LETTING DATE 03-18-2014

WARREN Co.

UNKNOWN PVMNT-GRADE AND REPLACE

NHSX-092-5(51)--3H-91

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Iowa Department of Transportation

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

WARREN COUNTY

UNKNOWN PVMNT-GRADE AND REPLACE

Ia. 92 From Just West Of Co. Rd. R-57
East To Just East of South 'N' Street In Indianola

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

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

REVISIONS

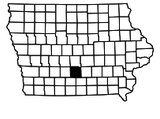
	TOTAL
	00
PROJECT IDENTIFICATION NUMBER	
04-91-092-010-01	
PROJECT NUMBER	
NHSX-092-5(51)--3H-91	
R.O.W. PROJECT NUMBER	
STPN-092-5(50)--2J-91	

MILEAGE SUMMARY

105-1
09-27-94

Div.	Location	Lin. Ft.	Miles
1	RURAL: STA 255+00.00 to STA 390+50.00	13,550	2.566
	URBAN: STA 390+50.00 to STA 467+00.00	7,650	1.449
	Total Net Project Length	21,200	4.015

For Project Location Map
Refer to Sheet A.2



DESIGN DATA RURAL

2014 AADT	6500	V.P.D.
2034 AADT	11000	V.P.D.
2034 DHV	1130	V.P.H.
TRUCKS	8	%
Total Design ESALs	--	

DESIGN DATA URBAN

2014 AADT	9500	V.P.D.
2034 AADT	16000	V.P.D.
2034 DHV	1650	V.P.H.
TRUCKS	8	%
Total Design ESALs	--	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Jason M. Holst	Primary Signature Block
C.21	David R. Claman	Hydraulic Signature Block
CS.1	Robert L. Stanley	Geotechnical Signature
J.8	Zachary Abrams	Signing Design Signature

ROADWAY DESIGN

LICENSED PROFESSIONAL ENGINEER — Jason M. Holst 16923 — 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.

Signature Date

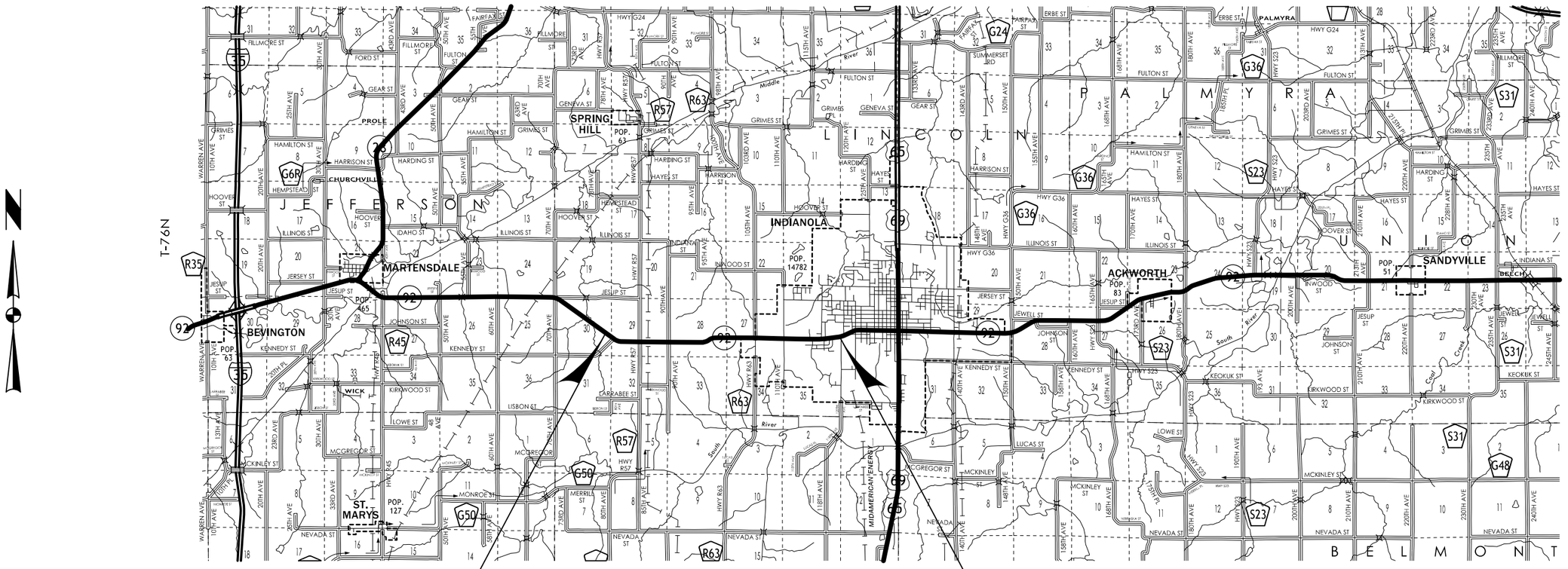
Jason M. Holst
Printed or Typed Name

My license renewal date is December 31, 2014

Pages or sheets covered by this seal: A.1-A.2; B.1-B.9; C.1-C.20; D.1-D.29; E.1-E.5; F.1-F.9; G.1-G.9; H.1-H.15; HE.1-HE.6; J.1-J.11; L.1-L.15; M.1-M.14; S.1-S.20; U.1-U.29; W.1-W.220; X.1-X.105

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER A.1

1:48:19 PM 12/2/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051A01.sht



LOCATION MAP SCALE
0 1 2 3
Miles

LOCATION MAP SHEET

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER A.2

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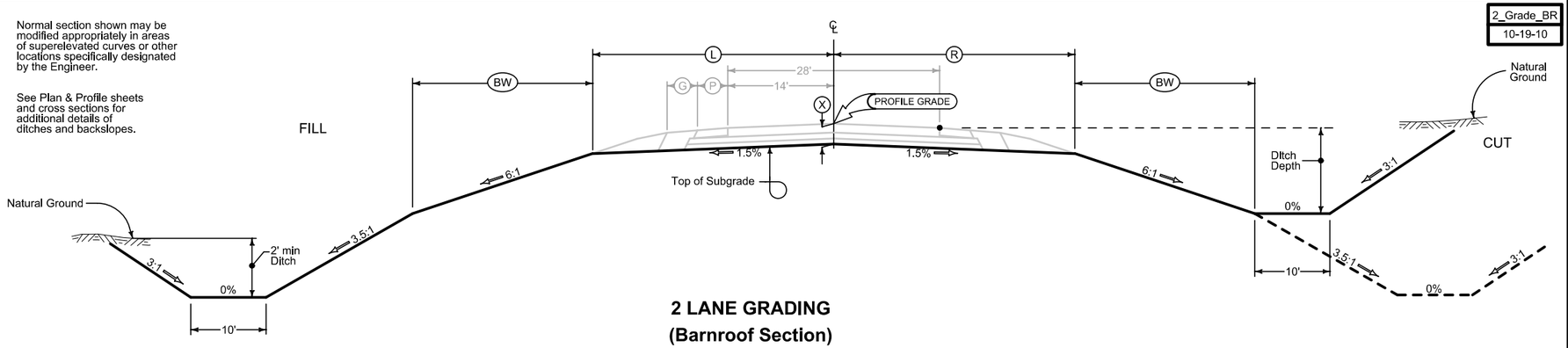
LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet
IA 92	256+50.00	391+00.00	35.2	35.2	16	16.4

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.



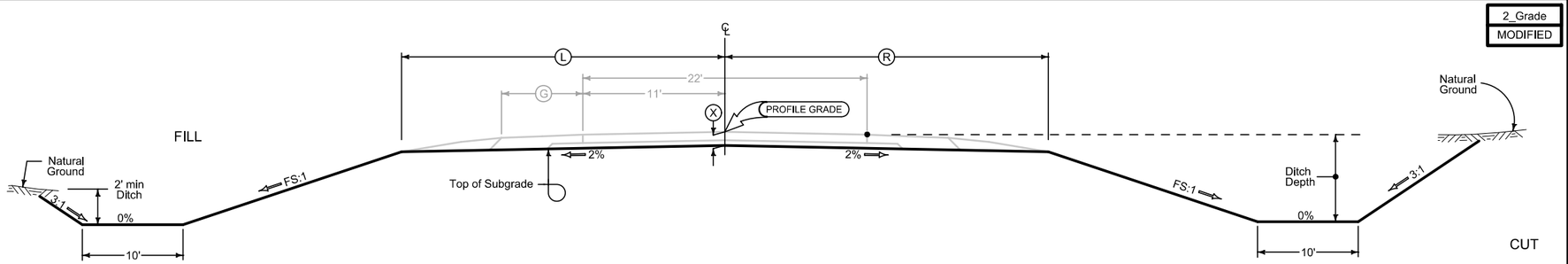
2_Grade_BR
10-19-10

2 LANE GRADING
(Barnroof Section)

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	FS
R-57	1280+60.00	1283+61.24	27.0	27.0	16	4
R-57	1383+96.17	1386+06.00	27.0	27.0	16	4
R-63	3389+30.00	3390+23.00	27	27	16	4
R-63	3392+23.00	3392+70.00	27	27	16	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.



2_Grade
MODIFIED

2 LANE GRADING

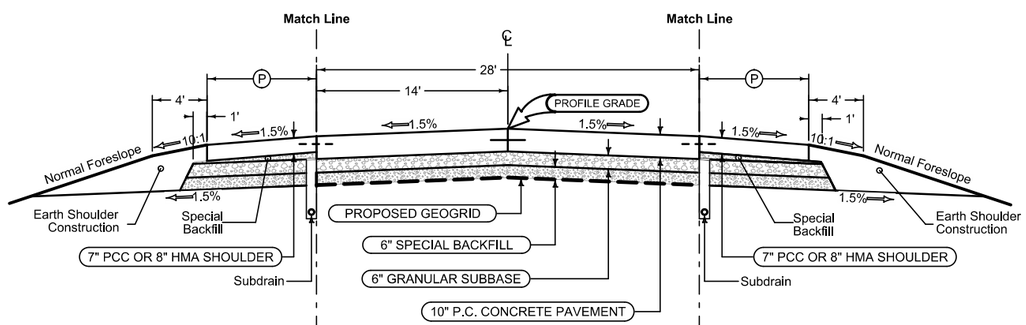
ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER B.1

12:50:38 PM 12/2/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051B01.sht

Paved Shoulder Alternates

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

2_P_ALT_ 10-19-10		
STATION TO STATION		(P) Feet
256+50.00	282+86.00	8
291+18.00	390+19.00	8



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

2P_ 10-19-10	
STATION TO STATION	
256+50.00	391+00.00

Paved Shoulder Alternates

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

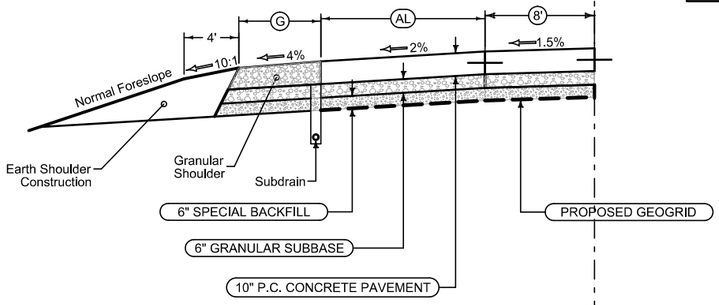
2_P_ALT_ 10-19-10		
STATION TO STATION		(P) Feet
257+70.00	279+39.00	8
284+80.50	286+70.00	8

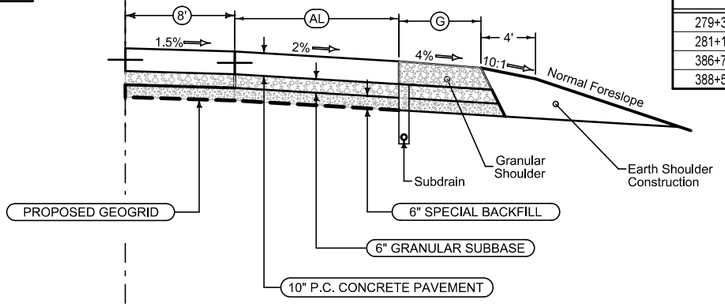
Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

Auxiliary Lane Granular Shoulder

2_AuxLane_PCC_ 10-19-10			2_AL_Shldr_G_ 10-19-10
STATION TO STATION		(AL) Feet	(G) Feet
284+48.00	289+38.00	10	6
289+38.00	292+08.00	0-10	6





Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

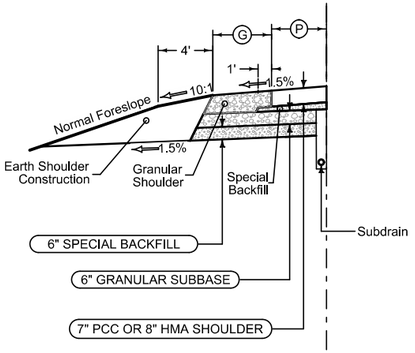
Auxiliary Lane Granular Shoulder

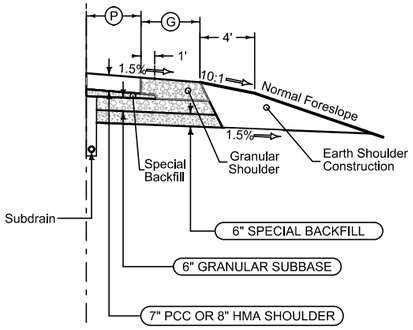
2_AuxLane_PCC_ 10-19-10			2_AL_Shldr_G_ 10-19-10
STATION TO STATION		(AL) Feet	(G) Feet
279+39.00	281+19.00	0-10	6
281+19.00	282+94.00	10	6
386+70.00	388+50.00	0-10	6
388+50.00	390+25.00	10	6

Paved Shoulder Alternates With Adjacent Granular Shoulder

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

2_P_ALT_ 10-19-10			
STATION TO STATION		(P) Feet	(G) Feet
256+50.00	257+70.00	4	2-4





Paved Shoulder Alternates With Adjacent Granular Shoulder

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

2_P_ALT_ 10-19-10			
STATION TO STATION		(P) Feet	(G) Feet
256+50.00	257+70.00	4	2-4

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

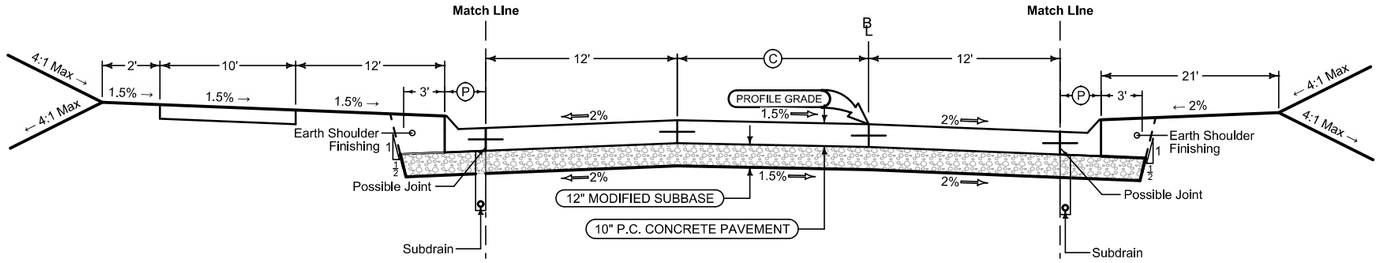
IOWA 92 - RURAL

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

			2_Curb_ MODIFIED
STATION TO STATION		(P) Feet	Curb Type See PV-102
391+00.00	443+18.01	3	6" Standard



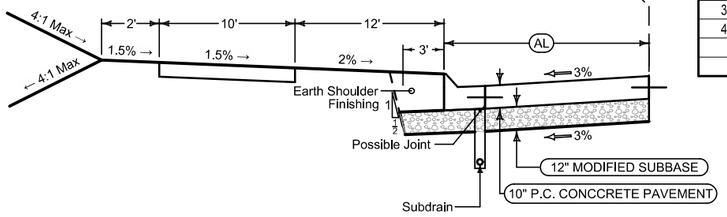
Mainline Jointing:
Transverse joints: CD at 20' spacing
Longitudinal joint: L-2

		2P_TWLTL_ 10-19-10
STATION TO STATION		(C) Feet
391+00.00	441+27.50	16
441+27.50	443+18.01	16-12

Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

			4_AuxLane_PCC_ MODIFIED
Direction of Travel	BEGIN STATION	END STATION	(AL) Feet
WEST	391+92.00	396+82.00	13



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

			2_Curb_ MODIFIED
STATION TO STATION		(P) Feet	Curb Type See PV-102
391+00.00	443+18.01	3	6" Standard

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

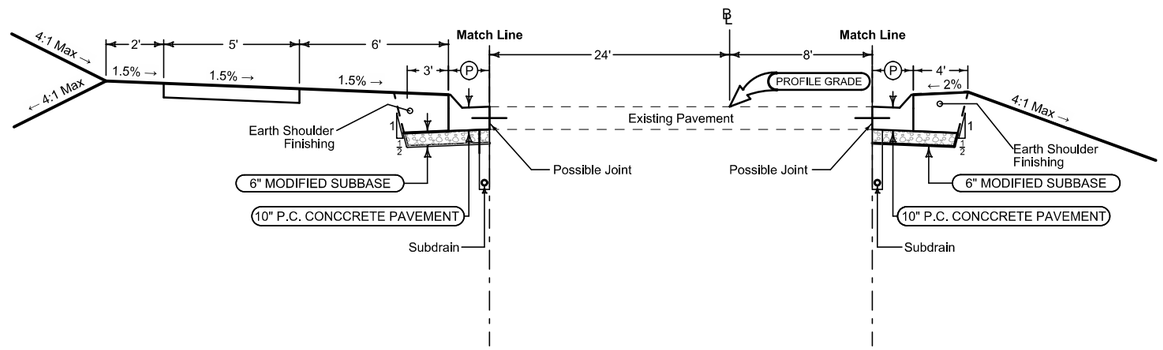
IOWA 92 - URBAN

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

			2_Curb_ MODIFIED
STATION TO STATION		(P) Feet	Curb Type See PV-102
443+18.01	464+92.00	2.5	6" Standard



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

			2_Curb_ MODIFIED
STATION TO STATION		(P) Feet	Curb Type See PV-102
443+18.01	464+92.00	2.5	6" Standard

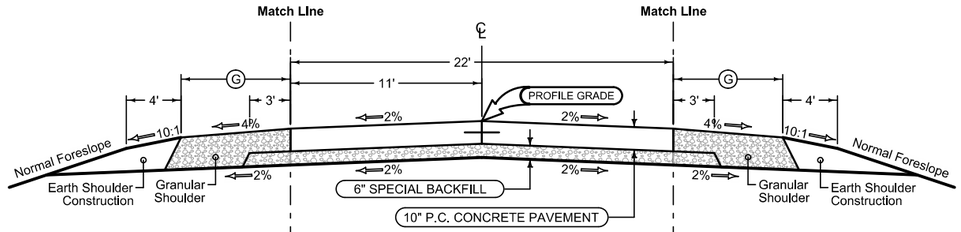
See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

IOWA 92 - URBAN WIDENING

Granular Shoulder

2_G_ 10-19-10		
STATION TO STATION		Ⓖ Feet
1280+60.00	1282+80.74	6
1384+68.89	1386+06.00	6



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

2P_ 10-19-10	
STATION TO STATION	
1280+60.00	1283+61.24
1383+96.17	1386+06.00

Granular Shoulder

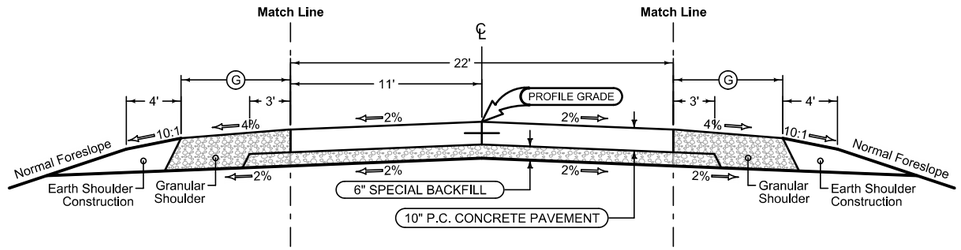
2_G_ 10-19-10		
STATION TO STATION		Ⓖ Feet
1280+60.00	1282+87.71	6
1384+77.46	1386+06.00	6

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

Granular Shoulder

2_G_ 10-19-10		
STATION TO STATION		Ⓖ Feet
3389+00.00	3390+91.42	6
3391+31.95	3393+05.00	6



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

2P_ 10-19-10	
STATION TO STATION	
3389+00.00	3390+91.42
3391+31.95	3393+05.00

Granular Shoulder

2_G_ 10-19-10		
STATION TO STATION		Ⓖ Feet
3389+00.00	3390+91.42	6
3391+31.95	3393+05.00	6

See Tab 100-24 for pavement quantities.

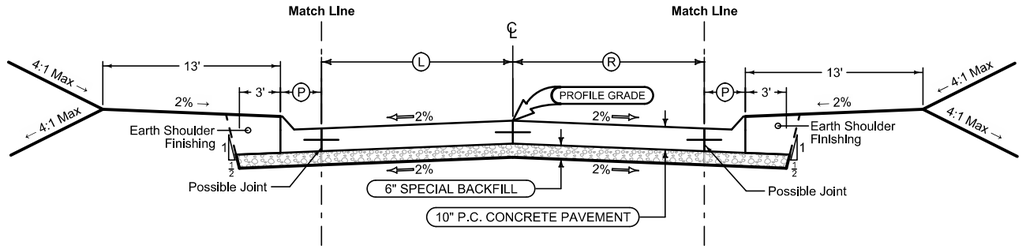
See Tab 112-9 for shoulder quantities.

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

			2_Curb_ MODIFIED
STATION TO STATION		(P) Feet	Curb Type See PV-102
4414+15.00	4417+25.32	1.5	6" Standard
4417+64.40	4422+60.00	1.5	6" Standard



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

		2P_ 10-19-10	
STATION TO STATION		(L) Feet	(R) Feet
4414+15.00	4417+25.32	11	11
4417+64.40	4422+60.00	14	14

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

			2_Curb_ MODIFIED
STATION TO STATION		(P) Feet	Curb Type See PV-102
4414+15.00	4417+25.32	1.5	6" Standard
4417+64.40	4422+60.00	1.5	6" Standard

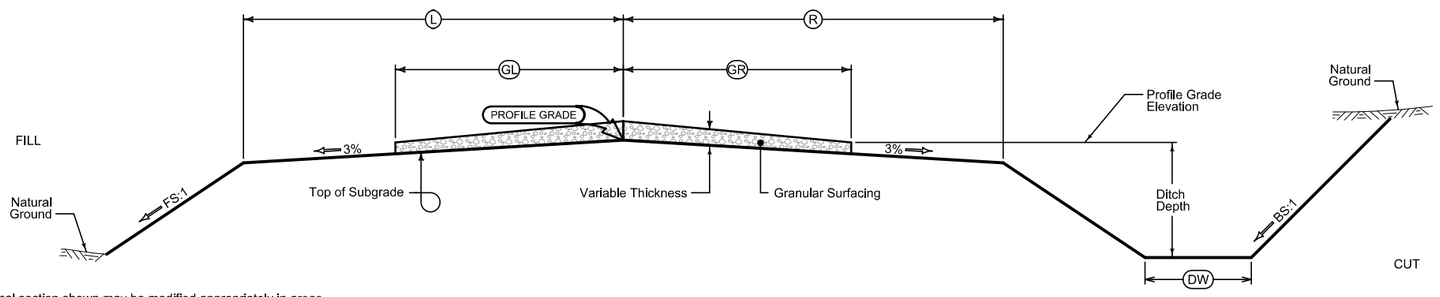
See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

110TH ST

2_GradeGran Modified

LOCATION			DIMENSIONS						
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(GL) Feet	(GR) Feet	FS	BS	(DW) Feet
KENNEDY ST	1257+45.00	1258+68.00	15	15	12	12	3	3	5
90TH AVE	2305+85.00	2307+00.00	12-13	12-13	12	12	2.5	2.5	0
90TH AVE	2307+00.00	2308+00.00	13	13	12	12	3	3	0-5
90TH AVE	2308+00.00	2310+06.21	13	13	12	12	3	3	5
90TH AVE	2310+50.21	2313+85.00	13	13	12	12	3	3	5
Accessway 258	1259+09.00	1259+38.00	13	13-20	12	12	3	3	0
Accessway 258	1259+38.00	1259+90.00	13	20	12	12	3	3	0
Accessway 258	1259+90.00	1260+30.00	13	20-13	12	12	3	3	0
Accessway 258	1260+30.00	1261+20.00	13	13	12	12	3	3	0



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:
Grade-Pave design application rate is 2330 tons per mile.

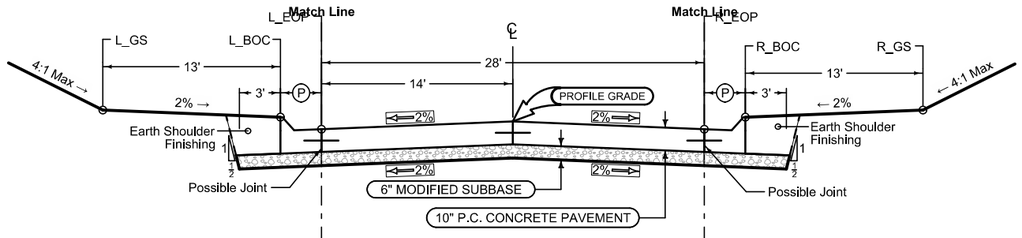
GRADING AND GRANULAR SURFACING

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

		2_Curb_ 04-19-11	
STATION TO STATION		(P) Feet	Curb Type See PV-102



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

	2P_ 10-19-10
STATION TO STATION	

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

		2_Curb_ 04-19-11	
STATION TO STATION		(P) Feet	Curb Type See PV-102

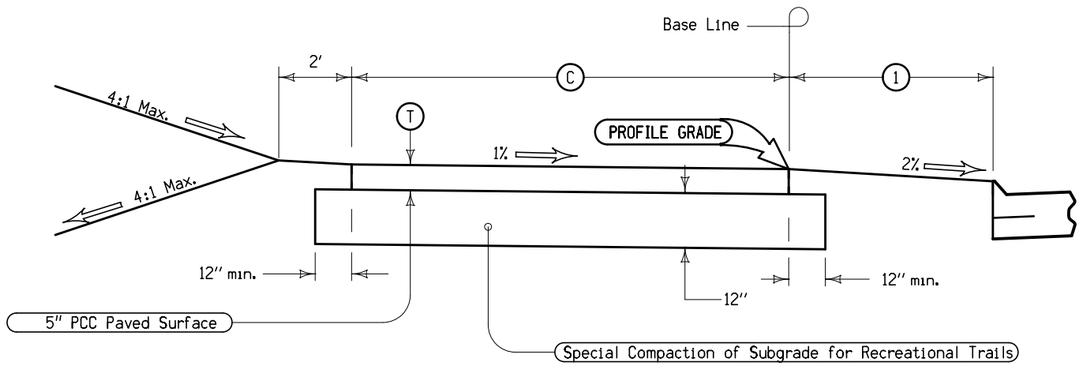
Refer to 'L' Sheets.

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

SPRUCE ST.
AND
SOUTH 'P' STREET

7402
MODIFIED



Notes:

(1) Refer to other detail typicals and cross sections for distance from edge of Recreational Trail to back of curb.

Contract bid items:

'Recreational Trail, Portland Cement Concrete,5 in.'
'Special Compaction of Subgrade for Recreational Trail'

STATION TO STATION		PAVEMENT TYPE	(C) Feet	
391+20.00	441+21.07	PCC	10	

TYPICAL CROSS SECTION
RECREATIONAL TRAIL
PAVED SURFACE

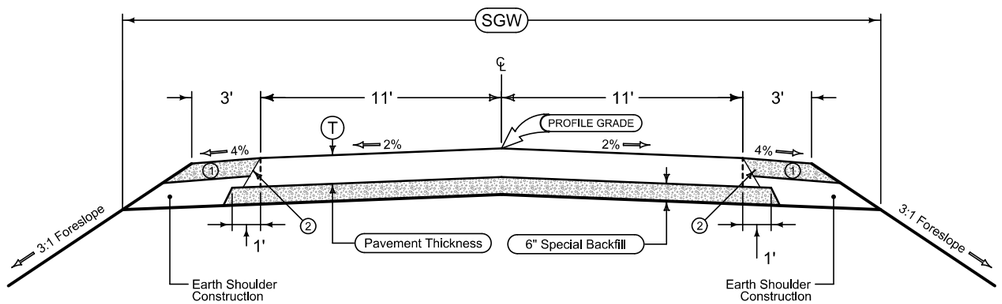
LOCATION			DIMENSIONS				6" Special Backfill	Granular Shoulder	Earth Shoulder Construction
			HMA		PCC				
ROAD IDENTIFICATION	STATION TO STATION		(T) Inches	(SGW) Feet	(T) Inches	(SGW) Feet	Tons/Station	Tons/Station	Station
R-57	11278+95.65	11289+34.97	XX	XX	7	34.5			
R-63	18387+79.00	18396+41.00	XX	XX	7	34.5			

Quantity calculations based on vertical pavement edges.

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

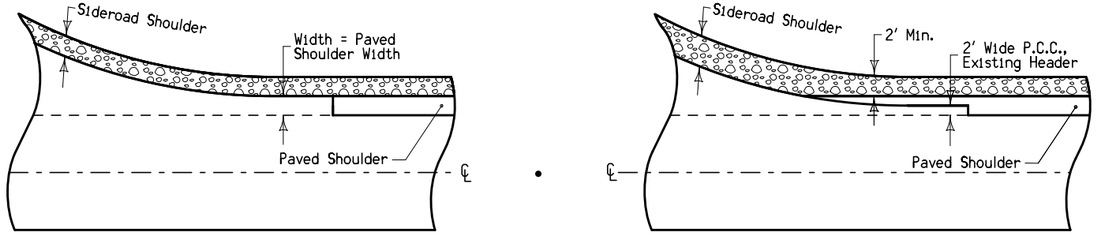
(1) 6" Granular Shoulder
(2) Possible 1:1 slope

2_Detour
10-16-12



2 LANE DETOUR PAVING

7154B
10-20-09

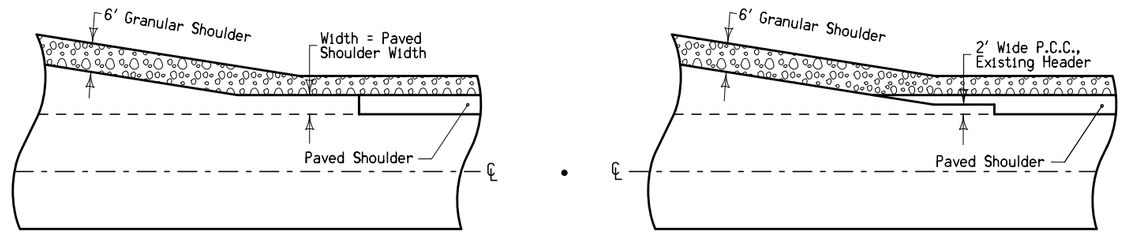


With Newly Constructed Returns

At UAC Returns

PAVED SHOULDER DETAIL AT RETURNS

7154A
10-20-09

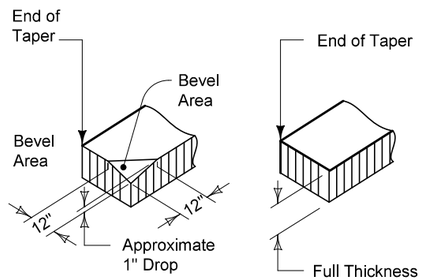


With Newly Constructed Turn Lanes

At UAC Turn Lanes

PAVED SHOULDER DETAIL AT TURN LANES

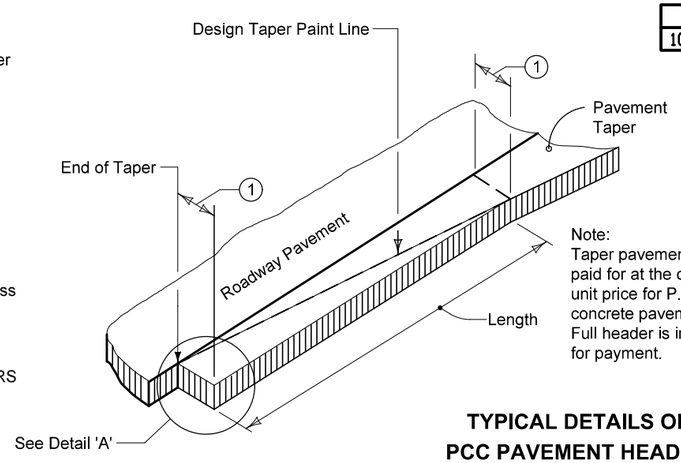
7101
10-19-10



DETAIL 'A'
FOR GRANULAR SHOULDERS

DETAIL 'A'
FOR PAVED SHOULDERS

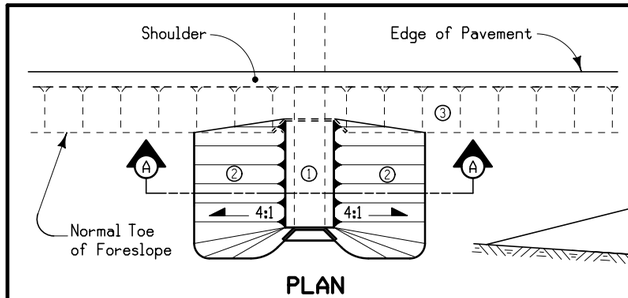
(1) Normal width is 2'-0". Construct 4'-0" width when butting into 4' wide HMA shoulders (See Typical 7154A).



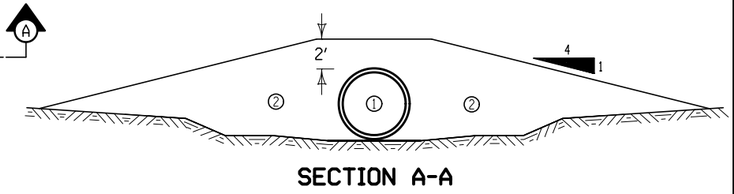
Note:
Taper pavement to be paid for at the contract unit price for P.C. concrete pavement. Full header is included for payment.

TYPICAL DETAILS OF PCC PAVEMENT HEADER

4309
Modified



PLAN



SECTION A-A

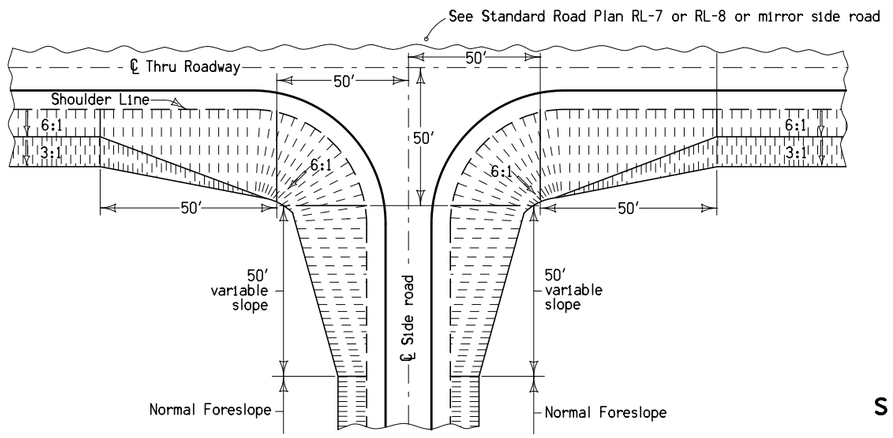
STATION	SIDE	Cu. Yds.
4414+30.0	Rt.	000

Notes:

(1) Storm Sewer Outlet
(2) Proposed Embankment
(3) Adjacent Foreslope

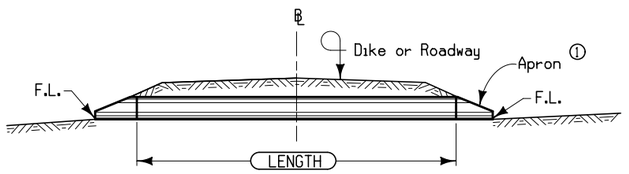
PLACEMENT OF EMBANKMENT AT STORM SEWER OUTLET ON 'Y' STREET RT. AT STA. 4414+30.0

2117
04-15-08

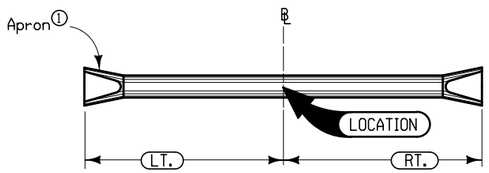


SIDE ROAD GRADING (BARNROOF)

1101
04-30-02



SECTION



PLAN

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°).

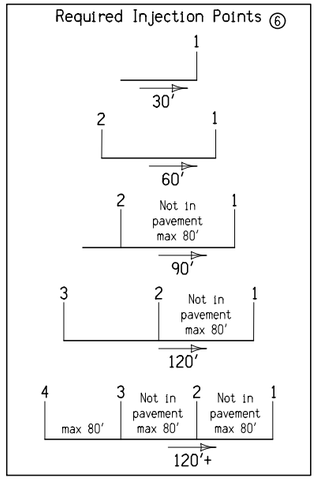
Refer to tabular listing and other plans for additional information.

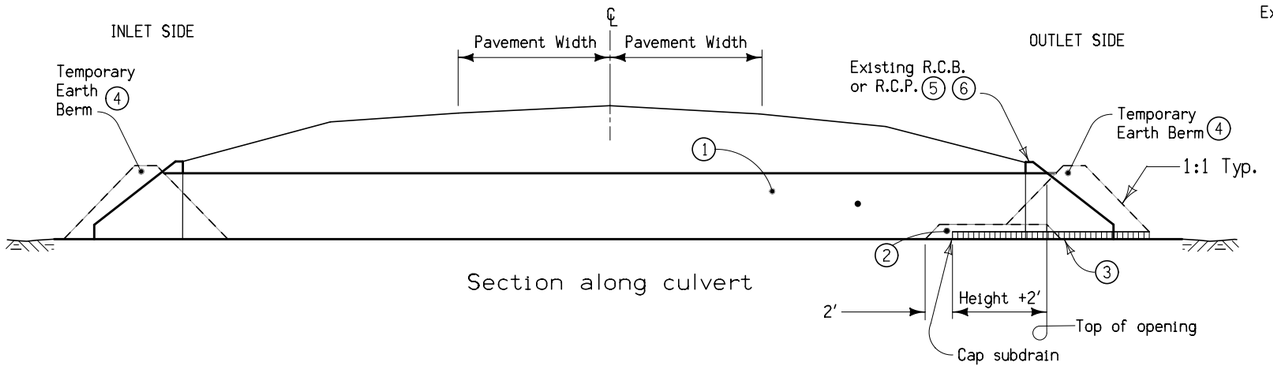
(1) See Standard Road Plan RF-3 For Conc. or RF-5 for Metal.

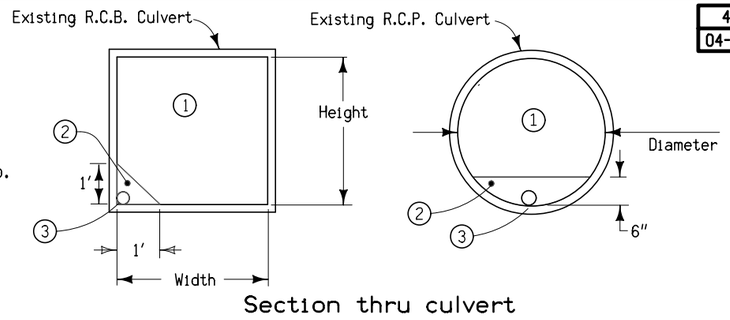
PIPE CULVERT

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER B.7

12:50:44 PM 12/2/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\9109205IB01.sht





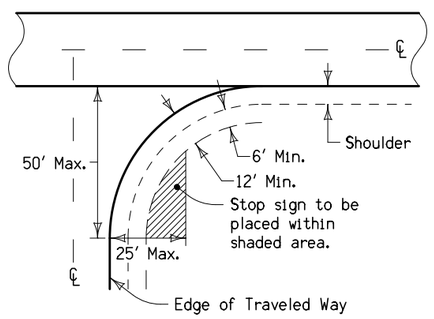


4315
04-15-08

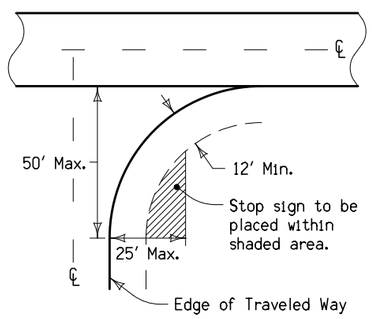
① Flowable Mortar.
② Granular Backfill.
③ 4″ subdrain at flowline elevation of culvert shall be extended into the culvert a distance of 2′ plus the height of the culvert. Granular Backfill covers subdrain and extends an additional 2′. Subdrain and granular backfill are incidental to flowable mortar.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

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

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

100-1D
10-18-05

PROJECT DESCRIPTION

This project involves the reconstruction of IA 92 from west of Kennedy Street to east of N Street in Indianola. The project is divided into a rural and an urban section. The rural section extends from west of Kennedy Street, 2.5 miles to County Road R-63. The urban section extends from Co. Rd. R-63 to just east of N Street, a distance of approximately 1.5 miles. The rural section will provide a two-lane cross section with a 28' pavement and 8' paved shoulders. Eastbound and westbound right and left turn lanes will be provided at Co. Rd. R-57 and Co. Rd. R-63. In the urban area from Co. Rd. R-63 to just east of Spruce Street, a 3-lane roadway will be provided, which will consist of 40' back-to-back curbed roadway including a 16' wide continuous center turn lane. A 10' wide shared use path will be constructed on the north side of the roadway from Co. Rd. R-63 east to Spruce Street. A 5' wide sidewalk will be constructed on the north side of the roadway from Spruce Street east to South M Street. Curb and gutter widening will be dome from just east of Spruce Street east to just west of M Street where it meets the existing curb and gutter section.

The rural section of IA 92 west of Co. Rd. R-63 will be closed to traffic and detoured. Access to private properties will be maintained during construction.

Traffic on the urban section of IA 92 east of Co. Rd. R-63 will be maintained via staging. Traffic on Co. Rd. R-57, Co. Rd. R-63, and Y St. will be maintained during construction.

100-1A
07-15-97

ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2101-0850001	CLEARING AND GRUBBING	ACRE	5.0	
2	2102-0425046	SELECTED BACKFILL	CY	38,972.0	
3	2102-0425070	SPECIAL BACKFILL	TON	23,197.3	
4	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY	64,648.0	
5	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	127,386.0	
6	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	200.0	
7	2102-4560000	LOCATING TILE LINES	STA	803.00	
8	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	61,535.0	
9	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	153,818.0	
10	2107-3825025	GRANULAR MATERIAL FOR BLANKET AND SUBDRAIN	CY	290.0	
11	2111-8174100	GRANULAR SUBBASE	SY	48,191.4	
12	2113-0001100	SUBGRADE STABILIZATION MATERIAL, POLYMER GRID	SY	100,414.0	
13	2115-0100000	MODIFIED SUBBASE	CY	10,028.0	
14	2121-7425010	GRANULAR SHOULDERS, TYPE A	TON	2,225.0	
15	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	321.00	
16	2123-7450020	SHOULDER FINISHING, EARTH	STA	160.00	
17	2213-7100400	RELOCATION OF MAIL BOXES	EACH	42	
18	2301-1033100	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 10 IN.	SY	86,957.9	
19	2301-4875006	MEDIAN, P.C. CONCRETE, 6 IN.	SY	126.4	
20	2301-6911722	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES	LS	1.00	
21	2304-0100000	DETOUR PAVEMENT	SY	5,928.0	
22	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	TON	1,375.0	
23	2402-0425040	FLOODED BACKFILL	CY	1,575.0	
24	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	2,083.9	
25	2416-0100018	APRONS, CONCRETE, 18 IN. DIA.	EACH	9	
26	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	19	
27	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	6	
28	2416-0100036	APRONS, CONCRETE, 36 IN. DIA.	EACH	2	
29	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.	LF	1124	
30	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	304	
31	2416-1180036	CULVERT, CONCRETE ROADWAY PIPE, 36 IN. DIA.	LF	118	
32	2417-0225024	APRONS, METAL, 24 IN. DIA.	EACH	1	
33	2417-1060024	CULVERT, CORRUGATED METAL ROADWAY PIPE, 24 IN. DIA.	LF	64	
34	2422-0360018	APRONS, UNCLASSIFIED, 18 IN. DIA.	EACH	52	
35	2422-0360024	APRONS, UNCLASSIFIED, 24 IN. DIA.	EACH	2	
36	2422-0360036	APRONS, UNCLASSIFIED, 36 IN. DIA.	EACH	2	
37	2422-1722018	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.	LF	1488	
38	2422-1722024	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 24 IN. DIA.	LF	87	
39	2422-1722036	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 36 IN. DIA.	LF	86	
40	2435-0140200	MANHOLE, STORM SEWER, SW-402	EACH	1	
41	2435-0250500	INTAKE, SW-505	EACH	1	
42	2435-0250800	INTAKE, SW-508	EACH	73	
43	2435-0251000	INTAKE, SW-510	EACH	12	
44	2435-0251224	INTAKE, SW-512, 24 IN.	EACH	1	
45	2435-0251230	INTAKE, SW-512, 30 IN.	EACH	2	
46	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	44,168.0	
47	2502-8215110	SUBDRAIN, CORRUGATED METAL PIPE, 10 IN. DIA.	LF	122	
48	2502-8220193	SUBDRAIN OUTLET (RF-19C)	EACH	202	
49	2502-8220196	SUBDRAIN OUTLET, RF-19E	EACH	124	
50	2502-8220197	SUBDRAIN OUTLET (RF-19F)	EACH	1	
51	2503-0110018	STORM SEWER GRAVITY MAIN, TRENCHED, 18 IN.	LF	5,028.0	
52	2503-0110021	STORM SEWER GRAVITY MAIN, TRENCHED, 21 IN.	LF	1,132.0	
53	2503-0110024	STORM SEWER GRAVITY MAIN, TRENCHED, 24 IN.	LF	957.0	
54	2503-0110030	STORM SEWER GRAVITY MAIN, TRENCHED, 30 IN.	LF	306.0	
55	2503-0124218	STORM SEWER GRAVITY MAIN, TRENCHLESS, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.	LF	37.0	
56	2506-4984000	FLOWABLE MORTAR	CY	94.0	
57	2510-6745850	REMOVAL OF PAVEMENT	SY	64,699.6	

100-1A
07-15-97

ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
58	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES	EACH	12	
59	2511-0302500	RECREATIONAL TRAIL, PORTLAND CEMENT CONCRETE, 5 IN.	SY	5,506.0	
60	2511-0310100	SPECIAL COMPACTION OF SUBGRADE FOR RECREATIONAL TRAIL	STA	50.00	
61	2511-6745900	REMOVAL OF SIDEWALK	SY	120.0	
62	2511-7526004	SIDEWALK, P.C. CONCRETE, 4 IN.	SY	1,231.0	
63	2511-7526006	SIDEWALK, P.C. CONCRETE, 6 IN.	SY	99.0	
64	2511-7526010	SIDEWALK, P.C. CONCRETE, 10 IN.	SY	156.0	
65	2511-7528101	DETECTABLE WARNINGS	SF	110	
66	2512-1725256	CURB AND GUTTER, P.C. CONCRETE, 2.5 FT.	LF	4,286.0	
67	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN.	SY	4,755.0	
68	2515-2475008	DRIVEWAY, P.C. CONCRETE, 8 IN.	SY	516.7	
69	2515-6745600	REMOVAL OF PAVED DRIVEWAY	SY	4,055.0	
70	2518-6910000	SAFETY CLOSURE	EACH	11	
71	2519-4200140	REMOVAL OF FENCE, FIELD	LF	17,618.0	
72	2520-3350010	FIELD LABORATORY	EACH	1	
73	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN	EACH	0	
74	2526-8285000	CONSTRUCTION SURVEY	LS	1.00	
75	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	814.33	
76	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	74	
77	2528-8445110	TRAFFIC CONTROL	LS	1.00	
78	2528-8445113	FLAGGERS	EACH	See Proposal	
79	2529-2242320	CT JOINT	EACH	16	
80	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA	SY	320.0	
81	2529-5070120	PATCHES, FULL-DEPTH FINISH, BY COUNT	EACH	8	
82	2529-8174010	SUBBASE (PATCHES)	SY	320.0	
83	2529-8202000	RUMBLE STRIP PANEL (IN FULL DEPTH PATCH)	EACH	8	
84	2533-4980005	MOBILIZATION	LS	1.00	
85	2548-0000200	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE	STA	249.5	
86	2548-0000320	MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE	STA	123.5	
87	2599-9999005	('EACH' ITEM) REMOVAL OF SILT BASINS	EACH	75	
88	2599-9999018	('SQUARE YARDS' ITEM) DRIVEWAY, P.C. CONCRETE, 10 IN.	SY	1,196.3	
89	2601-2634100	MULCHING	ACRE	0.0	
90	2601-2636015	NATIVE GRASS SEEDING	ACRE	0.0	
91	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	45.0	
92	2601-2640350	SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT	SQ	0.0	
93	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	0.0	
94	2601-2642120	STABILIZING CROP - SEEDING AND FERTILIZING (URBAN)	ACRE	0.0	
95	2601-2643110	WATERING FOR SOD, SPECIAL DITCH CONTROL, OR SLOPE PROTECTION	MGAL	0.00	
96	2601-2643300	MOBILIZATION FOR WATERING	EACH	0	
97	2602-0000020	SILT FENCE	LF	38,996.0	
98	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	7,725.0	
99	2602-0000050	SILT BASINS	EACH	150	
100	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	0.0	
101	2602-0000306	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 6 IN. DIA.	LF	6,300.0	
102	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	0.0	
103	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	0.0	
104	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1	
105	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1	
		ALTERNATE AA OPTION 1-PCC			
106	2102-0425071	SPECIAL BACKFILL	CY	2,529.8	
107	2122-5190007	PAVED SHOULDER, P.C. CONCRETE, 7 IN.	SY	4,491.9	
		ALTERNATE AA OPTION 2-HMA			
108	2102-0425071	SPECIAL BACKFILL	CY	2,281.9	
109	2122-5500080	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 8 IN.	SY	4,491.9	

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	**2101-0850001**	**CLEARING AND GRUBBING**
		Item includes the removal of some existing shrubs within construction need limits.
-	-	-
2	**2102-0425046**	**SELECTED BACKFILL**
		Quantity incomplete.
-	-	-
3	**2102-0425070**	**SPECIAL BACKFILL**
		Refer to Typicals in 'B' Sheets.
		Refer to Tab. 100-24 and 112-9 in 'C' Sheets.
		Item includes 23197.3 Tons for beneath pavements per Tab. 100-24.
-	-	-
4	**2102-2625001**	**EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED**
		Refer to Tab. 107-29 in 'T' sheets.
-	-	-
5	**2102-2710070**	**EXCAVATION, CLASS 10, ROADWAY AND BORROW**
		Refer to Tab. 107-29 in 'T' sheets.
		Overhaul will not be measured or paid for, but shall be considered incidental to
		roadway excavation on this project.
-	-	-
6	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS
		Refer to Tab. 103-7 on 'CS' Sheets.
		Dispose of excess material according to Article 1106.07 of the current
		specifications.
		Overhaul will not be measured or paid for, but shall be considered incidental to
		roadway excavation on this project.
-	-	-
7	2102-4560000	LOCATING TILE LINES
		Estimated at two times the project length.
-	-	-
8	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD
		Refer to Tab. 103-4 on 'C' Sheets for depths and locations.
		Excess topsoil shall be wasted uniformly on the foreslopes as directed by the Engineer.
-	-	-
9	2107-0875100	COMPACTION WITH MOISTURE CONTROL
		Cubic yards shown on the contract documents as determined by the template fill volume.
		Shrinkage will not be included in moisture control quantity.
		Refer to 'CS' Sheets for application.
-	-	-
10	2107-3825025	GRANULAR MATERIAL FOR BLANKET AND SUBDRAIN
		Refer to 'Q' Sheets for location details.
		Refer to Tab. 104-5C on 'CS' Sheets.
-	-	-
11	2111-8174100	GRANULAR SUBBASE
		Refer to Typical 'IOWA 92-RURAL' on the 'B' Sheets.
-	-	-
12	2113-0001100	SUBGRADE STABILIZATION MATERIAL, POLYMER GRID
		Geogrid shall be installed beneath Special Backfill to standard width and only to the edge of pavement in
		area of new subdrains.
		Refer to Tab. 104-9 on the 'CS' Sheets for subdrain locations.
		Refer to Typicals on 'B' Sheets for location details.
-	-	-
13	2115-0100000	MODIFIED SUBBASE
		Item is to be placed beneath 10" pavement per Typicals on 'B' Sheets.
-	-	-
14	**2121-7425010**	**GRANULAR SHOULDERS, TYPE A**
		Refer to Typicals in 'B' Sheets.
		Also refer to Tab. 112-9 on the 'C' Sheets.
-	-	-
15	**2123-7450000**	**SHOULDER CONSTRUCTION, EARTH**
		Includes ___ cu. yds. of earth shoulder fill material including 4 inches of topsoil (___ cu. yds.).
		Strip 8 inches of topsoil at the edge of the shoulder for use as 4 inches of topsoil.
		Class 13 waste may be used for earth shoulder fill below the 4 inches of topsoil.
-	-	-
16	2123-7450020	SHOULDER FINISHING, EARTH
		Refer to 'B' Sheets for locations.
		No payment for overhaul allowed for this material.
-	-	-
17	**2213-7100400**	**RELOCATION OF MAIL BOXES**
		Signs listed as remove and reinstall shall be reinstalled as per the Detail Sheet 560-2 in the 'U' Sheets.
		Refer to Tab. 'MAILBOX' on the 'C' Sheets for locations.
		Measurement: The Engineer will count the number of signs removed and reinstalled.

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Item No.	Item Code	Description
		Basis of Payment: The Contractor will be paid the contract unit price for the number of signs
		removed and reinstalled.
		Price bid includes the following work: The Contractor shall carefully remove and stockpile bid items for
		later installation. Any damaged items as determined by the Engineer shall be replaced by the
		contractor at no cost to the State. The signs shall be cleaned as directed by the Engineer before
		installation.
		The Contractor shall restore any area disturbed by the removal operation to an acceptable condition.
-	-	-
18	2301-1033100	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 10 IN.
		Item is for 10" mainline and county road pavements per Typicals on the 'B' Sheets.
		Item includes 6" Sloped PCC Curb for Stop Island per Tab. 112-4 in the 'C' Sheets.
-	-	-
19	**2301-4875006**	**MEDIAN, P.C. CONCRETE, 6 IN.**
		Refer to Tab. 112-4 for additional information.
-	-	-
20	2301-6911722	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES
		- -
-	-	-
21	2304-0100000	DETOUR PAVEMENT
		Item is for temporary detour pavements as shown on the 'F' Sheets.
		Refer to Typical 2_Detour on the 'B' Sheets for additional information.
-	**-**	**-**
22	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE
		Refer to Tab. 102-3 for locations and quantities.
		Item includes 1827 tons for entrances.
-	-	-
23	2402-0425040	FLOODED BACKFILL
		Refer to Tab. 104-3 for details.
-	-	-
24	**2402-2720100**	**EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT**
		Refer to Tab. 104-3 for details.
-	-	-
25	2416-0100018	APRONS, CONCRETE, 18 IN. DIA.
26	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.
27	**2416-0100030**	**APRONS, CONCRETE, 30 IN. DIA.**
28	2416-0100036	APRONS, CONCRETE, 36 IN. DIA.
29	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.
30	**2416-1180030**	**CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.**
31	2416-1180036	CULVERT, CONCRETE ROADWAY PIPE, 36 IN. DIA.
		Refer to Tab. 104-3 or 104-5B for locations and details.
-	-	-
32	**2417-0225024**	**APRONS, METAL, 24 IN. DIA.**
		- -
-	-	-
33	**2417-1060024**	**CULVERT, CORRUGATED METAL ROADWAY PIPE, 24 IN. DIA.**
		- -
-	-	-
34	2422-0360018	APRONS, UNCLASSIFIED, 18 IN. DIA.
35	2422-0360024	APRONS, UNCLASSIFIED, 24 IN. DIA.
36	**2422-0360036**	**APRONS, UNCLASSIFIED, 36 IN. DIA.**
37	2422-1722018	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.
38	2422-1722024	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 24 IN. DIA.
39	**2422-1722036**	**CULVERT, UNCLASSIFIED ENTRANCE PIPE, 36 IN. DIA.**
		Refer to Tab. 102-3 on the 'C' Sheets.
-	-	-
40	**2435-0140200**	**MANHOLE, STORM SEWER, SW-402**
41	**2435-0250500**	**INTAKE, SW-505**
42	**2435-0250800**	**INTAKE, SW-508**
43	**2435-0251000**	**INTAKE, SW-510**
44	**2435-0251224**	**INTAKE, SW-512, 24 IN.**
45	**2435-0251230**	**INTAKE, SW-512, 30 IN.**
		Refer to Tab. 104-5B on the 'M' Sheets for additional information.
-	-	-
46	**2502-8212034**	**SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.**
		Refer to Tab. 104-9 on 'CS' Sheets.
-	-	-
47	**2502-8215110**	**SUBDRAIN, CORRUGATED METAL PIPE, 10 IN. DIA.**
		Refer to Tab. 104-5T on the 'C' Sheets for additional information.
-	-	-
48	2502-8220193	SUBDRAIN OUTLET (RF-19C)
49	**2502-8220196**	**SUBDRAIN OUTLET, RF-19E**
		Refer to Tab. 104-9 on 'CS' Sheets.
-	-	-
50	**2502-8220197**	**SUBDRAIN OUTLET (RF-19F)**
		Refer to Tab. 104-5T on the 'C' Sheets.
-	-	-
51	**2503-0110018**	**STORM SEWER GRAVITY MAIN, TRENCHED, 18 IN.**

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
52	**2503-0110021**	**STORM SEWER GRAVITY MAIN, TRENCHED, 21 IN.**
53	2503-0110024	STORM SEWER GRAVITY MAIN, TRENCHED, 24 IN.
54	2503-0110030	STORM SEWER GRAVITY MAIN, TRENCHED, 30 IN.
55	2503-0124218	STORM SEWER GRAVITY MAIN, TRENCHLESS, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.
		Refer to Tab. 104-5B on the 'M' Sheets for additional information.
-	-	-
56	**2506-4984000**	**FLOWABLE MORTAR**
		Item is for fill and abandon culverts.
		Refer to Tab. 110-9 on 'C' Sheets and Typical 4315 on 'B' Sheets.
		Silt inside existing culverts need not be removed prior to placing flowable mortar.
		Also includes 23.8 CY per Tab. 104-3 on the 'C' Sheets.
-	-	-
57	2510-6745850	REMOVAL OF PAVEMENT
		Refer to Tabs.110-1 and 102-5 on the 'C' Sheets for the location and type of pavement.
		Item is to become the property of the Contractor.
-	-	-
58	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES
		Refer to Tab. 110-15 on the 'C' Sheets.
-	-	-
59	2511-0302500	RECREATIONAL TRAIL, PORTLAND CEMENT CONCRETE, 5 IN.
60	2511-0310100	SPECIAL COMPACTION OF SUBGRADE FOR RECREATIONAL TRAIL
		Refer to Typical 7402 on the 'B' Sheets for details.
-	-	-
61	2511-6745900	REMOVAL OF SIDEWALK
		A. Refer to Tab. 110-5 on the 'C' Sheets.
		See traffic control plan for pedestrian staging or closings.
-	-	-
62	2511-7526004	SIDEWALK, P.C. CONCRETE, 4 IN.
63	**2511-7526006**	**SIDEWALK, P.C. CONCRETE, 6 IN.**
		Refer to tabulations on 'S' Sheets.
		See traffic control plan for pedestrian staging or closings.
-	-	-
64	**2511-7526010**	**SIDEWALK, P.C. CONCRETE, 10 IN.**
		Item is for sidewalk thru entrances Lt. at Sta. 419+80.63 and Sta. 423+11.51.
		Refer to 'S' Sheets for additional information.
-	-	-
65	**2511-7528101**	**DETECTABLE WARNINGS**
		Refer to tabulations on 'S' Sheets.
		See traffic control plan for pedestrian staging or closings.
-	-	-
66	**2512-1725256**	**CURB AND GUTTER, P.C. CONCRETE, 2.5 FT.**
		Refer to Typical 'IOWA 92-URBAN WIDENING' on 'B' Sheets.
-	-	-
67	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN.
		Refer to Tab. 102-3 on the 'C' Sheets.
-	-	-
68	2515-2475008	DRIVEWAY, P.C. CONCRETE, 8 IN.
		Item is for Accessway Rt. at Sta. 359+18.
		Requires 6" Special Backfill beneath driveway PCC pavement.
-	-	-
69	2515-6745600	REMOVAL OF PAVED DRIVEWAY
		A. Refer to Tab. 110-8 on the 'C' Sheets.
		B. Requires 0000 linear foot of full depth saw cut.
-	-	-
70	2518-6910000	SAFETY CLOSURE
		Refer to Tab. 108-13A on 'C' Sheets.
-	-	-
71	2519-4200140	REMOVAL OF FENCE, FIELD
		Item includes 16,858 LF of field fence and 760.0 LF of wood fence.
-	-	-
72	2520-3350010	FIELD LABORATORY
		- -
-	-	-
73	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN
		Need list from District!
-	-	-
74	**2526-8285000**	**CONSTRUCTION SURVEY**
		- -
-	-	-
75	**2527-9263109**	**PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED**
		Refer to Tab. 108-22 for location details.
-	-	-
76	**2527-9263137**	**PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED**
		Refer to Tab. 108-29 for location details.
-	-	-
77	**2528-8445110**	**TRAFFIC CONTROL**
		- -
-	-	-
78	**2528-8445113**	**FLAGGERS**
		- -

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ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
-	-	-
79	**2529-2242320**	**CT JOINT**
80	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA
81	2529-5070120	PATCHES, FULL-DEPTH FINISH, BY COUNT
		Items are for Rumble Strip Panels in adjacent county roads. Refer Tabulations 112-7 and 102-6C
		for additional information.
-	-	-
82	**2529-8174010**	**SUBBASE (PATCHES)**
		Item is for 6" of Special Backfill beneath patches.
		Refer to Tab.102-6C for additional details.
-	-	-
83	2529-8202000	RUMBLE STRIP PANEL (IN FULL DEPTH PATCH)
		Items are for Rumble Strip Panels in adjacent county roads. Refer Tabulations 112-7 and 102-6C
		for additional information.
-	-	-
84	**2533-4980005**	**MOBILIZATION**
		- -
-	-	-
85	**2548-0000200**	**MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE**
86	**2548-0000320**	**MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE**
		Refer to Tab. 112-10 on the 'C' Sheets.
-	-	-
87	2599-9999005	('EACH' ITEM) REMOVAL OF SILT BASINS
		Fill the silt basin with Class 10 material and a minimum of 4 inches of topsoil.
		Furnish Class 10 material according to Section 2107 of the Standard Specifications and compact
		the material by driving over the material a minimum of two times. Furnish and place topsoil according
		to Section 2105 of the Standard Specifications. Smooth the surface of the topsoil and leave in a finished
		condition so it will drain properly. This will be incidental to the bid item.
		Method of Measurement: The Engineer will count the number of silt basins removed.
		Basis of Payment: Payment will be the contract unit price for each silt basin removed.
		Payment is full compensation for providing, preparing, transporting, and placing the
		Class 10 material and topsoil. The Contractor has the option, at no additional cost to the
		Contracting Authority, of stripping and stockpiling the Class 10 material and topsoil from
		constructing silt basins for later use in silt basin removal. Overhaul will not be paid for this item.
-	-	-
88	2599-9999018	('SQUARE YARDS' ITEM) DRIVEWAY, P.C. CONCRETE, 10 IN.
		Item is for entrances Lt. at Sta. 419+80.63 (in front of sidewalk only) and Sta. 423+11.51.
		10" PCC Driveways will have 12" of modified subbase beneath them.
		Refer to Tab. 102-3 on 'C' Sheets for additional information.
-	-	-
89	2601-2634100	MULCHING
		- -
-	-	-
90	**2601-2636015**	**NATIVE GRASS SEEDING**
		- -
-	-	-
91	2601-2636043	SEEDING AND FERTILIZING (RURAL)
		- -
-	-	-
92	2601-2640350	SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT
		- -
-	-	-
93	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING
		- -
-	-	-
94	2601-2642120	STABILIZING CROP - SEEDING AND FERTILIZING (URBAN)
		- -
-	-	-
95	2601-2643110	WATERING FOR SOD, SPECIAL DITCH CONTROL, OR SLOPE PROTECTION
		- -
-	-	-
96	2601-2643300	MOBILIZATION FOR WATERING
		- -
-	-	-
97	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 itemincludes 25% additional quantity
		for field adjustments and replacements.
-	-	-
98	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.
-	-	-

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
99	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 adjustments and maintenance.
-	-	-
100	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK
		This item is included for maintaining the new silt fence and silt fence ditch checks
		installed for the paving project and existing silt fence and silt fence for ditch checks
		installed as part of the grading project.
		Refer to Tabulations 100-17 and 100-18.
-	-	-
101	2602-0000306	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 6 IN. DIA.
		- -
-	-	-
102	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.
		Quantity includes 6300' for protection of 126 intakes calculated at an average of 50' per intake.
-	-	-
103	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.
		- -
-	-	-
104	2602-0010010	MOBILIZATIONS, EROSION CONTROL
		- -
-	-	-
105	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL
		- -
		- -
		- -
		ALTERNATE AA OPTION 1-PCC
106	2102-0425071	SPECIAL BACKFILL
107	2122-5190007	PAVED SHOULDER, P.C. CONCRETE, 7 IN.
		Refer to Tab. 112-9 on the 'C' Sheets for details.
		ALTERNATE AA OPTION 2-HMA
108	2102-0425071	SPECIAL BACKFILL
109	2122-5500080	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 8 IN.
		Refer to Tab. 112-9 on the 'C' Sheets for details.

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 highway 92 in Warren county.
- B. This PPP covers approximately 103 acres with an estimated 81 acres being disturbed. The portion of the PPP covered by this contract has 81 acres disturbed.
- C. The PPP is located in an area of one (1) soil association (Sharpsburg - Shelby - Adair). The estimated average SCS runoff curve number for this PPP after completion will be 69.0.
- D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including:
  1. Drainage patterns – Plan and Profile sheets and Situation plans.
  2. Proposed Slopes – Cross Sections.
  3. Areas of Soil Disturbance – construction limits shown on Plan and Profile sheets.
  4. Location of Structural Controls – Tabulations on C sheets.
  5. Locations of Non-structural Controls – Tabulations on C sheets.
  6. Locations of Stabilization Practices – generally within construction limits shown on Plan and Profile sheets.
  7. Surface Waters (including wetlands) – Plan and Profile sheets.
  8. Locations where storm water is discharged – Plan and Profile sheets.
- E. The base site map is amended by contract modifications and progress payments of completed erosion control work.
- F. Runoff from this work will flow into various ditches and tributaries to Middle River, and South 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.

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.

110-12A
04-16-13

POLLUTION PREVENTION PLAN

105-4
10-18-11

STANDARD ROAD PLANS

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

Number	Date	Title
EC-101	04-20-10	Wood Excelsior Mat for Ditch Protection
EC-102	04-20-10	Sod for Ditch Protection
EC-103	04-20-10	Wood Excelsior Mat for Slope Protection
EC-201	04-20-10	Silt Fence
EC-202	04-17-12	Floating Silt Curtain
EC-204	10-16-12	Perimeter and Slope Sediment Control Devices
EW-101	04-19-11	Embankment and Rebuilding Embankments
EW-102	10-15-13	Allowable Placement of Unsuitable Soil in Embankments
EW-110	10-15-13	Ditch Blocks and Dikes
EW-403	10-15-13	Temporary Erosion Control Measures
EW-501	10-15-13	Rural Entrance
MI-210	10-15-13	PCC Driveways and Alleys
MI-220	10-16-12	Detectable Warnings and Pedestrian Ramp
PM-110	04-16-13	Line Types
PM-111	10-16-12	Symbols and Legends
PM-120	10-15-13	Stop Lines and Islands
PM-210	10-18-11	Separation in Two-Lane Roadway
PM-520	04-19-11	Two-Lane Roadway with no Turn Lanes (Two-Way Stop Condition)
PM-521	04-19-11	Two-Lane Roadway with Right Turn Lanes
PM-522	10-16-12	Two-Lane Roadway with Left Turn Lanes
PM-550	04-19-11	Two-Lane Roadway with Two-Way Left Turn Lane
PV-10	04-19-11	Rumble Strip Panel for Intersection Approach
PV-11	04-20-10	Structural Rumble Strips
PV-12	04-17-12	Milled Shoulder Rumble Strips
PV-13	04-19-11	Milled Centerline Rumble Strips
PV-101	10-15-13	Joints
PV-102	04-16-13	PCC Curb Details
PV-103	04-19-11	Manhole Boxouts in PCC Pavement
PV-301	04-19-11	Superelevation Details Two Lane Roadway
RF-3	10-15-13	Concrete Aprons
RF-5	04-16-13	Metal Pipe Aprons and Beveled Ends
RF-13	10-18-11	Pipe Bends and Half Pipe
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-19F	10-16-12	Subdrain Outlets (Standard Subdrain, Pressure Release and Special)
RF-21	10-18-11	Culvert Pipe Tee Sections
RF-26	10-15-13	Pipe Apron Guard
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-32	10-19-10	Depth of Cover Tables for Corrugated Pipe
SI-101	04-21-09	Locations - Type 'A' Signs
SI-102	10-20-09	Locations - Type 'B' Signs
SI-131	10-18-11	Installation - Type 'A' Signs
SI-132	04-20-10	Installation - Type 'B' Signs
SI-881	10-15-13	Special Signs for Workzones
SW-101	04-21-09	Trench Bedding and Backfill Zones
SW-102	04-21-09	Rigid Gravity Pipe Trench Bedding
SW-105	10-20-09	Miscellaneous Pipe Bedding
SW-401	04-21-09	Circular Storm Sewer Manhole
SW-402	04-21-09	Rectangular Storm Sewer Manhole
SW-405	04-21-09	Tee-Section Storm Sewer Manhole
SW-505	10-16-12	Double Grate Intake
SW-508	10-20-09	Single Open-Throat Intake, Large Box
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-252	04-17-12	Routes Closed to Traffic
TC-253	10-15-13	Paved On-Site Detour
TC-273	04-20-10	Construction Site Entrance

111-25
10-18-11

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213-3
10-18-11

SUBSOIL TILLAGE

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

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

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

232-3A
10-16-12

EROSION CONTROL (RURAL SEEDING)

Following the completion of work in a disturbed area, place seed, fertilizer, and mulch on the disturbed area lying 10 feet adjacent to shoulder as follows:

SEEDING:
3 lbs. of Tall Fescue (Fawn) per 1000 sq. ft.

FERTILIZER:
17 lbs. of 13-13-13 (or equivalent) commercial fertilizer per 1000 sq. ft.

MULCH:
70 lbs. of dry cereal straw per 1000 sq. ft. For areas disturbed, but not seeded by September 30th, scarify to a 3 inch depth and mulch. Consolidate all mulch into the soil with a mulch stabilizer.

Use Certified Noxious Weed Seed Free Mulch as determined by the Iowa Crop Improvement Association or adjacent state's Crop Improvement Association.

Preparing the seedbed and furnishing and applying seed, fertilizer, and mulch is incidental to mobilization and will not be paid for separately.

290-01
Modified

SIDEWALK CONSTRAINTS

1. Widths:
   Widths listed in the S sheets are minimums.

2. Cross Slopes:
   Construct all sidewalks, curb ramps, and landings/turning spaces at a target cross slope of 1.5%. Cross slopes exceeding 2.0% will not be allowed, except for areas tying into existing pavement. In these areas, transition from existing pavement cross slope to a cross slope of less than 2.0% within one panel at a rate not to exceed 1.0% per foot.

3. Longitudinal Slopes:
   a. Sidewalk:
      i. Roadway slope exceeds 5.0%: Sidewalk longitudinal slope exceeding the roadway slope by more than 2.0% will not be allowed.
      ii. Roadway slope 5.0% or less: Sidewalk longitudinal slope exceeding 5.0% will not be allowed.
   b. Ramps:
      i. Ramps 15.0' in length or less: Longitudinal slope exceeding 8.0% will not be allowed.
      ii. Ramps greater than 15.0' in length: Construct with the longitudinal slope necessary to conform to the design.

4. Landing/Turning Spaces:
   Longitudinal slopes exceeding 2.0% will not be allowed.

232-3B
10-16-12

EROSION CONTROL (URBAN SEEDING)

Following the completion of work in a disturbed area, place seed, fertilizer, and mulch on the disturbed area as follows:

SEEDING MIXTURE: Seeding Rate: 4 lbs. per 1000 sq. ft.

Bluegrass, KY	70%
Fescue, Creeping Red	20%
Ryegrass, Perennial (Fineleaf) (Derby, Manhattan or equivalent)	10%

FERTILIZER:
17 lbs. of 13-13-13 (or equivalent) commercial fertilizer per 1000 sq. ft.

MULCH:
70 lbs. of dry cereal straw per 1000 sq. ft. For areas disturbed, but not seeded by September 30th, scarify to a 3 inch depth and mulch. Consolidate all mulch into the soil with a mulch stabilizer.

Use Certified Noxious Weed Seed Free Mulch as determined by the Iowa Crop Improvement Association or adjacent state's Crop Improvement Association.

Preparing the seedbed and furnishing and applying seed, fertilizer, and mulch is incidental to mobilization and will not be paid for separately.

232-3C
10-16-12

EROSION CONTROL (NATIVE GRASS SEEDING)

Construct this project according to the requirements of U.S. Army Corps of Engineers NWP 14-Linear Transportation Projects, Permit No. 2013-813.
A copy of this permit is available from the Iowa DOT Office of Contracts upon request. The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
256+50.00	258+50.00	Both	440.0	
259+50.00	260+00.00	Rt	70.0	
259+50.00	261+50.00	Lt	220.0	
260+30.00	262+30.00	Rt	220.0	
262+25.00	264+25.00	Lt	220.0	
264+25.00	266+25.00	Both	440.0	
266+25.00	268+25.00	Rt	220.0	
267+00.00	269+00.00	Lt	220.0	
271+00.00	273+00.00	Both	440.0	
273+00.00	275+00.00	Rt	220.0	
273+25.00	275+25.00	Lt	220.0	
275+00.00	277+00.00	Rt	220.0	
277+00.00	279+00.00	Both	440.0	
279+00.00	281+00.00	Lt	220.0	
1280+60.00	1281+60.00	Both	240.0	Co. Rd. R-57
1385+00.00	1386+50.00	Both	340.0	Co. Rd. R-57
284+00.00	286+00.00	Rt	220.0	
286+50.00	288+50.00	Both	440.0	
288+50.00	290+50.00	Both	440.0	
293+00.00	295+00.00	Both	440.0	
297+50.00	299+50.00	Both	440.0	
299+50.00	301+50.00	Both	440.0	
301+50.00	302+75.00	Lt	145.0	
302+25.00	304+25.00	Rt	220.0	
303+25.00	305+25.00	Lt	220.0	
305+25.00	307+25.00	Both	440.0	
307+25.00	309+25.00	Both	440.0	
311+00.00	312+00.00	Rt	120.0	
311+00.00	313+00.00	Lt	220.0	
313+00.00	315+00.00	Both	440.0	
315+00.00	317+00.00	Lt	220.0	

241-5
10-18-11

SUBDRAINS

Construct foreslopes designated for reconstruction with subdrain trench materials according to Section 2127 of the Standard Specifications. If the vertical height of the slope is less than 15 feet and more than 4 feet wide, compacting may be achieved by working the material with shaping and/or hauling equipment tires.

Do not place trench materials containing HMA in areas subject to ponding. Dispose of all HMA and boulders according to Article 2102.03, C of the Standard Specifications.

252-1
10-16-12

TEMPORARY CROSSINGS AND DETOURS

Blading, shaping, and other work in preparation for maintaining temporary crossings or detours is incidental to other work. Furnish and spread additional granular surfacing needed for temporary crossings or detours during construction at the contract price.

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
316+00.00	317+00.00	Rt	120.0	
317+00.00	319+00.00	Both	440.0	
319+00.00	321+00.00	Both	440.0	
321+00.00	323+00.00	Both	440.0	
324+75.00	326+75.00	Both	440.0	
326+75.00	328+75.00	Both	440.0	
328+75.00	330+75.00	Lt	220.0	
331+75.00	333+75.00	Lt	220.0	
333+75.00	335+75.00	Both	440.0	
335+75.00	337+75.00	Both	440.0	
337+75.00	339+75.00	Both	440.0	
343+00.00	345+00.00	Both	440.0	
345+00.00	347+00.00	Both	440.0	
347+00.00	349+00.00	Both	440.0	
349+00.00	350+75.00	Rt	195.0	
349+00.00	351+00.00	Lt	220.0	
354+00.00	356+00.00	Both	440.0	
356+00.00	358+00.00	Lt	220.0	
359+25.00	361+25.00	Rt	220.0	
362+00.00	363+00.00	Lt	120.0	
362+00.00	364+00.00	Rt	220.0	
366+00.00	368+00.00	Both	440.0	
368+00.00	370+00.00	Both	440.0	
370+00.00	372+00.00	Both	440.0	
372+00.00	374+00.00	Both	440.0	
374+00.00	375+00.00	Both	240.0	
376+00.00	378+00.00	Rt	220.0	
378+00.00	380+00.00	Both	440.0	
380+00.00	382+00.00	Both	440.0	
382+00.00	384+00.00	Both	440.0	
384+00.00	386+00.00	Both	440.0	
386+00.00	387+75.00	Lt	195.0	
386+00.00	388+00.00	Rt	220.0	
388+00.00	390+00.00	Both	440.0	
1257+45.00	1258+50.00	Both	250.0	Kennedy Street
1280+60.00	1282+60.00	Both	240.0	R-57
1384+75.00	1386+06.00	Both	302.0	R-57
2305+85.00	2307+85.00	Lt	220.0	90th Ave
2305+85.00	2307+60.00	Rt	195.0	90th Ave
2307+85.00	2309+85.00	Both	440.0	90th Ave
2311+00.00	2313+00.00	Lt	440.0	90th Ave
2311+00.00	2312+90.00	Rt	210.0	90th Ave
3388+60.00	3390+25.00	Rt	185.0	R-63
3389+00.00	3390+25.00	Lt	145.0	R-63
3392+00.00	3393+05.00	Both	255.0	R-63

262-5
10-18-05

UTILITIES (POINT 25 PROJECT)

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

281-1
10-18-11

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers NWP 14-Linear Transportation Projects, Permit No. 2013-813.
A copy of this permit is available from the Iowa DOT Office of Contracts upon request. The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
11278+00.00	11280+00.00	Rt	220.0	Detour R-57
11280+00.00	11282+00.00	Both	440.0	Detour R-57
11282+00.00	11284+00.00	Both	440.0	Detour R-57
11285+00.00	11287+00.00	Both	440.0	Detour R-57
11287+00.00	11288+60.00	Both	360.0	Detour R-57
18387+75.00	18389+75.00	Both	440.0	Detour R-63
18389+75.00	18391+75.00	Both	440.0	Detour R-63
18393+00.00	18395+00.00	Both	440.0	Detour R-63
18395+00.00	18396+50.00	Both	340.0	Detour R-63
14410+50.00	14412+50.00	Both	440.0	Detour Y St.-Stage I
14412+50.00	14414+50.00	Both	440.0	Detour Y St.-Stage I
14414+50.00	14416+50.00	Both	440.0	Detour Y St.-Stage I
14417+25.00	14419+25.00	Both	440.0	Detour Y St.-Stage 2
14419+25.00	14421+25.00	Both	440.0	Detour Y St.-Stage 2
14421+25.00	14423+25.00	Both	440.0	Detour Y St.-Stage 2
14423+25.00	14425+10.00	Both	410.0	Detour Y St.-Stage 2
24415+25.00	24417+25.00	Both	440.0	Detour Y St.-Stage IA
24417+25.00	24417+75.00	Both	120.0	Detour Y St.-Stage IA
	Totals =		31197.0	
	x 1.25		38996.0	

100-14
10-15-13

SILT BASINS

Refer to EW-403

Location Station	Side	Remarks
258+00.00	L	
257+50.00	R	
258+50.00	R	
259+50.00	R	
260+00.00	L	
265+00.00	R	
271+00.00	L	
271+25.00	R	
276+00.00	L	
277+50.00	L	
277+50.00	R	
278+00.00	L	
278+00.00	R	
291+40.00	L	
292+30.00	R	
292+50.00	L	
293+00.00	L	
297+50.00	L	
297+75.00	R	
304+90.00	R	
307+25.00	L	
307+50.00	R	
307+60.00	L	
308+20.00	R	
310+80.00	L	
314+50.00	R	
315+90.00	L	
316+20.00	L	
316+20.00	R	
316+70.00	R	
323+50.00	L	
329+60.00	L	
329+60.00	R	
330+00.00	L	
330+00.00	R	
332+50.00	R	
332+90.00	L	
333+00.00	R	
333+25.00	L	
334+75.00	R	
340+50.00	R	
340+60.00	R	
341+90.00	R	
341+90.00	R	
342+00.00	L	
342+50.00	L	
352+00.00	R	
357+90.00	L	
357+90.00	R	
358+25.00	L	
358+25.00	R	
359+80.00	L	
359+90.00	R	
366+00.00	L	
366+00.00	R	
372+00.00	R	
374+80.00	R	
375+00.00	L	
379+40.00	L	
379+70.00	L	
379+90.00	R	
380+00.00	L	
390+40.00	L	
390+60.00	L	
1280+70.00	L	
1280+70.00	R	
1282+30.00	L	
1282+30.00	R	
1386+00.00	L	
1386+50.00	R	
2306+40.00	R	
2308+20.00	R	
2313+40.00	R	
3388+70.00	R	
3389+10.00	L	

MAILBOX

TABULATION OF MAILBOX TURNOUTS

Location Station	Side	Remarks
Mainline 92		
262+00.00	Lt.	1
269+50.00	Lt.	2
271+40.00	Lt.	1
276+25.00	Lt.	6
281+90.00	Rt.	1
285+30.00	Lt.	1
291+60.00	Lt.	1
297+05.00	Lt.	1
305+30.00	Lt.	1
90th Ave.		
2313+25.00	Rt.	1
2308+00.00	Rt.	1
Mainline 92		
324+25.00	Lt.	1
341+10.00	Lt.	1
353+00.00	Lt.	2
356+75.00	Lt.	1
361+70.00	Lt.	1
363+90.00	Lt.	1
365+50.00	Lt.	2
375+40.00	Lt.	3
422+80.00	Lt.	1
423+75.00	Lt.	1
427+30.00	Lt.	1
431+75.00	Lt.	1
432+25.00	Lt.	1
433+90.00	Lt.	1
433+90.00	Rt.	1
437+80.00	Lt.	1
438+40.00	Lt.	1
442+80.00	Rt.	1
446+75.00	Lt.	1
448+40.00	Lt.	2
		Total = 42 Mailboxes

100-17R
MODIFIED

TABULATION OF FENCE REMOVAL

Location			Length	Remarks
Begin Station	End Station	Side	LF	
256+23.9, 133.4'Lt	258+34.1, 197'Lt		345.5	wire
256+49.4, 50.0'Lt	258+31.56, 50.3'Lt		182.2	wire
258+61.6, 199.0'Lt	261+46.0, 47.2'Lt		369.4	wire
260+45.7, 50.5'Lt	260+46.0, 145.0'Lt		94.6	wire
262+18.3, 45.3'Lt	266+52.2, 71.2'Lt		420.1	wire
266+70.5, 71.8'Lt	270+39.2, 67.0'Lt		366.7	wire
263+27.8, 95.0'Rt	267+38.2, 6.5'Rt		447.4	wire
265+28.8,28.8'Rt	265+45.3, 133.8'Rt		106.2	wire
265+44.4, 128.4'Rt	267+74.4, 133.0'Rt		266.1	wire
266+75.5, 108.7'Rt	268+71.0, 3.3'Rt		273.0	wire
267+25.2, 58.1'Rt	267+46.5, 104.6'Rt		54.0	wood
268+70.5, 100.6'Rt	269+35.8, 120.5'Rt		80.3	wire
270+51.8, 29.1'Rt	270+48.1, 202.7'Rt		181.8	wood
270+47.8, 225'Rt	270+48.1, 202.7'Rt		22.3	wire
270+51.8, 29.1'Rt	279+25.7, 35.0'Rt		874.0	wire
1280+46.4, 50.6'Lt	1281+66.1, 69.6'Lt		145.2	wire, Co. Rd. R-57
1385+84.1, 50.7'Rt	1389+96.5, 49.3'Rt		412.4	wire, Co. Rd. R-57
287+75.9, 115.0'Lt	290+86.1, 115.0'Lt		413.4	wire
292+27.8, 60.7'Lt	302+87.7, 72.0'Lt		1060.0	wire
305+46.9, 13.0'Rt	307+42.9, 25.8'Rt		199.0	wood
307+42.9, 25.8'Rt	310+00, 25.6'Rt		256.8	wire
2305+50.0, 36.72'Rt	2306+07.0, 55.0'Rt		77.3	wire, 90th Ave.
2305+50.0, 25.4'Lt	2310+03.0, 28.6'Lt		453.1	wire, 90th Ave.
314+17.1, 61.8'Lt	323+53.7, 76'Lt		937.8	wire
318+45.0, 25.0'Rt	323+56.1, 26.2'Rt		511.1	wire
323+56.1, 9.6'Rt	323+56.7, 110.0'Rt		100.4	wire
323+72.3, 86.5'Lt	339+52.6, 90.9'Lt		1613.3	wire
326+86.6, 110.3'Rt	327+71.6, 8.5'Rt		186.9	wire
327+86.9, 9.6'Rt	334+26.8, 8.7'Rt		639.9	wire
334+26.8, 8.7'Rt	334+28.9, 105.6'Rt		97.0	wire
334+26.8, 8.7'Rt	342+44.4, 52.2'Rt		826.3	wire
341+82.5, 41.4'Lt	350+97.6, 53.8'Lt		915.6	wire
342+44.4, 52.2'Rt	342+62.6, 110.3'Rt		68.7	wood
342+80, 114.3'Rt	343+08.8, 68.6'Rt		67.0	wood
343+08.8, 68.6'Rt	344+66.6, 128.2'Rt		178.1	wire
352+34.4, 87.0'Rt	355+10.1, 60.3'Rt		290.6	wire
354+56.5. 76.7'Lt	355+90.2, 16.4'Lt		196.0	wire
355+06.8, 90.0'Rt	355+10.1' 60.3' Rt		30.0	wood
356+81.1, 135.1'Rt	361+82.5, 58.2'Rt		560.1	wire
359+75.1, 103.6'Lt	359+78.4, 23.0'Lt		80.7	wood
361+83.6, 95.0'Rt	363+00, 56.0'Rt		151.7	wire
365+77.4, 95.0'Lt	375+07.4, 58.1'Lt		980.4	wire
373+62.0, 91.8'Lt	373+63.7, 66.9'Lt		25.0	wood
374+80.0, 91.3'Lt	374+80.7, 70.8'Lt		20.5	wood
375+06.9, 91.1'Lt	375+07.4, 58.1'Lt		33.1	wood
376+46.0, 100.0'Rt	377+70.0, 110.0'Rt		254.1	wire
377+65.1, 95.0'Lt	387+33.9, 71.8'Lt		1008.2	wire
377+67.2, 38.5'Rt	384+86.3, 1.2'Lt		743.8	wire
	Field Fence		16858.0	
	Wood		760.0	
	Total =		17618.0	

100-18
04-20-10

TABULATION OF SILT FENCES FOR DITCH CHECKS

Refer to EC-201

Location Station	Side	Length LF	Remarks
256+45.00	Lt	29.0	
256+90.00	Lt	29.0	
257+15.00	Lt	25.0	
257+40.00	Lt	25.0	
257+65.00	Lt	25.0	
257+90.00	Lt	25.0	
258+10.00	Lt	25.0	
258+50.00	Lt	25.0	
258+75.00	Lt	25.0	
259+00.00	Lt	25.0	
259+25.00	Lt	25.0	
259+50.00	Lt	25.0	
259+75.00	Lt	25.0	
260+25.00	Lt	25.0	
260+50.00	Lt	25.0	
260+75.00	Lt	29.0	
262+25.00	Lt	25.0	
263+50.00	Lt	29.0	
265+00.00	Lt	25.0	
266+50.00	Lt	25.0	
268+00.00	Lt	25.0	
269+50.00	Lt	25.0	
271+00.00	Lt	25.0	
272+50.00	Lt	25.0	
276+25.00	Lt	25.0	
276+50.00	Lt	25.0	
276+75.00	Lt	25.0	
277+00.00	Lt	25.0	
277+65.00	Lt	25.0	
278+00.00	Lt	25.0	
278+50.00	Lt	25.0	
278+90.00	Lt	25.0	
279+30.00	Lt	25.0	
279+70.00	Lt	25.0	
280+10.00	Lt	25.0	
280+85.00	Lt	25.0	
292+00.00	Lt	29.0	
293+30.00	Lt	25.0	
295+00.00	Lt	25.0	
295+75.00	Lt	29.0	
298+50.00	Lt	25.0	
300+00.00	Lt	25.0	
301+50.00	Lt	25.0	
305+25.00	Lt	25.0	
306+00.00	Lt	25.0	
306+75.00	Lt	25.0	
309+00.00	Lt	25.0	
310+50.00	Lt	25.0	
324+00.00	Lt	29.0	
324+75.00	Lt	25.0	
325+50.00	Lt	25.0	
326+90.00	Lt	25.0	
327+30.00	Lt	25.0	
327+70.00	Lt	25.0	
328+10.00	Lt	25.0	
328+50.00	Lt	25.0	
330+00.00	Lt	25.0	
331+40.00	Lt	25.0	
332+40.00	Lt	25.0	
333+50.00	Lt	25.0	
334+25.00	Lt	25.0	
335+20.00	Lt	25.0	
335+60.00	Lt	25.0	
336+50.00	Lt	29.0	
337+25.00	Lt	29.0	
338+10.00	Lt	29.0	
339+60.00	Lt	29.0	
389+00.00	Lt	25.0	

100-18
04-20-10

TABULATION OF SILT FENCES FOR DITCH CHECKS

Refer to EC-201

Location Station	Side	Length LF	Remarks
257+75.00	Rt	25.0	
258+75.00	Rt	25.0	
259+75.00	Rt	25.0	
261+25.00	Rt	25.0	
262+75.00	Rt	25.0	
270+00.00	Rt	25.0	
270+75.00	Rt	25.0	
271+80.00	Rt	25.0	
272+20.00	Rt	25.0	
272+60.00	Rt	25.0	
278+50.00	Rt	25.0	
283+25.00	Rt	29.0	
286+00.00	Rt	25.0	
286+40.00	Rt	25.0	
286+80.00	Rt	25.0	
290+25.00	Rt	25.0	
291+00.00	Rt	29.0	
291+25.00	Rt	29.0	
292+70.00	Rt	25.0	
293+10.00	Rt	25.0	
295+00.00	Rt	25.0	
295+75.00	Rt	25.0	
296+50.00	Rt	25.0	
297+25.00	Rt	25.0	
298+00.00	Rt	25.0	
298+75.00	Rt	25.0	
299+50.00	Rt	25.0	
300+25.00	Rt	25.0	
301+00.00	Rt	29.0	
301+50.00	Rt	29.0	
304+50.00	Rt	29.0	
305+75.00	Rt	25.0	
306+50.00	Rt	25.0	
307+25.00	Rt	25.0	
308+00.00	Rt	25.0	
311+00.00	Rt	25.0	
311+75.00	Rt	29.0	
315+25.00	Rt	25.0	
315+50.00	Rt	25.0	
315+75.00	Rt	25.0	
316+00.00	Rt	25.0	
316+25.00	Rt	25.0	
316+75.00	Rt	25.0	
318+00.00	Rt	25.0	
319+50.00	Rt	25.0	
323+90.00	Rt	25.0	
324+30.00	Rt	25.0	
324+70.00	Rt	25.0	
325+10.00	Rt	25.0	
325+50.00	Rt	25.0	
327+00.00	Rt	25.0	
327+75.00	Rt	25.0	
328+00.00	Rt	25.0	
328+25.00	Rt	25.0	
328+50.00	Rt	25.0	
328+75.00	Rt	25.0	
329+00.00	Rt	25.0	
330+35.00	Rt	25.0	
330+75.00	Rt	25.0	
331+40.00	Rt	25.0	
331+65.00	Rt	25.0	
331+90.00	Rt	25.0	
332+15.00	Rt	25.0	
332+40.00	Rt	25.0	
333+25.00	Rt	25.0	

100-18
04-20-10

TABULATION OF SILT FENCES FOR DITCH CHECKS

Refer to EC-201

Location Station	Side	Length LF	Remarks
333+50.00	Rt	25.0	
333+75.00	Rt	25.0	
334+00.00	Rt	25.0	
334+25.00	Rt	25.0	
334+50.00	Rt	25.0	
334+75.00	Rt	25.0	
335+05.00	Rt	25.0	
335+70.00	Rt	25.0	
336+10.00	Rt	25.0	
337+00.00	Rt	25.0	
337+75.00	Rt	25.0	
339+90.00	Rt	25.0	
340+30.00	Rt	25.0	
341+70.00	Rt	25.0	
342+10.00	Rt	25.0	
380+25.00	Rt	25.0	
381+00.00	Rt	25.0	
381+75.00	Rt	25.0	
382+50.00	Rt	25.0	
383+25.00	Rt	25.0	
1258+10.00	Lt	22.0	Kennedy St.
1258+25.00	Rt	32.0	Kennedy St.
1281+30.00	Lt	25.0	R-57
1282+05.00	Lt	25.0	R-57
1385+05.00	Lt	25.0	R-57
1385+45.00	Lt	25.0	R-57
1385+85.00	Lt	25.0	R-57
1281+00.00	Rt	25.0	R-57
1281+20.00	Rt	25.0	R-57
1281+60.00	Rt	25.0	R-57
1282+00.00	Rt	25.0	R-57
1282+40.00	Rt	25.0	R-57
2306+00.00	Both	18.0	90th Ave.
2306+75.00	Both	18.0	90th Ave.
2307+50.00	Both	18.0	90th Ave.
2308+25.00	Both	18.0	90th Ave.
2309+00.00	Both	18.0	90th Ave.
2310+90.00	Both	18.0	90th Ave.
2312+35.00	Both	18.0	90th Ave.
3389+25.00	Both	25.0	R-63
3392+15.00	Rt	22.0	R-63
3392+25.00	Rt	22.0	R-63
11279+25.00	Rt	22.0	Detour R-57
11280+00.00	Rt	22.0	Detour R-57
11280+80.00	Rt	22.0	Detour R-57
11280+90.00	Rt	22.0	Detour R-57
11281+30.00	Rt	22.0	Detour R-57
11281+70.00	Rt	22.0	Detour R-57
11282+10.00	Rt	22.0	Detour R-57
11282+50.00	Rt	22.0	Detour R-57
11282+90.00	Rt	22.0	Detour R-57
11283+30.00	Rt	22.0	Detour R-57
11285+55.00	Rt	22.0	Detour R-57
11285+95.00	Rt	22.0	Detour R-57
11286+35.00	Rt	22.0	Detour R-57
11286+75.00	Rt	22.0	Detour R-57
11287+15.00	Rt	22.0	Detour R-57
11287+55.00	Rt	22.0	Detour R-57
11288+50.00	Rt	22.0	Detour R-57
11289+25.00	Rt	22.0	Detour R-57
18389+25.00	Rt	22.0	Detour R-63
18390+14.00	Rt	22.0	Detour R-63
18390+54.00	Rt	22.0	Detour R-63
18390+94.00	Rt	22.0	Detour R-63
18391+34.00	Rt	22.0	Detour R-63
18391+74.00	Rt	22.0	Detour R-63

100-18
04-20-10

TABULATION OF SILT FENCES FOR DITCH CHECKS

Refer to EC-201

Location Station	Side	Length LF	Remarks
18392+14.00	Rt	22.0	Detour R-63
14412+55.00	Rt	17.0	Detour Y St. - Stage I
14413+30.00	Rt	17.0	Detour Y St. - Stage I
14413+90.00	Both	17.0	Detour Y St. - Stage I
14414+65.00	Both	17.0	Detour Y St. - Stage I
14415+40.00	Both	17.0	Detour Y St. - Stage I
14416+15.00	Both	17.0	Detour Y St. - Stage I
14416+90.00	Both	17.0	Detour Y St. - Stage I
24415+90.00	Rt	17.0	Detour Y St. - Stage IA
24416+05.00	Lt	17.0	Detour Y St. - Stage IA
14417+36.00	Rt	17.0	Detour Y St. - Stage 2
14417+76.00	Rt	17.0	Detour Y St. - Stage 2
14417+71.00	Lt	17.0	Detour Y St. - Stage 2
Total =		5150.0	
x 1.5		7725.0	

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	Warren	Ia.92	EB & WB	120.85	129.91	1992		FN-92-5(31)--21-91	AAC	3					AAC	0.5	University	Gravel			AAC=Type A Asphalt Cement Concrete
2	"	"	"	"	"	1983		FN-92-5(20)--21-91	BSC												BSC=Bituminous Seal Coat
3	"	"	"	"	"	1952		P-1023W	BAC	1.5	TBB	1.5									BAC=Type B Asphalt Cement Concrete
4	"	"	"	"	"	1930		P-569	PC7	7	PC7						Earlham	Gravel	1		PC7=10"-7"-10" PCC Concrete Slab

102-6C
10-18-11

FULL-DEPTH PATCHES

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

Location			Dimension			PCC Patches			HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
Count	Station or Milepost	Lane	Length	Width	Patch Thickness	With Dowels RR-4	Without Dowels RR-2	C R C RR-18			RR-26	RR-1	RR-1 or RR-26			RR-1		
		L, R, or B	FT	FT	IN	SY	SY	SY	SY	TON	SY	SY	No.	No.	No.	No.	No.	

112-7
10-19-10

RUMBLE STRIP PANELS

Refer to Standard Road Plan PV-10.

Location			Pavement		Remarks
Road Ident.	Station	Side	New	Existing	
Co. Rd. R-57	1283+73.24	Rt.		X	
South	1280+49.35	Rt.		X	
Co. Rd. R-57	1387+09.14	Lt.		X	
North	1390+09.16	Lt.		X	
Co. Rd. R-63	3384+74.87	Rt.		X	
South	3387+74.87	Rt.		X	
Co. Rd. R-63	3394+47.22	Lt.		X	
North	3397+47.22	Lt.		X	

112-04
10-15-13

CURBS AND ISLANDS

Refer to PV-20, PV-102, and 6000s Detail Series.

(1) Bid Item

Point No.	Station	Offset	Island Interior Area (1) SY	Curb and Gutter			Remarks
				Curb Type	Gutter Width FT	Length (1) LF	
A	283+53.81	41.0' Lt.					
	1384+09.30	14.0' Lt.					
B	283+40.37	41.0' Lt.					
C	1384+19.19	15.0' Lt.	63.2	6" Sloped PCC		33.8	Refer to Modified PV-20 Detail in the 'U' Sheets
A	283+87.71	25.0' Rt.					
	1283+47.97	14.0' Rt.					
B	284+01.84	25.0' Rt.					
C	1283+37.33	15.0' Rt.	63.2	6" Sloped PCC		36.2	Refer to Modified PV-20 Detail in the 'U' Sheets
	Totals =		126.4			70.0	

104-5C
04-17-12

LIST OF SUBDRAIN WORK

Refer to Standard Road Plans RF-3, RF-5, RF-14, RF-19A, RF-19B, RF-19C, RF-19E and RF-19F

* Not a bid item

Location				Pipe			Aprons		Outlets			Connected Pipe Joints (RF-14)*	Trench Drain	Granular Material	Porous Backfill*	Class "A" Crushed Stone*	Remarks
No.	Station to Station		Type of Installation	Concrete C.M.P., C.M.P. Coated, or Plastic	Dia. IN	Length LF	RF-3 No.	RF-5 No.	RF-19E No.	RF-19F Type	RF-19F No.	Type	LF	Blanket CY	CY	CY	
1	4414+34.00	4414+58.00	Case 'A'	C.M.P. Coated	10.0	122				A	1						
	34.0' Lt.	154.40' Lt.															
Add RF-19F to existing tile and outlet into west detour ditch while detour is in use. Remove RF-19F rodent guard and extend CMP into ditch intake No. I-219 in 'Y' Street ditch when detour is removed.																	

112-10
04-19-11

MILLED RUMBLE STRIPS

See PV-12 and PV-13.

* Calculated at 18" width for Shoulder.

Location			Length				Effective Shoulder Width			
Road Identification	Station to Station		PCC	HMA	Type (Centerline, Rt or Lt Shoulder	Fog Seal* (Milled Rumble Strip) Shoulder GAL	PCC Paved	HMA Paved	Granular\ Earth	Remarks
			STA	STA			FT	FT	FT	
Iowa 92 Mainline	256+50.00	380+00.00	123.50		Centerline	0.0				
Iowa 92 Mainline	256+50.00	281+94.00	25.44		Left Shoulder	0.0				
Iowa 92 Mainline	291+50.00	389+14.00	97.64		Left Shoulder	0.0				
Iowa 92 Mainline	256+50.00	280+39.00	23.89		Right Shoulder	0.0				
Iowa 92 Mainline	284+40.00	387+00.00	102.60		Right Shoulder	0.0				
Total Centerline =			123.50							
Total Shoulder =			249.57							

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
256+50.00	282+00.00	EB & WB	HMA, PCC	6926.0	24.0	
282+00.00	385+00.00	EB & WB	HMA, PCC	28556.5		Includes returns and turning lane at Co.Rd. R-57
385+00.00	443+18.01	EB & WB	HMA, PCC	16303.8	24.0	Includes returns at Co.Rd. R-63 and Spruce St pavement
256+50.00	390+00.00	Lt & Rt	HMA	621.1		Driveway, sideroad fillets
1280+60.00	1283+81.10	NB & SB	HMA	786.2	22.0	Co.Rd. R-57 South
1384+00.43	1386+06.00	NB & SB	HMA	501.1	22.0	Co.Rd. R-57 North
3389+00.00	3391+35.75	NB & SB	HMA	672.5	22.0	Co.Rd. R-63 South
3391+60.00	3393+05.00	NB & SB	HMA	356.5	22.0	Co.Rd. R-63 North
4414+15.00	4417+73.13	NB & SB	PCC	1124.7	31.0	Y St. South, Pavement & Returns
4417+90.70	4422+60.00	NB & SB	PCC	1795.3	31.0	Y St. North, Pavement & Returns
443+18.01	465+01.01	Lt	HMA, PCC	453.8	2183.0	Pavement edge removal for widening
443+18.01	465+01.01	Rt	HMA, PCC	472.6	2183.0	Pavement edge removal for widening
451+43.04	452+39.03	Lt	PCC	58.4	60.0	S. Kenwood Blvd. returns
455+20.30	456+05.70	Lt	PCC	70.8	64.0	S. "P" St. returns
443+40.85	444+24.64	Rt	PCC	16.5	14.0	"R" St. returns
453+92.98	454+87.24	Rt	PCC	35.2	25.0	S. "P" St. returns
461+86.25	462+60.36	Rt	PCC	33.7	28.0	S. "N" St. returns
439+07.78	441+22.33	Lt	HMA	200.0		Mainline Detour Paving at East End Tie-In
441+45.03	445+00.00	Lt	HMA	598.6		Mainline Detour Paving at East End Tie-In
441+22.97	443+48.00	Rt	HMA	86.0		Mainline Detour Paving at East End Tie-In
11277+89.54	11283+98.25	NB & SB	HMA	1270.8		Co.Rd. R-57 Detour Pavement
11284+92.87	11289+34.28	NB & SB	HMA	1109.1		Co.Rd. R-57 Detour Pavement
18386+48.19	18392+53.72	NB & SB	HMA	1472.8		Co.Rd. R-63 Detour Pavement
18392+77.35	18397+71.90	NB & SB	HMA	1177.7		Co.Rd. R-63 Detour Pavement
	Totals =			64699.6		

110-2
04-16-13

REMOVAL OF EXISTING STRUCTURES

Location	Description	Remarks
358+05.35	2x2 RCB w/30" ext.	Including headwalls
379+69.09	2x2 RCB w/30" ext.	Including headwalls
390+78.55	2x2 RCB w/30" ext.	Including headwalls

110-5
08-01-08

SIDEWALK REMOVAL

Begin Station	End Station	Area SY	Remarks
451+56.38 Lt		1.8	
452+26.29 Lt		7.9	
454+14.44 Rt		10.5	
454+66.22 Rt		9.8	
454+70.01 Lt		2.5	
455+37.86 Lt		11.0	
455+92.91 Lt		6.6	
	Total =	50.2	

110-8
08-01-08

REMOVAL OF CONCRETE DRIVES

Location Station	Side	Area SY	Remarks
324+07.61	Rt	113.9	
355+57.33	Rt	57.4	
398+16.98	Lt	196.1	
423+11.51	Lt	911.7	Removal as directed by Engineer
425+99.40	Lt	136.5	
427+53.90	Lt	108.7	
429+54.16	Lt	149.8	
430+78.41	Rt	339.5	
431+96.41	Lt	100.5	
433+46.06	Lt	35.7	
433+47.85	Rt	279.1	
440+48.56	Rt	125.7	
442+23.75	Rt	192.1	
446+48.51	Rt	181.9	
446+56.51	Lt	134.7	
447+68.44	Rt	173.8	
448+17.01	Lt	203.8	
448+54.51	Rt	168.4	
449+42.01	Lt	185.9	
458+76.10	Lt	85.6	
460+15.20	Lt	108.8	
461+34.29	Lt	65.8	
Total =		4055.0	

110-9
10-18-11

CULVERT ABANDONMENT

Refer to Details 4315 and 4316

* Not a bid item

Location Station	Description	Fill Material		4" Perforated Subdrain*	Remarks
		Flowable Mortar	Granular Backfill*		
		CY	TON	LF	
277+57.37	2x2 RCB w/30" RCP ext.	9.4	0.2	4.0	Remove aprons and extensions
292+63.66	3x2 RCB w/36" ext.	12.2	0.2	4.0	Remove aprons and extensions
307+42.49	3x2 RCB w/36" ext.	13.0	0.2	4.0	Remove aprons and extensions
315+86.80	2x2 RCB w/30" ext.	8.8	0.2	4.0	Remove aprons and extensions
329+73.63	2x2 RCB w/30" ext.	9.0	0.2	4.0	Remove aprons and extensions
332+80.53	2x2 RCB w/30" ext.	9.0	0.2	4.0	Remove aprons and extensions
341+78.56	2x2 RCB w/30" ext.	8.8	0.2	4.0	Remove aprons and extensions
	Total =	70.2			

108-13A
08-01-08

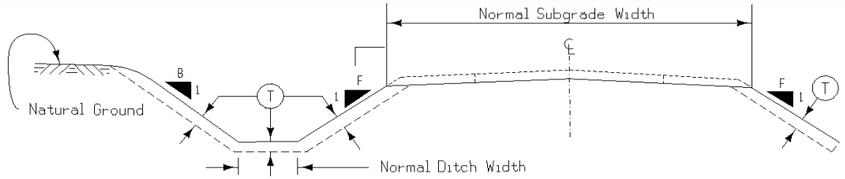
SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
Ia.92			
256+00.00	1		
Kennedy St.			
1257+00.00	1		
Co. Rd. R-57			
1280+00.00	1		
1386+25.00	1		
Ia.92			
390+25.00	1		
90TH Ave.			
2305+50.00	1		
2314+00.00	1		
Co. Rd. R-63			
3388+50.00	1		
3393+50.00	1		
Y' Street			
4413+75.00	1		
4422+75.00	1		
Total =	11		

103-4
04-19-11

TABULATION OF SPREADING TOPSOIL

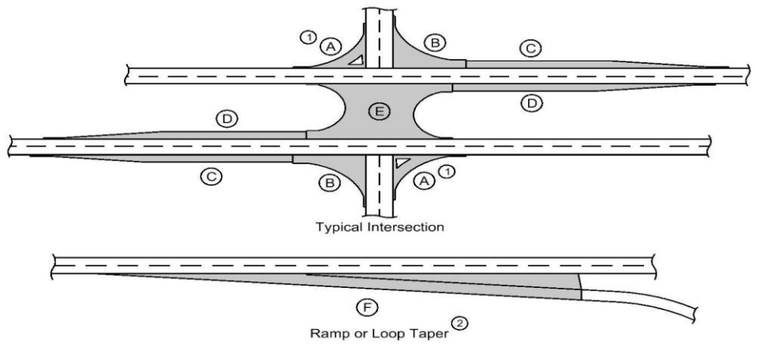


Perform this work according to Section 2105. Prior to placing topsoil on any cohesive soil, scarify the area to be covered to a minimum depth of 3 inches.

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

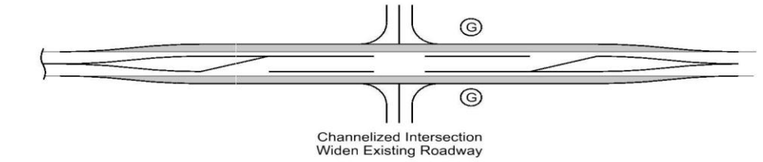
Placement Description								Topsoil Excavation Available From			
Area No.	Quantity	Location		Side	Slope	(T)	Remarks	Amount Reserved	Station to Station		Remarks
	CY	Station to Station		L. or R.	B. or F.	IN		CY			
1	42736.4	256+00.00	390+00.00	Both	Both	8.0	ML092:Rural	30556.0	256+00.00	390+00.00	ML092:Rural
2	10270.4	390+25.00	443+18.00	Both	Both	8.0	ML092: Urban STG1B and STG2B	8997.0	390+25.00	443+18.00	ML092: Urban STG1B and STG2B
3	1792.0	443+23.01	464+92.00	Both	Both	8.0	ML092: Widening	126.0	443+23.01	464+92.00	ML092: Widening
4	133.0	1257+10.00	1258+50.00	Both	Both	8.0	Kennedy	0.0	1257+10.00	1258+50.00	Kennedy
5	331.8	1280+60.00	1283+50.00	Both	Both	8.0	R57S	0.0	1280+60.00	1283+50.00	R57S
6	302.4	1384+25.00	1386+06.00	Both	Both	8.0	R57N	0.0	1384+25.00	1386+06.00	R57N
7	1282.4	2305+85.00	2313+85.00	Both	Both	8.0	90th		2305+85.00	2313+85.00	90th
8	92.4	3388+60.00	3390+75.00	Both	Both	8.0	R63S	0.0	3388+60.00	3390+75.00	R63S
9	100.8	3391+31.95	3393+05.00	Both	Both	8.0	R63N	0.0	3391+31.95	3393+05.00	R63N
10	477.4	4414+15.00	4417+25.32	Both	Both	8.0	YSTS	0.0	4414+15.00	4417+25.32	YSTS
11	1162.0	4417+64.40	4422+60.00	Both	Both	8.0	YSTN	0.0	4417+64.40	4422+60.00	YSTN
12	1734.6	11277+89.54	11290+40.39	Both	Both	8.0	DET R57	0.0	11277+89.54	11290+40.39	Detour R57
13	1118.6	18388+00.00	18396+25.00	Both	Both	8.0	DET R63	0.0	18388+00.00	18396+25.00	R63
TOTAL	61534.2						TOTAL	39679.0			

PCC PAVEMENT

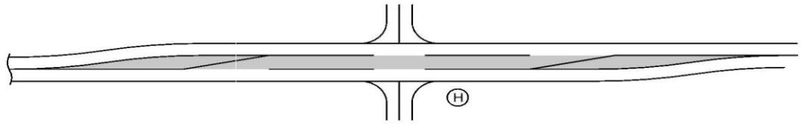


Typical Intersection

Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway



Channelized Intersection
Reconstructed Roadway

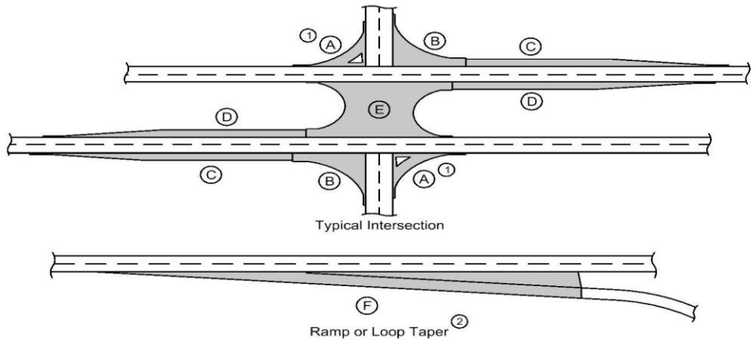
(1) Does not include island area or curb. Refer to tabulation 112-4 for quantities.

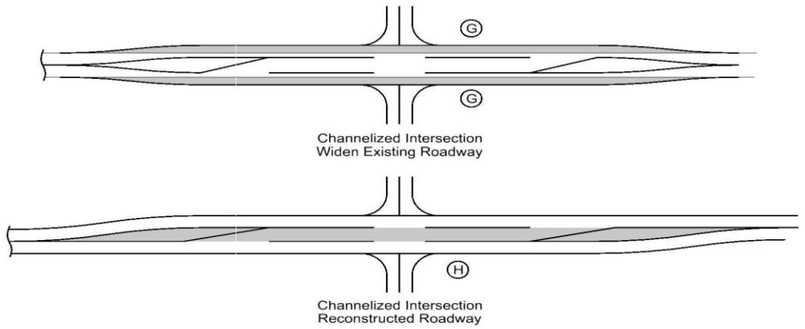
(2) Refer to PV-410, PV-411, PV-412, and PV-414.

(3) Quantity includes Pavement Header.

Location				Mainline			Area (3)								Total Area By Pavement Thickness		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	SY					
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	10 IN	10½ IN	TONS	CY	SY	
Ia. 92	WB	256+50.00	271+47.79	14.0	1497.8	2329.9									2329.9		904.3		2912.4	
Ia. 92	EB	256+50.00	271+47.79	14.0	1497.8	2329.9									2329.9		904.3		2919.4	
Ia. 92	WB	271+47.79	301+54.21	14.0	3006.4	4676.7									4676.7		1815.2		5845.9	
Ia. 92	EB	271+47.79	301+54.21	14.0	3006.4	4676.7									4676.7		1815.2		5845.9	
Ia. 92	Both	271+47.79	301+54.21	Varies	3006.4									3786.7	3786.7		1192.8		3786.7	Center Turn Lane & Channelized Area
Ia. 92 - E.B. Turn Lane	EB	279+39.00	282+94.00	Varies	355.0				567.8						567.8		178.5		567.8	Rt. Turn Lane at Co. Rd. R-57
Ia. 92 - W.B. Turn Lane	WB	284+48.00	292+08.00	Varies	760.0				1306.7						1306.7		411.6		1306.7	Rt. Turn Lane at Co. Rd. R-57
Ia. 92	WB	301+54.21	378+78.79	14.0	7724.6	12016.0									12016.0		4663.8		15019.8	
Ia. 92	EB	301+54.21	378+78.79	14.0	7724.6	12016.0									12016.0		4663.8		15019.8	
Ia. 92	WB	378+78.79	391+00.00	14.0	1221.2	1899.7									1899.7		737.3		2374.6	
Ia. 92	EB	378+78.79	391+00.00	14.0	1221.2	1899.7									1899.7		737.3		2374.6	
Ia. 92	EB	378+78.79	391+00.00	Varies	1221.2									1392.1	1392.1		438.5		1397.8	Center Turn Lane & Channelized Area
Ia. 92	EB	386+70.00	390+25.00	Varies	355.0				567.9						567.9		178.9		567.9	Rt. Turn Lane at Co. Rd. R-63
Ia. 92	WB	391+92.00	398+19.88	Varies	627.9				614.3						614.3		193.5		614.3	Rt. Turn Lane at Co. Rd. R-63
Ia. 92	WB	391+00.00	441+09.29	15.0	5009.3	8348.8									8348.8			3385.9		
Ia. 92	EB	391+00.00	441+09.29	15.0	5009.3	8348.8									8348.8			3385.9		
Ia. 92	Both	391+00.00	441+27.50	16.0	5027.5	8937.8									8937.8			2979.3		Center Turn Lane
Ia. 92	WB	441+09.29	443+18.01	Varies	208.7	345.8									345.8			138.9		
Ia. 92	EB	441+09.29	443+18.01	Varies	208.7	306.0									306.0			124.1		
Ia. 92	Both	441+27.50	443+18.01	Varies	190.5	320.0									320.0			106.7		Center Turn Lane
Urban Widening																				
Ia. 92	EB	443+18.01	443+40.21	2.5	22.2	6.2									6.2		4.5			
"	EB	443+40.21	444+24.52	Varies	84.3	35.2									35.2		14.9			South R St. curb and returns
"	EB	444+24.52	453+91.57	2.5	967.1	268.6									268.6		194.6			
"	EB	453+91.57	454+86.45	Varies	94.9	55.7									55.7		23.9			South P St. curb and returns
"	EB	454+86.45	461+85.60	2.5	699.2	194.2									194.2		140.7			
"	EB	461+85.60	462+62.57	Varies	77.0	49.0									49.0		21.4			South N St. curb and returns
"	EB	462+62.57	464+92.00	2.5	229.4	63.7									63.7		46.2			
"	WB	443+18.01	451+46.61	2.5	828.6	230.2									230.2		166.8			
"	WB	451+46.61	452+38.91	Varies	92.3	72.5									72.5		32.1			South Kenwood Blvd. curb and returns
"	WB	452+38.91	455+21.32	2.5	282.4	78.4									78.4		56.8			
"	WB	455+21.32	456+11.24	Varies	89.9	91.1									91.1		32.3			South P St. curb and returns
"	WB	456+11.24	464+92.00	2.5	880.8	244.7									244.7		177.3			

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		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	SY					
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	10 IN	10% IN	TONS	CY	SY	
Co. Rd. R-57																				
R-57	NB & SB	1280+60.00	1283+59.24	22.0	299.2	731.5									731.5		293.3			Mainline
"	NB & SB	1383+98.17	1386+06.00	22.0	207.8	508.0									508.0		203.6			Mainline
"	NB	1383+98.17	1386+06.00	Varies	207.8			462.6							462.6		172.9			Return #1-NE Quad. Of Intersection
"	SB	1383+98.17	1385+36.60	Varies	138.4		398.8								398.8		151.7			Return #2-NW Quad. Of Intersection
"	SB	1281+54.45	1283+59.24	Varies	204.8			456.8							456.8		170.8			Return #3-SW Quad. Of Intersection
"	NB	1282+22.45	1283+59.24	Varies	136.8		402.0								402.0		152.6			Return #4-SE Quad. Of Intersection
Co. Rd. R-63																				
R-63	NB & SB	3388+60.00	3390+88.93	22.0	228.9	559.6									559.6		224.3			Mainline
"	NB & SB	3391+34.46	3393+05.00	22.0	170.5	416.9									416.9		167.1			Mainline
"	NB	3391+34.46	3393+02.01	Varies	167.5			364.3							364.3		137.2			Return #1-NE Quad. Of Intersection
"	SB	3391+34.46	3392+50.13	Varies	115.7		372.1								372.1		142.7			Return #2-NW Quad. Of Intersection
"	SB	3389+14.04	3390+88.93	Varies	174.9			442.6							442.6		162.7			Return #3-SW Quad. Of Intersection
"	NB	3389+77.13	3390+88.93	Varies	111.8		278.1								278.1		109.3			Return #4-SE Quad. Of Intersection
Y Street																				
Y Street	NB & SB	4414+15.00	4417+25.21	25.0	310.2	861.7									861.7		336.6			Mainline
"	NB & SB	4417+64.32	4422+60.00	31.0	495.7	1707.3									1707.3		641.9			Mainline
"	NB	4417+64.32	4419+15.98	Varies	151.7			232.6							232.6		97.7			Return #1-NE Quad. Of Intersection
"	SB	4417+64.32	4418+93.99	Varies	129.7		256.9								256.9		106.8			Return #2-NW Quad. Of Intersection
"	SB	4415+71.91	4417+25.21	Varies	153.3			201.7							201.7		85.8			Return #3-SW Quad. Of Intersection
"	NB	4416+01.51	4417+25.21	Varies	123.7		227.7								227.7		93.8			Return #4-SE Quad. Of Intersection
														Totals=	86957.9		23197.3	10120.7	60553.4	

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

Location					Quantities																		
Road Identification	(1) Direction Of Traffic	Station to Station		Side	(P) Width	(G) Width	(L) Length	Class 13 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)	
Ia 92	WB	256+50.00	257+70.00	Lt	4.0	2 to 4	120.0		23.2	19.4	1.4	53.3		51.0	42.5	56.3	46.9		15.0	12.5	1.2	47.3	47.3	
"	EB	256+50.00	257+70.00	Rt	4.0	2 to 4	120.0		23.2	19.4	1.4	53.3		51.0	42.5	56.3	46.9		15.0	12.5	1.2	47.3	48.0	
"	WB	257+70.00	281+93.58	Lt	8.0		2423.6		936.5	38.6	56.2	2154.3		1302.9	53.8	1448.8	59.8				24.2	1578.0	1585.2	
"	EB	257+70.00	279+39.00	Rt	8.0		2169.0		838.2	38.6	50.3	1928.0		1166.1	53.8	1296.6	59.8				21.7	1654.1	1660.5	
"	WB	282+00.68	282+79.35	Lt	0 to 6		78.7		11.4	14.5	0.7	26.2		10.2	13.0	12.3	15.6				0.8	17.6	17.6	
"	WB	282+79.35	283+22.95	Lt	6.0		43.6		12.6	29.0	0.8	29.1		16.3	37.5	18.3	41.9				0.4	17.6	17.6	portion of R-5
"	EB	279+59.00	280+39.00	Rt	0 to 6		80.0		11.6	14.5	0.7	26.7		10.4	13.0	12.5	15.6				0.8	43.5	44.0	
"	EB	280+39.00	283+15.78	Rt	6.0		276.8		80.3	29.0	4.8	184.5		103.7	37.5	115.9	41.9				2.8	142.8	145.4	portion of R-5
"	EB	284+18.63	284+73.04	Rt	6.0		54.4		15.8	29.0	0.9	36.3		20.4	37.5	22.8	41.9				0.5	29.0	29.2	
"	EB	284+73.04	285+36.35	RT	6.0	0.0	63.3		9.2	14.5	0.6	21.1		8.2	13.0	9.9	15.6				0.6	25.3	26.0	
"	WB	284+27.41	290+88.00	Lt	6.0		660.6		191.6	29.0	11.5	440.4		247.4	37.5	276.5	41.9				6.6	282.6	285.0	
"	WB	290+88.00	291+55.36	Lt	6 to 1.5		67.4		13.0	19.4	0.8	28.1		14.2	21.1	16.7	24.8				0.7	28.1	28.3	
"	EB	285+48.62	386+70.00	Rt	8.0		10121.4		3911.2	38.6	234.7	8996.8		5441.3	53.8	6050.6	59.8				101.2	4693.3	4704.6	
"	WB	292+08.00	389+14.00	Lt	8.0		9706.0		3750.6	38.6	225.0	8627.6		5217.9	53.8	5802.2	59.8				97.1	4497.1	4511.5	
"	EB	386+89.70	387+70.00	Rt	0 to 6		80.3		11.6	14.5	0.7	26.8		10.4	13.0	12.5	15.6				0.8	33.5	33.8	
"	EB	387+70.00	390+48.62	Rt	6.0		278.6		80.8	29.0	4.8	185.7		104.3	37.5	116.6	41.9				2.8	113.8	114.6	portion of R-6
"	WB	389+58.41	390+13.50	Lt	0 to 6		55.1		8.0	14.5	0.5	18.4		7.1	13.0	8.6	15.6				0.6	22.0	20.7	
"	WB	390+13.50	390+71.72	Lt	6.0		58.2		16.9	29.0	1.0	38.8		21.8	37.5	24.4	41.9				0.6	24.3	24.4	portion of R-6
Co. Rd. R-57																								
R-57	NB	1280+60.00	1283+25.78	Rt		6.0	265.8												125.6	47.3	2.7			
"	NB	1384+34.94	1386+06.00	Rt		6.0	171.1												80.8	47.3	1.7			
"	SB	1280+60.00	1283+22.61	Lt		6.0	262.6												124.1	47.3	2.6			
"	SB	1384+35.03	1386+06.00	Lt		6.0	171.0												80.8	47.3	1.7			
Co. Rd. R-63																								
R-63	NB	3388+60.00	3390+53.08	Rt		6.0	193.1												91.2	47.3	1.9			
"	NB	3391+77.07	3393+05.00	Rt		6.0	127.9												60.4	47.3	1.3			
"	SB	3388+60.00	3390+50.73	Lt		6.0	190.7												90.1	47.3	1.9			
"	SB	3391+83.39	3393+05.00	Lt		6.0	121.6												57.5	47.3	1.2			

PROPOSED SUBGRADE TREATMENT

(For Additional Details see Soils Survey Sheet No. to .)

No.	Location		Description					Type		Quantity		Polymer Grid	Available From		Remarks
	Begin Station	End Station	Side	Type	Depth	Width	Area	Material	Shrink %				Quantity	Location or Station to Station	
					FT	FT	SF			CY	TON	SY	CY		
1	+00.00	+00.00			2.5	32.0	0.0	MODIFIED SUBBASE (SEE ART. 4132)	10.00%	0.0	0.000				

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using Reinforced Concrete 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	(1) (2) PR	(2) SR	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	
270+56.00	Lt	Jt. C				30.0		15.0		18.0	76.0	47.0	41.2	2			29.400	ENT270
	99' LT	ENT269				14.0		15.0		18.0	46.0	34.4	23.8	2			163.000	ENT269 - Jt. w/ENT270
270+56.00	RT	Jt. C				30.0		15.0		18.0	133.9	63.6	82.5	2			70.000	
276+46.00	Lt	Jt. C				24.0		15.0		18.0	111.6	55.2	68.6	2			54.120	ENT275 & ENT276
291+80.00	Lt	C				20.0		15.0		18.0	62.0	34.2	40.0	2			22.800	
291+80.00	Rt	C				20.0		15.0		18.0	74.0	48.0	38.2	2			36.800	
297+08.00	Lt	C				30.0		15.0		18.0	60.0	37.9	34.3	2			21.080	
297+08.00	Rt	Jt. C				30.0		15.0		18.0	91.9	44.4	59.9	2			58.400	ENT298
	95' Rt	ENT297				12.0		-		18.0	18.0	12.4	17.8	2			24.000	ENT297 - Jt. w/ENT298
305+31.00	Rt	C				20.0		15.0		18.0	68.0	48.7	31.5	2			25.600	
315+00.00	Rt	C				24.0		15.0									140.000	
324+07.61	Lt	C				24.0		15.0		18.0	80.0	40.5	51.7	2			29.000	
324+07.61	Rt	C				24.0		20.0								155.9		6" PCC Driveway
334+27.00	Rt	C				24.0		15.0		18.0	82.0	42.4	51.8	2			37.760	
341+03.00	Lt	Jt. C				35.0		15.0									44.200	
341+03.00	Rt	C				24.0		15.0		36.0	86.0	50.1	48.1	2			203.160	
352+40.00	Lt	C				24.0		15.0									53.520	
352+40.00	Rt	C				24.0		15.0		18.0	50.0	32.7	29.5	2			19.680	
359+18.00	Lt	C				24.0		15.0		18.0	72.0	44.3	39.8	2		516.7		8" PCC Driveway
365+37.00	Lt	B				30.0		15.0		18.0	86.0	49.9	48.3	2			88.800	
365+37.00	Rt	C				24.0		15.0		18.0	80.0	43.4	48.8	2			47.870	
375+45.00	Lt	C				24.0		15.0		18.0	72.0	40.5	43.7	2			25.200	
375+45.00	Rt	C				24.0		15.0		18.0	105.9	61.6	56.5	2			39.200	
398+16.98	Lt	B				37.0	12.0									228.5		
407+00.00	**Lt**					**X**												
407+00.00	**Rt**					**X**												
419+80.63*	Lt	B	2	155.3		70.0										151.9	80.000	*4" Granular Surface at 140 pcf Back of sw
423+11.51**	**Lt**	**Jt. B**	**2**	**203.5**		**70.0**										**1044.4**		****10' PCC Pavement w/12" Modified Subbase**
425+99.40	Lt	B	1	42.0		24.0										162.1		
427+53.90	Lt	B	1	42.0		24.0										144.9		
429+54.16	Lt	B	1	50.0		32.0										181.6		
430+78.41	Rt	B	1	42.0		24.0										151.7		
431+96.41	LT	B	1	43.0		25.0										114.1		
433+46.06	Lt	B	1	44.5		26.5										78.3		
433+46.06	Rt	B	1	42.0		24.0										138.3		
438+08.06	Lt	B	1	42.0		24.0										71.7		

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using Reinforced Concrete 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	(1) (2) PR	(2) SR	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	
440+48.56	Rt	B	1	42.4		24.0										70.8		
442+23.75	Rt	B	1	63.5		51.3										157.7		
446+48.51	**Rt**	**B**	**1**	**62.0**		**44.0**										**164.4**		
446+56.51	Lt	B	1	41.0		35.0										196.7		
447+68.44	Rt	B	1	63.0		33.0										115.0		
448+17.01	Lt	B	1	36.0		30.0										168.9		
448+54.51	Rt	B	1	51.0		33.0										115.0		
449+42.01	Lt	B	1	44.0		38.0										150.0		
448+76.10	Lt	B	1	38.0		24.0										72.4		Driveway width measured at back of walk
460+15.20	Lt	B	1	38.0		24.0										85.9		Driveway width measured at back of walk
461+34.29	Lt	B	1	38.0		24.0										66.2		Driveway width measured at back of walk
KENNEDY ST.																		
1257+10.00	Rt	C				20.0		15.0									83.200	ENT1257
ACCESS 258																		
1259+82.50	Lt	Jt. C				12.0				24.0	87.0	41.8	57.4	2			139.400	ENT258A
1259+82.50	Lt	Jt. C				10.0											63.800	ENT258B
1260+80.00	Lt	C				20.0		20.0									12.000	ENT258C
1261+20.00	CL	C				12.0											46.000	ENT258D
Co. Rd. R-57																		
1281+92.00	Lt	C				20.0		15.0		18.0	X	X	X	2			16.680	
1281+92.00	Rt	C				20.0		15.0		18.0	X	X	X	2			19.240	
1386+92.00	Rt	C				24.0		15.0		18.0	X	X	X	2			31.520	
90th AVE																		
2306+07.14	Rt	C				24.0		15.0		18.0	69.0	46.3	34.9	2			10.400	
2307+80.00	Rt	C								18.0	X	X	X	2			17.200	
2313+08.00	Rt	C				20.0		15.0		18.0	x	x	x	2			12.000	
Co. Rd. R-63																		
3388+79.00	Lt	C				24.0		15.0		18.0	50.0	36.2	26.0	2			16.480	

Totals =	
18"	1488.0
24"	87.0
36"	86.0
18" Ap	52.0
24" Ap	2.0
36" Ap	2.0

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
SLW4: Solid Lane Line (White) @ 1.00
CHY8: Channelizing Line (Yellow) @ 2.00
SPW6: Sloped Curb 6" (White) @ 3.40
SLW2: Stop Line (White) @ 6.00
CLW6: Crosswalk Line (White) @ 3.00

Location								Length by Line Type (Unfactored)													Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	SLW4	CHY8	SPW6	SLW2	CLW6				
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
ML 92	281+19.00	282+94.00	EB	Waterborne/Solvent Paint		X								1.75							
ML 92	281+19.00	282+94.00	EB	Waterborne/Solvent Paint		X								1.75							
ML 92	281+44.00	282+94.10	EB	Waterborne/Solvent Paint		X								1.50							
ML 92	284+48.00	289+38.00	WB	Waterborne/Solvent Paint		X								4.90							
ML 92	284+48.00	289+38.00	WB	Waterborne/Solvent Paint		X								4.90							
ML 92	284+48.00	285+98.00	WB	Waterborne/Solvent Paint		X								1.50							
ML 92	388+50.00	390+25.00	EB	Waterborne/Solvent Paint		X								1.75							
ML 92	388+75.00	390+25.00	EB	Waterborne/Solvent Paint		X								1.50							
ML 92	388+50.00	390+25.00	EB	Waterborne/Solvent Paint		X								1.75							
ML 92	391+79.93	396+69.88	WB	Waterborne/Solvent Paint		X								4.90							
ML 92	391+79.93	416+48.80	WB	Waterborne/Solvent Paint		X								24.69							
ML 92	391+79.93	393+29.11	WB	Waterborne/Solvent Paint		X								1.49							
ML 92	256+50.00	258+12.30	EB	Waterborne/Solvent Paint			X					1.62									
ML 92	256+50.00	258+45.63	WB	Waterborne/Solvent Paint			X					1.96									
ML 92	259+37.19	282+74.15	EB	Waterborne/Solvent Paint			X					23.37									
ML 92	259+30.97	282+80.60	WB	Waterborne/Solvent Paint			X					23.50									
ML 92	284+80.48	309+66.63	EB	Waterborne/Solvent Paint			X					24.86									
ML 92	284+96.44	309+65.39	WB	Waterborne/Solvent Paint			X					24.69									
ML 92	310+89.64	390+05.86	EB	Waterborne/Solvent Paint			X					79.16									
ML 92	310+92.58	389+14.00	WB	Waterborne/Solvent Paint			X					78.12									
ML 92	256+50.02	271+47.79	BOTH	Waterborne/Solvent Paint		X		14.98													
ML 92	301+54.21	378+79.00	BOTH	Waterborne/Solvent Paint		X		77.25													
ML 92	393+29.30	416+49.10	BOTH	Waterborne/Solvent Paint		X		46.40													
ML 92	418+14.39	441+09.70	BOTH	Waterborne/Solvent Paint		X		45.90													
ML 92	442+28.00	443+59.50	BOTH	Waterborne/Solvent Paint		X		2.64													
ML 92	444+04.80	451+71.70	BOTH	Waterborne/Solvent Paint		X		15.34													
ML 92	452+08.26	454+19.76	BOTH	Waterborne/Solvent Paint		X		4.24													
ML 92	454+73.40	455+56.76	BOTH	Waterborne/Solvent Paint		X		1.66													
ML 92	455+77.29	462+10.80	BOTH	Waterborne/Solvent Paint		X		12.68													
ML 92	462+37.36	465+01.02	BOTH	Waterborne/Solvent Paint		X		5.28													
ML 92	265+45.59	271+47.79	BOTH	Waterborne/Solvent Paint		X				6.02											
ML 92	301+54.21	307+54.21	BOTH	Waterborne/Solvent Paint		X				6.00											
ML 92	372+78.79	378+79.00	BOTH	Waterborne/Solvent Paint		X				6.00											
ML 92	393+29.30	416+49.10	BOTH	Waterborne/Solvent Paint		X				46.40											
ML 92	418+14.39	441+09.70	BOTH	Waterborne/Solvent Paint		X				45.90											
ML 92	442+28.00	443+59.50	BOTH	Waterborne/Solvent Paint		X				2.64											
ML 92	444+04.80	451+71.70	BOTH	Waterborne/Solvent Paint		X				15.34											
ML 92	452+08.26	454+19.76	BOTH	Waterborne/Solvent Paint		X				4.24											
ML 92	454+73.40	455+56.76	BOTH	Waterborne/Solvent Paint		X				1.66											
ML 92	455+77.29	462+10.80	BOTH	Waterborne/Solvent Paint		X				12.68											
ML 92	462+37.36	465+01.02	BOTH	Waterborne/Solvent Paint		X				5.28											
ML 92	391+79.93	393+29.93	BOTH	Waterborne/Solvent Paint		X			1.50												
ML 92	271+47.79	282+94.00	BOTH	Waterborne/Solvent Paint		X									27.21						
ML 92	284+48.00	301+54.00	BOTH	Waterborne/Solvent Paint		X									43.32						
ML 92	378+78.90	390+25.00	BOTH	Waterborne/Solvent Paint		X									22.99						
SR57N	1384+10.19	1384+19.97	NB	Waterborne/Solvent Paint		X										0.80					
SR57N	1384+10.00	1384+19.41	NB	Waterborne/Solvent Paint		X											0.50				
SR57N	1384+08.94	1384+88.15	BOTH	Waterborne/Solvent Paint			X					4.43									
SR57N	1384+10.17	1386+05.99	BOTH	Waterborne/Solvent Paint		X		1.96													
SR57N	1384+10.17	1386+05.99	BOTH	Waterborne/Solvent Paint		X				1.96											
SR57S	1283+36.54	1283+46.92	SB	Waterborne/Solvent Paint		X										0.86					
SR57S	1283+47.59	1283+47.83	SB	Waterborne/Solvent Paint		X											0.48				
SR57S	1282+79.99	1283+36.28	BOTH	Waterborne/Solvent Paint			X					6.25									
SR57S	1280+67.27	1283+47.21	BOTH	Waterborne/Solvent Paint		X		2.90													
SR57S	1280+67.27	1283+47.21		Waterborne/Solvent Paint		X				2.90											
SR63N	3391+47.22		NB	Waterborne/Solvent Paint		X											0.58				
SR63N	3391+50.00	3391+93.70	BOTH	Waterborne/Solvent Paint			X					3.85									
SR63N	3391+47.22	3393+05.00	BOTH	Waterborne/Solvent Paint		X		1.58													
SR63N	3391+47.22	3393+05.00	BOTH	Waterborne/Solvent Paint		X				1.58											
SR63N	3391+67.03		BOTH	Waterborne/Solvent Paint																	
SR63S	3390+64.80		SB	Waterborne/Solvent Paint		X											0.55				
SR63S	3390+26.10	3390+75.42	BOTH	Waterborne/Solvent Paint			X					4.99									
SR63S	3388+60.00	3390+74.87	BOTH	Waterborne/Solvent Paint		X		2.15													
SR63S	3388+60.00	3390+74.87	BOTH	Waterborne/Solvent Paint		X				2.15											
SR63S	3390+66.00																				
SRYSTN	4417+80.11	4422+60.14	BOTH	Waterborne/Solvent Paint		X		4.80													

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
SLW4: Solid Lane Line (White) @ 1.00
CHY8: Channelizing Line (Yellow) @ 2.00
SPW6: Sloped Curb 6" (White) @ 3.40
SLW2: Stop Line (White) @ 6.00
CLW6: Crosswalk Line (White) @ 3.00

Location								Length by Line Type (Unfactored)													Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	SLW4	CHY8	SPW6	SLW2	CLW6					
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
SRYSTN	4417+80.11	4422+60.14	BOTH	Waterborne/Solvent Paint		X				4.80													
SRYSTN	4417+80.00	4417+88.22	BOTH	Waterborne/Solvent Paint		X											0.39						
SRYSTS	4417+04.47	4417+13.41	BOTH	Waterborne/Solvent Paint		X											0.52						
SRYSTS	4414+15.00	4417+13.31	BOTH	Waterborne/Solvent Paint		X		2.98															
SRYSTS	4414+15.00	4417+13.31	BOTH	Waterborne/Solvent Paint		X				2.98													
				Factored Total: Waterborne/Solvent Paint				60.69	3.00	210.66	-	276.80	-	52.38	187.04	5.64	18.12	-	-	-	-	-	
				Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							814.33												

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Road Identification	Location		STAW	RTAW	LTAW	CSRW	CSLW	CSTW	CRLW	FERW	LLRW	RLRW	RRCW	BLSW	WCSW	WPSB	SCLW	XNGW	STPW	AHDW	ONLW	BIKW	LANW	XITW	Remarks
	Station	Side											R R				SCHOOL	XING	STOP	AHEAD	ONLY	BIKE	LANE	EXIT	
ML 92	282+65.03				1																1				
ML 92	281+90.07				1																				
ML 92	284+76.14				1																1				
ML 92	285+51.14				1																				
ML 92	389+96.92				1																1				
ML 92	389+21.36				1																				
ML 92	392+10.86				1																1				
ML 92	392+85.95				1																				
ML 92	393+80.54				1																				
ML 92	393+54.59				1																				
ML 92	398+30.54				1																				
ML 92	398+04.59				1																				
ML 92	402+54.59				1																				
ML 92	402+80.54				1																				
ML 92	407+01.30				1																				
ML 92	407+27.26				1																				
ML 92	411+51.30				1																				
ML 92	411+77.26				1																				
ML 92	416+11.67				1																				
ML 92	416+37.62				1																				
ML 92	418+30.82				1																				
ML 92	418+56.77				1																				
ML 92	422+80.82				1																				
ML 92	423+06.77				1																				
ML 92	427+29.55				1																				
ML 92	427+55.51				1																				
ML 92	431+79.55				1																				
ML 92	432+05.51				1																				
ML 92	436+68.92				1																				
ML 92	436+42.96				1																				
ML 92	442+79.09				1																				
ML 92	443+05.04				1																				
ML 92	440+66.41				1																				
ML 92	440+92.18				1																				
ML 92	441+65.74				1																				
ML 92	441+91.51				1																				
ML 92	444+29.09				1																				
ML 92	444+55.04				1																				
ML 92	448+81.76				1																				
ML 92	449+07.75				1																				
ML 92	451+22.31				1																				
ML 92	451+48.28				1																				
ML 92	452+32.03				1																				

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Road Identification	Location																						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	
ML 92	452+58.02				1																				
ML 92	453+82.34				1																				
ML 92	454+08.32				1																				
ML 92	454+97.23				1																				
ML 92	455+23.18				1																				
ML 92	455+96.66				1																				
ML 92	456+22.62				1																				
ML 92	460+36.69				1																				
ML 92	460+62.65				1																				
ML 92	461+65.41				1																				
ML 92	461+91.36				1																				
ML 92	462+52.10				1																				
ML 92	462+78.06				1																				
ML 92	386+62.72													1											
ML 92	388+49.83													1											
ML 92	286+99.84													1											
ML 92	292+22.54													1											
ML 92	279+20.12													1											
ML 92	281+90.05													1											
ML 92	282+65.33		1	1																					
ML 92	284+75.91		1	1																					
ML 92	389+97.59		1	1																					
ML 92	392+10.49		1	1																					

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

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

Drainage Area	Location	Type	Size	Kind Of Pipe (1)	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. Total		Dimensions Lin. Ft. Extensions		Skew Ahead Degrees		Dike Rt.	Dike Location Station	Dike Top Elevation	Dike Type	Class 20	Flowable Mortar	Floodable* Backfill (A)	Porous* Backfill (B)	Flooded Backfill (A+B)	Remarks
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	CY	CY	CY	
4.4	277+75.00	1101	24	RCP	166	lass	10.1'		1	1											956.16	965.80			111.6	66.4									290.1	0.0	205.9	13.5	219.4	
21.0	292+75.00	1101	36	RCP	118	B	4.0'		1	1											961.55	957.85			66.7	67.3									159.4	23.8	164.0	12.4	176.5	
16.0	307+75.00	1101	30	RCP	146	B	8.8'		1	1											968.21	964.34			73.1	85.2				20					174.6	0.0	188.7	13.0	201.7	
3.0	2310+85.00	1101	24	RCP	54	B	1.8'		1	1											970.16	970.96			32.3	33.9			6											90th Ave.
6.0	315+86.80	1101	24	RCP	136	B	7.3'		1	1											970.77	965.60			64.4	83.8				19					170.1	0.0	163.8	11.3	175.1	
8.4	329+85.00	1101	24	RCP	136	B	8.4'		1	1											953.31	944.65			58.2	87.8									166.0	0.0	155.4	11.0	166.4	
17.0	332+95.00	1101	30	RCP	158	B	10.1'		1	1											950.07	940.00			68.3	101.7			11						167.0	0.0	185.1	13.8	198.9	
4.0	342+14.00	1101	24	RCP	136	B	7.6'		1	1											969.19	963.86			61.7	86.4			9						666.7	0.0	156.6	11.2	167.7	
5.0	358+05.00	1101	24	RCP	104	B	4.9'		1	1											966.75	964.88			54.9	61.4									161.8	0.0	99.9	8.8	108.7	
9.0	379+74.00	1101	24	RCP	120	B	6.2'		1	1											967.25	962.58			58.3	73.8			6						128.3	0.0	150.7	9.9	160.7	
7.0	391+07.00	1101	24	RCP	196	B	4.1'		1	1											966.73	963.79			110.9	97.4				37										
3.0	3392+20.00	1101	24	RCP	76	B	2.0'		1	1											966.80	967.40			40.1	48.2														Co.Rd.R-63

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.

Signature Date

Printed or Typed Name
My license renewal date is December 31, 20 ___

Pages or sheets covered by this seal: _____

104-5C
04-17-12

LIST OF SUBDRAIN WORK

Refer to Standard Road Plans RF-3, RF-5, RF-14, RF-19A, RF-19B, RF-19C, RF-19E and RF-19F

* Not a bid item

Location			Pipe			Aprons		Outlets		Connected Pipe Joints (RF-14)*	Trench Drain	Granular Material	Porous Backfill*	Class "A" Crushed Stone*	Remarks
No.	Station to Station	Type of Installation	Concrete C.M.P., C.M.P. Coated, or Plastic	Dia.	Length	RF-3	RF-5	RF-19E	RF-19F			Blanket			
1	307+40.42	307+99.32	Working Blanket									31.0			1.0 ft. Granular Working Blanket in drainageway
2	329+71.02	329+89.57	Working Blanket									28.0			1.0 ft. Granular Working Blanket in drainageway
3	332+71.85	332+94.04	Working Blanket									24.0			1.0 ft. Granular Working Blanket in drainageway
4	341+29.65	342+54.51	Working Blanket									93.0			1.0 ft. Granular Working Blanket in drainageway
5	379+47.27	380+14.69	Working Blanket									44.0			1.0 ft. Granular Working Blanket in drainageway
6	394+86.07	395+46.91	Working Blanket									40.0			1.0 ft. Granular Working Blanket in drainageway
7	436+38.29	436+57.06	Working Blanket									30.0			1.0 ft. Granular Working Blanket in drainageway
												290.0			Total

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 Class 10 fill placed in all locations and depths. Stability berms placed outside the normal foreslope template and topsoil will not require Moisture Control.

