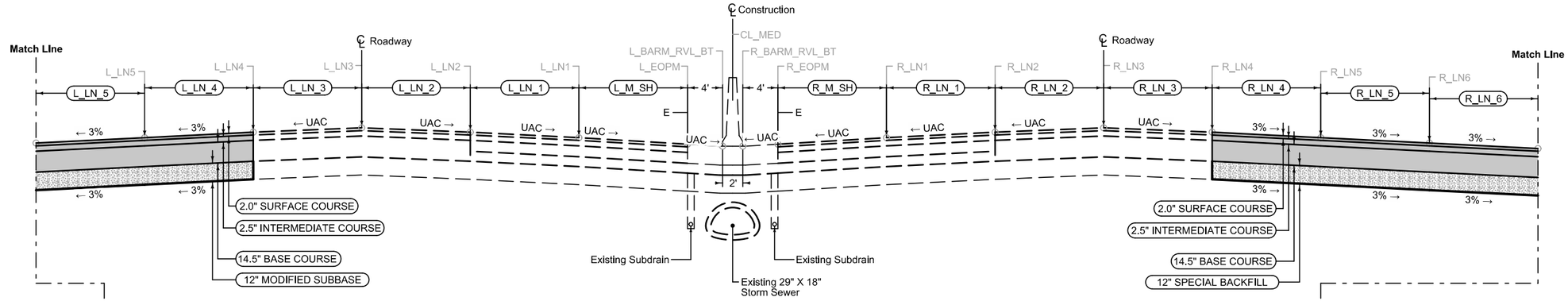
6D_Closed_P_FullHMA_

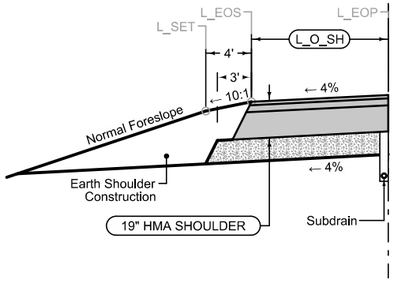
BEGIN STATION	END STATION	R_O_SH Feet
698+15.26	701+25.00	12

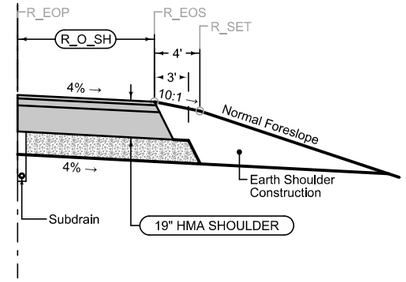
See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

INTERSTATE 80







8DP_Closed_

BEGIN STATION	END STATION	L_LN_5 Feet	L_LN_4 Feet	L_LN_3 Feet	L_LN_2 Feet	L_LN_1 Feet	L_M_SH Feet	R_M_SH Feet	R_LN_1 Feet	R_LN_2 Feet	R_LN_3 Feet	R_LN_4 Feet	R_LN_5 Feet	R_LN_6 Feet
701+25.00	708+50.00	12	UAC	UAC	UAC	UAC	UAC	UAC	UAC	UAC	UAC	12	--	--
708+50.00	712+41.63	--	12	UAC	UAC	UAC	UAC	UAC	UAC	UAC	UAC	12	--	--
712+41.63	715+33.57	--	12	UAC	UAC	UAC	UAC	UAC	UAC	UAC	UAC	12	--	--
715+33.57	716+95.47	--	12	UAC	UAC	UAC	UAC	UAC	UAC	UAC	UAC	12 - 9.69	--	--
716+95.47	722+33.57	--	UAC	UAC	UAC	UAC	UAC	UAC	UAC	UAC	UAC	9.69 - 0	--	--

Full Depth HMA Shoulder

6D_Closed_P_FullHMA_

BEGIN STATION	END STATION	L_O_SH Feet
701+25.00	708+50.00	12
708+50.00	712+41.63	12 - 6
712+41.63	716+95.47	12

Full Depth HMA Shoulder

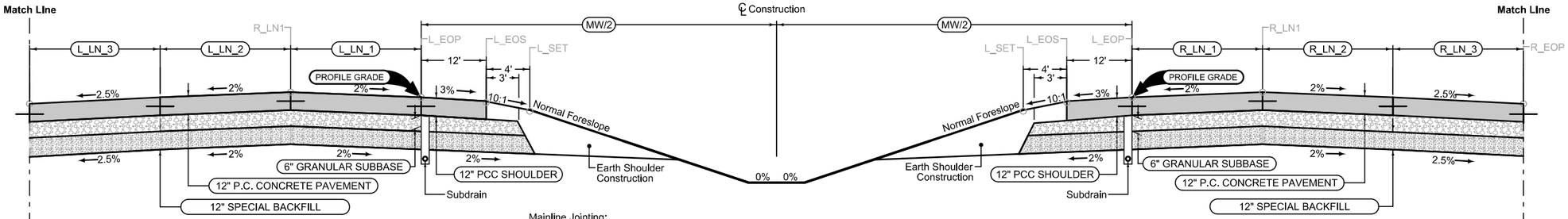
6D_Closed_P_FullHMA_

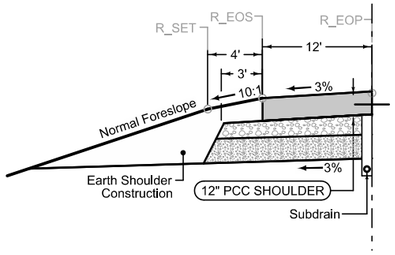
BEGIN STATION	END STATION	R_O_SH Feet
701+25.00	701+52.22	11.4 - 10
701+52.22	708+33.07	10
708+33.07	722+50.00	12

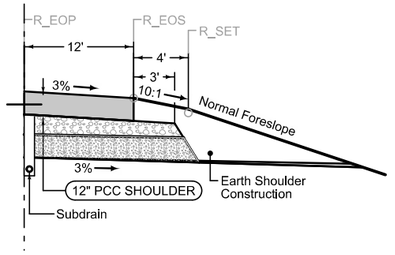
See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

INTERSTATE 80







Mainline Jointing:
Transverse joints: CD at 20' spacing

BEGIN STATION	END STATION	MW	L_LN_3	L_LN_2	L_LN_1	R_LN_1	R_LN_2	R_LN_3
		Feet	Feet	Feet	Feet	Feet	Feet	Feet
1089+20.00	1091+00.00	64	0 - 2.8	12	12	12	12	0 - 12
1091+00.00	1097+00.00	64	2.8 - 12	12	12	12	12	12
1097+00.00	1121+67.62	64 - 34	12	12	12	12	12	12

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

US218 / INTERSTATE 380

FILE NO.	ENGLISH	DESIGN TEAM Holst \ Thede	JOHNSON COUNTY	PROJECT NUMBER IM-NHS-380-6(326)2--03-52	SHEET NUMBER B.7

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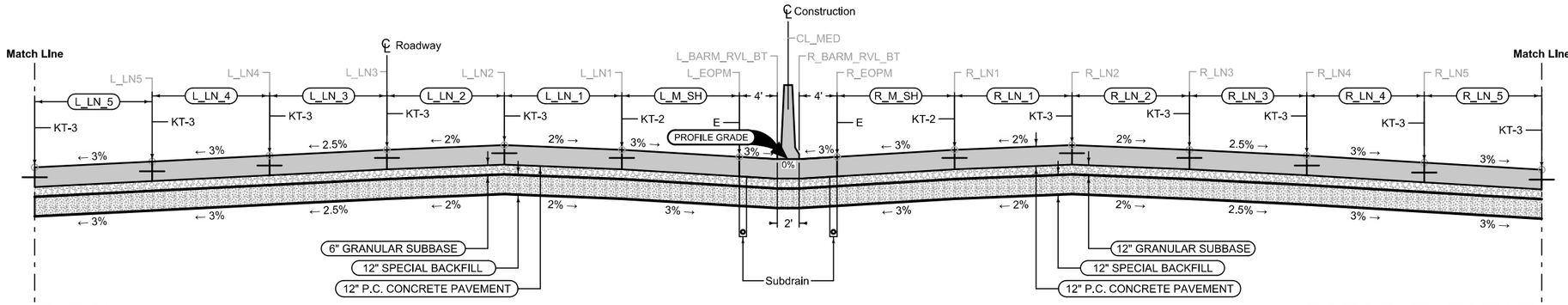
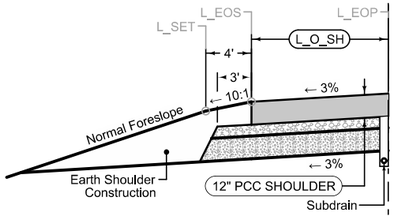
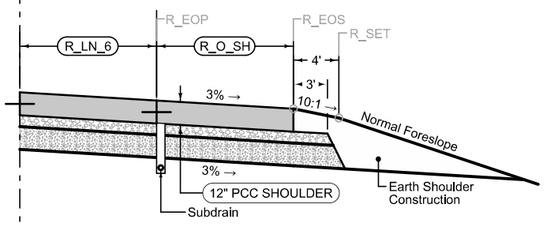






Mainline Jointing:
Transverse joints: CD at 20' spacing

6DP_Closed_

BEGIN STATION	END STATION	L_LN_5 Feet	L_LN_4 Feet	L_LN_3 Feet	L_LN_2 Feet	L_LN_1 Feet	L_M_SH Feet	R_M_SH Feet	R_LN_1 Feet	R_LN_2 Feet	R_LN_3 Feet	R_LN_4 Feet	R_LN_5 Feet
1121+67.62	1123+00.00	--	--	12	12	12	12	12	12	12	--	–	–
1123+00.00	1127+75.00	--	0 - 9.5	12	12	12	12	12	12	12	12	–	–
1127+75.00	1129+00.00	--	9.5 - 12	12	12	12	12	12	12	12	12	–	–
1129+00.00	1135+75.40	--	12	12	12	12	12	12	12	12	12	–	–
1135+75.40	1139+00.00	--	12	12	12	12	12	12	12	12	12	–	–
1139+00.00	1143+18.64	--	--	12	12	12	12	12	12	12	12	–	–
1143+18.64	1180+40.38	--	--	12	12	12	12	12	12	12	12	–	–
1180+40.38	1182+58.75	--	--	12	12	12	12	12	12	12	12	–	–
1182+58.75	1189+67.92	--	--	12	12	12	12	12	12	12	12	12	12
1189+67.92	1198+00.00	--	--	12	12	12	12	12	12	12	12	12	12
1198+00.00	1201+00.00	12	12	12	12	12	12	12	12	12	12	12	12
1201+00.00	1204+00.00	12 - 0	12	12	12	12	12	12	12	12	12	12	12
1204+00.00	1210+00.00	--	12	12	12	12	12	12	12	12	12	12	12
1210+00.00	1213+00.00	--	12 - 0	12	12	12	12	12	12	12	12	12	12
1213+00.00	1217+89.95	--	--	12	12	12	12	12	12	12	12	12	12

Full Depth PCC Shoulder

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

6D_Closed_P_FullPCC_ 04-19-11

BEGIN STATION	END STATION	L_O_SH Feet
1089+20.00	1123+00.00	12
1123+00.00	1139+00.00	6
Ramp Taper		
1143+18.64	1189+67.92	12
Ramp Taper		
1192+46.51	1201+00.00	10
1201+00.00	1204+00.00	10 - 6
1204+00.00	1210+00.00	6
1210+00.00	1213+00.00	6 - 12
1213+00.00	1260+00.00	12

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

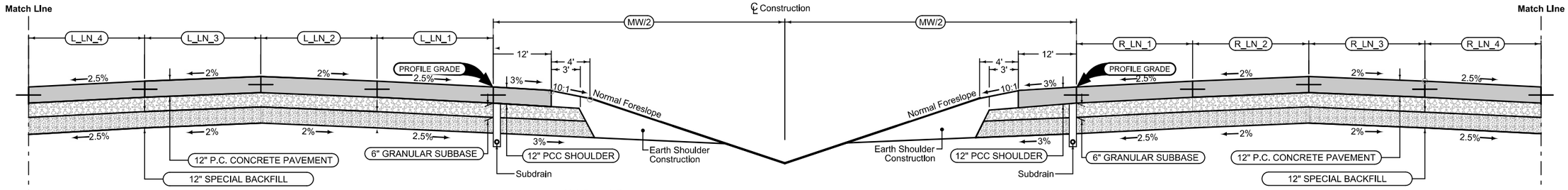
6D_Closed_P_FullPCC_ 04-19-11

BEGIN STATION	END STATION	R_LN_6 Feet	R_O_SH Feet
1089+20.00	1127+75.00		12
Ramp Taper			
1135+75.40	1180+40.38		12
Ramp Taper			
1186+06.00	1198+00.00	12	6
1198+00.00	1204+00.00	12 - 0	6
1204+00.00	1217+90.00		6

See Tab 100-24 for pavement quantities.

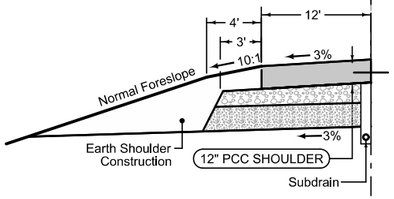
See Tab 112-9 for shoulder quantities.

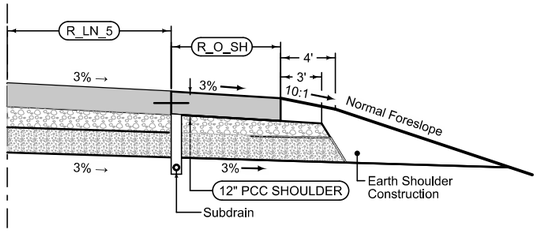
INTERSTATE 380



Mainline Jointing:
Transverse joints: CD at 20' spacing

BEGIN STATION	END STATION	MW	L_LN_4	L_LN_3	L_LN_2	L_LN_1	R_LN_1	R_LN_2	R_LN_3	R_LN_4
		Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet
1217+89.95	1324+00.00	58	12	12	12	12	12	12	12	12





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

6D_Closed_P_FullPCC_ 04-19-11			
BEGIN STATION	END STATION	R_LN_6	R_O_SH
		Feet	Feet
1217+89.95	1324+00.00	12 - 6	6
1220+89.95	1223+89.95	6 - 0	6 - 12
1223+89.95	1324+00.00	0	12

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

INTERSTATE 380

FILE NO.	ENGLISH	DESIGN TEAM Holst \ Thede	JOHNSON COUNTY	PROJECT NUMBER IM-NHS-380-6(326)2--03-52	SHEET NUMBER B.9

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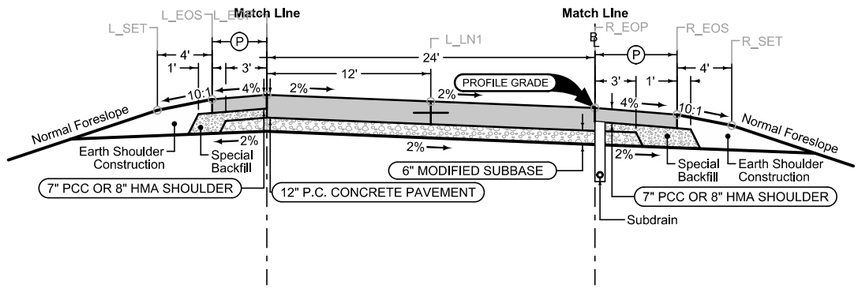
Paved Shoulder Alternates

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

			1R_P_ALT_ 10-19-10
ROAD IDENTIFICATION	BEGIN STATION	END STATION	(P) Feet
Ireland Ave. Ramp A	1566+30.20	1590+00.00	6
I-380 Ramp A	1530+63.64	1576+25.00	6
I-380 Ramp B	2513+50.00	2540+18.74	6
I-380 Ramp F	6502+50.06	6572+25.00	6
IA 965 Ramp B	2498+22.67	2518+95.00	6



Section shown in the direction of traffic.

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

		2RP_ 04-16-13
ROAD IDENTIFICATION	BEGIN STATION	END STATION
Ireland Ave. Ramp A	1566+30.20	1590+00.00
I-380 Ramp A	1530+63.64	1576+25.00
I-380 Ramp B	2513+50.00	2540+18.74
I-380 Ramp F	6502+50.06	6572+25.00
IA 965 Ramp B	2498+22.67	2518+95.00

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

			1R_P_ALT_ 10-19-10
ROAD IDENTIFICATION	BEGIN STATION	END STATION	(P) Feet
Ireland Ave. Ramp A	1566+30.20	1590+00.00	10
I-380 Ramp A	1530+63.64	1576+25.00	10
I-380 Ramp B	2513+50.00	2540+18.74	10
I-380 Ramp F	6502+50.06	6572+25.00	10
IA 965 Ramp B	2498+22.67	2518+95.00	10

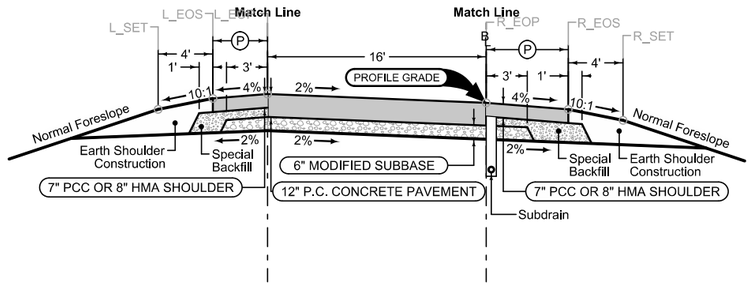
See Tab 100-24 for pavement quantities.
See Tab 112-9 for shoulder quantities.

TWO LANE RAMPS

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

1R_P_ALT_ 10-19-10			
ROAD IDENTIFICATION	BEGIN STATION	END STATION	(P) Feet
Ireland Ave. Ramp D	4561+33.50	4580+95.81	4
I-380 Ramp B	2540+18.74	2562+13.49	4
I-380 Ramp C	3519+00.00	3543+35.09	4
I-380 Ramp D	4541+82.66	4567+79.79	4
I-380 Ramp E	5519+00.00	5591+95.08	4
I-380 Ramp G	7504+21.04	7562+75.00	4
I-380 Ramp H	8568+35.52	8578+73.96	4
IA 965 Ramp C	5508+55.71	5514+00.00	4



Section shown in the direction of traffic.

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

1RP_ 10-19-10		
ROAD IDENTIFICATION	BEGIN STATION	END STATION
Ireland Ave. Ramp D	4561+33.50	4580+95.81
I-380 Ramp B	2540+18.74	2562+13.49
I-380 Ramp C	3519+00.00	3543+35.09
I-380 Ramp D	4541+82.66	4567+79.79
I-380 Ramp E	5519+00.00	5591+95.08
I-380 Ramp G	7504+21.04	7562+75.00
I-380 Ramp H	8568+35.52	8578+73.96
IA 965 Ramp C	5508+55.71	5514+00.00

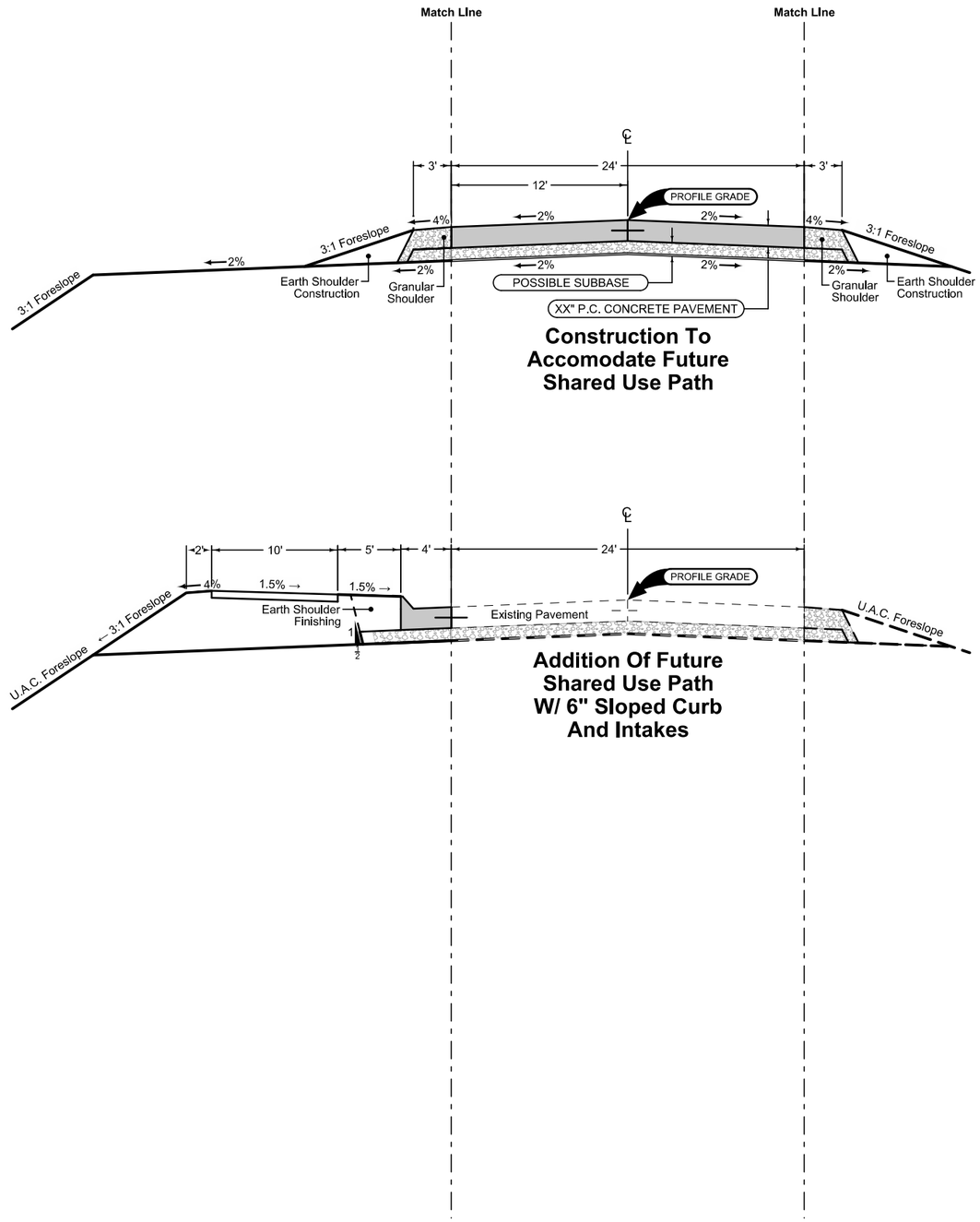
Paved Shoulder Alternates

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

1R_P_ALT_ 10-19-10			
ROAD IDENTIFICATION	BEGIN STATION	END STATION	(P) Feet
Ireland Ave. Ramp D	4561+33.50	4580+95.81	6
I-380 Ramp B	2540+18.74	2562+13.49	6
I-380 Ramp C	3519+00.00	3543+35.09	6
I-380 Ramp D	4541+82.66	4567+79.79	6
I-380 Ramp E	5519+00.00	5591+95.08	6
I-380 Ramp G	7504+21.04	7562+75.00	6
I-380 Ramp H	8568+35.52	8578+73.96	6
IA 965 Ramp C	5508+55.71	5514+00.00	6

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

ONE LANE RAMPS

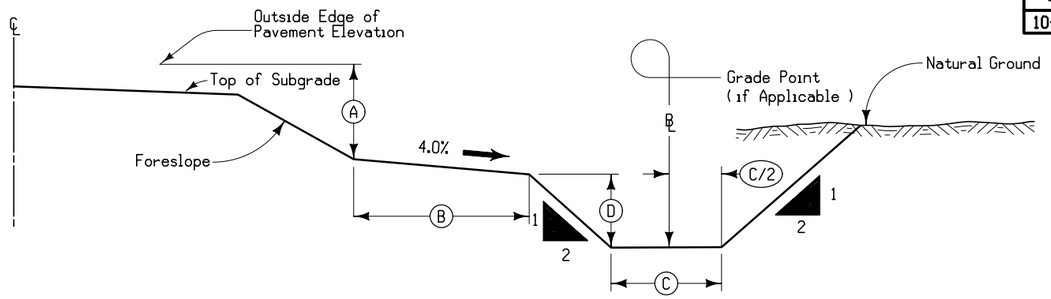


See Tab 100-24 or 100-25 for pavement quantities.

See Tab 112-9 for shoulder quantities.

JASPER AVENUE

4204
10-03-00



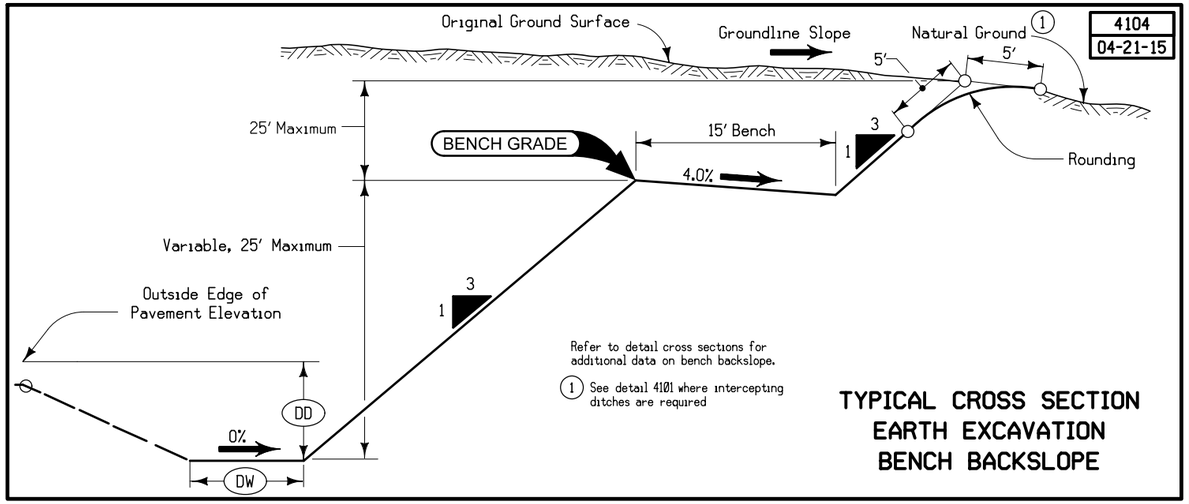
DETAILS OF TYPICAL SPECIAL DITCH

LOCATION			A	B	C	D
STATION TO STATION		SIDE	Feet	Feet	Feet	Feet
1303+78.58	1303+78.58	R	Variable	10	10	Variable
1308+00.00	1309+75.00	R	Variable	10-148.6	10	Variable

Note:

Details shown are typical. Refer to plan cross sections for additional data on Special Ditches.

4104
04-21-15



Refer to detail cross sections for additional data on bench backslope.

(1) See detail 4101 where intercepting ditches are required

TYPICAL CROSS SECTION EARTH EXCAVATION BENCH BACKSLOPE

SURVEY SYMBOLS

- TDC Tree Deciduous
- D Centerline Draw or Stream (Down)
- BLD Building or Foundation
- CON Concrete or A/C Slab
- EG Edge of Gravel Road
- PPA Power Pole Co. 1
- BNK Stream Bank
- EP Edge of Paved Roads (ML or SR)
- EW Edge of Water
- ENU Edge Unpaved Entrance & Parking
- TEV Evergeen Tree
- SWK Sidewalk
- HDG Hedge Row
- SNP Unpaved Shoulder
- WM Wind Mill
- SI Sign
- TV Satelite TV Dish
- CU Back of Curb
- IN Storm Sewer Intake
- MH Utility Access (Manhole)
- LUM Luminaire
- LP Tank
- GP Guard Post (Less Than 4 Posts)
- SCR Section Corner
- DU Centerline Draw or Stream (Up)
- OUT Tile Outlet
- FW Wire Fence
- ROW Right of Way Rail
- DIK Centerline of Dike or Dam
- RIP Rip-Rap
- GDL Guard Rail Steel
- LIN Miscellaneous Line
- PR Electic Riser Pole
- CUL Culvert
- BRG Bridge
- GU Gutter In Front of Curb
- CON Concrete or A/C Slab
- INB Storm Sewer Beehive Intake
- LC Lot Corner
- PPB Power Pole Co. 2
- SWP Swamp or Marsh
- ENT Centerline BL of Entrance
- FHD Fire Hydrants
- RET Retaining Walls
- STP Stump
- WV Water Valve
- FCL Chain Link and Security Fence
- WEL Well
- TPA Telephone Pole Co. 1
- FWD Wood Fence
- RR Centerline of Railroad Tracks
- PPC Power Pole Co. 3
- BM Bench Mark
- C Centerline BL of Road (ML or SR)
- SLN Section Line
- SH Paved Shoulder
- BIN Grain Bin
- SI Sign
- TFR Tree Fruit
- SHR Shrub
- MM Mile Marker Post
- GP Guard Post (Less Than 4 Posts)
- Flg FLG Flag Poles
- EB Electrical Box
- TP TPD Telephone Pedestal
- WH WHD Water Hydrant
- SL Speed Limit Sign
- SNK Sink Hole
- CIS Cistern
- SEP Septic Tank

UTILITY LEGEND

- LINN COUNTY REC
- ALLIANT
- MIDAMERICAN
- E1 - LINN COUNTY REC
- E2 - IDOT
- G - MIDAMERICAN
- G-HP - MIDAMERICAN
- G2-HP - MAGELLAN
- FO - ICN
- FO2 - SOUTH SLOPE COOP
- FO3 - CENTURYLINK
- FO4 - WINDSTREAM/PAETEC
- FO5 - WINDSTREAM
- FO6 - INS
- FO7 - UNIVERSITY OF IOWA
- San.2 - CITY OF CORALVILLE
- T1 - WINDSTREAM
- T2 - SOUTH SLOPE COOP
- TV - MEDIACOM
- W - CITY OF NORTH LIBERTY
- W2 - CITY OF CORALVILLE
- W3 - IDOT
- W4 - CITY OF TIFFIN

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)

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.1

3:38:17 PM 5/4/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235lgd.sht

Sta. 558+52.3, 10.4' Lt.
24" x 66.3' Conc. Pipe
DA = Median Only

CLEAR CREEK TWP.
T-8ON R-7W
SEC. 32

CLEAR CREEK TWP.
T-8ON R-7W
SEC. 33

APPROX. SEC. LINE

535 540 545 550 555 560 565

STA. 557+90.00
BEGIN CONSTRUCTION
BEGIN PCC GRADE & PAVE

WBL Curve Data
Δ = 1° 25' 16.93" (RT)
T = 161.26
L = 322.50
R = 13,000.00
E = 1.00
e = NC
L x E = 0'
m = 0'

WBL Curve Data
Δ = 1° 25' 16.93" (LT)
T = 161.26
L = 322.50
R = 13,000.00
E = 1.00
e = NC
L x E = 0'
m = 0'

EBL Curve Data
Δ = 1° 25' 16.93" (LT)
T = 161.26
L = 322.50
R = 13,000.00
E = 1.00
e = NC
L x E = 0'

EBL Curve Data
Δ = 1° 25' 16.92" (RT)
T = 161.26
L = 322.50
R = 13,000.00
E = 1.00
e = NC
L x E = 0'

PC Sta 22558+90.00 = POT Sta 557+90.00
PI Sta 22559+51.26 = POT Sta 12557+90.00
PRC Sta 22561+12.50 = POT Sta 12559+51.26
PI Sta 22562+73.76 = POT Sta 12561+12.50
PT Sta 22564+35.00 = POT Sta 12562+73.76
PT Sta 564+34.93 = POT Sta 12564+35.00

12560

City of Tiffin

Extend 48" x 199.2' RCP
with 12' RCP
Lt. N/A
F.L. = Rt. 734.61
Other 734.30
Sta. 558+29.1
Skew 35° Rt. Ah.
48" x 199.2' Conc. Pipe
DA = 29 Ac. - F-R

0 100 FEET

180

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.2

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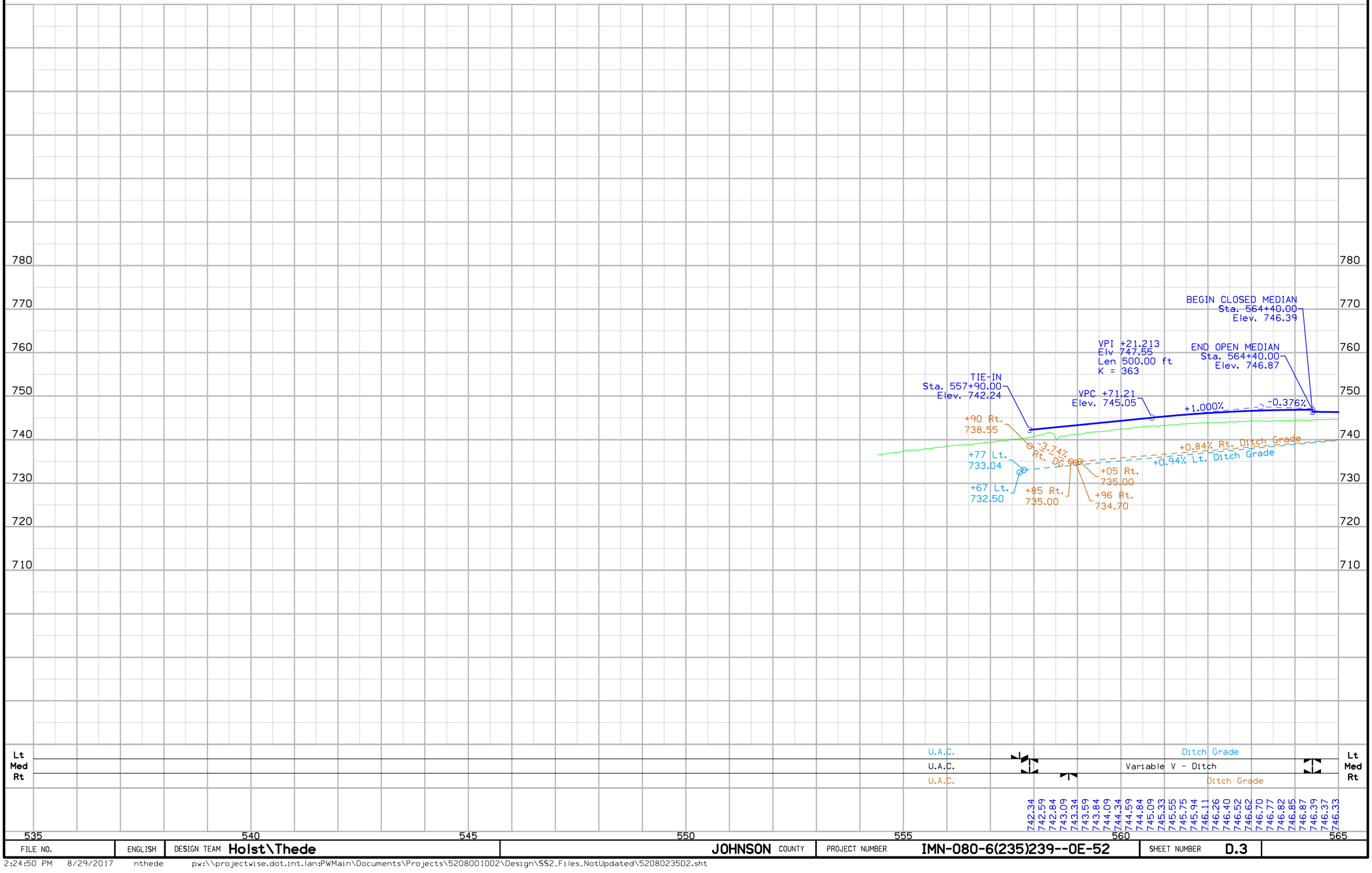

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.3

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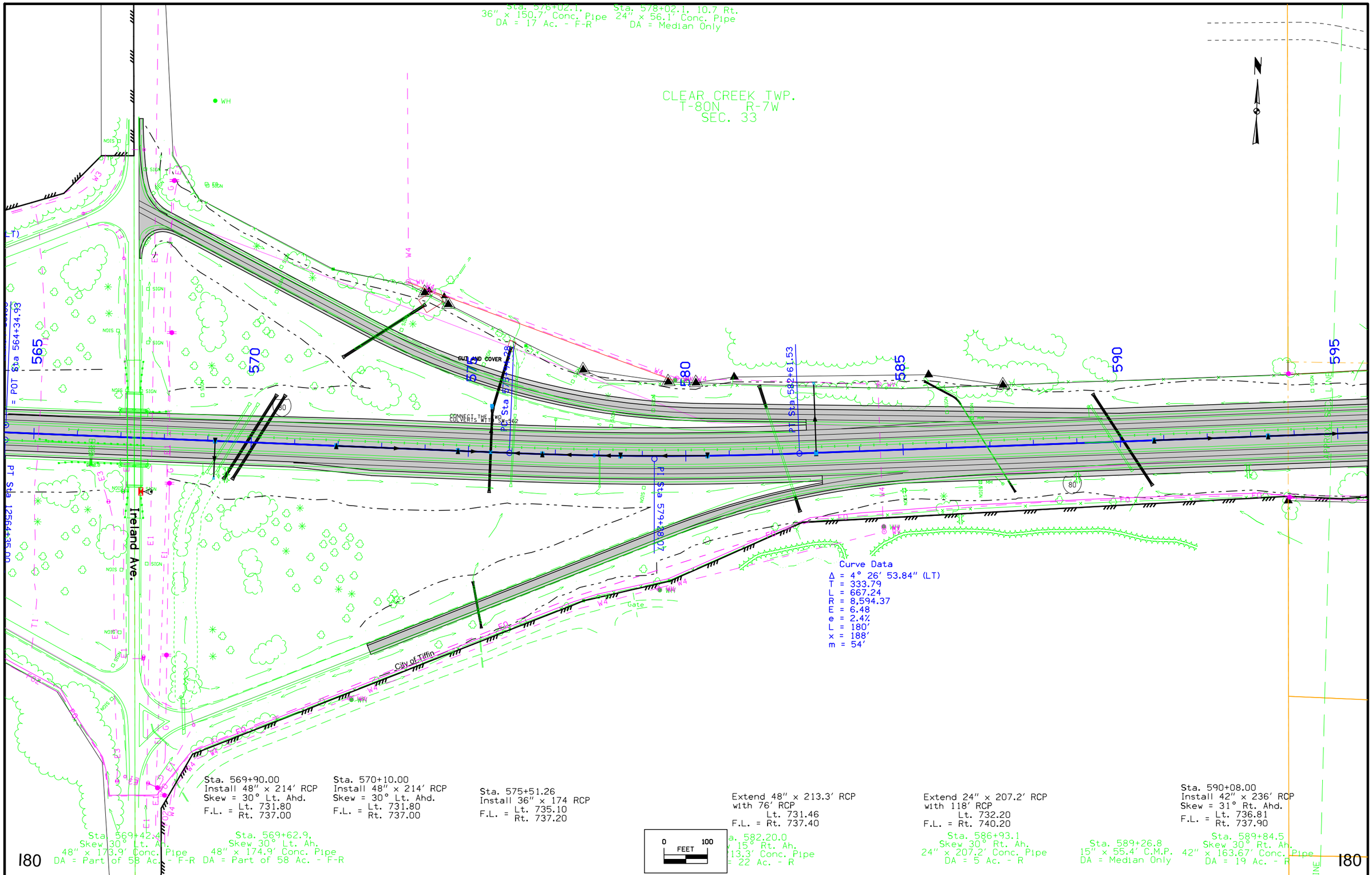

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.4

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780
770
760
750
740
730
720
710

VPT +71.21
Elev. 746.13
-0.376%
+0.84% RDG
+0.94% LDG
+45 Rt.
741.20
+45 Lt.
741.20
+05 Rt.
742.90
+05 Lt.
742.89
+36 Rt.
737.00
+25 Rt.
737.50
4.50% RDG
4.45% Lt. DG
+62 Rt.
737.00
+70 Rt.
737.50
+2.80% RDG
+45 Rt.
739.60
+40 Lt.
732.43
+50 Lt.
731.80
-0.40% Rt. Ditch Grade
+2.05% Lt.
Ditch Grade
+87 Lt.
732.37
+77 Lt.
731.80
+51 Rt.
737.40
+40 Rt.
737.62
-0.376%
+60 Rt.
737.62
-1.30% Lt. DG
+50 Lt.
737.76
VPI +95.000
Elv 741.90
Len 350.00 ft
K = 399
+0.55% Rt. Ditch Grade
+0.500%
+51 Lt.
735.10
+40 Lt.
735.29
+55 Rt.
740.34
+12 Rt.
738.84
+1.55% Rt.
Ditch Grade
+00 Rt.
741.76
VPI +00.000
Elv 746.43
Len 450.00 ft
K = 450
+0.500%
-0.500%
-0.50% Rt.
Ditch Grade
+45 Rt.
740.53
+55 Rt.
740.20
+60 Rt.
738.30
+0.60% Rt.
Ditch Grade
+65 Rt.
740.53
+12 Rt.
741.41
+00 Lt.
738.45
-2.10% Rt.
DG
+00 Rt.
740.06
+00 Lt.
739.41
+0.80% Rt. DG
+0.24% Lt. Ditch Grade
-1.58%
Lt. DG
+80 Rt.
738.30
+70 Rt.
737.90

| Lt Med Rt | | |

Sta. 606+27.0
Skew 45° Rt. Ah.
5' x 5' X 241.1' R.C.B.
DA = 72 Ac. - R

Extend 5'x5'x241.1' RCB
with 66" RCP
Lt. 727.80
F.L. = Rt. N/A
Other 727.80

Sta. 609+03.0, 11.6' Lt.
24" X 62.3' Conc. Pipe
DA = Median Only

CLEAR CREEK TWP.
T-8ON R-7W
SEC. 34

Sta. 618+02.2
Skew 30° Rt. Ah.
30" x 161.1' Conc. Pipe
DA = 7 Ac. - R

Sta. 617.79.00
Install 30" x 298' RCP
Skew = 30° Rt. Ahd.
F.L. = Lt. 754.16
Rt. 755.44

595 600 605 610 615 620 625

Sta. 618+62.9
15" x 59.2' C.M.P.
DA = Median Only

30" x 113.1'
Conc. Pipe

Jasper Ave.

Ramp C

Ramp E

Ramp B

City of Tiffin

80

Kansas Ave.

CONCENTRIC CURVE

+30 Prop.
Type M Dike
Elev. =757.70

Sta. 625+25.63
P.P. Beam Bridge

18" x 27.82'
C.M.P.

15" x 30.2'
C.M.P.

Proposed ICN Communica
Hut on DOT ROW.

Sta. 600+55.00
Install 30" x 226' RCP
F.L. = Lt. 728.80
Rt. 733.00

Sta. 599+02.3, 13.3 Rt.
24" x 54.68' Conc. Pipe
DA = Median Only

Sta. 601+42.5
Skew 30° Rt. Ah.
30" x 192.9' Conc. Pipe
DA = 14 Ac. - R

Sta. 605+02.5, 11.5' Rt.
24" x 54.5' Conc. Pipe
DA = Median Only

Extend 5'x5'x241.1' RCB
with 102"x62"x44' RF-41 arch pipe
Lt. N/A
F.L. = Rt. 731.68
Other 731.68

Sta. 622+50.00
Install 36" x 310' RCP
F.L. = Lt. 752.50
Rt. 755.20

0 100
FEET

I80

I80

		Holst\Thede	JOHNSON	IMN-080-6(235)239--0E-52	D.6	

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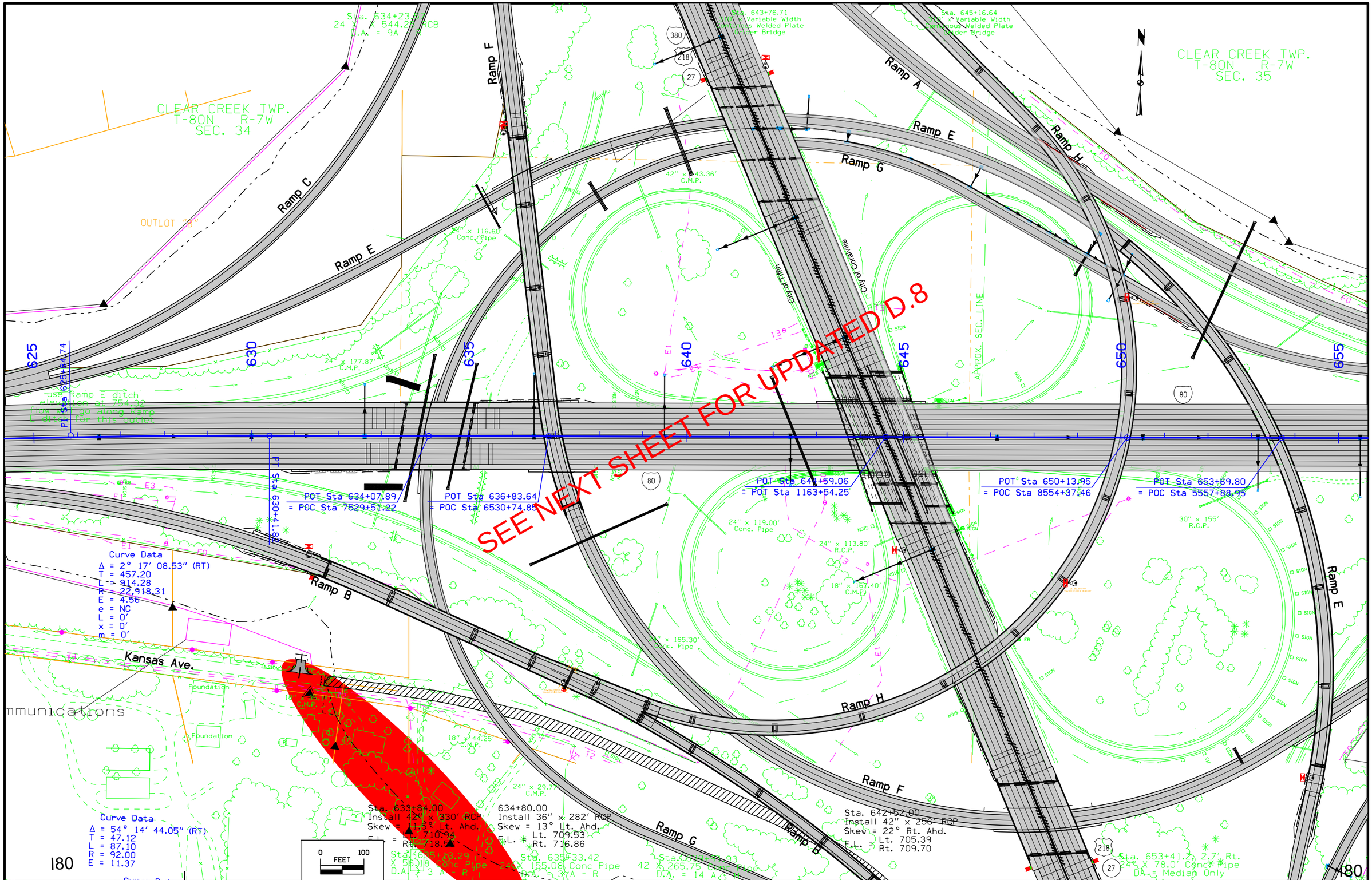
790
780
770
760
750
740
730
720

VPI +00.000
Elv 737.93
Len 500.00 ft
K = 236

VPI +50.000
Elv 772.65
Len 1,900.00 ft
K = 414

-0.76% Rt. Ditch Grade
+30 Lt.
737.36
+45 Rt.
734.40
+55 Rt.
734.00
-0.500%
+0.84% Rt.
Ditch Grade
+65 Rt.
734.41
+1.615%
+80 Rt.
736.22
-0.98% Rt. Ditch Grade
+85 Rt.
732.26
+95 Rt.
731.80
+25 Rt.
732.19
+15 Rt.
731.80
+00 Lt.
744.31
+1.38% Lt. Ditch Grade
+2.08% Rt. Ditch Grade
+09 Lt.
754.10
+1.78% Lt. Ditch Grade
+50 Rt.
755.59
+0.82% Rt.
Ditch Grade
+40 Lt.
760.00
+20 Rt.
756.98
+90 Lt.
752.54
-0.40%
Lt. DG
+28 Lt.
751.99
+1.615%

| Lt Med Rt | | |



SEE NEXT SHEET FOR UPDATED D.8

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.8

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UPDATED D.8

CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

Sta. XXXX WB
Build 155' x 75'-4 24 ° X 544.25' RCB
PPCB
Design No. 123

Sta. 634+23.87
R.A. = 9A R

Ramp F

Ramp C

Ramp E

Ramp A

Ramp E

Ramp G

Ramp H

Sta. 643+76.71
310' x Variable Width
Continuous Welded Plate
Girder Bridge

Sta. 645+16.64
360' x Variable Width
Continuous Welded Plate
Girder Bridge

42" x 143.36'
C.M.P.

24" x 116.60'
Conc. Pipe

24" x 177.87'
C.M.P.

625 630 635 640 645 650 655

PI Sta 625+84.74

PT Sta 630+41.82

INTERSTATE 380
US 218
US 27
INTERSTATE 80

Curve Data
Δ = 2° 17' 08.53" (RT)
T = 457.20
L = 914.28
R = 22,918.31
E = 4.56

Ramp B

Kansas Ave.

Foundation

Foundation

18" x 44.25'
C.M.P.

24" x 29.77'
C.M.P.

24" x 119.00'
Conc. Pipe

24" x 113.80'
R.C.P.

18" x 167.40'
C.M.P.

24" x 165.30'
Conc. Pipe

30" x 155'
R.C.P.

Ramp H

Ramp F

Ramp B

Ramp G

Ramp E

Sta. 653+41.12, 27' Rt
24" X 78.0' Conc. Pipe
DA = Median Only

Sta. 633+84.00
Install 42" x 330' RCP
Skew = 11.5° Lt. Ahd.
F.L. = Lt. 710.94
Rt. 718.5

Sta. 635+13.29
X 56.18 Conc Pipe
D.A. = 3 A - R

634+80.00
Install 36" x 282' RCP
Skew = 13° Lt. Ahd.
F.L. = Lt. 709.53
Rt. 716.86

Sta. 635+33.42
24 X 155.08 Conc Pipe
D.A. = 3 A - R

Sta. 639+91.93
42 X 265.75 Conc Pipe
D.A. = 14 A - H

Sta. 642+62.00
Install 42" x 256' RCP
Skew = 22° Rt. Ahd.
F.L. = Lt. 705.39
Rt. 709.70

Sta. XXXX
Build 155'
PPCB
Design No.

0 FEET 100

I-80

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.8

4:54:31 PM 9/4/2018 jstrum pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design_LETTING_FOLDERS_371_Year2_Grading\SHT_52080371_D02.dgn

SEE NEXT SHEET FOR UPDATED D.9

780
770
760
750
740
730
720
710
700
690
680
670
660
650

-2.97%

+30 Rt.
751.16

-2.76% Rt. Ditch Grade

+75 Rt.
741.64

+30 Lt.
755.70

-2.78% Lt. Ditch Grade

+20 Lt.
736.52

Ramp F

Ramp G

I-380

Ramp H

Ramp E

+80 Lt.
723.20

-2.30% Lt. Ditch Grade

-0.31% Rt. Ditch Grade

+60 Rt.
712.50

+08 Rt.
711.42

+00 Lt.
705.21

+70 Rt.
698.85

VPI +25.000
Elv 690.01
Len 450.00 ft
K = 182

-3.45% Rt. Ditch Grade

-2.97%

-0.500%

-1.80% Rt.
Ditch Grade

+00 Rt.
680.58

+00 Lt.
675.60

-1.16% Lt. Ditch Grade

+70 Lt.
670.15

Lt	- V Ditch	5' Ditch	Letdown	Bridge	Ditch Grade	Variable - V Ditch	Ditch Grade	Variable - V Ditch	Ditch Grade	Variable - V Ditch	Lt
Med	Closed Median With Intakes										Med
Rt	Variable - V Ditch	Ditch Grade	Letdown	Bridge	5' Ditch	Variable - V Ditch	Ditch Grade	Variable - V Ditch	Ditch Grade		Rt

761.16 760.94 760.70 760.45 760.18 759.90 759.60 759.28 758.96 758.61 758.25 757.88 757.49 757.08 756.66 756.23 755.78 755.31 754.83 754.34 753.83 753.30 752.76 752.21 751.64 751.05 750.45 749.83 749.20 748.56 747.89 747.22 746.53 745.82 745.10 744.36 743.62 742.87 742.13 741.38 740.64 739.89 739.15 738.41 737.66 736.92 736.17 735.43 734.68 733.94 733.19 732.45 731.70 730.96 730.22 729.47 728.73 727.98 727.24 726.49 725.75 725.00 724.26 723.52 722.77 722.03 721.28 720.54 719.79 719.05 718.30 717.56 716.81 716.07 715.33 714.58 713.84 713.09 712.35 711.60 710.86 710.11 709.37 708.63 707.88 707.14 706.39 705.65 704.90 704.16 703.41 702.67 701.92 701.18 700.44 699.69 698.95 698.20 697.46 696.71 695.99 695.29 694.63 694.01 693.42 692.87 692.34 691.86 691.41 690.99 690.61 690.26 689.94 689.66 689.42 689.21 689.03 688.89 688.76 688.64

625 630 635 640 645 650 655

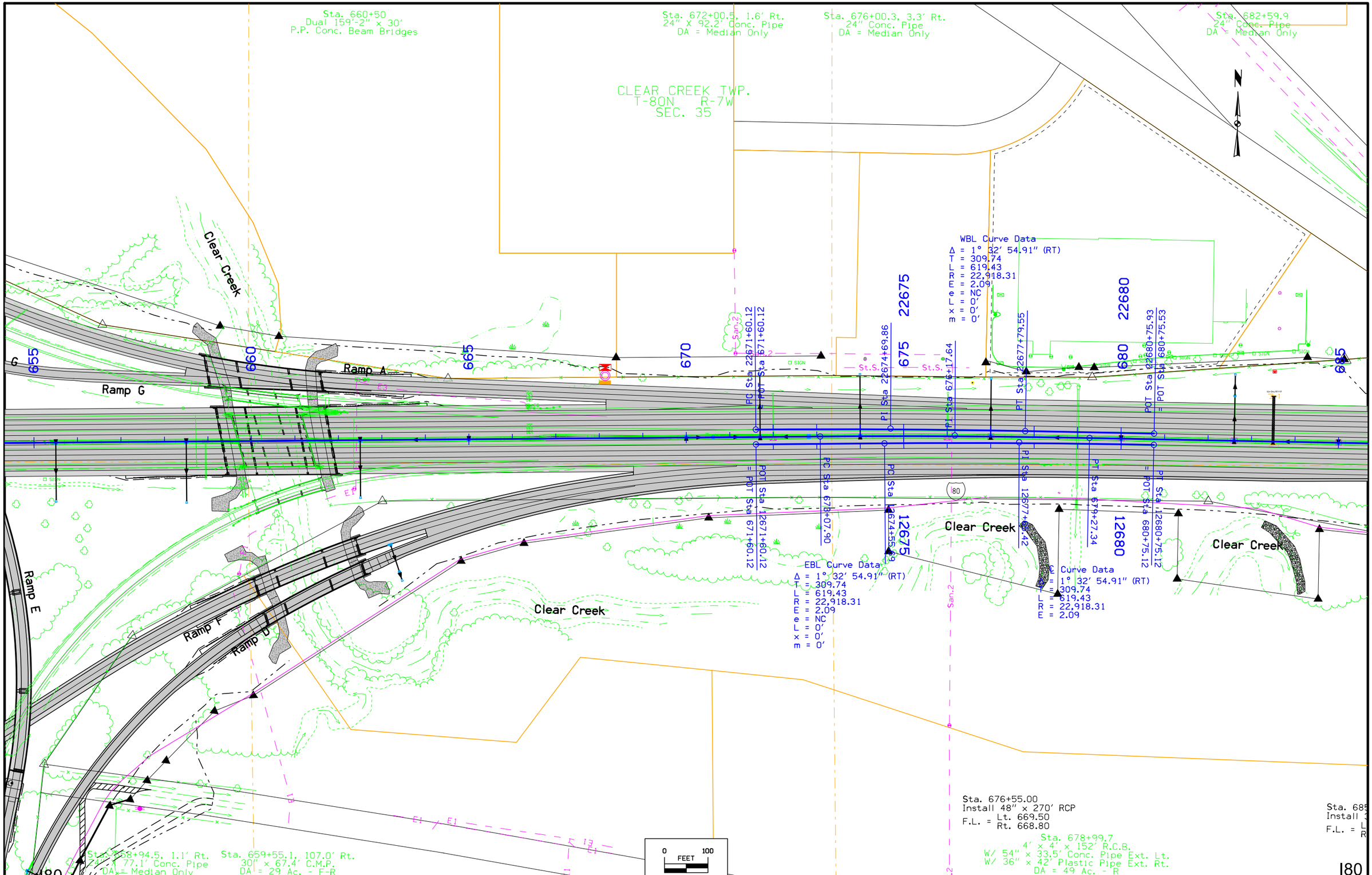
FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.9

UPDATED D.9



FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.9

4:55:09 PM 9/4/2018 jstrum pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design_LETTING_FOLDERS_371_Year2_Grading\SHT_52080371_D02.dgn



FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.10

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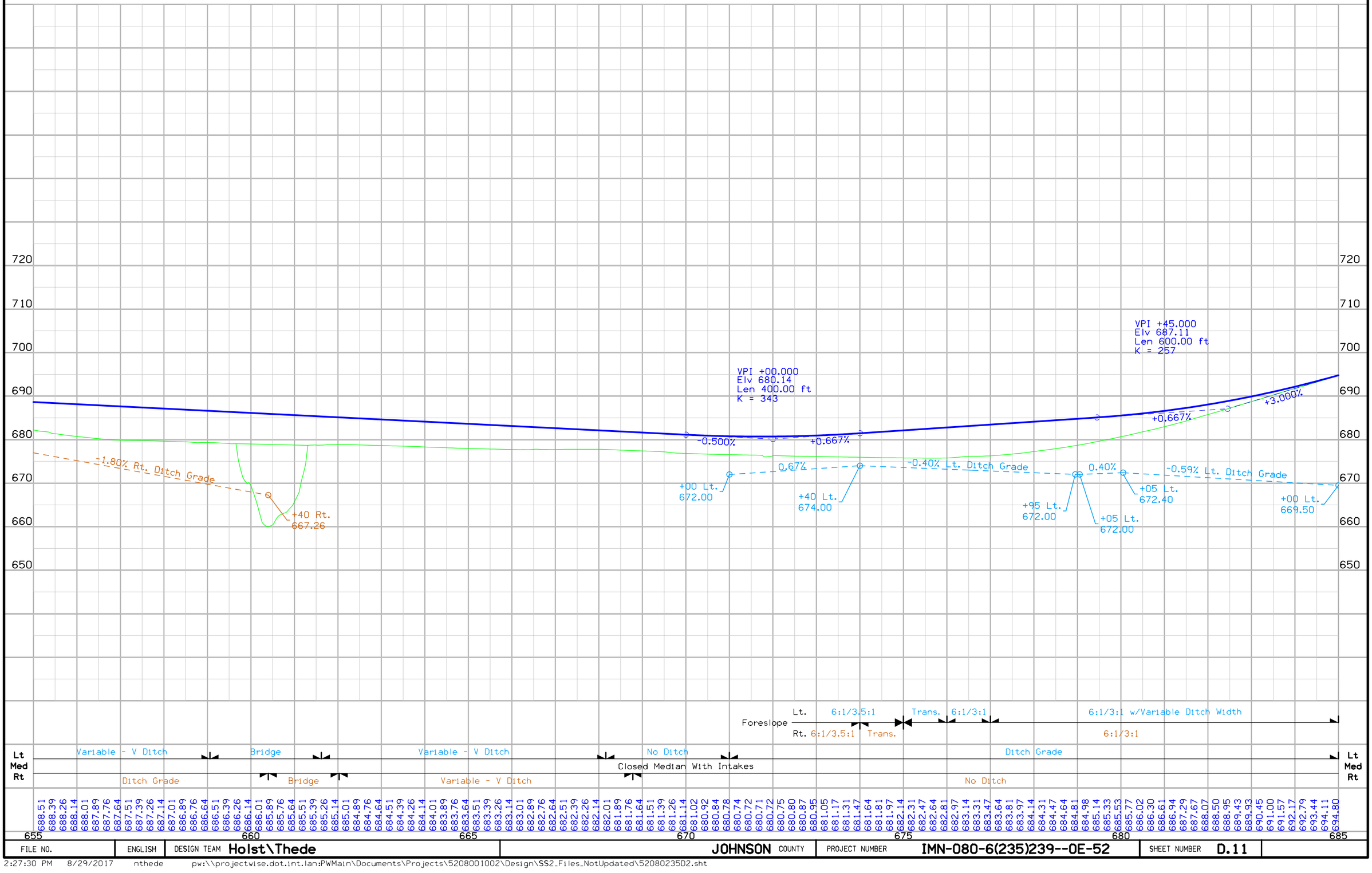

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.11

Sta. 697+10.1, 2.4' Rt.
24" Conc. Pipe
DA = Median Only

24" x 40' C.M.P.
W/ 30" x 12.6' C.M.P. Ext.

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

CLEAR CREEK TWP.
T-80N R-7W
SEC. 36

STA. 690+31.73
END PCC GRADE & PAVE

STA. 696+78.20
BEGIN HMA WIDENING
BEGIN HMA OVERLAY

STA. 701+25.00
END HMA OVERLAY

Building Under Construction

Iowa Interstate Railroad

Sta. 689+39.7, 81.0' Lt.
24" C.M.P.
DA = Median Only

Sta. 1691+59 (US6)
Sta. 691+99.4, 132.6' Lt. (I80)
36" x 70.4' Conc. Pipe
DA = 20 Ac. - F-R

Sta. 1693+50 (US6)
Sta. 693+59.4, 28.4' Lt. (
8' x 8' x 106.4 R.C.B.
DA = 461 Ac. - F-R

Sta. 706+90.5
24" Conc. Pipe
DA = Median Only

Sta. 710+24.7
24"x 187.1' Conc. Pipe
DA = 1 Ac. - F-R

Other 692.5
Sta. 711+27.3
Skew 30° Lt. Ah.
3' x 3' X 352' R.C.B.
W/ 42" x 52' Conc. Pipe Ext. Lt.
DA = 5 Ac. - F-R

0 FEET 100

I80

I80

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.12

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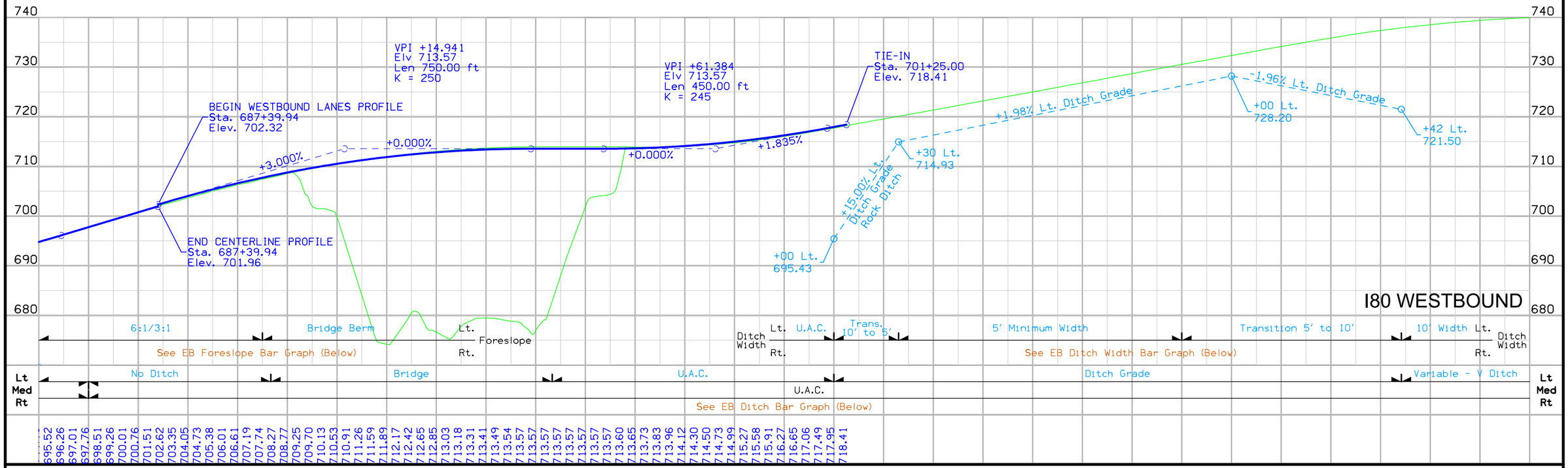

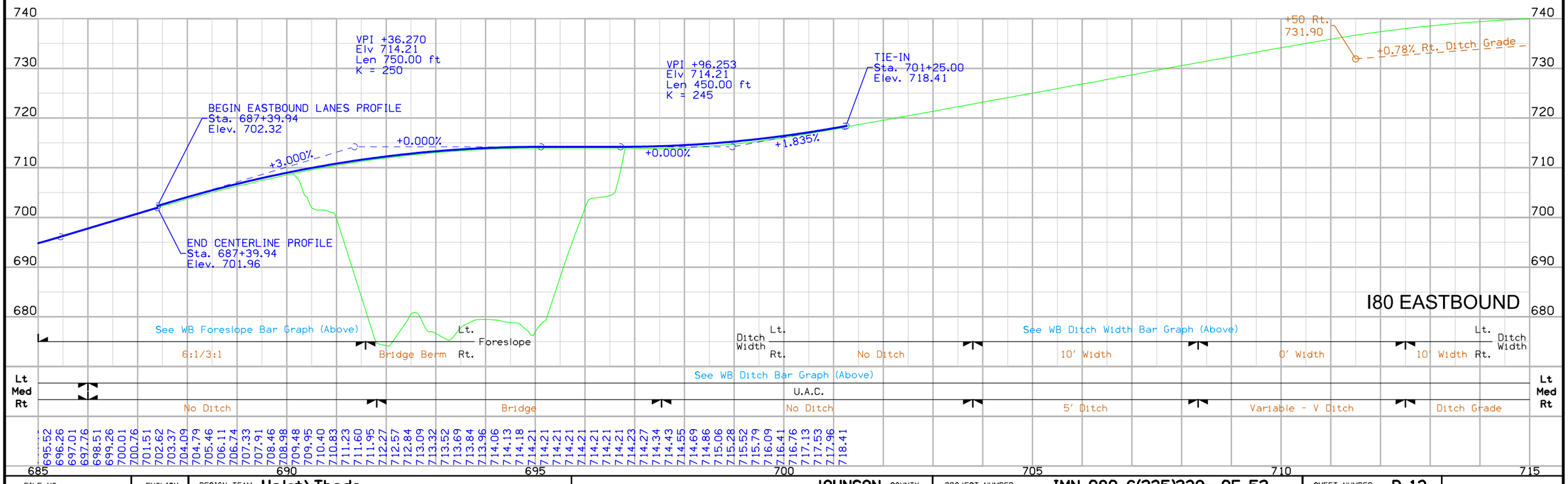

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.13

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CLEAR CREEK TWP.
T-80N R-7W
SEC. 36

STA. 722+50.00
END CONSTRUCTION
END HMA WIDENING

715 720 725 730 735 740 745

PC Sta 740+40.31

Curve Data
Δ = 17° 48' 28.25" (RT)
T = 897.63
L = 1,780.78
R = 5,729.58
E = 69.89

Coral Ridge Avenue

80

965

SIGN

E1

0 FEET 100

180 180

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.14

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780
770
760
750
740
730
720
710

-0.58% Rt. Ditch Grade
+00 Rt.
735.40
+60 Rt.
732.73

Lt Med Rt

Var - V Ditch
Ditch Grade
Var - V Ditch

U.A.C.
U.A.C.
U.A.C.

Lt Med Rt

715 720 725 730 735 740 745

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER D.15

2:28:48 PM 8/29/2017 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\SS2_Files_NotUpdated\52080235D2.sht

CLEAR CREEK TWP.
T-79N R-7W
SEC. 2

Sta. 11095+94.8
Skew 30° Rt. Ah.
3' x 3' x 346.0' R.C.B.
W/ Flume Outlet
DA = 13 Ac. - R

Sta. 1094+50.00
Install 24"x148' RCP
F.L. = Lt. 724.60
Rt. 734.06

Sta. 1100+20.00
Install 24"x234' RCP
F.L. = Lt. 702.67
Rt. 724.91

POT Sta 1076+00.00

1080 1085 1090 1095 1100 1105 11100 11105

PC Sta 11097+21.48 = POT Sta 11097+21.48

PC Sta 11097+52.00 = POT Sta 11097+21.48

PC Sta 11097+82.52

STA. 1089+20.00
BEGIN CONSTRUCTION
BEGIN PCC GRADE & PAVE

SBL Curve Data
Δ = 23° 44' 53.00" (RT)
T = 1,204.70
L = 2,374.81
R = 5,729.58
E = 125.28
e = 3.4%
L = 204'
x = 150'
m = 61'

NBL Curve Data
Δ = 23° 44' 52.81" (RT)
T = 1,204.70
L = 2,374.80
R = 5,729.58
E = 125.28
e = 3.4%
L = 204'
x = 150'
m = 61'

℄ Curve Data
Δ = 23° 44' 52.81" (RT)
T = 1,204.70
L = 2,374.80
R = 5,729.58
E = 125.28

Sta. 1089+50.00
Install 24"x238' RCP
F.L. = Lt. 742.04
Rt. 717.18

Sta. 11087+82.2
Skew 30° Rt. Ah.
30" X 451.2' Conc. Pipe
W/ 29.6' Flume Outlet
DA = 10 Ac. - R

0 FEET 100

Sta. 1095+94.80
Build 3'x3'x46' RCB Extension
Skew = 30° Rt. Ahd.
F.L. = Lt. N/A
Rt. 704.99
Design No. 0719

Sta. 11095+94.8
Skew 30° Rt. Ah.
3' x 3' x 346.0' R.C.B.
W/ Flume Outlet
DA = 13 Ac. - R

Sta. 1099+70.00
Install 48" x 426' RCP
F.L. = Lt. 699.90
Rt. 697.68

Sta. 11099+85.3
3' x 3' x 409.0' R.C.B.
Outlet Under Water
DA = 76 Ac. - R

Sta. 11099+85.3, 18.5' Rt.
24" x 48.5' Conc. Pipe
W/ 30" x 20.4' Plastic Pipe Ext.
DA = Median Only

Sta. 1106+00.00
Install 24"x94' RCP
F.L. = Lt. 717.11
Rt. 717.11

US218

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.1

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Bench Grade — Lt. No Bench / Rt. No Bench — Bench Grade

780 770 760 750 740 730 720 710

+20 Lt.
745.75

-1.78% Lt. Ditch Grade

+75 Lt.
739.43

+30 Lt.
737.79

+4.00%
Lt. BG

+12.50%
Lt. Ditch Grade

+20 Lt.
724.04

Lt Med Rt										
	U.A.C.		Ditch Grade		No Ditch		5' Ditch		No Ditch	5' Ditch
	U.A.C.			3.5' Ditch				Variable - V Ditch		
	U.A.C.			5' Ditch			No Ditch			5' Ditch

1085 1090 1095 1100 1105

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.2

1:22:08 PM 8/29/2017 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\SS2_Files_NotUpdated\52080235E1.sht

Sta. 1118+05.9
Triple
10' X 12' X 300.10' RCB
D.A. = 9 Sq. Miles

Sta. 1115+50.00
Install 24"x156' RCP
F.L. = Lt. 688.29
Rt. 705.64

Sta. 1116+00.00
Install 24"x174' RCP
F.L. = Lt. 683.09
Rt. 705.18

CLEAR CREEK TWP.
T-79N R-7W
SEC. 2

Extend Triple 10'x12'x300' RCB
with Trip 10'x12'x32' RCB
Lt. 670.60
F.L. = Rt. N/A
Other 670.60

PI Sta 1109+26.18
PI Sta 1109+56.70
PI Sta 1109+87.21

24" x 171' C.M.P.

PT Sta 1120+96.29

POT Sta 1121+77.93
POT Sta 1121+67.62

24" x 153.26' C.M.P.

PT Sta 1121+57.32
POT Sta 1121+26.80
PT Sta 1121+67.62

27
218

US218

Sta. 1106+00.00
Install 24"x94' RCP
F.L. = Lt. 717.11
Rt. 717.11

Sta. 1111+00.00
Install 24"x130' RCP
F.L. = Lt. 708.97
Rt. 698.31

Extend Triple 10'x12'x300' RCB
with Trip 10'x12'x32' RCB
Lt. N/A
F.L. = Rt. 668.85
Other 668.85

Sta. 11117+70.1
24" X 149' RCP/CMP
D.A. = Median Only

0 100
FEET

Extend 24" x 170.8' RCP
with 24" x 10' RCP
Lt. 724.18
F.L. = Rt. UAC
Other 724.18

Sta. 11127+70.0
24" X 170.8' Conc Pipe
D.A. = REBAR A - FD

Sta. 1128+00.00
24"X 64.20' Conc Pipe
D.A. = MEDIAN ONLY

APPROX. SEC. LINE

CLEAR CREEK TWP.
T-79N R-7W
SEC. 2

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

US218

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.3

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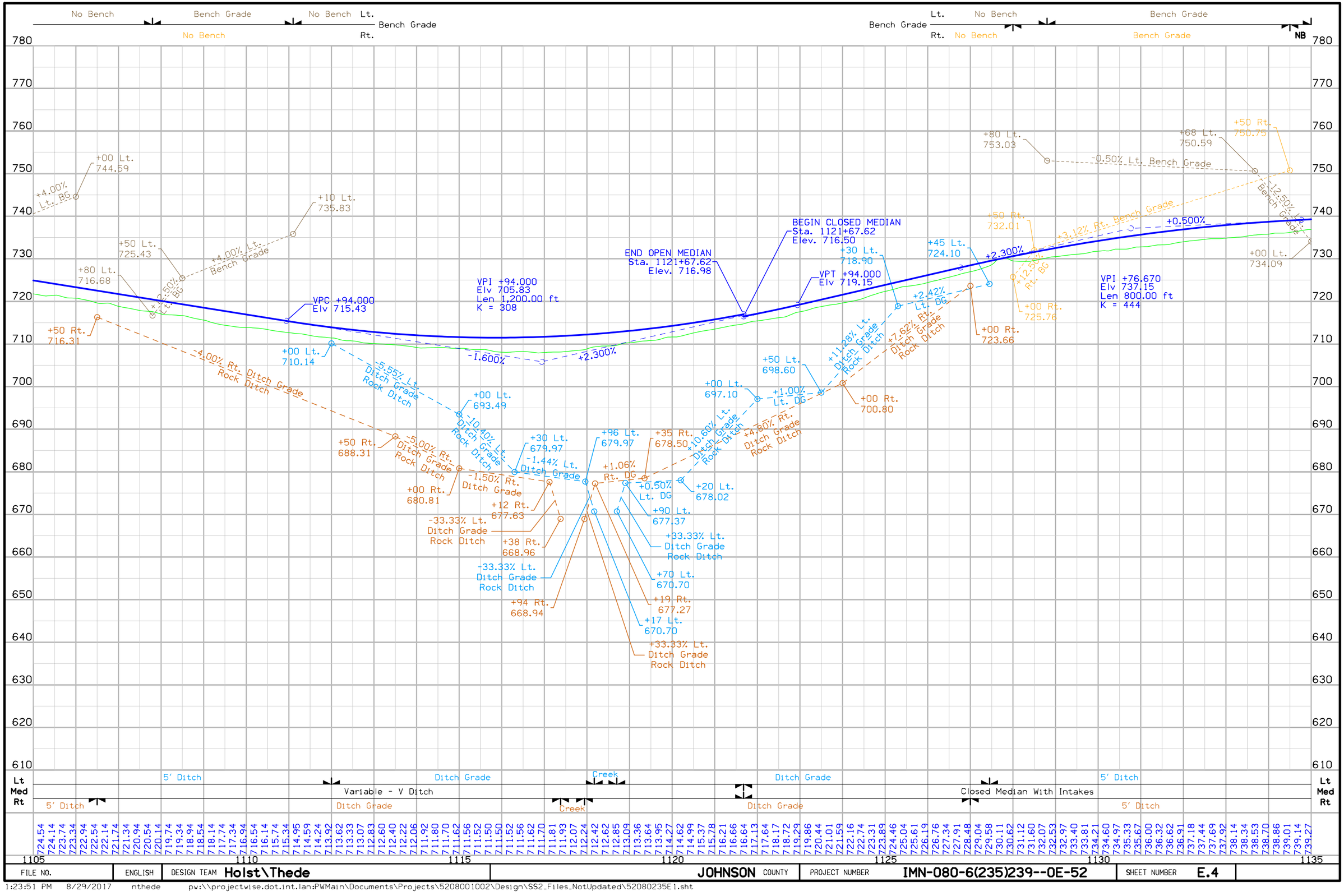

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.4

1:23:51 PM 8/29/2017 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\SS2_Files_NotUpdated\52080235E1.sht

Extend 30"x192.2 RCP
with 30"x12' RCP
Lt. 734.29
F.L. = Rt. N/A

Sta. 1141+01.1
24" X X 89.90' RCP
D.A. = MEDIAN ONLY

Extend 4'x4'x386.5' RCB
with 5'x5'x177' RCB
Lt. 717.80
F.L. = Rt. N/A
Other 717.79

Ramp G
Ramp B
Ramp F
Ramp H
Ramp D
Ramp E

1135
1140
1145
1150
1155
1160
1165

POT Sta 1157+84.99
= POC Sta 8547+96.94

POT Sta 1153+89.69
= POC Sta 6546+58.47

POT Sta 1163+54.25
= POT Sta 644+59.06

Sta. 643+76.71
310' x Variable Width
Continous Welded Plate
Girder Bridge

Sta. 645+16.64
310' x Variable Width
Continous Welded Plate
Girder Bridge

CLEAR CREEK TWP.
T-8ON R-7W
SEC. 34

CLEAR CREEK TWP.
T-8ON R-7W
SEC. 35

30" x 54.6' C.M.P.

24" x 113.8' R.C.P.

18" x 167.40' C.M.P.

APPROX. SEC. LINE

27
218
80

Extend 30"x192.2' RCP
with 30"x30' RCP
Lt. N/A
F.L. = Rt. N/A
Other 730.25
Other 708.07

Sta. 11135+86.9
30 X 192.20 Conc Pipe
D.A. = 8 A - H

Extend 30"x192.2 RCP
with 30"x124' CMP
Lt. N/A
F.L. = Rt. 707.47

Extend 4'x4'x386.5' RCB
with 4'x4'x99' RCB
Lt. N/A
F.L. = Rt. 710.00
Other 710.00

Sta. 11146+00.5
4 X 4 X 386.80 RCB
D.A. = 70A - R-H

Sta. 1152+75.00
Install 30"x366' RCP
Skew = 20° Lt. Ahd.
Lt. 726.00
F.L. = Rt. 711.91

0 100 FEET

US218

US218

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.5

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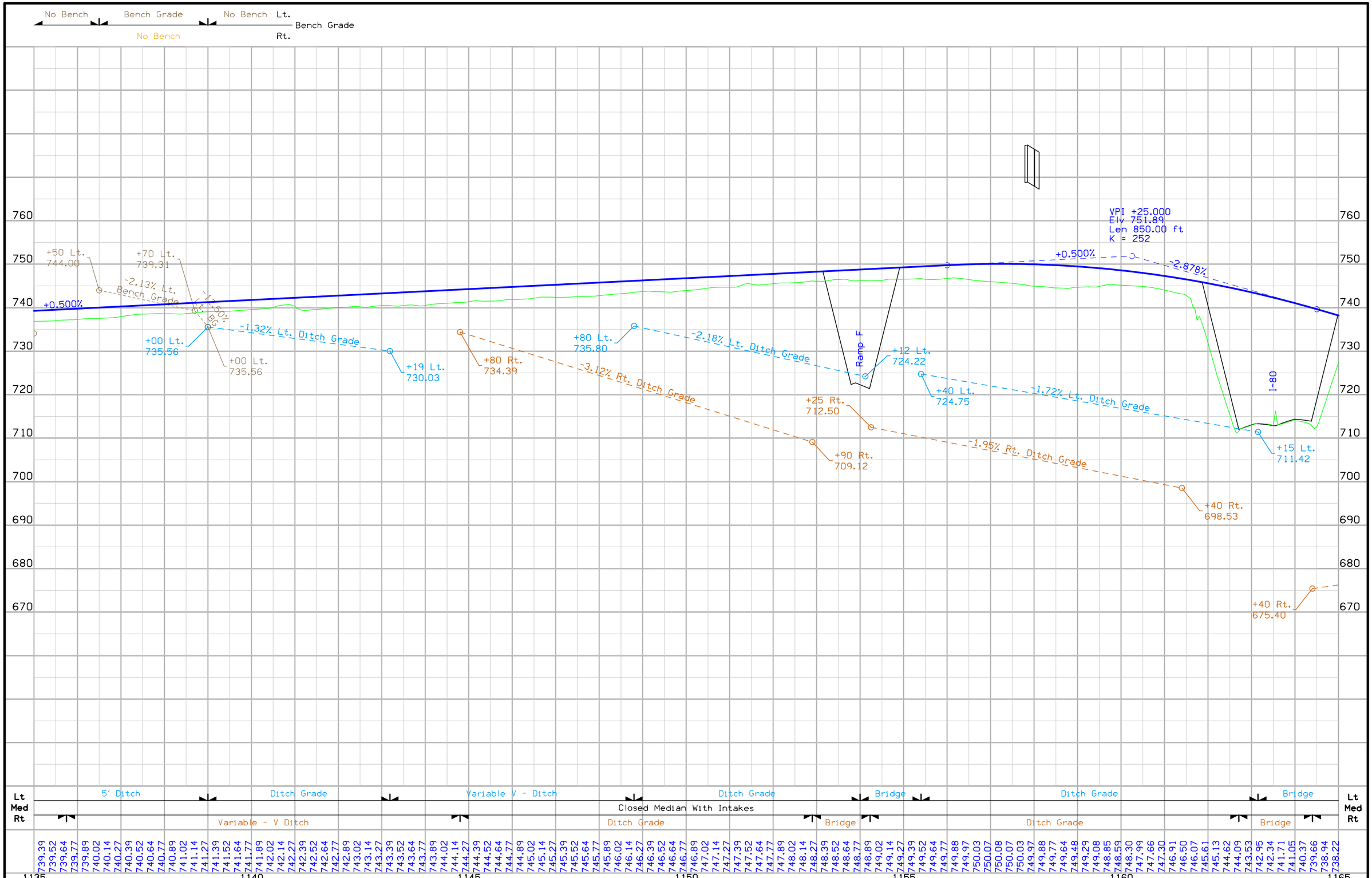

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.6

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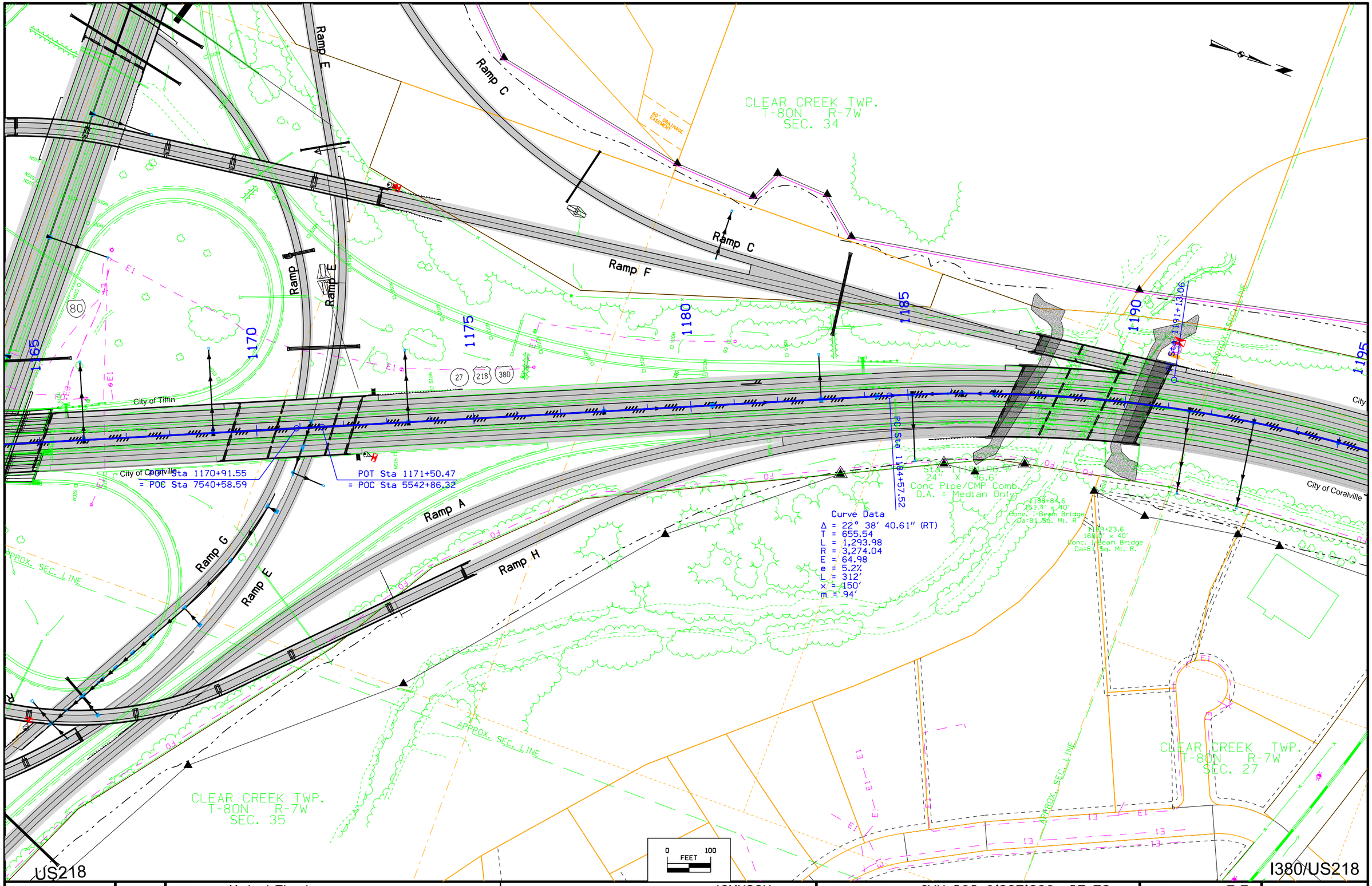

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.7	REVISED

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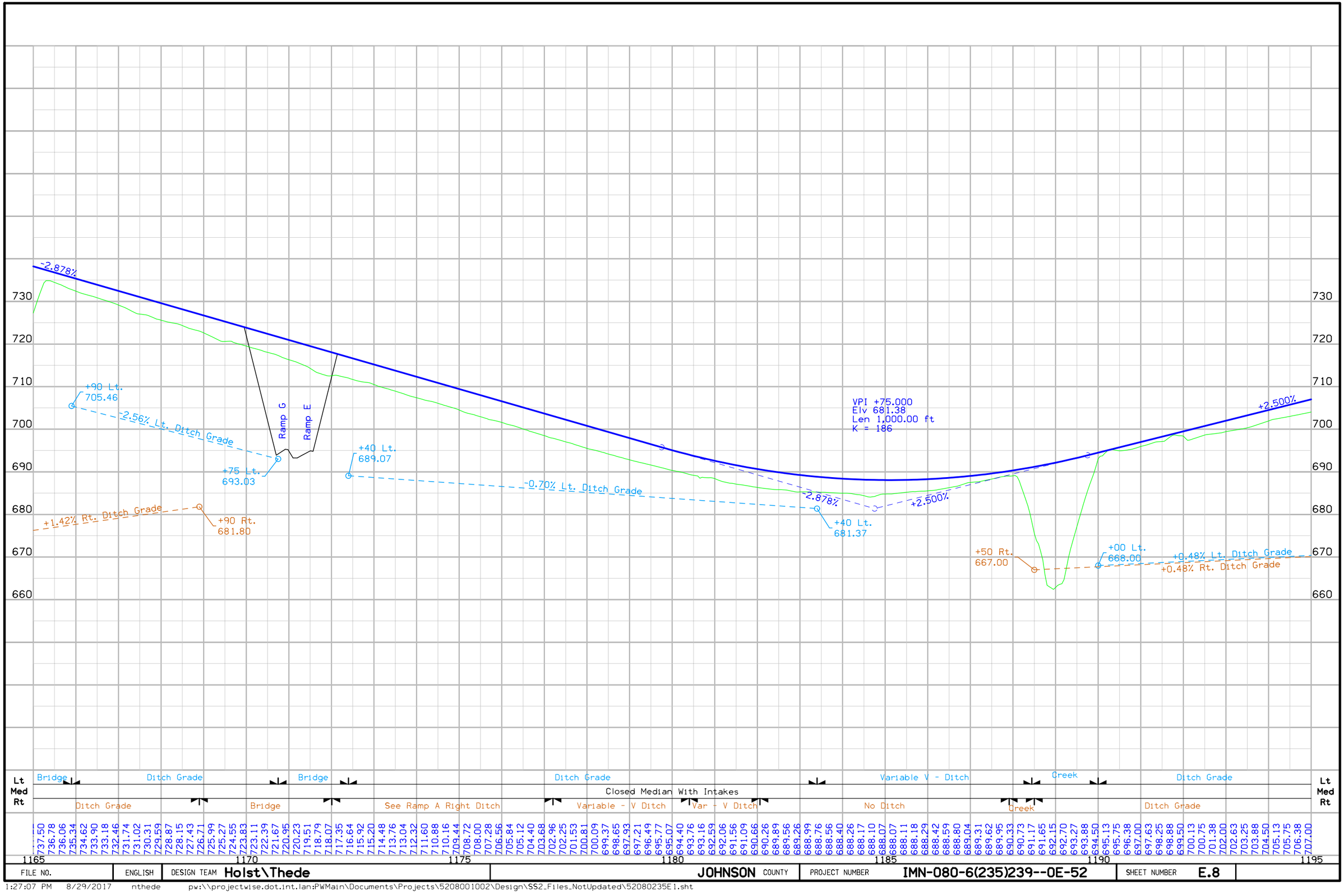

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.8

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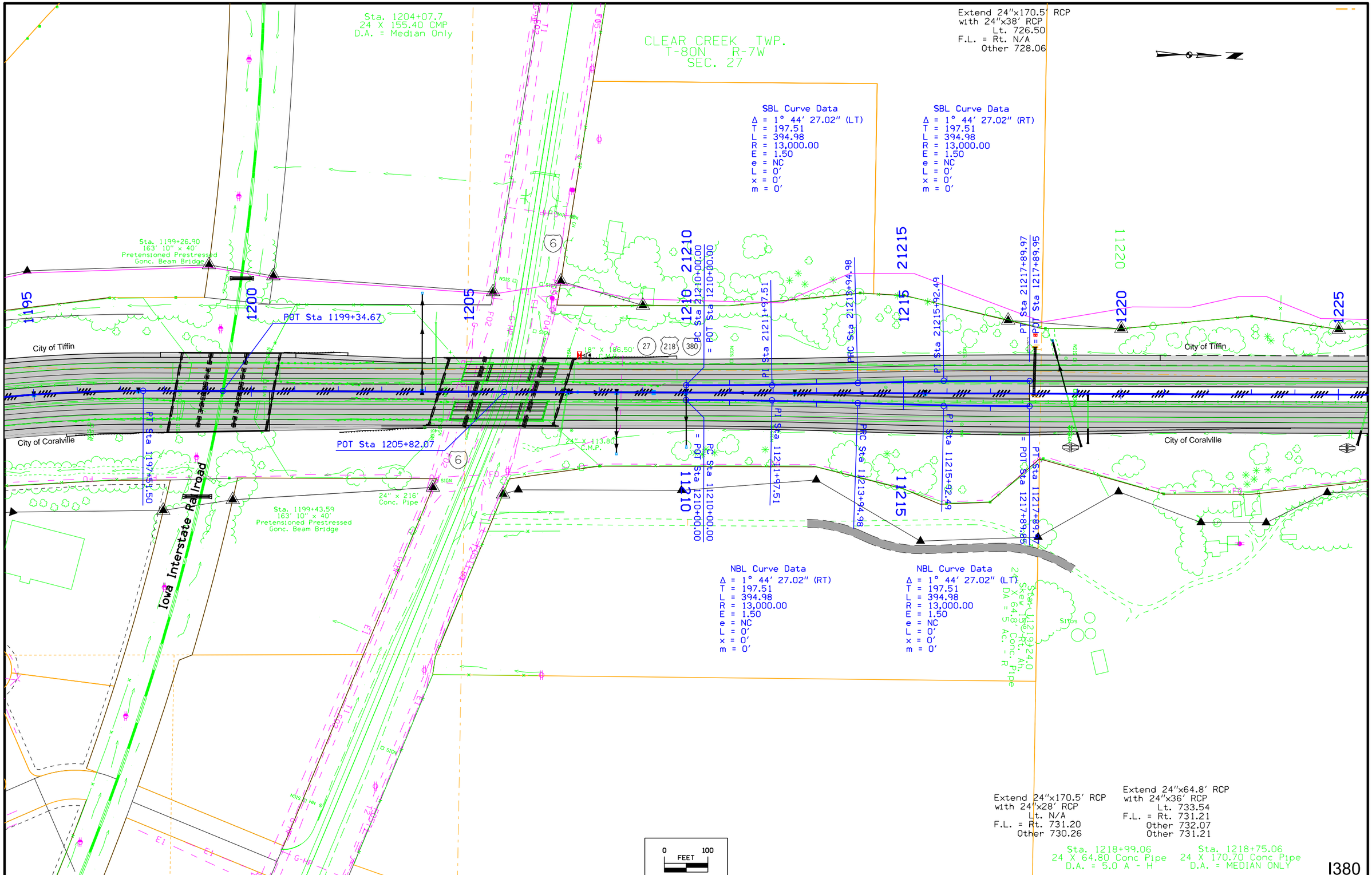

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.9

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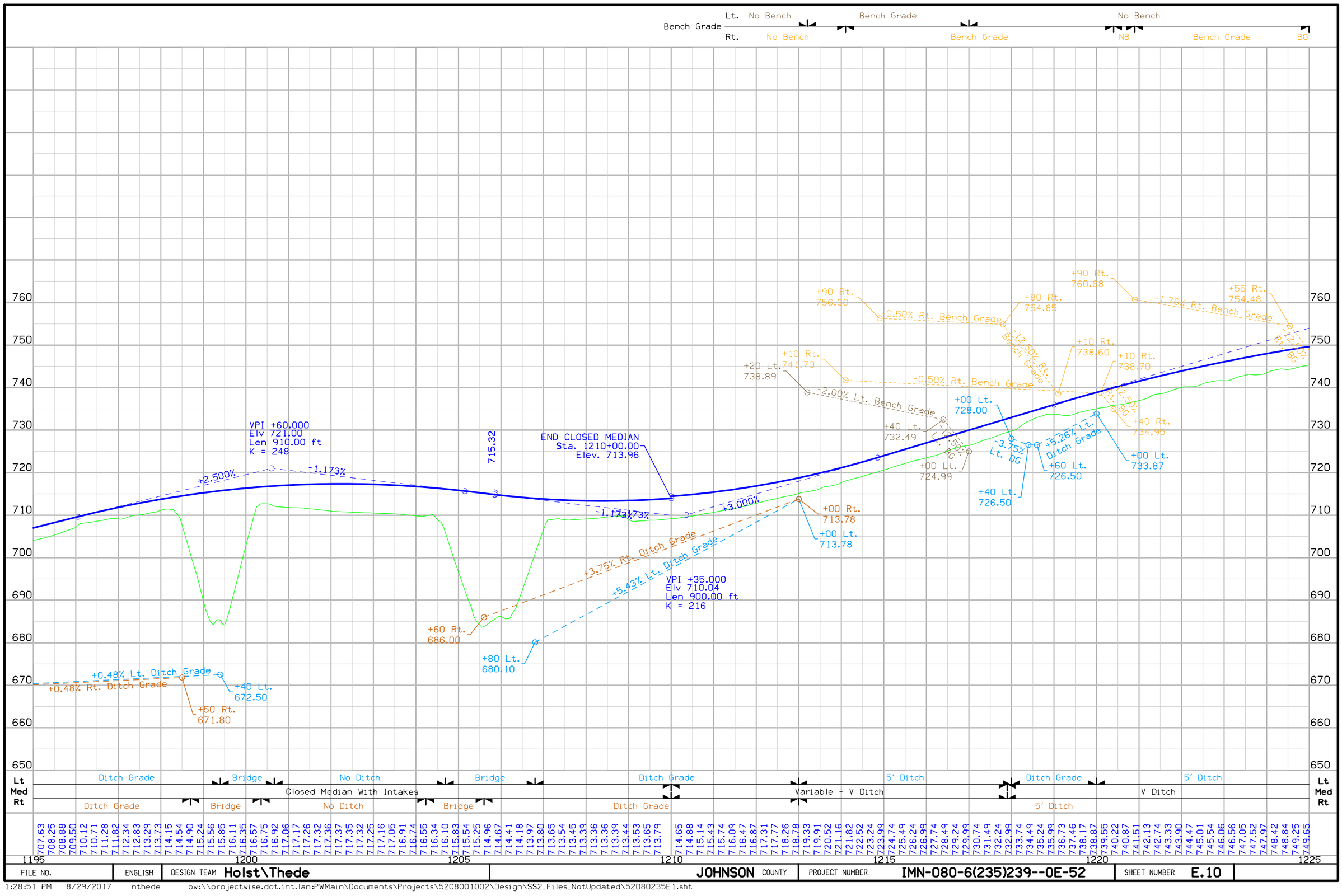

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.10

1:28:51 PM 8/29/2017 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\SS2_Files_NotUpdated\52080235E1.sht

Extend 30" unknown RCP
with 30"x36' RCP
Lt. 745.23
F.L. = Rt. N/A
Other 743.80

Extend 6'x6'x272.6' RCB
with 6'x6'x55' RCB
Lt. 715.81
F.L. = Rt. N/A
Other 716.38

Sta. 1254+99.5
24 X 64.6 Conc Pipe
D.A. = MEDIAN ONLY

CLEAR CREEK TWP.
T-80N R-7W
SEC. 27

CLEAR CREEK TWP.
T-80N R-7W
SEC. 22

1225 1230 1235 1240 1245 1250 1255

24" X 43.40' C.M.P.

24" X 82.90' C.M.P.

27 218 380

City of Tiffin

City of Coralville

48" X 51.80' C.M.P.

Extend 30"x194.7' RCP
with 30"x56' RCP
Lt. 739.54
F.L. = Rt. 745.30
Other 743.88
Other 740.09

Sta. 11225+74.68
30" X 194.70' Conc Pipe
D.A. = 9.0 A - R-H

Extend 30" unknown RCP
with 30"x86' RCP
Lt. N/A
F.L. = Rt. 724.30
Other 740.88
Other 725.62

Sta. 1241+23.32
30" X 42.84' CONC PIPE
W/30" x 25.90' PLASTIC EXT.
D.A. = MEDIAN ONLY A - R

Extend 6'x6'x272.6' RCB
with 6'x6'x44' RCB
Lt. N/A
F.L. = Rt. 720.58
Other 719.99

Sta. 11241+28.8
Skew
6 X 6 X 272.60' RCB
D.A. = 155.0A - R

Sta. 1245+00.00
Install 30"x158' RCP
F.L. = Lt. 748.30
Rt. 730.79
Other 745.16

0 100 FEET

I380

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.11

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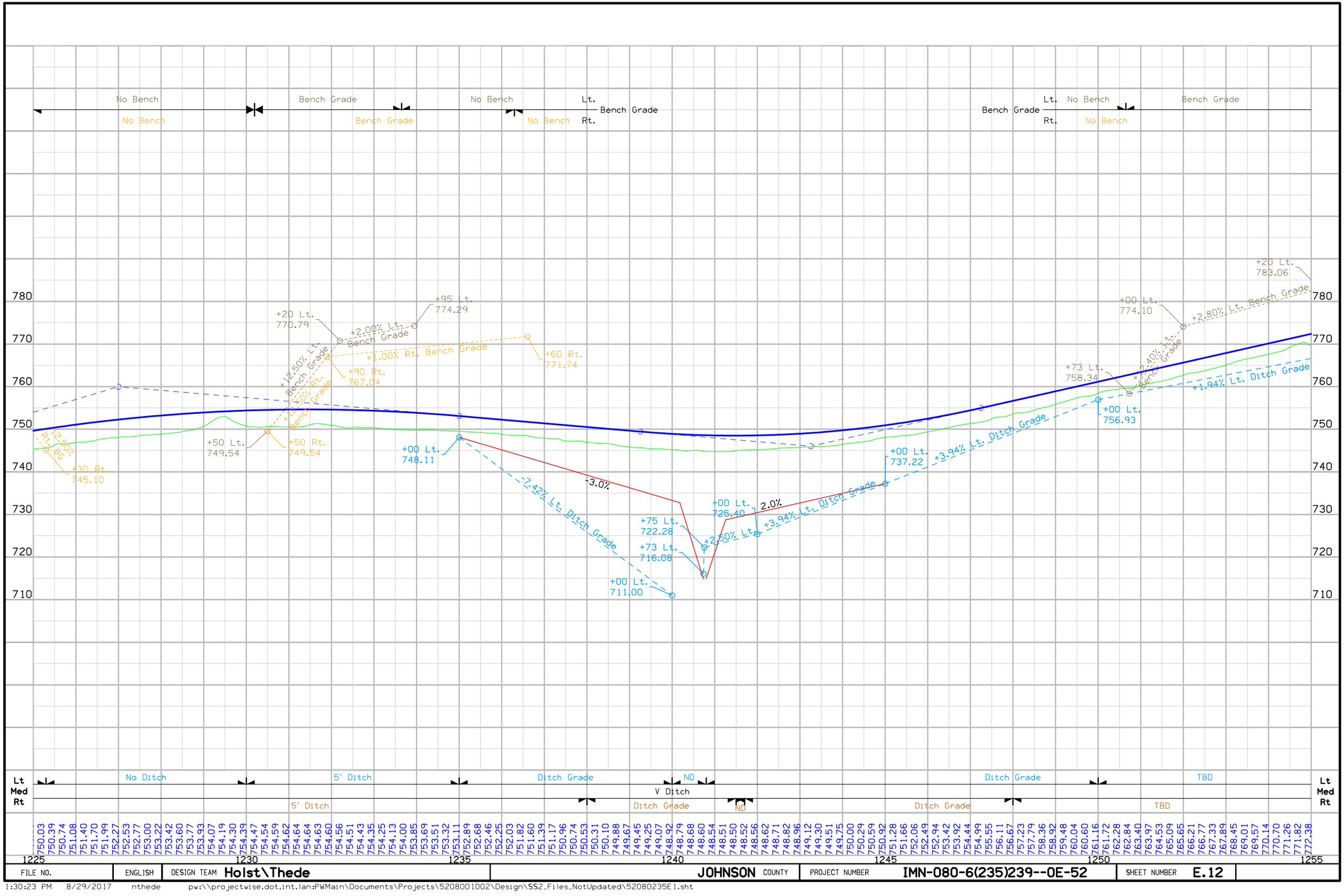

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.12

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CLEAR CREEK TWP.
T-80N R-7W
SEC. 22

Barn

City of Tiffin
City of Coralville
City of Coralville
City of North Liberty

Forevergreen Rd.
Forevergreen Rd.

Ramp C
Ramp A
Ramp B
Ramp D

1255
1260
1265
1270
1275
1280
1285

Sta. 1260+00.00
BEGINNING OF PROJECT

PC Sta 1267+32.71
PT Sta 1274+95.49
POC Sta 1271+12.40
POT Sta 1271+12.12

30" x 108.26' Conc. Pipe
30" x 108.70' R.C.P.

I 380

27 218 380

FO
FO3
SIGN

Curve Data
Δ = 1° 16' 16.63" (LT)
T = 381.40
L = 762.77
R = 34,377.47
E = 2.12
e = NC
L = 0'
x = 0'
m = 0'

Extend 24"x64.6' RCP
with 24"x42' RCP
Lt. 767.54
F.L. = Rt. 768.60

Sta. 1260+00.00
Install 24"x92' RCP
F.L. = Lt. 775.41
Rt. 775.23

Sta. 1257+90.01
30 X 216.5 Conc Pipe
D.A. = 5.0 A - R

Sta. 1271+12.22
254'6" x 30' PRETENSIONED
PRESTRESSED CONCRETE
BEAM BRIDGE

0 100
FEET

Sta. 1274+4
24 X 65.2 Conc Pipe 36 X 168.9 Conc Pipe
D.A. = MEDIAN ONLY

Sta. 1274+99.5
D.A. = 17 A - R

Sta. 11277+99.3
24 X 174.4 Conc Pipe
D.A. = 34 A - F-R

Sta. 11287+87.2
42 X 201.9 Conc Pipe
D.A. = PART OF 45 A - GR

I380

I380

FILE NO.	ENGLISH	DESIGN TEAM Holst/Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.13

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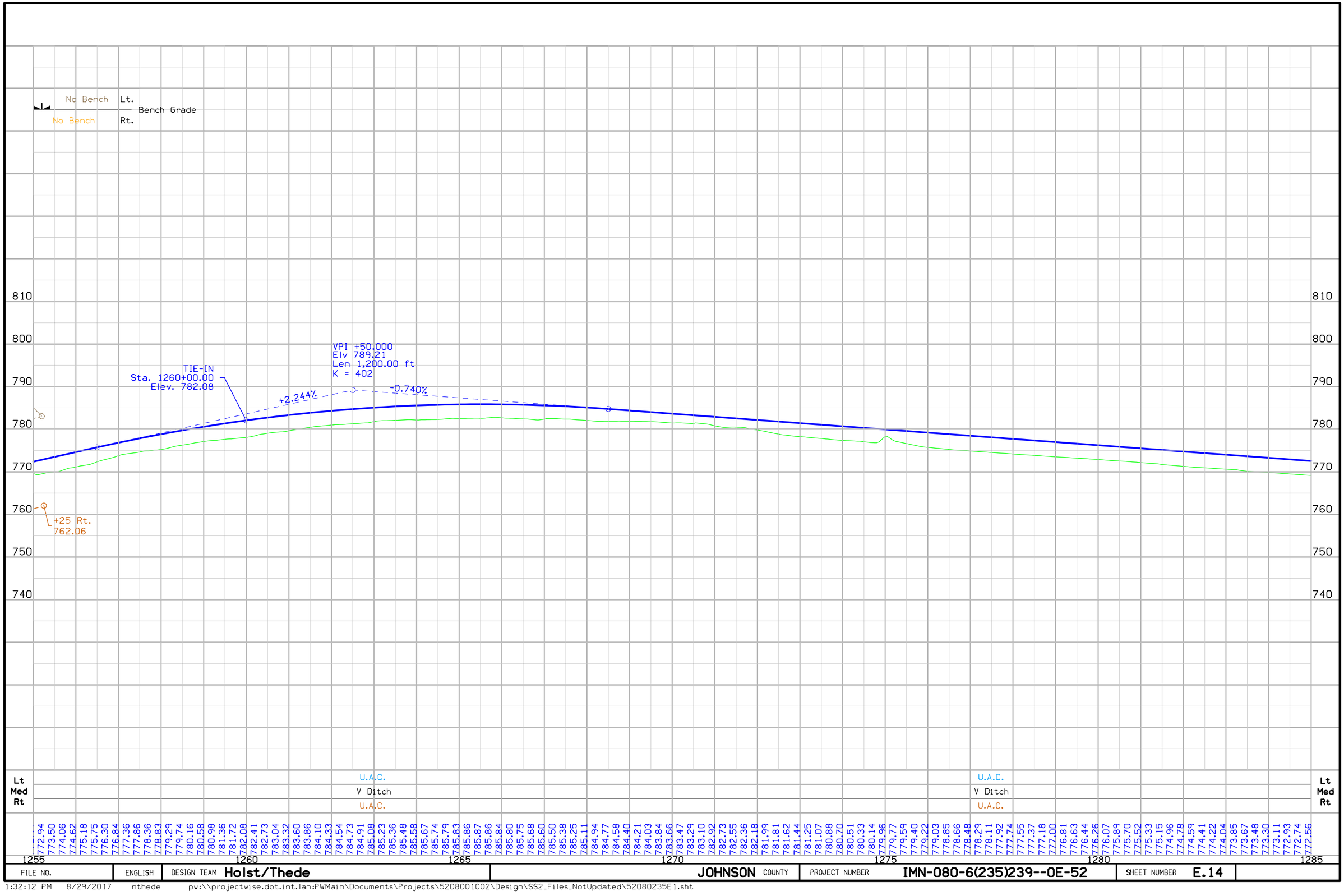

FILE NO.	ENGLISH	DESIGN TEAM Holst/Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.14

CLEAR CREEK TWP.
T-80N R-7W
SEC. 22

CLEAR CREEK TWP.
T-80N R-7W
SEC. 15

City of North Liberty

1285 1290 1295 1300 1305 1310 1315

I 380

24" C.M.P.

18" x 39.3 C.M.P.

42" x 44' C.M.P.

42" x 43.8' C.M.P.

City of North Liberty

Extend Twin 8'X8' RCB
With 23' RCB to the Left

F.L. = Lt. 764.90

Extend Twin 8'X8' RCB
With 23' RCB to the Right

F.L. = Rt. 767.61

Extend 24"X64.4' RCP
With 24" RCP
Lt. 764.90
F.L. = Rt. 767.61

0 100
FEET

I380 Sta. 11287+78.2
42 X 202.6 Conc Pipe
D.A. = PART OF 45 A - GR

Sta. 11289+98.8
24 X 64.4 Conc Pipe
D.A. = MEDIAN ONLY A - GR

Sta. 11300+83.00
24" X 64.60' Conc Pipe
D.A. = MEDIAN ONLY - GR

Sta. 11303+47.2
Skew
8 X 8 X 214.93 RCB
D.A. = 900A - F-R-TILED

Sta. 111315+00.3
24 X 64.40 Conc Pipe
D.A. = MEDIAN ONLY A - GR

I380

FILE NO.	ENGLISH	DESIGN TEAM Holst/Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.15

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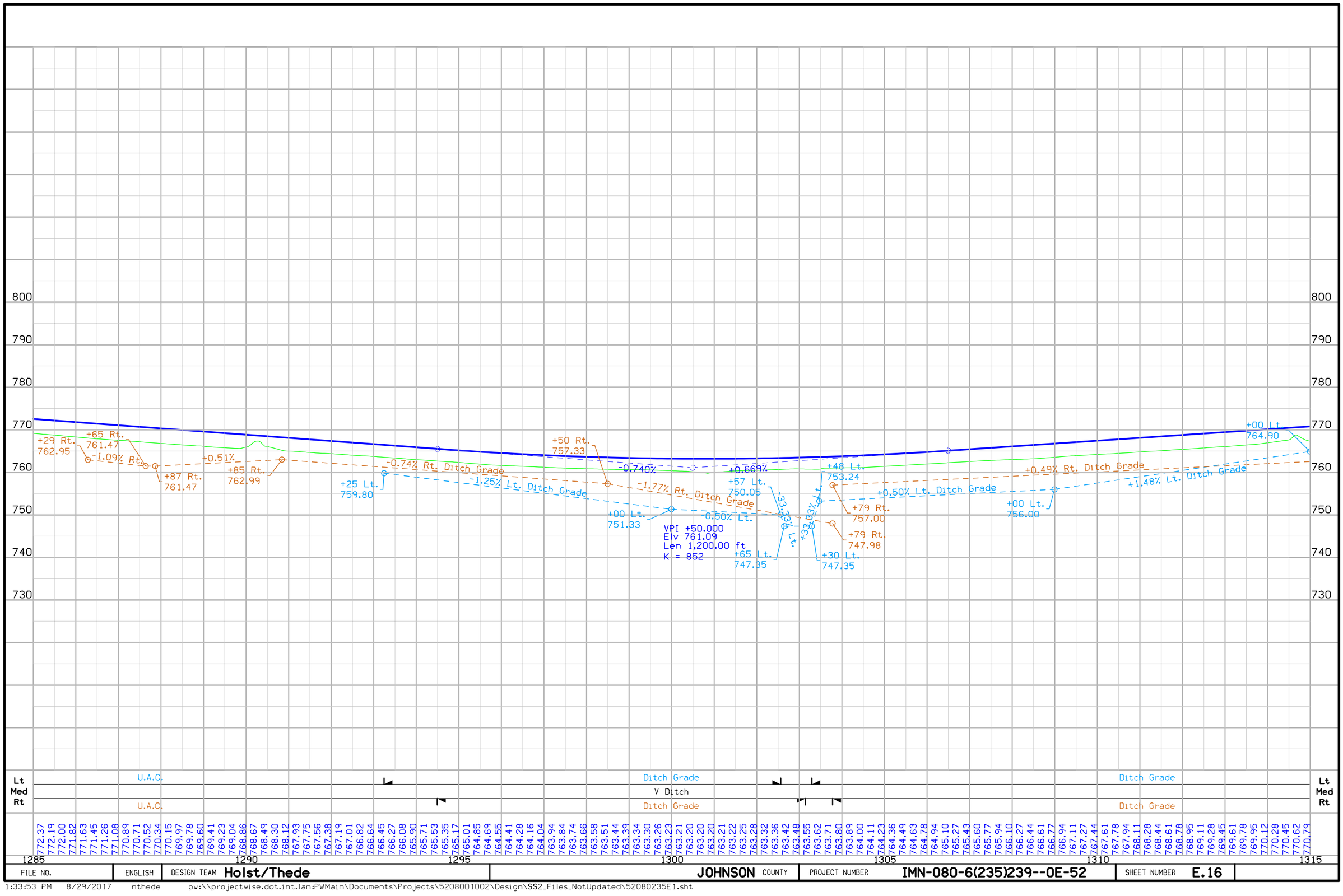

FILE NO.	ENGLISH	DESIGN TEAM Holst/Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.16

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CLEAR CREEK TWP.
T-80N R-7W
SEC. 15

Sta. 1326+00.00
END PROJECT
END PCC GRADE & PAVE

15"x 36.5' C.M.P.

