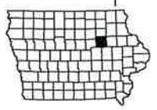
LETTING DATE

PAVEMENT - GRADE AND NEW
NHSX-218-7(207)-3H-07
BLACK HAWK Co.

INDEX OF SHEETS



IOWA DOT

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

BLACK HAWK COUNTY

PAVEMENT - GRADE AND NEW

US 218/IA 27/Co. Rd C-57 Interchange and CEDR RR Relocation

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

NO MILEAGE SUMMARY

IOWA ONE CALL
1-800-292-8989 | 811
www.iowaonecall.com

REVISIONS

	TOTAL 355
PROJECT IDENTIFICATION NUMBER	
06-07-218-010	
PROJECT NUMBER	
NHSX-218-7(207)-3H-07	
R.O.W. PROJECT NUMBER	
NHSN-218-7(189)--2R-07	

For Project Location Map
Refer to Sheet A.2

DESIGN DATA RURAL

2017 AADT	20243	V.P.D.
2037 AADT	28689	V.P.D.
2037 DHV	2964	V.P.H.
TRUCKS	14	%
Total Design ESALs	--	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Craig J. Hunter	Primary Signature Block
CS.1	John A. Christiansen	Geotechnical

LICENSED PROFESSIONAL ENGINEER
CRAIG J. HUNTER
15566
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.

Craig J. Hunter 8/29/2014
Signature Date

Craig J. Hunter
Printed or Typed Name

My license renewal date is December 31, 20 14

Pages or sheets covered by this seal: A1-A2, B1-B10, C1-C19, D1-D6, E1-E9, F1 G1-G10, J1-J77, K1-K12, T1-T5, U1-U14, V5-V14, W1-W36, X1-X64, Y1-Y40

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER A.1

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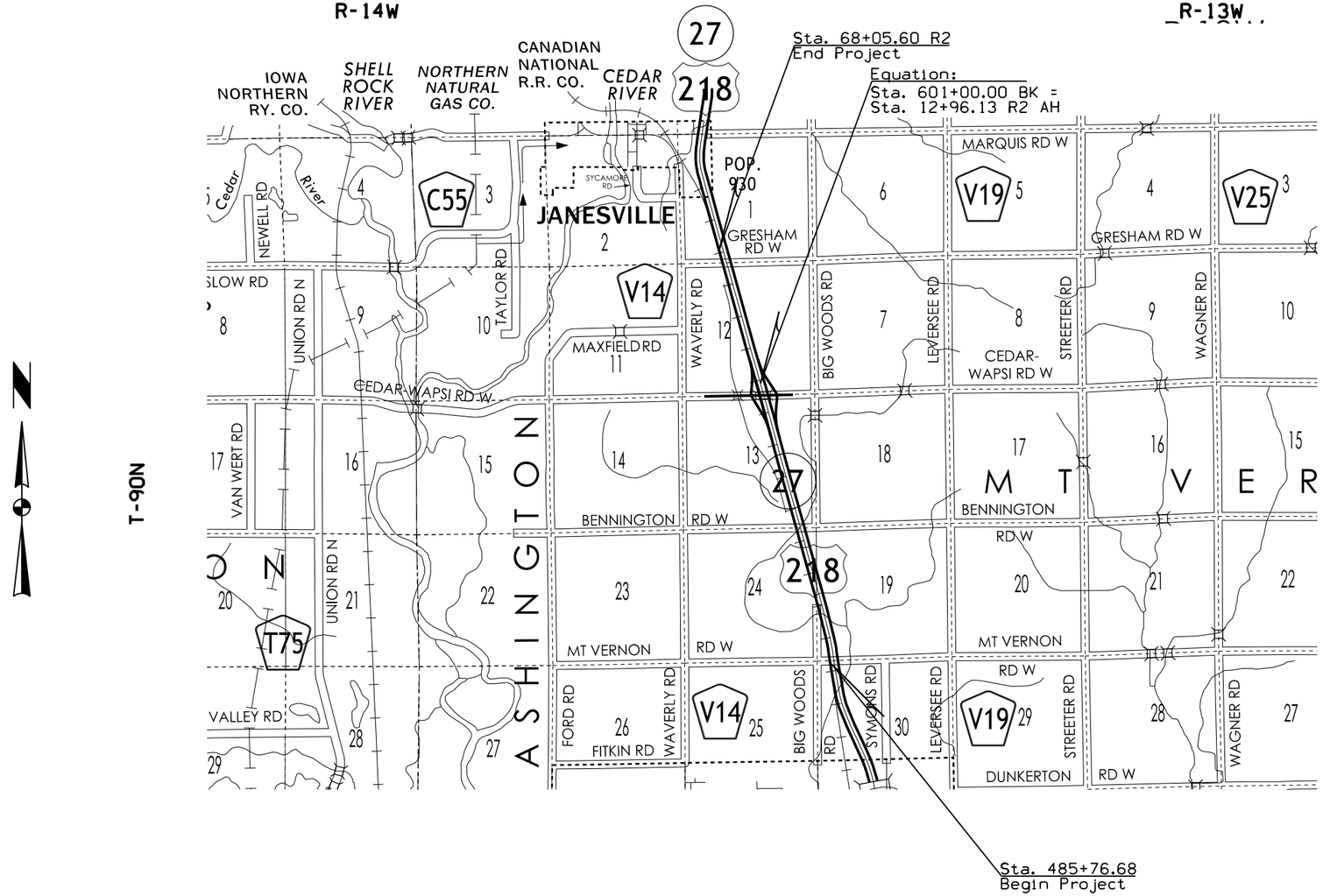

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER A.2

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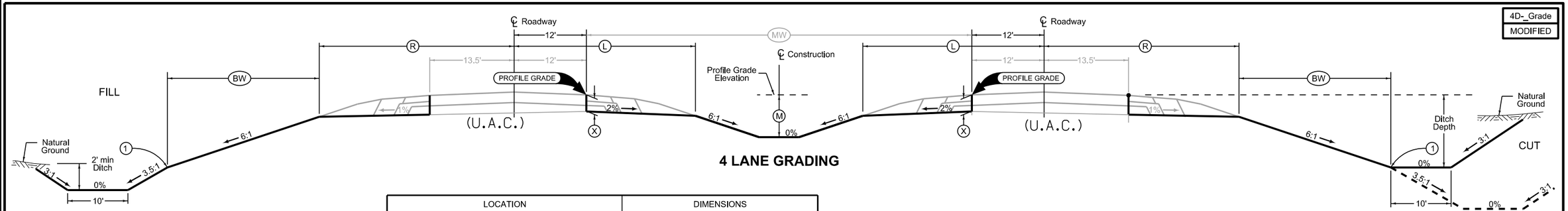
4D-_Grade
MODIFIED



4 LANE GRADING

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

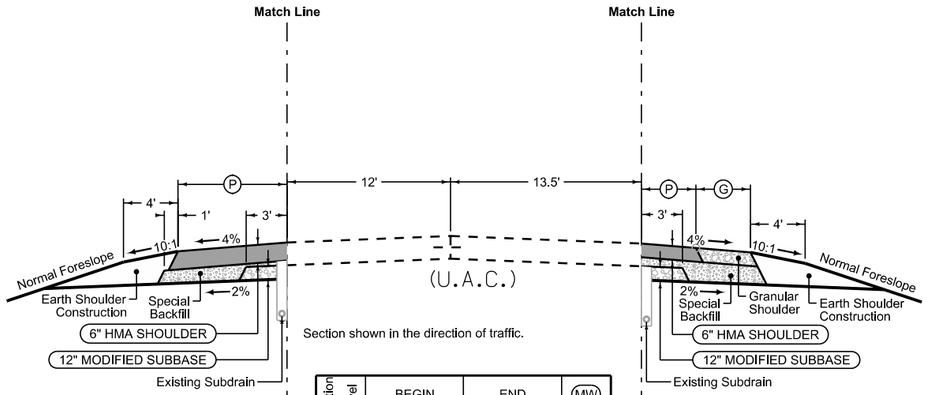
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

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

LOCATION			DIMENSIONS					
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet	(MW) Feet	(M) Feet
US 218	486+25.00	492+69.61	26.5	30.5	18.0	15.5	64	4
US 218	540+10.17	546+99.75	26.5	30.5	18.0	15.5	64	4
US 218	570+66.18	36+82.65	26.5	30.5	18.0	15.5	64-100	4
US 218	61+13.09	67+41.00	26.5	30.5	18.0	15.5	64	4

HMA Shoulder

Direction of Travel	STATION TO STATION		(P) Feet
NB	485+76.68	491+12.40	6
SB	487+34.72	492+69.61	6
NB	540+10.17	545+13.43	6
SB	541+95.11	546+99.75	6
SB	581+39.74	601+00.00	6
SB	12+96.13	20+56.88	6
NB	586+78.50	599+57.64	6
NB	61+13.09	66+27.84	6
SB	62+85.28	68+05.60	6



Section shown in the direction of traffic.

Direction of Travel	BEGIN STATION	END STATION	(MW) Feet
NB	486+25.00	491+12.40	64
SB	487+34.72	492+69.61	64
NB	540+10.17	545+13.43	64
SB	541+95.11	546+99.75	64
NB	578+44.56	584+44.32	64-100
NB	586+78.41	599+57.63	80-100
SB	570+66.18	20+56.80	80-100
SB	23+58.91	29+58.91	72-64
NB	24+52.68	36+82.71	70-64
NB	61+13.09	66+27.84	64
SB	62+85.34	67+41.00	64

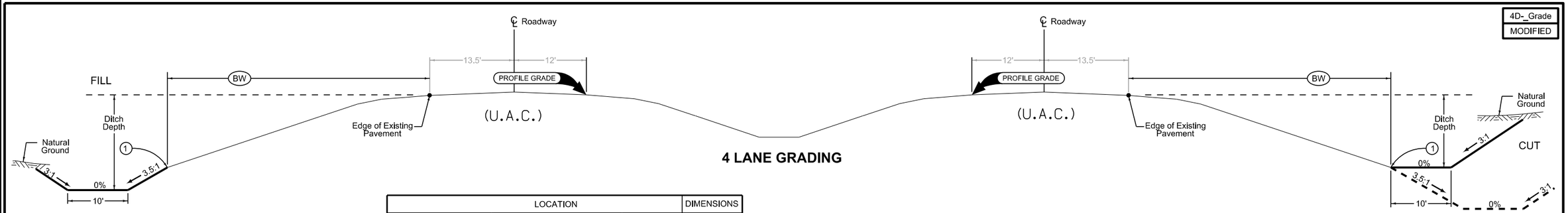
Combination Shoulder

Direction of Travel	STATION TO STATION		(P) Feet	(G) Feet
NB	488+42.11	489+69.67	4.5	4
SB	488+67.56	489+95.08	4.5	4
NB	542+50.34	543+94.40	4.5	4
SB	543+13.68	544+52.26	4.5	4
SB	569+92.17	570+66.18	4.5 - 6	4 - 2.5
NB	578+25.99	578+47.63	4.5 - 6	4 - 2.5
SB	582+96.18	597+05.90	4.5	4
SB	598+76.80	601+00.00	4.5	4
SB	12+96.13	23+58.91	4.5	4
NB	584+44.32	596+65.69	4.5	4
NB	598+36.67	601+00.00	4.5	4
NB	12+96.13	24+40.01	4.5	4
SB	29+58.91	29+81.62	6 - 4.5	2.5 - 4
NB	36+82.65	37+57.51	6 - 4.5	2.5 - 4
NB	63+77.60	64+98.55	4.5	4
SB	64+13.28	65+39.39	4.5	4

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

US 218

4D-_Grade
MODIFIED



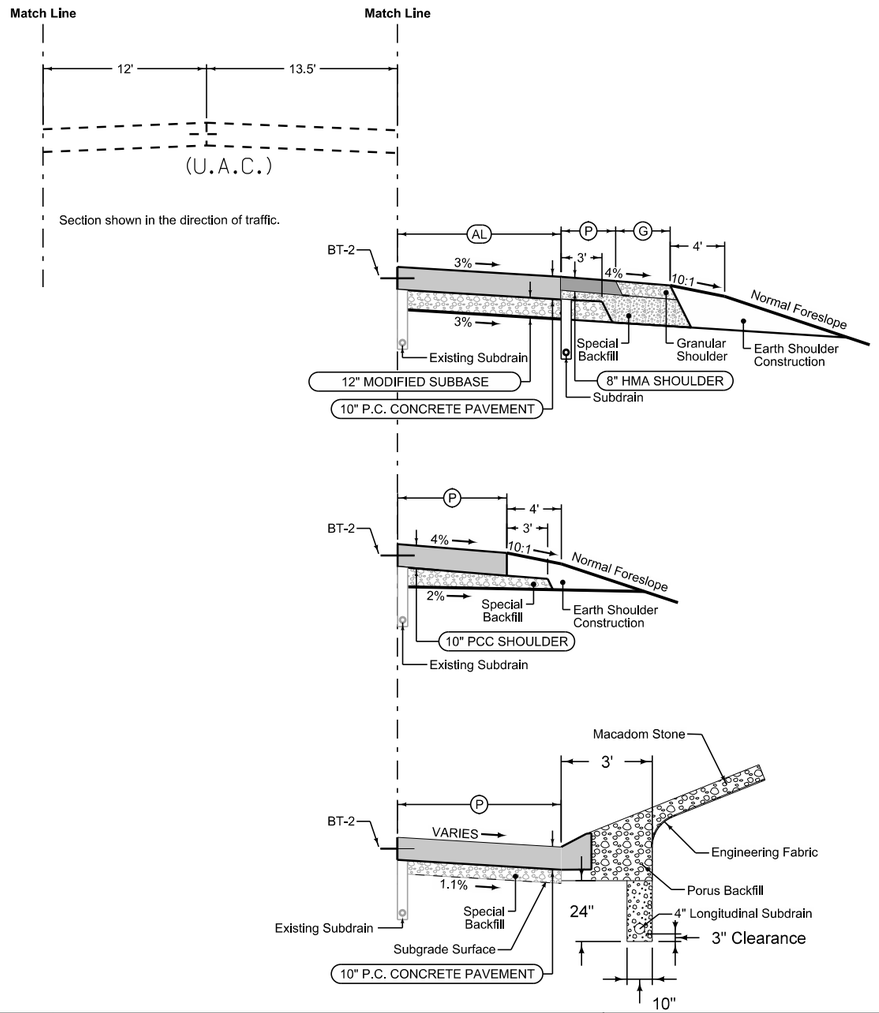
4 LANE GRADING

LOCATION				DIMENSIONS
ROAD IDENTIFICATION	STATION TO STATION		SIDE	(BW) Feet
US 218	585+18.00	596+14.00	LEFT	32.5
US 218	599+44.00	19+00.00	LEFT	32.5

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.



Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

Direction of Travel	STATION TO STATION		(AL) Feet	(P) Feet	(G) Feet
SB	570+66.18	571+66.16	2	4.0 - 6.0	2 - 0.5
SB	571+66.16	571+91.10	2 - 2.5	6.0	0.5 - 0
SB	571+91.10	572+91.20	2.5 - 4.5	6.0	-
SB	572+91.20	582+96.18	4.5 - 38	6.0	-
NB	578+47.63	578+76.10	2	4.0 - 6.0	2 - 0.5
NB	578+76.10	578+82.86	2 - 2.5	6.0	0.5 - 0
NB	578+82.86	579+82.93	2.5 - 9.2	6.0	-
NB	579+82.93	584+44.32	9.2 - 40	6.0	-
SB	23+58.91	28+21.41	40 - 9.2	6.0	-
SB	28+21.41	29+21.59	9.2 - 2.5	6.0	-
SB	29+21.59	29+28.89	2.5 - 2	6.0	0 - 0.5
SB	29+28.89	29+58.91	2	6.0 - 4.0	0.5 - 2
NB	24+40.01	34+57.94	38 - 4.5	6.0	-
NB	34+57.94	35+58.04	4.5 - 2.5	6.0	-
NB	35+58.04	35+82.92	2.5 - 2	6.0	0 - 0.5
NB	35+82.92	36+82.65	2	6.0 - 4.0	0.5 - 2

Full Depth PCC Shoulder

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

4_P_FullPCC_
10-19-10

Direction of Travel	BEGIN STATION	END STATION	(P) Feet
NB	596+65.69	597+10.71	13.5
NB	597+91.86	598+36.67	13.5
SB	597+05.90	597+50.81	13.5
SB	598+31.96	598+76.80	13.5

Curbed Shoulder

Shoulder Jointing:
Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2
Staged : KT-2
Transverse:C at 20' spacing

Direction of Travel	STATION TO STATION		(P) Feet	Curb Type See PV-102
NB	597+10.71	597+91.86	13.5	6" SLOPED
SB	597+50.81	598+31.96	13.5	6" SLOPED

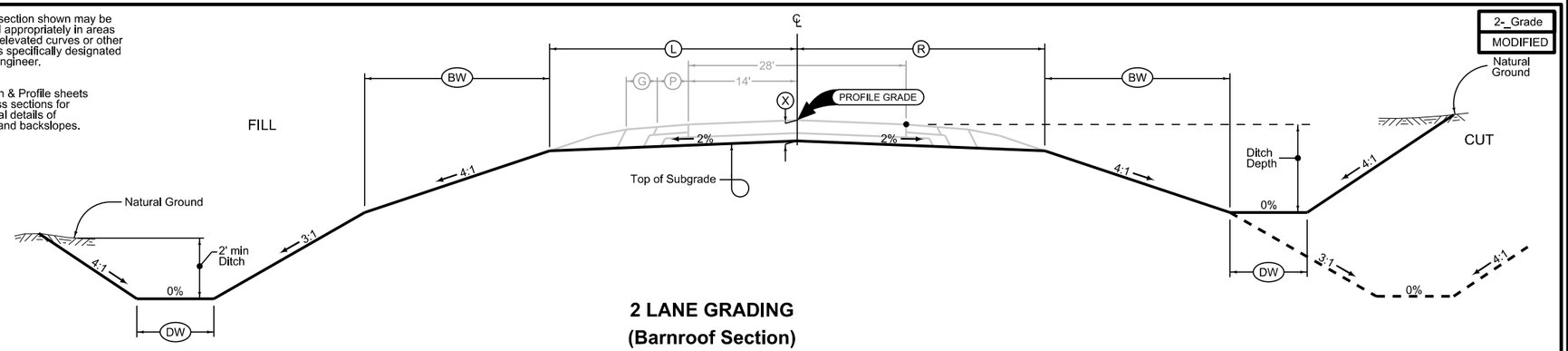
See Tab 100-24 for pavement quantities.
See Tab 112-9 for shoulder quantities.

US 218

LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet	(DW) Feet
COUNTY ROAD C-57	10570+50.00	10582+20.00	28.6	28.6	20	23.4	6
COUNTY ROAD C-57	10582+20.00	10587+00.00	31.5-39.5	31.5-39.5	20	23.4	6
COUNTY ROAD C-57	10587+00.00	10587+77.17	39.5	39.5	20	23.4	30

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

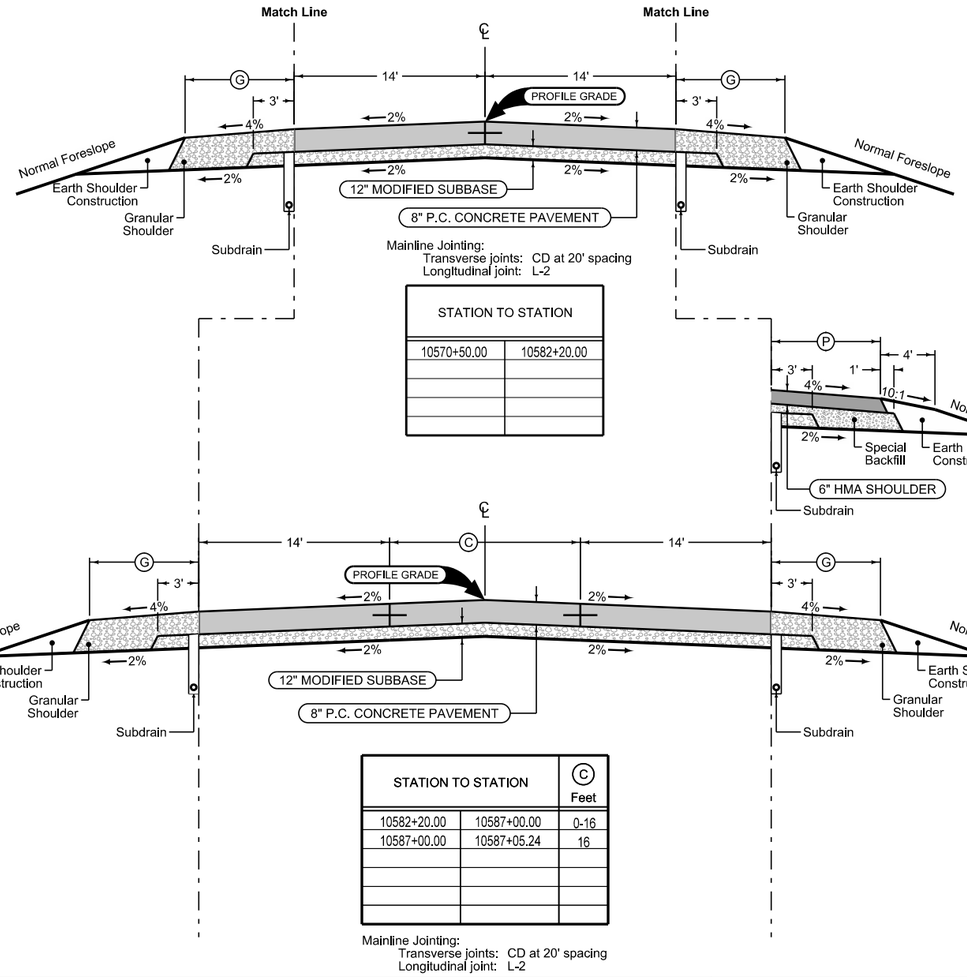
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.



2 LANE GRADING
(Barnroof Section)

Granular Shoulder

STATION TO STATION		(G) Feet
10570+50.00	10582+20.00	8



STATION TO STATION	
10570+50.00	10582+20.00

STATION TO STATION		(C) Feet
10582+20.00	10587+00.00	0-16
10587+00.00	10587+05.24	16

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

Granular Shoulder

STATION TO STATION		(G) Feet
10582+20.00	10587+35.24	8

See Standard Road Plan RK-20 and Tab 104-8 A for more information.

Granular Shoulder

STATION TO STATION		(G) Feet
10570+50.00	10582+20.00	8

Paved Shoulder at Guardrail

Shoulder Jointing:
Longitudinal joint: B

		2_P_Guard_ 04-16-13
STATION TO STATION		(P) Feet
10586+55.41	10586+87.35	14.1
10586+87.35	10587+25.16	14.1 - 12.1
10587+25.16	10587+35.24	12.1 - 11.1

Granular Shoulder

STATION TO STATION		(G) Feet
10582+20.00	10586+55.41	8

See Standard Road Plan RK-20 and Typical 7156 for more information.

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

COUNTY ROAD C-57

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER B.3

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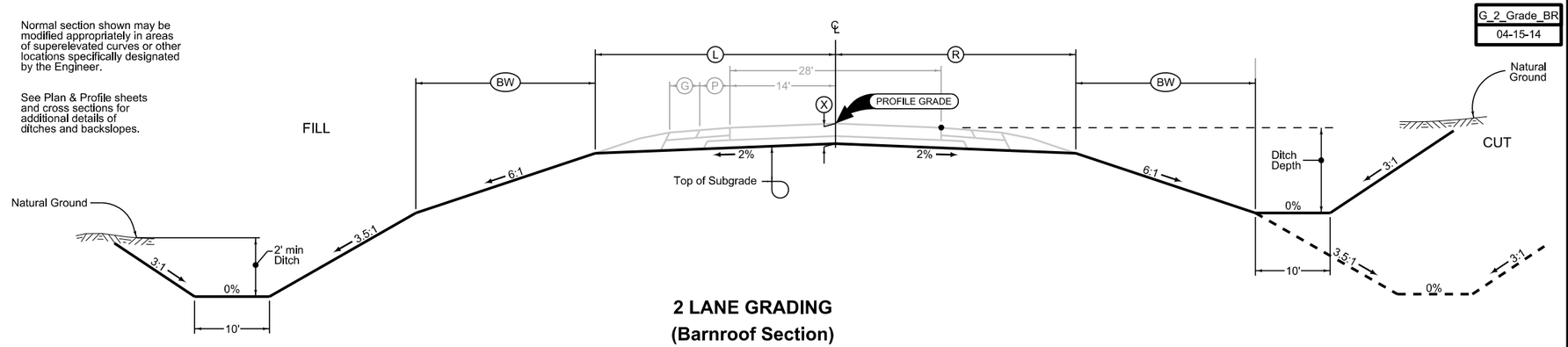
LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet
COUNTY ROAD C-57	10591+16.25	10596+50.03	42.1	42.1	20	9.0
COUNTY ROAD C-57	10599+40.11	10605+60.00	42.1	42.1	20	9.0
COUNTY ROAD C-57	10605+60.00	10611+40.00	42.1-33.1	42.1-33.1	20	9.0
COUNTY ROAD C-57	10611+40.00	10612+00.00	33.1-28.0	33.1-28.0	20	9.0-11.4

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.



G_2_Grade_BR
04-15-14

2 LANE GRADING
(Barnroof Section)

Granular Shoulder

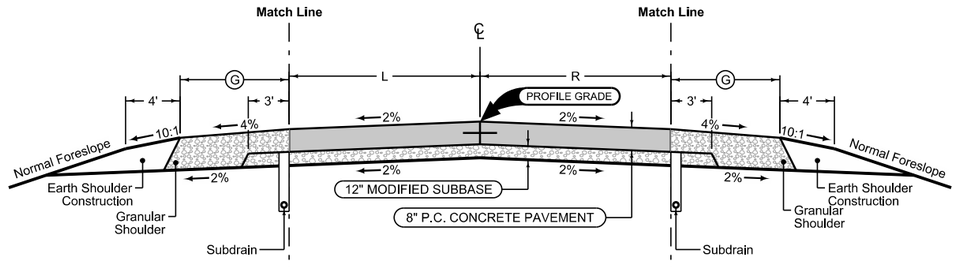
STATION TO STATION		(G) Feet
10593+60.05	10596+28.11	8
10600+70.18	10602+07.57	8
10603+78.04	10611+40.00	8
10611+40.00	10612+00.00	8-5

See Standard Road Plan RK-20 for more information.

Paved Shoulder at Guardrail

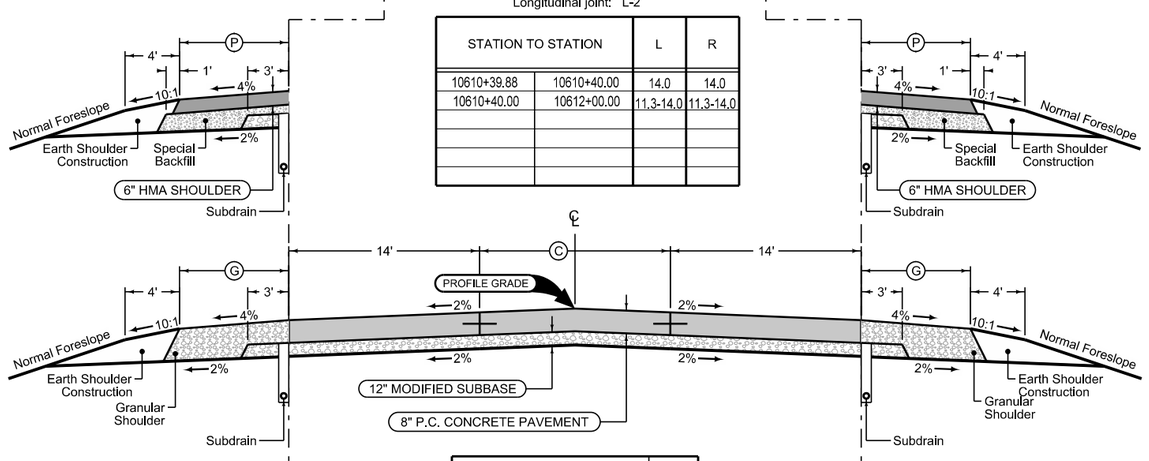
Shoulder Jointing:
Longitudinal joint: B

STATION TO STATION		2_P_Guard_ 04-16-13 (P) Feet
10591+38.17	10591+43.83	7.6
10591+43.83	10591+77.72	7.6 - 11.2
10591+77.72	10592+40.72	11.2 - 12
10600+02.04	10600+37.21	12.1 - 13.5
10600+37.21	10600+70.18	13.5



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

STATION TO STATION		L	R
10610+39.88	10610+40.00	14.0	14.0
10610+40.00	10612+00.00	11.3-14.0	11.3-14.0



STATION TO STATION		(C) Feet
10591+88.17	10595+78.11	16
10600+12.04	10605+60.00	16
10605+60.00	10610+39.88	16-0

Granular Shoulder

STATION TO STATION		(G) Feet
10591+38.17	10592+36.82	8
10593+88.09	10595+19.96	8
10600+02.04	10602+47.57	8
10604+79.48	10611+40.00	8
10611+40.00	10612+00.00	8-5

See Standard Road Plan RK-20 for more information.

Paved Shoulder at Guardrail

Shoulder Jointing:
Longitudinal joint: B

STATION TO STATION		2_P_Guard_ 04-16-13 (P) Feet
10595+19.96	10595+52.93	13.5
10595+52.93	10595+90.90	13.5 - 12
10595+90.90	10596+15.14	12 - 9.6
10596+15.14	10596+28.11	9.6

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

COUNTY ROAD C-57

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER B.4

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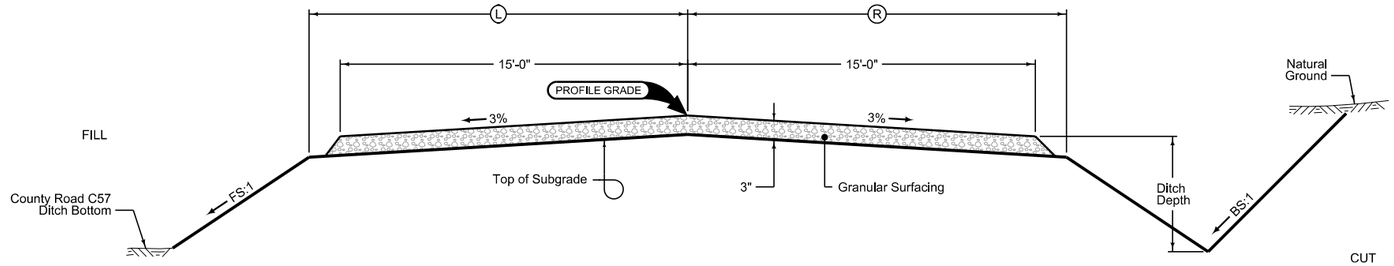
LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	FS	BS	Ditch Depth Feet
Frontage Road	100579+05.52	100587+22.00	15.8	15.8	3	3	2

2_GradeGran
MODIFIED



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.

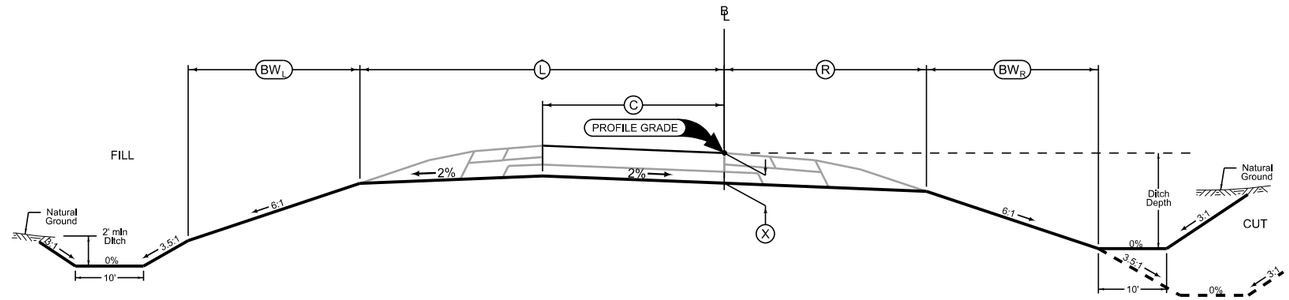
Place Granular Surfacing as follows:
Grading and Paving design application rate is 2330 tons per mile.

GRADING AND GRANULAR SURFACING

FRONTAGE ROAD

LOCATION				DIMENSIONS					
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW_L) Feet	(BW_R) Feet
US 218/CR C-57	A	1593+22.16	1606+40.73	33.8	19.5	16	22	6.2	4.5
US 218/CR C-57	B	2590+33.48	2602+92.75	33.8	19.5	16	22	6.2	4.5
US 218/CR C-57	C	3576+67.72	3592+75.43	33.8	19.5	16	22	12.2	10.5
US 218/CR C-57	D	4603+39.89	4619+57.50	33.8	19.5	16	22	6.2	4.5

G_1R_Grade
04-15-14



RAMP GRADING

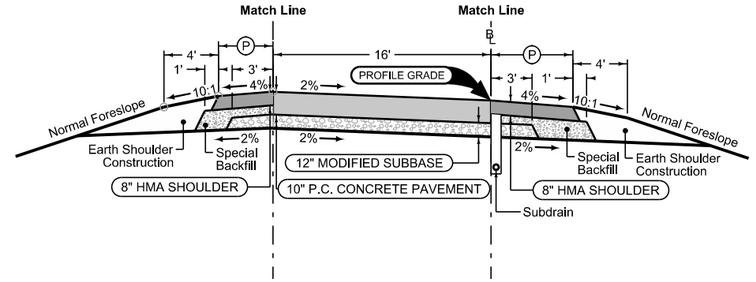
Section view is in direction of traffic.

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

HMA Shoulder

Shoulder Jointing:
Longitudinal joint: B

		1R_P_HMA_ 10-19-10
BEGIN STATION	END STATION	(P) Feet
1593+31.11	1606+40.73	4
2590+33.48	2602+81.13	4
3576+67.72	3592+39.28	4
4603+86.43	4619+57.50	4



Section shown in the direction of traffic.

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

BEGIN STATION	END STATION
1593+22.16	1606+40.73
2590+33.48	2602+92.75
3576+67.72	3592+75.43
4603+39.89	4619+57.50

HMA Shoulder

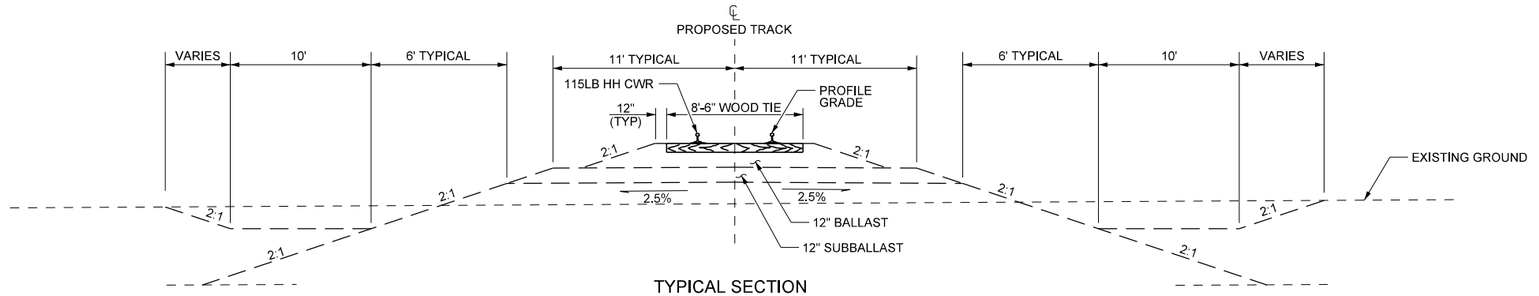
Shoulder Jointing:
Longitudinal joint: B

		1R_P_HMA_ 10-19-10
BEGIN STATION	END STATION	(P) Feet
1593+25.65	1606+40.73	6
2590+33.48	2603+15.00	6
3576+67.72	3593+00.00	6
4603+15.00	4619+57.50	6

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

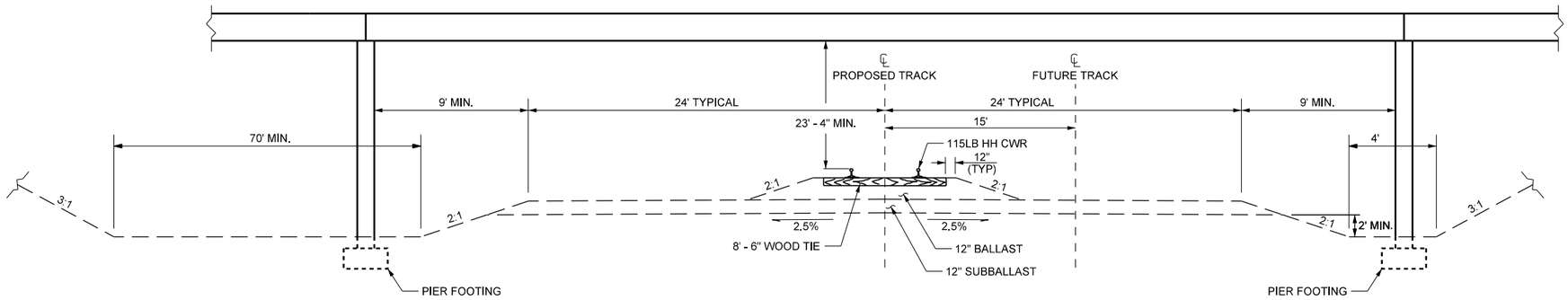
US 218 and COUNTY ROAD 57
RAMPS A-D



TYPICAL SECTION
SINGLE TRACK

LOCATION		
ROAD IDENTIFICATION	STATION TO STATION	
Cedar River RR Co.	15550+48.36	15589+50.29
Cedar River RR Co.	15590+15.12	15629+83.97
Cedar River RR Co. Temp	25553+38.39	25556+91.95*

*TEMPORARY TURNOUT PAD STA 25552+38.39
TO 25556+47.73 SEE SHEET U.5 FOR DETAILS.

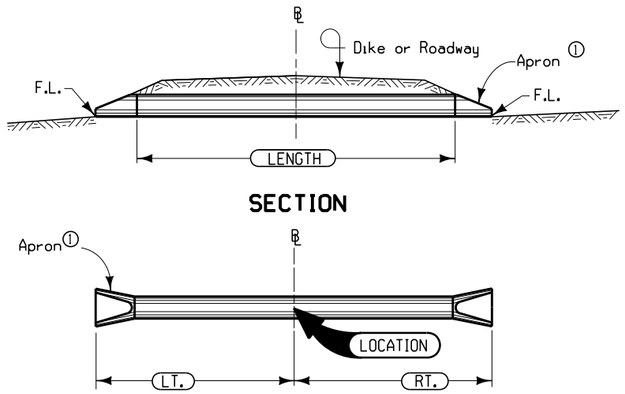


TYPICAL SECTION
SINGLE TRACK UNDER BRIDGE

LOCATION		
ROAD IDENTIFICATION	STATION TO STATION	
Cedar River RR Co.	15589+50.29	15590+15.12

Cedar River RR Co.

1101
04-30-02



Notes:

℄ shall be ℄ of roadway, dike, survey, or other; as detailed on plans.

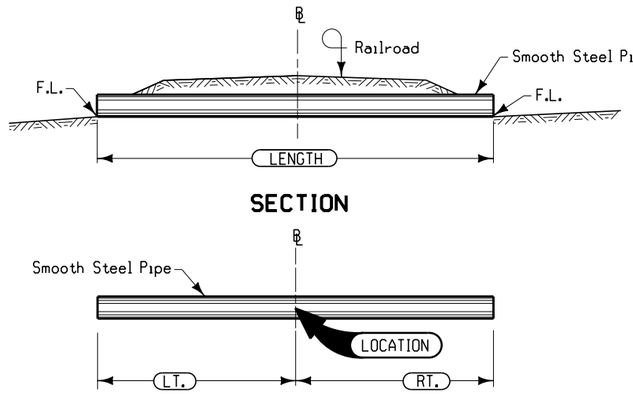
Skew angle is the angle which one end of the pipe is ahead (by stationing) of line perpendicular to the ℄ (example skew Rt. ahead 30°).

Refer to tabular listing and other plans for additional information.

① See Standard Road Plan RF-3 For Conc. or RF-5 for Metal.

PIPE CULVERT

1101
MODIFIED



Notes:

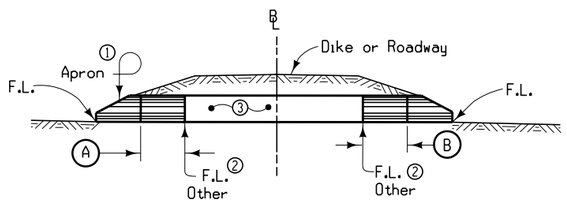
℄ shall be ℄ of Railroad, survey, or other; as detailed on plans.

Skew angle is the angle which one end of the pipe is ahead (by stationing) of line perpendicular to the ℄ (example skew Rt. ahead 30°).

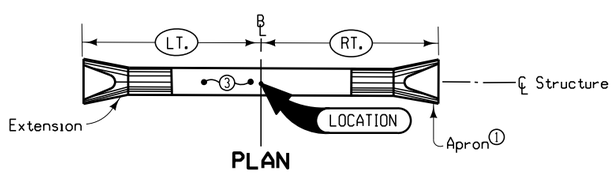
Refer to tabular listing and other plans for additional information.

SMOOTH STEEL PIPE CULVERT

1301
10-03-00



A+B =Length



Notes:

℄ shall be ℄ of roadway, dike, survey, or other; as detailed on plans.

Extension shall be on line of existing structure to Lt., Rt. or both as specified. Adaptors may be required, see Standard Road Plan RF-2.

Refer to tabular listing and other plans for additional information.

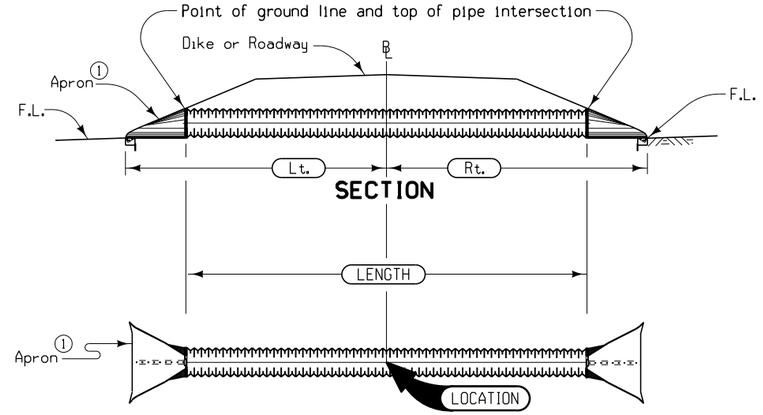
① See Standard Road Plan RF-3 for concrete, RF-5 for metal.

② Optional type "D" section only when specified in tabulation.

③ Existing structure.

PIPE EXTENSION

1601
10-16-12



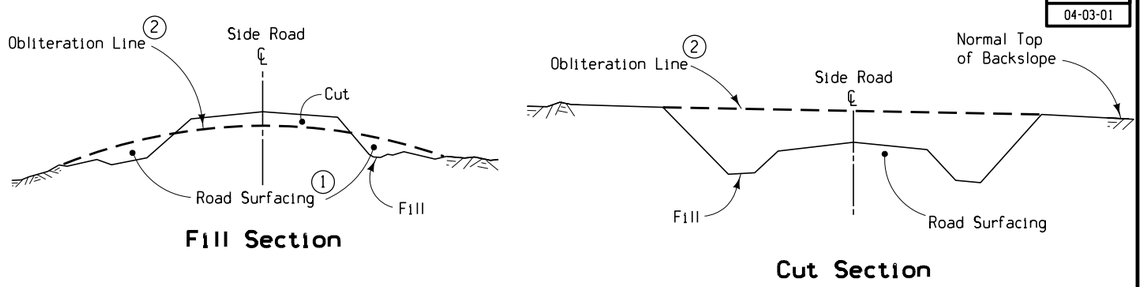
℄ shall be ℄ of roadway, dike, survey, or other; as detailed on plans.

Skew angle is the angle which one end of the pipe is ahead (by stationing) of a line perpendicular to the ℄ (example skew Rt. ahead 30 degrees).

① See Standard Road Plan RF-3 for Concrete or RF-5 for Metal and Polyethylene.

UNCLASSIFIED PIPE CULVERT

4302
04-03-01



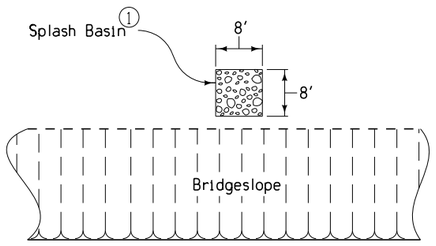
① Existing road surfacing (granular material) shall be placed as shown unless otherwise directed by the Engineer or provided for in the detail project plans.

② When specified, the upper 1' to be suitable for vegetation (grass or crops).

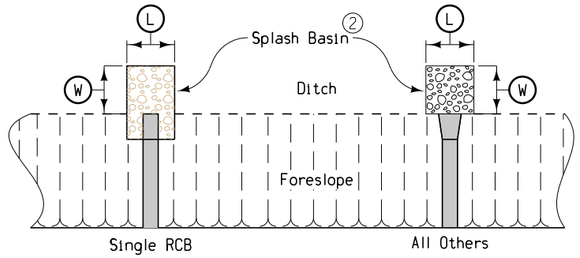
Note:
The work of obliterating or reshaping old roadbeds shall be done at the direction of the Engineer.

TYPICAL DETAILS FOR OBLITERATION EXISTING ROADBED

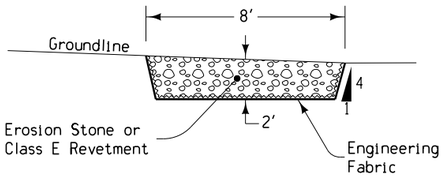
4404
10-16-12



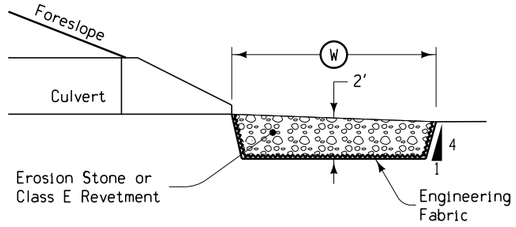
Splash Basin Under Bridge Drain
Plan View



Splash Basin at Culvert Outlet
Plan View



Splash Basin Under Bridge Drain
Typical Section



Splash Basin at Culvert Outlet
Typical Section

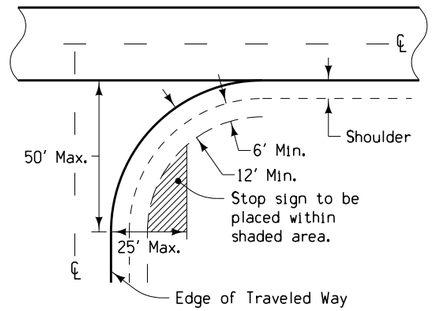
① Center splash basin directly under bridge drain.

② For single RCB, extend splash basin along the outside of the wings to the face of the parapet. Construct to a width of 3 feet and a depth of 2 feet.

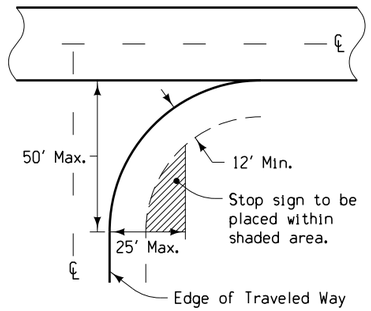
Refer to Tabulation 100-23 for additional information.

ROCK SPLASH BASIN

9503
07-15-97



CASE 'A'
WITH SHOULDER



CASE 'B'
WITHOUT SHOULDER

NOTES:

Stop signs should be confined to the shaded areas, but as close to the approach roadway as possible to provide the motorist with the best visual impact.

If possible, stop signs should be placed at the point where vehicles are to stop or as near as practical.

In rural areas, the lateral clearance should not be closer than 6' from the edge of a usable shoulder, or if none, 12' from edge of the traveled way.

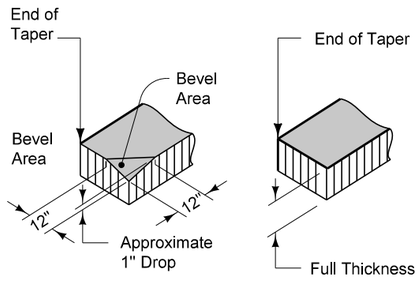
In urban areas, stop signs should be placed a minimum of 6' from the near edge of the intersected street or a minimum of 4' in advance of the near edge of a marked crosswalk. Lateral clearance may be reduced to a minimum of 2' from the face of a curb.

Where the approach roadway consists of two lanes of traffic, a second stop sign should be placed where it is visible to traffic in the inner lane.

At channelized intersections, the additional stop sign may be placed on a channelized island or median.

STOP SIGN PLACEMENT

7101
10-19-10



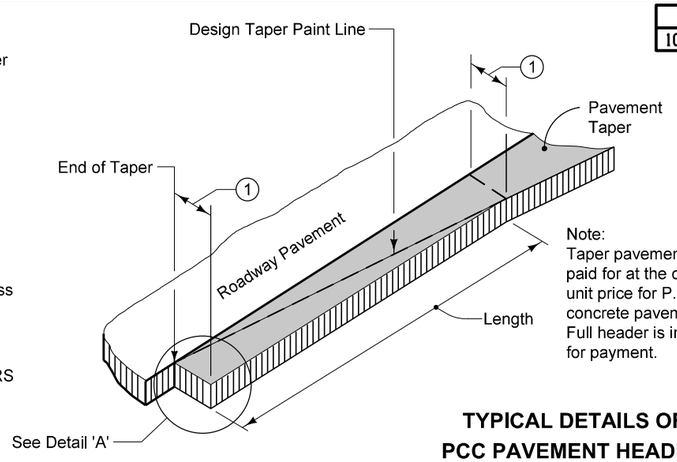
DETAIL 'A'

FOR
GRANULAR SHOULDERS

DETAIL 'A'

FOR
PAVED SHOULDERS

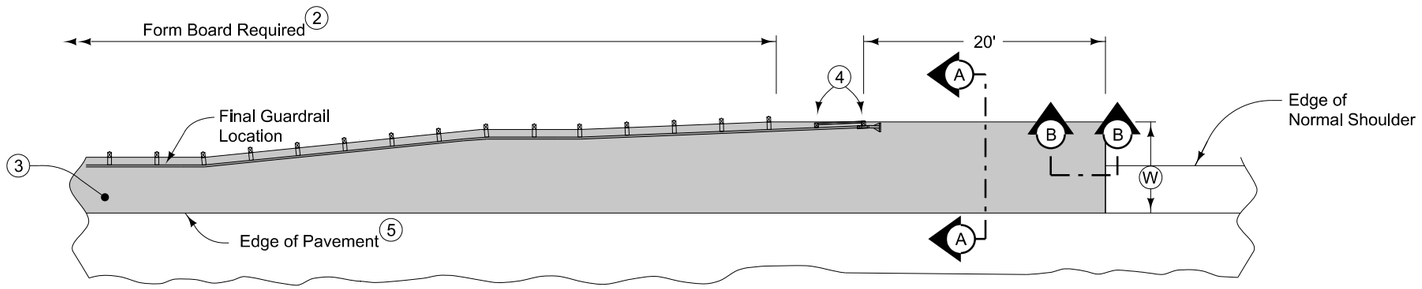
① Normal width is 2'-0". Construct 4'-0" width when butting into 4' wide HMA shoulders (See Typical 7154A).

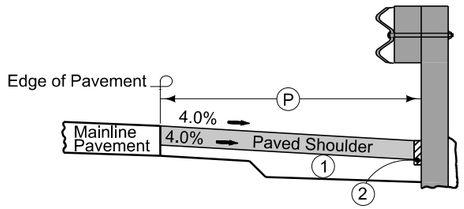


Note:
Taper pavement to be paid for at the contract unit price for P.C. concrete pavement. Full header is included for payment.

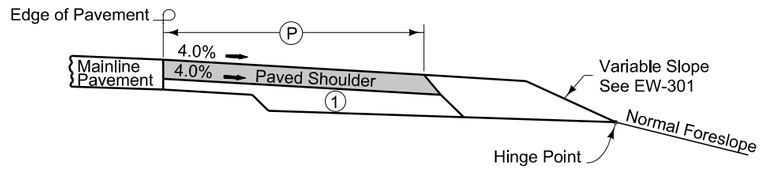
TYPICAL DETAILS OF
PCC PAVEMENT HEADER

7156
04-16-13

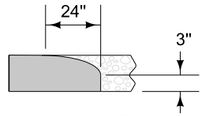




Typical Section with Form Board



Section A-A



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

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

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

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

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

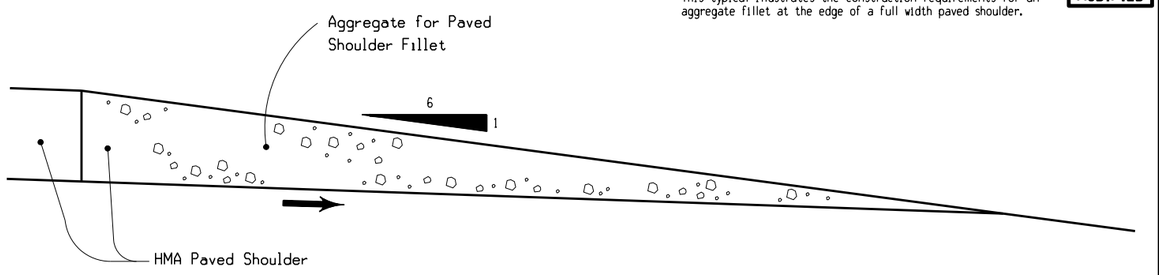
1. 6" subgrade treatment.
2. When guardrail posts are installed prior to construction of paved shoulder, nail 1" x 6" untreated form boards along the face of guardrail posts for the length shown. This board is to prevent shoulder material from contacting the sides of the posts and altering the function of the guardrail. Form board not required for final 2 posts.
3. Continue paved shoulder to existing paved shoulder or 20' beyond the end of guardrail.
4. Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement.
5. 'KT-1' joint for PCC shoulder.
   'B' joint for HMA shoulder.

PAVED SHOULDER AT GUARDRAIL

7145
MODIFIED

Notes:

This typical illustrates the construction requirements for an aggregate fillet at the edge of a full width paved shoulder.



AGGREGATE
FOR PAVED
SHOULDER FILLET

ESTIMATED ROADWAY QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2101-0850001	CLEARING AND GRUBBING	ACRE	105.4	
2	2102-0425070	SPECIAL BACKFILL	TON	11632	
3	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY	541745	
4	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	72521	
5	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	50	
6	2102-5020010	OBLITERATE OLD ROADBED	STA	79.7	
7	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	47240	
8	2107-0875000	COMPACTION WITH MOISTURE AND DENSITY CONTROL	CY	17149	
9	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	580381	
10	2115-0100000	MODIFIED SUBBASE	CY	14090.3	
11	2121-7425010	GRANULAR SHOULDERS, TYPE A	TON	5013.8	
12	2122-5190010	PAVED SHOULDER, P.C. CONCRETE, 10 IN.	SY	512.8	
13	2122-5190501	PAVED SHOULDER, PORTLAND CEMENT CONCRETE (PAVED SHOULDER PANEL FOR BRIDGE END DRAIN)	SY	133.1	
14	2122-5500060	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 6 IN.	SY	8562.3	
15	2122-5500080	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 8 IN.	SY	9005.7	
16	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	350.7	
17	2213-7100400	RELOCATION OF MAIL BOXES	EACH	2	
18	2301-1003080	STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT, QM-C, CLASS 3 DURABILITY, 8 IN.	SY	12541.3	
19	2301-1003100	STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT, QM-C, CLASS 3 DURABILITY, 10 IN.	SY	18011.7	
20	2301-9091000	RUMBLE STRIP PANEL (PCC SURFACE)	EACH	2	
21	2303-6911000	HOT MIX ASPHALT PAVEMENT SAMPLES	LS	1	
22	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TON	1022.5	
23	2401-6745356	REMOVAL OF CONCRETE FOOTINGS OF LIGHT POLES	EACH	6	
24	2401-6745650	REMOVAL OF EXISTING STRUCTURES	LS	1	
25	2401-6745765	REMOVAL OF LIGHT POLES	EACH	6	
26	2402-0425040	FLOODED BACKFILL	CY	258.9	
27	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	617.3	
28	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	5	
29	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	2	
30	2416-0102272	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 72 IN.	EACH	4	
31	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.	LF	198	
32	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	82	
33	2416-1190272	CULVERT, LOW CLEARANCE CONCRETE ENTRANCE PIPE, EQUIVALENT DIAMETER 72 IN.	LF	172	
34	2417-0250028	APRONS, METAL, ARCH, 28 IN. X 20 IN.	EACH	2	
35	2417-1080028	CULVERT, CORRUGATED METAL ARCH ENTRANCE PIPE, 28 IN. X 20 IN.	LF	42	
36	2422-0360018	APRONS, UNCLASSIFIED, 18 IN. DIA.	EACH	20	
37	2422-1722018	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.	LF	422	
38	2422-1723018	CULVERT, UNCLASSIFIED ROADWAY PIPE, 18 IN. DIA.	LF	110	
39	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	16420	
40	2502-8220196	SUBDRAIN OUTLET, RF-19E	EACH	78	
41	2503-0500400	BRIDGE END DRAIN, RF-40	EACH	4	
42	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	143.8	
43	2505-4008300	STEEL BEAM GUARDRAIL	LF	100	
44	2505-4008400	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION	EACH	4	
45	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4	
46	2505-4021700	STEEL BEAM GUARDRAIL END TERMINAL	EACH	4	
47	2505-6000111	HIGH TENSION CABLE GUARDRAIL	LF	719.2	
48	2505-6000121	HIGH TENSION CABLE GUARDRAIL, END ANCHOR	EACH	4	
49	2505-6000131	HIGH TENSION CABLE GUARDRAIL, SPARE PARTS KIT	EACH	1	
50	2506-4984000	FLOWABLE MORTAR	CY	39.4	
51	2507-3250005	ENGINEERING FABRIC	SY	1292	
52	2507-6800061	REVETMENT, CLASS E	TON	1413	
53	2510-5204000	PAVEMENT SCARIFICATION (OF HMA RESURFACING PRIOR TO PAVEMENT REMOVAL)	SY	8581.5	
54	2510-6745850	REMOVAL OF PAVEMENT	SY	27358.8	
55	2511-6745900	REMOVAL OF SIDEWALK	SY	7.5	
56	2515-6745600	REMOVAL OF PAVED DRIVEWAY	SY	22.2	
57	2518-6891810	PERMANENT ROAD CLOSURE, RURAL, SI-181	LF	162	
58	2518-6891820	PERMANENT ROAD CLOSURE, RURAL, SI-182	EACH	1	
59	2518-6910000	SAFETY CLOSURE	EACH	13	
60	2519-3000000	FLOOD PLAIN FENCE	LF	279.8	
61	2519-3280000	FENCE, FIELD	LF	38996	
62	2519-3300400	FIELD FENCE BRACE PANELS	EACH	171	
63	2519-3750017	GATE, FIELD FENCE, 16 FT.	EACH	1	
64	2520-3350010	FIELD LABORATORY	EACH	1	
65	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	375.4	
66	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	6	
67	2528-8445110	TRAFFIC CONTROL	LS	1	
68	2533-4980005	MOBILIZATION	LS	1	
69	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS	LS	1	
70	2595-0000115	CCP INSURANCE PROVISIONS	LS	1	
71	2595-0450079	RAILROAD SUBBALLAST, FURNISH AND PLACE	TON	13897	
72	2595-0450081	RAILROAD BALLAST	TON	10475	
73	2595-6470000	RAIL (RAILROAD)	TLF	7051	
74	2599-9999005	RAIL WELDING	EACH	16	
75	2599-9999009	CULVERT, SMOOTH STEEL PIPE, 24 IN. DIA.	LF	40	
76	2599-9999009	CULVERT, SMOOTH STEEL PIPE, 36 IN. DIA.	LF	94	
77	2599-9999009	CULVERT, SMOOTH STEEL PIPE, 48 IN DIA.	LF	48	
78	2599-9999018	SUBGRADE PREPARATION FOR RAILROADS	SY	63818	

100-0A
10-28-97

ESTIMATED ROADWAY QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
79	2601-2634100	MULCHING	ACRE	76.6	
80	2601-2642100	STABILIZING CROP-SEEDING AND FERTILIZING	ACRE	76.6	
81	2602-0000020	SILT FENCE	LF	36793.8	
82	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	379.5	
83	2602-0000050	SILT BASINS	EACH	20	
84	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	15556	
85	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	2968.8	
86	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	200	
87	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA	LF	200	
88	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	LF	400	
89	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1	
90	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1	

PROJECT DESCRIPTION

This project involves the construction of an interchange at the intersection of US 218 and County Road C-57. Staged construction will be used to maintain US 218 traffic in both directions at all times.
This project also includes the relocation of the Cedar River RR Co. track and other miscellaneous road work.

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	**2101-0850001**	**CLEARING AND GRUBBING**
		Refer to Tab. 110-17 for locations and details.
		Area for clearing and grubbing is calculated as area within limits of construction,
		not including existing pavement.
		Refer to 'D','E','F', and 'K' sheets for limits of construction
		Includes 15' wide area along US 218 for installation of access control fence and infield area of Ramp C.
-	-	-
2	**2102-0425070**	**SPECIAL BACKFILL**
		Refer to Tab. 112-9 on Sheet C.8.
-	-	-
3	**2102-2625001**	**EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED**
		Cubic yards shown on the contract documents was determined by the template fill volume.
		Shrinkage will not be included.
-	-	-
4	**2102-2710070**	**EXCAVATION, CLASS 10, ROADWAY AND BORROW**
		Includes 72,562 cu. yds. of suitable material to be used in the roadway fill. Refer to "T" sheets.
		Overhaul will not be measured or paid for, but shall be considered incidental to roadway excavation on this
		project.
		Removal of existing ROW, Station Marker, and other signs located within the existing ROW that need to be removed
		to perform this work shall be considered incidental to theis item. All removed signs shall become the property
		of the Contractor.
-	-	-
5	**2102-2712015**	**EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS**
		A. Refer to Tab. 103-7 on Sheet CS-1.
		B. Dispose of excess material according to Article 1106.07 of the current specifications.
-	-	-
6	**2102-5020010**	**OBLITERATE OLD ROADBED**
		A. The work consists of obliterating a 2 lane roadway and the existing railroad as shown on Typical 4302:
		W. Gresham Road Sta. 13061+52 to Sta. 13063+80 and Sta. 13065+43 to Sta. 13065+97
		1' depth cut at Centerline with 4% cross slope to foreslope. Do not remove existing railroad embankment.
		Approximate quantity of excavation is 250 CY and 160 CY West and East of US 218, respectively.
		W. Bennington Road Sta. 12540+25 to Sta. 12542+80 and Sta. 12544+44 to 12546+50
		Full removal of roadbed from left ditch flowline to right ditchflow line. Do not remove railroad embankment.
		Approximate quantiy of excavation is 2070 CY and 1600 CY West and East of US 218, respectively.
		W. Mt. Vernon Road Sta. 11486+82 to Sta. 11488+59 and Sta. 11489+87 to Sta. 11492+17
		1' depth cut at centerline with 4% cross slope to foreslope. Do not remove existing railroad embankment.
		Approximate quantity of excavation is 240 CY and 120 CY West and East of US 218, respectively.
		The contractor will not impact the Existing Railroad Embankment adjacent to the County Road.
		Railroad obliteration Sta. 15555+50 to Sta. 15623+70
		B. Method of measurement will be in stations measured along centerline of old roadbed.
		C. Basis of payment will be the contract unit price for the number of stations of old roadbed obliterated.
		Payment is full compensation for construction as shown on Typical 4302.
		All roadway excavation will become the property of the contractor and will not be paid separately.
		Pavement removal is bid separately.
-	-	-
7	**2105-8425015**	**TOPSOIL, STRIP, SALVAGE AND SPREAD**
		Refer to Tab. 103-4 for locations and details.
-	-	-
8	**2107-0875000**	**COMPACTION WITH MOISTURE AND DENSITY CONTROL**
		Refer to Tab.103-1 on Sheet CS.1.
		Cubic yards shown on the contract documents as determined by the template fill volume.
		Shrinkage will not be included.
-	-	-
9	**2107-0875100**	**COMPACTION WITH MOISTURE CONTROL**
		Refer to Tab. 103-6 on Sheet CS.1.
		Cubic yards shown on the contract documents as determined by the template fill volume.
		Shrinkage will not be included.
-	-	-
10	**2115-0100000**	**MODIFIED SUBBASE**
		Refer to Tab. 100-24, Tab. 112-9, and roadway typicals for location and details.
-	-	-
11	**2121-7425010**	**GRANULAR SHOULDERS, TYPE A**
		Refer to Tab. 112-9 and roadway typicals for location and details.
-	-	-
12	**2122-5190010**	**PAVED SHOULDER, P.C. CONCRETE, 10 IN.**
		Refer to Tab. 112-9 and roadway typicals for location and details.
		Includes 162.4 ft of 6" sloped curb.
-	-	-
13	**2122-5190501**	**PAVED SHOULDER, PORTLAND CEMENT CONCRETE (PAVED SHOULDER PANEL FOR BRIDGE END DRAIN**
		Refer to Tab. 104-8A and roadway typicals for location and details.
-	-	-
14	**2122-5500060**	**PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 6 IN.**
		Refer to Tab. 112-9 and roadway typicals for location and details.
-	-	-
15	**2122-5500080**	**PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 8 IN.**
		Refer to Tab. 112-9 and roadway typicals for location and details.
-	-	-
16	**2123-7450000**	**SHOULDER CONSTRUCTION, EARTH**
		Includes 174.3 Sta. of 10 ft wide shoulders on mainline,
		115.7 Sta of 6.8 ft shoulders on ramps, and
		60.7 Sta. of 10 ft wide shoulders on sideroads
		Requires 12,562 cu. yds. of Class 10 for Earth Shoulder Fill included in earthwork quantities on T-Sheets.

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ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
		No payment for overhaul allowed for this material.
-	-	-
17	**2213-7100400**	**RELOCATION OF MAIL BOXES**
		Refer to Tab. MR-1 on Sheet C.18 for locations.
		Method of Measesurement: The Engineer will count the number of relocated mail boxes.
		Method of Payment: The Contractor will be paid the contract unit price for each mail box
		relocated. This will be full compensation for relocating mail boxes.
-	-	-
18	**2301-1003080**	**STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT, QM-C, CLASS 3 DURABILITY, 8 IN.**
		Refer to Tab. 100-24 and roadway typicals for location and details.
-	-	-
19	**2301-1003100**	**STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT, QM-C, CLASS 3 DURABILITY, 10 IN.**
		Refer to Tab. 100-24 and roadway typicals for location and details.
-	-	-
20	**2301-9091000**	**RUMBLE STRIP PANEL (PCC SURFACE)**
		Refer to Tab. 112-7 for locations and details.
-	-	-
21	**2303-6911000**	**HOT MIX ASPHALT PAVEMENT SAMPLES**
		- -
-	-	-
22	**2315-8275025**	**SURFACING, DRIVEWAY, CLASS A CRUSHED STONE**
		Refer to Tab. 102-3 for locations and details.
-	-	-
23	**2401-6745356**	**REMOVAL OF CONCRETE FOOTINGS OF LIGHT POLES**
		Refer to Tab. 110-16 for locations and details.
		Method of Measesurement: The Engineer will count the number of light pole footings removed.
		Method of Payment:The Contractor will be paid the contract unit price for the total number of light pole
		footings removed. This will be full compensation for removing light pole footings.
-	-	-
24	**2401-6745650**	**REMOVAL OF EXISTING STRUCTURES**
		Refer to Tab. 110-2 for locations and details. Refer to Tab. 110-3 for the removal of the 8'x4'x52' precast RCB.
-	-	-
25	**2401-6745765**	**REMOVAL OF LIGHT POLES**
		Refer to Tab. 110-16 for locations and details.
		Method of Measesurement: The Engineer will count the number of light poles removed.
		Method of Payment:The Contractor will be paid the contract unit price for the total number of light poles
		removed. This will be full compensation for removing light poles.
-	-	-
26	**2402-0425040**	**FLOODED BACKFILL**
		Refer to Tab. 104-3 on Sheet C.13.
-	-	-
27	**2402-2720100**	**EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT**
		Refer to Tab. 104-3 on Sheet C.13.
-	-	-
28	**2416-0100024**	**APRONS, CONCRETE, 24 IN. DIA.**
		Refer to Tab. 104-3 on Sheet C.13.
-	-	-
29	**2416-0100030**	**APRONS, CONCRETE, 30 IN. DIA.**
		Refer to Tab. 104-3 on Sheet C.13.
-	-	-
30	**2416-0102272**	**APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 72 IN.**
		Refer to Tab. 104-3 on Sheet C.13.
-	-	-
31	**2416-1180024**	**CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.**
		Refer to Tab. 104-3 on Sheet C.13.
-	-	-
32	**2416-1180030**	**CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.**
		Refer to Tab. 104-3 on Sheet C.13.
-	-	-
33	**2416-1190272**	**CULVERT, LOW CLEARANCE CONCRETE ENTRANCE PIPE, EQUIVALENT DIAMETER 72 IN.**
		Refer to Tab. 104-3 on Sheet C.13.
-	-	-
34	**2417-0250028**	**APRONS, METAL, ARCH, 28 IN. X 20 IN.**
		Refer to Tab. 102-3 on Sheet C.10.
-	-	-
35	**2417-1080028**	**CULVERT, CORRUGATED METAL ARCH ENTRANCE PIPE, 28 IN. X 20 IN.**
		Refer to Tab. 102-3 on Sheet C.10.
-	-	-
36	**2422-0360018**	**APRONS, UNCLASSIFIED, 18 IN. DIA.**
		Refer to Tab. 102-3 on Sheet C.10 and Tab. 104-3 on Sheet C.13.
-	-	-
37	**2422-1722018**	**CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.**
		Refer to Tab. 102-3 on Sheet C.10.
-	-	-
38	**2422-1723018**	**CULVERT, UNCLASSIFIED ROADWAY PIPE, 18 IN. DIA.**
		Refer to Tab. 104-3 on Sheet C.13.
-	-	-
39	**2502-8212034**	**SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.**
		Refer to Tab. 104-9 and 104-12 on Sheet CS.1 and C.14 for location and details, respectively.
-	-	-
40	**2502-8220196**	**SUBDRAIN OUTLET, RF-19E**
		Refer to Tab. 104-9 and 104-12 on Sheet CS.1 and C.14 for location and details, respectively.
-	-	-
41	**2503-0500400**	**BRIDGE END DRAIN, RF-40**

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
		Refer to Tab. 104-8A on Sheet C.14.
-	-	-
42	2505-4008120	**REMOVAL OF STEEL BEAM GUARDRAIL**
		Refer to Tab. 110-7A for locations and details.
-	-	-
43	2505-4008300	**STEEL BEAM GUARDRAIL**
		Refer to Tab. 108-8A for locations and details.
-	-	-
44	2505-4008400	**STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION**
		Refer to Tab. 108-8A for locations and details.
-	-	-
45	2505-4021010	**STEEL BEAM GUARDRAIL END ANCHOR, BOLTED**
		Refer to Tab. 108-8A for locations and details.
-	-	-
46	2505-4021700	**STEEL BEAM GUARDRAIL END TERMINAL**
		Refer to Tab. 108-8A for locations and details.
-	-	-
47	2505-6000111	**HIGH TENSION CABLE GUARDRAIL**
		Refer to Tab. 108-9A for locations and details.
-	-	-
48	2505-6000121	**HIGH TENSION CABLE GUARDRAIL, END ANCHOR**
		Refer to Tab. 108-9A for locations and details.
-	-	-
49	2505-6000131	**HIGH TENSION CABLE GUARDRAIL, SPARE PARTS KIT**
		Refer to Tab. 108-9A for locations and details.
-	-	-
50	2506-4984000	**FLOWABLE MORTAR**
		Refer to Tab. 104-3 on Sheet C13.
-	-	-
51	2507-3250005	**ENGINEERING FABRIC**
		Refer to Tab. 100-23 and sheet U.4 for Locations.
		Engineering fabric shall be material as specified for embankment erosion control,
		Article 4196.01C. Material shall be measured in sq. yds. of actual area covered.
		The tabulation includes estimated locations for placement of "Engineering Fabric"
		to address erosion to be encountered during construction.
		Verify the specific locations with the Engineer prior to beginning placement.
		Bid item includes 30% additional quantity for other locations of erosion.
-	-	-
52	2507-6800061	**REVETMENT, CLASS E**
		Refer to Tab. 100-23 and Sheet U.4 for locations.
		The tabulation includes estimated locations for placement of "Revetment, Class E" to
		address erosion to be encountered during construction. Verify the specific locations
		with the Engineer prior to beginning placement.
		Bid item includes 30% additional quantity for other locations of erosion.
-	-	-
53	2510-5204000	**PAVEMENT SCARIFICATION (OF HMA RESURFACING PRIOR TO PAVEMENT REMOVAL)**
		Refer to Tab. 110-1 on Sheet C.6.
-	-	-
54	2510-6745850	**REMOVAL OF PAVEMENT**
		A. Refer to Tabs.110-1 and 102-5 on Sheet C.6.
		B. Includes 10736.3 lin. ft. of full depth saw cut.
		C. HMA material shall be milled off existing roadway pavement and will be paid for
		under the Pavement Scarification bid item.
-	-	-
55	2511-6745900	**REMOVAL OF SIDEWALK**
		A. Refer to Tab. 110-5 on Sheet C.6.
		B. Includes 6.4 lin. ft. of full depth saw cut.
-	-	-
56	2515-6745600	**REMOVAL OF PAVED DRIVEWAY**
		A. Refer to Tab. 110-8 on Sheet C.6.
		B. Requires 18.6 linear foot of full depth saw cut.
-	-	-
57	2518-6891810	**PERMANENT ROAD CLOSURE, RURAL, SI-181**
		Refer to Tab. 102-4 for locations and details.
-	-	-
58	2518-6891820	**PERMANENT RD CLOSURE, URBAN, SI-182**
		Refer to Tab. 102-4 for locations and details.
-	-	-
59	2518-6910000	**SAFETY CLOSURE**
		Refer to Tab. 108-13A on Sheet C.10 for locations and details.
-	-	-
60	2519-3000000	**FLOOD PLAIN FENCE**
		Refer to Tab. 100-7 for locations and details.
-	-	-
61	2519-3280000	**FENCE, FIELD**
		Refer to Tab. 100-7 for locations and details.
-	-	-
62	2519-3300400	**FIELD FENCE BRACE PANELS**
		Refer to Tab. 100-7 for locations and details.
-	-	-
63	2519-3750017	**GATE, FIELD FENCE, 16 FT.**
		Refer to Tab 100-7. This Bid Item includes a means of locking the gate.
-	-	-
64	2520-3350010	**FIELD LABORATORY**

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ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
		- -
-	-	-
65	2527-9263109	**PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED**
		Refer to Tab. 108-22 on Sheet C.15 and Sheet J1-J77.
-	-	-
66	2527-9263137	**PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED**
		Refer to Tab. 108-29 for locations and details.
-	-	-
67	2528-8445110	**TRAFFIC CONTROL**
		Refer to Traffic Control Plan on Sheet J1-J77.
-	-	-
68	2533-4980005	**MOBILIZATION**
		- -
-	-	-
69	2555-0000010	**DELIVER AND STOCKPILE SALVAGED MATERIALS**
		Refer to Tab. 110-13 for locations and details.
-	-	-
70	2595-0000115	**CCP INSURANCE PROVISIONS**
		- -
	-	-
71	2595-0450079	**RAILROAD SUBBALLAST, FURNISH AND PLACE**
		See special provisions "Railroad Track" Refer to Sheet C.19 for locations.
		This includes 430 tons for construction of the Temporary Turnout Pad.
-	-	-
72	2595-0450081	**RAILROAD BALLAST**
		See special provisions "Railroad Track". Refer to Sheet C.19 for locations.
-	-	-
73	2595-6470000	**RAIL (RAILROAD)**
		See special provisions "Railroad Track". Refer to Sheet C.19 for locations.
-	-	-
74	2599-9999005	**RAIL WELDING**
		See special provisions "Railroad Track". Refer to Sheet C.19 for locations.
-	-	-
75	2599-9999009	**CULVERT, SMOOTH STEEL PIPE, 24 IN. DIA.**
		See special provisions Smooth Steel Pipe Drainage Structure
		Refer to Tab. 104-3 for locations and details.
-	-	-
76	2599-9999009	**CULVERT, SMOOTH STEEL PIPE, 36 IN. DIA.**
		See special provisions Smooth Steel Pipe Drainage Structure
		Refer to Tab. 104-3 for locations and details.
-	-	-
77	2599-9999009	**CULVERT, SMOOTH STEEL PIPE, 48 IN DIA.**
		See special provisions Smooth Steel Pipe Drainage Structure
		Refer to Tab. 104-3 for locations and details.
-	-	-
78	2599-9999018	**SUBGRADE PREPARATION FOR RAILROADS**
		This includes all the areas below the proposed sub ballast within cut areas and all the areas below
		proposed embankment within fill areas. See special provision "Subgrade Preparation for Railroads"
-	-	-
79	2601-2634100	**MULCHING**
		Mulching per Article 2601.03, E, 2. Anchor mulch into the soil using mulch anchoring equipment with a minimum
		of two passes.
		Included for areas requiring reshaping and seedbed preparation. Mulch shall be Certified Noxious Weed Seed
		Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement
		Associations.
		Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.
-	-	-
80	2601-2642100	**STABILIZING CROP-SEEDING AND FERTILIZING**
		Included for disturbed areas as directed by Engineer.
		All disturbed areas shall be seeded and fertilizer per Article 2601.03, C, 1.
-	-	-
81	2602-0000020	**SILT FENCE**
		Refer to Tab. 100-17. The tabulation includes estimated locations for placement of "Silt Fence" to
		address erosion to be encountered during construction.
		Verify the specific locations with the Engineer prior to beginning placement.
		Bid item includes 25% additional quantity for field adjustments and replacements.
-	-	-
82	2602-0000030	**SILT FENCE FOR DITCH CHECKS**
		Refer to Tab 100-18. The tabulation includes estimated locations for placement of "Silt Fence for
		Ditch Checks" to address erosion to be encountered during construction.
		Verify the specific locations with the Engineer prior to beginning placement.
		Bid item includes 50% additional quantity for field adjustments and replacements.
-	-	-
83	2602-0000050	**SILT BASINS**
		Refer to Tab. 100-14. The tabulation includes estimated locations for placement of "Silt Basins" to address
		erosion to be encountered during construction. Verify the specific locations with the Engineer prior to
		beginning placement.
		Bid item includes 100% additional quantity for field adjustment and maintenance.
-	-	-

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ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
84	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS
		Includes removal of 712' of existing silt fence located along northbound US 218 near County Road C-57.
		All material shall become the property of the Contractor.
-	-	-
85	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS
		This item is included for clean-out and repair of the silt fence and silt fence for ditch checks during this
		project. Includes maintaining 712' of existing silt fence located along northbound US 218 near County Road C-57
-	-	-
86	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.
		Verify the specific locations with the Engineer prior to beginning placement.
		Perimeter and Slope Sediment Control Devices will be required to be constructed out of wood excelsior.
-	-	-
87	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.
		Verify the specific locations with the Engineer prior to beginning placement.
		Perimeter and Slope Sediment Control Devices will be required to be constructed out of wood excelsior.
-	-	-
88	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE
		Included for removal of perimeter and sediment control devices. All material shall become the property
		of the contractor and removed from the project within 24 hours.
-	-	-
89	2602-0010010	MOBILIZATIONS, EROSION CONTROL
-	-	-
90	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL

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STANDARD ROAD PLANS

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

04-15-14	ce Concrete	Title
BA-200	10-18-11	Steel Beam Guardrail Components
BA-201	10-19-10	Steel Beam Guardrail Barrier Transition Section
BA-202	10-18-11	Steel Beam Guardrail Bolted End Anchor
BA-205	10-18-11	Steel Beam Guardrail End Terminal
BA-250	10-18-11	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post
BA-351	04-20-10	High Tension Cable Guardrail
EC-201	04-20-10	Silt Fence
EW-101	04-19-11	Embankment and Rebuilding Embankments
EW-103	10-15-13	Embankment Subgrade Treatment, Moisture Density Control and Special Compaction
EW-110	10-15-13	Ditch Blocks and Dikes
EW-204	04-17-12	Bridge Berm Grading with Recoverable Slope (Barnroof Section)
EW-301	04-19-11	Guardrail Grading
EW-302	10-15-13	Special Shaping for High Tension Cable Guardrail at Median Obstacles
EW-501	10-15-13	Rural Entrance
MI-103	10-16-12	Deer Fence and Field Fence Construction
PM-110	04-16-13	Line Types
PM-111	10-16-12	Symbols and Legends
PM-310	04-16-13	Entrance and Exit Ramps
PM-420	04-19-11	Two-Lane Roadway with no Turn Lanes (One-Way Stop Condition)
PM-520	04-19-11	Two-Lane Roadway with no Turn Lanes (Two-Way Stop Condition)
PM-550	04-19-11	Two-Lane Roadway with Two-Way Left Turn Lane
PV-12	04-17-12	Milled Shoulder Rumble Strips
PV-101	04-15-14	Joints
PV-102	04-15-14	PCC Curb Details
PV-303	04-19-11	Superelevation Details Ramps
PV-410	10-18-11	Deceleration Taper for 16' Exit Ramp
PV-411	10-18-11	Acceleration Taper for 16' Entrance Ramp
RF-2	04-15-14	Construction of Type "C" Concrete Adaptors for Pipe Culvert Connections
RF-3	10-15-13	Concrete Aprons
RF-5	04-16-13	Metal Pipe Aprons and Beveled Ends
RF-14	04-16-13	Connected Pipe Joints
RF-19C	10-16-12	Subdrains (Longitudinal)
RF-19E	10-16-12	Outlets for Longitudinal, Transverse and Backslope Subdrains
RF-30A	04-15-14	Pipe Culvert (Bedding and Backfill)
RF-30B	10-19-10	Pipe Culvert (Cover and Camber)
RF-30C	04-16-13	Pipe Culvert (Installation Details)
RF-31	03-28-95	Depth of Cover Tables for Concrete Pipe
RF-40	10-15-13	Rock Flume for Bridge End Drain
RF-42	04-15-14	Low Clearance Concrete Pipe Aprons
RF-43	10-15-13	Metal Arch Aprons (For Corrugated Metal Pipe)
RK-18	10-15-13	Bridge Approach Details (Secondary Roads)
RK-19A	04-16-13	Bridge Approach Section (General Details)
RK-20	04-16-13	Double Reinforced 12" Approach
RK-21	10-16-12	Bridge Approach (abutting PCC or Composite Pavement)
SI-173	04-20-10	Object Markers
SI-181	10-18-11	Permanent Road Closure - Rural
SI-211	10-19-10	Object Marker and Delineator Placement with Guardrail
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-252	04-17-12	Routes Closed to Traffic
TC-418	10-15-13	Lane Closure on Divided Highway

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INDEX OF TABULATIONS

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UTILITIES
(POINT 25 PROJECT)

This is a POINT 25 project and is subject to the provisions of IAC 761-115.25.

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10-15-13

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide Permit 23, Permit No. 2013-1162.
A copy of this permit is available from the Iowa DOT website (http://envpermits.iowadot.gov/CMEPortalENV/Home.aspx). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

POLLUTION PREVENTION PLAN

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

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

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

II. PROJECT SITE DESCRIPTION
- A. This Pollution Prevention Plan (PPP) is for the construction of an Interchange of US 218 and County Road 57, the relocation of the Cedar River R.R. Co. Track, and for construction of paved shoulders along US 218 from Cedar Falls to Janesville.
- B. This PPP covers approximately 295 acres with an estimated 112 acres being disturbed. The portion of the PPP covered by this contract has 91 acres disturbed.
- C. The PPP is located in an area of Kenyon-Clyde-Floyd soil association. The estimated average SCS runoff curve number for this PPP after completion will be 64 (for the interchange and RR relocation) and 72 (for the paved shoulders).
- D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including:
  1. Drainage patterns – Plan and Profile sheets and Situation plans.
  2. Proposed Slopes – Cross Sections.
  3. Areas of Soil Disturbance – construction limits shown on Plan and Profile sheets.
  4. Location of Structural Controls – Tabulations on C sheets.
  5. Locations of Non-structural Controls – Tabulations on C sheets.
  6. Locations of Stabilization Practices – generally within construction limits shown on Plan and Profile sheets.
  7. Surface Waters (including wetlands) – Plan and Profile sheets.
  8. Locations where storm water is discharged – Plan and Profile sheets.
- E. The base site map is amended by contract modifications and progress payments of completed erosion control work.
- F. Runoff from this work will flow into Big Woods Creek then into Cedar River.

III. CONTROLS
- A. The contractor’s work plan and sequence of operations specified in Article 2602.03 for accomplishment of storm water controls should clearly describe the intended sequence of major activities and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Section 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B.
  1. EROSION AND SEDIMENT CONTROLS
     a. Stabilization Practices
        1) Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized.
        2) Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased.
        3) Temporary stabilizing seeding shall be completed as the disturbed areas are constructed. If construction activity is not planned to occur in a disturbed area for at least 21 days, the area shall be stabilized by temporary seeding or mulching within 14 days. Other stabilizing methods shall be used outside the seeding time period.
        4) Stabilization measures to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Additional items may be found in the Inspector’s Daily Reports (IDR) or Contract Modifications.
     b. Structural Practices
        1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site.
        2) Structural items to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B sheets of the plan or are referenced in the Standard Road Plans Tabulation.
     c. Storm Water Management
        1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.
  2. OTHER CONTROLS
     a. Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
        1) Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
        2) Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
        3) Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
        4) Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
        5) Spill Prevention and Control - Implement procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.
        6) Concrete Residuals and Washout Wastes - Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located.
        7) Vehicle and Equipment Cleaning - Employ washing practices that prevent contamination of surface and ground water from wash water.
        8) Vehicle and Equipment Fueling and Maintenance - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onside fuels and proper disposal of used engine oil or other fluids on site.
        9) Litter Management - Ensure employees properly dispose of litter.
  3. APPROVED STATE OR LOCAL PLANS
     During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

110-12A
04-16-13

POLLUTION PREVENTION PLAN

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

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

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

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

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

102-5
10-16-12

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Milepost	End Milepost				Type	Depth IN	Type	Depth IN	Type	Depth IN	Type	Depth IN	Source	Type	Durability Class	Type	
1	lackhawk	US 218	NB/SB	188.22	192.87	1993		NHS-218-7(88)--19-07	PCC	10	GSB	6					Raymond-Peske	C.LST	2		
2	lackhawk	US 218	NB/SB	192.87	194.55	1994		NHS-218-7(94)--19-07	PCC	10	GSB	6					Tripoli-Platte	C.LST	T		
3	lackhawk	C-57	EB/WB			1971		S-2888(8)--50-07	PCC	6											1993 3" HMA Overlay

110-1
04-16-13

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area SY	Saw Cut* LF	Remarks
C-57						
10570+50.00	10595+86.81		PCC/HMA	6145.7	21.8	3" HMA Overlay
10595+88.11	10597+63.50		PCC	1040.2	294.7	
10598+73.53	10602+45.00		PCC	987.0	24.7	
10602+45.00	10612+00.00		PCC/HMA	2435.8	22.0	3" HMA Overlay
US 218						
485+76.68	492+69.61	BOTH	PCC	1444.9	1070.2	Median Crossing (Saw Cut: NB = 535.8 LF; SB = 534.4 LF)
488+42.11	489+69.67	NB	PCC	289.3	127.6	ML 218 (Mt. Vernon Rd. Intersection)
488+67.56	489+95.08	SB	PCC	290.8	127.5	ML 218 (Mt. Vernon Rd. Intersection)
540+10.17	546+99.75	BOTH	PCC	1418.4	1007.9	Median Crossing (Saw Cut: NB = 503.3 LF; SB = 504.6 LF)
542+50.34	543+94.40	NB	PCC	316.7	144.1	ML 218 (Bennington Rd. Intersection)
543+13.68	544+52.26	SB	PCC	325.8	138.6	ML 218 (Bennington Rd. Intersection)
581+39.74	599+57.64	BOTH	PCC	5546.6	4000.1	Median Crossing (Saw Cut: NB=1279.1 LF; SB=2721.0 LF)
586+85.00	587+15.00	NB	PCC	6.7	30.0	
587+15.00	588+35.00	NB	PCC	83.3	120.0	
588+35.00	589+54.88	NB	PCC	139.9	119.9	
589+54.88	596+45.40	NB	PCC	631.4	377.1	
596+45.40	597+16.70	NB	PCC	1478.0	430.5	Includes NB US 218 to EB C-57 Turn Lane
597+87.10	601+00.00	NB	PCC	1575.2	312.8	Includes WB C-57 Turn Lane to NB US 218
12+96.13	13+70.17	NB	PCC	102.1	74.0	
13+70.17	20+86.55	NB	PCC	835.8	716.4	
20+86.55	23+38.55	NB	PCC	184.0	252.0	
23+38.55	23+80.88	NB	PCC	9.4	42.3	
61+13.09	68+05.60	BOTH	PCC	1408.6	1035.1	Median Crossing (Saw Cut: NB = 514.8 LF; SB = 520.3 LF)
63+77.60	64+98.55	NB	PCC	324.4	120.9	ML 218 (W. Gresham Rd. Intersection)
64+13.28	65+39.39	SB	PCC	338.8	126.1	ML 218 (W. Gresham Rd. Intersection)

110-8
08-01-08

REMOVAL OF CONCRETE DRIVES

Location Station	Side	Area SY	Remarks
C-57 Frontage			
100580+37.74	LT	22.2	Parking Pavement
			18.6 ft of Sawcut

110-5
08-01-08

SIDEWALK REMOVAL

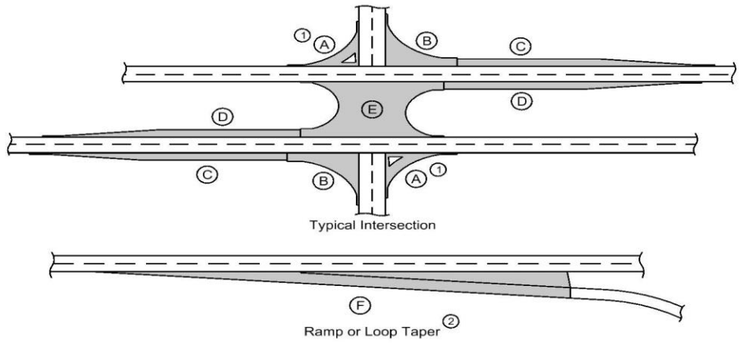
Begin Station	End Station	Area SY	Remarks
C-57 Frontage			
100580+56.33	100580+62.80	7.5	Frontage Parking Sidewalk
			6.4 ft of Sawcut

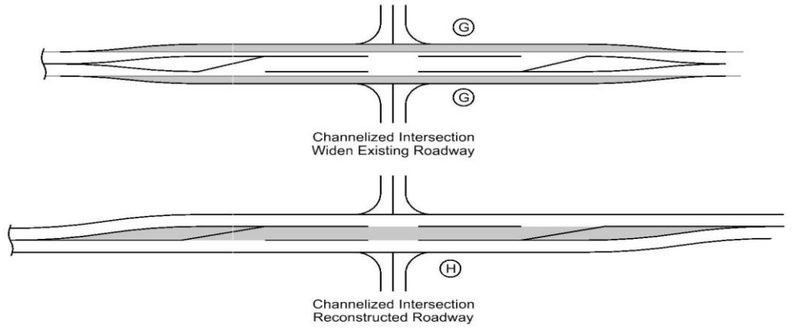
110-2
04-16-13

REMOVAL OF EXISTING STRUCTURES

Location	Description	Remarks
C-57, Sta. 10595+81.76, LT	Existing Concrete Footing for Railroad Signal	
C-57, Sta. 10595+94.02, LT	Existing Concrete Footing for Railroad Signal	
C-57, Sta. 10597+08.29, LT	Existing Stop Sign Pole with Flashing Red Beacon	Remove entire pole assembly and flashing red beacon
C-57, Sta. 10597+08.29, LT	Existing Concrete Footing for Stop Sign Pole	
C-57, Sta. 10598+86.39, LT	Existing Stop Sign Pole with Flashing Red Beacon	Remove entire pole assembly and flashing red beacon
C-57, Sta. 10598+86.39, LT	Existing Concrete Footing for Stop Sign Pole	
Bennington Rd	Precast RCB Culvert 8'x4'x52'	Sta. 12545+01.58. See Tab 110-13 for details.
US 218, Sta. 585+06.50, RT	Existing Concrete Outlet Apron for Pipe Culvert	

PCC PAVEMENT





(1) Does not include island area or curb. Refer to tabulation 112-4 for quantities.

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

(3) Quantity includes Pavement Header.

Location				Mainline			Area (3)								Total Area By Pavement Thickness SY		Special Backfill	Modified Subbase	Granular Subbase	Remarks
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A (2)	B	C	D	E	F	G	H	8 IN	10 IN	TONS	CY	SY	
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY						
US 218	SB	570+66.18	582+96.18	2.0-38								1804.1				1804.1		738.0		
US 218	NB	578+47.63	584+44.32	2.0-40								1331.8				1331.8		510.2		
US 218	SB	23+58.91	29+58.91	2.0-40								1336.6				1336.6		512.2		
US 218	NB	24+40.01	36+82.65	2.0-38								1838.0				1838.0		750.7		
C-57 Ramp A	SB	1593+22.16	1606+40.73	16.0	1318.6	2344.1	257.0	50.8								2651.9		1177.0		
C-57 Ramp B	NB	2590+33.48	2602+92.75	16.0	1259.3	2238.7	247.8	54.8								2541.3		1126.9		
C-57 Ramp C	SB	3576+67.72	3592+75.43	16.0	1607.7	2858.2	200.5	171.0								3229.7		1433.8		
C-57 Ramp D	NB	4603+39.89	4619+57.50	16.0	1617.6	2875.8	235.6	166.9								3278.3		1452.2		
C-57	EB/WB	10570+50.00	10582+20.00	28.0	1170.0	3640.0									3640.0			1473.3		
C-57	EB/WB	10582+20.00	10587+05.24	28-44	485.2	1945.6									1945.6			756.4		
C-57	EB/WB	10591+88.17	10595+78.11	44.0	389.9	1906.4									1906.4			722.1		
C-57	EB/WB	10600+12.04	10605+60.00	44.0	548.0	2678.9									2678.9			1014.7		
C-57	EB/WB	10605+60.00	10612+00.00	44-22	640.0	2370.4									2370.4			932.4		

SHOULDERS

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

Calculations assume a HMA unit weight (lbs/cf) of 147, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Location					Quantities																	
Road Identification	Direction (1) Of Traffic	Station to Station		Side	(P) Width	(G) Width	(L) Length	Class 13 (3) Excavation	Hot Mix Asphalt		Binder	Paved Shoulder	Reinforced Paved Shoulder	Special Backfill				Modified Subbase	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks
														HMA Alternate		PCC Alternate					STA (2)	HMA	PCC	
					FT	FT	FT	CY (2)	TON	TON/STA	TONS	SY (2)	SY (2)	TON (2)	TON/STA	TON (2)	TON/STA	CY (2)	TON (2)	TON/STA		CY (4)	CY (4)	
C-57	EB	10570+50.00	10586+55.41	RT		8.0	1605.4												1162.0	72.4	16.1			
C-57	WB	10570+50.00	10587+35.24	LT		8.0	1685.2												1219.8	72.4	16.9			
C-57	EB	10586+55.41	10587+35.24	RT	14.1 to 11.1		79.8		37.0	46.3	2.2	118.5		84.5	105.9						0.8			See Detail 7156
C-57	WB	10591+38.17	10592+40.72	LT	7.6 to 12		102.6		36.9	36.0	2.2	122.5		81.8	79.8						1.0			See Detail 7156
C-57	EB	10591+38.17	10592+36.82	RT		8.0	98.7												71.4	72.4	1.0			
C-57	WB	10593+60.05	10596+28.11	LT		8.0	268.1												194.0	72.4	2.7			
C-57	EB	10593+88.09	10595+19.96	RT		8.0	131.9												95.4	72.4	1.3			
C-57	EB	10595+19.96	10596+28.11	RT	13.5 to 9.6		108.2		45.9	42.4	2.8	146.5		103.9	96.1						1.1			See Detail 7156
C-57	WB	10600+02.04	10600+70.18	LT	12.1 to 13.5		68.1		32.1	47.0	1.9	99.8		73.4	107.8						0.7			See Detail 7156
C-57	EB	10600+02.04	10602+47.57	RT		8.0	245.5												177.7	72.4	2.5			
C-57	WB	10600+70.18	10602+07.57	LT		8.0	137.4												99.4	72.4	1.4			
C-57	WB	10603+78.04	10611+40.00	LT		8.0	762.0												551.5	72.4	7.6			
C-57	EB	10604+79.48	10611+40.00	RT		8.0	660.5												478.1	72.4	6.6			
C-57	EB	10611+40.00	10612+00.00	RT		8 to 5	60.0												33.8	56.4	0.6			Tie to Exist.
C-57	WB	10611+40.00	10612+00.00	LT		8 to 5	60.0												33.8	56.4	0.6			Tie to Exist.
C-57 Ramp A	SB	1593+25.65	1606+40.73	LT	6.0		1315.1		386.8	29.4	23.2	889.7		475.6	36.2						13.2			8" HMA; Tie to C57
C-57 Ramp A	SB	1593+31.11	1606+40.73	RT	4.0		1309.6		256.8	19.6	15.4	596.8		259.8	19.8						13.1			8" HMA; Tie to C57
C-57 Ramp B	NB	2590+33.48	2602+81.13	LT	4.0		1247.6		244.7	19.6	14.7	573.1		247.5	19.8						12.5			8" HMA; Tie to C57
C-57 Ramp B	NB	2590+33.48	2603+15.00	RT	6.0		1281.5		377.0	29.4	22.6	922.0		463.5	36.2						12.8			8" HMA; Tie to C57
C-57 Ramp C	SB	3576+67.72	3593+00.00	LT	6.0		1632.3		480.1	29.4	28.8	1094.2		590.4	36.2						16.3			8" HMA; Tie to C57
C-57 Ramp C	SB	3576+67.72	3592+39.28	RT	4.0		1571.6		308.2	19.6	18.5	703.2		311.7	19.8						15.7			8" HMA; Tie to C57
C-57 Ramp D	NB	4603+86.43	4619+57.50	LT	4.0		1571.1		308.1	19.6	18.5	712.0		311.6	19.8						15.7			8" HMA; Tie to C57
C-57 Ramp D	NB	4603+15.00	4619+57.50	RT	6.0		1642.5		483.1	29.4	29.0	1101.4		594.1	36.2						16.4			8" HMA; Tie to C57
US 218	NB	485+76.68	491+12.40	LT	6.0		535.7		118.1	22.1	7.1	357.1		237.4	44.3			59.5			5.4			6" Median
US 218	SB	487+34.72	492+69.61	RT	6.0		534.9		117.9	22.1	7.1	356.6		237.0	44.3			59.4			5.3			6" Median
US 218	NB	488+42.11	489+69.67	RT	4.5	4.0	127.6		21.1	16.5	1.3	63.8		74.4	58.3			14.2	17.9	14.0	1.3			6" Mt. Vernon Road
US 218	SB	488+67.56	489+95.08	LT	4.5	4.0	127.5		21.1	16.5	1.3	63.8		74.4	58.3			14.2	17.9	14.0	1.3			6" Mt. Vernon Road
US 218	NB	540+10.17	545+13.43	LT	6.0		503.3		111.0	22.1	6.7	335.5		223.0	44.3			55.9			5.0			6" Median
US 218	SB	541+95.11	546+99.75	RT	6.0		504.6		111.3	22.1	6.7	336.4		223.6	44.3			56.1			5.0			6" Median
US 218	NB	542+50.34	543+94.40	RT	4.5	4.0	144.1		23.8	16.5	1.4	72.0		84.0	58.3			16.0	20.2	14.0	1.4			6" Bennington Road
US 218	SB	543+13.68	544+52.26	LT	4.5	4.0	138.6		22.9	16.5	1.4	69.3		80.8	58.3			15.4	19.4	14.0	1.4			6" Bennington Road
US 218	SB	569+92.17	570+66.18	LT	4.5 to 6	4 to 2.5	74.0		14.3	19.3	0.9	43.2		43.2	58.3			8.2	8.4	11.4	0.7			6" HMA Shoulders
US 218	SB	570+66.18	571+66.16	LT	4 to 6	2 to 0.5	100.0		24.5	24.5	1.5	55.5		30.0	30.0				5.8	5.8	1.0			C-57 Ramp C,8" HMA
US 218	SB	571+66.16	571+91.10	LT	6.0	0.5 to 0	24.9		7.3	29.4	0.4	16.6		7.5	30.0				0.3	1.2	0.2			C-57 Ramp C,8" HMA
US 218	SB	571+91.10	572+91.20	LT	6.0		100.1		29.4	29.4	1.8	66.7		28.0	28.0						1.0			C-57 Ramp C,8" HMA
US 218	SB	572+91.20	582+96.18	LT	6.0		1005.0		295.6	29.4	17.7	670.6		281.4	28.0						10.0			C-57 Ramp C,8" HMA
US 218	NB	578+25.99	578+47.63	RT	4.5 to 6	4 to 2.5	21.6		4.2	16.6	0.3	12.4		12.6	58.3			2.4	2.5	11.4	0.2			6" HMA Shoulders
US 218	NB	578+47.63	578+76.10	RT	4 to 6	2 to 0.5	28.5		7.0	13.0	0.4	15.6		8.6	30.0				1.7	5.8	0.3			C-57 Ramp B,8" HMA
US 218	NB	578+76.10	578+82.86	RT	6.0	0.5 to 0	6.8		2.0	16.2	0.1	4.5		2.0	30.0				0.1	1.2	0.1			C-57 Ramp B,8" HMA
US 218	NB	578+82.86	579+82.93	RT	6.0		100.1		29.4	29.4	1.8	66.7		28.0	28.0						1.0			C-57 Ramp B,8" HMA
US 218	NB	579+82.93	584+44.32	RT	6.0		461.4		135.7	29.4	8.1	307.6		129.2	28.0						4.6			C-57 Ramp B,8" HMA
US 218	SB	581+39.74	601+00.00	RT	6.0		1960.3		432.2	22.1	25.9	1306.8		868.7	44.3			217.8			19.6			6" Median
US 218	SB	12+96.13	20+56.88	RT	6.0		760.8		167.7	22.1	10.1	507.2		337.1	44.3			84.5			7.6			6" Median
US 218	SB	582+96.18	597+05.90	LT	4.5	4.0	1409.7		233.1	16.5	14.0	889.2		822.1	58.3			156.6	197.4	14.0	14.1			6" HMA
US 218	SB	598+76.80	601+00.00	LT	4.5	4.0	223.2		36.9	16.5	2.2	111.6		130.2	58.3			24.8	31.2	14.0	2.2			6" HMA
US 218	SB	12+96.13	23+58.91	LT	4.5	4.0	1062.8		175.8	16.5	10.5	531.4		619.7	58.3			118.1	148.8	14.0	10.6			6" HMA
US 218	NB	584+44.32	596+65.69	RT	4.5	4.0	1221.4		202.0	16.5	12.1	742.3		712.2	58.3			135.7	171.0	14.0	12.2			6" HMA
US 218	NB	586+78.50	599+57.64	LT	6.0		1279.1		282.1	22.1	16.9	702.3		566.9	44.3			142.1			12.8			6" Median
US 218	NB	598+36.67	601+00.00	RT	4.5	4.0	263.3		43.5	16.5	2.6	131.7		153.6	58.3			29.3	36.9	14.0	2.6			6" HMA
US 218	NB	12+96.13	24+40.01	RT	4.5	4.0	1143.9		189.2	16.5	11.4	571.9		667.0	58.3			127.1	160.1	14.0	11.4			6" HMA
US 218	SB	23+58.91	28+21.41	LT	6.0		462.5		136.0	29.4	8.2	308.9		129.5	28.0						4.6			C-57 Ramp A,8" HMA
US 218	SB	28+21.41	29+21.59	LT	6.0		100.2		29.5	29.4	1.8	66.8		28.1	28.0						1.0			C-57 Ramp A,8" HMA
US 218	SB	29+21.59	29+28.89	LT	6.0	0 to 0.5	7.3		2.1	29.4	0.1	3.7		2.2	30.0				0.1	1.2	0.1			C-57 Ramp A,8" HMA
US 218	SB	29+28.89	29+58.91	LT	6 to 4	0.5 to 2	30.0		7.4	24.5	0.4	16.7		9.0	30.0				1.8	5.8	0.3			C-57 Ramp A,8" HMA
US 218	SB	29+58.91	29+81.62	LT	6 to 4.5	2.5 to 4	22.7		5.8	25.7	0.4	13.2		11.0	48.4			2.5	3.4	15.2	0.2			6" HMA Shoulders
US 218	NB	24+40.01	34+57.94	RT	6.0		1017.9		299.4	29.4	18.0	678.6		355.3	28.0						10.2			C-57 Ramp D,8" HMA
US 218	NB	34+57.94	35+58.04	RT	6.0		100.1		29.4	29.4	1.8	66.7		28.0	28.0						1.0			C-57 Ramp D,8" HMA
US 218	NB	35+58.04	35+82.92	RT	6.0	0 to 0.5	24.9		7.3	29.4	0.4	12.5		7.5	30.0				0.3	1.2	0.2			C-57 Ramp D,8" HMA
US 218	NB	35+82.92	36+82.65	RT	6 to 4	0.5 to 2	99.7		24.4	24.5	1.5	55.4		30.0	30.0				5.8	5.8	1.0			C-57 Ramp D,8" HMA
US 218	NB	36+82.65	37+57.51	RT	6 to 4.5	2.5 to 4	74.9		19.3	25.7	1.2	43.7		36.2	48.4			8.3	11.4	15.2	0.7			6" HMA Shoulders
US 218	NB	61+13.09	66+27.84	LT	6.0		514.8		113.5	22.1	6.8	343.2		228.1	44.3			57.2			5.1			6" Median
US 218	SB	62+85.28	68+05.60	RT	6.0		520.3		114.7	22.1	6.9	346.9		230.6	44.3			57.8			5.2			6" Median
US 218	NB	63+77.60	64+98.55	RT	4.5	4.0	121.0		20.0	16.5	1.2	60.5		70.5	58.3			13.4	16.9	14.0	1.2			6" W. Gresham Rd.
US 218	SB	64+13.28	65+39.39	LT	4.5	4.0	126.1		20.9	16.5	1.3	63.1		73.5	58.3			14.0	17.7	14.0	1.3			6" W. Gresham Rd.

SHOULDERS

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

Calculations assume a HMA unit weight (lbs/cf) of 147, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Location					Quantities																
Road Identification	Direction Of Traffic (1)	Station to Station		Side	(P) Width	(G) Width	(L) Length	Class 13 Excavation (3)	Hot Mix Asphalt		Binder	Paved Shoulder	Reinforced Paved Shoulder	Special Backfill				Modified Subbase	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks
														HMA Alternate		PCC Alternate					STA (2)	HMA	PCC	
					FT	FT	FT	CY (2)	TON	TON/STA	TONS	SY (2)	SY (2)	TON (2)	TON/STA	TON (2)	TON/STA	CY (2)	TON (2)	TON/STA		CY (4)	CY (4)	
US 218	NB	596+65.69	597+10.71	RT	13.5		45.0					67.5		12.3	27.3						0.5			10" Full Depth PCC
US 218	NB	597+10.71	597+91.86	RT	13.5		81.2					121.7		31.4	38.7						0.8			Curbed Shoulder
US 218	NB	597+91.86	598+36.67	RT	13.5		44.8					67.2		12.2	27.3						0.4			10" Full Depth PCC
US 218	SB	597+05.90	597+50.81	LT	13.5		44.9					67.4		12.3	27.3						0.4			10" Full Depth PCC
US 218	SB	597+50.81	598+31.96	LT	13.5		81.2					121.8		31.4	38.7						0.8			Curbed Shoulder
US 218	SB	598+31.96	598+76.80	LT	13.5		44.8					67.2		12.2	27.3						0.4			10" Full Depth PCC

PAVEMENT SMOOTHNESS + PCC TEXTURE

Road Identification	Begin Station	End Station	Proposed Posted Speed			Remarks
			35 or less	40 - 45	over 45	
C-57	10570+50.00	10587+05.24			x	
C-57	10591+88.17	10595+78.11			x	
C-57	10600+12.04	10612+00.00			x	
C-57 Ramp A	1593+22.16	1606+40.73			x	
C-57 Ramp B	2590+33.48	2602+92.75			x	
C-57 Ramp C	3576+67.72	3592+75.43			x	
C-57 Ramp D	4603+39.89	4619+57.50			x	
ML US-218	570+66.18	582+96.18			x	Ramp C Tapered Auxillary Lane/Gore
ML US-218	578+47.63	584+44.32			x	Ramp B Tapered Auxillary Lane/Gore
ML US-218	23+58.91	29+58.91			x	Ramp A Tapered Auxillary Lane/Gore
ML US-218	24+40.01	36+82.65			x	Ramp D Tapered Auxillary Lane/Gore

RUMBLE STRIP PANELS

Refer to Standard Road Plan PV-10.

Location			Pavement		Remarks
Road Ident.	Station	Side	New	Existing	
C-57 WB	10571+25.00	LT	X		
C-57 WB	10577+25.00	LT	X		

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using Corrugated Metal Pipe.
(1) Refer to MI-210
(2) Refer to EW-501.
(3) Refer to EW-501 or EW-502.
*Predetermined for access point not constructed with this project.

Location		Type	Length of Opening (1)			W	PR (1)(2)	SR (2)	Pipe Culvert (3)					Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½" Dropped Curb	3" Dropped Curb				H	Size	Pipe Length	Lt.	Rt.		HMA	PCC		
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF	No.	SY	SY	TON	
10572+02.00	LT	C				26.0		35.0	2.2	18.0	56.0	32.2	30.7	2			18.650	C57 (40 tons/sta)
10578+91.50	LT	C				24-28		35.0									360.300	C57 (Frontage Rd Entr.); (2330 tons/mile)
10578+91.50	RT	C				20.0		15.0									34.070	C57 (40 tons/sta)
10611+50.00	LT	C				24.0		15.0	2.2#	18.0	56.0	36.1	26.2	2			21.650	C57 (40 tons/sta)
10611+50.00	RT	C				24.0		15.0	1.8#	18.0	47.0	24.3	29.3	2			18.730	C57 (40 tons/sta)
11486+10.00	LT	C				24.0		30.0									99.340	Mt. Vernon Rd. (HH) (2330 tons/mile)
11492+89.00	RT	C				24.0		30.0	1.3#	18.0	51.0	27.9	30.1	2			80.380	Mt. Vernon Rd. (HH) (2330 tons/mile), Note 1
12539+52.30	RT	C				24.0		30.0	1.2#	18.0	51.0	27.1	30.9	2			84.060	Bennington Rd. (HH) (2330 tons/mile)
12547+22.00	RT	C				24.0		30.0	1.5	18.0	43.0	22.1	27.3	2			80.730	Bennington Rd. (HH) (2330 tons/mile)
13060+80.00	LT	C				24.0		30.0	2.0	18.0	60.0	32.6	34.6	2			80.170	Gresham Rd. (HH) (2330 tons/mile)
13066+69.00	LT	C				24.0		30.0	1.2	24*	42.0	23.8	22.7	2*			90.750	Gresham Rd. (HH) (2330 tons/mile)
100579+36.95	LT	C				24.0		15.0									12.930	Frontage Entrance (40 tons/sta)
100584+20.90	LT	C				24.0		35.0									16.750	Frontage Entrance (40 tons/sta)
100586+50.00	LT	C				24.0		30.0	1.7	18.0	58.0	31.0	33.5	2			24.000	Frontage Entrance (40 tons/sta)
																		#The installation should be the toe of
																		the foreslope
																		* 24in. equivalent corrugated metal arch
																		pipe and apron
																		Note 1: Entrance shall not be closed
																		more than 8 hour period to remove pipe
																		and install the proposed pipe.
																		Seeding of proposed Hammerhead turn
																		arounds south of Mt. Vernon Road
																		will be preformed by owner.

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
10579+50.00	1		C-57 Phase 1C
10583+97.50	1		C-57
10596+86.70	1		C-57 Phase 1C
10599+57.00	1		C-57
10613+52.00	1		C-57
10578+15.00	1		C-57 Phase 3B
10570+33.00	1		C-57 Phase 3B
11488+30.00	1		Mt. Vernon Road
11490+40.00	1		Mt. Vernon Road
12542+65.00	1		Bennington Road
12544+65.00	1		Bennington Road
13063+60.00	1		W.Gresham Road
13065+60.00	1		W.Gresham Road

LOCATIONS OF ROAD CLOSURE BARRICADES

Refer to SI-181 and SI-182.

Location		W	SI-181	SI-182	Remarks
No.	Station	LF	LF	No.	
1	11486+83.00	25.5	26		Mount Vernon Rd.
2	11492+16.00	25.5	26		Mount Vernon Rd.
3	12540+26.00	23.6	24		Bennington Rd.
4	12546+49.00	24.3	26		Bennington Rd.
5	13065+96.00	28.7	30		Gresham Rd.
6	100587+23.00	30.0	30		Frontage Rd.
7	13062+15.00	30.0		1	W. Gresham Rd.

100-23
10-19-10

* Design shown for mandatory locations is the minimum allowed.

ROCK DITCH CHECKS/DITCHES/FLUMES/SPLASH BASINS/SLOPE PROTECTION

Refer to Typicals 4401, 4402, 4403, 4404, and 4405

Location				Type						L	W	Material			
Road Identification	Station	Side	Mandatory* Location (yes or no)	Rock Ditch Check	Rock Ditch	Rock Flume	Rock Splash Basin	Rock Slope Protection				Erosion Stone	Class E Revetment	Eng. Fabric	Remarks
		Lt./Rt.								FT	FT	TON	TON	SY	
C-57	10608+29.00	Rt.	Yes				1			31.0	20.0		72.8	94.0	Both Arch Pipes
C-57	10608+29.00	Lt.	Yes				1			31.0	20.0		72.8	94.0	Both Arch Pipes

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
C-57				
10570+49.75	10572+20.00	RT	210.0	Backside of Ditch (Backslope)
10575+21.07	10578+64.24	LT	405.0	Backslope
10576+10.00	10578+74.79	RT	325.0	Backside of Ditch (Backslope)
10579+12.55	10587+90.00	RT	1020.0	Backside of Ditch (Backslope)
10583+40.00	10588+20.51	RT	605.0	Foreslope
10583+40.00	10588+12.58	LT	585.0	Foreslope
10590+55.14	10592+18.57	LT	285.0	Foreslope (Bottom Tier)
10590+70.15	10592+52.95	RT	295.0	Foreslope (Bottom Tier)
10591+24.85	10591+75.96	LT	95.0	Backside of Ditch (Backslope)
10591+24.89	10592+55.45	LT	170.0	Foreslope (Top Tier)
10591+32.38	10592+80.14	RT	190.0	Foreslope (Top Tier)
10593+69.44	10596+29.78	LT	320.0	Foreslope (Top Tier)
10594+06.64	10596+30.00	RT	285.0	Foreslope (Top Tier)
10594+16.32	10596+67.16	LT	375.0	Foreslope (Bottom Tier)
10594+72.19	10596+82.12	RT	330.0	Foreslope (Bottom Tier)
10599+29.41	10602+21.76	LT	390.0	Foreslope
10599+41.94	10602+55.56	RT	405.0	Foreslope
10603+49.02	10612+00.00	LT	975.0	Backside of Ditch (Backslope)
10604+82.76	10612+00.00	RT	820.0	Backside of Ditch (Backslope)
Frontage Rd				
100579+85.35	100583+87.37	LT	495.0	Backslope
100584+62.72	100586+10.88	LT	190.0	Backslope
100586+88.75	100587+38.60	LT	145.0	Backslope
Ramp A				
1593+75.27	1597+05.00	LT	390.0	Foreslope (Top Tier)
1593+83.71	1596+16.13	RT	295.0	Foreslope (Top Tier)
1594+14.92	1600+83.26	LT	775.0	Foreslope (Bottom Tier)
1594+31.86	1599+95.38	RT	650.0	Foreslope (Bottom Tier)
1594+60.75	1604+75.00	LT	1150.0	Backside of Ditch (Backslope)
Ramp B				
2590+33.48	2602+45.62	RT	1285.0	Backslope
Ramp C				
3577+90.00	3580+45.00	LT	315.0	Backside of Ditch (Backslope)
3585+12.55	3592+10.16	LT	805.0	Foreslope (Bottom Tier)
3585+67.71	3591+17.08	RT	635.0	Foreslope (Bottom Tier)
3587+20.00	3591+85.11	LT	550.0	Backside of Ditch (Backslope)
3589+52.50	3592+36.49	LT	345.0	Foreslope (Top Tier)
3590+05.00	3591+85.76	RT	225.0	Foreslope (Top Tier)
Ramp D				
4603+84.97	4615+60.00	RT	1320.0	Backside of Ditch (Backslope)
4619+20.00	4621+98.55	RT	335.0	Backside of Ditch (Backslope)
ML US-218				
24+90.00	29+63.99	LT	560.0	Backside of Ditch (Backslope)
576+66.87	583+00.00	RT	740.0	Backside of Ditch (Backslope)
583+05.00	584+23.75	RT	165.0	Backslope
570+61.18	576+70.00	LT	715.0	Backside of Ditch (Backslope)
26+84.28	36+87.65	RT	1155.0	Backside of Ditch (Backslope)
Railroad				
15559+60.00	15563+90.00	LT	510.0	Backside of Ditch (Backslope)
15560+20.00	15572+00.00	RT	1325.0	Backside of Ditch (Backslope)
15565+30.00	15567+50.00	LT	280.0	Backside of Ditch (Backslope)
15569+40.00	15572+90.00	LT	415.0	Backside of Ditch (Backslope)
15589+08.75	15609+10.00	LT	2270.0	Foreslope
15590+32.65	15608+80.00	RT	2080.0	Foreslope
15619+70.00	15623+00.00	LT	390.0	Backside of Ditch (Backslope)
15619+70.00	15621+90.00	RT	285.0	Backside of Ditch (Backslope)

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
15625+70.00	15628+30.00	RT	325.0	Backside of Ditch (Backslope)
15627+60.00	15629+50.00	LT	230.0	Backside of Ditch (Backslope)
			Sum:	29435
			Factor:	1.25
			Total:	36793.75

100-18
04-20-10

TABULATION OF SILT FENCES FOR DITCH CHECKS

Refer to EC-201

Location Station	Side	Length	Remarks
		LF	
10570+55.00	RT	23.0	C-57
10570+55.00	LT	23.0	C-57
10590+50.00	RT	23.0	C-57
10592+00.00	RT	23.0	C-57
10605+00.00	LT	23.0	C-57
10606+50.00	LT	23.0	C-57
10608+00.00	LT	23.0	C-57
10608+50.00	LT	23.0	C-57
10608+50.00	RT	23.0	C-57
10610+00.00	RT	23.0	C-57
10611+00.00	LT	23.0	C-57
Sum:	253		
Factor:	1.5		
Total:	379.5		

100-14
10-15-13

SILT BASINS

Refer to EW-403

Location Station	Side	Remarks
15595+00.00	LT	Railroad
15595+00.00	RT	Railroad
15607+39.00	LT	Railroad
15607+39.00	RT	Railroad
15620+50.00	LT	Railroad
573+42.00	LT	US-218
585+18.00	LT	US-218
19+02.32	LT	US-218
2595+50.00	LT	Ramp B
4613+46.00	LT	Ramp D
	Sum:	10
	Factor:	2
	Total:	20

107-23
10-18-11

GRADING FOR GUARDRAIL INSTALLATIONS

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

Refer to EW-301

Location				Foreslope at Guardrail	Dimensions (Feet)									Earthwork		Remarks
No.	(1) Direction of Traffic	Station	Side		X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10	Embankment In Place	
														CY	CY	
1	EB	10587+77.10	RT		27.5	5.4	52.4	8.0			102.4	10.6	61.0			Earthwork included in T-Sheets
2	WB	10591+16.32	LT		25.5	5.4	52.4	7.8			102.4	9.8	57.0			Earthwork included in T-Sheets
3	EB	10596+43.00	RT		27.5	5.4	52.4	7.8			102.4	9.8	57.0			Earthwork included in T-Sheets
4	WB	10599+47.15	LT		27.5	5.4	52.4	7.8			102.4	9.8	57.0			Earthwork included in T-Sheets

110-7A
04-17-12

REMOVAL OF STEEL BEAM GUARDRAIL

(1) Lane(s) to which the installation is adjacent.
(2) Includes length of End Terminals and End Anchors.

Location					
No.	(1) Direction of Traffic	Station to Station		Side	(2) Removal of Guardrail
					LF
C-57					
1	EB	10595+12.22	10595+84.01	LT	72.7
2	WB	10595+91.91	10596+61.68	LT	71.1

107-24
10-15-13

GRADING FOR HIGH TENSION CABLE GUARDRAIL INSTALLATIONS

Refer to Standard Road Plan EW-302

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

Location				Dimensions			Protection Length	Earthwork:	Remarks
No.	Direction of (1) Traffic	Station	Side	C_A	C_O	C_T	(C_A+C_O+C_T)		
				FT	FT	FT	FT	CY	
1	NB	594+46.29	M	290.6	69.0		359.6		Earthwork included in T-sheets
2	SB	600+96.38	M	290.6	69.0		359.6		Earthwork included in T-sheets

108-8A
10-21-14

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Refer to BA-200, BA-201, BA-202, BA-205, BA-206, BA-210, BA-211, BA-250, SI-172, SI-173 and SI-211.

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

Location					Layout Lengths BA-250				Long-Span System BA-211		Delineators and Object Markers					Bid Items							Remarks
												Delineator SI-172	Object Marker SI-173			Bolted End Anchor	Barrier Transition Section	Steel Beam Guardrail	End Terminal		Post Adapter		
No.	(1) Direction of Traffic	Side O = Outside M = Median	Station	Offset	VT1	VF	VT2	ET (37.5' or 50.0')	STATION	TYPE	SI-211	Type 1	Type 2	Type 3					Standard	Flared			
												White	OM2-2	OM3-L	OM3-R	BA-202		BA-201	BA-200	BA-205	BA-206	BA-210	
				FT	LF	LF	LF	LF	STATION	TYPE	TYPE	EACH	EACH	EACH	EACH	TYPE	EACH	EACH	LF	EACH	EACH	EACH	
C-57																							
1	EB	O	10587+77.10	30.6' RT	28.125	25.00	-	50.0			3	-	-	-	1	A	1	1	25.0	1	-	-	
2	WB	O	10591+16.32	30.6' LT	28.125	25.00	-	50.0			3	-	-	-	1	A	1	1	25.0	1	-	-	
3	EB	O	10596+43.00	30.6' RT	28.125	25.00	-	50.0			3	-	-	-	1	A	1	1	25.0	1	-	-	
4	WB	O	10599+47.15	30.6' LT	28.125	25.00	-	50.0			3	-	-	-	1	A	1	1	25.0	1	-	-	

108-9A
04-20-10

HIGH TENSION CABLE GUARDRAIL

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

Refer to BA-351.

Location					Dimensions			Bid Items		Remarks
No.	Direction of (1) Traffic	Station	Side	Offset $D_\emptyset$	Approach C_A	Obstacle C_O	Trailing C_T	Protection Length (C_A+$C_\emptyset$+C_T)	End Anchor	
				FT	FT	FT	FT	FT	No.	
1	NB	594+46.29	M	10.0	290.6	69.0		359.6	2	
2	SB	600+96.38	M	10.0	290.6	69.0		359.6	2	

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

Length of unclassified pipe calculated is based on using Corrugated Metal Pipe.
* Not a bid item
(1) Diameter or equivalent diameter
(2) UNCL = Unclassified Pipe CMP = Corrugated Metal Pipe RCP = Reinforced Concrete Pipe LCP = Arch or Elliptical Low Clearance Pipe SARC = Steel Arch Pipe SSP = Smooth Steel Pipe

Drainage Area	Location	Type	Size (1)	Kind Of Pipe (2)	Length New Const.	Bedding Class	Design Cover (H)	Camber* (RF-30B)	Apron No.		Apron Guard* (RF-26)	Elbow* (RF-13)	Diaphragm* (RF-7)	Tee Section* (RF-21)	"D" Section* (RF-13)	Reducer*	Adaptors* (RF-2)		Connected Pipe Joint* (RF-14)	4" Perforated Subdrain*	Flow Line Elevations				Dimensions Lin. Ft.				Skew Ahead Degrees		Dike				Class 20	Flowable Mortar	Floodable* Backfill	Porous* Backfill	Flooded Backfill	Remarks
																									Total		Extensions				Rt. / Lt.	Location Station	Top Elevation	Type					
ACRE			IN		LF		FT	FT	IN	OUT	No.	No.	No.	No.	No.	No.	Type	No.	Type	FT	Lt.	Rt.	Other	Other	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.				CY	CY	(A) CY	(B) CY	(A+B) CY	
8.0	585+06.50	1301	24	RCP	40	lass	2.8			1							C-1	1	3			877.43	877.43					40.0						9.5					US 218
763.0	10608+22.00	1101	72	LCP	86	B	2.4		1	1									3		877.00	877.00			51.3	51.3							202.5	19.7	113.4	16.0	129.4	C-57
763.0	10608+36.00	1101	72	LCP	86	B	2.4		1	1									3		877.00	877.00			51.3	51.3							202.5	19.7	113.4	16.0	129.4	C-57
5.8	2595+50.00	1101	24	RCP	60	B	2.6		1	1									3		878.35	878.24			44.1	28.1												C-57 Ramp B
3.3	3584+00.00	1101	24	RCP	98	B	7.8		1	1									3		876.81	878.55			50.0	60.2					Rt	3583+75	880.55	G	123.0					C-57 Ramp C
18.0	4613+46.00	1101	30	RCP	82	B	2.0		1	1									3		880.20	880.10			57.0	37.3			36						48.0					C-57 Ramp D
N/A	15560+88.00	1101M	24	SSP	40	B	3.6														873.10	873.10			20.0	20.0												1101 MOD
86.0	15595+00.00	1101M	48	SSP	48	B	3.1														875.60	875.60			24.0	24.0												1101 MOD
62.0	15607+39.00	1101M	36	SSP	52	B	4.9														875.80	875.80			26.0	26.0												1101 MOD
28.0	15620+50.00	1101M	36	SSP	42	B	3.0														879.33	878.50			20.2	21.8							31.8					1101 MOD
9.3	100579+38.14	1601	18	UNCL	67	B	2.8		1	1											876.50	876.36			36.2	37.1												C-57 Frontage
5.0	100580+00.00	1601	18	UNCL	43	B	2.6		1	1											876.50	876.39			24.6	24.9												C-57 Frontage

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

(1) Refer to EW-203, EW-204, or EW-211.
*Not a bid item

Location						Longitudinal Subdrain (RF-19C)							Subdrain Outlet			Porous* Backfill	Class "A"* Crushed Stone	Remarks
Line No.	Road or Lane Ident.	Station to Station		Side	Depth (D)	Shoulder		Backslope		Bridge Berm (1)			RF-19C, RF-19E, or RF-19F					
						Size	Length	Size	Length	Size	Type	Length	Station	Size	Standard Road Plan and Type			
					IN	IN	FT	IN	FT	IN		FT		IN		CY	CY	
1	NBL	595+85.78	597+88.26	LT	24.0	4.0	242.5	4.0		4.0	B		595+85.78	6.0	RF-19E	9.3	3.3	ML 218
2	SBL	596+89.83	598+33.85	LT	24.0	4.0	164.0	4.0		4.0	B		596+89.83	6.0	RF-19E	9.3	3.3	ML 218

SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN

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

Location			Bid Items		PCC Paved Shoulder			Scour Protection (RF-39)		Rock Flume (RF-40)			Remarks
Bridge Station	Bridge Corner	Distance DI-1 or DI-2	PCC Paved Shoulder	Bridge End Drain	Panels Required	Polymer Grid	Modified Subbase	Outlet or Channel Scour Protection	Turf Reinforced Mat (TRM), Type 2	Macadam Stone Base	Engineering Fabric	Erosion Stone	
		FT	SY	TYPE	A B C or D	SY	TONS	SF	SQ	TONS	SY	TONS	
10589+46.71	NW	19.0	21.2	RF-40	B	28.2	17.770			1.930	164.0	161.120	C-57 Bridge over RR
10589+46.71	SW	32.0	22.6	RF-40	A	30.4	19.500			1.930	150.0	147.000	C-57 Bridge over RR
10597+95.08	NE	33.0	46.7	RF-40	A & D	58.7	36.980			1.930	132.6	125.320	C-57 Bridge over US218
10597+95.08	SE	44.4	42.6	RF-40	B & C	54.1	34.080			1.930	148.1	145.440	C-57 Bridge over US218

PAVEMENT MARKING LINE TYPES

See PM-110

*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.25
DCY4: Double Centerline (Yellow) @ 2.00
NPY4: No Passing Zone Line (Yellow) @ 1.25
BLW4: Broken Lane Line (White) @ 0.25
ELW4: Edge Line Right (White) @ 1.00
ELY4: Edge Line Left (Yellow) @ 1.00
CHY8: Channelizing Line (Yellow) @ 2.00
SLW4: Solid Lane Line (White) @ 1.00
CHW8: Channelizing Line (White) @ 2.00
DLW4: Dotted Line (White) @ 0.33
SLW2: Stop Line (White) @ 6.00

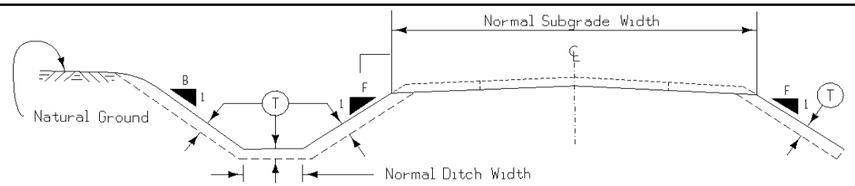
Location								Length by Line Type (Unfactored)														
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	CHY8	SLW4	CHW8	DLW4	SLW2					Remarks
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
C-57	10570+50.00	10576+51.29	BOTH	Waterborne/Solvent Paint		X		6.01														
	10576+51.29	10582+51.22	BOTH	Waterborne/Solvent Paint		X				6.00												
	10610+74.88	10612+00.00	BOTH	Waterborne/Solvent Paint		X				1.25												
	10570+50.00	10592+36.82	EB	Waterborne/Solvent Paint			X					21.87										
	10593+88.09	10602+48.71	EB	Waterborne/Solvent Paint			X					8.61										
	10604+78.49	10612+00.00	EB	Waterborne/Solvent Paint			X					7.22										
	10570+50.00	10591+38.17	WB	Waterborne/Solvent Paint	X							20.88										
	10593+54.31	10602+07.58	WB	Waterborne/Solvent Paint	X							8.53										
	10603+78.04	10612+00.00	WB	Waterborne/Solvent Paint	X							8.22										
	10582+51.21	10592+70.47	EB	Waterborne/Solvent Paint			X							10.20								Median
	10582+51.21	10592+70.47	WB	Waterborne/Solvent Paint	X									10.20								Median
	10592+70.47	10592+78.49	BOTH	Waterborne/Solvent Paint		X								0.25								Rounded End of Median
	10582+74.37	10592+75.34	BOTH	Waterborne/Solvent Paint		X								9.22								Median Striping
	10594+13.00	10602+01.95	EB	Waterborne/Solvent Paint	X		X							7.90								Median
	10594+13.00	10602+01.95	WB	Waterborne/Solvent Paint	X		X							7.90								Median
	10594+11.00	10594+13.00	BOTH	Waterborne/Solvent Paint		X								0.06								Rounded End of Median
	10602+01.95	10602+03.94	BOTH	Waterborne/Solvent Paint		X								0.06								Rounded End of Median
	10594+19.04	10601+91.04	BOTH	Waterborne/Solvent Paint		X								5.25								Median Striping
	10603+50.00	10610+74.90	EB	Waterborne/Solvent Paint			X							7.25								Median
	10603+50.00	10610+74.84	WB	Waterborne/Solvent Paint	X									7.25								Median
	10603+42.00	10603+50.00	BOTH	Waterborne/Solvent Paint		X								0.25								Rounded End of Median
	10603+45.21	10610+54.31	BOTH	Waterborne/Solvent Paint		X								5.86								Median Striping
	10594+13.00	10595+50.50	WB	Waterborne/Solvent Paint	X										1.38							Left Turn Lane
	10600+64.44	10602+01.95	EB	Waterborne/Solvent Paint			X								1.38							Left Turn Lane
Ramp A	1593+26.02	1606+40.73	SB	Waterborne/Solvent Paint			X						13.38									
	1593+00.00	1606+40.73	SB	Waterborne/Solvent Paint	X							14.48										
	23+58.90 R 2	29+58.91 R 2	SB	Waterborne/Solvent Paint	X							6.01										US-218 Alignment
	23+58.72 R 2	27+35.87 R 2	SB	Waterborne/Solvent Paint	X											7.55						US-218 Alignment (ML and Ramp
	27+35.90 R 2	29+58.91 R 2	SB	Waterborne/Solvent Paint	X												2.23					US-218 Alignment
	1593+34.04	1593+38.66	SB	Waterborne/Solvent Paint		X												0.71				Stop Line
Ramp B	2590+33.48	2602+85.25	NB	Waterborne/Solvent Paint	X								12.89									
	2590+33.48	2603+15.00	NB	Waterborne/Solvent Paint			X					13.92										
	2602+73.20	2602+86.99	NB	Waterborne/Solvent Paint		X												0.69				Stop Line
	578+44.69	584+43.67	NB	Waterborne/Solvent Paint			X					6.02										US-218 Alignment
	578+48.73	580+68.81	NB	Waterborne/Solvent Paint			X										2.20					US-218 Alignment
	580+68.81	584+44.32	NB	Waterborne/Solvent Paint			X									7.52						US-218 Alignment (ML and Ramp
Ramp C	570+87.00	578+07.88	SB	Waterborne/Solvent Paint	X												7.21					US-218 Alignment
	570+87.00	580+65.86	SB	Waterborne/Solvent Paint	X							9.79										US-218 Alignment
	578+07.88	582+96.17	SB	Waterborne/Solvent Paint	X											9.77						US-218 Alignment (ML and Ramp
	3574+38.74	3593+00.00	SB	Waterborne/Solvent Paint	X							18.93										
	3576+67.72	3592+42.84	SB	Waterborne/Solvent Paint			X						16.07									
Ramp D	4603+15.00	4621+98.55	NB	Waterborne/Solvent Paint			X					19.17										
	4603+82.89	4619+57.50	NB	Waterborne/Solvent Paint	X								16.25									
	24+40.01 R 2	29+53.56 R 2	NB	Waterborne/Solvent Paint			X									10.28						US-218 Alignment (ML and Ramp
	26+82.88 R 2	36+82.65 R 2	NB	Waterborne/Solvent Paint			X					10.00										US-218 Alignment
	29+53.56 R 2	36+82.68 R 2	NB	Waterborne/Solvent Paint			X										7.28					US-218 Alignment

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Road Identification	Location															SCHOOL	XING	STOP	AHEAD	ONLY	BIKE	LANE	EXIT	Groove Cuts	Remarks
	Station	Side	STAW	RTAW	LTAW	CSRW	CSLW	CSTW	CRLW	FERW	LLRW	RLRW	RRCW	BLSW	WCSW	WPSB	SCLW	XNGW	STPW	AHDW	ONLW	BIKW	LANW	XITW	EACH	
C-57	10594+36.16	LT			1																					
C-57	10594+72.94	LT																			1					
C-57	10595+11.13	LT			1																					
C-57	10600+97.48	RT			1																					
C-57	10601+38.01	RT																			1					
C-57	10601+72.48	RT			1																					

TABULATION OF SPREADING TOPSOIL



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

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

Placement Description								Topsoil Excavation Available From			
Area	Quantity	Location		Side	Slope	(T)	Remarks	Amount Reserved	Station to Station		Remarks
No.	CY	Station to Station		L. or R.	B. or F.	IN		CY			
1	9108.0	15550+50.00	15629+50.00	L/R	B/F	6.0	CEDAR RIVER RR Co.	9571.0	15558+00.00	15629+50.00	CEDAR RIVER RR CO.
2	3049.0	570+50.00	596+14.00	L/R	B/F	6.0	US 218	9234.0	570+50.00	34+50.00	US 218
3	393.0	596+50.00	598+76.83	Median	B/F	6.0	US 218				
4	332.0	599+08.00	23+58.95	L/R	B/F	6.0	US 218	9990.0	10570+50.00	10612+50.00	CR-57
5	1019.0	23+58.95	34+50.00	L/R	B/F	6.0	US 218				
								3826.0	1593+75.00	1606+00.00	CR-57 Ramp A
6	10778.0	10570+50.00	10612+50.00	L/R	B/F	6.0	CR-57	4191.0	2590+33.50	2602+84.82	CR-57 Ramp B
								5039.0	3576+67.62	3592+50.00	CR-57 Ramp C
7	3798.0	1593+75.00	1606+00.00	L/R	B/F	6.0	CR-57 Ramp A	5017.0	4603+50.00	4619+57.50	CR-57 Ramp D
8	9486.0	2590+33.50	2602+84.82	L/R	B/F	6.0	CR-57 Ramp B				
9	4630.0	3576+67.62	3592+50.00	L/R	B/F	6.0	CR-57 Ramp C	971.0	10579+25.00	10587+22.00	Frontage Rd.
10	2537.0	4603+50.00	4619+57.50	L/R	B/F	6.0	CR-57 Ramp D				
11	613.0	10579+25.00	10587+22.00	L/R	B/F	6.0	Frontage Rd.				
12	398.0	11486+82.00	11492+17.25	L/R	F	6.0	Mt. Vernon Rd				
13	700.0	12540+25.00	12546+50.00	L/R	F	6.0	Bennington Rd				
14	399.0	13061+54.50	13065+96.71	L/R	F	6.0	W. Gresham Rd.				

FENCING

* Bid Item

Refer to MI-101, MI-102, MI-103, MI-104, 510-3, and 510-5

Location				Side	Chain Link				Deer				Field				Channel Crossing		Remarks
From		To			Fence		Gate				Gate				Gate				
Station	Offset	Station	Offset		Length*	Type	No.*	Type	Fence Length*	Brace Panels*	No.*	Type	Fence Length*	Brace Panels*	No.*	Type	Length*	Type	
					LF		EACH		LF	EACH	EACH		LF	EACH	EACH		LF		
488+62.41	114.8	544+72.69	129.2	RT									5699.5	34					ML 218
544+72.69	129.2	546+92.46	129.1	RT										2			219.8	FLOOD PLAIN	ML 218
546+92.46	129.1	575+78.05	149.1	RT									2885.9	11					ML 218
575+78.05	149.1	595+12.72	664.3	RT									2001.8	8					ML 218
488+97.12	136.6	542+85.62	133.2	LT									5373.3	14					ML 218
542+85.62	133.2	543+45.62	133.2	LT										2			60.0	FLOOD PLAIN	ML 218
543+45.62	133.2	561+49.07	133.8	LT									1803.4	6					ML 218
15551+16.23	51.2	15587+65.79	50.8	RT									3649.7	9					RR
15587+65.79	50.8	15589+21.88	130.1	RT									174.9	5					RR
597+59.72	579.0	37+13.37	106.8	RT									2826.3	10					ML 218
37+13.37	106.8	96+00.00	114.5	RT									5902.1	30					ML 218
15589+83.45	130.1	15591+50.47	52.3	RT									184.2	5					RR
15591+50.47	52.3	15629+07.32	51.0	RT									3756.4	9					RR
50+08.06	134.7	96+00.00	114.4	LT									4691.0	22					ML 218
64+88.31	235.3	65+08.47	235.5	LT									20.2	1					ML 218
65+08.47	235.5	65+24.48	235.7	LT										2	1	16 FT.			ML 218
65+24.48	235.7	65+51.63	236.0	LT									27.3	1					ML 218

CLEARING AND GRUBBING

Location		Work and Material Type	Trees, Stumps, and Logs and Down Timber Material Diameters												All Other Materials		Estimated Quantities			Remarks
Station to Station or Milepost to Milepost or Description	Direction of Travel		3"-6"	>6"-9"	>9"-12"	>12"-15"	>15"-18"	>18"-24"	>24"-30"	>30"-36"	>36"-42"	>42"-48"	>48"-60"	>60"-72"	>72"	Length	Width	Units	Area	Herbicide Application	
																FT	FT	Units	Acres	Each	
US 218/C-57 int.																					
571+00 TO 37+00	SB/NB	Trees - Clearing and Grubbing																	57.2		
C57																					
10570+50 to 10591+67	EB/WB	Trees - Clearing and Grubbing																	21.4		includes RR
10603+53 TO 10612+00	EB/WB	Trees - Clearing and Grubbing																	2.7		
Mt. Vernon Rd.																					
11485+17 to 11486+82	EB/WB	Trees - Clearing and Grubbing																	0.1		
11492+17 to 11493+51	EB/WB	Trees - Clearing and Grubbing																	0.1		
W.Bennington Rd.																					
12538+94 to 12540+25	EB/WB	Trees - Clearing and Grubbing																	0.1		
12546+50 to 12547+72	EB/WB	Trees - Clearing and Grubbing																	0.1		
W. Gresham Rd.																					
13060+30 to 13061+52	EB/WB	Trees - Clearing and Grubbing																	0.1		
13065+97 to 13067+43	EB/WB	Trees - Clearing and Grubbing																	0.1		
US 218																					
488+62.46 TO 575+78.05	NB	Field Fence - Clearing																	3.0		Fence Line (15' Swath)
488+97.12 TO 561+49.03	SB	Field Fence - Clearing																	2.5		Fence Line (15' Swath)
37+13.37 TO 96+00.00	NB	Field Fence - Clearing																	2.0		Fence Line (15' Swath)
50+08.06 TO 96+00.00	SB	Field Fence - Clearing																	1.6		Fence Line (15' Swath)
570+45.43 TO 597+60.64	SB	Trees - Clearing and Grubbing																	14.4		Area Between Ramp C & RR

110-13
04-20-10

DELIVERY AND STOCKPILING

Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks
Light Poles	6	Each	1329 Longfellow Ave.	BH Co. Shop	
Control Box	1	Each	Waterloo, Ia 50703	BH Co. Shop	
Precast RCB (8'x4'x52')	1	Each	" "	BH Co. Shop	

110-16
04-16-13

REMOVAL OF LIGHT POLES AND CONCRETE FOOTINGS

Location				Removal of Light Pole	Removal of Concrete Footing for Light Pole	Remarks
No.	Station	Offset				
		Left	Right			
1	10596+41.75	62.4		1	1	C-57 Light Pole
2	10596+80.52	130.1		1	1	C-57 Light Pole
3	10597+27.23		104.5	1	1	C-57 Light Pole
6	10599+44.50		100	1	1	C-57 Light Pole
7	10599+89.31		18.8	1	1	C-57 Light Pole
8	10598+97.31	140.7		1	1	C-57 Light Pole

MR-1
SPECIAL

RELOCATION OF MAIL BOXES

Station	Side	Relocation	Side	Remarks
10572+02.00	RT	10572+02.00	RT	C-57
10583+47.17	RT	100584+20.02	RT	C-57 To Frontage Rd.