Proposed Subgrade Treatment will consist of:
STA 256+50.00 to STA 390+00.00: 6" layer of Special Backfill over Geogrid, under Pavement Design's Granular Subbase drainage layer

STA 390+00.00 to STA 443+18.01: 12" Modified Subbase

STA 443+18.01 to STA 463+50.00: Special Backfill

Paved Sideroads: Special Backfill

107-31
04-19-11

PLOWING AND SHAPING

Refer to Standard Road Plan EW-101

Station to Station		D	Remarks
		FT	
264+50	281+50	5.0	
297+50	303+00	5.0	
305+00	309+50	5.0	
315+00	323+00	5.0	
331+00	339+00	5.0	
371+50	384+75	5.0	
3390+25	3390+75	5.0	SR 63S

103-7
08-01-08

SHRINKAGE DATA

Material	%	Remarks
Topsoil	40%	
Class 10	30%	
Unsuitable	30%	
Boulder Estimate		200 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					Depth	Longitudinal Subdrain (RF-19C)							Subdrain Outlet			Porous* Backfill	Class "A"* Crushed Stone	Remarks
						Shoulder		Backslope		Bridge Berm (1)			RF-19C, RF-19E, or RF-19F					
Line No.	Road or Lane Ident.	Station to Station		Side	D	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	IA 92	256+50.00	260+00.00	RT	42.0	4.0	390.0						256+50.00	6.0	RF-19E	36.1		
													260+00.00	6.0	RF-19E		0.2	
2	IA 92	260+00.00	265+00.00	RT	42.0	4.0	540.0						260+00.00	6.0	RF-19E	50.0		
													265+00.00	6.0	RF-19E		0.2	
3	IA 92	265+00.00	270+00.00	RT	42.0	4.0	540.0						265+00.00	6.0	RF-19E	50.0		
													270+00.00	6.0	RF-19E		0.2	
4	IA 92	270+00.00	275+00.00	RT	42.0	4.0	540.0						270+00.00	6.0	RF-19E	50.0		
													275+00.00	6.0	RF-19E		0.2	
5	IA 92	275+00.00	279+39.00	RT	42.0	4.0	479.0						275+00.00	6.0	RF-19E	44.4		
													279+39.00	6.0	RF-19E		0.2	
6	IA 92	279+39.00	283+30.00	RT	42.0	4.0	451.0						279+39.00	6.0	RF-19E	41.8		
													283+30.00	6.0	RF-19E		0.2	OUTLET ALONG TURN RADIUS
7	IA 92	284+15.00	285+45.00	RT	42.0	4.0	190.0						284+15.00	6.0	RF-19E	17.6		OUTLET ALONG TURN RADIUS
													285+45.00	6.0	RF-19E		0.2	
8	IA 92	285+45.00	289+00.00	RT	42.0	4.0	395.0						285+45.00	6.0	RF-19E	36.6		
													289+00.00	6.0	RF-19E		0.2	
9	IA 92	289+00.00	292+00.00	RT	42.0	4.0	340.0						289+00.00	6.0	RF-19E	31.5		
													292+00.00	6.0	RF-19E		0.2	
10	IA 92	292+00.00	295+00.00	RT	42.0	4.0	340.0						292+00.00	6.0	RF-19E	31.5		
													295+00.00	6.0	RF-19E		0.2	
11	IA 92	295+00.00	300+00.00	RT	42.0	4.0	540.0						295+00.00	6.0	RF-19E	50.0		
													300+00.00	6.0	RF-19E		0.2	
12	IA 92	300+00.00	305+00.00	RT	42.0	4.0	540.0						300+00.00	6.0	RF-19E	50.0		
													305+00.00	6.0	RF-19E		0.2	
13	IA 92	305+00.00	311+25.00	RT	42.0	4.0	665.0						305+00.00	6.0	RF-19E	61.6		
													311+25.00	6.0	RF-19E		0.2	
14	IA 92	311+25.00	315+00.00	RT	42.0	4.0	415.0						311+25.00	6.0	RF-19E	38.4		
													315+00.00	6.0	RF-19E		0.2	

GEOTECHNICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
Robert L. Stanley
08468
IOWA

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

Robert Stanley — Signature
7-19-13 — Date

Robert L. Stanley
Printed or Typed Name

My license renewal date is December 31, 2014

Pages or sheets covered by this seal: CS.1-CS.5, Q.1-Q.32

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	
15	IA 92	315+00.00	320+00.00	RT	42.0	4.0	540.0						315+00.00	6.0	RF-19E	50.0		
													320+00.00	6.0	RF-19E		0.2	
16	IA 92	320+00.00	325+00.00	RT	42.0	4.0	540.0						320+00.00	6.0	RF-19E	50.0		
													325+00.00	6.0	RF-19E		0.2	
17	IA 92	325+00.00	329+00.00	RT	42.0	4.0	440.0						325+00.00	6.0	RF-19E	40.7		
													329+00.00	6.0	RF-19E		0.2	
18	IA 92	329+00.00	331+75.00	RT	42.0	4.0	315.0						329+00.00	6.0	RF-19E	29.2		
													331+75.00	6.0	RF-19E		0.2	
19	IA 92	331+75.00	335+00.00	RT	42.0	4.0	365.0						331+75.00	6.0	RF-19E	33.8		
													335+00.00	6.0	RF-19E		0.2	
20	IA 92	335+00.00	340+00.00	RT	42.0	4.0	540.0						335+00.00	6.0	RF-19E	50.0		
													340+00.00	6.0	RF-19E		0.2	
21	IA 92	340+00.00	345+00.00	RT	42.0	4.0	540.0						340+00.00	6.0	RF-19E	50.0		
													345+00.00	6.0	RF-19E		0.2	
22	IA 92	345+00.00	350+50.00	RT	42.0	4.0	590.0						345+00.00	6.0	RF-19E	54.6		
													350+50.00	6.0	RF-19E		0.2	
23	IA 92	350+50.00	356+75.00	RT	42.0	4.0	665.0						350+50.00	6.0	RF-19E	61.6		
													356+75.00	6.0	RF-19E		0.2	
24	IA 92	356+75.00	361+00.00	RT	42.0	4.0	465.0						356+75.00	6.0	RF-19E	43.1		
													361+00.00	6.0	RF-19E		0.2	
25	IA 92	361+00.00	365+00.00	RT	42.0	4.0	440.0						361+00.00	6.0	RF-19E	40.7		
													365+00.00	6.0	RF-19E		0.2	
26	IA 92	365+00.00	370+00.00	RT	42.0	4.0	540.0						365+00.00	6.0	RF-19E	50.0		
													370+00.00	6.0	RF-19E		0.2	
27	IA 92	370+00.00	375+00.00	RT	42.0	4.0	540.0						370+00.00	6.0	RF-19E	50.0		
													375+00.00	6.0	RF-19E		0.2	
28	IA 92	375+00.00	380+00.00	RT	42.0	4.0	540.0						375+00.00	6.0	RF-19E	50.0		
													380+00.00	6.0	RF-19E		0.2	
29	IA 92	380+00.00	386+70.00	RT	42.0	4.0	710.0						380+00.00	6.0	RF-19E	65.7		
													386+70.00	6.0	RF-19E		0.2	
30	IA 92	386+70.00	390+55.00	RT	42.0	4.0	445.0						386+70.00	6.0	RF-19E	41.2		
													390+55.00	6.0	RF-19E		0.2	OUTLET ALONG TURN RADIUS
31	IA 92	391+33.00	392+75.00	RT	24.0	4.0	184.0						391+33.00	6.0	RF-19E	8.5		OUTLET ALONG TURN RADIUS
													392+75.00	6.0	RF-19C		0.1	INTAKE #2
32	IA 92	392+75.00	393+50.00	RT	24.0	4.0	79.0						392+75.00	6.0	RF-19C	3.7		INTAKE #2
													393+50.00	6.0	RF-19C		0.0	INTAKE #6
33	IA 92	393+50.00	393+90.00	RT	24.0	4.0	44.0						393+50.00	6.0	RF-19C	2.0		INTAKE #6
													393+90.00	6.0	RF-19C		0.0	INTAKE #10
34	IA 92	393+90.00	394+30.00	RT	24.0	4.0	44.0						393+90.00	6.0	RF-19C	2.0		INTAKE #10
													394+30.00	6.0	RF-19C		0.0	INTAKE #14
35	IA 92	394+30.00	395+40.00	RT	24.0	4.0	114.0						394+30.00	6.0	RF-19C	5.3		INTAKE #14
													395+40.00	6.0	RF-19C		0.0	INTAKE #164
36	IA 92	395+40.00	396+90.00	RT	24.0	4.0	154.0						395+40.00	6.0	RF-19C	7.1		INTAKE #164
													396+90.00	6.0	RF-19C		0.0	INTAKE #166
37	IA 92	396+90.00	399+50.00	RT	24.0	4.0	264.0						396+90.00	6.0	RF-19C	12.2		INTAKE #166
													399+50.00	6.0	RF-19C		0.0	INTAKE #174
38	IA 92	399+50.00	401+00.00	RT	24.0	4.0	154.0						399+50.00	6.0	RF-19C	7.1		INTAKE #174
													401+00.00	6.0	RF-19C		0.0	INTAKE #184
39	IA 92	401+00.00	404+10.00	RT	24.0	4.0	314.0						401+00.00	6.0	RF-19C	14.5		INTAKE #184
													404+10.00	6.0	RF-19C		0.0	INTAKE #206
40	IA 92	404+10.00	406+00.00	RT	24.0	4.0	194.0						404+10.00	6.0	RF-19C	9.0		INTAKE #206
													406+00.00	6.0	RF-19C		0.0	INTAKE #216
41	IA 92	406+00.00	407+80.00	RT	24.0	4.0	184.0						406+00.00	6.0	RF-19C	8.5		INTAKE #216
													407+80.00	6.0	RF-19C		0.0	INTAKE #220
42	IA 92	407+80.00	409+50.00	RT	24.0	4.0	174.0						407+80.00	6.0	RF-19C	8.1		INTAKE #220
													409+50.00	6.0	RF-19C		0.0	INTAKE #226
43	IA 92	409+50.00	411+25.00	RT	24.0	4.0	179.0						409+50.00	6.0	RF-19C	8.3		INTAKE #226
													411+25.00	6.0	RF-19C		0.0	INTAKE #236
44	IA 92	411+25.00	413+10.00	RT	24.0	4.0	189.0						411+25.00	6.0	RF-19C	8.8		INTAKE #236
													413+10.00	6.0	RF-19C		0.0	INTAKE #260
45	IA 92	413+10.00	414+15.00	RT	24.0	4.0	109.0						413+10.00	6.0	RF-19C	5.0		INTAKE #260
													414+15.00	6.0	RF-19C		0.0	INTAKE #270
46	IA 92	414+15.00	415+50.00	RT	24.0	4.0	139.0						414+15.00	6.0	RF-19C	6.4		INTAKE #270
													415+50.00	6.0	RF-19C		0.0	INTAKE #302
47	IA 92	415+50.00	416+25.00	RT	24.0	4.0	79.0						415+50.00	6.0	RF-19C	3.7		INTAKE #302
													416+25.00	6.0	RF-19C		0.0	INTAKE #304
48	IA 92	416+25.00	4416+07.00	RT	24.0	4.0	152.0						416+25.00	6.0	RF-19C	7.0		INTAKE #304
													4416+07.00	6.0	RF-19C		0.0	SIDEROAD INTAKE #11055
49	IA 92	4416+07.00	420+00.00	RT	24.0	4.0	292.0						4416+07.00	6.0	RF-19C	13.5		SIDEROAD INTAKE #11060
													420+00.00	6.0	RF-19C		0.0	INTAKE #328
50	IA 92	420+00.00	421+25.00	RT	24.0	4.0	129.0						420+00.00	6.0	RF-19C	6.0		INTAKE #328
													421+25.00	6.0	RF-19C		0.0	INTAKE #330
51	IA 92	421+25.00	422+50.00	RT	24.0	4.0	129.0						421+25.00	6.0	RF-19C	6.0		INTAKE #330
													422+50.00	6.0	RF-19C		0.0	INTAKE #334
52	IA 92	422+50.00	423+85.00	RT	24.0	4.0	139.0						422+50.00	6.0	RF-19C	6.4		INTAKE #334
													423+85.00	6.0	RF-19C		0.0	INTAKE #336
53	IA 92	423+85.00	425+30.00	RT	24.0	4.0	149.0						423+85.00	6.0	RF-19C	6.9		INTAKE #336

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	
													425+30.00	6.0	RF-19C		0.0	INTAKE #340
54	IA 92	425+30.00	426+35.00	RT	24.0	4.0	109.0						425+30.00	6.0	RF-19C	5.0		INTAKE #340
													426+35.00	6.0	RF-19C		0.0	INTAKE #346
55	IA 92	426+35.00	426+67.00	RT	24.0	4.0	36.0						426+35.00	6.0	RF-19C	1.7		INTAKE #346
													426+67.00	6.0	RF-19C		0.0	INTAKE #350
56	IA 92	426+67.00	426+99.00	RT	24.0	4.0	36.0						426+67.00	6.0	RF-19C	1.7		INTAKE #350
													426+99.00	6.0	RF-19C		0.0	INTAKE #354
57	IA 92	426+99.00	427+90.00	RT	24.0	4.0	95.0						426+99.00	6.0	RF-19C	4.4		INTAKE #354
													427+90.00	6.0	RF-19C		0.0	INTAKE #358
58	IA 92	427+90.00	429+87.00	RT	24.0	4.0	201.0						427+90.00	6.0	RF-19C	9.3		INTAKE #358
													429+87.00	6.0	RF-19C		0.0	INTAKE #360
59	IA 92	429+87.00	431+60.00	RT	24.0	4.0	177.0						429+87.00	6.0	RF-19C	8.2		INTAKE #360
													431+60.00	6.0	RF-19C		0.0	INTAKE #366
60	IA 92	431+60.00	434+80.00	RT	24.0	4.0	324.0						431+60.00	6.0	RF-19C	15.0		INTAKE #366
													434+80.00	6.0	RF-19C		0.0	INTAKE #440
61	IA 92	434+80.00	435+58.00	RT	24.0	4.0	82.0						434+80.00	6.0	RF-19C	3.8		INTAKE #440
													435+58.00	6.0	RF-19C		0.0	INTAKE #446
62	IA 92	435+58.00	436+00.00	RT	24.0	4.0	46.0						435+58.00	6.0	RF-19C	2.1		INTAKE #446
													436+00.00	6.0	RF-19C		0.0	INTAKE #450
63	IA 92	436+00.00	436+45.00	RT	24.0	4.0	49.0						436+00.00	6.0	RF-19C	2.3		INTAKE #450
													436+45.00	6.0	RF-19C		0.0	INTAKE #454
64	IA 92	436+45.00	437+75.00	RT	24.0	4.0	134.0						436+45.00	6.0	RF-19C	6.2		INTAKE #454
													437+75.00	6.0	RF-19C		0.0	INTAKE #456
65	IA 92	437+75.00	439+10.00	RT	24.0	4.0	139.0						437+75.00	6.0	RF-19C	6.4		INTAKE #456
													439+10.00	6.0	RF-19C		0.0	INTAKE #460
66	IA 92	439+10.00	440+80.00	RT	24.0	4.0	174.0						439+10.00	6.0	RF-19C	8.1		INTAKE #460
													440+80.00	6.0	RF-19C		0.0	INTAKE #493
67	IA 92	440+80.00	442+63.00	RT	24.0	4.0	187.0						440+80.00	6.0	RF-19C	8.7		INTAKE #493
													442+63.00	6.0	RF-19C		0.0	INTAKE #497
68	IA 92	442+63.00	444+30.00	RT	24.0	4.0	171.0						442+63.00	6.0	RF-19C	7.9		INTAKE #497
													444+30.00	6.0	RF-19C		0.0	INTAKE #92468
69	IA 92	444+30.00	445+30.00	RT	24.0	4.0	104.0						444+30.00	6.0	RF-19C	4.8		INTAKE #92468
													445+30.00	6.0	RF-19C		0.0	INTAKE #92472
70	IA 92	445+30.00	446+88.00	RT	24.0	4.0	162.0						445+30.00	6.0	RF-19C	7.5		INTAKE #92472
													446+88.00	6.0	RF-19C		0.0	INTAKE #92476
71	IA 92	446+88.00	448+17.00	RT	24.0	4.0	133.0						446+88.00	6.0	RF-19C	6.2		INTAKE #92476
													448+17.00	6.0	RF-19C		0.0	INTAKE #92480
72	IA 92	448+17.00	449+75.00	RT	24.0	4.0	162.0						448+17.00	6.0	RF-19C	7.5		INTAKE #92480
													449+75.00	6.0	RF-19C		0.0	INTAKE #92484
73	IA 92	449+75.00	450+80.00	RT	24.0	4.0	109.0						449+75.00	6.0	RF-19C	5.0		INTAKE #92484
													450+80.00	6.0	RF-19C		0.0	INTAKE #92488
74	IA 92	450+80.00	452+60.00	RT	24.0	4.0	184.0						450+80.00	6.0	RF-19C	8.5		INTAKE #92488
													452+60.00	6.0	RF-19C		0.0	INTAKE #92492
75	IA 92	452+60.00	453+90.00	RT	24.0	4.0	134.0						452+60.00	6.0	RF-19C	6.2		INTAKE #92492
													453+90.00	6.0	RF-19C		0.0	INTAKE #92602
76	IA 92	453+90.00	455+75.00	RT	24.0	4.0	189.0						453+90.00	6.0	RF-19C	8.8		INTAKE #92602
													455+75.00	6.0	RF-19C		0.0	INTAKE #92606
77	IA 92	455+75.00	456+75.00	RT	24.0	4.0	104.0						455+75.00	6.0	RF-19C	4.8		INTAKE #92606
													456+75.00	6.0	RF-19C		0.0	INTAKE #92610
78	IA 92	456+75.00	457+75.00	RT	24.0	4.0	104.0						456+75.00	6.0	RF-19C	4.8		INTAKE #92610
													457+75.00	6.0	RF-19C		0.0	INTAKE #92614
79	IA 92	457+75.00	458+75.00	RT	24.0	4.0	104.0						457+75.00	6.0	RF-19C	4.8		INTAKE #92614
													458+75.00	6.0	RF-19C		0.0	INTAKE #92618
80	IA 92	458+75.00	459+75.00	RT	24.0	4.0	104.0						458+75.00	6.0	RF-19C	4.8		INTAKE #92618
													459+75.00	6.0	RF-19C		0.0	INTAKE #92622
81	IA 92	459+75.00	460+65.00	RT	24.0	4.0	94.0						459+75.00	6.0	RF-19C	4.4		INTAKE #92622
													460+65.00	6.0	RF-19C		0.0	INTAKE #92626
82	IA 92	460+65.00	461+80.00	RT	24.0	4.0	119.0						460+65.00	6.0	RF-19C	5.5		INTAKE #92626
													461+80.00	6.0	RF-19C		0.0	INTAKE #92630
83	IA 92	461+80.00	463+25.00	RT	24.0	4.0	149.0						461+80.00	6.0	RF-19C	6.9		INTAKE #92630
													463+25.00	6.0	RF-19C		0.0	INTAKE #92634
84	IA 92	256+50.00	260+00.00	LT	42.0	4.0	390.0						256+50.00	6.0	RF-19E	36.1		
													260+00.00	6.0	RF-19E		0.2	
85	IA 92	260+00.00	265+00.00	LT	42.0	4.0	540.0						260+00.00	6.0	RF-19E	50.0		
													265+00.00	6.0	RF-19E		0.2	
86	IA 92	265+00.00	270+00.00	LT	42.0	4.0	540.0						265+00.00	6.0	RF-19E	50.0		
													270+00.00	6.0	RF-19E		0.2	
87	IA 92	270+00.00	275+00.00	LT	42.0	4.0	540.0						270+00.00	6.0	RF-19E	50.0		
													275+00.00	6.0	RF-19E		0.2	
88	IA 92	275+00.00	279+00.00	LT	42.0	4.0	440.0						275+00.00	6.0	RF-19E	40.7		
													279+00.00	6.0	RF-19E		0.2	
89	IA 92	279+00.00	281+91.00	LT	42.0	4.0	331.0						279+00.00	6.0	RF-19E	30.6		
													281+91.00	6.0	RF-19E		0.2	
90	IA 92	281+91.00	283+25.00	LT	42.0	4.0	194.0						281+91.00	6.0	RF-19E	18.0		
													283+25.00	6.0	RF-19E		0.2	OUTLET ALONG TURN RADIUS
91	IA 92	284+20.00	288+00.00	LT	42.0	4.0	440.0						284+20.00	6.0	RF-19E	40.7		OUTLET ALONG TURN RADIUS
													288+00.00	6.0	RF-19E		0.2	

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	
92	IA 92	288+00.00	292+08.00	LT	42.0	4.0	448.0						288+00.00	6.0	RF-19E	41.5		
													292+08.00	6.0	RF-19E		0.2	
93	IA 92	292+08.00	295+00.00	LT	42.0	4.0	332.0						292+08.00	6.0	RF-19E	30.7		
													295+00.00	6.0	RF-19E		0.2	
94	IA 92	295+00.00	300+00.00	LT	42.0	4.0	540.0						295+00.00	6.0	RF-19E	50.0		
													300+00.00	6.0	RF-19E		0.2	
95	IA 92	300+00.00	305+00.00	LT	42.0	4.0	540.0						300+00.00	6.0	RF-19E	50.0		
													305+00.00	6.0	RF-19E		0.2	
96	IA 92	305+00.00	311+25.00	LT	42.0	4.0	665.0						305+00.00	6.0	RF-19E	61.6		
													311+25.00	6.0	RF-19E		0.2	
97	IA 92	311+25.00	315+00.00	LT	42.0	4.0	415.0						311+25.00	6.0	RF-19E	38.4		
													315+00.00	6.0	RF-19E		0.2	
98	IA 92	315+00.00	320+00.00	LT	42.0	4.0	540.0						315+00.00	6.0	RF-19E	50.0		
													320+00.00	6.0	RF-19E		0.2	
99	IA 92	320+00.00	325+00.00	LT	42.0	4.0	540.0						320+00.00	6.0	RF-19E	50.0		
													325+00.00	6.0	RF-19E		0.2	
100	IA 92	325+00.00	329+00.00	LT	42.0	4.0	440.0						325+00.00	6.0	RF-19E	40.7		
													329+00.00	6.0	RF-19E		0.2	
101	IA 92	329+00.00	331+75.00	LT	42.0	4.0	315.0						329+00.00	6.0	RF-19E	29.2		
													331+75.00	6.0	RF-19E		0.2	
102	IA 92	331+75.00	335+00.00	LT	42.0	4.0	365.0						331+75.00	6.0	RF-19E	33.8		
													335+00.00	6.0	RF-19E		0.2	
103	IA 92	335+00.00	340+00.00	LT	42.0	4.0	540.0						335+00.00	6.0	RF-19E	50.0		
													340+00.00	6.0	RF-19E		0.2	
104	IA 92	340+00.00	345+00.00	LT	42.0	4.0	540.0						340+00.00	6.0	RF-19E	50.0		
													345+00.00	6.0	RF-19E		0.2	
105	IA 92	345+00.00	350+50.00	LT	42.0	4.0	590.0						345+00.00	6.0	RF-19E	54.6		
													350+50.00	6.0	RF-19E		0.2	
106	IA 92	350+50.00	356+75.00	LT	42.0	4.0	665.0						350+50.00	6.0	RF-19E	61.6		
													356+75.00	6.0	RF-19E		0.2	
107	IA 92	356+75.00	361+00.00	LT	42.0	4.0	465.0						356+75.00	6.0	RF-19E	43.1		
													361+00.00	6.0	RF-19E		0.2	
108	IA 92	361+00.00	365+00.00	LT	42.0	4.0	440.0						361+00.00	6.0	RF-19E	40.7		
													365+00.00	6.0	RF-19E		0.2	
109	IA 92	365+00.00	370+00.00	LT	42.0	4.0	540.0						365+00.00	6.0	RF-19E	50.0		
													370+00.00	6.0	RF-19E		0.2	
110	IA 92	370+00.00	375+00.00	LT	42.0	4.0	540.0						370+00.00	6.0	RF-19E	50.0		
													375+00.00	6.0	RF-19E		0.2	
111	IA 92	375+00.00	380+00.00	LT	42.0	4.0	540.0						375+00.00	6.0	RF-19E	50.0		
													380+00.00	6.0	RF-19E		0.2	
112	IA 92	380+00.00	385+00.00	LT	42.0	4.0	540.0						380+00.00	6.0	RF-19E	50.0		
													385+00.00	6.0	RF-19E		0.2	
113	IA 92	385+00.00	389+12.00	LT	42.0	4.0	452.0						385+00.00	6.0	RF-19E	41.9		
													389+12.00	6.0	RF-19E		0.2	
114	IA 92	389+12.00	390+68.00	LT	42.0	4.0	216.0						389+12.00	6.0	RF-19E	20.0		
													390+68.00	6.0	RF-19E		0.2	OUTLET ALONG TURN RADIUS
115	IA 92	391+32.00	393+50.00	LT	24.0	4.0	260.0						391+32.00	6.0	RF-19E	12.0		OUTLET ALONG TURN RADIUS
													393+50.00	6.0	RF-19C		0.1	INTAKE #5
116	IA 92	393+50.00	393+90.00	LT	24.0	4.0	44.0						393+50.00	6.0	RF-19C	2.0		INTAKE #5
													393+90.00	6.0	RF-19C		0.0	INTAKE #9
117	IA 92	393+90.00	394+30.00	LT	24.0	4.0	44.0						393+90.00	6.0	RF-19C	2.0		INTAKE #9
													394+30.00	6.0	RF-19C		0.0	INTAKE #13
118	IA 92	394+30.00	395+40.00	LT	24.0	4.0	114.0						394+30.00	6.0	RF-19C	5.3		INTAKE #13
													395+40.00	6.0	RF-19C		0.0	INTAKE #120
119	IA 92	395+40.00	396+40.00	LT	24.0	4.0	104.0						395+40.00	6.0	RF-19C	4.8		INTAKE #120
													396+40.00	6.0	RF-19C		0.0	INTAKE #163
120	IA 92	396+40.00	399+50.00	LT	24.0	4.0	314.0						396+40.00	6.0	RF-19C	14.5		INTAKE #163
													399+50.00	6.0	RF-19C		0.0	INTAKE #173
121	IA 92	399+50.00	404+10.00	LT	24.0	4.0	464.0						399+50.00	6.0	RF-19C	21.5		INTAKE #173
													404+10.00	6.0	RF-19C		0.0	INTAKE #205
122	IA 92	404+10.00	406+00.00	LT	24.0	4.0	194.0						404+10.00	6.0	RF-19C	9.0		INTAKE #205
													406+00.00	6.0	RF-19C		0.0	INTAKE #209
123	IA 92	406+00.00	407+80.00	LT	24.0	4.0	184.0						406+00.00	6.0	RF-19C	8.5		INTAKE #209
													407+80.00	6.0	RF-19C		0.0	INTAKE #219
124	IA 92	407+80.00	409+50.00	LT	24.0	4.0	174.0						407+80.00	6.0	RF-19C	8.1		INTAKE #219
													409+50.00	6.0	RF-19C		0.0	INTAKE #225
125	IA 92	409+50.00	411+25.00	LT	24.0	4.0	179.0						409+50.00	6.0	RF-19C	8.3		INTAKE #225
													411+25.00	6.0	RF-19C		0.0	INTAKE #229
126	IA 92	411+25.00	413+10.00	LT	24.0	4.0	189.0						411+25.00	6.0	RF-19C	8.8		INTAKE #229
													413+10.00	6.0	RF-19C		0.0	INTAKE #239
127	IA 92	413+10.00	414+15.00	LT	24.0	4.0	109.0						413+10.00	6.0	RF-19C	5.0		INTAKE #239
													414+15.00	6.0	RF-19C		0.0	INTAKE #249
128	IA 92	414+15.00	415+50.00	LT	24.0	4.0	139.0						414+15.00	6.0	RF-19C	6.4		INTAKE #249
													415+50.00	6.0	RF-19C		0.0	INTAKE #301
129	IA 92	415+50.00	416+25.00	LT	24.0	4.0	79.0						415+50.00	6.0	RF-19C	3.7		INTAKE #301
													416+25.00	6.0	RF-19C		0.0	INTAKE #303
130	IA 92	416+25.00	4418+45.00	LT	24.0	4.0	134.0						416+25.00	6.0	RF-19C	6.2		INTAKE 3303

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	
131	IA 92	4418+45.00	420+00.00	LT	24.0	4.0	284.0						4418+45.00	6.0	RF-19C		0.0	SIDEROAD INTAKE #11035
													4418+45.00	6.0	RF-19C	13.1		SIDEROAD INTAKE #11040
132	IA 92	420+00.00	421+25.00	LT	24.0	4.0	129.0						420+00.00	6.0	RF-19C		0.0	INTAKE #325
													420+00.00	6.0	RF-19C	6.0		INTAKE #325
133	IA 92	421+25.00	422+50.00	LT	24.0	4.0	129.0						421+25.00	6.0	RF-19C		0.0	INTAKE #329
													421+25.00	6.0	RF-19C	6.0		INTAKE #329
134	IA 92	422+50.00	423+85.00	LT	24.0	4.0	139.0						422+50.00	6.0	RF-19C		0.0	INTAKE #333
													422+50.00	6.0	RF-19C	6.4		INTAKE #333
135	IA 92	423+85.00	425+30.00	LT	24.0	4.0	149.0						423+85.00	6.0	RF-19C		0.0	INTAKE #337
													423+85.00	6.0	RF-19C	6.9		INTAKE #337
136	IA 92	425+30.00	426+35.00	LT	24.0	4.0	109.0						425+30.00	6.0	RF-19C		0.0	INTAKE #339
													425+30.00	6.0	RF-19C	5.0		INTAKE #339
137	IA 92	426+35.00	426+67.00	LT	24.0	4.0	36.0						426+35.00	6.0	RF-19C		0.0	INTAKE #345
													426+35.00	6.0	RF-19C	1.7		INTAKE #345
138	IA 92	426+67.00	426+99.00	LT	24.0	4.0	36.0						426+67.00	6.0	RF-19C		0.0	INTAKE #349
													426+67.00	6.0	RF-19C	1.7		INTAKE #349
139	IA 92	426+99.00	427+90.00	LT	24.0	4.0	95.0						426+99.00	6.0	RF-19C		0.0	INTAKE #353
													426+99.00	6.0	RF-19C	4.4		INTAKE #353
140	IA 92	427+90.00	429+87.00	LT	24.0	4.0	201.0						427+90.00	6.0	RF-19C		0.0	INTAKE #357
													427+90.00	6.0	RF-19C	9.3		INTAKE #357
141	IA 92	429+87.00	435+58.00	LT	24.0	4.0	575.0						429+87.00	6.0	RF-19C		0.0	INTAKE #359
													429+87.00	6.0	RF-19C	26.6		INTAKE #359
142	IA 92	435+58.00	436+00.00	LT	24.0	4.0	46.0						435+58.00	6.0	RF-19C		0.0	INTAKE #445
													435+58.00	6.0	RF-19C	2.1		INTAKE #445
143	IA 92	436+00.00	436+45.00	LT	24.0	4.0	49.0						436+00.00	6.0	RF-19C		0.0	INTAKE #449
													436+00.00	6.0	RF-19C	2.3		INTAKE #449
144	IA 92	436+45.00	437+75.00	LT	24.0	4.0	134.0						436+45.00	6.0	RF-19C		0.0	INTAKE #453
													436+45.00	6.0	RF-19C	6.2		INTAKE #453
145	IA 92	437+75.00	439+10.00	LT	24.0	4.0	139.0						437+75.00	6.0	RF-19C		0.0	INTAKE #457
													437+75.00	6.0	RF-19C	6.4		INTAKE #457
146	IA 92	439+10.00	440+80.00	LT	24.0	4.0	174.0						439+10.00	6.0	RF-19C		0.0	INTAKE #459
													439+10.00	6.0	RF-19C	8.1		INTAKE #459
147	IA 92	440+80.00	442+63.00	LT	24.0	4.0	187.0						440+80.00	6.0	RF-19C		0.0	INTAKE #495
													440+80.00	6.0	RF-19C	8.7		INTAKE #495
148	IA 92	442+63.00	444+30.00	LT	24.0	4.0	171.0						442+63.00	6.0	RF-19C		0.0	INTAKE #92461
													442+63.00	6.0	RF-19C	7.9		INTAKE #92461
149	IA 92	444+30.00	445+30.00	LT	24.0	4.0	104.0						444+30.00	6.0	RF-19C		0.0	INTAKE #92467
													444+30.00	6.0	RF-19C	4.8		INTAKE #92467
150	IA 92	445+30.00	446+85.00	LT	24.0	4.0	159.0						445+30.00	6.0	RF-19C		0.0	INTAKE #92471
													445+30.00	6.0	RF-19C	7.4		INTAKE #92471
151	IA 92	446+85.00	448+45.00	LT	24.0	4.0	164.0						446+85.00	6.0	RF-19C		0.0	INTAKE #92475
													446+85.00	6.0	RF-19C	7.6		INTAKE #92475
152	IA 92	448+45.00	449+75.00	LT	24.0	4.0	134.0						448+45.00	6.0	RF-19C		0.0	INTAKE #92479
													448+45.00	6.0	RF-19C	6.2		INTAKE #92479
153	IA 92	449+75.00	450+65.00	LT	24.0	4.0	94.0						449+75.00	6.0	RF-19C		0.0	INTAKE #92483
													449+75.00	6.0	RF-19C	4.4		INTAKE #92483
154	IA 92	450+65.00	452+45.00	LT	24.0	4.0	184.0						450+65.00	6.0	RF-19C		0.0	INTAKE #92487
													450+65.00	6.0	RF-19C	8.5		INTAKE #92487
155	IA 92	452+45.00	454+15.00	LT	24.0	4.0	174.0						452+45.00	6.0	RF-19C		0.0	INTAKE #92491
													452+45.00	6.0	RF-19C	8.1		INTAKE #92491
156	IA 92	454+15.00	455+15.00	LT	24.0	4.0	104.0						454+15.00	6.0	RF-19C		0.0	INTAKE #92601
													454+15.00	6.0	RF-19C	4.8		INTAKE #92601
157	IA 92	455+15.00	456+80.00	LT	24.0	4.0	169.0						455+15.00	6.0	RF-19C		0.0	INTAKE #92605
													455+15.00	6.0	RF-19C	7.8		INTAKE #92605
158	IA 92	456+80.00	457+65.00	LT	24.0	4.0	89.0						456+80.00	6.0	RF-19C		0.0	INTAKE #92609
													456+80.00	6.0	RF-19C	4.1		INTAKE #92609
159	IA 92	457+65.00	458+50.00	LT	24.0	4.0	89.0						457+65.00	6.0	RF-19C		0.0	INTAKE #92611
													457+65.00	6.0	RF-19C	4.1		INTAKE #92611
160	IA 92	458+50.00	459+85.00	LT	24.0	4.0	139.0						458+50.00	6.0	RF-19C		0.0	INTAKE #92613
													458+50.00	6.0	RF-19C	6.4		INATKE #92613
161	IA 92	459+85.00	460+75.00	LT	24.0	4.0	94.0						459+85.00	6.0	RF-19C		0.0	INTAKE #92617
													459+85.00	6.0	RF-19C	4.4		INTAKE #92617
162	IA 92	460+75.00	461+80.00	LT	24.0	4.0	109.0						460+75.00	6.0	RF-19C		0.0	INTAKE #92619
													460+75.00	6.0	RF-19C	5.0		INTAKE #92619
163	IA 92	461+80.00	463+25.00	LT	24.0	4.0	149.0						461+80.00	6.0	RF-19C		0.0	INTAKE #92621
													461+80.00	6.0	RF-19C	6.9		INTAKE #92621
													463+25.00	6.0	RF-19C		0.0	INTAKE #92625
Totals							44168.0									326	3396.7	12.4	

NOTE: LONGITUDINAL SUBDRAINS 1 - 30 AND 84 - 114 ARE TYPE 7b WITH PCC OR TYPE 8b WITH HMA (ACC).
NOTE: LONGITUDINAL SUBDRAINS 31 - 83 AND 115 - 163 ARE TYPE 12.

SURVEY SYMBOLS

- TDC Tree Deciduous
- PPA Power Pole Co. 1
- FWD Wood Fence
- LUM Luminaire
- TEV Evergeen Tree
- LP L.P. Tank
- D Centerline Draw or Stream (Down)
- RET Retaining Walls
- SI Sign
- SHR Shrub
- SI Sign
- EW Edge of Water
- DIK Centerline of Dike or Dam
- FLG Flag Poles
- WM Wind Mill
- FCL Chain Link and Security Fence
- HDG Hedge Row
- TV Satelite TV Dish
- RT Radio Tower
- INB Storm Sewer Beehive Intake
- WV Water Valve
- FHD Fire Hydrants
- WEL Well
- MH Utility Access (Manhole)
- LUM Luminaire
- MIS Miscellaneous
- TPD Telephone Pedestal
- EB Electrical Box
- UB Utility Box
- PR Electic Riser Pole
- FW Wire Fence
- GP Guard Post (Less Than 4 Posts)
- IN Storm Sewer Intake
- TLN Treeline
- TVP TV Pedestal
- SEP Septic Tank
- OUT Tile Outlet
- TIL Tile Line
- UST Underground Tank
- GV Gas Valve
- DU Centerline Draw or Stream (Up)
- BNK Stream Bank
- BL Topo Breakline
- RIP Rip-Rap

- STA Storm Sewer Line Co. 1
- FOC Underground Fiber Optic Co. 3
- FOE Underground Fiber Optic Co. 5
- FOB Underground Fiber Optic Co. 2
- SAA Sanitary Sewer Line Co. 1
- TLA Underground Telephone Line Co. 1
- ELA Underground Electric Line Co. 1
- GLA Underground Gas Line Co. 1
- TVA Underground TV Cable Co. 1
- WLA Underground Water Line Co. 1
- FOA Underground Fiber Optic Co. 1
- ELB Underground Electric Line Co. 2
- SAB Sanitary Sewer Line Co. 2
- GLB Underground Gas Line Co. 2
- FOD Underground Fiber Optic Co. 4
- WLB Underground Water Line Co. 2

UTILITY LEGEND

- FOA Paetec Iowa Communications Network
- FOB Lightcore (Digital Teleport)
- FOC Iowa Network Service
- FOD Indianola Municipal Utilities
- FOE MCI
- TLA Qwest
- ELA Mid-American
- ELB Indianola Municipal Utilities
- TVA Mediacom
- WLA Indianola Municipal Utilities
- WLB Warren Rural Water
- SAA City of Indianola
- SAB Private
- GLA Mid-American
- GLB Kinder Morgan
- STA City of Indianola
- PPA Mid-American

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

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

RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.1

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Lincoln TWP.
T-76N R-24W
SEC. 29

Curve Data (Survey)
Δ = 34° 40′ 53.90″ (LT)
T = 357.80
L = 693.62
R = 1,145.89
E = 54.56

Curve Data
Δ = 29° 11′ 23.92″ (LT)
T = 398.39
L = 779.48
R = 1,530.00
E = 51.02

SCS PI Sta 264+10.92
Δ = 35° 10′ 54.09″ (LT)
Theta = 2° 59′ 45.09″
Ls = 160.00
Ts = 565.29
Es = 75.79
P = 0.70
K = 79.99
Xc = 159.96
Yc = 2.79
LT = 106.68
ST = 53.35
LC = 159.98

Prop. 24" Uncl. Ent. Pipe
House
POT Sta 255+00.00
255
(ENT258A)
(ENT258B)
(ENT258C)
18" X 45.0' C.M.P. (Remove)
Prop. 18" Uncl. Ent. Pipe
ACCESS 258
260
(ENT258D)
TS Sta 258+46.63
SC Sta 260+29.63
(Close)
Building
15" X 40.0' C.M.P. (Remove)
IA 92 (ML092)
88°59'55.17"
89°03'44.70"
Sta. 256+50.00
Begin Full Width Paving
POC STA 258+87.00 ML092(OR)
= POT STA 1258+87.00 SRKENNEDY
= POT STA 1258+87.00 ACCESS258
POT STA 1258+86.95 SRKENNEDY
PI Sta 259+52.32
18" X 40.0' C.M.P. (Remove)
Parking gravel
KENNEDY ST
Sta. 258+34.35
2' X 2' X 46.0' RCB
W/ 30" Conc Pipe Extensions
D.A. = 2 Ac - R
(Plug & Abandon)
Sta. 258+00.0
Install 24" RCP
w/CMP letdown
Lt. 932.10
F.L. = Rt. 946.26
Other 932.44
Other 944.99
Sta. 258+99.86, 41.76 Rt.
18" X 45.0' Conc Pipe
D.A. = 1 Ac - R
(Remove)
Parking
Building
0 50 FEET
Prop. 18" Uncl. Ent. Pipe
(ENT269)
270
15" X 20.0' C.M.P. (Remove)
Jct. #56 Prop. Ent. Type "C" (ENT270)
Foundation
Grain
Wood
Barn
265
15" X 21.0' C.M.P. (Remove)
CS Sta 267+82.52
PI Sta 268+38.46
Manure Pit
Gravel
PI Sta 264+04.03
PI Sta 263+40.00 (Survey)

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.2

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995
990
985
980
975
970
965
960
955
950
945
940
935
930
925
920

VPI +50.000
Elv 967.80
K = 248
Len 300.00 ft

+0.700%
+1.910%
Existing Road
CL Profile

BEGIN FULL WIDTH PAVING
STA 256+50.00
ELV 948.70
948.70

+25 Rt.
957.31

+1.30% Lt. Ditch Grade

+50 Rt.
948.16

+0.50% Rt.
Ditch Grade

+1.80% Rt.
Ditch Grade

+2.30% Rt. Ditch Grade

+50 Rt.
948.66

+00 Rt.
946.26

+50 Rt.
949.71

+1.60% Rt. Ditch Grade

+1.80% Lt.
Ditch Grade

+00 Lt.
952.58

+75 Lt.
950.33

+50 Rt.
950.05

+0.50% Rt. Ditch Grade

+3.80% Rt.
DG

+50 Rt.
952.05

+00 Lt.
946.62

-5.10% Lt.
Ditch Grade

+90 Lt.
942.03

-9.00% Lt.
Ditch Grade

+4.45% Lt.
Ditch Grade

+7.10% Lt. Ditch Grade

+00 Lt.
932.13

+50 Lt.
934.36

Lt
Rt

Ditch Grade
Ditch Grade
No Ditch
Ditch Grade

948.70 949.18 949.65 950.13 950.61 951.09 951.56 952.04 952.52 953.00 953.47 953.95 954.43 954.91 955.38 955.86 956.34 956.82 957.29 957.77 958.25 958.73 959.20 959.68 960.16 960.64 961.11 961.59 962.07 962.55 963.02 963.50 963.98 964.46 964.93 965.40 965.84 966.25 966.64 967.01 967.35 967.66 967.95 968.21 968.45 968.66 968.85 969.02 969.20 969.37 969.55 969.72 969.90 970.07 970.25

255 +50 256 +50 257 +50 258 +50 259 +50 260 +50 261 +50 262 +50 263 +50 264 +50 265 +50 266 +50 267 +50 268 +50 269 +50 270

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.3

Lincoln TWP.
T-76N R-24W
SEC. 29

270

275

280

285

84TH AVE

IA 92 (ML092)

R 57 (SR57N)

+56 Prop. Jt. Type "C" Ent. (ENT270)

15" X 30.0' C.M.P. (Remove)

Prop. 18" Uncl. Ent. Pipe

18" X 24.0' C.M.P. (Remove)

(Close)

+46 Prop. Jt. Type "C" Ent. (ENT275)

+46 Prop. Jt. Type "C" Ent. (ENT276)

Prop. 18" Uncl. Ent. Pipe

18" X 62.0' C.M.P. (Remove)

15" X 28.0' C.M.P. (Remove)

PI Sta 283+70.97(Survey)

POT STA 283+68.17 ML092
= PI STA 1383+68.17 SR57N

15" X 36.0' C.M.P.

15" X 37.0' Conc. Pipe

(Close)

18" X 35.0' C.M.P. (Remove)

+56 Prop. Jt. Type "C" Ent. (ENT270)

Prop. 18" Uncl. Ent. Pipe

Sta. 277+57.37
2' X 2' X 53.0' RCB
W/ 30" Conc. Pipe Extension
D.A. = 4 Ac - R
(Plug & Abandon)

Sta. 277+75.0
Install 24" RCP
F.L. = Lt. 956.16
Rt. 965.80

15" X 48.0' C.M.P. (Remove)

POT STA 283+73.24 ML092
= PI STA 1283+73.24 SR57S

18" X 57.0' C.M.P. (Remove)

(Close)

R 57 (SR57S)

0 50 FEET

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.4

(ENT269)
+0.9%
+4.8%
270+56.00
+56
(ENT270)
-4.0%
-3.4%
+4.0%
+10.0%
(ENT276)
-4.0%
-6.6%
+46
(ENT275)
-4.9%
276+46.00
VPI +50.000
Elv 976.20
K = 246
Len 320.00 ft
+0.700%
-0.600%
Existing Road
CL Profile
+00 Rt.
967.90
+00 Lt.
968.18
+00 Lt.
967.18
+60 Rt.
965.60
+00 Rt.
967.84
+75 Rt.
968.72
+50 Rt.
968.20
+00 Lt.
967.94
+00 Lt.
967.50
+50 Rt.
968.27
+50 Rt.
959.65
+00 Lt.
957.98
+65 Lt.
956.03
+00 Lt.
956.19
+50 Lt.
956.64
+00 Lt.
964.44
+50 Lt.
966.69
-1.30% Lt. Ditch Grade
-0.50% Lt. Ditch Grade
-0.50% Rt. Ditch Grade
+0.94% Rt. Ditch Grade
+0.50% Rt. Ditch Grade
-0.69% Rt. Ditch Grade
-0.50% Lt. Ditch Grade
-0.49%
+3.80% Rt. Ditch Grade
+5.50% Rt. Ditch Grade
-9.20% Lt. Ditch Grade
-3.00% Lt. Ditch Grade
+0.90% Lt. Ditch Grade
+5.20% Lt. Ditch Grade
+3.50% Lt. Ditch Grade
Lt
Rt
Ditch Grade
Vari.
Ditch Grade
Ditch Grade
Side Road
Side Road
Ditch Grade
(5 ft wide)
970.42 970.60 970.77 970.95 971.12 971.30 971.47 971.65 971.82 972.00 972.17 972.35 972.52 972.70 972.87 973.05 973.22 973.40 973.57 973.75 973.92 974.10 974.27 974.45 974.62 974.80 974.97 975.15 975.30 975.43 975.53 975.60 975.65 975.68 975.68 975.65 975.60 975.53 975.42 975.30 975.15 975.00 974.85 974.70 974.55 974.40 974.25 974.10 973.95 973.80 973.65 973.50 973.35 973.20 973.05 972.90 972.75 972.60 972.45 972.30
270 +50 271 +50 272 +50 273 +50 274 +50 275 +50 276 +50 277 +50 278 +50 279 +50 280 +50 281 +50 282 +50 283 +50 284 +50 285

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.5

Lincoln TWP.
T-76N R-24W
SEC. 29

N

.0' C.M.P.
17.0'
Pipe

285 290 295 300

18" X 40.0' C.M.P. (Remove) (Close)
18" X 40.0' C.M.P. (Remove) (Close)
15" X 20.0' C.M.P (Remove)
+80 Prop. Type "C" Ent. (ENT291)
Prop. 18" Uncl. Ent. Pipe
+08 Prop. Jt. Type "C" Ent. (ENT297)
Prop. 18" Uncl. Ent. Pipe

IA 92 (ML092)

18" X 50.6' C.M.P. (Remove)
Prop. 18" Uncl. Ent. Pipe
6" X 32.0' PVC Pipe (Remove)
(ENT298)
Prop. 18" Uncl. Ent. Pipe
+08 Prop. Jt. Type "C" Ent. (ENT297)

30" X 50.0' C.M.P. (Remove) Prop. 30" Uncl. Ent. Pipe
+80 Prop. Type "C" Ent. (ENT291)

18" X 57.0' C.M.P. (Remove)

Sta. 292+63.66
3' X 2' X 43.0' RCB
W/ 36" RCP Extensions
D.A. = 21 Ac - R
(Plug & Abandon)

Sta. 292+75.0
Install 30" RCP
F.L. = Lt. 961.55
Rt. 957.85

Sta. 292+61.18, 38.00 RT
6 Tile Riser Intake
D.A. = Part of 21A - R
(RELOCATE)

House, Building, Shed, Pond

0 50 FEET

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.6

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(ENT291)
+1.1% -4.0%
+4.0%
+8.0%
+2.68%
+80

(ENT297)
+1.0% -4.0%
+4.0%
+80
-1.85%
(ENT298)
297+09.75
-3.0% +2.59%

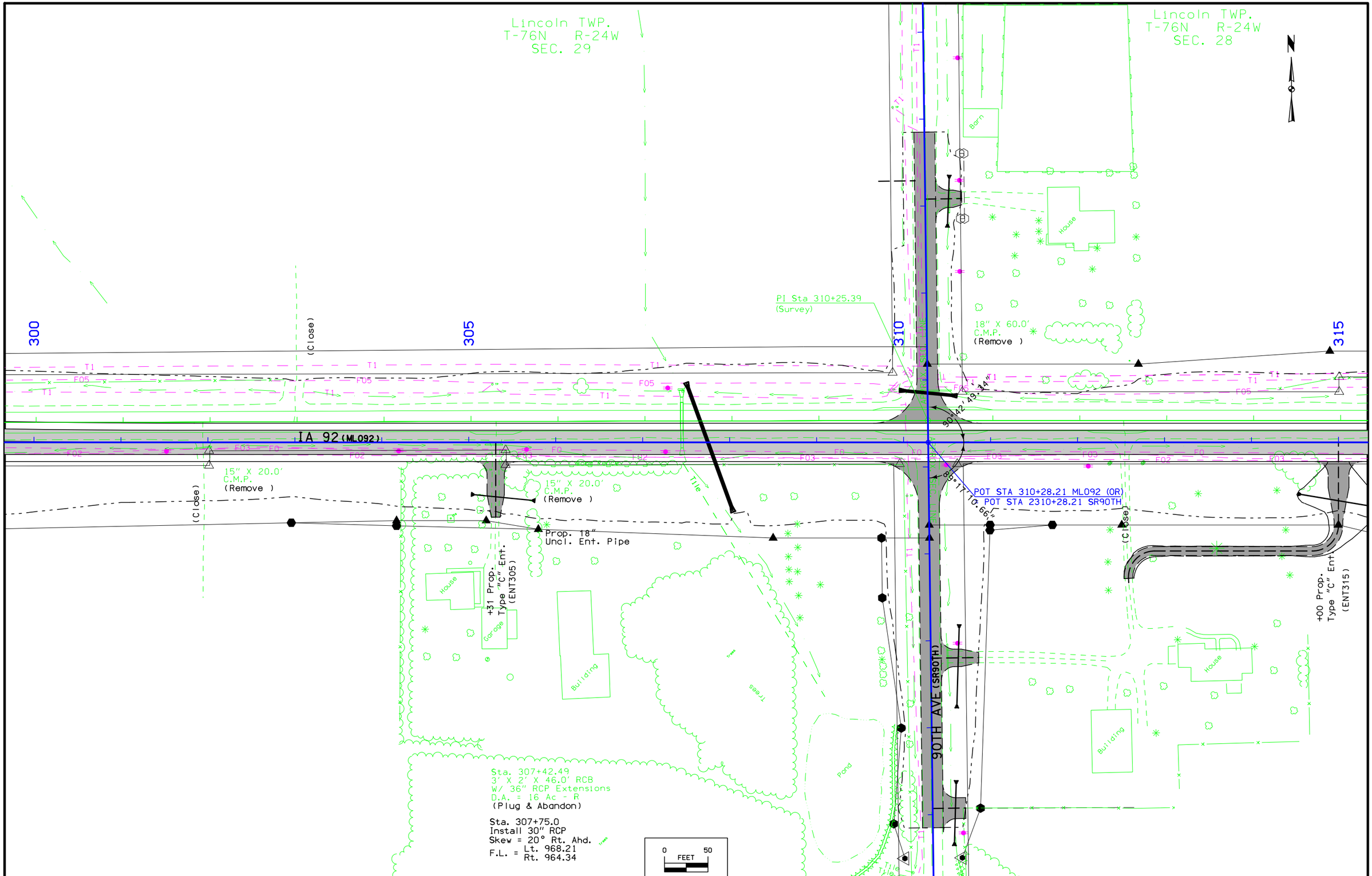
Existing Road
CL Profile

Rt. Ditch Grade
+00 Rt.
967.53
-0.50% Lt. Ditch Grade
+50 Lt.
964.25
-1.20% Lt. Ditch Grade
+0.600%
+75 Lt.
961.55
+1.20% Lt. Ditch Grade
+2.000%
+80 Lt.
964.01
+50 Rt.
956.40
+1.00% Rt.
Ditch Grade
+70 Rt.
957.60
+4.90% Rt.
Ditch Grade
VPI +00.000
Elv 967.50
K = 138
Len 360.00 ft
+50 Rt.
961.52
+0.78% Rt.
Ditch Grade
+00 Rt.
962.70
+50 Lt.
969.96
+3.50% Lt. Ditch Grade
+50 Lt.
970.46
+0.50% Lt.
Ditch Grade
+1.20% Lt. Ditch Grade
+2.30% Rt. Ditch Grade

Lt
Rt
Ditch Grade (5 ft wide)
Ditch Grade (5 ft wide)
Transition
No Ditch
Ditch Grade
Ditch Grade

285	+50	286	+50	287	+50	288	+50	289	+50	290	+50	291	+50	292	+50	293	+50	294	+50	295	+50	296	+50	297	+50	298	+50	299	+50	300
972.15	972.00	971.85	971.70	971.55	971.40	971.25	971.10	970.95	970.80	970.65	970.50	970.35	970.20	970.05	969.90	969.75	969.60	969.45	969.30	969.15	969.00	968.85	968.70	968.55	968.43	968.36	968.33	968.35	968.41	968.52	968.67	968.87	969.11	969.40	969.73	970.11	970.53	971.00	971.50	972.00	972.50	973.00	973.50	974.00	974.50	975.00	975.50	976.00	976.50	977.00	977.50	977.99	978.46	978.90	979.32	979.71	980.07	980.41	980.73

ENGLISH	IOWA DOT	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	D.7



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.8

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(ENT305)

+4.0%

+31

VPI +00.000
Elv 985.50
K = 247
Len 790.00 ft

+2.000%

-1.200%

+00 Rt.
976.50

+2.30% Rt.
Ditch Grade

+1.20% Lt. Ditch Grade

+00 Rt.
978.50

+1.00% Rt. Ditch Grade

-1.30% Rt. Ditch Grade

+00 Lt.
977.06

-0.50% Lt.
Ditch Grade

+50 Lt.
976.31

+00 Rt.
975.90

Existing Road
CL Profile

-3.80% Rt. Ditch Grade

-2.70% Lt. Ditch Grade

+50 Lt.
968.21

+0.70% Lt. Ditch Grade

+00 Rt.
964.50

+25 Rt.
964.25

+00 Lt.
969.26

+20 Rt.
965.10

+0.90% Rt.
Ditch Grade

-0.50% Rt.
Ditch Grade

+00 Rt.
964.70

-1.200%

+1.17% Lt. Ditch Grade

+00 Lt.
972.77

+0.800%

+75 Rt.
968.04

+2.30% Rt. Ditch Grade

+50 Rt.
972.07

-0.50% Lt. Ditch Grade

-0.50% Rt. Ditch Grade

+00 Rt.
970.82

VPI +00.000
Elv 974.70
K = 140
Len 280.00 ft

Lt
Rt

Ditch Grade

Ditch Grade Vari.

Ditch Grade

Side Road

Ditch Grade

981.02 981.28 981.52 981.74 981.93 982.09 982.23 982.34 982.43 982.49 982.53 982.54 982.52 982.48 982.42 982.33 982.21 982.07 981.91 981.72 981.50 981.26 980.99 980.70 980.40 980.10 979.80 979.50 979.20 978.90 978.60 978.30 978.00 977.70 977.40 977.10 976.80 976.50 976.21 975.96 975.75 975.59 975.47 975.40 975.37 975.39 975.45 975.56 975.71 975.90 976.10 976.30 976.50 976.70 976.90 977.10 977.30 977.50 977.70 977.90

300 +50 301 +50 302 +50 303 +50 304 +50 305 +50 306 +50 307 +50 308 +50 309 +50 310 +50 311 +50 312 +50 313 +50 314 +50 315

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.9

11:46:22 AM wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051D02.sht

Lincoln TWP.
T-76N R-24W
SEC. 28

315 320 325 330

W2 T1 F05 F0 F02 F03

IA 92 (ML092)

12" X 20.0' C.M.P. (Remove)

(Close)

+07.61 Prop. Type "C" Ent. (ENT323)

Prop. 18" Uncl. Ent. Pipe

18" X 48.0' C.M.P. (Remove)

(Close) (Close)

15" X 20.0' C.M.P. (Remove)

18" X 16.0' Conc. Pipe (U.A.C.)

+00 Prop. Type "C" Ent. (ENT315)

18" X 15.0' C.M.P. (Remove)

Sta. 315+86.80
2' X 2' X 46.0' RCB
W/ 30" RCP Extensions
D.A. = 6 Ac - R
(Plug & Abandon)

Sta. 316+25.0
Install 24" RCP
Skew = 19° Rt. Ahd.
F.L. = Lt. 970.77
Rt. 965.60

Sta. 329+73.63
2' X 2' X 47.0' RCB
W/ 30" Conc. Pipe Extension
D.A. = 8.4 Ac - F
(Plug & Abandon)

Sta. 329+85.0
Install 24" RCP
F.L. = Lt. 953.31
Rt. 944.65

0 50 FEET

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.10

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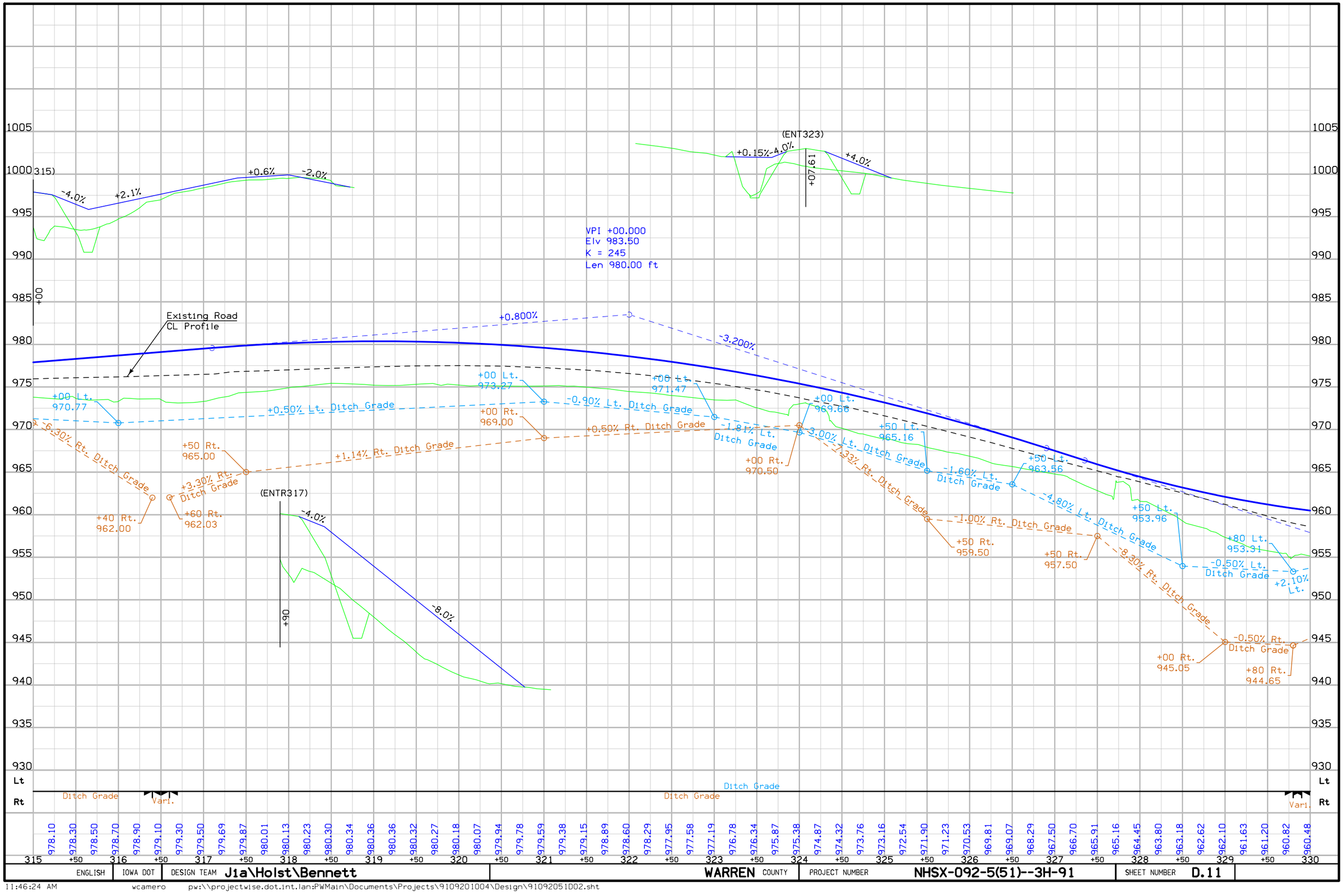

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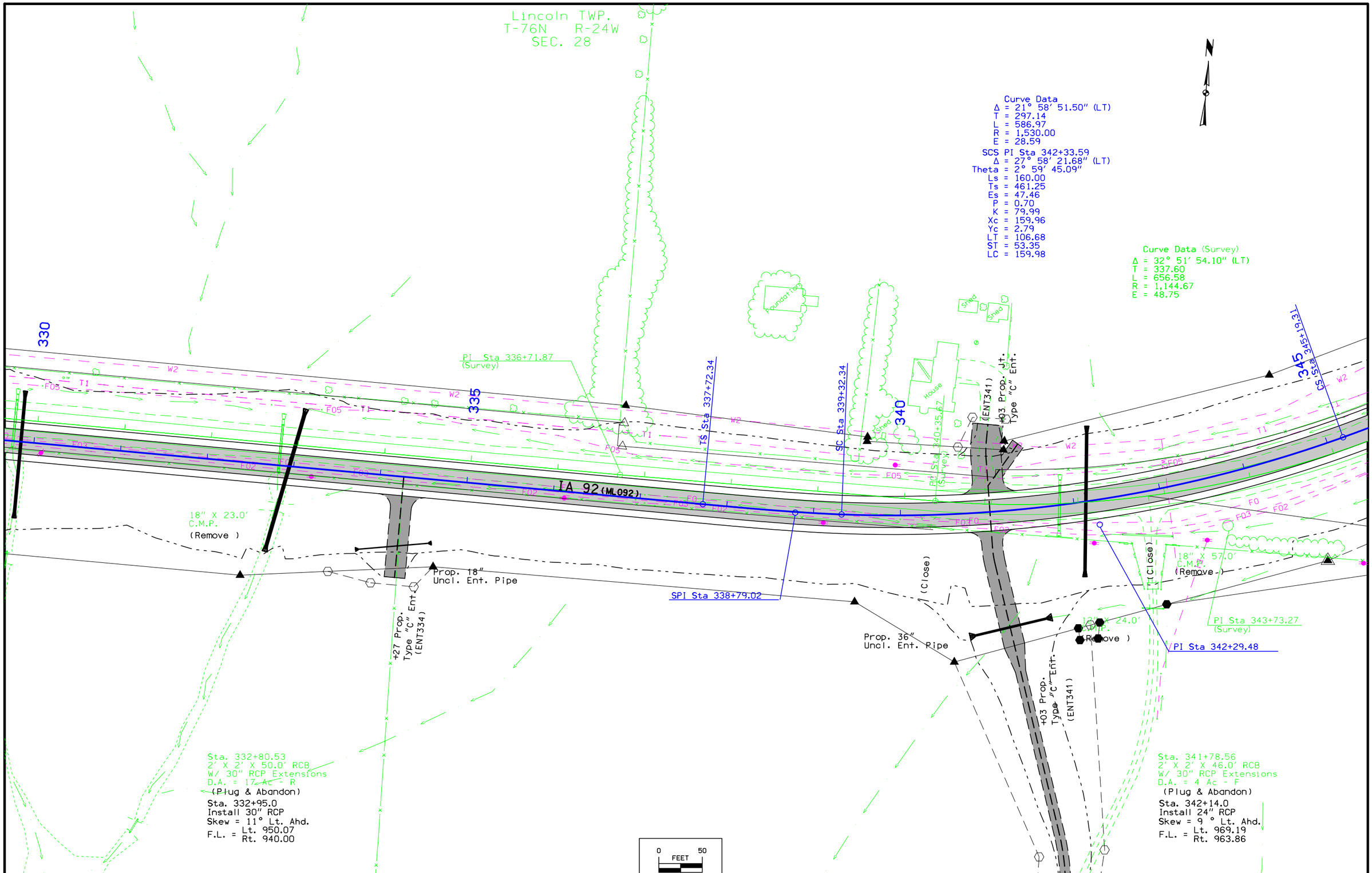

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.12

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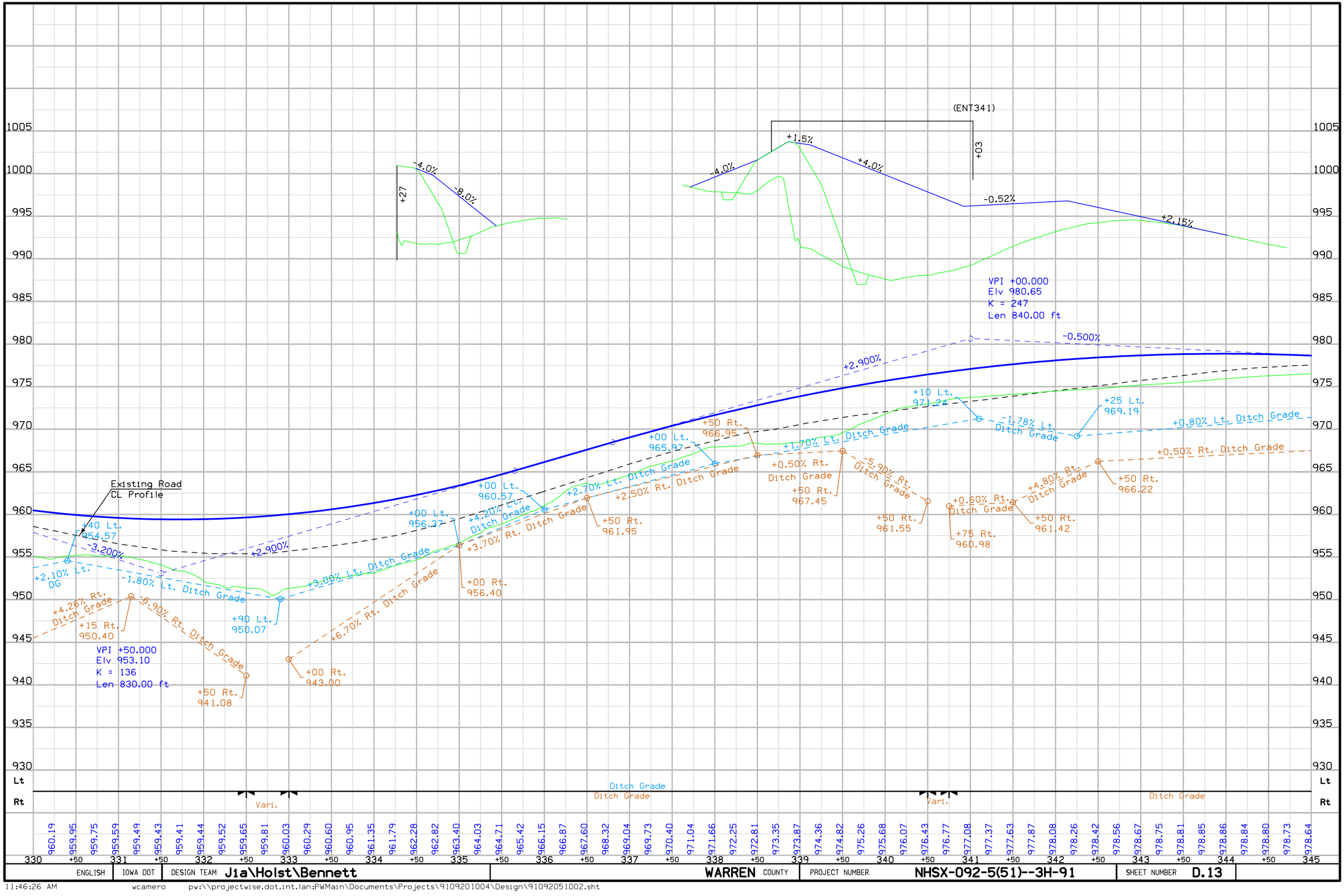
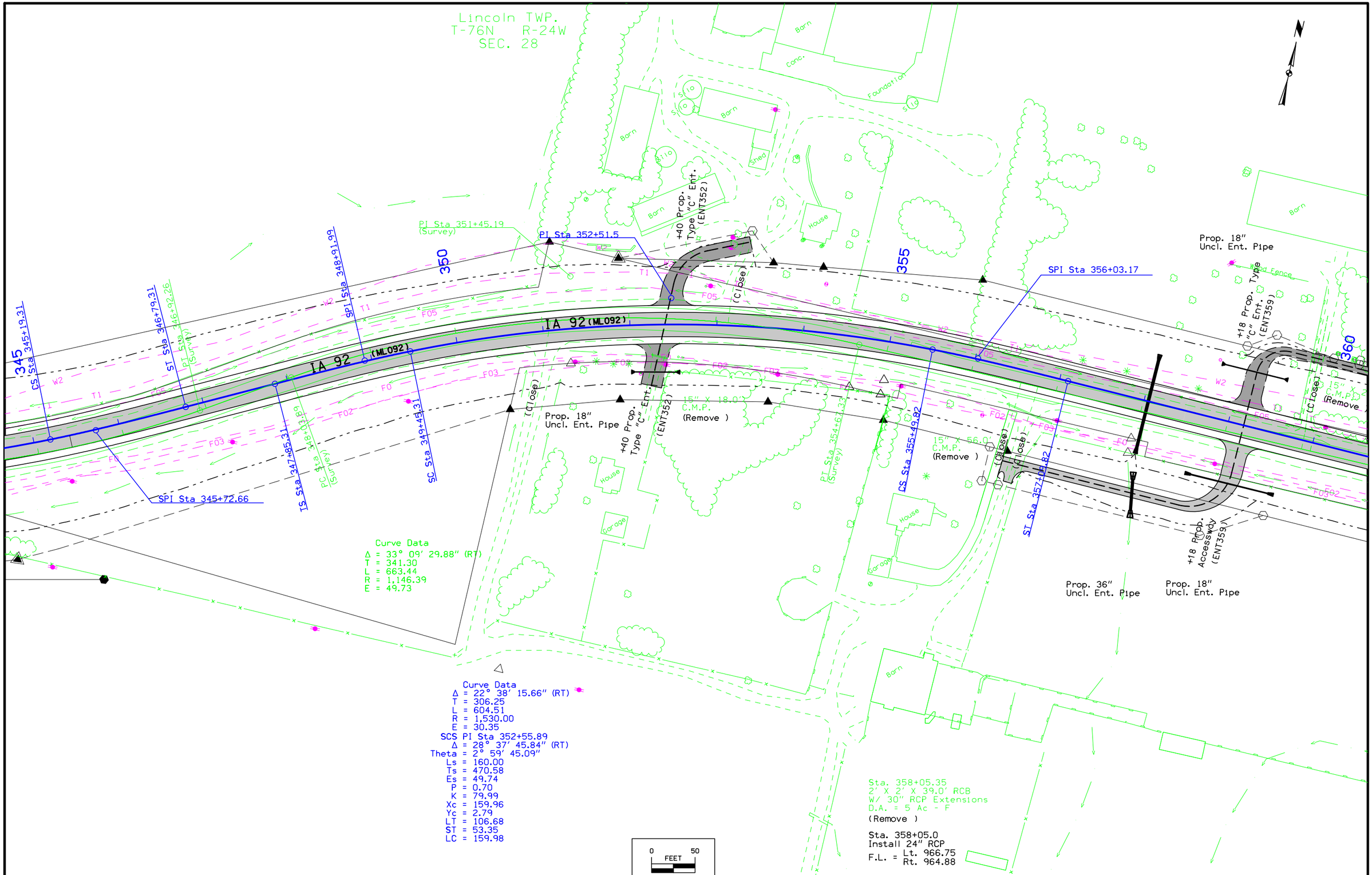


ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.13



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.14

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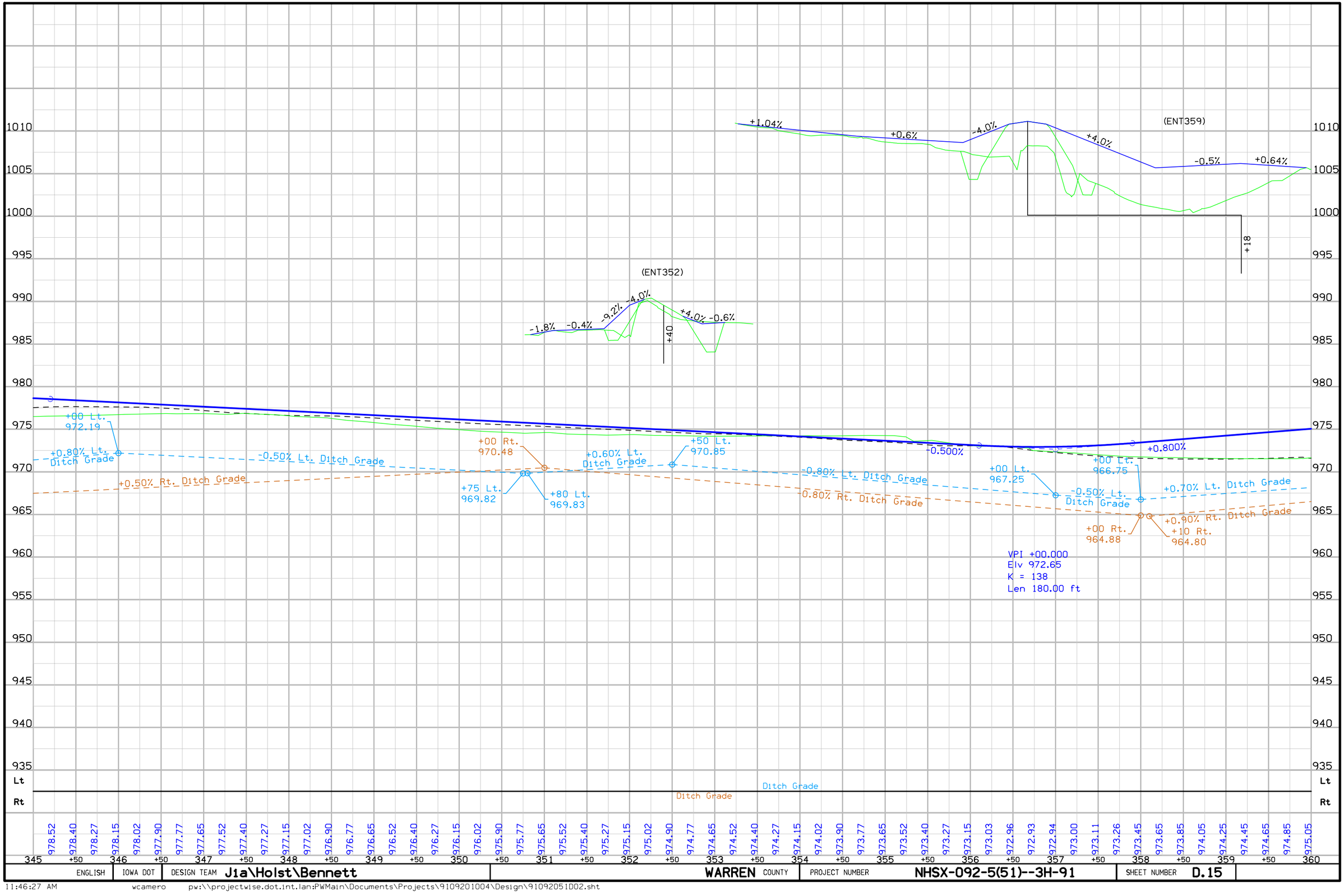

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.15

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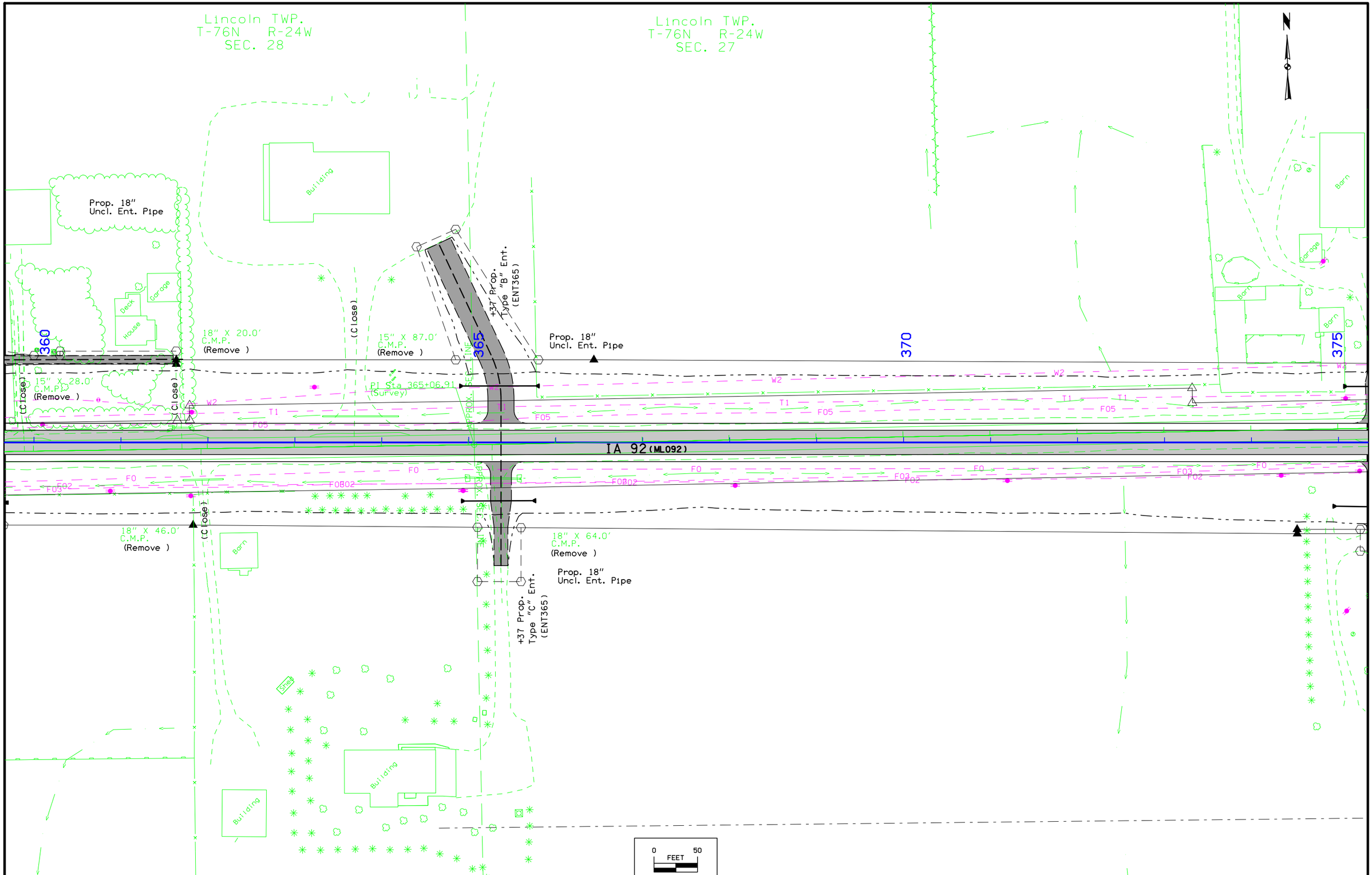

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.16

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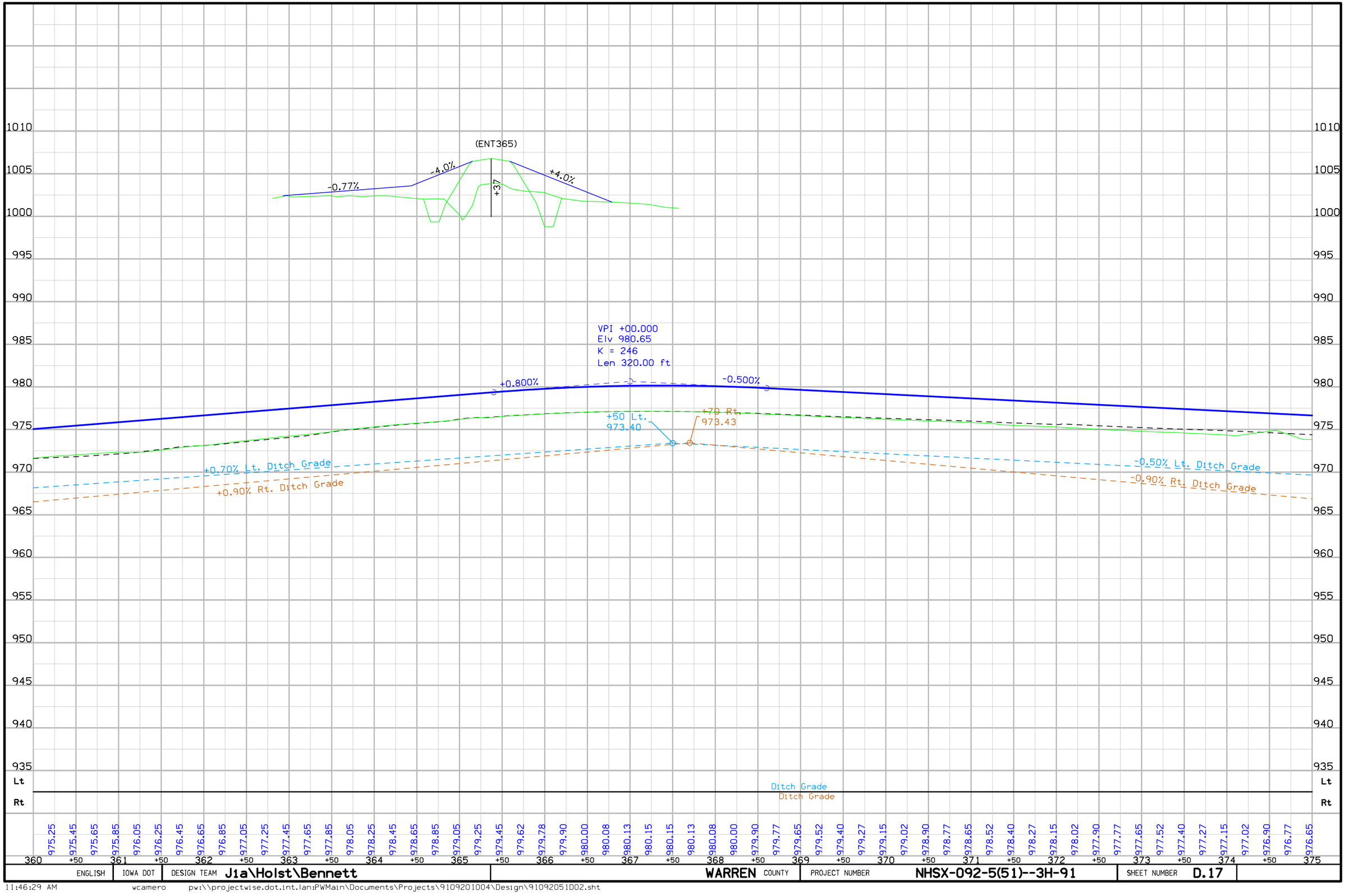

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett		WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER D.17

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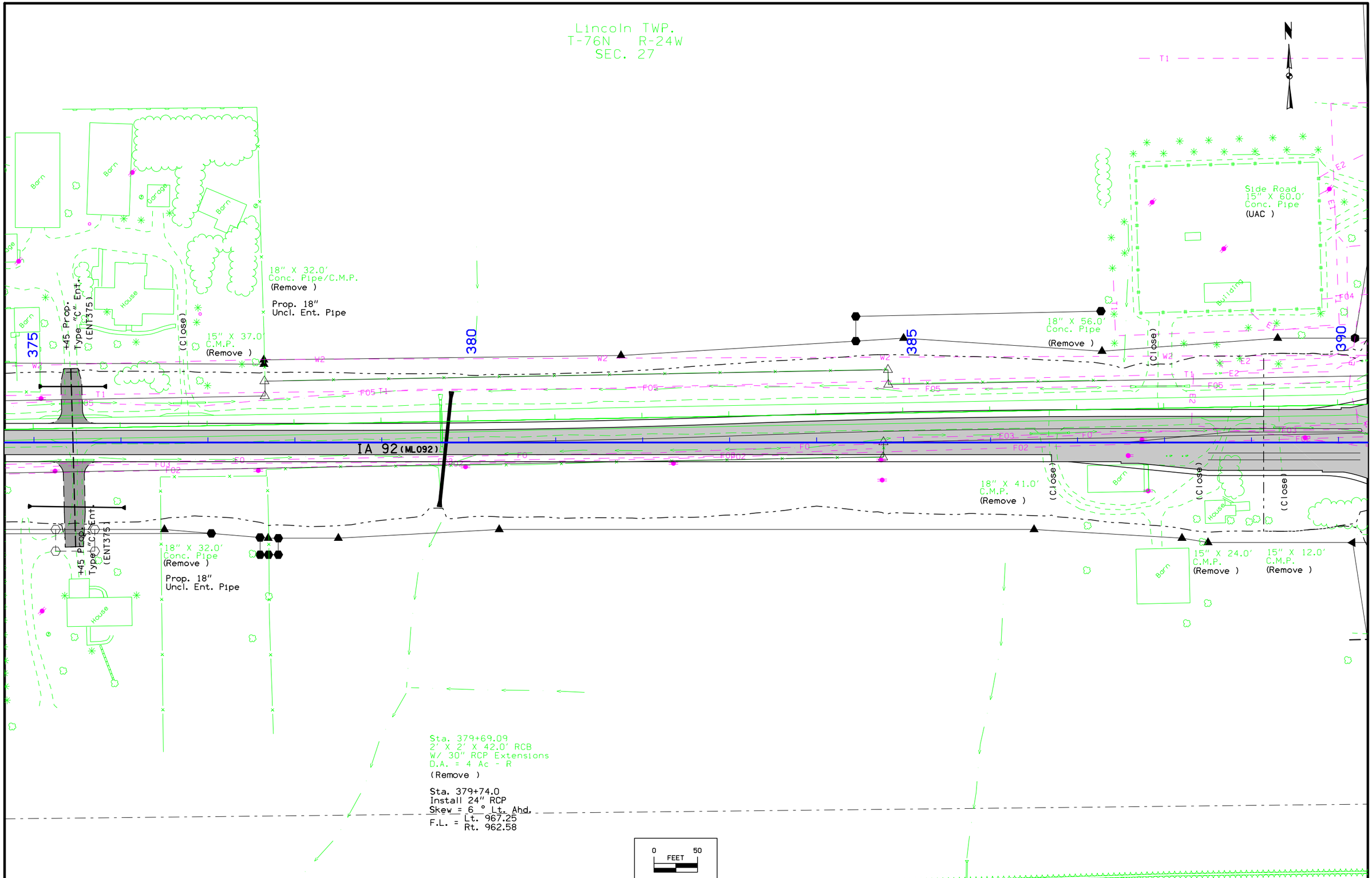

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.18

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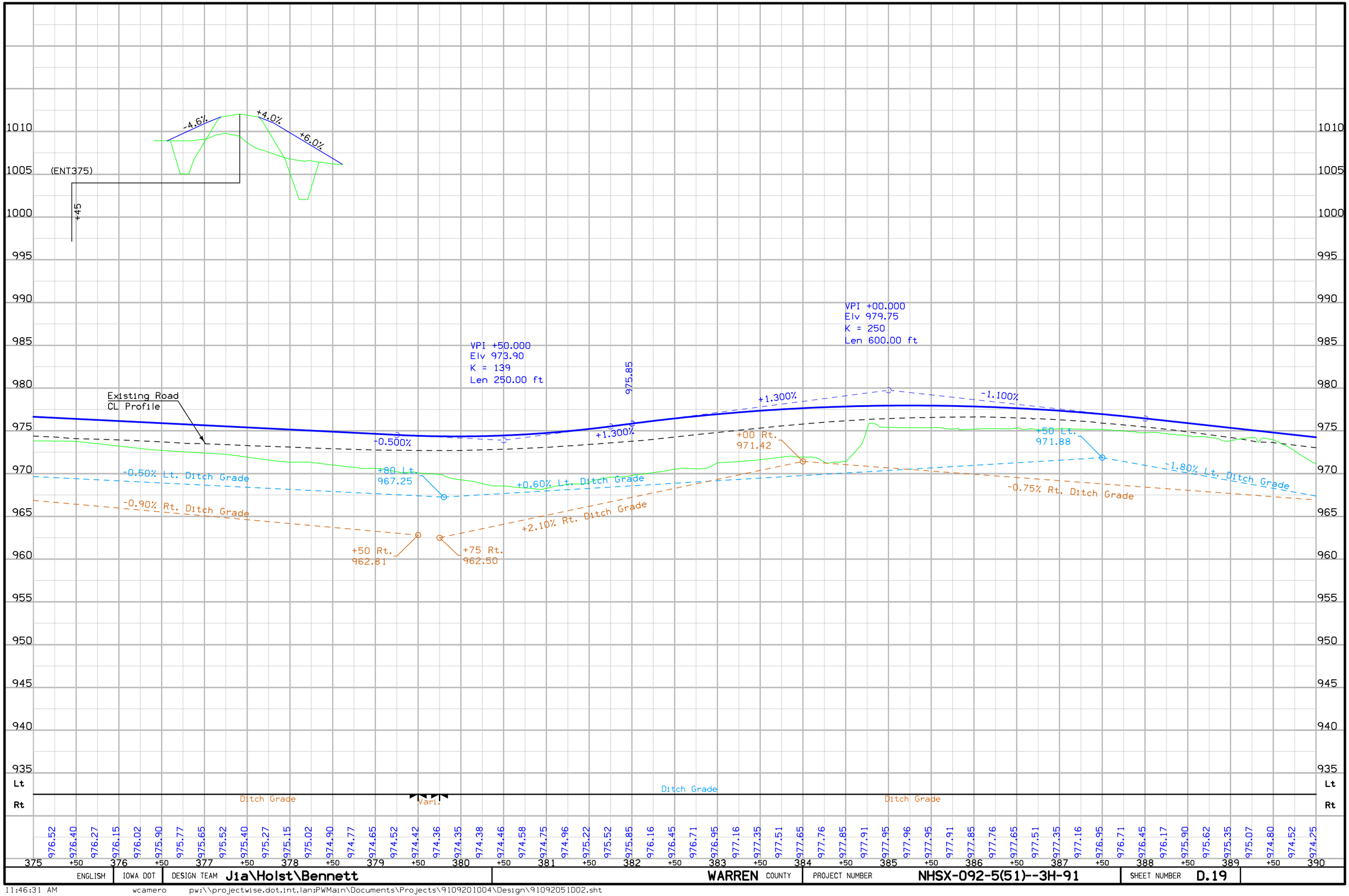

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.19

Lincoln TWP.
T-76N R-24W
SEC. 27

Curve Data
Δ = 0° 19' 35.74" (RT)
T = 34.20
L = 68.40
R = 12,000.00
E = 0.05

R-63 (SR63N)

Side Road
15" X 43.0'
C.M.P.
(UAC)

PI Sta 391+01.81
(Survey)

Inlet

15" X 30.0'
Conc. Pipe
(Remove)

Conc. Slab

18" X 243.0'
Conc. Pipe
(UAC)

15" X 48.0'
Conc. Pipe
(UAC)

24" X 80.0'
Conc. Pipe
(Remove)

+16.98 Prop. Type "B" Ent.

390

395 (Close)

400

405

PI Sta 391+01.53

PC Sta 390+67.33

PT Sta 391+35.73

IA 92 (ML092)

15" X 18.0'
Conc. Pipe
(Remove)

(Close)

(Close)

Side Road
15" X 28.0'
C.M.P.
(Remove)

Side Road
15" X 56.0'
C.M.P.
(Remove)

Utility Access

R-63 (SR63S)

Sta. 390+78.55
2' X 2' X 132.0' RCB
W/ 30" RCP Extensions
D.A. = 7 Ac - R
(Remove)

Sta. 391+07.0
Install 24" RCP
Skew = 37° Rt. Ahd.
F.L. = Lt. 966.73
Rt. 963.79

Sta. 391+29.59, 61.89 Lt.
24" X 60.0' Conc Pipe
D.A. = 3 Ac - R
(Remove)

Sta. 395+43.91
2' X 2' X 43.0' RCB
W/ 30" RCP Extensions
D.A. = 9 Ac - R
(Remove)

0 50
FEET

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.20

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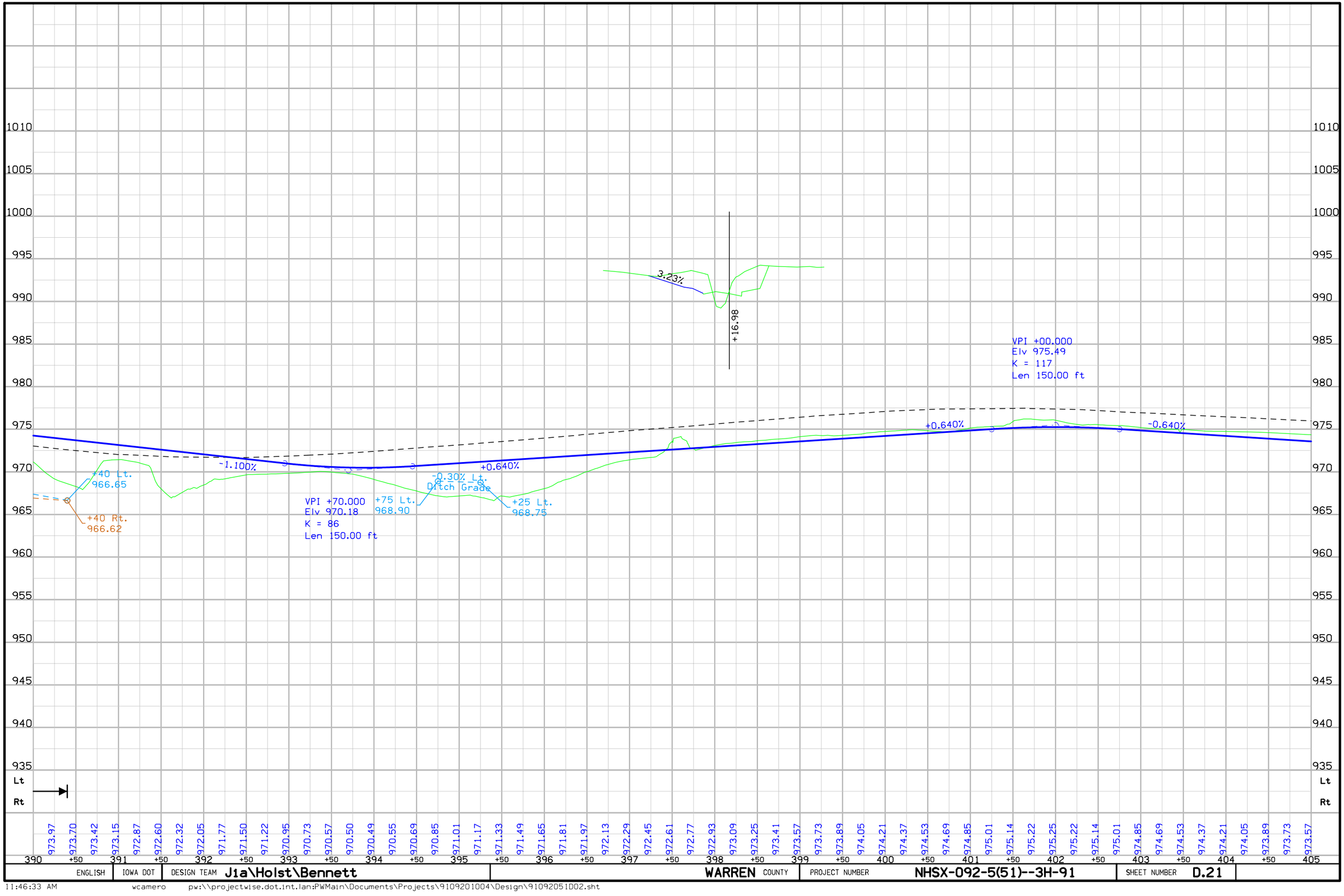


ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.21

Lincoln TWP.
T-76N R-24W
SEC. 27

Sta. 417+03.73, 37.07 Lt.
22' X 14" X 60.0' Arch Conc Pipe
D.A. = 4 Ac - r
(U.A.C.)

Curve Data
Δ = 0° 25' 37.45" (LT)
T = 44.72
L = 89.45
R = 12,000.00
E = 0.08

PI Sta 417+36.67
(Survey)

405 410 415 420

+00 Prop. Type "C" Ent.

15" X 24.0' C.M.P. (Remove)

+80.63 Prop. Jt. Type "B" Ent.

15" X 48.0' C.M.P. (Close) (Remove)

IA 92 (ML092)

Y' ST (SRYSN)

Y' ST (SRYSS)

PC Sta 416+90.59

PI Sta 417+35.31

PT Sta 417+80.03

4" Tile

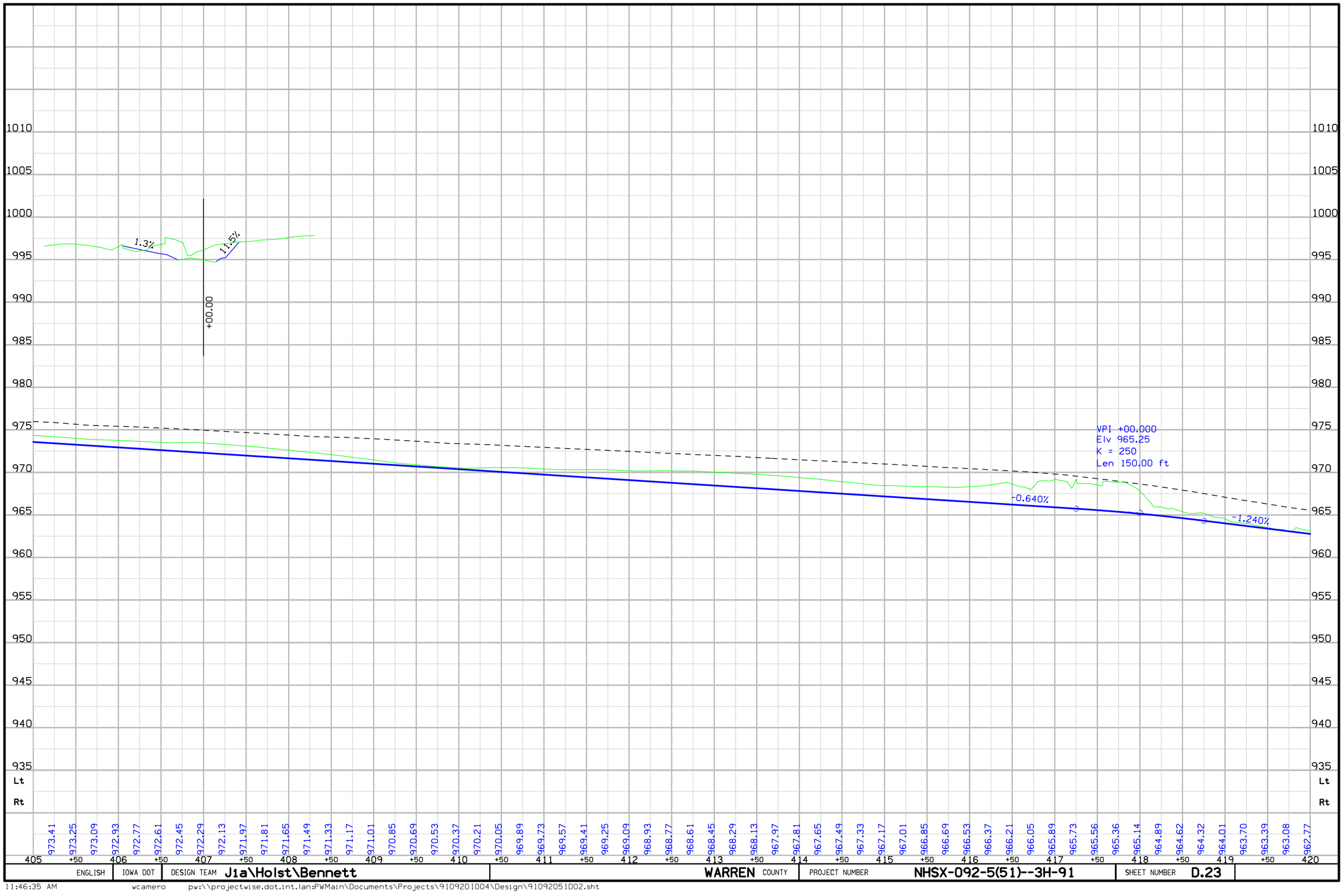
Sta. 412+66.92, 247.41 RT
6 Tile Riser Intake
D.A. = 5A - R
(U.A.C.)

Sta. 414+54.06, 307.09 RT
6 Tile Riser Intake
D.A. = 2A - R
(U.A.C.)

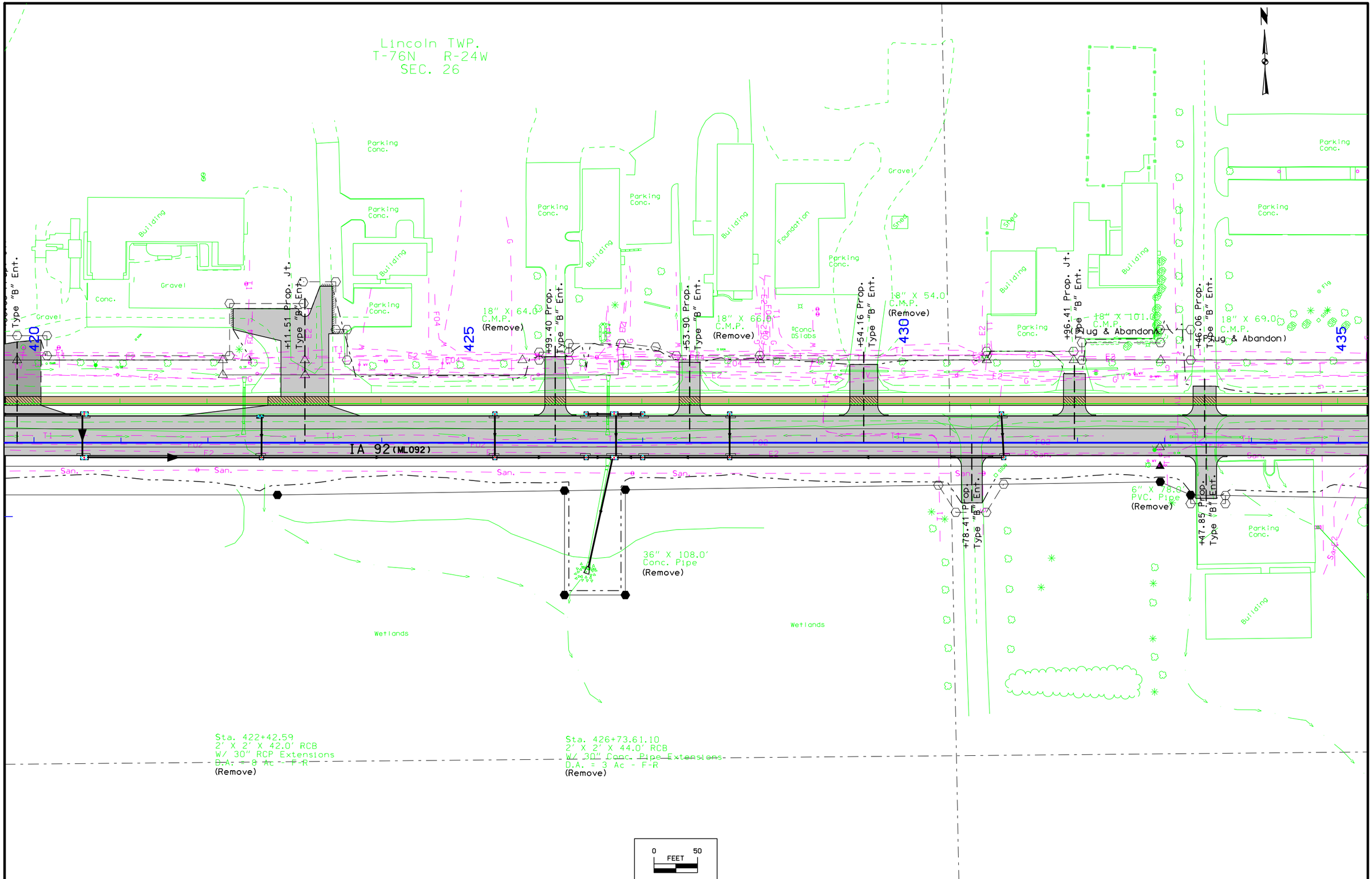
Sta. 417+30.31, 350.36 Rt
30" X 44.0' CMP
D.A. = 16 Ac + R
(Relocate)

0 FEET 50

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.22



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.23



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.24

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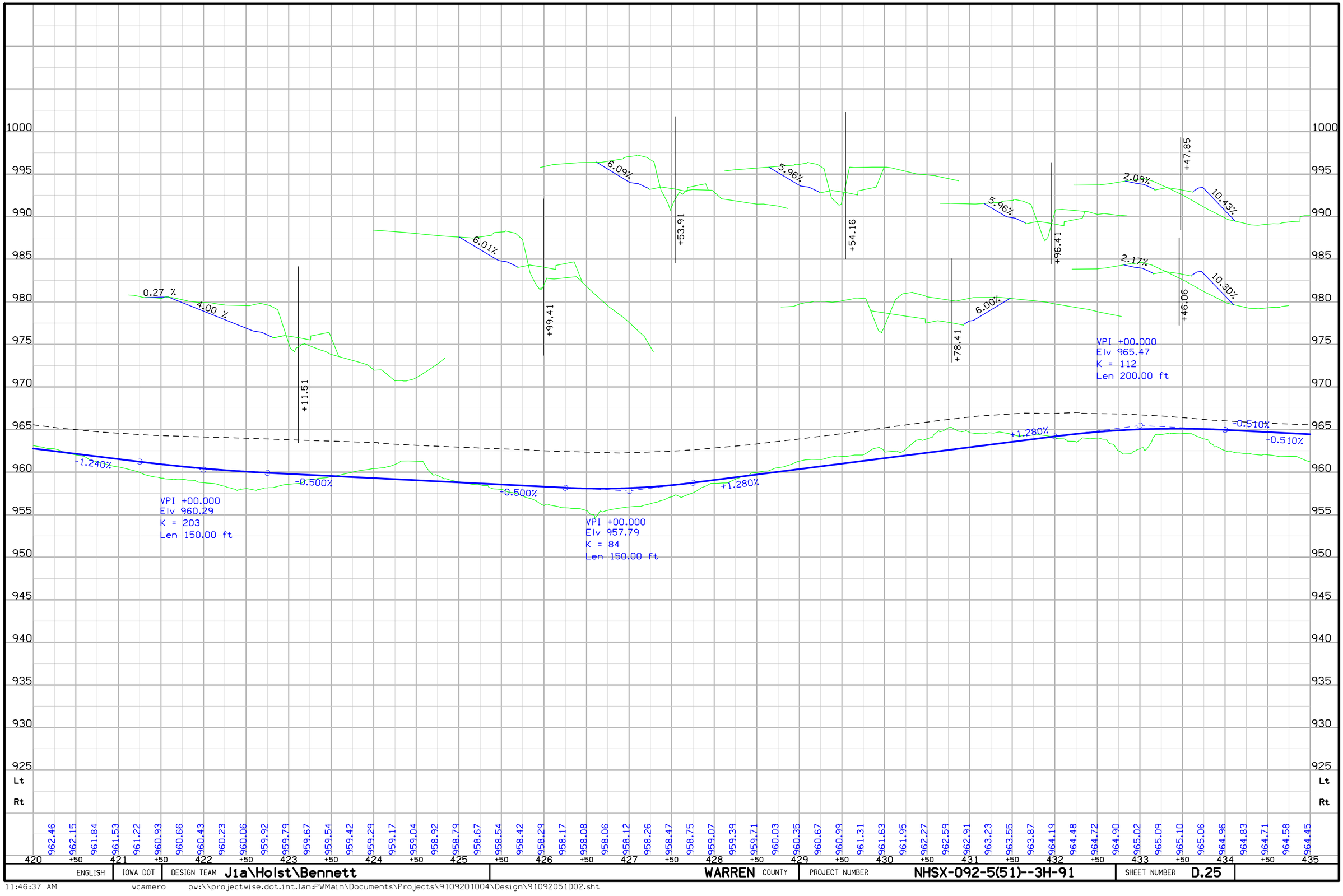

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.25

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Lincoln TWP.
T-76N R-24W
SEC. 26

N

Curve Data
Δ = 11° 07' 40.08" (LT)
T = 109.69
L = 218.49
R = 1,125.00
E = 5.33

15" X 36.0' Conc. Pipe (Remove)

+08.06 Prop. Type "B" Ent.

PI Sta 438+87.96 (Survey)

PRC Sta 440+30.11

PI Sta 441+31.12

$PRUCE ST

12" X 48.0' C.M.P. (UAC)

Sta. 443+18.01
End Full Width Paving,
Begin Widening

Do not disturb existing sign

+56.51 Prop. Type "B" Ent.

PC Sta 447+68.90 (Survey)

PC Sta 447+70.70

+17.01 Prop. Type "B" Ent.

+42.01 Prop. Type "B" Ent.

18" X 46.0' C.M.P. (Remove)

IA 92 (ML092)

24" X 41.0' Plastic Pipe (Remove)

+48.56 Prop. Type "B" Ent.

+23.75 Prop. Type "B" Ent.

PC Sta 438+11.62

PI Sta 439+21.21

PT Sta 442+31.59

18" X 85.0' C.M.P. (Remove)

24" X 121.0' Conc. Pipe (U.A.C.)

R ST

24" X 67.0' C.M.P. (Remove)

24" X 71.0' C.M.P. (Remove)

+48.51 Prop. Type "B" Ent.

+68.44 Prop. Type "B" Ent.

+54.51 Prop. Type "B" Ent.

24" X 60.0' C.M.P. (Remove)

Sta. 436+45.20
2' X 2' X 39.0' RCB
W/ 30" RCP Extensions
D.A. = 6 Ac - F-R
(Remove)

Curve Data
Δ = 10° 15' 40.29" (RT)
T = 101.01
L = 201.48
R = 1,125.00
E = 4.53

0 FEET 50

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.26

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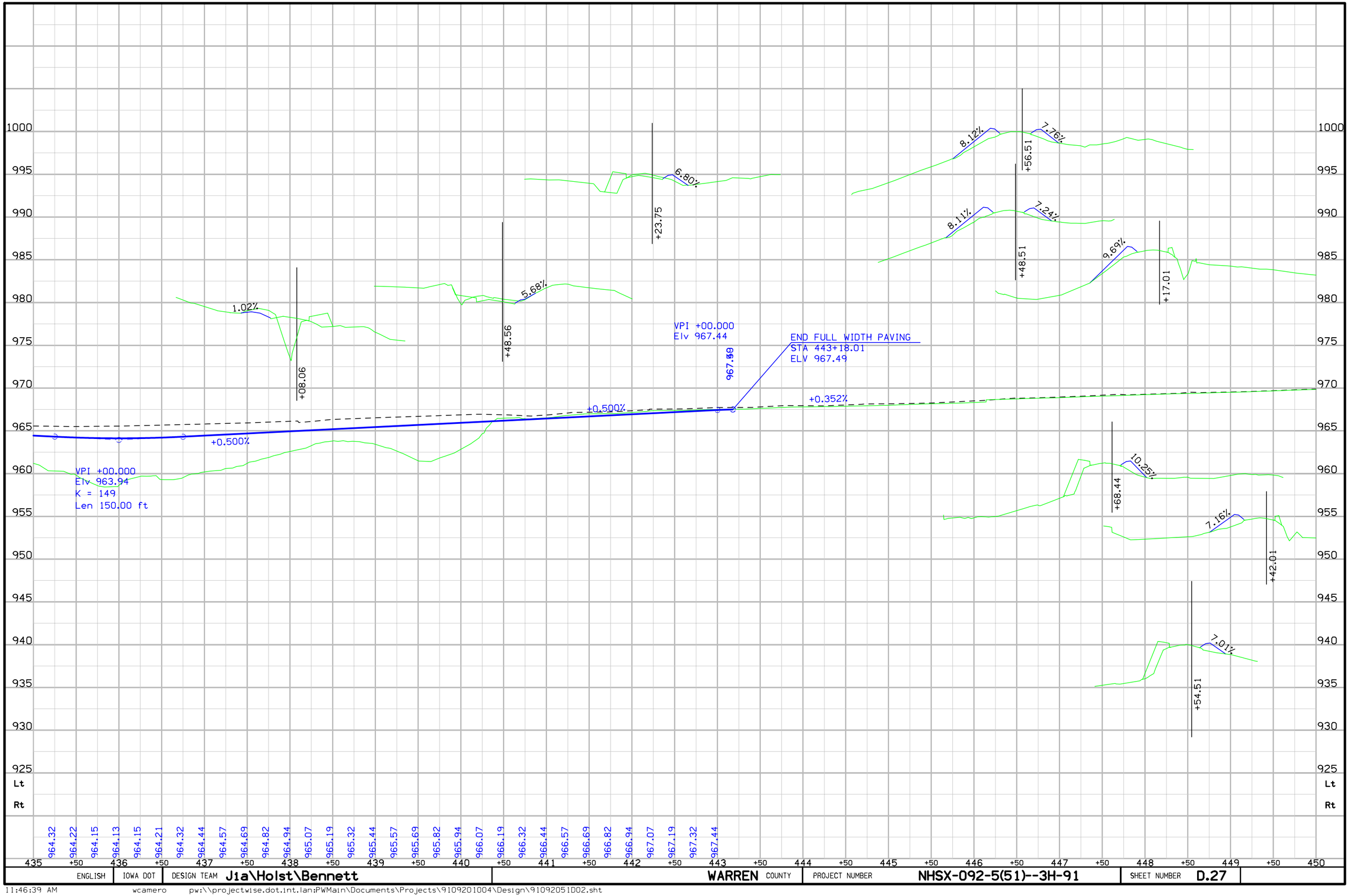
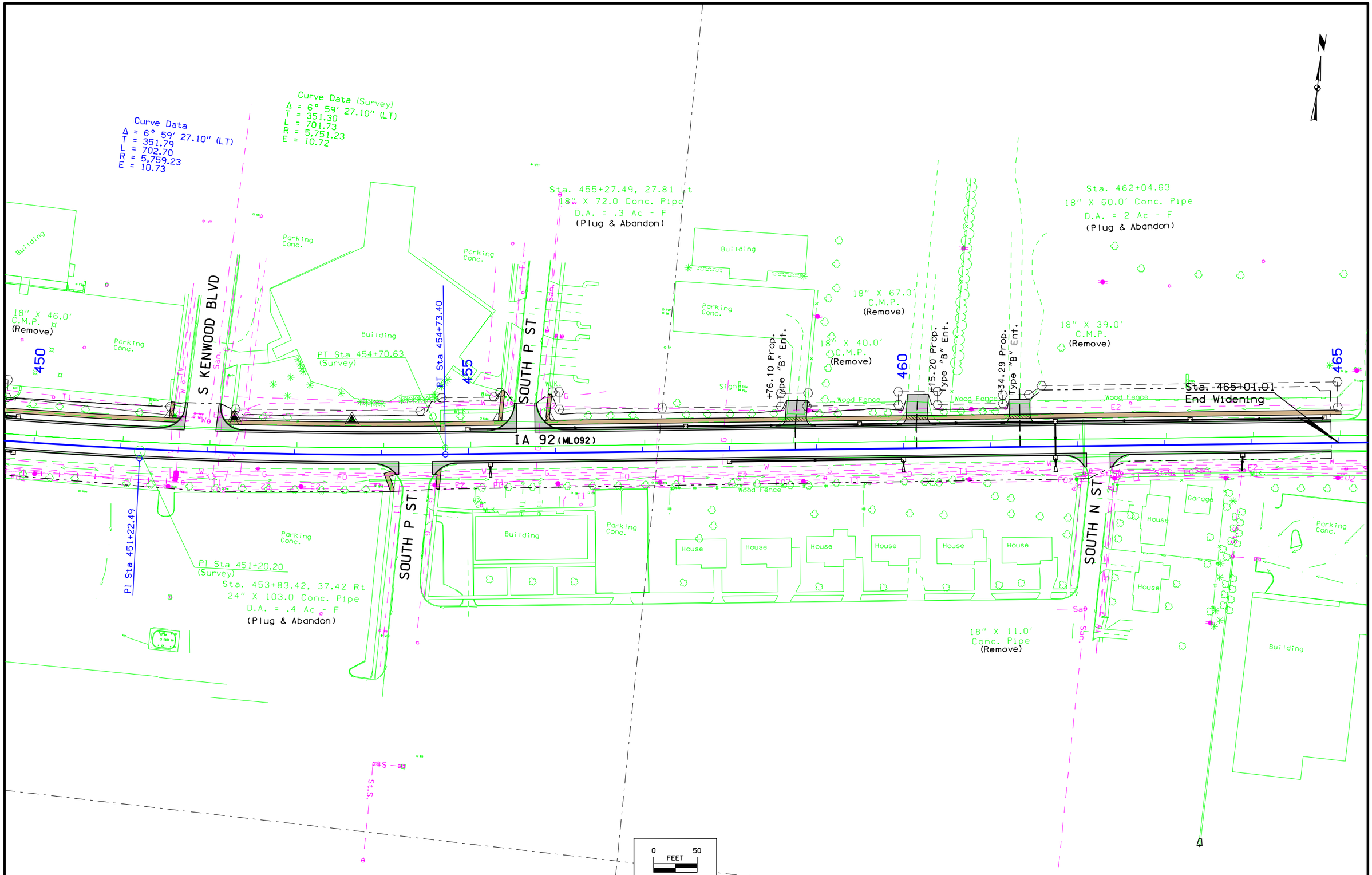


ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.27



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.28

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ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.29

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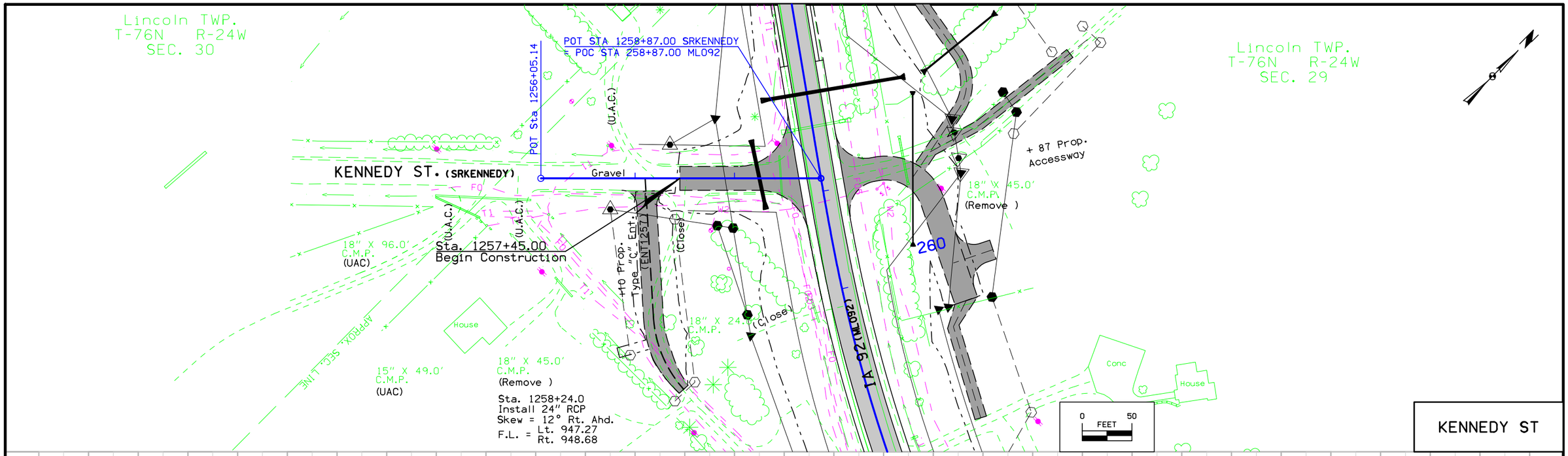

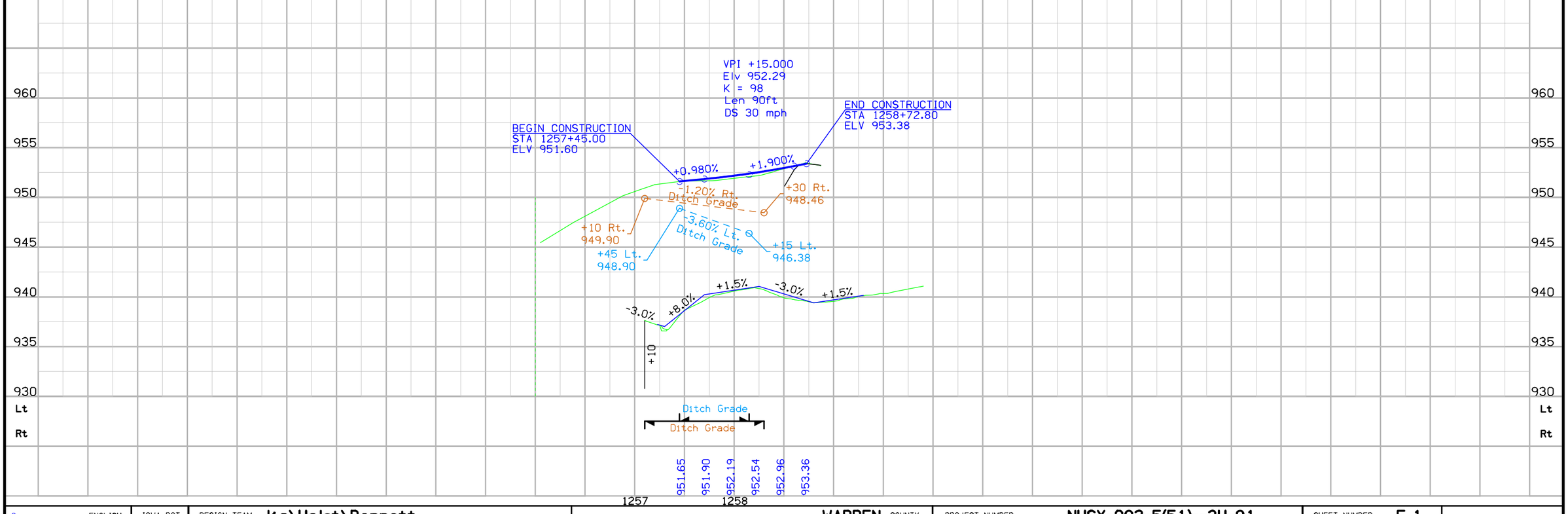

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER E.1

12:58:39 PM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051E01.sht

Lincoln TWP.
T-76N R-24W
SEC. 29

Sta. 1280+60.00
Begin Construction

PI STA 1283+73.24 SR57S
= POT STA 283+73.24 ML092

PI STA 1283+68.17 SR57N
= POT STA 283+68.17 ML092

Sta. 1386+06.00
End Construction

15" X 48.0'
C.M.P.
(REMOVE)

Prop. 18"
Uncl. Ent. Pipe

+92 Prop.
Type "C" Ent.
(ENT1281)

15" X 28.0'
C.M.P.
(REMOVE)

18" X 57.0'
C.M.P.
(REMOVE)

Prop. 18"
Uncl. Ent. Pipe

+92 Prop.
Type "C" Ent.
(ENT1281)

15" X 37.0'
Conc. Pipe
(REMOVE)

Prop. 18"
Uncl. Ent. Pipe

+92 Prop.
Type "C" Ent.
(ENT1386)

15" X 36.0'
C.M.P.
(REMOVE)

Prop. 18"
Uncl. Ent. Pipe

R-57 (SR57S)

R-57 (SR57N)

IA 92 (ML092)

1280

1385

1390

0 FEET 50

Sta. 283+86, 712.79 Lt.
2' X 2' X 71.0' RCB
D.A. = 16 Ac - R
(U.A.C.)

Sta. 283+94.88, 499.59 Lt.
24" X 69.0' Conc Pipe
D.A. = 4 Ac - R
(U.A.C.)

COUNTY
R-57

VPI +90.000
Elv 971.81
K = 67
Len 90.00 ft

VPI +06.170
Elv 972.52

VPI +80.000
Elv 971.04
K = 114
Len 90.00 ft

VPI +35.000
Elv 969.17
K = 83
Len 210.00 ft

BEGIN CONSTRUCTION
STA 1280+60.00
ELV 965.28

END CONSTRUCTION
STA 1386+06.00
ELV 969.17

+2.840%
+1.500%
-1.500%
-2.000%
-1.210%
-3.740%

+00 Lt.
962.30
+3.40% Lt. DG
+2.60% Lt. Ditch Grade

+80 Lt.
966.98

+80 Rt.
966.14

+60 Lt.
960.94

+3.20% Rt. DG
+4.30% Rt. Ditch Grade

+00 Rt.
958.40

+60 Rt.
957.12

-4.6%
+4.0%
-4.0%
-4.65%
+92

+50 Rt.
967.48

+65 Lt.
967.02

-2.60% Rt. Ditch Grade
-4.20% Lt. Ditch Grade

+06 Rt.
963.42

+06 Lt.
961.10

-963.00

-4.0%
-10.0%
+92

Ditch Grade
Ditch Grade

Ditch Grade
Ditch Grade

975 970 965 960 955 950 945

Lt
Rt

965.70 966.41 967.12 967.83 968.54 969.25 969.96 970.67 971.32 971.87 972.33 972.71 972.61 972.14 971.65 971.21 970.83 970.50 970.17 969.77 969.30 968.75 968.12 967.42 966.64 965.79 964.87 963.93 963.00

1276 1277 1278 1279 1280 1281 1282 1283 1384 1385 1386

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER E.2

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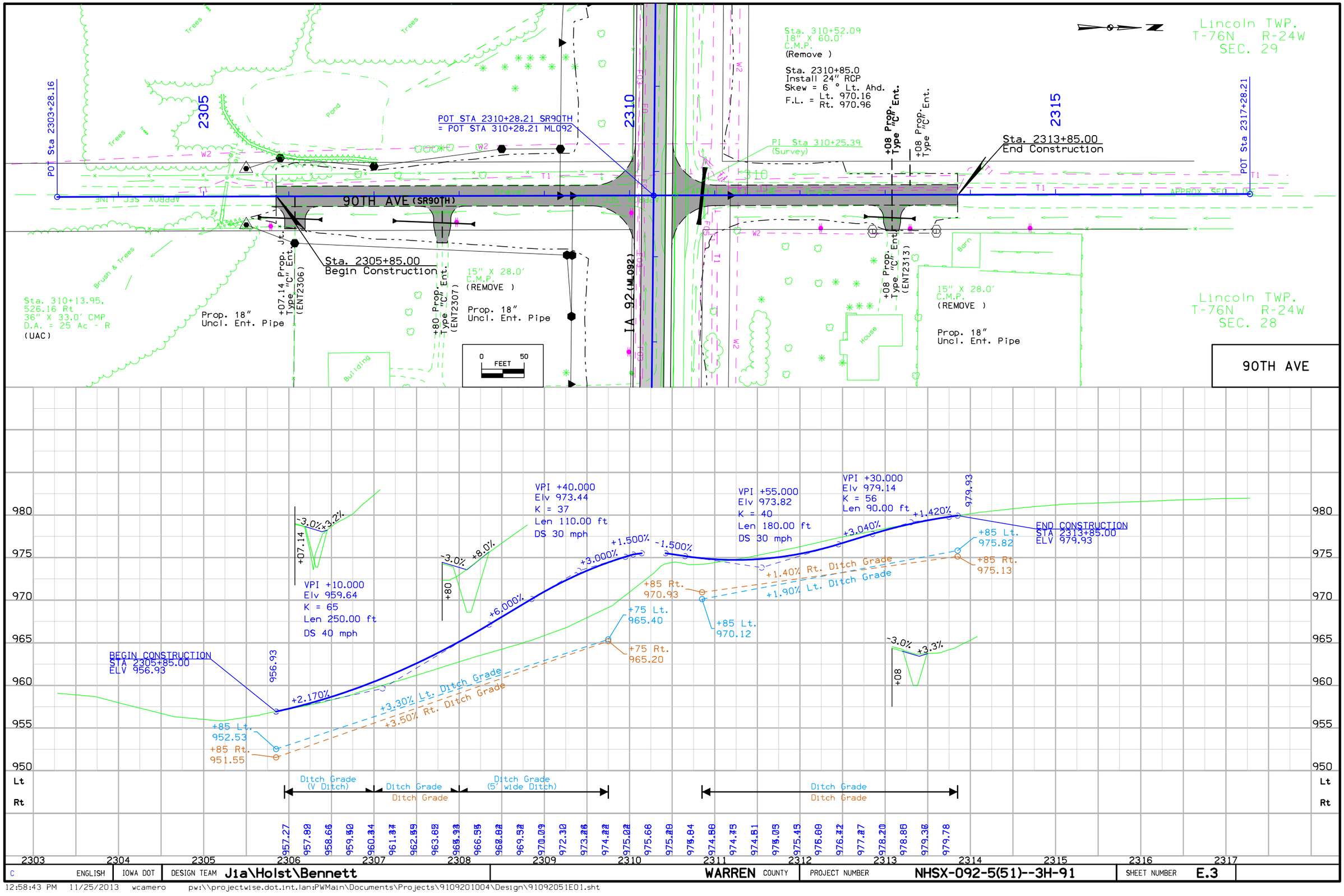

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER E.3	

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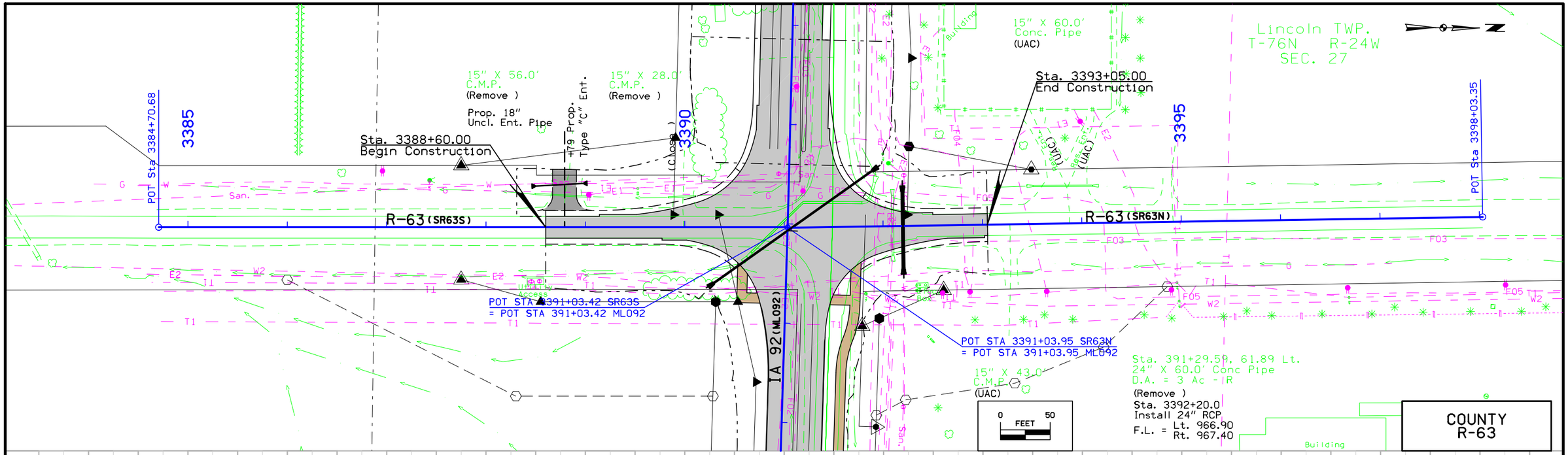
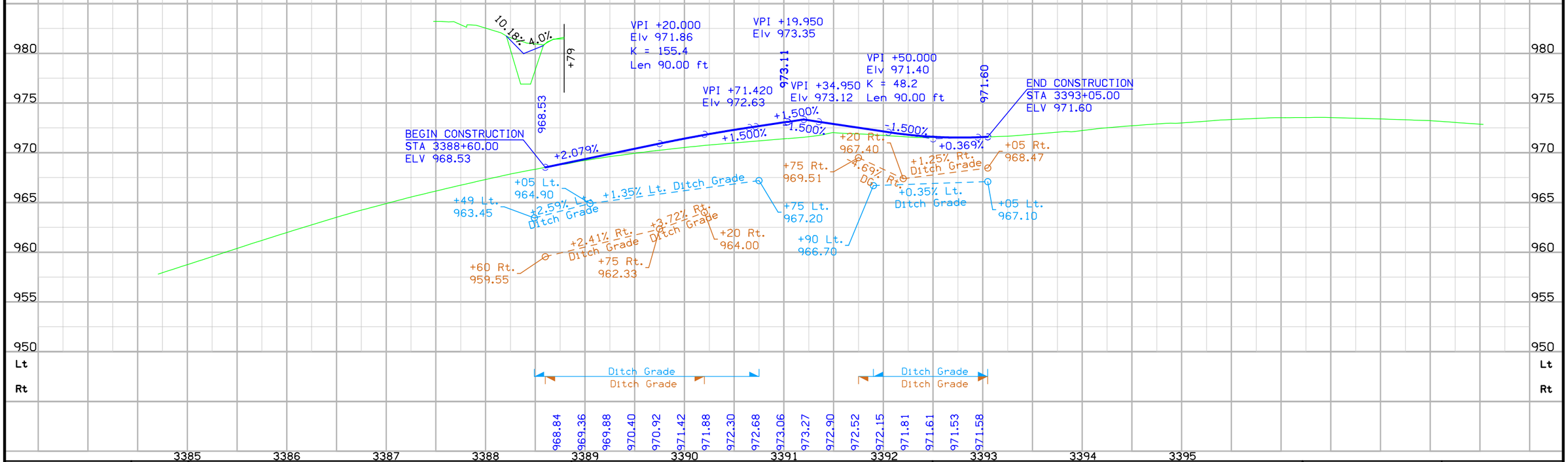




C	ENGLISH	IOWA DOT	DESIGN TEAM	J1a\Holst\Bennett	WARREN	COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER E.4

12:58:47 PM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051E01.sht

Sta. 417+37.20, 350.71 Rt.
2.0 X 3.0 Flat Grate Intake
D.A. = .4 A - R
(Remove)

Sta. 417+25.01, 350.26 Rt.
39" Beehive Intake
D.A. = 3 A - R
(Replace)

Sta. 417+03.73, 37.07 Lt.
22' X 14" X 60.0'
Arch Conc Pipe
D.A. = 4 Ac - r
(Remove)

Lincoln TWP.
T-76N R-24W
SEC. 27

POT Sta 4409+96.22

4410

Sta 4413+72.56

4415

POT Sta 4417+33.40

POT Sta 4417+40.32

Sta. 4414+15.00
Begin Construction

4420

Sta. 4422+60.00
End Construction

Sta 4424+09.38

Y STREET (SRYSTS)

Y STREET (SRYSTN)

Wetlands

Field Ent. (UAC)

Wetlands

Field Ent. (Close)

Building

Building

Gravel

Gas

IA 92 (ML092)

0 FEET 50

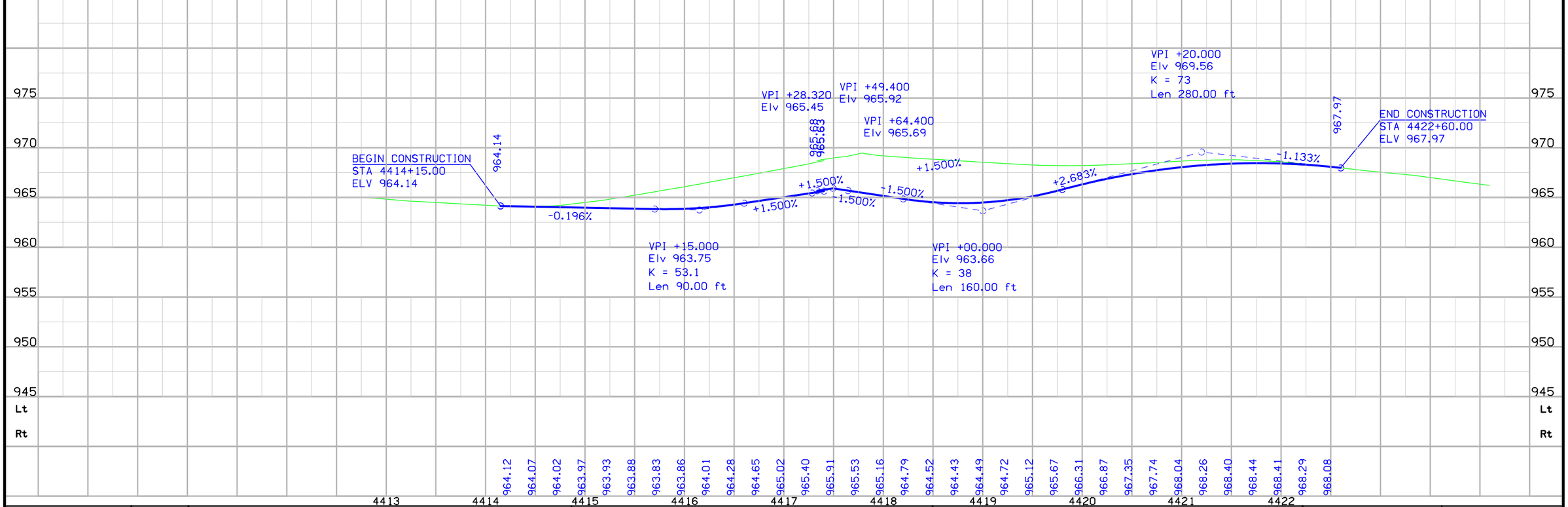
Lincoln TWP.
T-76N R-24W
SEC. 26

Y Street

Sta. 417+59.47, 350.15 Rt.
2.0 X 3.0 Flat Grate Intake
D.A. = .4 A - R
(Remove)

Sta. 417+30.31, 350.36 Rt
30" X 44.0' CMP
D.A. = 16 Ac - R
(Remove)

Sta. 416+97.93, 36.89 Rt
15" X 108.0' Conc.
Pipe Extensions
D.A. = 1 Ac - F
(Remove)



C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER E.5

Lincoln TWP.
T-76N R-24W
SEC. 29

Curve Data
Δ = 80° 59' 47.59" (RT)
T = 42.70
L = 70.68
R = 50.00
E = 15.75

Prop. 24" Uncl. Ent. Pipe
(ENT258A)
+82.5 Prop. Type "C" Ent. Jct.
(ENT258B)
+82.5 Prop. Type "C" Ent. (ENT280C)
PT Sta 1260+14.98
Sta. 1261+20.00
End Accessway
18" x 45.0' C.M.P. (Remove)
PC Sta 1259+44.30
ACCESS 258
(ACCESS258)
+20 Prop. Type "C" Ent. (ENT258D)
Prop. 18" Uncl. Ent. Pipe
15" X 40.0' C.M.P. (Remove)
15" X 24.0' C.M.P. (Remove)
Prop. 18" Uncl. Ent. Pip
IA 92(ML092)
Gravel
Building
POT STA 1258+87.00 ACC258
= POC STA 258+87.00 ML092
0 FEET 50
ACCESS 258

(ENT258A)
+4.4%
-4.8%
+6.0%
(ENT258B)
-6.8%
-10.9%
(ENT258C)
-1.6%
(ENT258D)
+3.0%
+6.0%

BEGIN CONSTRUCTION
STA 1259+09.00
ELV 952.87

VPI +29.000
Elv 952.07
-4.000%
-6.000%

END CONSTRUCTION
STA 1261+20.00
ELV 951.25

VPI +31.400
Elv 945.93
Len 80ft
+6.000%

+82.5
+80

Match ML +82.5 2' Ditch
Match Mainline

952.23 950.81 949.31 947.87 947.16 947.39 948.55 950.05

960 955 950 945 940
Lt
Rt
1259 1260 1261 1262

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER E.6

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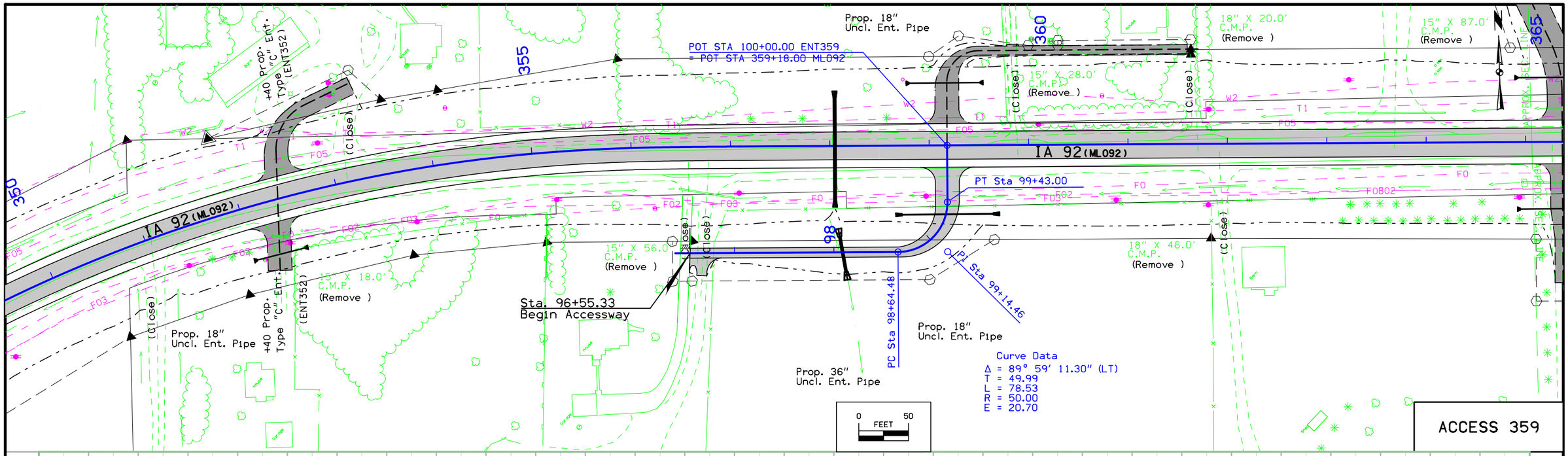
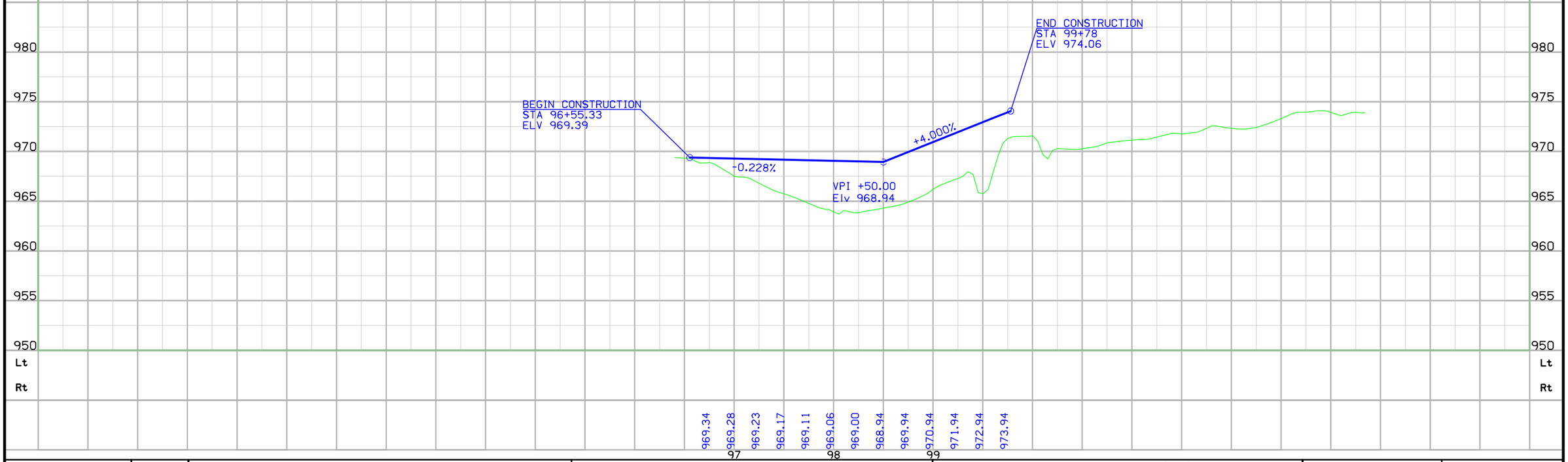
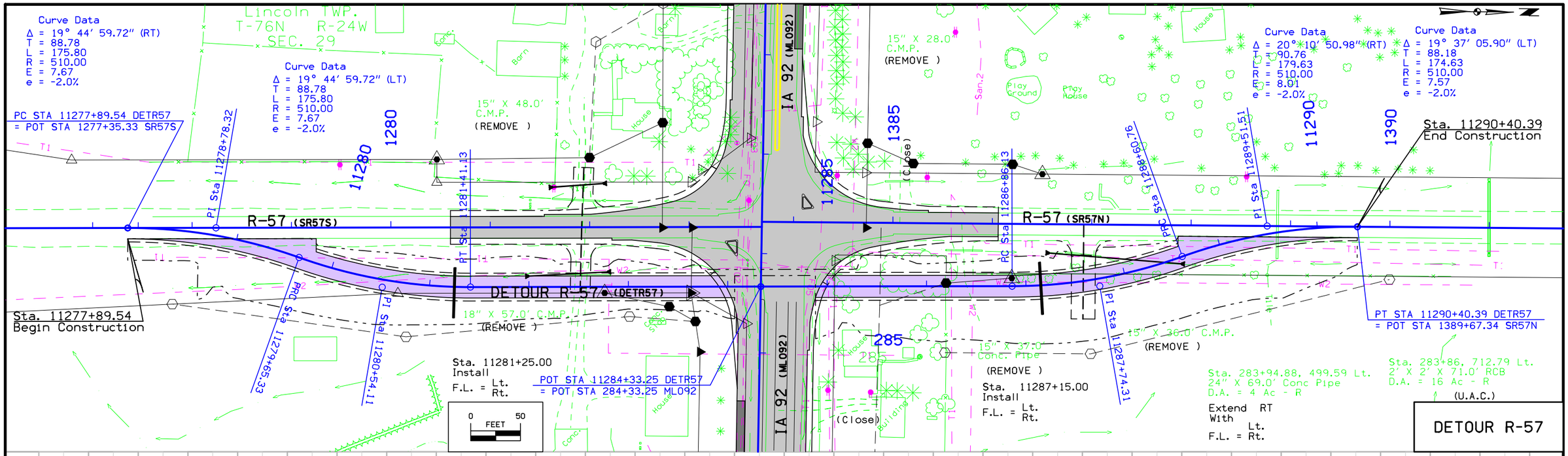




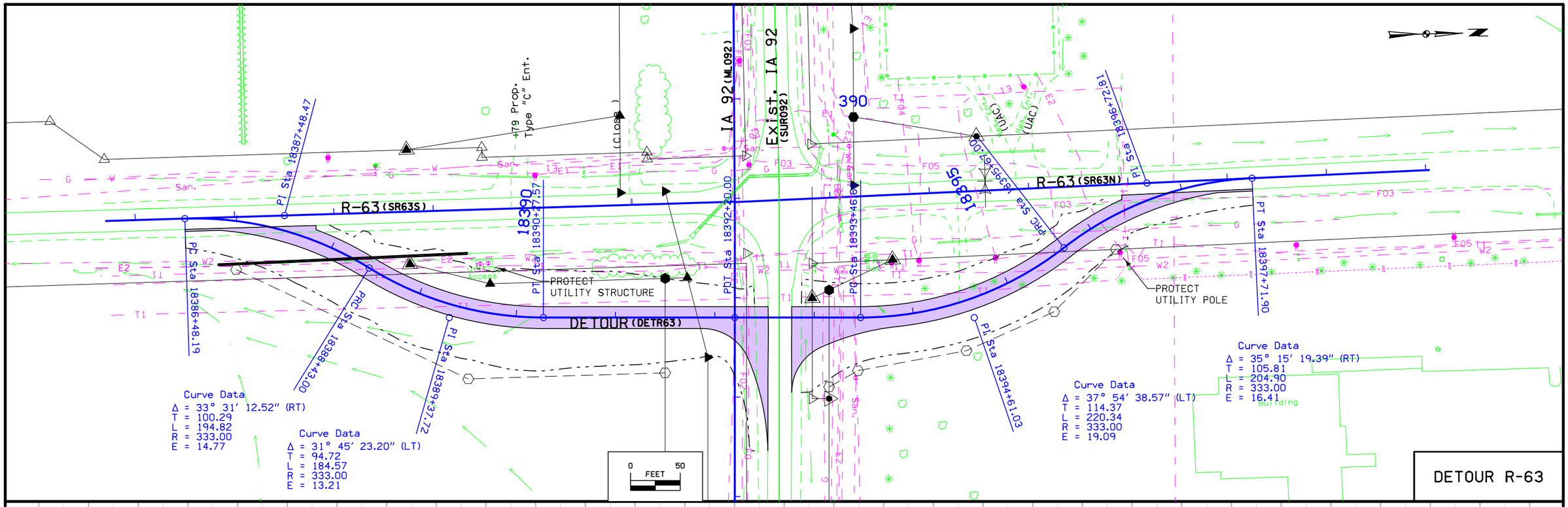
C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER E.7

12:58:53 PM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051E01.sht



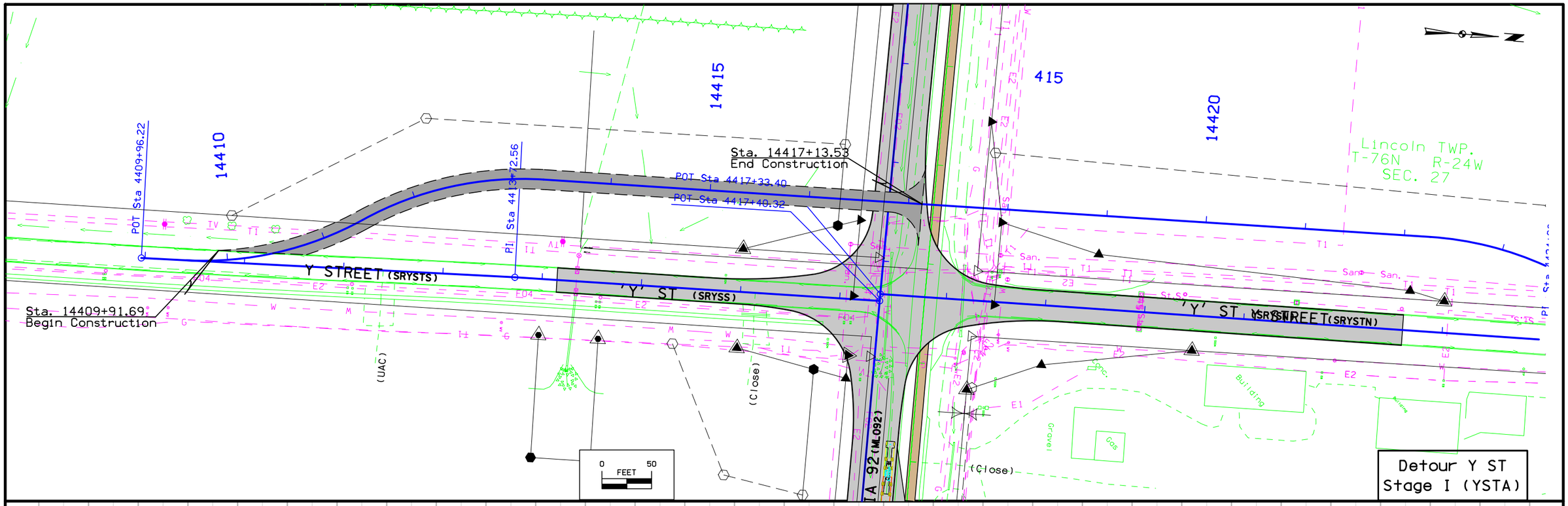
C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER F.1

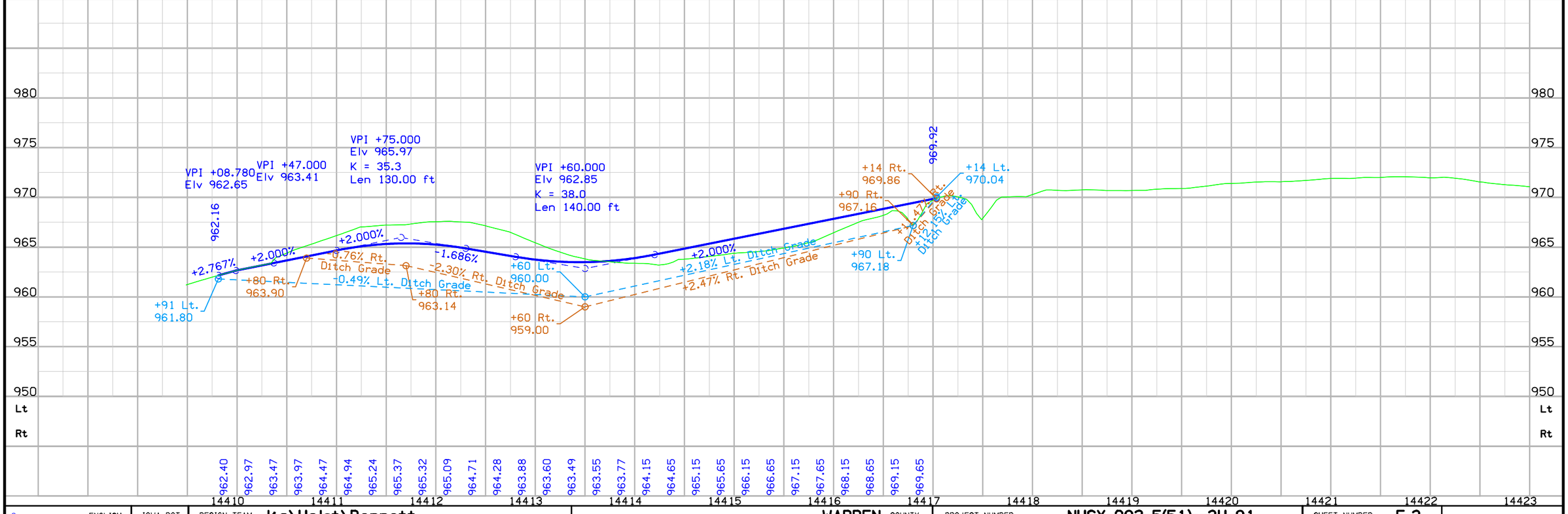
2:10:48 PM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051F01.sht



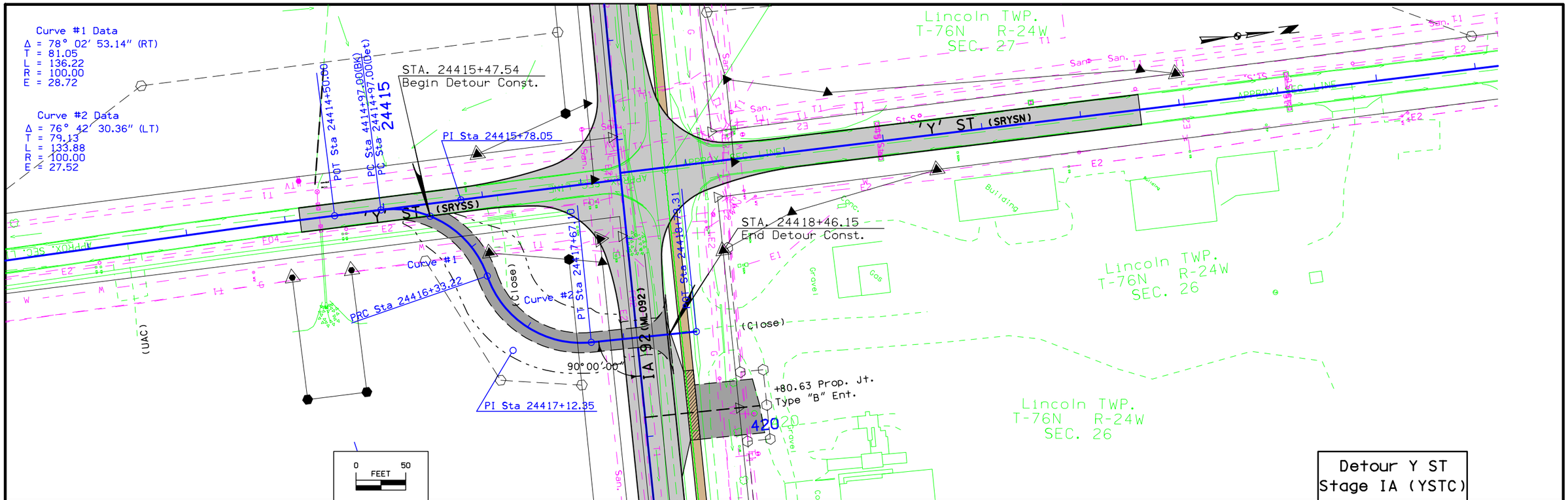
C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER F.2

2:10:50 PM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051F01.sht





C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER F.3



C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER F.4

2:10:55 PM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051F01.sht

Lincoln TWP.
T-76N R-24W
SEC. 27

415

14420

14415

14425

Curve Data
Δ = 31° 17' 50.18" (RT)
T = 93.28
L = 181.90
R = 333.00
E = 12.82

Sta. 14416+96.30
Begin Detour Const.

Sta. 14424+85.76
End Detour Const.