1315 1320 1325 1330 1335 1340 1345

I-380

Sta. 1320+28.47

Sta. 1327+93.70

Extend 30"X182.9' RCP
With 30" RCP
Lt. 767.20
F.L. = Rt. 764.50

Sta. 11318+95.0
30 X 182.90 Conc Pipe
D.A. = 12 A - R

Extend 24"X194.7 RCP
With 24" RCP
Lt. 772.53
F.L. = Rt. 771.98

Sta. 11329+00.3
24 X 67.10 Conc Pipe
D.A. = 5 A - R

0 100
FEET

Sta. 11329+99.4
24 X 194.7 Conc Pipe
D.A. = 5 A - R

Sta. 11332+99.2
24 X 182.6 Conc Pipe
D.A. = 12 A - GR

Sta. 11343+98.6
24 X 64.7 Conc Pipe
D.A. = MEDIAN ONLY - GR

1380

1380

FILE NO.	ENGLISH	DESIGN TEAM Holst/Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.17

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800
790
780
770
760
750
740
730

TIE-IN
Sta. 1326+00.00
Elev. 778.38

Begin HMA Overlay
Sta. 1326+00.00
Elev. 778.38

Begin HMA Overlay
Sta. 1326+00.00
Elev. 781.47

+0.669%
+0.764%

+95 Lt
767.20

+0.58% Lt. Ditch Grade
+1.05% Lt. Ditch Grade
+0.50% Rt. Ditch Grade
+3.55% Rt.

+00 Lt.
772.52

+93 Rt.
773.80

+50 Rt.
772.27

+96 Rt.
764.50

+1.16% Rt. Ditch Grade

+00 Rt.
768.02

VPI +50.000
Elv 776.47
Len 600.00 ft
K = 6302

Lt	Ditch Grade	U.A.C.	Lt
Med	V Ditch	U.A.C.	Med
Rt	Ditch Grade	U.A.C.	Rt

770.95 771.12 771.29 771.45 771.62 771.79 771.96 772.12 772.29 772.46 772.62 772.79 772.96 773.13 773.29 773.46 773.63 773.79 773.96 774.13 774.30 774.46 774.63 774.80 774.97 775.14 775.31 775.48 775.66 775.83 776.01 776.19 776.36 776.54 776.72 776.90 777.08 777.27 777.45 777.63 777.82 778.01 778.19 778.38 778.57 778.76 778.95 779.14 779.34 779.53 779.72 779.91 780.10 780.29

1315 1320 1325 1330 1335 1340 1345

FILE NO.	ENGLISH	DESIGN TEAM Holst/Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.18

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CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

Jasper Ave.

POT Sta 1600+00.00

POT Sta 1600+60.00
= POT Sta 30609+23.35

STA. 1600+60.00
BEGIN CONSTRUCTION
BEGIN GRADE &
GRANULAR SURFACE

+87 Prop. Jt. Type "C" Ent.

187' Prop. Type "C" Ent.

Kansas Ave.

Ramp G

Ramp B

PC Sta 1617+52.07

PI Sta 1626+36.38

1600 1605 1610 1615 1620 1625 1630

Curve Data
Δ = 88° 59' 30.80" (RT)
T = 884.30
L = 1,397.88
R = 900.00
E = 361.74
e = NC
L = 0'
x = 0'
m = 0'
D.S. = 45 mph

Old Terrace

PT Sta 1631+49.96

POT Sta 1631+96.71

STA. 1631+49.96
END CONSTRUCTION
END GRADE &
GRANULAR SURFACE

Kansas Ave.

City of Coffin

0 FEET 100

KANSAS AVE

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.19	REVISED

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Bench Grade — Lt. No Bench / Rt. No Bench — Bench Grade

790 780 770 760 750 740

TIE-IN
Sta. 1600+60.00
Elev. 781.74

+0.500%

+0.500%

-3.009%

VPI +00.000
Elv 784.94
Len 550.00 ft
K = 157

+00 Lt.
775.32

-9.36% Lt. Ditch Grade

+55 Lt.
760.15

+50 Rt.
767.97

6:1 Rt. Ditch

+1.95% Lt. Bench Grade

+00 Rt.
755.01

+00 Lt.
756.61

+12.50% Lt. BG

-0.86% Lt. Ditch Grade

+25 Lt.
756.40

Lt / Rt — Jasper Ave. | 3' Ditch / 3' Ditch | Ditch Grade / DG | No Ditch | 5' Ditch

781.44 781.56 781.69 781.81 781.94 782.06 782.19 782.31 782.44 782.56 782.69 782.81 782.94 783.06 783.19 783.31 783.44 783.56 783.67 783.73 783.76 783.74 783.69 783.59 783.46 783.29 783.07 782.82 782.52 782.19 781.82 781.40 780.95 780.46 779.92 779.35 778.74 778.09 777.39 776.66 775.91 775.16 774.41 773.65 772.90 772.15 771.40 770.64 769.89 769.14 768.39 767.64 766.88 766.13 765.38 764.63 763.88 763.12 762.37 761.62 760.87 760.11 759.36 758.61 757.86

1590 1595 1600 1605 1610 1615

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.20

1:36:59 PM 8/29/2017 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\52080010O2\Design\SS2_Files_NotUpdated\52080235E1.sht

Bench Grade | No Bench | Bench Grade | No Bench | Lt. Bench Grade

No Bench | Bench Grade | No Bench Rt.

790 780 770 760 750 740 730 720 710

+40 Lt. 771.56
+1.95% Lt. BG

+00 Lt. 751.45
-11.73% Lt. Ditch Grade

+90 Lt. 749.21
-4.00% Lt. Bench Grade

+00 Lt. 736.81
-3.00% Lt. Bench Grade

+50 Rt. 743.90
-9.70% Rt. Ditch Grade

+00 Lt. 728.00
-0.62% Lt. Ditch Grade

+50 Rt. 724.50

+50 Rt. 725.00

-12.50% Lt. BG

+4.54% Rt. Ditch Grade

+90 Lt. 725.56

+00 Lt. 725.50

+00 Lt. 721.85

+8.70% Lt. Ditch Grade

+00 Lt. 739.25
+2.40% Rt. Ditch Grade

+50 Rt. 738.63
+1.250%

+30 Rt. 762.60
-3.00% Rt. Bench Grade

VPI +50.000
Elv 738.30
Len 500.00 ft
K = 117

-3.00%
+1.250%

VPI +80.000
Elv 746.18
Len 510.00 ft
K = 79

+00 Rt. 751.50
+7.700%

+30 Rt. 747.75

+30 Rt. 747.75

TIE-IN
Sta. 1631+53.81
Elev. 767.26

Ditch Grade | No Ditch | Ditch Grade | 5' Ditch | U.A.C.

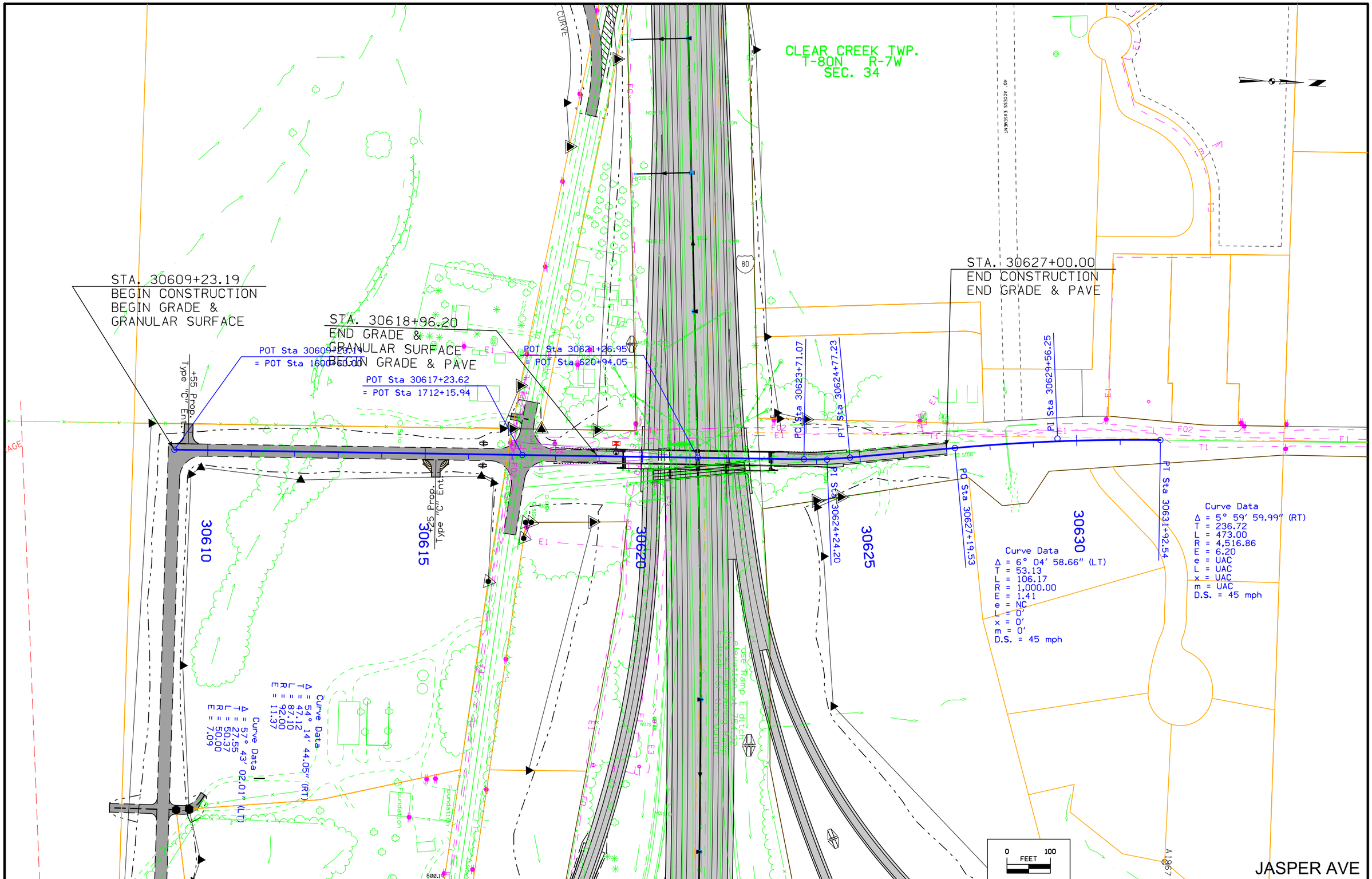
5' Ditch | Ditch Grade | No Ditch | Ditch Grade | No Ditch | U.A.C.

757.11 756.35 755.60 754.85 754.10 753.34 752.59 751.84 751.09 750.34 749.58 748.83 748.08 747.33 746.58 745.82 745.10 744.43 743.81 743.24 742.73 742.27 741.86 741.51 741.21 740.96 740.77 740.63 740.54 740.51 740.53 740.60 740.73 740.91 741.14 741.43 741.74 742.05 742.36 742.68 742.99 743.34 743.77 744.28 744.87 745.54 746.29 747.11 748.02 749.00 750.07 751.21 752.43 753.73 755.11 756.57 758.11 759.72 761.42 763.19 765.05 766.97

1620 1625 1630

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.21

1:37:33 PM 8/29/2017 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\SS2_Files_NotUpdated\52080235E1.sht



FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.22

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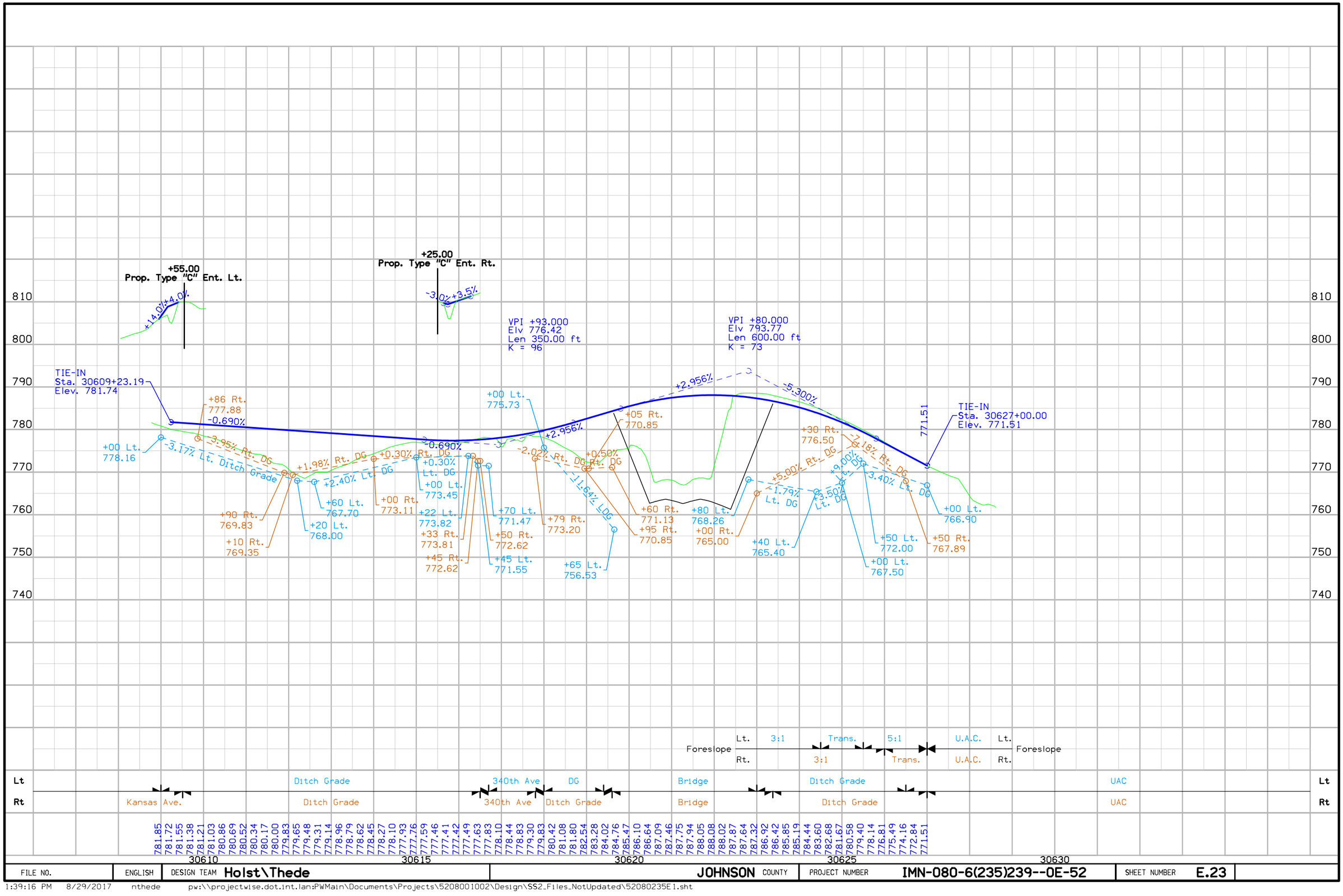

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.23

1:39:16 PM 8/29/2017 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\SS2_Files_NotUpdated\52080235E1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

Use Ramp E ditch elevation of 714.32 now with 90 degree bend. Ditch for this outlet

1700
1705
1710
1715
1720
1725
1695

Curve Data
Δ = 3° 27' 10.64" (LT)
T = 277.79
L = 555.41
R = 9,216.00
E = 4.19
e = NC
r = n/a
x = n/a
m = n/a

PC Sta 1708+70.84

PT Sta 1714+25.74

340th Ave.

Jasper Ave.

Obliterate

+40 Prop. Maintenance Turnaround

+33 Prop. Type "C" Ent.

Close

PC Sta 1724+68.69

18" x 27.82' C.M.P.

18" x 48.60' C.M.P.

30" x 44.25' C.M.P.

U.A.C.

Foundation

CONCENTRIC CURVE

PT Sta 1704+02.78

Curve Data
Δ = 99° 40' 42.25" (RT)
T = 592.49
L = 869.86
R = 500.00
E = 275.27
e = NC
L = n/a
x = n/a
m = n/a
D.S. = 45 mph

STA. 1704+20.00
END GRADE &
GRANULAR SURFACE

STA. 1710+92.00
BEGIN GRADE &
GRANULAR SURFACE

STA. 1714+00.00
END CONSTRUCTION
END GRADE &
GRANULAR SURFACE

POC Sta 1712+15.94
= POT Sta 30617+23.62

PC Sta 1695+32.92

POT Sta 1692+89.37

STA. 1695+30.00
BEGIN CONSTRUCTION
BEGIN GRADE &
GRANULAR SURFACE

Curve Data
Δ = 54° 14' 44.05" (RT)
T = 47.12
L = 87.10
R = 92.00
E = 11.37

Curve Data
Δ = 57° 43' 02.01" (LT)
T = 27.55
L = 50.37
R = 50.00
E = 7.09

Curve Data
Δ = 16° 08' 28.42" (RT)
T = 283.50
L = 563.24
R = 1,999.31
E = 20.00

340TH AVE

UTILITY EASEMENT

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.24

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800
790
780
770
760
750
740

TIE-IN
Sta. 1695+30.00
Elev. 754.92

VPI +50.000
Elv 753.25
Len 350.00 ft
K = 241

VPI +00.000
Elv 743.31
Len 440.00 ft
K = 91

TIE-IN
Sta. 1704+20.00
Elev. 749.02

VPI +01.780
Elv 778.02

VPI +33.110
Elv 777.99

TIE-IN
Sta. 1710+92.00
Elev. 773.41

TIE-IN
Sta. 1714+00.00
Elev. 781.98

+30 Rt.
752.55
+30 Lt.
751.10
+00 Lt.
749.00
+50 Rt.
747.30
+55 Rt.
738.50
+65 Rt.
738.50
+75 Lt.
736.67
+85 Lt.
736.67
+20 Rt.
746.00
+20 Lt.
745.53
+92 Lt.
772.42
+92 Rt.
771.00
+41 Lt.
773.61
+61 Rt.
771.24
+90 Rt.
774.92
+71 Lt.
774.63
+00 Lt.
779.20
+00 Rt.
778.75

-0.760%
-2.210%
-2.210%
+2.600%
+4.200%
+2.331%
-2.39% Rt. DG
-1.24% Lt. Ditch Grade
4.29% Rt. Ditch Grade
-4.48% Lt. Ditch Grade
+1.65% Rt. DG
+2.04% Lt. Ditch Grade
+2.45% Lt. DG
+0.35% Rt. DG
+3.54% Lt. DG
+3.48% Rt. DG
0.6%1.9%
+33
3:1 12%
+40

| | | |

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

Ramp D

POT Sta 15+00.00

PI Sta 15+41.24

PC Sta 15+27.34

PT Sta 15+54.23

15

16

17

STA. 15+25.00
BEGIN CONSTRUCTION
BEGIN GRADE &
GRANULAR SURFACE

Curve Data
Δ = 30° 39' 01.80" (RT)
T = 13.70
L = 26.75
R = 50.00
E = 1.84
e = NC
L = 0'
x = 0'
m = 0'

PC Sta 17+19.88

PI Sta 17+70.91

Curve Data
Δ = 68° 27' 35.22" (RT)
T = 51.03
L = 89.61
R = 75.00
E = 15.71
e = NC
L = 0'
x = 0'
m = 0'

18

PT Sta 18+09.50

POT Sta 18+45.28

340th St. SE

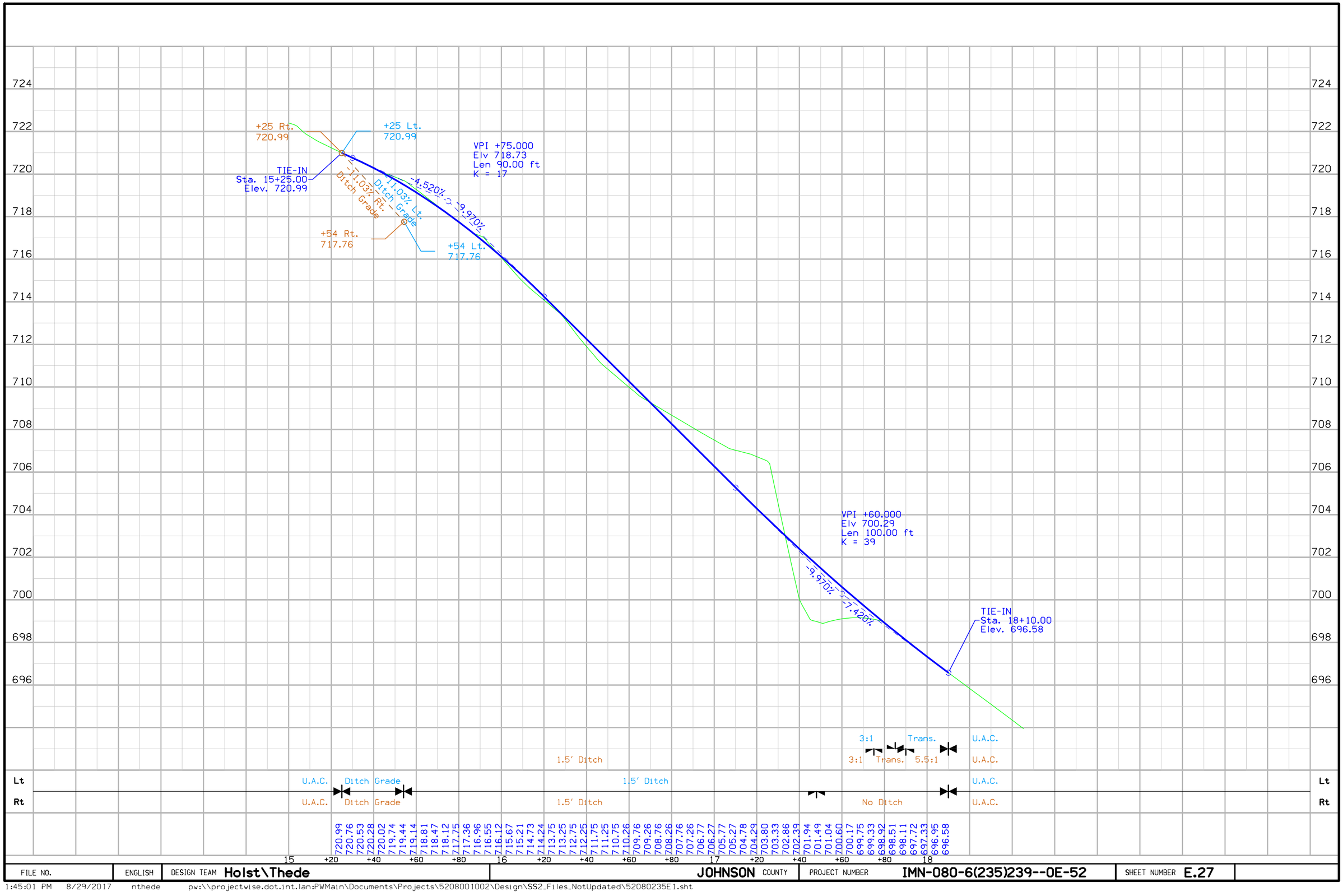
STA. 18+10.00
END CONSTRUCTION
END GRADE &
GRANULAR SURFACE

0 20
FEET

BARN ENTRANCE

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.26

1:44:19 PM 8/29/2017 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\SS2_Files_NotUpdated\52080235E1.sht



FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.27

1:45:01 PM 8/29/2017 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\SS2_Files_NotUpdated\52080235E1.sht

City of Coralville

Curve Data
Δ = 23° 49' 05.13" (RT)
T = 63.27
L = 124.71
R = 300.00
E = 6.60

Curve Data
Δ = 35° 26' 52.38" (RT)
T = 95.88
L = 185.60
R = 300.00
E = 14.95

Curve Data
Δ = 26° 13' 11.69" (LT)
T = 69.87
L = 137.29
R = 300.00
E = 8.03

PI Sta 103+39.51
PC Sta 104+18.61
PT Sta 105+55.90
PI Sta 108+13.70
POT Sta 109+51.46
PC Sta 102+76.25
PT Sta 104+00.96
PI Sta 104+88.48
PC Sta 107+17.82
PT Sta 109+03.43

STA. 102+75.00
BEGIN CONSTRUCTION
BEGIN GRADE &
GRANULAR SURFACE

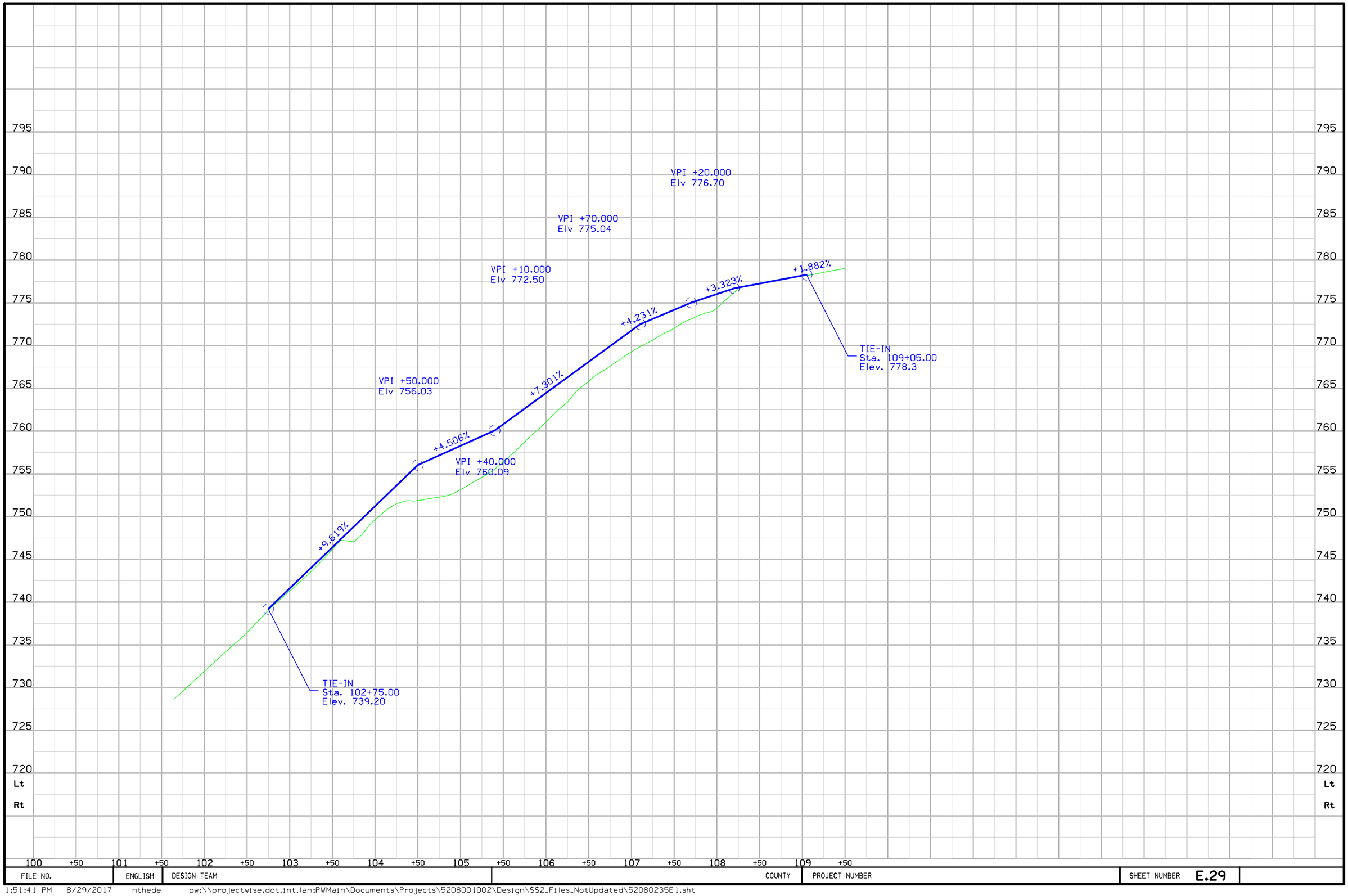
STA. 109+05.00
END CONSTRUCTION
END GRADE &
GRANULAR SURFACE

0 FEET 50

ENT US6

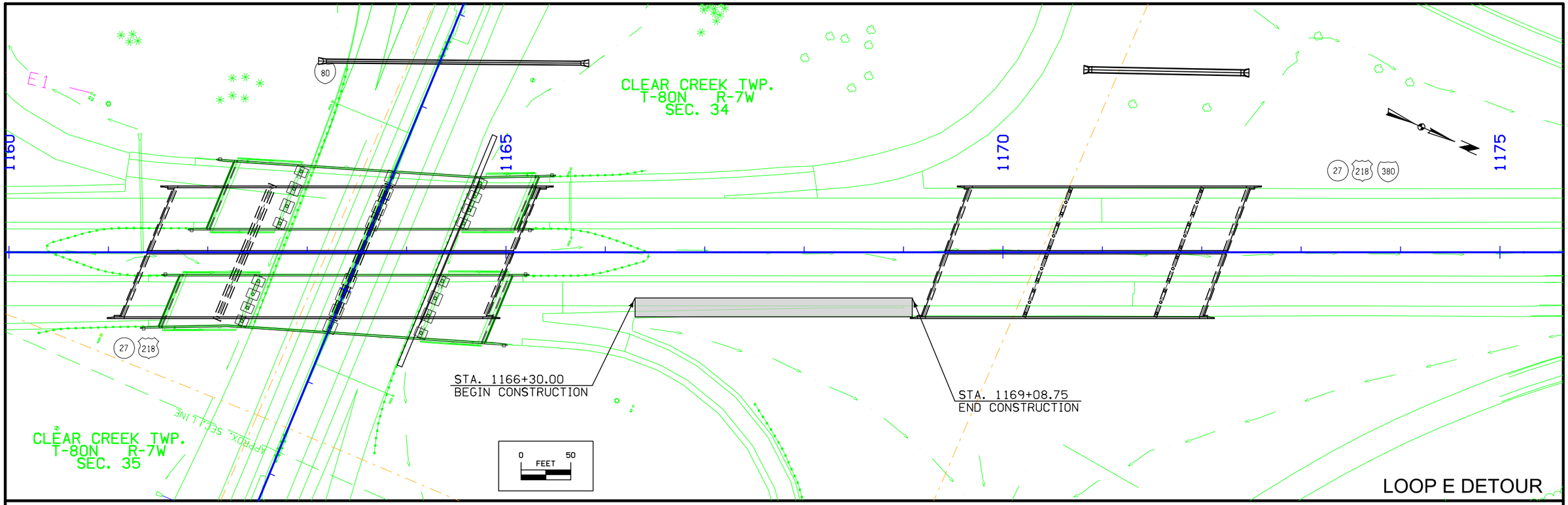
FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER E.28

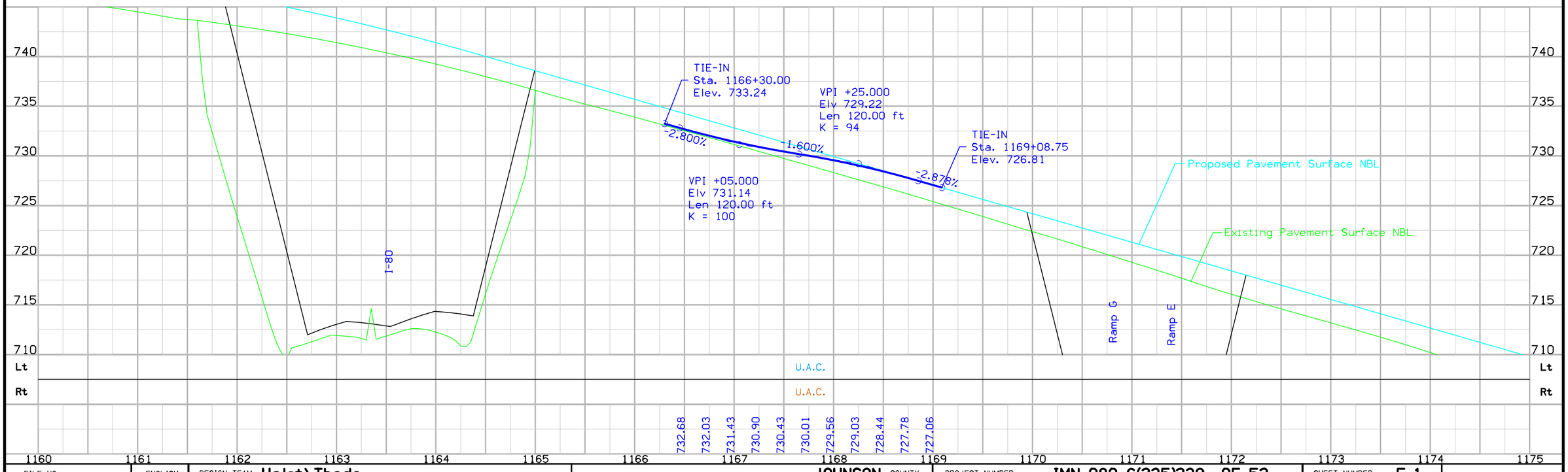
1:48:12 PM 8/29/2017 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\SS2_Files_NotUpdated\52080235E1.sht



FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER E.29

1:51:41 PM 8/29/2017 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\SS2_Files_NotUpdated\52080235E1.sht





FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER F.1

11:36:57 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235F1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

STA. 1155+46.25
BEGIN CONSTRUCTION

STA. 1158+50.00
END CONSTRUCTION

E1

1155

1160

1165

27 218

80

APPROX. SEC. LINE

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

APPROX. SEC. LINE

0 FEET 50

1151+20

LOOP F DETOUR

+0.500%

-1.083%

-0.780%

VPI +00.000
Elv 750.12
Len 100.00 ft
K = 63

VPI +00.000
Elv 747.96
Len 100.00 ft
K = 331

TIE-IN
Sta. 1155+46.25
Elev. 749.87

TIE-IN
Sta. 1158+50.00
Elev. 747.57

Proposed Pavement Surface SBL

Existing Pavement Surface SBL

Ramp F

I-80

U.A.C.

U.A.C.

749.87 749.95 749.92 749.80 749.58 749.31 749.04 748.77 748.50 748.24 747.99 747.77 747.57

750 745 740 735 730 725 720

Lt

Rt

1152 1153 1154 1155 1156 1157 1158 1159 1160 1161 1162 1163 1164 1165 1166

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER F.2

11:37:00 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235F1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

E1

STA. 1167+40.00
BEGIN CONSTRUCTION

STA. 1169+71.06
END CONSTRUCTION

80

27 218

27 218 380

1160 1165 1170 1175

0 FEET 50

LOOP G DETOUR

735 730 725 720 715 710 705

I-80

VPI +10.000
Elv 726.78
Len 100.00 ft
K = 75

-2.500% -1.546% -2.878%

725.22

TIE-IN
Sta. 1169+71.06
Elev. 725.22

Proposed Pavement Surface SBL

TIE-IN
Sta. 1167+40.00
Elev. 729.88

VPI +90.000
Elv 728.63
Len 100.00 ft
K = 105

Existing Pavement Surface SBL

Ramp G

Ramp E

Lt

Rt

U.A.C.

U.A.C.

729.64 729.06 728.55 728.10 727.70 727.30 726.82 726.26 725.62

1160 1161 1162 1163 1164 1165 1166 1167 1168 1169 1170 1171 1172 1173 1174 1175

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER F.3

11:37:03 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235F1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

APPROX. SEC. LINE

APPROX. SEC. LINE

1155

1160

1165

27 218

27 218 380

80

STA. 1155+41.99
BEGIN CONSTRUCTION

STA. 1158+50.00
END CONSTRUCTION

1151+20
℄ 810'

0 50
FEET

LOOP H DETOUR

TIE-IN
Sta. 1155+41.99
Elev. 749.83

+0.500%

-0.952%

VPI +00.000
Elv 750.12
Len 100.00 ft
K = 69

TIE-IN
Sta. 1158+50.00
Elev. 747.74

Existing Pavement Surface NBL

Proposed Pavement Surface NBL

Ramp F

I-80

U.A.C.

U.A.C.

750
745
740
735
730
725
720

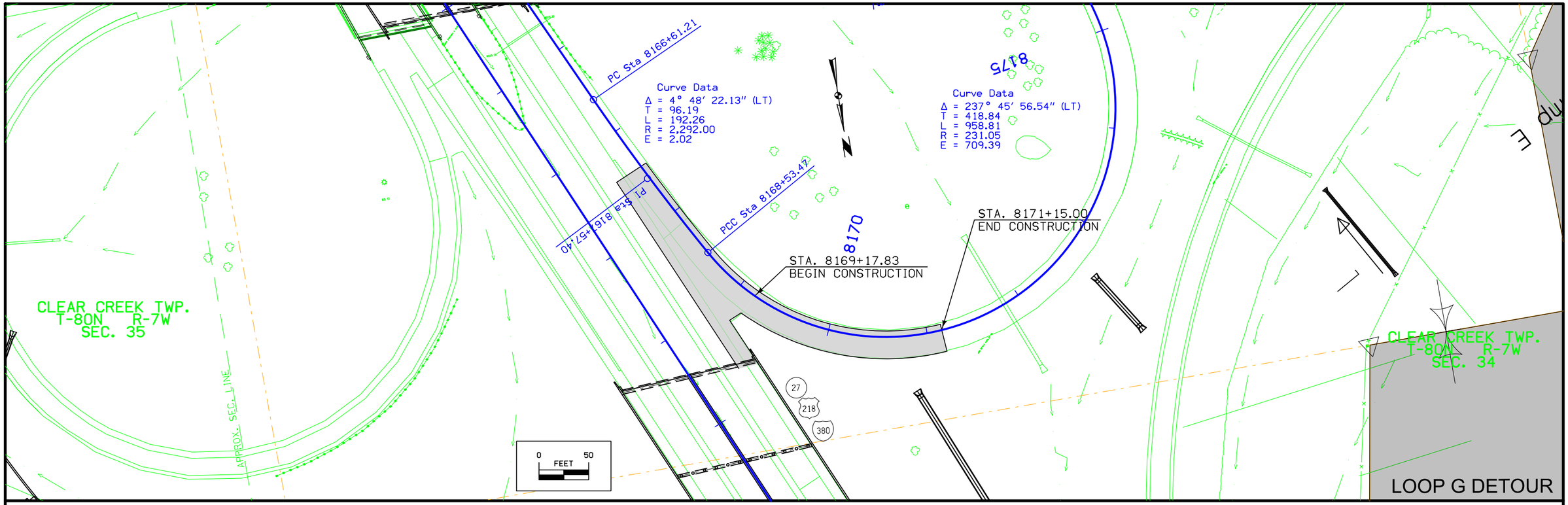
Lt
Rt

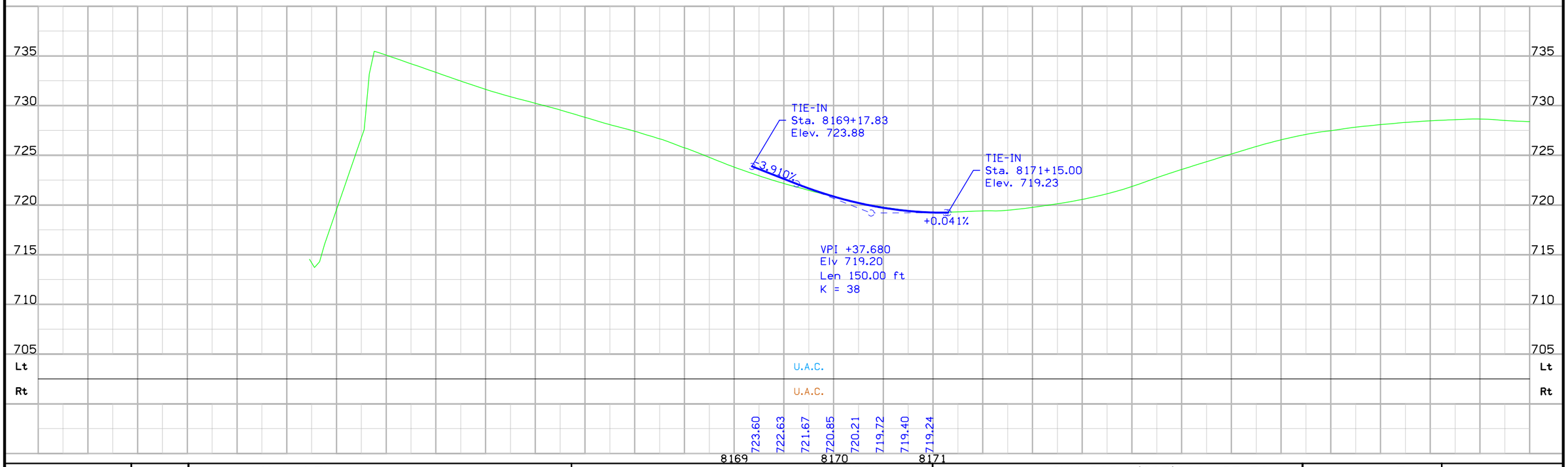
749.87 749.95 749.94 749.84 749.64 749.41 749.17 748.93 748.69 748.45 748.22 747.98 747.74

1152 1153 1154 1155 1156 1157 1158 1159 1160 1161 1162 1163 1164 1165 1166 1167

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER F.5

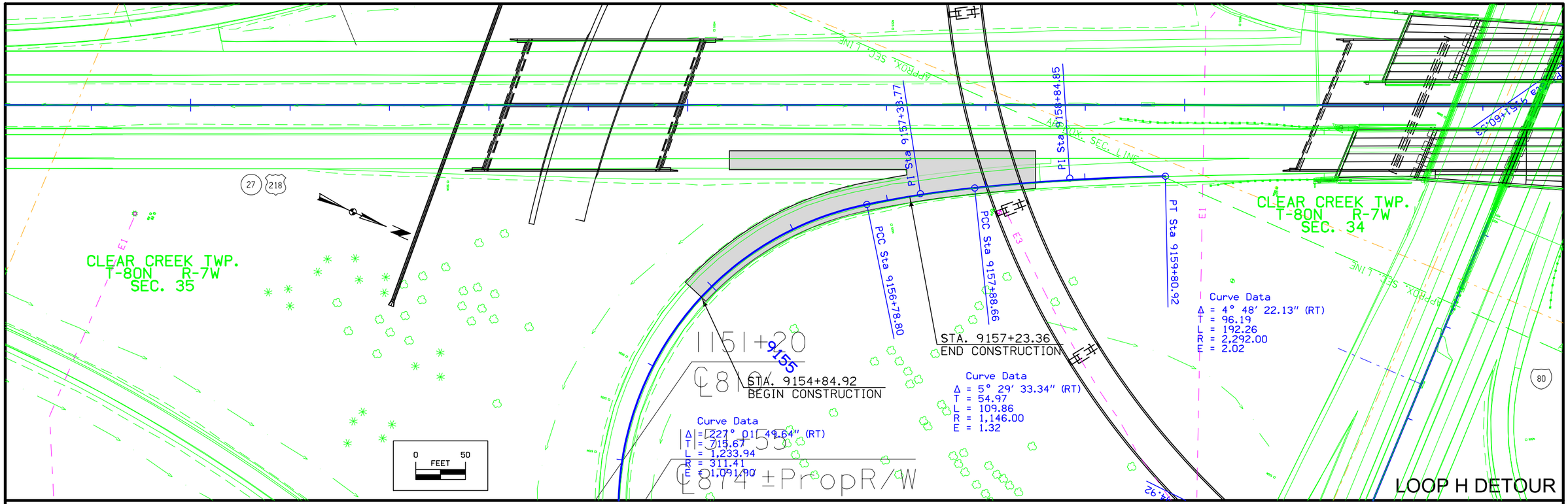
11:37:06 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235F1.sht

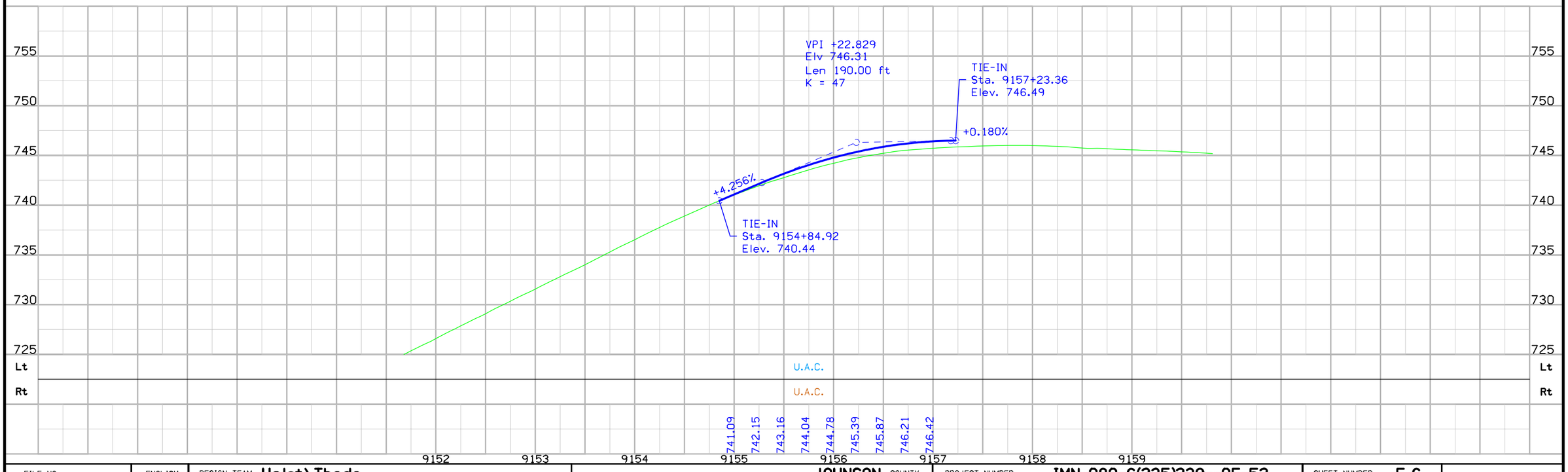




FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER F.4

11:37:08 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235F1.sht





FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER F.6

11:37:11 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235F1.sht

General Information

The GPS Network along this project was collected by IDOT Preliminary Survey Crews. Information about that network can be found in the 0411gpspoints.doc file included with this survey in NAD83(1996) Project Coordinates.

This survey completes the Design DTM event of the "Can Do Process." Twelve section corners were found and included in this survey. None of the section corners coded as SCR in this survey have been certified by District 6 office. This survey was measured in English Units.

The mainline alignment of this survey is a retrace of the as-built plans # F -518-4(12) -20-52 1986 AB plans (centerline of median).

This survey intersects a 2000 Preliminary Survey along I-80. The 2000 survey data used Sap 0321. A revised GPS network was observed in 2002 for this project that includes all 2000 network control with approximately fourteen additional points added along the I-380 corridor north and south of I-80. The project control for this project is identical to the 2000 network control survey. Station equations to all as-built PI points are in the Horizontal datum information included below.

Vertical Datum

This survey is relative to NAVD88 vertical datum. Three wire bench level loops were run throughout this project. All bench loops originated and closed on one project benchmark #566 a 3rd order USGS mark called 26FDR 1964 682. Note the vertical datum difference between NGVD 88 and NAVD 29 is 0.10 feet in this area. The 29 datum is 0.10 higher than 88.

Vertical equations to the project datum Bench Marks and other benches along this survey are as follows:

	BM	# 566	This survey	EL=682.046
=	BM	# 566	Johnson County 2000 survey	EL=682.046
=	USGS BM	# 26	26FDR 1964 682	EL=682.046
	BM	# 625	This survey	El=685.519
=	BM	# 14	1986 AB plan F-518-4(26)--20-52	EL=685.56
=	BM	# 1	Paving plan I-IG-380-6(19)243--04-52	EL=685.56
	BM	# 517	This survey	El=737.314
=	BM	# 3	Paving plan I-IG-380-6(19)243--04-52	EL=737.37
	BM	# 520	This survey	El=699.144
=	BM	# 19	Paving plan I-IG-380-6(19)243--04-52	EL=699.26
	BM	# 536	This survey	El=691.494
=	BM	# 22	Paving plan I-IG-380-6(19)243--04-52	EL=691.61
	BM	# 636	This survey	EL=691.493
=	BM	# 521	2000 Carlson survey IMN-80-6(21)240--00-52 (88 Datum)	EL=691.493
=	BM	# 22	Paving plan I-IG-380-6(19)243--04-52 (29 Datum)	EL=691.61
=	BM	# 22	1986 AB Plan F-518-4(12)--20-52 (29 Datum)	EL=691.61
	BM	# 608	This survey	EL=804.915
=	BM	# 37	1986 AB Plan F-518-4(12)--20-52 (29 Datum)	EL=804.85
	BM	# 582	This survey	EL=758.068
=	BM	# 39	1986 AB Plan F-518-4(12)--20-52 (29 Datum)	EL=758.03
	BM	# 502	This survey	EL=738.113
=	BM	# 502	2000 Carlson survey IMN-80-6(21)240--00-52 (88 Datum)	EL=738.113
=	BM	# 51A	I-80-6(12)238 Grading Plan (29 Datum)	EL=738.36
	BM	# 512	This survey	EL=789.582
=	BM	# 512	2000 Carlson survey\ IMN-80-6(21)240--00-52 (88 Datum)	EL=789.582
=	BM	# 60A	I-80-6(12)238 Grading Plan (29 Datum)	EL=789.74
=	BM	# 500	IM-80-6(171)240--13-52 Plan (29 Datum)	EL=789.96
	BM	# 633	This survey	EL=684.211
=	BM	# 21A	F-289(6) 1970 AB PLAN (Datum unknown)	EL=703.62
	BM	# 634	This survey	EL=682.904
=	BM	# 21B	F-289(6) 1970 AB PLAN (Datum unknown)	EL=702.26

Horizontal Datum

The mainline horizontal alignment for this survey is a retrace of the I-380 plans. Stationing for I-380 was backed up and carried forward from TS Sta 11183+81.20 on the as built plans. Two sets of I-380 plans were used on this project are as follows:

I-380 F-518-4(12)--20-52 As-Built I-380 Plans from south of I-80 to just North of I-80 and I.IG-380-6(19)243-04-52 AS-Built I-380 Plans from just south of I-80 to 1.5 miles North of Co. Rd. F-28

Equations are as follows:

BOP POT Sta.11082+95.29 this survey =
POT Sta. 1684+00.22 F-518-4(12)--20-52 As-Built Plans

CP Point 11097+51.08, 0.14 feet right this survey =
= PC Sta. 1698+56.76 F-518-4(12)--20-52 As-Built Plans Back
= PC Sta. 1698+60.00 F-518-4(12)--20-52 As-Built Plans Ahead

PI Sta. 11109+54.89 this survey =
PI Sta. 1710+60.76 F-518-4(12)--20-52 As-Built Plans

PI Sta.11127+45.33 this survey =
= POT Sta. 1127+45.33 IMN-80-6(211)240-0E-52 2000 Preliminary Survey
= POT Sta. 1728+54.9 F-518-4(12)--20-52 As-Built Plans Back
= POT Sta. 1127+44.85 F-518-4(12)--20-52 As-Built Plans Ahead

POT Sta.11163+54.20 This Survey I-380 Stationing (Not Set in Field)
= POT Sta. 644+59.06 This Survey I-80 Stationing

= POT Sta. 644+50.24 IM-80-6(167)240-13-52 Feb 1996 Grading Plan I-80 Stationing
= POT Sta. 638+56.24 F-518-4(12)--20-52 As-Built Plans I-80 Stationing
= POT Sta. 638+56.24 I-IG-380-6(19)243-04-52 As-Built Plans I-80 Stationing
= POT Sta. 1163+53.95 F-518-4(12)--20-52 As-Built Plans I-380 Stationing
= POT Sta. 1163+53.95 I-IG-380-6(19)243-04-52 As-Built Plans I-380 Stationing
= POT Sta. 644+59.06 IMN-80-6(211)240-0E-52 2000 Preliminary Survey I-80 Stationing

POT Sta. 11183+81.20 This survey
= TS Sta. 1183+81.20 F-518-4(12)--20-52 As-Built Plans
= TS Sta. 1183+81.20 I-IG-380-6(19)243-04-52 As-Built Plans
= TS Sta. 1183+81.20 IMN-80-6(211)240-0E-52 2000 Preliminary Survey

PI Sta. 11191+13.01 this survey =
PI Sta. 1191+12.08 I-IG-380-6(19)243-04-52 As-Built Plans

PI Sta. 11271+13.95 this survey =
PI Sta. 1271+13.52 I-IG-380-6(19)243-04-52 As-Built Plans

PI Sta. 11324+10.95 this survey =
PI Sta. 1324+11.21 I-IG-380-6(19)243-04-52 As-Built Plans

POT Sta. 11404+97.20 this survey =
PC Sta. 1404+96.91 I-IG-380-6(19)243-04-52 As-Built Plans

BENCHMARKS

					ELEVATION
No.	624	Sta.11111+94.255	79.87 Lt.	2-10OD NAILS IN WD.SI.POS------	714.060
No.	625	Sta.11118+31.923	151.22 Lt.	IHC BM INLET HDWL.TRIPLE 10 X 12 RCB BM#625 ELEV.= 685.519(E) THIS SURVEY =BM# 1 ELEV.= 685.56(E) F-518-4(12)--20-52 1986 AB PLAN------------------	685.519
No.	626	Sta.11128+02.043	110.86 Rt.	CUT"X"NW.SIDE W.CONC.SIGN BASE----------	730.221
No.	516	Sta.11138+40.798	85.63 Rt.	CUT-X-CL-S-EDGE-EAST-CONC BASE OVERHEAD SIGN----------	741.143
No.	517	Sta.11149+45.044	108.49 Rt.	FD\X-NW-BOLT-LIGHT-POLE = BM 3 ELEV. = 737.37 PAVING PLANS PROJECT NO. I-IG-380-6(19)243--04-52-------	737.314
No.	518	Sta.11161+33.669	75.84 Rt.	FD\IHC-BM-SE-WING-N-BOUND I-380 BRIDGE OVER I-80---------	746.360
No.	515	Sta.11163+24.440	152.20 Lt.	CUT-X-S-SIDE-OF-THE-SOUTH CONC BASE OVERHEAD SIGN--------	717.715
No.	519	Sta.11165+48.102	77.23 Lt.	FD\IHC-BM-NW-WING-S-BOUND I-380 BRIDGE OVER I-80---------	737.910
No.	520	Sta.11176+43.987	109.01 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.	567	Sta.11187+84.421	65.27 Rt.	FD\IHC BM SE WING N.BOUND I-380 BRIDGE OVER CLEAR CREEK----------	690.972
No.	636	Sta.11188+16.120	22.87 Rt.	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-------	691.494
No.	521	Sta.11188+16.200	22.77 Rt.	FD.IHC SW.WING NB.BRIDGE I-380 OVER CLEAR CREEK BM#521 ELEV.= 691.493(E) THIS SURVEY =BM#521 ELEV.= 691.493(E) IMN-80-6(21)240--00-52 2000 W.CARLSON SURVEY =BM#22 ELEV.= 691.61(E) F-518-4(12)--20-52 1986 AB PLAN----------	691.493
No.	568	Sta.11188+39.041	64.91 Lt.	FD\IHC BM SW WING S.BOUND I-380 BRIDGE OVER CLEAR CREEK----------	695.024
No.	569	Sta.11189+63.986	64.82 Rt.	FD.DOT BUTTON NE.WING BR.------	694.617
No.	570	Sta.11198+34.501	65.02 Rt.	FD.DOT BUTTON SE.WING BR.------	714.922
No.	632	Sta.11199+30.780	142.78 Lt.	CUT"X"N.SIDE 48"CONC.P.PO -LE BASE S.RR.TRACKS JUST W. 380 OVERPASS----------	680.741
No.	572	Sta.11200+25.396	23.34 Lt.	CUT"X"NE.WING SB.BRIDGE--------	716.012
No.	571	Sta.11200+34.418	65.35 Lt.	CUT"X"NW.WING SB.BRIDGE--------	715.783
No.	573	Sta.11204+64.485	22.95 Lt.	CUT"X" SE.WING SB.BR.HWY6------	713.595
No.	574	Sta.11204+75.377	65.13 Lt.	FD.DOT BUTTON SW.WING BR.------	713.436
No.	575	Sta.11206+88.793	64.63 Rt.	FD.DOT BUTTON NE.WING BR.------	712.079
No.	627	Sta.11206+90.470	216.20 Lt.	SET RR.SPK.S.SIDE P.POLE N.SIDE HWY 6,JUST W.OF 380 OVERPASS----------	685.435
No.	576	Sta.11218+97.892	85.21 Rt.	CUT"X"INLET 24" RCP E.SID------	732.351
No.	577	Sta.11235+00.075	16.06 Lt.	CUT"X"E.SIDE OVERHEAD SGN------	752.765
No.	578	Sta.11248+47.438	194.26 Rt.	SET 60D NAIL WD.FENCE POS------	745.111
No.	579	Sta.11261+23.666	152.27 Rt.	SET 60D NAIL WD.FENCE POS------	783.326

DETAILS OF REFERENCE INFORMATION

All References Plumb Distances
(unless otherwise noted)

No. 608 Sta.11270+93.677 134.86 Rt. FD.IHC SE.COR.WHLGD.BRIDG
BM#608 ELEV.= 804.915(E)
THIS SURVEY
=BM#37 ELEV.= 804.85(E)
F-518-4(12)--20-52
1986 AB PLAN---------- 804.915
No. 607 Sta.11271+31.826 130.49 Lt. CUT"X"NW.COR.WHLGD.BRIDGE------ 804.763
No. 580 Sta.11272+23.924 148.34 Rt. SET RR.SPK.W.SIDE FE.POST------ 779.049
No. 581 Sta.11287+68.335 98.68 Rt. CUT"X"INLET 42"RCP S.10F2------ 764.010
No. 582 Sta.11303+75.126 105.25 Rt. FD.IHC INLET HDWL.TWIN8X8
BM#582 ELEV.= 758.068(E)
THIS SURVEY
=BM#39 ELEV.= 758.03(E)
F-518-4(12)--20-52
1986 AB PLAN---------- 758.068
No. 583 Sta.11319+99.239 100.54 Rt. CUT"X"NW.W.CONC.SIGN BASE------ 767.172
No. 606 Sta.11324+44.101 150.98 Lt. SET RR.SPK.SE.SIDE P.POLE------ 780.252
No. 584 Sta.11332+00.705 107.52 Rt. CUT"X"E.SIDEW.CONC.SGN.BA------ 775.672
No. 585 Sta.11343+50.252 109.94 Rt. CUT"X"NE.SIDEW.CONC.SGN.B------ 788.481
No. 586 Sta.11356+00.495 116.53 Rt. CUT"X"W.SIDEW.CONC.SGN.BA------ 795.758
No. 587 Sta.11375+75.327 149.09 Rt. SET RR.SPK.W.SIDE P.POLE------- 798.873
No. 592 Sta.11377+19.336 135.71 Lt. CUT"X"SW.WING CO.RD.F28 B------ 816.985
No. 593 Sta.11377+53.473 133.56 Rt. FD.DOT BUTTON NE.WING BR.------ 817.034
No. 588 Sta.11389+34.201 160.47 Rt. SET RR.SPK.W.SIDE FE.POST------ 789.830
No. 589 Sta.11403+67.224 180.83 Rt. SET RR.SPK.NW.SIDE P.POLE------ 762.153
No. 500 Sta. 524+24.824 275.01 Rt. CUT-X-NW-CORNER-CONC-SLAB
OF THE EAST MOST
HISTORICAL MONUMENT----------- 725.532
No. 501 Sta. 541+26.761 95.72 Rt. FD\IHC-BM-ON-INLET-HDWL
6.0 X 6.0 RCB----------------- 716.211
No. 502 Sta. 557+55.028 100.54 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+54.008 112.27 Rt. FD\IHC-BM-SE-WING-BRIDGE
= BM 51C ELEV = 768.83
GRADING PLANS PROJECT
NO. I-80-6(12)238------------- 768.519
No. 505 Sta. 572+43.123 232.39 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+04.565 174.78 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+71.852 157.29 Rt. SET\RR-SPK-N-SIDE-FE-POST------ 741.725
No. 508 Sta. 593+92.172 141.09 Lt. SET\RR-SPK-S-SIDE-P-POLE------- 741.525
No. 509 Sta. 607+05.870 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. 511 Sta. 620+62.574 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+03.405 106.71 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+04.839 138.29 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. 519 Sta. 643+13.570 149.65 Lt. FD\IHC-BM-NW-WING-S-BOUND
I-380 BRIDGE OVER I-80--------- 737.910
No. 515 Sta. 643+29.799 85.69 Rt. CUT-X-S-SIDE-OF-THE-SOUTH
CONC BASE OVERHEAD SIGN-------- 717.715
No. 518 Sta. 646+13.448 174.79 Rt. FD\IHC-BM-SE-WING-N-BOUND
I-380 BRIDGE OVER I-80--------- 746.360

No. 522 Sta. 659+46.078 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+62.644 113.94 Rt. FD\X-CONC-WHEELGUARD-SE
END OF RAMP BRIDGE FROM
I-380 N.BOUND TO I-80
EAST BOUND---------------------- 678.334
No. 524 Sta. 678+73.492 137.92 Rt. SET\RR-SPK-N-SIDE-WOOD
FENCE POST---------------------- 668.615
No. 622 Sta.20572+00.606 33.65 Rt. SET RR.SPK.SW.SIDE P.POLE------ 764.688
No. 621 Sta.20578+73.257 31.20 Rt. SET RR.SPK..W.SIDE P.POLE------ 763.973
No. 620 Sta.20591+97.150 53.93 Rt. SET RR.SPK.SW.SIDE FE.PST------ 740.677
No. 619 Sta.20602+54.671 63.25 Lt. SET RR.SPK.N.SIDE P.POLE------- 786.486
No. 513 Sta.20608+06.706 35.16 Lt. SET\RR-SPK-N-SIDE-P-POLE------- 799.211
No. 510 Sta.20622+90.521 33.39 Lt. FD\RR-SPK-E-SIDE-P-POLE-------- 759.074
No. 511 Sta.30620+64.760 67.37 Lt. 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.30622+33.605 14.88 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. 617 Sta.30634+79.709 15.80 Rt. SET RR.SPK.W.SIDE TEL.POL
ON JASPER AVE.----------------- 778.994
No. 616 Sta.30639+48.147 43.04 Rt. SET RR.SPK.W.SIDE P.POLE
ON JASPER AVE.----------------- 758.301
No. 615 Sta.30653+45.242 17.13 Rt. FD.SQ.SE.COR.HNDRL.BRIDGE
OVER CLEAR CREEK,JASPER A------ 686.896
No. 614 Sta.30655+23.641 16.15 Lt. CUT"X"NW.COR.HNDRL.BRG.OV
ER CLEAR CREEK ON JASPER
AVE. JUST S.RR.TRACKS---------- 687.721
No. 633 Sta.30664+43.666 29.41 Rt. FD.IHC INLET HDWL 4X2 RCB
BM# 633 ELEV.= 684.221(E)
THIS SURVEY
=BM#21A ELEV.=703.62
F-289(6) 1970 AB PLAN---------- 684.221
No. 596 Sta.30677+73.777 27.86 Lt. SET RR.SPK.E.SIDE P.POLE------- 717.410
No. 597 Sta.30686+97.621 16.19 Rt. FD.BOLT INLET HDWL.8X6RCB------ 709.220
No. 598 Sta.30698+38.006 33.23 Lt. SET RR.SPK.W.SIDE P.POLE------- 733.159
No. 599 Sta.30711+77.883 32.92 Lt. SET RR.SPK.W.SIDE P.POLE------- 780.071
No. 600 Sta.30719+26.238 33.12 Lt. SET RR.SPK.W.SIDE P.POLE------- 808.144
No. 601 Sta.30728+10.453 42.91 Rt. SET RR.SPK.SW.SIDE P.POLE------ 797.156
No. 602 Sta.30740+44.218 32.72 Rt. SET RR.SPK.W.SIDE GATEPOS------ 760.080
No. 603 Sta.30753+47.152 26.22 Rt. SET RR.SPK.W.SIDE P.POLE------- 757.608
No. 604 Sta.30766+58.868 30.99 Rt. SET RR.SPK.W.SIDE P.POLE------- 768.523
No. 632 Sta.41197+93.824 27.47 Rt. CUT"X"N.SIDE 48"CONC.P.PO
-LE BASE S.RR.TRACKS JUST
W. 380 OVERPASS---------------- 680.741
No. 571 Sta.41198+53.244 87.28 Lt. CUT"X"NW.WING SB.BRIDGE-------- 715.783
No. 572 Sta.41198+95.539 85.52 Lt. CUT"X"NE.WING SB.BRIDGE-------- 716.012
No. 570 Sta.41200+17.490 85.89 Rt. FD.DOT BUTTON SE.WING BR.------ 714.922
No. 631 Sta.41210+26.902 27.22 Rt. CUT"X"N.SIDE 48"CONC.P.PO
-LE BASE,OVERHEAD POWER
LINE,S.RR.TRACKS,JUST W.
FS FEEDS BUILDING-------------- 684.629
No. 630 Sta.41219+67.035 28.89 Rt. CUT"X"N.SIDE 48"CONC.P.PO
-LE BASE S.RR.TRACKS E.
END FS FEEDS FENCE------------- 688.824
No. 633 Sta.51192+29.509 33.19 Lt. FD.IHC INLET HDWL 4X2 RCB
BM# 633 ELEV.= 684.221(E)
THIS SURVEY
=BM#21A ELEV.=703.62
F-289(6) 1970 AB PLAN---------- 684.221
No. 634 Sta.51200+72.371 24.25 Lt. FD.IHC INLET HDWL 4X2 RCB
BM# 634 ELEV.= 682.904(E)
THIS SURVEY
=BM#21B ELEV.=702.26
F-289(6) 1970 AB PLAN---------- 682.904
No. 627 Sta.51203+52.358 60.83 Lt. SET RR.SPK.S.SIDE P.POLE
N.SIDE HWY 6,JUST W.OF
380 OVERPASS------------------- 685.435
No. 574 Sta.51205+48.360 121.48 Rt. FD.DOT BUTTON SW.WING BR.------ 713.436
No. 573 Sta.51205+96.470 120.17 Rt. CUT"X" SE.WING SB.BR.HWY6------ 713.595
No. 575 Sta.51206+11.957 120.14 Lt. FD.DOT BUTTON NE.WING BR.------ 712.079

No. 628 Sta.51220+41.072 38.97 Rt. FD.DOT BUTTON OUTLET HDWL
12.0 X 6.0 RCB,S.SIDE RD.------ 692.107
No. 601 Sta.61258+19.677 73.21 Lt. SET RR.SPK.SW.SIDE P.POLE------ 797.156
No. 607 Sta.61269+81.203 16.29 Lt. CUT"X"NW.COR.WHLGD.BRIDGE------ 804.763
No. 608 Sta.61272+47.430 15.13 Rt. FD.IHC SE.COR.WHLGD.BRIDG
BM#608 ELEV.= 804.915(E)
THIS SURVEY
=BM#37 ELEV.= 804.85(E)
F-518-4(12)--20-52
1986 AB PLAN---------- 804.915
No. 580 Sta.61272+57.419 115.97 Lt. SET RR.SPK.W.SIDE FE.POST------ 779.049
No. 609 Sta.71285+24.573 36.52 Lt. SET RR.SPK.W.SIDE P.POLE------- 782.709
No. 610 Sta.71300+33.158 43.78 Rt. SET RR.SPK.E.SIDE P.POLE------- 777.704
No. 611 Sta.71313+91.962 33.55 Lt. SET RR.SPK.W.SIDE P.POLE------- 794.997
No. 612 Sta.71324+43.867 33.77 Lt. SET RR.SPK.E.SIDE P.POLE------- 777.635
No. 605 Sta.81312+32.522 26.41 Lt. SET RR.SPK.S.SIDE P.POLE------- 778.045
No. 606 Sta.81322+59.298 30.49 Lt. SET RR.SPK.SE.SIDE P.POLE------ 780.252
No. 613 Sta.81339+01.184 31.48 Lt. SET RR.SPK.S.SIDE P.POLE------- 764.142
No. 590 Sta.91359+26.297 34.25 Rt. ARROWHEAD ON SW.SIDE FHD------- 788.696
No. 591 Sta.91365+45.283 23.04 Rt. ARROWHEAD ON NE.SIDE FHD------- 792.288
No. 592 Sta.91376+00.766 16.91 Rt. CUT"X"SW.WING CO.RD.F28 B------ 816.985
No. 593 Sta.91378+70.104 16.70 Lt. FD.DOT BUTTON NE.WING BR.------ 817.034
No. 587 Sta.91378+85.282 161.48 Rt. SET RR.SPK.W.SIDE P.POLE------- 798.873
No. 594 Sta.91393+35.495 28.53 Rt. ARROWHEAD ON W.SIDE FHD-------- 788.677
No. 595 Sta.91400+06.045 28.37 Rt. ARROWHEAD ON W.SIDE FHD.------- 785.191

MISCELLANEOUS LOCATIONS
No. 43 ********** GPS# 043-GPS ZC= 751.45
ADJUSTED LOCAL PROJECT
PLANE COORDINATES
ELEVATION IS ESTIMATED
GPS DERIVED ORTHO HEIGHT------- 751.478
No. 44 ********** GPS# 044 -GPS ZC= 783.95
ADJUSTED LOCAL PROJECT
PLANE COORDINATES
ELEVATION IS ESTIMATED
GPS DERIVED ORTHO HEIGHT------- 783.937
No. 45 ********** GPS# 045 -GPS ZC= 767.37
ADJUSTED LOCAL PROJECT
PLANE COORDINATES
ELEVATION IS ESTIMATED
GPS DERIVED ORTHO HEIGHT------- 767.378
No. 46 ********** GPS# 046 -GPS ZC= 777.31
ADJUSTED LOCAL PROJECT
PLANE COORDINATES
ELEVATION IS ESTIMATED
GPS DERIVED ORTHO HEIGHT------- 777.325
No. 47 ********** GPS# 047 -GPS ZC= 798.04
ADJUSTED LOCAL PROJECT
PLANE COORDINATES
ELEVATION IS ESTIMATED
GPS DERIVED ORTHO HEIGHT------- 798.026
No. 51 ********** GPS# 051 -GPS ZC= 764.45
ADJUSTED LOCAL PROJECT
PLANE COORDINATES
ELEVATION IS ESTIMATED
GPS DERIVED ORTHO HEIGHT------- 764.528
No. 566 ********** FD USGS DISK OUTLET HDWL
4.0 X 2.0 RCB
NAVD 88 EL=682.046------------- 682.046

DETAILS OF REFERENCE INFORMATION

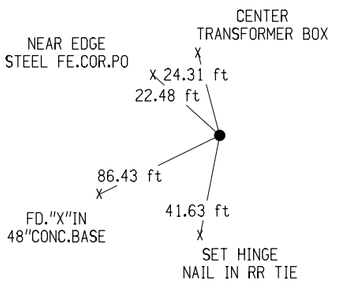
All References Plumb Distances
(unless otherwise noted)

No. 48 ********** GPS# 048-GPS ZC= 786.78
ADJUSTED LOCAL PROJECT
PLANE COORDINATES
ELEVATION IS ESTIMATED
GPS DERIVED ORTHO HEIGHT------- 786.758
No. 49 ********** GPS# 049 -GPS ZC= 813.21
ADJUSTED LOCAL PROJECT
PLANE COORDINATES
ELEVATION IS ESTIMATED
GPS DERIVED ORTHO HEIGHT------- 813.212
No. 50 ********** GPS# 050-GPS ZC= 784.71
ADJUSTED LOCAL PROJECT
PLANE COORDINATES
ELEVATION IS ESTIMATED
GPS DERIVED ORTHO HEIGHT------- 784.725
No. 629 ********** SET RR.SPK.SW.SIDE L.POLE
IN ENT.TO FS FEEDS------------ 702.775
No. 623 ********** FD.BOLT SW.COR.HDWL.TWIN
12 X 12 RCB------------------- 688.940
No. 38 ********** GPS# 038 -GPS ZC= 717.88
ADJUSTED LOCAL PROJECT
PLANE COORDINATES
ELEVATION IS ESTIMATED
GPS DERIVED ORTHO HEIGHT
GPS POINT G038---------------- 717.875
No. 39 ********** GPS POINT G039
GPS# 39 -GPS ZC= 733.36
ADJUSTED LOCAL PROJECT
PLANE COORDINATES
ELEVATION IS ESTIMATED
GPS DERIVED ORTHO HEIGHT------- 733.310
No. 635 ********** SET RR SPK N. SIDE P.POLE
AT ENT TO 911 # 3050
ON N. SIDE 355 ST. S.W.-------- 775.965
No. 504 ********** 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. 11 ********** GPS-POINT-G011
FENO MONUMENT
ORTHO ELVATION =722.71--------- 722.698
No. 13 ********** GPS-POINT-G013
ORTHO ELEVATION=709.82
FD\ REBAR---------------------- 709.794
No. 525 ********** FD\IHC-BM-SW-WING-I-80
E.BOUND BR. OVER HWY 6--------- 713.964
No. 1095 ********** TARGET-#-1095------------------ 679.243
No. 526 ********** 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

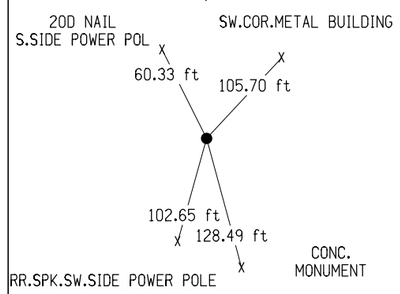
DETAILS OF REFERENCE INFORMATION

All References Plumb Distances
(unless otherwise noted)

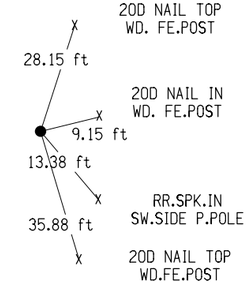
CP STA
CP,SET IRON PIN 0.4' DEEP
CP NO. 368
XC=2149688.768, YC=625463.294



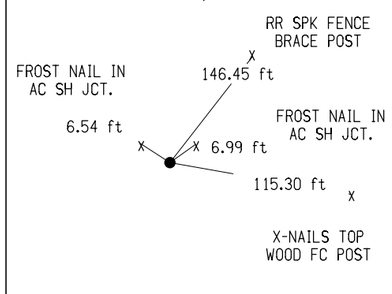
CP STA
CP,SET IRON PIN 0.5' DEEP
CP NO. 367
XC=2149842.545, YC=625965.820



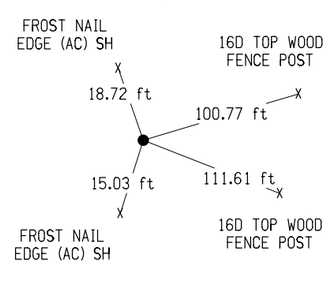
CP STA
CP,SET IRON PIN 0.6' DEEP
CP NO. 359
XC=2149158.353, YC=619695.551



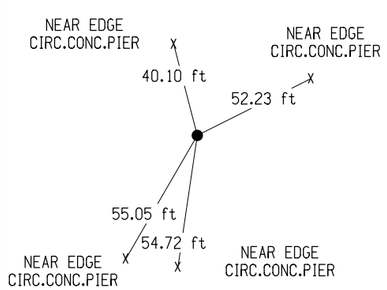
CP STA1138819.46 69.52 RT
CP POINT 328
SET IRON PIN
XC=2147370.319, YC=645001.916



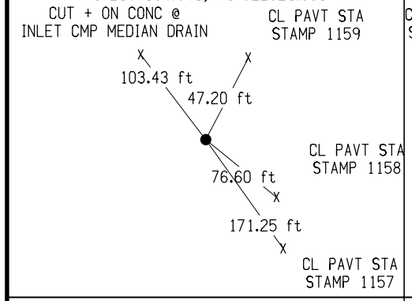
GPS STA
GPS POINT G051
FD RE-BAR
XC=2147352.230, YC=646825.440



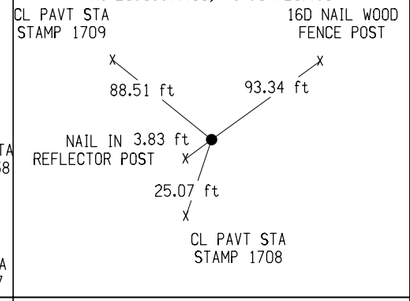
PI STA
PI,FD.HINGE NAIL
PI NO. 203
XC=2147685.529, YC=626785.566



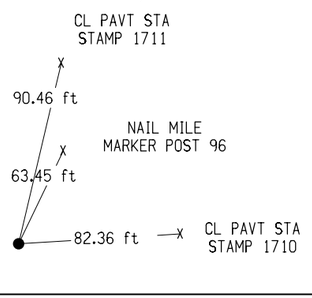
GPS STA1158+67.81 18.37RT
GPS POINT G040
FD REBAR 6" DEEP
XC=2149059.690, YC=622321.550



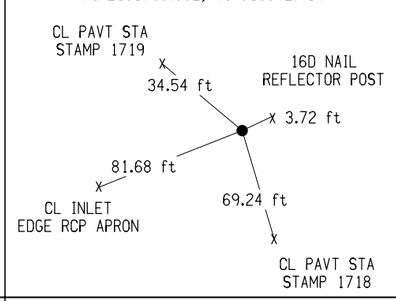
GPS STA11107+07.24 75.97R
GPS POINT G038
FOUND REBAR 6" DEEP
XC=2151337.400, YC=617721.960



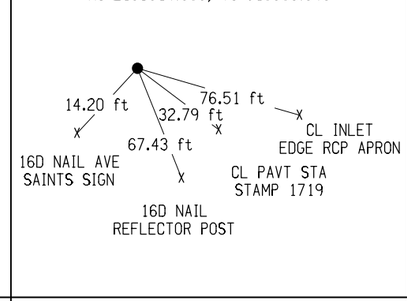
PI STA11109+54.89 125.04L
PI POINT 117
FOUND REBAR (OLD P.I.)
XC=2151037.868, YC=617786.796



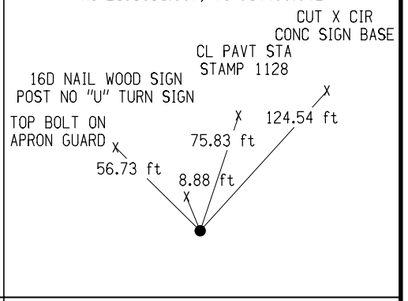
CP STA11117+61.69 67.32RT
CP POINT 362
SET IRON PIN
XC=2150768.562, YC=618592.409



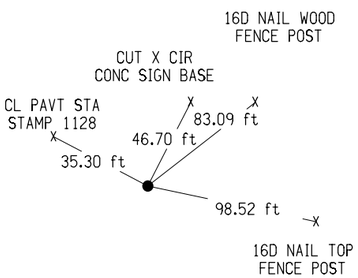
CP STA11118+23.46 68.31LT
CP POINT 361
SET IRON PIN
XC=2150619.686, YC=618585.593



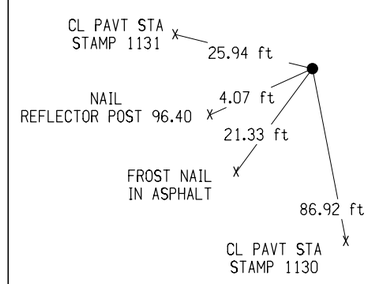
PI STA 11127+45.33
PI POINT 61
FOUND REBAR
XC=2150301.567, YC=619456.592



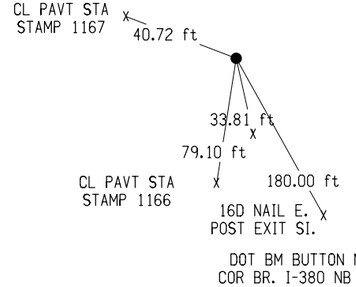
CP STA11127+71.82 75.24RT
CP POINT 363
SET IRON PIN
XC=2150359.742, YC=619511.171



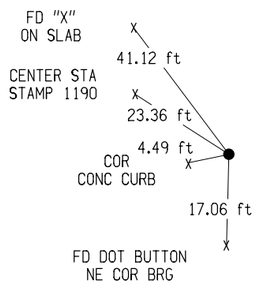
GPS STA11130+83.96 73.69R
GPS POINT G039
FOUND REBAR
XC=2150232.500, YC=619796.200



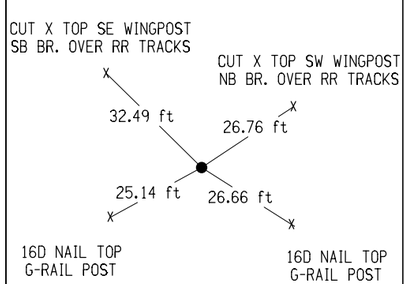
GPS STA11166+73.04 83.17R
GPS POINT G041
FOUND REBAR 4" DEEP
XC=2148794.400, YC=623084.580



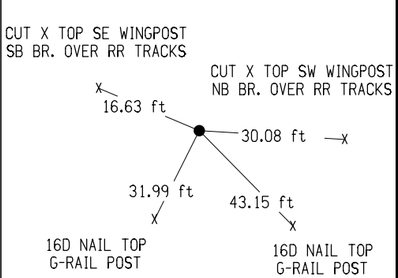
GPS 11189+80.71,69.65 RT
FD REBAR 0.4 DEEP
GPS #G042
XC=2147894.800, YC=625195.400



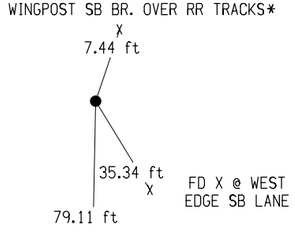
POST STA 11198+25.80
POST POINT 119
42" DEEP (OLD ST)
XC=2147720.353, YC=626013.868



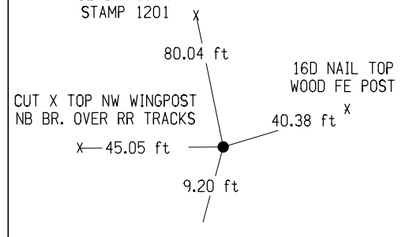
CP STA11198+42.48 7.38LT.
CP POINT 310
SET IRON PIN
XC=2147712.647, YC=626030.407



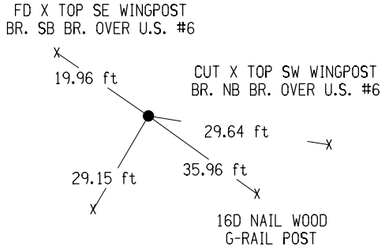
CP STA11198+50.88 67.60LT
CP POINT 311
SET IRON PIN
XC=2147652.273, YC=626037.618



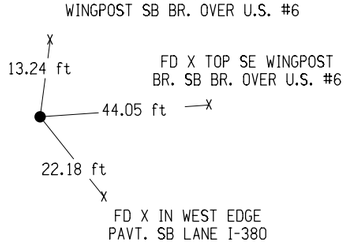
CP STA11200+20.55 67.59RT
CP POINT 312
SET IRON PIN
XC=2147784.094, YC=626209.915



CP STA11204+52.93 6.70LT.
CP POINT 313
SET IRON PIN
XC=2147701.314, YC=626640.752



CP STA11204+62.26 66.96LT
CP POINT 314
SET IRON PIN
XC=2147640.880, YC=626648.888
DOT BM BUTTON SW
WINGPOST SB BR. OVER U.S. #6



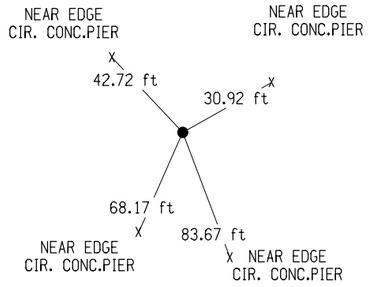
DETAILS OF REFERENCE INFORMATION

All References Plumb Distances
(unless otherwise noted)

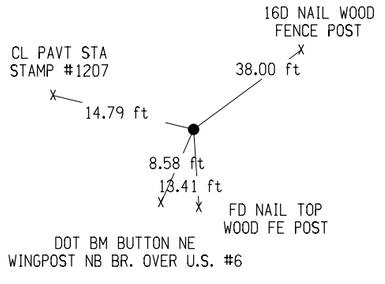
FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER G.4

4:09:24 PM 5/4/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235G1.sht

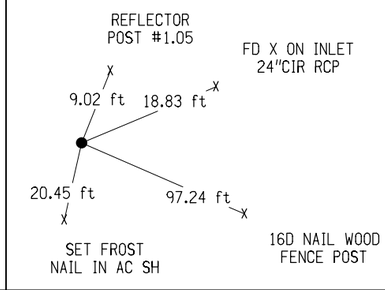
CP STA 11206+05.7,0.355RT
CP,SET IRON PIN 0.4'DEEP
CP NO. 365
XC=2147705.357, YC=626793.642



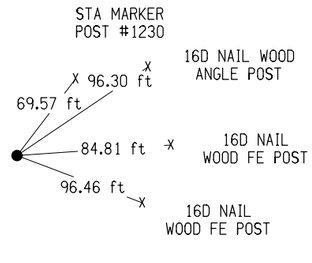
CP STA11206+96.97 67.11RT
CP POINT 315
SET IRON PIN
XC=2147770.306, YC=626886.194



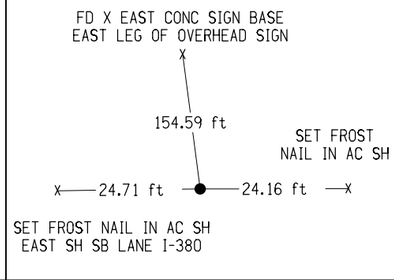
CP STA11218+91.13 67.56RT
CP POINT 316
SET IRON PIN
XC=2147747.250, YC=628080.126



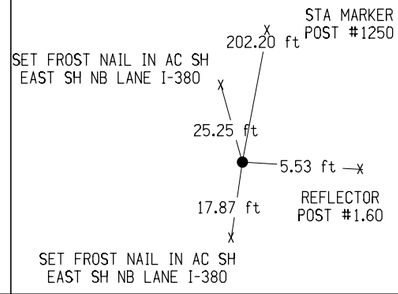
GPS STA11229+46.68 69.07R
GPS POINT G043
FD REBAR
XC=2147727.980, YC=629135.510



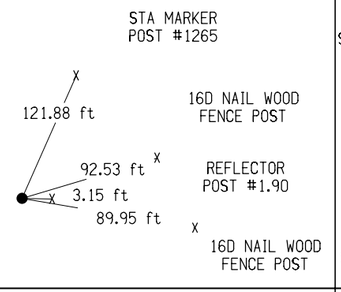
CP STA11233+46.29
CP POINT 120
FOUND REBAR
XC=2147650.826, YC=629533.678



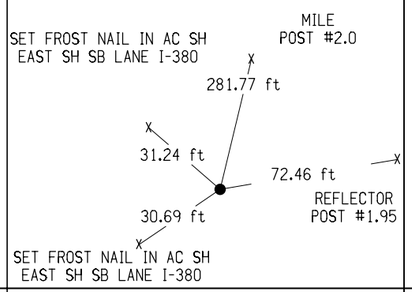
CP STA11248+00.08 66.09RT
CP POINT 319
SET IRON PIN
XC=2147688.519, YC=630988.491



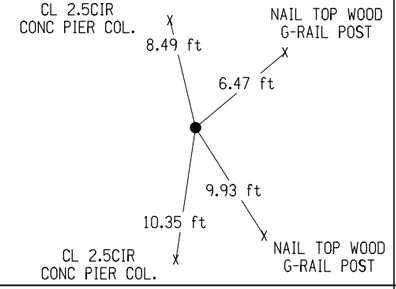
GPS STA11263+84.92 68.10R
GPS POINT G044
FD REBAR
XC=2147659.340, YC=632573.060



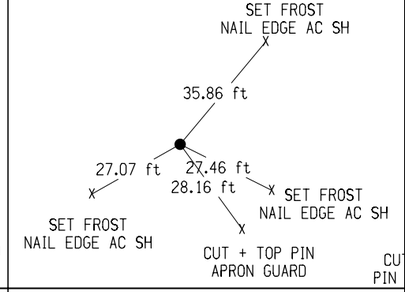
POT STA 11266+42.81
POT POINT 126
FD REBAR
XC=2147586.174, YC=632829.561



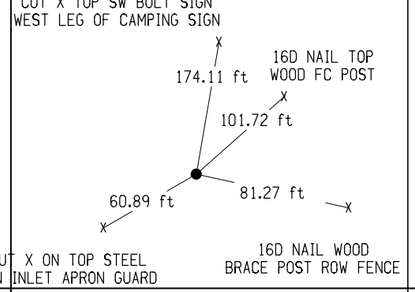
CP STA11271+13.17 3.91RT.
CP POINT 320
SET IRON PIN
XC=2147578.713, YC=633299.901



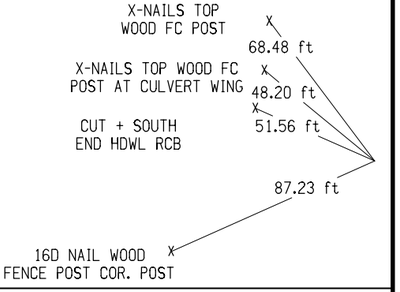
POT STA 11274+97.73
POT POINT 131
FD REBAR
XC=2147560.834, YC=633684.089



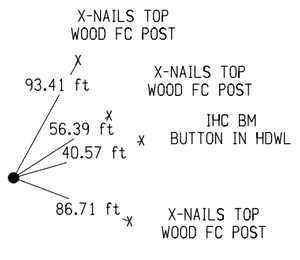
GPS STA11290+26.94 70.08R
GPS POINT G045
FD REBAR
XC=2147566.840, YC=635214.890



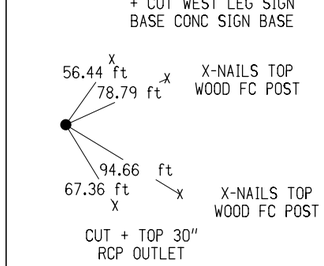
CP STA11302+79.45 66.70LT
CP POINT 321
SET IRON PIN
XC=2147377.746, YC=636460.574



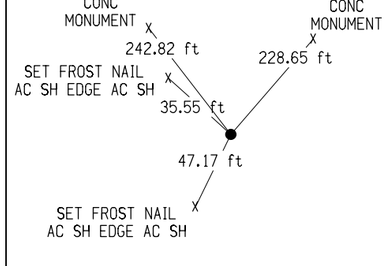
CP STA11303+63.40 66.41RT
CP POINT 322
SET IRON PIN
XC=2147507.233, YC=636550.025



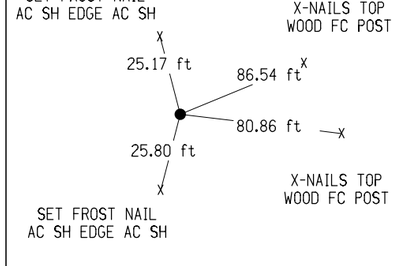
CP STA11319+54.64 65.97RT
CP POINT 323
SET IRON PIN
XC=2147440.180, YC=638139.847



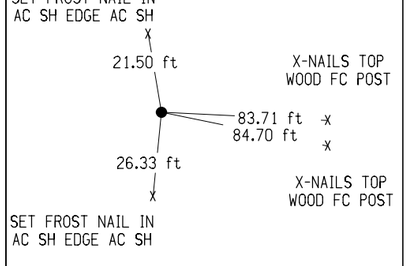
PI STA 11324+10.95
PI POINT 133
FD REBAR
XC=2147355.166, YC=638593.002



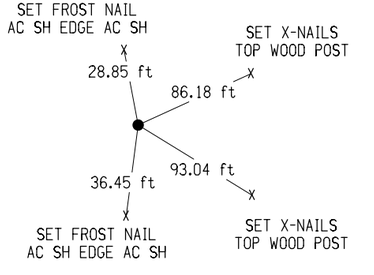
GPS STA11327+21.80 69.80R
GPS POINT G046
FD REBAR
XC=2147422.440, YC=638904.720



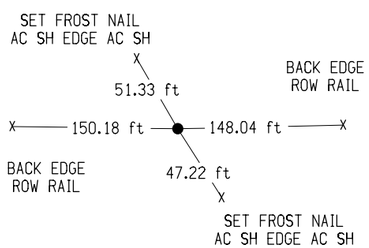
CP STA11335+13.07 66.44RT
CP POINT 324
SET IRON PIN
XC=2147412.252, YC=639695.711



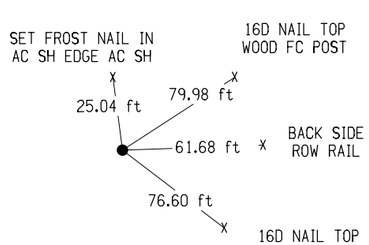
CP STA11348+34.75 67.93RT
CP POINT 325
SET IRON PIN
XC=2147402.529, YC=641017.354



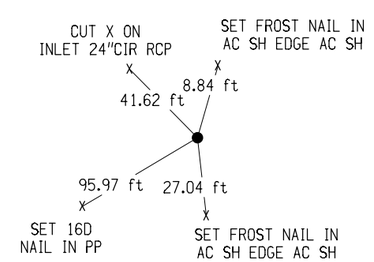
CP STA11350+68.00
CP POINT 134
FD REBAR/HIGH PIN OF 2 FD
XC=2147332.596, YC=641250.020



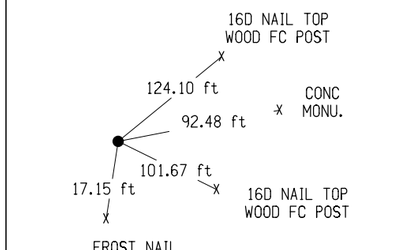
GPS STA11359+98.31 79.57R
GPS POINT G047
FD REBAR
XC=2147404.300, YC=642180.970



CP STA11376+37.76 66.54LT
CP POINT 326
SET IRON PIN
XC=2147244.286, YC=643819.129



CP STA11401+12.35 66.02RT
CP POINT 329
SET IRON PIN
XC=2147355.848, YC=646294.755



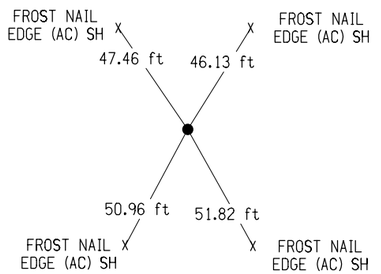
DETAILS OF REFERENCE INFORMATION

All References Plumb Distances
(unless otherwise noted)

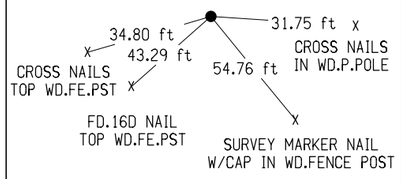
FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER G.5

4:09:25 PM 5/4/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235G1.sht

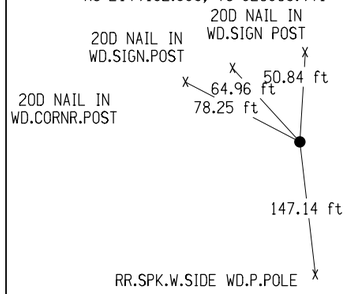
CP STA 11404+97.20
CP POINT 136
H0411001.ALI
XC=2147286.571, YC=646679.028



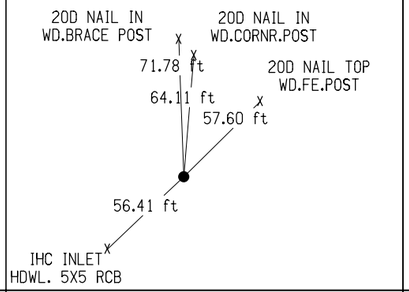
PI STA.20576+03.82
PI,FD.IRON PIN 1.1' DEEP
PI NO. 161,SCR NO. 161
XC=2149125.621, YC=620087.690



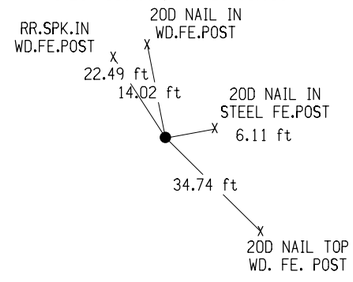
CP STA.20580+19.75,17.9RT
CP,SET IRON PIN 0.6' DEEP
CP NO. 358
XC=2149132.853, YC=620503.941



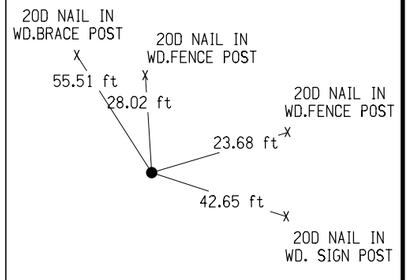
PI STA. 20589+66.53
PI,SET IRON PIN 0.5' DEEP
PI NO. 164
XC=2149090.582, YC=621449.945



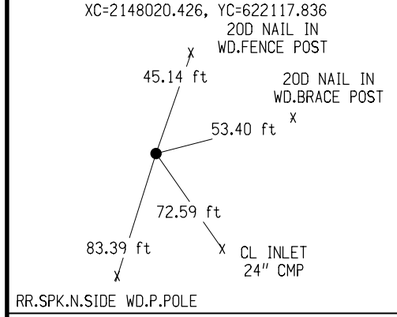
CP STA.20591+76.66,49.5RT
CP,SET IRON PIN 0.7' DEEP
CP NO. 357
XC=2149003.559, YC=621660.301



PI STA.20593+49.34
PI,SET IRON PIN 0.5' DEEP
PI NO. 165
XC=2148865.863, YC=621772.416



PI STA.20602+51.57
PI,SET IRON PIN 0.4' DEEP
PI NO. 169
XC=2148020.426, YC=622117.836



PI STA.20618+52.05
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PI NO. 175
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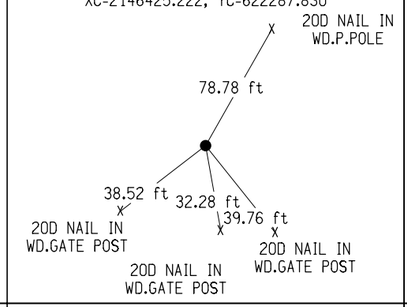

CP STA.20627+75.09
CP,SET IRON PIN 0.4' DEEP
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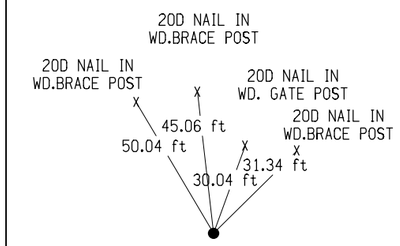
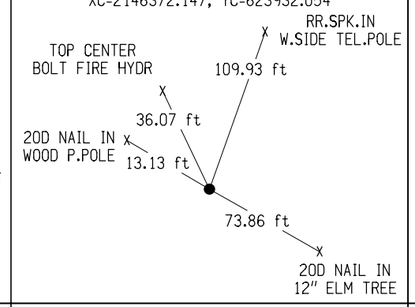
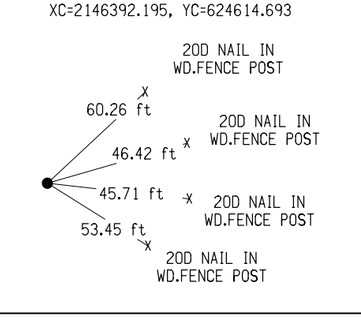


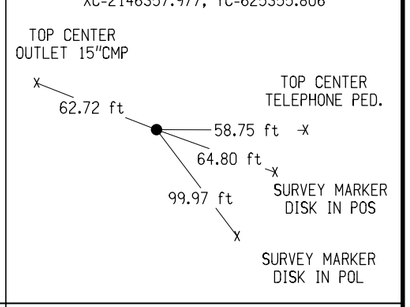
CP STA.30633+76.9,23.11LT
CP,SET IRON PIN 0.5' DEEP
CP NO. 356
XC=2146372.147, YC=623932.054



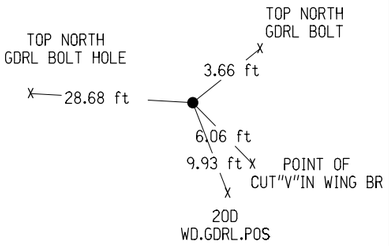
CP STA 30640+58.79,14.8RT
CP,SET IRON PIN 0.5' DEEP
CP NO. 355
XC=2146392.195, YC=624614.693



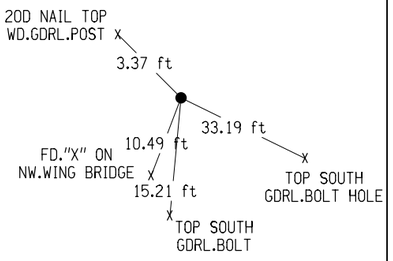
PI STA 30648+00.546
SCR,FD.5/8"REBAR .6'DEEP
PI NO. 185
XC=2146357.977, YC=625355.806



CP STA 30653+49.6,12.87RT
CP,SET IRON PIN 0.6' DEEP
CP NO 354
XC=2146361.885, YC=625905.030



CP STA 30655+33.8,13.84RT
CP,SET IRON PIN 0.6' DEEP
CP NO. 353
XC=2146332.170, YC=626088.784



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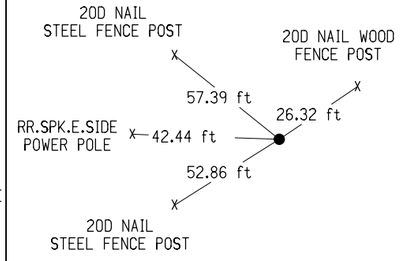
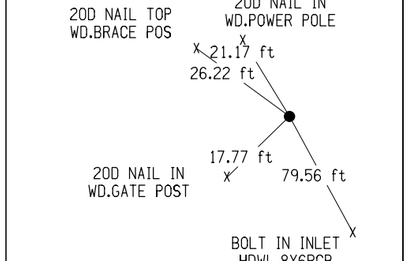
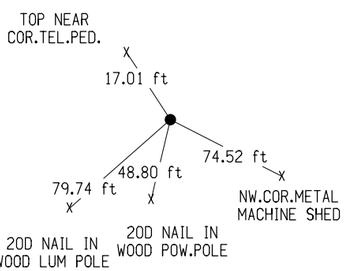
CP,SET IRON PIN 0.5' DEEP
CP NO. 336
XC=2146350.445, YC=628327.347



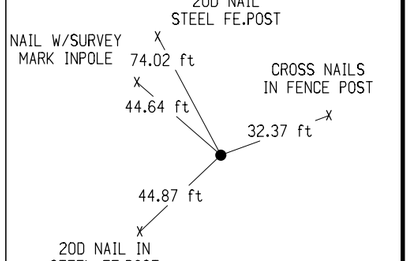
CP STA 30687+67.9,20.99LT
CP,FD.BOLT IN YELLOW CAP
CP NO. 337
XC=2146300.884, YC=629322.660



CP STA 30693+47.0,19.18LT
CP,SET IRON PIN 0.5' DEEP
CP NO. 338
XC=2146294.516, YC=629901.680



SCR,PI,STA 30700+86.417
SCR,PI,FD.CONC.MONU.1DEEP
SCR NO.211, PI NO. 222
XC=2146303.247, YC=630641.318



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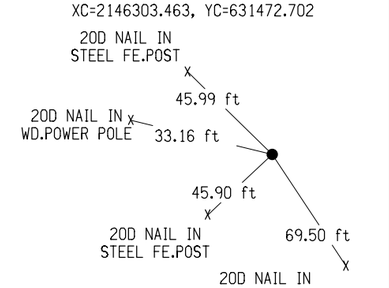

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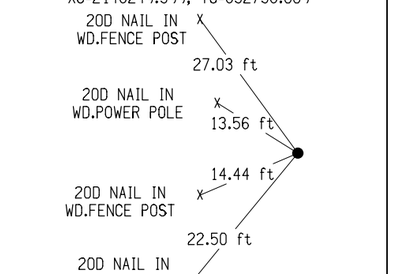
CP,SET IRON PIN 1.0' DEEP
CP NO. 340
XC=2146249.399, YC=632736.009



CP STA 30727+39.61,13.0LT
CP,SET IRON PIN 0.8' DEEP
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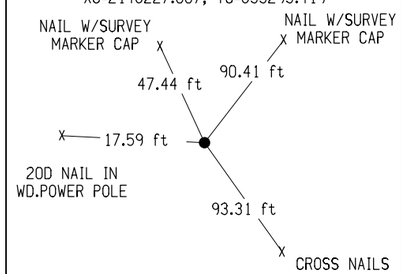
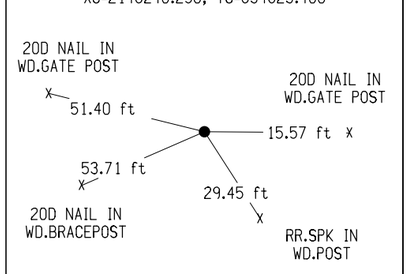
XC=2146227.007, YC=633293.419



CP STA 30740+69.31,17.3RT
CP,SET IRON PIN 0.5' DEEP
CP NO. 342
XC=2146240.250, YC=634623.400



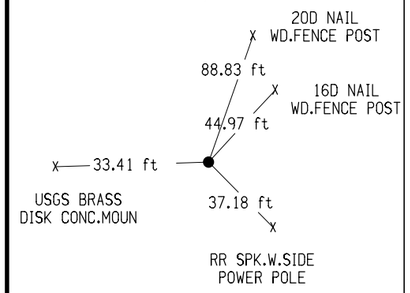
DETAILS OF REFERENCE INFORMATION

All References Plumb Distances
(unless otherwise noted)

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER G.6

4:09:26 PM 5/4/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235G1.sht

SCR STA 30753+73.552
PI,FD.5/8" REBAR
SCR,PI, NO.218
XC=2146206.162, YC=635927.312



CP STA 30754+06.49,16.6RT
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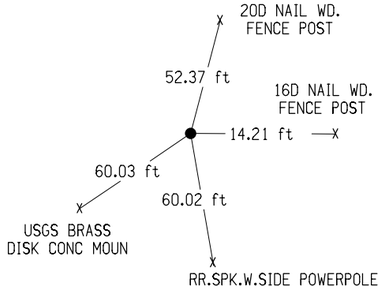
CP NO. 343
XC=2146222.458, YC=635960.400



CP STA 30767+20.33,17.2RT
CP,SET IRON PIN 0.6' DEEP
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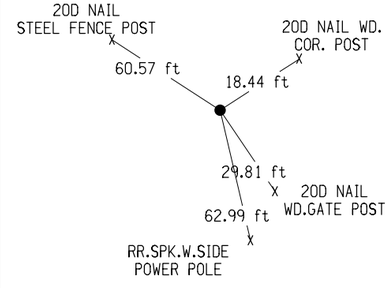
XC=2146211.155, YC=637274.192



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CP,SET HINGE NAIL CL RR.
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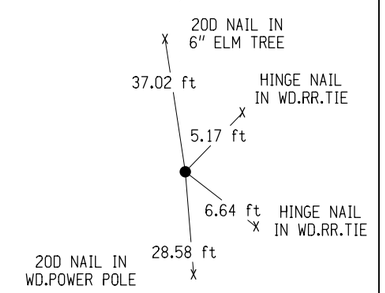

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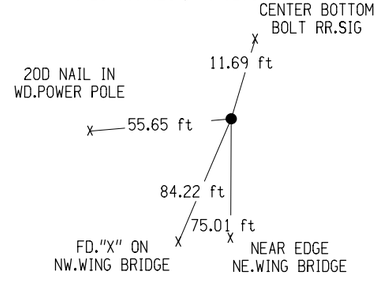

CP STA 41199+34.8,19.15LT
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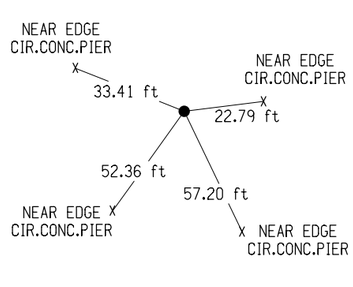

CP STA 41210+54.0,55.25LT
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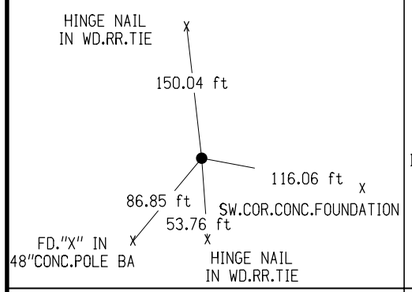

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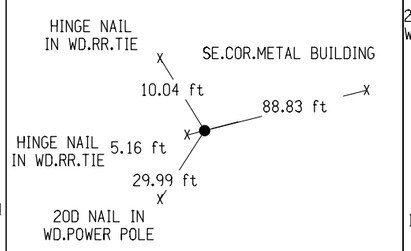
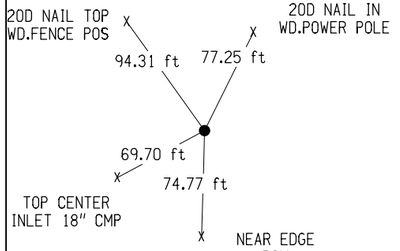
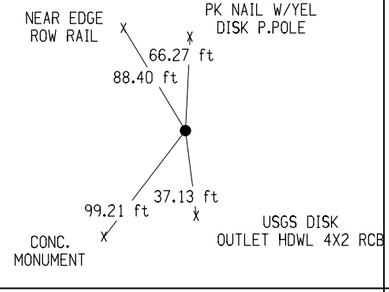
CP,SET HINGE NAIL CL RR.
CP NO. 195
XC=2151181.050, YC=624444.083



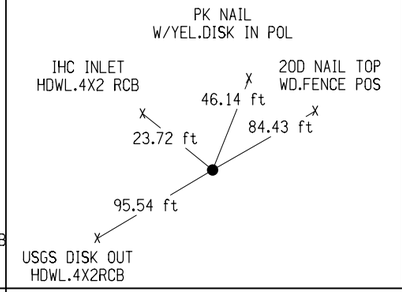
POT STA 51184+89.902
POT,SET HINGE NAIL
POT NO. 200
XC=2145627.561, YC=626994.742



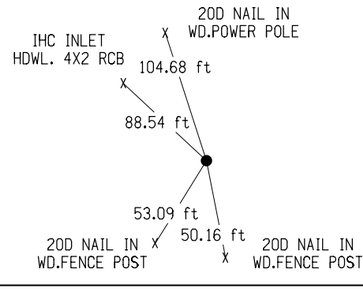
PI STA 51191+66.729
PI,FD.HINGE NAIL
PI NO. 201
XC=2146304.091, YC=626974.693



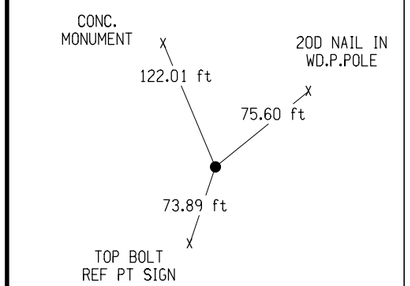
CP STA 51192+50.8,23.57LT
CP,SET IRON PIN 0.5' DEEP
CP NO. 335
XC=2146390.750, YC=626986.615



CP STA 51201+44.79,26.7RT
CP,SET IRON PIN 0.5' DEEP
CP NO. 364
XC=2147269.652, YC=626815.535



PI STA 51218+08.004
PI,FD. HINGE NAIL
PI NO. 206
XC=2148848.994, YC=626332.676



CP STA 51220+97.47,60.3LT
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CP NO. 366
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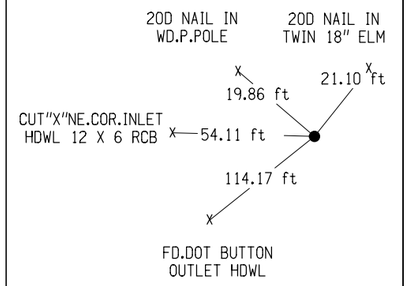
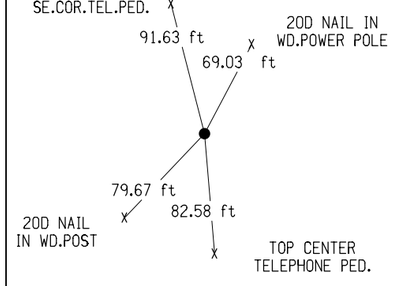
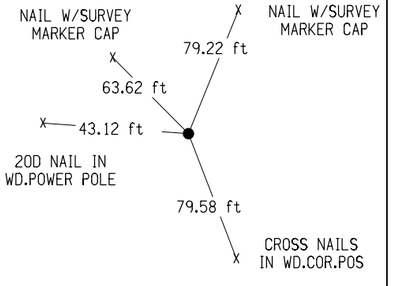