RAIL (RAILROAD)

Location	Station	Track ① Construction (TLF)	Rail		Wood Ties		Thermite ① Field Welds (EA)
			Type	Length (feet)	Type	No.	
FINAL ALIGNMENT	15556+91.95 to 15625+57.67	6,866	115 lb RE CWR	13,732	7" x 9" x 8.5'	4226	14
TEMP ALIGNMENT	25555+07.77 to 25556+91.95	185	115 lb RE CWR	370	7" x 9" x 8.5'	114	2

RAILROAD BALLAST

Location	Station	BALLAST① (TON)
FINAL ALIGNMENT	15556+91.95 to 15625+57.67	10,162
TEMP ALIGNMENT	25555+07.77 to 25556+91.95	313

RAILROAD SUBBALLAST, FURNISH & PLACE

Location	Station	SUBBALLAST① (TON)
FINAL ALIGNMENT	15550+48.36 to 15629+83.97	13,467
TURNOUT PAD/TEMP ALIGNMENT	25555+07.77 to 25556+91.95	430

SUBGRADE PREPARATION FOR RAILROADS

Location	Station	SUBGRADE PREP① (SY)
FINAL ALIGNMENT	15550+48.36 to 15629+83.97	63,180
TEMP ALIGNMENT	25555+07.77 to 25556+91.95	638

① Bid Item.

103-1
10-19-10

EMBANKMENT WITH MOISTURE AND DENSITY CONTROL

Moisture content shall be within the limits of minus 2 and plus 2 percentage points of optimum for maximum density within the area described and listed below.

Location		Lane	Depth	Compact	Remarks
Station to Station			FT	CY	
					Moisture and Density Control is required for all Embankment in place and Class 10 fill placed in all locations and depths along the rail alignment. Topsoil will not require Moisture and Density Control.

103-6
04-19-11

EMBANKMENT WITH MOISTURE CONTROL

Moisture content shall be within the limits of minus 2 and plus 2 percentage points of Optimum Moisture Content for maximum density within the area described and listed below.

Moisture Control is required for all Embankment in place and Class 10 fill placed in all locations and depths Topsoil will not require Moisture Control.

103-7
08-01-08

SHRINKAGE DATA

Material	%	Remarks
Class 10	30%	On-site Excavations
Topsoil	40%	
Boulder Quantity		50 CY

104-9
10-15-13

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

(1) Refer to EW-203, EW-204, or EW-211.
*Not a bid item

Location						Longitudinal Subdrain (RF-19C)							Subdrain Outlet			Porous* Backfill	Class "A"* Crushed Stone	Remarks
Line No.	Road or Lane Ident.	Station to Station		Side	Depth (D)	Shoulder		Backslope		Bridge Berm (1)			RF-19C, RF-19E, or RF-19F					
						Size	Length	Size	Length	Size	Type	Length	Station	Size	Standard Road Plan and Type			
					IN	IN	FT	IN	FT	IN		FT		IN		CY	CY	
1	Ramp A	1593+50.00	1597+50.00	LT	42.0	4.0	420.0						1597+50.00	6.0	RF-19E	38.9	0.2	
2	Ramp A	1597+50.00	1601+50.00	LT	42.0	4.0	420.0						1601+50.00	6.0	RF-19E	38.9	0.2	
3	Ramp A	1601+50.00	1605+50.00	LT	24.0	4.0	420.0						1605+50.00	6.0	RF-19E	19.4	0.2	
4	Ramp A	1605+50.00	24+00.00	LT	24.0	4.0	130.0						1605+50.00	6.0	RF-19E	6.0	0.2	
													24+00.00	6.0	RF-19E			
5	Ramp A	24+00.00	24+00.00	LT	24.0	4.0	20.0						24+00.00	6.0	RF-19E	0.9	0.2	Extend existing outlet
6	Ramp A	24+00.00	29+00.00	LT	24.0	4.0	540.0						24+00.00	6.0	RF-19E	25.0	0.2	
													29+00.00	6.0	RF-19E			
7	Ramp B	580+00.00	580+00.00	RT	24.0	4.0	20.0						580+00.00	6.0	RF-19E	0.9	0.2	Extend existing outlet
8	Ramp B	580+00.00	584+00.00	RT	24.0	4.0	440.0						580+00.00	6.0	RF-19E	20.4	0.2	
													584+00.00	6.0	RF-19E			
9	Ramp B	584+00.00	584+00.00	RT	24.0	4.0	20.0						584+00.00	6.0	RF-19E	0.9	0.2	Extend existing outlet
10	Ramp B	584+00.00	2590+73.00	RT	24.0	4.0	120.0						584+00.00	6.0	RF-19E	5.6	0.2	
													2590+73.00	6.0	RF-19E			
11	Ramp B	2590+82.00	2595+45.00	RT	24.0	4.0	503.0						2590+82.00	6.0	RF-19E	23.3	0.2	
													2595+45.00	6.0	RF-19E			
12	Ramp B	2595+55.00	2599+05.00	RT	36.0	4.0	390.0						2595+55.00	6.0	RF-19E	30.1	0.2	
													2599+05.00	6.0	RF-19E			
13	Ramp B	2599+05.00	2602+50.00	RT	42.0	4.0	365.0						2599+05.00	6.0	RF-19E	33.8	0.2	
14	Ramp C	570+70.00	574+25.00	LT	24.0	4.0	395.0						570+70.00	6.0	RF-19E	18.3	0.2	
													574+25.00	6.0	RF-19E			
15	Ramp C	574+25.00	574+25.00	LT	24.0	4.0	20.0						574+25.00	6.0	RF-19E	0.9	0.2	Extend existing outlet
16	Ramp C	574+25.00	577+15.00	LT	24.0	4.0	330.0						574+25.00	6.0	RF-19E	15.3	0.2	
													577+15.00	6.0	RF-19E			
17	Ramp C	577+15.00	580+00.00	LT	24.0	4.0	325.0						577+15.00	6.0	RF-19E	15.0	0.2	
													580+00.00	6.0	RF-19E			
18	Ramp C	580+00.00	580+00.00	LT	24.0	4.0	20.0						580+00.00	6.0	RF-19E	0.9	0.2	Extend existing outlet
19	Ramp C	580+00.00	3576+50.00	LT	36.0	4.0	315.0						580+00.00	6.0	RF-19E	24.3	0.2	
													3576+50.00	6.0	RF-19E			
20	Ramp C	3576+50.00	3579+25.00	LT	36.0	4.0	315.0						3576+50.00	6.0	RF-19E	24.3	0.2	
													3579+25.00	6.0	RF-19E			
21	Ramp C	3579+25.00	3583+65.00	LT	42.0	4.0	460.0						3579+25.00	6.0	RF-19E	42.6	0.2	
22	Ramp C	3583+65.00	3588+05.00	LT	42.0	4.0	460.0						3583+65.00	6.0	RF-19E	42.6	0.2	
23	Ramp C	3588+05.00	3592+50.00	LT	42.0	4.0	465.0						3588+05.00	6.0	RF-19E	43.1	0.2	
24	Ramp D	4603+50.00	4608+45.00	RT	42.0	4.0	515.0						4608+45.00	6.0	RF-19E	47.7	0.2	
25	Ramp D	4608+45.00	4613+40.00	RT	36.0	4.0	535.0						4608+45.00	6.0	RF-19E	41.3	0.2	
													4613+40.00	6.0	RF-19E			
26	Ramp D	4613+50.00	4617+00.00	RT	16.0	4.0	390.0						4613+50.00	6.0	RF-19E	10.0	0.2	
													4617+00.00	6.0	RF-19E			
27	Ramp D	4617+00.00	4621+15.00	RT	16.0	4.0	455.0						4617+00.00	6.0	RF-19E	11.7	0.2	
													4621+15.00	6.0	RF-19E			
28	Ramp D	4621+15.00	4621+15.00	RT	24.0	4.0	20.0						4621+15.00	6.0	RF-19E	0.9	0.2	Extend existing outlet
29	Ramp D	26+00.00	31+00.00	RT	24.0	4.0	540.0						26+00.00	6.0	RF-19E	25.0	0.2	
													31+00.00	6.0	RF-19E			
30	Ramp D	31+00.00	31+00.00	RT	24.0	4.0	20.0						31+00.00	6.0	RF-19E	0.9	0.2	Extend existing outlet
31	Ramp D	31+00.00	36+00.00	RT	24.0	4.0	540.0						31+00.00	6.0	RF-19E	25.0	0.2	
													36+00.00	6.0	RF-19E			
32	C-57	10570+50.00	10574+00.00	RT	24.0	4.0	390.0						10570+50.00	6.0	RF-19E	18.1	0.2	
													10574+00.00	6.0	RF-19E			
33	C-57	10572+50.00	10572+50.00	LT	24.0	4.0	20.0						10572+50.00	6.0	RF-19E	0.9	0.2	Extend existing outlet
34	C-57	10572+50.00	10577+50.00	LT	42.0	4.0	540.0						10572+50.00	6.0	RF-19E	50.0	0.2	
													10577+50.00	6.0	RF-19E			

LICENSED PROFESSIONAL ENGINEER
John A. Christiansen
12644
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.

John A. Christiansen 8/22/14
Signature Date

John A. Christiansen
Printed or Typed Name
My license renewal date is December 31, 2014

Pages or sheets covered by this seal: CS.1-CS.2, Q.1-Q.34

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

(1) Refer to EW-203, EW-204, or EW-211.
*Not a bid item

Location						Longitudinal Subdrain (RF-19C)							Subdrain Outlet			Porous* Backfill	Class "A"* Crushed Stone	Remarks
Line No.	Road or Lane Ident.	Station to Station		Side	Depth (D)	Shoulder		Backslope		Bridge Berm (1)			RF-19C, RF-19E, or RF-19F					
						Size	Length	Size	Length	Size	Type	Length	Station	Size	Standard Road Plan and Type			
					IN	IN	FT	IN	FT	IN		FT		IN		CY	CY	
35	C-57	10574+00.00	10577+50.00	RT	36.0	4.0	390.0						10574+00.00	6.0	RF-19E	30.1	0.2	
													10577+50.00	6.0	RF-19E			
36	C-57	10577+50.00	10578+60.00	LT	36.0	4.0	150.0						10577+50.00	6.0	RF-19E	11.6	0.2	
													10578+60.00	6.0	RF-19E			
37	C-57	10577+50.00	10578+80.00	RT	36.0	4.0	170.0						10577+50.00	6.0	RF-19E	13.1	0.2	
													10578+80.00	6.0	RF-19E			
38	C-57	10579+20.00	10583+35.00	LT	42.0	4.0	435.0						10579+20.00	6.0	RF-19E	40.3	0.2	
39	C-57	10579+20.00	10583+35.00	RT	42.0	4.0	435.0						10579+20.00	6.0	RF-19E	40.3	0.2	
40	C-57	10583+35.00	10587+50.00	LT	42.0	4.0	435.0						10583+35.00	6.0	RF-19E	40.3	0.2	
41	C-57	10583+35.00	10587+50.00	RT	42.0	4.0	435.0						10583+35.00	6.0	RF-19E	40.3	0.2	
42	C-57	10593+60.00	10596+00.00	LT	42.0	4.0	280.0						10593+60.00	6.0	RF-19E	25.9	0.2	
													10596+00.00	6.0	RF-19E			
43	C-57	10594+00.00	10596+00.00	RT	42.0	4.0	240.0						10594+00.00	6.0	RF-19E	22.2	0.2	
													10596+00.00	6.0	RF-19E			
44	C-57	10600+00.00	10602+00.00	LT	42.0	4.0	240.0						10600+00.00	6.0	RF-19E	22.2	0.2	
													10602+00.00	6.0	RF-19E			
45	C-57	10600+00.00	10602+50.00	RT	42.0	4.0	290.0						10600+00.00	6.0	RF-19E	26.9	0.2	
													10602+50.00	6.0	RF-19E			
46	C-57	10603+50.00	10608+15.00	LT	42.0	4.0	485.0						10608+15.00	6.0	RF-19E	44.9	0.2	
47	C-57	10603+50.00	10608+15.00	RT	42.0	4.0	485.0						10608+15.00	6.0	RF-19E	44.9	0.2	
48	C-57	10608+45.00	10611+25.00	LT	36.0	4.0	320.0						10608+45.00	6.0	RF-19E	24.7	0.2	
													10611+25.00	6.0	RF-19E			
49	C-57	10608+45.00	10611+25.00	RT	36.0	4.0	320.0						10608+45.00	6.0	RF-19E	24.7	0.2	
													10611+25.00	6.0	RF-19E			
Total							15988.0								76	1155.3	9.8	

Note 1: All longitudinal shoulder subdrains shall be Type 7.

SURVEY SYMBOLS

- LUM Luminaire
- SIGN SI Sign
- ROW Right of Way Rail
- PPA Power Pole Co. 1
- TEV Evergeen Tree
- SHR Shrub
- TDC Tree Deciduous
- LP L.P. Tank
- OUT Tile Outlet
- TSG Traffic Signal
- IN Storm Sewer Intake
- MH Utility Access (Manhole)
- BB Billboard
- MIS Miscellaneous
- MM Mile Marker Post
- SIGN SL Speed Limit Sign
- TP TPD Telephone Pedestal
- EB EB Electrical Box
- WV WV Water Valve
- UB UB Utility Box
- TVP TVP TV Pedestal
- TLN Tree Line
- Tile TIL Tile Line
- FCL Chain Link and Security Fence
- FW Wire Fence
- FWD Wood Fence
- DU Centerline Draw or Stream (Up)
- D Centerline Draw or Stream (Down)
- DIK Centerline of Dike or Dam
- EW Edge of Water
- BNK Stream Bank
- GDL Guard Rail Steel
- RIP Rip-Rap
- RR Centerline of Railroad Tracks
- UV Underground Utility Vault
- E1 ELA Underground Electric Line Co. 1
- W WLA Underground Water Line Co. 1
- T1 TLA Underground Telephone Line Co. 1
- FO FOA Underground Fiber Optic Co. 1
- FO2 FOB Underground Fiber Optic Co. 2
- E2 ELB Underground Electric Line Co. 2
- T2 TLB Underground Telephone Line Co. 2
- T3 TLC Underground Telephone Line Co. 3

UTILITY LEGEND

- E1 Cedar Falls Utilties
- W Central Iowa Water Association
- T1 Winstream Communications
- FO Qwest Local Network
- FO2 Mediacom - Fiber Optics Cable
- E2 IDOT Intersection Lighting & Traffic Signals
- T2 Qwest Communications
- T3 Zayo Fiber Solutions

Contact Information for Pinpoint Communications:
Howard Hulk
Pinpoint Communications
402-884-8951 Office
308-991-0708 Cell
howard.kauk@pnpt.com

Contact Information for 360 Networks:
Jerry Piazzola, Director of Field Operations & NOC
130 North Main Street
Butte, MT 59701
406-496-6515 Office
Jerry.Piazzola@360.net
www.360networks.com

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 "In conjunction with a paving project"
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
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

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

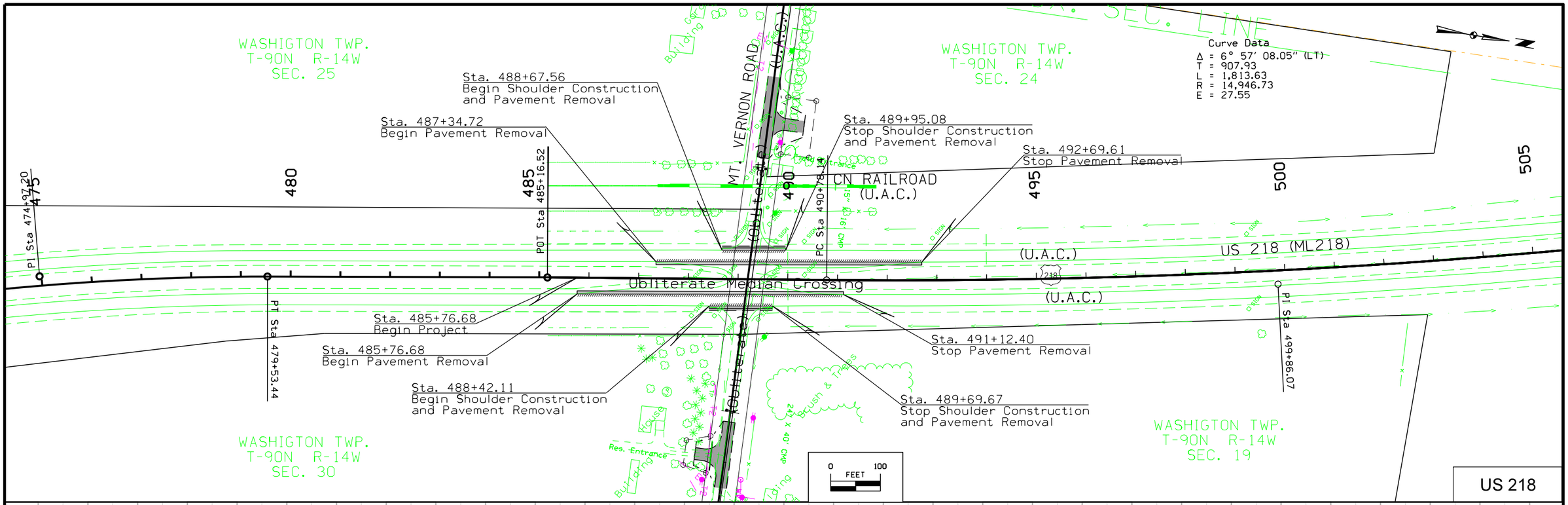
Proposed Borrow Elements

- Aquisition Outline
- Conceptual Outline

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER D.1



C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER D.2		

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WASHIGTON TWP.
T-90N R-14W
SEC. 24

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 19

60" X 42' Conc. Pipe
(U.A.C.)

Sta. 543+85
Inlet 105.5' Lt.
72" X 216' Conc. Pipe
(U.A.C.)

Sta. 547+00
Inlet 8.6 Lt.
24" X 70' Conc. Pipe
(U.A.C.)

Sta. 543+13.68
Resume Shoulder Construction
and Pavement Removal

Sta. 541+95.11
Resume Pavement Removal

Sta. 544+52.26
Stop Shoulder Construction
and Pavement Removal

Sta. 546+99.75
Stop Pavement Removal

CEDAR RIVER RAILROAD

CN RAILROAD
(U.A.C.)

530 535 540 545 550 555 560

(U.A.C.)

US 218 (ML218)

(Obliterate Median Crossing)

(U.A.C.)

Sta. 540+10.17
Resume Pavement Removal

Sta. 542+50.34
Resume Shoulder Construction
and Pavement Removal

Sta. 545+13.43
Stop Shoulder Pavement Removal

Sta. 543+94.40
Stop Shoulder Construction
and Pavement Removal

APPROX. SEC. LINE

BENNINGTON ROAD (Obliterated)

Sta. 542+01
Inlet 100.0' Lt.
24" X 184' Conc. Pipe
(U.A.C.)

0 100
FEET

US 218

900 890 880 870 860 850 840

530 535 540 545 550 555 560

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER D.3

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WASHINGTON TWP.
T-90N R-14W
SEC. 13

Sta. 574+15
Inlet 19.5 Lt.
24" X 76' Conc. Pipe
D.A. = Median Only
(U.A.C.)

24" X 30' Cast Iron Pipe
(U.A.C.)

CEDAR RIVER RR CO.

Sta. 569+92.17
Begin Shoulder Construction

Sta. 582+96.18
Begin Shoulder Construction

Sta. 581+39.74
Begin Shoulder Construction
and Pavement Removal

(Obliterate Railroad)

Sta. 585+40
Inlet 6.7 Lt.
24" X 76' Conc. Pipe
D.A. = Median Only
(U.A.C.)

Sta. 582+94.03
Stop Shoulder Construction

Sta. 596+14.00
Begin Pavement Removal

RAMP C

Sta. 599+08.75
Stop Pavement Removal

570 575 580 585 590 595 600

T3

(U.A.C.)

218

US 218 (ML218)

(U.A.C.)

Sta. 578+25.99
Begin Shoulder Construction

Sta. 584+44.32
Begin Shoulder Construction

Sta. 584+43.67
Stop Shoulder Construction

Sta. 586+78.50
Begin Shoulder Construction
and Pavement Removal

Sta. 586+81.93
Begin Pavement Removal

POT STA 597+75.39 (ML218)
POT STA 10597+84.13 (SRC57)

Sta. 599+57.64
Stop Shoulder Construction
and Pavement Removal

RAMP B

POND

COUNTY ROAD 57

RAMP D

US 218

Sta. 573+78
54" X 199' Conc. Pipe
D.A. = 200 Ac. F.
(U.A.C.)

Sta. 573+89
Dike

0 100
FEET

Sta. 585+6
24" X 204' Conc. Pipe
D.A. = 6 Ac. F.
Remove Outlet Apron
Extend From Outlet
With 24" x 40' RF-1
F.L. = Lt. 877.43
Rt. 877.43

Sta. 595+97.7
8" X 353' CMP
(ABANDON)

910 900 890 880 870 860 850

+67 Rt.
876.00

+0.18% Rt. Ditch Grade

+0.22% Lt. Ditch Grade

+52 Lt.
872.54

+89 Lt.
874.64

+44 Rt.
877.36

+18 Lt.
877.22

+0.18% Lt. Ditch Grade

+44 Lt.
879.30

+44 Lt.
880.80

Lt Med Rt

U.A.C. | Ditch Grade | Gore | Ditch Grade | Bridge

(Use Existing Ditch) | Ditch Grade | (Use Existing Ditch) | (Use Existing Ditch)

570 575 580 585 590 595 600

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER D.4

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WASHIGTON TWP.
T-90N R-14W
SEC. 12

Sta. 19+03
Inlet 87.2 Lt.
Sta. 19+2
24" X 86' Conc. Pipe
D.A. = 4 Ac. F.
(U.A.C.)

WASHIGTON TWP.
T-90N R-14W
SEC. 12

CEDAR RIVER RR CO.

24" X 30' Conc. Pipe
(U.A.C.)

Sta. 38+01
Inlet 19.0 Lt.
24" X 70' Conc. Pipe
D.A. = Median Only
(U.A.C.)

Sta. 41+01
Inlet 18.4 Lt.
24" X 68' Conc. Pipe
D.A. = Median Only
(U.A.C.)

RAMP A

Sta. 20+56.88 R 2
Stop Shoulder Construction
and Pavement Removal

Sta. 23+58.91 R 2
Begin Shoulder Construction

Sta. 23+58.91 R 2
Stop Shoulder Construction

Sta. 29+81.62 R 2
Stop Shoulder Construction

(Obliterate Railroad)

600 15 20 25 30 35 40

(U.A.C.)

US 218 (ML218)

(U.A.C.)

Equation:
Sta. 601+00.00 BK =
=Sta. 12+96.13 AH

Sta. 24+40.01 R 2
Stop Shoulder Construction

Sta. 24+42.97 R 2
Begin Shoulder Construction

Sta. 23+80.43 R 2
Stop Pavement Removal

Sta. 37+57.51 R 2
Stop Shoulder Construction

RAMP D

Sta. 19+01
Inlet 25.8 Rt.
24" X 86' Conc. Pipe
D.A. = 4 Plus Median Ac. F.
(U.A.C.)

Sta. 40+2
24" X 174' Conc. Pipe
D.A. = 28 Ac. F.
(U.A.C.)

0 FEET 100

US 218

910 900 890 880 870 860 850

-0.07% Lt. Ditch Grade
+02.57 Lt.
880.29
+58.91 Lt.
881.50
-0.29% Lt. Ditch Grade
+40 Rt.
881.04
+82.70 Lt.
880.55
+0.13% Rt. Ditch Grade
+51 Rt.
881.85
-0.20% Rt. Ditch Grade
+65 Rt.
881.21

Lt Med Rt

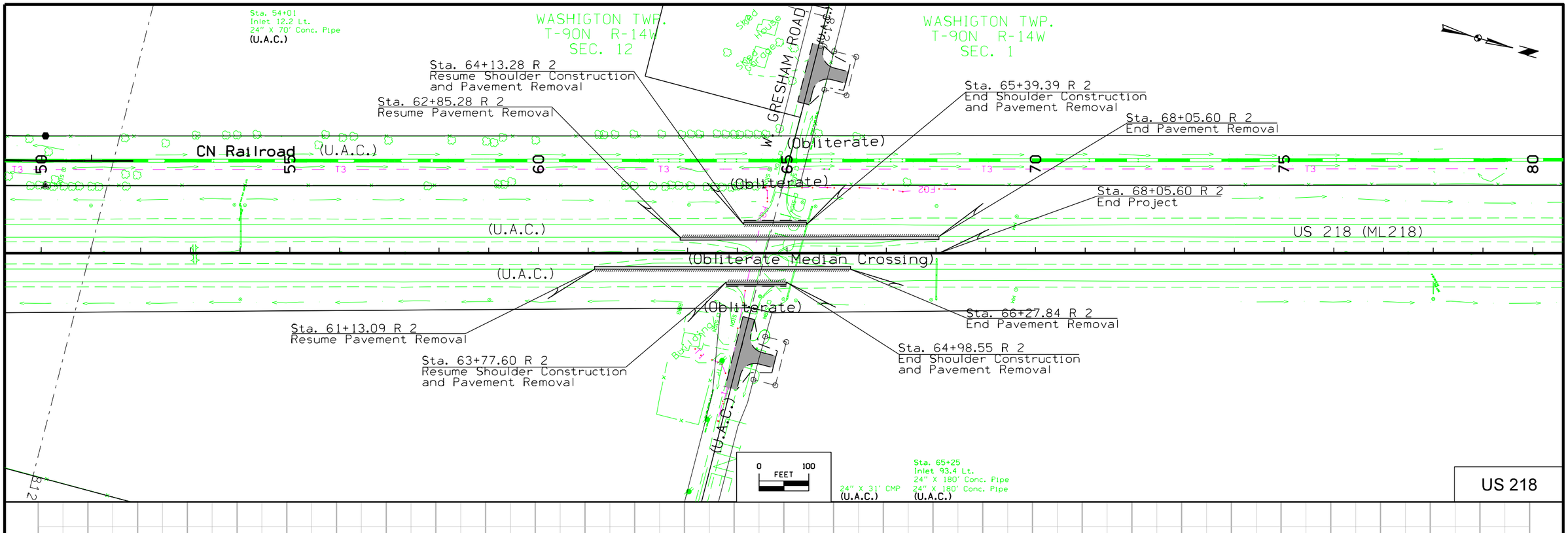
Ditch Grade | (Use Existing Ditch) | Ditch Grade | (Use Existing Ditch) | Ditch Grade | (Use Existing Ditch)

(Use Existing Ditch) | Ditch Grade | Ditch Grade | (Use Existing Ditch)

600 15 20 25 30 35 40

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER D.5	

4:04:52 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821001.sht



C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER D.6

4:04:55 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821001.sht

Curve Data
Δ = 4° 55' 19.93" (RT)
T = 279.37
L = 558.41
R = 6,500.00
E = 6.00
e = Normal Crown

10 POWER PAVERS, INC

WASHIGTON TWP.
T-90N R-14W
SEC. 12

11 RDS HOLDINGS LLC

12 DARRELL D. SELLS

Sta. 166+81
18" X 54" CMP
(REMOVE)

STA 10589+46.71
BUILD 60' X 336'
PRETENSION/PRECAST BRIDGE
SEE V.01

Sta. 10587+00.00
End 60:1 Taper

STA 10593+00.00 SRC57
STA 1593+00.00 C57A
STA 3593+00.00 C57C

RAMP A

10570 10575 10580 10585 10590 10595

POT Sta 10569+00.00

+02 Prop. Ent. Type "C" 18" Uncl. Pipe

PI Sta 10573+84.65

Sta. 10582+20.00
Begin 60:1 Taper

PI Sta 10587+68.74

60:1 TAPER

(U.A.C.)

COUNTY ROAD C-57

PC Sta 10571+05.27

PRC Sta 10576+63.88

PI Sta 10582+16.88

TADD M. & HOLLY A. CLINE

STATE OF IOWA

Sta. 10587+00.00
End 60:1 Taper

Sta. 10582+20.00
Begin 60:1 Taper

POT STA. 10589+82.71
POT STA. 15589+82.71

POT STA. 10578+91.50 (C57)
POT STA. 100578+91.50 (FRONTAGE)

+91.50 Prop. Ent. Type "C"

CEDAR RIVER RR CO.

RAMP C

Sta. 10570+50.00
Begin County Road 57
Construction

15" X 26' Conc. Pipe

9 JACK L. ANDERSON

DEERY INVESTMENTS, INC

5

15" X Unknown Length
Outlet End Buried
(REMOVE)

Curve Data
Δ = 6° 56' 05.50" (LT)
T = 553.21
L = 1,105.06
R = 9,130.00
E = 16.74
e = Normal Crown

WASHINGTON TWP.
T-90N R-14W
SEC. 13

0 FEET 100

BRIDGE #215

COUNTY ROAD C-57

+02

+91.50

3% A%

4% 5%

VPI +80.000
Elv 882.62
Len 300.00 ft
K = 300

VPI +90.000
Elv 879.57
Len 620.00 ft
K = 138

VPI +23.250
Elv 928.90
Len 1,720.00 ft
K = 246

BEGIN CONSTRUCTION
STA 10570+50.00
ELEV. 880.97

+0.500% -0.500% -0.500% +4.000% +4.000% -3.000%

+50 Lt. 876.20
+0.35% Lt. Ditch Grade
+95 Lt. 877.42
+0.10% Rt. Ditch Grade
+50 Rt. 875.93
+75 Rt. 876.75
+13 Rt. 876.75
-0.33% Rt. Ditch Grade
-0.20% Lt. Ditch Grade
+55 Lt. 874.70
0.00% Rt. Ditch Grade
+55 Rt. 874.30
+65 Rt. 874.30
+73 Lt. 877.76
+0.26% Lt. Ditch Grade
+70 Lt. 881.20
+32 Rt. 879.15
+50 Rt. 877.15
+80 Lt. 878.30
+1.10% Rt. Ditch Grade

Lt: Ditch Grade | Ditch Grade | Railroad | Ditch Grade | Ramp A
Rt: Ditch Grade | Ditch Grade | Ditch Grade | Railroad | Ditch Grade | Ramp C

880.97 881.10 881.22 881.35 881.47 881.60 881.72 881.85 881.97 882.06 882.14 882.20 882.23 882.25 882.24 882.21 882.17 882.10 882.01 881.90 881.77 881.65 881.52 881.40 881.27 881.15 881.04 880.97 880.95 880.98 881.05 881.16 881.32 881.53 881.78 882.08 882.42 882.81 883.24 883.72 884.24 884.81 885.42 886.08 886.79 887.54 888.34 889.18 890.06 891.00 891.97 892.97 893.97 894.97 895.95 896.90 897.82 898.72 899.59 900.44 901.26 902.06 902.83 903.58 904.30 905.00 905.67 906.31 906.93 907.52 908.09 908.63 909.15 909.64 910.11 910.55 910.97 911.36 911.72 912.06 912.38 912.66 912.93 913.17 913.38 913.56 913.73 913.86 913.97 914.06 914.12 914.15 914.16 914.14 914.10 914.03 913.94 913.82 913.68

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER E.1

5:17:26 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210E1.sht

18" x 48' C.M.P. (REMOVE)

15" x 23' Conc. Pipe. (REMOVE)

WASHIGTON TWP. T-90N R-14W SEC. 12

Sta. 190+32
24" X 55' Conc. Pipe
D.A. = Unknown GR
(REMOVE)

STA 10597+95.08
BUILD 60' X 287' PRETENSION/ PRECAST BRIDGE
SEE V.02

STA 10603+15.00 SRC57
STA 2603+15.00 C57B
STA 4603+15.00 C57D

Sta. 10608+22.00
Install 88" x 54" x 86' LCP
F.L. = Lt. 877.00
Rt. 877.00

Sta. 10608+36.00
Install 88" x 54" x 86' LCP
F.L. = Lt. 877.00
Rt. 877.00

+50 Prop. Type "C" Ent. 18" Uncl. Pipe

8 JAMES R. MC KINNEY

Sta. 10612+00.00
End 60:1 Taper

Big Woods Rd.

RAMP D

13 CAROL A. MAST

Sta. 10605+60.00
Begin 60:1 Taper

PI Sta 10608+47.95

10595 10600 10605 10610

POT Sta 10613+51.82

County Road C-57

(U.A.C.)

NE CORNER
SEC 13-90-14
FOUND 5/8" REBAR

POT STA. 10597+84.13
POT STA. 597+75.39

Curve Data
Δ = 1° 11' 19.30" (RT)
T = 207.47
L = 414.93
R = 20,000.00
E = 1.08
e = Normal Crown

PC Sta 10606+40.47

PT Sta 10610+55.40

Sta. 10612+00.00
End Construction
County Road C-57

Sta. 10612+00.00
End 60:1 Taper

6 BLACK HAWK CO CONSERVATION

RAMP B

POND

Sta. 10605+60.00
Begin 60:1 Taper

+50 Prop. Type "C" Ent. 18" Uncl. Pipe

7 ALLAN D. ROBIN R. JOHNSON

WASHIGTON TWP. T-90N R-14W SEC. 13

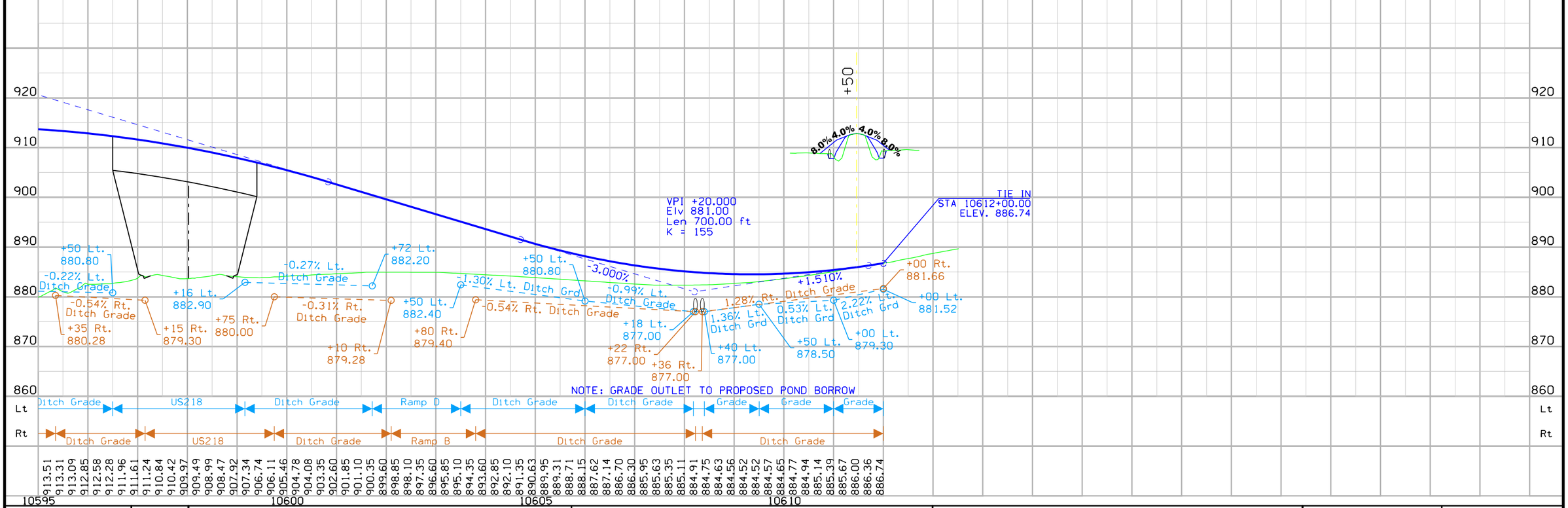
0 100 FEET

18" x 41' C.M.P. (REMOVE)

15" x 36' C.M.P. (REMOVE)

BRIDGE #115

COUNTY ROAD C-57



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER E.2

5:17:29 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210E1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 24

Sta. 11486+83.00
Install SI-181

POT Sta 11482+64.68

2

GARY D. & JENNIFER M.
GRAZIER

11485

MT. VERNON RD.

BIG WOODS RD.

CN Railroad

US 218

11490

STA. 489+28.19 ML218
STA. 11489+28.19 MTVERNON

Remove Railroad Crossing
(By Others)

(Obliterate)

(U.A.C.)

MARC R. SCHWEER
& RONALD SCHWEER

House

Garage

Building

WASHIGTON TWP.
T-90N R-14W
SEC. 25

Sta. 11486+10.00
Construct Hammerhead Turn Around
See U.1

TIMOTHY J. & SHEILA M.
COMBS

Sta. 11492+16.00
Install SI-181

Shed

Building

POT Sta 11494+48.77

+89 Prop. 24" Ent.
Type "C" Uncl. Pipe
18" Uncl. Pipe

1

BRADLEY
BROWN

House

Building

WASHIGTON TWP.
T-90N R-14W
SEC. 19

WASHIGTON TWP.
T-90N R-14W
SEC. 30

0 FEET 50

Sta. 11492+89.00
Construct Hammerhead Turn Around
See U.1

W. MT. VERNON ROAD

+10
6.3%
4%

+89
4%
3.1%
1.21%

915 910 905 900 895 890 885 880 Lt Rt 875

11482 11483 11484 11485 11486 11487 11488 11489 11490 11491 11492 11493 11494 11495 11496 11497

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER E.3

5:17:32 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210E1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 13

DANNY J. MOULDS

24" X 40' CMP
24" X 28' Conc. Pipe
(REMOVE)

24" X 40' CMP
(REMOVE)

GLORIA A. DAYTON

WASHIGTON TWP.
T-90N R-14W
SEC. 18

Building

Building

Sta. 12540+26.00
Install SI-181

Sta. 12546+49.00
Install SI-181

12540

12545

045

Remove Railroad Crossing
(By Others)

POT Sta 12538+73.75

POT Sta 12538+73.75

POT Sta 12549+85.85

W. Bennington Rd

(Obliterate)

(Obliterate)

T3

T2

T2

STA 543+62.32 ML218
STA 12543+62.32 BENNINGTON

+53 Prop.
Type "C"
18" Uncl. Pipe

+22 Prop.
Type "C"
18" Uncl. Pipe

Leversee Rd.

DENNIS H. &
JEANETTE GIBBS

3

STEVE
S.
CONRAD

CHRISTOPHER
CONRAD

3A

DON & JOAN FIX

WASHIGTON TWP.
T-90N R-14W
SEC. 24

WASHIGTON TWP.
T-90N R-14W
SEC. 19

CN Railroad
(U.A.C.)

US 218

(U.A.C.)

(U.A.C.)

8' X 4' X 47.35'
Octagon Culvert
(REMOVE)

0 FEET 50

Sta. 12539+52.30
Construct Hammerhead Turn
Around See U.1

Sta. 12547+22.00
Construct Hammerhead Turn
Around See U.1

W. BENNINGTON ROAD

N

+53
4%
2%

+22
2.7%
4.37%

895
890
885
880
875
870
865
860
Lt
Rt

12536 12537 12538 12539 12540 12541 12542 12543 12544 12545 12546 12547 12548 12549 12550 12551

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER E.4			

5:17:34 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210E1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 1

CHARLES L. HESSE (16)

Sta 13062+15.00
Install Modified SI-182
See U.14

Remove Railroad Crossing
(By Others)

PDT Sta 13060+30.10

+80 Prop. Ent. Type "C" 18" Uncl. Pipe

CN RAILROAD

8126

(Obliterate)

F02

House

Garage

Shed

Shed

MICHAEL P. APLING

WASHIGTON TWP.
T-90N R-14W
SEC. 12

MATTHEW S. CHRISTOPHER

Sta. 13060+80.00
Construct Hammerhead Turn
Around See U.1

BONNIE L. ROGERS (14)

Sta 65+08.47 to 65+24.48
Locked Gate for
Railroad Access

(U.A.C.)

13065

US 218

(U.A.C.)

(U.A.C.)

Sta 13065+96.00
Install SI-181

(Obliterate)

+69 Prop. Ent. Type "C" 28"x20" CM Arch Pipe

PDT Sta 13069+00.22

(15)

OSBORN FARMS, INC

W. GRESHAM ROAD

STA. 64+62.60 ML 218
STA. 13064+62.60 WGRESHAM

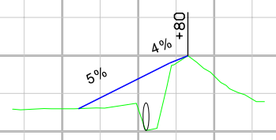
Building

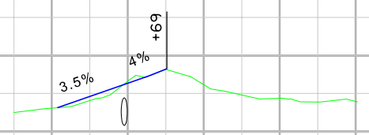
BONNIE ROGERS (FEE)
MATTHEW CHRISTOPHER (CP)

Sta. 13066+69.00
Construct Hammerhead Turn
Around See U.1

0 FEET 50

W. GRESHAM ROAD



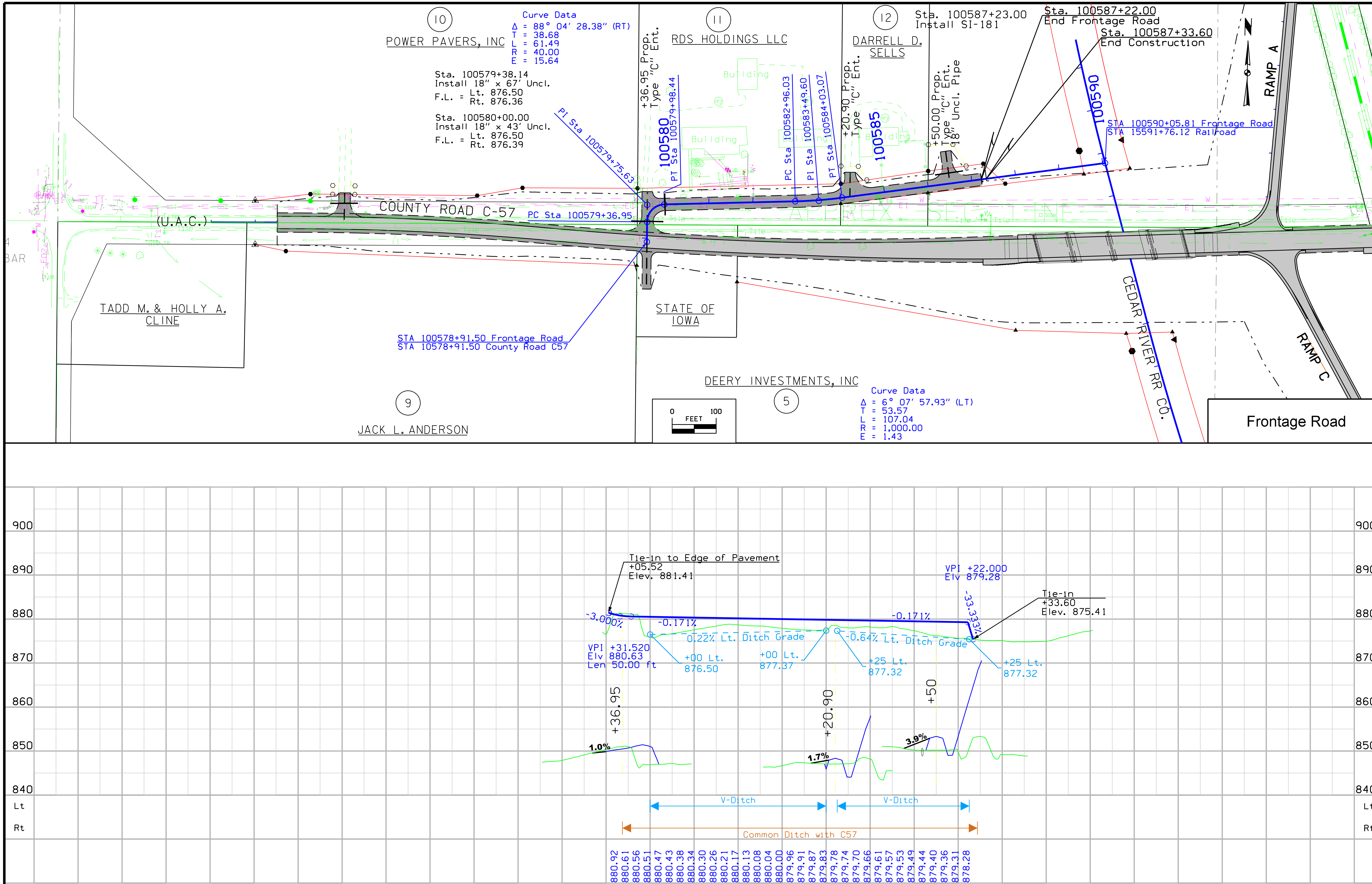


905 900 895 890 885 880 875 870 875

13058 13059 13060 13061 13062 13063 13064 13065 13066 13067 13068 13069 13070 13071 13072

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER E.5		

5:17:39 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210E1.sht



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER E.6

1:47:36 PM 8/29/2014 rbell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210E1.sht

Curve Data
Δ = 16° 45' 07.03" (LT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,605.20
Ls = 70.00
Elevation = 1/2"

Sta. 15561+63.80
24" X 30' CIP
(REMOVE)

Sta. 15560+88
Install Smooth Steel Pipe (24" x 40')
Skew = 0 °
F.L. = Lt. 873.10
Rt. 873.10

WASHIGTON TWP.
T-90N R-14W
SEC. 13

Curve Data
Δ = 16° 27' 49.67" (RT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,576.38
Ls = 70.00
Elevation = 1/2"

4
DONALD & BONNIE BROWN

5
DEERY INVESTMENTS, INC

5R
CEDAR RIVER RAILROAD COMPANY

15550
15555
15560
15565
15570
15575

TS Sta 15550+48.36
SC Sta 15551+18.36
CS Sta 15567+23.56
ST Sta 15567+93.56
TS Sta 15571+01.33
SC Sta 15571+71.33
PI Sta 15559+35.29
PI Sta 15579+64.54

(U.A.C.)
US 218
(U.A.C.)
(U.A.C.)
CEDAR RIVER RR CO.
(Obliterate Railroad)
CEDAR RIVER RR CO.

Sta. 15550+48.36
Begin Railroad Grading (Iowa DOT Contractor)
Begin Track Construction (Cedar River RR Co.)
100 LB to 115 LB RE

Sta. 15556+91.95 = Temp Alignment Sta. 25556+91.95
Begin Track Construction (Iowa DOT Contractor)
See Sheets F.1 for Temporary Track Construction
(Iowa DOT Contractor)

0 100
FEET

Existing Top of Rail
877.50
BEGIN CONSTRUCTION
STA 15550+48.36
ELEV. 877.50
(TIE IN)
VPI +48.360
Elv 877.83
Len 300.00 ft
r = 0.08
VPI +87.830
Elv 881.50
Len 300.00 ft
r = 0.10
+0.084%
+0.322%
+0.011%
+0.011%
+48
872.96
+48
872.96
+0.18% Lt. Ditch Grade
+0.18% Rt. Ditch Grade
+00, 874.10
+00
874.10
-0.26% Lt. Ditch Grade
-0.26% Rt. Ditch Grade
+38, 873.23
+90, 873.10
+88
873.10
+0.05% Rt.
Ditch Grade
+50
873.18
+0.13% Lt. Ditch Grade
+0.11% Rt. Ditch Grade

910
900
890
880
870
860
850

Lt
Rt
Ditch Grade
No Ditch
Ditch Grade
Ditch Grade

877.50 877.54 877.58 877.62 877.67 877.71 877.76 877.83 877.92 878.04 878.17 878.32 878.48 878.64 878.80 878.96 879.12 879.28 879.45 879.61 879.77 879.93 880.09 880.25 880.41 880.57 880.73 880.89 881.05 881.20 881.31 881.40 881.47 881.50 881.52 881.52 881.53 881.53 881.54 881.54 881.55 881.56 881.56 881.57 881.57 881.58 881.58 881.59 881.59 881.60 881.61 881.61 881.62 881.62 881.63 881.63 881.64 881.64

15550 15555 15560 15565 15570 15575

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER E.7

5:17:46 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210E1.sht

Curve Data
Δ = 16° 27' 49.67" (RT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,576.38
Ls = 70.00
Elevation = 1/2"

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 12

Sta. 15595+00
Install Smooth Steel Pipe (48" x 48')
Skew = 0°
F.L. = Lt. 875.60
Rt. 875.60

Sta. 15607+39
Install Smooth Steel Pipe (36" x 52')
Skew = 0°
F.L. = Lt. 875.80
Rt. 875.80

STA 15589+82.71 CEDAR RIVER RR CO.
STA 10589+82.71 SRC57

COUNTY ROAD C-57

5 DEERY INVESTMENTS, INC

13 CAROL A. MAST

CEDAR RIVER RR CO.

RAMP C

RAMP A

(Obliterate Railroad)

US 218 (U.A.C.)

Curve Data
Δ = 17° 04' 26.25" (RT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,637.40
Ls = 70.00
Elevation = 1/2"

0 100 FEET

CEDAR RIVER RR CO.

VPI +26.150
Elv 881.67
Len 300.00 ft
r = 0.06

VPI +88.660
Elv 884.12
Len 300.00 ft
r = -0.03

VPI +88.770
Elv 885.06
Len 300.00 ft
r = -0.01

+0.13% Lt. Ditch Grade
-0.11% Rt. Ditch Grade
+0.180%
-0.50% Lt. Ditch Grade
+0.12% Lt. Ditch Grade
-0.12% Ditch Grade
+0.27% Lt. Ditch Grade
-0.01% Ditch Grade
+0.10% Lt. Ditch Grade
+0.095%
+0.35% Lt. Ditch Grade
+0.35% Rt. Ditch Grade
-0.72% Lt. Ditch Grade
-0.72% Rt. Ditch Grade
+0.052%

+68, 876.20
+48 874.30
+50, 876.15
+75, 875.99
+69 874.70
+88, 875.61
+00 875.60
+00, 875.60
+00 875.00
+50 875.25
+43 877.52
+10 877.40
+50, 878.60
+50 878.60
+32 876.57
+39 875.80

Lt: Ditch Grade | Ditch Grade | Ditch Grade | Ditch Grade | No Ditch | Ditch Grade | No Ditch | Ditch Grade | Ditch Grade | Standard 10' Ditch
Rt: Ditch Grade | Bridge Berm | Ditch Grade | Ditch Grade | Ditch Grade | No Ditch | Ditch Grade | Ditch Grade | Standard 10' Ditch

881.65 881.66 881.68 881.71 881.76 881.82 881.89 881.98 882.07 882.16 882.25 882.34 882.43 882.52 882.61 882.70 882.79 882.88 882.97 883.06 883.15 883.24 883.33 883.42 883.51 883.60 883.69 883.78 883.87 883.95 884.03 884.10 884.16 884.22 884.27 884.32 884.36 884.41 884.46 884.51 884.55 884.60 884.65 884.70 884.74 884.79 884.84 884.88 884.93 884.98 885.02 885.06 885.09 885.12 885.15 885.17 885.20 885.22 885.25 885.28

15580 15585 15590 15595 15600 15605

910 900 890 880 870 860 850

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER E.8

5:17:48 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210E1.sht

Sta. 15607+39
Install Smooth Steel Pipe (36" x 52')
F.L. = Lt. 875.80
Rt. 875.80

Sta. 15619+70.82
24" X 30' RCP
(REMOVE)

Sta. 15620+50
Install Smooth Steel Pipe (36" x 42')
F.L. = Lt. 879.33
Rt. 878.50

WASHIGTON TWP.
T-90N R-14W
SEC. 12

Curve Data
Δ = 16° 46' 28.55" (LT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,607.46
Ls = 70.00
Elevation = 1/2"

15610
15615
15620
15625
15630

TS Sta 15612+36.51
SC Sta 15613+06.51
CS Sta 15608+55.10
ST Sta 15609+25.10
TS Sta 15629+13.97
ST Sta 15629+83.97

CEDAR RIVER RR CO.

5R
CEDAR RIVER
RAILROAD COMPANY

14
BONNIE L. ROGERS

14
BONNIE L. ROGERS

Sta. 15625+57.67 (13.5' Clear Point)
End Track Construction (Iowa DOT Contractor)
Resume Track Construction (Cedar River RR Co.)

Sta. 15629+83.97
End Railroad Grading (Iowa DOT Contractor)
End Track Construction (Cedar River RR Co.)
115 LB RE to 100 LB

(Obliterate Railroad)

T3

PI Sta 15621+15.59

(U.A.C.)
(U.A.C.)
(U.A.C.)
(U.A.C.)

US 218

0 100
FEET

CEDAR RIVER RR CO.

910
900
890
880
870
860
850

END CONSTRUCTION
STA 15629+83.97
ELEV. 886.36
(TIE IN)
Existing Top of Rail

+0.052%

+50
879.28
-0.78% Rt. Ditch Grade

+50
878.50

+80
879.35
+2.83% Rt. Ditch Grade

+50
879.65
+1.12% Lt.
Ditch Grade

+50
880.77

Lt
Standard 10' Ditch
Ditch Grade
U.A.C.

Rt
Standard 10' Ditch
Ditch Grade
U.A.C.
Standard 10' Ditch
U.A.C.

885.30 885.33 885.35 885.38 885.41 885.43 885.46 885.48 885.51 885.54 885.56 885.59 885.61 885.64 885.67 885.69 885.72 885.74 885.77 885.80 885.82 885.85 885.87 885.90 885.93 885.95 885.98 886.00 886.03 886.05 886.08 886.11 886.13 886.16 886.18 886.21 886.24 886.26 886.29 886.31 886.34

15610 15615 15620 15625 15630

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER E.9

5:17:55 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210E1.sht

Curve Data
Δ = 0° 20' 59.98" (LT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
Ls = 70.00
Elevation = 1/2"

Sta. 15561+63.80
24" X 30' CIP
(REMOVE)

WASHIGTON TWP.
T-90N R-14W
SEC. 13

4
DONALD & BONNIE
BROWN

Sta. 25555+07.77 (13.5' Clear Point)
Stop Track Construction &
Grading (Cedar River RR Co.)
Begin Track Construction &
Grading (Iowa DOT Contractor)

25555

5R
CEDAR RIVER
RAILROAD COMPANY

Deery Investment Inc.

5R
CEDAR RIVER
RAILROAD COMPANY

(U.A.C.)

CEDAR RIVER RR CO.

US 218

(Obliterate Railroad)

(U.A.C.)

(U.A.C.)

Sta. 25553+38.39
PS No. 10 Turnout

Sta. 25556+91.95 =
Ultimate Track Alignment Sta. 15556+91.95
End Temporary Track Alignment
See Sheet E.7 for Ultimate
Track Alignment

0 FEET 100

CEDAR RIVER RR CO. TEMPORARY ALIGNMENT

910
900
890
880
870
860
850
Lt
Rt

877.68

PS NO. 10 TURNOUT
BEGIN CONSTRUCTION
STA 25553+38.39
ELEV. 877.68
(TIE IN)

878.62

VPI +41.950
Elv 878.45
Len 100.00 ft
r = -0.18

+0.036%
+0.499%
+0.322%

Proposed Top of Rail
In Final Condition

Existing Top of Rail

CONNECT TO PROPOSED
TOP OF RAIL
STA 25556+91.95
ELEV. 878.62
(TIE IN)

VPI +99.510
Elv 877.74
Len 100.00 ft
r = 0.46

877.69 877.71 877.73 877.80 878.00 878.24 878.46

25550 25555 25560 25565 25570 25575

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER F.1

5:23:45 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OF1.sht

Survey Information

Black Hawk County
SAP 0667
HSIPX-218-7(207)--3L-07
US 218/County Road C 57 Intersection Survey in Black Hawk County

General Information

This survey is in English Units. This project adjoins a 2005 IDOT survey along US 218 at Janesville. Control used in 2005 was included in this survey.

Control Information -IDOT control monuments were utilized as a basis for project control. 23 Control Points were held fixed in the RTK calibration.

- 7 held fixed Vertically; 16,539,540,542,543,544,547,
- 6 held fixed Horizontally; 10,11,12,19,22,24
- 10 held fixed Vertically and Horizontally; 13,14,15,17,500,505,506,510,511,512,

Vertical Datum

Bench marks observed in a 2005 IDOT Adams survey are included in this survey. Both surveys are relative to NAVD 88 vertical datum. The IDOT survey in 2005 originated and terminated on BM 500 (NGS E39) setting BM 502 along the way. A digital level run in this survey between NGS BM 538 in Cedar Falls & BM 502 was observed. The total length of that level run was 5.5 miles with a missed closure of 0.024 feet.

NGS datasheets show a vertical difference of 0.02' to 0.06' in the area (29 higher than 88) between NAVD88 to NGVD29. Vertical Equations are as follows

BM # 538 this survey	Elev. =876.783
=NGS BM "Cedar Falls"	Elev. =876.78 (NAVD 88 NGS 2nd Order BM) (PID NK0019)
=NGS BM "Cedar Falls"	Elev. =876.84 (NGVD 29)
BM # 500 2005 Adams Survey	Elev. =906.32 (NAVD 88)
= NGS E 39	Elev. =906.32 (NAVD 88)
= NGS E 29	Elev. =906.35 (NGVD29)
BM # 502 2005 Adams Survey	Elev. =878.104 (NAVD88)
= BM 502 This Survey	Elev. =878.104 (NAVD88)

The following Vertical Equations were copied from a 2005 survey

BM # 507	2005 Adams Survey	Elev. = 884.98 (NAVD88)
=TBM # 172	F-218-7(94)-20-07 As built Plans	Elev. = 885.10 (Believed to be NGVD29)
BM # 517	2005 Adams Survey	Elev. = 930.09 (NAVD88)
= BM # 382	F-218-7(94)-20-07 As built Plans	Elev. = 930.20 (Believed to be NGVD29)
BM # 519	2005 Adams Survey	Elev. = 916.79 (NAVD88)
=TBM # 335	F-218-7(94)-20-07 As built Plans	Elev. = 916.89 (Believed to be NGVD29)
BM # 523	2005 Adams Survey	Elev. = 921.46 (NAVD88)
=TBM # 396	F-218-7(94)-20-07 As built Plans	Elev. = 921.50 (Believed to be NGVD29)
BM # 527	2005 Adams Survey	Elev. = 887.25 (NAVD88)
=BM # 35	F-218-7(94)-20-07 As built Plans	Elev. = 887.35 (Believed to be NGVD29)
BM # 522	2005 Adams Survey	Elev. = 911.08 (NAVD88)
=BM # 389.1	F-218-7(93)-20-07 As built Plans	Elev. = 911.14 (Believed to be NGVD29)

Horizontal Datum

Project Coordinate Transformation

Iowa State Plane North Zone coordinates in US feet were transformed to project ground coordinates using a 1/combined scale factor broadcast about a held point. The held State Plane coordinate and project coordinate at control point 18 are N= 3694759.04 E=5203921.53

1 / GRID = 1.000097128

VERTICAL DATUM = NAVD 88 <> HORIZONTAL DATUM = NAD 83 (1996)

Local Project Plane Coordinate Conversion Equation:
a. Local Project Coord y = [(State Plane y - hold point y) 1/grid factor] + hold point y
b. Local Project Coord x = [(State Plane x - hold point x) 1/grid factor] + hold point x

ALL COORDINATES CONVERTED TO ENGLISH UNITS

POINT	STATE PLANE COORD(Y)	STATE PLANE COORD(X)	POINT SCALE FACTOR	LOCAL PROJECT PLANE COORD(Y)	LOCAL PROJECT PLANE COORD(X)	ESTIMATED Static GPS DERIVED ORTHOMETRIC HEIGHT	Leveled ZC
G010	3669368.66	5210761.46	0.99994709	3669366.19	5210762.12	892.07	
G011	3673347.53	5209976.95	0.99994675	3673345.45	5209977.54	872.00	
G012	3676384.95	5208747.25	0.99994652	3676383.17	5208747.72	868.36	
G013	3679051.41	5208264.96	0.99994634	3679049.88	5208265.39	874.52	874.981
G014	3682551.10	5207318.37	0.99994612	3682549.91	5207318.70	874.46	875.002
G015	3685324.85	5206546.22	0.99994596	3685323.93	5206546.48	877.91	878.380
G016	3689022.15	5205629.32	0.99994578	3689021.60	5205629.49	890.31	890.757
G017	3691782.69	5204749.07	0.99994567	3691782.40	5204749.15	884.12	884.641
G018	3694759.04	5203921.53	0.99994557	3694759.04	5203921.53	888.32	
G019	3697662.28	5203134.08	0.99994549	3697662.56	5203134.00	886.90	
G020	3701007.65	5202951.41	0.99994543	3701008.26	5202951.31	926.25	
G021	3701470.46	5204073.44	0.99994542	3701471.12	5204073.45	909.78	
G022	3702491.38	5202107.92	0.99994540	3702492.14	5202107.74	926.23	
G023	3702899.10	5199067.37	0.99994540	3702899.89	5199066.90	896.54	
G024	3704559.93	5197985.47	0.99994538	3704560.88	5197984.90	907.13	
G025	3706967.66	5197713.26	0.99994537	3706968.85	5197712.65	908.82	
G026	3709092.24	5197619.98	0.99994537	3709093.63	5197619.37	923.86	
G027	3710927.12	5197132.97	0.99994538	3710928.69	5197132.32	908.75	
G028	3713481.12	5196622.64	0.99994540	3713482.94	5196621.94	957.85	
G029	3716119.28	5196894.49	0.99994544	3716121.35	5196893.81	967.37	
G030	3717115.88	5196225.66	0.99994546	3717118.05	5196224.91	995.18	
G500	3688187.00	5189692.97	0.99994581	3688186.36	5189691.59	906.32	906.32

Alignment

The mainline alignment of this survey is a retrace of NHS-218-7(88)-19-07 As-built plans Back & F-218-7(94)-20-07 As-built plans ahead. Stationing was backed up & carried forward from CP40. CP40 was also used in a 2005 IDOT survey.

Alignment Equations

POT Point # 40 Sta 12+96.13	This Survey Ahead
=POT Point # 40 Sta 12+96.13	2005 Adams Survey Ahead
=POT Point # 40 Sta 601+00.00	This Survey Back

The following Equations were copied from a 2005 survey

PI Point # 42 Sta 109+64.04	2005 Adams Survey Ahead
= PI Sta 109+60.45	F-218-7(94)-20-07 Asbuilt Plans

CP Point # 49 Sta 138+77.62 out .05 RT	2005 Adams Survey Ahead
= OLD POT Sta 138+77.56 (back)	F-218-7(94)-20-07 Asbuilt Plans
= OLD TS Sta 138+58.26 (ahead)	F-218-7(94)-20-07 Asbuilt Plans

Note : This Equation was eliminated. This survey stationing was carried thru to EOP.

PI Point # 60 Sta 153+94.40	2005 Adams Survey Ahead
= PI Sta 153+75.00	F-218-7(94)-20-07 Asbuilt Plans

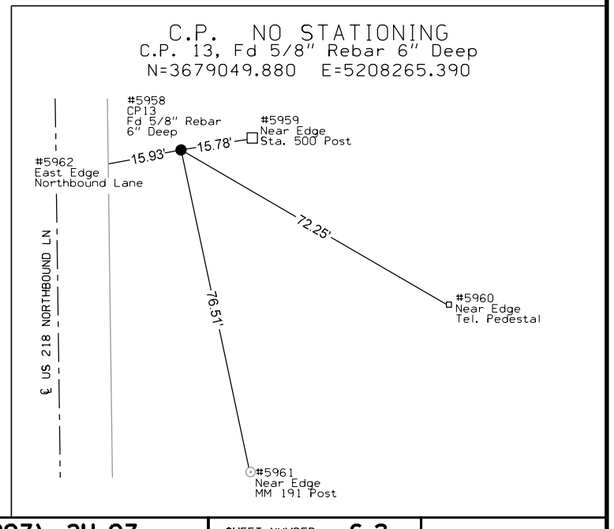
PI Point # 64 Sta 195+45.52	2005 Adams Survey Ahead
= PI Sta 195+26.31	F-218-8(22)-20-09 Paving Plans

BENCHMARKS				ELEVATION
No. 500 Sta.	49+74.411	15399.347 Lt.	Y:3688186.398 X:5189691.650 Found NGS Monument Stamped E39 1934 S Side CO RD C-57	906.320
No. 502 Sta.	19+27.022	3118.966 Lt.	Y:3688543.149 X:5202339.458 RR Spk E Side PP Bent RR Spike NW QUAD C-57 & WAVERLY RD =BM 502 2005 J Adams surv	878.104
No. 503 Sta.	598+67.031	124.431 Lt.	Y:3688513.805 X:5205455.940 Fd "X" S.E. COR 2.5'CIRC Light Pole BASE 218 & C57=BM 503 2005 J Adams survey	882.299
No. 504 Sta.	24+79.492	43.764 Rt.	Y:3689923.369 X:5205238.265 Fd "X" In Conc PAVT. =BM 504 2005 J Adams survey El=886.321	886.321
No. 505 Sta.	40+01.048	89.296 Rt.	Y:3691401.424 X:5204874.176 Fd "X" Top Outlet 24" RCP EAST End RCP Under Both Lanes of U.S.#218	881.669
No. 506 Sta.	54+01.627	91.052 Lt.	Y:3692702.369 X:5204324.914 Fd "X" West End 24"RCP Under S.B. LANE U.S.#218	884.881
No. 507 Sta.	65+51.175	234.384 Lt.	Y:3693771.398 X:5203878.618 Fd 30D Spk In Washer STAMPED #172 In Fence COR POST @ N.W. COR. OF CVRR ROW & WEST GRESHAM ROAD. =TBM #172 ASBUILT PLANS F-218-7(94)--20-07 ELEV = 885.10 (NAVD 1929)	884.975
No. 508 Sta.	63+38.794	333.884 Rt.	Y:3693719.155 X:5204483.022 Fd RR Spk S.Side PP S. Side W. GRESHAM RD.	884.949
No. 509 Sta.	81+00.300	137.633 Lt.	Y:3695289.745 X:5203556.482 Fd 60D Spk E.Side RR TIE R.O.W. FENCE POST LT.	886.331
No. 510 Sta.	93+00.199	90.074 Lt.	Y:3696458.463 X:5203280.587 Fd Cut"X"Top W.End 24" RCP Under Both Lanes U.S.#218	884.755
No. 511 Sta.	105+00.045	89.571 Lt.	Y:3697621.222 X:5202967.442 Fd "X" West End 24" RCP Under South-Bound Lane.	886.640
No. 512 Sta.	116+36.213	108.231 Lt.	Y:3698755.855 X:5202780.274 Fd DOT BM Button W. HDWL Skewed Twin 12'X6' RCB. S.W. QUAD Seventh ST. & U.S.#218 @ COUNTY LINE.	891.091
No. 513 Sta.	116+93.527	990.773 Rt.	Y:3698885.709 X:5203872.907 Fd RR Spk S.Side PP N.Side Gravel RD/CO. LIne	908.068
No. 514 Sta.	132+00.379	132.142 Rt.	Y:3700332.523 X:5202938.175 Fd "X" E. End 24" RCP. Under N.B. LANE U.S.#218.	905.505
No. 515 Sta.	141+69.752	1274.234 Rt.	Y:3701453.188 X:5204013.418 Fd SET RR Spk N.Side PP South Side CO. RD. C-50	911.242
No. 522 Sta.	173+23.033	24.715 Lt.	Y:3702707.939 X:5200298.181 Fd DOT BM Button In N.E. COR. S.B. U.S.#218 BR. Conc Barrier Rail CEDAR RIVER BRIDGE. =911.14(NAVD29) BM #389.1 F-218-8(20)--20-09	911.081
No. 526 Sta.	117+46.922	1162.358 Lt.	Y:3698806.310 X:5201720.576 Cut "X" NE BOLT RR SIGNAL W. OF RR S. Side 7TH ST	887.362
No. 527 Sta.	109+64.944	832.948 Lt.	Y:3697963.897 X:5202144.268 Fd DOT Brass Button Center E HDWL E Side of Waverly Rd	887.246
No. 528 Sta.	93+67.259	1151.525 Lt.	Y:3696238.476 X:5202240.020 Fd RR Spk E Side PP JUST S. SYCAMORE RD W Side of Waverly Rd	888.548
No. 545 Sta.	531+54.561	5144.304 Lt.	Y:3680700.566 X:5202420.135 Set RR Spk E Side PP NORTH OF Address 6441 Drive Side of Waverly Rd	881.931
No. 546 Sta.	561+38.053	4349.748 Lt.	Y:3683787.851 X:5202385.234 Set RR Spk W Side PP 5TH PP N. OF Bennington Rd W. Side of Waverly Rd	882.027
No. 547 Sta.	590+39.636	3572.83 Lt.	Y:3686792.473 X:5202355.448 Set RR Spk W Side PP on N. Fence Line Address 7609 W Side of Waverly Rd	881.544
No. 550 Sta.	517+13.128	126.642 Lt.	Y:3680657.974 X:5207640.561 Set RR Spk E Side PP North Pole OF Twin PP W. Side 218	873.721
No. 551 Sta.	542+93.520	128.27 Rt.	Y:3683212.171 X:5207193.929 Cut "X" CL S. HDWL Bennington Rd & HWY 218	875.559
No. 552 Sta.	556+76.158	146.301 Rt.	Y:3684548.969 X:5206840.400 Set 60D Nail In Fencepost E Side Hwy 218	876.114
No. 553 Sta.	574+13.684	97.81 Rt.	Y:3686209.804 X:5206327.588 Cut "X" Outlet End 54"RCP E Side Hwy 218	877.504
No. 554 Sta.	584+90.006	120.748 Rt.	Y:3687252.868 X:5206061.206 Cut "X" Outlet End 24"RCP E Side Hwy 218	879.742
No. 555 Sta.	593+64.299	1951.959 Rt.	Y:3688585.959 X:5207591.105 Set RR Spk S Side PP NW QUAD C-57 BIG WOODS RD	894.834
No. 556 Sta.	19+00.747	114.397 Rt.	Y:3689384.752 X:5205461.482 Cut "X" on outlet end 24" RCP	882.769

C-57 Alignment

No. 555 Sta.	197+84.637	-47.387 Rt.	Y:3688585.959 X:5207591.105 Set RR Spk S Side PP NW QUAD C-57 BIG WOODS RD	894.834

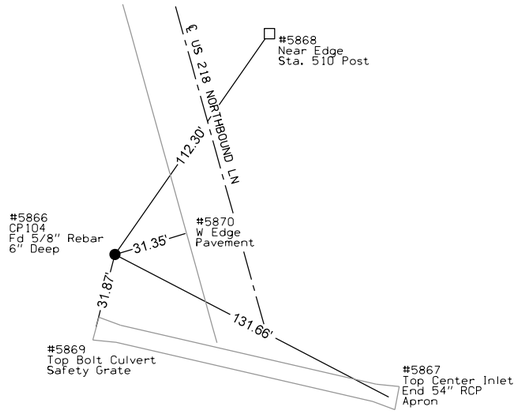
MISCELLANEOUS LOCATIONS OUTSIDE PROJECT LIMITS			ELEVATION
No. 538	**********	Y:3660226.836 X:5204545.776 Approx Coordinate at NGS Disk in Park West of Downtown Cedar Falls & South of Ia 57 125' +/- N. OF CL. 3rd AVE. Located @ the center of Park A Standard Disk Stamped "CEDAR FALLS 1934 & flush with the ground EL=876.784 -PID # NK0019 (area has many trees GPS not available on mark coordinate estimated from OS point roughly 114.2 & North of the actual mark)	876.784
No. 539	**********	Y:3662271.153 X:5203996.944 Set RR Spk SE Side Electrolier Pole W.Side Center St. NEAR PRK ENT NORTH OF Bridge	864.697
No. 540	**********	Y:3665187.113 X:5203791.092 ArrowHead on F Hyd W. Side Center St. ACROSS ST FROM 1405 Waverly Rd	865.312
No. 541	**********	Y:3667624.874 X:5202549.748 Set RR Spk W Side PP E.Side Center St.. South OF GREEN AVE near 2301 Waverly Rd	871.798
No. 542	**********	Y:3670158.782 X:5202478.041 Cut "X" N Bolt F Hyd NW of "T" Inters west at MAPLE & Center St..	876.488
No. 543	**********	Y:3673405.463 X:5202537.675 Cut "X" SW Corner Conc Pad of old Lum Post @ Center St. address 4101	874.382
No. 544	**********	Y:3677615.570 X:5202446.436 Set RR Spk E Side PP S OF Mt Vernon RD. W. Side of Waverly Rd	875.008
No. 548	**********	Y:3678064.982 X:5208457.619 Cut "X" on E End 24" RCP NE QUAD 218 & W. MT Vernon Rd	869.447
No. 549	**********	Y:3679299.299 X:5208009.349 Set RR Spike In RR Tie Fence PST W Side 218 Sta 503+00	874.129
No. 557	**********	Y:3678004.281 X:5208245.162 Fd RR Spk E Side PP NW QUAD 218 & MT VERNON Rd =AB BM 192 El=873.669 (NAVD29) 1995 PCC Paving Plan NHS-218-7(88)--19-07	873.526



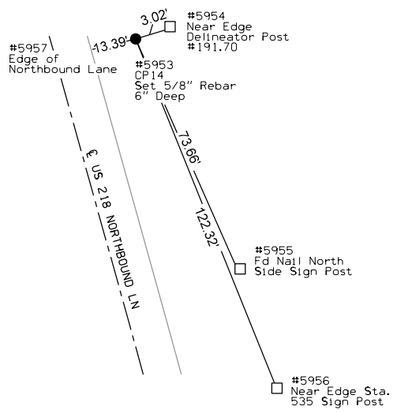
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER G.2

5:28:36 PM 8/27/2014 RBell c:\pwworking\oma\d1160599\07218210G1.sht

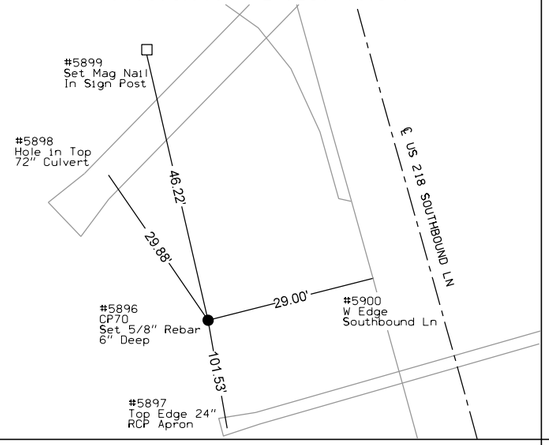
C.P. STA 509+28.26 RIGHT 0.00
C.P. 104, Fd 5/8" Rebar 6" Deep
N=3679935.843 E=5207973.106



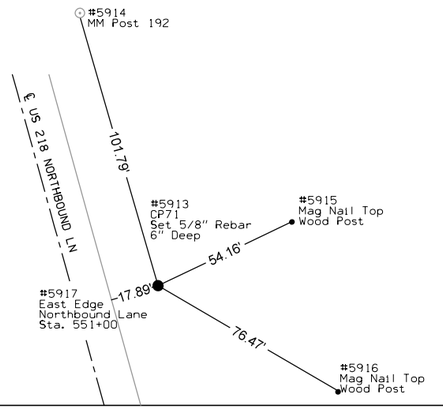
C.P. STA 536+22.06 RIGHT 70.81
C.P. 14, Fd 5/8" Rebar 6" Deep
N=3682549.910 E=5207318.700



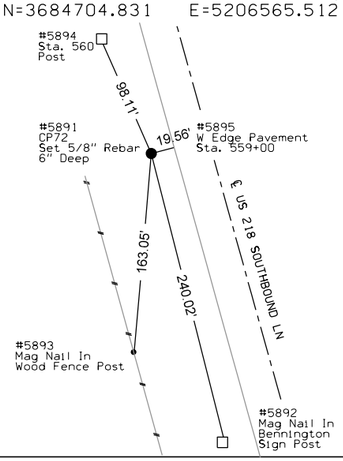
C.P. STA 543+00.81 LEFT 86.48
C.P. 70, Set 5/8" Rebar 6" Deep
N=3683161.585 E=5206985.095



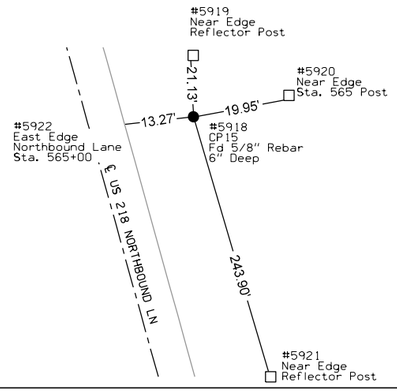
C.P. STA 551+00.84 RIGHT 75.64
C.P. 71, Set 5/8" Rebar 6" Deep
N=3683975.786 E=5206926.662



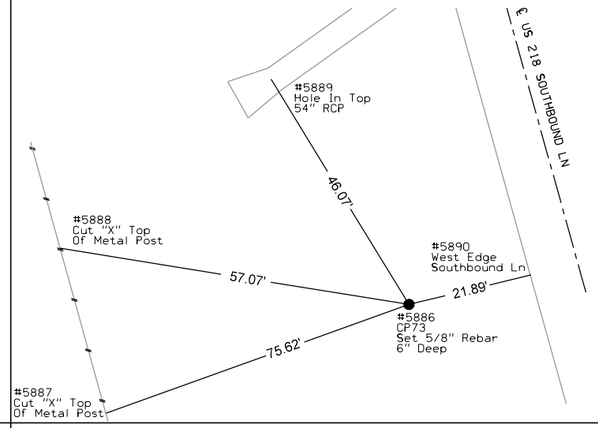
C.P. STA 559+00.05 LEFT 76.70
C.P. 72, Set 5/8" Rebar 6" Deep
N=3684704.831 E=5206565.512



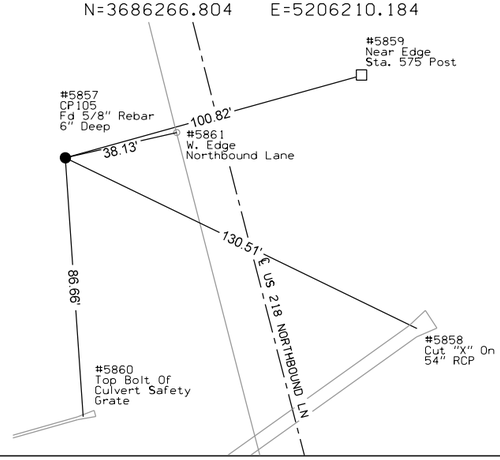
C.P. STA 565+01.56 RIGHT 71.04
C.P. 15, Fd 5/8" Rebar 6" Deep
N=3685323.930 E=5206546.480



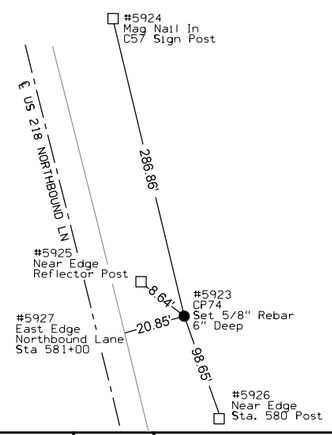
C.P. STA 573+01.00 LEFT 78.96
C.P. 73, Set 5/8" Rebar 6" Deep
N=3686053.831 E=5206187.524



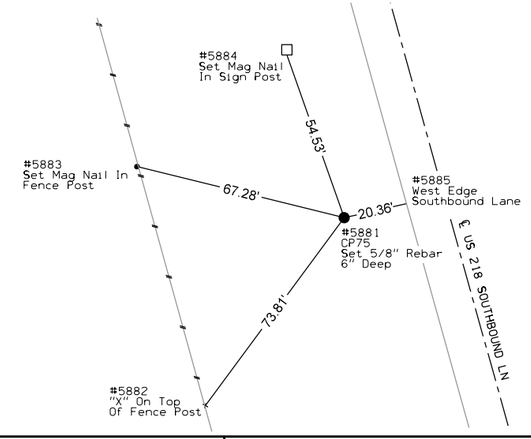
C.P. STA 575+00.09 RIGHT 0.00
C.P. 105, Fd 5/8" Rebar 6" Deep
N=3686266.804 E=5206210.184



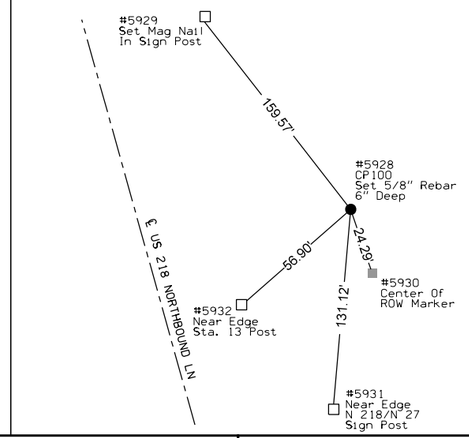
C.P. STA 581+00.06 RIGHT 103.55
C.P. 74, Set 5/8" Rebar 6" Deep
N=3686872.577 E=5206149.149



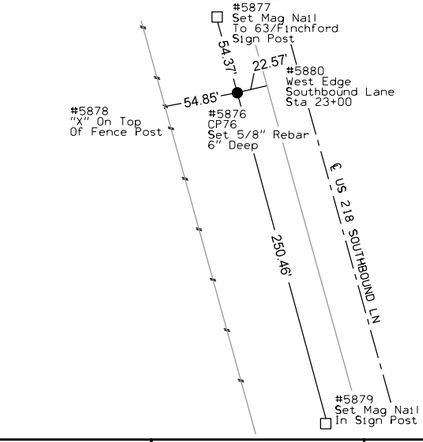
C.P. STA 590+01.26 LEFT 77.57
C.P. 75, Set 5/8" Rebar 6" Deep
N=3687692.263 E=5205733.126



C.P. STA 13+20.36 RIGHT 188.51
C.P. 100, Set 5/8" Rebar 6" Deep
N=3688845.487 E=5205688.492



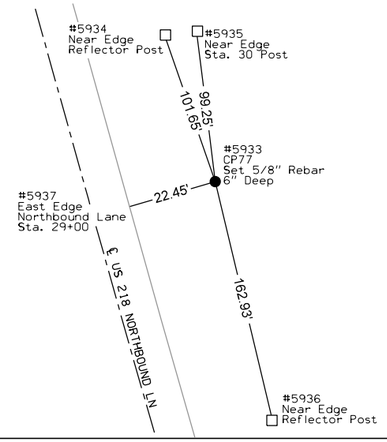
C.P. STA 23+01.71 LEFT 80.23
C.P. 76, Set 5/8" Rebar 6" Deep
N=3689718.850 E=5205166.477



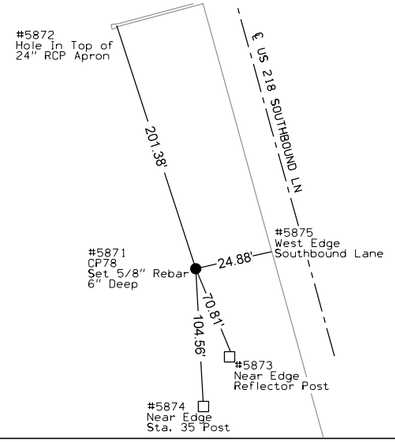
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER G.3

5:28:37 PM 8/27/2014 RBell c:\pwworking\oma\d1160599\07218210G1.sht

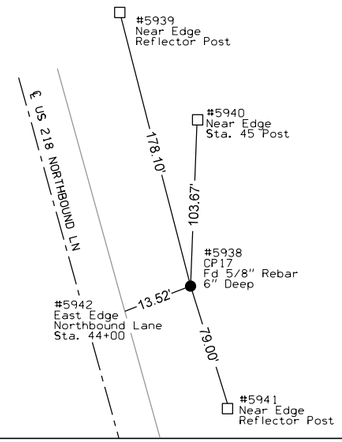
C.P. STA 29+00.58 RIGHT 79.91
C.P. 77, Set 5/8" Rebar 6" Deep
N=3690338.728 E=5205160.189



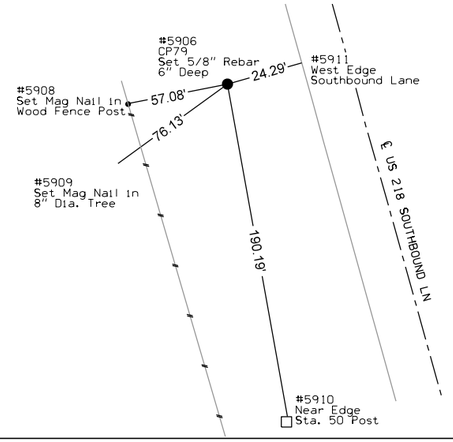
C.P. STA 36+00.99 LEFT 82.36
C.P. 78, Set 5/8" Rebar 6" Deep
N=3690969.987 E=5204816.071



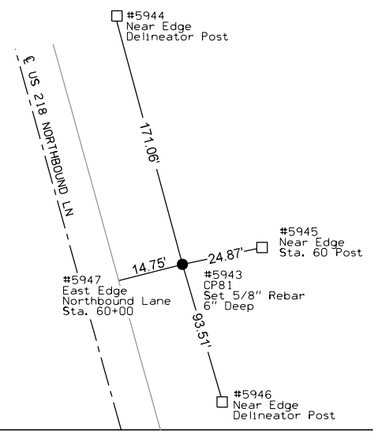
C.P. STA 44+01.60 RIGHT 70.99
C.P. 17, Fd 5/8" Rebar 6" Deep
N=3691782.400 E=5204749.150



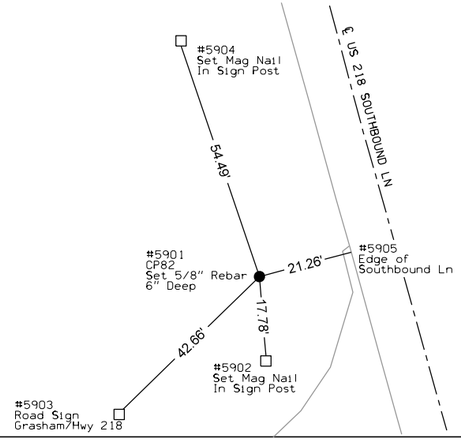
C.P. STA 51+92.06 LEFT 81.79
C.P. 79, Set 5/8" Rebar 6" Deep
N=3692502.959 E=5204390.024



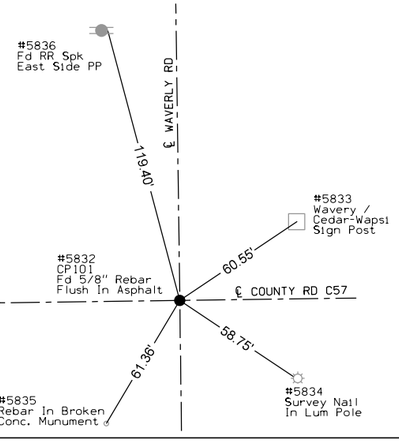
C.P. STA 59+99.75 RIGHT 72.36
C.P. 81, Set 5/8" Rebar 6" Deep
N=3693322.409 E=5204321.977



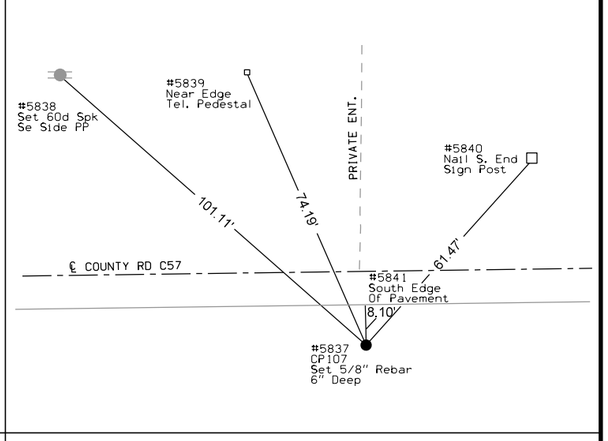
C.P. STA 65+38.17 LEFT 78.75
C.P. 82, Set 5/8" Rebar 6" Deep
N=3693800.597 E=5204032.046



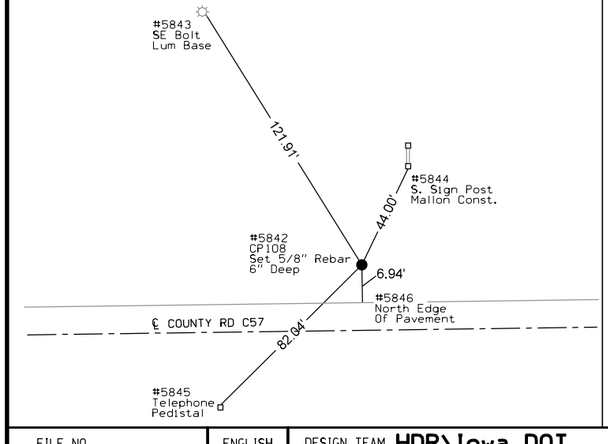
C.P. STA 145+61.06 RIGHT 0.00
C.P. 101, Fd Alignment PI
N=3688427.753 E=5202370.234



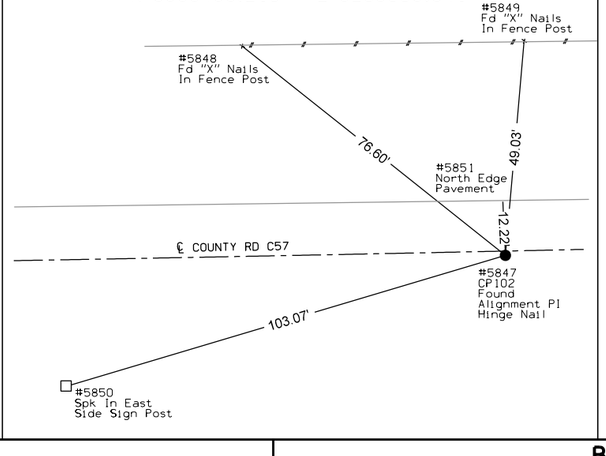
C.P. STA 152+11.55 RIGHT 18.55
C.P. 107, Set 5/8" Rebar 6" Deep
N=3688417.960 E=5203020.914



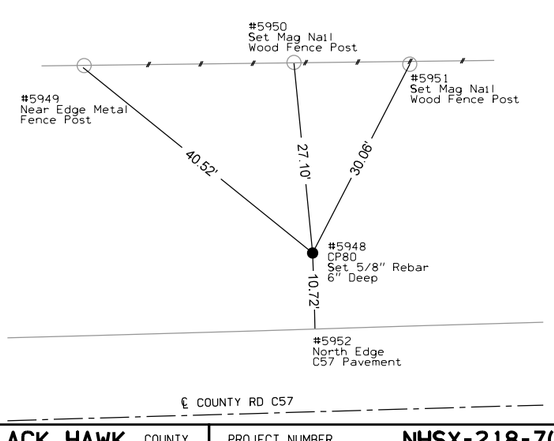
C.P. STA 160+88.77 LEFT 18.26
C.P. 108, Set 5/8" Rebar 6" Deep
N=3688466.580 E=5203897.562



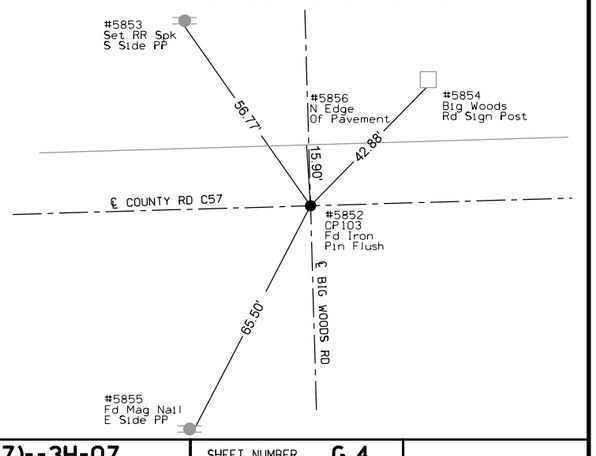
C.P. STA 171+94.45 RIGHT 0.98
C.P. 102, Fd Alignment PI
N=3688463.210 E=5205003.391



C.P. STA 191+62.62 LEFT 22.48
C.P. 80, Set 5/8" Rebar 6" Deep
N=3688542.955 E=5206970.077



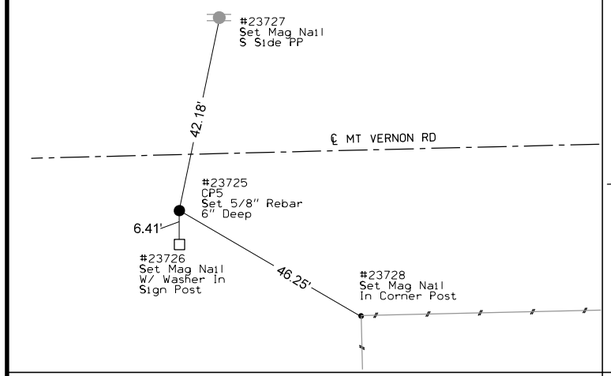
C.P. STA 198+15.89 RIGHT 0.00
C.P. 103, Fd Alignment PI
N=3688539.502 E=5207623.724



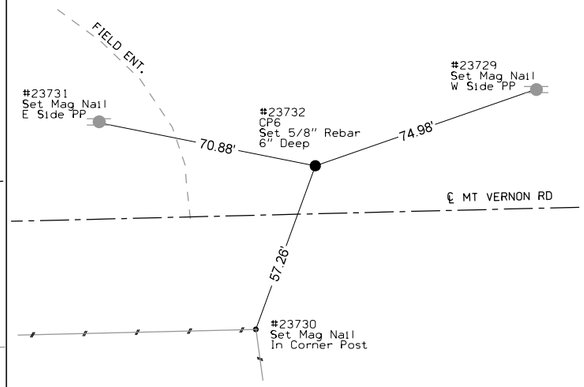
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER G.4

5:28:37 PM 8/27/2014 RBell c:\pwworking\oma\d1160599\07218210G1.sht

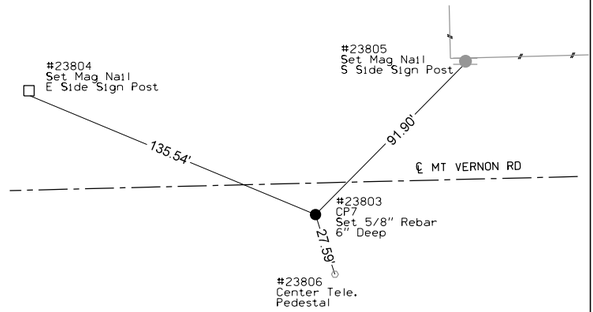
C.P. NO STATIONING
C.P. 5, Set 5/8" Rebar 6" Deep
N=3677944.4440 E=5207909.9420



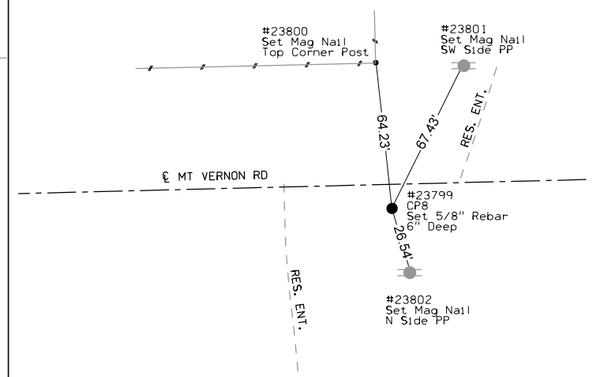
C.P. NO STATIONING
C.P. 6, Set 5/8" Rebar 6" Deep
N=3677979.4060 E=5208173.1560



C.P. NO STATIONING
C.P. 7, Set 5/8" Rebar 6" Deep
N=3677961.1530 E=5208594.6690



C.P. NO STATIONING
C.P. 8, Set 5/8" Rebar 6" Deep
N=3677969.4110 E=5208790.1220



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER G.5

5:28:37 PM 8/27/2014 RBell c:\pwworking\oma\d1160599\07218210G1.sht

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)
ML US 218																			
9998		485+16.52	3,677,572.83	5,208,445.55															
C2_1								490+78.14	3,678,128.14	5,208,361.57	499+86.07	3,679,025.86	5,208,225.79	508+91.77	3,679,900.54	5,207,982.36			
10004		12+96.13	3,688,771.61	5,205,513.44															
10001		99+78.52	3,697,136.09	5,203,185.50															
County Road C-57																			
30300		10569+00.00	3,688,432.84	5,202,718.76															
C57_10								10571+05.27	3,688,435.86	5,202,924.01	10573+84.65	3,688,439.97	5,203,203.36	10576+63.68	3,688,420.09	5,203,482.02			
C57_11								10576+63.68	3,688,420.09	5,203,482.02	10582+16.88	3,688,380.74	5,204,033.83	10587+68.74	3,688,408.30	5,204,586.35			
C57_12								10606+40.47	3,688,501.55	5,206,455.75	10608+47.95	3,688,511.89	5,206,662.97	10610+55.40	3,688,517.92	5,206,870.36			
30304		10613+51.82	3,688,526.54	5,207,166.64															
Ramp A																			
34000		1593+00.00	3,688,434.77	5,205,116.95															
RAMPA_1								1601+61.75	3,689,294.30	5,205,178.71	1603+56.64	3,689,488.69	5,205,192.67	1605+49.03	3,689,679.50	5,205,153.02			
34002		1606+40.73	3,689,769.28	5,205,134.36															
Ramp B																			
35000		2590+33.48	3,687,210.91	5,206,083.23															
RAMPB_1								2590+99.59	3,687,275.85	5,206,070.84	2593+18.44	3,687,490.81	5,206,029.80	2595+34.22	3,687,708.54	5,206,051.88			
35002		2603+15.00	3,688,485.34	5,206,130.69															
Ramp C																			
RAMPC_1								0+00.00	3,686,791.16	5,205,984.12	2+20.87	3,687,002.71	5,205,920.65	4+39.95	3,687,195.32	5,205,812.56			
36003		3593+00.00	3,688,434.77	5,205,116.95															
Ramp D																			
37000		4603+15.00	3,688,485.34	5,206,130.69															
RAMPD_1								4617+31.13	3,689,702.70	5,205,407.19	4618+44.43	3,689,800.10	5,205,349.30	4619+57.50	3,689,903.42	5,205,302.79			
RAMPD_2								4619+57.50	3,689,903.42	5,205,302.79	4620+78.17	3,690,013.45	5,205,253.25	4621+98.55	3,690,128.65	5,205,217.30			
W. Gresham Rd.																			
13000		13060+30.10	3,693,733.46	5,203,697.44															
13001		13069+00.22	3,693,752.67	5,204,567.35															
Bennington Rd.																			
12000		12538+73.65	3,683,228.30	5,206,565.63															
12001		12543+62.32	3,683,235.62	5,207,054.25															
12002		12549+85.75	3,683,244.85	5,207,677.61															
Mt. Vernon Rd.																			
11001		11482+64.68	3,677,952.39	5,207,722.06															
11003		11494+48.77	3,677,986.01	5,208,905.67															
Frontage Road																			
9000		100578+91.50	3,688,406.72	5,203,709.45															
ENT_10578-1								100579+36.95	3,688,452.17	5,203,709.05	100579+75.63	3,688,490.85	5,203,708.71	100579+98.44	3,688,492.49	5,203,747.35			
ENT_10578-2								100582+96.03	3,688,505.08	5,204,044.68	100583+49.60	3,688,507.35	5,204,098.20	100584+03.07	3,688,515.32	5,204,151.17			
9001		100590+05.81	3,688,605.01	5,204,747.21															
Chord Definition																			
CN Railroad Ultimate																			
400		15549+00.00	3,684,707.19	5,206,452.96															
CNTRK-70-1B					15550+48.36	3,684,850.11	5,206,413.15				15550+95.03	3,684,895.06	5,206,400.62				15551+18.36	3,684,917.50	5,206,394.22
CNTRK-70-1								15551+18.36	3,684,917.50	5,206,394.22	15559+26.26	3,685,694.43	5,206,172.65	15567+23.56	3,686,379.79	5,205,744.90			
CNTRK-70-1A					15567+23.56	3,686,379.79	5,205,744.90				15567+46.89	3,686,399.59	5,205,732.54				15567+93.56	3,686,439.02	5,205,707.59
CNTRK-70-2B					15571+01.33	3,686,699.12	5,205,543.05				15571+48.00	3,686,738.55	5,205,518.10				15571+71.33	3,686,758.35	5,205,505.74
CNTRK-70-2								15571+71.33	3,686,758.35	5,205,505.74	15579+64.54	3,687,431.25	5,205,085.76	15587+47.71	3,688,192.95	5,204,864.39			
CNTRK-70-2A					15587+47.71	3,688,192.95	5,204,864.39				15587+71.04	3,688,215.35	5,204,857.88				15588+17.71	3,688,260.24	5,204,845.13
CNTRK-70-3B					15591+47.70	3,688,577.68	5,204,754.97				15591+94.37	3,688,622.57	5,204,742.22				15592+17.70	3,688,645.05	5,204,735.98
CNTRK-70-3								15592+17.70	3,688,645.05	5,204,735.98	15600+42.03	3,689,439.38	5,204,515.61	15608+55.10	3,690,263.61	5,204,528.10			
CNTRK-70-3A					15608+55.10	3,690,263.61	5,204,528.10				15608+78.43	3,690,286.94	5,204,528.46				15609+25.10	3,690,333.60	5,204,529.45
CNTRK-70-4B					15612+36.51	3,690,644.94	5,204,536.07				15612+83.17	3,690,691.59	5,204,537.06				15613+06.51	3,690,714.92	5,204,537.42
CNTRK-70-4								15613+06.51	3,690,714.92	5,204,537.42	15621+15.56	3,691,523.88	5,204,549.68	15629+13.97	3,692,304.61	5,204,337.47			
CNTRK-70-4A					15629+13.97	3,692,304.61	5,204,337.47				15629+37.30	3,692,327.13	5,204,331.35				15629+83.97	3,692,372.09	5,204,318.83
405		15630+83.97	3,692,468.42	5,204,292.01															

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)
RETURNS																			
C57A_RET_1																			
C57A_RET_1-1								10+00.00	3,688,459.45	5,205,170.09	10+15.01	3,688,458.70	5,205,155.10	10+27.03	3,688,471.58	5,205,147.39			
C57A_RET_1-2								10+27.03	3,688,471.58	5,205,147.39	10+39.25	3,688,482.06	5,205,141.12	10+51.13	3,688,494.16	5,205,139.44			
C57A_RET_1-3								10+51.13	3,688,494.16	5,205,139.44	10+61.64	3,688,504.56	5,205,138.00	10+72.07	3,688,515.05	5,205,138.76			
C57A_RET_2																			
C57A_RET_2-1								20+00.00	3,688,548.89	5,205,125.15	20+20.40	3,688,528.54	5,205,123.68	20+40.35	3,688,510.06	5,205,115.02			
C57A_RET_2-2								20+40.35	3,688,510.06	5,205,115.02	20+77.39	3,688,476.52	5,205,099.29	21+09.73	3,688,466.82	5,205,063.54			
C57A_RET_2-3								21+09.73	3,688,466.82	5,205,063.54	21+69.12	3,688,451.27	5,205,006.23	22+28.05	3,688,448.31	5,204,946.91			
C57B_RET_3																			
C57B_RET_3-1								30+00.00	3,688,460.57	5,206,075.78	30+15.38	3,688,461.34	5,206,091.14	30+27.58	3,688,447.96	5,206,098.75			
C57B_RET_3-2								30+27.58	3,688,447.96	5,206,098.75	30+39.97	3,688,437.20	5,206,104.88	30+52.02	3,688,424.88	5,206,106.24			
C57B_RET_3-3								30+52.02	3,688,424.88	5,206,106.24	30+62.62	3,688,414.35	5,206,107.40	30+73.14	3,688,403.80	5,206,106.33			
C57B_RET_4																			
C57B_RET_4-1								40+00.00	3,688,371.90	5,206,119.18	40+15.32	3,688,387.14	5,206,120.72	40+30.49	3,688,401.56	5,206,125.91			
C57B_RET_4-2								40+30.49	3,688,401.56	5,206,125.91	40+72.39	3,688,441.18	5,206,139.53	41+07.68	3,688,452.54	5,206,179.86			
C57B_RET_4-3								41+07.68	3,688,452.54	5,206,179.86	41+66.92	3,688,468.61	5,206,236.89	42+25.67	3,688,471.56	5,206,296.06			
C57C_RET_3																			
C57C_RET_3-1								30+00.00	3,688,409.65	5,205,054.94	30+49.55	3,688,412.12	5,205,104.43	30+92.59	3,688,375.49	5,205,137.80			
C57C_RET_3-2								30+92.59	3,688,375.49	5,205,137.80	31+21.61	3,688,354.03	5,205,157.34	31+50.51	3,688,329.65	5,205,173.08			
C57C_RET_3-3								31+50.51	3,688,329.65	5,205,173.08	31+90.77	3,688,295.82	5,205,194.93	32+31.01	3,688,260.71	5,205,214.63			
C57C_RET_4																			
C57C_RET_4-1								40+00.00	3,688,234.81	5,205,247.52	40+56.73	3,688,284.28	5,205,219.75	41+13.39	3,688,335.99	5,205,196.40			
C57C_RET_4-2								41+13.39	3,688,335.99	5,205,196.40	41+41.77	3,688,361.85	5,205,184.72	41+69.60	3,688,390.13	5,205,182.35			
C57C_RET_4-3								41+69.60	3,688,390.13	5,205,182.35	41+95.46	3,688,415.90	5,205,180.19	42+09.71	3,688,417.18	5,205,206.02			
C57D_RET_1																			
C57D_RET_1-1								10+00.00	3,688,510.45	5,206,192.55	10+51.17	3,688,507.90	5,206,141.45	10+95.78	3,688,545.34	5,206,106.58			
C57D_RET_1-2								10+95.78	3,688,545.34	5,206,106.58	11+21.63	3,688,564.25	5,206,088.96	11+47.37	3,688,585.54	5,206,074.32			
C57D_RET_1-3								11+47.37	3,688,585.54	5,206,074.32	11+88.80	3,688,619.67	5,206,050.85	12+30.19	3,688,655.28	5,206,029.69			
C57D_RET_2																			
C57D_RET_2-1								20+00.00	3,688,678.58	5,205,997.23	20+46.82	3,688,638.33	5,206,021.15	20+93.61	3,688,596.40	5,206,041.99			
C57D_RET_2-2								20+93.61	3,688,596.40	5,206,041.99	21+17.11	3,688,575.35	5,206,052.45	21+40.47	3,688,552.72	5,206,058.81			
C57D_RET_2-3								21+40.47	3,688,552.72	5,206,058.81	21+90.61	3,688,504.45	5,206,072.37	22+12.27	3,688,501.96	5,206,022.29			
C57 TAPERS																			
C57_LT_TPR-1								10582+20.00	3,688,411.44	5,204,037.94	10584+59.62	3,688,412.98	5,204,277.55	10586+99.12	3,688,427.12	5,204,516.75			
C57_RT_TPR-1								10582+20.00	3,688,383.45	5,204,037.65	10584+60.56	3,688,376.98	5,204,278.13	10587+01.01	3,688,383.16	5,204,518.61			
Chord Definition																			
CN Railroad Temporary																			
TO1		25552+38.39	3,685,033.55	5,206,361.76															
TO2		25553+38.39	3,685,129.88	5,206,334.90															
TO3		25553+72.43	3,685,162.67	5,206,325.76															
TO-C1B					25556+21.95	3,685,395.14	5,206,235.12												

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	
ML US 218																
C2_1											6° 57′ 08.05″ LT	907.93′	1,813.63′	14,946.73′	27.55′	
County Road C-57																
C57_10											4° 55′ 19.93″ RT	279.37′	558.41′	6,500.00′	6.00′	
C57_11											6° 56′ 05.50″ LT	553.21′	1,105.06′	9,130.00′	16.74′	
C57_12											1° 11′ 19.30″ RT	207.47′	414.93′	20,000.00′	1.08′	
Frontage Road																
ENT_10578-1											88° 04′ 28.38″ RT	38.68′	61.49′	40.00′	15.64′	
ENT_10578-2											6° 07′ 57.93″ LT	53.57′	107.04′	1,000.00′	1.43′	
Ramp A																
RAMPA_1											15° 50′ 58.88″ LT	194.88′	387.28′	1,400.00′	13.50′	
Ramp B																
RAMPB_1											16° 36′ 05.77″ RT	218.85′	434.63′	1,500.00′	15.88′	
Ramp C																
RAMPC_1											12° 36′ 13.56″ LT	220.87′	439.95′	2,000.00′	12.16′	
Ramp D																
RAMPD_1											6° 29′ 06.39″ RT	113.31′	226.37′	2,000.00′	3.21′	
RAMPD_2											6° 54′ 20.33″ RT	120.67′	241.05′	2,000.00′	3.64′	
RETURNS																
C57A_RET_1																
C57A_RET_1-1											61° 57′ 22.10″ RT	15.01′	27.03′	25.00′	4.16′	
C57A_RET_1-2											23° 00′ 42.23″ RT	12.21′	24.10′	60.00′	1.23′	
C57A_RET_1-3											11° 59′ 51.18″ RT	10.51′	20.94′	100.00′	0.55′	
C57A_RET_2																
C57A_RET_2-1											21° 01′ 03.77″ RT	20.40′	40.35′	110.00′	1.88′	
C57A_RET_2-2											49° 41′ 30.58″ RT	37.04′	69.38′	80.00′	8.16′	
C57A_RET_2-3											12° 19′ 30.14″ RT	59.39′	118.31′	550.00′	3.20′	
C57B_RET_3																
C57B_RET_3-1											63° 12′ 53.54″ RT	15.38′	27.58′	25.00′	4.35′	
C57B_RET_3-2											23° 20′ 01.41″ RT	12.39′	24.44′	60.00′	1.27′	
C57B_RET_3-3											12° 05′ 58.87″ RT	10.60′	21.12′	100.00′	0.56′	
C57B_RET_4																
C57B_RET_4-1											13° 58′ 26.48″ RT	15.32′	30.49′	125.00′	0.94′	
C57B_RET_4-2											55° 17′ 10.57″ RT	41.90′	77.19′	80.00′	10.31′	
C57B_RET_4-3											12° 52′ 34.48″ RT	59.24′	117.98′	525.00′	3.33′	
C57C_RET_3																
C57C_RET_3-1											50° 31′ 27.51″ RT	49.55′	92.59′	105.00′	11.10′	
C57C_RET_3-2											9° 28′ 51.16″ RT	29.02′	57.92′	350.00′	1.20′	
C57C_RET_3-3											3° 32′ 53.62″ RT	40.27′	80.51′	1,300.00′	0.62′	
C57C_RET_4																
C57C_RET_4-1											4° 59′ 51.15″ RT	56.73′	113.39′	1,300.00′	1.24′	
C57C_RET_4-2											19° 31′ 04.55″ RT	28.38′	56.21′	165.00′	2.42′	
C57C_RET_4-3											91° 55′ 52.01″ RT	25.86′	40.11′	25.00′	10.97′	
C57D_RET_1																
C57D_RET_1-1											49° 53′ 26.39″ RT	51.17′	95.78′	110.00′	11.32′	
C57D_RET_1-2											8° 26′ 43.89″ RT	25.84′	51.59′	350.00′	0.95′	
C57D_RET_1-3											3° 47′ 45.09″ RT	41.42′	82.81′	1,250.00′	0.69′	
C57D_RET_2																
C57D_RET_2-1											4° 17′ 26.05″ RT	46.82′	93.61′	1,250.00′	0.88′	
C57D_RET_2-2											10° 44′ 29.92″ RT	23.50′	46.87′	250.00′	1.10′	
C57D_RET_2-3											102° 50′ 08.66″ RT	50.14′	71.79′	40.00′	24.14′	
C57 TAPERS																
C57_LT_TPR-1											3° 00′ 47.18″ LT	239.62′	479.12′	9,110.73′	3.15′	
C57_RT_TPR-1											3° 00′ 47.15″ LT	240.56′	481.01′	9,146.74′	3.16′	

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER G.8

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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	
Chord Definitions																
CN Railroad Ultimate																
CNTRK-70-1		16° 45′ 07.03″	0° 20′ 59.98″	70.00′	TS	0.04′	70.00′	0.14′	46.67′	23.33′	16° 03′ 07.06″ LT	807.90′	1,605.20′	5,729.65′	56.68′	
CNTRK-70-2		16° 27′ 49.67″	0° 20′ 59.98″	70.00′	TS	0.04′	70.00′	0.14′	46.67′	23.33′	15° 45′ 49.70″ RT	793.21′	1,576.38′	5,729.65′	54.65′	
CNTRK-70-3		17° 04′ 26.25″	0° 20′ 59.98″	70.00′	TS	0.04′	70.00′	0.14′	46.67′	23.33′	16° 22′ 26.28″ RT	824.33′	1,637.40′	5,729.65′	58.99′	
CNTRK-70-4		16° 46′ 28.55″	0° 20′ 59.98″	70.00′	TS	0.04′	70.00′	0.14′	46.67′	23.33′	16° 04′ 28.58″ LT	809.05′	1,607.46′	5,729.65′	56.84′	
CN Railroad Temporary																
TO-C1B		0° 20′ 59.98″	0° 20′ 59.98″	70.00′	TS	0.04′	70.00′	0.14′	46.67′	23.33′						

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER G.9

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SUPERELEVATION DATA

See PV-300 Series

Road Identification	Circular Curve or Spiral Curve Name	Radius	Superelevation Data			Standard Road Plan	Section A-A	Section B-B	Section C-C	Section D-D	Section E-E	Section F-F	Case A	Case B	Case C	Case S	Case T	Case U	Remarks
			e	L	x														
		FT	%	FT	FT														
RAMP A	RAMPA_1	1400	6.0	186	62	PV-303	1600+93.55		1601+61.75	1602+17.55						1601+55.55	1601+55.55		
							1606+17.23		1605+49.03	1604+93.23						1605+55.23	1605+55.23		
RAMP B	RAMPB_1	1500	6.0	186	62	PV-303	2590+31.39		2590+99.59	2591+55.39						2590+93.39	2590+93.39		
							2596+02.42		2595+34.22	2594+78.42						2595+40.42	2595+40.42		
RAMP C	RAMPC_2	2000	5.4	168	62	PV-303			3577+18.74										
							3579+34.30		3578+78.70	3578+28.30						3578+71.86	3578+71.86		
RAMP D	RAMPD_1	2000	5.4	168	62	PV-303	4616+75.53		4617+31.13	4617+81.53						4617+37.97	4617+37.97		
									4619+57.50										

REVISED | 1/13/14 | PAR | 4

REVISED | 1/13/14 | PAR | 5

REVISED | 1/13/14 | PAR | 5R

4
DONALD & BONNIE BROWN

5
DEERY INVESTMENTS, INC

5R
CEDAR RIVER RAILROAD COMPANY

5
DEERY INVESTMENTS, INC

+75 Prop. Type "G" Dike Elev. = 880.55

QUIT CLAIM AREA

CS 15567+23.56 ℄50'(RR)

ST 15567+93.56 ℄50'(RR)

TS 15571+01.33 ℄50'(RR)

SC 15571+71.33 ℄50'(RR)

FUTURE LINE

CEDAR RIVER RR CO.

CS 15587+47.71 ℄50'(RR)

+97 Field Entrance (CLOSE)

WASHINGTON TWP T-90N R-14W SEC. 13

Sta. 574+15 Inlet 19.5 Lt. 24" X 76' Conc. Pipe D.A. = Median Only (U.A.C.)

15561+55±R ℄50'(RR)

571+90 ℄235'±R

Sta. 574+15 Inlet 19.5 Lt. 24" X 76' Conc. Pipe D.A. = Median Only

Sta. 581+39.82
Resume Shoulder Construction and Pavement Removal

Sta. 585+40 Inlet 6.7 Lt. 24" X 76' Conc. Pipe D.A. = Median Only (U.A.C.)

586+30 ℄ 235'±R

Sta. 596+14.00
Begin Shoulder Construction and Pavement Removal

RAMP C

Sta. 599+08.75
Stop Shoulder Construction and Pavement Removal

570 575 580 585 590 595 600

T3

(Obliterate Railroad)

CEDAR RIVER RAILROAD

(U.A.C.)

218

+49 (Field Entrance) (CLOSE)

Sta. 573+78 54" X 199' Conc. Pipe D.A. = 200 Ac. F.

575+78±R ℄151' (Corner)

Sta. 573+89 Dike

Sta. 585+6 24" X 204' Conc. Pipe D.A. = 6 Ac. F.

Sta. 586+78.41
Begin Shoulder Construction and Pavement Removal

POT STA 597+75.39 (ML218)
POT STA 10597+84.13 (SRC57)

Sta. 599+57.63
Stop Shoulder Construction and Pavement Removal

RAMP B

COUNTY ROAD 57

+68 Field Entrance

+71 Field Entrance

RAMP D

US 218

Sta. 586+81.93
Begin Shoulder Construction and Pavement Removal

Sta. 585+6 24" X 204' Conc. Pipe D.A. = 6 Ac. F.
Remove Outlet Apron
Extend From Outlet
With 24" x 40' RF-1
F.L. = Lt. 877.43
Rt. 877.43

0 100 FEET

POND

Sta. 595+97.7 8" X 353' CMP (ABANDON)

FUTURE LINE

597+60 ℄580'

+6 Field Entrance

Sta. 573+78 54" X 199' Conc. Pipe D.A. = 200 Ac. F. (U.A.C.)

Sta. 573+89 Dike

BLACK HAWK CO CONSERVATION 6

7
ALLAN D. & ROBIN R. JOHNSON

7
ALLAN D. & ROBIN R. JOHNSON

For Mainline Details Refer to Sheet No. D.4

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdei/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 9/8/14
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER H.1

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REVISED | 1/13/14 | PAR | 13

REVISED | 1/13/14 | PAR | 14

REVISED | 1/13/14 | PAR | 5R

15590 15595 15600 15605 15610 15615 15620

600 15 20 25 30 35 40

13 CAROL A. MAST

14 BONNIE L. ROGERS

5R CEDAR RIVER RAILROAD COMPANY

14 BONNIE L. ROGERS

8 JAMES R. MC KINNEY

CHARLES L. & LISA HESSE

CEDAR RIVER RR CO.

FUTURE LINE

SC 15592+17.70 ℄50'(RR)

15603+82±R ℄50'(RR)

15603+77±R ℄50'(RR)

CS 15608+55.10 ℄50'(RR)

ST 15609+25.10 ℄50'(RR)

TS 15612+36.51 ℄50'(RR)

SC 15613+06.51 ℄50'(RR)

CS 15603+55.10 ℄50'(RR)

15618+81±R ℄50'(RR)

QUIT CLAIM AREA

WASHIGTON TWP. T-90N R-14W SEC. 12

WASHIGTON TWP. T-90N R-13W SEC. 12

Sta. 19+03
Inlet 87.2 Lt.
Sta. 19+2
24" X 86' Conc. Pipe
D.A. = 4 Ac. F.
(U.A.C.)

Sta. 19+01
Inlet 25.8 Rt.
24" X 88' Conc. Pipe
D.A. = 4 Plus Mearen Ac. F.
(U.A.C.)

24" X 30' Conc. Pipe
(U.A.C.)

Sta. 41+01
Inlet 18.4 Lt.
24" X 68' Conc. Pipe
D.A. = Median Only
(U.A.C.)

Sta. 40+2
24" X 74' Conc. Pipe
D.A. = 28 Ac. F.
(U.A.C.)

RAMP A

Sta. 20+56.84 R 2
Stop Shoulder Construction and Pavement Removal

(Obliterate Railroad)

(U.A.C.)

(U.A.C.)

RAMP D

Equation:
Sta. 601+00.00 BK =
=Sta. 12+96.13 AH

26+30 ℄140'

23+20±R ℄185'

Sta. 23+80.43 R 2
Stop Shoulder Construction and Pavement Removal

37+10±R ℄120'

NORTH SECTION CENTER

0 FEET 100

US 218

For Mainline Details
Refer to Sheet No. D.5

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdei/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 2/10/14
Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER H.2

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REVISED | 1/13/14 | PAR | 13
REVISED | 1/14/14 | PAR | 1006,1010,1011,1012

Sta. 10572+02.00
Install 18" x 56' Uncl.
F.L. = Lt. 876.64
Rt. 876.84

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

10 POWER PAVERS, INC

Curve Data
Δ = 4° 55' 19.93" (RT)
T = 279.37
L = 558.41
R = 6,500.00
E = 6.00
Design Speed = 50mph
e = Normal Crown

WASHIGTON TWP.
T-90N R-14W
SEC. 12

Sta. 10570+50.00
Begin 60:1 Taper

10572+25 ℄85'
10571+75 ℄85'
10570+00 ℄49'±ExR/W
10571+25 ℄65'
10570+00 ℄51'±ExR/W
10570+70 ℄65'

Sta. 10572+37.32
End 60:1 Taper

ACQUIRE ACCESS CONTROL ON S.R. FROM 10578+91TO 10611+50

10578+62±R ℄120'
10576+00 ℄100'
10575+00 ℄75'

90° 102 Prop. Ent. Type "C" 18" Uncl. Pipe

POT Sta 10569+00.00
PI Sta 10573+84.65
PC Sta 10571+05.57
PRC Sta 10576+22.68
10570
10575
10578+72±R ℄55'

60:1 TAPER
(U.A.C.)

COUNTY ROAD C-57

TADD M. & HOLLY A. CLINE

Sta. 10570+50.00
Begin County Road 57 Construction

15" X 26' Conc. Pipe

Sta. 10572+35.40
End 60:1 Taper

Sta. 10570+50.00
Begin 60:1 Taper
POT STA. 10578+91.50 (C57)
POT STA. 100578+91.50 (FRONTAGE)

30' wide Ingress Egress Easement to Par 5 Deery Investments, Inc

9 JACK L. ANDERSON

11 RDS HOLDINGS LLC

Sta. 10578+91.50
Install 18" x 65' Uncl.
F.L. = Lt. 876.32
Rt. 876.25

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

Building
Building
Building
Building

10583+70 ℄190'
10583+30±R ℄190'
10583+30±R ℄150'
10583+31±R ℄104.7'(Corner)

Sta. 10582+20.00
Begin 60:1 Taper

10580
10585

+91.50 Prop. Ent. - Type "C"

STATE OF IOWA

House
Garage
Shed
Building

(CLOSE)

PI Sta 10582+16.88

Sta. 10587+00.00
End 60:1 Taper

Sta. 10582+20.00
Begin 60:1 Taper
Curve Data
Δ = 6° 56' 05.50" (LT)
T = 553.21
L = 1,105.06
R = 9,130.00
E = 16.74
Design Speed = 60mph
e = Normal Crown

10587+25 ℄185'
10581+00±R ℄80'

POT STA. 10589+82.71
POT STA. 15589+82.71

10589+75 ℄200'

15" X Unknown Length Outlet End Buried (REMOVE)

0 100 FEET

12 DARRELL D. SELLS

13 CAROL A. MAST

13 CAROL A. MAST

FUTURE LINE

PREDETERMINED ACCESS LOCATION FOR CN (FUTURE)
Sta. 166+81
18" X 54' CMP
(REMOVE)

10583+90 ℄159'±PropR/W
10585+32±R ℄180'
10585+31±R ℄130'

Sta. 10587+00.00
End 60:1 Taper

STA 10589+46.71
BUILD 60' X 336'
PRETENSION/PRECAST BRIDGE
SEE V.01

STA 10593+00.00 SRC57
STA 1593+00.00 C57A
STA 3593+00.00 C57C

10586+60 ℄195'
10587+10 ℄149'±PropR/W
10588+90 ℄197'±68.74
10591+70 ℄190'
10589+95 ℄175'

POT STA. 10589+82.71
POT STA. 15589+82.71

10590
10595

RAMP A

Sta. 19+03
Inlet 87.2
Sta. 19+12
Conc. Pipe
Sta. 1+88
24" X 88'
A.C.F.
Dia. = 4'
(U.A.C.)

10593+39±R ℄305'

CEDAR RIVER RR CO.

10590+80 ℄200'
10592+10 ℄190'

RAMP C

WASHIGTON TWP.
T-90N R-14W
SEC. 13

COUNTY ROAD C-57

REVISED | 1/13/14 | PAR | 5

5 DEERY INVESTMENTS, INC

For Side Road Details Refer to Sheet No. E.1

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdei/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 10/9/14
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER HE.1

7:30:26 AM 10/13/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\0721801006\ROW\07218189he1.sht

REVISED	1/13/13	PAR	13
REVISED	1/14/14	PAR	1006,1010,1011,1012

13
CAROL A. MAST

8
JAMES R. MC KINNEY

Sta. 10611+50.00
Install 18" x 74' Uncl.
F.L. = Lt. 880.72
Rt. 881.11

Sta. 10596+81
Install RF-1 (Size And Length TBD)
Skew = 13° Rt. Ahd.
F.L. = Lt. TBD
Rt. TBD

18" x 48' C.M.P. (REMOVE)

15" x 23' Conc. Pipe. (REMOVE)

WASHIGTON TWP.
T-90N R-14W
SEC. 12

Sta. 190+32
24" X 55' Conc. Pipe
D.A. = Unknown GR
(REMOVE)

STA 10597+95.08
BUILD 60' X 287' PRETENSION/
PRECAST BRIDGE
SEE V.02

STA 10603+15.00 SRC57
STA 2603+15.00 C57B
STA 4603+15.00 C57D

Sta. 10608+22.00
Install RF-1 (88" x 54" x 86')
F.L. = Lt. 877.22
Rt. 876.86

Sta. 10608+36.00
Install RF-1 (88" x 54" x 86')
F.L. = Lt. 877.22
Rt. 876.86

+50 Prop. "C" Ent. 18" Uncl. Pipe

Sta. 10612+00.00
End 60:1 Taper

10605+05±P
℄100'

10611+50
℄90'

ACQUIRE ACCESS CONTROL ON
ALONG FROM 10578+91TO 10611+50

10613+00
℄50'±ExR/W

Sta. 10605+60.00
Begin 60:1 Taper

RAMP D

FUTURE LINE

10595

10600

10605

10610

PI Sta 10608+47.95

POT Sta 10613+51.82

Big Woods Rd.

N

County Road C-57

425

(U.N.C.)

Ramp A
Intersection Sight
Distance STA 10597+84.13
(+ 30' STA at 5979 Driver)

Curve Data
Δ = 1° 11' 19.30" (RT)
T = 207.47
L = 414.93
R = 20,000.00
E = 1.08
Design Speed = 60mph
e = Normal Crown

PC Sta 10606+40.47

PT Sta 10610+53.40

10611+50
℄80'

Sta. 10612+00.00
End Construction
County Road C-57

10613+00
℄50'±ExR/W

Sta. 10612+00.00
End 60:1 Taper

10604+97±P
℄110'

Sta. 10605+60.00
Begin 60:1 Taper

+50 Prop. "C" Ent. 18" Uncl. Pipe

0 FEET 100

WASHIGTON TWP.
T-90N R-14W
SEC. 13

COUNTY ROAD C-57

D C-57

RAMP B

POND

18" x 41' C.M.P. (REMOVE)

15" x 36' C.M.P. (REMOVE)

6
BLACK HAWK CO
CONSERVATION

7
ALLAN D. ROBIN R.
JOHNSON

Sta. 10611+50.00
Install 18" x 102' Uncl.
F.L. = Lt. 881.22
Rt. 880.77

For Side Road Details
Refer to Sheet No. E.2

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdei/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 2/10/14
Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM	HDR Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSN-218-7(188)--2R-07	SHEET NUMBER	HE.2

3:46:52 PM 2/11/2014 smcclan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\0721801006\ROW\07218189he1.sht

REVISED	7/28/14	PAR	2A
REVISED	9/8/14	PAR	1

(1A)

(2)

GARY D. & JENNIFER M.
GRAZIER

TIMOTHY J. & SHEILA M.
COMBS

WASHIGTON TWP.
T-90N R-14W
SEC. 24

WASHIGTON TWP.
T-90N R-14W
SEC. 19

WASHIGTON TWP.
T-90N R-14W
SEC. 25

WASHIGTON TWP.
T-90N R-14W
SEC. 30

Sta. 11485+55
℄90'

Sta. 11486+70
℄90'

Sta. 11486+92.00
Install SI-181

Sta. 11491+97.00
Install SI-181

Sta. 11492+89.26
Install 18" x 49' Uncl.
F.L. = Lt. 868.10
Rt. 867.90

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

+10 Prop. Ent.
Type "C"
18" Uncl. Pipe

11485

11490

CN Railroad

US 218

MT. VERNON RD.

(Obliterate)

(U.A.C.)

(Obliterate)

(U.A.C.)

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE
DO NOT REMOVE TREES

11492+50
℄33'±ExR/W

+10 Prop. Ent.
Type "C"
18" Uncl. Pipe

11493+15
℄80'

11493+25
℄33'±ExR/W

11492+65
℄80'

Remove Railroad Crossing
(By Others)

BIG WOODS RD.

House

Garage

Building

Shed

Building

Sta. 11486+09.96
Construct Hammerhead Turn Around
See U.1

Sta. 11492+89.26
Construct Hammerhead Turn Around
See U.1

0 50
FEET

W. MT. VERNON ROAD

MARC R. SCHWEER
& RONALD SCHWEER

(1)
BRADLEY
BROWN

For Side Road Details
Refer to Sheet No. E.3

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdei/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 9/8/14
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER HE.3

8:33:49 AM 9/8/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\0721801006\ROW\07218189he1.sht

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdei/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 7/28/14
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

For Side Road Details Refer to Sheet No. E.4

REVISED	7/28/14	PAR	3E

3B
GLORIA A. DAYTON

3C
DANNY J. MOULDS

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 18

WASHIGTON TWP.
T-90N R-14W
SEC. 24

WASHIGTON TWP.
T-90N R-14W
SEC. 19

24" X 47" CMP
24" X 28" Conc. Pipe
(REMOVE)

24" X 47" CMP
(REMOVE)

Sta. 12540+35.00
Install SI-181

Sta. 12546+40.00
Install SI-181

12540

12545

POT Sta 12538+73.75

POT Sta 12549+85.85

Remove Railroad Crossing
(By Others)

(Obliterate)

(Obliterate)

W. Bennington Rd

Leversee Rd.

+53 Prop. Type "C" 18" Uncl. Pipe

+22 Prop. Ent. Type "C" 18" Uncl. Pipe

12539+34±℄
℄90'

12539+24±℄
℄90'

12546+65
℄85'

12547+75
℄85'

STA 543+62.32 ML218
STA 12543+62.32 BENNINGTON

CN Railroad
(U.A.C.)

US 218
(U.A.C.)

(U.A.C.)

8' X 4' X 47.35' Octagon Culvert
(REMOVE)

0 FEET 50

Sta. 12539+52.88
Construct Hammerhead Turn
Around See U.1

Sta. 12547+21.76
Construct Hammerhead Turn
Around See U.1

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

W. BENNINGTON ROAD

CHRISTOPHER CONRAD

DENNIS H. & JEANETTE GIBBS

3
STEVE S. CONRAD

3A
DON & JOAN FIX

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER HE.4

8:59:14 AM 7/28/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\0721801006\ROW\07218189he1.sht

Sta. 13061+96
Install 18" x 45' Uncl.
F.L. = Lt. 880.15
Rt. 880.02

REMOVE
Install 24" x 39' Uncl.
F.L. = Lt. 883.11
Rt. 882.92

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

Sta 13065+87.34
Install SI-181

WASHINGTON TWP.
T-90N R-14W
SEC. 1

Remove Railroad Crossing
(By Others)

CHARLES L. HESSE (16)

13060+35
℄80'

13061+15
℄80'

+80 Prop. 18" "C" Type Uncl. Pipe Ent.

PDT Sta 13060+30.10

CN RAILROAD

13065

(Obliterate)

13066+25
℄85'

13067+15
℄85'

+69 Prop. 24" "C" Type Uncl. Pipe Ent.

PDT Sta 13069+00.22

(15)
OSBORN FARMS, INC

N

W. GRESHAM ROAD

APPROX. P.C. LINE

(Obliterate)

US 218

STA. 64+62.60 ML218
STA. 13064+62.60 WGRESHAM

Building

House

Garage

Shed

Shed

MICHAEL P. APLING

WASHIGTON TWP.
T-90N R-14W
SEC. 12

MATTHEW S. CHRISTOPHER

Sta. 13060+79.78
Construct Hammerhead Turn
Around See U.1

Sta 13062+15.50
Locked Gate for
Railroad Access

(U.A.C.)

(U.A.C.)

(U.A.C.)

(14)
BONNIE L. ROGERS

(14A)
BONNIE ROGERS (FEE)
MATTHEW CHRISTOPHER (CP)

0 50
FEET

Sta. 13066+69.34
Construct Hammerhead Turn
Around See U.1

W. GRESHAM ROAD

For Side Road Details
Refer to Sheet No. E.5

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdei/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 9/24/13
Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER HE.5

6:39:56 AM 10/15/2013 smcclan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\0721801006\ROW\0721818hel.sht

REVISED	1/13/14	PAR	4
REVISED	1/13/14	PAR	5R
REVISED	1/13/14	PAR	5

SECTION 7

WASHINGTON TWP.
T-90N R-14W
SEC. 13

Curve Data
Δ = 16° 45' 07.03" (LT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,605.20
Ls = 70.00
Design Speed = 49 MPH
Elevation = 1/2"

Sta. 15561+63.80
24" X 30' CIP
(REMOVE)

4
DONALD & BONNIE BROWN

Curve Data
Δ = 16° 27' 49.67" (RT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,576.38
Ls = 70.00
Design Speed = 49 MPH
Elevation = 1/2"

5
DEERY INVESTMENTS, INC

Sta. 15554+80.79 (13.5' Clear Point)
Stop Track Construction by Cedar River RR Co.
Begin Track Construction by Iowa DOT

15550
TS Sta 15550+48.36
SC Sta 15551+18.36
15551+16± ℄50'(RR)
15555
15560
15561+55± ℄50'(RR)
15565
CS 15567+23.56 ℄50'(RR)
CS Sta 15567+23.56
ST Sta 15567+93.56
ST 15567+93.56 ℄50'(RR)
15570
SC 15571+71.33 ℄50'(RR)
TS 15571+01.33 ℄50'(RR)
15575
PI Sta 15579+64.54

5R
CEDAR RIVER RAILROAD COMPANY

QUIT CLAIM AREA

CEDAR RIVER RR CO.

FUTURE LINE

TS Sta 15571+01.33
SC Sta 15571+71.33

(U.A.C.)

US 218

PI Sta 15559+26.26

(Obliterate Railroad)

Sta. 15550+48.36
Begin Track Construction
on Wood Ties
Install Compromise Rail
100 LB to 115 LB RE
(By Cedar River RR Co.)

0 100
FEET

7
ALLAN D. & ROBIN R. JOHNSON

For Side Road Details
Refer to Sheet No. E.7

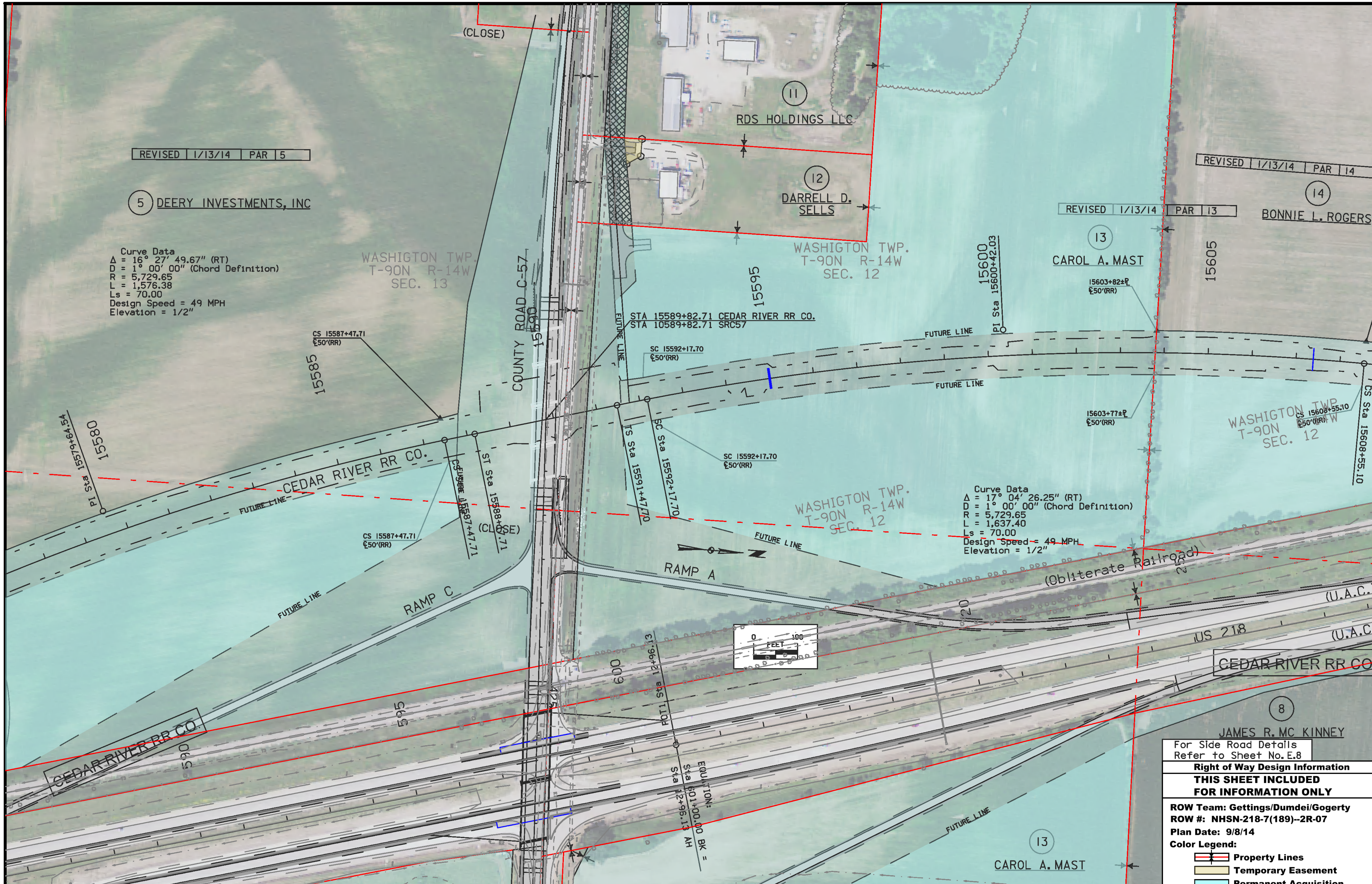
Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdel/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 2/10/14
Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM	HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSN-218-7(188)--2R-07	SHEET NUMBER	HE.6

7:22:58 AM 2/17/2014 smcclan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\0721801006\ROW\0721818he1.sht



(CLOSE)
REVISED | 1/13/14 | PAR | 5
5 DEERY INVESTMENTS, INC
11 RDS HOLDINGS LLC
12 DARRELL D. SELLS
REVISED | 1/13/14 | PAR | 14
14 BONNIE L. ROGERS
REVISED | 1/13/14 | PAR | 13
13 CAROL A. MAST
Curve Data
Δ = 16° 27' 49.67" (RT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,576.38
Ls = 70.00
Design Speed = 49 MPH
Elevation = 1/2"
WASHINGTON TWP. T-90N R-14W SEC. 13
WASHINGTON TWP. T-90N R-14W SEC. 12
COUNTY ROAD C-57
15595
15600
PI Sta 15600+42.03
15605
15603+82±℄ ℄50'(RR)
STA 15589+82.71 CEDAR RIVER RR CO.
STA 10589+82.71 SRC57
CS 15587+47.71 ℄50'(RR)
SC 15592+17.70 ℄50'(RR)
FUTURE LINE
15585
15580
PI Sta 15579+64.54
CEDAR RIVER RR CO.
TS Sta 15591+47.70
SC Sta 15592+17.70
ST Sta 15588+71
15603+77±℄ ℄50'(RR)
CS 15608+55.10 ℄50'(RR)
CS Sta 15608+55.10
Curve Data
Δ = 17° 04' 26.25" (RT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,637.40
Ls = 70.00
Design Speed = 49 MPH
Elevation = 1/2"
RAMP A
RAMP C
(Obliterate Railroad)
(U.A.C.)
US 218
CEDAR RIVER RR CO
0 FEET 100
600
595
590
POT Sta 12+96.13
EQUATION: Sta 601+00.00 BK = Sta 12+96.13 AH
8 JAMES R. MC KINNEY
13 CAROL A. MAST
For Side Road Details Refer to Sheet No. E.8
Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY
ROW Team: Gettings/Dumdei/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 9/8/14
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER HE.7

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REVISED | 1/13/14 | PAR | 14

(14)

BONNIE L. ROGERS

REVISED | 1/13/14 | PAR | 14

(14)

BONNIE L. ROGERS

CS 15608+55.10
℄50'(RR)

15610

ST 15609+25.10
℄50'(RR)

TS 15612+36.51
℄50'(RR)

TS Sta 15612+36.51

SC Sta 15613+06.51

SC 15613+06.51
℄50'(RR)

15615

CEDAR RIVER RR CO.

CS 15608+55.10
℄50'(RR)

CS Sta 15608+55.10

ST Sta 15609+25.10

ST 15609+25.10
℄50'(RR)

FUTURE LINE

TS 15612+36.51
℄50'(RR)

QUIT CLAIM AREA

SC 15613+06.51
℄50'(RR)

(Obliterate Railroad)

30 35 40 45 50 55

WASHIGTON TWP.
T-90N R-14W
SEC. 12

REVISED | 1/13/14 | PAR | 14

(14)

BONNIE L. ROGERS

REVISED | 1/13/14 | PAR | 5R

(5R)

CEDAR RIVER
RAILROAD COMPANY

15618+81±R
℄50'(RR)

15620

15625

QUIT CLAIM AREA

15629+07±R
℄50'(RR)

ST Sta 15629+13.97

ST Sta 15629+83.97

15630

Curve Data
Δ = 16° 46' 28.55" (LT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,607.46
Ls = 70.00
Design Speed = 49 MPH
Elevation = 1/2"

Sta. 15625+57.67 (13.5' Clear Point)
End Track Construction by Iowa DOT
Resume Track Construction by Cedar River RR Co.

Sta. 15629+83.97
End Track Construction
Install Compromise Rail
115 LB RE to 100 LB

(U.A.C.)Railroad

SC 4

(U.A.C.)

(U.A.C.)

US 218

(U.A.C.)

(U.A.C.)

218

218

0 100
FEET

CEDAR RIVER RR CO.

(8)

JAMES R. MC KINNEY

BONNIE L. ROGERS (FEE)
MATTHEW CHRISTOPHER (CP)

CHARLES L. & LISA HESSE

For Side Road Details
Refer to Sheet No. E.9

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdei/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 2/10/2014
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER HE.8

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108-23A
08-01-08

TRAFFIC CONTROL PLAN

Work that encroaches onto the shoulder of U.S. 218 will require a lane closure.

U.S. 218 lane closures shall be restricted to nighttime hours.
Nightime lane closures will be permitted from 7:00 p.m. to 6:00 a.m. Monday night through Friday morning and from 10:00 p.m. Sunday night through 6:00 a.m. Monday morning.

Lane closures will not be permitted Friday and Saturday nights.

The Contractor shall not cross U.S. 218 with haul vehicles or construction equipment.

Contractor access to the project from U.S. 218 will not be permitted except to perform the following work:
- Obliterate the median intersections
- Construct the C-57 over U.S. 218 bridge median pier
- Remove existing turn lanes
- Construct paved shoulders
- Obliterate sideroad connections.

108-26A
08-01-08

STAGING NOTES

STAGING NOTES

Stage 1A:

Traffic:

Maintain two-way traffic on US 218.
Close County Road C-57 East and West of US 218 from Station 10584+00 to 10615+00.
Detour County Road C-57 traffic. See Sheet J.3 for detour route.
Maintain CN Railroad Traffic on the Existing Track.

Construction:

DOT contractor will grade/subballast all areas clear of existing track and build temporary turnout pad.
Build Frontage Road North of County Road C-57.
Begin Construction of the Bridge over the proposed Cedar River Railroad Co. on County Road C-57.
Grade the County Road C-57 Roadway from Sta 10584+00 to Sta. 10595+00 and Ramp A and Ramp C, that is clear of existing railroad.
Pump out lake at the Southeast corner of the intersection at County Road C-57 and US 218.
Grade the County Road C-57 Roadway from Sta 10598+00 to Sta. 10614+00 and Ramp B and Ramp D.

STAGE 1B:

Traffic:

Maintain roadway traffic per Stage 1A.
Cedar River Railroad Co.track outage to install turnout.

Construction:

Cedar River Railroad Co. install temporary railroad turn-out at Sta. 25550+48.36.
Construct the proposed railroad track from temporary turnout to Sta. 25555+07.77.

STAGE 1C:

Traffic:

Maintain roadway traffic per Stage 1A.