PI Sta 14423+19.27

PT Sta 14425+88.36

PT STA 14425+88.36 DETYSTA
= POT STA 4426+26.45 SRYSTN

POT Sta 14416+80.29

POT STA 416+40.28 ML092
= POT STA 14416+80.29 DETYSTA

(DETYSTA)

'Y' ST (SRYSS)

'Y' ST (SRYSN)

PC Sta 14424+25.99

PRC Sta 14424+07.89

PI Sta 14425+00.40

Curve Data
Δ = 31° 03' 05.97" (LT)
T = 92.51
L = 180.47
R = 333.00
E = 12.61

Building

Building

Gravel

Gas

(Close)

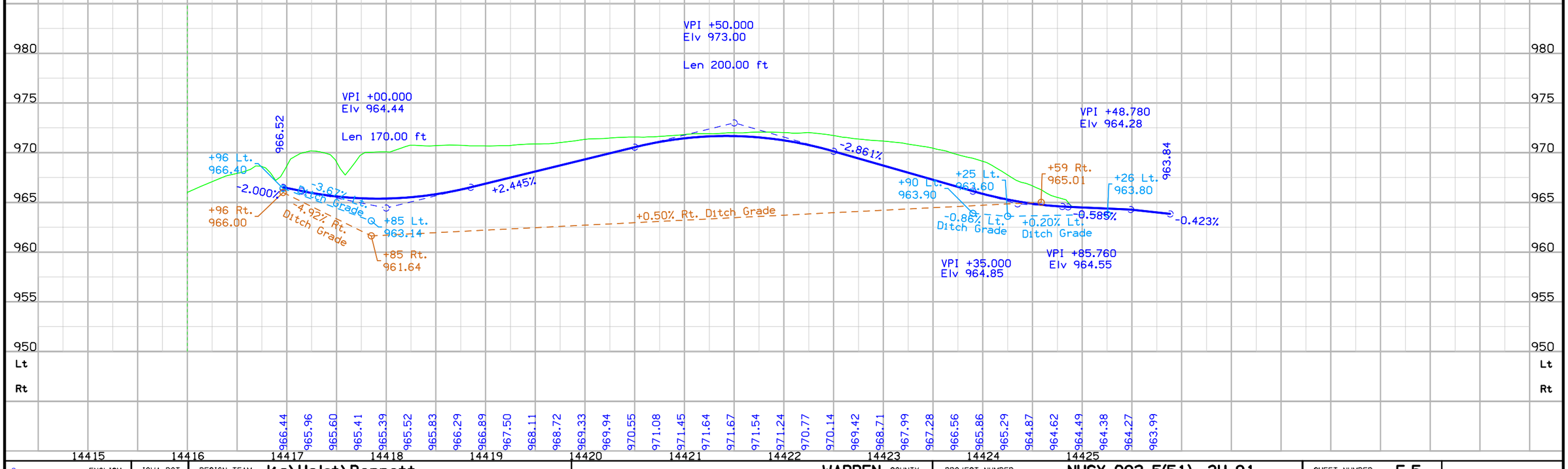
(Close)

2 (ML092)

Lincoln TWP.
T-76N R-24W
SEC. 26

0 FEET 50

Detour Y ST
Stage 2 (YSTB)



C	ENGLISH	IOWA DOT	DESIGN TEAM	J1a\Holst\Bennett	WARREN	COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER F.5

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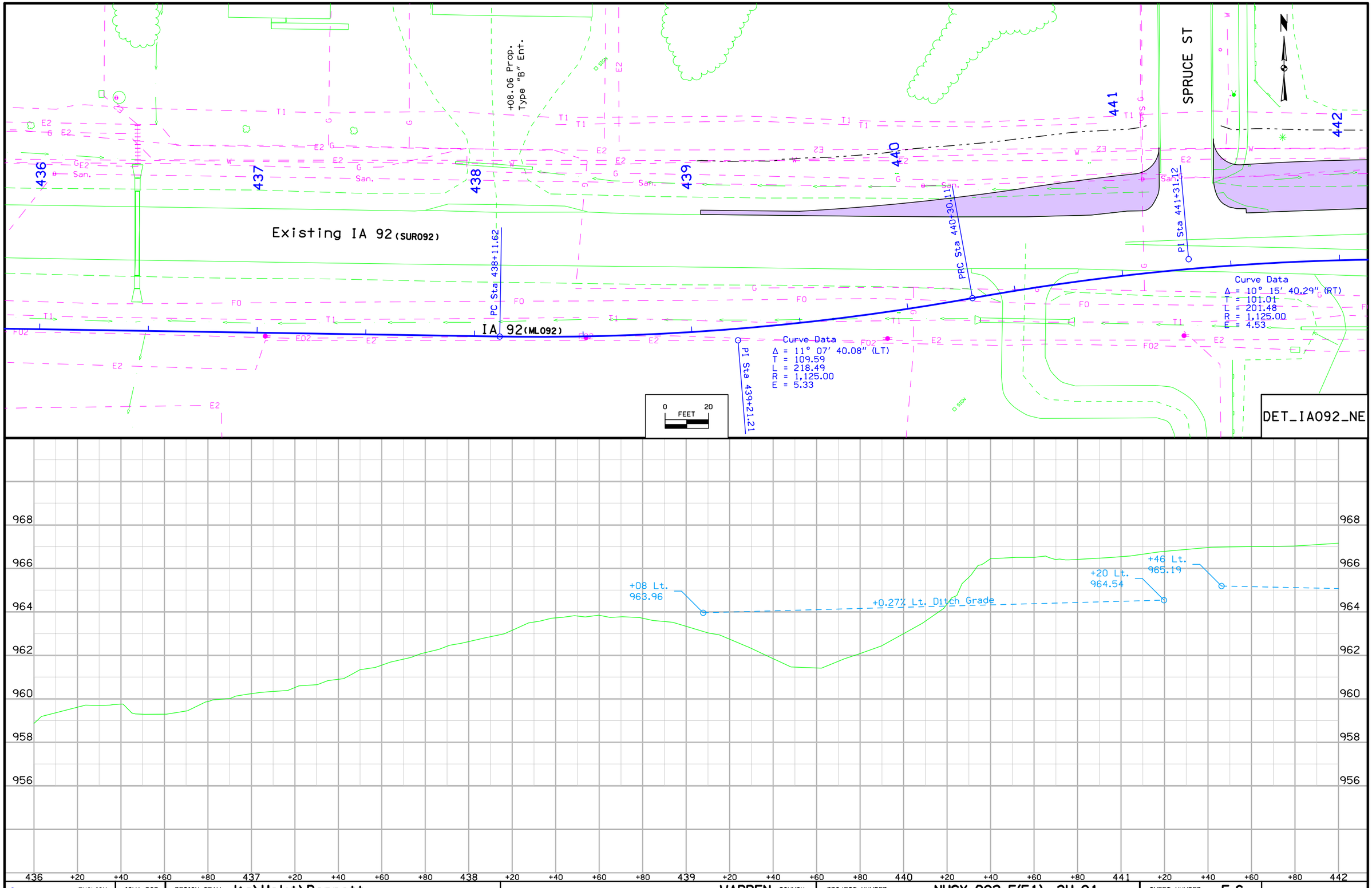
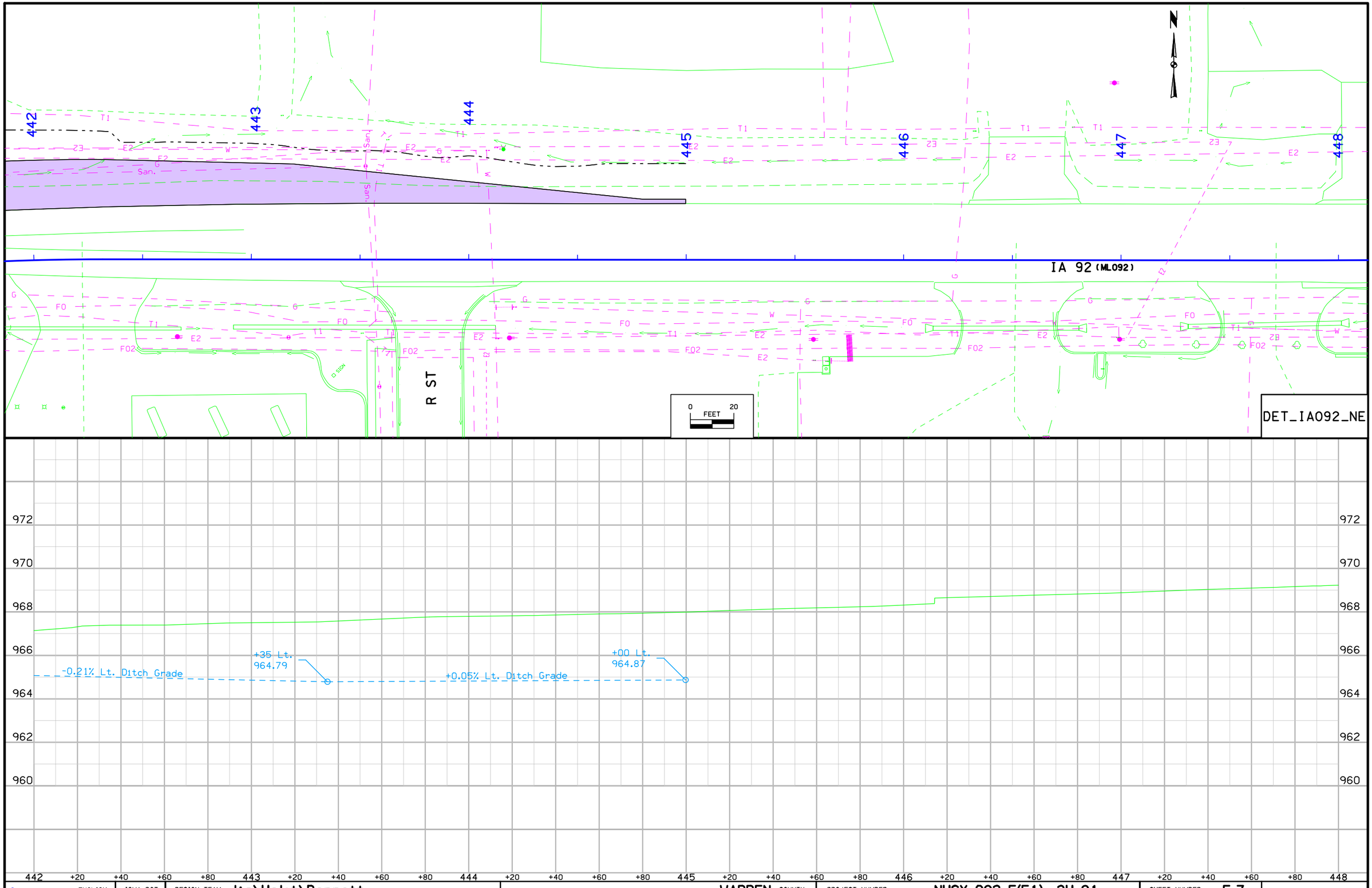


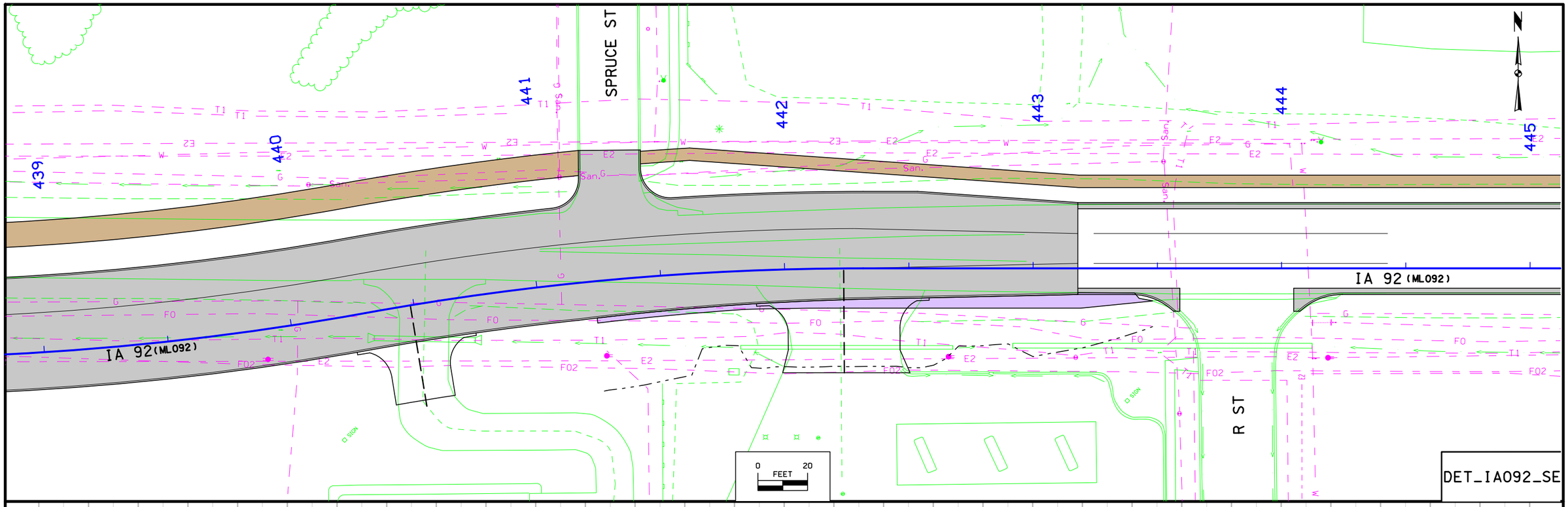
C	ENGLISH	IOWA DOT	DESIGN TEAM	J1a\Holst\Bennett	WARREN	COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER F.6

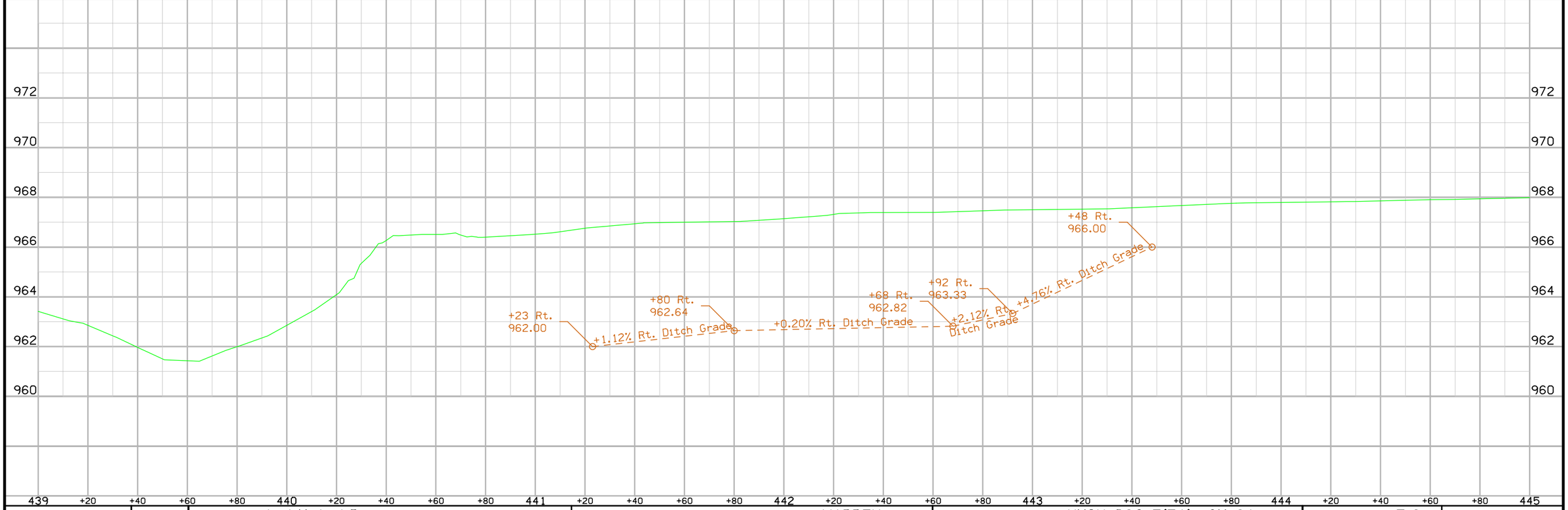
2:11:01 PM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051F01.sht



C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER F.7

2:11:02 PM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051F01.sht





C	ENGLISH	IOWA DOT	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER F.8

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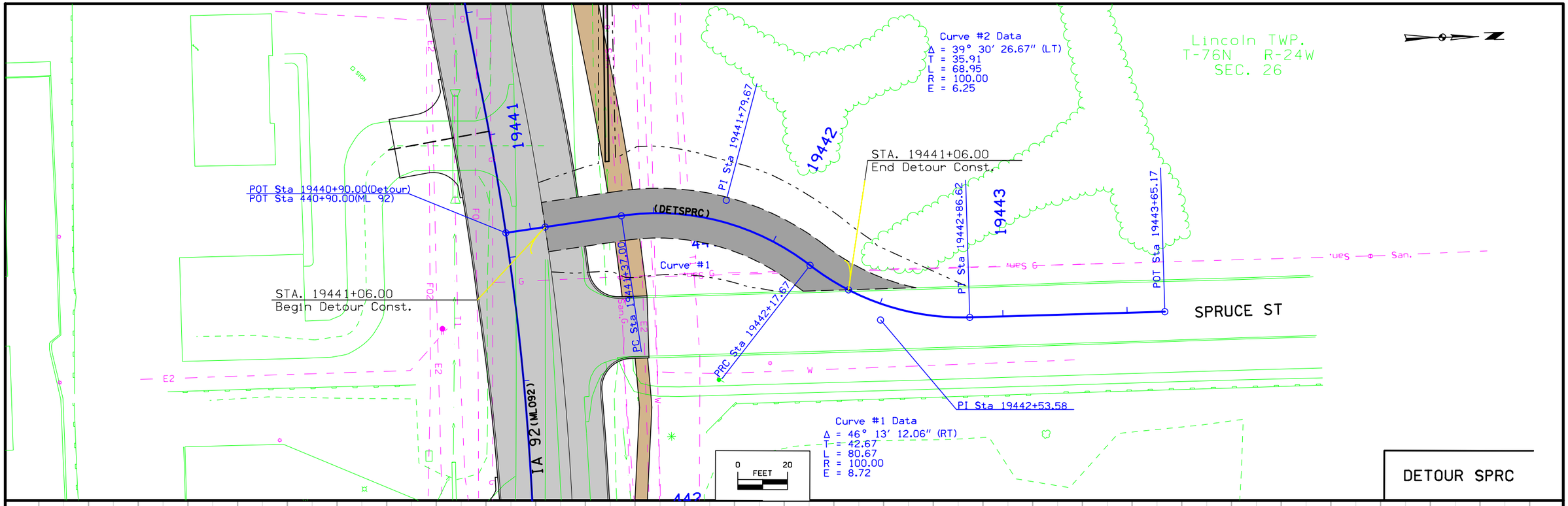


C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER F.9	

2:11:06 PM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051F01.sht

Survey Information

Warren County
STP-092-5(46)—2C-91
IA 92 From Just W. of Co. Rd. R-57
To S. Kenwood Blvd. in Indianola
04-91-092-010-01
Sap-0482.2

General Information

Measurement units for this survey are US survey feet. This survey is for improvements on IA 2 in Warren County. This field survey was to obtain roadway and drainage features and break lines. The entire digital terrain model and topography in the corridor will be completed by supplemental aerial photography..

Vertical Control
This survey control is relative to NAVD88 Datum in accordance with 3rd. order vertical accuracy. NAVD88 height was transferred to the project at CP # 25 & CP # 35 using averaging redundant IARTN observations applying Geoid 2009. Iowa RTN reference stations are relative vertically to highly accurate National Geodetic Survey (NGS) Reference Stations that are used by NGS for reporting heights relative to NAVD88 datum. A 3-wire level loop was run from CP # 25 through the project benchmarks and ended at CP # 35. The loop error was allowable and the error was distributed proportionately among the project marks

Vertical equations are as follows:

Datum Benchmarks
CP # 25 this survey, elevation 958.76=
G025 Project # STP-092-5(46)--2C-91, elevation 958.86

CP # 35 this survey, elevation 967.18=
G035 Project # STP-092-5(46)--2C-91, elevation 967.14

Horizontal Control

The GPS Network along this project was collected by IDOT Preliminary Survey Crews. Information about that network can be found in the 0482gpspoints.rep file included with this survey in NAD83(1996) Datum.. Iowa State Plane Coordinates were transformed to project coordinates using the following information.

General Information for GPS Project : STP-092-5(46)--2C-91 SAP 482
State Plane Coordinate Zone 1402 (Iowa South Lambert)

Average Project Latitude = 41 21 46.06621
Resulting Radius = 6363322.382 (Meters)
Mean Project Elevation = 279.990 (Meters)
Sea Level Factor = 0.999956001
Average Project Scale Factor = 0.999953270
Combined Factor (Grid) = 0.999909273
1 / Grid = 1.000090735
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

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. P-569 Survey stationing was equated to the plans at PI Sta. 263+46.7 and carried back and ahead with no equation throughout the survey.

Equations are as follows:

PI Sta. 263+46.7 This Survey
= PI Sta. 263+46.7 As-built Plans Project No. P-569

PI Sta. 283+70.97 This Survey
= PI Sta. 283+72.3 As-built Plans Project No. P-569

PI Sta. 310+25.39 This Survey
= PI Sta. 310+27.4 As-built Plans Project No. P-569

PI Sta. 336+71.87 This Survey
= PI Sta. 336+75.5 As-built Plans Project No. P-569

PI Sta. 343+73.27 This Survey
= PI Sta. 343+76.9 As-built Plans Project No. P-569

PI Sta. 351+45.19 This Survey
= PI Sta. 351+50.8 As-built Plans Project No. P-569

PI Sta. 365+06.91 This Survey
= PI Sta. 365+11.5 As-built Plans Project No. P-569

PI Sta. 391+01.81 This Survey
= PI Sta. 391+06.4 As-built Plans Project No. P-569

PI Sta. 417+36.67 This Survey
= PI Sta. 417+43.4 As-built Plans Project No. P-569

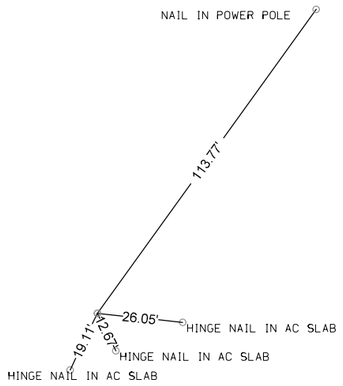
PI Sta. 438+87.96 This Survey
= PI Sta. 438+94.7 As-built Plans Project No. P-569

PI Sta. 451+20.2 This Survey
= PI Sta. 451+26.0 As-built Plans Project No. P-569

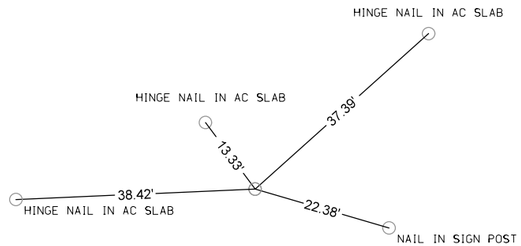
VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Description
659	494848.786	1597094.294	932.179	246+17.65	45.909	SET\RR SPK E SIDE 1ST POWER POLE
660	494140.746	1598099.141	950.571	258+46.84	34.474	SET\RR SPK E SIDE POWER POLE
661	493843.985	1598916.852	962.955	267+16.92	26.062	SET\RR SPK N SIDE POWER POLE
662	493790.182	1599914.401	969.535	277+15.27	62.083	SET\RR SPK N SIDE POWER POLE
663	493809.495	1600544.970	971.893	283+45.39	31.540	SET\RR SPK N SIDE POWER POLE
664	493801.002	1601735.334	967.621	295+35.44	31.666	SET\RR SPK N SIDE POWER POLE
665	493793.570	1602616.804	980.958	304+16.94	33.113	SET\RR SPK N SIDE POWER POLE
666	493774.151	1603186.184	970.300	309+86.44	48.666	CONC MONUMENT
667	493761.377	1604526.042	975.070	323+26.48	49.186	CONC MONUMENT
668	493764.357	1605810.055	968.332	336+10.41	34.374	SET\RR SPK S SIDE POWER POLE
669	493952.361	1606901.909	974.072	347+14.74	48.102	SET\RR SPK W SIDE POWER POLE
670	494182.094	1608008.803	966.556	358+97.50	39.449	SET\RR SPK N SIDE POWER POLE
671	494163.385	1609230.603	974.025	371+19.20	53.216	SET\RR SPK S SIDE POWER POLE
672	494181.064	1610588.817	975.829	384+77.37	32.550	CUT X ON R.O.W. RAIL
673	494255.767	1611520.232	974.200	394+07.47	-51.566	CUT X NW BOLT 1ST FIRE HYDRANT
674	494225.721	1612685.096	976.154	405+72.72	-52.100	CUT X ON NW BOLT FIRE HYDRANT
675	494186.822	1613914.713	967.557	418+03.27	-44.989	CUT X ON NW BOLT FIRE HYDRANT
676	494060.801	1615399.101	965.440	432+89.77	53.111	CUT X ON NE BOLT FIRE HYDRANT
677	494169.002	1616259.880	969.058	441+49.41	-67.303	CUT X ON SW BOLT FIRE HYDRANT
678	494142.697	1617266.587	971.521	451+58.64	-31.568	CUT X ON S BOLT FIRE HYDRANT
679	494179.247	1618305.076	967.642	461+96.05	46.333	CUT X ON SE BOLT FIRE HYDRANT
680	494489.398	1619450.029	968.177	Off Chain	Off Chain	NE BOLT FIRE HYDRANT

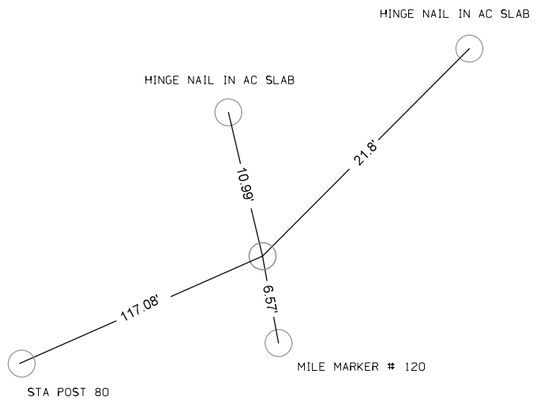
CP STA OFF CHAIN
CP No. 10, Fd. Rebar
N=496175.910, E=1561565.170



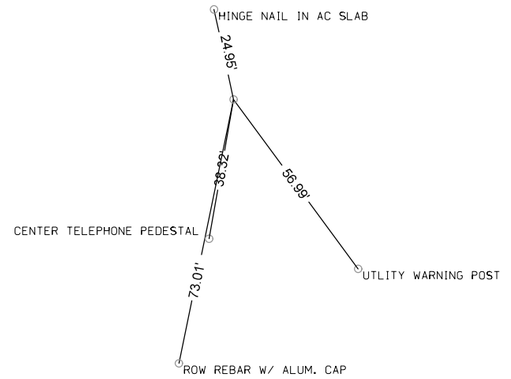
CP STA OFF CHAIN
CP No. 12, Fd. Feno Monument
N=497203.940, E=1565343.760



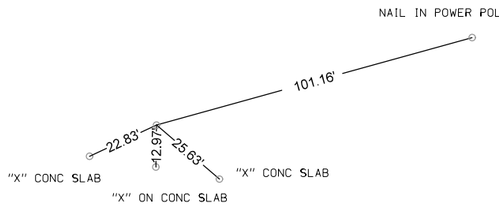
CP STA OFF CHAIN
CP No. 13, Fd. Rebar
N=498065.040, E=1568426.330,



CP STA OFF CHAIN
CP No. 14, Fd. Rebar
N=498911.550, E=1571561.620,



CP STA 3+91.63, 180.71 Rt.
CP No. 15, Fd. Rebar
N=499571.430, E=1574333.310,



CP STA 23+47.79, 21.90 Lt.
CP No. 16, Fd. Rebar
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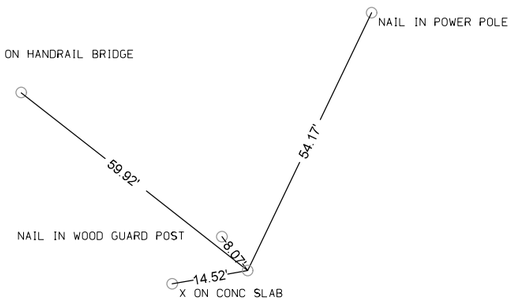

CP STA 36+16.39, 19.13 Rt.
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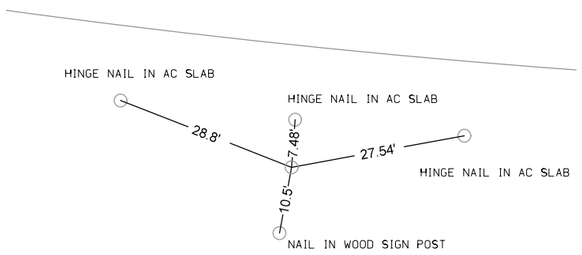

CP STA 68+34.41, 21.89 Rt.
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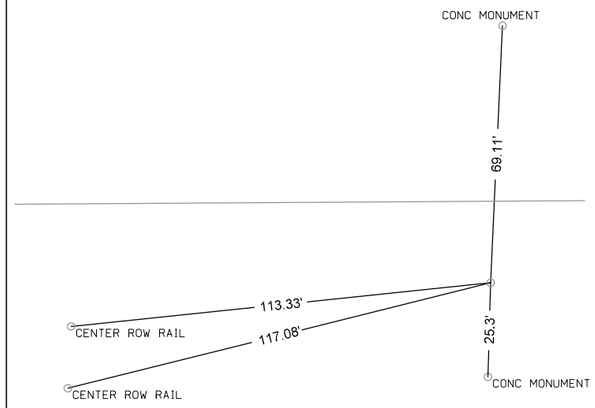

CP STA 97+35.35, 21.36 Lt.
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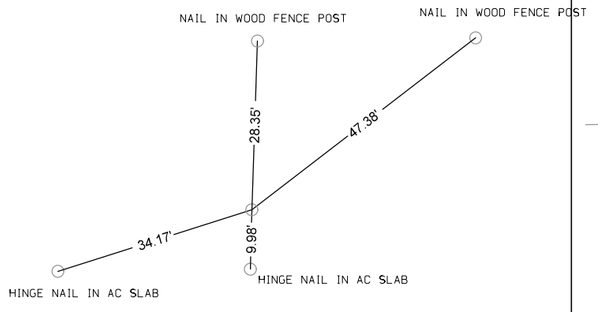

CP STA 139+97.21, 22.08 Lt.
CP No. 20, Fd. Rebar
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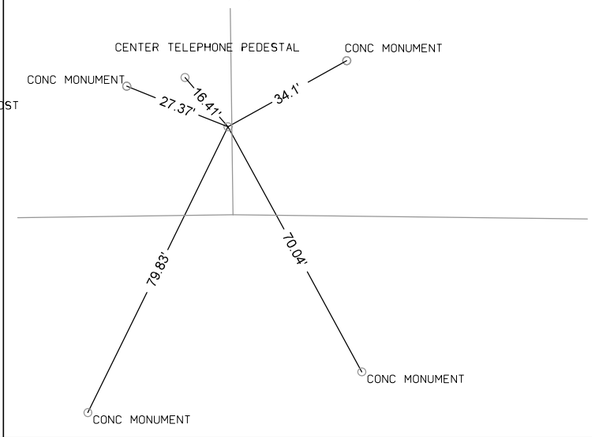

CP STA 183+66.82, 19.52 Rt.
CP No. 21, Fd. Rebar
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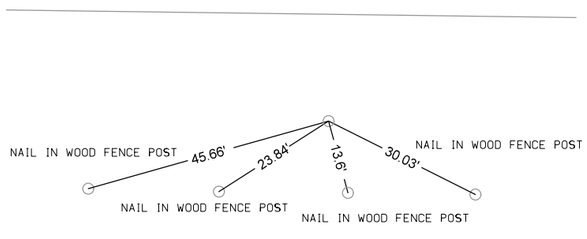

CP STA 192+66.29, 69.52 Lt.
CP No. 22, Fd. Rebar
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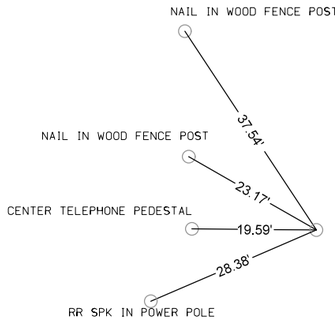

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER G.2

10:52:43 AM 12/3/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051G01.sht

CP STA 202+26.65, 23.77 Lt.
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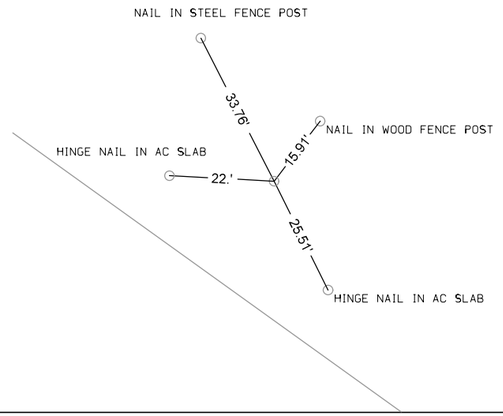

CP STA 212+27.42, 25.52 Lt.
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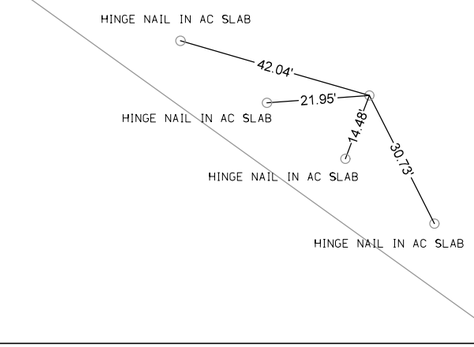

CP STA 246+74.28, 15.78 Lt.
CP No. 324, Fd. Iron Pin
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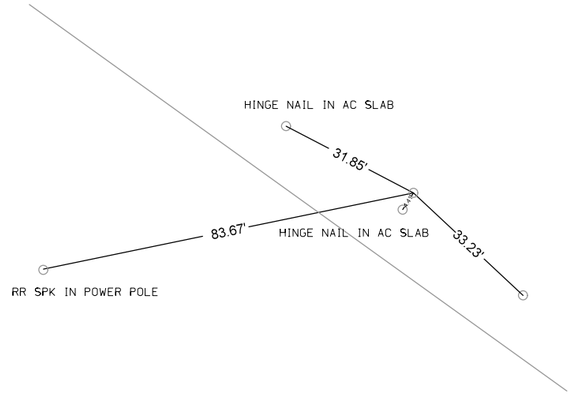

CP STA 257+09.95, 23.63 Rt.
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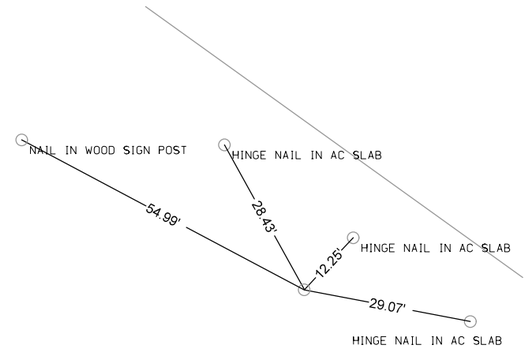

CP STA 263+35.7, 54.56 Rt.
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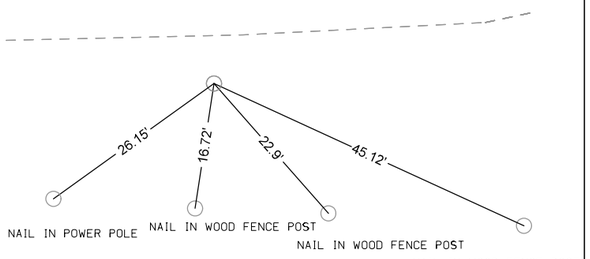

CP STA 275+00.55, 17.59 Rt.
CP No. 26, Fd. Rebar
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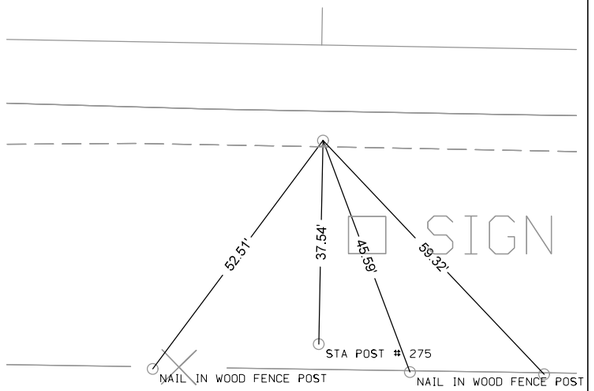

CP STA 283+29.75, 47.72 Lt.
CP No. 326, Fd. Iron Pin
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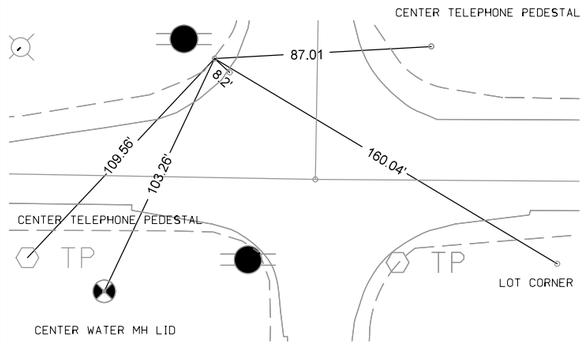

CP STA 293+73.67, 19.02 Rt.
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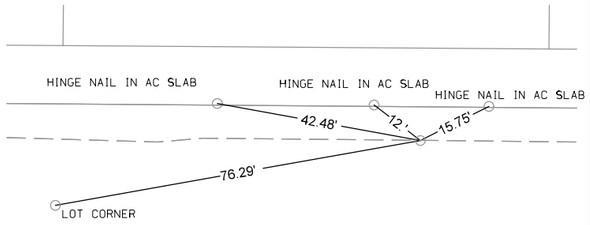

CP STA 302+85.88, 26.47 Lt.
CP No. 27, Fd. Rebar
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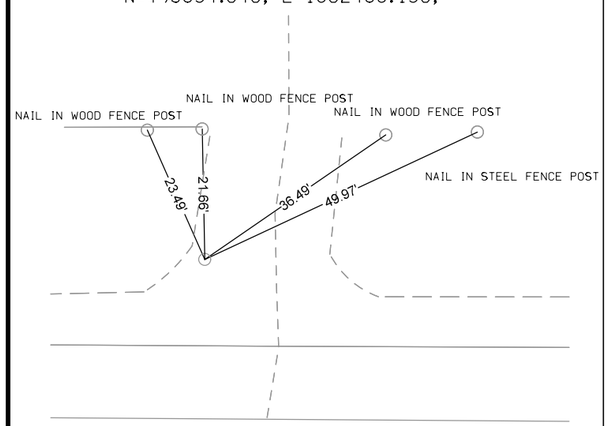

CP STA 310+51.04, 27.19 Rt.
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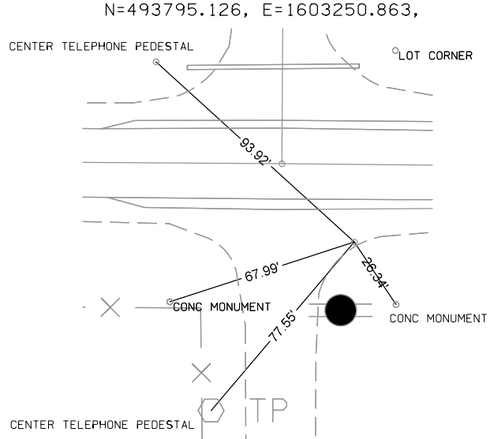

CP STA 323+51.93, 27.54 Lt.
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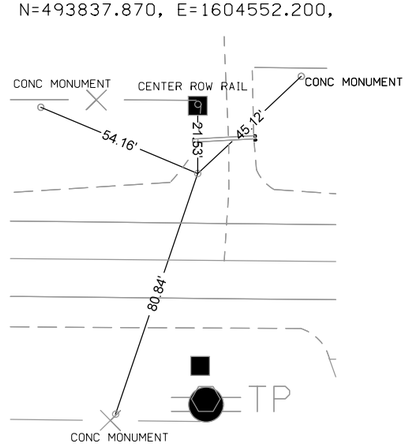

CP STA 331+33.48, 20.40 Lt.
CP No. 329, Fd. Iron Pin
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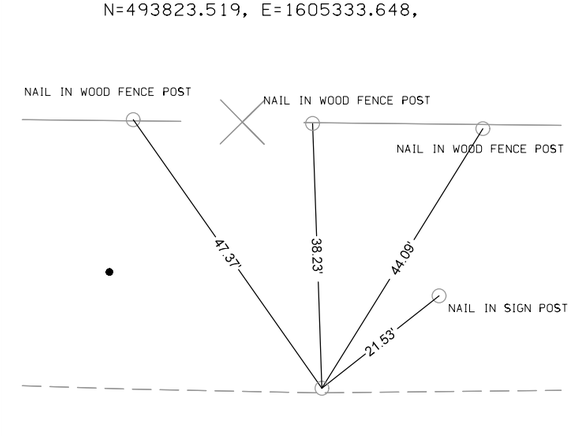

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER G.3

CP STA 342+98.08, 21.90 Rt.
CP No. 29, Fd. Rebar
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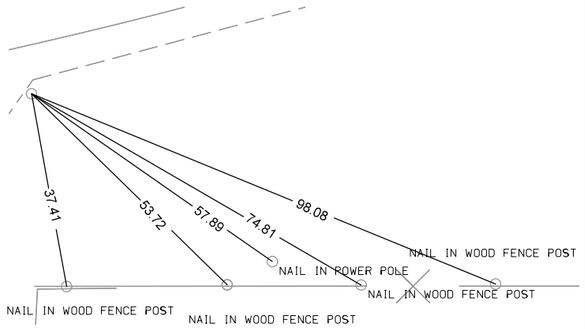

CP STA 350+95.08, 20.57 Lt.
CP No. 30, Fd. Rebar
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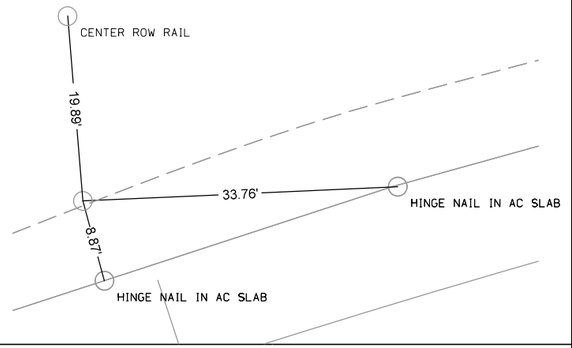

CP STA 359+87.72, 18.85 Lt.
CP No. 330, Fd. Iron Pin
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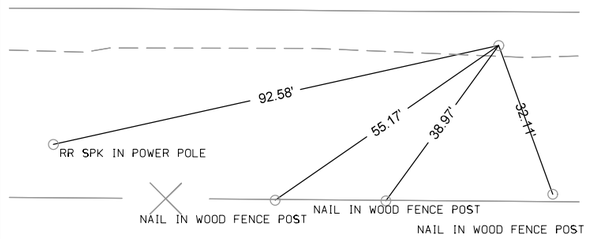

CP STA 368+07.83, 46.84 Lt.
CP No. 31, Fd. Rebar
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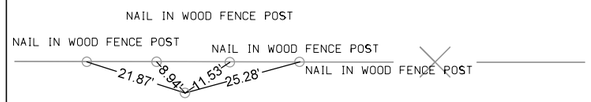

CP STA 377+81.08, 17.74 Lt.
CP No. 331, Fd. Iron Pin
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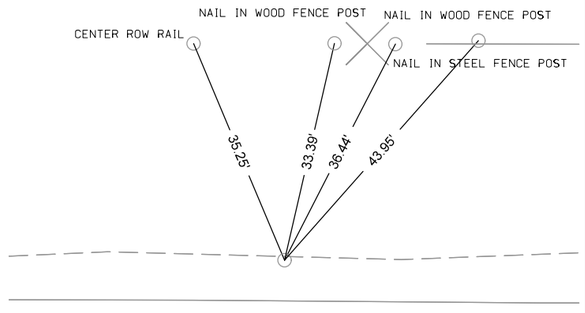

CP STA 386+82.38, 22.31 Rt.
CP No. 32, Fd. Rebar
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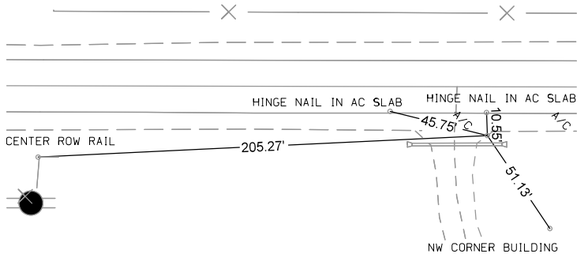

CP STA 391+45.71, 33.75 Lt.
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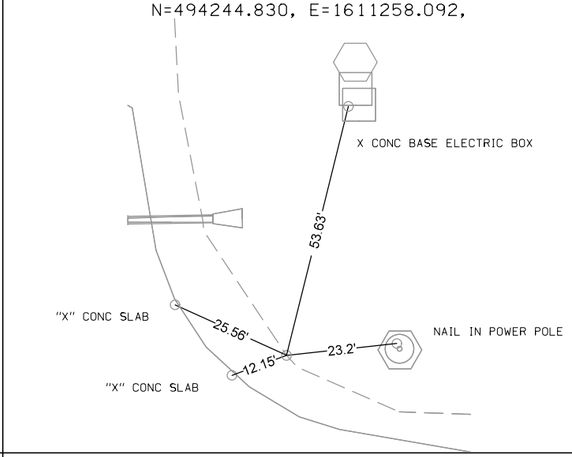

CP STA 401+75.95, 36.08 Rt.
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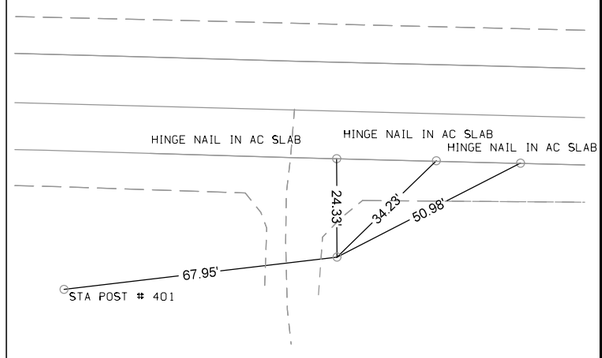

CP STA 408+86.04, 20.70 Lt.
CP No. 333, Fd. Iron Pin
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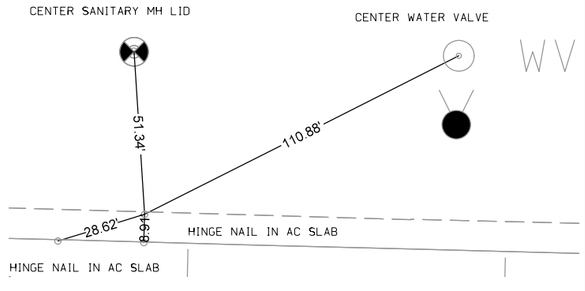

CP STA 417+02.74, 28.34 Rt.
CP No. 334, Fd. Iron Pin
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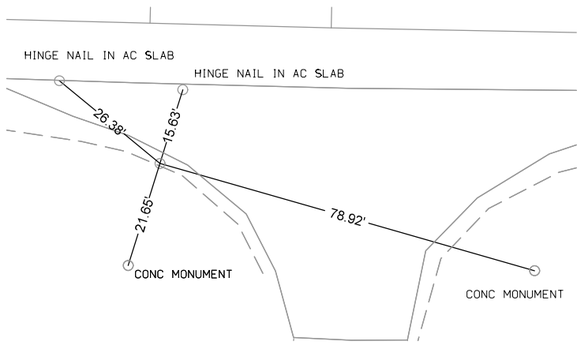

CP STA 425+26.32, 19.97 Rt.
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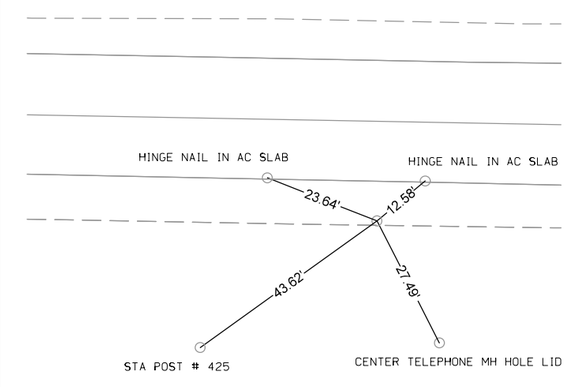

CP STA 433+23.93, 28.04 Rt.
CP No. 34, Fd. Rebar
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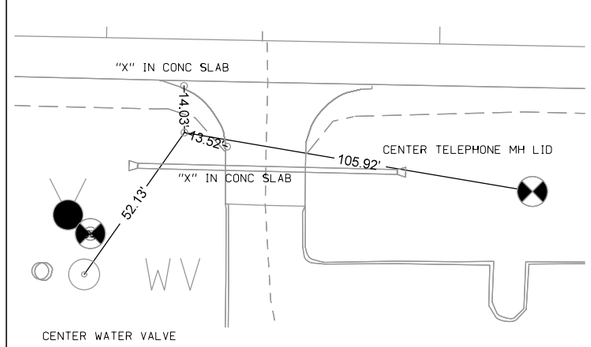

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER G.4

CP STA 441+70.77, 24.95, 24.95 Rt.
CP No. 336, Fd. Iron Pin
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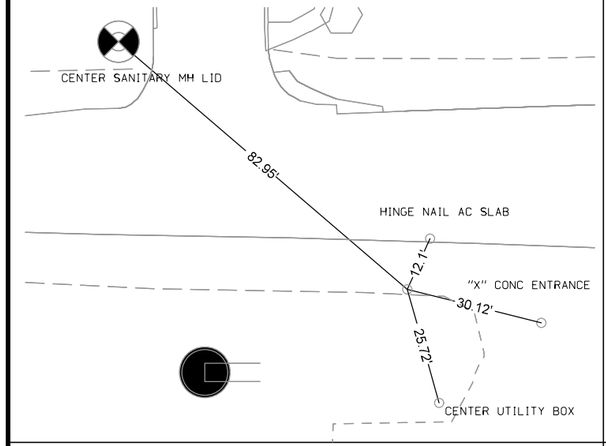

CP STA 449+71.11, 35.09 Rt.
CP No. 35, Fd. Feno Monument
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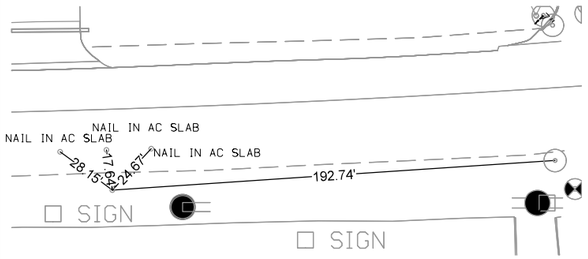

CP STA 455+71.13, 24.86 Rt.
CP No. 337, Fd. Iron Pin
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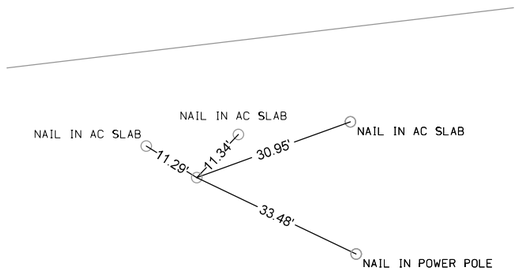

CP STA 462+35.77, 23.50 Lt.
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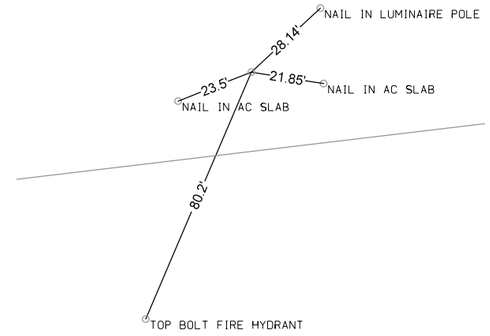
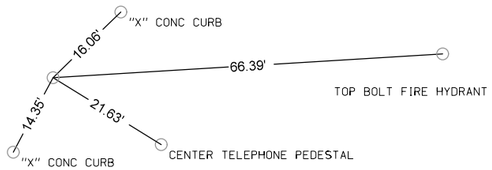


CP STA Off Chain
CP No. 339, Fd. Iron Pin



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER G.5

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)
20001	ML092	255+00.00	494,371.15	1,597,837.61															
20006	ML092				258+45.63	494,169.44	1,598,118.28	260+05.63	494,078.36	1,598,249.80	264+10.92	493,839.55	1,598,577.33	267+85.11	493,838.66	1,598,982.67	269+45.11	493,834.41	1,599,142.60
20015	ML092				337+72.34	493,772.36	1,605,969.55	339+32.34	493,773.69	1,606,129.52	342+33.59	493,768.17	1,606,430.78	345+19.31	493,909.54	1,606,696.86	346+79.31	493,980.80	1,606,840.09
20022	ML092				347+85.31	494,029.67	1,606,934.15	349+45.31	494,100.94	1,607,077.39	352+55.89	494,246.61	1,607,351.75	355+49.82	494,237.44	1,607,662.25	357+09.82	494,236.94	1,607,822.23
20028	ML092							390+67.33	494,167.94	1,611,179.03	391+01.53	494,167.24	1,611,213.23	391+35.73	494,166.34	1,611,247.42			
20032	ML092							416+90.59	494,099.28	1,613,801.39	417+35.31	494,098.11	1,613,846.10	417+80.03	494,097.27	1,613,890.81			
20036	ML092							438+11.62	494,059.08	1,615,922.04	439+21.21	494,057.02	1,616,031.61	440+30.11	494,076.15	1,616,139.52			
20038	ML092							440+30.11	494,076.15	1,616,139.52	441+31.12	494,093.78	1,616,238.98	442+31.59	494,093.40	1,616,339.99			
20043	ML092							447+70.70	494,091.42	1,616,879.10	451+22.49	494,090.13	1,617,230.88	454+73.40	494,131.67	1,617,580.21			
20046	ML092	466+80.72	494,274.21	1,618,779.08															
31000	SRKENNEDY	1256+05.14	493,946.86	1,597,951.77															
31002	SRKENNEDY	1258+87.00	494,145.34	1,598,151.90															
30000	SR57S	1273+87.78	492,836.02	1,600,580.14															
30003	SR57S	1283+73.24	493,821.43	1,600,570.67															
30010	SR57N	1383+68.17	493,821.48	1,600,565.60															
30013	SR57N	1394+41.91	494,895.22	1,600,565.83															
40000	SR90TH	2303+28.16	493,097.25	1,603,227.88															
40002	SR90TH	2310+28.21	493,797.30	1,603,225.53															
40004	SR90TH	2317+28.21	494,497.30	1,603,223.17															
50000	SR63S	3384+70.68	493,534.41	1,611,217.98															
50001	SR63S	3391+03.42	494,167.15	1,611,215.11															
50010	SR63N	3391+03.95	494,167.14	1,611,215.64															
50011	SR63N	3398+03.35	494,866.40	1,611,201.59															
60011	SRYSTS	4412+74.33	493,632.11	1,613,854.33															
60012	SRYSTS	4413+22.77	493,680.54	1,613,853.53															
60013	SRYSTS	4413+72.56	493,730.32	1,613,852.79															
60015	SRYSTS	4417+40.32	494,098.08	1,613,851.11															
60000	SRYSTN	4417+33.40	494,098.23	1,613,844.19															
60001	SRYSTN	4424+09.38	494,774.21	1,613,843.99															

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER G.6

10:52:48 AM 12/3/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051G01.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)
90000	ENT258	98+68.14	494,052.48	1,598,058.28															
90001		100+00.00	494,145.34	1,598,151.90															
90002								100+71.65	494,203.67	1,598,193.51	101+46.98	494,265.00	1,598,237.26	102+17.98	494,340.28	1,598,239.84			
90004		103+14.58	494,436.82	1,598,243.15															
90005	ENT259	100+00.00	494,381.81	1,597,968.42															
90005								101+20.00	494,358.92	1,598,086.21	101+76.66	494,348.11	1,598,141.83	102+30.43	494,309.73	1,598,183.52			
90007								104+30.43	494,174.26	1,598,330.65	104+62.64	494,152.44	1,598,354.35	104+94.30	494,139.17	1,598,383.70			
90009		105+70.41	494,107.81	1,598,453.04															
90014	ENT269	95+33.10	494,037.37	1,598,836.03															
90015								95+80.40	493,993.49	1,598,853.66	96+24.58	493,952.49	1,598,870.14	96+59.22	493,949.72	1,598,914.24			
90017		100+00.00	493,928.40	1,599,254.34															
90010	ENT270	97+80.00	493,613.42	1,599,251.48															
90011		100+00.00	493,833.41	1,599,253.48															
90011								101+06.87	493,940.27	1,599,254.45	101+71.34	494,004.74	1,599,255.04	102+31.60	494,056.73	1,599,293.16			
90013		102+59.60	494,079.31	1,599,309.72															
90025	ENT275	100+00.00	493,893.24	1,599,844.05															
90026		100+69.23	493,931.57	1,599,786.40															
90020	ENT276	100+00.00	493,828.04	1,599,843.46															
90021								100+70.21	493,898.25	1,599,844.10	100+74.35	493,902.39	1,599,844.13	100+78.48	493,906.52	1,599,843.89			
90023		101+40.15	493,968.08	1,599,840.20															
90030	ENT291	98+59.16	493,673.99	1,601,388.99															
90031								99+59.01	493,773.16	1,601,377.36	99+68.08	493,782.16	1,601,376.30	99+77.11	493,791.22	1,601,376.61			
90032		100+00.00	493,814.10	1,601,377.39															
90033		101+20.04	493,934.07	1,601,381.48															
90040	ENT297	97+18.87	493,529.41	1,601,891.83															
90041								97+48.87	493,559.41	1,601,892.10	97+70.37	493,580.92	1,601,892.30	97+91.72	493,601.89	1,601,897.06			
90042								98+11.72	493,621.39	1,601,901.49	98+34.91	493,644.01	1,601,906.62	98+57.89	493,667.20	1,601,906.45			
90043		100+00.00	493,809.30	1,601,905.37															
90044		101+20.00	493,929.31	1,601,905.46															
90047	ENT298	100+00.00	493,704.35	1,601,906.17															
90049		100+62.11	493,688.74	1,601,966.28															
90050	ENT305	98+80.00	493,681.83	1,602,727.25															
90051		100+00.00	493,801.82	1,602,728.34															
90066	ENT322	98+93.56	493,663.11	1,604,456.15															
90067		100+00.00	493,710.24	1,604,551.58															
90060	ENT323	96+84.92	493,484.75	1,604,605.53															
90061								97+64.92	493,564.74	1,604,606.26	97+98.08	493,597.90	1,604,606.56	98+28.46	493,623.33	1,604,585.28			
90063								98+48.46	493,638.66	1,604,572.44	98+81.62	493,664.09	1,604,551.16	99+12.00	493,697.25	1,604,551.46			
90064		100+00.00	493,785.24	1,604,552.26															
90065		102+00.00	493,985.23	1,604,554.08															
90070	ENT331	98+00.00	493,578.34	1,605,310.41															
90071		100+00.00	493,778.33	1,605,312.23															
90080	ENT341	94+00.70	493,209.61	1,606,415.14															
90081								95+27.63	493,336.37	1,606,421.62	95+73.99	493,382.68	1,606,423.99	96+19.31	493,426.75	1,606,409.60			
90083								99+40.16	493,731.74	1,606,310.00	99+49.84	493,740.94	1,606,306.99	99+59.47	493,750.50	1,606,305.50			
90084		100+00.00	493,790.55	1,606,299.26															
90085								100+61.11	493,850.92	1,606,289.84	100+71.04	493,860.74	1,606,288.31	100+80.93	493,870.67	1,606,288.41			
90087		101+10.51	493,900.25	1,606,288.72															
90090	ENT352	98+95.18	494,091.62	1,607,356.71															
90091		100+00.00	494,196.43	1,607,355.69															
90092								100+47.55	494,243.97	1,607,355.23	100+79.97	494,276.40	1,607,354.91	101+05.08	494,289.91	1,607,384.39			
90093		101+62.97	494,314.04	1,607,437.01															
90100	ENT359	96+73.79	494,137.73	1,607,780.69															
90101								98+71.48	494,133.71	1,607,978.33	99+21.46	494,132.70	1,608,028.31	99+50.00	494,182.68	1,608,029.34			
90102		100+00.00	494,232.66	1,608,030.37															
90103								100+90.00	494,322.64	1,608,032.22	101+80.00	494,412.62	1,608,034.07	102+31.37	494,410.77	1,608,124.05			
90105		103+43.37	494,408.47	1,608,236.02															

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER G.7

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)
90115	ENT364	96+63.00	494,026.91	1,608,308.20															
90116		100+00.00	494,019.98	1,608,645.13															
90110	ENT365	97+80.00	493,999.99	1,608,644.72															
90111		100+00.00	494,219.94	1,608,649.24															
90111								100+49.55	494,269.48	1,608,650.25	100+76.37	494,296.30	1,608,650.81	101+02.33	494,320.80	1,608,639.89			
90113		102+56.34	494,461.47	1,608,577.18															
90120	ENT367	98+79.96	494,079.19	1,609,657.56															
90121		100+00.00	494,199.23	1,609,657.02															
90122		101+00.04	494,299.27	1,609,656.08															
31201	ENT1257 (KENNEDY)	100+00.00	494,020.70	1,598,026.23															
31203								101+39.30	493,927.84	1,598,130.06	101+82.50	493,899.04	1,598,162.26	102+22.23	493,897.37	1,598,205.43			
31204		102+80.29	493,895.13	1,598,263.44															
30201	ENT1281 (R-53)	99+19.94	493,642.43	1,600,492.39															
30202		100+00.00	493,640.20	1,600,572.41															
30203		100+80.02	493,638.97	1,600,652.43															
40201	ENT2307 (90TH)	100+00.00	493,549.09	1,603,226.36															
40202		101+00.00	493,549.43	1,603,326.36															
40205	ENT2313 (90TH)	100+00.00	494,077.09	1,603,224.59															
40206		101+00.00	494,077.43	1,603,324.58															

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	
20006		35° 10′ 54.09″ LT	2° 59′ 45.09″	-160.00′	TS	53.35′	159.96′	2.79′	106.68′	53.35′	29° 11′ 23.92″ LT	398.39′	779.48′	1,530.00′	51.02′	
20015		27° 58′ 21.68″ LT	2° 59′ 45.09″	-160.00′	TS	53.35′	159.96′	2.79′	106.68′	53.35′	21° 58′ 51.50″ LT	297.14′	586.97′	1,530.00′	28.59′	
20022		28° 37′ 45.84″ RT	2° 59′ 45.09″	160.00′	TS	53.35′	159.96′	2.79′	106.68′	53.35′	22° 38′ 15.66″ RT	306.25′	604.51′	1,530.00′	30.35′	
20028											0° 19′ 35.74″ RT	34.20′	68.40′	12,000.00′	0.05′	
20032											0° 25′ 37.45″ LT	44.72′	89.45′	12,000.00′	0.08′	
20036											11° 07′ 40.08″ LT	109.59′	218.49′	1,125.00′	5.33′	
20038											10° 15′ 40.29″ RT	101.01′	201.48′	1,125.00′	4.53′	
20043											6° 59′ 27.10″ LT	351.79′	702.70′	5,759.23′	10.73′	
10001		19°	44′ 59.72″ RT	11° 14′ 04.08″	510.00′	88.78′	175.80′	7.67′								

ALIGNMENT COORDINATES

101-16
10-20-09

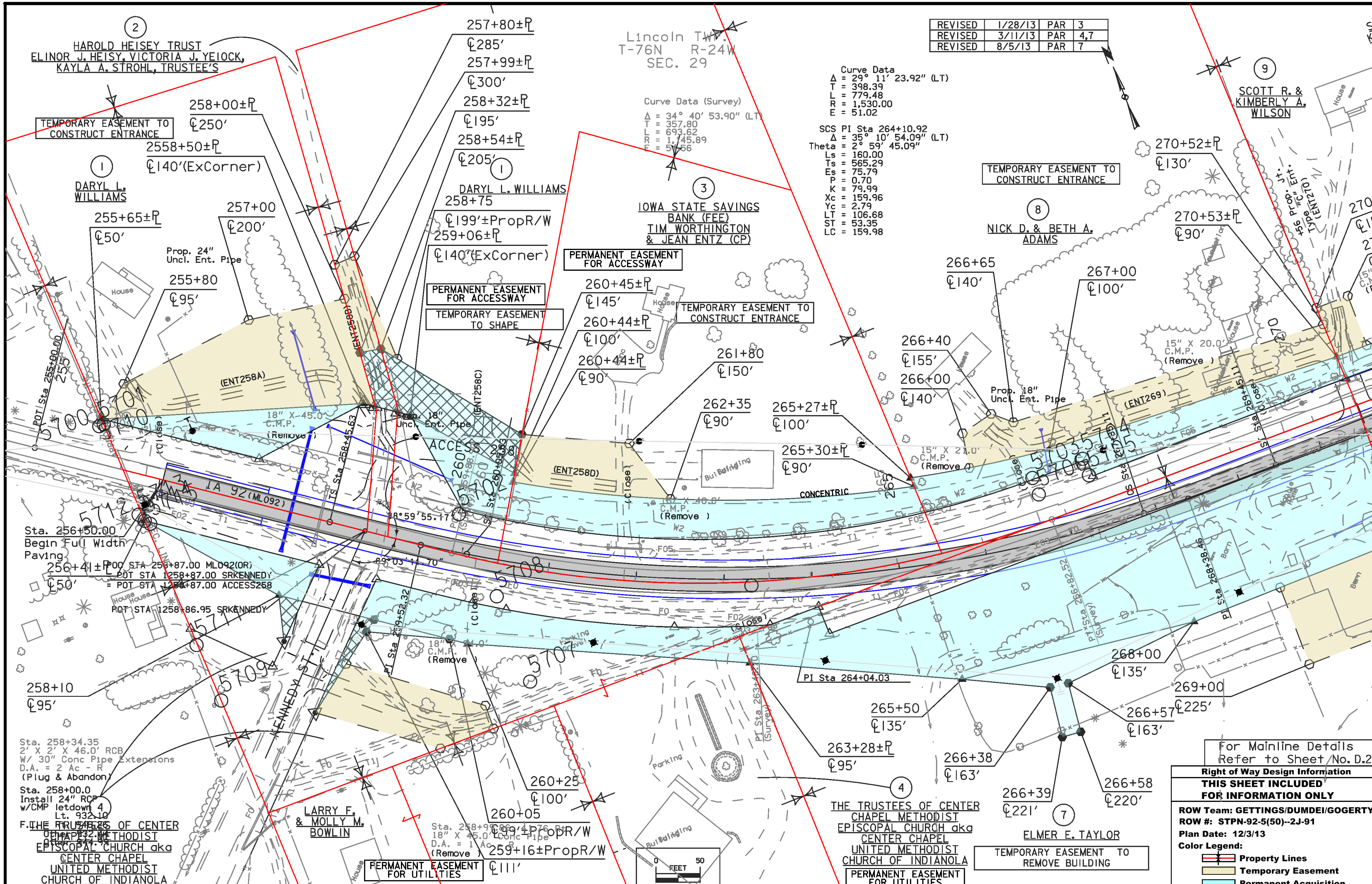
Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
SR57N_RET_1																			
30015								0+00.00	494,059.22	1,600,576.65									
30016					0+00.00	494,059.22	1,600,576.65	0+64.51	493,994.71	1,600,576.64	1+28.53	493,931.67	1,600,590.34						
30017					1+28.53	493,931.67	1,600,590.34	1+74.21	493,887.03	1,600,600.04	2+10.58	493,875.17	1,600,644.15						
30018					2+10.58	493,875.17	1,600,644.15	2+36.09	493,868.54	1,600,668.77	2+61.32	493,868.31	1,600,694.28						
SR57N_RET_2																			
30026					0+00.00	493,860.45	1,600,459.51	0+82.18	493,859.70	1,600,541.69	1+33.20	493,941.47	1,600,549.88						
30025								1+80.88	493,988.91	1,600,554.64									
SR57N_RET_3																			
30035								0+00.00	493,790.59	1,600,443.07									
30036					0+00.00	493,790.59	1,600,443.07	0+25.50	493,790.36	1,600,468.58	0+50.73	493,783.74	1,600,493.20						
30037					0+50.73	493,783.74	1,600,493.20	0+95.90	493,772.00	1,600,536.83	1+32.05	493,727.96	1,600,546.85						
30038					1+32.05	493,727.96	1,600,546.85	1+96.56	493,665.05	1,600,561.17	2+60.58	493,600.54	1,600,561.79						
SR57N_RET_4																			
30045								0+00.00	493,670.76	1,600,583.12									
30046					0+45.99	493,716.56	1,600,587.25	1+28.98	493,799.21	1,600,594.72	1+80.07	493,798.46	1,600,677.71						

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER G.10

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														
IA 92	20006	1530	6.0	160	53	PV-301	257+92.63	258+45.63	258+98.63	260+05.63			260+05.63			259+52.30	259+52.30		
							269+98.11	269+45.11	268+92.11	267+85.11			267+85.11			268+38.44	268+38.44		
IA 92	20015	1530	6.0	160	53	PV-301	337+19.34	337+72.34	338+25.34	339+32.34			339+32.34			338+79.01	338+79.01		
							347+32.31	346+79.31	346+26.31	345+19.31			345+19.31			345+72.64	345+72.64		
IA 92	20022	1530	6.0	160	53	PV-301	347+32.31	347+85.31	348+38.31	349+45.31			349+45.31			348+91.98	348+91.98		
							357+62.82	357+09.82	356+56.82	355+49.82			355+49.82			356+03.15	356+03.15		

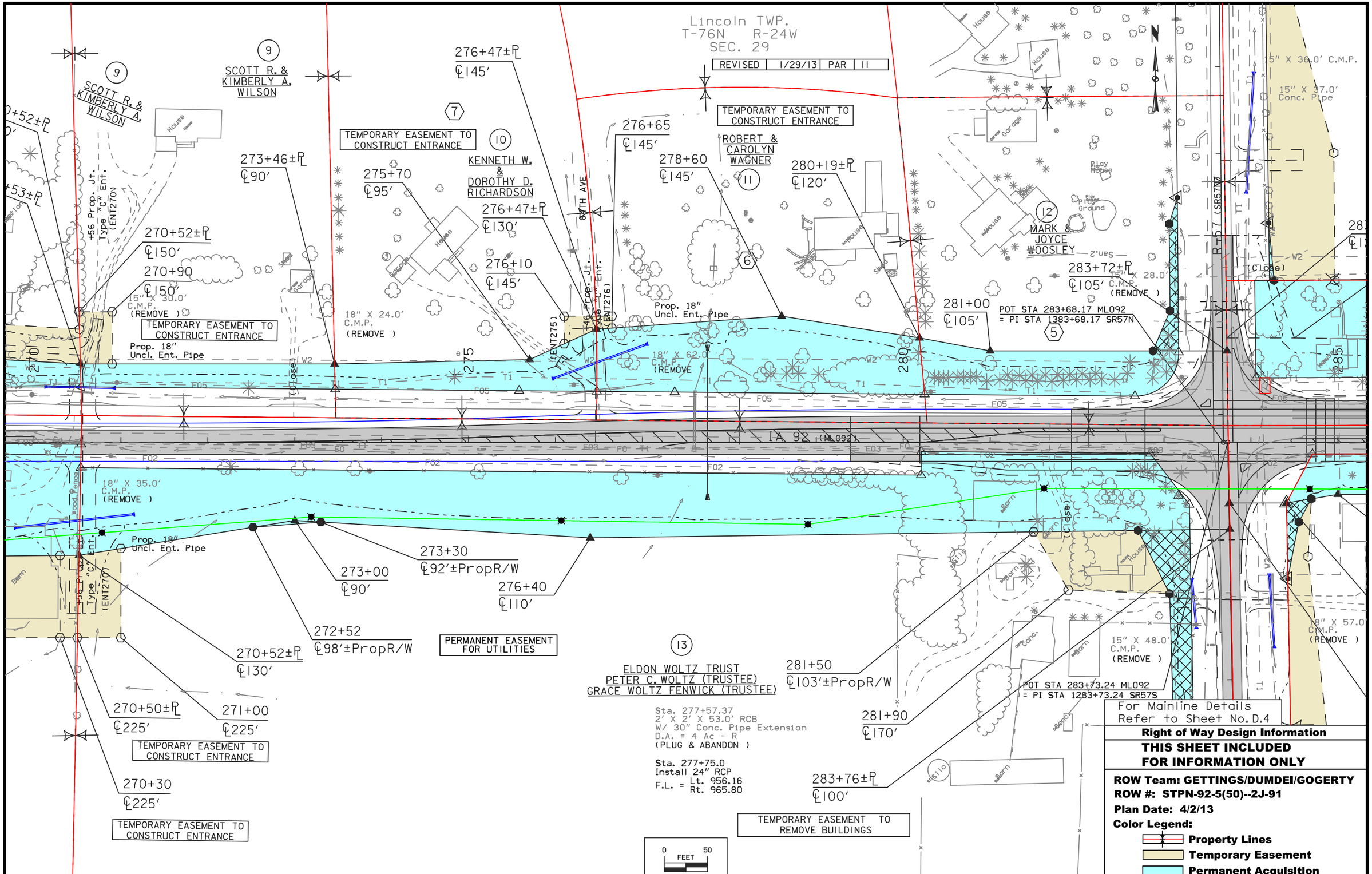


Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 12/3/13
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.1



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 #: STPN-92-5(50)--2J-91
Plan Date: 4/2/13
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

C	ENGLISH	IOWA DOT	DESIGN TEAM Schoenrock\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.2

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Lincoln TWP.
T-76N R-24W
SEC. 29

REVISED	3/11/13	PAR	17,21
REVISED	4/10/13	PAR	20
REVISED	5/3/13	PAR	17

.0' C.M.P.
37.0' Pipe

283+72±℄ 120'
284+50 ℄ 120'
287+67±℄ 115'
290+85±℄ 115'
297+05±℄ 100'

16 GEORGANNA M. MORRIS
18 DON & CAROLYN SIMPSON
20 KERN FAMILY TRUST
14 CONNIE S. BENCE

18" X 40.0' C.M.P. (REMOVE)
18" X 40.0' C.M.P. (REMOVE)
15" X 20.0' C.M.P. (REMOVE)
(Close)
(Close)

+80 Prop. Type "C" Ent. (ENT291)
+08 Prop. Jt. Type "C" Ent. (ENT297)

Prop. 18" Uncl. Ent. Pipe
Prop. 18" Uncl. Ent. Pipe

285
290
295
300

IA 92 (ML092)

18" X 50.6' C.M.P. (REMOVE)
Prop. 18" Uncl. Ent. Pipe
(ENT298)
Prop. 18" Uncl. Ent. Pipe

6" X 32.0' PVC Pipe (REMOVE)

285+00 ℄ 60'
287+50 ℄ 80'
288+96±℄ 75'
289+75 ℄ 60'
291+20 ℄ 85'
293+02±℄ 100'
292+30 ℄ 110'
291+20 ℄ 125'
292+30 ℄ 125'
284+40±℄ 70'
286+50 ℄ 60'
283+75±℄ 70'
291+60 ℄ 110'
297+08±℄ 100'
296+60 ℄ 185'
297+08±℄ 185'
297+75 ℄ 135'
299+35 ℄ 100'
297+08±℄ 135'

18" X 57.0' C.M.P. (REMOVE)

30" X 50.0' C.M.P. (REMOVE) Prop. 30" Uncl. Ent. Pipe

19 DAVID R. & CAROL M. GEIL
15 LLOYD & CHERYL JANES
17 KEITH A. JANES
21 HAROLD D. & MILDRED T. AMOS

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

Sta. 292+63.66
3' X 2' X 43.0' RCB
W/ 36" RCP Extensions
D.A. = 21 Ac - R
(PLUG & ABANDON)

Sta. 292+75.0
Install 30" RCP
F.L. = Lt. 961.55
Rt. 957.85

Sta. 292+61.18, 38.00 RT
6 Tile Riser Intake
D.A. = Part of 21A - R
(REMOVE)

0 FEET 50

For Mainline Details Refer to Sheet No. D.6

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 5/3/13
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM Schoenrock\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.3

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Lincoln TWP.
T-76N R-24W
SEC. 29

Lincoln TWP.
T-76N R-24W
SEC. 28

N

REVISED	3/11/13	PAR	21,22
REVISED	4/10/13	PAR	20
REVISED	9/26/13	PAR	24
REVISED	10/28/13	PAR	20

20
KERN FAMILY TRUST

23
DOROTHY F. ABBOTT & KIM A. SILVER

25
DWIGHT T. MC CORMICK

+08 Prop. Type "C" Ent.

310+27±P
℄110'

310+27±P
℄90'

312+70±P
℄90'

314
℄10

308+85
℄110'

PI Sta 310+25.39
(Survey)

300 305 310 315

(Close)

18" X 60.0'
C.M.P.
(Remove)

W2 T1 F05

LA 92 (ML092)

90°42'49.34"

89°17'10.66"

POT STA 310+28.21 ML092 (OR)
POT STA 2310+28.21 SR90TH

15" X 20.0'
C.M.P.
(Remove)

Prop. 18"
Uncl. Ent. Pipe

+31 Prop. Type "C" Ent. (ENT305)

+00 Prop. Type "C" Ent. (ENT315)

PERMANENT EASEMENT FOR UTILITIES

302+96
℄93'±PropR/W

304+17±P
℄90'

304+17±P
℄96'

305+20
℄90'

305+80
℄100'

308+50
℄110'

310+30±P
℄110'

22
RICHARD R. & JOYE G. COONS

312+51±P
℄95'

311+71±PropR/W
℄95'

310+99±PropR/W
℄101'

310+29±P
℄95'

24A
LEISA L. ELY

PERMANENT EASEMENT FOR UTILITIES

24
SECOND RESTATED MARJORIE E. RODGERS TRUST

21
HAROLD D. & MILDRED T. AMOS

21
LD D. & D T. AMOS

Sta. 307+42.49
3' X 2' X 46.0' RCB
W/ 36" RCP Extensions
D.A. = 16 Ac - R
(Plug & Abandon)

Sta. 307+75.0
Install 30" RCP
Skew = 20° Rt. Ahd.
F.L. = Lt. 968.21
Rt. 964.34

90TH AVE (SR90TH)

0 FEET 50

For Mainline Details
Refer to Sheet No. D.8

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 10/28/13
Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER H.4

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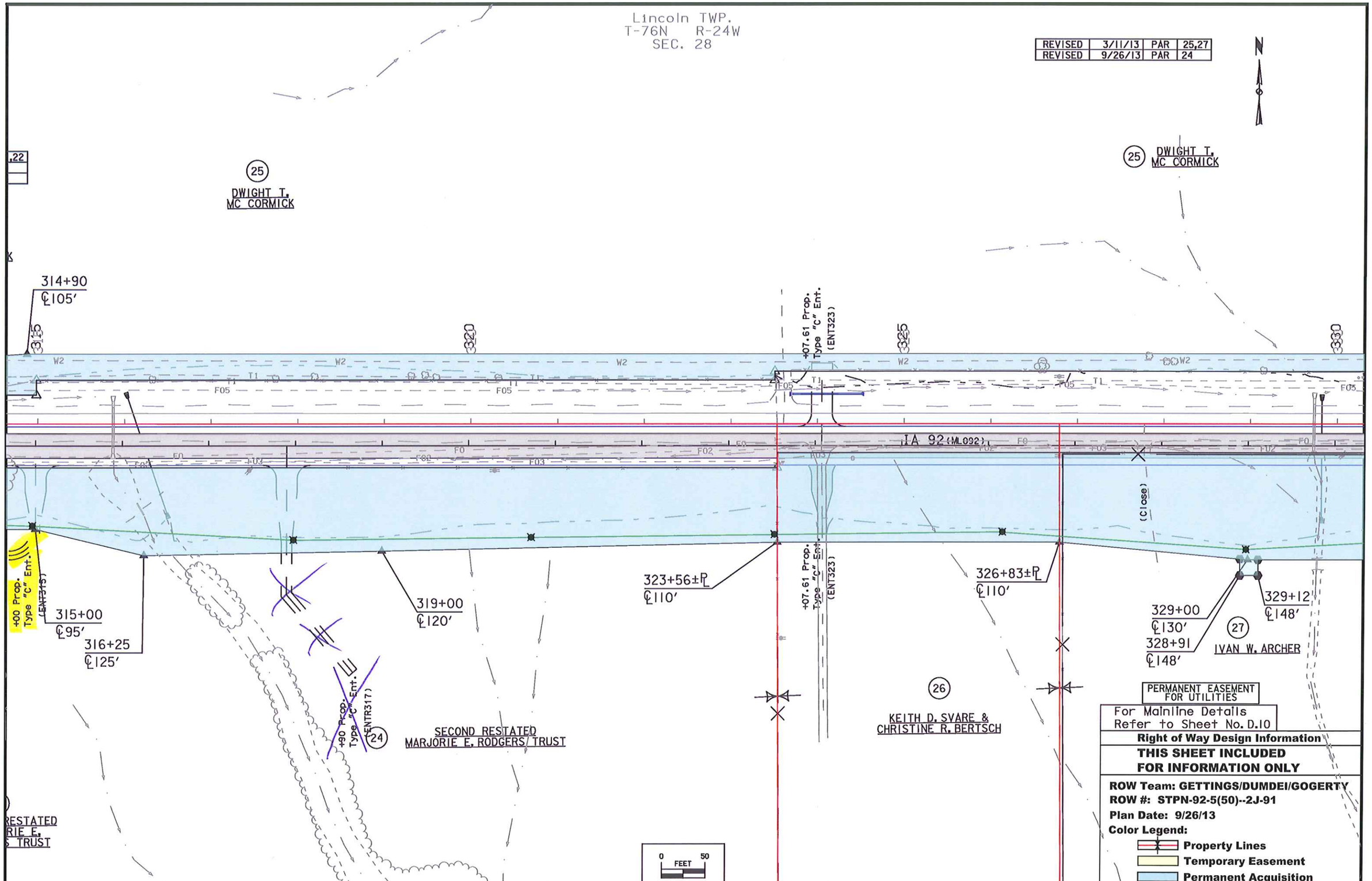


C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.5

3:38:00 PM 9/26/2013 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\91092050H1.sht

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 8/26/13
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

For Mainline Details Refer to Sheet No. D.12

REVISED	3/11/13	PAR	27
REVISED	5/3/13	PAR	27
REVISED	8/26/13	PAR	28

(25) DWIGHT T. MC CORMICK

(28) BILL & KATHY BRUERE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

340+70
℄ 76′±PropR/W

340+90
℄ 110′

341+31±℄
℄ 105′

Curve Data (Survey)
Δ = 32° 51′ 54.10″ (LT)
T = 337.60
L = 656.58
R = 1,144.67
D = 48.75

341+26±℄
℄ 80′

341+25±℄
℄ 70′

344+60
℄ 95′

336+74±℄
℄ 105′

PI Sta 336+71.87 (Survey)

339+60±℄
℄ 90′

339+60±℄
℄ 85′

(29) GERALD D & BETTY J. HOLT

Shed

House

340

Sta 340+35 (Survey)

PC Sta 340+35 (Survey)

+03 Prop. Type "C" Ent. (CENT341)

W2 T1 F05 F03 F02 F01 F0

IA 92 (ML092)

STATE OF IOWA

18″ X 23.0′ C.M.P. (Remove)

Prop. 18″ Uncl. Ent. Pipe

+27 Prop. Type "C" Ent. (ENT334)

333+50
℄ 116′±PropR/W

332+50
℄ 130′

334+70
℄ 100′

334+00
℄ 125′

334+50
℄ 125′

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

Sta. 332+80.53
2′ X 2′ X 50.0′ RCB
W/ 30″ RCP Extensions
D.A. = 17 Ac - R
(Plug & Abandon)
Sta. 332+95.0
Install 30″ RCP
Skew = 11° Lt. Ahd.
F.L. = Lt. 950.07
Rt. 940.00

(27) IVAN W. ARCHER

0 FEET 50

339+50
℄ 100′

Prop. 36″ Uncl. Ent. Pipe

340+55
℄ 170′

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

341+25
℄ 400′

341+10
℄ 530′

+03 Prop. Type "C" Ent. (ENT341)

18″ X 57.0′ C.M.P. (Remove)

18″ X 24.0′ C.M.P. (Remove)

342+83
℄ 132′±PropR/W

Sta 343+73.27 (Survey)

342+10
℄ 140′±PropR/W

342+00
℄ 141′±PropR/W

344+60
℄ 129′±℄

342+06
℄ 158′

PERMANENT EASEMENT FOR UTILITIES

Sta. 341+78.56
34″ X 46.0′ RCB
W/ 24″ RCP Extensions
D.A. = 3.4 Ac
(Plug & Abandon)
Sta. 342+14.0
Install 24″ RCP
Skew = 9 ° Lt. Ahd.
F.L. = Lt. 969.19
Rt. 963.86

341+87
℄ 143′±PropR/W

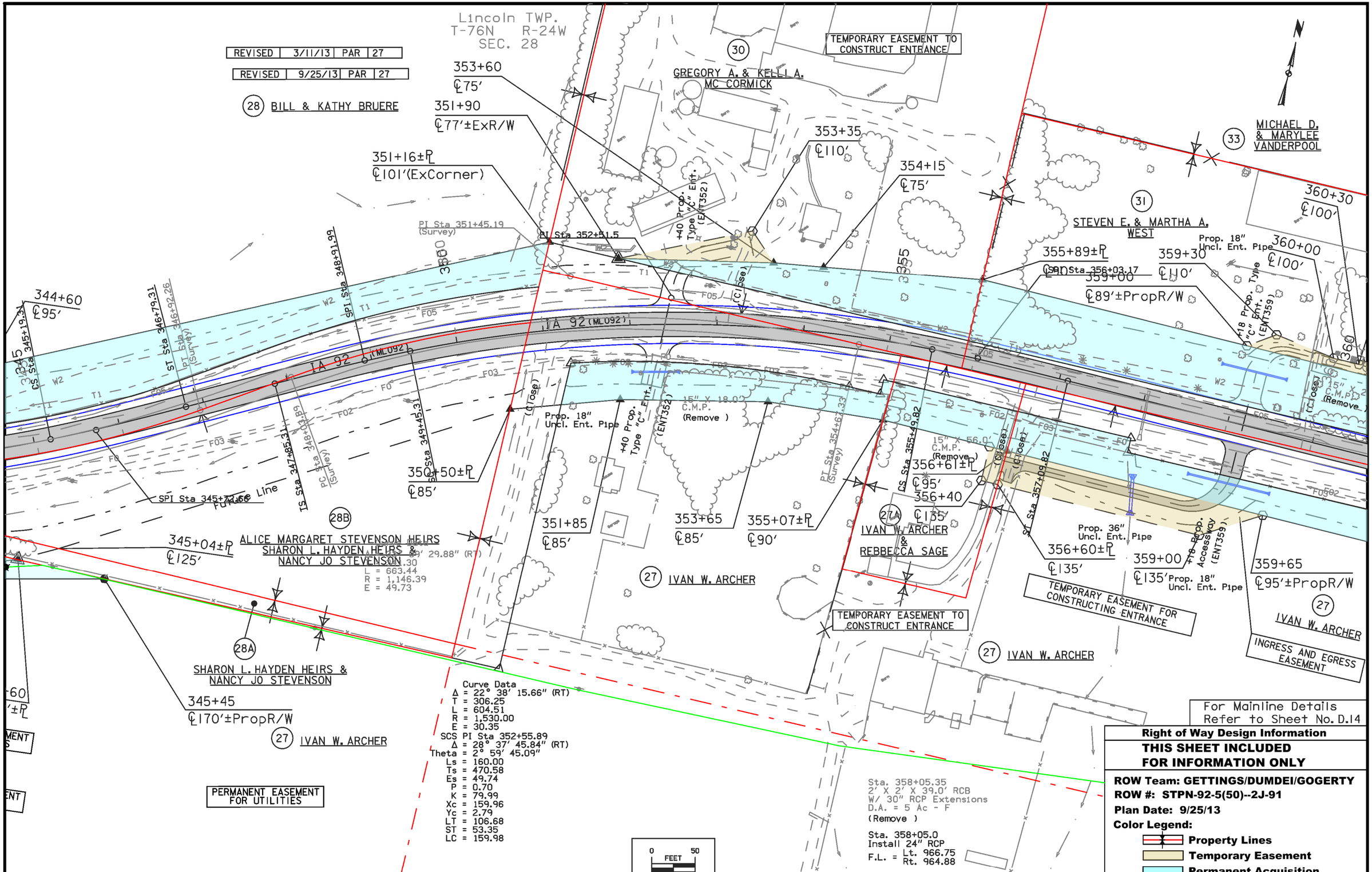
PERMANENT EASEMENT FOR UTILITIES

341+85
℄ 400′

341+55
℄ 545′

C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER H.6

8:23:46 AM 8/26/2013 mgogert c:\pw_work\pwmain\mgogert\d0122352\91092050H1.sht



C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.7

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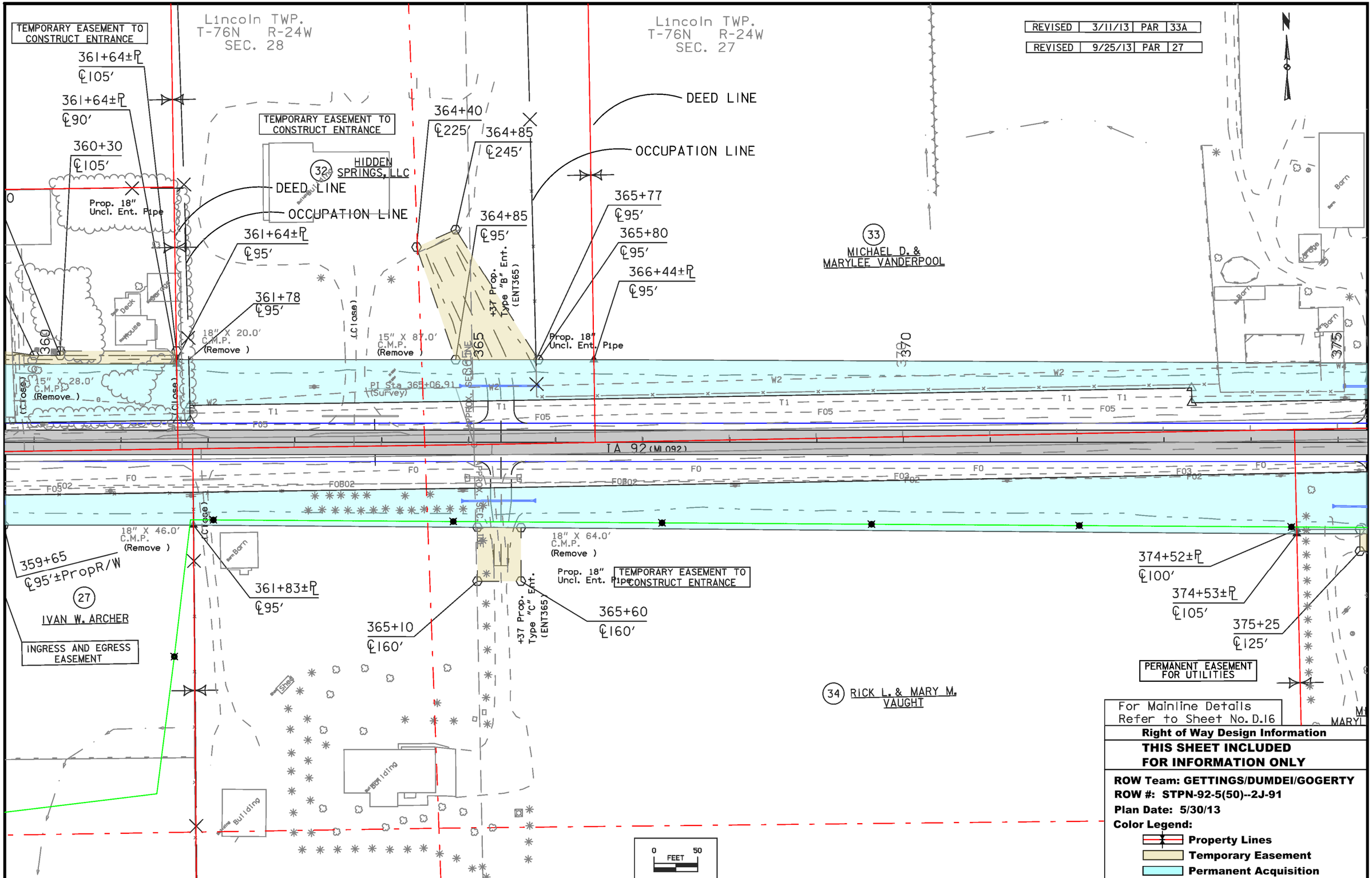

For Mainline Details Refer to Sheet No. D.16

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 5/30/13
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.8

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REVISED	1/23/13	PAR	33
REVISED	3/11/13	PAR	33A,36,37

Lincoln TWP.
T-76N R-24W
SEC. 27

33
MICHAEL D. &
MARYLEE VANDERPOOL

36
MAYNARD J. & SHARON L.
HAYDEN

38
CITY OF
INDIANOLA &
INDIANOLA MUNICIPAL
UTILITIES

33A
MICHAEL D. &
MARYLEE VANDERPOOL

37 HIDDEN SPRING LLC

PERMANENT EASEMENT
FOR UTILITIES

377+64±℄
℄95′

377+64±℄
℄90′

381+75
℄100′

384+45
℄145′

385+00
℄120′

387+27±℄
℄151′

387+28±℄
℄105′

389+30
℄120′

18" X 32.0' Conc. Pipe/C.M.P.
(REMOVE)
Prop. 18"
Uncl. Ent. Pipe

15" X 37.0' C.M.P.
(REMOVE)

18" X 56.0' Conc. Pipe
(REMOVE)

15" X 60.0' Conc. Pipe

45° Prop.
Type "C" End
(ENT375)

(Close)

375

380

385

390

IA 92 (ML092)

18" X 41.0' C.M.P.
(REMOVE)

18" X 32.0' Conc. Pipe
(REMOVE)
Prop. 18"
Uncl. Ent. Pipe

377+60
℄129′

377+81
℄129′

378+50
℄110′

380+35
℄100′

376+50
℄100′

375+70
℄125′

377+70±℄
℄129′

377+69±℄
℄110′

377+04
℄105′±Prop R/W

386+50
℄100′

388+20
℄110′

388+50
℄115′

390+94±℄
℄115′

15" X 24.0'
C.M.P.
(REMOVE)

15" X 12.0'
C.M.P.
(REMOVE)

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

PERMANENT EASEMENT
FOR UTILITIES

PERMANENT EASEMENT
FOR UTILITIES

PERMANENT EASEMENT
FOR UTILITIES

Sta. 379+69.09
2' X 2' X 42.0' RCB
W/ 30" RCP Extensions
D.A. = 4 Ac - R

REMOVE
Install
F.L. = Lt.
Rt.

0 FEET 50

For Mainline Details
Refer to Sheet No. D.18

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 3/11/13
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM Schoenrock\Holst\Bennett\Janus	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.9

1:10:17 PM 3/11/2013 mgogert c:\pw_work\pwmain\mgogert\d0122352\91092050H1.sht

R 33

Lincoln TWP.
T-76N R-24W
SEC. 27

Curve Data
Δ = 03° 19' 35.74" (RT)
T = 34.20
L = 68.49
R = 12,000.00
E = 0.05

390+87±PL
℄120'

390+89±PL
℄78'

391+92±PrpR/W
℄95'

393+02±ExR/W
℄95'(ExCorner)

15" X 43.0' C.M.P.

15" X 30.0' Conc. Pipe (close)

(39) ST THOMAS AQUINAS CATHOLIC CHURCH

W+16.98 Prop. Type "B" Ent.

PC Sta 390+87.33

PT Sta 391+35.72

R=63 (SR63S)

IA 92 (ML092)

15" X 18.0' Conc. IPipe (REMOVE)

(Close)

(Close)

392+60
℄27'

15" X 28.0' C.M.P. (REMOVE)

391+81±PropR/W
℄70'

15" X 56.0' C.M.P. (REMOVE)

390+93±PL
℄70'

394+75
℄70'

394+75
℄90'

Sta. 390+78.55
2' X 2' X 132.0' RCB W/ 30" RCP Extensions
D.A. = X Ac - R

Sta. 391+29.59, 61.89 Lt.
24" X 60.0' Conc Pipe
D.A. = 3 Ac - R

395+25
℄90'

Sta. 395+43.91
2' X 2' X 43.0' RCB W/ 30" RCP Extensions
D.A. = 9 Ac - R

398+85
℄55'

PERMANENT EASEMENT FOR STORM SEWER

(40) JAN MCCORD HALE & WILLIAM M. HALE AND ROBIN EYBERG, ET AL

0 50 FEET

For Mainline Details Refer to Sheet No. D.20

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdel/Gogerty
ROW #: STPN-92-5(50)--2J-91
Plan Date: 10/11/12
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM Schoenrock\Holst\Bennett\Janus	WARREN COUNTY	PROJECT NUMBER	STP-092-5(51)--2C-91	SHEET NUMBER H.10

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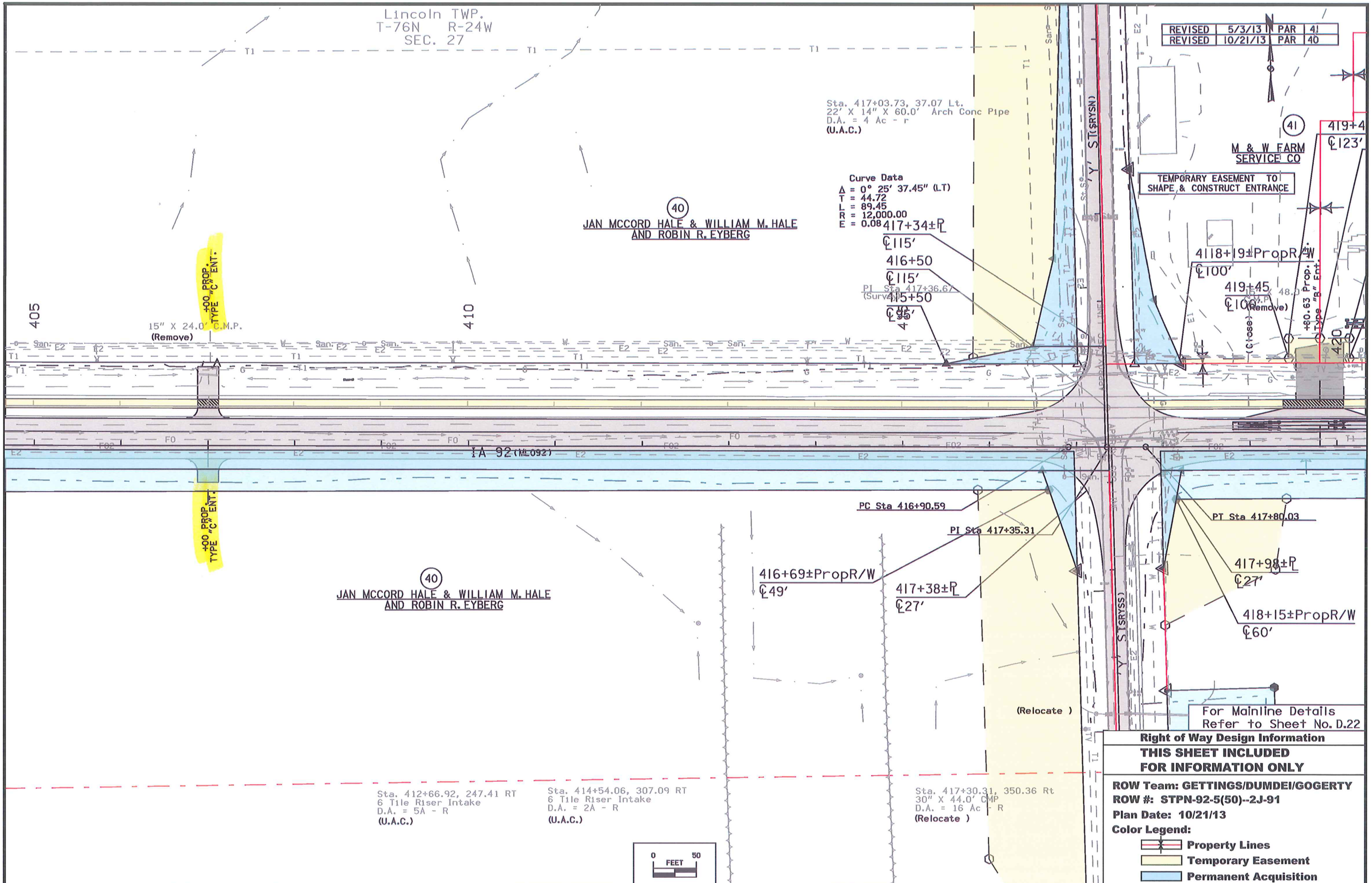

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 10/21/13
Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.11

1:33:56 PM 10/21/2013 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\91092050H1.sht

Lincoln TWP.
T-76N R-24W
SEC. 26

REVISED | 5/8/13 | PAR | 45

HERBERGER PROPERTIES LLC (44)

TEMPORARY EASEMENT TO SHAPE & CONSTRUCT ENTRANCE

(43) MARTIN D. & JO ELLEN REYNOLDS

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

HERBERGER PROPERTIES LLC (44)

TEMPORARY EASEMENT TO SHAPE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

(45) DOWNING FAMILY INVESTMENTS INC (FEE) FFI, LLC (CP)

(45A) DOWNING FAMILY INVESTMENTS INC

TEMPORARY EASEMENT TO SHAPE AND CONSTRUCT ENTRANCE

(46) R & R EQUIPMENT CO

TEMPORARY EASEMENT TO SHAPE

TEMPORARY EASEMENT TO SHAPE

(47) FIRST APOSTOLIC CHURCH

(48) CAMILLE TELLEEN & JAY A. FRANZEN

(49)

TEMPORARY EASEMENT TO SHAPE

DO NOT DISTURB WELL

419+45 ℄123′ 419+81±℄ ℄123′

420+15 ℄123′

423+47 ℄185′

422+10±℄ ℄185′

420+15 ℄100′

422+25 ℄160′

422+10±℄ ℄160′

422+25 ℄100′

423+47 ℄130′

423+60 ℄130′

426+15 ℄114′

426+15 ℄104′

425+81 ℄104′

426+75 ℄114′

427+39±℄ ℄100′

427+15 ℄110′

428+35±℄ ℄100′

430+96±℄ ℄105′

430+96±℄ ℄100′

431+95±℄ ℄105′

432+95±℄ ℄130′

432+95±℄ ℄115′

433+30 ℄130′

432+05 ℄115′

W 8" Type "B" Ent.

+11.51 Prop. Type "B" Ent.

18" X 64.0' C.M.P. (Remove)

+99.40 Prop. Type "B" Ent.

+53.90 Prop. Type "B" Ent.

18" X 66.0' C.M.P. (Remove)

+54.16 Prop. Type "B" Ent.

18" X 54.0' C.M.P. (Remove)

+96.41 Prop. Type "B" Ent.

18" X 101.0' C.M.P. (Remove)

+46.06 Prop. Type "B" Ent.

18" X 69.0' C.M.P. (Remove)

420

425

430

435

T1 T1 T1 T1 T1 T1 T1 T1

F2 F2 F2 F2 F2 F2 F2 F2

F04 F02 F02 F02

IA 92 (ML092)

San. San. San. San. San. San.

422+80 ℄60′

426+10 ℄175′

36" X 108.0' Conc. Pipe (Remove)

426+80 ℄175′

PERMANENT EASEMENT FOR STORM SEWER

(42) THORN TREE DEVELOPMENT CORP

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

430+40 ℄49′±PropR/W

430+60 ℄80′

430+95 ℄80′

+78.41 Prop. Type "B" Ent.

431+15 ℄48′±PropR/W

432+95±℄ ℄27′

432+95±℄ ℄45′

433+30 ℄60′

433+30 ℄70′

6" X 78.0' PVC Pipe (Remove)

+47.85 Prop. Type "B" Ent.

433+70 ℄70′

435+59±℄ ℄27′

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

435+59±℄ ℄64′

436+00 ℄75′

436+ ℄95′

(51) SNYDER-GREEDY, LLC

For Mainline Details Refer to Sheet No. D.24

Sta. 422+42.59
2′ X 2′ X 42.0′ RCB
W/ 30" RCP Extensions
D.A. = 8 Ac - F-R
(Remove)

Sta. 426+73.61.10
2′ X 2′ X 44.0′ RCB
W/ 30" Conc. Pipe Extensions
D.A. = 3 Ac - F-R
(Remove)

18" X 78.0' C.M.P. (UAC)

0 50 FEET

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 5/8/13
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

C	ENGLISH	IOWA DOT	DESIGN TEAM Schoenrock\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.12

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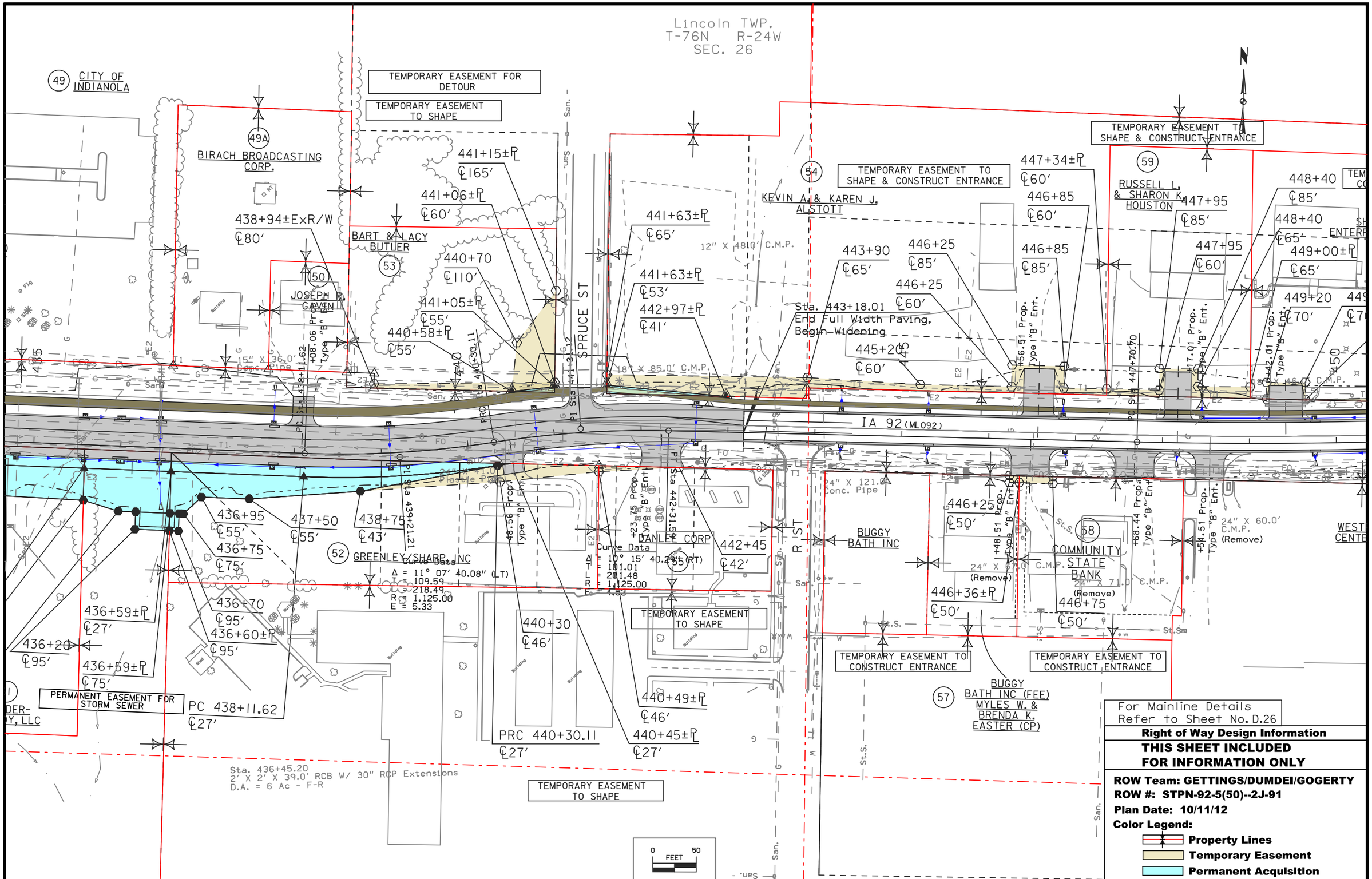

For Mainline Details Refer to Sheet No. D.26

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 10/11/12
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

C	ENGLISH	IOWA DOT	DESIGN TEAM Schoenrock\Holst\Bennett\Janus	WARREN COUNTY	PROJECT NUMBER STP-092-5(51)--2C-91	SHEET NUMBER H.13

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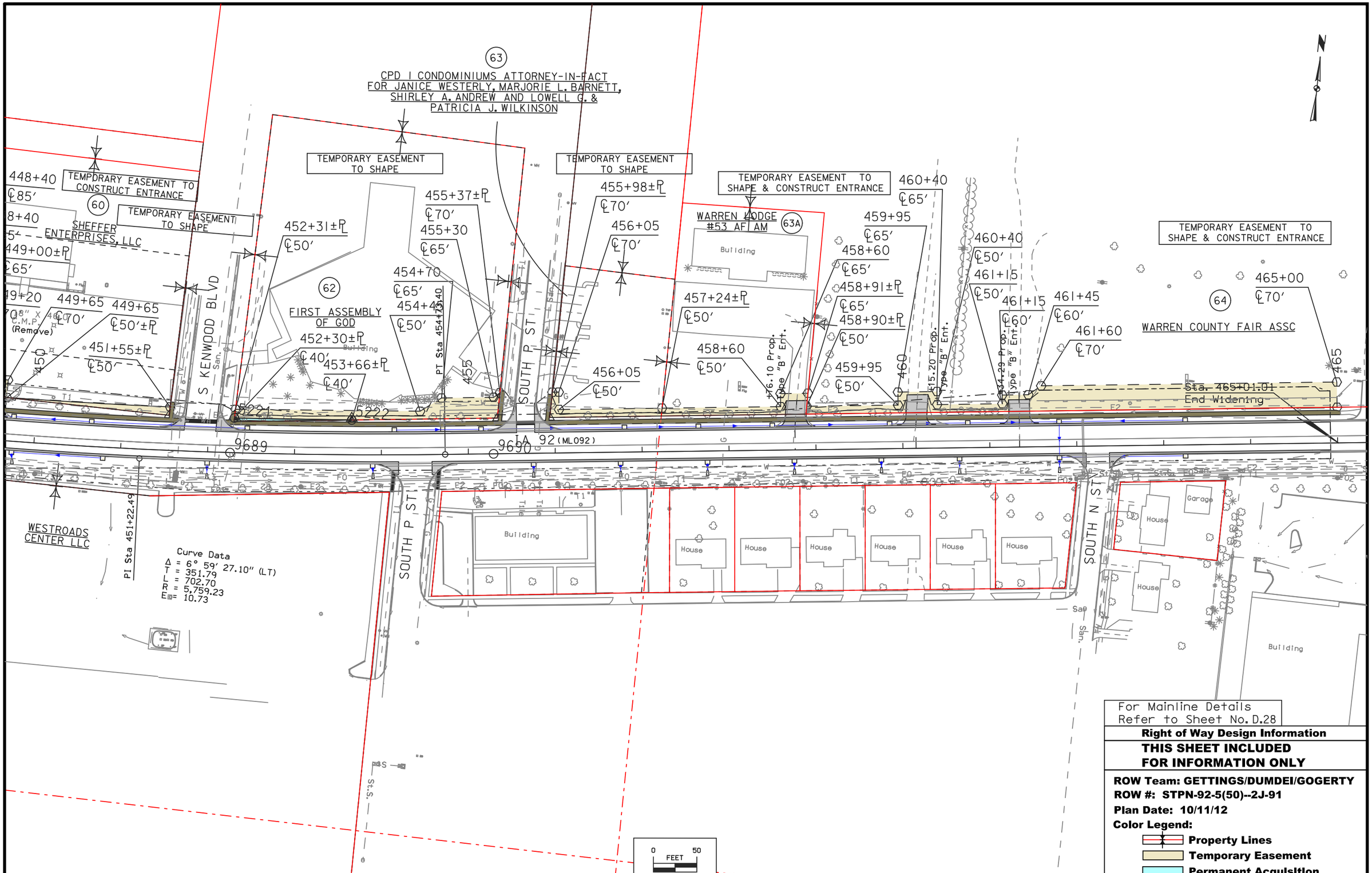

For Mainline Details
Refer to Sheet No. D.28

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 10/11/12
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

C	ENGLISH	IOWA DOT	DESIGN TEAM Schoenrock\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.14

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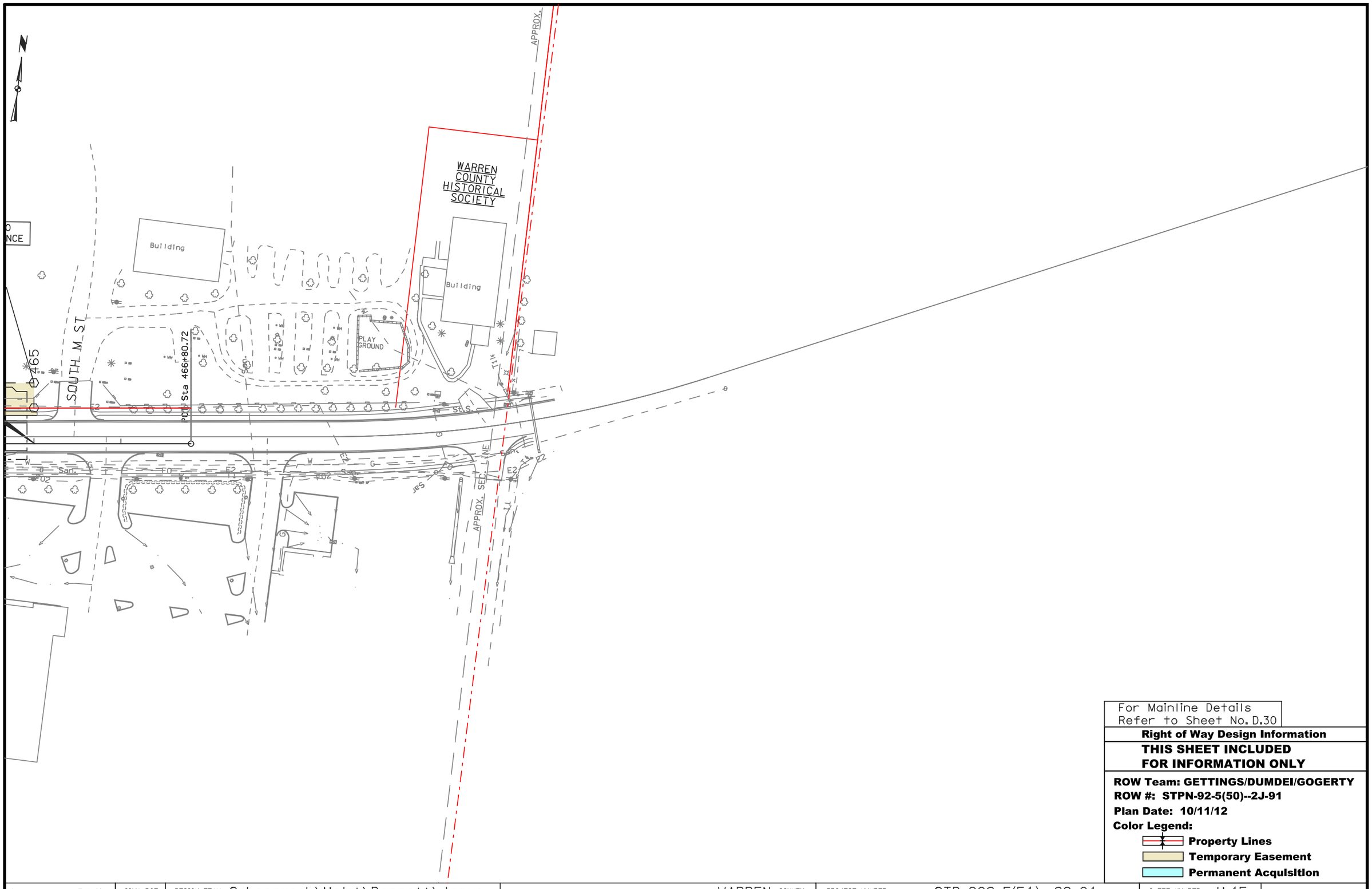

For Mainline Details
Refer to Sheet No. D.30

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 10/11/12
Color Legend:

- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

C	ENGLISH	IOWA DOT	DESIGN TEAM Schoenrock\Holst\Bennett\Janus	WARREN COUNTY	PROJECT NUMBER STP-092-5(51)--2C-91	SHEET NUMBER H.15

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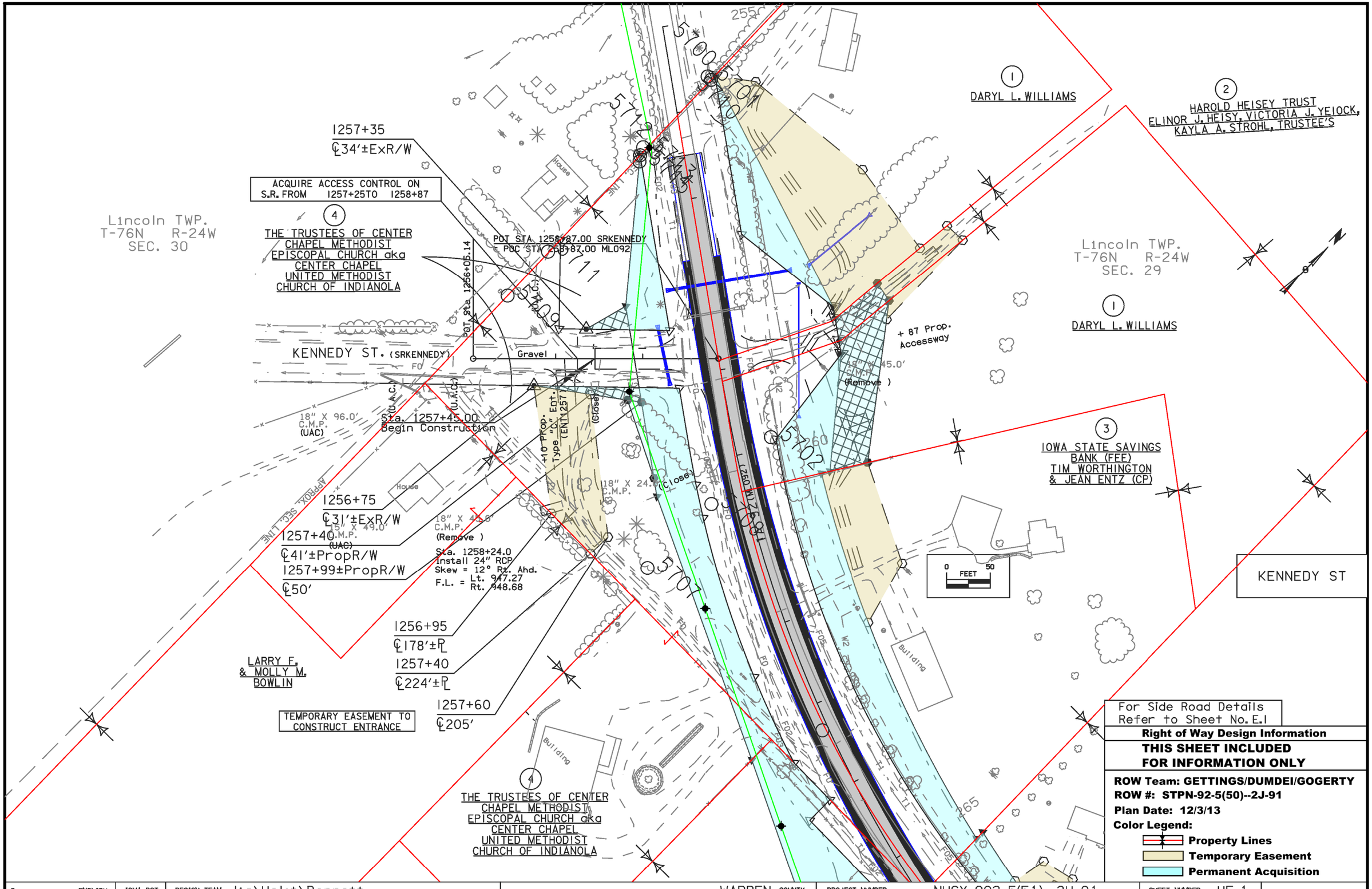

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER HE.1

4:06:25 PM 12/3/2013 smcclan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\91092050HE1.sht

13
ELDON WOLTZ TRUST
PETER C. WOLTZ (TRUSTEE)
GRACE WOLTZ FENWICK (TRUSTEE)

ACQUIRE ACCESS CONTROL ON
S.R. FROM 1282+61 TO 1385+30

1282+74±PropR/W
℄105′

1280+46±ExR/W
℄68′(Corner)

1282+00
℄70′

Lincoln TWP
T-76N R-24W
SEC 2

Curve Data
Δ = 19° 44′ 59.72″ (RT)
T = 88.78
L = 175.80
R = 510.00
E = 7.67
e = -2.0%

PC STA 11277+89.54 DETR57
= POT STA 1277+35.33 SR57S

Curve Data
Δ = 19° 44′ 59.72″ (LT)
Sta. 88.78
Sta. 1280+60.00
Begin Construction
R = 510.00
E = 7.67
e = -2.0%

PI STA 1283+73.24 SR57S
= POT STA 283+73.24 ML092

15″ X 48.0′
C.M.P.
(REMOVE)
Prop. 18″
Uncl. Ent. Pipe

92 Prop. 24″ Conc. Pipe (ENT1281)

PI Sta 11278+78.32

PI Sta 11281+46.13

R-57 (SR57S)

PC Sta 11279+65.33

PI Sta 11280+54.11

18″ X 57.0′ C.M.P.
(REMOVE)
Prop. 18″
Uncl. Ent. Pipe

92 Prop. 24″ Conc. Pipe (ENT1281)

POT STA 11284+33.25 DETR57
= POT STA 284+33.25 ML092

1277+80
℄77′±℄

1280+15
℄110′

1282±15
℄66′±℄

1282+40
℄90′

1282+80
℄80′

1283+06±PropR/W
℄95′

0 FEET 50

15A
MICHAEL D. & CONNIE R. COX

15
LLOYD & CHERYL JANES

TEMPORARY EASEMENT FOR DETOUR

12
MARK & JOYCE WOOSLEY

1384+74±ProposedR/W
℄80′

PI STA 1283+68.17 SR57N
= POT STA 283+68.17 ML092

1385+20
℄60′

15″ X 28.0′
C.M.P.
(REMOVE)

1385
(Close)

1280
11280
11285
1285

Sta. 1386+06.00
End Construction

PC Sta 11286+88.13

R-57 (SR57N)

PI Sta 11288+74.31

1386+20
℄60′

1386+50
℄50′±ExR/W

11290
1390

Curve Data
Δ = 20° 10′ 50.98″ (RT)
T = 90.76
L = 179.63
R = 510.00
E = 8.01
e = -2.0%

Curve Data
Δ = 19° 37′ 05.90″
T = 88.18
L = 174.63
R = 510.00
E = 7.57
e = -2.0%

15″ X 36.0′ C.M.P.
(REMOVE)
Prop. 18″
Uncl. Ent. Pipe

15″ X 37.0′
Conc. Pipe
(REMOVE)
Prop. 18″
Uncl. Ent. Pipe

26 Prop. 24″ Conc. Pipe (ENT1389)

Sta. 283+86, 712.79 Lt.
PT STA 11290+40.39 DETR
= POT STA 1389+67.34 SR
(U.A.C.)

1390+00
℄53′±ExR/W

Sta. 283+94.88, 499.59 Lt.
24″ X 69.0′ Conc Pipe
D.A. = 4 Ac - R
(U.A.C.)

R-57

14
CONNIE S. BENCE

1385+54±℄
℄60′

1386+20
℄54′±ExR/W

1387+00
℄130′

16
GEORGANNA M. MORRIS

1385+53±℄
℄130′

TEMPORARY EASEMENT FOR DETOUR

0 FEET 50

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 #: STPN-92-5(50)--2J-91
Plan Date: 10/11/12
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM Schoenrock\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER HE.2

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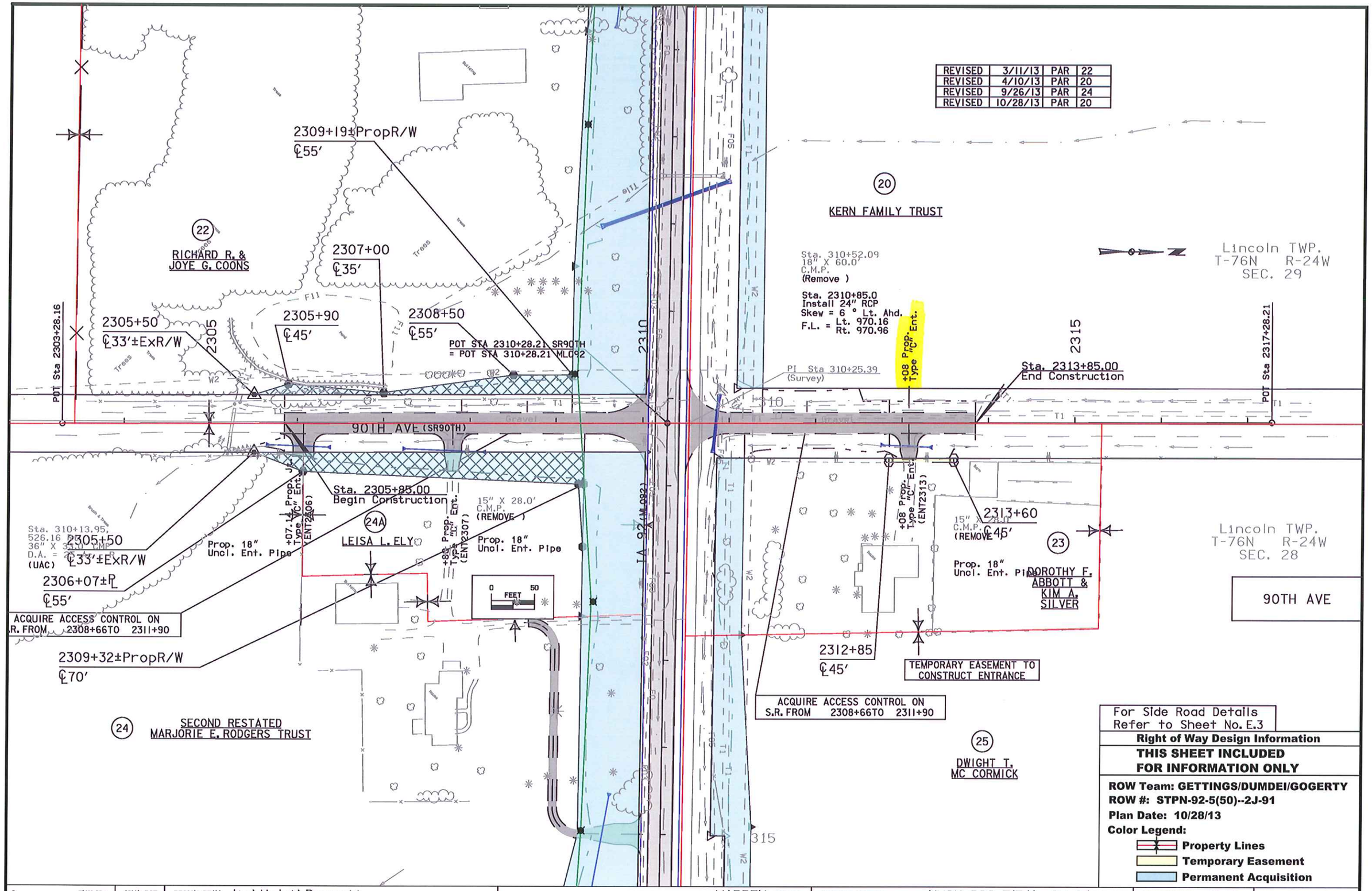

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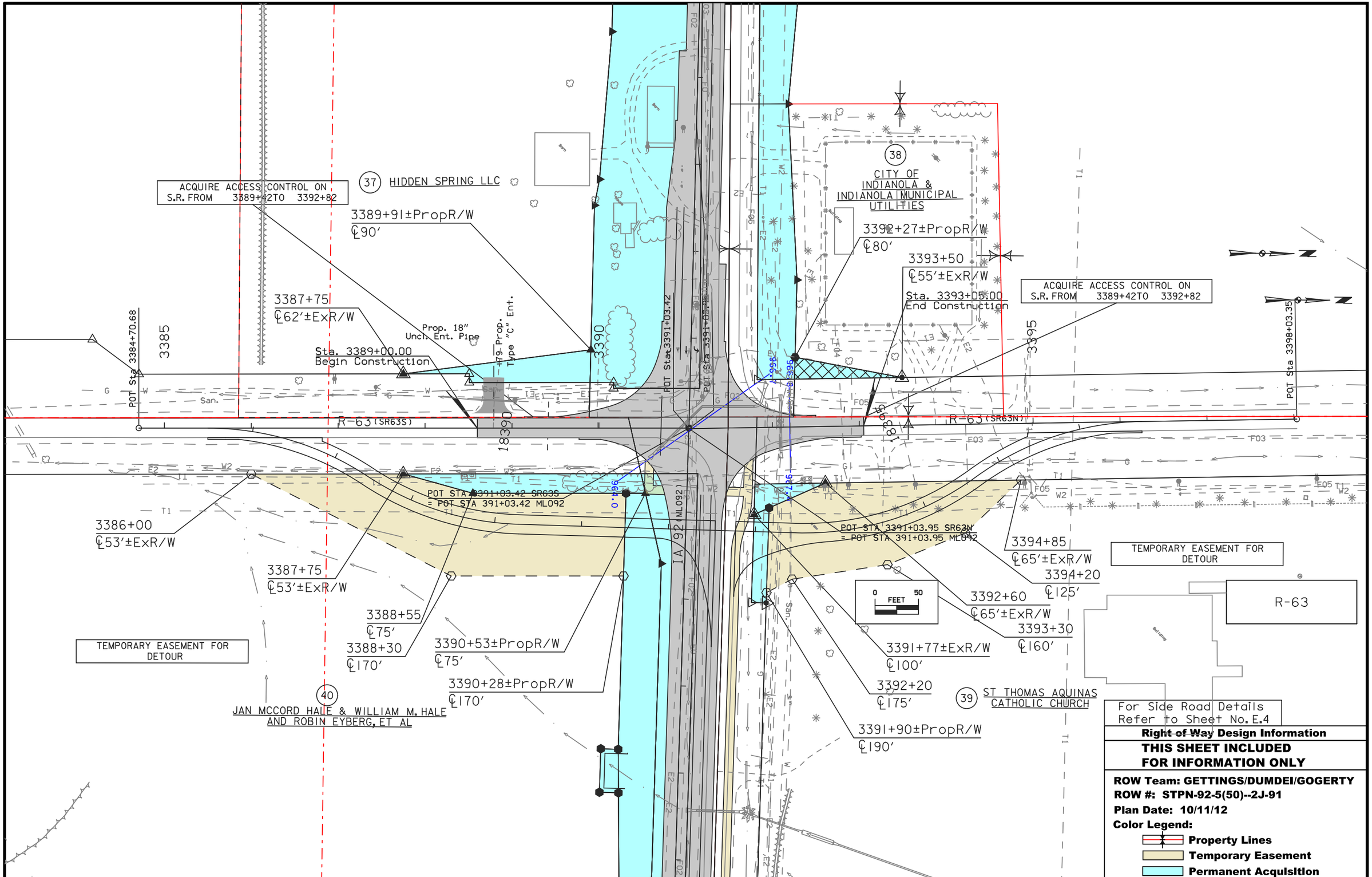

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 10/11/12
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

C	ENGLISH	IOWA DOT	DESIGN TEAM Schoenrock\Holst\Bennett\Janus	WARREN COUNTY	PROJECT NUMBER STP-092-5(51)--2C-91	SHEET NUMBER HE.4

3:30:51 PM 1/28/2013 mgogert c:\pw_work\pwmain\mgogert\d0122352\91092050HE1.sht

REVISED	5/3/13	PAR	41

40

JAN MCCORD HALE & WILLIAM M. HALE
AND ROBIN R. EYBERG

TEMPORARY EASEMENT FOR DETOUR

ACQUIRE ACCESS CONTROL ON
S.R. FROM 4415+76 TO 4419+16

4410+85
℄47'±ExR/W

4412+75
℄155'

4416+00
℄44±ExR/W

4416+96±PropR/W
℄155'

4417+16±PropR/W
℄80'

4418+38±PropR/W
℄150'

4419+50
℄55'

Curve Data
Δ = 31° 43' 00.45" (LT)
T = 94.60
L = 184.34
R = 333.00
E = 13.18

Curve Data
Δ = 32° 29' 52.74" (RT)
T = 97.05
L = 188.88
R = 333.00
E = 13.86

Curve D
Δ = 31°
T = 93.28
L = 181.9
R = 333.0
E = 12.82

PC STA 14409+58.78 DETYSTA
= POT STA 4410+41.69 SRYSTS

POT Sta 4409+96.22
4410
14410
PC Sta 14409+58.78
PRC Sta 14411+43.11
PT Sta 14412+40.17
14415
PC Sta 14413+72.56
PT Sta 14414+50.00
14415
Sta. 4414+15.00
Begin Construction
POT STA 4416+80.28 ML092
= POT STA 4416+80.29 DETYSTA
PT Sta 14415+78.05
PC Sta 14416+80.29
4420
Sta. 4422+60.00
End Construction

Y STREET (SRYSTS)
Y STREET (SRYSTN)

PT Sta 14410+53.37

TEMPORARY EASEMENT FOR DETOUR

PERMANENT EASEMENT FOR STORM SEWER

4414+00
℄180'

4414+60
℄180'

4416+00
℄56'±P

4415+95
℄185'

PRC Sta 14414+35.35
℄56 PP

Curve Data
Δ = 78° 02' 53.14" (RT)
T = 81.05
L = 135.22
R = 100.00
E = 28.72

0 FEET 50

PT Sta 14417+12.35

4417+11±ProR/W
℄80'

4416+76±PropR/W
℄200'

PT Sta 14417+63.10

Curve Data
Δ = 78° 42' 30.36" (LT)
T = 79.13
L = 133.88
R = 100.00
E = 27.52

POT Sta 14419+73.31

IA 922 (ML092)

4419+00
℄60'

4418+27±P
℄90'

4420+50
℄35'±ExR/W

420

41

M & W FARM
SERVICE CO

42

THORN TREE DEVELOPMENT CORP

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 #: STPN-92-5(50)--2J-91
Plan Date: 5/3/13
Color Legend:

- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

C	ENGLISH	IOWA DOT	DESIGN TEAM Schoenrock\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER HE.5

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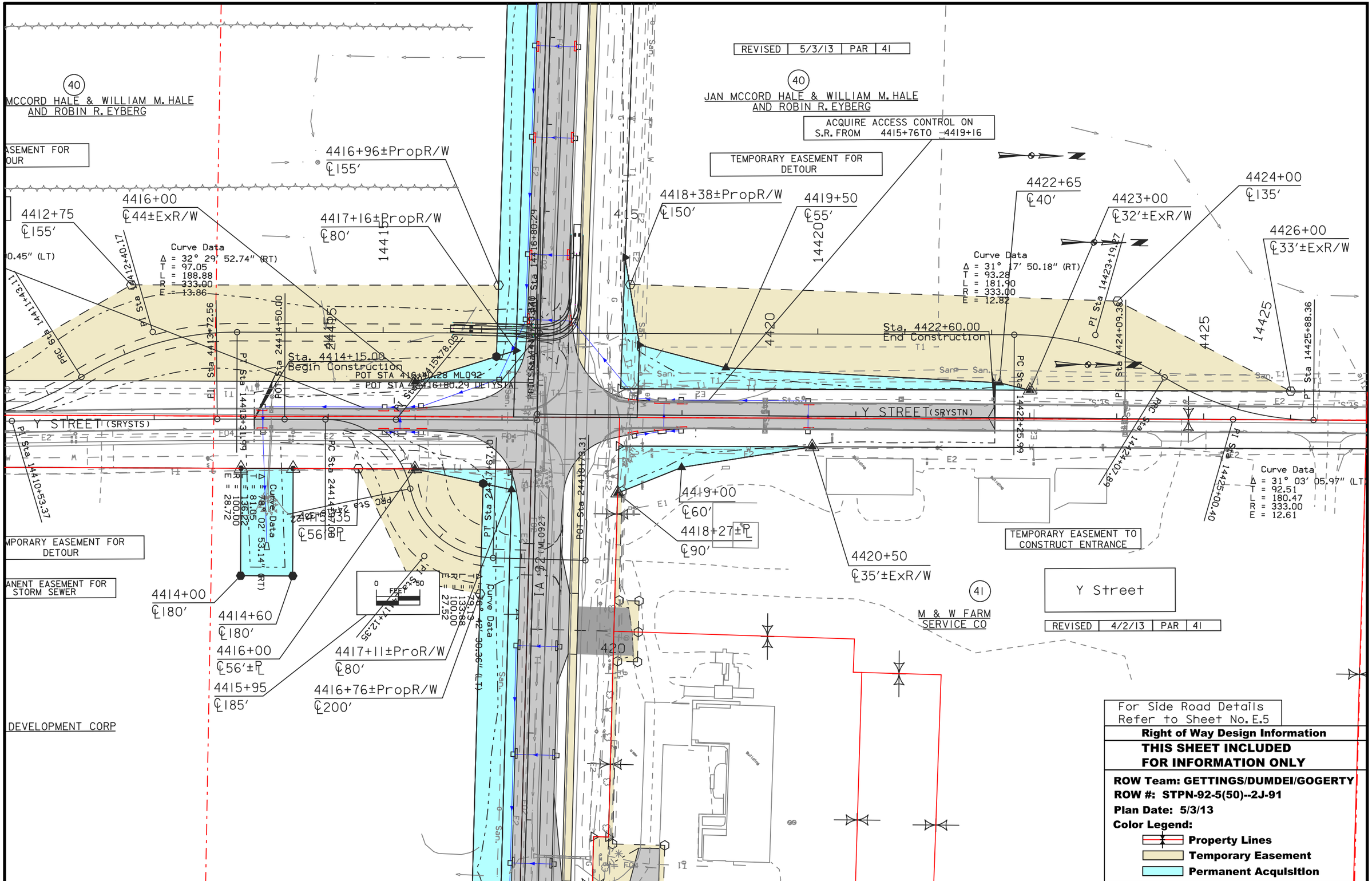


C	ENGLISH	IOWA DOT	DESIGN TEAM Schoenrock\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER HE.6

8:15:35 AM 5/3/2013 mgogert c:\pw_work\pwmain\mgogert\d0122352\91092050HE1.sht

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

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

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

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

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

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

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

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

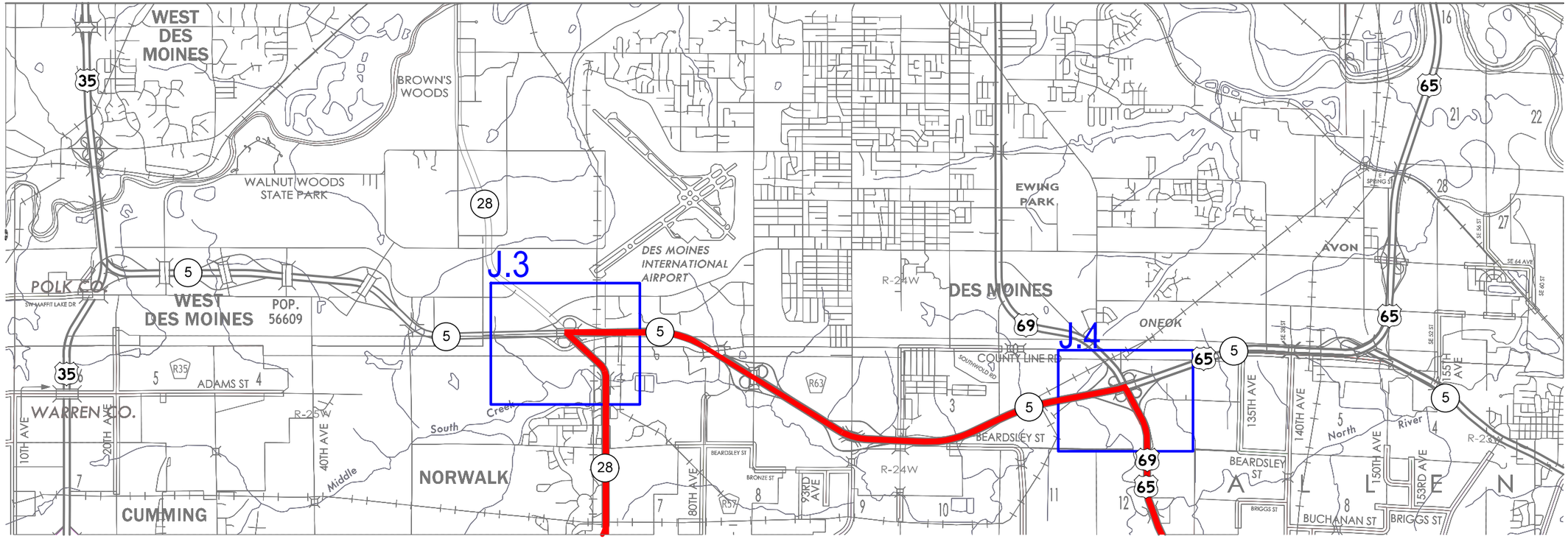
●	Channelizing Device	▬	Crash Cushion
×	Drum	○→	Traffic Signal
▫	Temporary Lane Separator		Flagger
◆	Tubular Marker	○-○●	Temporary Floodlighting
♦	Channelizer Marker	⊢	Traffic Sign
△	Concrete Barrier Marker	⊢	Type III Barricade
ς	Delineator		Type A Warning Light
	Temporary Barrier Rail	←	Direction of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

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

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)

POLK COUNTY



WARREN COUNTY

SIGN/DEVICE	SIGN NO.	COLOR	SIZE InchxInch
92	M1-4	BLACK ON WHITE	24X24
EAST	M3-2	BLACK ON WHITE	24X12
WEST	M3-4	BLACK ON WHITE	24X12
DETOUR	M4-8	BLACK ON ORANGE	24X12
END DETOUR	M4-8a	BLACK ON ORANGE	24X18
	M6-3	BLACK ON WHITE	21X15
	M5-1R	BLACK ON WHITE	21X15

SIGN/DEVICE	SIGN NO.	COLOR	SIZE InchxInch
	M5-1L	BLACK ON WHITE	21X15
	M5-2	BLACK ON WHITE	21X15
	M6-1R	BLACK ON WHITE	21X15
	M6-1L	BLACK ON WHITE	21X15
ROAD CLOSED 2 MILES AHEAD LOCAL TRAFFIC ONLY	R11-3a	BLACK ON WHITE	60X30
ROAD CLOSED	R11-2	BLACK ON WHITE	48X30
ROAD CLOSED TO THRU TRAFFIC	R11-4	BLACK ON WHITE	60X30

N

Project

Proposed Detour

LOCATION MAP SCALE

0 1 2 3

Miles

SIGN/DEVICE	SIGN NO.	COLOR	SIZE InchxInch
ROAD CLOSED AHEAD	W20-3	BLACK ON ORANGE	48X48
ROAD CLOSED 500 FT	W20-3	BLACK ON ORANGE	48X48
	TYPE III		

DETOUR LAYOUT DETAILS
(Sheet 1 of 8)

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.4

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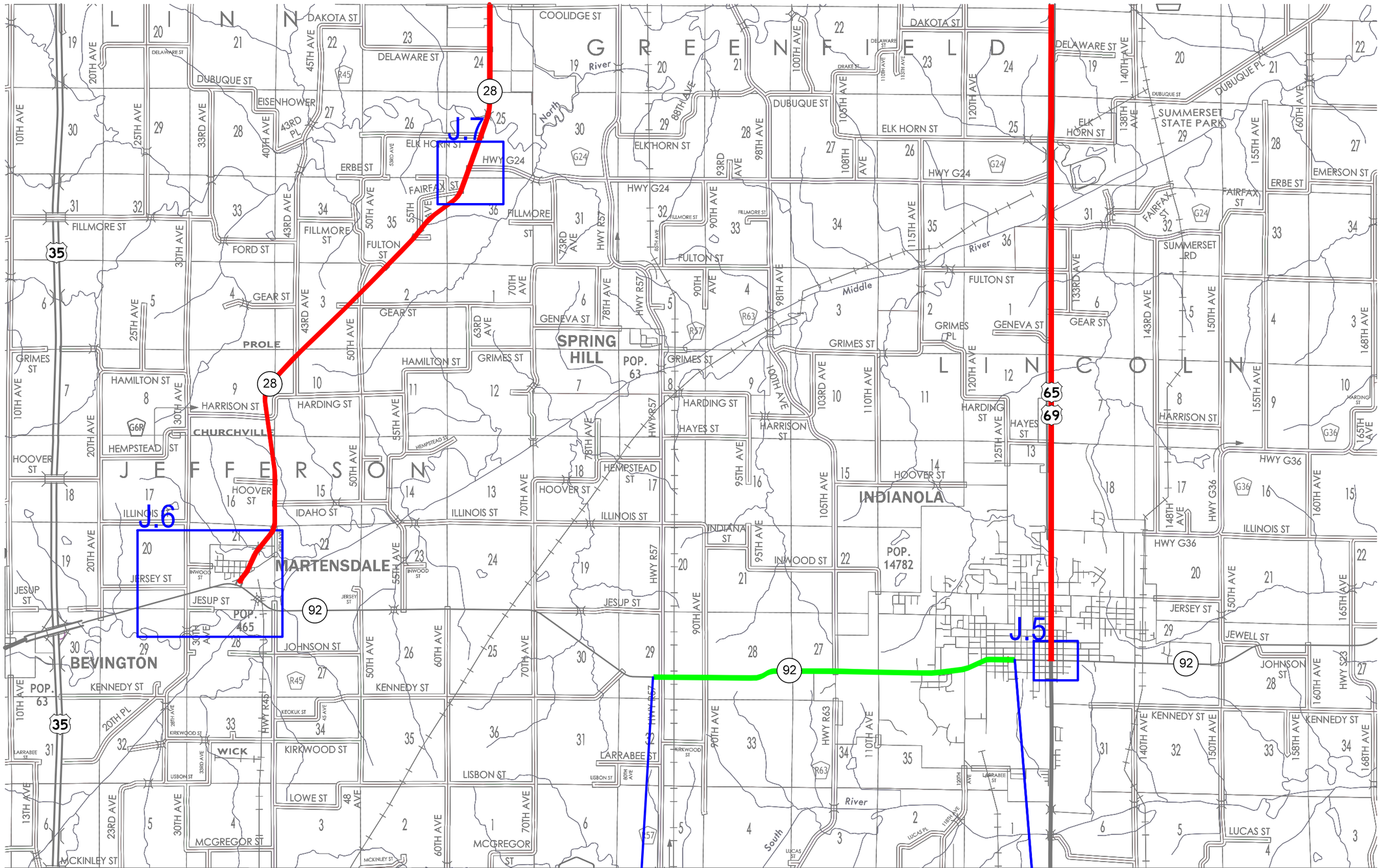
WARREN COUNTY



Project

Proposed Detour

LOCATION MAP SCALE
0 1 2 3
Miles

BEGIN PROJECT

END PROJECT

DETOUR LAYOUT DETAILS
(Sheet 2 of 8)

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.5

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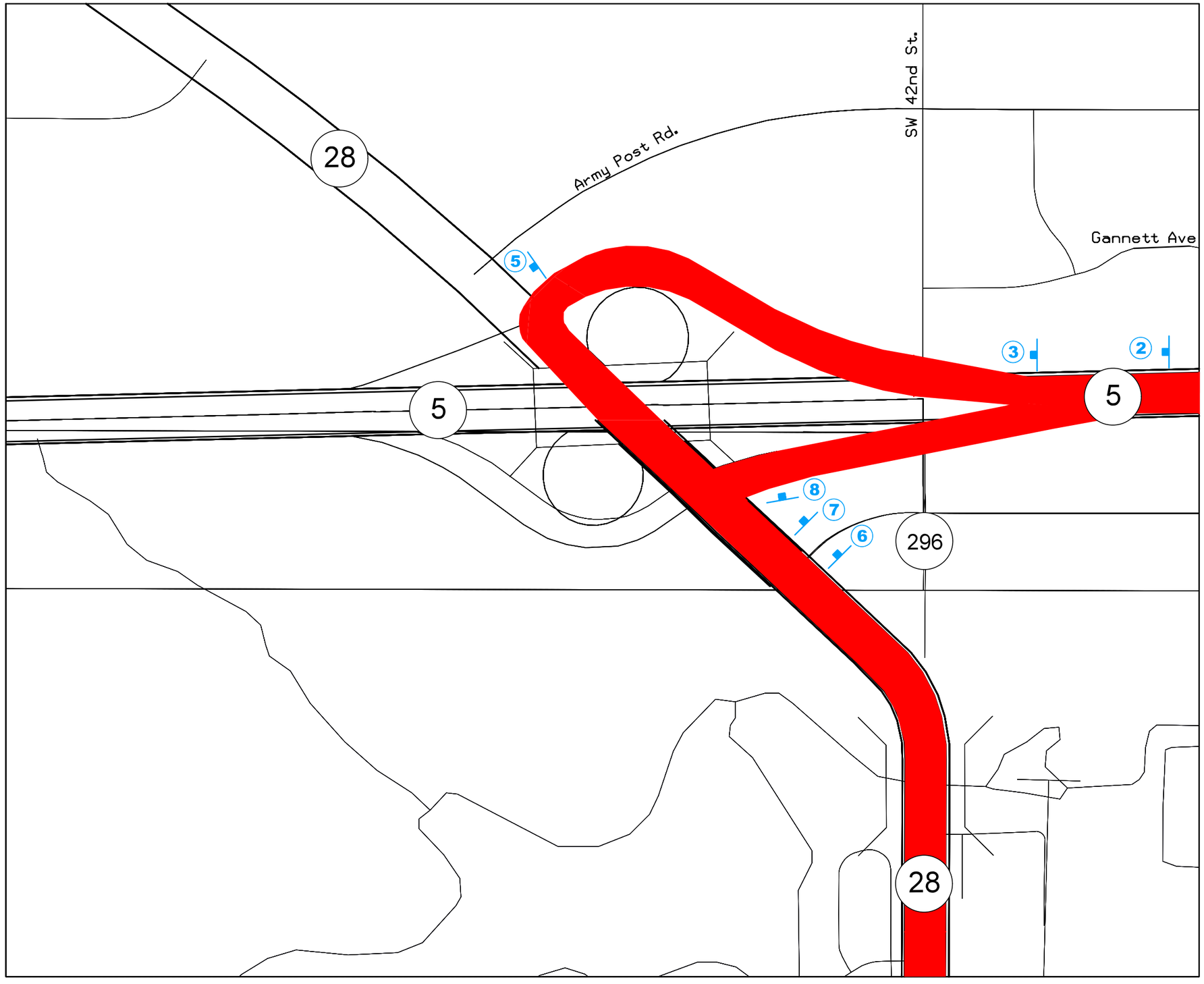

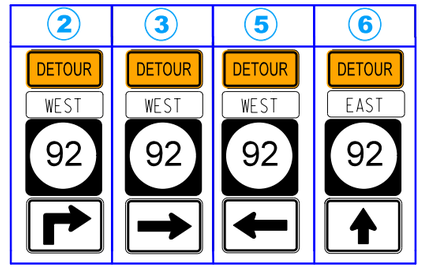

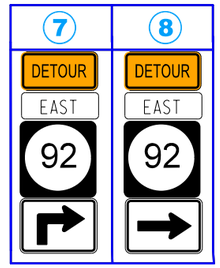

NOT TO SCALE

LEGEND

Sign

Detour Route

N

DETOUR LAYOUT DETAILS
(Sheet 3 of 8)

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.6

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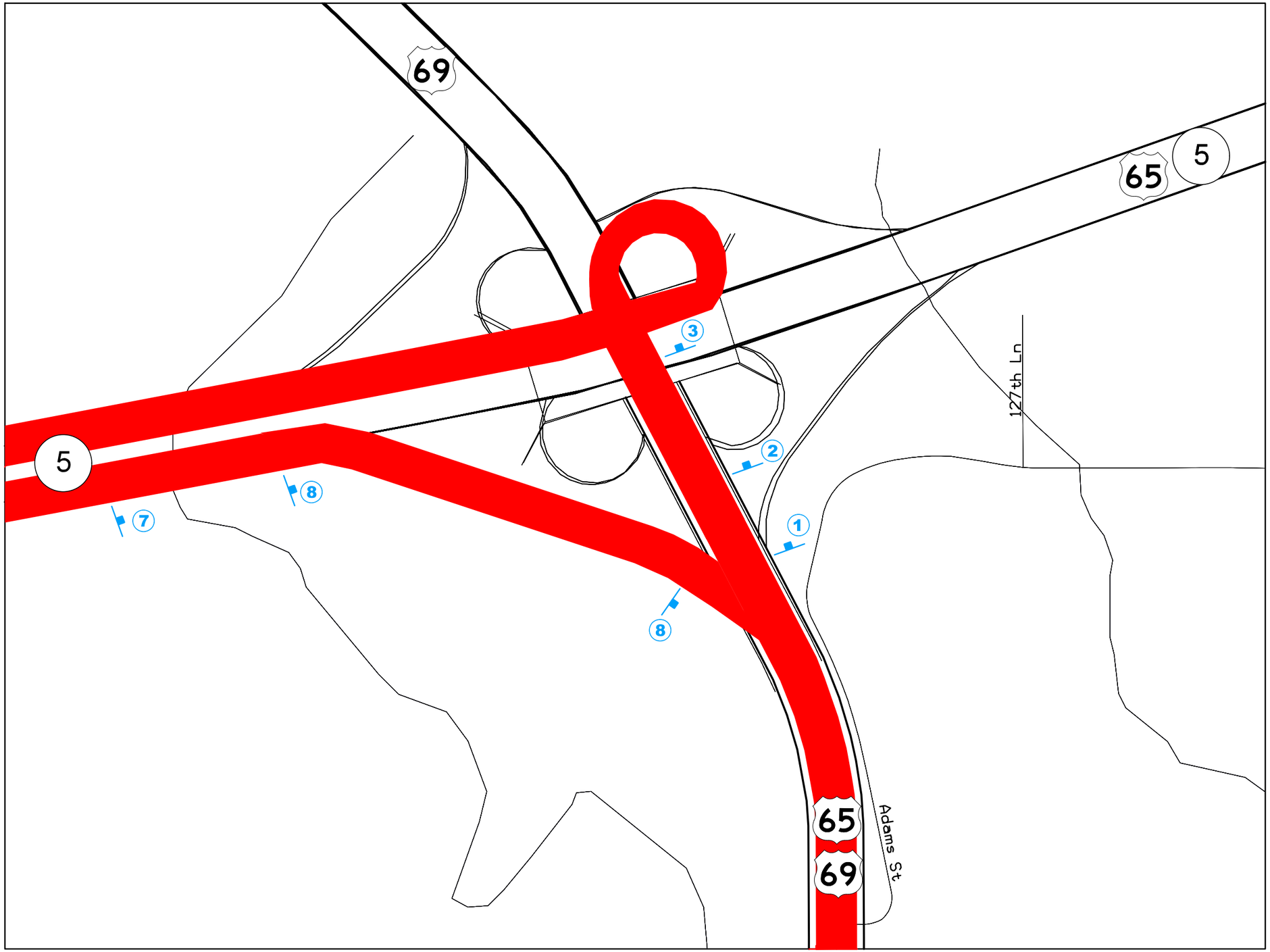

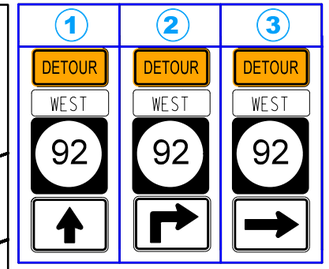

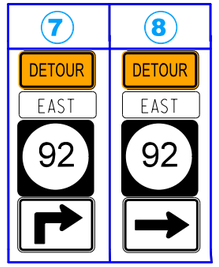

NOT TO SCALE

LEGEND

Sign

Detour Route

DETOUR LAYOUT DETAILS

(Sheet 4 of 8)

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.7

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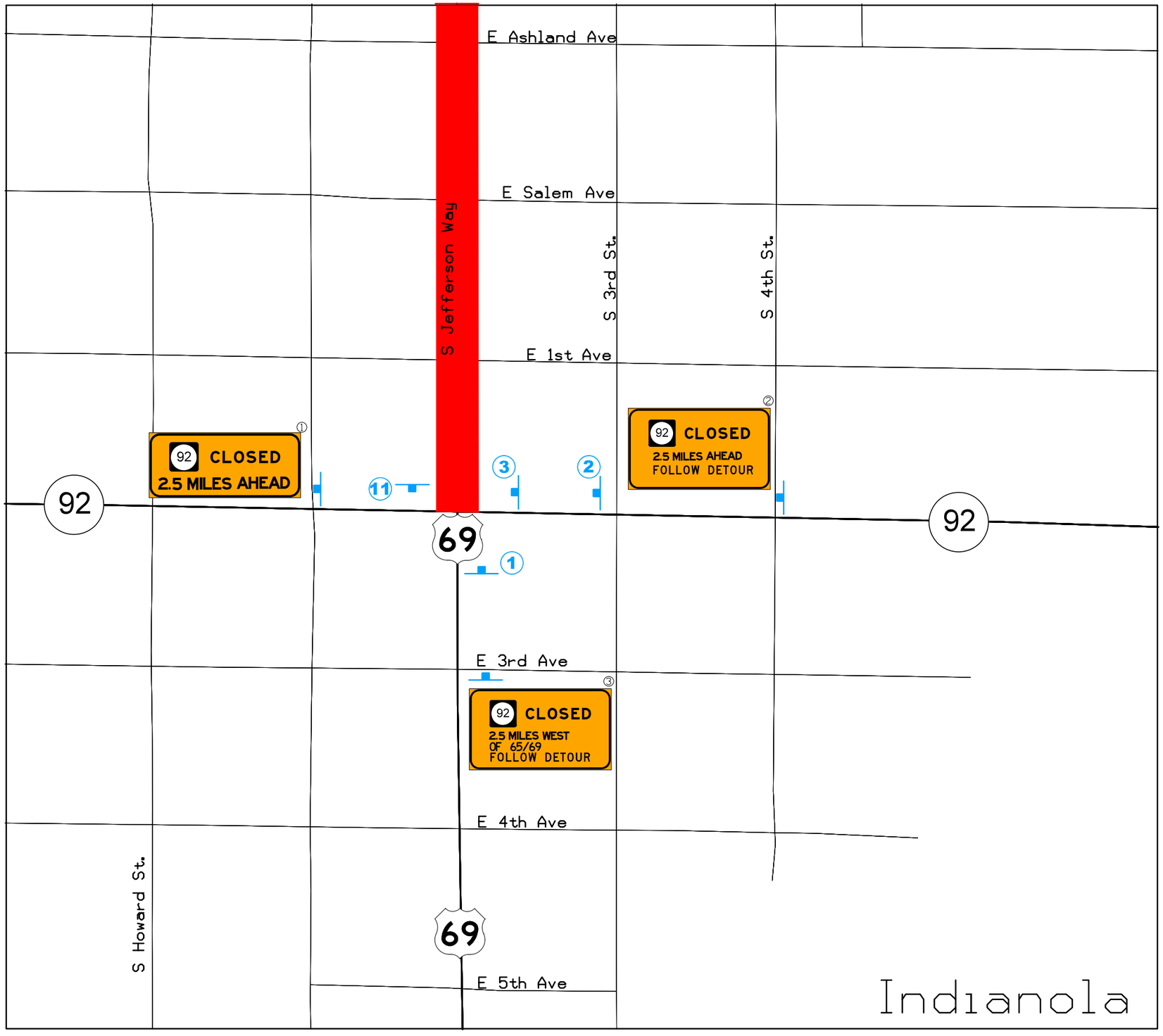

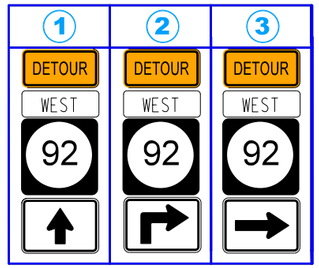

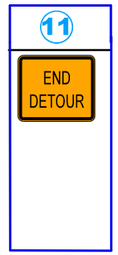

①See Detour Guide Sign #1 on Sheet J.8 for signing details.