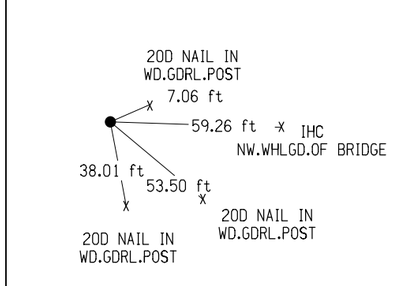
POT STA
POT,SET HINGE NAIL
POT NO. 207
XC=2149549.558, YC=626051.708



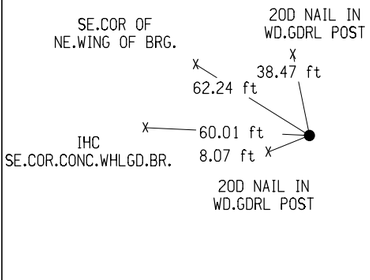
SCR STA 61257+89.762
SCR,FD.1/2"REBAR .7' DEEP
SCR NO. 215
XC=2146252.471, YC=633291.604



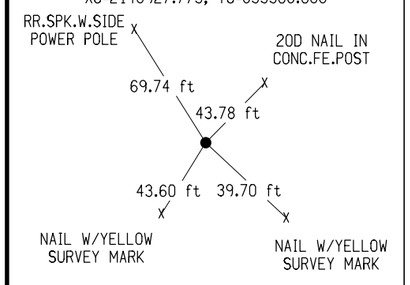
CP STA 61269+21.57,17.6LT
CP,SET IRON PIN 0.6' DEEP
CP NO. 346
XC=2147384.169, YC=633315.360



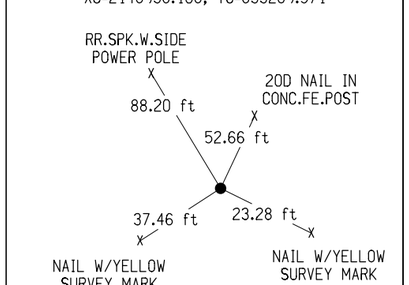
CP STA 61273+07.39,17.6RT
CP,SET IRON 0.7' DEEP
CP NO. 347
XC=2147770.169, YC=633282.244



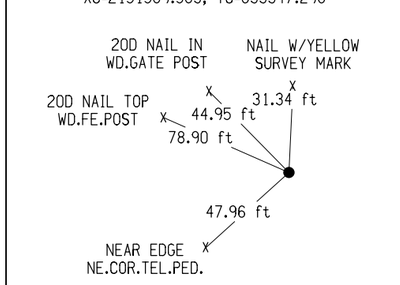
PI,SCR,STA 61284+65.103
SCR,FD.CONC.MONU.0.1'DEEP
SCR,PI, NO. 233
XC=2148927.773, YC=633306.086



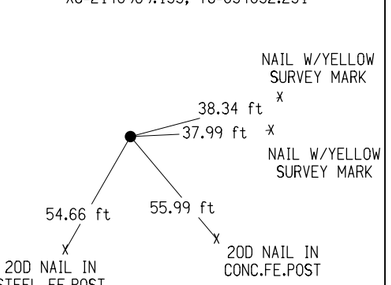
CP STA 61284+73.18,16.6RT
CP,SET IRON PIN 0.7' DEEP
CP NO. 348
XC=2148936.108, YC=633289.571



SCR,PI,STA 61311+27.232
SCR,FD.5/8"REBAR 0.6'DEEP
SCR,PI, NO. 234
XC=2151589.583, YC=633347.296



CP STA 71297+91.37,3.97LT
SCR FD.I.P.W/CAP STAMPED
#8165
XC=2148909.133, YC=634632.231



DETAILS OF REFERENCE INFORMATION

All References Plumb Distances
(unless otherwise noted)

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER G.7

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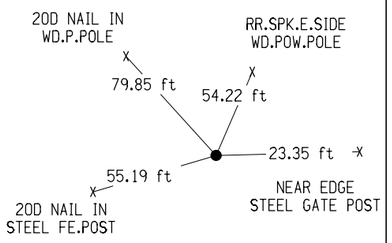
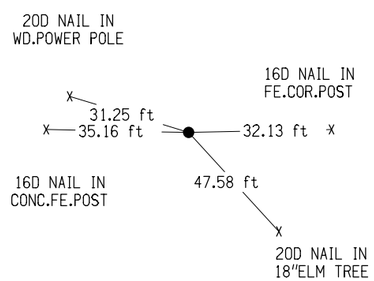
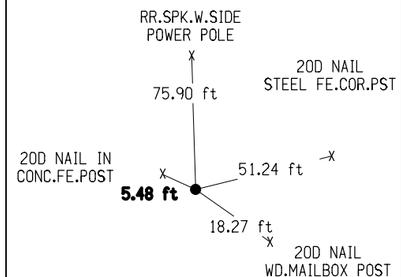
CP STA 71299+83.64,21.7RT
CP,SET IRON PIN 0.8' DEEP
CP NO. 349
XC=2148932.657, YC=634824.774



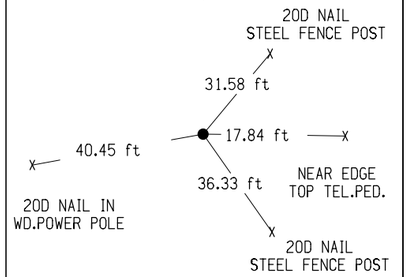
PI,SCR STA 71311+17.641
PI,SCR,FD.BRASS CAP CON.
MONU.
XC=2148890.691, YC=635958.341



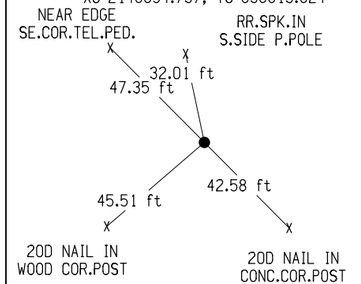
CP STA 71313+16.08,32.3LT
CP,SET IRON PIN 1.0'DEEP
CP NO. 350
XC=2148855.659, YC=636156.322



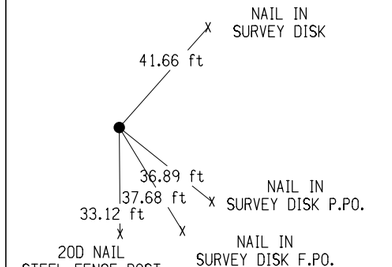
CP STA 71322+40.24,6.60RT
CP,SET IRON PIN 0.8'DEEP
CP NO. 351
XC=2148882.089, YC=637080.925



SCR,PI STA 71337+73.367
SCR,PI FD.1/2"REBAR.3DEEP
SCR,PI NO. 238
XC=2148854.737, YC=638613.824



SCR,PI STA 81285+54.765
SCR,PI FD.BRASS DISK.9'DE
SCR,PI NO. 221
XC=2143502.302, YC=638571.775



CP STA 81312+37.78,2.85LT
CP,SET IRON PIN 0.5' DEEP
CP NO. 345
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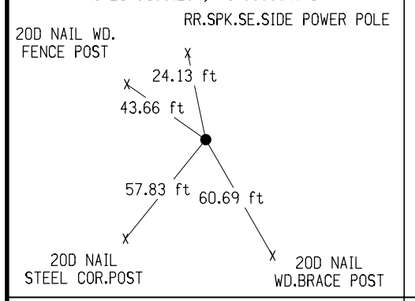

CP STA 81339+06.59,14.5LT
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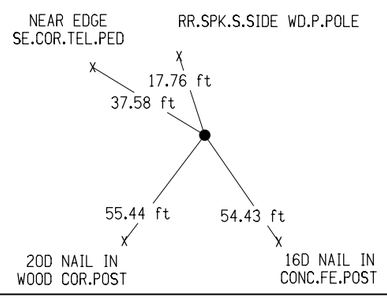
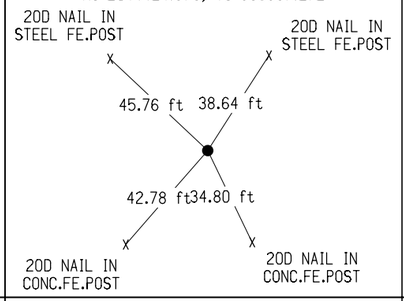
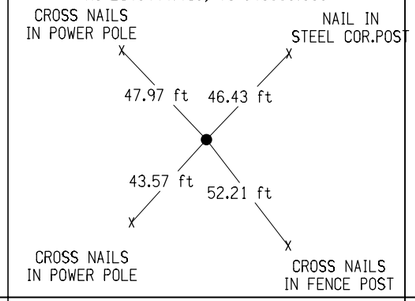
XC=2148853.726, YC=638628.315



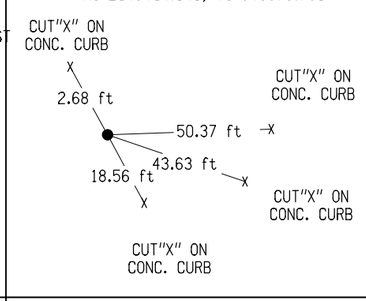
CP STA 81349+77.496
CP,SET IRON PIN 0.5' DEEP
CP NO. 239
XC=2149924.573, YC=638637.272



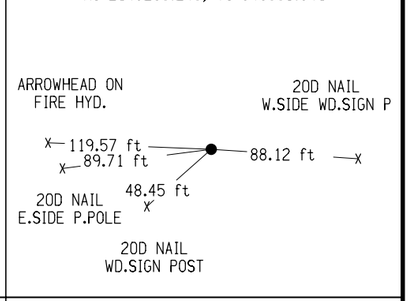
SCR STA. 91338+70.774
SCR,FOUND PIPE 0.8' DEEP
SCR NO.222
XC=2143444.415, YC=643885.336



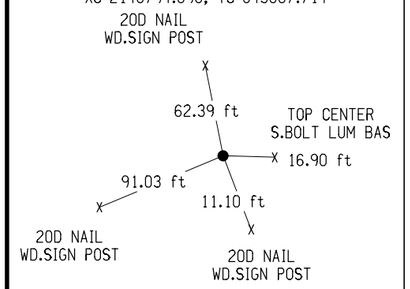
GPS STA 91358+40.4,30.0RT
GPS,FD.REBAR 0.4' DEEP
GPS POINT G048
XC=2145414.040, YC=643875.780



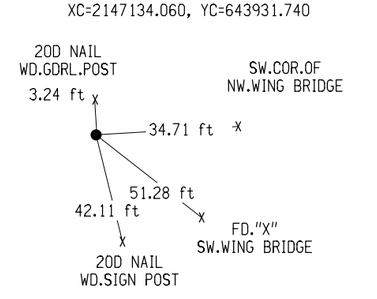
CP STA 91366+64.64,27.4RT
CP SET IRON PIN 0.5'DEEP
CP NO.330
XC=2146238.248, YC=643880.691



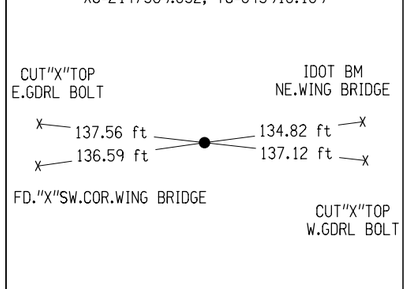
CP STA 91372+20.93,25.3RT
CP,SET IRON PIN 0.5 DEEP
CP NO.331
XC=2146794.698, YC=643887.714



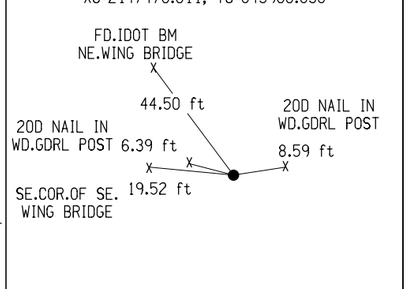
GPS STA 91375+60.7,15.1LT
GPS FD.REBAR 0.4' DEEP
GPS NO. G049
XC=2147134.060, YC=643931.740



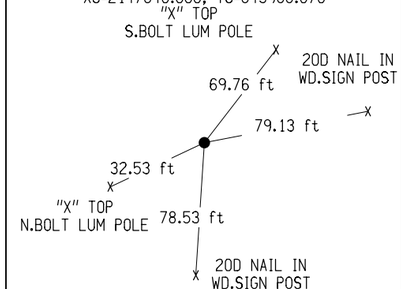
CP STA 91377+36.352,.25RT
CP,FD."X"
CP NO. 135
XC=2147309.832, YC=643918.189



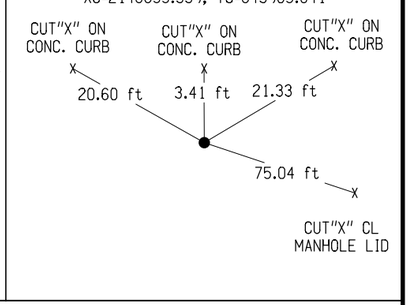
CP STA 91378+96.34,19.3RT
CP,SET IRON PIN 0.7' DEEP
CP NO. 332
XC=2147470.011, YC=643900.838



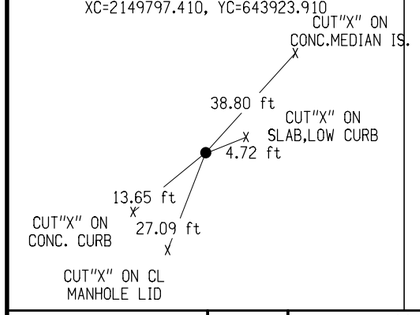
CP STA 91382+66.99,42.1LT
CP,SET IRON PIN 0.6'DEEP
CP NO. 333
XC=2147840.000, YC=643966.070
"X" TOP S.BOLT LUM POLE



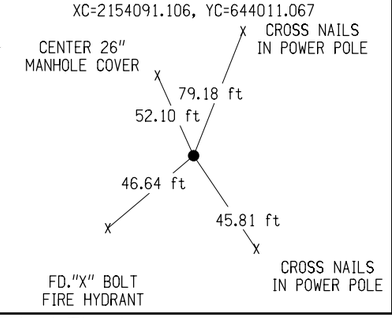
CP STA 91390+81.48,29.9RT
CP,SET IRON PIN 0.4' DEEP
CP NO. 334
XC=2148655.339, YC=643905.841



GPS STA 91402+23.8,28.0RT
GPS,FD.REBAR 0.3' DEEP
GPS POINT G050
XC=2149797.410, YC=643923.910



SCR STA 91445+18.268
SCR,FD.PK NAIL IN CONC.
SCR NO. 245
XC=2154091.106, YC=644011.067



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FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER G.8

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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 (SUR080)																			
15		488+00.88	622,563.99	2,133,198.79															
C11								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			
C12								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			
C13								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			
C14								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			
C15								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			
C16								889+87.89	620,075.36	2,172,980.02	895+41.62	620,082.19	2,173,533.71	900+91.93	620,194.93	2,174,075.85			
C17								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			
C18								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			
11		1155+97.06	617,033.96	2,198,719.50															
I80 Eastbound Median Width Transition West End (80WEBMWT)																			
50301								12557+90.00	622,433.29	2,140,186.73	12559+51.26	622,430.85	2,140,347.97	12561+12.50	622,432.41	2,140,509.22			
50302								12561+12.50	622,432.41	2,140,509.22	12562+73.76	622,433.97	2,140,670.47	12564+35.00	622,431.53	2,140,831.71			
I80 Eastbound Median Width Transition East End (80EEBMWT)																			
50400		12671+60.12	622,803.36	2,151,547.56															
50401								12674+55.69	622,810.04	2,151,843.06	12677+65.42	622,817.05	2,152,152.71	12680+75.12	622,815.68	2,152,462.45			
I80 Westbound Median Width Transition West End (80WWBMWT)																			
50306								22557+90.00	622,483.28	2,140,187.49	22559+51.26	622,480.84	2,140,348.73	22561+12.50	622,474.40	2,140,509.86			
50307								22561+12.50	622,474.40	2,140,509.86	22562+73.76	622,467.97	2,140,670.99	22564+35.00	622,465.53	2,140,832.22			
I80 Westbound Median Width Transition East End (80EWBMWT)																			
50406								22671+60.12	622,837.35	2,151,546.80	22674+69.86	622,844.35	2,151,856.45	22677+79.55	622,842.99	2,152,166.18			
50407		22680+75.93	622,841.68	2,152,462.56															
I380 (ML380)																			
50000		1076+00.00	615,521.14	2,153,512.16															
50001								1097+52.00	616,974.45	2,151,925.03	1109+56.70	617,788.01	2,151,036.54	1121+26.80	618,890.49	2,150,550.92			
50002								1184+57.52	624,684.08	2,147,998.98	1191+13.06	625,284.00	2,147,734.72	1197+51.50	625,939.42	2,147,721.82			
50003								1267+32.71	632,919.28	2,147,584.41	1271+14.12	633,300.61	2,147,576.90	1274+95.49	633,681.68	2,147,560.94			
50004								1320+28.47	638,210.69	2,147,371.18	1324+11.12	638,593.00	2,147,355.17	1327+93.70	638,975.64	2,147,351.92			
50030		1404+97.37	646,679.03	2,147,286.57															
I380 South Northbound Medain Width Transition (380SNBMWT)																			
50100		11097+21.48	616,977.44	2,151,969.14															
50101								11097+82.52	617,018.66	2,151,924.13	11109+87.21	617,832.22	2,151,035.64	11121+57.32	618,934.71	2,150,550.02			
I380 North Northbound Medain Width Transition (380SNBMWT)																			
50106								11251+77.91	631,365.11	2,147,632.01	11253+83.48	631,570.65	2,147,627.96	11255+89.02	631,776.21	2,147,630.42			
50107								11255+89.02	631,776.21	2,147,630.42	11257+94.60	631,981.77	2,147,632.87	11260+00.14	632,187.30	2,147,628.82			
I380 South Southbound Medain Width Transition (380SSBMWT)																			
50201								21097+21.48	616,930.24	2,151,925.93	21109+26.18	617,743.80	2,151,037.44	21120+96.29	618,846.29	2,150,551.82			
50202		21121+77.93	618,921.00	2,150,518.91															
I380 North Southbound Medain Width Transition (380SSBMWT)																			
50206								21251+77.91	631,364.45	2,147,598.01	21253+83.48	631,569.98	2,147,593.97	21255+89.02	631,775.28	2,147,583.42			
50207								21255+89.02	631,775.28	2,147,583.42	21257+94.60	631,980.59	2,147,572.88	21260+00.14	632,186.12	2,147,568.84			
Kansas and Jasper Ave Relocation (KANSAS_JASPER)																			
30100		1568+00.00	619,704.31	2,149,135.48															
30101								1571+37.12	620,041.32	2,149,126.81	1579+65.54	620,869.46	2,149,105.51	1584+50.44	620,869.46	2,148,277.10			
30102								1589+21.07	620,869.46	2,147,806.46	1599+73.43	620,869.46	2,146,754.11	1606+48.93	621,912.81	2,146,616.73			
30103		1610+12.69	622,273.46	2,146,569.24															
30104								1620+24.16	623,276.27	2,146,437.20	1622+60.89	623,510.98	2,146,406.30	1624+97.19	623,747.63	2,146,400.10			
340th Ave. (340TH)																			
30200		1692+89.37	621,673.42	2,145,107.96															
30201								1695+32.92	621,916.97	2,145,107.35	1701+25.42	622,509.46	2,145,105.88	1704+02.78	622,411.31	2,145,690.18			
30202								1708+70.34	622,333.85	2,146,151.27	1711+48.13	622,287.83	2,146,425.22	1714+25.74	622,258.39	2,146,701.45			
30203								1724+68.69	622,147.88	2,147,738.53	1727+52.19	622,117.84	2,148,020.43	1730+31.93	622,010.61	2,148,282.86			

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)
Ireland Ave Interchange																			
Ireland Ave Ramp A (IRLA)																			
21005		1566+30.20	622,995.25	2,141,112.78															
21001								1572+38.93	622,723.91	2,141,657.69	1576+50.04	622,540.66	2,142,025.71	1580+45.67	622,545.82	2,142,436.79			
21000		1590+00.00	622,557.80	2,143,391.05															
Ireland Ave Ramp D (IRLD)																			
24000		4561+33.50	621,783.81	2,141,252.58															
24001								4573+20.63	622,245.86	2,142,346.10	4575+92.45	622,351.66	2,142,596.49	4578+60.97	622,386.79	2,142,866.04			
24002								4578+60.97	622,386.79	2,142,866.04	4579+78.43	622,401.98	2,142,982.52	4580+95.81	622,409.31	2,143,099.76			
I80/I380/US218/IA27 Interchange																			
I380 Ramp A (ML380A)																			
51003								1530+63.64	624,625.87	2,148,108.75	1538+80.74	623,878.10	2,148,438.13	1546+44.73	623,462.62	2,149,141.71			
51002								1549+82.45	623,290.90	2,149,432.52	1556+43.04	622,955.00	2,150,001.34	1562+75.00	622,938.80	2,150,661.73			
51000		1577+27.34	622,903.16	2,152,113.64															
I380 Ramp B (ML380B)																			
52000		2513+50.00	622,562.89	2,145,745.33															
52001								2522+50.00	622,574.18	2,146,645.26	2527+86.01	622,580.91	2,147,181.23	2533+06.52	622,370.50	2,147,674.21			
52003								2537+06.52	622,213.48	2,148,042.10	2549+45.93	621,726.96	2,149,182.03	2560+77.75	620,610.31	2,149,719.84			
52004								2560+77.75	620,610.31	2,149,719.84	2561+45.63	620,549.16	2,149,749.29	2562+13.49	620,487.04	2,149,776.65			
I380 Ramp C (ML380C)																			
53003								3519+00.00	622,770.91	2,146,283.38	3521+39.23	622,790.62	2,146,521.80	3523+77.89	622,838.61	2,146,756.16			
53002								3523+77.89	622,838.61	2,146,756.16	3535+46.16	623,072.98	2,147,900.69	3542+95.09	624,238.17	2,147,815.84			
53002		3543+35.09	624,278.06	2,147,812.93															
I380 Ramp D (ML380D)																			
54001								4541+82.66	620,820.97	2,149,861.04	4552+43.13	621,825.94	2,149,522.45	4559+73.17	622,379.81	2,150,426.80			
54002								4559+73.17	622,379.81	2,150,426.80	4563+80.85	622,592.73	2,150,774.47	4567+79.79	622,670.14	2,151,174.74			
I380 Ramp E (ML380E)																			
55004								5519+00.00	622,750.94	2,146,284.63	5520+87.64	622,762.67	2,146,471.91	5522+75.00	622,791.87	2,146,657.26			
55003								5522+75.00	622,791.87	2,146,657.26	5528+37.10	622,879.34	2,147,212.50	5533+86.31	623,161.90	2,147,698.42			
55002								5536+96.31	623,317.73	2,147,966.41	5565+04.08	624,729.14	2,150,393.65	5566+14.89	621,972.75	2,149,859.00			
55001								5570+54.89	621,540.80	2,149,775.21	5574+34.84	621,167.79	2,149,702.86	5577+95.08	620,812.86	2,149,838.47			
55000		5591+95.08	619,505.06	2,150,338.13															
I380 Ramp F (ML380F)																			
56000		6502+50.06	625,538.70	2,147,676.63															
56001								6529+95.06	622,820.27	2,148,057.66	6547+37.09	621,095.12	2,148,299.47	6552+11.72	622,055.04	2,149,753.15			
56003								6555+42.03	622,237.05	2,150,028.79	6564+06.30	622,713.30	2,150,750.00	6572+25.00	622,732.84	2,151,614.05			
I380 Ramp G (ML380G)																			
57003								7504+21.04	621,043.13	2,149,445.04	7510+11.90	621,522.40	2,149,099.47	7515+70.07	621,736.93	2,148,548.93			
57002								7518+20.07	621,827.69	2,148,315.99	7652+15.67	616,964.06	2,160,797.46	7545+40.49	623,336.56	2,149,014.71			
57001								7550+90.49	623,074.91	2,149,498.49	7553+44.97	622,953.85	2,149,722.33	7555+90.00	622,947.61	2,149,976.74			
57000		7562+75.00	622,930.80	2,150,661.53															
I380 Ramp H (ML380H)																			
58000		8537+06.52	622,220.84	2,148,045.24															
58001								8539+56.52	622,130.42	2,148,278.32	8581+13.80	620,626.78	2,152,154.15	8562+44.01	623,507.60	2,149,156.84			
58002								8571+33.34	624,123.87	2,148,515.65	8575+07.94	624,383.45	2,148,245.57	8578+73.96	624,723.18	2,148,087.74			
IA965 Interchange																			
IA965 Ramp B (IA965B)																			
42001		2498+22.67	622,748.02	2,154,199.60															
42003								2509+81.78	622,685.03	2,155,357.00	2513+05.62	622,667.44	2,155,680.36	2516+11.66	622,477.44	2,155,942.60			
42005								2520+36.99	622,227.89	2,156,287.03	2523+07.74	622,069.04	2,156,506.29	2525+59.95	622,072.27	2,156,777.02			
IA965 Ramp C (IA965C)																			
43001		5508+55.71	622,889.45	2,155,237.27															
43002								5508+55.71	622,889.45	2,155,237.27	5509+80.96	622,888.90	2,155,362.51	5511+06.09	622,897.30	2,155,487.47			
43003								5511+06.09	622,897.30	2,155,487.47	5512+16.23	622,904.68	2,155,597.36	5513+26.14	622,924.09	2,155,705.77			
43005		5526+05.55	623,149.56	2,156,965.16															
C11												4° 26′ 53.84″	LT 333.79′	667.24′	8,594.37′	6.48′			

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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	
I80 (SUR080)																
C11											4° 26′ 53.84″ LT	333.79′	667.24′	8,594.37′	6.48′	
C12											2° 17′ 08.53″ RT	457.20′	914.28′	22,918.31′	4.56′	
C13											1° 32′ 54.91″ RT	309.74′	619.43′	22,918.31′	2.09′	
C14											17° 48′ 28.25″ RT	897.63′	1,780.78′	5,729.58′	69.89′	
C15											18° 46′ 02.12″ LT	1,893.69′	3,753.45′	11,459.16′	155.42′	
C16											11° 02′ 25.40″ LT	553.73′	1,104.04′	5,729.58′	26.70′	
C17											12° 13′ 03.89″ RT	613.21′	1,221.77′	5,729.58′	32.72′	
C18											24° 19′ 57.71″ RT	1,235.26′	2,433.27′	5,729.58′	131.64′	
I80 Eastbound	Median Width Transition West End (80WEBMWT)															
50301											1° 25′ 16.93″ LT	161.26′	322.50′	13,000.00′	1.00′	
50302											1° 25′ 16.92″ RT	161.26′	322.50′	13,000.00′	1.00′	
I80 Eastbound	Median Width Transition East End (80EEBMWT)															
50401											1° 32′ 54.91″ RT	309.74′	619.43′	22,918.31′	2.09′	
I80 Westbound	Median Width Transition West End (80WWBMWT)															
50306											1° 25′ 16.93″ RT	161.26′	322.50′	13,000.00′	1.00′	
50307											1° 25′ 16.93″ LT	161.26′	322.50′	13,000.00′	1.00′	
I80 Westbound	Median Width Transition East End (80EWBMWT)															
50406											1° 32′ 54.91″ RT	309.74′	619.43′	22,918.31′	2.09′	
I380 (ML380)																
50001											23° 44′ 52.81″ RT	1,204.70′	2,374.80′	5,729.58′	125.28′	
50002											22° 38′ 40.61″ RT	655.54′	1,293.98′	3,274.04′	64.98′	
50003											1° 16′ 16.63″ LT	381.40′	762.77′	34,377.47′	2.12′	
50004											1° 54′ 47.06″ RT	382.65′	765.23′	22,918.31′	3.19′	
I380 South Northbound Medain Width Transition (380SNBMWT)																
50101											23° 44′ 52.81″ RT	1,204.70′	2,374.80′	5,729.58′	125.28′	
I380 North Northbound Medain Width Transition (380SNBMWT)																
50106											1° 48′ 42.94″ RT	205.57′	411.11′	13,000.00′	1.63′	
50107											1° 48′ 42.94″ LT	205.57′	411.11′	13,000.00′	1.63′	
I380 South Southbound Medain Width Transition (380SSBMWT)																
50201											23° 44′ 53.00″ RT	1,204.70′	2,374.81′	5,729.58′	125.28′	
I380 North Southbound Medain Width Transition (380SSBMWT)																
50206											1° 48′ 42.94″ LT	205.57′	411.11′	13,000.00′	1.63′	
50207											1° 48′ 42.94″ RT	205.57′	411.11′	13,000.00′	1.63′	
Kansas and Jasper Ave Relocation (KANSAS_JASPER)																
30101											88° 31′ 35.70″ LT	828.42′	1,313.32′	850.00′	336.92′	
30102											82° 29′ 56.41″ RT	1,052.35′	1,727.86′	1,200.00′	396.07′	
30104											6° 00′ 01.14″ RT	236.73′	473.03′	4,516.86′	6.20′	
340th Ave. (340TH)																
30201											99° 40′ 42.25″ RT	592.49′	869.86′	500.00′	275.27′	
30202											3° 27′ 10.64″ LT	277.79′	555.41′	9,216.00′	4.19′	
30203											16° 08′ 28.42″ RT	283.50′	563.24′	1,999.31′	20.00′	

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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	
Ireland Ave Interchange																
Ireland Ave Ramp A (IRLA)																
21001											27° 11′ 23.59″ LT	411.11′	806.74′	1,700.00′	49.00′	
Ireland Ave Ramp D (IRLD)																
24001											15° 28′ 46.62″ RT	271.83′	540.34′	2,000.00′	18.39′	
24002											3° 50′ 40.04″ RT	117.47′	234.84′	3,500.00′	1.97′	
I80/I380/US218/IA27 Interchange																
I380 Ramp A (ML380A)																
51003											35° 39′ 54.75″ LT	817.10′	1,581.09′	2,540.00′	128.19′	
51002											29° 09′ 22.90″ LT	660.59′	1,292.54′	2,540.00′	84.50′	
I380 Ramp B (ML380B)																
52001											23° 49′ 56.31″ RT	536.01′	1,056.52′	2,540.00′	55.94′	
52003											41° 10′ 12.77″ RT	1,239.41′	2,371.23′	3,300.00′	225.07′	
52004											1° 56′ 39.43″ RT	67.87′	135.74′	4,000.00′	0.58′	
I380 Ramp C (ML380C)																
53003											6° 50′ 42.79″ LT	239.23′	477.89′	4,000.00′	7.15′	
53002											82° 35′ 32.27″ LT	1,168.28′	1,917.21′	1,330.00′	440.24′	
I380 Ramp D (ML380D)																
54001											77° 08′ 03.54″ RT	1,060.48′	1,790.51′	1,330.00′	371.03′	
54002											20° 32′ 25.78″ RT	407.69′	806.62′	2,250.00′	36.64′	
I380 Ramp E (ML380E)																
55004											5° 22′ 17.33″ LT	187.64′	375.00′	4,000.00′	4.40′	
55003											21° 13′ 27.84″ LT	562.10′	1,111.31′	3,000.00′	52.20′	
55002											131° 09′ 16.97″ RT	2,807.77′	2,918.58′	1,275.00′	1,808.70′	
55001											31° 53′ 13.98″ LT	379.96′	740.19′	1,330.00′	53.21′	
I380 Ramp F (ML380F)																
56001											115° 27′ 33.49″ LT	1,742.02′	2,216.66′	1,100.00′	960.25′	
56003											32° 08′ 32.50″ RT	864.27′	1,682.97′	3,000.00′	122.01′	
I380 Ramp G (ML380G)																
57003											32° 55′ 03.02″ LT	590.86′	1,149.04′	2,000.00′	85.45′	
57002											187° 07′ 00.01″ RT	13,395.59′	2,720.41′	833.00′	14,254.47′	
57001											27° 00′ 00.00″ LT	254.48′	499.51′	1,060.00′	30.12′	
I380 Ramp H (ML380H)																
58001											157° 20′ 21.27″ LT	4,157.28′	2,287.49′	833.00′	3,406.92′	
58002											21° 13′ 01.53″ RT	374.60′	740.62′	2,000.00′	34.78′	
IA965 Interchange																
IA965 Ramp B (IA965B)																
42003											32° 48′ 32.32″ RT	323.84′	629.89′	1,100.00′	46.68′	
42005											36° 36′ 26.45″ LT	270.75′	522.96′	818.51′	43.62′	
IA965 Ramp C (IA965C)																
43002											4° 05′ 55.57″ LT	125.24′	250.38′	3,500.00′	2.24′	
43003											6° 18′ 14.23″ LT	110.14′	220.05′	2,000.00′	3.03′	

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SUPERELEVATION DATA

See PV-300 Series

Road Identification	Circular Curve or Spiral Curve Name	Radius	Superelevation Data e	Superelevation Data L	Superelevation Data x	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
		FT	%	FT	FT														
I80	C11	8594	2.4	180	188	PV-305	572+80.28	573+17.88	574+68.28	576+18.68		576+48.28			575+94.28				
							585+75.53	585+37.93	583+87.53	582+37.13		582+07.53			582+61.53				
I80	C12	22918	NC	0	0	PV-306													
I80 Eastbound Median Width Transition West End																			
I80	50301	13000	NC	0	0	PV-302													
I80	50302	13000	NC	0	0	PV-302													
I80 Eastbound Median Width Transition East End																			
I80	50401	22918	NC	0	0	PV-306													
I80 Westbound Median Width Transition West End																			
I80	50306	13000	NC	0	0	PV-302													
I80	50307	13000	NC	0	0	PV-302													
I80 Westbound Median Width Transition East End																			
I80	50406	22918	NC	0	0	PV-306													
I380	50001	5730																	
I380	50002	3274	5.2	312	150	PV-305	1180+89.12	1181+19.12	1182+39.12	1183+59.12	1183+89.12	1185+51.12	1184+57.52			1184+19.12	1185+39.12		
							1201+19.90	1200+89.90	1199+69.90	1198+49.90	1198+19.90	1196+57.90	1197+51.50			1197+89.90	1196+69.90		
I380	50003	34377																	
I380	50004	22918																	

108-23A
08-01-08

TRAFFIC CONTROL PLAN

1. Traffic shall be maintained on I80, I380, US218 at all times.

2. Kansas Ave., Jasper Ave., and 340th Ave. will be closed during construction.

108-26A
08-01-08

STAGING NOTES

Build interchange

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, Light	(236)	Proposed Grading Limits 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		

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

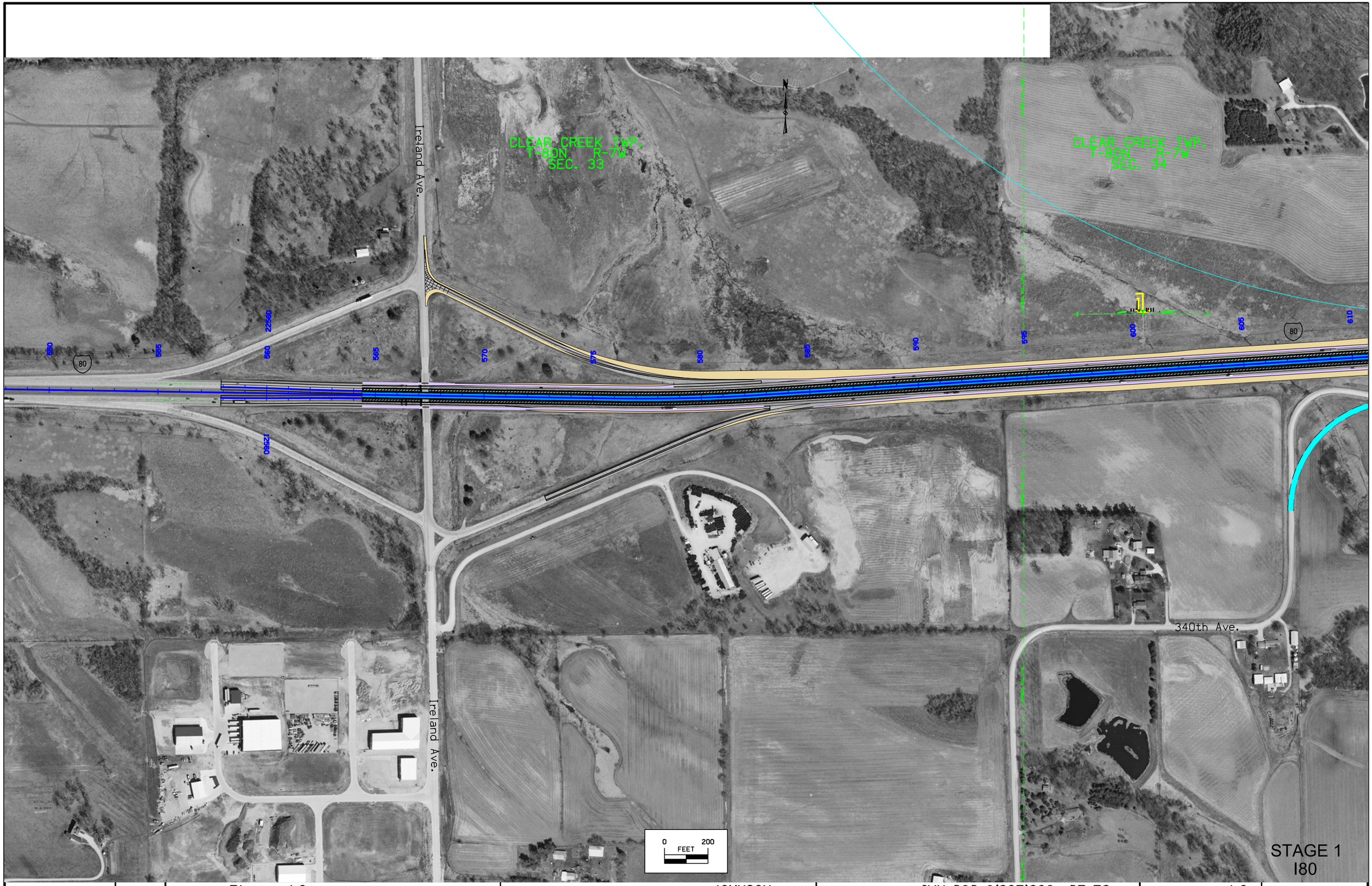
SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed 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

	42" Channelizer		Temporary Traffic Signal
	Drum		Traffic Sign
	Orange Plastic Safety Fence		Type III Barricade-Plan View
	Temporary Barrier Rail		Type A Warning Light
	Temporary Floodlighting		Pavement Removal

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.3

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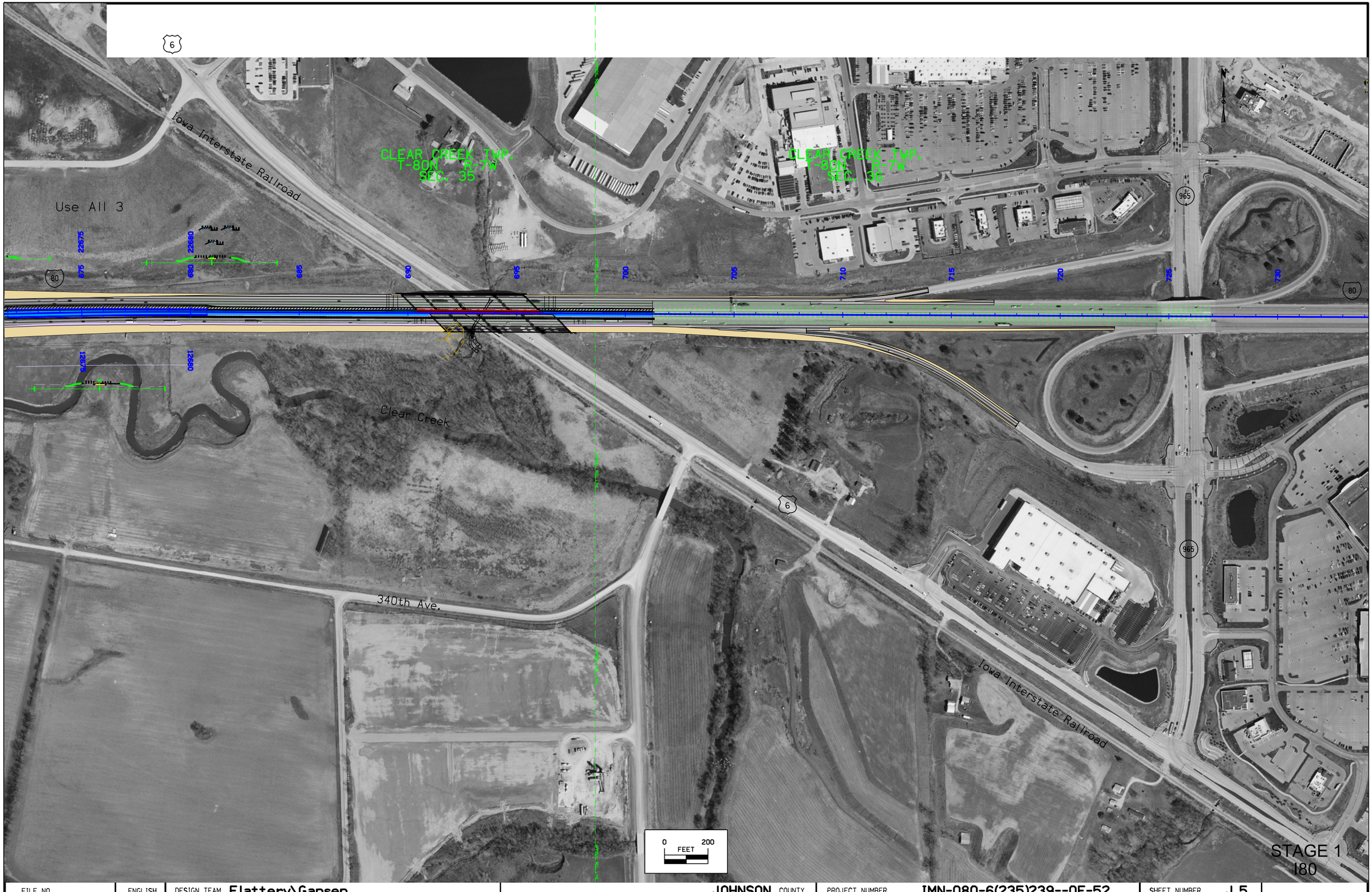
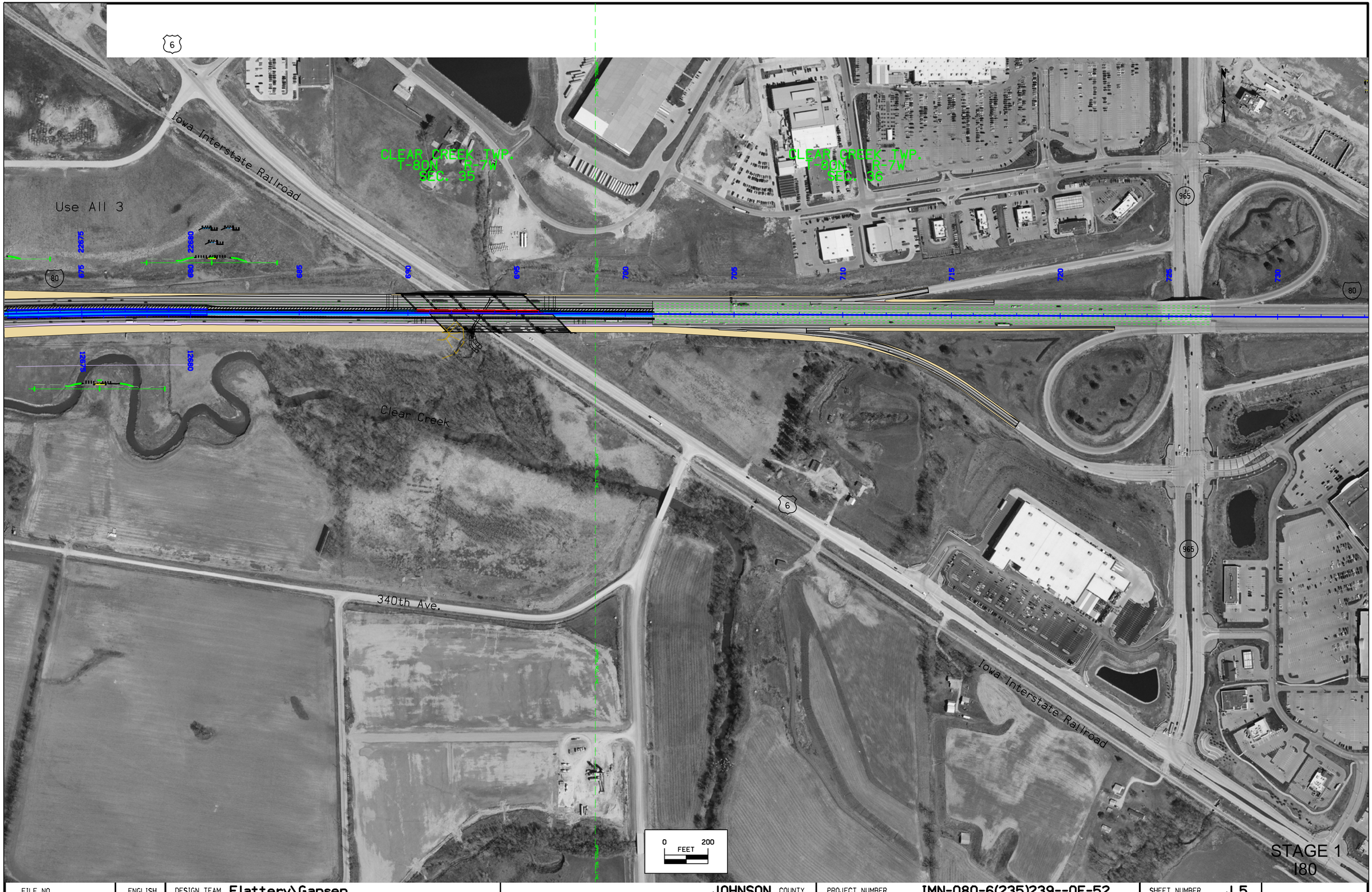


FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.5

4:53:12 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.5

4:53:12 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht

CLEAR CREEK TWP.
T-79N R-7W
SEC. 2

CLEAR CREEK TWP.
T-79N R-7W
SEC. 3

Kansas Ave.

Deer Creek

27

218

Ramp E

Ramp D

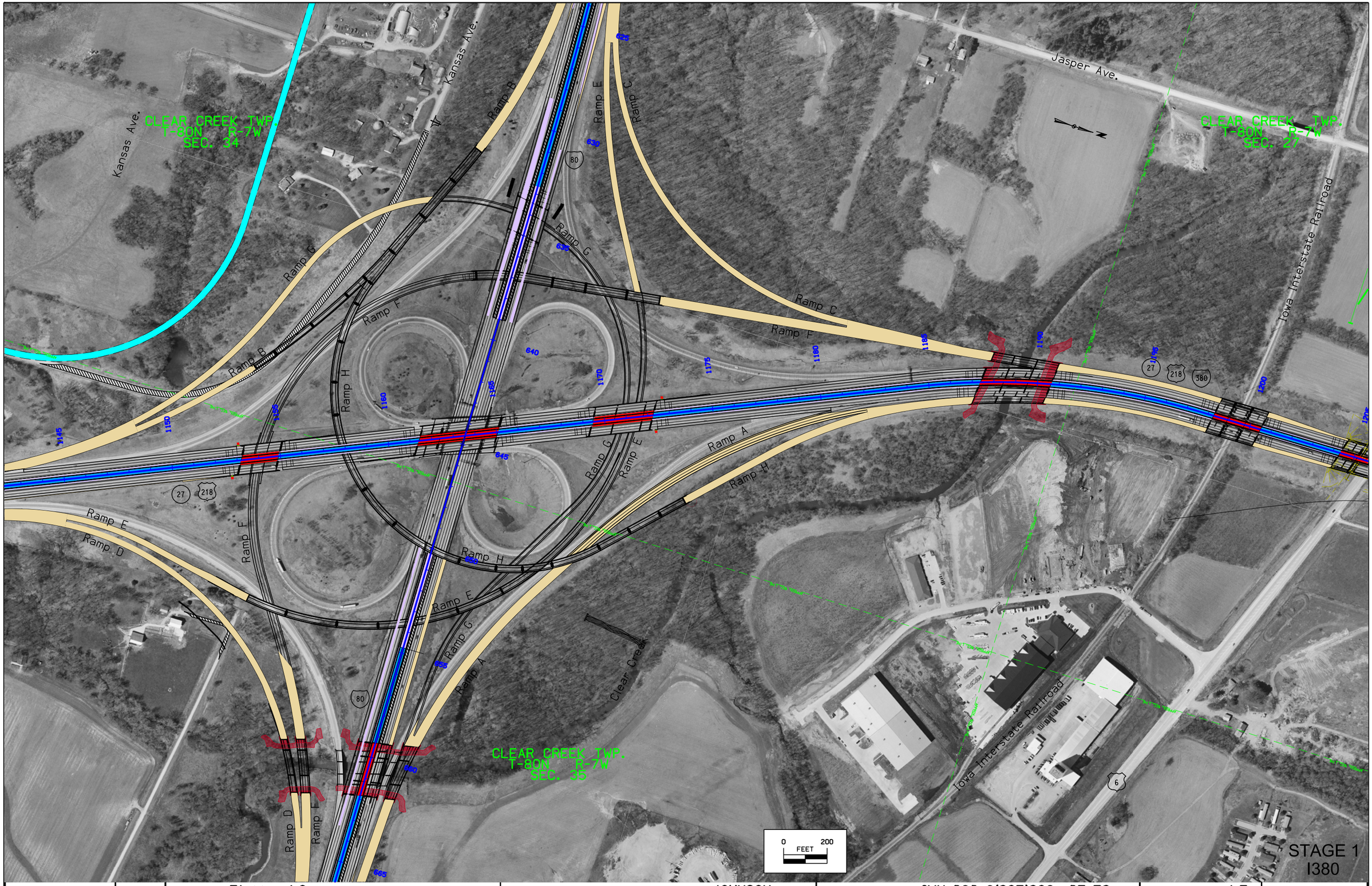
CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

0 200
FEET

STAGE 1
I380

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.6

4:53:42 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.7

4:54:25 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht

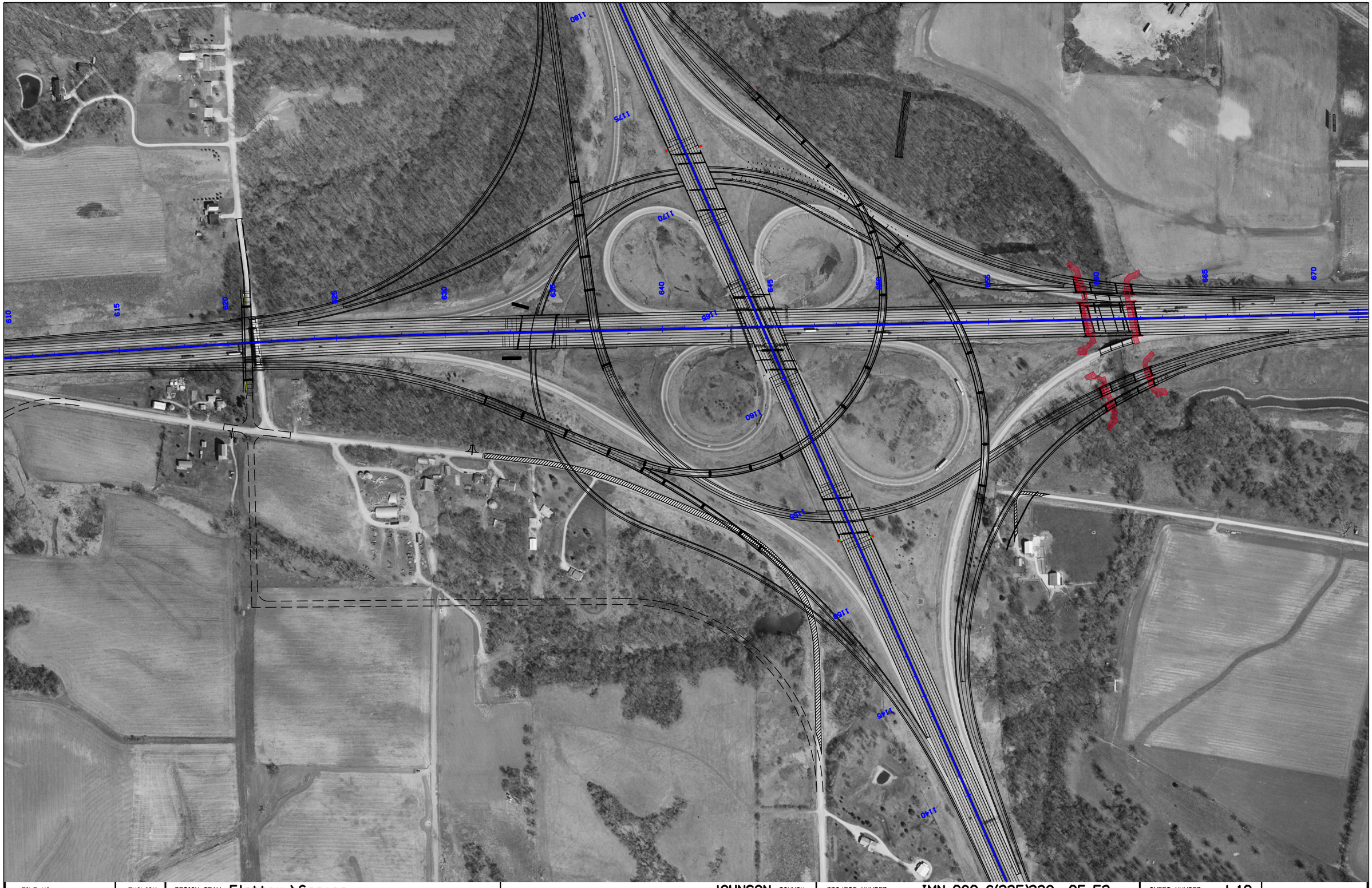


FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.8

4:55:04 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht

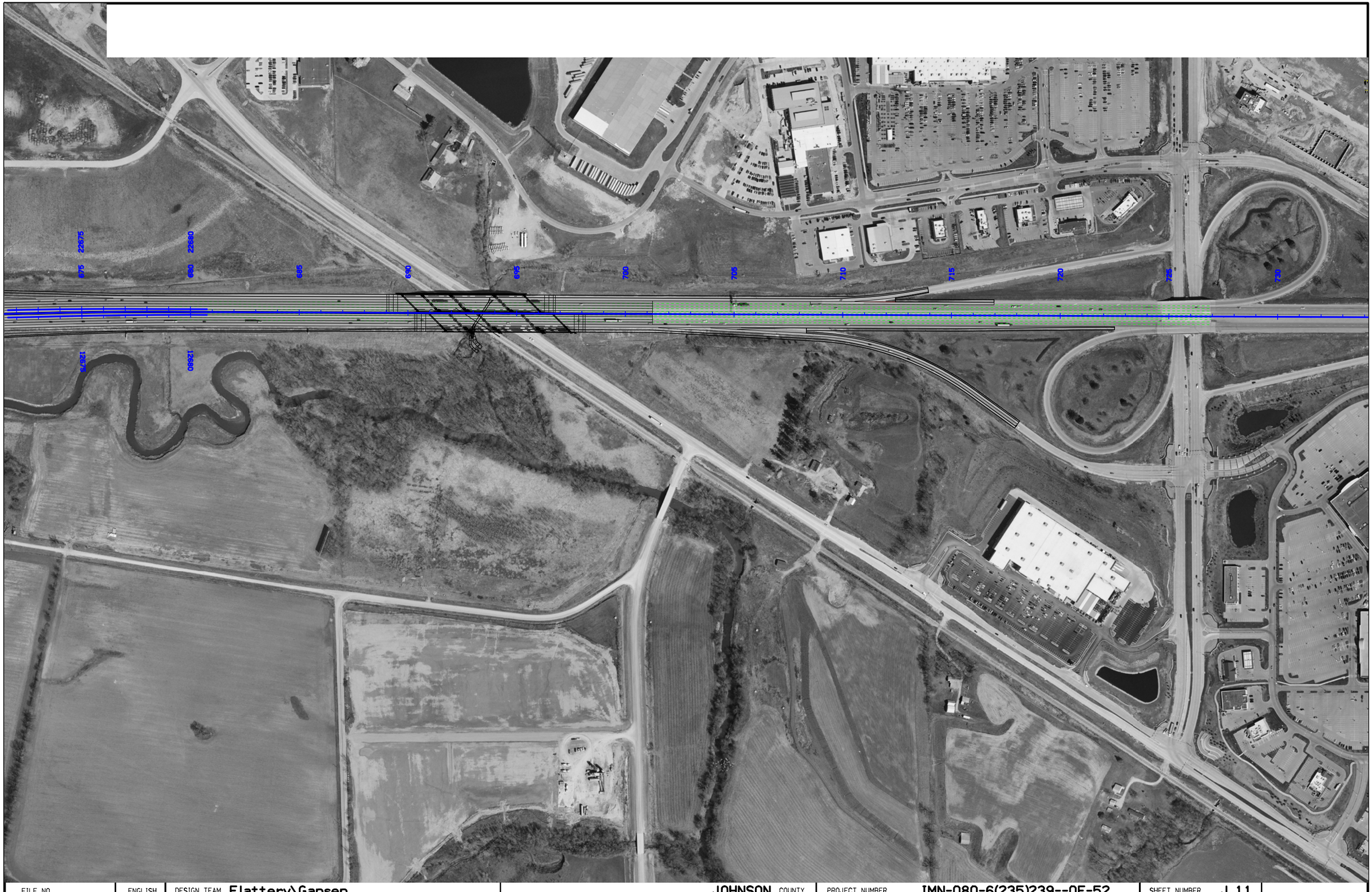


FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.9



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.10

4:56:06 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.11

4:56:27 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.12	

4:56:42 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.13	

4:57:11 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



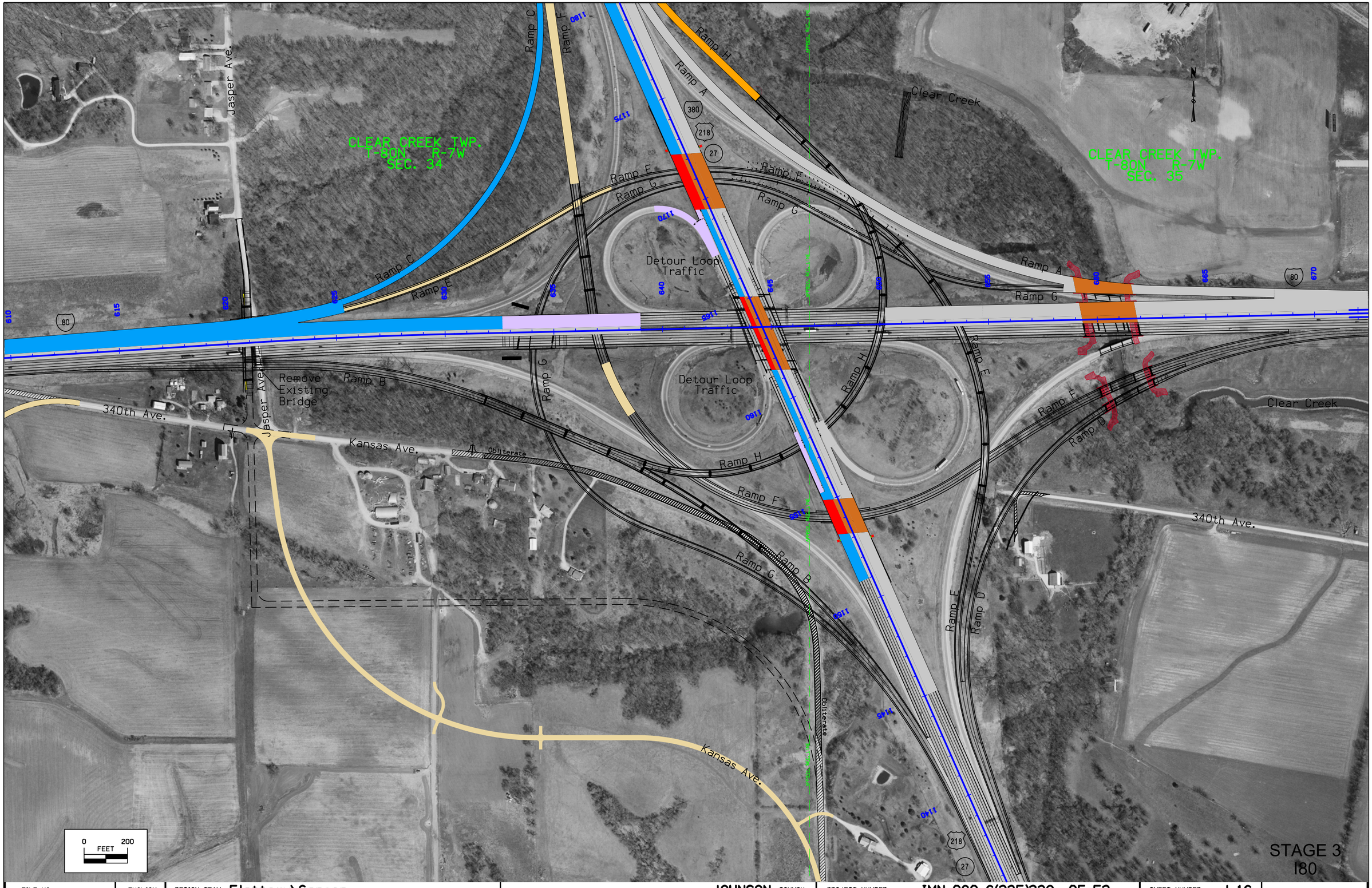
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.14

4:57:41 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



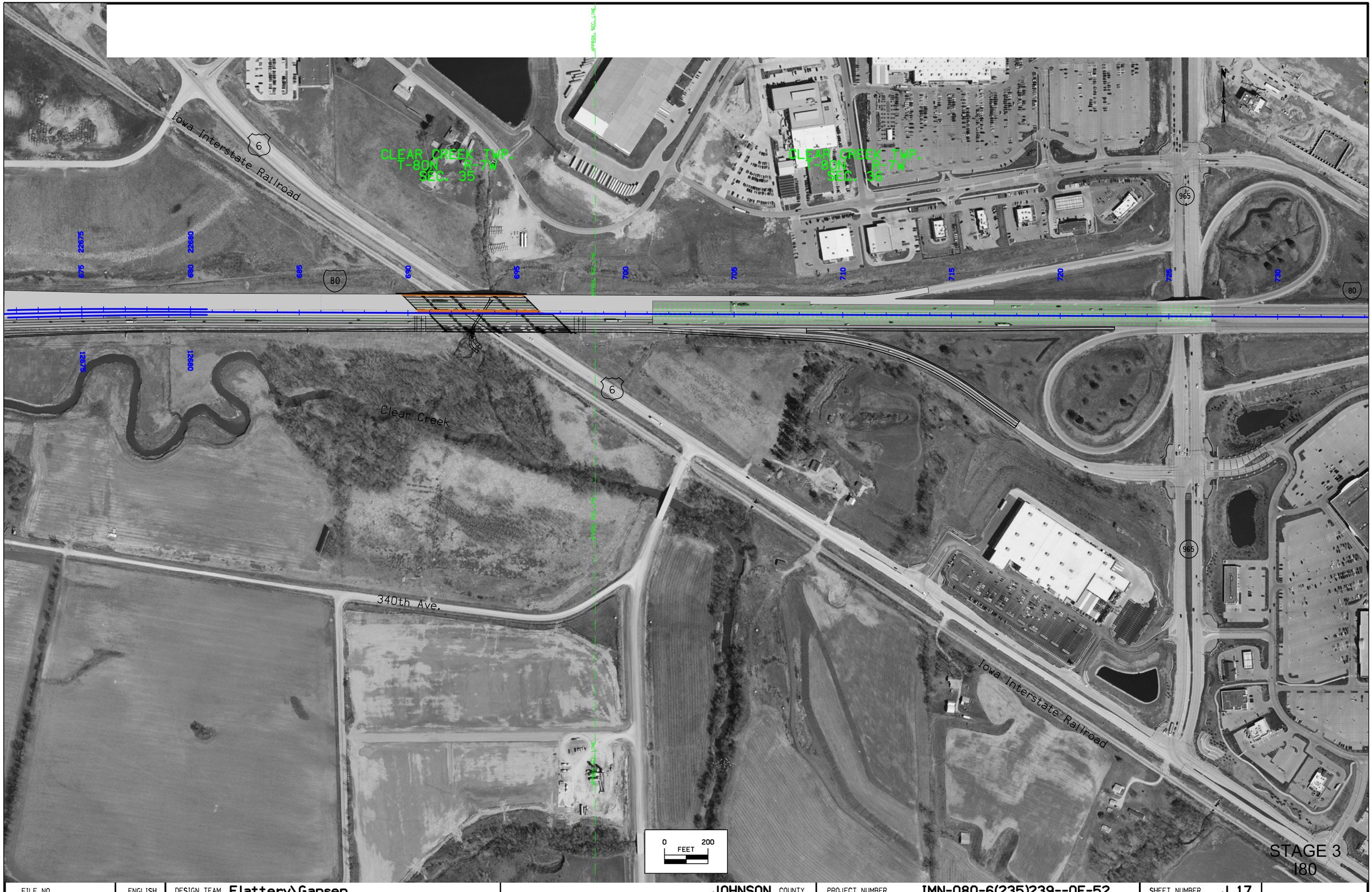
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.15

4:58:06 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.16

4:58:21 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.17

4:58:41 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht

CLEAR CREEK TWP.
T-79N R-7W
SEC. 2

CLEAR CREEK TWP.
T-79N R-7W
SEC. 3

Kansas Ave.

Deer Creek

27

218

Ramp E

Ramp D

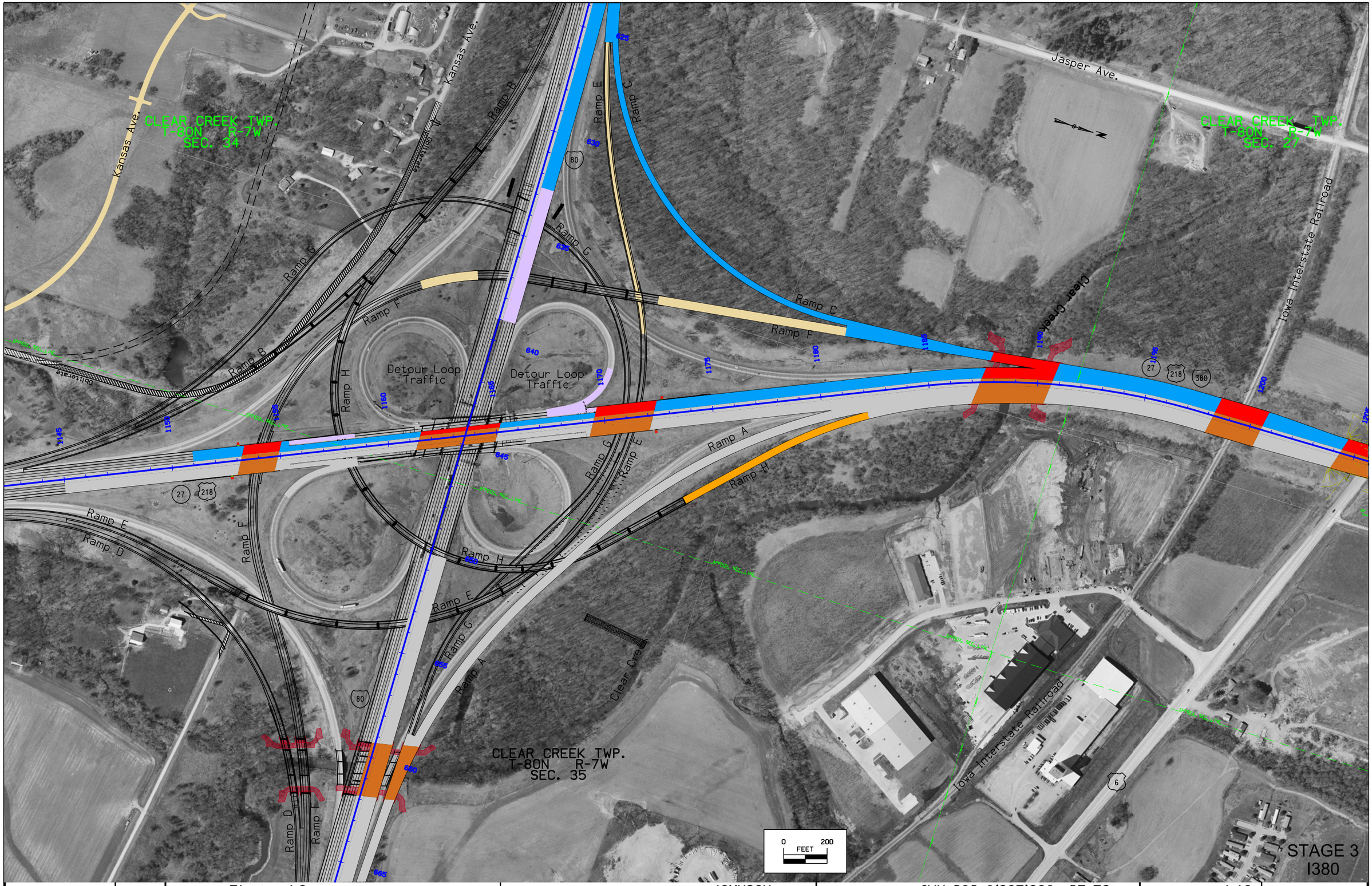
CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

0 200
FEET

STAGE 3
I380

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.18

4:58:55 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



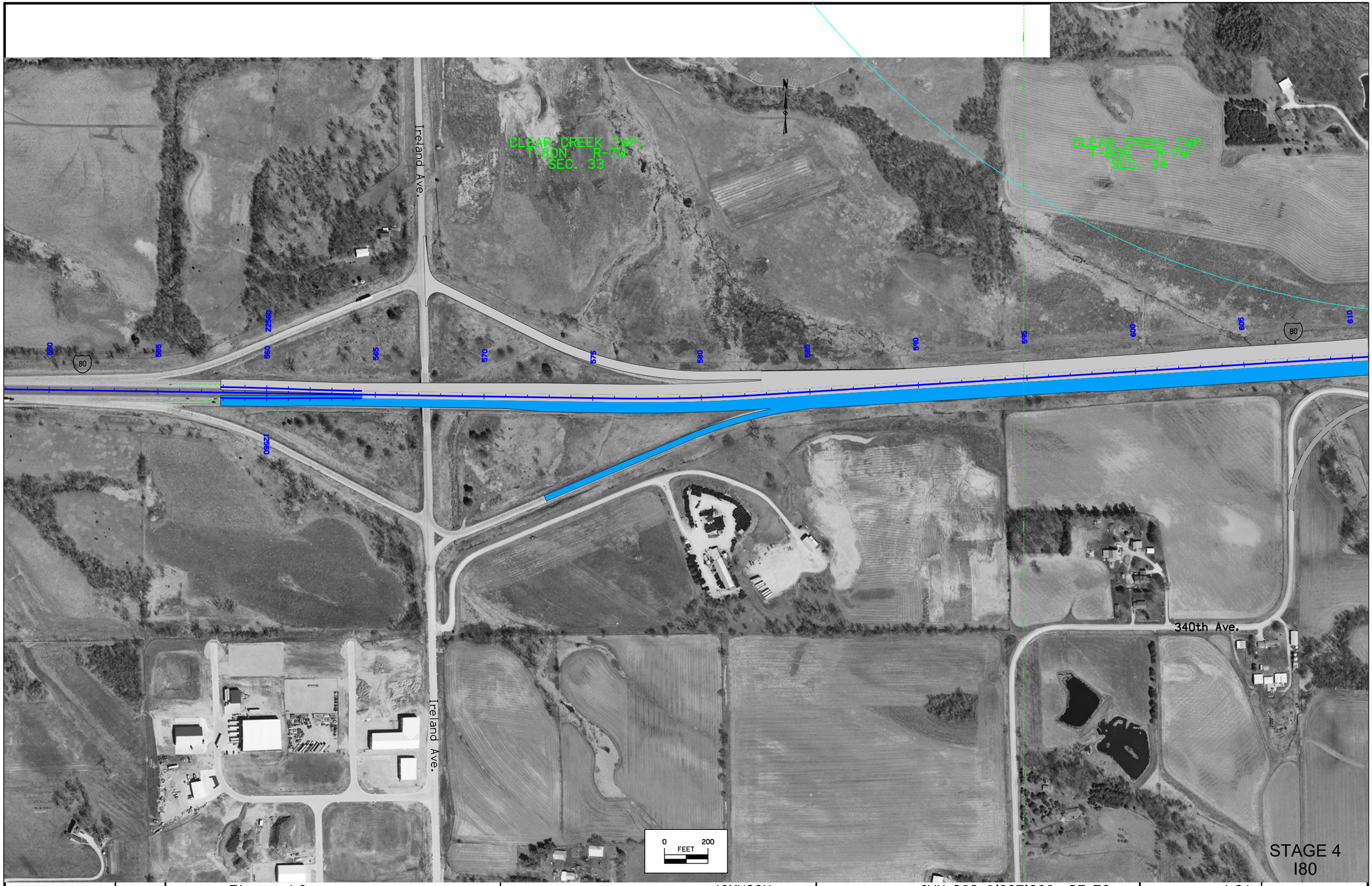
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.19

4:59:23 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



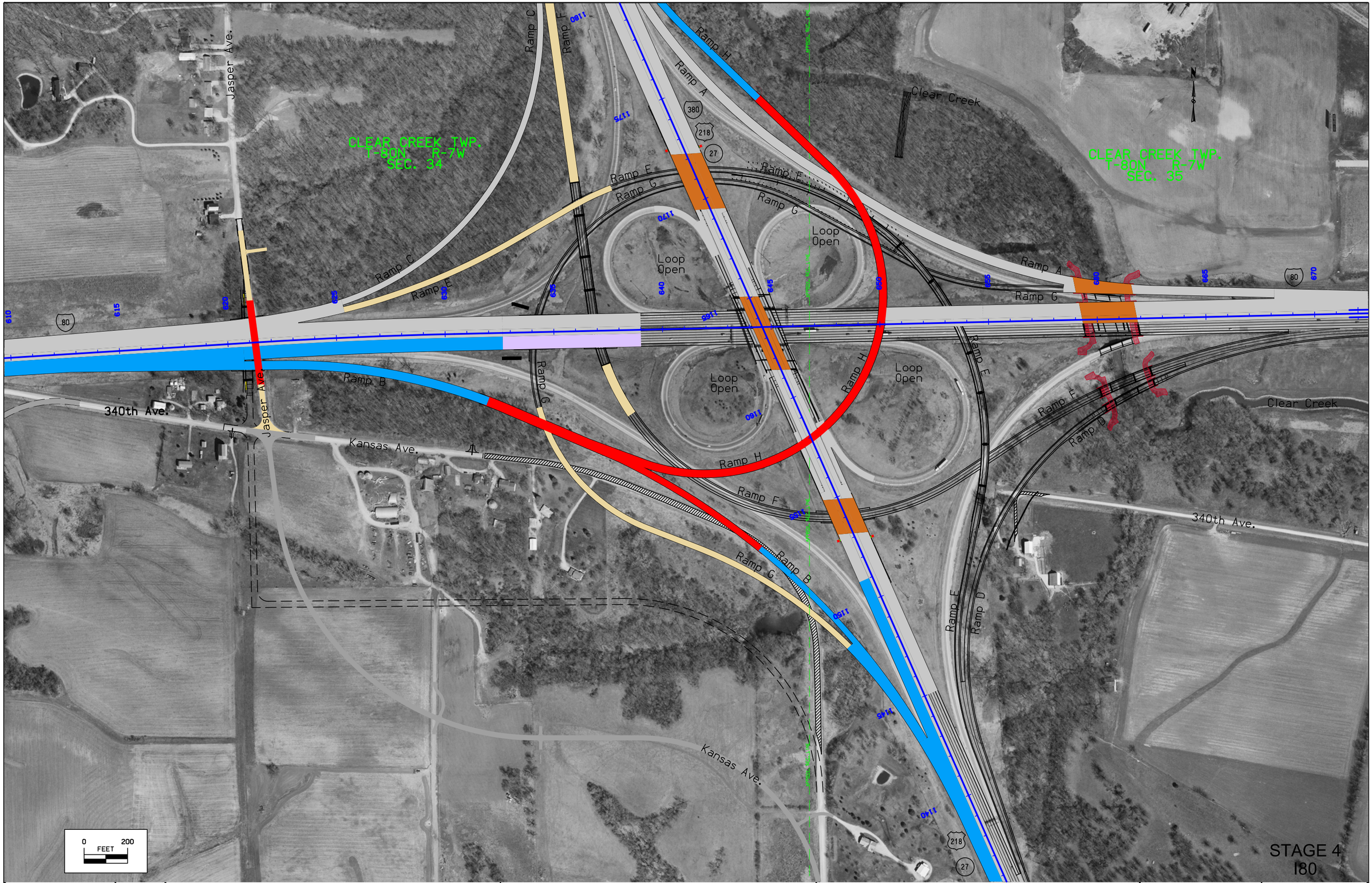
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.20

4:59:52 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



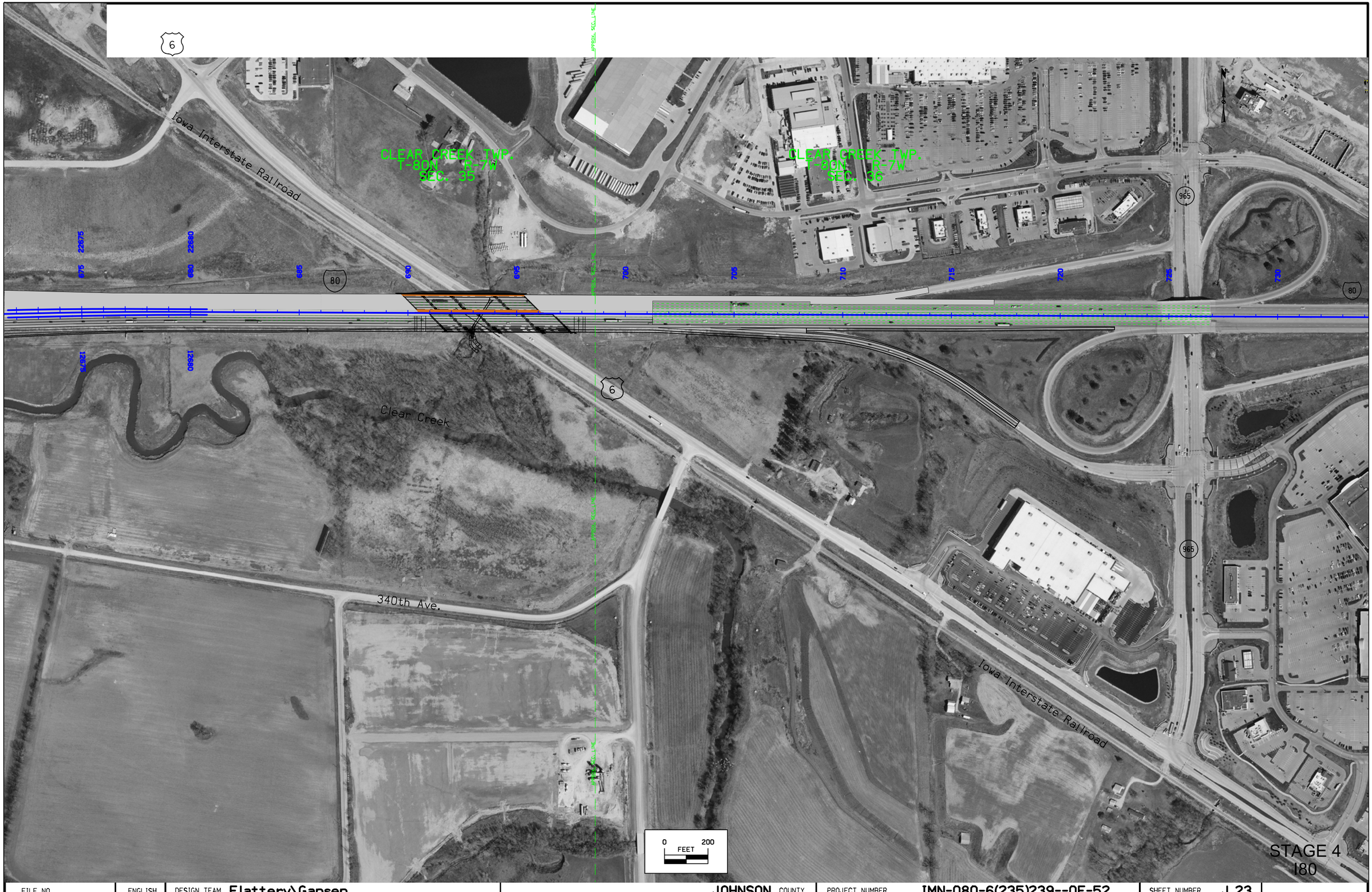
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.21

5:00:15 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.22

5:00:30 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.23

5:00:49 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht

CLEAR CREEK TWP.
T-79N R-7W
SEC. 2

CLEAR CREEK TWP.
T-79N R-7W
SEC. 3

Kansas Ave.

Deer Creek

27

218

Ramp E

Ramp D

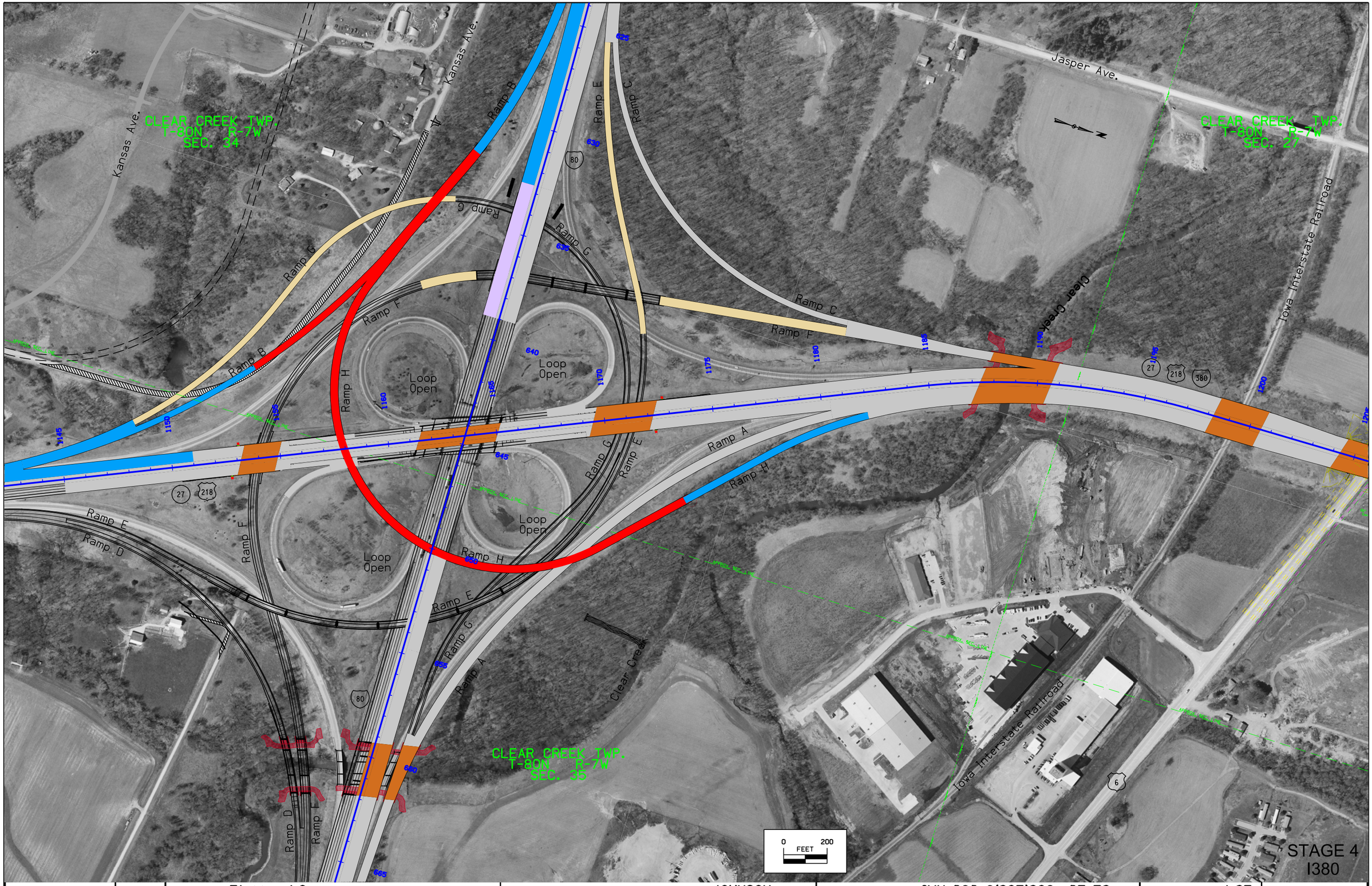
CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

0 200
FEET

STAGE 4
I380

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.24

5:01:03 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.25

5:01:45 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



STAGE 4
I380

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.26

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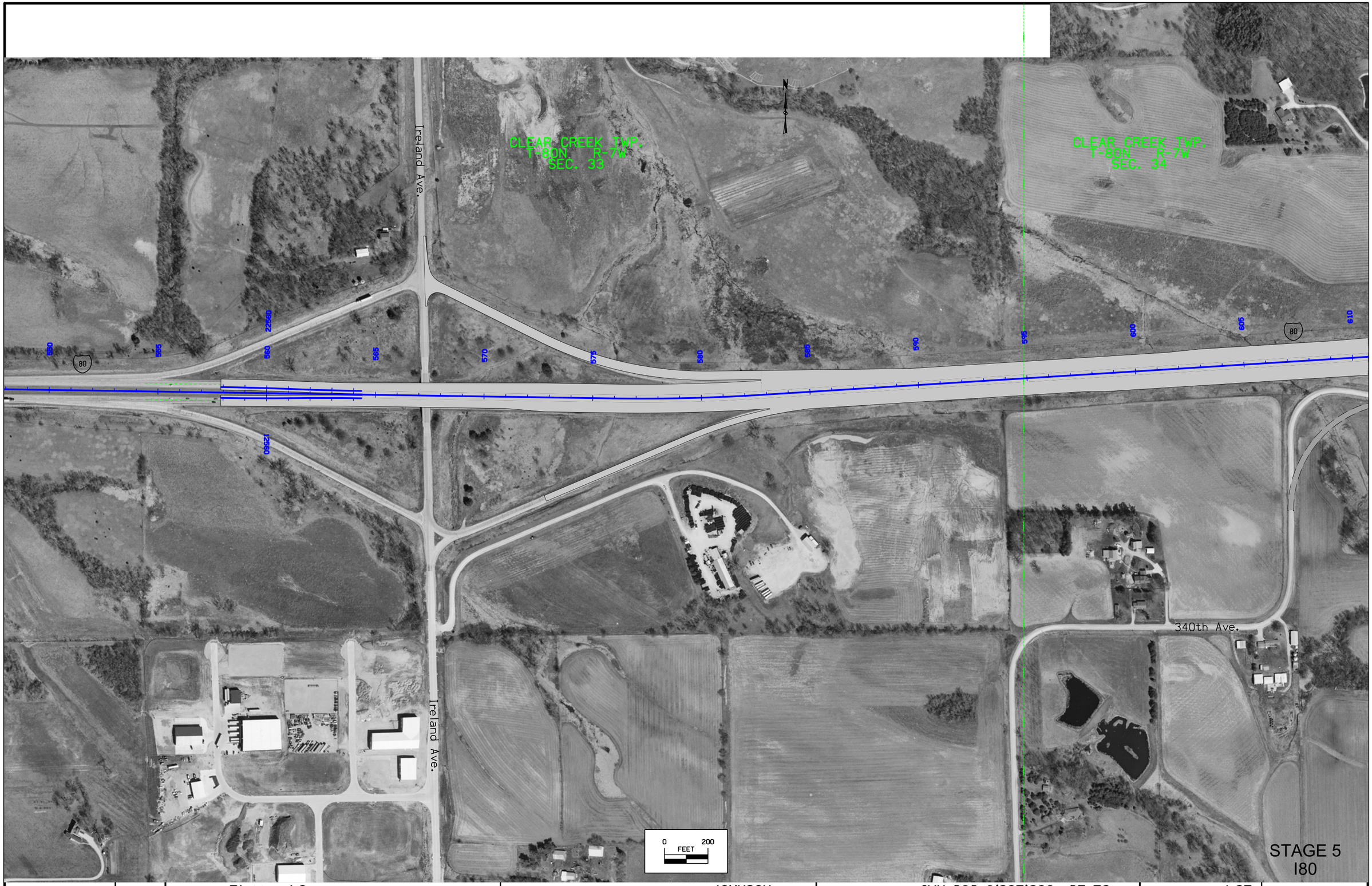

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.27

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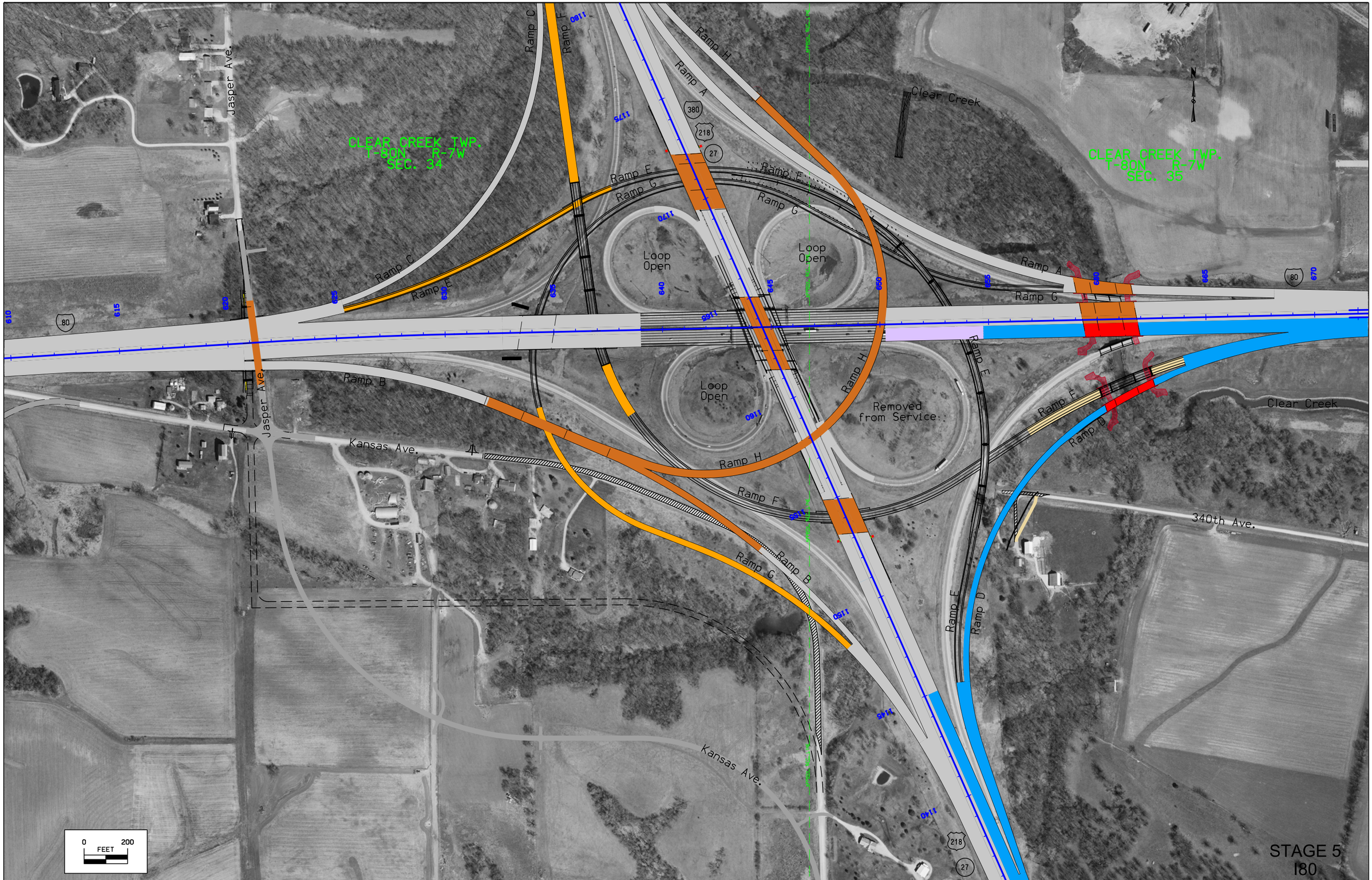

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.28

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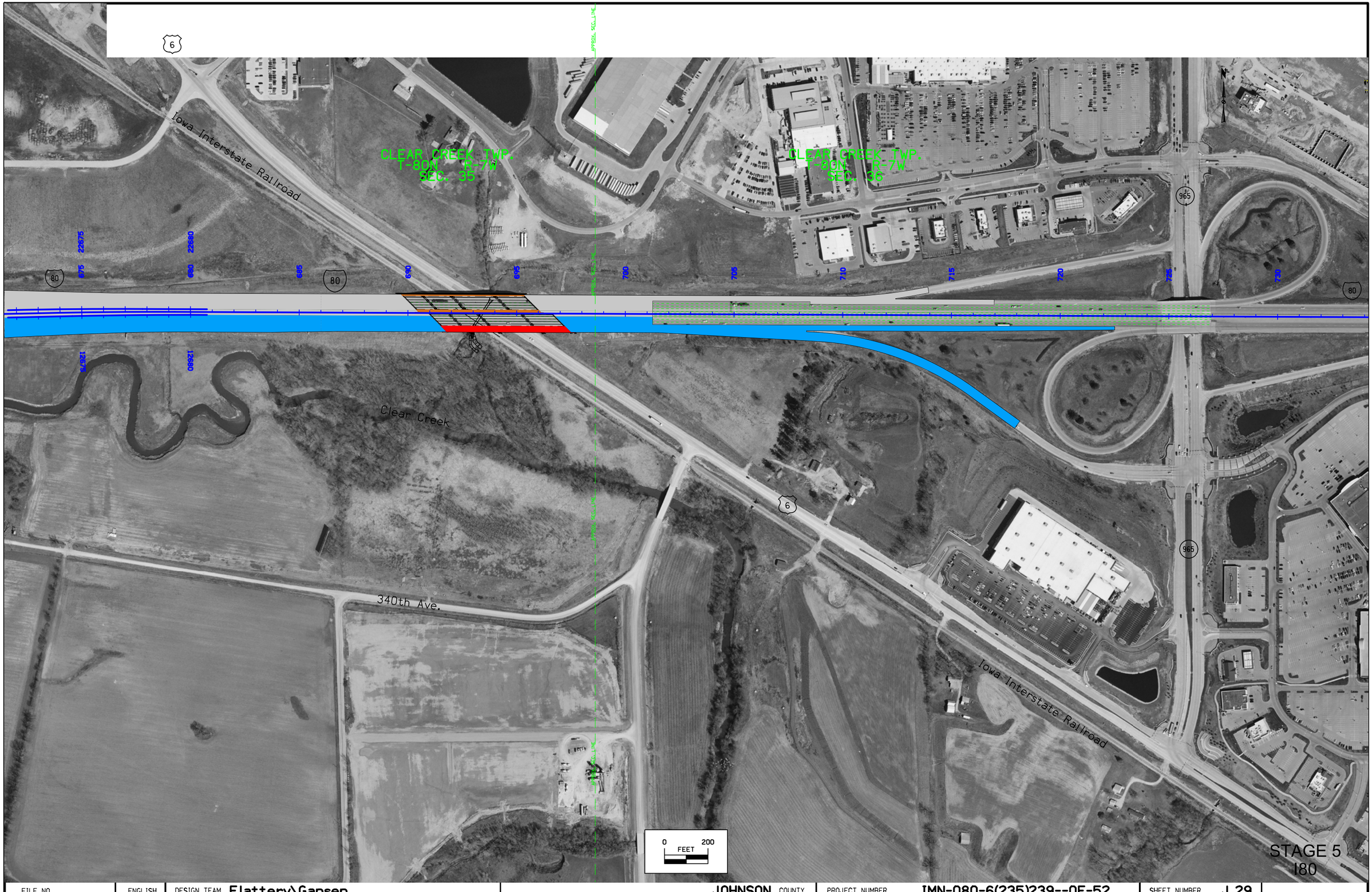

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.29

5:03:10 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht

CLEAR CREEK TWP.
T-79N R-7W
SEC. 2

CLEAR CREEK TWP.
T-79N R-7W
SEC. 3

Kansas Ave.

Deer Creek

27

218

Ramp E

Ramp D

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

0 200
FEET

STAGE 5
I380

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.30

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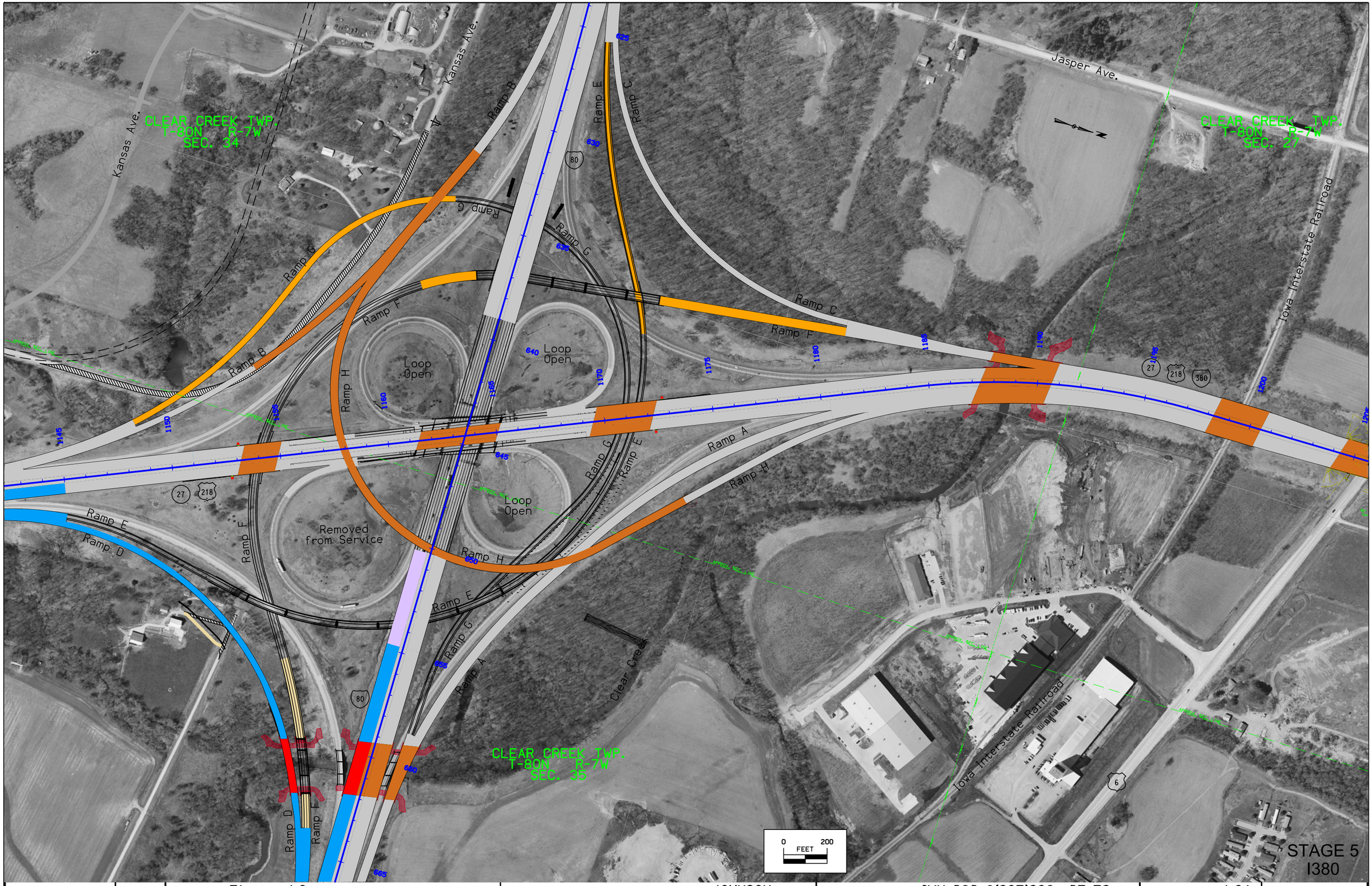

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.31

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FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.32

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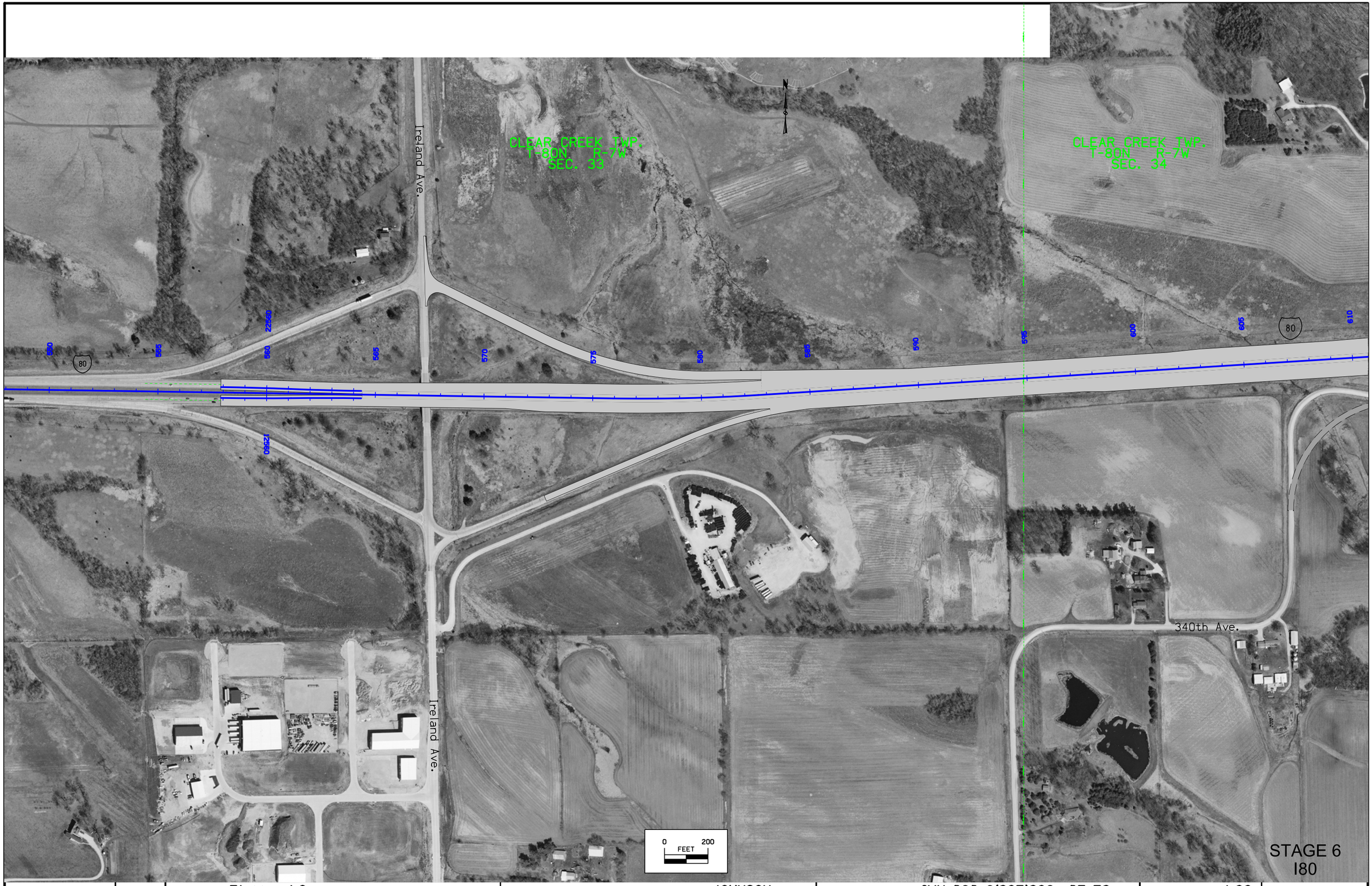

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.33

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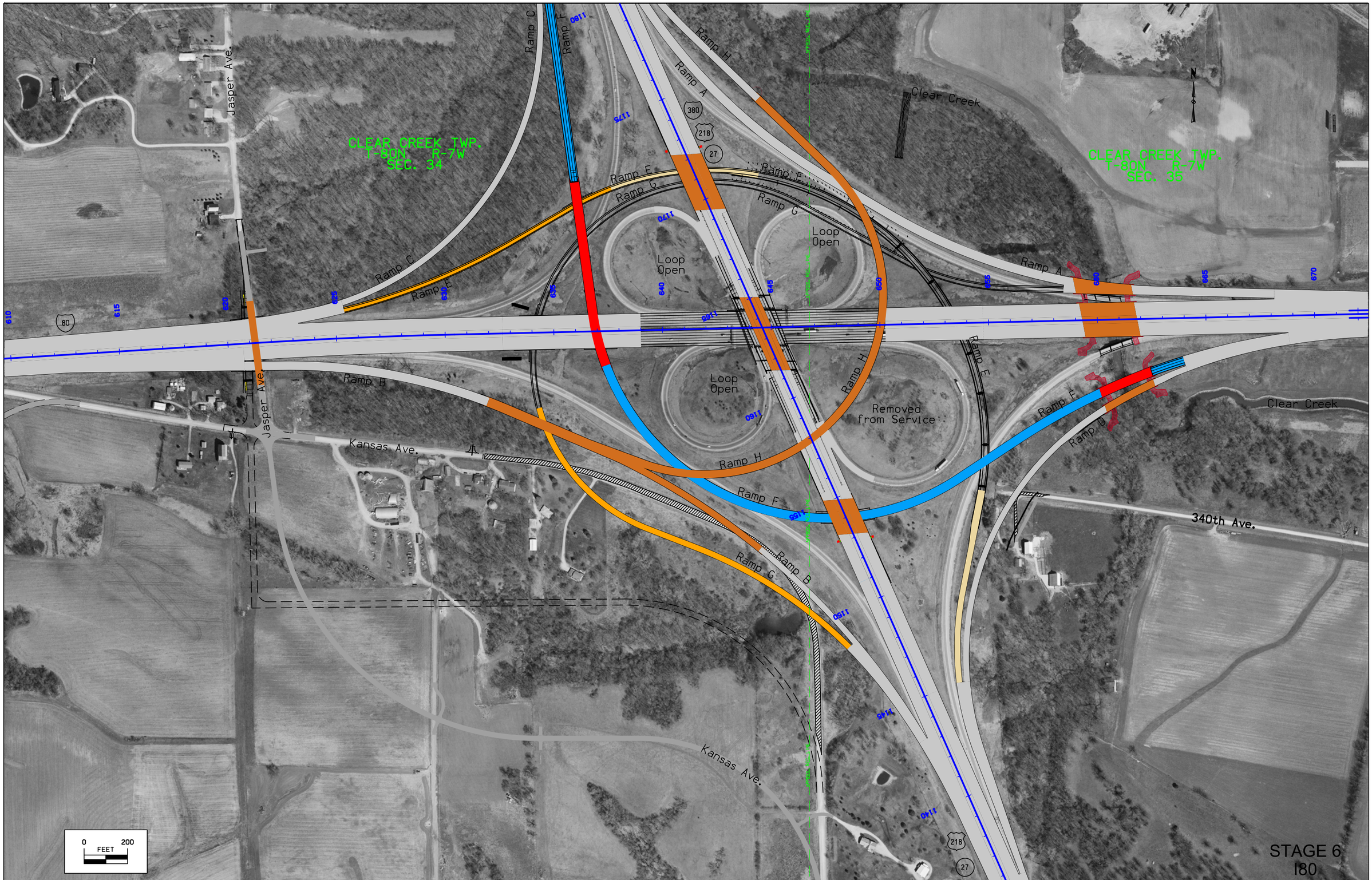

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.34

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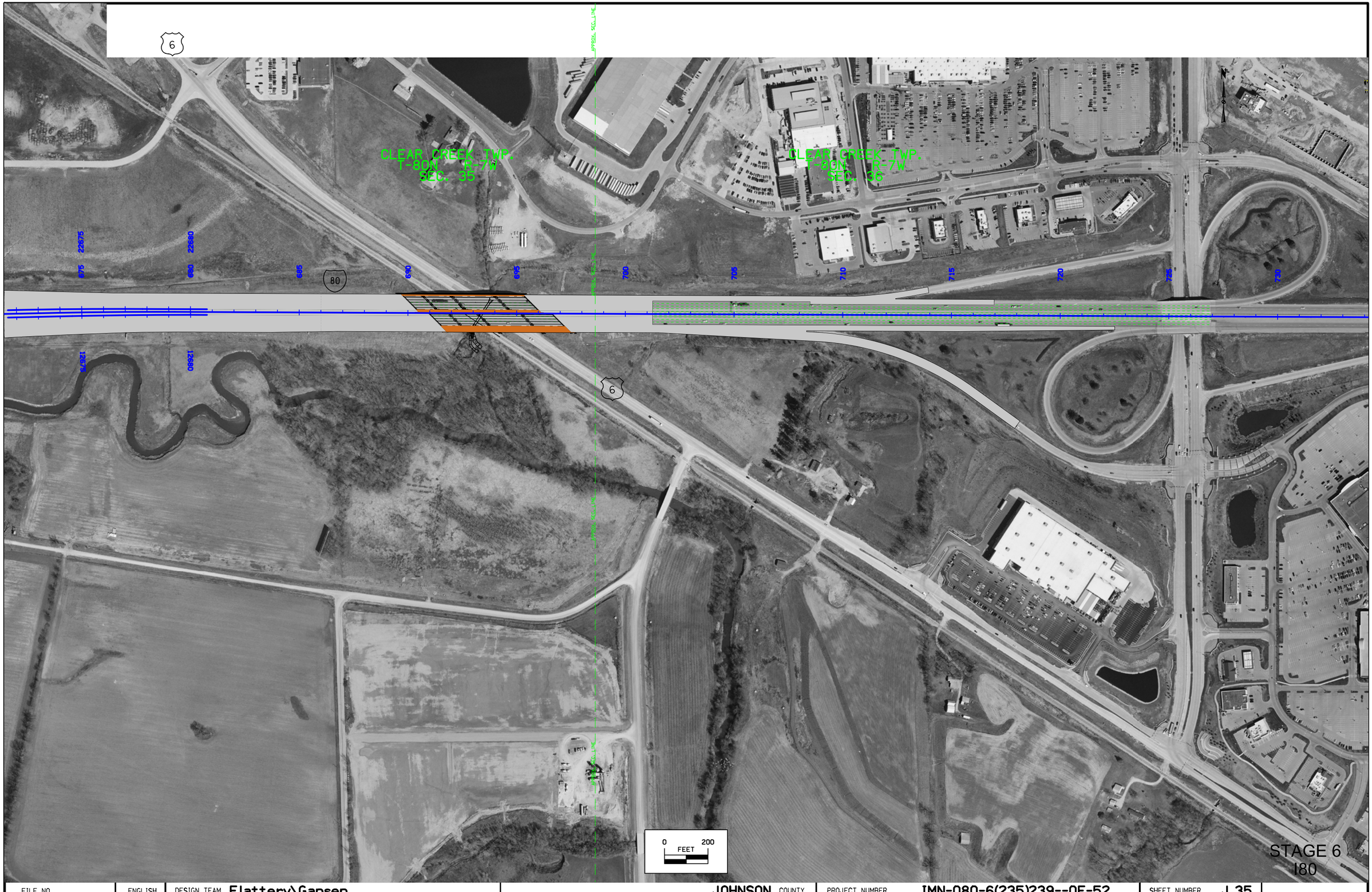

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.35

5:05:15 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht

CLEAR CREEK TWP.
T-79N R-7W
SEC. 2

CLEAR CREEK TWP.
T-79N R-7W
SEC. 3

Kansas Ave.

Deer Creek

27

218

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

340th Ave.