Construction:

DOT contractor builds track on temporary alignment from Station 25555+07.77 to Station 25556+91.95 and ultimate track from Station 15556+91.95 to 15625+57.67 (13.5' clear point). Cedar River Railroad Co. will test and determine if the construction of the new track is acceptable.

Stage 2A:

Traffic:

Maintain roadway traffic per Stage 1A.
Cedar River Railroad Co. track outage to construct tie in connection. Open to full operations following track outage.

Construction:

Cedar River Railroad Co. makes track connection at north end of project under track outage. Train Traffic opened to new alignment.

STAGE 2B:

Traffic:

US 218 reduce to one lane in each direction. Maintain traffic on outside driving lane.

108-26A
08-01-08

STAGING NOTES

Construction:

Cedar River Railroad Co. salvages existing rail and ties. Cedar River Railroad Co. has two weeks following the completion of Stage 2A to salvage the abandoned railroad.
Obliterate the existing Cedar River Railroad Co. Railroad embankment after Cedar River Railroad Co. completes its salvage task.
Obliterate the median intersection at US 218 and County Road C-57 and re-grade with a depressed median.
Remove the existing turn lanes along US 218 and construct proposed shoulders.
Construct the bridge pier in the median of existing US 218.

STAGE 2C:

Traffic:

US 218 reduce to one lane in each direction. Maintain traffic on inside driving lane.

Construction:

Cedar River Railroad Co. removes temporary turnout and shifts/builds track from Station 15550+48.36 to Station 15556+91.95
Begin construction of County Road C-57 bridge over US 218.

Stage 3A

Traffic:
Maintain at least one lane of traffic in each direction, on US 218 through the construction area of the interchange.
Maintain traffic on the inside driving lane.

Construction:

Pave County Road C-57 from Sta. 10578+00.00 to Sta. 10612+00.00
Pave RAMPS A,B,C, and D.

STAGE 3B:

Traffic:

Open US 218 to two Lanes, the proposed interchange and County Road C-57 from Sta. 10578+00 to the East.
Close County Road C-57 from Waverly Road to Station 10578+00.

Construction:

Connect the Frontage Road to the newly constructed County Road C-57.
Construct County Road C-57 from Sta. 105+78.00 to the Western terminus.

Stage 4A:

Traffic:

County Road C-57 and is completed and open to traffic.
Cedar River Railroad Co. track is open and fully operational.
Close accesses at Mt. Vernon Road, Bennington Road, and W. Gresham Road to US 218.
US 218 reduce to one lane in each direction. Maintain traffic on outside lane.

Construction:

At the intersections of US 218 and Mt. Vernon Road, Bennington Road, and Gresham Road
Saw-cut and remove the left turn lanes and intersection pavement, replace with shoulders and a depressed median.
Construct hammerhead turnarounds on both sides of US-218.

STAGE 4B:

Traffic:

Close accesses at Mt. Vernon Road, Bennington Road, and W. Gresham Road to US 218.
US 218 reduce to one lane in each direction. Maintain on inside lane.

Construction:

At the intersections of US 218 and Mt. Vernon Road, Bennington Road, and Gresham Road
Obliterate and re-grade shoulders the existing connections at US 218.
Install Road Closure signage per standard road plan SI-181.
Install locked gate access at West Gresham Road.

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

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

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

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

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

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

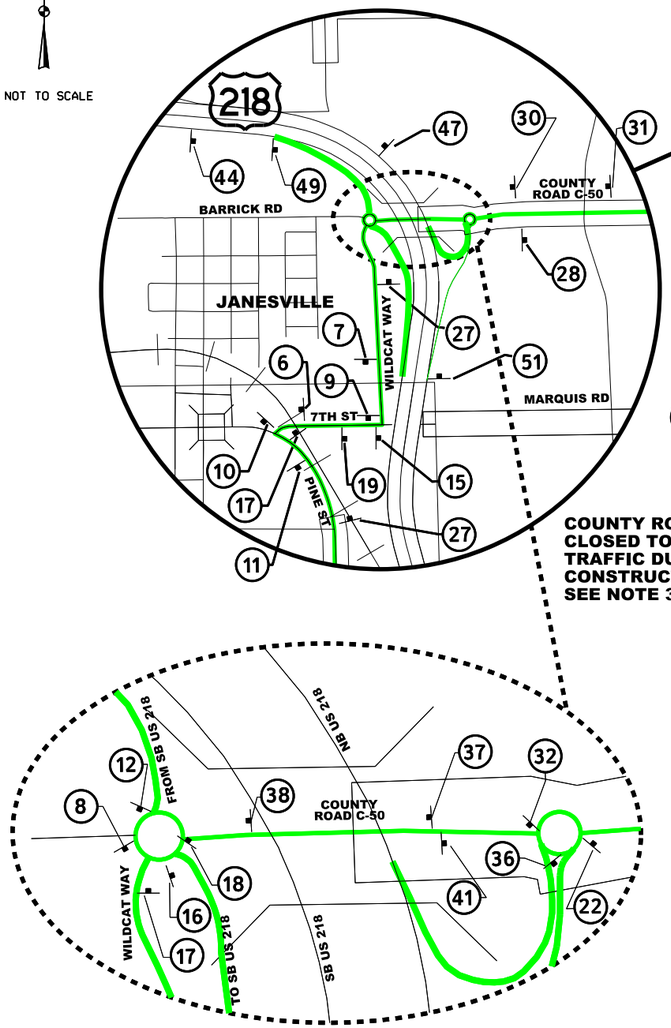
●	Channelizing Device	▪▪▪	Crash Cushion
✕	Drum	○→	Traffic Signal
◘	Temporary Lane Separator		Flagger
◆	Tubular Marker	○-●-	Temporary Floodlighting
♦	Channelizer Marker	⊢	Traffic Sign
△	Concrete Barrier Marker	⊢	Type III Barricade
‹	Delineator		Type A Warning Light
	Temporary Barrier Rail	←	Direction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

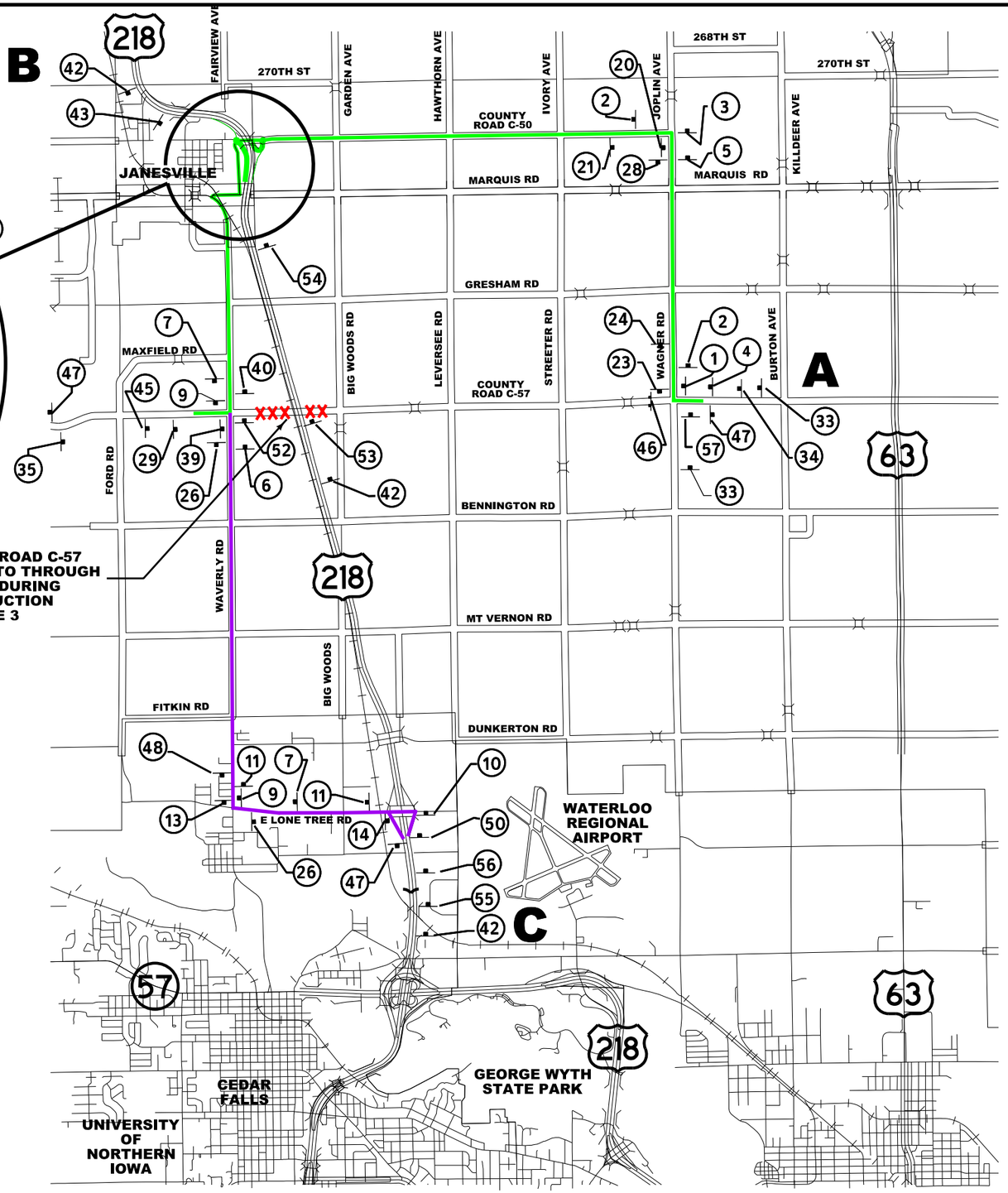
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)

NOT TO SCALE





LEGEND

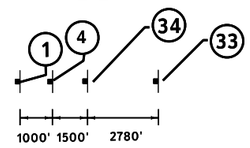
- PRIMARY DETOUR ROUTE
- DETOUR ROUTE
  NORTHBOUND US 218 TO WESTBOUND COUNTY ROAD C-57
  EASTBOUND COUNTY ROAD C-57 TO SOUTHBOUND US 218
- XXXXXX CLOSED TO THROUGH TRAFFIC

NOTES:

1. ALL SIGN LOCATIONS ARE APPROXIMATE AND MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
2. CONTRACTOR SHALL COVER ALL CONFLICTING SIGNS AND MESSAGES.
3. SEE SHEET J.27-77 FOR SIGNING AND TRAFFIC CONTROL DETAILS AT C57/US 218.
4. DIRECTIONAL DETOUR ROUTE MARKER ASSEMBLIES SHALL BE LOCATED 100 FT TO 200 FT IN ADVANCE OF ALL REQUIRED TURNS WITHIN THE DETOUR LIMITS. THE ADVANCED TURN ASSEMBLY SHALL BE LOCATED 250 FT IN ADVANCE OF THE DIRECTIONAL DETOUR ROUTE MARKER.
5. CONFIRMING DETOUR ROUTE MARKER ASSEMBLIES SHALL BE LOCATED 25 FT TO 200 FT PAST ALL MAJOR INTERSECTIONS. CONFIRMING DETOUR ROUTE MARKER ASSEMBLIES SHALL BE PLACED AFTER A REQUIRED TURN.
6. SEE SHEET J.4 FOR SIGN LEGEND.

ADVANCED SIGNING SPACING

A



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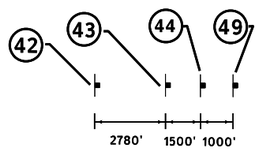

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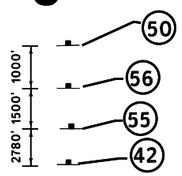

DETOUR MAP

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.3	

2:57:42 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

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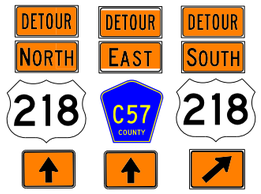

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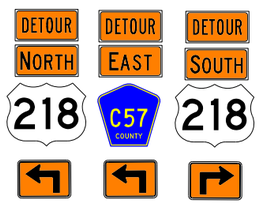

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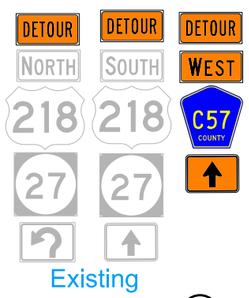

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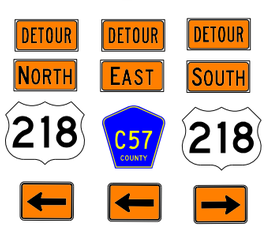

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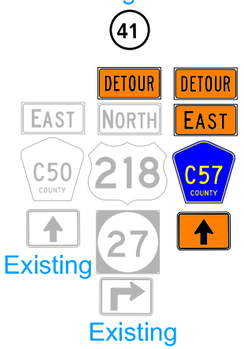

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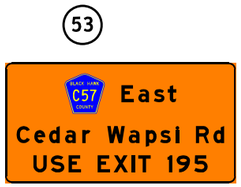

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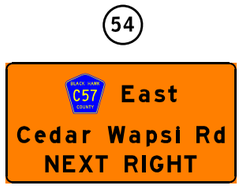

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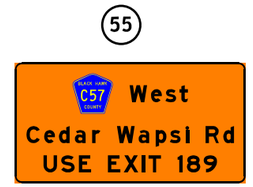

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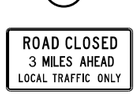

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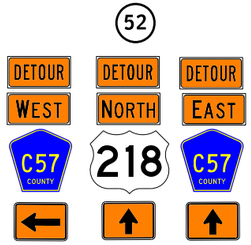

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NOTES:

1. CONTRACTOR MAY UTILIZE EXISTING ROUTE SIGNS WHEN AVAILABLE IN THE FIELD.

SIGN LEGEND

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.4

2:57:49 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

4.0" Radius, 1.0" Border, White on Orange;
[West] E Mod; [Cedar Wapsi Rd] E Mod;
[CLOSED AHEAD] E Mod;
Table of distances between letter and object lefts.

34.5	34.0	W 12.9	e 8.6	s 8.4	t 5.1	34.5

6.9	C 10.6	e 8.8	d 9.6	a 10.3	r 14.9	W 12.9	a 10.3	p 8.4	s 9.5	l	

11.9	R 10.5	d 6.5	6.9	

9.4	C 10.0	L 9.5	O 10.4	S 10.5	E 9.5	D 18.0	A 12.0	H 10.5	E 8.9	A 12.0	D 8.0	9.3	

4.0" Radius, 1.0" Border, White on Orange;
[East] E Mod; [Cedar Wapsi Rd] E Mod;
[CLOSED AHEAD] E Mod;
Table of distances between letter and object lefts.

35.6	34.0	E 10.1	a 9.3	s 8.4	t 5.0	35.6

6.9	C 10.6	e 8.8	d 9.6	a 10.3	r 14.9	W 12.9	a 10.3	p 8.4	s 9.5	l	

11.9	R 10.5	d 6.5	6.9	

9.4	C 10.0	L 9.5	O 10.4	S 10.5	E 9.5	D 18.0	A 12.0	H 10.5	E 8.9	A 12.0	D 8.0	9.3	

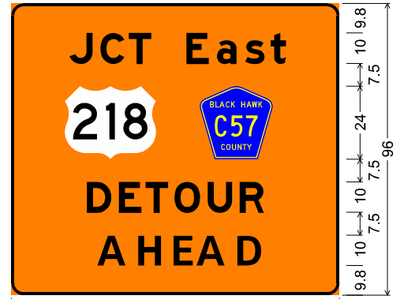
4.0" Radius, 1.0" Border, White on Orange;
[Cedar Wapsi Rd] E Mod; [CLOSED AHEAD] E Mod;
Table of distances between letter and object lefts.

57.0	24.0	57.0	

6.9	C 10.6	e 8.8	d 9.6	a 10.3	r 14.9	W 12.9	a 10.3	p 8.4	s 9.5	i	

11.9	R 10.5	d 6.5	6.9	

9.4	C 10.0	L 9.5	O 10.4	S 10.5	E 9.5	D 18.0	A 12.0	H 10.5	E 8.9	A 12.0	D 8.0	9.3	



4.0" Radius, 1.0" Border, White on Orange;
[JCT] E Mod; [East] E Mod;
[DETOUR] E Mod;
[AHEAD] ClearviewHwy-5-W;
Table of distances between letter and object lefts.

19.1	J 10.3	C 9.3	T 18.9	E 10.1	a 9.3	s 8.4	t 5.0	17.6	

17.6	44.4	24.0	22.0	

24.9	D 10.5	E 8.9	T 9.4	O 11.0	U 10.5	R 8.0	24.8		

27.5	A 12.3	H 11.6	E 8.8	A 12.3	D 8.0	27.5	

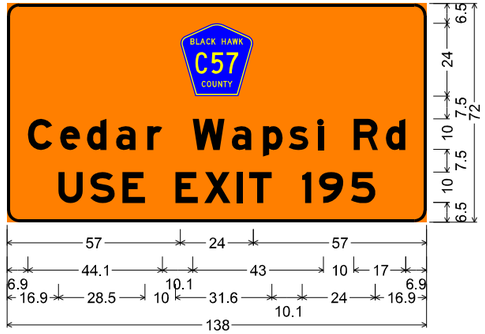
4.0" Radius, 1.0" Border, White on Orange;
[JCT] E Mod; [West] E Mod;
[DETOUR] E Mod;
[NEXT RIGHT] ClearviewHwy-5-W;
Table of distances between letter and object lefts.

16.1	J 10.1	C 9.4	T 28.9	W 12.9	e 8.6	s 8.4	t 5.1	14.5	

14.5	55.5	24.0	20.0	

27.9	D 10.5	E 8.8	T 9.5	O 10.9	U 10.5	R 8.0	27.9	

9.0	N 12.1	E 8.6	X 10.5	T 18.1	R 11.0	I 5.5	G 12.4	H 10.5	T 7.4	8.9



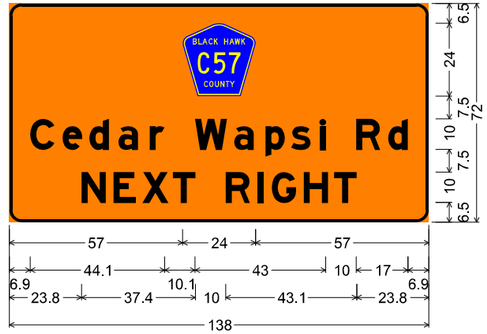
4.0" Radius, 1.0" Border, White on Orange;
[Cedar Wapsi Rd] E Mod; [USE EXIT 195] E Mod;
Table of distances between letter and object lefts.

57.0	24.0	57.0	

6.9	C 10.6	e 8.8	d 9.6	a 10.3	r 14.9	W 12.9	a 10.3	p 8.4	s 9.5	i	

11.9	R 10.5	d 6.5	6.9	

16.9	U 10.5	S 10.5	E 17.5	E 9.5	X 10.8	I 4.0	T 17.4	1 5.5	9 10.5	5 8.0	16.9			



4.0" Radius, 1.0" Border, White on Orange;
[Cedar Wapsi Rd] E Mod; [NEXT RIGHT] E Mod;
Table of distances between letter and object lefts.

57.0	24.0	57.0	

6.9	C 10.6	e 8.8	d 9.6	a 10.3	r 14.9	W 12.9	a 10.3	p 8.4	s 9.5	i	

11.9	R 10.5	d 6.5	6.9	

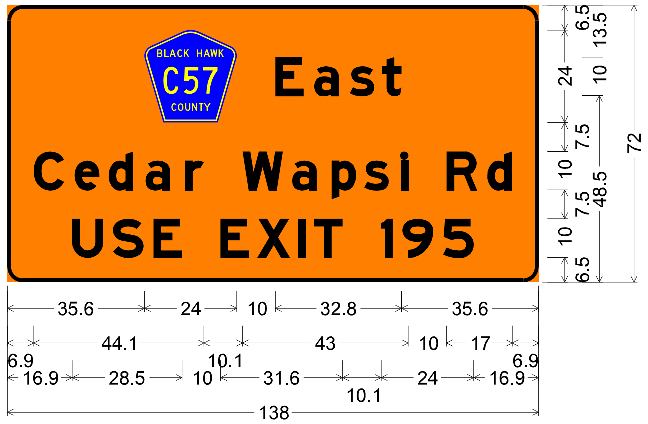
23.8	N 10.5	E 9.4	X 10.1	T 17.4	R 10.5	I 4.6	G 10.5	H 10.1	T 7.4	23.8				

NOTES:

1. DIMENSIONS SHOWN ARE IN INCHES.

SIGN DETAILS

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.5	



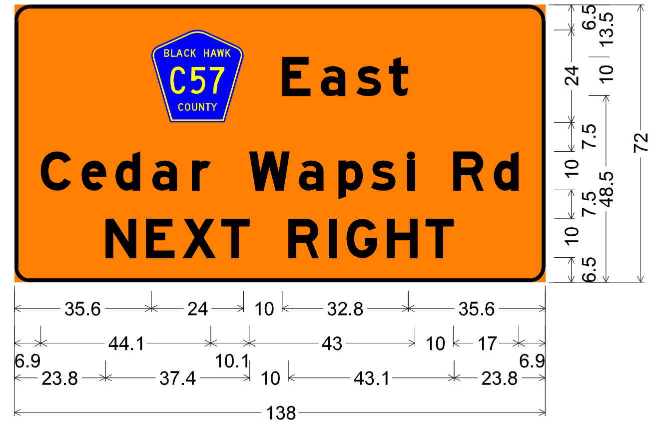
4.0" Radius, 1.0" Border, White on Orange;
[East] E Mod; [Cedar Wapsi Rd] E Mod;
[USE EXIT 195] E Mod;
Table of distances between letter and object lefts.

		E	a	s	t	
35.6	34.0	10.1	9.3	8.4	5.0	35.6

	C	e	d	a	r	W	a	p	s	i
6.9	10.6	8.8	9.6	10.3	14.9	12.9	10.3	8.4	9.5	

	R	d	
11.9	10.5	6.5	6.9

	U	S	E	E	X	I	T	1	9	5	
16.9	10.5	10.5	17.5	9.5	10.8	4.0	17.4	5.5	10.5	8.0	16.9



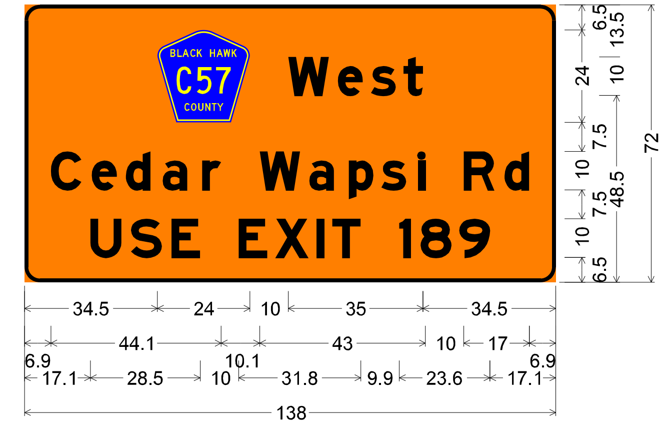
4.0" Radius, 1.0" Border, White on Orange;
[East] E Mod; [Cedar Wapsi Rd] E Mod;
[NEXT RIGHT] E Mod;
Table of distances between letter and object lefts.

		E	a	s	t	
35.6	34.0	10.1	9.3	8.4	5.0	35.6

	C	e	d	a	r	W	a	p	s	i
6.9	10.6	8.8	9.6	10.3	14.9	12.9	10.3	8.4	9.5	

	R	d	
11.9	10.5	6.5	6.9

	N	E	X	T	R	I	G	H	T	
23.8	10.5	9.4	10.1	17.4	10.5	4.6	10.5	10.1	7.4	23.8



4.0" Radius, 1.0" Border, White on Orange;
[West] E Mod; [Cedar Wapsi Rd] E Mod;
[USE EXIT 189] E Mod;
Table of distances between letter and object lefts.

		W	e	s	t	
34.5	34.0	12.9	8.6	8.4	5.1	34.5

	C	e	d	a	r	W	a	p	s	i
6.9	10.6	8.8	9.6	10.3	14.9	12.9	10.3	8.4	9.5	

	R	d	
11.9	10.5	6.5	6.9

	U	S	E	E	X	I	T	1	8	9	
17.1	10.6	10.5	17.4	9.5	10.8	4.0	17.4	5.6	10.0	8.0	17.1

4.0" Radius, 1.0" Border, White on Orange;
[West] E Mod; [Cedar Wapsi Rd] E Mod;
[NEXT RIGHT] E Mod;
Table of distances between letter and object lefts.

		W	e	s	t	
34.5	34.0	12.9	8.6	8.4	5.1	34.5

	C	e	d	a	r	W	a	p	s	i
6.9	10.6	8.8	9.6	10.3	14.9	12.9	10.3	8.4	9.5	

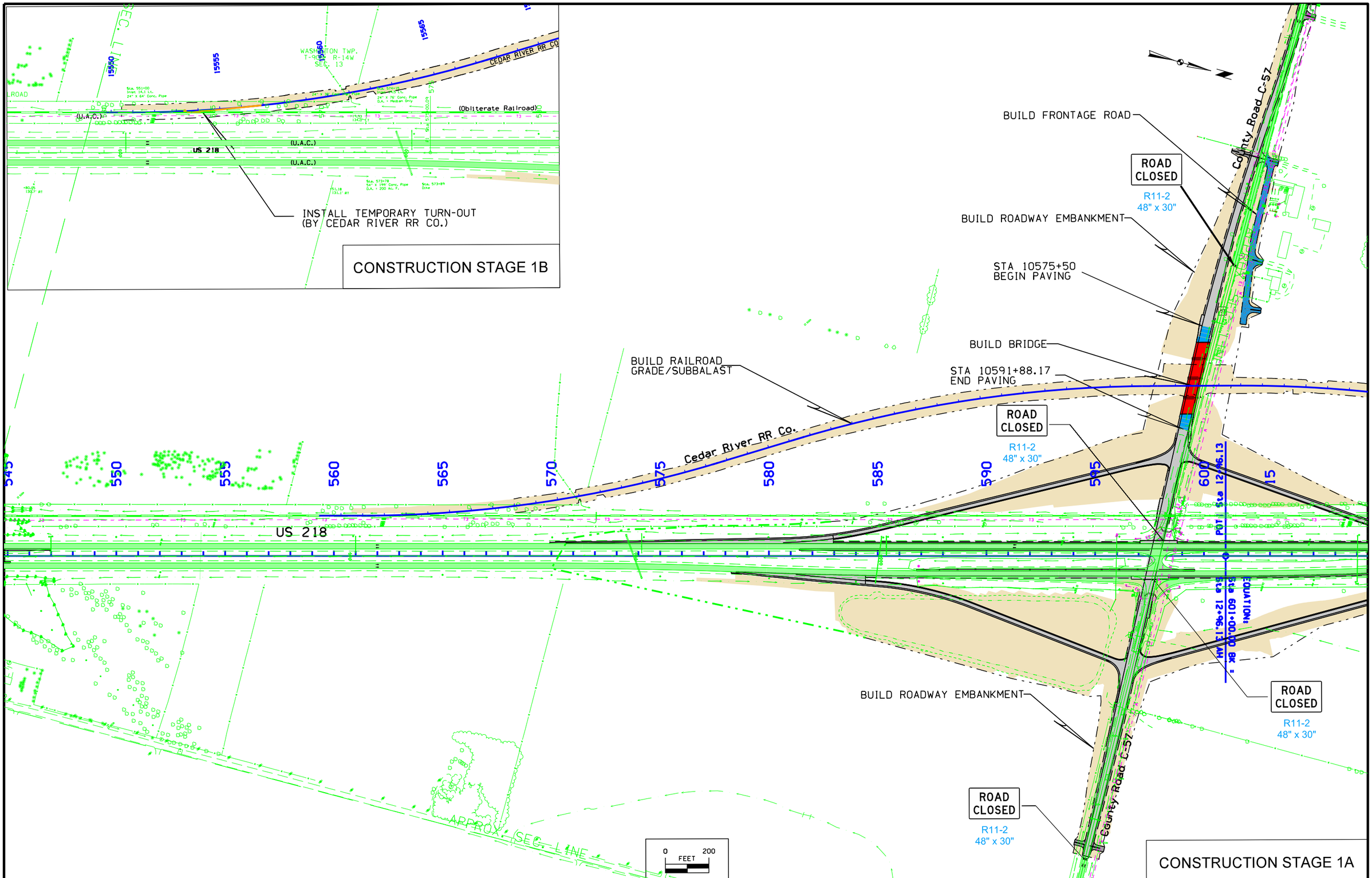
	R	d	
11.9	10.5	6.5	6.9

	N	E	X	T	R	I	G	H	T	
23.8	10.5	9.4	10.1	17.4	10.5	4.6	10.5	10.1	7.4	23.8

NOTES:

1. DIMENSIONS SHOWN ARE IN INCHES.

SIGN DETAILS



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BUILD FRONTAGE ROAD

ROAD CLOSED
R11-2
48" x 30"

County Road C-57

BUILD ROADWAY EMBANKMENT

STA 10575+50
BEGIN PAVING

BUILD BRIDGE

STA 10591+88.17
END PAVING

BUILD RAILROAD
GRADE/SUBBALLAST

Cedar River RR Co.

ROAD CLOSED
R11-2
48" x 30"

590 595 600 15 20 25 30 35 40 45 50 55 60

POT Sta 12+96.13

Sta 12+96.13 AH = Sta 601+00.00 BK
EQUATION:

US 218

(U.A.C.)

(U.A.C.)

EMBANKMENT

ROAD CLOSED
R11-2
48" x 30"

County Road C-57

ROAD CLOSED
R11-2
48" x 30"

0 200
FEET

CONSTRUCTION STAGE 1A

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSX-218-7(207)--3H-07	SHEET NUMBER	J.8

2:58:07 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

Ultimate Track Alignment Sta. 15556+91.95 =
Temp Track Alignment Sta. 25556+91.95
BEGIN ULTIMATE TRACK CONSTRUCTION BY IOWA DOT

Temp Track Alignment Sta. 25555+07.77
BEGIN TEMP. TRACK CONSTRUCTION BY IOWA DOT

BUILD RAILROAD TRACK

Cedar River RR Co.

US 218

County Road C-57

ROAD CLOSED
R11-2
48" x 30"

SAFETY CLOSURE

STA 10575+50
BEGIN PAVING

BUILD BRIDGE

STA 10591+88.17
END PAVING

ROAD CLOSED
R11-2
48" x 30"

545 550 555 560 565 570 575 580 585 590 595 600 15

POT Sta 12+96.13 AH
EQUATION: Sta 601+00.00 BK = Sta 12+96.13 AH

BUILD ROADWAY EMBANKMENT

ROAD CLOSED
R11-2
48" x 30"

ROAD CLOSED
R11-2
48" x 30"

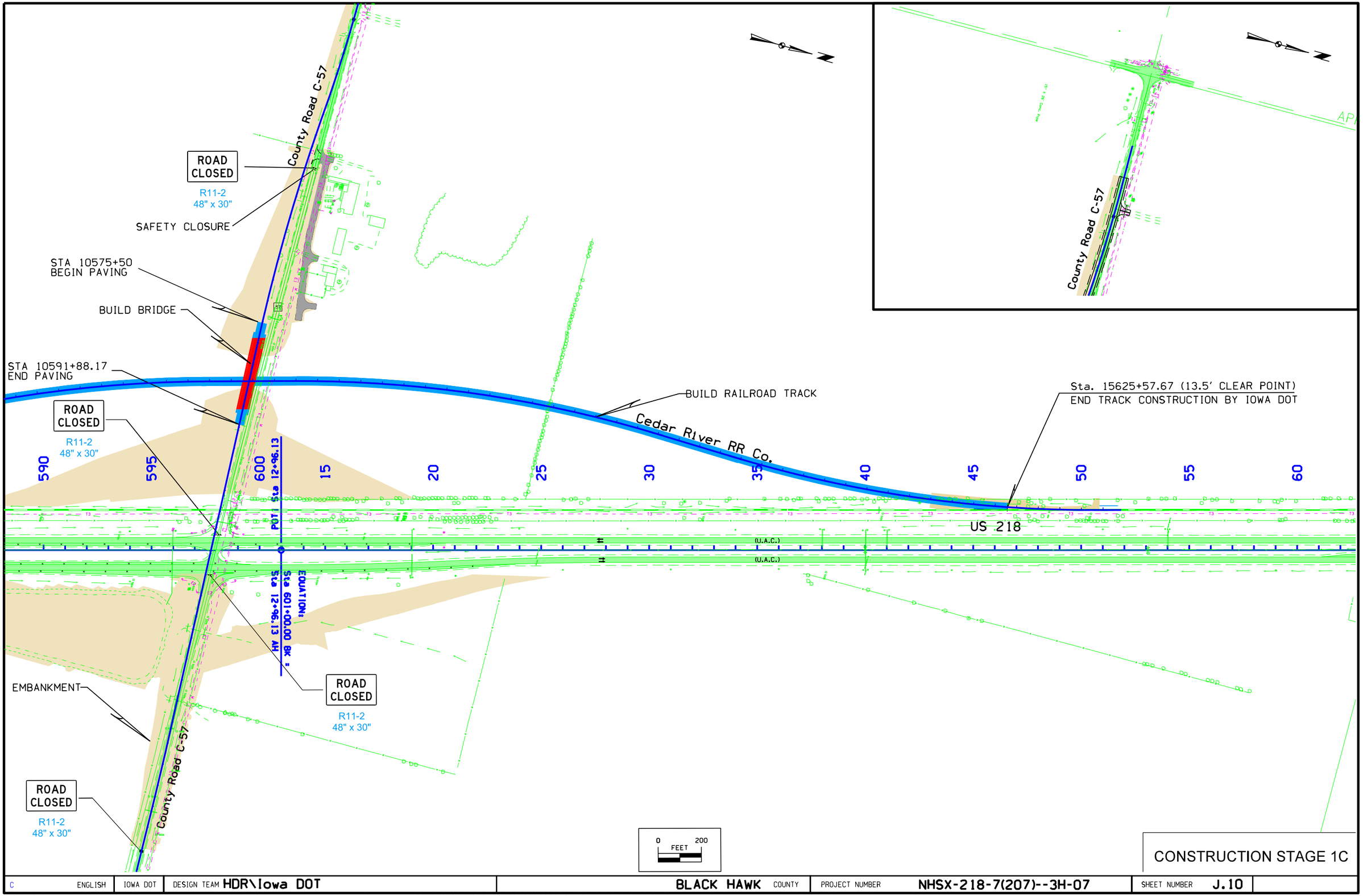
County Road C-57

0 200
FEET

CONSTRUCTION STAGE 1C

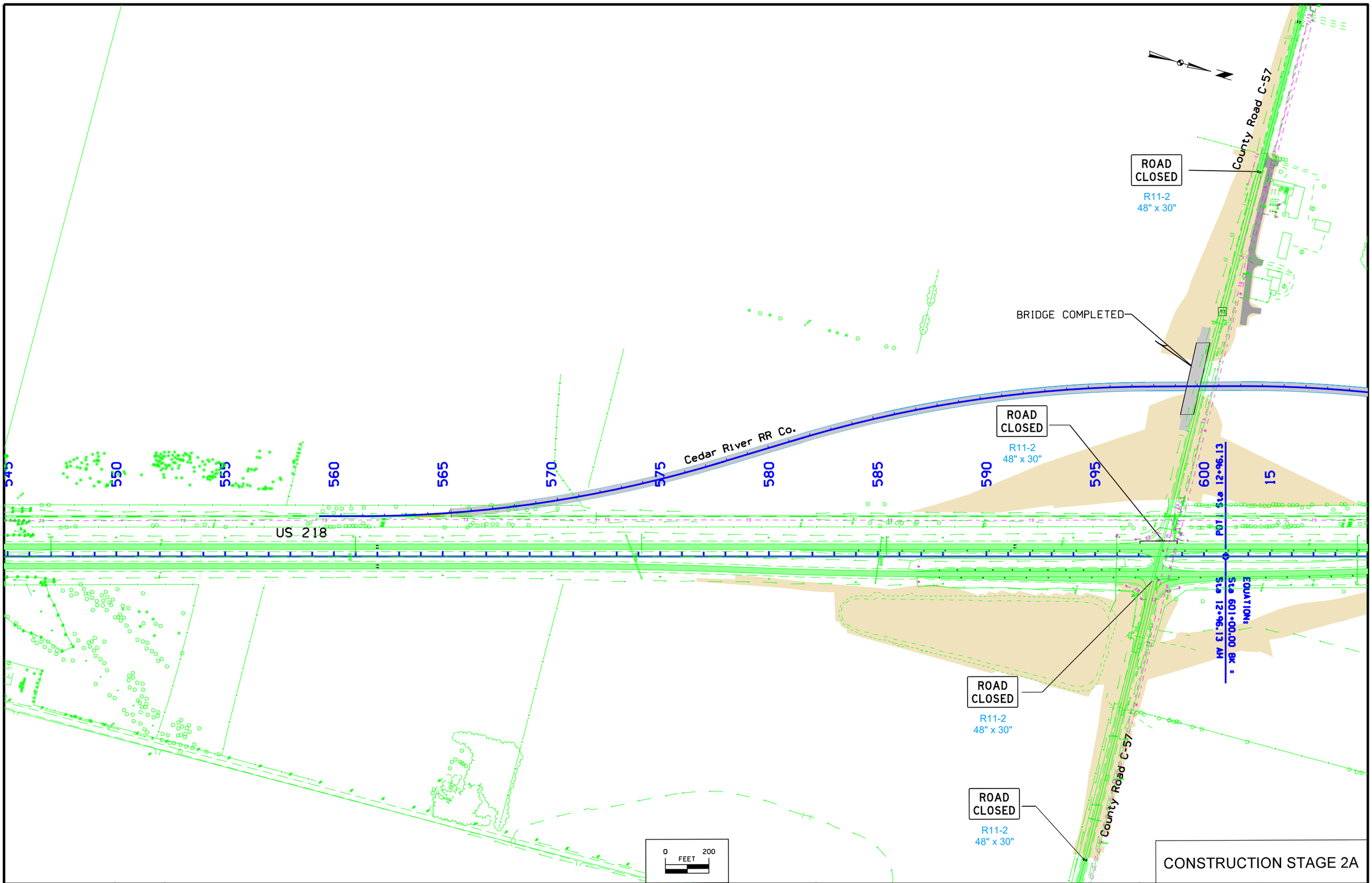
C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.9

2:58:11 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht



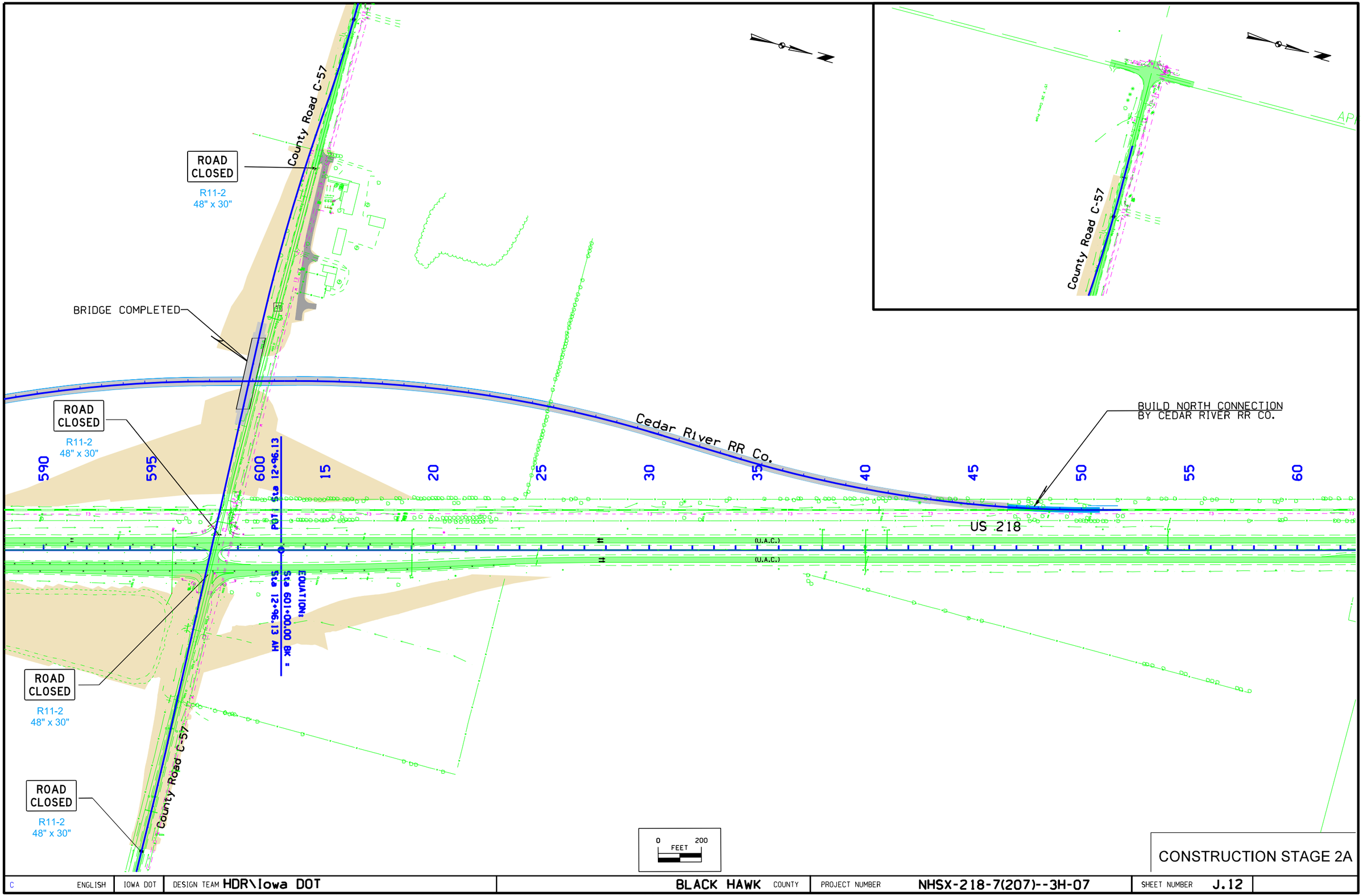
C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.10	

2:58:15 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht



C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.11	

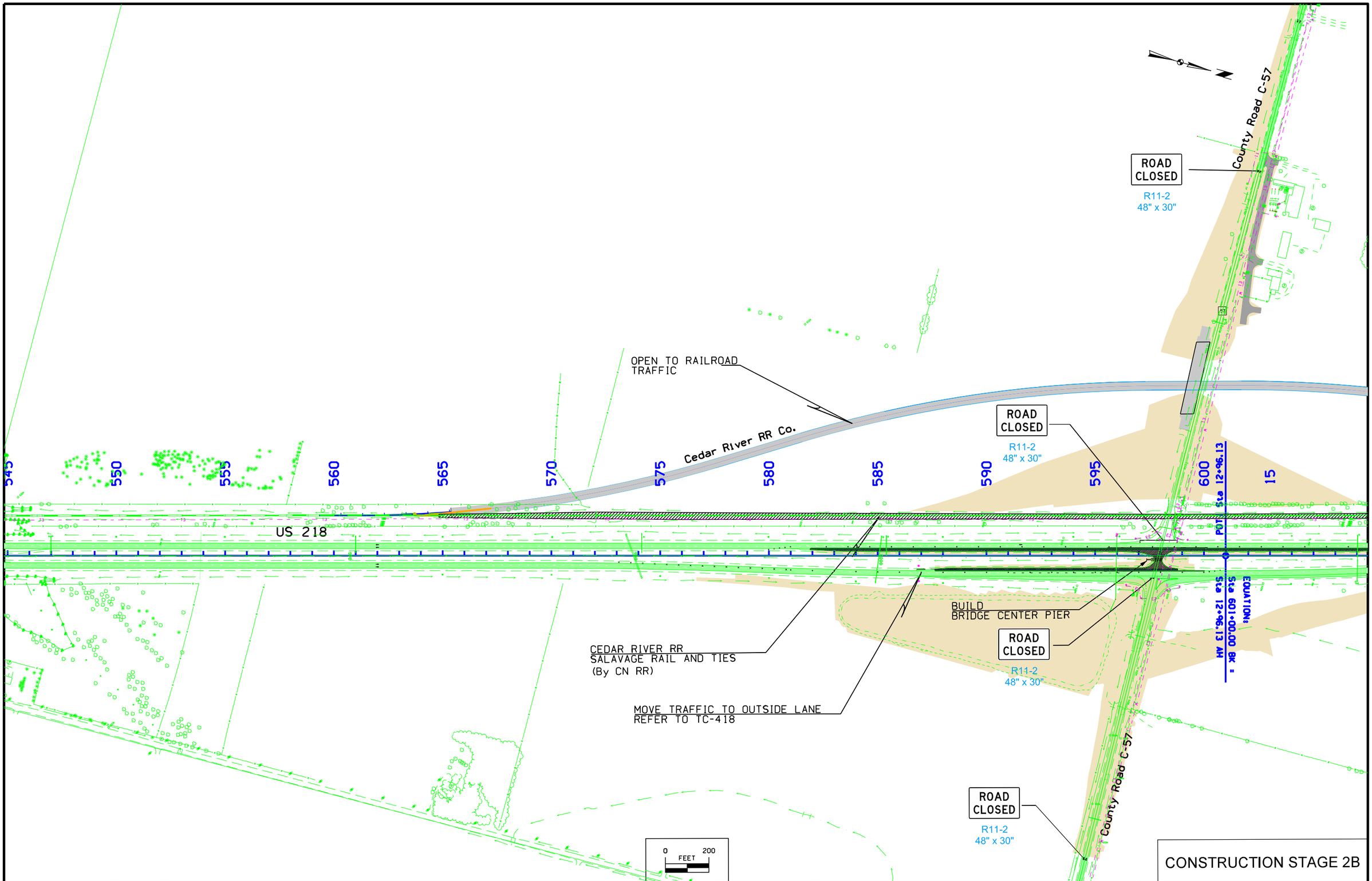
2:58:19 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821QJ2.sht



CONSTRUCTION STAGE 2A

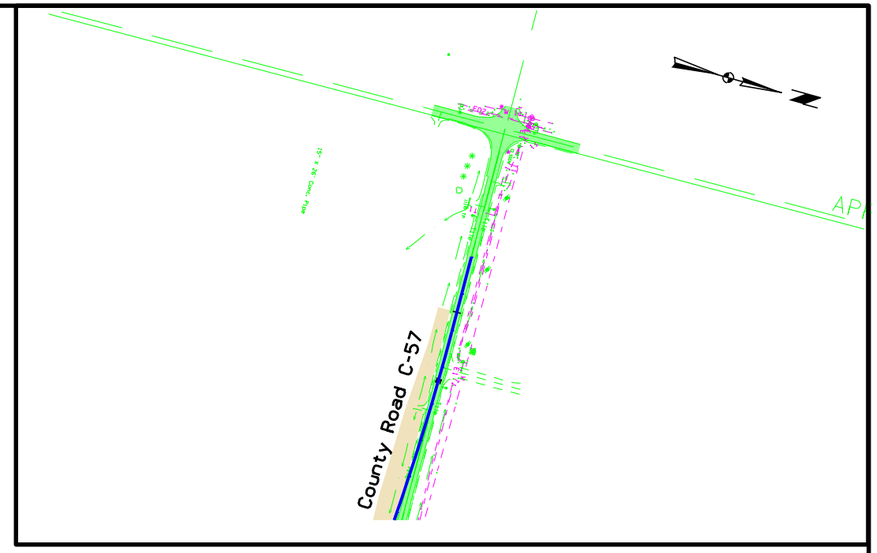
C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.12	

2:58:24 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht



C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.13	

10:57:51 AM 8/29/2014 rbell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht



ROAD CLOSED
R11-2
48" x 30"

County Road C-57

ROAD CLOSED
R11-2
48" x 30"

OPEN TO RAILROAD TRAFFIC

MOVE TRAFFIC TO OUTSIDE LANE
REFER TO TC-418

Cedar River RR Co.

590 595 600 15 20 25 30 35 40 45 50 55 60

POT Sta 12+96.13

Sta 12+96.13 AH = Sta 601+00.00 BK EQUATION:

US 218

= (U.A.C.)

= (U.A.C.)

BUILD
BRIDGE CENTER PIER

ROAD CLOSED
R11-2
48" x 30"

CEDAR RIVER RR
SALAVAGE RAIL AND TIES

County Road C-57

ROAD CLOSED
R11-2
48" x 30"

0 200
FEET

CONSTRUCTION STAGE 2B

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.14	

2:58:34 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

REMOVE TEMPORARY TURNOUT
BUILD/SHIFT TRACK (BY CR RR)
FROM STA 15556+91.95 TO STA 15625+57.67

OPEN TO RAILROAD
TRAFFIC

Cedar River RR Co.

US 218

MOVE TRAFFIC TO INSIDE LANE
REFER TO TC-418

BUILD BRIDGE

ROAD
CLOSED
R11-2
48" x 30"

County Road C-57

ROAD
CLOSED
R11-2
48" x 30"

545 550 555 560 565 570 575 580 585 590 595 600 15

POT Sta 12+96.13

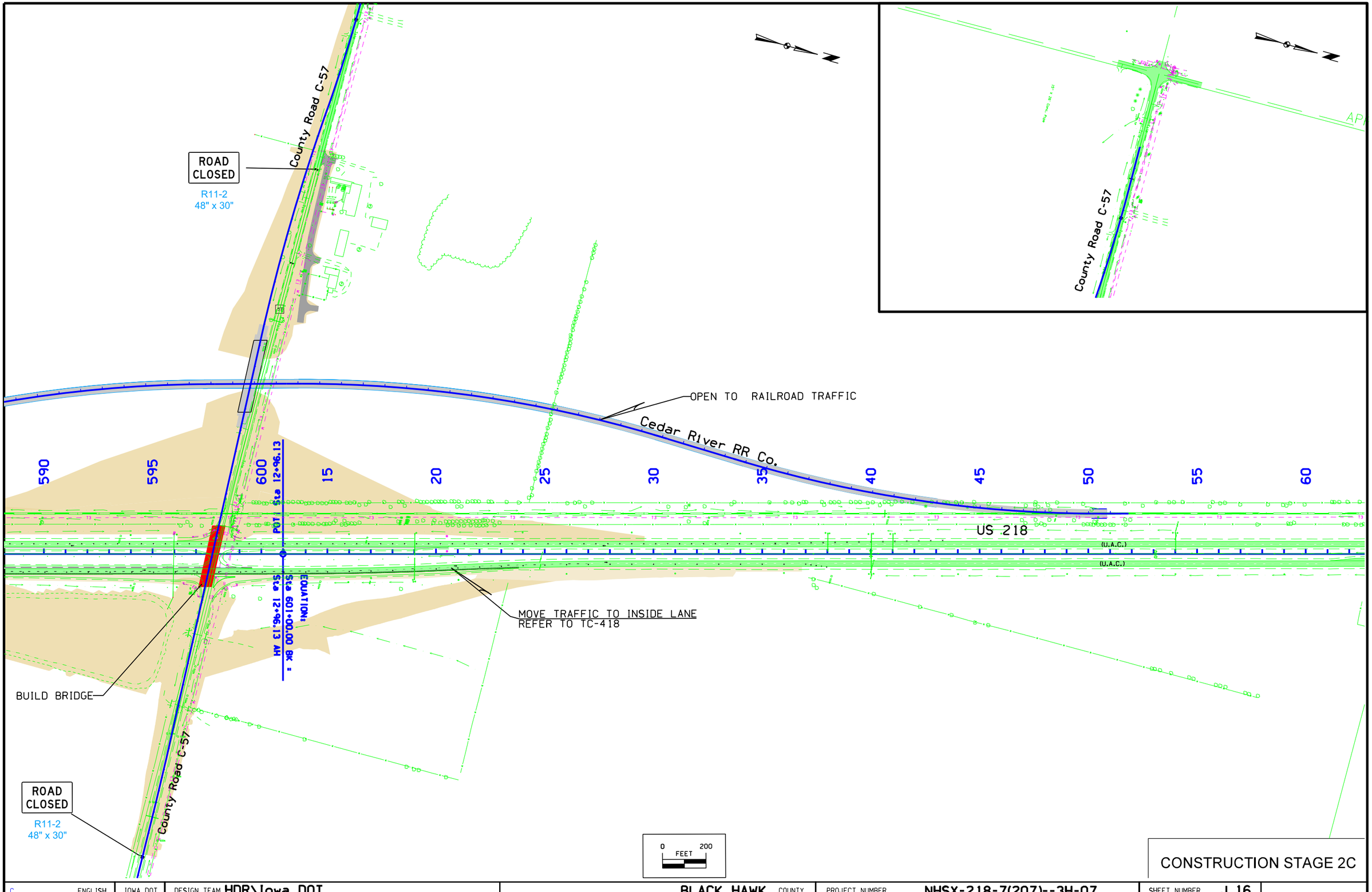
EQUATION:
Sta 601+00.00 BK =
Sta 12+96.13 AH

0 200
FEET

CONSTRUCTION STAGE 2C

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.15	

2:58:38 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht



C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.16	

2:58:42 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

Sta. 10578+00.00
Begin Pavement

County Road C-57

ROAD CLOSED
R11-2
48" x 30"

Cedar River RR Co.

US 218

(U.A.C.)

(Obliterate)

Ramp A

Ramp B

Ramp C

Ramp D

EQUATION:
Sta 601+00.00 BK =
Sta 12+93.52 AH

ROAD CLOSED
R11-2
48" x 30"

0 200
FEET

CONSTRUCTION STAGE 3A

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.17	

2:58:47 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

Sta. 10578+00.00
Begin Pavement

ROAD CLOSED
R11-2
48" x 30"

County Road C-57

Ramp C

Ramp A

Ramp B

Ramp D

Cedar River RR Co.

(Obliterate)

US 218

(U.A.C.)

(U.A.C.)

(U.A.C.)

(U.A.C.)

595

600

605

610

615

620

625

630

635

640

645

650

655

660

10

ROAD CLOSED
R11-2
48" x 30"

County Road C-57

ROAD CLOSED
R11-2
48" x 30"

County Road C-57

0 200
FEET

CONSTRUC

CONSTRUCTION STAGE 3A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.18

2:58:51 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

ROAD CLOSED
R11-2
48" x 30"

BEGIN PAVEMENT
STA. 10578+00.00

County Road C-57

Cedar River RR Co.

US 218

(U.A.C.)

(Obliterate)

Ramp A

Ramp B

Ramp C

Ramp D

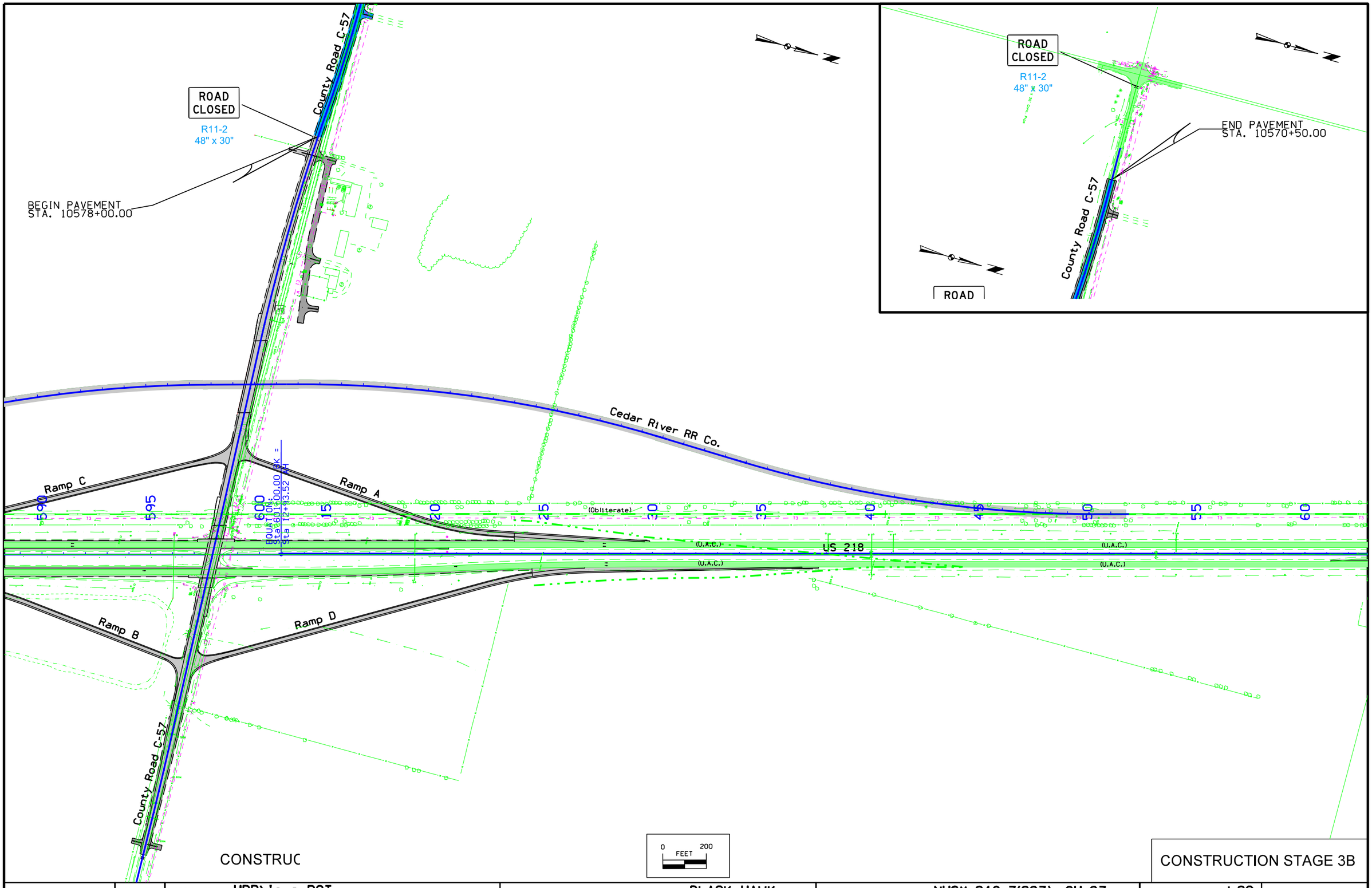
EQUATION:
Sta 601+00.00 BK =
Sta 12+93.52 AH

0 FEET 200

CONSTRUCTION STAGE 3B

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.19	

2:58:55 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht



CONSTRUC

CONSTRUCTION STAGE 3B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.20

2:59:02 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

ROAD CLOSED
R11-2
48" x 30"

POT Sta 485+16.52

PC Sta 490+78.14

SAFETY CLOSURE

495 500 505 510 515 520 525 530

PT Sta 508+91.77

US 218

PI Sta 499+86.07

SAFETY CLOSURE

Mt. Vernon Road

ROAD CLOSED
R11-2
48" x 30"

0 200
FEET

CONSTRUCTION STAGE 4A

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.21

2:59:06 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

ROAD CLOSED
R11-2
48" x 30"

SAFETY CLOSURE

520 525 530 535 540 545 550 555 560 565 570 575

Cedar River R

US 218

US 218

ROAD CLOSED
R11-2
48" x 30"

SAFETY CLOSURE

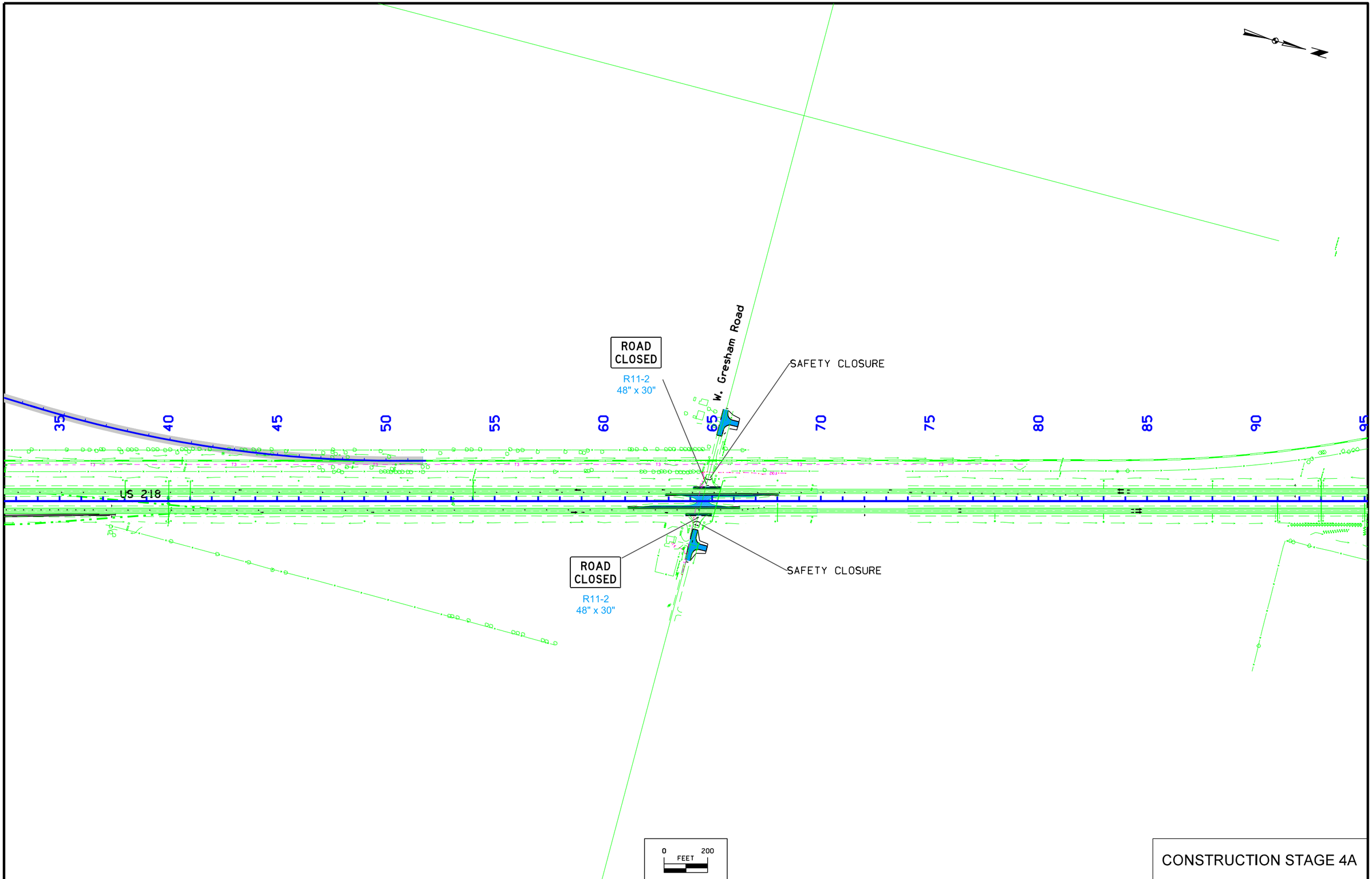
Bennington Road

0 FEET 200

CONSTRUCTION STAGE 4A

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.22

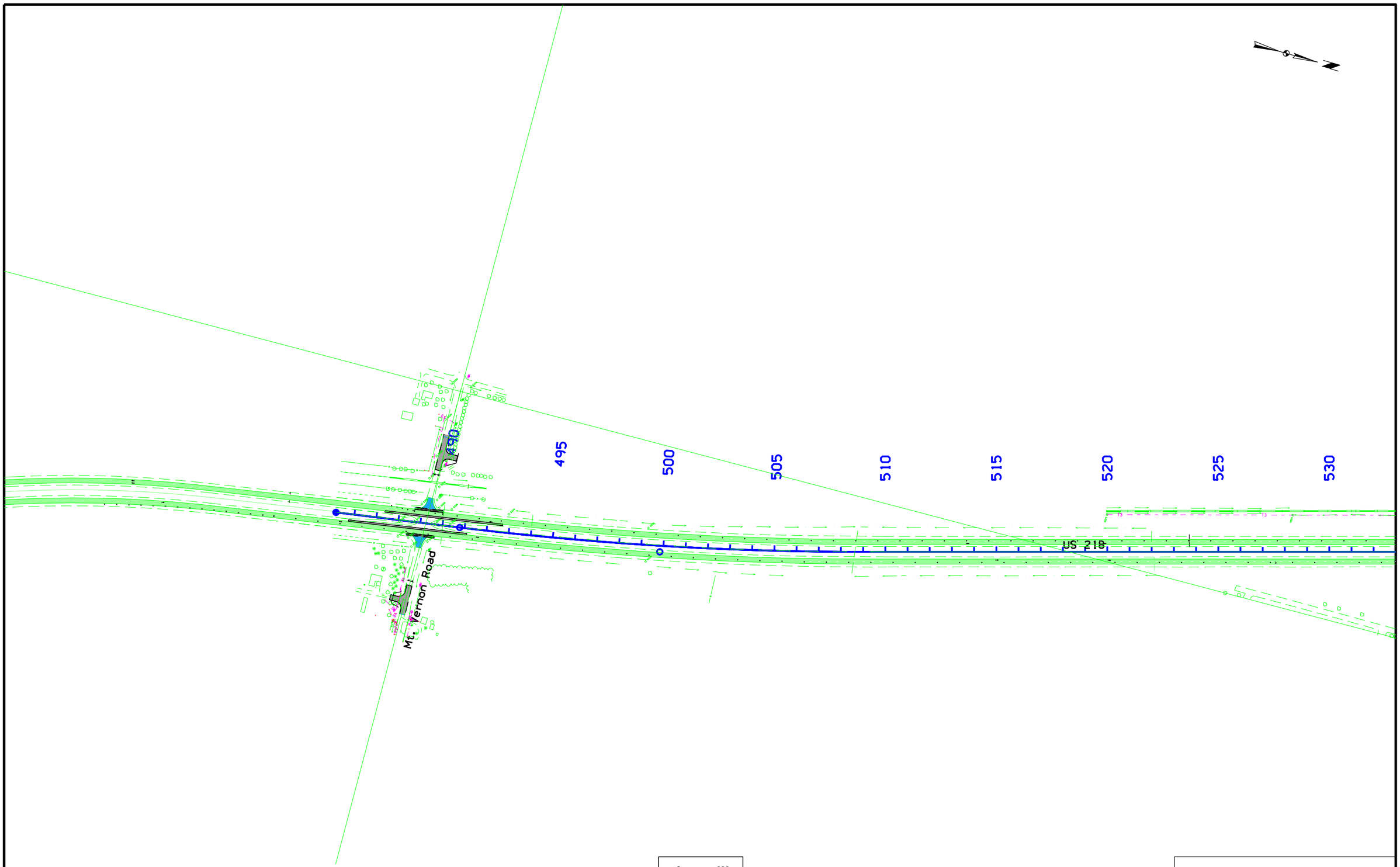
2:59:09 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht



CONSTRUCTION STAGE 4A

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSX-218-7(207)--3H-07	SHEET NUMBER J.23

2:59:13 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht



CONSTRUCTION STAGE 4B

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSX-218-7(207)--3H-07	SHEET NUMBER J.24

2:59:30 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

520 525 530 535 540 545 550 555 560 565 570 575

US 218

US 218

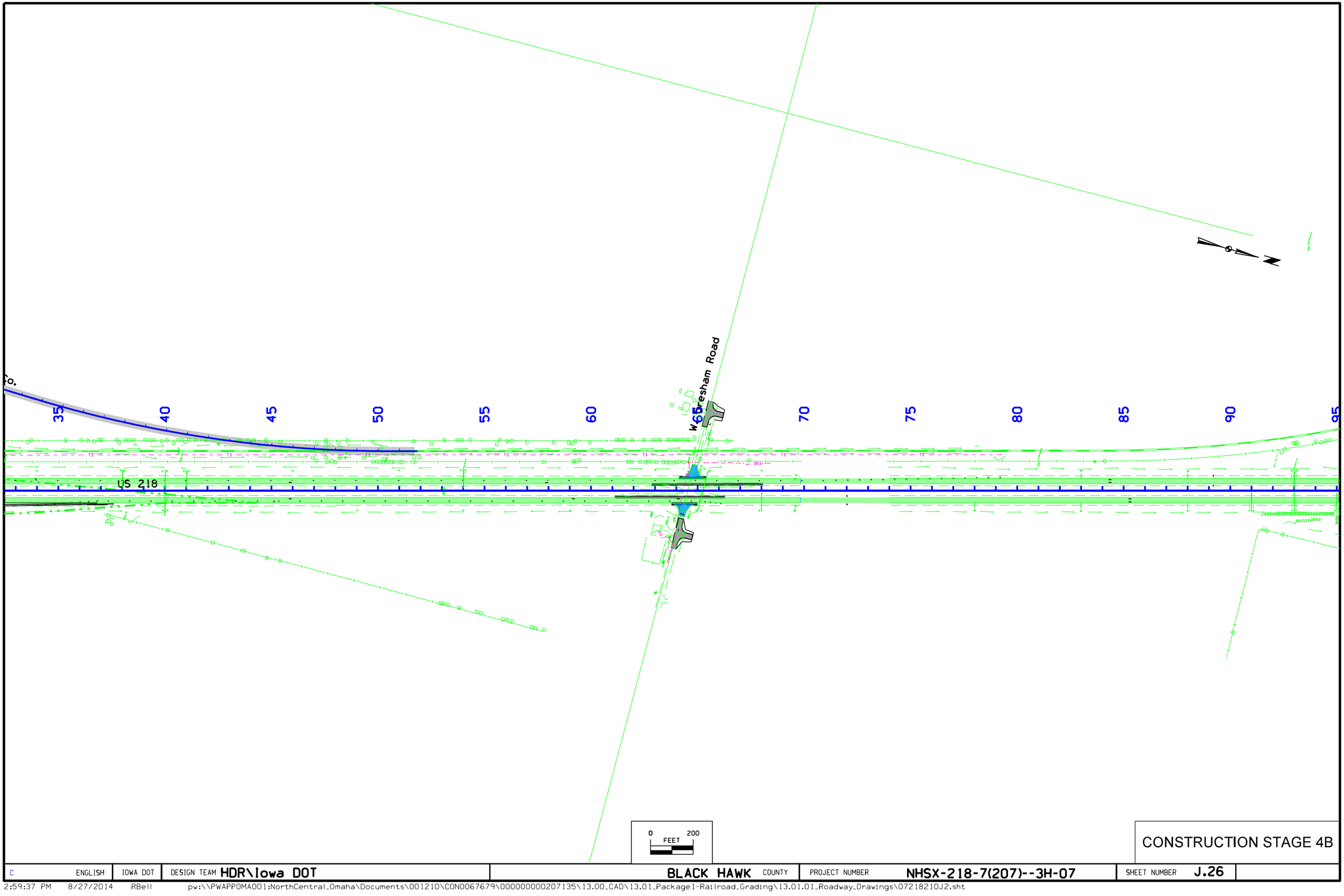
Bennington Road

Cedar River R

CONSTRUCTION STAGE 4B

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.25

2:59:33 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

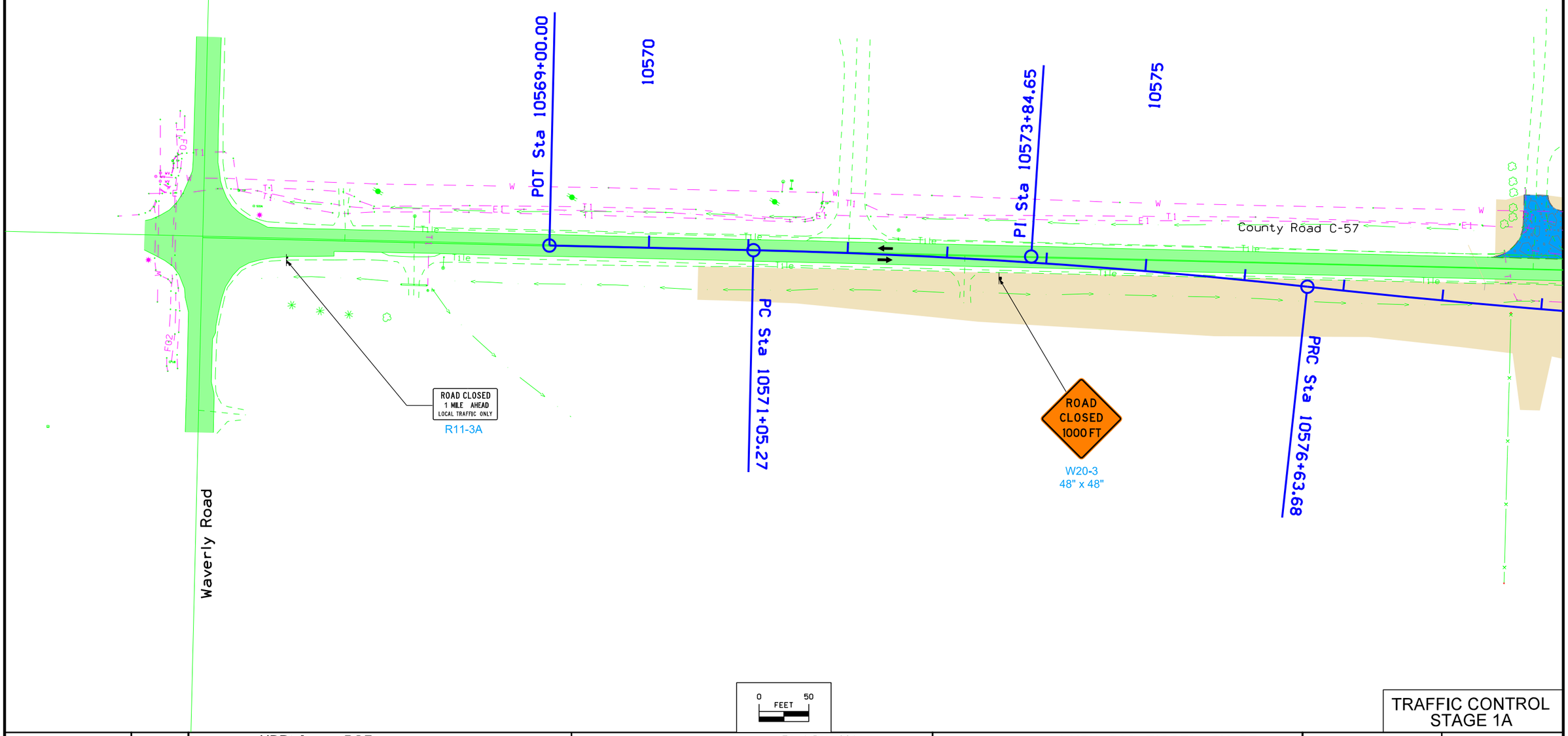


CONSTRUCTION STAGE 4B

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSX-218-7(207)--3H-07	SHEET NUMBER J.26

2:59:37 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

ADVANCE WARNING SIGNS	
 W20-3 48" x 48"	 W20-3 48" x 48"
500 FT WEST OF W20-3	500 FT WEST OF R11-4



TRAFFIC CONTROL STAGE 1A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.27

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

BUILD FRONTAGE ROAD

ROAD CLOSED

R11-2
48" x 30"

SAFETY CLOSURE

10580

10585

10590

PT Sta 10587+68.74

PI Sta 10582+16.88

County Road C-57

ROAD CLOSED 500 FT

W20-3
48" x 48"

BUILD ROADWAY EMBANKMENT

STA 10575+50
BEGIN PAVING

BUILD BRIDGE

STA 10591+88.17
END PAVING

0 FEET 50

TRAFFIC CONTROL
STAGE 1A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.28

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

ROAD WORK AHEAD
W20-1
48" x 48"

ROAD CLOSED
R11-2
48" x 30"

ROAD CLOSED
R11-2
48" x 30"

ROAD WORK AHEAD
W20-1
48" x 48"

SAFETY SECTION

SAFETY CLOSURE

BUILD ROADWAY EMBANKMENT

County Road C-57

10595 10600 10605 10610

Sta 10608+47.95

PC Sta 10606+40.47

600

595

0 50
FEET

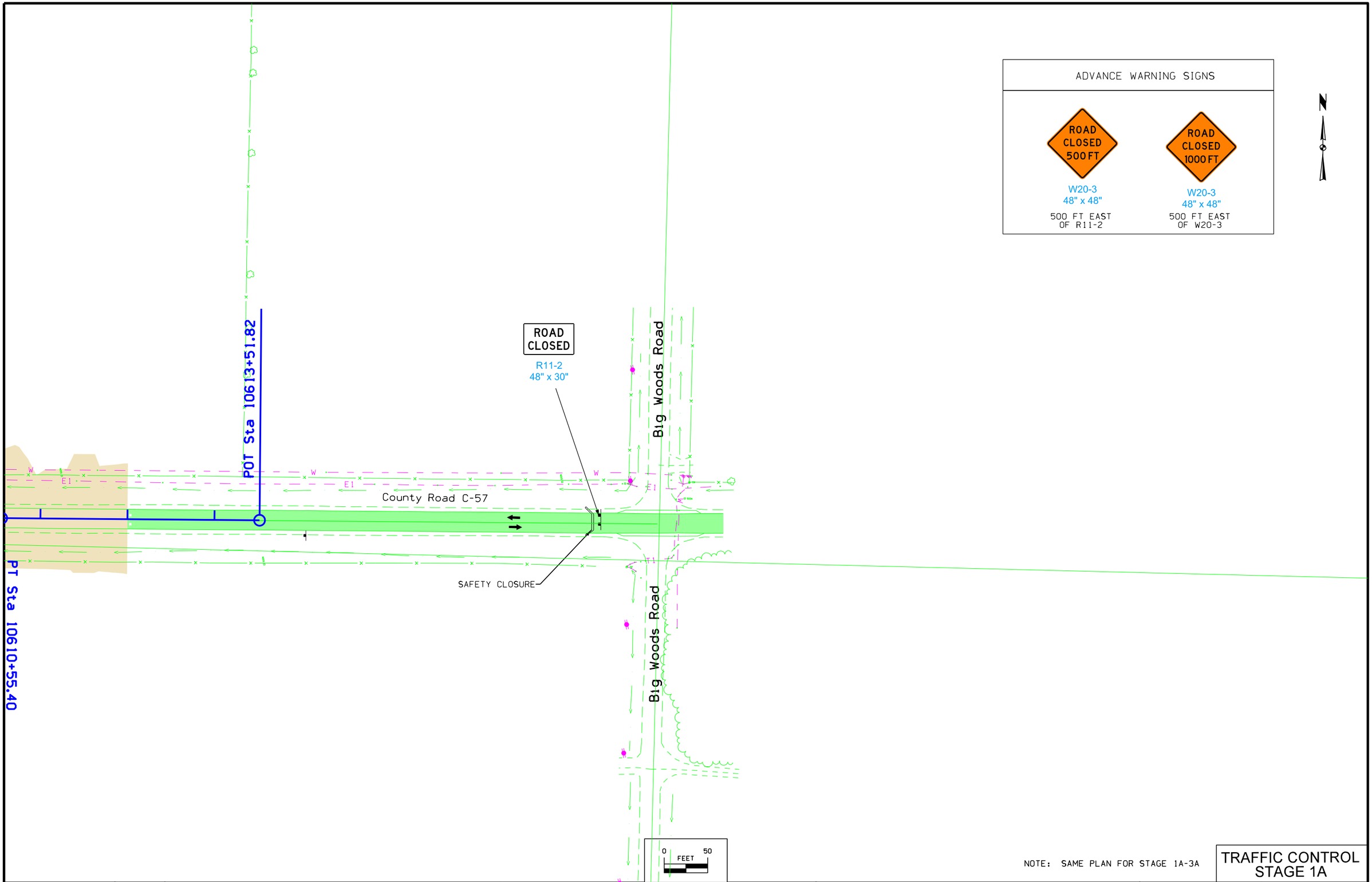
NOTE: SAME PLAN FOR STAGE 1A-3A

TRAFFIC CONTROL
STAGE 1A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.29

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

ADVANCE WARNING SIGNS	
W20-3 48" x 48" 500 FT EAST OF R11-2	W20-3 48" x 48" 500 FT EAST OF W20-3



NOTE: SAME PLAN FOR STAGE 1A-3A

TRAFFIC CONTROL STAGE 1A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.30

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

US-218 NORTHBOUND ADVANCE SIGNING

END ROAD WORK
G20-2A
48" x 24"

Sta. 485+00
(2 EA.)

WASHIGTON TWP.
T-90N, R-14W
SEC. 13

CEDAR RIVER RAILROAD

Sta. 574+15
Inlet 19.5 Lt.

24" X 76' Conc. Pipe
D.A. = Median Only

T3

560 565 570

US 218 SOUTHBOUND

US 218 NORTHBOUND

Sta. 573+10.00, 35.00 RT
BEGIN MERGING TAPER

ARROW PANEL

MERGE
W4-2M
48" x 48"

W4-2
48" x 48"

US-218 NORTHBOUND ADVANCE SIGNING

ROAD WORK AHEAD
W20-1
48" x 48"
Sta. 533+10
(2 EA.)

SPEED LIMIT 55
R2-1
48" x 60"
Sta. 543+10
(2 EA.)

LEFT LANE CLOSED AHEAD
W20-5
48" x 48"
Sta. 553+10
(2 EA.)

0 50
FEET

TRAFFIC CONTROL
STAGE 2B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.31

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

Cedar River RR Co.

CEDAR RIVER RR
SALAVAGE RAIL AND TIES
(By Others)

Sta. 581+00.00, 44.00 LT
END TAPER

Sta. 580+00.00, 32.00 LT
END TAPER

575

580

585

100'
25' SPACING

← US 218 SOUTHBOUND

Sta. 581+90.00 32.00 RT
END SHOULDER RECONSTRUCTION

Sta. 587+63.00 68.00 RT
BEGIN SHOULDER RECONSTRUCTION

US 218 NORTHBOUND

Sta. 580+80.00, 68.29 RT
END MERGING TAPER

0 50
FEET

TRAFFIC CONTROL
STAGE 2B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.32

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821012.sht

WASHIGTON TWP.
T-90N. R-14W
SEC. 13

CEDAR RIVER RAILROAD

ROAD CLOSED
R11-2
48" x 30"

SAFETY CLOSURE

590

595

600

15

BUILD
BRIDGE CENTER PIER

US 218 SOUTHBOUND

EQUATION:
Sta 601+00.00 Bk =
Sta 12+96.13 AH

Sta. 598+78.00 68.00 RT
END SHOULDER RECONSTRUCTION

Sta. 14+00.00, 68.00 RT
BEGIN TAPER

US 218 NORTHBOUND

100'
25' SPACING

ROAD CLOSED
R11-2
48" x 30"

Sta. 13+00.00, 80.00 RT
BEGIN TAPER

SAFETY CLOSURE

0 FEET 50

TRAFFIC CONTROL
STAGE 2B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.33

SYSTEMTIME SYSTEMDATE rbell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 12

Cedar River RR Co.

CEDAR RIVER RAILROAD

CEDAR RIVER RR
SALAVAGE RAIL AND TIES
(By Others)

T3 T3 T3 T3

20 25 30

Sta. 26+60.00 R 2, 44.00 LT
BEGIN TAPER

US 218 SOUTHBOUND

Sta. 19+77.00 R 2, 32.00 LT
BEGIN SHOULDER RECONSTRUCTION

US 218 NORTHBOUND

0 50
FEET

TRAFFIC CONTROL
STAGE 2B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.34	

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 12

CEDAR RIVER RR
SALAVAGE RAIL AND TIES
(By Others)

Sta. 34+01
Inlet 19.0 Lt.
24" X 70' Conc. Pipe
D.A. = Median Only

Sta. 41+01
Inlet 18.4 Lt.
24" X 68' Conc. Pipe
D.A. = Median Only

T3 T3 T3 T3

Sta. 34+30.00 R 2, 32.00 LT
BEGIN TAPER

35 40 45

US 218

US 218 SOUTHBOUND

(U.A.C.)

(U.A.C.)

US 218 NORTHBOUND

ARROW PANEL

Sta. 40+2
24" X 174' Conc. Pipe
D.A. = 28 Ac. F.

US-218 SOUTHBOUND ADVANCE SIGNING

LEFT LANE CLOSED AHEAD	SPEED LIMIT 55	ROAD WORK AHEAD
W20-5 48" x 48"	R2-1 48" x 60"	W20-1 48" x 48"
Sta. 54+30 (2 EA.)	Sta. 64+30 (2 EA.)	Sta. 74+30 (2 EA.)

MERGE

W4-2M
48" x 48"

W4-2
48" x 48"

US-218 NORTHBOUND ADVANCE SIGNING

END ROAD WORK

G20-2A
48" x 24"

Sta. 70+00
(2 EA.)

0 50
FEET

TRAFFIC CONTROL
STAGE 2B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.35

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

US-218 NORTHBOUND ADVANCE SIGNING

END ROAD WORK
G20-2A
48" x 24"

Sta. 485+00
(2 EA.)

REMOVE TEMPORARY TURNOUT
BUILD/SHIFT TRACK (BY CR RR)
FROM STA 15556+91.95 TO STA 15625+57.67

Cedar River RR Co.

T3

560

565

570

Sta. 569+00.00
END EXITING TAPER

100'
25' SPACING

Sta. 570+00.00
END EXITING TAPER

US 218 SOUTHBOUND

US 218 NORTHBOUND

ARROW PANEL

Sta. 564+70.00
BEGIN MERGING TAPER

Sta. 572+40.00
END MERGING TAPER

US-218 NORTHBOUND ADVANCE SIGNING

ROAD WORK AHEAD	SPEED LIMIT 55	RIGHT LANE CLOSED AHEAD	MERGE	
W20-1 48" x 48"	R2-1 48" x 60"	W20-5 48" x 48"	W4-2M 48" x 48"	W4-2 48" x 48"
Sta. 533+10 (2 EA.)	Sta. 543+10 (2 EA.)	Sta. 553+10 (2 EA.)	Sta. 553+10 (RT. SHLDR)	Sta. 553+10 (MEDIAN)

0 50
FEET

TRAFFIC CONTROL
STAGE 2C

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.36

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

Cedar River RR Co.

T3

575

580

585

US 218 SOUTHBOUND

Sta. 586+81.95
BEGIN SAWCUT

0 50
FEET

TRAFFIC CONTROL
STAGE 2C

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.37

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

590

595

600

15

EQUATION:
Sta 601+00.00 BK =
Sta 12+96.13 AH

← US 218 SOUTHBOUND

T3

E2

0 FEET 50

TRAFFIC CONTROL
STAGE 2C

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.38	

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

Cedar River RR Co.

T3

20

25

30

US 218 SOUTHBOUND

Sta. 23+80.43 R 2
END SAWCUT

0 FEET 50

TRAFFIC CONTROL
STAGE 2C

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.39

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

Cedar River RR Co.

T3 T3 T3 T3

Sta. 35+60.00 R 2
END MERGING TAPER

Sta. 43+30.00 R 2
BEGIN MERGING TAPER

ARROW PANEL

35 40 45

(U.A.C.)

US 218 SOUTHBOUND

(U.A.C.)

100

Sta. 37+00.00 R 2
BEGIN EXITING TAPER

Sta. 38+00.09 R 2
END EXITING TAPER

US-218 SOUTHBOUND ADVANCE SIGNING

W4-2	W4-2M	W20-5	R2-1	W20-1
48" x 48"	48" x 48"	48" x 48"	48" x 60"	48" x 48"
Sta. 53+30 (MEDIAN)	Sta. 53+30 LT. SHLDR)	Sta. 63+30 (2 EA.)	Sta. 73+30 (2 EA.)	Sta. 83+30 (2 EA.)

MERGE

RIGHT LANE CLOSED AHEAD

SPEED LIMIT 55

ROAD WORK AHEAD

US-218 NORTHBOUND ADVANCE SIGNING

END ROAD WORK

G20-2A
48" x 24"

Sta. 70+00
(2 EA.)

0 50
FEET

TRAFFIC CONTROL
STAGE 2C

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.40

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

US-218 NORTHBOUND ADVANCE SIGNING

END ROAD WORK
G20-2A
48" x 24"

Sta. 485+00
(2 EA.)

Cedar River RR Co.

T3

Sta. 569+00.00
Begin EXITING TAPER

100'
25' SPACING

Sta. 570+00.00
END EXITING TAPER

US 218 SOUTHBOUND

US 218

US 218 NORTHBOUND

ARROW PANEL

Sta. 564+70.00
BEGIN MERGING TAPER

Sta. 572+40.00
END MERGING TAPER

US-218 NORTHBOUND ADVANCE SIGNING

ROAD WORK AHEAD	SPEED LIMIT 55	RIGHT LANE CLOSED AHEAD	MERGE	
W20-1 48" x 48"	R2-1 48" x 60"	W20-5 48" x 48"	W4-2M 48" x 48"	W4-2 48" x 48"
Sta. 533+10 (2 EA.)	Sta. 543+10 (2 EA.)	Sta. 553+10 (2 EA.)	Sta. 553+10 (RT. SHLDR)	Sta. 553+10 (MEDIAN)

0 50 FEET

TRAFFIC CONTROL
STAGE 3A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.41

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

Cedar River RR Co.

(Obliterate)

Ramp C

T3

575

580

585

US 218 SOUTHBOUND

US 218

Sta. 586+81.95
BEGIN SAWCUT

Ramp B

0 FEET 50

TRAFFIC CONTROL
STAGE 3A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.42

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

Ramp C

Ramp A

590

595

600

15

EQUATION:
Sta 601+00.00 BK =
Sta 12+96.13 AH

← US 218 SOUTHBOUND

US 218

Ramp B

Ramp D

0 50
FEET

TRAFFIC CONTROL
STAGE 3A

c ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.43	

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

Cedar River RR Co.

Ramp A

(Obliterate)

T3

20

25

30

US 218 SOUTHBOUND

(U.A.C.)

US 218

(U.A.C.)

Sta. 23+80.43 R 2
END SAWCUT

Ramp D

0 FEET 50

TRAFFIC CONTROL
STAGE 3A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.44

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

Cedar River RR Co.

T3 T3 T3 T3

Sta. 35+60.00 R 2
END MERGING TAPER

Sta. 43+30.00 R 2
BEGIN MERGING TAPER

ARROW PANEL

35 40 45

(U.A.C.)

US 218 SOUTHBOUND

US 218

(U.A.C.)

100
25' SPACING

Sta. 37+00.00 R 2
BEGIN EXITING TAPER

Sta. 38+00.09 R 2
END EXITING TAPER

US-218 SOUTHBOUND ADVANCE SIGNING

W4-2	W4-2M	W20-5	R2-1	W20-1
48" x 48"	48" x 48"	48" x 48"	48" x 60"	48" x 48"
Sta. 53+30 (MEDIAN)	Sta. 53+30 LT. SHLDR)	Sta. 63+30 (2 EA.)	Sta. 73+30 (2 EA.)	Sta. 83+30 (2 EA.)

MERGE

RIGHT LANE CLOSED AHEAD

SPEED LIMIT 55

ROAD WORK AHEAD

US-218 NORTHBOUND ADVANCE SIGNING

END ROAD WORK

G20-2A
48" x 24"

Sta. 70+00
(2 EA.)

0 FEET 50

TRAFFIC CONTROL
STAGE 3A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.45

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

ADVANCE WARNING SIGNS	
ROAD CLOSED 1000 FT W20-3 48" x 48" 500 FT WEST OF W20-3	ROAD CLOSED 500 FT W20-3 48" x 48" 500 FT WEST OF R11-4

N

POT Sta 10569+00.00

10570

+10 Comm. Entrance

PI Sta 10573+84.65

10575

+99 Comm. Entrance

+4 Field Entrance

County Road C-57

F02

+74 Res. Entrance

ROAD CLOSED 1000 FT
W20-3
48" x 48"

ROAD CLOSED 1 MILE AHEAD LOCAL TRAFFIC ONLY
R11-3A-60

Res. Entrance

PC Sta 10571+05.27

+28 Field Entrance

ROAD CLOSED 500 FT
W20-3
48" x 48"

PRC Sta 10576+63.68

Sta. 10578+00.00
BEGIN PAVEMENT

Waverly Road

0 FEET 50

TRAFFIC CONTROL
STAGE 3A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.46

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

ROAD CLOSED

R11-2
48" x 30"

SAFETY CLOSURE

10580

10585

10590

PT Sta 10587+68.74

PI Sta 10582+16.88

Ramp A

Ramp C

County Road C-57

0 FEET 50

TRAFFIC CONTROL
STAGE 3A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.47

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

Ramp D

15

600

595

10595

10600

10605

10610

County Road C-57

PI Sta 10608+47.95

PC Sta 10606+40.47

Ramp B

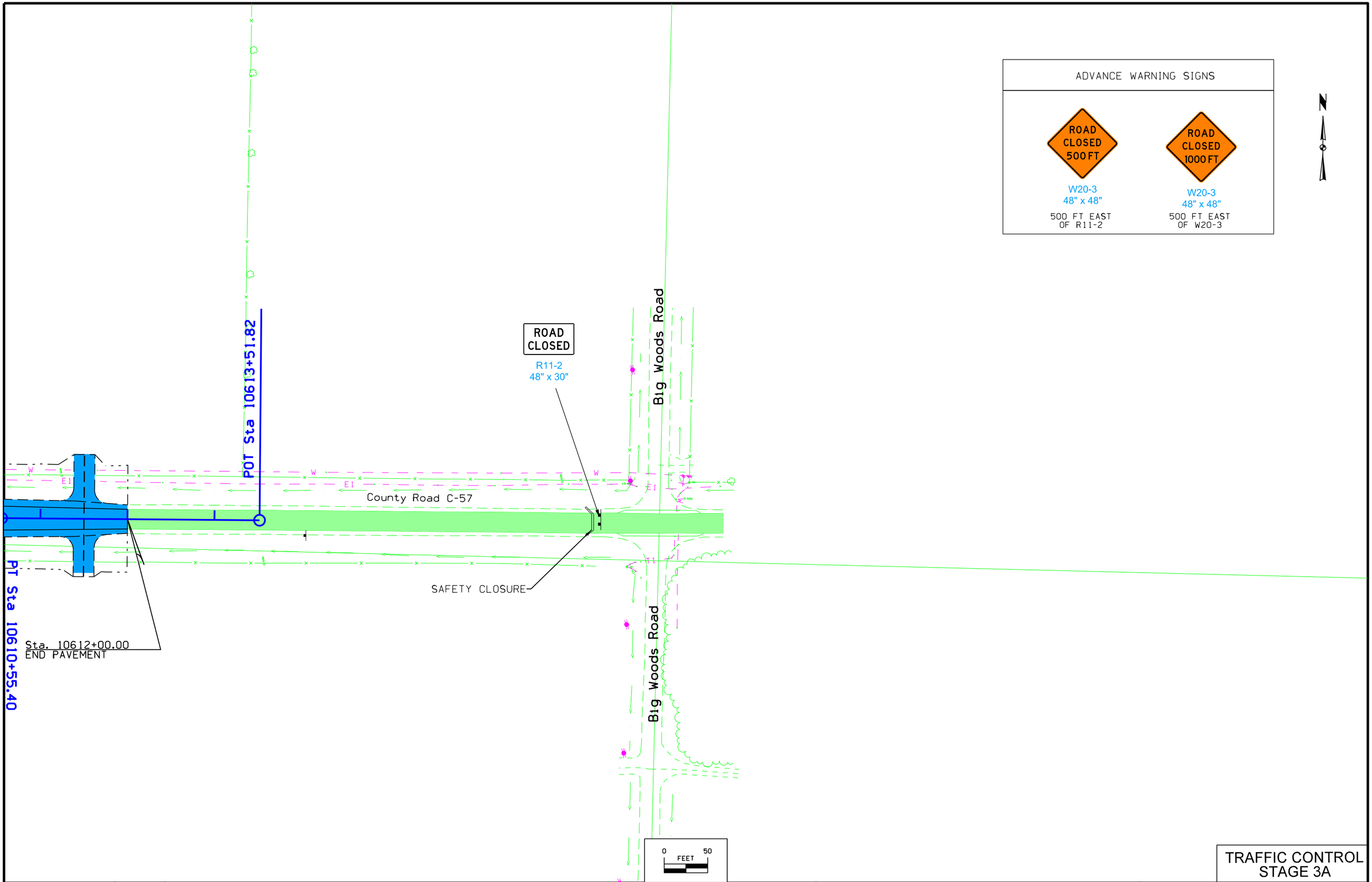
0 FEET 50

TRAFFIC CONTROL
STAGE 3A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.48

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

ADVANCE WARNING SIGNS	
W20-3 48" x 48" 500 FT EAST OF R11-2	W20-3 48" x 48" 500 FT EAST OF W20-3

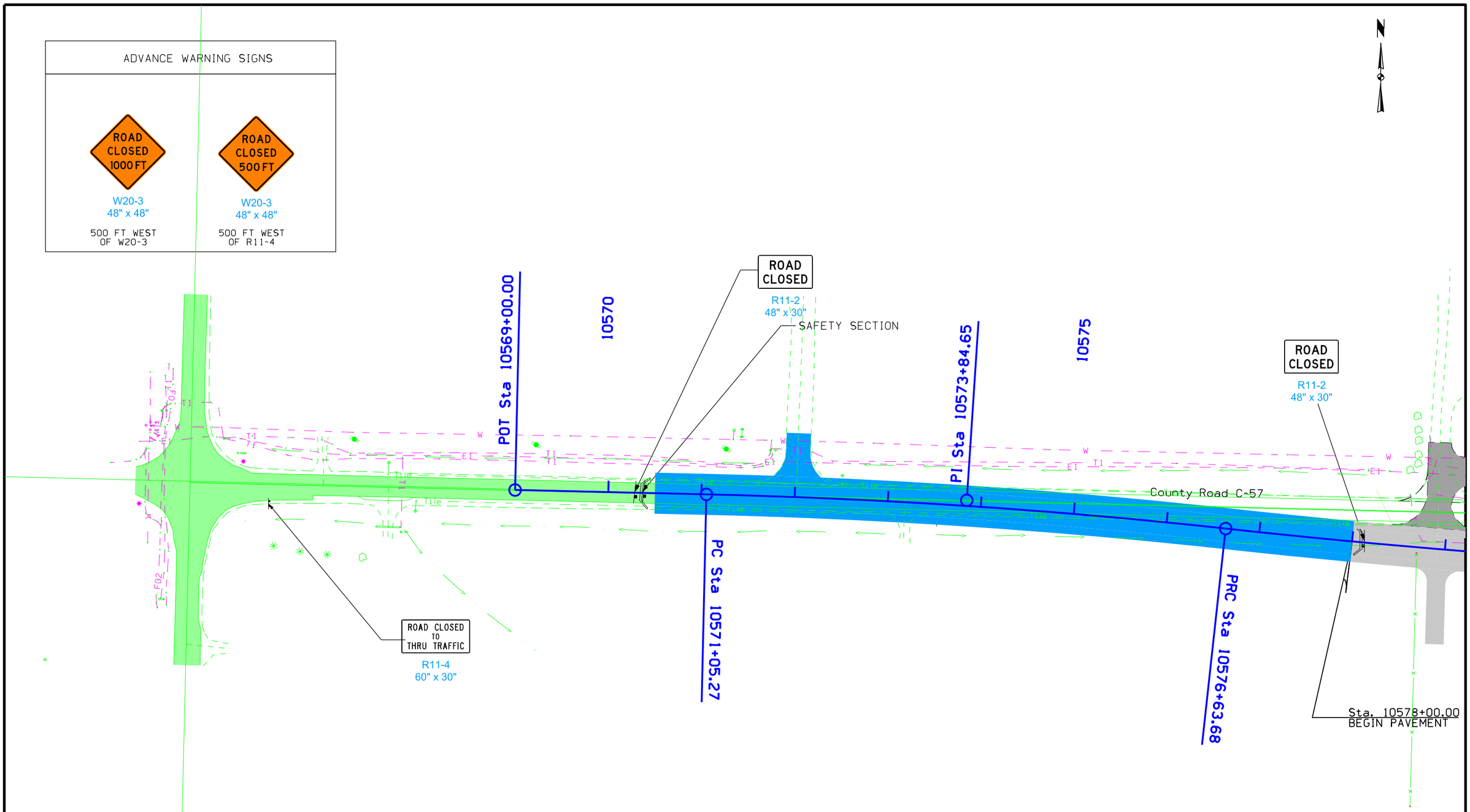


TRAFFIC CONTROL
STAGE 3A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.49

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

ADVANCE WARNING SIGNS	
W20-3 48" x 48"	W20-3 48" x 48"
500 FT WEST OF W20-3	500 FT WEST OF R11-4



TRAFFIC CONTROL STAGE 3B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.50

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

ROAD CLOSED 500 FT

W20-3
48" x 48"

ROAD CLOSED TO THRU TRAFFIC

R11-4
60" x 30"

10580

10585

10590

PT Sta 10587+68.74

PI Sta 10582+16.88

County Road C-57

Tile

E1

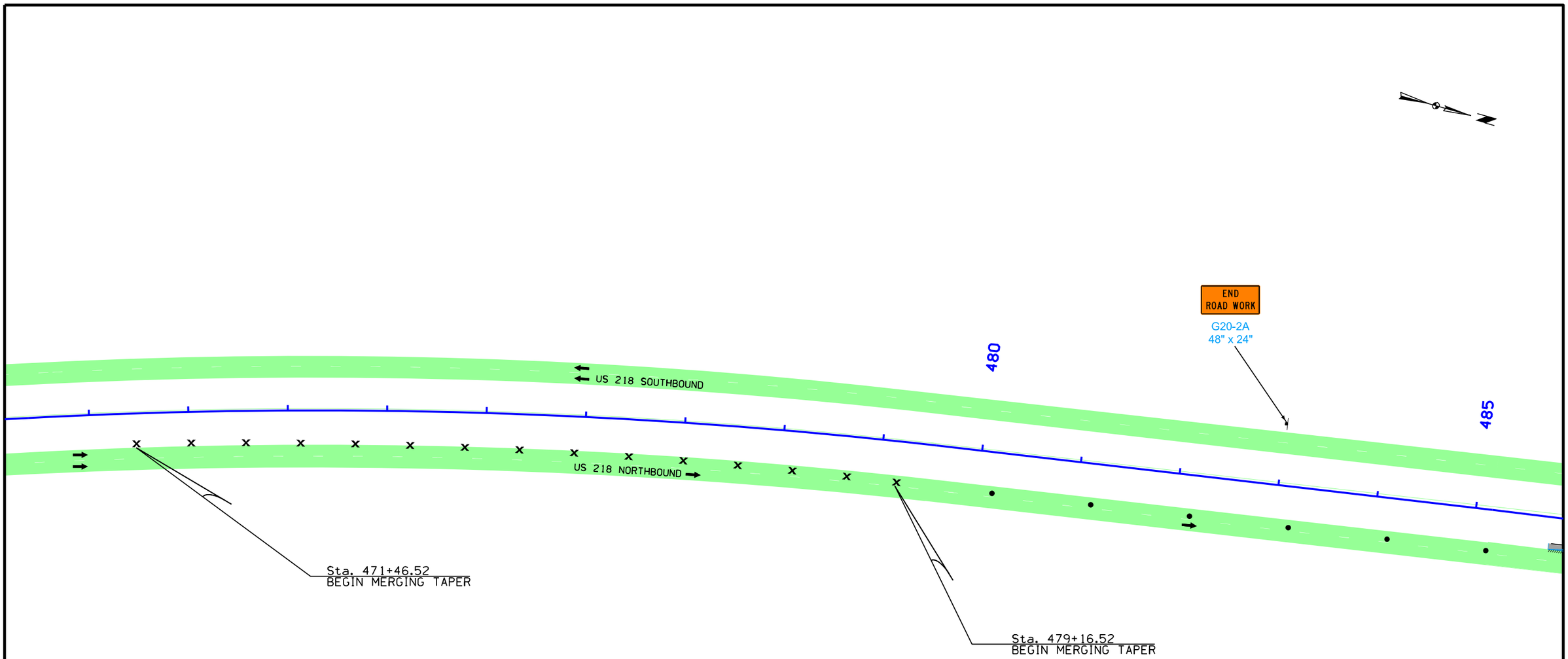
W

0 FEET 50

TRAFFIC CONTROL
STAGE 3B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.51

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht



US 218 NORTHBOUND ADVANCE SIGNING

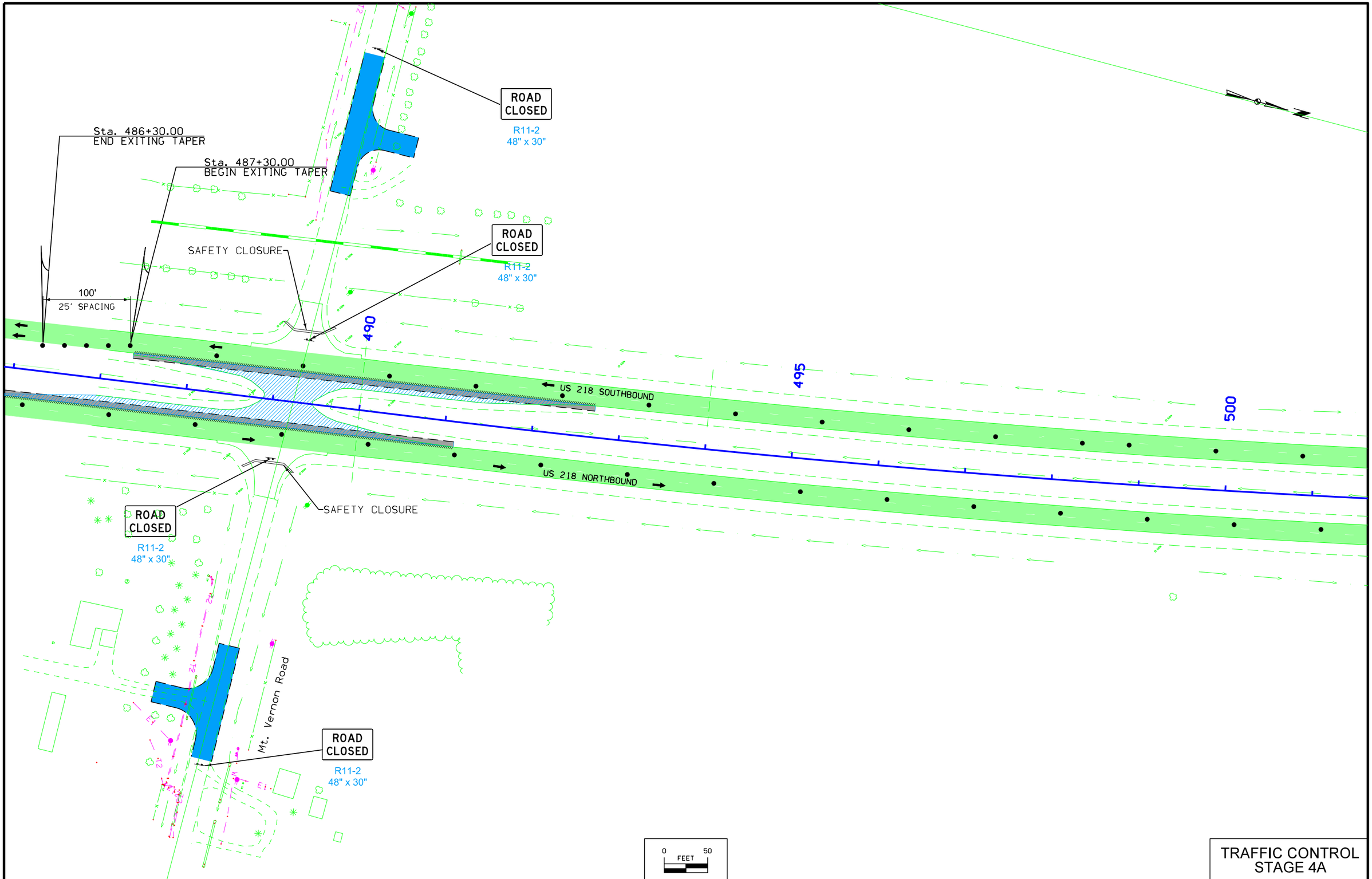
ROAD WORK AHEAD	SPEED LIMIT 55	LEFT LANE CLOSED AHEAD	MERGE		ARROW PANEL
W20-1 48" x 48"	R2-1 48" x 60"	W20-5 48" x 48"	W4-2M 48" x 48"	W4-2 48" x 48"	Sta. 466+46 (MEDIAN)
Sta. 431+46 (2 EA)	Sta. 441+46 (2 EA)	Sta. 451+46 (2 EA)	Sta. 461+46 (RT SHLDR)	Sta. 461+46 (MEDIAN)	

0 50 FEET

TRAFFIC CONTROL
STAGE 4A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.52

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821QJ2.sht



TRAFFIC CONTROL
STAGE 4A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.53

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

SPEED
LIMIT
55

R2-1
48" x 60"

505

510

515

US 218 SOUTHBOUND

US 218 NORTHBOUND

0 FEET 50

TRAFFIC CONTROL
STAGE 4A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.54

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

T3 T3 T3 T3

520 525 530

US 218 SOUTHBOUND

US 218

US 218 NORTHBOUND

SPEED LIMIT 55

R2-1
48" x 60"

0 FEET 50

TRAFFIC CONTROL
STAGE 4A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.55

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

SPEED LIMIT 55
R2-1
48" x 60"

ROAD CLOSED
R11-2
48" x 30"

ROAD CLOSED
R11-2
48" x 30"

ROAD CLOSED
R11-2
48" x 30"

535

540

545

T3

T2

T1

US 218 SOUTHBOUND

US 218 NORTHBOUND

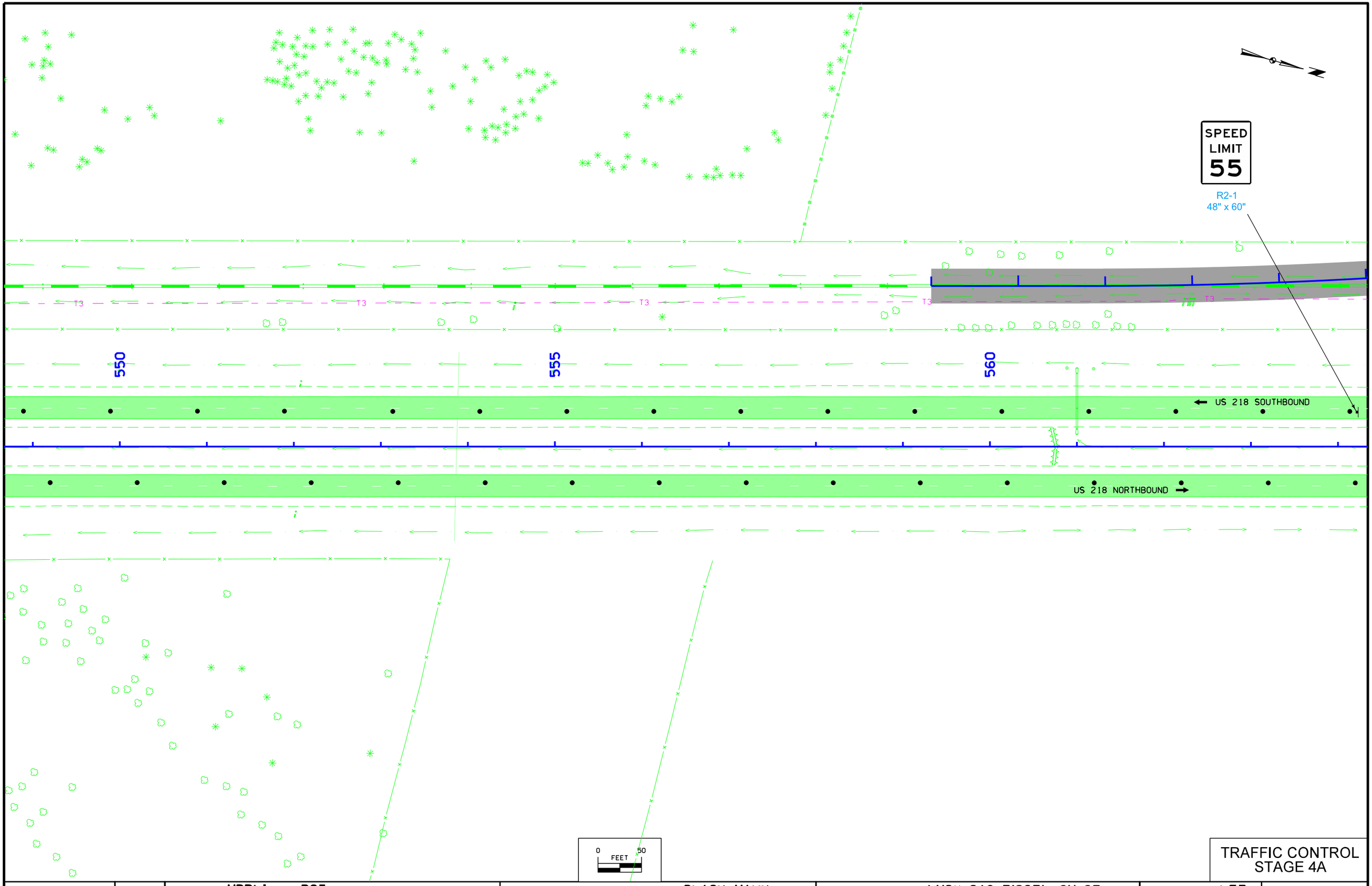
Bennington Road

0 FEET 50

TRAFFIC CONTROL
STAGE 4A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.56

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht



TRAFFIC CONTROL
STAGE 4A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.57

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

Cedar River RR Co.

T3 T3 T3 T3 T3

565 570 575 580

← US 218 SOUTHBOUND

US 218

US 218 NORTHBOUND →

SPEED LIMIT 55

R2-1
48" x 60"

0 FEET 50

TRAFFIC CONTROL
STAGE 4A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.58

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

ROAD WORK AHEAD

W20-1
48" x 48"

BE PREPARED TO STOP

W20-7B
48" x 48"

YIELD

R1-2
48" x 48" x 48"

Ramp C

T3

585

590

595

← US 218 SOUTHBOUND

US 218 NORTHBOUND →

Ramp B

0 FEET 50

TRAFFIC CONTROL
STAGE 4A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.59

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

Ramp A

US 218 SOUTHBOUND

EQUATION: Sta 601+00.00 BK = Sta 12+96.13 AH

600

15

20

Ramp D

RAMP WORK AHEAD

W20-1A
48" x 48"

BE PREPARED TO STOP

W20-7B
48" x 48"

0 FEET 50

TRAFFIC CONTROL STAGE 4A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.60	

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

Cedar River RR Co.

SPEED LIMIT 55

R2-1
48" x 60"

T3 T3 T3 T3

25 30 35

US 218 SOUTHBOUND

US 218 NORTHBOUND

YIELD

R1-2
48" x 48" x 48"

0 FEET 50

TRAFFIC CONTROL
STAGE 4A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.61

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

T3 T3 T3 T3 T3

40 45 50

US 218 SOUTHBOUND

US 218

US 218 NORTHBOUND

SPEED LIMIT 55

R2-1
48" x 60"

0 FEET 50

TRAFFIC CONTROL
STAGE 4A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.62

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

ROAD CLOSED
R11-2
48" x 30"

W. Gresham Road

ROAD CLOSED
R11-2
48" x 30"

T3 T3 T3 T3 T3

FO2 FO2

55 60 65 70

Sta. 66+40.00 R 2,
BEGIN EXITING TAPER

US 218 SOUTHBOUND

US 218 NORTHBOUND

100'
25' SPACING

Sta. 67+40.00 R 2,
END EXITING TAPER

ROAD CLOSED
R11-2
48" x 30"

ROAD CLOSED
R11-2
48" x 30"

0 50
FEET

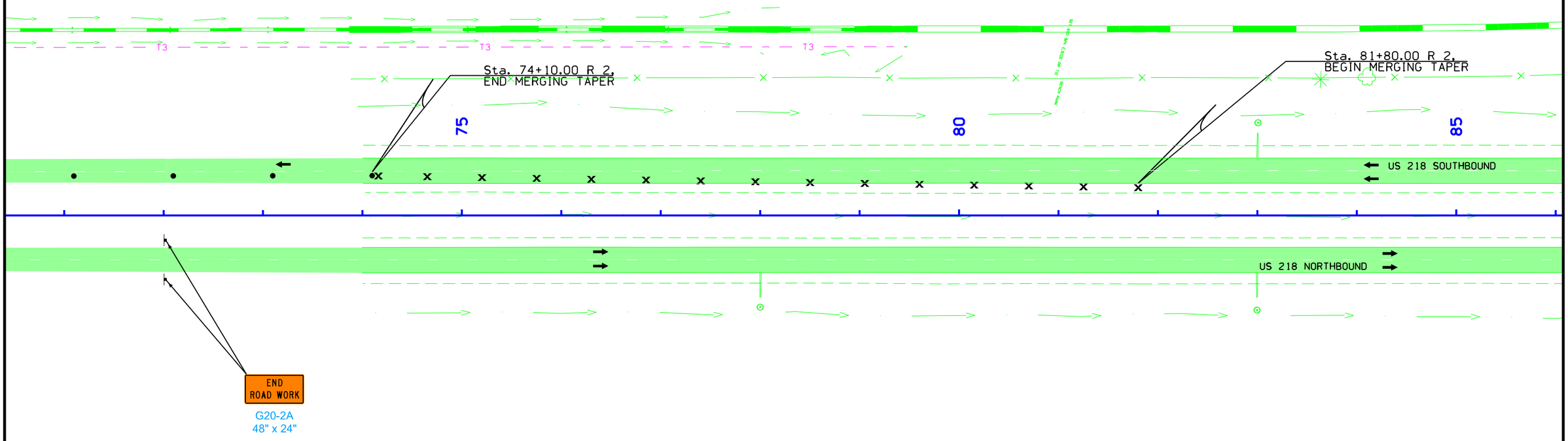
TRAFFIC CONTROL
STAGE 4A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.63

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

US 218 SOUTHBOUND ADVANCE SIGNING

MERGE		LEFT LANE CLOSED AHEAD	SPEED LIMIT 55	ROAD WORK AHEAD
W4-2M 48" x 48"	W4-2 48" x 48"	W20-5 48" x 48"	R2-1 48" x 60"	W20-1 48" x 48"
Sta. 91+80 (MEDIAN)	Sta. 91+80 (RT SHLDR)	Sta. 101+80 (2 EA)	Sta. 111+80 (2 EA)	Sta. 121+80 (2 EA)

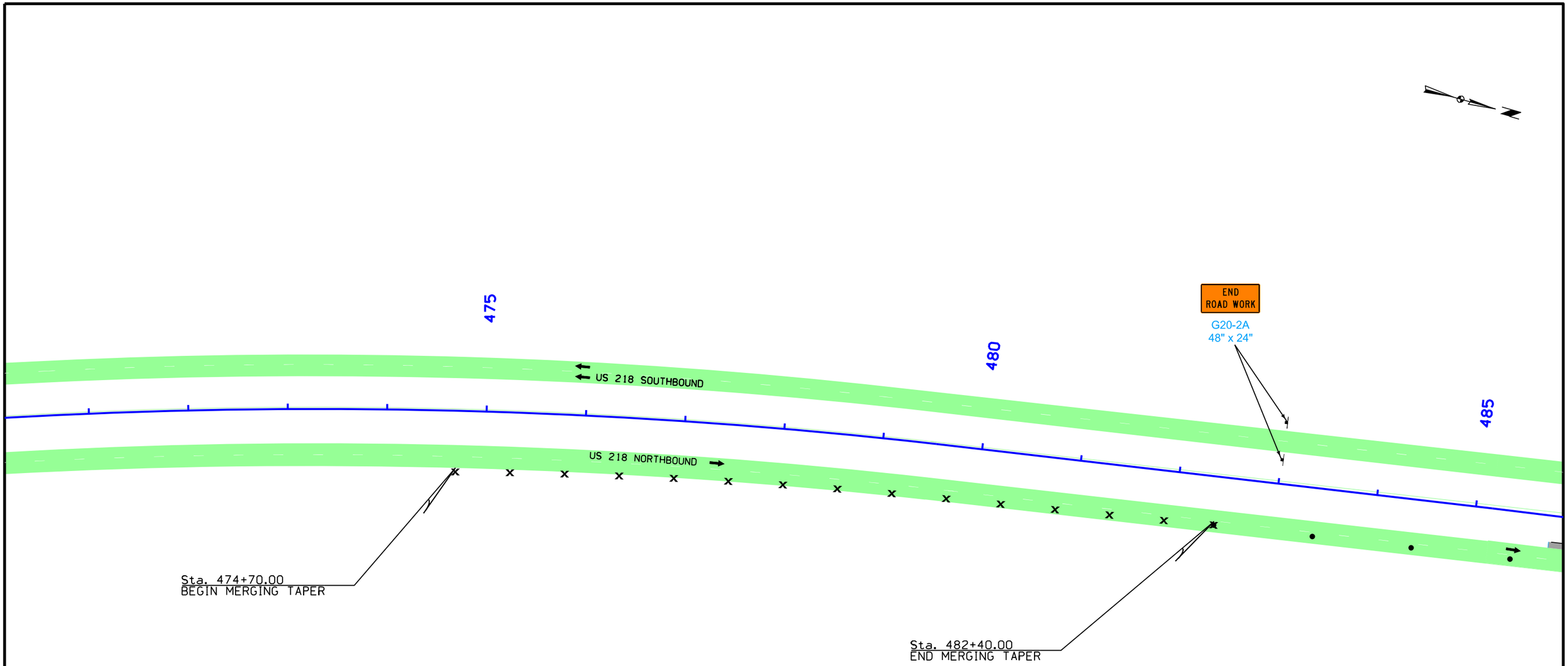


0 FEET 50

TRAFFIC CONTROL
STAGE 4A

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.64

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht



US 218 NORTHBOUND ADVANCE SIGNING

ROAD WORK AHEAD	SPEED LIMIT 55	RIGHT LANE CLOSED AHEAD	MERGE		ARROW PANEL
W20-1 48" x 48"	R2-1 48" x 60"	W20-5 48" x 48"	W4-2M 48" x 48"	W4-2 48" x 48"	
Sta. 431+46 (2 EA)	Sta. 441+46 (2 EA)	Sta. 451+46 (2 EA)	Sta. 461+46 (RT SHLDR)	Sta. 461+46 (MEDIAN)	Sta. 466+46 (RT SHLDR)

0 FEET 50

TRAFFIC CONTROL
STAGE 4B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.65

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

Sta. 488+60.00
BEGIN EXITING TAPER

Sta. 487+60.00
END EXITING TAPER

490

495

500

US 218 SOUTHBOUND

US 218 NORTHBOUND

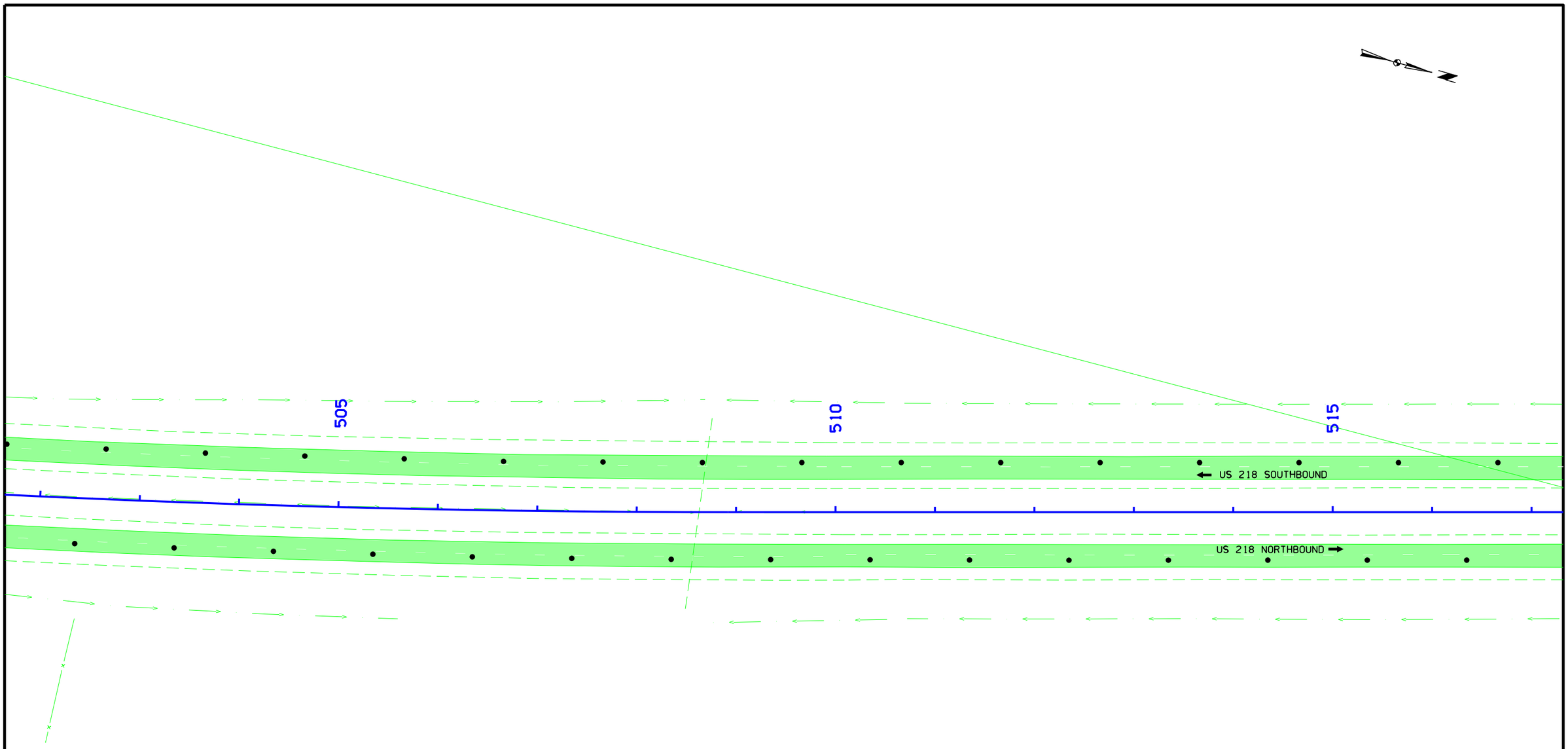
Mt. Vernon Road

0 50
FEET

TRAFFIC CONTROL
STAGE 4B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.66

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht



0 50
FEET

TRAFFIC CONTROL
STAGE 4B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.67

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

T3 T3 T3 T3

520 525 530

US 218 SOUTHBOUND

US 218 NORTHBOUND

SPEED LIMIT 55

R2-1
48" x 60"

0 FEET 50

TRAFFIC CONTROL
STAGE 4B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.68

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

SPEED LIMIT 55

R2-1
48" x 60"

T3

535

540

545

US 218 SOUTHBOUND

US 218 NORTHBOUND

T2

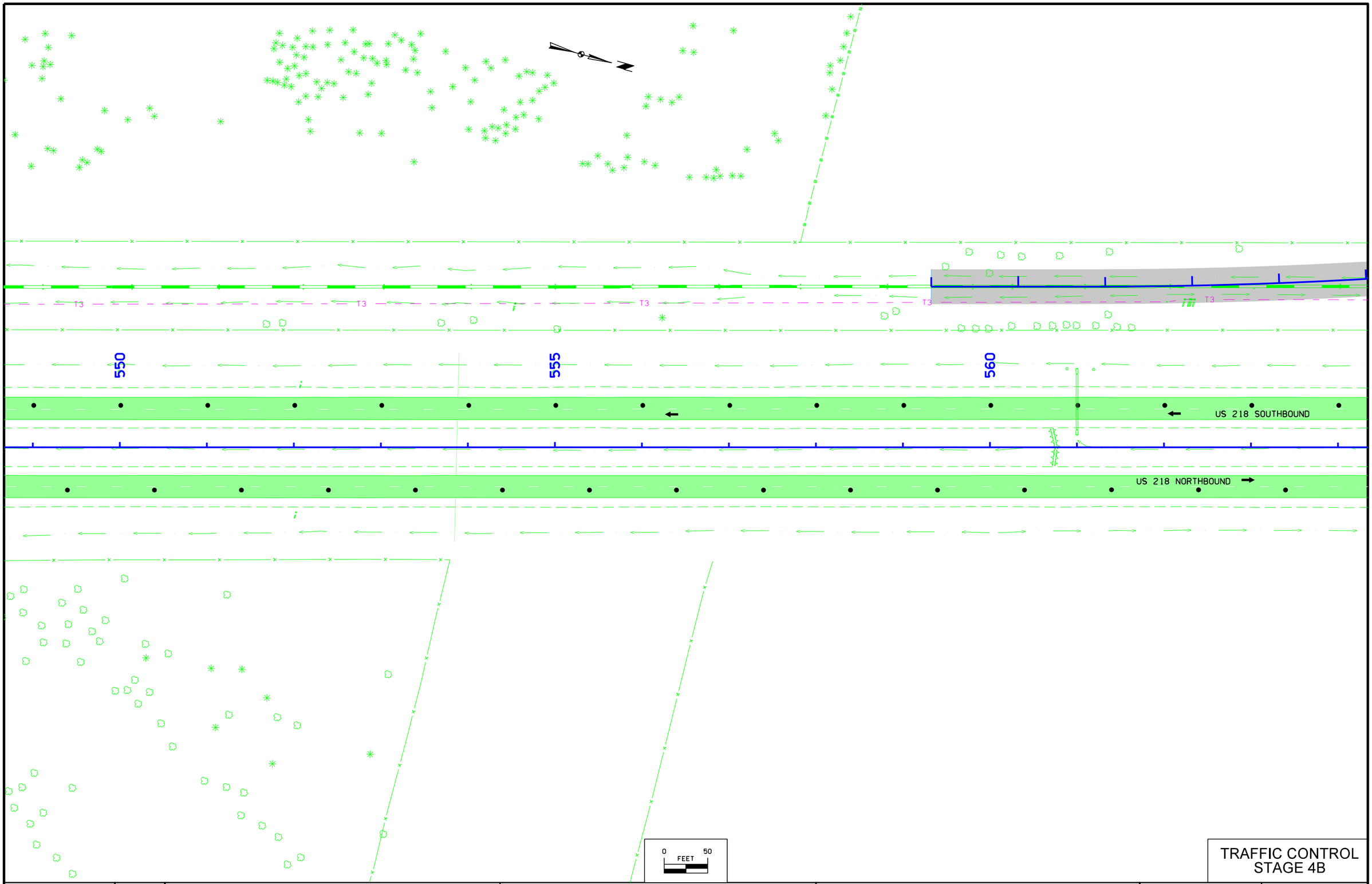
Bennington Road

0 FEET 50

TRAFFIC CONTROL
STAGE 4B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.69

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht



TRAFFIC CONTROL
STAGE 4B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.70

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821QJ2.sht

Cedar River RR Co.

SPEED LIMIT 55

R2-1
48" x 60"

T3 T3 T3 T3 T3

565 570 575 580

US 218 SOUTHBOUND

US 218

US 218 NORTHBOUND

EXIT 500 FT

G20-22
72" x 42"

SPEED LIMIT 55

R2-1
48" x 60"

0 50
FEET

TRAFFIC CONTROL
STAGE 4B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.71

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

ROAD CLOSED AHEAD

W20-3
48" x 48"

BE PREPARED TO STOP

W20-7B
48" x 48"

Ramp C

YIELD

R1-2
48" x 48" x 48"

T3 T3 T3 T3 T3

585 590 595

US 218 NORTHBOUND

G20-23A
36" x 12"

000

EXIT

G20-23
48" x 48"

Ramp B

0 FEET 50

TRAFFIC CONTROL
STAGE 4B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.72

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

Ramp A

T3

600

EQUATIONS
Sta 601+00.00 BK =
Sta 12+96.13 AH

15

20

US 218 SOUTHBOUND

US 218 NORTHBOUND

Ramp D

ROAD CLOSED AHEAD

W20-3
48" x 48"

BE PREPARED TO STOP

W20-7B
48" x 48"

0 50
FEET

TRAFFIC CONTROL
STAGE 4B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.73

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210J2.sht

Cedar River RR Co.

G20-23A
36" x 12"
000

EXIT

G20-23
48" x 48"

SPEED
LIMIT
55

R2-1
48" x 60"

EXIT
500 FT

G20-22
72" x 42"

T3

25

30

35

US 218 SOUTHBOUND

US 218

US 218 NORTHBOUND

YIELD

R1-2
48" x 48" x 48"

0 FEET 50

TRAFFIC CONTROL
STAGE 4B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.74

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

T3 T3 T3 T3 T3

40 45 50

US 218 SOUTHBOUND

US 218

US 218 NORTHBOUND

SPEED LIMIT 55

R2-1
48" x 60"

0 50
FEET

TRAFFIC CONTROL
STAGE 4B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.75

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

W. Gresham Road

US 218 SOUTHBOUND

US 218 NORTHBOUND

Sta. 65+10.00 R 2
BEGIN EXITING TAPER

Sta. 66+10.00 R 2
END EXITING TAPER

0 FEET 50

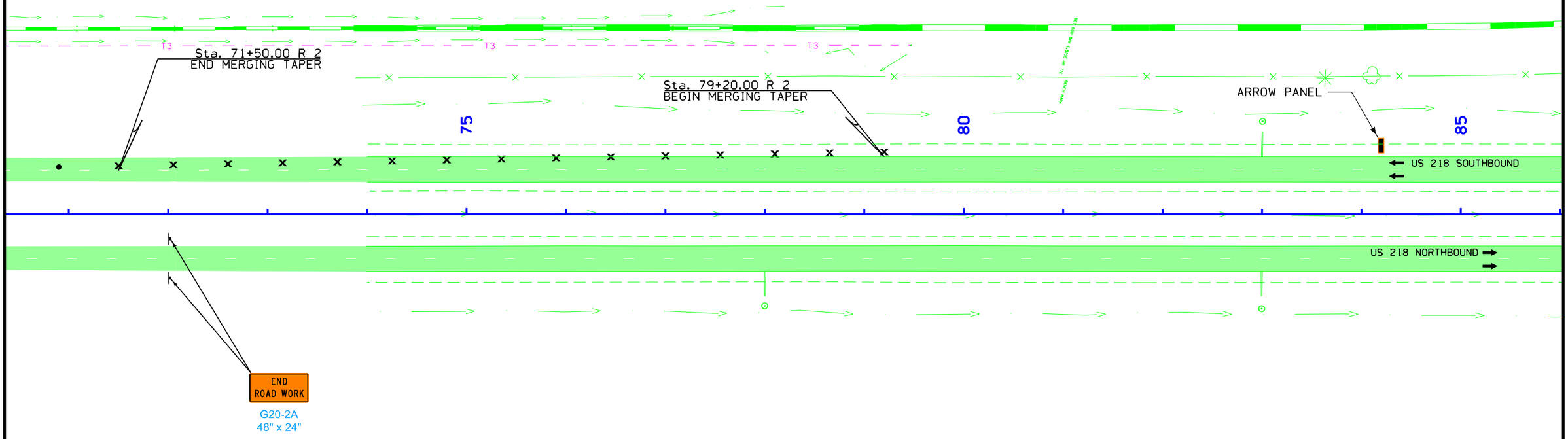
TRAFFIC CONTROL
STAGE 4B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.76

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

US 218 SOUTHBOUND ADVANCE SIGNING

MERGE		LEFT LANE CLOSED AHEAD	SPEED LIMIT 55	ROAD WORK AHEAD
W4-2M 48" x 48"	W4-2 48" x 48"	W20-5 48" x 48"	R2-1 48" x 60"	W20-1 48" x 48"
Sta. 91+80 (MEDIAN)	Sta. 91+80 (RT SHLDR)	Sta. 101+80 (2 EA)	Sta. 111+80 (2 EA)	Sta. 121+80 (2 EA)



0 FEET 50

TRAFFIC CONTROL
STAGE 4B

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER J.77

SYSTEMTIME SYSTEMDATE RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OJ2.sht

Curve Data
Δ = 12° 36′ 13.56″ (LT)
T = 220.87
L = 439.95
R = 2,000.00
E = 12.16
e = 5.4
L = 168.00
x = 62.00
m = 50.40

+75 Prop.
Type "G" Dike
Elev. = 880.55

Sta. 3584+00.00
Install 24″ x 98′ RCP
F.L. = Lt. 876.81
Rt. 878.55

WASHIGTON TWP.
T-90N R-14W
SEC. 13

POT STA. 10589+82.71
POT STA. 15589+82.71

CEDAR RIVER RR CO.

POT 10593+00.00 (SRC57)
PI 1593+00.00 (C57A)
PI 3593+00.00 (C57C)

3590

WASHIGTON TWP.
T-90N R-14W
SEC. 13

3585

3580

RAMP C (C57C)

63°33′12.29″

POT Sta. 580+65.86, 77.56 LT
PT Sta 3574+38.74
Point G Standard Road Plan PV-411

PC Sta 3574+38.74

3575

PI Sta 3576+59.61

PT Sta 3578+78.70

Curve Ramp C

T3

1000′ Taper 50:1 Ratio

(U.A.C.)

US 218

(U.A.C.)

Curve Ramp B

PC Sta 2590+99.59

PI Sta 2593+18.44

PT Sta 2595+34.22

2595

POT STA 597+75.39 (ML218)
POT STA 10597+84.13 (SRC57)

RAMP B (C57B)

81°21′6.18″

POND

POT Sta. 584+43.67, 130.48 RT
PT Sta 2590+33.48
Point M Standard Road Plan PV-410

2590

Curve Data
Δ = 16° 36′ 05.77″ (RT)
T = 218.85
L = 434.63
R = 1,500.00
E = 15.88
e = 6.0
L = 186.00
x = 62.00
m = 55.80

POT 10603+15.00 (SRC57)
PI 2603+15.00 (C57B)
PI 4603+15.00 (C57D)

0 100
FEET

Sta. 2595+50.00
Install 24″ x 60′ RCP
F.L. = Lt. 878.35
Rt. 878.24

US 218 WITH COUNTY ROAD C-57 INTERCHANGE RAMP B AND C

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSX-218-7(207)--3H-07	SHEET NUMBER K.1

5:37:41 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210K1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 12

CEDAR RIVER RR CO.

POT 10593+00.00 (SRC57)
PI 1593+00.00 (C57A)
PI 3593+00.00 (C57C)

1595

Curve Data
Δ = 15° 50′ 58.88″ (LT)
T = 194.88
L = 387.28
R = 1,400.00
E = 13.50
e = 6.0
L = 186.00
x = 62.00
m = 55.80

1600

PC Sta 1601+61.75

RAMP A (C57A)

83°2′4.49″

PI Sta 1603+56.64

Curve Ramp A

1605

PT Sta 1605+49.03

POT Sta 1606+40.73

POT Sta. 23+58.91 R 2, 97.70 LT

POT Sta 1606+40.73
Point M Standard Road Plan PV-410

T3

600′ Taper 15: 1 Ratio

(U.A.C.)

US 218

(U.A.C.)