②See Detour Guide Sign #2 on Sheet J.8 for signing details.

③See Detour Guide Sign #3 on Sheet J.8 for signing details.

NOT TO SCALE

LEGEND

Sign

Detour Route

N

DETOUR LAYOUT DETAILS
(Sheet 5 of 8)

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.8

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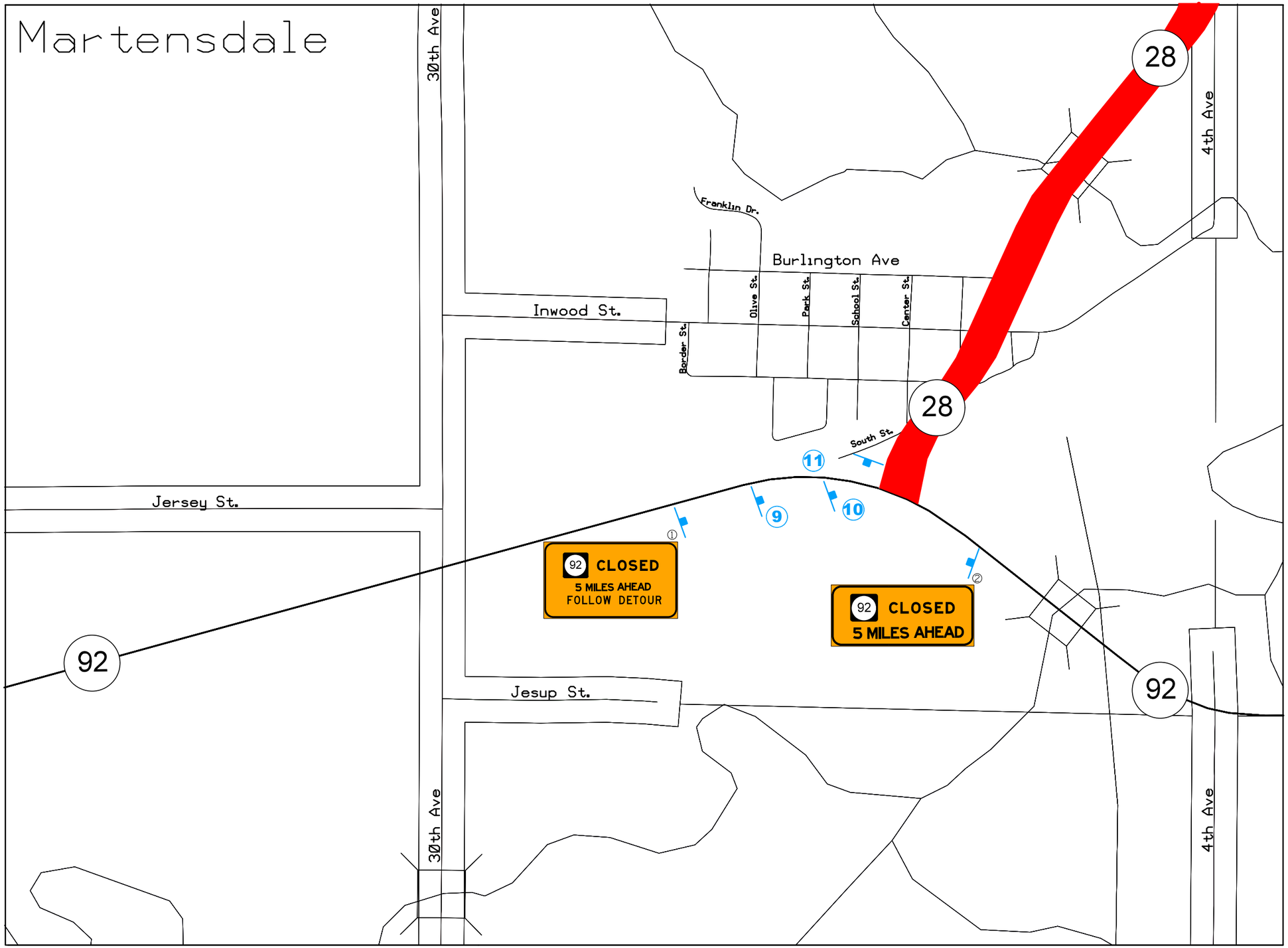

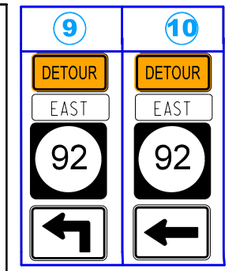

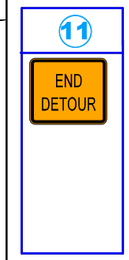

①See Detour Guide Sign #4 on Sheet J.8 for signing details.

②See Detour Guide Sign #5 on Sheet J.8 for signing details.

NOT TO SCALE

LEGEND

Sign

Detour Route

DETOUR LAYOUT DETAILS
(Sheet 6 of 8)

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.9

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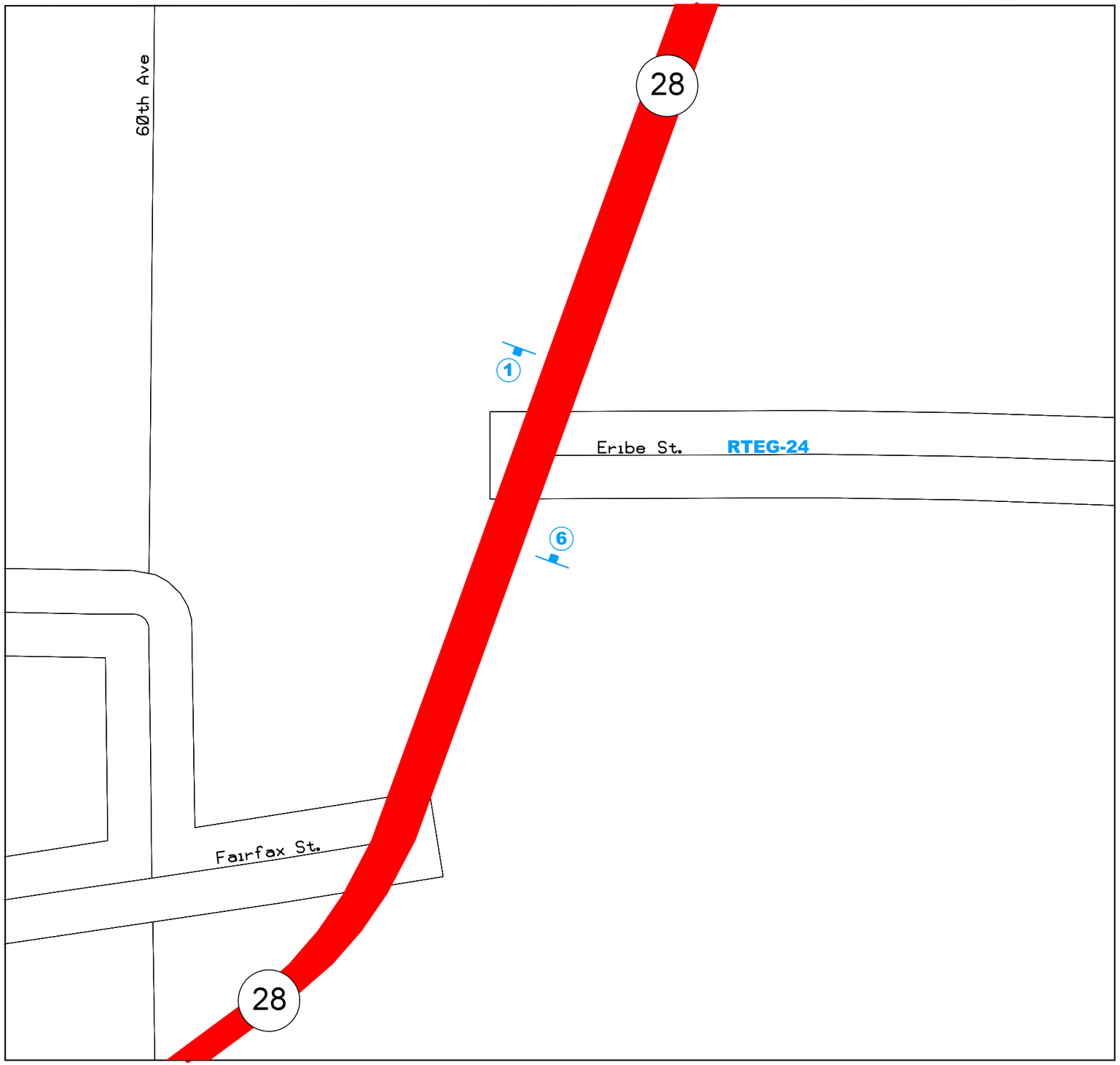

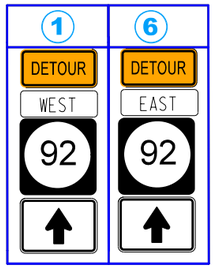

NOT TO SCALE

LEGEND

Sign

Detour Route

N

DETOUR LAYOUT DETAILS
(Sheet 7 of 8)

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.10

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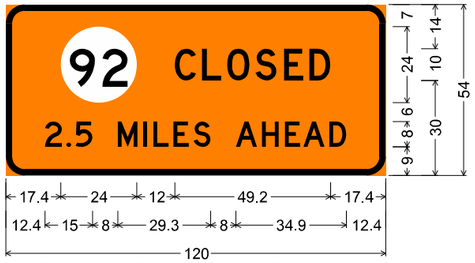
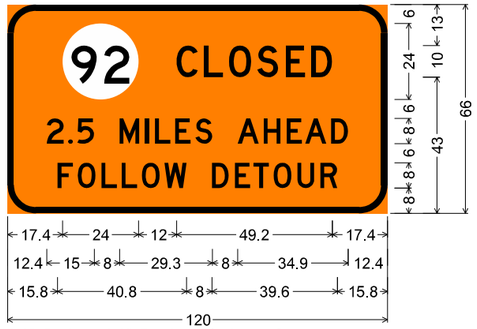
GUIDE SIGN 1



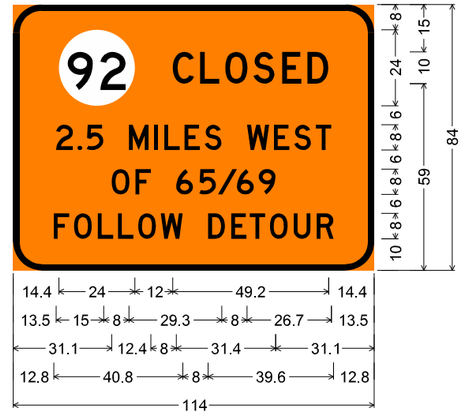
6.0" Radius, 2.0" Border, Black on Orange;
[CLOSED] D; [2.5 MILES AHEAD] D;

GUIDE SIGN 2



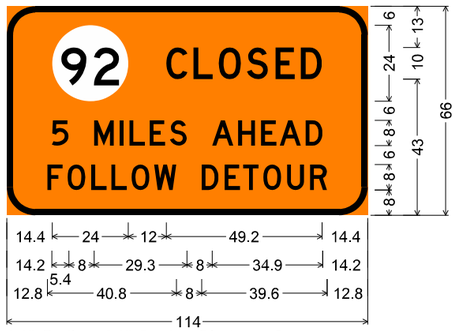
9.0" Radius, 2.0" Border, Black on Orange;
[CLOSED] D; [2.5 MILES AHEAD] D;
[FOLLOW DETOUR] D;

GUIDE SIGN 3



9.0" Radius, 2.0" Border, Black on Orange;
[CLOSED] D; [2.5 MILES WEST] D;
[OF 65/69] D; [FOLLOW DETOUR] D;

GUIDE SIGN 4



9.0" Radius, 2.0" Border, Black on Orange;
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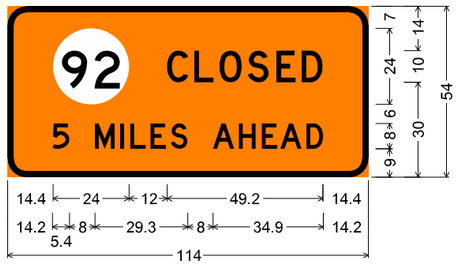
[FOLLOW DETOUR] D;

GUIDE SIGN 5



6.0" Radius, 2.0" Border, Black on Orange;
[CLOSED] D; [5 MILES AHEAD] D;

SIGNING DESIGN

LICENSED PROFESSIONAL ENGINEER
Zachary K. Abrams
20280
IOWA

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

Signature — 9/17/2013 Date

Zachary Abrams
Printed or Typed Name

My license renewal date is December 31, 20 14

Pages or sheets covered by this seal: J.8

Match Line "B"

Match Line "B"

Curve 30038

Sta 1282+22.45 13.00 Rt SR57S

Sta 1282+22.45 11.00 Rt SR57S
= Sta 0+00.00 SR57S_RET_4

Sta 1282+01.40 13.00 Lt SR57S
= Sta 2+11.58 SR57S_RET_3

1282

+92 Prop.
Type "C" Ent.

+92 Prop.
Type "C" Ent.

Sta 1281+54.45 13.00 Lt SR57S

Sta 1281+54.45 11.00 Lt SR57S
= Sta 2+58.58 SR57S_RET_3

Sta 1281+52.45 11.00 Lt SR57S
= Sta 2+60.58 SR57S_RET_3

11′

11′

Radius Point
Curve 30036
Sta 282+45.93 232.00 Rt

1281

Sta 1280+60.00 SR57S

Sta 1386+06.00 SR57N

Sta 1386+05.92 11.00 Rt SR57N
= Sta 0+00.00 SR57N_RET_1

Sta 1386+06.00 13.00 Rt SR57N

1386

Radius Point
Curve 30018
Sta 284+96.46 245.73 Lt

Lincoln TWP.
T-76N R-24W
SEC. 29

13′

11′

Sta 1385+56.96 13.00 Rt SR57N
= Sta 0+49.00 SR57N_RET_1

Sta 1385+35.60 11.00 Lt SR57N

Sta 1385+35.60 13.00 Lt SR57N

Sta 1385+15.60 13.00 Lt SR57N
End Taper

Radius Point
Curve 30016
Sta 289+77.04 243.16 Lt

Sta 1384+88.15 15.74 Lt SR57N
= Sta 1+33.20 SR57N_RET_2
Begin Taper

Radius Point
Curve 30026
Sta 282+61.74 128.00 Rt

1385

10:1 Taper

Curve 30016

Radius Point
Curve 30017
284+65.05 127.00 Lt

Sta 1384+78.36 24.71 Rt SR57N
= Sta 1+28.53 SR57N_RET_1

R-57 (SR57N)

SR57N_RET_2

SR57N_RET_1

Sta 282+80.60 40.00 Lt ML092
= Sta 0+19.01 SR57N_RET_2

Sta 282+61.74 40.00 Lt ML092

Sta 282+61.74 38.00 Lt ML092
= Sta 0+00.00 SR57N_RET_2

Curve 30026

Curve 30017

Sta. 284+46.23 54.40 Lt ML092
= Sta 2+10.58 SR57N_RET_1

Sta. 284+96.42 50.00 Lt ML092

Sta. 284+96.42 48.00 Lt ML092
= Sta 2+61.32 SR57N_RET_1

Rad Pt
283+52.72 50.88 Lt

Rad Pt
283+53.81 41.00 Lt

Rad Pt
283+40.37 41.00 Lt

Curve 30018

281

282

283

284

285

286

Sta 281-93.59 38.00 Lt ML092

Sta 281-93.59 30.00 Lt ML092

Sta. 284+68.21 50.00 Lt ML092
= Sta 2+33.01 SR57N_RET_1

Match Line "A"

30.00′

30.00′

38.00′

48.00′

48.00′

89°29′28.85″

Profile Grade Location

IA 92 (ML092)

IA 92 (ML092)

24.00′

32.00′

32.00′

22.00′

14.00′

POT STA 283+68.17 ML092
= PI STA 1283+68.17 SR57N

POT STA 283+73.24 ML092
= PI STA 1283+73.24 SR57S

91°4′16.23″

Rad Pt
283+87.71 25.00 Rt

Rad Pt
284+01.84 25.00 Rt

Rad Pt
283+88.91 35.62 Rt

Sta 285+48.62 14.00 Rt

Sta 285+48.62 22.00 Rt

Match Line "A"

80 ft 10:1 Taper

Begin Taper
280+39.00 24.00 Rt

End Taper
281+19.00 32.00 Rt

Sta 282+61.74 38.00 Rt ML092
= Sta 0+00.00 SR57N_RET_2

Sta 282+61.74 40.00 Rt ML092

Sta 282+74.15 34.00 Rt ML092
= Sta 0+28.31 SR57S_RET_3

Sta 282+96.12 38.40 Rt ML092
= Sta 0+50.73 SR57N_RET_2

Curve 30036

Curve 30037

Curve 30046

Sta 284+40.48 22.00 Rt ML092
= Sta 1+80.07 SR57N_RET_4

Sta 284+40.48 24.00 Rt ML092

Sta 284+61.62 24.00 Rt ML092
= Sta 1+61.06 SR57N_RET_4

279

280

Match Line "A"

1283

SR57S_RET_3

SR57S_RET_4

Sta 279+39.00 14.00 Rt

Sta 279+39.00 22.00 Rt

Sta 280+19.00 22.00 Rt

Sta 280+19.00 24.00 Rt

Match Line "A"

Sta 1282+80.07 24.71 Lt SR57S
= Sta 1+32.05 SR57S_RET_3

Radius Point
Curve 30037
282+77.30 111.00 Rt

Curve 30038

Radius Point
Curve 30038
Sta 277+66.48 232.18 Rt

R-57 (SR57S)

Sta 1282+68.21 15.58 Rt SR57S
= Sta 0+45.99 SR57S_RET_4

Sta 1282+42.45 13.00 Rt SR57S
= Sta 0+20.10 SR57S_RET_4

Radius Point
Curve 30046
284+80.48 112.00 Rt

Match Line "B"

Match Line "B"

NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information.

0 FEET 20

Geometric Details Intersection of Ia. 92 and Co. Rd. R-57

C	ENGLISH	IOWA DOT	DESIGN TEAM Jla\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	L.1

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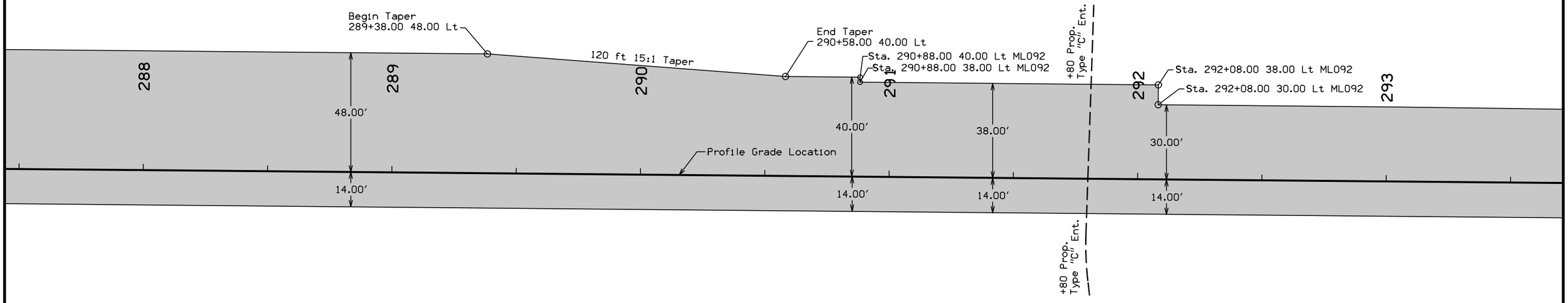
Lincoln TWP.
T-76N R-24W
SEC. 29

N



NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information,

0 20
FEET

Geometric Details
Ia. 92

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER L.2

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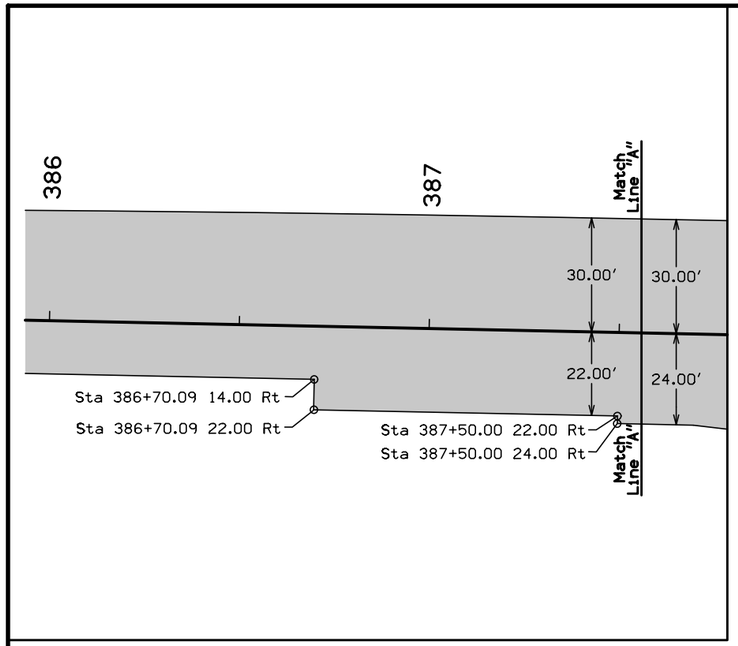
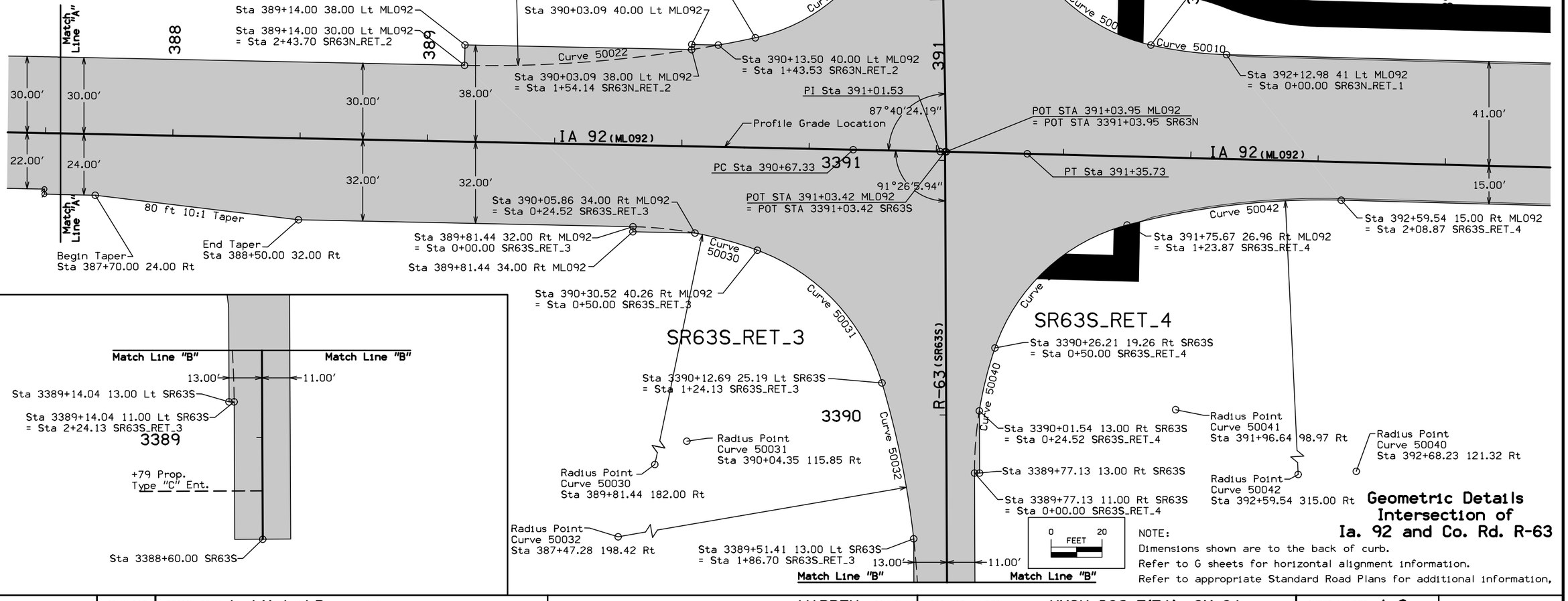


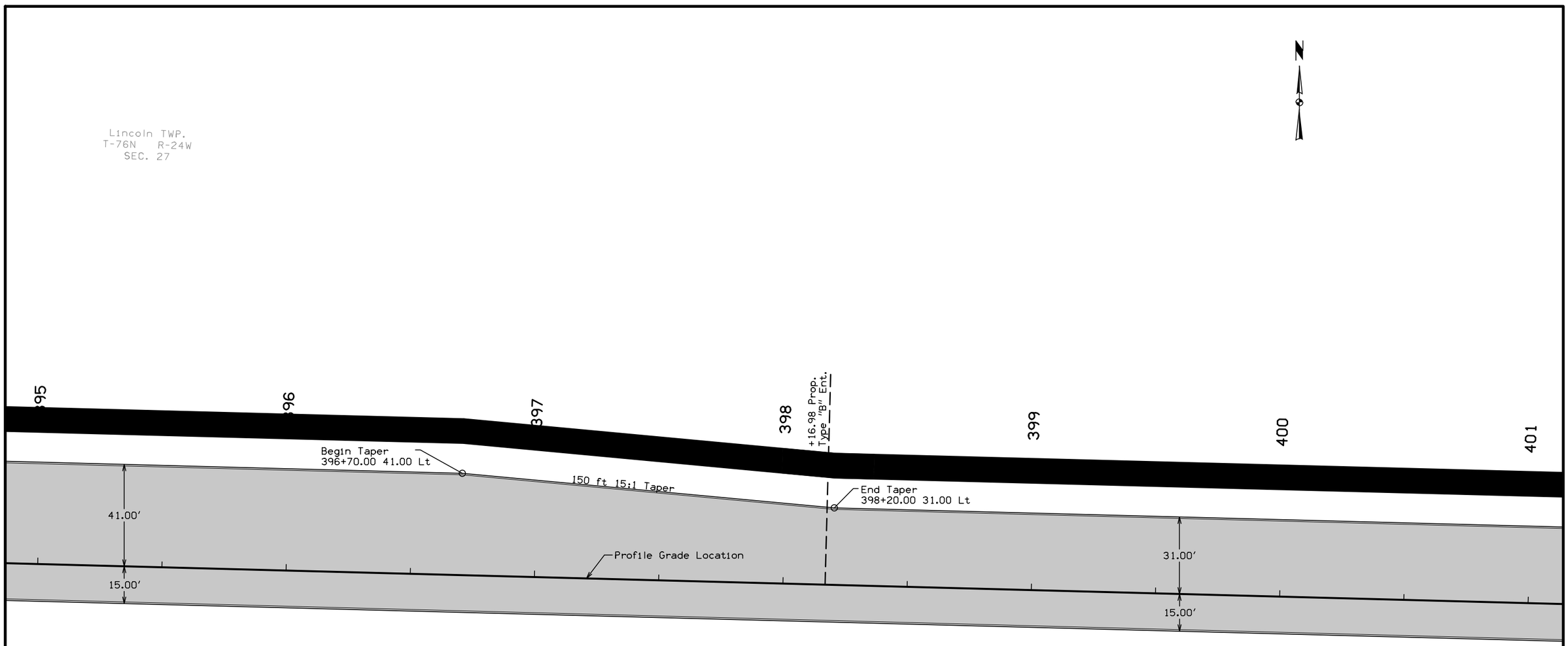


Geometric Details
Intersection of
Ia. 92 and Co. Rd. R-63

NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information.

C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.3

Lincoln TWP.
T-76N R-24W
SEC. 27



NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information,

0 FEET 20

Geometric Details
Ia. 92

C	ENGLISH	IOWA DOT	DESIGN TEAM **J1a\Holst\Bennett**	**WARREN** COUNTY	PROJECT NUMBER **NHSX-092-5(51)--3H-91**	SHEET NUMBER **L.4**

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Lincoln TWP.
T-76N R-24W
SEC. 27

Lincoln TWP.
T-76N R-24W
SEC. 26

15.50′ 15.50′

Y STREET (SRYSTN)

4419

Sta 4418+93.99 15.5 Lt SRYSTN
= Sta 0+00.00 SRYSTN_RET_2

Radius Point
Curve 60020
Sta 411+13.85 144.27 Lt

Curve 60020

Radius Point
Curve 60022
Sta 415+53.57 531.00 Lt

Radius Point
Curve 60021
Sta 416+38.01 114.47 Lt

Sta 4418+44.04 17.58 Lt SRYSTN
= Sta 0+50.00 SRYSTN_RET_2

SRYSTN_RET_2

Sta 416+52.91 40.97 Lt ML092
= Sta 1+48.55 SRYSTN_RET_2

415
416
4418
417

Sta 415+53.57 31.00 Lt ML092
= Sta 2+48.55 SRYSTN_RET_2

Curve 60021

Curve 60022

Sta 4419+15.98 15.50 Rt SRYSTN
= Sta 2+35.29 SRYSTN_RET_1

Radius Point
Curve 60012
421+45.34 190.57 Lt

Curve 60012

Radius Point
Curve 60010
Sta 418+71.33 631.00 Lt

Radius Point
Curve 60011
102.84 Lt

Sta 4418+17.02 27.94 Rt SRYSTN
= Sta 1+35.29 SRYSTN_RET_1

SRYSTN_RET_1

418
419
420

Curve 60011

Sta 418+21.39 33.08 Lt ML092
= Sta 0+50.00 SRYSTN_RET_1

+80.63 Prop. Jt.
Type "B" Ent.

Curve 60010

Sta 418+71.33 31.00 Lt ML092
= Sta 0+00.00 SRYSTN_RET_1

31.00′

15.00′

IA 92 (ML092)

PC Sta 416+90.59

88°41′17.37″

PI Sta 417+35.31

PT Sta 417+80.03

Profile Grade Location

IA 92 (ML092)

POT Sta 417+33.40 ML092
= POT Sta 4417+33.40 SRYSTN

POT Sta 417+40.32 ML092
= POT Sta 4417+40.32 SRYSTS

91°33′26.84″

Curve 60030

Curve 60031

Sta 416+31.24 15.00 Rt ML092
= Sta 0+00.00 SRYSTS_RET_3

Sta 416+56.22 15.78 Rt ML092
= Sta 0+25.00 SRYSTS_RET_3

4417

SRYSTS_RET_3

Y STREET (SRYSTS)

Sta 4416+71.25 22.47 Lt SRYSTS
= Sta 1+14.42 SRYSTS_RET_3

Radius Point
Curve 60030
416+31.24 415.00 Rt

Radius Point
Curve 60031
Sta 416+51.85 85.64 Rt

Curve 60032

Radius Point
Curve 60032
Sta 412+33.26 184.02 Rt

4416

Sta 4415+71.91 12.50 Lt SRYSTS
= Sta 2+14.42 SRYSTS_RET_3

12.50′ 12.50′

Curve 60042

Curve 60041

Sta 418+84.65 15.00 Rt ML092
= Sta 2+12.69 SRYSTS_RET_4

Sta 418+15.29 23.13 Rt ML092
= Sta 1+42.69 SRYSTS_RET_4

SRYSTS_RET_4

Sta 4416+51.38 15.62 Rt SRYSTS
= Sta 0+50.00 SRYSTS_RET_4

Radius Point
Curve 60041
Sta 418+32.63 96.10 Rt

Radius Point
Curve 60042
Sta 418+84.65 315.00 Rt

Curve 60040

Radius Point
Curve 60040
Sta 421+55.95 129.07 Rt

Sta 4416+01.51 12.50 Rt SRYSTS
= Sta 0+00.00 SRYSTS_RET_4

NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information,

0 20
FEET

Geometric Details Intersection of Ia. 92 and Y-Street

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER L.5

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Lincoln TWP.
T-76N R-24W
SEC. 26

N

Radius Point
Curve 20036
Sta 440+30.11 1125.00 Lt

SRSPRUCE_RET2

SRSPRUCE_RET1

439 440 441 442 443 444 445

SPRUCE ST

Sta 441+21.92 53.00 Lt ML092
= Sta 0+00.00 SRSPRUCE RET2

Radius Point Curve 70127
Sta 441+09.46 43.00 Lt

Cur 70127

Sta 441+45.75 51.06 Lt ML092
=0+26.85 SRSPRUCE RET1

Radius Point Curve 70113
Sta 441+56.81 43.00 Lt

Cur 70113

Sta 441+56.81 31.00 Lt ML092
= Sta 0+00.00 SRSPRUCE RET1

Begin Taper
Sta 442+53.51
31.00 Lt

End Taper Sta 443+18.01 26.50 Lt

64.5′ 15:1 Taper

Sta. 443+18.01
End Full Width Paving,
Begin Widening

26.50′

31.00′

15.00′

PI Sta 441+31.12

IA 92
(ML092)

10.50′

Curve 20038

Curve 20036

PI Sta 439+21.21

PRC Sta 440+30.11

+48.56 Prop.
Type "B" Ent.

R= 1110′

441+83.00
13.5′ Rt

Begin Transition
Sta 441+15.50
15.00 Rt

R=1316′

+23.75 Prop.
Type "B" Ent.

PT Sta 442+31.59

442+28
12.5′ Rt

End Transition
Sta 443+18.00
10.50 Rt

Sta 443+40.21 10.50 Rt ML092
= Sta 0+00.00 SRRST RET3

Radius Point Curve 70233
Sta 443+39.45 35.49 Rt

Cur 70233

Sta 443+56.57 17.28 Rt ML092
= Sta 0+18.11 SRRST RET3

R ST

Cur 70243

Sta 444+24.52 10.50 Rt ML092
= Sta 0+18.84 SRRST RET4

Radius Point Curve 70243
Sta 444+24.52 35.50 Rt

Sta 444+07.40 17.28 Rt ML092
= Sta 0+00.00 SRRST RET4

SRRST_RET3

SRRST_RET4

Radius Point
Curve 20038
Sta 440+30.11 1125.00 Rt

NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information,

0 FEET 20

Geometric Details
Ia. 92

C	ENGLISH	IOWA DOT	DESIGN TEAM **J1a\Holst\Bennett**	**WARREN** COUNTY	PROJECT NUMBER **NHSX-092-5(51)--3H-91**	SHEET NUMBER **L.6**

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Lincoln TWP.
T-76N R-24W
SEC. 26

N

SRKENWOOD_RET2

Sta 451+72.27 55.52 Lt ML092
= Sta 0+00.00 SRKENWOOD RET2

Radius Point Curve 70327
Sta 451+46.61 51.50 Lt

Sta 451+46.61 26.50 Lt ML092
= Sta 0+43.31 SRKENWOOD RET2

Cur 70327

451

S KENWOOD BLVD

452

SRKENWOOD_RET1

Sta 452+13.95 55.52 Lt ML092
= Sta 0+43.31 SRKENWOOD RET1

Radius Point Curve 70313
Sta 452+38.91 51.50 Lt

Sta 452+38.91 26.50 Lt ML092
= Sta 0+00.00 SRKENWOOD RET1

Cur 70313

453

454

SRPST_RET2

Sta 455+53.31 57.70 Lt ML092
= Sta 0+00.00 SRPST RET2

Radius Point Curve 70523
Sta 455+21.32 58.50 Lt

455

Sta 455+21.32 26.50 Lt ML092
= Sta 0+49.46 SRPST RET2

Cur 70523

PT Sta 453+73.85

SOUTH P ST

SRPST_RET1

Sta 455+79.25 57.70 Lt ML092
= Sta 0+49.48 SRPST RET1

Radius Point Curve 70513
Sta 456+11.24 58.50 Lt

456

Sta 456+11.24 26.50 Lt ML092
= Sta 0+00.00 SRPST RET1

Cur 70513

IA 92 (ML092)

Cur 70443

Sta 454+86.45 10.50 Rt ML092
= Sta 0+29.06 SRPST RET4

Radius Point Curve 70443
Sta 454+86.45 42.50 Rt

Sta 454+61.27 22.83 Rt ML092
= Sta 0+00.00 SRPST RET4

SRPST_RET4

Cur 70433

Sta 453+91.57 10.50 Rt ML092
= Sta 0+00.00 SRPST RET3

Radius Point Curve 70433
Sta 453+91.57 42.50 Rt

Sta 454+16.67 22.83 Rt ML092
= Sta 0+29.01 SRPST RET3

SRPST_RET3

SOUTH P ST

PI Sta 451+22.49

Lincoln TWP.
T-76N R-24W
SEC. 26

461

462

463

IA 92 (ML092)

Cur 70633

Sta 461+85.60 10.50 Rt ML092
= Sta 0+00.00 SRNST RET3

Radius Point Curve 70633
Sta 461+85.60 35.50 Rt

Sta 462+07.85 24.11 Rt ML092
= Sta 0+27.43 SRNST RET3

SRNST_RET3

SOUTH N ST

Cur 70643

Sta 462+62.57 10.50 Rt ML092
= Sta 0+27.45 SRNST RET4

Radius Point Curve 70643
Sta 462+62.57 35.50 Rt

Sta 462+40.32 24.11 Rt ML092
= Sta 0+00.00 SRNST RET4

SRNST_RET4

NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information,

0 20
FEET

Geometric Details
Ia. 92

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.6a

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Match Line "B"

Match Line "B"

970.20 0+20.10 SR57S_RET_4

969.67 0+00.00 SR57S_RET_4

+22.45
969.89

2+11.58 SR57S_RET_3 969.03

1282

PT Curve 30038
Sta 1281+52.45 11.00 Lt SR57S 967.64
= Sta 2+60.58 SR57S_RET_3

+54.45
967.96

1281

Curve 30038

R-57 (SR57S)

2.0% 11.0'

Lincoln TWP.
T-76N R-24W
SEC. 29

1386

1386+06.00
969.17

968.91 PC Curve 30016
Sta 1386+05.92 11.00 Rt SR57N
= Sta 0+00.00 SR57N_RET_1

+56.96
970.07

969.81 0+49.00 SR57N_RET_1

+35.60
970.37

1+80.87 2.0 Lt SR57N_RET_2 970.11

1+60.78 SR57N_RET_2 970.36

1385

PT Curve 30026
Sta 1384+88.15 15.74 Lt SR57N 970.67
= Sta 1+33.20 SR57N_RET_2

+80.33
971.13

970.81 PT Curve 30016, PC Curve 30017
Sta 1384+78.36 24.71 Rt SR57N
= Sta 1+28.53 SR57N_RET_1

SR57N_RET_1

SR57N_RET_2

R-57 (SR57N)

Curve 30016

Constant 2.0% Slope

Constant 2.0% Slope

Special Shaping Curve 30017

+47.00
971.71

0+19.01 SR57N_RET_2
973.02

PC Curve 30026
Sta 282+61.74 38.00 Lt ML092
= Sta 0+00.00 SR57N_RET_2

973.16

Curve 30026 Special Shaping

Uniform Transition

Uni. Trans.

+16.17
972.37

972.68

972.31

PT Curve 30017, PC Curve 30018
Sta. 284+46.23 54.40 Lt ML092
= Sta 2+10.58 SR57N_RET_1

2+33.01
SR57N_RET_1

971.75

Curve 30018

971.60 PT Curve 30018
Sta. 284+96.42 48.00 Lt ML092
= Sta 2+61.32 SR57N_RET_1

Match Line "A"

281

282

283

1384

284

285

286

974.14

Constant 1.5% Slope

Constant 2.0% Slope

Uni. Trans.

+39.00
975.07

+19.00
974.59

IA 92 (ML092)

+93.59
974.14

+28.45
973.93

+61.74
973.73

973.82
+45.93

+68.17
973.09

Profile Grade Location

+96.42
972.32

+11.42
972.23

+48.62
972.01

+80.48
972.42

+73.24
973.06

974.71

974.11

PC Curve 30036
Sta 282+61.74 38.00 Lt ML092
= Sta 0+00.00 SR57N_RET_3

973.34

Curve 30036

0+28.31 SR57S_RET_3 973.13

PT Curve 30036, PC Curve 30037 972.76
Sta 282+96.12 38.40 Lt ML092
= Sta 0+50.73 SR57N_RET_3

SR57S_RET_3

1283

Curve 30037 Special Shaping

972.64

+41.23
972.58

972.51

972.14

1+61.06 SR57S_RET_4

971.68 Sta 285+48.62 22.0 Rt ML092

972.06 PT Curve 30046
Sta 284+40.48 22.00 Lt ML092
= Sta 1+80.07 SR57N_RET_4

SR57S_RET_4

Special Shaping Curve 30046

Uniform Transition

Uni. Trans.

+10.79
972.08

+95.00
971.77

PT Curve 30037, PC Curve 30038 970.99
Sta 1282+80.07 24.71 Lt SR57S
= Sta 1+32.05 SR57S_RET_3

970.56 PC Curve 30046
Sta 1282+68.21 15.58 Rt SR57S
= Sta 0+45.99 SR57S_RET_4

Curve 30038

Constant 2.0% Slope

Match Line "B"

Match Line "B"

279

280

Match Line "A"

+39.00
975.56

+19.00
975.19

975.23

975.83

Match Line "A"

0 FEET 20

Staking Details
Intersection of
Ia. 92 and Co. Rd. R-57

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.7

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Match Line "B"

Match Line "B"

R-63 (SR63S)

PT Curve 50032
Sta 3389+14.04 11.00 Lt SR63S
= Sta 2+24.13 SR63S_RET_3

969.44

2.0%
11.0'

+14.04
969.66

3389

3393

+02.01
971.59

PT Curve 50012
Sta 3393+02.01 11.00 Rt SR63N
= Sta 2+15.76 SR63N_RET_1

971.37

2.0%
13'

+64.65
971.54

PC Curve 50020
Sta 3392+50.13 11.00 Lt SR63N
= Sta 0+00.00 SR63N_RET_2

971.38

1+78.33 SR63N_RET_1
971.29

2.0%
13.0'

+50.13
971.60

2.0%
11.0'

R-63 (SR63N)

0+20.27 SR63N_RET_2
971.50

Curve 50020

Curve 50012

SR63N_RET_1

+10.00
972.67

2.0%
11.0'

2.0%
11.0'

PT Curve 50020, PC Curve 50021
Sta 3391+91.71 22.84 Lt SR63N
= Sta 0+60.00 SR63N_RET_2
971.87

3392

SR63N_RET_2

971.62

PT Curve 50011, PC Curve 50012
Sta 3391+93.81 28.14 Rt SR63N
= Sta 1+05.76 SR63N_RET_1

PT Curve 50021, PC Curve 50022
Sta 390+27.99 43.17 Lt ML092
= Sta 1+28.70 SR63N_RET_2
973.25

PT Curve 50010, PC Curve 50011
Sta 391+83.18 44.00 Lt ML092
= Sta 0+30.00 SR63N_RET_1

971.55

390

393

2+43.70 8.0 Lt
SR63N_RET_2
974.62

+65.00
972.67

Curve 50021

Special Shaping

Uniform Transition

Constant 2.0% Slope

Special Shaping

Curve 500

PT Curve 50022
Sta 389+14.00 30.00 Lt ML092
= Sta 2+43.70 SR63N_RET_2
974.74

1+43.53
SR63N_RET_2
973.50

+41.99
972.55

2.0%
11.0'

Match Line "A"

388

389

1+57.27 0.5 Lt
SR63N_RET_2
973.64

Curve 50022

Uni. Trans.

972.67

1.1%
11.0'

1.1%
11.0'

972.43

Curve 50010

971.31

PC Curve 50010
0+00.00 SR63N_RET_1

1.5% 14.0' Constant 1.5% Slope | 1.5% 14.0' Constant 1.5% Slope | 1.5% 14.0' Cons. 1.5% Slope | 1.5% 14.0' Constant 1.5% Slope | 1.5% 8.0' | 1.5% 8.0' Constant 1.5% Slope | 1.5% 13.0' Cons. 1.5% Slope | 1.5% 13.0' Uni. Trans. | 2.0% 13.0' Uni. Trans. | 3.0% 13.0' Constant 3.0% Slope

Constant 1.5% Slope | 1.5% 14.0' Constant 1.5% Slope | 1.5% 14.0' Cons. 1.5% Slope | 1.5% 14.0' Constant 1.5% Slope | 1.5% 14.0' | 1.5% 14.0' Constant 1.5% Slope | 1.5% 12.0' Cons. 1.5% Slope | 1.5% 12.0' Uni. Trans. | 2.0% 12.0' Cons. 2.0% Slope | 2.0% 12.0' Constant 2.0% Slope

+50.00
975.90

+00.00
975.35

IA 92
(ML092)

+60.00
974.69

+81.52
974.45

+61.19
973.58

+02.29
973.12

Profile Grade Location

+70.00
972.38

Uniform Transition

+50.00
971.50

+70.00
971.28

+90.00
971.06

+10.00
970.85

IA 92
(ML092)

3391

+04.32
973.10

Constant 1.5% Slope | 1.5% 14.0' Constant 1.5% Slope | 1.5% 14.0' Cons. 1.5% Slope | 1.5% 14.0' Constant 1.5% Slope | 1.5% 8.0' | 1.5% 8.0' Constant 1.5% Slope | 1.5% 15.0' Cons. 1.5% Slope | 1.5% 15.0' Uni. Trans. | 2.0% 15.0' Cons. 2.0% Slope | 2.0% 15.0' Constant 2.0% Slope

Constant 1.5% Slope | 1.5% 14.0' Constant 1.5% Slope | 1.5% 14.0' Cons. 1.5% Slope | 1.5% 14.0' Constant 1.5% Slope | 1.5% 8.0' | 1.5% 8.0' Constant 1.5% Slope | 1.5% 15.0' Constant 1.5% Slope | 1.5% 15.0' Constant 1.5% Slope | 1.5% 15.0' Constant 1.5% Slope | 1.5% 15.0' Constant 1.5% Slope

Constant 2.0% Slope | 2.0% 10.0' Constant 2.0% Slope | 2.0% 10.0' Uni. Trans. | 1.5% 10.0' Constant 1.5% Slope | 1.5% 10.0' | 1.5% 8.0' Constant 1.5% Slope | 1.5% 8.0' Constant 1.5% Slope | 1.5% 8.0' Constant 1.5% Slope | 1.5% 8.0' Constant 1.5% Slope | 1.5% 8.0' Constant 1.5% Slope

Match Line "A"

975.37

PC Curve 50030
Sta 389+81.44 32.00 Rt ML092
= Sta 0+00.00 SR63S_RET_3

973.97

973.66
0+24.52
SR63S_RET_3

Curve 50030

Special Shaping

Curve 50031

PT Curve 50030, PC Curve 50031
Sta 390+30.52 40.26 Rt ML092
= Sta 0+50.00 SR63S_RET_3
973.14

SR63S_RET_3

1.1%
11.0'

1.1%
11.0'

972.74

972.50

Uni. Trans.

+71.41
972.62

+45.07
972.22

Special Shaping

Curve

Curve 50042

971.14

PT Curve 50042
Sta 392+59.54 15.00 Rt ML092
= Sta 2+08.87 SR63S_RET_4

971.76

PT Curve 50041, PC Curve 50042
Sta 391+75.67 26.96 Rt ML092
= Sta 1+23.87 SR63S_RET_4

SR63S_RET_4

2.0%
11.0'

Uniform Transition

Constant 2.0% Slope

Constant 2.0% Slope

+10.00
971.61

971.46

PT Curve 50040, PC Curve 50041
Sta 3390+26.21 19.26 Rt SR63S
= Sta 0+50.00 SR63S_RET_4

PT Curve 50031, PC Curve 50032
Sta 3390+12.69 25.19 Lt SR63S
= Sta 1+24.13 SR63S_RET_3
971.16

3390

Curve 50032

Curve 50040

971.19

0+24.52 SR63S_RET_4

Constant 2.0% Slope

Constant 2.0% Slope

+77.13
970.97

970.75

PC Curve 50040
Sta 3389+77.13 11.00 Rt SR63S
= Sta 0+00.00 SR63S_RET_4

R-63 (SR63S)

1+86.70 SR63S_RET_3
970.16

2.0%
13.0'

+51.35
970.43

Match Line "B"

Match Line "B"

387

Match Line "A"

+70.00
977.54

+50.00
976.95

+70.00
976.76

977.21

976.59

976.40

Match Line "A"

0 20
FEET

Staking Details Intersection of Ia. 92 and Co. Rd. R-63

C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.8

1:11:43 PM 12/2/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051L01.sht

PT Curve 60012
Sta 4419+15.98 15.50 Rt SRYSTN
= Sta 2+35.29 SRYSTN_RET_1

+15.98
964.62
964.31
2.0%
15.5'
+93.99
964.46
4419
PC Curve 60020
Sta 4418+93.99 15.5 Lt SRYSTN
= Sta 0+00.00 SRYSTN_RET_2
964.18
1.8%
15.5'
Curve 60020
Curve 60012
Y STREET (SRYSTN)
PT Curve 60020, PC Curve 60021
Sta 4418+44.04 17.58 Lt SRYSTN
= Sta 0+50.00 SRYSTN_RET_2
964.31
PT Curve 60011, PC Curve 60012
Sta 4418+17.02 27.94 Rt SRYSTN
964.33
= Sta 1+35.29 SRYSTN_RET_1
SRYSTN_RET_2
SRYSTN_RET_1
+13.55
964.95
2.0%
14.0'
PT Curve 60021, PC Curve 60022
Sta 416+52.91 40.97 Lt ML092
= Sta 1+48.55 SRYSTN_RET_2
965.80
PT Curve 60010, PC Curve 60011
Sta 418+21.39 33.08 Lt ML092
964.83
= Sta 0+50.00 SRYSTN_RET_1
415
416
4418
417
418
419
420
Curve 60021
Special Shaping
Uniform Transition
+91.55
965.28
2.0%
14.0'
Uni. Trans.
Special Shaping
Curve 60011
Sta 415+53.57 31.00 Lt ML092
= Sta 2+48.55 SRYSTN_RET_2
966.88
Curve 60022
+61.41
965.74
965.83
0.67%
14.0'
0.67%
965.65
964.39
PC Curve 60010
Sta 418+71.33 31.00 Lt ML092
= Sta 0+00.00 SRYSTN_RET_1
Curve 60010
Constant 2.0% Slope
Uni. Trans.
2.0%
15.0'
1.5%
15.0'
Constant 1.5% Slope
1.5%
12.0'
Constant 1.5% Slope
1.5%
16.0'
Constant 1.5% Slope
+40.00
966.92
+50.00
966.85
IA 92 (ML092)
Profile Grade Location
+40.32
965.63
Constant 1.5% Slope
+90.00
964.14
+00.00
964.01
IA 92 (ML092)
Constant 2.0% Slope
+33.40
965.68
965.52
0.67%
11.0'
0.67%
11.0'
965.38
PC Curve 60030
Sta 416+31.24 15.00 Rt ML092
= Sta 0+00.00 SRYSTS_RET_3
966.11
Curve 60030
Curve 60042
963.98
PT Curve 60042
Sta 418+84.65 15.00 Rt ML092
= Sta 2+12.69 SRYSTS_RET_4
Special Shaping
Curve 60031
+28.32
965.45
Uni. Trans.
2.0%
11.0'
+02.00
965.05
964.62
PT Curve 60041, PC Curve 60042
Sta 418+15.29 23.13 Rt ML092
= Sta 1+42.69 SRYSTS_RET_4
Special Shaping
Curve 60041
PT Curve 60030, PC Curve 60031
Sta 416+56.22 15.78 Rt ML092
= Sta 0+25.00 SRYSTS_RET_3
965.92
4417
SRYSTS_RET_3
SRYSTS_RET_4
Uniform Transition
Constant 2.0% Slope
Constant 2.0% Slope
PT Curve 60031, PC Curve 60032
Sta 4416+71.25 22.47 Lt SRYSTS
964.16
= Sta 1+14.42 SRYSTS_RET_3
PT Curve 60040, PC Curve 60041
Sta 4416+51.38 15.62 Rt SRYSTS
= Sta 0+50.00 SRYSTS_RET_4
964.01
Curve 60032
Curve 60040
Y STREET (SRYSTS)
4416
+01.51
963.87
2.0%
12.5'
963.62
PC Curve 60040
Sta 4416+01.51 12.50 Rt SRYSTS
= Sta 0+00.00 SRYSTS_RET_4
PT Curve 60032
Sta 4415+71.91 12.50 Lt SRYSTS
963.57
= Sta 2+14.42 SRYSTS_RET_3
2.0%
12.5'
+71.91
963.83
0 FEET 20

Staking Details
Intersection of
Ia. 92 and Y Street

C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER L.9

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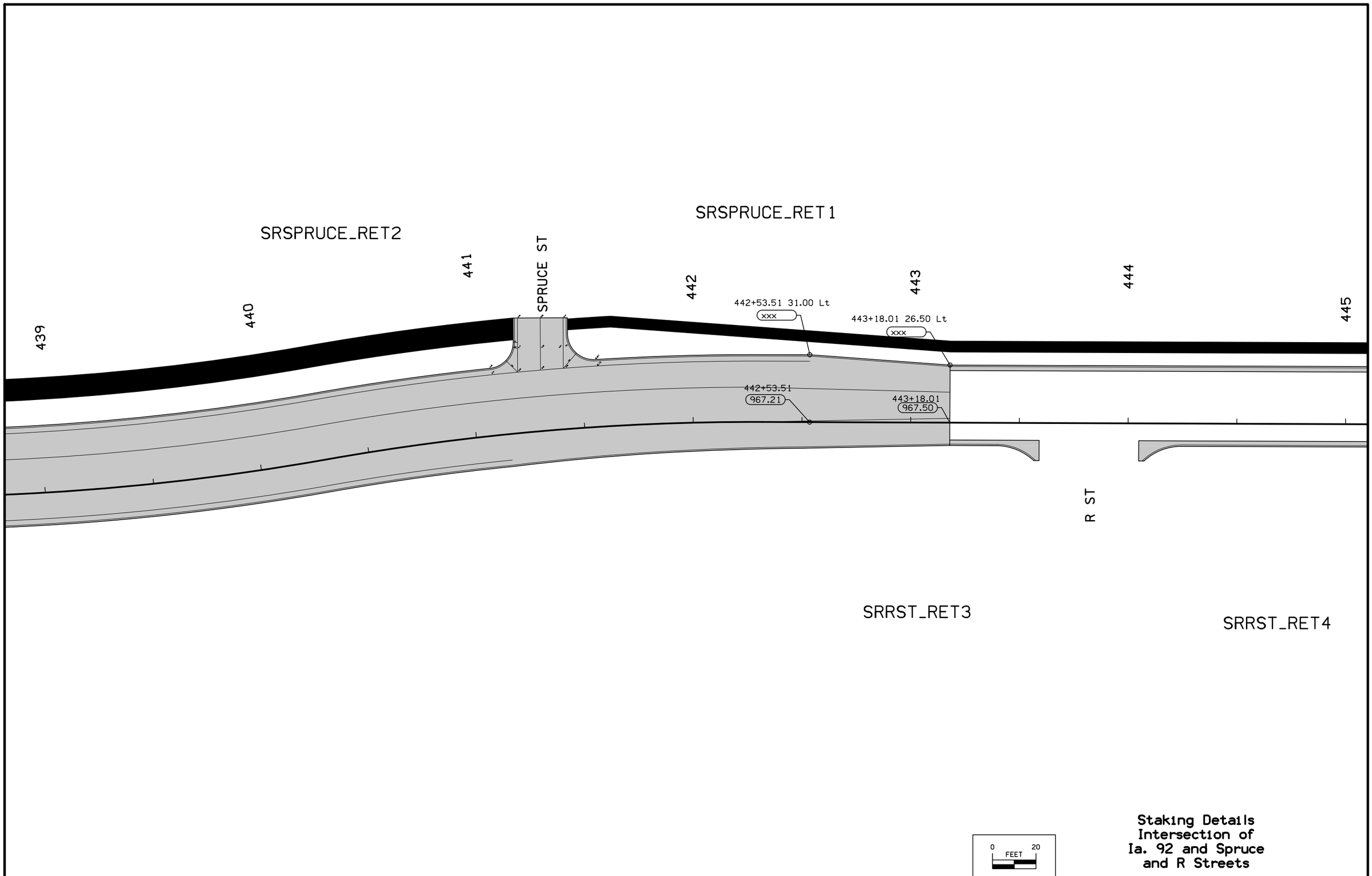

Staking Details Intersection of Ia. 92 and Spruce and R Streets

C ENGLISH	IOWA DOT	DESIGN TEAM **J1a\Holst\Bennett**	**WARREN** COUNTY	PROJECT NUMBER	**NHSX-092-5(51)--3H-91**	SHEET NUMBER **L.9a**	

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Lincoln TWP.
T-76N R-24W
SEC. 26

N

SRPST_RET1

Sta 455+53.31 57.70 Lt ML092
= Sta 0+00.00 SRPST RET2

SRPST_RET2

Sta 455+79.25 57.70 Lt ML092
= Sta 0+49.48 SRPST RET1

Radius Point Curve 70513
Sta 456+11.24 58.50 Lt

Sta 456+11.24 26.50 Lt ML092
= Sta 0+00.00 SRPST

Radius Point Curve 70523
Sta 455+21.32 58.50 Lt

Sta 455+21.32 26.50 Lt ML092
= Sta 0+49.46 SRPST RET2

SRKENWOOD_RET2

SRKENWOOD_RET1

Sta 451+72.27 55.52 Lt ML092
= Sta 0+00.00 SRKENWOOD RET2

Radius Point Curve 70327
Sta 451+46.61 51.50 Lt

Sta 451+46.61 26.50 Lt ML092
= Sta 0+43.31 SRKENWOOD RET2

Sta 452+13.95 55.52 Lt ML092
= Sta 0+43.31 SRKENWOOD RET1

Radius Point Curve 70313
Sta 452+38.91 51.50 Lt

Sta 452+38.91 26.50 Lt ML092
= Sta 0+00.00 SRKENWOOD RET1

S KENWOOD BLVD

SOUTH P ST

IA 92 (ML092)

451 452 453 454 455 456

Cur 70327 Cur 70313 Cur 70523 Cur 70513

PT Sta

Sta 453+91.57 10.50 Rt ML092
= Sta 0+00.00 SRPST RET3

Radius Point Curve 70433
Sta 453+91.57 42.50 Rt

Sta 454+16.67 22.83 Rt ML092
= Sta 0+29.01 SRPST RET3

SRPST_RET3

Cur 70433

Sta 454+86.45 10.50 Rt ML092
= Sta 0+29.06 SRPST RET4

Radius Point Curve 70443
Sta 454+86.45 42.50 Rt

Sta 454+61.27 22.83 Rt ML092
= Sta 0+00.00 SRPST RET4

SRPST_RET4

Pl Sta 451+22.49

Lincoln TWP.
T-76N R-24W
SEC. 26

461 462 463

IA 92 (ML092)

Cur 70633

Sta 461+85.60 10.50 Rt ML092
= Sta 0+00.00 SRNST RET3

Radius Point Curve 70633
Sta 461+85.60 35.50 Rt

Sta 462+07.85 24.11 Rt ML092
= Sta 0+27.43 SRNST RET3

SRNST_RET3

SOUTH N ST

Cur 70643

Sta 462+62.57 10.50 Rt ML092
= Sta 0+27.45 SRNST RET4

Radius Point Curve 70643
Sta 462+62.57 35.50 Rt

Sta 462+40.32 24.11 Rt ML092
= Sta 0+00.00 SRNST RET4

SRNST_RET4

0 20
FEET

Staking Details Intersections of Ia. 92 and Kenwood, P, and N Streets

C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER L.9b

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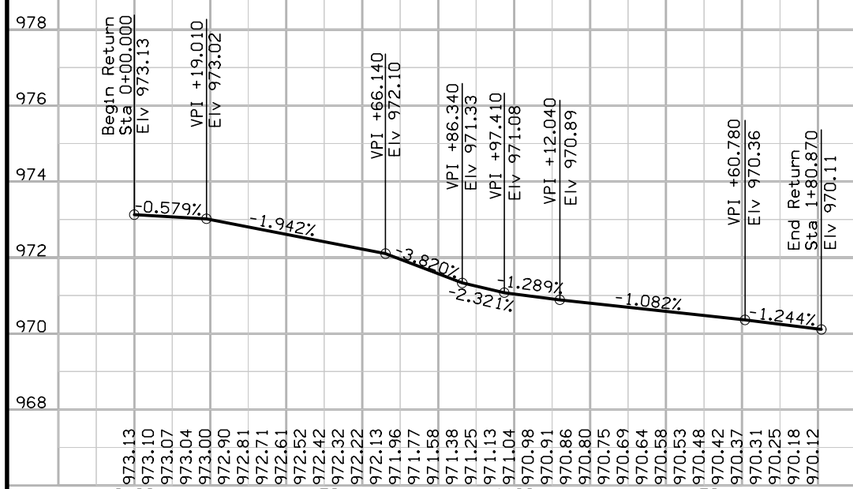
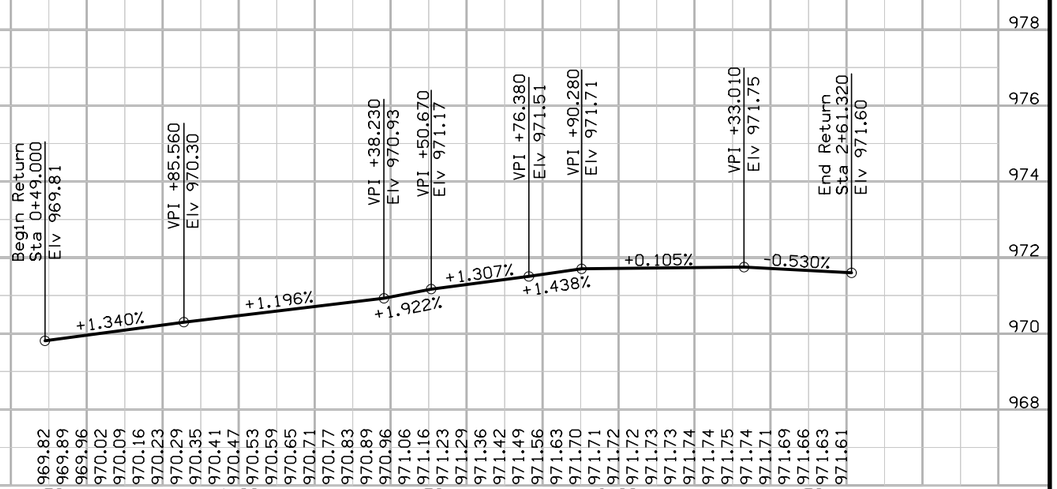
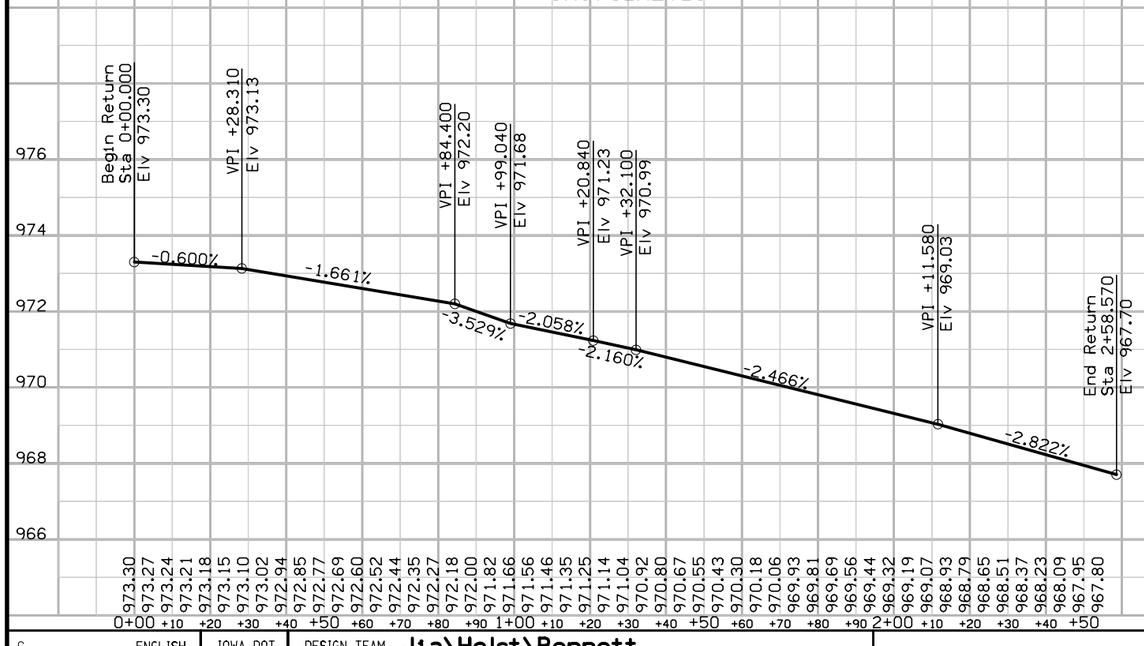
SR57N_RET_2



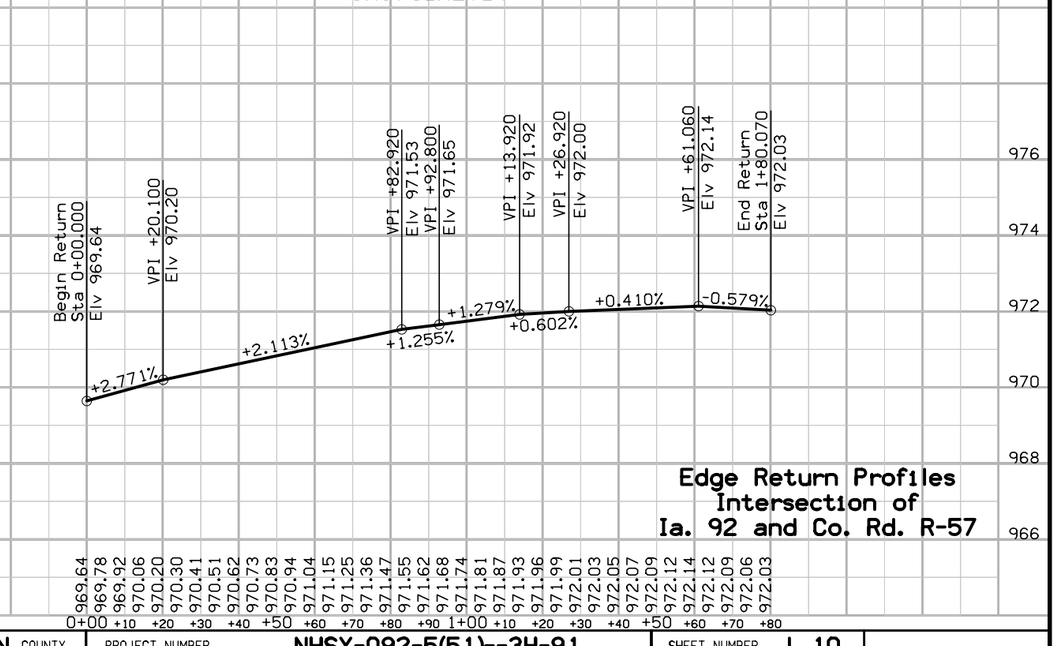
SR57N_RET_1



SR57S_RET_3



SR57S_RET_4



Edge Return Profiles
Intersection of
Ia. 92 and Co. Rd. R-57

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER L.10

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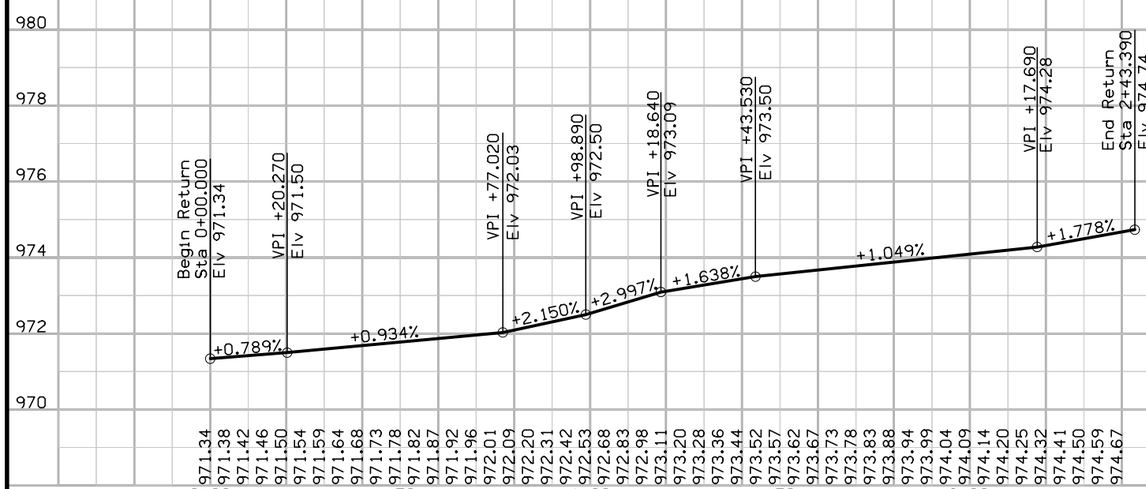
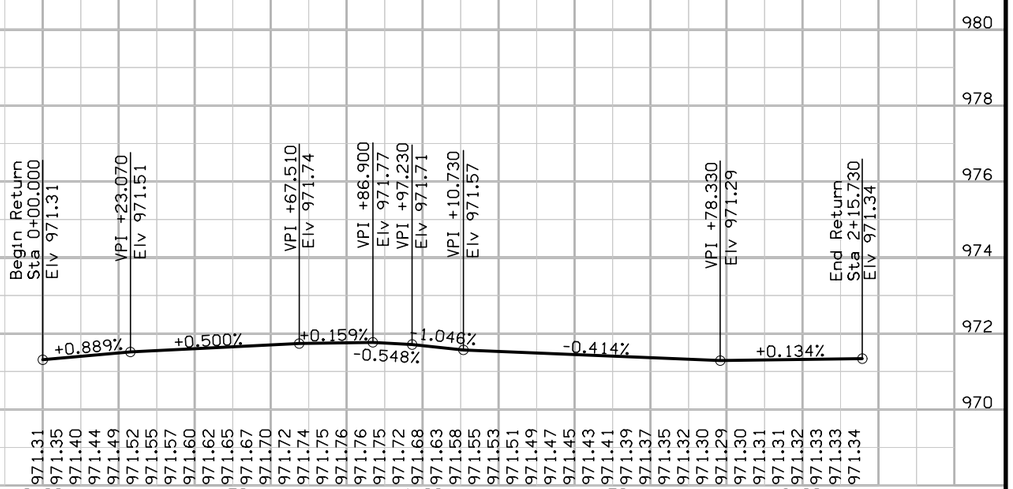
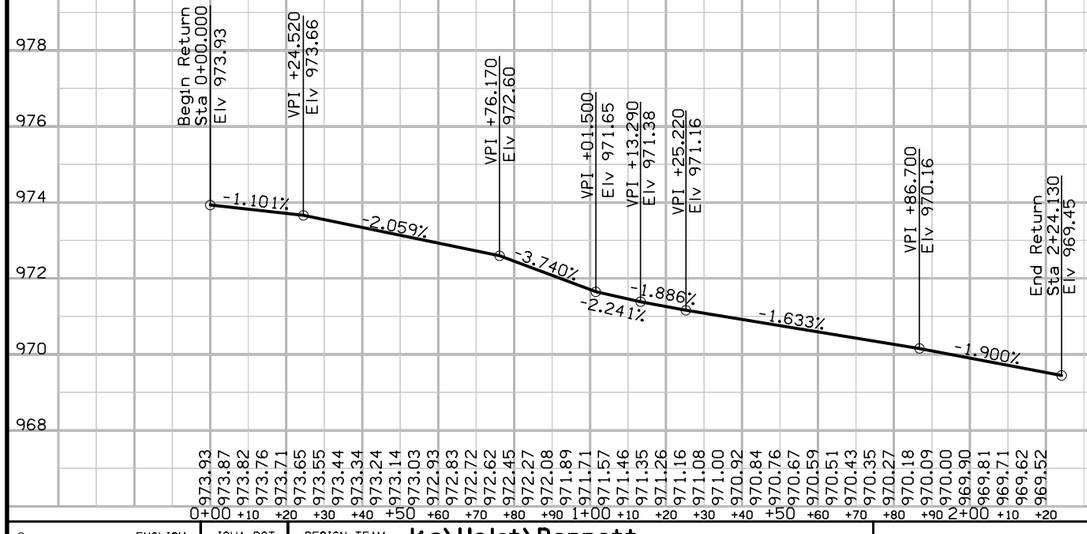
SR63N_RET_2



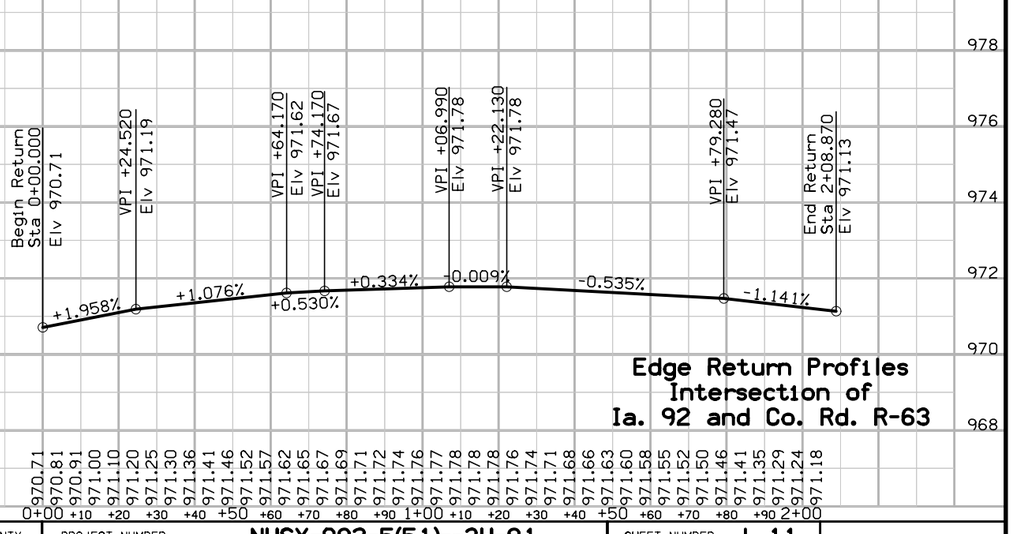
SR63N_RET_1



SR63S_RET_3



SR63S_RET_4

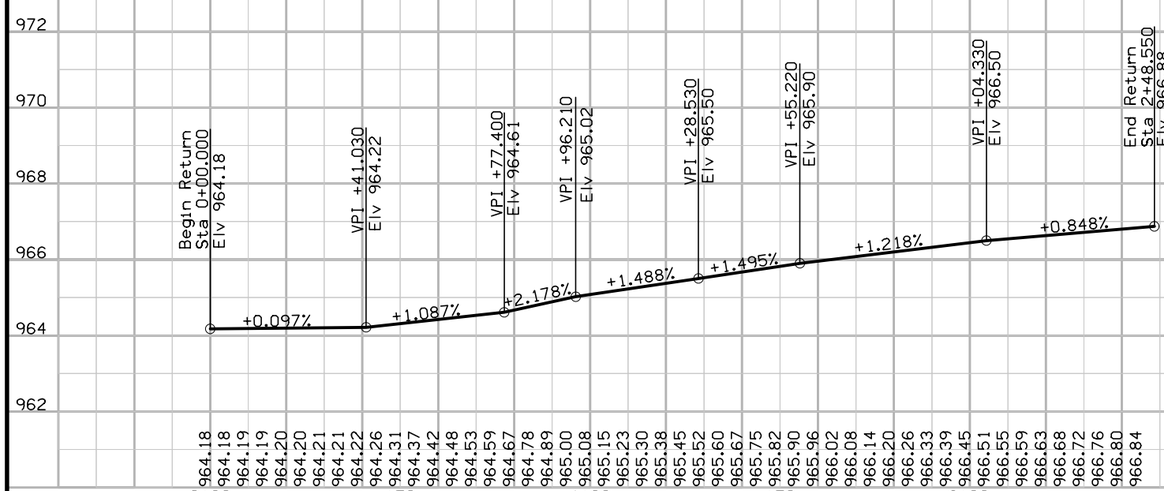


Edge Return Profiles
Intersection of
Ia. 92 and Co. Rd. R-63

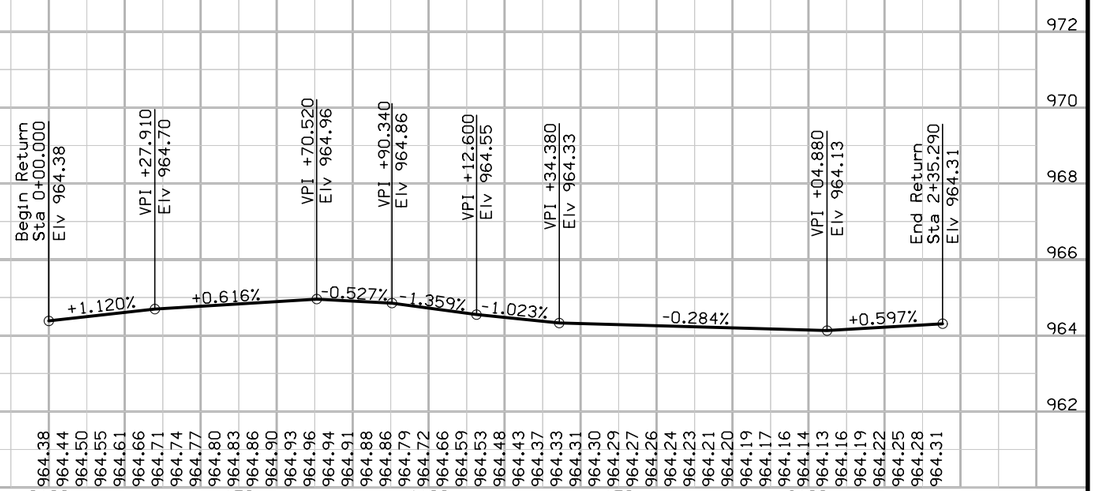
C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER L.11

1:11:30 PM 12/2/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051L01.sht

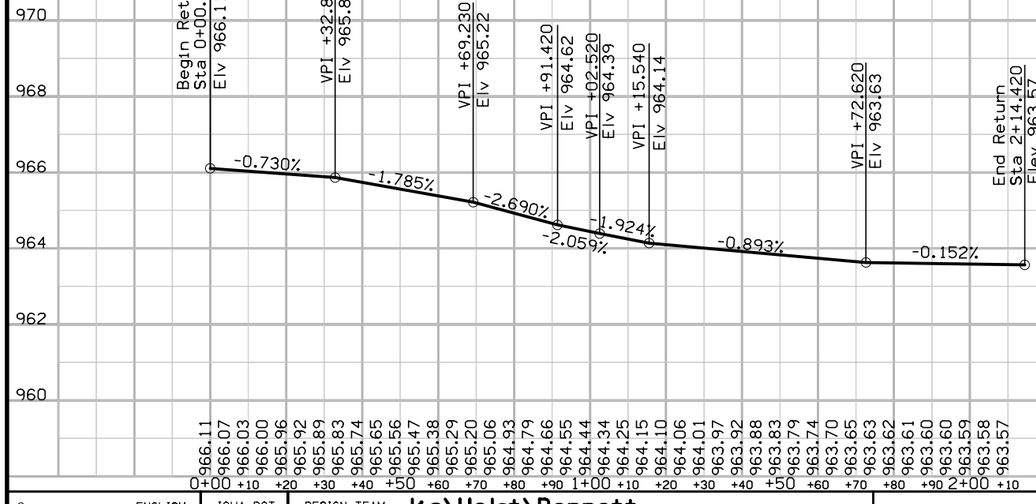
SRYSTN_RET 2



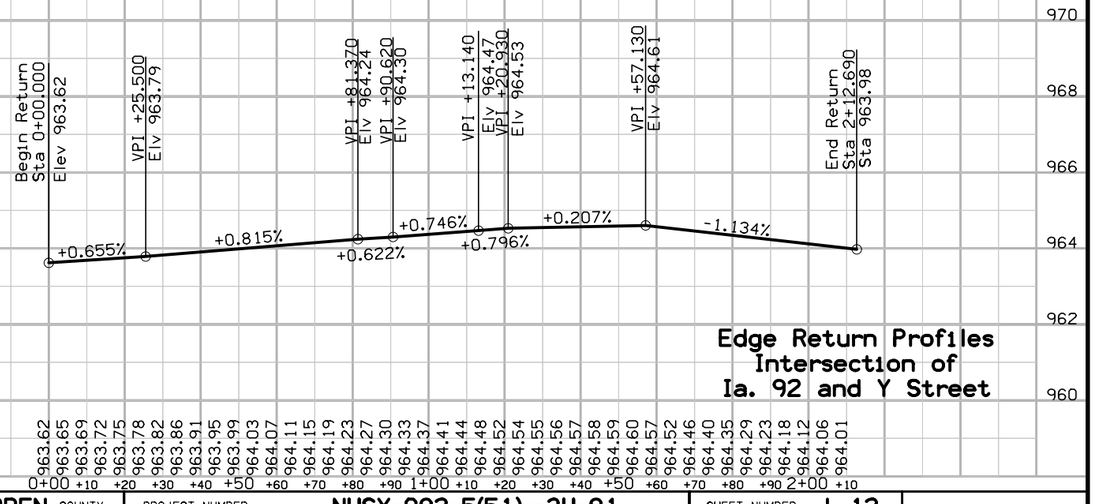
SRYSTN_RET_1



SRYSTS_RET_3



SRYSTS_RET_4



Edge Return Profiles
Intersection of
Ia. 92 and Y Street

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.12

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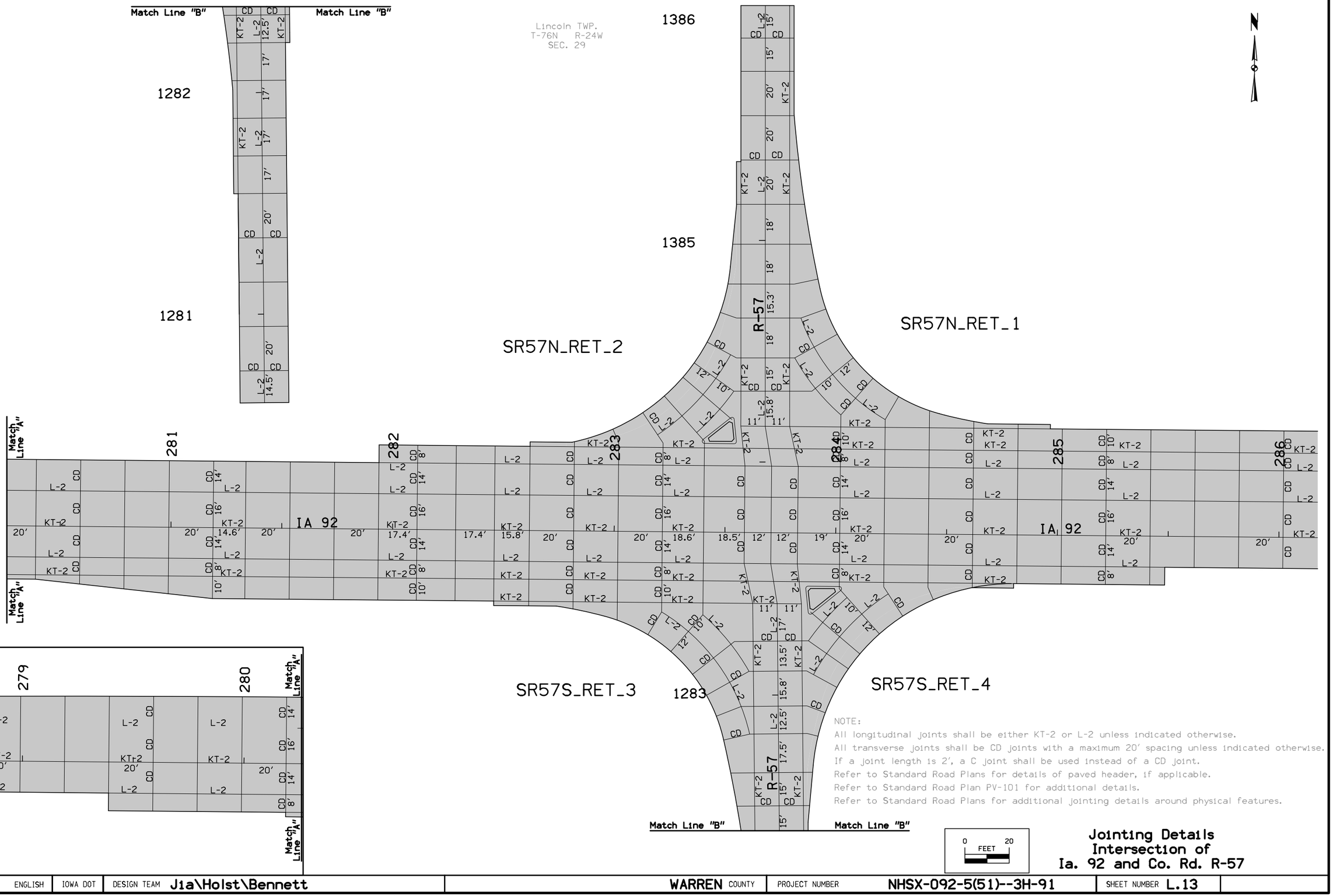

NOTE:
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.
If a joint length is 2', a C joint shall be used instead of a CD joint.
Refer to Standard Road Plans for details of paved header, if applicable.
Refer to Standard Road Plan PV-101 for additional details.
Refer to Standard Road Plans for additional jointing details around physical features.

0 FEET 20

Jointing Details Intersection of Ia. 92 and Co. Rd. R-57

C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER L.13

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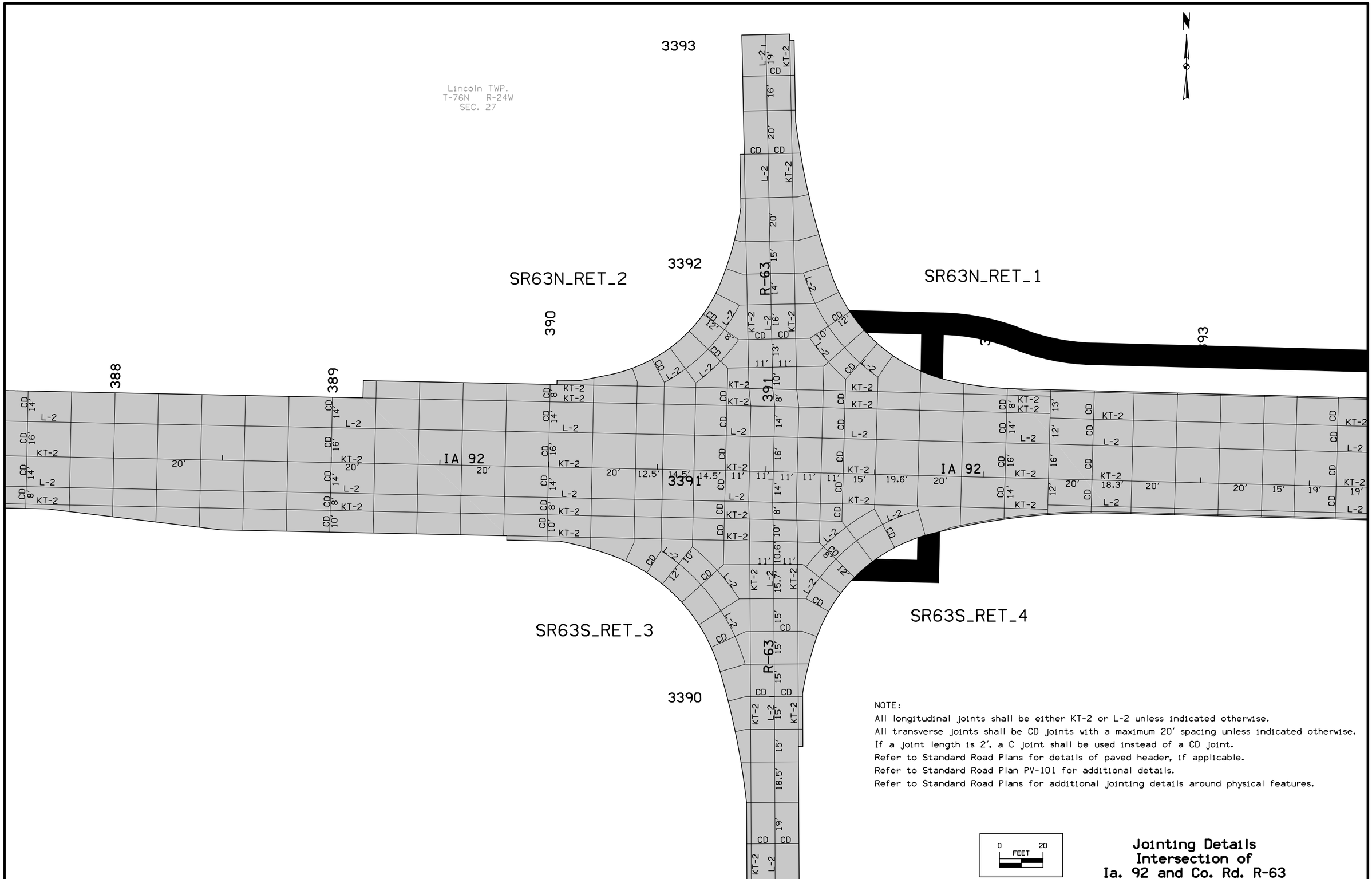

NOTE:
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.
All transverse joints shall be CD joints with a maximum 20′ spacing unless indicated otherwise.
If a joint length is 2′, a C joint shall be used instead of a CD joint.
Refer to Standard Road Plans for details of paved header, if applicable.
Refer to Standard Road Plan PV-101 for additional details.
Refer to Standard Road Plans for additional jointing details around physical features.

Jointing Details Intersection of Ia. 92 and Co. Rd. R-63

C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER L.14

1:11:49 PM 12/2/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051L01.sht

Lincoln TWP.
T-76N R-24W
SEC. 27

Lincoln TWP.
T-76N R-24W
SEC. 26

N

4419

Y STREET

SRYSTN_RET_2

SRYSTN_RET_1

415

416

4418

417

418

419

420

IA 92

IA 92

4417

SRYSTS_RET_3

SRYSTS_RET_4

Y STREET

4416

NOTE:
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.
If a joint length is 2', a C joint shall be used instead of a CD joint.
Refer to Standard Road Plans for details of paved header, if applicable.
Refer to Standard Road Plan PV-101 for additional details.
Refer to Standard Road Plans for additional jointing details around physical features.

0 20
FEET

Jointing Details Intersection of Ia. 92 and Y Street

C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER L.15

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STORM SEWER

(1) Diameter or equivalent diameter
* Bid Item
** For SW-545

INTAKES AND UTILITY ACCESSES

No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade Elev.	Bottom Well Elev.	Extension Length** FT	Notes
I-100	399+00.00, -31	SW-508	973.27	968.68		
I-101	399+00.00, 15	SW-508	973.03	967.56		
I-102	397+00.00, 15	SW-508	971.75	966.11		
I-103	393+50.00, -41	SW-508	969.94	966.2		
I-104	393+50.00, 15	SW-508	970.03	966.18		
I-105	394+30.00, -41	SW-508	970.25	966.18		
I-106	393+89.83, -41	SW-510	970.15	965.25		
I-107	393+89.83, 15	SW-510	969.94	964.88		
I-108	394+30.00, 15	SW-508	970.04	964.64		
I-109	395+45.00, -85	SW-512 (30"	968.02	967.52		
I-110	395+36.30, -41	SW-508	970.91	966.02		
I-111	395+35.95, 15	SW-508	970.7	964.13		
I-125	4419+50.00, -15.5	SW-508	964.81	968.8		
I-200	404+50.00, -31	SW-508	973.83	968.15		
I-201	404+50.00, 15	SW-508	973.59	966.88		
I-202	407+39.00, -31	SW-508	971.98	966.23		
I-203	407+39.00, 15	SW-508	971.74	965.16		
I-204	409+55.00, -31	SW-508	970.6	964.51		
I-205	409+55.00, 15	SW-508	970.36	963.75		
I-206	411+70.00, -31	SW-508	969.22	963.1		
I-207	411+70.00, 15	SW-508	968.98	962.44		
I-208	413+85.00, -31	SW-508	967.85	961.59		
I-209	413+85.00, 15	SW-508	967.6	959.71		
I-210	415+95.00, -32.7	SW-508	966.52	959.18		
I-211	415+95.00, 15	SW-508	966.26	958.79		
I-212	416+94.85, 45.35	SW-402 (4' x 4')	965.61	960.1		
I-213	4416+07.00, 12.5	SW-508	963.64	959.68		
I-214	4415+85.31, 12.5	SW-510	963.58	959.27		
I-215	4415+65.00, 12.5	SW-508	963.6	958.33		
I-216	4416+06.96, -13.8	SW-508	963.62	958.16		
I-217	4415+84.85, -12.5	SW-510	963.58	958.09		
I-218	4415+65.00, -12.5	SW-508	1927.2	957.9		
I-219	4414+34.50, -34	SW-512 (30"	962.94	957.6		
I-220	4414+34.50, -12.5	SW-508	963.85	957.3		
I-221	4414+34.50, 12.5	SW-508	963.85	961.31		
I-230	4419+50.00, 15.5	SW-508	964.81	958.82		
I-231	4418+45.00, 22	SW-508	964.25	959.02		
I-232	4418+77.37, 17.5	SW-510	964.08	960.71		
I-233	4418+45.06, -17.5	SW-508	964.21	959.54		
I-234	4418+77.37, -15.75	SW-510	964.11	960.81		
I-235	4419+50.00, -15.5	SW-508	964.81	957.97		
I-299	418+71.33, -31	SW-508	964.07	956.95		
I-300	420+58.00, -31	SW-510	961.75	956.45		
I-301	420+58.00, 15	SW-510	961.51	955.06		
I-302	422+60.00, -31	SW-505	959.7	954.43		
I-303	422+61.70, 15	SW-508	959.45	953.5		
I-304	425+30.00, -31	SW-508	958.34	952.85		
I-305	425+30.00, 15	SW-508	958.1	953.8		
I-306	426+35.00, -31	SW-508	957.82	947.6		
I-307	426+35.00, 15	SW-508	957.58	957.97		
I-308	431+12.50, -31	SW-508	962.77	956.5		
I-309	431+15.00, 15	SW-508	962.56	954.21		
I-310	428+00.00, -31	SW-508	958.77	949.98		
I-311	428+00.00, 15	SW-508	958.53	954.1		
I-312	427+00.00, -31	SW-508	957.82	947.73		
I-313	427+00.00, 15	SW-508	957.82	953.2		
I-314	426+67.15, -31	SW-510	957.76	947.14		
I-315	426+67.15, 15	SW-510	957.52	960.4		
I-400	435+57.00, -31	SW-508	963.89	960.4		
I-401	435+57.00, 15	SW-508	963.59	959.92		
I-402	436+00.00, -31	SW-510	963.59	959.83		
I-403	436+00.00, 15	SW-510	963.59	959.94		
I-404	436+45.20, -75	SW-512 (24"	960.66	959.33		

PIPES

Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 3 ft length is added to each side of the Design Length to account for estimated length to center of structures.

Line Number	Intake/ Utility Access No. From	To	Class 'D'	Pipe Size (1) IN	Bid* Length FT	Design Length FT	Slope %	Flow Lines: Inlet Elevation	Flow Lines: Outlet Elevation	Flow Lines: Other Elevation	Pipe Profile Sheet No.	Notes
P-100	I-100	I-101	2000	18	52	46.0	1.74	969.18	968.38			
P-101	I-101	I-102	2000	18	202	196.0	0.59	968.06	966.91			
P-102	I-102	I-111	2000	18	167	160.1	0.6	966.61	965.65			
P-103	I-103	I-106	2000	18	40	33.8	1.92	966.7	966.05			
P-104	I-104	I-107	2000	18	40	33.8	2.66	966.68	965.78			
P-105	I-105	I-106	2000	18	41	34.2	1.55	966.68	966.15			
P-106	I-106	I-107	2000	18	62	56.0	0.48	965.75	965.48			
P-107	I-107	I-108	2000	18	41	34.2	0.41	965.38	965.24			
P-108	I-108	I-111	2000	18	108	102.0	0.4	965.14	964.73			
P-109	I-109	I-110	2000	30	46	39.7	2.52	968.02	967.02			
P-110	I-110	I-111	2000	30	62	56.0	2.66	966.52	965.03			
P-111	I-111	O-112	2000	30	56	52.2	0.44	964.63	964.4			
P-200	I-200	I-201	2000	18	52	46.0	0.76	969.3	968.95			
P-201	I-201	I-203	2000	18	302	296.0	0.6	968.65	966.87			
P-202	I-202	I-203	2000	18	52	46.0	0.76	967.38	967.03			
P-203	I-203	I-205	2000	18	272	266.0	0.6	966.73	965.13			
P-204	I-204	I-205	2000	18	52	46.0	0.76	965.66	965.31			
P-205	I-205	I-207	2000	18	222	216.0	0.6	965.01	963.71			
P-206	I-206	I-207	2000	18	52	46.0	0.76	964.25	963.9			
P-207	I-207	I-209	2000	18	207	201.0	0.6	963.6	962.39			
P-208	I-208	I-209	2000	18	52	46.0	0.76	962.94	962.59			
P-209	I-209	I-211	2000	18	152	146.0	1.51	962.09	959.88			
P-210	I-210	I-211	2000	18	58	51.2	0.74	960.21	959.83			
P-211	I-211	I-212	2000	18	78	71.7	0.4	959.68	959.39			
P-212	I-212	I-216	2000	18	97	90.9	0.18	959.29	959.13			
P-213	I-213	I-214	2000	24	22	15.7	0.76	960.6	960.48			
P-214	I-214	I-215	2000	18	21	14.3	0.77	960.18	960.07			
P-215	I-215	I-221	2000	18	133	126.5	1.16	959.77	958.3			
P-216	I-216	I-217	2000	18	23	16.0	0.44	958.83	958.76			
P-217	I-217	I-218	2000	18	20	13.9	0.43	958.66	958.6			
P-218	I-218	I-220	2000	18	133	126.5	0.39	958.59	958.1			
P-219	I-219	I-220	2000	18	22	16.0	0.5	958.4	958.3			
P-220	I-220	I-221	2000	18	31	25.0	0.8	958.1	957.9			
P-221	I-221	O-222	2000	24	100	96.0	0.52	957.8	957.3			
P-230	I-230	I-232	2000	18	73	66.5	1.04	961.81	961.12			
P-231	I-231	I-299	2000	18	144	137.6	0.4	959.32	958.77			
P-232	I-232	I-231	2000	18	33	26.5	0.38	959.52	959.42			
P-233	I-233	I-234	2000	18	33	26.2	3.44	961.21	960.31			
P-234	I-234	I-232	2000	18	39	33.0	0.73	960.04	959.8			
P-235	I-235	I-234	2000	18	73	66.6	1.91	961.31	960.04			
P-299	I-299	I-300	2000	18	187	180.7	0.4	958.47	957.75			
P-300	I-300	I-301	2000	18	52	46.0	0.76	957.45	957.1			
P-301	I-301	I-303	2000	18	204	197.7	0.4	956.95	956.16			
P-302	I-302	I-303	2000	18	50	44.0	1.09	955.56	955.08			
P-303	I-303	I-305	2000	18	271	264.3	0.54	954.93	953.5			
P-304	I-304	I-305	2000	18	52	46.0	1.09	954	953.5			
P-305	I-305	I-307	2000	18	107	101.0	4.89	953.35	948.41			
P-306	I-306	I-314	2000	18	33	26.2	1.15	954.3	954			
P-307	I-307	I-315	2000	18	33	26.2	0.61	948.1	947.94			
P-308	I-308	I-309	2000	18	53	46.1	2.54	958.47	957.3			
P-309	I-309	I-311	2000	18	317	311.0	2	957	950.78			
P-310	I-310	I-311	2000	18	52	46.0	7.89	954.71	951.08			
P-311	I-311	I-313	2000	18	102	96.0	2	950.48	948.56			
P-312	I-312	I-314	2000	18	33	26.9	1.68	954.6	954.15			
P-313	I-313	I-315	2000	18	33	26.9	1.04	948.23	947.95			
P-314	I-314	I-315	2000	18	52	46.0	1.52	953.7	953			
P-315	I-315	O-316	2000	30	130	126.6	1	947.64	946.37			
P-400	I-400	I-402	2000	18	43	37.0	0.49	960.9	960.72			
P-401	I-401	I-403	2000	18	43	37.0	0.73	960.9	960.63			
P-402	I-402	I-405	2000	18	45	39.0	0.74	960.42	960.13			
P-403	I-403	I-413	2000	18	45	39.0	0.51	960.33	960.13			
P-404	I-404	I-405	2000	18	45	39.0	0.4	960.44	960.28			
							1					
							1					
							0.75					

STORM SEWER

* Bid Item
** For SW-545

INTAKES AND UTILITY ACCESSES

No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade Elev.	Bottom Well Elev.	Extension Length** FT	Notes
I-404	436+45.20, -75	SW-512 (24	960.66	959.33		
I-405	436+45.00, -31	SW-508	963.9	962.4		
I-406	442+65.00, -31	SW-508	966.97	961.67		
I-407	442+62.95, 11.8	SW-508	966.72	961.59		
I-408	441+02.00, -31	SW-508	966.15	960.2		
I-409	441+02.00, 15	SW-508	965.91	960.93		
I-410	439+69.89, -31	SW-508	965.49	959.22		
I-411	439+70.00, 15	SW-508	964.76	957.44		
I-412	437+72.04, 14.93	SW-508	964.26	956.53		
I-413	436+45.00, 15	SW-508	963.66	961.24		
I-415	437+72.00, -31	SW-508	964.5	964.2		
I-500	444+30.00, -26.5	SW-508	967.78	963.65		
I-501	444+30.00, 10.5	SW-508	967.67	963.65		
I-502	447+00.00, -26.5	SW-508	968.68	964.66		
I-503	447+00.00, 10.5	SW-508	968.66	964.66		
I-504	449+80.00, -26.5	SW-508	969.51	966.56		
I-505	449+77.08, 10.5	SW-508	969.56	966.56		
I-506	455+00.00, -26.5	SW-508	970.08	967.08		
I-507	455+25.00, 10.5	SW-508	969.83	965.83		
I-508	457+50.00, -26.5	SW-508	969.53	966.43		
I-509	458+00.00, 10.5	SW-508	969.26	1E+08		
I-510	459+50.00, -26.5	SW-508	969.06	965.8		
I-511	460+00.00, 10.5	SW-508	968.87	1E+08		
I-512	461+75.00, -26.5	SW-508	968.68	964.54		
I-513	461+75.00, 10.5	SW-508	968.57	964.6		
I-514	464+85.00, -26.5	SW-508	967.1	966.36		
I-515	463+90.00, 10.5	SW-508	967.8	965.05		
I-516	463+30.10, -26.5	SW-508	968.2	965.95		
I-517	255+00.00, -56	RF-3 (18")	950.9	964.32		
O-112	395+00.00, 65	RF-3 (30")	964.41	964.4		
O-222	4414+30.00, 120.4	RF-3 (36")	957.39	953.89		
O-235	4424+08.34, -17.82	RF-21	966.52	957.89		
O-316	426+35.11, 150.17	RF-3 (36")	946.25	946.37		
O-414	436+49.00, 70	RF-3 (30")	956	956		
O-416	437+72.00, -76	RF-3 (18")	961.48	958.48		
O-500	444+30.00, -56	RF-3 (18")	964.32	964.32		
O-501	444+30.00, 28	RF-3 (18")	964.02	964		
O-502	447+00.00, -55	RF-3 (18")	965.61	965.6		
O-503	447+00.00, 28	RF-3 (18")	965.03	965		
O-507	455+25.00, 27	RF-3 (18")	966.63	966.3		
O-511	460+00.00, 27	RF-3 (18")	965.4	965.45		
O-513	461+75.00, 29	RF-3 (24")	964.38	964.54		
O-515	463+89.04, 30.45	RF-21	965.47	964.97		
I-219a	4414+34.50, -34	RF-3 (18")				FL. TO INTAKE 958.70

Total:	
RF-21	2
RF-3 (18")	9
RF-3 (24")	1
RF-3 (30")	2
RF-3 (36")	2
402 (4' x	1
SW-505	1
SW-508	73
SW-510	12
W-512 (24"	1
W-512 (30"	2

PIPES

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

Line Number	Intake/ Utility Access No. From	To	Class 'D'	Pipe Diameter IN	Bid* Length FT	Design Length FT	Slope %	Flow Lines Inlet Elevation	Outlet Elevation	Other Elevation	Pipe Profile Sheet No.	Notes
P-405	I-405	I-413	2000	18	52	46.0	1	959.83	959.37			
P-406	I-406	I-407	2000	18	49	42.9	1	962.9	962.47			
P-407	I-407	I-409	2000	18	162	155.1	0.75	962.17	961			
P-408	I-408	I-409	2000	18	52	46.0	1	962.09	961.63			
P-409	I-409	I-411	2000	18	134	127.8	1	960.7	959.42			
P-410	I-410	I-411	2000	18	52	46.0	1	961.43	960.97			
P-411	I-411	I-412	2000	18	203	196.2	0.75	959.72	958.24			
P-412	I-412	I-413	2000	18	130	123.0	0.5	957.94	957.32			
P-413	I-413	O-414	2000	18	49	45.0	2.29	957.03	956			
P-415	I-415	I-412	2000	18	52	45.9	0.4	961.74	961.56			
P-500	I-500	O-500	2000	18	23	19.4	1.96	964.7	964.32			
P-501	I-501	O-501	2000	18	11	7.4	2.02	964.15	964			
P-502	I-502	O-502	2000	18	30	26.5	0.76	965.8	965.6			
P-503	I-503	O-503	2000	18	11	7.4	2.16	965.16	965			
P-504	I-504	I-502	2000	18	281	274.9	0.41	967.07	965.95			
P-505	I-505	I-503	2000	18	280	273.5	0.58	967.06	965.46			
P-506	I-506	I-508	2000	18	252	246.0	0.22	967.58	967.03			
P-507	I-507	O-507	2000	18	12	8.4		-1.5	-1.5			
P-508	I-508	I-510	2000	18	202	196.0	0.27	966.93	966.4			
P-509	I-509	I-511	2000	18	202	196.0	1.05	967.85	965.8			
P-510	I-510	I-512	2000	18	227	221.0	0.52	966.3	965.15			
P-511	I-511	O-511	2000	18	10	6.4	0.78	965.5	965.45			
P-512	I-512	I-513	2000	24	43	37.0	0.76	965.04	964.76			
P-513	I-513	O-513	2000	24	12	8.4	0.72	964.6	964.54			
P-514	I-514	I-516	2000	18	157	150.9	0.5	966.86	966.1			
P-515	I-515	O-515	2000	15	19	16.0	0.5	965.55	965.47			
P-516	I-516	I-512	2000	15	158	151.1	0.5	965.95	965.2			

Total:		
2000	15	180
2000	18	7685
2000	24	183
2000	30	300

SURVEY SYMBOLS

- TDC Tree Deciduous
- PPA Power Pole Co. 1
- FWD Wood Fence
- LUM Luminaire
- TEV Evergeen Tree
- LP L.P. Tank
- D Centerline Draw or Stream (Down)
- RET Retaining Walls
- SI Sign
- SHR Shrub
- SI Sign
- EW Edge of Water
- DIK Centerline of Dike or Dam
- FLG Flag Poles
- WM Wind Mill
- FCL Chain Link and Security Fence
- HDG Hedge Row
- TV Satelite TV Dish
- RT Radio Tower
- INB Storm Sewer Beehive Intake
- WV Water Valve
- FHD Fire Hydrants
- WEL Well
- MH Utility Access (Manhole)
- LUM Luminaire
- MIS Miscellaneous
- TPD Telephone Pedestal
- EB Electrical Box
- UB Utility Box
- PR Electic Riser Pole
- FW Wire Fence
- GP Guard Post (Less Than 4 Posts)
- IN Storm Sewer Intake
- TLN Treeline
- TVP TV Pedestal
- SEP Septic Tank
- OUT Tile Outlet
- TIL Tile Line
- UST Underground Tank
- GV Gas Valve
- DU Centerline Draw or Stream (Up)
- BNK Stream Bank
- BL Topo Breakline
- RIP Rip-Rap

- St.S. · STA Storm Sewer Line Co. 1
- F03 · FOC Underground Fiber Optic Co. 3
- F05 · FOE Underground Fiber Optic Co. 5
- F02 · FOB Underground Fiber Optic Co. 2
- San. · SAA Sanitary Sewer Line Co. 1
- T1 · TLA Underground Telephone Line Co. 1
- E1 · ELA Underground Electric Line Co. 1
- G · GLA Underground Gas Line Co. 1
- TVA Underground TV Cable Co. 1
- W · WLA Underground Water Line Co. 1
- F0 · FOA Underground Fiber Optic Co. 1
- E2 · ELB Underground Electric Line Co. 2
- San.2 · SAB Sanitary Sewer Line Co. 2
- GLB Underground Gas Line Co. 2
- F04 · FOD Underground Fiber Optic Co. 4
- WLB Underground Water Line Co. 2

UTILITY LEGEND

- F0 · FOA Paetec Iowa Communications Network
- F02 · FOB Lightcore (Digital Teleport)
- F03 · FOC Iowa Network Service
- F04 · FOD Indianola Municipal Utilities
- F05 · FOE MCI
- T1 · TLA Qwest
- E1 · ELA Mid-American
- E2 · ELB Indianola Municipal Utilities
- TVA Mediacom
- W · WLA Indianola Municipal Utilities
- WLB Warren Rural Water
- San. · SAA City of Indianola
- San.2 · SAB Private
- G · GLA Mid-American
- GLB Kinder Morgan
- St.S. · STA City of Indianola
- PPA Mid-American

PLAN VIEW COLOR LEGEND OF STORM SEWER SHEETS

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

PROFILE VIEW COLOR LEGEND OF STORM SEWER SHEETS

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

PLAN VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

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

PROFILE VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

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

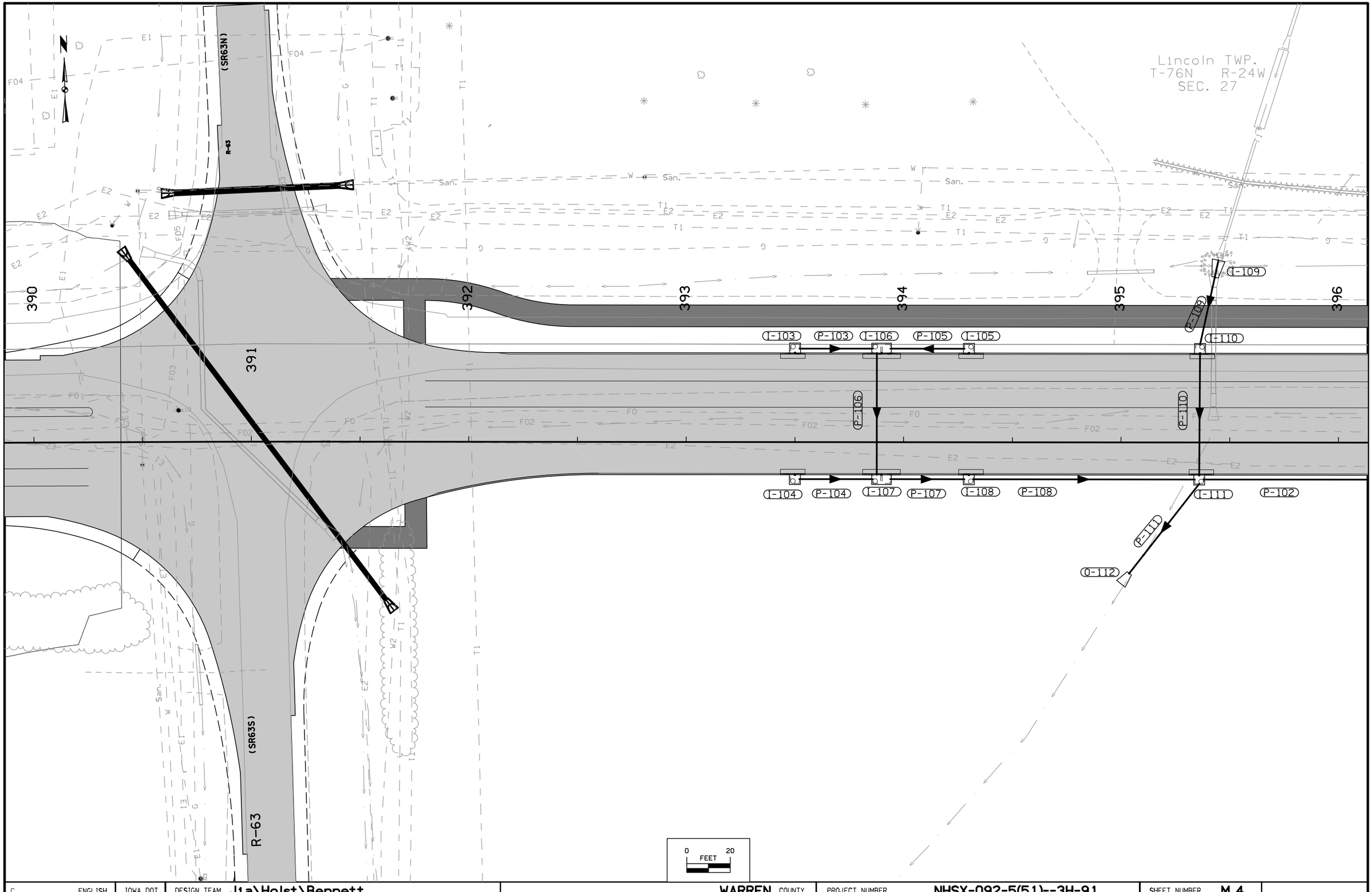
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Clearing & Grubbing Area
- Pavement Removal

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

STORM SEWER LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES M)



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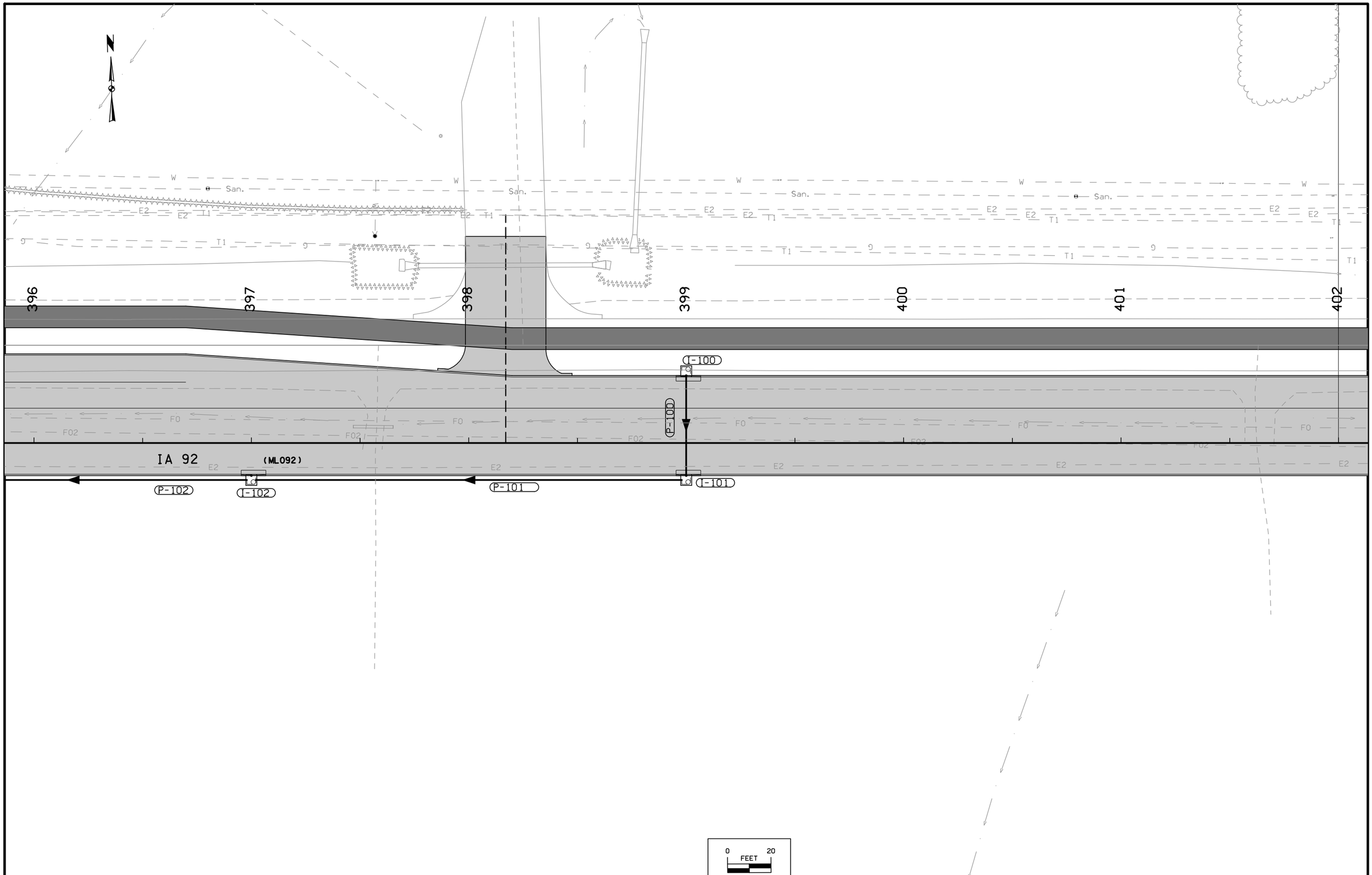

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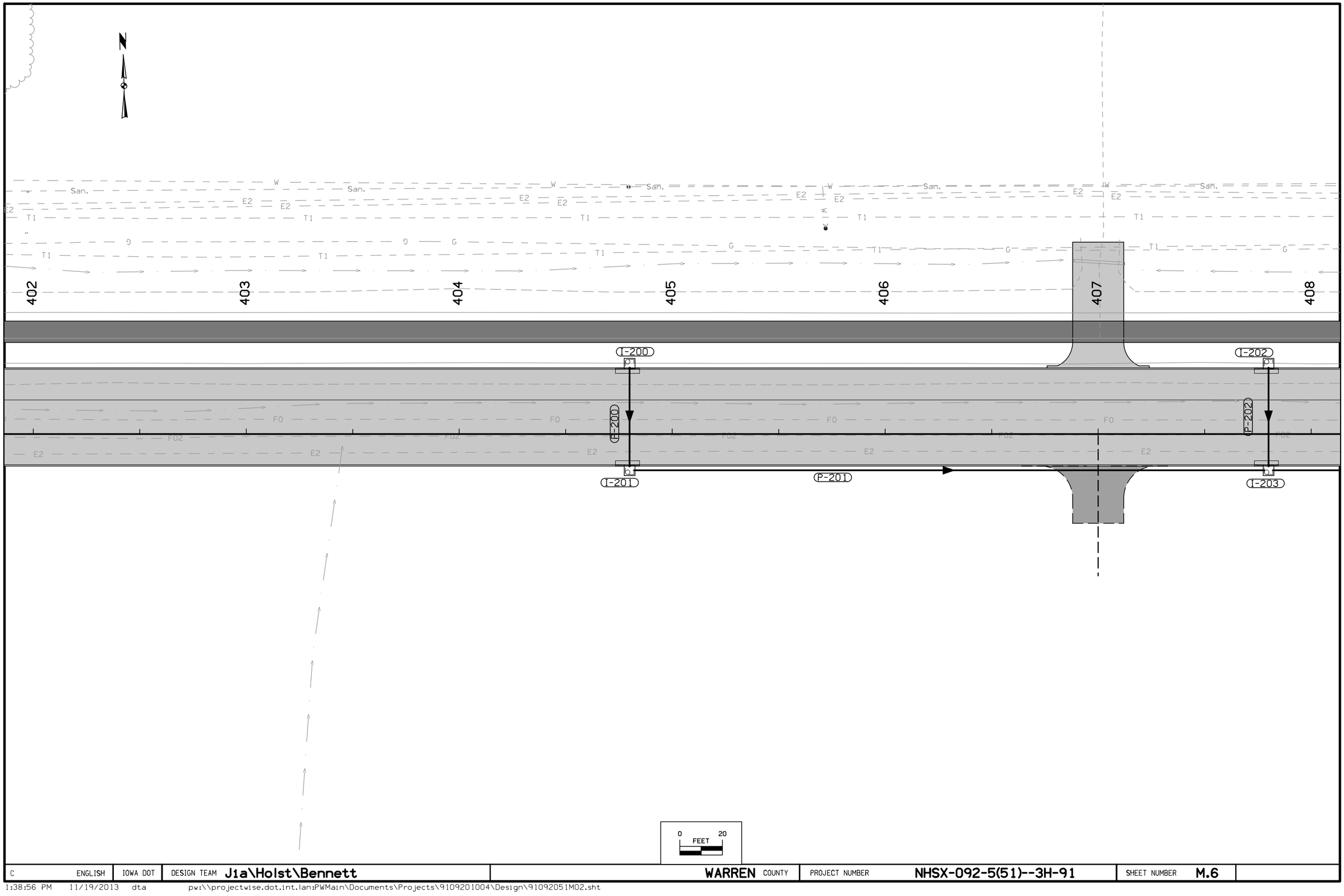

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Lincoln TWP.
T-76N R-24W
SEC. 27

W San. W San. W San. W San. W

E2 E2 E2 E2 E2 E2 E2 E2 E2 E2

T1 T1 T1 T1 T1 T1 T1 T1 T1 T1

G G G G G

408 409 410 411 412 413 414

I-204 I-206

P-204 P-206

F0 F02 E2

IA 92 (ML092)

P-203 I-205 P-205 I-207 P-207

0 20
FEET

C ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	M.7

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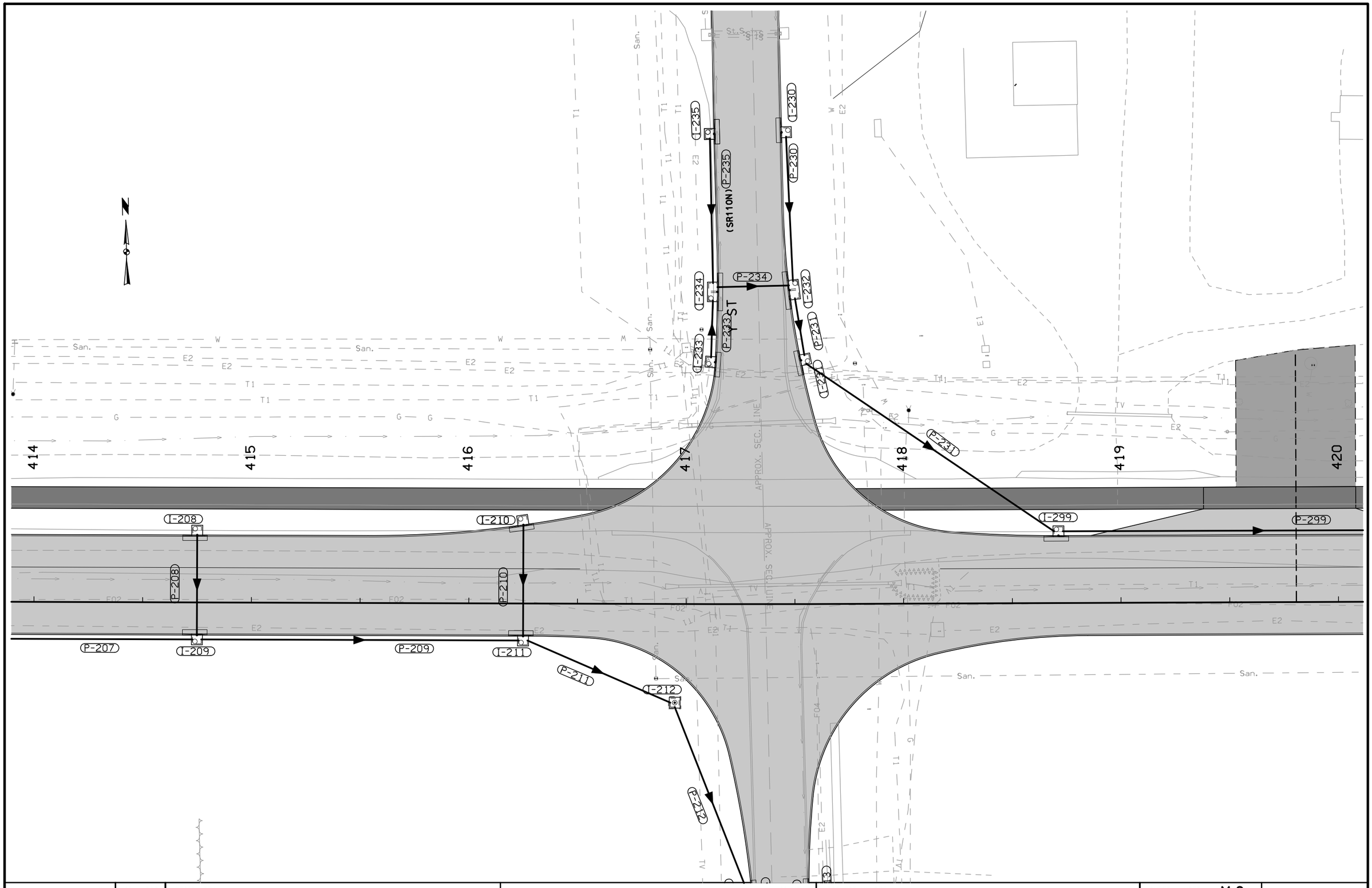

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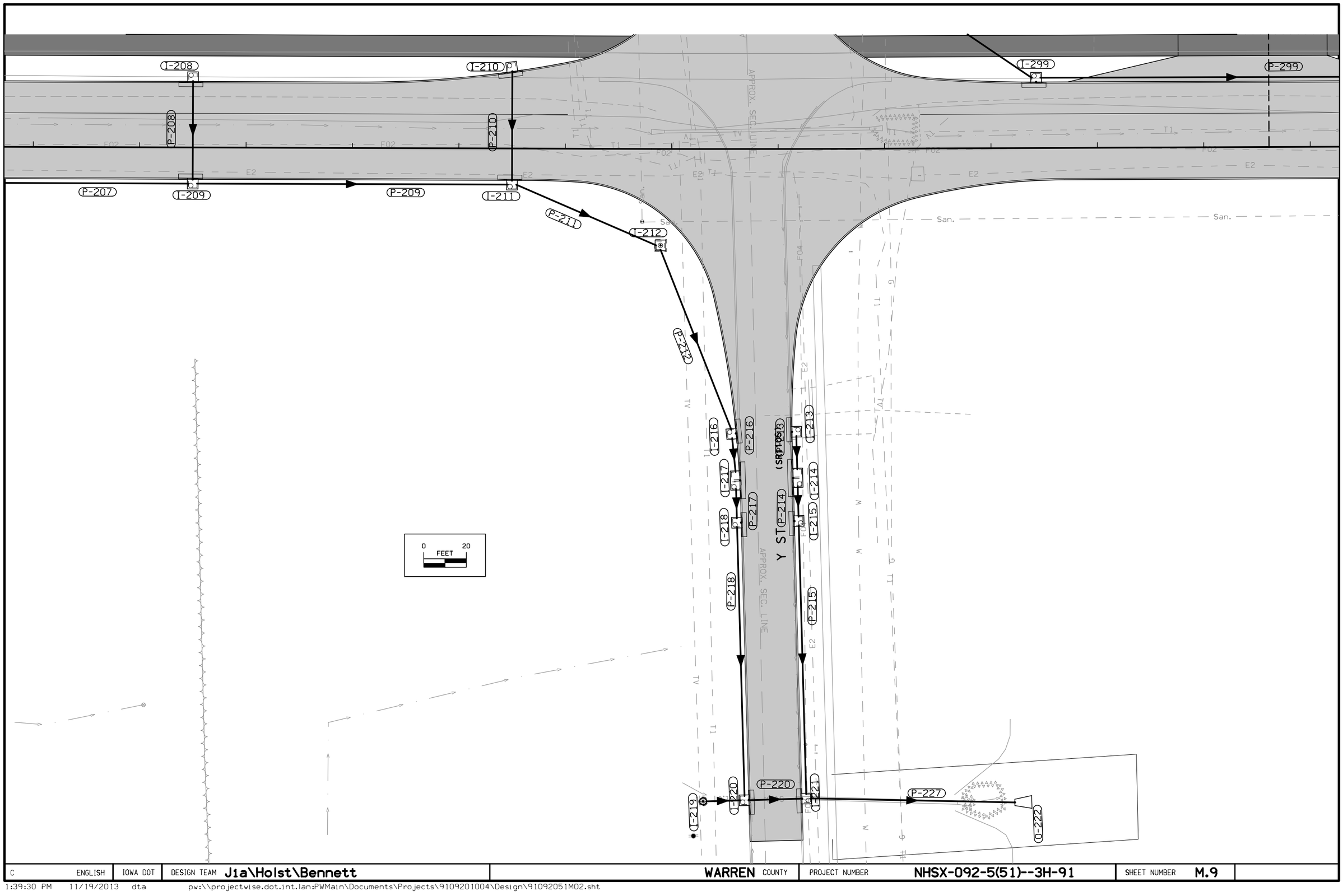

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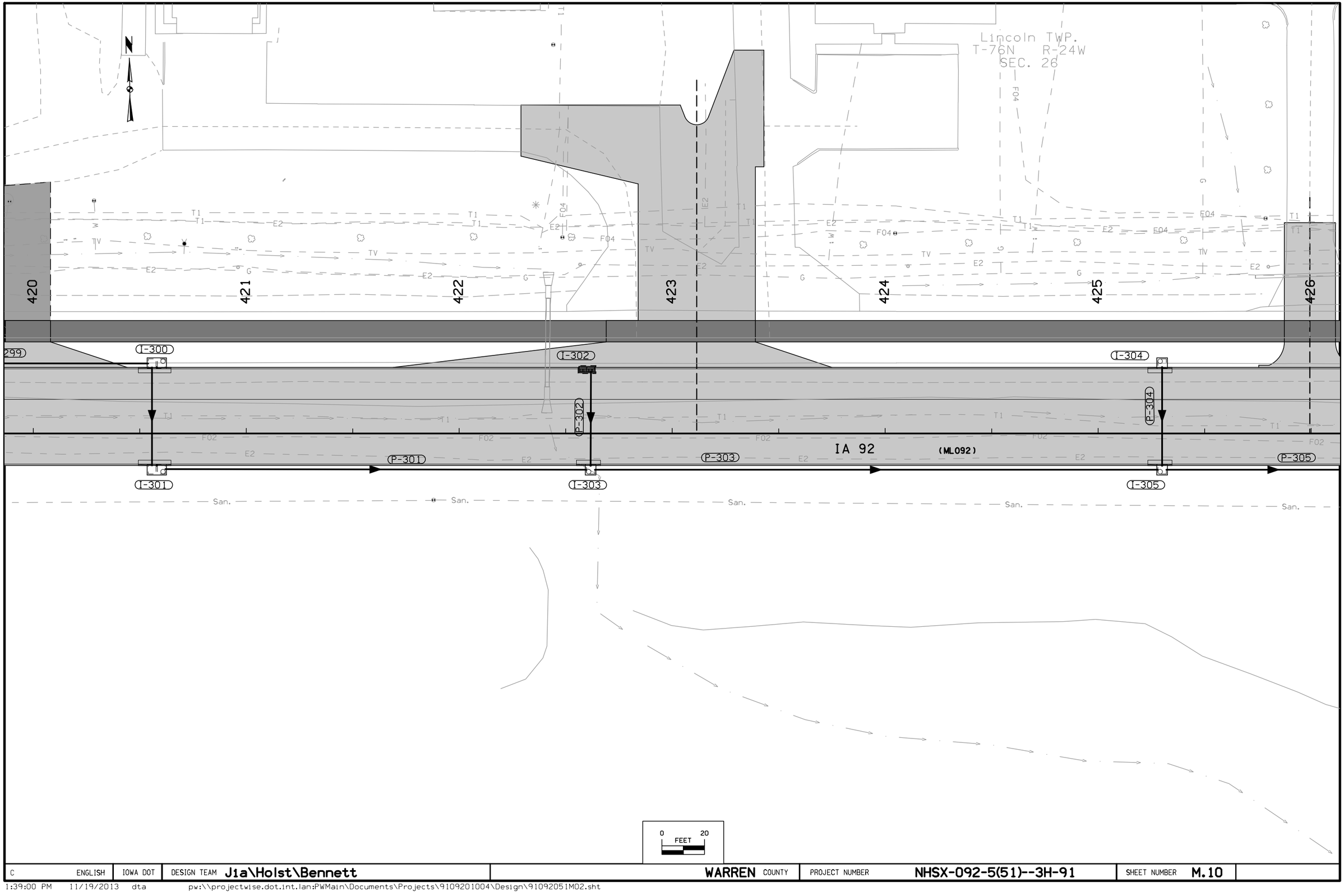

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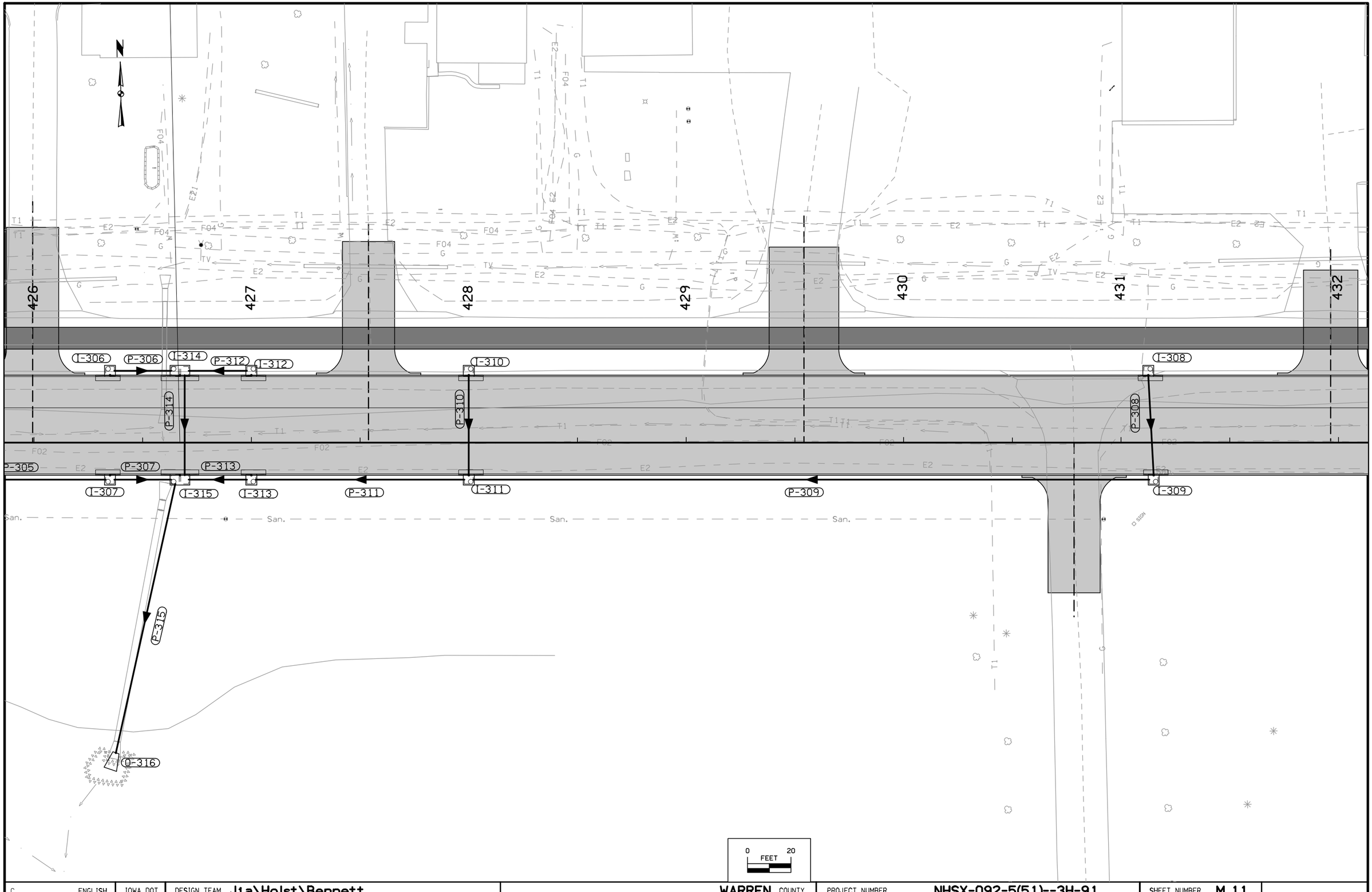

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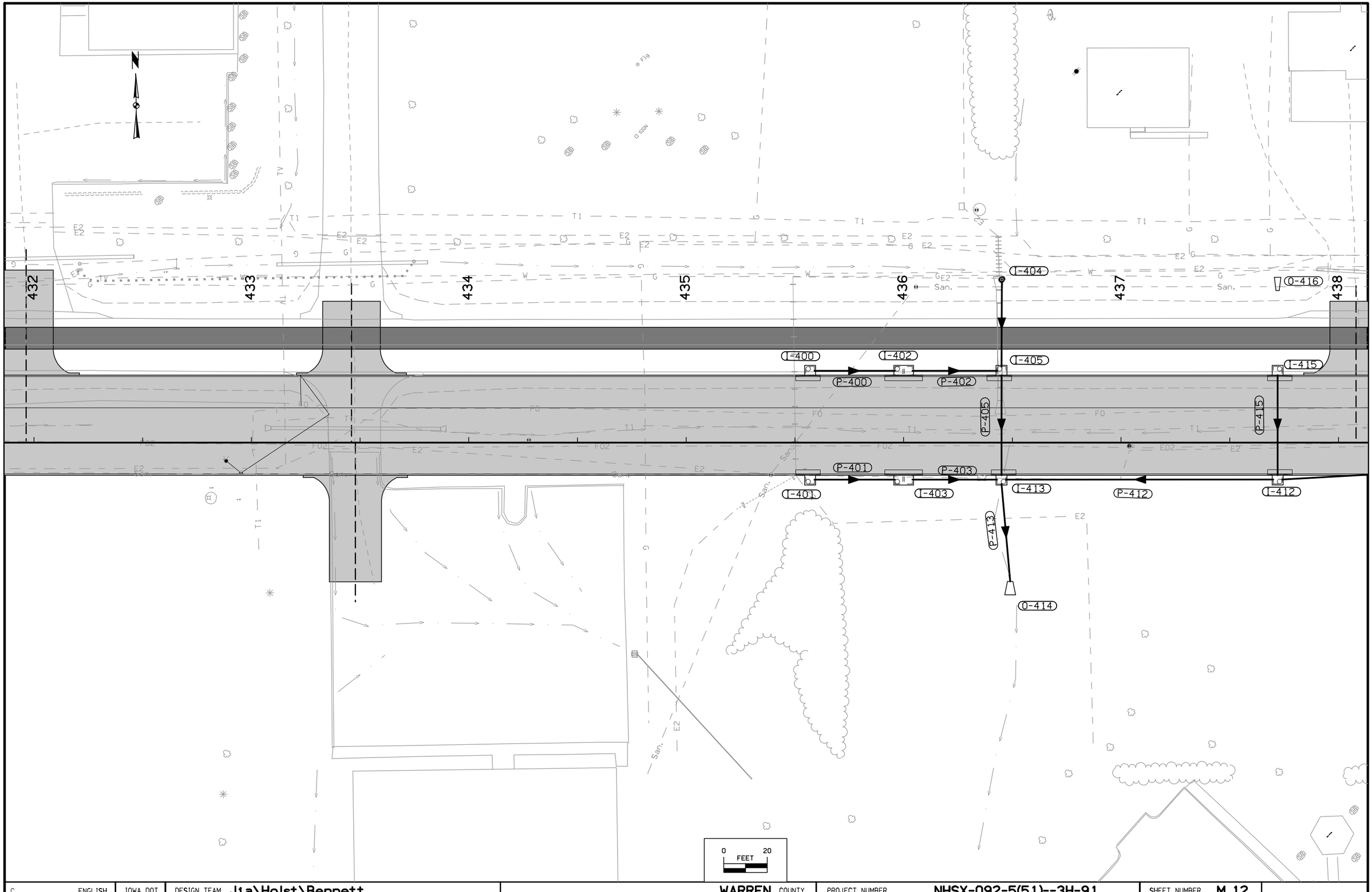

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SPRUCE ST

Lincoln TWP.
T-76N R-24W
SEC. 26

Sta. 443+18.01
End Full Width Paving,
Begin Widening

I-408 I-406 I-410 P-408 P-406 P-410 I-409 P-407 I-407 P-411 I-411 P-409

R ST

0 FEET 20

C ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	M.13

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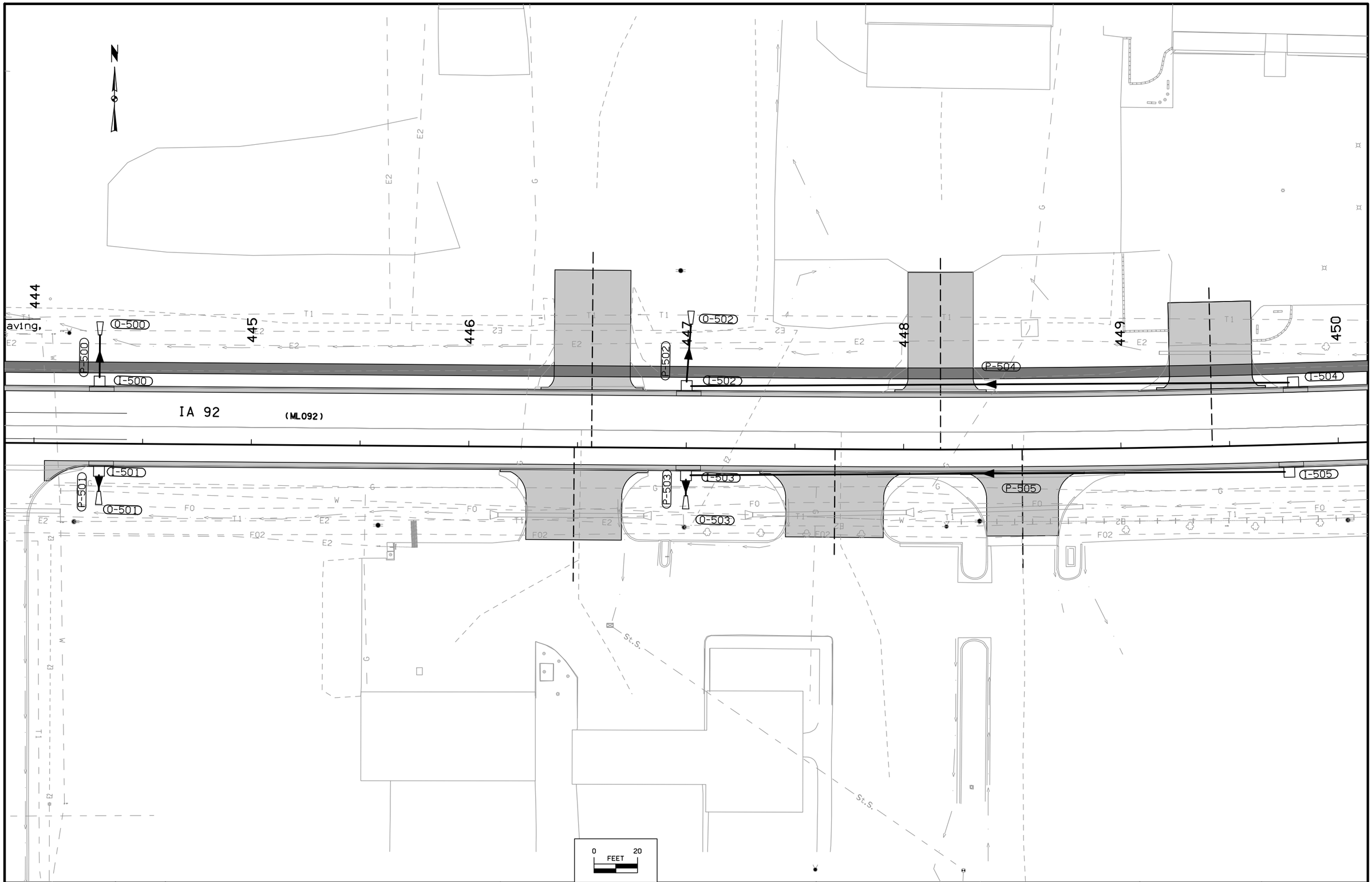