0 200
FEET

STAGE 6
I380

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.36

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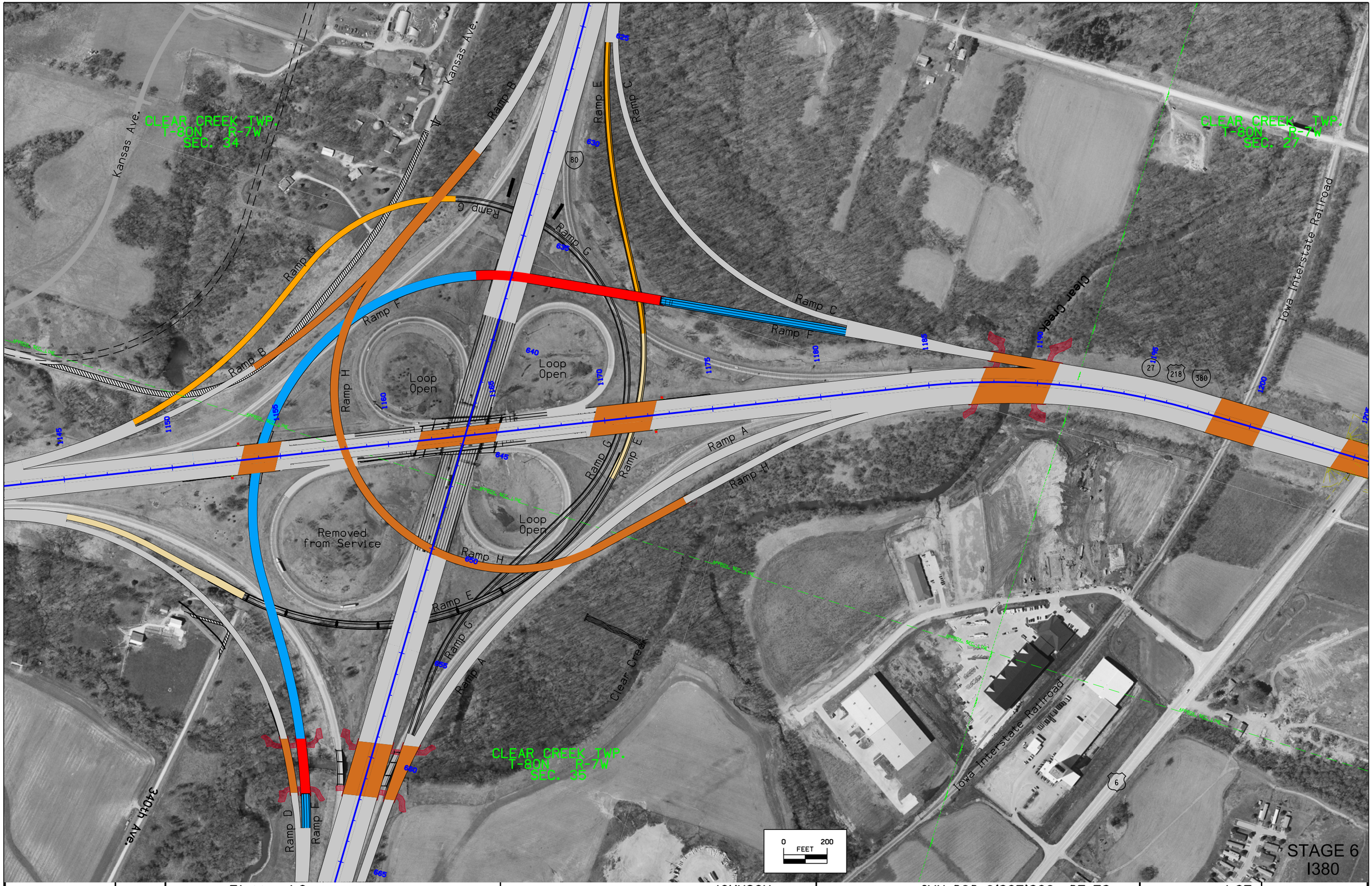

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.37

5:05:56 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.38

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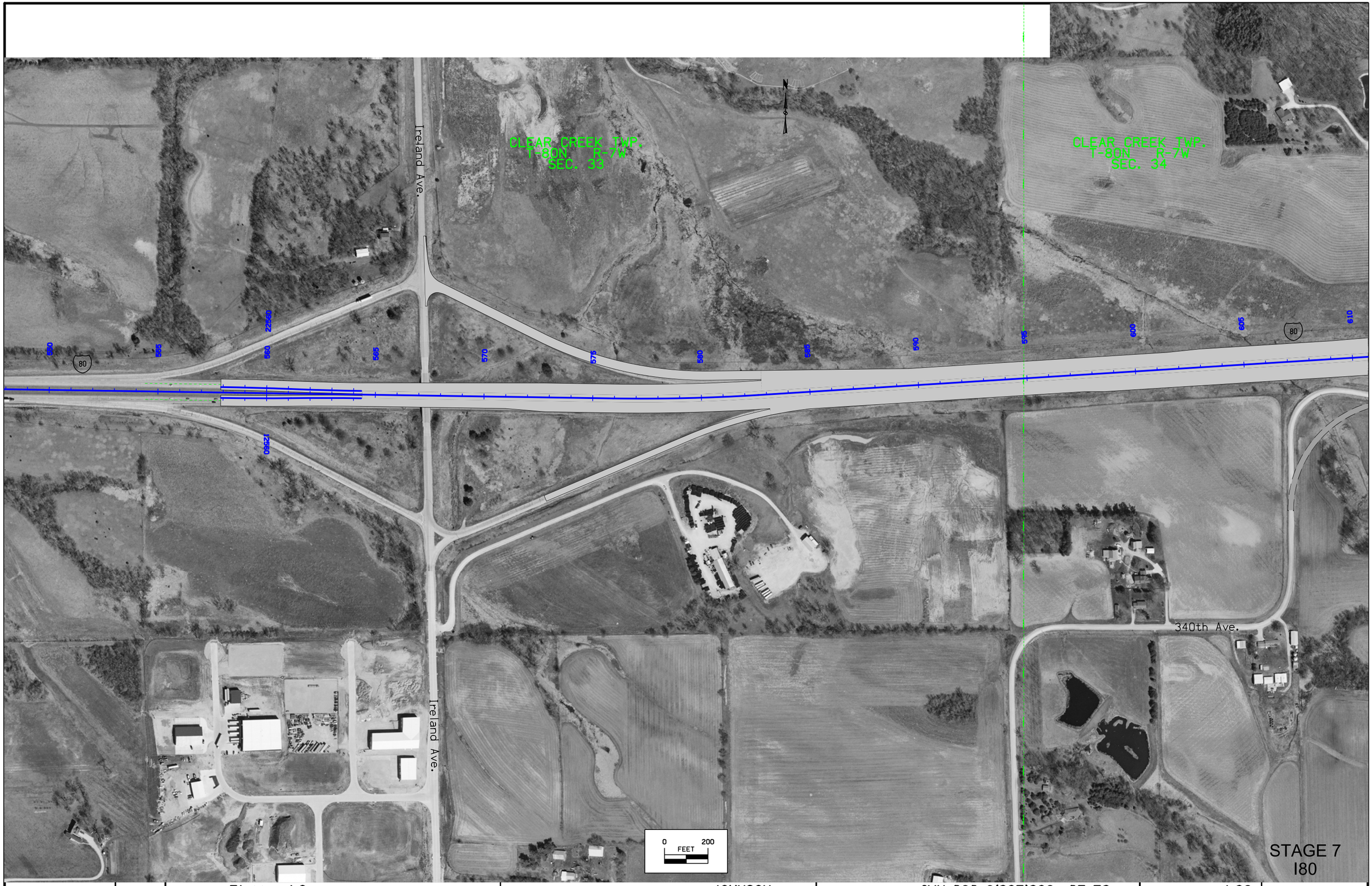
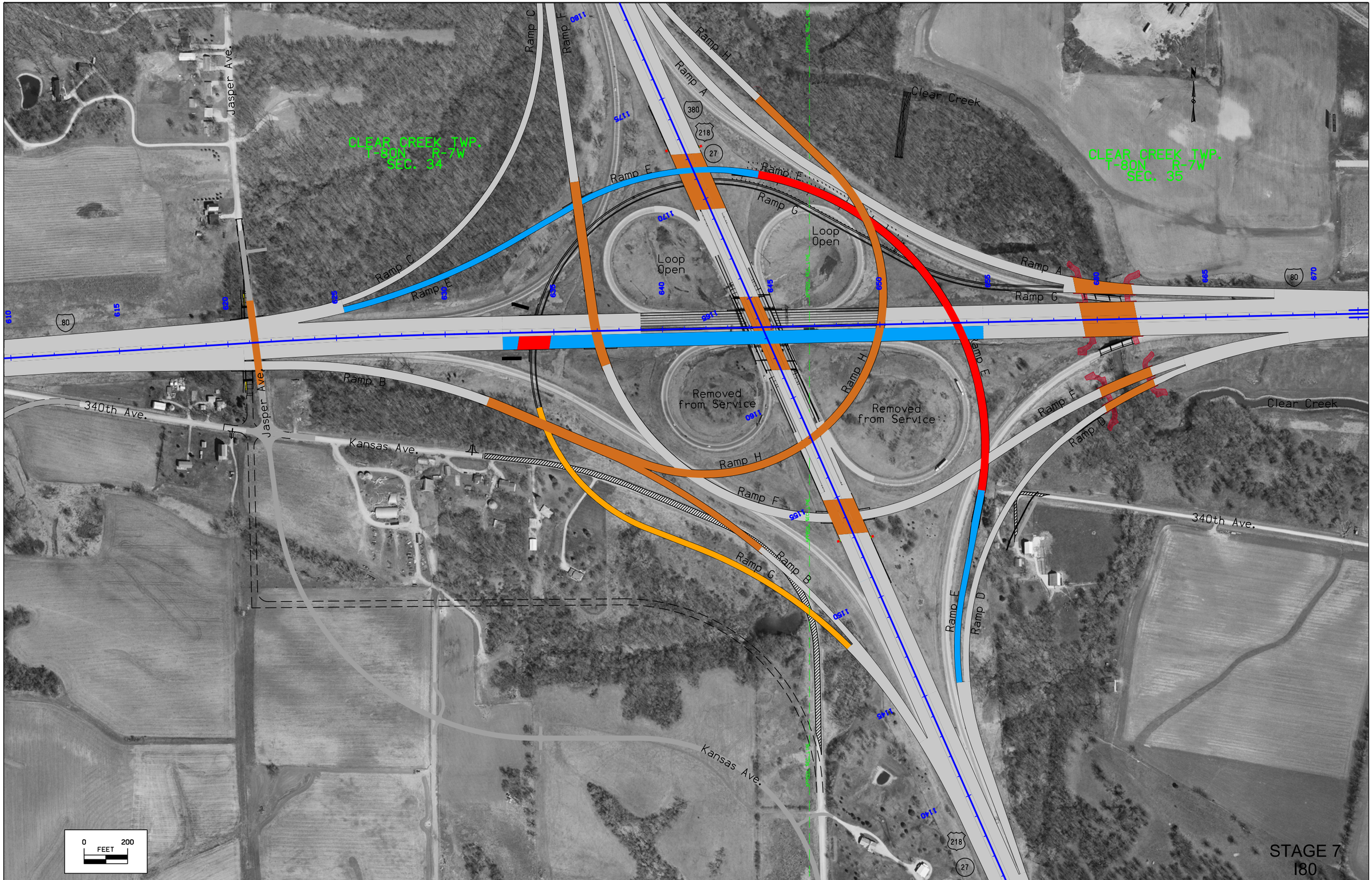


STAGE 7
I80

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.39

5:06:47 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.40

5:07:00 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht

CLEAR CREEK TWP.
T-80N., R-7W
SEC. 35

CLEAR CREEK TWP.
T-80N., R-7W
SEC. 36

APPROX. SEC. LINE

22675 675 22680 680 685 690 695 700 705 710 715 720 725 730

12579 12580

Clear Creek

340th Ave.

Iowa Interstate Railroad

6 80 965

0 200
FEET

STAGE 7
I80

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.41

5:07:20 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht

CLEAR CREEK TWP.
T-79N R-7W
SEC. 2

CLEAR CREEK TWP.
T-79N R-7W
SEC. 3

Kansas Ave.

Deer Creek

27

218

Ramp E

Ramp D

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

0 200
FEET

STAGE 7
I380

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.42

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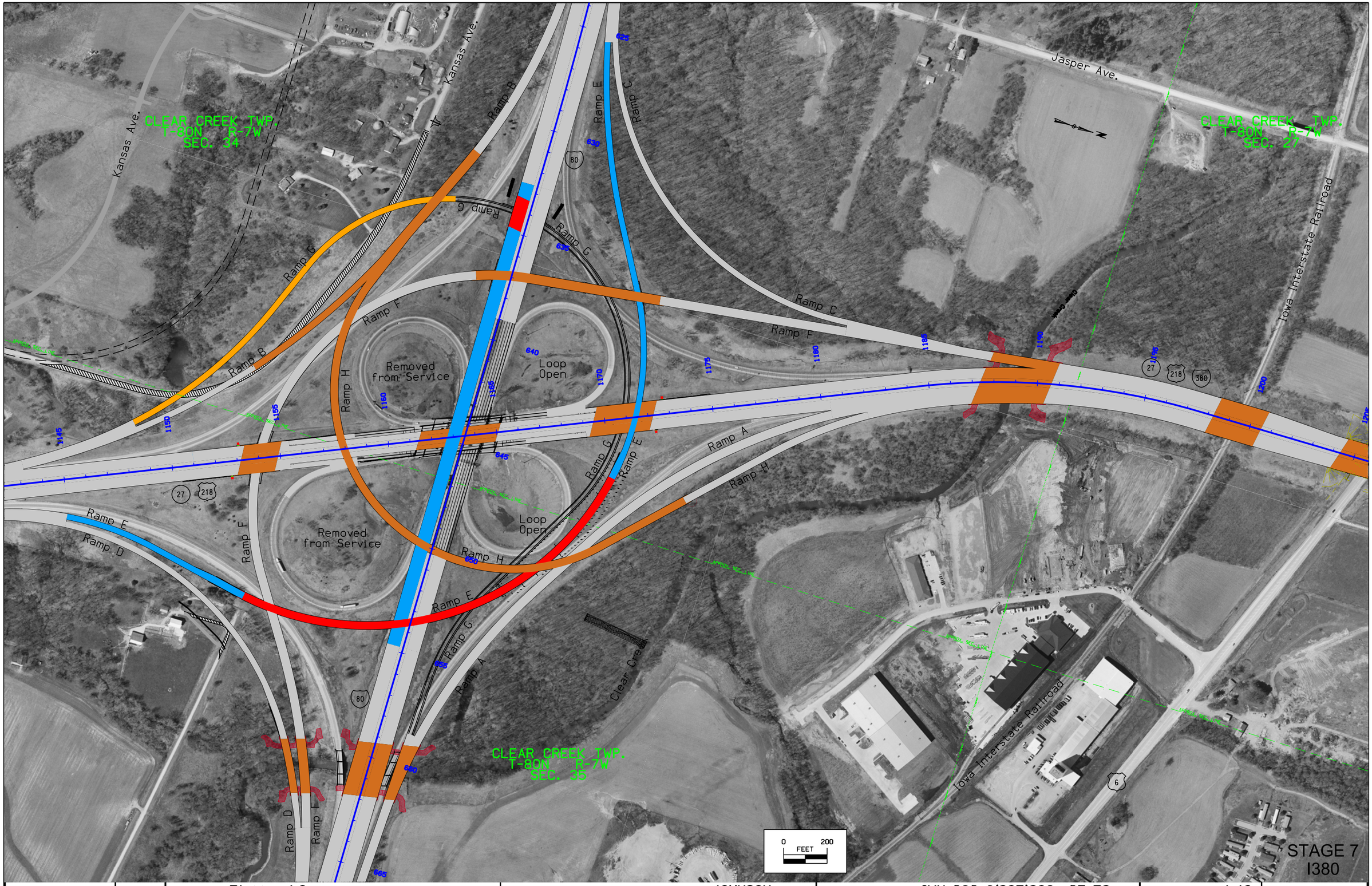


FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.43

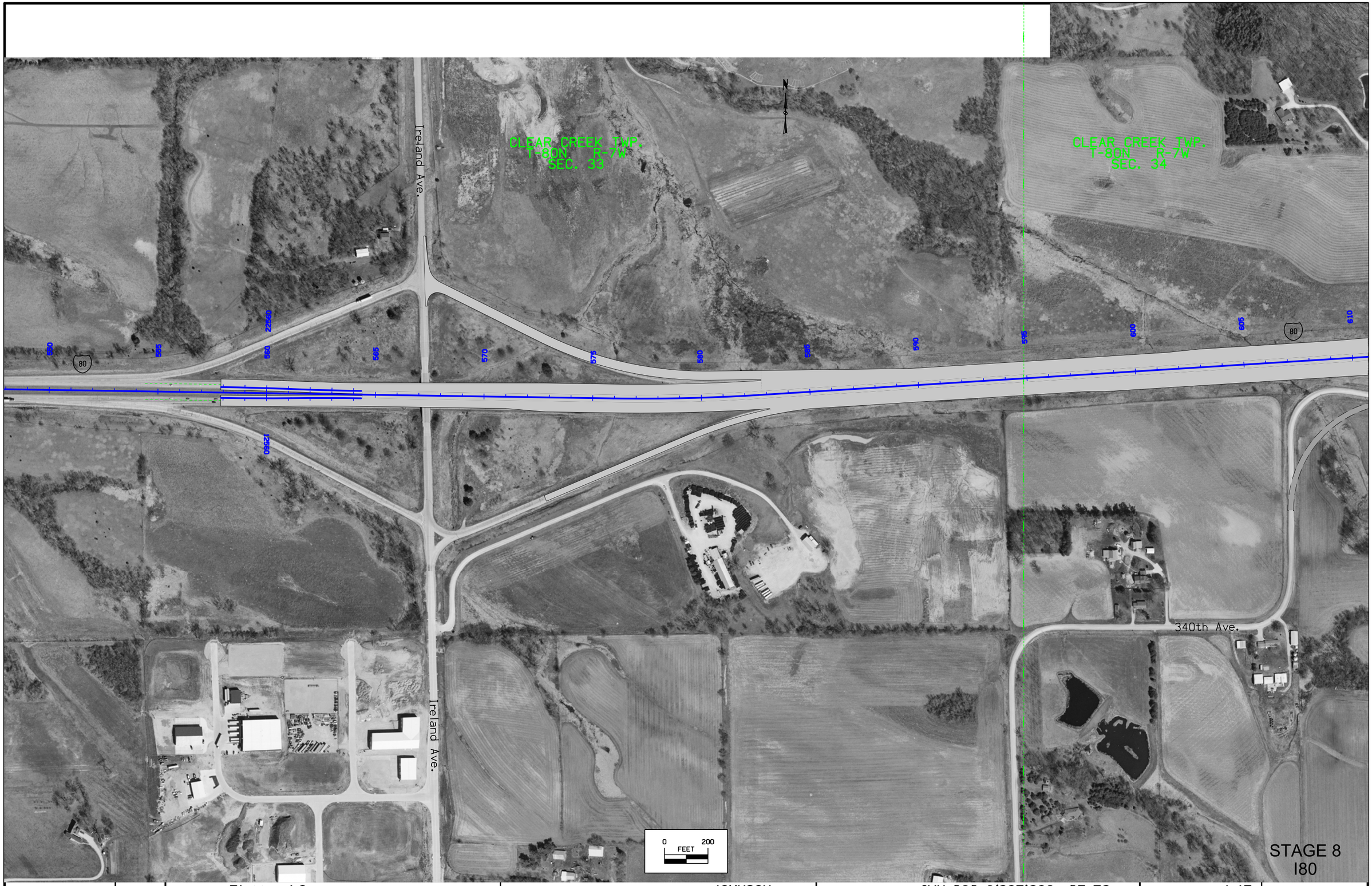
5:08:02 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



STAGE 7
I380

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.44

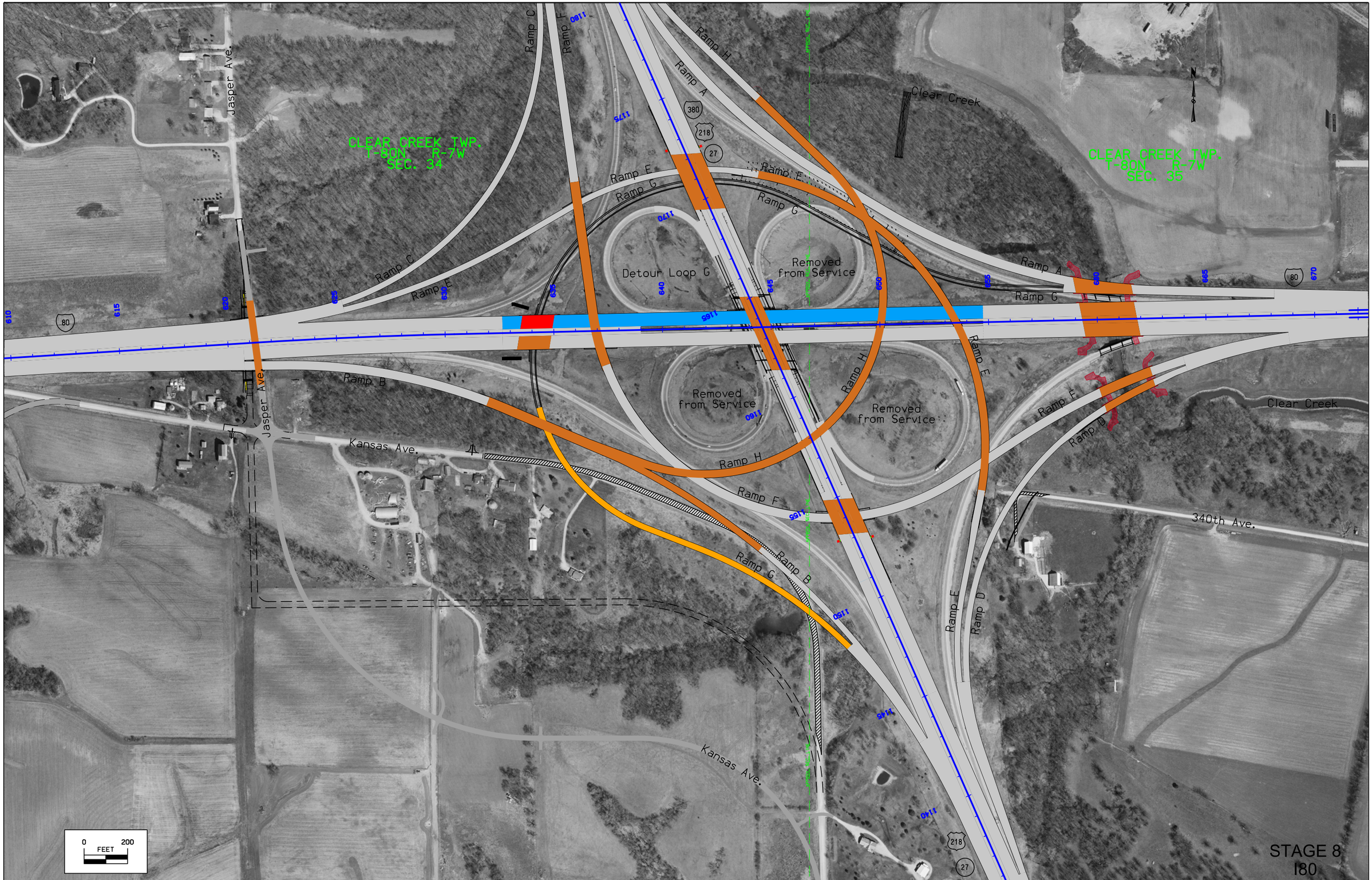
5:08:31 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



STAGE 8
I80

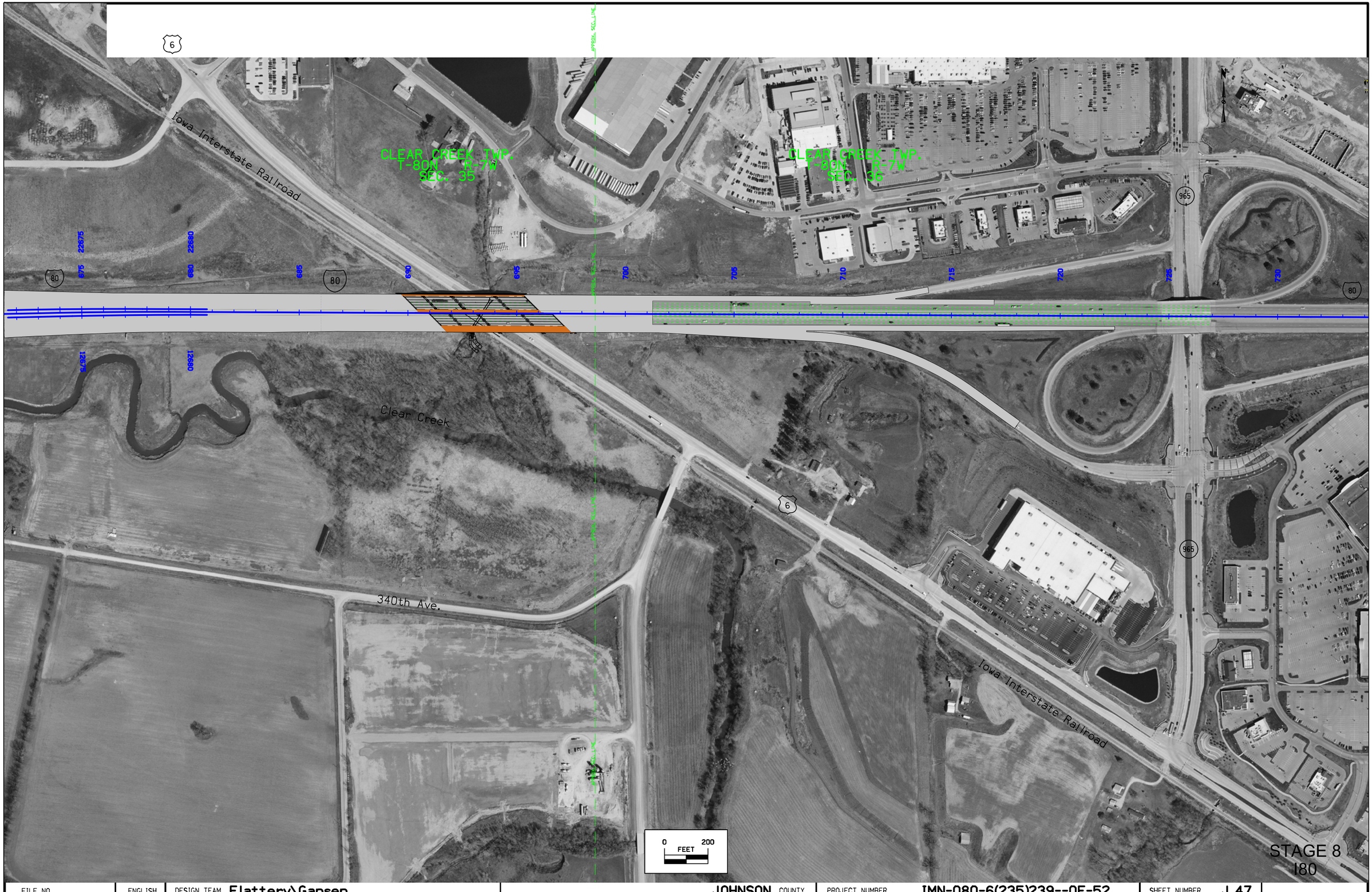
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.45

5:08:53 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.46

5:09:06 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.47

5:09:26 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht

CLEAR CREEK TWP.
T-79N R-7W
SEC. 2

CLEAR CREEK TWP.
T-79N R-7W
SEC. 3

Kansas Ave.

Deer Creek

27

218

Ramp E

Ramp D

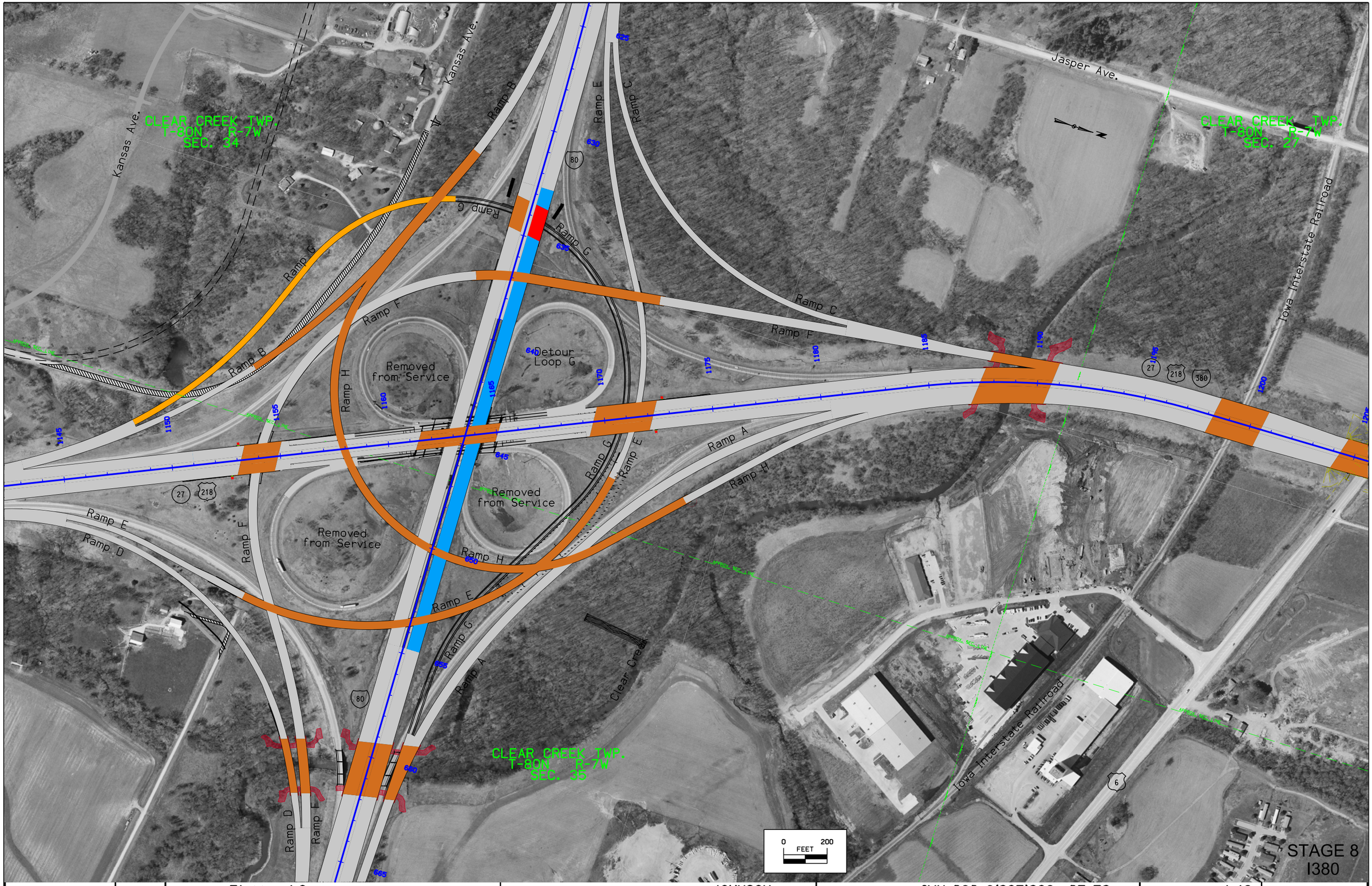
CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

0 200
FEET

STAGE 8
I380

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.48

5:09:39 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



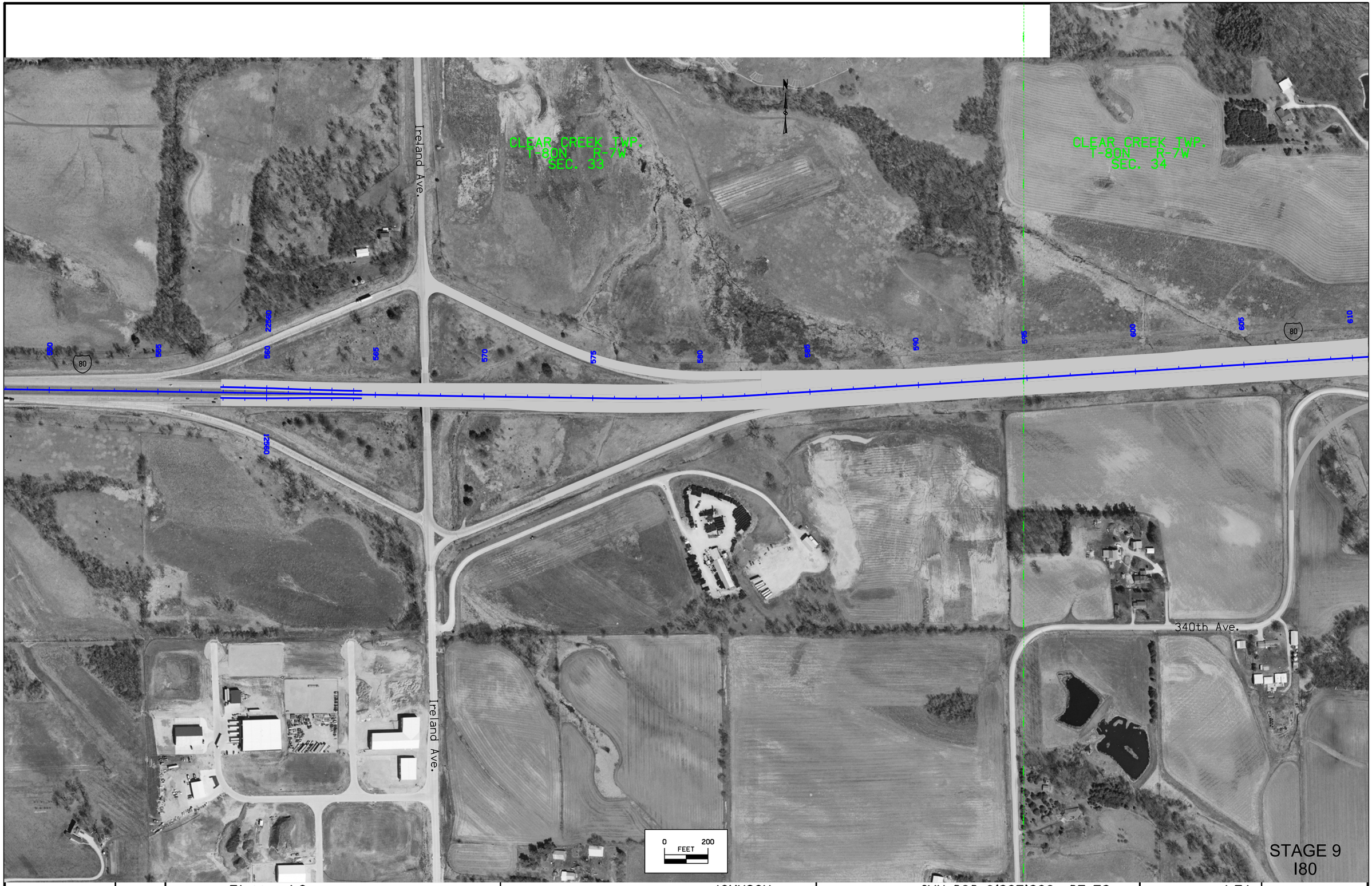
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.49

5:10:07 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.50

5:10:36 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.51

5:10:59 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

Jasper Ave.

Ramp C

Ramp F

Ramp H

Ramp A

Clear Creek

Ramp E

Ramp G

Remove

Removed

Ramp B

Kansas Ave.

340th Ave.

Ramp D

80

380

218

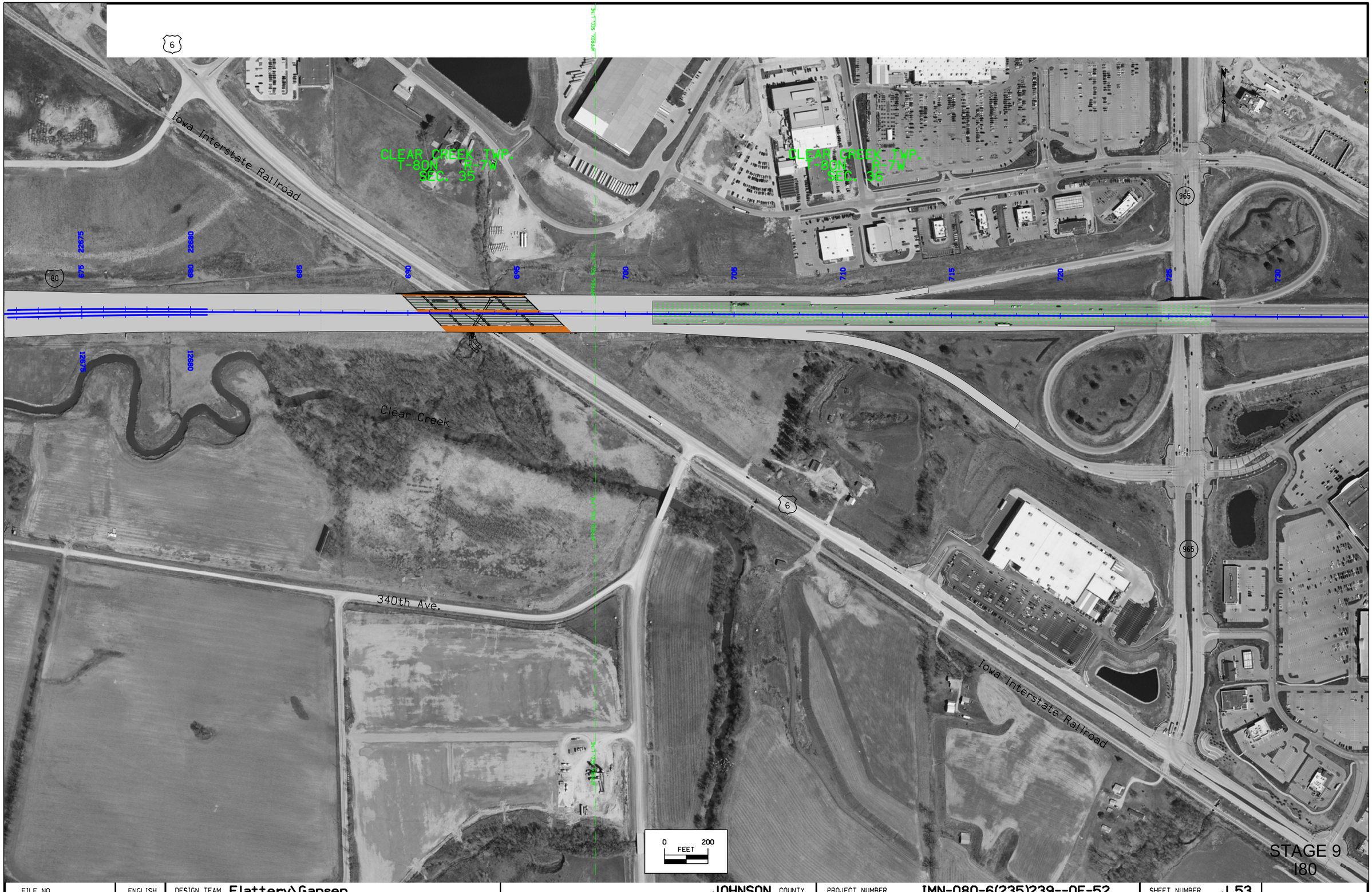
27

0 200
FEET

STAGE 9
I80

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.52

5:11:13 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.53

5:11:32 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht

CLEAR CREEK TWP.
T-79N R-7W
SEC. 2

CLEAR CREEK TWP.
T-79N R-7W
SEC. 3

Kansas Ave.

Deer Creek

27

218

Ramp E

Ramp D

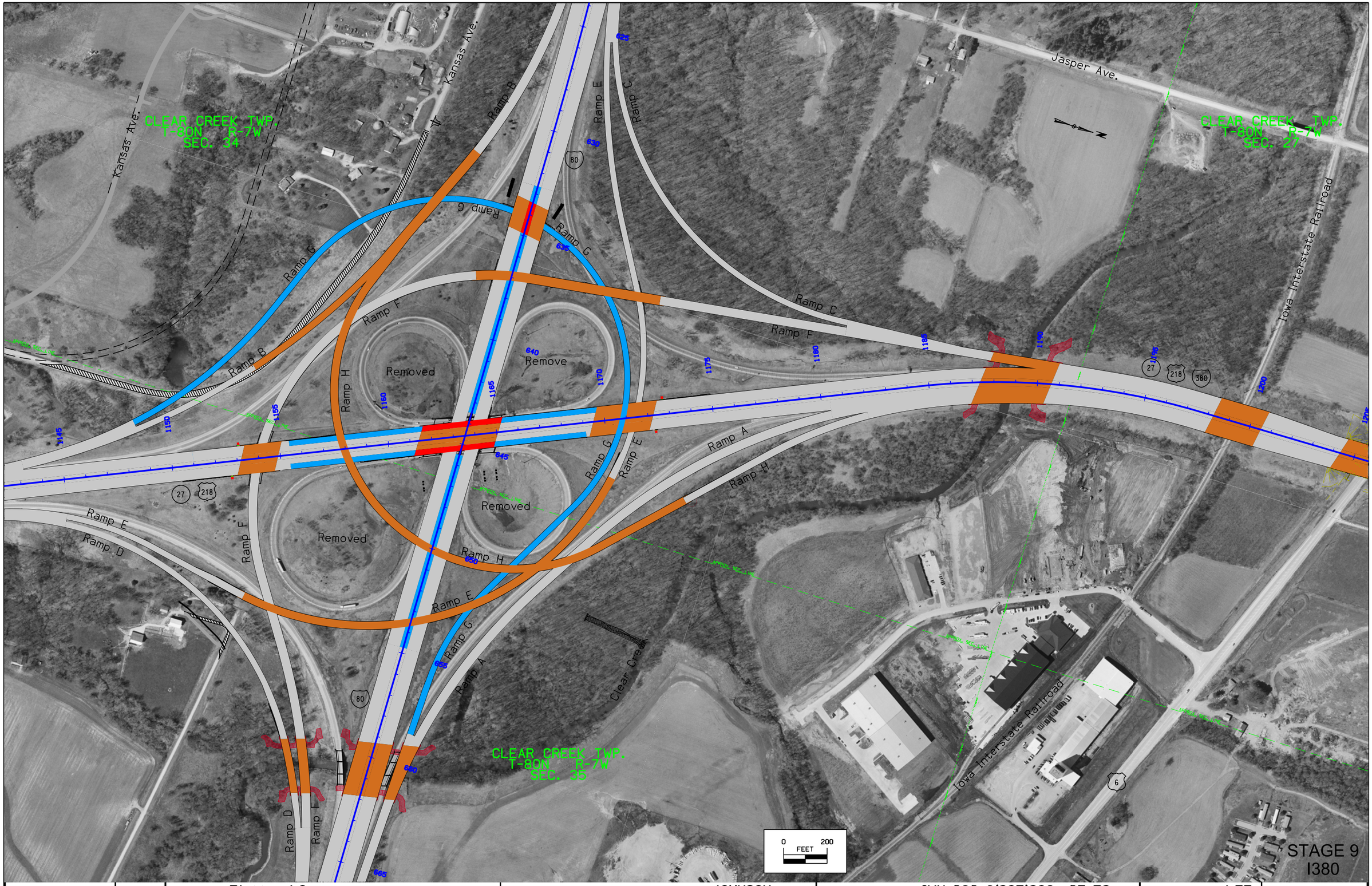
CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

0 200
FEET

STAGE 9
I380

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.54

5:11:45 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



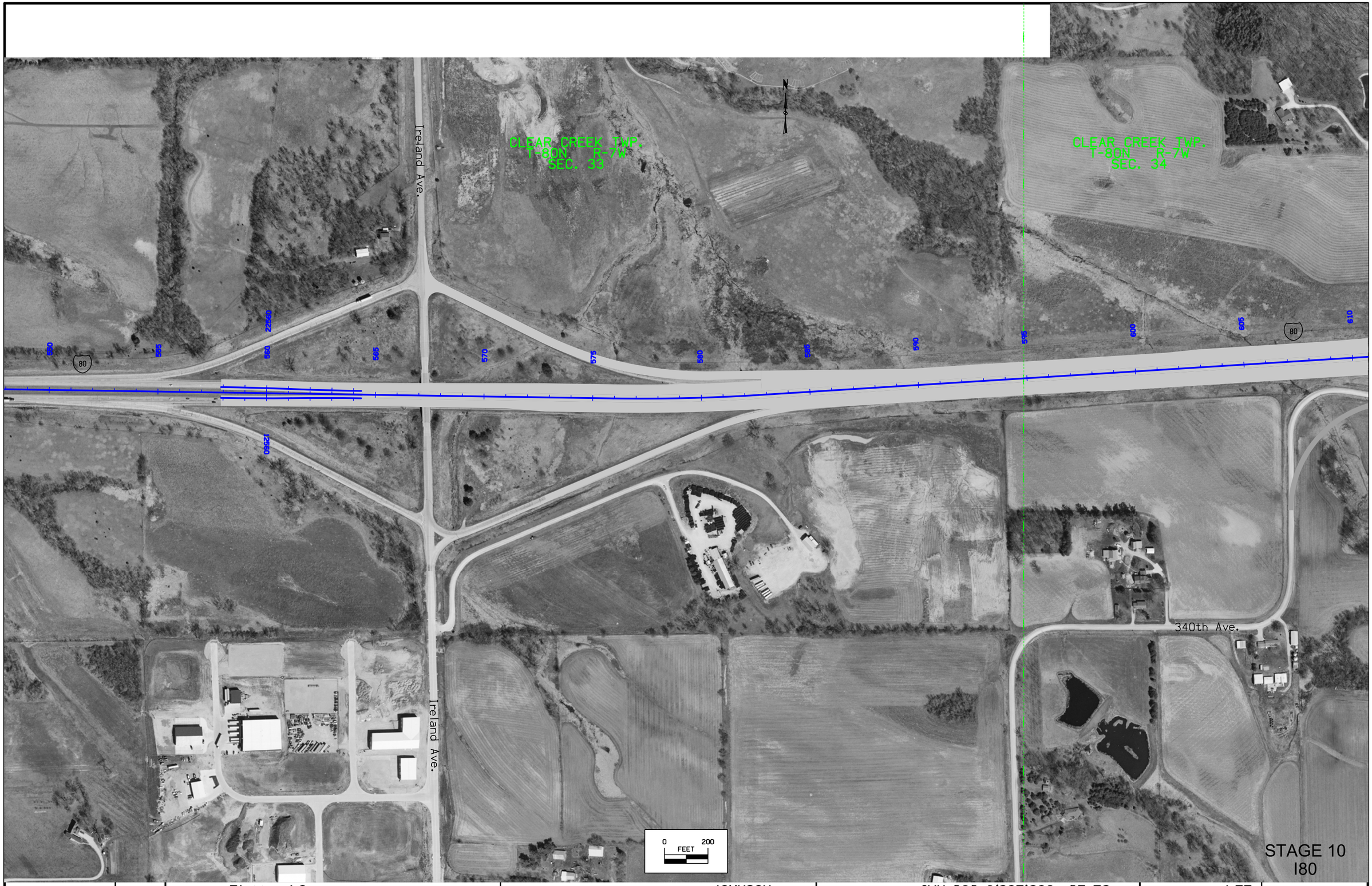
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.55

5:12:13 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.56

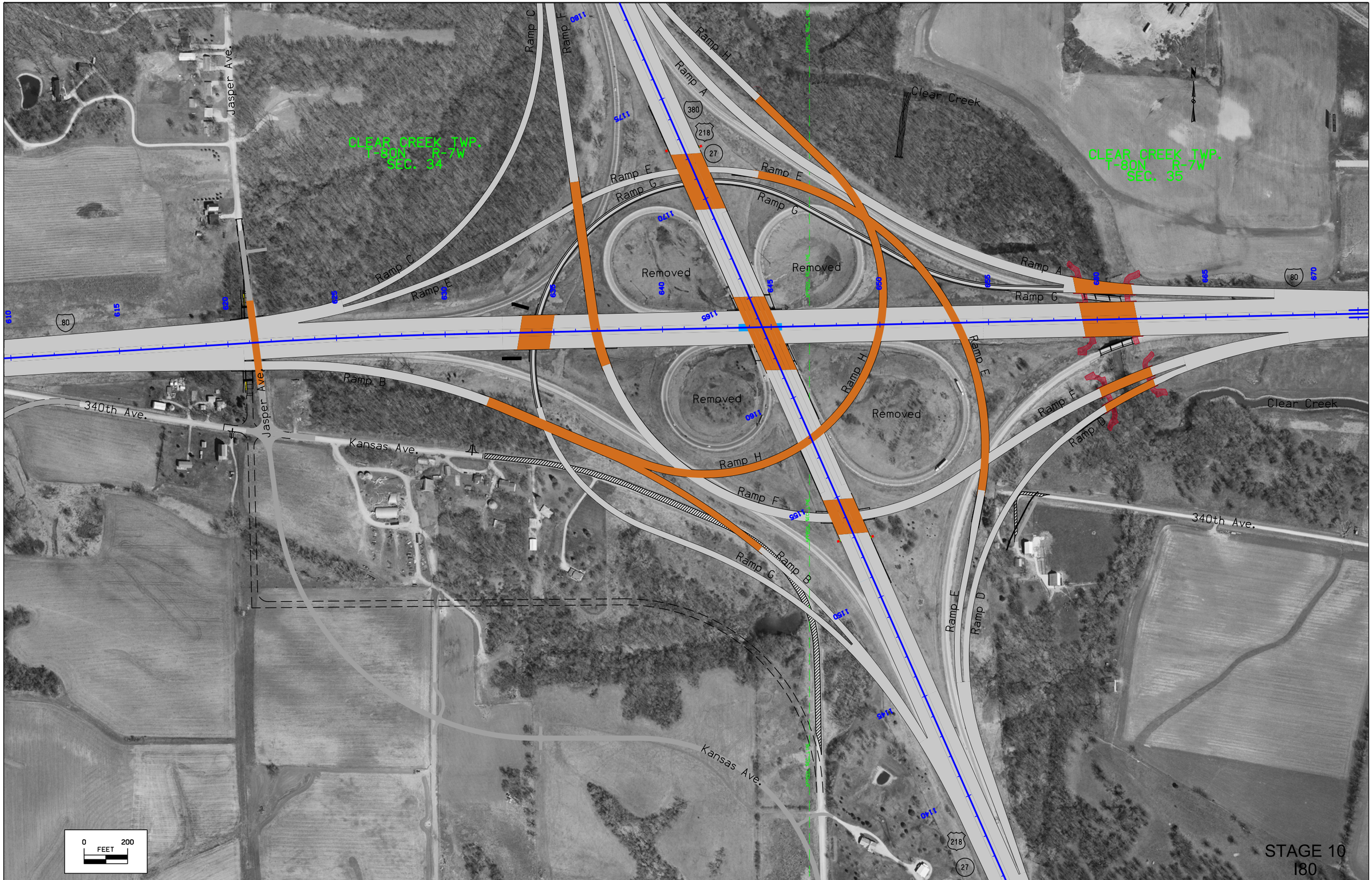
5:12:42 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



STAGE 10
I80

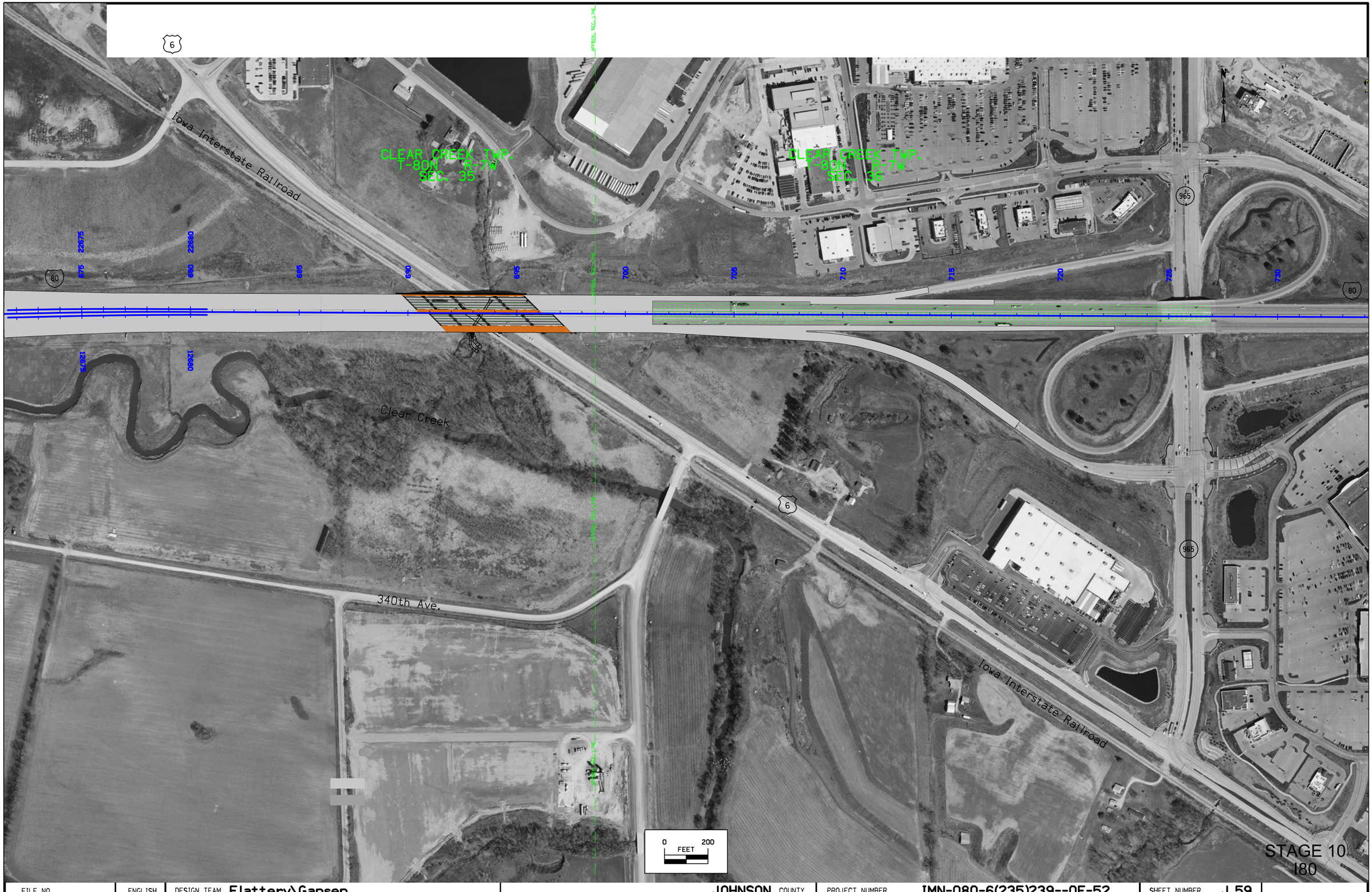
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.57

5:13:05 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.58

5:13:18 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



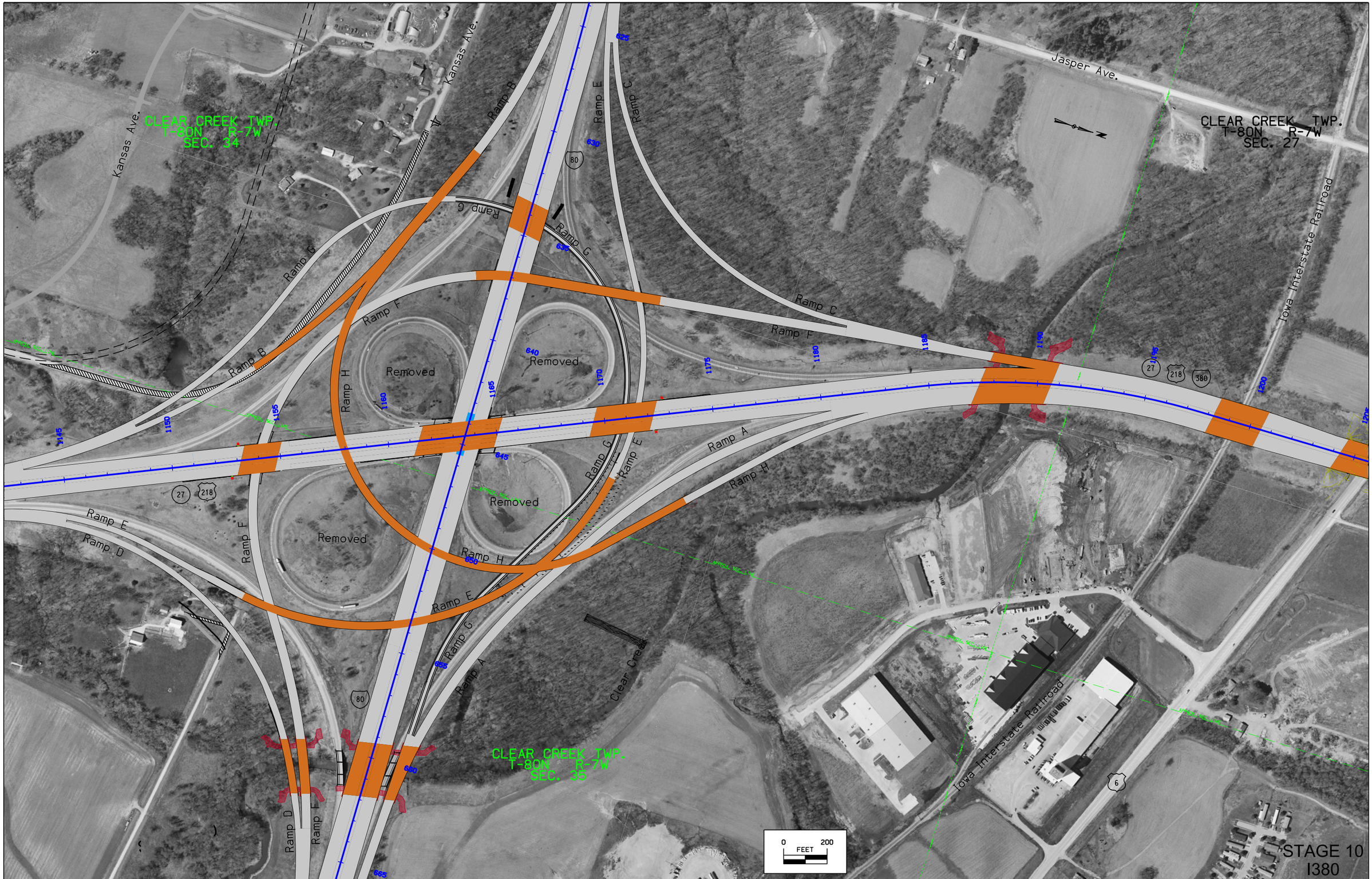
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.59

5:13:37 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.60

5:13:51 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.61

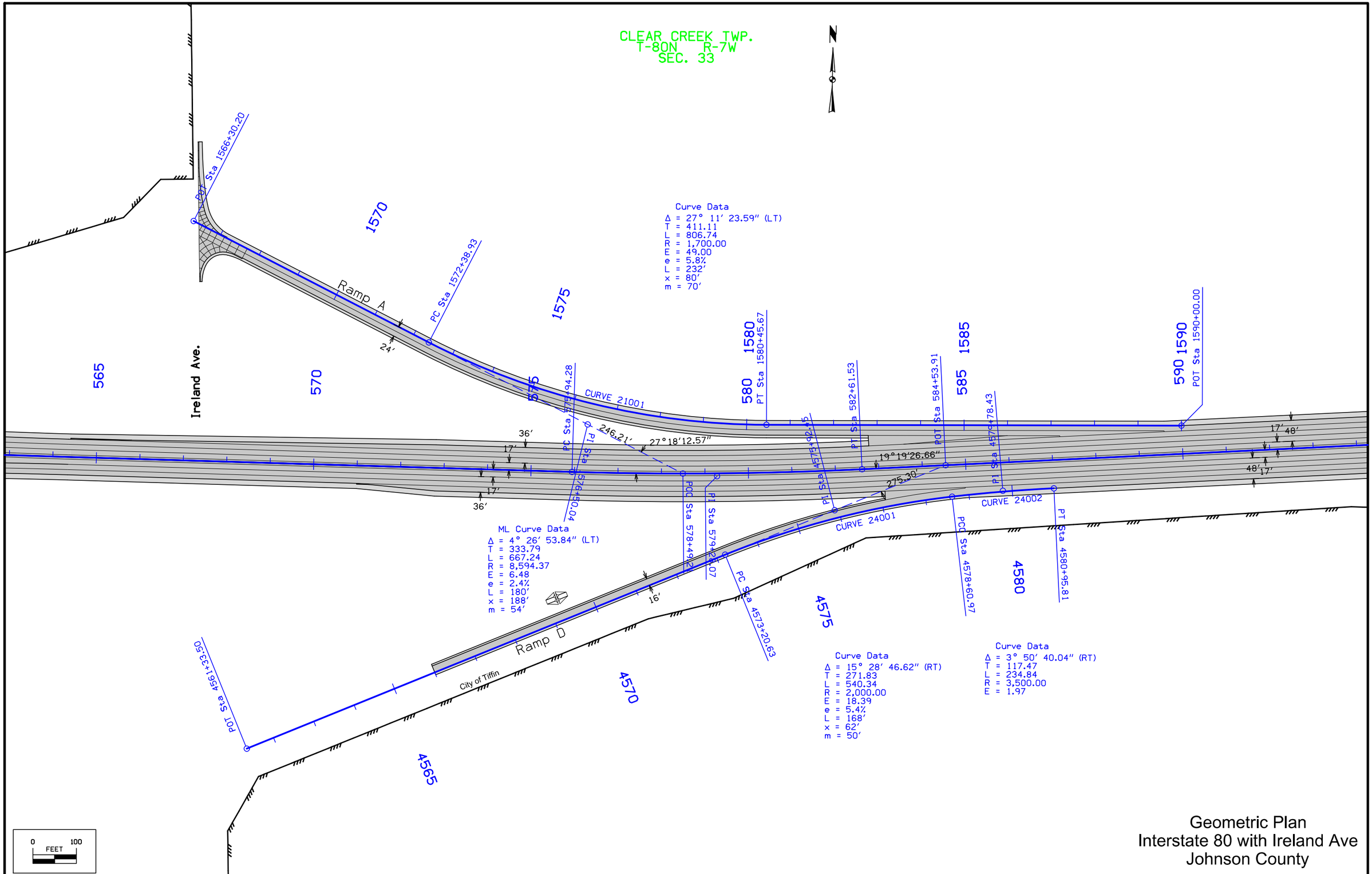
5:14:19 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



STAGE 10
I380

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER J.62

5:14:48 PM 3/19/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235J2.sht



Geometric Plan
Interstate 80 with Ireland Ave
Johnson County

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.1

11:07:38 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht

CLEAR CREEK TWP.
T-8ON R-7W
SEC. 33

Sta. 572+42.8, 232.9 Lt.
5' x 5' x 130.9' R.C.B.
DA = 63 Ac. - F-R

Sta. 576+03.7, 108.9 Lt.
42" x 60.6' Conc. Pipe
DA = 18 Ac. - F-R

Curve Data
Δ = 27° 11' 23.59" (LT)
T = 411.11
L = 806.74
R = 1,700.00
E = 49.00
e = 5.8%
L = 232'
x = 80'
m = 70'

POT Sta 1566+30.20
PC Sta 1572+38.93
PI Sta 1576+50.04
PT Sta 1580+45.67
POT Sta 1590+00.00

1570
1575
1580
1585
1590

Ramp A
CUT AND COVER
Ireland Ave.

0 100 FEET

IRELAND AVE RAMP A

780
770
760
750
740
730
720
710

TIE-IN
Sta. 1566+43.79
Elev. 751.96

VPI +50.000
Elv 750.93
Len 400.00 ft
K = 797

-0.498%
-1.000%
-2.98%
-4.70%
-4.32%
+2.84%
-1.30%
+0.950%

+69 Rt. 750.20
+16 Lt. 749.10
+50 Lt. 745.10
+00 Rt. 734.64
+90 Rt. 730.75
+00 Rt. 730.40
+35 Rt. 730.70
+25 Rt. 730.40
+50 Rt. 736.81
+74 Rt. 735.10
+64 Rt. 735.32

Rt. DG
Ditch Grade

VPI +38.500
Elv 740.05
Len 680.00 ft
K = 349

TIE-IN
Sta. 1582+78.50
Elev. 743.28

Lt
Rt

Ireland Ave | Ditch Grade | No Ditch
Ireland Ave | Ditch Grade | Variable - V Ditch

751.93 751.80 751.66 751.52 751.37 751.21 751.04 750.87 750.68 750.49 750.29 750.09 749.87 749.65 749.42 749.18 748.93 748.68 748.43 748.18 747.93 747.68 747.43 747.18 746.93 746.68 746.43 746.18 745.93 745.68 745.43 745.18 744.93 744.68 744.43 744.18 743.93 743.68 743.43 743.19 742.97 742.77 742.58 742.41 742.26 742.13 742.02 741.92 741.84 741.78 741.74 741.71 741.71 741.72 741.75 741.79 741.86 741.94 742.04 742.16 742.30 742.45 742.62 742.81 743.02 743.25

1570 1575 1580 1585 1590

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.2

11:07:41 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht

CLEAR CREEK TWP.
T-8ON R-7W
SEC. 33

Ramp D

City of Tiffin

Ireland Ave.

POT Sta 4561+33.50

PI Sta 4573+92.45

PI Sta 4579+78.47

PC Sta 4573+20.63

PC Sta 4578+90.97

PT Sta 4580+36.81

Sta. 569+90.00
Install 48" x 214' RCP
Skew = 30° Lt. Ahd.
F.L. = Lt. 731.80
Rt. 737.00

Sta. 567+96.9, 654.9' Rt.
15" x 57.9' Conc. Pipe
DA = 0.1 Ac. - F

Sta. 570+10.00
Install 48" x 214' RCP
Skew = 30° Lt. Ahd.
F.L. = Lt. 731.80
Rt. 737.00

Sta. 575+43.3, 387.3 Rt.
30" x 73' Conc. Pipe
DA = 7 Ac. - F-R

Sta. 575+51.26
Install 36" x 174 RCP
F.L. = Lt. 735.10
Rt. 737.20

Extend 48" x 213.3' RCP
with 76' RCP

4565 4570 4575 4580

Curve Data
Δ = 15° 28' 46.62" (RT)
T = 271.83
L = 540.34
R = 2,000.00
E = 18.39
e = 5.4%
L = 168'
x = 62'
m = 50'

Curve Data
Δ = 3° 50' 40.04" (RT)
T = 117.47
L = 234.84
R = 3,500.00
E = 1.97

0 100 FEET

IRELAND AVE RAMP D

VPI +10.000
Elv 759.17
Len 400.00 ft
K = 170

TIE-IN
Sta. 4566+00.00
Elev. 759.70

-0.250%
-2.602%
-2.08% Rt. Ditch Grade
-1.84% Lt. Ditch Grade
-1.50% Lt. Ditch Grade
+0.90% Rt. DG
+0.60% Lt. DG
+0.830%
+1.68% Rt. DG

+55 Rt. 749.54
+65 Rt. 749.54
+45 Rt. 749.91
+75 Rt. 749.98
+00 Rt. 751.11
+00 Rt. 755.30
+00 Lt. 752.60
+70 Lt. 747.63
+80 Lt. 747.30
+90 Lt. 747.47
+90 Lt. 739.97
+30 Lt. 740.21
+30 Rt. 738.00
+40 Rt. 737.80
+09 Rt. 738.84
+60 Rt. 738.02
+50 Rt. 737.80

VPI +50.000
Elv 742.52
Len 500.00 ft
K = 146

TIE-IN
Sta. 4577+08.84
Elev. 744.67

Foreslope Lt. U.A.C. 3:1 to 6:1/3.5:1 6:1/3.5:1 Lt. Foreslope
Rt. U.A.C. 3:1 to 6:1/3.5:1 6:1/3.5:1 Rt.

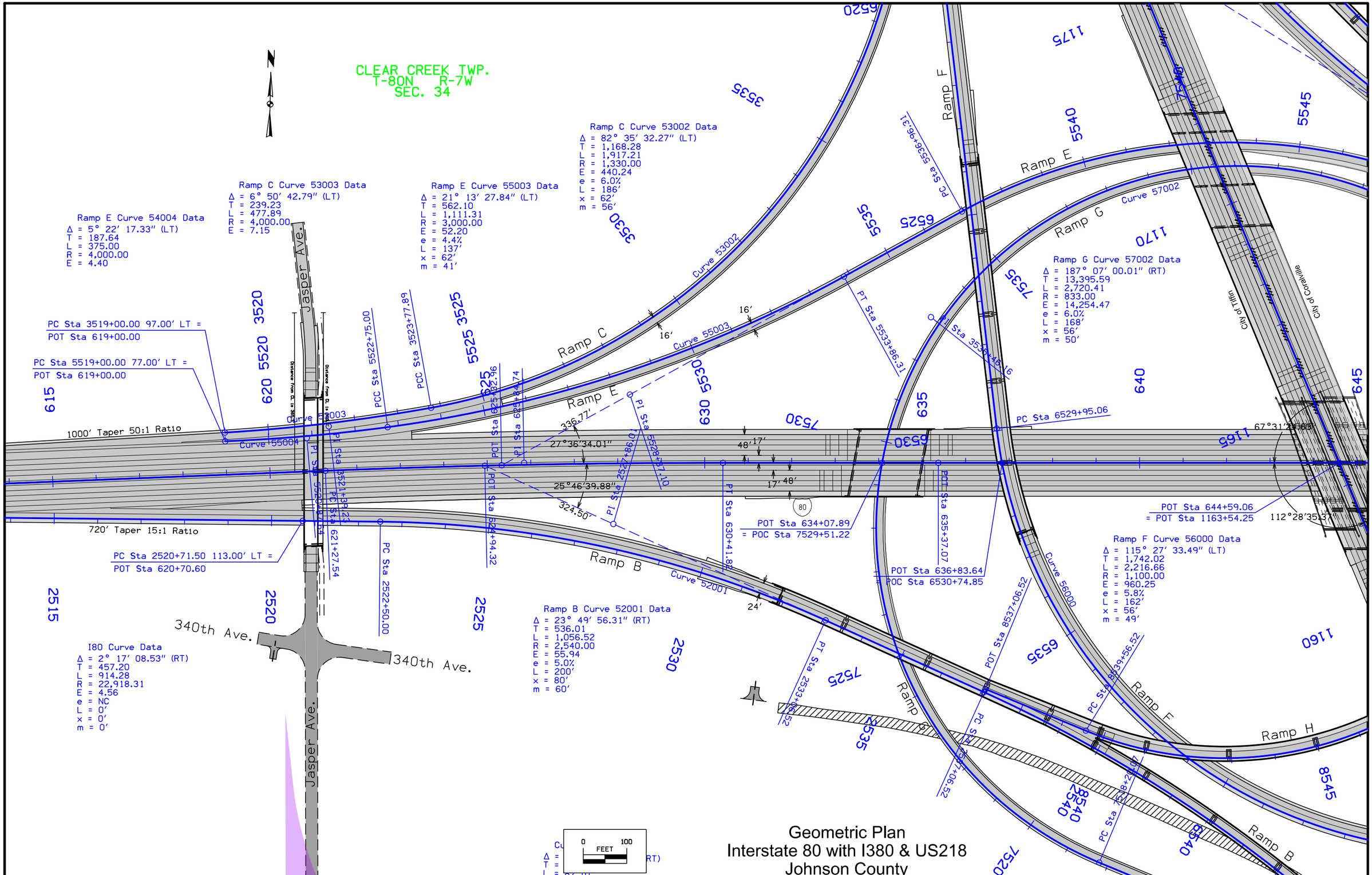
Lt Med Rt: U.A.C. / U.A.C. — Ditch Grade / Ditch Grade — Variable - V Ditch

790 780 770 760 750 740 730 720

759.70 759.63 759.53 759.39 759.21 759.00 758.75 758.46 758.14 757.78 757.38 756.95 756.48 755.97 755.43 754.85 754.23 753.58 752.93 752.28 751.63 750.98 750.33 749.68 749.03 748.40 747.81 747.27 746.77 746.31 745.90 745.52 745.20 744.91 744.67 744.47 744.31 744.20 744.12 744.10 744.11 744.17 744.27 744.41 744.60

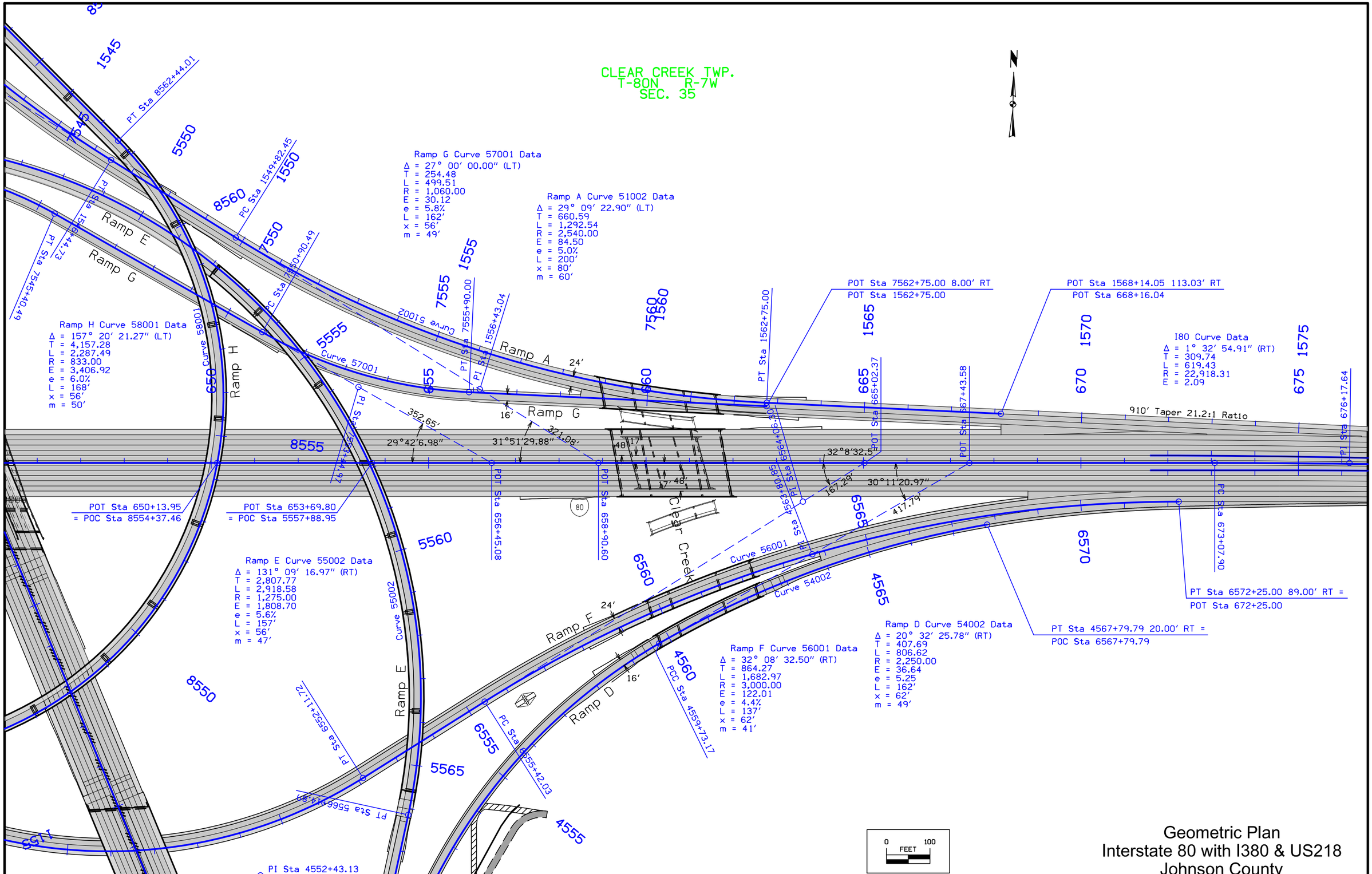
4565 4570 4575 4580

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.3



FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.4

11:07:46 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht



Geometric Plan
Interstate 80 with I380 & US218
Johnson County

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.5

11:07:49 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht

CLEAR CREEK TWP.
T-79N R-7W
SEC. 2

CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

City of Tiffin

Kansas Ave.

Ramp G Curve 57003 Data
Δ = 32° 55′ 03.02″ (LT)
T = 590.86
L = 1,149.04
R = 2,000.00
E = 85.45
e = 5.4%
L = 168′
x = 62′
m = 56′

Ramp B Curve 52003 Data
Δ = 41° 10′ 12.77″ (RT)
T = 1,239.41
L = 2,371.23
R = 3,300.00
E = 225.07
e = 4.2%
L = 131′
x = 62′
m = 40′

Ramp B Curve 52004 Data
Δ = 1° 56′ 39.43″ (RT)
T = 67.87
L = 135.74
R = 4,000.00
E = 0.58

PC Sta 7504+21.04 20.00′ RT
POC Sta 2555+63.38

PT Sta 2562+13.49 65.00′ LT =
POT Sta 1139+00.00

PT Sta 7515+70.07

PC Sta 8539+56.52

PC Sta 8539+56.52

PC Sta 2560+77.75

PI Sta 1143+48.20

PI Sta 7510+11.90

PI Sta 2549+45.42

PI Sta 2561+45.63

PI Sta 5577+34.84

PI Sta 4552+43.13

PI Sta 5570+54.89

PI Sta 5566+54.89

PI Sta 6555+42.03

PI Sta 8555+56.52

Curve 52004

Curve 57003

Curve 52003

Curve 55001

Curve 54001

Curve 55002

Ramp G

Ramp B

Ramp H

Ramp F

Ramp E

Ramp D

Ramp E

1000′ Taper 50:1 Ratio

800′ Taper 20:1 Ratio

600′ Taper 25:1 Ratio

16′

36′

17′

17′

36′

378.52′

44°56′17.67″

34°44′58.64″

248.93′

POT Sta 1157+84.99
= POC Sta 8547+96.94

POT Sta 1153+89.69
= POC Sta 6546+58.47

POT Sta 1163+54.25
= POT Sta 644+59.06

POT Sta 1148+52.54

POT Sta 1151+57.61

POT Sta 1151+94.98

PC Sta 4541+82.66 23.98′ LT =
POT Sta 5577+95.56

PT Sta 5583+83.68 93.02′ LT =
POT Sta 1135+75.40

PT Sta 6552+11.72

1135 1140 2560 2555 7505 7510 1145 2550 1150 1155 1160 8545 8540 7515 8540

5580 5585 5575 4545 4550 5570 5565 6555 4555 6550 8550 8555 5560

Ramp E Curve 55001 Data
Δ = 31° 53′ 13.98″ (LT)
T = 379.96
L = 740.19
R = 1,330.00
E = 53.21
e = 6.0%
L = 186′
x = 62′
m = 56′

Ramp D Curve 54001 Data
Δ = 77° 08′ 03.54″ (RT)
T = 1,060.48
L = 1,790.51
R = 1,330.00
E = 371.03
e = 6.0%
L = 186′
x = 62′
m = 56′

Ramp E Curve 55002 Data
Δ = 131° 09′ 16.97″ (RT)
T = 2,807.77
L = 2,918.58
R = 1,275.00
E = 1,808.70
e = 5.6%
L = 157′
x = 56′
m = 47′

0 100
FEET

Geometric Plan
Interstate 80 with I380 & US218
Johnson County

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.6

11:07:51 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

POT Sta 8537+06.52

POT Sta 6535+37.07

PT Sta 5533+86.31

Ramp F

Curve 56000

Ramp F Curve 56000 Data
Δ = 115° 27′ 33.49″ (LT)
T = 1,742.02
L = 2,216.66
R = 1,100.00
E = 960.25
e = 5.8%
L = 162′
x = 56′
m = 49′

PC Sta 6529+95.06

PC Sta 5533+86.16

PC Sta 5536+96.31

Ramp G Curve Data
Δ = 187° 07′ 00.01″ (RT)
T = 13,395.59
L = 2,720.41
R = 833.00
E = 14,254.47
e = 6.0%
L = 168′
x = 56′
m = 50′

Ramp G

Ramp E

Curve 57002

Ramp C Curve Data
Δ = 82° 35′ 32.27″ (LT)
T = 1,168.28
L = 1,917.21
R = 1,330.00
E = 440.24
e = 6.0%
L = 186′
x = 62′
m = 56′

16′

PT Sta 3542+95.09

POT Sta 3543+35.09 40.00′ RT =
POT Sta 6515+17.42

Ramp C

24′

Ramp F

600′ Taper 15:1 Ratio

PT Sta 6506+53.29 101.17′ LT =
POT Sta 1189+67.92

Clear Creek

PT Sta 1191+13.06

1000′ Taper 50:1 Ratio

112°28′35.37″

67°31′24.63″

City of Tiffin

City of Coralville

POT Sta 1170+91.55
= POC Sta 7540+58.59

PT Sta 1538+80.74

POT Sta 1176+50.19

36′

17′

32.06

35°39′54.75″

POT Sta 1171+50.47
= POC Sta 5542+86.32

POT Sta 1175+07.94

POT Sta 1183+36.98

22°21′46.41″

274.53

PC Sta 1184+57.52

Ramp A

Curve 51003

Curve 58002

Ramp H

24′

16′

Ramp H Curve Data
Δ = 157° 20′ 21.27″ (LT)
T = 4,157.28
L = 2,287.49
R = 833.00
E = 3,406.92
e = 6.0%
L = 168′
x = 56′
m = 50′

PT Sta 7545+40.49

PT Sta 1546+44.73

Ramp G

Ramp E

Ramp A

PC Sta 7550+90.49

PC Sta 1549+82.45

PT Sta 8562+44.01

Curve

PC Sta 8571+33.34

Ramp A Curve 51003 Data
Δ = 35° 39′ 54.75″ (LT)
T = 817.10
L = 1,581.09
R = 2,540.00
E = 128.19
e = 5.0%
L = 200′
x = 80′
m = 60′

Ramp H Curve 58002 Data
Δ = 21° 13′ 01.53″ (RT)
T = 374.60
L = 740.62
R = 2,000.00
E = 34.78
e = 5.4%
L = 168′
x = 62′
m = 50′

I380 Curve Data
Δ = 22° 38′ 40.61″ (RT)
T = 655.54
L = 1,293.98
R = 3,274.04
E = 64.98
e = 5.2%
L = 312′
x = 150′
m = 94′

Clear Creek

PT Sta 8578+73.96 97.00′ RT =
POT Sta 1184+57.52

PC Sta 1530+63.64 77.00′ RT =
POT Sta 1183+60.00

27 218 380

0 FEET 100

Geometric Plan
Interstate 80 with I380 & US218
Johnson County

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.7

11:07:54 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 27

CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

Curve Data
Δ = 35° 39' 54.75" (LT)
T = 817.10
L = 1,581.09
R = 2,540.00
E = 128.19
e = 5.0%
L = 200'
x = 80'
m = 60'

Sta. 11169+88.3, 315.4' Rt. (I380)
Sta. 645+08.1, 706.5' Lt. (I80)
2' X 3' X 205.5' R.C.B.
D.A. = 6 Ac. - F-R

380 218 27

Clear Creek

PC Sta. 1530+63.64

1535 1540 1545 1550

PT Sta. 1546+44.73

PC Sta. 1545+28.45

Ramp H

Ramp A

Ramp E

Ramp G

0 100
FEET

RAMP A

730 720 710 700 690 680 670 660

Direction of travel

VPI +50.000
Elv 706.69
Len 1,300.00 ft
K = 377

TIE-IN
Sta. 1533+81.10
Elev. 692.38

+2.140%

-1.308%

-1.308%

+00 Rt.
691.35

+1.55% Rt. Ditch Grade

+60 Rt.
684.20

Ramp H

Lt
Rt

Variable - V Ditch

Variable - V Ditch

Ditch Grade

No Ditch

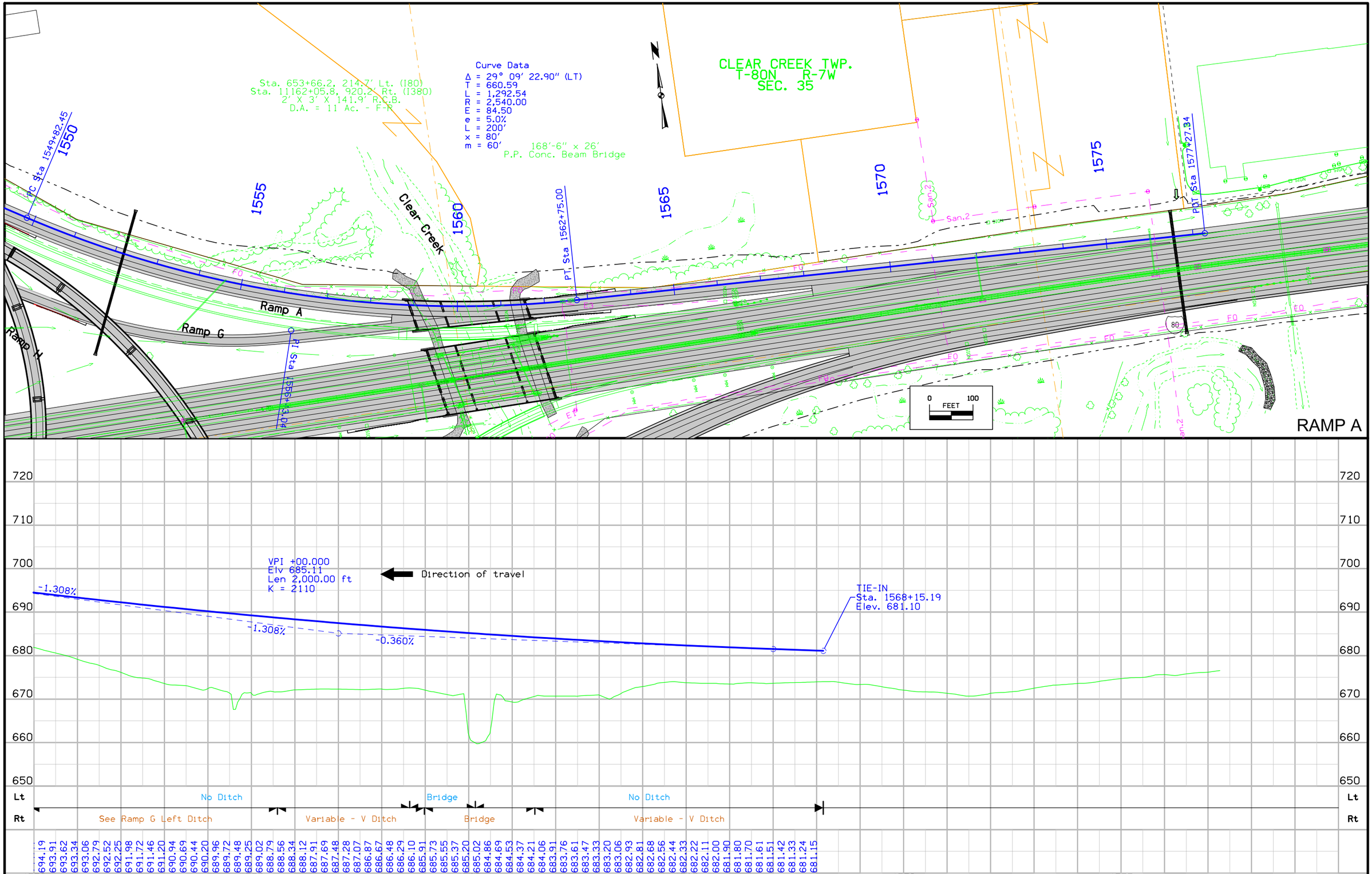
Variable - V Ditch

692.78 693.31 693.82 694.31 694.79 695.25 695.70 696.12 696.53 696.93 697.31 697.67 698.01 698.34 698.65 698.94 699.22 699.48 699.73 699.96 700.17 700.36 700.54 700.71 700.85 700.98 701.09 701.19 701.27 701.33 701.38 701.40 701.42 701.41 701.39 701.36 701.30 701.23 701.15 701.04 700.92 700.79 700.63 700.46 700.28 700.08 699.86 699.62 699.37 699.10 698.81 698.51 698.19 697.87 697.55 697.23 696.91 696.60 696.28 695.98 695.67 695.37 695.07 694.78 694.48

1535 1540 1545 1550

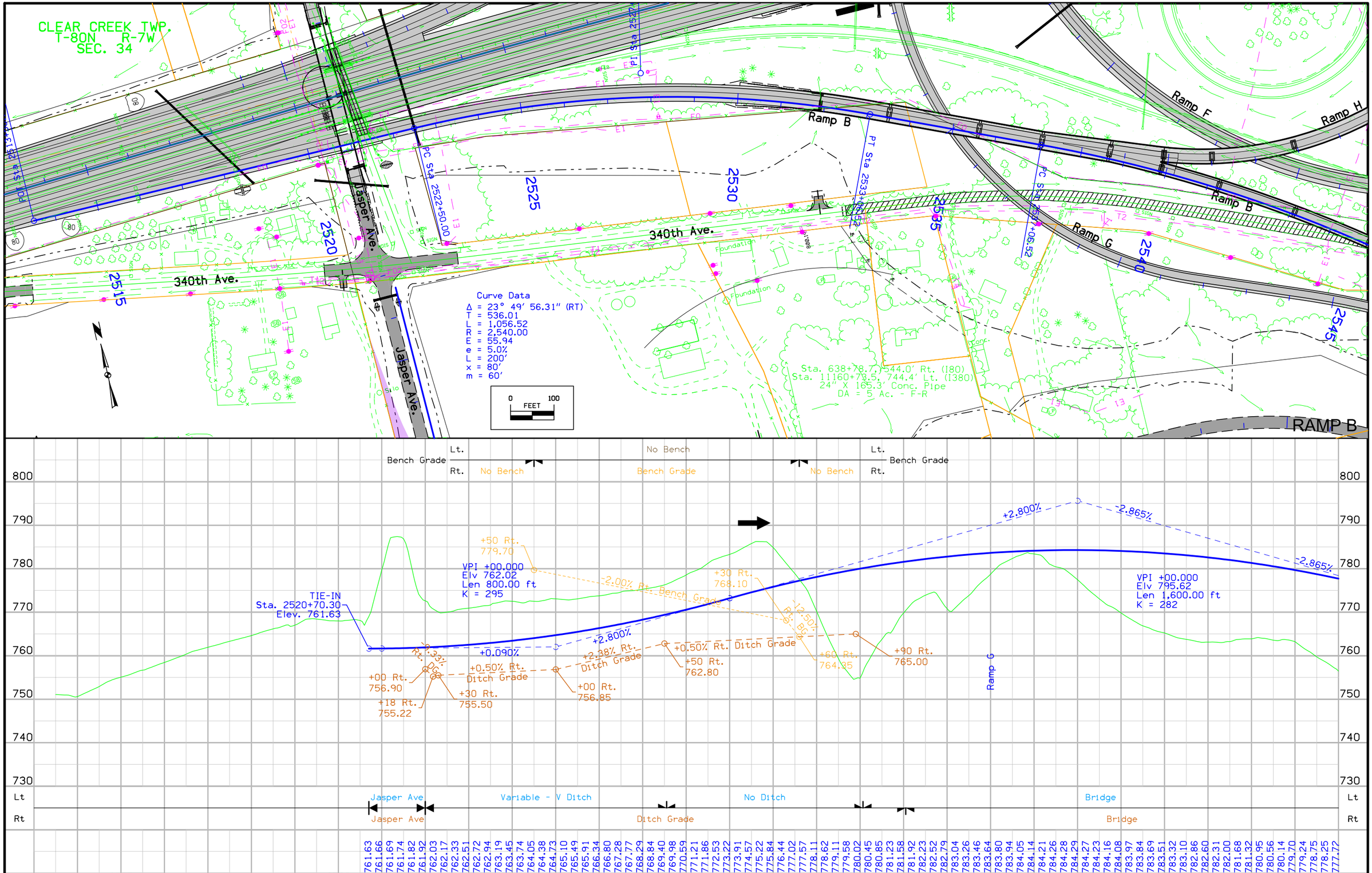
FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.8

11:07:57 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht



FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.9

11:08:01 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht



FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.10

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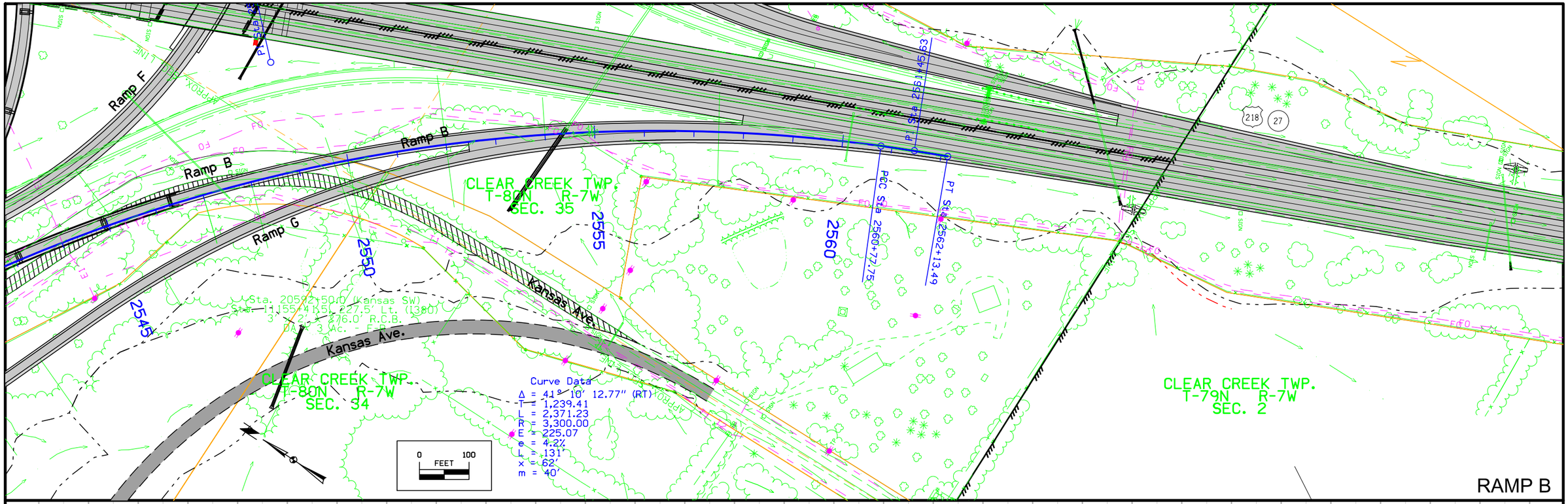
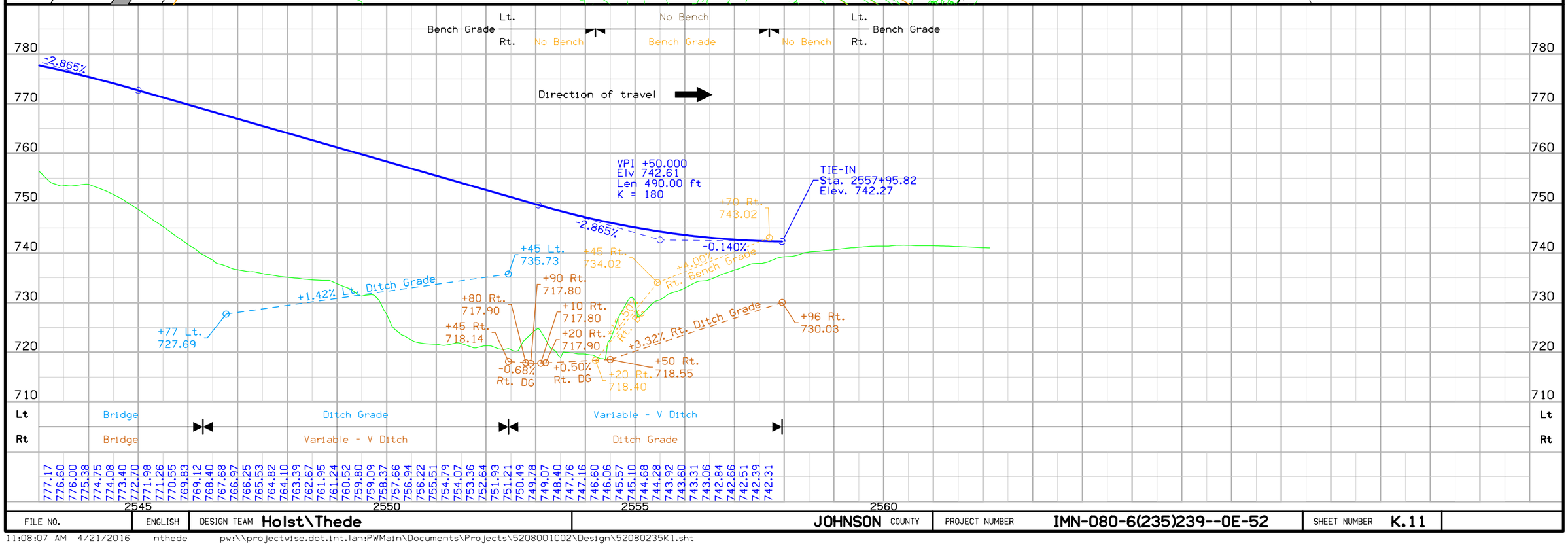




FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.11

CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

PC Sta 3519+00.00

PCC Sta 3523+77.89

PT Sta 3542+95.09

POT Sta 3543+35.09

Curve Data
Δ = 82° 35′ 32.27″ (LT)
T = 1,168.28
L = 1,917.21
R = 1,330.00
E = 440.24
e = 6.0%
L = 186′
x = 62′
m = 56′

3520
3525
3530
3535
3540

Jasper Ave.

340th Ave.

Ramp B

Ramp C

Ramp E

Ramp F

Ramp G

Ramp A

Ramp H

City of Tiffin

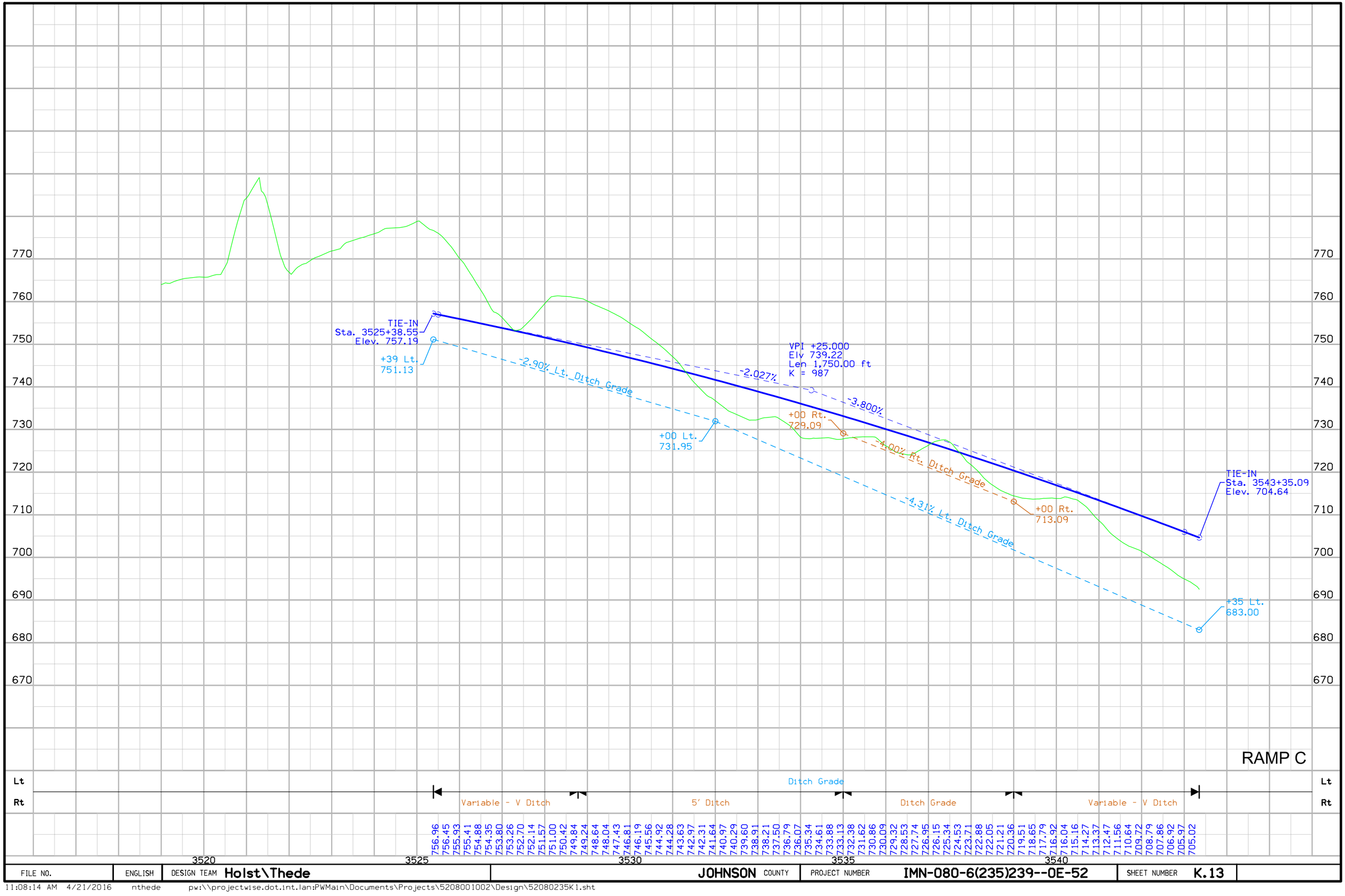
City of Coralville

0 100
FEET

RAMP C

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.12

11:08:10 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht



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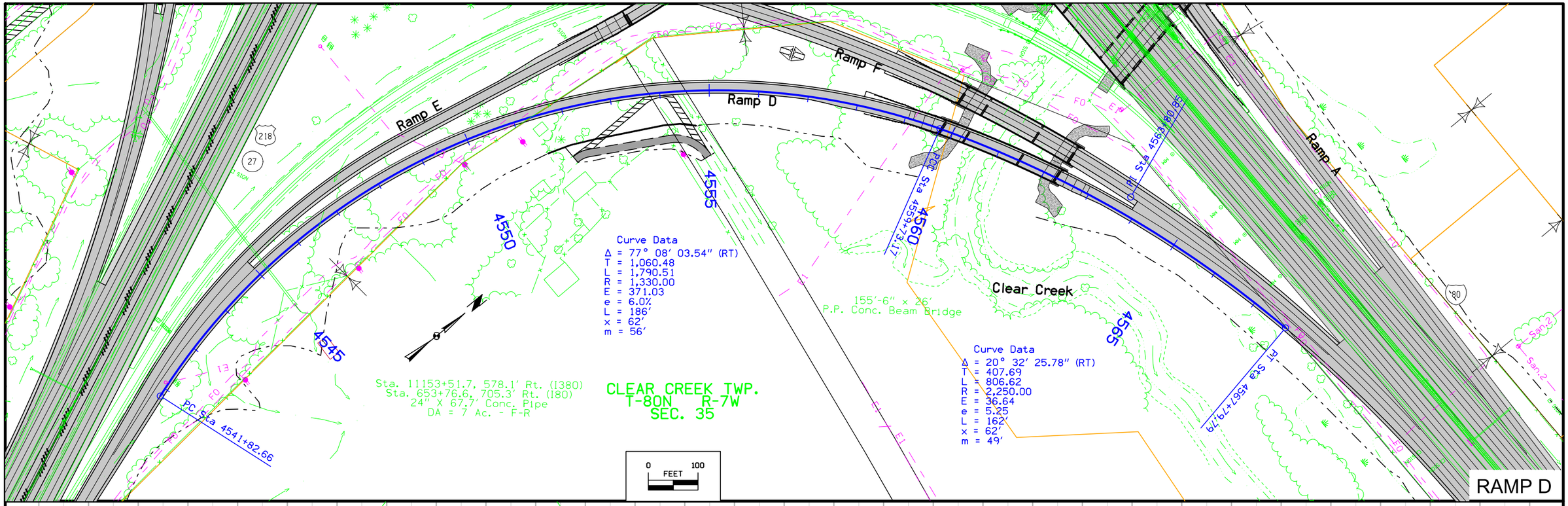

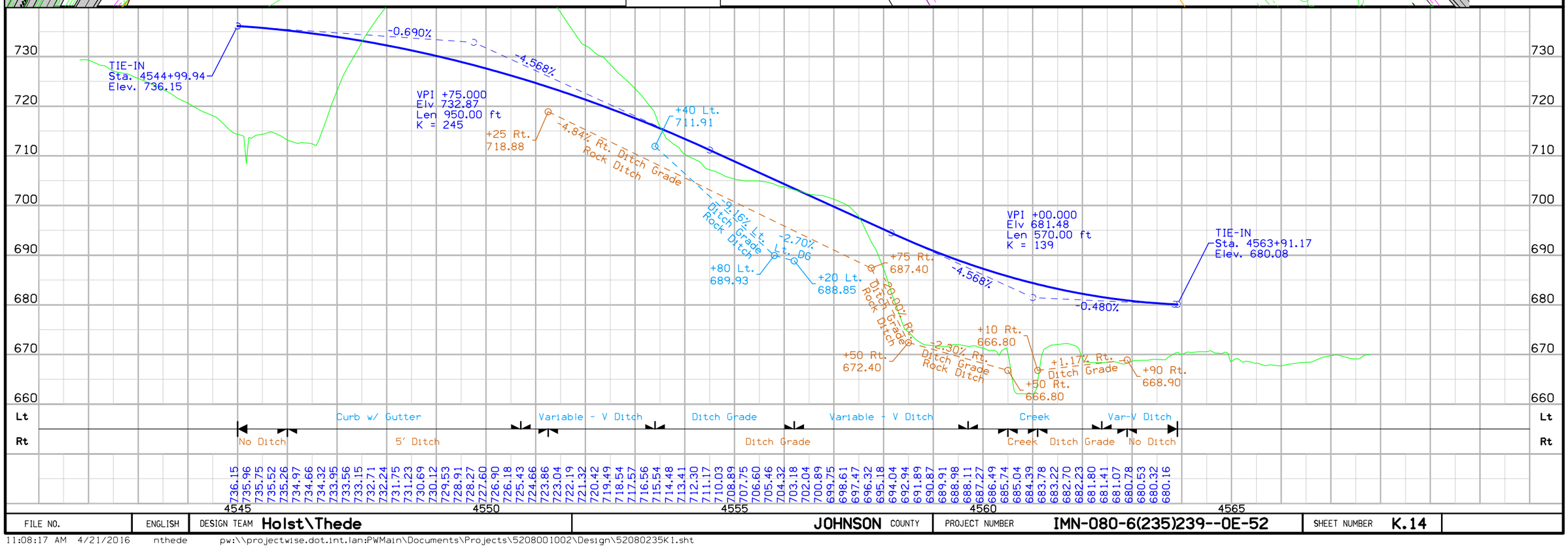

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.14

11:08:17 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\52080010O2\Design\52080235K1.sht

CLEAR CREEK TWP.
T-8ON R-7W
SEC. 34

Curve Data
Δ = 21° 13′ 27.84″ (LT)
T = 562.10
L = 1,111.31
R = 3,000.00
E = 52.20
e = 4.4%
L = 137′
x = 62′
m = 41′
D.S. = 60 mph

40' ACCESS EASEMENT

Jasper Ave.

PC Sta 5519+00.00

PC Sta 5522+75.00

PT Sta 5533+86.31

PI Sta 5528+37.10

5520

5525

5530

5535

5540

Ramp C

Ramp E

Ramp F

Ramp G

Ramp B

340th Ave.

Jasper Ave.

340th Ave.

City of Tiffin

Foundation

80

218

27

0 FEET 100

RAMP E

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.15

11:08:21 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht



FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.16

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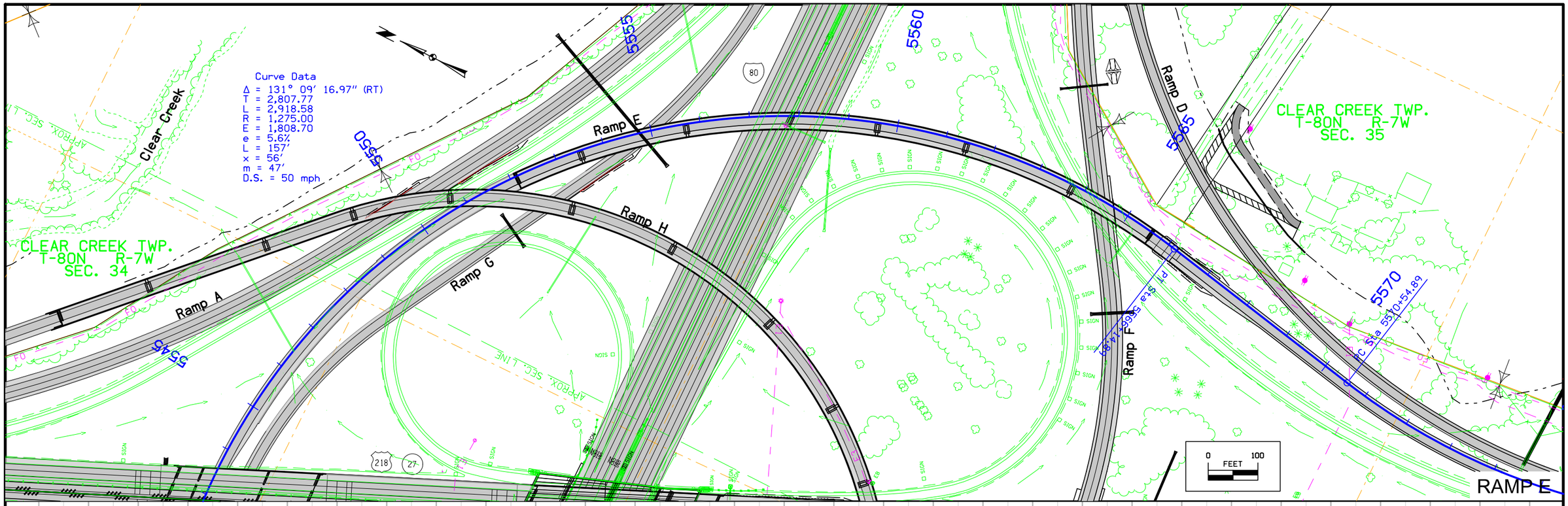

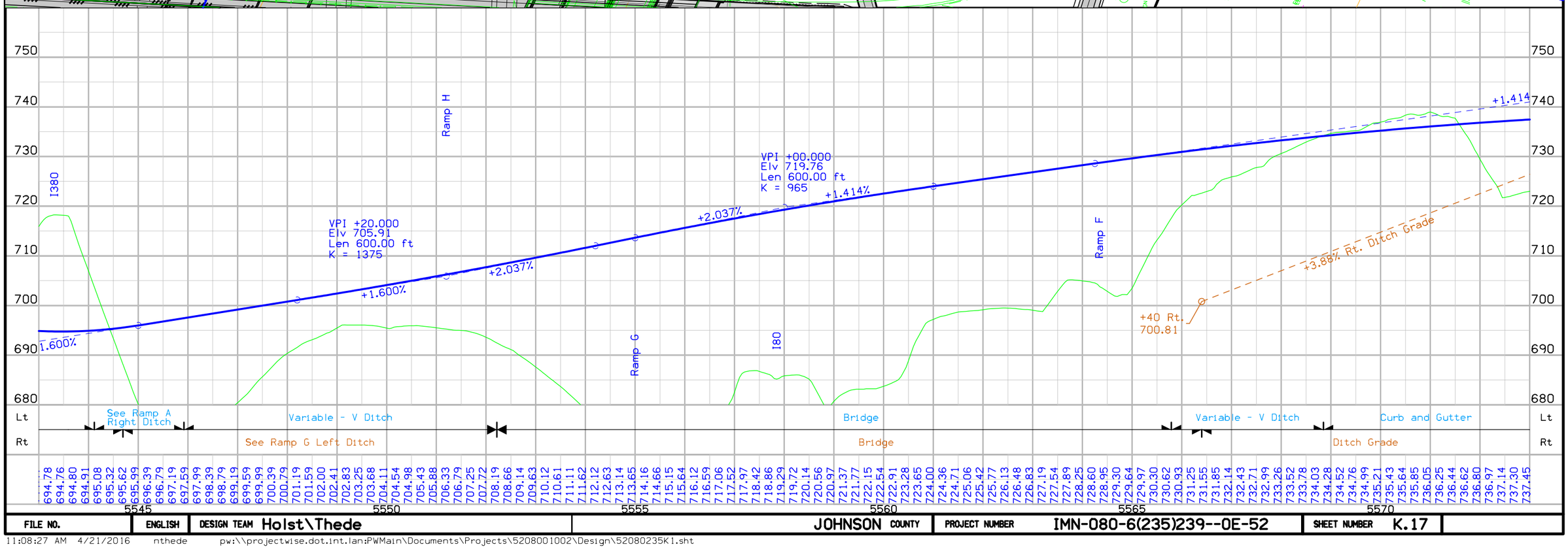

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.17

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

CLEAR CREEK TWP.
T-79N R-7W
SEC. 2

Curve Data
Δ = 31° 53′ 13.98″ (LT)
T = 379.96
L = 740.19
R = 1,330.00
E = 53.21
e = 6.0%
L = 186′
x = 62′
m = 56′
D.S. = 60 mph

5575
5580
5585
5590

PT Sta 5577+95.08

POT Sta 5591+95.08

Ramp E

218
27

0 FEET 100

RAMP E

770
760
750
740
730
720
710
700

VPI +00.000
Elv 742.39
Len 1,950.00 ft
K = 1087

-0.380%

TIE-IN
Sta. 5583+94.48
Elev. 738.61

+3.86% Rt. DG

+00 Rt.
734.18

+50 Lt.
733.92

-0.50% Lt. Ditch Grade

+30 Lt.
732.52

Lt	C & G	No Ditch	5′ Ditch	No Ditch
Rt	Ditch Grade	Variable - V Ditch		

737.60 737.75 737.89 738.02 738.14 738.26 738.38 738.49 738.59 738.69 738.78 738.87 738.95 739.02 739.09 739.16 739.21 739.26 739.31 739.35 739.38 739.41 739.44 739.45 739.46 739.47 739.47 739.46 739.45 739.44 739.41 739.38 739.35 739.31 739.26 739.21 739.15 739.09 739.02 738.95 738.87 738.78 738.69

5575 5580 5585 5590

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.18

11:08:30 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 27

CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

APPROX. SEC. LINE

Iowa Interstate Railroad

Clear Creek

Ramp H

Ramp A

Ramp F

Ramp C

City of Coralville

City of Tiffin

POL Sta 6502+50.06

48" x 76.20' C.M.P.