1000′ Taper 50:1 Ratio

POT STA 10597+75.39 (ML218)
POT STA 10597+84.13 (SRC57)

Curve Ramp D 1

PC Sta 4617+31.13

PI Sta 4618+41.43

PCC Sta 4619+57.50

PI Sta 4620+78.17

PT Sta 4621+98.55

4620

62°7′55.37″

RAMP D (C57D)

4615

4610

POT Sta. 26+82.88 R 2, 78.55 RT

PCC Sta 4621+98.55
Point G Modified Standard Road Plan PV-411

Curve Data
Δ = 6° 29′ 06.39″ (RT)
T = 113.31
L = 226.37
R = 2,000.00
E = 3.21
e = 5.4
L = 168.00
x = 62.00
m = 50.40

Curve Data
Δ = 6° 54′ 20.33″ (RT)
T = 120.67
L = 241.05
R = 2,000.00
E = 3.64
e = 5.4
L = 168.00
x = 62.00
m = 50.40

POT 10603+15.00 (SRC57)
PI 2603+15.00 (C57B)
PI 4603+15.00 (C57D)

4605

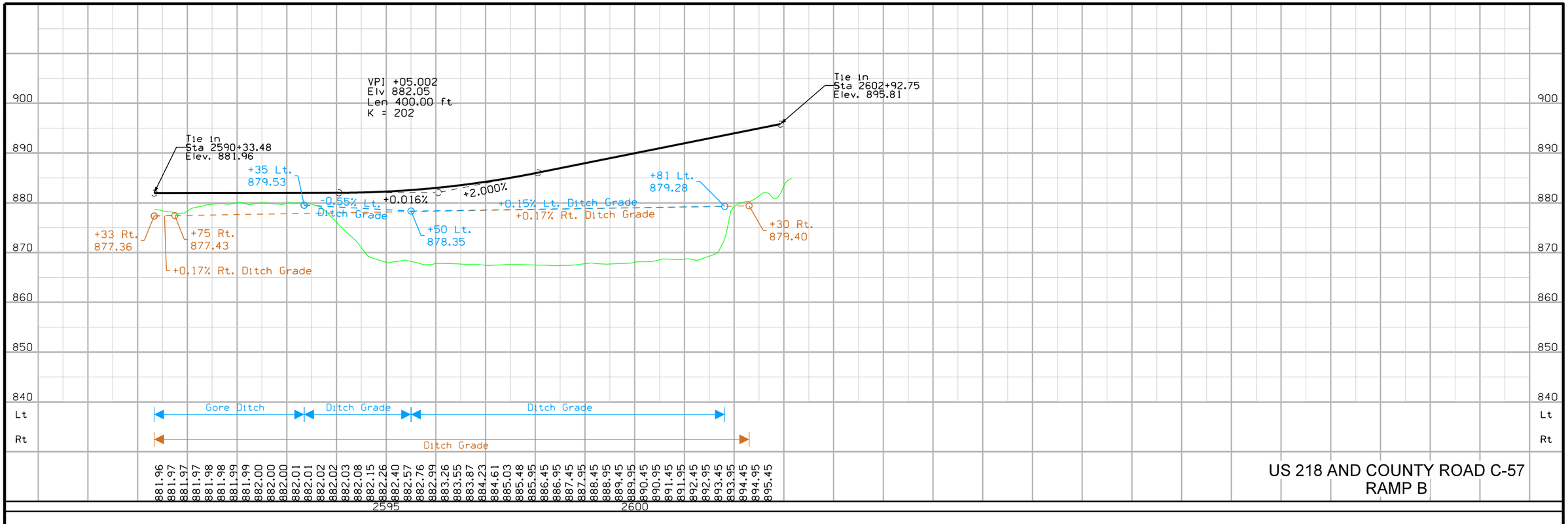
Sta. 4613+46
Install 30″ x 82′ RCP
Skew = 36° Lt. Ahd.
F.L. = Lt. 880.20
Rt. 880.10

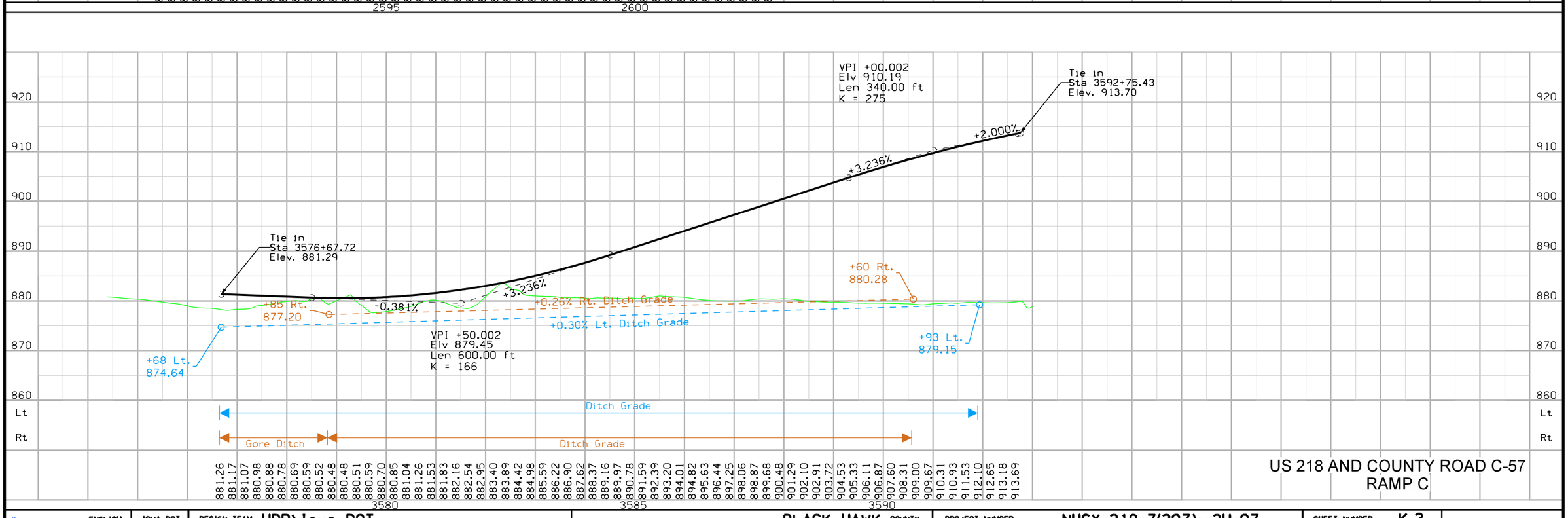
0 100
FEET

US 218 WITH COUNTY ROAD C-57
INTERCHANGE
RAMP A AND D

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER K.2

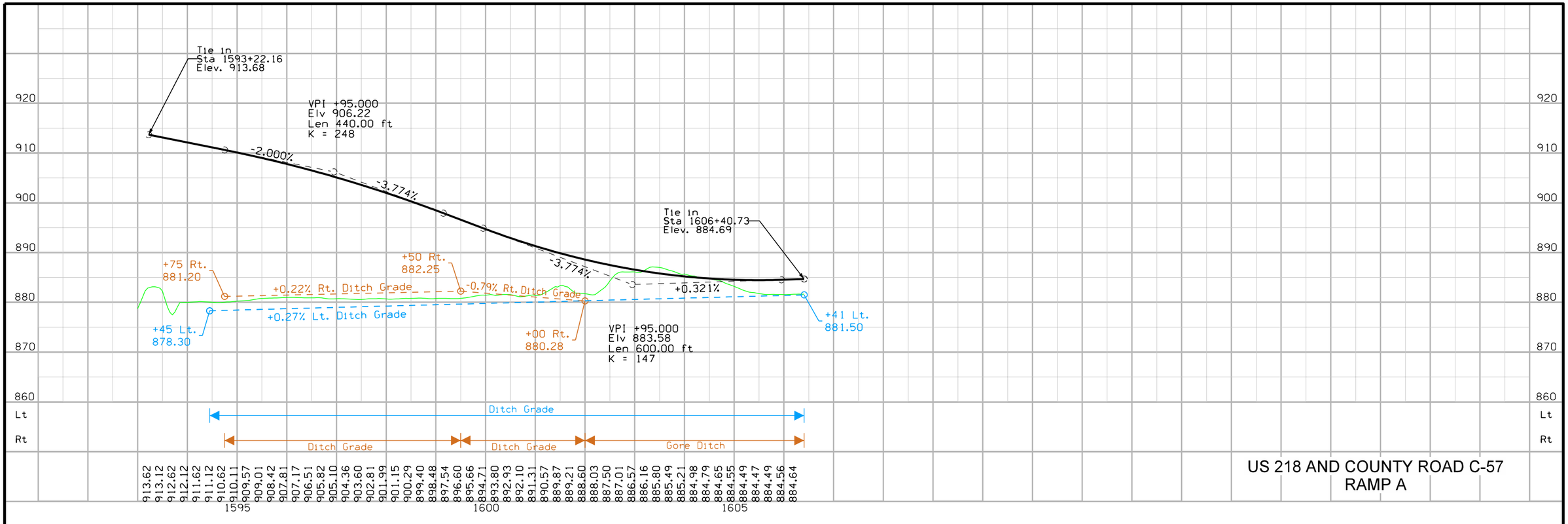
5:37:44 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\0721821OK1.sht





C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSX-218-7(207)--3H-07	SHEET NUMBER K.3

5:37:47 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210K1.sht



C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSX-218-7(207)--3H-07	SHEET NUMBER K.4

5:37:48 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210K1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 12

10591

Sta. 10592+36.82
22.00 RT (SRC57)
= Sta. 30+00.00
(C57C_RET_3) 913.48

CURVE C57C RET 3-1

Sta. 10592+84.34
33.37 RT (SRC57)
= Sta. 30+49.31
(C57C_RET_3) 913.16

Sta. 3592+64.21
20.68 LT (C57C)
= Sta. 30+64.61
(C57C_RET_3) 913.00

Sta. 10591+30.85
-22.00 LT (SRC57)
= Sta. 22+28.05
(C57A_RET_2) 912.78

2.0% 2% 2% 2.0%
P4.00% 8% 8% P4.00%
14.0' 14.0'

CONSTANT 2.00% SLOPE
CONSTANT 2.00% SLOPE
CONSTANT 2.00% SLOPE

10592

CURVE C57A RET 2-3

Sta. 1593+28.15
-55.57 LT (C57A)
= Sta. 21+09.73
(C57A_RET_2)

POT 10593+00.00 (SRC57)
PI 1593+00.00 (SRC57A)
PI 3593+00.00 (SRC57C)

Sta. 10592+67.35
41.48 LT (SRC57)
= Sta.20+89.41
(C57A_RET_2) 913.00

C57C RET 3

SPECIAL SHAPING

Sta. 3592+50.75
14.61 LT (C57C)
= Sta. 30+79.38
(C57C_RET_3) 912.85

SPECIAL SHAPING

C57A RET 2

CURVE C57A RET 2-2

Sta. 1593+51.24
21.56 LT (C57A)
= Sta.20+68.16
(C57A_RET_2) 912.73

Sta. 3592+39.74
11.23 LT (C57C)
= Sta. 30+90.90
(C57C_RET_3) 912.71

3593

1593

4.0%

913.31
913.68

913.36

2.9%

912.94

1594

Sta. 1593+65.29
11.79 LT (C57A)
= Sta.20+40.35
(C57A_RET_2) 912.40

3592

+80.00

CURVE C57C RET 3-2

913.18
913.28

Sta. 3591+80.85
-2.49 LT (C57C)
= Sta. 31+50.51
(C57C_RET_3)

3591

3.0%

0.11%

10593

3.2%

912.87

Sta. 1593+74.96
7.32 LT (C57A)
= Sta. 20+40.35
(C57A_RET_2)

CURVE C57C RET 3-3

Sta. 3591+00.40
0.00 RT (C57C)
= Sta. 32+31.01
(C57C_RET_3) 909.68

3590

UNIFORM TRANSITION

16.0'
2.0%

912.92

+67.47

63°33'12.29"

83°24'49"

+24.12

0.40%

UNIFORM TRANSITION

913.61

913.37

2.0%
16.0'

CURVE C57A RET 2-1

Sta. 1594+14.41
0.00 RT (C57A)
= Sta. 20+00.00
(C57A_RET_2) 911.84

1595

912.80

913.72
913.53

+75.00

RAMP C

CONSTANT 2.00% SLOPE

RAMP A

CONSTANT 2.00% SLOPE

1596

913.15
913.19

CURVE C57C RET 4-2

Sta. 3592+25.19
33.48 RT (C57C)
= Sta.41+65.36
(C57C_RET_4) 912.75

CURVE C57C RET 4-1

Sta. 3591+74.97
20.94 RT (C57C)
= Sta. 41+13.39
(C57C_RET_4)

Sta. 3592+29.06
35.19 RT (C57C)
= Sta.41+69.60
(C57C_RET_4) 912.50

SPECIAL SHAPING

SPECIAL SHAPING

Sta. 1593+81.63
16.00 RT (C57A)
= Sta.10+72.07
(C57A_RET_1) 912.81

Sta. 1593+47.28
22.82 RT (C57A)
= Sta. 10+36.76
(C57A_RET_1) 913.14

CURVE C57A RET 1-3

10594

Sta. 1593+38.90
27.73 RT (C57A)
= Sta. 10+27.03
(C57A_RET_1)

Sta. 1593+60.85
18.18 RT (C57A)
= Sta. 10+51.13
(C57A_RET_1)

Sta. 3590+60.40
16.00 RT (C57C)

Sta. 3590+61.72
16.00 RT (C57C)
= Sta. 40+00.00
(C57C_RET_4) 908.96

Sta. 10593+36.27
29.69 LT (SRC57)
= Sta. 10+20.15
(C57A_RET_1) 913.40

CURVE C57A RET 1-2

C57C RET 4

Sta. 3592+37.02
40.94 RT (SRC57)
= Sta.41+79.48
(C57C_RET_4) 913.10

CURVE C57C RET 4-3

CURVE C57A RET 1-1

C57A RET 1

Sta. 10593+54.31
22.00 LT (SRC57)
= Sta. 10+00.00
(C57A_RET_1) 913.72

Sta. 10593+74.16
26.23 RT (SRC57)
= Sta. 41+94.95
(C57C_RET_4) 913.51

Sta. 10593+60.05
22.00 LT (SRC57)

Sta. 10593+88.09
22.00 RT (SRC57)
= Sta. 42+09.71
(C57C_RET_4) 913.68

0 20
FEET

GEOMETRIC & STAKING DETAILS
US 218 WITH COUNTY ROAD C-57
INTERCHANGE RAMP A & C

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER K.5

8:13:55 AM 8/29/2014 rbell c:\pwworking\oma\d1160599\07218210K1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 12

C57B RET 3

C57D RET 2

C57B RET 4

C57D RET 1

RAMP B

RAMP D

CONSTANT 2.00% SLOPE

UNIFORM TRANSITION

SPECIAL SHAPING

CURVE C57B RET 3-1

CURVE C57B RET 3-2

CURVE C57B RET 3-3

CURVE C57B RET 4-1

CURVE C57B RET 4-2

CURVE C57B RET 4-3

CURVE C57D RET 2-3

CURVE C57D RET 2-2

CURVE C57D RET 2-1

CURVE C57D RET 1-3

CURVE C57D RET 1-2

CURVE C57D RET 1-1

Sta. 10602+47.57
24.00 RT (SRC57)

Sta. 10602+58.92
22.00 RT (SRC57)
= Sta. 30+00.00
(C57B_RET_3) 897.39

Sta. 10602+79.30
32.52 RT (SRC57)
= Sta. 30+23.83
(C57B_RET_3) 896.39

Sta. 2602+74.60
28.00 LT (C57B)
= Sta. 30+27.58
(C57B_RET_3)

Sta. 2602+62.24
21.24 LT (C57B)
= Sta. 30+41.70
(C57B_RET_3) 895.74

Sta. 2602+52.39
18.22 LT (C57B)
= Sta. 30+52.02
(C57B_RET_3)

Sta. 2602+31.43
16.00 LT (C57B)
= Sta. 30+73.14
(C57B_RET_3) 894.90

Sta. 2602+00.99
0.00 RT (C57B)
= Sta. 40+00.00
(C57B_RET_4) 893.97

Sta. 2602+31.17
3.70 RT (C57B)
= Sta. 40+30.49
(C57B_RET_4)

Sta. 2602+44.40
8.04 RT (C57B)
= Sta. 40+44.43
(C57B_RET_4) 894.45

Sta. 2602+60.54
17.31 RT (C57B)
= Sta. 40+63.08
(C57B_RET_4) 894.50

Sta. 10603+42.13
42.89 RT (SRC57)
= Sta. 40+85.86
(C57B_RET_4) 894.28

Sta. 10603+50.72
38.87 RT (SRC57)
= Sta. 41+07.68
(C57B_RET_4)

Sta. 10604+79.48
22.00 RT (SRC57)
= Sta. 42+25.67
(C57B_RET_4) 890.78

Sta. 10602+07.57
22.00 LT (SRC57)
= Sta. 22+12.27
(C57D_RET_2) 898.93

Sta. 10602+40.66
39.52 LT (SRC57)
= Sta. 21+73.30
(C57D_RET_2) 897.17

Sta. 4603+95.30
35.54 LT (C57D)
= Sta. 21+56.63
(C57D_RET_2) 896.33

Sta. 4604+13.31
26.41 LT (C57D)
= Sta. 21+36.70
(C57D_RET_2) 895.57

Sta. 4604+55.79
19.50 LT (C57D)
= Sta. 20+93.61
(C57D_RET_2)

Sta. 4605+49.31
16.00 LT (C57D)
= Sta. 20+00.00
(C57D_RET_2) 892.62

Sta. 4605+12.69
0.00 RT (C57D)
= Sta. 12+30.19
(C57D_RET_1) 892.89

Sta. 4604+29.94
2.74 RT (C57D)
= Sta. 11+47.37
(C57D_RET_1)

Sta. 4603+77.31
10.29 RT (C57D)
= Sta. 10+94.15
(C57D_RET_1) 894.92

Sta. 4603+63.81
14.36 RT (C57D)
= Sta. 10+80.04
(C57D_RET_1) 895.04

Sta. 4603+50.66
20.27 RT (C57D)
= Sta. 10+65.62
(C57D_RET_1) 895.00

Sta. 10603+28.11
33.99 LT (SRC57)
= Sta. 10+51.83
(C57D_RET_1) 894.94

POT 10603+15.00 (SRC57)
PI 2603+15.00 (C57B)
PI 4603+15.00 (C57D)

Sta. 10603+78.04
-22.00 LT (SRC57)
= Sta. 10+00.00
(C57D_RET_1) 893.82

2600 2601 2602 2603 2604 2605 2606

10601 10602 10603 10604

2.0% 14.0' 2% 8' 2% 2.0% 14.0'

896.73 896.64 897.18 897.03 897.21 896.28 895.49 895.34 895.61 896.01 895.21 894.67 895.01 894.98 895.83 895.41

5.3% 16.0' 3.35% 4.45% 0.1% 2.0% 16.0'

81°21'6.18" 62°7'55.37"

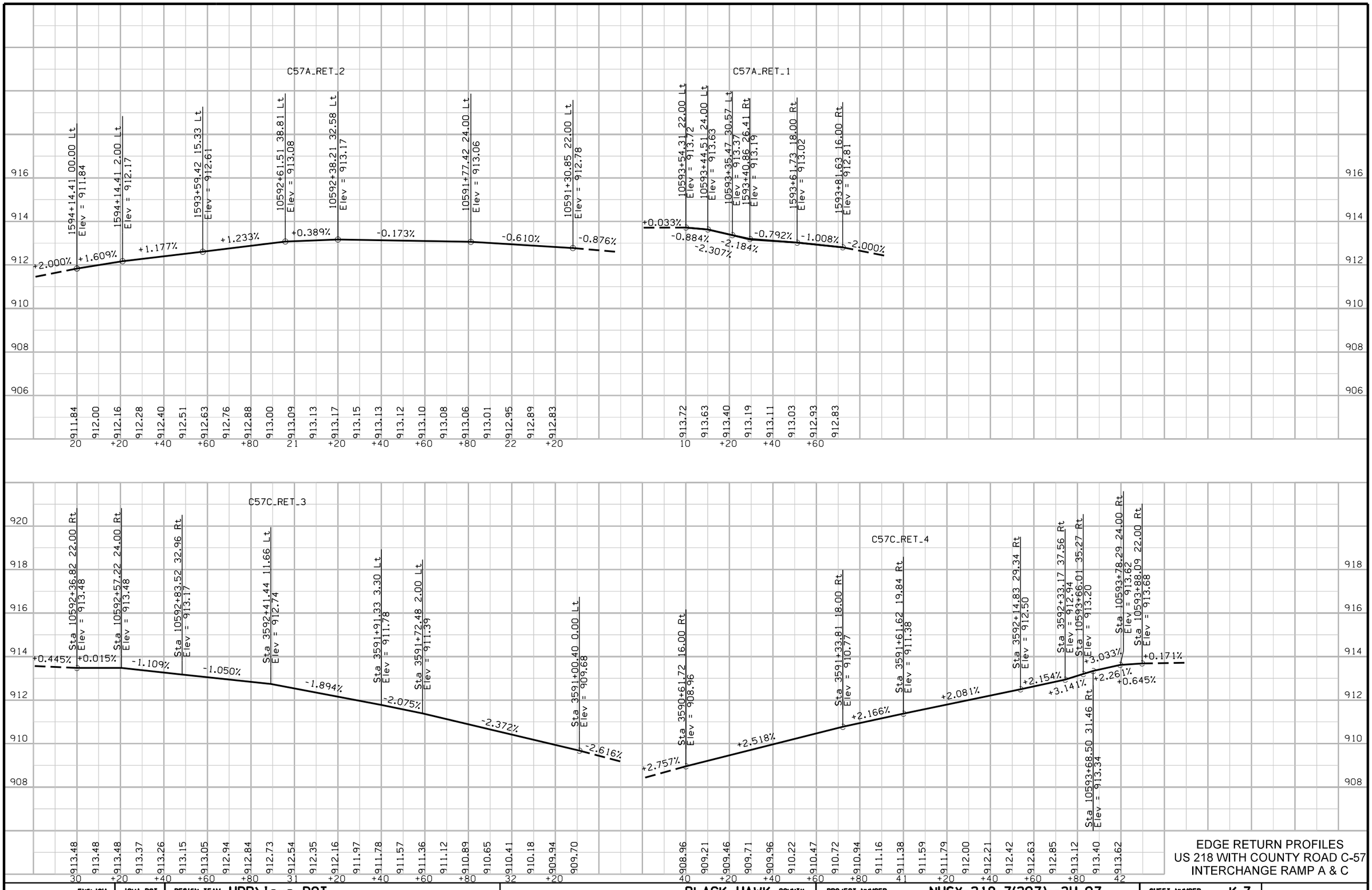
+48.00 +90.31 +25.00 +48.35 +4.2%

0 20 FEET

GEOMETRIC & STAKING DETAILS
US 218 WITH COUNTY ROAD C-57
INTERCHANGE RAMP B & D

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER K.6

8:15:16 AM 8/29/2014 rbell c:\pwworking\oma\d1160599\07218210K1.sht



EDGE RETURN PROFILES
US 218 WITH COUNTY ROAD C-57
INTERCHANGE RAMP A & C

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER K.7

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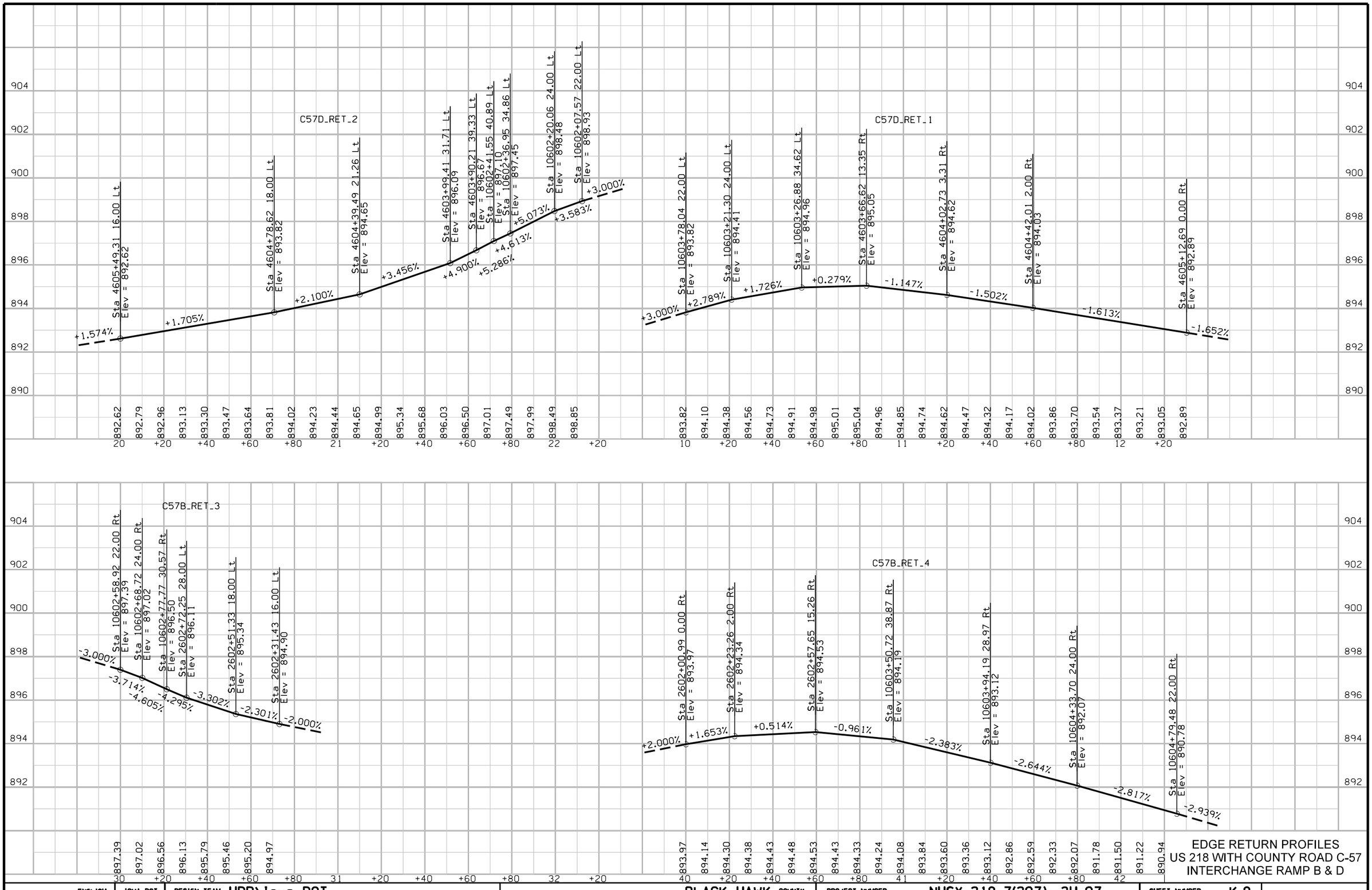

EDGE RETURN PROFILES
US 218 WITH COUNTY ROAD C-57
INTERCHANGE RAMP B & D

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER K.8

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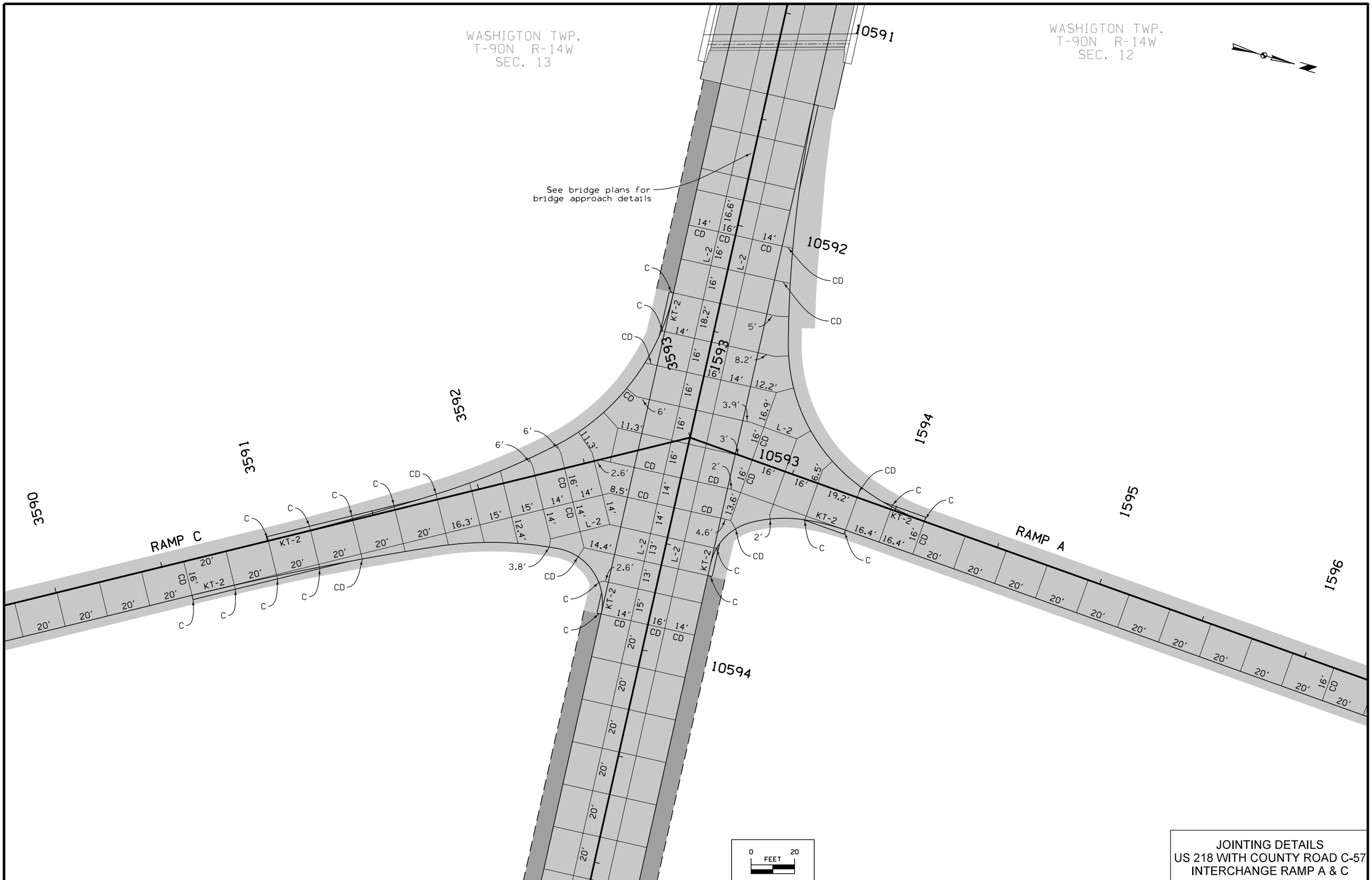
WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 12



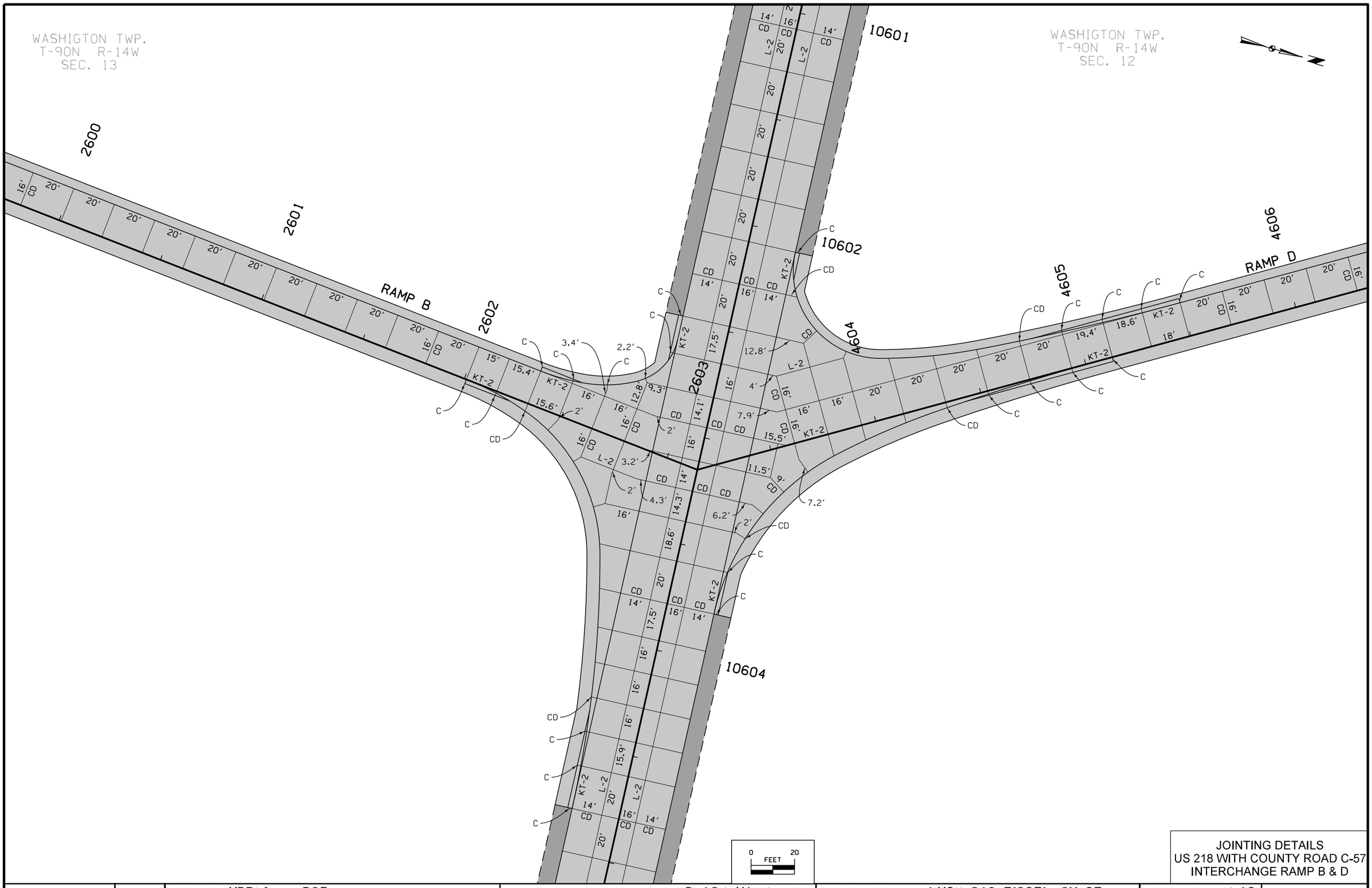
JOINTING DETAILS
US 218 WITH COUNTY ROAD C-57
INTERCHANGE RAMP A & C

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER K.9

8:23:05 AM 8/29/2014 rbell c:\pwworking\oma\d1160599\07218210K1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 12



0 FEET 20

JOINTING DETAILS
US 218 WITH COUNTY ROAD C-57
INTERCHANGE RAMP B & D

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER K.10

8:23:50 AM 8/29/2014 rbell c:\pwworking\oma\d1160599\07218210K1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 13

POT STA. 10589+82.71
POT STA. 15589+82.71

CEDAR RIVER RR CO.

3575
3580
3585
3590

RAMP C

RAMP B

US 218

CR 57

Ditch Dike

Grading Out Pond

SEE EW-204 FOR BRIDGE BERM GRADING

2595
2600

3:1
3.5:1
6:1
%VARIES
1.0%
0.75%
2.8%
0.2%
1.5%
0%

0 100
FEET

US 218 WITH COUNTY ROAD C-57 INTERCHANGE GRADING

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER K.11

5:38:20 PM 8/27/2014 RBell c:\pwworking\oma\d1160599\07218210K1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 12

ER RR CO.

CEDAR RIVER RR CO.

RAMP A

RAMP D

CR 57

1595
1600
1605
1610
1615
1620
1625
1630
1635

4605
4610
4615
4620

3:1
3.5:1
6:1
0%
%VARIES

SEE EW-204 FOR BRIDGE BERM GRADING

0 FEET 100

US 218 WITH COUNTY ROAD C-57
INTERCHANGE GRADING

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER K.12

5:38:23 PM 8/27/2014 RBell c:\pwworking\oma\d1160599\07218210K1.sht

SURVEY SYMBOLS

- LUM Luminaire
- SIGN SI Sign
- ROW Right of Way Rail
- PPA Power Pole Co. 1
- TEV Evergeen Tree
- SHR Shrub
- TDC Tree Deciduous
- LP L.P. Tank
- OUT Tile Outlet
- TSG Traffic Signal
- IN Storm Sewer Intake
- MH Utility Access (Manhole)
- BB Billboard
- MIS Miscellaneous
- MM Mile Marker Post
- SIGN SL Speed Limit Sign
- TP TPD Telephone Pedestal
- EB Electrical Box
- WV WV Water Valve
- UB UB Utility Box
- TVP TVP TV Pedestal
- TLN Tree Line
- TIL Tile Line
- FCL Chain Link and Security Fence
- FW Wire Fence
- FWD Wood Fence
- DU Centerline Draw or Stream (Up)
- D Centerline Draw or Stream (Down)
- DIK Centerline of Dike or Dam
- EW Edge of Water
- BNK Stream Bank
- GDL Guard Rail Steel
- RIP Rip-Rap
- RR Centerline of Railroad Tracks
- UV Underground Utility Vault
- ELA Underground Electric Line Co. 1
- WLA Underground Water Line Co. 1
- TLA Underground Telephone Line Co. 1
- FOA Underground Fiber Optic Co. 1
- FOB Underground Fiber Optic Co. 2
- ELB Underground Electric Line Co. 2
- TLB Underground Telephone Line Co. 2
- TLC Underground Telephone Line Co. 3

UTILITY LEGEND

PLAN VIEW COLOR LEGEND OF SOILS SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Purple (Halo)	(15)	Backslope Drains
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
SHADING	**Design Color No.**	
Brown, Light	(236)	Core Out

PROFILE VIEW COLOR LEGEND OF SOILS SHEETS

LINEWORK	Design Color No.	
Blue	(1)	Proposed Alignment, Stationing, and Alignment Annotation
Green	(2)	Existing Ground Line Profile
Green, Med	(227)	Class 10 Topsoil
Green, M.Light	(226)	Unsuitable A Topsoil
Green, Light	(225)	Unsuitable B Topsoil
Green, V.Light	(224)	Unsuitable C Topsoil
Orange	(6)	Loam
Brown, Dark	(238)	Class 10
Brown, Med	(237)	Sand
Red	(3)	Unsuitable A
Pink, Dark	(13)	Unsuitable B
Pink	(11)	Unsuitable C
Red	(3)	Shale
Red	(3)	Waste
Gray, Light	(48)	Broken and Weathered Rock
Gray, Med	(80)	Rock
Gray, V.Dark	(128)	Boulders

PATTERN AND SYMBOL LEGEND OF SOILS SHEETS

Soils Book No._____

Date(s) Drilled_____

- $-H_2O-$ Water
- — DRY Dry
- (S) Sample
- Plugged
- M— Moisture
- Shelby
- Blow Count
- Dens. Core
- Treatment
- Sand Blanket
- Soil Remediation Area
- Select Soil
- Select Sand
- Shale
- Broken and Weathered Rock
- Rock
- Sandstone
- Unsuitable A Topsoil
- Unsuitable B Topsoil
- Unsuitable C Topsoil
- Unsuitable A
- Unsuitable B
- Unsuitable C
- Sandy Soil
- Boulders
- Boring Truncated

Reference Point

Station

- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Clearing & Grubbing Area
- Pavement Removal

RIGHT-OF-WAY LEGEND

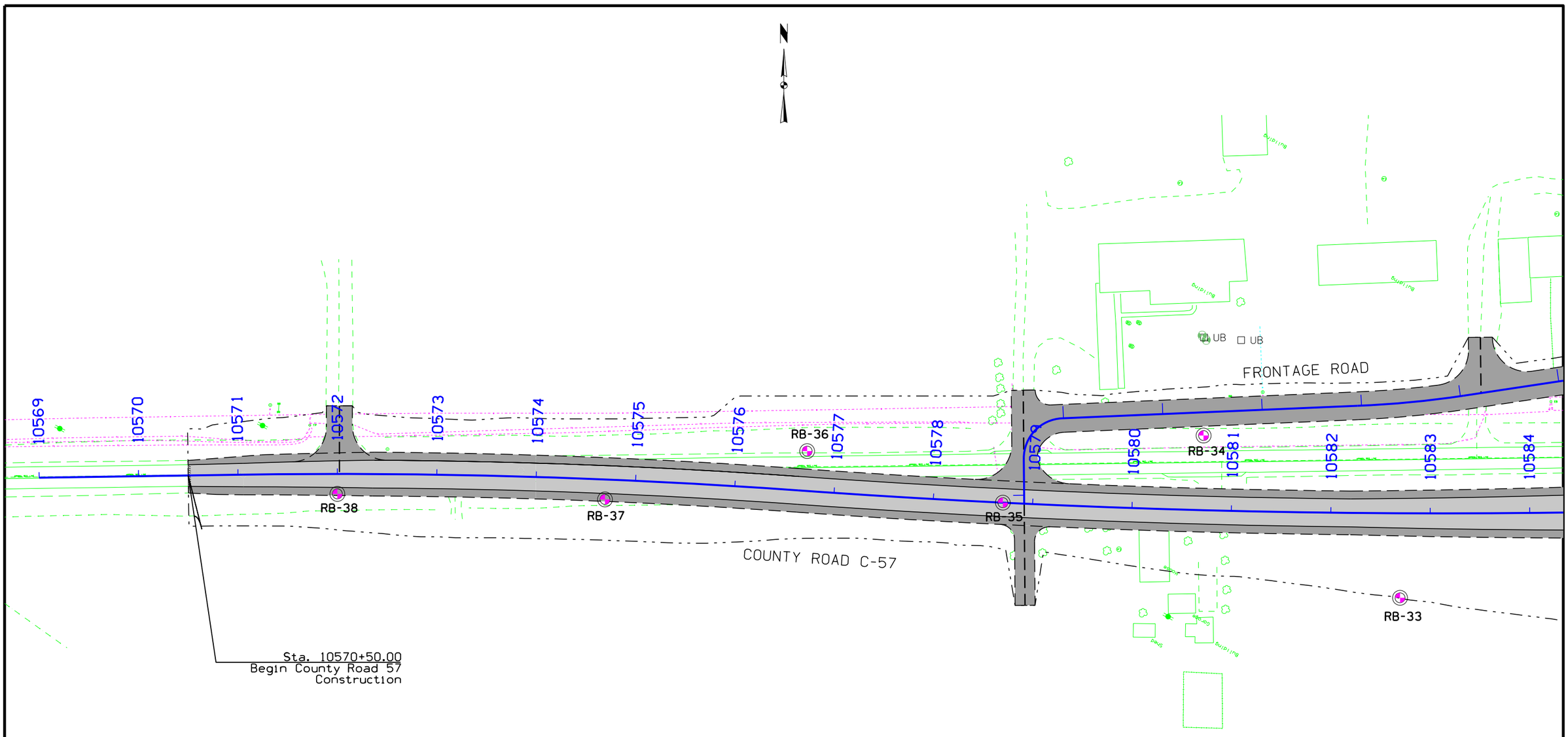
- Proposed Right-of-Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Borrow
- Easement (Temporary)
- Easement
- Excess
- A/C Access Control

SOILS LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES 0 & R)

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.1

12:49:52 PM 12/31/2013 jcarter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210lgd.sht



NOTE:
SPECIAL ATTENTION SHOULD BE GIVEN TO ARTICLE 2107.03.C OF THE STANDARD SPECIFICATIONS ON THIS PROJECT

0 FEET 50

COUNTY ROAD C-57

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER Q.2	

12:50:06 PM 12/31/2013 jcarter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218188Q01.sht

THIS SHEET IS INCLUDED TO SHOW SOIL INFORMATION.
DETAILS AND NOTES SHOWN ELSEWHERE IN THESE PLANS SHALL BE USED FOR STRUCTURE CONSTRUCTION.

Proposed Ground Surface

Existing Ground Surface

TOPSOIL

TOPSOIL

COARSE ALLUVIUM

COARSE ALLUVIUM

COARSE ALLUVIUM

COARSE ALLUVIUM

COARSE ALLUVIUM

COARSE ALLUVIUM

RB-38
RT 20
12 5 12 11 6 5
A-1-b GR SA
$-H_2O-$
20.5 FEET

RB-37
RT 20
8 8 7 7 5 6
A-1-b GR SA
$-H_2O-$
20.5 FEET

RB-36
LT 40
8 6 6 13 7 5
A-1-b GR SA LO
$-H_2O-$
20.5 FEET

RB-35
℄
6 8 11 6 8 6
A-1-b GR SA
$-H_2O-$
20.5 FEET

RB-34
LT 75
10 8 10 4 8 10 7 10
A-1-b GR SA
$-H_2O-$
30.5 FEET

RB-33
RT 85
2 9 9 4 11 7 10 8 7
A-1-b GR SA
$-H_2O-$
35.5 FEET

TOPSOIL IS GENERALLY SOIL CONTAINING VARYING AMOUNTS OF ORGANIC MATERIAL. THE TOPSOIL MAY HAVE DEVELOPED IN-PLACE OR IT MAY HAVE BEEN TRANSPORTED AND REDEPOSITED DURING HISTORICAL SITE GRADING ACTIVITIES.

FILL IS GENERALLY NON-ORGANIC SOIL THAT HAS BEEN TRANSPORTED AND REDEPOSITED DURING HISTORICAL SITE GRADING ACTIVITIES.

FINE ALLUVIUM IS GENERALLY NATIVE, NON-ORGANIC SOIL THAT IS COMPRISED MOSTLY OF SILT AND/OR CLAY SIZE PARTICLES.

COARSE ALLUVIUM IS GENERALLY NATIVE, NON-ORGANIC SOIL THAT IS COMPRISED MOSTLY OF SAND AND/OR GRAVEL SIZE PARTICLES.

COUNTY ROAD
C-57

910 905 900 895 890 885 880 875 870 865 860 855 850 845 840

10569 10570 10571 10572 10573 10574 10575 10576 10577 10578 10579 10580 10581 10582 10583 10584

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.3

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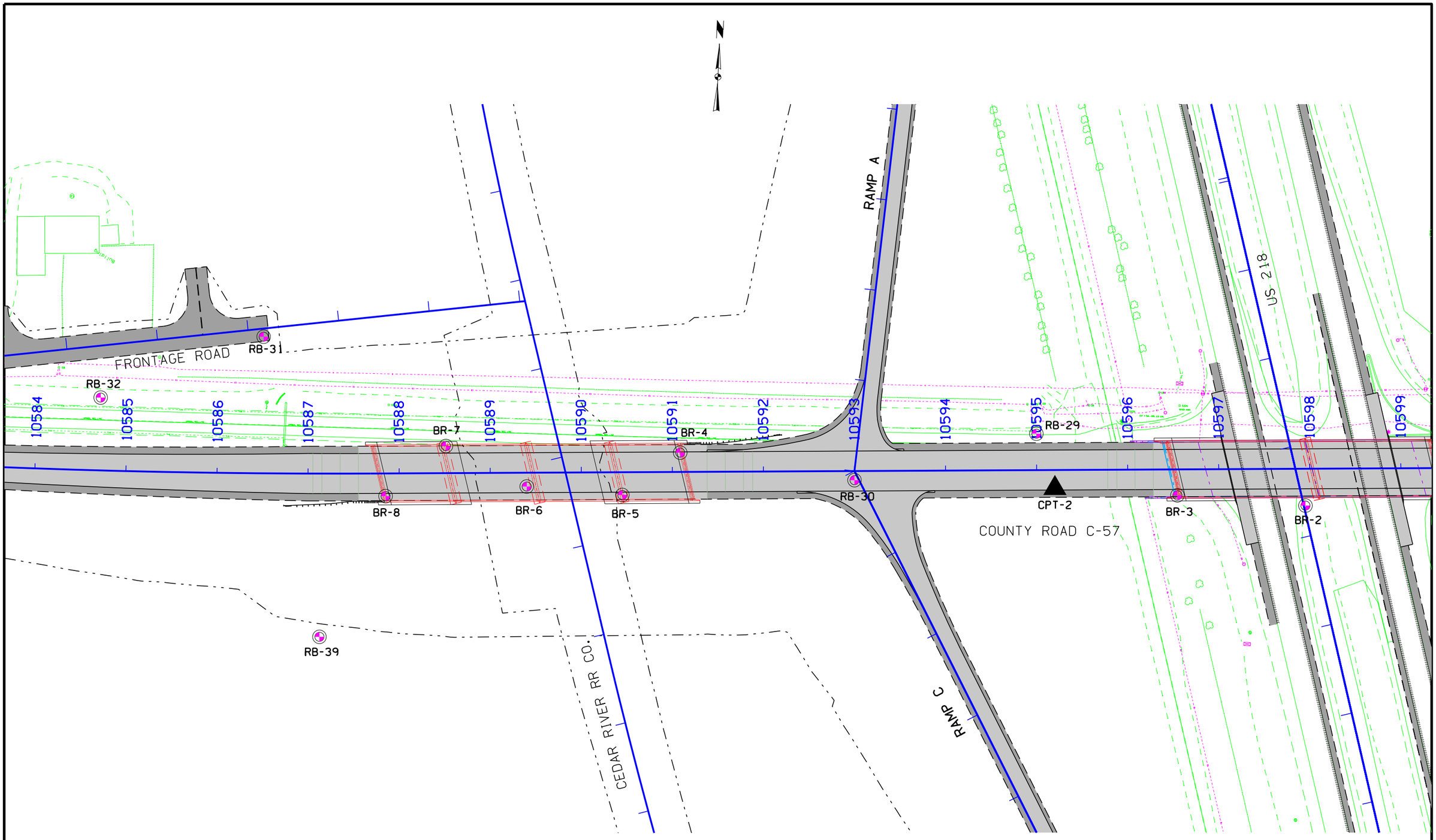

COUNTY ROAD C-57

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSX-218-7(210)-3H-07	SHEET NUMBER Q.4

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CUT MOISTURE
CUT DENSITY (lb/ft^3)
PLASTIC LIMIT

RB-29 | , , , 15 | , , , , | , , , ,

Proposed Ground Surface

THIS SHEET IS INCLUDED TO SHOW SOIL INFORMATION.
DETAILS AND NOTES SHOWN ELSEWHERE IN THESE PLANS SHALL BE USED FOR STRUCTURE CONSTRUCTION.

Existing Ground Surface

910 905 900 895 890 885 880 875 870 865 860 855 850 845 840

TOPSOIL
COARSE ALLUVIUM
WEATHERED LIMESTONE
FINE ALLUVIUM

RB-32 LT 80 — 33.0 — A-1-b GR SA
RB-31 LT 150 — 20.5 FEET — A-1-b GR SA LO
RB-39 RT 179 — 20.5 FEET — A-1-b GR SA
BR-8 RT 25 — 28.0 — A-1-b GR SA
BR-7 LT 30 — 23.0 — A-1-b GR SA
BR-6 RT 15 — 16.5 — A-1-b GR SA — 40/1.5" — RUN 1 7333 psi — RUN 2 — RUN 3
BR-5 RT 25 — 17.5 — A-1-b GR SA — 50/2" — RUN 1 6768 psi — RUN 2 6761 psi — RUN 3 4260 psi
BR-4 LT 21 — 19.5 — A-1-b GR SA — 50/4" — RUN 1 7366 psi — RUN 2 7640 psi — 32.0 FEET — RUN 3 4008 psi
RB-30 RT 10 — 11.0 — A-1-b GR SA — 50/6" — 14.5 FEET
RB-29 LT 40 — 8.0 — A-2-4 BRN LO SA — A-7-6 GR CL — 50/5" — 50/0" — 12.5 FEET
BR-3 RT 28 — 5.5 — 3.0 — A-1-b GR SA — RUN 1 — RUN 2 7333 psi — RUN 3 7333 psi — RUN 4 7405 psi — RUN 5 7696 psi — 25.0 FEET
BR-2 RT 40 — 8.0 — A-1-b GR SA — A-7-6 GR CL — 11.0 — 50/2" 2782 psi — RUN 1 — RUN 2 — RUN 3 — RUN 4 4115 psi

SEE SHEET Q.6 FOR ADDITIONAL DETAILS OF BORINGS RB-32, BR-8, BR-7, BR-6, BR-5 & BR-2

TOPSOIL IS GENERALLY SOIL CONTAINING VARYING AMOUNTS OF ORGANIC MATERIAL. THE TOPSOIL MAY HAVE DEVELOPED IN-PLACE OR IT MAY HAVE BEEN TRANSPORTED AND REDEPOSITED DURING HISTORICAL SITE GRADING ACTIVITIES.

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COUNTY ROAD C-57

10584 10585 10586 10587 10588 10589 10590 10591 10592 10593 10594 10595 10596 10597 10598 10599

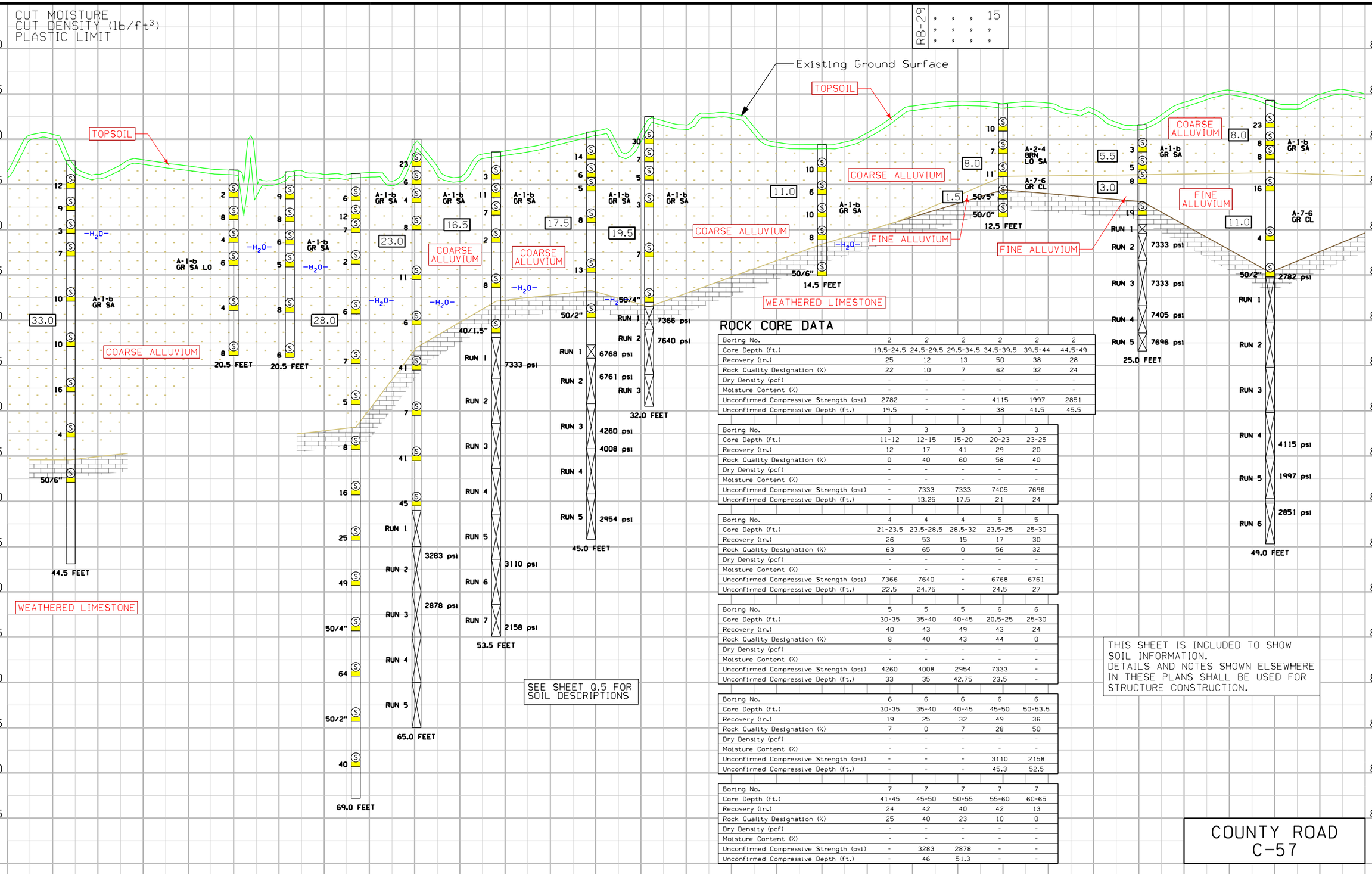
C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.5

12:50:31 PM 12/31/2013 jcarter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218188001.sht

CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

RB-29 | 15

Existing Ground Surface



ROCK CORE DATA

Boring No.	2	2	2	2	2	2
Core Depth (ft.)	19.5-24.5	24.5-29.5	29.5-34.5	34.5-39.5	39.5-44	44.5-49
Recovery (in.)	25	12	13	50	38	28
Rock Quality Designation (%)	22	10	7	62	32	24
Dry Density (pcf)	-	-	-	-	-	-
Moisture Content (%)	-	-	-	-	-	-
Unconfirmed Compressive Strength (psi)	2782	-	-	4115	1997	2851
Unconfirmed Compressive Depth (ft.)	19.5	-	-	38	41.5	45.5

Boring No.	3	3	3	3	3
Core Depth (ft.)	11-12	12-15	15-20	20-23	23-25
Recovery (in.)	12	17	41	29	20
Rock Quality Designation (%)	0	40	60	58	40
Dry Density (pcf)	-	-	-	-	-
Moisture Content (%)	-	-	-	-	-
Unconfirmed Compressive Strength (psi)	-	7333	7333	7405	7696
Unconfirmed Compressive Depth (ft.)	-	13.25	17.5	21	24

Boring No.	4	4	4	5	5
Core Depth (ft.)	21-23.5	23.5-28.5	28.5-32	23.5-25	25-30
Recovery (in.)	26	53	15	17	30
Rock Quality Designation (%)	63	65	0	56	32
Dry Density (pcf)	-	-	-	-	-
Moisture Content (%)	-	-	-	-	-
Unconfirmed Compressive Strength (psi)	7366	7640	-	6768	6761
Unconfirmed Compressive Depth (ft.)	22.5	24.75	-	24.5	27

Boring No.	5	5	5	6	6
Core Depth (ft.)	30-35	35-40	40-45	20.5-25	25-30
Recovery (in.)	40	43	49	43	24
Rock Quality Designation (%)	8	40	43	44	0
Dry Density (pcf)	-	-	-	-	-
Moisture Content (%)	-	-	-	-	-
Unconfirmed Compressive Strength (psi)	4260	4008	2954	7333	-
Unconfirmed Compressive Depth (ft.)	33	35	42.75	23.5	-

Boring No.	6	6	6	6	6
Core Depth (ft.)	30-35	35-40	40-45	45-50	50-53.5
Recovery (in.)	19	25	32	49	36
Rock Quality Designation (%)	7	0	7	28	50
Dry Density (pcf)	-	-	-	-	-
Moisture Content (%)	-	-	-	-	-
Unconfirmed Compressive Strength (psi)	-	-	-	3110	2158
Unconfirmed Compressive Depth (ft.)	-	-	-	45.3	52.5

Boring No.	7	7	7	7	7
Core Depth (ft.)	41-45	45-50	50-55	55-60	60-65
Recovery (in.)	24	42	40	42	13
Rock Quality Designation (%)	25	40	23	10	0
Dry Density (pcf)	-	-	-	-	-
Moisture Content (%)	-	-	-	-	-
Unconfirmed Compressive Strength (psi)	-	3283	2878	-	-
Unconfirmed Compressive Depth (ft.)	-	46	51.3	-	-

SEE SHEET Q.5 FOR SOIL DESCRIPTIONS

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COUNTY ROAD C-57

RB-32 LT 80 | RB-31 LT 150 | RB-39 RT 179 | BR-8 RT 25 | BR-7 LT 30 | BR-6 RT 15 | BR-5 RT 25 | BR-4 LT 21 | RB-30 RT 10 | RB-29 LT 40 | BR-3 RT 28 | BR-2 RT 40

10584 10585 10586 10587 10588 10589 10590 10591 10592 10593 10594 10595 10596 10597 10598 10599

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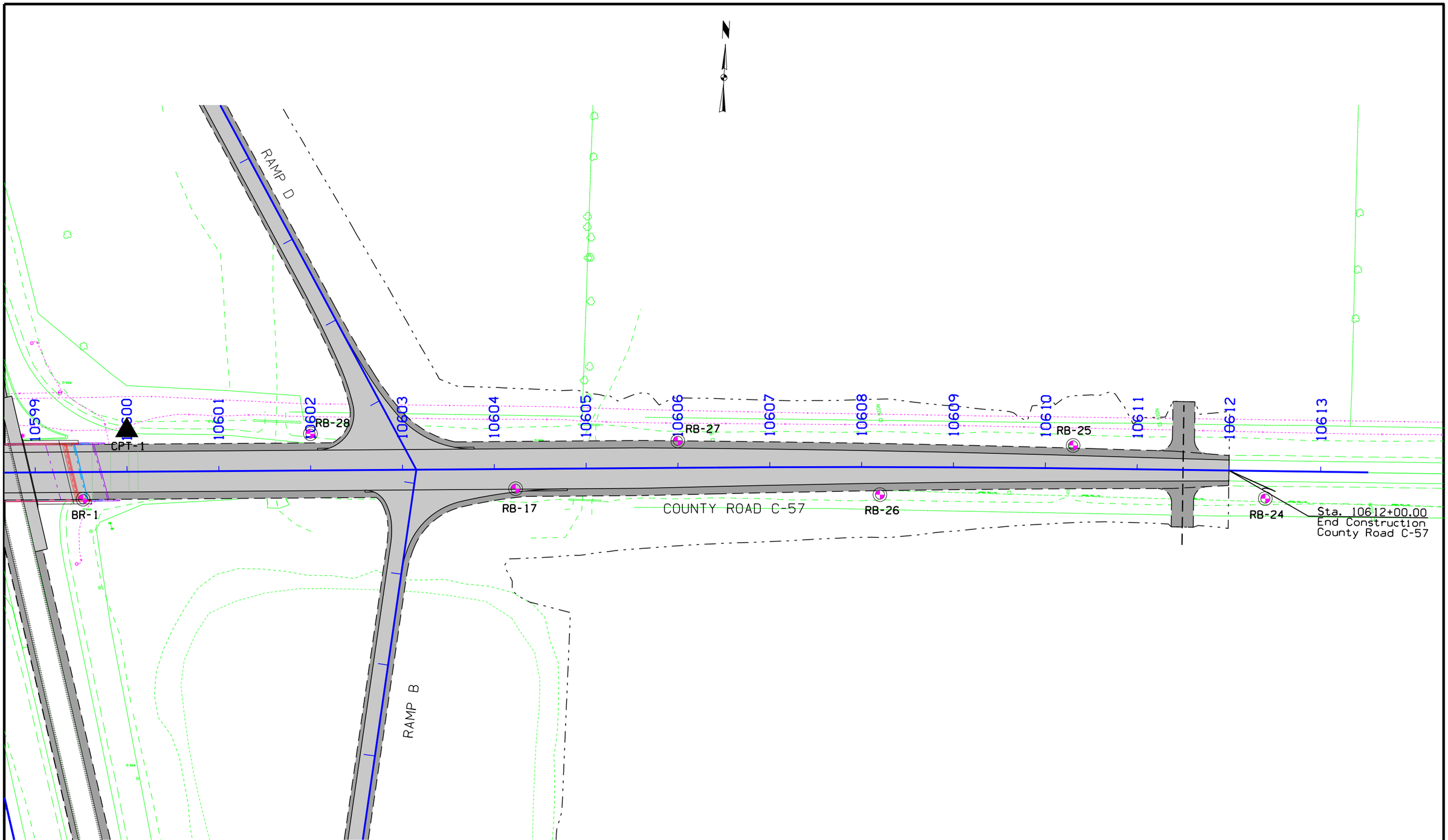

COUNTY ROAD C-57

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER Q.7	

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Proposed Ground Surface

Existing Ground Surface

TOPSOIL

COARSE ALLUVIUM

FINE ALLUVIUM

WEATHERED LIMESTONE

$-H_2O-$

BR-1 RT 30
8.0 / 4.0
21, 7, 13, 9, 25 — A-1-b GR SA / A-7-6 GR CL
30/4" — RUN 1 6105 psi — RUN 2 6374 psi — RUN 3 — RUN 4
37.0 FEET

RB-28 LT 40
11.0
6, 6, 12, 4 — A-1-b GR SA
50/2"
14.5 FEET

RB-17 RT 21
20.5
15, 8, 6, 12, 4, 3 — A-1-b GR SA
50/1"
22.5 FEET

RB-27 LT 30
12.5 / 8.5
12, 8, 2, 4, 8, 15 — A-1-b GR SA / A-7-6 GR CL
50/1"
21.5 FEET

RB-26 RT 30
8, 9, 4, 3, 0, 11 — A-1-b GR SA
20.5 FEET

RB-25 LT 25
13, 8, 5, 3, 3, 15 — A-1-b GR SA
20.5 FEET

RB-24 RT 30
10, 6, 3, 4, 9 — A-1-b GR SA
20.5 FEET

ROCK CORE DATA

Boring No.	1	1	1	1
Core Depth (ft.)	22-25	25-30	30-35	35-37
Recovery (in.)	14	29	9	7
Rock Quality Designation (%)	52	22	0	0
Dry Density (pcf)	-	-	-	-
Moisture Content (%)	-	-	-	-
Unconfirmed Compressive Strength (psi)	6105	6374	-	-
Unconfirmed Compressive Depth (ft.)	23	26.5	-	-

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COUNTY ROAD C-57

910 905 900 895 890 885 880 875 870 865 860 855 850 845 840

10599 10600 10601 10602 10603 10604 10605 10606 10607 10608 10609 10610 10611 10612 10613 10614

Sta. 100587+22.00
End Frontage Road

Sta. 100587+33.60
End Construction

100590

100585

100580

RB-31

RB-32

RB-34

RB-36

RB-35

RB-33

COUNTY ROAD C-57

CEDAR RIVER RR CO.

UB

UB

Building

Building

Building

Shed

Building

0 FEET 50

FRONTAGE ROAD

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.9	

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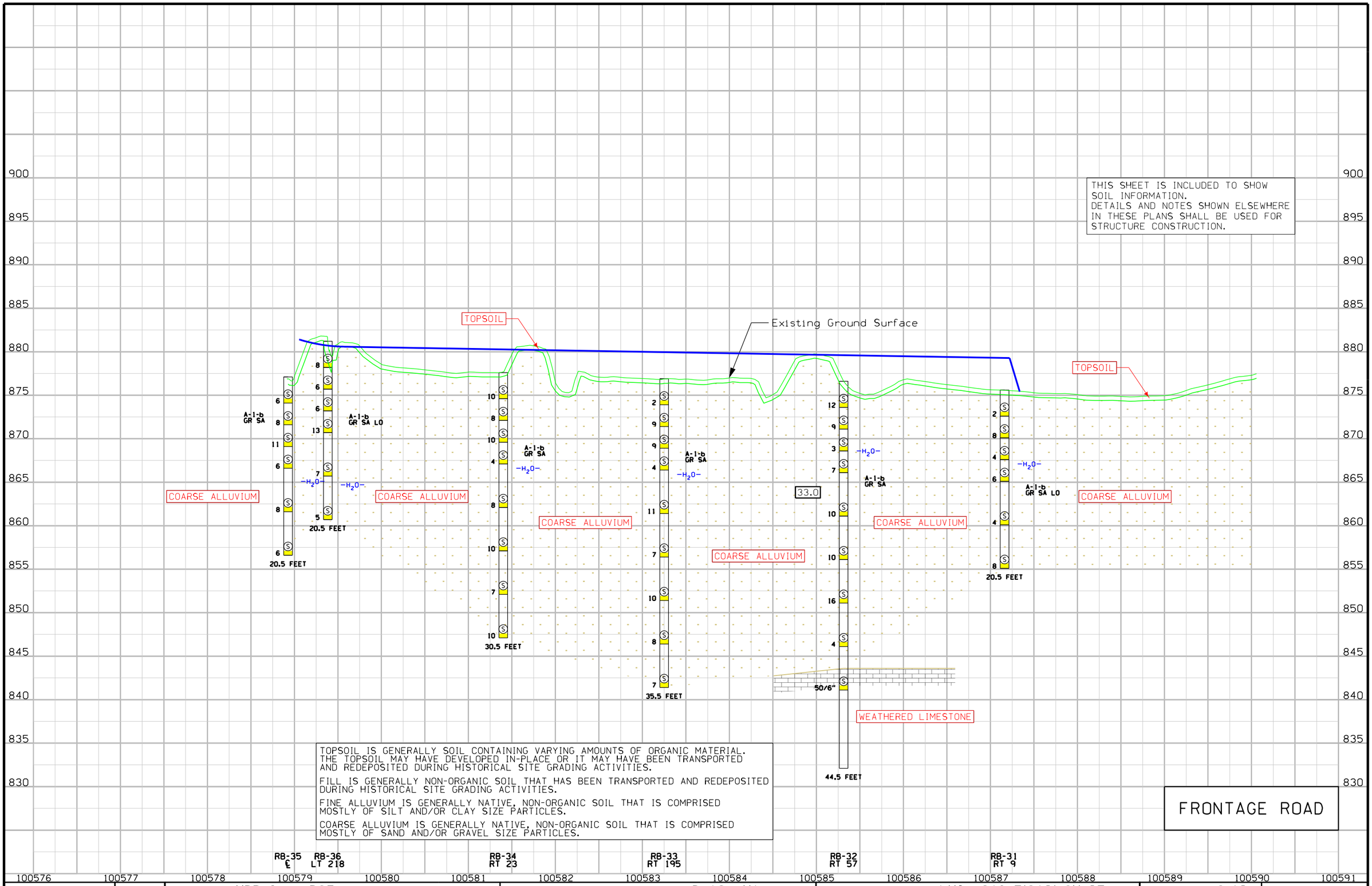

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C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.10

CEDAR RIVER RR CO.

RB-7

1595

1600

1605

RAMP A

RAMP C

RB-8

CPT-5

RB-9

RB-10

RB-11

US 218

0 FEET 50

RAMP A

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER Q.11	

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Proposed Ground Surface

Existing Ground Surface

TOPSOIL

COARSE ALLUVIUM

WEATHERED LIMESTONE

A-1-b GR SA

RB-7
LT 140
12.0 FEET

RB-8
℄
12.5 FEET

RB-9
℄
20.0 FEET

RB-10
RT 16
20.0 FEET

RB-11
℄
20.0 FEET

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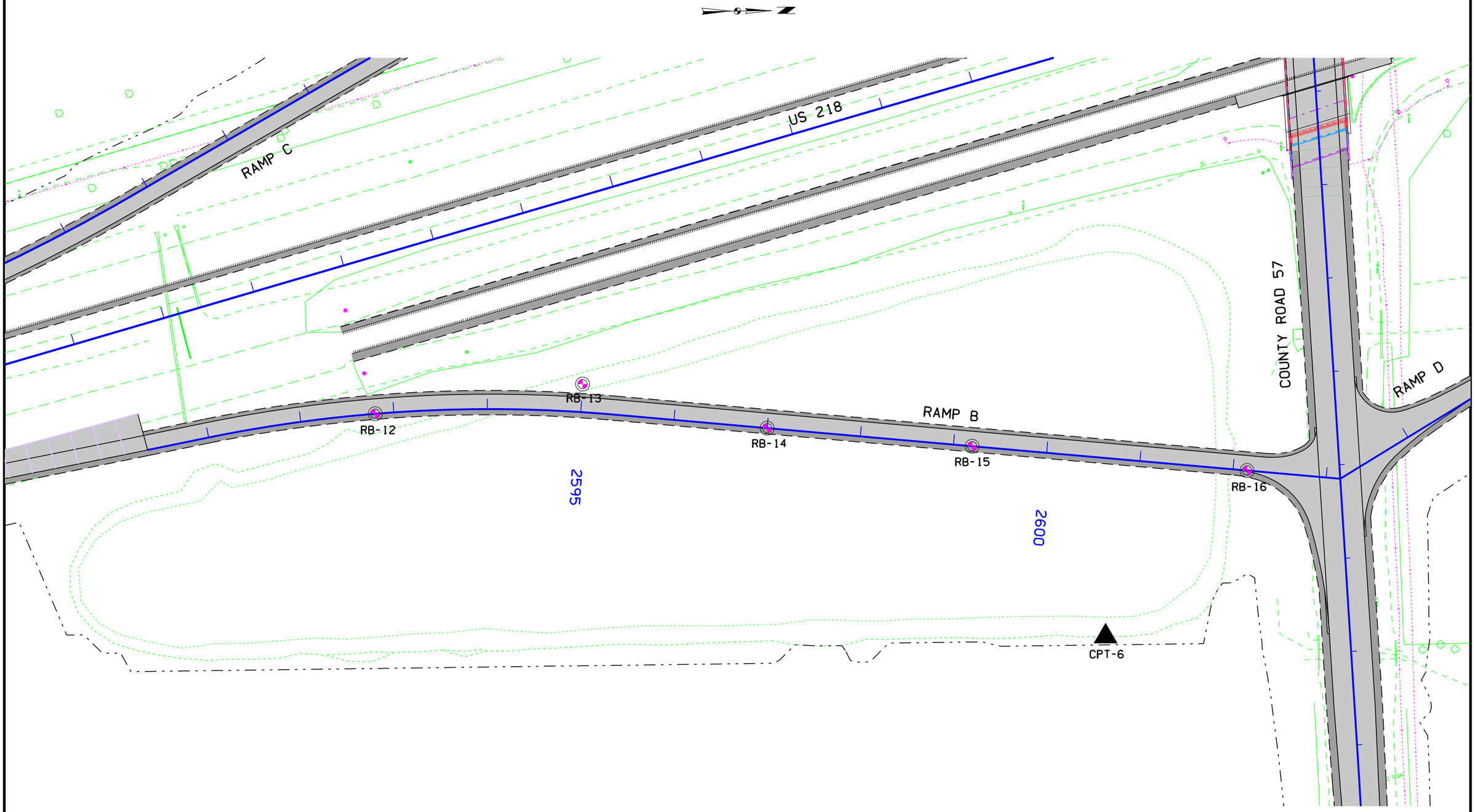
RAMP A

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.12	



RAMP B

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER Q.13		

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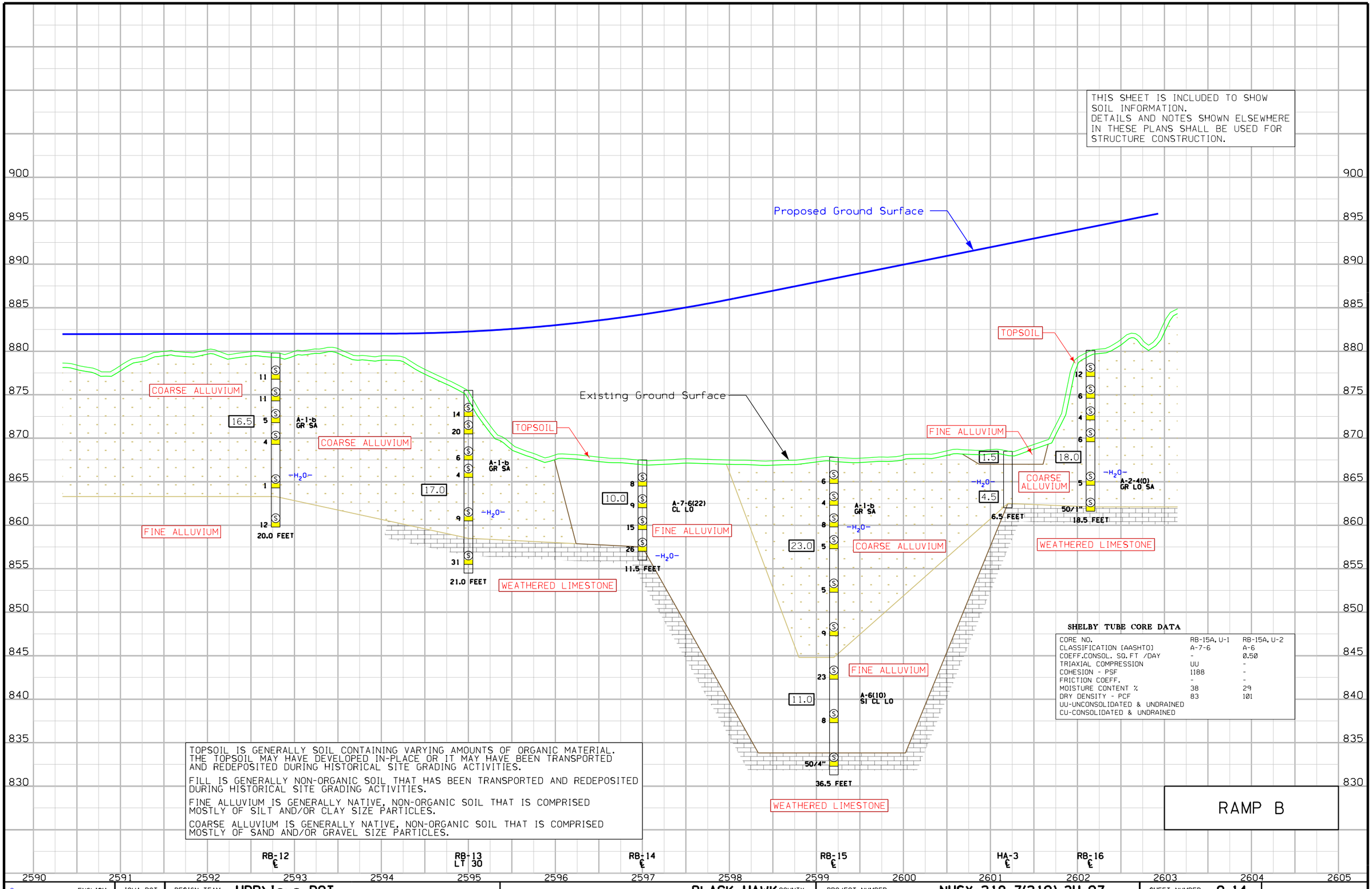

SHELBY TUBE CORE DATA

CORE NO.	RB-15A, U-1	RB-15A, U-2
CLASSIFICATION [AASHTO]	A-7-6	A-6
COEFF.CONSOL. SQ.FT /DAY	-	0.50
TRIAXIAL COMPRESSION	UU	-
COHESION - PSF	1188	-
FRICTION COEFF.	-	-
MOISTURE CONTENT %	38	29
DRY DENSITY - PCF	83	101

UU-UNCONSOLIDATED & UNDRAINED
CU-CONSOLIDATED & UNDRAINED

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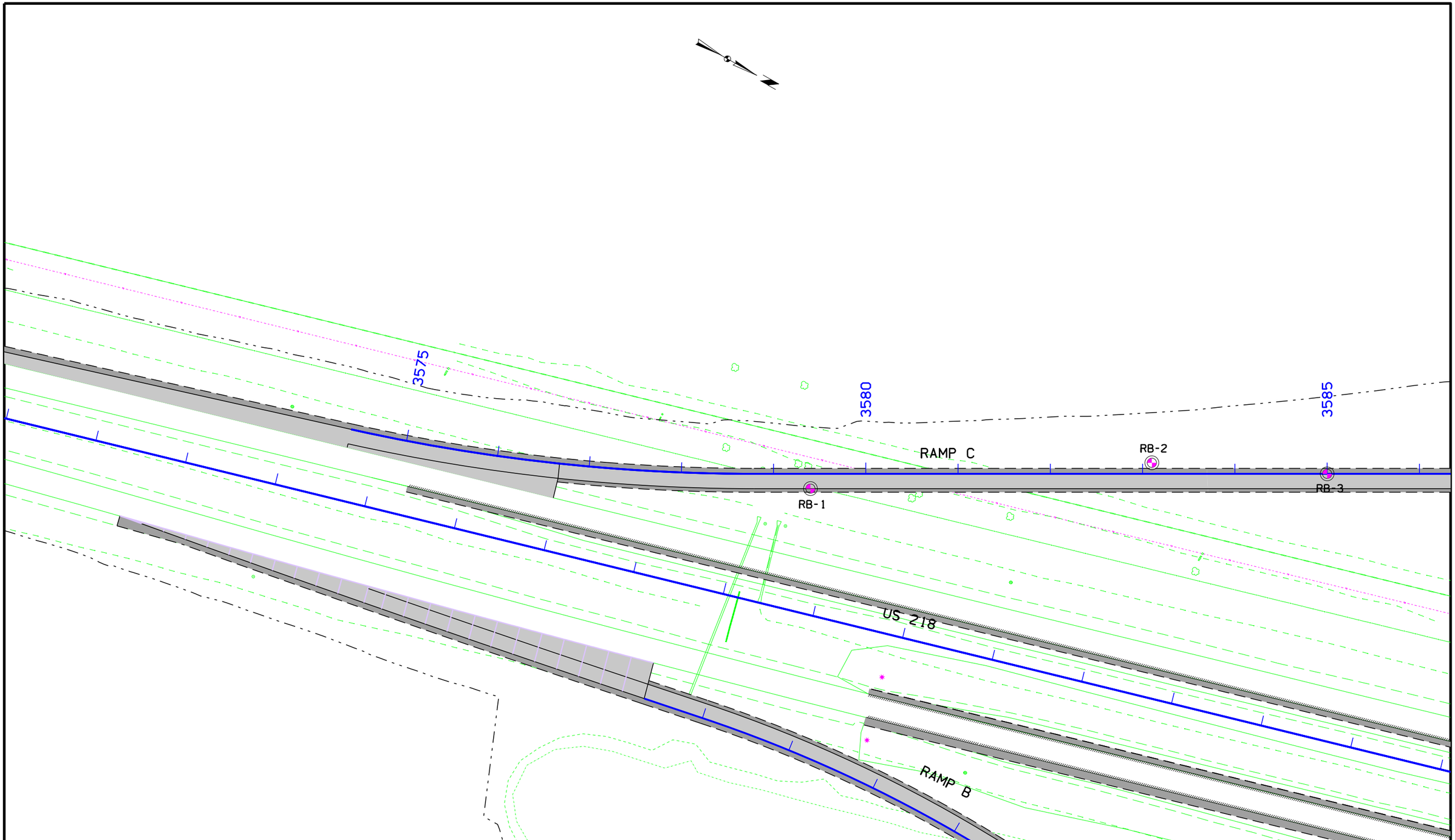
RAMP B



RAMP C

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER Q.15	

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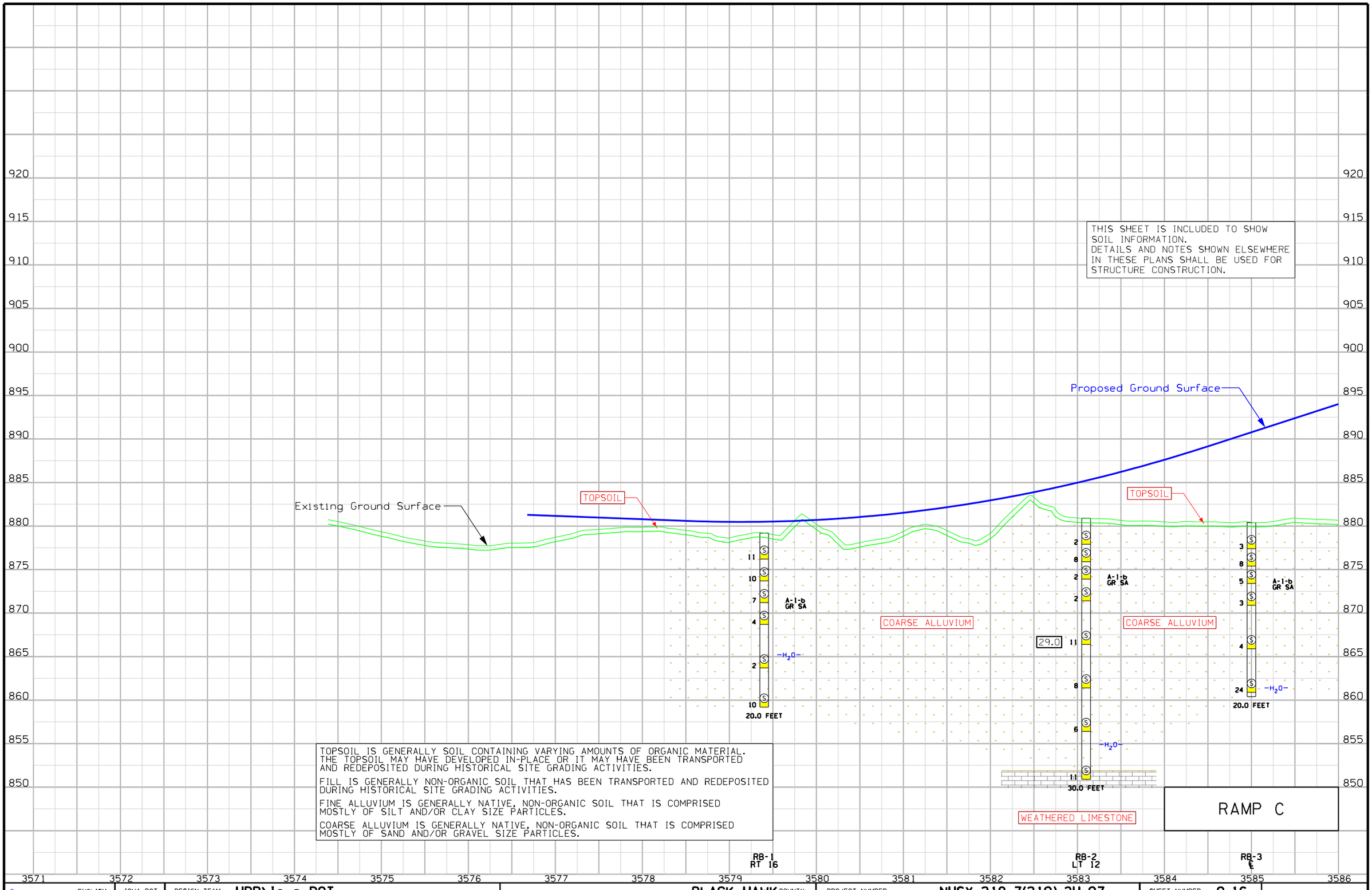

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RAMP C

CEDAR RIVER RR CO.

COUNTY ROAD C-57

RB-6

3590

RAMP C

RB-4

CPT-4

RB-5

RAMP A

US 218

0 50
FEET

RAMP C

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.17	

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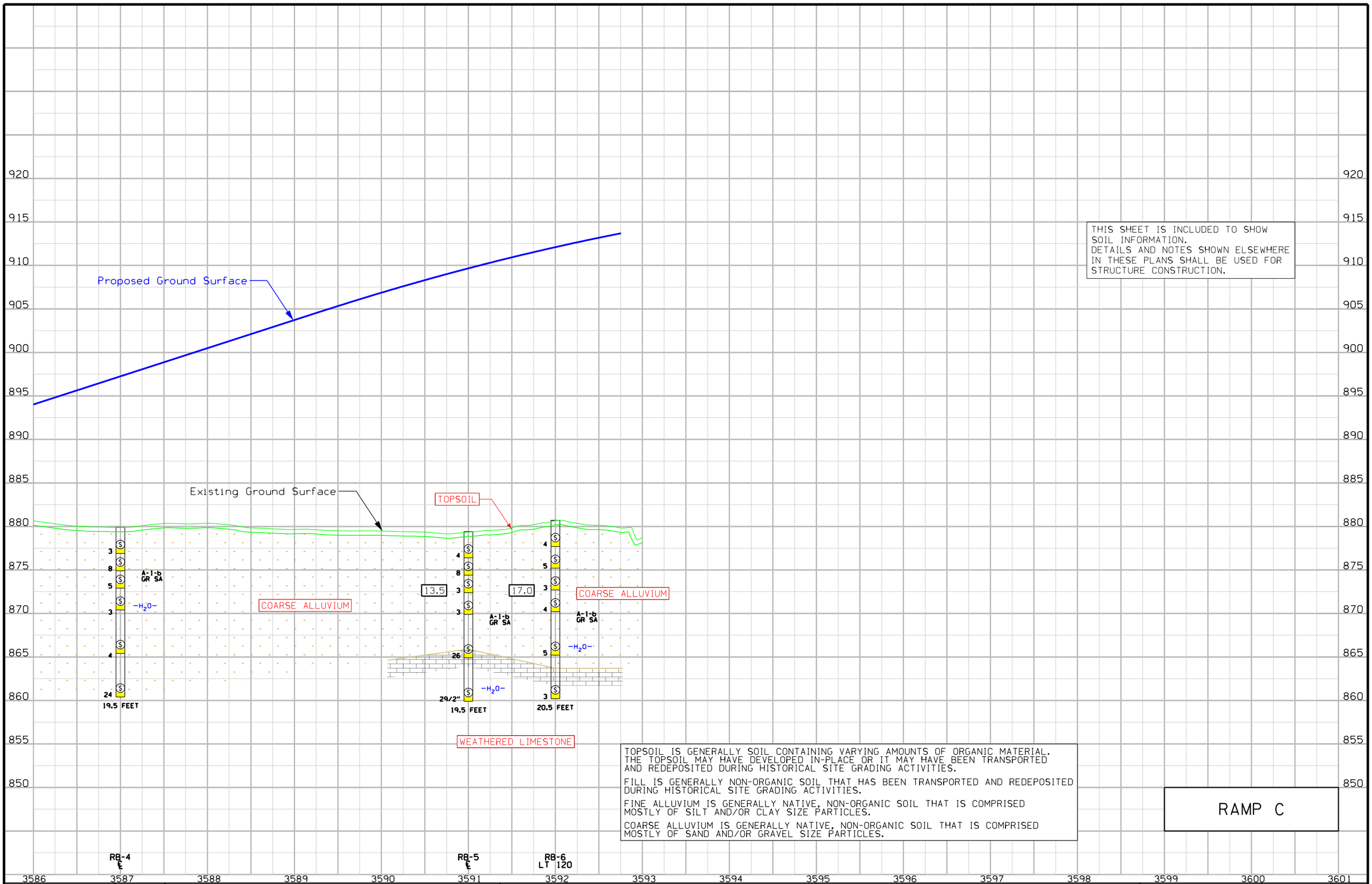

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RAMP C

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER Q.18	

RAMP B

COUNTY ROAD 57

US 218

RB-21

RB-19

RB-20

RAMP D

CPT-7

4605

4610

RB-18

0 FEET 50

RAMP D

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER Q.19	

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CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

RB-19	
	25

RB-21	
	30
	21

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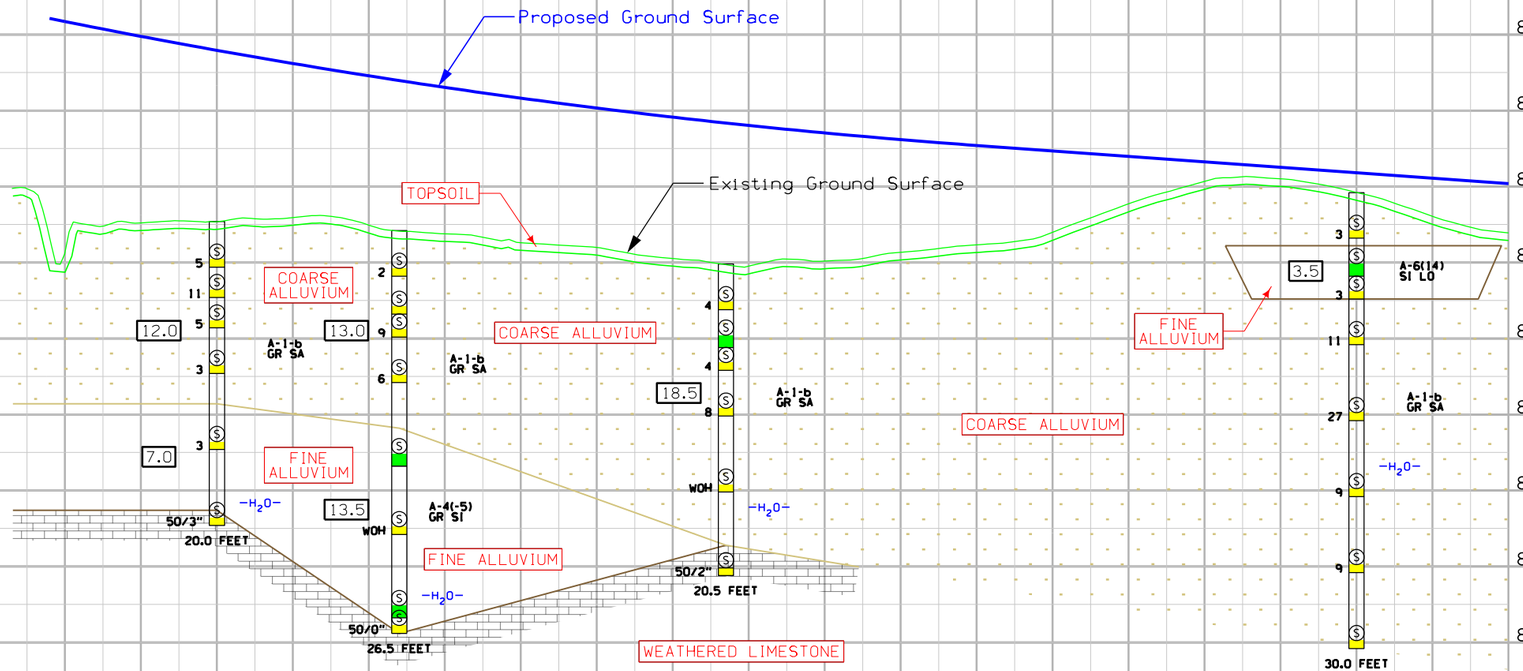

SHELBY TUBE CORE DATA

CORE NO.	RB-19B, U-1	RB-19B, U-2	RB-21, U-2
CLASSIFICATION [AASHTO]	A-7-6	A-7-5	A-6
COEFF.CONSOL. SQ.FT /DAY	-	0.45	-
TRIAXIAL COMPRESSION	UU	-	-
COHESION - PSF	1116	-	-
FRICTION COEFF.	-	-	-
MOISTURE CONTENT %	23	45	30
DRY DENSITY - PCF	103	87	-

UU-UNCONSOLIDATED & UNDRAINED
CU-CONSOLIDATED & UNDRAINED

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RAMP D

RB-18 RT 190 | RB-19 ℄ | RB-20 ℄ | RB-21 ℄

4598 4599 4600 4601 4602 4603 4604 4605 4606 4607 4608 4609 4610 4611 4612 4613

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER Q.20

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RAMP A

US 218

RB-22

RB-23

RAMP D

4615

4620

0 FEET 50

RAMP D

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.21	

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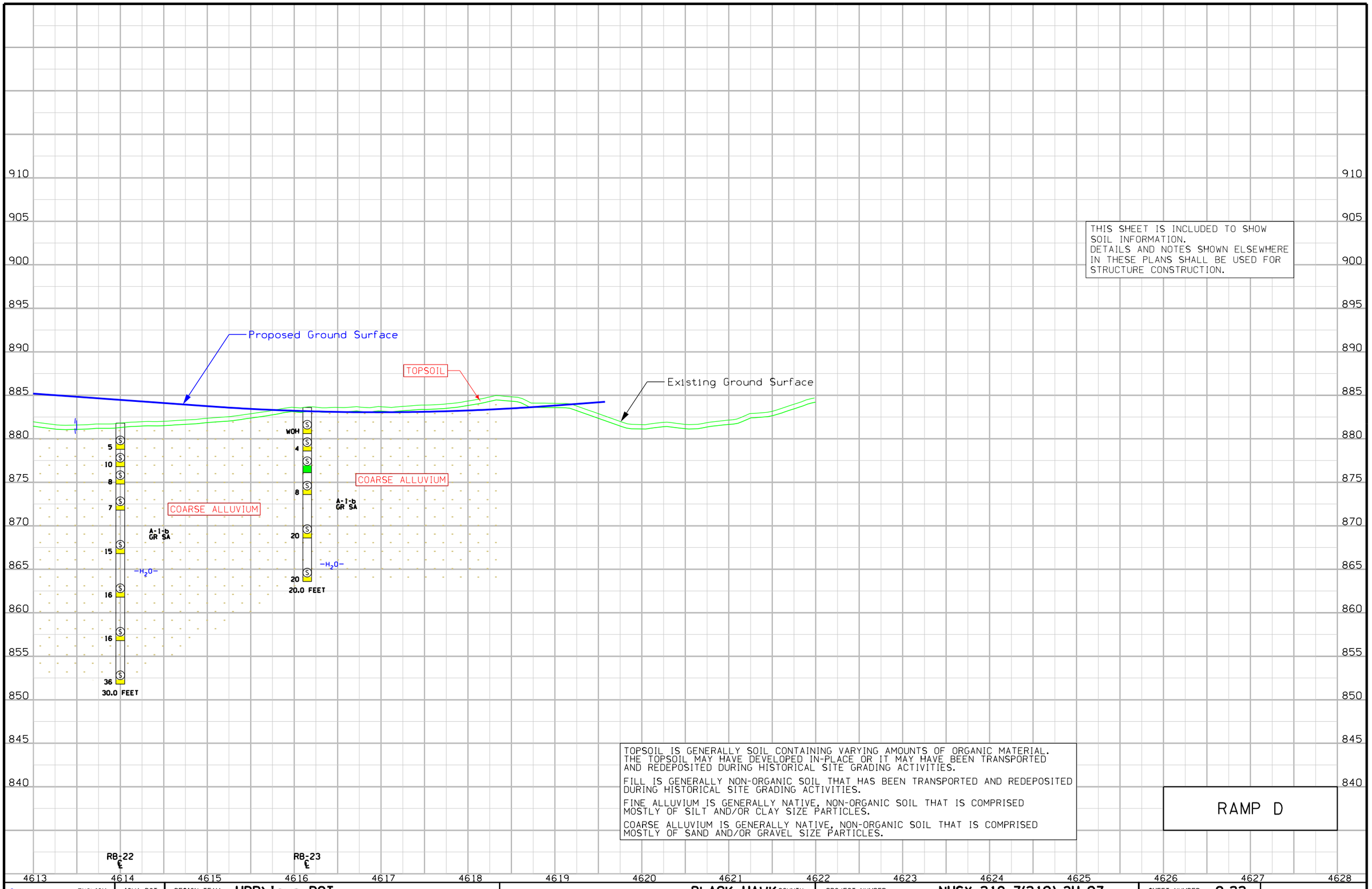

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RAMP D

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER Q.22	

15550

15555

15560

Sta. 15554+80.79 (13.5' Clear Point)
Stop Track Construction by Cedar River RR Co.
Begin Track Construction by Iowa DOT

RR-1

RR-2

CEDAR RIVER RR CO.

US 218

Sta. 15550+48.36
Begin Track Construction
on Wood Ties
Install Compromise Rail
100 LB to 115 LB RE
(By Cedar River RR Co.)

0 FEET 50

CEDR RAIL

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.23	

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Existing Top of Rail

BEGIN CONSTRUCTION
STA 15550+48.36
ELEV. 877.50
(TIE IN)

Proposed Ground Surface

TOPSOIL

Existing Ground Surface

COARSE ALLUVIUM

2
4
11
10
4
10
20.0 FEET

A-1-b
GR SA

$-H_2O-$

COARSE ALLUVIUM

3
9
7
5
5
5
20.0 FEET

A-4
GR SI

$-H_2O-$

COARSE ALLUVIUM

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CEDR RAIL

RR-1
LT 35

RR-2
℄

900 895 890 885 880 875 870 865 860 855 850 845 840 835 830

15546 15547 15548 15549 15550 15551 15552 15553 15554 15555 15556 15557 15558 15559 15560 15561

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.24	

12:53:10 PM 12/31/2013 jcarter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218188Q01.sht

15565

15570

15575

RR-3

RR-4

RR-5

RR-6

CEDAR RIVER RR CO.

US 218

0 FEET 50

CEDR RAIL

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.25		

12:53:17 PM 12/31/2013 jcarter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218188001.sht

CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

RR-5 | , , , , , , 18 / , , , , , , , / , , , , , , 14

THIS SHEET IS INCLUDED TO SHOW SOIL INFORMATION.
DETAILS AND NOTES SHOWN ELSEWHERE IN THESE PLANS SHALL BE USED FOR STRUCTURE CONSTRUCTION.

Proposed Ground Surface

Existing Ground Surface

TOPSOIL

COARSE ALLUVIUM

FINE ALLUVIUM

$ 2 9 11 3 6 3 — H_2O — A-1-b GR SA — 20.0 FEET

$ 7 9 9 9 2 6 6 — H_2O — A-1-b GR SA — 20.0 FEET

$ 2 11 9 3 9 8 13 25/1" 28 61 — H_2O — A-1-b GR SA — A-7-6 GR CL LO — 21.5 — 40.0 FEET

$ 2 2 1 6 27.0 13 13 15 12 12 16 — H_2O — A-1-b GR SA — A-7-6 GR CL LO — 40.0 FEET

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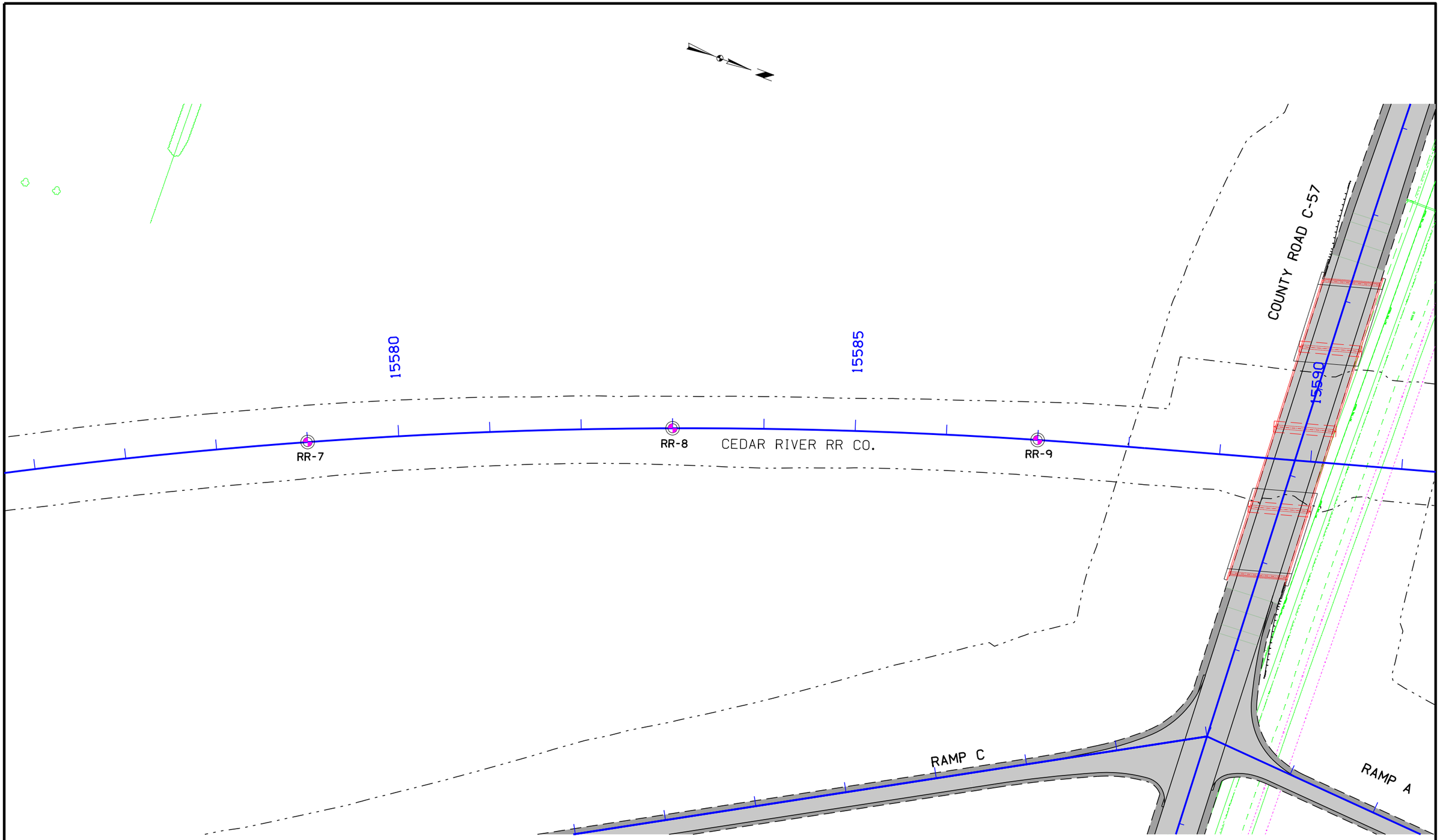
CEDR RAIL

RR-3 ℄ RR-4 ℄ RR-5 ℄ RR-6 ℄

900 895 890 885 880 875 870 865 860 855 850 845 840 835 830

15561 15562 15563 15564 15565 15566 15567 15568 15569 15570 15571 15572 15573 15574 15575 15576

12:53:37 PM 12/31/2013 jcarter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218188001.sht



0 FEET 50

CEDR RAIL

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER Q.27		

12:53:45 PM 12/31/2013 jcarter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218188001.sht

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Existing Ground Surface

Proposed Ground Surface

TOPSOIL

COARSE ALLUVIUM

RR-7 ℄

7 6 7 14 10 11 — A-1-b GR SA — $-H_2O-$ — 20.0 FEET

COARSE ALLUVIUM

RR-8 ℄

6 6 5 6 13 10 6 11 17 — A-1-b GR SA — $-H_2O-$ — 33.0 — 35.0 FEET

WEATHERED LIMESTONE

COARSE ALLUVIUM

RR-9 ℄

3 4 8 3 5 6 — A-1-b GR SA — $-H_2O-$ — 20.0 FEET

TOPSOIL

COARSE ALLUVIUM

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CEDR RAIL

900 895 890 885 880 875 870 865 860 855 850 845 840 835 830

15576 15577 15578 15579 15580 15581 15582 15583 15584 15585 15586 15587 15588 15589 15590 15591

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.28

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15595

15600

15605

CPT-3

RR-10

RR-11

CEDAR RIVER RR CO.

RR-12

RAMP A

0 FEET 50

CEDR RAIL

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.29	

12:54:02 PM 12/31/2013 jcarter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218188001.sht

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Proposed Ground Surface

Existing Ground Surface

TOPSOIL

COARSE ALLUVIUM

RR-10 ℄

6	$	A-1-b GR SA
8	$	
6	$	
8	$	$-H_2O-$
9	$	
5	$	

20.0 FEET

RR-11 ℄

5	$	A-1-b GR SA
8	$	
12	$	$-H_2O-$
2	$	
2	$	
8	$	

20.0 FEET

RR-12 ℄

11	$	A-1-b GR SA
12	$	
10	$	$-H_2O-$
10	$	
2	$	
15	$	

20.0 FEET

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CEDR RAIL

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER Q.30	

15610

15615

15620

RR-13

RR-14

CEDAR RIVER RR CO.

RR-15

RR-16

US 218

0 FEET 50

CEDR RAIL

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.31	

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Existing Ground Surface

Proposed Ground Surface

TOPSOIL

COARSE ALLUVIUM

RR-13 ℄

RR-14 ℄

RR-15 ℄

RR-16 ℄

3	10	11	2	8	9
A-1-b GR SA			
−H_2O−			
20.0 FEET			

3	3	4	9	14	14
A-3 BRN SA					
20.0 FEET					

4	11	8	20	17	12
A-1-b GR SA					
−H_2O−					
20.0 FEET					

5	6	4	14	5	2
A-1-b GR SA					
−H_2O−					
20.0 FEET					

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CEDR RAIL

C	ENGLISH	IOWA DOT	DESIGN TEAM	HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSX-218-7(210)-3H-07	SHEET NUMBER	Q.32

Sta. 15625+57.67 (13.5' Clear Point)
End Track Construction by Iowa DOT
Resume Track Construction by Cedar River RR Co.

Sta. 15629+83.97
End Track Construction
Install Compromise Rail
115 LB RE to 100 LB

15625

15630

RR-17

CEDAR RIVER RR CO.

US 218

0 FEET 50

CEDR RAIL

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(210)-3H-07	SHEET NUMBER 0.33	

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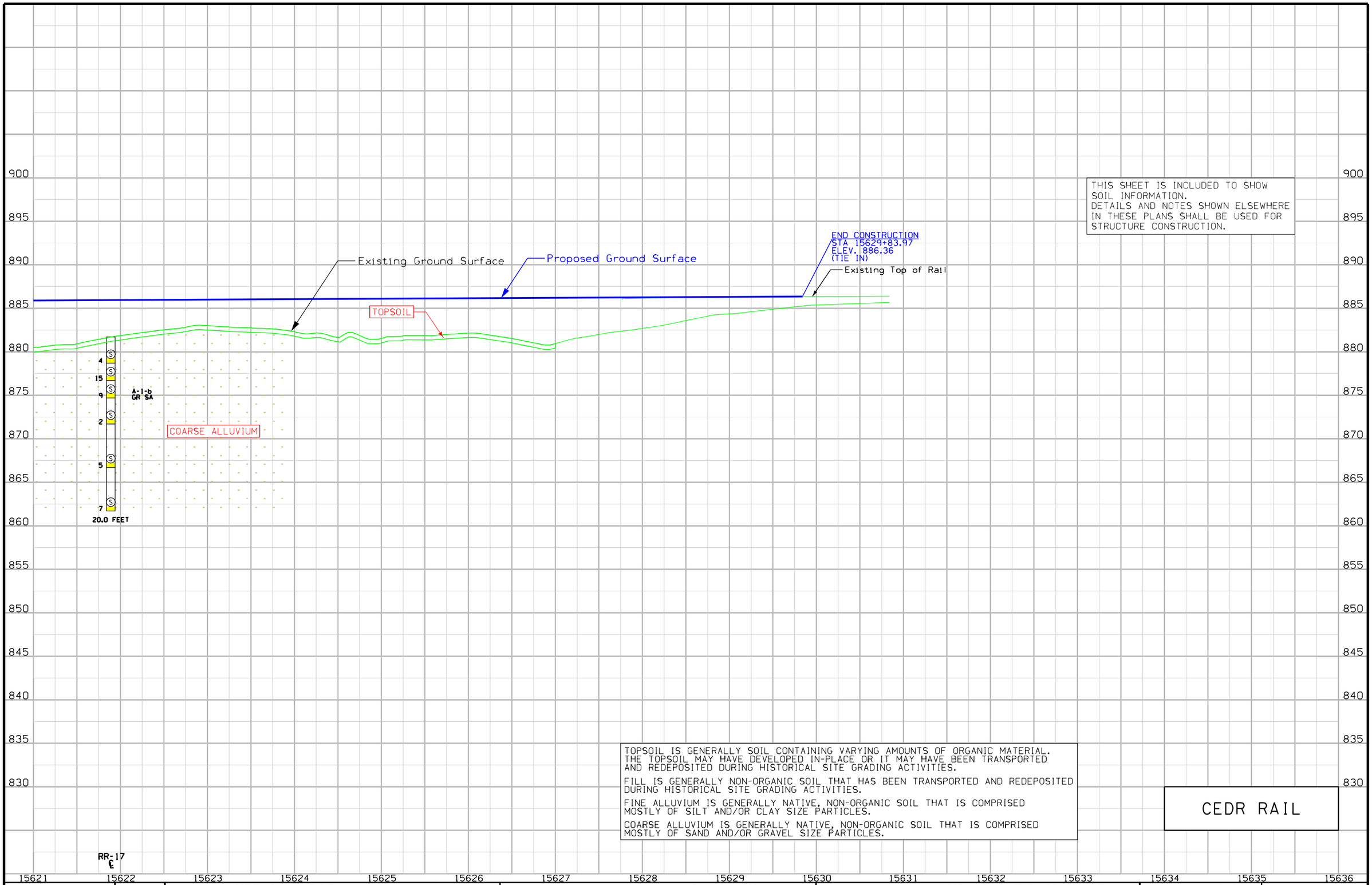

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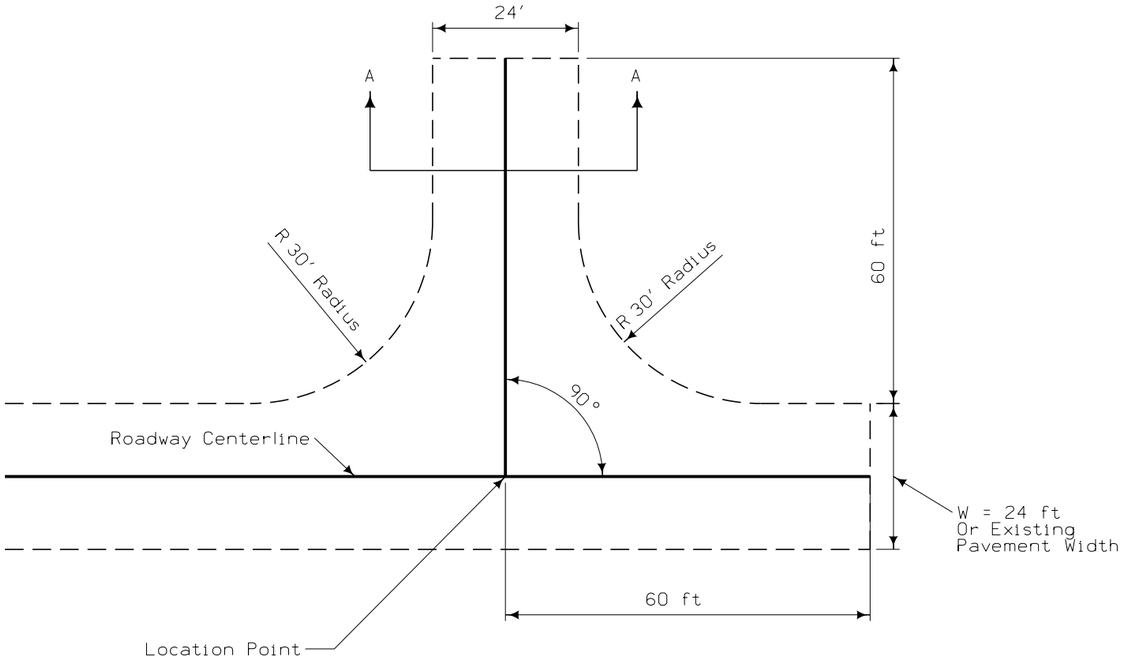
CEDR RAIL

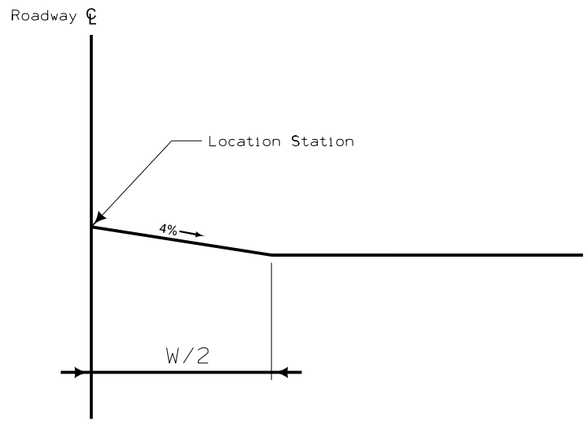


Typical Hammer Head Turnaround
No Scale

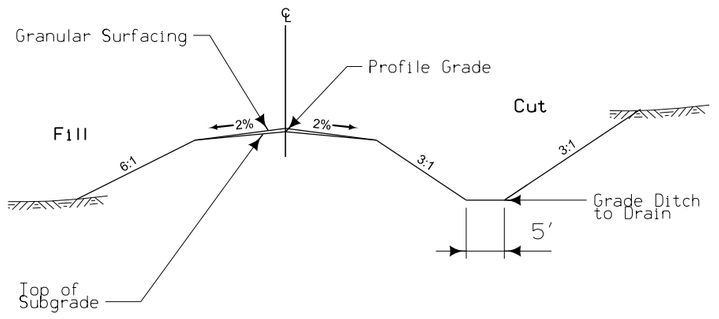
Notes:

Hammer Head Turnaround may be reversed to match Plan Sheet Configuration.

Granular Surfacing shall be placed at an application rate of 25 Tons/Sta.



Typical Hammer Head Profile
No Scale



SECTION A-A
No Scale

HAMMER HEAD TURNAROUND DETAIL SHEET

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER U.1

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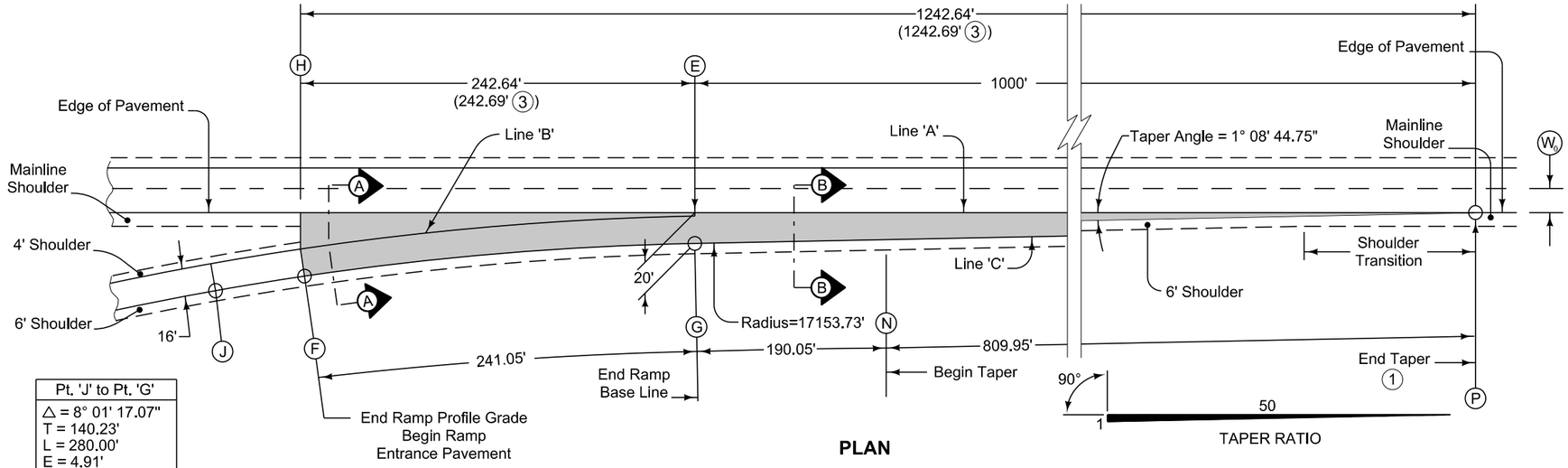


Pt. 'J' to Pt. 'G'
△ = 8° 01' 17.07"
T = 140.23'
L = 280.00'
E = 4.91'
R = 2000.00'

Pt. 'G' to Pt. 'N'
△ = 0° 38' 05.20"
T = 95.02'
L = 190.05'
E = 0.26'
R = 17153.73'

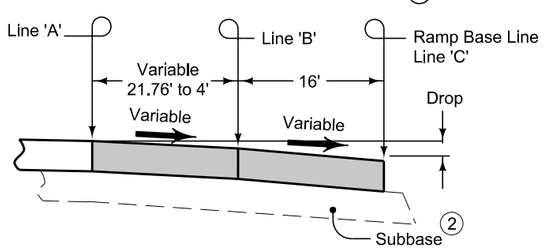
NOTE: The algebraic difference between profile grade for Ramp Base Line at (F) and relative profile grade of Mainline at (H) is 0.54%.

PROFILE

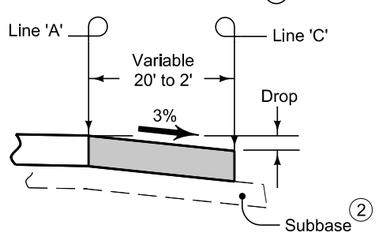
TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER

Distance From Point (E) Along Line 'A' (Ft.)		242.69	225	200	175	150	125	100	75	50	25	0	25	50	75	100	200	300	400	500	600	700	800	900	1000
From Line 'A' To Line 'B'	Offset (Ft.)	21.76	19.59	16.75	14.19	11.91	9.90	8.17	6.72	5.54	4.63	4.0													
	Slope (%)	← Constant 4.0% Slope →										3.78													
	Drop (Ft.)	0.87	0.78	0.67	0.57	0.48	0.40	0.33	0.27	0.22	0.19	0.15													
From Line 'B' To Line 'C'	Offset (Ft.)	← Constant 16.0' Offset →																							
	Slope (%)	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	4.58	3.78													
	Drop (Ft.)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.73	0.60													
From Line 'A' To Line 'C'	Offset (Ft.)												19.5	19.0	18.5	18.0	16.0	14.0	12.0	10.0	8.0	6.0	4.0	2.0	0.0
	Slope (%)												← Constant 3.0% Slope →												
	Drop (Ft.)	1.73	1.64	1.53	1.43	1.34	1.26	1.19	1.13	1.08	0.92	0.75	0.59	0.57	0.56	0.54	0.48	0.42	0.36	0.30	0.24	0.18	0.12	0.06	0.0
Distance From Point (G) Along Line 'C' (Ft.)		241.05	223.49	198.46	173.55	148.66	123.80	98.95	74.12	49.30	24.49	0.00													

H E F G P



SECTION A-A



SECTION B-B

TABLE OF SHOULDER TRANSITION LENGTHS			
W_0	Shoulder Width beyond Edge of Mainline Pavement		
	8'	10'	12'
12'	NA	200'	300'
14'	100'	200'	NA

NOTE: W_0 is the width of the outside lane to the Edge of Pavement.

Construct ramp entrance pavement the same thickness as mainline pavement.

Ramp entrance pavement shown by shaded area is 1831 square yards.

For joint details, see PV-101

(1) For header construction details at the end of taper, see Typical 7101 or Typical 7102.

(2) Construct subbase for ramp entrance pavement the same thickness as mainline subbase.

(3) Measured along the outside edge of existing mainline pavement.

MODIFIED STANDARD ROAD PLAN

REVISION
2 10-18-11

PV-411

SHEET 1 of 2

REVISIONS: Revised to accommodate the curvature of mainline lanes.

APPROVED BY DESIGN METHODS ENGINEER

ACCELERATION TAPER (RAMP D) FOR 16' ENTRANCE RAMP

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER U.2

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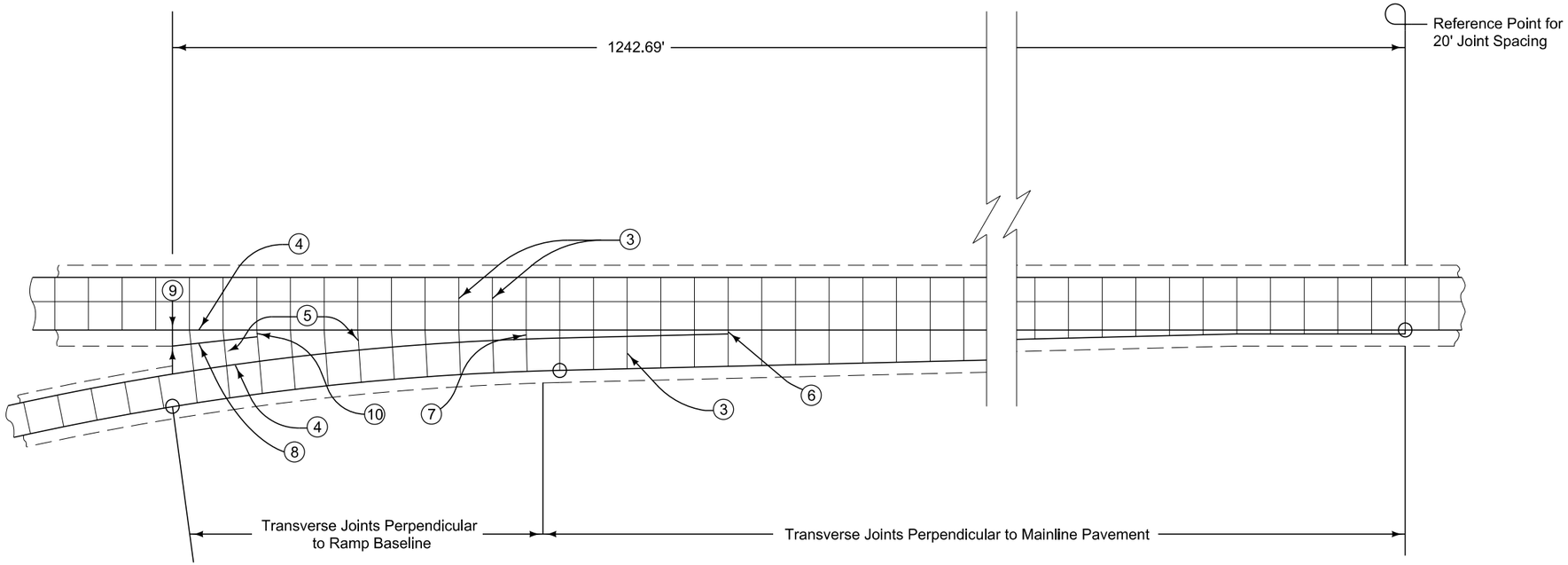

③ 'CD' Joints at 20' spacing.

④ 'BT-2' or 'KT-2' Joint.

⑤ 'C' Joint.

⑥ 'B' Joint. 2' minimum, 4' maximum.

⑦ Construct transverse joints on the exit ramp taper perpendicular to the tapered edge where the gore area is greater than 4 feet.

⑧ 'C' Joint parallel to ramp baseline.

⑨ 10' minimum, or equal to mainline shoulder width.

⑩ 'B' or 'C' Joint. 2' minimum. 4' maximum.

16' ENTRANCE RAMP

MODIFIED STANDARD ROAD PLAN

REVISION	
2	10-18-11

PV-411

SHEET 2 of 2

REVISIONS: Revised to accommodate the curvature of mainline lanes.

APPROVED BY DESIGN METHODS ENGINEER

ACCELERATION TAPER (RAMP D) FOR 16' ENTRANCE RAMP

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER U.3	

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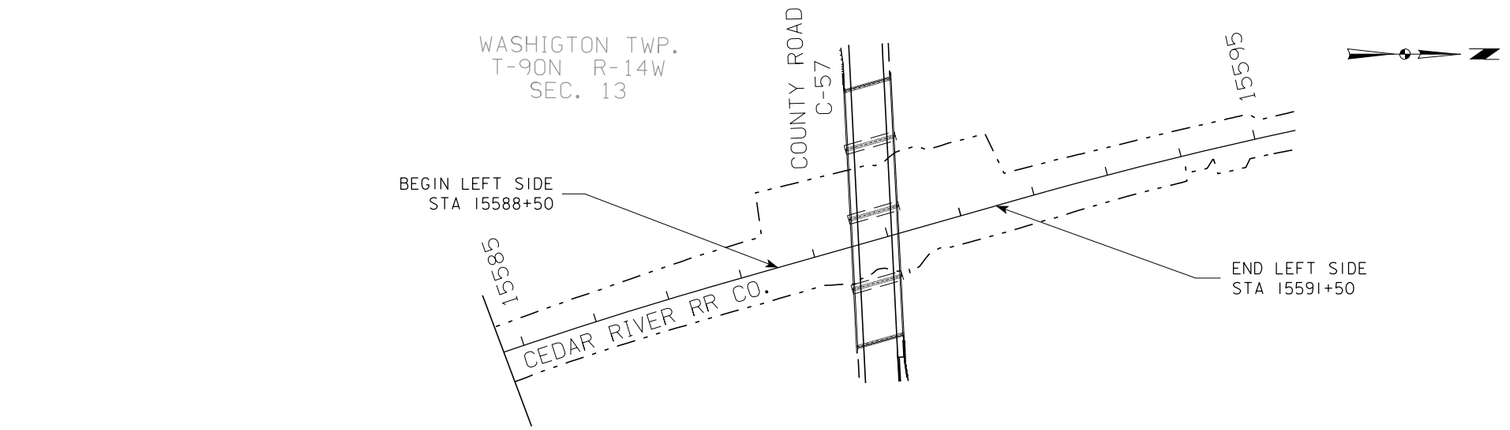
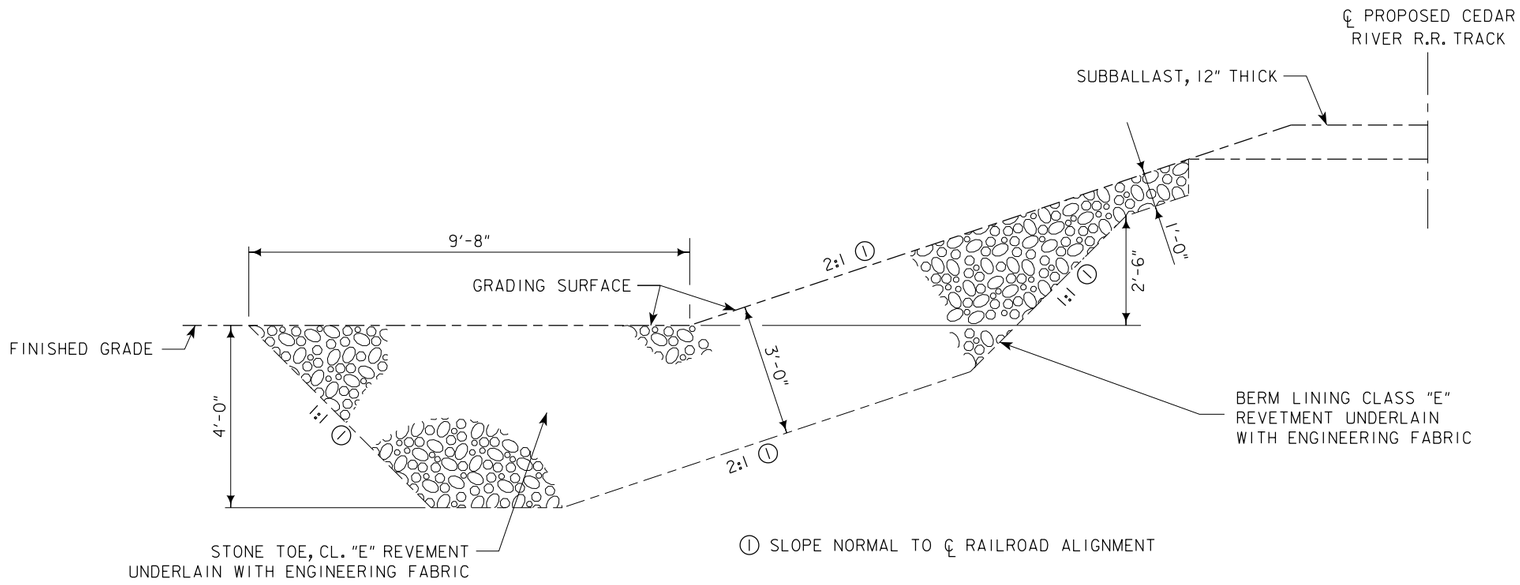


REVETMENT LIMITS ALONG R.R. ALIGNMENT

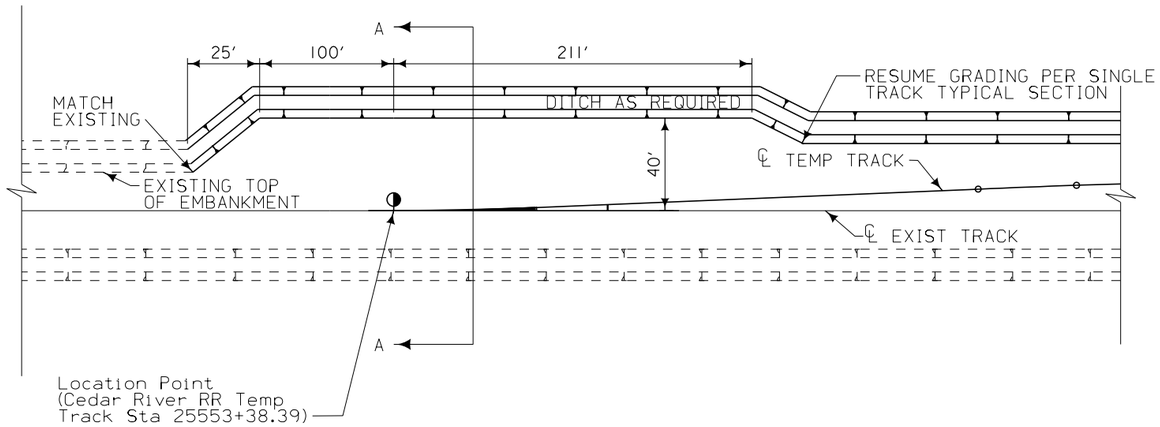


SECTION THROUGH STONE TOE AND BERM LINING ALONG RAILROAD

ESTIMATED EMBANKMENT ARMORING QUANTITIES

REVETMENT TYPE / LOCATION	REVETMENT CL. E (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
EMBANKMENT LINING/STONE TOE - R.R. WEST	941.3	805.6	588.3

REVEMENT EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE
REVEMENT AND EROSION STONE ESTIMATED AT 1.6 TON/CY



TYPICAL NO. 10 TURNOUT CONSTRUCTION PAD DETAIL
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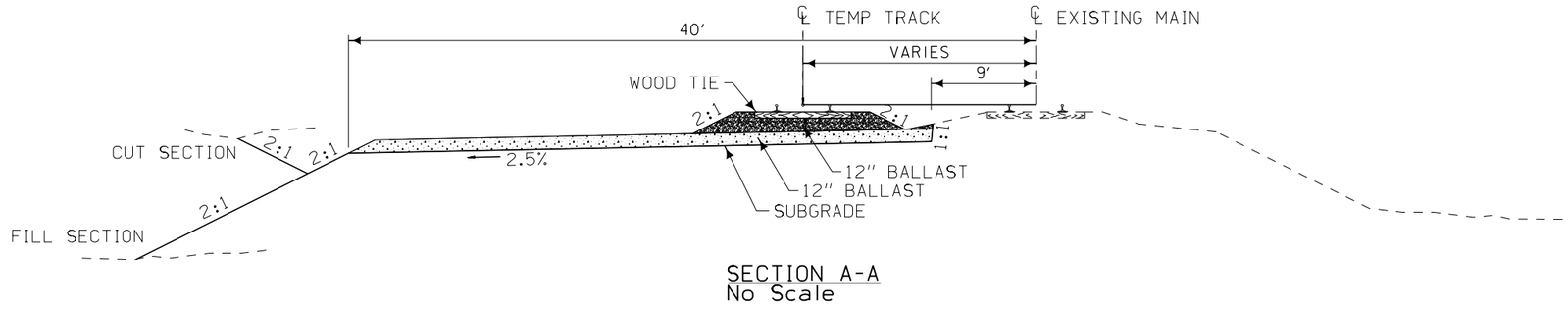
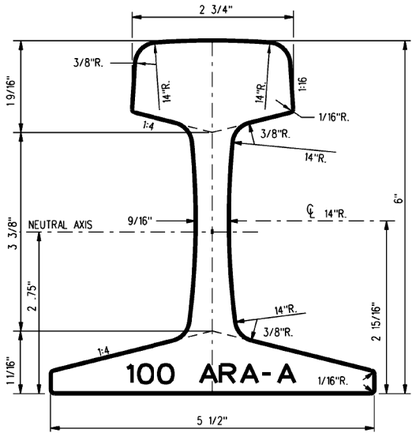
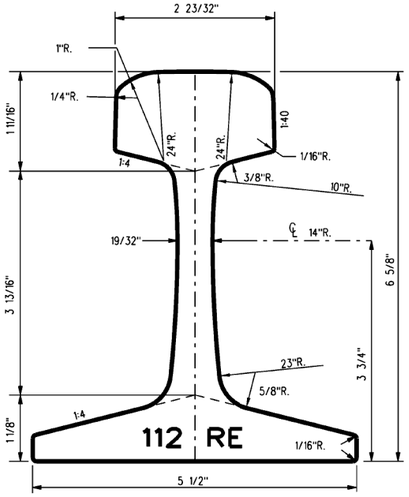


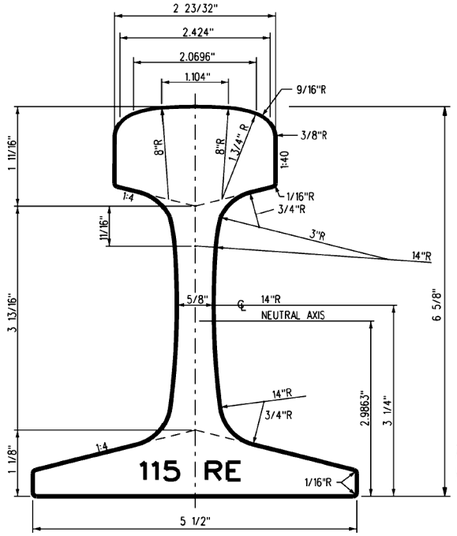
SECTION A-A
No Scale

NOTES
1. SEE PLAN SHEETS FOR EXISTING AND PROPOSED RIGHT-OF-WAY LIMITS
2. SEE TRACK PLANS FOR TURNOUT LOCATIONS

MAIN TRACK TEMPORARY TURNOUT CONSTRUCTION PAD

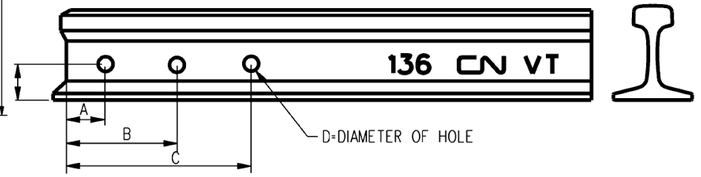






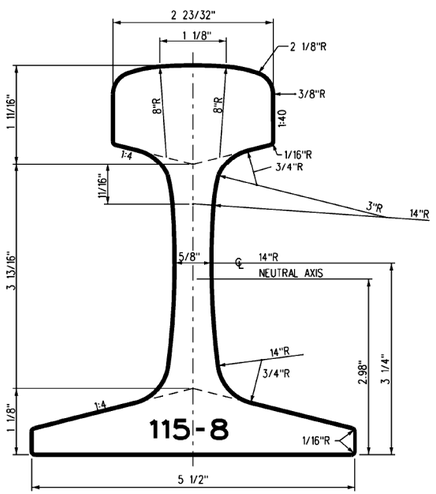
NOTE: SECTION REPLACED BY 115RE FOR NEW INSTALLATION

		100 ARA-A	112 RE	115 RE	115-8	124 RE
MOMENT OF INERTIA	IN.^{4}	49.07	65.50	65.50	65.60	75.80
SECTION MODULUS HEAD	IN.^{3}	15.05	18.10	18.00	18.00	20.87
SECTION MODULUS BASE	IN.^{3}	17.92	21.80	21.90	22.00	23.38
CALCULATED WEIGHT	LB./YD.	101.01	112.30	114.38	114.70	123.42
AREA: HEAD	IN.^{2}	3.68	3.95	3.88	3.91	4.77
AREA: WEB	IN.^{2}	2.27	2.77	3.04	3.05	3.04
AREA: BASE	IN.^{2}	3.95	4.29	4.29	4.29	4.29
AREA: TOTAL	IN.^{2}	9.90	11.01	11.22	11.25	12.10
NEUTRAL AXIS ABOVE BASE	IN.	2.74	3.00	2.99	3.00	3.24
LATERAL MOMENT OF INERTIA	IN.^{4}	9.64	-	10.70	10.73	11.49
LATERAL SECTION MODULUS HEAD	IN.^{3}	7.00	-	7.88	-	7.82
LATERAL SECTION MODULUS BASE	IN.^{3}	3.50	-	3.89	-	4.18
HEIGHT OF SHEAR CENTRE ABOVE BASE	IN.	1.34	-	1.55	-	1.77
TORSIONAL RIGIDITY IS "KG" WHERE G IS THE MODULUS OF RIGIDITY. (ERROR FOR K GREATER THAN 10 Z)	K.	3.59	-	4.69	-	5.50

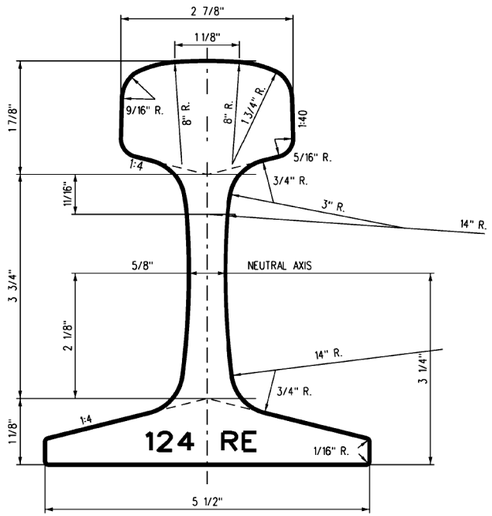


DRILLING DATA FOR RAILS

WEIGHT AND SECTION	A ±1/32"	B ±1/32"	C ±1/32"	D +1/16" -0	E ±1/32"	SPACING
100 ARA-A	2-11/16"	8-3/16"	13-11/16"	1-3/16"	2-3/4"	2-11/16" : 5-1/2": 5-1/2"
115-8 & 115 RE	3-1/2"	9-1/2"	15-1/2"	1-3/16"	2-7/8"	3-1/2" : 6": 6"



NOTE: SECTION REPLACED BY 115RE FOR NEW INSTALLATION



NOTE: SECTION REPLACED BY 115RE FOR NEW INSTALLATION

THIS PLAN SUPERSEDES PLAN OF THE SAME NUMBER DATED MAR.'79.

No.	Date	Revision	
9	JAN.2014	115 RE SECTION REVISED PER AREMA STANDARDS	LP (CN)
8	APR.'06	ADDED 115 - 8	LG (UMA)
7	JUNE 2005	SHEET 3 REMOVED, ADDED 112 LB RAIL	LG (UMA)
6	MAY 2004	ADDED 124 LB RAIL	PCV (UMA)
5	JUNE 2001	132lb R.E. RAIL RELOCATED TO SHEET 1 OF 3	PCV (UMA)
4	MAY 2000	DIVIDED INTO 3 SHEETS	TGW (UMA)
3	JUL. '95	REVISION TO TS-1111 SHEET 2 OF 2.	
2	DEC.'93	RAIL PHYSICAL PROPERTIES REVISED. 136-10 WAS 136 RE	(MG)
1	JAN '92	136 LB. RE RAIL HEAD - 10"R WAS 14"R, 1-1/4" WAS 1-13/32". 115 RE, 132 RE & 136 RE PHYSICAL PROPERTIES REVISED.	

Standard / Norme

RAIL SECTIONS

FOR RAILS WITH 5-1/2 INCH RAIL BASE
100 ARA-A & 115 RE

Drawn / Dessin CM — Checked / Vérification GS — Approved / Approbation — Chief Engineer

Office of Chief Engineer
Bureau de l'Ingenieur en Chef

Date MAR.'88

Plan Number / Dessin numéro TS – 1111

FOR ADDITIONAL INFORMATION E-MAIL "TRACKSTD"

SHEET 2 OF 2

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER U.6

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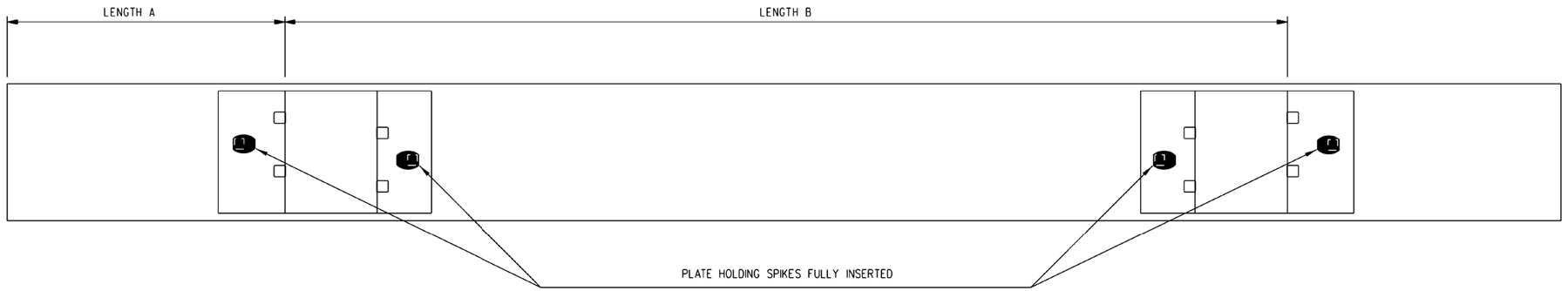
TIE PLATE SET UP



CAST PLATE SET UP

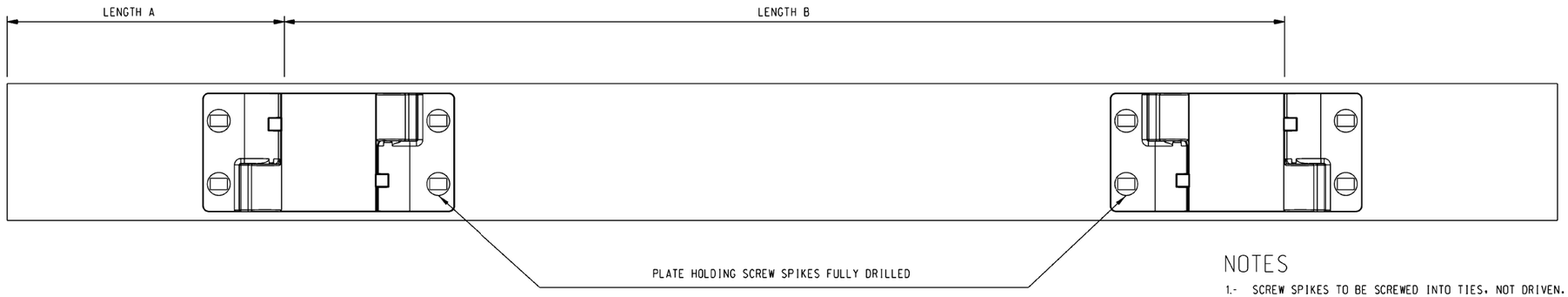


PLATE TYPE	STOCK NUMBER	DESCRIPTION	TIE LENGTH	LENGTH A	LENGTH B	WEIGHT
TIE PLATES	05-91-003	115LB	8'-6"	18 1/2" +/- 1/4"	65" +/- 1/8"	295
	05-01-201	136LB	8'-6"	18 1/4" +/- 1/4"	65 3/4" +/- 1/8"	290
	XX-XX-XXX	115LB	9'	21 1/2" +/- 1/4"	65" +/- 1/8"	
	XX-XX-XXX	136LB	9'	21 1/4" +/- 1/4"	65 3/4" +/- 1/8"	
CAST PLATES	05-91-003	115LB	8'-6"	18 1/2" +/- 1/4"	65" +/- 1/8"	295
	05-01-201	136LB	8'-6"	18 1/4" +/- 1/4"	65 3/4" +/- 1/8"	290
	XX-XX-XXX	115LB	9'	21 1/2" +/- 1/4"	65" +/- 1/8"	
	XX-XX-XXX	136LB	9'	21 1/4" +/- 1/4"	65 3/4" +/- 1/8"	

NOTES

1.- SCREW SPIKES TO BE SCREWED INTO TIES, NOT DRIVEN. PILOT HOLES TO BE DRILLED USING LOCATING TEMPLATES AND SELF-CENTERING GUIDES IN THE TIE PLATE HOLES.

2.- TIES PLATED WITH CONVENTIONAL PLATES TO HAVE PILOT HOLES DRILLED USING LOCATING TEMPLATES AND SELF-CENTERING GUIDES.

3.- TIE PLATES TO BE CENTERED ON TIE ON THE LONGITUDINAL AXIS AND SQUARE WITH RAIL BASE.

4.- FOR MSR PLATES, SCREW SPIKES TO BE SCREWED DOWN COMPLETE ON ALL HOLES.

5.- SCREW SPIKES REQUIRE A 5/8" PILOT HOLE DRILLED A MINIMUM OF 5" INTO THE TIE.