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S KENWOOD BLVD

SOUTH P ST

Building

450 451 452 453 454 455 456

I-504 I-505 I-506 I-507 O-507

IA 92

0 FEET 20

C ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER M.15

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P-506
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I-510
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I-512
(ML092)
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O-511
I-513
P-513
O-513
FL.out Apron.965.40
FL.out Apron.964.5
House
House
House
House
House
House
San.
0 20
FEET

C ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER M.16	

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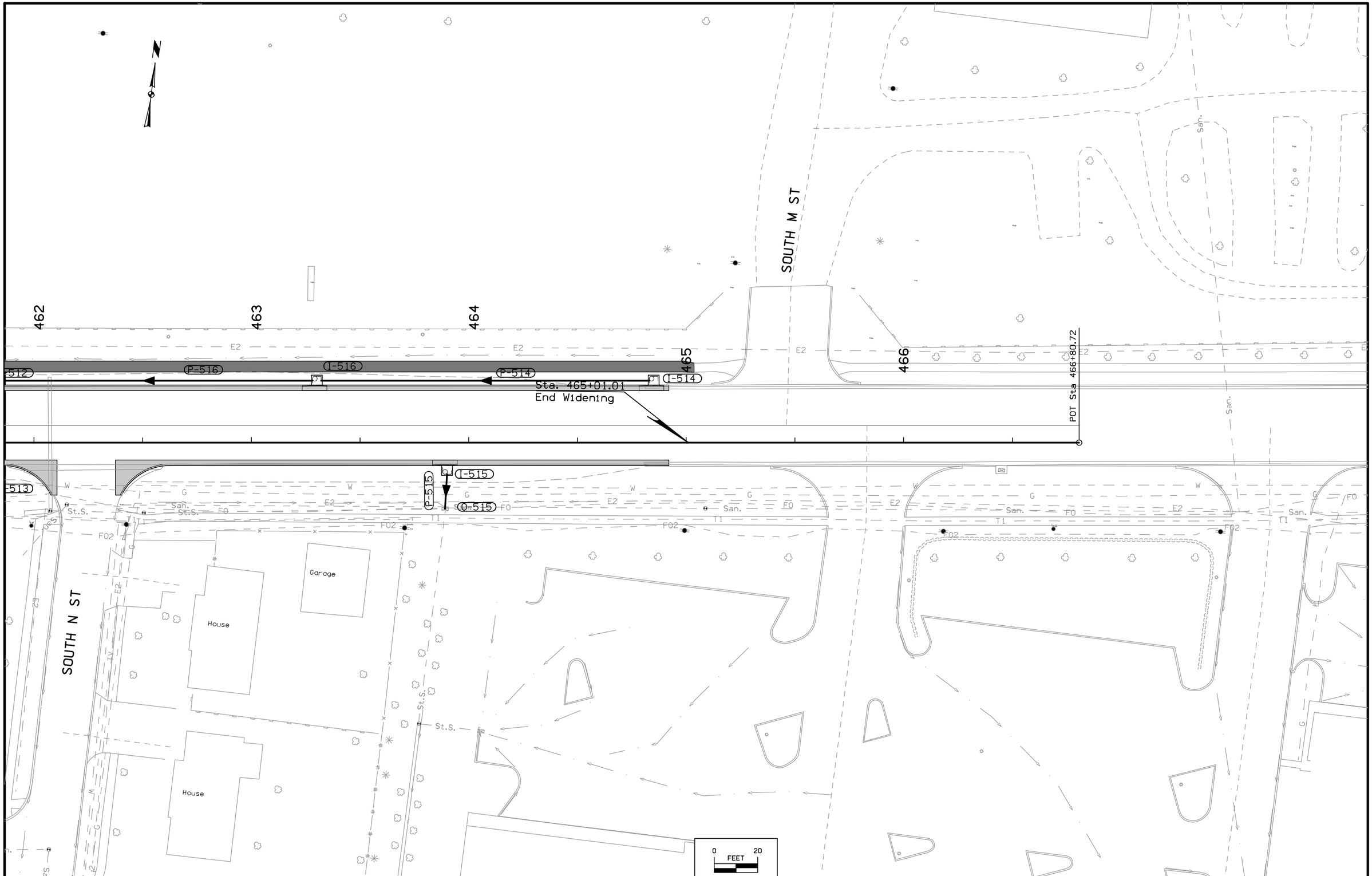

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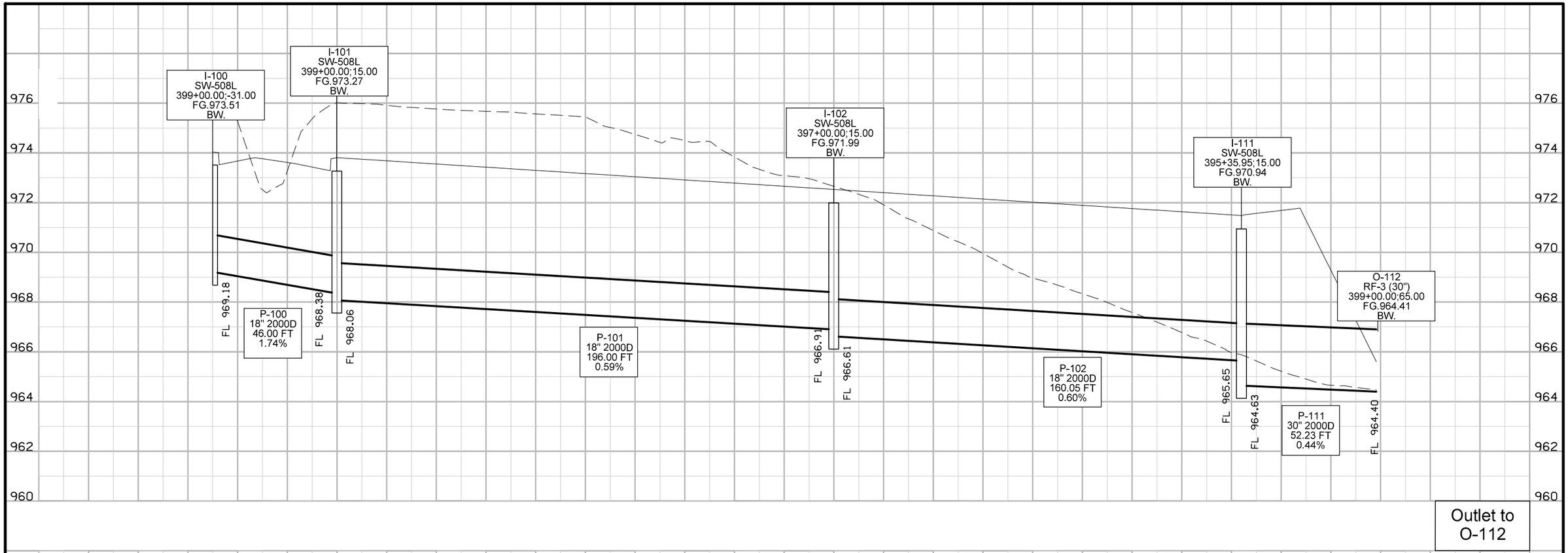

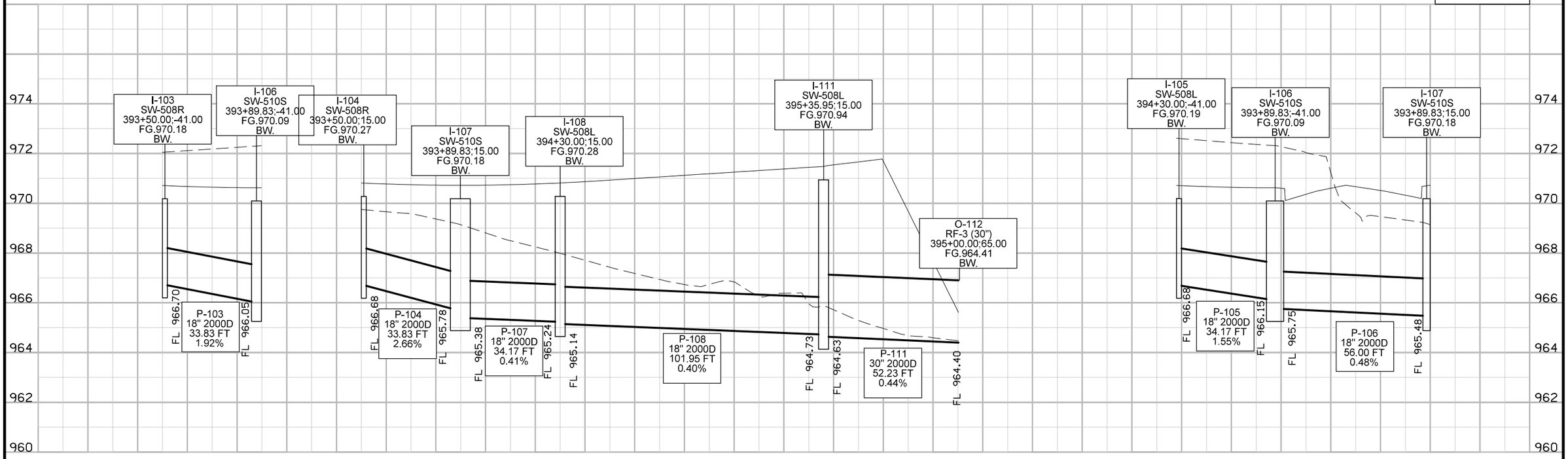

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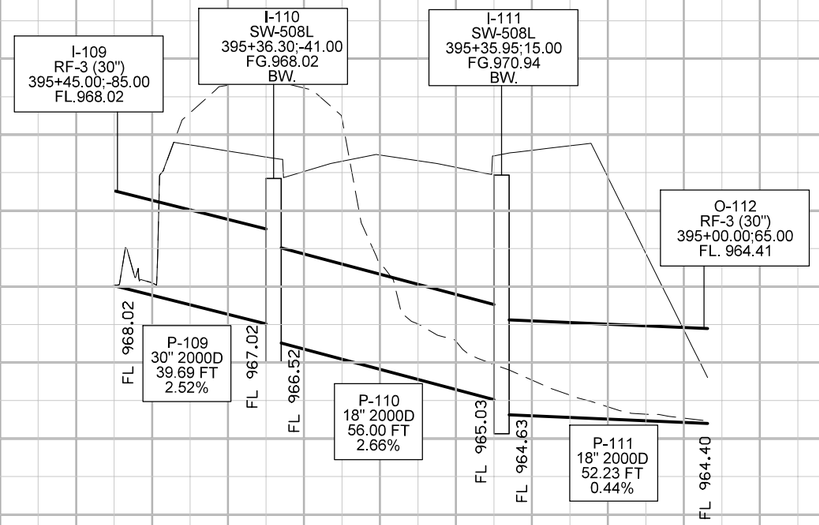

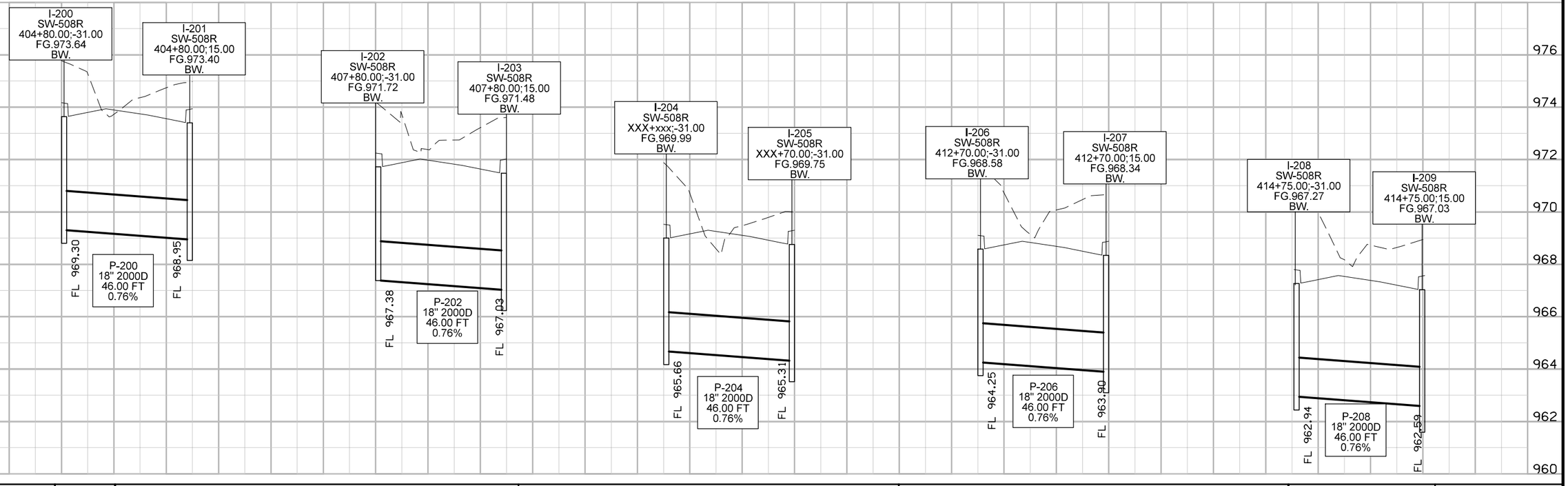

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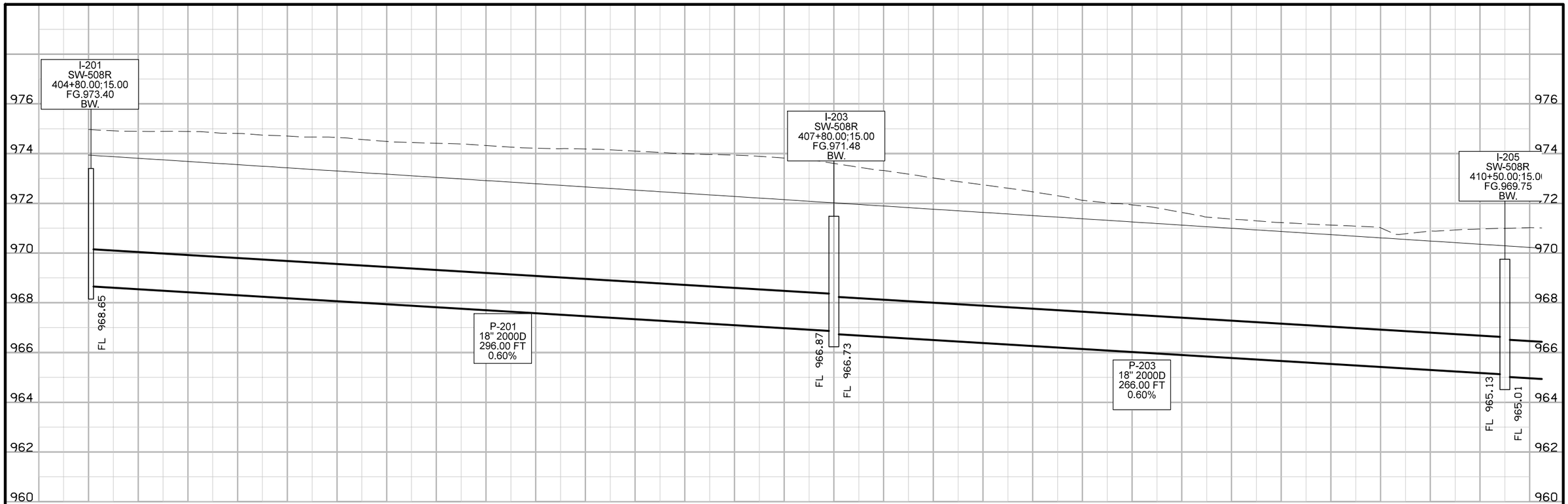

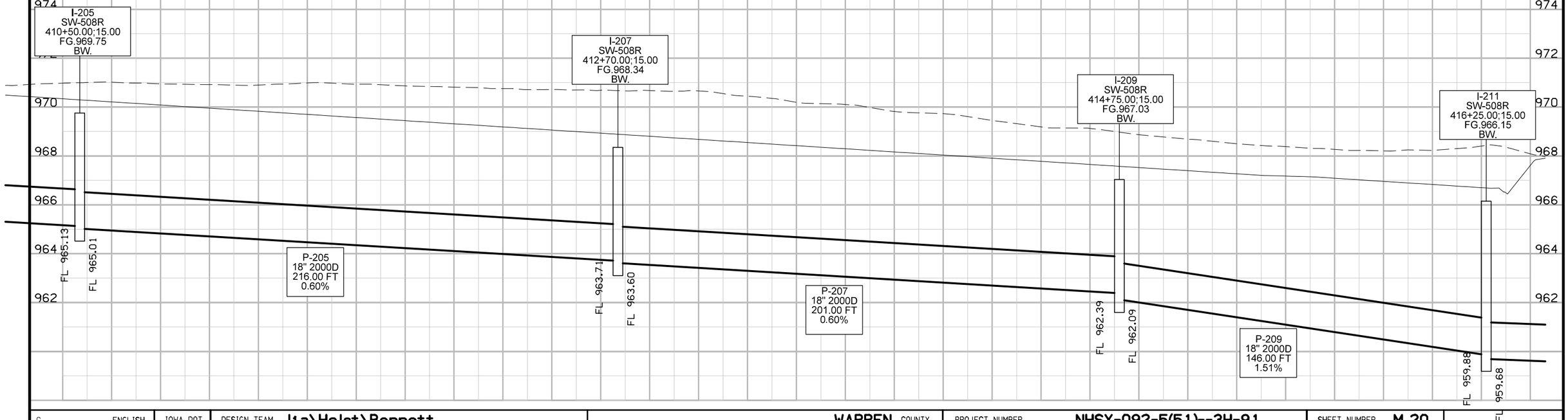

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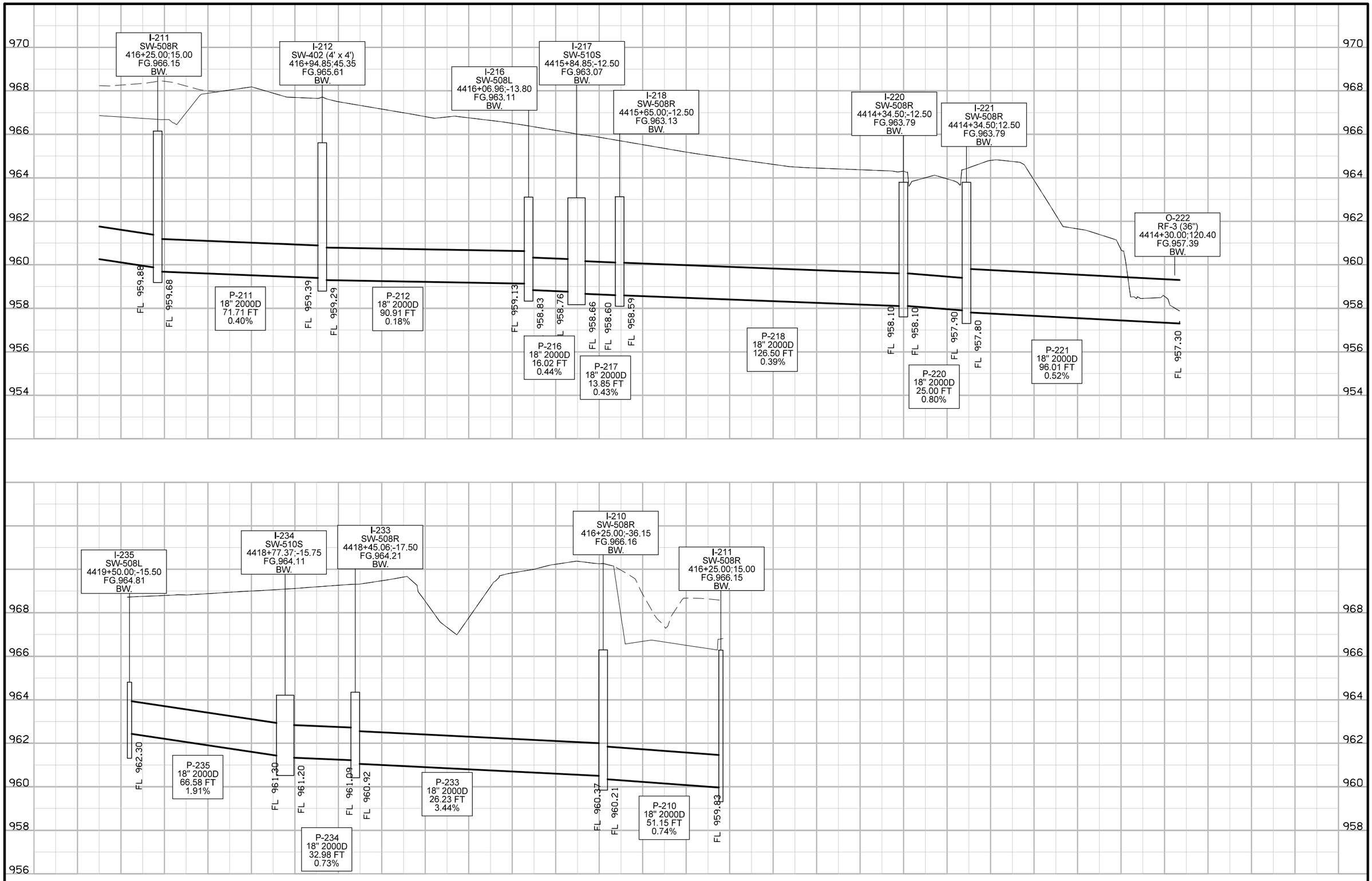

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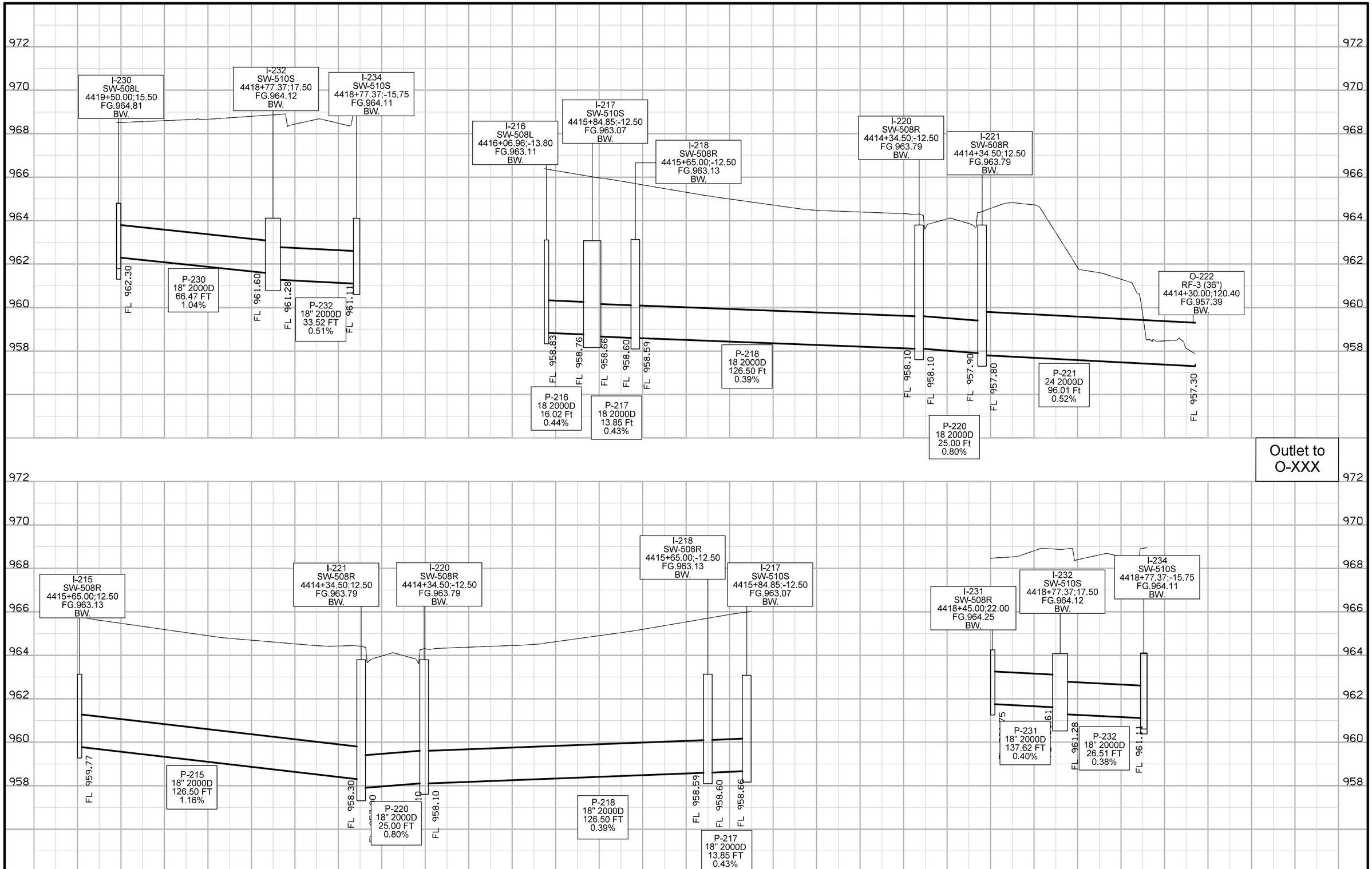

C	ENGLISH	IOWA DOT	DESIGN TEAM **J1a\Holst\Bennett**	**WARREN** COUNTY	PROJECT NUMBER	**NHSX-092-5(51)--3H-91**	SHEET NUMBER **M.22**

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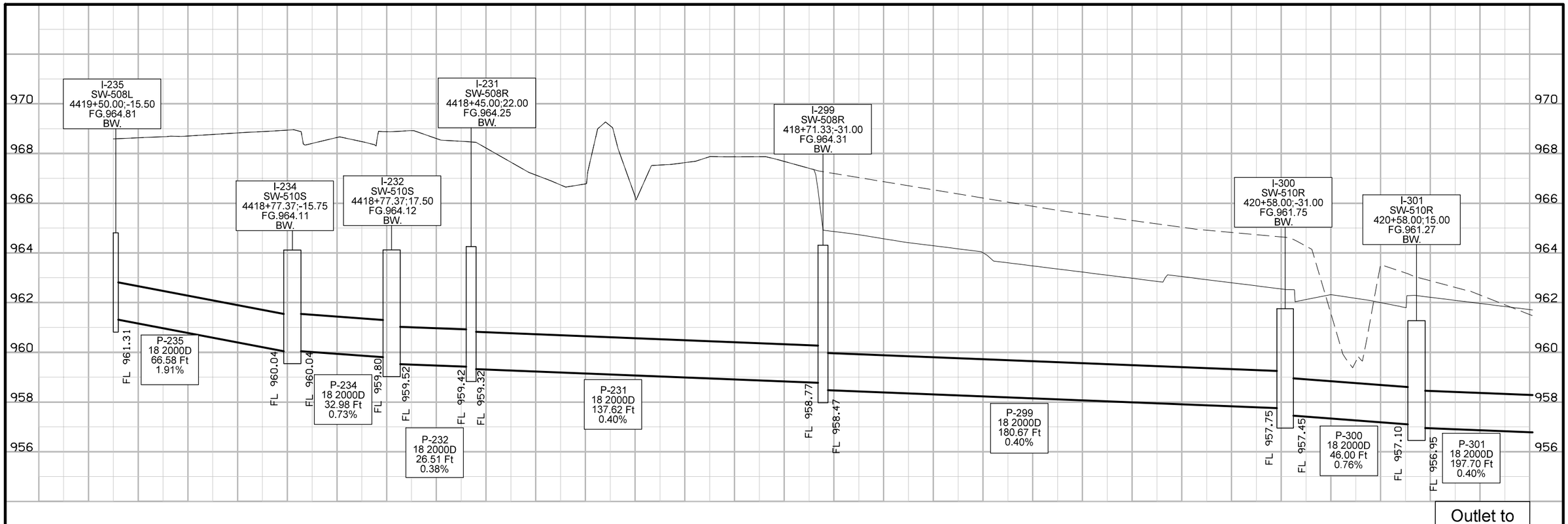

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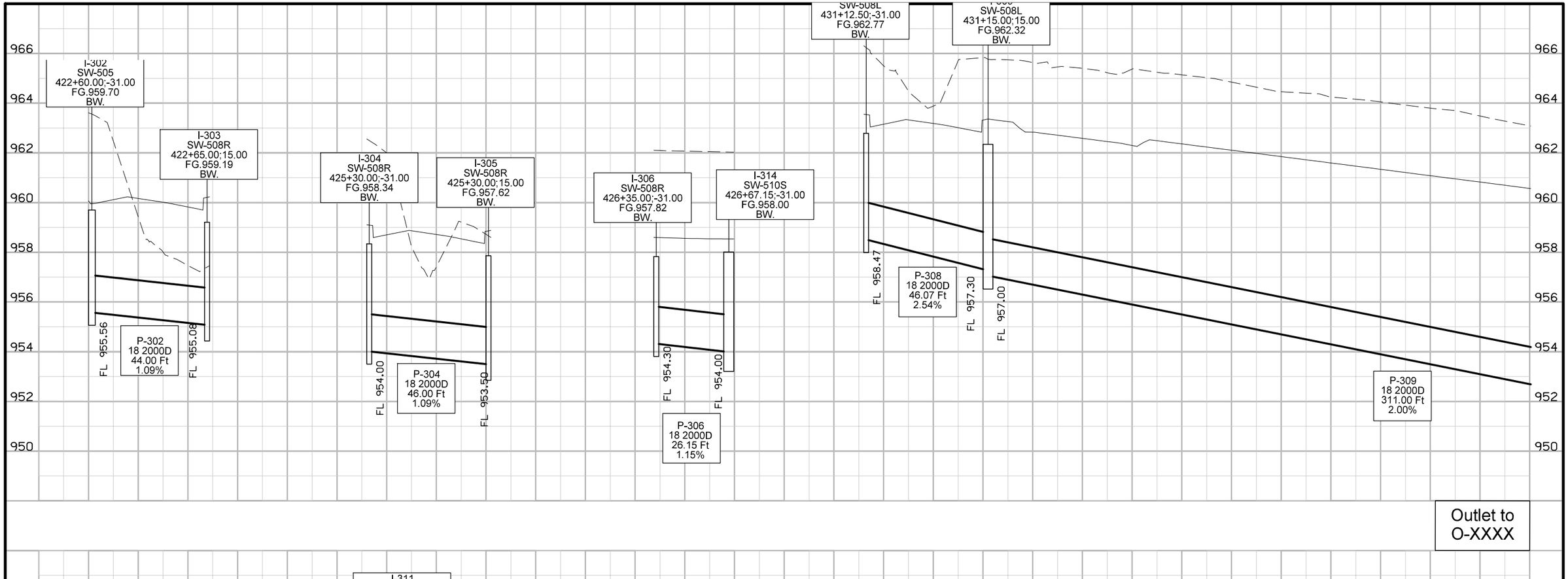
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954
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BW.
I-303
SW-508R
422+65.00;15.00
FG.959.19
BW.
FL 955.56
P-302
18 2000D
44.00 Ft
1.09%
FL 955.08
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SW-508R
425+30.00;-31.00
FG.958.34
BW.
I-305
SW-508R
425+30.00;15.00
FG.957.62
BW.
FL 954.00
P-304
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BW.
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FG.958.00
BW.
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P-306
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311.00 Ft
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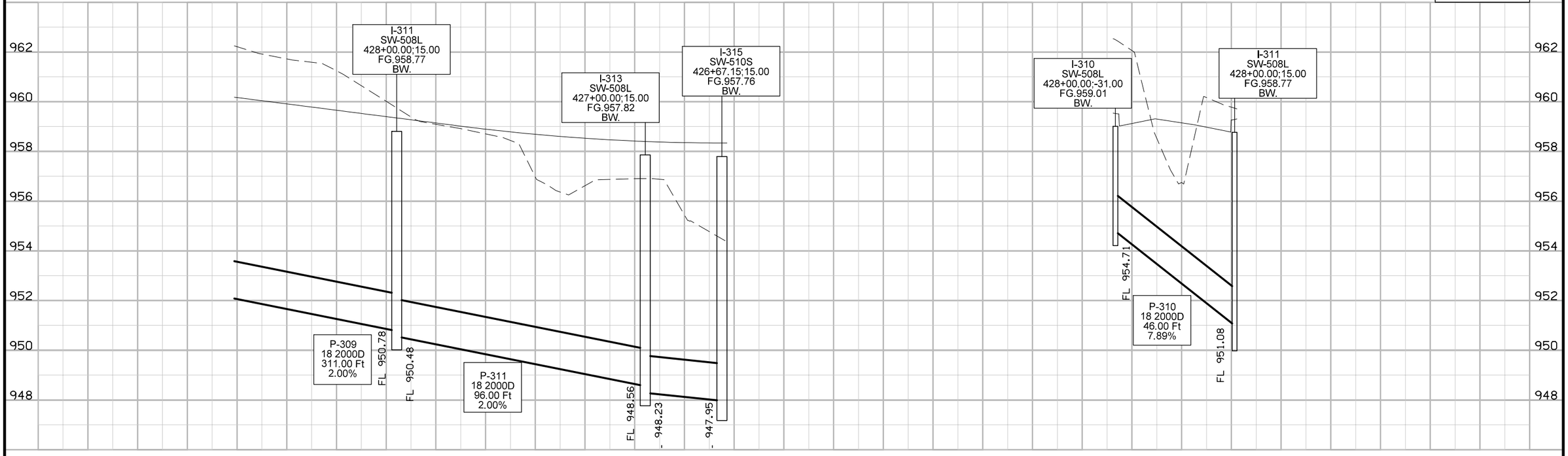
O-XXXX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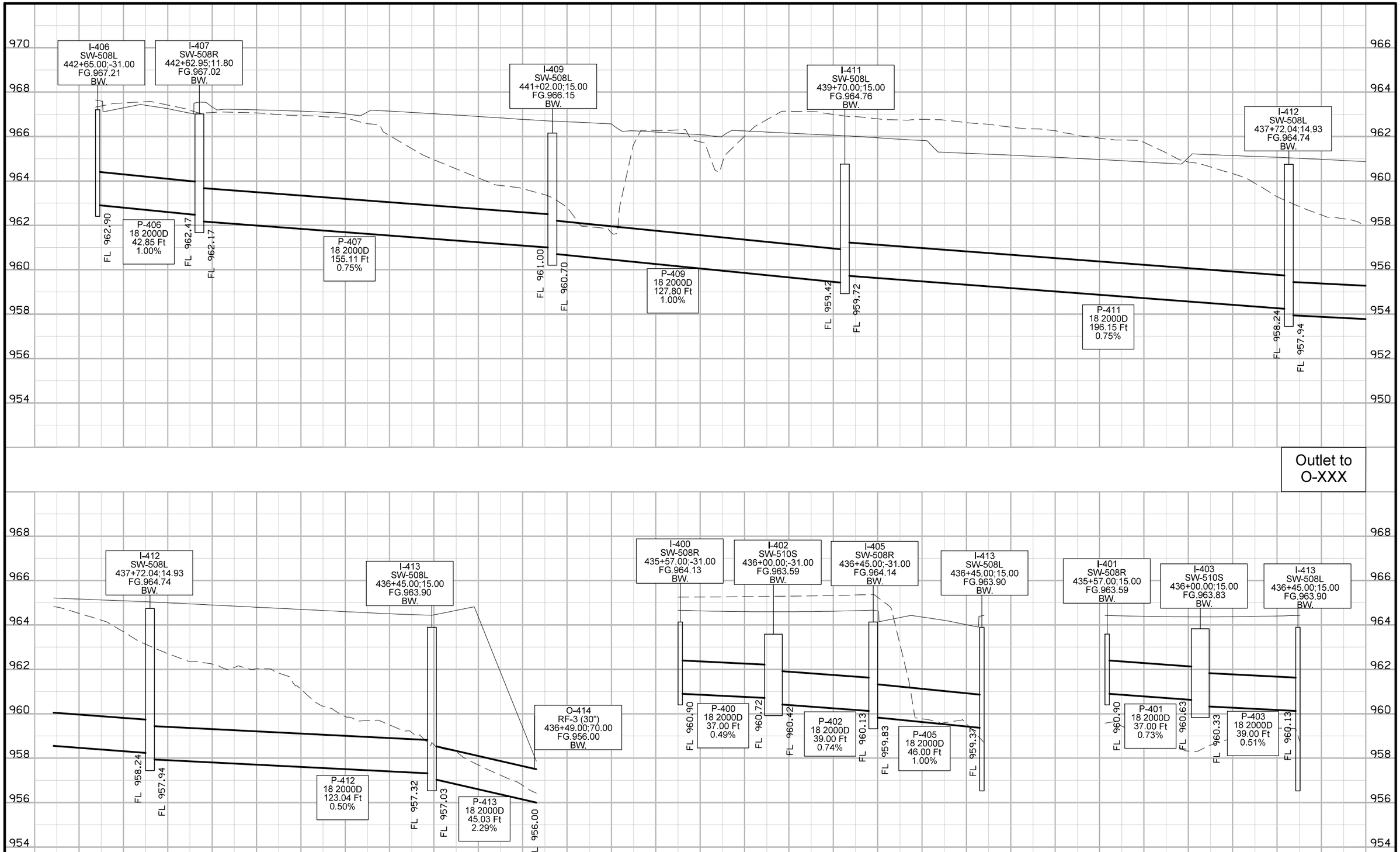

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER M.25

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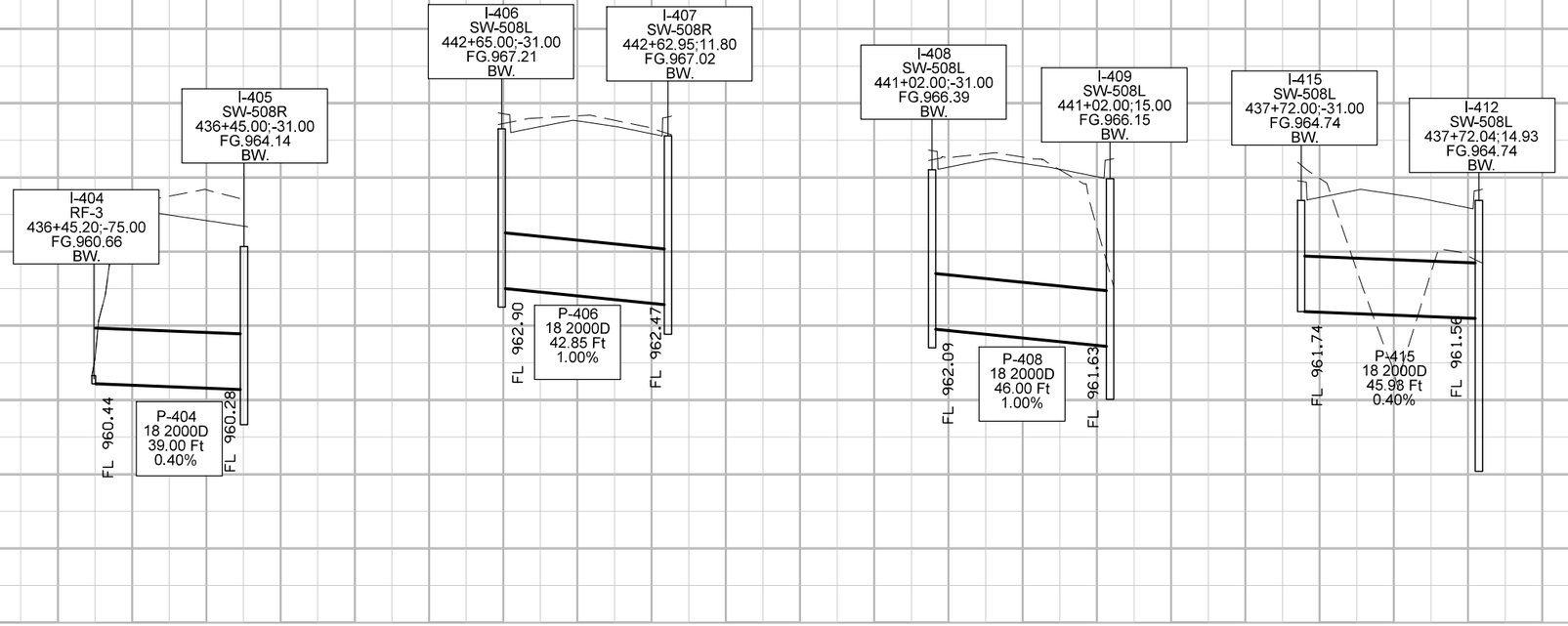

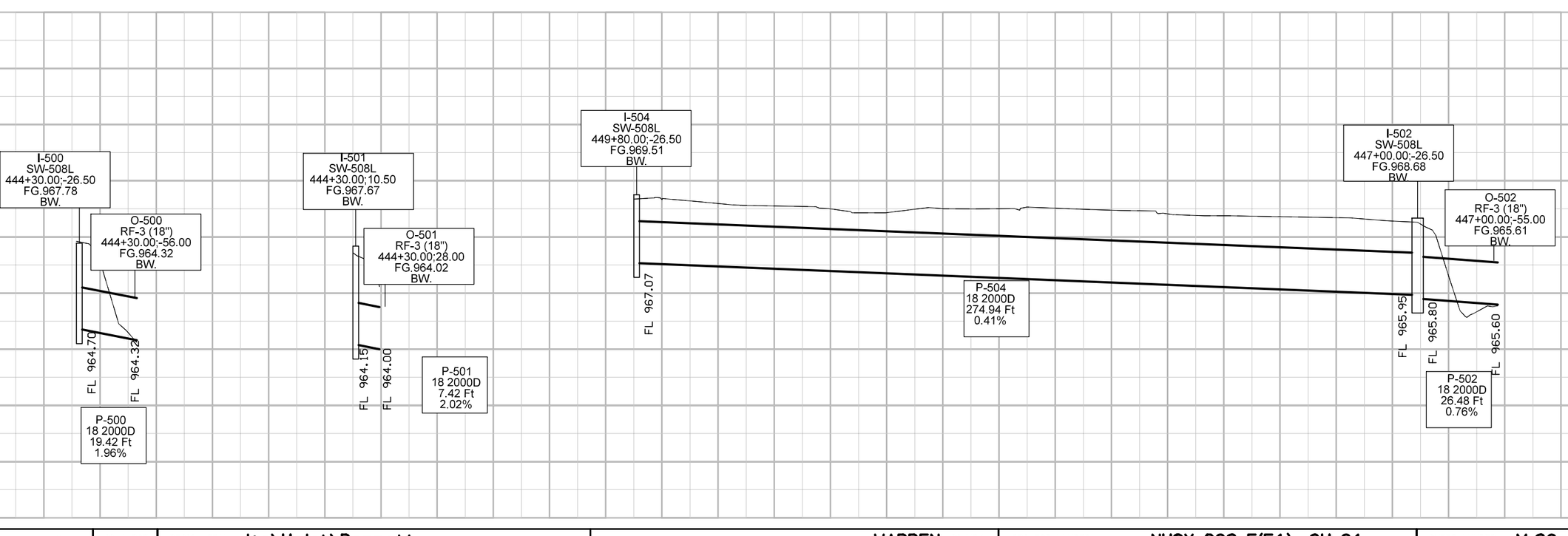

C ENGLISH	IOWA DOT	DESIGN TEAM **J1a\Holst\Bennett**	**WARREN** COUNTY	PROJECT NUMBER	**NHSX-092-5(51)--3H-91**	SHEET NUMBER **M.26**

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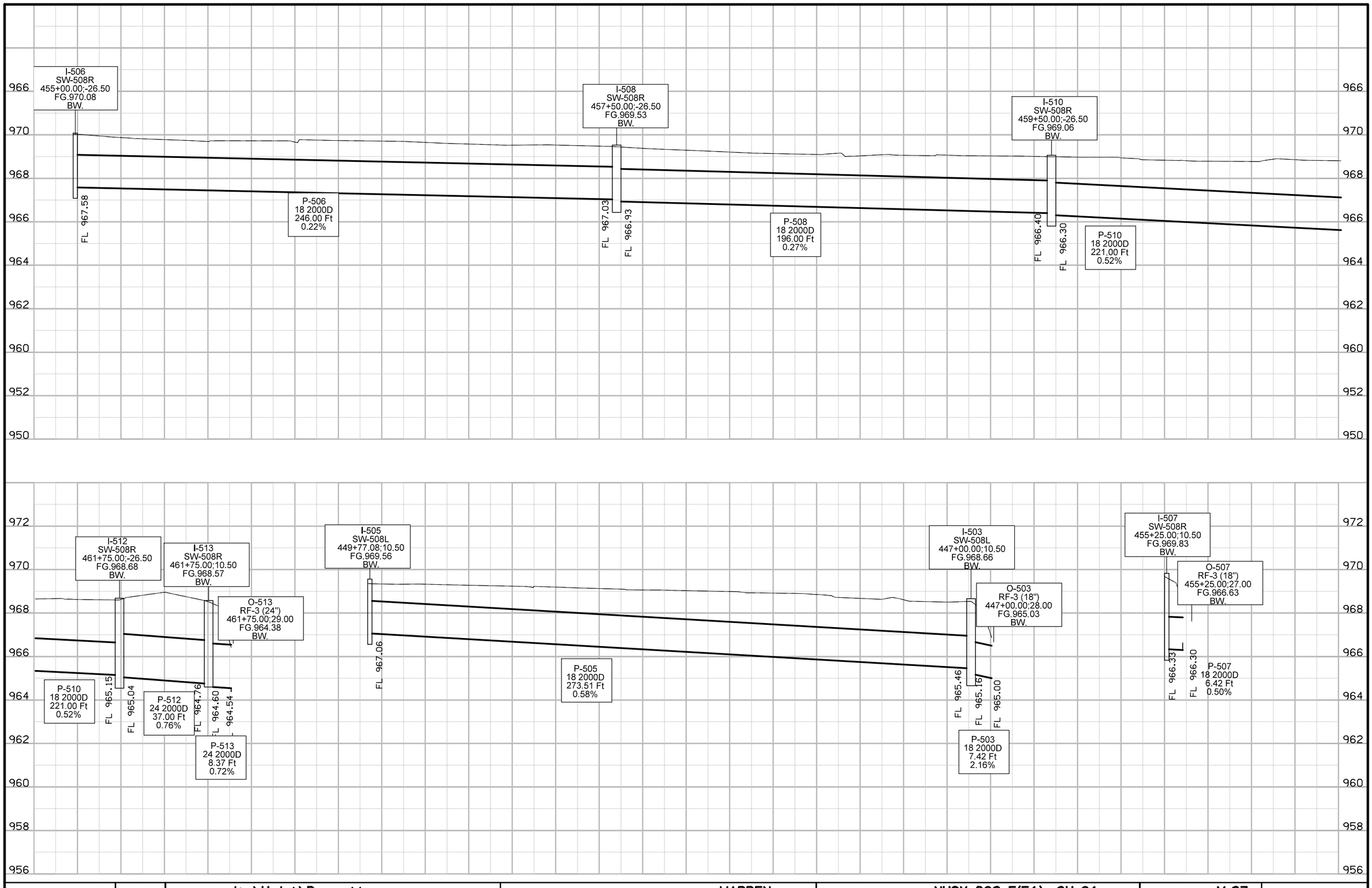

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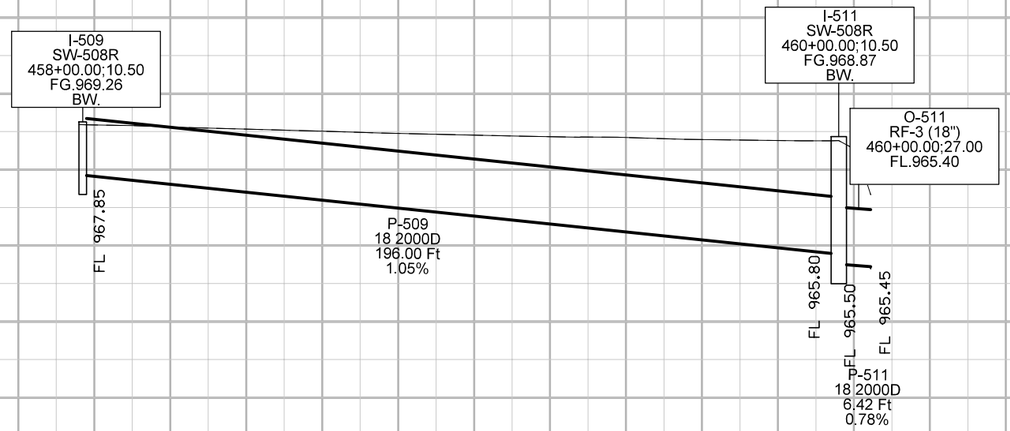

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SURVEY SYMBOLS

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
- Ⓢ 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

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

NOTE: Sounding and test boring data shown in the plans were accumulated for designing and estimating purposes. Their appearance on the plans does not constitute a guarantee that conditions other than those indicated will be encountered. Details and notes shown elsewhere shall be used for roadway and structure construction.

SOILS LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES Q & R)

Lincoln TWP.
T-76N R-24W
SEC. 29

Special attention should be given to Section 2107.03.C, Standard Specification Series of 2012, on this project.

IA 92 (ML092)

KENNEDY ST.

Sta. 256+50.00
Begin Full Width Paving

T-0001
T-0002
T-0003
T-0004
T-0006
T-0007
T-0008
T-0009
T-0010
T-0012
T-0013

255
260
265
270

Building
House
SEC. LINE

0 FEET 50

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.2

10:51:13 AM 7/5/2013 aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht

CUT MOISTURE	20,27,22	24	23,30,25	28
CUT DENSITY (lb/ft³)	102,94,104	96	96,88,96	Disturbed
PLASTIC LIMIT	20,23,16	22	21,21,16	

995 990 985 980 975 970 965 960 955 950 945 940 935 930 925 920

SHELBY TUBE CORE DATA

CORE NO.	T-0010-C
CLASSIFICATION [AASHTO]	
COEFF. CONSOL. SQ.FT/DAY	1.632
TRIAXIAL COMPRESSION	CU
COHESION - PSF	315
FRICTION COEFF.	0.311
MOISTURE CONTENT %	29.1
DRY DENSITY - PCF	92

CU-CONSOLIDATED UNDRAINED TRIAXIAL
CU* -CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS

Road Metal
A-7-6(26)
SI CL
Dk Gr & Br
104@19.5
A-7-6(30)
SI CL
Br & Gr
95.4@21.8
A-6(6)
CL LO
Br & Gr
112@15

Road Metal
A-7-6(24)
CL
Dk Gr
98.5@23
A-7-6(30)
SI CL
Br & Gr
95.4@21.8
A-6(6)
CL LO
Br & Gr
112@15

Road Metal
A-7-6(31)
SI CL
Br & Gr
96.1@24.5
H_2O
A-7-6(30)
SI CL
Br & Gr
101.5@20.5
A-6(9)
CL
Br
115@13.5

A-7-6(31)
SI CL
Br & Gr
96.1@24.5
A-6(9)
CL
Br
115@13.5

Dark Brown
Clay - Topsoil
Firm Brown
& Gray Clay
Soft to Stiff
Brown & Gray
Silty Clay
Firm Brown
& Gray Sandy
Clay
Very Firm Gray
& Brown Clay
- Gumbotil

T-0010-C

Crushed Limestone
- Fill
Firm Brown
& Gray Clay
Soft to Stiff
Brown & Gray
Clay
Stiff Brown
& Gray Sandy
Clay
Very Firm Gray
& Brown Clay
- Gumbotil
Firm Brown
& Gray Sandy
Clay

Unsuit. Type "C"
(Top Soil)
See STD.EW - 102

Unsuit. Type "B"

T-0002 Rt. 17 | T-0003 Lt. 19 | T-0006 Rt. 23 | T-0007 Lt. 21 | T-0010 Rt. 30 | T-0012 Rt. 38

255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	Q.3

Lincoln TWP.
T-76N R-24W
SEC. 29

IA 92 (ML092)

R-57 (SR57N)

R-57 (SR57S)

270

275

280

285

T-0013

T-0014

T-0015

T-0016

T-0017

T-0018

T-0019

T-0020

T-0021

T-0022

T-0023

T-0024

T-0025

T-0026

T-0027

T-0161

T-0162

T-0163

0 50
FEET

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.4

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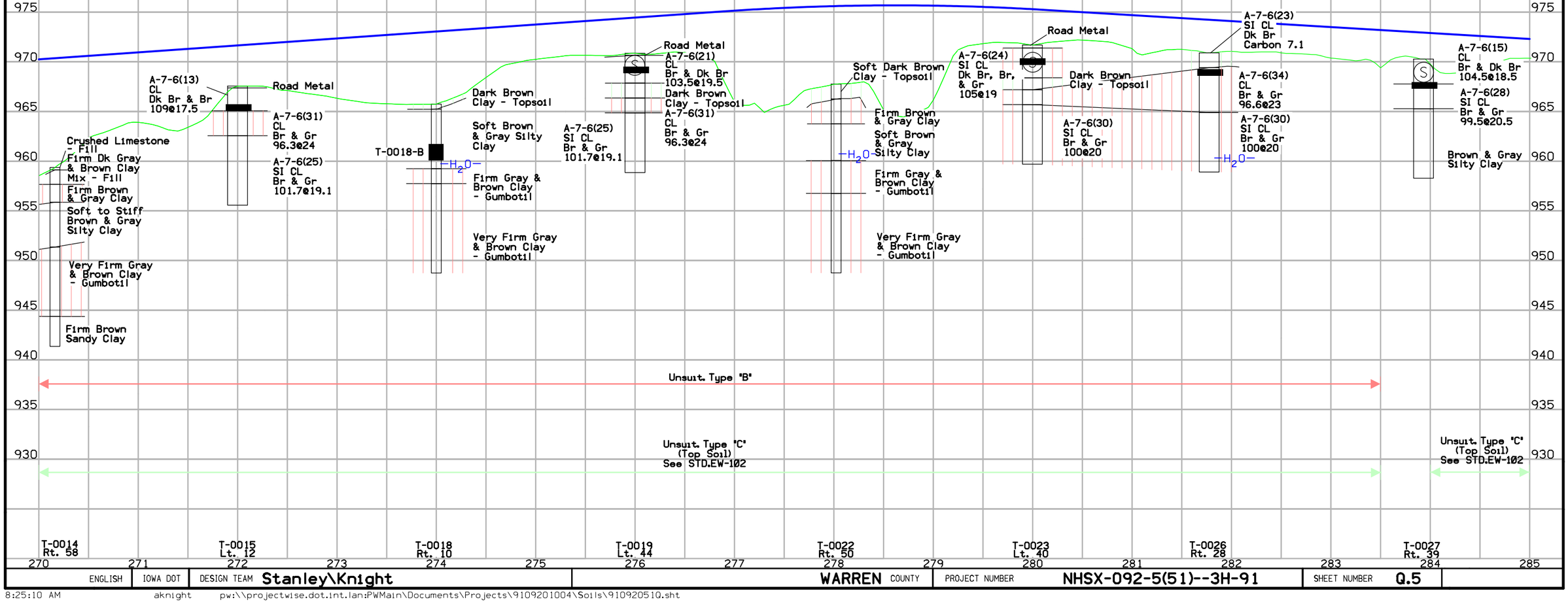
CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

28	25	24	28	20
92	Disturbed	Disturbed	80	98
	21	21		24

SHELBY TUBE CORE DATA

CORE NO.	T-0018-B
CLASSIFICATION [AASHTO]	
COEFF. CONSOL. SQ.FT/DAY	1.486
TRIAXIAL COMPRESSION	CU
COHESION - PSF	448
FRICTION COEFF.	0.2235
MOISTURE CONTENT %	30.3
DRY DENSITY - PCF	92
CU-CONSOLIDATED UNDRAINED TRIAXIAL	
CU* -CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS	



ENGLISH	IOWA DOT	DESIGN TEAM	Stanley\Knight	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	Q.5

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Lincoln TWP.
T-76N R-24W
SEC. 29

285 290 295 300

T-0028 T-0030 T-0032 T-0034 T-0036 T-0038 T-0040 T-0042 T-0043

IA 92 (ML092)

T-0037 T-0039 T-0041

0 50
FEET

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.6

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CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

30
88
21,21

23

27,27,27
Disturbed,92,94
22,20,18

26,31,29
Disturbed,90,92
21,19

25

28
88

1010
1005
1000
995
990
985
980
975
970
965
960
955
950
945
940
935

Road Metal
A-7-6(8)
SA CL LO
Dk Gr
110@15
(Fill)
A-7-6(27)
SI CL
Br & Gr
103.8@17.9

A-7-6(21)
SI CL
Dk Br
Carbon 7.3
A-7-6(27)
CL
Br & Gr
101.5@19.5
$-H_2O-$
A-7-6(30)
SI CL
Br & Gr
103.3@19.4
A-7-6(34)
CL
Gr
101.5@20

Road Metal
Brown Clay
- Fill
A-7-6(30)
SI CL
Br & Gr
103.3@19.4
A-7-6(34)
CL
Gr
101.5@20

A-7-6(28)
SI CL
Dk Br
Carbon 7.2
A-7-6(27)
CL
Br & Gr
101.5@19.5
A-7-6(32)
CL
Gr
102@18.3

Road Metal
Dk Gray Sandy
Clay - Fill
A-7-6(34)
SI CL
Dk Gr
98@20
A-7-6(32)
CL
Gr
102@18.3

A-7-6(28)
SI CL
Dk Br
Carbon 7.2
$-H_2O-$
A-7-6(27)
SI CL
Br & Gr
102@18.5
A-7-6(37)
SI CL
Br & Gr
95.5@23.5
Gray Clay
- Gumbotil

Road Metal
Brown and Dk
Gray Clay
- Fill
$-H_2O-$
A-7-6(27)
SI CL
Br & Gr
102@18.5

Road Metal
Stiff Dk
Gray & Brown
Clay - Fill
Stiff Brown
& Gray Silty
Clay
$-H_2O-$
Firm to Very
Firm Gray &
Brown Clay
- Gumbotil

Unsuit. Type "C"
(Top Soil)
See STD.EW-102

Unsuit. Type "B"
(Only One
Cross Section)

Unsuit.
Type "B"

Unsuit.
Type "B"
(Only One
Cross Section)

Unsuit. Type "B"

Unsuit. Type "B"

Unsuit. Type "B"

T-0028
Lt. 50

T-0030
Lt. 70

T-0032
Lt. 40

T-0034
Lt. 71

T-0036
Rt. 39

T-0038
Lt. 70

T-0040
Lt. 40

T-0043
Lt. 6

285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.7

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Lincoln TWP.
T-76N R-24W
SEC. 29

Lincoln TWP.
T-76N R-24W
SEC. 28

300
305
310
315

T-0042
T-0043
T-0044
T-0045
T-0046
T-0047
T-0048
T-0049
T-0050
T-0051
T-0052
T-0053
T-0054
T-0055
T-0056
T-0057
T-0058
T-0164
T-0165
T-0166

IA 92 (ML092)

15" X 20.0'
C.M.P.

15" X 28.0'
C.M.P.

1.0 ft. Granular
Working Blanket

NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.

Sta. 307+42.49
3' X 2' X 46.0' RCB
W/ 36" RCP Extensions
D.A. = 16 Ac - R

90TH AVE (SR90TH)

0 50
FEET

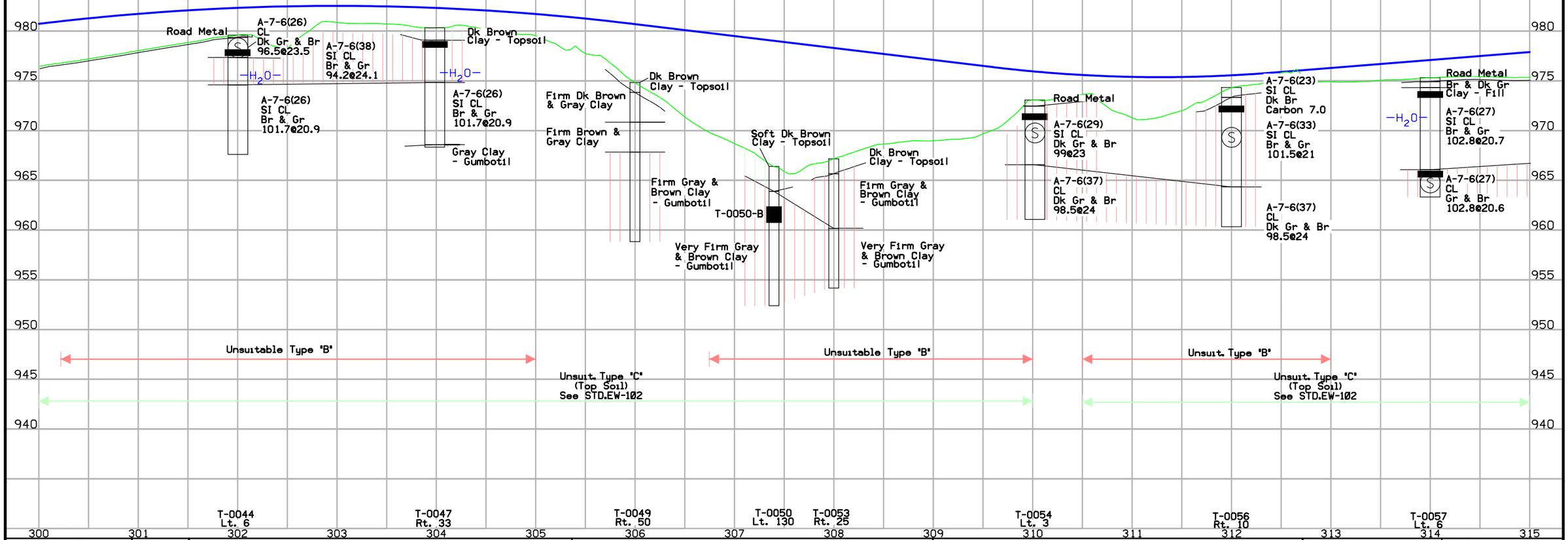
ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.8

10:51:23 AM 7/5/2013 aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht

CUT MOISTURE	26	30	25	29	26,26
CUT DENSITY (lb/ft³)	93	84	81	93	94,97
PLASTIC LIMIT	22		25	20	17

SHELBY TUBE CORE DATA

CORE NO.	T-0050-B
CLASSIFICATION [AASHTO]	
COEFF. CONSOL. SQ.FT/DAY	0.052
TRIAXIAL COMPRESSION	
COHESION - PSF	
FRICTION COEFF.	
MOISTURE CONTENT %	23.4
DRY DENSITY - PCF	98
CU-CONSOLIDATED UNDRAINED TRIAXIAL	
CU*-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS	



ENGLISH	IOWA DOT	DESIGN TEAM	Stanley\Knight	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	Q.9

Lincoln TWP.
T-76N R-24W
SEC. 28

315 320 325 330

T-0059 T-0060 T-0061 T-0062 T-0063 T-0064 T-0065 T-0066 T-0067 T-0068 T-0069 T-0070 T-0071 T-0072 T-0073 T-0075

IA 92 (ML092)

1.0 ft. Granular Working Blanket

NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.

0 50
FEET

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.10

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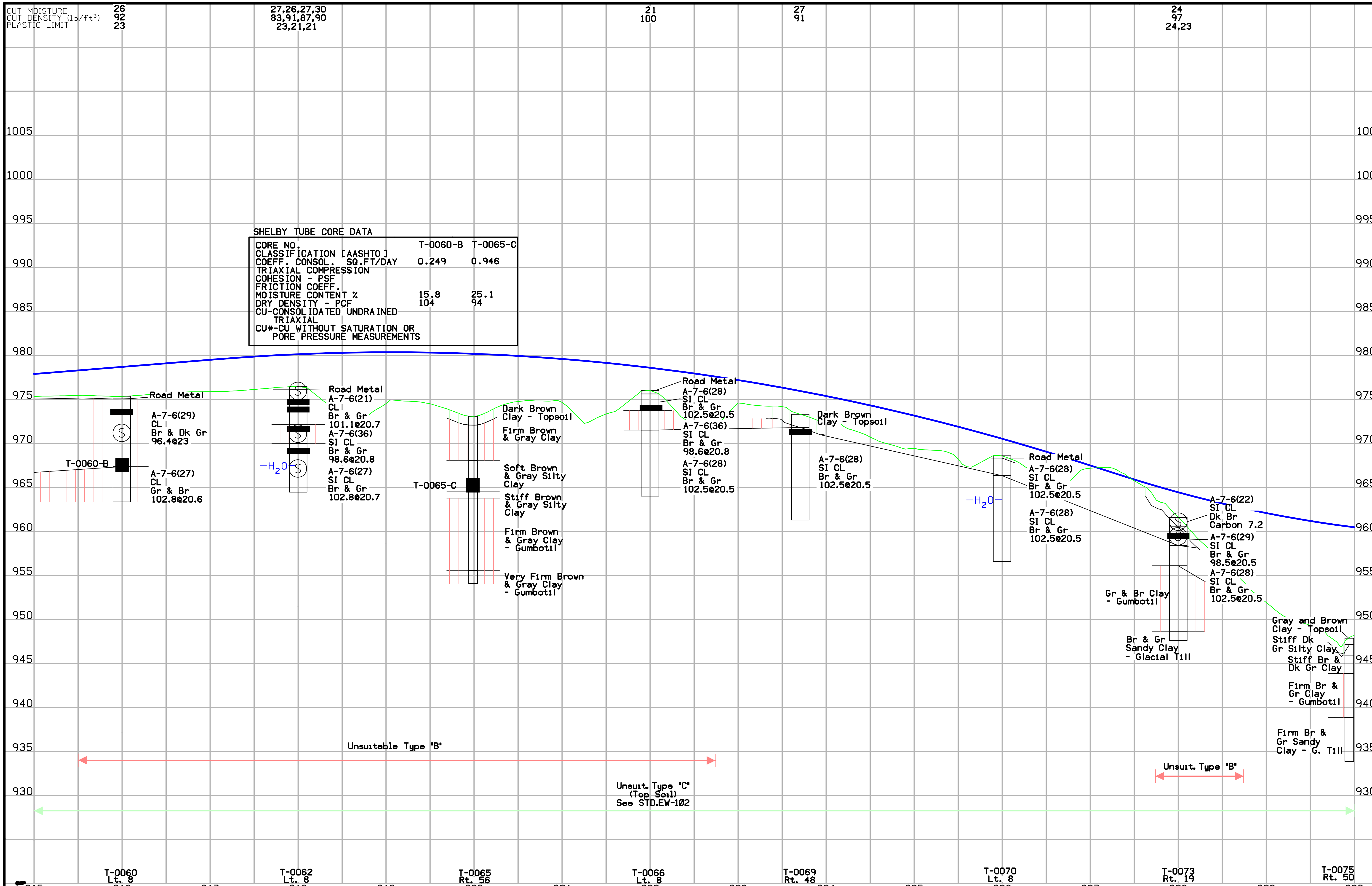

SHELBY TUBE CORE DATA

CORE NO.	T-0060-B	T-0065-C
CLASSIFICATION [AASHTO]		
COEFF. CONSOL. SQ.FT/DAY	0.249	0.946
TRIAXIAL COMPRESSION		
COHESION - PSF		
FRICTION COEFF.		
MOISTURE CONTENT %	15.8	25.1
DRY DENSITY - PCF	104	94
CU-CONSOLIDATED UNDRAINED TRIAXIAL		
CU*-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS		

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight		WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.11

Lincoln TWP.
T-76N R-24W
SEC. 28

N

330 335 340 345

T-0076 T-0077 T-0078 T-0079 T-0080 T-0081 T-0082 T-0083 T-0084 T-0085 T-0086 T-0087 T-0088 T-0089 T-0090 T-0091

IA 92 (ML092)

1.0 ft. Granular Working Blanket

1.0 ft. Granular Working Blanket

NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.

NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.

0 50
FEET

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.12

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CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

28
89
24

24,28
95,97
22

27

24,25,31,33
93,90,86,85
24,21

SHELBY TUBE CORE DATA

CORE NO.	T-0088-B
CLASSIFICATION [AASHTO]	
COEFF. CONSOL. SQ.FT/DAY	0.024
TRIAXIAL COMPRESSION	
COHESION - PSF	
FRICTION COEFF.	
MOISTURE CONTENT %	24.5
DRY DENSITY - PCF	102
CU-CONSOLIDATED UNDRAINED TRIAXIAL	
CU*-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS	

1005
1000
995
990
985
980
975
970
965
960
955
950
945
940
935
930

Dk Brown
Clay - Topsoil
A-7-6(33)
SI CL
Dk Br
96@24
A-7-6(31)
SI CL
Br & Gr
102@21.5
A-7-6(20)
CL
Gr & Br
105@18.5
$-H_2O-$

Road Metal
A-7-6(24)
SI CL
Dk Br
Carbon 7.6
A-7-6(31)
SI CL
Br & Gr
102@21.5
$-H_2O-$
Gr & Br Clay
- Gumbotil

Dark Brown
Clay - Topsoil
Firm Br, Gr,
Dk Gr Clay
Stiff Br & Gr
Silty Clay
Stiff Br & Gr
Silty Clay
Firm Br & Gr
Clay - Gumbotil
$-H_2O-$
Very Firm Br
& Gr Sandy
Clay - G. Till

Road Metal
A-7-6(24)
SI CL
Dk Br
101@21.1
Dark Brown
Clay - Topsoil
Br & Gr Clay
Dark Brown
Clay - Topsoil
Stiff Dk Gr
Clay
T-0088-B
Firm Dk Gr
Clay
Very Firm Dk
Gr & Br
Clay - Gumbotil
A-7-6(28)
SI CL
Br & Gr
105@17.4
$-H_2O-$

Dark Brown
Clay - Topsoil
Stiff Gr Clay
- Gumbotil
Very Firm Gr
Clay - Gumbotil
Very Firm Br
& Gr Sandy
Clay - G. Till
Dark Brown
Clay - Topsoil
Stiff Dk
Br Clay
- Colluvium
Firm Dk Gr,
Gr, and Br
Clay - Gumbotil
Firm Dk Gr
Clay - Gumbotil
Dark Brown
Clay - Topsoil
Firm Br
& Dk Gr Clay
- Gumbotil
Firm Br
& Gr Clay
- Gumbotil
Firm Br &
Gr Sandy
Clay - G. Till

(Only One
Cross Section)
Unsuit. Type "C"

Unsuit. Type "B"
Unsuit. Type "C"
(Top Soil)
See STD.EW-102
Unsuitable Type "B"

T-0077
Rt. 30
T-0079
Rt. 82
T-0081
Rt. 50
T-0083
Rt. 21
T-0084
Lt. 6
T-0086
Lt. 77
T-0087
Rt. 25
T-0088
Lt. 41
T-0091
Rt. 31

330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.13

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Lincoln TWP.
T-76N R-24W
SEC. 28

345
350
355
360

IA 92 (ML092)
IA 92 (ML092)

T-0092
T-0093
T-0094
T-0095
T-0096
T-0097
T-0098
T-0099
T-0101
T-0102
T-0104
T-0105
T-0106
T-0107

0 50
FEET

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.14

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CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

27
91

22
102

21
101
25,23,19

26
95

28,33
Disturbed,85
21,21

23
93

26,30,33
94,89,87
23,25,21,21

1010
1005
1000
995
990
985
980
975
970
965
960
955
950
945
940
935

Road Metal
A-7-6(19)
CL
Dk Gr
101@20
Dk Br Clay
Topsoil
A-7-6(34)
SI CL
Br & Gr
99@22.8
A-7-6(26)
SI CL
Br & Gr
104@19.5
$-H_2O$
A-7-6(34)
CL
Dk Br
Carbon 6.8
A-7-6(34)
CL
Br & Gr
98@22
A-7-6(26)
SI CL
Br & Gr
103.5@20
A-7-6(12)
CL
Dk Br
104.5@17
A-7-6(31)
SI CL
Dk Br & Br
98@22.5
A-7-6(33)
SI CL
Br & Dk Gr
100.3@19.5
A-7-6(34)
SI CL
Br & Gr
97.5@22.5

Unsuitable Type "B"

Unsuit. Type "C"
(Top Soil)
See STD.EW-102

Unsuit. Type "B"
(Top Soil)
See STD.EW-102

Unsuit. Type "C"
(Top Soil)
See STD.EW-102

T-0092
Lt. 10
T-0095
Rt. 20
T-0096
Lt. 31
T-0099
Rt. 20
T-0101
Rt. 45
T-0102
Lt. 39
T-0104
Lt. 3
T-0107
Rt. 27

345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.15

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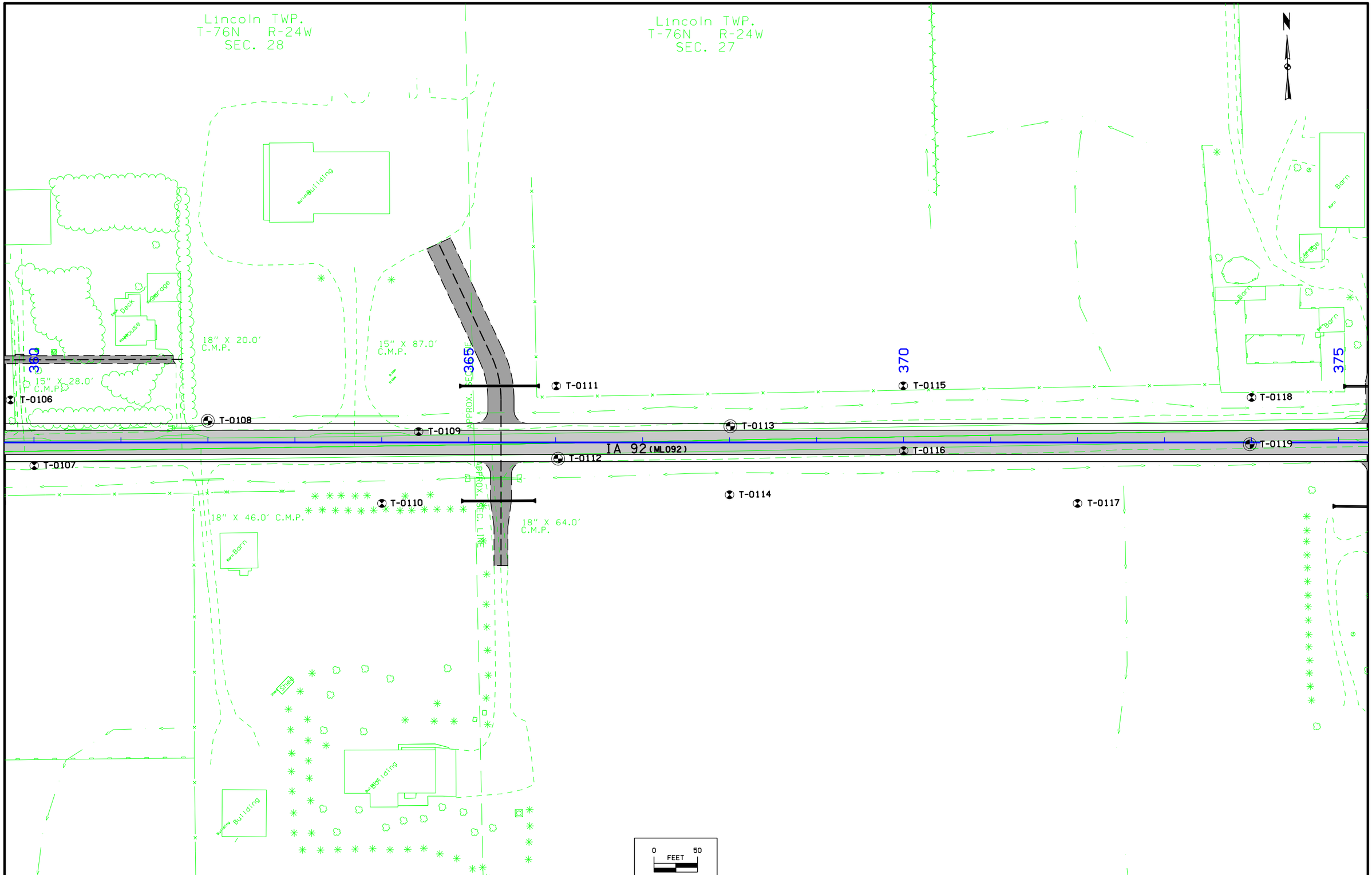


ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.16

10:51:37 AM 7/5/2013 aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\91092051Q.sht

CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

25
88

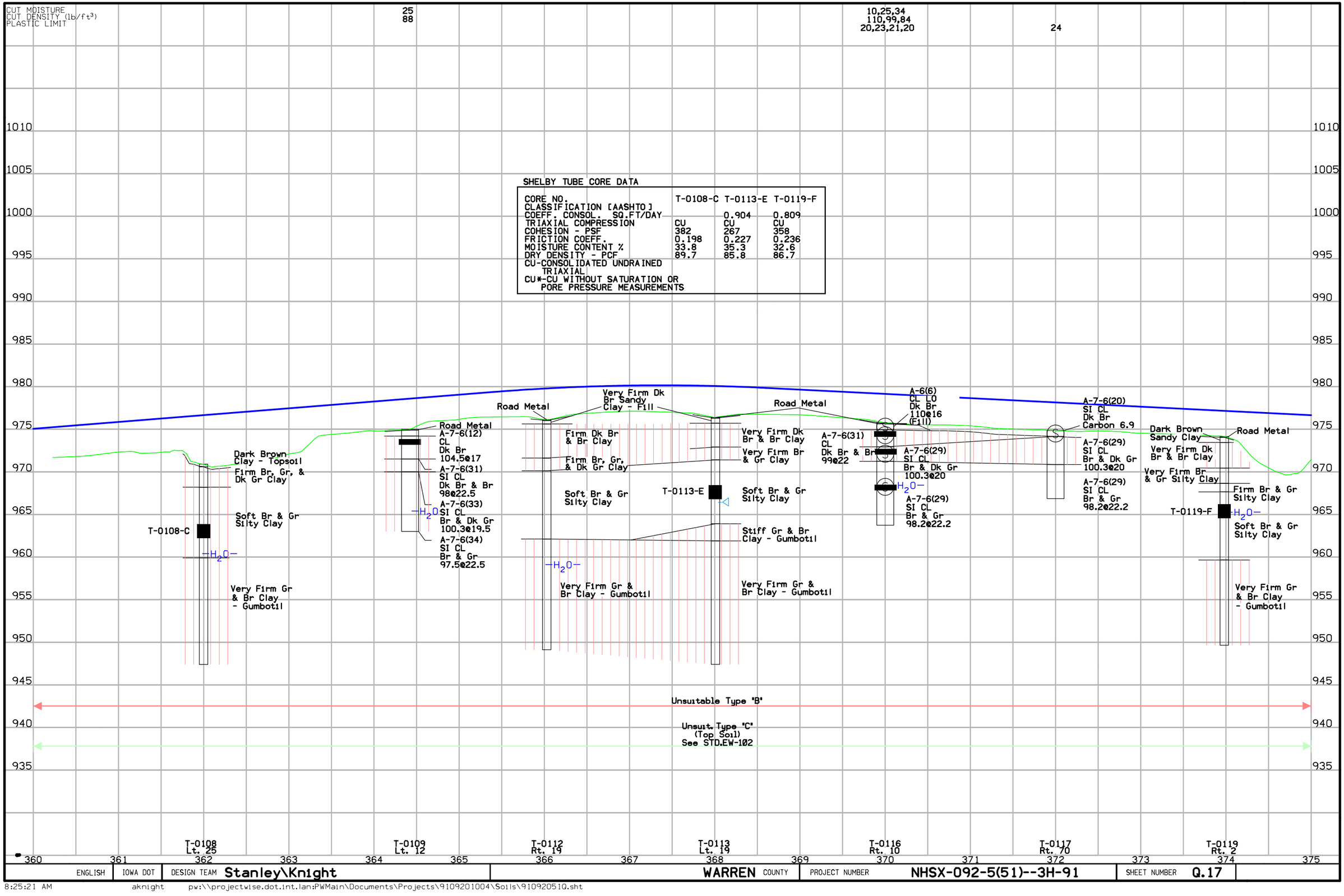
10,25,34
110,99,84
20,23,21,20

24

SHELBY TUBE CORE DATA

CORE NO.	T-0108-C	T-0113-E	T-0119-F
CLASSIFICATION [AASHTO]			
COEFF. CONSOL. SQ.FT/DAY		0.904	0.809
TRIAXIAL COMPRESSION	CU	CU	CU
COHESION - PSF	382	267	358
FRICTION COEFF.	0.198	0.227	0.236
MOISTURE CONTENT %	33.8	35.3	32.6
DRY DENSITY - PCF	89.7	85.8	86.7

CU-CONSOLIDATED UNDRAINED TRIAXIAL
CU*-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS



ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.17

8:25:21 AM aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht

Lincoln TWP.
T-76N R-24W
SEC. 27

N

375 380 385 390

T-0120 T-0121 T-0122 T-0123 T-0124 T-0125 T-0126 T-0127 T-0128 T-0129 T-0130 T-0131

IA 92 (ML092)

1.0 ft. Granular Working Blanket

NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.

0 50 FEET

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.18

10:51:40 AM 7/5/2013 aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht

CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

27,31,32
93,89,88
20,25,22,19

25
92

26,28,33,26
92,89,87,97
22,22,20,18

24
96

1010
1005
1000
995
990
985
980
975
970
965
960
955
950
945
940
935

SHELBY TUBE CORE DATA

CORE NO.	T-0123-B
CLASSIFICATION [AASHTO]	
COEFF. CONSOL. SQ.FT/DAY	0.116
TRIAXIAL COMPRESSION	
COHESION - PSF	
FRICTION COEFF.	
MOISTURE CONTENT %	22.9
DRY DENSITY - PCF	103
CU-CONSOLIDATED UNDRAINED TRIAXIAL	
CU*-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS	

A-7-6(25)
SI CL
Dk Br
Carbon 7.3

A-7-6(29)
SI CL
Br & Gr
94.5@24

H_2O

A-7-6(27)
SI CL
Br & Gr
100.7@20.6

Br & Gr Clay
- Gumbotil

Road Metal

A-7-6(9)
CL LO
Dk Br
109.5@16

A-7-6(26)
CL
Br & Dk Br
96.5@23

A-7-6(29)
SI CL
Br & Gr
94.5@24

H_2O

A-7-6(27)
SI CL
Br & Gr
100.7@20.6

Dark Brown
Clay - Topsoil

H_2O

Stiff Dk Gr
Clay - Gumbotil

T-0123-B

Stiff Gr & Br
Clay - Gumbotil

Firm Gr & Br
Clay - Gumbotil

Road Metal

A-7-6(9)
CL LO
Dk Br
109.5@16

A-7-6(26)
CL
Br & Dk Br
96.5@23

A-7-6(29)
SI CL
Br & Gr
94.5@24

A-7-6(27)
SI CL
Br & Gr
100.7@20.6

H_2O

Road Metal

A-7-6(30)
SI CL
Dk Br
97@23

A-7-6(29)
SI CL
Gr & Br
100@18

H_2O

Dark Brown
Clay - Fill

A-7-6(34)
SI CL
Dk Br & Gr
97@24

Road metal

A-7-6(30)
SI CL
Dk Br
97@23

A-7-6(29)
SI CL
Gr & Br
100@18

H_2O

A-7-6(29)
CL
Gr & Br
99.5@21.5

Dark Brown
Clay - Fill

A-7-6(34)
SI CL
Dk Br & Gr
97@24

H_2O

Road Metal

A-7-6(29)
SI CL
Gr & Br
100@18

Dark Brown
Clay - Fill

A-7-6(34)
SI CL
Dk Br & Gr
97@24

Road Metal

A-7-6(30)
SI CL
Dk Br
97@23

A-7-6(29)
SI CL
Gr & Br
100@18

H_2O

A-7-6(29)
CL
Gr & Br
99.5@21.5

Unsuitable Type "C"

Unsuit. Type "C"
(Top Soil)
See STD.EW-102

Unsuitable Type "C"

(Only One
Cross Section)

Unsuit. Type "C"
(Top Soil)
See STD.EW-102

Unsuitable Type "B"

T-0120
Rt. 60

T-0121
Lt. 37

T-0123
Rt. 50

T-0124
Lt. 13

T-0126
Lt. 49

T-0127
Lt. 20

T-0129
Lt. 57

T-0130
Lt. 26

375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.19

8:25:23 AM aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht

Lincoln TWP.
T-76N R-24W
SEC. 27

R-63 (SR63N)

390

395

400

405

T-0132

T-0133

T-0134

T-0135

T-0136

T-0137

T-0138

T-0139

IA 92 (ML092)

1.0 ft. Granular
Working Blanket

NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.

R-63 (SR63S)

0 FEET 50

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.20

10:51:44 AM 7/5/2013 aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht

CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

24
94

26
96
23

24
93

29,28
89,93
22,20,21

SHELBY TUBE CORE DATA

CORE NO.	T-0132-B
CLASSIFICATION [AASHTO]	
COEFF. CONSOL. SQ.FT/DAY	0.884
TRIAXIAL COMPRESSION	
COHESION - PSF	
FRICTION COEFF.	
MOISTURE CONTENT %	28.4
DRY DENSITY - PCF	95
CU-CONSOLIDATED UNDRAINED TRIAXIAL	
CU*-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS	

1010
1005
1000
995
990
985
980
975
970
965
960
955
950
945
940
935

T-0132-B
Dark Brown Clay - Topsoil
Stiff Br & Gr Clay
Stiff Br & Gr Silty Clay
$-H_2O-$
Very Firm Gr & Br Clay - Gumbotil

A-6(8) CL LO Dk Gr 111@15.5
Road Metal
A-7-6(31) SI CL Dk Gr & Br 101.5@20.2
A-7-6(34) SI CL Dk Gr & Gr 93.8@25.1
A-7-6(41) SI CL Br & Gr 100@20.4
Br & Gr Silty Clay
Gr & Br Clay - Gumbotil

A-7-6(22) SI CL Dk Br Carbon 6.5
A-7-6(41) SI CL Br & Gr 100@20.4
Br & Gr Silty Clay
$-H_2O-$
Gr & Br Clay - Gumbotil

A-7-6(22) SI CL Dk Br Carbon 6.5
Road Metal
A-7-6(41) SI CL Br & Gr 100@20.4
A-6(8) CL LO Dk Gr 111@15.5
A-7-6(31) SI CL Dk Gr & Br 101.5@20.2
A-7-6(34) SI CL Dk Gr & Gr 93.8@25.1
Br & Gr Silty Clay

A-7-6(21) SI CL Dk Br Carbon 7.0
Br & Gr Clay
A-7-6(30) SI CL Br & Gr 102.9@19.9
$-H_2O-$
A-7-6(26) CL Gr & Br 102@21
Br & Gr Clay
A-7-6(30) SI CL Br & Gr 102.9@19.9

Unsuit. Type "B"
Unsuit. Type "C" (Top Soil) See STD.EW-102

Unsuitable Type "B"
Unsuit. Type "C" (Top Soil) See STD.EW-102

T-0132 CL Lt. 28
T-0133 Lt. 28
T-0135 Rt. 23
T-0136 Rt. 31
T-0137 Lt. 63
T-0138 Rt. 29
T-0139 Lt. 80

390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER Q.21

8:25:24 AM aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht

Lincoln TWP.
T-76N R-24W
SEC. 27

405
410
415
420

T-0140
T-0141
T-0142
T-0143
T-0144
T-0145
T-0146

IA 92 (ML092)

Y ST (SR110N)
Y ST (SR110S)

0 FEET 50

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.22

10:51:47 AM 7/5/2013 aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht

CUT MOISTURE	26	28,25,34	25	29	28,28,29,33	29,34
CUT DENSITY (lb/ft³)	97	93,96,85	95	91	90,91,91,86	90,93
PLASTIC LIMIT		22,20	25	22	23,21,20	22,21

1010 1005 1000 995 990 985 980 975 970 965 960 955 950 945 940 935

A-7-6(23)
SI CL
Dk Br
Carbon 6.6

Br, Gr, & Dk
Gr Clay

$-H_2O-$

A-7-6(30)
SI CL
Br & Gr
103@19

Gr & Br
Clay - Gumbotil

Road Metal
A-7-6(24)
CL
Dk Gr
100.5@20.5

Br & Gr
Clay

$-H_2O-$

A-7-6(30)
SI CL
Br & Gr
103@19

Gr & Br
Clay - Gumbotil

A-7-6(23)
SI CL
Dk Br
Carbon 6.6

Br & Gr
Clay

A-7-6(30)
SI CL
Br & Gr
103@19

Road Metal
A-7-6(24)
CL
Dk Gr
100.5@20.5

A-7-6(30)
SI CL
Br & Gr
103@19

A-7-6(40)
SI CL
Br & Gr
97.4@22.8

A-6(19)
SI CL
Dk Br
Carbon 6.6

A-7-6(28)
SI CL
Br & Gr
103.5@19.8

$-H_2O-$

Gr & Br
Clay - Gumbotil

Road Metal
A-7-6(27)
CL
Dk Gr
98.3@22

A-7-6(40)
SI CL
Br & Gr
97.4@22.8

A-7-6(28)
SI CL
Br & Gr
103.5@19.8

$-H_2O-$

Gr & Br
Clay - Gumbotil

A-7-6(34)
SI CL
Br & Gr
100@20.9

A-6(19)
SI CL
Dk Br
Carbon 7.0

A-7-6(28)
SI CL
Br & Gr
99.5@20.5

Unsuitable Type 'B'

Unsuit. Type 'C'
(Top Soil)
See STD.EW-102

Unsuit. Type 'C'
(Top Soil)
See STD.EW-102

T-0140	T-0141	T-0142	T-0143	T-0144	T-0145	T-0146
Rt. 27	Lt. 27	Rt. 29	Lt. 67	Rt. 30	Lt. 25	Rt. 23

405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420

ENGLISH	IOWA DOT	DESIGN TEAM	Stanley\Knight	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	Q.23

8:25:26 AM aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht

Lincoln TWP.
T-76N R-24W
SEC. 26

N

420 425 430 435

T-0147 T-0148 T-0149 T-0150 T-0151 T-0152 T-0153 T-0154 T-0155

IA 92 (ML092)

0 FEET 50

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.24

10:51:50 AM 7/5/2013 aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht

24	19,26	27	CUT MOISTURE CUT DENSITY (lb/ft³) PLASTIC LIMIT	26	30	28	30
Disturbed	105,98	89		98	90	95	92
	23,23,20	17,20			26,20	23,21	

1000 995 990 985 980 975 970 965 960 955 950 945 940 935 930 925

Road Metal
A-7-6(32)
SI CL
Dk Gr
101@21

A-7-6(34)
SI CL
Br & Gr
100@20.9

A-7-6(43)
CL
Dk Gr
97@24

H_2O

Gr & Br Clay
- Gumbotil

Road Metal
A-7-6(27)
CL
Dk Gr
98.3@22

A-7-6(19)
SI CL
Dk Gr
105.5@19

A-7-6(42)
SI CL LO
Dk Gr
102.5@20

Gr & Br Clay
- Gumbotil

H_2O

Br & Gr Sandy
Clay - Glacial Till

Road Metal
A-7-6(32)
SI CL
Dk Gr
101@21

A-7-6(34)
SI CL
Br & Gr
100@20.9

Stiff Dk Br
Clay - Fill

Stiff Dk Br
Clay - Topsoil

Soft Br & Gr
Silty Clay

Firm Br &
Gr Clay

Firm Gr & Br
Clay - Gumbotil

Firm Gr & Br
Sandy Clay
- Glacial Till

Road Metal

Dk Gr Sandy
Clay - Fill

A-7-6(29)
SI CL
Br & Dk Gr
99@21

A-7-6(33)
SI CL
Br & Gr
101@21

A-7-6(24)
CL
Br
Carbon 7.4

A-7-6(30)
SI CL
Br & Gr
102@20

H_2O

Gr & Br Clay
- Gumbotil

Road Metal
Dk Gr Sandy
Clay - Fill

A-7-6(29)
SI CL
Br & Dk Gr
99@21

A-7-6(33)
SI CL
Br & Gr
101@21

H_2O

Gr & Br Clay
- Gumbotil

A-7-6(29)
SI CL
Br & Dk Gr
99@21
(Fill)

A-7-6(40)
CL
Br & Gr
97@18

A-7-6(33)
SI CL
Br & Gr
101@21

H_2O

Gr & Br Clay
- Gumbotil

Unsuitable Type "B"

Unsuit. Type "C"
(Top Soil)
See STD.EW-102

Unsuit. Type "C"
(Top Soil)
See STD.EW-102

T-0147	T-0148	T-0150	T-0151	T-0152	T-0153	T-0154	T-0155
Lt. 63	Lt. 27	Lt. 70	Rt. 40	Lt. 29	Rt. 15	Lt. 25	Rt. 12

420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.25

8:25:28 AM aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht

Lincoln TWP.
T-76N R-24W
SEC. 26

No soil borings performed through widening area.

Sta. 443+18.01
End Full Width Paving,
Begin Widening

SPRUCE ST

R ST

IA 92 (ML092)

435 440 445 450

T-0156 T-0157 T-0158 T-0159 T-0160

1.0 ft. Granular Working Blanket

NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.

0 FEET 50

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.26

10:51:53 AM 7/5/2013 aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht

CUT MOISTURE	26,24,28	26	28,30
CUT DENSITY (lb/ft³)	96,99,91	93	91,90
PLASTIC LIMIT	21,21	26	25

25,25,29
90,93,91
22,21

1000 995 990 985 980 975 970 965 960 955 950 945 940 935 930 925

Road Metal
Dk Gr Sandy Clay - Fill
A-7-6(29)
SI CL
Br & Dk Gr
99@21

A-7-6(25)
CL
Dk Gr
101@22.5

A-7-6(33)
SI CL
Br & Gr
101@21

A-7-6(40)
CL
Br & Gr
97@18

H_2O

Gr & Br Clay - Gumbotil

Road Metal
A-7-6(24)
CL
Br & Dk Gr
99.5@19

A-7-6(33)
SI CL
Br & Gr
101@21

A-6(8)
CL LO
Gr & Br
116@11.5

A-7-6(21)
SI CL
Dk Br
Carbon 6.7

A-7-6(32)
SI CL
Br & Gr
98@21.2

Br & Gr Silty Clay

Road Metal

A-7-6(32)
SI CL
Br & Gr
98@21.2

A-7-6(18)
CL
Br & Gr
101@18
(Fill)

Unsuit. Type 'B'
(Only One Cross Section)

Unsuitable Type 'B'

Unsuit. Type 'C'
(Top Soil)
See STD.EW-102

Unsuit. Type 'B'
(Only One Cross Section)

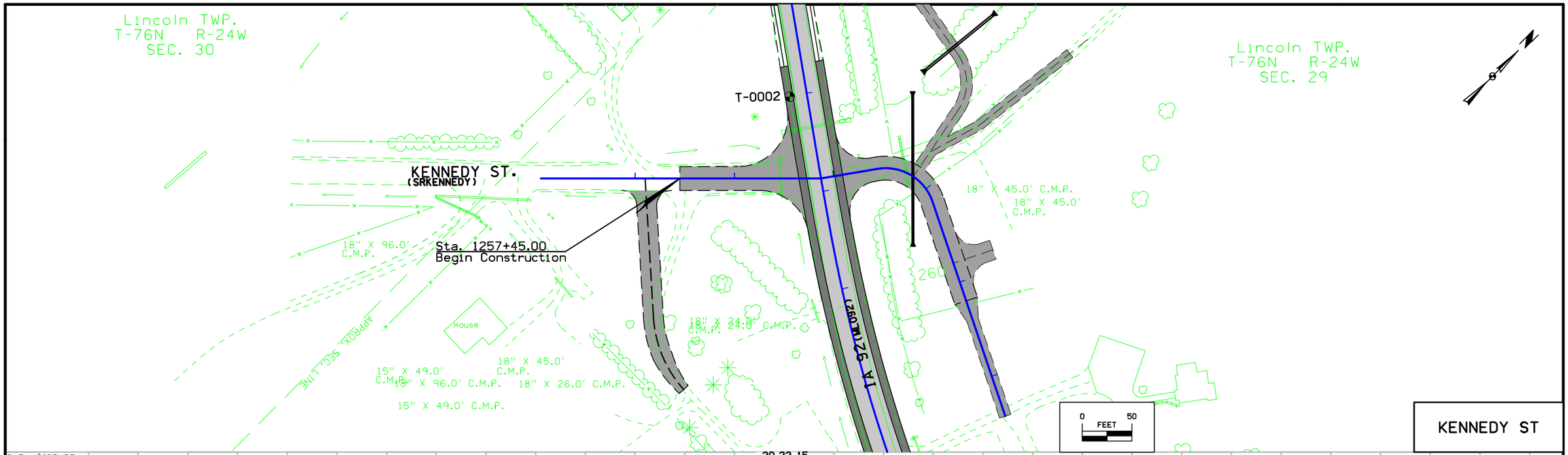
Unsuit. Type 'B'

T-0156 Lt. 30
T-0158 Lt. 28
T-0159 Rt. 23
T-0160 Lt. 30

435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	Q.27

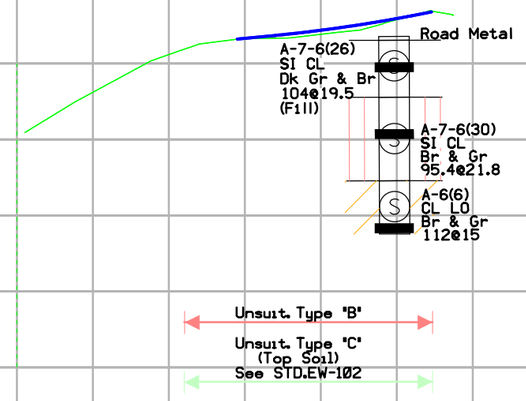
8:25:29 AM aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht



CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

20,22,15
104,95,112
20,23,16

960 955 950 945 940 935 930

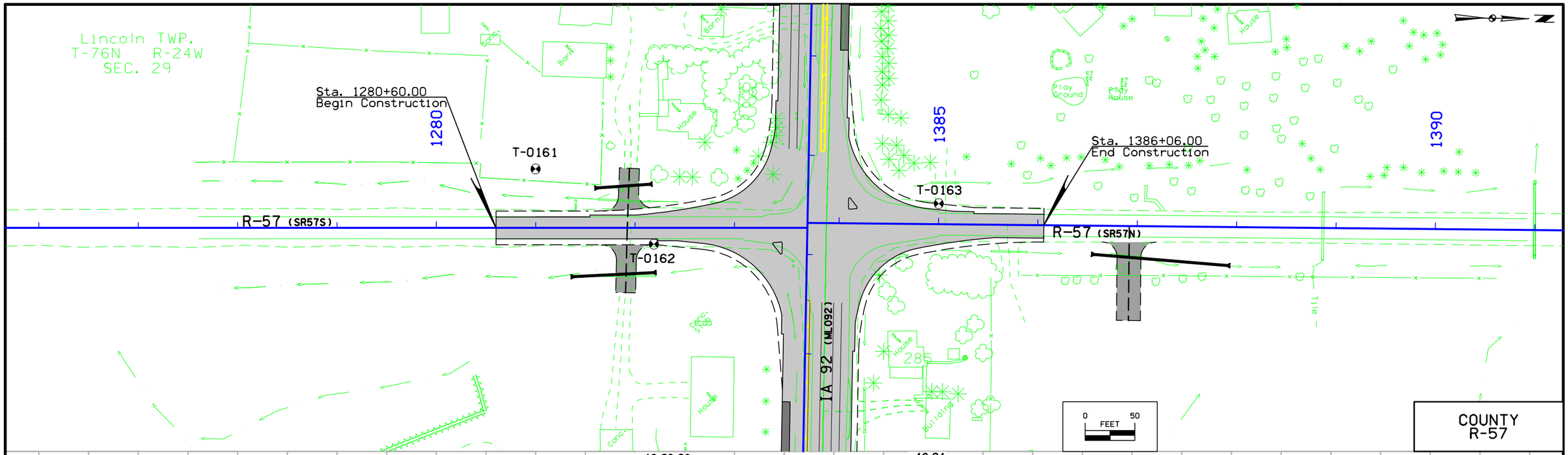


T-0002
Lt. 82

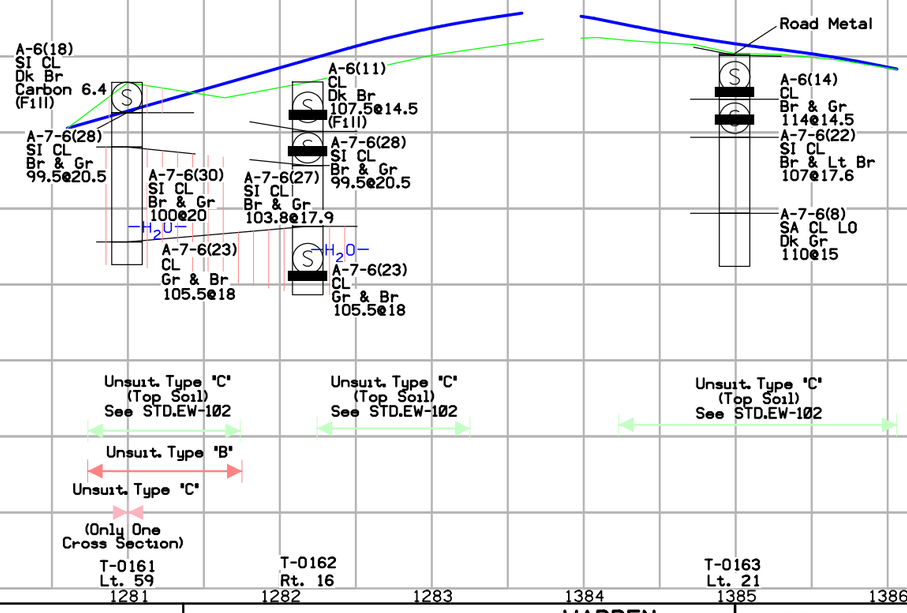
1257 1258

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.28

10:10:24 AM 9/5/2013 aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\91092051E01_Q.sht



CUT MOISTURE CUT DENSITY (lb/ft³) PLASTIC LIMIT	22	19,28,26 104,88,97 20,23,18	16,24 107,99 18,20



ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.29

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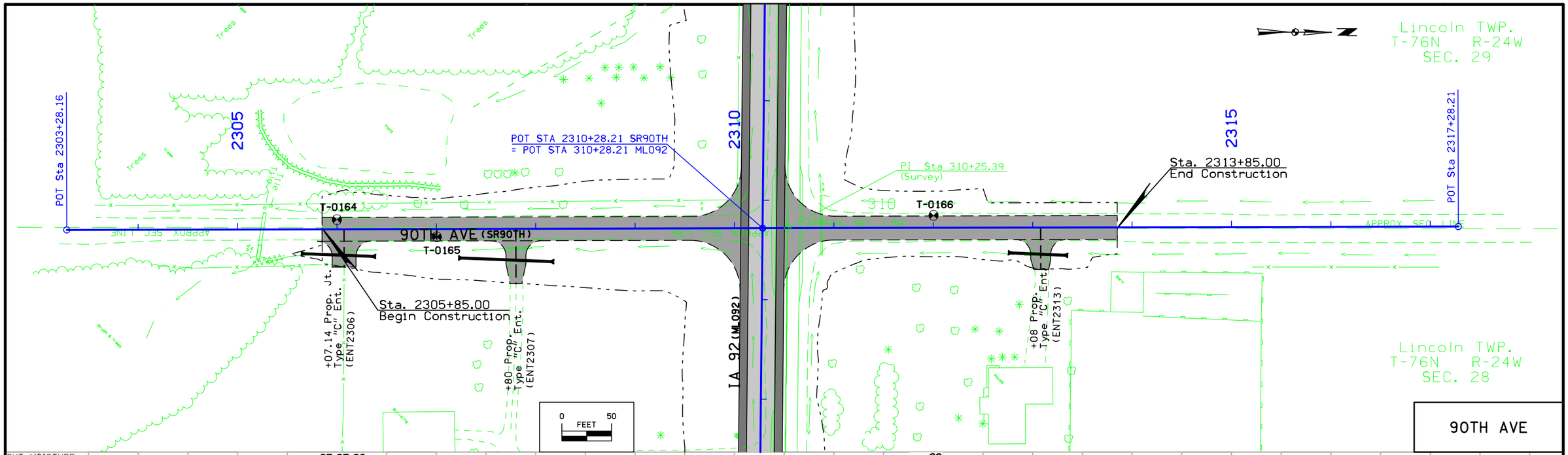
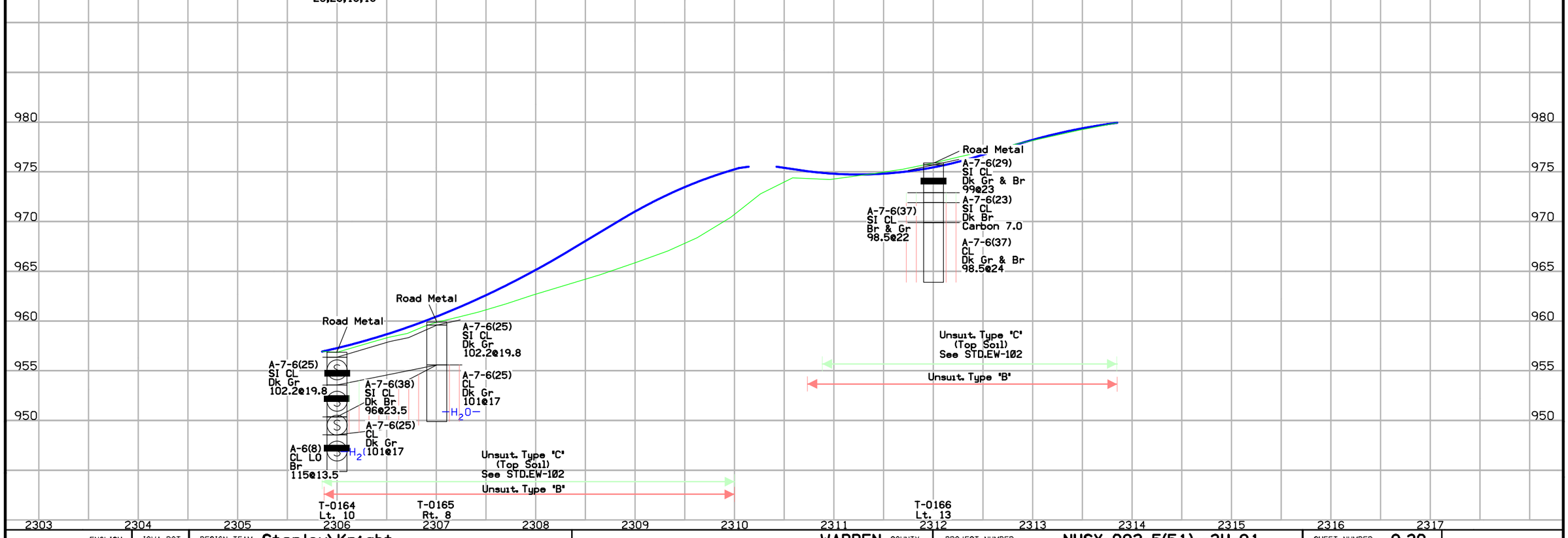
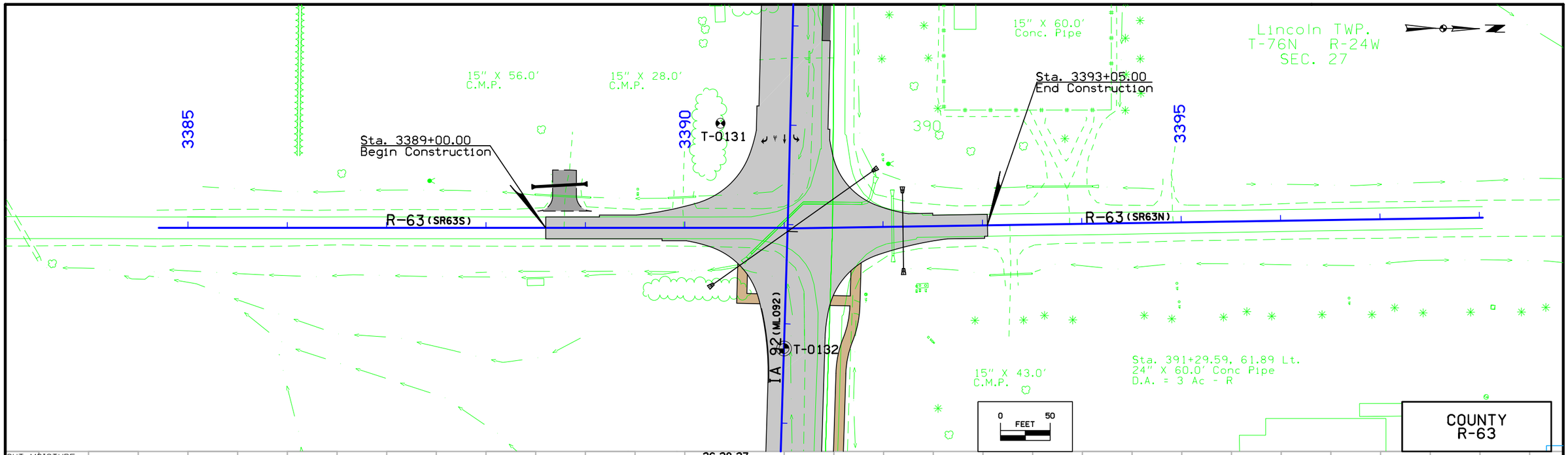


CUT MOISTURE CUT DENSITY (lb/ft³) PLASTIC LIMIT	27,27,20 91,95,109 20,23,18,16		23 Disturbed



ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	Q.30

10:10:29 AM 9/5/2013 aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\91092051E01_Q.sht



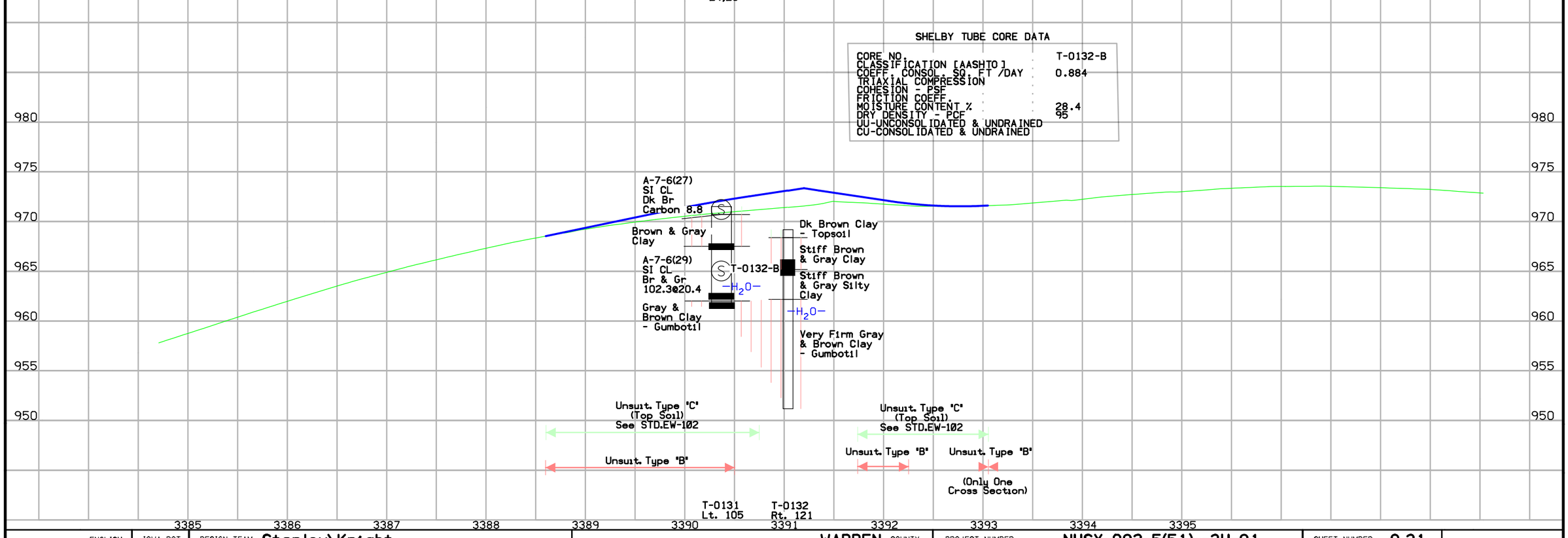
CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

26,28,27
95,95,96
29,20

SHELBY TUBE CORE DATA

CORE NO.	T-0132-B
CLASSIFICATION [AASHTO]	
COEFF. CONSOL. SQ. FT /DAY	0.884
TRIAXIAL COMPRESSION	
COHESION - PSF	
FRICTION COEFF.	
MOISTURE CONTENT %	28.4
DRY DENSITY - PCF	95

UU-UNCONSOLIDATED & UNDRAINED
CU-CONSOLIDATED & UNDRAINED



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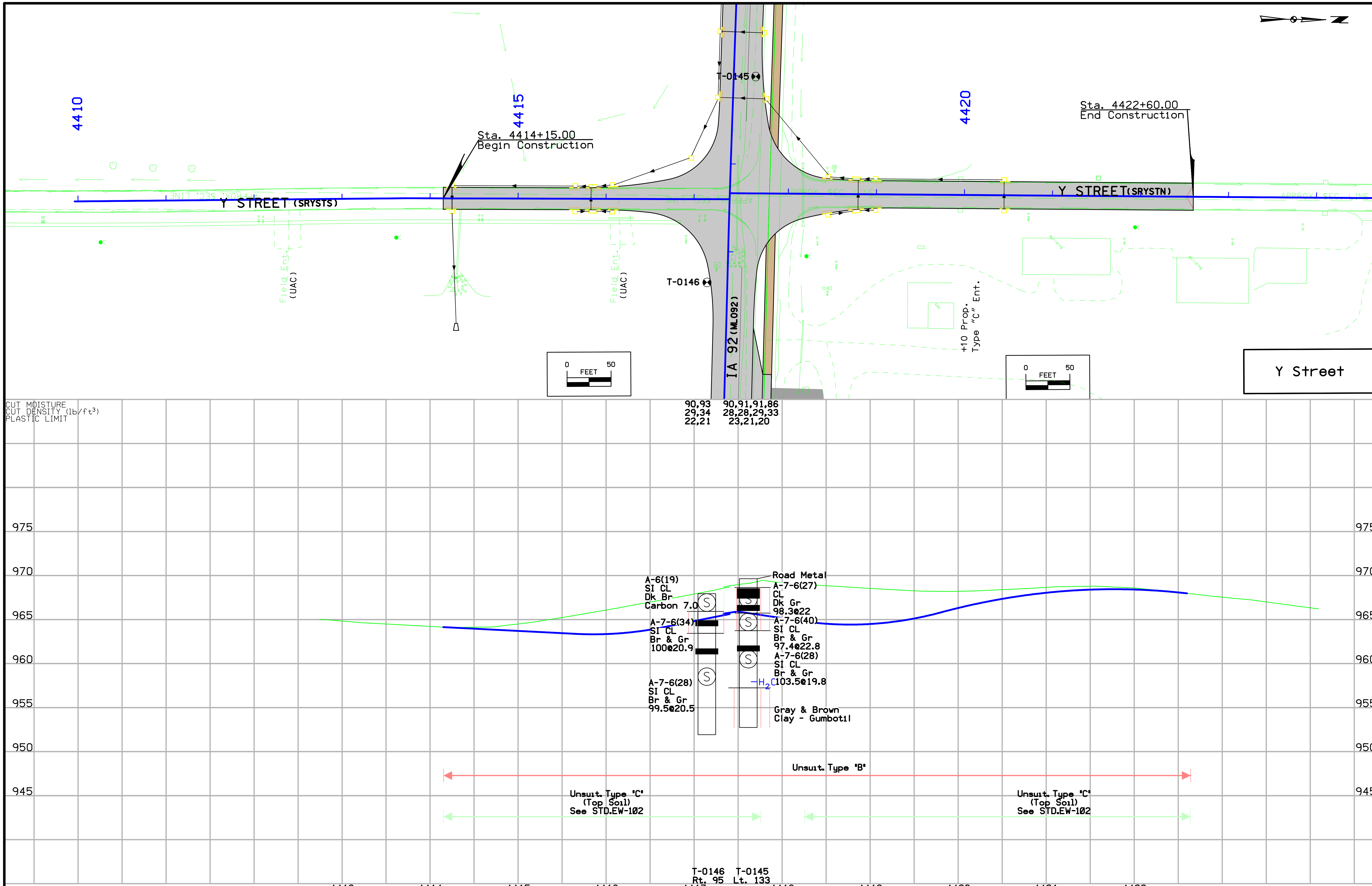

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SURVEY SYMBOLS

- TDC Tree Deciduous
- PPA Power Pole Co. 1
- FWD Wood Fence
- LUM Luminaire
- TEV Evergeen Tree
- LP L.P. Tank
- D Centerline Draw or Stream (Down)
- RET Retaining Walls
- SI Sign
- SHR Shrub
- SI Sign
- EW Edge of Water
- DIK Centerline of Dike or Dam
- FLG Flag Poles
- WM Wind Mill
- FCL Chain Link and Security Fence
- HDG Hedge Row
- TV Satelite TV Dish
- RT Radio Tower
- INB Storm Sewer Beehive Intake
- WV Water Valve
- FHD Fire Hydrants
- WEL Well
- MH Utility Access (Manhole)
- LUM Luminaire
- MIS Miscellaneous
- TPD Telephone Pedestal
- EB Electrical Box
- UB Utility Box
- PR Electic Riser Pole
- FW Wire Fence
- GP Guard Post (Less Than 4 Posts)
- IN Storm Sewer Intake
- TLN Treeline
- TVP TV Pedestal
- SEP Septic Tank
- OUT Tile Outlet
- TIL Tile Line
- UST Underground Tank
- GV Gas Valve
- DU Centerline Draw or Stream (Up)
- BNK Stream Bank
- BL Topo Breakline
- RIP Rip-Rap

- STA Storm Sewer Line Co. 1
- FOC Underground Fiber Optic Co. 3
- FOE Underground Fiber Optic Co. 5
- FOB Underground Fiber Optic Co. 2
- SAA Sanitary Sewer Line Co. 1
- TLA Underground Telephone Line Co. 1
- ELA Underground Electric Line Co. 1
- GLA Underground Gas Line Co. 1
- TVA Underground TV Cable Co. 1
- WLA Underground Water Line Co. 1
- FOA Underground Fiber Optic Co. 1
- ELB Underground Electric Line Co. 2
- SAB Sanitary Sewer Line Co. 2
- GLB Underground Gas Line Co. 2
- FOD Underground Fiber Optic Co. 4
- WLB Underground Water Line Co. 2

UTILITY LEGEND

- FOA Paetac Iowa Communications Network
- FOB Lightcore (Digital Teleport)
- FOC Iowa Network Service
- FOD Indianola Municipal Utilities
- FOE MCI
- TLA Qwest
- ELA Mid-American
- ELB Indianola Municipal Utilities
- TVA Mediacom
- WLA Indianola Municipal Utilities
- WLB Warren Rural Water
- SAA City of Indianola
- SAB Private
- GLA Mid-American
- GLB Kinder Morgan
- STA City of Indianola
- PPA Mid-American

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.	
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading
Brown, Light	(236)	Grading Shading

- 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

SIDEWALK LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES S)

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER S.1

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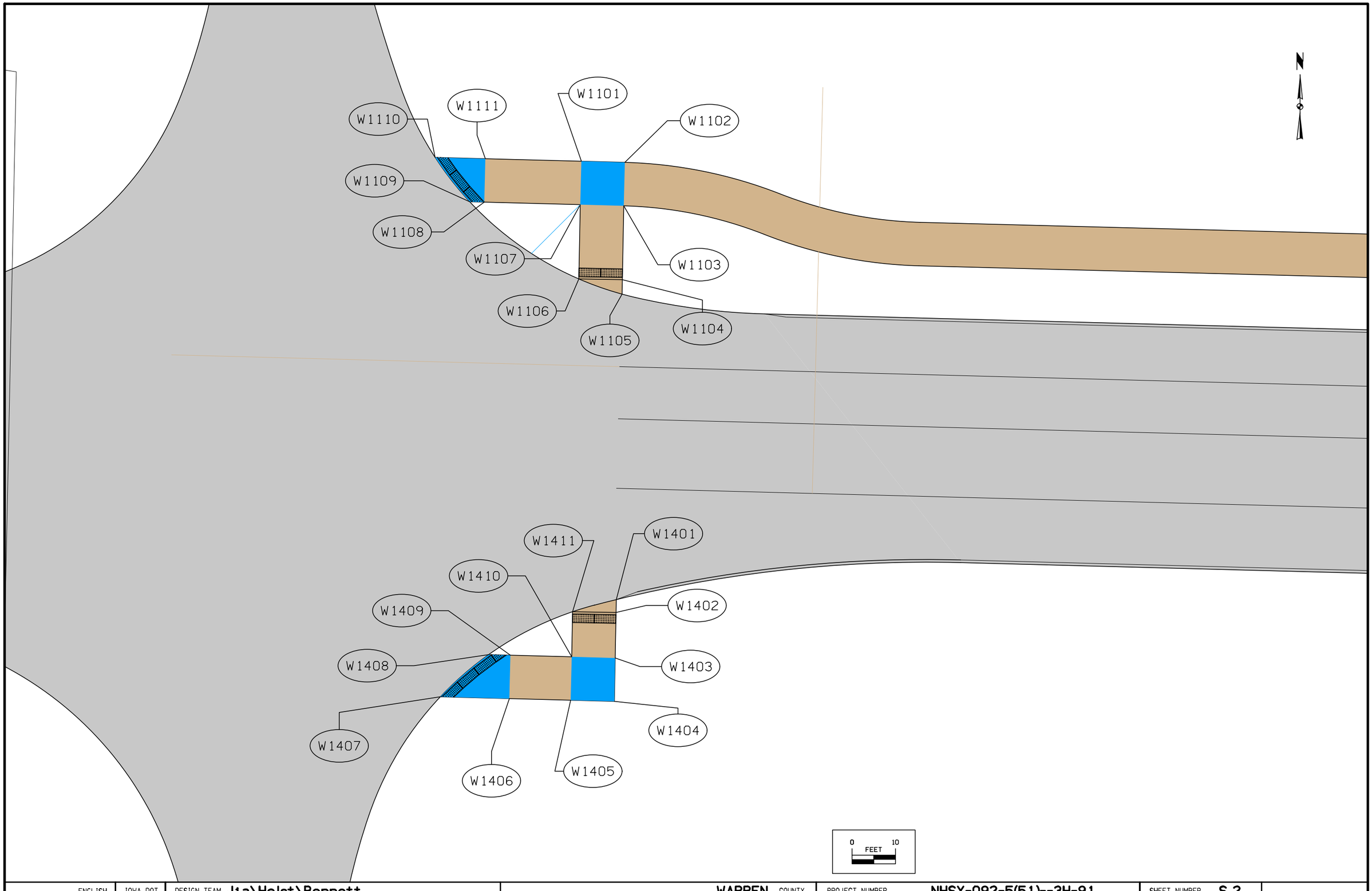

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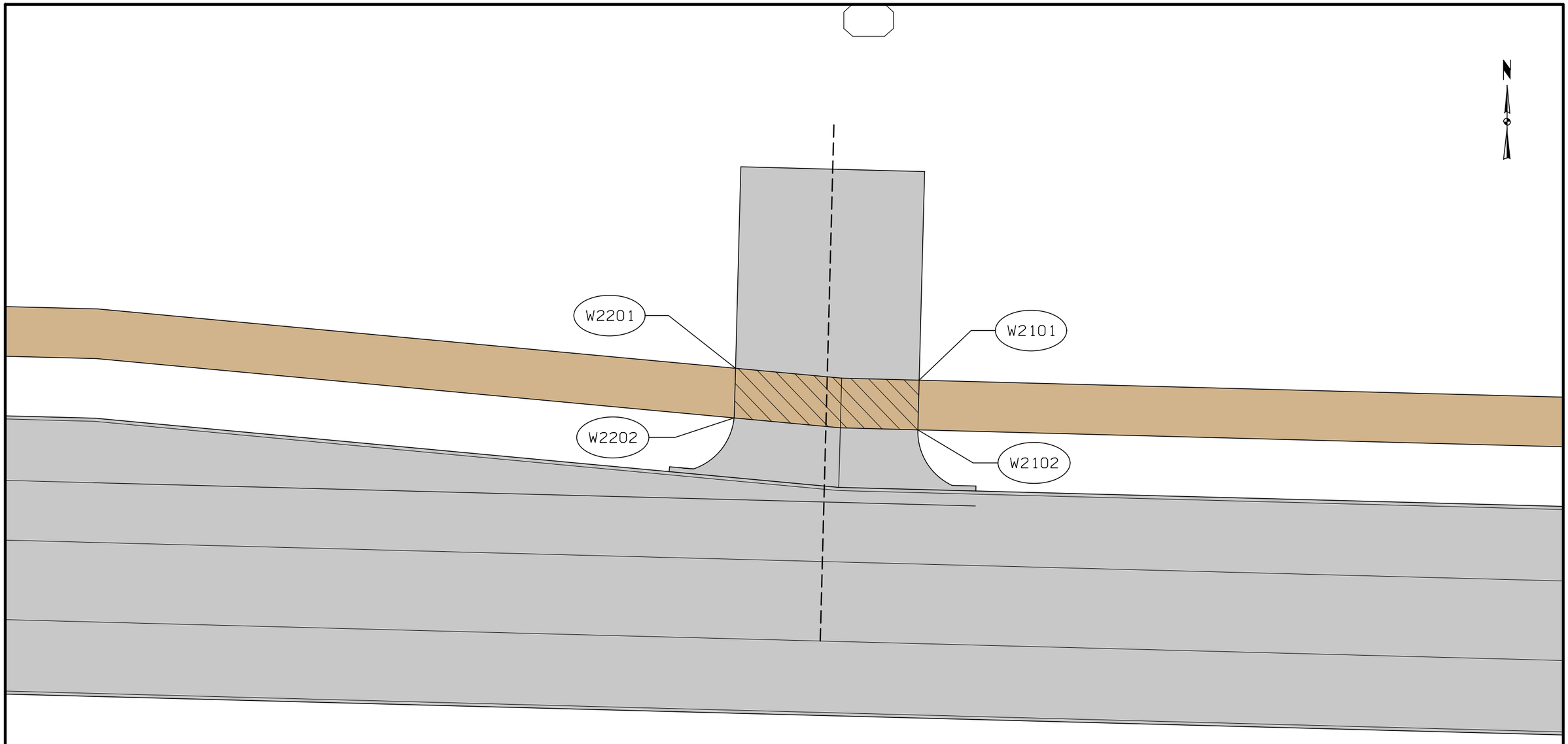

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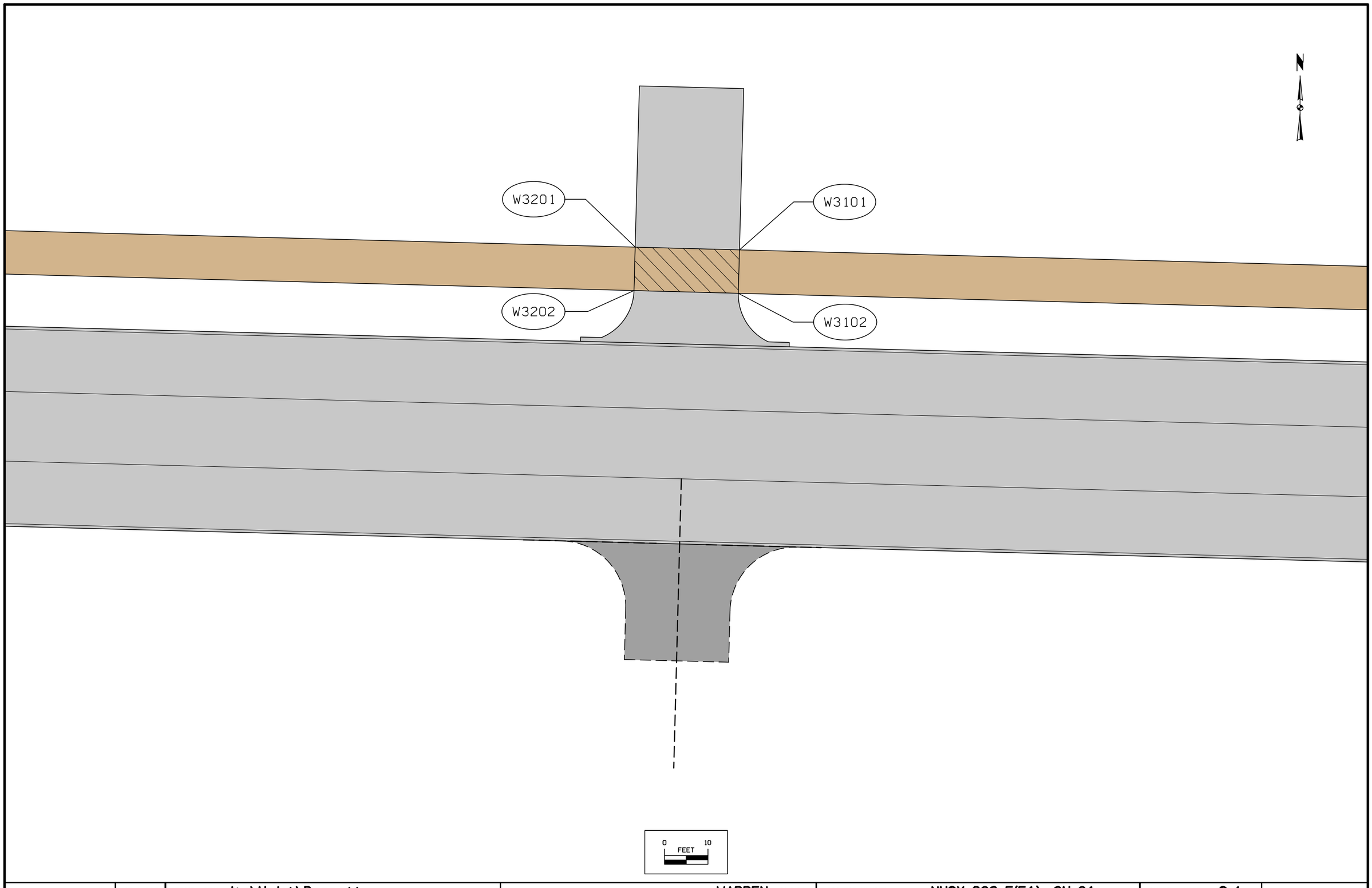

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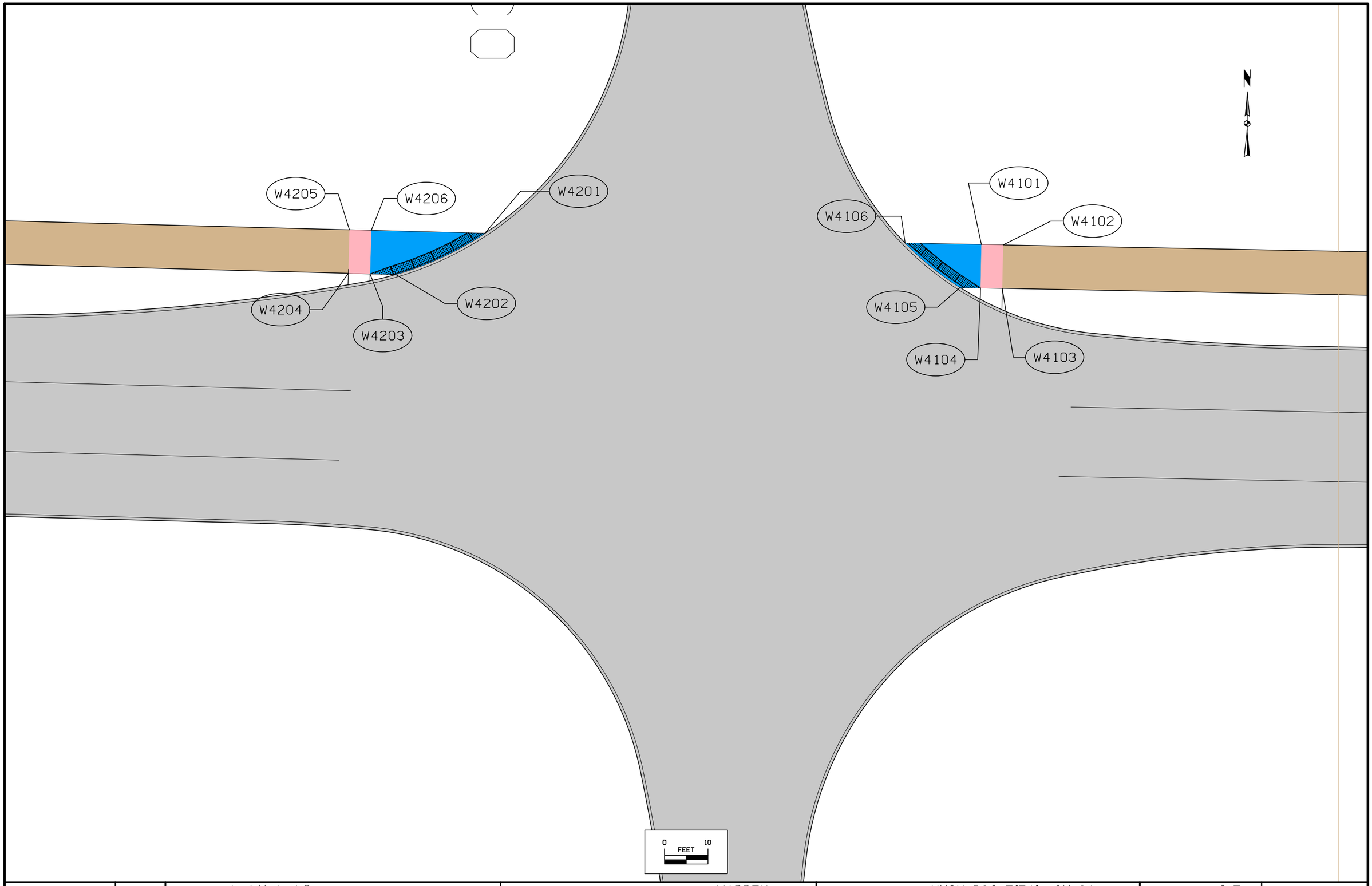

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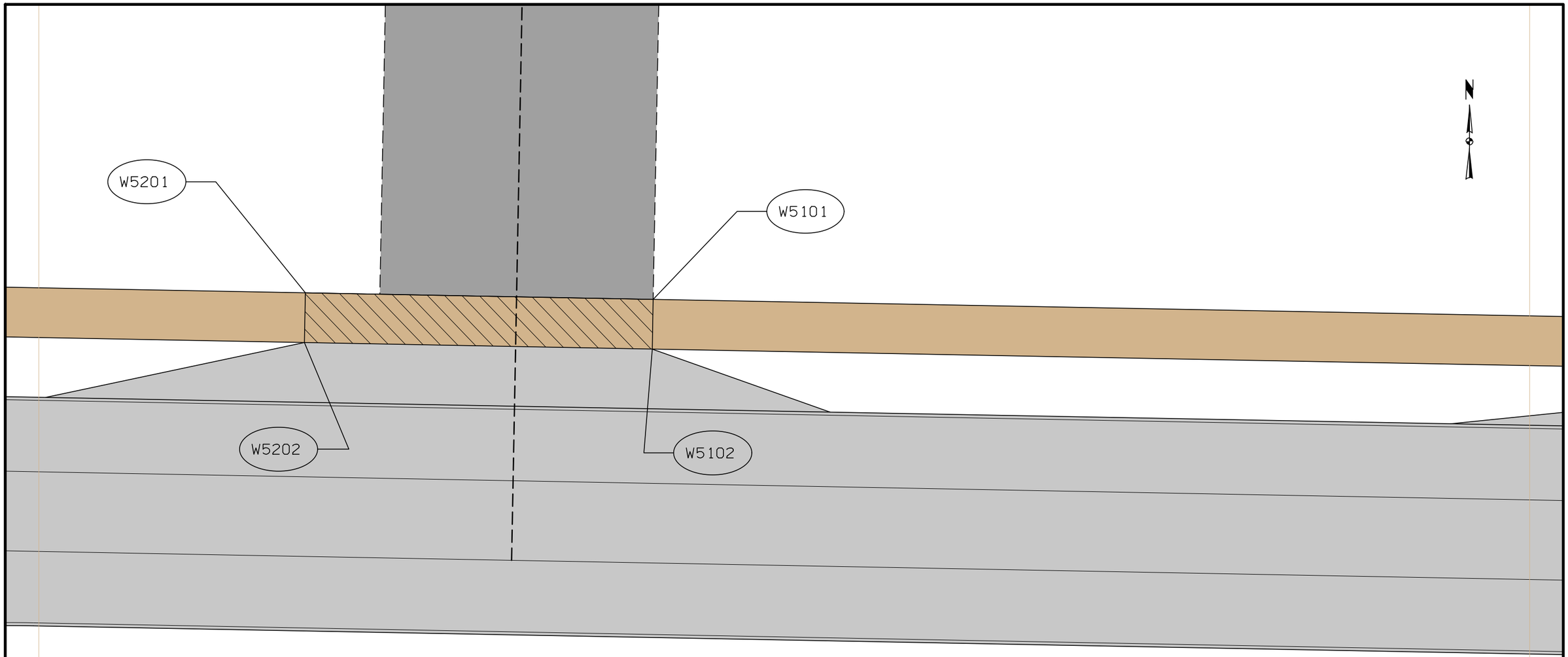

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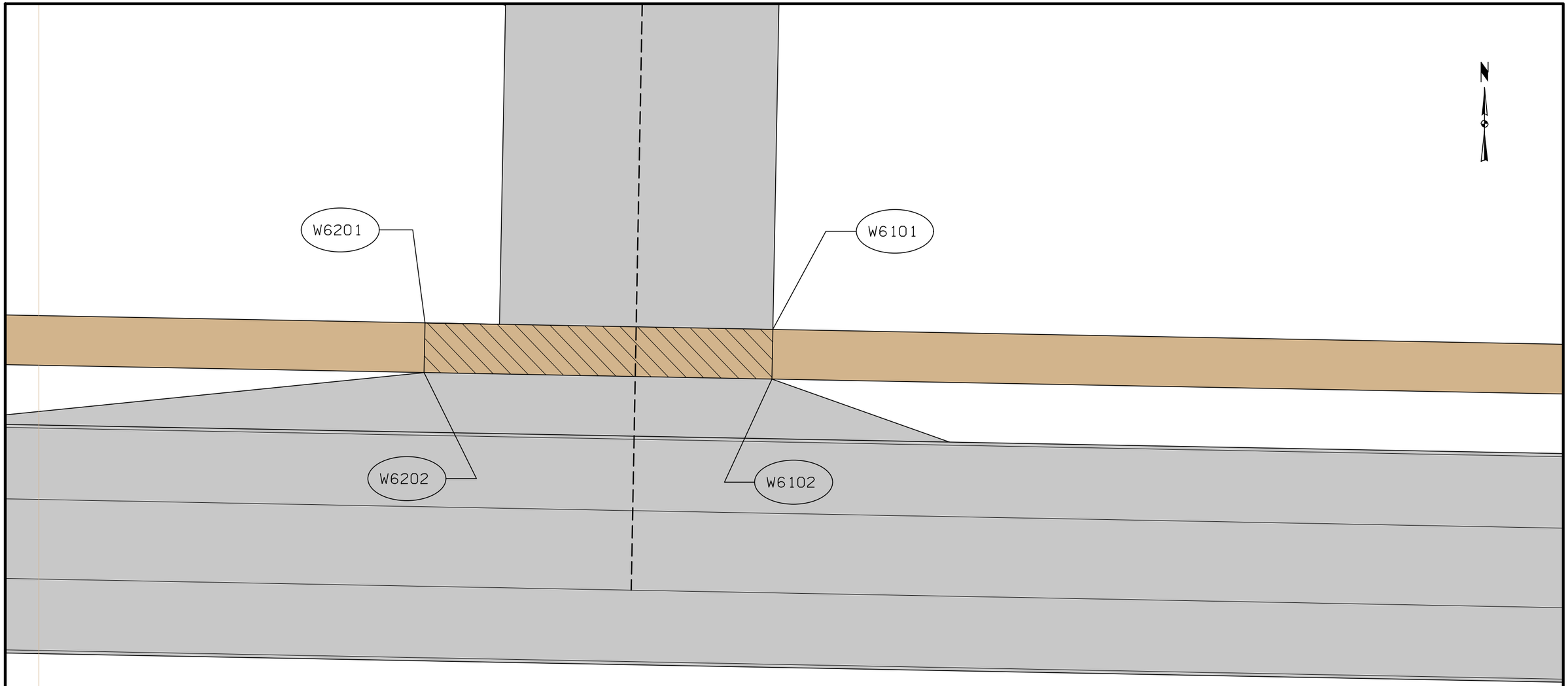

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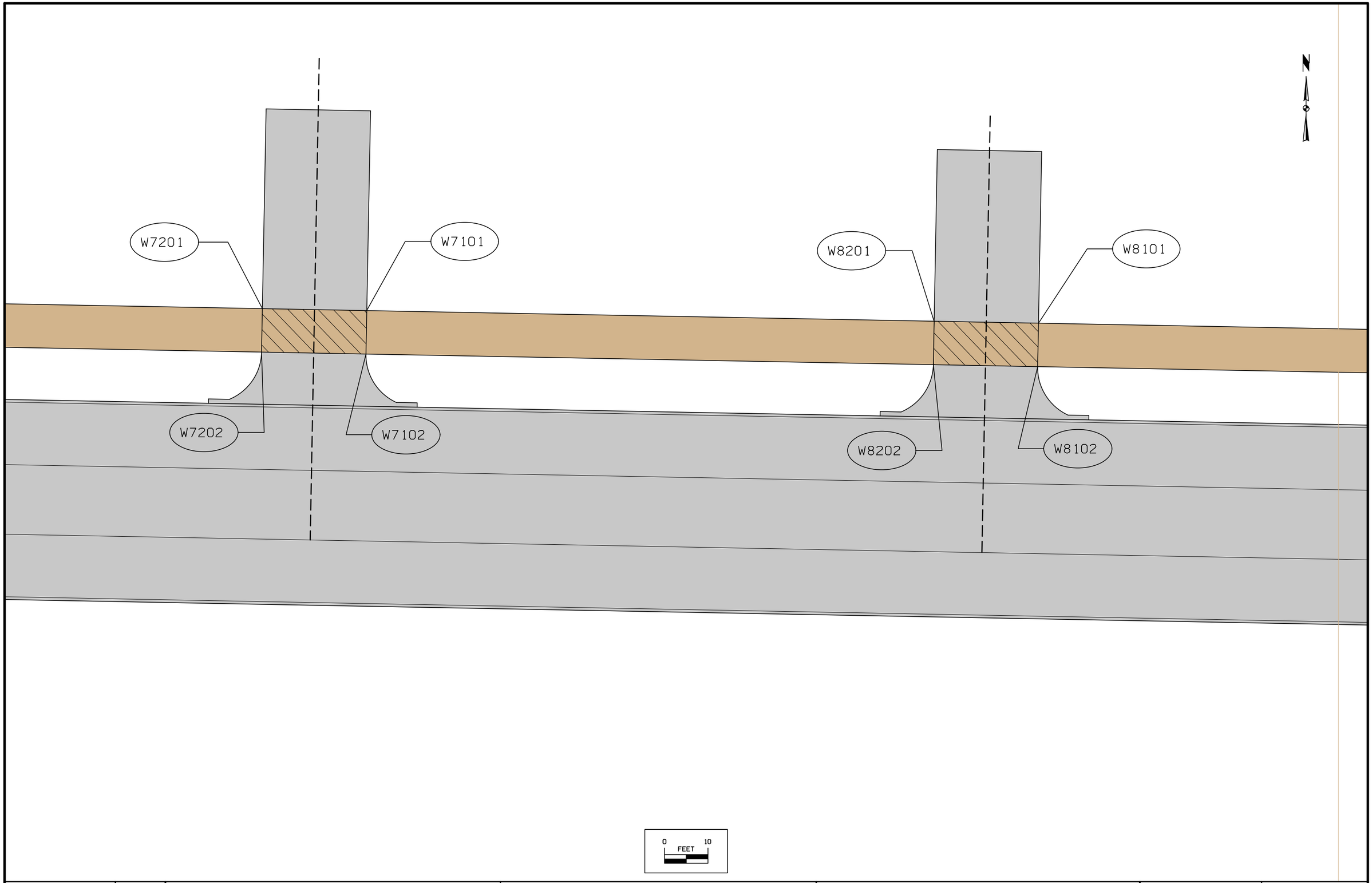

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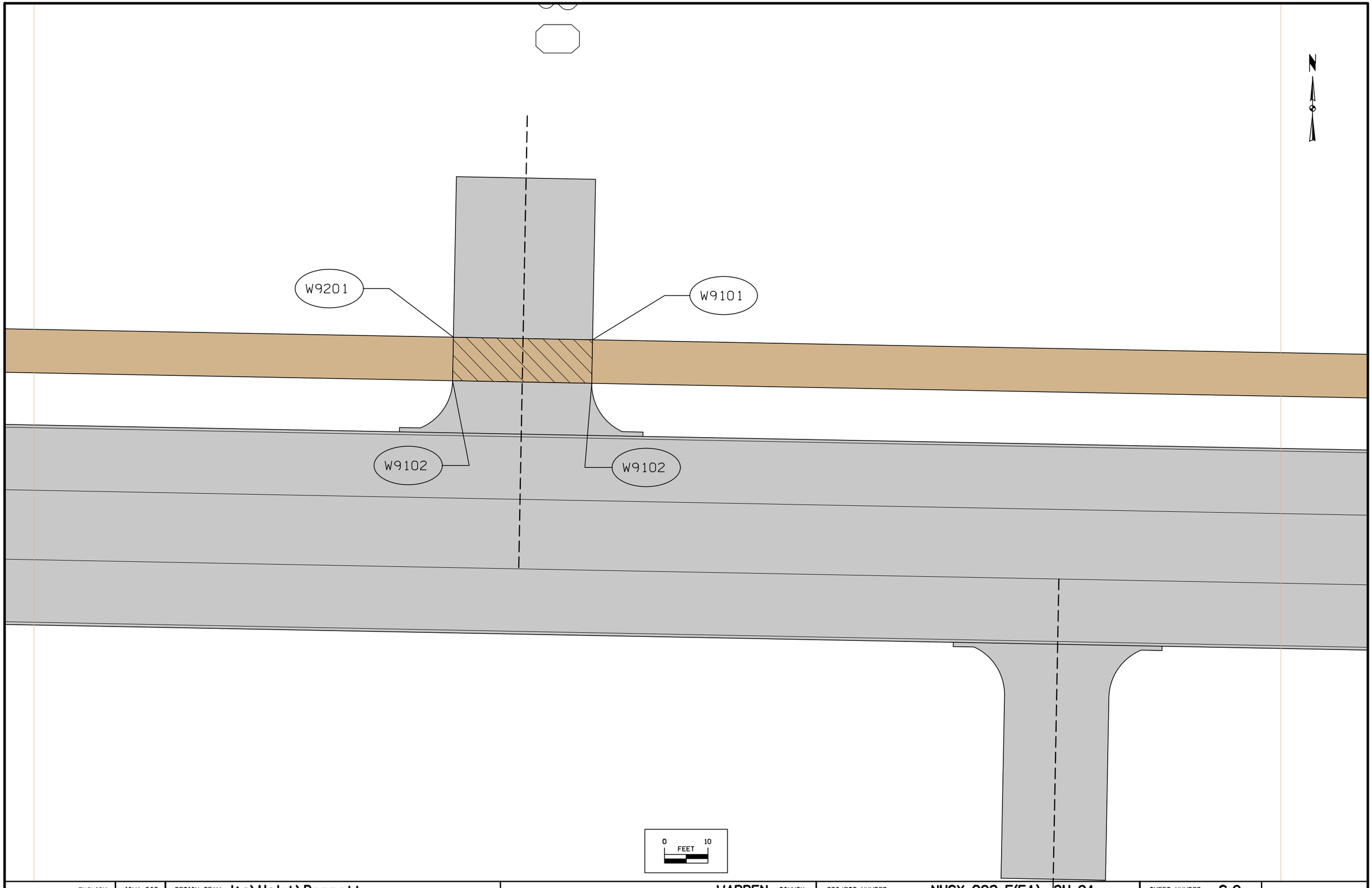

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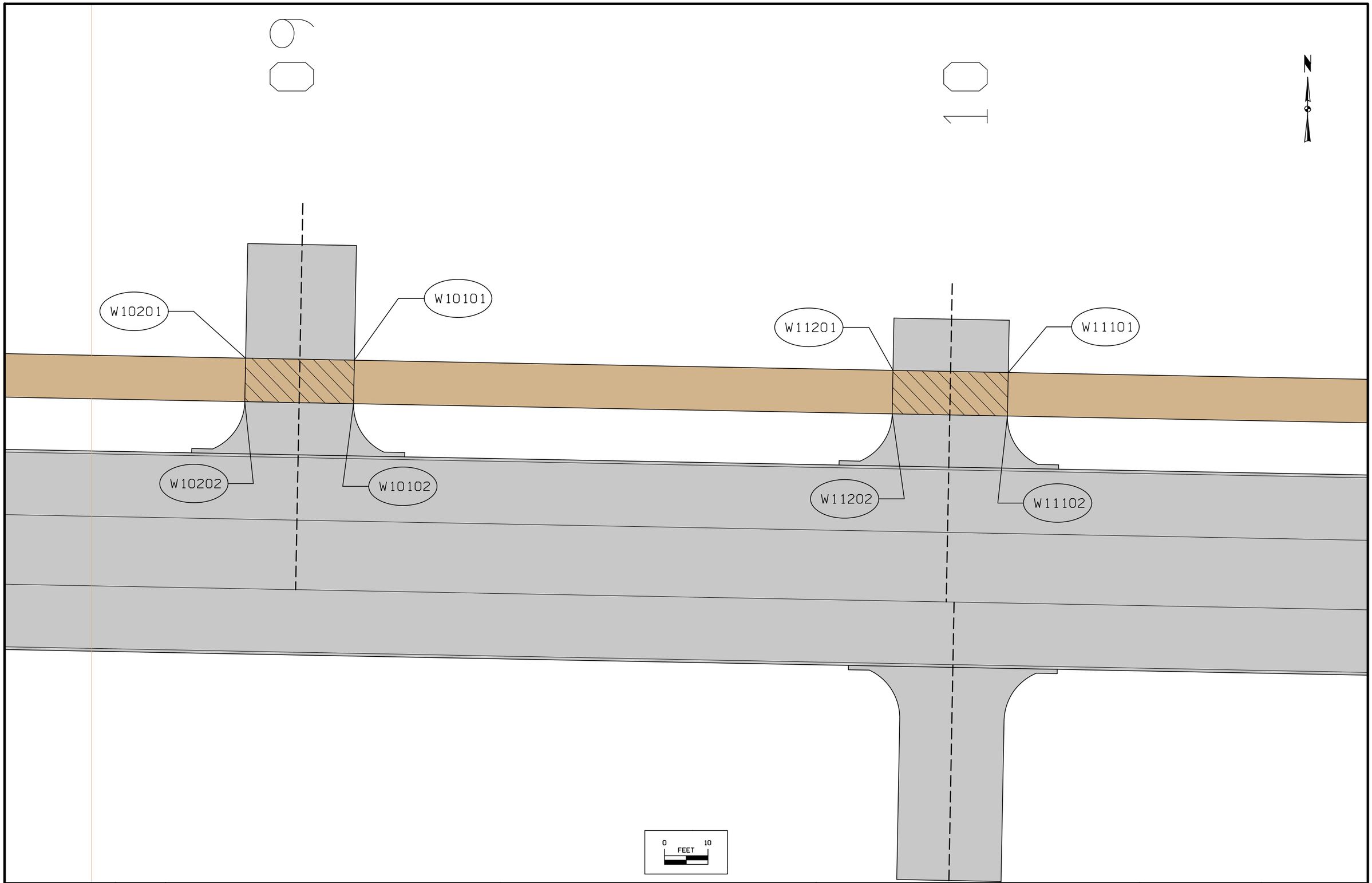