Sta. 1117+97.5, 147.3' Lt. (I380)
Sta. 638+47.7, 1092.5' Lt. (I80)
42" x 68.9' Conc. Pipe
DA = 27 Ac. - F-R

380 218 27

6505 6510 6515 6520 6525

0 100
FEET

RAMP F

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.19

11:08:33 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht



FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.20

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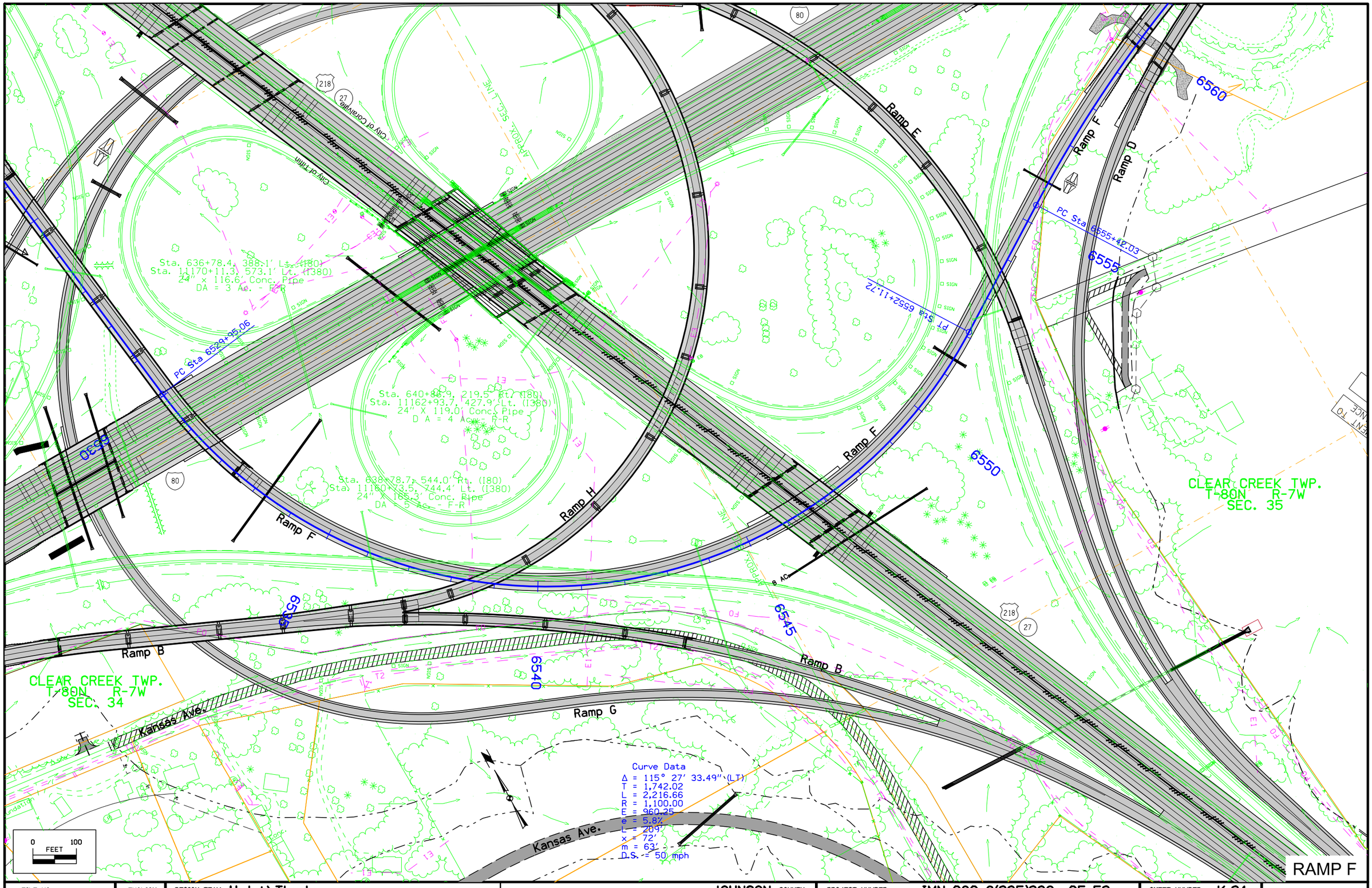


FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.21

11:08:39 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht

VPI +75.000
Elv 776.14
Len 1,110.00 ft
K = 141

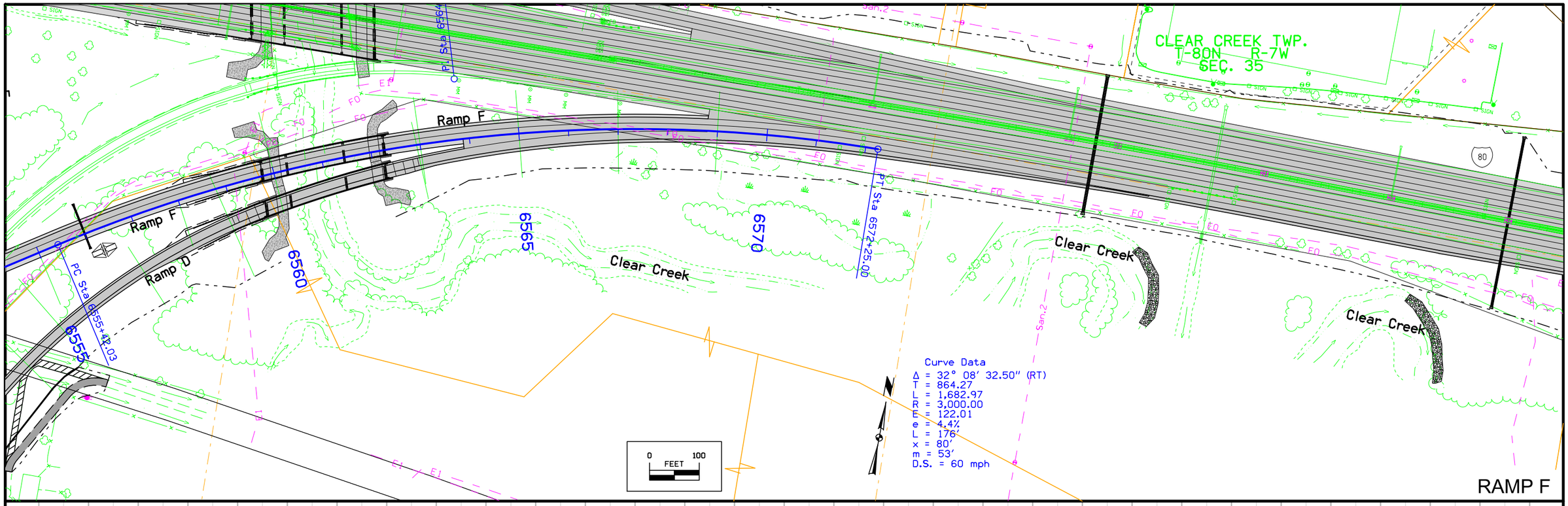
+4.000%
-3.862%
+4.000%

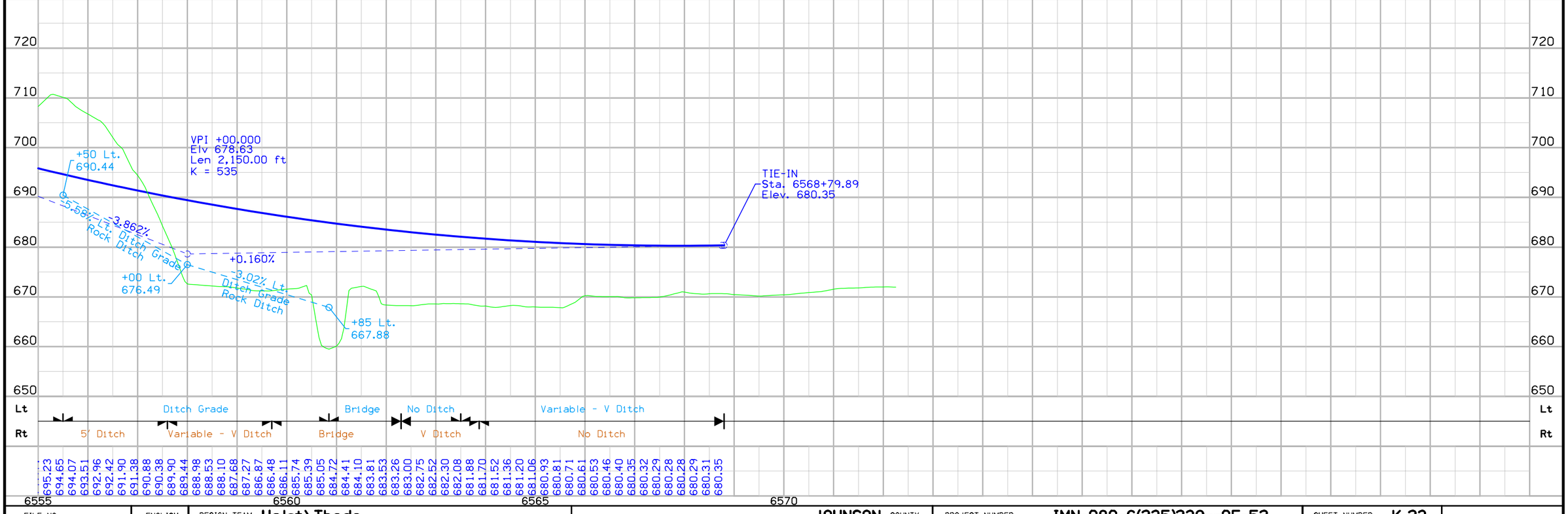
Ramp H
I80
I380
Ramp G
Ramp E

-0.40% Rt.
Ditch Grade
+50 Rt.
734.48
+30 Rt.
733.76
+2.32% Rt. Ditch Grade
+00 Rt.
747.00
+3.25% Lt. Ditch Grade
+00 Lt.
737.89
+20 Lt.
712.54

RAMP F

| | | |





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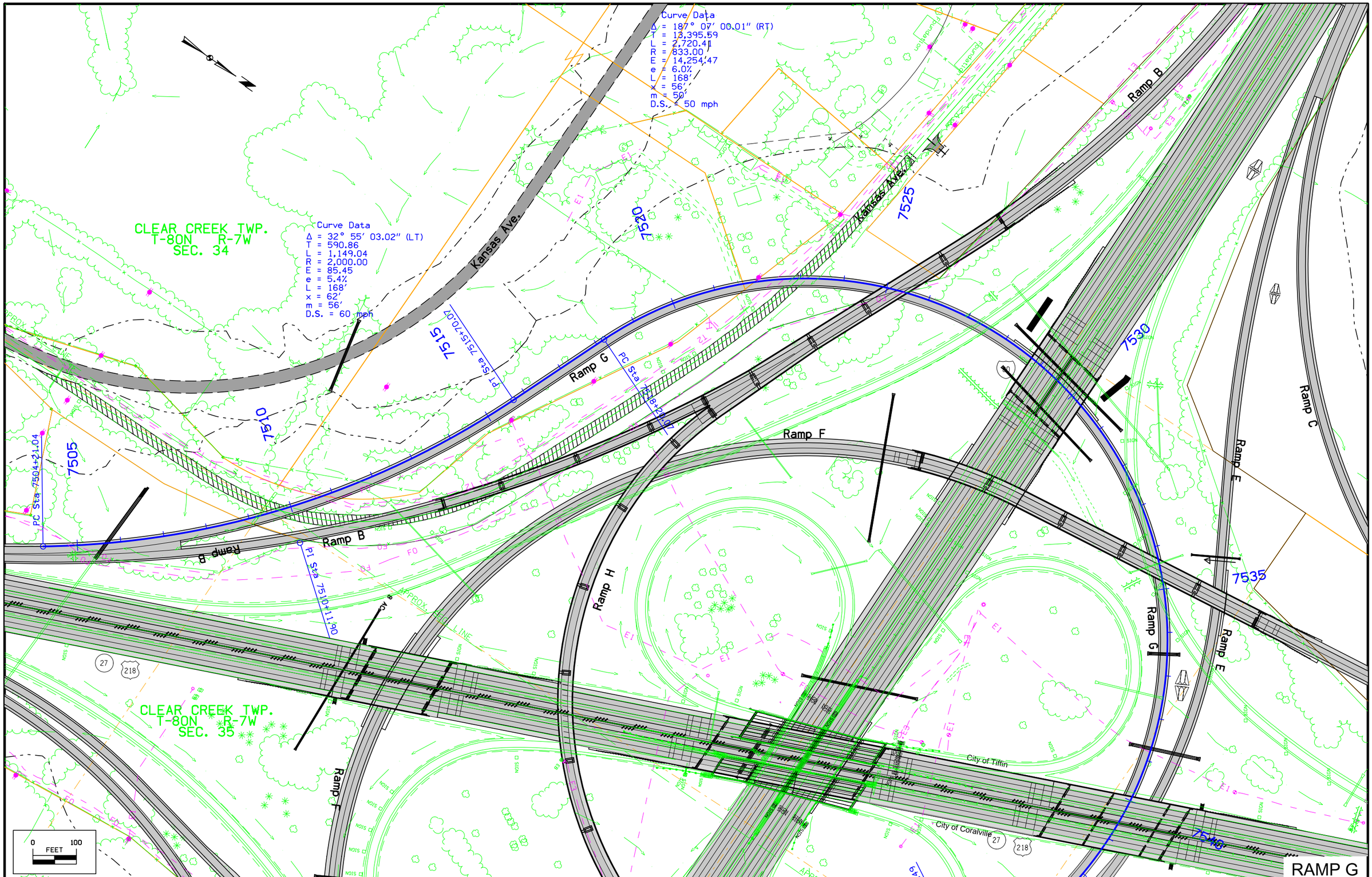

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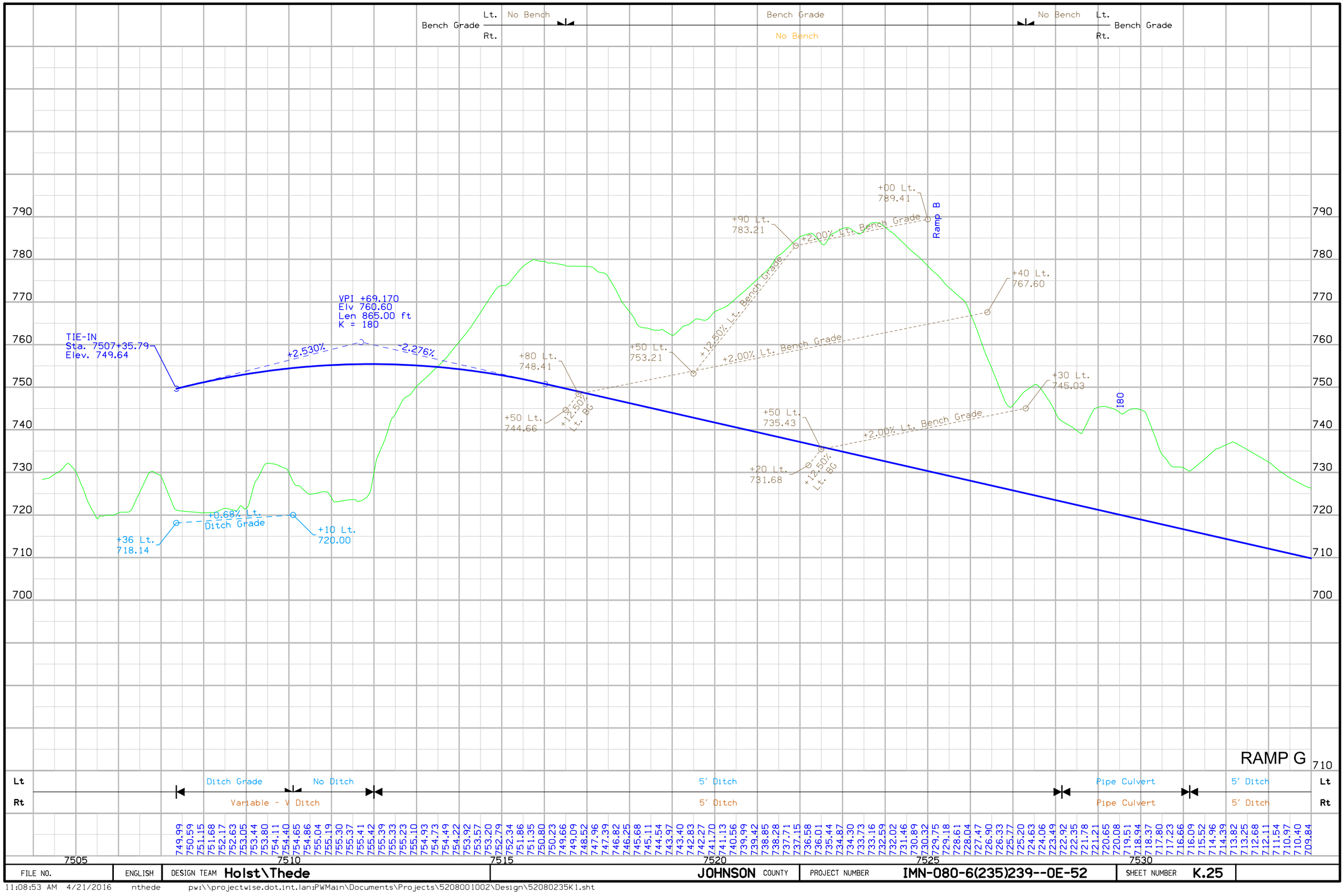


FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.25

CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

Clear Creek

Curve Data
Δ = 27° 00′ 00.00″ (LT)
T = 254.48
L = 499.51
R = 1,060.00
E = 30.12
e = 5.8%
L = 162′
x = 56′
m = 49′
D.S. = 50 mph

7540
7545
7550
7555
7560

Ramp A
Ramp E
Ramp G
Ramp H
Ramp F
Ramp D

PC Sta 7550+90.49
PT Sta 7555+90.00
PI Sta 7545+40.49
PI Sta 7562+75.00

Sta. 11169+84.7, 307.9 Lt. (I380)
Sta. 639+33.5, 484.9' Lt. (I80)
42" x 143.7' Conc. Pipe
DA = 23 Ac. - F-R

APPROX. SEC. LINE

218
27
80

0 FEET 100

RAMP G

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.26

11:08:56 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht

Ramp F

I380

Ramp H

Ramp E

VPI +50.000
Elv 679.11
Len 1,000.00 ft
K = 268

VPI +32.620
Elv 691.92
Len 425.00 ft
K = 138

TIE-IN
Sta. 7558+45.12
Elev. 688.48

+00 Rt.
678.93

+30 Rt.
670.83

+90 Rt.
670.00

-2.276%

+1.451%

-2.45% Rt.
Ditch Grade Rt. DG

-1.38%

+1.451%

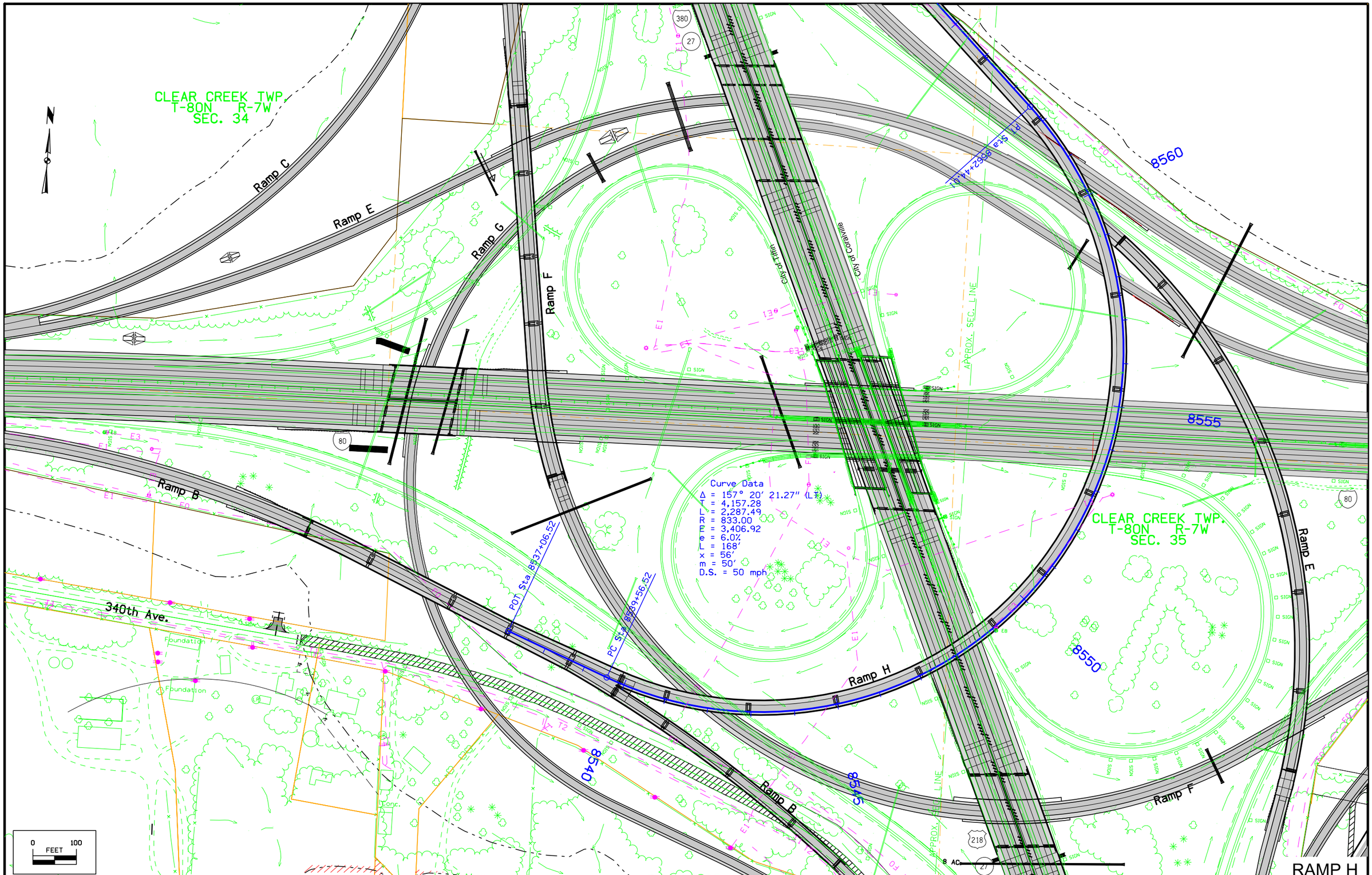
-1.620%

750
740
730
720
710
700
690
680
670
660

RAMP G

Lt	5' Ditch	Variable - V Ditch	Curb and Gutter	5' Ditch	Variable - V Ditch
Rt	5' Ditch	Variable - V Ditch	5' Ditch	Ditch Grade	Variable - V Ditch

| | | | | |



FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.28

11:09:03 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht

TIE-IN
Sta. 8540+22.01
Elev. 783.46

-0.740%

-4.041%

VPI +50.000
Elv 776.59
Len 500.00 ft
K = 151

Ramp F

I380

I80

RAMP H

780 770 760 750 740 730 720 710 700 690 680

Lt
Rt

Bridge
Bridge

783.44 783.25 783.07 782.88 782.70 782.51 782.33 782.14 781.96 781.77 781.59 781.40 781.22 781.03 780.85 780.66 780.48 780.29 780.11 779.92 779.74 779.55 779.37 779.18 779.00 778.81 778.63 778.44 778.24 777.99 777.70 777.37 777.00 776.59 776.14 775.64 775.11 774.53 773.91 773.25 772.55 771.81 771.03 770.20 769.33 768.43 767.48 766.49 765.48 764.47 763.46 762.45 761.44 760.43 759.42 758.41 757.40 756.39 755.38 754.37

8540 8545 8550 8555

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.29

11:09:06 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht

City of Tiffin

City of Coralville

Ramp C

Ramp F

Ramp A

Ramp H

Ramp H

PC Sta 8562+44.01

PC Sta 8571+33.34

PT Sta 8575+07.84

PT Sta 8578+73.96

8560

8565

8570

8575

Clear Creek

APPROX. SEC. LINE

APPROX. SEC. LINE

APPROX. SEC. LINE

CLEAR CREEK TWP.
T-80N R-7W
SEC. 34

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

CLEAR CREEK TWP.
T-80N R-7W
SEC. 27

Curve Data
Δ = 21° 13' 01.53" (RT)
T = 374.60
L = 740.62
R = 2,000.00'
E = 34.78
e = 5.4%
L = 168'
x = 62'
m = 50'
D.S. = 60 mph

0 100
FEET

RAMP H

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.30

11:09:10 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht

770
760
750
740
730
720
710
700
690
680
670
660

730
720
710
700
690
680
670
660

I80
Ramp 6
Ramp E
Ramp A

VPI +48.000
Elv 695.85
Len 1,350.00 ft
K = 484

-4.041%
-1.250%

TIE-IN
Sta. 8576+24.66
Elev. 687.39

RAMP H

Lt	Bridge	Variable - V Ditch
Rt	Bridge	No Ditch

761.44 760.43 759.42 758.41 757.40 756.39 755.38 754.37 753.36 752.35 751.33 750.32 749.31 748.30 747.29 746.28 745.27 744.26 743.25 742.24 741.23 740.22 739.21 738.20 737.19 736.18 735.17 734.16 733.15 732.14 731.13 730.12 729.11 728.10 727.09 726.08 725.07 724.06 723.05 722.04 721.05 720.08 719.11 718.16 717.22 716.30 715.39 714.49 713.60 712.73 711.87 711.02 710.18 709.36 708.55 707.76 706.97 706.20 705.44 704.70 703.97 703.25 702.54 701.85 701.17 700.51 699.85 699.21 698.58 697.97 697.37 696.78 696.20 695.64 695.09 694.55 694.02 693.51 693.01 692.53 692.05 691.59 691.15 690.71 690.29 689.88 689.49 689.10 688.74 688.38 688.03 687.70

8555 8560 8565 8570 8575

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.31

11:09:13 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht

T-80N R-7W
SEC. 36

CLEAR CREEK TWP.
T-80N R-7W
SEC. 36

Curve Data
Δ = 4° 05′ 55.57″ (LT)
T = 125.24
L = 250.38
R = 3,500.00
E = 2.24

Curve Data
Δ = 6° 18′ 14.23″ (LT)
T = 110.14
L = 220.05
R = 2,000.00
E = 3.03
e = 5.4%
L = 168′
x = 62′
m = 50′

POT Sta 708+50.00 73′ Lt =
PC Sta 5508+55.71

POT Sta 707+20.74

5510

PCC Sta 5511+06.09

PT Sta 5513+26.14

5515

5520

5525

POT Sta 5526+05.55

965

80

CURVE 43002

CURVE 43003

16′

Ramp C

607.59′

10°24′9.8″

PI Sta 5509+80.96

PI Sta 5512+16.05

PI Sta 2512+72.09

PI Sta 2513+05.62

576.02′

POT Sta 2710+89.20

13′ 13′ 48′

48′

35°40′16.97″

720′ Taper 20:1 Ratio

POT Sta 2501+12.47

POT Sta 708+33.07 109.03′ Rt =
PC Sta 2508+33.97

2505

PC Sta 2508+81.53

2510

CURVE 42003

Ramp B

24′

Curve Data
Δ = 32° 48′ 32.32″ (RT)
T = 391.55
L = 761.59
R = 1,330.00
E = 56.44
e = 6.0%
L = 230′
x = 77′
m = 69′

2515

PI Sta 2516+43.12

PC Sta 2520+28.34

CURVE 42005

PT Sta 2525+51.30

965

2520

Curve Data
Δ = 36° 36′ 26.45″ (LT)
T = 270.75
L = 522.96
R = 818.51
E = 43.62

PI Sta 2522+99.10

2525

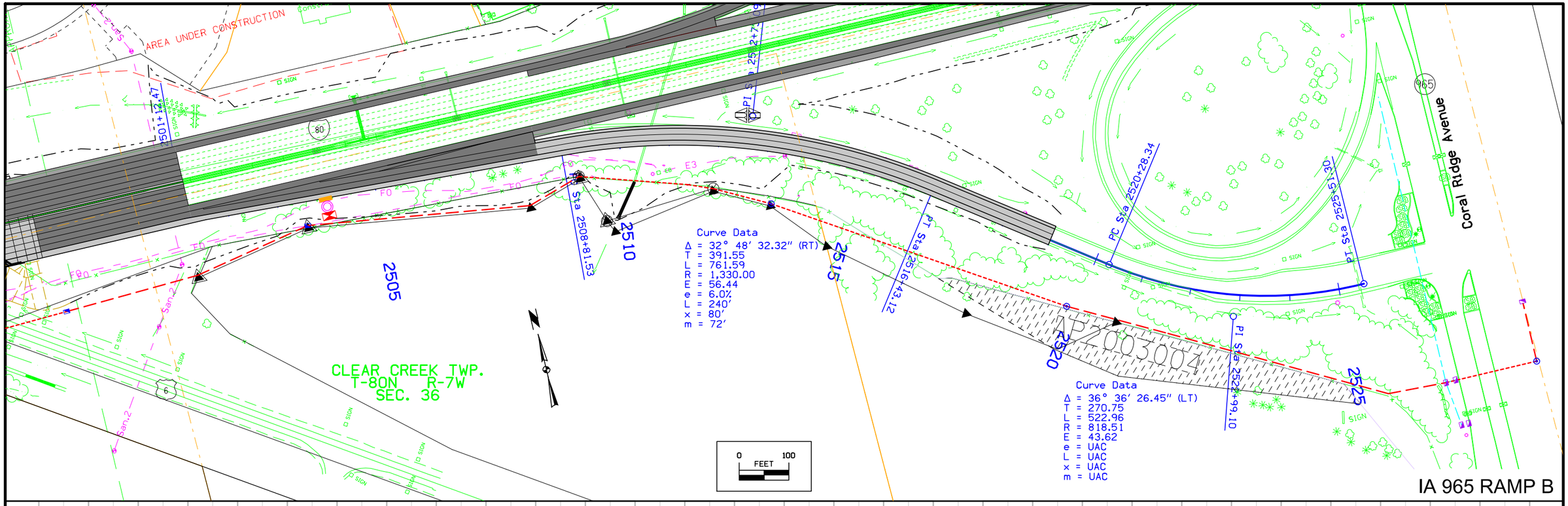
Extend 3′x3′x352′ RCB
with 42″ x 84′ RCP
Lt. 720.00
F.L. = Rt. 692.50
Other 718.39
Other 692.5

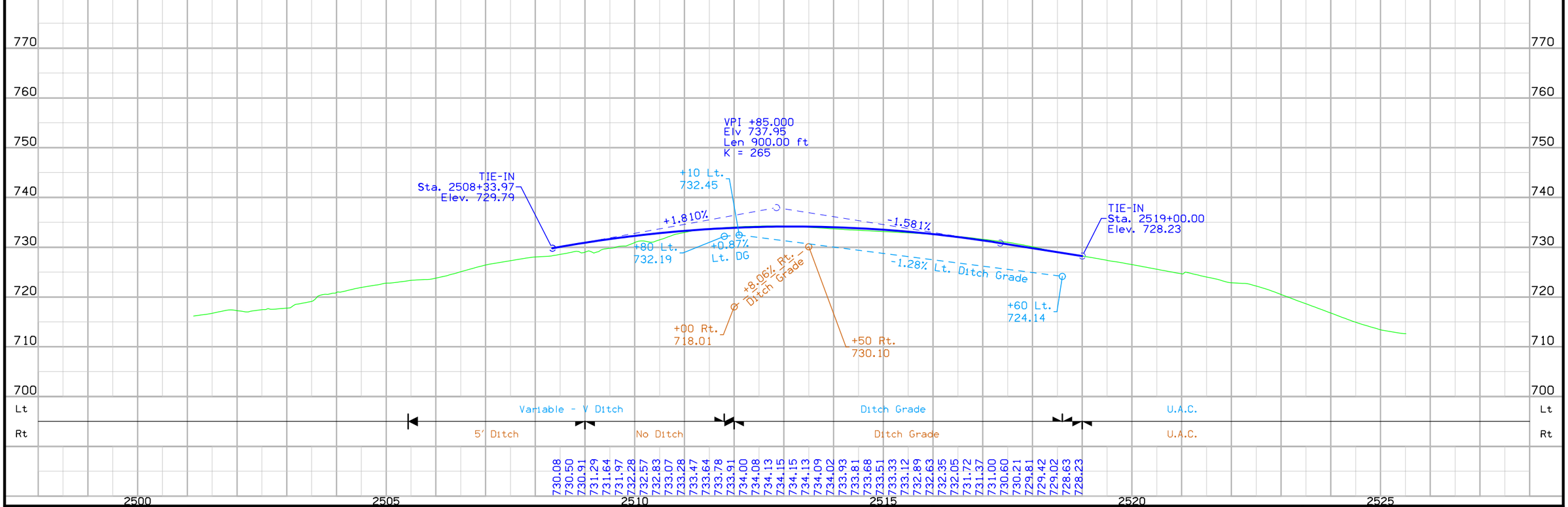
0 100
FEET

Geometric Plan
Interstate 80 with IA 965
Johnson County

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.32

11:09:15 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht





FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.33

5:39:16 PM 12/7/2017 dtamrak pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\SS2_Files_NotUpdated\52080235K1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 36

Curve Data
Δ = 4° 05′ 55.57″ (LT)
T = 125.24
L = 250.38
R = 3,500.00
E = 2.24

Curve Data
Δ = 6° 18′ 14.23″ (LT)
T = 110.14
L = 220.05
R = 2,000.00
E = 3.03
e = 5.4%
L = 168′
x = 62′
m = 50′

DER CONSTRUCTION
Building Under Construction

PC Sta 5508+55.71
PCC Sta 5511+06.09
PT Sta 5513+26.14
PI Sta 5509+80.96
PI Sta 5511+16.27
POT Sta 5526+05.55

5510
5515
5520
5525

Coral Ridge Avenue

965
80

0 100
FEET

IA 965 RAMP C

TIE-IN
Sta. 5512+46.12
Elev. 736.47

VPI +44.000
Elv 737.01
Len 110.00 ft
K = 86

TIE-IN
Sta. 5514+00.00
Elev. 736.60

+0.550%
-0.729%

+3.35% Lt. Ditch Grade
+46 Lt.
721.50
+00 Lt.
726.65

770
760
750
740
730
720
710
700

Lt
Rt

Ditch Grade
Var - V Ditch
U.A.C.
U.A.C.

736.49
736.63
736.76
736.83
736.82
736.75
736.60

5510
5515
5520
5525

FILE NO.	ENGLISH	DESIGN TEAM Holst\Thede	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER K.34

11:09:21 AM 4/21/2016 nthede pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235K1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

Ramp D

Barn Entrance

POT Sta 20+00.00

PI Sta 20+47.42

PI Sta 20+95.42

PI Sta 21+43.42

PI Sta 22+87.42

PI Sta 23+19.42

PI Sta 23+51.42

POT Sta 23+98.60

20

21

22

23

STA. 20+47.42
BEGIN CONSTRUCTION
BEGIN WALL

STA. 23+51.42
END CONSTRUCTION
END WALL

0 20
FEET

VIEW BLOCK WALL

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.1

7:54:32 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 33

569 570 571 572 573 574 575

Constant 2.00% Slope	2.00% 9.4'	Constant 2.00% Slope		2.00% 12.0'	Constant 2.00% Slope	
Constant 2.00% Slope	2.00% 12.0'	Uniform Transition	0.00% 12.0'	Uniform Transition	2.00% 12.0'	Constant 2.00% Slope
Constant 2.00% Slope	2.00% 12.0'	Constant 2.00% Slope		2.00% 12.0' Uniform Trans.	2.50% 12.0'	Constant 2.50% Slope
Constant 3.00% Slope	3.00% 12.0'	Constant 3.00% Slope			3.00% 12.0'	Constant 3.00% Slope
Constant 3.00% Slope	3.00% 12.0'	Constant 3.00% Slope			3.00% 12.0'	Constant 3.00% Slope
Constant 2.00% Slope	2.00% 12.0'	Constant 2.00% Slope		2.00% 12.0' Uniform Trans.	2.50% 12.0'	Constant 2.50% Slope
Constant 2.00% Slope	2.00% 12.0'	Uniform Transition	0.00% 12.0'	Uniform Transition	2.00% 12.0'	Constant 2.00% Slope
		Constant 2.00% Slope			2.00% 12.0'	Constant 2.00% Slope

2.0% 2.0'

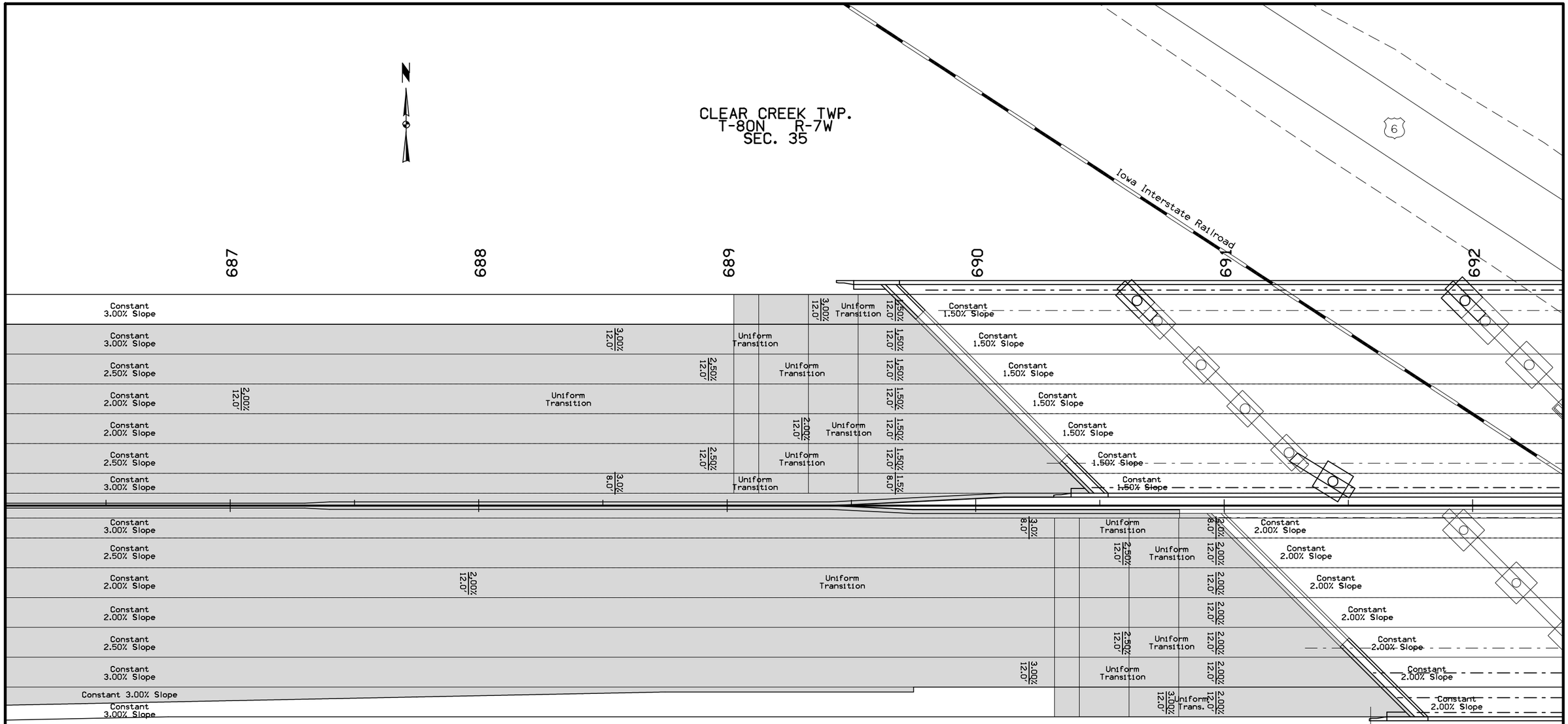
0 20
FEET

Staking Details
I80
Sta. 571+00 to Sta. 573+00

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER L.1

10:48:09 AM 3/20/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235L1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35



0 20
FEET

Staking Details
I80
Sta. 687+04.44 to Sta. 690+96.71

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER L.2

10:48:13 AM 3/20/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235L1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 35

695 696 697 698 699 700 701

Constant 1.50% Slope | 1.50% 12.0' | Uniform Transition | 4.00% 12.0' | Constant 4.00% Slope

Constant 1.50% Slope | 1.50% 12.0' | Uniform Transition | 3.00% 12.0' | Constant 3.00% Slope

Constant 1.50% Slope | 1.50% 12.0' | Uniform Transition | 3.00% 12.0' | Constant 3.00% Slope

Constant 1.50% Slope | 1.50% 12.0' | Uniform Transition | 2.00% 12.0' | Constant 2.00% Slope

Constant 1.50% Slope | 1.50% 12.0' | Uniform Transition | 2.00% 12.0' | Constant 2.00% Slope

Constant 1.50% Slope | 1.50% 12.0' | Uniform Transition | 3.00% 12.0' | Constant 3.00% Slope

Constant 1.50% Slope | 1.5% 8.0' | Uniform Transition | 3.0% 8.0' | Constant 3.00% Slope

Constant 2.00% Slope | 2.0% 8.0' | Uniform Transition | 3.0% 8.0' | Constant 3.00% Slope

Constant 2.00% Slope | 2.00% 12.0' | Uniform Transition | 3.00% 12.0' | Constant 3.00% Slope

Constant 2.00% Slope | 2.00% 12.0' | Uniform Transition | 2.00% 12.0' | Constant 2.00% Slope

Constant 2.00% Slope | 2.00% 12.0' | Constant 2.00% Slope

Constant 2.00% Slope | 2.00% 12.0' | Uniform Transition | 3.00% 12.0' | Constant 3.00% Slope

Constant 2.00% Slope | 2.00% 12.0' | Uniform Transition | 3.00% 12.0' | Constant 3.00% Slope

Constant 2.00% Slope | 2.00% 12.0' | Uniform Transition | 4.00% 12.0' | Constant 4.00% Slope

6

Iowa Interstate Railroad

0 20
FEET

Staking Details
I80
Sta. 696+13.20 to Sta. 700+51.08

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER L.3

10:48:17 AM 3/20/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235L1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 27

POT Sta 1199+34.67

PT Sta 1197+51.50

Iowa Interstate Railroad

1196	F	T	1197	A	S	1198	E	D	1199	1200	1201
Constant 4.00% Slope	4.0% 10.0'		Constant 4.00% Slope	4.0% 10.0'							
Constant 3.64% Slope	3.64% 12.0'		Constant 3.64% Slope	3.64% 12.0'	Uniform Transition	3.00% 12.0'	Uniform Transition	2.50% 12.0'	Uniform Transition	2.00% 12.0'	Constant 2.00% Slope	2.00% 12.0'
Constant 3.64% Slope	3.64% 12.0'		Constant 3.64% Slope	3.64% 12.0'	Uniform Transition	3.00% 12.0'	Uniform Transition	2.50% 12.0'	Uniform Transition	2.00% 12.0'	Constant 2.00% Slope	2.00% 12.0'
Constant 5.20% Slope	5.20% 12.0'		Uniform Transition	3.64% 12.0'	Uniform Transition	3.00% 12.0'	Uniform Transition	2.50% 12.0'	Uniform Transition	2.00% 12.0'	Constant 2.00% Slope	2.00% 12.0'
Constant 5.20% Slope	5.20% 12.0'		Uniform Transition	3.64% 12.0'	Uniform Transition	3.00% 12.0'	Uniform Transition	2.50% 12.0'	Uniform Transition	2.00% 12.0'	Constant 2.00% Slope	2.00% 12.0'
Constant 5.20% Slope	5.20% 12.0'		Uniform Transition	3.64% 12.0'	Uniform Transition	3.00% 12.0'	Uniform Transition	2.50% 12.0'	Uniform Transition	2.00% 12.0'	Constant 2.00% Slope	2.00% 12.0'
Constant 5.20% Slope	5.20% 12.0'		Uniform Transition	3.64% 12.0'	Uniform Transition	3.00% 12.0'	Constant 3.0% Slope			3.00% 12.0'	Constant 3.00% Slope	3.00% 12.0'
Constant 5.20% Slope	2.80% 12.0'		Uniform Transition	3.00% 12.0'	Constant 3.0% Slope					3.00% 12.0'	Constant 3.00% Slope	3.00% 12.0'
Constant 5.20% Slope	5.20% 12.0'		Uniform Transition	3.64% 12.0'	Uniform Transition	3.00% 12.0'	Uniform Transition	2.50% 12.0'	Uniform Transition	2.00% 12.0'	Constant 2.00% Slope	2.00% 12.0'
Constant 5.20% Slope	5.20% 12.0'		Uniform Transition	3.64% 12.0'	Uniform Transition	3.00% 12.0'	Uniform Transition	2.50% 12.0'	Uniform Transition	2.00% 12.0'	Constant 2.00% Slope	2.00% 12.0'
Constant 5.20% Slope	5.20% 12.0'		Uniform Transition	3.64% 12.0'	Uniform Transition	3.00% 12.0'	Uniform Transition	2.50% 12.0'	Uniform Transition	2.50% 12.0'	Constant 2.50% Slope	2.50% 12.0'
Constant 5.20% Slope	5.20% 12.0'		Uniform Transition	3.64% 12.0'	Uniform Transition	3.00% 12.0'	Constant 3.0% Slope			3.00% 12.0'	Constant 3.00% Slope	3.00% 12.0'
Constant 5.20% Slope	5.20% 12.0'		Uniform Transition	3.64% 12.0'	Uniform Transition	3.00% 12.0'	Constant 3.0% Slope			3.00% 12.0'	Constant 3.00% Slope	3.00% 12.0'
Constant 5.20% Slope	5.20% 12.0'		Uniform Transition	4.0% 6.0'	Constant 4.00% Slope					4.0% 6.0'		

Curve Data
Δ = 22° 38′ 40.61″ (RT)
T = 655.54
L = 1,293.98
R = 3,274.04
E = 64.98
e = 5.2%
L = 312′
x = 150′
m = 94′

Notes:
1. Points (A) (B) (C) (D) (E) (F) are superelevation transition points.
2. Points [A] [S] [T] are shoulder crown break points.

0 FEET 20

Staking Details
I380
Curve at Sta. 1191+13.06

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER L.4

10:48:21 AM 3/20/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235L1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 27

1202 1203 1204 1205 1206 1207

Constant 2.00% Slope
Constant 2.00% Slope
Constant 2.00% Slope
Constant 2.00% Slope
Constant 3.00% Slope
Constant 3.00% Slope
Constant 2.00% Slope
Constant 2.00% Slope
Constant 2.50% Slope
Constant 3.00% Slope
Constant 3.00% Slope

2.00% 12.0'
2.00% 12.0'
2.00% 12.0'
2.00% 12.0'
3.00% 12.0'
3.00% 12.0'
2.00% 12.0'
2.00% 12.0'
2.50% 12.0'
3.00% 12.0'
Constant 3.00% Slope
3.0% 6.0'

Constant 2.00% Slope
Constant 2.00% Slope
Constant 2.00% Slope
Constant 2.00% Slope
Constant 3.00% Slope
Constant 3.00% Slope
Constant 2.00% Slope
Constant 2.00% Slope
Constant 2.50% Slope
Constant 3.00% Slope
3.0% 2.0'

POT Sta 1205+82.07

Notes:
1. Points (A) (B) (C) (D) (E) (F) are superelevation transition points.
2. Points [A] [S] [T] are shoulder crown break points.

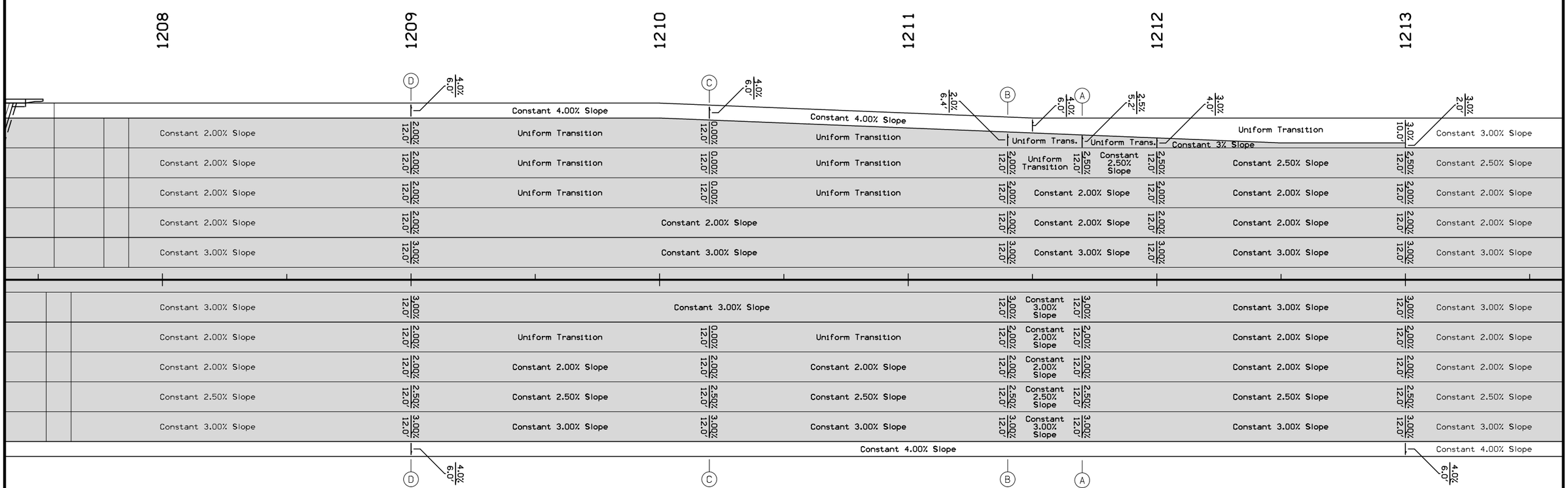
0 20
FEET

Staking Details
I380
Curve at Sta. 1191+13.06

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER L.5

10:48:26 AM 3/20/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235L1.sht

CLEAR CREEK TWP.
T-80N R-7W
SEC. 27



Notes:

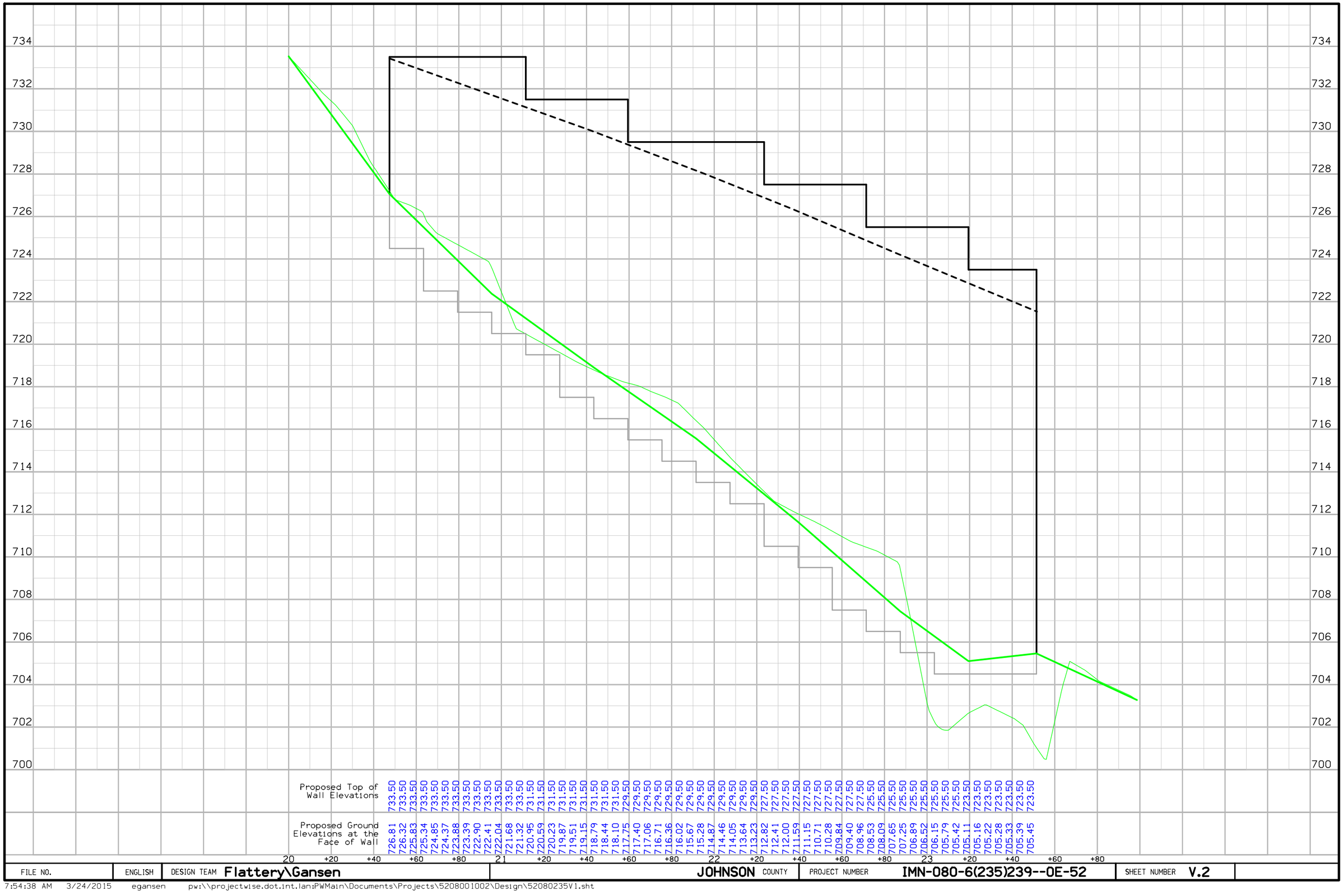
1. Points (A) (B) (C) (D) (E) (F) are superelevation transition points.
2. Points [A] [S] [T] are shoulder crown break points.

0 20
FEET

Staking Details
I380
Curve at Sta. 1191+13.06

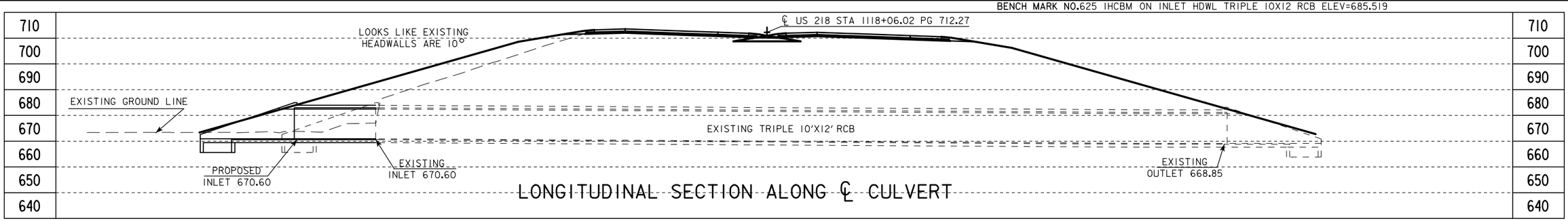
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER L.6

10:48:29 AM 3/20/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235L1.sht


734
732
730
728
726
724
722
720
718
716
714
712
710
708
706
704
702
700

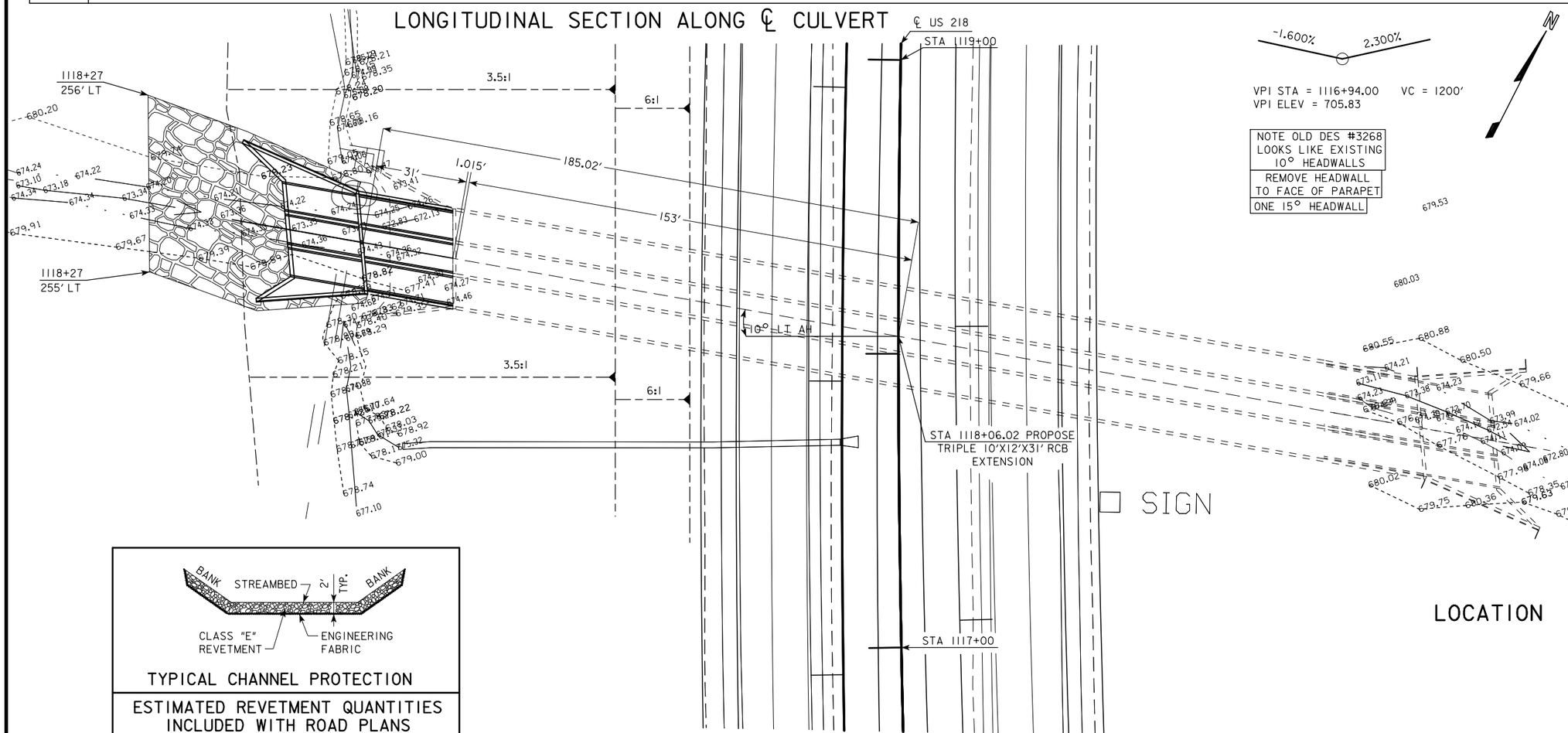
| | | |

BENCH MARK NO.625 IHCBM ON INLET HDWL TRIPLE 10X12 RCB ELEV=685.519



LONGITUDINAL SECTION ALONG ℄ CULVERT

LONGITUDINAL SECTION ALONG ℄ CULVERT



PROPOSED PROFILE GRADE US 218

HYDRAULIC DATA

DRAINAGE AREA = 9 SQ MILES R

UTILITIES LEGEND:

NO KNOWN UTILITIES

T-79N R-7W
SECTION 2
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
LATITUDE 41.682823°
LONGITUDE -91.631829°

0 ENGLISH 40
SCALE IN FEET

TYPICAL CHANNEL PROTECTION

ESTIMATED REVETMENT QUANTITIES INCLUDED WITH ROAD PLANS

LOCATION	REVETMENT CL. "E" (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
LEFT	400	475	250

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.
QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.

SITUATION PLAN

LOCATION

TRAFFIC ESTIMATE

200_ AADT	18,200	V.P.D.
202_ AADT	84,700	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	-	%
TOTAL DESIGN ESALs	-	

PRELIMINARY

DESIGN FOR 10° SKEW LT AH

TRIPLE 10' X 12' REINFORCED CONCRETE BOX CULVERT EXTENSION SITUATION PLAN

STATION 1118+06.02 ?

JOHNSON COUNTY

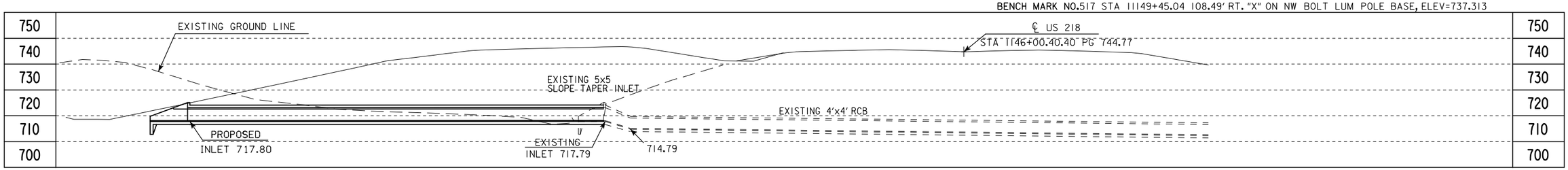
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. ____ OF ____ FILE NO. 30864 DESIGN NO. 0520

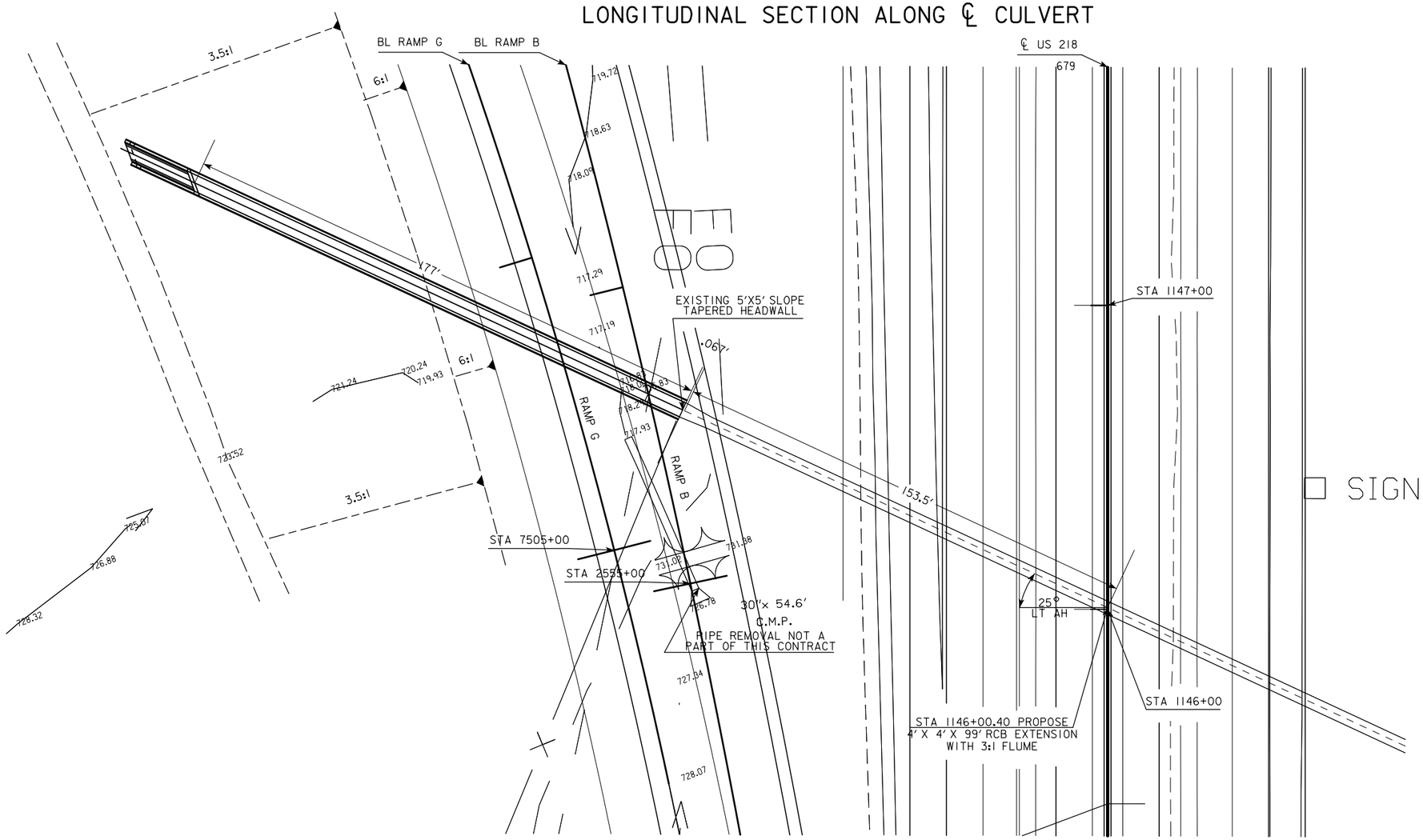
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.3

7:56:53 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

BENCH MARK NO.517 STA 11149+45.04 108.49' RT. "X" ON NW BOLT LUM POLE BASE, ELEV=737.313



LONGITUDINAL SECTION ALONG ℄ CULVERT



SITUATION PLAN

+0.500%

PROPOSED PROFILE
GRADE US 218

N

0 ENGLISH 40
SCALE IN FEET

HYDRAULIC DATA

DRAINAGE AREA = 73 ACRES F-R

UTILITIES LEGEND:

ALLIANT ENERGY
LINN CO REC
STATE OF IOWA (ICN)

LOCATION

T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
LATITUDE 41.689896°
LONGITUDE -91.635781°

TRAFFIC ESTIMATE

200_ AADT	18,200	V.P.D.
202_ AADT	84,700	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	-	%
TOTAL DESIGN ESALs	-	

PRELIMINARY

DESIGN FOR 25° SKEW LT AH

5' X 5' REINFORCED CONCRETE BOX CULVERT EXTENSION

SITUATION PLAN

STATION 1146+00.40 ?

JOHNSON COUNTY

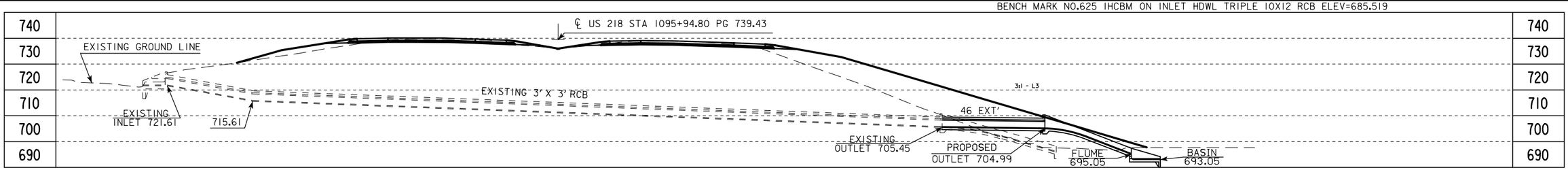
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. ___ OF ___ FILE NO. 30864 DESIGN NO. 0620

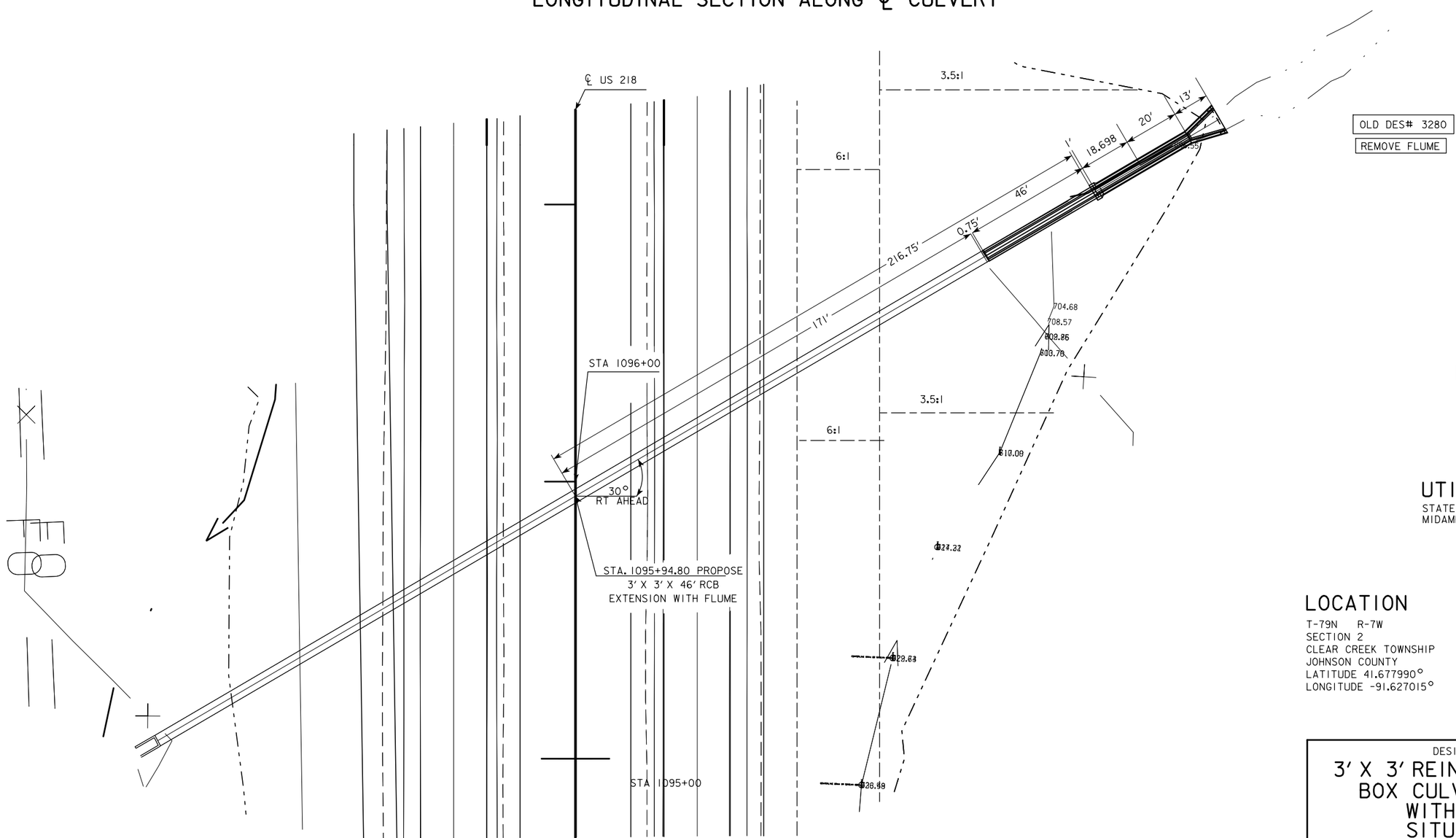
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.4

7:56:57 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

BENCH MARK NO.625 IHCBM ON INLET HDWL TRIPLE 10X12 RCB ELEV=685.519



LONGITUDINAL SECTION ALONG ℄ CULVERT



SITUATION PLAN

-1.600%

PROPOSED PROFILE GRADE US 218

OLD DES# 3280

REMOVE FLUME

N

0 ENGLISH 40
SCALE IN FEET

HYDRAULIC DATA

DRAINAGE AREA = 13 ACRES R

UTILITIES LEGEND:

STATE OF IOWA (ICN)
MIDAMERICAN ENERGY

LOCATION

T-79N R-7W
SECTION 2
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
LATITUDE 41.677990°
LONGITUDE -91.627015°

TRAFFIC ESTIMATE

200_ AADT	18,200	V.P.D.
202_ AADT	84,700	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	_	%
TOTAL DESIGN ESALs	_	

PRELIMINARY

DESIGN FOR 30° SKEW

3' X 3' REINFORCED CONCRETE BOX CULVERT EXTENSION WITH 3:1 FLUME SITUATION PLAN

STATION 1095+94.80 ?

JOHNSON COUNTY

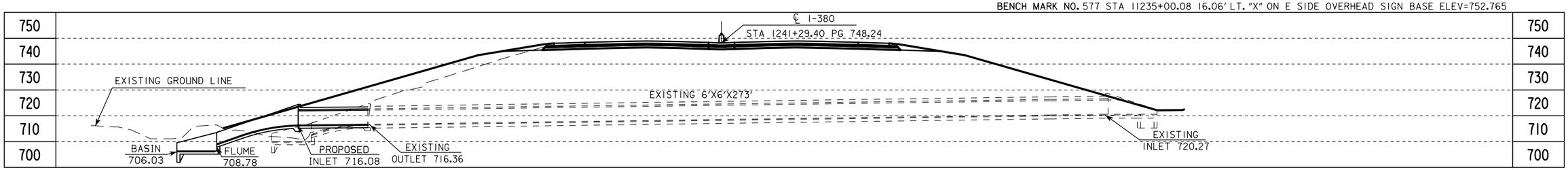
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. ___ OF ___ FILE NO. 31044 DESIGN NO. 0719

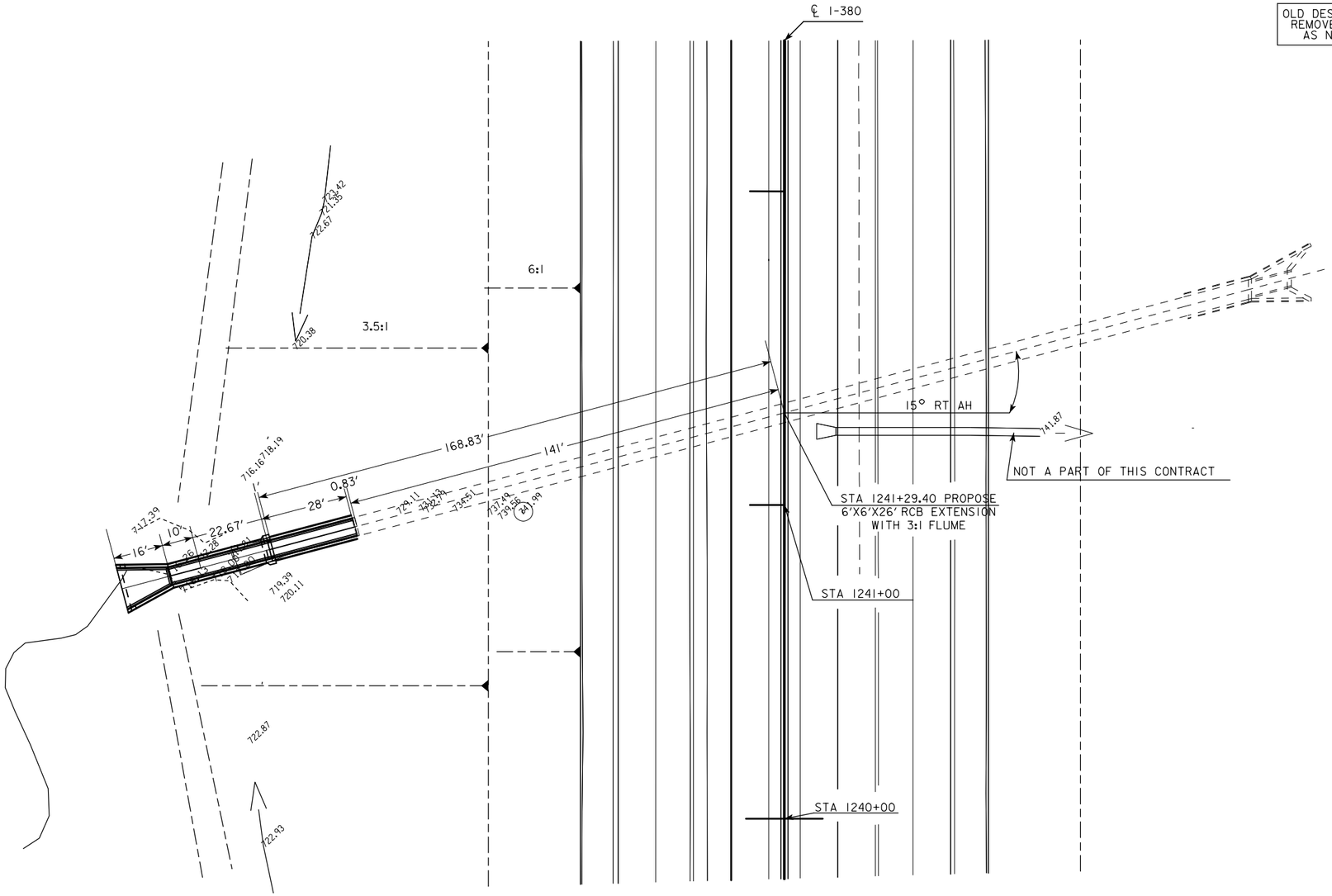
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.5

7:56:59 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

BENCH MARK NO. 577 STA 11235+00.08 16.06' LT. "X" ON E SIDE OVERHEAD SIGN BASE ELEV=752.765

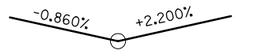


LONGITUDINAL SECTION ALONG ℄ CULVERT



SITUATION PLAN

OLD DES # 4068
REMOVE FLUME
AS NEEDED



VPI STA = 1242+97.563 VC = 800'
VPI ELEV = 745.77

PROPOSED PROFILE GRADE I-380

0 ENGLISH 40
SCALE IN FEET

HYDRAULIC DATA

DRAINAGE AREA = 164 ACRES R

UTILITIES LEGEND:

STATE OF IOWA (ICN)

LOCATION

T-80N R-7W
SECTION 27
CCLEAR CREEK TOWNSHIP
JOHNSON COUNTY
LATITUDE 41.715147°
LONGITUDE -91.642086°

TRAFFIC ESTIMATE

200_ AADT	18,200	V.P.D.
202_ AADT	84,700	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	_	%
TOTAL DESIGN ESALs	_	

PRELIMINARY

DESIGN FOR 15° SKEW RT AH

6' X 6' REINFORCED CONCRETE BOX CULVERT EXTENSION WITH 3:1 FLUME SITUATION PLAN

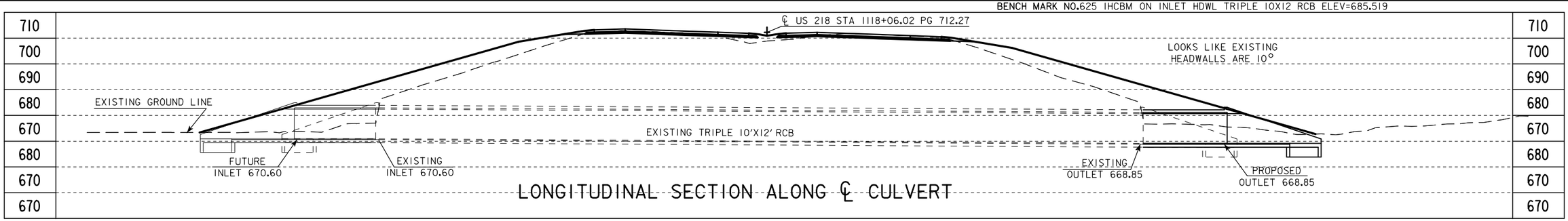
STATION 1241+29.40 ?

JOHNSON COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. 30864 DESIGN NO. 0720

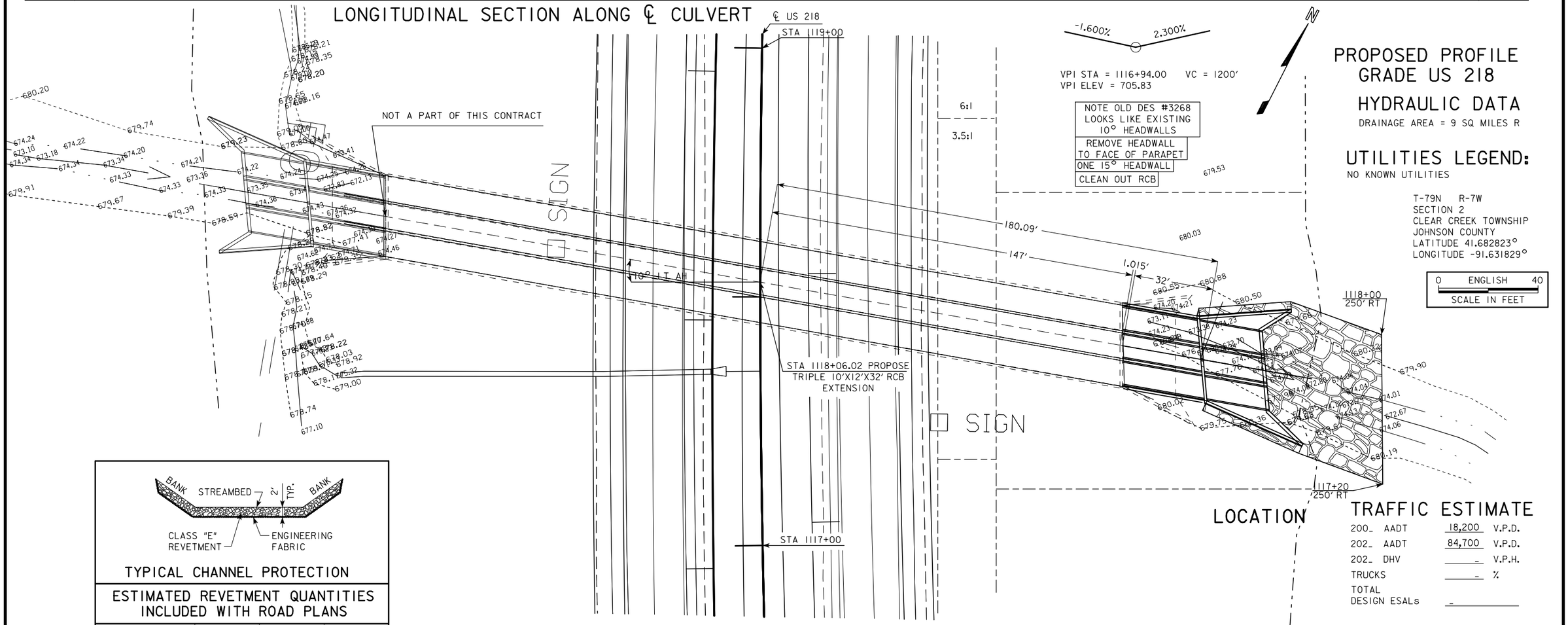
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.6

7:57:01 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

BENCH MARK NO.625 IHCBM ON INLET HDWL TRIPLE 10X12 RCB ELEV=685.519



LONGITUDINAL SECTION ALONG ℄ CULVERT



PROPOSED PROFILE GRADE US 218

HYDRAULIC DATA

DRAINAGE AREA = 9 SQ MILES R

UTILITIES LEGEND:

NO KNOWN UTILITIES

T-79N R-7W
SECTION 2
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
LATITUDE 41.682823°
LONGITUDE -91.631829°

0 ENGLISH 40
SCALE IN FEET

TYPICAL CHANNEL PROTECTION

ESTIMATED REVETMENT QUANTITIES INCLUDED WITH ROAD PLANS

LOCATION	REVETMENT CL. "E" (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
RIGHT	400	475	250

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.
QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.

SITUATION PLAN

LOCATION

TRAFFIC ESTIMATE

200_ AADT	18,200	V.P.D.
202_ AADT	84,700	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	-	%
TOTAL DESIGN ESALs	-	

PRELIMINARY

DESIGN FOR 10° SKEW LT AH

TRIPLE 10' X 12' REINFORCED CONCRETE BOX CULVERT EXTENSION SITUATION PLAN

STATION 1118+06.02 ?

JOHNSON COUNTY

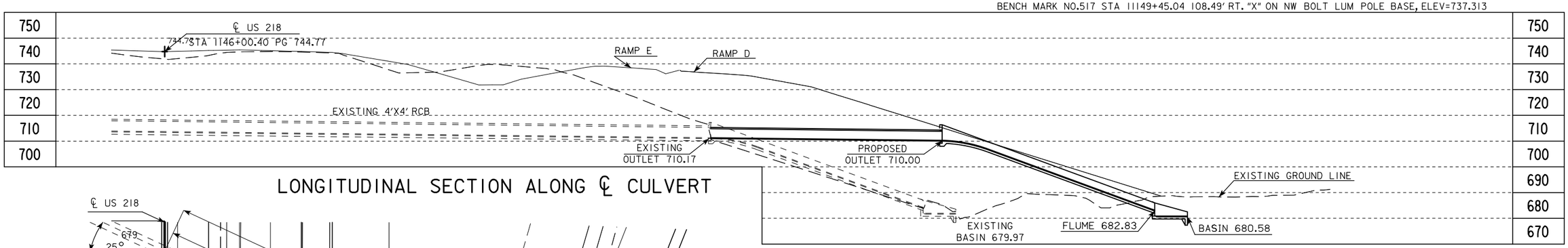
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. ___ OF ___ FILE NO. 30864 DESIGN NO. 0919

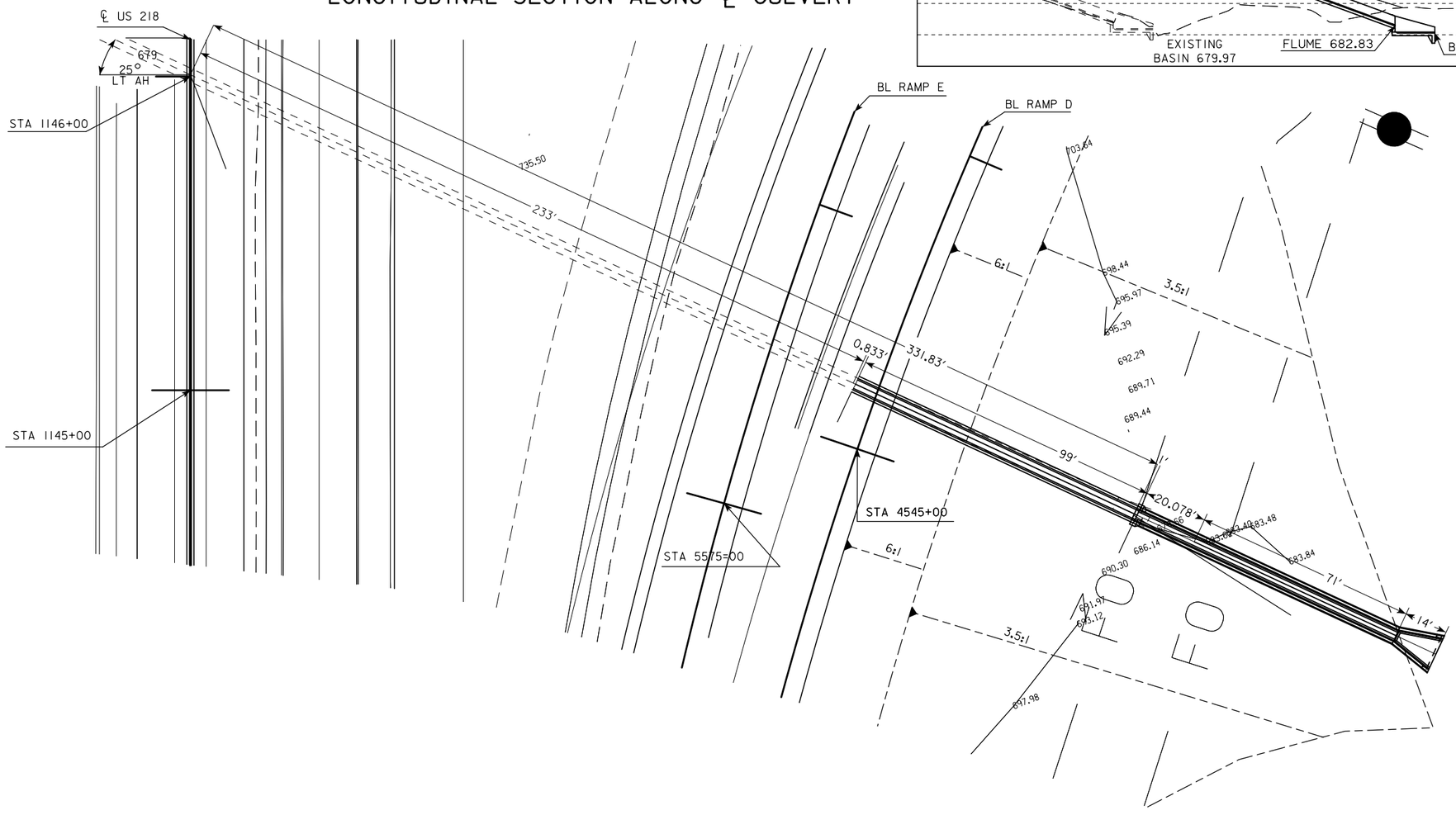
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.7

7:57:02 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

BENCH MARK NO.517 STA 11149+45.04 108.49' RT. "X" ON NW BOLT LUM POLE BASE, ELEV=737.313



LONGITUDINAL SECTION ALONG ℄ CULVERT



OLD DES # 3368
REMOVE FLUME
AS NEEDED

+0.500%

PROPOSED PROFILE
GRADE US 218

SITUATION PLAN

0 ENGLISH 40
SCALE IN FEET

HYDRAULIC DATA

DRAINAGE AREA = 73 ACRES F-R

UTILITIES LEGEND:

ALLIANT ENERGY
LINN CO REC
STATE OF IOWA (ICN)

LOCATION

T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
LATITUDE 41.689896°
LONGITUDE -91.635781°

TRAFFIC ESTIMATE

200_ AADT	18,200	V.P.D.
202_ AADT	84,700	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	-	%
TOTAL DESIGN ESALs	-	

PRELIMINARY

DESIGN FOR 25° SKEW LT AH

4' X 4' REINFORCED CONCRETE BOX CULVERT EXTENSION WITH 3:1 FLUME SITUATION PLAN

STATION 1146+00.40 ?

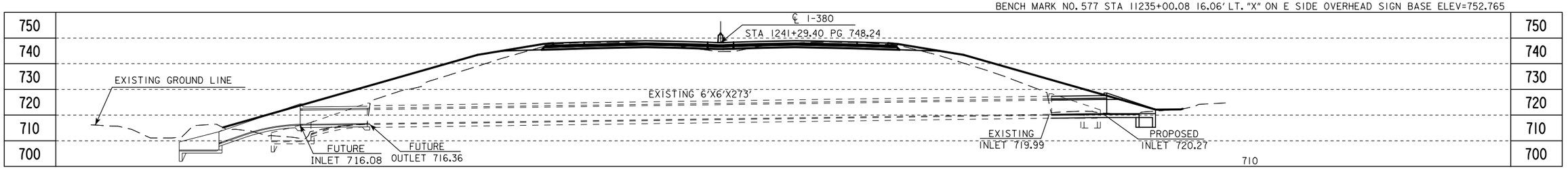
JOHNSON COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. ____ OF ____ FILE NO. 30864 DESIGN NO. 1019

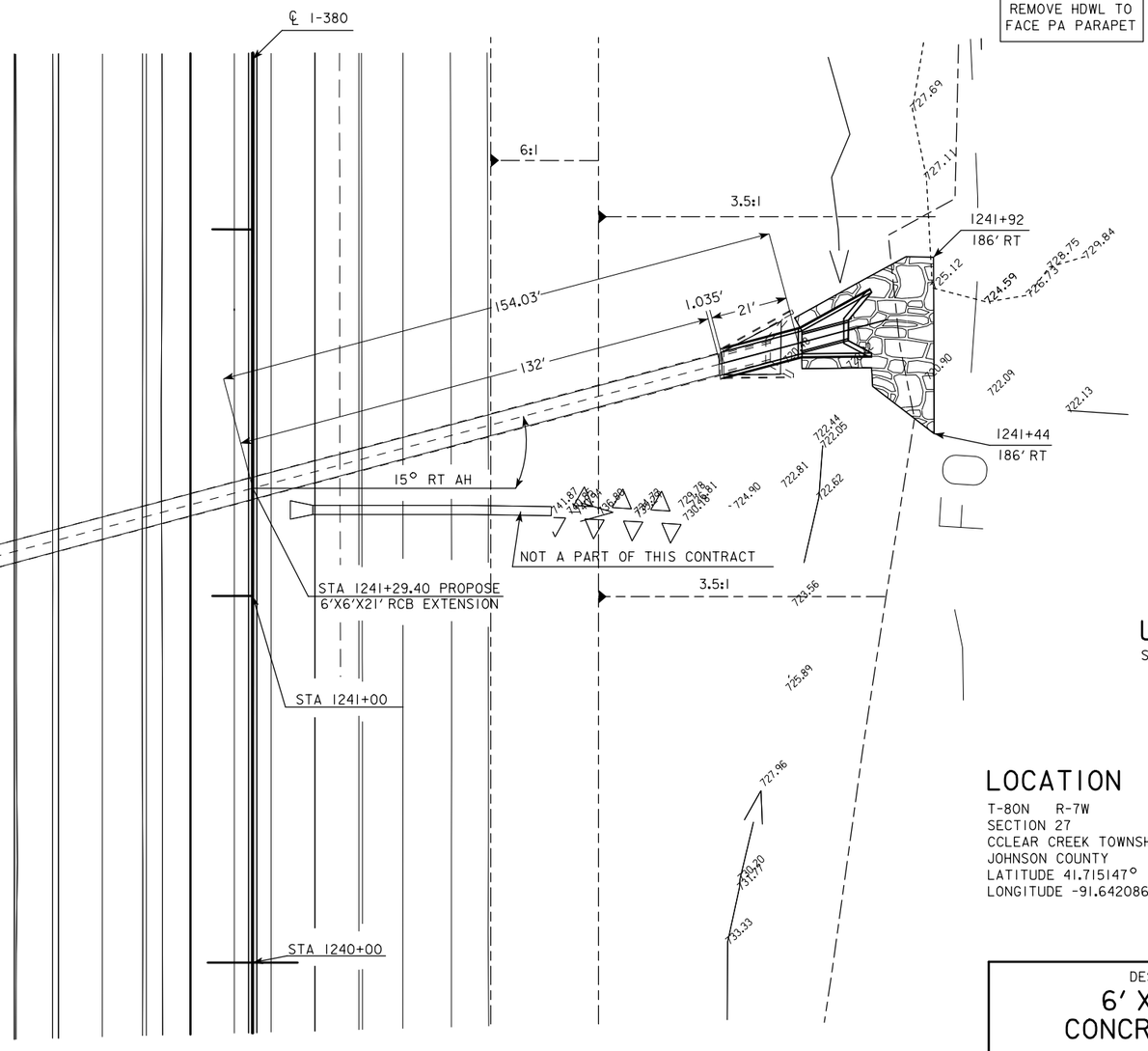
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.8

7:57:04 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

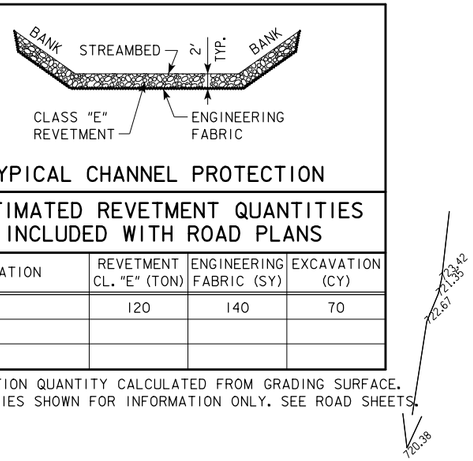
BENCH MARK NO. 577 STA 11235+00.08 16.06' LT. "X" ON E SIDE OVERHEAD SIGN BASE ELEV=752.765



LONGITUDINAL SECTION ALONG ℄ CULVERT



SITUATION PLAN

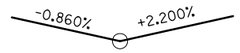


TYPICAL CHANNEL PROTECTION

ESTIMATED REVETMENT QUANTITIES INCLUDED WITH ROAD PLANS

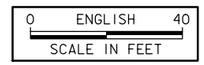
LOCATION	REVETMENT CL. "E" (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
RIGHT	120	140	70

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.
QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.



VPI STA = 1242+97.563 VC = 800'
VPI ELEV = 745.77

PROPOSED PROFILE GRADE I-380



HYDRAULIC DATA

DRAINAGE AREA = 164 ACRES R

UTILITIES LEGEND:

STATE OF IOWA (ICN)

LOCATION

T-80N R-7W
SECTION 27
CCLEAR CREEK TOWNSHIP
JOHNSON COUNTY
LATITUDE 41.715147°
LONGITUDE -91.642086°

TRAFFIC ESTIMATE

200_ AADT	18,200	V.P.D.
202_ AADT	84,700	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	_	%
TOTAL DESIGN ESALs	_	

PRELIMINARY

DESIGN FOR 15° SKEW RT AH

6' X 6' REINFORCED CONCRETE BOX CULVERT EXTENSION SITUATION PLAN

STATION 1241+29.40 ?

JOHNSON COUNTY

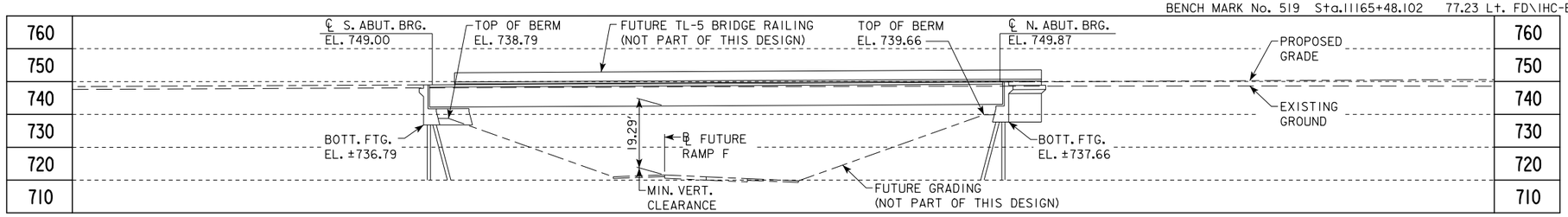
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. ___ OF ___ FILE NO. 30864 DESIGN NO. 1119

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.9

7:57:06 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

BENCH MARK No. 519 Sta.1165+48.102 77.23 Lt. FD\IHC-BM-NW-WING-S-BOUND I-380 BRIDGE OVER I-80--------- 737.910



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ ROADWAY

(LONGITUDINAL SECTION THROUGH FUTURE STAGE II CONSTRUCTION)

0.4998% ○ -2.8780%

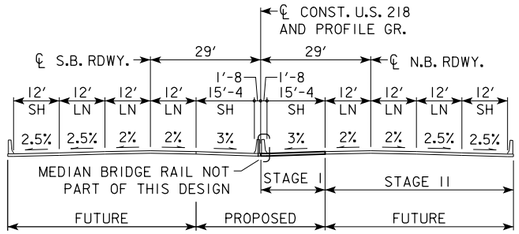
VPI STA = 1160+25.00 VC = 850'
VPI ELEV = 751.89

PROPOSED PROFILE GRADE U.S. 218

-3.8620% ○ 0.1600%

VPI STA = 6558+00.00 VC = 2150'
VPI ELEV = 678.63

PROPOSED PROFILE GRADE RAMP F



TYPICAL BRIDGE SECTION

① ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ℄ CONST. U.S. 218 TO LINE TANGENT ON ℄ RAMP F AT P.O.I.

SITUATION PLAN

TRAFFIC ESTIMATE

2020 AADT	11,670	V.P.D.
2040 AADT	17,090	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	14	%
TOTAL DESIGN ESALs	-	

CURVE DATA

RAMP F
PI STA. 6547+37.09
Δ = 115° 27' 33.49" (LT)
T = 1,742.02'
L = 2,216.66'
R = 1,100.00'
E = 960.25'
e = 5.8%
PC STA. 6529+95.06
PT STA. 6552+11.72

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1153+89.11, OFFSET 1.67' RT.
OVERHEAD ELEVATION = 748.73
DEPTH OF SUPERSTRUCTURE = 6.80'
UNDERPASS STATION = 6546+60.24, OFFSET 0.00'
UNDERPASS ELEVATION = 722.64
MINIMUM VERTICAL CLEARANCE = 19.29'

UTILITIES LEGEND:

NO KNOWN UTILITIES

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
N.B. U.S. 218 OVER N-E CONNECTOR
I-380 TO I-80 (RAMP F)
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 700690
LATITUDE 41.691937°
LONGITUDE -91.636797°

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE I OF SB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BEAM TYPE: WPG (6.8' SUPERSTRUCTURE DEPTH)

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

PRELIMINARY

DESIGN FOR 19° SKEW L.A.

173'-0 X 15'-4 CONTINUOUS WELDED GIRDER BRIDGE - STAGE I

173'-0 SINGLE SPAN

SITUATION PLAN

STATION 1153+95.73, 29' RIGHT ℄ CONST. U.S. 218 JUNE 2014

JOHNSON COUNTY

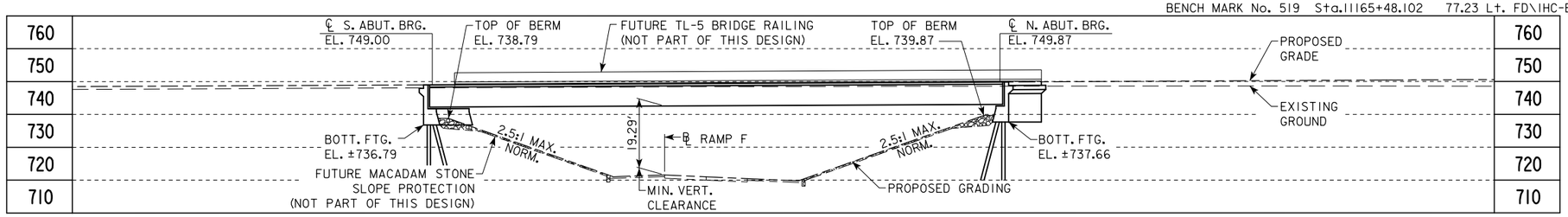
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 117

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.10

7:57:08 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

BENCH MARK No. 519 Sta.1165+48.102 77.23 Lt. FD\IHC-BM-NW-WING-S-BOUND I-380 BRIDGE OVER I-80--------- 737.910



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ ROADWAY

0.4998% -2.8780%

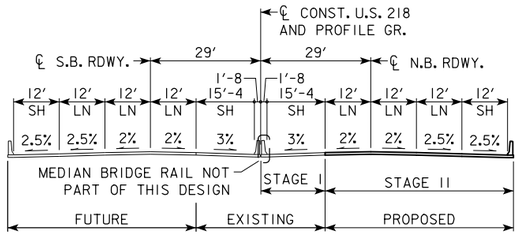
VPI STA = 1160+25.00 VC = 850'
VPI ELEV = 751.89

PROPOSED PROFILE GRADE U.S. 218

-3.8620% 0.1600%

VPI STA = 6558+00.00 VC = 2150'
VPI ELEV = 678.63

PROPOSED PROFILE GRADE RAMP F



TYPICAL BRIDGE SECTION

① ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ℄ CONST. U.S. 218 TO LINE TANGENT ON ℄ RAMP F AT P.O.I.

SITUATION PLAN

TYPICAL APPROACH ROADWAY

TRAFFIC ESTIMATE

2020 AADT	11,670	V.P.D.
2040 AADT	17,090	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	14	%
TOTAL DESIGN ESALs	-	

CURVE DATA

RAMP F
PI STA. 6547+37.09
Δ = 115° 27' 33.49" (LT)
T = 1,742.02'
L = 2,216.66'
R = 1,100.00'
E = 960.25'
e = 5.8%
PC STA. 6529+95.06
PT STA. 6552+11.72

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1153+89.11, OFFSET 1.67' RT.
OVERHEAD ELEVATION = 748.73
DEPTH OF SUPERSTRUCTURE = 6.80'
UNDERPASS STATION = 6546+60.24, OFFSET 0.00'
UNDERPASS ELEVATION = 722.64
MINIMUM VERTICAL CLEARANCE = 19.29'

UTILITIES LEGEND:

NO KNOWN UTILITIES

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
N.B. U.S. 218 OVER N-E CONNECTOR
I-380 TO I-80 (RAMP F)
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 700690
LATITUDE 41.691937°
LONGITUDE -91.636797°

NOTES:
TL-5 MEDIAN BRIDGE BARRIER RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

BEAM TYPE: WPG (6.8' SUPERSTRUCTURE DEPTH)

MACADAM STONE SLOPE PROTECTION FOR BOTH BRIDGES TO BE INSTALLED WITH THE S.B. BRIDGE STAGE II CONSTRUCTION.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

PRELIMINARY

DESIGN FOR 19° SKEW L.A.

173'-0 X 63'-4 CONTINUOUS WELDED GIRDER BRIDGE - STAGE II

173'-0 SINGLE SPAN

SITUATION PLAN

STATION 1153+95.73, 29' RIGHT ℄ CONST. U.S. 218 JUNE 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 118

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.11

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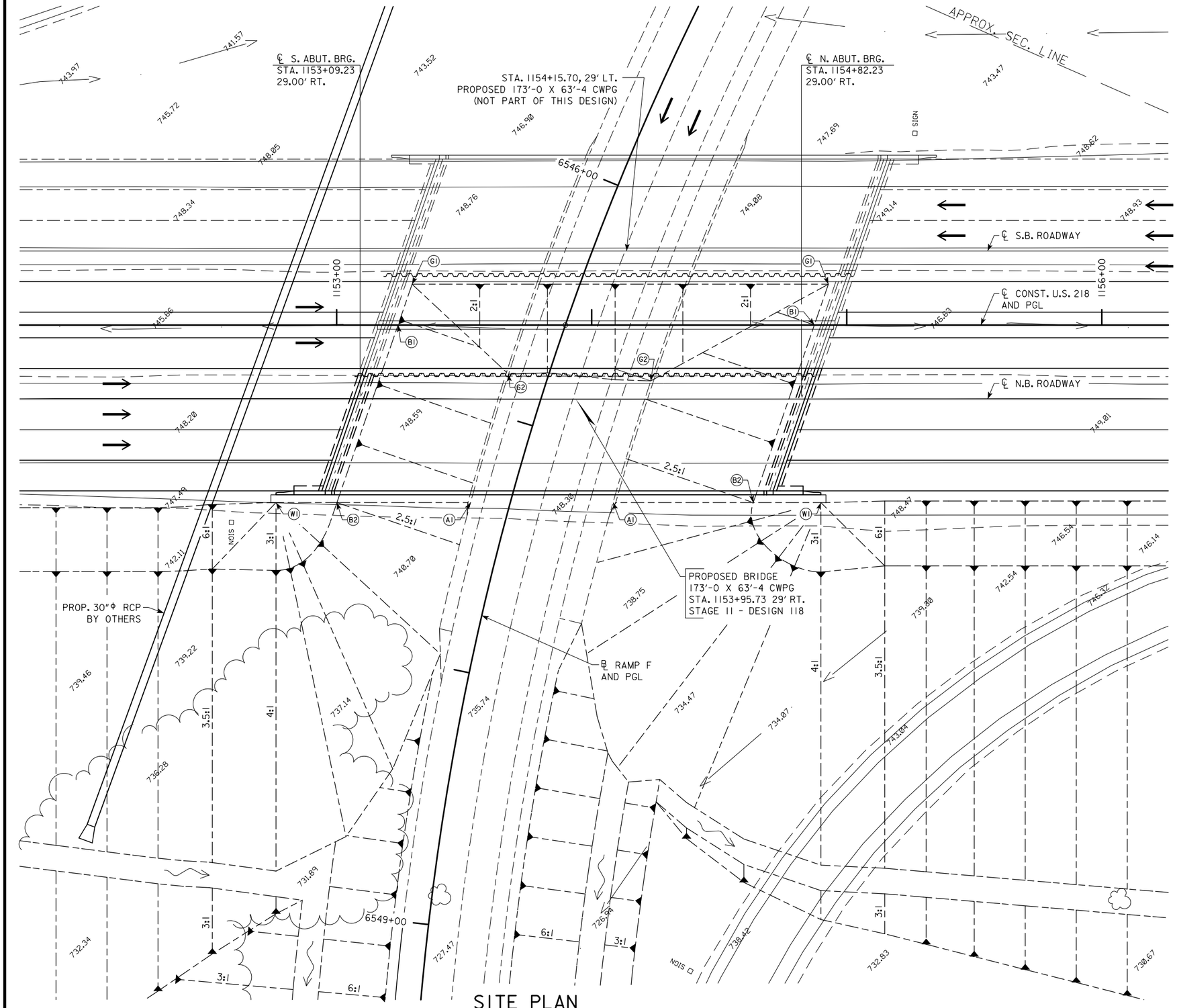


SITE PLAN

BERM SLOPE LOCATION TABLE

POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	1153+52.53	69.58' RT	719.41	1154+08.42	69.58' RT	718.08
B1	1153+24.10	0.00'	739.01	1154+87.33	0.00'	739.87
B2	1153+00.14	69.58' RT	739.01	1154+63.37	69.58' RT	739.87
G1	1153+29.61	16.00' LT	739.01	1154+92.83	16.00' LT	739.87
G2	1153+67.43	19.26' RT	721.41	1154+23.20	21.92' RT	720.07
W1	1152+76.25	69.58' RT	747.88	1154+89.89	69.58' RT	748.95

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

PRELIMINARY

DESIGN FOR 19° SKEW L.A.

173'-0 X 63'-4 CONTINUOUS WELDED GIRDER BRIDGE - STAGE II

173'-0 SINGLE SPAN

SITUATION PLAN - SITE

STATION 1153+95.73, 29' RIGHT ℄ CONST. U.S. 218 NOV 2014

JOHNSON COUNTY

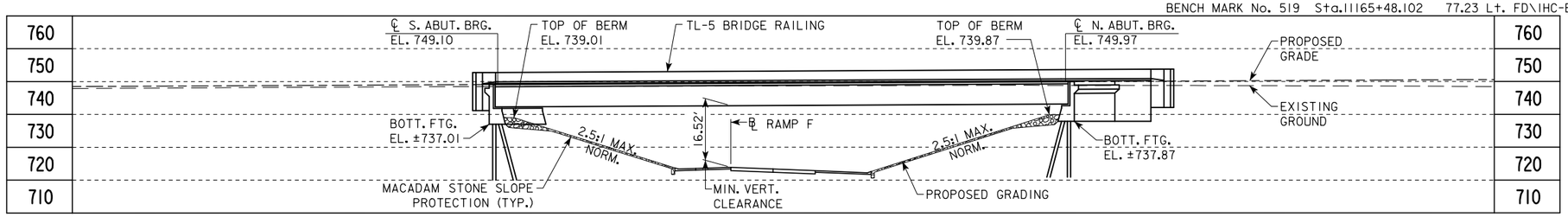
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 118

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.12

7:57:13 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

BENCH MARK No. 519 Sta.1165+48.102 77.23 Lt. FD\IHC-BM-NW-WING-S-BOUND I-380 BRIDGE OVER I-80--------- 737.910



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ ROADWAY

0.4998% -2.8780%

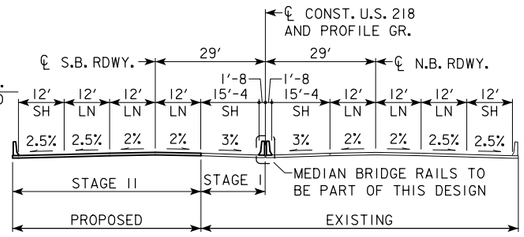
VPI STA = 1160+25.00 VC = 850'
VPI ELEV = 751.89

PROPOSED PROFILE GRADE U.S. 218

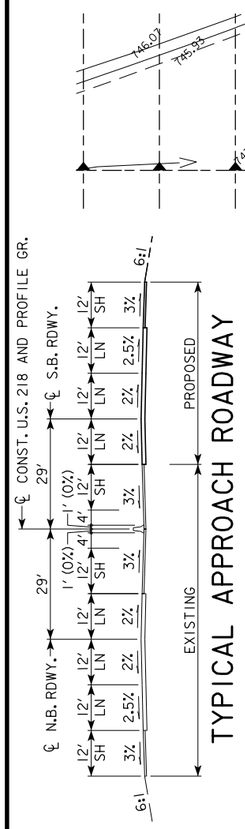
-3.8620% 0.1600%

VPI STA = 6558+00.00 VC = 2150'
VPI ELEV = 678.63

PROPOSED PROFILE GRADE RAMP F



TYPICAL BRIDGE SECTION



Ⓘ ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ℄ CONST. U.S. 218 TO LINE TANGENT ON ℄ RAMP F AT P.O.I.