No.	Date	Revision	By	Approved

Standard

115LB/136LB RAIL PRE-PLATED TIE

Drawn | Checked | Approved | Chief Engineer

Office of Chief Engineer

Date AUG.,2011 | Plan Number TS-514 | Rev

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER U.7

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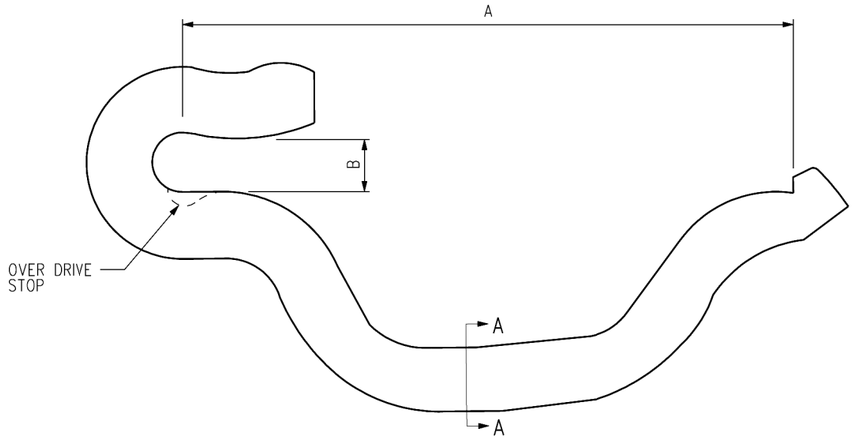
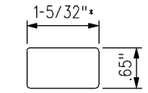
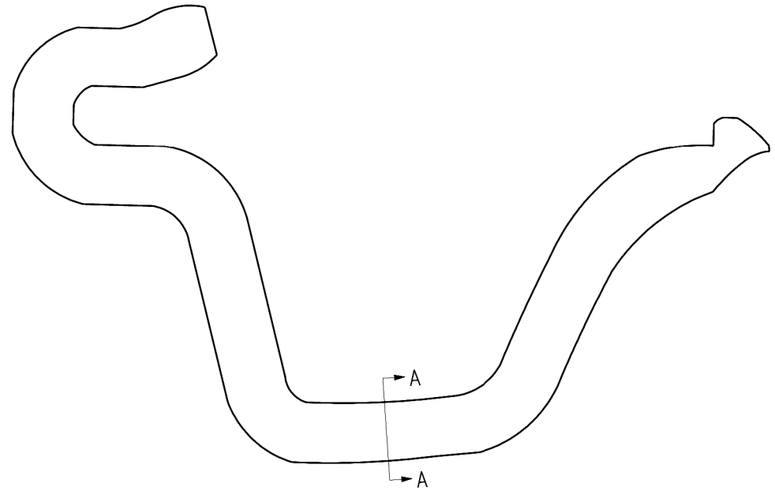




SECTION A-A



BAR STOCK

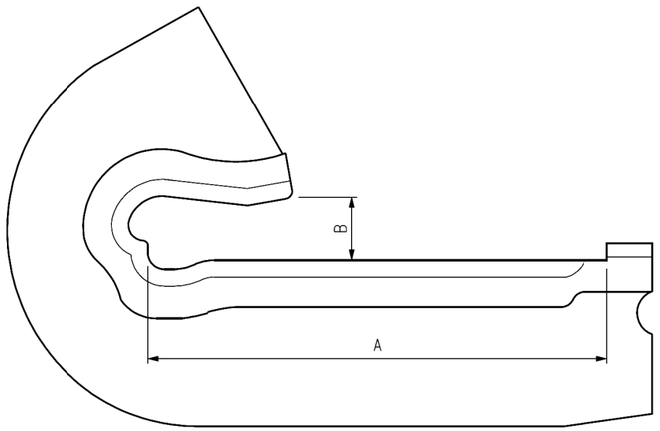
RAIL ANCHOR

RAIL	HEAVY DUTY	HEAVY DUTY WITH OVER DRIVE STOP	HEAVY DUTY BRIDGE	A	B
115 lb.	01-30-215	01-30-213	01-30-218	5-1/2"	7/16"
136 lb.	01-30-216	01-30-214	01-30-219	6"	7/16"

* DIMENSIONS APPLY TO RAIL ANCHOR AND BRIDGE RAIL ANCHOR
* ANCHOR TYPE DEPENDENT ON APPLICATION

BAR STOCK

HEAVY DUTY BRIDGE RAIL ANCHOR



IMPROVED FAIR

RAIL ANCHOR

FOR REFERENCE PURPOSES ONLY

RAIL	A	B MIN.	B MAX.
132 & 136 R.E.	6.062"	.652"	.692"
127 DUD	6.312"	.590"	.630"
115 R.E.	5.562"	.652"	.692"
100 ARA-A	5.562"	.590"	.630"
85 STD.	5.062"	.590"	.630"

REMARKS

1. RAIL ANCHORS ARE TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH SPC-3601.
2. RAIL ANCHORS TO BE IN ACCORDANCE WITH LATEST ISSUE OF C.N.R. SPECIFICATION 12-8 -RAIL ANCHORS.

No.	Date	Revision	
8	MAR.'12	ADDED BRIDGE ANCHOR AND BAR STOCK ANCHOR STOCK NUMBER TABLE	VAE (LB)
7	JUN.'05	REMOVED WOODINGS ADVANCED TYPE, WOODINGS WRL 2000, AND FAIR XL-I. ADDED BAR STOCK ANCHOR. CONVERTED TO CAD	UMA (LG)
6	DEC.'90	WOODINGS WRL 2000 RAIL ANCHORS ADDED	
5	OCT.'89	CHANNEL OC RAIL ANCHOR REMOVED	
4	MAR.'87	"DISPONIBLE EN FRANCIAS" ADDED	
3	MAR.'80	NOTE 3-SPECIFICATION 12-8 WAS PR-120	
2	FEB.'78	STOCK NO. 01-30-089 ADDED; 136 R.E. RAIL ADDED	
1	FEB.'75	M & S LIP TYPE ANCHOR REMOVED	

Standard / Norme

RAIL ANCHORS

VARIOUS TYPES

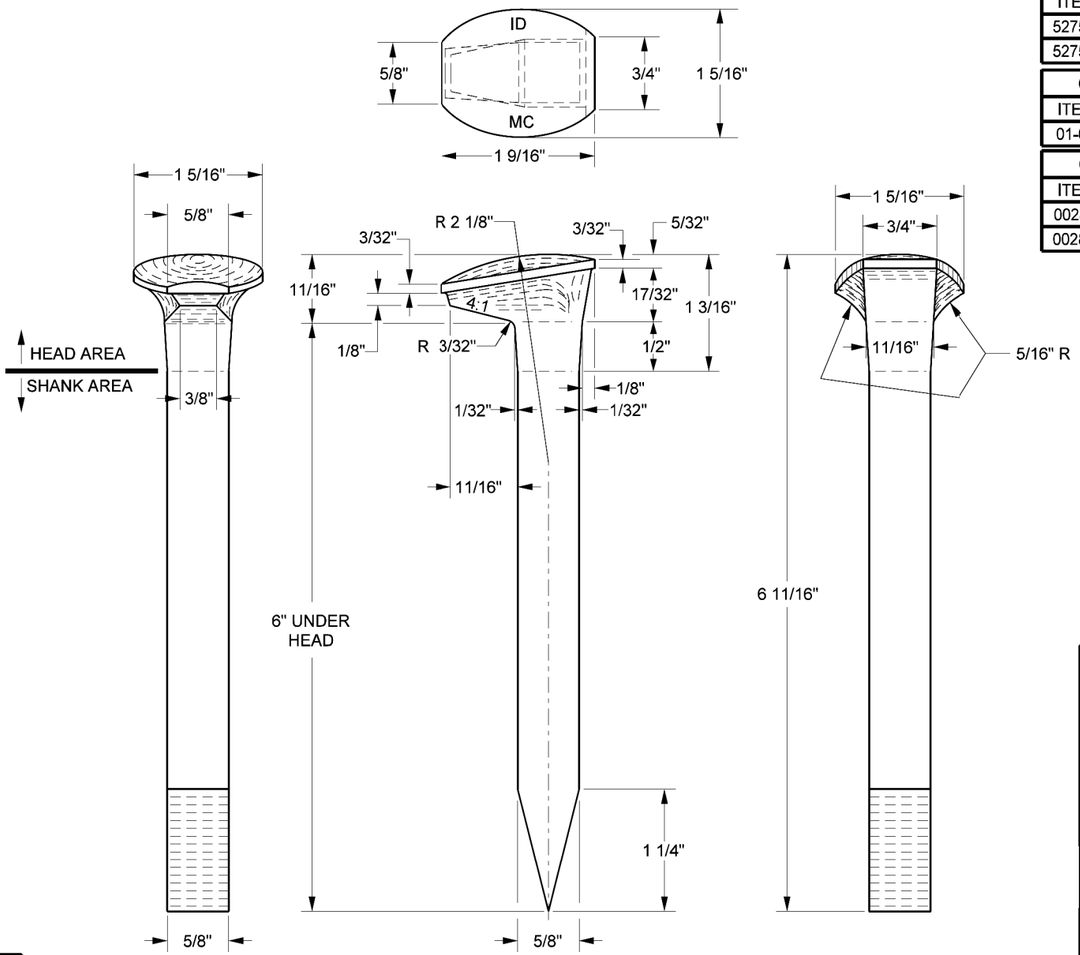
Drawn / Dessin GEK | Checked / Vérification GWM | Approved / Approbation — Chief Engineer

Office of Chief Engineer

Bureau de l'Ingeniéur en Chef

Date 13 SEPT.1974 | Plan Number / Dessin numéro TS – 1313

FOR ADDITIONAL INFORMATION E-MAIL "TRACKSTD"



6" CUT TRACK SPIKE

130005

BNSF ITEM NUMBERS		
ITEM NO.	WT	SPIKES/KG
527570005	200	241
527570014	-	BULK

CSX ITEM NUMBERS		
ITEM NO.	WT	SPIKES/KG
013.8250325.1	100	120
013.8250327.1	-	BULK

CN ITEM NUMBERS		
ITEM NO.	WT	SPIKES/KG
01-03-303	200	241

NS ITEM NUMBERS		
ITEM NO.	WT	SPIKES/KG
640-903705	200	241

CP ITEM NUMBERS		
ITEM NO.	WT	SPIKES/KG
002840231	50	62
002840256	-	BULK

UPRR ITEM NUMBERS		
ITEM NO.	WT	SPIKES/KG
550-6707	150	180
550-6710	-	BULK

NOTES:
1. MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH CURRENT AREMA MANUAL REQUIREMENTS FOR MEDIUM CARBON SPIKES.

2. PERMISSIBLE SHANK STRAIGHTNESS VARIATION, MEASURED IN EITHER PLANE, SHALL NOT EXCEED 0.0313".

3. MANUFACTURER'S I.D. AND THE LETTERS "MC" SHALL BE PRESSED ON THE HEAD OF EACH SPIKE WHILE BEING FORMED.

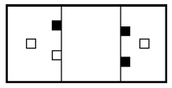
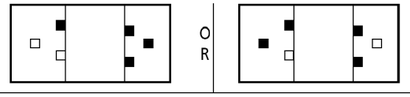
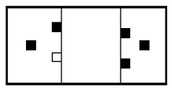
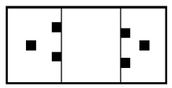
4. WEIGHT = APPROXIMATELY 0.83 LBS. EACH.

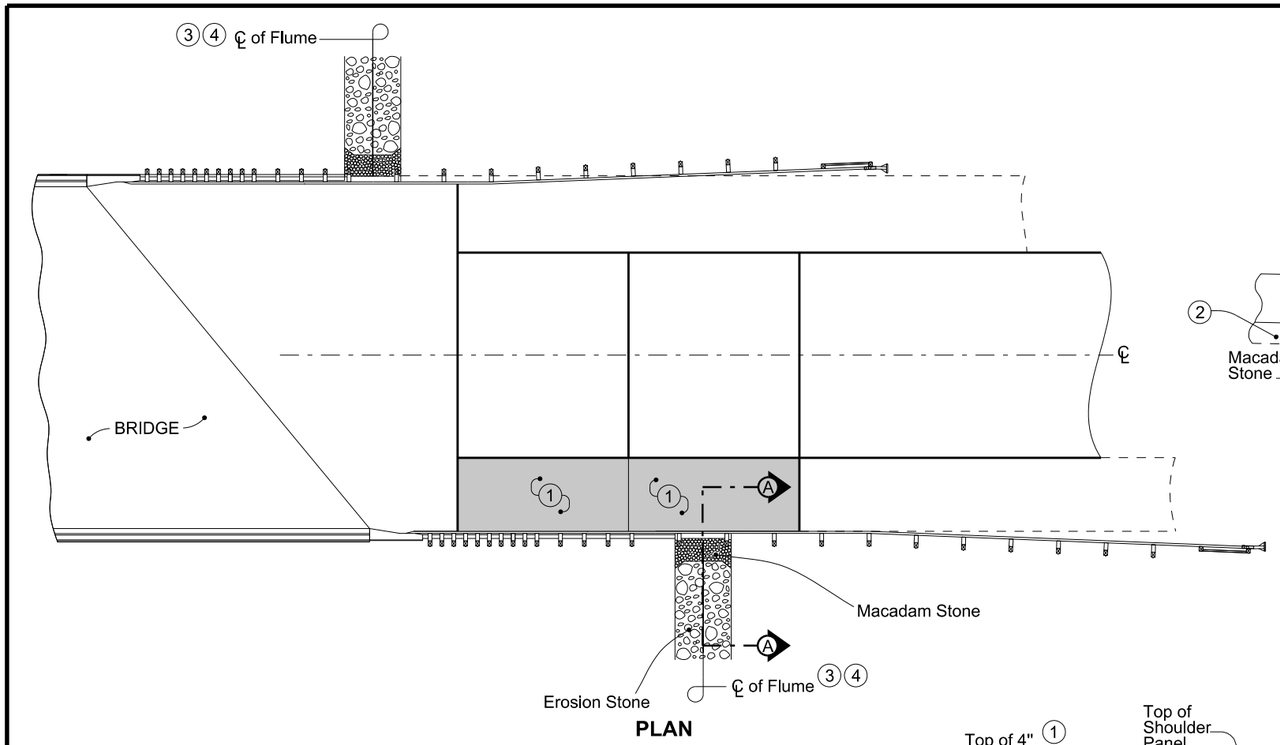
BNSF RAILWAY · CN · CSX · NS NORFOLK SOUTHERN · UNION PACIFIC

COMMON STANDARDS

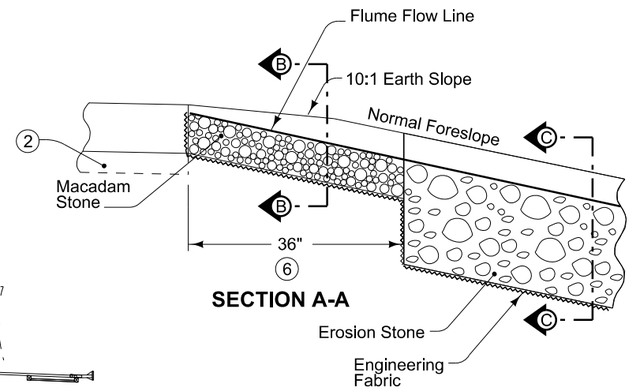
6" TRACK SPIKE

FILE OWNER: UPRR	DATE: JULY 16, 2012
REV. NO.: 3	DWG NO: 130005

No.	SPIKING PATTERN Field / Gauge	MGTs PER YEAR	DEGREE OF CURVE Tangent up to 2°	2° to 4°	4° to 6°	Greater than 6°
A		Other than Main Track	X	X	X	X
		0-20	X			
B		0-20		X	X	
		Greater than 20	X			
C		0-20				X
		Greater than 20		X	X	
D		Greater than20				X
		Turnouts Spiking pattern D will be applied to turnouts as per Figure 2 below 89				



PLAN



SECTION A-A

Price bid for "Bridge End Drain, RF-40" is full compensation for furnishing, installing, and constructing the Bridge End Drain as shown.

① Continue 4 inch sloped curb to edge of flume per section B-B. Refer to RK-20, RK-25, RK-26, or RK-27 for details of 4 inch curb.

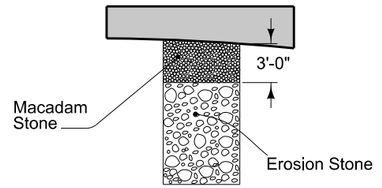
② Install modified subbase and polymer grid under PCC shoulder panels as shown in Section A-A on RK-20, RK-25,or RK-26, or RK-27.

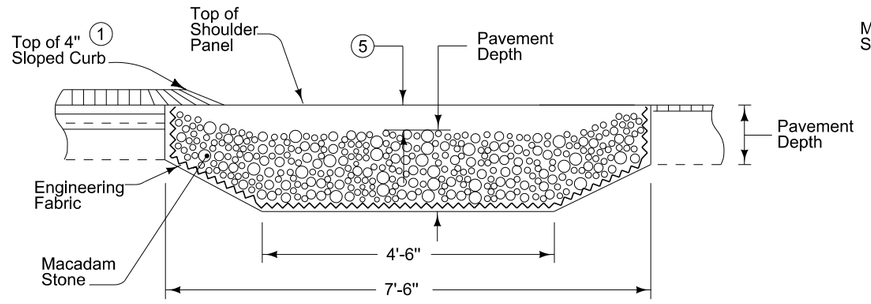
③ DI-1 and DI-2 distances measured from center of Bolt Pattern. Locate center of flume 9 feet or more from the nearest transverse pavement joint. Joint locations are determined by the bridge approach section.

④ Extend rock flume to low point of ditch.

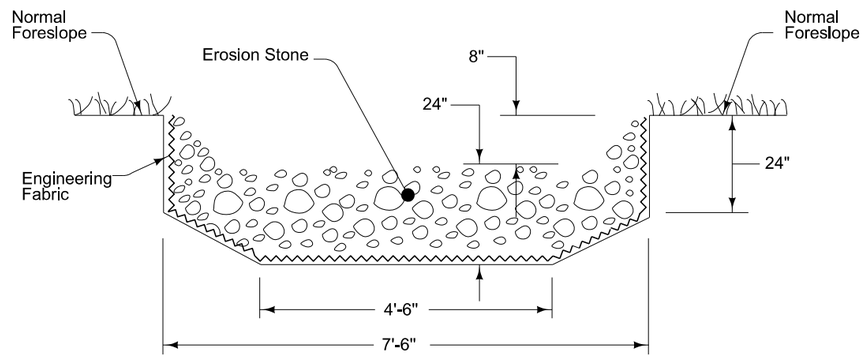
⑤ Transitions from 2 inches at edge of pavement to 8 inches within 3 feet.

⑥ In situations where the design calls for a flared shoulder panel, move the flume down the foreslope to maintain a minimum length of 3 feet of macadam stone adjacent to the shoulder panel.

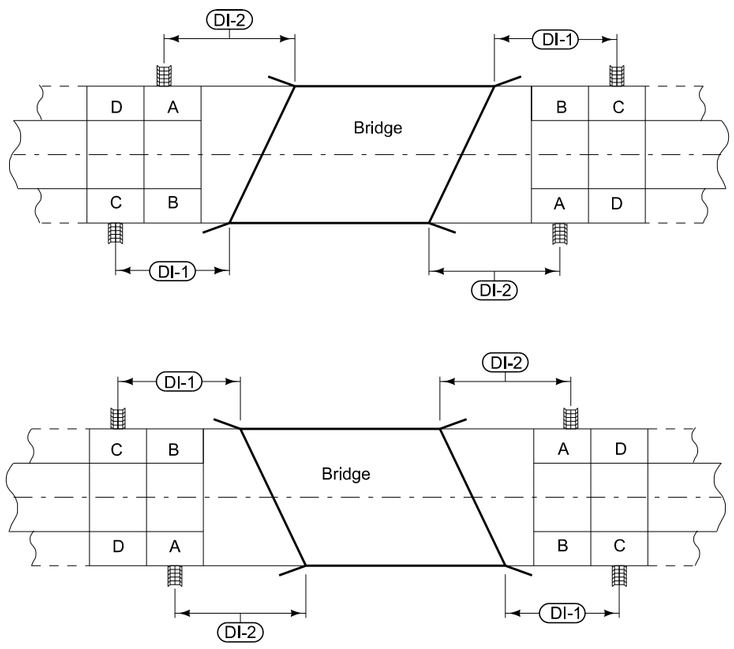




SECTION B-B



SECTION C-C



PCC SHOULDER PANEL LOCATIONS ③

Possible Contract Items:
- Paved Shoulder, Portland Cement Concrete (Paved Shoulder Panel for Bridge-End Drain)
- Bridge End Drain, RF-40

Incidental to Paved Shoulder:
- Modified Subbase
- Polymer Grid

Incidental to Bridge End Drain:
- Macadam Stone Base Material
- Erosion Stone
- Engineering Fabric
- Excavation, hauling, and disposing of material

Possible Tabulation:
104-8A

REVISION	
10	10-15-13

STANDARD ROAD PLAN

RF-40

SHEET 1 of 1

REVISIONS: Modified circle notes and Possible Contract Items.

APPROVED BY DESIGN METHODS ENGINEER

ROCK FLUME FOR BRIDGE END DRAIN

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER U.11

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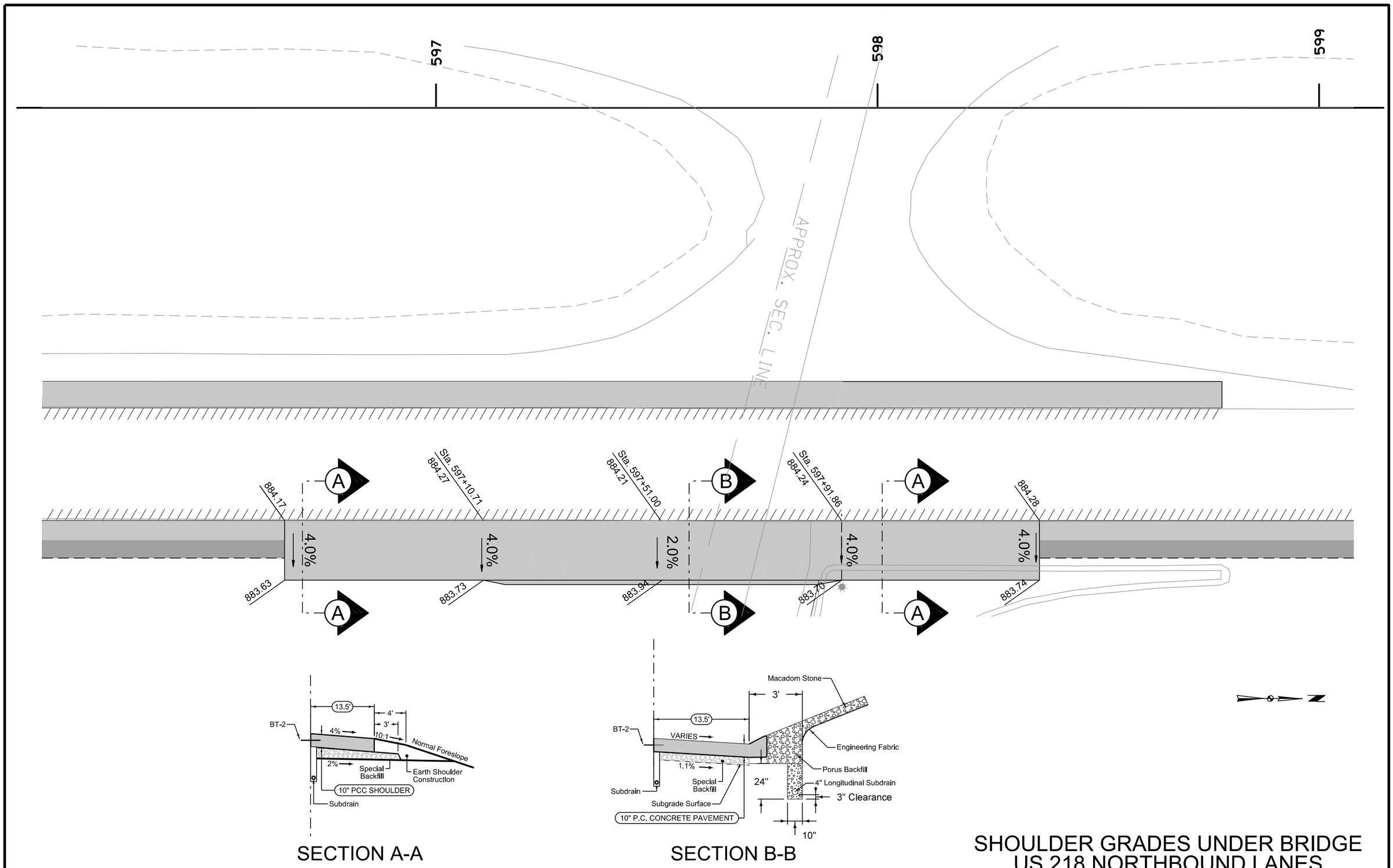

SECTION A-A

SECTION B-B

SHOULDER GRADES UNDER BRIDGE US 218 NORTHBOUND LANES DETAIL SHEET

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER U.12

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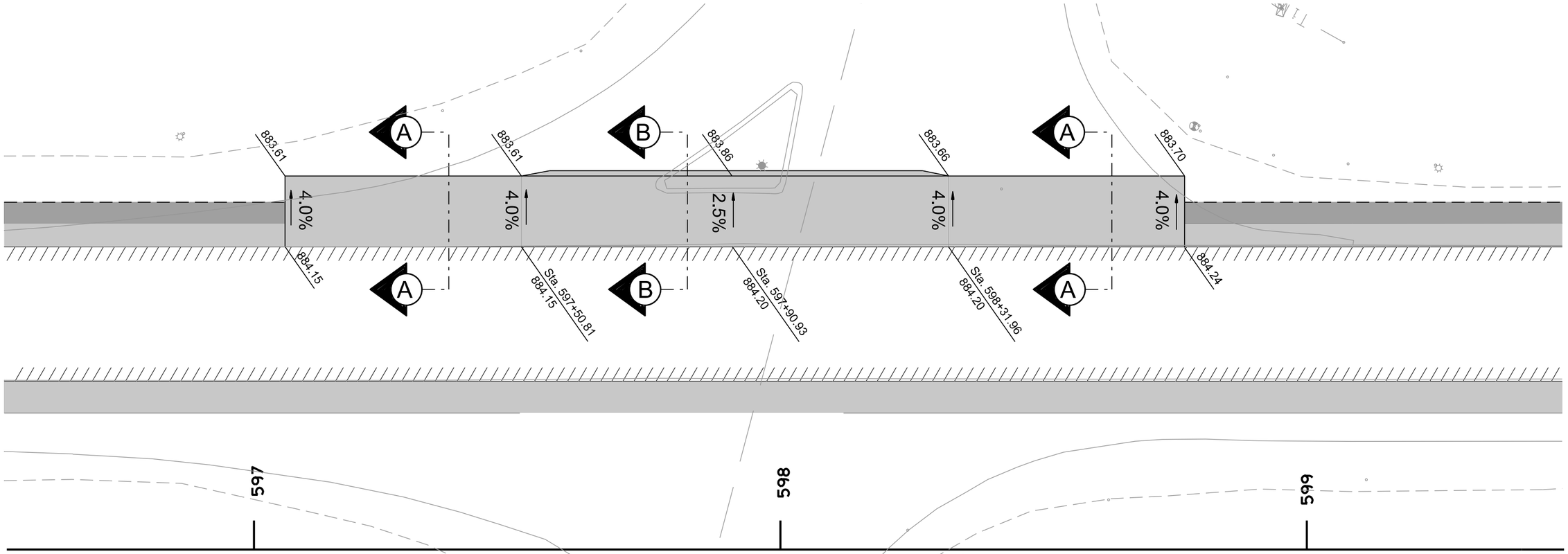
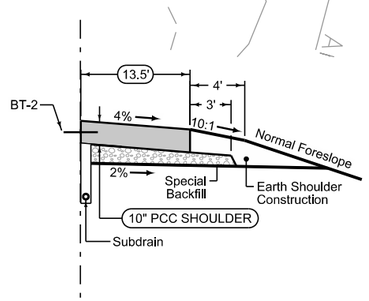
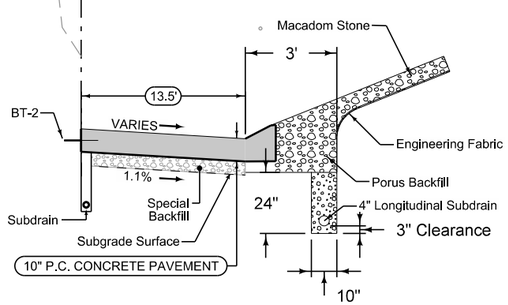




SECTION A-A



SECTION B-B

SHOULDER GRADES UNDER BRIDGE US 218 SOUTHBOUND LANES DETAIL SHEET

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER U.13

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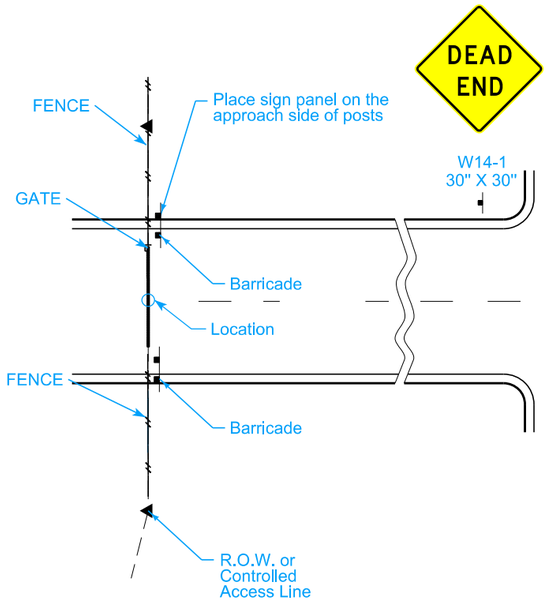
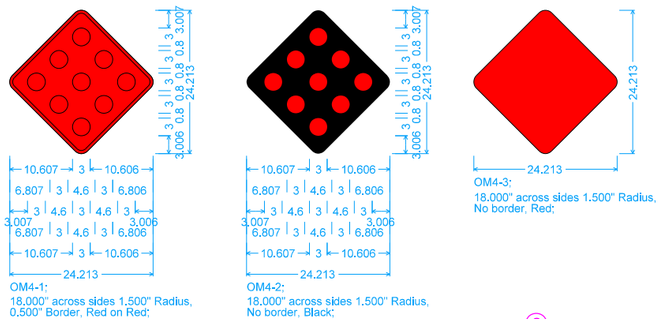
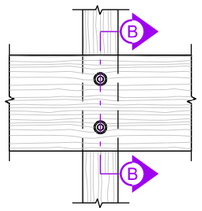
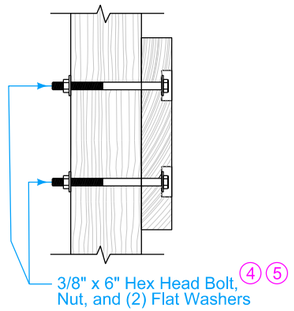


DEAD END WITHOUT CUL-DE-SAC



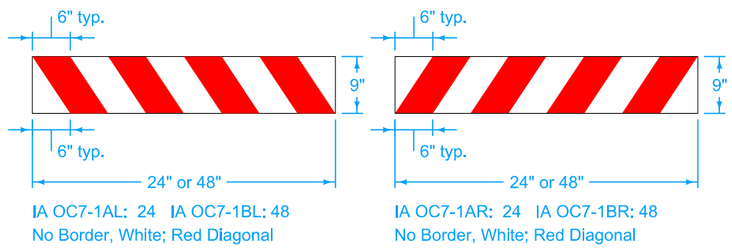
END OF ROADWAY MARKER FABRICATION (2)



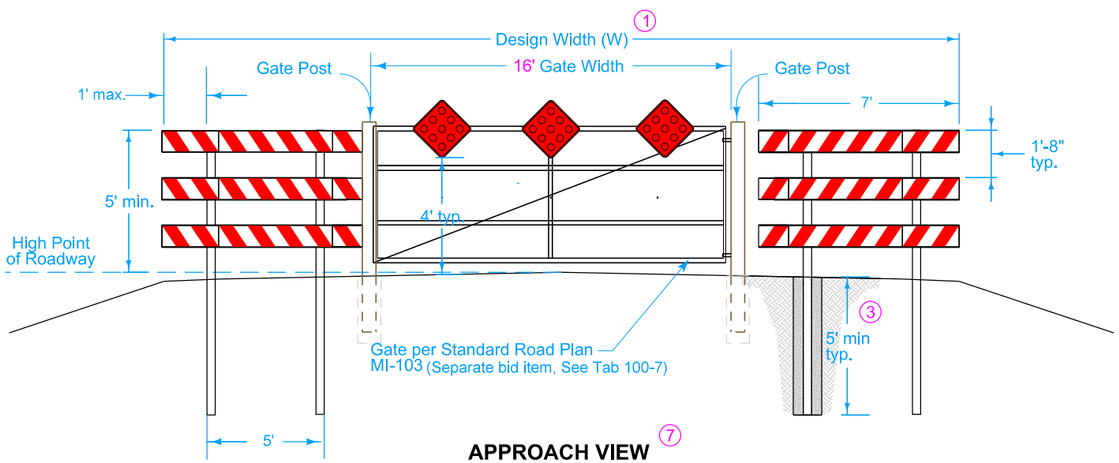


SECTION B-B

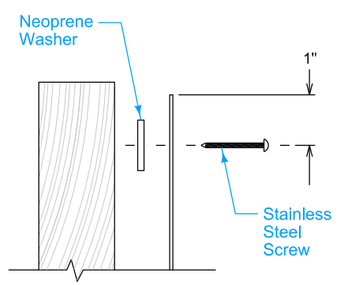
WOOD FRAME ASSEMBLY



SIGN PANEL FABRICATION (6)



APPROACH VIEW (7)



SIGN PANEL INSTALLATION (6)

Price bid for "Permanent Road Closure, Urban, SI-182" includes furnishing and installing the closure, signs, posts, and hardware.

Closures will be counted and the contractor will be paid the contract unit price for each closure.

(1) Width includes the width of the existing roadway and shoulders.

(2) The three types of markers are equivalent. The same type should be used for each closure. Use 0.063 inch aluminum blank with Type III or IV retro reflective sheeting for sign panel. Use reflectors for buttons. Mount to gate.

(3) Install posts as per Standard Specification 2524.03.B.1.

(4) Assemble the wood frame with standard strength, hot dip galvanized bolts, nuts and washers as per the following specifications:

Bolts - ASTM A307
Nuts - ASTM A563
Washers - ASTM F884
Galvanization - ASTM F2329.

(5) Recess all bolt heads in a $1\frac{1}{4}$ inch diameter x $\frac{1}{2}$ inch deep hole to allow sign panels to lay flush on the planks.

(6) Use 0.063 inch aluminum blank for sign panel. Sign panel to meet the requirements of Standard Specification 2524. Attach sign panels to the planks along the top and bottom at 2 foot centers using #10 x 1 $\frac{1}{4}$ inch self-drilling, phillips, pan head, 18-8 stainless steel screws. Use a 1 in. OD x $\frac{1}{8}$ in. thick neoprene washer between the sign panel and the treated wood plank to prevent corrosion.

(7) Use pressure treated 4 in. x 4 in. x 12 ft. nominal boards for posts, and pressure treated 2 in. x 10 in. x variable length nominal boards for planks. Use planks of sufficient length to span at least 2 posts.

Possible Contract Item:
Permanent Road Closure, Urban, SI-182

Possible Tabulation:
102-4
100-7

MODIFIED
STANDARD ROAD PLAN

REVISION	
1	08-29-14

SI-182
SHEET 1 of 1

REVISIONS: Added gate and diagonally striped sign panels.

APPROVED BY DESIGN METHODS ENGINEER

PERMANENT ROAD CLOSURE - GATE

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER U.14

6:03:43 PM 8/27/2014 RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.01_Roadway_Drawings\07218210U1.sht

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	ADD QUANTITY +C	TOPSOIL CLASS 10 SAVED -C	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	ADD QUANTITY +F	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK				
569+92.17													MT. VERNON & BENNINGTON TURNAROUNDS ADD CUT & FILL
570+00.00	15	5	15	5	5	2	162	213	213				
570+50.00	19		17	2	2	2		3	3				
570+66.18	8		4	4	4			0					
571+00.00	25		9	16	16			0					
571+50.00	39		15	24	24	1		1	1				
572+00.00	37		14	23	23	1		1	1				
572+50.00	43		19	24	24	3		4	4				
573+00.00	49		24	25	25	4		5	5				
573+50.00	58		25	33	33	2		3	3				
574+00.00	85		34	51	51	7		9	9				
574+50.00	107		41	66	66	14		18	18				
575+00.00	118		53	65	65	29		38	38				
575+50.00	124		65	59	59	51		66	66				
576+00.00	136		67	69	69	60		78	78				
576+50.00	175		71	104	104	61		79	79				
577+00.00	229		74	155	155	65		85	85				
577+50.00	281		85	196	196	67		87	87				
578+00.00	290		93	197	197	72		94	94				
578+25.99	141		53	88	88	48		62	62				
578+44.56	107		42	65	65	36		47	47				
578+50.00	35		13	22	22	9		12	12				
579+00.00	349		150	199	199	87		113	113				
579+50.00	388		177	211	211	102		133	133				
580+00.00	426		183	243	243	121		157	157				
580+50.00	431		187	244	244	141		183	183				
580+66.18	138		61	77	77	47		61	61				
581+00.00	285		130	155	155	102		133	133				
581+24.33	200		94	106	106	75		98	98				
581+39.82	127		60	67	67	48		62	62				
581+50.00	84		40	44	44	32		42	42				
582+00.00	446		202	244	244	162		211	211				
582+50.00	543		225	318	318	181		235	235				
582+96.18	385		176	209	209	136		177	177				
583+00.00	17		11	6	6	8		10	10				
583+50.00	366		247	119	119	809		1052	1052				
584+00.00	497		366	131	131	2209		2872	2872				
584+43.67	432		345	87	87	2735		3556	3556				
584+50.00	36		30	6	6	214		278	278				
585+00.00	72		72			31		40	40				
585+50.00	93		75	18	18	26		34	34				
586+00.00	118		74	44	44	17		22	22				
586+50.00	127		66	61	61	10		13	13				
586+78.41	70		33	37	37	4		5	5				
586+81.93	9		4	5	5			0					
587+00.00	45		21	24	24	2		3	3				
587+50.00	127		52	75	75	5		7	7				
588+00.00	140		71	69	69	8		10	10				
588+50.00	150		95	55	55	11		14	14				
589+00.00	145		97	48	48	11		14	14				
589+50.00	142		96	46	46	10		13	13				
590+00.00	134		70	64	64	8		10	10				
590+50.00	130		46	84	84	5		7	7				
591+00.00	135		47	88	88	5		7	7				
591+50.00	138		48	90	90	5		7	7				
592+00.00	139		60	79	79	9		12	12				
592+50.00	143		78	65	65	14		18	18				
593+00.00	144		82	62	62	13		17	17				
593+50.00	149		84	65	65	13		17	17				
594+00.00	152		88	64	64	15		20	20				
594+50.00	149		109	40	40	15		20	20				
595+00.00	156		134	22	22	17		22	22				
595+50.00	168		145	23	23	24		31	31				
596+00.00	177		156	21	21	33		43	43				
596+14.01	51		46	5	5	11		14	14				
596+50.00	121		111	10	10	24		31	31				

STATION	TOTAL CUT	ADD QUANTITY +C	TOPSOIL CLASS 10 SAVED -C	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	ADD QUANTITY +F	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK				
596+50.00													
596+65.84	43		38	5	5	8		10	10				
597+00.00	116		84	32	32	10		13	13				
597+05.94	27		17	10	10			0					
597+15.84	47		26	21	21			0					
597+50.00	180		84	96	96	1		1	1				
597+55.94	35		15	20	20			0					
597+86.72	209		76	133	133			0					
598+00.00	107		40	67	67			0					
598+26.83	207		91	116	116			0					
598+36.72	59		31	28	28	2		3	3				
598+50.00	63		37	26	26	2		3	3				
598+76.83	83		56	27	27	3		4	4				
599+00.00	41		36	5	5	8		10	10				
599+08.75	14		14			4		5	5				
599+50.00	74		71	3	3	17		22	22				
599+57.63	15		15			3		4	4				
600+00.00	99		95	4	4	19		25	25				
600+50.00	123		80	43	43	14		18	18				
12+96.13	113		56	57	57	17		22	22				
13+00.00	8		4	4	4	1		1	1				
13+50.00	83		30	53	53	4		5	5				
14+00.00	80		29	51	51	6		8	8				
14+50.00	81		28	53	53	5		7	7				
15+00.00	82		29	53	53	5		7	7				
15+50.00	85		30	55	55	5		7	7				
16+00.00	94		32	62	62	6		8	8				
16+50.00	133		38	95	95	7		9	9				
17+00.00	143		39	104	104	7		9	9				
17+50.00	117		36	81	81	7		9	9				
18+00.00	106		36	70	70	8		10	10				
18+50.00	100		45	55	55	6		8	8				
19+00.00	109		59	50	50	4		5	5				
19+50.00	93		64	29	29	9		12	12				
20+00.00	52		50	2	2	12		16	16				
20+50.00	37		36	1	1	9		12	12				
20+56.84	5		5			1		1	1				
21+00.00	33		31	2	2	8		10	10				
21+50.00	34		30	4	4	6		8	8				
22+00.00	29		22	7	7	3		4	4				
22+50.00	29		21	8	8	3		4	4				
23+00.00	27		20	7	7	4		5	5				
23+50.00	25		19	6	6	3		4	4				
23+58.95	47		11	36	36	10		13	13				
23+80.43	211		46	165	165	44		57	57				
24+00.00	191		42	149	149	37		48	48				
24+40.56	352		89	263	263	79		103	103				
24+50.00	81		26	55	55	25		33	33				
25+00.00	401		154	247	247	169		220	220				
25+50.00	263		138	125	125	169		220	220				
26+00.00	211		128	83	83	145		189	189				
26+50.00	200		126	74	74	136		177	177				
26+78.91	106		73	33	33	83		108	108				
26+82.70	13		9	4	4	11		14	14				
27+00.00	57		38	19	19	47		61	61				
27+50.00	166		109	57	57	126		164	164				
28+00.00	159		105	54	54	108		140	140				
28+50.00	146		99	47	47	79		103	103				
29+00.00	134		87	47	47	51		66	66				
29+50.00	120		76	44	44	45		59	59				
29+58.91	18		13	5	5	9		12	12				
29+81.62	41		32	9	9	23		30	30				
30+00.00	29		22	7	7	17		22	22				
30+50.00	66		50	16	16	36		47	47				
31+00.00	69		49	20	20	28		36	36				
31+50.00	71		49	22	22	25		33	33				

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	ADD QUANTITY +C	TOPSOIL CLASS 10 SAVED -C	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	ADD QUANTITY +F	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK				
31+50.00													
32+00.00	69		49	20	20	23		30	30				
32+50.00	72		49	23	23	17		22	22				
33+00.00	74		49	25	25	9		12	12				
33+50.00	70		47	23	23	8		10	10				
34+00.00	60		39	21	21	5		7	7				
34+50.00	48		27	21	21	1		1	1				
35+00.00	41		22	19	19	2		3	3				
35+50.00	42		22	20	20	2		3	3				
36+00.00	44		22	22	22	2		3	3				
36+50.00	43		22	21	21	2		3	3				
36+82.71	20		14	6	6	2		3	3				
37+00.00	7		7			1		1	1				
37+50.00	20		19	1	1	4		5	5				
37+57.51	3	2	3	2	2	1	177	231	231				ADD CUT & FILL GRESHAM TURNAROUNDS
			0					0					
C57			0					0					
10570+50.00			0					0					
10571+00.00	177		81	96	96	81		105	105				
10571+50.00	194		84	110	110	85		111	111				
10572+00.00	305		89	216	216	66		86	86				
10572+02.00	12	3	4	11	11	3	192	254	254				ADD CUT & FILL DRIVE - STA. 10572+02 LT
10572+37.32	165		66	99	99	54		70	70				
10572+50.00	64		23	41	41	21		27	27				
10573+00.00	252		92	160	160	92		120	120				
10573+50.00	255		92	163	163	92		120	120				
10574+00.00	256		93	163	163	99		129	129				
10574+50.00	270		94	176	176	103		134	134				
10575+00.00	302		95	207	207	117		152	152				
10575+50.00	346		98	248	248	134		174	174				
10576+00.00	372		108	264	264	135		176	176				
10576+50.00	369		116	253	253	141		183	183				
10577+00.00	362		114	248	248	162		211	211				
10577+50.00	362		114	248	248	185		241	241				
10578+00.00	366		116	250	250	209		272	272				
10578+50.00	360		119	241	241	266		346	346				ADD CUT & FILL DRIVE-STA. 10578+91.50 RT
10578+91.50	195	1	100	96	96	265	177	575	575				
10579+00.00	35		17	18	18	55		72	72				
10579+50.00	250		78	172	172	332		432	432				
10580+00.00	226		82	144	144	364		473	473				
10580+50.00	245		90	155	155	454		590	590				
10581+00.00	240		96	144	144	614		798	798				
10581+50.00	229		103	126	126	950		1235	1235				
10582+00.00	229		113	116	116	1357		1764	1764				
10582+20.00	94		48	46	46	641		833	833				
10582+50.00	149		76	73	73	1097		1426	1426				
10583+00.00	231		136	95	95	2239		2911	2911				
10583+50.00	230		149	81	81	2801		3641	3641				
10584+00.00	223		162	61	61	3480		4524	4524				
10584+50.00	208		175	33	33	4255		5532	5532				
10585+00.00	233		187	46	46	5031		6540	6540				
10585+50.00	243		198	45	45	5841		7593	7593				
10586+00.00	236		207	29	29	6712		8726	8726				
10586+50.00	227		213	14	14	7566		9836	9836				
10587+00.00	289		248	41	41	8427		10955	10955				
10587+35.20	258		122	136	136	6370		8281	8281				ADD CUT ROCK FLUME BENEATH BRIDGE AT STA. 10587+46.24
10587+50.00	81	193	52	222	222	2728		3546	3546				
10587+55.20	39		28	11	11	953		1239	1239				
10587+77.17	251		209	42	42	4051		5266	5266				
10588+00.00	686		224	462	462	3100		4030	4030				
10588+50.00	1179		216	963	963	3032		3942	3942				
10590+50.00			0					0					
10591+00.00	162		162			4178		5431	5431				
10591+16.25	103		83	20	20	2968		3858	3858				
10591+23.17	56		39	17	17	1445		1879	1879				
10591+38.17	119		83	36	36	3090		4017	4017				

STATION	TOTAL CUT	ADD QUANTITY +C	TOPSOIL CLASS 10 SAVED -C	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	ADD QUANTITY +F	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK				
10591+38.17													
10591+50.00	99		70	29	29	2603		3384	3384				
10592+00.00	403		287	116	116	10975		14268	14268				
10592+50.00	278		227	51	51	10739		13961	13961				
10593+00.00	118		118			7134		9274	9274				
10593+50.00	60		60			4440		5772	5772				
10594+00.00	104		104			7257		9434	9434				
10594+50.00	178		178			10026		13034	13034				
10595+00.00	243		243			11099		14429	14429				
10595+50.00	156		136	20	20	11086		14412	14412				
10596+00.00	58		0	58	58	10638		13829	13829				
10596+28.11	61		0	61	61	5480		7124	7124				
10596+43.11	37		0	37	37	2663		3462	3462				
10596+50.00	14		0	14	14	1122		1459	1459				
10597+00.00	48		0	48	48	4407		5729	5729				
10599+00.00			0					0					
10599+40.11	98		0	98	98	2086		2712	2712				
10599+47.04	39		0	39	39	708		920	920				
10599+62.04	132		26	106	106	1689		2196	2196				ADD CUT ROCK FLUME AT CULVERTS STA. 10599+90
10600+00.00	376	169	149	396	396	4492		5840	5840				
10600+50.00	355		214	141	141	5859		7617	7617				
10601+00.00	348		223	125	125	5332		6932	6932				
10601+50.00	308		215	93	93	4658		6055	6055				
10602+00.00	181		178	3	3	4122		5359	5359				
10602+50.00	130		130			3395		4414	4414				
10603+00.00	59		59			1915		2490	2490				
10603+15.00	11		11			371		482	482				
10603+50.00	60		60			1463		1902	1902				
10604+00.00	140		135	5	5	2487		3233	3233				
10604+50.00	154		139	15	15	2079		2703	2703				
10605+00.00	184		135	49	49	1582		2057	2057				
10605+50.00	193		138	55	55	1369		1780	1780				
10605+60.00	34		27	7	7	282		367	367				
10606+00.00	141		108	33	33	1025		1333	1333				
10606+50.00	193		132	61	61	1073		1395	1395				
10607+00.00	206		128	78	78	910		1183	1183				
10607+50.00	207		125	82	82	801		1041	1041				
10608+00.00	206		122	84	84	700		910	910				
10608+29.00	126		70	56	56	360		468	468				
10608+50.00	94		50	44	44	241		313	313				
10609+00.00	196		113	83	83	520		676	676				
10609+50.00	150		104	46	46	457		594	594				
10610+00.00	116		96	20	20	413		537	537				
10610+50.00	106		91	15	15	351		456	456				
10611+00.00	137		91	46	46	267		347	347				ADD CUT & FILL DRIVE-STA. 10611+50 LT & RT
10611+50.00	168	2	101	69	69	161	297	595	595				
10612+00.00	224		103	121	121	103		134	134				
			0					0					
Ramp C57A			0					0					
1593+28.42			0					0					
1593+50.00	18		18			1077		1400	1400				
1593+75.00	40		40			2484		3229	3229				
1593+81.63	14		14			881		1145	1145				
1594+00.00	47		47			2687		3493	3493				
1594+14.41	45		45			2278		2961	2961				
1594+50.00	148		143	5	5	5877		7640	7640				
1595+00.00	278		261	17	17	8335		10836	10836				
1595+50.00	294		275	19	19	7807		10149	10149				
1596+00.00	268		251	17	17	7140		9282	9282				
1596+50.00	255		237	18	18	6540		8502	8502				
1597+00.00	245		226	19	19	5976		7769	7769				
1597+50.00	231		216	15	15	5403		7024	7024				
1598+00.00	218		207	11	11	4803		6244	6244				
1598+50.00	197		193	4	4	4170		5421	5421				
1599+00.00	192		184	8	8	3553		4619	4619				
1599+50.00	182		175	7	7	2978		3871	3871				

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	ADD QUANTITY +C	TOPSOIL CLASS 10 SAVED -C	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	ADD QUANTITY +F	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK										
1599+50.00																			
1600+00.00	171		168	3	3	2446		3180	3180										
1600+50.00	165		156	9	9	1922		2499	2499										
1600+93.55	140		120	20	20	1284		1669	1669										
1601+00.00	22		17	5	5	166		216	216										
1601+50.00	199		132	67	67	1113		1447	1447										
1602+00.00	220		126	94	94	808		1050	1050										
1602+17.55	72		41	31	31	212		276	276										
1602+50.00	118		68	50	50	307		399	399										
1603+00.00	191		98	93	93	302		393	393										
1603+50.00	305		91	214	214	183		238	238										
1604+00.00	442		70	372	372	138		179	179										
1604+50.00	572		52	520	520	98		127	127										
1604+93.23	577		45	532	532	65		85	85										
1605+00.00	91		7	84	84	9		12	12										
1605+50.00	641		52	589	589	61		79	79										
1605+86.23	413		37	376	376	40		52	52										
1606+00.00	145		14	131	131	15		20	20										
			0					0											
			0					0											
Ramp C57B			0					0											
2590+33.50	87		55	32	32	1054		1370	1370										
2590+50.00	56		42	14	14	798		1037	1037										
2590+62.39	60		53	7	7	1055		1372	1372										
2590+78.09	77		76	1	1	1568		2038	2038										
2591+00.00	224		177	47	47	3604		4685	4685										
2591+50.00	29		20	9	9	380		494	494										
2591+55.39	221		164	57	57	3296		4285	4285										
2592+00.00	213		189	24	24	4026		5234	5234										
2592+50.00	195		194	1	1	4324		5621	5621										
2593+00.00	206		200	6	6	4551		5916	5916										
2593+50.00	275		256	19	19	4829		6278	6278										
2594+00.00	344		309	35	35	5226		6794	6794										
2594+50.00	202		177	25	25	3155		4102	4102										
2594+78.42	156		135	21	21	2466		3206	3206										
2595+00.00	350		316	34	34	5871		7632	7632										
2595+50.00	335		329	6	6	6124		7961	7961										
2596+00.00	16		16			304		395	395										
2596+02.42	331		331			6042		7855	7855										
2596+50.00	361		285	76	76	6684		8689	8689										
2597+00.00	360		0	360	360	7079		9203	9203										
2597+50.00	362		0	362	362	7372		9584	9584										
2598+00.00	369		0	369	369	7788		10124	10124										
2598+50.00	380		0	380	380	8266		10746	10746										
2599+00.00	398		0	398	398	8666		11266	11266										
2599+50.00	418		0	418	418	9020		11726	11726										
2600+00.00	429		0	429	429	9312		12106	12106										
2600+50.00	430		0	430	430	9402		12223	12223										
2601+00.00	420		420			8884		11549	11549										
2601+50.00	298		298			5448		7082	7082										
2602+00.00	3		3			49		64	64										
2602+00.99	74		74			1455		1892	1892										
2602+31.43	33		33			723		940	940										
2602+48.00	3		3			80		104	104										
2602+50.00	36		36			882		1147	1147										
2602+84.82			0					0											
			0					0											
Ramp C57C			0					0											
3576+67.72	307		52	255	255	42		55	55										
3577+00.00	491		80	411	411	67		87	87										
3577+50.00	462		81	381	381	67		87	87										
3578+00.00	244		47	197	197	36		47	47										
3578+28.30	186		37	149	149	25		33	33										
3578+50.00	366		91	275	275	50		65	65										
3579+00.00	190		62	128	128	32		42	42										
3579+34.30	82		28	54	54	16		21	21										
3579+50.00																			
3580+00.00	308		97	211	211	55		72	72										
3580+50.00	382		106	276	276	61		79	79										
3581+00.00	455		110	345	345	92		120	120										
3581+50.00	496		115	381	381	142		185	185										
3582+00.00	465		121	344	344	166		216	216										
3582+50.00	367		122	245	245	191		248	248										
3583+00.00	297		122	175	175	286		372	372										
3583+50.00	300		128	172	172	453		589	589										
3584+00.00	290		114	176	176	643		836	836										
3584+50.00	272		97	175	175	866		1126	1126										
3585+00.00	283		102	181	181	1169		1520	1520										
3585+50.00	314		107	207	207	1517		1972	1972										
3586+00.00	392		176	216	216	1959		2547	2547										
3586+50.00	455		250	205	205	2498		3247	3247										
3587+00.00	426		261	165	165	3041		3953	3953										
3587+50.00	386		269	117	117	3560		4628	4628										
3588+00.00	365		279	86	86	4111		5344	5344										
3588+50.00	350		290	60	60	4752		6178	6178										
3589+00.00	315		262	53	53	5381		6995	6995										
3589+50.00	296		234	62	62	5993		7791	7791										
3590+00.00	314		244	70	70	6639		8631	8631										
3590+50.00	323		251	72	72	7263		9442	9442										
3590+61.72	65		57	8	8	1789		2326	2326										
3591+00.00	169		169			6013		7817	7817										
3591+00.40	2		2			64		83	83										
3591+50.00	197		197			7876		10239	10239										
3592+00.00	172		172			7663		9962	9962										
3592+08.00	24		24			1160		1508	1508										
3592+41.07	71		71			3891		5058	5058										
3592+50.00	12		12			744		967	967										
			0					0											
			0					0											
Ramp C57D			0					0											
4603+50.00	55		55			810		1053	1053										
4603+84.66	38		38			539		701	701										
4604+00.00	65		65			920		1196	1196										
4604+25.00	70		70			940		1222	1222										
4604+50.00	146		146			1724		2241	2241										
4605+00.00	37		37			400		520	520										
4605+12.69	129		119	10	10	1091		1418	1418										
4605+49.31	3		2	1	1	19		25	25										
4605+50.00	216		189	27	27	1372		1784	1784										
4606+00.00	217		190	27	27	1306		1698	1698										
4606+50.00	240		220	20	20	1266		1646	1646										
4607+00.00	257		248	9	9	1247		1621	1621										
4607+50.00	234		232	2	2	1209		1572	1572										
4608+00.00	234		233	1	1	1132		1472	1472										
4608+50.00	269		256	13	13	1001		1301	1301										
4609+00.00	356		305	51	51	856		1113	1113										
4609+50.00	418		282	136	136	641		833	833										
4610+00.00	491		234	257	257	367		477	477										
4610+50.00	616		240	376	376	145		189	189										
4611+00.00	692		238	454	454	27		35	35										
4611+50.00	633		229	404	404	21		27	27										
4612+00.00	447		216	231	231	97		126	126										
4612+50.00	303		203	100	100	208		270	270										
4613+00.00	188		122	66	66	208		270	270										
4613+46.40	11		5	6	6	13		17	17										
4613+50.00	153		63	90	90	147		191	191										
4614+00.00	166		62	104	104	91		118	118										
4614+50.00	196		61	135	135	35		46	46										
4615+00.00	265		74	191	191	3		4	4										
4615+50.00	349		85	264	264			0											
4616+00.00	370		81	289	289			0											
4616+50.00	180		40	140	140			0											
4616+75.53																			

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	ADD QUANTITY +C	TOPSOIL CLASS 10 SAVED -C	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	ADD QUANTITY +F	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK				
4616+75.53			0					0					
4617+00.00	164		38	126	126			0					
4617+50.00	308		73	235	235	11		14	14				
4617+81.53	180		43	137	137	17		22	22				
4618+00.00	105		25	80	80	13		17	17				
4618+50.00	274		65	209	209	38		49	49				
4619+00.00	228		63	165	165	41		53	53				
4619+50.00	174		61	113	113	36		47	47				
4619+57.50	23		9	14	14	4		5	5				
			0					0					
Frontage Rd			0					0					
100579+14.20			0					0					
100579+25.00	22		12	10	10	9		12	12				
100579+36.95	73	1	18	56	56		4	5	5				
100579+50.00	97		20	77	77			0					
100579+75.00	138		36	102	102	10		13	13				
100580+00.00	81		36	45	45	94		122	122				
100580+25.00	62		32	30	30	151		196	196				
100580+50.00	93		32	61	61	123		160	160				
100580+75.00	97		33	64	64	109		142	142				
100581+00.00	98		33	65	65	100		130	130				
100581+25.00	97		33	64	64	93		121	121				
100581+50.00	95		33	62	62	86		112	112				
100581+75.00	94		33	61	61	79		103	103				
100582+00.00	87		32	55	55	75		98	98				
100582+25.00	75		32	43	43	77		100	100				
100582+50.00	65		31	34	34	77		100	100				
100582+75.00	54		29	25	25	81		105	105				
100583+00.00	44		28	16	16	87		113	113				
100583+25.00	36		27	9	9	91		118	118				
100583+50.00	30		26	4	4	93		121	121				
100583+75.00	27		25	2	2	91		118	118				
100584+00.00	32		24	8	8	83		108	108				
100584+20.90	42		27	15	15	56	72	166	166				
100584+25.00	9		5	4	4	8		10	10				
100584+50.00	40		26	14	14	49		64	64				
100584+75.00	34		26	8	8	55		72	72				
100585+00.00	40		26	14	14	49		64	64				
100585+25.00	44		26	18	18	48		62	62				
100585+50.00	45		27	18	18	49		64	64				
100585+75.00	46		27	19	19	51		66	66				
100586+00.00	45		27	18	18	62		81	81				
100586+25.00	40		26	14	14	81		105	105				
100586+50.00	46	1	37	10	10	109	102	274	274				
100586+75.00	42		37	5	5	123		160	160				
100587+00.00	29		26	3	3	128		166	166				
100587+22.00	25		23	2	2	124		161	161				
			0					0					
CRRR			0					0					
15550+50.00			0					0					
15551+00.00	419		46	373	373			0					
15551+50.00	434		47	387	387			0					
15552+00.00	442		50	392	392			0					
15552+50.00	443		51	392	392			0					
15553+00.00	439		49	390	390			0					
15553+50.00	443		49	394	394			0					
15554+00.00	437		49	388	388			0					
15554+50.00	436		49	387	387			0					
15555+00.00	429		47	382	382			0					
15555+50.00	411		44	367	367			0					
15556+00.00	432		43	389	389			0					
15556+50.00	465		47	418	418			0					
15557+00.00	450		42	408	408			0					
15557+50.00	406		18	388	388			0					
15558+00.00	371		20	351	351			0					
15558+50.00	326		40	286	286			0					

ADD CUT & FILL
DRIVE-STA. 100579+36.95 LT

ADD FILL
DRIVE-STA. 100584+20.90 LT

ADD CUT & FILL
DRIVE-STA. 100586+50 LT

STATION	TOTAL CUT	ADD QUANTITY +C	TOPSOIL CLASS 10 SAVED -C	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	ADD QUANTITY +F	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK				
15558+50.00	294		41	253	253			0					
15559+00.00	226		40	186	186	27		35	35				
15559+50.00	137		39	98	98	80		104	104				
15560+00.00	88		35	53	53	137		178	178				
15560+50.00	59		33	26	26	188		244	244				
15561+00.00	71		37	34	34	188		244	244				
15561+50.00	69		37	32	32	196		255	255				
15562+00.00	50		37	13	13	232		302	302				
15562+50.00	53		38	15	15	240		312	312				
15563+00.00	66		39	27	27	227		295	295				
15563+50.00	96		41	55	55	195		254	254				
15564+00.00	123		42	81	81	170		221	221				
15564+50.00	134		53	81	81	181		235	235				
15565+00.00	117		63	54	54	217		282	282				
15565+50.00	92		62	30	30	244		317	317				
15566+00.00	86		61	25	25	256		333	333				
15566+50.00	98		62	36	36	248		322	322				
15567+00.00	124		64	60	60	212		276	276				
15567+50.00	139		64	75	75	174		226	226				
15568+00.00	144		64	80	80	158		205	205				
15568+50.00	156		76	80	80	187		243	243				
15569+00.00	149		86	63	63	225		293	293				
15569+50.00	131		84	47	47	210		273	273				
15570+00.00	132		83	49	49	191		248	248				
15570+50.00	133		83	50	50	195		254	254				
15571+00.00	109		41	68	68	174		226	226				
15571+50.00	114		42	72	72	159		207	207				
15572+00.00	159		85	74	74	152		198	198				
15572+50.00	201		88	113	113	116		151	151				
15573+00.00	255		91	164	164	79		103	103				
15573+50.00	325		94	231	231	35		46	46				
15574+00.00	401		97	304	304	4		5	5				
15574+50.00	455		99	356	356			0					
15575+00.00	475		99	376	376			0					
15575+50.00	495		100	395	395			0					
15576+00.00	533		100	433	433			0					
15576+50.00	540		75	465	465			0					
15577+00.00	531		49	482	482			0					
15577+50.00	542		49	493	493			0					
15578+00.00	552		49	503	503			0					
15578+50.00	549		49	500	500			0					
15579+00.00	518		48	470	470			0					
15579+50.00	474		47	427	427			0					
15580+00.00	427		47	380	380			0					
15580+50.00	381		58	323	323			0					
15581+00.00	337		69	268	268	1		1	1				
15581+50.00	321		68	253	253	1		1	1				
15582+00.00	348		68	280	280			0					
15582+50.00	391		69	322	322			0					
15583+00.00	441		70	371	371			0					
15583+50.00	474		72	402	402			0					
15584+00.00	460		72	388	388			0					
15584+50.00	420		83	337	337			0					
15585+00.00	397		95	302	302			0					
15585+50.00	380		48	332	332			0					
15586+00.00	384		49	335	335			0					
15586+50.00	419		99	320	320			0					
15587+00.00	469		102	367	367			0					
15587+50.00	504		104	400	400			0					
15588+00.00	811		140	671	671			0					
15588+50.00	1002	98	175	925	925	24		31	31				
15589+00.00	765	97	179	683	683	112		146	146				
15589+50.00	487	98	179	406	406	242		315	315				
15590+00.00	626	98	168	556	556	254		330	330				
15590+50.00	730	98	121	707	707	152		198	198				
15591+00.0													

ADD CUT
CEDAR RIVER RR
BERM LINING
BENEATH C57 BRIDGE

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

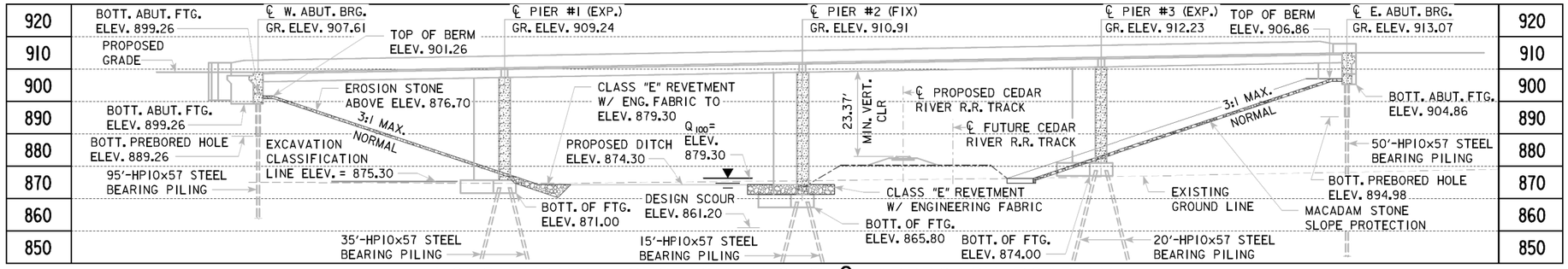
Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	ADD QUANTITY +C	TOPSOIL CLASS 10 SAVED -C	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	ADD QUANTITY +F	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK
15591+00.00	485	99	81	503	503	129		168	168
15591+50.00	288		63	225	225	175		228	228
15592+00.00	134		44	90	90	219		285	285
15592+50.00	100		43	57	57	270		351	351
15593+00.00	71		42	29	29	315		410	410
15593+50.00	60		41	19	19	336		437	437
15594+00.00	56		41	15	15	347		451	451
15594+50.00	47		38	9	9	363		472	472
15595+00.00	35		33	2	2	389		506	506
15595+50.00	35		33	2	2	421		547	547
15596+00.00	42		37	5	5	437		568	568
15596+50.00	62		48	14	14	427		555	555
15597+00.00	82		58	24	24	403		524	524
15597+50.00	80		58	22	22	415		540	540
15598+00.00	68		60	8	8	481		625	625
15598+50.00	56		56			535		696	696
15599+00.00	49		49			515		670	670
15599+50.00	45		45			415		540	540
15600+00.00	68		51	17	17	269		350	350
15600+50.00	120		61	59	59	159		207	207
15601+00.00	149		62	87	87	120		156	156
15601+50.00	153		62	91	91	112		146	146
15602+00.00	153		62	91	91	105		137	137
15602+50.00	156		61	95	95	94		122	122
15603+00.00	177		62	115	115	73		95	95
15603+50.00	210		64	146	146	57		74	74
15604+00.00	225		66	159	159	67		87	87
15604+50.00	226		68	158	158	89		116	116
15605+00.00	203		68	135	135	134		174	174
15605+50.00	144		66	78	78	222		289	289
15606+00.00	90		60	30	30	318		413	413
15606+50.00	64		55	9	9	402		523	523
15607+00.00	53		51	2	2	438		569	569
15607+50.00	45		45			399		519	519
15608+00.00	57		45	12	12	281		365	365
15608+50.00	157		57	100	100	119		155	155
15609+00.00	401		70	331	331	20		26	26
15609+50.00	649		76	573	573			0	
15610+00.00	774		79	695	695			0	
15610+50.00	807		80	727	727			0	
15611+00.00	773		79	694	694			0	
15611+50.00	673		77	596	596			0	
15612+00.00	556		75	481	481			0	
15612+50.00	468		73	395	395			0	
15613+00.00	411		71	340	340			0	
15613+50.00	373		70	303	303			0	
15614+00.00	363		70	293	293			0	
15614+50.00	349		70	279	279			0	
15615+00.00	347		70	277	277			0	
15615+50.00	389		71	318	318			0	
15616+00.00	435		72	363	363			0	
15616+50.00	507		73	434	434			0	
15617+00.00	483		73	410	410			0	
15617+50.00	382		70	312	312			0	
15618+00.00	339		69	270	270			0	
15618+50.00	305		69	236	236	8		10	10
15619+00.00	251		67	184	184	39		51	51
15619+50.00	195		64	131	131	81		105	105
15620+00.00	142		51	91	91	115		150	150
15620+50.00	81		34	47	47	126		164	164
15621+00.00	50		29	21	21	121		157	157
15621+50.00	82		36	46	46	100		130	130
15622+00.00	171		41	130	130	62		81	81
15622+50.00	261		39	222	222	38		49	49
15623+00.00	312		36	276	276	45		59	59
15623+50.00									

STATION	TOTAL CUT	ADD QUANTITY +C	TOPSOIL CLASS 10 SAVED -C	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	ADD QUANTITY +F	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK
15623+50.00	304		36	268	268	64		83	83
15624+00.00	267		37	230	230	73		95	95
15624+50.00	254		36	218	218	58		75	75
15625+00.00	257		34	223	223	30		39	39
15625+50.00	260		31	229	229	11		14	14
15626+00.00	231		29	202	202	8		10	10
15626+50.00	168		25	143	143	9		12	12
15627+00.00	122		17	105	105	6		8	8
15627+50.00	108		11	97	97	2		3	3
15628+00.00	105		10	95	95			0	
15628+50.00	105		11	94	94			0	
15629+00.00	102		12	90	90			0	
15629+50.00		0	0						

FILE NO. | ENGLISH | DESIGN TEAM **HDR\Iowa DOT** | **BLACK HAWK** COUNTY | PROJECT NUMBER **NHSX-218-7(207)--3H-07** | SHEET NUMBER **T.5**

BM. NO. 554 EXISTING US218 STA. 584+90.006, 120.748' RT. CUT "X" AT OUTLET END OF 24" RCP, E. SIDE OF HWY 218 ELEV. 879.742



LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY

4.000% -3.000%

PVI STA. 10592+23.25
PVI ELEV. 928.90
LVC = 1720.00 FT

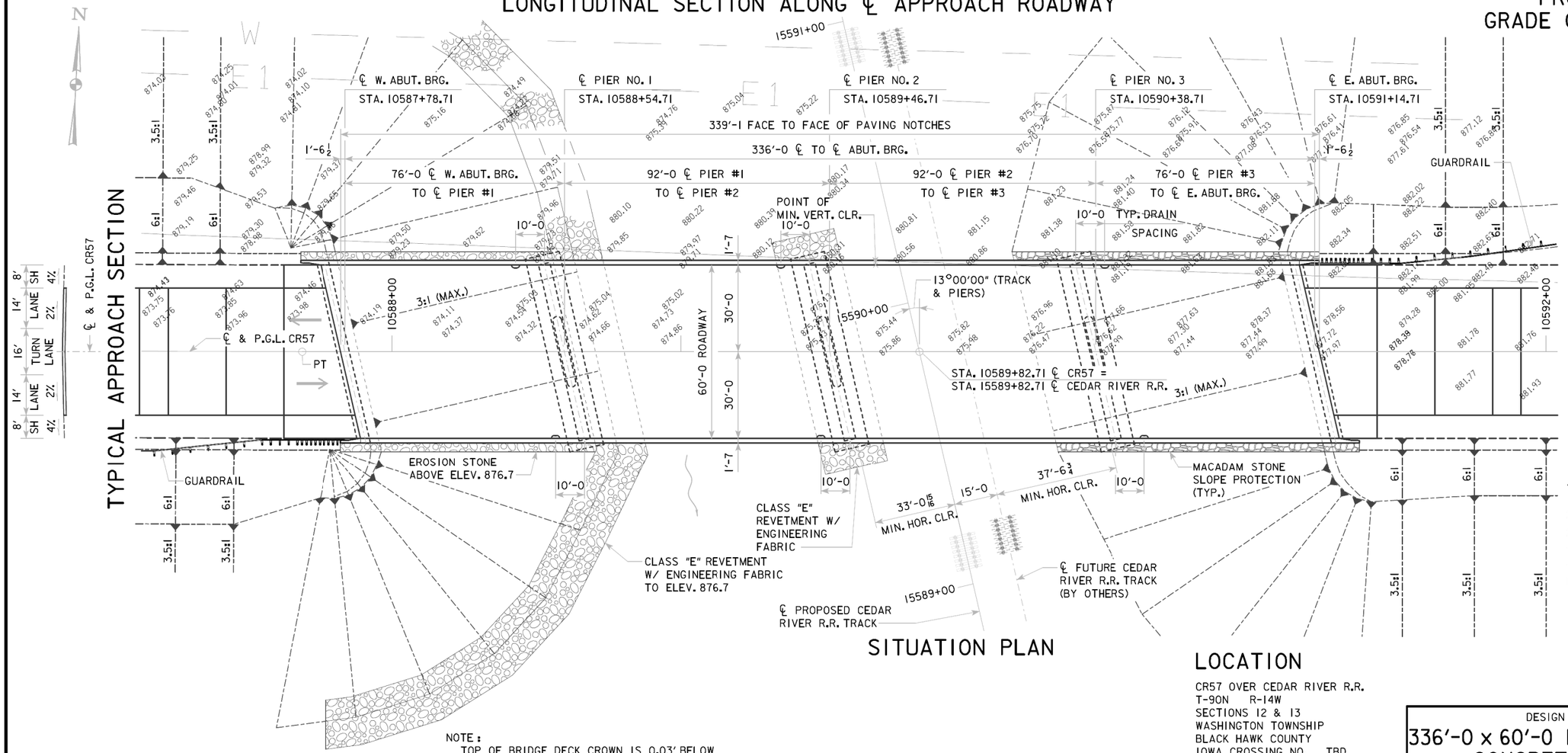
PROPOSED PROFILE GRADE ON CR57

0.18%

PVI STA. 15581+26.15
PVI ELEV. 881.67
LVC = 300.00 FT

PVI STA. 15594+88.66
PVI ELEV. 884.12
LVC = 300.00 FT

PROPOSED PROFILE GRADE ON CEDAR RIVER R.R.



TYPICAL APPROACH SECTION

SITUATION PLAN

HYDRAULIC DATA

DISCHARGES AT STRUCTURE INCLUDE CEDAR RIVER OVERFLOW AND LOCAL DRAINAGE TO BIG WOODS CREEK.
AVG. LOW WATER STAGE = DRY

Q100 =1,104 CFS
STAGE = ELEV. 879.3
EXISTING 100-YEAR STAGE = ELEV. 880.5
BACKWATER = 0.80 FT.
AVG. BRIDGE VELOCITY = 2.2 FPS

Q200 = 2,281 CFS
STAGE = ELEV. 880.7
CALCULATED DESIGN SCOUR = 13.1 FT.

Q OVERTOP = 2,200 CFS
CALCULATED CHECK SCOUR = 14.4 FT.
ROADWAY OVERTOP = ELEV. 881.1
STA. 10577+48.89

Q500 = 2,578 CFS

EXTREME HW STAGE = ELEV. 881.0
DATE = JUNE 10, 2008

VERTICAL DATUM
NAVD88 FOR ALL ELEVATIONS

TRAFFIC ESTIMATE

2017 AADT	1,538	VPD
2037 AADT	2,195	VPD
TRUCKS	7	%
TOTAL DESIGN ESALs	-	

UTILITIES LEGEND:

E - CEDAR FALLS UTILITIES
W - CENTRAL IOWA WATER ASSOCIATION

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 10589+67.06, 30' LT.
OVERHEAD ELEVATION = 910.55
UNDERPASS STATION = 15590+15.46, 8.5' LT.
UNDERPASS ELEVATION = 883.27
DEPTH OF SUPERSTRUCTURE = 3.92'
(SLAB, HAUNCH & BTB BEAM)
MINIMUM VERTICAL CLEARANCE = 23.37'

NOTE:
TOP OF BRIDGE DECK CROWN IS 0.03' BELOW PROFILE GRADE TO ACCOUNT FOR PARABOLIC CROWN.
CLASS E REVETMENT STONE IS EMBEDDED.

This Sheet For Information Only

LOCATION

CR57 OVER CEDAR RIVER R.R.
T-90N R-14W
SECTIONS 12 & 13
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
IOWA CROSSING NO. TBD
FRA CROSSING NO. TBD
FHWA NO. 365870
BRIDGE MAINT. NO. TBD
LATITUDE 42.613592°
LONGITUDE -92.446714°

"TBD" TO BE DETERMINED

DESIGN FOR 13° SKEW (R.A.)

336'-0 x 60'-0 PRETENSIONED PRECAST CONCRETE BEAM BRIDGE

76'-0 END SPANS 92'-0 INTERIOR SPANS

SITUATION PLAN

STATION: 10589+46.71 (℄ CR57) AUGUST, 2013

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 4 OF 37 FILE NO. 30574 DESIGN NO. 215

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER V.1

3:32:05 PM 8/29/2014 rbell c:\pwworking\oma\d1160599\07218210V1.sht

BM. NO. 554 EXISTING US218 STA. 584+90.006, 120.748' RT. CUT "X" AT OUTLET END OF 24" RCP, E. SIDE OF HWY 218 ELEV. 879.742

N

℄ CR57

℄ W. ABUT. BRG.
STA. 10587+78.71

℄ E. ABUT. BRG.
STA. 10591+14.71

℄ EXISTING CEDAR
RIVER R.R. TRACK
(TO BE RELOCATED)

GUARDRAIL

W3 GUARDRAIL

EROSION STONE
SLOPE PROTECTION

CLASS "E" REVETMENT,
SEE DETAIL DESIGN
SHEET 3.

MACADAM STONE
SLOPE PROTECTION

BERM LINING/STONE TOE CL. "E"
REVEMENT, SEE DETAIL DESIGN SHEET 3

℄ PROPOSED CEDAR
RIVER R.R. TRACK

℄ FUTURE CEDAR
RIVER R.R. TRACK

3:1 (TYP.)

3:1 (MAX.)

15592+00 15591+00 15589+00 1595+00 1594+00 3593+00 3592+00 3591+00 10588+00 10589+00 10590+00 10594+00

SITE PLAN

REVETMENT LAYOUT

R1 STA. 10587+63.2 LT., END BANK LINING/STONE TOE

R2 STA. 10587+77.1 RT., END BANK LINING/STONE TOE

BERM SLOPE LOCATION TABLE

	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV	STATION	OFFSET	ELEV
A1	10588+59.61	34.58' LT.	874.30	10590+09.73	34.58' LT.	877.40
A2	10588+67.60	0.00'	874.30	10590+17.71	0.00'	877.34
A3	10588+75.58	34.58' RT.	874.30	10590+25.70	34.58' RT.	877.27
B1	10587+75.34	34.58' LT.	901.67	10591+02.11	34.58' LT.	907.22
B2	10587+83.33	0.00'	901.67	10591+10.09	0.00'	907.22
B3	10587+91.31	34.58' RT.	901.67	10591+18.07	34.58' RT.	907.22
W1	10587+63.22	34.58' LT.	906.08	10591+16.32	34.58' LT.	911.92
W3	10587+77.10	34.58' RT.	906.41	10591+30.17	34.58' RT.	912.05

This Sheet
For Information Only

DESIGN FOR 13° SKEW (R.A.)

336'-0 x 60'-0 PRETENSIONED PRECAST CONCRETE BEAM BRIDGE

76'-0 END SPANS 92'-0 INTERIOR SPANS

SITUATION PLAN - SITE

STATION: 10589+46.71 (℄ CR57) AUGUST, 2013

BLACK HAWK COUNTY

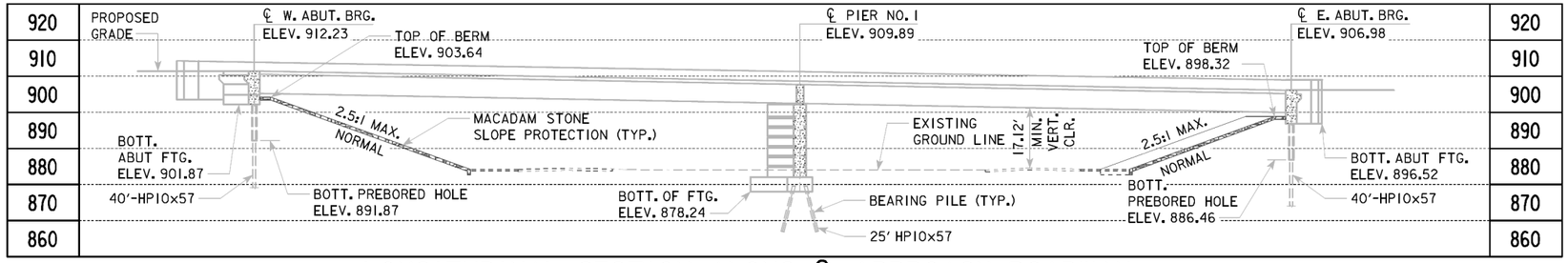
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 5 OF 37 FILE NO. 30574 DESIGN NO. 215

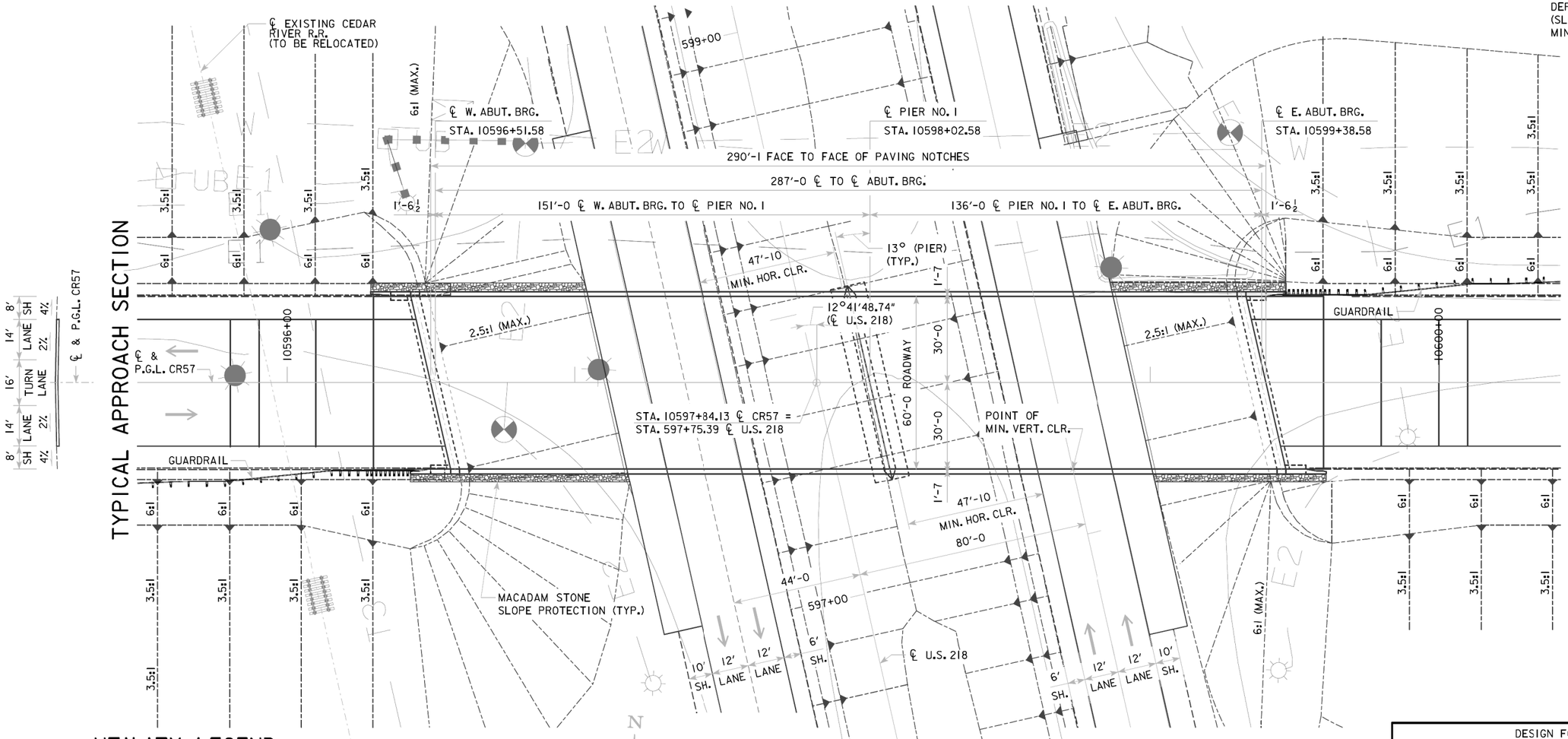
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER V.2

3:33:01 PM 8/29/2014 rbell c:\pwworking\oma\d1160599\07218210V1.sht

BM. NO. 554 STA. 584+90.006, 120.748' RT. CUT "X" AT OUTLET END OF 24" RCP, E. SIDE OF HWY 218, ELEV. 879.742



LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY



TYPICAL APPROACH SECTION

SITUATION PLAN

UTILITY LEGEND

E CEDAR FALLS UTILITIES
E2 IDOT INTERSECTION LIGHTING
T3 360 NETWORKS/PINPOINT COMMUNICATIONS
W CENTRAL IOWA WATER ASSOCIATION

This Sheet For Information Only

+4.000% -3.000%

PVI STA. 10592+23.25
PVI ELEV. 928.90 LVC = 1720.00 FT

PROPOSED PROFILE GRADE CR57

MIN. VERT. CLEARANCE

OVERHEAD STA. = 10598+72.89, 30.0' RT.
OVERHEAD ELEVATION = 907.82'
UNDERPASS STA 597+26.61, 80.0 RT.
UNDERPASS ELEVATION = 884.53'
DEPTH OF SUPERSTRUCTURE = 6.17'
(SLAB, HAUNCH & BTE BEAM)
MIN. VERT. CLEARANCE = 17.12'

LOCATION

CR57 OVER U.S. 218
T-90N, R-14W
SECTIONS 12 & 13
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
42.613678° LATITUDE
-92.443565° LONGITUDE
FHWA NO. 700380

DESIGN FOR 13° SKEW R.A.

287'-0 x 60' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

151'-0, 136'-0 SPANS (BTE BEAMS)

SITUATION PLAN

STATION 10597+95.08 (℄ CR57) SEPTEMBER, 2014

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 04 OF 32 FILE NO. 30574 DESIGN NO. 115

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER V.3

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BM. NO. 554 STA. 584+90.006, 120.748' RT. CUT "X" AT OUTLET END OF 24" RCP, E. SIDE OF HWY 218, ELEV. 879.742

SITE PLAN

BERM SLOPE LOCATION TABLE

	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV	STATION	OFFSET	ELEV
A1	10597+03.55	34.58' LT.	883.65	10598+86.02	34.58' LT.	883.70
A2	10597+11.35	0.00'	883.65	10598+93.81	0.00'	883.66
A3	10597+19.14	34.58' RT.	883.60	10599+01.60	34.58' RT.	884.71
B1	10596+48.21	34.58' LT.	903.64	10599+25.97	34.58' LT.	898.32
B2	10596+56.20	0.00'	903.64	10599+33.96	0.00'	898.32
B3	10596+64.18	34.58' RT.	903.64	10599+41.39	34.58' RT.	898.32
W1	10596+29.15	34.58' LT.	911.37	10599+47.15	34.58' LT.	905.65
W3	10596+43.00	34.58' RT.	911.20	10599+61.00	34.58' RT.	905.30

RECOVERABLE BERM LOCATION TABLE

	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV	STATION	OFFSET	ELEV
B	10596+48.21	34.58' LT.	903.64	10599+41.94	34.58' LT.	898.32
C1	10596+66.43	199.34' LT.	883.77	10599+25.88	142.82' RT.	883.60
C2	10596+56.05	229.52' LT.	883.63	10599+36.37	172.99' RT.	883.49
C3	10596+57.37	262.34' LT.	883.97	10599+35.05	205.82' RT.	883.83

This Sheet For Information Only

DESIGN FOR 13° SKEW R.A.

287'-0 x 60' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

151'-0, 136'-0 SPANS (BTE BEAMS)

SITE PLAN

STATION 10597+95.08 (℄ CR57) SEPTEMBER, 2014

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 05 OF 32 FILE NO. 30574 DESIGN NO. 115

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER V.4

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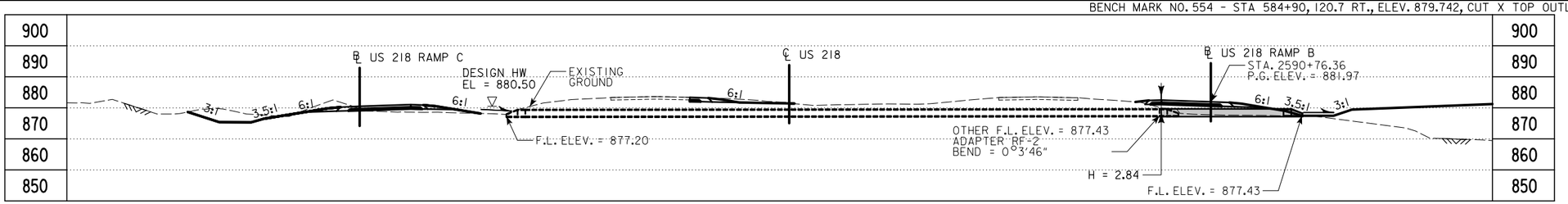
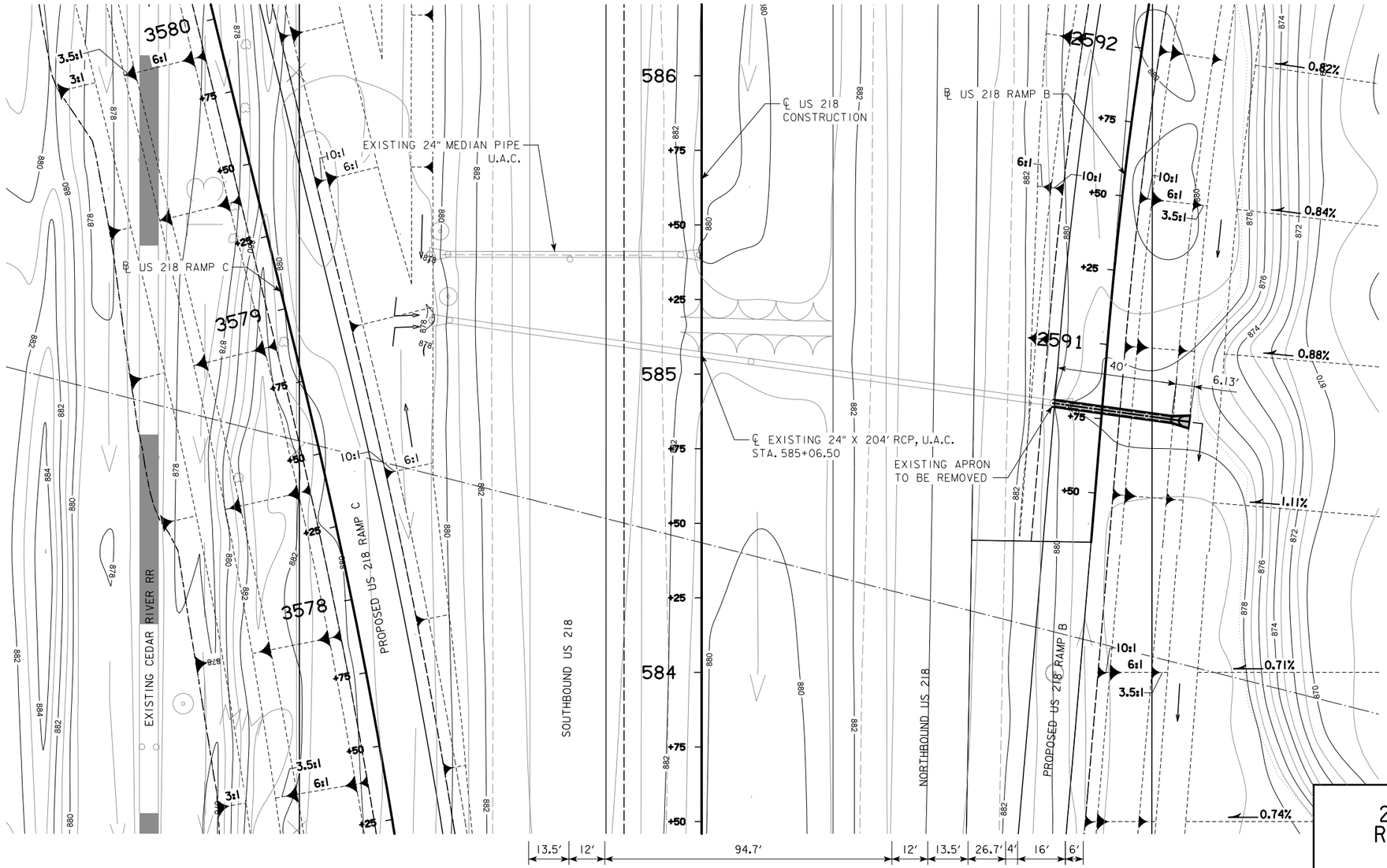
BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

2005	AADT	539	V.P.D.
2037	AADT	1423	V.P.D.
2037	DHV	--	V.P.H.
TRUCKS		8	%
TOTAL DESIGN ESALs		--	

LOCATION

US 218 RAMP B
T-90 N R-14 W
SECTION 13
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.6103098I
LONGITUDE 92.44239810

HYDRAULIC DATA

DRAINAGE AREA = 8 ACRES - FLAT
Q_{50} = 14.8 CFS
HW ELEV. = 880.50

DESIGN FOR 0° SKEW

24 in. x 40 ft. Ext. Right REINFORCED CONCRETE PIPE

PLAT PLAN

STATION 585+06.50 (℄ US 218) SEPTEMBER 2014

BLACK HAWK COUNTY

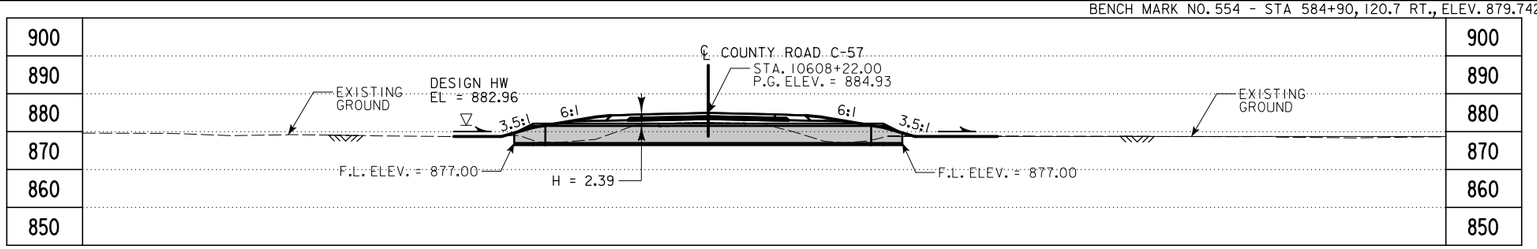
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____

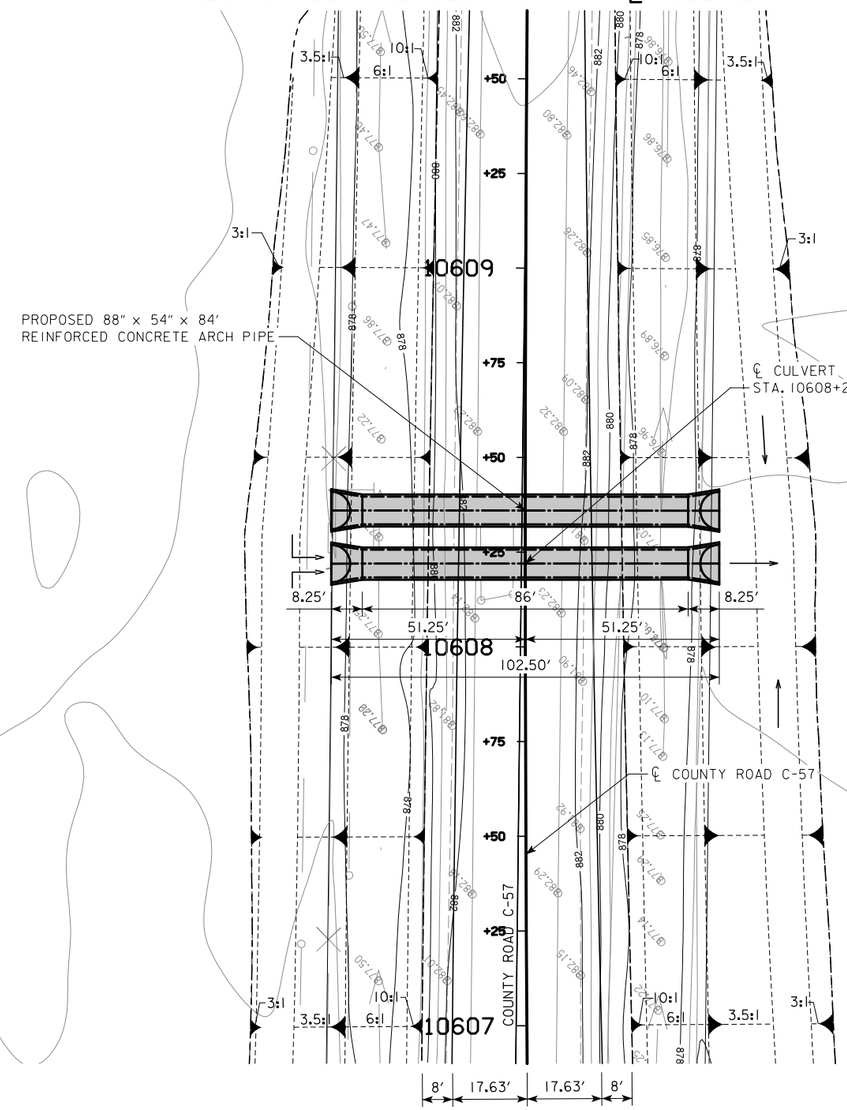
DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER V.5

8/27/2014 6:43:16 PM RBell pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\CON0067679\0000000000207135\13.00_CAD\13.01_Package1-Railroad_Grading\13.01.03_Bridge_Drawings\07218210.str STA_585+06.50 11x17bw_pdf.pltcfg

BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



LONGITUDINAL SECTION AT ℄ CULVERT



PLAT PLAN

TRAFFIC ESTIMATE

2005 AADT	1161	V.P.D.
2037 AADT	2055	V.P.D.
2037 DHV	--	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALs	--	

LOCATION

C-57
T-90 N R-14 W
SECTION 12
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.613779723
LONGITUDE 92.439751998

HYDRAULIC DATA

DRAINAGE AREA = 763 ACRES - FLAT
Q_{50} = 438.4 CFS
HW ELEV. = 882.96

DESIGN FOR 0° SKEW

88 in. x 54 in. x 86 ft.
REINFORCED CONCRETE ARCH PIPE

PLAT PLAN

STATION 10608+22.00 (℄ COUNTY ROAD C-57) SEPTEMBER 2014

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____

DESIGN TEAM HDR/Iowa DOT | BLACK HAWK COUNTY | PROJECT NUMBER NHSX-218-7(207)--3H-07 | SHEET NUMBER V.6

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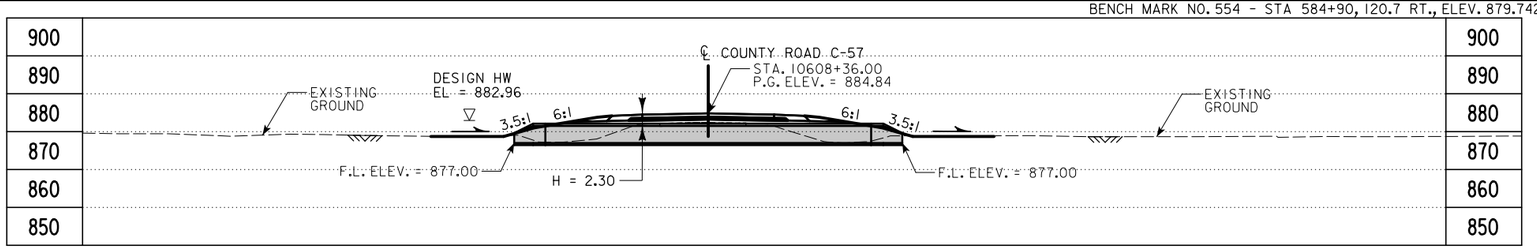
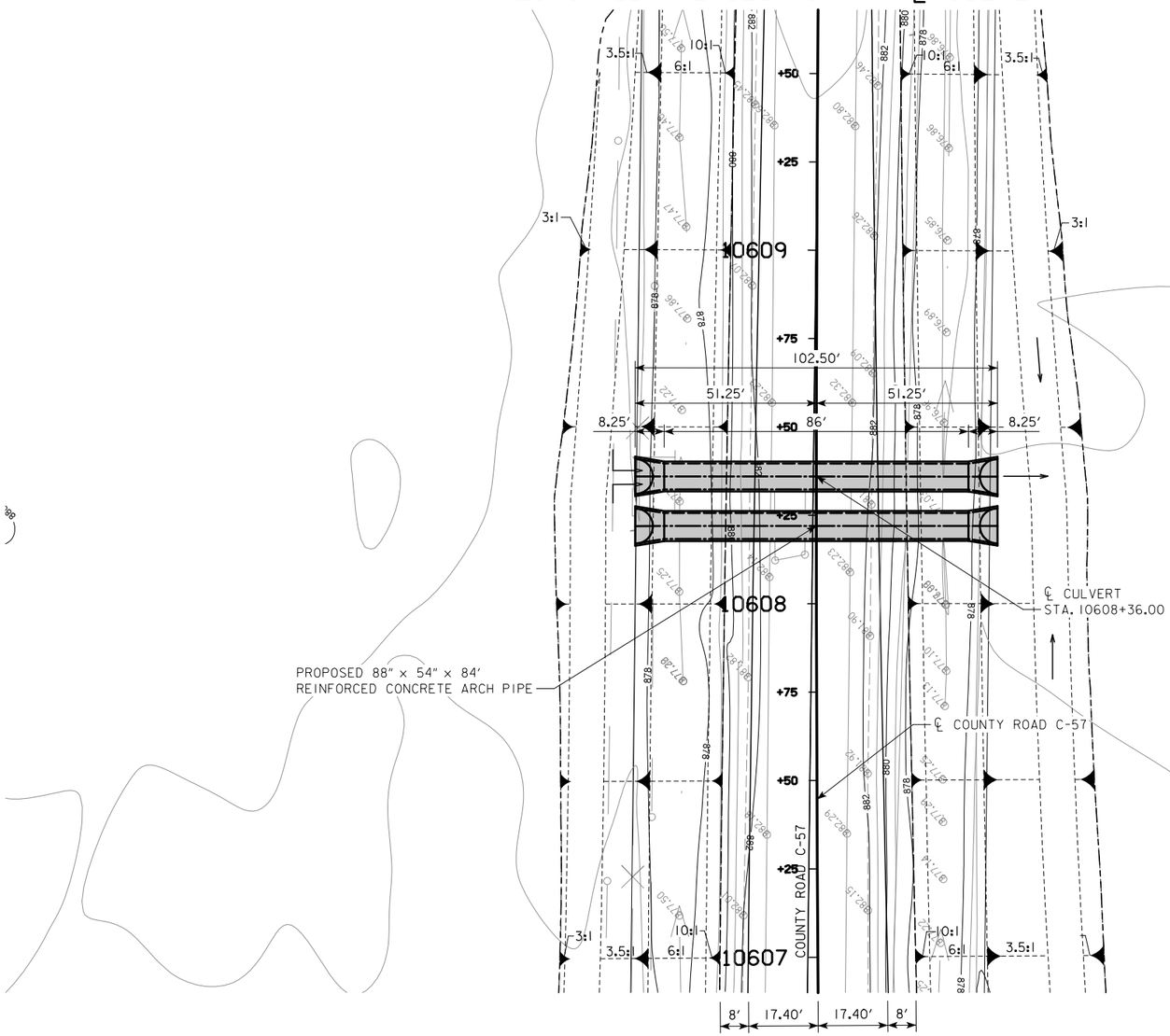
BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



LONGITUDINAL SECTION AT ℄ CULVERT



PLAT PLAN

N

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

2005 AADT	1161	V.P.D.
2037 AADT	2055	V.P.D.
2037 DHV	--	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALs	--	

LOCATION

C-57
T-90 N R-14 W
SECTION 12
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.613780806
LONGITUDE 92.439700040

HYDRAULIC DATA

DRAINAGE AREA = 763 ACRES - FLAT
Q_{50} = 438.4 CFS
HW ELEV. = 882.96

DESIGN FOR 0° SKEW

88 in. x 54 in. x 86 ft.
REINFORCED CONCRETE ARCH PIPE

PLAT PLAN

STATION 10608+36.00 (℄ COUNTY ROAD C-57) SEPTEMBER 2014

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____

DESIGN TEAM HDR/Iowa DOT | BLACK HAWK COUNTY | PROJECT NUMBER NHSX-218-7(207)--3H-07 | SHEET NUMBER V.7

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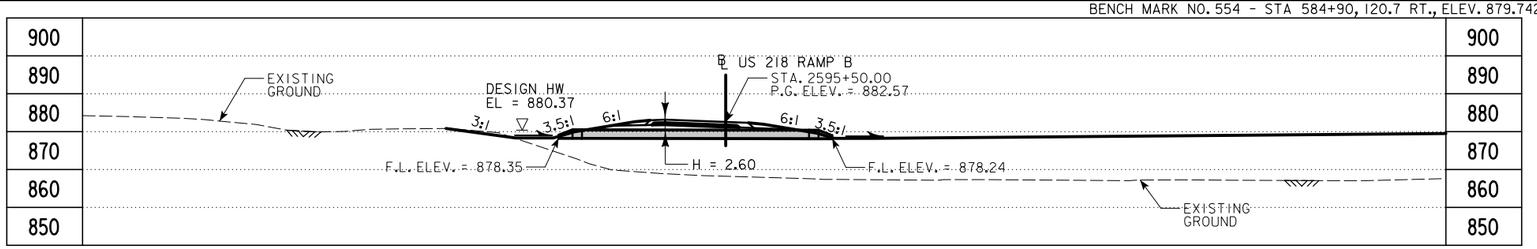
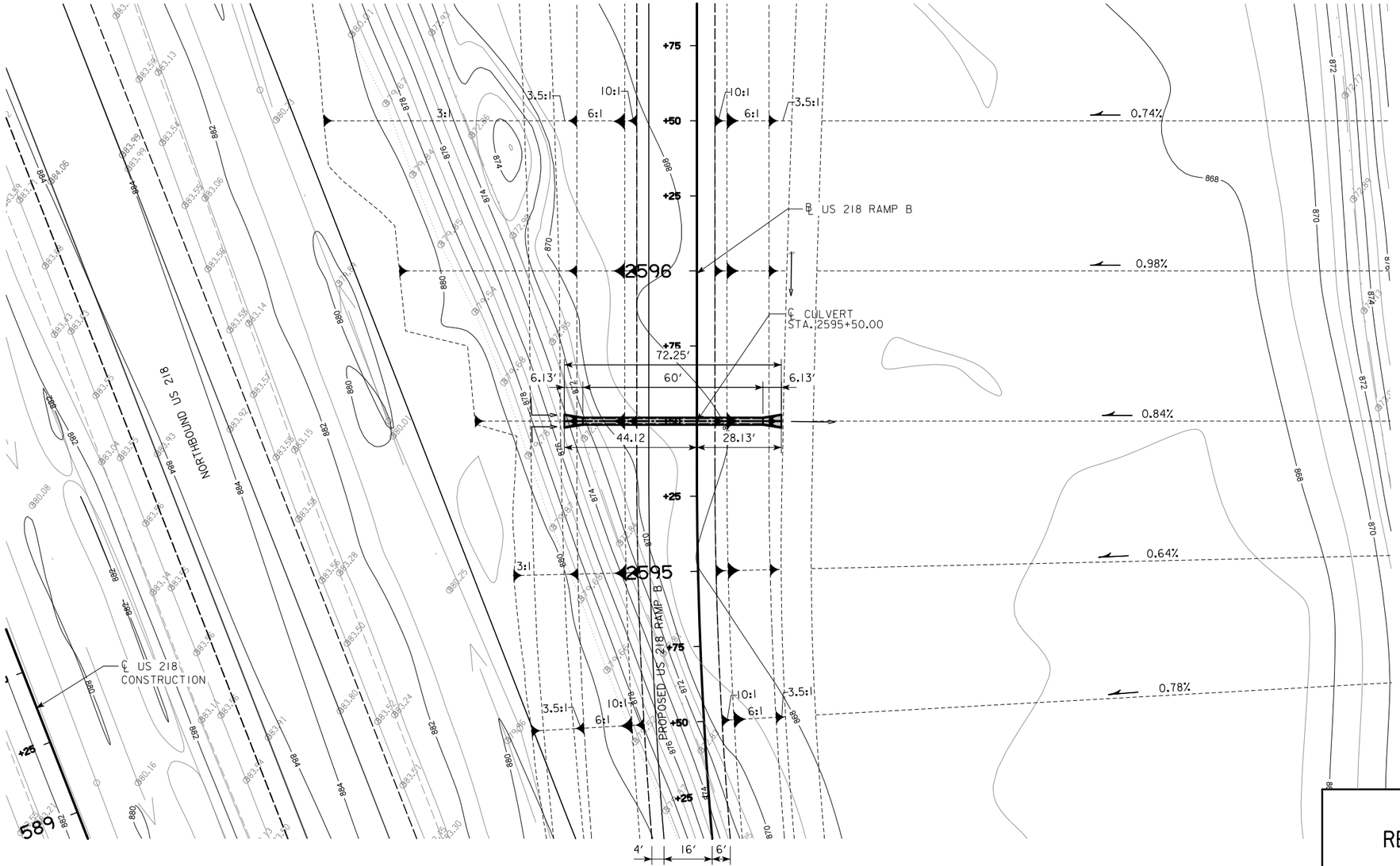
BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

N

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

2005 AADT	539	V.P.D.
2037 AADT	1423	V.P.D.
2037 DHV	--	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALs	--	

LOCATION

US 218 RAMP B
T-90 N R-14 W
SECTION 13
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.611644466
LONGITUDE 92.441956514

HYDRAULIC DATA

DRAINAGE AREA = 5.8 ACRES - FLAT
Q_{50} = 11.9 CFS
HW ELEV. = 880.37

DESIGN FOR 0° SKEW

24 in. x 60 ft. REINFORCED CONCRETE PIPE

PLAT PLAN

STATION 2595+50.00 (℄ RAMP B US 218) SEPTEMBER 2014

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____

DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER V.8

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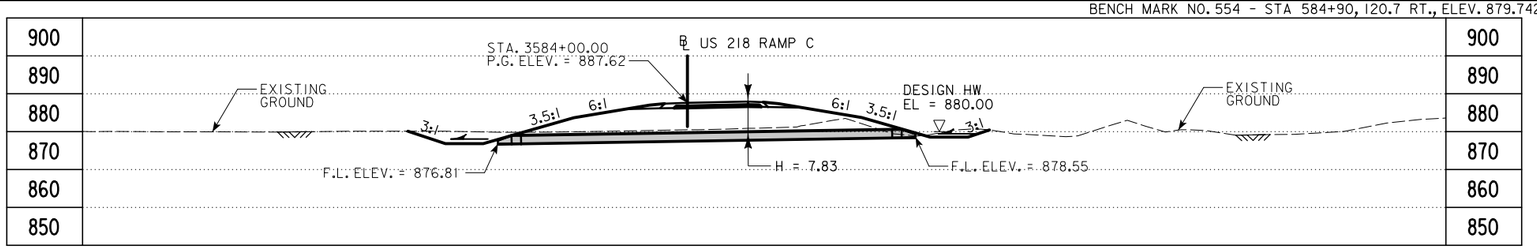
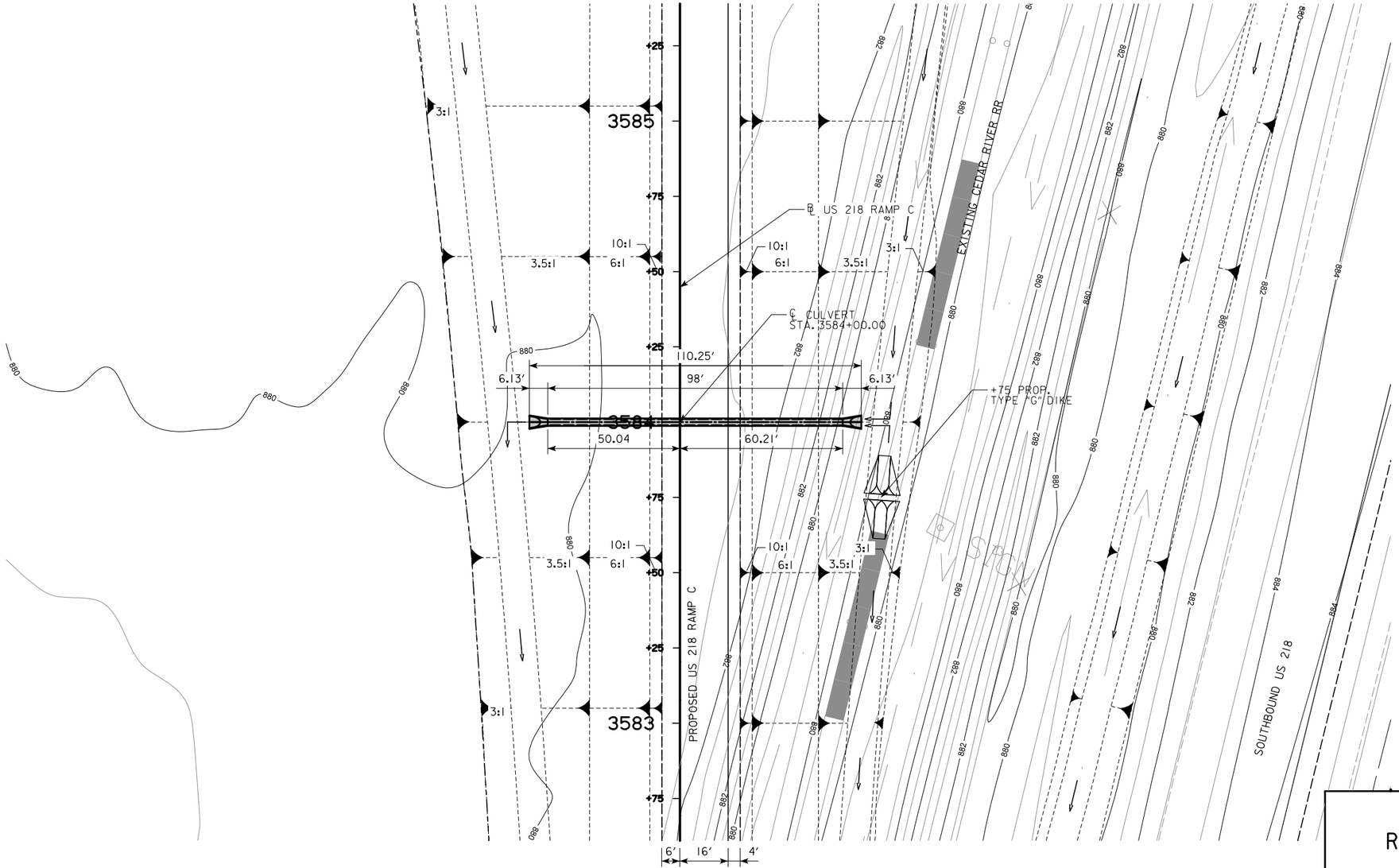
BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

TRAFFIC ESTIMATE

2005 AADT	868	V.P.D.
2037 AADT	1536	V.P.D.
2037 DHV	--	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALs	--	

LOCATION

US 218 RAMP C
T-90 N R-14 W
SECTION 13
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.611457569
LONGITUDE 92.443802631

HYDRAULIC DATA

DRAINAGE AREA = 3.3 ACRES - FLAT
Q_{50} = 7.8 CFS
HW ELEV. = 880.00

DESIGN FOR 0° SKEW

24 in. x 98 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STATION 3584+00.00 (℄ RAMP C US 218) SEPTEMBER 2014

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____

DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER V.9

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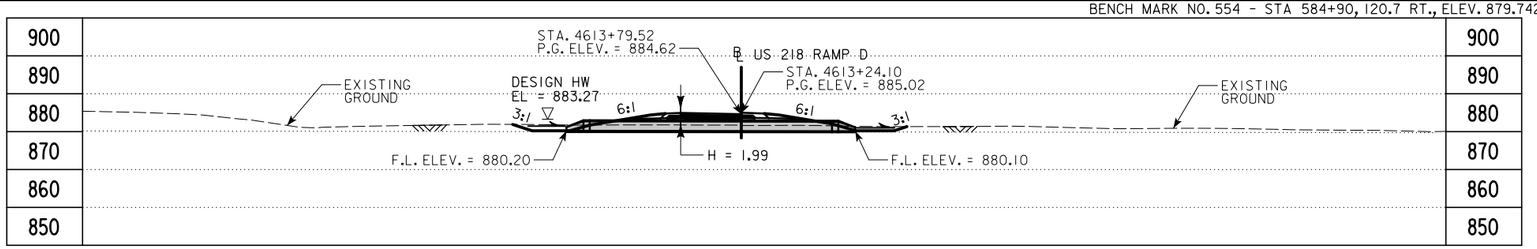
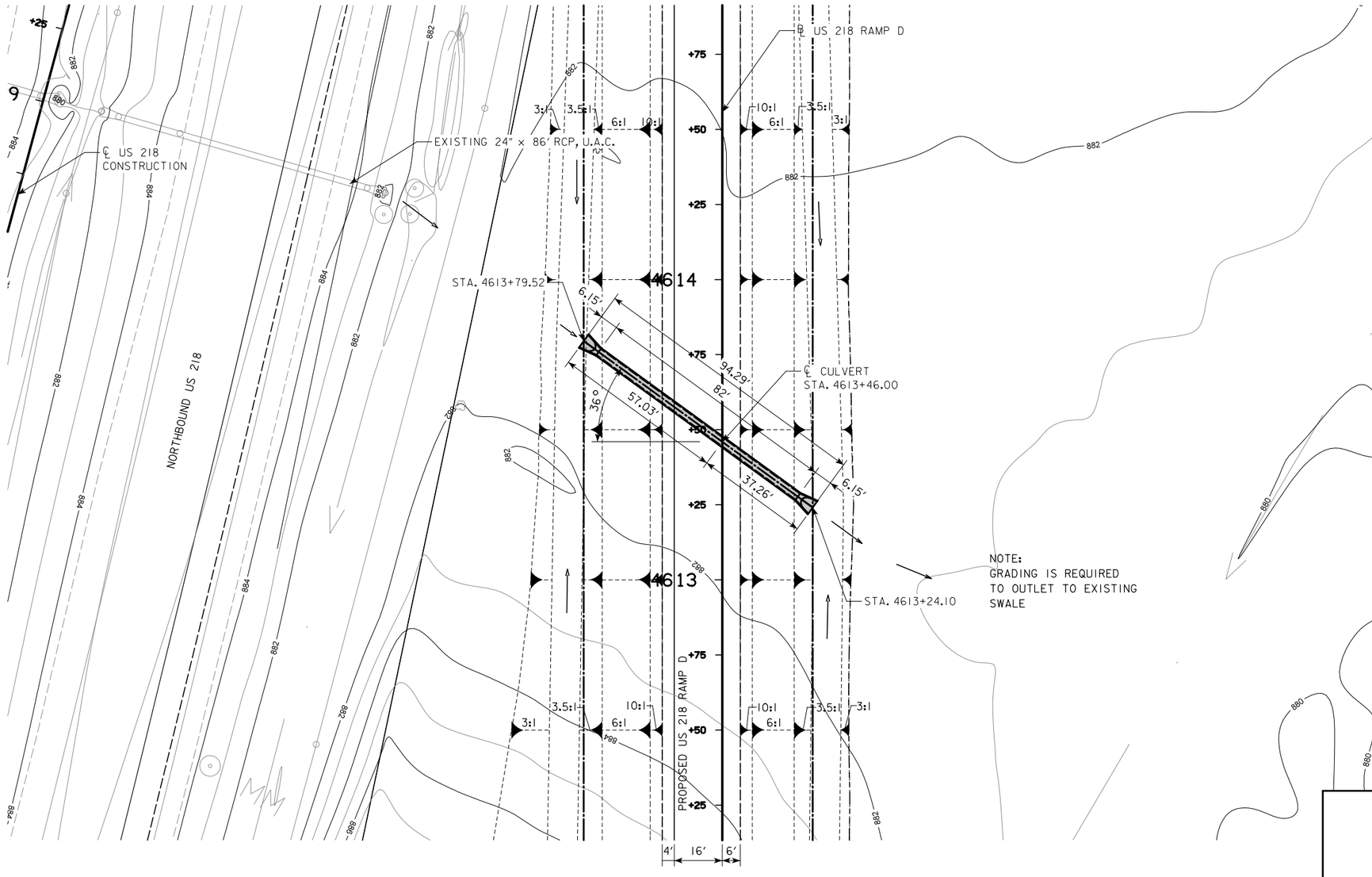
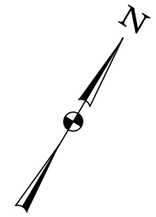
BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN



0 ENGLISH 40
SCALE IN FEET

NOTE:
GRADING IS REQUIRED TO OUTLET TO EXISTING SWALE

TRAFFIC ESTIMATE

2005 AADT	539	V.P.D.
2037 AADT	954	V.P.D.
2037 DHV	--	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALs	--	

LOCATION

US 218 RAMP D
T-90 N R-14 W
SECTION 12
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.616179966
LONGITUDE 92.443549865

HYDRAULIC DATA

DRAINAGE AREA = 18 ACRES - FLAT
Q_{50} = 27.3 CFS
HW ELEV. = 883.27

DESIGN FOR 36° SKEW, LT. AHEAD

30 in. x 82 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STATION 4613+46.00 (℄ RAMP D US 218) SEPTEMBER 2014

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____

DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER V.10

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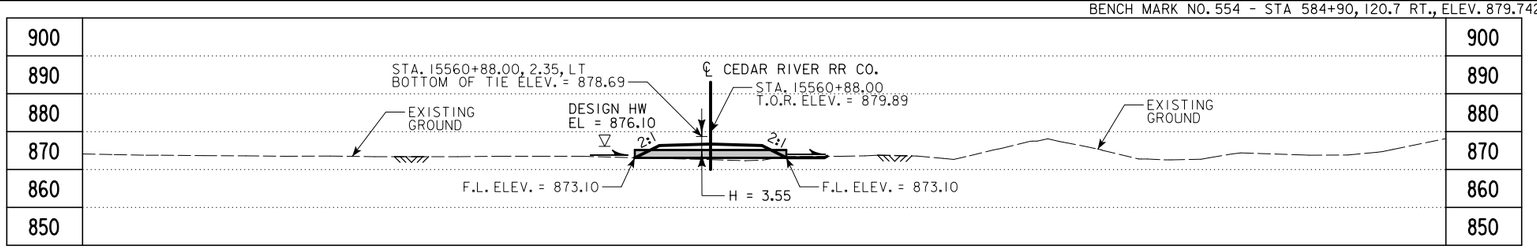
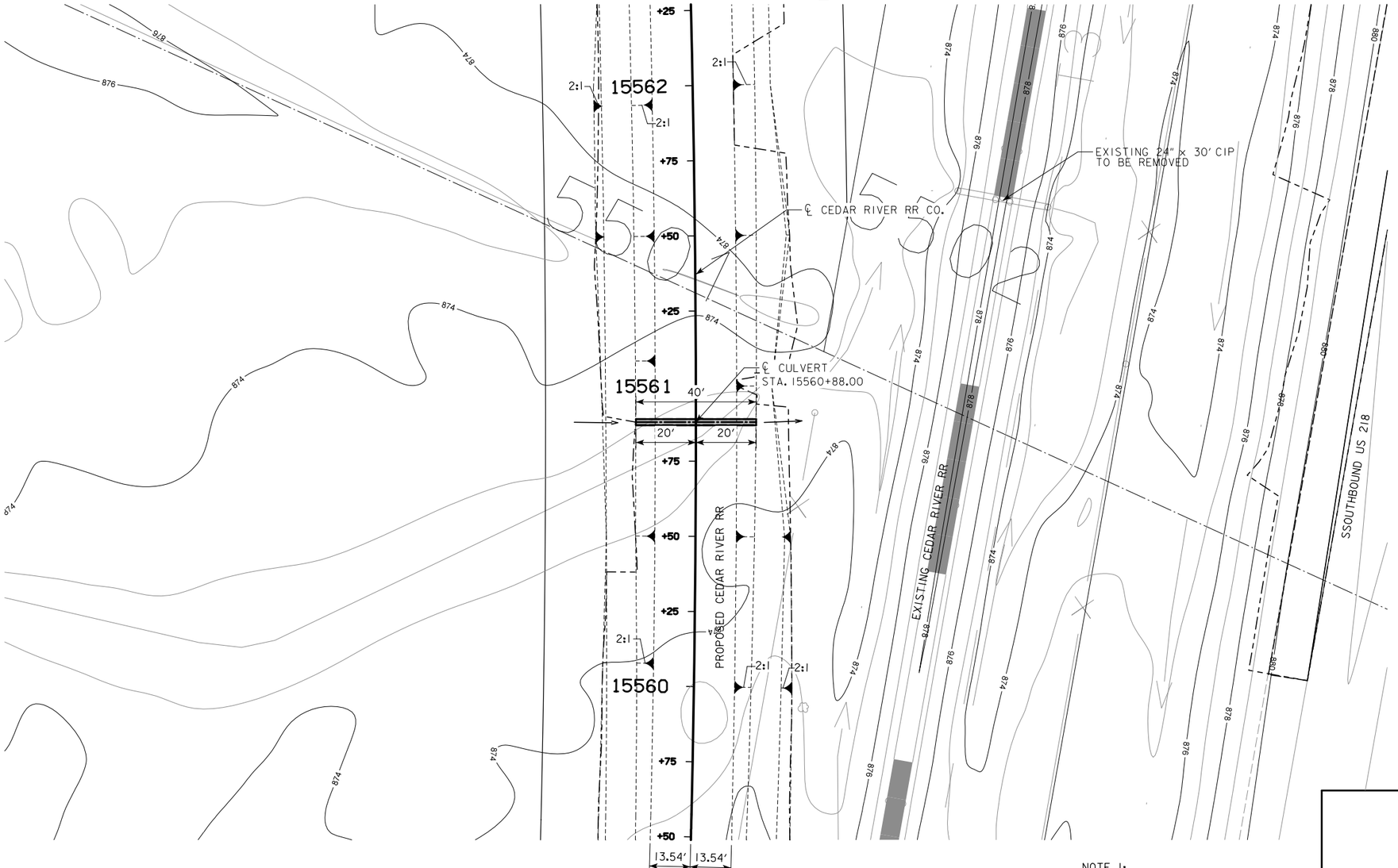
BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

LOCATION

CEDAR RIVER RR CO.
T-90 N R-14 W
SECTION 13
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.606428217
LONGITUDE 92.442054701

HYDRAULIC DATA

DRAINAGE AREA =
Q_{50} = 19.8 CFS (NOTE 1)
HW ELEV. = 876.10

NOTE 1:
DESIGN Q AND HW ELEV. WERE CALCULATED FROM TWO DIMENSIONAL HYDRAULIC MODEL DUE TO SPLIT FLOW CONDITION UPSTREAM FROM CULVERT LOCATION.