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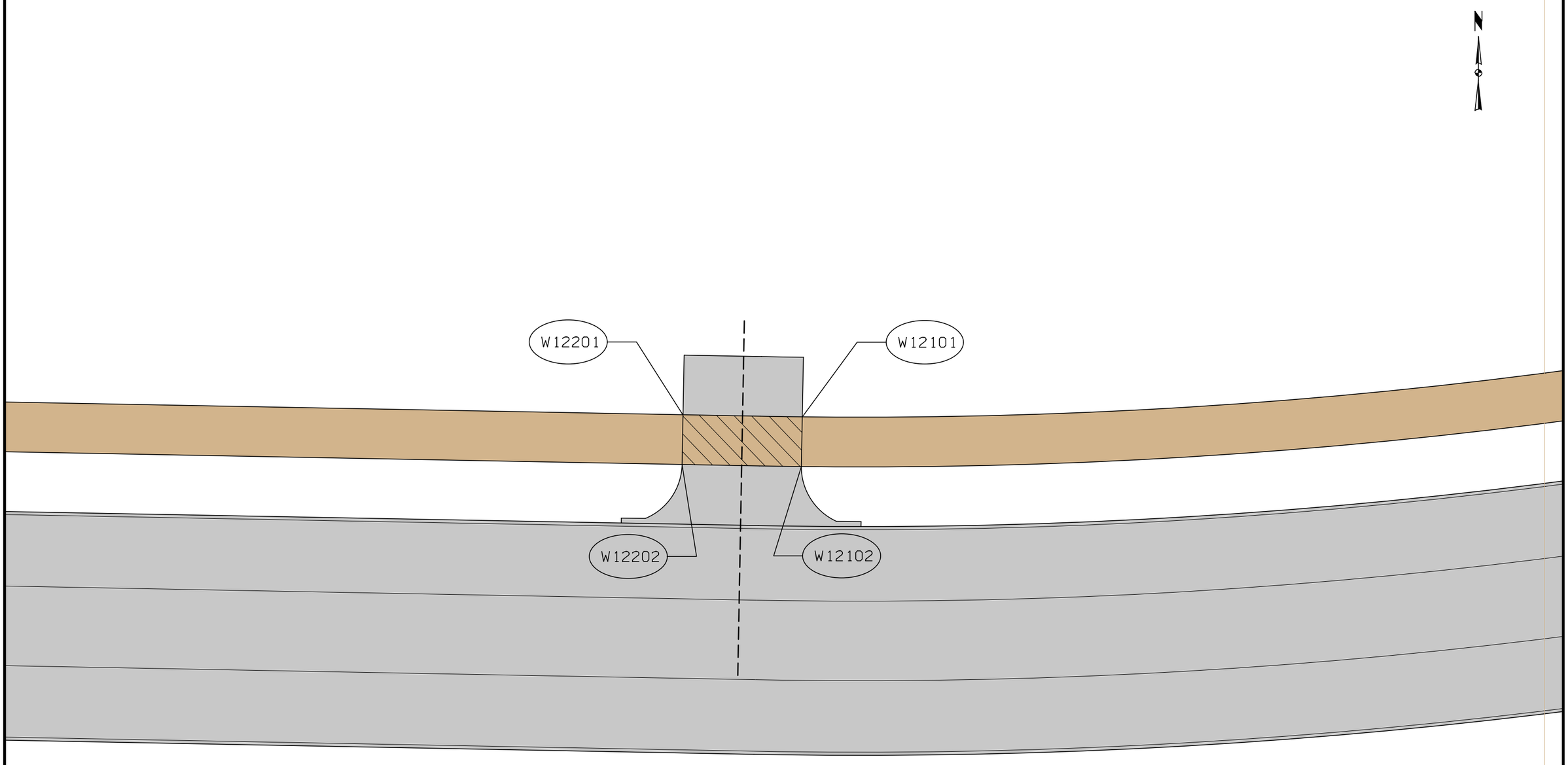

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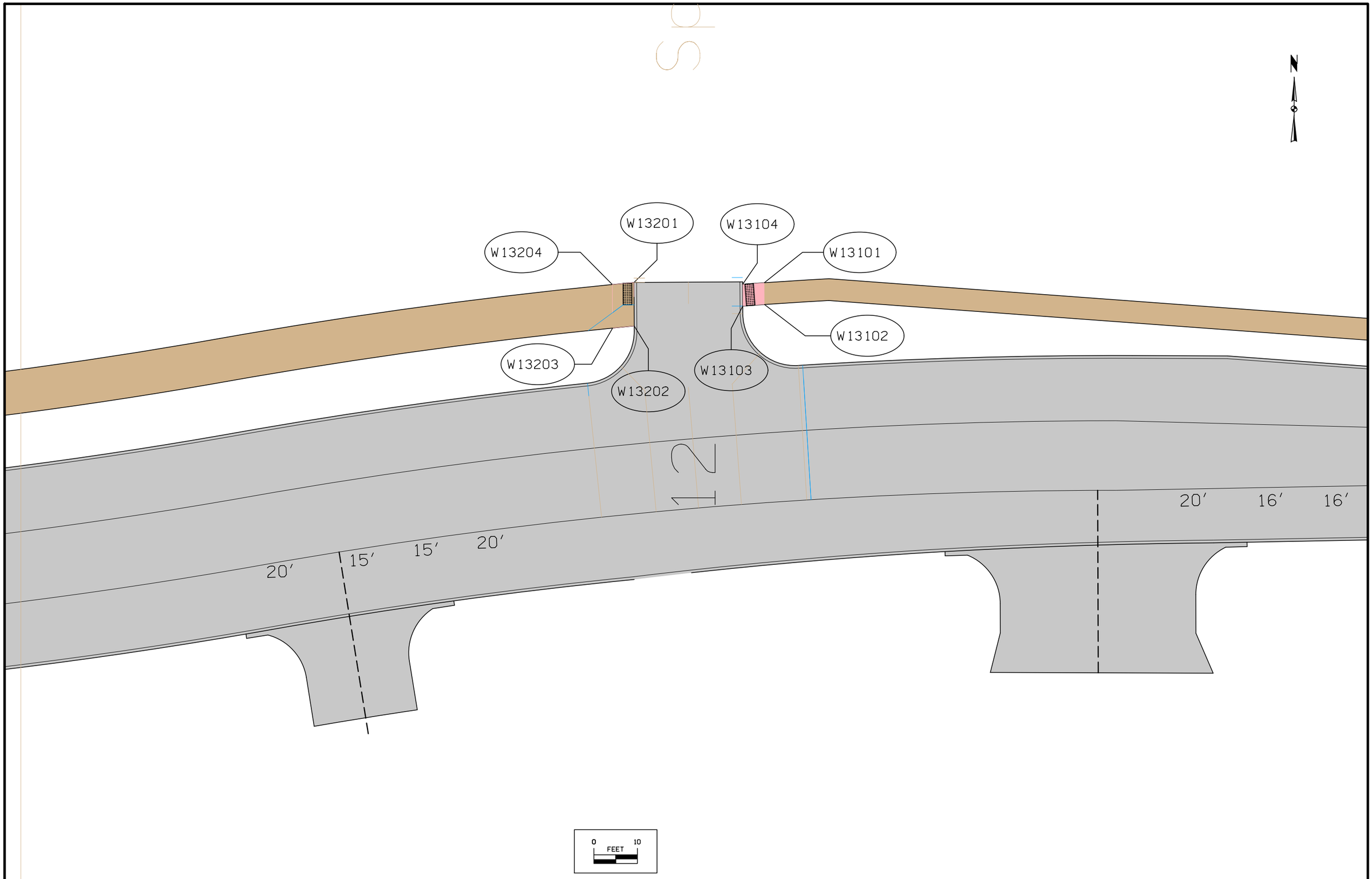

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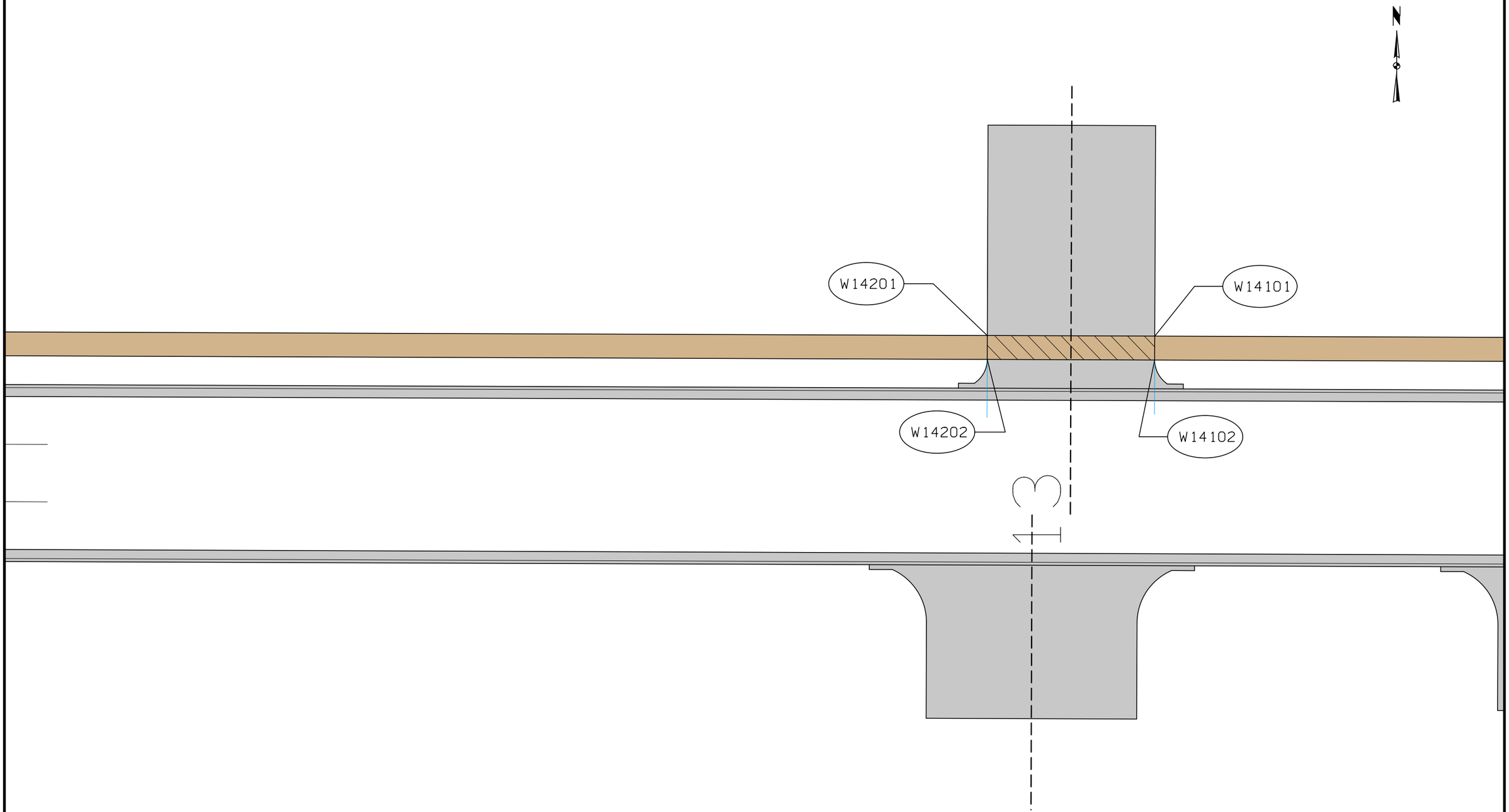

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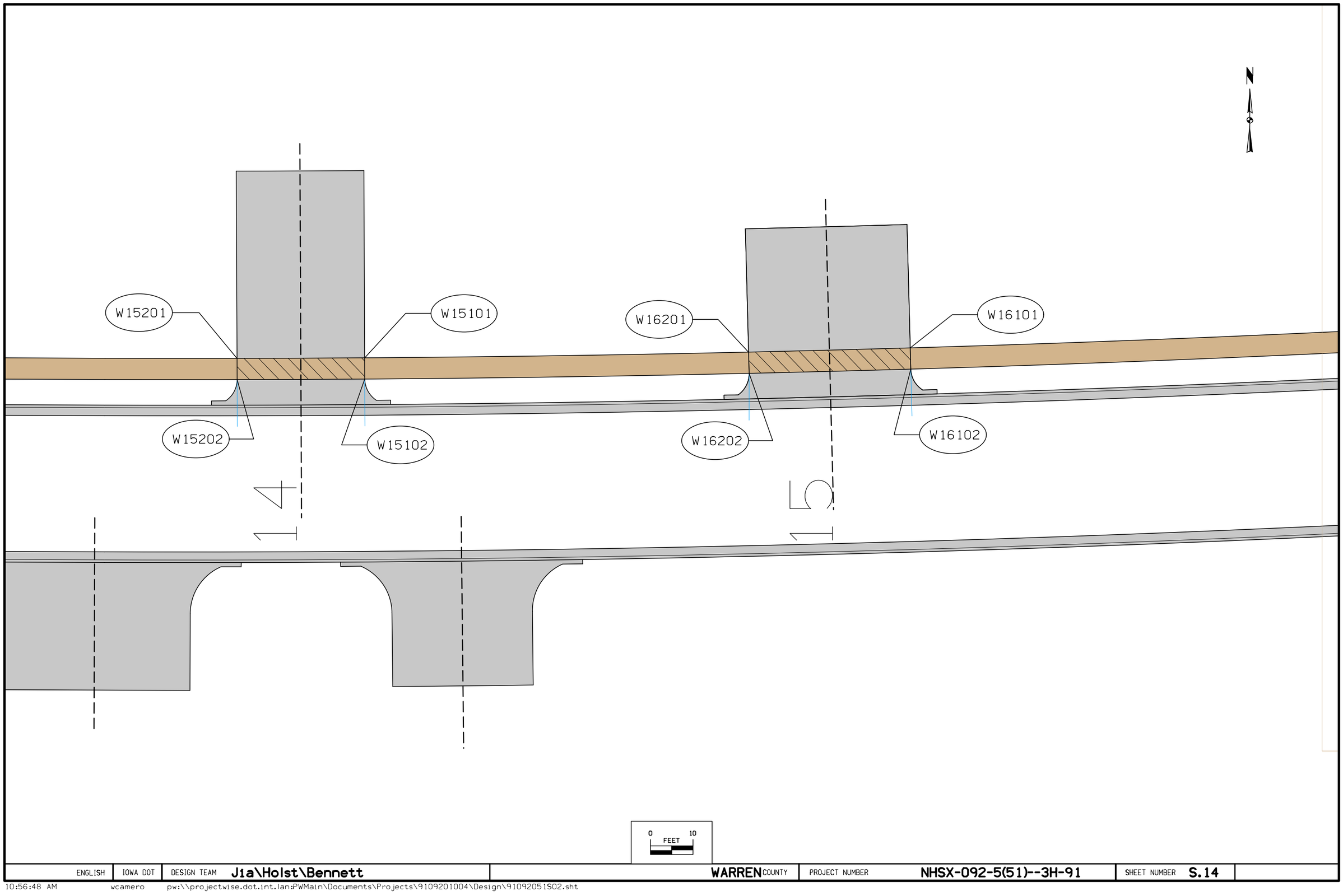

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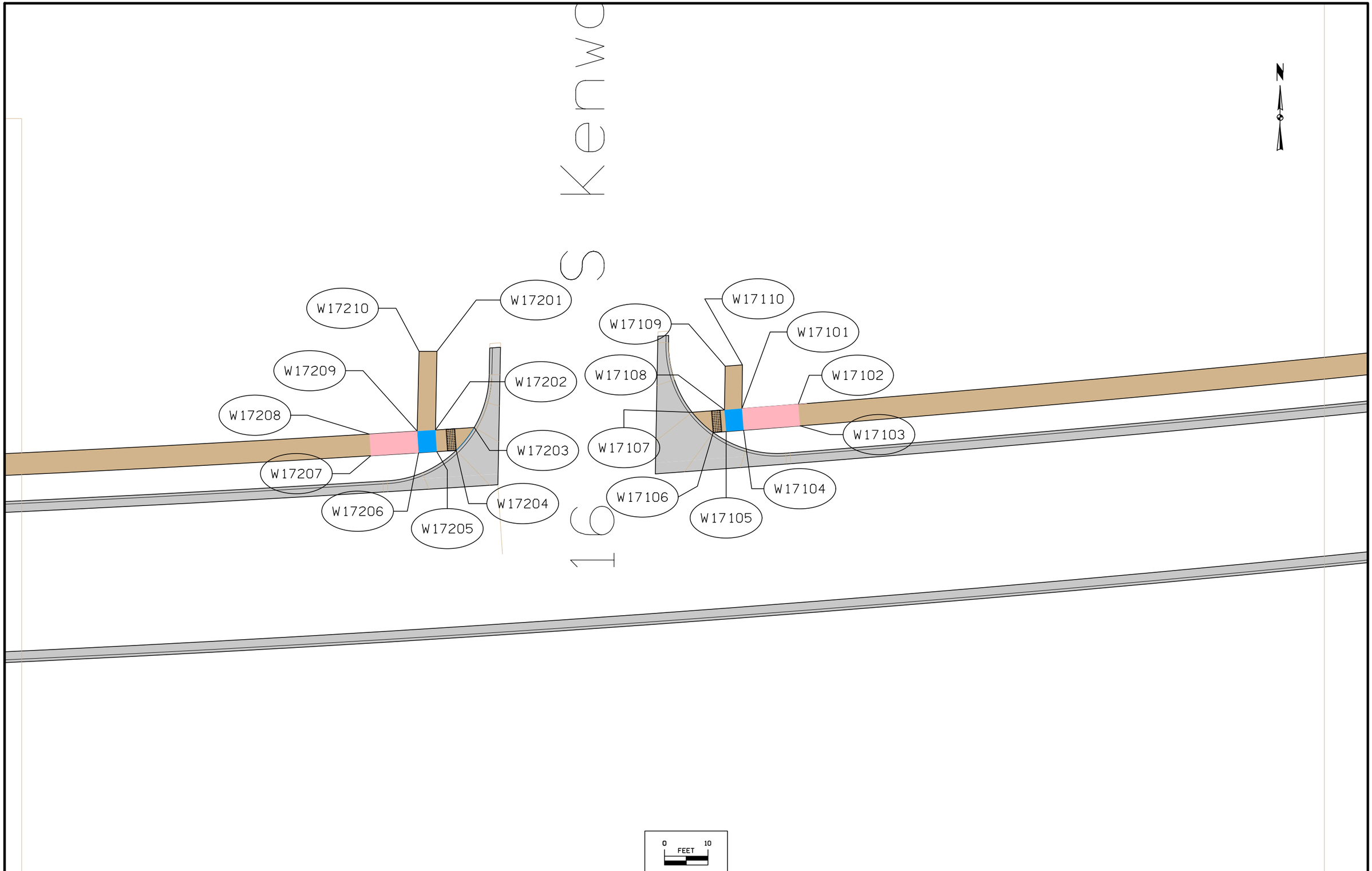

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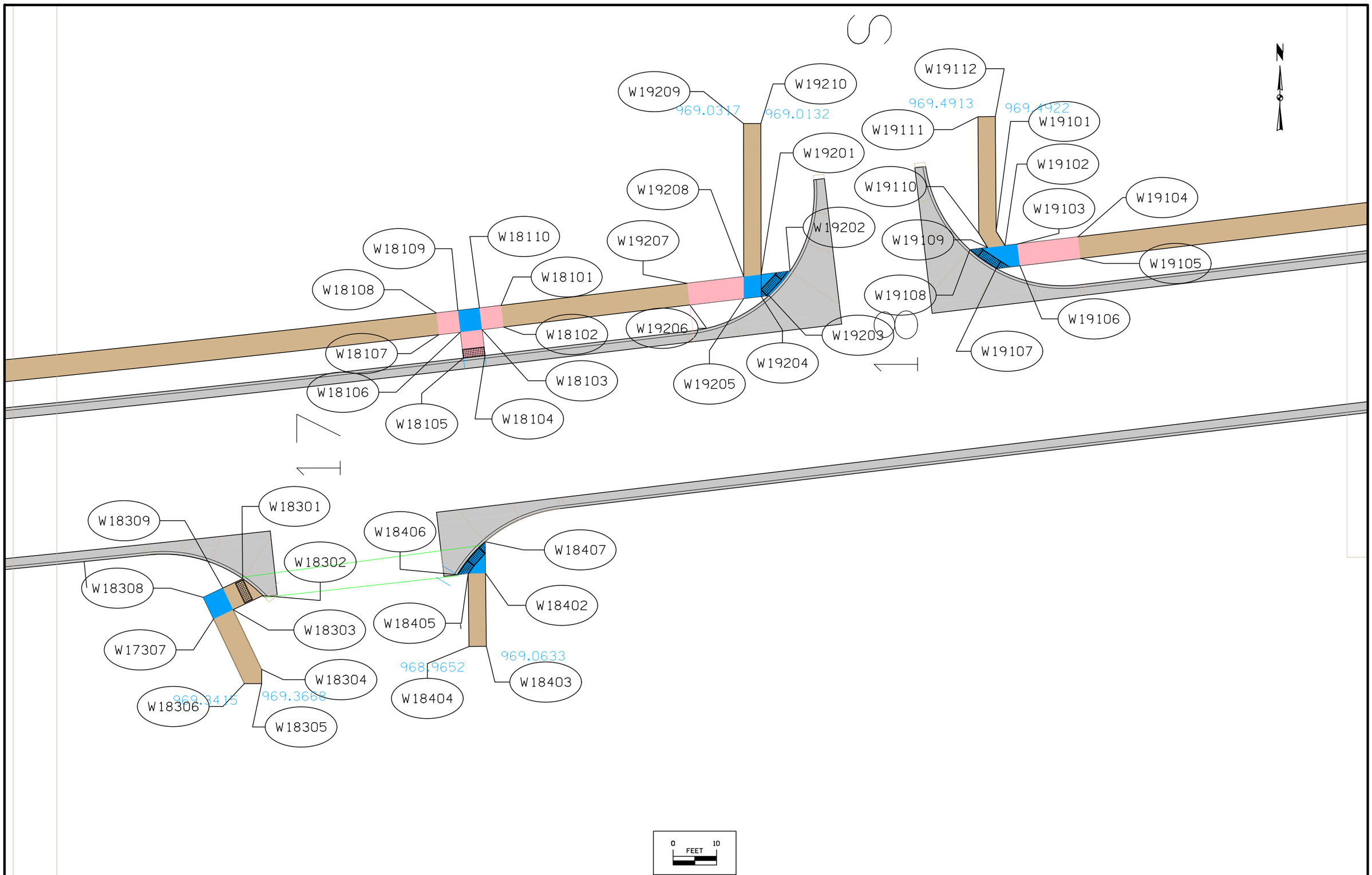
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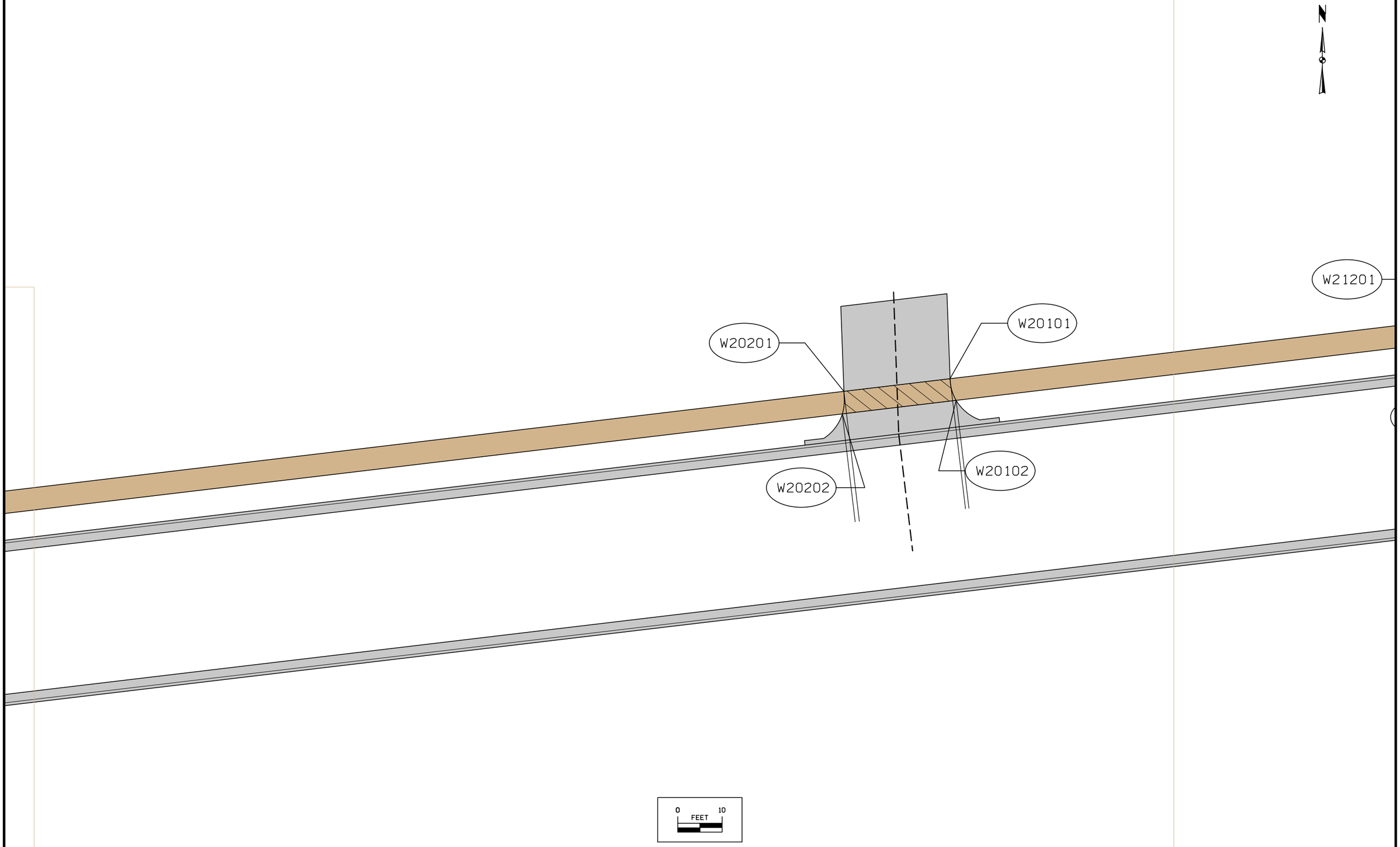

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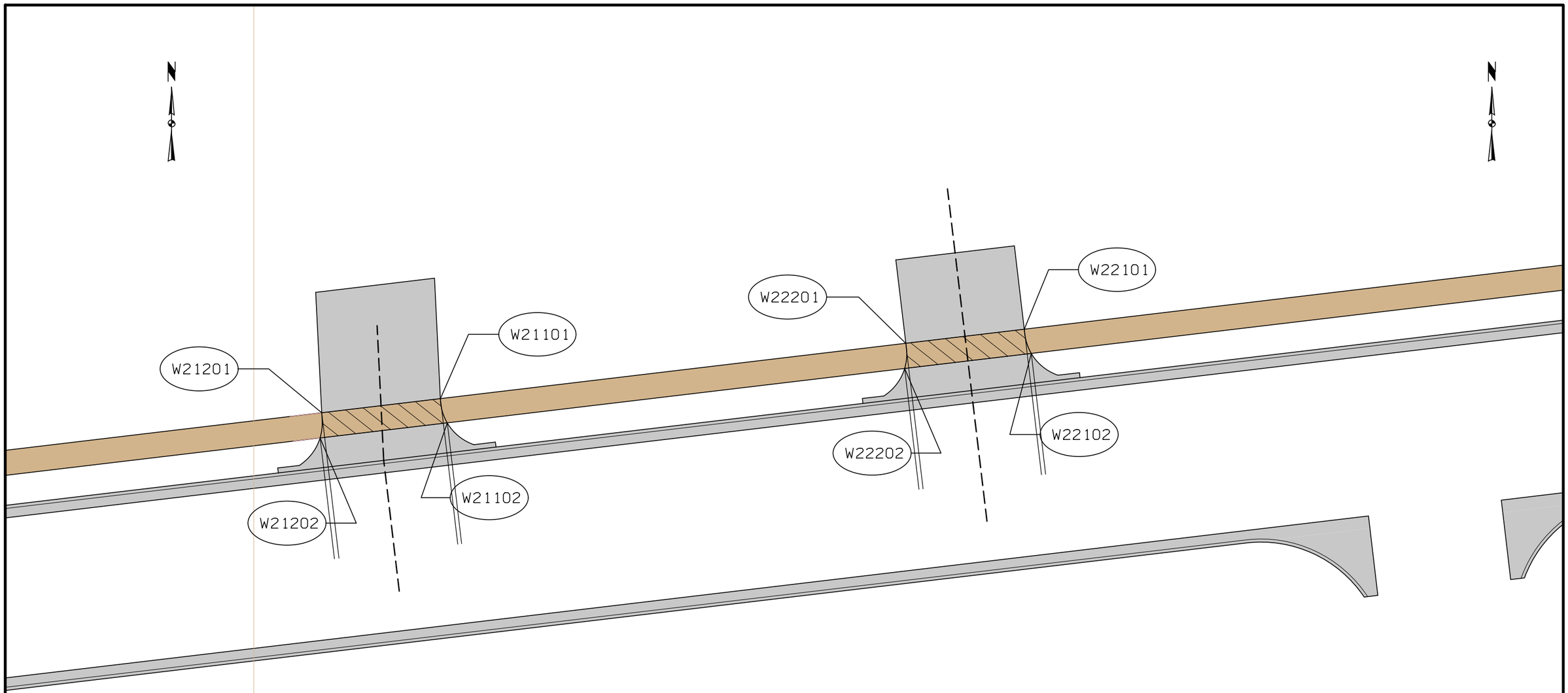

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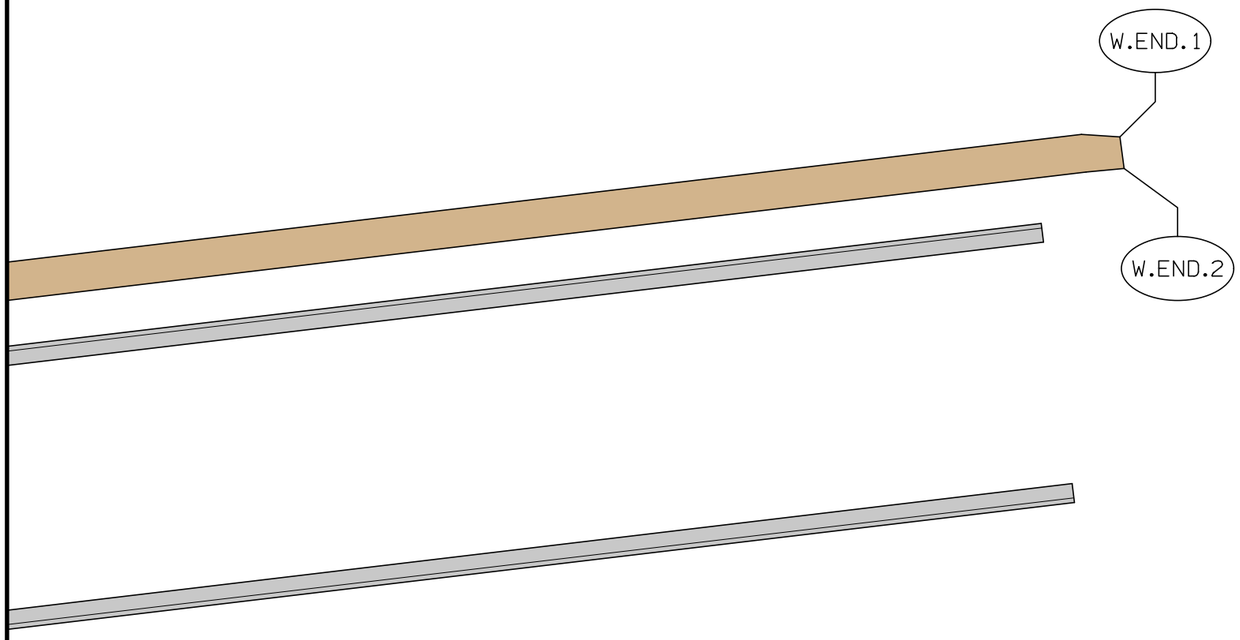
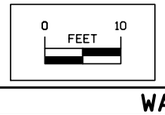




ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER S.19

SIDEWALK COMPLIANCE

See S Sheets

Designer Info

* Does not include curb

① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

This Data Entry Sheet fills Tab 113-10 effective Modified

Point	Station	Offset	Elevation	Point to Point		Sidewalk Designation	Distance*	Δ Elevation	Slope	Legally Acceptable Range	Difference between Designed Slope and Maximum Legally Acceptable Range	Acceptable Constructed Range	Does Designer need to obtain design approval from Method's Engineer?	Staking Required on this Quadrant? ①	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
																		Point	Station	Offset	Elevation
			FT				FT	FT	%	Pos. or Neg. %	%	Pos. or Neg. %			%						
W1101			972.42	W1101	W1102	Landing/Turning Space	10.00	-0.03	-0.3%	0.1% to 2.0%	1.7%	0.1% to 2.0%						W1101			972.42
W1102			972.39	W1102	W1103	Landing/Turning Space	10.00	-0.15	-1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%						W1102			972.39
W1103			972.24	W1103	W1107	Landing/Turning Space	10.00	0.03	0.3%	0.1% to 2.0%	1.7%	0.1% to 2.0%						W1103			972.24
W1104			971.65	W1107	W1101	Landing/Turning Space	10.00	0.15	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%						W1104			971.65
W1105	391+80.08	44.69	971.60	W1110	W1111	Landing/Turning Space	13.00	0.17	1.3%	0.1% to 2.0%	0.7%	0.1% to 2.0%						W1105	391+80.08	44.69	971.60
W1106	918+70.06	47.93	971.59	W1111	W1108	Landing/Turning Space	10.00	-0.08	-0.8%	0.1% to 2.0%	1.2%	0.1% to 2.0%						W1106	918+70.06	47.93	971.59
W1107			972.27	W1108	W1109	Landing/Turning Space	5.03	-0.07	-1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%						W1107			972.27
W1108			971.62	W1111	W1101	Sidewalk Running Slope	20.65	0.72	3.5%	0.5% to 5.0%	1.5%	0.5% to 5.0%						W1108			971.62
W1109			971.55	W1108	W1107	Sidewalk Running Slope	20.39	0.65	3.2%	0.5% to 5.0%	1.8%	0.5% to 5.0%						W1109			971.55
W1110			971.53	W1106	W1107	Sidewalk Running Slope	17.08	0.68	4.0%	0.5% to 5.0%	1.0%	0.5% to 5.0%						W1110			971.53
W1111			971.70	W1105	W1104	Sidewalk Running Slope	5.31	0.05	1.4%	0.5% to 5.0%	3.6%	0.5% to 5.0%						W1111			971.70
				W1104	W1103	Sidewalk Running Slope	17.00	0.59	3.5%	0.5% to 5.0%	1.5%	0.5% to 5.0%									
				W1106	W1104	Sidewalk Cross Slope	10.00	0.06	0.6%	0.5% to 2.0%	1.4%	0.5% to 2.0%									
				W1110	W1109	Crosswalk Cross Slope - Yield Condition	12.95	0.02	0.1%	0.0% to 2.0%	1.9%	0.0% to 2.0%									
W1401	391+80.61	25.57	970.96	W1410	W1403	Landing/Turning Space	10.00	-0.10	-1.0%	0.5% to 2.0%	1.0%	0.5% to 2.0%						W1401	391+80.61	25.57	970.96
W1402			971.00	W1403	W1404	Landing/Turning Space	10.00	0.15	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%						W1402			971.00
W1403			971.25	W1404	W1405	Landing/Turning Space	10.00	0.10	1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%						W1403			971.25
W1404			971.40	W1405	W1410	Landing/Turning Space	10.00	-0.15	-1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%						W1404			971.40
W1405			971.50	W1408	W1409	Landing/Turning Space	5.00	0.07	1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%						W1405			971.50
W1406			971.10	W1409	W1406	Landing/Turning Space	10.00	0.12	1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%						W1406			971.10
W1407			970.88	W1406	W1407	Landing/Turning Space	15.89	-0.22	-1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%						W1407			970.88
W1408			970.91	W1409	W1410	Sidewalk Running Slope	12.84	0.37	2.9%	0.5% to 5.0%	2.1%	0.5% to 5.0%						W1408			970.91
W1409			970.98	W1406	W1405	Sidewalk Running Slope	12.84	0.40	3.1%	0.5% to 5.0%	1.9%	0.5% to 5.0%						W1409			970.98
W1410			971.35	W1411	W1410	Sidewalk Running Slope	10.37	0.41	3.9%	0.5% to 5.0%	1.1%	0.5% to 5.0%						W1410			971.35
W1411	391+70.63	28.63	970.94	W1401	W1402	Sidewalk Running Slope	2.98	0.04	1.3%	0.5% to 5.0%	3.7%	0.5% to 5.0%						W1411	391+70.63	28.63	970.94
				W1402	W1403	Sidewalk Running Slope	10.45	0.25	2.4%	0.5% to 5.0%	2.6%	0.5% to 5.0%									
				W1411	W1402	Sidewalk Cross Slope	10.00	0.06	0.6%	0.5% to 2.0%	1.4%	0.5% to 2.0%									
W2101			973.99	W2201	W2202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W2101			973.99
W2102			973.84	W2101	W2102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W2102			973.84
W2201			973.72	W2201	W2101	Sidewalk Running Slope	37.05	0.27	0.7%	0.5% to 5.0%	4.3%	0.5% to 5.0%						W2201			973.72
W2202			973.57	W2202	W2102	Sidewalk Running Slope	37.08	0.27	0.7%	0.5% to 5.0%	4.3%	0.5% to 5.0%						W2202			973.57
W3101			973.27	W3201	W3202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W3101			973.27
W3102			973.12	W3101	W3102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W3102			973.12
W3201			973.20	W3201	W3101	Sidewalk Running Slope	24.00	0.07	0.3%	0.5% to 5.0%	4.7%	0.5% to 5.0%						W3201			973.20
W3202			973.05	W3202	W3102	Sidewalk Running Slope	24.00	0.07	0.3%	0.5% to 5.0%	4.7%	0.5% to 5.0%						W3202			973.05
W4201	416+80.98	53.00	965.38	W4206	W4201	Landing/Turning Space	29.13	-0.45	-1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%						W4201	416+80.98	53.00	965.38
W4202	416+60.74	43.00	965.73	W4203	W4202	Landing/Turning Space	5.90	-0.08	-1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%						W4202	416+60.74	43.00	965.73
W4203			965.81	W4206	W4203	Landing/Turning Space	10.00	-0.02	-0.2%	0.1% to 2.0%	1.8%	0.1% to 2.0%						W4203			965.81
W4204			965.90	W4205	W4206	Ramp Running Slope	5.00	-0.22	-4.4%	0.5% to 8.3%	3.9%	0.5% to 8.3%						W4204			965.90
W4205			966.05	W4204	W4203	Ramp Running Slope	5.00	-0.09	-1.8%	0.5% to 8.3%	6.5%	0.5% to 8.3%						W4205			966.05
W4206			965.83	W4205	W4204	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W4206			965.83
W4101			964.95	W4106	W4101	Landing/Turning Space	19.54	0.23	1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%						W4101			964.95
W4102			965.20	W4101	W4104	Landing/Turning Space	10.00	-0.04	-0.4%	0.1% to 2.0%	1.6%	0.1% to 2.0%						W4102			965.20
W4103			965.05	W4104	W4105	Landing/Turning Space	6.71	-0.02	-0.3%	0.1% to 2.0%	1.7%	0.1% to 2.0%						W4103			965.05
W4104			964.91	W4101	W4102	Ramp Running Slope	5.00	0.25	5.0%	0.5% to 8.3%	3.3%	0.5% to 8.3%						W4104			964.91
W4105	417+90.89	53.00	964.89	W4104	W4103	Ramp Running Slope	5.00	0.14	2.8%	0.5% to 8.3%	5.5%	0.5% to 8.3%						W4105	417+90.89	53.00	964.89
W4106	417+78.05	43.00	964.72	W4102	W4103	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W4106	417+78.05	43.00	964.72
W5101	420+08.13	53.00	963.44	W5101	W5102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W5101	420+08.13	53.00	963.44
W5102	420+08.13	43.00	963.29	W5201	W5202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W5102	420+08.13	43.00	963.29
W5202	419+38.13	43.00	964.16	W5102	W5202	Sidewalk Running Slope	70.00	0.87	1.2%	0.5% to 5.0%	3.8%	0.5% to 5.0%						W5202	419+38.13	43.00	964.16
W5201	419+38.13	54.00	964.31	W5201	W5101	Sidewalk Running Slope	70.00	-0.87	-1.2%	0.5% to 5.0%	3.8%	0.5% to 5.0%						W5201	419+38.13	54.00	964.31
W6101	423+39.01	53.00	960.37	W6101	W6102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W6101	423+39.01	53.00	960.37
W6102	423+39.01	43.00	960.22	W6201	W6202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W6102	423+39.01	43.00	960.22
W6202	422+69.01	43.00	960.57	W6102	W6202	Sidewalk Running Slope	70.00	0.35	0.5%	0.5% to 5.0%	4.5%	0.5% to 5.0%						W6202	422+69.01	43.00	960.57
W6201	422+69.01	53.00	960.72	W6201	W6101	Sidewalk Running Slope	70.00	-0.35	-0.5%	0.5% to 5.0%	4.5%	0.5% to 5.0%						W6201	422+69.01	53.00	960.72
W7101	426+11.40	53.00	959.06	W7101	W7102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W7101	426+11.40	53.00	959.06
W7102	426+11.40	43.00	958.91	W7201	W7202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W7102	426+11.40	43.00	958.91
W7202	425+87.40	43.00	959.03	W7102	W7202	Sidewalk Running Slope	24.00	0.12	-0.5%	0.5% to 5.0%	4.5%	0.5% to 5.0%						W7202	425+87.40	43.00	959.03
W7201	425+87.40	53.00	959.18	W7201	W7101	Sidewalk Running Slope	24.00	-0.12	-0.5%	0.5% to 5.0%	4.5%	0.5% to 5.0%						W7201	425+87.40	53.00	959.18
W8101	427+65.90	53.00	959.47	W8101	W8102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W8101	427+65.90	53.00	959.47
W8102	427+65.90	43.00	959.32	W8201	W8202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W8102	427+65.90	43.00	959.32
W8202	427+41.90	43.00	959.07	W8102	W8202	Sidewalk Running Slope	24.00	-0.25	-1.0%	0.5% to 5.0%	4.0%	0.5% to 5.0%						W8202	427+41.90	43.00	959.07
W8201	427+41.90	53.00	959.22	W8201	W8101	Sidewalk Running Slope	24.00	0.25	1.0%	0.5% to 5.0%	4.0%	0.5% to 5.0%						W8201	427+41.90	53.00	959.22
W9101	429+70.16	53.00	962.02	W9101	W9102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W9101	429+70.16	53.00	962.02
W9102	429+70.16	43.00	961.87	W9201	W9202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W9102	429+70.16	43.00	961.87
W9202	429+38.16	43.00	961.46	W9102	W9202	Sidewalk Running Slope	32.00	-0.41	-1.3%	0.5% to 5.0%	3.7%	0.5% to 5.0%						W9202	429+38.16	43.00	961.46
W9201	429+38.16	53.00	961.61	W9201	W9101	Sidewalk Running Slope	32.00	0.41	1.3%	0.5% to 5.0%	3.7%	0.5% to 5.0%						W9201	429+38.16	53.00	961.61
W10101	432+08.91	53.00	965.07	W10101	W10102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W10101	432+08.91	53.00	965.07
W10102	432+08.91	43.00	964.92	W10201	W10202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W10102	432+08.91	43.00	964.92
W10202	431+83.91	43.00	964.61	W10102	W10202	Sidewalk Running Slope	25.00	-0.31	-1.2%	0.5% to 5.0%	3.8%	0.5% to 5.0%						W10202	431+83.91	43.00	964.61
W10201	431+83.91	53.00	964.76	W10201	W10101	Sidewalk Running Slope	25.00	0.31	1.2%	0.5% to 5.0%	3.8%	0.5% to 5.0%						W10201	431+83.91	53.00	964.76
W11101	433+59.31	53.00	965.86	W11101	W11102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W11101	433+59.31	53.00	965.86
W11102	433+59.31	43.00	965.71	W11201	W11202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W11102	433+59.31	43.00	965.71
W11202	433+32.81	43.00	965.72	W11102	W11202	Sidewalk Running Slope	26.50	0.01	0.0%	0.5% to 5.0%	5.0%	0.5% to 5.0%						W11202	433+32.81	43.00	965.72
W11201	433+32.81	53.00	965.87	W11201	W11101	Sidewalk Running Slope	26.50	-0.01	0.0%	0.5% to 5.0%	5.0%	0.5% to 5.0%						W11201	433+32.81	53.00	965.87
W12101	438+20.43	53.00	965.81	W12101	W12102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W12101	438+20.43	53.00	965.81
W12102	438+20.43	43.00	965.66	W12201	W12202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W12102	438+20.43	43.00	965.66
W12202	437+96.06	43.00	965.54	W12102	W12202	Sidewalk Running Slope	24.00	-0.12	-0.5%	0.5% to 5.0%	4.5%	0.5% to 5.0%						W12202	437+96.06	43.00	965.54
W12201	437+96.06	53.00	965.69	W12201	W12101	Sidewalk Running Slope	24.00	0.12	0.5%	0.5% to 5.0%	4.5%	0.5% to 5.0%						W12201	437+96.06	53.00	965.69
W13101						Sidewalk Cross Slope	5.00	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A				W13101			
W13102						Sidewalk Cross Slope	10.00	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A				W13102			
W13103						Sidewalk Running Slope												W13103			
W13104						Sidewalk Running Slope	25.00	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A				W13104			
						Ramp Cross Slope	10.00	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A							
W13201						Ramp Cross Slope	5.00	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A				W13201			
W13202						Ramp Running Slope												W13202			
W13203						Ramp Running Slope												W13203			
W13204						Ramp Running Slope												W13204			
						Ramp Running Slope															
												0.00%									
W14101	446+74.01	37.50	969.25	W14101	W14102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W14101	446+74.01	37.50	969.25
W14102	446+74.01	32.50	969.17	W14201	W14202	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W14102	446+74.01	32.50	969.17
W14202	446+39.01	32.50	969.06	W14102	W14202	Sidewalk Running Slope	35.00	-0.11	-0.3%	0.5% to 5.0%	4.7%	0.5% to 5.0%						W14202	446+39.01	32.50	969.06
W14201	446+39.01	37.50	969.14	W14201	W14101	Sidewalk Running Slope	35.00	0.11	0.3%	0.5% to 5.0%	4.7%	0.5% to 5.0%						W14201	446+39.01	37.50	969.14
W15101	448+32.10	37.50	969.79	W15101	W15102	Sidewalk Cross Slope	5.00	-0.07	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W15101	448+32.10	37.50	969.79
W15102	448+32.10	32.50	969.71	W15201	W15202	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W15102	448+32.10	32.50	969.71
W15202	448+01.92	32.50	969.65	W15102	W15202	Sidewalk Running Slope	30.00	-0.06	-0.2%	0.5% to 5.0%	4.8%	0.5% to 5.0%						W15202	448+01.92	32.50	969.65
W15201	448+01.92	37.50	969.73	W15201	W15101	Sidewalk Running Slope	30.00	0.06	0.2%	0.5% to 5.0%	4.8%	0.5% to 5.0%						W15201	448+01.92	37.50	969.73
W16101	449+61.13	37.50	970.19	W16101	W16102	Sidewalk Cross Slope	5.00	-0.07	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W16101	449+61.13	37.50	970.19
W16102	449+61.13	32.50	970.11	W16201	W16202	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%						W16102	449+61.13	32.50	970.11
W16202	449+22.89	32.50	969.99	W16102	W16202	Sidewalk Running Slope	38.00	-0.12	-0.3%	0.5% to 5.0%	4.7%	0.5% to 5.0%						W16202	449+22.89	32.50	969.99
W16201	449+22.89	37.50	970.07	W16201	W16101	Sidewalk Running Slope	38.00	0.12	0.3%	0.5% to 5.0%	4.7%	0.5% to 5.0%						W16201	449+22.89	37.50	970.07
W17101			970.06	W17108	W17101	Landing/Turning Space	4.00	0.06	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%						W17101			970.06
W17102			971.01	W17101	W17104	Landing/Turning Space	5.00	0.05	1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%						W17102			971.01
W17103			970.94	W17105	W17104	Landing/Turning Space	4.00	0.06	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%						W17103			970.94
W17104			970.11	W17108	W17105	Landing/Turning Space	5.00	0.05	1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%						W17104			970.11
W17105			970.05	W17107	W17108	Sidewalk Running Slope	7.47	0.29	3.9%	0.5% to 5.0%	1.1%	0.5% to 5.0%						W17105			970.05
W17106			970.01	W17106	W17105	Sidewalk Running Slope	2.99	0.04	1.3%	0.5% to 5.0%	3.7%	0.5% to 5.0%						W17106			970.01

W17107			969.71	W17107	W17106	Crosswalk Cross Slope - Yield Condition	6.71	0.30	4.5%	0.0% to 2.0%	-2.5%	0.0% to 5.5%	Yes				Not inside scope of project to fix (ROW limits)				W17107			969.71
W17108			970.00	W17101	W17102	Ramp Running Slope	13.00	0.95	7.3%	0.5% to 8.3%	1.0%	0.5% to 8.3%									W17108			970.00
W17109			970.06	W17104	W17103	Ramp Running Slope	13.00	0.83	6.3%	0.5% to 8.3%	2.0%	0.5% to 8.3%									W17109			970.06
W17110			970.00	W17102	W17103	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%									W17110			970.00
				W17108	W17109	Sidewalk Running Slope	10.04	0.06	0.6%	0.5% to 5.0%	4.4%	0.5% to 5.0%												
				W17101	W17110	Sidewalk Running Slope	10.04	-0.06	-0.6%	0.5% to 5.0%	4.4%	0.5% to 5.0%												
				W17109	W17110	Match Existing Cross Slope	3.98	-0.06	-1.6%	Match Existing	FALSE	Match Existing												
W17201			970.16	W17209	W17202	Landing/Turning Space	4.21	-0.06	-1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%									W17201			970.16
W17202			969.97	W17206	W17205	Landing/Turning Space	4.21	-0.06	-1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%									W17202			969.97
W17203			969.61	W17209	W17206	Landing/Turning Space	5.00	-0.02	-0.4%	0.1% to 2.0%	1.6%	0.1% to 2.0%									W17203			969.61
W17204			969.84	W17202	W17205	Landing/Turning Space	5.00	-0.02	-0.4%	0.1% to 2.0%	1.6%	0.1% to 2.0%									W17204			969.84
W17205			969.95	W17202	W17203	Sidewalk Running Slope	8.93	-0.36	-4.0%	0.5% to 5.0%	1.0%	0.5% to 5.0%									W17205			969.95
W17206			970.02	W17205	W17204	Sidewalk Running Slope	4.46	-0.11	-2.5%	0.5% to 5.0%	2.5%	0.5% to 5.0%									W17206			970.02
W17207			970.72	W17204	W17203	Crosswalk Cross Slope - Yield Condition	6.71	-0.23	-3.4%	0.0% to 2.0%	-1.4%	0.0% to 4.4%	Yes								W17207			970.72
W17208			970.80	W17208	W17209	Ramp Running Slope	11.00	-0.76	-6.9%	0.5% to 8.3%	1.4%	0.5% to 8.3%									W17208			970.80
W17209			970.04	W17207	W17206	Ramp Running Slope	11.00	-0.71	-6.4%	0.5% to 8.3%	1.9%	0.5% to 8.3%									W17209			970.04
W17210			970.20	W17208	W17207	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%									W17210			970.20
				W17201	W17202	Sidewalk Running Slope	18.07	-0.19	-1.1%	0.5% to 5.0%	3.9%	0.5% to 5.0%												
				W17210	W17209	Sidewalk Running Slope	18.34	-0.16	-0.9%	0.5% to 5.0%	4.1%	0.5% to 5.0%												
				W17210	W17201	Match Existing Cross Slope	5.00	-0.04	-0.7%	Match Existing	FALSE	Match Existing												
W18301				W18308	W18309	Landing/Turning Space	5.00	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18301			
W18302				W18307	W18303	Landing/Turning Space	5.00	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18302			
W18303				W18308	W18307	Landing/Turning Space	5.50	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18303			
W18304				W18309	W18303	Landing/Turning Space	5.50	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18304			
W18305			969.37	W18309	W18301	Sidewalk Running Slope	5.03	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18305			969.37
W18306			969.34	W18303	W18302	Sidewalk Running Slope	7.55	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18306			969.34
W18307				W18301	W18302	Crosswalk Cross Slope - Yield Condition	6.05	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18307			
W18308				W18307	W18306	Sidewalk Running Slope	16.47	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18308			
W18309				W18303	W18304	Sidewalk Running Slope	15.23	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18309			
				W18304	W18305	Sidewalk Running Slope	3.40	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!											
				W18306	W18305	Match Existing Cross Slope	4.00	0.03	0.6%	Match Existing	FALSE	Match Existing												
W18401				W18406	W18405	Landing/Turning Space	2.51	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18401			
W18402				W18405	W18402	Landing/Turning Space	4.00	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18402			
W18403			969.06	W18407	W18402	Landing/Turning Space	7.27	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18403			969.06
W18404			968.97	W18406	W18407	Crosswalk Cross Slope - Yield Condition	9.94	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18404			968.97
W18405				W18405	W18404	Sidewalk Running Slope	16.79	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18405			
W18406				W18402	W18403	Sidewalk Running Slope	16.79	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!								W18406			
W18407				W18404	W18403	Match Existing Cross Slope	4.00	0.10	2.5%	Match Existing	FALSE	Match Existing										W18407			
W18101			970.82	W18109	W18110	Landing/Turning Space	5.00	-0.01	-0.2%	0.1% to 2.0%	1.8%	0.1% to 2.0%									W18101			970.82
W18102			970.74	W18106	W18103	Landing/Turning Space	5.00	-0.01	-0.2%	0.1% to 2.0%	1.8%	0.1% to 2.0%									W18102			970.74
W18103			970.47	W18109	W18106	Landing/Turning Space	5.00	-0.07	-1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%									W18103			970.47
W18104			970.13	W18110	W18103	Landing/Turning Space	5.00	-0.07	-1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%									W18104			970.13
W18105			970.14	W18106	W18105	Ramp Running Slope	6.00	-0.34	-5.7%	0.5% to 8.3%	2.6%	0.5% to 8.3%									W18105			970.14
W18106			970.48	W18103	W18104	Ramp Running Slope	6.00	-0.34	-5.7%	0.5% to 8.3%	2.6%	0.5% to 8.3%									W18106			970.48
W18107			970.76	W18104	W18104	Crosswalk Cross Slope - No Yield Condition	5.00	0.00	0.0%	0.0% to 5.0%	5.0%	0.0% to 5.0%									W18107			970.76
W18108			970.84	W18108	W18109	Ramp Running Slope	5.00	-0.28	-5.7%	0.5% to 8.3%	2.6%	0.5% to 8.3%									W18108			970.84
W18109			970.56	W18107	W18106	Ramp Running Slope	5.00	-0.28	-5.7%	0.5% to 8.3%	2.6%	0.5% to 8.3%									W18109			970.56
W18110			970.55	W18108	W18107	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%									W18110			970.55
				W18110	W18101	Ramp Running Slope	5.00	0.27	5.4%	0.5% to 8.3%	2.9%	0.5% to 8.3%												
				W18103	W18102	Ramp Running Slope	5.00	0.27	5.4%	0.5% to 8.3%	2.9%	0.5% to 8.3%												
				W18101	W18102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%												
W19101			969.51	W19108	W19109	Landing/Turning Space	4.11	0.06	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%									W19101			969.51
W19102			969.50	W19109	W19102	Landing/Turning Space	4.01	0.06	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%									W19102			969.50
W19103			969.55	W19102	W19103	Landing/Turning Space	2.88	0.04	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%									W19103			969.55
W19104			970.53	W19107	W19106	Landing/Turning Space	5.50	0.03	0.5%	0.1% to 2.0%	1.5%	0.1% to 2.0%									W19104			970.53
W19105			970.46	W19103	W19106	Landing/Turning Space	5.00	0.08	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%									W19105			970.46
W19106			969.62	W19108	W19107	Crosswalk Cross Slope - Yield Condition	7.43	0.21	2.8%	0.0% to 2.0%	-0.8%	0.0% to 3.8%	Yes								W19106			969.62
W19107			969.59	W19103	W19104	Ramp Running Slope	14.00	0.99	7.0%	0.5% to 8.3%	1.3%	0.5% to 8.3%									W19107			969.59
W19108			969.38	W19106	W19105	Ramp Running Slope	14.00	0.84	6.0%	0.5% to 8.3%	2.3%	0.5% to 8.3%									W19108			969.38
W19109			969.44	W19104	W19105	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%									W19109			969.44
W19110			969.45	W19111	W19110	Sidewalk Running Slope	26.82	-0.04	-0.2%	0.5% to 5.0%	4.8%	0.5% to 5.0%									W19110			969.45
W19111			969.49	W19112	W19101	Sidewalk Running Slope	26.38	0.02	0.1%	0.5% to 5.0%	4.9%	0.5% to 5.0%									W19111			969.49
W19112			969.49	W19110	W19109	Sidewalk Running Slope	3.86	-0.01	-0.3%	0.5% to 5.0%	4.7%	0.5% to 5.0%									W19112			969.49
				W19101	W19102	Sidewalk Running Slope	3.85	-0.01	-0.2%	0.5% to 5.0%	4.8%	0.5% to 5.0%												
				W19111	W19112	Match Existing Cross Slope	4.00	0.00	0.0%	Match Existing	FALSE	Match Existing												
				W19110	W19101	Sidewalk Cross Slope	4.03	0.06	1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%												
W19201			969.76	W19208	W19201	Landing/Turning Space	4.03	-0.06	-1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%									W19201			969.76
W19202			969.49	W19205	W19204	Landing/Turning Space	4.04	-0.04	-1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%									W19202			969.49
W19203			969.75	W19208	W19205	Landing/Turning Space	5.04	-0.01	-0.2%	0.1% to 2.0%	1.8%	0.1% to 2.0%									W19203			969.75
W19204			969.77	W19201	W19204	Landing/Turning Space	5.04	0.01	0.2%	0.1% to 2.0%	1.8%	0.1% to 2.0%									W19204			969.77
W19205			969.81	W19201	W19202	Sidewalk Running Slope	6.68	-0.27	-4.0%	0.5% to 5.0%	1.0%	0.5% to 5.0%									W19205			969.81
W19206			970.66	W19204	W19203	Sidewalk Running Slope	1.80	-0.02	-1.1%	0.5% to 5.0%	3.9%	0.5% to 5.0%									W19206			970.66
W19207			970.73	W19202	W19203	Crosswalk Cross Slope - Yield Condition	7.40	0.26	3.5%	0.0% to 2.0%	-1.5%	0.0% to 4.5%	Yes								W19207			970.73
W19208			969.82	W19207	W19208	Ramp Running Slope	13.09	-0.91	-7.0%	0.5% to 8.3%	1.3%	0.5% to 8.3%									W19208			969.82
W19209			969.03	W19206	W19205	Ramp Running Slope	12.50	-0.85	-6.8%	0.5% to 8.3%	1.5%	0.5% to 8.3%									W19209			969.03
W19210			969.01	W19207	W19206	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%									W19210			969.01
				W19209	W19208	Sidewalk Running Slope	35.21	0.79	2.2%	0.5% to 5.0%	2.8%	0.5% to 5.0%												
				W19210	W19201	Sidewalk Running Slope	34.74	0.75	2.1%	0.5% to 5.0%	2.9%	0.5% to 5.0%												
				W19209	W19210	Match Existing Cross Slope	4.00	-0.02	-0.5%	Match Existing	FALSE	Match Existing												
W.END.1			967.59	W.END.1	W.END.2	Match Existing Cross Slope	4.21	0.02	0.5%	Match Existing	#REF!	#REF!	#REF!	#REF!							W.END.1			967.59
W.END.2			967.61								#REF!	#REF!	#REF!	#REF!							W.END.2			967.61
W20101	458+89.04	37.50	969.88	W20101	W20102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%									W20101	458+89.04	37.50	969.88
W20102	458+89.83	32.50	969.81	W20201	W20202	Sidewalk Cross Slope	5.00	-0.07	-1.4%	0.5% to 2.0%	0.6%	0.5% to 2.0%									W20102	458+89.83	32.50	969.81
W20202	458+65.01	32.50	969.91	W20102	W20202	Sidewalk Running Slope	25.82	0.11	0.4%	0.5% to 5.0%	4.6%	0.5% to 5.0%									W20202	458+65.01	32.50	969.91
W20201	458+64.96	37.50	969.98	W20201	W20101	Sidewalk Running Slope	24.08	-0.10	-0.4%	0.5% to 5.0%	4.6%	0.5% to 5.0%									W20201	458+64.96	37.50	969.98
W21101	460+27.99	37.50	969.63	W21101	W21102	Sidewalk Cross Slope	5.00	-0.07	-1.4%	0.5% to 2.0%	0.6%	0.5% to 2.0%									W21101	460+27.99	37.50	969.63
W21102	460+28.77	32.50	969.56	W21201	W21202	Sidewalk Cross Slope	5.00	-0.07	-1.4%	0.5% to 2.0%	0.6%	0.5% to 2.0%									W21102	460+28.77	32.50	969.56
W21202	460+03.00	32.50	969.60	W21102	W21202	Sidewalk Running Slope	35.77	0.04	0.1%	0.5% to 5.0%	4.9%	0.5% to 5.0%									W21202	460+03.00	32.50	969.60
W21201	460+03.93	37.50	969.67	W21201	W21101	Sidewalk Running Slope	24.06	-0.04	-0.2%	0.5% to 5.0%	4.8%	0.5% to 5.0%									W21201	460+03.93	37.50	969.67
W22101	461+46.29	37.50	969.45	W22101	W22102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%									W22101	461+46.29	37.50	969.45
W22102	461+47.12	32.50	969.37	W22201	W22202	Sidewalk Cross Slope	5.00	-0.08	-1.6%	0.5% to 2.0%	0.4%	0.5% to 2.0%	Yes	Yes							W22102	461+47.12	32.50	969.37
W22202	461+21.45	32.50	969.42	W22102	W22202	Sidewalk Running Slope	25.60	0.05	0.2%	0.5% to 5.0%	4.8%	0.5% to 5.0%									W22202	461+21.45	32.50	969.42
W22201	461+22.29	37.50	969.50	W22201	W22101		24.00	-0.05	-0.2%	#N/A	#N/A	#N/A	#N/A	#N/A							W22201	461+22.29	37.50	969.50

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
256+00.00	36		15			21	21						
256+25.00	96		34			62	62						
256+50.00	151		49			102	102						
256+75.00	164		58			106	106	1	1	1			
257+00.00	132		53			79	79	16	21	21			
257+25.00	116		51			65	65	65	85	85			
257+50.00	124		54			70	70	137	178	178			
257+75.00	100		47			53	53	129	168	168			
257+92.00	55		24	11		20	31	68	88	88			
258+00.00	131		46	41		44	85	247	321	321			
258+25.00	31		10	6		15	21	94	122	122			
258+34.00	68		21	19		28	47	121	157	157			
258+50.00	203		55	18		130	148	65	85	85			
258+75.00	142		37	34		71	105						
258+87.00	140		38	62		40	102						
259+00.00	171		49	67		55	122	48	62	62			
259+25.00	153		46	68		39	107	100	130	130			
259+50.00	226		68	102		56	158	84	109	109			
259+75.00	297		72	165		60	225	41	53	53			
260+00.00	362		84	235		43	278	12	16	16			
260+25.00	374		99	234		41	275	2	3	3			
260+50.00	346		98	208		40	248						
260+75.00	344		96	208		40	248						
261+00.00	371		97	235		39	274						
261+25.00	367		96	234		37	271	1	1	1			
261+50.00	354		98	219		37	256	1	1	1			
261+75.00	356		102	234		20	254						
262+00.00	373		98	269		6	275						
262+25.00	401		92	290		19	309	1	1	1			
262+50.00	393		90	285		18	303	2	3	3			
262+75.00	366		88	270		8	278	4	5	5			
263+00.00	352		89	256		7	263	5	7	7			
263+25.00	342		87	247		8	255	9	12	12			
263+50.00	321		83	231		7	238	14	18	18			
263+75.00	275		80	190		5	195	18	23	23			
264+00.00	222		65	154		3	157	38	49	49			
264+25.00	185		46	138		1	139	83	108	108			
264+50.00	164		39	124		1	125	138	179	179			
264+75.00	148		37	111			111	202	263	263			
265+00.00	135		35	99		1	100	260	338	338			
265+25.00	155		46	108		1	109	296	385	385			
265+50.00	168		56	112			112	327	425	425			
265+75.00	152		64	88			88	358	465	465			
266+00.00	147		63	84			84	396	515	515			
266+25.00	145		53	92			92	433	563	563			
266+50.00	133		55	78			78	506	658	658			
266+75.00	113		52	60		1	61	606	788	788			
267+00.00	99		48	49		2	51	688	894	894			
267+25.00	90		46	41		3	44	734	954	954			
267+50.00	91		36	47		8	55	755	982	982			
267+75.00	112		38	66		8	74	749	974	974			
268+00.00	149		53	89		7	96	725	943	943			
268+25.00	157		54	94		9	103	721	937	937			
268+50.00	143		54	82		7	89	718	933	933			
268+75.00	116		50	59		7	66	715	930	930			
269+00.00	89		45	33		11	44	691	898	898			
269+25.00	89		45	26		18	44	639	831	831			
269+50.00	103		46	37		20	57	592	770	770			
269+75.00	98		44	40		14	54	542	705	705			
270+00.00	94		38	28		28	56	454	590	590			
270+25.00	129		33	58		38	96	354	460	460			
270+50.00	40		7	21		12	33	76	99	99			
270+56.00	115		32	57		26	83	258	335	335			
270+75.00	122		52	64		6	70	352	458	458			
271+00.00	124		50	68		6	74	340	442	442			
271+25.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT															
271+25.00	135		52	77		6	83	318	413	413																		
271+50.00	147		54	88		5	93	289	376	376																		
271+75.00	154		46	103		5	108	260	338	338																		
272+00.00	157		48	104		5	109	233	303	303																		
272+25.00	164		59	99		6	105	214	278	278																		
272+50.00	164		61	96		7	103	205	267	267																		
272+75.00	151		59	86		6	92	201	261	261																		
273+00.00	157		59	92		6	98	196	255	255																		
273+25.00	180		63	112		5	117	191	248	248																		
273+50.00	194		65	126		3	129	188	244	244																		
273+75.00	200		71	127		2	129	186	242	242																		
274+00.00	209		73	126		10	136	186	242	242																		
274+25.00	230		72	143		15	158	187	243	243																		
274+50.00	251		76	169		6	175	191	248	248																		
274+75.00	261		77	182		2	184	199	259	259																		
275+00.00	261		77	183		1	184	210	273	273																		
275+25.00	249		75	174			174	226	294	294																		
275+50.00	224		71	153			153	243	316	316																		
275+75.00	192		73	118		1	119	268	348	348																		
276+00.00	217		77	134		6	140	292	380	380																		
276+25.00	244		67	152		25	177	265	345	345																		
276+46.00	52		14	30		8	38	54	70	70																		
276+50.00	242		71	137		34	171	392	510	510																		
276+75.00	138		55	76		7	83	530	689	689																		
277+00.00	102		46	51		5	56	649	844	844																		
277+25.00	76		39	34		3	37	730	949	949																		
277+50.00	30		15	14		1	15	324	421	421																		
277+60.00	42		19	22		1	23	495	644	644																		
277+75.00	71		39	32			32	811	1054	1054																		
278+00.00	94		50	44			44	784	1019	1019																		
278+25.00	117		50	67			67	722	939	939																		
278+50.00	144		55	88		1	89	647	841	841																		
278+75.00	177		62	115			115	563	732	732																		
279+00.00	200		67	133			133	481	625	625																		
279+25.00	219		66	143		10	153	413	537	537																		
279+50.00	228		64	145		19	164	348	452	452																		
279+75.00	225		76	135		14	149	272	354	354																		
280+00.00	222		79	133		10	143	195	254	254																		
280+25.00	216		68	135		13	148	155	202	202																		
280+50.00	195		63	117		15	132	146	190	190																		
280+75.00	164		57	93		14	107	130	169	169																		
281+00.00	146		54	82		10	92	112	146	146																		
281+25.00	141		53	78		10	88	100	130	130																		
281+50.00	126		58	56		12	68	97	126	126																		
281+75.00	110		56	38		16	54	100	130	130																		
282+00.00	109		47	46		16	62	98	127	127																		
282+25.00	70		32	30		8	38	68	88	88																		
282+50.00	14		9	4		1	5	46	60	60																		
282+75.00								51	66	66																		
283+00.00								54	70	70																		
283+25.00								56	73	73																		
283+50.00								36	47	47																		
283+75.00								30	39	39																		
284+00.00								43	56	56																		
284+25.00								42	55	55																		
284+50.00								41	53	53																		
284+75.00	48		19			29	29	55	72	72																		
285+00.00	89		37			52	52	77	100	100																		
285+25.00	75		35			40	40	76	99	99																		
285+50.00	64		33			31	31	68	88	88																		
285+75.00	64		33			31	31	71	92	92																		
286+00.00	59		32			27	27	71	92	92																		
286+25.00	54		29			25	25	77	100	100																		
286+50.00	60		29			31	31	100	130	130																		
286+75.00	68		30			38	38	131	170	170																		
287+00.00																												

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT														
287+00.00	76		31			45	45	173	225	225																	
287+25.00	81		31			50	50	217	282	282																	
287+50.00	93		36			57	57	247	321	321																	
287+75.00	89		41			48	48	279	363	363																	
288+00.00	65		35			30	30	310	403	403																	
288+25.00	50		27			23	23	316	411	411																	
288+50.00	42		24			18	18	305	397	397																	
288+75.00	36		23			13	13	277	360	360																	
289+00.00	35		23			12	12	231	300	300																	
289+25.00	40		25			15	15	186	242	242																	
289+50.00	52		28			24	24	151	196	196																	
289+75.00	72		33			39	39	128	166	166																	
290+00.00	103		37			66	66	136	177	177																	
290+25.00	139		39			100	100	175	228	228																	
290+50.00	169		40			129	129	228	296	296																	
290+75.00	182		42			140	140	281	365	365																	
291+00.00	178		43			135	135	318	413	413																	
291+25.00	175		47			128	128	289	376	376																	
291+50.00	256		72	17		167	184	179	233	233																	
291+75.00	68		18	8		42	50	22	29	29																	
291+80.00	241		71	36		134	170	133	173	173																	
292+00.00	204		69	23		112	135	289	376	376																	
292+25.00	145		55	2		88	90	356	463	463																	
292+50.00	95		36	1		58	59	239	311	311																	
292+66.00	54		20			34	34	132	172	172																	
292+75.00	29		11			18	18	69	90	90																	
292+80.00	104		42			62	62	279	363	363																	
293+00.00	106		48	13		45	58	350	455	455																	
293+25.00	78		41	23		14	37	344	447	447																	
293+50.00	67		38	18		11	29	336	437	437																	
293+75.00	71		41	17		13	30	330	429	429																	
294+00.00	74		41	15		18	33	332	432	432																	
294+25.00	73		39	13		21	34	335	436	436																	
294+50.00	79		40	17		22	39	335	436	436																	
294+75.00	81		41	20		20	40	336	437	437																	
295+00.00	74		39	9		26	35	330	429	429																	
295+25.00	77		39	1		37	38	314	408	408																	
295+50.00	87		40	1		46	47	294	382	382																	
295+75.00	87		53			34	34	274	356	356																	
296+00.00	80		50			30	30	268	348	348																	
296+25.00	65		34			31	31	274	356	356																	
296+50.00	64		34			30	30	282	367	367																	
296+75.00	112		29	20		63	83	244	317	317																	
297+00.00	48		10	11		27	38	67	87	87																	
297+08.00	102		32	14		56	70	145	189	189																	
297+25.00	150		54	14		82	96	226	294	294																	
297+50.00	142		52	11		79	90	250	325	325																	
297+75.00	130		56	4		70	74	264	343	343																	
298+00.00	123		55	1		67	68	273	355	355																	
298+25.00	129		49	8		72	80	277	360	360																	
298+50.00	136		50	16		70	86	277	360	360																	
298+75.00	145		52	13		80	93	272	354	354																	
299+00.00	155		54	14		87	101	260	338	338																	
299+25.00	162		56	20		86	106	248	322	322																	
299+50.00	162		56	11		95	106	235	306	306																	
299+75.00	150		58			92	92	220	286	286																	
300+00.00	129		55	2		72	74	205	267	267																	
300+25.00	107		46	4		57	61	192	250	250																	
300+50.00	87		43	2		42	44	183	238	238																	
300+75.00	76		42	16		18	34	174	226	226																	
301+00.00	78		43	32		3	35	162	211	211																	
301+25.00	85		46	35		4	39	143	186	186																	
301+50.00	93		50	39		4	43	111	144	144																	
301+75.00	102		68	29		5	34	73	95	95																	
302+00.00	115		72	35		8	43	52	68	68																	
302+25.00																											

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT															
302+25.00	124		62	55		7	62	46	60	60																		
302+50.00	127		64	55		8	63	41	53	53																		
302+75.00	139		63	64		12	76	42	55	55																		
303+00.00	137		63	62		12	74	43	56	56																		
303+25.00	130		66	55		9	64	42	55	55																		
303+50.00	136		66	62		8	70	47	61	61																		
303+75.00	157		63	66		28	94	78	101	101																		
304+00.00	168		65	78		25	103	88	114	114																		
304+25.00	151		63	86		2	88	78	101	101																		
304+50.00	148		59	88		1	89	94	122	122																		
304+75.00	159		59	100			100	112	146	146																		
305+00.00	157		58	53		46	99	139	181	181																		
305+25.00	36		14			22	22	40	52	52																		
305+31.00	118		43			75	75	141	183	183																		
305+50.00	163		57			106	106	228	296	296																		
305+75.00	149		53			96	96	304	395	395																		
306+00.00	116		46			70	70	386	502	502																		
306+25.00	97		42			55	55	458	595	595																		
306+50.00	86		40	20		26	46	527	685	685																		
306+75.00	79		40	39			39	583	758	758																		
307+00.00	79		40	39			39	624	811	811																		
307+25.00	64		32	32			32	548	712	712																		
307+45.00	16		8	8			8	144	187	187																		
307+50.00	33		15	18			18	281	365	365																		
307+60.00	52		23	28		1	29	415	540	540																		
307+75.00	86		37	49			49	667	867	867																		
308+00.00	100		40	60			60	600	780	780																		
308+25.00	135		48	87			87	510	663	663																		
308+50.00	167		53	113		1	114	435	566	566																		
308+75.00	183		55	126		2	128	388	504	504																		
309+00.00	182		55	123		4	127	352	458	458																		
309+25.00	164		55	104		5	109	323	420	420																		
309+50.00	96		38	55		3	58	295	384	384																		
309+75.00	43		21	20		2	22	272	354	354																		
310+00.00	76		10	28		38	66	182	237	237																		
310+25.00	73		9	25		39	64	132	172	172																		
310+50.00	42		18	11		13	24	133	173	173																		
310+75.00	94		30	25		39	64	82	107	107																		
311+00.00	177		51	65		61	126	44	57	57																		
311+25.00	248		63	121		64	185	21	27	27																		
311+50.00	314		71	179		64	243	9	12	12																		
311+75.00	367		75	227		65	292	2	3	3																		
312+00.00	413		82	260		71	331																					
312+25.00	418		88	248		82	330																					
312+50.00	447		96	253		98	351																					
312+75.00	532		103	301		128	429																					
313+00.00	581		104	162		315	477																					
313+25.00	604		104			500	500	3	4	4																		
313+50.00	594		105			489	489	7	9	9																		
313+75.00	545		125			420	420	13	17	17																		
314+00.00	482		122			360	360	21	27	27																		
314+25.00	400		95			305	305	35	46	46																		
314+50.00	299		83			216	216	54	70	70																		
314+75.00	203		67			136	136	91	118	118																		
315+00.00	152		59			93	93	152	198	198																		
315+25.00	148		58	41		49	90	228	296	296																		
315+50.00	189		59	88		42	130	369	480	480																		
315+75.00	108		33	52		23	75	280	364	364																		
315+89.00	72		29	40		3	43	238	309	309																		
316+00.00	156		64	85		7	92	517	672	672																		
316+25.00	131		47	75		9	84	474	616	616																		
316+50.00	154		53	94		7	101	455	592	592																		
316+75.00	187		66	116		5	121	431	560	560																		
317+00.00	188		66	117		5	122	393	511	511																		
317+25.00	195		68	122		5	127	349	454	454																		
317+50.00																												

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
317+50.00	212		72	136		4	140	308	400	400			
317+75.00	242		77	156		9	165	280	364	364			
318+00.00	269		81	172		16	188	260	338	338			
318+25.00	283		82	181		20	201	246	320	320			
318+50.00	293		83	186		24	210	233	303	303			
318+75.00	294		84	180		30	210	226	294	294			
319+00.00	279		81	138		60	198	223	290	290			
319+25.00	249		76	117		56	173	222	289	289			
319+50.00	213		71	120		22	142	228	296	296			
319+75.00	180		72	95		13	108	231	300	300			
320+00.00	169		72	89		8	97	220	286	286			
320+25.00	178		70	97		11	108	200	260	260			
320+50.00	183		70	100		13	113	185	241	241			
320+75.00	181		68	102		11	113	172	224	224			
321+00.00	191		69	108		14	122	157	204	204			
321+25.00	207		72	108		27	135	143	186	186			
321+50.00	211		73	102		36	138	132	172	172			
321+75.00	215		80	95		40	135	125	163	163			
322+00.00	218		80	101		37	138	116	151	151			
322+25.00	218		75	117		26	143	108	140	140			
322+50.00	215		75	112		28	140	100	130	130			
322+75.00	208		73	51		84	135	91	118	118			
323+00.00	205		71			134	134	75	98	98			
323+25.00	214		75			139	139	49	64	64			
323+50.00	189		39			150	150	31	40	40			
323+75.00	124		9			115	115	26	34	34			
324+00.00	26		3			23	23	5	7	7			
324+07.61	62		7			55	55	15	20	20			
324+25.00	108		35			73	73	48	62	62			
324+50.00	112		49			63	63	74	96	96			
324+75.00	110		48			62	62	92	120	120			
325+00.00	117		51			66	66	100	130	130			
325+25.00	144		57			87	87	95	124	124			
325+50.00	170		60			110	110	79	103	103			
325+75.00	191		59			132	132	51	66	66			
326+00.00	228		69			159	159	25	33	33			
326+25.00	281		90			191	191	14	18	18			
326+50.00	348		103			245	245	10	13	13			
326+75.00	412		113			299	299	6	8	8			
327+00.00	447		120			327	327	4	5	5			
327+25.00	443		119			324	324	5	7	7			
327+50.00	437		116	28		293	321	3	4	4			
327+75.00	416		108	67		241	308	12	16	16			
328+00.00	364		94	81		189	270	61	79	79			
328+25.00	332		86	90		156	246	139	181	181			
328+50.00	303		83	65		155	220	230	299	299			
328+75.00	259		77	17		165	182	327	425	425			
329+00.00	206		69			137	137	411	534	534			
329+25.00	165		60			105	105	461	599	599			
329+50.00	60		22			38	38	192	250	250			
329+60.00	71		30			41	41	315	410	410			
329+75.00	4		2			2	2	23	30	30			
329+76.00	52		25			27	27	305	397	397			
329+90.00	38		17			21	21	201	261	261			
330+00.00	87		40			47	47	441	573	573			
330+25.00	89		41			48	48	337	438	438			
330+50.00	111		46			65	65	235	306	306			
330+75.00	125		51	33		41	74	174	226	226			
331+00.00	73		31	38		4	42	89	116	116			
331+15.00	51		22	28		1	29	59	77	77			
331+25.00	142		55	85		2	87	181	235	235			
331+50.00	138		51	86		1	87	269	350	350			
331+75.00	116		43	70		3	73	407	529	529			
332+00.00	82		37	42		3	45	574	746	746			
332+25.00	54		34	20			20	751	976	976			
332+50.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT														
332+50.00	25		15	5		5	10	525	683	683																	
332+65.00	14		7			7	7	380	494	494																	
332+75.00	12		6			6	6	329	428	428																	
332+83.00	33		19	8		6	14	658	855	855																	
333+00.00	53		34	18		1	19	813	1057	1057																	
333+25.00	39		30	9			9	723	940	940																	
333+50.00	34		28	6			6	651	846	846																	
333+75.00	36		28	8			8	579	753	753																	
334+00.00	45		31	14			14	500	650	650																	
334+25.00	68		38	30			30	403	524	524																	
334+50.00	81		41	40			40	322	419	419																	
334+75.00	76		39	37			37	275	358	358																	
335+00.00	88		42	46			46	231	300	300																	
335+25.00	123		51	72			72	173	225	225																	
335+50.00	166		62	103		1	104	121	157	157																	
335+75.00	221		95	125		1	126	94	122	122																	
336+00.00	270		107	162		1	163	84	109	109																	
336+25.00	310		97	212		1	213	78	101	101																	
336+50.00	353		103	248		2	250	75	98	98																	
336+75.00	392		107	282		3	285	73	95	95																	
337+00.00	402		107	291		4	295	71	92	92																	
337+25.00	387		106	276		5	281	69	90	90																	
337+50.00	361		104	253		4	257	67	87	87																	
337+75.00	323		105	169	45	4	218	64	83	83																	
338+00.00	286		97	139	45	5	189	64	83	83																	
338+25.00	256		80	170		6	176	64	83	83																	
338+50.00	231		70	155		6	161	72	94	94																	
338+75.00	212		65	140		7	147	90	117	117																	
339+00.00	184		61	117		6	123	115	150	150																	
339+25.00	144		66	74		4	78	156	203	203																	
339+50.00	107		60	45		2	47	218	283	283																	
339+75.00	91		50	41			41	287	373	373																	
340+00.00	87		47	39		1	40	356	463	463																	
340+25.00	82		41	41			41	423	550	550																	
340+50.00	72		39	33			33	482	627	627																	
340+75.00	60		28	25		7	32	525	683	683																	
341+00.00	7		2	3		2	5	65	85	85																	
341+03.00	43		21	15		7	22	489	636	636																	
341+25.00	46		31	15			15	591	768	768																	
341+50.00	46		30	16			16	601	781	781																	
341+75.00	15		10	5			5	190	247	247																	
341+83.00	33		23	10			10	382	497	497																	
342+00.00	59		36	22		1	23	503	654	654																	
342+25.00	117		46	71			71	436	567	567																	
342+50.00	229		35	111		83	194	314	408	408																	
342+75.00	255		37	136		82	218	248	322	322																	
343+00.00	209		56	153			153	291	378	378																	
343+25.00	213		56	136		21	157	307	399	399																	
343+50.00	219		58	110		51	161	262	341	341																	
343+75.00	203		55	90		58	148	213	277	277																	
344+00.00	175		60	76		39	115	166	216	216																	
344+25.00	157		63	76		18	94	122	159	159																	
344+50.00	163		62	91		10	101	87	113	113																	
344+75.00	177		71	91		15	106	63	82	82																	
345+00.00	189		78	78		33	111	48	62	62																	
345+25.00	193		79	71		43	114	38	49	49																	
345+50.00	187		75	78		34	112	30	39	39																	
345+75.00	181		67	77		37	114	25	33	33																	
346+00.00	183		67	73		43	116	25	33	33																	
346+25.00	193		74	91		28	119	24	31	31																	
346+50.00	196		75	95		26	121	22	29	29																	
346+75.00	191		74	84		33	117	23	30	30																	
347+00.00	187		73	88		26	114	26	34	34																	
347+25.00	191		71	94		26	120	30	39	39																	
347+50.00	189		68	91		30	121	32	42	42																	
347+75.00																											

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT														
347+75.00	179		59	83		37	120	31	40	40																	
348+00.00	170		55	80		35	115	32	42	42																	
348+25.00	159		57	75		27	102	37	48	48																	
348+50.00	147		55	65		27	92	42	55	55																	
348+75.00	136		54	56		26	82	41	53	53																	
349+00.00	122		52	49		21	70	38	49	49																	
349+25.00	108		48	42		18	60	36	47	47																	
349+50.00	99		45	37		17	54	36	47	47																	
349+75.00	99		40	40		19	59	33	43	43																	
350+00.00	108		42	47		19	66	27	35	35																	
350+25.00	119		50	50		19	69	22	29	29																	
350+50.00	115		54	42		19	61	17	22	22																	
350+75.00	125		40	39		46	85	10	13	13																	
351+00.00	145		41	53		51	104	8	10	10																	
351+25.00	150		57	67		26	93	9	12	12																	
351+50.00	151		55	68		28	96	9	12	12																	
351+75.00	147		59	57		31	88	7	9	9																	
352+00.00	167		58	66		43	109	6	8	8																	
352+25.00	113		21	45		47	92	4	5	5																	
352+40.00	69		15	27		27	54	3	4	4																	
352+50.00	150		55	60		35	95	7	9	9																	
352+75.00	161		62	63		36	99	4	5	5																	
353+00.00	184		52	73		59	132																				
353+25.00	176	31	18	68		59	127	1	1	1																	
353+50.00	159	59		61		39	100	11	14	14																	
353+75.00	163	58		64		41	105	21	27	27																	
354+00.00	169	58		66		45	111	23	30	30																	
354+25.00	171	57		65		49	114	24	31	31																	
354+50.00	173	57		65		51	116	26	34	34																	
354+75.00	188	60		71		57	128	27	35	35																	
355+00.00	213	65		89		59	148	25	33	33																	
355+25.00	226	65		96		65	161	25	33	33																	
355+50.00	235	66		97		72	169	22	29	29																	
355+75.00	238	69		99		70	169	19	25	25																	
356+00.00	234	74		85		75	160	13	17	17																	
356+25.00	240	74		87		79	166	8	10	10																	
356+50.00	256	52		108		96	204	4	5	5																	
356+75.00	230	53		105		72	177	8	10	10																	
357+00.00	170	63		83		24	107	20	26	26																	
357+25.00	131	52		70		9	79	33	43	43																	
357+50.00	111	49		60		2	62	53	69	69																	
357+75.00	61	28		32		1	33	45	59	59																	
357+90.00	38	9	8	20		1	21	36	47	47																	
358+00.00	17		7	9		1	10	21	27	27																	
358+05.00	35		16	19			19	45	59	59																	
358+15.00	38		18	19		1	20	45	59	59																	
358+25.00	93		45	48			48	130	169	169																	
358+50.00	92		45	47			47	154	200	200																	
358+75.00	100		46	54			54	171	222	222																	
359+00.00	81		35	46			46	130	169	169																	
359+18.00	33		14	19			19	52	68	68																	
359+25.00	121		50	71			71	190	247	247																	
359+50.00	134		56	78			78	196	255	255																	
359+75.00	146		58	88			88	194	252	252																	
360+00.00	151		55	95		1	96	199	259	259																	
360+25.00	156		56	100			100	211	274	274																	
360+50.00	164		57	106		1	107	216	281	281																	
360+75.00	177		60	117			117	219	285	285																	
361+00.00	183		61	122			122	219	285	285																	
361+25.00	180		61	119			119	214	278	278																	
361+50.00	185		43	123		19	142	184	239	239																	
361+75.00	179		43	116		20	136	166	216	216																	
362+00.00	150		57	93			93	201	261	261																	
362+25.00	129		52	77			77	234	304	304																	
362+50.00	124		51	73			73	237	308	308																	
362+75.00																											

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT															
362+75.00	122		51	71			71	234	304	304																		
363+00.00	128		52	75		1	76	226	294	294																		
363+25.00	163		58	94		11	105	197	256	256																		
363+50.00	198		43	113		42	155	172	224	224																		
363+75.00	189		45	112		32	144	170	221	221																		
364+00.00	161		61	99		1	100	196	255	255																		
364+25.00	144		55	89			89	227	295	295																		
364+50.00	135		53	82			82	230	299	299																		
364+75.00	131		52	79			79	215	280	280																		
365+00.00	151		39	93		19	112	184	239	239																		
365+25.00	81		12	51		18	69	80	104	104																		
365+37.00	85		22	54		9	63	91	118	118																		
365+50.00	159		58	101			101	202	263	263																		
365+75.00	164		63	98		3	101	228	296	296																		
366+00.00	158		61	93		4	97	233	303	303																		
366+25.00	149		55	94			94	233	303	303																		
366+50.00	147		55	92			92	234	304	304																		
366+75.00	155		54	86		15	101	248	322	322																		
367+00.00	144		52	77		15	92	246	320	320																		
367+25.00	117		49	68			68	229	298	298																		
367+50.00	112		48	64			64	231	300	300																		
367+75.00	120		52	68			68	234	304	304																		
368+00.00	129		53	76			76	237	308	308																		
368+25.00	135		52	83			83	238	309	309																		
368+50.00	136		52	84			84	238	309	309																		
368+75.00	136		52	84			84	240	312	312																		
369+00.00	134		52	82			82	242	315	315																		
369+25.00	132		51	81			81	242	315	315																		
369+50.00	131		51	80			80	242	315	315																		
369+75.00	129		62	67			67	242	315	315																		
370+00.00	129		62	67			67	242	315	315																		
370+25.00	126		50	76			76	240	312	312																		
370+50.00	124		49	75			75	238	309	309																		
370+75.00	121		49	72			72	238	309	309																		
371+00.00	118		48	70			70	237	308	308																		
371+25.00	115		47	68			68	235	306	306																		
371+50.00	113		47	66			66	233	303	303																		
371+75.00	113		43	70			70	232	302	302																		
372+00.00	113		43	70			70	232	302	302																		
372+25.00	104		44	60			60	228	296	296																		
372+50.00	112		46	66			66	218	283	283																		
372+75.00	132		50	81		1	82	209	272	272																		
373+00.00	149		54	90		5	95	203	264	264																		
373+25.00	166		59	99		8	107	198	257	257																		
373+50.00	186		64	112		10	122	194	252	252																		
373+75.00	206		72	119		15	134	191	248	248																		
374+00.00	218		74	136		8	144	184	239	239																		
374+25.00	226		70	156			156	173	225	225																		
374+50.00	228		70	157		1	158	160	208	208																		
374+75.00	230		71	158		1	159	155	202	202																		
375+00.00	239		72	80	74	13	167	150	195	195																		
375+25.00	198		29		117	52	169	95	124	124																		
375+45.00	50				30	20	50	19	25	25																		
375+50.00	236		34		140	62	202	131	170	170																		
375+75.00	211		70		120	21	141	176	229	229																		
376+00.00	190		67		116	7	123	195	254	254																		
376+25.00	170		59		111		111	212	276	276																		
376+50.00	164		39		103	22	125	221	287	287																		
376+75.00	139		34		83	22	105	236	307	307																		
377+00.00	110		46		64		64	254	330	330																		
377+25.00	127		49		74	4	78	250	325	325																		
377+50.00	169		57		106	6	112	232	302	302																		
377+75.00	195		59		127	9	136	211	274	274																		
378+00.00	202		60		127	15	142	193	251	251																		
378+25.00	203		63		128	12	140	190	247	247																		
378+50.00																												

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT														
378+50.00	179		58		107	14	121	205	267	267																	
378+75.00	136		52	27	44	13	84	234	304	304																	
379+00.00	103		48	46		9	55	274	356	356																	
379+25.00	84		43	31		10	41	317	412	412																	
379+50.00	15		7	5		3	8	69	90	90																	
379+55.00	38		17	14		7	21	189	246	246																	
379+68.00	22		11	8		3	11	101	131	131																	
379+75.00	18		9	6		3	9	69	90	90																	
379+80.00	66		35	21		10	31	265	345	345																	
380+00.00	75		42	22		11	33	327	425	425																	
380+25.00	79		44	24		11	35	326	424	424																	
380+50.00	85		46	28		11	39	311	404	404																	
380+75.00	94		48	36		10	46	290	377	377																	
381+00.00	105		50	46		9	55	263	342	342																	
381+25.00	116		51	55		10	65	237	308	308																	
381+50.00	128		53	67		8	75	213	277	277																	
381+75.00	73		28	41		4	45	104	135	135																	
381+88.00	71		26	41	1	3	45	94	122	122																	
382+00.00	153		55	90	2	6	98	191	248	248																	
382+25.00	160		57	96		7	103	181	235	235																	
382+50.00	172		60	106		6	112	172	224	224																	
382+75.00	177		61	109		7	116	165	215	215																	
383+00.00	177		62	110		5	115	158	205	205																	
383+25.00	177		62	108		7	115	154	200	200																	
383+50.00	171		61	101		9	110	148	192	192																	
383+75.00	162		59	90		13	103	141	183	183																	
384+00.00	172		61	96		15	111	131	170	170																	
384+25.00	206		68	122		16	138	116	151	151																	
384+50.00	263		78	164		21	185	75	98	98																	
384+75.00	297		83	187		27	214	47	61	61																	
385+00.00	294		82	185		27	212	51	66	66																	
385+25.00	286		81	183		22	205	48	62	62																	
385+50.00	268		78	161		29	190	53	69	69																	
385+75.00	261		79	147		35	182	57	74	74																	
386+00.00	265		80	163		22	185	49	64	64																	
386+25.00	265		76	171		18	189	36	47	47																	
386+50.00	259		74	162		23	185	35	46	46																	
386+75.00	262		75	155		32	187	33	43	43																	
387+00.00	285		77	168		40	208	28	36	36																	
387+25.00	280		76	173		31	204	20	26	26																	
387+50.00	293		76	189		28	217	11	14	14																	
387+75.00	248		51	159		38	197	9	12	12																	
387+93.00	101		18	63		20	83	3	4	4																	
388+00.00	373		76	235		62	297	9	12	12																	
388+25.00	394		63	249		82	331	7	9	9																	
388+50.00	415		88	263		64	327	3	4	4																	
388+75.00	432		131	280		21	301	6	8	8																	
389+00.00	362		116	230		16	246	22	29	29																	
389+25.00	281		104	167		10	177	37	48	48																	
389+50.00	262		91	147		24	171	48	62	62																	
389+75.00	125		39	67		19	86	69	90	90																	
390+00.00																											
Stage 1B																											
390+25.00	2					2	2	135	176	176																	
390+50.00	1					1	1	115	150	150																	
390+75.00								55	72	72																	
391+00.00	2					2	2	4	5	5																	
391+07.00	6					6	6	3	4	4																	
391+25.00	4					4	4	35	46	46																	
391+50.00	4					4	4	67	87	87																	
391+75.00								60	78	78																	
392+00.00								35	46	46																	
392+25.00								12	16	16																	
392+50.00	6	6						18	23	23																	
392+75.00	19	19						28	36	36																	
393+00.00																											

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
393+00.00	34		32	2			2	20	26	26			
393+25.00	45		37	8			8	16	21	21			
393+50.00	45		37	8			8	19	25	25			
393+75.00	32		30	2			2	32	42	42			
394+00.00	14		13			1	1	57	74	74			
394+25.00	3		3					100	130	130			
394+50.00	2		2					147	191	191			
394+75.00	2		2					176	229	229			
395+00.00	1		1					206	268	268			
395+25.00								154	200	200			
395+39.78								27	35	35			
395+42.38								63	82	82			
395+50.00	2		2					176	229	229			
395+75.00	1		1					139	181	181			
396+00.00	1		1					102	133	133			
396+25.00	4		4					61	79	79			
396+50.00	16		14	2			2	26	34	34			
396+75.00	42		32	10			10	14	18	18			
397+00.00	68		44	24			24	13	17	17			
397+25.00	113		53	60			60	8	10	10			
397+50.00	135		56	79			79	3	4	4			
397+75.00	134		55	79			79	3	4	4			
398+00.00	102		39	63			63	2	3	3			
398+16.98	50		18	32			32	1	1	1			
398+25.00	158		58	100			100	3	4	4			
398+50.00	160		60	100			100	3	4	4			
398+75.00	160		61	99			99	3	4	4			
399+00.00	158		62	96			96	3	4	4			
399+25.00	152		61	90		1	91	3	4	4			
399+50.00	143		61	82			82	3	4	4			
399+75.00	135		59	75		1	76	3	4	4			
400+00.00	127		58	68		1	69	3	4	4			
400+25.00	119		57	62			62	3	4	4			
400+50.00	113		55	58			58	3	4	4			
400+75.00	110		54	56			56	3	4	4			
401+00.00	110		54	56			56	3	4	4			
401+25.00	118		56	62			62	3	4	4			
401+50.00	132		58	74			74	3	4	4			
401+75.00	128		65	62		1	63	3	4	4			
402+00.00	112		65	47			47	3	4	4			
402+25.00	103		56	47			47	3	4	4			
402+50.00	99		55	44			44	3	4	4			
402+75.00	98		55	43			43	3	4	4			
403+00.00	98		54	43		1	44	3	4	4			
403+25.00	100		55	45			45	3	4	4			
403+50.00	104		55	48		1	49	3	4	4			
403+75.00	107		56	51			51	3	4	4			
404+00.00	110		56	54			54	3	4	4			
404+25.00	115		57	58			58	3	4	4			
404+50.00	120		57	63			63	3	4	4			
404+75.00	126		57	68		1	69	3	4	4			
405+00.00	131		58	73			73	3	4	4			
405+25.00	133		58	75			75	3	4	4			
405+50.00	135		58	76		1	77	3	4	4			
405+75.00	137		64	73			73	3	4	4			
406+00.00	140		64	76			76	3	4	4			
406+25.00	142		59	83			83	3	4	4			
406+50.00	145		59	86			86	3	4	4			
406+75.00	147		59	88			88	2	3	3			
407+00.00	150		59	91			91	2	3	3			
407+25.00	156		60	96			96	3	4	4			
407+50.00	156		60	96			96	3	4	4			
407+75.00	149		59	87		3	90	3	4	4			
408+00.00	139		58	78		3	81	3	4	4			
408+25.00	129		58	70		1	71	3	4	4			
408+50.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
408+50.00	119		57	60		2	62	3	4	4			
408+75.00	109		56	51		2	53	3	4	4			
409+00.00	99		55	42		2	44	3	4	4			
409+25.00	90		53	34		3	37	3	4	4			
409+50.00	87		52	32		3	35	3	4	4			
409+75.00	89		53	33		3	36	3	4	4			
410+00.00	93		53	37		3	40	3	4	4			
410+25.00	99		54	42		3	45	3	4	4			
410+50.00	104		54	49		1	50	3	4	4			
410+75.00	109		55	54			54	3	4	4			
411+00.00	117		56	60		1	61	3	4	4			
411+25.00	126		57	68		1	69	3	4	4			
411+50.00	135		58	76		1	77	3	4	4			
411+75.00	142		58	82		2	84	3	4	4			
412+00.00	148		58	86		4	90	3	4	4			
412+25.00	154		58	93		3	96	3	4	4			
412+50.00	163		59	101		3	104	3	4	4			
412+75.00	172		61	109		2	111	3	4	4			
413+00.00	174		61	110		3	113	3	4	4			
413+25.00	170		61	106		3	109	3	4	4			
413+50.00	167		60	103		4	107	3	4	4			
413+75.00	165		62	99		4	103	3	4	4			
414+00.00	162		62	92		8	100	3	4	4			
414+25.00	157		59	91		7	98	3	4	4			
414+50.00	154		59	90		5	95	3	4	4			
414+75.00	151		59	87		5	92	3	4	4			
415+00.00	149		58	87		4	91	3	4	4			
415+25.00	148		58	88		2	90	3	4	4			
415+50.00	148		57	88		3	91	3	4	4			
415+75.00	152		56	90		6	96	3	4	4			
416+00.00	164		57	101		6	107	3	4	4			
416+25.00	145		45	96		4	100	1	1	1			
416+50.00	117		31	79		7	86						
416+75.00	140		30	104		6	110						
417+00.00	153		14	128		11	139						
417+25.00	133			116		17	133						
417+50.00	145			118		27	145						
417+75.00	144		15	108		21	129						
418+00.00	113		31	66		16	82						
418+25.00	98		33	40		25	65						
418+50.00	90		33	39		18	57						
418+75.00	127		46	68		13	81	1	1	1			
419+00.00	165		58	99		8	107	3	4	4			
419+25.00	155		56	96		3	99	3	4	4			
419+50.00	140		52	84		4	88	3	4	4			
419+75.00	29		6	9		14	23	1	1	1			
419+80.63	93		18	26		49	75	4	5	5			
420+00.00	105		46	58		1	59	6	8	8			
420+25.00	91		44	45		2	47	7	9	9			
420+50.00	79		42	35		2	37	9	12	12			
420+75.00	63		35	27		1	28	10	13	13			
421+00.00	48		28	17		3	20	15	20	20			
421+25.00	41		27	10		4	14	21	27	27			
421+50.00	41		28	8		5	13	23	30	30			
421+75.00	36		25	4		7	11	29	38	38			
422+00.00	31		21	4		6	10	37	48	48			
422+25.00	19		7	1		11	12	29	38	38			
422+41.02	10		3	1		6	7	20	26	26			
422+50.00	32		18	3		11	14	54	70	70			
422+75.00	40		27			13	13	42	55	55			
423+00.00	22		15			7	7	15	20	20			
423+11.51	31		19	4		8	12	13	17	17			
423+25.00	79		41	31		7	38	11	14	14			
423+50.00	101		47	47		7	54	4	5	5			
423+75.00	117		52	59		6	65	3	4	4			
424+00.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT															
424+00.00	135		54	80		1	81	3	4	4																		
424+25.00	156		54	102			102	3	4	4																		
424+50.00	138		51	86		1	87	3	4	4																		
424+75.00	94		46	48			48	4	5	5																		
425+00.00	75		39	36			36	10	13	13																		
425+25.00	62		35	27			27	16	21	21																		
425+50.00	49		31	15		3	18	18	23	23																		
425+75.00	34		25	5		4	9	22	29	29																		
425+99.41	1		1					1	1	1																		
426+00.00	22		17			5	5	29	38	38																		
426+25.00	21		13	2		6	8	59	77	77																		
426+50.00	8		5	2		1	3	49	64	64																		
426+59.60	13		8	2		3	5	68	88	88																		
426+75.00	25		17	3		5	8	34	44	44																		
427+00.00	24		17	2		5	7	16	21	21																		
427+25.00	32		24	6		2	8	11	14	14																		
427+50.00	7		5	2			2	1	1	1																		
427+53.91	46		29	13		4	17	4	5	5																		
427+75.00	68		39	28		1	29	5	7	7																		
428+00.00	94		45	48		1	49	5	7	7																		
428+25.00	118		49	68		1	69	4	5	5																		
428+50.00	132		51	81			81	4	5	5																		
428+75.00	149		53	96			96	3	4	4																		
429+00.00	162		56	106			106	3	4	4																		
429+25.00	168		58	110			110	3	4	4																		
429+50.00	29		10	19			19																					
429+54.16	141		49	92			92	2	3	3																		
429+75.00	171		71	99		1	100	3	4	4																		
430+00.00	179		73	105		1	106	3	4	4																		
430+25.00	202		64	136		2	138	3	4	4																		
430+50.00	234		32	150		52	202	2	3	3																		
430+75.00	34			22		12	34																					
430+78.41	187		18	131		38	169	1	1	1																		
431+00.00	181		50	126		5	131	2	3	3																		
431+25.00	163		60	102		1	103	3	4	4																		
431+50.00	140		57	82		1	83	3	4	4																		
431+75.00	103		45	58			58	2	3	3																		
431+96.41	16		7	8		1	9																					
432+00.00	94		47	46		1	47	5	7	7																		
432+25.00	73		41	30		2	32	8	10	10																		
432+50.00	43		28	15			15	15	20	20																		
432+75.00	22		17	5			5	21	27	27																		
433+00.00	38		28	10			10	17	22	22																		
433+25.00	40		16	11		13	24	20	26	26																		
433+46.06	3			1		2	3	3	4	4																		
433+47.86	4			1		3	4	3	4	4																		
433+50.00	36		13	7		16	23	52	68	68																		
433+75.00	21		19	1		1	2	90	117	117																		
434+00.00	13		7	6			6	115	150	150																		
434+25.00	10		4	5		1	6	121	157	157																		
434+50.00	7		6			1	1	129	168	168																		
434+75.00	3		3					114	148	148																		
435+00.00	1		1					113	147	147																		
435+25.00	1		1					164	213	213																		
435+50.00	1		1					223	290	290																		
435+75.00	1		1					275	358	358																		
436+00.00	1		1					278	361	361																		
436+25.00	1		1					211	274	274																		
436+44.70								59	77	77																		
436+50.00	1		1					250	325	325																		
436+75.00	2		2					159	207	207																		
437+00.00	1		1					89	116	116																		
437+25.00	1		1					90	117	117																		
437+50.00	5		5					82	107	107																		
437+75.00	16		13	3			3	58	75	75																		
438+00.00																												

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT														
438+00.00	8		5	3			3	14	18	18																	
438+08.06	20		12	8			8	24	31	31																	
438+25.00	46		25	21			21	27	35	35																	
438+50.00	60		32	28			28	26	34	34																	
438+75.00	64		35	29			29	25	33	33																	
439+00.00	67		36	29		2	31	24	31	31																	
439+25.00	66		38	23		5	28	24	31	31																	
439+50.00	62		35	22		5	27	24	31	31																	
439+75.00	63		30	27		6	33	26	34	34																	
440+00.00	57		24	26		7	33	30	39	39																	
440+25.00	54		8	24		22	46	26	34	34																	
440+48.56	4			2		2	4	1	1	1																	
440+50.00	55		4	15		36	51	44	57	57																	
440+75.00	44		7			37	37	70	91	91																	
441+00.00	46		5	6		35	41	65	85	85																	
441+25.00	49		3	6		40	46	55	72	72																	
441+50.00	50		2	6		42	48	56	73	73																	
441+75.00	46		1	6		39	45	31	40	40																	
442+00.00	43					43	43	10	13	13																	
442+25.00	43			1		42	43	9	12	12																	
442+50.00	41			1		40	41	20	26	26																	
442+75.00	40		1	1		38	39	22	29	29																	
443+00.00	28		1	6		21	27	4	5	5																	
443+18.00																											
Stage 2B																											
391+75.00	9					9	9	1	1	1																	
392+00.00	17					17	17	9	12	12																	
392+25.00	28		1	6		21	27	14	18	18																	
392+50.00	37		3	17		17	34	9	12	12																	
392+75.00	49		3	28		18	46	4	5	5																	
393+00.00	65		2	41		22	63	3	4	4																	
393+25.00	79		2	53		24	77	3	4	4																	
393+50.00	90		3	61		26	87	3	4	4																	
393+75.00	99		5	66		28	94	3	4	4																	
394+00.00	104		6	73		25	98	3	4	4																	
394+25.00	106		6	76		24	100	3	4	4																	
394+50.00	121		18	76		27	103	3	4	4																	
394+75.00	160		30	98		32	130	3	4	4																	
395+00.00	161		32	93		36	129	3	4	4																	
395+25.00	71		11	39		21	60	2	3	3																	
395+39.78	11		1	6		4	10																				
395+42.38	32		2	18		12	30	1	1	1																	
395+50.00	107		7	60		40	100	3	4	4																	
395+75.00	109		8	64		37	101	3	4	4																	
396+00.00	113		8	73		32	105	3	4	4																	
396+25.00	117		7	82		28	110	3	4	4																	
396+50.00	120		7	85		28	113	3	4	4																	
396+75.00	120		7	86		27	113	3	4	4																	
397+00.00	118		6	86		26	112	3	4	4																	
397+25.00	115		5	84		26	110	3	4	4																	
397+50.00	115		7	84		24	108	3	4	4																	
397+75.00	124		17	84		23	107	2	3	3																	
398+00.00	87		16	56		15	71	1	1	1																	
398+16.98	41		8	25		8	33	1	1	1																	
398+25.00	126		25	82		19	101	2	3	3																	
398+50.00	117		15	80		22	102	2	3	3																	
398+75.00	108		6	75		27	102	3	4	4																	
399+00.00	109		6	74		29	103	2	3	3																	
399+25.00	110		6	73		31	104	3	4	4																	
399+50.00	110		5	69		36	105	2	3	3																	
399+75.00	111		5	71		35	106	3	4	4																	
400+00.00	109		6	76		27	103	3	4	4																	
400+25.00	106		5	76		25	101	2	3	3																	
400+50.00	102		5	73		24	97	3	4	4																	
400+75.00	98		5	68		25	93	2	3	3																	
401+00.00																											

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
401+00.00	91		4	62		25	87	3	4	4			
401+25.00	85		3	56		26	82	3	4	4			
401+50.00	80		2	52		26	78	3	4	4			
401+75.00	77		2	45		30	75	3	4	4			
402+00.00	75		2	43		30	73	3	4	4			
402+25.00	75		3	48		24	72	15	20	20			
402+50.00	76		4	50		22	72	26	34	34			
402+75.00	77		4	52		21	73	22	29	29			
403+00.00	79		4	54		21	75	17	22	22			
403+25.00	81		4	53		24	77	13	17	17			
403+50.00	83		5	49		29	78	10	13	13			
403+75.00	85		5	53		27	80	9	12	12			
404+00.00	88		5	56		27	83	9	12	12			
404+25.00	90		6	54		30	84	8	10	10			
404+50.00	91		6	57		28	85	8	10	10			
404+75.00	93		6	62		25	87	7	9	9			
405+00.00	94		6	60		28	88	7	9	9			
405+25.00	94		5	58		31	89	8	10	10			
405+50.00	94		5	62		27	89	8	10	10			
405+75.00	96		6	67		23	90	7	9	9			
406+00.00	99		6	71		22	93	6	8	8			
406+25.00	101		6	71		24	95	5	7	7			
406+50.00	102		6	73		23	96	4	5	5			
406+75.00	98		8	67		23	90	3	4	4			
407+00.00	100		9	69		22	91	3	4	4			
407+25.00	106		6	75		25	100	5	7	7			
407+50.00	106		7	74		25	99	5	7	7			
407+75.00	105		7	38		60	98	5	7	7			
408+00.00	104		6	10		88	98	4	5	5			
408+25.00	103		6	17		80	97	4	5	5			
408+50.00	104		7	14		83	97	5	7	7			
408+75.00	109		7	13		89	102	7	9	9			
409+00.00	113		7	11		95	106	8	10	10			
409+25.00	114		8	10		96	106	8	10	10			
409+50.00	115		9	8		98	106	8	10	10			
409+75.00	115		8	11		96	107	6	8	8			
410+00.00	118		8	13		97	110	5	7	7			
410+25.00	121		8	12		101	113	4	5	5			
410+50.00	123		9	21		93	114	3	4	4			
410+75.00	125		9	25		91	116	3	4	4			
411+00.00	127		9	48		70	118	3	4	4			
411+25.00	129		9	46		74	120	3	4	4			
411+50.00	132		10	25		97	122	3	4	4			
411+75.00	134		11	24		99	123	3	4	4			
412+00.00	136		11	17		108	125	2	3	3			
412+25.00	138		12	23		103	126	3	4	4			
412+50.00	141		13	25		103	128	2	3	3			
412+75.00	146		15	25		106	131	3	4	4			
413+00.00	150		16	28		106	134	3	4	4			
413+25.00	150		17	28		105	133	3	4	4			
413+50.00	150		18	26		106	132	2	3	3			
413+75.00	155		21	45		89	134	3	4	4			
414+00.00	163		22	50		91	141	2	3	3			
414+25.00	169		20	48		101	149	3	4	4			
414+50.00	173		20	52		101	153	2	3	3			
414+75.00	176		22	54		100	154	3	4	4			
415+00.00	178		22	62		94	156	3	4	4			
415+25.00	206		22	75		109	184	3	4	4			
415+75.00	27			13		14	27						
416+00.00	27			14		13	27						
416+25.00	27			17		10	27						
416+50.00	28			19		9	28						
416+75.00	28			21		7	28						
417+00.00	27			23		4	27						
417+25.00	25			22		3	25						
417+50.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT															
417+50.00	27			22		5	27																					
417+75.00	27			22		5	27																					
418+00.00	27			16		11	27																					
418+25.00	27			8		19	27																					
418+50.00	63			19		44	63	1	1	1																		
418+75.00	124			69		55	124	2	3	3																		
419+00.00	140		9	69		62	131	2	3	3																		
419+25.00	242		28	36		178	214	28	36	36																		
419+75.00	24		2	2		20	22	6	8	8																		
419+80.63	83		8	37		38	75	21	27	27																		
420+00.00	104		8	47		49	96	18	23	23																		
420+25.00	100		4	12		84	96	11	14	14																		
420+50.00	103		4	13		86	99	11	14	14																		
420+75.00	113		6	16		91	107	10	13	13																		
421+00.00	123		8	11		104	115	9	12	12																		
421+25.00	130		8	11		111	122	8	10	10																		
421+50.00	134		8	15		111	126	8	10	10																		
421+75.00	130		9	20		101	121	10	13	13																		
422+00.00	129		9	22		98	120	14	18	18																		
422+25.00	91		3	5		83	88	8	10	10																		
422+41.02	48			6		42	48	2	3	3																		
422+50.00	113			21		92	113	2	3	3																		
422+75.00	182			6		176	182	2	3	3																		
423+00.00	114		10	12		92	104	1	1	1																		
423+11.51	145		12	16		117	133	1	1	1																		
423+25.00	214			45		169	214	2	3	3																		
423+50.00	309		5	231		73	304	4	5	5																		
424+00.00	173		8	141		24	165	3	4	4																		
424+25.00	171		11	129		31	160	2	3	3																		
424+50.00	170		11	131		28	159	3	4	4																		
424+75.00	169		11	123		35	158	3	4	4																		
425+00.00	167		10	116		41	157	3	4	4																		
425+25.00	159		5	102		52	154	3	4	4																		
425+50.00	325		1	108		216	324	4	5	5																		
425+99.41	4					4	4																					
426+00.00	161		2	19		140	159	2	3	3																		
426+25.00	159		6	32		121	153	19	25	25																		
426+50.00	66		4	8		54	62	16	21	21																		
426+59.60	104		6	10		88	98	26	34	34																		
426+75.00	167		10	13		144	157	35	46	46																		
427+00.00	322		11	59		252	311	34	44	44																		
427+50.00	24			4		20	24																					
427+53.91	283		10	97		176	273	15	20	20																		
428+00.00	149		10	59		80	139	15	20	20																		
428+25.00	146		11	22		113	135	17	22	22																		
428+50.00	144		11	36		97	133	17	22	22																		
428+75.00	144		11	36		97	133	13	17	17																		
429+00.00	276		14	99		163	262	12	16	16																		
429+50.00	22			12		10	22																					
429+54.16	103		2	42		59	101	2	3	3																		
429+75.00	129		6	37		86	123	9	12	12																		
430+00.00	144		10	51		83	134	18	23	23																		
430+25.00	145		11	60		74	134	18	23	23																		
430+50.00	140		10	57		73	130	18	23	23																		
430+75.00	19		1	8		10	18	2	3	3																		
430+78.41	118		9	54		55	109	17	22	22																		
431+00.00	140		13	59		68	127	21	27	27																		
431+25.00	142		16	51		75	126	12	16	16																		
431+50.00	145		10	61		74	135	3	4	4																		
431+75.00	104		1	44		59	103	2	3	3																		
431+96.41	14			6		8	14																					
432+00.00	111		18	36		57	93	2	3	3																		
432+25.00	106		21	8		77	85	22	29	29																		
432+50.00	76		8	3		65	68	55	72	72																		
432+75.00	64		6	1		57	58	67	87	87																		
433+00.00																												

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT														
433+00.00	70		3	11		56	67	35	46	46																	
433+25.00	47			18		29	47	2	3	3																	
433+46.06	2			2			2																				
433+47.86	3			2		1	3																				
433+50.00	32		1	17		14	31	3	4	4																	
433+75.00	31		3	6		22	28	4	5	5																	
434+00.00	28		4			24	24	3	4	4																	
434+25.00	27		4			23	23	3	4	4																	
434+50.00	27		3			24	24	2	3	3																	
434+75.00	28		3			25	25	3	4	4																	
435+00.00	31		4			27	27	3	4	4																	
435+25.00	35		4			31	31	3	4	4																	
435+50.00	39		4			35	35	3	4	4																	
435+75.00	42		4	9		29	38	3	4	4																	
436+00.00	44		5	9		30	39	3	4	4																	
436+25.00	35		4			31	31	2	3	3																	
436+44.70	9		1			8	8	1	1	1																	
436+50.00	43		4			39	39	3	4	4																	
436+75.00	40		4			36	36	3	4	4																	
437+00.00	38		5			33	33	3	4	4																	
437+25.00	36		5			31	31	3	4	4																	
437+50.00	35		5			30	30	3	4	4																	
437+75.00	36		4			32	32	2	3	3																	
438+00.00	12		1			11	11	1	1	1																	
438+08.06	26		3			23	23	3	4	4																	
438+25.00	39		5	4		30	34	14	18	18																	
438+50.00	37		5	4		28	32	17	22	22																	
438+75.00	36		3	1		32	33	15	20	20																	
439+00.00	34		1			33	33	18	23	23																	
439+25.00	32		1	5		26	31	20	26	26																	
439+50.00	29			15		14	29	20	26	26																	
439+75.00	32		4	20		8	28	21	27	27																	
440+00.00	36		8	20		8	28	22	29	29																	
440+25.00	29		3	14		12	26	21	27	27																	
440+48.56	2			1		1	2	1	1	1																	
440+50.00	26			6		20	26	24	31	31																	
440+75.00	25			2		23	25	25	33	33																	
441+00.00	17			3		14	17	14	18	18																	
441+25.00	11			2		9	11	1	1	1																	
441+50.00	19			3		16	19	6	8	8																	
441+75.00	28		8	2		18	20	10	13	13																	
442+00.00	28		8			20	20	5	7	7																	
442+23.76	1					1	1																				
442+25.00	30		2			28	28	3	4	4																	
442+50.00	29		2			27	27	3	4	4																	
442+75.00	27		1			26	26	3	4	4																	
443+00.00	18		1	8		9	17	2	3	3																	
443+18.00																											
Widening																											
443+23.01	2					2	2	1	1	1																	
443+25.00	18		2			16	16	6	8	8																	
443+50.00	14		2			12	12	6	8	8																	
443+75.00	13		1			12	12	11	14	14																	
444+00.00	16		1			15	15	20	26	26																	
444+25.00	19		1			18	18	27	35	35																	
444+50.00	19		1			18	18	32	42	42																	
444+75.00	18		1			17	17	36	47	47																	
445+00.00	18		1			17	17	32	42	42																	
445+25.00	18		1			17	17	27	35	35																	
445+50.00	18		1			17	17	28	36	36																	
445+75.00	18		1			17	17	29	38	38																	
446+00.00	18		1			17	17	32	42	42																	
446+25.00	16					16	16	34	44	44																	
446+48.51	1					1	1	2	3	3																	
446+50.00	4					4	4	10	13	13																	
446+56.51																											

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
446+56.51	11					11	11	23	30	30			
446+75.00	15					15	15	45	59	59			
447+00.00	18		1			17	17	70	91	91			
447+25.00	17		1			16	16	64	83	83			
447+50.00	12		1			11	11	39	51	51			
447+68.44	4					4	4	13	17	17			
447+75.00	15		1			14	14	34	44	44			
448+00.00	11					11	11	20	26	26			
448+17.01	6					6	6	10	13	13			
448+25.00	19					19	19	34	44	44			
448+50.00	3					3	3	8	10	10			
448+54.51	13		1			12	12	39	51	51			
448+75.00	15		1			14	14	42	55	55			
449+00.00	16					16	16	32	42	42			
449+25.00	11					11	11	19	25	25			
449+42.01	5					5	5	9	12	12			
449+50.00	17					17	17	26	34	34			
449+75.00	18		1			17	17	24	31	31			
450+00.00	18		1			17	17	21	27	27			
450+25.00	19		1			18	18	18	23	23			
450+50.00	20		2			18	18	15	20	20			
450+75.00	21		4			17	17	12	16	16			
451+00.00	22		4			18	18	10	13	13			
451+25.00	17		2			15	15	6	8	8			
451+50.00	11					11	11	3	4	4			
451+75.00	11					11	11	3	4	4			
452+00.00	11					11	11	3	4	4			
452+25.00	15					15	15	6	8	8			
452+50.00	19		1			18	18	9	12	12			
452+75.00	18		1			17	17	10	13	13			
453+00.00	18		1			17	17	11	14	14			
453+25.00	18		1			17	17	12	16	16			
453+50.00	18		1			17	17	13	17	17			
453+75.00	14					14	14	12	16	16			
454+00.00	11					11	11	11	14	14			
454+25.00	11		1			10	10	12	16	16			
454+50.00	11		1			10	10	11	14	14			
454+75.00	15		1			14	14	13	17	17			
455+00.00	15					15	15	10	13	13			
455+25.00	11					11	11	3	4	4			
455+50.00	11					11	11	3	4	4			
455+75.00	11					11	11	3	4	4			
456+00.00	15					15	15	10	13	13			
456+25.00	18		1			17	17	18	23	23			
456+50.00	18		1			17	17	18	23	23			
456+75.00	19		1			18	18	17	22	22			
457+00.00	19		1			18	18	16	21	21			
457+25.00	19		1			18	18	15	20	20			
457+50.00	19		1			18	18	14	18	18			
457+75.00	19		1			18	18	14	18	18			
458+00.00	18		1			17	17	15	20	20			
458+25.00	18		1			17	17	15	20	20			
458+50.00	17					17	17	16	21	21			
458+75.00	1					1	1	1	1	1			
458+76.10	17					17	17	14	18	18			
459+00.00	19		1			18	18	12	16	16			
459+25.00	19		1			18	18	14	18	18			
459+50.00	19		1			18	18	15	20	20			
459+75.00	17		1			16	16	14	18	18			
460+00.00	10					10	10	9	12	12			
460+15.20	7					7	7	7	9	9			
460+25.00	18		1			17	17	15	20	20			
460+50.00	19		1			18	18	12	16	16			
460+75.00	19		1			18	18	15	20	20			
461+00.00	19		1			18	18	12	16	16			
461+25.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
461+25.00	7					7	7	3	4	4			
461+34.29	12					12	12	5	7	7			
461+50.00	21		3			18	18	16	21	21			
461+75.00	20		5			15	15	25	33	33			
462+00.00	17		5			12	12	23	30	30			
462+25.00	16		5			11	11	20	26	26			
462+50.00	19		5			14	14	19	25	25			
462+75.00	22		4			18	18	19	25	25			
463+00.00	22		3			19	19	21	27	27			
463+25.00	22		4			18	18	23	30	30			
463+50.00	23		5			18	18	22	29	29			
463+75.00	23		5			18	18	20	26	26			
464+00.00	23		5			18	18	20	26	26			
464+25.00	24		5			19	19	18	23	23			
464+50.00	25		7			18	18	14	18	18			
464+75.00	19		5			14	14	6	8	8			
464+92.00													
Kennedy													
1257+10.00	7					7	7						
1257+25.00	25					25	25						
1257+45.00	10					10	10						
1257+50.00	56					56	56	2	3	3			
1257+75.00	55					55	55	4	5	5			
1258+00.00	43					43	43	11	14	14			
1258+25.00													
1258+25.10	4					4	4	4	5	5			
1258+27.00	27					27	27	62	81	81			
1258+50.00													
R57													
1280+60.00	53					53	53						
1280+75.00	126					126	126	5	7	7			
1281+00.00	151					151	151	13	17	17			
1281+25.00	157					157	157	12	16	16			
1281+50.00	150					150	150	3	4	4			
1281+75.00	107					107	107						
1281+92.00	50					50	50						
1282+00.00	99					99	99	3	4	4			
1282+25.00	28					28	28	8	10	10			
1282+50.00								14	18	18			
1282+75.00								18	23	23			
1283+00.00								23	30	30			
1283+25.00								31	40	40			
1283+50.00													
1384+25.00	86					86	86	42	55	55			
1384+50.00	151					151	151	21	27	27			
1384+75.00	155					155	155	8	10	10			
1385+00.00	47					47	47	2	3	3			
1385+07.00	106					106	106	6	8	8			
1385+25.00	25					25	25	2	3	3			
1385+30.00	92					92	92	12	16	16			
1385+50.00	102					102	102	16	21	21			
1385+72.00	15					15	15	2	3	3			
1385+75.00	95					95	95	19	25	25			
1386+00.00	16					16	16	6	8	8			
1386+06.00													
90th St													
2305+85.00	21					21	21	4	5	5			
2306+00.00	13					13	13	2	3	3			
2306+07.14	41					41	41	7	9	9			
2306+25.00	71					71	71	12	16	16			
2306+50.00	81					81	81	15	20	20			
2306+75.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
2306+75.00	91					91	91	19	25	25			
2307+00.00	99					99	99	27	35	35			
2307+25.00	112					112	112	39	51	51			
2307+50.00	132					132	132	50	65	65			
2307+75.00	31					31	31	11	14	14			
2307+80.00	125					125	125	59	77	77			
2308+00.00	148					148	148	105	137	137			
2308+25.00	155					155	155	138	179	179			
2308+50.00	166					166	166	171	222	222			
2308+75.00	167					167	167	205	267	267			
2309+00.00	160					160	160	236	307	307			
2309+25.00	173					173	173	263	342	342			
2309+50.00	96					96	96	196	255	255			
2309+75.00								105	137	137			
2310+00.00								168	218	218			
2310+75.00	9					9	9	8	10	10			
2310+85.00	3					3	3	2	3	3			
2310+88.00	13					13	13	5	7	7			
2311+00.00	69					69	69	4	5	5			
2311+25.00	78					78	78						
2311+50.00	71					71	71						
2311+75.00	73					73	73						
2312+00.00	72					72	72						
2312+25.00	60					60	60						
2312+50.00	44					44	44						
2312+75.00	62					62	62						
2313+00.00	27					27	27						
2313+08.00	7					7	7						
2313+10.00	35					35	35	1	1	1			
2313+25.00	29					29	29	2	3	3			
2313+50.00	17					17	17	2	3	3			
2313+75.00	4					4	4	1	1	1			
2313+85.00													
R63													
3388+60.00													
3388+75.00	91					91	91	13	17	17			
3388+79.00	26					26	26	4	5	5			
3389+00.00	121					121	121	24	31	31			
3389+25.00	105					105	105	40	52	52			
3389+50.00	94					94	94	52	68	68			
3389+75.00	86					86	86	63	82	82			
3390+00.00	74					74	74	72	94	94			
3390+25.00	52					52	52	124	161	161			
3390+50.00	21					21	21	296	385	385			
3390+75.00	5					5	5	273	355	355			
3391+31.95													
3391+50.00	58					58	58	11	14	14			
3391+75.00	143					143	143	11	14	14			
3392+00.00	116					116	116	27	35	35			
3392+20.00	87					87	87	25	33	33			
3392+25.00	20					20	20	5	7	7			
3392+50.00	78					78	78	16	21	21			
3392+75.00	64					64	64	7	9	9			
3393+00.00	70					70	70	3	4	4			
3393+05.00	16					16	16						
Y St													
4414+15.00													
4414+25.00	14					14	14	4	5	5			
4414+50.00	35					35	35	9	12	12			
4414+75.00	42					42	42	5	7	7			
4415+00.00	56					56	56	5	7	7			
4415+25.00	75					75	75	5	7	7			
4415+50.00	99					99	99	5	7	7			

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
4415+50.00	126					126	126	5	7	7			
4415+75.00	154					154	154	5	7	7			
4416+00.00	181					181	181	5	7	7			
4416+25.00	219					219	219	5	7	7			
4416+50.00	291					291	291	5	7	7			
4416+75.00	518					518	518	8	10	10			
4417+00.00	864					864	864	28	36	36			
4417+25.00	13					13	13	1	1	1			
4417+25.32													
4417+64.40	429					429	429	18	23	23			
4417+75.00	980					980	980	42	55	55			
4418+00.00	659					659	659	84	109	109			
4418+25.00	478					478	478	56	73	73			
4418+50.00	467					467	467	4	5	5			
4418+75.00	402					402	402	4	5	5			
4419+00.00	334					334	334	5	7	7			
4419+25.00	290					290	290	5	7	7			
4419+50.00	244					244	244	5	7	7			
4419+75.00	192					192	192	5	7	7			
4420+00.00	150					150	150	5	7	7			
4420+25.00	123					123	123	5	7	7			
4420+50.00	100					100	100	5	7	7			
4420+75.00	84					84	84	5	7	7			
4421+00.00	73					73	73	5	7	7			
4421+25.00	66					66	66	5	7	7			
4421+50.00	60					60	60	5	7	7			
4421+75.00	55					55	55	5	7	7			
4422+00.00	52					52	52	5	7	7			
4422+25.00	50					50	50	5	7	7			
4422+50.00	20					20	20	2	3	3			
4422+60.00													
R57 Detour													
11277+89.54	11					11	11						
11278+00.00	25					25	25						
11278+25.00	19					19	19						
11278+50.00	30					30	30	2	3	3			
11278+75.00	53					53	53	19	25	25			
11279+00.00	67					67	67	55	72	72			
11279+25.00	41					41	41	49	64	64			
11279+38.27	37					37	37	57	74	74			
11279+50.00	73					73	73	162	211	211			
11279+75.00	59					59	59	207	269	269			
11280+00.00	47					47	47	229	298	298			
11280+25.00	43					43	43	232	302	302			
11280+50.00	44					44	44	225	293	293			
11280+75.00	46					46	46	211	274	274			
11281+00.00	52					52	52	188	244	244			
11281+25.00	67					67	67	160	208	208			
11281+50.00	82					82	82	130	169	169			
11281+75.00	90					90	90	106	138	138			
11282+00.00	106					106	106	79	103	103			
11282+25.00	134					134	134	31	40	40			
11282+50.00	126					126	126	6	8	8			
11282+75.00	95					95	95	27	35	35			
11283+00.00	77					77	77	46	60	60			
11283+25.00	55					55	55	48	62	62			
11283+50.00	51					51	51	44	57	57			
11283+75.00	59					59	59	52	68	68			
11284+00.00	30					30	30	33	43	43			
11284+25.00								3	4	4			
11284+50.00								2	3	3			
11284+75.00	41					41	41	9	12	12			
11285+00.00	73					73	73	9	12	12			
11285+25.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
11285+25.00	98					98	98	1	1	1			
11285+50.00	147					147	147	1	1	1			
11285+75.00	169					169	169						
11286+00.00	151					151	151	4	5	5			
11286+25.00	116					116	116	22	29	29			
11286+50.00	111					111	111	42	55	55			
11286+75.00	118					118	118	56	73	73			
11287+00.00	71					71	71	44	57	57			
11287+15.00	45					45	45	36	47	47			
11287+25.00	101					101	101	111	144	144			
11287+50.00	80					80	80	163	212	212			
11287+75.00	54					54	54	239	311	311			
11288+00.00	38					38	38	285	371	371			
11288+25.00	36					36	36	273	355	355			
11288+50.00	43					43	43	225	293	293			
11288+75.00	36					36	36	117	152	152			
11288+91.65	20					20	20	49	64	64			
11289+00.00	62					62	62	114	148	148			
11289+25.00	74					74	74	77	100	100			
11289+50.00	34					34	34	25	33	33			
11289+60.00	45					45	45	26	34	34			
11289+75.00	59					59	59	14	18	18			
11290+00.00	42					42	42	1	1	1			
11290+25.00	15					15	15						
11290+40.39													
R63 Detour													
18388+00.00	29					29	29	171	222	222			
18388+25.00	19					19	19	217	282	282			
18388+50.00	7					7	7	236	307	307			
18388+75.00	17					17	17	244	317	317			
18389+00.00	30					30	30	258	335	335			
18389+25.00	26					26	26	274	356	356			
18389+50.00	30					30	30	272	354	354			
18389+75.00	50					50	50	247	321	321			
18390+00.00	73					73	73	208	270	270			
18390+25.00	81					81	81	167	217	217			
18390+50.00	81					81	81	135	176	176			
18390+75.00	88					88	88	104	135	135			
18391+00.00	95					95	95	70	91	91			
18391+25.00	92					92	92	40	52	52			
18391+50.00	82					82	82	22	29	29			
18391+75.00	67					67	67	11	14	14			
18392+00.00	51					51	51	4	5	5			
18392+25.00	131					131	131	1	1	1			
18392+50.00	110					110	110						
18392+75.00	154					154	154						
18393+00.00	297					297	297						
18393+25.00	262					262	262						
18393+50.00	231					231	231						
18393+75.00	218					218	218						
18394+00.00	204					204	204						
18394+25.00	186					186	186						
18394+50.00	177					177	177						
18394+75.00	164					164	164						
18395+00.00	144					144	144						
18395+25.00	119					119	119	1	1	1			
18395+50.00	85					85	85	12	16	16			
18395+75.00	53					53	53	27	35	35			
18396+00.00	31					31	31	29	38	38			
18396+25.00													
Y St Detour A													
14410+00.00	21					21	21						
14410+25.00	46					46	46						
14410+50.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

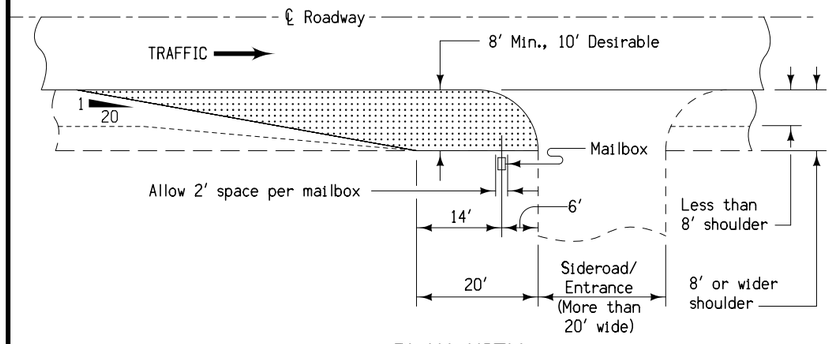
Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT														
14410+50.00	77					77	77																				
14410+75.00	111					111	111																				
14411+00.00	145					145	145																				
14411+25.00	178					178	178																				
14411+50.00	208					208	208																				
14411+75.00	244					244	244																				
14412+00.00	287					287	287																				
14412+25.00	316					316	316																				
14412+50.00	315					315	315																				
14412+75.00	282					282	282																				
14413+00.00	233					233	233																				
14413+25.00	192					192	192																				
14413+50.00	153					153	153																				
14413+75.00	106					106	106	2	3	3																	
14414+00.00	69					69	69	11	14	14																	
14414+25.00	49					49	49	20	26	26																	
14414+50.00	40					40	40	24	31	31																	
14414+75.00	34					34	34	29	38	38																	
14415+00.00	28					28	28	36	47	47																	
14415+25.00	22					22	22	43	56	56																	
14415+50.00	18					18	18	45	59	59																	
14415+75.00	15					15	15	42	55	55																	
14416+00.00	18					18	18	31	40	40																	
14416+25.00	30					30	30	18	23	23																	
14416+50.00	34					34	34	12	16	16																	
14416+75.00	19					19	19	18	23	23																	
14417+00.00	2					2	2	7	9	9																	
14417+13.53																											
Y St Detour B																											
14416+96.30	22					22	22																				
14417+00.00	196					196	196																				
14417+25.00	237					237	237																				
14417+50.00	316					316	316																				
14417+75.00	412					412	412																				
14418+00.00	451					451	451																				
14418+25.00	458					458	458																				
14418+50.00	442					442	442																				
14418+75.00	418					418	418																				
14419+00.00	388					388	388																				
14419+25.00	367					367	367																				
14419+50.00	354					354	354																				
14419+75.00	340					340	340																				
14420+00.00	323					323	323																				
14420+25.00	300					300	300																				
14420+50.00	273					273	273																				
14420+75.00	254					254	254																				
14421+00.00	245					245	245																				
14421+25.00	240					240	240																				
14421+50.00	242					242	242																				
14421+75.00	253					253	253																				
14422+00.00	267					267	267																				
14422+25.00	270					270	270																				
14422+50.00	268					268	268																				
14422+75.00	267					267	267																				
14423+00.00	266					266	266																				
14423+25.00	260					260	260																				
14423+50.00	240					240	240																				
14423+75.00	211					211	211																				
14424+00.00	169					169	169																				
14424+25.00	121					121	121																				
14424+50.00	74					74	74																				
14424+75.00	35					35	35																				
14425+00.00	16					16	16																				
14425+25.00																											
14425+25.51																											

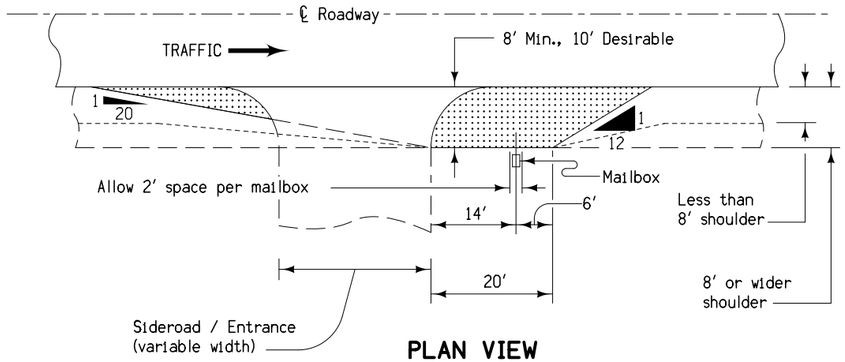
TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

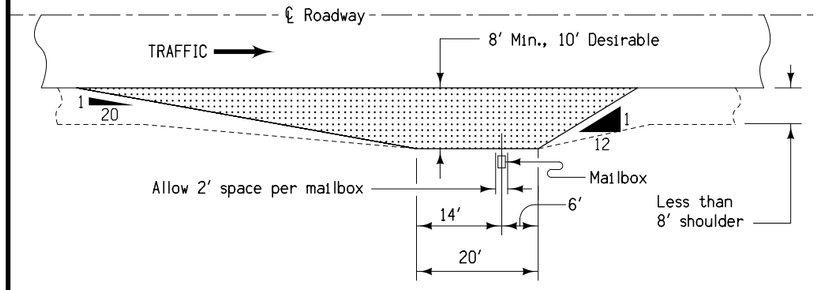
STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT														
14425+25.51																											
Y St Detour C																											
24415+20.63	1					1	1																				
24415+25.00	17					17	17																				
24415+47.54	3					3	3																				
24415+50.00	72					72	72																				
24415+75.00	145					145	145																				
24416+00.00	185					185	185																				
24416+25.00	192					192	192																				
24416+50.00	191					191	191																				
24416+75.00	172					172	172																				
24417+00.00	143					143	143																				
24417+25.00	116					116	116																				
24417+50.00	70					70	70	3	4	4																	
24417+75.00	19					19	19	33	43	43																	
24418+00.00								60	78	78																	
24418+25.00								25	33	33																	
24418+46.15																											
ML Detour NE																											
439+25.00	18					18	18																				
439+50.00	21					21	21																				
439+75.00	28					28	28																				
440+00.00	35					35	35																				
440+25.00	44					44	44																				
440+48.56	3					3	3																				
440+50.00	60					60	60																				
440+75.00	68					68	68																				
441+00.00	122					122	122																				
441+50.00	44					44	44																				
441+75.00	29					29	29																				
442+00.00	17					17	17	2	3	3																	
442+23.76	1					1	1																				
442+25.00	13					13	13	6	8	8																	
442+50.00	12					12	12	8	10	10																	
442+75.00	12					12	12	7	9	9																	
443+00.00	9					9	9	3	4	4																	
443+18.00	3					3	3	1	1	1																	
443+23.01	1					1	1																				
443+25.00	12					12	12	3	4	4																	
443+50.00	11					11	11	4	5	5																	
443+75.00	11					11	11	5	7	7																	
444+00.00	10					10	10	4	5	5																	
444+25.00	11					11	11	1	1	1																	
444+50.00	15					15	15																				
444+75.00																											
Spruce Detour																											
19441+25.00	56					56	56																				
19441+50.00	80					80	80																				
19441+75.00	60					60	60																				
19442+00.00	46					46	46																				
19442+25.00																											



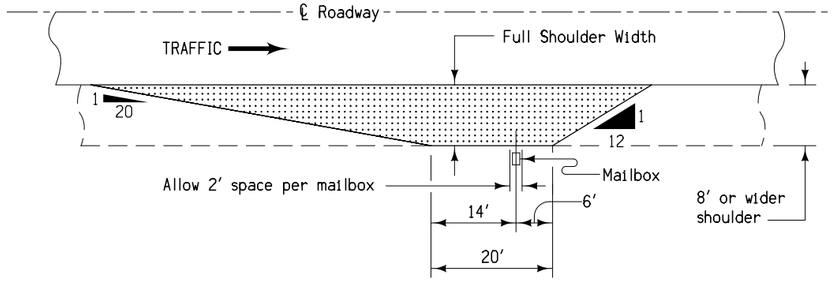
PLAN VIEW
Approach Side of Entrance



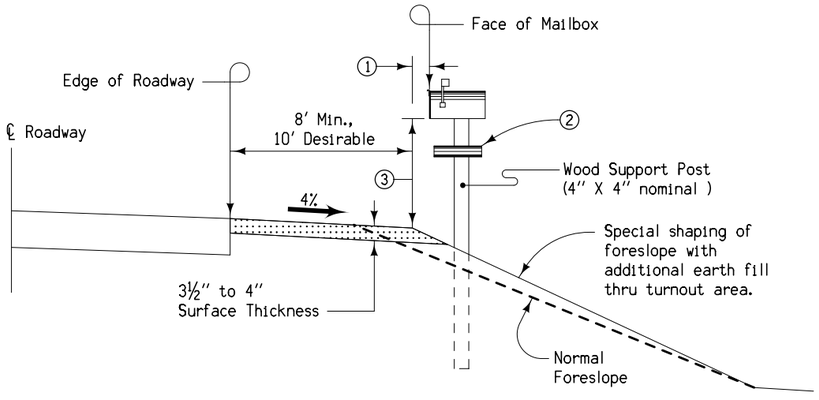
PLAN VIEW
Trailing Side of Entrance



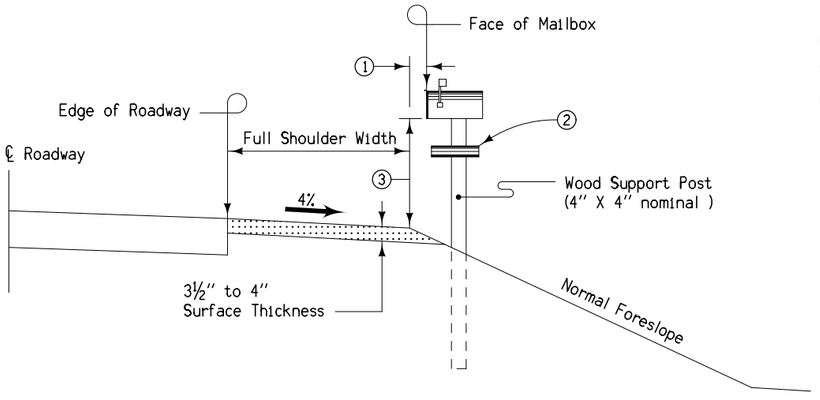
PLAN VIEW
Shoulder Width Less than 8′



PLAN VIEW
Shoulder Width 8′ or More



TYPICAL SECTION
Shoulder Width Less than 8′



TYPICAL SECTION
Shoulder Width 8′ or More

GENERAL NOTES:

Refer to "Policies and Procedures Manual", Policy 610.09, Mailboxes and Newspaper Receptacles on Primary Roads.

Mailbox turnouts shall be full shoulder width with a min–imum width of 8 feet. On shoulders less than 8 feet, build fillet to obtain a minimum width of 8 feet.

For multiple mailbox installations in one turnout, the taper dimensions will remain the same. The dimensions from centerline of mailbox located at either end will remain the same and 2 feet will be allowed for each mailbox in the installation.

When the mailbox owner's driveway is on the right hand side of the road, as the mail carrier travels, the box would preferably be placed near the driveway as shown on this sheet. With these types of placement, the driveway will serve as part of the mailbox turnout.

Requests, by the property owner, for the location of mailbox turnouts other than at driveways shall be approved by the Engineer in charge of construction and the U.S. Postal Authorities.

Mailbox(s) shall be installed with the face (door) no closer to the roadway than the shoulder line. Support post shall be in the foreslope with the inside edge at least one (1) foot outward from the shoulder line.

SURFACING QUANTITY

Surfacing of mailbox turnouts is based on a 5 inch design depth (loose volume) which will, under normal conditions, compact to 3.5″ to 4″ actual depth. A width of 8 feet will require approximately 18.3 cubic yards and 10 foot width will require approximately 27.8 cubic yards of surfacing. Quantities are given for a single mailbox installation 276 to 340 feet in length. Where multiple installations or installa–tions at driveways are encountered, quantities will vary as directed by the Engineer.

Payment for construction of mailbox turnouts will be as specified elsewhere in the contract documents.

(1) 8″ to 12″ preferred, 0″ minimum.

(2) Metal tube / box for delivery of local advertisements, newspapers etc.

(3) Mounting height per U.S. Postal Regulations (42″to 48″ above mail stop surface).

Iowa Department of Transportation
Project Development Division

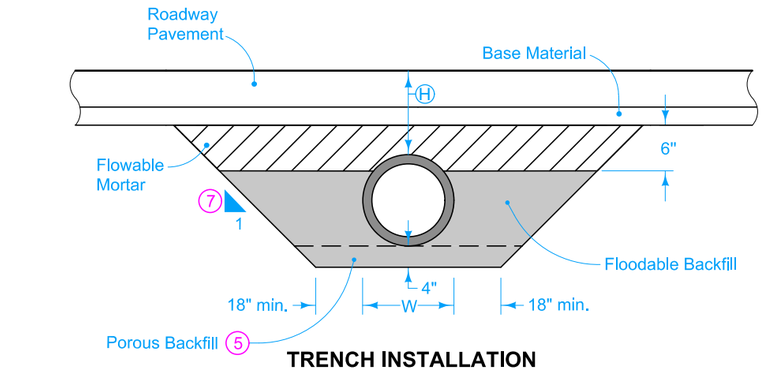
DETAIL SHEET 560–2

REVISION: Place in CADD	REVISION NO.	REVISION DATE
	1	03-28-95

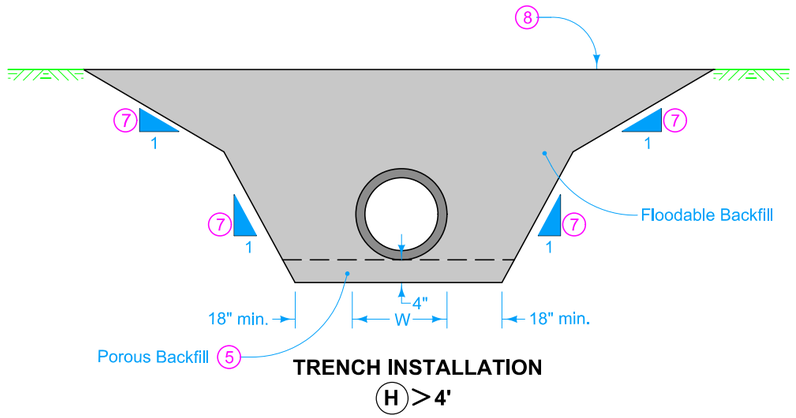
DETAILS OF MAILBOX TURNOUTS (GRANULAR SURFACED)

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.1

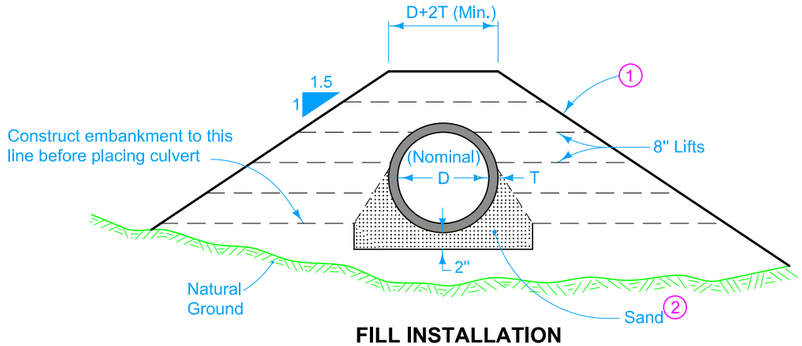
7:17:22 AM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051U1.sht



TRENCH INSTALLATION
(H) ≤ 4'



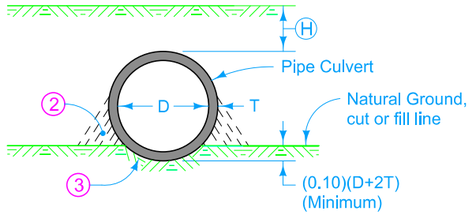
TRENCH INSTALLATION
(H) > 4'



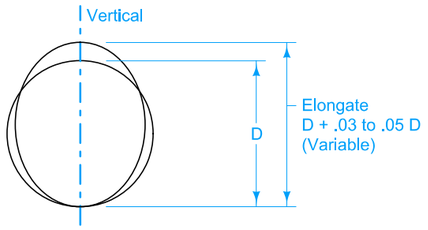
FILL INSTALLATION
(FOR RIGID PIPES ONLY)

CLASS 'B' BEDDING & BACKFILL (4)

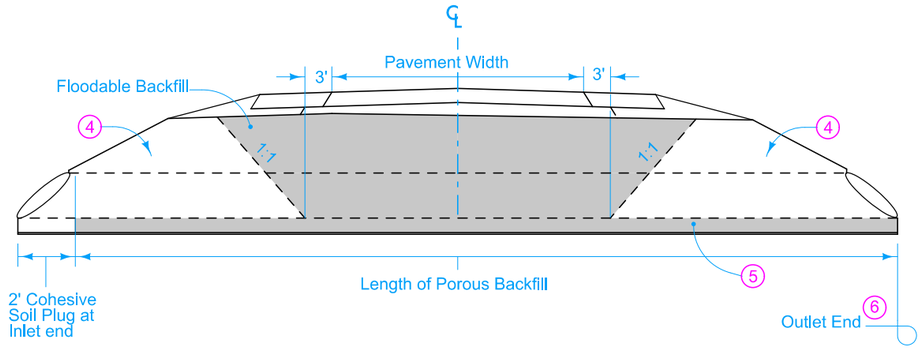
Denotes pay limits for flooded backfill



CLASS 'C' BEDDING & BACKFILL



ELONGATED PIPE



TYPICAL SECTION - SOIL PLUG

Where a corrugated metal pipe culvert requiring elongation is to be installed, such elongation shall be accomplished by means approved by the Engineer. Elongation may be developed either as part of shop fabrication or field installation.

Minimum and maximum allowable cover (H) for pipe culverts shall be as shown on the appropriate Standard Road Plans for the particular kind of culvert, as follows:

RF-31 Depth of Cover Tables for Concrete Pipe
RF-32 Depth of Cover Tables for Corrugated Pipe

(1) The backfill adjacent to and above the pipe culvert may be placed in conjunction with normal embankment construction. The embankment within the limits shown shall be thoroughly tamped.

(2) Extra care shall be taken to ensure complete and satisfactory tamping of backfill material in the area immediately adjacent to the lower portion of pipe.

(3) The excavation below groundline shall be carefully made with a template or shaped by other means and checked with a template conforming to the actual dimension and shape of the pipe.

(4) For culverts backfilled by flooding, place a cohesive soil plug at the inlet, outlet, and, when necessary, sides, prior to flooding.

(5) 4-inch Porous Backfill bedding. 2-inch Floodable Backfill bedding may be used under unsealed rigid pipe.

(6) Extend Porous Backfill through the outlet end soil plug when used for bedding.

(7) Quantity calculations are based upon a 1:1 slope and minimum trench dimension. Actual slope of trench may vary based upon Contractor's operations.

(8) Ground Line at time of pipe installation. When existing ground exceeds 5 feet depth over pipe, backfill and compaction by flooding is not required more than 5 feet above the pipe.