N

0 ENGLISH 40
SCALE IN FEET

SITUATION PLAN

TRAFFIC ESTIMATE

2020 AADT	11,600	V.P.D.
2040 AADT	17,270	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	14	%
TOTAL DESIGN ESALs	-	

CURVE DATA

RAMP F
PI STA. 6547+37.09
Δ = 115° 27' 33.49" (LT)
T = 1,742.02'
L = 2,216.66'
R = 1,100.00'
E = 960.25'
e = 5.8%
PC STA. 6529+95.06
PT STA. 6552+11.72

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1154+14.60, OFFSET 65.00' LT.
OVERHEAD ELEVATION = 748.72
DEPTH OF SUPERSTRUCTURE = 6.80'
UNDERPASS STATION = 6545+88.85, OFFSET 0.00'
UNDERPASS ELEVATION = 725.40
MINIMUM VERTICAL CLEARANCE = 16.52'

UTILITIES LEGEND:

FO - FIBER OPTIC - STATE OF IOWA ICN

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
S.B. U.S. 218 OVER N-E CONNECTOR
I-380 TO I-80 (RAMP F)
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO.
LATITUDE 41.691926°
LONGITUDE -91.637021°

NOTES:
TL-5 MEDIAN BRIDGE RAIL ON BOTH BRIDGE TO BE CONSTRUCTED WITH THIS DESIGN.

BEAM TYPE: WPG (6.8' SUPERSTRUCTURE DEPTH)

MACADAM STONE SLOPE PROTECTION FOR BOTH BRIDGES TO BE INSTALLED WITH THIS DESIGN.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

PRELIMINARY

DESIGN FOR 19° SKEW L.A.

173'-0 X 63'-4 CONTINUOUS WELDED GIRDER BRIDGE - STAGE II

173'-0 SINGLE SPAN

SITUATION PLAN

STATION 1154+15.70, 29' LEFT ℄ CONST. U.S. 218 DEC 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 119

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.13

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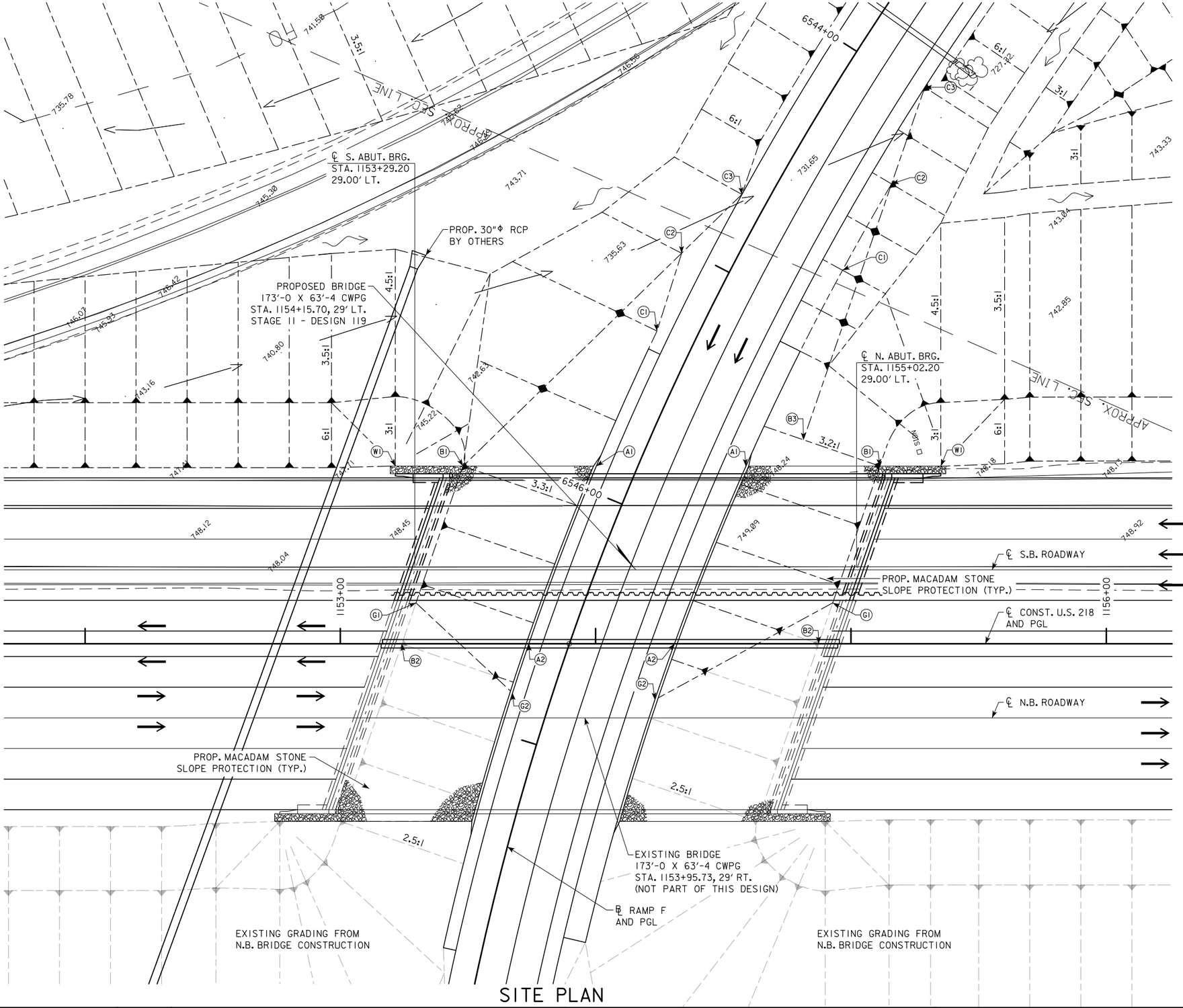

SITE PLAN

BERM SLOPE LOCATION TABLE

POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	1154+00.25	69.58' LT	725.02	1154+58.83	69.58' LT	724.01
A2	1153+73.82	0.00'	722.18	1154+30.85	0.00'	721.00
B1	1153+48.06	69.58' LT	739.01	1155+11.28	69.58' LT	739.87
B2	1153+24.10	0.00'	739.01	1154+87.33	0.00'	739.87
G1	1153+29.61	16.00' LT	739.01	1154+92.83	16.00' LT	739.87
G2	1153+67.43	19.26' RT	721.41	1154+23.20	21.92' RT	720.07
W1	1153+21.53	69.58' LT	748.10	1155+35.17	69.58' LT	748.17

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

RECOVERABLE BERM LOCATION TABLE

	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
C1	1154+24.04	122.51' LT	727.23	1154+96.66	146.32' LT	727.43
C2	1154+33.64	152.97' LT	728.32	1155+15.87	180.13' LT	728.99
C3	1154+57.29	176.01' LT	729.74	1155+28.90	217.97' LT	731.06
B1	1153+48.06	69.58' LT	739.01	1155+11.28	69.58' LT	739.87
B3	--	--	--	1154+81.35	79.89' LT	729.85

N

0 ENGLISH 40
SCALE IN FEET

PRELIMINARY

DESIGN FOR 19° SKEW L.A.

173'-0 X 63'-4 CONTINUOUS WELDED GIRDER BRIDGE - STAGE II

173'-0 SINGLE SPAN

SITUATION PLAN - SITE

STATION 1154+15.70, 29' LEFT ℄ CONST. U.S. 218 DEC 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 119

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.14

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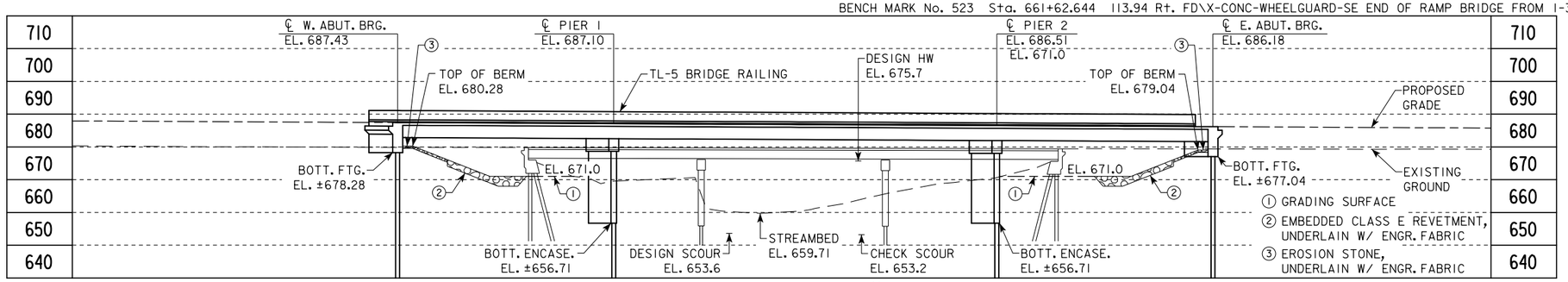
BENCH MARK No. 523 Sta. 661+62.644 113.94 Rt. FD\X-CONC-WHEELGUARD-SE END OF RAMP BRIDGE FROM I-380 N.BOUND TO I-80 EAST BOUND---------- 678.334



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.99′ ABOVE THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

-2.9780% -0.5000% +0.6672%

VPI STA = 652+25.00
VPI ELEV = 690.01
VC = 450′

VPI STA = 672+00.00
VPI ELEV = 680.14
VC = 400′

PROPOSED PROFILE GRADE I-80

HYDRAULIC DATA

DRAINAGE AREA = 81.0 SQ. MI.
STREAM SLOPE = 3.7 FT./MI.
AVG. LOW WATER STAGE = 661.3

Q_{50} = 8,700 CFS
STAGE = 675.7
BACKWATER = 1.2 FT.
AVG. BRIDGE VELOCIT = 5.6 FPS

Q_{100} = 10,500 CFS
STAGE = 676.5
BACKWATER = 1.5 FT.
AVG. BRIDGE VELOCITY = 6.1 FPS

Q_{200} = 13,400 CFS
STAGE = 677.6
CALCULATED DESIGN SCOUR = 653.6

Q_{500} = 15,000 CFS
STAGE = 678.2
CALCULATED CHECK SCOUR = 653.2

ROADWAY OVERTOP 681.72
STA. 671+71

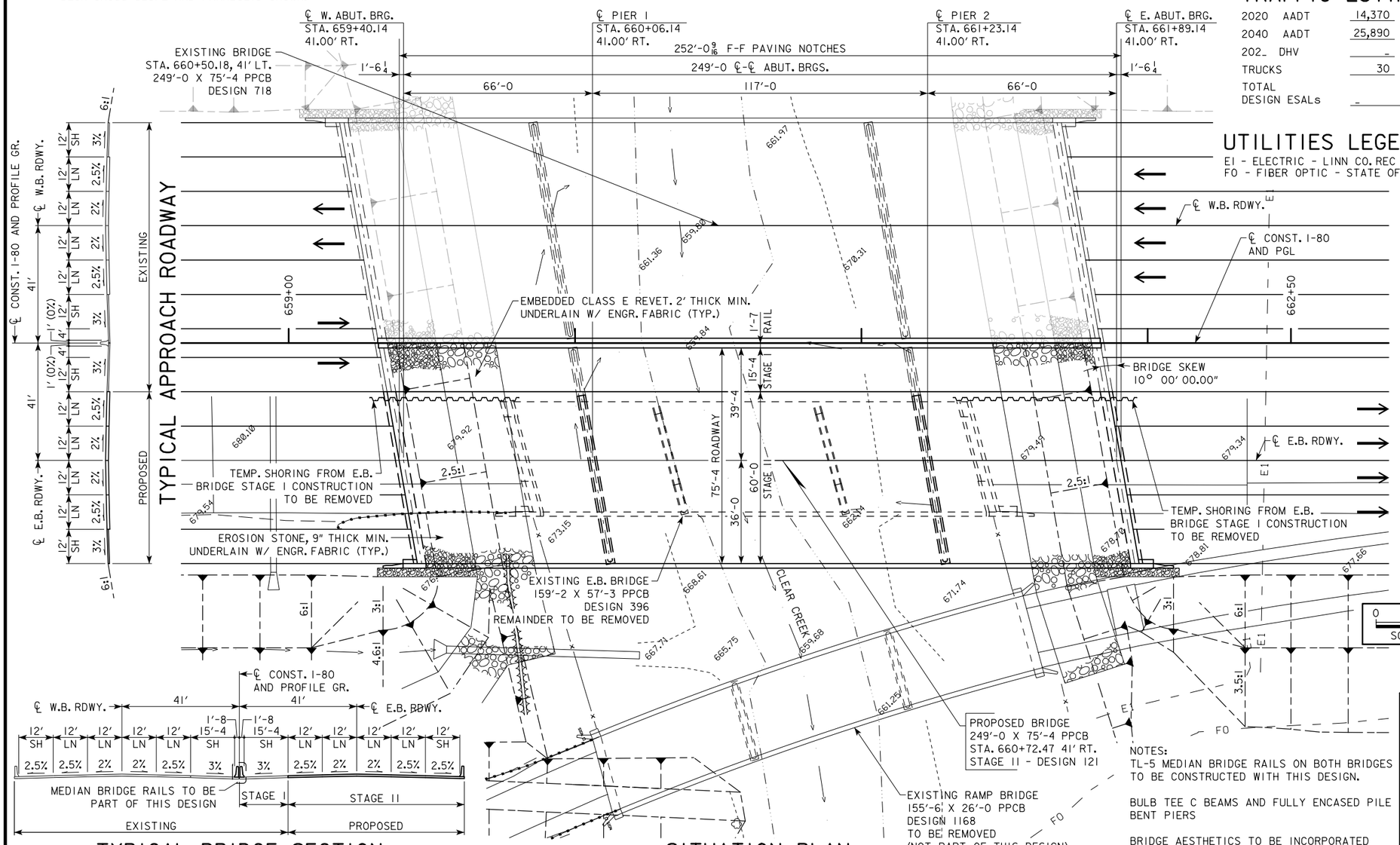
50, 100 & 500 YR. STAGES AND DISCHARGES FROM JOHNSON COUNTY F.I.S., DATED FEBRUARY 16, 2007.
F.I.S. DATUM - 0.10 FT = PROJECT DATUM.

TRAFFIC ESTIMATE

2020 AADT	14,370	V.P.D.
2040 AADT	25,890	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	30	%
TOTAL DESIGN ESALs	_	

UTILITIES LEGEND:

EI - ELECTRIC - LINN CO. REC
FO - FIBER OPTIC - STATE OF IOWA (ICN)



TYPICAL BRIDGE SECTION

SITUATION PLAN

NOTES:
TL-5 MEDIAN BRIDGE RAILS ON BOTH BRIDGES TO BE CONSTRUCTED WITH THIS DESIGN.

BULB TEE C BEAMS AND FULLY ENCASED PILE BENT PIERS

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

HYDRAULIC DESIGN

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.

David R. Claman 2/19/2015
Signature Date
David R. Claman
Printed or Typed Name

My license renewal date is December 31, 2016

Pages or sheets covered by this seal: SHTS. 1 AND 2 OF 2

LOCATION

E.B. I-80 OVER CLEAR CREEK
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 31991
BRIDGE MAINT. NO. 5239.4R080
LATITUDE 41.694234°
LONGITUDE -91.632376°

PRELIMINARY

DESIGN FOR 10° SKEW (R.A.)

249′-0 X 75′-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

66′-0 END SPANS (BTC BEAM) 117′-0 INTERIOR SPAN

SITUATION PLAN

STATION 660+72.47, 41′ RIGHT ℄ CONST. I-80 JAN 2015

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 121

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.15

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ESTIMATED BERM ARMORING QUANTITIES

LOCATION	REVETMENT CL. E (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - WEST ABUTMENT	640.1	49.6	778.9	431.0
BERM LINING - EAST ABUTMENT	380.3	38.3	484.6	261.6
TOTALS	1,020.4	87.9	1,263.5	692.6

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.

BERM SLOPE LOCATION TABLE

POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	659+61.07	0.00'	671.00	661+56.90	0.00'	671.00
A2	659+75.45	81.58' RT	671.00	661+71.28	81.58' RT	671.00
B1	659+37.48	0.00'	680.29	661+77.34	0.00'	679.05
B2	659+51.86	81.58' RT	680.29	661+91.72	81.58' RT	679.05
W1	659+32.99	81.58' RT	686.50	662+08.99	81.58' RT	685.12

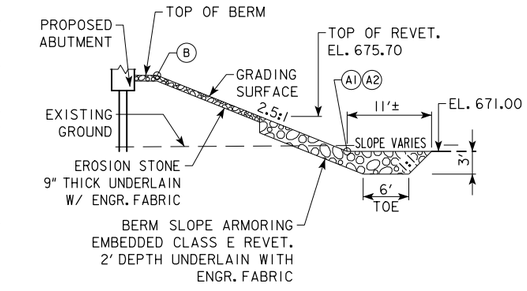
BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

REVETMENT LIMITS - WEST

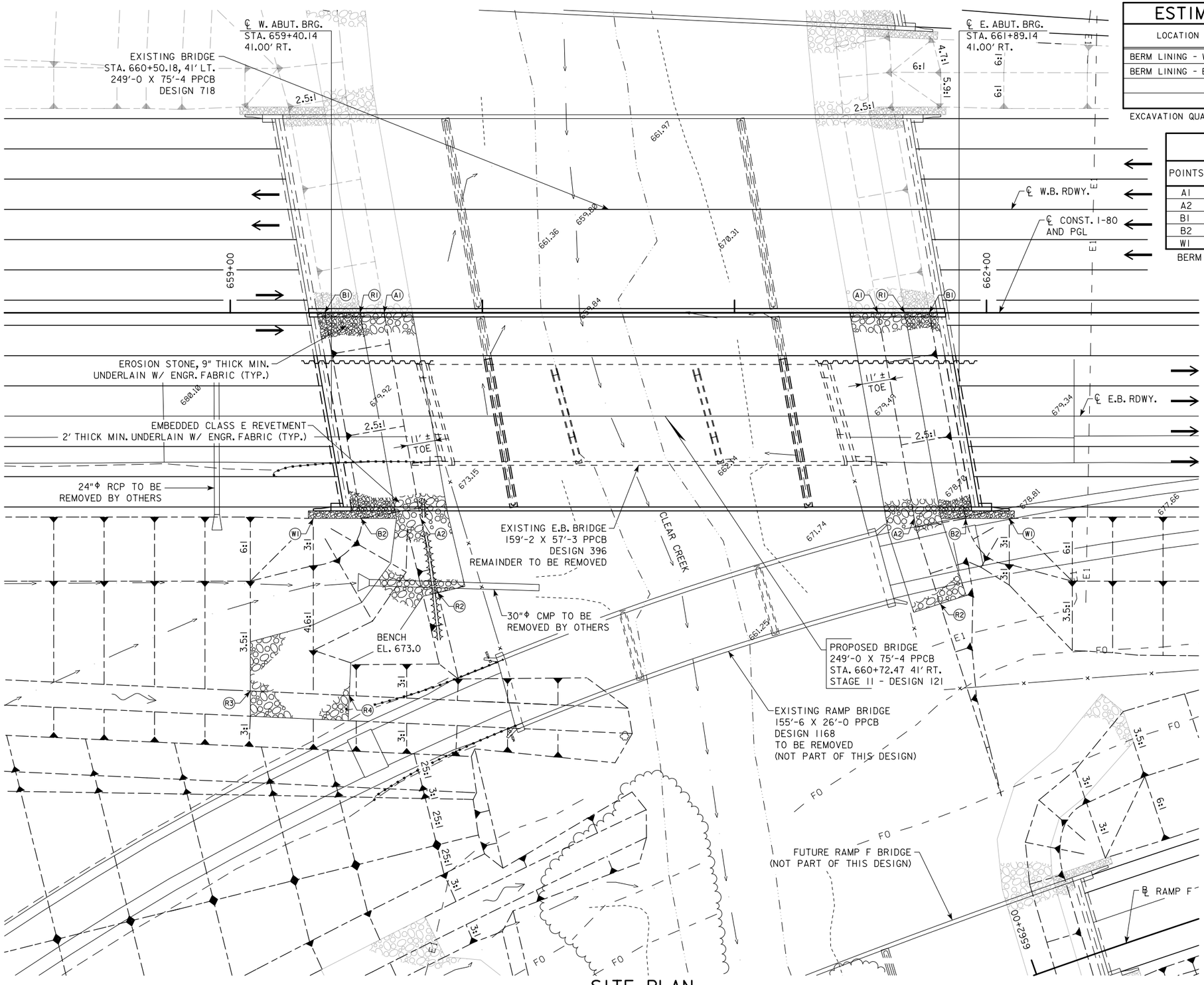
- (R1) 659+51.57, 0.00' RT
- (R2) 659+82.40, 111.01' RT
- (R3) 659+07.99, 150.00' RT
- (R4) 659+47.22, 151.78' RT

REVETMENT LIMITS - EAST

- (R1) 661+67.57, 0.00' RT
- (R2) 661+81.59, 115.43' RT



EMBEDDED BERM REVETMENT



SITE PLAN

N

0 ENGLISH 40
SCALE IN FEET

PRELIMINARY

DESIGN FOR 10° SKEW (R.A.)

249'-0 X 75'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

66'-0 END SPANS (BTC BEAM) 117'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 660+72.47, 41' RIGHT ℄ CONST. I-80 JAN 2015

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 121

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.16

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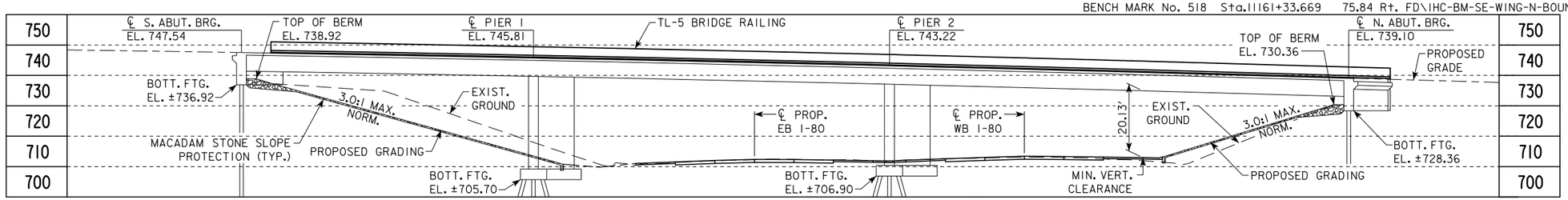
BENCH MARK No. 518 Sta.1116I+33.669 75.84 Rt. FD\IHC-BM-SE-WING-N-BOUND I-380 BRIDGE OVER I-80--------- 746.360



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ ROADWAY

(LONGITUDINAL SECTION THROUGH STAGE II CONSTRUCTION)

0.4998% ○ -2.8780%

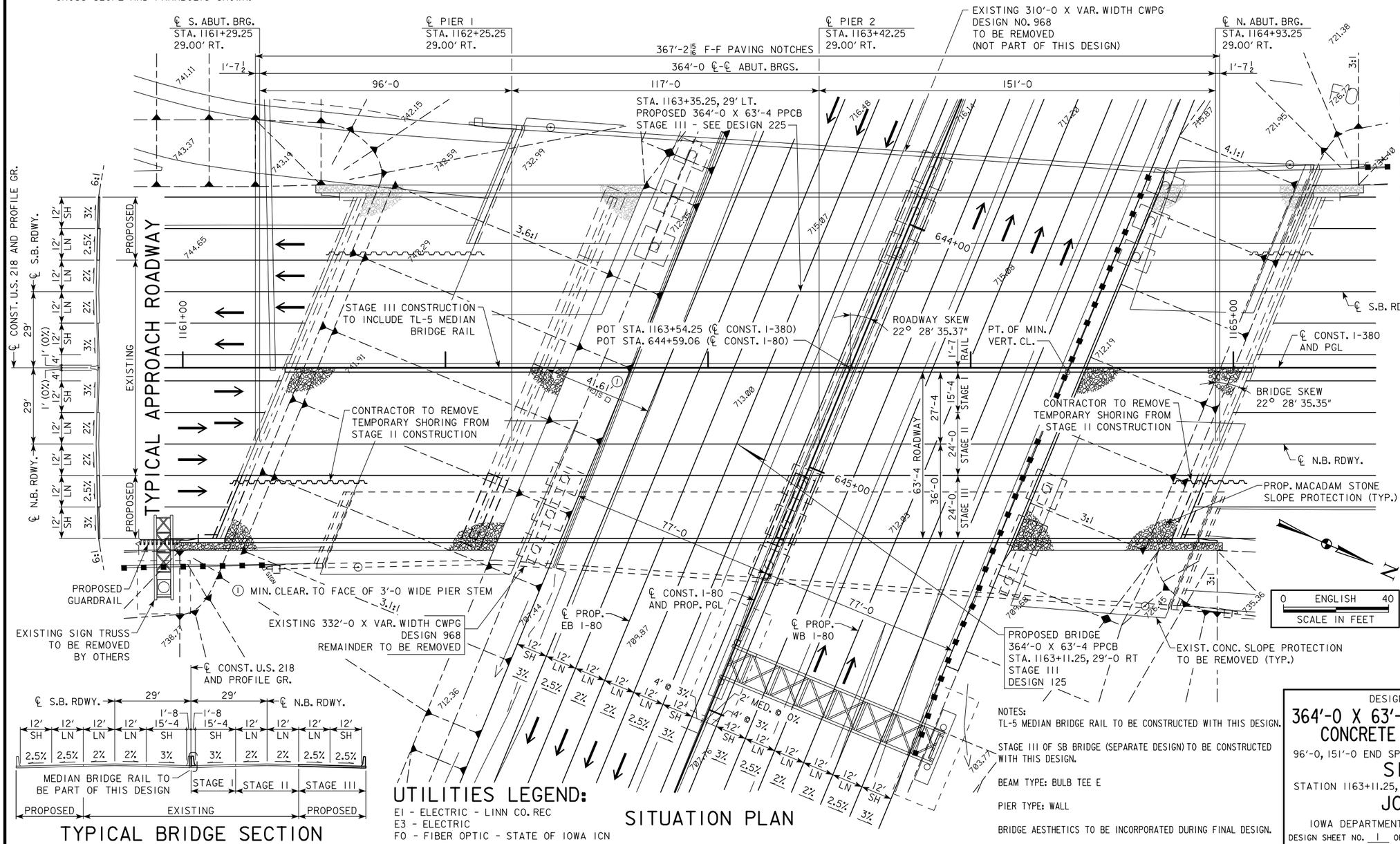
VPI STA = 1160+25.00 VC = 850'
VPI ELEV = 751.89

PROPOSED PROFILE GRADE I-380

-2.9780% ○ -0.5000%

VPI STA = 652+25.00 VC = 450'
VPI ELEV = 690.01

PROPOSED PROFILE GRADE I-80



TYPICAL BRIDGE SECTION

UTILITIES LEGEND:

E1 - ELECTRIC - LINN CO. REC
E3 - ELECTRIC
FO - FIBER OPTIC - STATE OF IOWA ICN

SITUATION PLAN

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1164+36.89, OFFSET 1.67' RT.
OVERHEAD ELEVATION = 740.05
DEPTH OF SUPERSTRUCTURE = 6.08'
UNDERPASS STATION = 644+29.01, OFFSET 77.00' LT.
UNDERPASS ELEVATION = 713.84
MINIMUM VERTICAL CLEARANCE = 20.13'

TRAFFIC ESTIMATE

INTERSTATE 380

2020	AADT	11,670	V.P.D.
2040	AADT	17,090	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		14	%
TOTAL DESIGN ESALs		_	

TRAFFIC ESTIMATE

INTERSTATE 80

2020	AADT	16,360	V.P.D.
2040	AADT	25,890	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		30	%
TOTAL DESIGN ESALs		_	

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
N.B. I-380 OVER I-80
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600351
BRIDGE MAINT. NO. 5200.0R380
LATITUDE 41.694263°
LONGITUDE -91.638085°

PRELIMINARY

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH THIS DESIGN.

STAGE III OF SB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN.

BEAM TYPE: BULB TEE E

PIER TYPE: WALL

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

DESIGN FOR 22° 28' 35.37" SKEW L.A.

364'-0 X 63'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE III

96'-0, 151'-0 END SPANS (BTE BEAM) 117'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1163+11.25, 29' RIGHT ℄ CONST. I-380 NOV 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 125

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.17

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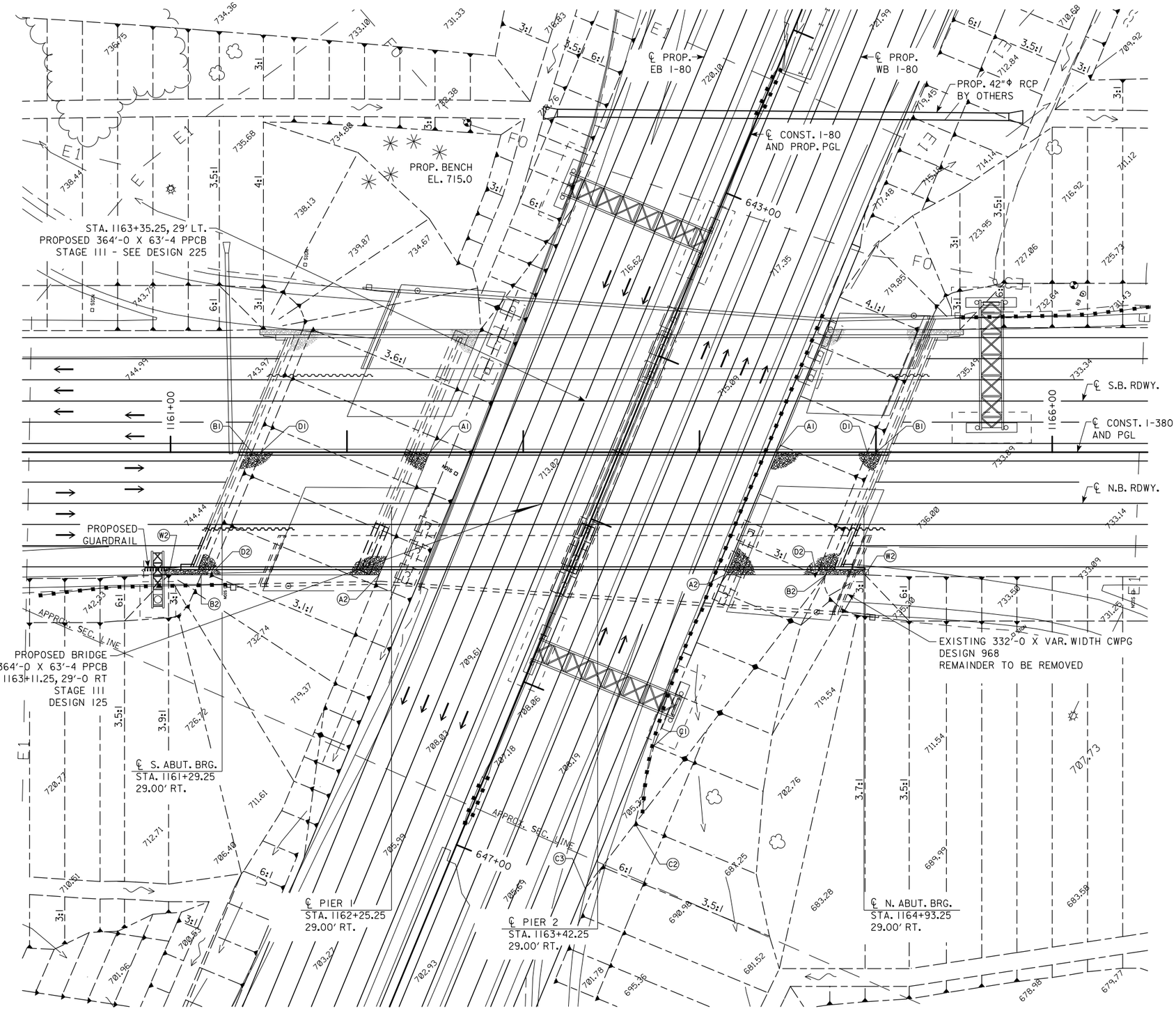


SITE PLAN

BERM SLOPE LOCATION TABLE

POINTS	SOUTH ABUTMENT STATION	SOUTH ABUTMENT OFFSET	SOUTH ABUTMENT ELEV.	NORTH ABUTMENT STATION	NORTH ABUTMENT OFFSET	NORTH ABUTMENT ELEV.
A1	1162+47.11	0.00'	711.72	1164+42.99	0.00'	713.80
A2	1162+18.33	69.58' RT	709.48	1164+14.21	69.58' RT	711.56
B1	1161+46.12	0.00'	738.92	1165+00.38	0.00'	730.36
B2	1161+17.33	69.58' RT	738.92	1164+71.59	69.58' RT	730.36
D1	1161+51.38	0.00'	737.30	1164+95.13	0.00'	728.42
D2	1161+22.59	69.58' RT	737.30	1164+66.35	69.58' RT	728.42
W1	--	--	--	--	--	--
W2	1160+98.86	69.58' RT	747.04	1164+93.86	69.58' RT	738.13

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

RECOVERABLE BERM LOCATION TABLE

	SOUTH ABUTMENT STATION	SOUTH ABUTMENT OFFSET	SOUTH ABUTMENT ELEV	NORTH ABUTMENT STATION	NORTH ABUTMENT OFFSET	NORTH ABUTMENT ELEV
C1	--	--	--	1163+74.04	166.66' RT	708.43
C2	--	--	--	1163+63.39	210.72' RT	706.89
C3	--	--	--	1163+35.18	247.52' RT	705.91
B2	--	--	--	1164+71.59	69.58' RT	730.36

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE.

PRELIMINARY

DESIGN FOR 22° 28' 35.37" SKEW L.A.

364'-0 X 63'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE III

96'-0, 151'-0 END SPANS (BTE BEAM) 117'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 1163+11.25, 29' RIGHT ℄ CONST. I-380 NOV 2014

JOHNSON COUNTY

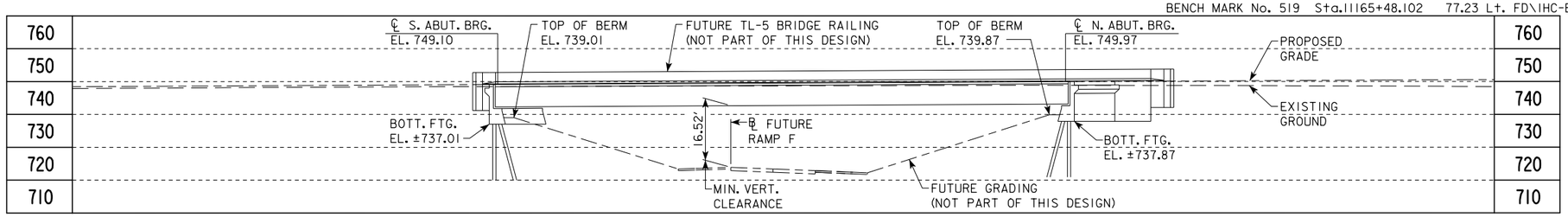
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 125

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.18

7:57:28 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

BENCH MARK No. 519 Sta.11165+48.102 77.23 Lt. FD\IHC-BM-NW-WING-S-BOUND I-380 BRIDGE OVER I-80--------- 737.910



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ ROADWAY

(LONGITUDINAL SECTION THROUGH FUTURE STAGE II CONSTRUCTION)

0.4998% ○ -2.8780%

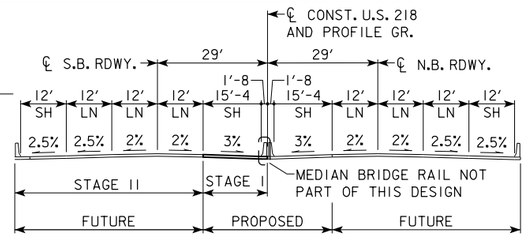
VPI STA = 1160+25.00 VC = 850'
VPI ELEV = 751.89

PROPOSED PROFILE GRADE U.S. 218

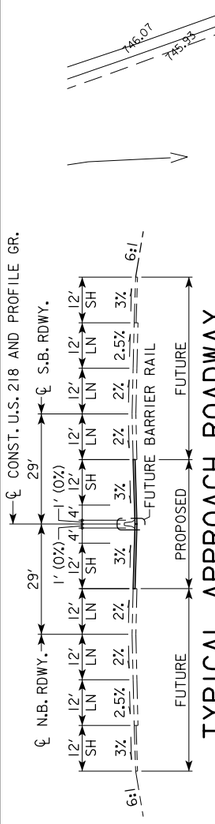
-3.8620% ○ 0.1600%

VPI STA = 6558+00.00 VC = 2150'
VPI ELEV = 678.63

PROPOSED PROFILE GRADE RAMP F



TYPICAL BRIDGE SECTION



TYPICAL APPROACH ROADWAY

① ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ℄ CONST. U.S. 218 TO LINE TANGENT ON ℄ RAMP F AT P.O.I.

N

0 ENGLISH 40
SCALE IN FEET

SITUATION PLAN

TRAFFIC ESTIMATE

2020 AADT	11,600	V.P.D.
2040 AADT	17,270	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	14	%
TOTAL DESIGN ESALs	-	

CURVE DATA

RAMP F
PI STA. 6547+37.09
Δ = 115° 27' 33.49" (LT)
T = 1,742.02'
L = 2,216.66'
R = 1,100.00'
E = 960.25'
e = 5.8%
PC STA. 6529+95.06
PT STA. 6552+11.72

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1154+14.60, OFFSET 65.00' LT.
OVERHEAD ELEVATION = 748.72
DEPTH OF SUPERSTRUCTURE = 6.80'
UNDERPASS STATION = 6545+88.85, OFFSET 0.00'
UNDERPASS ELEVATION = 725.40
MINIMUM VERTICAL CLEARANCE = 16.52'

UTILITIES LEGEND:

NO KNOWN UTILITIES

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
S.B. U.S. 218 OVER N-E CONNECTOR
I-380 TO I-80 (RAMP F)
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO.
LATITUDE 41.691926°
LONGITUDE -91.637021°

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE I OF NB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BEAM TYPE: WPG (6.8' SUPERSTRUCTURE DEPTH)

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

PRELIMINARY

DESIGN FOR 19° SKEW L.A.

173'-0 X 15'-4 CONTINUOUS WELDED GIRDER BRIDGE - STAGE I

173'-0 SINGLE SPAN

SITUATION PLAN

STATION 1154+15.70, 29' LEFT ℄ CONST. U.S. 218 JUNE 2014

JOHNSON COUNTY

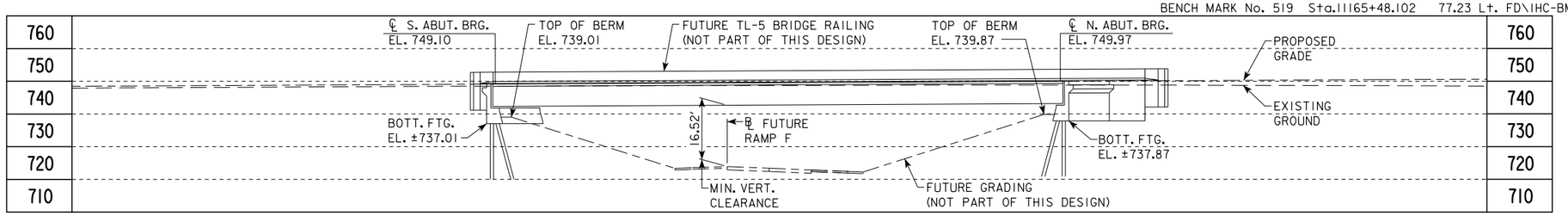
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 217

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.19

7:57:31 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

BENCH MARK No. 519 Sta.11165+48.102 77.23 Lt. FD\IHC-BM-NW-WING-S-BOUND I-380 BRIDGE OVER I-80--------- 737.910



LONGITUDINAL SECTION ALONG ℄ ROADWAY

(LONGITUDINAL SECTION THROUGH FUTURE STAGE II CONSTRUCTION)

NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

0.4998% ○ -2.8780%

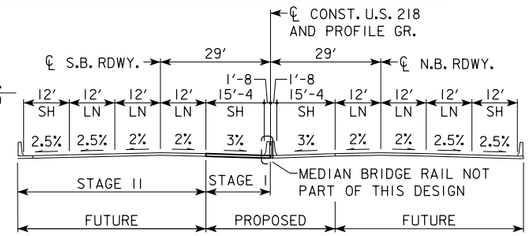
VPI STA = 1160+25.00 VC = 850'
VPI ELEV = 751.89

PROPOSED PROFILE GRADE U.S. 218

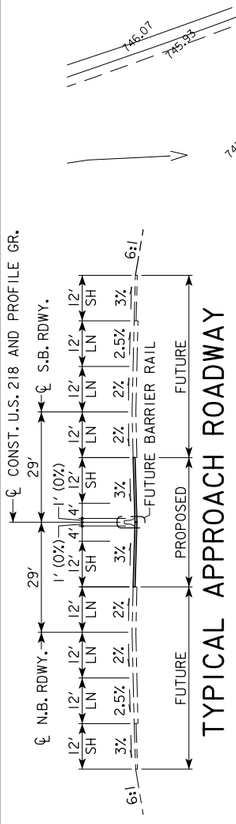
-3.8620% ○ 0.1600%

VPI STA = 6558+00.00 VC = 2150'
VPI ELEV = 678.63

PROPOSED PROFILE GRADE RAMP F



TYPICAL BRIDGE SECTION



TYPICAL APPROACH ROADWAY

① ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ℄ CONST. U.S. 218 TO LINE TANGENT ON ℄ RAMP F AT P.O.I.

SITUATION PLAN

TRAFFIC ESTIMATE

2020 AADT	11,600	V.P.D.
2040 AADT	17,270	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	14	%
TOTAL DESIGN ESALs	-	

CURVE DATA

RAMP F
PI STA. 6547+37.09
Δ = 115° 27' 33.49" (LT)
T = 1,742.02'
L = 2,216.66'
R = 1,100.00'
E = 960.25'
e = 5.8%
PC STA. 6529+95.06
PT STA. 6552+11.72

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1154+14.60, OFFSET 65.00' LT.
OVERHEAD ELEVATION = 748.72
DEPTH OF SUPERSTRUCTURE = 6.80'
UNDERPASS STATION = 6545+88.85, OFFSET 0.00'
UNDERPASS ELEVATION = 725.40
MINIMUM VERTICAL CLEARANCE = 16.52'

UTILITIES LEGEND:

NO KNOWN UTILITIES

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
S.B. U.S. 218 OVER N-E CONNECTOR
I-380 TO I-80 (RAMP F)
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO.
LATITUDE 41.691926°
LONGITUDE -91.637021°

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE I OF NB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BEAM TYPE: WPG (6.8' SUPERSTRUCTURE DEPTH)

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

PRELIMINARY

DESIGN FOR 19° SKEW L.A.

173'-0 X 15'-4 CONTINUOUS WELDED GIRDER BRIDGE - STAGE I

173'-0 SINGLE SPAN

SITUATION PLAN

STATION 1154+15.70, 29' LEFT ℄ CONST. U.S. 218 JUNE 2014

JOHNSON COUNTY

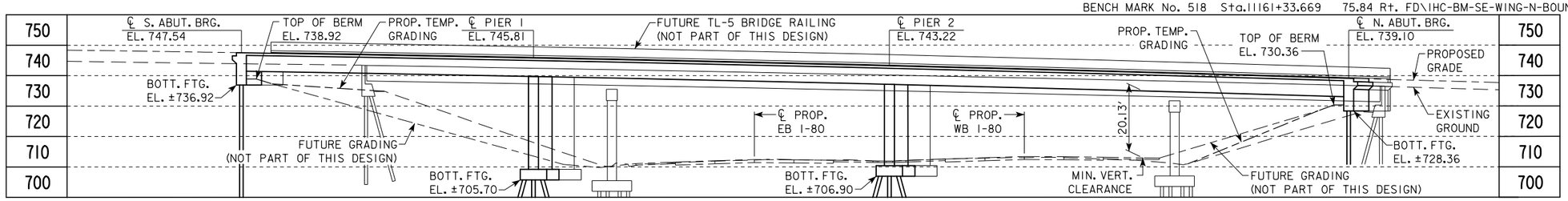
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 217

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.20

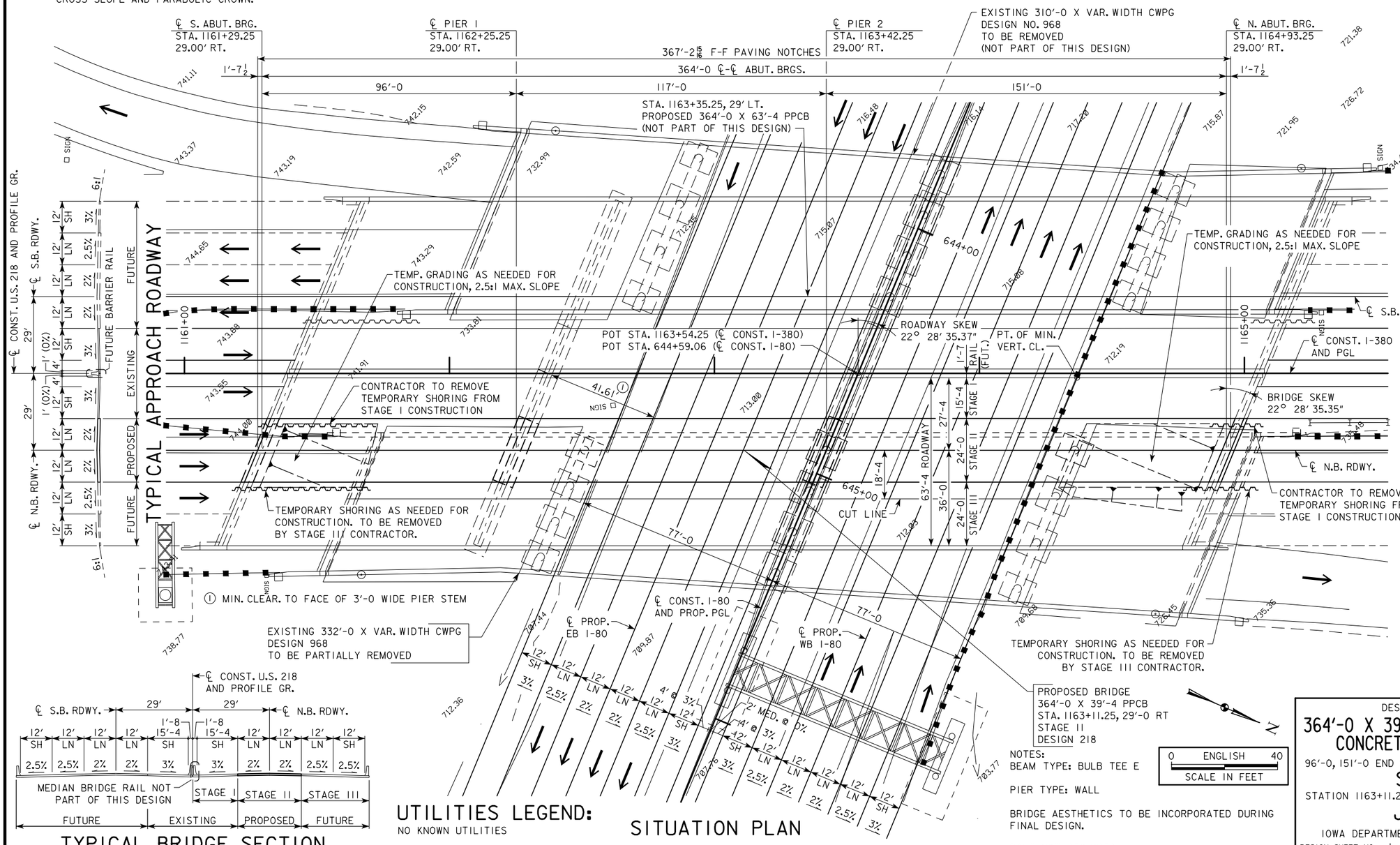
7:57:33 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

BENCH MARK No. 518 Sta.1161+33.669 75.84 Rt. FD\IHC-BM-SE-WING-N-BOUND I-380 BRIDGE OVER I-80--------- 746.360



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ ROADWAY



TYPICAL BRIDGE SECTION

UTILITIES LEGEND:
NO KNOWN UTILITIES

SITUATION PLAN

NOTES:
BEAM TYPE: BULB TEE E

PIER TYPE: WALL

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

BSLT NOT REQUIRED.

N

0 ENGLISH 40
SCALE IN FEET

0.4998% ○ -2.8780%

VPI STA = 1160+25.00 VC = 850'
VPI ELEV = 751.89

PROPOSED PROFILE GRADE I-380

-2.9780% ○ -0.5000%

VPI STA = 652+25.00 VC = 450'
VPI ELEV = 690.01

PROPOSED PROFILE GRADE I-80

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1164+36.89, OFFSET 1.67' RT.
OVERHEAD ELEVATION = 740.05
DEPTH OF SUPERSTRUCTURE = 6.08'
UNDERPASS STATION = 644+29.01, OFFSET 77.00' LT.
UNDERPASS ELEVATION = 713.84
MINIMUM VERTICAL CLEARANCE = 20.13'

TRAFFIC ESTIMATE

INTERSTATE 380

2020	AADT	11,670	V.P.D.
2040	AADT	17,090	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		14	%
TOTAL DESIGN ESALs		_	

TRAFFIC ESTIMATE

INTERSTATE 80

2020	AADT	16,360	V.P.D.
2040	AADT	25,890	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		30	%
TOTAL DESIGN ESALs		_	

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
N.B. I-380 OVER I-80
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600351
BRIDGE MAINT. NO. 5200.0R380
LATITUDE 41.694263°
LONGITUDE -91.638085°

PRELIMINARY

DESIGN FOR 22° 28' 35.37" SKEW L.A.

364'-0 X 39'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

96'-0, 151'-0 END SPANS (BTE BEAM) 117'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1163+11.25, 29' RIGHT ℄ CONST. I-380 NOV 2014

JOHNSON COUNTY

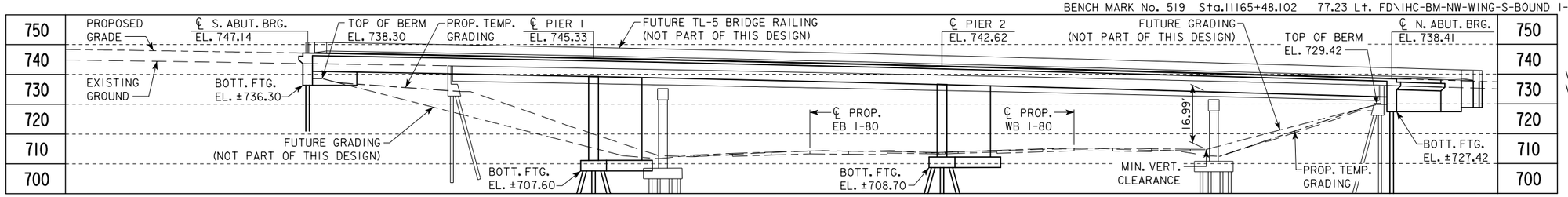
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 218

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.21

7:57:36 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

BENCH MARK No. 519 Sta.1165+48.102 77.23 Lt. FD\IHC-BM-NW-WING-S-BOUND I-380 BRIDGE OVER I-80--------- 737.910



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ ROADWAY

(LONGITUDINAL SECTION THROUGH STAGE II CONSTRUCTION)

0.4998% -2.8780%

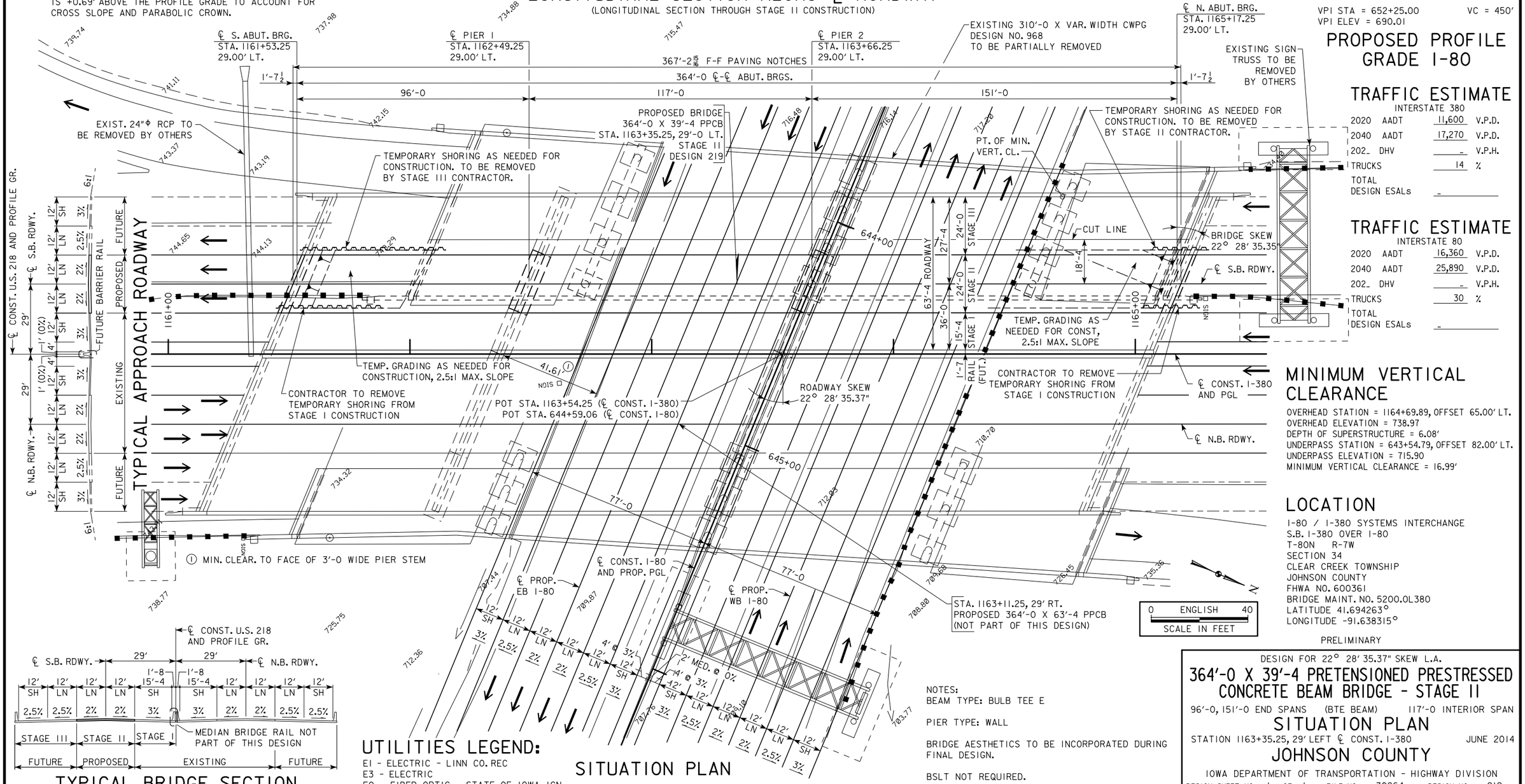
VPI STA = 1160+25.00 VC = 850'
VPI ELEV = 751.89

PROPOSED PROFILE GRADE I-380

-2.9780% -0.5000%

VPI STA = 652+25.00 VC = 450'
VPI ELEV = 690.01

PROPOSED PROFILE GRADE I-80



TYPICAL APPROACH ROADWAY

TYPICAL BRIDGE SECTION

UTILITIES LEGEND:

E1 - ELECTRIC - LINN CO. REC
E3 - ELECTRIC
FO - FIBER OPTIC - STATE OF IOWA ICN

SITUATION PLAN

NOTES:
BEAM TYPE: BULB TEE E

PIER TYPE: WALL

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

BSLT NOT REQUIRED.

TRAFFIC ESTIMATE

INTERSTATE 380

2020 AADT	11,600	V.P.D.
2040 AADT	17,270	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	14	%
TOTAL DESIGN ESALs	-	

TRAFFIC ESTIMATE

INTERSTATE 80

2020 AADT	16,360	V.P.D.
2040 AADT	25,890	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	30	%
TOTAL DESIGN ESALs	-	

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1164+69.89, OFFSET 65.00' LT.
OVERHEAD ELEVATION = 738.97
DEPTH OF SUPERSTRUCTURE = 6.08'
UNDERPASS STATION = 643+54.79, OFFSET 82.00' LT.
UNDERPASS ELEVATION = 715.90
MINIMUM VERTICAL CLEARANCE = 16.99'

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
S.B. I-380 OVER I-80
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600361
BRIDGE MAINT. NO. 5200.0L380
LATITUDE 41.694263°
LONGITUDE -91.638315°

PRELIMINARY

DESIGN FOR 22° 28' 35.37" SKEW L.A.

364'-0 X 39'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

96'-0, 151'-0 END SPANS (BTE BEAM) 117'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1163+35.25, 29' LEFT ℄ CONST. I-380 JUNE 2014

JOHNSON COUNTY

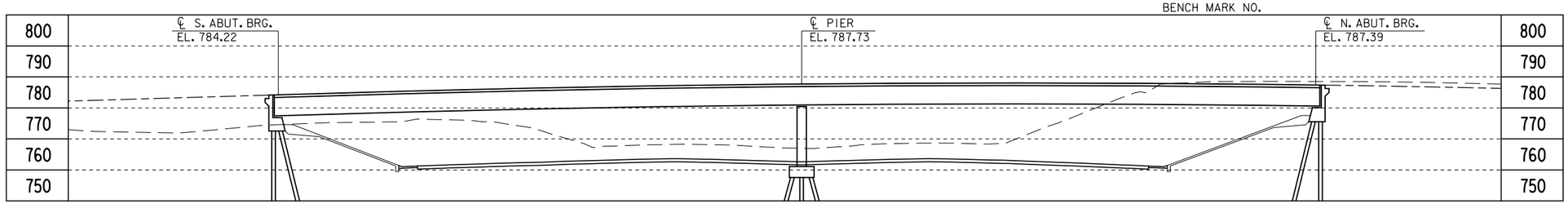
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 219

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.22

7:57:39 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V2.sht

BENCH MARK NO.



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS 0.03′ BELOW THE PROFILE GRADE TO ACCOUNT FOR PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

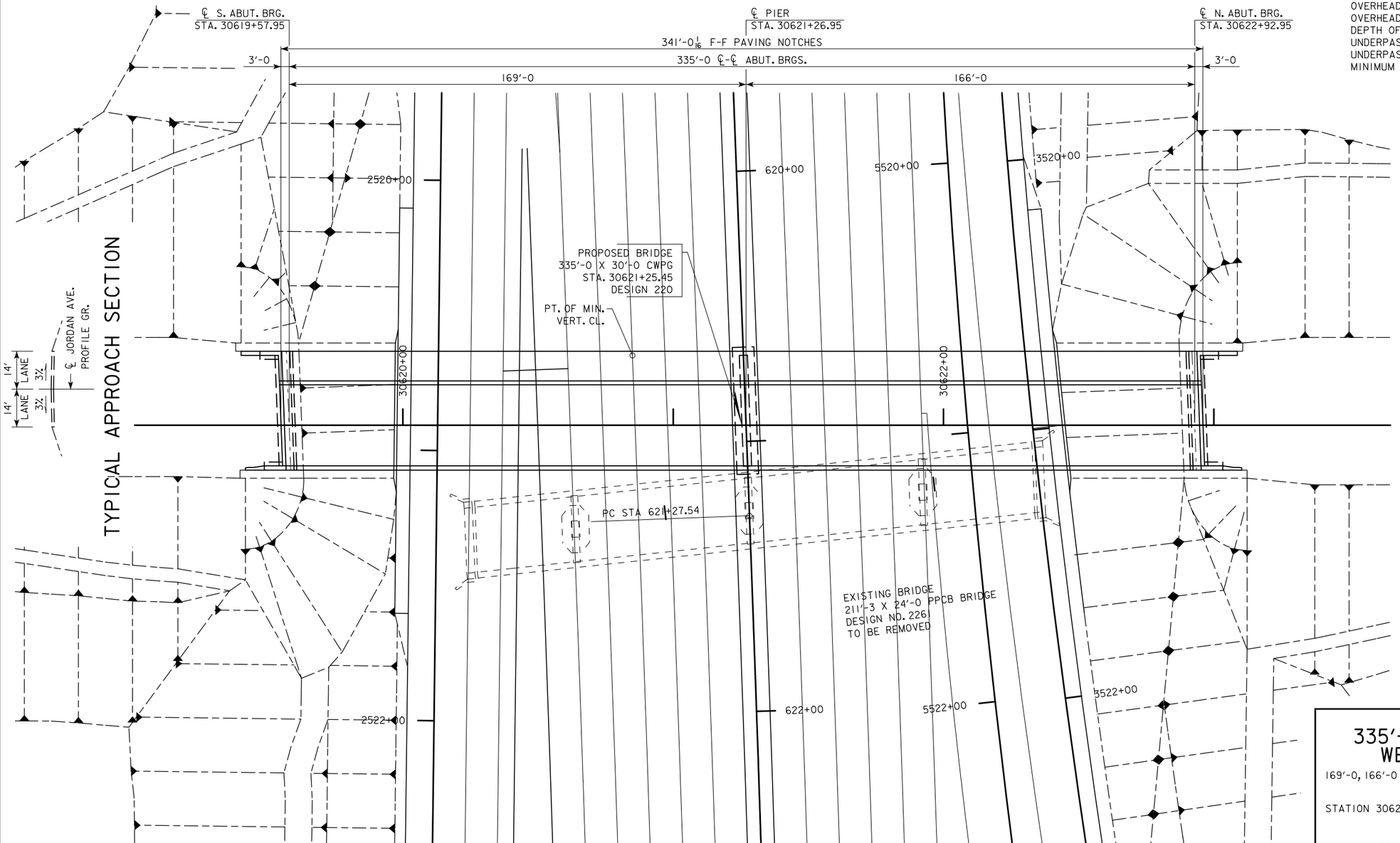
2.9557% -5.3000%

VPI STA = 30622+80.00 VC = 600′
VPI ELEV = 793.77

PROPOSED PROFILE GRADE JASPER AVE.

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 30620+84.94, 25.83′ LT.
OVERHEAD ELEVATION = 786.95
DEPTH OF SUPERSTRUCTURE = 6.76′
UNDERPASS STATION = 620+66.65, 41.00′ RT.
UNDERPASS ELEVATION = 763.60
MINIMUM VERTICAL CLEARANCE = 16.59′



SITUATION PLAN

LOCATION

JASPER AVE. OVER I-80
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 31981
BRIDGE MAINT. NO. 5238.70080
LATITUDE 41.694275°
LONGITUDE -91.646902°

PRELIMINARY

DESIGN FOR 3° 55′ 09.6″ SKEW (L.A.)

335′-0 X 30′-0 CONTINUOUS WELDED GIRDER BRIDGE

169′-0, 166′-0 SPANS

SITUATION PLAN

STATION 30621+25.45 MAR 2015

JOHNSON COUNTY

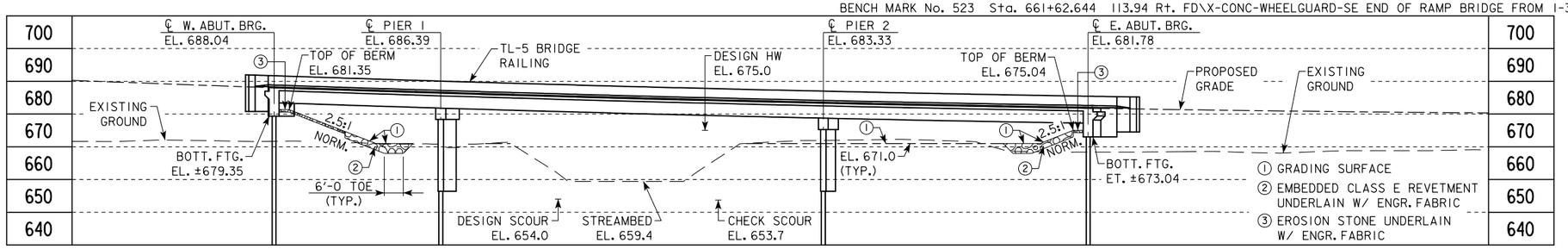
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 220

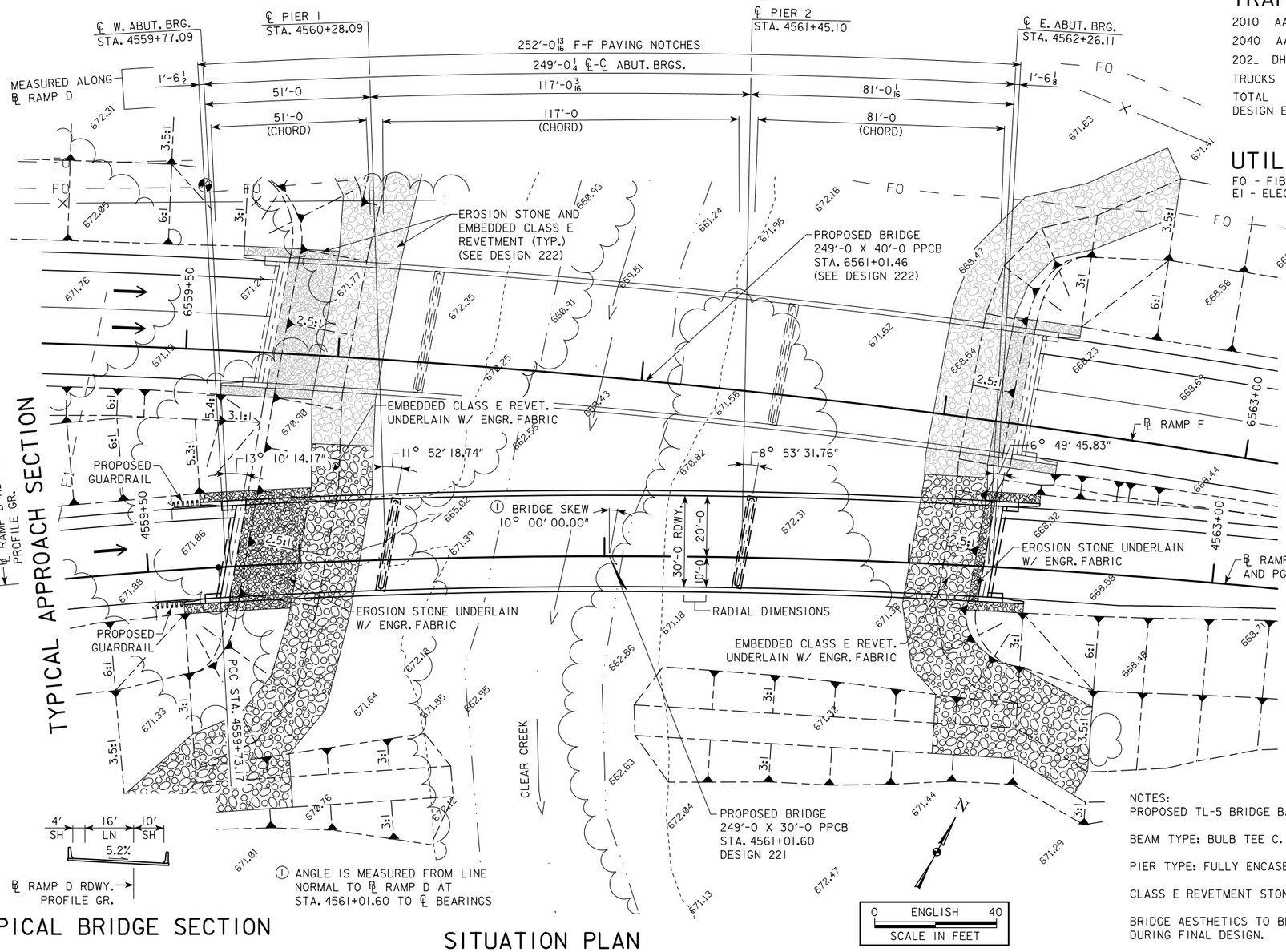
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.23

7:57:57 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht

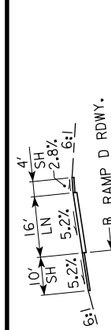
BENCH MARK No. 523 Sta. 661+62.644 113.94 Rt. FD\X-CONC-WHEELGUARD-SE END OF RAMP BRIDGE FROM I-380 N.BOUND TO I-80 EAST BOUND---------- 678.334



LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY



TYPICAL APPROACH SECTION



TYPICAL BRIDGE SECTION

① ANGLE IS MEASURED FROM LINE NORMAL TO ℄ RAMP D AT STA. 4561+01.60 TO ℄ BEARINGS

TRAFFIC ESTIMATE

2010 AADT	3,960	V.P.D.
2040 AADT	6,340	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	_	%
TOTAL DESIGN ESALs	_	

UTILITIES LEGEND:

FO - FIBER OPTIC - STATE OF IOWA ICN
EI - ELECTRIC - LINN CO. REC

CURVE DATA

PI STA. 4552+43.13
Δ = 77° 08' 03.54" (RT)
T = 1,060.48'
L = 1,790.51'
E = 371.03'
R = 1,330.00'
e = 6.00%
I = 186.00'
x = 62.00'
PC STA. 4541+82.66
PCC STA. 4559+73.17

CURVE DATA

PI STA. 4563+80.85
Δ = 20° 32' 25.78" (RT)
T = 407.69'
L = 806.62'
E = 36.64'
R = 2,250.00'
e = 5.25%
I = 162.00'
x = 62.00'
PCC STA. 4559+73.17
PT STA. 4567+79.79

NOTES:
PROPOSED TL-5 BRIDGE BARRIER RAIL.

BEAM TYPE: BULB TEE C.

PIER TYPE: FULLY ENCASED PILE BENT.

CLASS E REVETMENT STONE IS EMBEDDED.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

-4.5684% -0.4800%

VPI STA = 4561+00.00 VC = 570'
VPI ELEV = 681.48

PROPOSED PROFILE GRADE RAMP D

HYDRAULIC DATA

DRAINAGE AREA = 81 SQ. MI.
STREAM SLOPE = 3.7 FT./MI.
AVG. LOW WATER STAGE = 661.0

Q_{50} = 8,700 CFS
STAGE = 675.0
BACKWATER = 0.6 FT.
AVG. BRIDGE VELOCITY = 6.4 FPS

Q_{100} = 10,500 CFS
STAGE = 675.7
BACKWATER = 0.7 FT.
AVG. BRIDGE VELOCITY = 7.0 FPS

Q_{200} = 13,400 CFS
STAGE = 676.6
CALCULATED DESIGN SCOUR = 654.0

Q_{500} = 15,000 CFS
STAGE = 677.0
CALCULATED CHECK SCOUR = 653.7

ROADWAY OVERTOP 681.3
STA. 4567+80

50, 100 & 500 YR. STAGES AND DISCHARGES FROM JOHNSON COUNTY, IOWA F.I.S., DATED FEBRUARY 16, 2007.
F.I.S. DATUM - 0.10 FT = PROJECT DATUM.

HYDRAULIC DESIGN

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.

David R. Claman 2/19/2015
Signature Date
David R. Claman
Printed or Typed Name
My license renewal date is December 31, 2016
Pages or sheets covered by this seal: SHTS. 1 AND 2 OF 2

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
S-E CONNECTOR (RAMP D) OVER CLEAR CREEK
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 605146
LATITUDE 41.693376°
LONGITUDE -91.632077°

PRELIMINARY

DESIGN FOR 10° SKEW (LA) RADIUS = 2,250.00'

249'-0 X 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

51'-0, 81'-0 END SPANS (BTC BEAM TYPE) 117'-0 INTERIOR SPAN

SITUATION PLAN

STATION 4561+01.60 AUG 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 221

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.24

7:58:00 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht

BERM SLOPE LOCATION TABLE

POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	4560+13.57	24.58′ LT	670.40	4562+14.47	24.58′ LT	671.00
A2	4560+05.02	14.58′ RT	671.00	4562+09.54	14.58′ RT	671.00
B1	4559+87.34	24.58′ LT	681.35	4562+24.54	24.58′ LT	675.04
B2	4559+78.30	14.58′ RT	681.35	4562+19.79	14.58′ RT	675.04
W1	4559+68.37	24.58′ LT	689.23	4562+41.86	24.58′ LT	682.42
W2	4559+61.14	14.58′ RT	687.89	4562+38.46	14.58′ RT	680.91

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

REVETMENT LIMITS - WEST

(R1) 4560+14.60, 38.31′ LT

(R2) 4559+35.94, 88.77′ RT

(R3) 4559+93.52, 69.95′ RT

REVETMENT LIMITS - EAST

(R1) 4562+14.58, 29.17′ LT

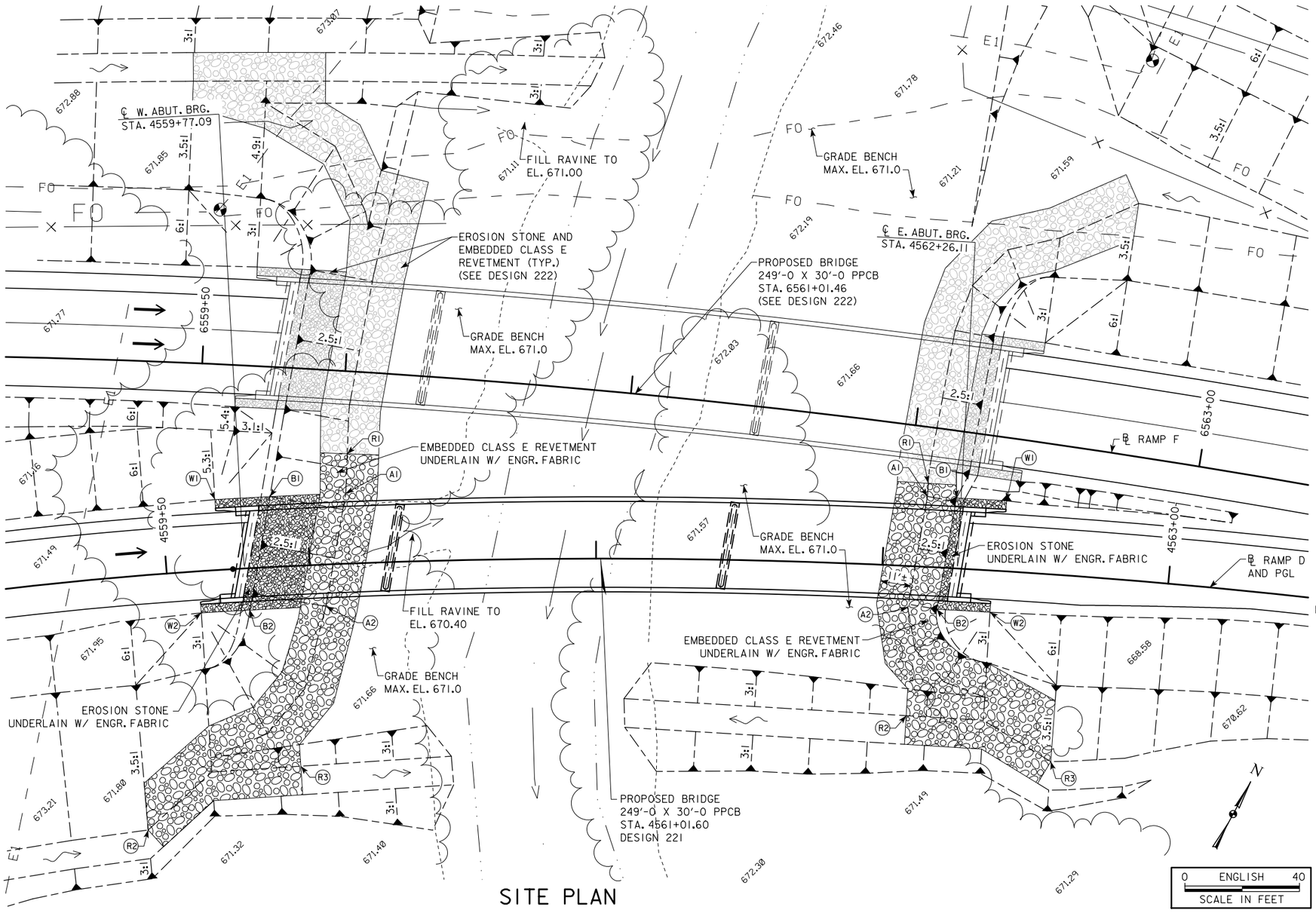
(R2) 4562+10.82, 52.25′ RT

(R3) 4562+63.57, 65.19′ RT

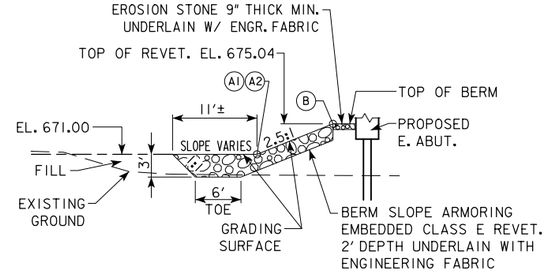
ESTIMATED BERM ARMORING QUANTITIES

LOCATION	REVETMENT CL. E (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - WEST ABUTMENT	469.0	35.2	558.6	315.1
BERM LINING - EAST ABUTMENT	334.6	5.3	375.0	212.4
TOTALS	803.6	40.5	933.6	527.5

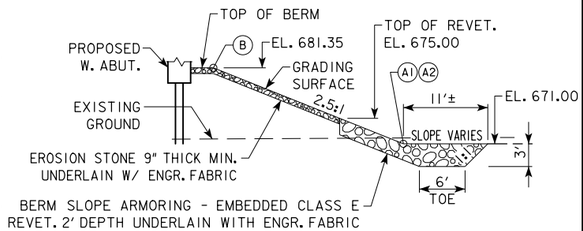
EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.



SITE PLAN



EMBEDDED BERM REVETMENT
(EAST ABUTMENT)



EMBEDDED BERM REVETMENT
(WEST ABUTMENT)

PRELIMINARY

DESIGN FOR 10° SKEW (LA) RADIUS = 2,250.00′

249′-0 X 30′-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

51′-0, 81′-0 END SPANS (BTC BEAM TYPE) 117′-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 4561+01.60 AUG 2014

JOHNSON COUNTY

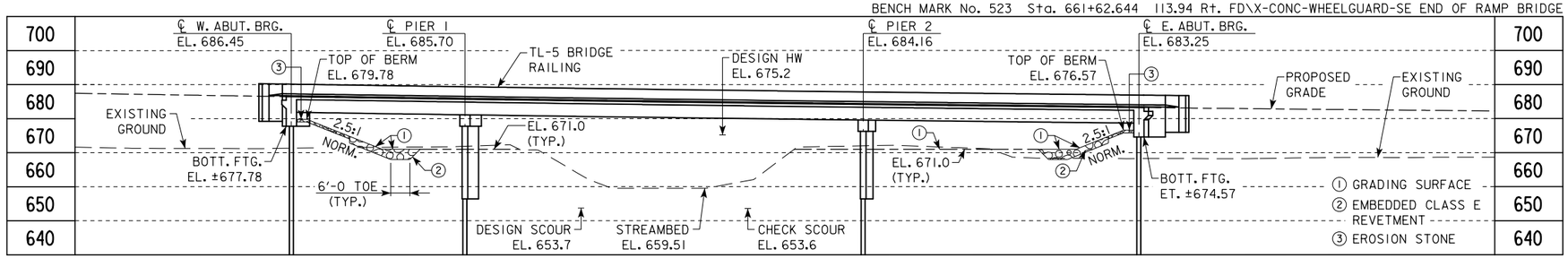
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 221

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.25

7:58:03 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht

BENCH MARK No. 523 Sta. 661+62.644 113.94 Rt. FD\X-CONC-WHEELGUARD-SE END OF RAMP BRIDGE FROM I-380 N.BOUND TO I-80 EAST BOUND---------- 678.334



LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

-3.8620% 0.1600%

VPI STA = 6558+00.00 VC = 2,150.00'
VPI ELEV = 678.63

PROPOSED PROFILE GRADE RAMP F

HYDRAULIC DATA

DRAINAGE AREA = 81 SQ. MI.
STREAM SLOPE = 3.7 FT./MI.
AVG. LOW WATER STAGE = 661.0

Q_{50} = 8,700 CFS
STAGE = 675.2
BACKWATER = 0.9 FT.
AVG. BRIDGE VELOCITY = 5.9 FPS

Q_{100} = 10,500 CFS
STAGE = 675.9
BACKWATER = 1.0 FT.
AVG. BRIDGE VELOCITY = 6.4 FPS

Q_{200} = 13,400 CFS
STAGE = 676.9
CALCULATED DESIGN SCOUR = 653.7

Q_{500} = 15,000 CFS
STAGE = 677.4
CALCULATED CHECK SCOUR = 653.6

ROADWAY OVERTOP 681.3
STA. 6567+89

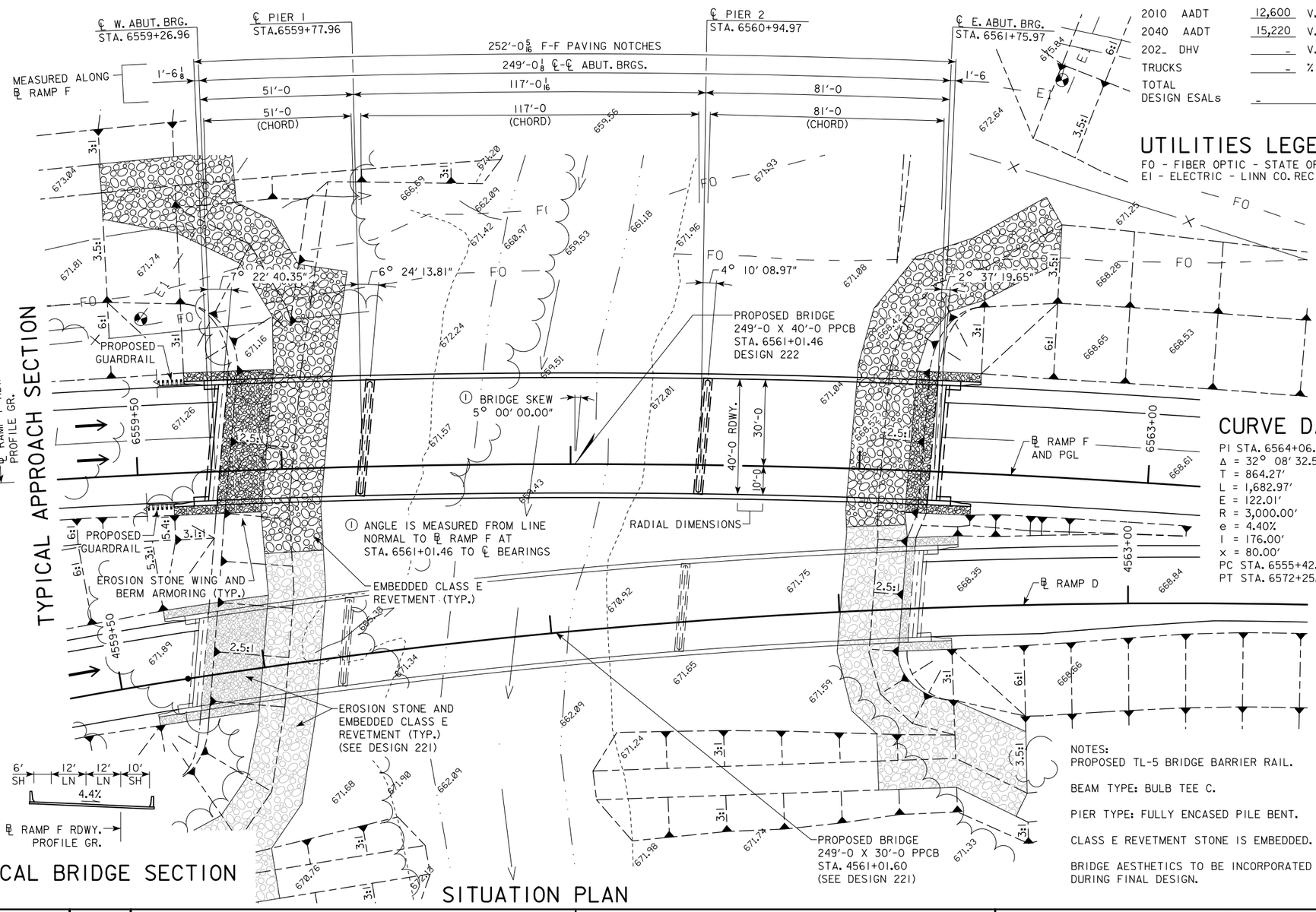
50, 100 & 500 YR. STAGES AND DISCHARGES FROM JOHNSON COUNTY, IOWA F.I.S., DATED FEBRUARY 16, 2007.
F.I.S. DATUM - 0.10 FT = PROJECT DATUM.

TRAFFIC ESTIMATE

2010 AADT	12,600	V.P.D.
2040 AADT	15,220	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	_	%
TOTAL DESIGN ESALs	_	

UTILITIES LEGEND:

FO - FIBER OPTIC - STATE OF IOWA ICN
EI - ELECTRIC - LINN CO. REC



TYPICAL APPROACH SECTION

TYPICAL BRIDGE SECTION

SITUATION PLAN

CURVE DATA

PI STA. 6564+06.30
Δ = 32° 08' 32.50" (RT)
T = 864.27'
L = 1,682.97'
E = 122.01'
R = 3,000.00'
e = 4.40%
I = 176.00'
x = 80.00'
PC STA. 6555+42.03
PT STA. 6572+25.00

NOTES:
PROPOSED TL-5 BRIDGE BARRIER RAIL.

BEAM TYPE: BULB TEE C.

PIER TYPE: FULLY ENCASED PILE BENT.

CLASS E REVETMENT STONE IS EMBEDDED.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

HYDRAULIC DESIGN

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.

David R. Claman 2/19/2015
Signature Date
David R. Claman
Printed or Typed Name

My license renewal date is December 31, 2016

Pages or sheets covered by this seal: SHTS. 1 AND 2 OF 2

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
N-E CONNECTOR (RAMP F) OVER CLEAR CREEK
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 700740
LATITUDE 41.693532°
LONGITUDE -91.632133°

PRELIMINARY

DESIGN FOR 5° SKEW (LA) RADIUS = 3,000.00'

249'-0 X 40'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

51'-0, 81'-0 END SPANS (BTC BEAM TYPE) 117'-0 INTERIOR SPAN

SITUATION PLAN

STATION 6561+01.46 SEPT 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 222

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.26

7:58:05 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht

BERM SLOPE LOCATION TABLE

POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	6560+07.72	34.58' LT	671.00	6562+09.29	34.58' LT	671.00
A2	6560+02.08	14.58' RT	670.90	6562+06.76	14.58' RT	671.00
B1	6559+85.87	34.58' LT	679.78	6562+23.08	34.58' LT	676.57
B2	6559+79.62	14.58' RT	679.78	6562+20.77	14.58' RT	676.57
W1	6559+67.43	34.58' LT	687.77	6562+40.69	34.58' LT	684.26
W2	6559+62.11	14.58' RT	686.09	6562+39.05	14.58' RT	682.52

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

REVETMENT LIMITS - WEST

(R1) 6560+02.44, 28.81' RT

(R2) 6559+42.68, 98.31' LT

(R3) 6559+87.33, 100.62' LT

(R4) 6560+13.74, 69.62' LT

REVETMENT LIMITS - EAST

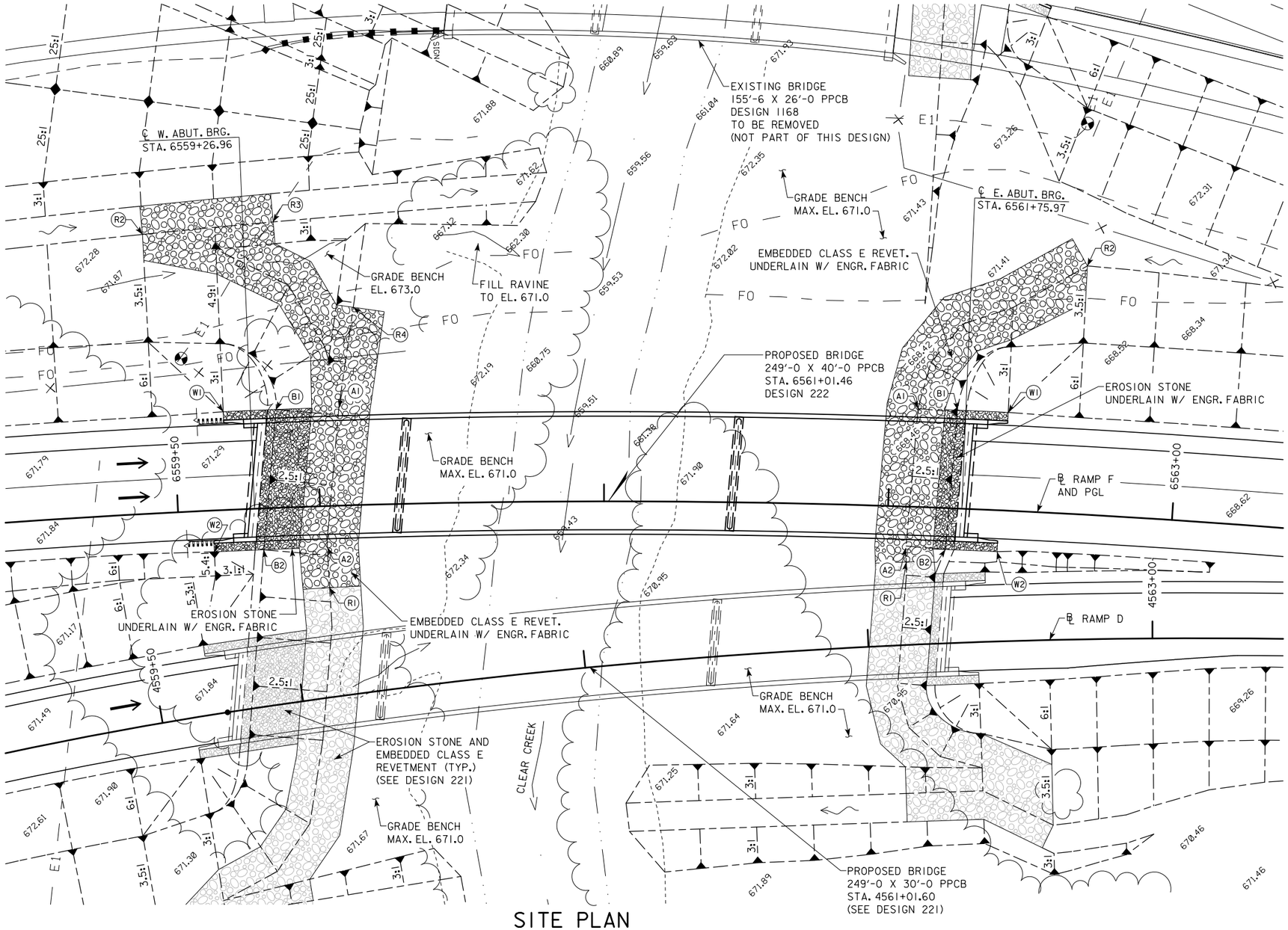
(R1) 6562+07.04, 19.53' RT

(R2) 6562+65.44, 87.48' LT

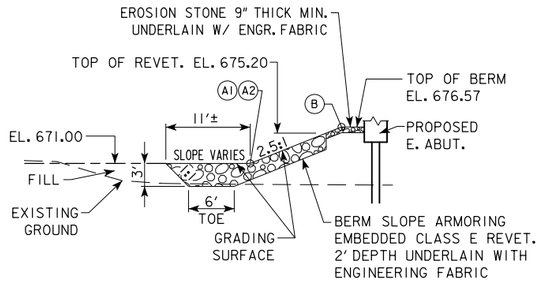
ESTIMATED BERM ARMORING QUANTITIES

LOCATION	REVETMENT CL. E (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - WEST ABUTMENT	512.5	34.4	614.6	341.8
BERM LINING - EAST ABUTMENT	376.0	16.6	429.7	245.4
TOTALS	888.5	51.0	1,044.3	587.2

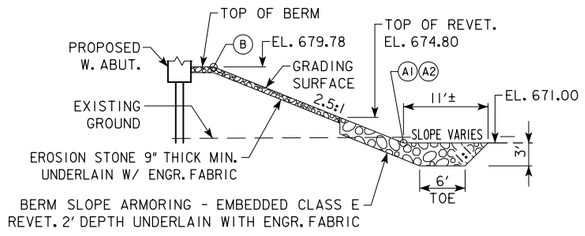
EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.



SITE PLAN



EMBEDDED BERM REVETMENT
(EAST ABUTMENT)



EMBEDDED BERM REVETMENT
(WEST ABUTMENT)

PRELIMINARY

DESIGN FOR 5° SKEW (LA) RADIUS = 3,000.00'

249'-0 X 40'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

51'-0, 81'-0 END SPANS (BTC BEAM TYPE) 117'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 6561+01.46 SEPT 2014

JOHNSON COUNTY

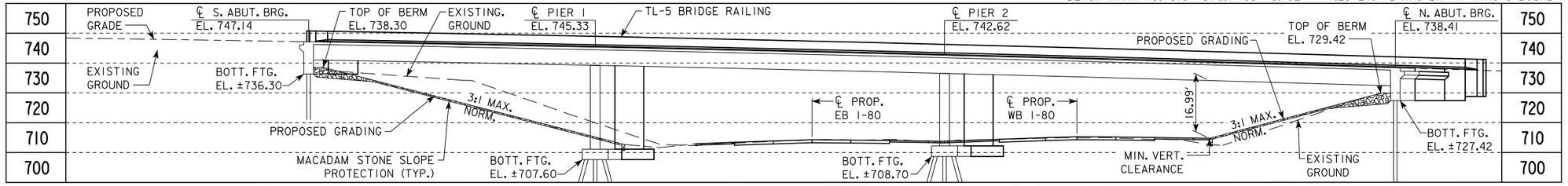
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 222

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.27

7:58:08 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht

BENCH MARK No. 519 Sta.1165+48.102 77.23 Lt. FD\IHC-BM-NW-WING-S-BOUND I-380 BRIDGE OVER I-80--------- 737.910



0.4998% -2.8780%

VPI STA = 1160+25.00 VC = 850'
VPI ELEV = 751.89

PROPOSED PROFILE GRADE I-380

-2.9780% -0.5000%

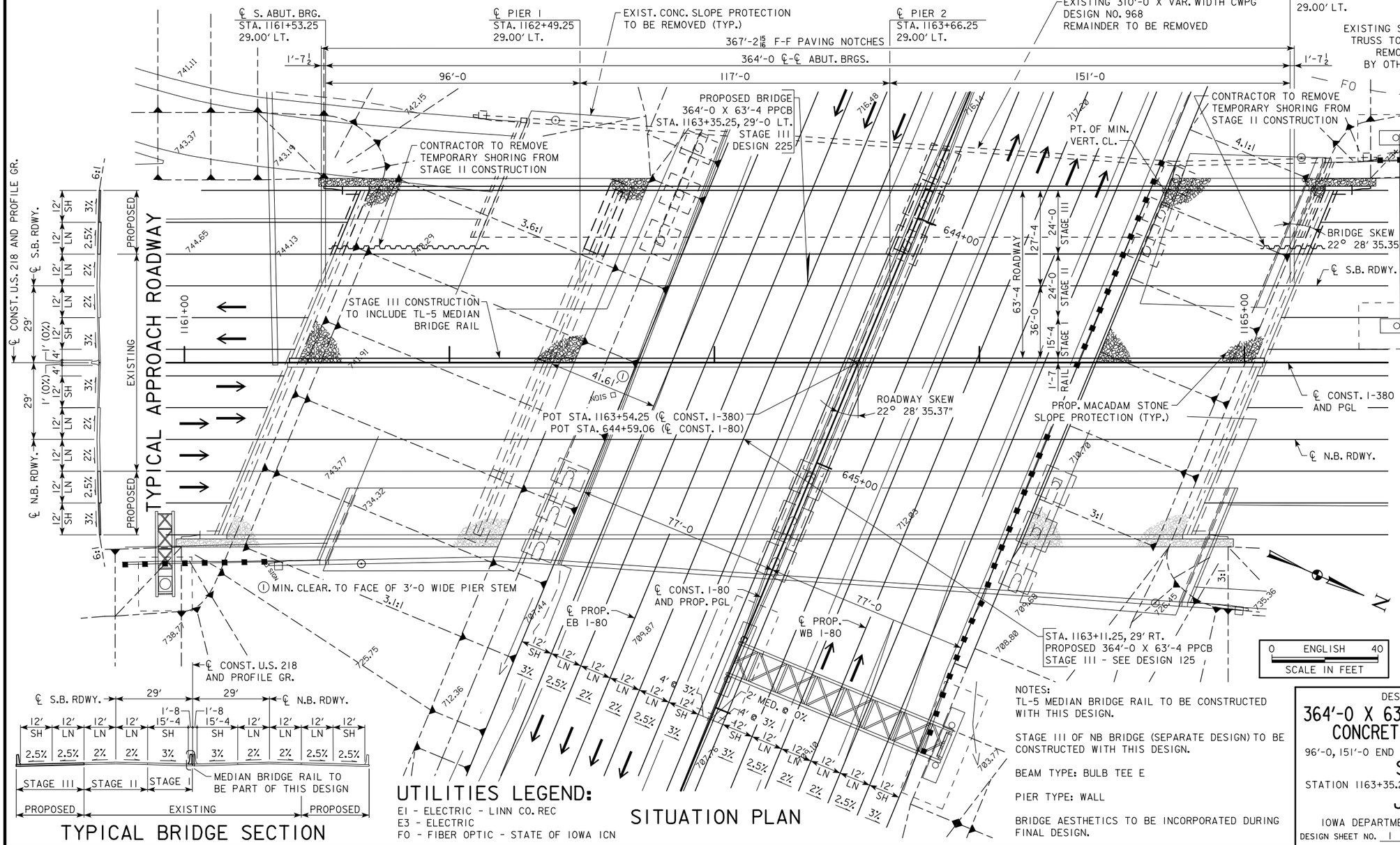
NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ ROADWAY

(LONGITUDINAL SECTION THROUGH STAGE II CONSTRUCTION)

VPI STA = 652+25.00 VC = 450'
VPI ELEV = 690.01

PROPOSED PROFILE GRADE I-80



TRAFFIC ESTIMATE

INTERSTATE 380

2020 AADT	11,600	V.P.D.
2040 AADT	17,270	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	14	%
TOTAL DESIGN ESALs	_	

TRAFFIC ESTIMATE

INTERSTATE 80

2020 AADT	16,360	V.P.D.
2040 AADT	25,890	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	30	%
TOTAL DESIGN ESALs	_	

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1164+69.89, OFFSET 65.00' LT.
OVERHEAD ELEVATION = 738.97
DEPTH OF SUPERSTRUCTURE = 6.08'
UNDERPASS STATION = 643+54.79, OFFSET 82.00' LT.
UNDERPASS ELEVATION = 715.90
MINIMUM VERTICAL CLEARANCE = 16.99'

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
S.B. I-380 OVER I-80
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600361
BRIDGE MAINT. NO. 5200.0L380
LATITUDE 41.694263°
LONGITUDE -91.638315°

PRELIMINARY

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH THIS DESIGN.

STAGE III OF NB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN.

BEAM TYPE: BULB TEE E

PIER TYPE: WALL

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

DESIGN FOR 22° 28' 35.37" SKEW L.A.

364'-0 X 63'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE III

96'-0, 151'-0 END SPANS (BTE BEAM) 117'-0 INTERIOR SPAN

SITUATION PLAN

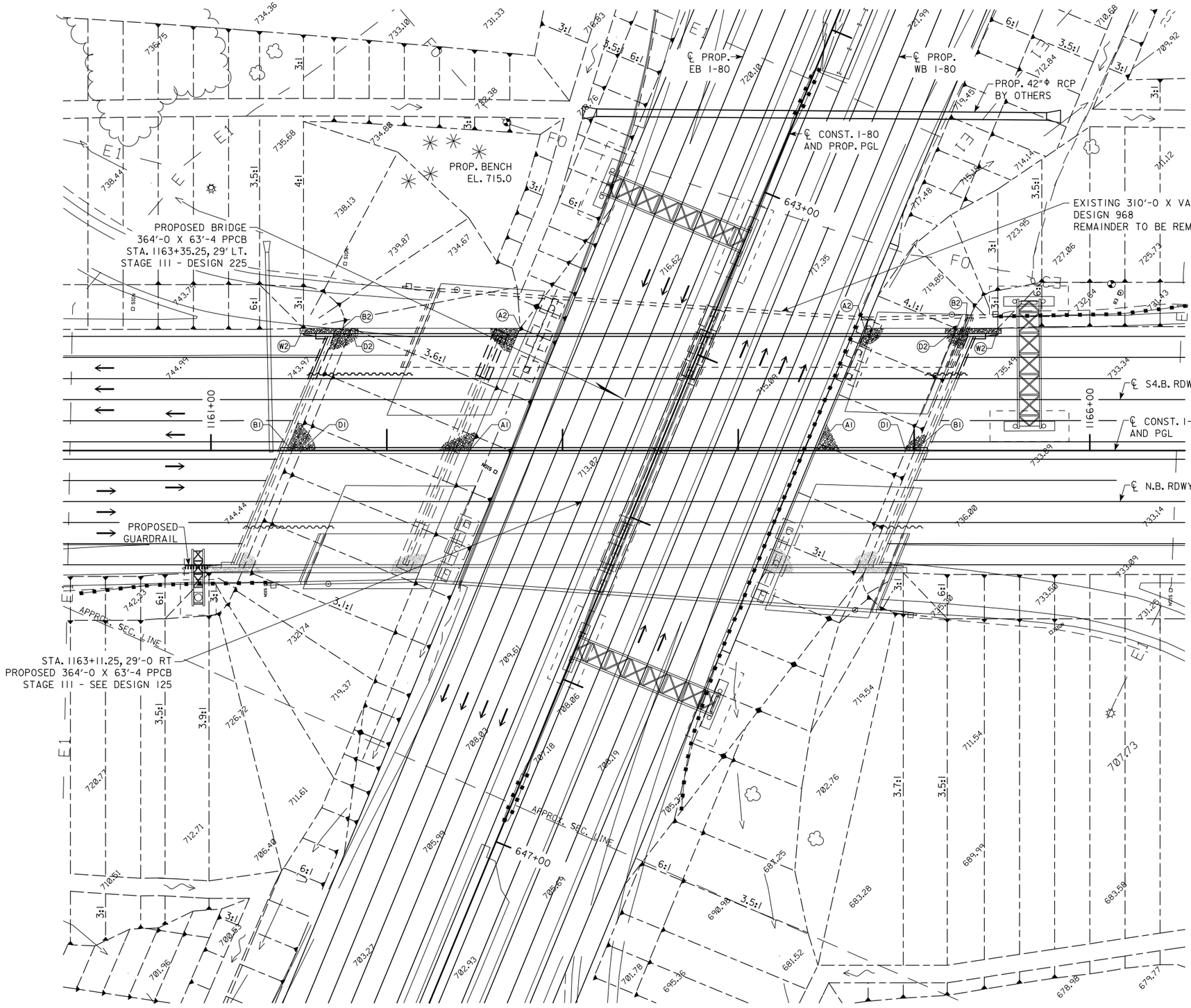
STATION 1163+35.25, 29' LEFT ℄ CONST. I-380 NOV 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 225

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.28



SITE PLAN

BERM SLOPE LOCATION TABLE

	SOUTH ABUTMENT			NORTH ABUTMENT		
POINTS	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	1162+47.11	0.00'	711.72	1164+42.99	0.00'	713.80
A2	1162+75.90	69.58' LT	713.97	1164+71.78	69.58' LT	716.04
B1	1161+46.12	0.00'	738.92	1165+00.38	0.00'	730.36
B2	1161+74.91	69.58' LT	738.30	1165+29.17	69.58' LT	729.42
D1	1161+51.38	0.00'	737.30	1164+95.13	0.00'	728.42
D2	1161+80.17	69.58' LT	737.30	1165+23.92	69.58' LT	728.42
W1	--	--	--	--	--	--
W2	1161+52.65	69.58' LT	746.19	1165+47.65	69.58' LT	736.58

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

N

0 ENGLISH 60
SCALE IN FEET

PRELIMINARY

DESIGN FOR 22° 28' 35.37" SKEW L.A.

364'-0 X 63'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE III

96'-0, 151'-0 END SPANS (BTE BEAM) 117'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 1163+11.25, 29' LEFT ℄ CONST. I-380 NOV 2014

JOHNSON COUNTY

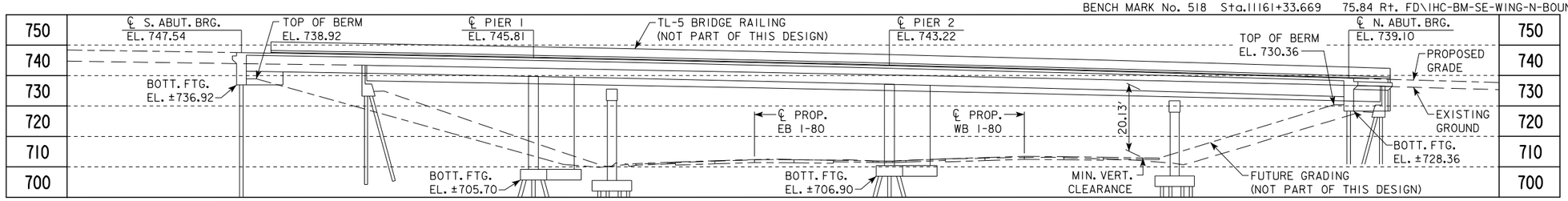
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 225

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.29

7:58:13 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht

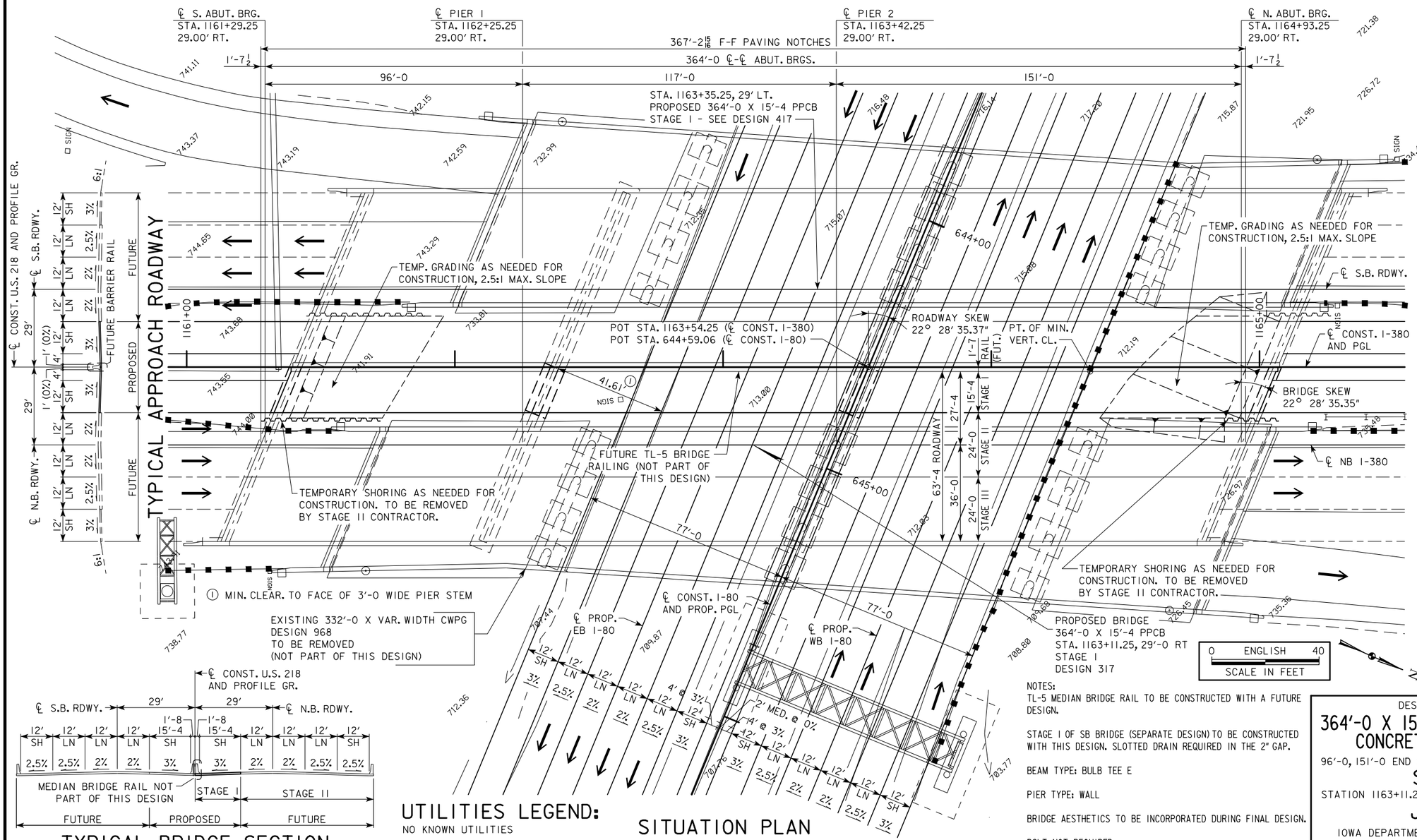
BENCH MARK No. 518 Sta.1161+33.669 75.84 Rt. FD\IHC-BM-SE-WING-N-BOUND I-380 BRIDGE OVER I-80--------- 746.360



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ ROADWAY

(LONGITUDINAL SECTION THROUGH FUTURE STAGE II CONSTRUCTION)



TYPICAL BRIDGE SECTION

UTILITIES LEGEND:

NO KNOWN UTILITIES

SITUATION PLAN

0.4998% ○ -2.8780%

VPI STA = 1160+25.00 VC = 850'
VPI ELEV = 751.89

PROPOSED PROFILE GRADE I-380

-2.9780% ○ -0.5000%

VPI STA = 652+25.00 VC = 450'
VPI ELEV = 690.01

PROPOSED PROFILE GRADE I-80

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1164+36.89, OFFSET 1.67' RT.
OVERHEAD ELEVATION = 740.05
DEPTH OF SUPERSTRUCTURE = 6.08'
UNDERPASS STATION = 644+29.01, OFFSET 77.00' LT.
UNDERPASS ELEVATION = 713.84
MINIMUM VERTICAL CLEARANCE = 20.13'

TRAFFIC ESTIMATE

INTERSTATE 380

2020	AADT	11,670	V.P.D.
2040	AADT	17,090	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		14	%
TOTAL DESIGN ESALs		_	

TRAFFIC ESTIMATE

INTERSTATE 80

2020	AADT	16,360	V.P.D.
2040	AADT	25,890	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		30	%
TOTAL DESIGN ESALs		_	

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
N.B. I-380 OVER I-80
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600351
BRIDGE MAINT. NO. 5200.0R380
LATITUDE 41.694263°
LONGITUDE -91.638085°

PRELIMINARY

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE I OF SB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BEAM TYPE: BULB TEE E

PIER TYPE: WALL

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

BSLT NOT REQUIRED.

DESIGN FOR 22° 28' 35.37" SKEW L.A.