DESIGN FOR 0° SKEW

24 in. x 40 ft.
SMOOTH STEEL PIPE

PLAT PLAN

STATION 15560+88.00 (℄ CEDAR RIVER RR CO.) SEPTEMBER 2014

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____

DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER V.11

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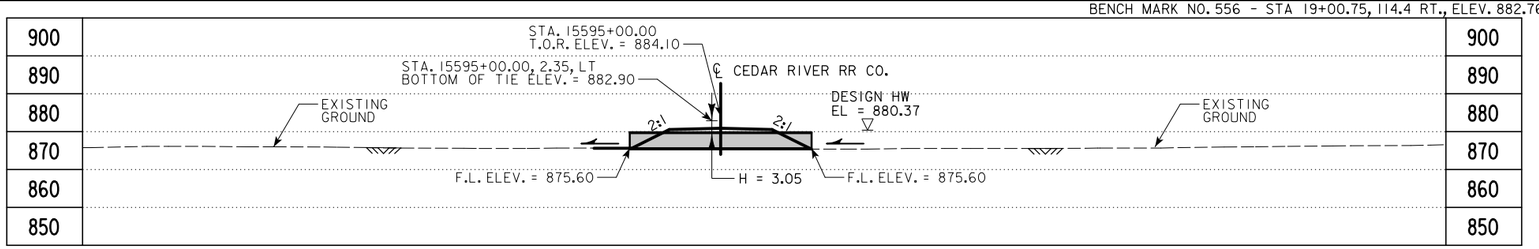
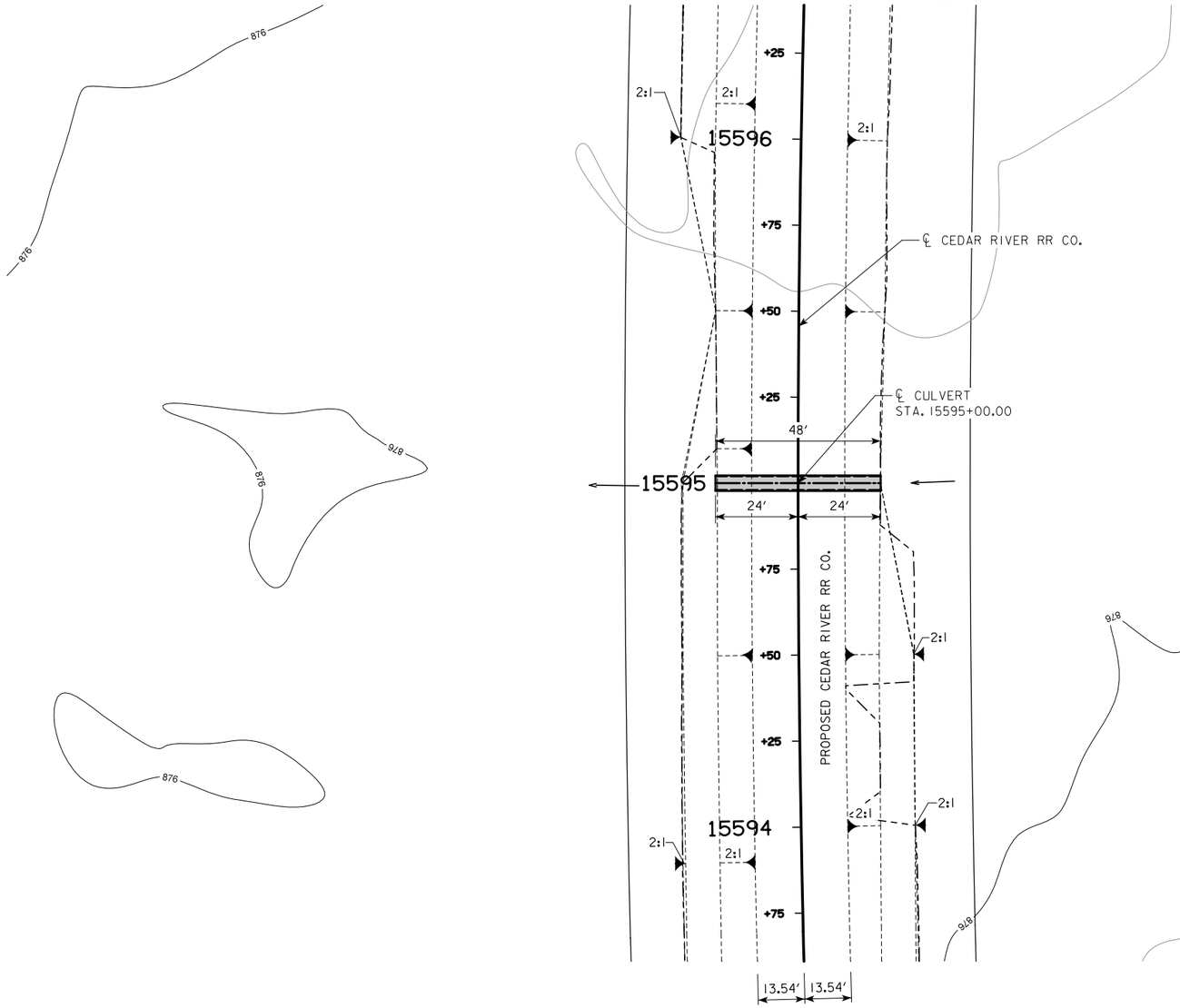
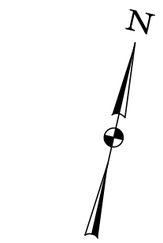
BENCH MARK NO. 556 - STA 19+00.75, 114.4 RT., ELEV. 882.769, CUT X TOP OUTLET END 24" RCP



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN



0 ENGLISH 40
SCALE IN FEET

LOCATION

CEDAR RIVER RR CO.
T-90 N R-14 W
SECTION 12
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.614969649
LONGITUDE 92.447050582

HYDRAULIC DATA

DRAINAGE AREA = 86 ACRES - FLAT
Q_{50} = 87.4 CFS
HW ELEV. = 880.37

DESIGN FOR 0° SKEW

48 in. x 48 ft.
SMOOTH STEEL PIPE

PLAT PLAN

STATION 15595+00.00 (℄ CEDAR RIVER RR CO.) SEPTEMBER 2014

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____

DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER V.12

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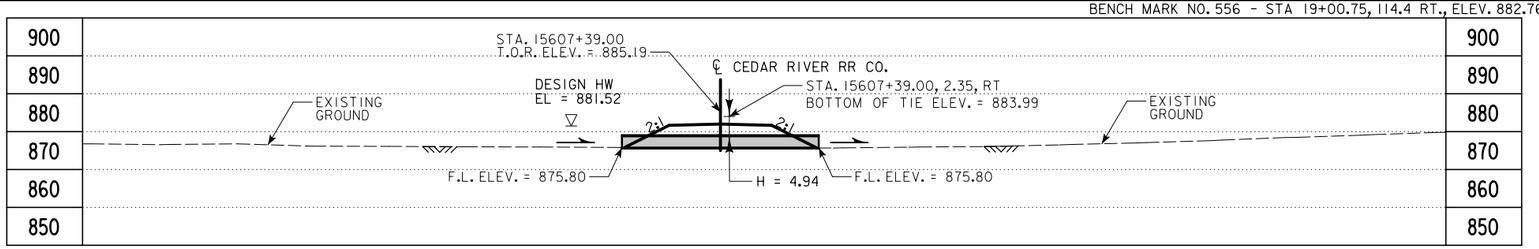
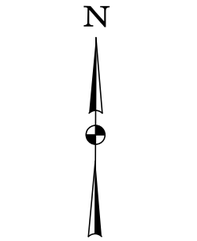
BENCH MARK NO. 556 - STA 19+00.75, 114.4 RT., ELEV. 882.769, CUT X TOP OUTLET END 24" RCP



LONGITUDINAL SECTION ALONG ℄ CULVERT

PLAT PLAN



0 ENGLISH 40
SCALE IN FEET

LOCATION

CEDAR RIVER RR CO.
T-90 N R-14 W
SECTION 12
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.618345677
LONGITUDE 92.447512787

HYDRAULIC DATA

DRAINAGE AREA = 62 ACRES - FLAT
Q_{50} = 68.6 CFS
HW ELEV. = 881.52

DESIGN FOR 0° SKEW

36 in. x 52 ft.
SMOOTH STEEL PIPE

PLAT PLAN

STATION 15607+39.00 (℄ CEDAR RIVER RR CO.) SEPTEMBER 2014

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____

DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER V.13

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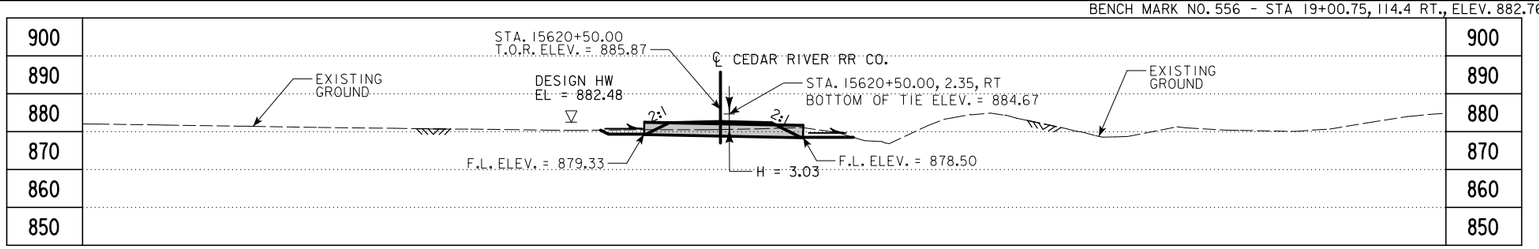
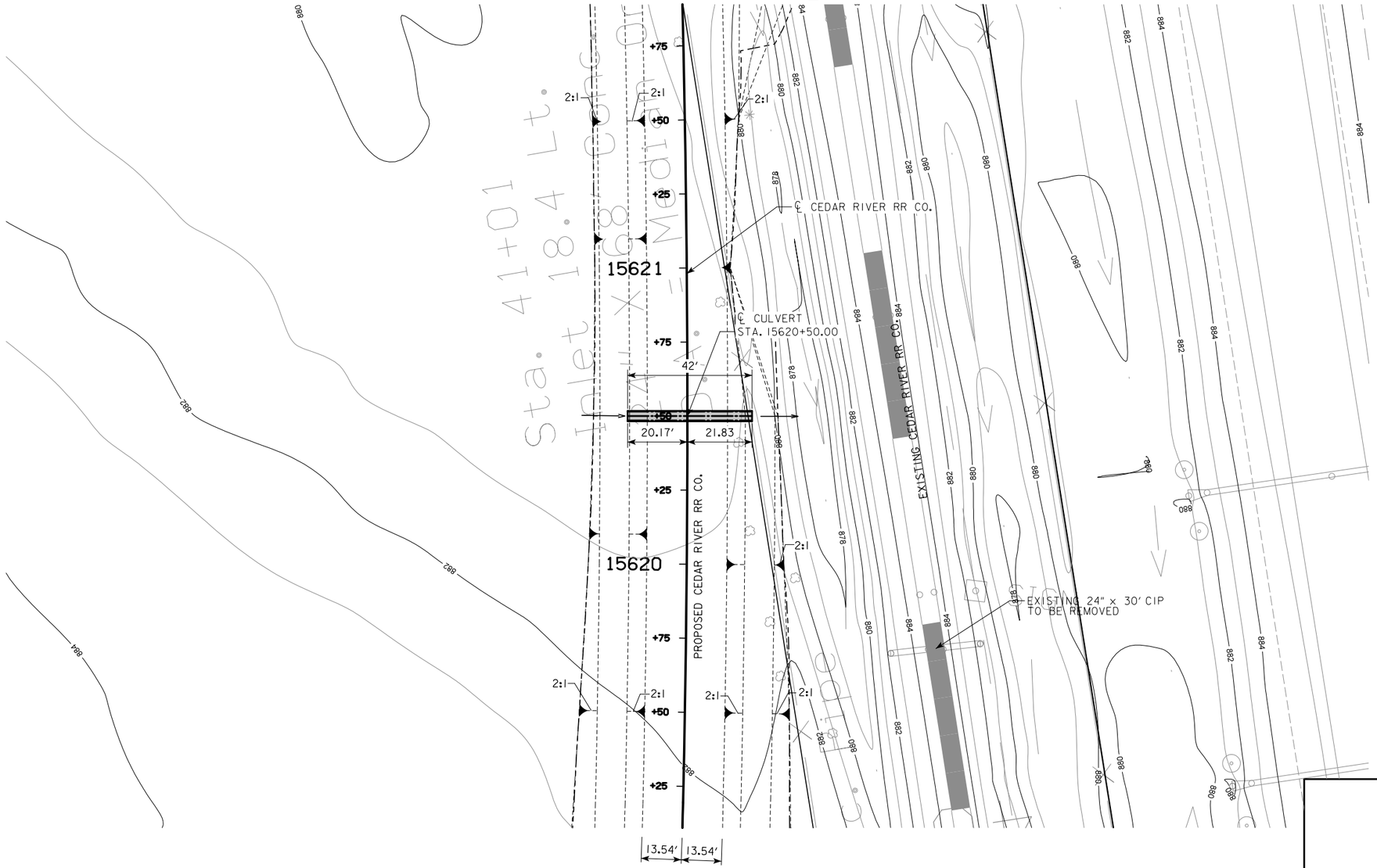
BENCH MARK NO. 556 - STA 19+00.75, 114.4 RT., ELEV. 882.769, CUT X TOP OUTLET END 24" RCP



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

LOCATION

CEDAR RIVER RR CO.
T-90 N R-14 W
SECTION 12
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.621939496
LONGITUDE 92.447552639

HYDRAULIC DATA

DRAINAGE AREA = 28 ACRES - FLAT
Q_{50} = 38.1 CFS
HW ELEV. = 882.48

DESIGN FOR 0° SKEW

36 in. x 42 ft.
SMOOTH STEEL PIPE

PLAT PLAN

STATION 15620+50.00 (℄ CEDAR RIVER RR CO.) SEPTEMBER 2014

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____

DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER V.14

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LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)

- Proposed Finished Grade of Adjacent Template
- Existing Ground Line
- Proposed Template
- Proposed Topsoil Placement
- Additional Topsoil Removal
- Subgrade Treatment
- Granular Shoulder
- Pavement
- Existing Pipe\RCB
- Proposed Pipe\RCB
- Proposed Dike
- All Elements Associated with Proposed Entrances

SYMBOL LEGEND OF CROSS SECTION SHEETS

Existing ROW — Existing Right-of-Way Limit

Proposed ROW — Proposed Right-of-Way Limit

Temporary ROW — Temporary Right-of-Way Limit

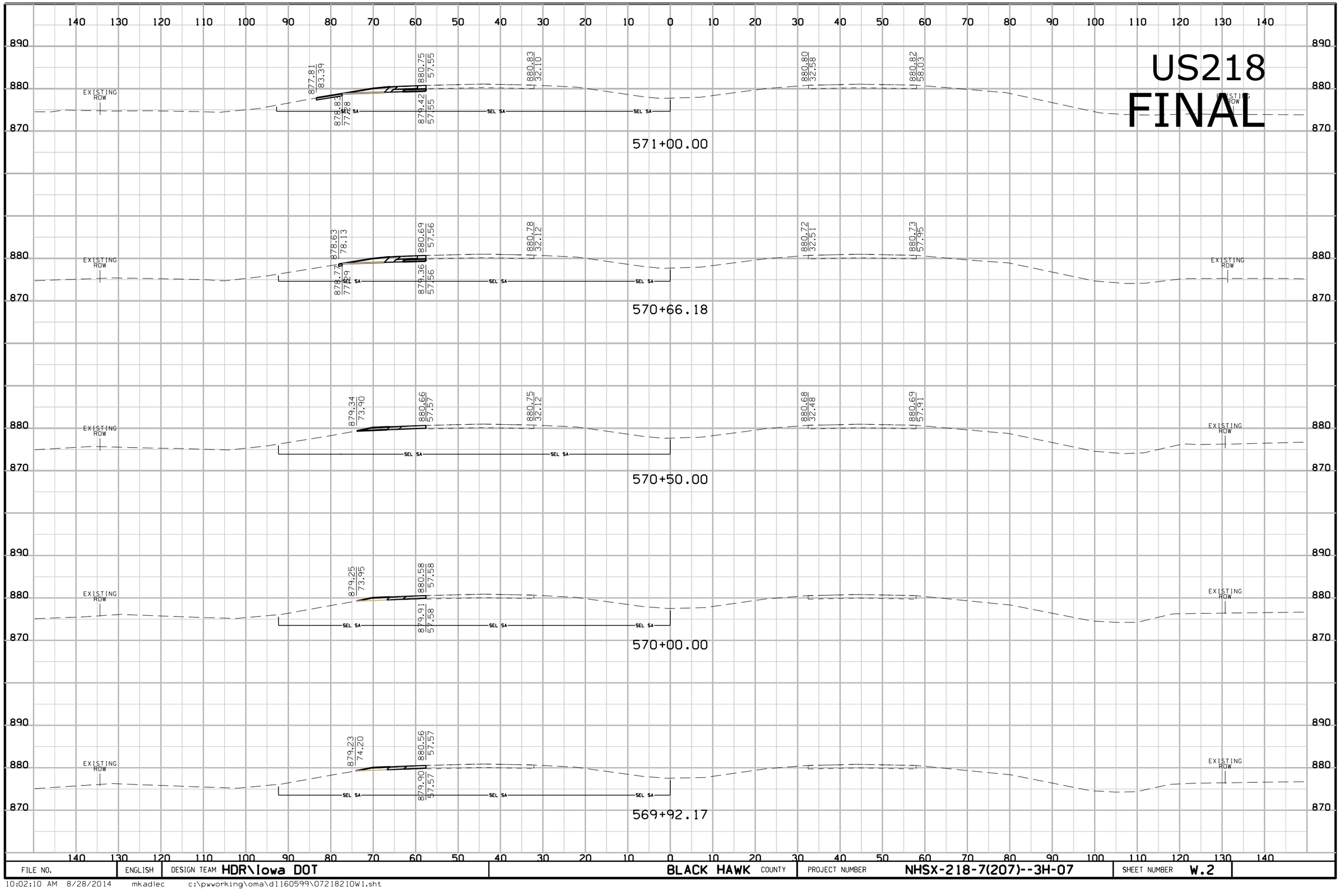
CROSS SECTION LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES W, X, Y, & Z)

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.1

3:55:05 PM 8/29/2014 rbell c:\pwworking\oma\d1160599\07218210lgd.sht

US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.2

10:02:10 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 / 880 / 870

EXISTING ROW

874.90 100.89 | 877.09 93.24 | 879.21 80.50 | 880.42 73.24 | 880.82 69.24 | 881.06 63.24 | 881.23 57.53 | 879.90 57.54 | SEL SA

881.26 32.13 | 881.23 35.00 | 881.19 60.46

573+50.00

876.02 95.77 | 877.03 92.24 | 880.36 72.24 | 880.76 68.24 | 881.00 62.24 | 881.14 57.52 | 879.15 79.50 | 879.81 57.53 | SEL SA

881.18 32.10 | 881.15 34.24 | 881.11 59.67

573+00.00

875.46 96.51 | 876.96 91.24 | 880.36 71.19 | 880.70 67.24 | 880.94 61.24 | 881.05 57.54 | 879.09 78.50 | 879.71 57.54 | SEL SA

881.10 32.12 | 881.06 33.72 | 881.05 59.16

572+50.00

878.44 80.99 | 880.23 70.24 | 880.63 66.24 | 880.95 57.56 | 877.02 77.50 | 879.62 57.56 | SEL SA

881.02 32.14 | 880.98 33.21 | 880.99 58.64

572+00.00

878.40 80.45 | 880.13 70.05 | 880.57 65.23 | 880.85 57.55 | 878.93 77.28 | 879.52 57.55 | SEL SA

880.92 32.12 | 880.89 32.89 | 880.90 58.33

571+50.00

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.3

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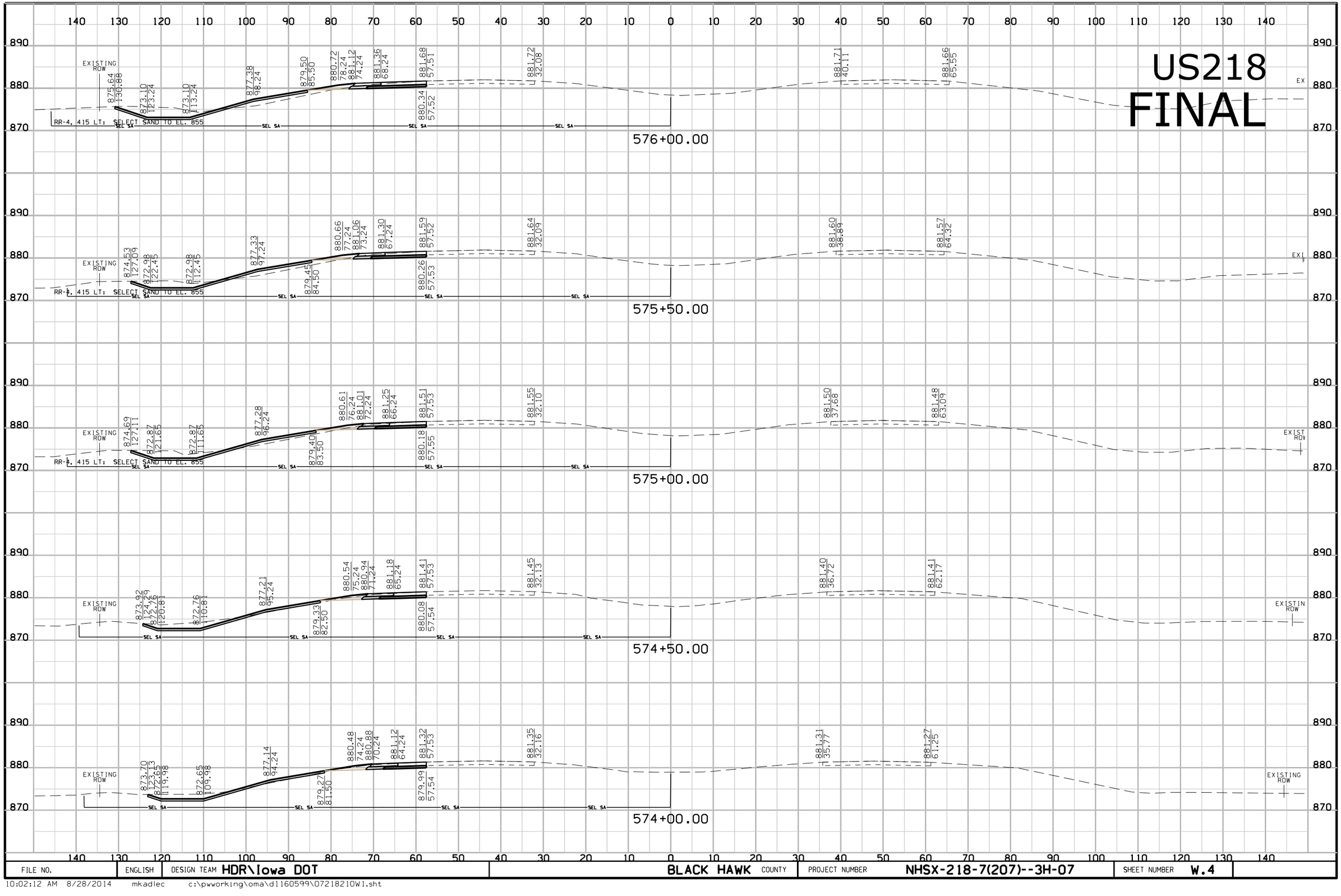
US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.4

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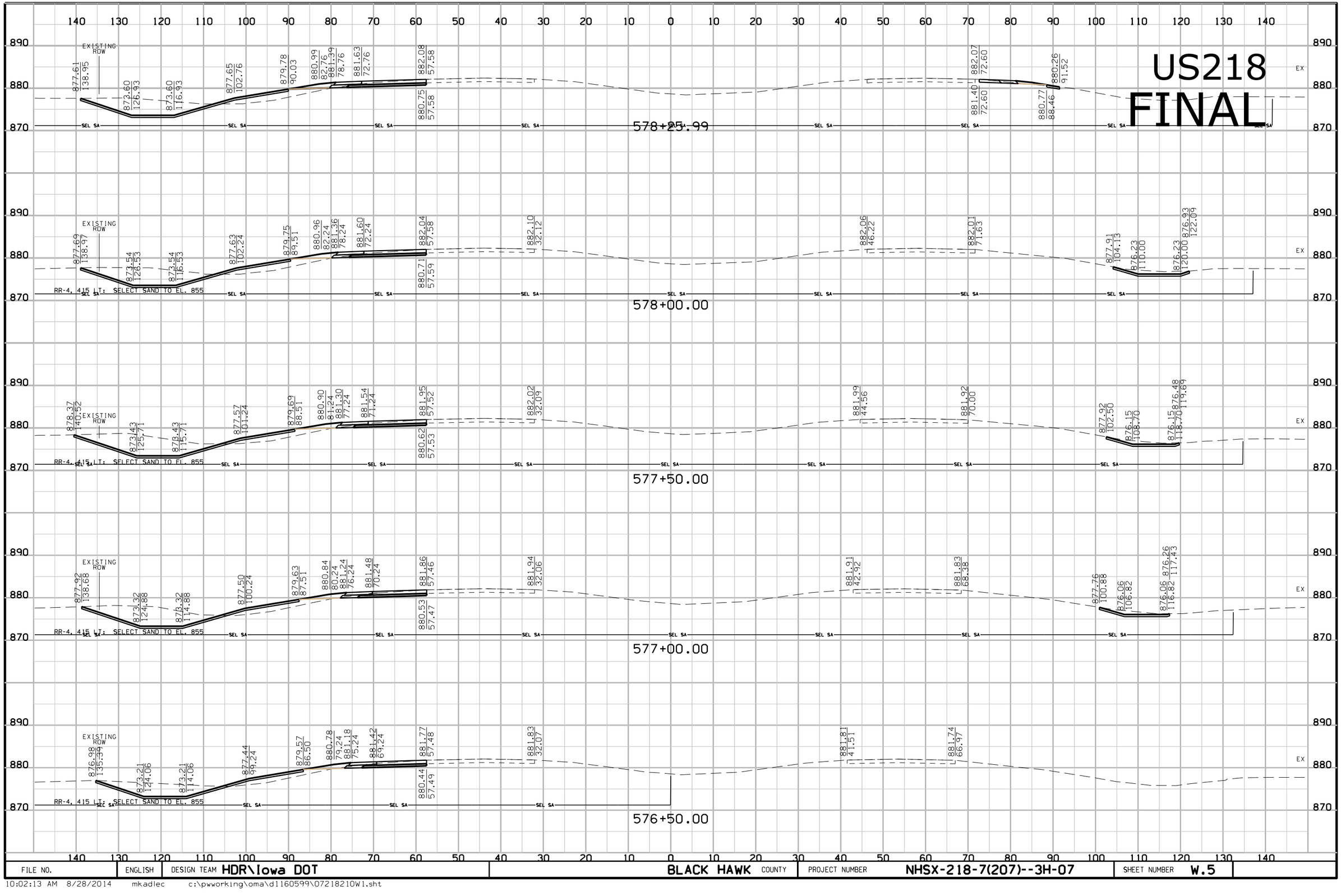
US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.5

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US218
FINAL

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 / 880 / 870

878.17 142.25 — EXISTING ROW — 873.99 129.71 — 873.99 119.71 — 877.84 106.24 — 879.96 93.51 — 881.18 86.24 — 881.58 82.24 — 881.82 76.24 — 882.38 57.44 — 881.05 57.45 — 882.46 32.11 — 882.42 53.72 — 882.35 79.16 — 881.02 79.17 — 882.04 89.42 — 881.80 95.42 — 881.40 99.42 — 880.19 106.69 — 878.07 119.42 — 876.58 124.63 — 876.58 134.63 — 879.06 142.05 — EX

RR-5, 527 LT: SELECT SAND TO EL. 854

SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA

580+00.00

877.92 141.03 — EXISTING ROW — 873.88 128.90 — 873.88 118.90 — 877.78 105.24 — 879.91 92.51 — 881.12 85.24 — 881.52 81.24 — 881.76 75.24 — 882.29 57.49 — 880.95 57.50 — 882.37 32.11 — 882.34 51.82 — 882.29 77.26 — 880.96 77.27 — 882.08 84.27 — 881.84 90.27 — 881.44 94.31 — 880.23 101.54 — 878.11 114.27 — 876.50 119.94 — 876.50 129.94 — 879.40 138.64 — EX

RR-5, 527 LT: SELECT SAND TO EL. 854

SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA

579+50.00

877.61 139.62 — EXISTING ROW — 873.77 128.08 — 873.77 118.08 — 877.72 104.24 — 879.85 91.51 — 881.06 84.24 — 881.46 80.24 — 881.70 74.24 — 882.20 57.55 — 880.86 57.56 — 882.29 32.11 — 882.26 49.93 — 882.24 75.37 — 882.13 79.02 — 880.90 75.38 — 881.89 85.02 — 881.49 89.02 — 880.28 96.29 — 878.16 109.02 — 876.41 115.15 — 876.41 125.15 — 878.60 131.74 — EX

RR-5, 527 LT: SELECT SAND TO EL. 854

SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA

579+00.00

877.53 138.94 — EXISTING ROW — 873.66 127.31 — 873.66 117.31 — 877.68 103.24 — 879.80 90.51 — 881.01 83.24 — 881.41 79.24 — 881.65 73.24 — 882.12 57.56 — 880.79 57.57 — 882.20 32.12 — 882.16 48.07 — 882.13 73.50 — 880.79 73.50 — 881.90 79.66 — 881.41 86.00 — 880.20 93.23 — 878.06 106.00 — 876.32 112.07 — 876.32 122.07 — 878.48 128.56 — EX

RR-4, 415 LT: SELECT SAND TO EL. 855

SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA

578+50.00

877.52 138.84 — EXISTING ROW — 873.64 127.22 — 873.64 117.22 — 877.67 103.13 — 879.79 90.40 — 881.00 83.13 — 881.40 79.13 — 881.64 73.13 — 882.11 57.57 — 880.78 57.58 — 882.19 32.12 — 882.15 47.87 — 882.11 73.28 — 881.45 73.29 — 880.44 91.41 — 880.81 89.16 — 877.72 105.79 — 876.31 110.73 — 876.31 120.73 — 878.29 126.66 — EX

RR-4, 415 LT: SELECT SAND TO EL. 855

SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA

578+44.56

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.6

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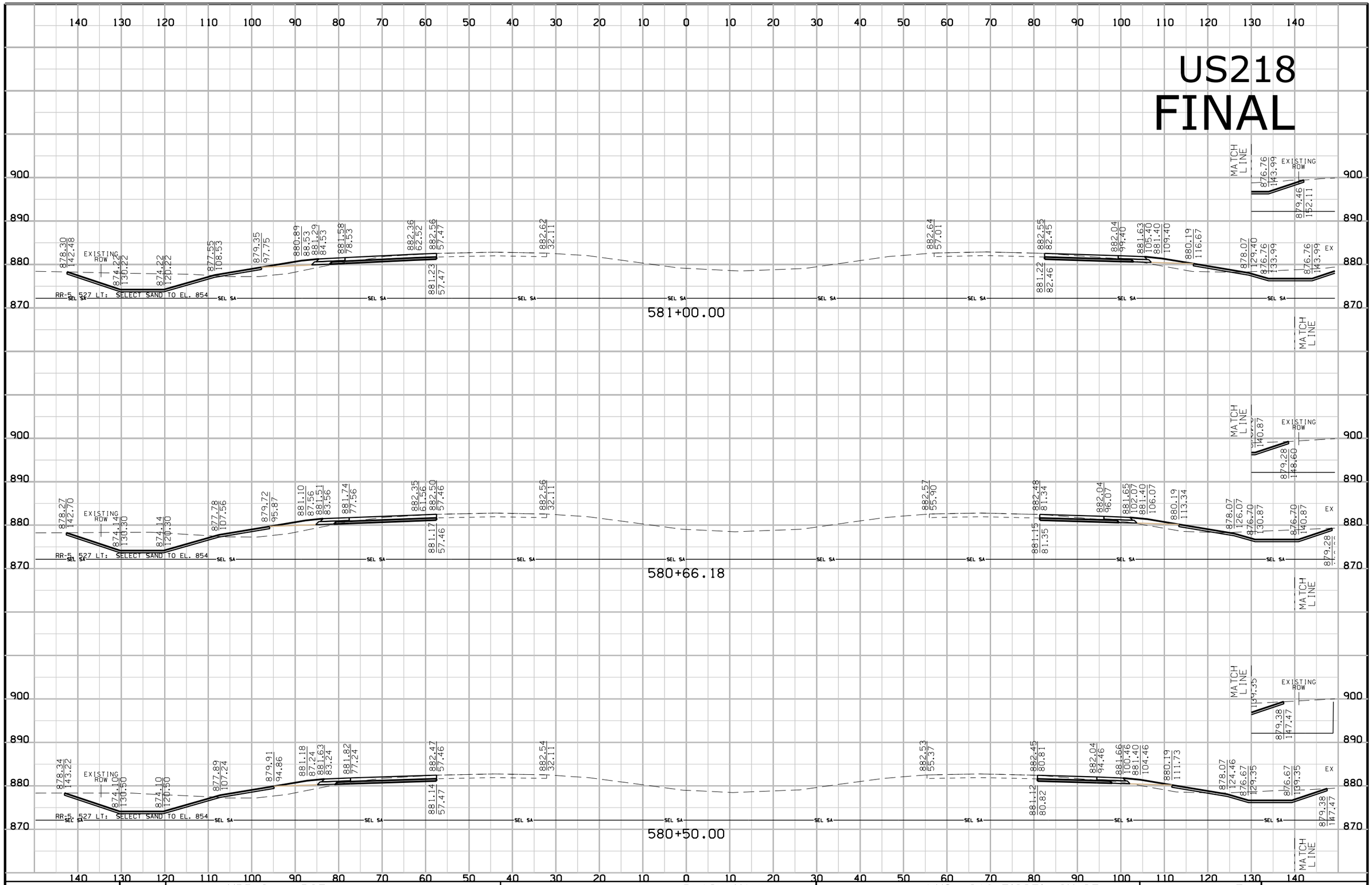
US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.7

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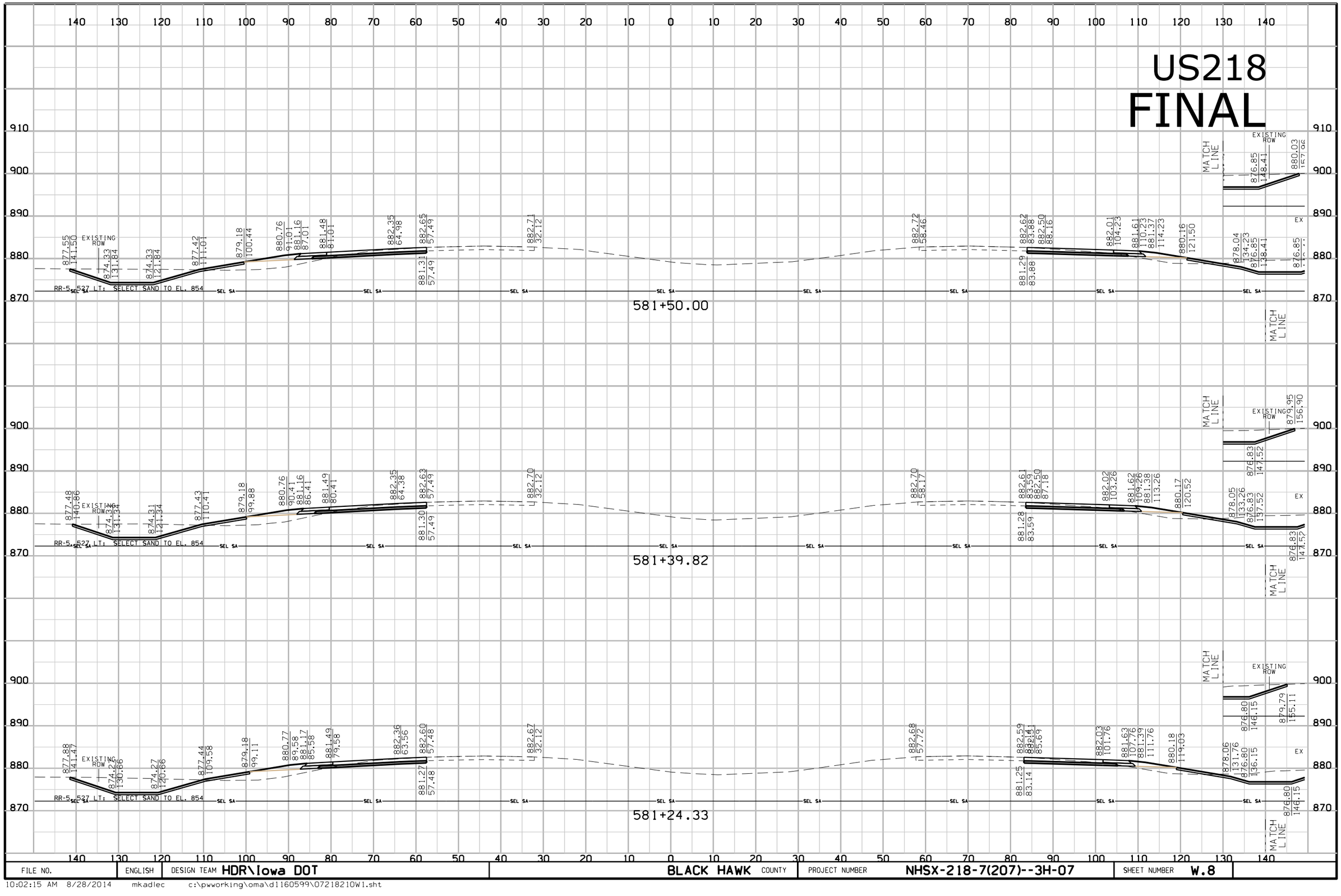
US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.8

10:02:15 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
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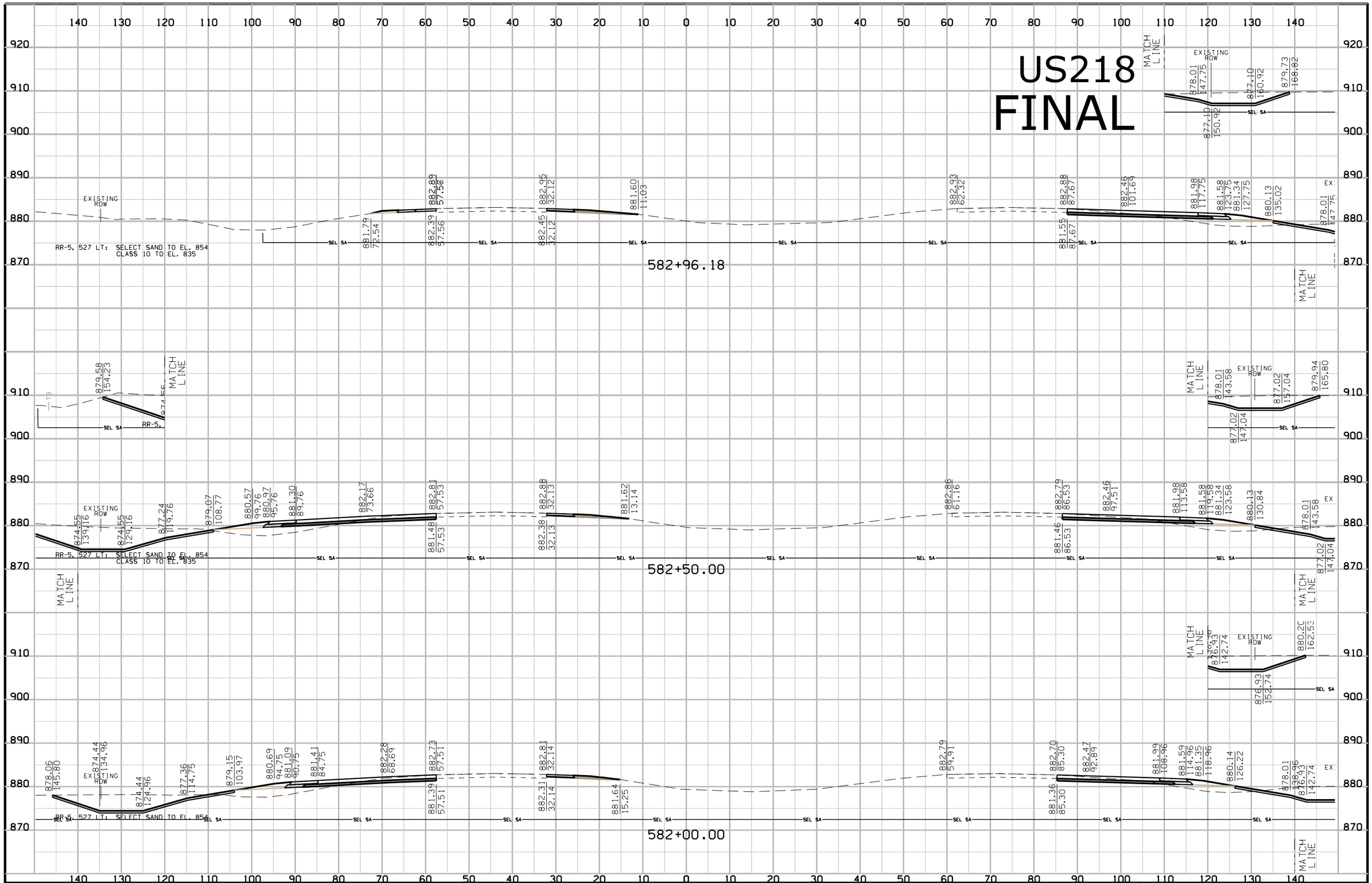
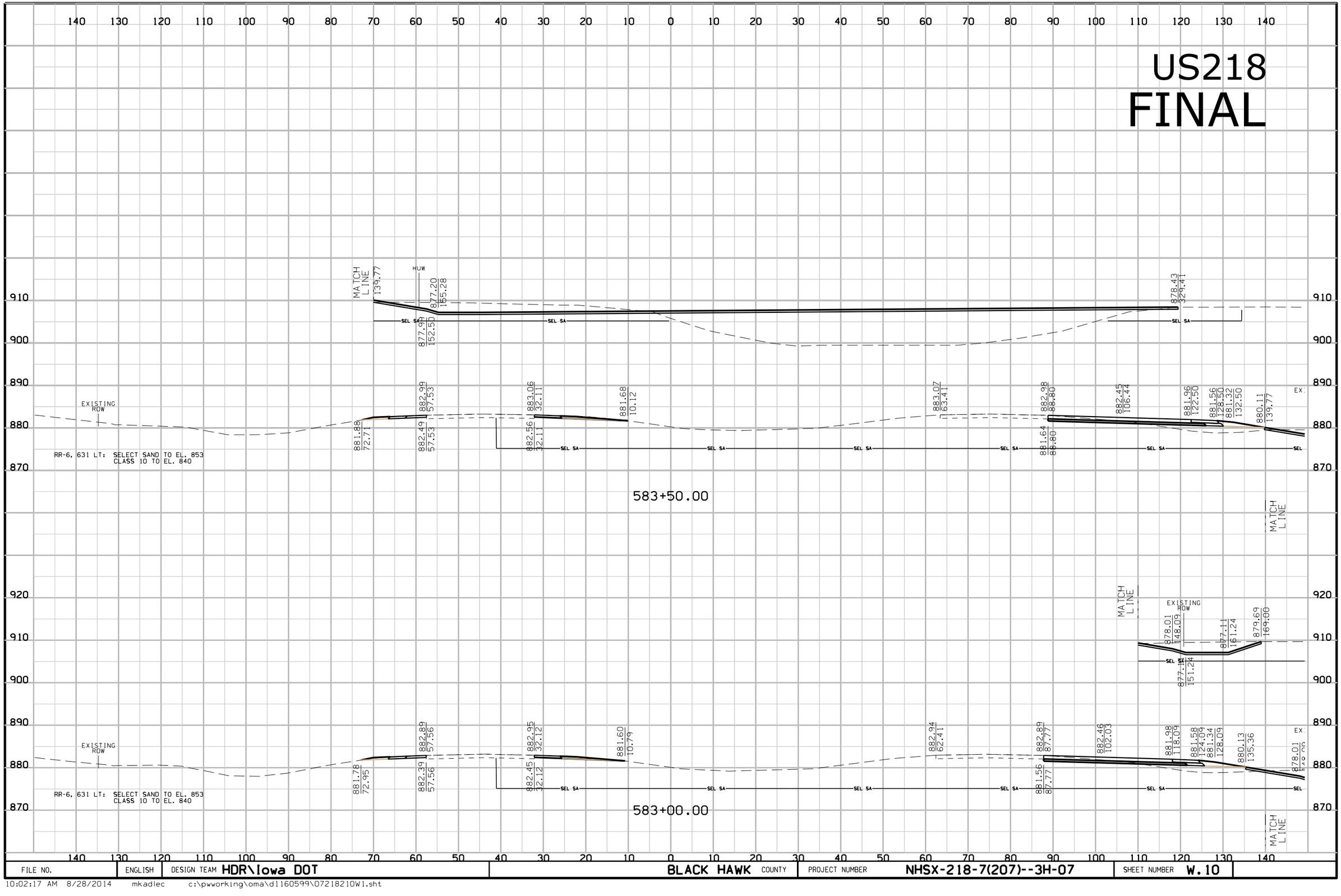


FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.9

10:02:16 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.10

10:02:17 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
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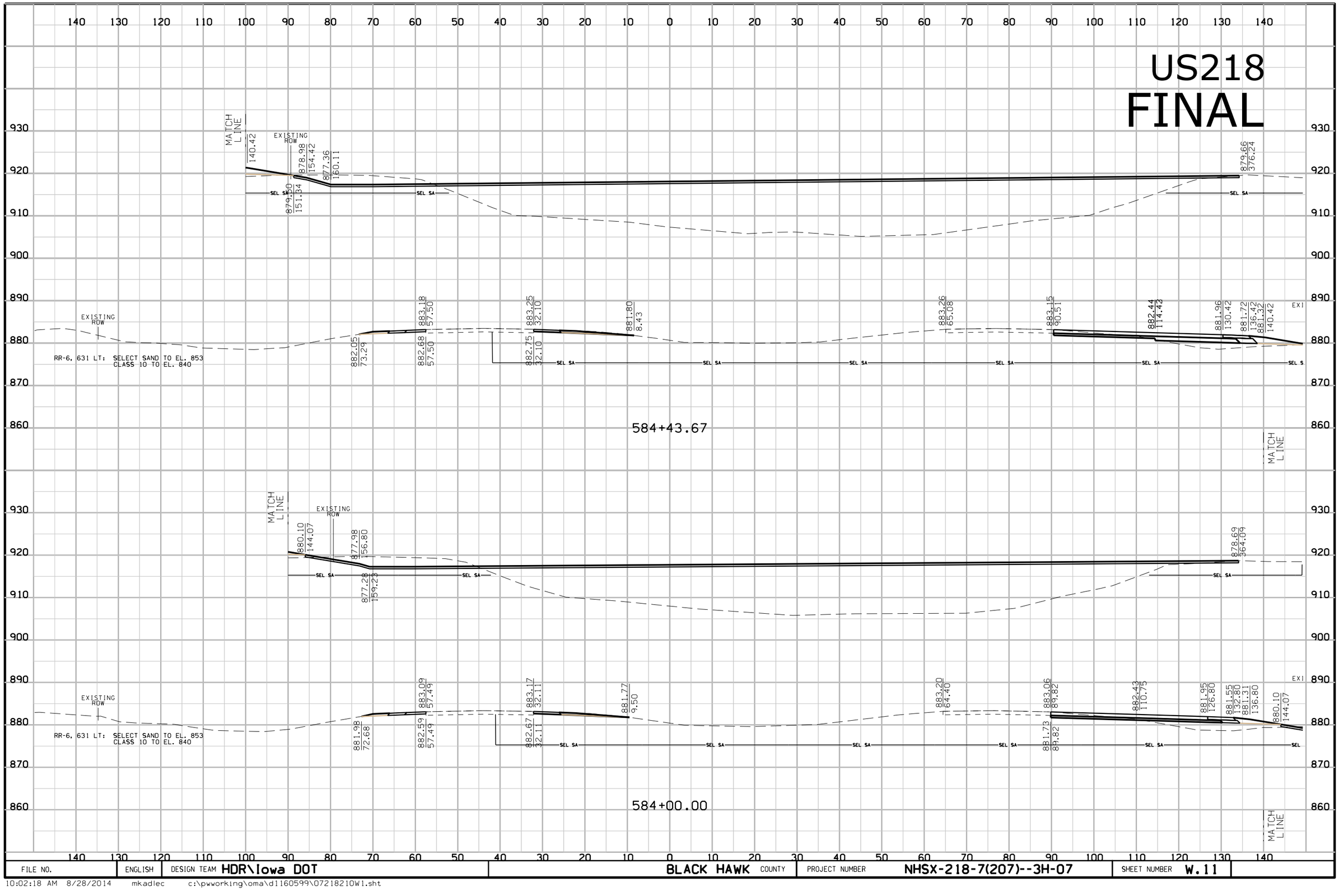
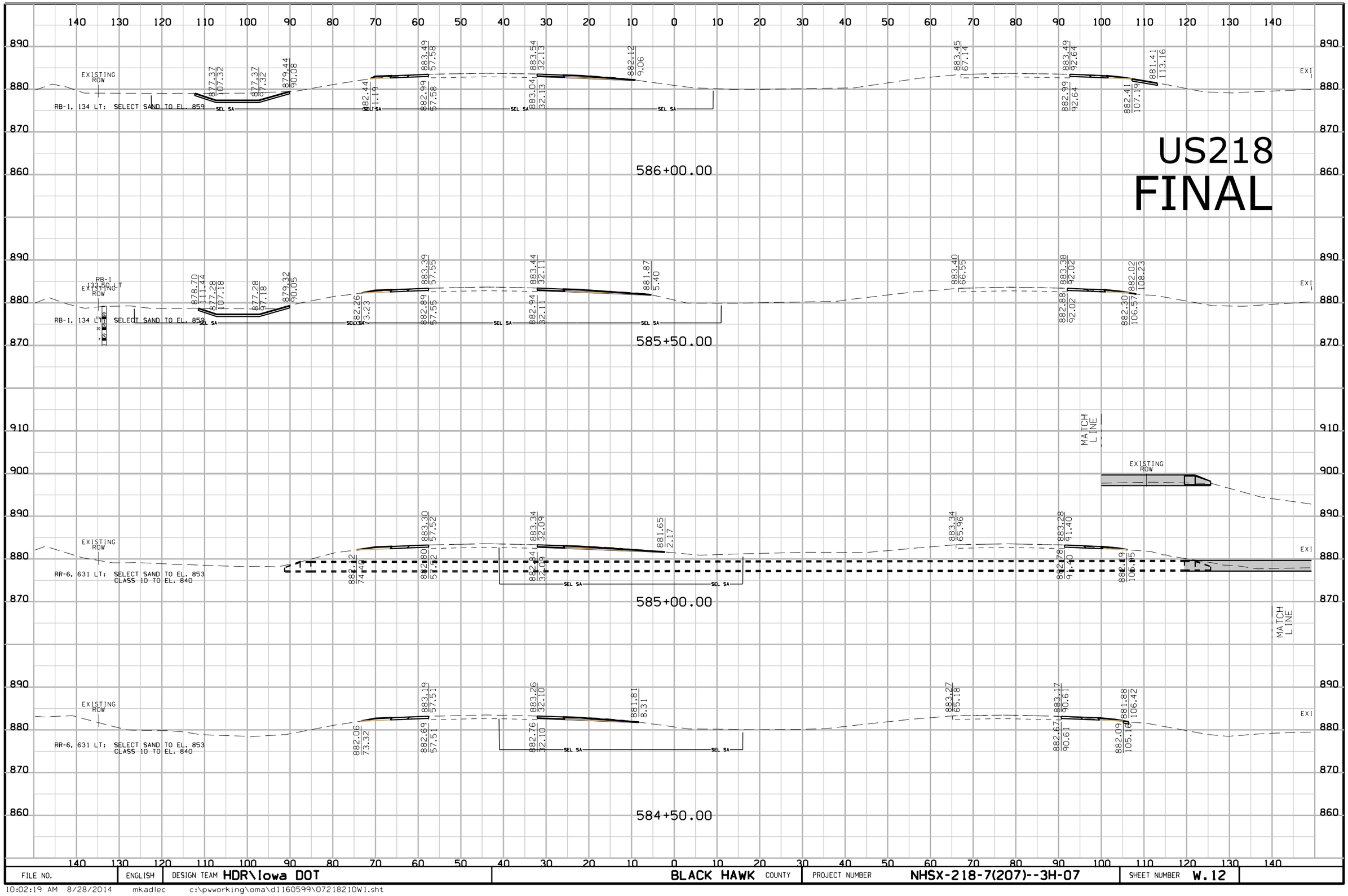


FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.11

10:02:18 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\0721821OW1.sht



US218
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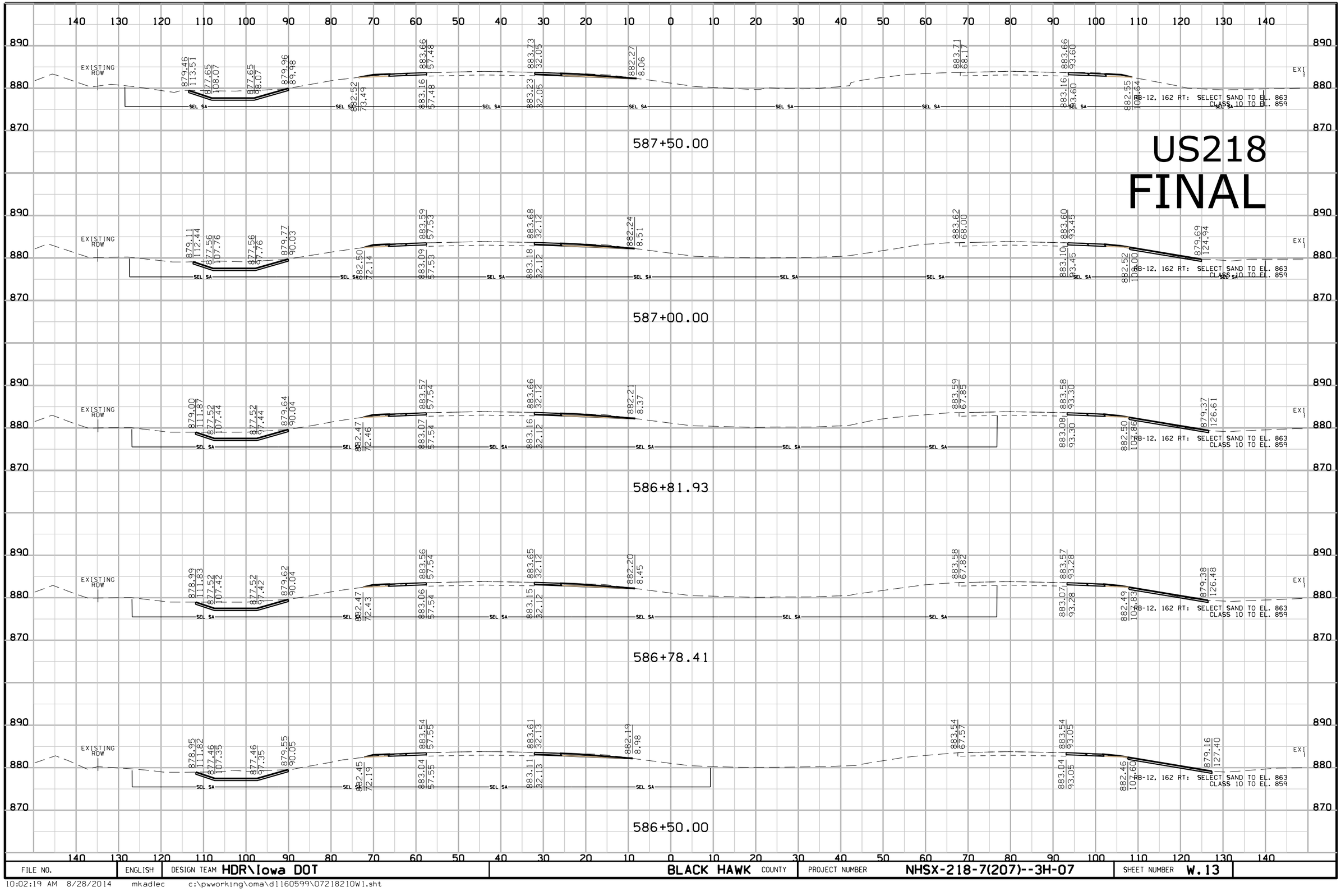
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.12

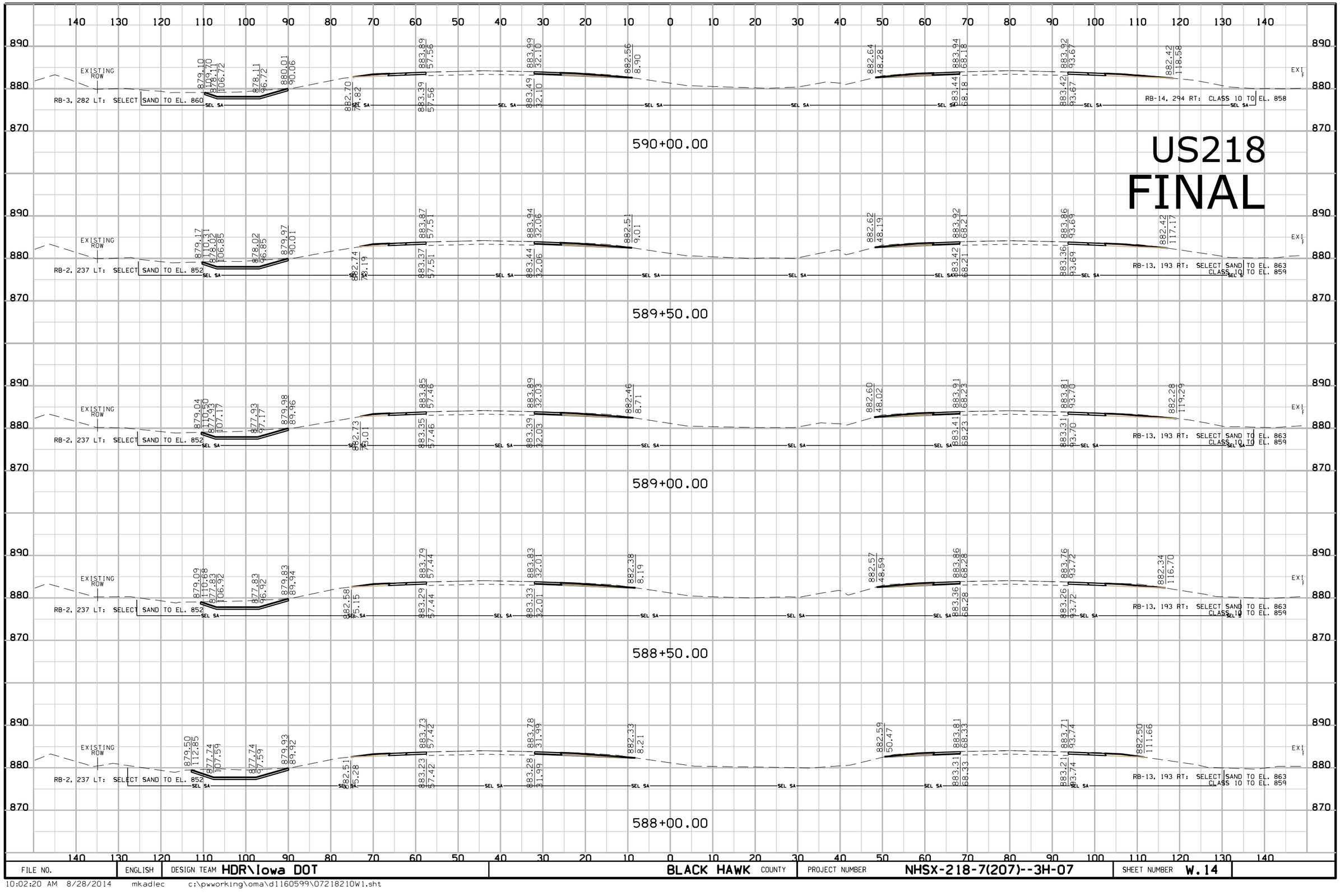
10:02:19 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.13

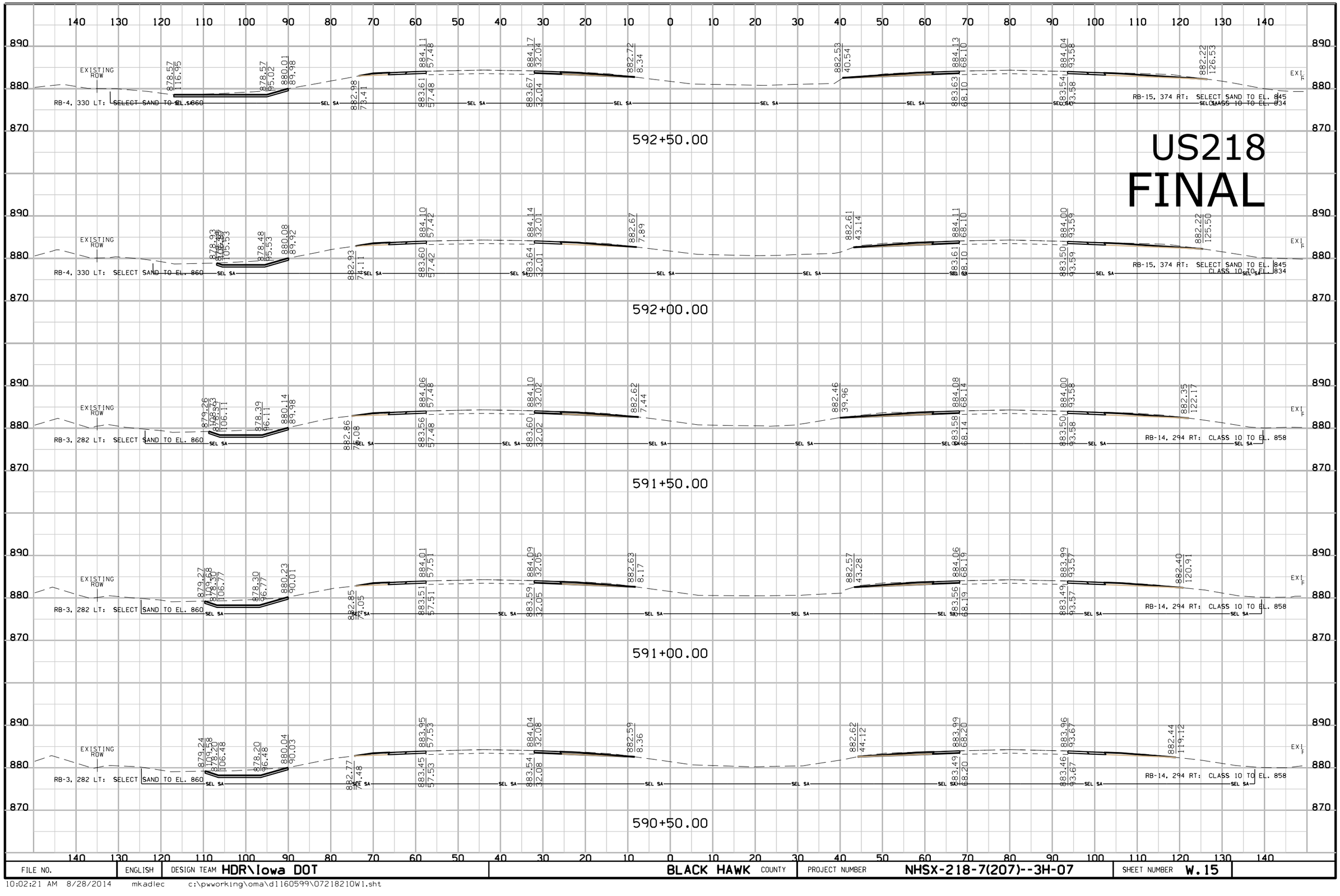
10:02:19 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.14

10:02:20 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.15

10:02:21 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
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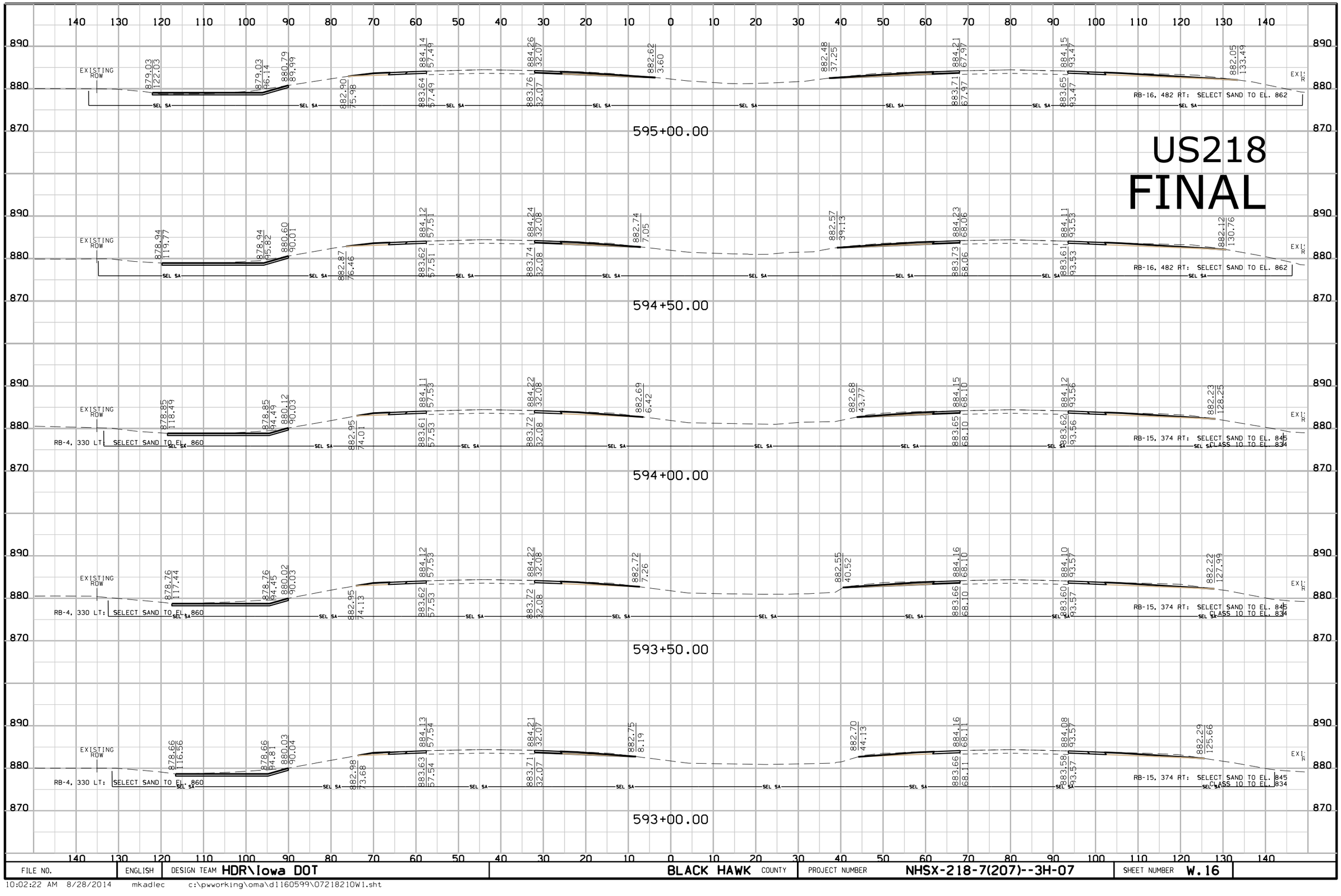


FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.16

10:02:22 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880
870

EXISTING ROW

RB-5, 425 LT: SELECT SAND TO EL. 867

882.89 76.50 | 884.15 57.58 | 883.65 57.58 | 884.24 32.14 | 883.74 32.14 | 882.20 6.30 | 882.24 29.04 | 884.29 67.78 | 883.79 67.78 | 884.22 93.25 | 882.89 93.25 | 883.68 106.75 | 882.69 103.07 | E2

SEL SA

596+65.84

US218
FINAL

BR-1, 157 RT: SELECT SAND TO EL. 875
CLASS 10 TO EL. 871

EXISTING ROW

RB-5, 425 LT: SELECT SAND TO EL. 867

882.79 77.07 | 884.15 57.60 | 883.65 57.60 | 884.23 32.17 | 883.73 32.17 | 882.24 5.06 | 882.26 29.60 | 884.28 67.75 | 883.78 67.75 | 884.20 93.23 | 883.70 93.23 | 881.54 147.25 | E2

SEL SA

596+50.00

BR-1, 157 RT: SELECT SAND TO EL. 875
CLASS 10 TO EL. 871

EXISTING ROW

879.24 129.11 | 879.24 94.38 | 880.05 90.02

RB-5, 425 LT: SELECT SAND TO EL. 867

882.84 77.10 | 884.13 57.52 | 883.63 57.52 | 884.19 32.14 | 883.69 32.14 | 882.30 2.54 | 882.26 29.72 | 884.28 67.71 | 883.78 67.71 | 884.16 93.17 | 883.66 93.16 | 881.69 142.35

SEL SA

596+14.01

RB-16, 482 RT: SELECT SAND TO EL. 862

EXISTING ROW

879.22 128.23 | 879.22 94.71 | 880.56 90.01

RB-5, 425 LT: SELECT SAND TO EL. 867

882.77 78.07 | 884.10 57.51 | 883.60 57.51 | 884.21 31.91 | 883.71 31.91 | 882.52 2.08 | 882.25 29.50 | 884.28 67.76 | 883.78 67.76 | 884.15 93.19 | 883.65 93.19 | 881.76 140.51

SEL SA

596+00.00

RB-16, 482 RT: SELECT SAND TO EL. 862

EXISTING ROW

879.13 124.04 | 879.13 96.09 | 880.87 90.00

RB-5, 425 LT: SELECT SAND TO EL. 867

882.78 78.42 | 884.11 57.50 | 883.61 57.50 | 884.24 31.99 | 883.74 31.99 | 882.62 4.01 | 882.31 32.27 | 884.24 67.95 | 883.74 67.95 | 884.18 93.44 | 883.68 93.44 | 881.92 137.43

SEL SA

595+50.00

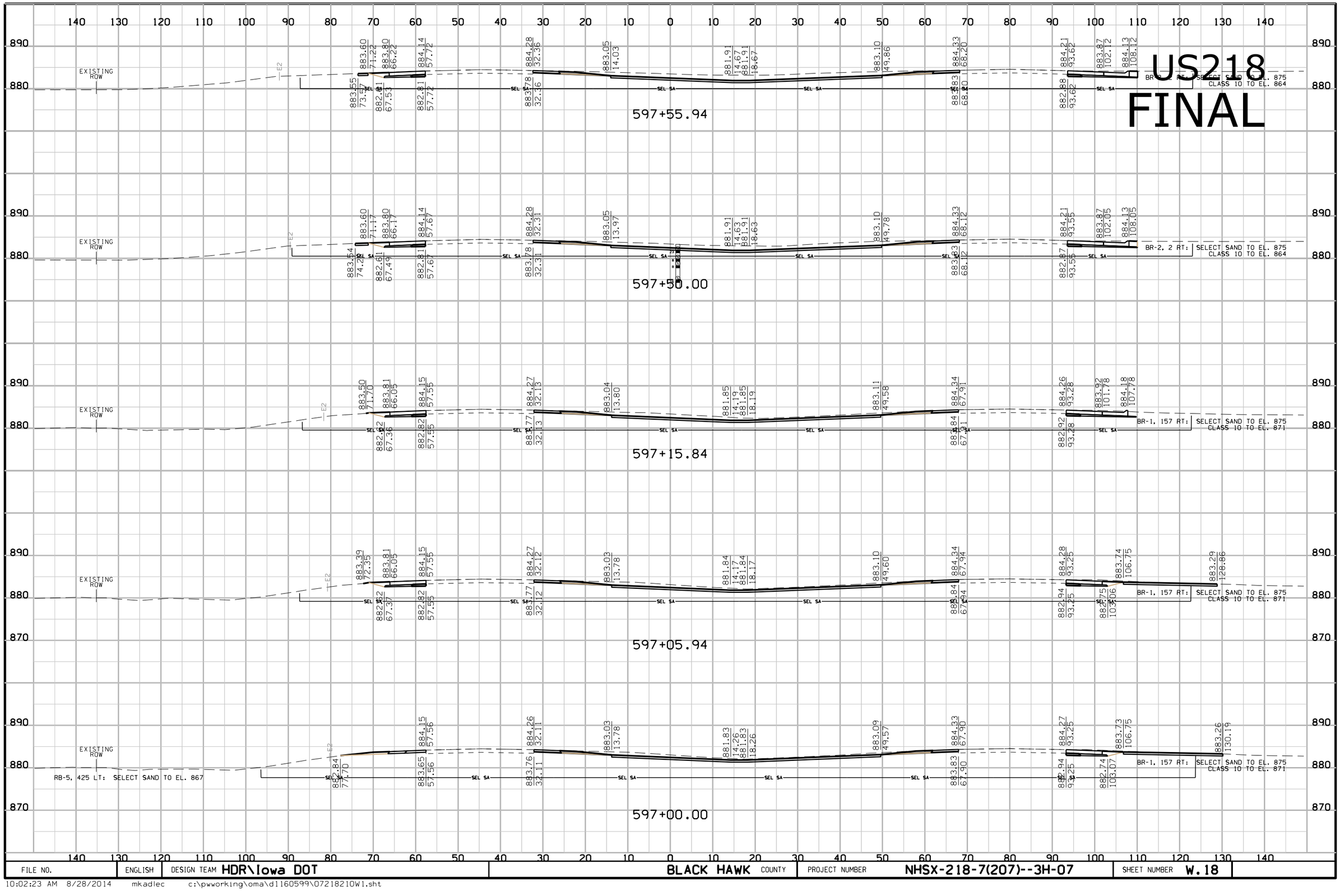
RB-16, 482 RT: SELECT SAND TO EL. 862

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.17

10:02:22 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.18

10:02:23 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\0721821OW1.sht

US218
FINAL

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

EXISTING ROW

RB-29, 268 LT: SELECT SAND TO EL. 873

883.38 84.36 | 883.64 71.34 | 883.84 66.34 | 884.18 57.84 | 884.28 32.40 | 883.05 14.07 | 882.06 14.82 | 882.05 18.82 | 883.10 50.01 | 884.33 68.36 | 884.33 93.74 | 883.99 102.24 | 883.92 110.11

SEL SA | 882.65 67.65 | 882.95 57.84 | 883.78 32.40 | SEL SA | SEL SA | SEL SA | 883.83 68.35 | 883.83 93.74 | SEL SA | SEL SA

598+50.00

890
880

EXISTING ROW

RB-29, 268 LT: SELECT SAND TO EL. 873

883.51 94.51 | 883.64 71.48 | 883.84 66.48 | 884.18 57.98 | 884.27 32.43 | 883.04 14.10 | 882.04 13.95 | 882.04 17.95 | 883.12 50.02 | 884.35 68.35 | 884.28 93.77 | 883.94 102.27 | 883.88 112.10

SEL SA | 882.65 67.80 | 882.95 57.98 | 883.77 32.43 | SEL SA | SEL SA | SEL SA | 883.85 68.35 | 883.78 93.77 | SEL SA | SEL SA

598+36.72

910
900
890
880

MATCH LINE

883.09 153.84

EXISTING ROW

BR-3, 133 LT: SELECT SAND TO EL. 875
CLASS 10 TO EL. 872

884.11 72.48 | 883.85 66.48 | 884.19 57.98 | 884.28 32.45 | 883.05 14.12 | 882.02 13.91 | 882.02 17.91 | 883.13 50.02 | 884.36 68.36 | 884.23 93.80 | 883.69 107.30

SEL SA | 882.86 57.98 | 883.78 32.45 | SEL SA | SEL SA | SEL SA | 883.86 68.36 | 882.90 93.80 | 882.70 103.16 | SEL SA

598+26.83

MATCH LINE

890
880

EXISTING ROW

BR-3, 133 LT: SELECT SAND TO EL. 875
CLASS 10 TO EL. 872

884.11 72.49 | 883.85 66.49 | 884.19 57.99 | 884.28 32.49 | 883.04 14.16 | 881.98 14.94 | 881.98 18.94 | 883.08 49.96 | 884.31 68.29 | 884.23 93.80 | 883.69 107.30

SEL SA | 882.86 57.99 | 883.78 32.49 | SEL SA | SEL SA | SEL SA | 883.81 68.29 | 882.90 93.80 | 882.70 103.62 | SEL SA

598+00.00

890
880

EXISTING ROW

BR-3, 133 LT: SELECT SAND TO EL. 875
CLASS 10 TO EL. 872

884.09 72.53 | 883.83 66.53 | 884.17 58.03 | 884.27 32.50 | 883.04 14.17 | 881.96 15.04 | 881.96 19.04 | 883.07 49.94 | 884.31 68.27 | 884.19 93.79 | 883.86 102.29 | 884.12 108.29

SEL SA | 882.83 58.03 | 883.77 32.50 | SEL SA | SEL SA | SEL SA | 883.81 68.27 | 882.86 93.79 | SEL SA | SEL SA

597+86.72

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.19

10:02:24 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
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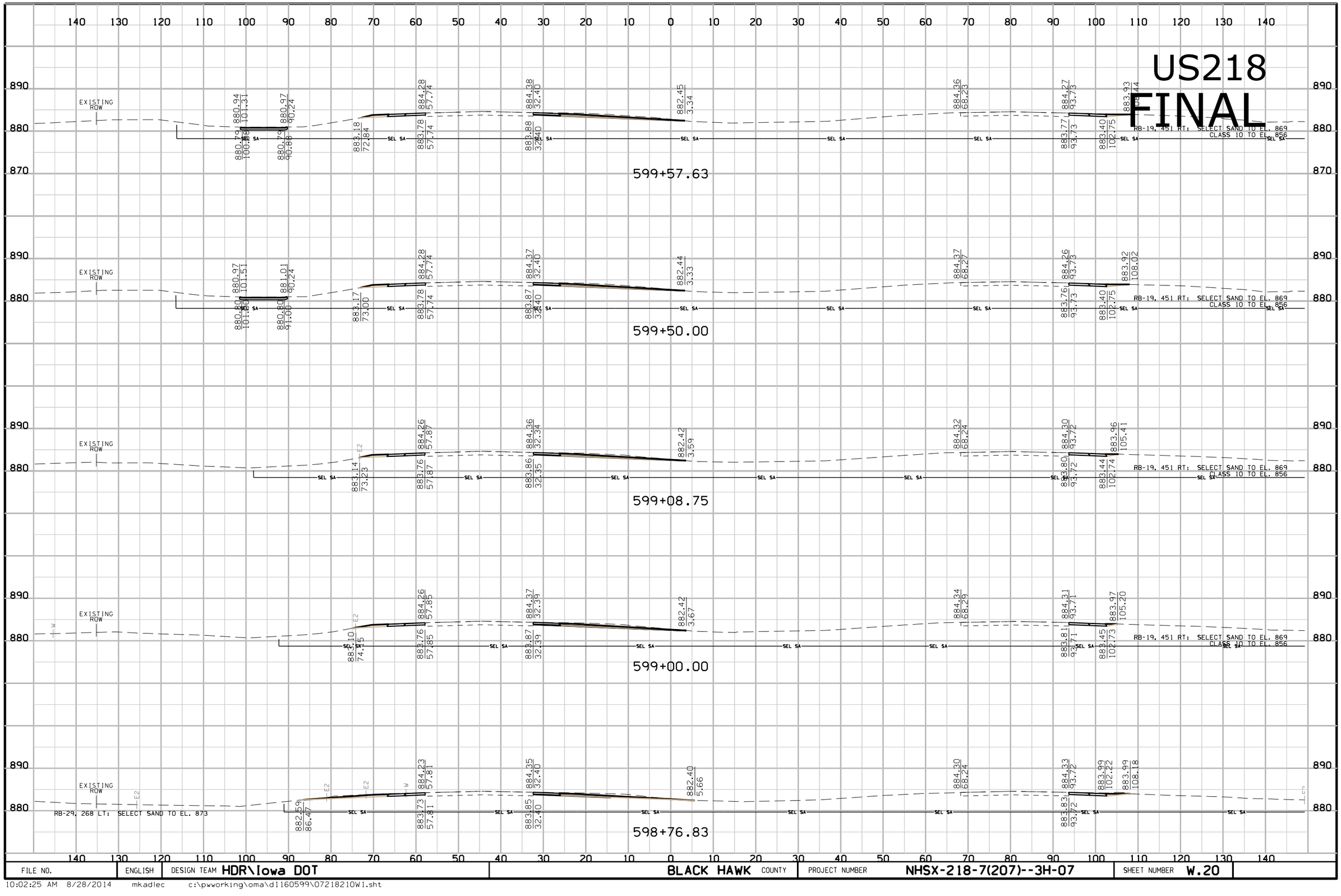
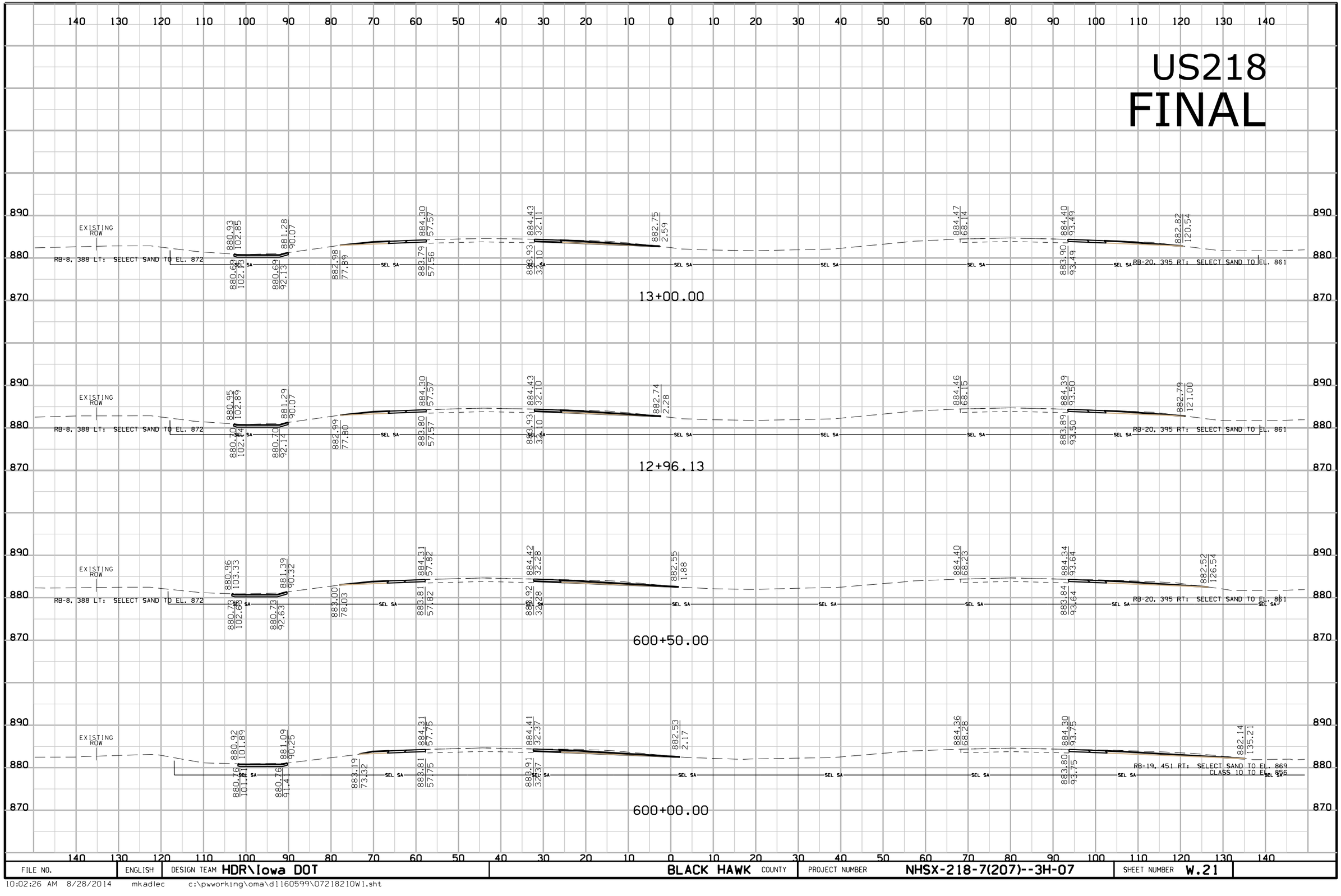


FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.20

10:02:25 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

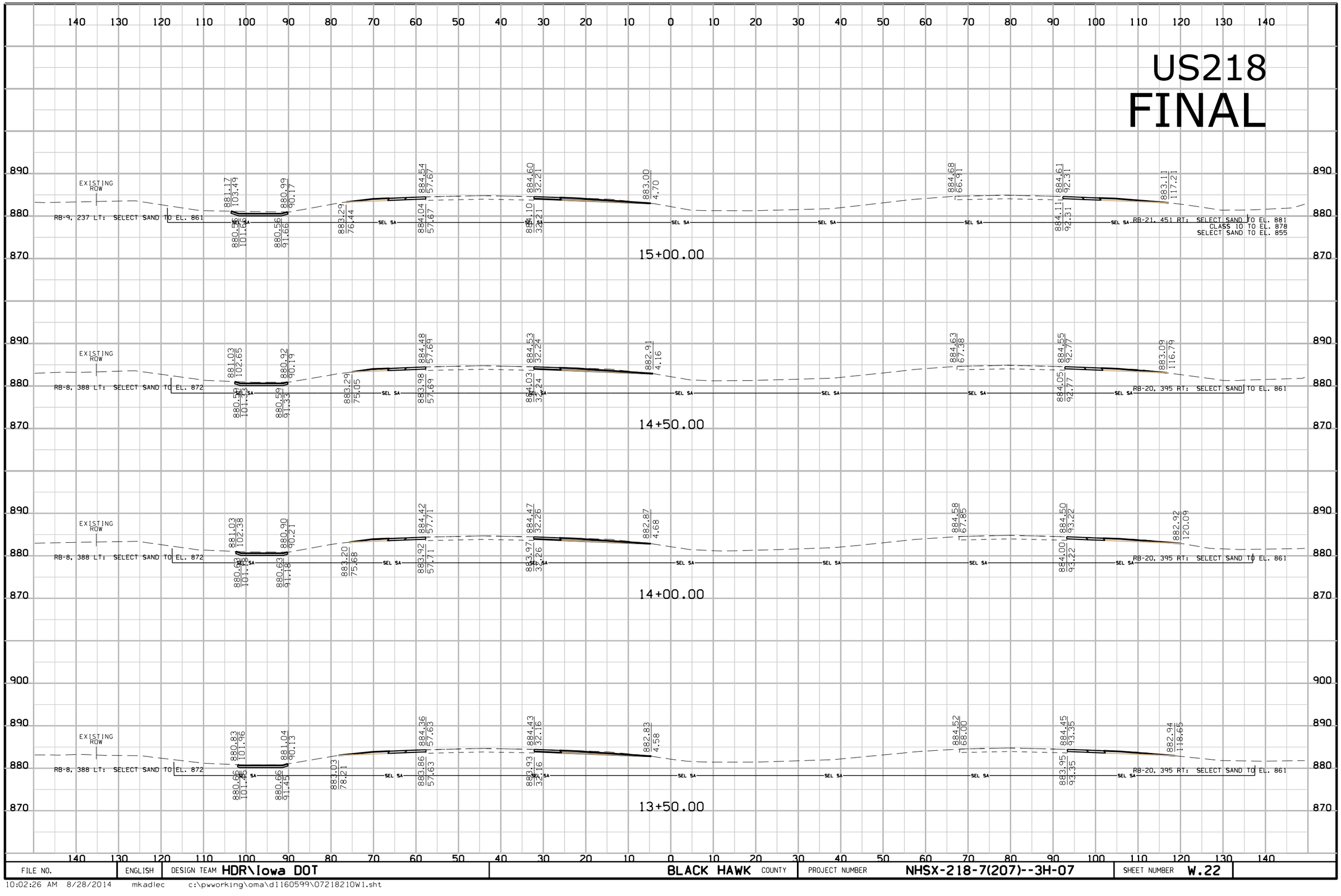
US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.21

10:02:26 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.22

10:02:26 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 880 870

EXISTING ROW

RB-9, 237 LT: SELECT SAND TO EL. 861

RB-21, 451 RT: SELECT SAND TO EL. 881
CLASS 10 TO EL. 878
SELECT SAND TO EL. 855

SEL SA

17+50.00

882.30 110.43 | 881.70 90.15 | 884.96 57.65 | 885.04 32.24 | 883.50 6.04 | 885.02 62.11 | 884.96 87.47 | 883.40 114.13

880.39 104.72 | 880.39 94.72 | 883.74 75.79 | 884.46 57.65 | 884.54 32.24 | 884.46 87.47

17+00.00

882.26 110.59 | 881.84 90.14 | 884.88 57.64 | 884.94 32.24 | 883.37 5.47 | 884.95 63.43 | 884.88 88.79 | 883.44 112.24

880.43 105.09 | 880.43 95.09 | 883.60 77.10 | 884.38 57.64 | 884.44 32.24 | 884.38 88.79

16+50.00

883.01 113.87 | 882.86 90.15 | 884.79 57.65 | 884.84 32.24 | 883.30 6.45 | 884.86 64.44 | 884.81 89.81 | 883.37 113.16

880.46 106.23 | 880.46 96.23 | 883.46 78.53 | 884.29 57.65 | 884.34 32.24 | 884.31 89.81

16+00.00

881.50 106.84 | 881.54 90.16 | 884.70 57.66 | 884.73 32.24 | 883.19 6.24 | 884.78 65.46 | 884.73 90.82 | 883.21 116.41

880.49 103.84 | 880.49 93.84 | 883.38 78.16 | 884.20 57.66 | 884.23 32.24 | 884.23 90.82

15+50.00

881.17 104.55 | 881.23 90.17 | 884.62 57.67 | 884.67 32.23 | 883.17 7.28 | 884.73 66.18 | 884.67 91.57 | 883.17 116.53

880.53 102.63 | 880.53 92.62 | 883.39 75.98 | 884.12 57.67 | 884.17 32.23 | 884.17 91.57

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.23

10:02:27 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 / 880 / 870

EXISTING ROW

RB-10, 134 LT: SELECT SAND TO EL. 865

884.00 / 77.05

885.28 / 57.67

884.78 / 57.67

885.33 / 32.25

884.83 / 32.25

883.85 / 7.70

SEL SA

885.33 / 55.72

885.25 / 81.08

884.75 / 81.08

883.78 / 105.51

E

19+50.00

EXISTING ROW

881.41 / 111.10

880.59 / 107.73

880.29 / 97.73

882.45 / 90.18

883.70 / 82.32

885.18 / 57.68

884.68 / 57.68

885.25 / 32.24

884.75 / 32.24

883.60 / 3.38

885.23 / 57.57

885.17 / 82.93

884.67 / 82.93

883.47 / 112.95

RB-22, 234 RT: SELECT SAND TO EL. 852

19+00.00

EXISTING ROW

881.95 / 109.29

880.53 / 104.43

880.33 / 94.43

881.55 / 90.17

883.87 / 76.34

885.11 / 57.67

884.61 / 57.67

885.20 / 32.24

884.70 / 32.24

883.64 / 5.62

885.16 / 59.18

885.10 / 84.54

884.60 / 84.54

883.64 / 108.54

RB-22, 234 RT: SELECT SAND TO EL. 852

18+50.00

EXISTING ROW

RB-9, 237 LT: SELECT SAND TO EL. 861

882.26 / 109.67

880.36 / 103.96

880.36 / 93.96

881.45 / 90.16

883.78 / 76.64

885.04 / 57.66

884.54 / 57.66

885.15 / 32.24

884.65 / 32.24

883.62 / 6.46

885.09 / 60.78

885.04 / 86.15

884.54 / 86.15

883.59 / 110.08

RB-21, 451 RT: SELECT SAND TO EL. 881
CLASS 10 TO EL. 878
SELECT SAND TO EL. 855

18+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.24

10:02:28 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

EXISTING ROW

884.46 73.79 | 885.10 57.73 | 885.60 57.73 | 885.62 32.28 | 885.66 47.27 | 885.55 72.70 | 885.05 72.70 | 884.25 92.75

RB-11, 108 LT: SELECT SAND TO EL. 863

SEL SA

EXISTING ROW

21+50.00

884.34 75.52 | 885.06 57.69 | 885.56 57.69 | 885.56 32.25 | 885.60 49.40 | 885.50 74.84 | 885.00 74.84 | 884.11 97.06

SEL SA

RB-23, 178 RT: SELECT SAND TO EL. 864

EXISTING ROW

21+00.00

884.37 72.96 | 884.98 57.68 | 885.48 57.68 | 885.53 32.25 | 885.53 51.33 | 885.43 76.74 | 884.93 76.74 | 884.01 99.82

SEL SA

RB-23, 178 RT: SELECT SAND TO EL. 864

EXISTIN ROW

20+56.84

884.35 73.01 | 884.96 57.68 | 885.46 57.68 | 885.51 32.25 | 885.51 51.63 | 885.42 77.04 | 884.92 77.04 | 884.00 100.10

RB-10, 134 LT: SELECT SAND TO EL. 865

SEL SA

EXISTIN ROW

20+50.00

RB-10 134.44 LT EXISTING ROW

884.20 74.43 | 884.87 57.66 | 885.37 57.66 | 885.41 32.25 | 885.42 53.86 | 885.34 79.24 | 884.84 79.24 | 883.94 101.66

RB-10, 134 LT: SELECT SAND TO EL. 865

SEL SA

EXIS RO

20+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.25

10:02:29 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880
870

EXISTING ROW

RB-11, 108 LT: SELECT SAND TO EL. 863

884.83 / 71.56
885.88 / 57.70
885.38 / 57.70
885.97 / 32.28

885.94 / 40.04
885.84 / 65.49
885.34 / 65.49
884.69 / 81.75

SEL SA

EXISTING ROW

23+50.00

RB-11, 108 LT: SELECT SAND TO EL. 863

884.78 / 71.41
885.82 / 57.74
885.32 / 57.74
885.93 / 32.31

885.86 / 41.53
885.79 / 66.96
885.29 / 66.96
884.57 / 85.04

SEL SA

EXISTING ROW

23+00.00

RB-11, 108 LT: SELECT SAND TO EL. 863

884.67 / 71.86
885.74 / 57.76
885.24 / 57.76
885.81 / 32.31

885.79 / 43.33
885.70 / 68.76
885.20 / 68.76
884.42 / 88.32

SEL SA

EXISTING ROW

22+50.00

RB-11
107.91 LT

RB-11, 108 LT: SELECT SAND TO EL. 863

884.54 / 72.95
885.65 / 57.77
885.15 / 57.77
885.69 / 32.31

885.72 / 45.13
885.60 / 70.57
885.10 / 70.57
884.30 / 90.60

SEL SA

EXISTING ROW

22+00.00

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.26

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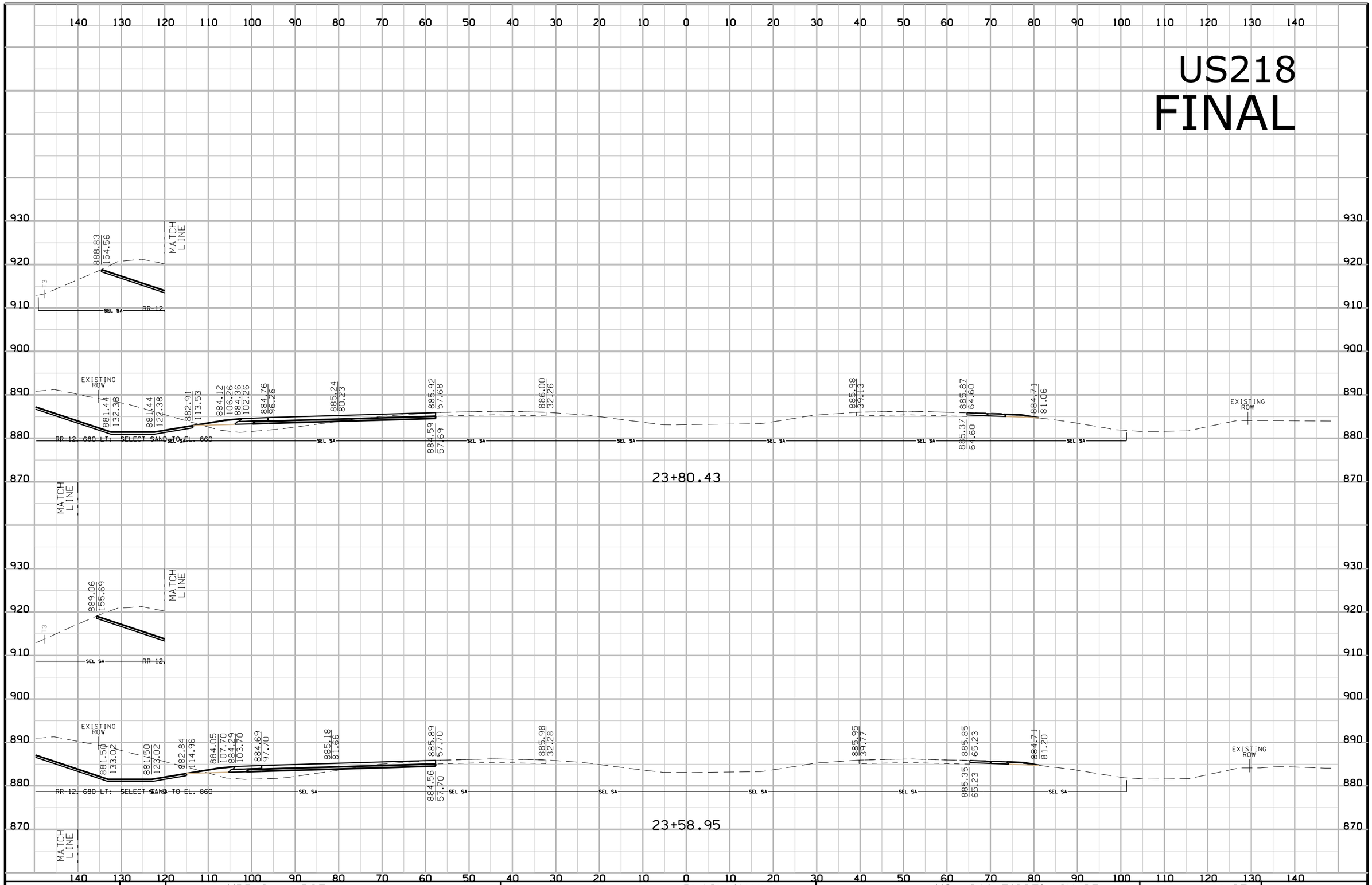
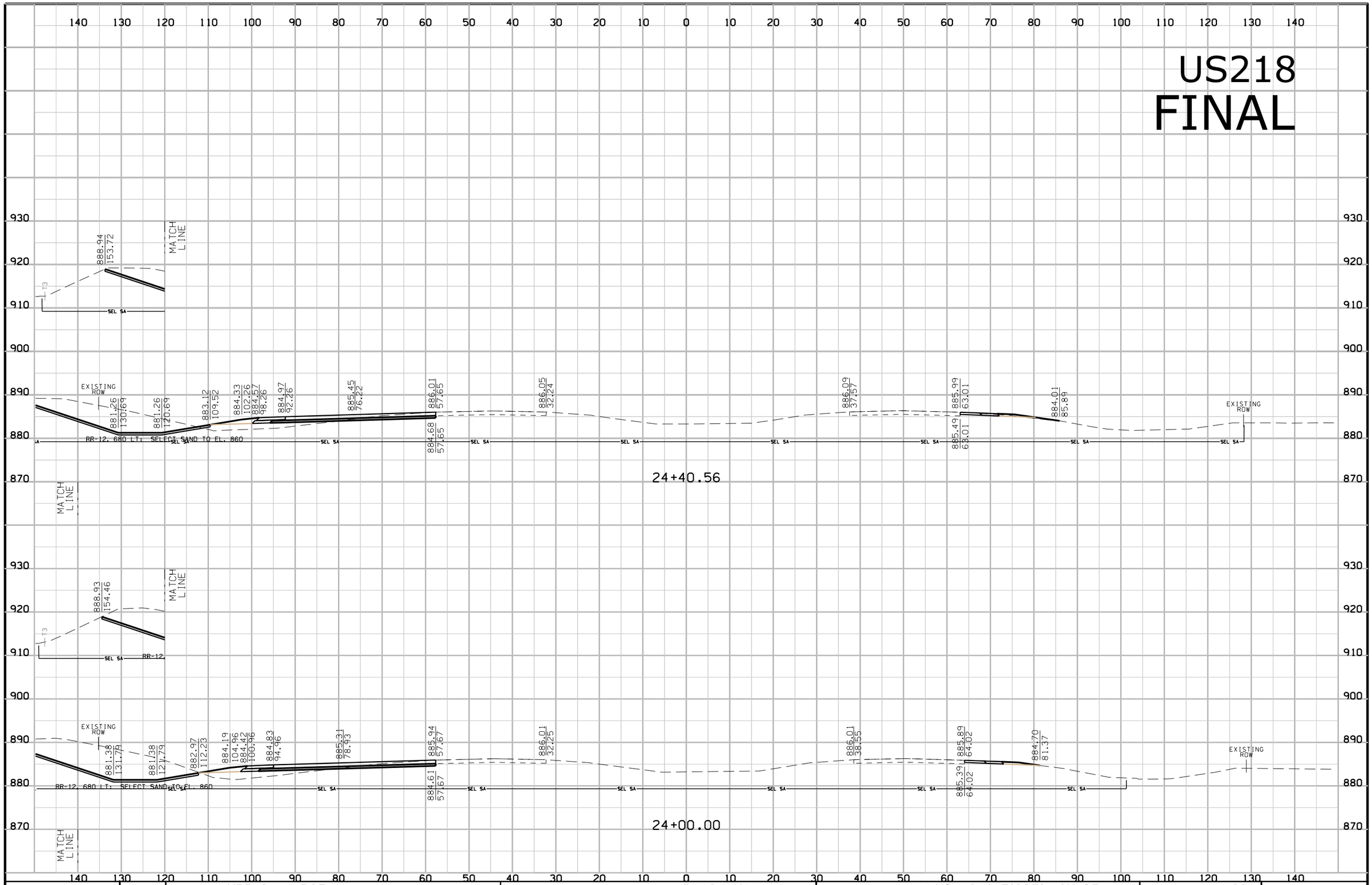
US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.27

10:02:30 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.28

10:02:31 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 / 880 / 870

EXISTING ROW
880.94 127.46
880.94 117.46
883.48 102.23
884.93 90.96
885.33 84.96
885.81 68.93
886.15 57.65
886.17 32.25
886.24 35.17
886.20 60.55
885.78 71.04
884.91 87.12
884.59 93.12
884.19 97.12
882.64 106.37
881.18 115.12
881.63 126.46
EXISTING ROW
882.47 131.06
RR-12, 680 LT: SELECT SAND TO EL. 860
SEL SA
884.82 57.65
884.86 60.55
881.18 125.12

25+50.00

890 / 880 / 870

885.50 142.30
EXISTING ROW
881.09 129.07
881.09 119.07
883.34 105.56
884.55 98.30
884.79 94.30
885.19 88.30
885.67 72.26
886.11 57.63
886.10 32.23
886.19 36.14
886.14 61.53
885.54 76.53
884.67 92.65
884.35 98.65
883.95 102.65
882.44 111.71
881.12 119.64
EXISTING ROW
881.12 129.64
RR-12, 680 LT: SELECT SAND TO EL. 860
SEL SA
884.78 57.63
884.81 61.53

25+00.00

930 / 920 / 910 / 900 / 890 / 880 / 870

888.44 152.05
MATCH LINE
T3
SEL SA
EXISTING ROW
881.23 130.43
881.23 120.43
883.16 108.90
884.37 101.63
884.61 97.63
885.01 91.63
885.49 75.59
886.03 57.65
886.06 32.24
886.10 37.34
886.02 62.78
885.20 83.29
884.32 99.46
883.60 109.46
EXISTING ROW
881.05 124.74
881.05 134.74
883.30 141.50
RR-12, 680 LT: SELECT SAND TO EL. 860
SEL SA
884.69 57.65
884.68 62.78
882.12 118.35
MATCH LINE

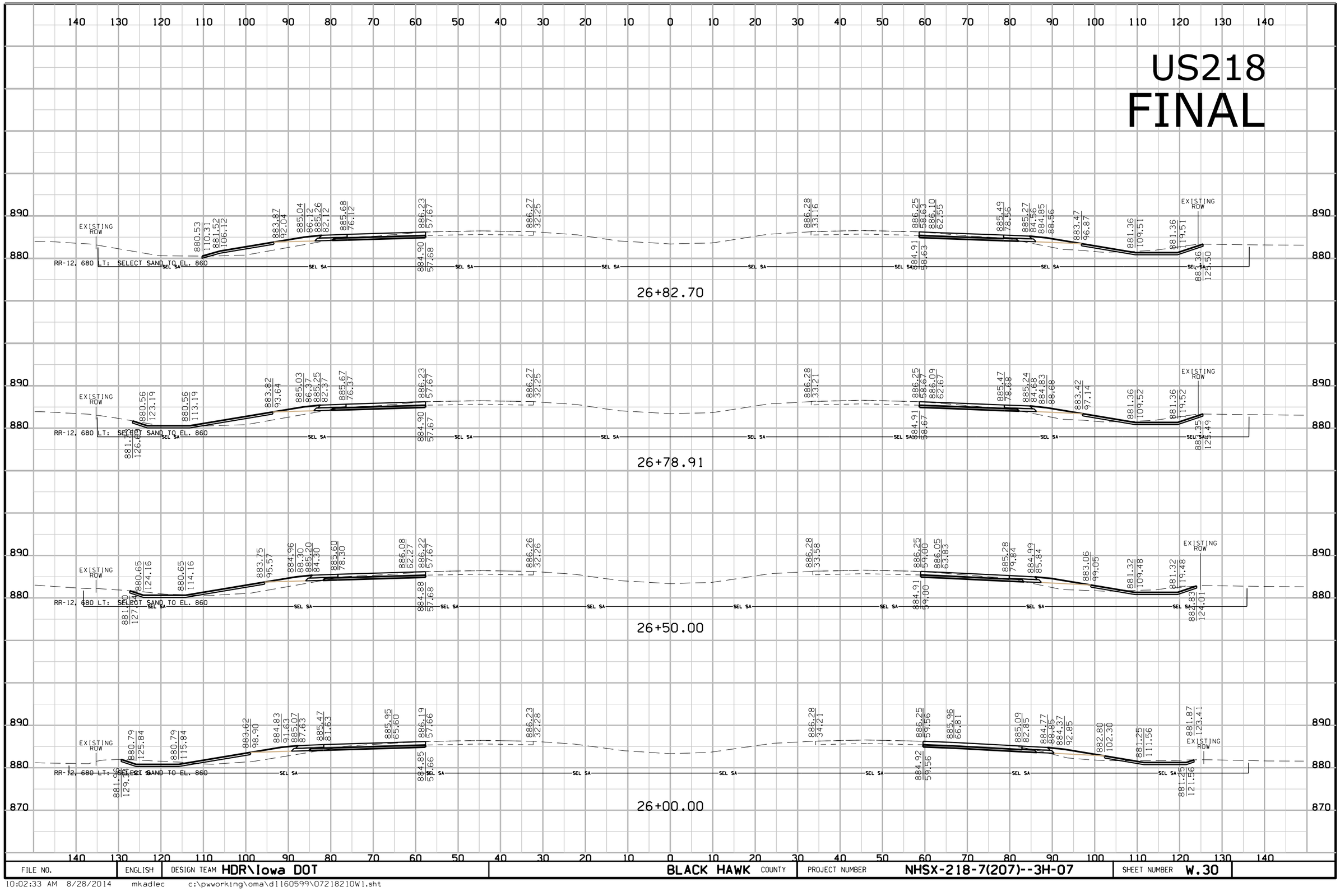
24+50.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.29

10:02:32 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.30

10:02:33 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\0721821OW1.sht

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

EXISTING ROW

RR-13, 581 LT: SELECT SAND TO EL. 856

884.10 / 62.00 / 884.19 / 78.91
885.40 / 71.65
885.80 / 67.64
886.04 / 61.64
886.16 / 57.73
884.83 / 57.73
886.23 / 32.21
886.24 / 32.00
886.20 / 57.51
884.87 / 57.51
885.73 / 73.15
885.55 / 79.15
885.09 / 83.15
883.88 / 90.42
881.65 / 103.79
881.65 / 113.79
EXISTING ROW
882.83 / 117.33

SEL SA

29+00.00

US218
FINAL

881.30 / 97.01 / 97.01 / 94.97
884.13 / 62.24
885.35 / 74.99
885.75 / 70.97
885.99 / 64.97
886.20 / 57.72
884.87 / 57.72
886.29 / 32.23
886.26 / 32.10
886.24 / 57.58
884.91 / 57.58
885.74 / 74.17
885.56 / 80.17
885.10 / 84.17
883.89 / 91.44
881.58 / 105.28
881.58 / 115.28
EXISTING ROW
883.11 / 119.86

28+50.00

880.66 / 102.83
881.95 / 98.30
884.07 / 85.57
885.28 / 78.32
885.68 / 74.30
885.92 / 68.30
886.24 / 57.73
884.90 / 57.74
886.36 / 32.26
886.29 / 32.20
886.27 / 57.70
884.94 / 57.70
885.74 / 75.31
885.56 / 81.31
885.10 / 85.31
883.89 / 92.58
881.52 / 106.82
881.52 / 116.82
EXISTING ROW
883.55 / 122.93

28+00.00

880.68 / 105.74
881.85 / 101.64
883.97 / 88.90
885.18 / 81.64
885.58 / 77.64
885.82 / 71.64
886.24 / 57.75
884.91 / 57.76
886.34 / 32.25
886.31 / 32.59
886.25 / 58.07
884.91 / 58.07
885.69 / 76.60
885.51 / 82.60
885.05 / 86.60
883.84 / 93.86
881.45 / 108.20
881.45 / 118.20
EXISTING ROW
883.65 / 124.80

27+50.00

880.58 / 109.05
881.75 / 104.97
883.87 / 92.24
885.08 / 84.97
885.48 / 80.97
885.72 / 74.97
886.24 / 57.77
884.91 / 57.78
886.33 / 32.25
886.34 / 32.98
886.22 / 58.44
884.89 / 58.44
885.59 / 78.03
885.39 / 84.03
884.95 / 88.03
883.69 / 95.60
881.38 / 109.42
881.38 / 119.42
EXISTING ROW
883.40 / 125.47

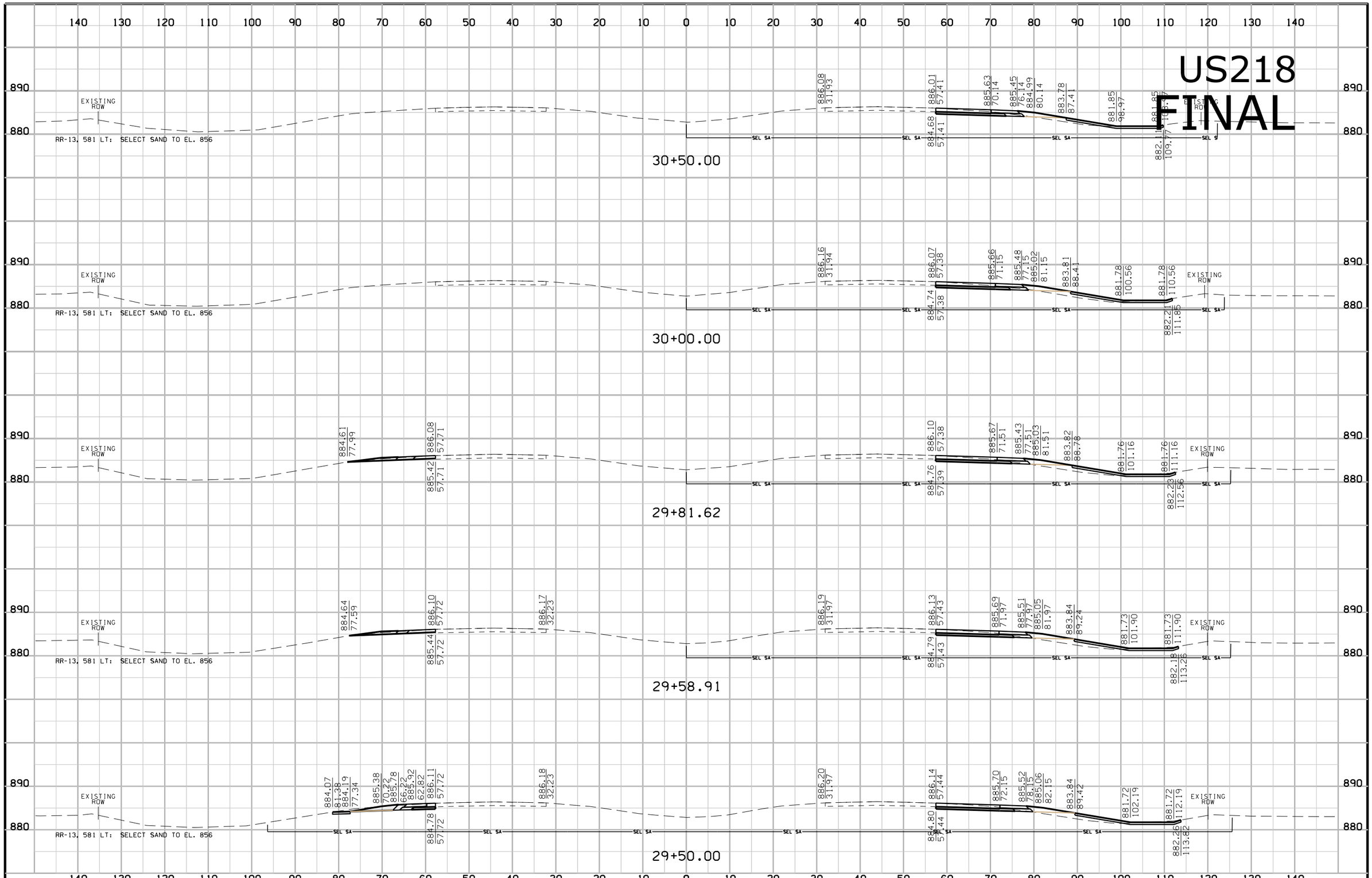
27+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.31

10:02:44 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.32

10:02:45 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

EXISTING ROW

RR-14, 479 LT: SELECT SAND TO EL. 866

885.78 32.01
885.72 57.51
885.49 65.13
885.31 71.13
884.85 75.13
883.63 82.40
881.34 96.15
881.34 106.15
EXISTING ROW
884.38 57.51
882.30 109.62
SEL SA

33+00.00

885.87 32.00
885.78 57.48
885.52 66.13
885.34 72.13
884.88 76.13
883.67 83.40
881.44 96.73
881.44 106.73
EXISTING ROW
884.45 57.48
882.70 110.50
SEL SA

32+50.00

885.95 31.96
885.84 57.46
885.55 67.14
885.37 73.14
884.91 77.14
883.70 84.40
881.55 97.30
881.55 107.30
EXISTING ROW
884.50 57.47
882.42 109.91
SEL SA

32+00.00

885.97 31.94
885.89 57.46
885.57 68.14
885.39 74.14
884.93 78.14
883.72 85.41
881.65 97.83
881.65 107.83
EXISTING ROW
884.56 57.46
882.15 109.33
SEL SA

31+50.00

886.00 31.92
885.95 57.45
885.60 69.14
885.42 75.14
884.96 79.14
883.75 86.41
881.75 98.38
881.75 108.38
EXISTING ROW
884.61 57.46
882.23 109.82
SEL SA

31+00.00

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.33

10:02:46 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

EXISTING ROW

RR-15, 368 LT: SELECT SAND TO EL. 863

885.46 32.02
885.37 57.53
883.31 81.64
884.03 57.54
SEL SA
SEL SA
SEL SA

35+50.00

EXISTING ROW

RR-15, 368 LT: SELECT SAND TO EL. 863

885.52 32.04
885.46 57.54
883.43 80.49
884.12 57.55
SEL SA
SEL SA
SEL SA

35+00.00

EXISTING ROW

RR-15, 368 LT: SELECT SAND TO EL. 863

885.58 32.07
885.51 57.58
885.38 62.12
885.14 68.12
883.48 80.96
884.18 57.58
SEL SA
SEL SA
SEL SA

34+50.00

EXISTING ROW

RR-14, 479 LT: SELECT SAND TO EL. 866

885.63 32.09
885.57 57.61
885.40 63.13
885.16 69.13
881.62 91.95
884.24 57.61
883.55 80.39
SEL SA
SEL SA
SEL SA

34+00.00

EXISTING ROW

RR-14, 479 LT: SELECT SAND TO EL. 866

885.73 32.04
885.65 57.55
885.45 64.13
885.27 70.13
884.81 74.13
883.60 81.40
881.24 95.53
881.24 105.53
884.31 57.55
881.74 107.02
SEL SA
SEL SA
SEL SA

33+50.00

EXISTING ROW

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.34

10:02:47 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

US218
FINAL

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

EXISTING ROW

885.25
31.83

885.21
57.38

883.73
77.88

884.54
57.46

SEL SA

37+50.00

RR-15, 368 LT: SELECT SAND TO EL. 863

885.25
31.83

885.25
57.42

883.74
78.54

884.58
57.42

37+00.00

RR-15, 368 LT: SELECT SAND TO EL. 863

885.28
31.86

885.25
57.44

883.74
78.58

884.59
57.44

36+82.71

RR-15, 368 LT: SELECT SAND TO EL. 863

885.33
31.91

885.26
57.49

883.23
80.78

883.93
57.49

36+50.00

RR-15, 368 LT: SELECT SAND TO EL. 863

885.40
32.00

885.27
57.51

883.22
81.50

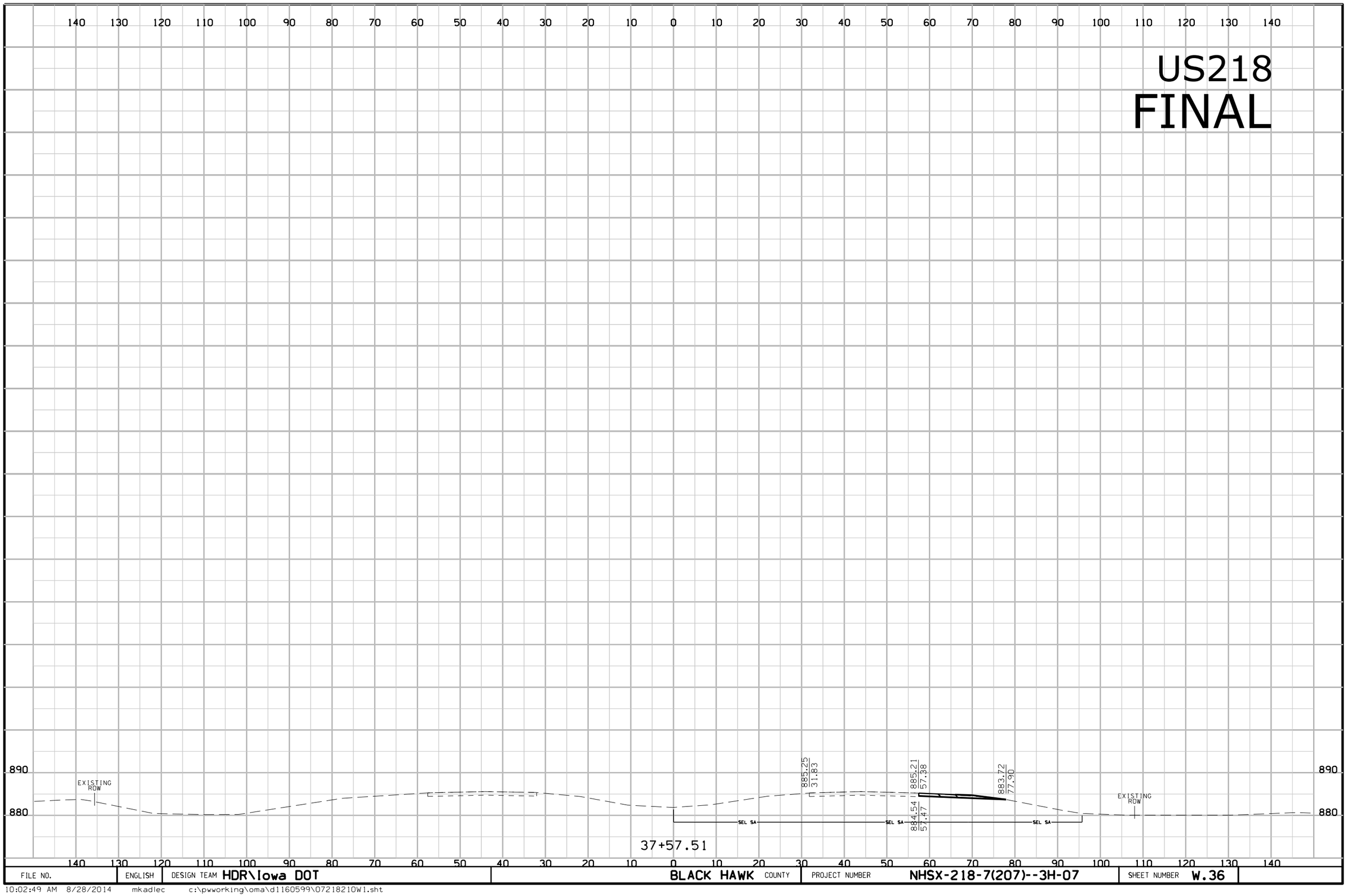
883.94
57.51

36+00.00

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.35

10:02:48 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

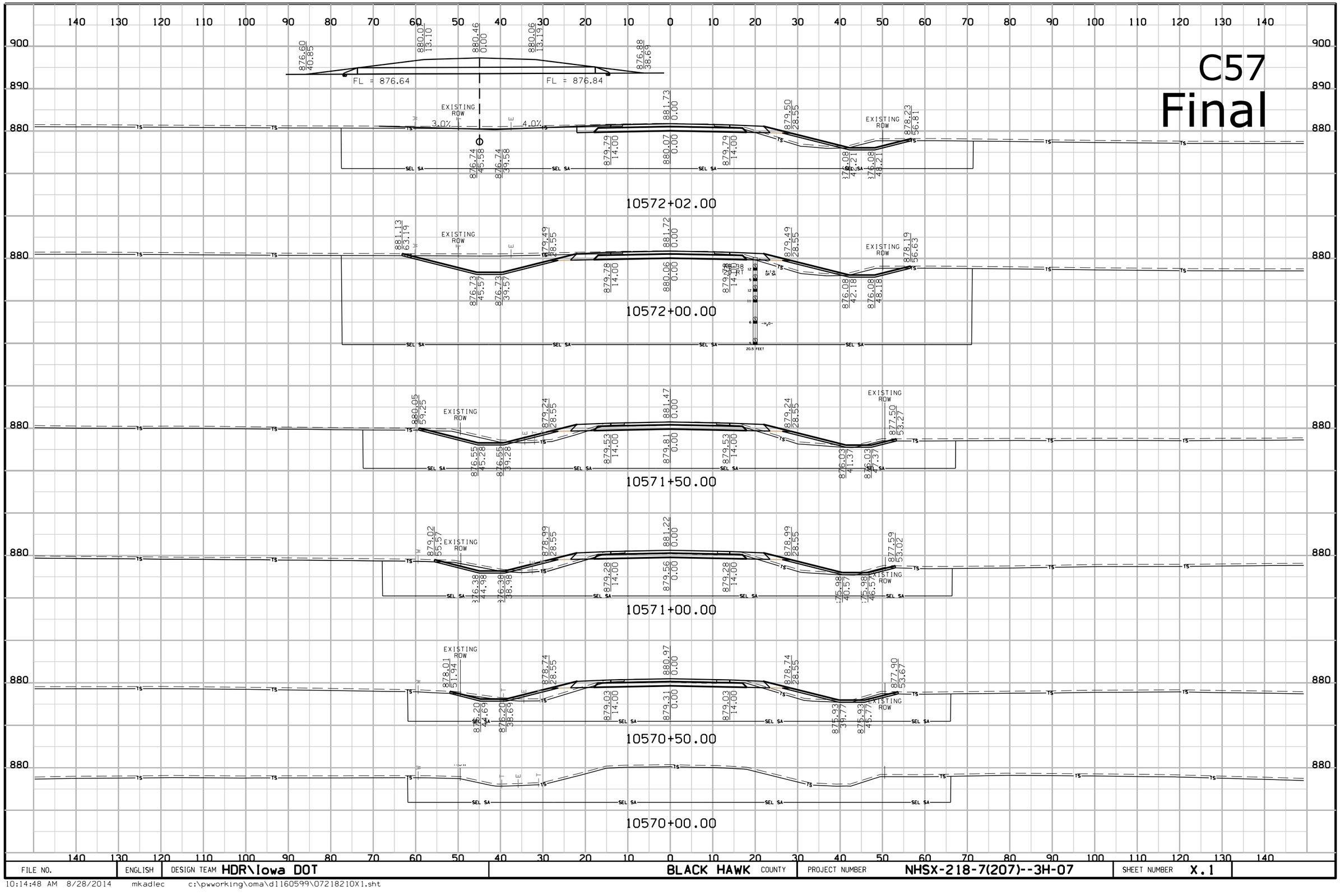
US218
FINAL



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER W.36

10:02:49 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210W1.sht

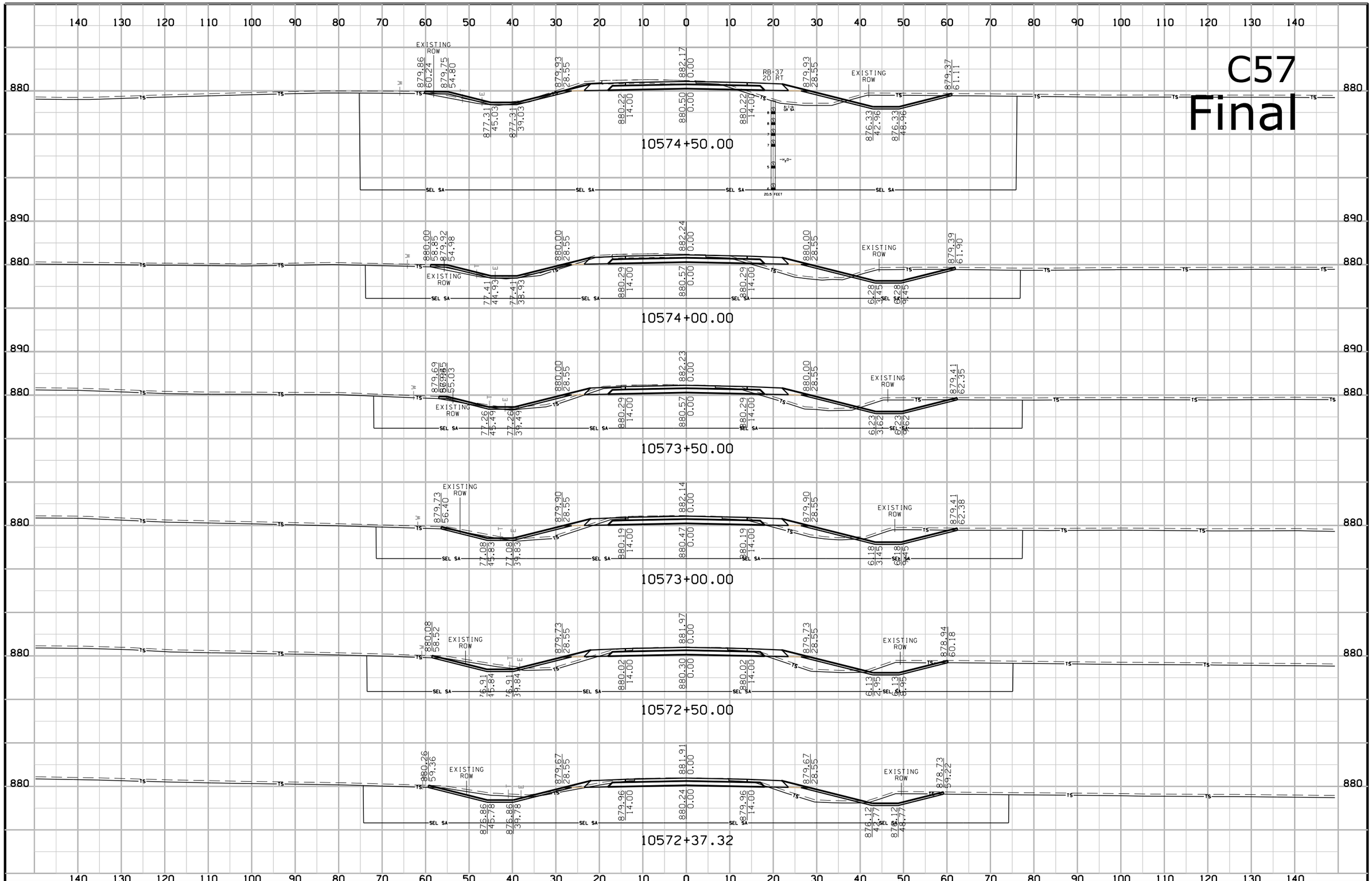
C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.1

10:14:48 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

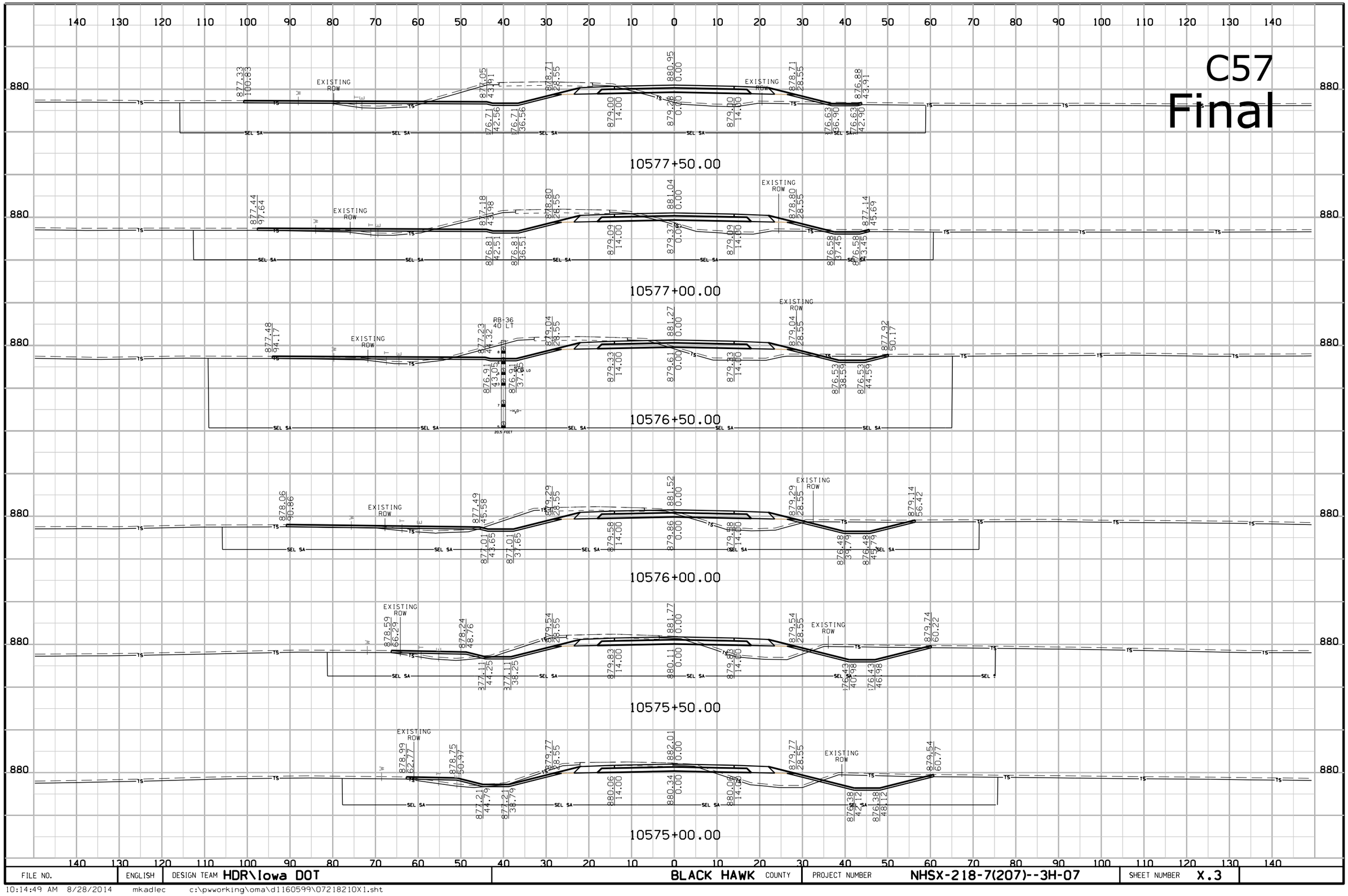
C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.2

10:14:48 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

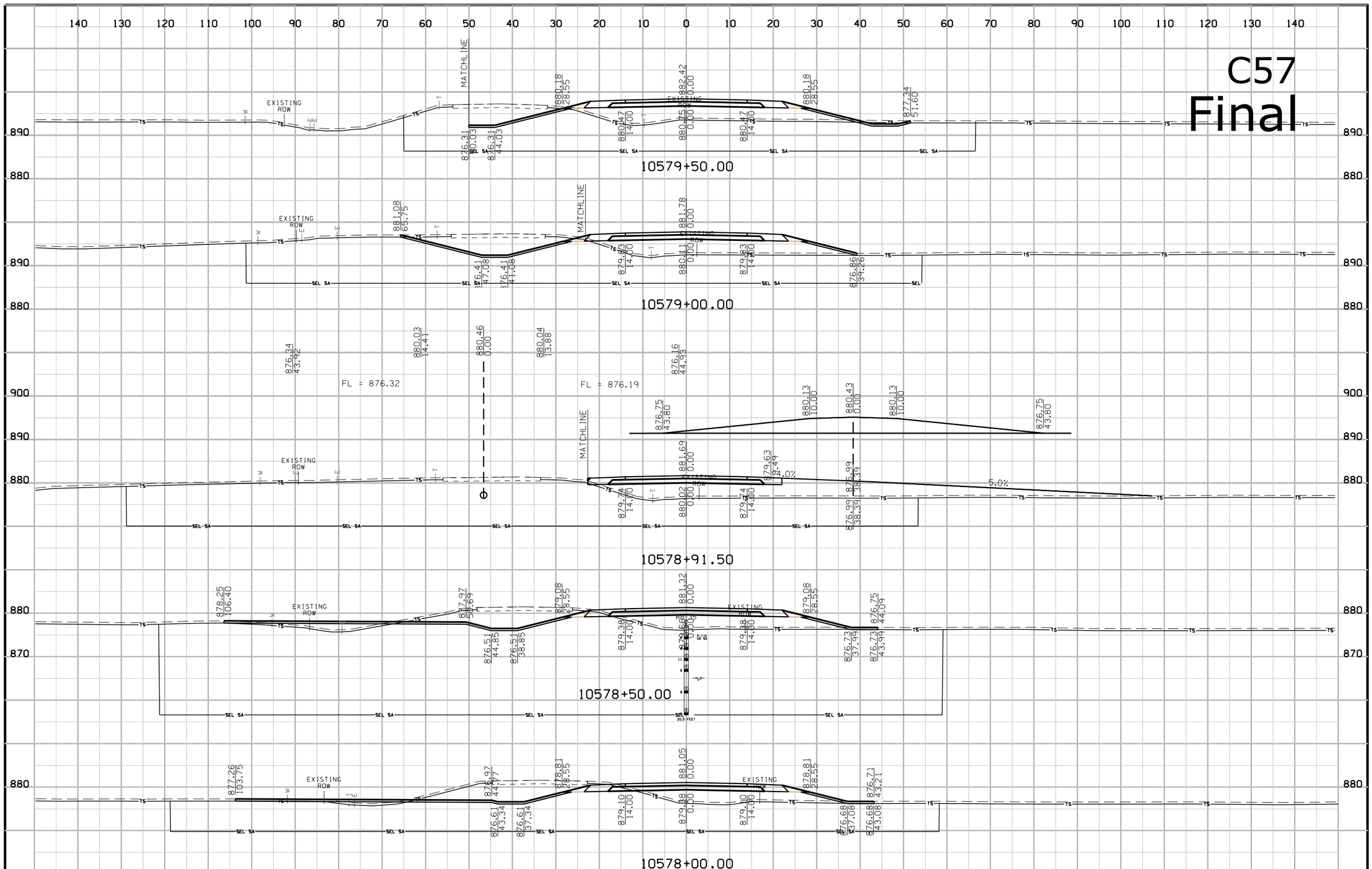
C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.3

10:14:49 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

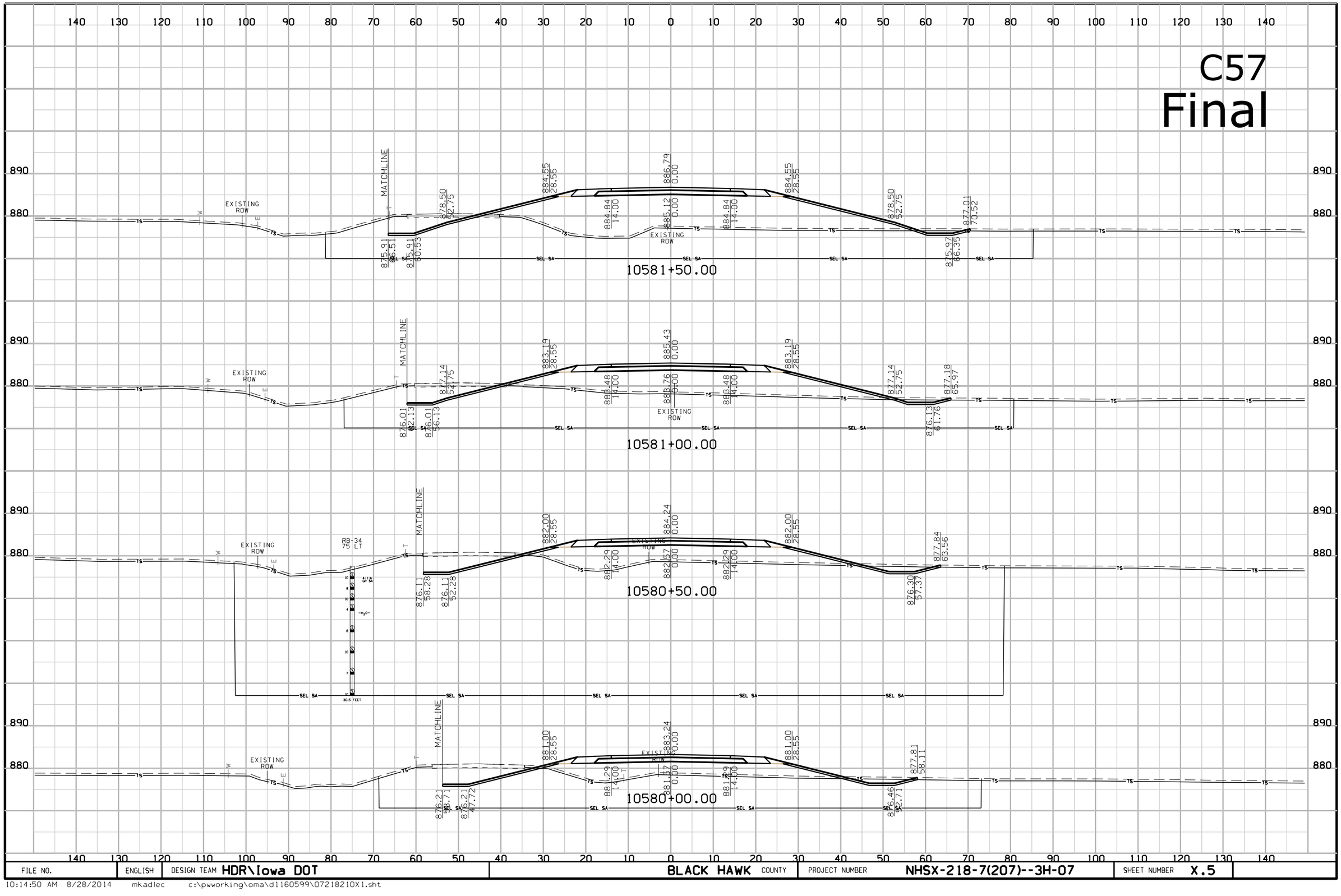
C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.4

10:14:49 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

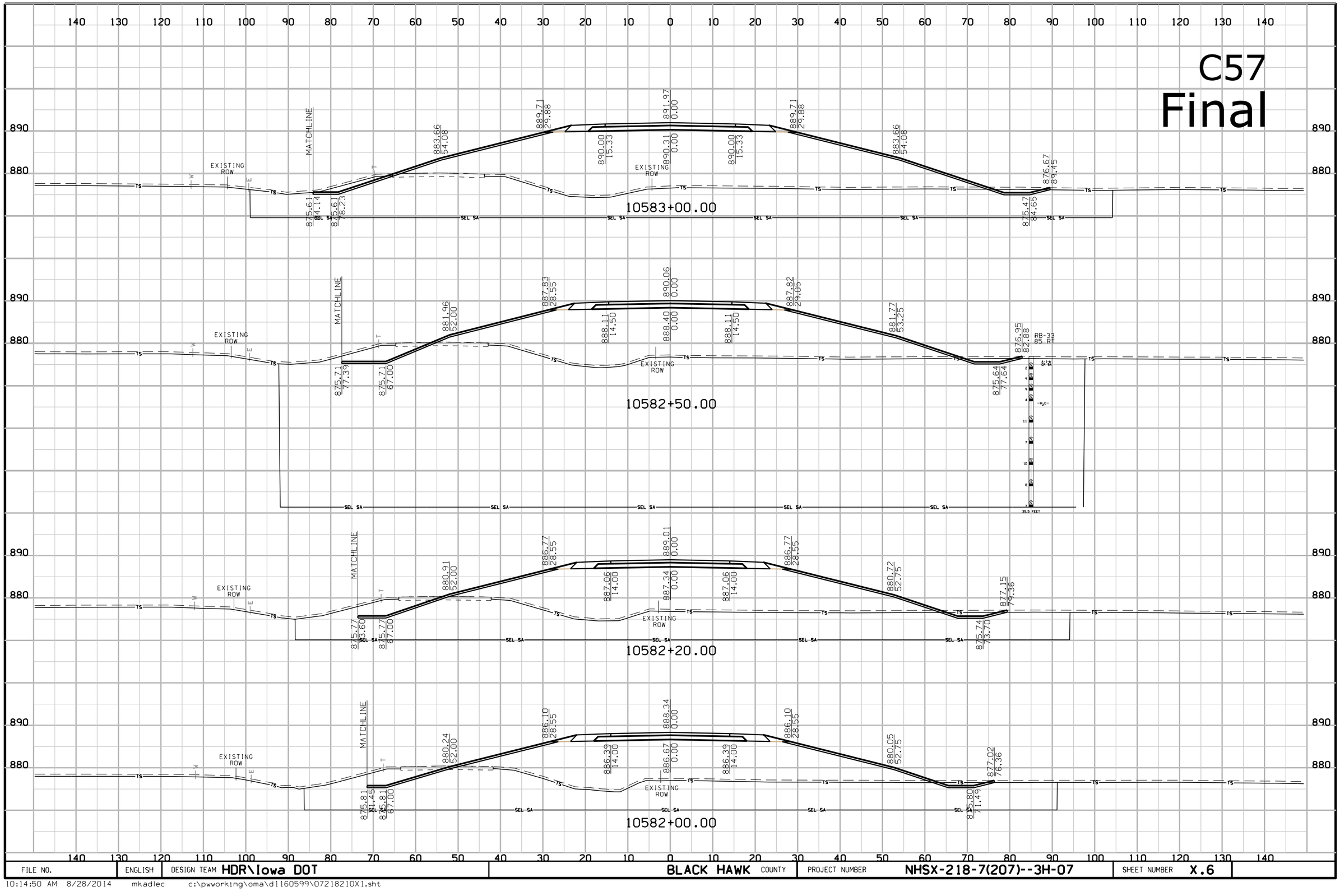
C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.5

10:14:50 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.6

10:14:50 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

C57
Final

10585+00.00

10584+50.00

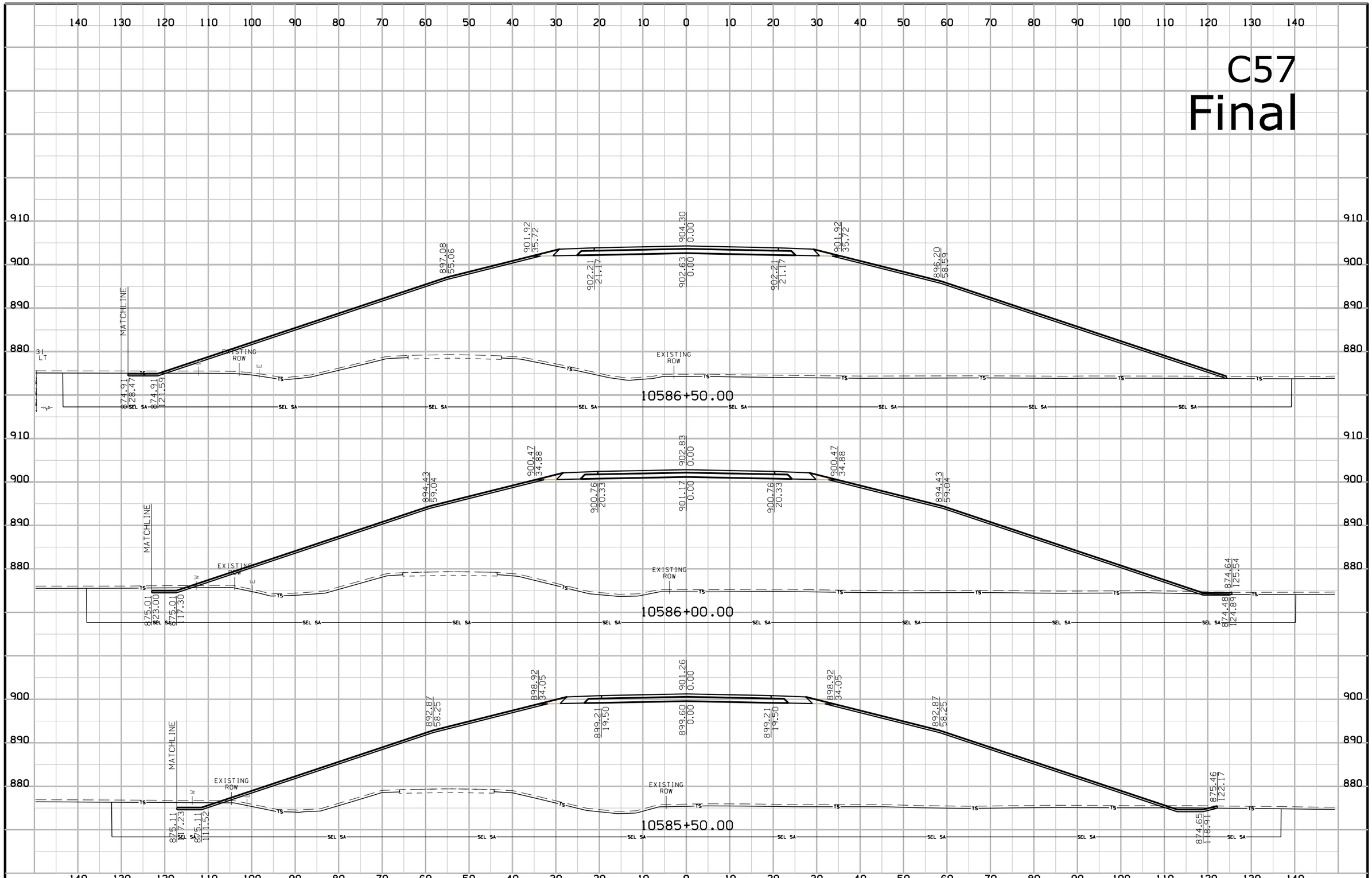
10584+00.00

10583+50.00

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.7

10:14:50 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

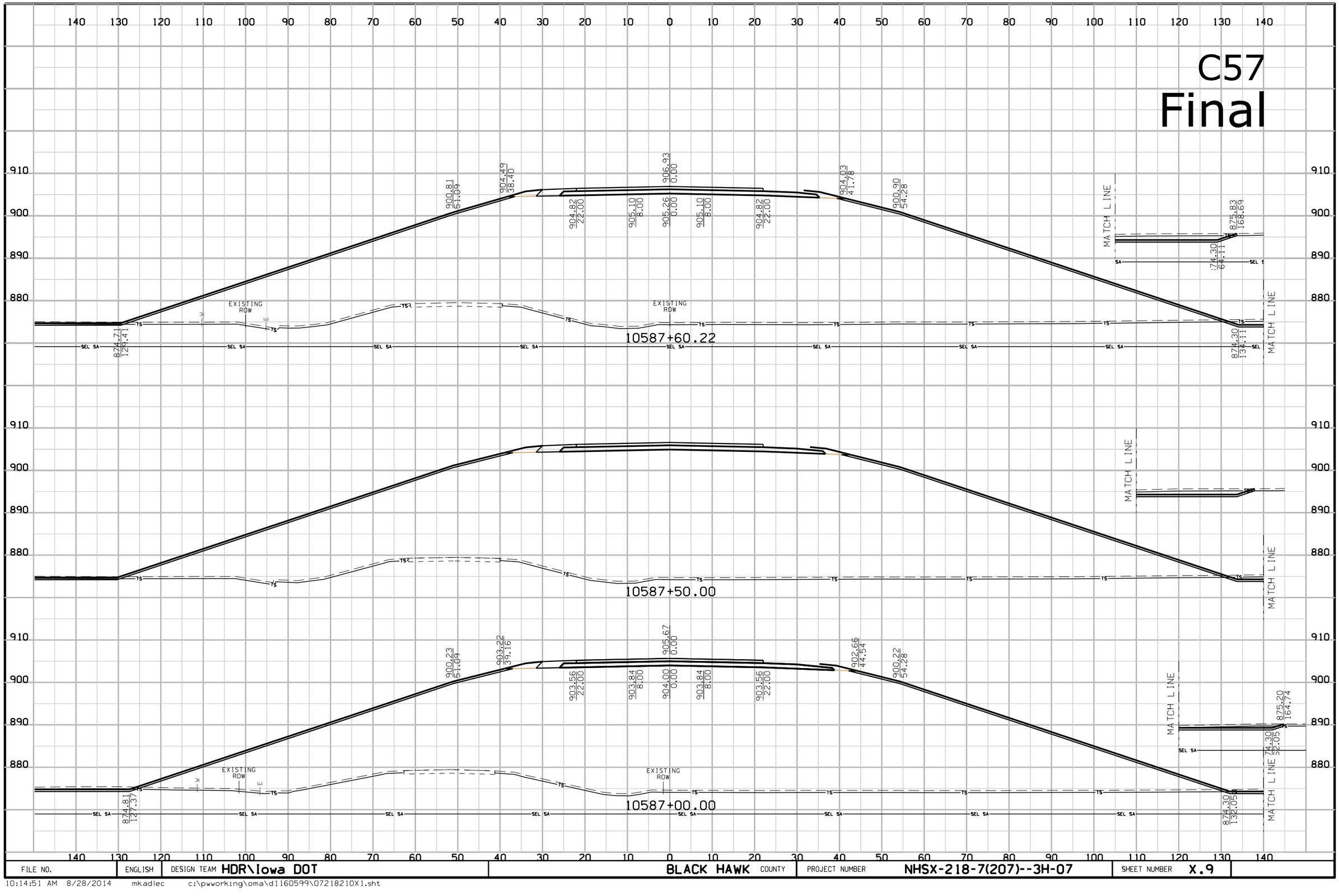
C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.8

10:14:51 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\0721821OX1.sht

C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.9

10:14:51 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

C57
Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

910
900
890
880

908.09
0.00

EXISTING ROW

374.84
19.28

TS
SEL SA

10588+00.00

74.30
30.35

907.52
0.00

899.31
60.00

MATCH LINE

876.29
168.57

374.90
13.23

BR-8
25 RT

10587+82.17

10587+75.24

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.10

10:14:52 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

C57
Final

910.97
0.00

EXISTING ROW
EXISTING ROW
BR-6
15 RT
10589+50.00

910.11
0.00

EXISTING ROW
EXISTING ROW
10589+00.00

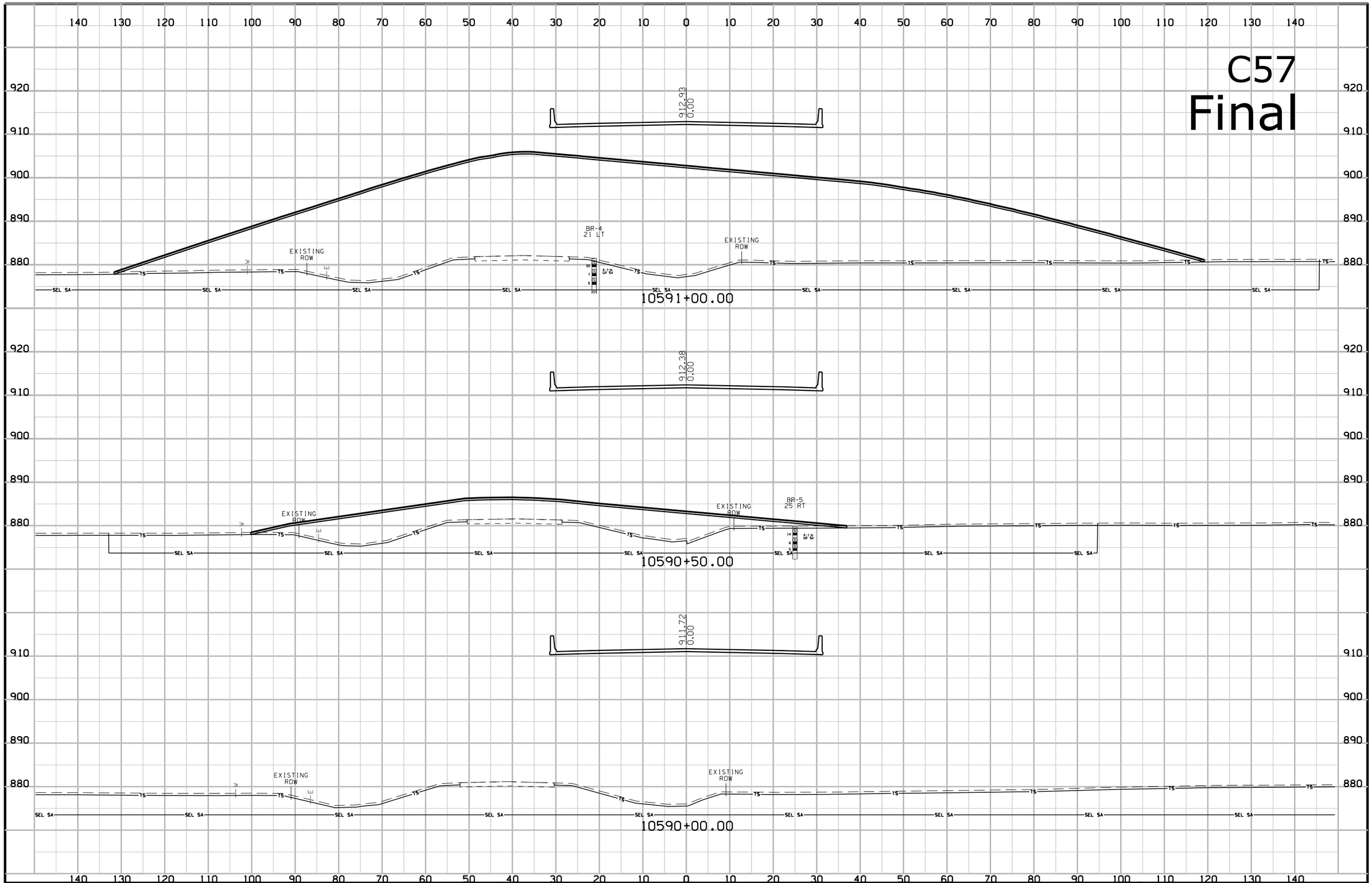
909.15
0.00

BR-7
30 LT
EXISTING ROW
EXISTING ROW
10588+50.00

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.11

10:14:52 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.12

10:14:53 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

Final C57

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.13

10:14:53 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

C57
Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

920 910 900 890 880

902.69 MATCHLIN
88.59
910.89
56.96
911.87
22.00
912.15
8.00
913.97
0.00
912.31
0.00
912.15
8.00
911.87
22.00
910.97
43.87
891.57 MATCHLINE
128.48

EXISTING ROW
W
E
TS
YS
SEL SA
10592+50.00

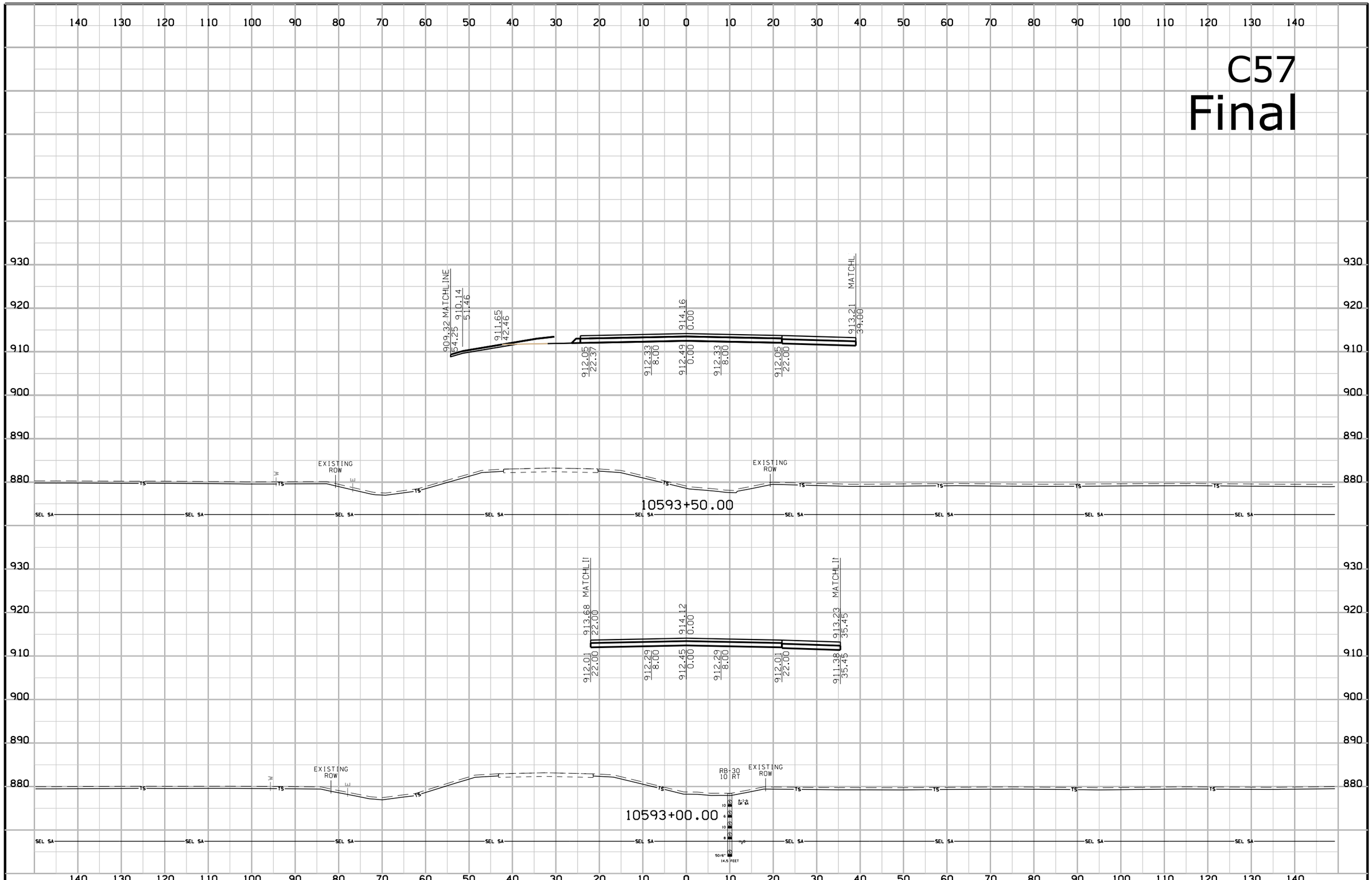
910.29
51.22
911.62
22.00
911.90
8.00
913.73
0.00
912.06
0.00
911.90
8.00
911.62
22.00
911.22
42.09
MATCH LINE
881.63
177.79
78.80
59.31
879.95
135.66
EXISTING ROW
10592+00.00
MATCH LINE

878.61
174.65
78.22
73.48
908.40
57.83
909.91
48.83
911.26
22.33
911.55
8.00
913.38
0.00
911.71
0.00
911.55
8.00
911.27
22.00
910.90
40.59
909.10
49.59
MATCH LINE
881.44
173.67
78.25
54.09
78.25
64.09
MATCH LINE
EXISTING ROW
10591+50.00
MATCH LINE