Possible Contract Items:
Flowable Mortar
Flooded Backfill
Excavation, Class 20

Possible Tabulations:
104-3
104-4

INTERIM

STANDARD ROAD PLAN

REVISION 13 12-17-13

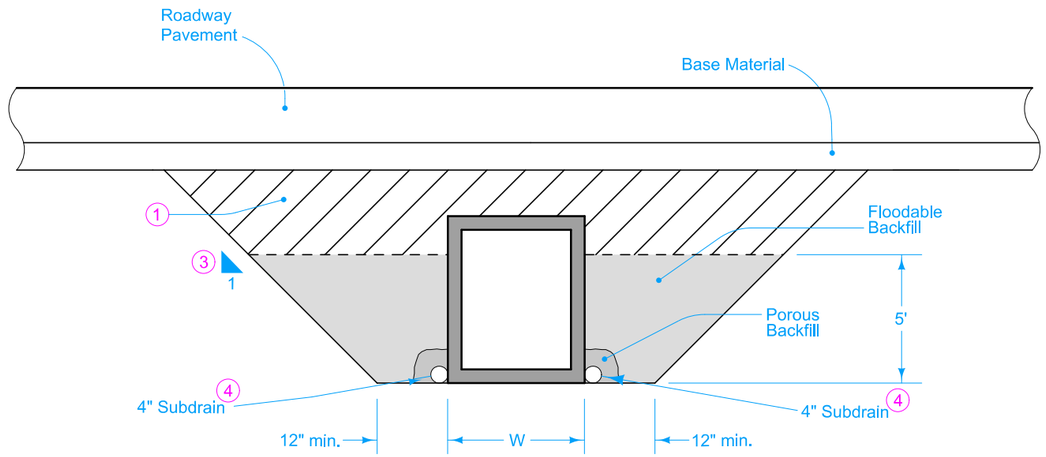
RF-30A

SHEET 1 of 1

REVISIONS: Deleted Box Culvert now covered by RF-30D and changed title.

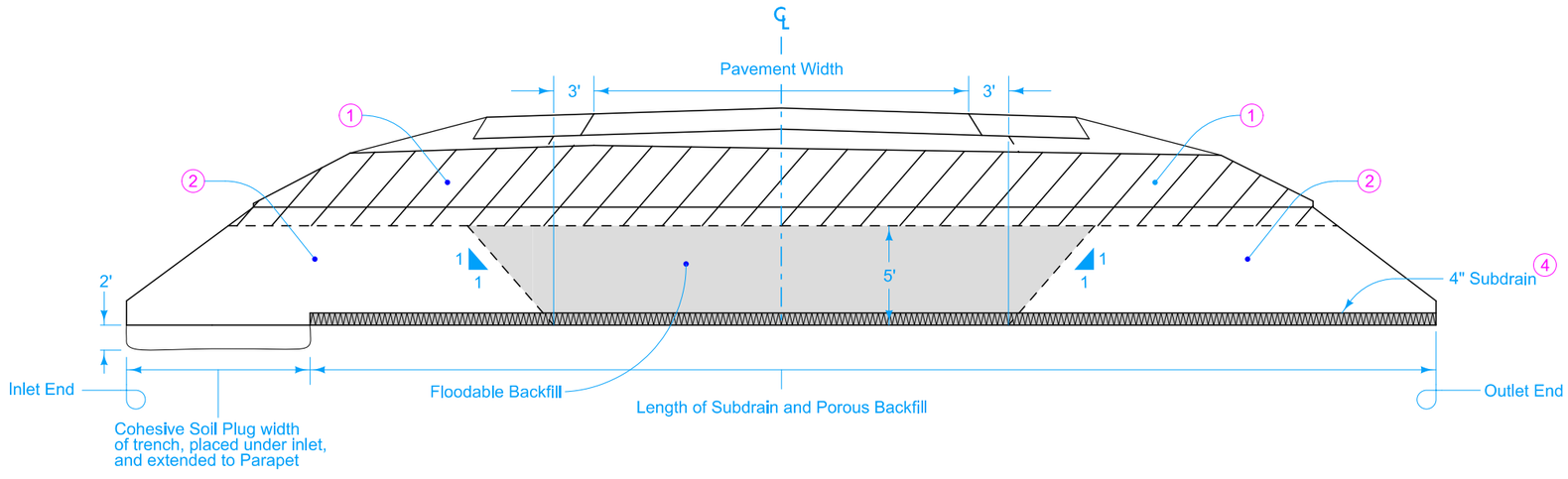
Brian Smith
APPROVED BY DESIGN METHODS ENGINEER

PIPE CULVERT
(BEDDING AND BACKFILL)



RCB INSTALLATION

1. Excavated material meeting the requirements of the Standard Specifications. Compact using moisture control. The Contractor has the option to use Floodable Backfill. No additional compensation will be provided if the Contractor elects to use Floodable Backfill in lieu of suitable soil.
2. Prior to flooding, place a cohesive soil plug to the height of the floodable backfill at the inlet, outlet and sides of the culvert.
3. Quantity calculations are based upon a 1:1 slope and minimum trench dimension. Actual slope of trench may vary based upon Contractor's operations.
4. Place at flowline elevation of culvert starting at parapet for inlet and outletting at end of outlet headwall wings. Cover with a minimum of 4 inches of Porous Backfill.



TYPICAL SECTION - COHESIVE SOIL PLUG

Denotes pay limits for flooded backfill

Possible Contract Items:
- Flooded Backfill
- Excavation, Class 20
- Compaction with Moisture Control (Structures)

Possible Tabulations:
- 103-6
- 104-3
- 104-4

INTERIM

STANDARD ROAD PLAN

REVISION	
New	12-17-13

RF-30D

SHEET 1 of 1

REVISIONS: New.

Brian Smith
APPROVED BY DESIGN METHODS ENGINEER

BOX CULVERT (BACKFILL)

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.3

7:17:24 AM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051U1.sht

Lincoln TWP.
T-76N R-24W
SEC. 29

Curve Data (Survey)
Δ = 34° 40′ 53.90″ (LT)
T = 357.80
L = 693.62
R = 1,145.89
E = 54.56

Curve Data
Δ = 29° 11′ 23.92″ (LT)
T = 398.39
L = 779.48
R = 1,530.00
E = 51.02

SCS PI Sta 264+10.92
Δ = 35° 10′ 54.09″ (LT)
Theta = 2° 59′ 45.09″
Ls = 160.00
Ts = 565.29
Es = 75.79
P = 0.70
K = 79.99
Xc = 159.96
Yc = 2.79
LT = 106.68
ST = 53.35
LC = 159.98

Sta. 256+50.00
Begin Full Width Paving

POC STA 258+87.00 ML092(OR)
= POT STA 1258+87.00 SRKENNEDY
= POT STA 1258+87.00 ACCESS258

POT STA 1258+86.95 SRKENNEDY

POT Sta 255+00.00

18" X 45.0' C.M.P. (Remove)

TS Sta 258+45.63

SC Sta 260+05.63

PI Sta 259+52.32

18" X 24.0' C.M.P. (Remove)

15" X 40.0' C.M.P. (Remove)

PI Sta 264+04.03

PI Sta 263+46.10 (Survey)

15" X 21.0' C.M.P. (Remove)

15" X 20.0' C.M.P. (Remove)

CS Sta 267+85.11

PI Sta 266+82.52 (Survey)

PI Sta 268+38.46

Sta. 258+34.35
2' X 2' X 46.0' RCB
W/ 30" Conc Pipe Extensions
D.A. = 2 Ac - R
(Plug & Abandon)

Sta. 258+00.0

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

0 50 FEET

Removal Details Sheet 1 of 17

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.4

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Lincoln TWP.
T-76N R-24W
SEC. 29

270

275

280

285

84TH AVE

R 57 (SR57N)

IA 92 (ML092)

15" X 30.0'
C.M.P.
(Remove)

18" X 24.0'
C.M.P.
(Remove)

18" X 62.0'
C.M.P.
(Remove)

15" X 28.0'
C.M.P.
(Remove)

15" X 36.0' C.M.P.

15" X 37.0'
Conc. Pipe

18" X 35.0'
C.M.P.
(Remove)

15" X 48.0'
C.M.P.
(Remove)

18" X 57.0
C.M.P.
(Remove)

PI Sta 283+70.97(Survey)

POT STA 283+68.17 ML092
= PI STA 1383+68.17 SR57N

POT STA 283+73.24 ML092
= PI STA 1283+73.24 SR57S

Sta. 277+57.37
2' X 2' X 53.0' RCB
W/ 30" Conc. Pipe Extension
D.A. = 4 Ac - R
(Plug & Abandon)

House
Garage
Shed
Barn
Silo
Conc.
Play House
Play Ground
Wood Fence
San.2

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

0 50
FEET

Removal Details
Sheet
2 of 17

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.5

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Lincoln TWP.
T-76N R-24W
SEC. 29

.0' C.M.P.

37.0'
Pipe

18" X 40.0'
C.M.P.
(Remove)

18" X 40.0'
C.M.P.
(Remove)

15" X 20.0'
C.M.P.
(Remove)

285

290

295

300

IA 92(ML092)

18" X 50.0'
C.M.P.
(Remove)

30" X 50.0' C.M.P.
(Remove)

6" X 32.0'
PVC Pipe
(Remove)

18" X 57.0'
C.M.P.
(Remove)

Sta. 292+63.66
3' X 2' X 43.0' RCB
W/ 36" RCP Extensions
D.A. = 21 Ac - R
(Plug & Abandon)

Sta. 292+61.18, 38.00 RT
6 Tile Riser Intake
D.A. = Part of 21A - R
(RELOCATE)

Shed
Building
Building
House
Building
House
House
House
House
Pond

W2 T1 I1 F05 F03 F0 F02 E1 G2

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

0 50
FEET

Removal Details
Sheet
3 of 17

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.6

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Lincoln TWP.
T-76N R-24W
SEC. 29

Lincoln TWP.
T-76N R-24W
SEC. 28

300 305 310 315

PI Sta 310+25.39
(Survey)

SEC. LINE

Barn

House

18" X 60.0'
C.M.P.
(Remove)

IA 92 (ML092)

15" X 20.0'
C.M.P.
(Remove)

15" X 20.0'
C.M.P.
(Remove)

Wood Fence

Tile

POT STA 310+28.21 ML092 (OR)
= POT STA 2310+28.21 SR90TH

90TH AVE (SR90TH)

House

Garage

Building

Trees

Pond

Building

Sta. 307+42.49
RCB
ensions

hd.

0 FEET 50

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

Removal Details
Sheet
4 of 17

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.7

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Lincoln TWP.
T-76N R-24W
SEC. 28

315 320 325 330

12" X 20.0'
C.M.P.
(Remove)

IA 92 (ML092)

18" X 48.0'
C.M.P.
(Remove)

15" X 20.0'
C.M.P.
(Remove)

15" X 16.0'
Conc. Pipe
(U.A.C.)

18" X 15.0' C.M.P.
(Remove)

Sta. 315+86.80

W2 T1 F05 F0 F02 F03

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

0 FEET 50

Removal Details
Sheet
5 of 17

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.8

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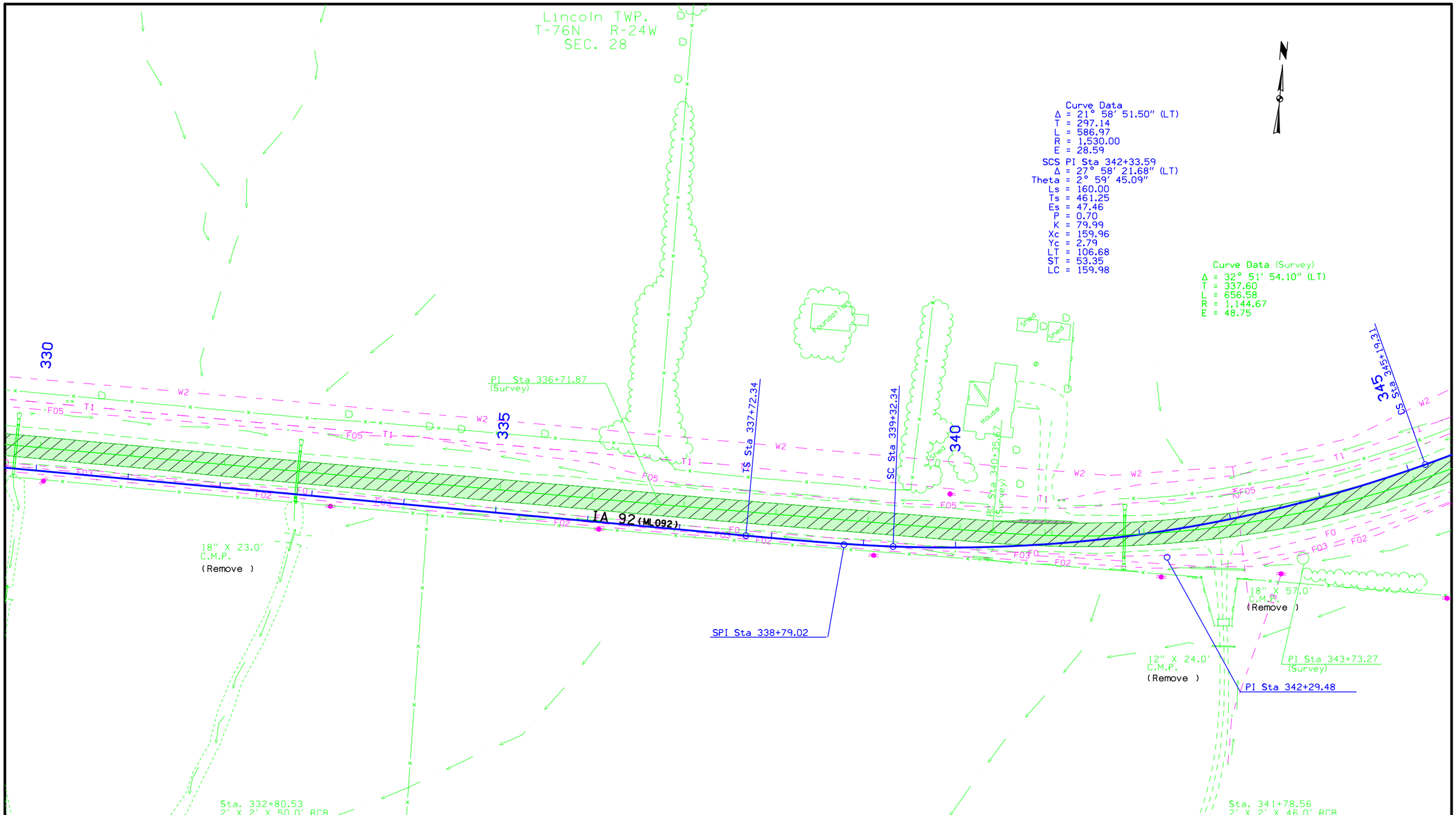

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

Removal Details
Sheet
6 of 17

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.9

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Lincoln TWP.
T-76N R-24W
SEC. 28

PI Sta 351+45.19 (Survey)
PI Sta 352+51.5
SPI Sta 348+91.99
ST Sta 346+79.31
PT Sta 346+92.26 (Survey)
CS Sta 345+19.31
SPI Sta 345+72.66
IS Sta 347+85.31
PC Sta 348+13.89 (Survey)
SC Sta 349+45.31
SPI Sta 356+03.17
PT Sta 354+67.33 (Survey)
CS Sta 355+49.82
ST Sta 357+09.82

IA 92 (ML092)

345 350 355 360

15" X 18.0' C.M.P. (Remove)
15" X 56.0' C.M.P. (Remove)
15" X C.M.P. (Remove)

Barn
Conc. Foundation
Silo
Shed
House
Garage
Wood Fence

Curve Data
Δ = 33° 09' 29.88" (RT)
T = 341.30
L = 663.44
R = 1,146.39
E = 49.73

Curve Data
Δ = 22° 38' 15.66" (RT)
T = 306.25
L = 604.51
R = 1,530.00
E = 30.35
SCS PI Sta 352+55.89
Δ = 28° 37' 45.84" (RT)
Theta = 2° 59' 45.09"
Ls = 160.00
Ts = 470.58

Sta. 358+05.35
2' X 2' X 39.0' RCB
W/ 30" RCP Extensions
D.A. = 5 Ac - F
(Remove)

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

0 FEET 50

Removal Details Sheet 7 of 17

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.10

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Lincoln TWP.
T-76N R-24W
SEC. 28

Lincoln TWP.
T-76N R-24W
SEC. 27

N

Building

Deck

Garage

House

Barn

Garage

Barn

Barn

360

365

370

375

18" X 20.0'
C.M.P.
(Remove)

15" X 87.0'
C.M.P.
(Remove)

15" X 28.0'
C.M.P.
(Remove)

PI Sta 365+06.91
(Survey)

APPROX. SEC. LINE

W2

T1

FO5

IA 92 (ML092)

FO

FO2

FO3

18" X 46.0'
C.M.P.
(Remove)

Barn

18" X 64.0'
C.M.P.
(Remove)

Shed

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

0 FEET 50

Removal Details
Sheet
8 of 17

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.11

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Lincoln TWP.
T-76N R-24W
SEC. 27

N

375 380 385 390

IA 92 (ML092)

18" X 32.0'
Conc. Pipe/C.M.P.
(Remove)

15" X 37.0'
C.M.P.
(Remove)

18" X 32.0'
Conc. Pipe
(Remove)

Side Road
15" X 60.0'
Conc. Pipe
(UAC)

18" X 56.0'
Conc. Pipe
(Remove)

18" X 41.0'
C.M.P.
(Remove)

15" X 24.0'
C.M.P.
(Remove)

15" X 12.0'
C.M.P.
(Remove)

Sta. 379+69.09
2' X 2' X 42.0' RCB
W/ 30" RCP Extensions
D.A. = 4 Ac - R
(Remove)

Barn
House
Garage
Building

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

0 FEET 50

Removal Details
Sheet
9 of 17

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.12

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Lincoln TWP.
T-76N R-24W
SEC. 27

Curve Data
Δ = 0° 19' 35.74" (RT)
T = 34.20
L = 68.40
R = 12,000.00
E = 0.05

R-63 (SR63N)

Side Road
15" X 43.0'
C.M.P.
(UAC)

PI Sta 391+01.81
(Survey)

PI Sta 391+01.53

PC Sta 390+67.33

PT Sta 391+35.73

18" X 243.0'
Conc. Pipe
(UAC)

Conc. Slab

15" X 48.0'
Conc. Pipe
(UAC)

15" X 30.0'
Conc. Pipe
(Remove)

24" X 80.0'
Conc. Pipe
(Remove)

390

395

400

405

IA 92 (ML092)

15" X 18.0'
Conc. Pipe
(Remove)

Side Road
15" X 28.0'
C.M.P.
(Remove)

Side Road
15" X 56.0'
C.M.P.
(Remove)

Sta. 390+78.55
2' X 2' X 132.0' RCB
W/ 30" RCP Extensions
D.A. = 7 Ac - R
(Remove)

Sta. 395+43.91
2' X 2' X 43.0' RCB
W/ 30" RCP Extensions
D.A. = 9 Ac - R
(Remove)

Elec. Box

Utility Access

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

0 FEET 50

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

Removal Details
Sheet
10 of 17

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.13

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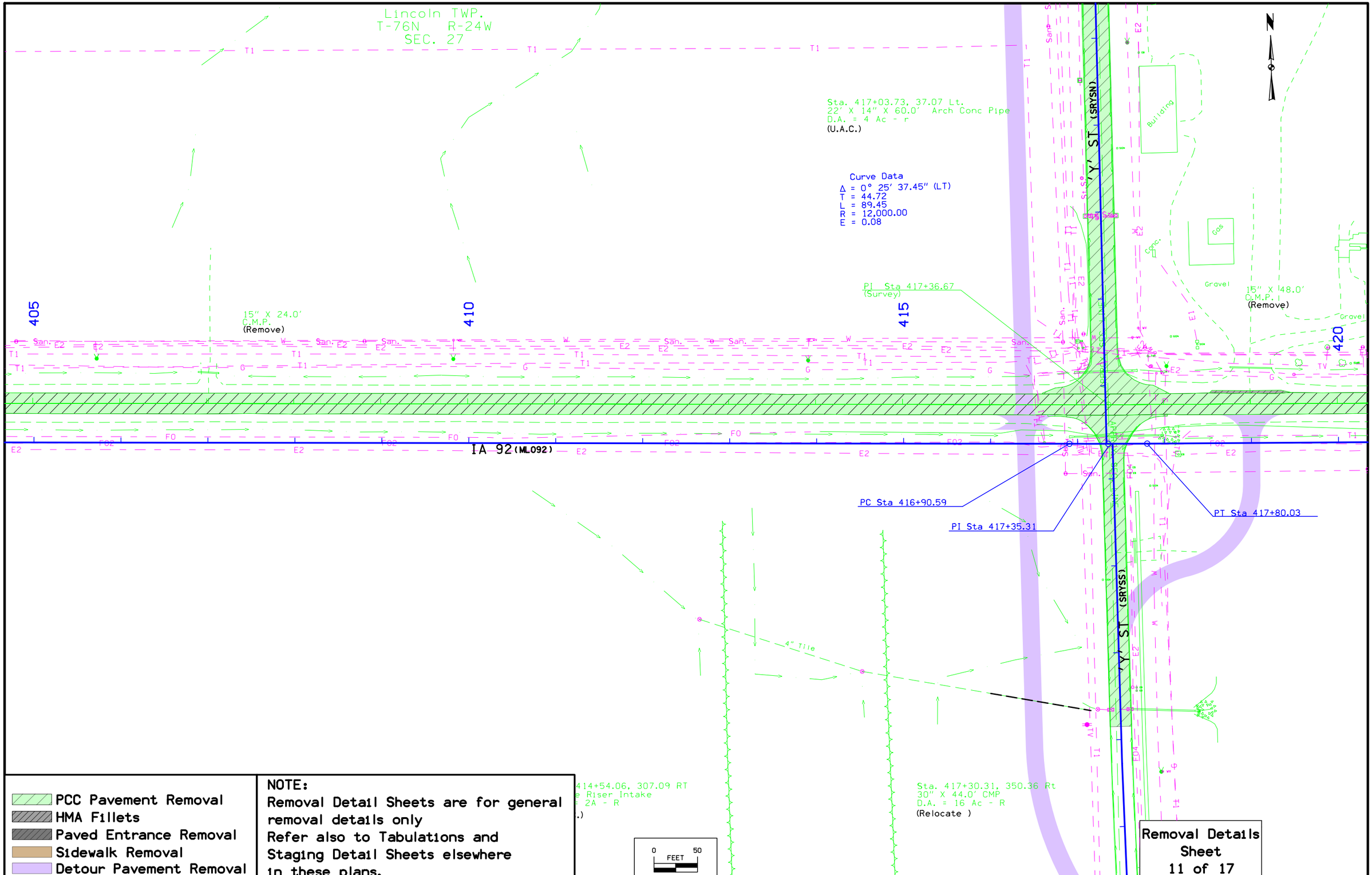

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

Removal Details Sheet
11 of 17

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.14

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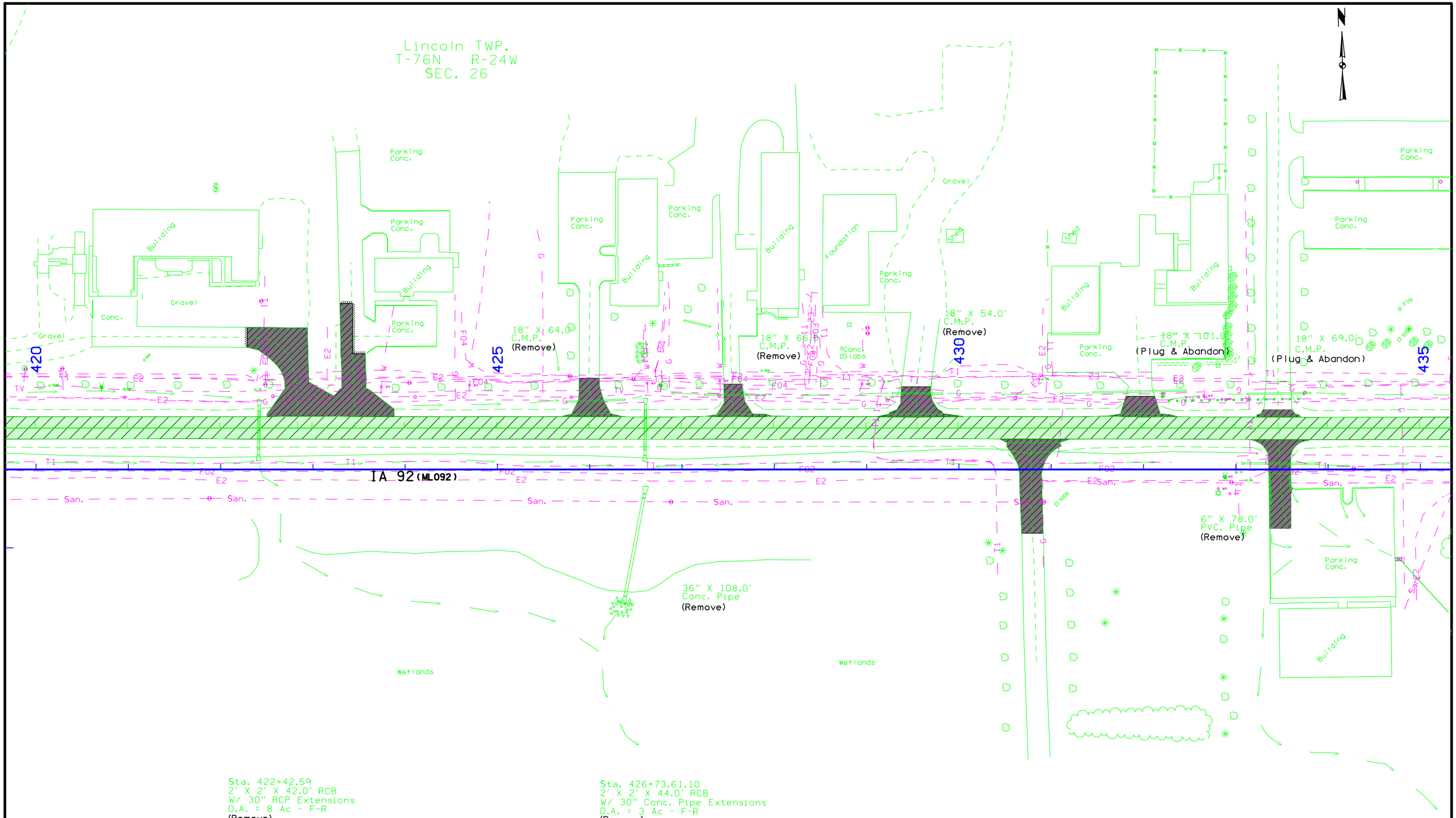

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

Removal Details Sheet
12 of 17

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.15

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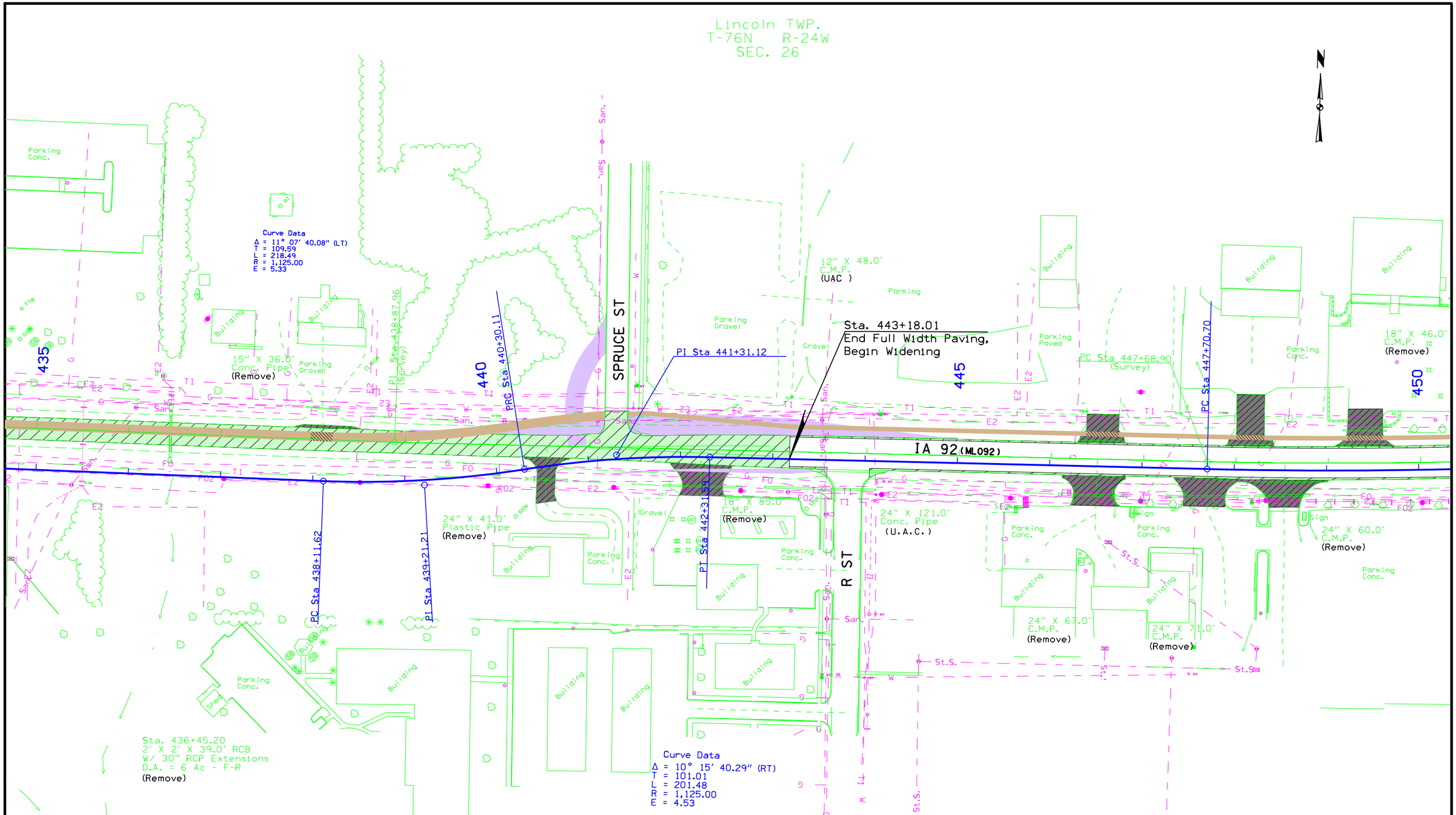

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

Removal Details Sheet
13 of 17

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.16

7:36:00 AM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\RemovalsU.sht

Sta. 443+18.01
End Full Width Paving,
Begin Widening

Sign
DO NOT
DISTURB

PC Sta 447+68.90
(Survey)

PC Sta 447+70.70

445

IA 92 (ML092)

24" X 121.0'
Conc. Pipe
(Plug & Abandon)

24" X 67.0'
C.M.P.
(Remove)

24" X 71.0'
C.M.P.
(Remove)

24" X 60.0'
C.M.P.
(Remove)

R ST

Parking
Parking Paved
Parking Conc.
Gravel
San.
Building
St.S.
Sign
SIGN

- PCC Pavement Removal
- HMA Fillets
- Paved Entrance Removal
- Sidewalk Removal
- Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

0 20 FEET

Removal Details
Sheet
14 of 17

ENGLISH	IOWA DOT	DESIGN TEAM Jla\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.17

7:36:02 AM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\RemovalsU.sht

S KENWOOD BLVD

Parking Conc.

450

18" X 46.0'
C.M.P.
(Remove)

Building

PT Sta 454+70.63
(Survey)

PT Sta 454+73.40

455

IA 92 (ML092)

PI Sta 451+22.49

PI Sta 451+20.20
(Survey)

Sta. 453+83.42, 37.42 Rt
24" X 103.0 Conc. Pipe
D.A. = .4 Ac - F
(Plug & Abandon)

SOUTH P ST

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

0 20
FEET

Removal Details
Sheet
15 of 17

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.18

7:36:04 AM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\RemovalsU.sht

SOUTH P ST

Sta. 455+27.49, 27.81 Lt
18" X 72.0 Conc. Pipe
D.A. = .3 Ac - F
(Plug & Abandon)

18" X 40.0'
C.M.P.
(Remove)

18" X 67.0'
C.M.P.
(Remove)

460

IA 92 (ML092)

Parking Conc.

Sign

Wood Fence

Wood Fence

Wood Fence

Building

Parking Conc.

House

House

House

House

House

House

- PCC Pavement Removal
- HMA Fillets
- Paved Entrance Removal
- Sidewalk Removal
- Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

0 FEET 20

Removal Details Sheet 16 of 17

ENGLISH	IOWA DOT	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER U.19

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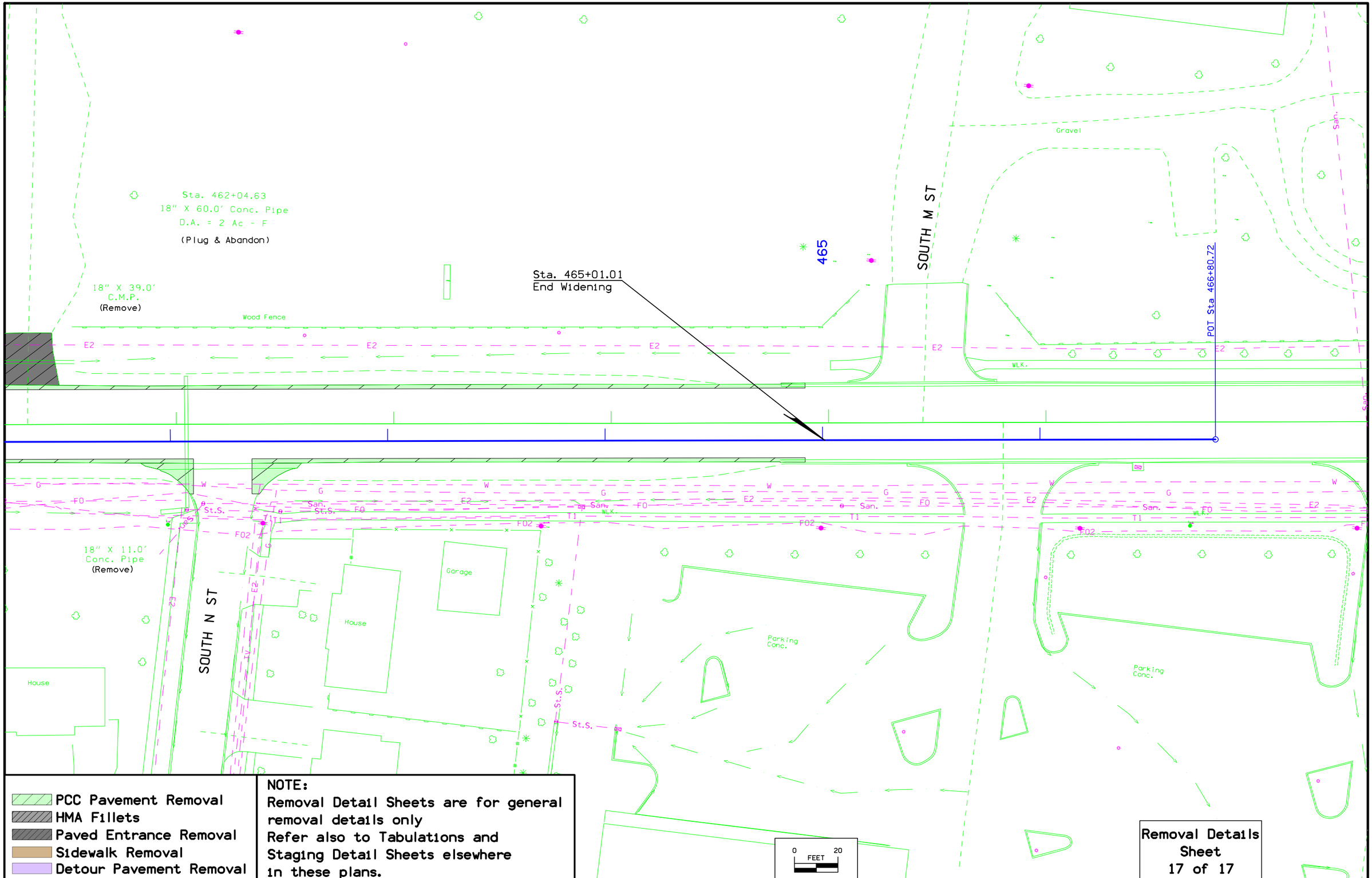

PCC Pavement Removal
HMA Fillets
Paved Entrance Removal
Sidewalk Removal
Detour Pavement Removal

NOTE:
Removal Detail Sheets are for general removal details only
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

Removal Details Sheet
17 of 17

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.20

7:36:07 AM 11/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\RemovalsU.sht

Lincoln TWP.
T-76N R-24W
SEC. 29

N

270

275

280

285

IA 92 (ML092)

R-57 (SR57N)

R-57 (SR57S)

POT STA 283+68.17 ML092
= PI STA 1383+68.17 SR57N

POT STA 283+73.24 ML092
= PI STA 1283+73.24 SR57S

BCY4
NPY4
CHY8
ELW4
SPW6
SLW2
SLW4

0 50
FEET

Pavement Marking Details

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.21

3:12:27 PM 12/2/2013 lpowell pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051Uxx_MRK.sht

Lincoln TWP.
T-76N R-24W
SEC. 29

N

285 290 295 300

SLW4 CHY8 ELW4 CHY8

CHY8 CHY8 ELW4 CHY8

IA 92(ML092)

0 50
FEET

Pavement Marking Details

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.22

3:12:32 PM 12/2/2013 lpowell pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051Uxx_MRK.sht

Lincoln TWP.
T-76N R-24W
SEC. 29

Lincoln TWP.
T-76N R-24W
SEC. 28

300

305

310

315

CHY8

NPY4

ELW4

ELW4

IA 92 (ML092)

CHY8

CHY8

BCY4

ELW4

BCY4

POT STA 310+28.21 ML092 (OR)
= POT STA 2310+28.21 SR90TH

ELW4

90TH AVE (SR90TH)

0 50
FEET

Pavement Markings Details

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.23

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Lincoln TWP.
T-76N R-24W
SEC. 27

N

375 380 385 390

BCY4 ELW4 CHY8 CHY8

IA 92 (ML092)

NPY4 ELW4 CHY8 CHY8 SLW4 SLW4

0 FEET 50

Pavement Marking Details

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.24

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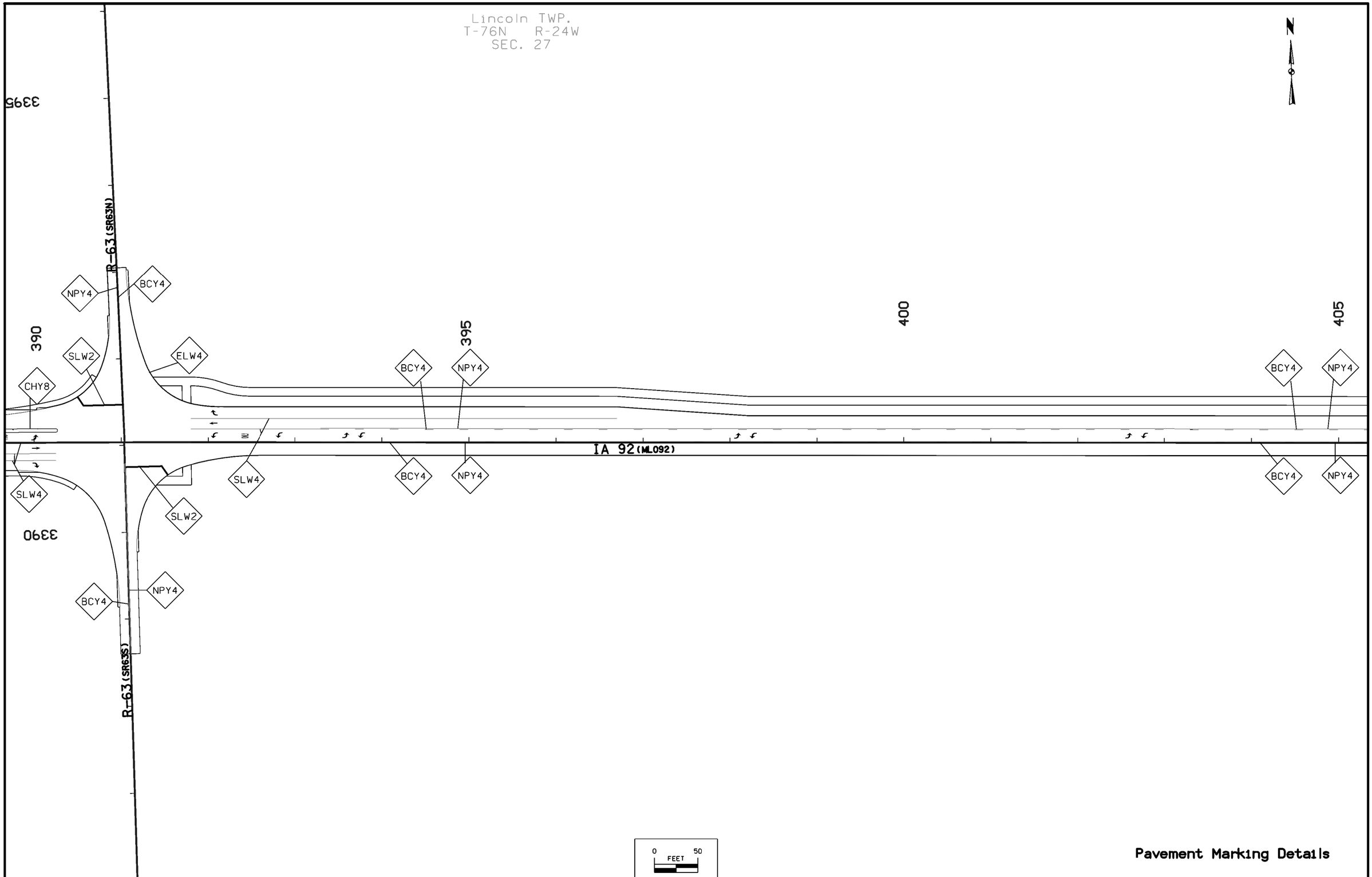

Pavement Marking Details

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Lincoln TWP.
T-76N R-24W
SEC. 27

N

405

410

415

420

Y' ST (SRYSN)

NPY4

BCY4

SLW2

IA 92 (ML092)

POT Sta 4417+33.40

POT Sta 4417+40.32

Y' ST (SRYSS)

PI Sta 4413+72.56

0 50
FEET

Pavement Markings Details

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.26

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Lincoln TWP.
T-76N R-24W
SEC. 26

N

420 425 430 435

NPY4 BCY4 NPY4 BCY4

IA 92 (ML092)

NPY4 BCY4 NPY4 BCY4

0 50
FEET

Pavement Markings Details

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.27

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Lincoln TWP.
T-76N R-24W
SEC. 26

N

435

440

SPRUCE ST

445

450

BCY4 NPY4

BCY4 NPY4

BCY4 NPY4

BCY4 NPY4

BCY4 NPY4

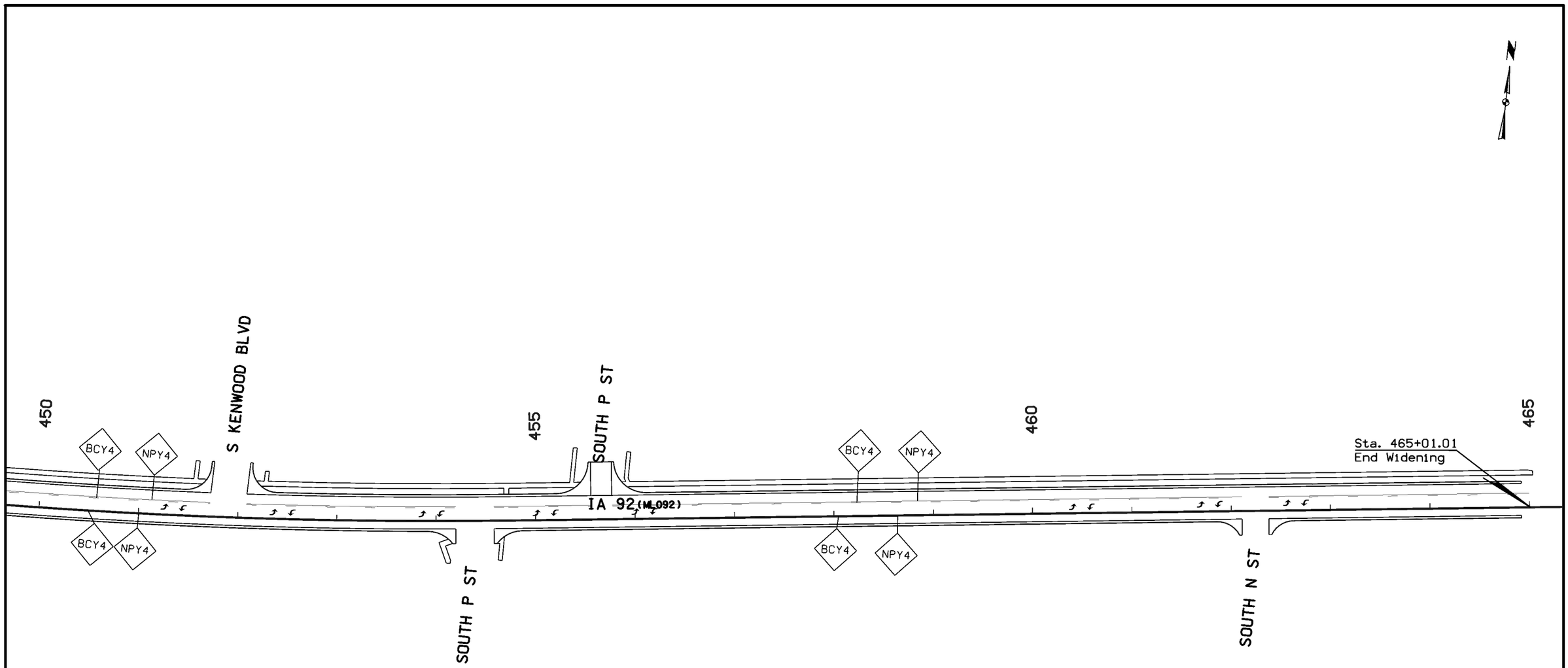
IA 92 (ML092)

R ST

0 50
FEET

Pavement Markings Details

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.28



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Pavement Markings Details

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LEGEND OF CROSS SECTION SHEETS (ROAD)

- Existing Ground Line
- Proposed Template
- Proposed Topsoil Placement
- Additional Topsoil Removal
- Subrade Treatment
- Granular Shoulder
- Pavement
- Existing Pipe\RCB
- Proposed Pipe\RCB
- Proposed Dike
- All Elements Associated with Proposed Entrances

LEGEND OF CROSS SECTION SHEETS (SOILS)

- TS — Topsoil (Class 10)
- TS A — Topsoil (Type A Disposal)
- TS B — Topsoil (Type B Disposal)
- TS C — Topsoil (Type C Disposal)
- CL 10 — Class 10 Materials
- SEL LO — Select Loams And Clay-Loams
- SEL SA — Select Sand
- UNS A — Unsuitable Type A Disposal
- UNS B — Unsuitable Type B Disposal
- UNS C — Unsuitable Type C Disposal
- SHALE — Shale
- WASTE — Waste
- B&W LS — Broken and Weathered Rock
- ROCK — Solid Rock
- BLDRS — Boulders

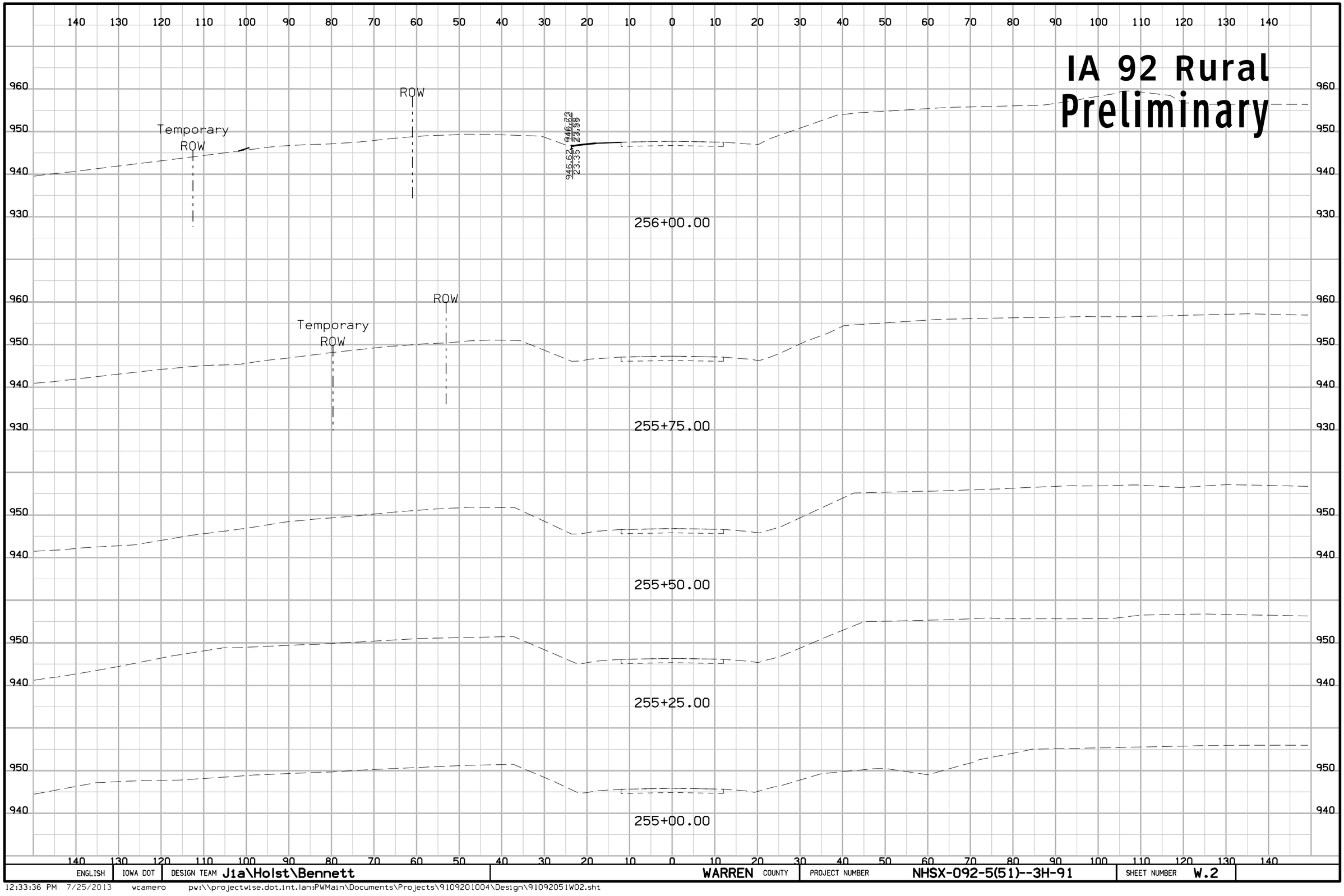
Note: All layer lines and descriptions identify layers above the line.

Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

CROSS SECTION LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES W, X, Y, & Z)

IA 92 Rural
Preliminary



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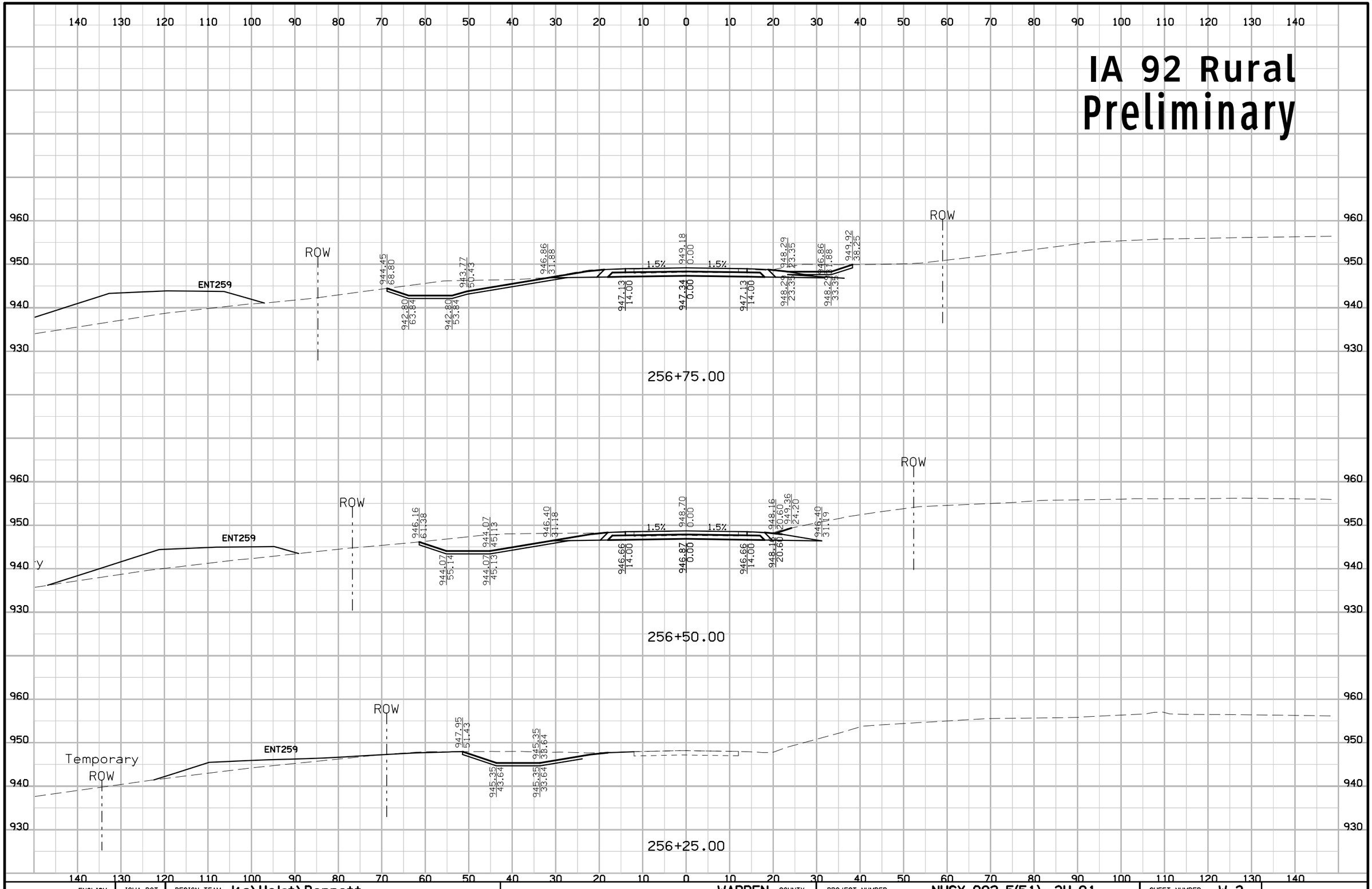
IA 92 Rural
Preliminary



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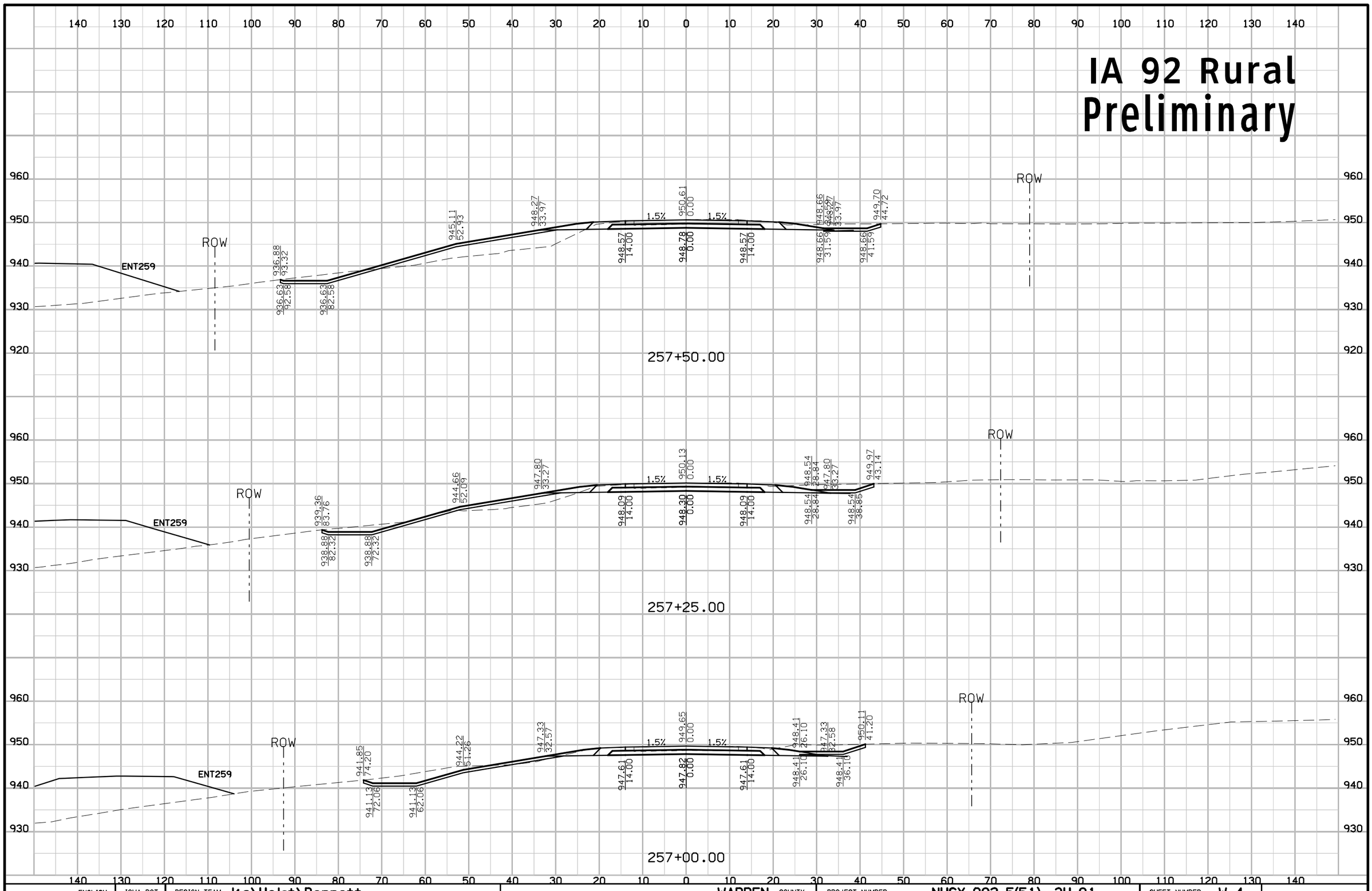
IA 92 Rural
Preliminary



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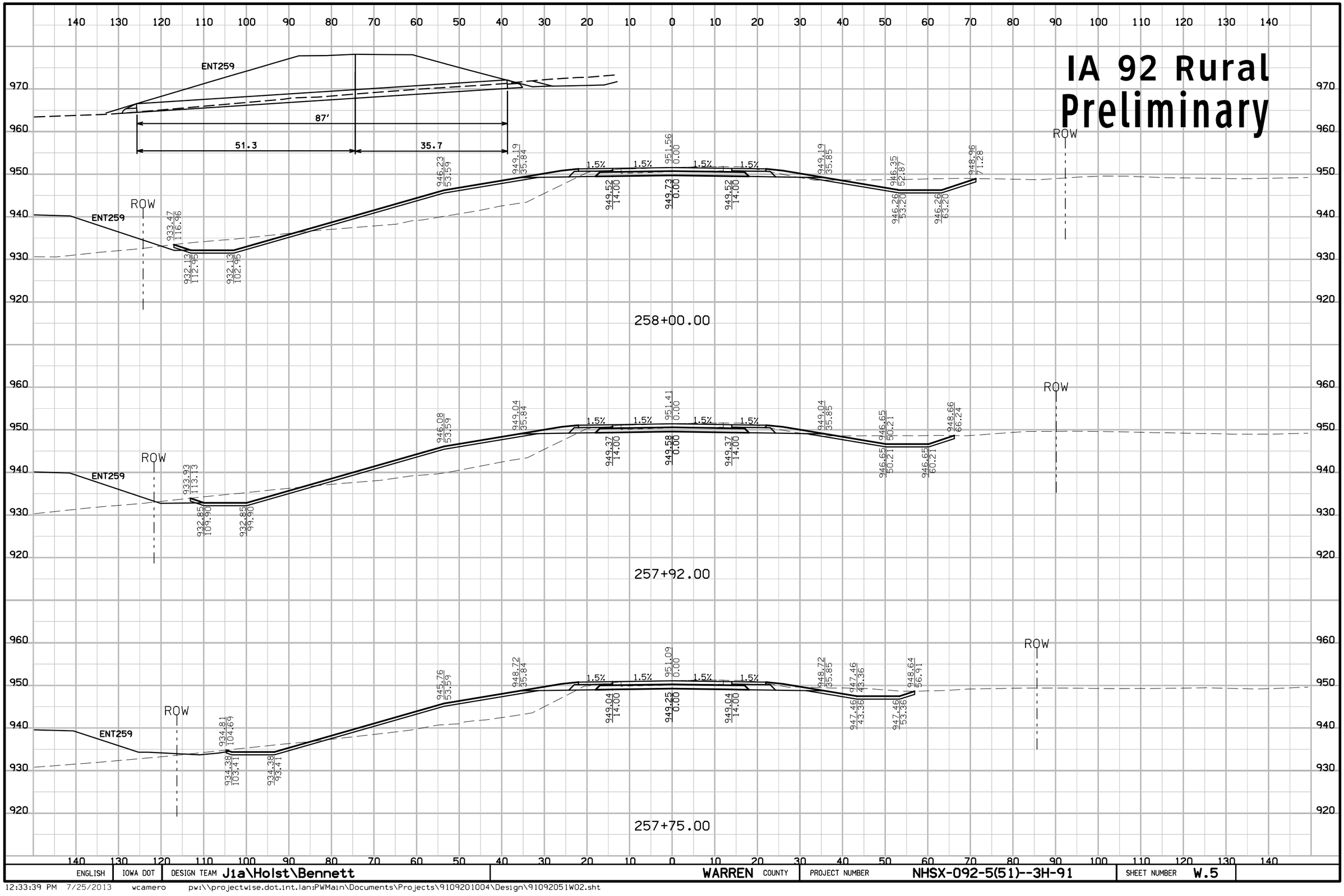
IA 92 Rural Preliminary



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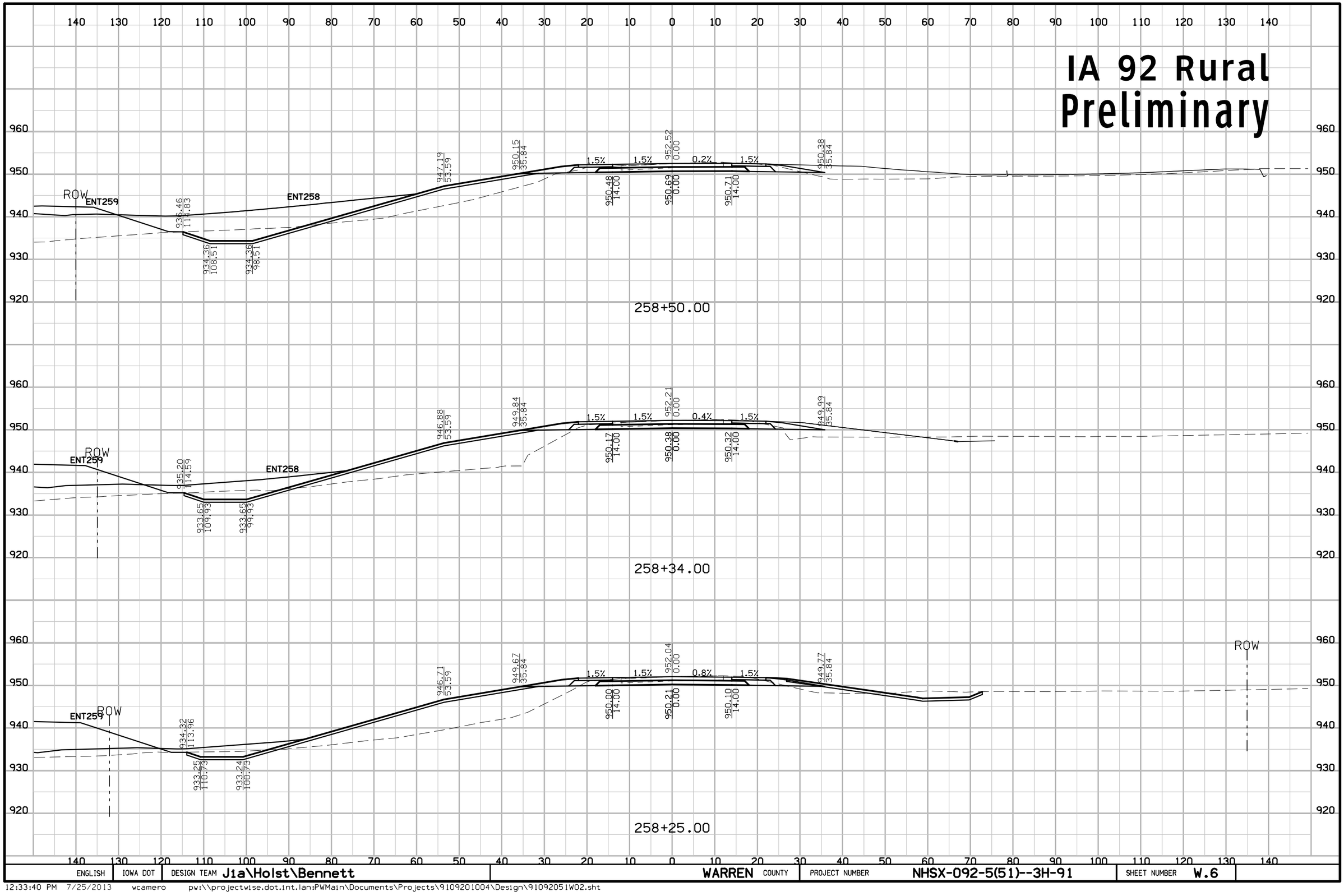
IA 92 Rural Preliminary



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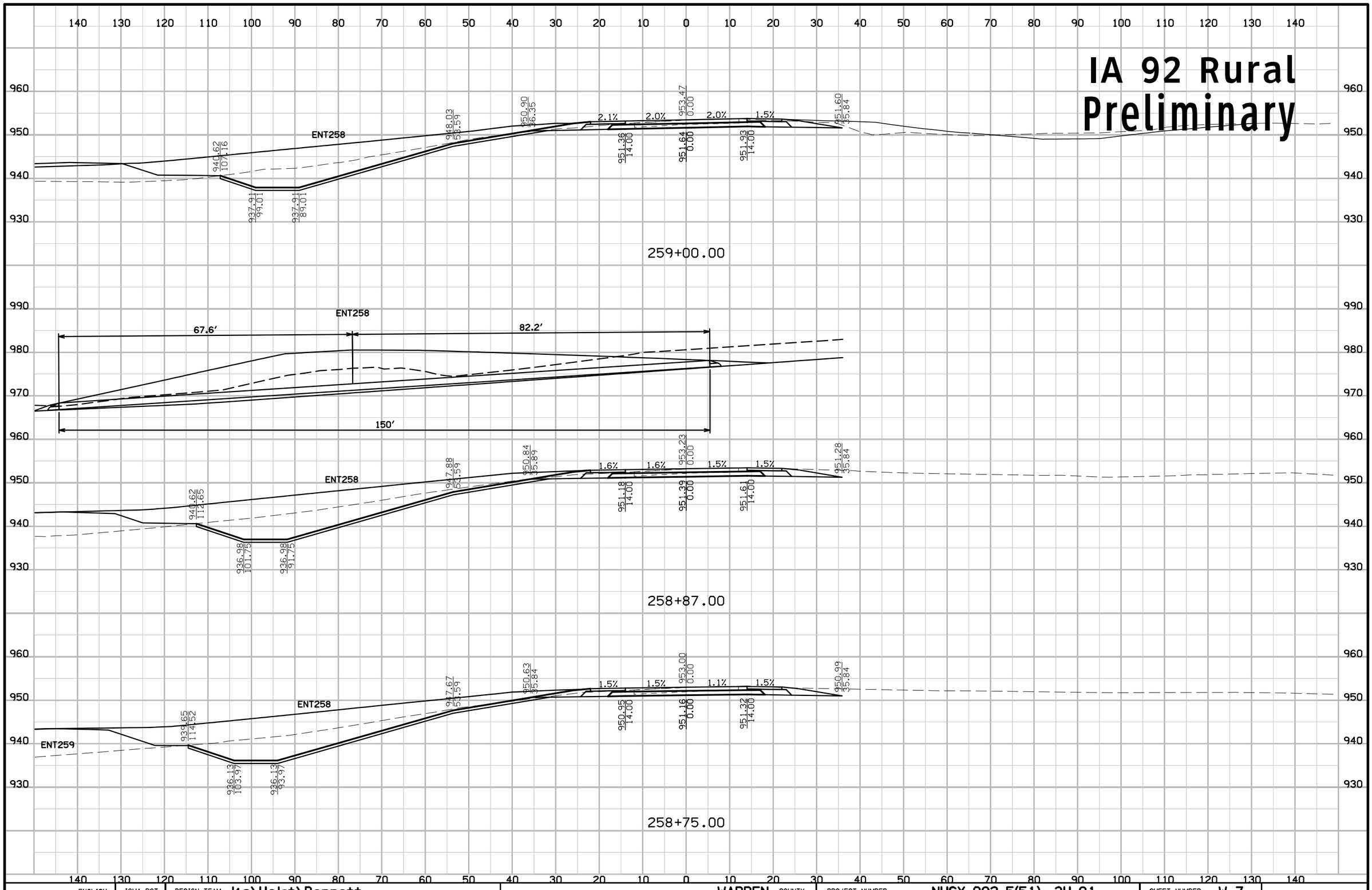
IA 92 Rural Preliminary



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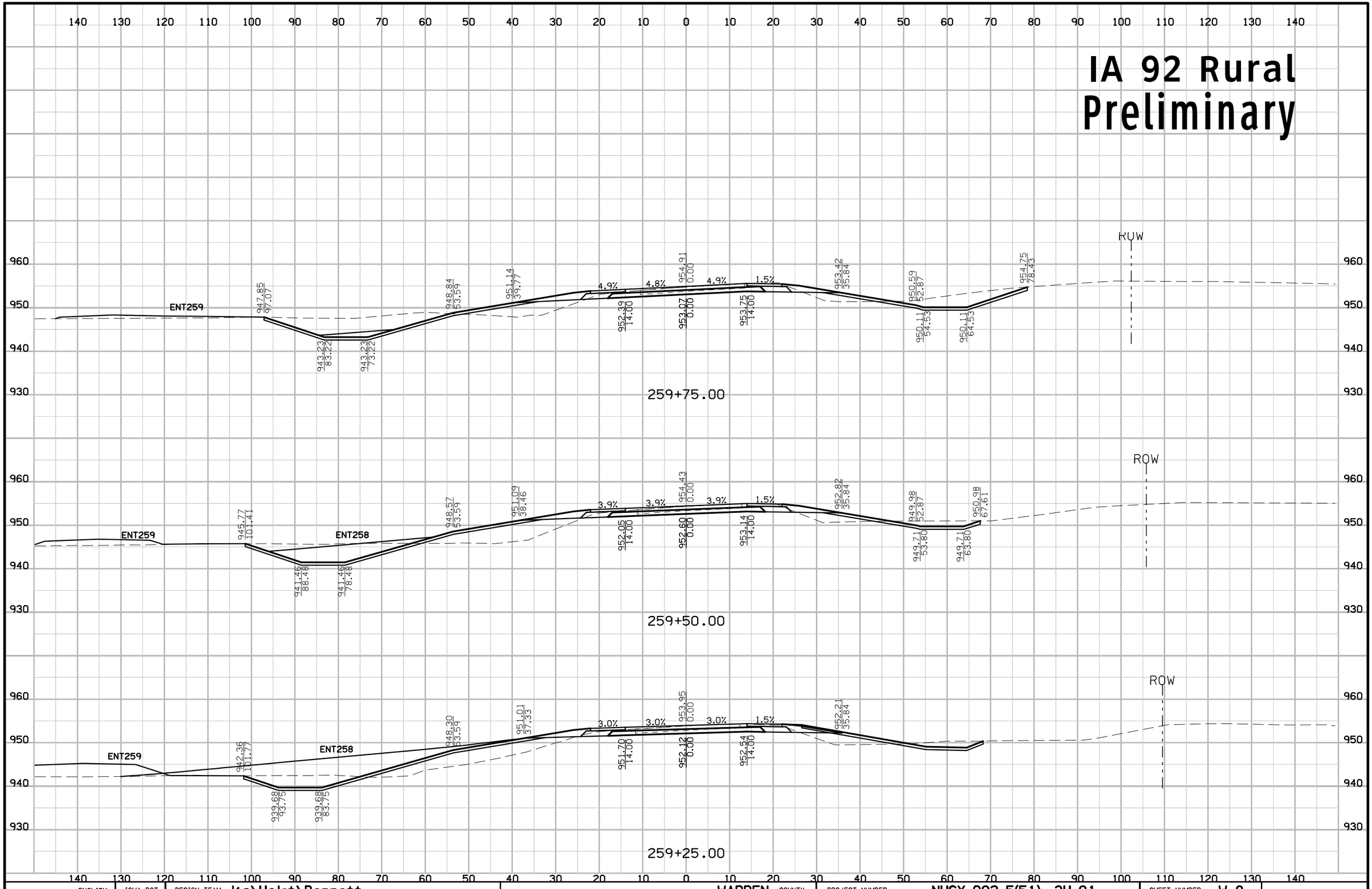
IA 92 Rural
Preliminary



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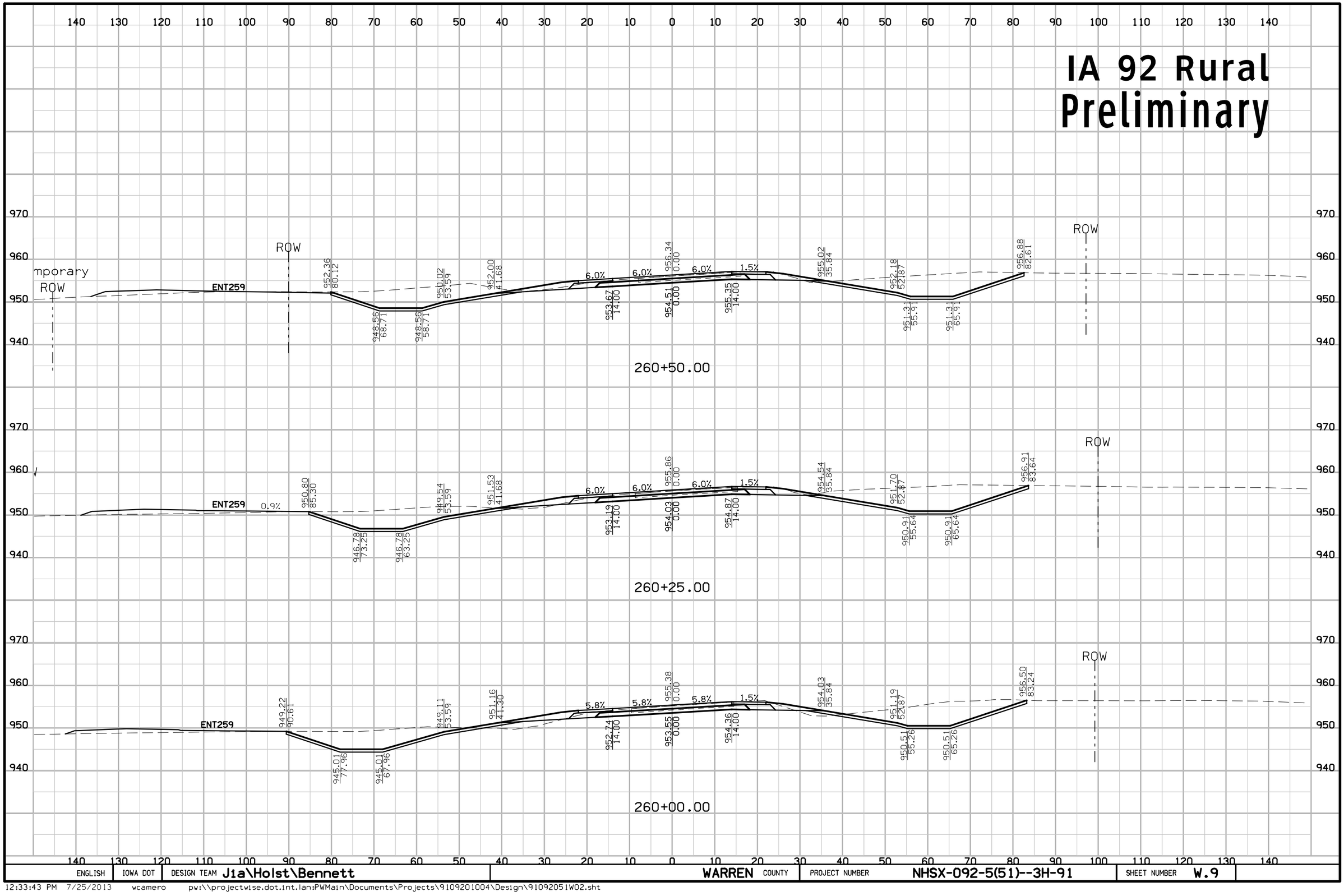
IA 92 Rural
Preliminary



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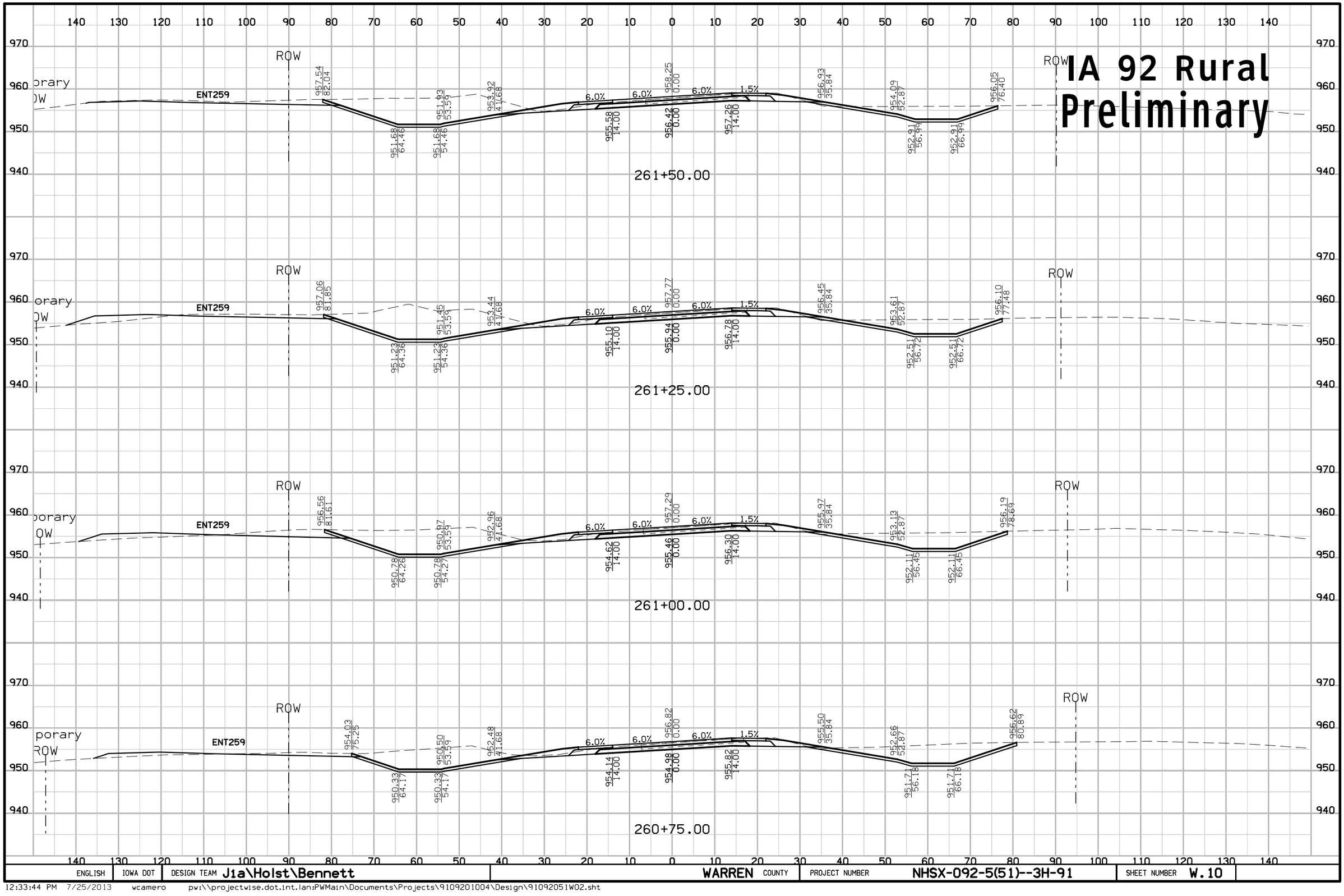
IA 92 Rural
Preliminary



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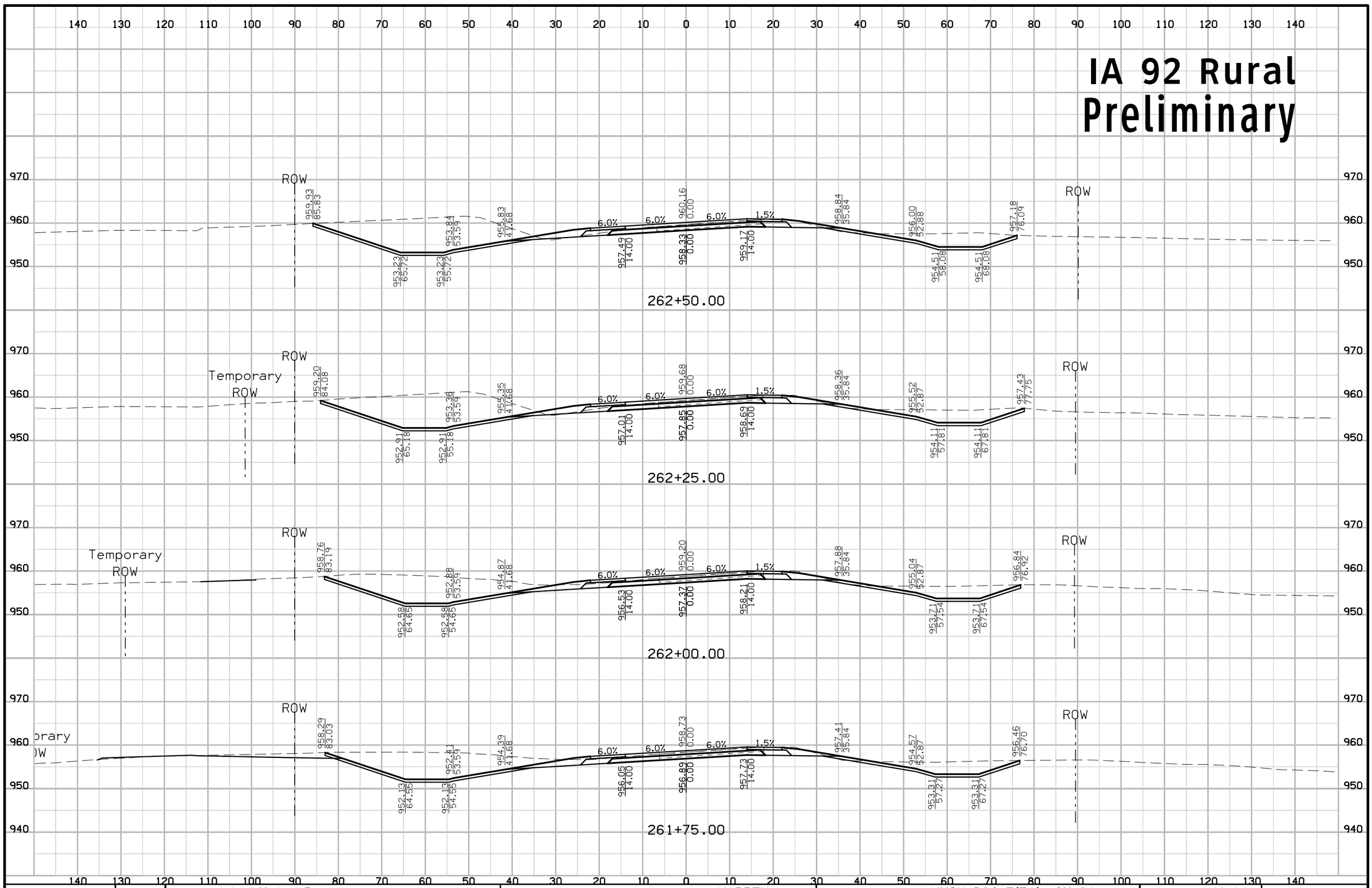
IA 92 Rural
Preliminary



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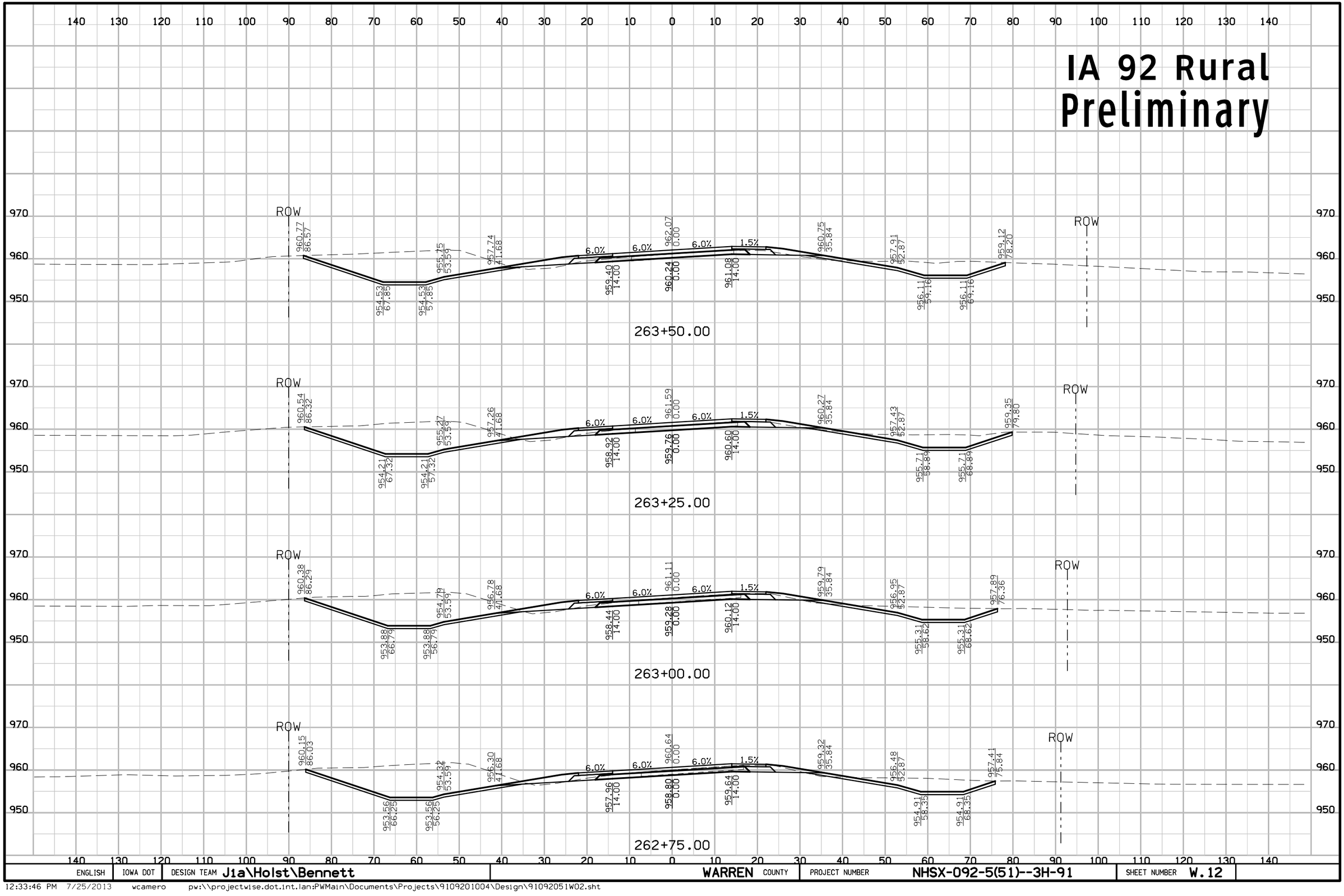
IA 92 Rural
Preliminary



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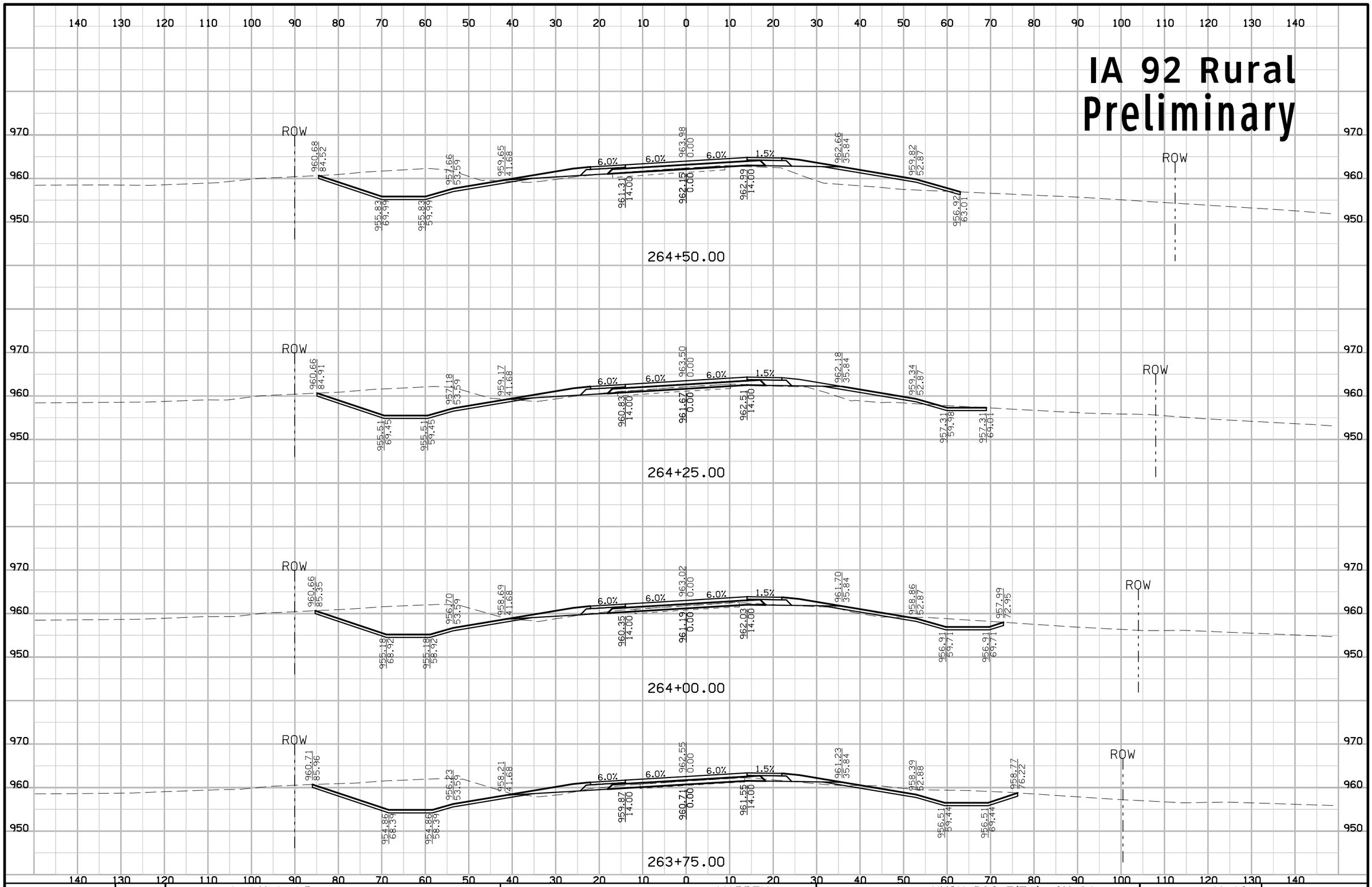
IA 92 Rural
Preliminary



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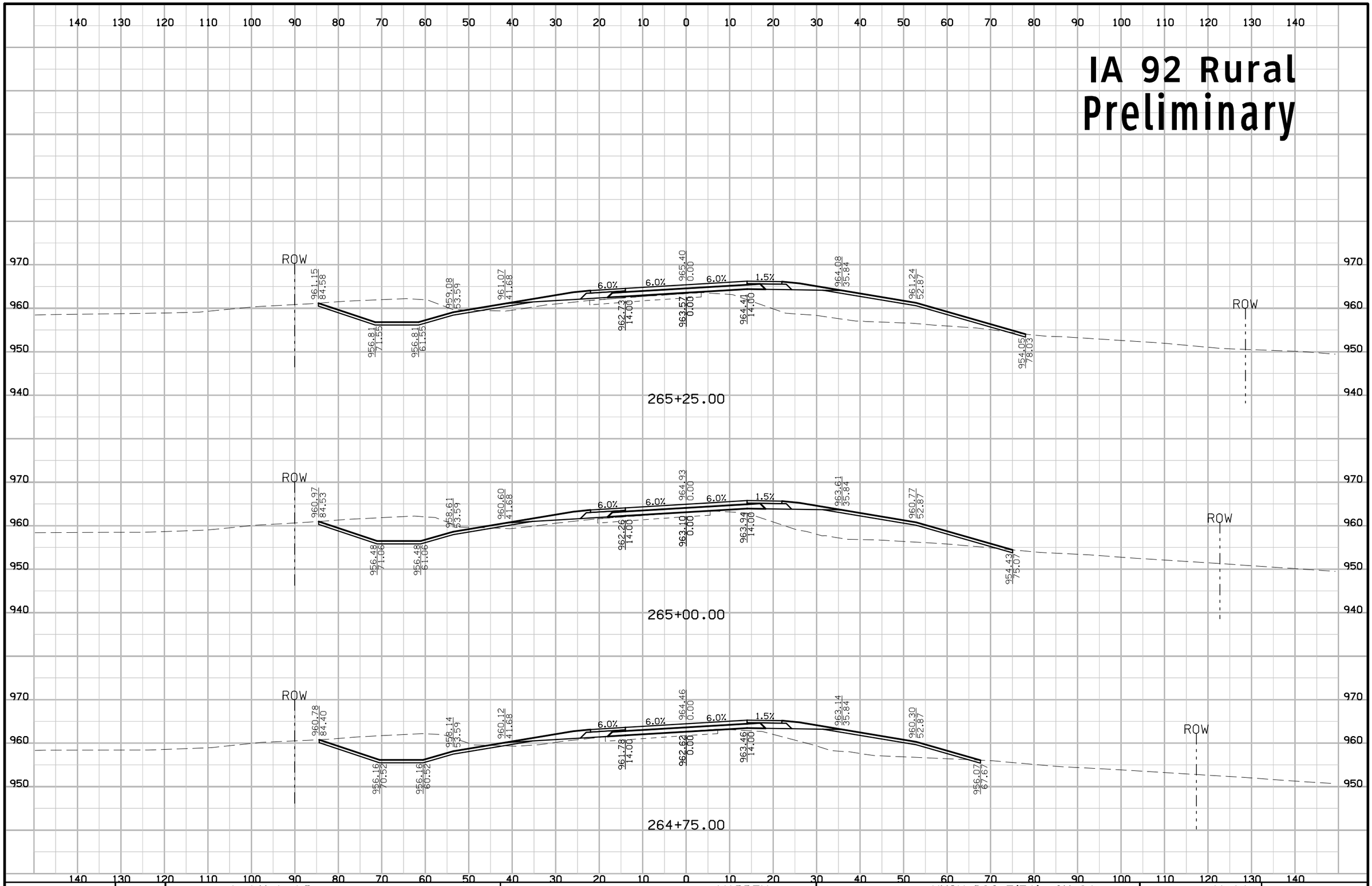
IA 92 Rural
Preliminary



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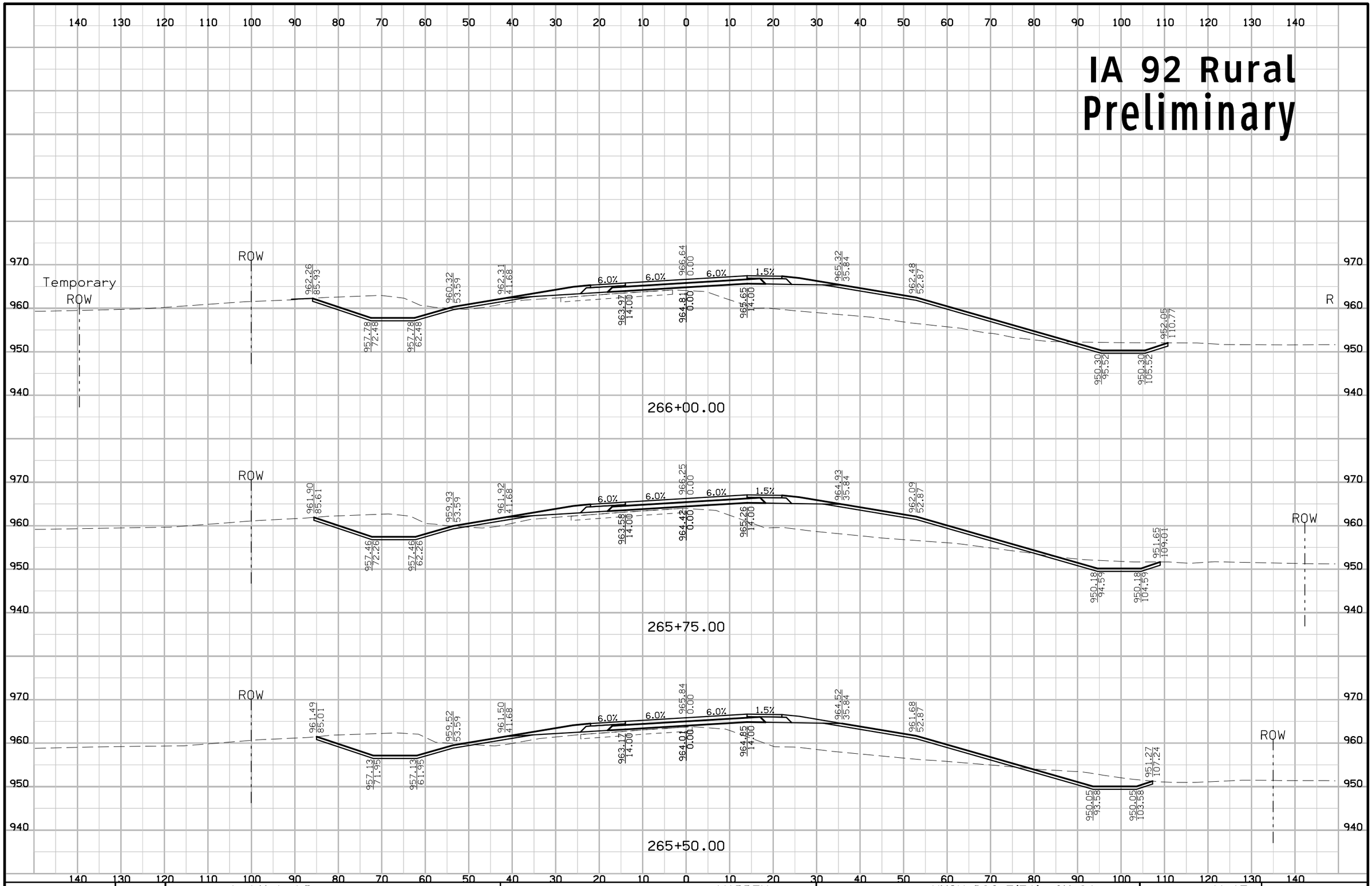
IA 92 Rural
Preliminary



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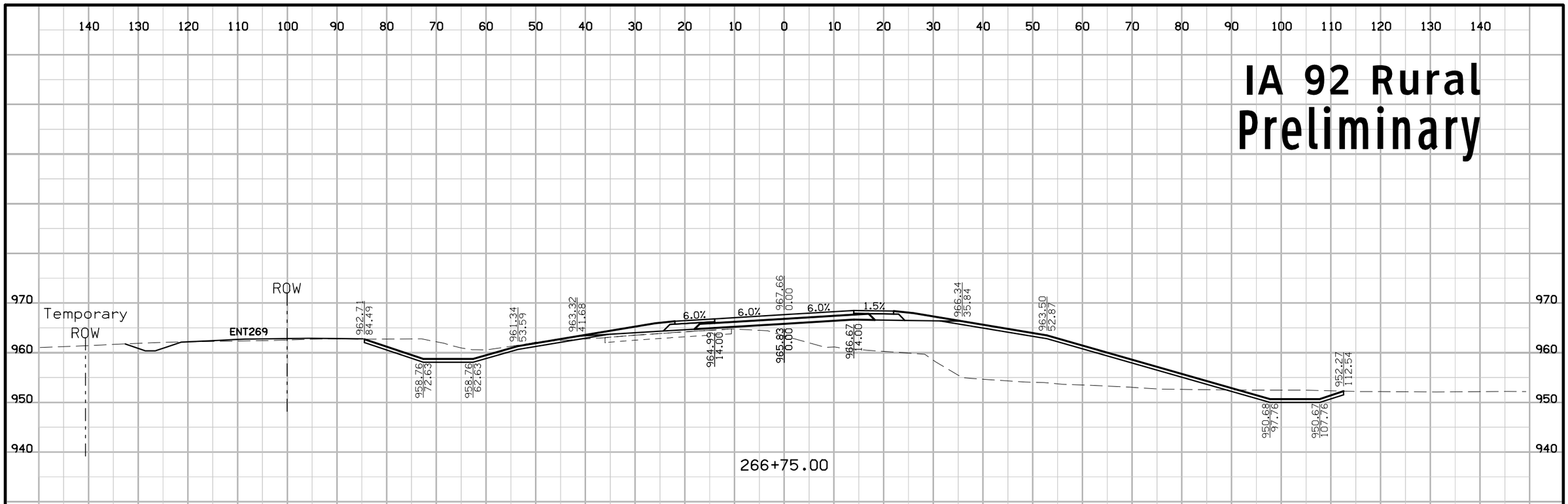
IA 92 Rural
Preliminary



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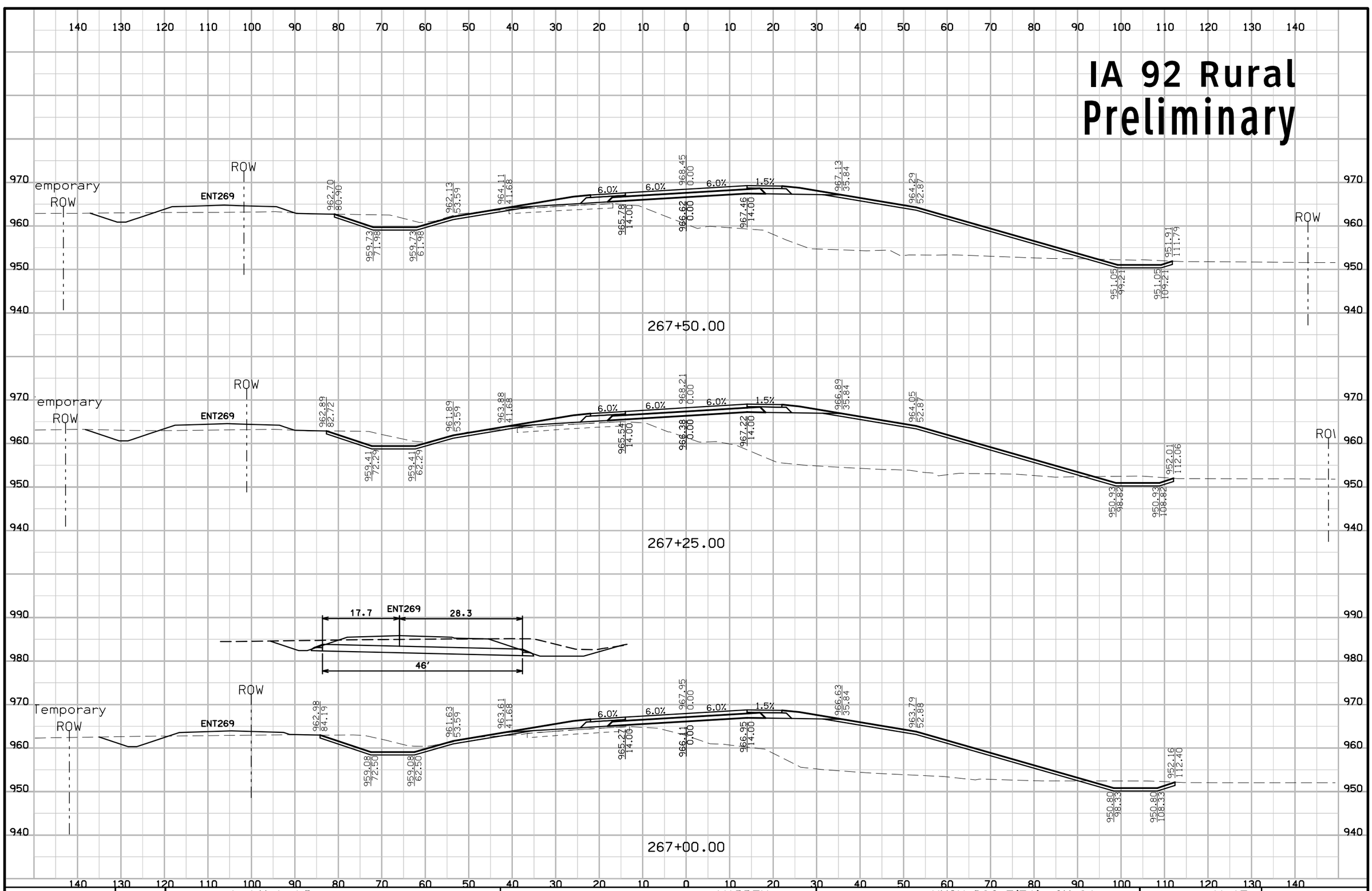
IA 92 Rural Preliminary



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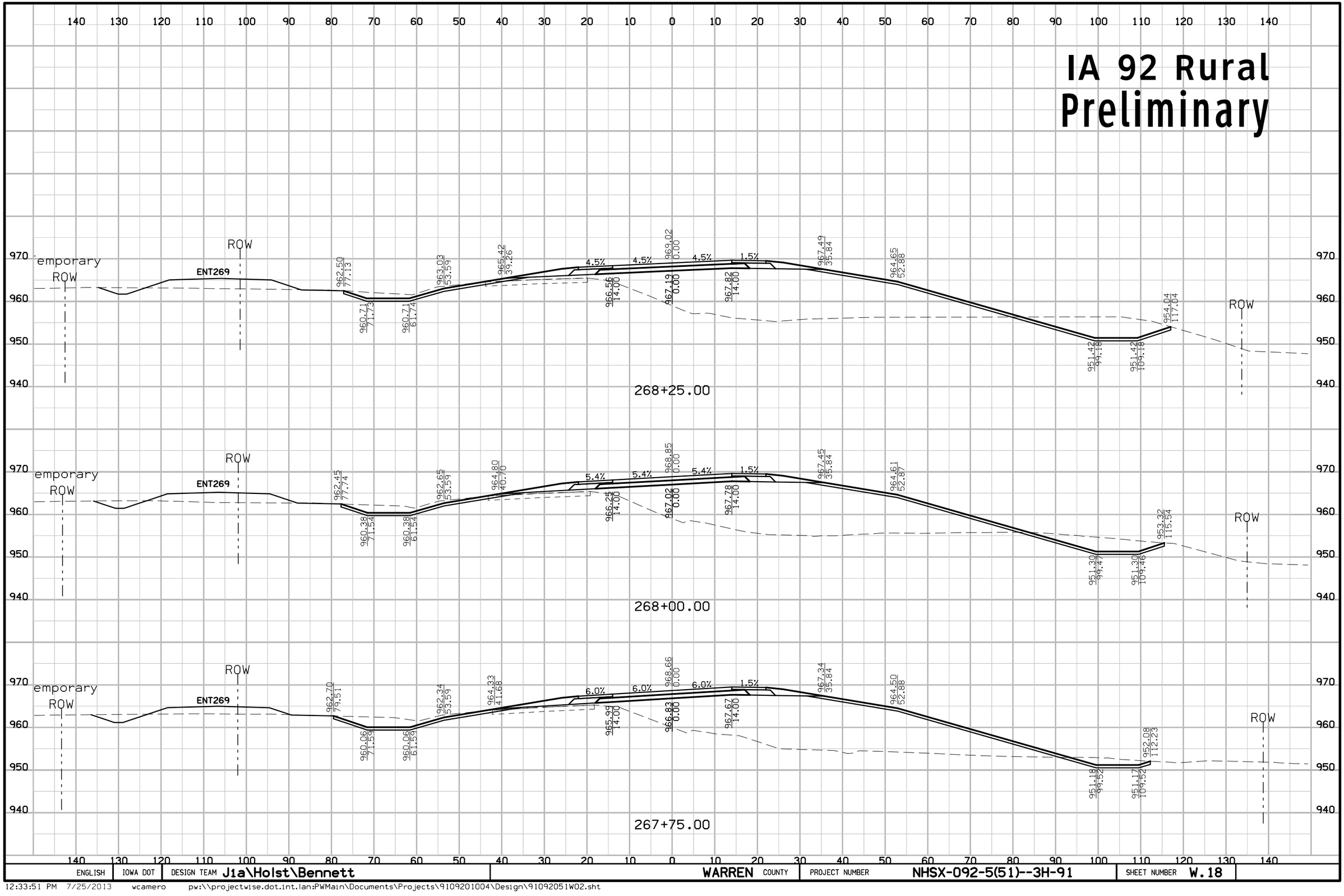
IA 92 Rural
Preliminary



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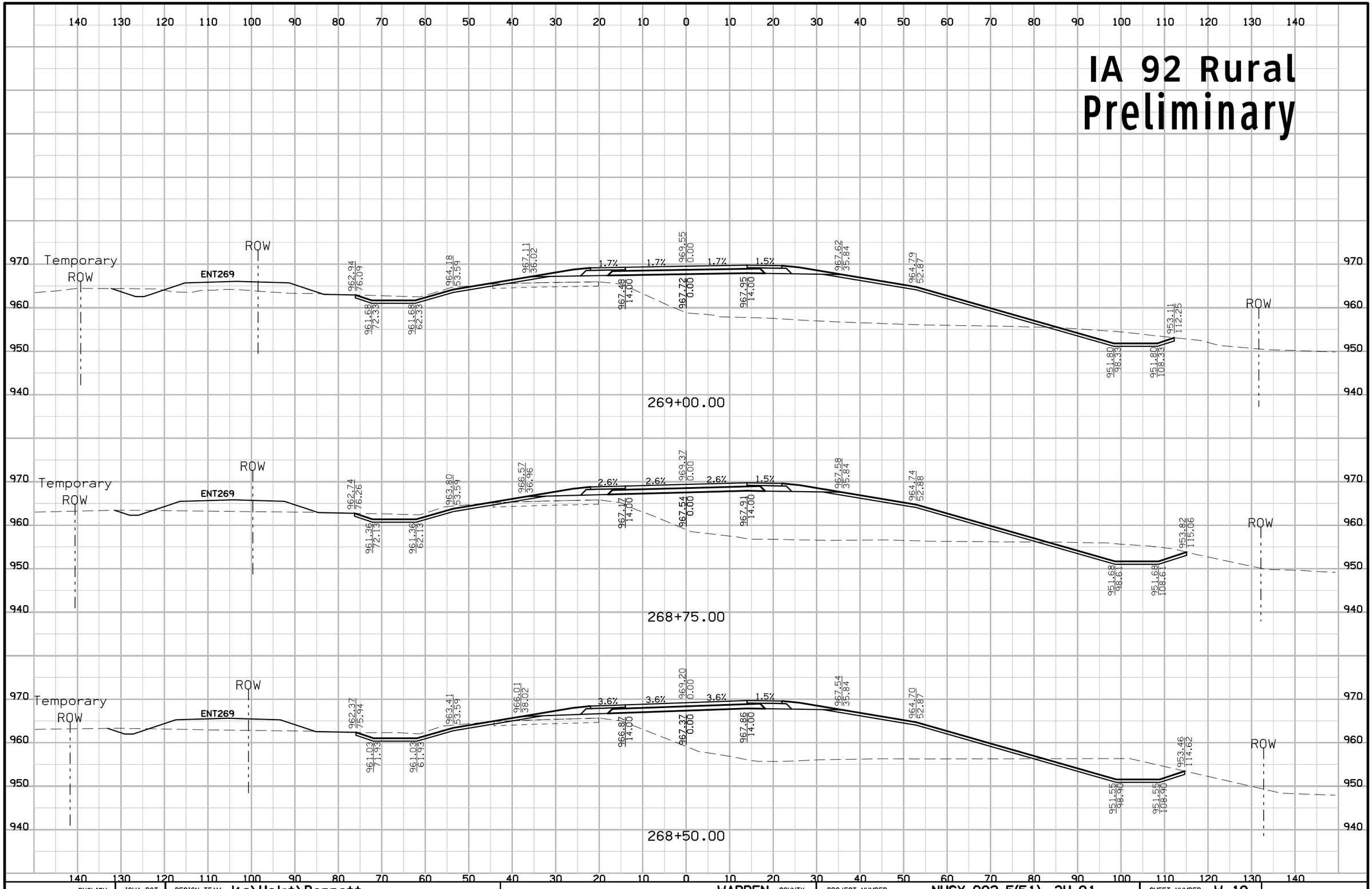
IA 92 Rural
Preliminary



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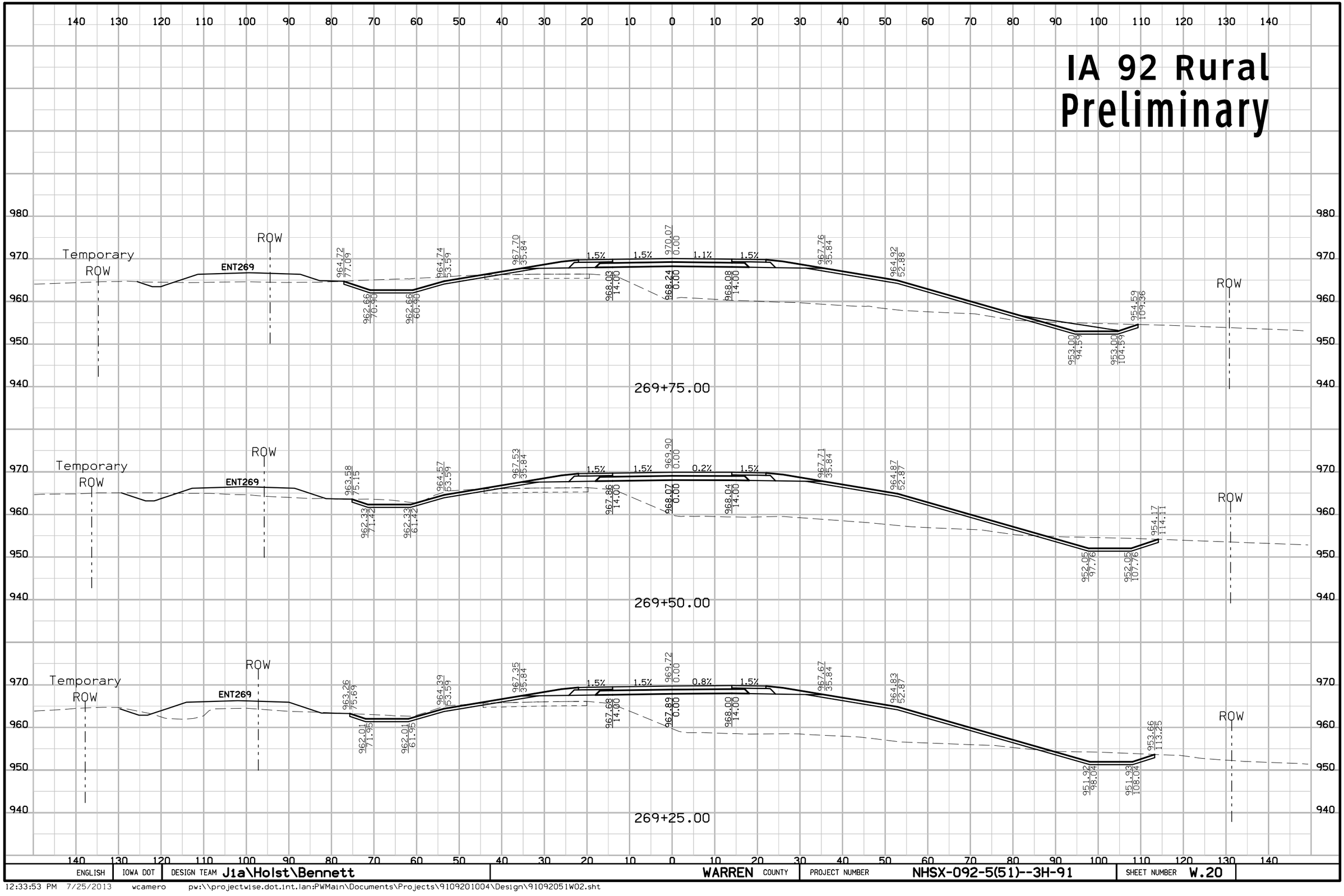
IA 92 Rural
Preliminary



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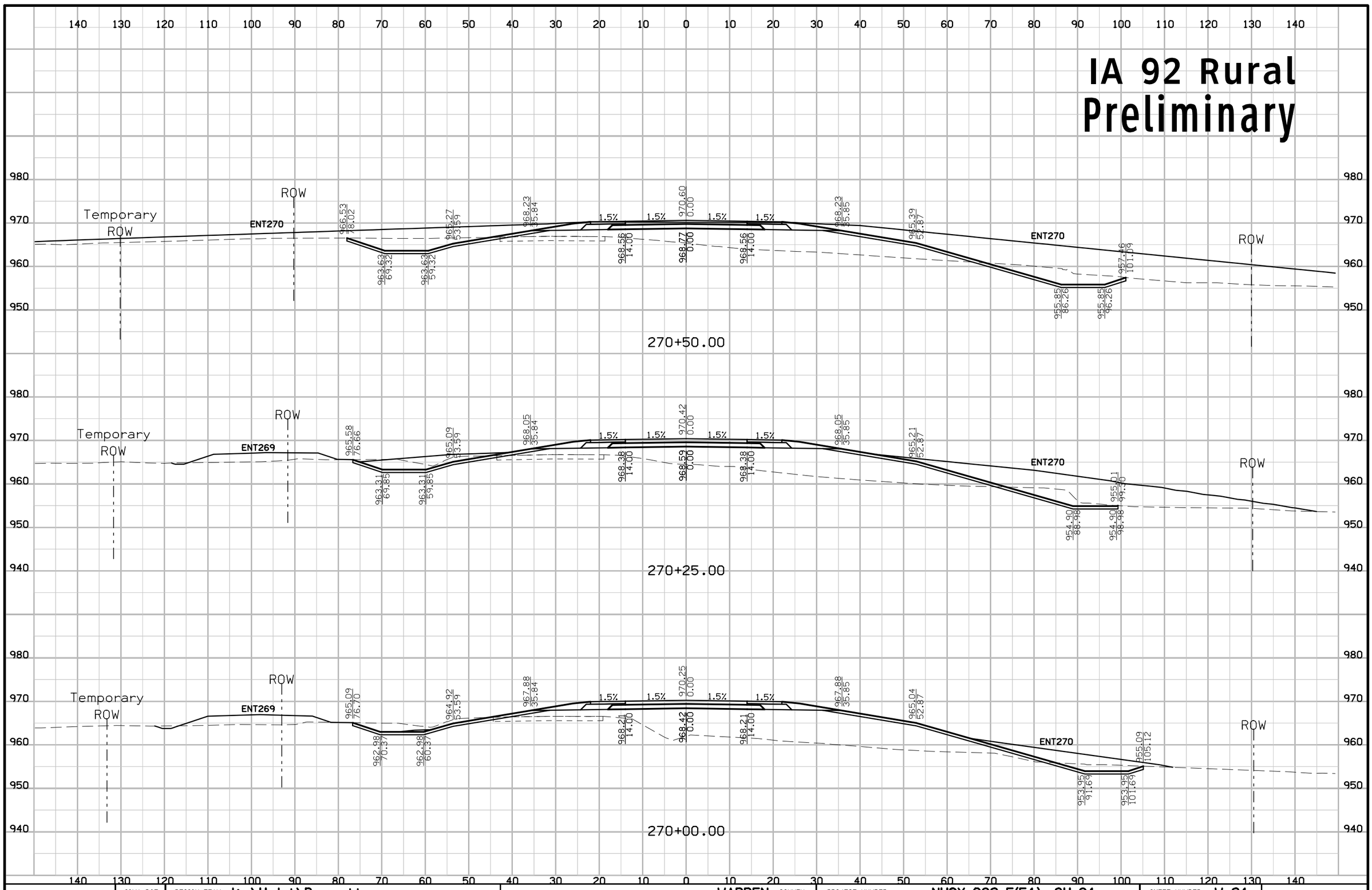
IA 92 Rural
Preliminary



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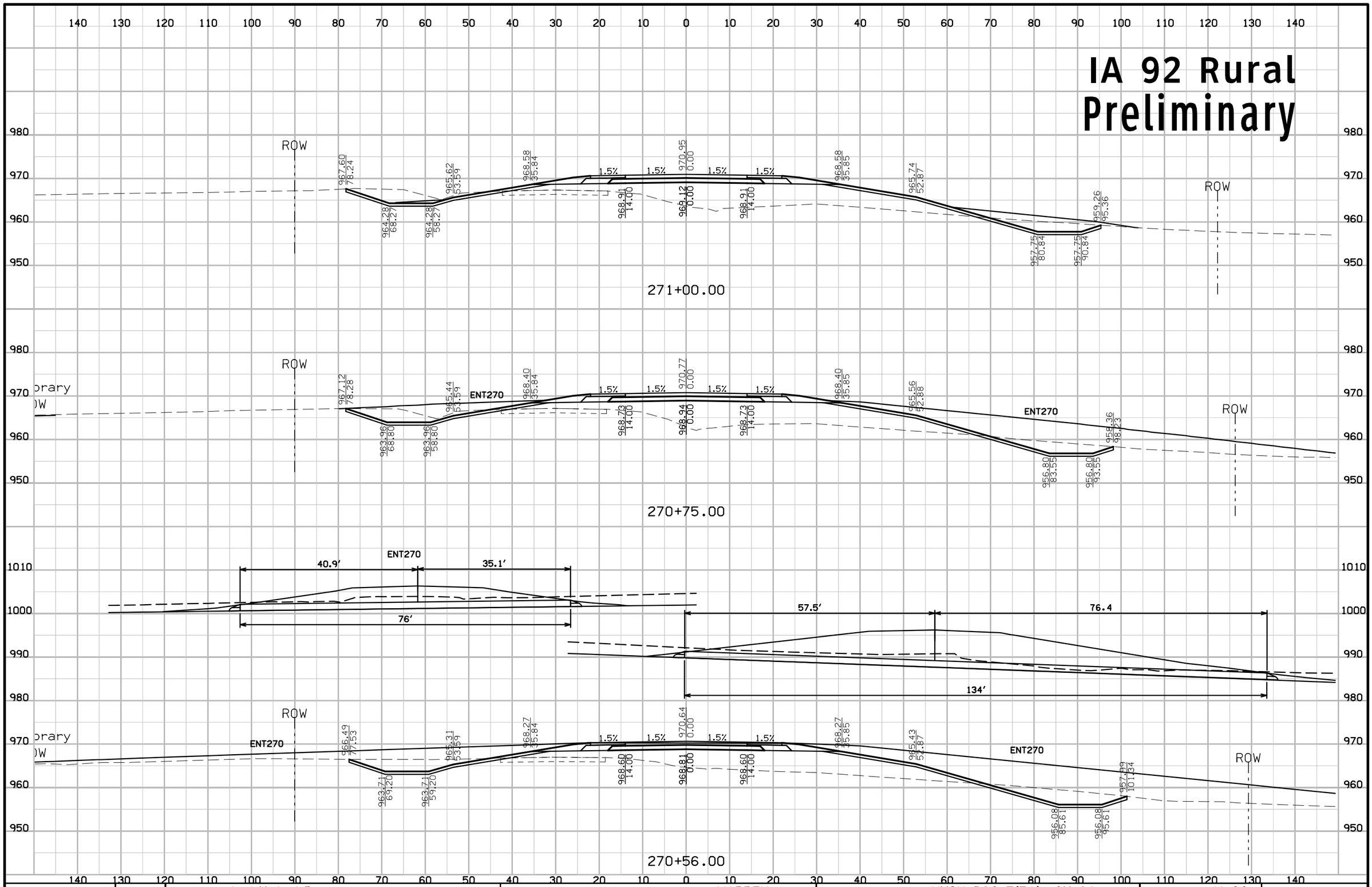
IA 92 Rural Preliminary



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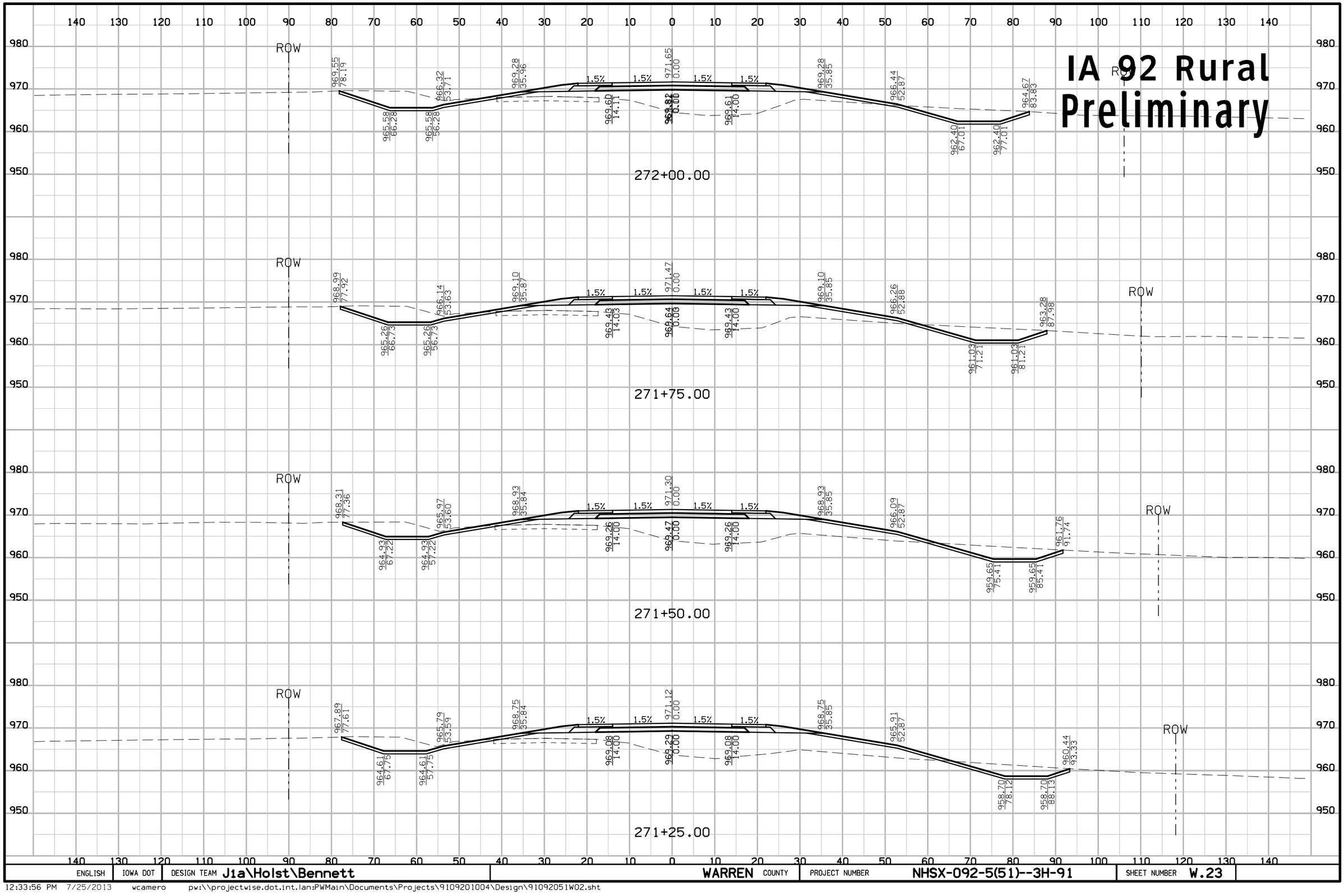
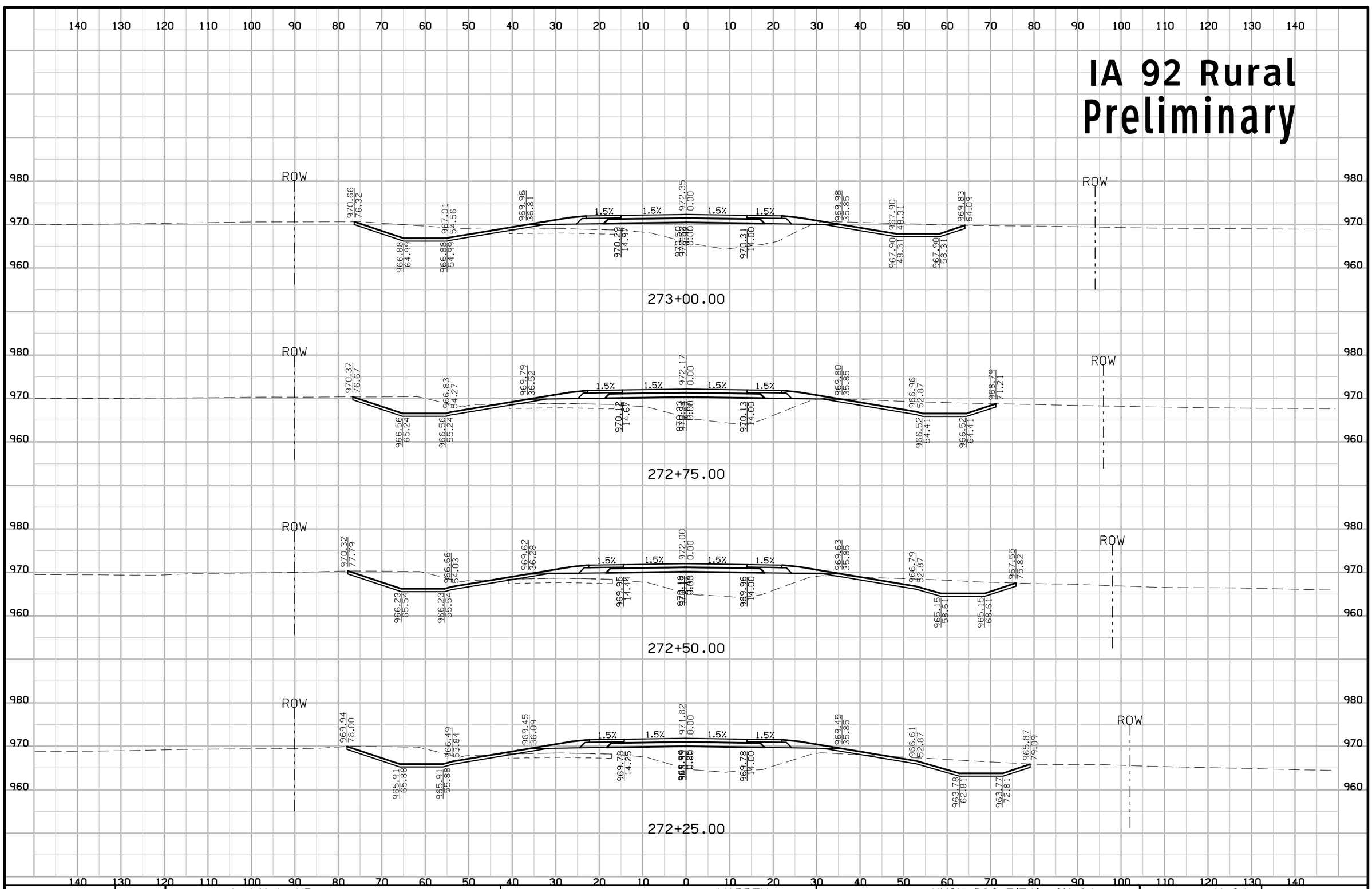
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.23

IA 92 Rural
Preliminary



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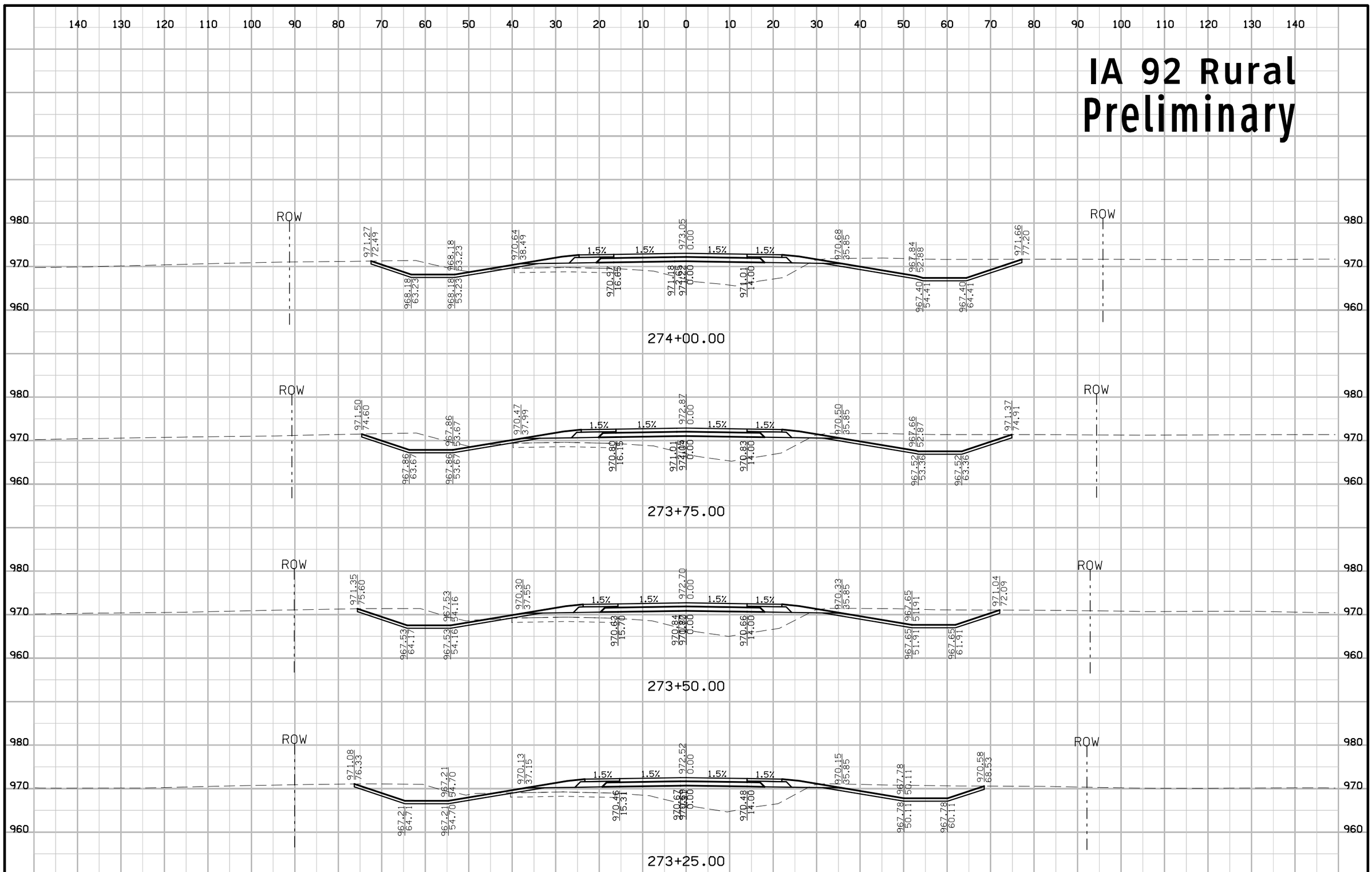
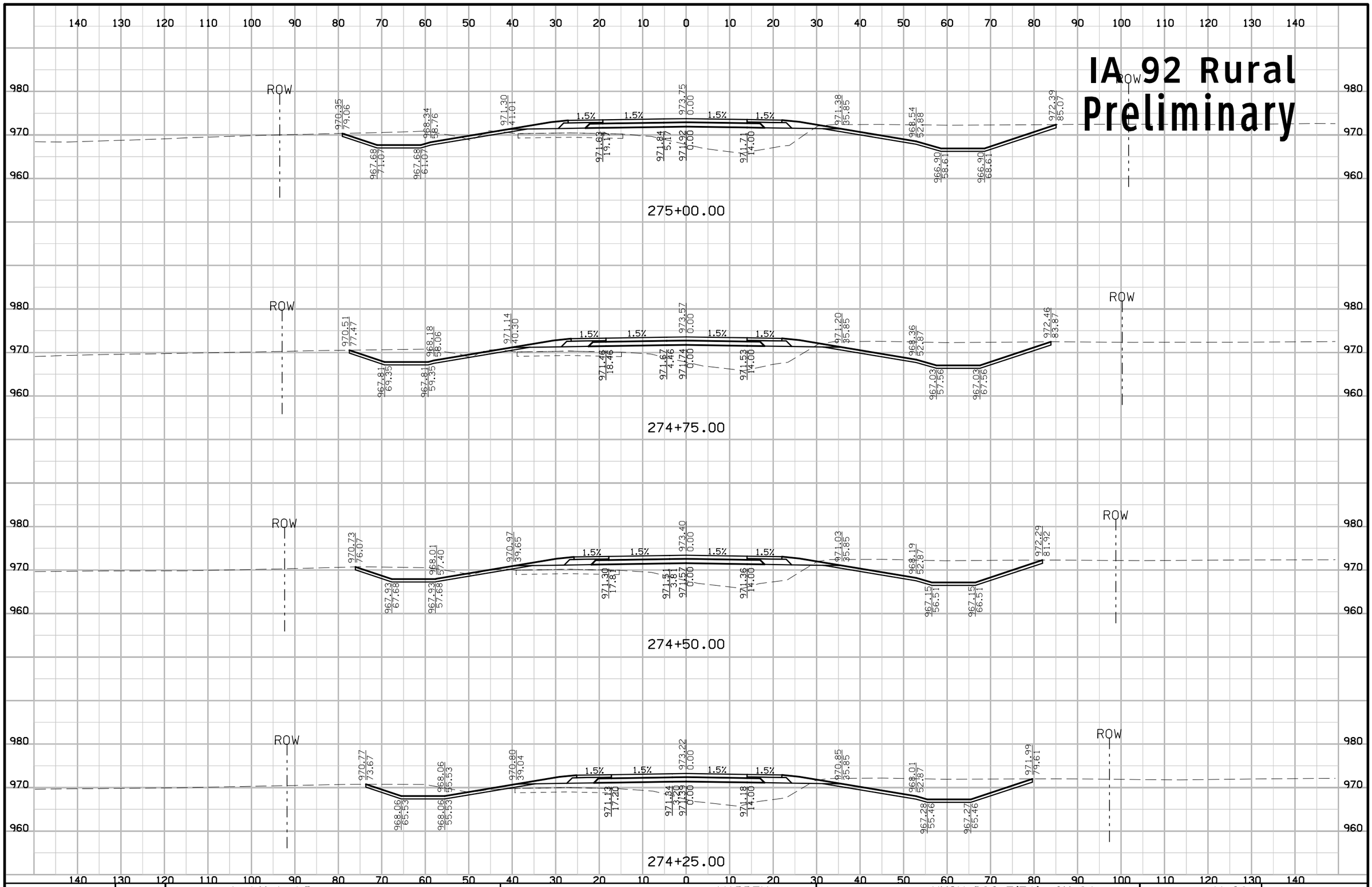
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.25

IA 92 Rural Preliminary



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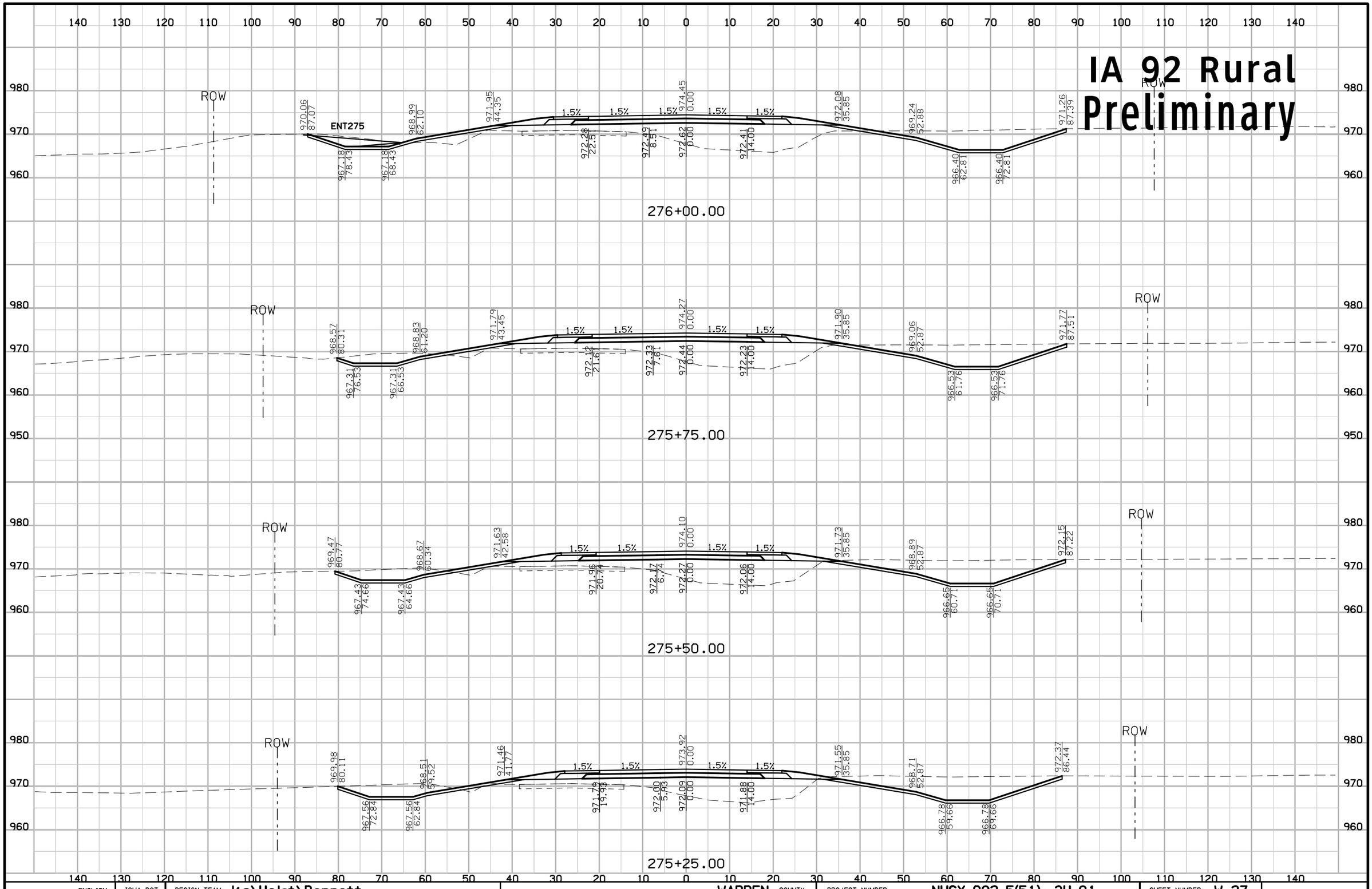
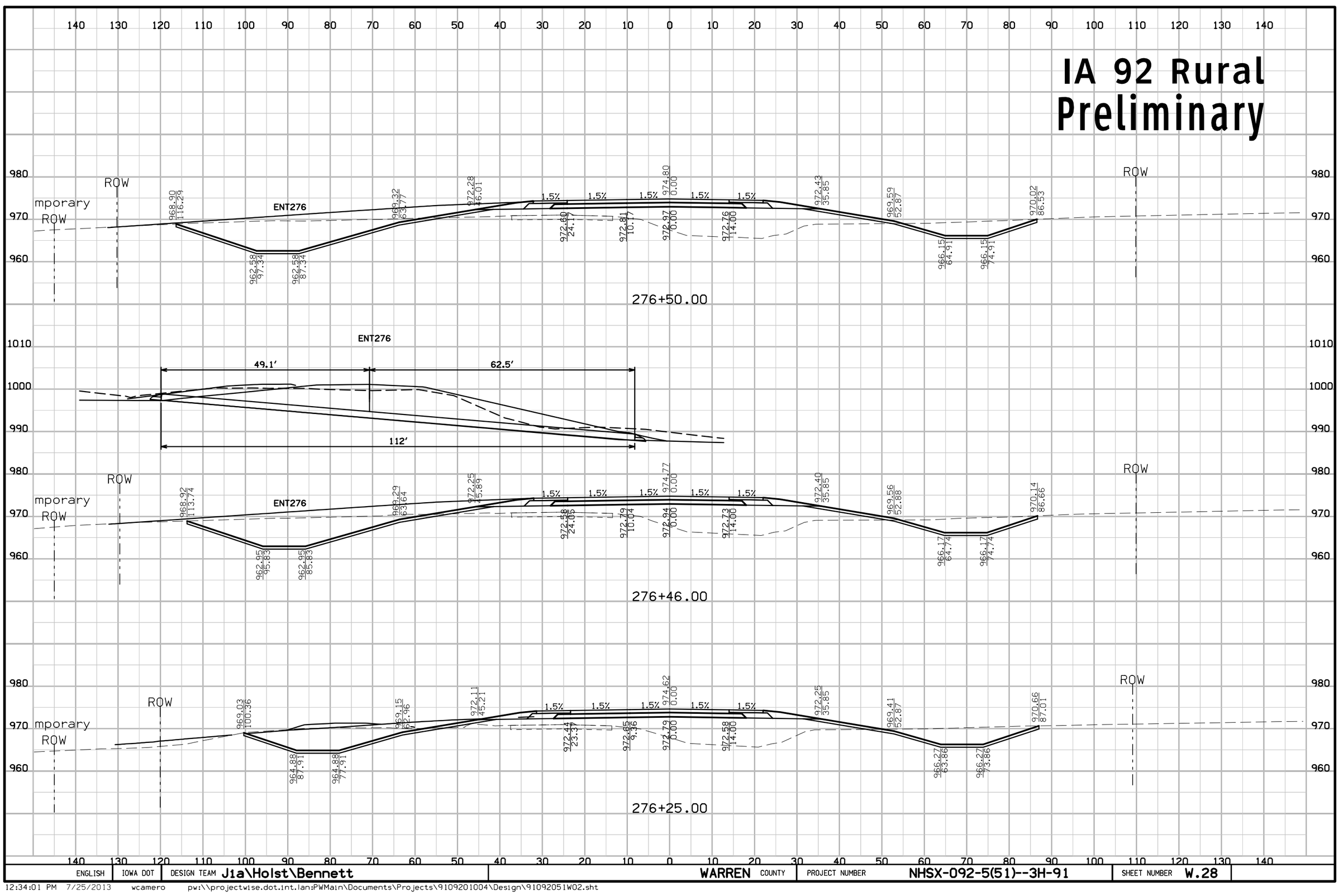
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.27

IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.28

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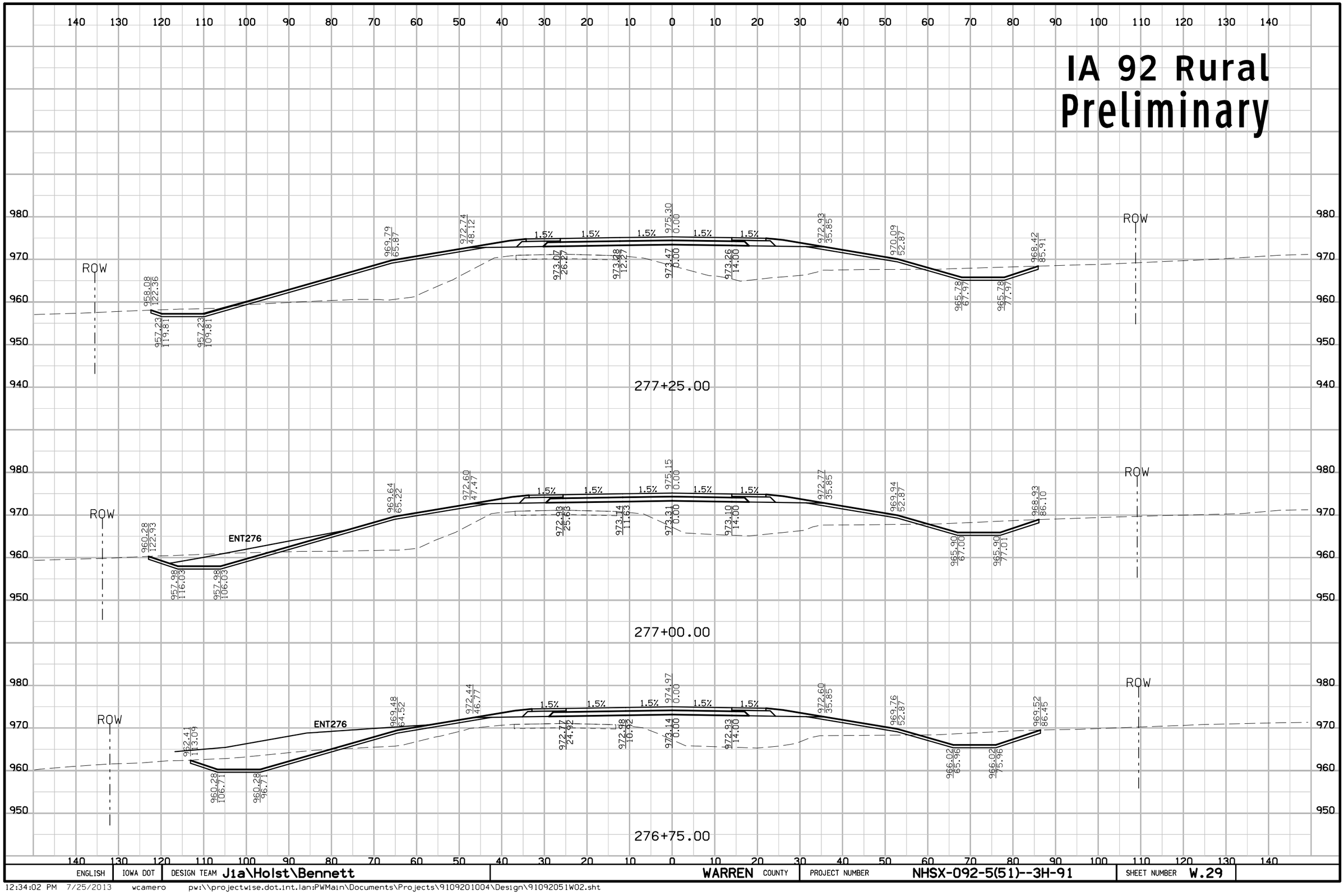
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.29