364'-0 X 15'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE I

96'-0, 151'-0 END SPANS (BTE BEAM) 117'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1163+11.25, 29' RIGHT ℄ CONST. I-380 JUNE 2014

JOHNSON COUNTY

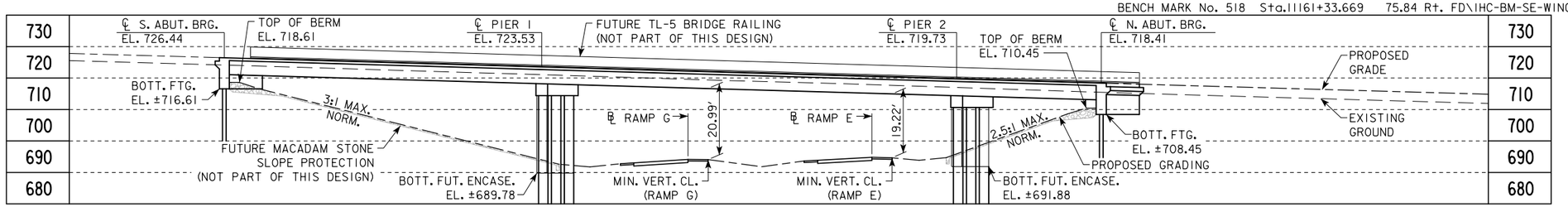
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 317

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.30

7:58:16 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht

BENCH MARK No. 518 Sta.1116+33.669 75.84 Rt. FD\IHC-BM-SE-WING-N-BOUND I-380 BRIDGE OVER I-80--------- 746.360



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

0.4998% -2.8780% 2.4997%

VPI STA = 1160+25.00
VPI ELEV = 751.89
VC = 850'

VPI STA = 1184+75.00
VPI ELEV = 681.38
VC = 1000'

PROPOSED PROFILE GRADE I-380

2.5300% -2.2758%

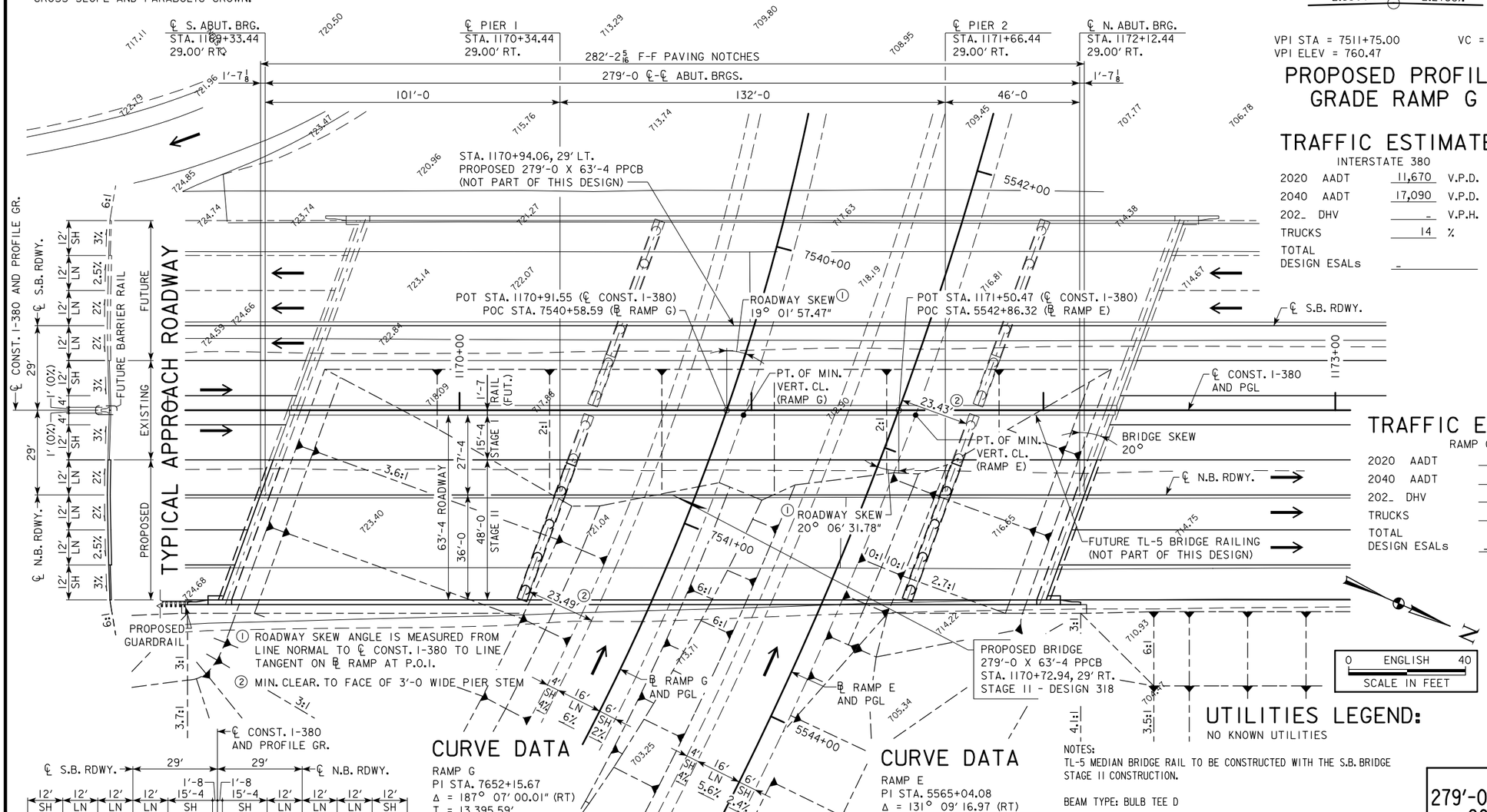
VPI STA = 7511+75.00
VPI ELEV = 760.47
VC = 875'

PROPOSED PROFILE GRADE RAMP G

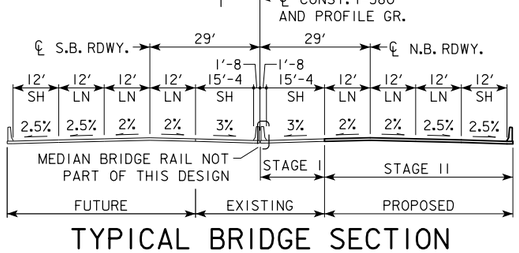
-4.6355% 1.6000%

VPI STA = 5542+00.00
VPI ELEV = 691.19
VC = 600'

PROPOSED PROFILE GRADE RAMP E



TYPICAL BRIDGE SECTION



CURVE DATA

RAMP G
PI STA. 7652+15.67
Δ = 187° 07' 00.01" (RT)
T = 13,395.59'
L = 2,720.41'
E = 14,254.47'
R = 833.00'
e = 6.0%
I = 168'
x = 56'
PC STA. 7515+70.07
PT STA. 7545+40.49

SITUATION PLAN

CURVE DATA

RAMP E
PI STA. 5565+04.08
Δ = 131° 09' 16.97 (RT)
T = 2,807.77'
L = 2,918.58'
E = 1,808.70
R = 1,275.00'
e = 5.6%
I = 157'
x = 56'
PC STA. 5536+96.31
PT STA. 5566+14.89

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH THE S.B. BRIDGE STAGE II CONSTRUCTION.

BEAM TYPE: BULB TEE D

PIER TYPE: DRILLED SHAFTS (ENCASED WALL)

WALL PIER ENCASEMENT TO BE CONSTRUCTED WITH THE S.B. BRIDGE STAGE II CONSTRUCTION.

MACADAM STONE SLOPE PROTECTION FOR BOTH BRIDGES TO BE INSTALLED WITH THE S.B. BRIDGE STAGE II CONSTRUCTION.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

TRAFFIC ESTIMATE

INTERSTATE 380

2020	AADT	11,670	V.P.D.
2040	AADT	17,090	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		14	%
TOTAL DESIGN ESALs		_	

TRAFFIC ESTIMATE

RAMP G

2020	AADT	3,740	V.P.D.
2040	AADT	4,890	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		_	%
TOTAL DESIGN ESALs		_	

TRAFFIC ESTIMATE

RAMP E

2020	AADT	2,380	V.P.D.
2040	AADT	3,060	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		_	%
TOTAL DESIGN ESALs		_	

MINIMUM VERTICAL CLEARANCES

RAMP E
OVERHEAD STATION = 1171+56.25, OFFSET 1.67' RT.
OVERHEAD ELEVATION = 719.35
DEPTH OF SUPERSTRUCTURE = 5.33'
UNDERPASS STATION = 5542+85.90, OFFSET 6.00' LT.
UNDERPASS ELEVATION = 694.80
MINIMUM VERTICAL CLEARANCE = 19.22'

RAMP G
OVERHEAD STATION = 1170+97.32, OFFSET 1.67' RT.
OVERHEAD ELEVATION = 721.05
DEPTH OF SUPERSTRUCTURE = 5.33'
UNDERPASS STATION = 7540+58.29, OFFSET 6.00' LT.
UNDERPASS ELEVATION = 694.73
MINIMUM VERTICAL CLEARANCE = 20.99'

UTILITIES LEGEND:

NO KNOWN UTILITIES

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
N.B. I-380 OVER S-W CONNECTOR
U.S. 218 TO I-80 (RAMP E) AND OVER
E-S CONNECTOR I-80 TO U.S. 218 (RAMP G)
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 700700
LATITUDE 41.696200°
LONGITUDE -91.639158°

PRELIMINARY

DESIGN FOR 20° SKEW L.A.

279'-0 X 63'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

101'-0, 46'-0 END SPANS (BTD BEAM) 132'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1170+72.94, 29' RIGHT ℄ CONST. I-380 DEC 2014

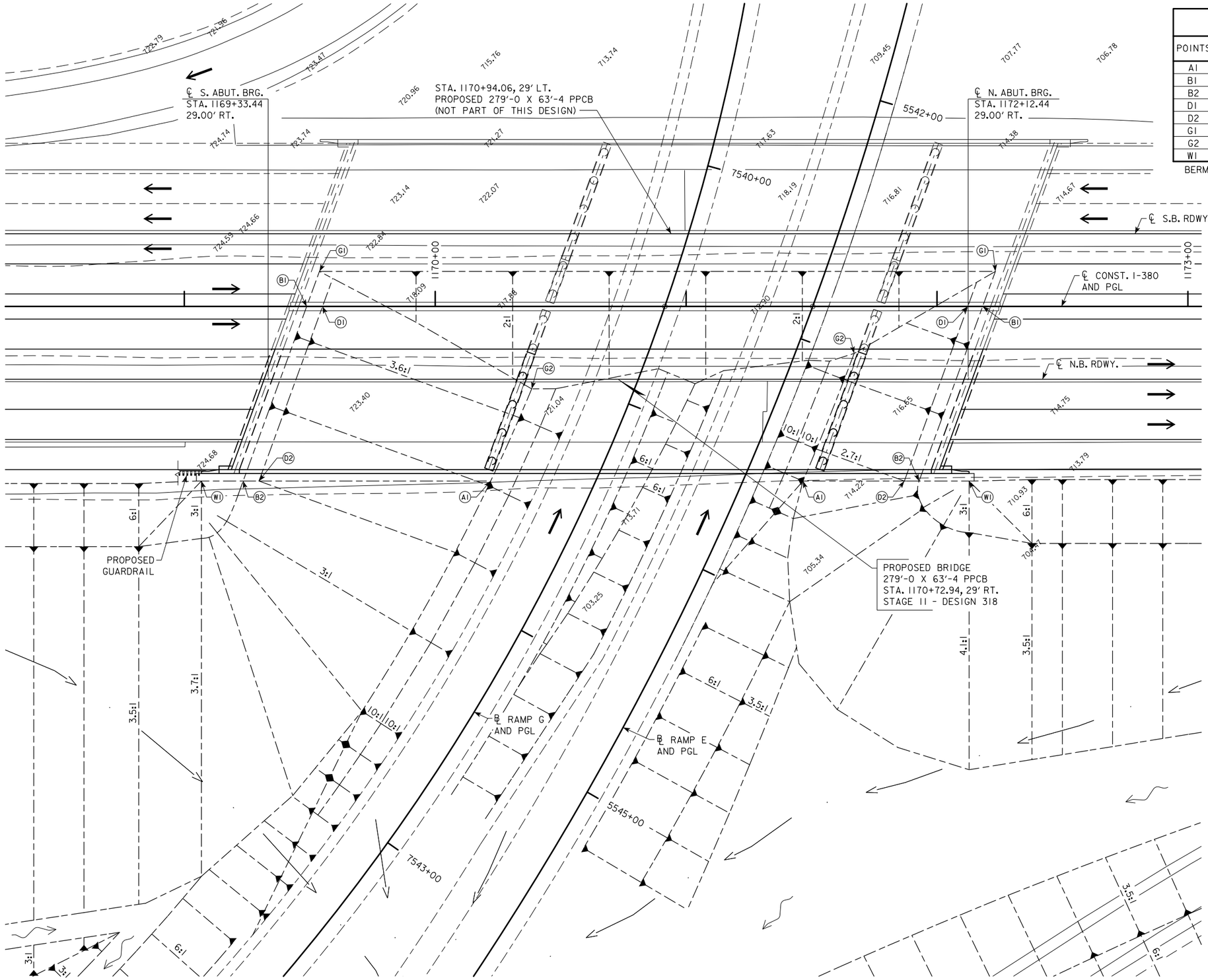
JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 318

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.31

7:58:19 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht



SITE PLAN

BERM SLOPE LOCATION TABLE

POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
AI	1170+22.13	69.58′ RT	691.57	1171+46.59	69.58′ RT	694.62
BI	1169+48.79	0.00′	718.61	1172+18.21	0.00′	710.45
B2	1169+23.46	69.58′ RT	718.61	1171+92.88	69.58′ RT	710.45
DI	1169+55.11	0.00′	716.63	1172+12.31	0.00′	708.60
D2	1169+29.78	69.58′ RT	716.63	1171+86.98	69.58′ RT	708.60
GI	1169+53.88	14.00′ LT	718.41	1172+23.31	14.00′ LT	710.28
G2	1170+38.47	32.83′ RT	692.57	1171+66.99	18.71′ RT	694.87
WI	1169+06.84	69.58′ RT	726.24	1172+12.84	69.58′ RT	717.43

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

PRELIMINARY

DESIGN FOR 20° SKEW L.A.

279′-0 X 63′-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

101′-0, 46′-0 END SPANS (BTD BEAM) 132′-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 1170+72.94, 29′ RIGHT ℄ CONST. I-380 DEC 2014

JOHNSON COUNTY

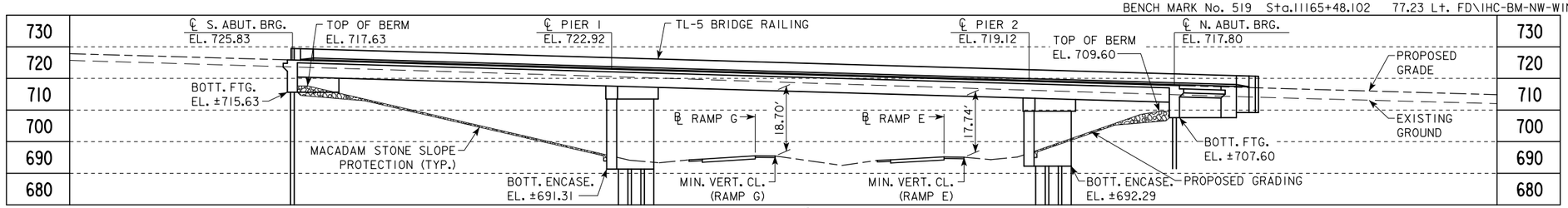
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 318

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.32

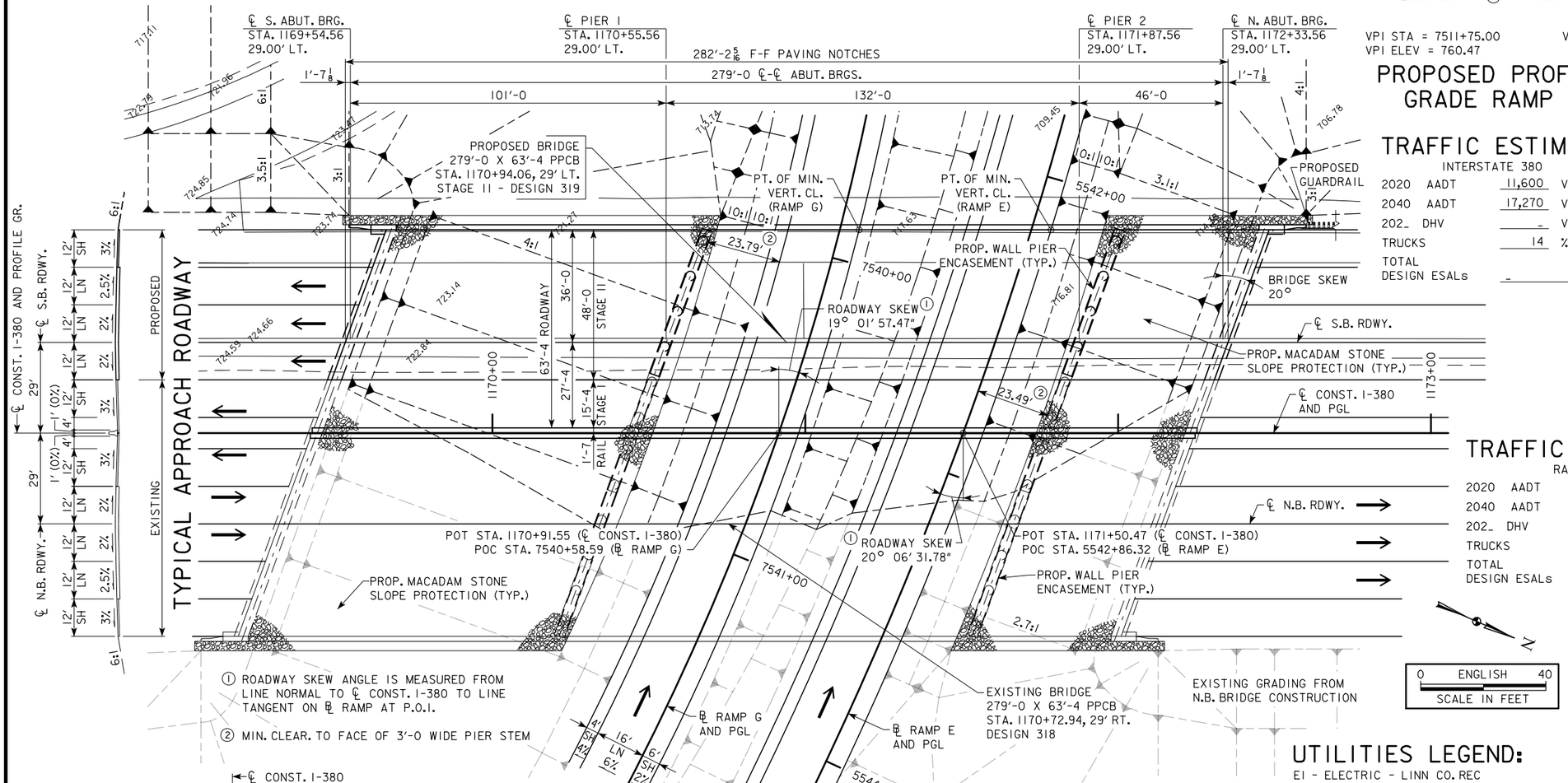
7:58:22 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht

BENCH MARK No. 519 Sta.1165+48.102 77.23 Lt. FD\IHC-BM-NW-WING-S-BOUND I-380 BRIDGE OVER I-80--------- 737.910



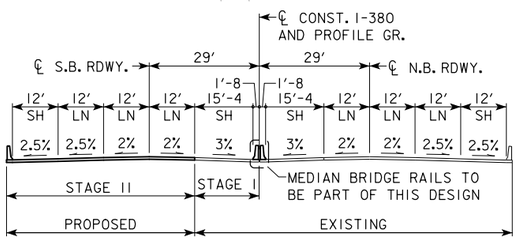
NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE BRIDGE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY



① ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ℄ CONST. I-380 TO LINE TANGENT ON ℄ RAMP AT P.O.I.

② MIN. CLEAR. TO FACE OF 3'-0 WIDE PIER STEM



TYPICAL BRIDGE SECTION

CURVE DATA

RAMP G
PI STA. 7652+15.67
Δ = 187° 07' 00.01" (RT)
T = 13,395.59'
L = 2,720.41'
E = 14,254.47'
R = 833.00'
e = 6.0%
l = 168'
x = 56'
PC STA. 7515+70.07
PT STA. 7545+40.49

SITUATION PLAN

CURVE DATA

RAMP E
PI STA. 5565+04.08
Δ = 131° 09' 16.97 (RT)
T = 2,807.77'
L = 2,918.58'
E = 1,808.70
R = 1,275.00'
e = 5.6%
l = 157'
x = 56'
PC STA. 5536+96.31
PT STA. 5566+14.89

NOTES:
TL-5 MEDIAN BRIDGE RAIL ON BOTH BRIDGES TO BE CONSTRUCTED WITH THIS DESIGN.

BEAM TYPE: BULB TEE D

PIER TYPE: DRILLED SHAFTS (ENCASED WALL)

WALL PIER ENCASEMENT ON BOTH BRIDGES TO BE CONSTRUCTED WITH THIS DESIGN.

MACADAM STONE SLOPE PROTECTION FOR BOTH BRIDGES TO BE INSTALLED WITH THIS DESIGN.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

UTILITIES LEGEND:

EI - ELECTRIC - LINN CO. REC

0.4998% -2.8780% 2.4997%

VPI STA = 1160+25.00
VPI ELEV = 751.89
VC = 850'

VPI STA = 1184+75.00
VPI ELEV = 681.38
VC = 1000'

PROPOSED PROFILE GRADE I-380

2.5300% -2.2758%

VPI STA = 7511+75.00
VPI ELEV = 760.47
VC = 875'

PROPOSED PROFILE GRADE RAMP G

-4.6355% 1.6000%

VPI STA = 5542+00.00
VPI ELEV = 691.19
VC = 600'

PROPOSED PROFILE GRADE RAMP E

TRAFFIC ESTIMATE

INTERSTATE 380

2020	AADT	11,600	V.P.D.
2040	AADT	17,270	V.P.D.
202_	DHV	-	V.P.H.
TRUCKS		14	%
TOTAL DESIGN ESALs		-	

TRAFFIC ESTIMATE

RAMP G

2020	AADT	3,740	V.P.D.
2040	AADT	4,890	V.P.D.
202_	DHV	-	V.P.H.
TRUCKS		-	%
TOTAL DESIGN ESALs		-	

TRAFFIC ESTIMATE

RAMP E

2020	AADT	2,380	V.P.D.
2040	AADT	3,060	V.P.D.
202_	DHV	-	V.P.H.
TRUCKS		-	%
TOTAL DESIGN ESALs		-	

MINIMUM VERTICAL CLEARANCES

RAMP E
OVERHEAD STATION = 1171+78.58, OFFSET 65.00' LT.
OVERHEAD ELEVATION = 718.57
DEPTH OF SUPERSTRUCTURE = 5.33'
UNDERPASS STATION = 5542+15.91, OFFSET 6.00' LT.
UNDERPASS ELEVATION = 695.50
MINIMUM VERTICAL CLEARANCE = 17.74'

RAMP G
OVERHEAD STATION = 1171+17.24, OFFSET 65.00' LT.
OVERHEAD ELEVATION = 720.34
DEPTH OF SUPERSTRUCTURE = 5.33'
UNDERPASS STATION = 7539+89.19, OFFSET 6.00' LT.
UNDERPASS ELEVATION = 696.31
MINIMUM VERTICAL CLEARANCE = 18.70'

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
S.B. I-380 OVER S-W CONNECTOR
U.S. 218 TO I-80 (RAMP E) AND OVER
E-S CONNECTOR I-80 TO U.S. 218 (RAMP G)
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 700705
LATITUDE 41.696192°
LONGITUDE -91.639384°
PRELIMINARY

DESIGN FOR 20° SKEW L.A.

279'-0 X 63'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

101'-0, 46'-0 END SPANS (BTD BEAM) 132'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1170+94.06, 29' LEFT ℄ CONST. I-380 DEC 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 319

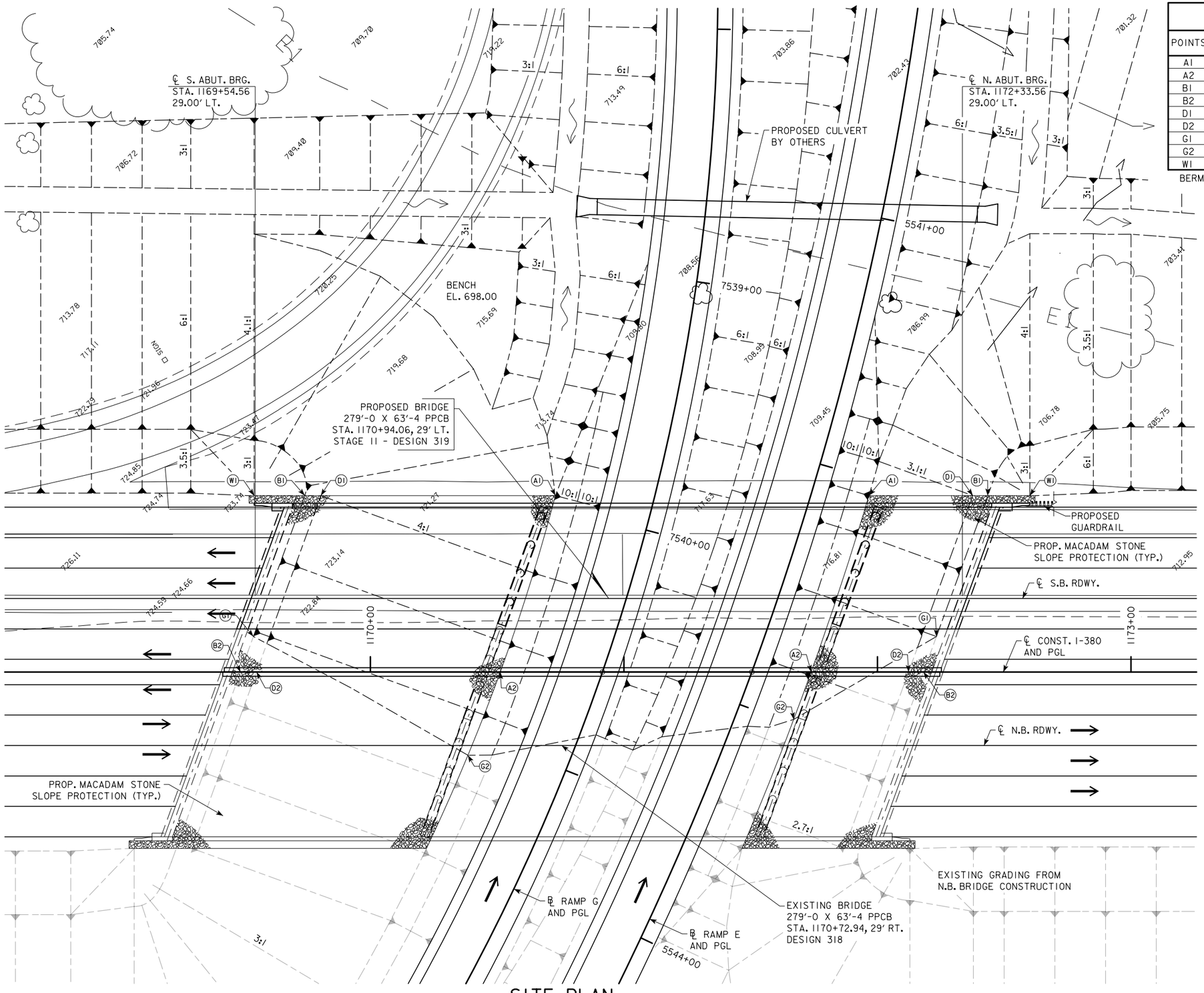
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.33

7:58:26 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht

BERM SLOPE LOCATION TABLE

POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	1170+72.98	69.58' LT	695.15	1171+96.66	69.58' LT	695.63
A2	1170+51.23	0.00'	693.41	1171+73.87	0.00'	695.54
B1	1169+74.12	69.58' LT	717.63	1172+43.54	69.58' LT	709.60
B2	1169+48.79	0.00'	718.61	1172+18.21	0.00'	710.45
D1	1169+80.44	69.58' LT	716.63	1172+37.63	69.58' LT	708.60
D2	1169+55.11	0.00'	716.63	1172+12.31	0.00'	708.60
G1	1169+53.88	14.00' LT	718.41	1172+23.31	14.00' LT	710.28
G2	1170+38.47	32.83' RT	692.57	1171+66.99	18.71' RT	694.87
W1	1169+54.16	69.58' LT	724.88	1172+60.16	69.58' LT	716.17

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE



SITE PLAN

PRELIMINARY

DESIGN FOR 20° SKEW L.A.

279'-0 X 63'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

101'-0, 46'-0 END SPANS (BTD BEAM) 132'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 1170+94.06, 29' LEFT ℄ CONST. I-380 DEC 2014

JOHNSON COUNTY

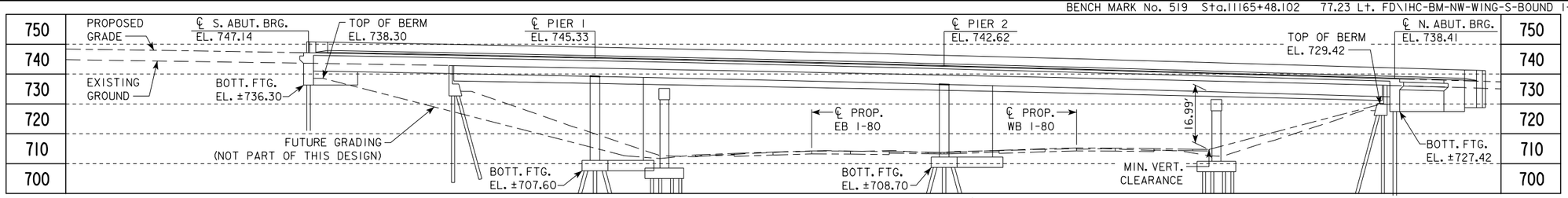
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 319

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.34

7:58:28 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht

BENCH MARK No. 519 Sta.1165+48.102 77.23 Lt. FD\IHC-BM-NW-WING-S-BOUND I-380 BRIDGE OVER I-80--------- 737.910



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ ROADWAY

(LONGITUDINAL SECTION THROUGH STAGE II CONSTRUCTION)

0.4998% -2.8780%

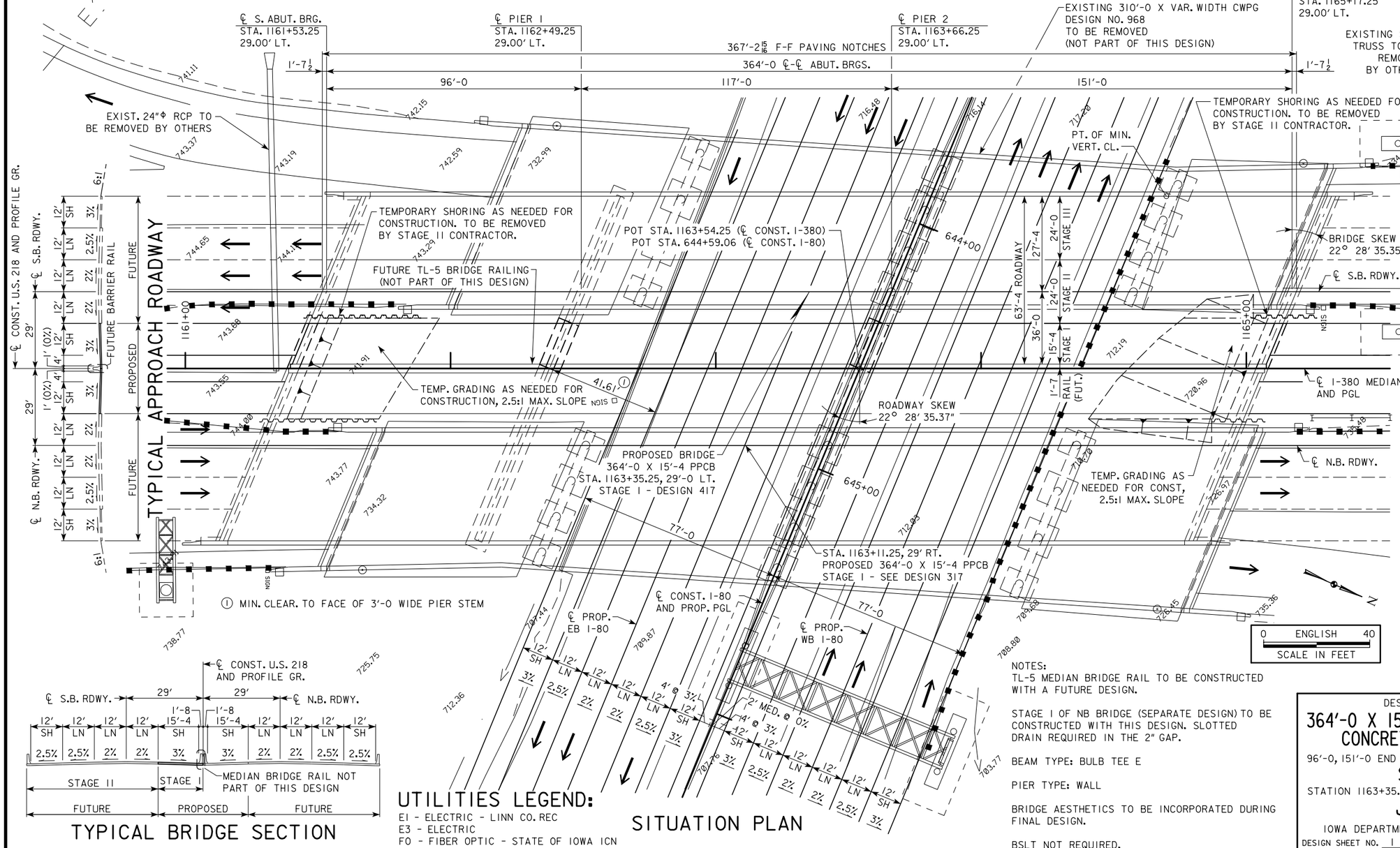
VPI STA = 1160+25.00 VC = 850'
VPI ELEV = 751.89

PROPOSED PROFILE GRADE I-380

-2.9780% -0.5000%

VPI STA = 652+25.00 VC = 450'
VPI ELEV = 690.01

PROPOSED PROFILE GRADE I-80



TRAFFIC ESTIMATE

INTERSTATE 380

2020 AADT	11,600	V.P.D.
2040 AADT	17,270	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	14	%
TOTAL DESIGN ESALs	-	

TRAFFIC ESTIMATE

INTERSTATE 80

2020 AADT	16,360	V.P.D.
2040 AADT	25,890	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	30	%
TOTAL DESIGN ESALs	-	

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1164+69.89, OFFSET 65.00' LT.
OVERHEAD ELEVATION = 738.97
DEPTH OF SUPERSTRUCTURE = 6.08'
UNDERPASS STATION = 643+54.79, OFFSET 82.00' LT.
UNDERPASS ELEVATION = 715.90
MINIMUM VERTICAL CLEARANCE = 16.99'

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
S.B. I-380 OVER I-80
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600361
BRIDGE MAINT. NO. 5200.0L380
LATITUDE 41.694263°
LONGITUDE -91.638315°

PRELIMINARY

TYPICAL BRIDGE SECTION

UTILITIES LEGEND:

EI - ELECTRIC - LINN CO. REC
E3 - ELECTRIC
FO - FIBER OPTIC - STATE OF IOWA ICN

SITUATION PLAN

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE I OF NB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BEAM TYPE: BULB TEE E

PIER TYPE: WALL

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

BSLT NOT REQUIRED.

DESIGN FOR 22° 28' 35.37" SKEW L.A.

364'-0 X 15'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE I

96'-0, 151'-0 END SPANS (BTE BEAM) 117'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1163+35.25, 29' LEFT ℄ CONST. I-380 JUNE 2014

JOHNSON COUNTY

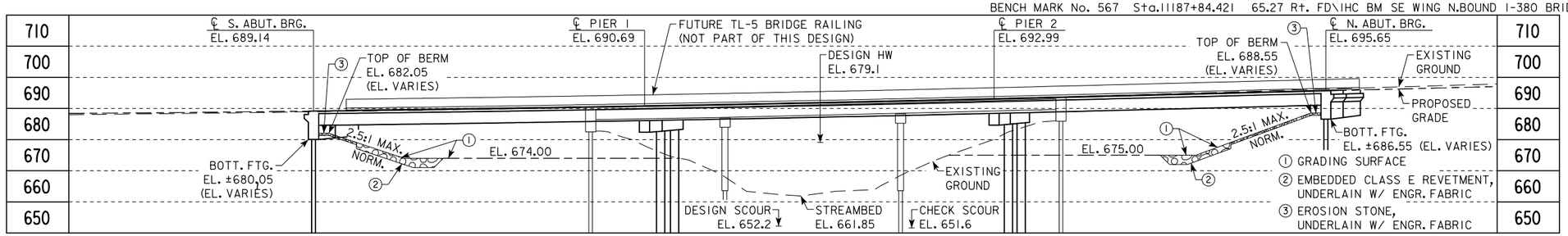
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 417

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.35

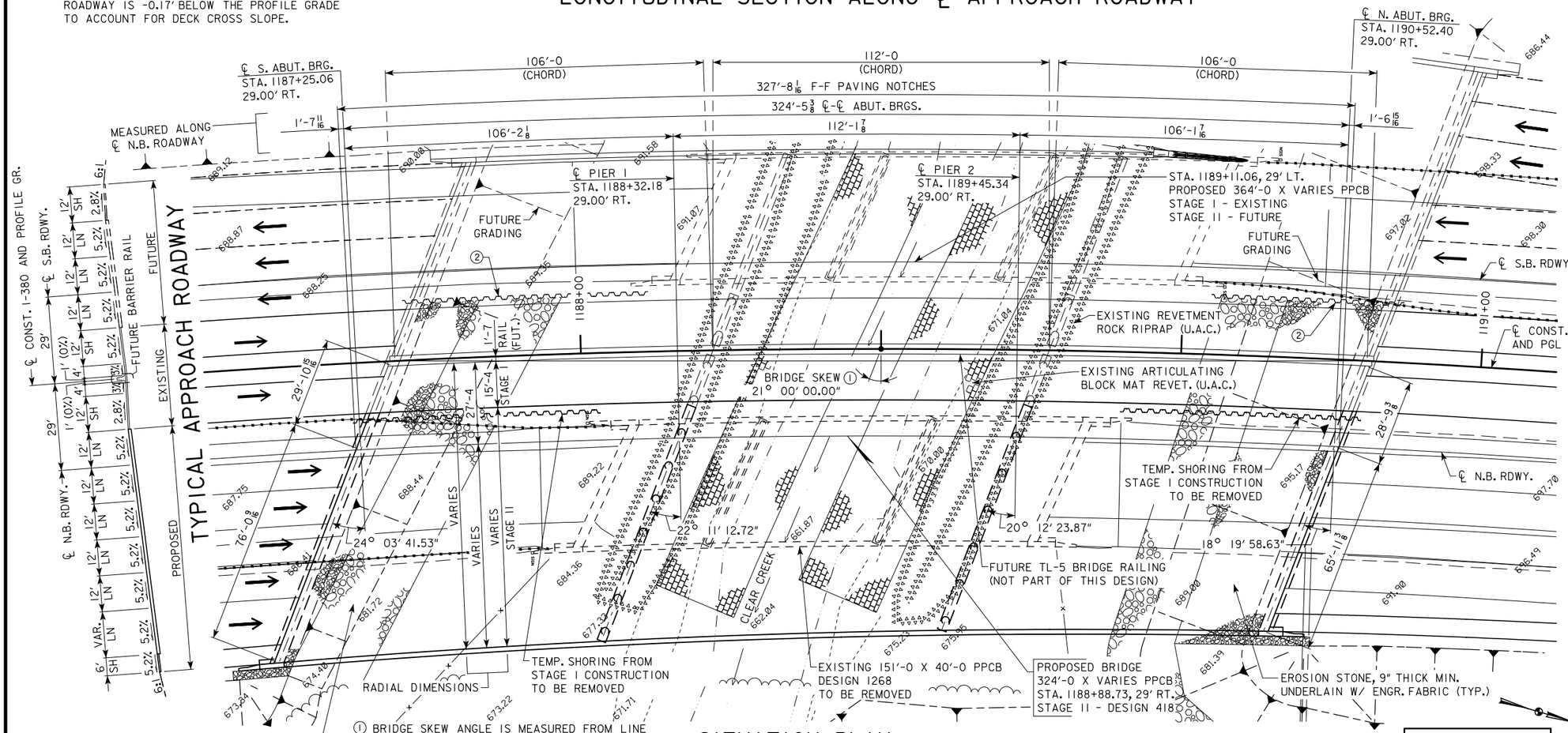
7:58:30 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht

BENCH MARK No. 567 Sta.1187+84.421 65.27 Rt. FD\IHC BM SE WING N.BOUND I-380 BRIDGE OVER CLEAR CREEK---------- 690.972



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS -0.17' BELOW THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY



① BRIDGE SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ℄ CONST. I-380 AT STA. 1189+00.00 TO ℄ BEARING SUBSTRUCTURE ELEMENTS

② TEMP. SHORING IN PLACE FROM S.B. BRIDGE STAGE I CONSTRUCTION (U.A.C.)

SITUATION PLAN

0 ENGLISH 40
SCALE IN FEET

N

-2.8780% ○ 2.4997%

VPI STA = 1184+75.00 VC = 1000'
VPI ELEV = 681.38

PROPOSED PROFILE GRADE I-380

HYDRAULIC DATA

DRAINAGE AREA = 81 SQ. MI.
STREAM SLOPE = 3.7 FT./MI.
AVG. LOW WATER STAGE = 664.0

Q_{50} = 8,700 CFS
STAGE = 679.1
BACKWATER = 1.0 FT.
AVG. BRIDGE VELOCITY = 5.1 FPS

Q_{100} = 10,500 CFS
STAGE = 679.9
BACKWATER = 1.2 FT.
AVG. BRIDGE VELOCITY = 5.6 FPS

Q_{200} = 13,400 CFS
STAGE = 681.1
CALCULATED DESIGN SCOUR = 652.2

Q_{500} = 15,000 CFS
STAGE = 681.7
CALCULATED CHECK SCOUR = 651.6

ROADWAY OVERTOP 689.8
STA. 1184+00

50, 100 & 500 YR. STAGES AND DISCHARGES FROM JOHNSON COUNTY, IOWA F.I.S., DATED FEBRUARY 16, 2007.
F.I.S. DATUM - 0.10 FT = PROJECT DATUM.

UTILITIES LEGEND:

FO - FIBER OPTICS - STATE OF IOWA (ICN)

HYDRAULIC DESIGN

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.

David R. Claman 11571 IOWA LICENSED PROFESSIONAL ENGINEER

Signature David R. Claman 2/19/2015 Date

Printed or Typed Name

My license renewal date is December 31, 2016

Pages or sheets covered by this seal: SHT. 1 OF 1

LOCATION

N.B. I-380 OVER CLEAR CREEK
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600371
BRIDGE MAINT. NO. 5200.5R380
LATITUDE 41.700812°
LONGITUDE -91.641602°

PRELIMINARY

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

BEAM TYPE: BULB TEE C

PIER TYPE: DRILLED SHAFT

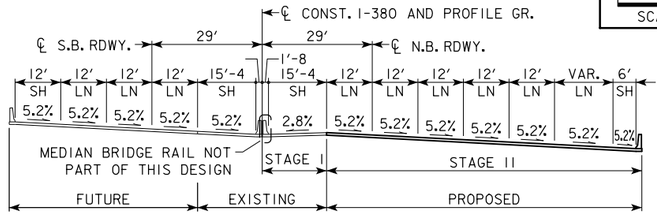
BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

TRAFFIC ESTIMATE

2020 AADT	27,530	V.P.D.
2040 AADT	36,960	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	16	%
TOTAL DESIGN ESALs	_	

CURVE DATA

PI STA. 1191+13.06
Δ = 22° 38' 40.61" (RT)
T = 655.54'
L = 1,293.98'
E = 64.98'
R = 3,274.04'
e = 5.2%
l = 312'
x = 150'
PC STA. 1184+57.52
PT STA. 1197+51.50



TYPICAL BRIDGE SECTION

DESIGN FOR 21° SKEW (LA) ON A 3274.04' RADIUS CURVE

324'-0 X VARIES PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

106'-0 END SPANS (BTC BEAM) 112'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1188+88.73, 29' RIGHT ℄ CONST. I-380 JUNE 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 418

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.36

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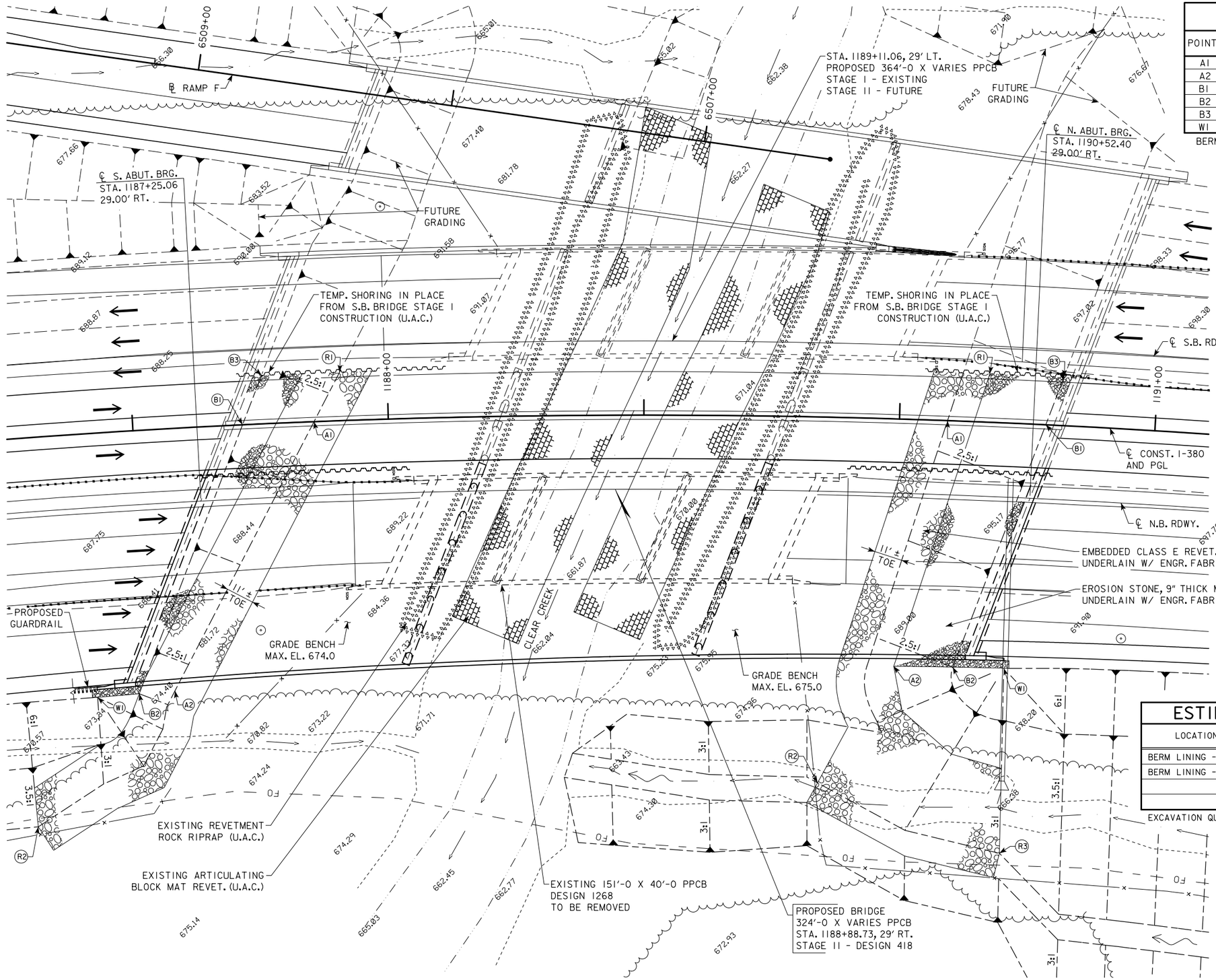


SITE PLAN

BERM SLOPE LOCATION TABLE

POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	1187+70.91	0.00'	674.00	1190+18.80	0.00'	675.00
A2	1187+10.54	102.53' RT	674.00	1190+00.72	96.72' RT	675.00
B1	1187+42.91	0.00'	683.20	1190+57.27	0.00'	689.80
B2	1186+96.06	102.81' RT	678.77	1190+24.52	96.25' RT	690.10
B3	1187+51.22	19.00' LT	684.19	1190+63.50	19.00' LT	685.26
W1	1186+79.20	103.15' RT	684.90	1190+45.05	95.84' RT	692.07

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

REVETMENT LIMITS - SOUTH

(R1) 1187+81.62, 19.00' LT

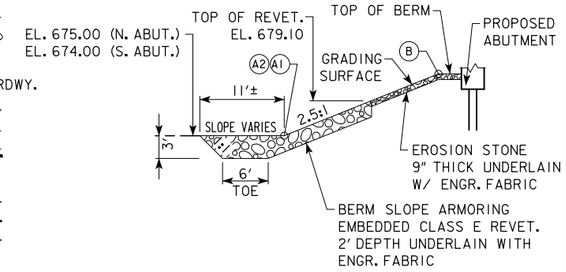
(R2) 1186+51.30, 151.98' RT

REVETMENT LIMITS - NORTH

(R1) 1190+34.60, 19.00' LT

(R2) 1189+71.05, 143.07' RT

(R3) 1190+46.62, 168.24' RT



EMBEDDED BERM REVETMENT

ESTIMATED BERM ARMORING QUANTITIES

LOCATION	REVETMENT CL. E (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - SOUTH ABUTMENT	702.7	118.4	812.6	513.2
BERM LINING - NORTH ABUTMENT	803.7	385.0	1,166.4	743.0
TOTALS	1,506.4	503.4	1,979.0	1,256.2

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.

PRELIMINARY

DESIGN FOR 21° SKEW (LA) ON A 3274.04' RADIUS CURVE

324'-0 X VARIES PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

106'-0 END SPANS (BTC BEAM) 112'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 1188+88.73, 29' RIGHT ℄ CONST. I-380 JUNE 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 418

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.37

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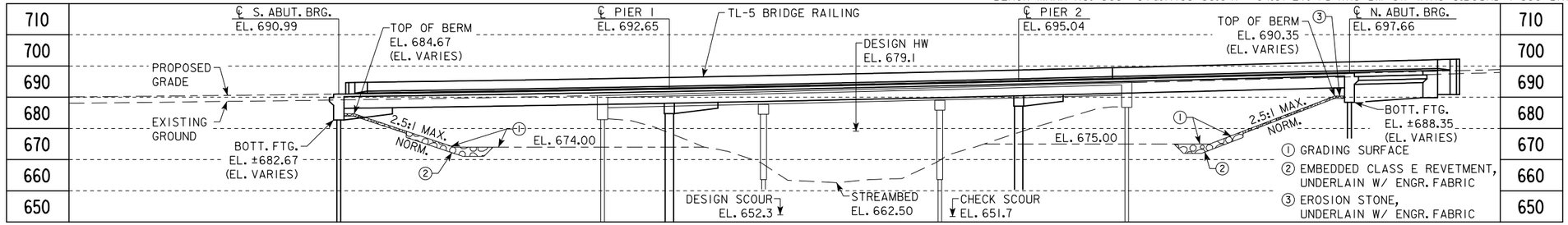
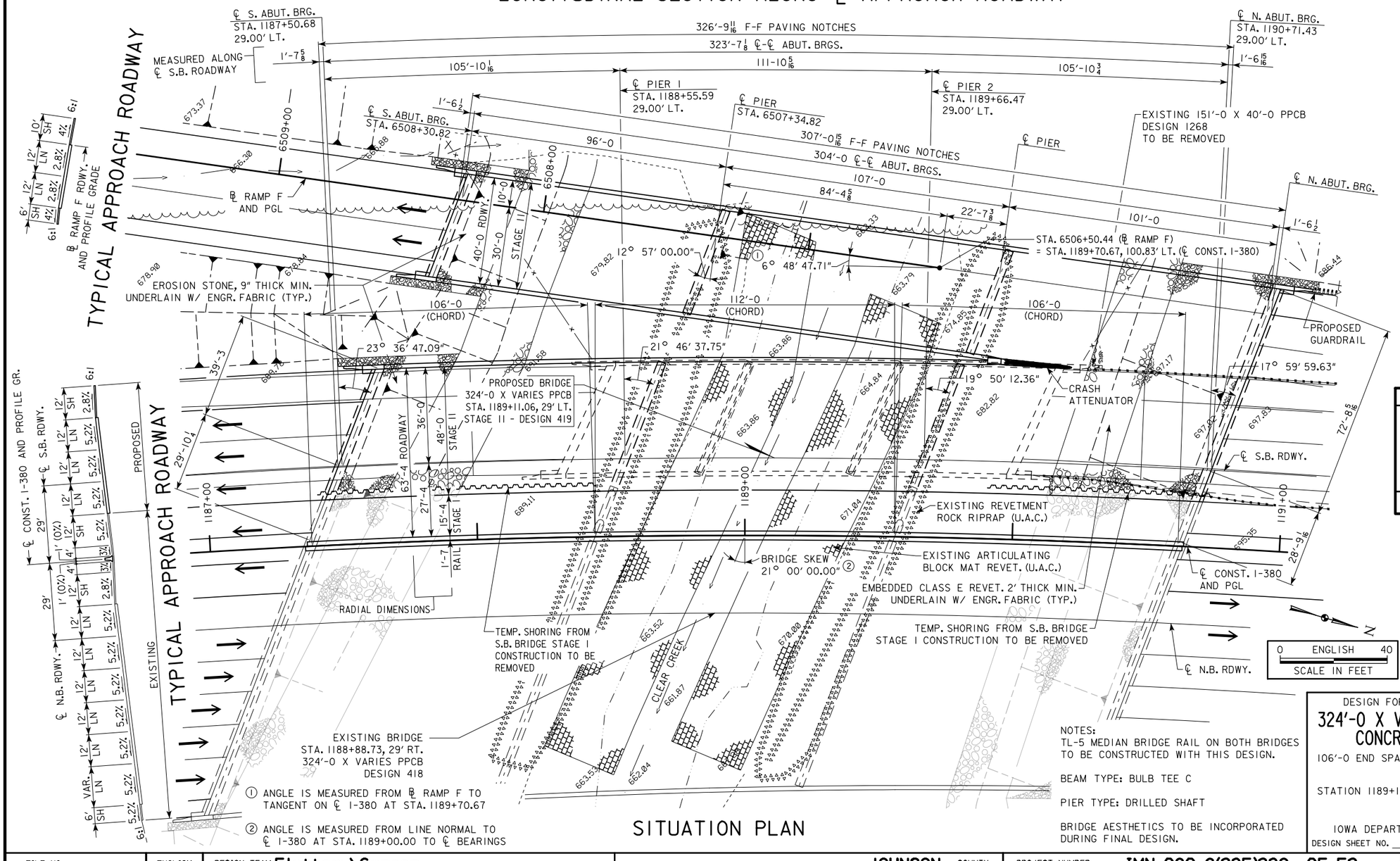
BENCH MARK No. 568 Sta.11188+39.041 64.91 Lt. FD\IHC BM SW WING S.BOUND I-380 BRIDGE OVER CLEAR CREEK---------- 695.024



LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY



SITUATION PLAN

NOTES:
TL-5 MEDIAN BRIDGE RAIL ON BOTH BRIDGES TO BE CONSTRUCTED WITH THIS DESIGN.

BEAM TYPE: BULB TEE C

PIER TYPE: DRILLED SHAFT

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

-2.8780% ⌒ 2.4997%

VPI STA = 1184+75.00 VC = 1000′
VPI ELEV = 681.38

PROPOSED PROFILE GRADE I-380

HYDRAULIC DATA

DRAINAGE AREA = 81 SQ. MI.
STREAM SLOPE = 3.7 FT./MI.
AVG. LOW WATER STAGE = 664.0

Q_{50} = 8,700 CFS
STAGE = 679.1
BACKWATER = 1.0 FT.
AVG. BRIDGE VELOCITY = 5.1 FPS

Q_{100} = 10,500 CFS
STAGE = 679.9
BACKWATER = 1.2 FT.
AVG. BRIDGE VELOCITY = 5.6 FPS

Q_{200} = 13,400 CFS
STAGE = 681.1
CALCULATED DESIGN SCOUR = 652.3

Q_{500} = 15,000 CFS
STAGE = 681.7
CALCULATED CHECK SCOUR = 651.7

ROADWAY OVERTOP 689.8
STA. 1184+00

50, 100 & 500 YR. STAGES AND DISCHARGES FROM JOHNSON COUNTY, IOWA F.I.S., DATED FEBRUARY 16, 2007.
F.I.S. DATUM - 0.10 FT = PROJECT DATUM.

UTILITIES LEGEND:

NO KNOWN UTILITIES

HYDRAULIC DESIGN

David R. Claman 11571 LICENSED PROFESSIONAL ENGINEER 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.

David R. Claman 2/19/2015
Signature Date
David R. Claman
Printed or Typed Name

My license renewal date is December 31, 2016

Pages or sheets covered by this seal: SHTS. 1 AND 2 OF 2

LOCATION

S.B. I-380 OVER CLEAR CREEK
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600381
BRIDGE MAINT. NO. 5200.5L380
LATITUDE 41.700831°
LONGITUDE -91.641828°

PRELIMINARY

DESIGN FOR 21° SKEW (LA) ON A 3274.04′ RADIUS CURVE

324′-0 X VARIES PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

106′-0 END SPANS (BTC BEAM) 112′-0 INTERIOR SPAN

SITUATION PLAN

STATION 1189+11.06, 29′ LEFT ℄ CONST. I-380 JUNE 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 419

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.38

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PROPOSED BRIDGE
324'-0 X VARIES PPCB
STA. 1189+11.06, 29' LT.
STAGE II - DESIGN 419

EXISTING 151'-0 X 40'-0 PPCB
DESIGN 1268
TO BE REMOVED

℄ S. ABUT. BRG.
STA. 1187+50.68
29.00' LT.

℄ S. ABUT. BRG.
STA. 6508+30.82

℄ N. ABUT. BRG.
STA. 1190+71.43
29.00' LT.

GRADE BENCH
MAX. EL. 674.0

GRADE BENCH
MAX. EL. 675.0

℄ RAMP F
AND PGL

11'± TOE

PROPOSED GUARDRAIL

EROSION STONE, 9" THICK MIN.
UNDERLAIN W/ ENGR. FABRIC (TYP.)

EMBEDDED CLASS E REVET. 2' THICK MIN.
UNDERLAIN W/ ENGR. FABRIC (TYP.)

℄ S.B. RDWY.

℄ CONST. I-380
AND PGL

℄ N.B. RDWY.

CLEAR CREEK

EXISTING BRIDGE
STA. 1188+88.73, 29' RT.
324'-0 X VARIES PPCB
DESIGN 418

SITE PLAN

0 ENGLISH 40
SCALE IN FEET

BERM SLOPE LOCATION TABLE

POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	1188+34.70	135.37' LT	674.00	1190+48.66	106.86' LT	675.00
A2	1188+16.19	88.70' LT	674.00	1190+18.80	0.00'	675.00
A3	1188+09.44	69.58' LT	674.00	--	--	--
A4	1187+70.91	0.00'	674.00	--	--	--
B1	1188+08.09	139.98' LT	684.96	1190+90.15	103.05' LT	691.94
B2	1187+89.23	93.46' LT	684.96	1190+57.27	0.00'	689.80
B3	1187+72.83	69.58' LT	687.11	--	--	--
B4	1187+42.91	0.00'	683.20	--	--	--
W1	1187+89.98	143.24' LT	690.96	1191+06.65	101.69' LT	698.60
W2	1187+72.91	96.46' LT	691.99	--	--	--
W3	1187+52.86	69.58' LT	692.74	--	--	--

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

REVETMENT LIMITS - SOUTH

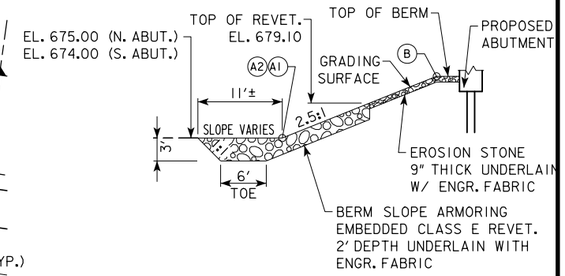
(R1) 1187+80.12, 227.64' LT

(R2) 1188+45.88, 188.21' LT

REVETMENT LIMITS - NORTH

(R1) 1191+38.49, 216.26' LT

(R2) 1190+46.26, 164.72' LT



EMBEDDED BERM REVETMENT

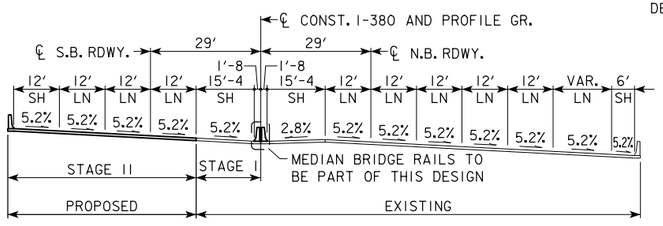
CURVE DATA

PI STA. 1191+13.06
Δ = 22° 38' 40.61" (RT)
T = 655.54'
L = 1,293.98'
E = 64.98'
R = 3,274.04'
e = 5.2%
l = 312'
x = 150'
PC STA. 1184+57.52
PT STA. 1197+51.50

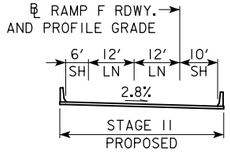
ESTIMATED BERM ARMORING QUANTITIES

LOCATION	REVETMENT CL. E (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - SOUTH ABUTMENT	905.4	260.7	1,149.3	728.8
BERM LINING - NORTH ABUTMENT	886.8	378.4	1,236.7	790.8
TOTALS	1,792.2	639.1	2,386.0	1,519.6

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.



TYPICAL BRIDGE SECTION
(I-380)



TYPICAL BRIDGE SECTION
(RAMP F)

TRAFFIC ESTIMATE
I-380

2020 AADT	11,600	V.P.D.
2040 AADT	17,270	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	16	%
TOTAL DESIGN ESALs	_	

TRAFFIC ESTIMATE
RAMP F

2020 AADT	17,060	V.P.D.
2040 AADT	20,310	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	_	%
TOTAL DESIGN ESALs	_	

PRELIMINARY

DESIGN FOR 21° SKEW (LA) ON A 3274.04' RADIUS CURVE

324'-0 X VARIES PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

106'-0 END SPANS (BTC BEAM) 112'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 1189+11.06, 29' LEFT ℄ CONST. I-380 JUNE 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 419

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.39

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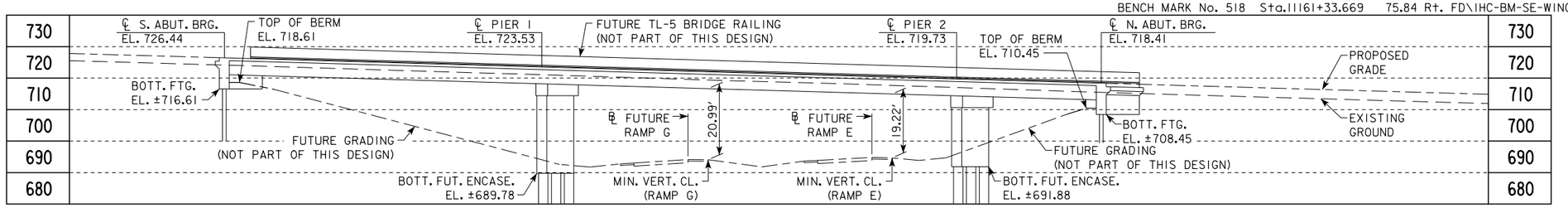
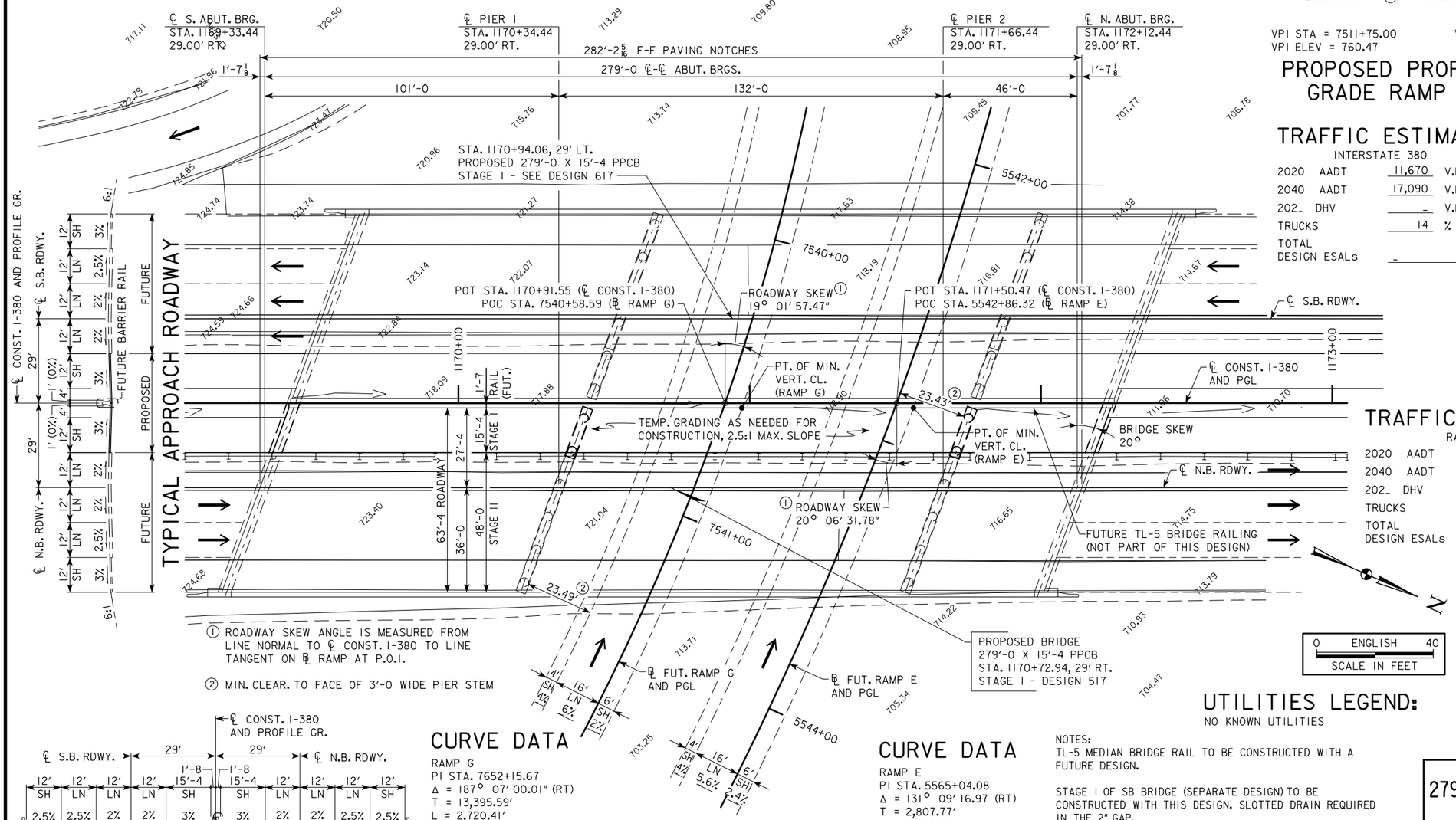
BENCH MARK No. 518 Sta.1116I+33.669 75.84 Rt. FD\IHC-BM-SE-WING-N-BOUND I-380 BRIDGE OVER I-80--------- 746.360



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

(LONGITUDINAL SECTION THROUGH STAGE II CONSTRUCTION)



① ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ℄ CONST. I-380 TO LINE TANGENT ON ℄ RAMP AT P.O.I.

② MIN. CLEAR. TO FACE OF 3'-0 WIDE PIER STEM

TYPICAL BRIDGE SECTION

CURVE DATA

RAMP G
PI STA. 7652+15.67
Δ = 187° 07' 00.01" (RT)
T = 13,395.59'
L = 2,720.41'
E = 14,254.47'
R = 833.00'
e = 6.0%
I = 168'
x = 56'
PC STA. 7515+70.07
PT STA. 7545+40.49

SITUATION PLAN

CURVE DATA

RAMP E
PI STA. 5565+04.08
Δ = 131° 09' 16.97 (RT)
T = 2,807.77'
L = 2,918.58'
E = 1,808.70
R = 1,275.00'
e = 5.6%
I = 157'
x = 56'
PC STA. 5536+96.31
PT STA. 5566+14.89

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE I OF SB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BEAM TYPE: BULB TEE D

PIER TYPE: DRILLED SHAFTS (ENCASED WALL)

WALL PIER ENCASEMENT TO BE INSTALLED WITH A FUTURE DESIGN.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

0.4998% -2.8780% 2.4997%

VPI STA = 1160+25.00
VPI ELEV = 751.89
VC = 850'

VPI STA = 1184+75.00
VPI ELEV = 681.38
VC = 1000'

PROPOSED PROFILE GRADE I-380

2.5300% -2.2758%

VPI STA = 7511+75.00
VPI ELEV = 760.47
VC = 875'

PROPOSED PROFILE GRADE RAMP G

-4.6355% 1.6000%

VPI STA = 5542+00.00
VPI ELEV = 691.19
VC = 600'

PROPOSED PROFILE GRADE RAMP E

TRAFFIC ESTIMATE

INTERSTATE 380

2020	AADT	11,670	V.P.D.
2040	AADT	17,090	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		14	%
TOTAL DESIGN ESALs		_	

MINIMUM VERTICAL CLEARANCES

RAMP E
OVERHEAD STATION = 1171+56.25, OFFSET 1.67' RT.
OVERHEAD ELEVATION = 719.35
DEPTH OF SUPERSTRUCTURE = 5.33'
UNDERPASS STATION = 5542+85.90, OFFSET 6.00' LT.
UNDERPASS ELEVATION = 694.80
MINIMUM VERTICAL CLEARANCE = 19.22'

RAMP G
OVERHEAD STATION = 1170+97.32, OFFSET 1.67' RT.
OVERHEAD ELEVATION = 721.05
DEPTH OF SUPERSTRUCTURE = 5.33'
UNDERPASS STATION = 7540+58.29, OFFSET 6.00' LT.
UNDERPASS ELEVATION = 694.73
MINIMUM VERTICAL CLEARANCE = 20.99'

TRAFFIC ESTIMATE

RAMP G

2020	AADT	3,740	V.P.D.
2040	AADT	4,890	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		_	%
TOTAL DESIGN ESALs		_	

TRAFFIC ESTIMATE

RAMP E

2020	AADT	2,380	V.P.D.
2040	AADT	3,060	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		_	%
TOTAL DESIGN ESALs		_	

UTILITIES LEGEND:

NO KNOWN UTILITIES

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
N.B. I-380 OVER S-W CONNECTOR
U.S. 218 TO I-80 (RAMP E) AND OVER
E-S CONNECTOR I-80 TO U.S. 218 (RAMP G)
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 700700
LATITUDE 41.696200°
LONGITUDE -91.639158°

PRELIMINARY

DESIGN FOR 20° SKEW L.A.

279'-0 X 15'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE I

101'-0, 46'-0 END SPANS (BTD BEAM) 132'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1170+72.94, 29' RIGHT ℄ CONST. I-380 DEC 2014

JOHNSON COUNTY

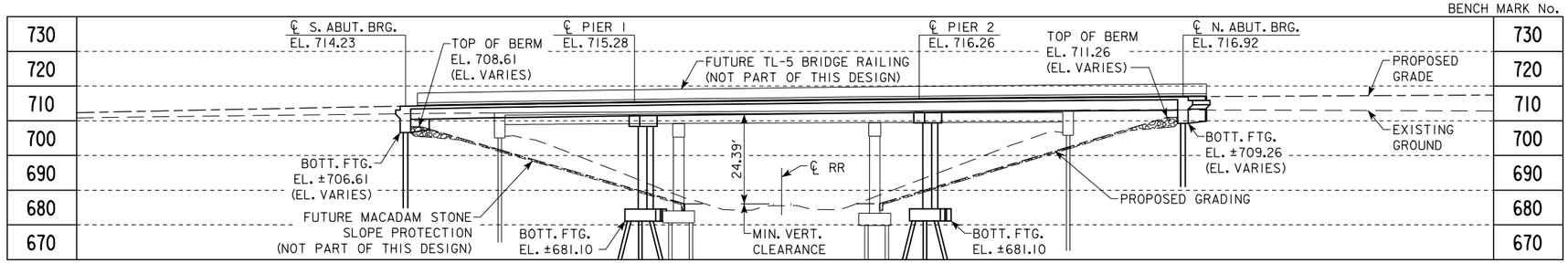
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 517

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.40

7:58:42 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht

BENCH MARK No. 570 Sta.1198+34.501 65.02 Rt. FD.DOT BUTTON SE.WING BR.------ 714.922



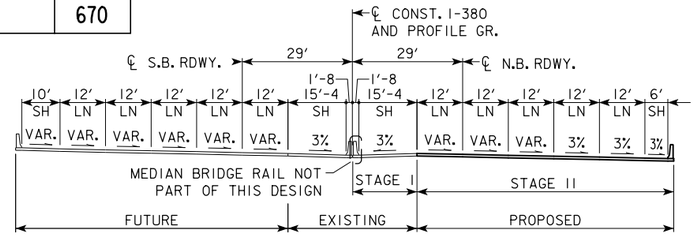
LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

NOTE: TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN, THE TOP OF BRIDGE DECK AT CENTERLINE ROADWAY NORTH OF STA. 1198+49.90 IS +0.21' ABOVE PROFILE GRADE. FROM STA. 1197+89.90 TO STA. 1198+49.90, THIS DISTANCE VARIES FROM +0.09' TO +0.21' ABOVE THE PROFILE GRADE.

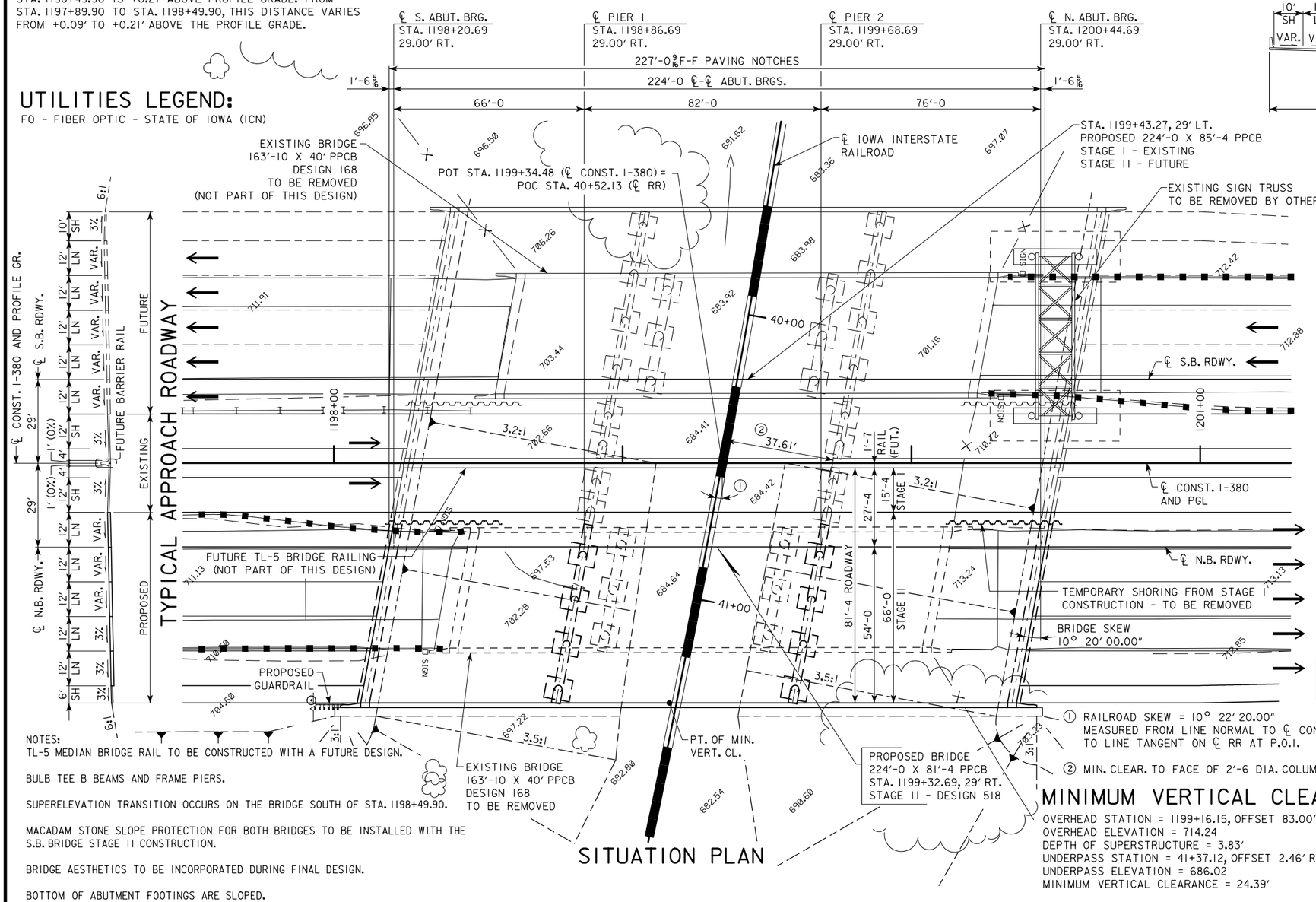
+2.4997% -1.1734%

VPI STA = 1200+60.00 VC = 910'
VPI ELEV = 721.00

PROPOSED PROFILE GRADE I-380



TYPICAL BRIDGE SECTION



TOP OF RAIL ELEV.		
STATION	LEFT RAIL ELEVATION	RIGHT RAIL ELEVATION
39+33.06	685.99	685.91
39+59.76	686.04	685.95
39+86.33	686.09	686.02
40+10.64	686.13	686.05
40+35.13	686.08	686.02
40+62.32	686.11	686.06
40+88.73	686.14	686.09
41+15.22	686.09	686.03
41+39.81	686.09	686.02
41+66.32	686.05	685.99

CURVE DATA

I-380
PI STA. 1191+13.06
Δ = 22° 38' 40.61" (RT)
T = 655.54'
L = 1293.98'
E = 64.98'
R = 3274.04'
e = 5.2%
l = 312'
x = 150'
PC STA. 1184+57.52
PT STA. 1197+51.50

CURVE DATA

RAILROAD
PI STA. 46+75.67
Δ = 30° 52' 29.31" (RT)
T = 1582.21'
L = 3087.48'
E = 214.45'
R = 5729.58'
SC STA. 30+93.46
CS STA. 61+80.94

TRAFFIC ESTIMATE

2020 AADT	27,530	V.P.D.
2040 AADT	36,960	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	16	%
TOTAL DESIGN ESALs	_	

LOCATION

N.B. I-380 OVER IOWA INTERSTATE RR
T-80N R-7W
SECTION 27
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600391
BRIDGE MAINT. NO. 5200.7R380
FRA NO. 60801IW
LATITUDE 41.703630°
LONGITUDE -91.642006°

N

0 ENGLISH 40
SCALE IN FEET

① RAILROAD SKEW = 10° 22' 20.00" MEASURED FROM LINE NORMAL TO ℄ CONST. I-380 TO LINE TANGENT ON ℄ RR AT P.O.I.

② MIN. CLEAR. TO FACE OF 2'-6 DIA. COLUMN

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1199+16.15, OFFSET 83.00' RT.
OVERHEAD ELEVATION = 714.24
DEPTH OF SUPERSTRUCTURE = 3.83'
UNDERPASS STATION = 41+37.12, OFFSET 2.46' RT.
UNDERPASS ELEVATION = 686.02
MINIMUM VERTICAL CLEARANCE = 24.39'

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

BULB TEE B BEAMS AND FRAME PIERS.

SUPERELEVATION TRANSITION OCCURS ON THE BRIDGE SOUTH OF STA. 1198+49.90.

MACADAM STONE SLOPE PROTECTION FOR BOTH BRIDGES TO BE INSTALLED WITH THE S.B. BRIDGE STAGE II CONSTRUCTION.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

BOTTOM OF ABUTMENT FOOTINGS ARE SLOPED.

PRELIMINARY

DESIGN FOR 10° 20' 00.00" SKEW (LA)

224'-0 X 81'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

66'-0, 76'-0 END SPANS (BTB BEAM) 82'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1199+32.69, 29' RIGHT ℄ CONST. I-380 DEC 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 518

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.41

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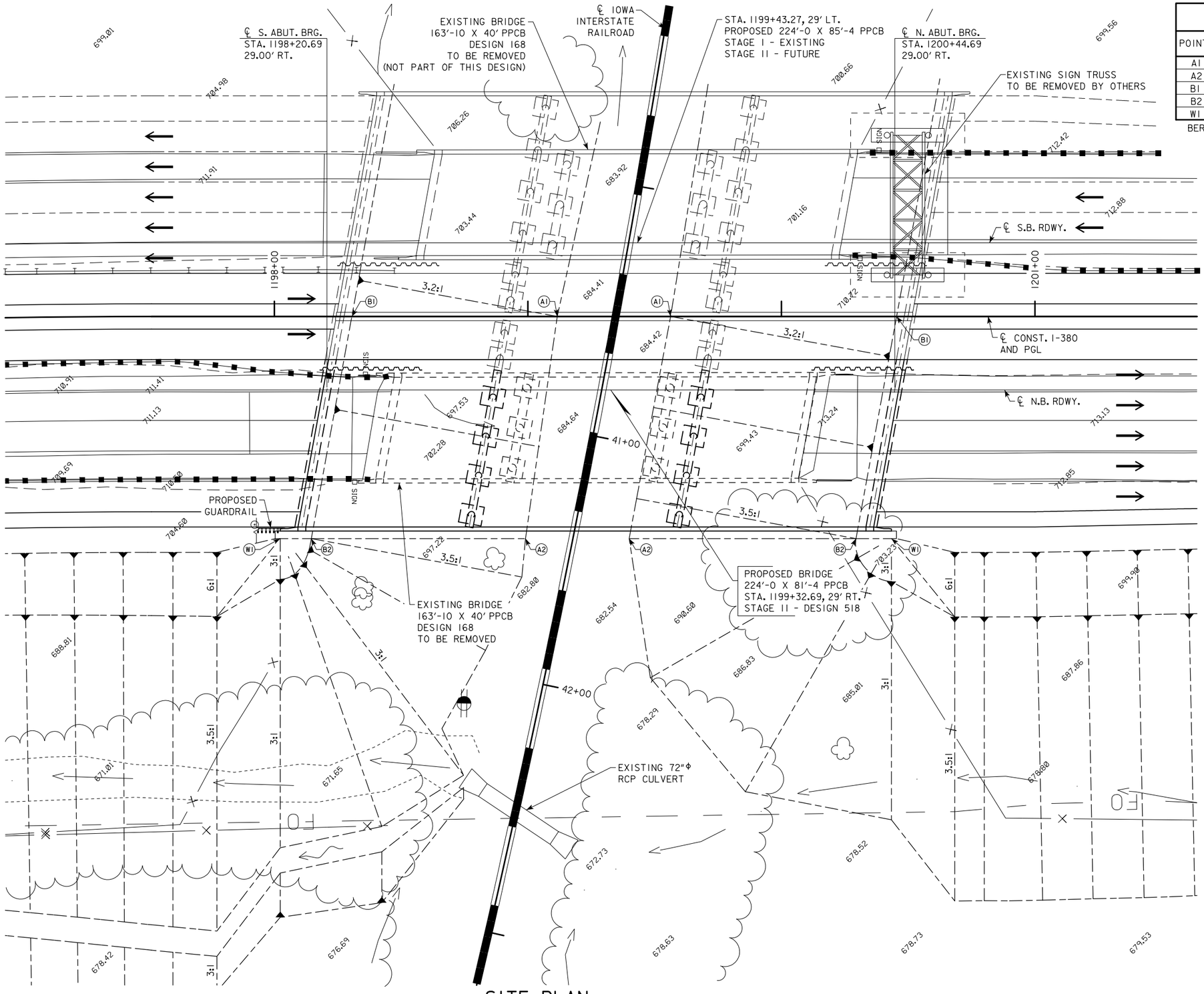


SITE PLAN

BERM SLOPE LOCATION TABLE

POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	1199+11.55	0.00'	686.19	1199+56.30	0.00'	684.13
A2	1198+99.06	87.58' RT	683.7	1199+39.94	87.58' RT	684.28
B1	1198+30.55	0.00'	709.49	1200+45.40	0.00'	712.01
B2	1198+14.58	87.58' RT	706.86	1200+29.43	87.58' RT	709.73
W1	1198+02.32	87.58' RT	712.20	1200+43.37	87.58' RT	715.36

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

N

0 ENGLISH 40
SCALE IN FEET

PRELIMINARY

DESIGN FOR 10° 20' 00.00" SKEW (LA)

224'-0 X 81'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

66'-0, 76'-0 END SPANS (BTB BEAM) 82'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 1199+32.69, 29' RIGHT ℄ CONST. I-380 DEC 2014

JOHNSON COUNTY

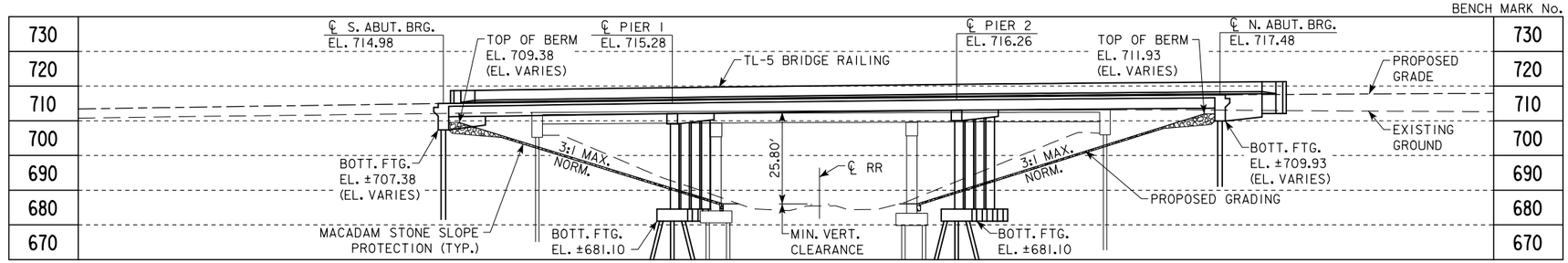
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 518

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.42

7:58:46 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V3.sht

BENCH MARK No. 571 Sta.1200+34.418 65.35 Lt. CUT"X"NW.WING SB.BRIDGE-------- 715.783



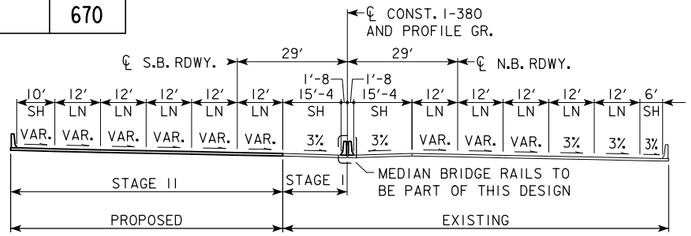
LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

NOTE: TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN, THE TOP OF BRIDGE DECK AT CENTERLINE ROADWAY NORTH OF STA. 1198+49.90 IS +0.69' ABOVE PROFILE GRADE. FROM STA. 1197+89.90 TO STA. 1198+49.90, THIS DISTANCE VARIES FROM +0.81' TO +0.69' ABOVE THE PROFILE GRADE.

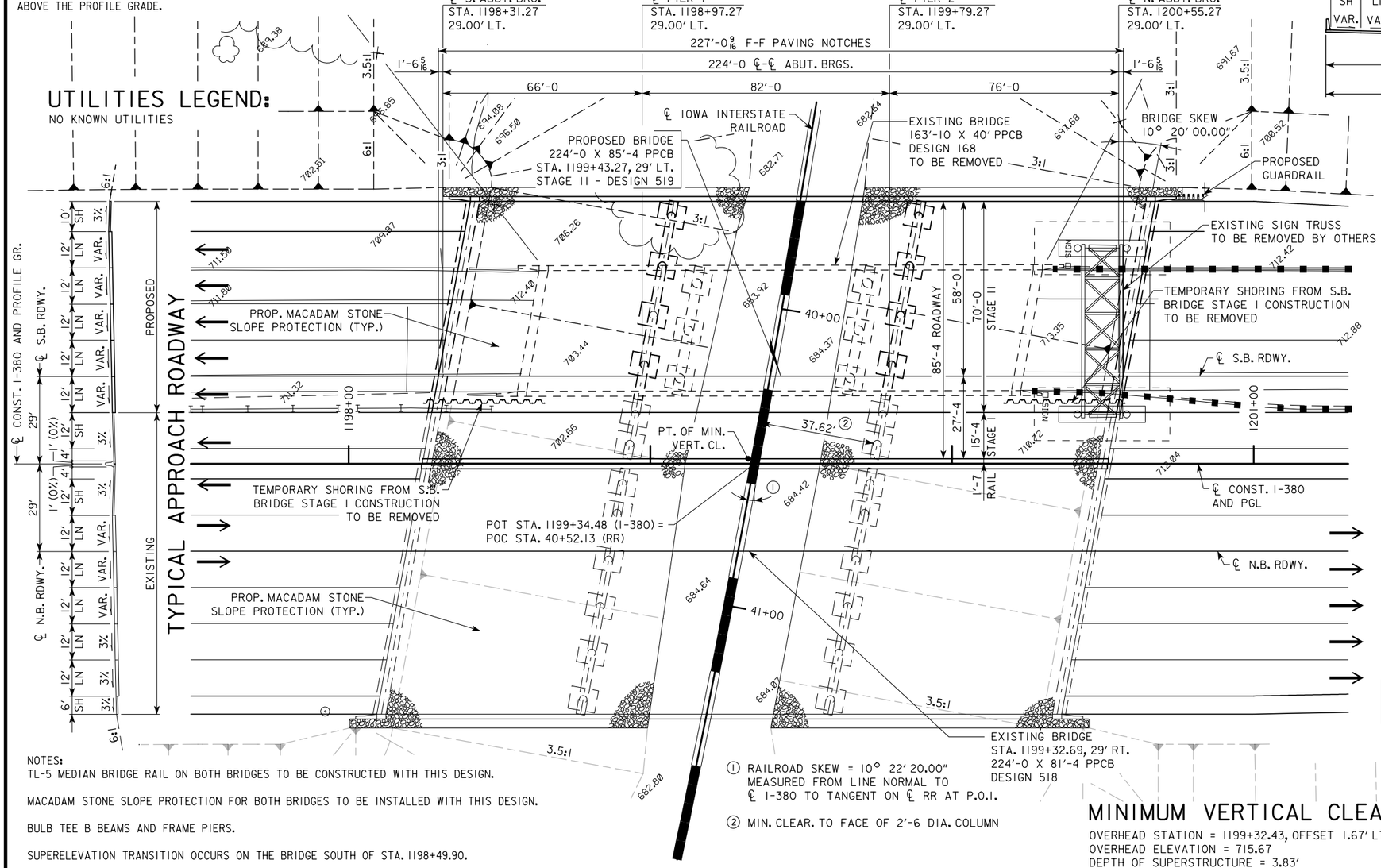
+2.4997% -1.1734%

VPI STA = 1200+60.00 VC = 910'
VPI ELEV = 721.00

PROPOSED PROFILE GRADE I-380



TYPICAL BRIDGE SECTION



SITUATION PLAN

TOP OF RAIL ELEV.

STATION	LEFT RAIL ELEVATION	RIGHT RAIL ELEVATION
39+33.06	685.99	685.91
39+59.76	686.04	685.95
39+86.33	686.09	686.02
40+10.64	686.13	686.05
40+35.13	686.08	686.02
40+62.32	686.11	686.06
40+88.73	686.14	686.09
41+15.22	686.09	686.03
41+39.81	686.09	686.02
41+66.32	686.05	685.99

CURVE DATA

I-380
PI STA. 1191+13.06
Δ = 22° 38' 40.61" (RT)
T = 655.54'
L = 1293.98'
E = 64.98'
R = 3274.04'
e = 5.2%
I = 312'
x = 150'
PC STA. 1184+57.52
PT STA. 1197+51.50

CURVE DATA

RAILROAD
PI STA. 46+75.67
Δ = 30° 52' 29.31" (RT)
T = 1582.21'
L = 3087.48'
E = 214.45'
R = 5729.58'
SC STA. 30+93.46
CS STA. 61+80.94

TRAFFIC ESTIMATE

2020 AADT	28,660	V.P.D.
2040 AADT	37,580	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	16	%
TOTAL DESIGN ESALs	_	

LOCATION

S.B. I-380 OVER IOWA INTERSTATE RR
T-80N R-7W
SECTION 27
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600401
BRIDGE MAINT. NO. 5200.7L380
FRA NO. 608011W
LATITUDE 41.703659°
LONGITUDE -91.642218°

N

0 ENGLISH 40
SCALE IN FEET

NOTES:
TL-5 MEDIAN BRIDGE RAIL ON BOTH BRIDGES TO BE CONSTRUCTED WITH THIS DESIGN.

MACADAM STONE SLOPE PROTECTION FOR BOTH BRIDGES TO BE INSTALLED WITH THIS DESIGN.

BULB TEE B BEAMS AND FRAME PIERS.

SUPERELEVATION TRANSITION OCCURS ON THE BRIDGE SOUTH OF STA. 1198+49.90.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

BOTTOM OF ABUTMENT FOOTINGS ARE SLOPED.

① RAILROAD SKEW = 10° 22' 20.00" MEASURED FROM LINE NORMAL TO ℄ I-380 TO TANGENT ON ℄ RR AT P.O.I.

② MIN. CLEAR. TO FACE OF 2'-6 DIA. COLUMN

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1199+32.43, OFFSET 1.67' LT.
OVERHEAD ELEVATION = 715.67
DEPTH OF SUPERSTRUCTURE = 3.83'
UNDERPASS STATION = 40+50.86, OFFSET 2.32' RT.
UNDERPASS ELEVATION = 686.04
MINIMUM VERTICAL CLEARANCE = 25.80'

PRELIMINARY

DESIGN FOR 10° 20' SKEW (LA)

224'-0 X 85'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

66'-0, 76'-0 END SPANS (BTB BEAM) 82'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1199+43.27, 29' LEFT ℄ CONST. I-380 DEC 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 519

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.43

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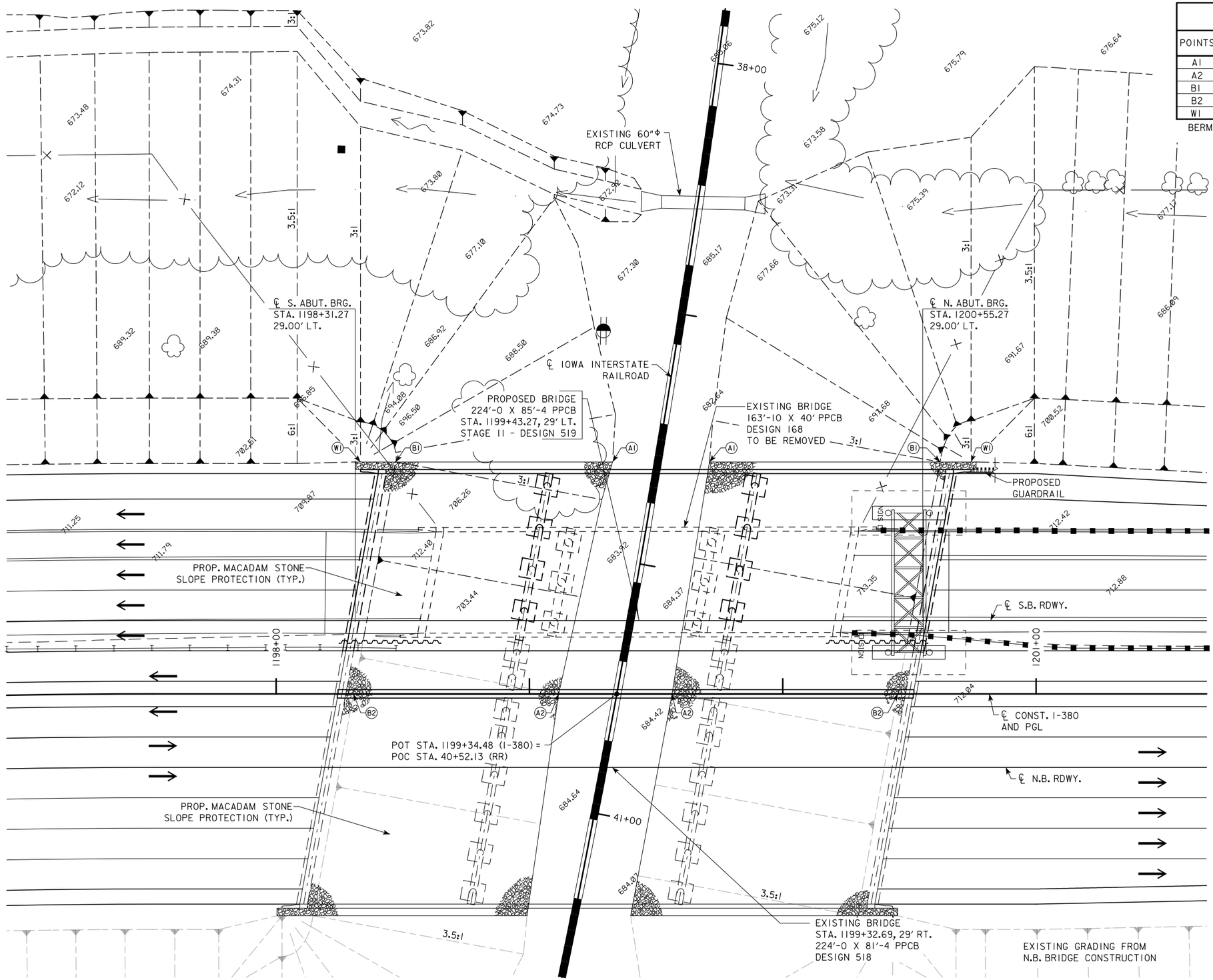
BERM SLOPE LOCATION TABLE

POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	1199+32.80	91.58' LT	682.83	1199+71.07	91.58' LT	683.56
A2	1199+11.55	0.00'	684.59	1199+56.30	0.00'	684.13
B1	1198+47.25	91.58' LT	710.88	1200+62.10	91.58' LT	713.19
B2	1198+30.55	0.00'	709.49	1200+45.40	0.00'	712.01
W1	1198+33.32	91.58' LT	716.20	1200+74.37	91.58' LT	718.64

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE



SITE PLAN

PRELIMINARY

DESIGN FOR 10° 20' SKEW (LA)

224'-0 X 85'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

66'-0, 76'-0 END SPANS (BTB BEAM) 82'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 1199+43.27, 29' LEFT ℄ CONST. I-380 DEC 2014

JOHNSON COUNTY

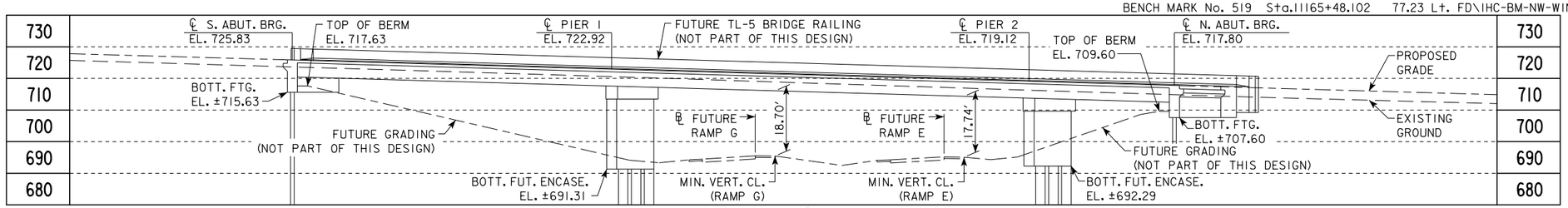
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 519

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.44

7:58:58 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V4.sht

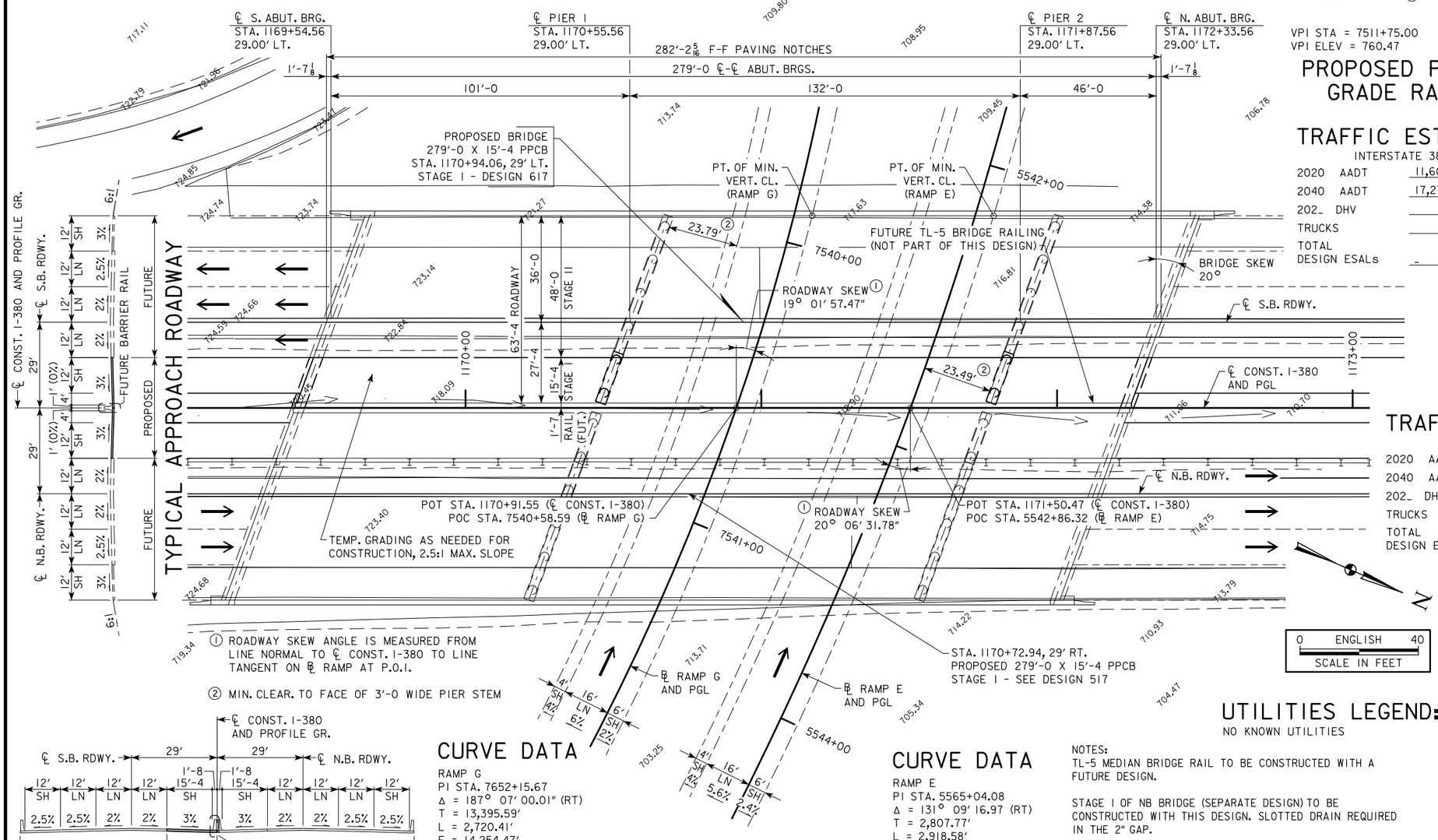
BENCH MARK No. 519 Sta.1165+48.102 77.23 Lt. FD\IHC-BM-NW-WING-S-BOUND I-380 BRIDGE OVER I-80--------- 737.910



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.69' ABOVE THE BRIDGE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

(LONGITUDINAL SECTION THROUGH STAGE II CONSTRUCTION)



① ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ℄ CONST. I-380 TO LINE TANGENT ON ℄ RAMP AT P.O.I.

② MIN. CLEAR. TO FACE OF 3'-0 WIDE PIER STEM

0 ENGLISH 40
SCALE IN FEET

TYPICAL BRIDGE SECTION

CURVE DATA

RAMP G
PI STA. 7652+15.67
Δ = 187° 07' 00.01" (RT)
T = 13,395.59'
L = 2,720.41'
E = 14,254.47'
R = 833.00'
e = 6.0%
l = 168'
x = 56'
PC STA. 7515+70.07
PT STA. 7545+40.49

SITUATION PLAN

CURVE DATA

RAMP E
PI STA. 5565+04.08
Δ = 131° 09' 16.97 (RT)
T = 2,807.77'
L = 2,918.58'
E = 1,808.70
R = 1,275.00'
e = 5.6%
l = 157'
x = 56'
PC STA. 5536+96.31
PT STA. 5566+14.89

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE I OF NB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BEAM TYPE: BULB TEE D

PIER TYPE: DRILLED SHAFTS (ENCASED WALL)

WALL PIER ENCASEMENT TO BE INSTALLED WITH A FUTURE DESIGN.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

UTILITIES LEGEND:

NO KNOWN UTILITIES

0.4998% -2.8780% 2.4997%

VPI STA = 1160+25.00
VPI ELEV = 751.89
VC = 850'

VPI STA = 1184+75.00
VPI ELEV = 681.38
VC = 1000'

PROPOSED PROFILE GRADE I-380

2.5300% -2.2758%

VPI STA = 7511+75.00
VPI ELEV = 760.47
VC = 875'

PROPOSED PROFILE GRADE RAMP G

-4.6355% 1.6000%

VPI STA = 5542+00.00
VPI ELEV = 691.19
VC = 600'

PROPOSED PROFILE GRADE RAMP E

TRAFFIC ESTIMATE

INTERSTATE 380

2020	AADT	11,600	V.P.D.
2040	AADT	17,270	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		14	%
TOTAL DESIGN ESALs		_	

TRAFFIC ESTIMATE

RAMP G

2020	AADT	3,740	V.P.D.
2040	AADT	4,890	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		_	%
TOTAL DESIGN ESALs		_	

TRAFFIC ESTIMATE

RAMP E

2020	AADT	2,380	V.P.D.
2040	AADT	3,060	V.P.D.
202_	DHV	_	V.P.H.
TRUCKS		_	%
TOTAL DESIGN ESALs		_	

MINIMUM VERTICAL CLEARANCES

RAMP E
OVERHEAD STATION = 1171+78.58, OFFSET 65.00' LT.
OVERHEAD ELEVATION = 718.57
DEPTH OF SUPERSTRUCTURE = 5.33'
UNDERPASS STATION = 5542+15.91, OFFSET 6.00' LT.
UNDERPASS ELEVATION = 695.50
MINIMUM VERTICAL CLEARANCE = 17.74'

RAMP G
OVERHEAD STATION = 1171+17.24, OFFSET 65.00' LT.
OVERHEAD ELEVATION = 720.34
DEPTH OF SUPERSTRUCTURE = 5.33'
UNDERPASS STATION = 7539+89.19, OFFSET 6.00' LT.
UNDERPASS ELEVATION = 696.31
MINIMUM VERTICAL CLEARANCE = 18.70'

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
S.B. I-380 OVER S-W CONNECTOR
U.S. 218 TO I-80 (RAMP E) AND OVER
E-S CONNECTOR I-80 TO U.S. 218 (RAMP G)
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 700705
LATITUDE 41.696192°
LONGITUDE -91.639384°

PRELIMINARY

DESIGN FOR 20° SKEW L.A.

279'-0 X 15'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE I

101'-0, 46'-0 END SPANS (BTD BEAM) 132'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1170+94.06, 29' LEFT ℄ CONST. I-380 DEC 2014

JOHNSON COUNTY

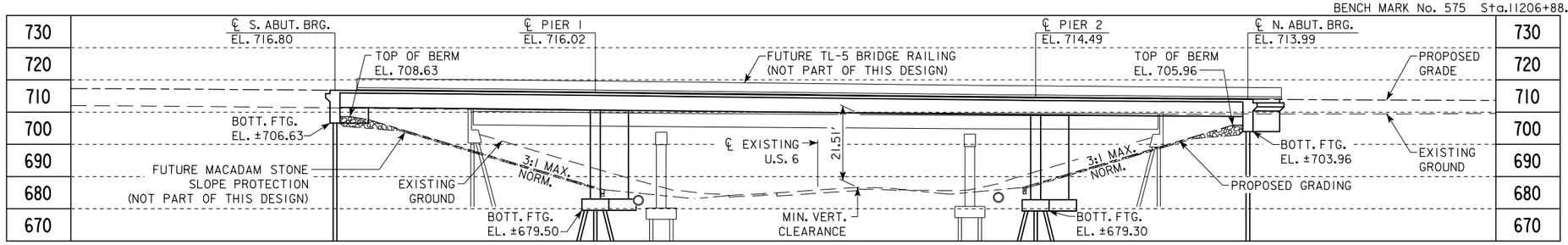
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 617

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.45

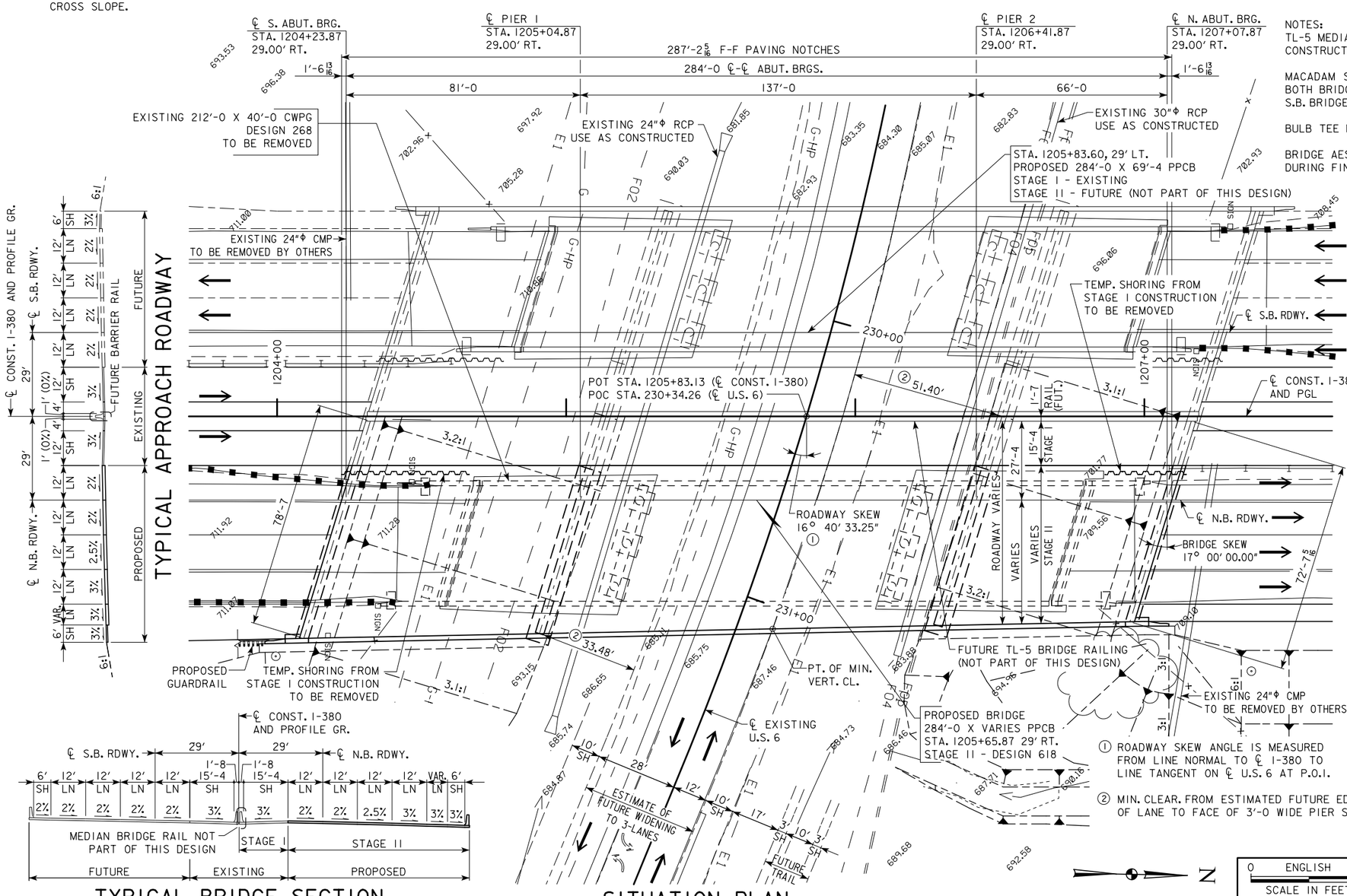
7:59:00 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V4.sht

BENCH MARK No. 575 Sta.11206+88.793 64.63 Rt. FD.DOT BUTTON NE.WING BR.------ 712.079



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.24' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY



TYPICAL APPROACH ROADWAY

TYPICAL BRIDGE SECTION

SITUATION PLAN

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

MACADAM STONE SLOPE PROTECTION FOR BOTH BRIDGES TO BE INSTALLED WITH THE S.B. BRIDGE STAGE II CONSTRUCTION.

BULB TEE D BEAMS AND WALL PIERS.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

① ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ℄ I-380 TO LINE TANGENT ON ℄ U.S. 6 AT P.O.I.