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.14

10:14:53 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.15

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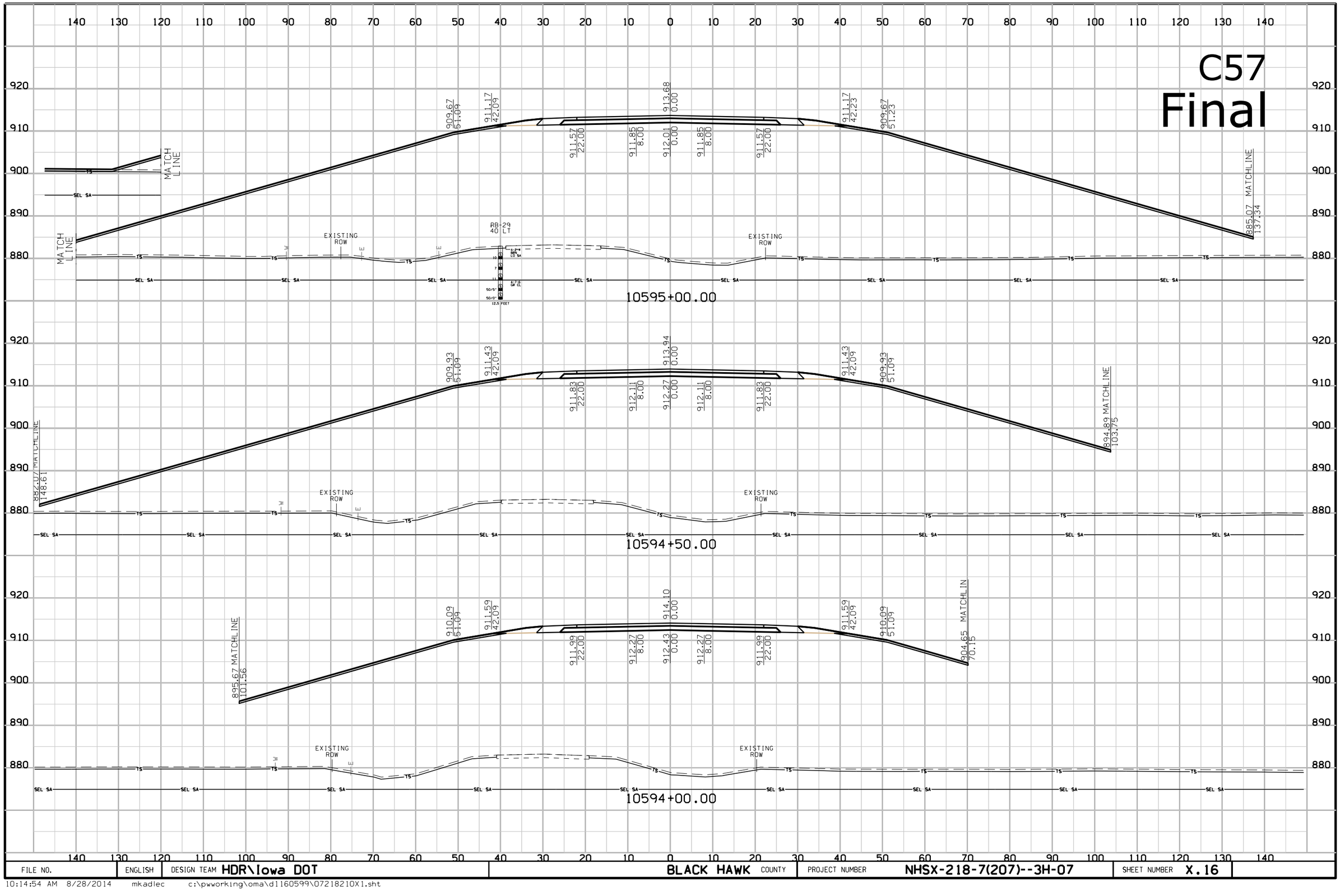
C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.16

10:14:54 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

C57
Final

10596+28.11

10596+00.00

10595+50.00

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.17	

10:14:55 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

C57
Final

911.61
0.00

SEL SA

10597+00.00

905.51
51.09
909.85
38.04
910.17
22.00
910.45
8.00
912.28
0.00
910.61
0.00
910.45
8.00
910.17
22.00
909.50
38.88
904.36
54.28
MATCH LINE
880.89
135.48
880.80
135.21
880.80
125.21
EXISTING ROW
BR-3
28 RT
879.49
150.92
77.49
34.92

10596+50.00

905.56
51.09
909.94
37.96
910.26
22.00
910.54
8.00
912.37
0.00
910.70
0.00
910.54
8.00
910.26
22.00
909.58
38.88
904.45
54.28
879.23
151.93
881.23
136.58
880.82
135.34
880.82
125.34
77.23
35.93

10596+43.11

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.18

10:14:55 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

C57
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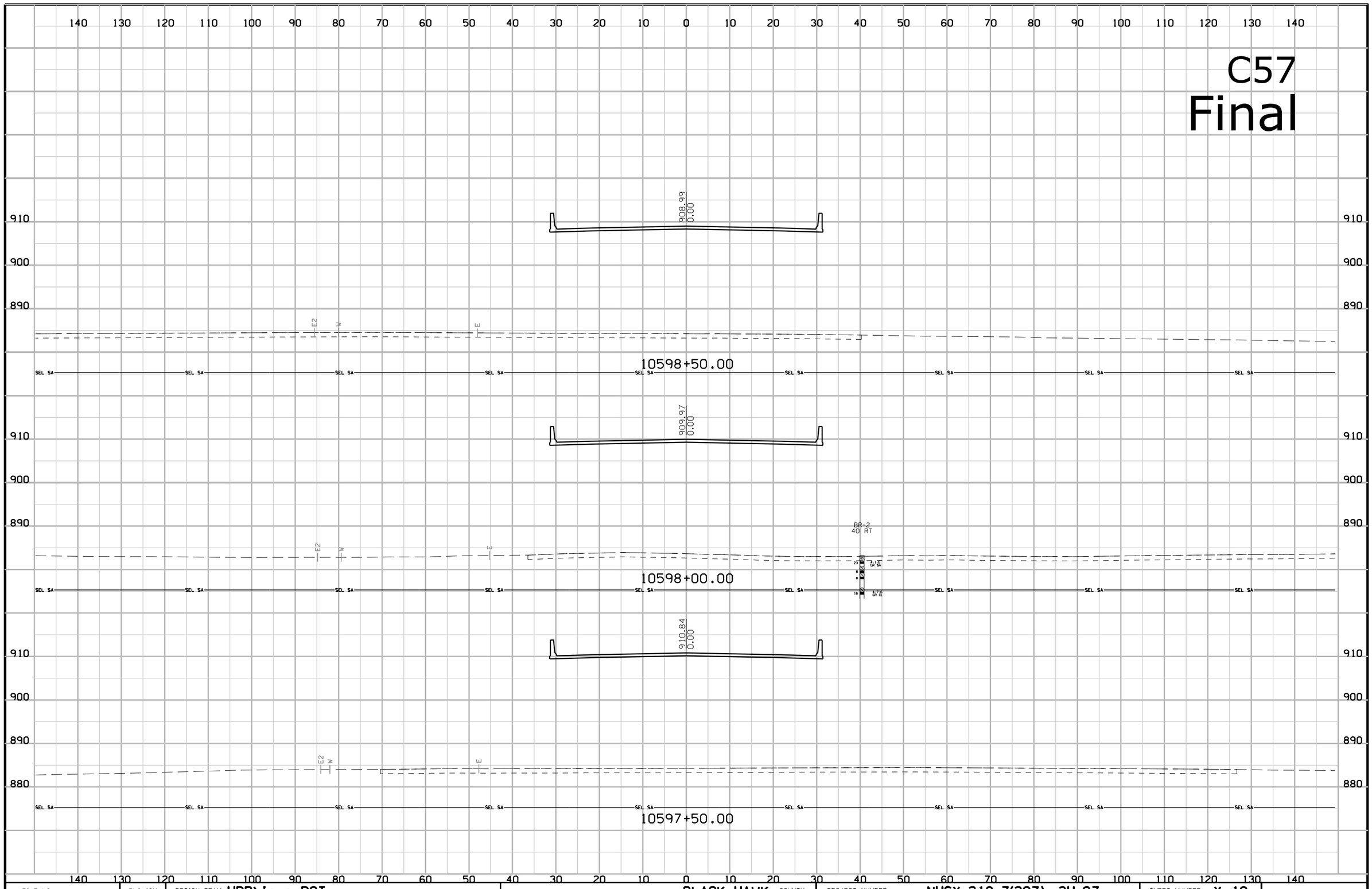

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.19

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C57
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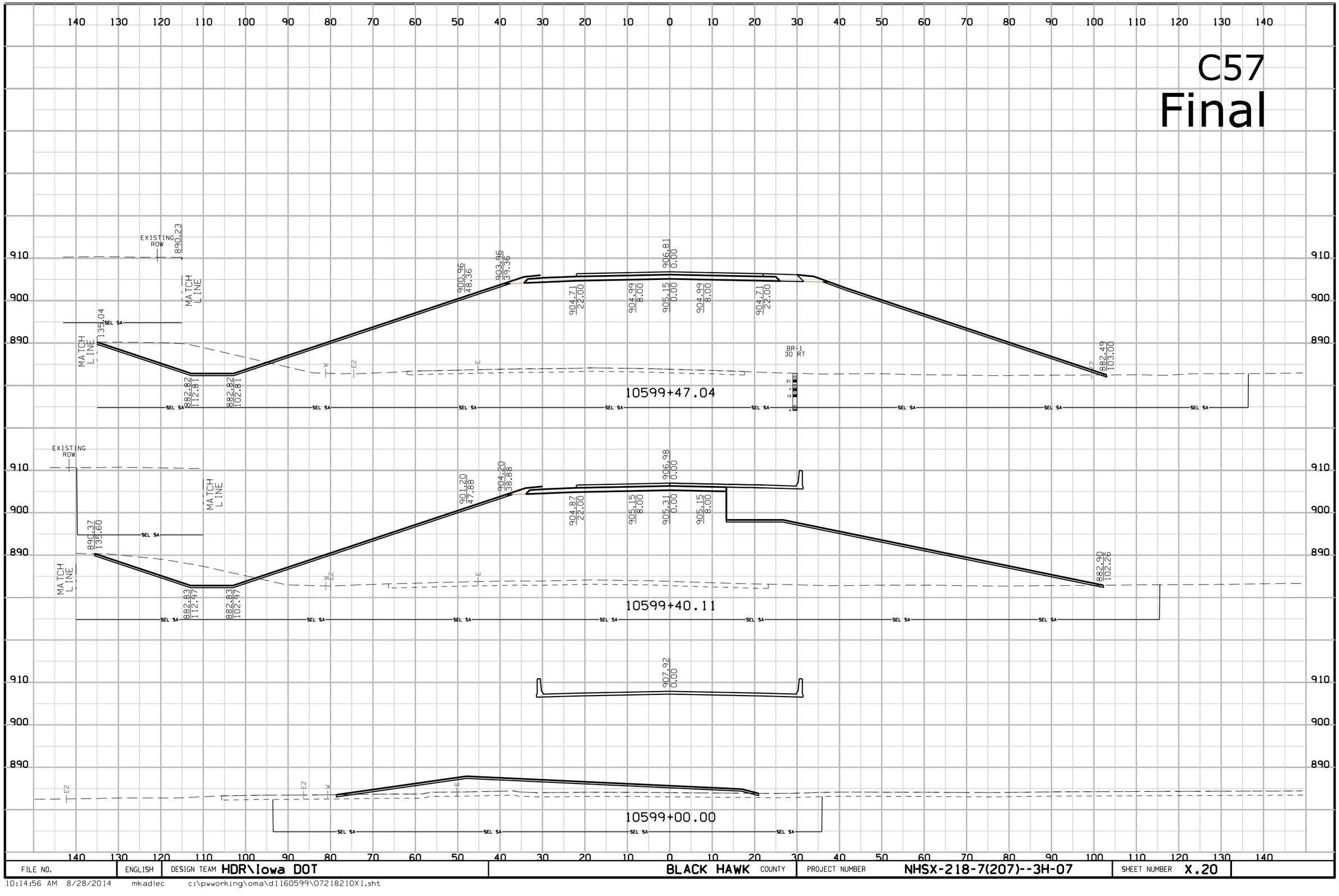

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.20

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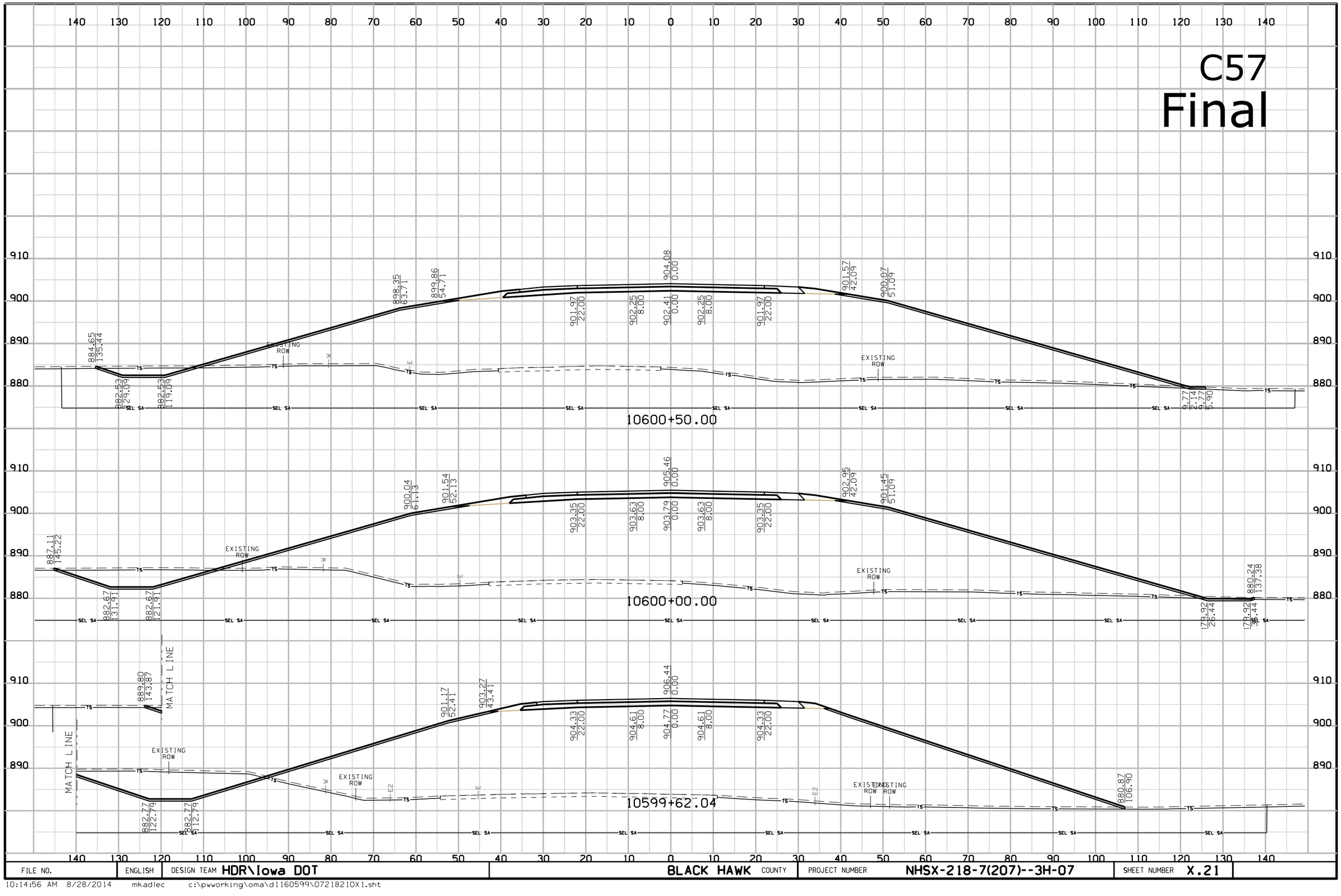
C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.21

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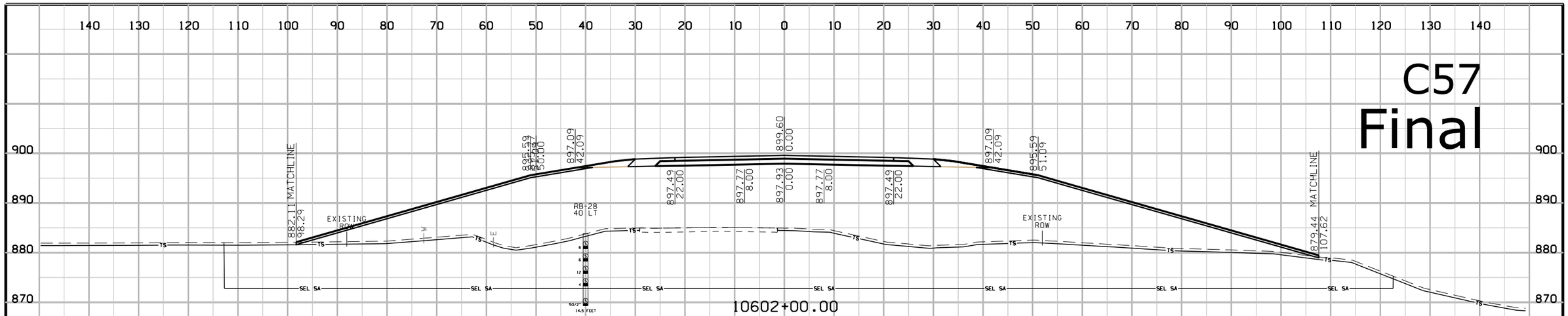
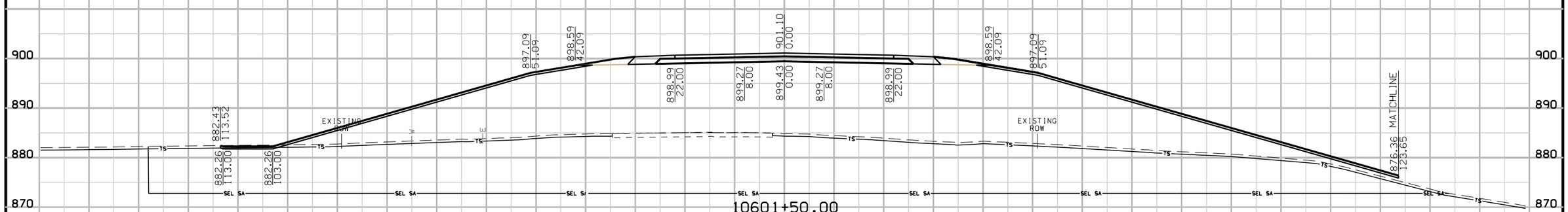
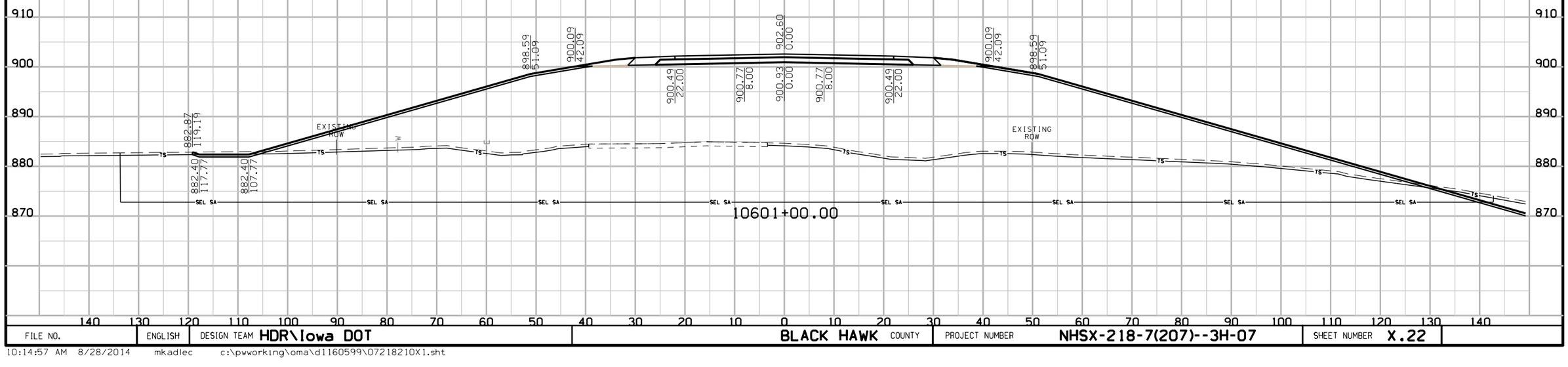
C57
Final







FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.22

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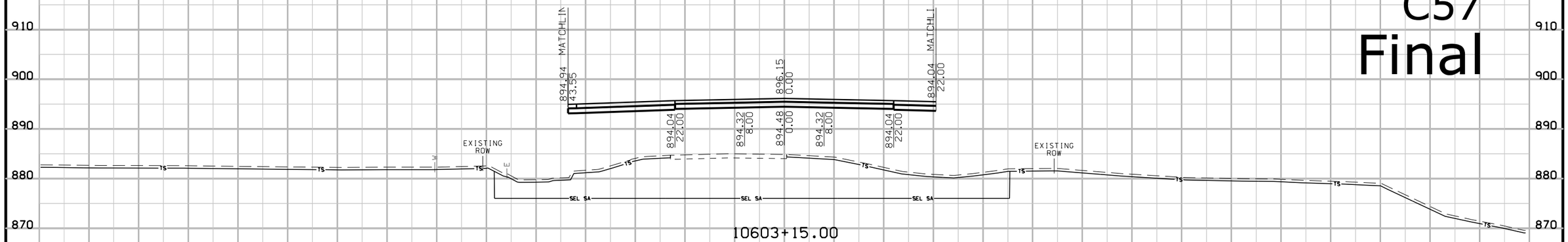
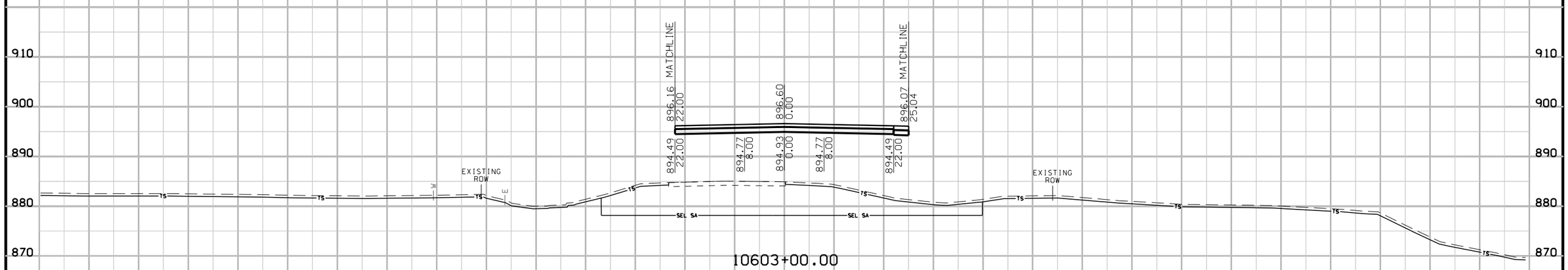
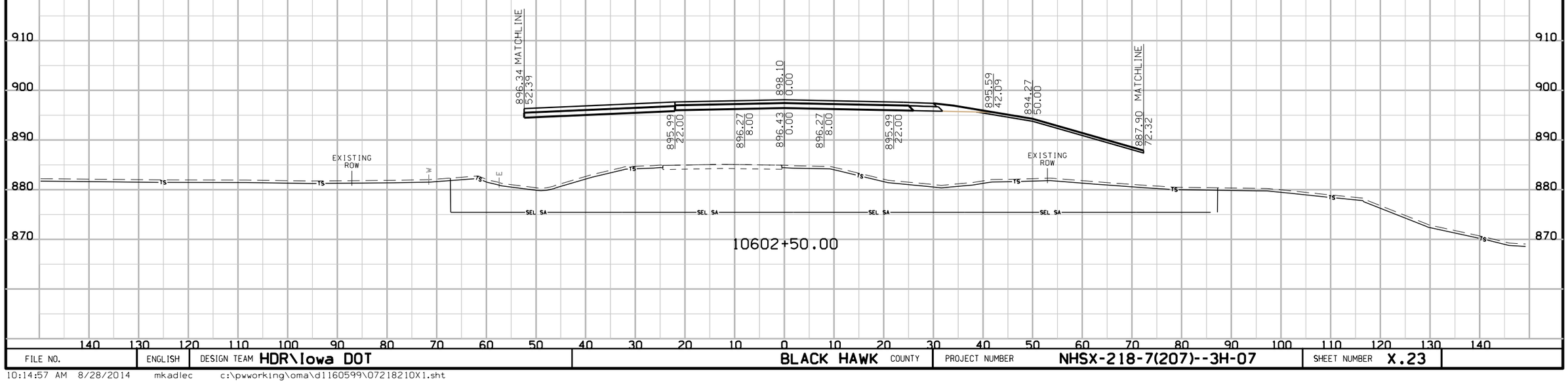
C57
Final







FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.23

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C57
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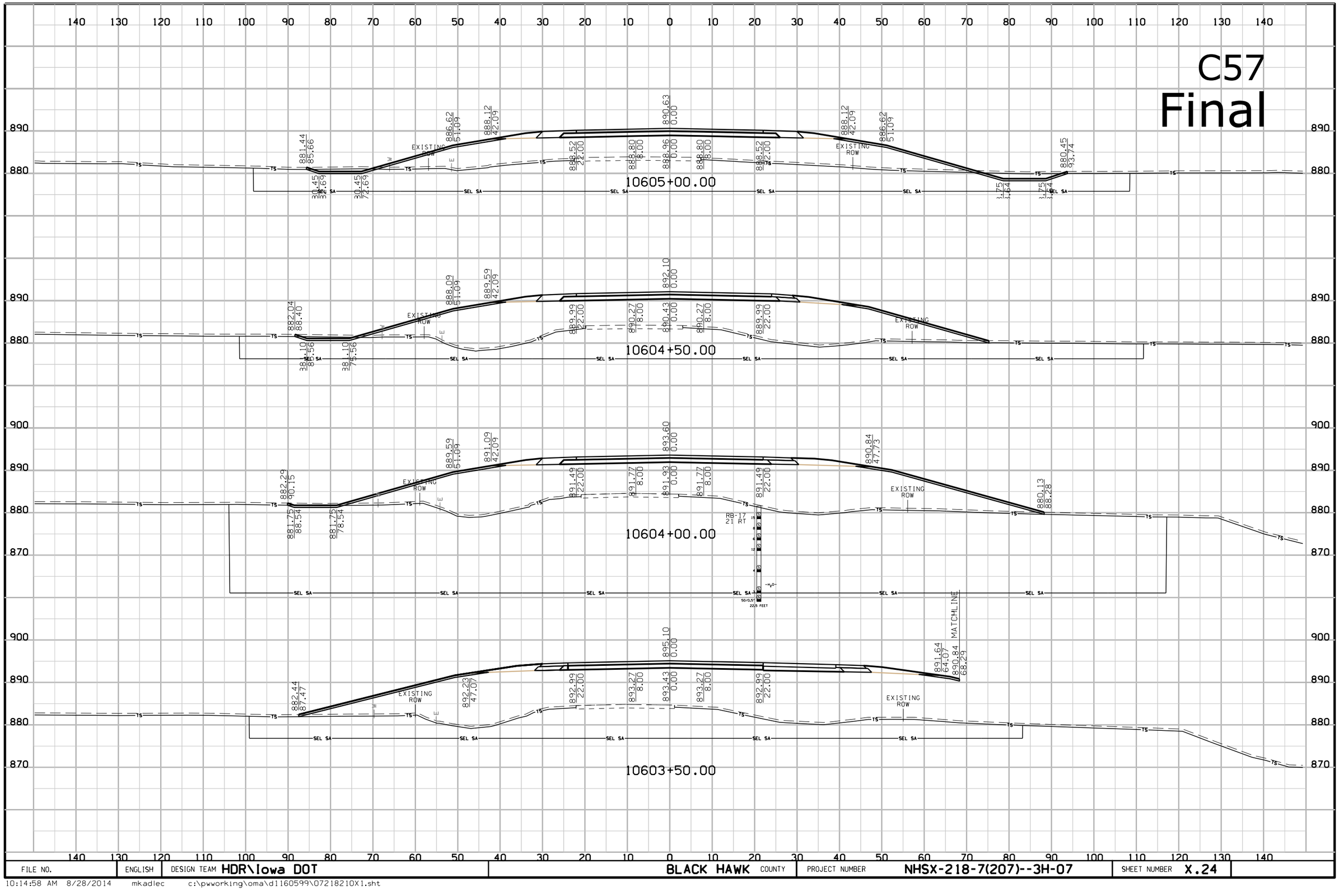

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.24

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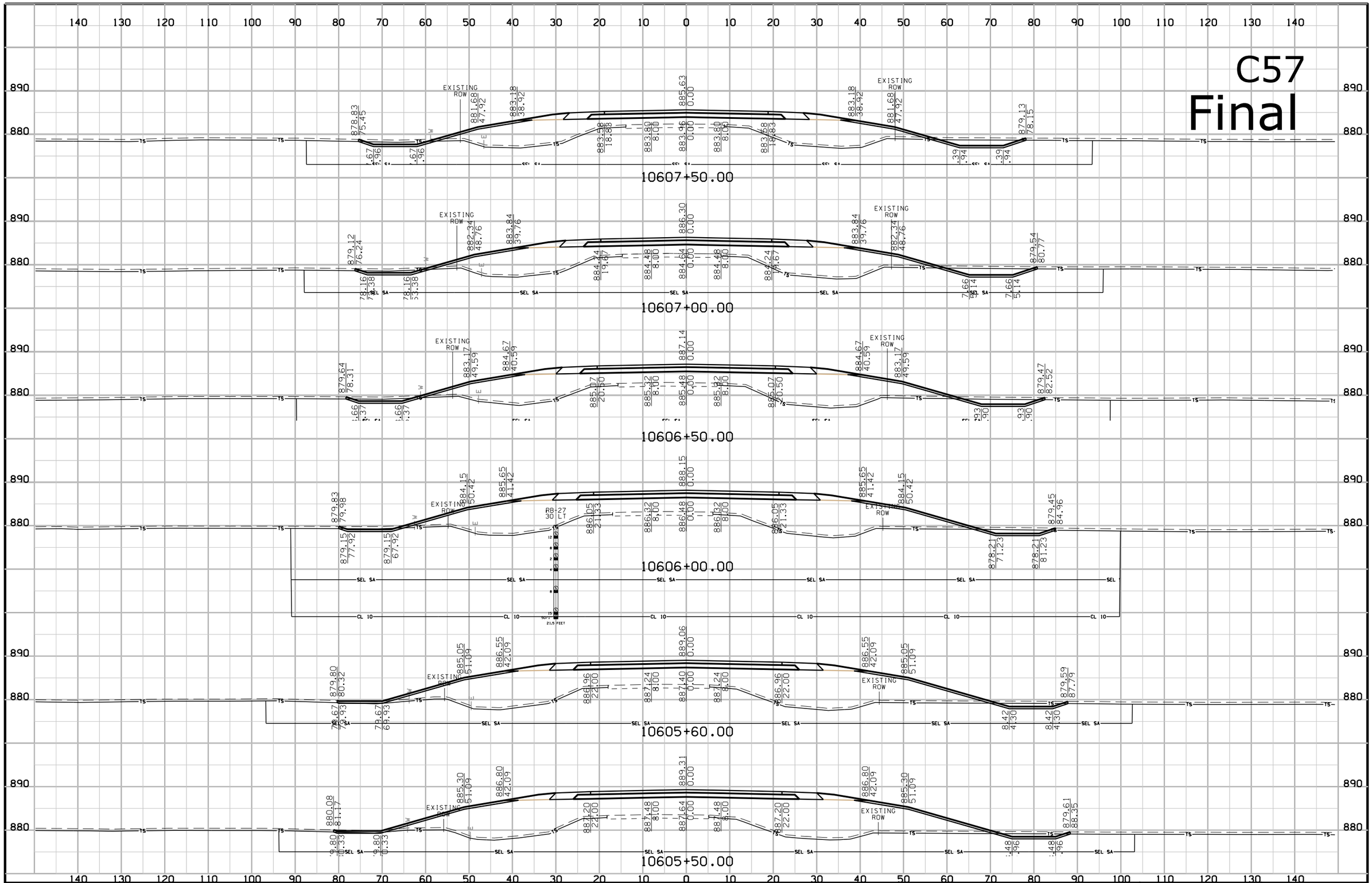
C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.25

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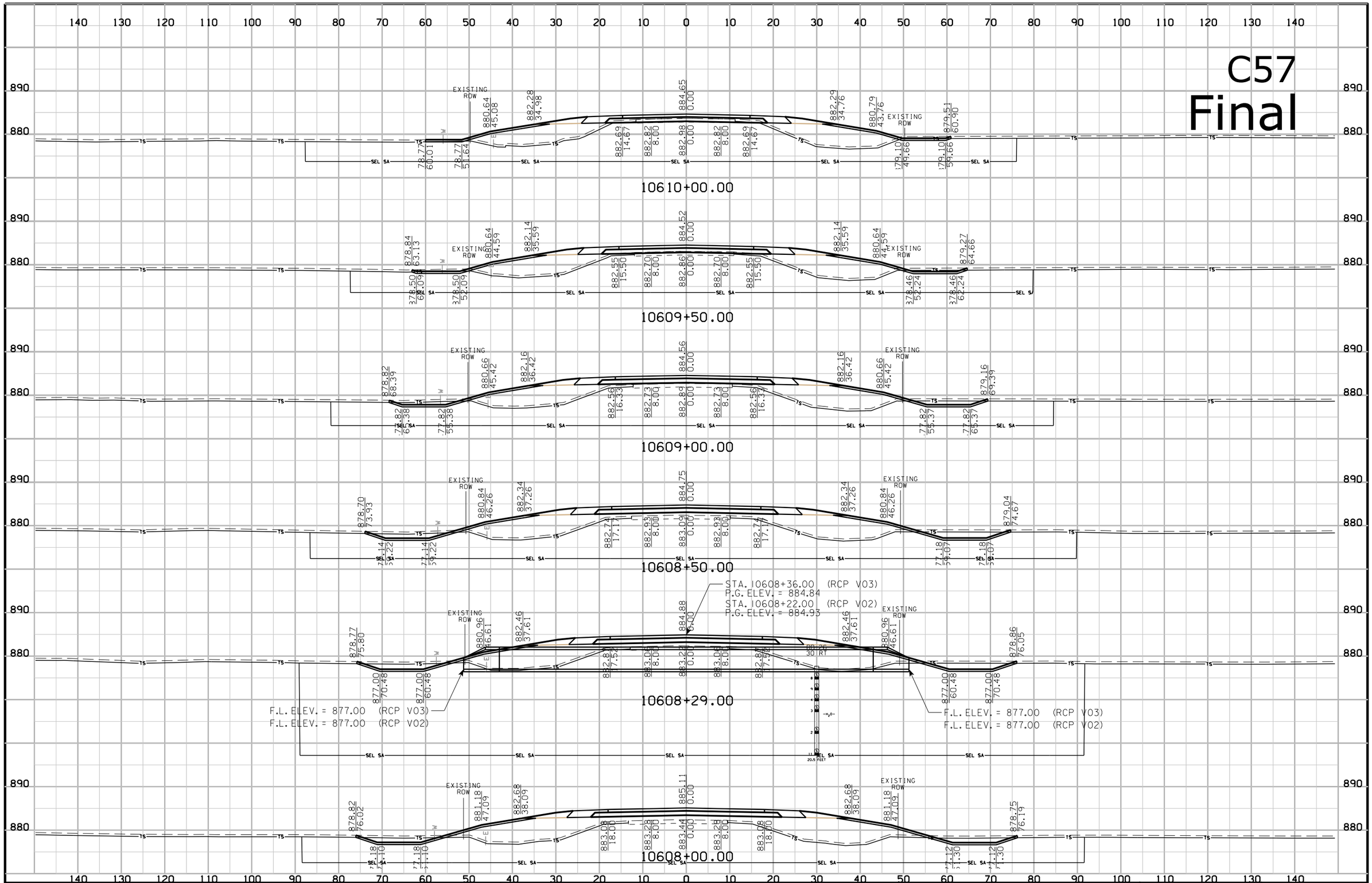
C57
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.26

10:15:09 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

C57
Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890

TS TS TS L E TS TS RB-24 30 RT TS TS TS

10612+50.00

SEL SA SEL SA SEL SA SEL SA SEL SA SEL S

890

884.53 62.03 EXISTING ROW W 882.70 39.33 E 884.59 27.97 886.74 0.00 884.67 27.97 882.77 39.33 EXISTING ROW 884.24 60.91

881.59 53.20 881.59 43.20 884.92 11.33 885.07 0.00 885.00 11.33 881.67 43.20 881.67 53.20

10612+00.00

900 890

883.77 12.00 884.13 0.00 883.77 12.00 883.9 12.00 884.2 0.00 883.9 12.00

FL = 879.68 FL = 880.92 FL = 881.29 FL = 880.69

EXISTING ROW 8.0% 4.0% E 886.00 0.00 4.0% EXISTING ROW 8.0%

884.09 12.17 884.17 8.00 884.33 0.00 884.17 8.00 884.09 12.17

SEL SA SEL SA SEL SA SEL SA

10611+50.00

890 880

880.18 62.64 EXISTING ROW W 881.56 42.09 883.06 33.09 885.39 0.00 883.06 33.09 881.56 42.09 EXISTING ROW 880.98 58.01

9.30 9.99 9.30 9.99 883.46 13.00 883.56 8.00 883.72 0.00 883.56 8.00 883.46 13.00 80.38 46.21 80.38 57.21

SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA

10611+00.00

890 880

EXISTING ROW 880.93 45.08 W 882.58 34.52 RB-25 25 LT 884.94 0.00 882.59 33.92 881.09 42.92 EXISTING ROW 879.85 57.99

879.03 58.88 879.03 51.71 882.99 13.83 883.11 8.00 883.27 0.00 883.11 8.00 882.99 13.83 879.74 47.66 879.74 57.66

SEL SA SEL SA SEL SA SEL SA SEL SA SEL SA

10610+50.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.27

10:15:10 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

Frontage Road

Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 / 880

EXISTING ROW

879.76 E 44.26 | 880.56 E 0.00 | 879.83 T 15.80 | 878.43 T 25.99 | 876.43 MATCHLINE 40.72

TS SEL SA

100579+75.00

879.31 MATCHLINE 24.48 | 879.93 15.26 | 880.61 0.00 | 879.98 T 14.39 | 876.35 40.87 | 876.35 MATCHLINE 45.47

EXISTING ROW

TS SEL SA

100579+50.00

TS SEL SA

100579+38.14

876.50 MATCHLINE 44.97 | 880.12 15.97 | 880.73 0.00 | 880.24 14.77 | 876.29 MATCHLINE 46.44

TS SEL SA

100579+36.95

878.61 MATCHLINE 33.40 | 880.24 25.34 | 880.92 0.00 | 880.55 20.16 | 878.83 MATCHL 35.30

TS SEL SA

100579+25.00

RB-36 21 LT

TS SEL SA

100579+14.20

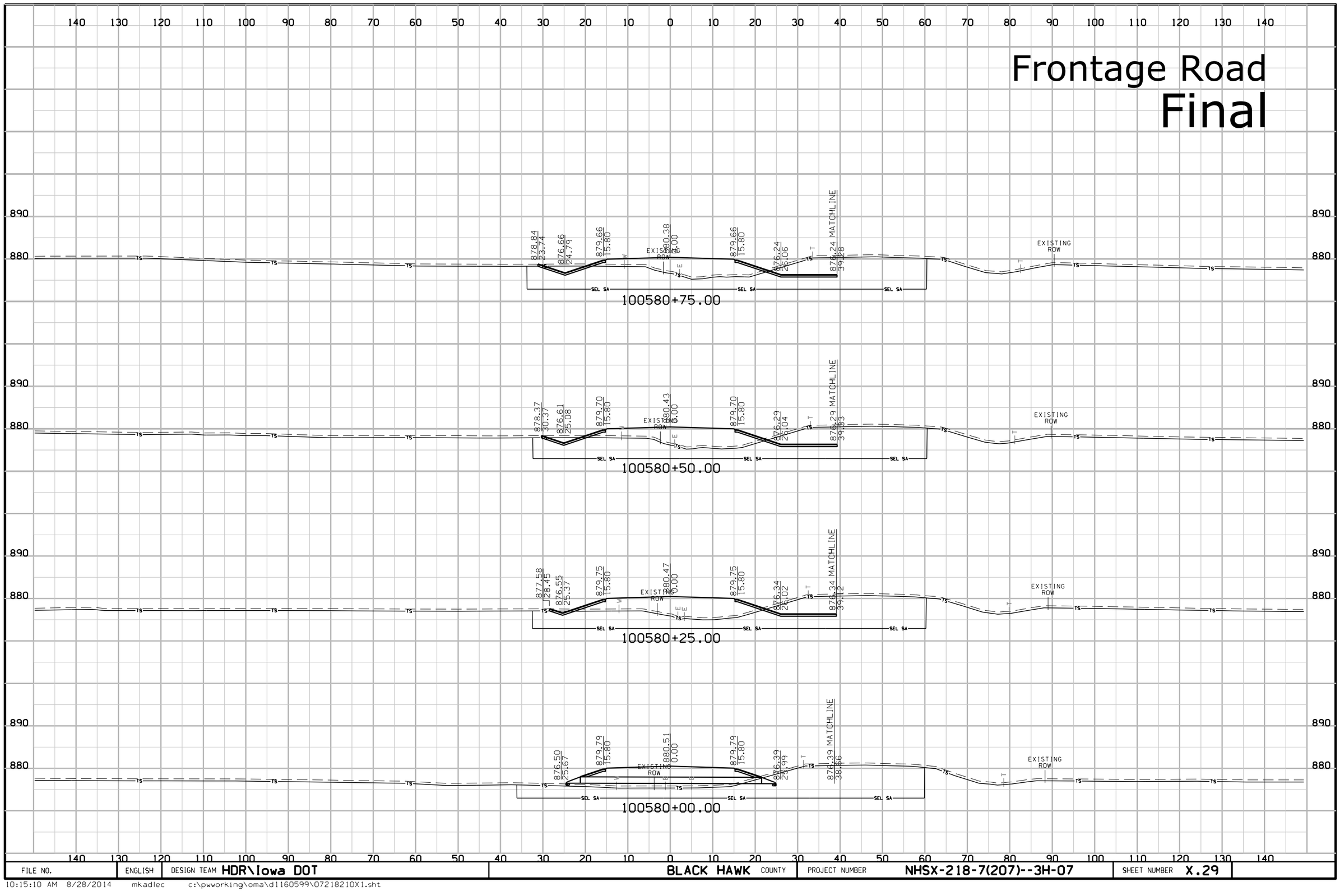
20.5 FEET

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.28

10:15:10 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

Frontage Road
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.29

10:15:10 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

Frontage Road
Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

879.57 31.68 | 876.88 23.63 | 879.49 15.80 | 880.21 4.00 EXISTING ROW | 879.49 15.80 | 876.04 26.15 | 876.04 38.06 MATCHLINE | EXISTING ROW

SEL SA — SEL SA — SEL SA

100581+75.00

879.45 31.79 | 876.83 23.92 | 879.53 15.80 | 880.26 4.00 EXISTING ROW | 879.53 15.80 | RB-34 23 RT | 876.09 26.13 | 876.09 38.44 MATCHLINE | EXISTING ROW

SEL SA — SEL SA — SEL SA

100581+50.00

879.22 31.55 | 876.77 24.21 | 879.58 15.80 | 880.30 4.00 EXISTING ROW | 879.58 15.80 | 876.14 26.10 | 876.14 38.61 MATCHLINE | EXISTING ROW

SEL SA — SEL SA — SEL SA

100581+25.00

879.11 31.68 | 876.72 24.50 | 879.62 15.80 | 880.34 4.00 EXISTING ROW | 879.62 15.80 | 876.19 26.08 | 876.19 38.98 MATCHLINE | EXISTING ROW

SEL SA — SEL SA — SEL SA

100581+00.00

30.5 FEET

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.30

10:15:11 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

Frontage Road
Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

878.47 26.57 877.10 22.46 879.32 15.80 880.04 0.00 EXISTING ROW 879.32 15.80 875.84 26.23 875.84 34.50 MATCHLINE

TS SEL SA

100582+75.00

878.96 28.51 877.04 22.75 879.36 15.80 880.08 0.00 EXISTING ROW 879.36 15.80 875.89 26.21 875.89 33.70 MATCHLINE

100582+50.00

879.29 29.93 876.99 23.04 879.40 15.80 880.13 0.00 EXISTING ROW 879.40 15.80 875.94 26.19 875.94 36.70 MATCHLINE

100582+25.00

879.50 31.03 876.94 23.33 879.45 15.80 880.17 0.00 EXISTING ROW 879.45 15.80 875.99 26.17 875.99 37.48 MATCHLINE

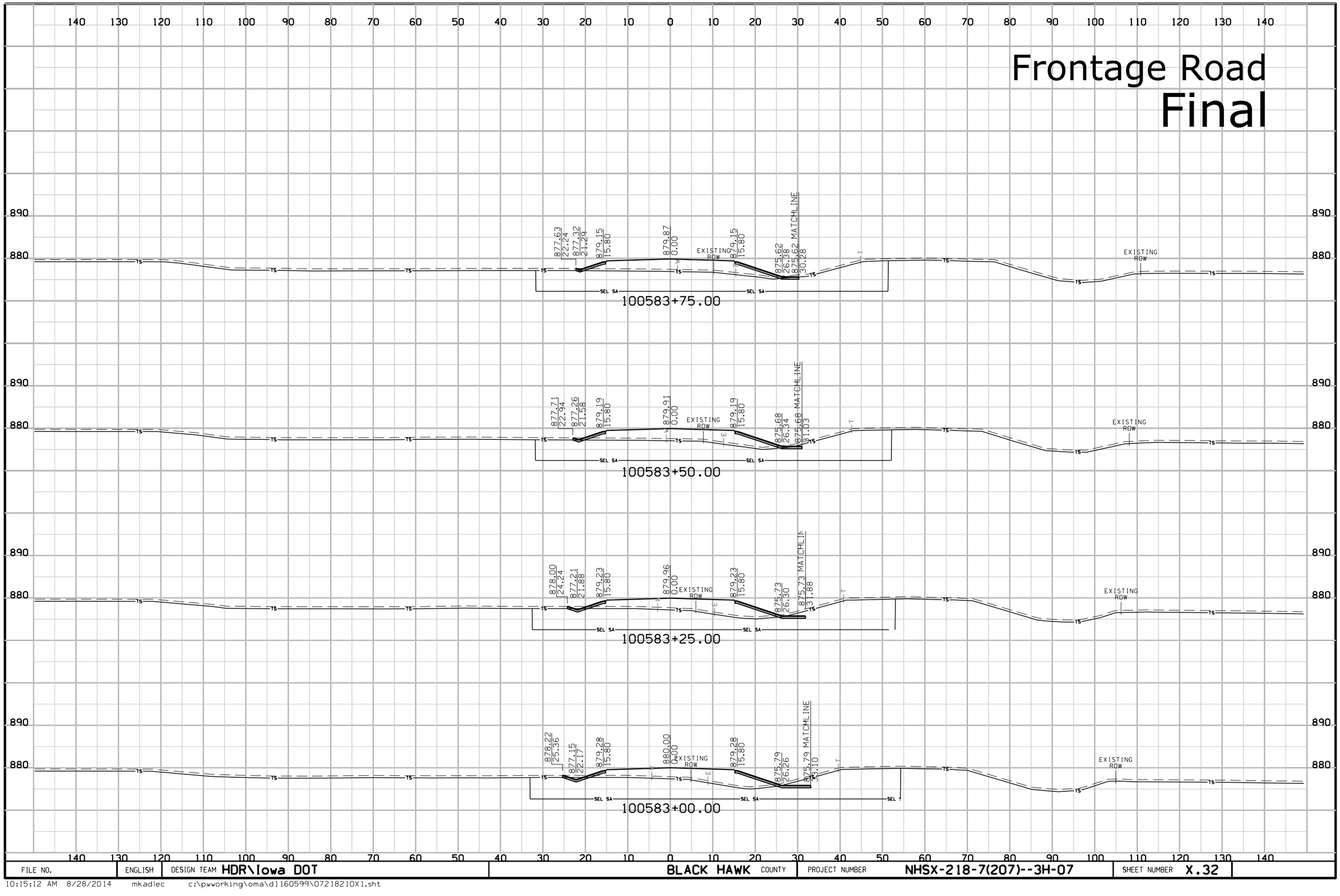
EXISTING ROW

100582+00.00

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.31

10:15:11 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

Frontage Road
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.32

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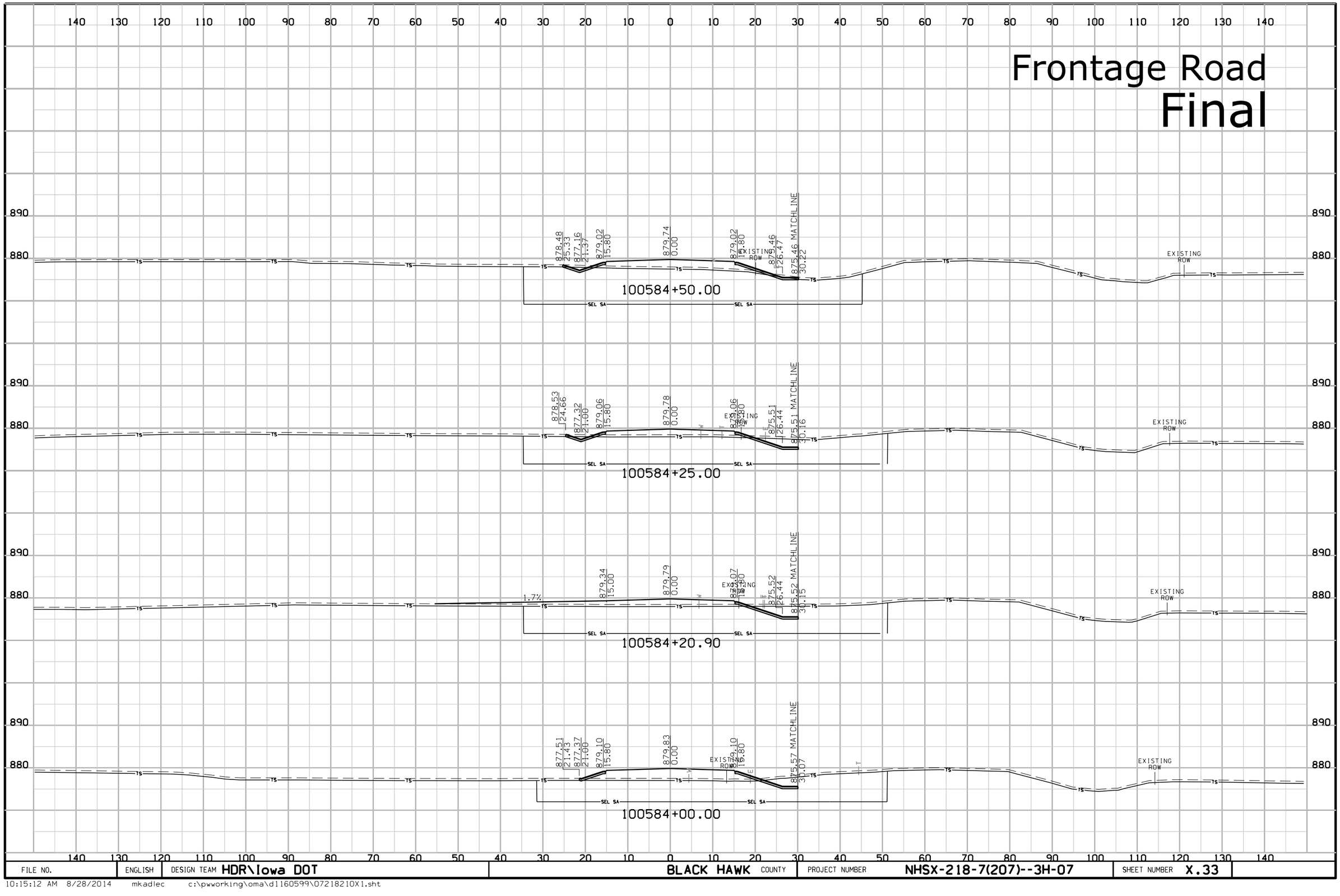
Frontage Road
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.33

10:15:12 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\0721821OX1.sht

Frontage Road
Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

878.07
27.40
876.52
22.77
878.85
15.80
879.57
0.00
878.85
15.80
875.26
26.56
875.26 MATCHLINE
30.35
EXISTING ROW
EXISTING ROW
TS
SEL SA
100585+50.00

878.18
26.91
876.68
22.42
878.89
15.80
879.61
0.00
878.89
15.80
875.31
26.51
875.31 MATCHLINE
30.29
EXISTING ROW
EXISTING ROW
RB-32
57 RT
100585+25.00

878.12
25.90
876.84
22.07
878.93
15.80
879.66
0.00
878.93
15.80
875.36
26.31
875.36 MATCHLINE
30.35
EXISTING ROW
EXISTING ROW
100585+00.00

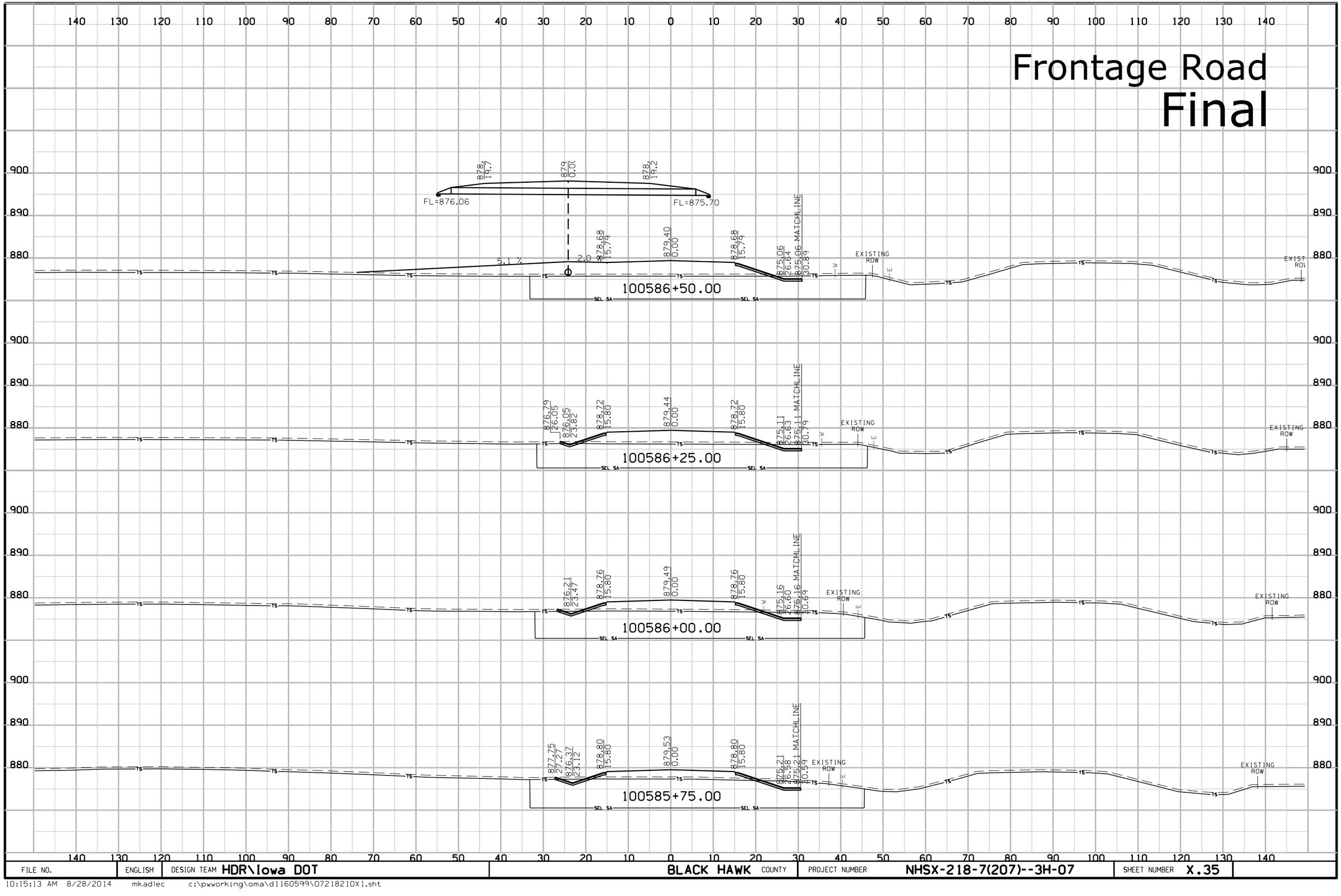
878.32
25.66
877.00
21.72
878.98
15.80
879.70
0.00
878.98
15.80
875.41
26.19
875.41 MATCHLINE
30.29
EXISTING ROW
EXISTING ROW
100584+75.00

44.5 FEET

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.34

10:15:13 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

Frontage Road
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.35

10:15:13 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

Frontage Road
Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

900
890
880

100587+25.00

875.40
25.24
878.55
15.79
879.28
0.00
878.55
15.79
874.91
MATCHLINE
30.32
RB-31
EXISTING ROW
W
E
TS
100587+22.00
CL 10
20.5 FEET

100587+00.00

875.68
24.52
878.59
15.79
879.31
0.00
878.59
15.79
874.96
MATCHLINE
30.21

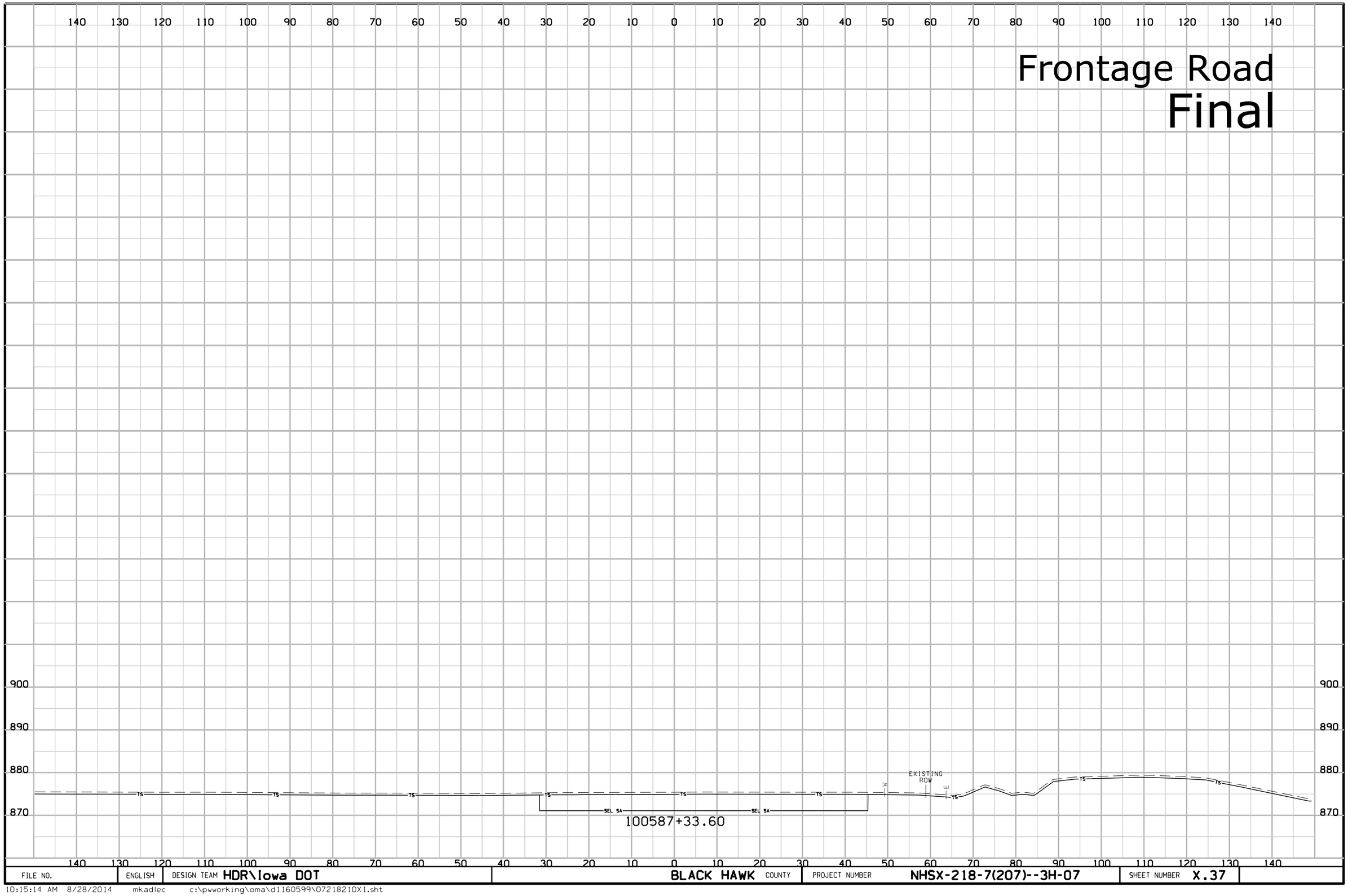
100586+75.00

875.97
23.78
878.63
15.79
879.36
0.00
878.63
15.79
875.01
MATCHLINE
30.09
SEL SA

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.36

10:15:13 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X1.sht

Frontage Road
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.37

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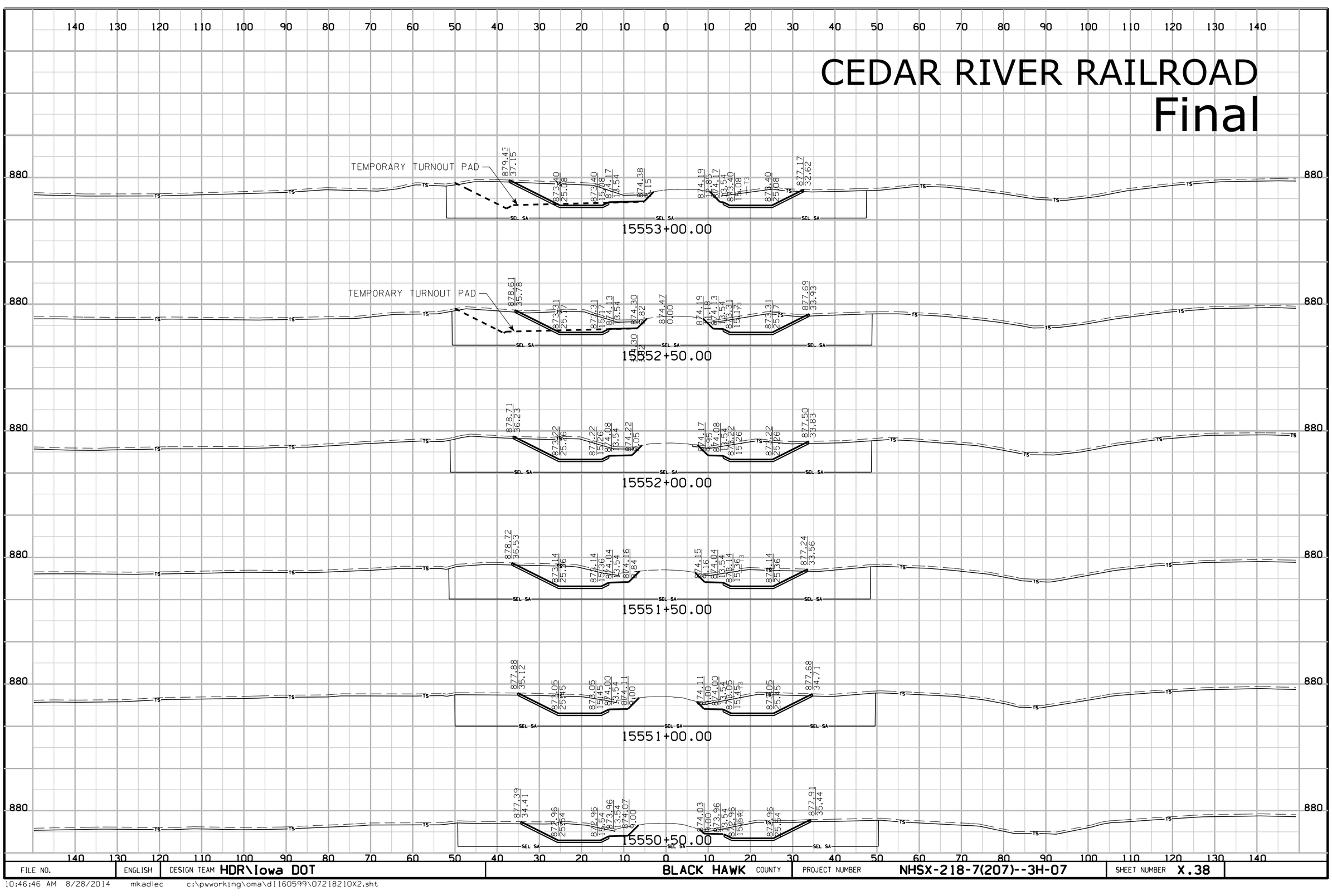
CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.38

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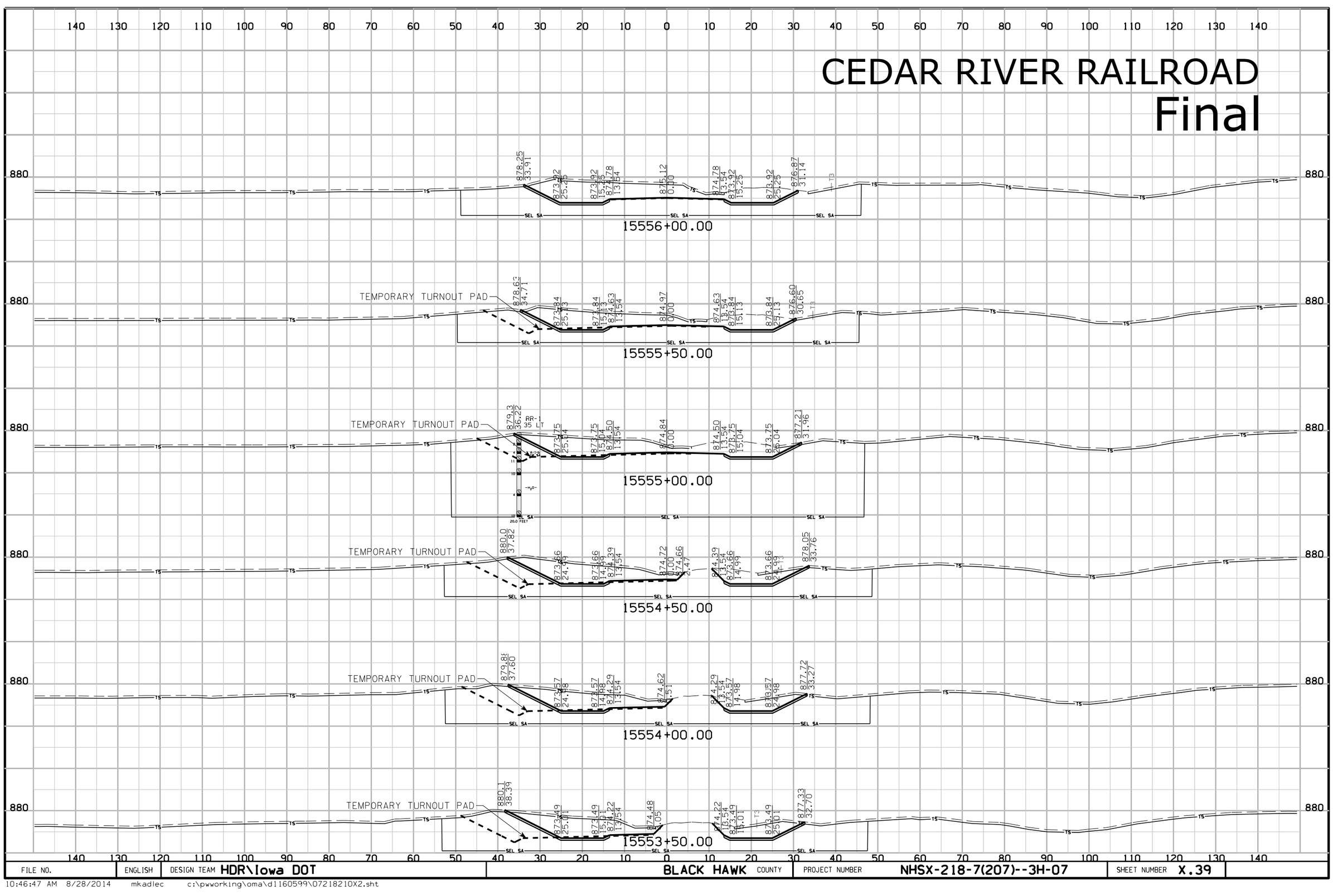
CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.39

10:46:47 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\0721821OX2.sht

CEDAR RIVER RAILROAD

Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

874.69 30.90 | 873.46 18.44 | 873.46 18.44 | 875.91 13.54 | 876.25 0.00 | 875.91 13.54 | 873.46 18.44 | 873.46 18.44 | 875.68 32.89

TS TS TS TS TS TS TS TS T3 TS

SEL SA SEL SA SEL SA

15559+50.00

880

876.10 32.89 | 873.58 21.87 | 873.58 17.87 | 875.75 13.54 | 876.08 0.00 | 875.75 13.54 | 873.58 17.87 | 873.58 21.87 | 876.71 34.11

RR 2

A-4 GR SI

$-H_2O-$

20.0 FEET

TS TS TS TS TS TS TS TS T3 TS

SEL SA SEL SA SEL SA

15559+00.00

880

876.51 32.88 | 873.71 21.29 | 873.71 17.29 | 875.59 13.54 | 875.92 0.00 | 875.59 13.54 | 873.71 17.29 | 873.71 21.29 | 876.23 32.31

TS TS TS TS TS TS TS TS T3 TS

SEL SA SEL SA SEL SA

15558+50.00

880

876.68 32.38 | 873.84 21.71 | 873.84 16.71 | 875.42 13.54 | 875.76 0.00 | 875.42 13.54 | 873.84 16.71 | 873.84 21.71 | 876.11 31.25

TS TS TS TS TS TS TS TS T3 TS

SEL SA SEL SA SEL SA

15558+00.00

880

877.37 32.92 | 873.97 26.13 | 873.97 16.13 | 875.26 13.54 | 875.60 0.00 | 875.26 13.54 | 873.97 16.13 | 873.97 26.13 | 876.59 31.36

TS TS TS TS TS TS TS TS T3 TS

SEL SA SEL SA SEL SA

15557+50.00

880

878.01 33.37 | 874.10 25.55 | 874.10 15.56 | 874.10 13.54 | 875.44 0.00 | 875.10 13.54 | 874.10 16.55 | 874.10 25.55 | 877.66 32.66

TS TS TS TS TS TS TS TS T3 TS

SEL SA SEL SA SEL SA

15557+00.00

880

878.27 33.85 | 874.01 25.40 | 874.01 15.40 | 874.94 13.54 | 876.28 0.00 | 874.94 13.54 | 874.01 15.40 | 874.01 25.40 | 877.34 32.06

TS TS TS TS TS TS TS TS T3 TS

SEL SA SEL SA SEL SA

15556+50.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.40

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CEDAR RIVER RAILROAD

Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

873.50 31.04 873.31 30.67 | 873.31 20.67 | 876.87 13.54 | 877.21 0.00 | 876.87 13.54 | 873.18 20.93 | 873.18 30.93 873.30 31.17

TS SEL SA T3

15562+50.00

880

873.65 31.29 873.25 30.47 | 873.25 20.47 | 876.71 13.54 | 877.05 0.00 | 876.71 13.54 | 873.16 20.65 | 873.16 25.84

TS SEL SA T3

15562+00.00

880

874.53 32.99 873.18 30.28 | 873.18 20.28 | 876.55 13.54 | 876.89 0.00 | 876.55 13.54 | 873.13 20.38 | 873.13 30.38 873.69 31.49

TS SEL SA T3

15561+50.00

880

873.79 31.44 873.12 30.09 | 873.12 20.09 | 876.39 13.54 | 876.73 0.00 | 876.39 13.54 | 873.1 20.10 | 873.11 25.23

TS SEL SA FL=873.10 FL=873.10 T3

15561+00.00

880

873.03 19.93 | 876.23 13.54 | 876.57 0.00 | 876.23 13.54 | 873.20 19.60 | 873.20 30.60 874.21 31.64

TS SEL SA T3

15560+50.00

880

874.09 30.54 873.33 29.02 | 873.33 19.02 | 876.07 13.54 | 876.41 0.00 | 876.07 13.54 | 873.33 19.02 | 873.33 29.02 875.12 32.62

TS SEL SA T3

15560+00.00

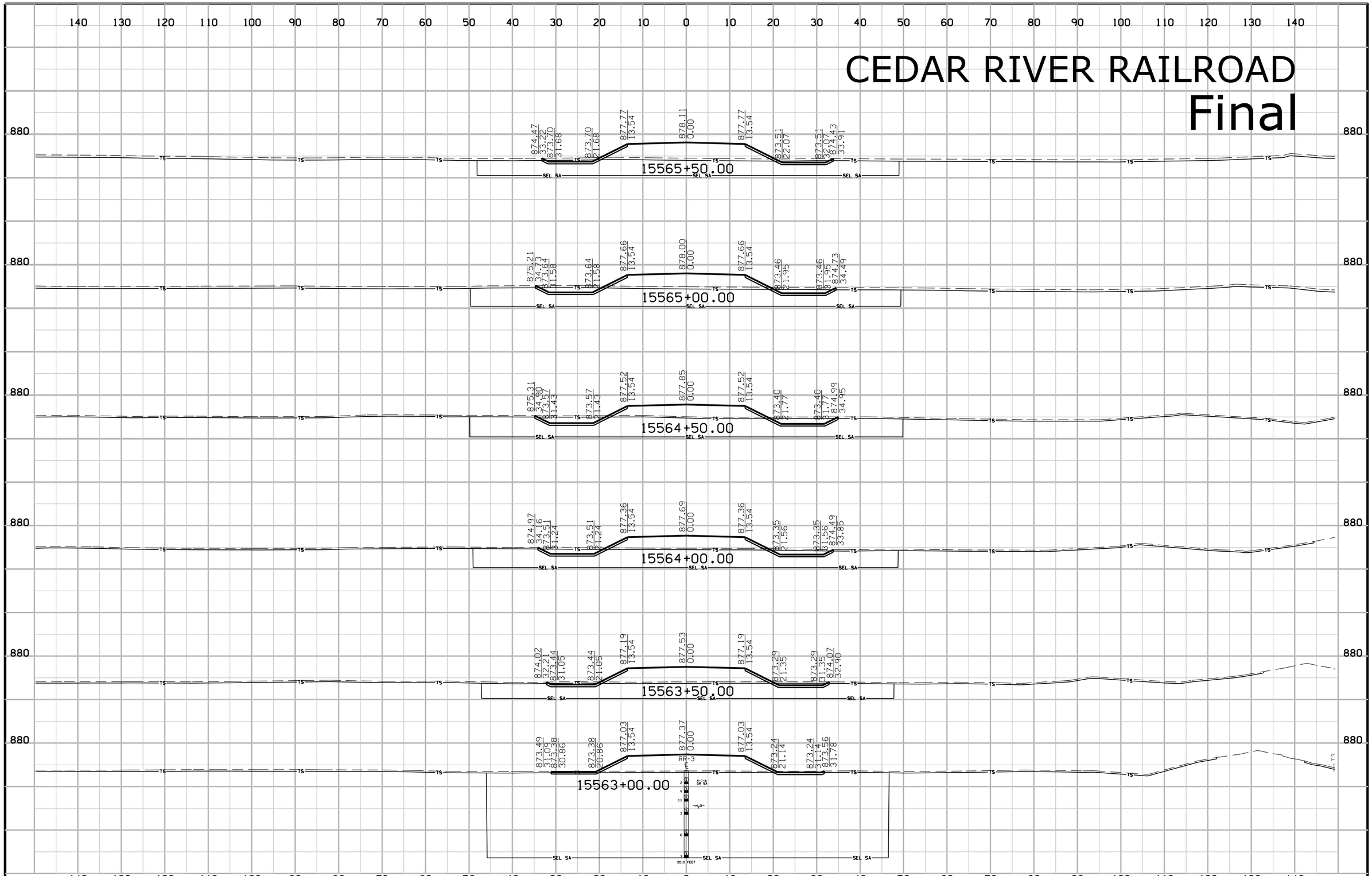
140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.41

10:46:48 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X2.sht

CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.42

10:46:48 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X2.sht

CEDAR RIVER RAILROAD

Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

875.99 35.13 874.09 31.33 | 874.09 21.33 | 877.99 13.54 | 878.33 0.00 | 877.99 13.54 | 873.84 21.84 | 873.84 31.84 875.19 34.53

15568+50.00

880

875.69 34.77 874.03 31.45 | 874.03 21.45 | 877.98 13.54 | 878.32 0.00 | 877.98 13.54 | 873.79 21.94 | 873.79 31.94 874.97 34.30

15568+00.00

880

875.25 34.15 873.96 31.57 | 873.96 21.57 | 877.98 13.54 | 878.32 0.00 | 877.98 13.54 | 873.73 22.04 | 873.73 32.04 875.35 35.27

15567+50.00

880

874.50 32.88 873.90 31.68 | 873.90 21.68 | 877.97 13.54 | 878.30 0.00 | 877.97 13.54 | 873.68 22.12 | 873.68 32.12 875.18 35.12

RR-4

15567+00.00

880

874.12 32.31 873.83 31.73 | 873.83 21.73 | 877.93 13.54 | 878.27 0.00 | 877.93 13.54 | 873.62 22.15 | 873.62 32.15 874.45 33.81

15566+50.00

880

874.25 32.70 873.77 31.73 | 873.77 21.73 | 877.86 13.54 | 878.20 0.00 | 877.86 13.54 | 873.57 22.14 | 873.57 32.14 874.18 33.37

15566+00.00

SEL SA

TS

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.43

10:46:49 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\0721821OX2.sht

CEDAR RIVER RAILROAD

Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

875.15 31.96 874.48 30.62 | 874.48 20.62 | 878.02 13.54 | 878.36 0.00 | 878.02 13.54 | 874.17 21.25 | 874.17 31.25 875.97 34.84

TS TS TS TS TS TS TS TS TS TS

CL 10 CL 10 CL 10

15571+50.00

880

875.22 32.34 874.42 30.74 | 874.42 20.74 | 878.02 13.54 | 878.36 0.00 | 878.02 13.54 | 874.12 21.34 | 874.12 31.34 875.68 34.47

TS TS TS TS TS TS TS TS TS TS

CL 10 CL 10 CL 10

15571+00.00

880

875.14 32.43 874.35 30.86 | 874.35 20.86 | 878.01 13.54 | 878.35 0.00 | 878.01 13.54 | 874.06 21.44 | 874.06 31.44 875.76 34.85

TS TS TS TS TS TS TS TS TS TS

CL 10 CL 10 CL 10

15570+50.00

880

875.06 32.53 874.29 30.98 | 874.29 20.98 | 878.01 13.54 | 878.34 0.00 | 878.01 13.54 | 874.01 21.54 | 874.01 31.54 875.40 34.34

TS TS TS TS TS TS TS TS TS TS

SEL SA SEL SA SEL SA

15570+00.00

880

875.21 33.06 874.22 31.10 | 874.22 21.10 | 878.00 13.54 | 878.34 0.00 | 878.00 13.54 | 873.95 21.64 | 873.95 31.64 875.70 35.15

TS TS TS TS TS TS TS TS TS TS

SEL SA SEL SA SEL SA

15569+50.00

880

876.36 35.62 874.16 31.21 | 874.16 21.21 | 877.99 13.54 | 878.33 0.00 | 877.99 13.54 | 873.90 21.74 | 873.90 31.74 875.64 35.24

TS TS TS TS TS TS TS TS TS TS

SEL SA SEL SA SEL SA

15569+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.44

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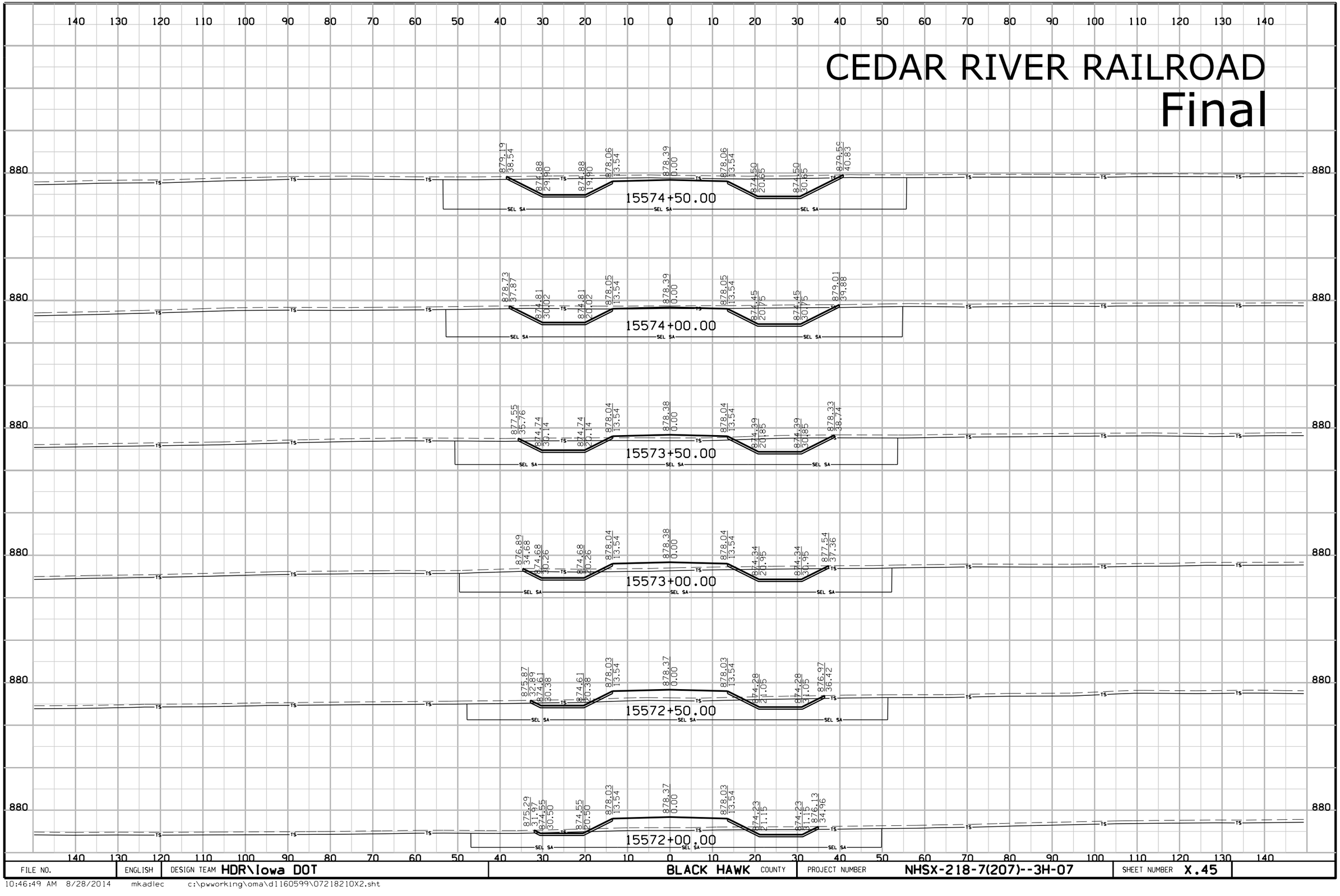
CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.45

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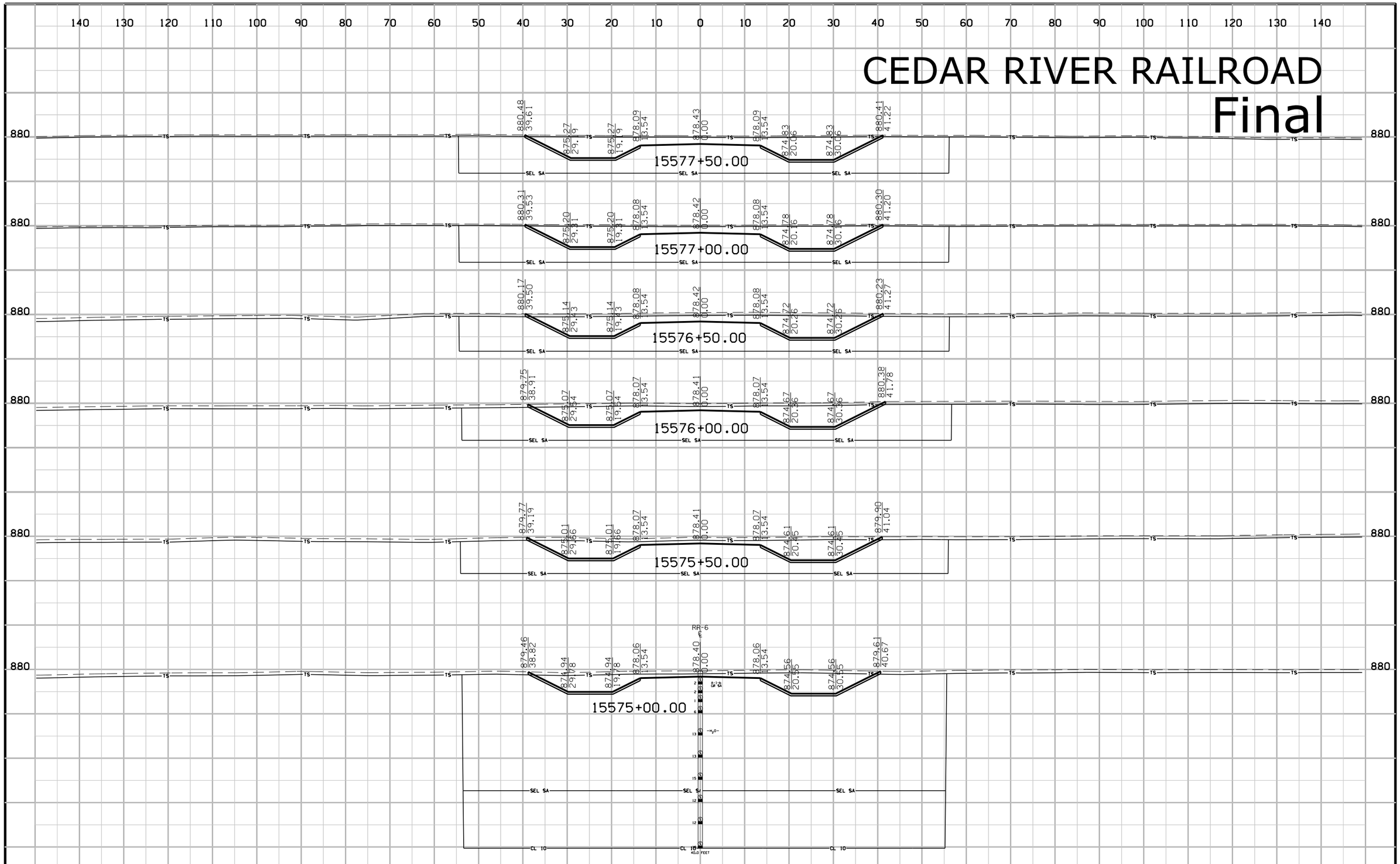
CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.46

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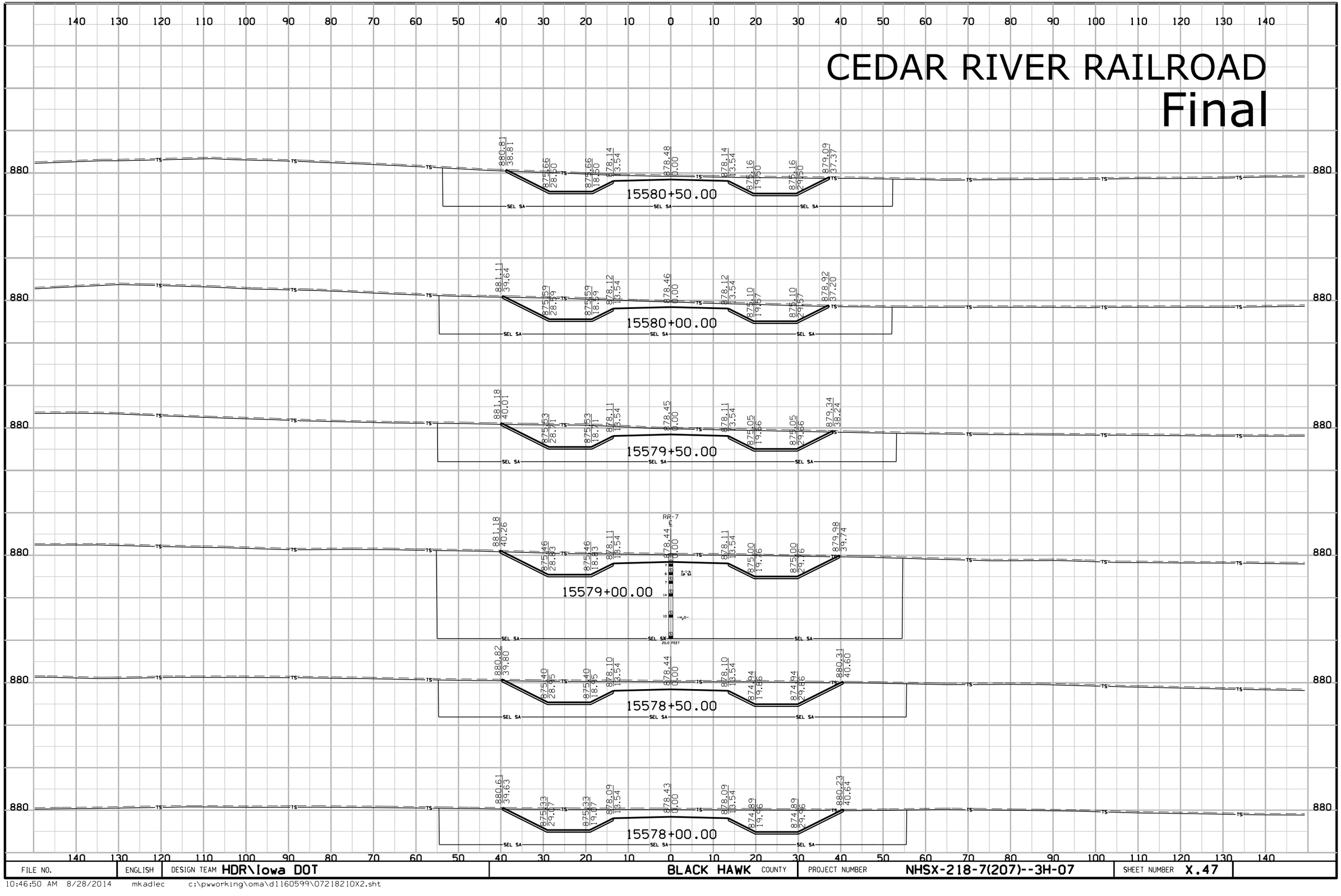
CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.47

10:46:50 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\0721821OX2.sht

CEDAR RIVER RAILROAD

Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

879.33 35.08 | 876.05 29.51 | 876.05 18.51 | 878.53 13.54 | 878.87 0.00 | 878.53 13.54 | 875.49 19.63 | 875.49 29.63 | 881.55 41.74

TS TS TS TS TS TS TS TS TS TS TS

SEL SA SEL SA SEL SA

15583+50.00

879.32 35.14 | 875.98 29.46 | 875.98 18.46 | 878.44 13.54 | 878.78 0.00 | 878.44 13.54 | 875.43 19.86 | 875.43 29.86 | 880.67 40.04

RR-8

A=1 GR SA

SEL SA SEL SA SEL SA

15583+00.00

879.36 35.31 | 875.92 29.42 | 875.92 18.42 | 878.35 13.54 | 878.69 0.00 | 878.35 13.54 | 875.38 19.49 | 875.38 29.49 | 879.76 38.24

SEL SA SEL SA SEL SA

15582+50.00

879.97 36.62 | 875.85 29.39 | 875.85 18.39 | 878.28 13.54 | 878.62 0.00 | 878.28 13.54 | 875.32 19.45 | 875.32 29.45 | 879.26 37.32

SEL SA SEL SA SEL SA

15582+00.00

879.94 36.70 | 875.79 29.40 | 875.79 18.40 | 878.22 13.54 | 878.56 0.00 | 878.22 13.54 | 875.27 19.44 | 875.27 29.44 | 878.98 36.86

SEL SA SEL SA SEL SA

15581+50.00

880.64 38.26 | 875.72 29.44 | 875.72 18.44 | 878.17 13.54 | 878.51 0.00 | 878.17 13.54 | 875.21 19.45 | 875.21 29.45 | 879.06 37.14

SEL SA SEL SA SEL SA

15581+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.48

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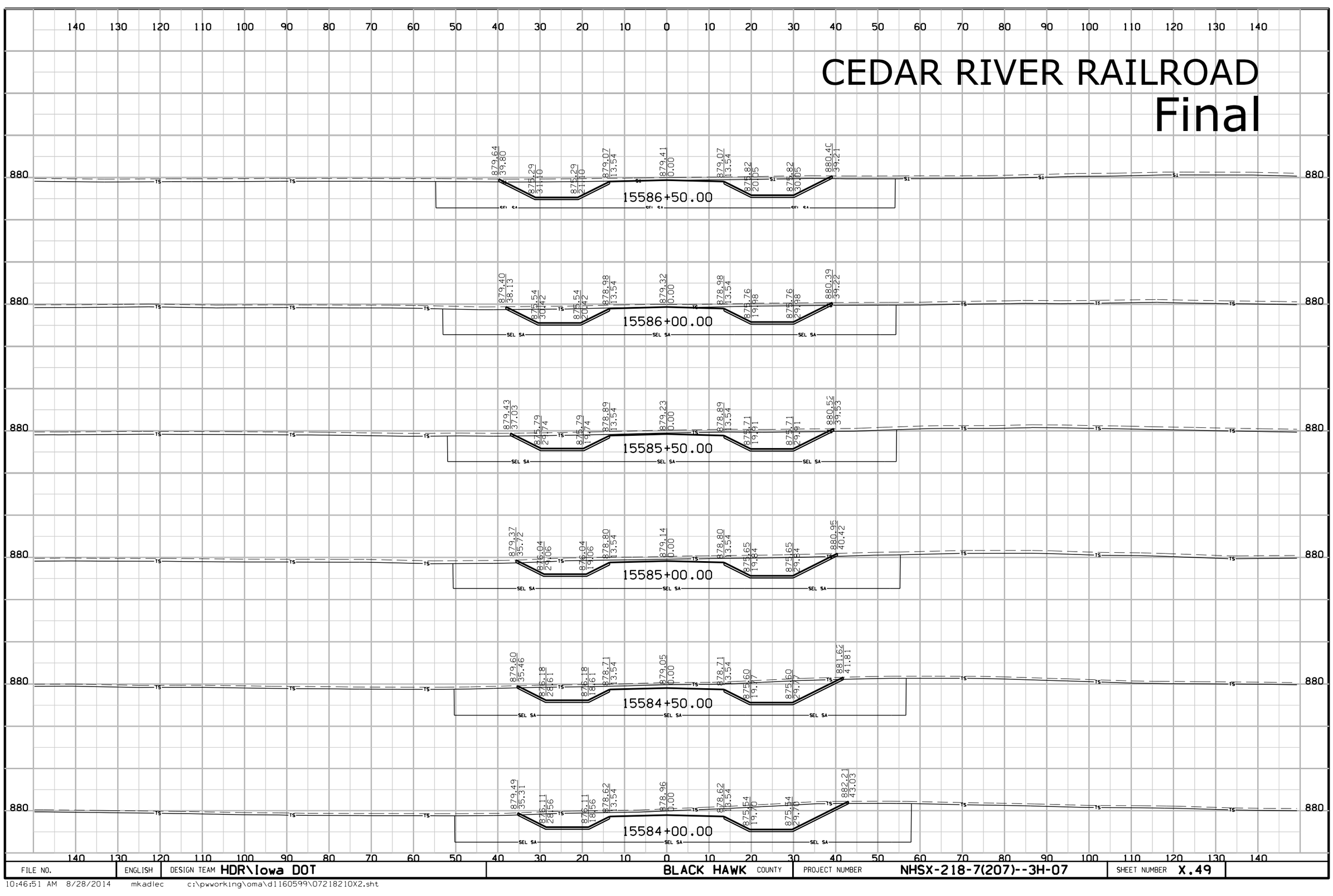
CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.49

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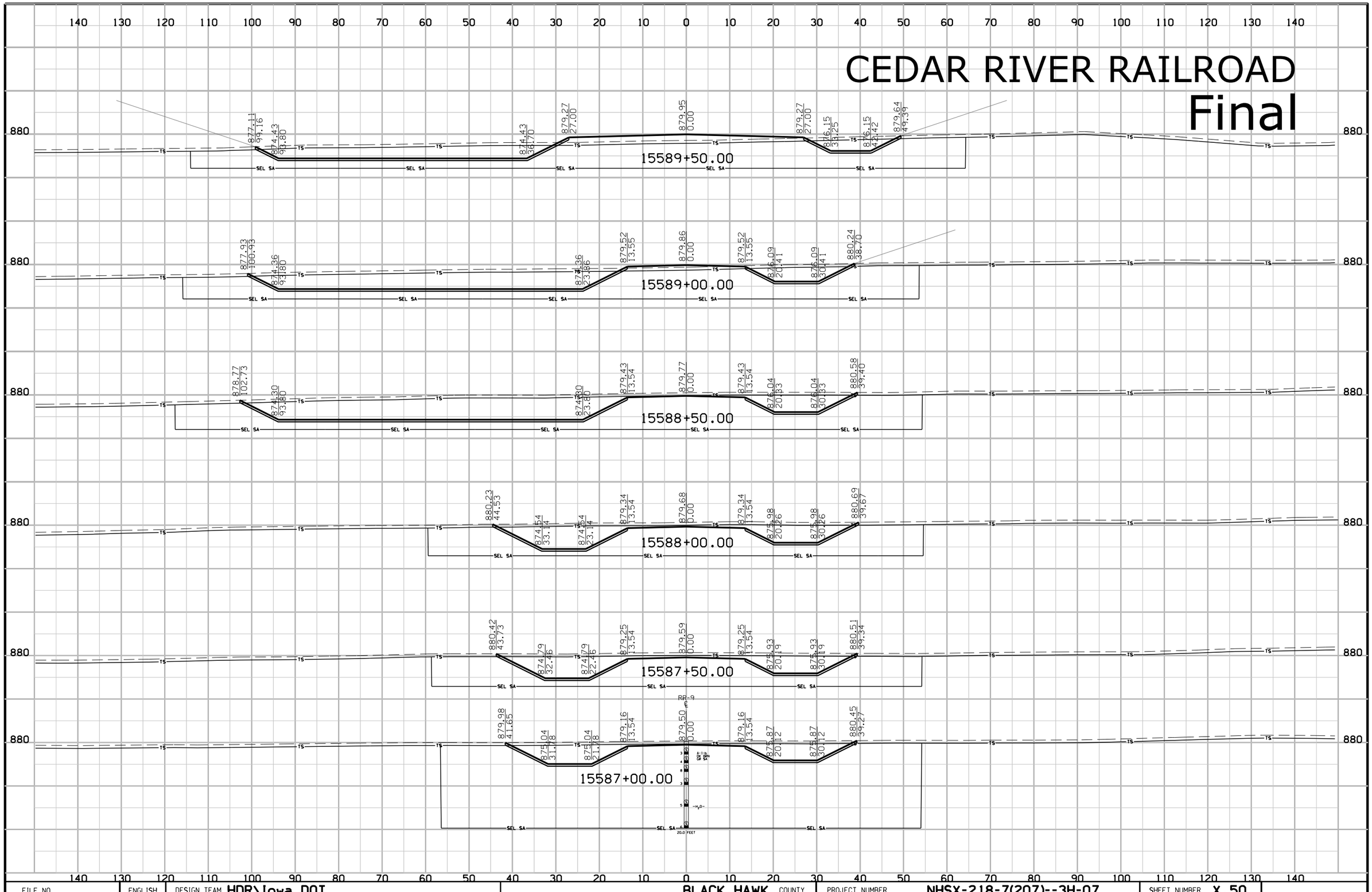
CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.50

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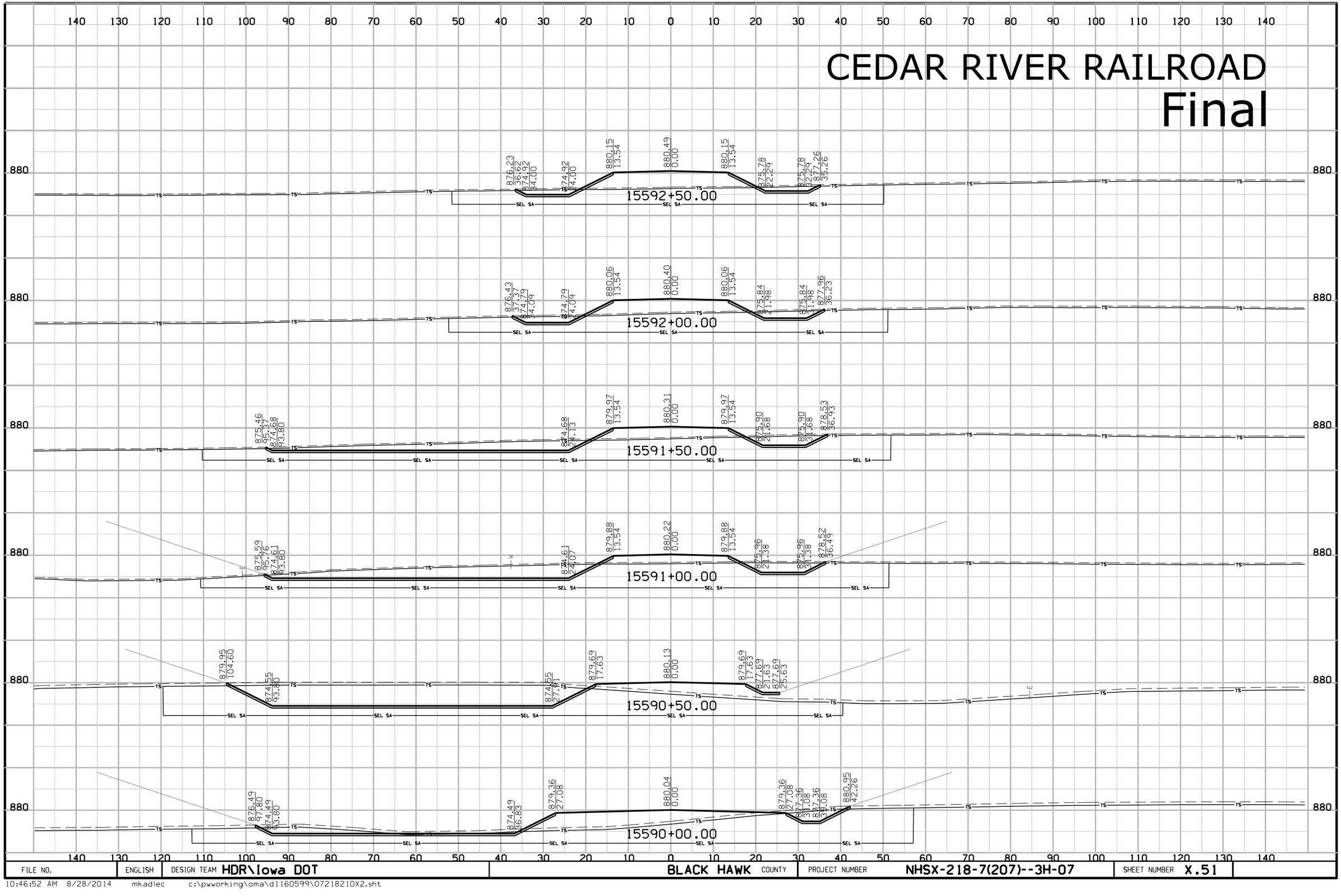
CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.51

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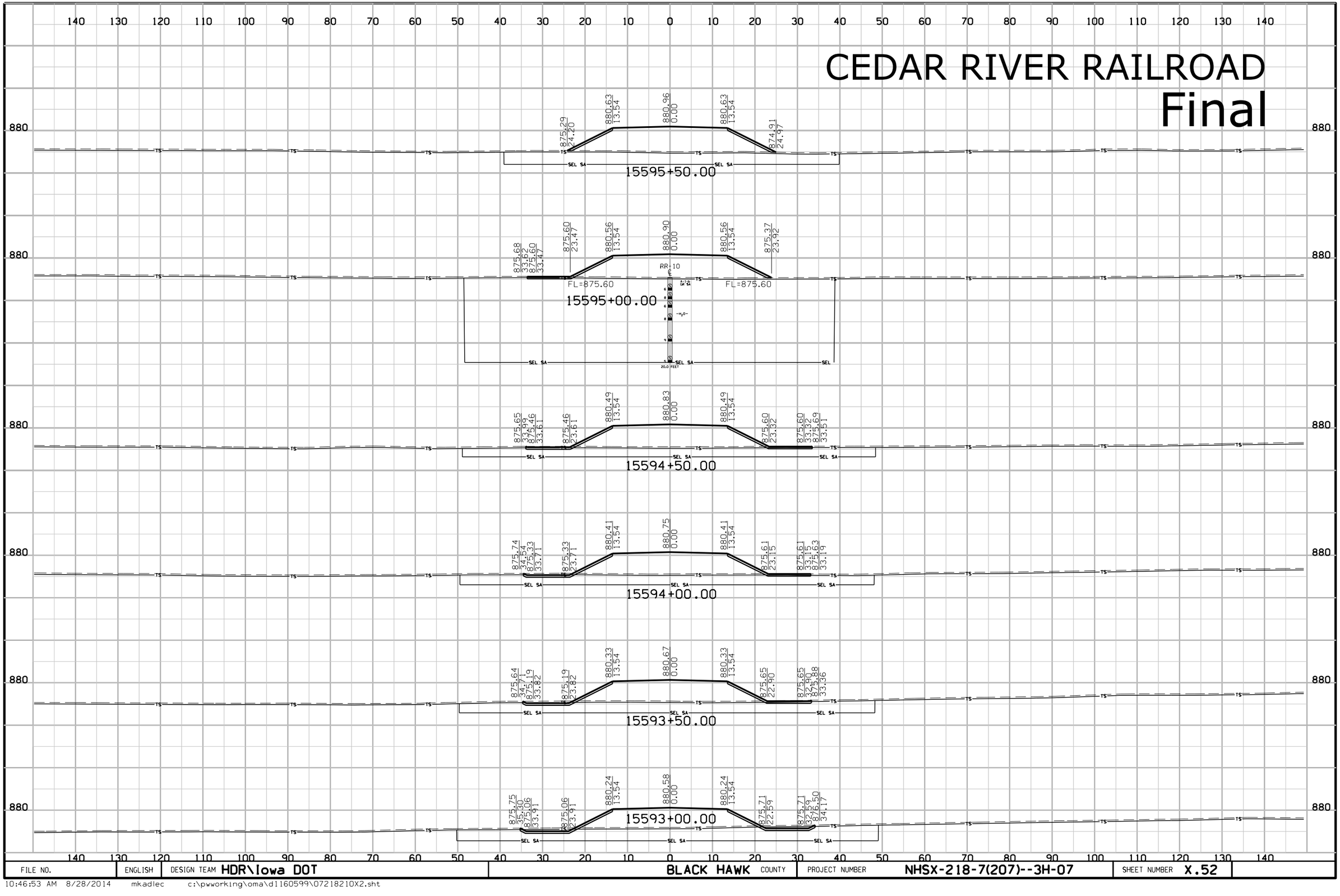
CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.52

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CEDAR RIVER RAILROAD

Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

875.25 39.77 | 875.26 24.86 | 880.92 13.54 | 881.26 0.00 | 880.92 13.54 | 874.07 27.25

TS SEL SA

15598+50.00

880

876.15 36.80 | 875.20 34.89 | 875.20 24.89 | 880.87 13.54 | 881.21 0.00 | 880.87 13.54 | 874.66 25.98

TS SEL SA

15598+00.00

880

876.46 37.51 | 875.15 34.89 | 875.15 24.89 | 880.83 13.54 | 881.16 0.00 | 880.83 13.54 | 874.96 25.26

TS SEL SA

15597+50.00

880

876.24 37.18 | 875.10 34.90 | 875.10 24.90 | 880.78 13.54 | 881.12 0.00 | 880.78 13.54 | 874.79 25.52

TS SEL SA

15597+00.00

880

875.25 35.30 | 875.05 34.90 | 875.05 24.90 | 880.73 13.54 | 881.07 0.00 | 880.73 13.54 | 874.59 25.83

TS SEL SA

15596+50.00

880

875.04 34.99 | 875.00 34.91 | 875.00 24.91 | 880.68 13.54 | 881.02 0.00 | 880.68 13.54 | 874.92 25.07

TS SEL SA

15596+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.53

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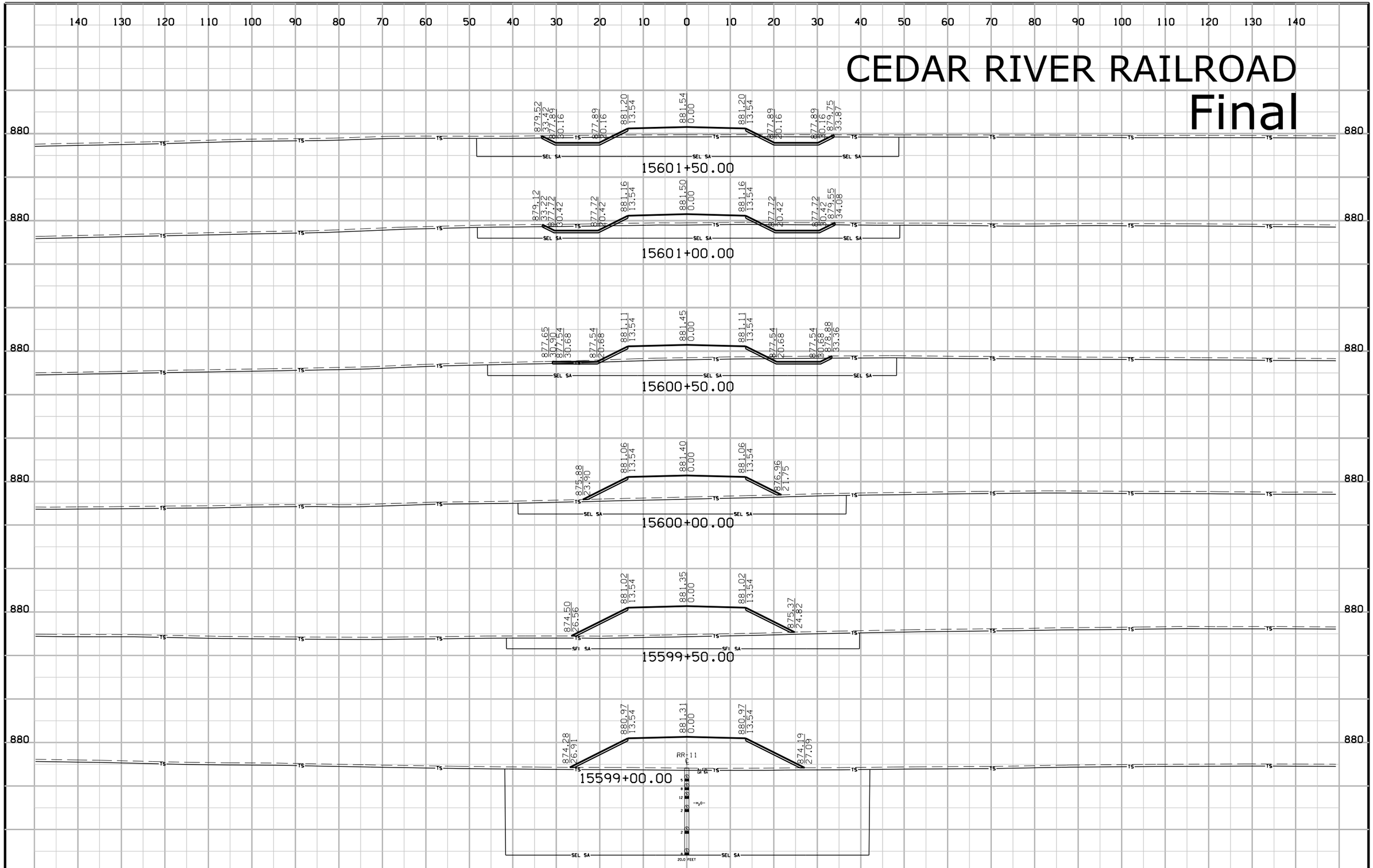
CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.54

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CEDAR RIVER RAILROAD

Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

880.80 36.59 | 877.88 30.74 | 877.88 20.74 | 881.48 13.54 | 881.82 0.00 | 881.48 13.54 | 877.88 20.74 | 877.88 30.74 | 880.39 35.76

TS SEL SA

15604+50.00

880

881.17 35.80 | 878.24 29.94 | 878.24 19.94 | 881.44 13.54 | 881.78 0.00 | 881.44 13.54 | 878.24 19.94 | 878.24 29.94 | 880.81 35.07

TS SEL SA

15604+00.00

880

880.97 33.86 | 878.60 29.13 | 878.60 19.13 | 881.39 13.54 | 881.73 0.00 | 881.39 13.54 | 878.60 19.13 | 878.60 29.13 | 880.94 33.81

TS SEL SA

15603+50.00

880

880.34 33.22 | 878.42 29.39 | 878.42 19.39 | 881.35 13.54 | 881.68 0.00 | 881.35 13.54 | 878.42 19.39 | 878.42 29.39 | 880.31 33.15

RR-12

TS SEL SA

15603+00.00

880

879.90 32.94 | 878.25 29.64 | 878.25 19.64 | 881.30 13.54 | 881.64 0.00 | 881.30 13.54 | 878.25 19.65 | 878.25 29.65 | 880.15 33.45

TS SEL SA

15602+50.00

880

879.73 33.22 | 878.07 29.90 | 878.07 19.90 | 881.25 13.54 | 881.59 0.00 | 881.25 13.54 | 878.07 19.90 | 878.07 29.90 | 879.92 33.60

TS SEL SA

15602+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.55

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CEDAR RIVER RAILROAD

Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

875.71 25.44 | 881.66 13.54 | 882.00 0.00 | 881.66 13.54 | 875.80 25.26

RB:13

FL=875.80 FL=875.80

15607+50.00

SEL SA SEL SA

20.0 FEET

880

876.24 34.97 | 876.08 34.65 | 876.08 24.65 | 881.63 13.54 | 881.97 0.00 | 881.63 13.54 | 875.77 25.27

SEL SA SEL SA SEL SA

15607+00.00

880

877.21 35.42 | 876.44 33.88 | 876.44 23.88 | 881.61 13.54 | 881.95 0.00 | 881.61 13.54 | 876.37 24.01

SEL SA SEL SA SEL SA

15606+50.00

880

878.20 35.90 | 876.80 33.10 | 876.80 23.10 | 881.58 13.54 | 881.92 0.00 | 881.58 13.54 | 876.80 23.10 | 876.80 34.22 | 877.36 34.22

SEL SA SEL SA SEL SA

15606+00.00

880

879.63 37.27 | 877.16 32.32 | 877.16 22.32 | 881.55 13.54 | 881.89 0.00 | 881.55 13.54 | 877.16 22.32 | 877.16 35.75 | 878.87 35.75

SEL SA SEL SA SEL SA

15605+50.00

880

880.52 37.54 | 877.52 31.54 | 877.52 21.54 | 881.52 13.54 | 881.86 0.00 | 881.52 13.54 | 877.52 21.54 | 877.52 31.54 | 879.95 36.40

SEL SA SEL SA SEL SA

15605+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.56

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CEDAR RIVER RAILROAD

Final

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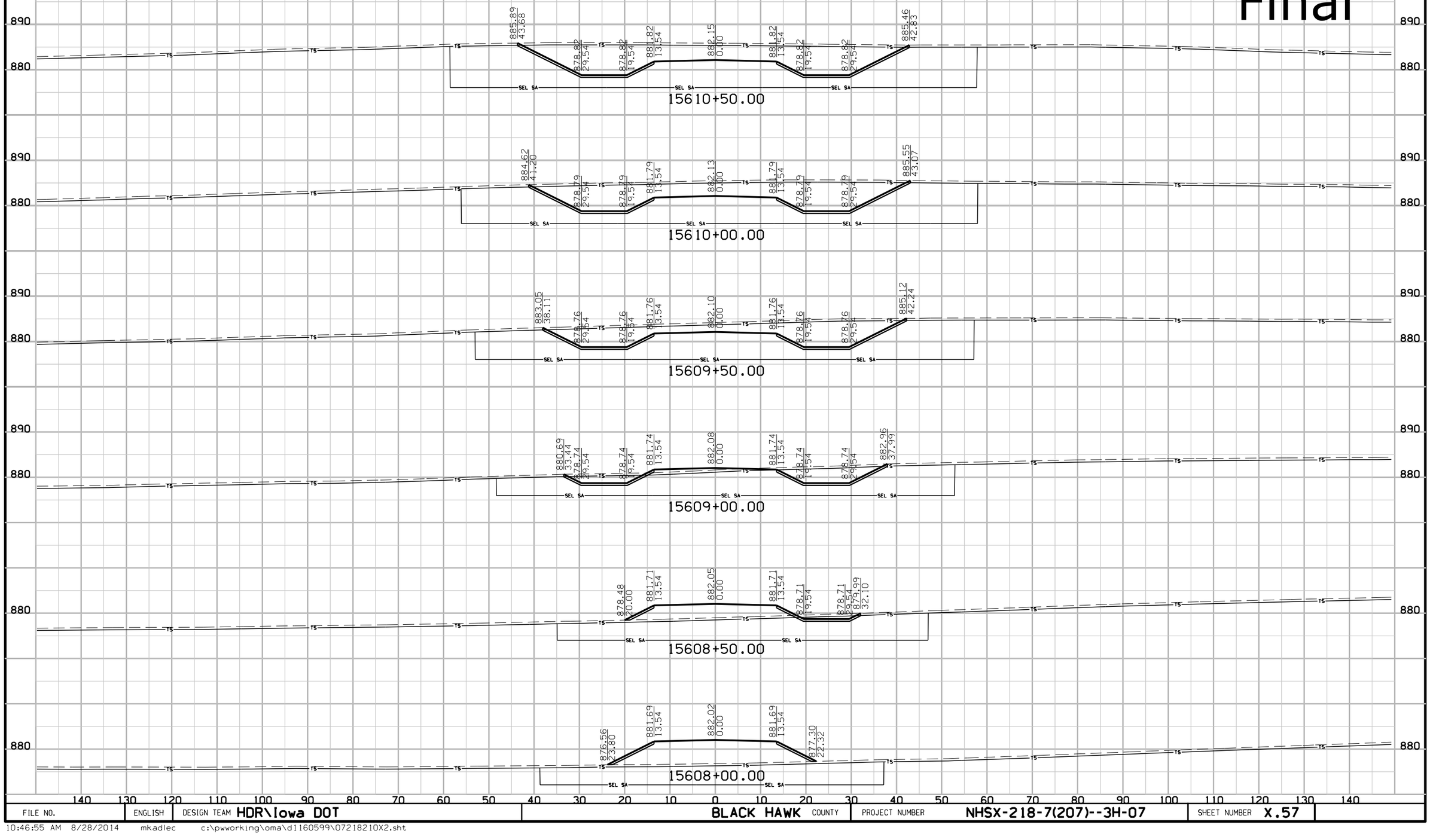
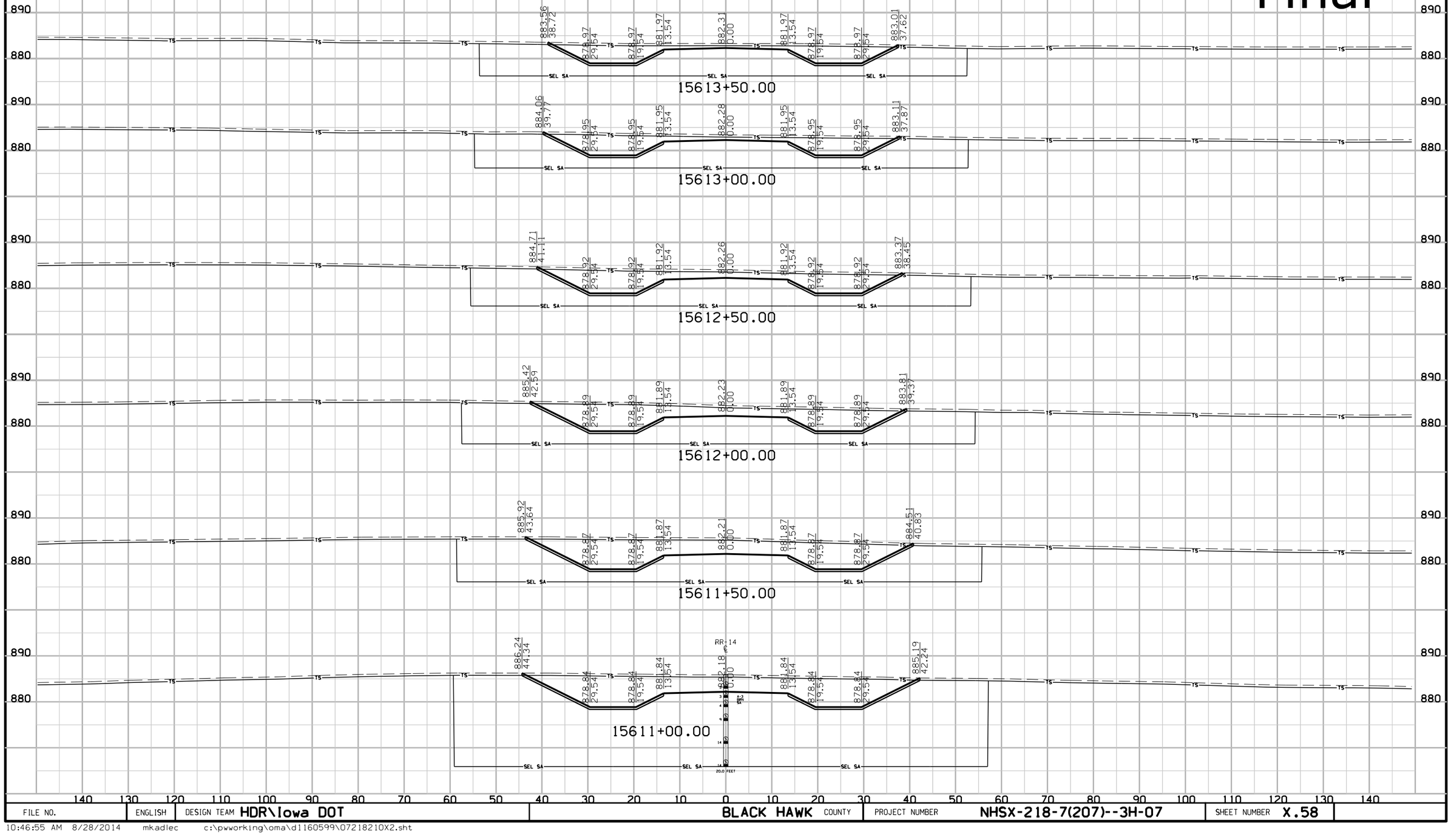


FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.57

10:46:55 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X2.sht

CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.58

10:46:55 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X2.sht

CEDAR RIVER RAILROAD

Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

883.67 38.63 | 879.13 29.54 | 879.13 19.54 | 882.13 13.54 | 882.47 0.00 | 882.13 13.54 | 879.13 19.54 | 879.13 29.54 | 884.03 39.35

TS SEL SA

15616+50.00

883.43 38.20 | 879.10 29.54 | 879.10 19.54 | 882.10 13.54 | 882.44 0.00 | 882.10 13.54 | 879.10 19.54 | 879.10 29.54 | 883.66 38.66

15616+00.00

883.11 37.62 | 879.08 29.54 | 879.08 19.54 | 882.08 13.54 | 882.41 0.00 | 882.08 13.54 | 879.08 19.54 | 879.08 29.54 | 883.30 38.00

15615+50.00

RR-15

883.04 37.52 | 879.05 29.54 | 879.05 19.54 | 882.05 13.54 | 882.39 0.00 | 882.05 13.54 | 879.05 19.54 | 879.05 29.54 | 882.85 37.15

15615+00.00

883.43 38.36 | 879.02 29.54 | 879.02 19.54 | 882.02 13.54 | 882.36 0.00 | 882.02 13.54 | 879.02 19.54 | 879.02 29.54 | 883.02 37.53

15614+50.00

883.34 38.22 | 879.00 29.54 | 879.00 19.54 | 882.00 13.54 | 882.34 0.00 | 882.00 13.54 | 879.00 19.54 | 879.00 29.54 | 882.73 37.00

15614+00.00

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.59

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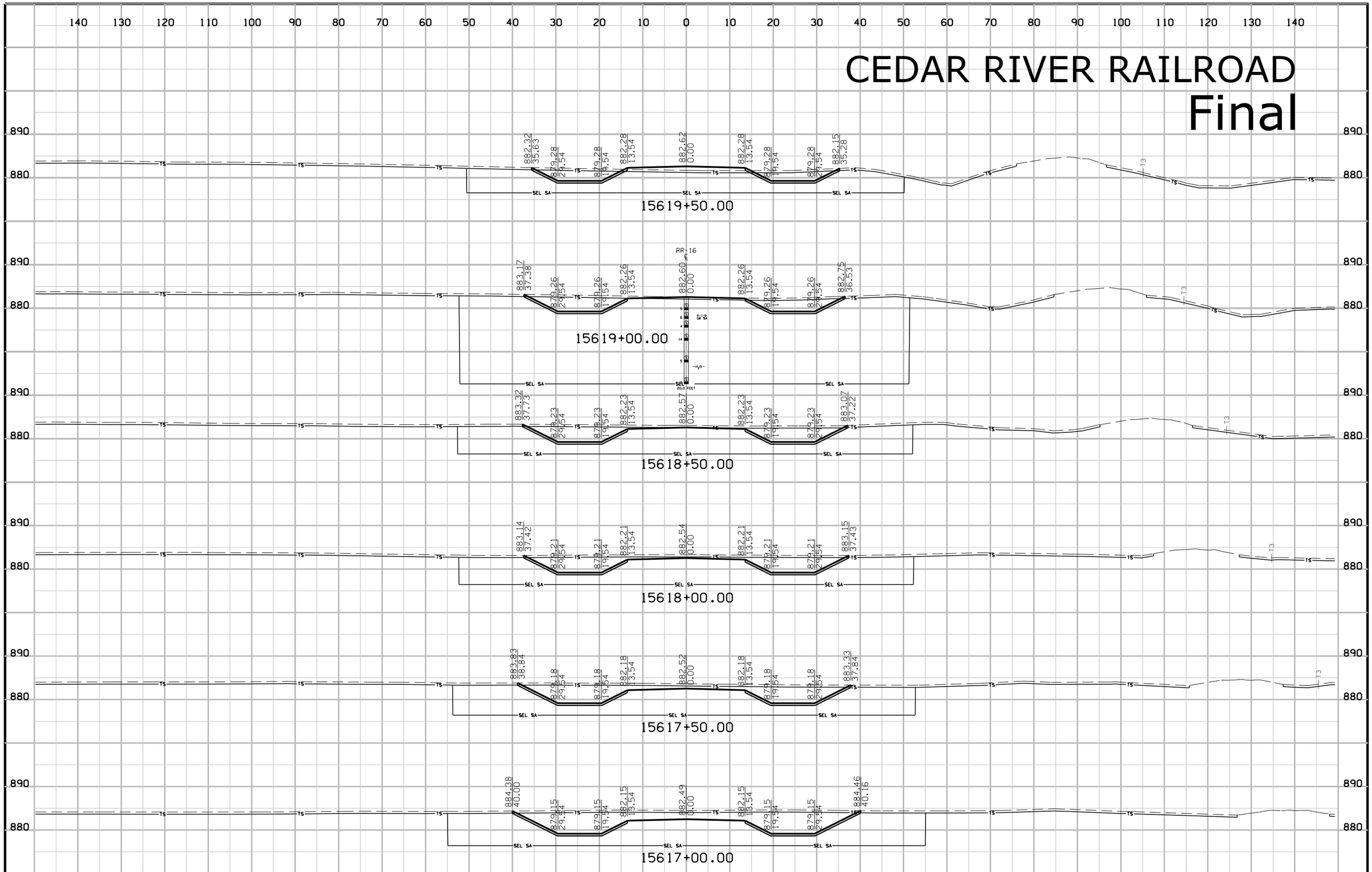
CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.60

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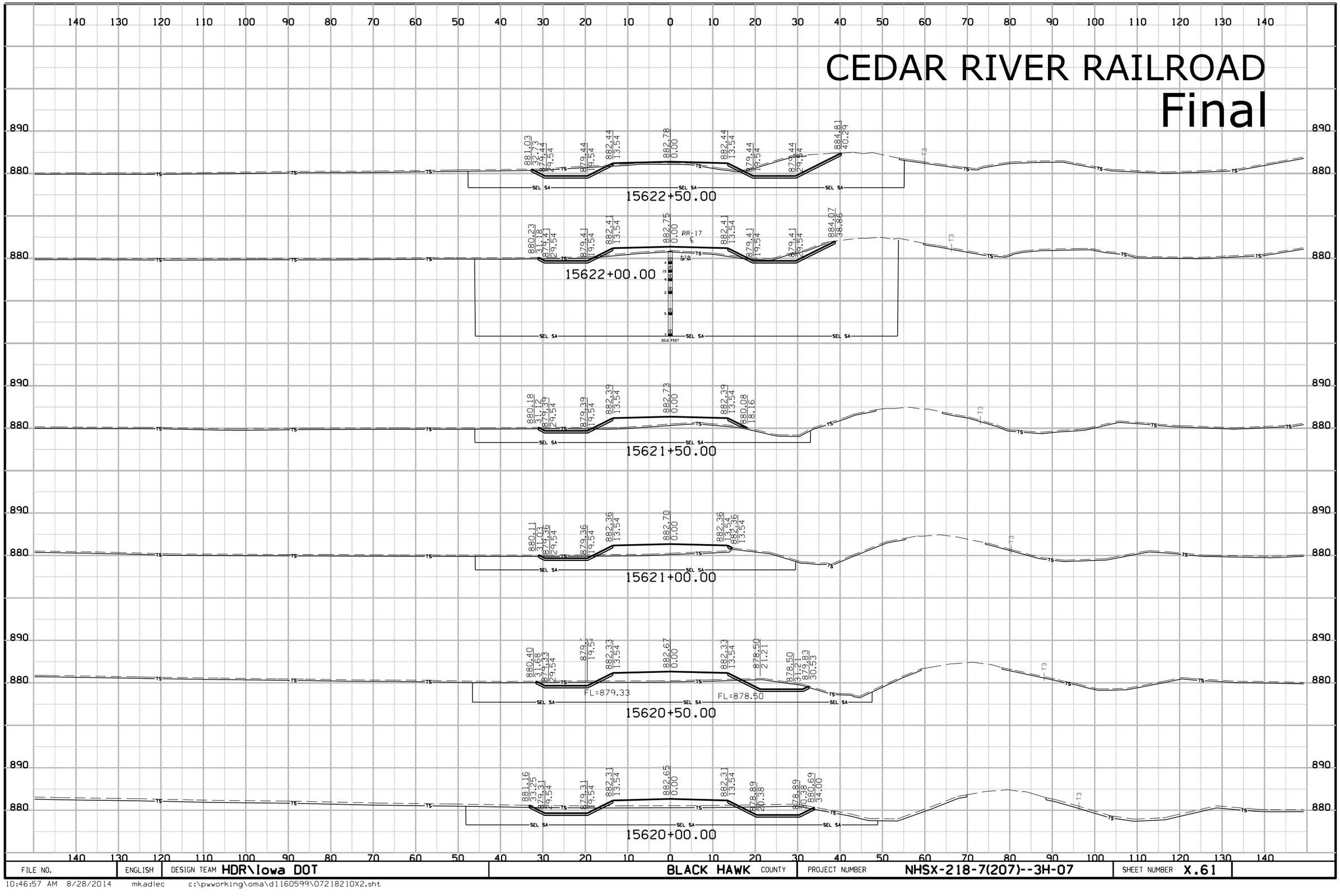
CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.61

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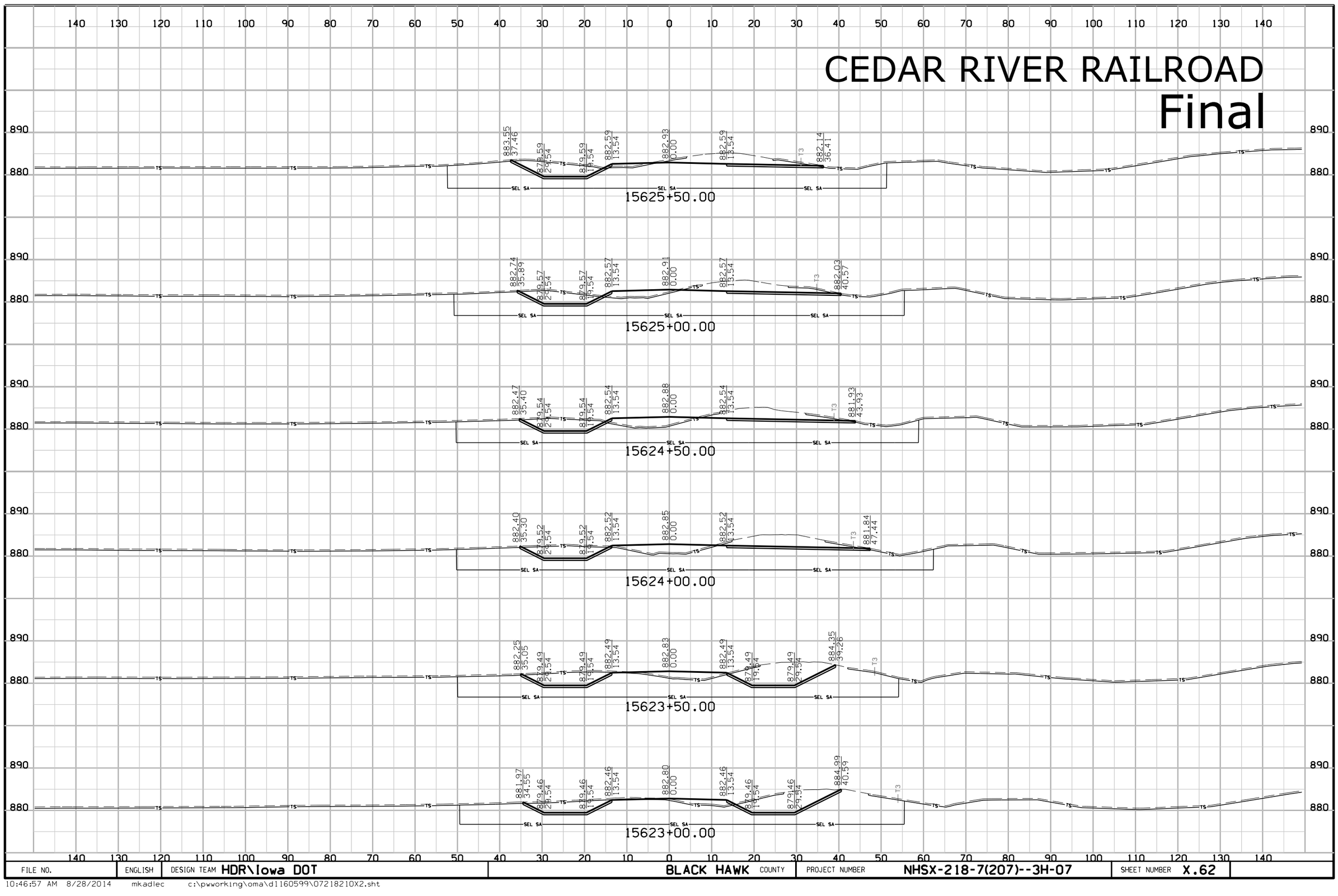
CEDAR RIVER RAILROAD

Final

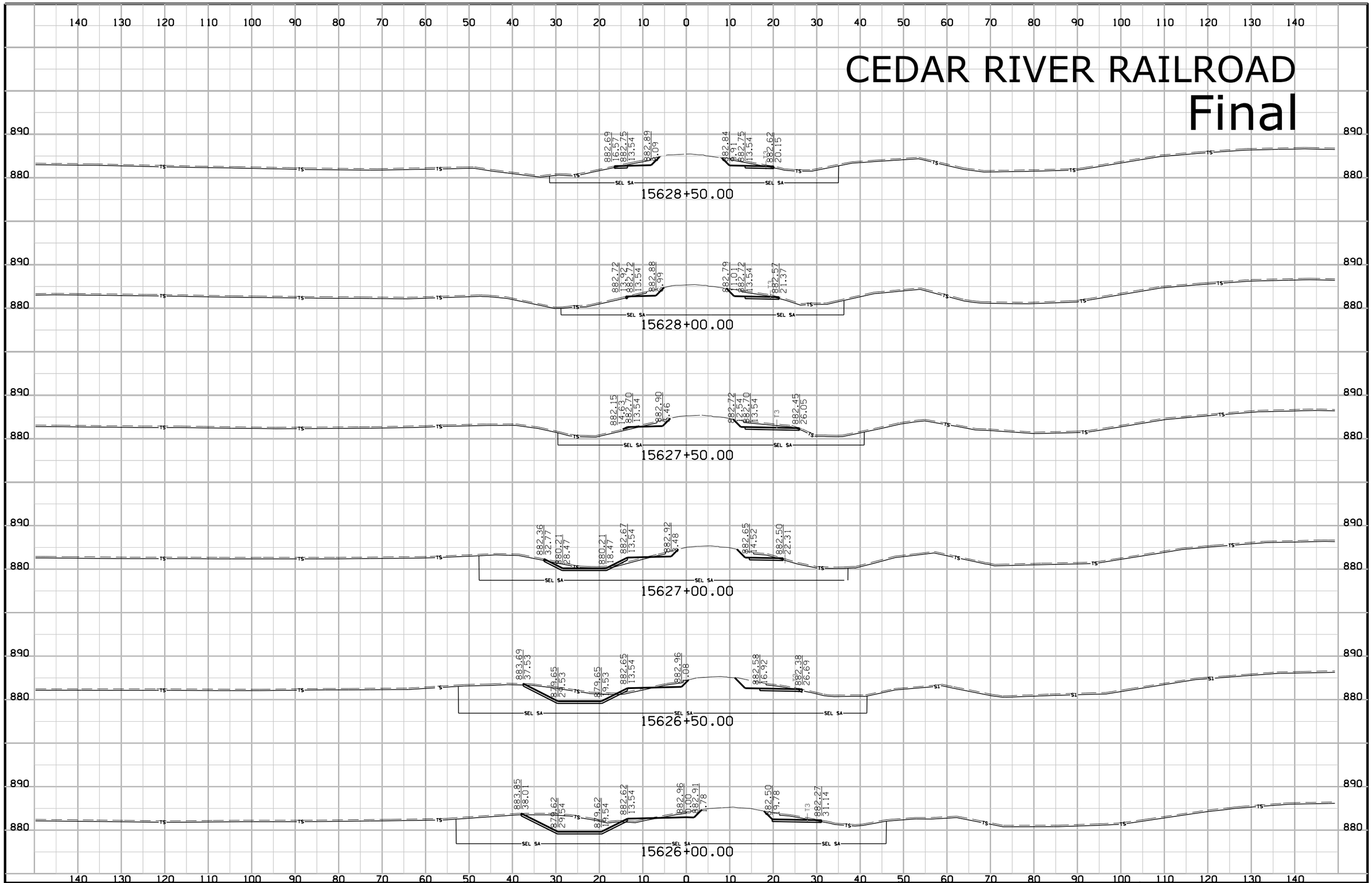


FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.62

10:46:57 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210X2.sht

CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.63

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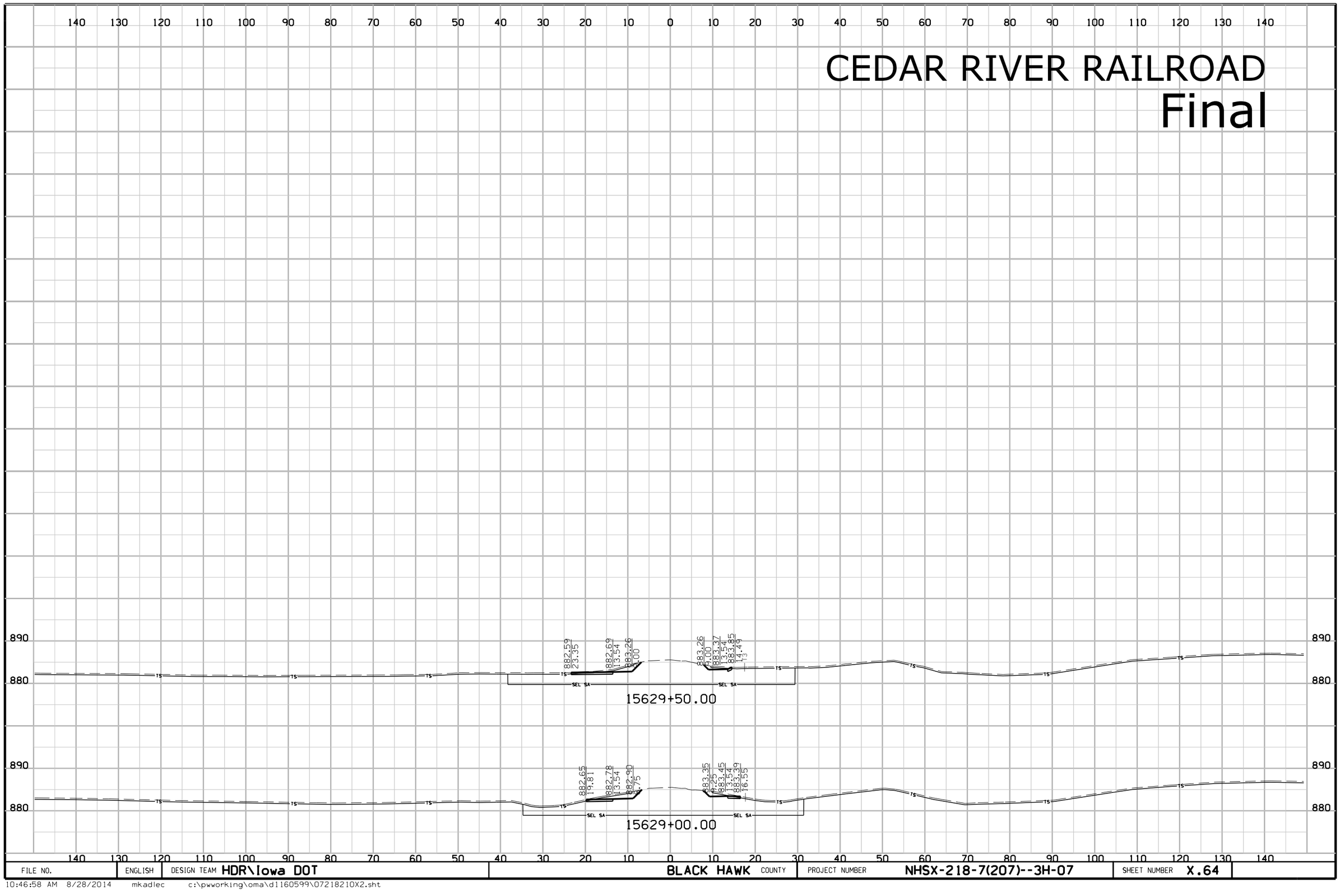
CEDAR RIVER RAILROAD

Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER X.64

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Ramp C57A
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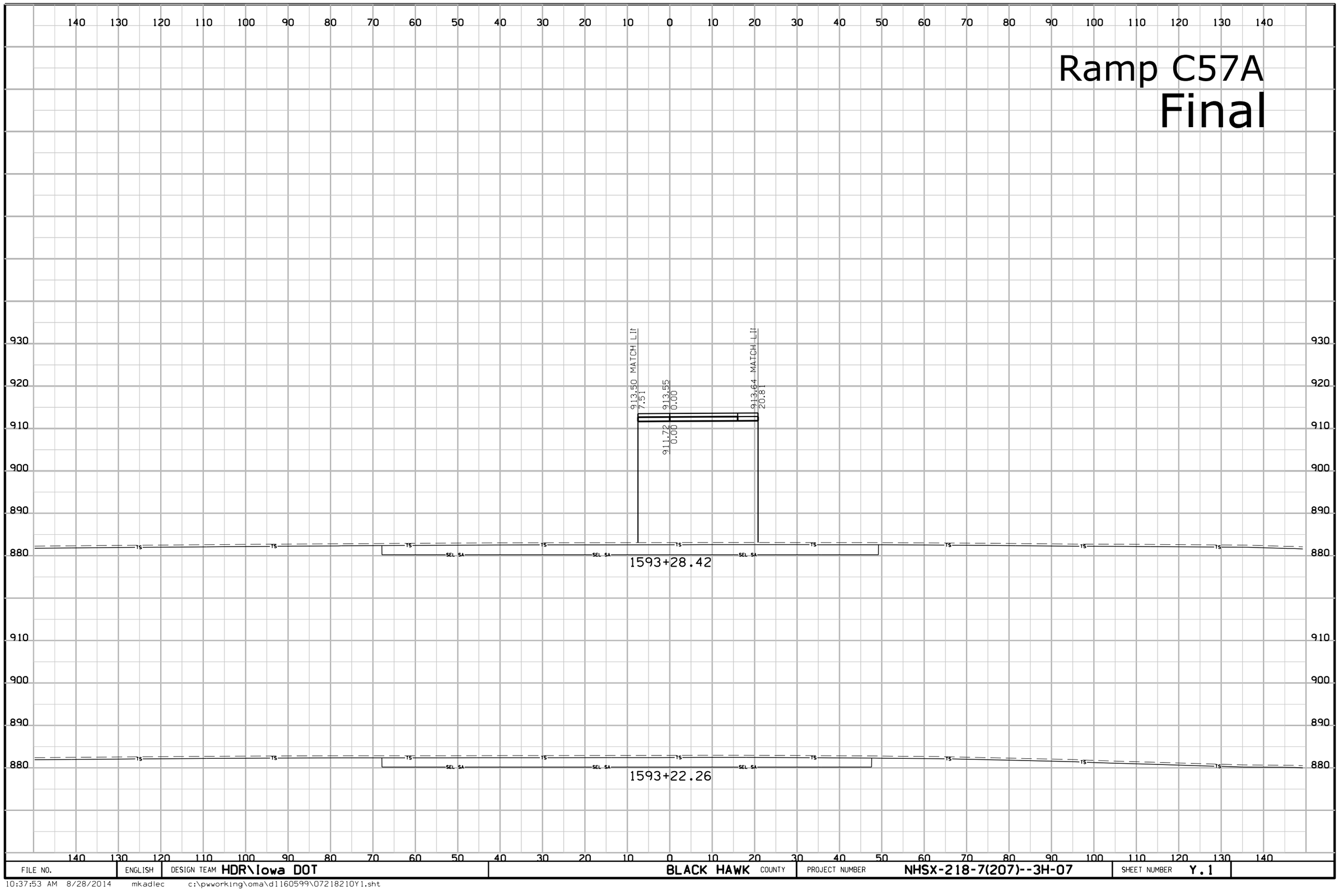

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.1

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Ramp C57A
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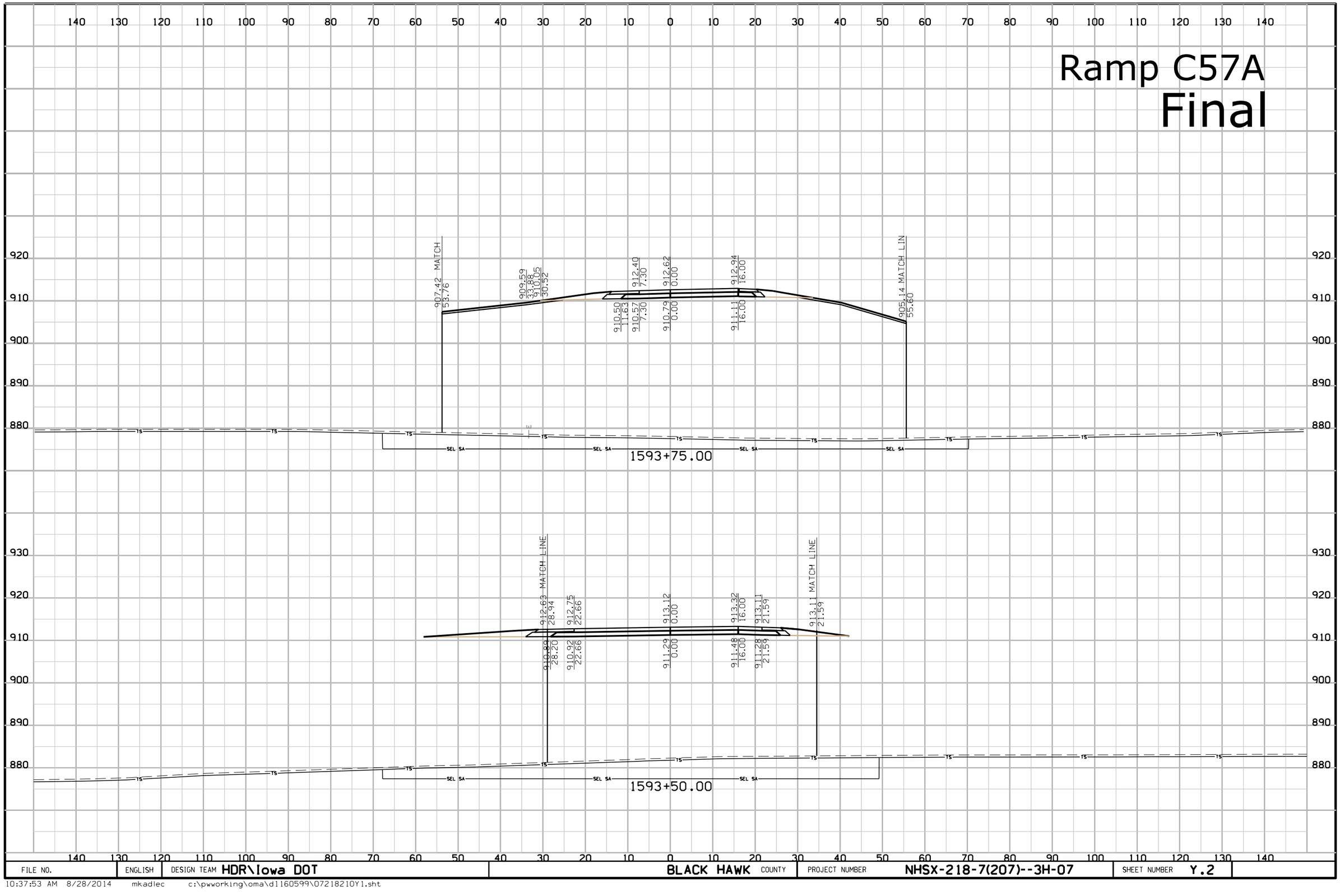

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.2

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Ramp C57A
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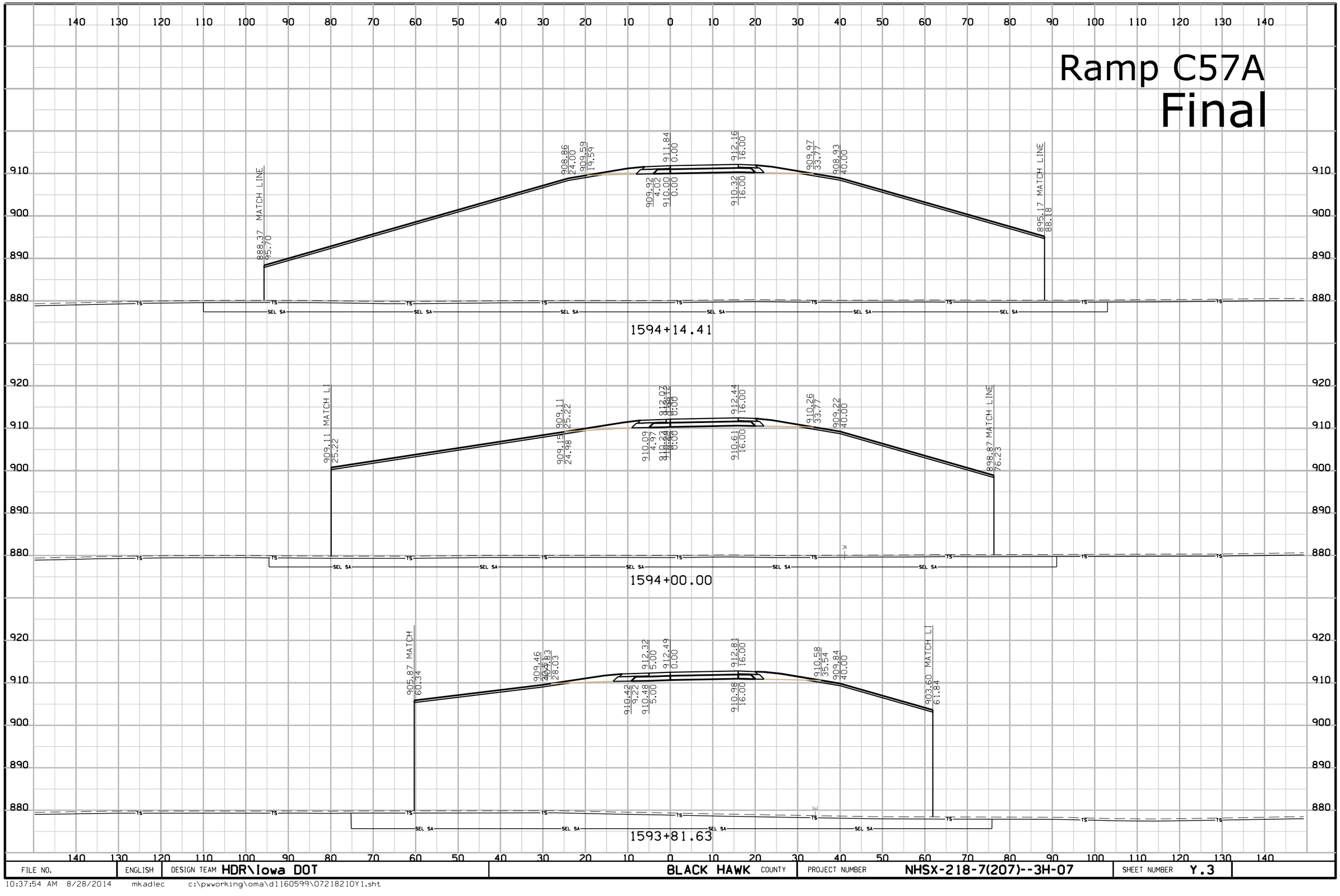

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.3

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Ramp C57A
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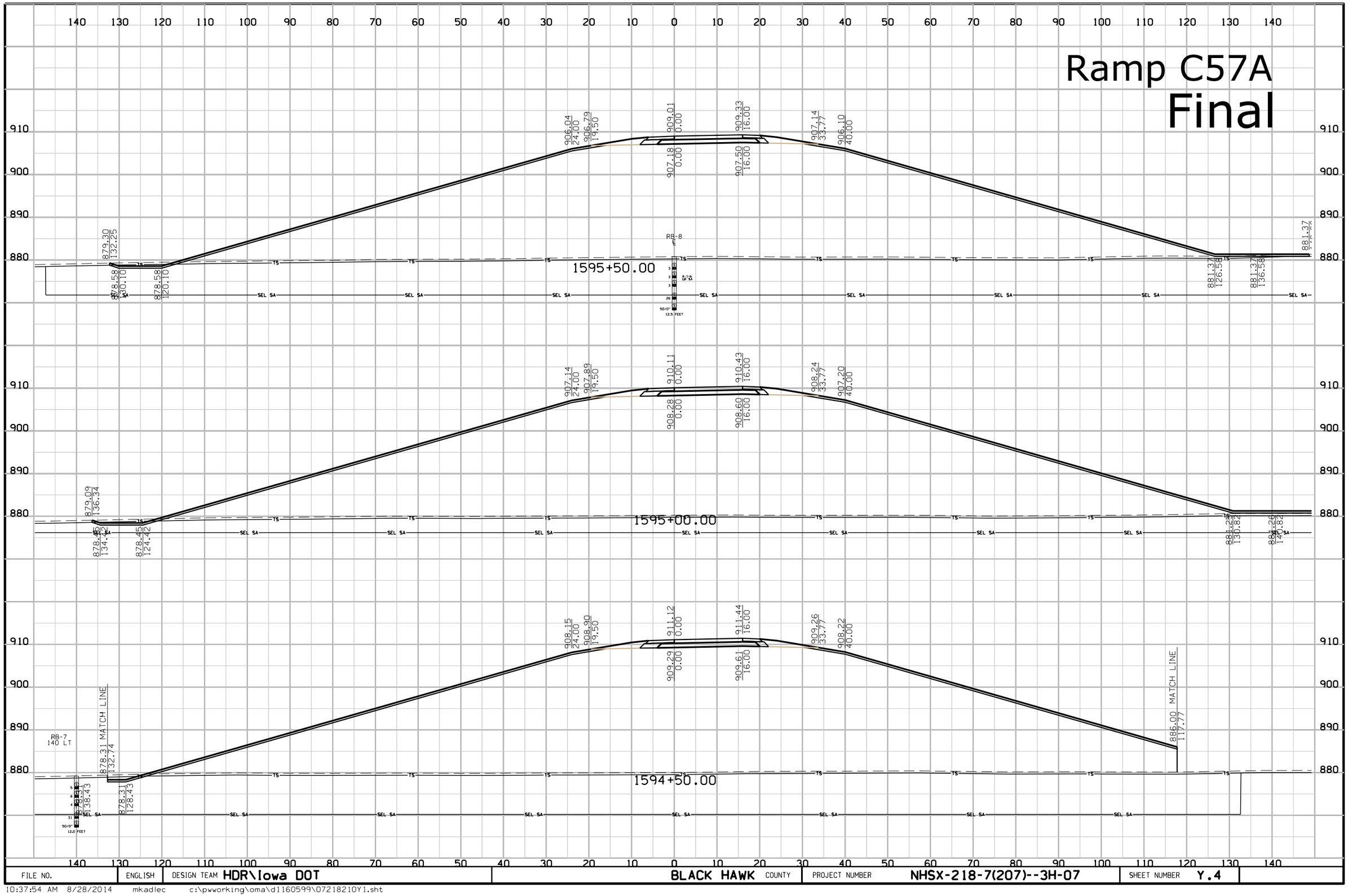

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.4

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Ramp C57A
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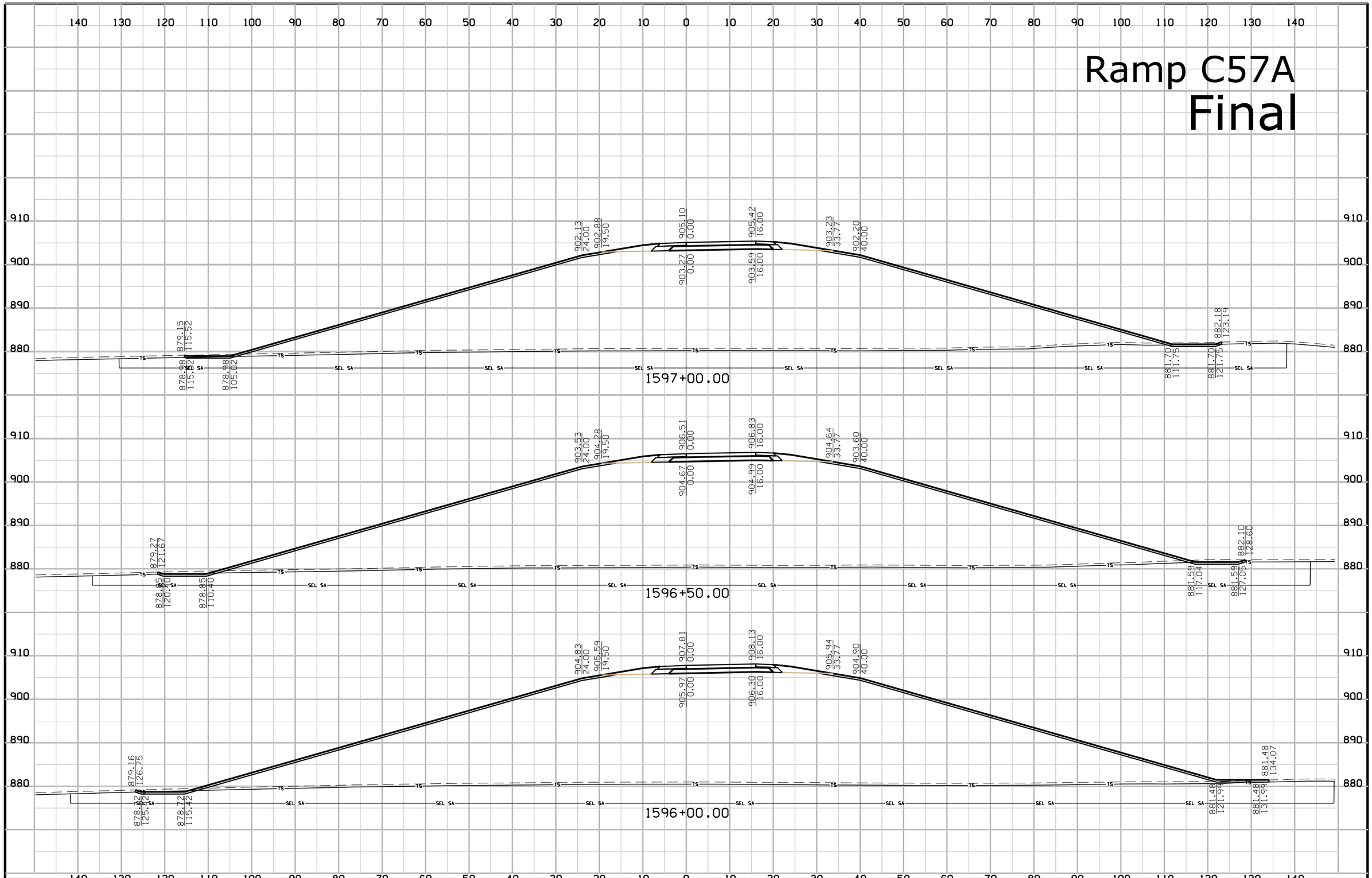

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.5

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Ramp C57A
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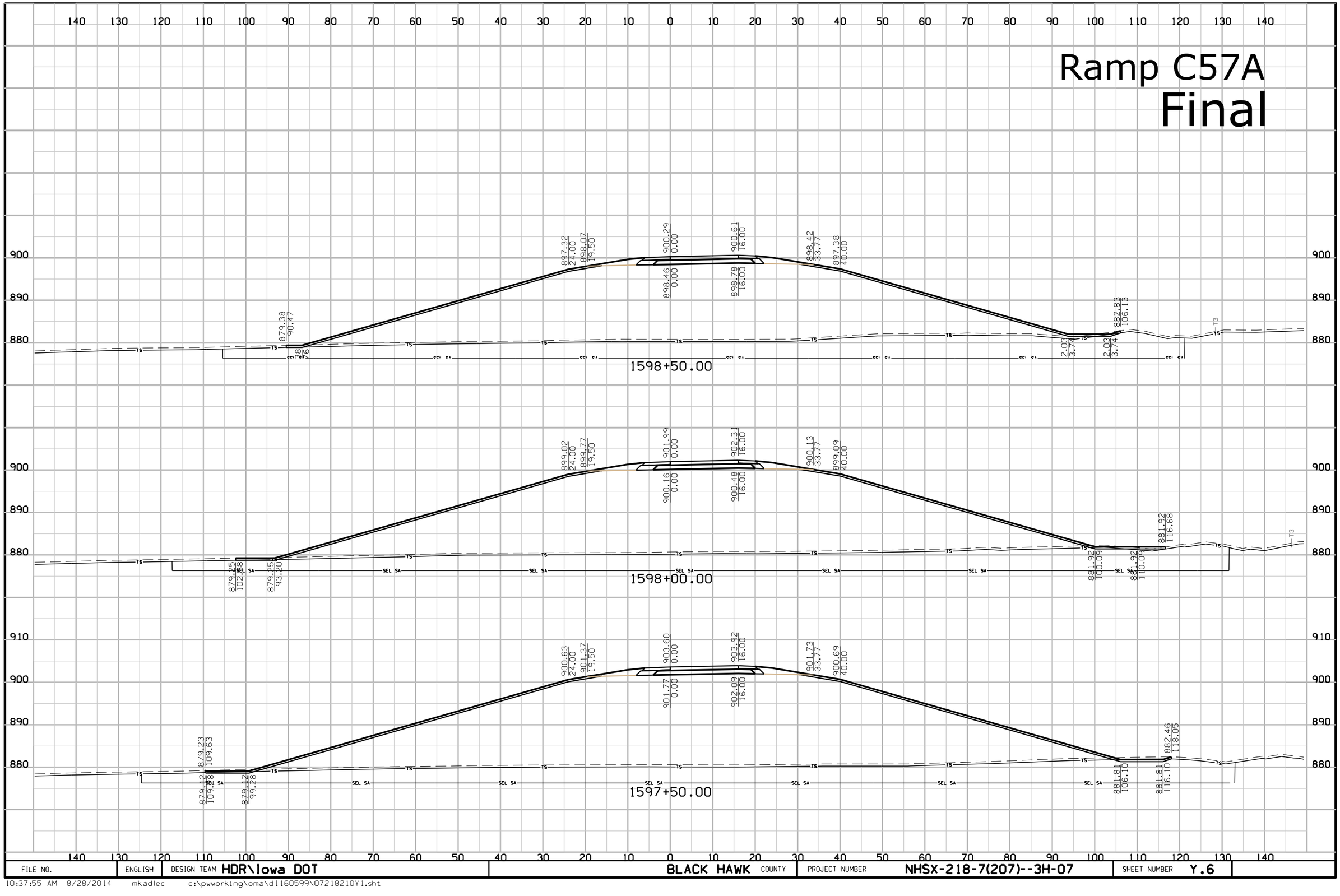

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.6

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Ramp C57A
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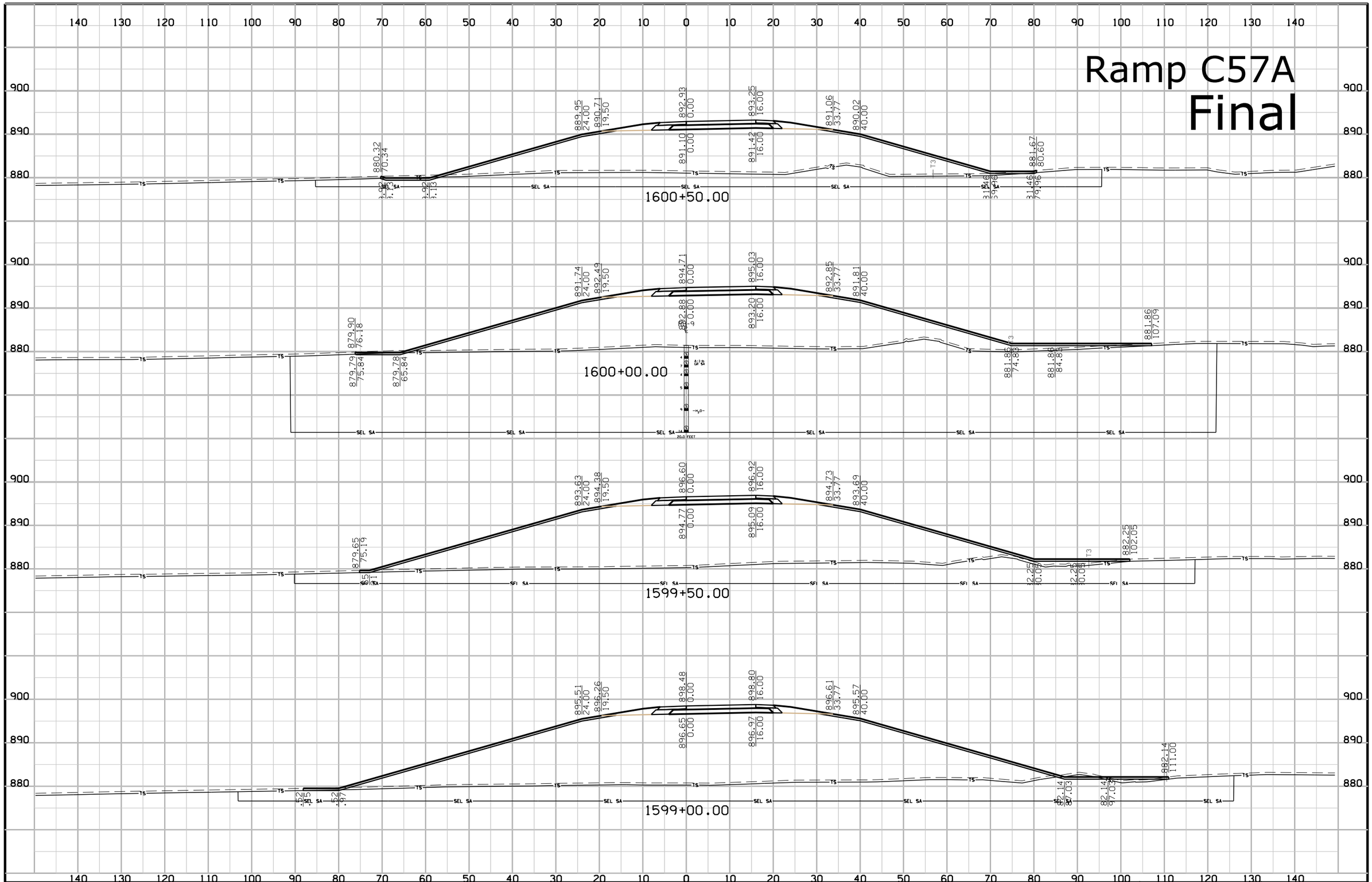

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.7

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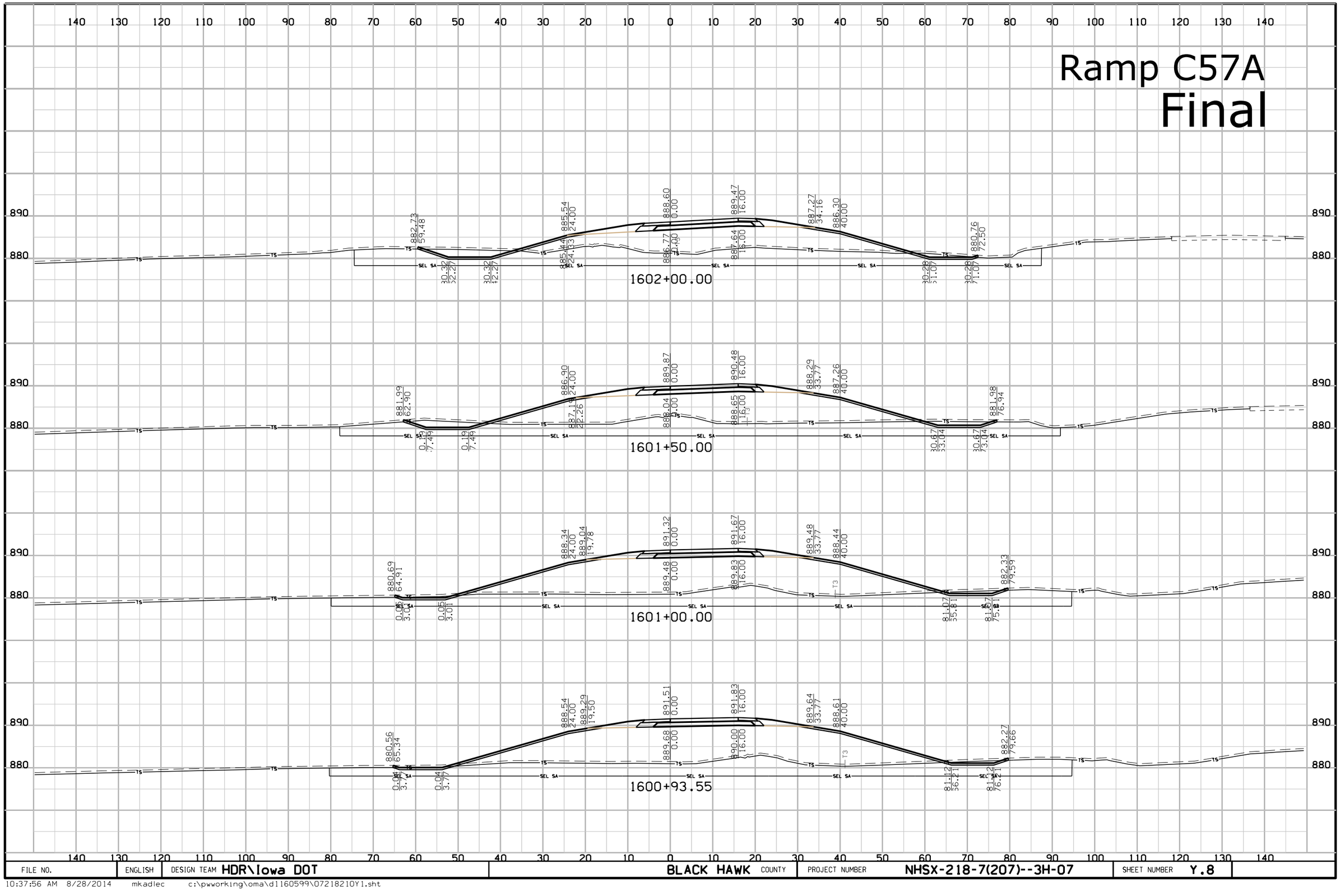

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.8

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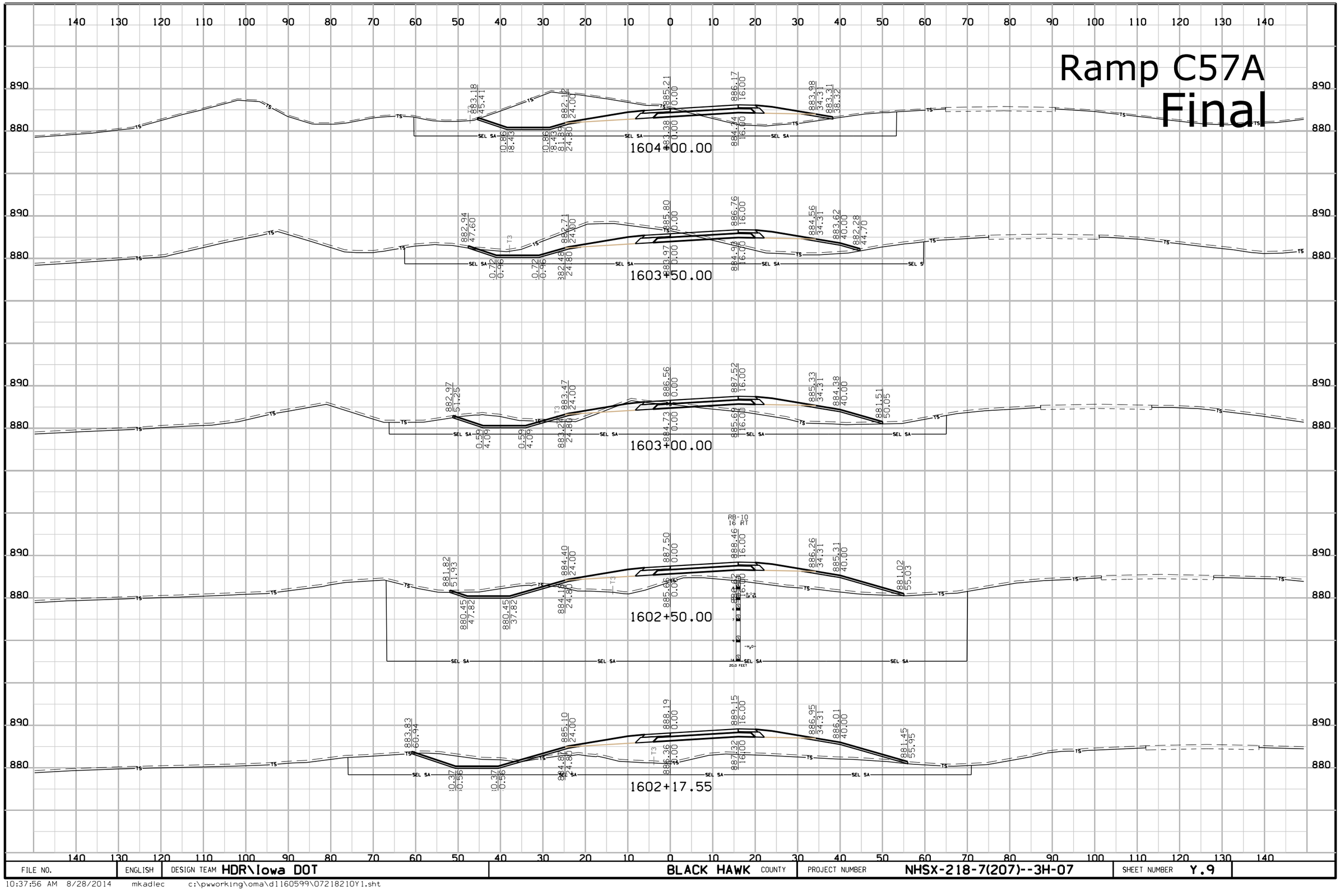

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.9

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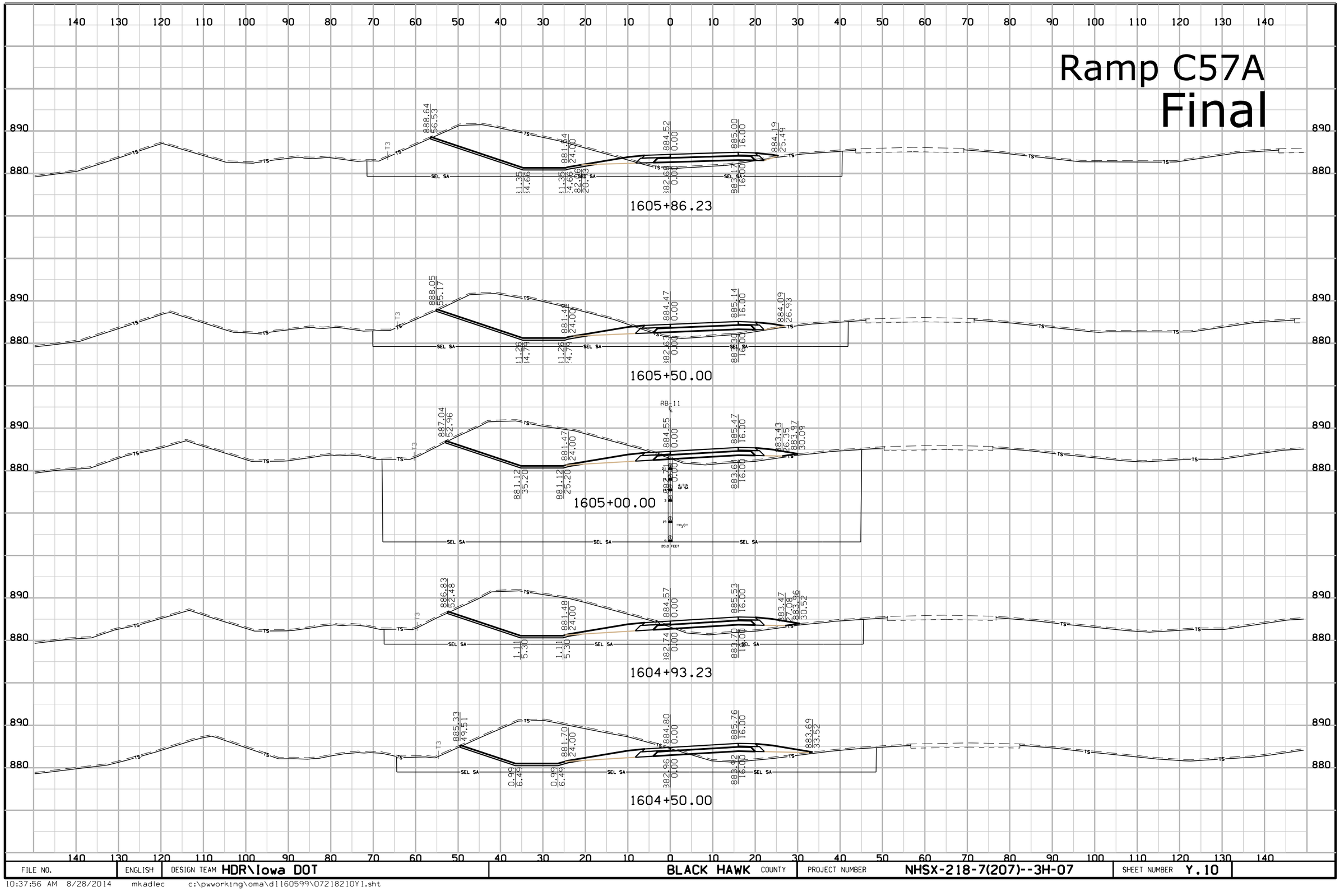

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.10

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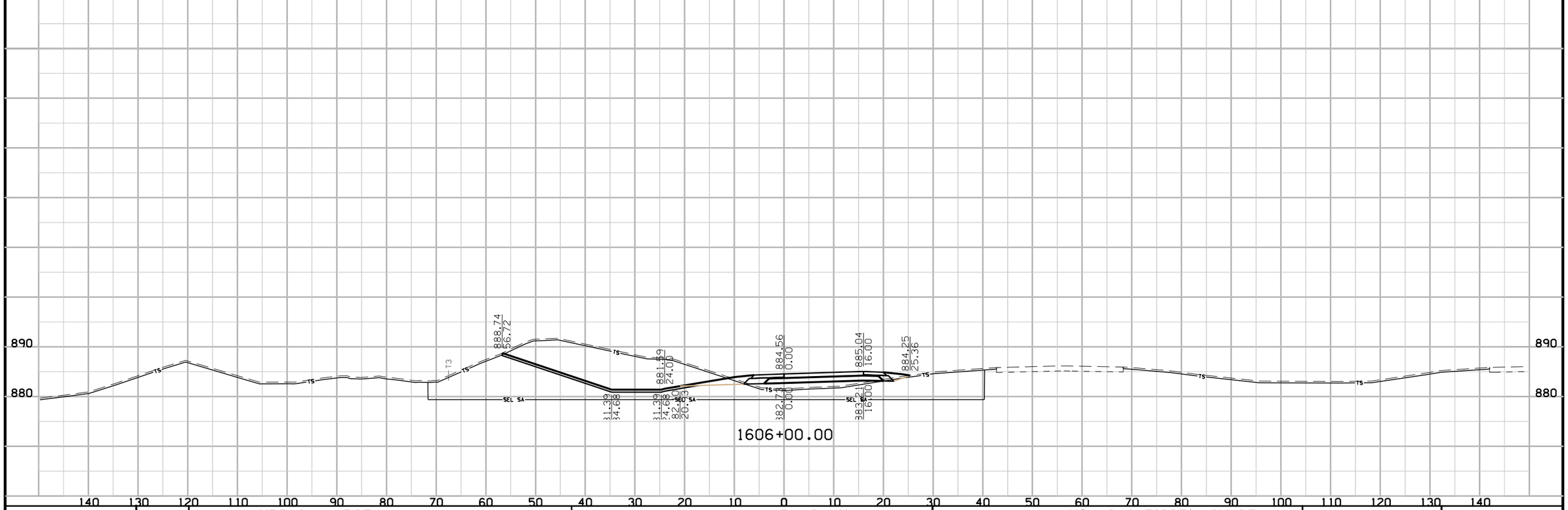
Ramp C57A
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.11

10:37:57 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210Y1.sht

Ramp C57B
Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 880 870

881.89 24.46 | 882.53 16.00 | 881.97 0.00 | 879.37 20.92 | 878.99 24.00
880.70 16.00 | 880.13 0.00 | 877.44 29.45 | 877.44 39.45
TS SEL SA

2590+78.09

881.87 24.07 | 882.44 16.00 | 881.97 0.00 | 879.50 20.92 | 878.99 24.00
880.61 16.00 | 880.13 0.00 | 877.41 29.54 | 877.41 39.54
TS SEL SA

2590+62.39

881.83 24.34 | 882.44 16.00 | 881.96 0.00 | 879.50 20.92 | 878.99 24.00
880.61 16.00 | 880.13 0.00 | 877.39 29.60 | 877.39 39.60
TS SEL SA

2590+50.00

881.86 24.12 | 882.44 16.00 | 881.96 0.00 | 879.50 20.92 | 878.99 24.00
880.61 16.00 | 880.13 0.00 | 877.36 29.69 | 877.36 39.69
TS SEL SA

2590+33.50

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.12

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Ramp C57B
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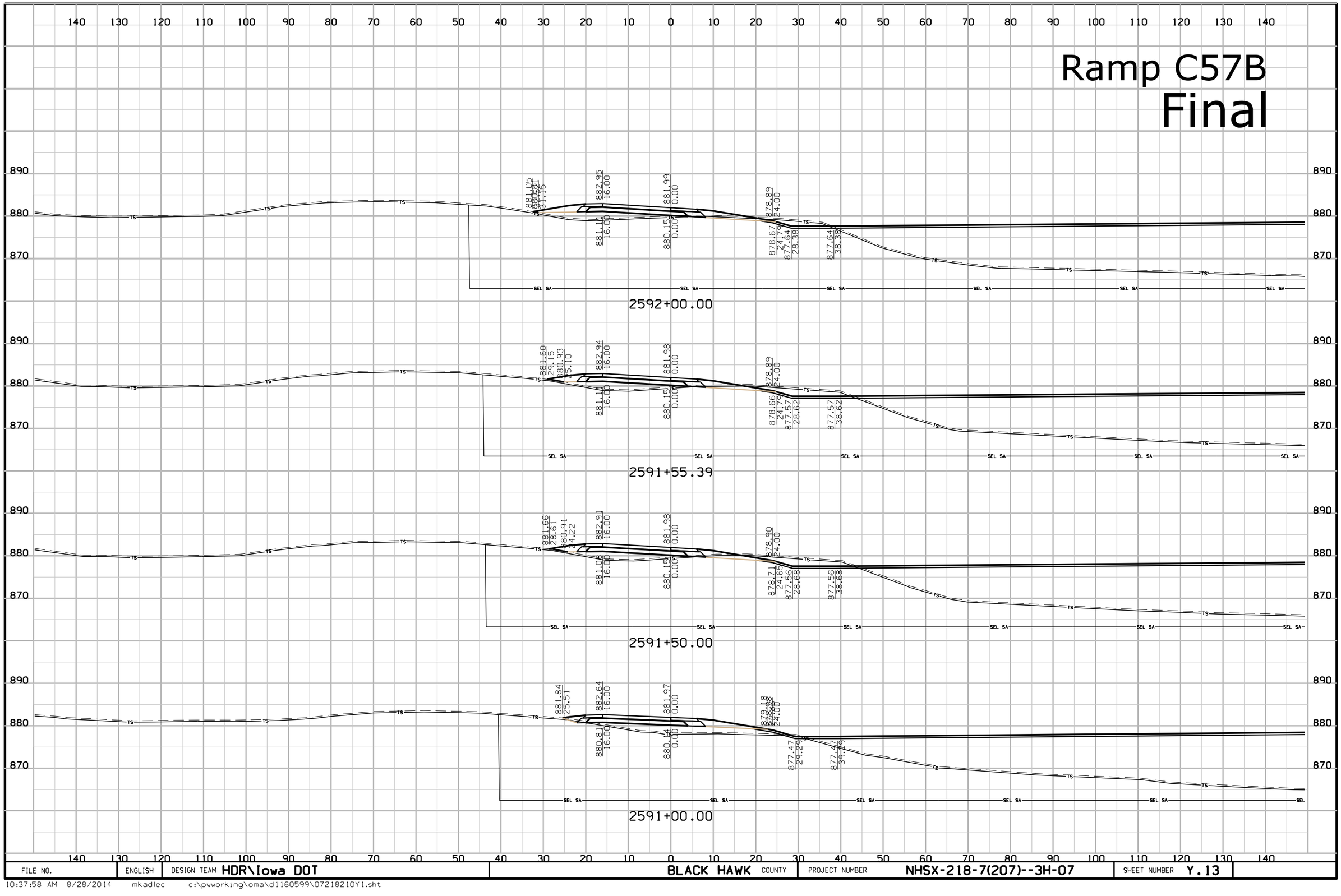

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.13

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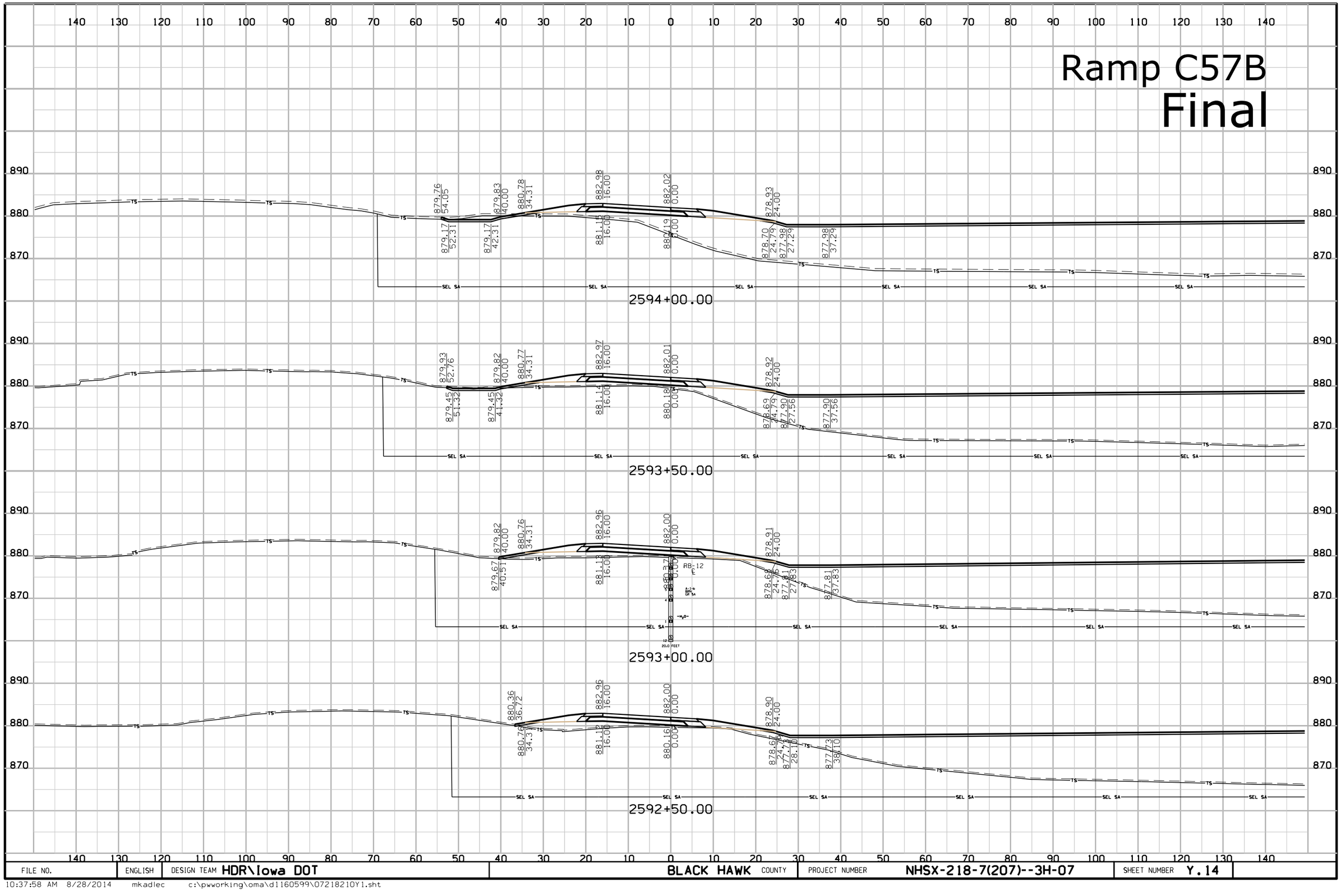

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.14

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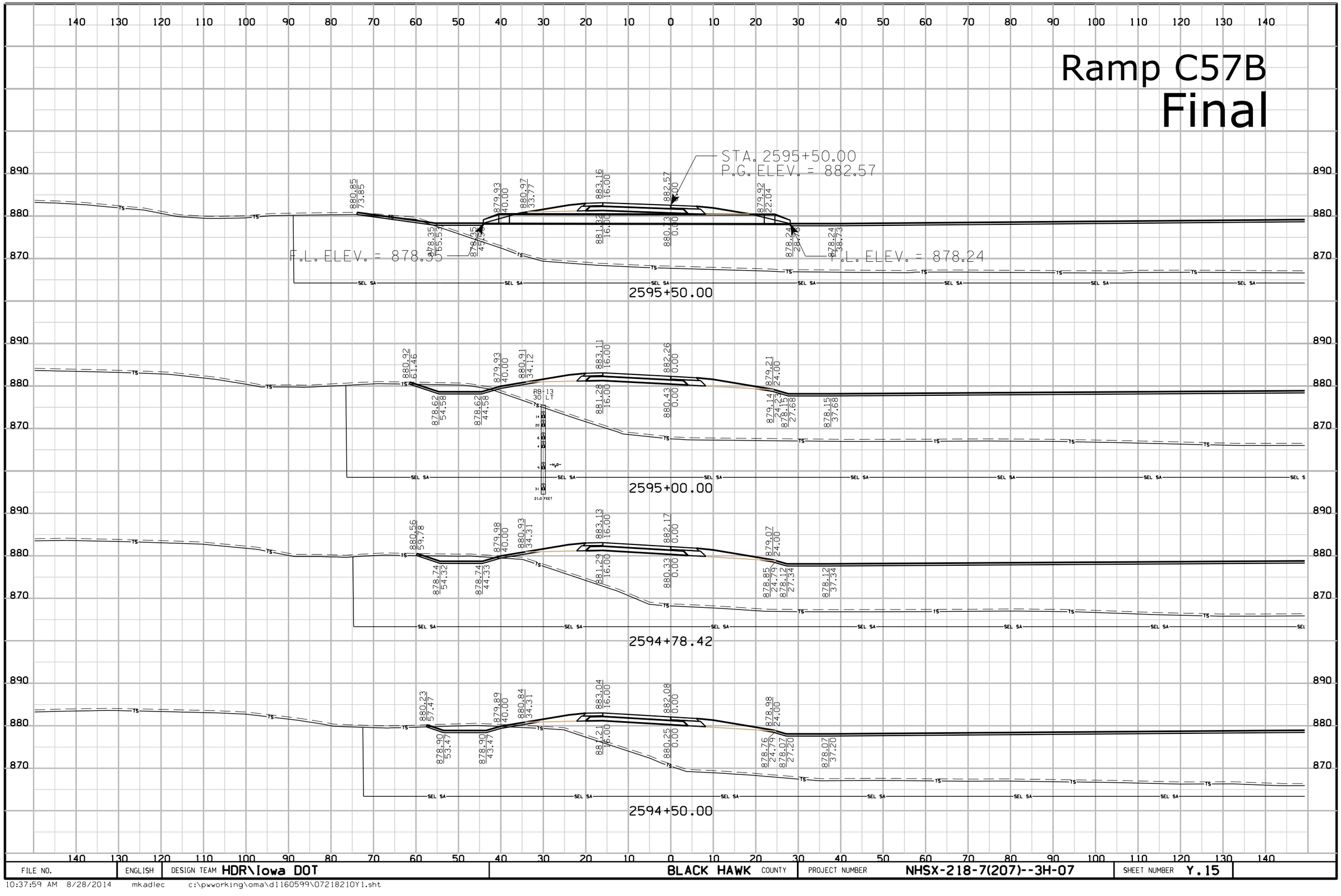

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.15

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Ramp C57B
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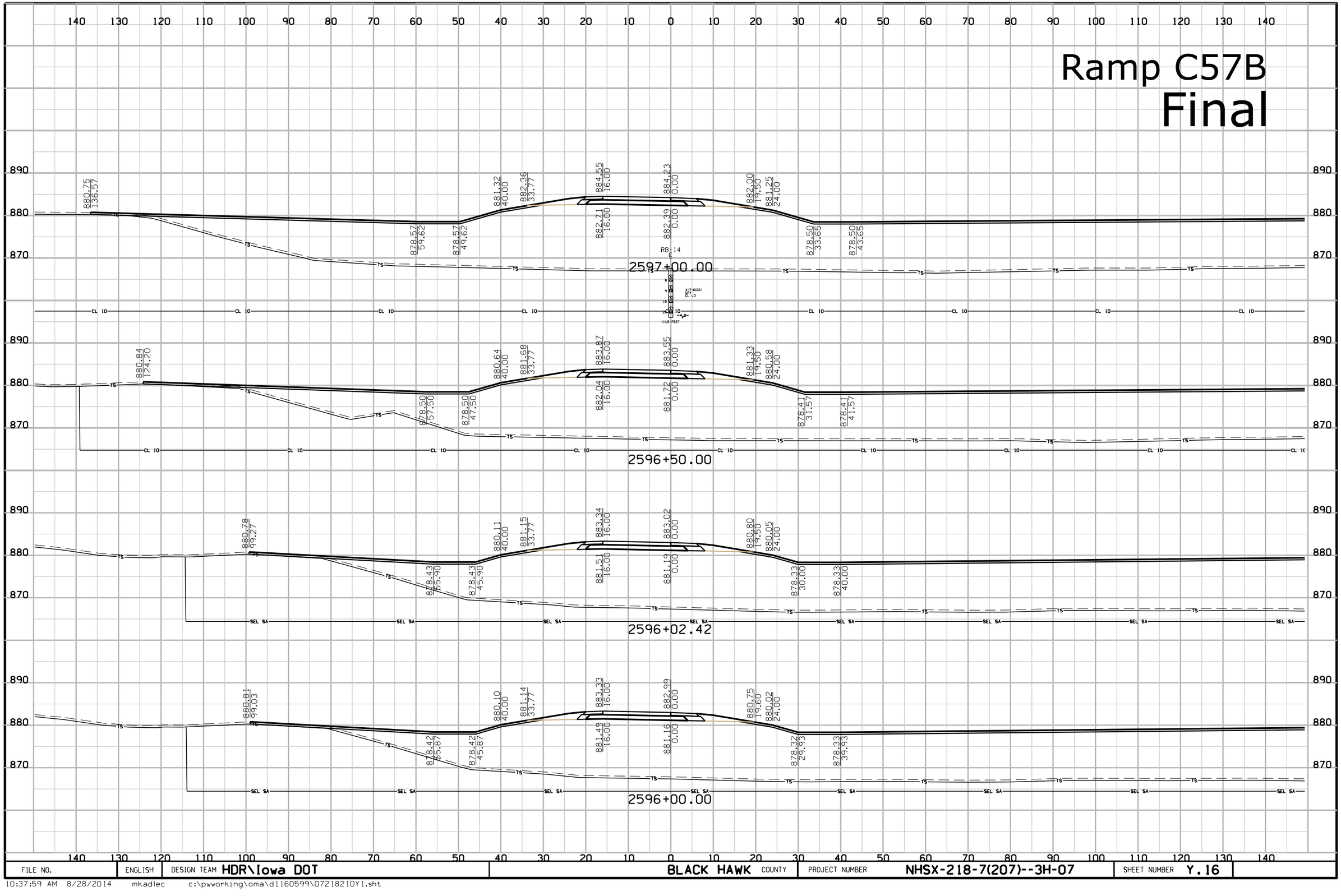

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.16

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Ramp C57B
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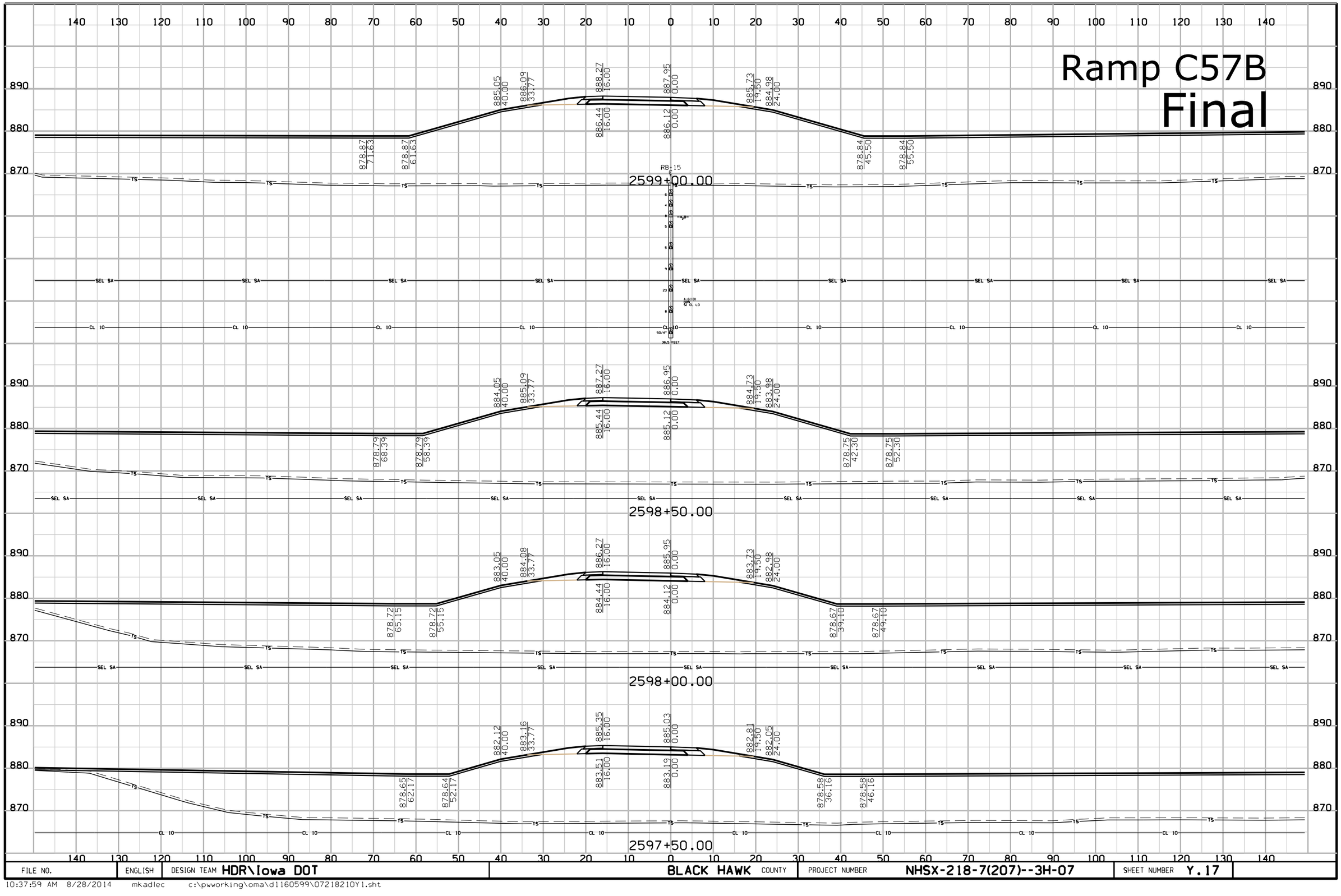

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.17

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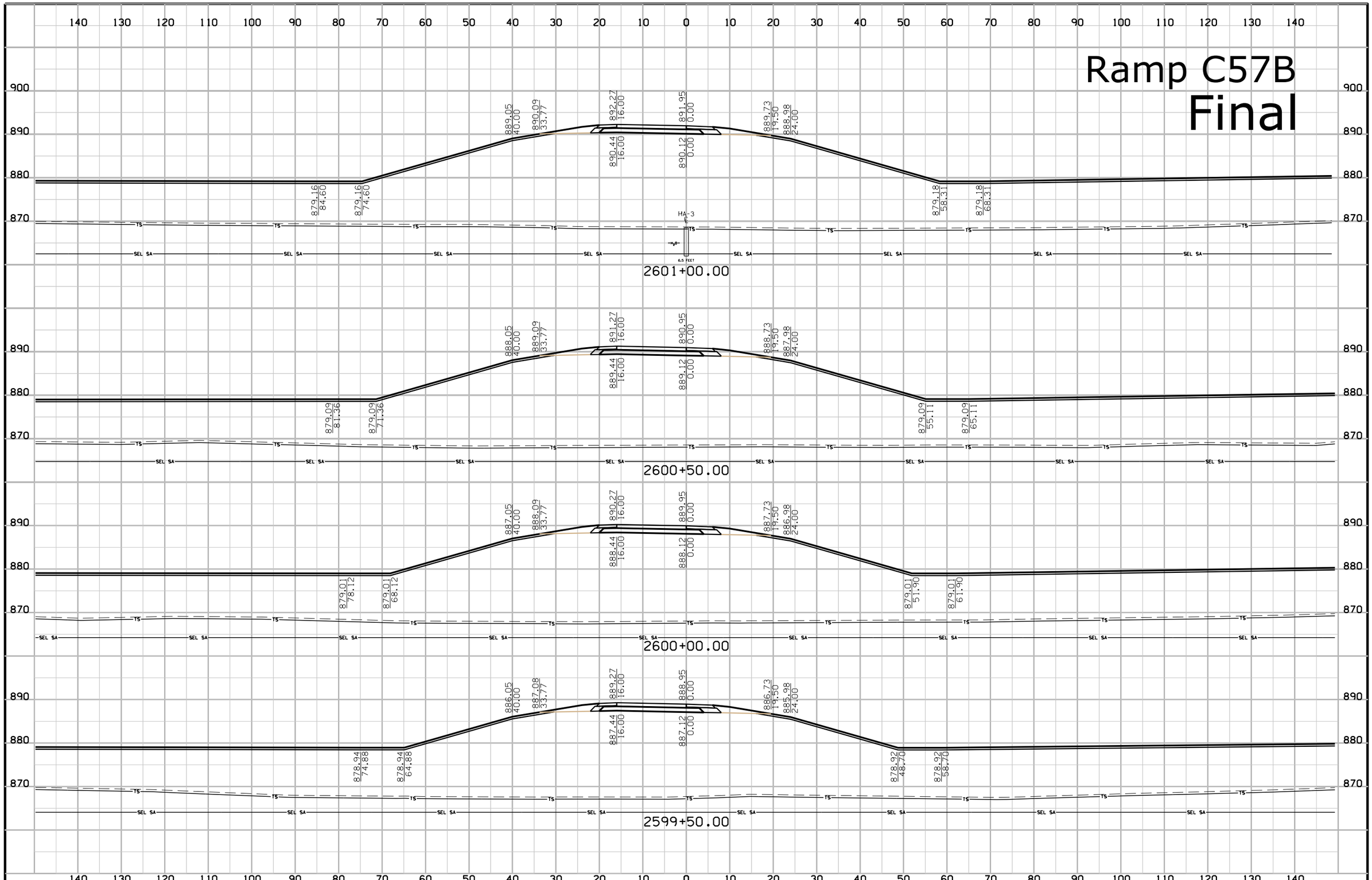

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.18

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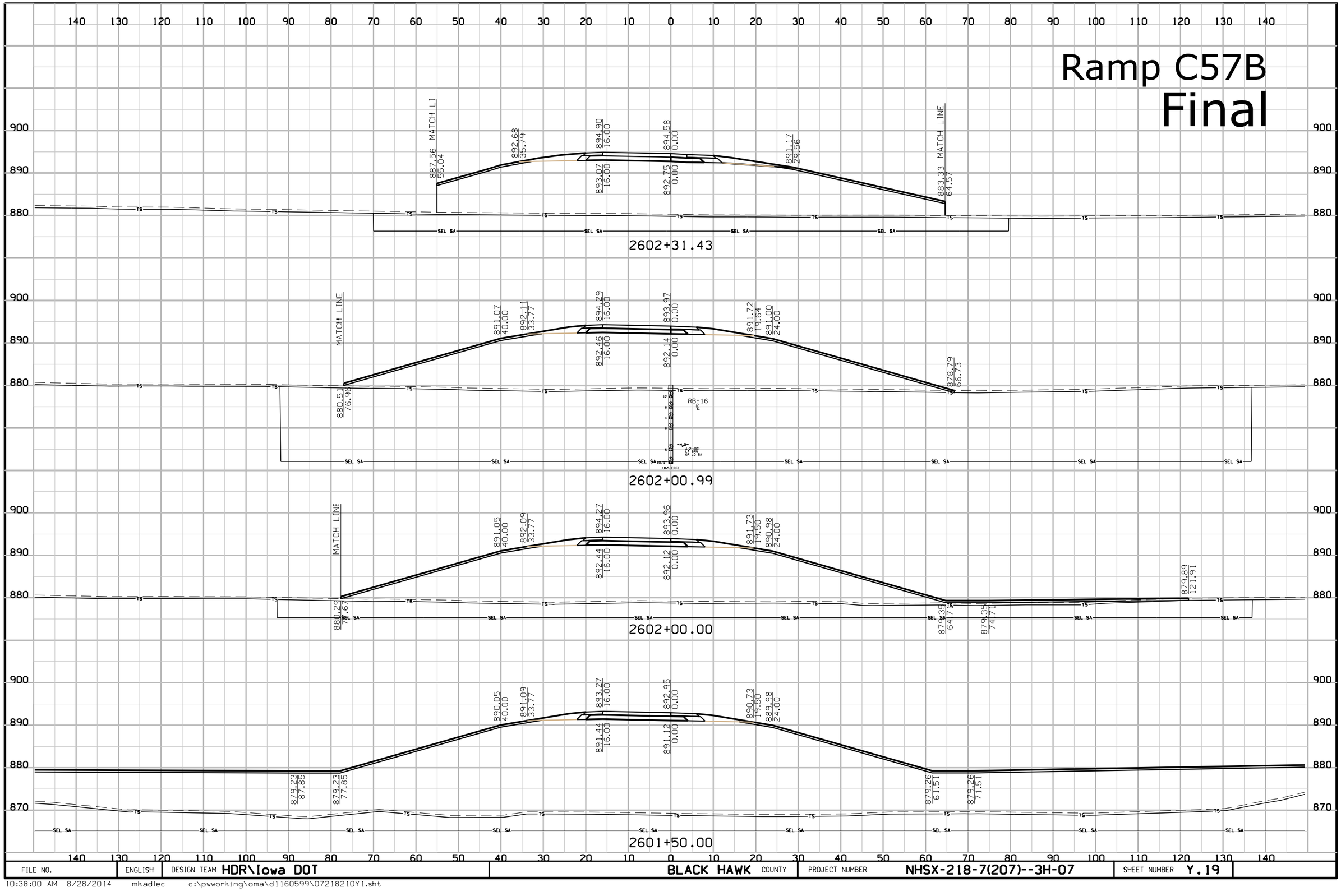

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.19

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Ramp C57B
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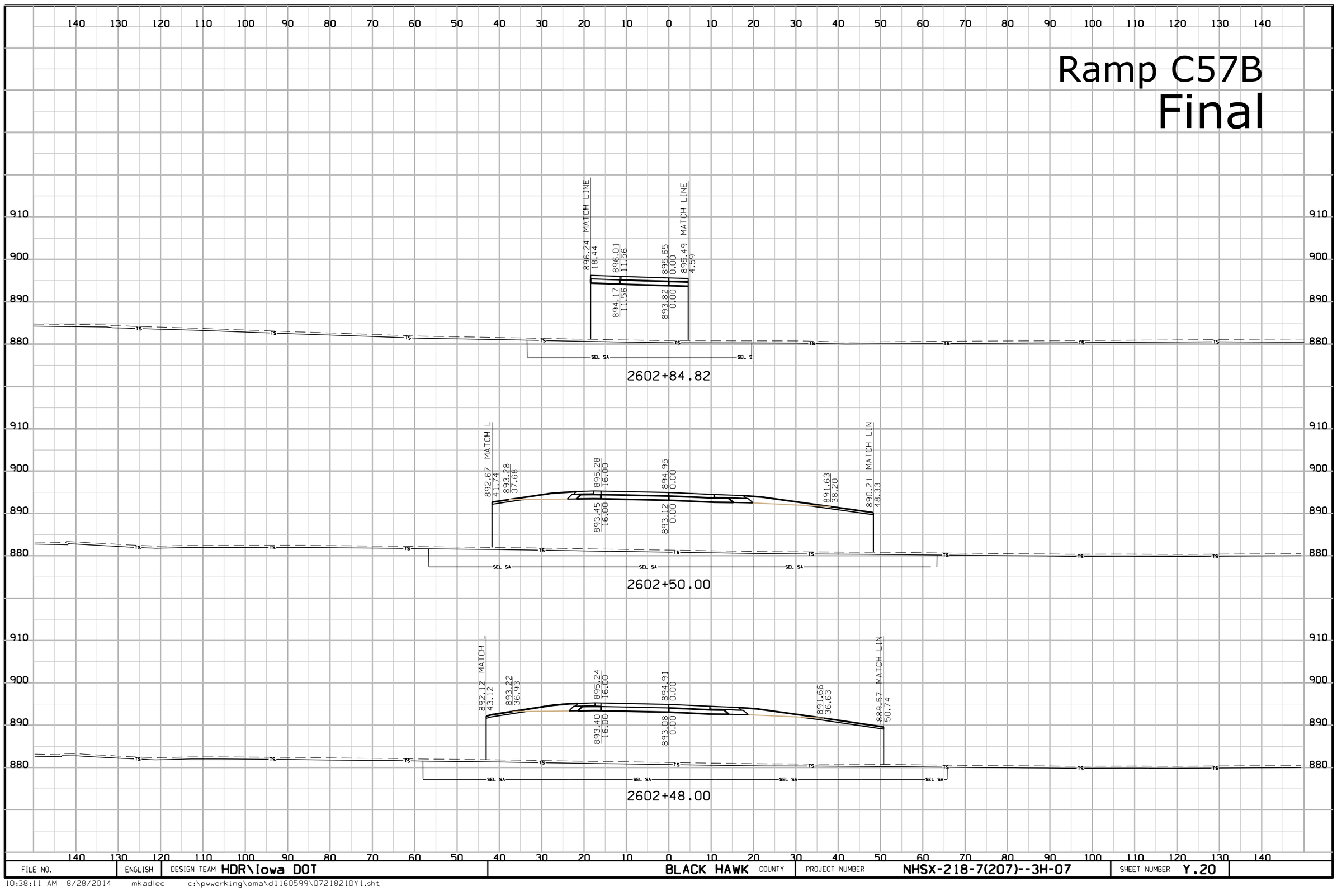

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.20

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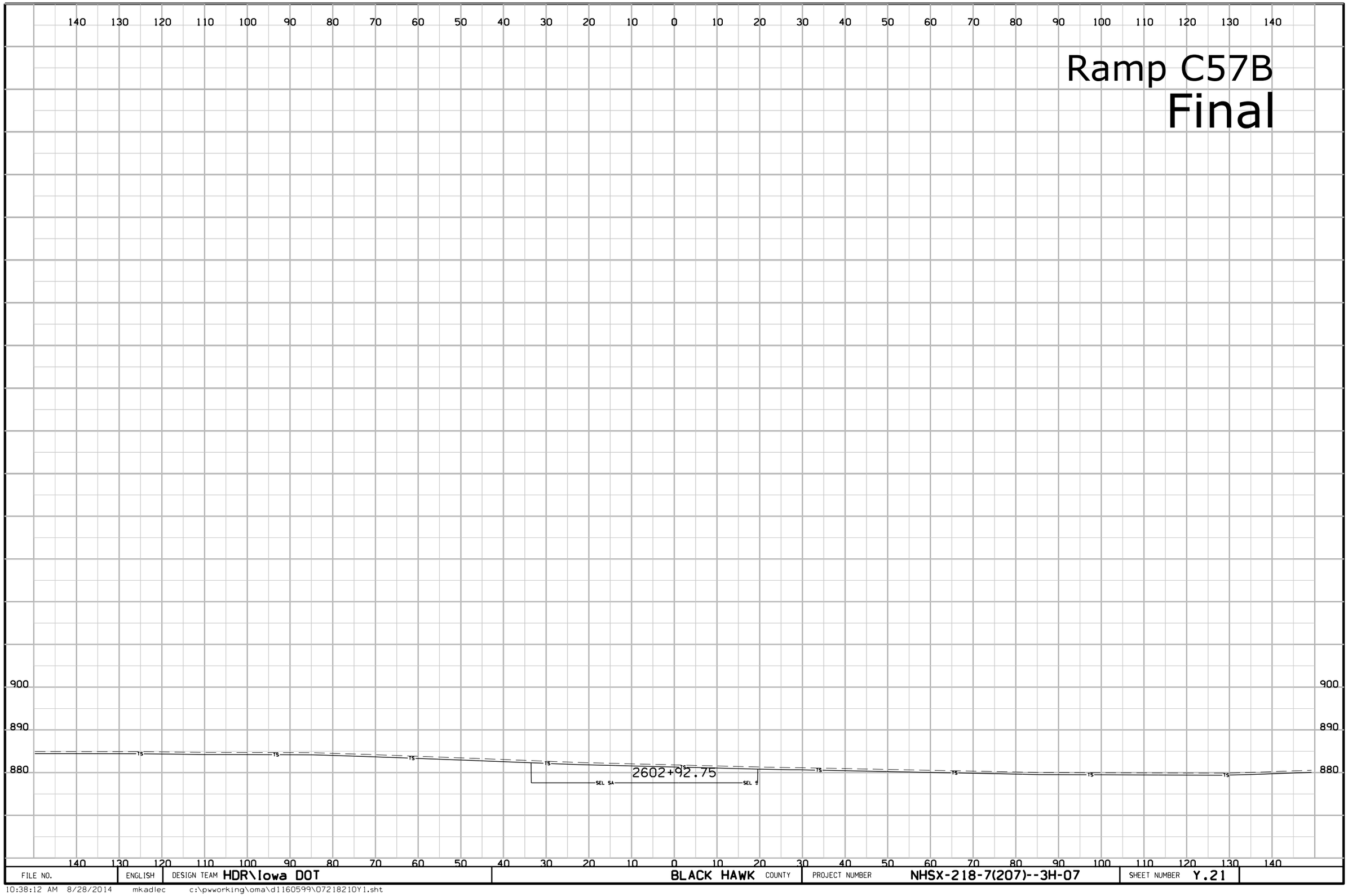

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Ramp C57C
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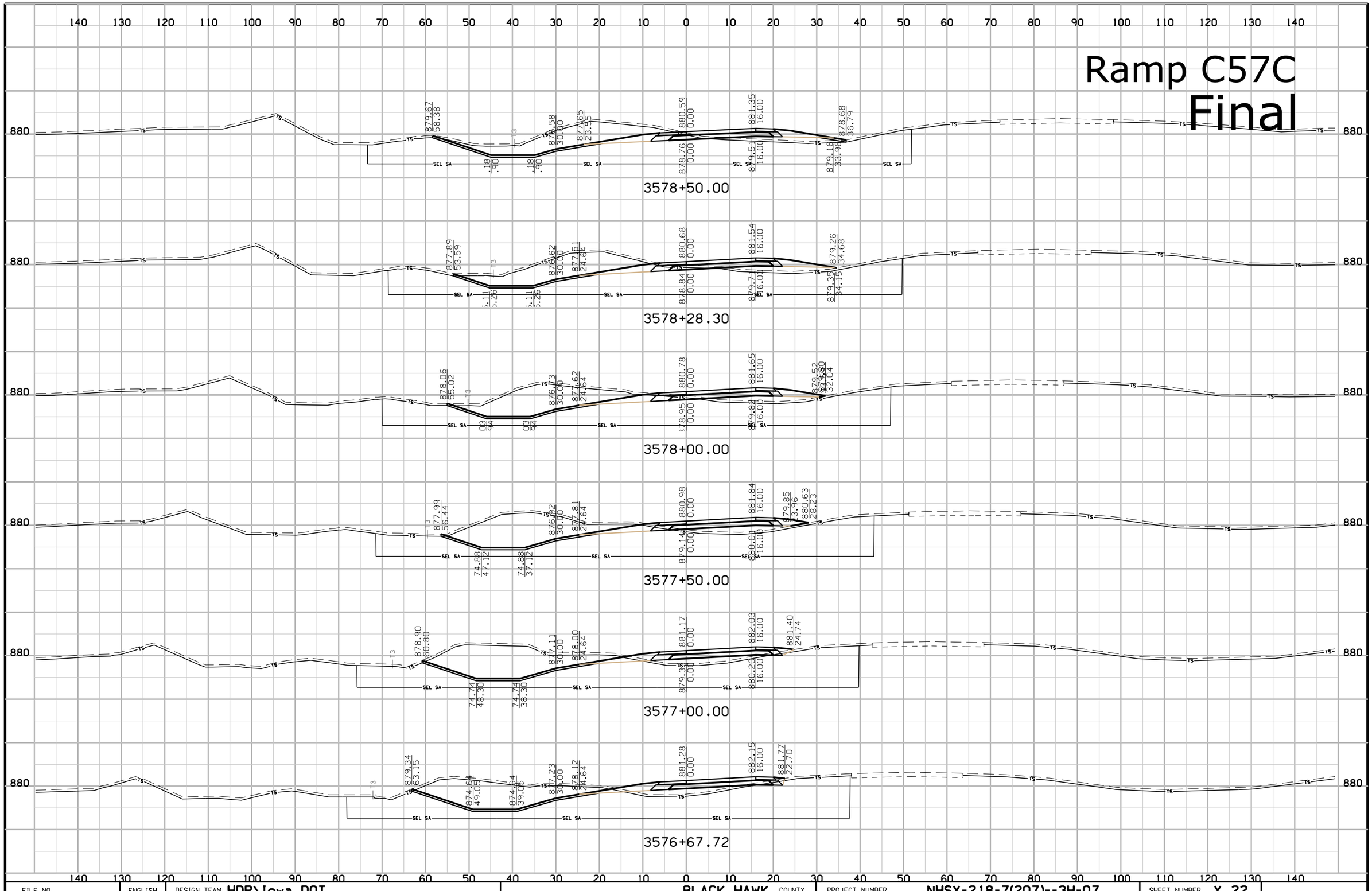

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.22

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Ramp C57C
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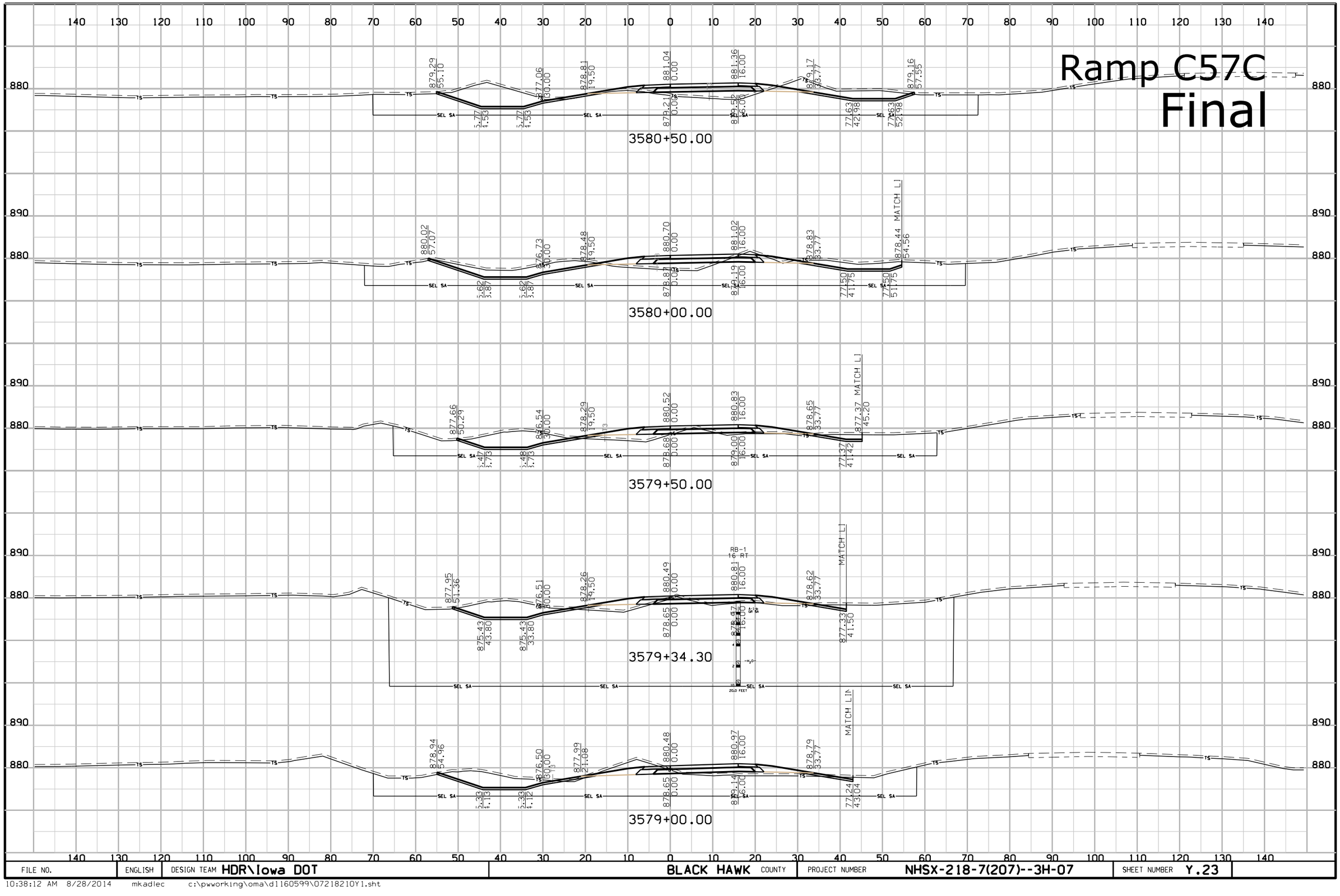

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.23

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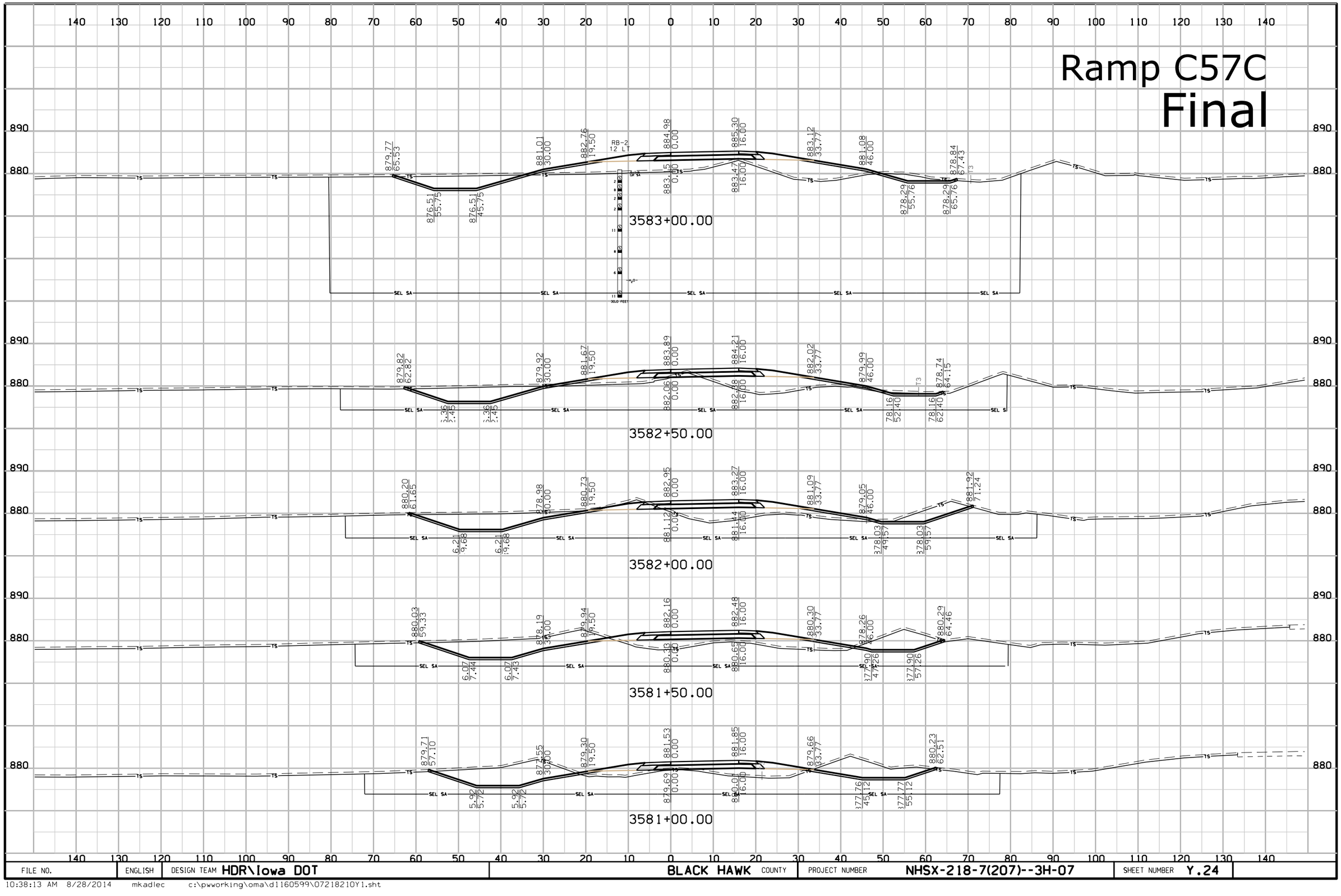

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.24

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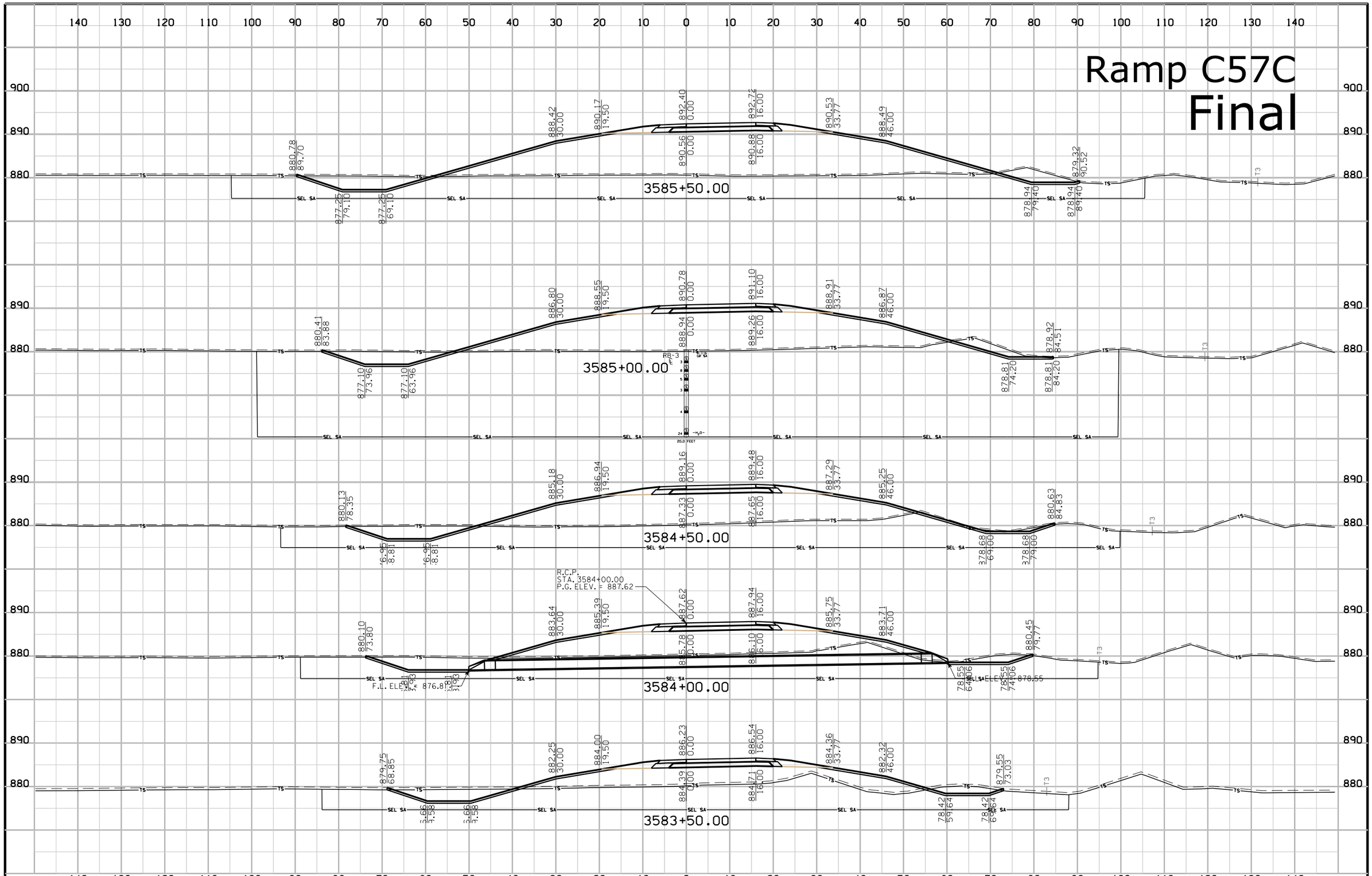
Ramp C57C
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.25

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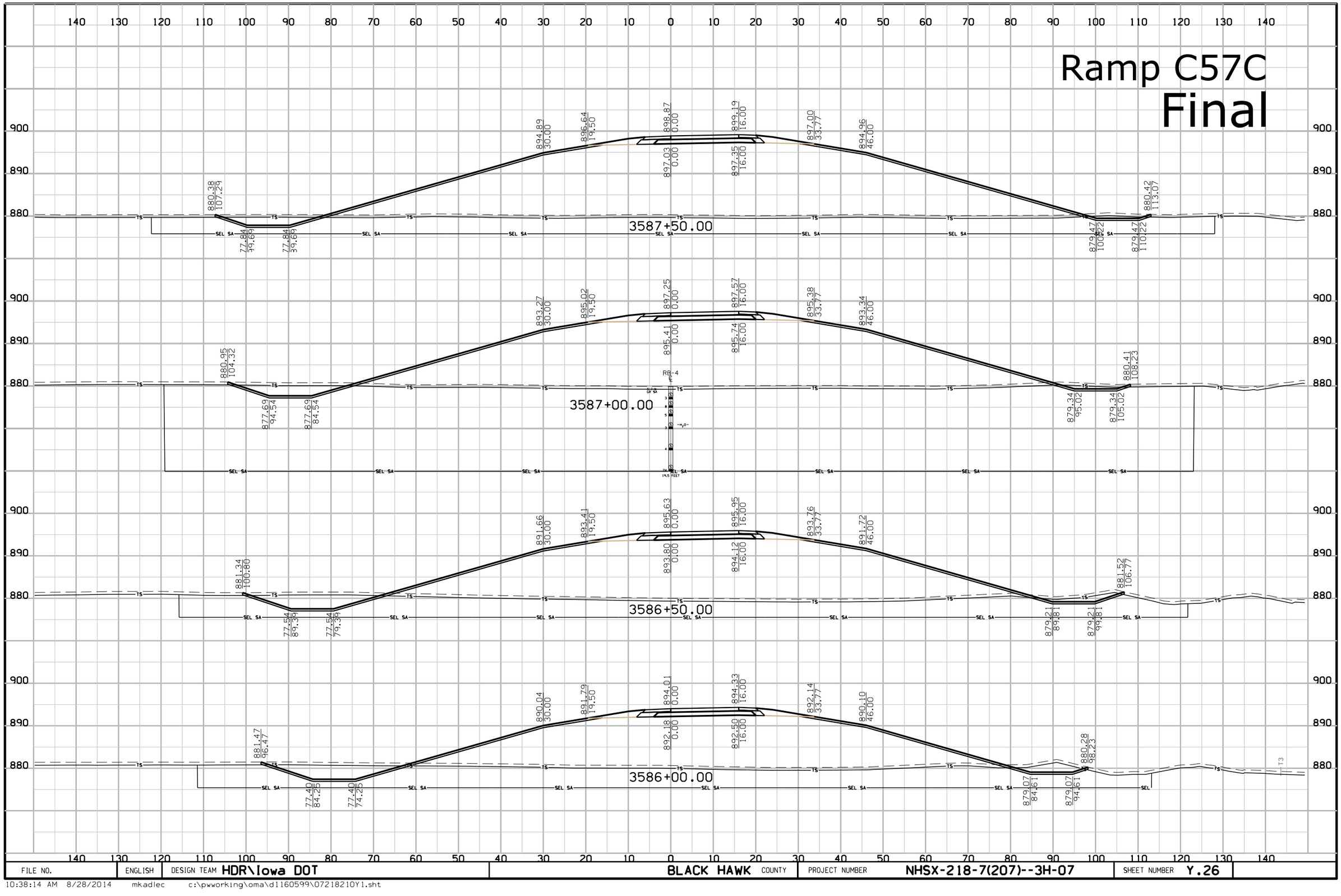
Ramp C57C
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.26

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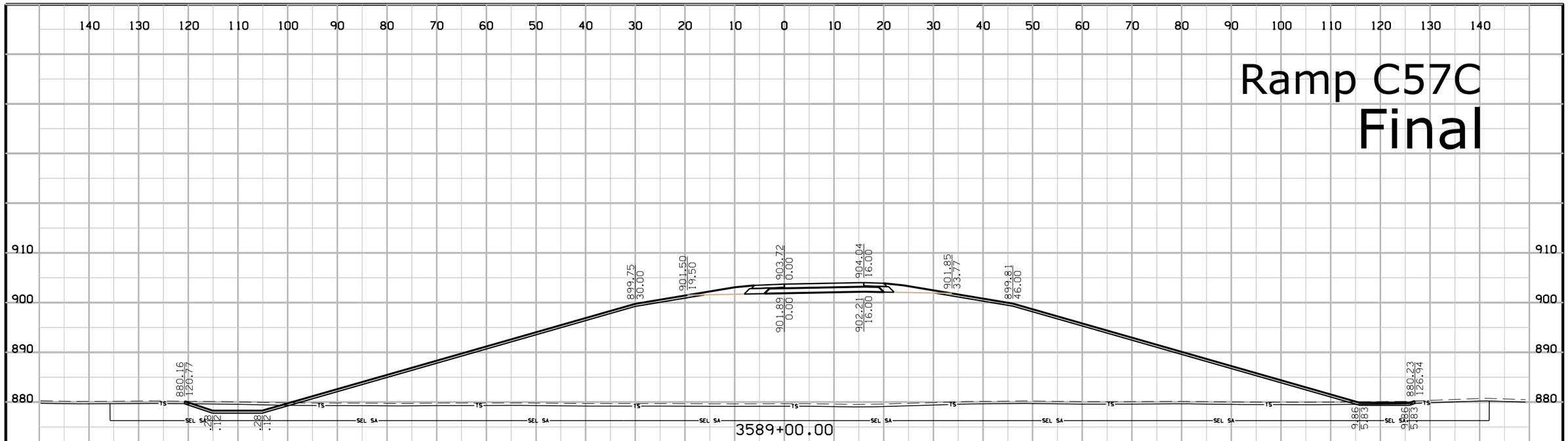
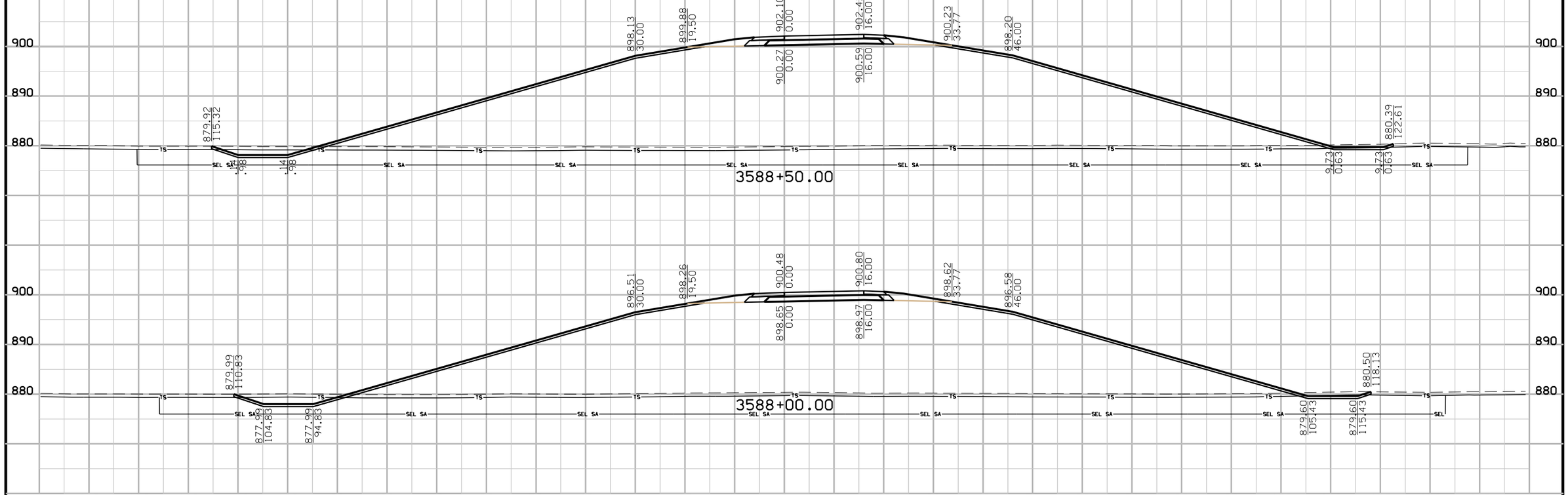
Ramp C57C
Final

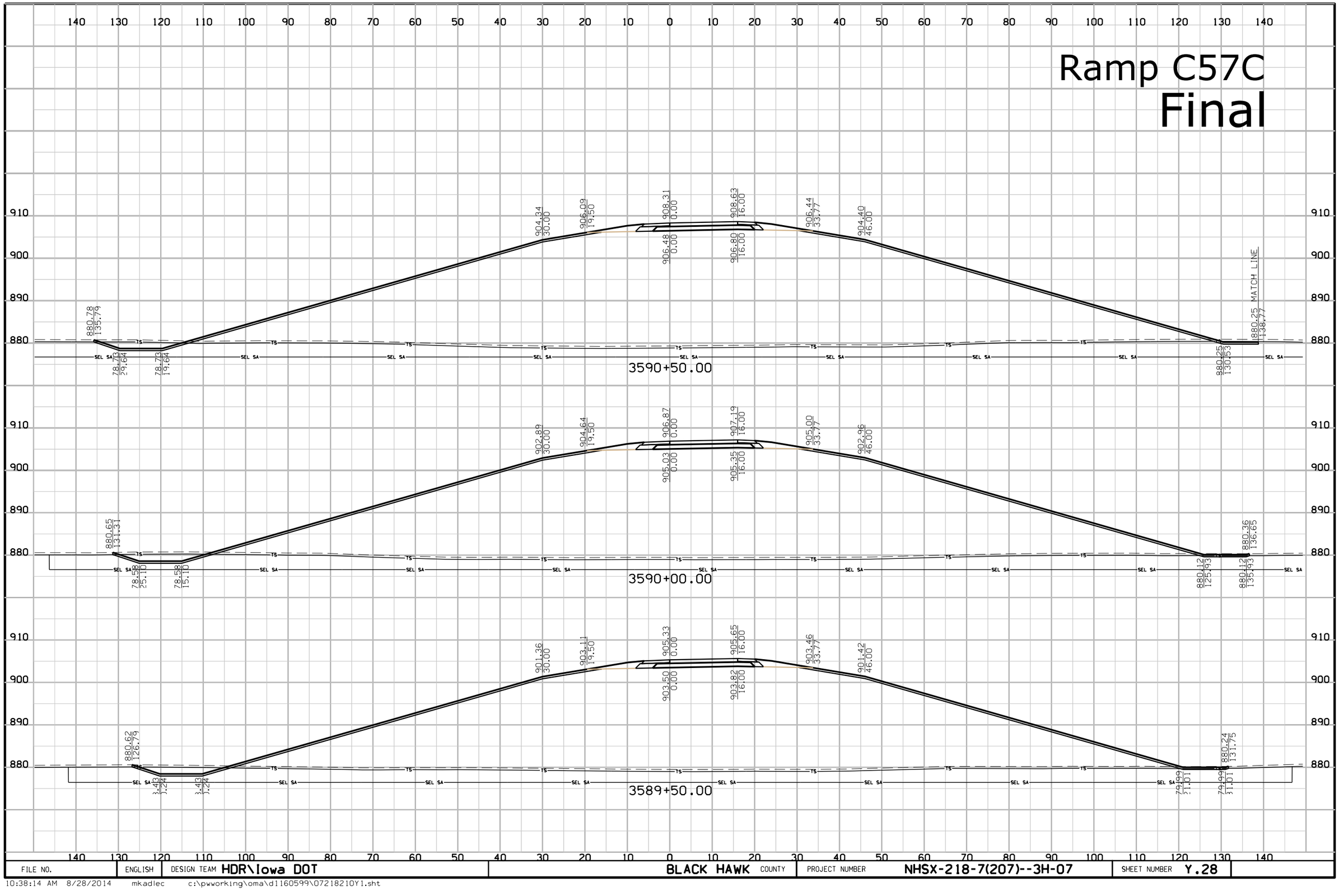




FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.27

10:38:14 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210Y1.sht

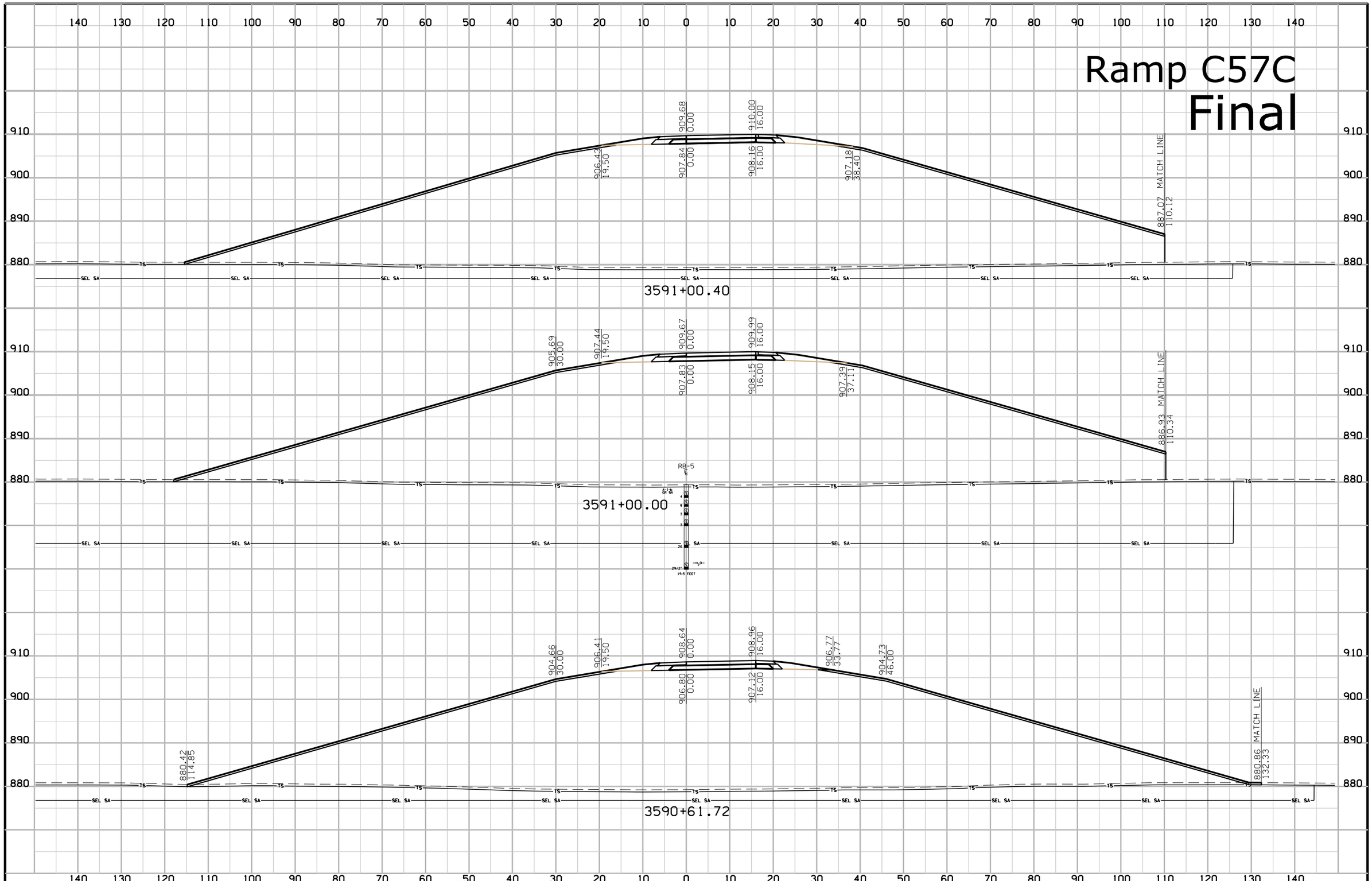
Ramp C57C
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.28

10:38:14 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210Y1.sht

Ramp C57C
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.29

10:38:15 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210Y1.sht

Ramp C57C
Final

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

920 910 900 890 880

889.40 MATCH LINE
100.84

909.52
27.50

912.28
0.00

910.45
0.00

912.60
16.00

910.77
16.00

910.26
47.89

910.01 MATCH LINE
49.56

TS SEL SA

3592+08.00

885.46 MATCH LINE
112.81

RB-6
120 LT

909.29
26.81

912.10
0.00

910.27
0.00

912.42
16.00

910.59
16.00

909.90
46.43

908.24 MATCH LINE
54.11

A-1-b GR SA

$-H_2O-$

20.5 FEET

3592+00.00

907.81
25.06

910.93
0.00

909.10
0.00

908.33
42.08

896.97 MATCH LINE
82.58

3591+50.00

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.30

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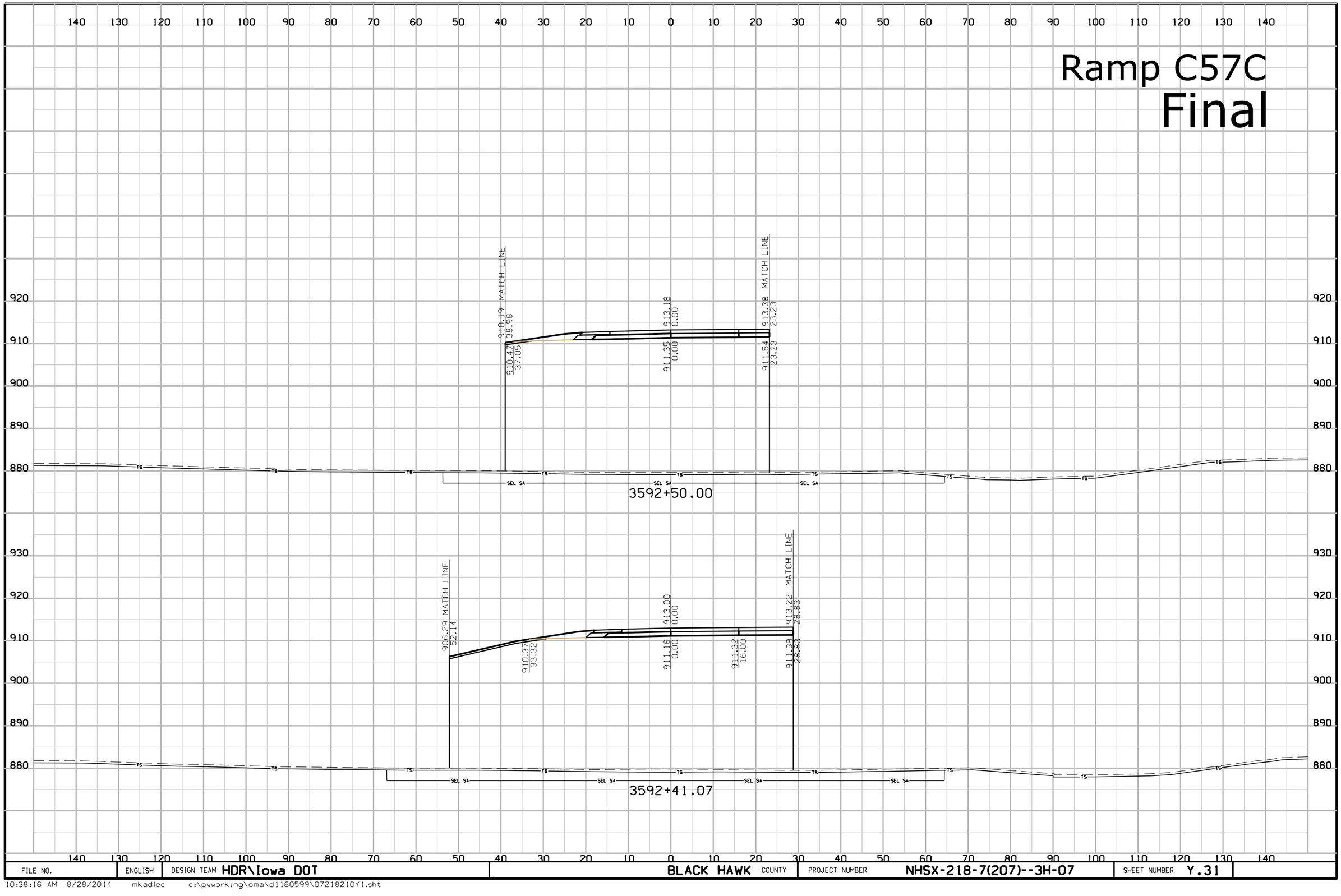
Ramp C57C
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.31

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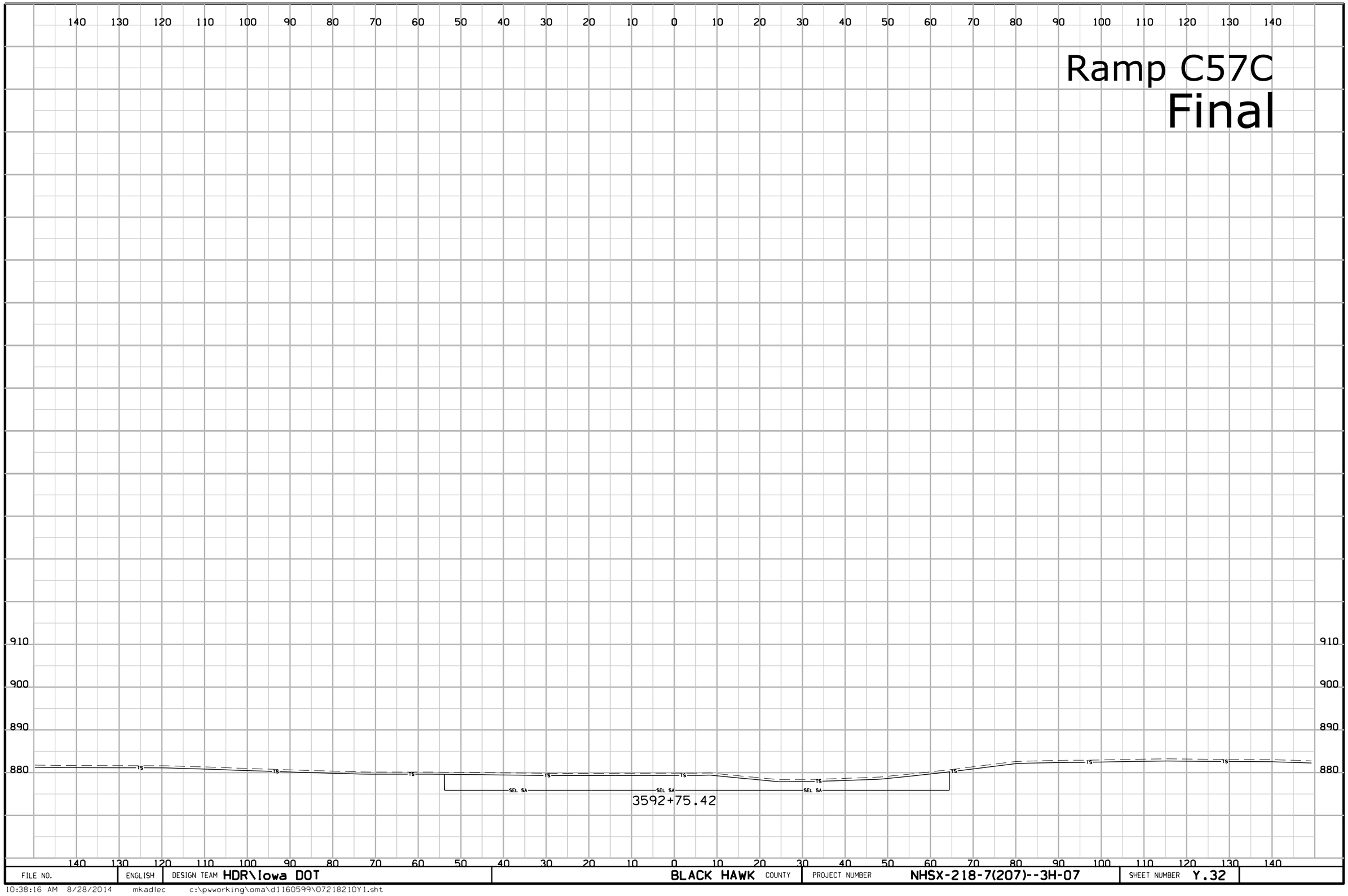
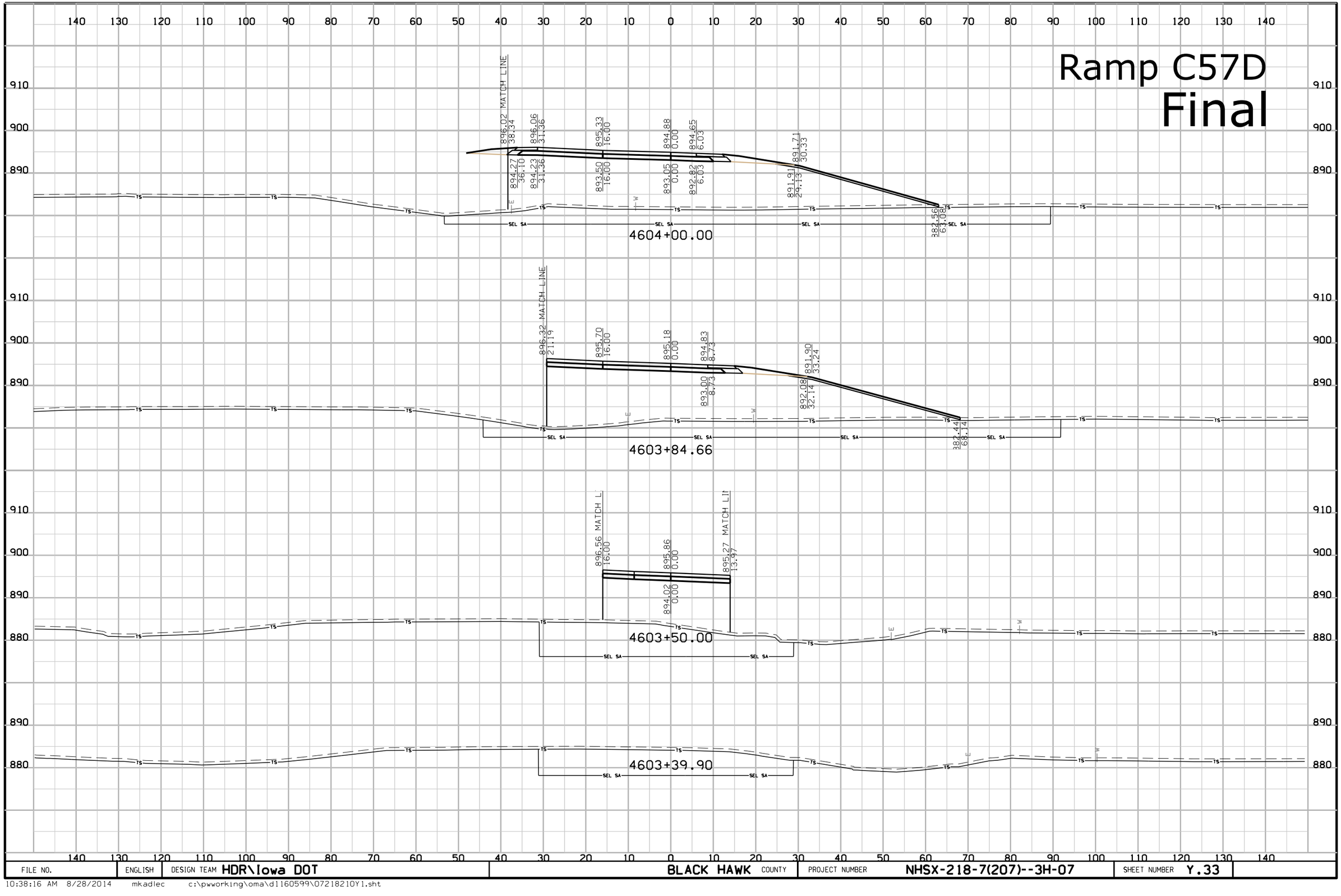
Ramp C57C
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.32

10:38:16 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210Y1.sht

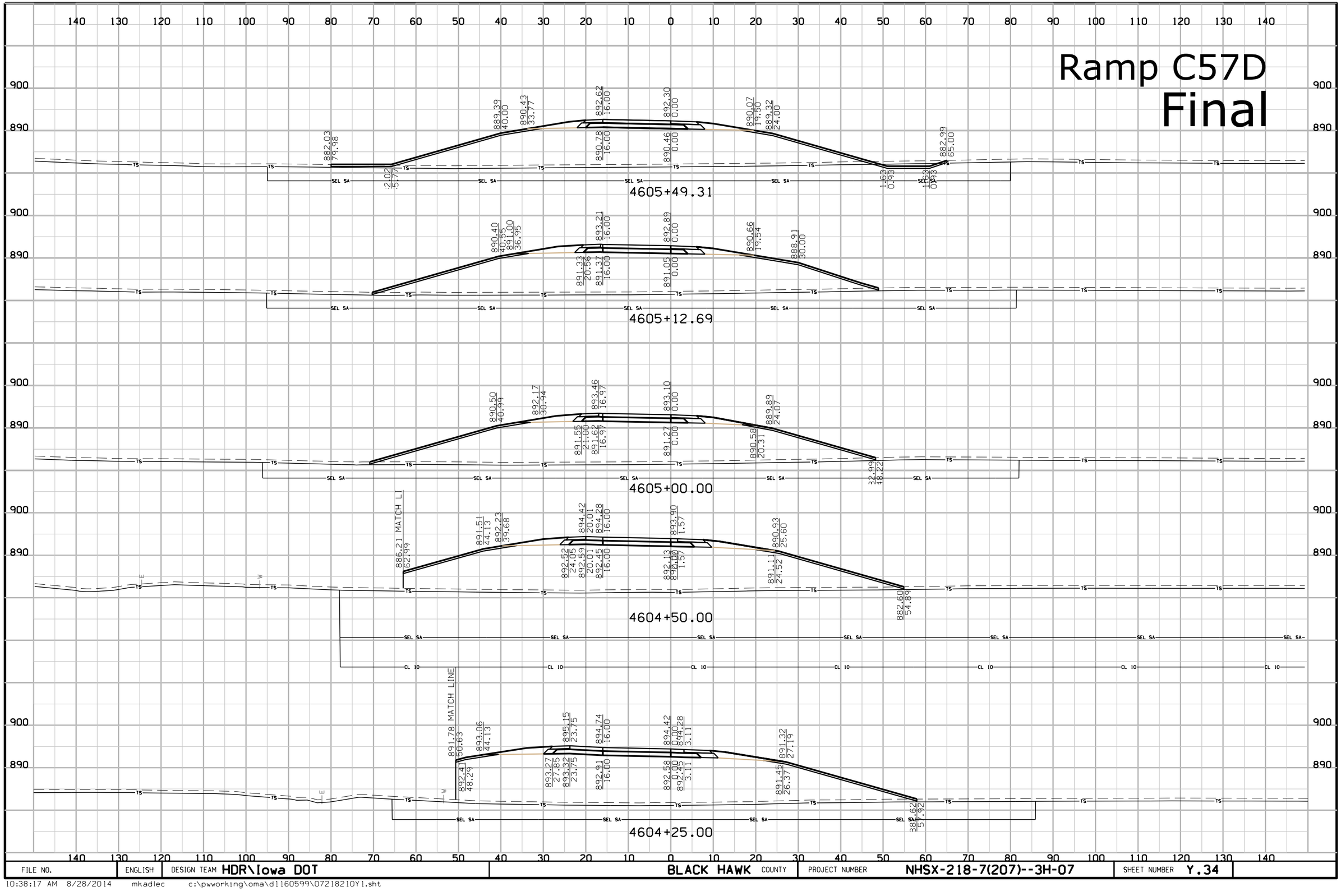
Ramp C57D
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.33

10:38:16 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210Y1.sht

Ramp C57D
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.34

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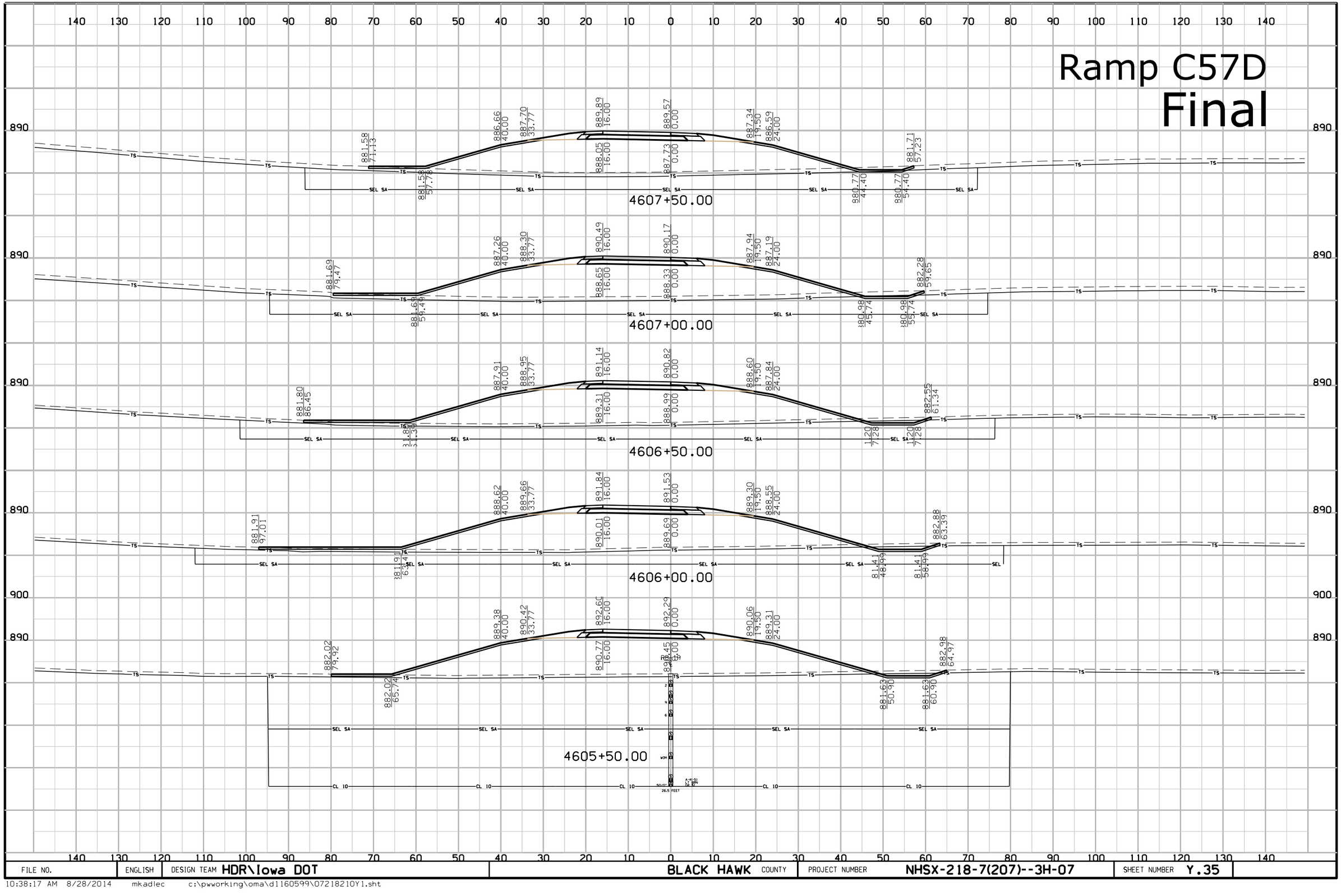
Ramp C57D
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.35

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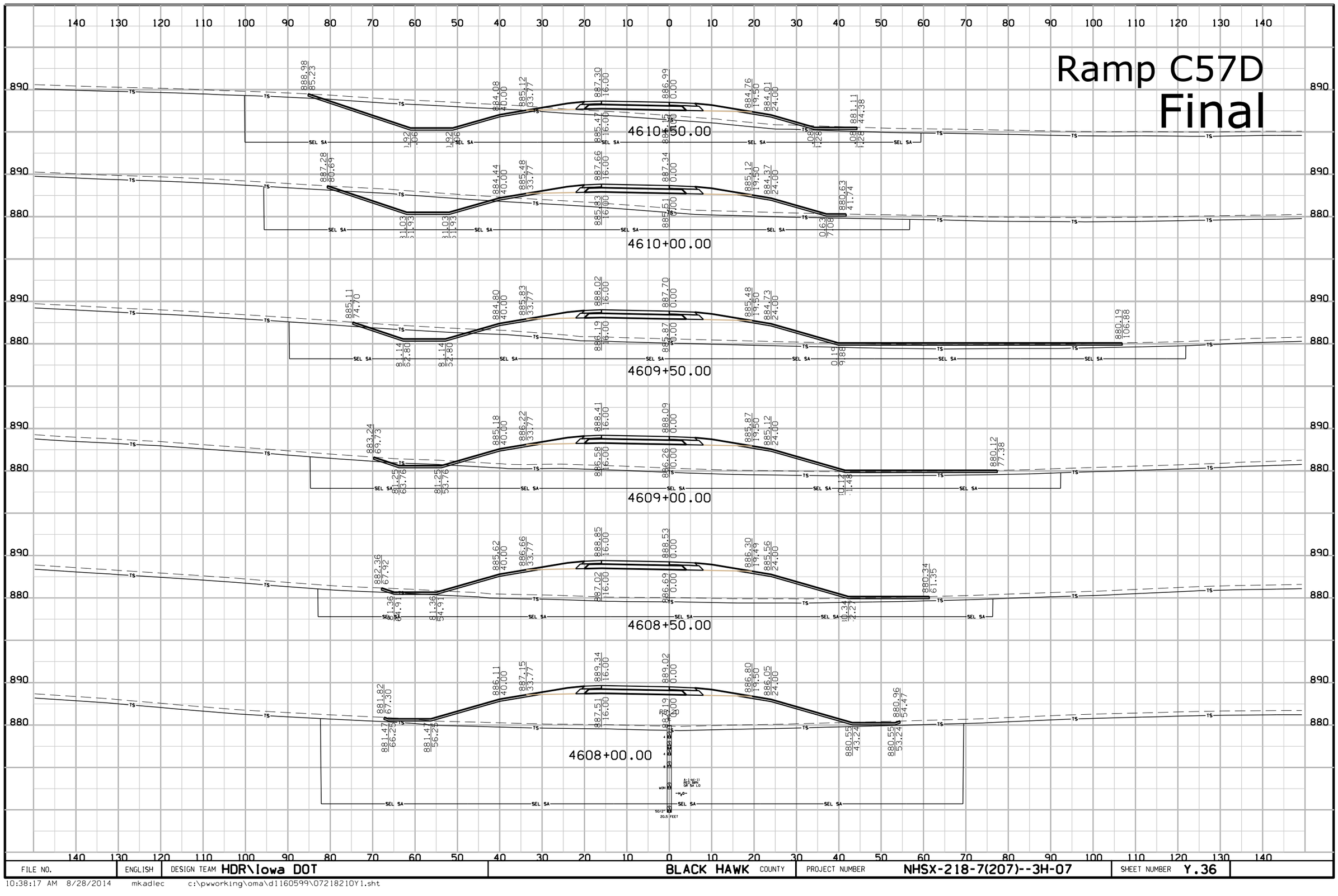
Ramp C57D
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.36

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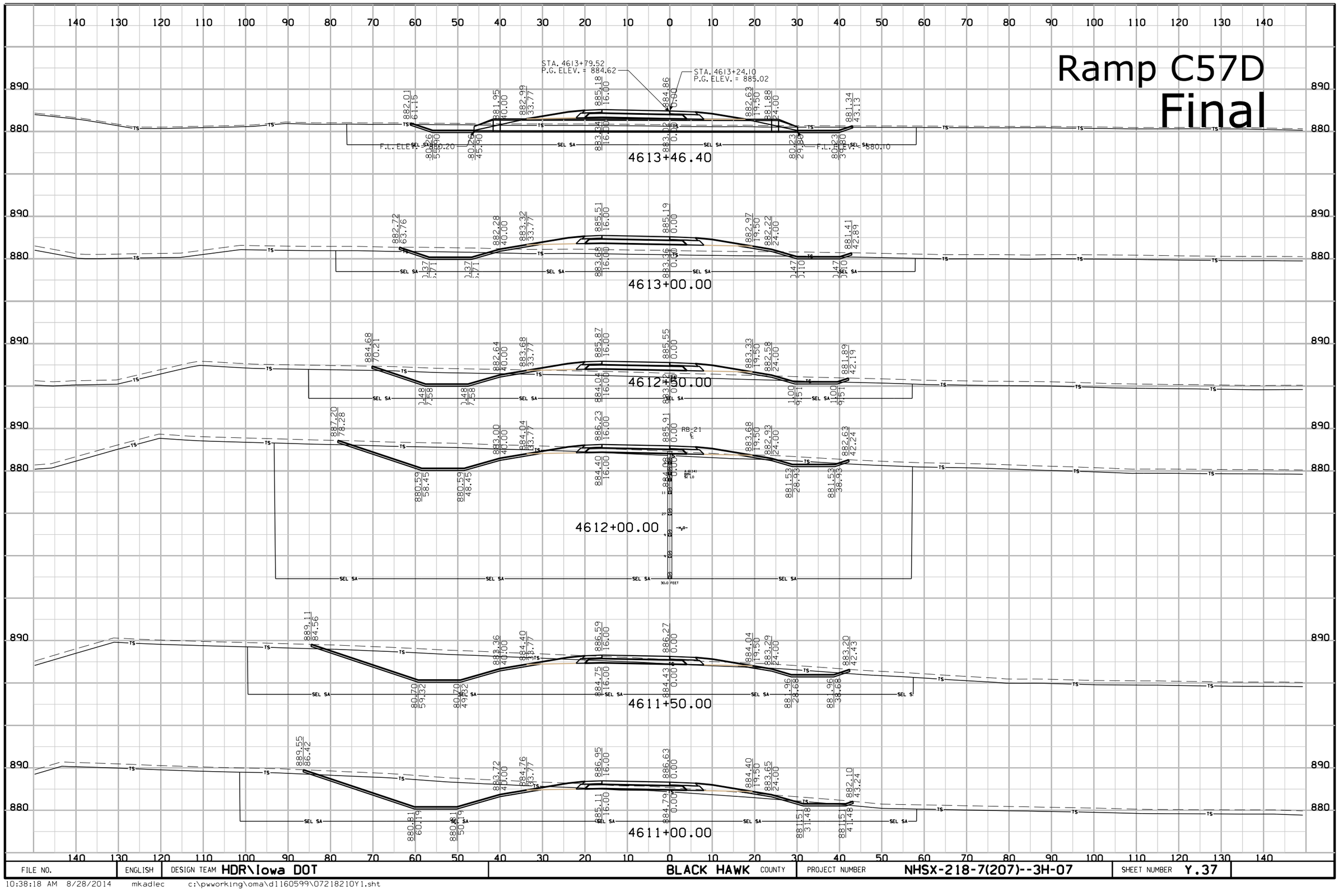
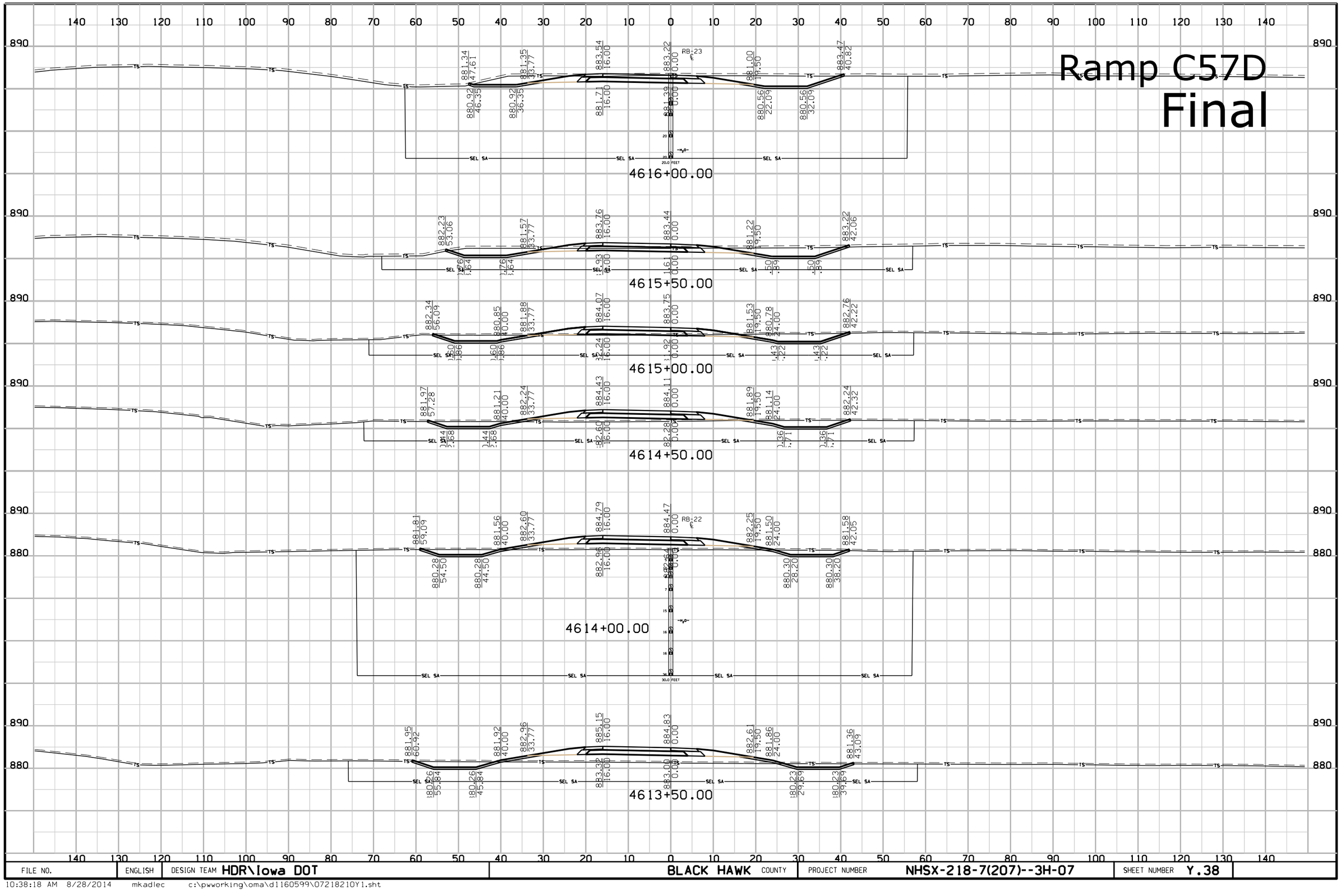
Ramp C57D
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.37

10:38:18 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210Y1.sht

Ramp C57D
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.38

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Ramp C57D
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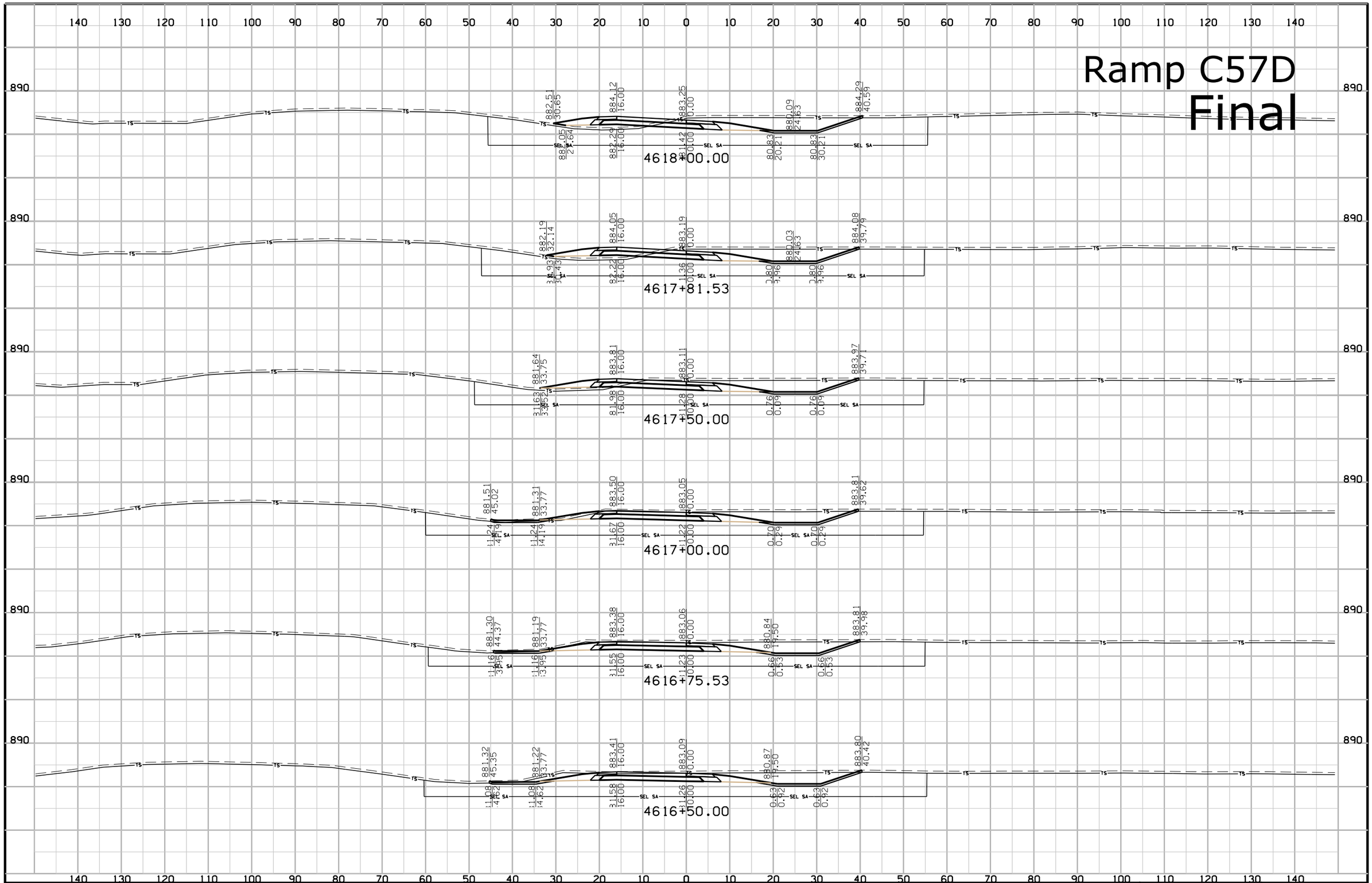

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.39

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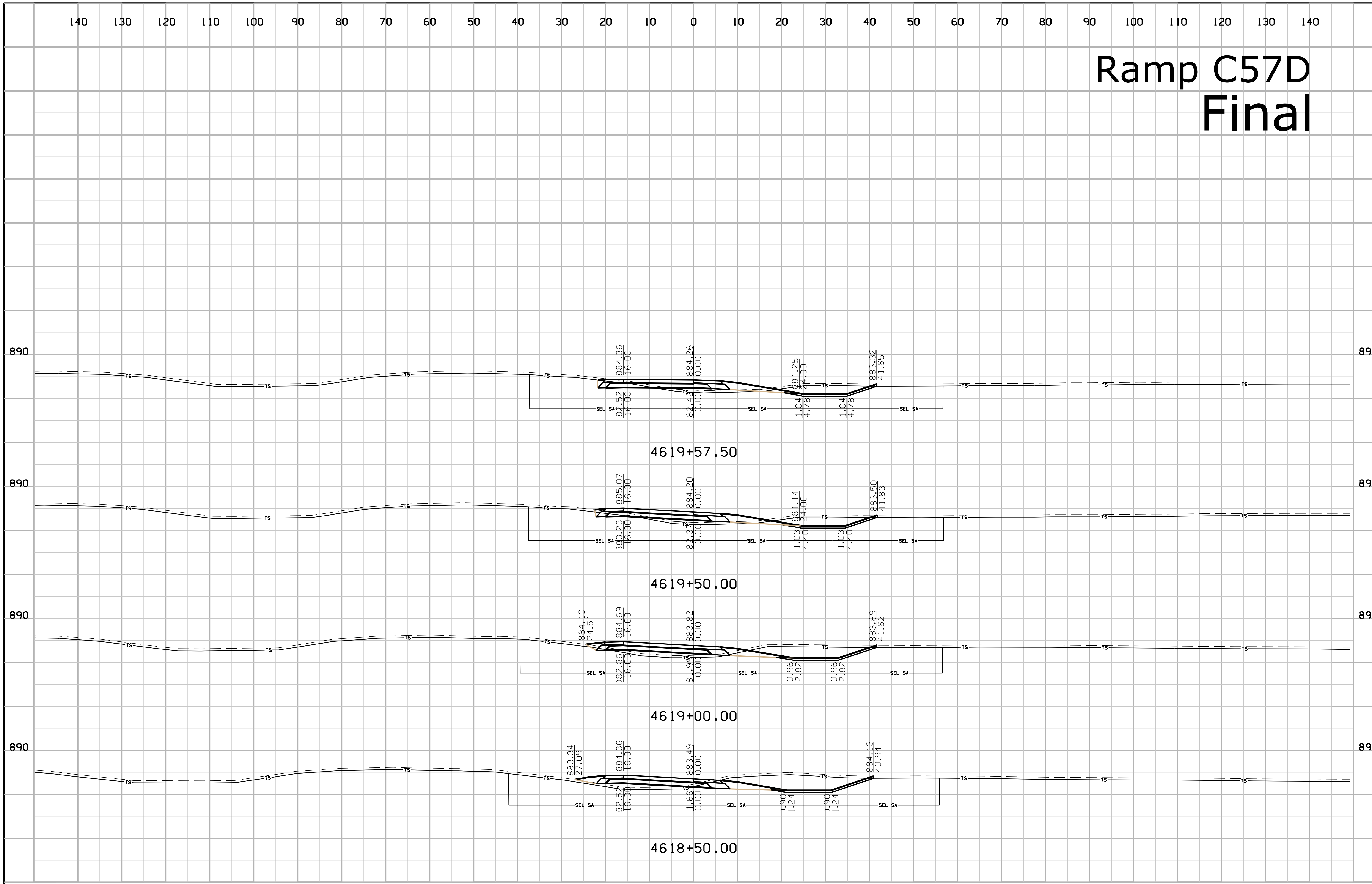
Ramp C57D
Final



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-218-7(207)--3H-07	SHEET NUMBER Y.40

10:38:19 AM 8/28/2014 mkadlec c:\pwworking\oma\d1160599\07218210Y1.sht