② MIN. CLEAR. FROM ESTIMATED FUTURE EDGE OF LANE TO FACE OF 3'-0 WIDE PIER STEM

0 ENGLISH 40
SCALE IN FEET

CURVE DATA

I-380
PI STA. 1191+13.06
Δ = 22° 38' 40.61" (RT)
T = 655.54'
L = 1293.98'
E = 64.98'
R = 3274.04'
e = 5.2%
l = 312'
x = 150'
PC STA. 1184+57.52
PT STA. 1197+51.50

CURVE DATA

U.S. 6
PI STA.230+11.99
Δ = 13° 28' 23.85" (RT)
T = 153.03'
L = 304.65'
E = 9.01'
R = 1295.55
PC STA. 228+58.96
PT STA. 231+63.62

MINIMUM VERTICAL CLEARANCE

EXISTING U.S. 6
OVERHEAD STATION = 1205+71.38, 73.57' RT.
OVERHEAD ELEVATION = 714.08
DEPTH OF SUPERSTRUCTURE = 5.33'
UNDERPASS STATION = 231+07.47, 11.95' LT.
UNDERPASS ELEVATION = 687.24
MINIMUM VERTICAL CLEARANCE = 21.51'

LOCATION

N.B. I-380 OVER U.S. 6
T-80N R-7W
SECTION 27
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 60041I
BRIDGE MAINT. NO. 5200.8R380
LATITUDE 41.705270°
LONGITUDE -91.642002°

PRELIMINARY

2.4997% -1.1734% 3.0000%

VPI STA = 1200+60.00
VPI ELEV = 721.00
VC = 910'

VPI STA = 1210+35.00
VPI ELEV = 709.56
VC = 900'

PROPOSED PROFILE GRADE I-380

UTILITIES LEGEND:

EI-POWER-LINN CO. REC
FO-FIBER OPTIC-STATE OF IOWA (ICN)
FO2-FIBER OPTIC-SOUTH SLOPE COOP. TEL. CO.
FO4-FIBER OPTIC-MCLEOD
FO5-FIBER OPTIC-IOWA TELCOM
G-HP-HIGH PRESSURE GAS-MIDAMERICAN ENERGY
TI-TELEPHONE-IOWA TELCOM

TRAFFIC ESTIMATE

I-380

2020	AADT	27,530	V.P.D.
2040	AADT	36,960	V.P.D.
202_	DHV	-	V.P.H.
TRUCKS		16	%
TOTAL DESIGN ESALs		-	

TRAFFIC ESTIMATE

U.S. 6

2020	AADT	-	V.P.D.
2040	AADT	-	V.P.D.
202_	DHV	-	V.P.H.
TRUCKS		-	%
TOTAL DESIGN ESALs		-	

DESIGN FOR 17° SKEW L.A.

284'-0 x VARIES PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

81'-0, 66'-0 END SPANS (BTD BEAM TYPE) 137'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1205+65.87, 29' RIGHT ℄ CONST. I-380 JAN 2015

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 618

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.46

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BERM SLOPE LOCATION TABLE

POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	1205+20.36	0.00′	684.49	1206+46.68	0.00′	686.27
A2	1204+92.16	79.74′ RT	685.59	1206+22.18	77.14′ RT	687.22
B1	1204+37.44	0.00′	709.48	1207+12.03	0.00′	706.69
B2	1204+12.57	81.33′ RT	708.63	1206+88.85	75.81′ RT	705.96
D1	1204+43.24	0.00′	707.63	1207+06.60	0.00′	704.96
D2	1204+18.41	81.22′ RT	707.63	1206+83.39	75.92	704.96
W1	1203+95.84	81.67′ RT	715.60	1207+08.49	75.58	712.76

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

℄ S. ABUT. BRG.
STA. 1204+23.87
29.00′ RT.

℄ N. ABUT. BRG.
STA. 1207+07.87
29.00′ RT.

EXISTING S.B. BRIDGE
212′-0 X 40′-0 CWPG
DESIGN 268
TO BE REMOVED
(NOT PART OF THIS DESIGN)

STA. 1205+83.60, 29′ LT.
PROPOSED 284′-0 X 69′-4 PPCB
STAGE I - EXISTING
STAGE II - FUTURE

℄ S.B. RDWY.

℄ CONST. I-380
AND PGL

℄ N.B. RDWY.

PROPOSED
GUARDRAIL

℄ EXISTING
U.S. 6

EXISTING N.B. BRIDGE
212′-0 X 40′-0 CWPG
DESIGN 268
TO BE REMOVED

PROPOSED BRIDGE
284′-0 X VARIES PPCB
STA. 1205+65.87 29′ RT.
STAGE II - DESIGN 618

1204+00 | 1205+00 | 1206+00 | 1207+00 | 229+00 | 232+00

SITE PLAN

N

0 ENGLISH 40
SCALE IN FEET

PRELIMINARY

DESIGN FOR 17° SKEW L.A.

284′-0 x VARIES PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

81′-0, 66′-0 END SPANS (BTD BEAM TYPE) 137′-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 1205+65.87, 29′ RIGHT ℄ CONST. I-380 JAN 2015

JOHNSON COUNTY

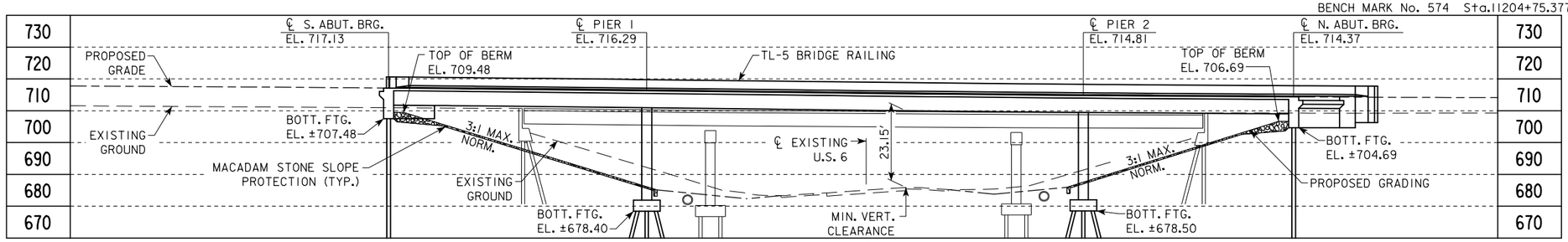
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 618

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.47

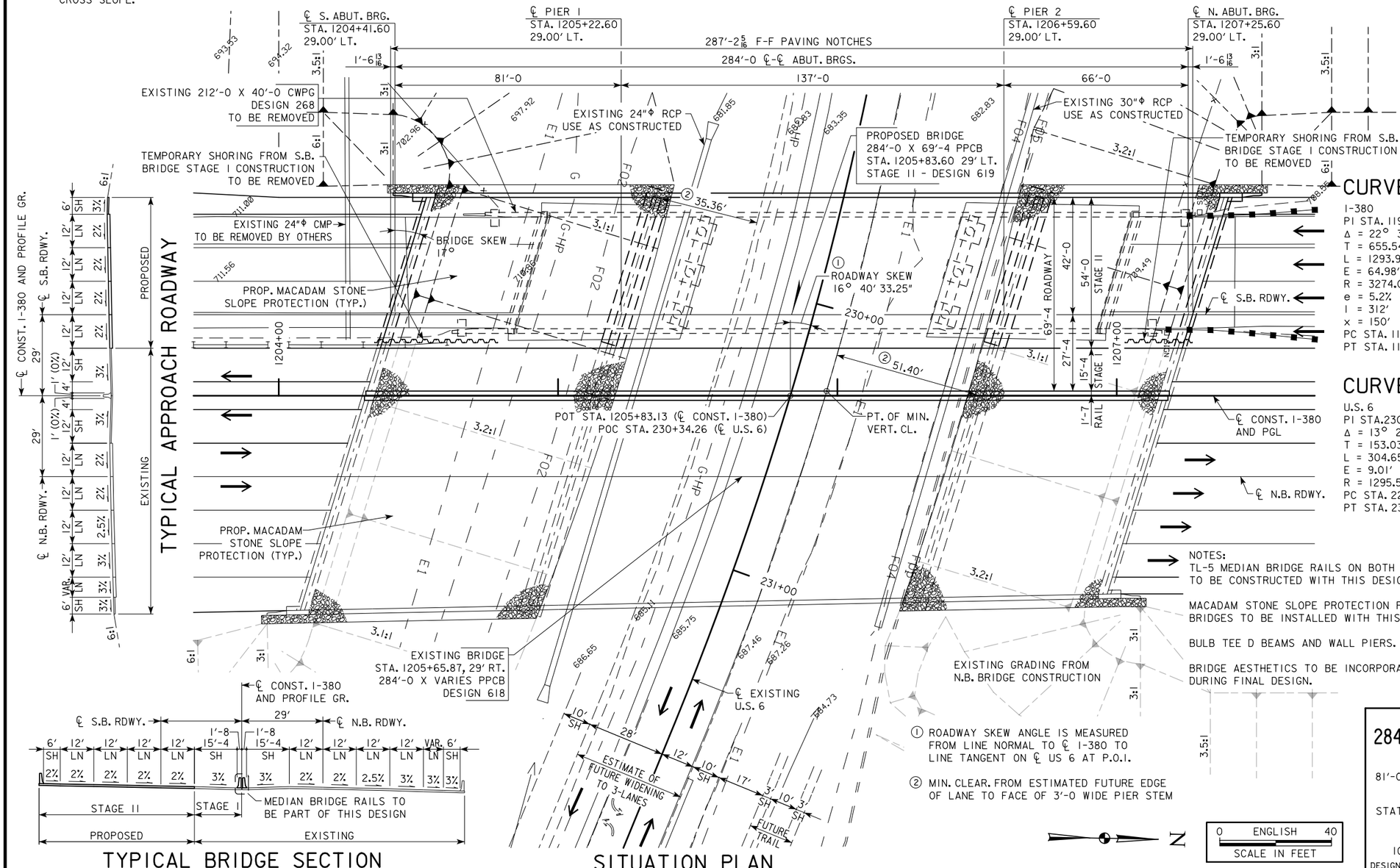
7:59:04 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V4.sht

BENCH MARK No. 574 Sta.1204+75.377 65.13 Lt. FD.DOT BUTTON SW.WING BR.------ 713.436



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.24' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY



CURVE DATA

I-380
PI STA. 1191+13.06
Δ = 22° 38' 40.61" (RT)
T = 655.54'
L = 1293.98'
E = 64.98'
R = 3274.04'
e = 5.2%
I = 312'
x = 150'
PC STA. 1184+57.52
PT STA. 1197+51.50

CURVE DATA

U.S. 6
PI STA.230+11.99
Δ = 13° 28' 23.85" (RT)
T = 153.03'
L = 304.65'
E = 9.01'
R = 1295.55
PC STA. 228+58.96
PT STA. 231+63.62

MINIMUM VERTICAL CLEARANCE

EXISTING U.S. 6
OVERHEAD STATION = 1205+96.13, 1.67' LT.
OVERHEAD ELEVATION = 714.73
DEPTH OF SUPERSTRUCTURE = 5.33'
UNDERPASS STATION = 230+28.98, 11.98' LT.
UNDERPASS ELEVATION = 686.25
MINIMUM VERTICAL CLEARANCE = 23.15'

NOTES:
TL-5 MEDIAN BRIDGE RAILS ON BOTH BRIDGES TO BE CONSTRUCTED WITH THIS DESIGN.

MACADAM STONE SLOPE PROTECTION FOR BOTH BRIDGES TO BE INSTALLED WITH THIS DESIGN.

BULB TEE D BEAMS AND WALL PIERS.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

① ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ℄ I-380 TO LINE TANGENT ON ℄ US 6 AT P.O.I.

② MIN. CLEAR. FROM ESTIMATED FUTURE EDGE OF LANE TO FACE OF 3'-0 WIDE PIER STEM

N

0 ENGLISH 40
SCALE IN FEET

2.4997% -1.1734% 3.0000%

VPI STA = 1200+60.00
VPI ELEV = 721.00
VC = 910'

VPI STA = 1210+35.00
VPI ELEV = 709.56
VC = 900'

PROPOSED PROFILE GRADE I-380

UTILITIES LEGEND:

EI-POWER-LINN CO. REC
FO2-FIBER OPTIC-SOUTH SLOPE COOP. TEL. CO.
FO4-FIBER OPTIC-MCLEOD
FO5-FIBER OPTIC-IOWA TELCOM
G-HP-HIGH PRESSURE GAS-MIDAMERICAN ENERGY
TI-TELEPHONE-IOWA TELCOM

TRAFFIC ESTIMATE

I-380

2020 AADT	28,660	V.P.D.
2040 AADT	37,580	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	16	%
TOTAL DESIGN ESALs	-	

TRAFFIC ESTIMATE

U.S. 6

2020 AADT	-	V.P.D.
2040 AADT	-	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	-	%
TOTAL DESIGN ESALs	-	

LOCATION

S.B. I-380 OVER U.S. 6
T-80N R-7W
SECTION 27
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600421
BRIDGE MAINT. NO. 5200.8L380
LATITUDE 41.705416°
LONGITUDE -91.642214°

PRELIMINARY

DESIGN FOR 17° SKEW L.A.

284'-0 x 69'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

81'-0, 66'-0 END SPANS (BTD BEAM TYPE) 137'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1205+83.60, 29' LEFT ℄ CONST. I-380 JAN 2015

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 619

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.48

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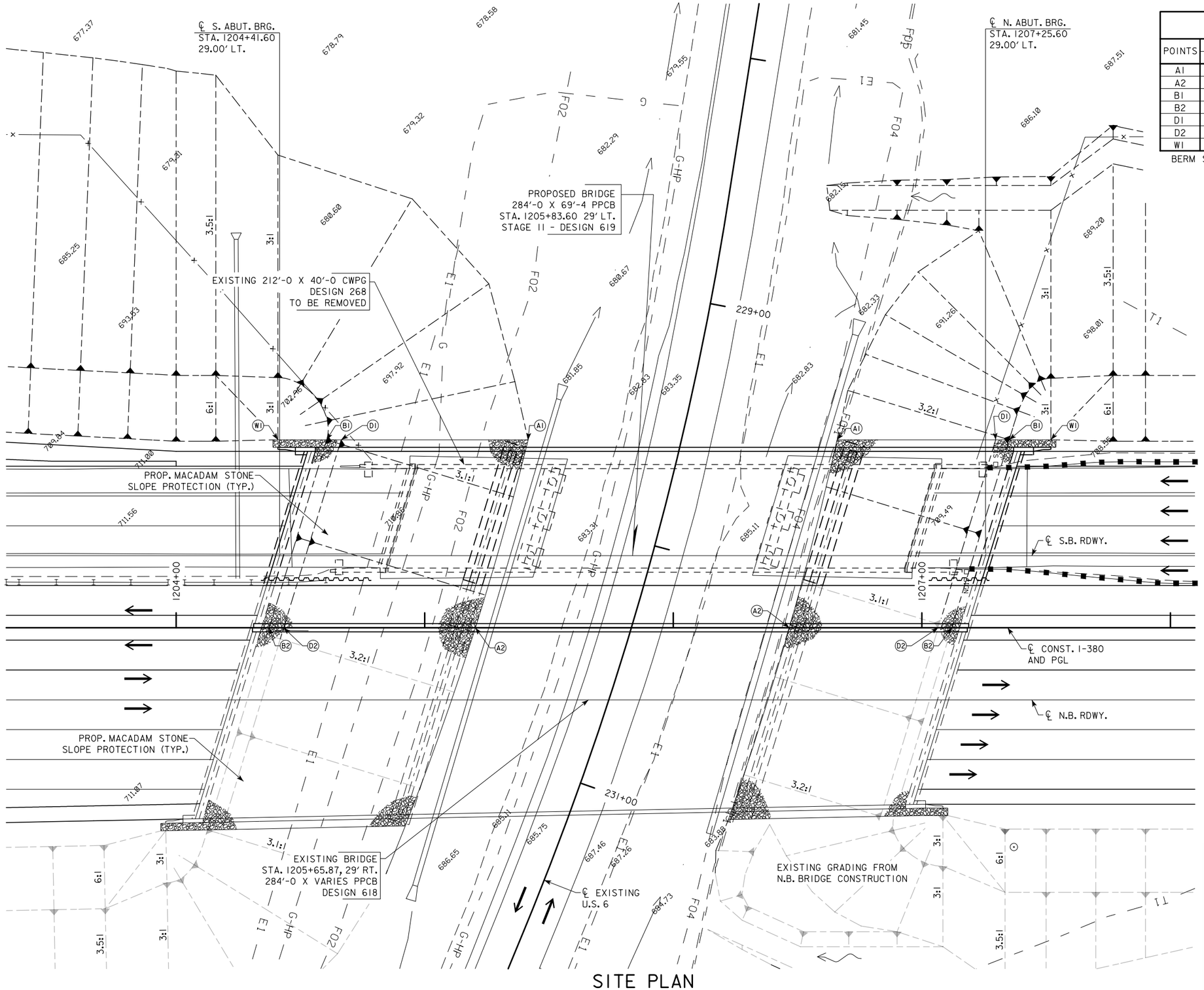


SITE PLAN

BERM SLOPE LOCATION TABLE

POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	1205+41.59	75.58' LT	683.56	1206+65.89	75.58' LT	685.50
A2	1205+20.36	0.00'	684.49	1206+46.68	0.00'	686.27
B1	1204+60.55	75.58' LT	709.48	1207+35.14	75.58' LT	706.69
B2	1204+37.44	0.00'	709.48	1207+12.03	0.00'	706.69
D1	1204+66.35	75.58' LT	707.63	1207+29.71	75.58' LT	704.96
D2	1204+43.24	0.00'	707.63	1207+06.60	0.00'	704.96
W1	1204+40.94	75.58' LT	717.83	1207+51.94	75.58' LT	714.94

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

PRELIMINARY

DESIGN FOR 17° SKEW L.A.

284'-0 x 69'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

81'-0, 66'-0 END SPANS (BTD BEAM TYPE) 137'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 1205+83.60, 29' LEFT ℄ CONST. I-380 JAN 2015

JOHNSON COUNTY

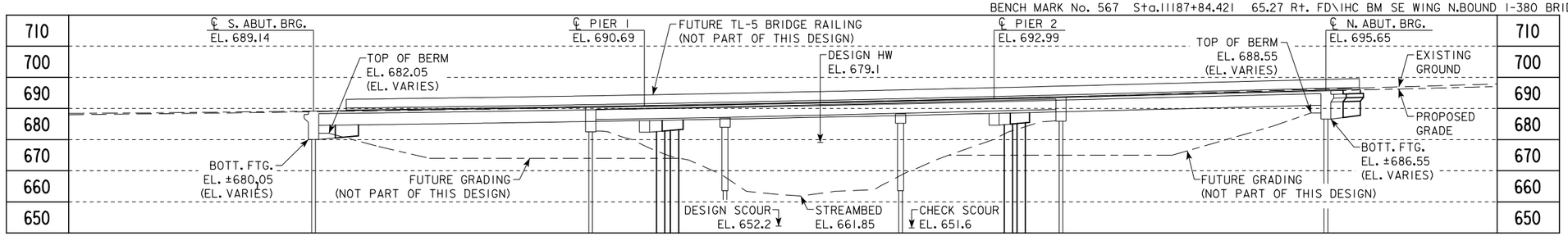
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 619

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.49

7:59:08 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V4.sht

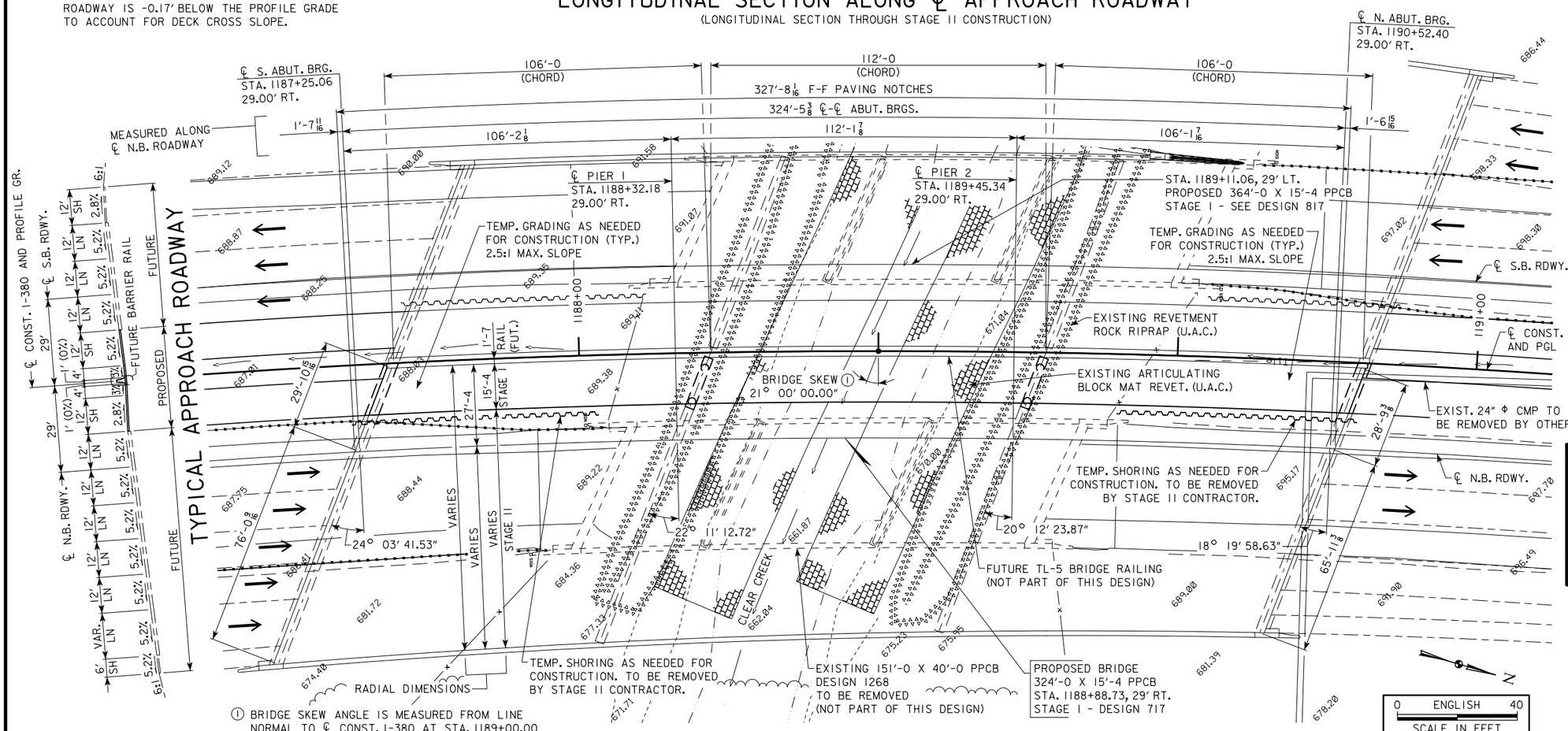
BENCH MARK No. 567 Sta.1187+84.421 65.27 Rt. FD\IHC BM SE WING N.BOUND I-380 BRIDGE OVER CLEAR CREEK---------- 690.972



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS -0.17' BELOW THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

(LONGITUDINAL SECTION THROUGH STAGE II CONSTRUCTION)



① BRIDGE SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ℄ CONST. I-380 AT STA. 1189+00.00 TO ℄ BEARING SUBSTRUCTURE ELEMENTS

SITUATION PLAN

-2.8780% ◯ 2.4997%

VPI STA = 1184+75.00 VC = 1000'
VPI ELEV = 681.38

PROPOSED PROFILE GRADE I-380

HYDRAULIC DATA

DRAINAGE AREA = 81 SQ. MI.
STREAM SLOPE = 3.7 FT./MI.
AVG. LOW WATER STAGE = 664.0

Q_{50} = 8,700 CFS
STAGE = 679.1
BACKWATER = 1.0 FT.
AVG. BRIDGE VELOCITY = 5.1 FPS

Q_{100} = 10,500 CFS
STAGE = 679.9
BACKWATER = 1.2 FT.
AVG. BRIDGE VELOCITY = 5.6 FPS

Q_{200} = 13,400 CFS
STAGE = 681.1
CALCULATED DESIGN SCOUR = 652.2

Q_{500} = 15,000 CFS
STAGE = 681.7
CALCULATED CHECK SCOUR = 651.6

ROADWAY OVERTOP 689.8
STA. 1184+00

50, 100 & 500 YR. STAGES AND DISCHARGES FROM JOHNSON COUNTY, IOWA F.I.S., DATED FEBRUARY 16, 2007.
F.I.S. DATUM - 0.10 FT = PROJECT DATUM.

UTILITIES LEGEND:

NO KNOWN UTILITIES

HYDRAULIC DESIGN

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.

David R. Claman 11571 IOWA LICENSED PROFESSIONAL ENGINEER

Signature David R. Claman 2/19/2015 Date

Printed or Typed Name David R. Claman

My license renewal date is December 31, 2016

Pages or sheets covered by this seal: SHT. 1 OF 1

LOCATION

N.B. I-380 OVER CLEAR CREEK
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600371
BRIDGE MAINT. NO. 5200.5R380
LATITUDE 41.700812°
LONGITUDE -91.641602°

PRELIMINARY

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE I OF SB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BEAM TYPE: BULB TEE C

PIER TYPE: DRILLED SHAFT

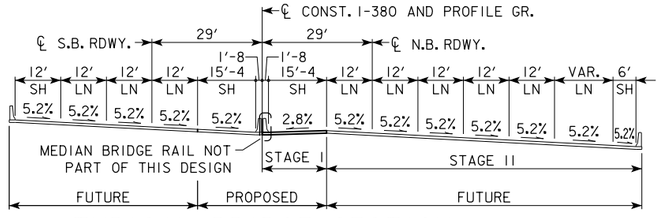
BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

CURVE DATA

PI STA. 1191+13.06
Δ = 22° 38' 40.61" (RT)
T = 655.54'
L = 1,293.98'
E = 64.98'
R = 3,274.04'
e = 5.2%
I = 312'
x = 150'
PC STA. 1184+57.52
PT STA. 1197+51.50

TRAFFIC ESTIMATE

2020 AADT	27,530	V.P.D.
2040 AADT	36,960	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	16	%
TOTAL DESIGN ESALs	_	



TYPICAL BRIDGE SECTION

DESIGN FOR 21° SKEW (LA) ON A 3274.04' RADIUS CURVE

324'-0 X 15'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE I

106'-0 END SPANS (BTC BEAM) 112'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1188+88.73, 29' RIGHT ℄ CONST. I-380 JUNE 2014

JOHNSON COUNTY

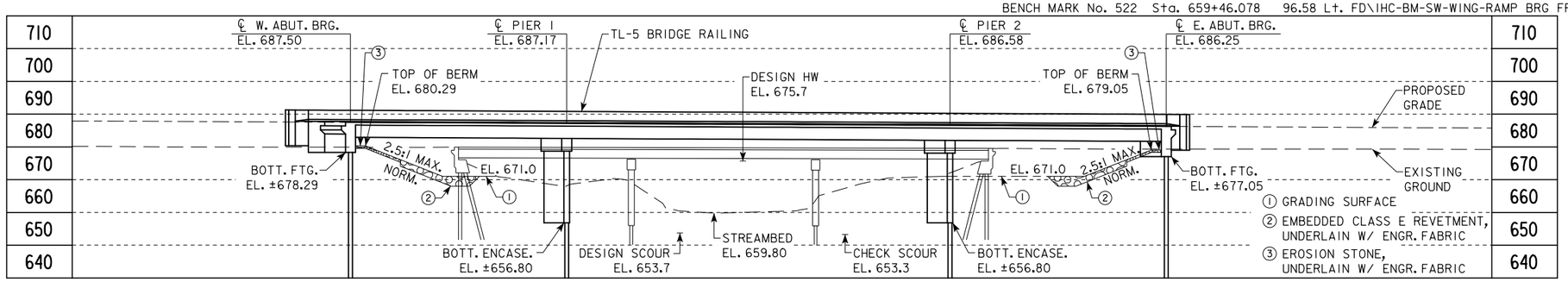
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 717

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.50

7:59:10 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V4.sht

BENCH MARK No. 522 Sta. 659+46.078 96.58 Lt. FD\IHC-BM-SW-WING-RAMP BRG FROM I-80 W.BOUND TO I-380 N.BOUND---------- 683.510



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.99′ ABOVE THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

-2.9780% -0.5000% +0.6672%

VPI STA = 652+25.00
VPI ELEV = 690.01
VC = 450′

VPI STA = 672+00.00
VPI ELEV = 680.14
VC = 400′

PROPOSED PROFILE GRADE I-80

HYDRAULIC DATA

DRAINAGE AREA = 81.0 SQ. MI.
STREAM SLOPE = 3.7 FT./MI.
AVG. LOW WATER STAGE = 661.3

Q_{50} = 8,700 CFS
STAGE = 675.7
BACKWATER = 1.2 FT.
AVG. BRIDGE VELOCITY = 5.6 FPS

Q_{100} = 10,500 CFS
STAGE = 676.5
BACKWATER = 1.5 FT.
AVG. BRIDGE VELOCITY = 6.1 FPS

Q_{200} = 13,400 CFS
STAGE = 677.6
CALCULATED DESIGN SCOUR = 653.7

Q_{500} = 15,000 CFS
STAGE = 678.2
CALCULATED CHECK SCOUR = 653.3

ROADWAY OVERTOP 681.72
STA. 671+71

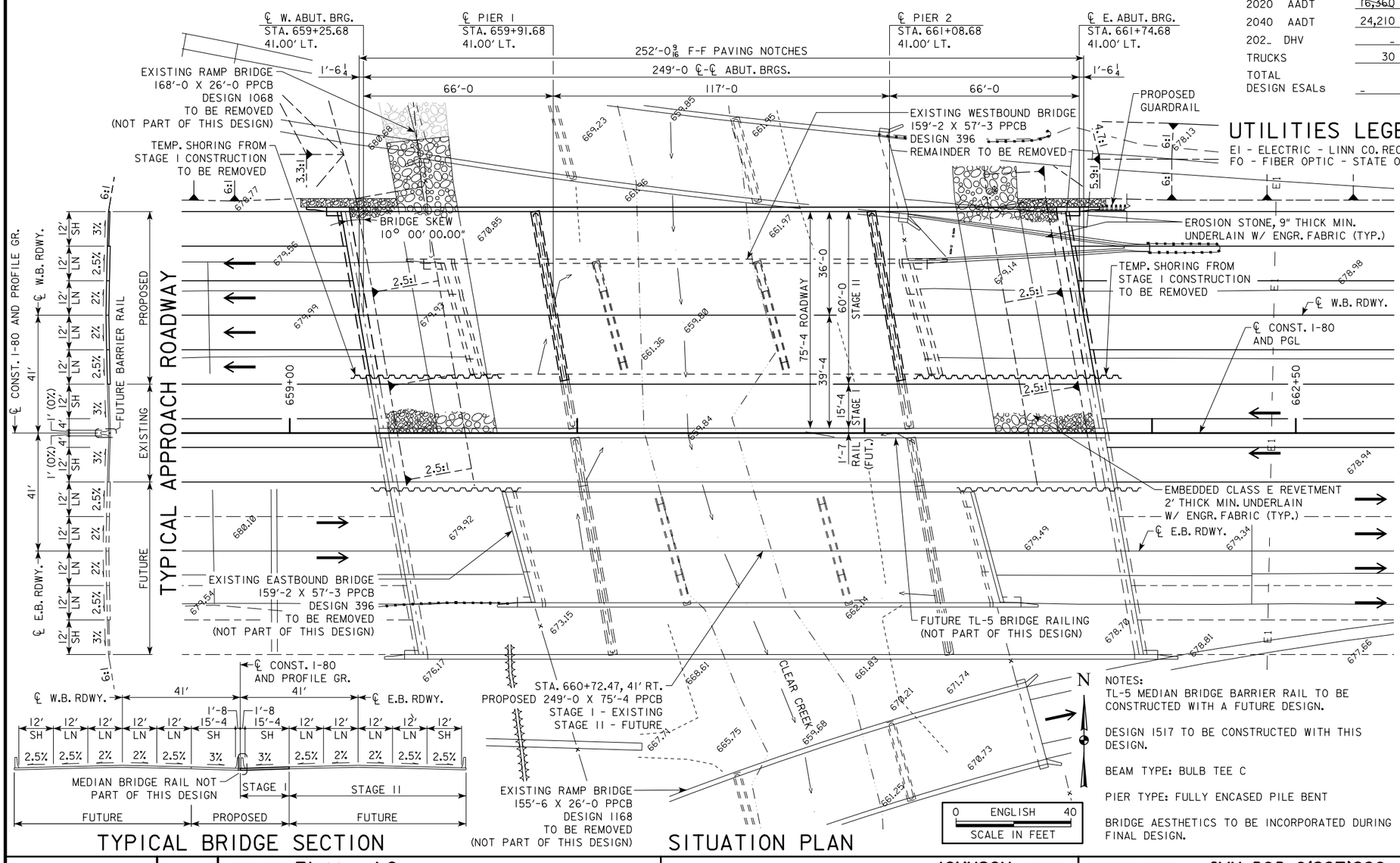
50, 100 & 500 YR. STAGES AND DISCHARGES FROM JOHNSON COUNTY F.I.S., DATED FEBRUARY 16, 2007.
F.I.S. DATUM - 0.10 FT = PROJECT DATUM.

TRAFFIC ESTIMATE

2020 AADT	16,360	V.P.D.
2040 AADT	24,210	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	30	%
TOTAL DESIGN ESALs	-	

UTILITIES LEGEND:

EI - ELECTRIC - LINN CO. REC
FO - FIBER OPTIC - STATE OF IOWA (ICN)



TYPICAL BRIDGE SECTION

SITUATION PLAN

NOTES:
TL-5 MEDIAN BRIDGE BARRIER RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

DESIGN 1517 TO BE CONSTRUCTED WITH THIS DESIGN.

BEAM TYPE: BULB TEE C

PIER TYPE: FULLY ENCASED PILE BENT

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

HYDRAULIC DESIGN

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.

David R. Claman 11571 — Licensed Professional Engineer — Iowa

Signature David R. Claman 2/19/2015 Date

Printed or Typed Name David R. Claman

My license renewal date is December 31, 2016

Pages or sheets covered by this seal: SHTS. 1 AND 2 OF 2

LOCATION

W.B. I-80 OVER CLEAR CREEK
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 32001
BRIDGE MAINT. NO. 5239.4L080
LATITUDE 41.694234°
LONGITUDE -91.632376°

PRELIMINARY

DESIGN FOR 10° SKEW (R.A.)

249′-0 X 75′-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

66′-0 END SPANS (BTC BEAM) 117′-0 INTERIOR SPAN

SITUATION PLAN

STATION 660+50.18, 41′ LEFT ℄ CONST. I-80 JAN 2015

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 718

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.51

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REVETMENT LIMITS - WEST

(R1) 659+44.31, 101.98' LT

(R2) 659+51.57, 0.00' LT

REVETMENT LIMITS - EAST

(R1) 661+41.36, 94.55' LT

(R2) 661+67.56, 0.00' LT

ESTIMATED BERM ARMORING QUANTITIES

LOCATION	REVETMENT CL. E (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - WEST ABUTMENT	339.5	52.6	464.6	245.0
BERM LINING - EAST ABUTMENT	314.8	40.3	410.5	222.0
TOTALS	654.3	92.9	875.1	467.0

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.

BERM SLOPE LOCATION TABLE

POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	659+46.68	81.58' LT	671.00	661+42.51	81.58' LT	671.00
A2	659+61.07	0.00'	671.00	661+56.90	0.00'	671.00
B1	659+23.09	81.58' LT	680.29	661+62.95	81.58' LT	679.05
B2	659+37.48	0.00'	680.29	661+77.34	0.00'	679.05
W1	659+05.83	81.58' LT	686.64	661+81.83	81.58' LT	684.90

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

PROPOSED BRIDGE
259'-0 X VARIES PPCB
STA. 7560+29.40 (℄ RAMP G)
SEE DESIGN 1517

EXISTING RAMP BRIDGE
168'-0 X 26'-0 PPCB
DESIGN 1068
TO BE REMOVED
(NOT PART OF THIS DESIGN)

EXISTING WESTBOUND BRIDGE
159'-2 X 57'-3 PPCB
DESIGN 396
REMAINDER TO BE REMOVED

℄ W. ABUT. BRG.
STA. 659+25.68
41.00' LT.

℄ E. ABUT. BRG.
STA. 661+74.68
41.00' LT.

℄ RAMP A

℄ RAMP G

EXISTING EASTBOUND BRIDGE
159'-2 X 57'-3 PPCB
DESIGN 396
TO BE REMOVED
(NOT PART OF THIS DESIGN)

STA. 660+72.47, 41' RT.
PROPOSED 249'-0 X 75'-4 PPCB
STAGE I - EXISTING
STAGE II - FUTURE

PROPOSED GUARDRAIL

EROSION STONE, 9" THICK MIN.
UNDERLAIN W/ ENGR. FABRIC (TYP.)

℄ W.B. RDWY.

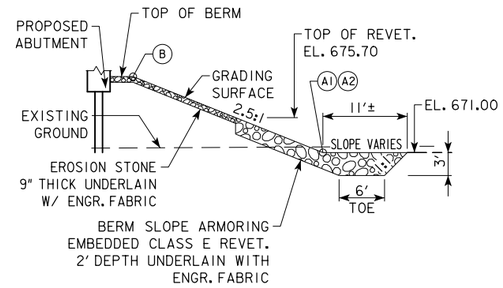
EMBEDDED CLASS E REVETMENT
2' THICK MIN. UNDERLAIN W/ ENGR. FABRIC (TYP.)

℄ CONST. I-80
AND PGL

℄ E.B. RDWY.

CLEAR CREEK

SITE PLAN



EMBEDDED BERM REVETMENT
(TYPICAL AT BOTH ABUTMENTS)

N

0 ENGLISH 40
SCALE IN FEET

PRELIMINARY

DESIGN FOR 10° SKEW (R.A.)

249'-0 X 75'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE II

66'-0 END SPANS (BTC BEAM) 117'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 660+50.18, 41' LEFT ℄ CONST. I-80 JAN 2015

JOHNSON COUNTY

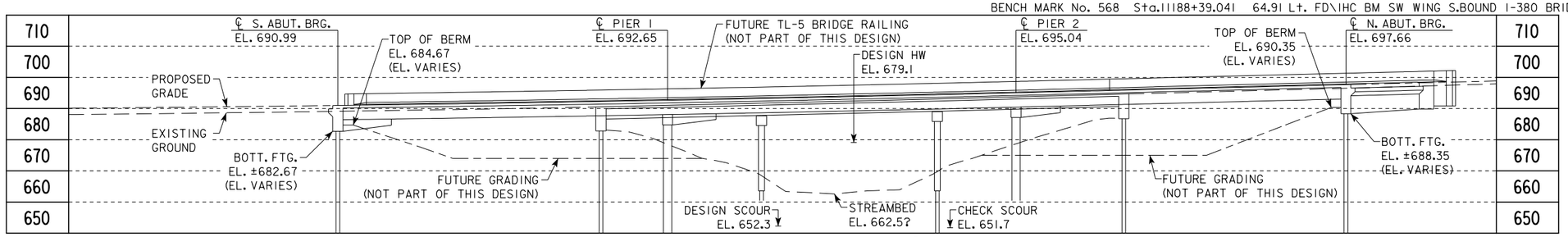
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 718

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.52

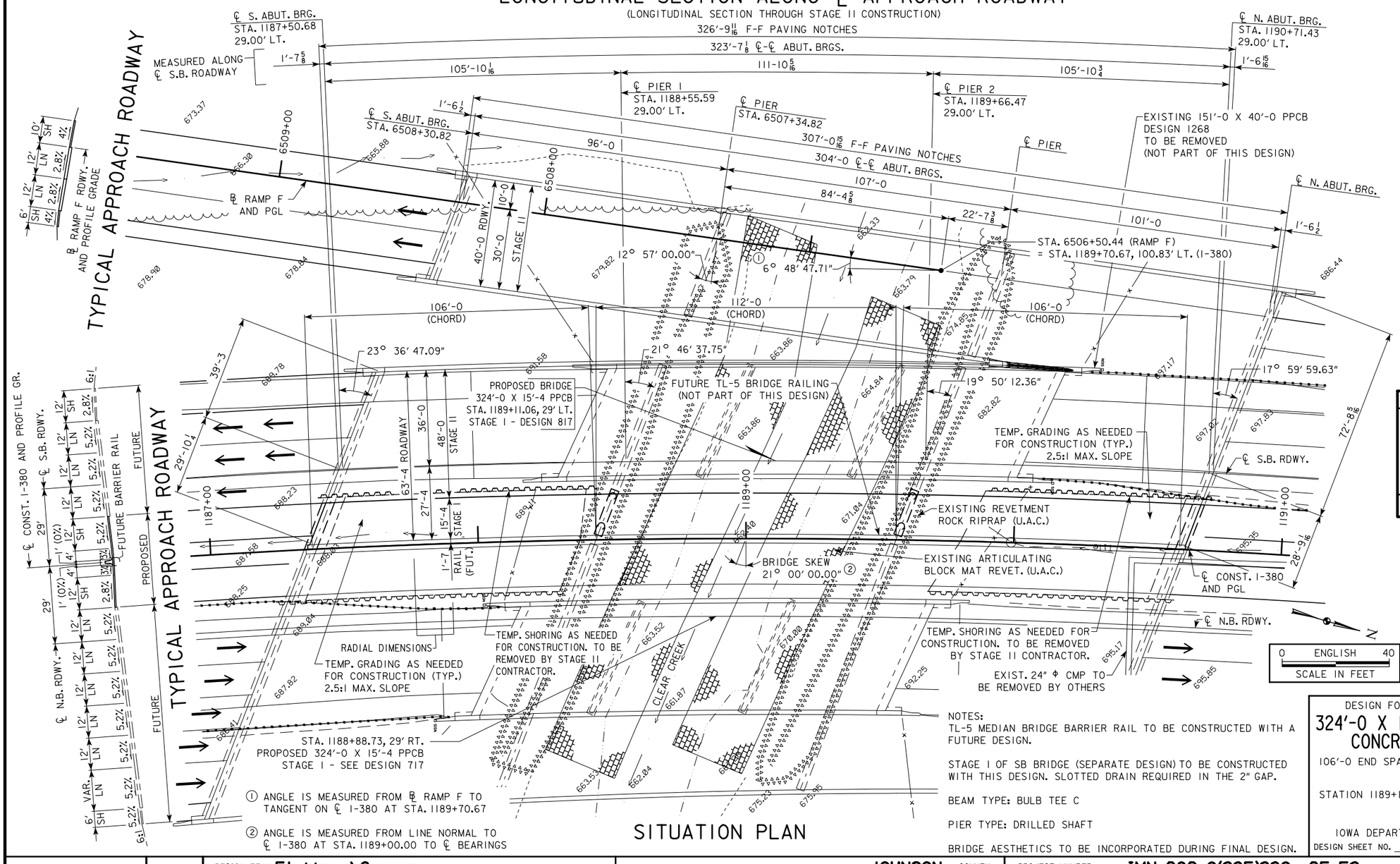
7:59:14 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V4.sht

BENCH MARK No. 568 Sta.11188+39.041 64.91 Lt. FD\IHC BM SW WING S.BOUND I-380 BRIDGE OVER CLEAR CREEK---------- 695.024



LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

(LONGITUDINAL SECTION THROUGH STAGE II CONSTRUCTION)



SITUATION PLAN

NOTES:
TL-5 MEDIAN BRIDGE BARRIER RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE I OF SB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BEAM TYPE: BULB TEE C

PIER TYPE: DRILLED SHAFT

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

-2.8780% ⌒ 2.4997%

VPI STA = 1184+75.00 VC = 1000'
VPI ELEV = 681.38

PROPOSED PROFILE GRADE I-380

HYDRAULIC DATA

DRAINAGE AREA = 81 SQ. MI.
STREAM SLOPE = 3.7 FT./MI.
AVG. LOW WATER STAGE = 664.0

Q_{50} = 8,700 CFS
STAGE = 679.1
BACKWATER = 1.0 FT.
AVG. BRIDGE VELOCITY = 5.1 FPS

Q_{100} = 10,500 CFS
STAGE = 679.9
BACKWATER = 1.2 FT.
AVG. BRIDGE VELOCITY = 5.6 FPS

Q_{200} = 13,400 CFS
STAGE = 681.1
CALCULATED DESIGN SCOUR = 652.3

Q_{500} = 15,000 CFS
STAGE = 681.7
CALCULATED CHECK SCOUR = 651.7

ROADWAY OVERTOP 689.8
STA. 1184+00

50, 100 & 500 YR. STAGES AND DISCHARGES FROM JOHNSON COUNTY, IOWA F.I.S., DATED FEBRUARY 16, 2007.
F.I.S. DATUM - 0.10 FT = PROJECT DATUM.

UTILITIES LEGEND:

NO KNOWN UTILITIES

SEE SHEET 2 OF 2 FOR ADDITIONAL INFORMATION.

HYDRAULIC DESIGN

IOWA PROFESSIONAL ENGINEER David R. Claman 11571

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.

David R. Claman 2/19/2015
Signature Date

David R. Claman
Printed or Typed Name

My license renewal date is December 31, 2016

Pages or sheets covered by this seal: SHTS. 1 AND 2 OF 2

LOCATION

S.B. I-380 OVER CLEAR CREEK
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600381
BRIDGE MAINT. NO. 5200.5L380
LATITUDE 41.700831°
LONGITUDE -91.641828°

PRELIMINARY

DESIGN FOR 21° SKEW (LA) ON A 3274.04' RADIUS CURVE

324'-0 X 15'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE I

106'-0 END SPANS (BTC BEAM) 112'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1189+11.06, 29' LEFT ℄ I-380 JUNE 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 817

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.53

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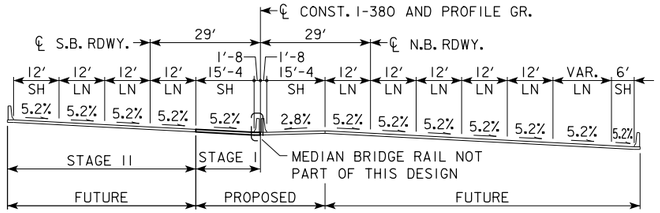
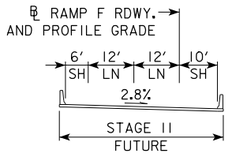


TYPICAL BRIDGE SECTION
(I-380)



TYPICAL BRIDGE SECTION
(RAMP F)

TRAFFIC ESTIMATE
I-380

2020 AADT	11,600	V.P.D.
2040 AADT	17,270	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	16	%
TOTAL DESIGN ESALs	_	

TRAFFIC ESTIMATE
RAMP F

2020 AADT	17,060	V.P.D.
2040 AADT	20,310	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	_	%
TOTAL DESIGN ESALs	_	

CURVE DATA
PI STA. 1191+13.06
Δ = 22° 38' 40.61" (RT)
T = 655.54'
L = 1,293.98'
E = 64.98'
R = 3,274.04'
e = 5.2%
l = 312'
x = 150'
PC STA. 1184+57.52
PT STA. 1197+51.50

LOCATION
S.B. I-380 OVER CLEAR CREEK
T-80N R-7W
SECTION 34
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600381
BRIDGE MAINT. NO. 5200.5L380
LATITUDE 41.700831°
LONGITUDE -91.641828°

PRELIMINARY

DESIGN FOR 21° SKEW (LA) ON A 3274.04' RADIUS CURVE

324'-0 X 15'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE I

106'-0 END SPANS (BTC BEAM) 112'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1189+11.06, 29' LEFT ℄ I-380 JUNE 2014

JOHNSON COUNTY

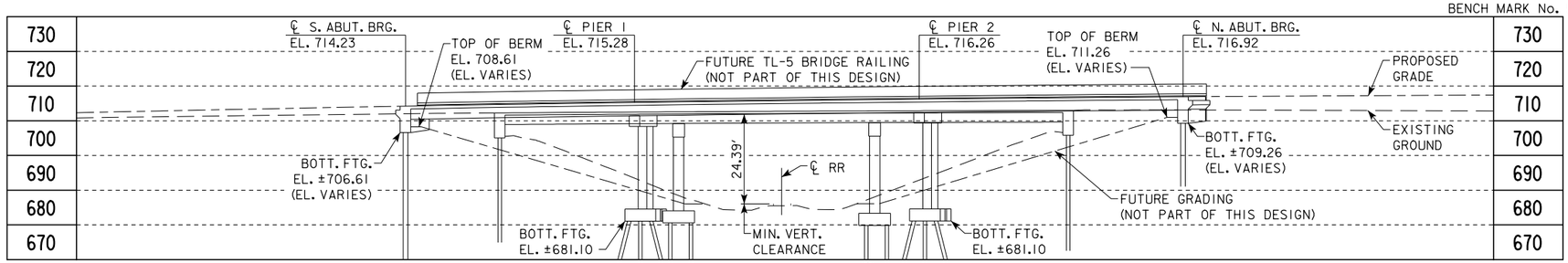
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 817

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.54

7:59:18 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V4.sht

BENCH MARK No. 570 Sta.1198+34.501 65.02 Rt. FD.DOT BUTTON SE.WING BR.------ 714.922



NOTE: TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN, THE TOP OF BRIDGE DECK AT CENTERLINE ROADWAY NORTH OF STA. 1198+49.90 IS +0.21' ABOVE PROFILE GRADE. FROM STA. 1197+89.90 TO STA. 1198+49.90, THIS DISTANCE VARIES FROM +0.09' TO +0.21' ABOVE THE PROFILE GRADE.

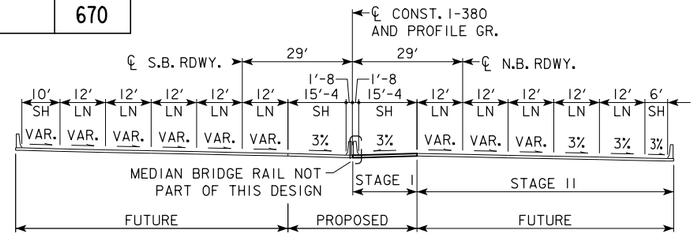
LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

(LONGITUDINAL SECTION THROUGH STAGE II CONSTRUCTION)

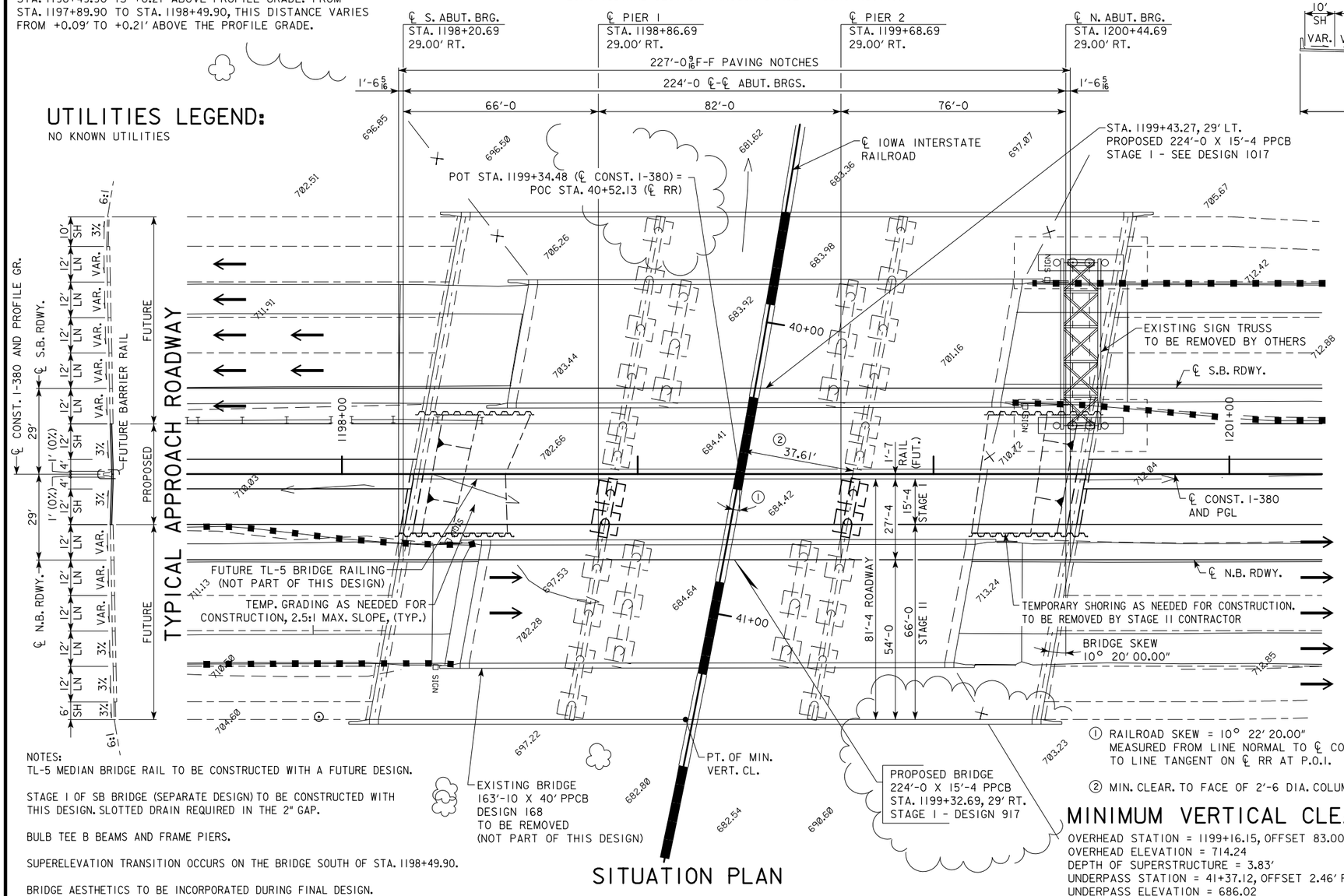
+2.4997% -1.1734%

VPI STA = 1200+60.00 VC = 910'
VPI ELEV = 721.00

PROPOSED PROFILE GRADE I-380



TYPICAL BRIDGE SECTION



SITUATION PLAN

TOP OF RAIL ELEV.

STATION	LEFT RAIL ELEVATION	RIGHT RAIL ELEVATION
39+33.06	685.99	685.91
39+59.76	686.04	685.95
39+86.33	686.09	686.02
40+10.64	686.13	686.05
40+35.13	686.08	686.02
40+62.32	686.11	686.06
40+88.73	686.14	686.09
41+15.22	686.09	686.03
41+39.81	686.09	686.02
41+66.32	686.05	685.99

CURVE DATA

I-380
PI STA. 1191+13.06
Δ = 22° 38' 40.61" (RT)
T = 655.54'
L = 1293.98'
E = 64.98'
R = 3274.04'
e = 5.2%
I = 312'
x = 150'
PC STA. 1184+57.52
PT STA. 1197+51.50

CURVE DATA

RAILROAD
PI STA. 46+75.67
Δ = 30° 52' 29.31" (RT)
T = 1582.21'
L = 3087.48'
E = 214.45'
R = 5729.58'
SC STA. 30+93.46
CS STA. 61+80.94

TRAFFIC ESTIMATE

2020 AADT	27,530	V.P.D.
2040 AADT	36,960	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	16	%
TOTAL DESIGN ESALs	_	

LOCATION

N.B. I-380 OVER IOWA INTERSTATE RR
T-80N R-7W
SECTION 27
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600391
BRIDGE MAINT. NO. 5200.7R380
FRA NO. 608011W
LATITUDE 41.703630°
LONGITUDE -91.642006°

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1199+16.15, OFFSET 83.00' RT.
OVERHEAD ELEVATION = 714.24
DEPTH OF SUPERSTRUCTURE = 3.83'
UNDERPASS STATION = 41+37.12, OFFSET 2.46' RT.
UNDERPASS ELEVATION = 686.02
MINIMUM VERTICAL CLEARANCE = 24.39'

PRELIMINARY

DESIGN FOR 10° 20' 00.00" SKEW (LA)

224'-0 X 15'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE I

66'-0, 76'-0 END SPANS (BTB BEAM) 82'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1199+32.69, 29' RIGHT ℄ CONST. I-380 DEC 2014

JOHNSON COUNTY

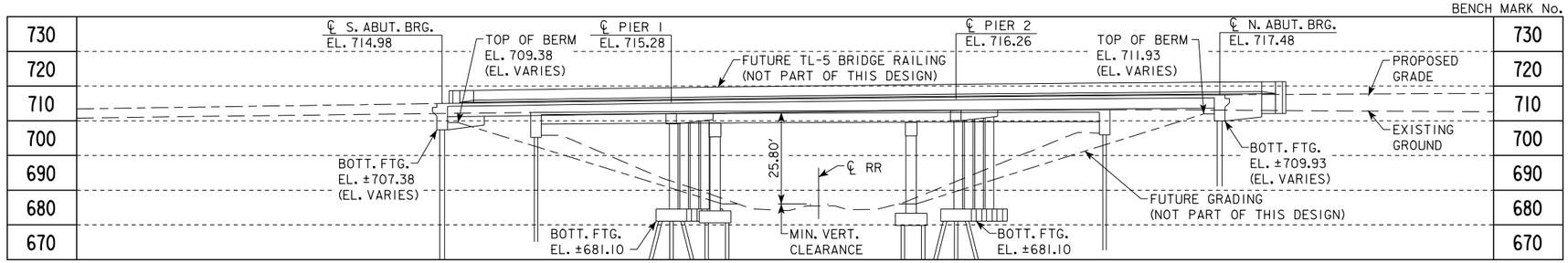
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 917

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.55

7:59:20 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V4.sht

BENCH MARK No. 571 Sta.1200+34.418 65.35 Lt. CUT"X"NW.WING SB.BRIDGE-------- 715.783



LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

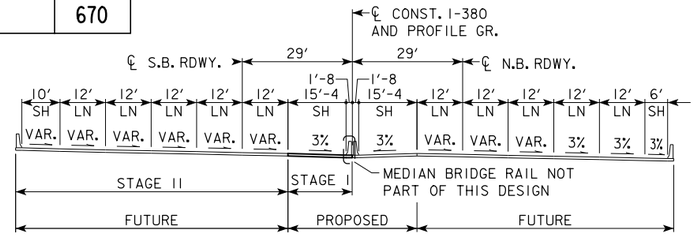
(LONGITUDINAL SECTION THROUGH STAGE II CONSTRUCTION)

NOTE: TO ACCOUNT FOR CROSS SLOPE AND PARABOLIC CROWN, THE TOP OF BRIDGE DECK AT CENTERLINE ROADWAY NORTH OF STA. 1198+49.90 IS +0.69' ABOVE PROFILE GRADE. FROM STA. 1197+89.90 TO STA. 1198+49.90, THIS DISTANCE VARIES FROM +0.81' TO +0.69' ABOVE THE PROFILE GRADE.

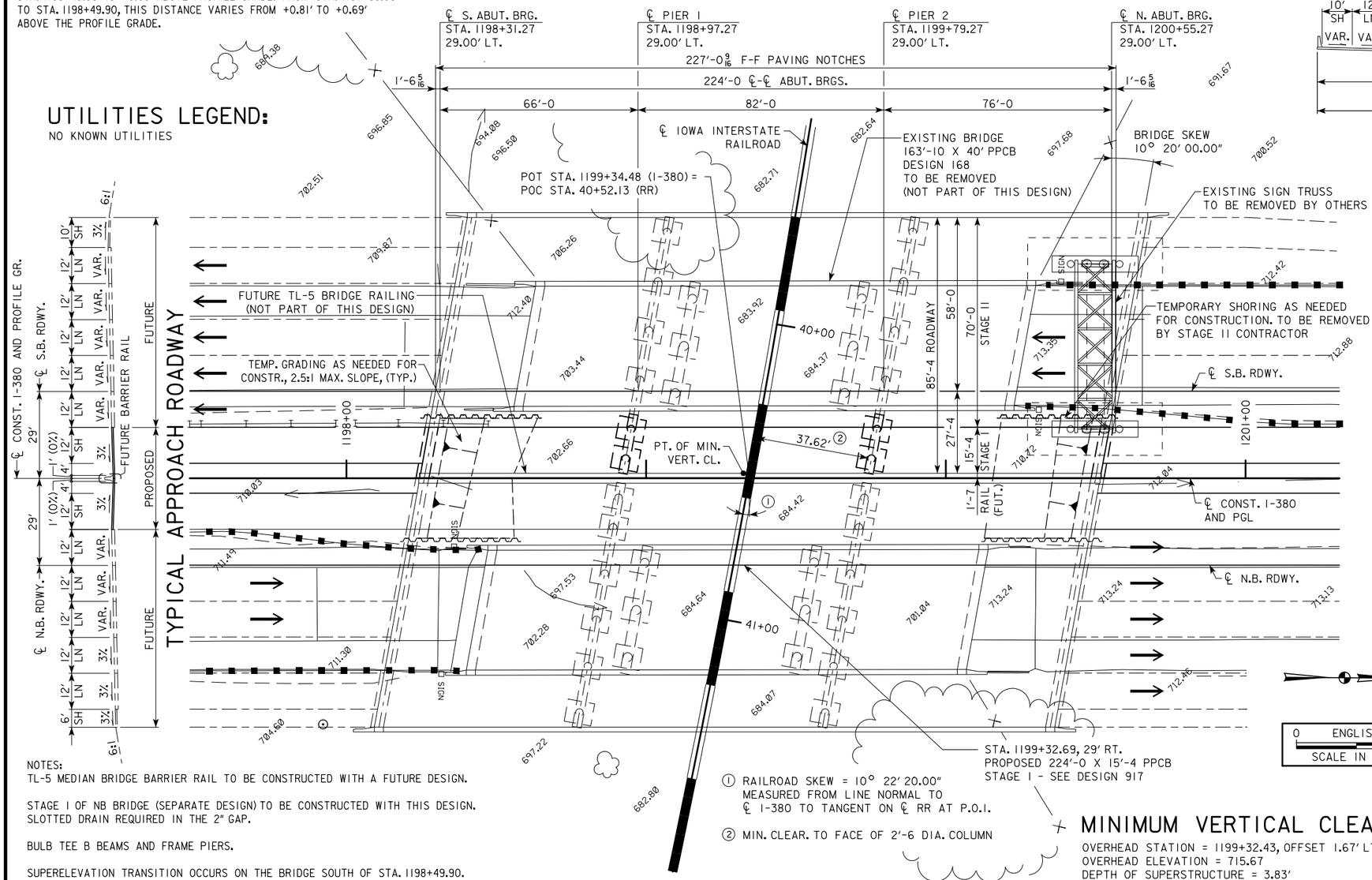
+2.4997% ○ -1.1734%

VPI STA = 1200+60.00 VC = 910'
VPI ELEV = 721.00

PROPOSED PROFILE GRADE I-380



TYPICAL BRIDGE SECTION



UTILITIES LEGEND:

NO KNOWN UTILITIES

TOP OF RAIL ELEV.

STATION	LEFT RAIL ELEVATION	RIGHT RAIL ELEVATION
39+33.06	685.99	685.91
39+59.76	686.04	685.95
39+86.33	686.09	686.02
40+10.64	686.13	686.05
40+35.13	686.08	686.02
40+62.32	686.11	686.06
40+88.73	686.14	686.09
41+15.22	686.09	686.03
41+39.81	686.09	686.02
41+66.32	686.05	685.99

CURVE DATA

I-380
PI STA. 1191+13.06
Δ = 22° 38' 40.61" (RT)
T = 655.54'
L = 1293.98'
E = 64.98'
R = 3274.04'
e = 5.2%
I = 312'
× = 150'
PC STA. 1184+57.52
PT STA. 1197+51.50

CURVE DATA

RAILROAD
PI STA. 46+75.67
Δ = 30° 52' 29.31" (RT)
T = 1582.21'
L = 3087.48'
E = 214.45'
R = 5729.58'
SC STA. 30+93.46
CS STA. 61+80.94

TRAFFIC ESTIMATE

2020 AADT	28,660	V.P.D.
2040 AADT	37,580	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	16	%
TOTAL DESIGN ESALs	_	

LOCATION

S.B. I-380 OVER IOWA INTERSTATE RR
T-80N R-7W
SECTION 27
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600401
BRIDGE MAINT. NO. 5200.7L380
FRA NO. 608011W
LATITUDE 41.703659°
LONGITUDE -91.642218°

N

0 ENGLISH 40
SCALE IN FEET

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 1199+32.43, OFFSET 1.67' LT.
OVERHEAD ELEVATION = 715.67
DEPTH OF SUPERSTRUCTURE = 3.83'
UNDERPASS STATION = 40+50.86, OFFSET 2.32' RT.
UNDERPASS ELEVATION = 686.04
MINIMUM VERTICAL CLEARANCE = 25.80'

NOTES:
TL-5 MEDIAN BRIDGE BARRIER RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE I OF NB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BULB TEE B BEAMS AND FRAME PIERS.

SUPERELEVATION TRANSITION OCCURS ON THE BRIDGE SOUTH OF STA. 1198+49.90.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

BOTTOM OF ABUTMENT FOOTINGS ARE SLOPED.

PRELIMINARY

DESIGN FOR 10° 20' SKEW (LA)

224'-0 X 15'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE I

66'-0, 76'-0 END SPANS (BTB BEAM) 82'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1199+43.27, 29' LEFT ℄ CONST. I-380 DEC 2014

JOHNSON COUNTY

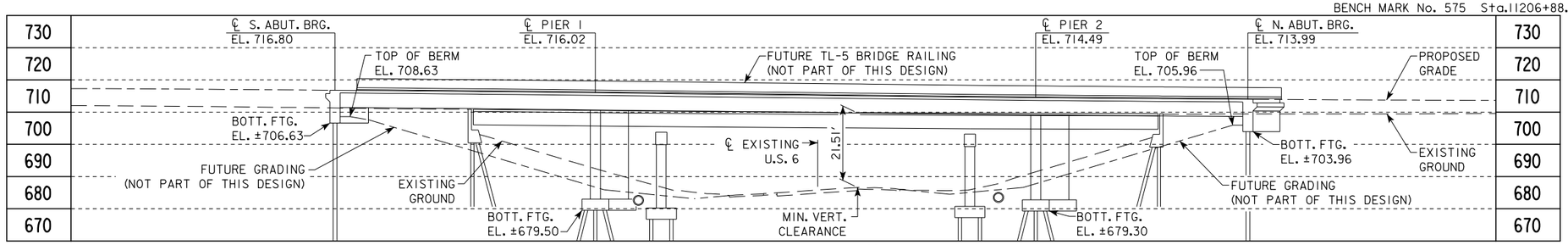
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 1017

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.56

7:59:22 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V4.sht

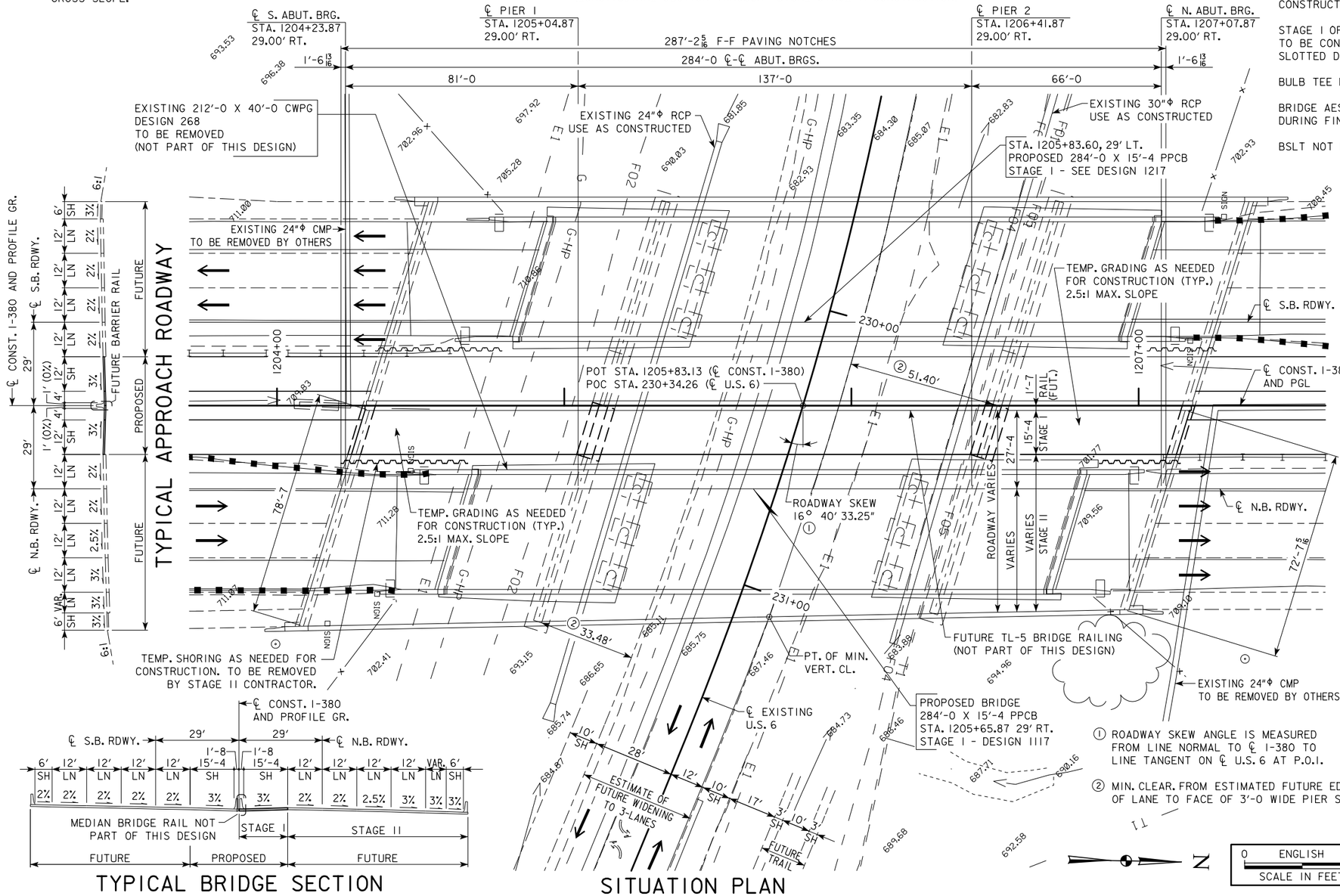
BENCH MARK No. 575 Sta.11206+88.793 64.63 Rt. FD.DOT BUTTON NE.WING BR.------ 712.079



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.24' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

(LONGITUDINAL SECTION THROUGH FUTURE STAGE II CONSTRUCTION)



TYPICAL APPROACH ROADWAY

TYPICAL BRIDGE SECTION

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE I OF SB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BULB TEE D BEAMS AND WALL PIERS.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

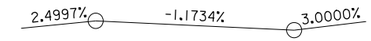
BSLT NOT REQUIRED FOR STAGE I.

CURVE DATA

I-380
PI STA. 1191+13.06
Δ = 22° 38' 40.61" (RT)
T = 655.54'
L = 1293.98'
E = 64.98'
R = 3274.04'
e = 5.2%
l = 312'
x = 150'
PC STA. 1184+57.52
PT STA. 1197+51.50

CURVE DATA

U.S. 6
PI STA.230+11.99
Δ = 13° 28' 23.85" (RT)
T = 153.03'
L = 304.65'
E = 9.01'
R = 1295.55
PC STA. 228+58.96
PT STA. 231+63.62



VPI STA = 1200+60.00
VPI ELEV = 721.00
VC = 910'

VPI STA = 1210+35.00
VPI ELEV = 709.56
VC = 900'

PROPOSED PROFILE GRADE I-380

MINIMUM VERTICAL CLEARANCE

EXISTING U.S. 6
OVERHEAD STATION = 1205+71.38, 73.57' RT.
OVERHEAD ELEVATION = 714.08
DEPTH OF SUPERSTRUCTURE = 5.33'
UNDERPASS STATION = 231+07.47, 11.95' LT.
UNDERPASS ELEVATION = 687.24
MINIMUM VERTICAL CLEARANCE = 21.51'

UTILITIES LEGEND:

EI-POWER-LINN CO. REC
FO2-FIBER OPTIC-SOUTH SLOPE COOP. TEL. CO.
FO4-FIBER OPTIC-MCLEOD
FO5-FIBER OPTIC-IOWA TELCOM
G-HP-HIGH PRESSURE GAS-MIDAMERICAN ENERGY
TI-TELEPHONE-IOWA TELCOM

TRAFFIC ESTIMATE

I-380

2020	AADT	27,530	V.P.D.
2040	AADT	36,960	V.P.D.
202_	DHV	-	V.P.H.
TRUCKS		16	%
TOTAL DESIGN ESALs		-	

TRAFFIC ESTIMATE

U.S. 6

2020	AADT	-	V.P.D.
2040	AADT	-	V.P.D.
202_	DHV	-	V.P.H.
TRUCKS		-	%
TOTAL DESIGN ESALs		-	

LOCATION

N.B. I-380 OVER U.S. 6
T-80N R-7W
SECTION 27
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 60041I
BRIDGE MAINT. NO. 5200.8R380
LATITUDE 41.705270°
LONGITUDE -91.642002°

PRELIMINARY

DESIGN FOR 17° SKEW L.A.

284'-0 x 15'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE I

81'-0, 66'-0 END SPANS (BTD BEAM TYPE) 137'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1205+65.87, 29' RIGHT ℄ CONST. I-380 DEC 2014

JOHNSON COUNTY

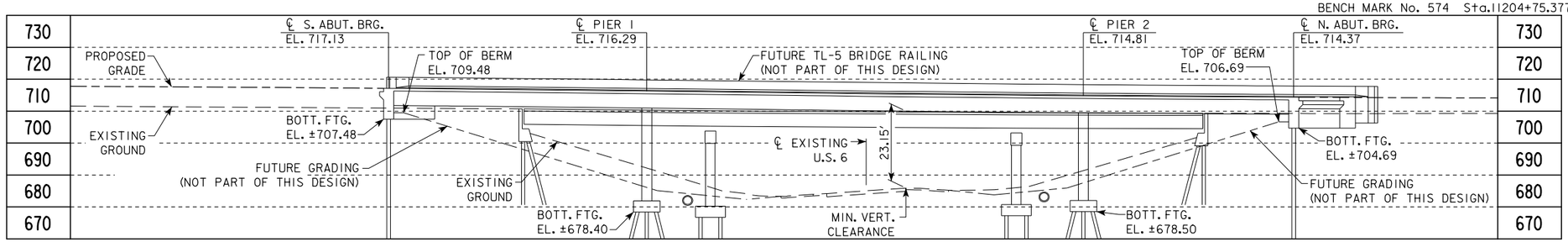
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 1117

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.57

7:59:24 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V4.sht

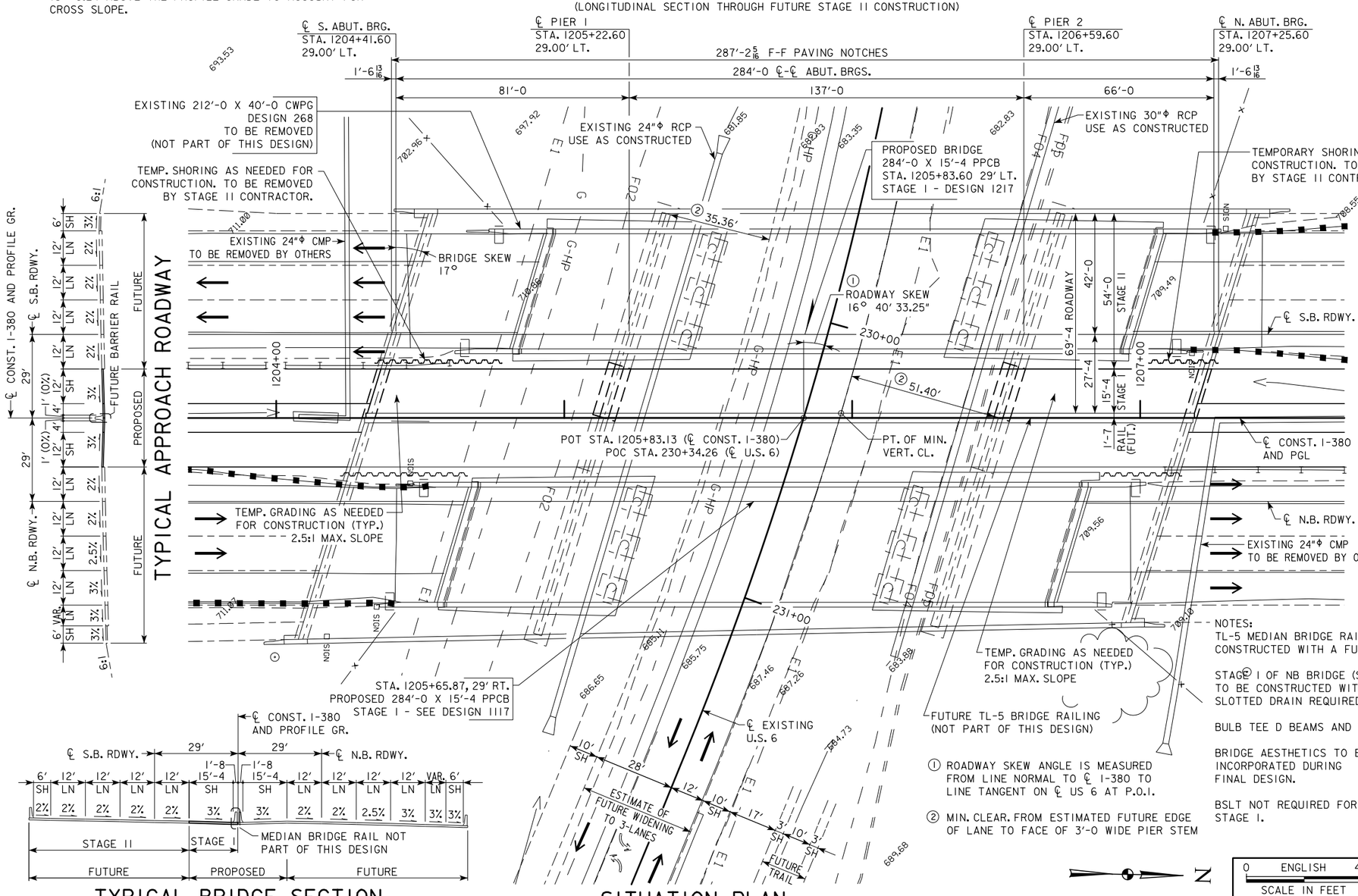
BENCH MARK No. 574 Sta.1204+75.377 65.13 Lt. FD.DOT BUTTON SW.WING BR.------ 713.436



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.24' ABOVE THE PROFILE GRADE TO ACCOUNT FOR CROSS SLOPE.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

(LONGITUDINAL SECTION THROUGH FUTURE STAGE II CONSTRUCTION)



TYPICAL BRIDGE SECTION

SITUATION PLAN

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE ② I OF NB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BULB TEE D BEAMS AND WALL PIERS.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

BSLT NOT REQUIRED FOR STAGE I.

① ROADWAY SKEW ANGLE IS MEASURED FROM LINE NORMAL TO ℄ I-380 TO LINE TANGENT ON ℄ US 6 AT P.O.I.

② MIN. CLEAR. FROM ESTIMATED FUTURE EDGE OF LANE TO FACE OF 3'-0 WIDE PIER STEM

N

0 ENGLISH 40
SCALE IN FEET

2.4997% -1.1734% 3.0000%

VPI STA = 1200+60.00
VPI ELEV = 721.00
VC = 910'

VPI STA = 1210+35.00
VPI ELEV = 709.56
VC = 900'

PROPOSED PROFILE GRADE I-380

UTILITIES LEGEND:

EI-POWER-LINN CO. REC
FO2-FIBER OPTIC-SOUTH SLOPE COOP. TEL. CO.
FO4-FIBER OPTIC-MCLEOD
FO5-FIBER OPTIC-IOWA TELCOM
G-HP-HIGH PRESSURE GAS-MIDAMERICAN ENERGY
TI-TELEPHONE-IOWA TELCOM

TRAFFIC ESTIMATE

I-380

2020 AADT	28,660	V.P.D.
2040 AADT	37,580	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	16	%
TOTAL DESIGN ESALs	-	

TRAFFIC ESTIMATE

U.S. 6

2020 AADT	-	V.P.D.
2040 AADT	-	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	-	%
TOTAL DESIGN ESALs	-	

CURVE DATA

I-380
PI STA. 1191+13.06
Δ = 22° 38' 40.61" (RT)
T = 655.54'
L = 1293.98'
E = 64.98'
R = 3274.04'
e = 5.2%
I = 312'
x = 150'
PC STA. 1184+57.52
PT STA. 1197+51.50

CURVE DATA

U.S. 6
PI STA.230+11.99
Δ = 13° 28' 23.85" (RT)
T = 153.03'
L = 304.65'
E = 9.01'
R = 1295.55
PC STA. 228+58.96
PT STA. 231+63.62

MINIMUM VERTICAL CLEARANCE

EXISTING U.S. 6
OVERHEAD STATION = 1205+96.13, 1.67' LT.
OVERHEAD ELEVATION = 714.73
DEPTH OF SUPERSTRUCTURE = 5.33'
UNDERPASS STATION = 230+28.98, 11.98' LT.
UNDERPASS ELEVATION = 686.25
MINIMUM VERTICAL CLEARANCE = 23.15'

LOCATION

S.B. I-380 OVER U.S. 6
T-80N R-7W
SECTION 27
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 60042I
BRIDGE MAINT. NO. 5200.8L380
LATITUDE 41.705416°
LONGITUDE -91.642214°

PRELIMINARY

DESIGN FOR 17° SKEW L.A.

284'-0 x 15'-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE I

81'-0, 66'-0 END SPANS (BTD BEAM TYPE) 137'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1205+83.60, 29' LEFT ℄ CONST. I-380 DEC 2014

JOHNSON COUNTY

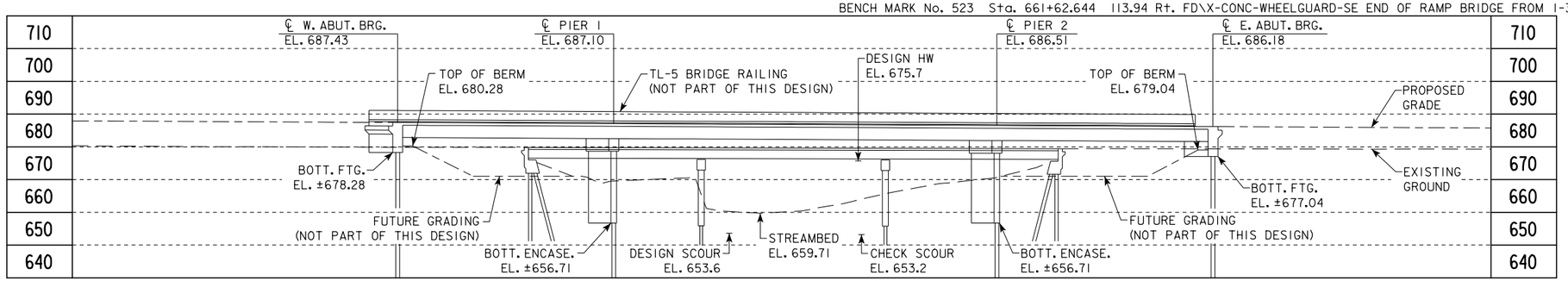
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 1217

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.58

7:59:26 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V4.sht

BENCH MARK No. 523 Sta. 661+62.644 113.94 Rt. FD\X-CONC-WHEELGUARD-SE END OF RAMP BRIDGE FROM I-380 N.BOUND TO I-80 EAST BOUND---------- 678.334



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.99′ ABOVE THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

(LONGITUDINAL SECTION THROUGH FUTURE STAGE II CONSTRUCTION)

-2.9780% -0.5000% +0.6672%

VPI STA = 652+25.00
VPI ELEV = 690.01
VC = 450′

VPI STA = 672+00.00
VPI ELEV = 680.14
VC = 400′

PROPOSED PROFILE GRADE I-80

HYDRAULIC DATA

DRAINAGE AREA = 81.0 SQ. MI.
STREAM SLOPE = 3.7 FT./MI.
AVG. LOW WATER STAGE = 661.3

Q_{50} = 8,700 CFS
STAGE = 675.7
BACKWATER = 1.2 FT.
AVG. BRIDGE VELOCIT = 5.6 FPS

Q_{100} = 10,500 CFS
STAGE = 676.5
BACKWATER = 1.5 FT.
AVG. BRIDGE VELOCITY = 6.1 FPS

Q_{200} = 13,400 CFS
STAGE = 677.6
CALCULATED DESIGN SCOUR = 653.6

Q_{500} = 15,000 CFS
STAGE = 678.2
CALCULATED CHECK SCOUR = 653.2

ROADWAY OVERTOP 681.72
STA. 671+71

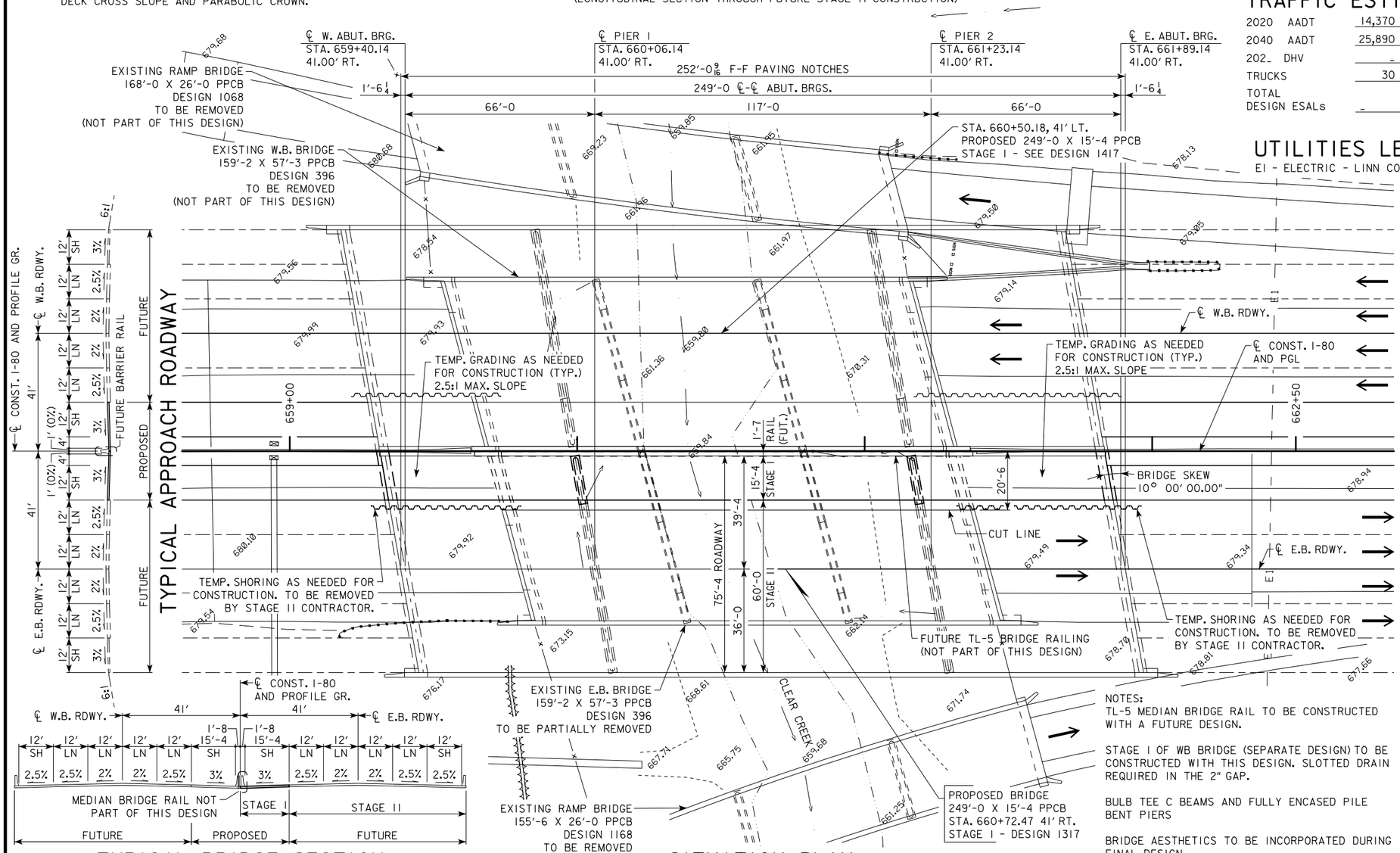
50, 100 & 500 YR. STAGES AND DISCHARGES FROM JOHNSON COUNTY F.I.S., DATED FEBRUARY 16, 2007.
F.I.S. DATUM - 0.10 FT = PROJECT DATUM.

TRAFFIC ESTIMATE

2020 AADT	14,370	V.P.D.
2040 AADT	25,890	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	30	%
TOTAL DESIGN ESALs	_	

UTILITIES LEGEND:

E1 - ELECTRIC - LINN CO. REC



TYPICAL BRIDGE SECTION

SITUATION PLAN

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE I OF WB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BULB TEE C BEAMS AND FULLY ENCASED PILE BENT PIERS

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

HYDRAULIC DESIGN

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.

David R. Claman 11571 IOWA

Signature David R. Claman 2/19/2015 Date

Printed or Typed Name David R. Claman

My license renewal date is December 31, 2016

Pages or sheets covered by this seal: SHT. 1 OF 1

N

0 ENGLISH 40
SCALE IN FEET

LOCATION

E.B. I-80 OVER CLEAR CREEK
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 31991
BRIDGE MAINT. NO. 5239.4R080
LATITUDE 41.694234°
LONGITUDE -91.632376°

PRELIMINARY

DESIGN FOR 10° SKEW (R.A.)

249′-0 X 15′-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE I

66′-0 END SPANS (BTC BEAM) 117′-0 INTERIOR SPAN

SITUATION PLAN

STATION 660+72.47, 41′ RIGHT ℄ CONST. I-80 JAN 2015

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 1317

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.59

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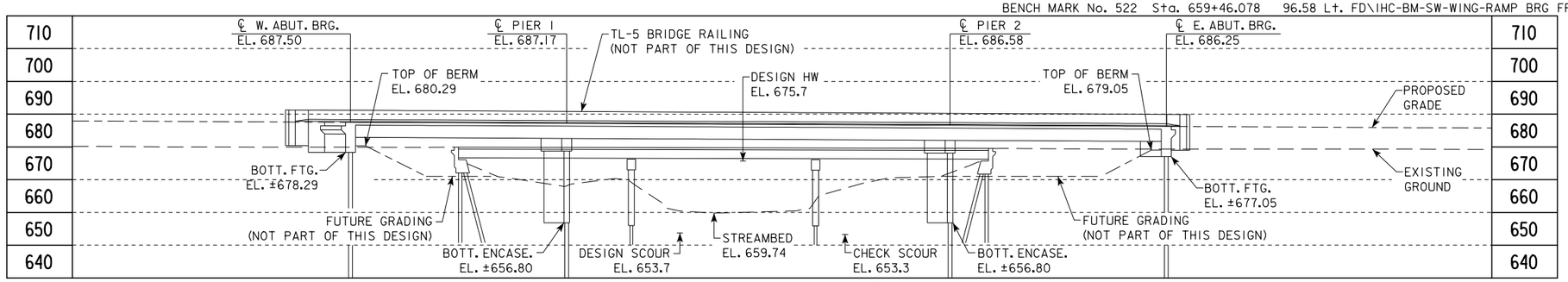
BENCH MARK No. 522 Sta. 659+46.078 96.58 Lt. FD\IHC-BM-SW-WING-RAMP BRG FROM I-80 W.BOUND TO I-380 N.BOUND---------- 683.510



NOTE: TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS +0.99′ ABOVE THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

(LONGITUDINAL SECTION THROUGH FUTURE STAGE II CONSTRUCTION)

-2.9780% -0.5000% +0.6672%

VPI STA = 652+25.00
VPI ELEV = 690.01
VC = 450′

VPI STA = 672+00.00
VPI ELEV = 680.14
VC = 400′

PROPOSED PROFILE GRADE I-80

HYDRAULIC DATA

DRAINAGE AREA = 81.0 SQ. MI.
STREAM SLOPE = 3.7 FT./MI.
AVG. LOW WATER STAGE = 661.3

Q_{50} = 8,700 CFS
STAGE = 675.7
BACKWATER = 1.2 FT.
AVG. BRIDGE VELOCITY = 5.6 FPS

Q_{100} = 10,500 CFS
STAGE = 676.5
BACKWATER = 1.5 FT.
AVG. BRIDGE VELOCITY = 6.1 FPS

Q_{200} = 13,400 CFS
STAGE = 677.6
CALCULATED DESIGN SCOUR = 653.7

Q_{500} = 15,000 CFS
STAGE = 678.2
CALCULATED CHECK SCOUR = 653.3

ROADWAY OVERTOP 681.72
STA. 671+71

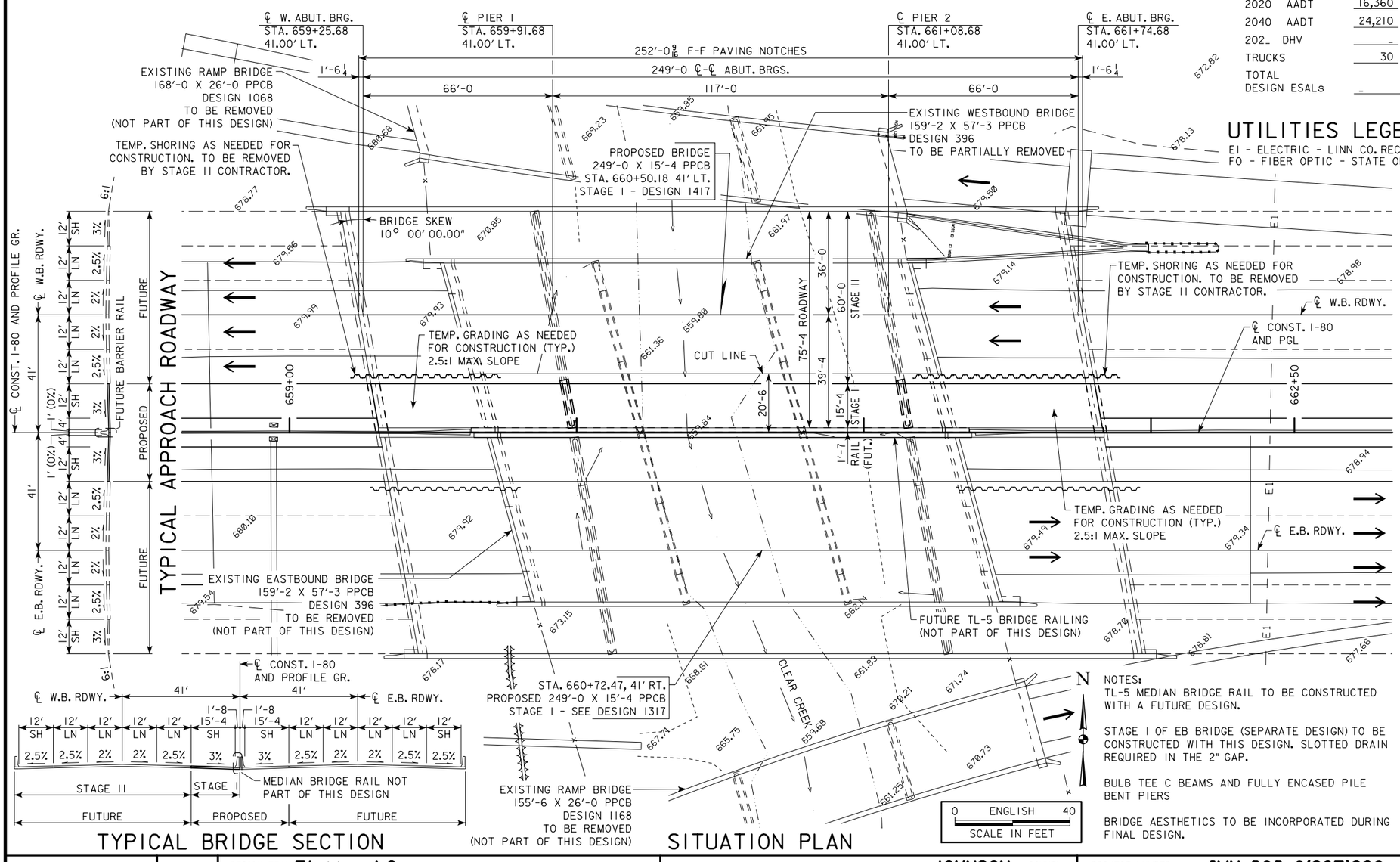
50, 100 & 500 YR. STAGES AND DISCHARGES FROM JOHNSON COUNTY F.I.S., DATED FEBRUARY 16, 2007.
F.I.S. DATUM - 0.10 FT = PROJECT DATUM.

TRAFFIC ESTIMATE

2020 AADT	16,360	V.P.D.
2040 AADT	24,210	V.P.D.
202_ DHV	-	V.P.H.
TRUCKS	30	%
TOTAL DESIGN ESALs	-	

UTILITIES LEGEND:

EI - ELECTRIC - LINN CO. REC
FO - FIBER OPTIC - STATE OF IOWA (ICN)



TYPICAL APPROACH ROADWAY

TYPICAL BRIDGE SECTION

SITUATION PLAN

NOTES:
TL-5 MEDIAN BRIDGE RAIL TO BE CONSTRUCTED WITH A FUTURE DESIGN.

STAGE I OF EB BRIDGE (SEPARATE DESIGN) TO BE CONSTRUCTED WITH THIS DESIGN. SLOTTED DRAIN REQUIRED IN THE 2" GAP.

BULB TEE C BEAMS AND FULLY ENCASED PILE BENT PIERS

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

HYDRAULIC DESIGN

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.

David R. Claman 11571 — Licensed Professional Engineer — Iowa

Signature David R. Claman 2/19/2015 Date

Printed or Typed Name David R. Claman

My license renewal date is December 31, 2016

Pages or sheets covered by this seal: SHT. 1 OF 1

LOCATION

W.B. I-80 OVER CLEAR CREEK
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 32001
BRIDGE MAINT. NO. 5239.4L080
LATITUDE 41.694234°
LONGITUDE -91.632376°

PRELIMINARY

DESIGN FOR 10° SKEW (R.A.)

249′-0 X 15′-4 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - STAGE I

66′-0 END SPANS (BTC BEAM) 117′-0 INTERIOR SPAN

SITUATION PLAN

STATION 660+50.18, 41′ LEFT ℄ CONST. I-80 JAN 2015

JOHNSON COUNTY

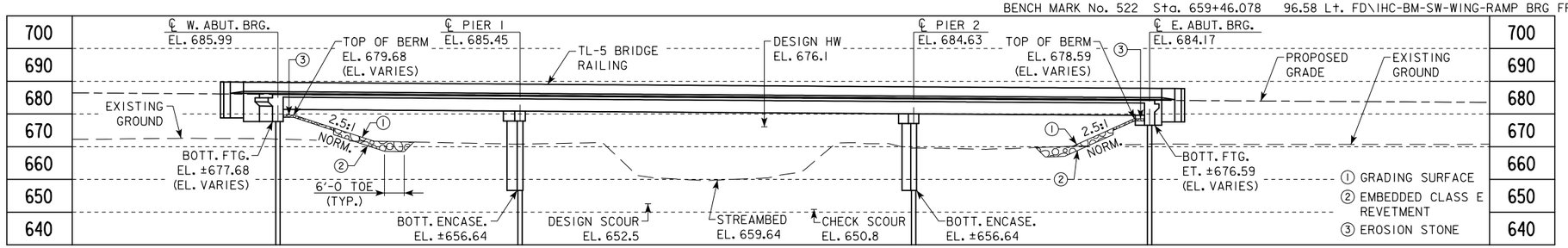
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 1317

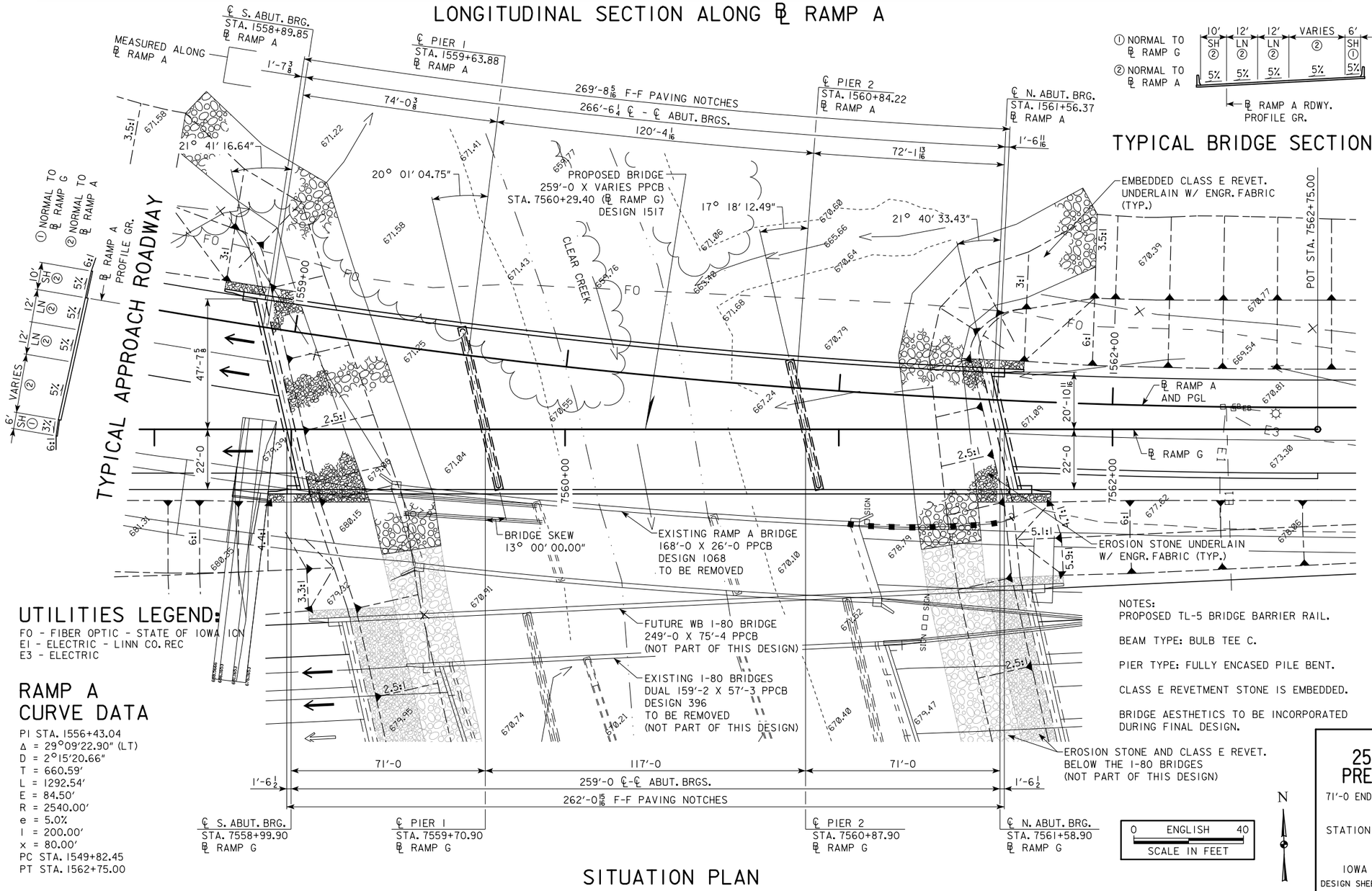
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.60

7:59:30 AM 3/24/2015 egansen pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5208001002\Design\52080235V4.sht

BENCH MARK No. 522 Sta. 659+46.078 96.58 Lt. FD\IHC-BM-SW-WING-RAMP BRG FROM I-80 W.BOUND TO I-380 N.BOUND---------- 683.510



LONGITUDINAL SECTION ALONG ℄ RAMP A



SITUATION PLAN

TYPICAL BRIDGE SECTION

-1.3079% -0.3600%

VPI STA = 1557+00.00 VC = 2000'
VPI ELEV = 685.11

PROPOSED PROFILE GRADE RAMP A

HYDRAULIC DATA

DRAINAGE AREA = 81 SQ. MI.
STREAM SLOPE = 3.7 FT./MI.
AVG. LOW WATER STAGE = 661.3

Q_{50} = 8,700 CFS
STAGE = 676.1
BACKWATER = 1.0 FT.
AVG. BRIDGE VELOCITY = 5.2 FPS

Q_{100} = 10,500 CFS
STAGE = 676.9
BACKWATER = 1.0 FT.
AVG. BRIDGE VELOCITY = 5.7 FPS

Q_{200} = 13,400 CFS
STAGE = 678.1
CALCULATED DESIGN SCOUR = 652.5

Q_{500} = 15,000 CFS
STAGE = 678.7
CALCULATED CHECK SCOUR = 650.8

ROADWAY OVERTOP 681.7
STA. 1570+71 (℄ RAMP A)

50, 100 & 500 YR. STAGES AND DISCHARGES FROM JOHNSON COUNTY, IOWA F.I.S., DATED FEBRUARY 16, 2007.
F.I.S. DATUM - 0.10 FT = PROJECT DATUM.

HYDRAULIC DESIGN

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.

David R. Claman 11571 — Licensed Professional Engineer — Iowa

Signature David R. Claman 2/19/2015 Date

Printed or Typed Name David R. Claman

My license renewal date is December 31, 2016

Pages or sheets covered by this seal: SHTS. 1 AND 2 OF 2

LOCATION

I-80 / I-380 SYSTEMS INTERCHANGE
E-N AND E-S CONNECTORS (RAMPS A AND G)
OVER CLEAR CREEK
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FHWA NO. 600366
BRIDGE MAINT. NO. 5239.3A080
LATITUDE 41.694736°
LONGITUDE -91.632485°

PRELIMINARY

UTILITIES LEGEND:

FO - FIBER OPTIC - STATE OF IOWA ICN
EI - ELECTRIC - LINN CO. REC
E3 - ELECTRIC

RAMP A CURVE DATA

PI STA. 1556+43.04
Δ = 29°09'22.90" (LT)
D = 2°15'20.66"
T = 660.59'
L = 1292.54'
E = 84.50'
R = 2540.00'
e = 5.0%
I = 200.00'
x = 80.00'
PC STA. 1549+82.45
PT STA. 1562+75.00

NOTES:
PROPOSED TL-5 BRIDGE BARRIER RAIL.

BEAM TYPE: BULB TEE C.

PIER TYPE: FULLY ENCASED PILE BENT.

CLASS E REVETMENT STONE IS EMBEDDED.

BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

DESIGN FOR 13° SKEW (R.A.)

259'-0 X VAR. WIDTH PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

71'-0 END SPANS (BTC BEAM TYPE) 117'-0 INTERIOR SPAN

SITUATION PLAN

STATION 7560+29.40 ℄ RAMP G OCT 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 1517

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.61

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BERM SLOPE LOCATION TABLE

POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	7559+14.93	48.38' LT	671.00	7561+32.98	26.58' LT	671.00
A2	7559+41.20	26.58' RT	671.00	7561+38.97	26.58' RT	671.00
B1	7558+92.58	51.71' LT	679.05	7561+48.33	25.76' LT	677.08
B2	7559+10.66	26.58' RT	682.60	7561+60.42	26.58' RT	679.58
W1	7558+76.29	54.26' LT	685.47	7561+67.76	24.86' LT	683.46
W2	7558+91.48	26.58' RT	688.73	7561+77.48	26.58' RT	685.48

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE
BERM SLOPE POINTS REFERENCED FROM ℄ RAMP G

REVETMENT LIMITS - WEST

(R1) 7558+61.39, 115.52' LT

(R2) 7559+43.82, 44.12' RT

REVETMENT LIMITS - EAST

(R1) 7561+94.48, 78.59' LT

(R2) 7561+41.12, 42.25' RT

NOTE: POINTS REFERENCED FROM ℄ RAMP G

ESTIMATED BERM ARMORING QUANTITIES

LOCATION	REVETMENT CL. E (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - WEST ABUTMENT	564.8	57.3	723.6	388.8
BERM LINING - EAST ABUTMENT	478.9	35.0	578.9	321.1
TOTALS	1,043.7	92.3	1,302.5	709.9

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.

TRAFFIC ESTIMATE

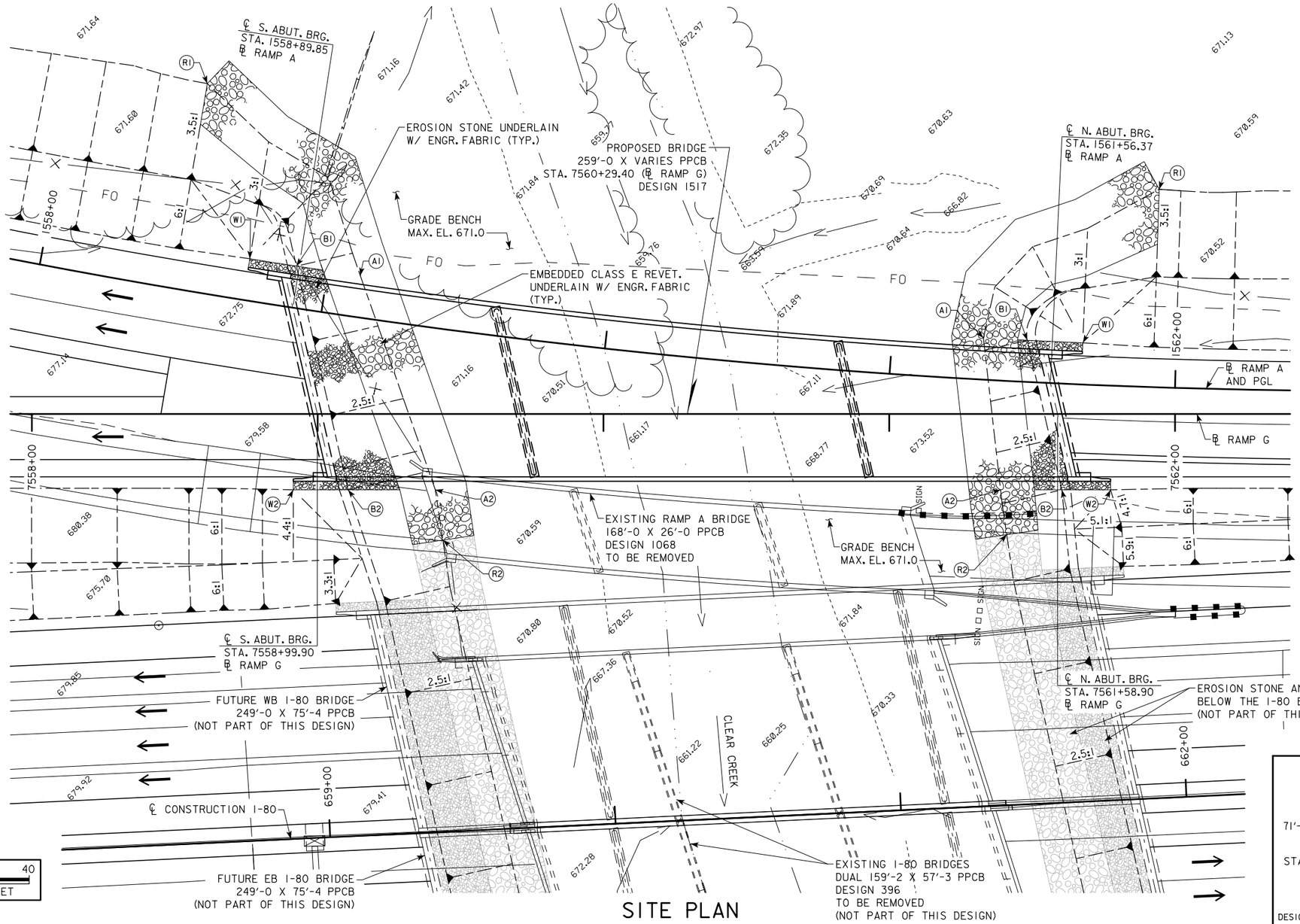
RAMP A

2010 AADT	11,100	V.P.D.
2040 AADT	14,790	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	_	%
TOTAL DESIGN ESALs	_	

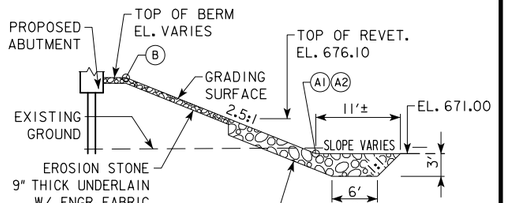
TRAFFIC ESTIMATE

RAMP G

2010 AADT	3,160	V.P.D.
2040 AADT	4,890	V.P.D.
202_ DHV	_	V.P.H.
TRUCKS	_	%
TOTAL DESIGN ESALs	_	



SITE PLAN



EMBEDDED BERM REVETMENT

(TYPICAL AT BOTH ABUTMENTS)

PRELIMINARY

DESIGN FOR 13° SKEW (R.A.)

259'-0 X VAR. WIDTH PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

71'-0 END SPANS (BTC BEAM TYPE) 117'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STATION 7560+29.40 ℄ RAMP G OCT 2014

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 1517

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Gansen	JOHNSON COUNTY	PROJECT NUMBER IMN-080-6(235)239--0E-52	SHEET NUMBER V.62

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