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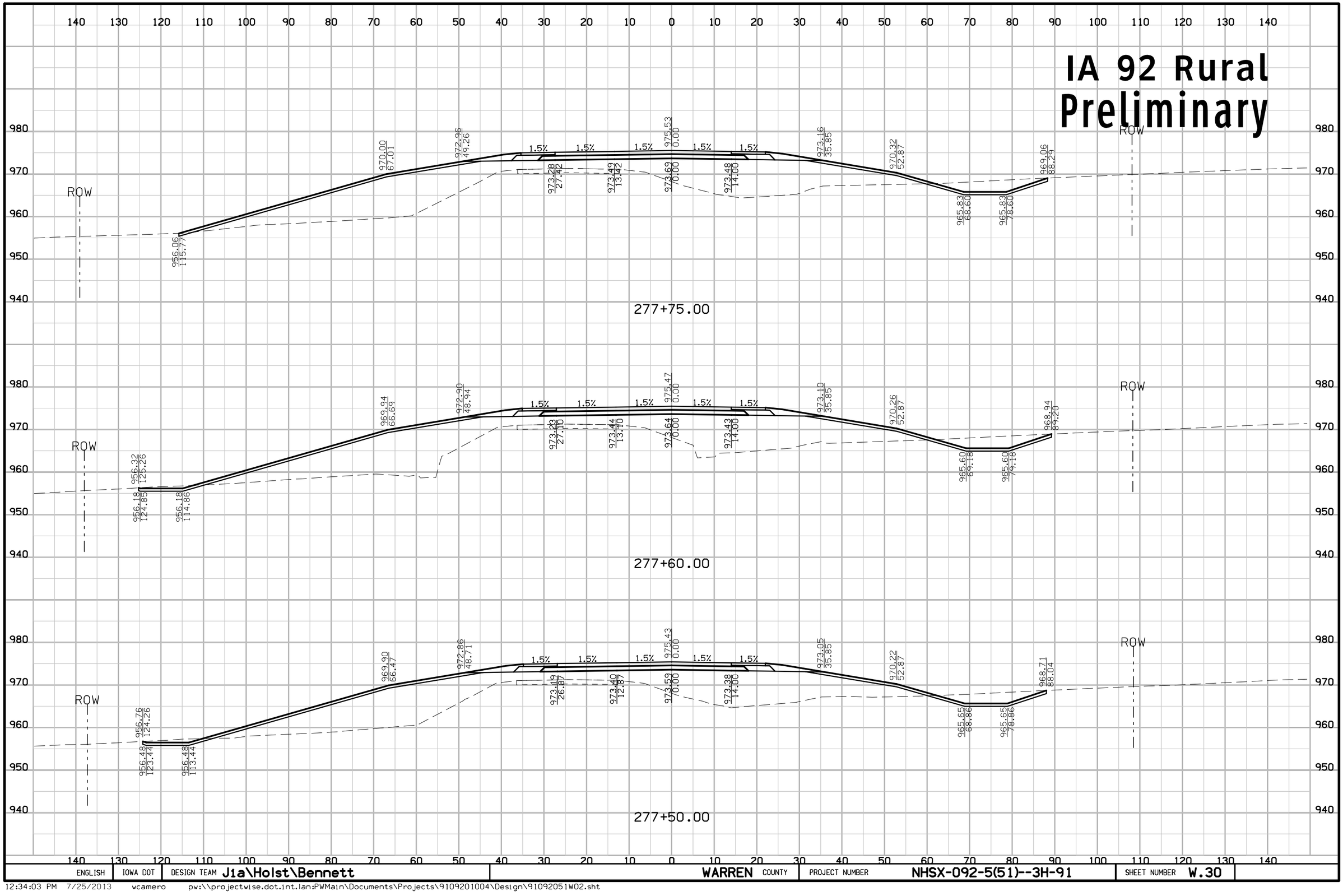
IA 92 Rural Preliminary



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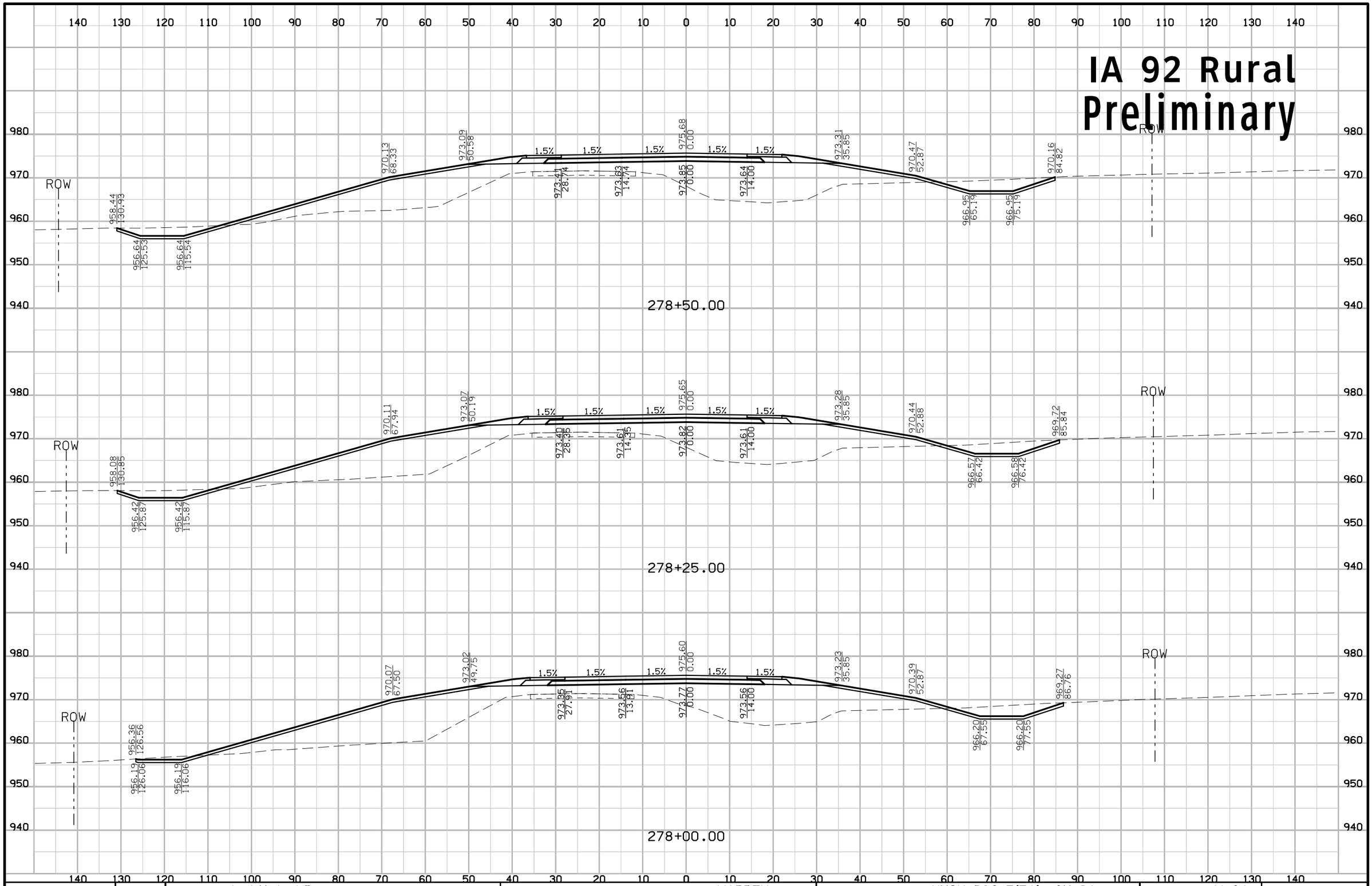
IA 92 Rural Preliminary



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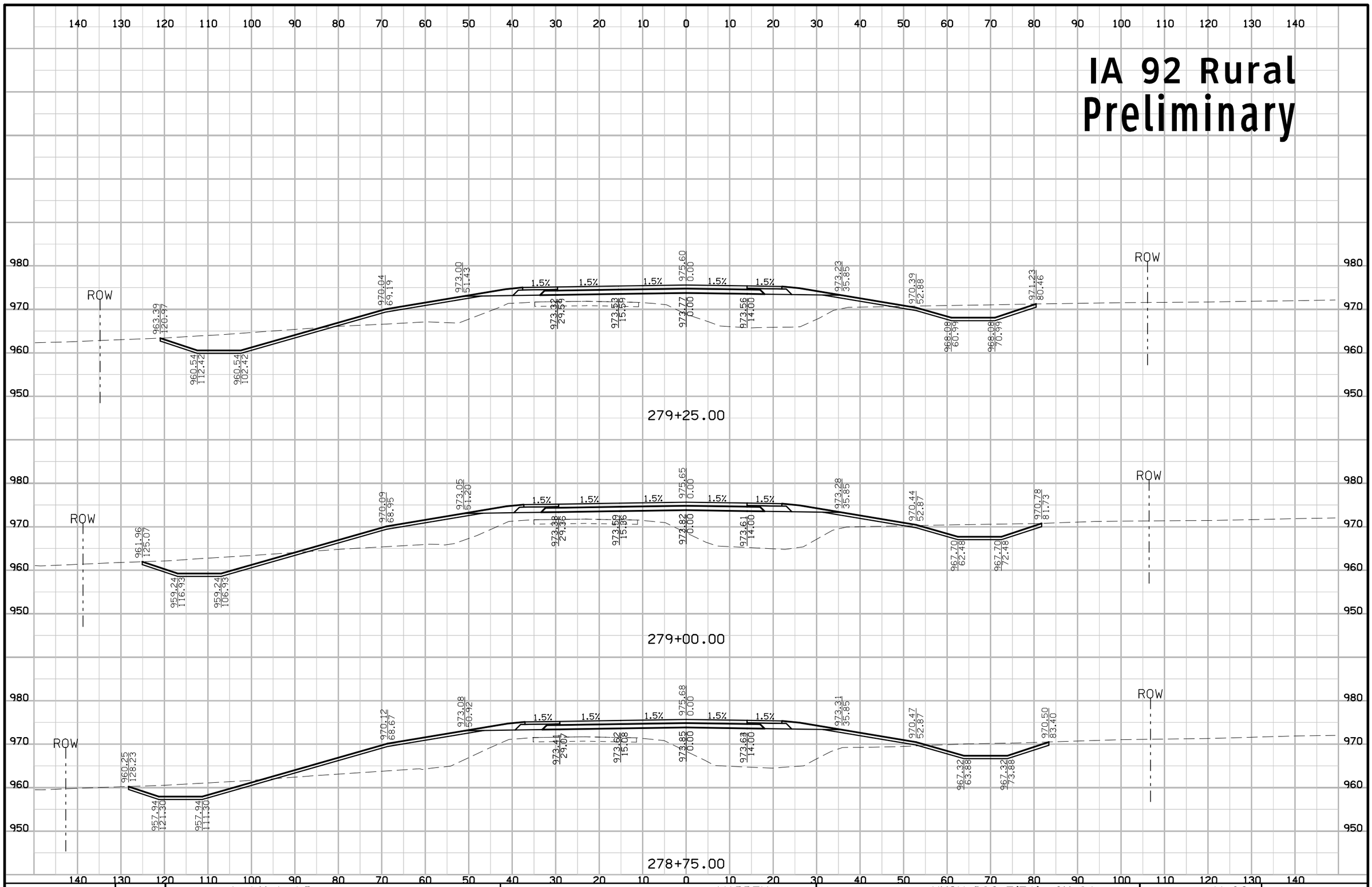
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.32

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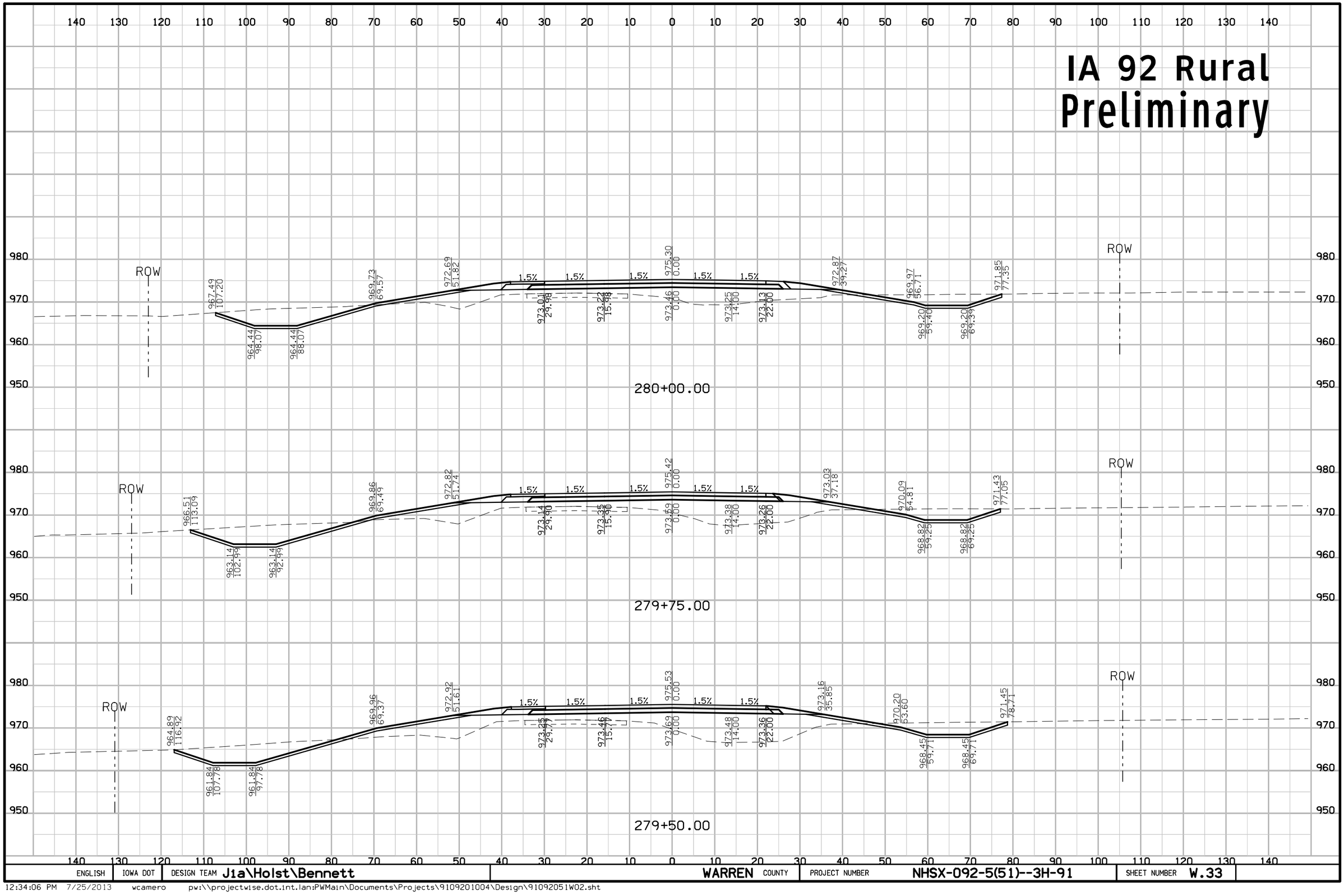
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.33

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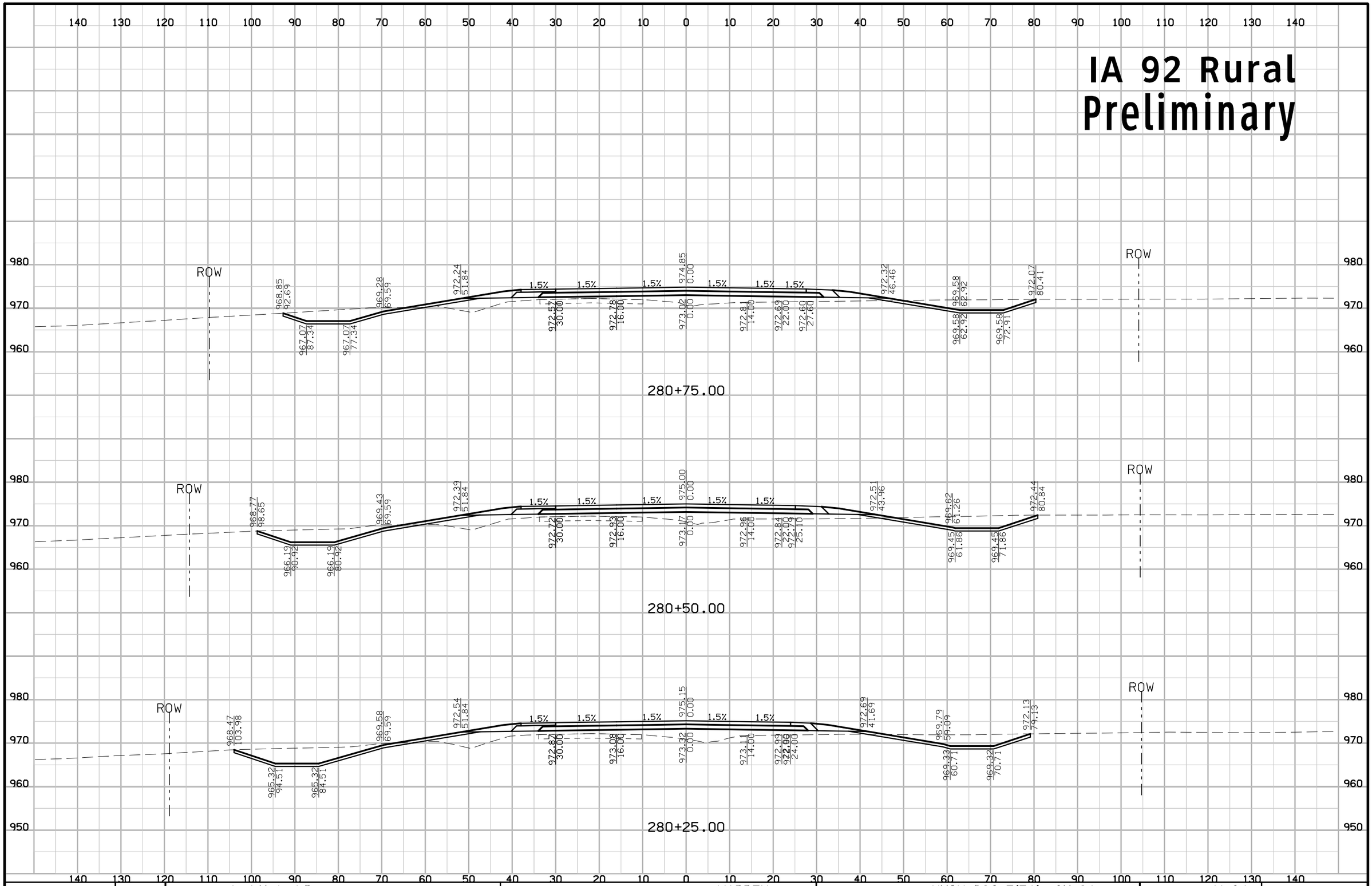
IA 92 Rural
Preliminary



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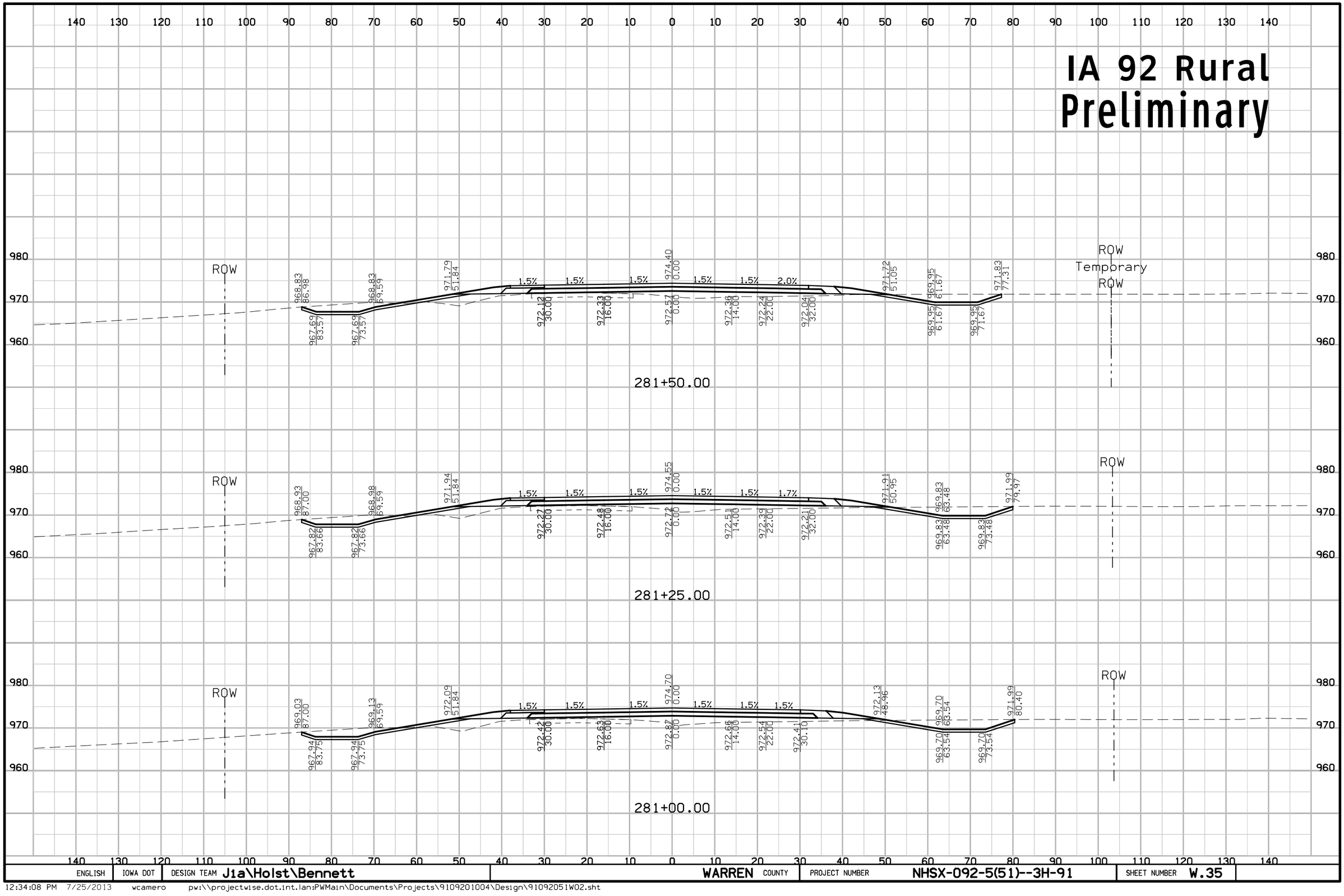
IA 92 Rural
Preliminary



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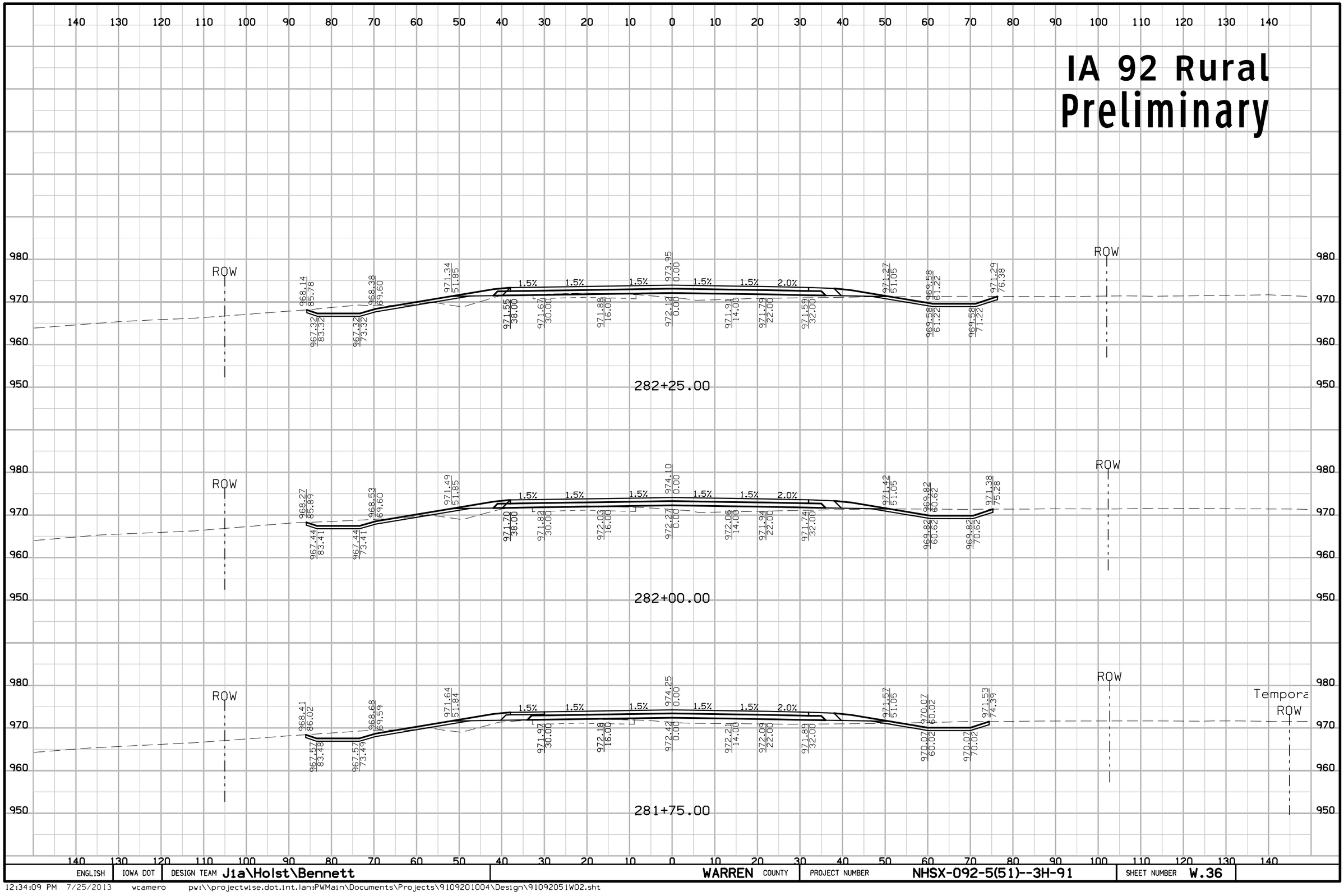
IA 92 Rural
Preliminary



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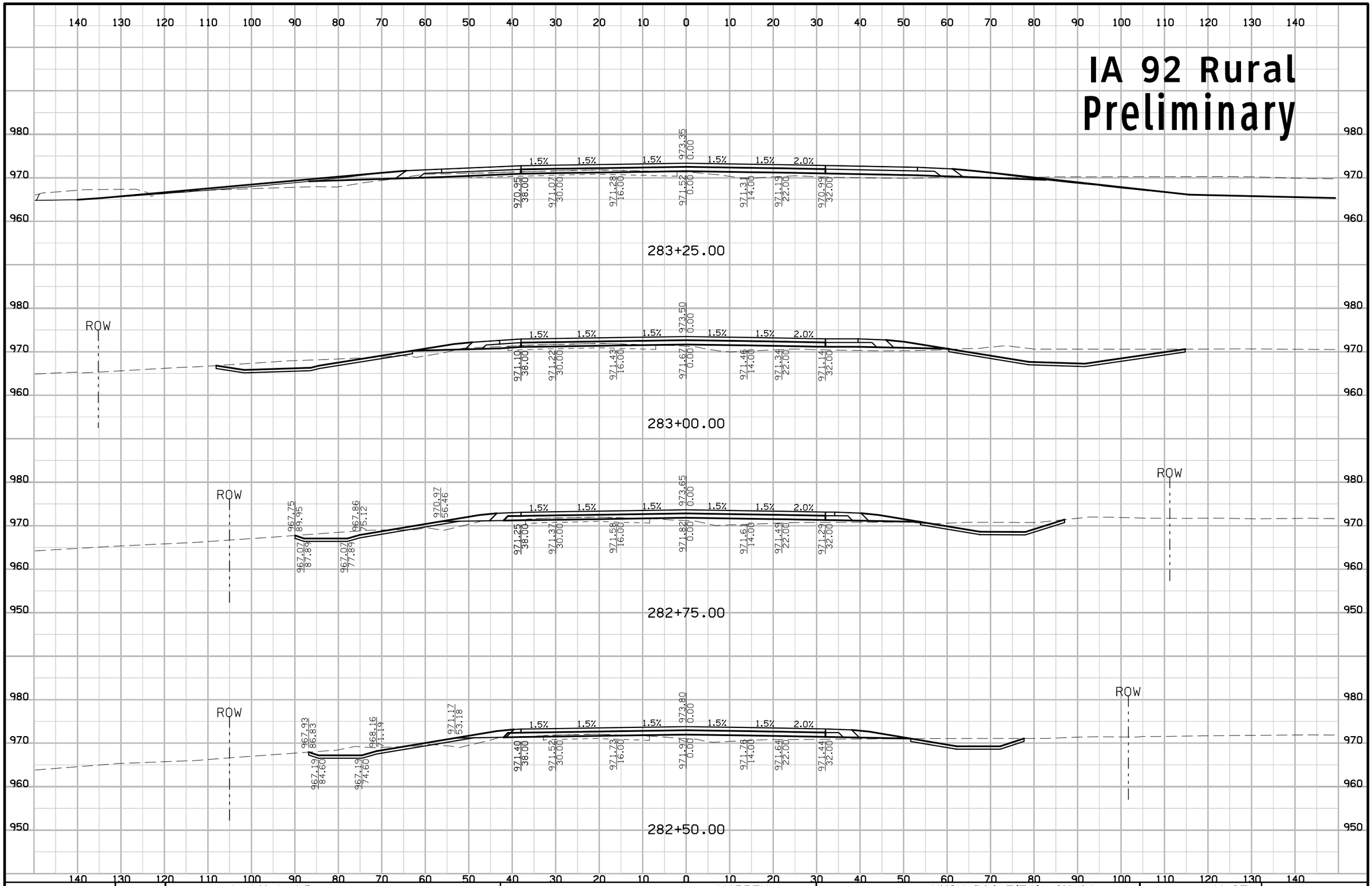
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.37

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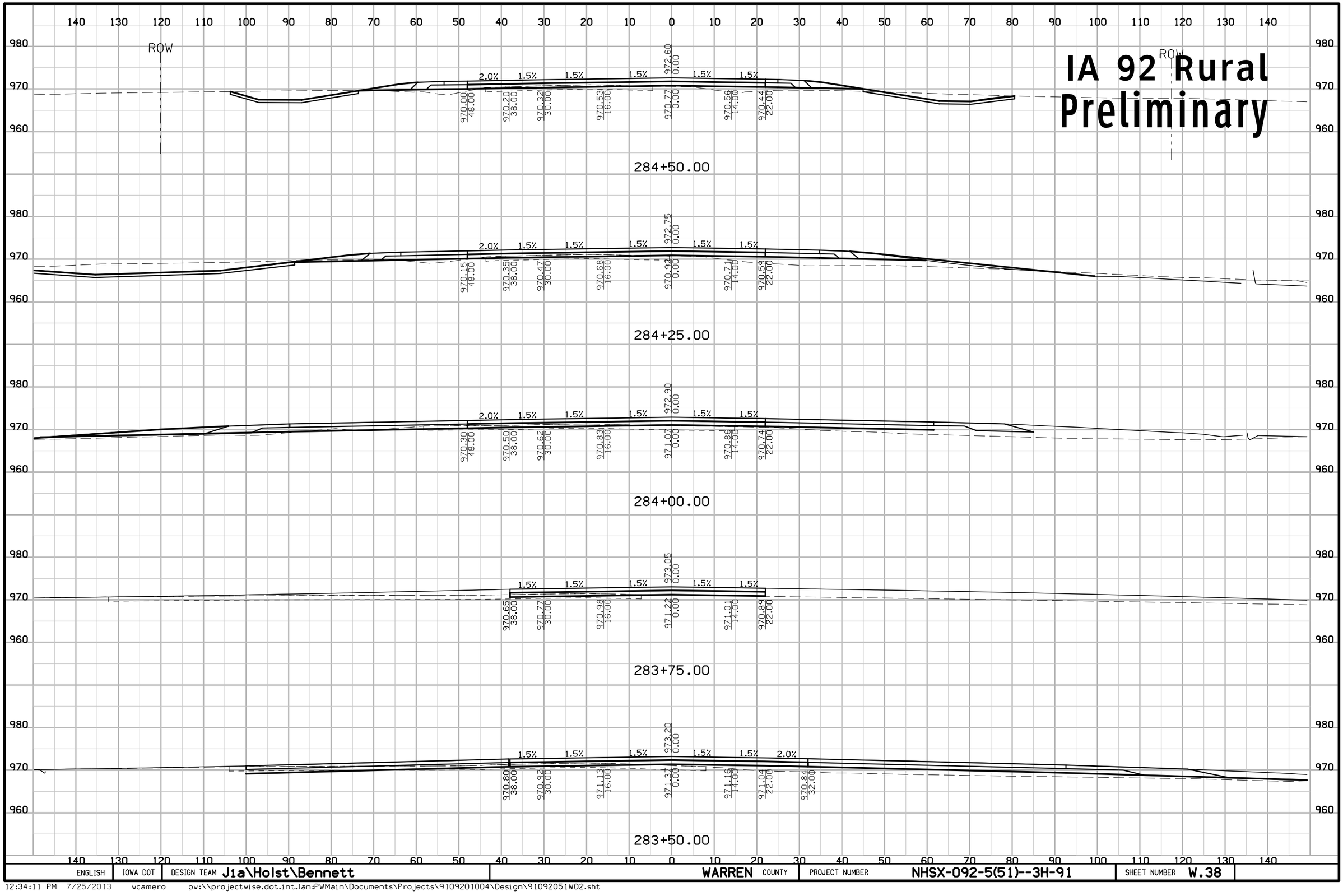
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.38

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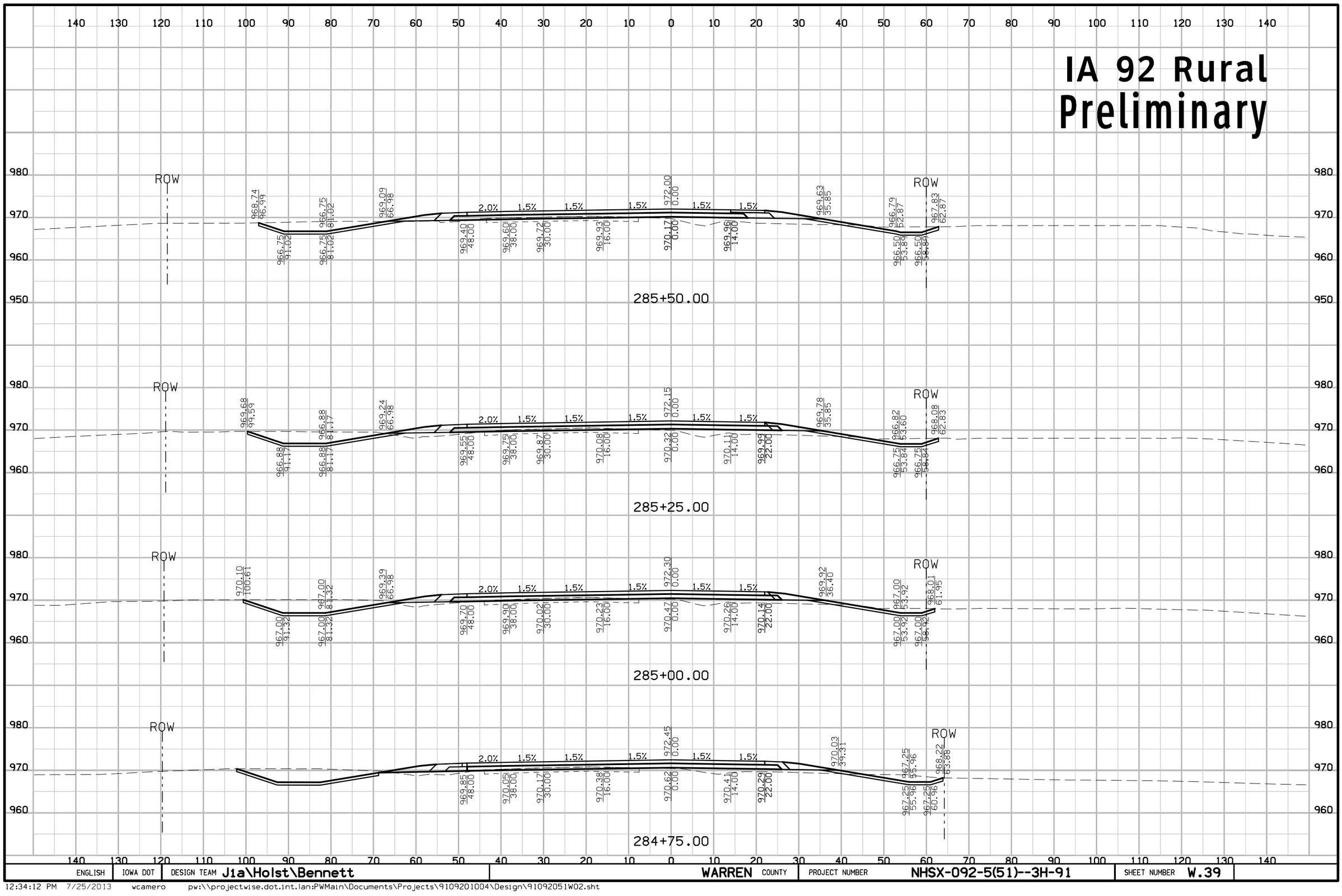
IA 92 Rural
Preliminary



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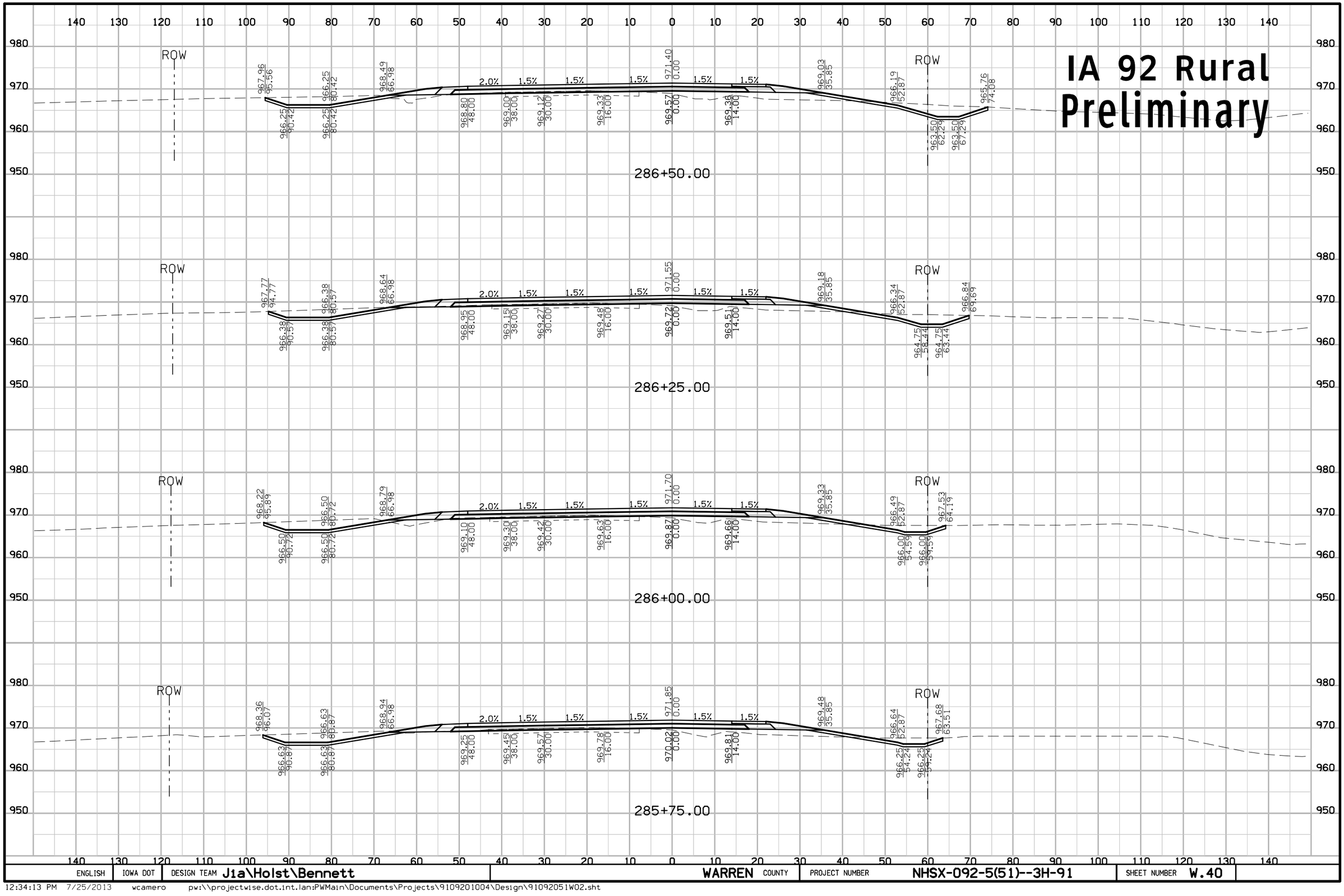
IA 92 Rural Preliminary



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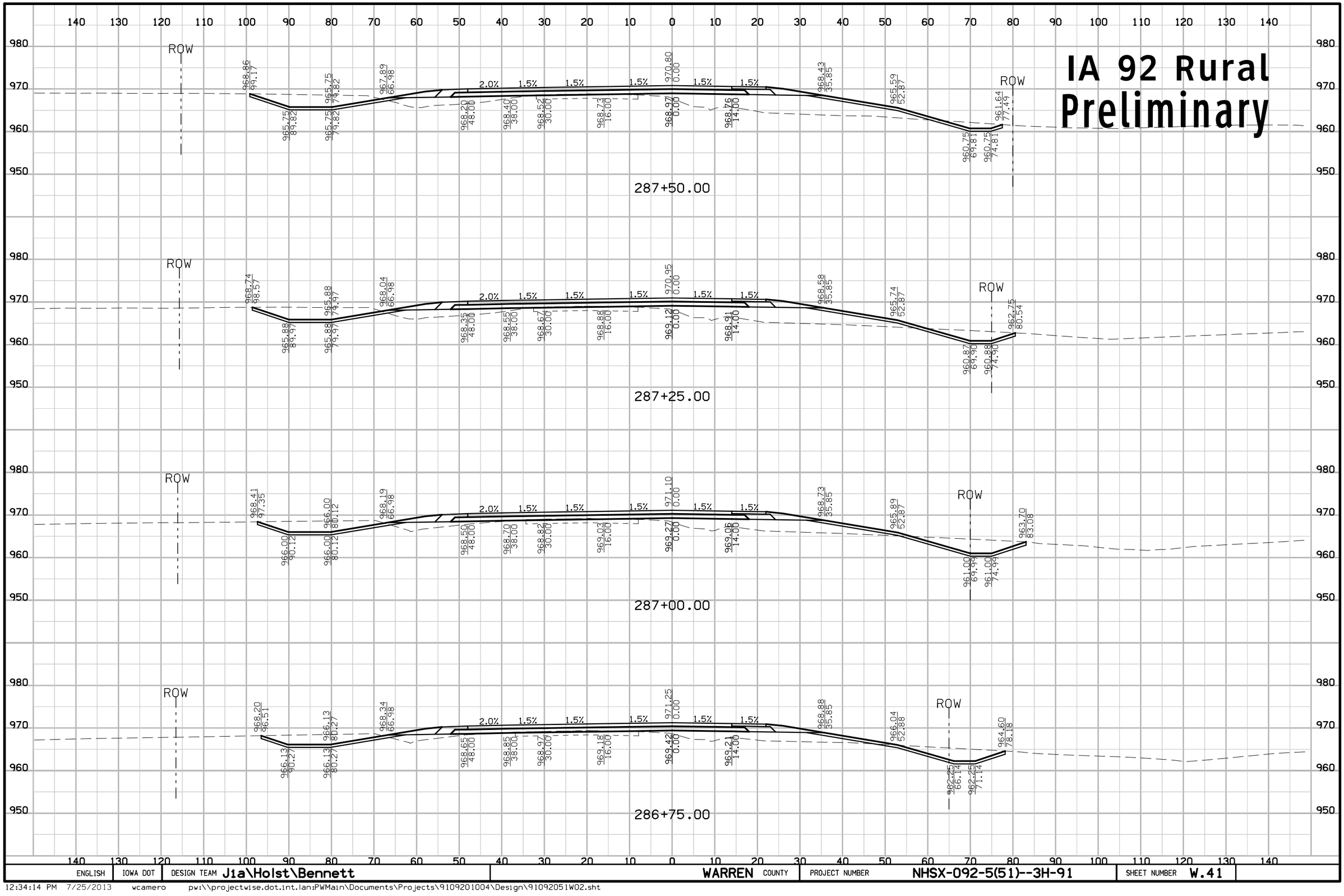
IA 92 Rural Preliminary



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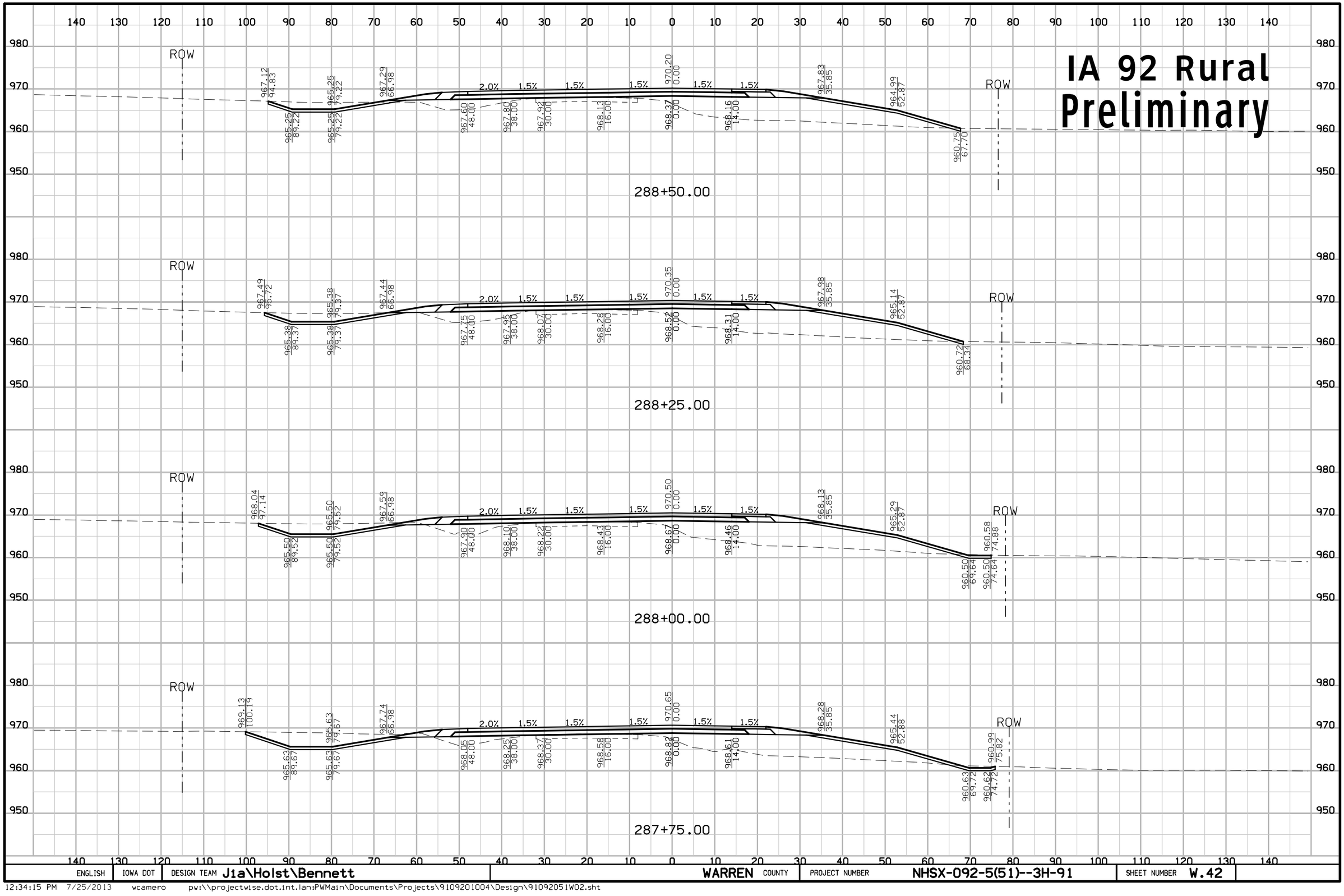
IA 92 Rural Preliminary



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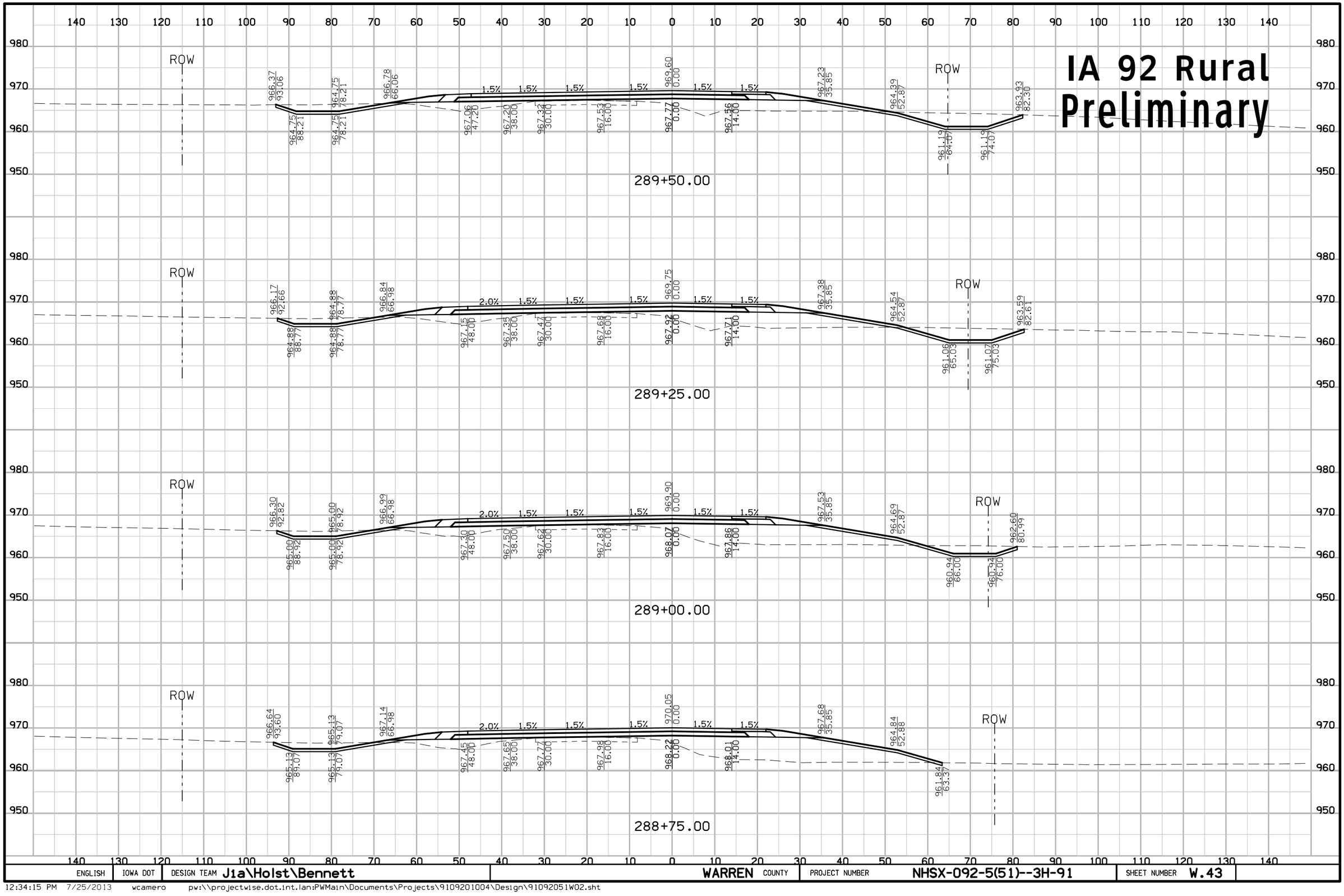
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.43

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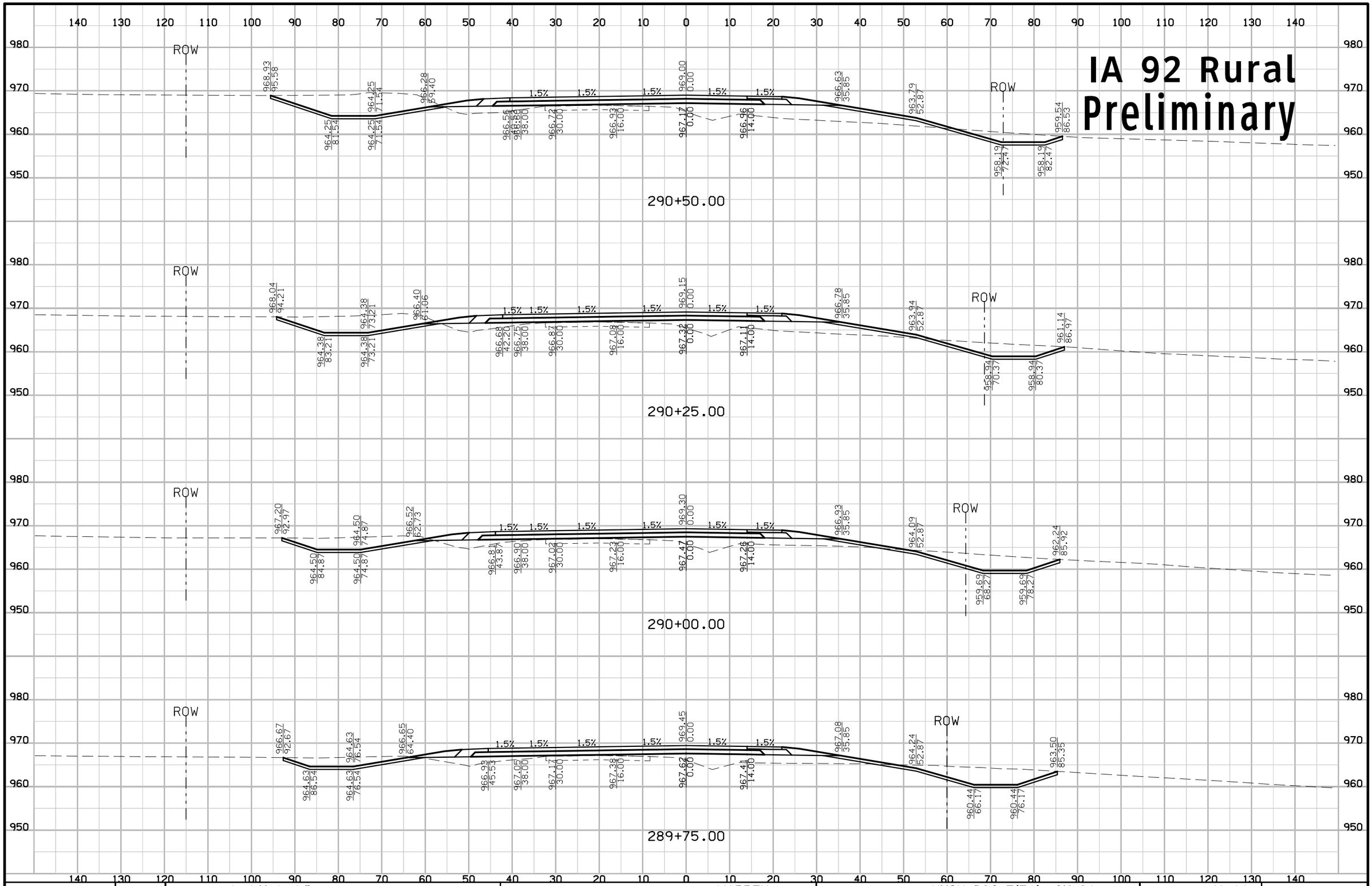
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.44

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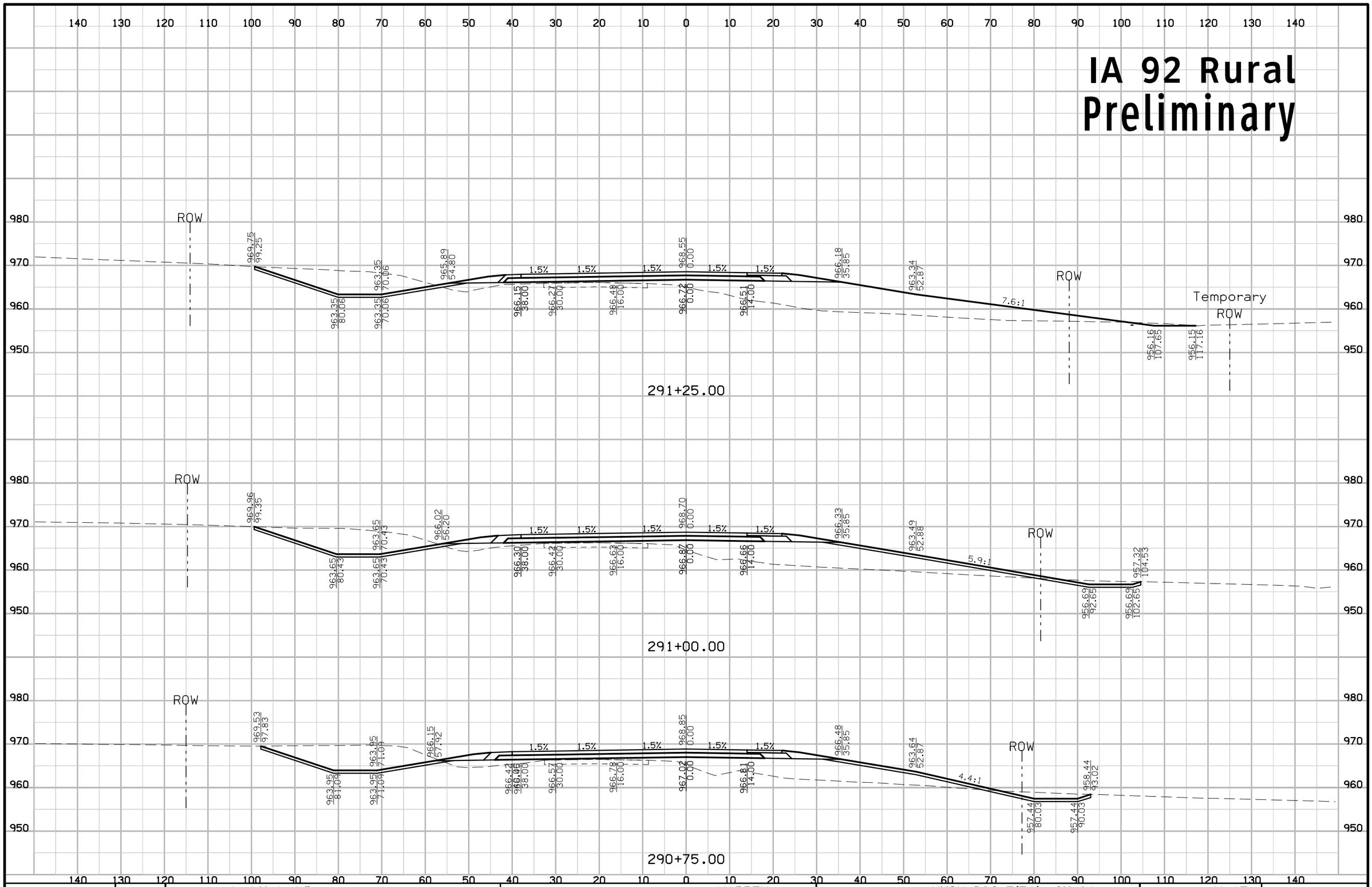
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.45

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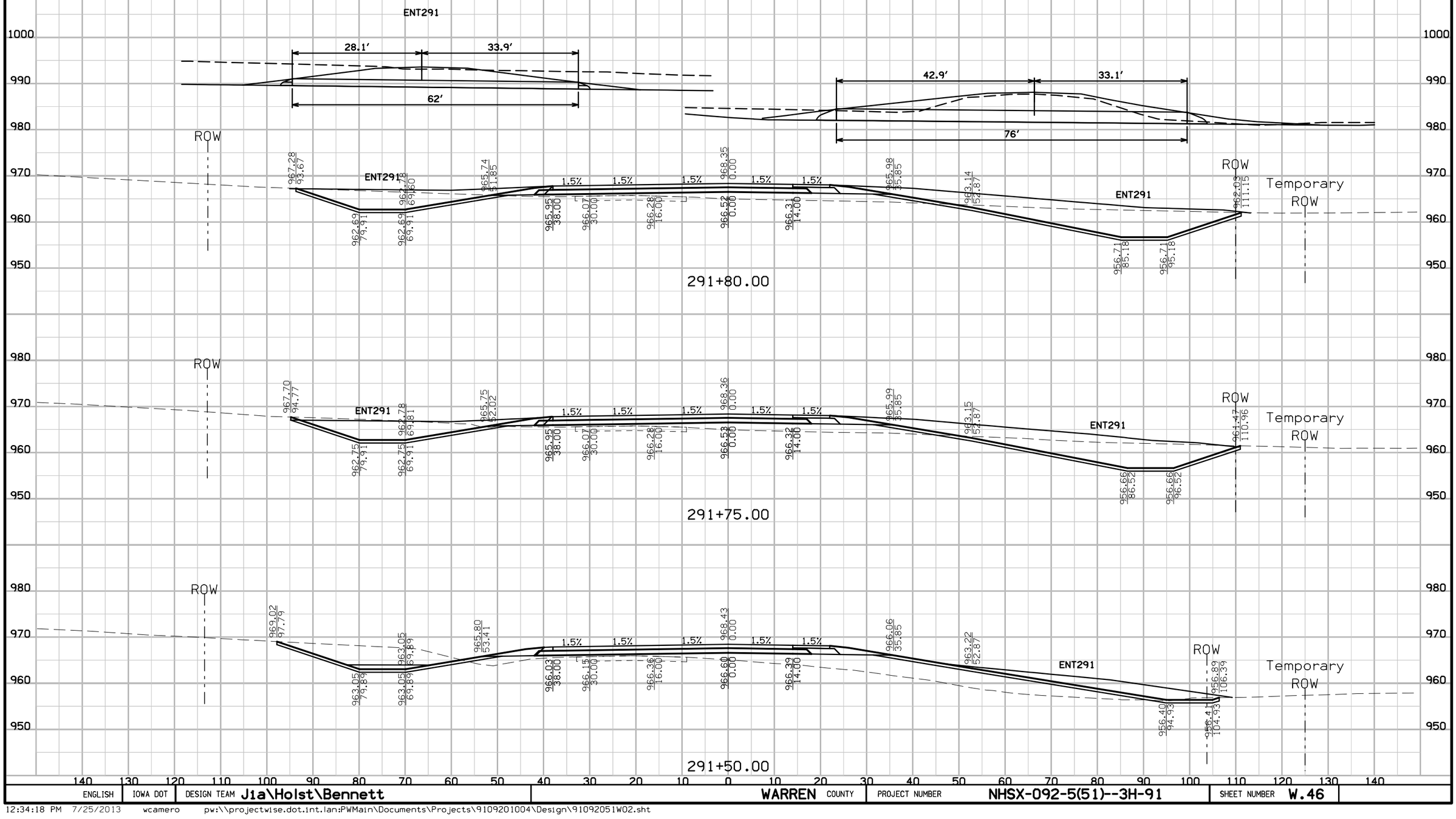
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.46

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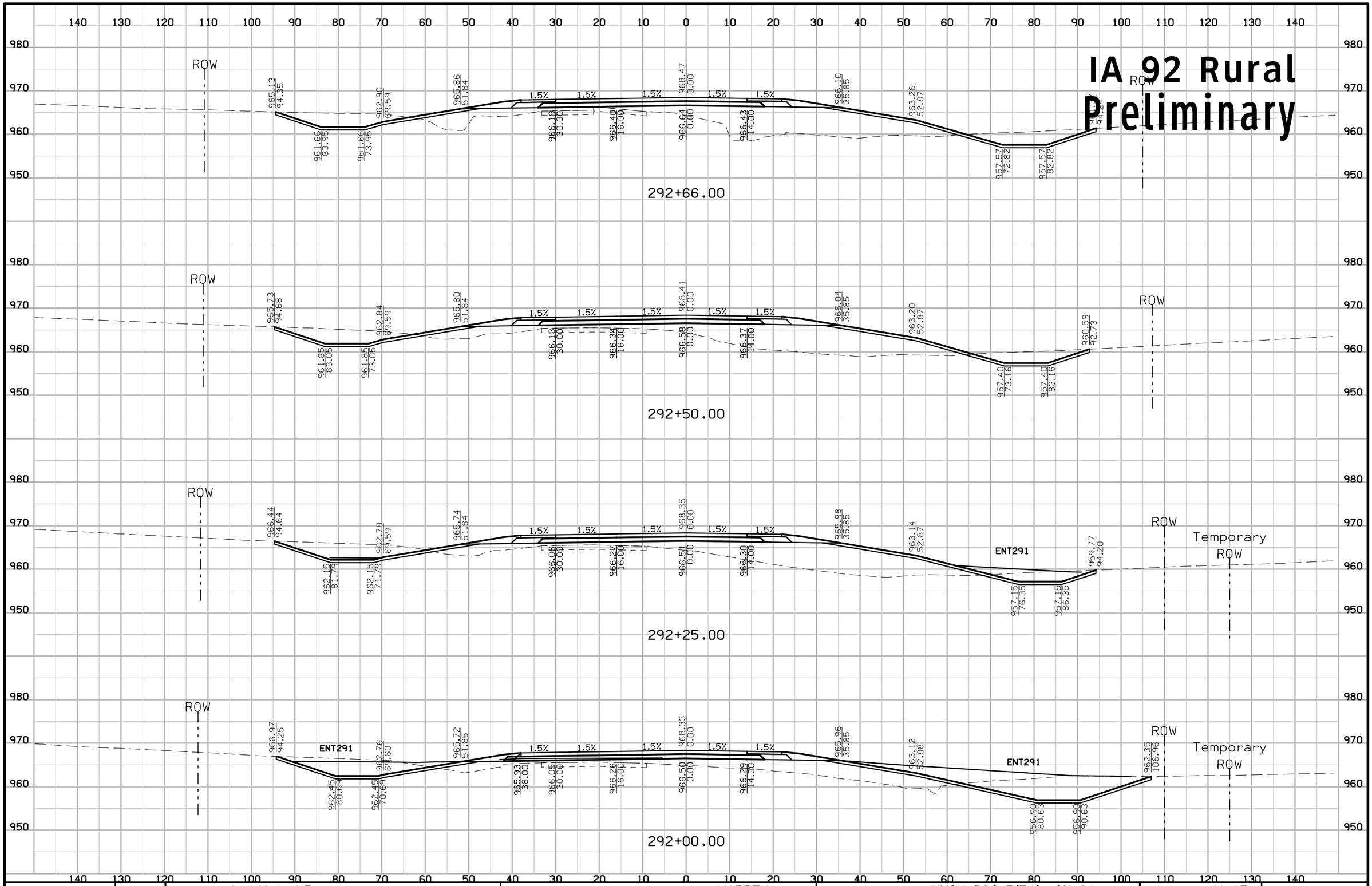
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.47

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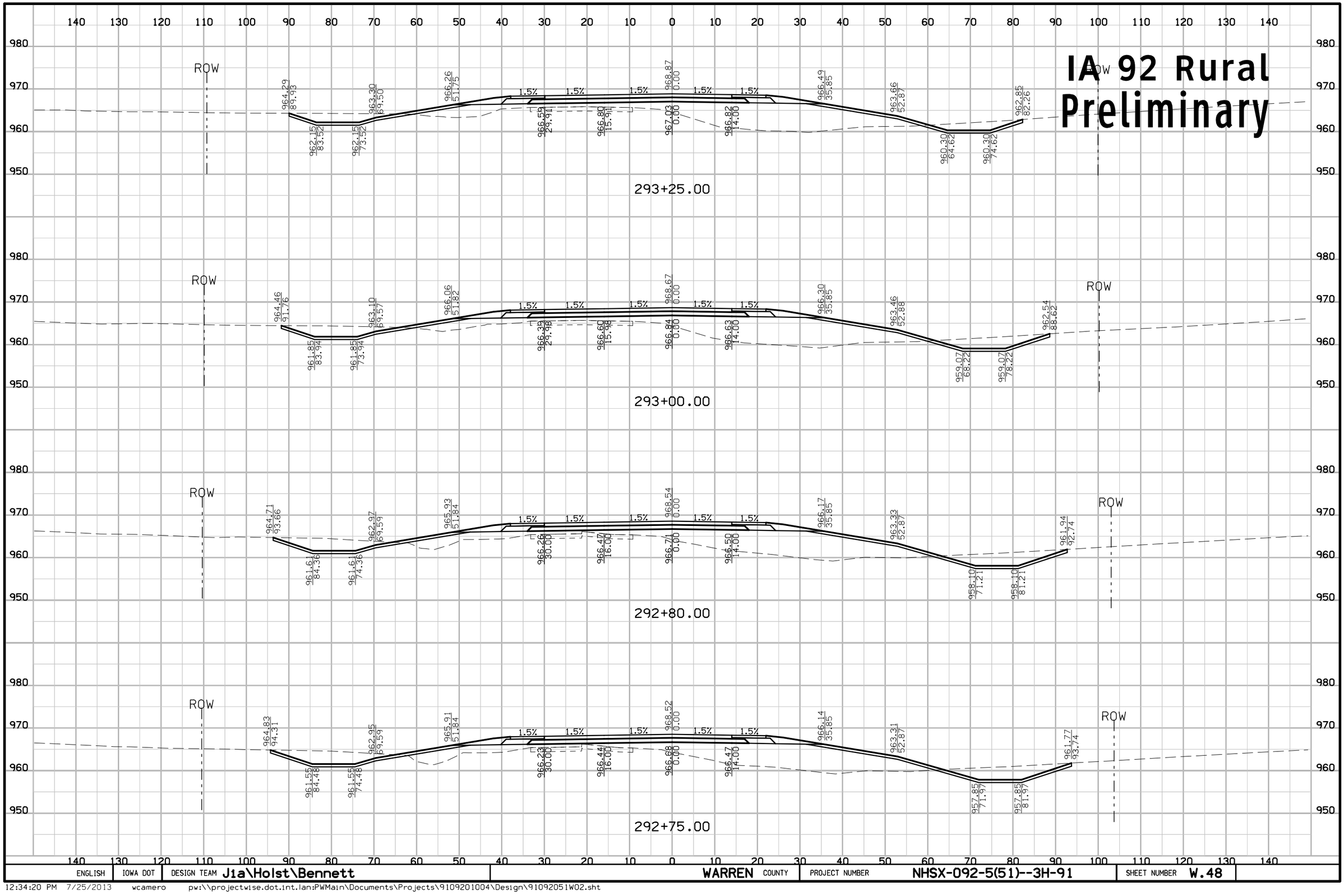
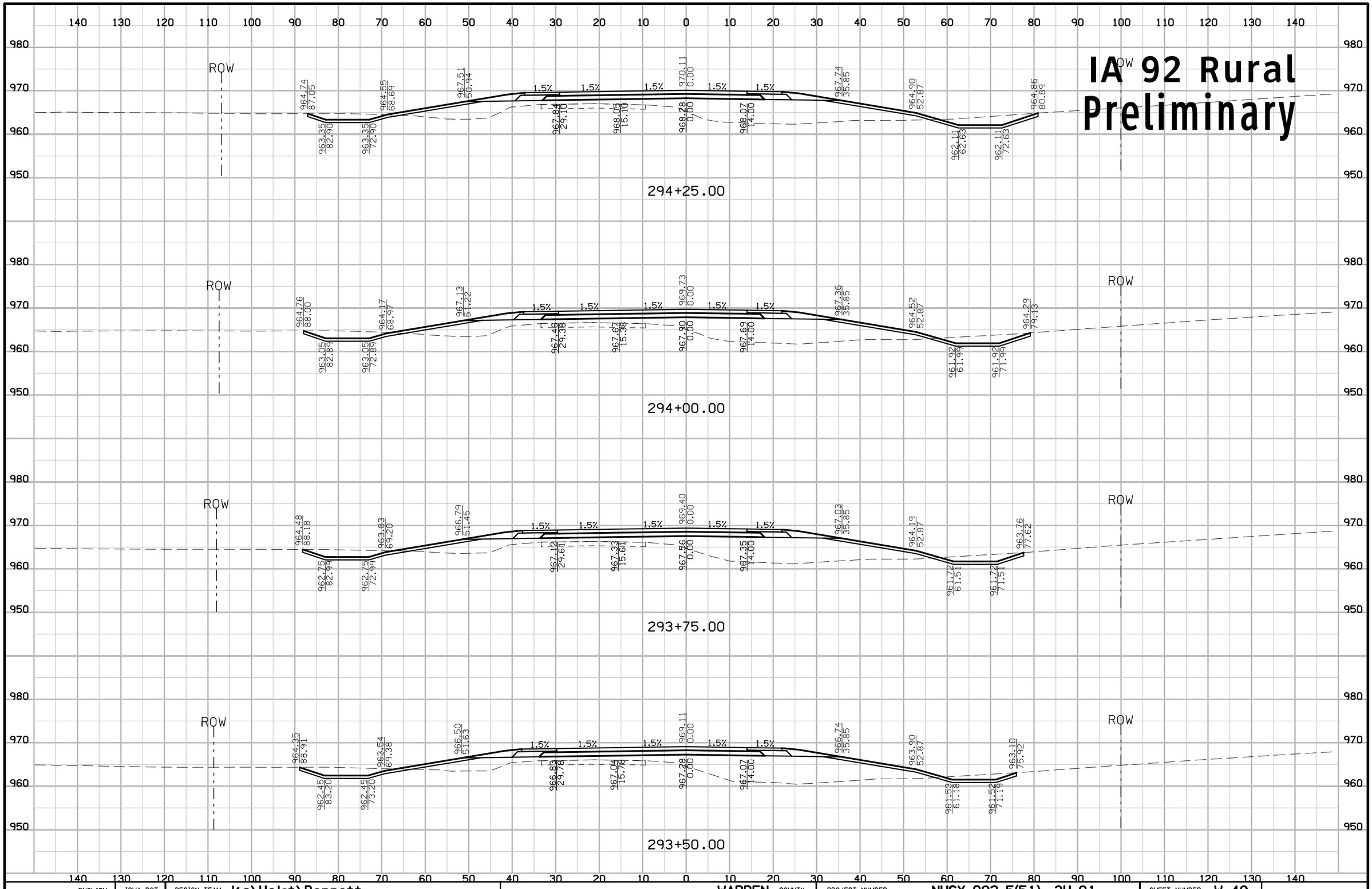
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.48

IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.49

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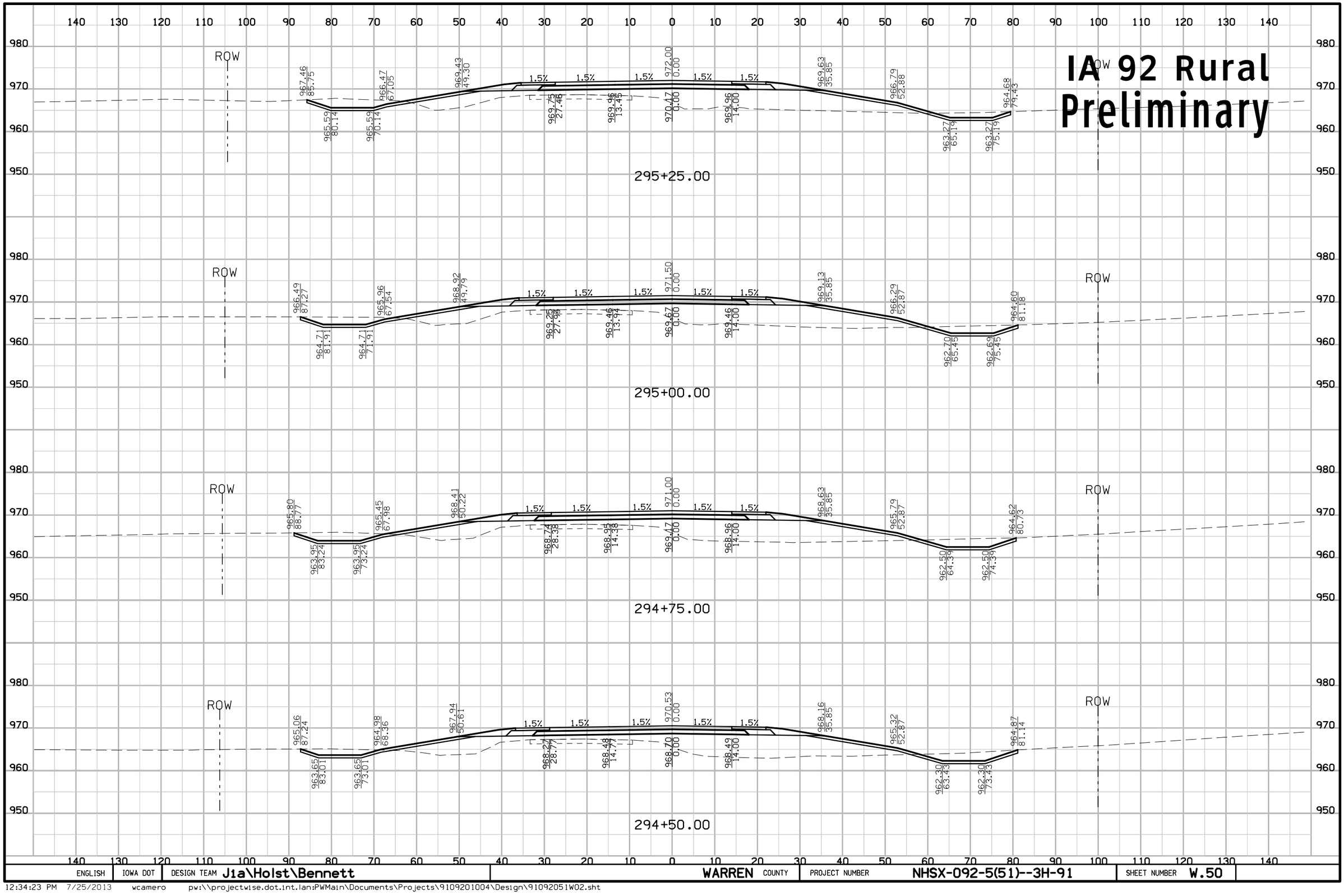
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.50

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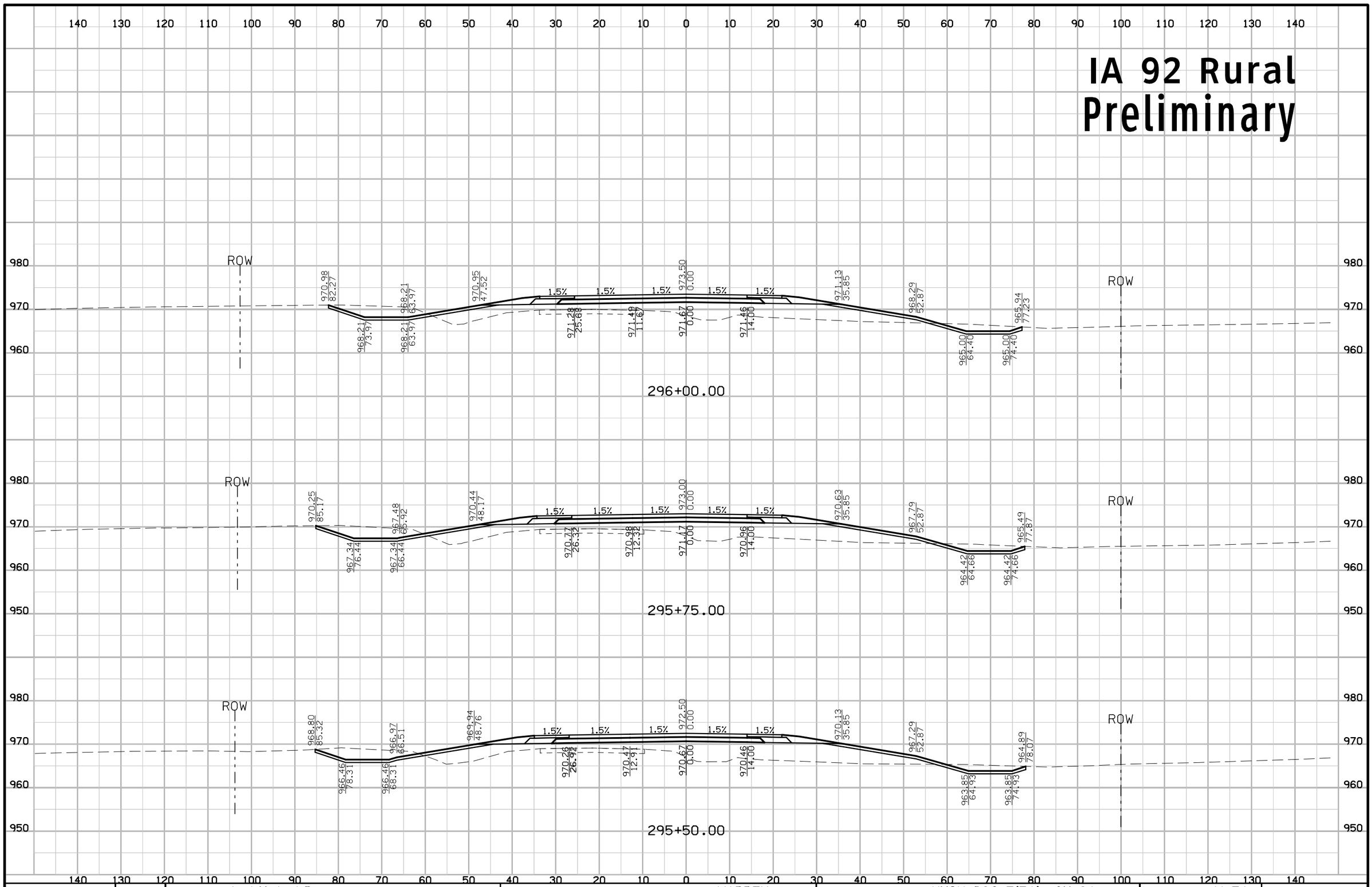
IA 92 Rural
Preliminary



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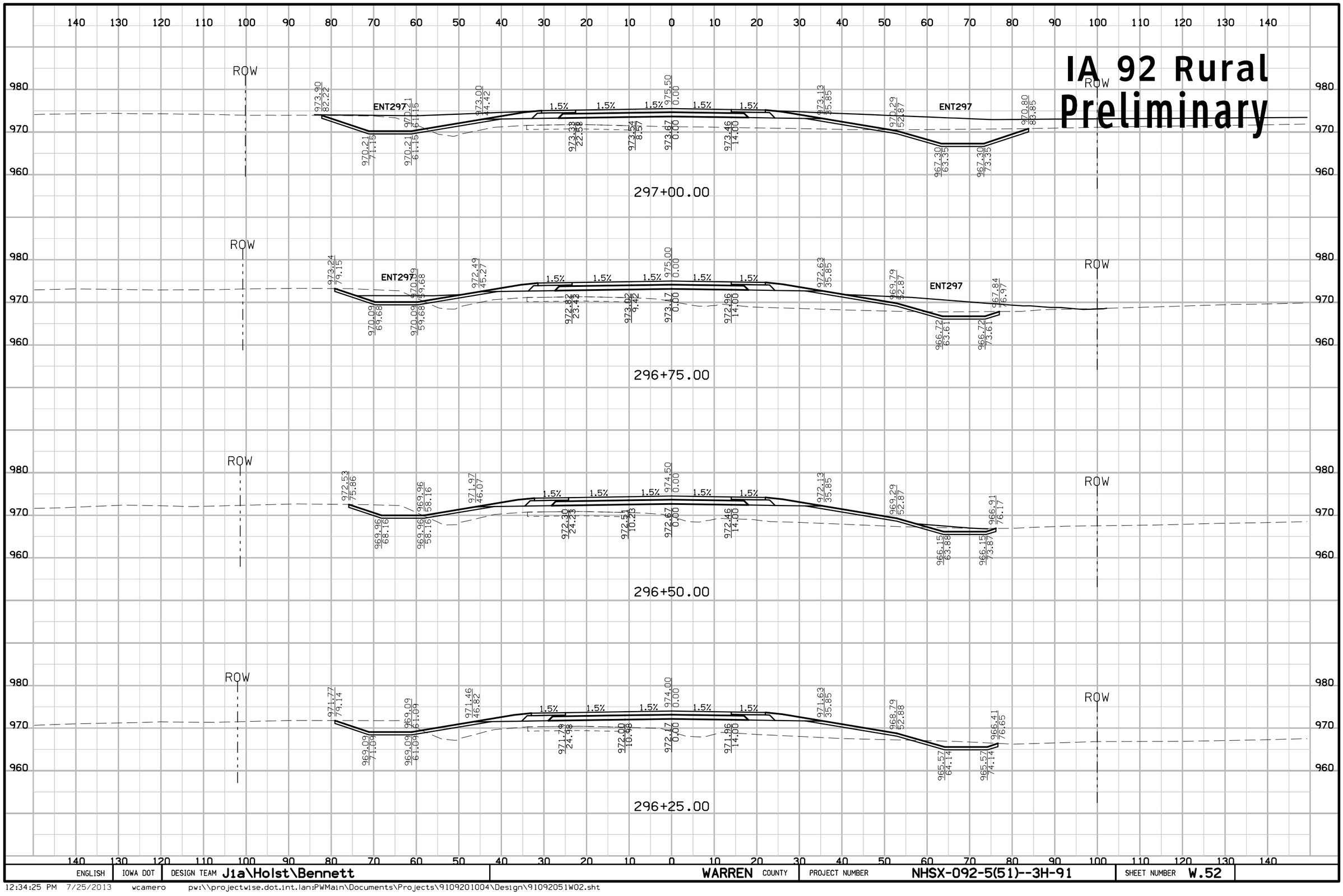
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.52

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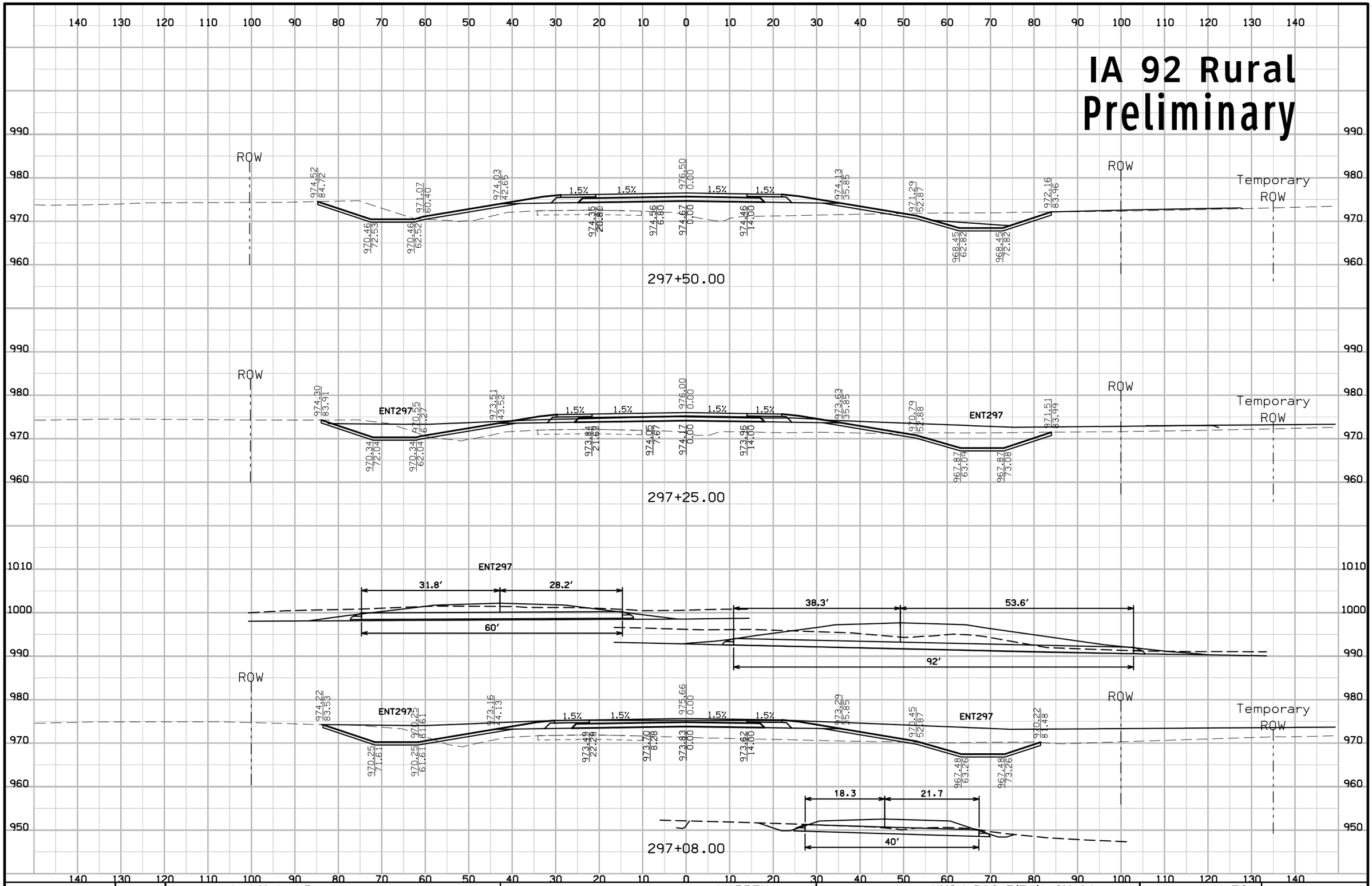
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.53

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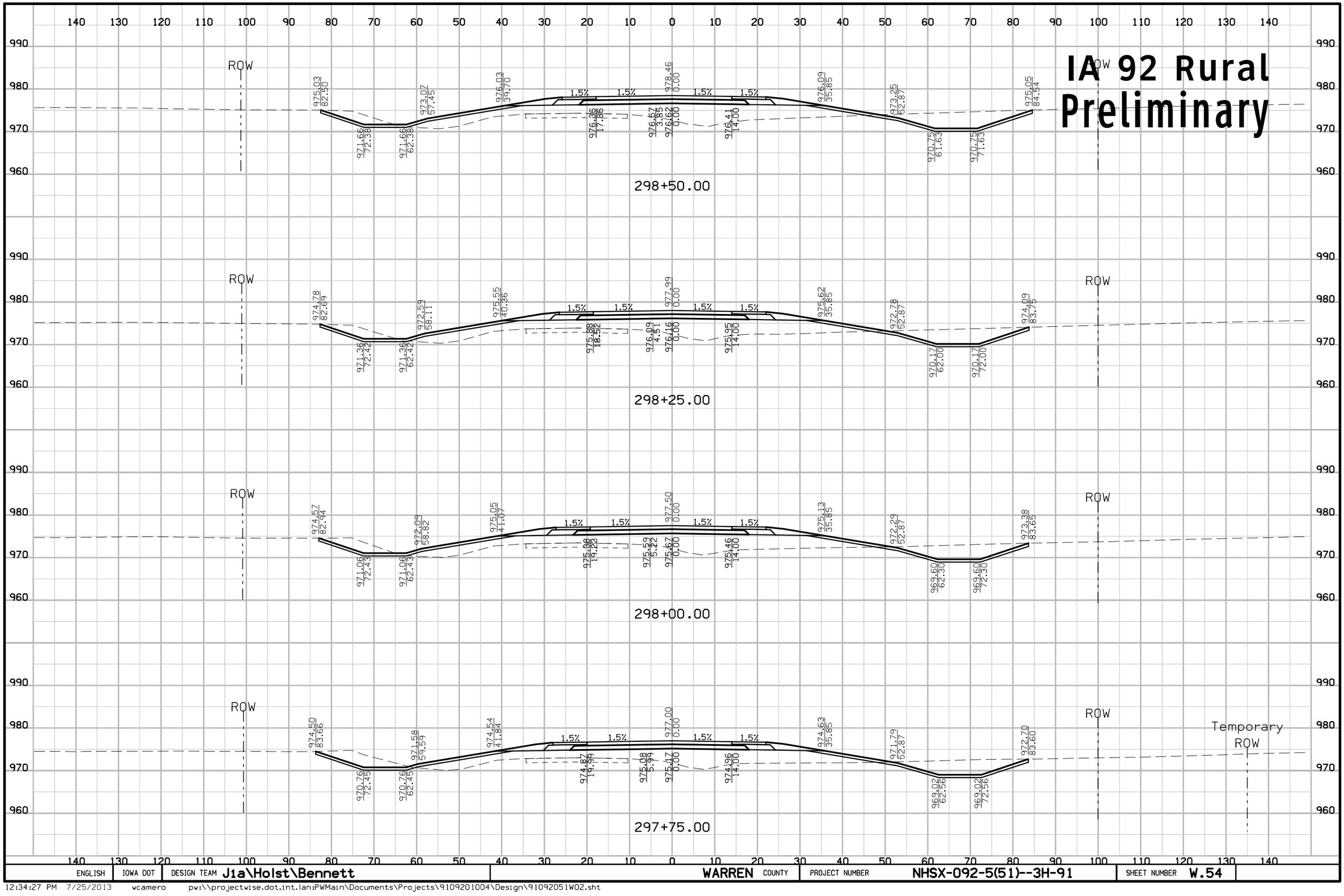
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.54

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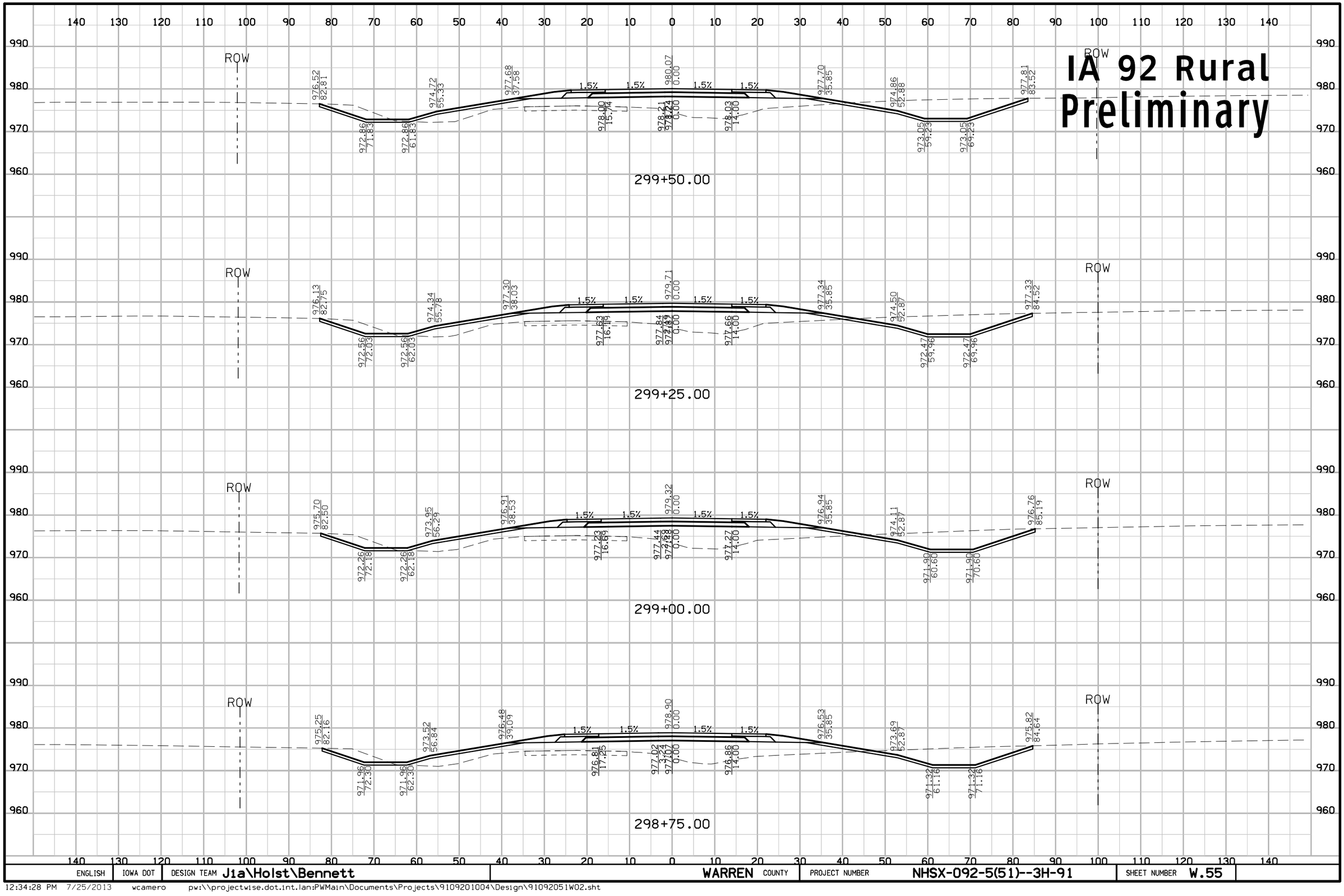
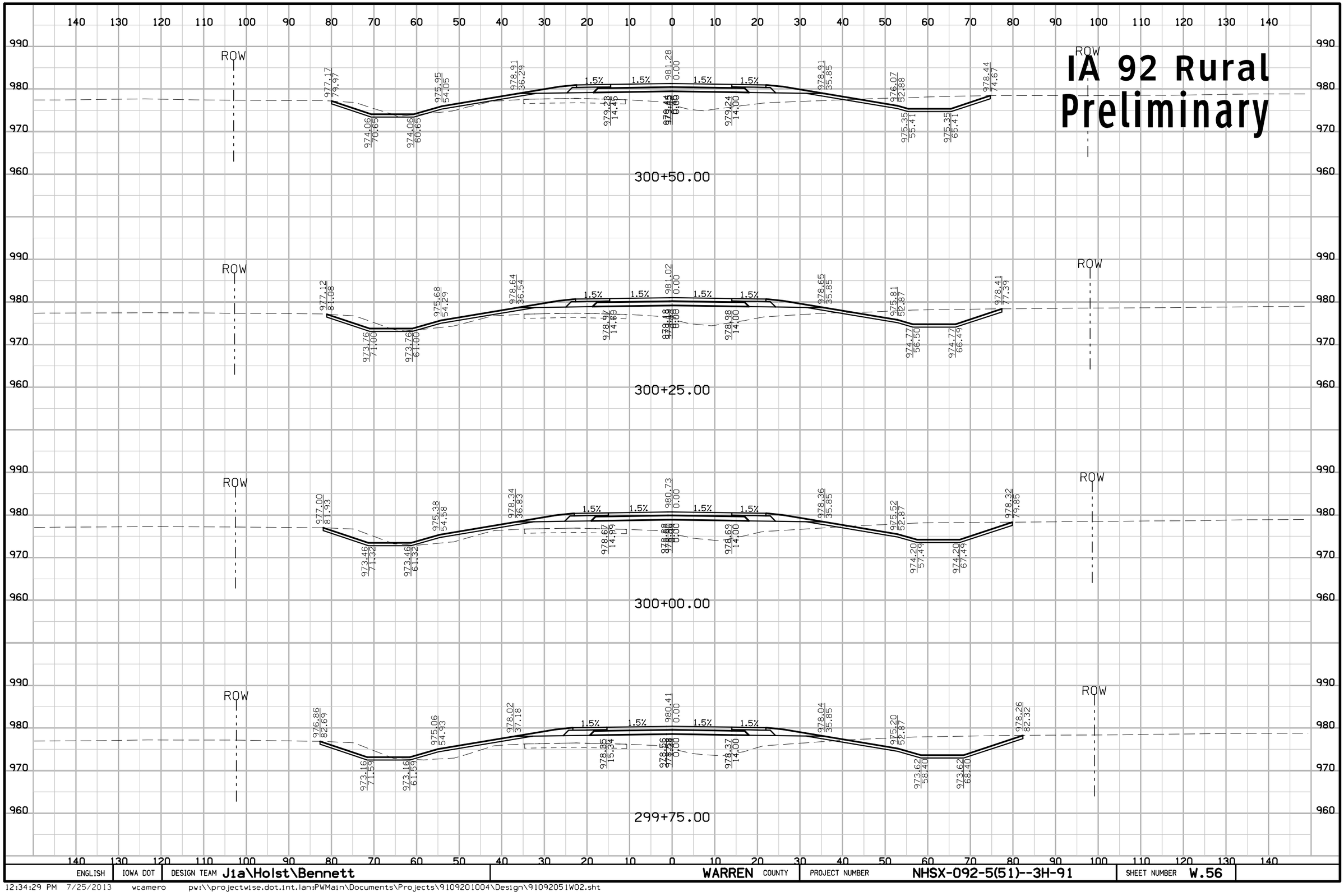
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.55

IA 92 Rural
Preliminary



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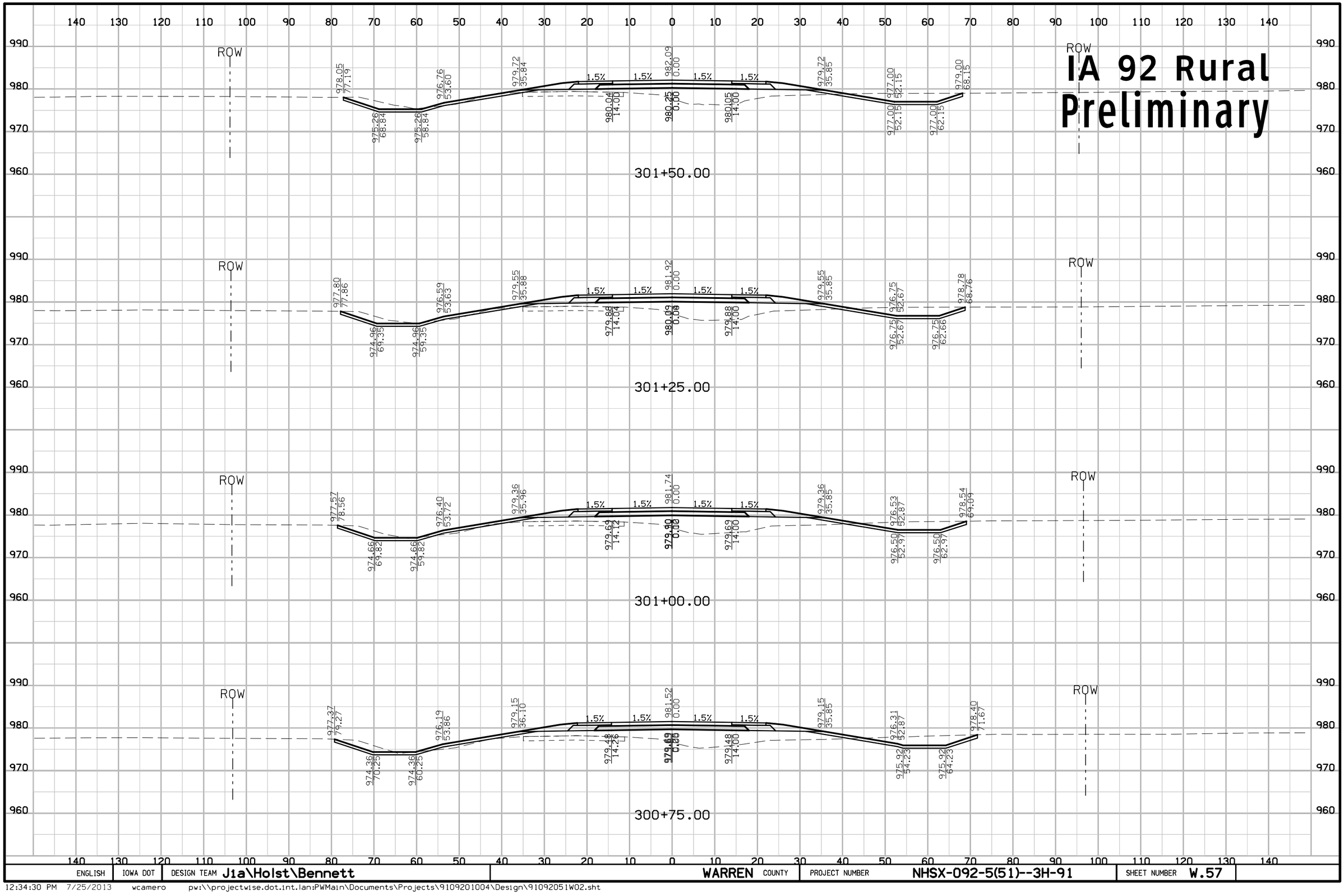
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.57

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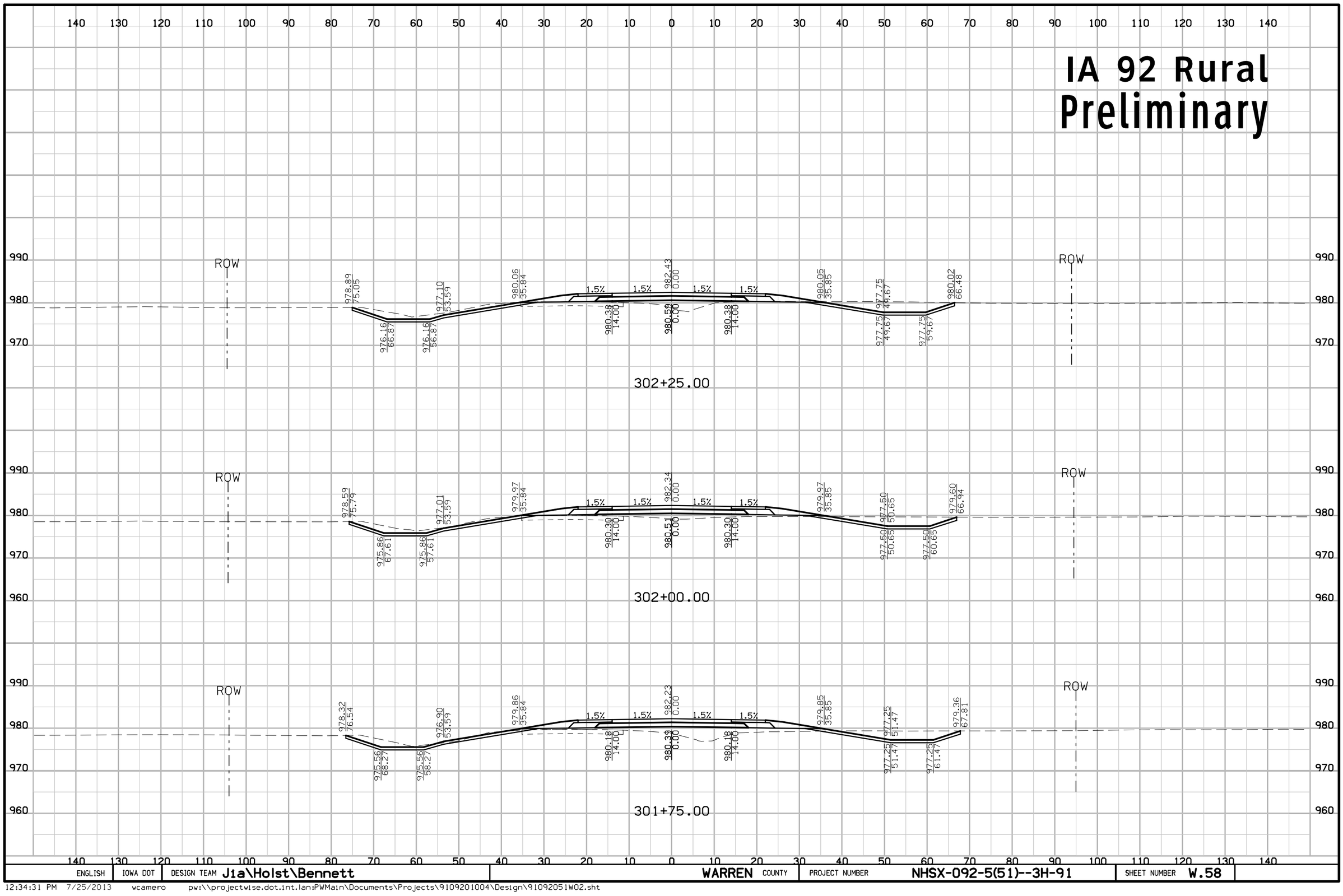
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	W.58

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IA 92 Rural
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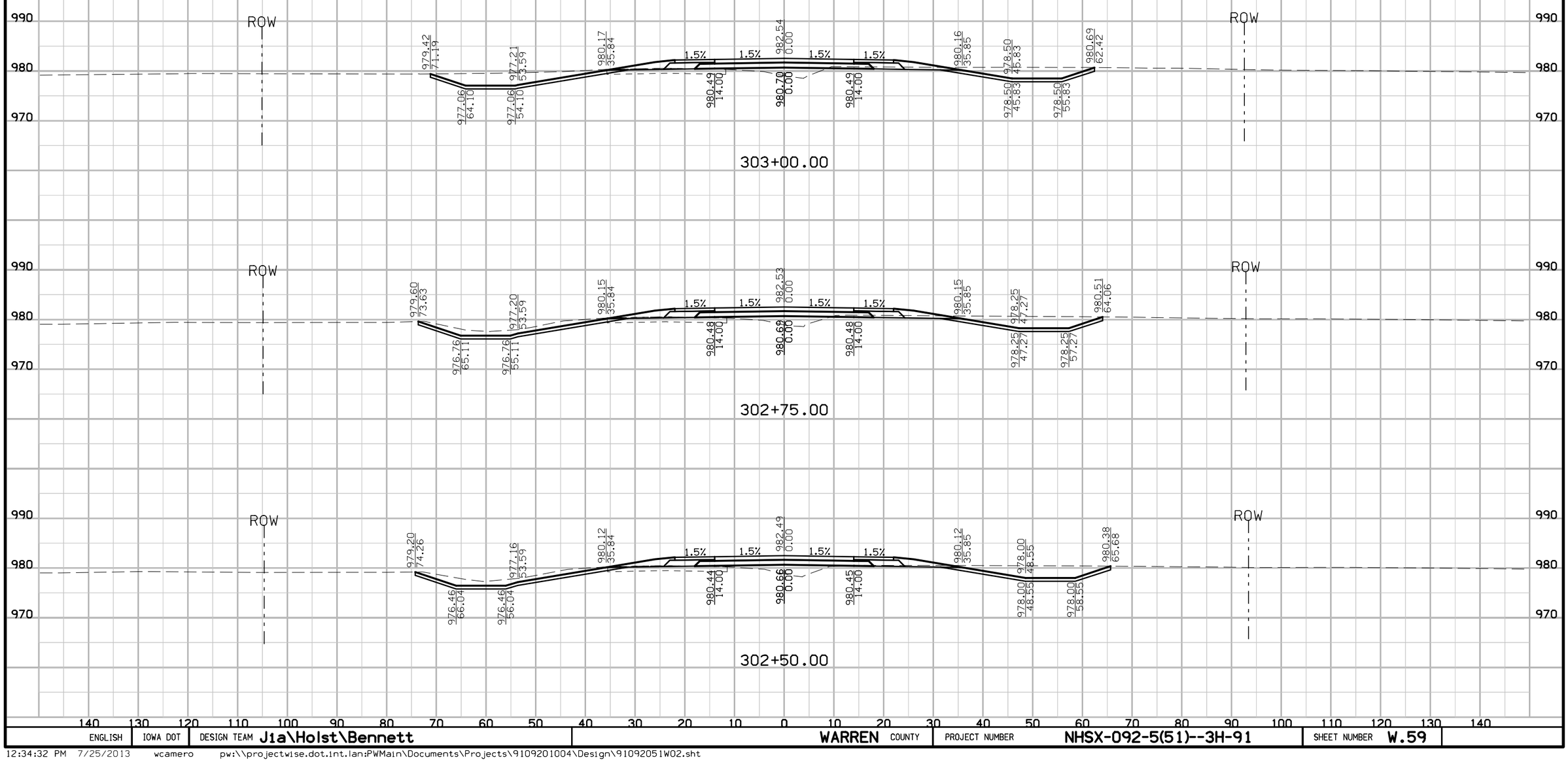

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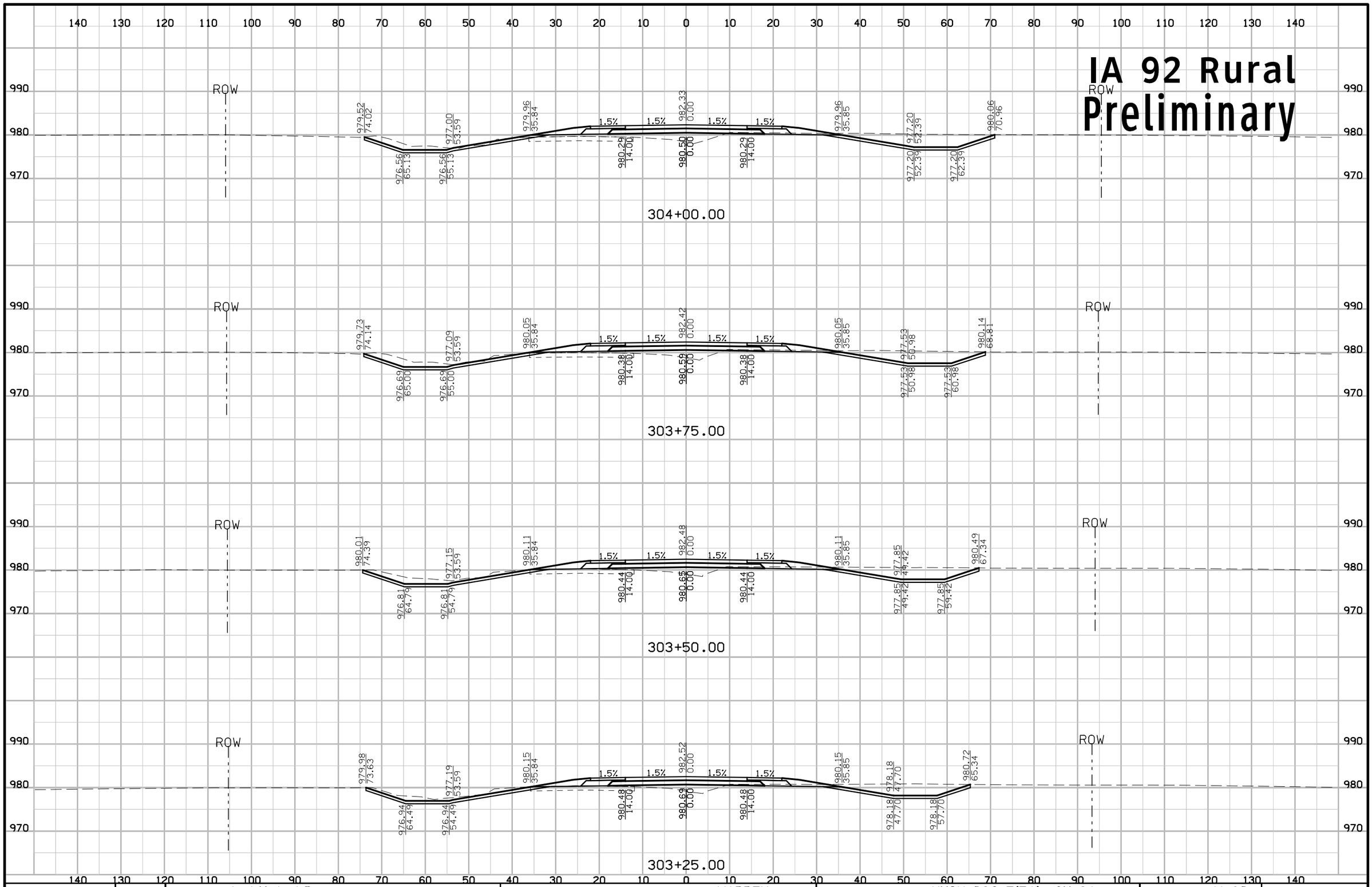
IA 92 Rural
Preliminary



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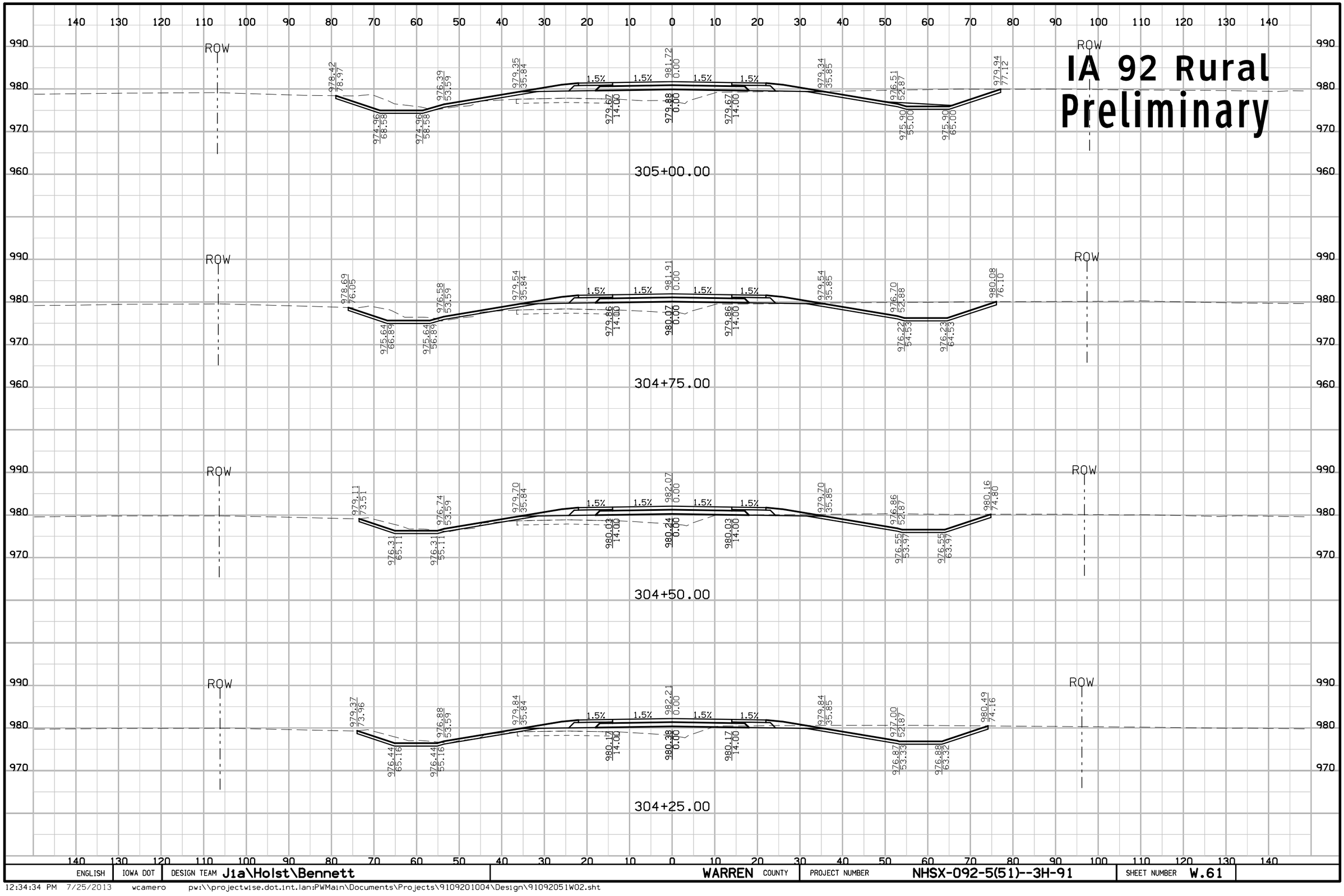
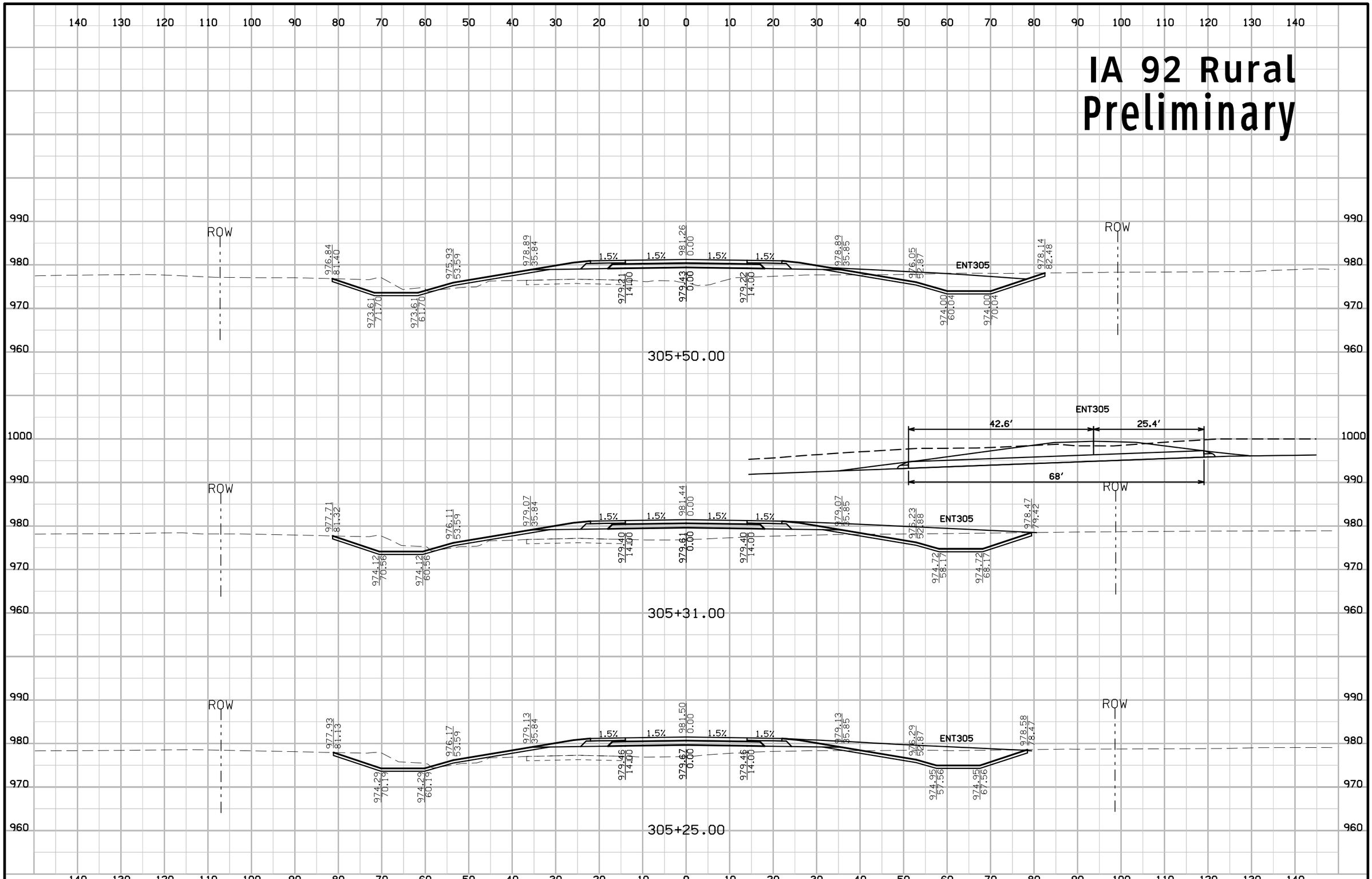
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.61

IA 92 Rural
Preliminary



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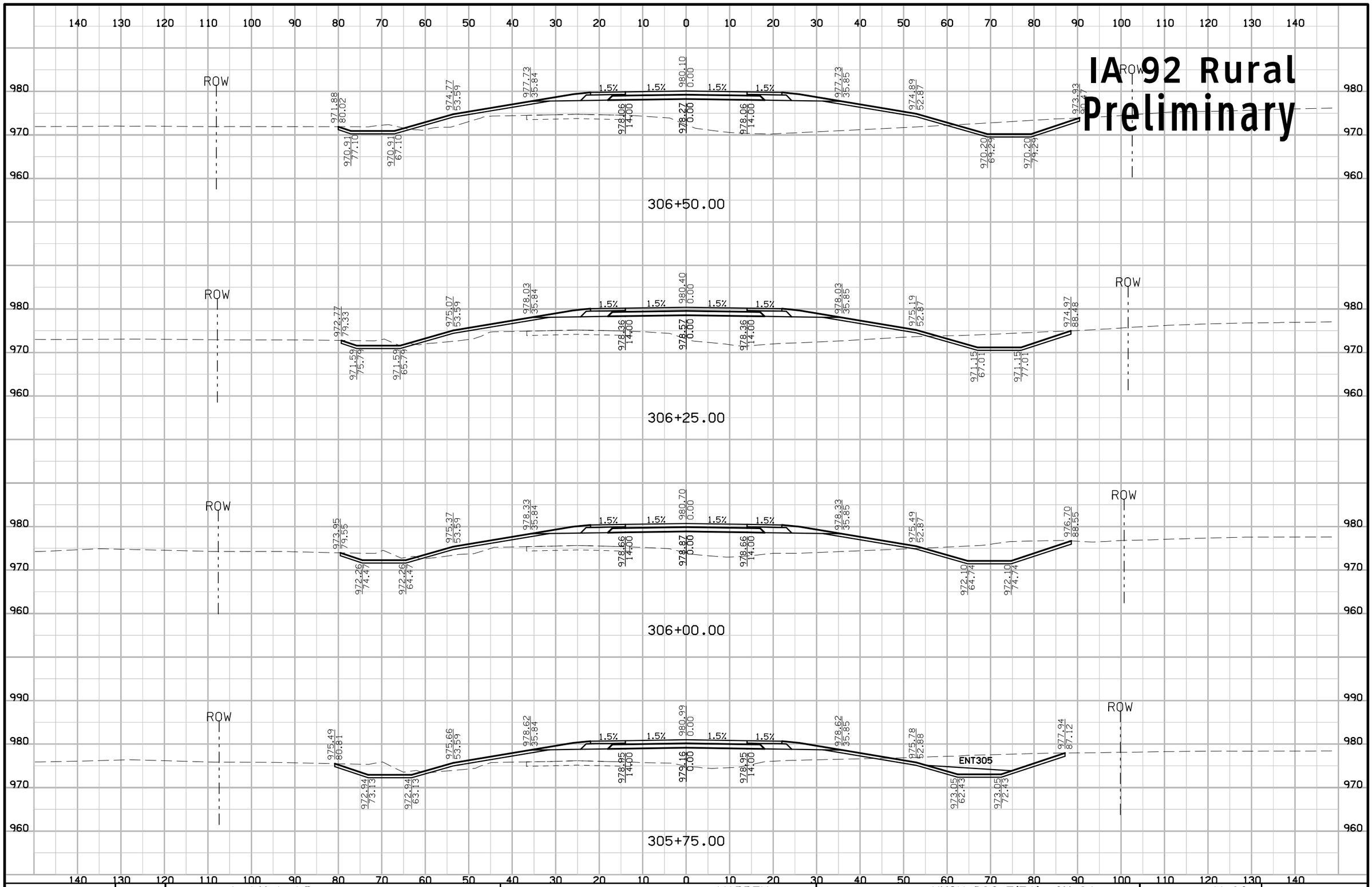
IA 92 Rural Preliminary



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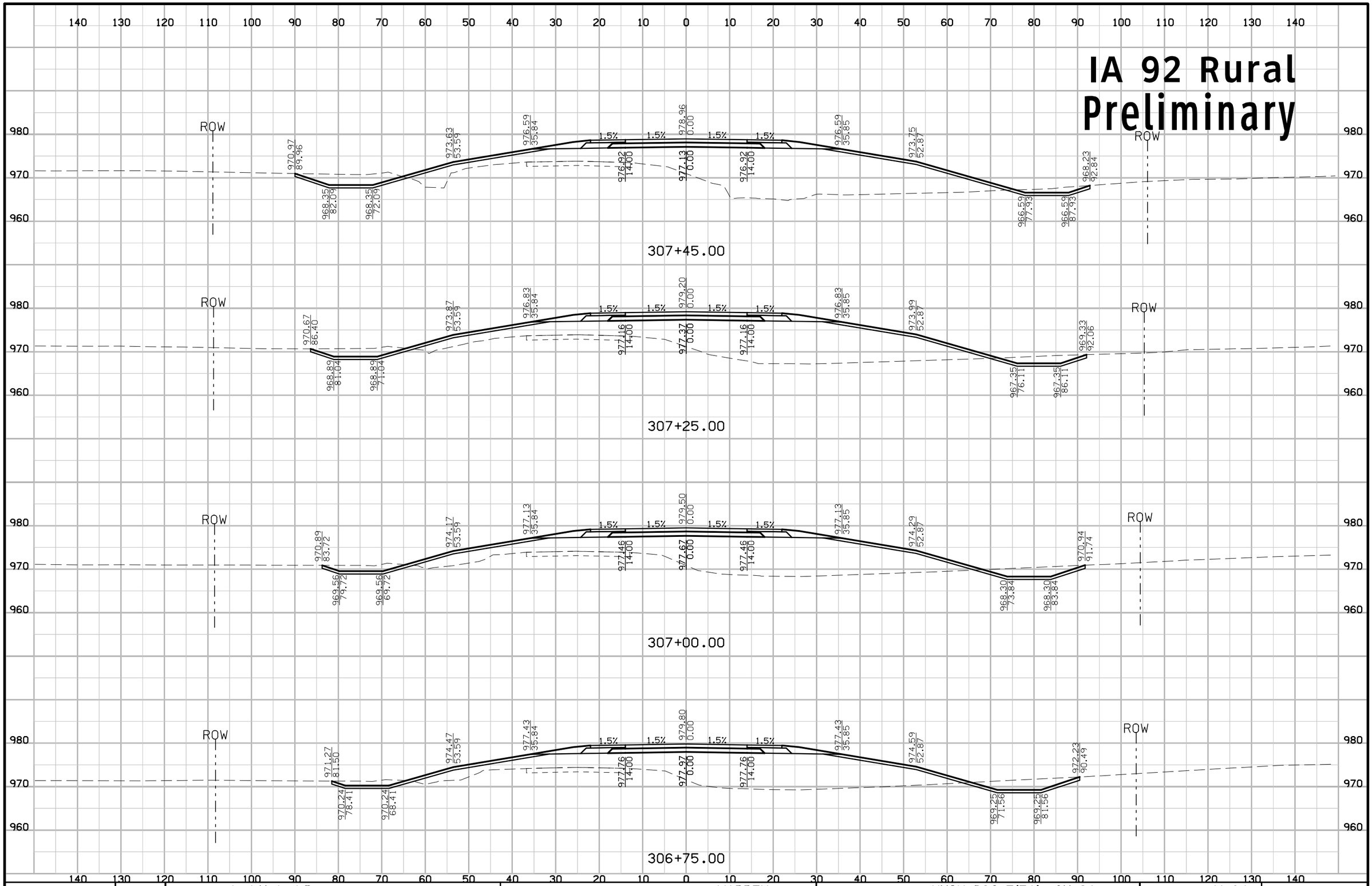
IA 92 Rural
Preliminary



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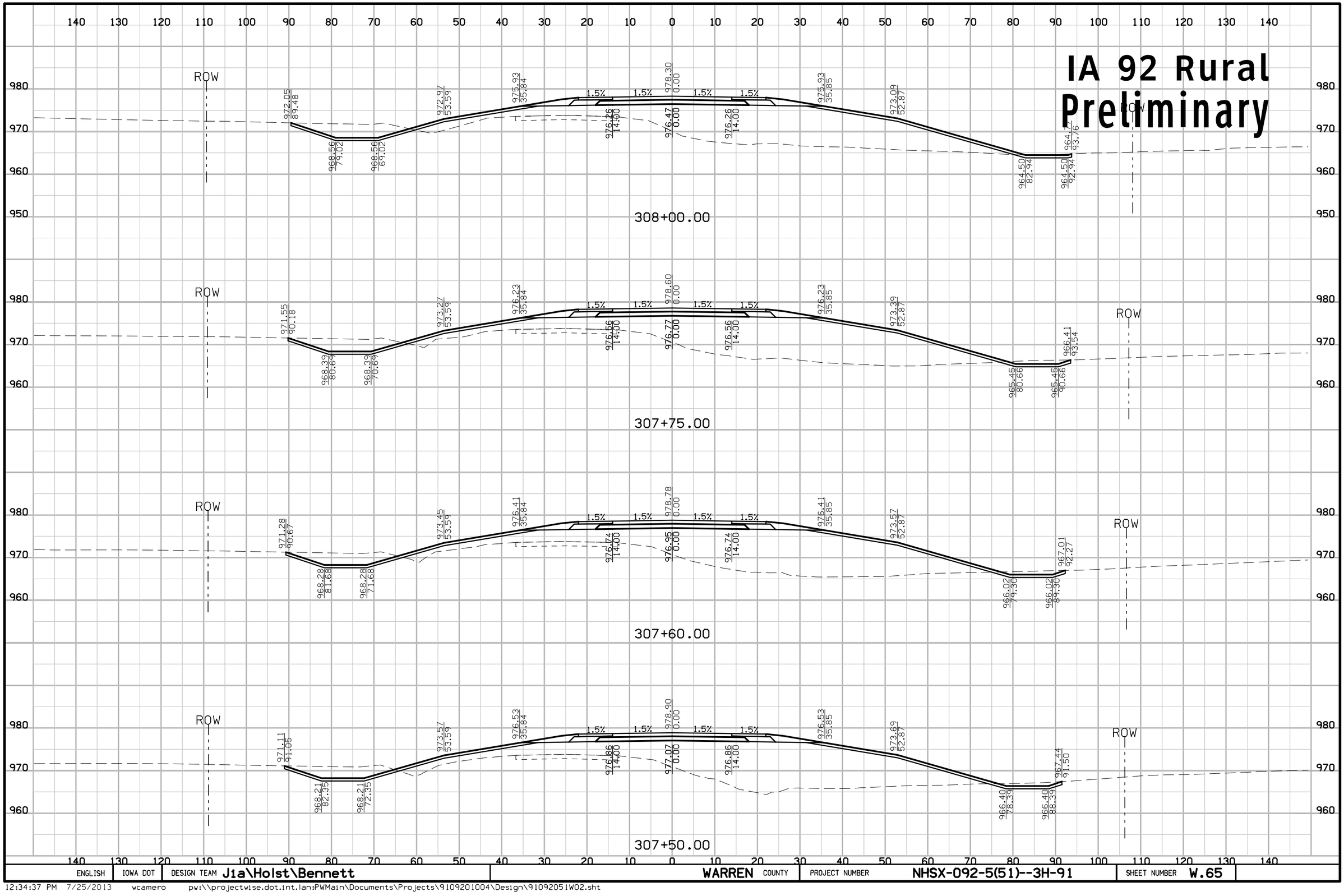
IA 92 Rural Preliminary



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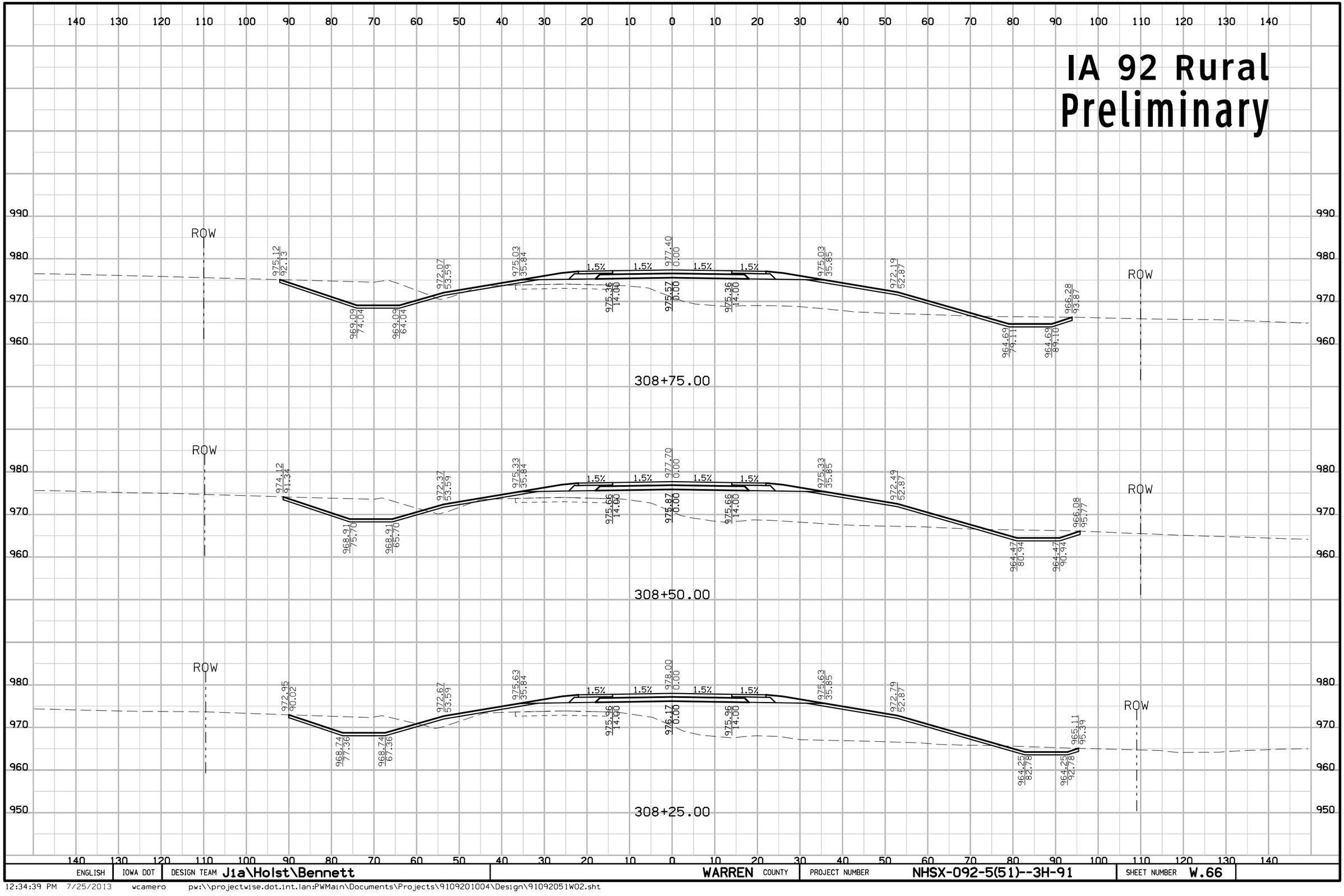
IA 92 Rural
Preliminary



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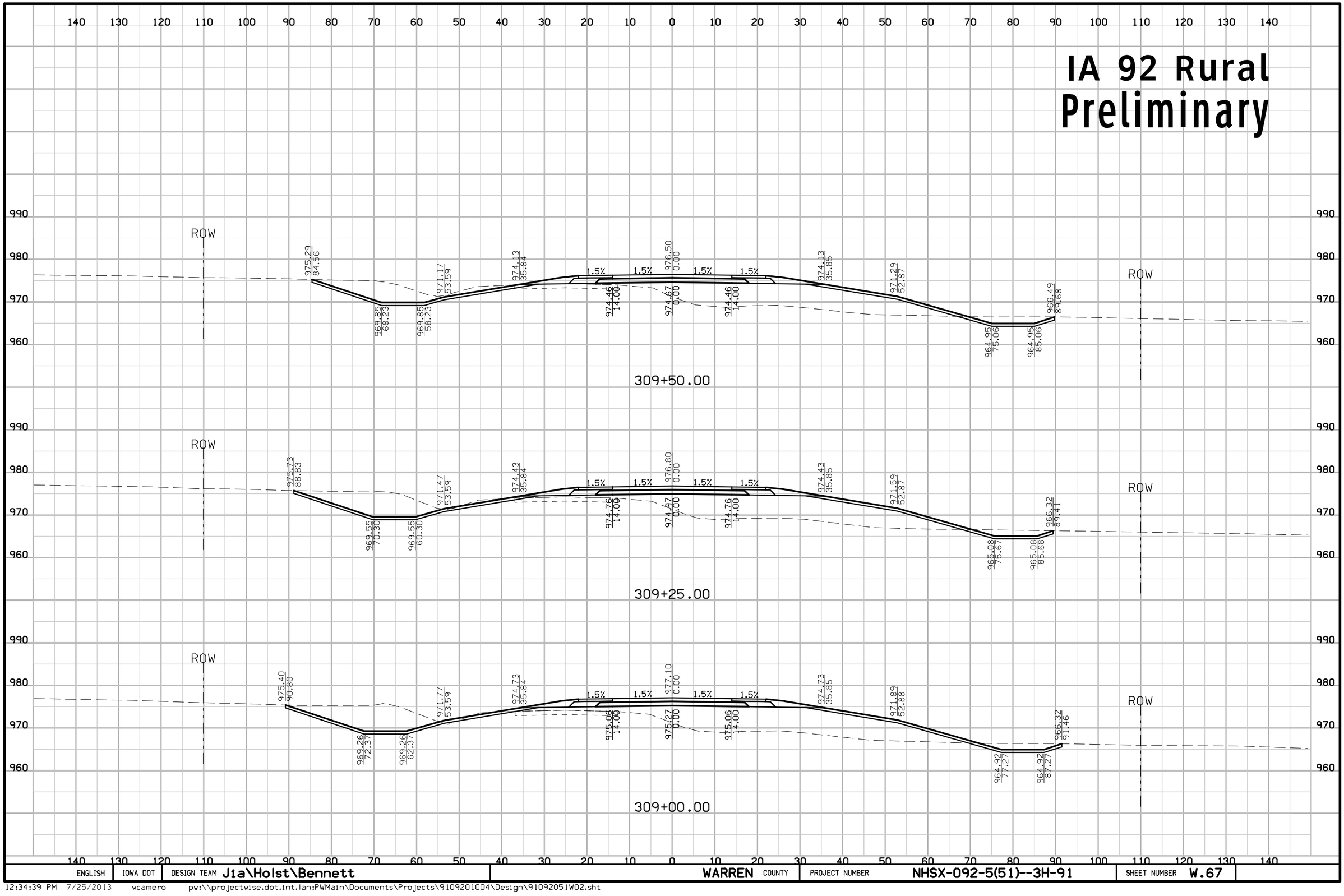
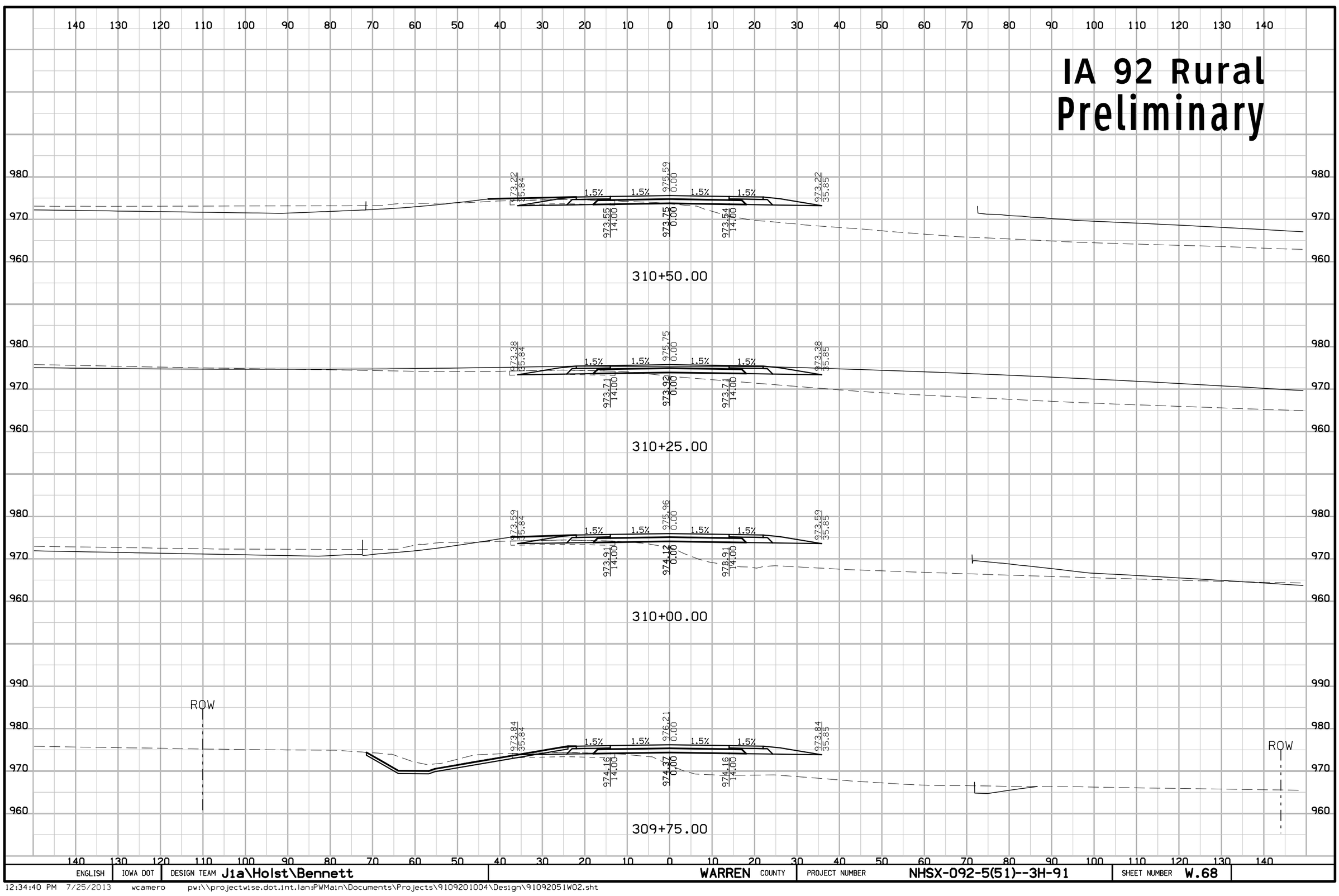
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.67

IA 92 Rural
Preliminary



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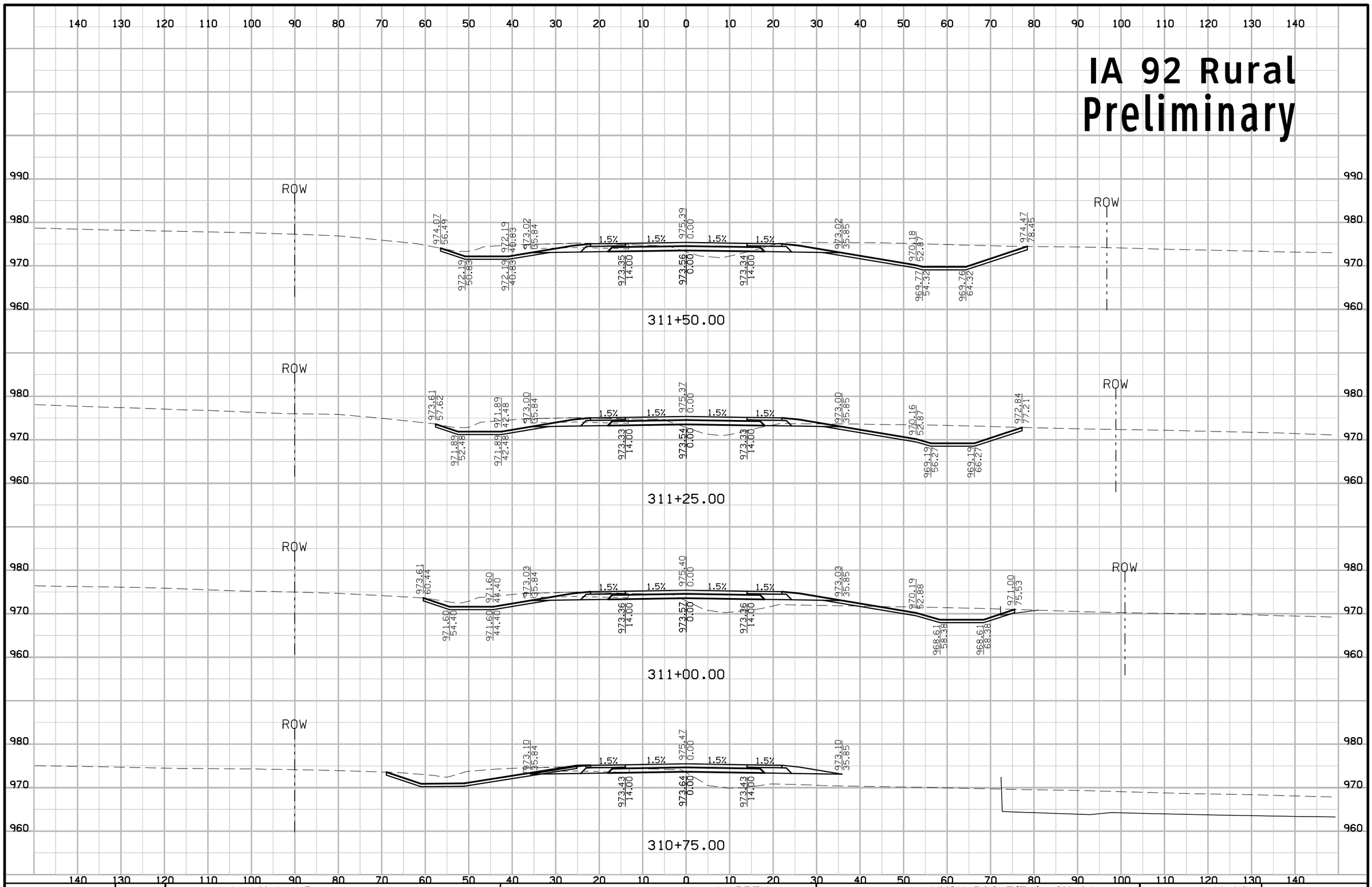
IA 92 Rural
Preliminary



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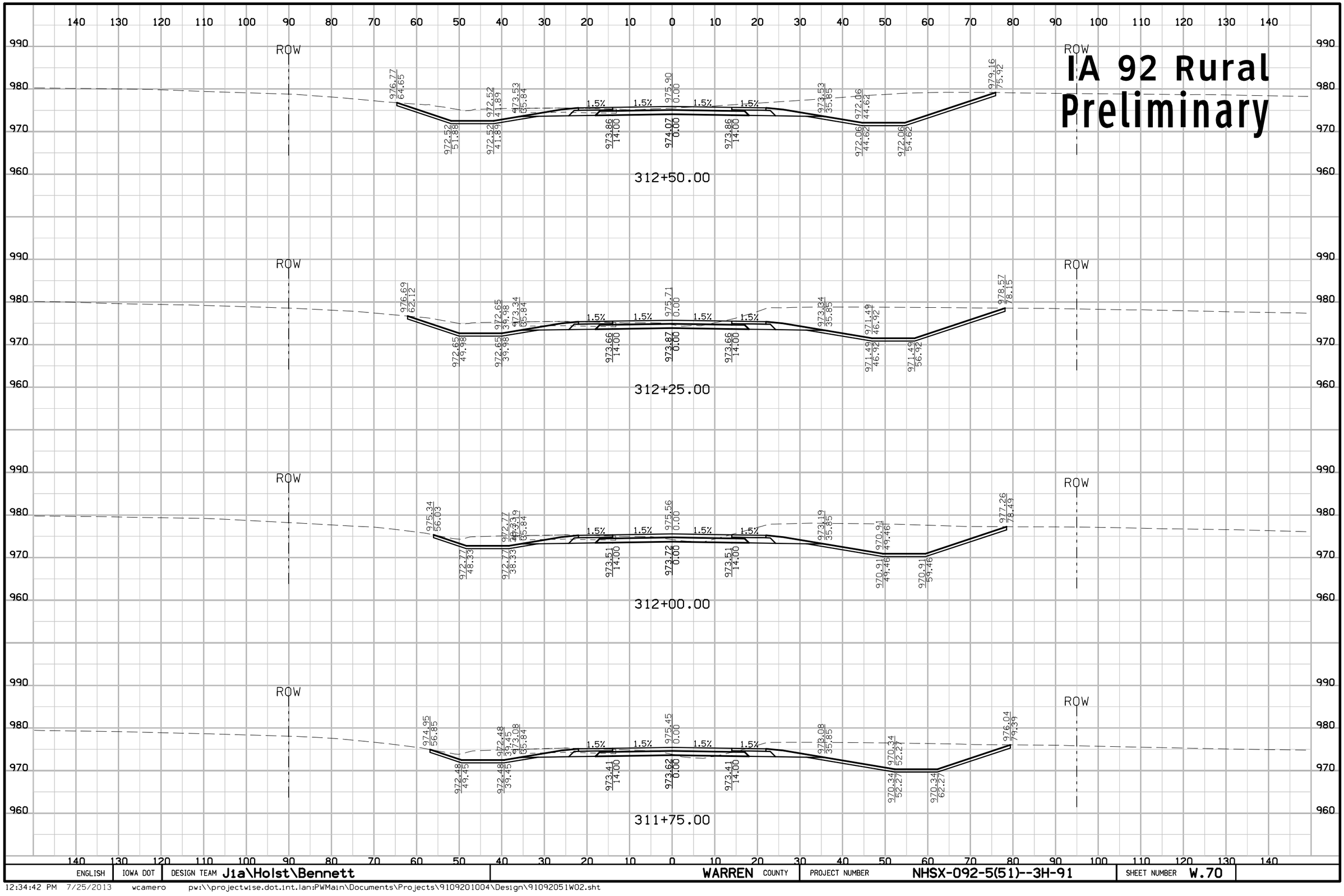
IA 92 Rural
Preliminary



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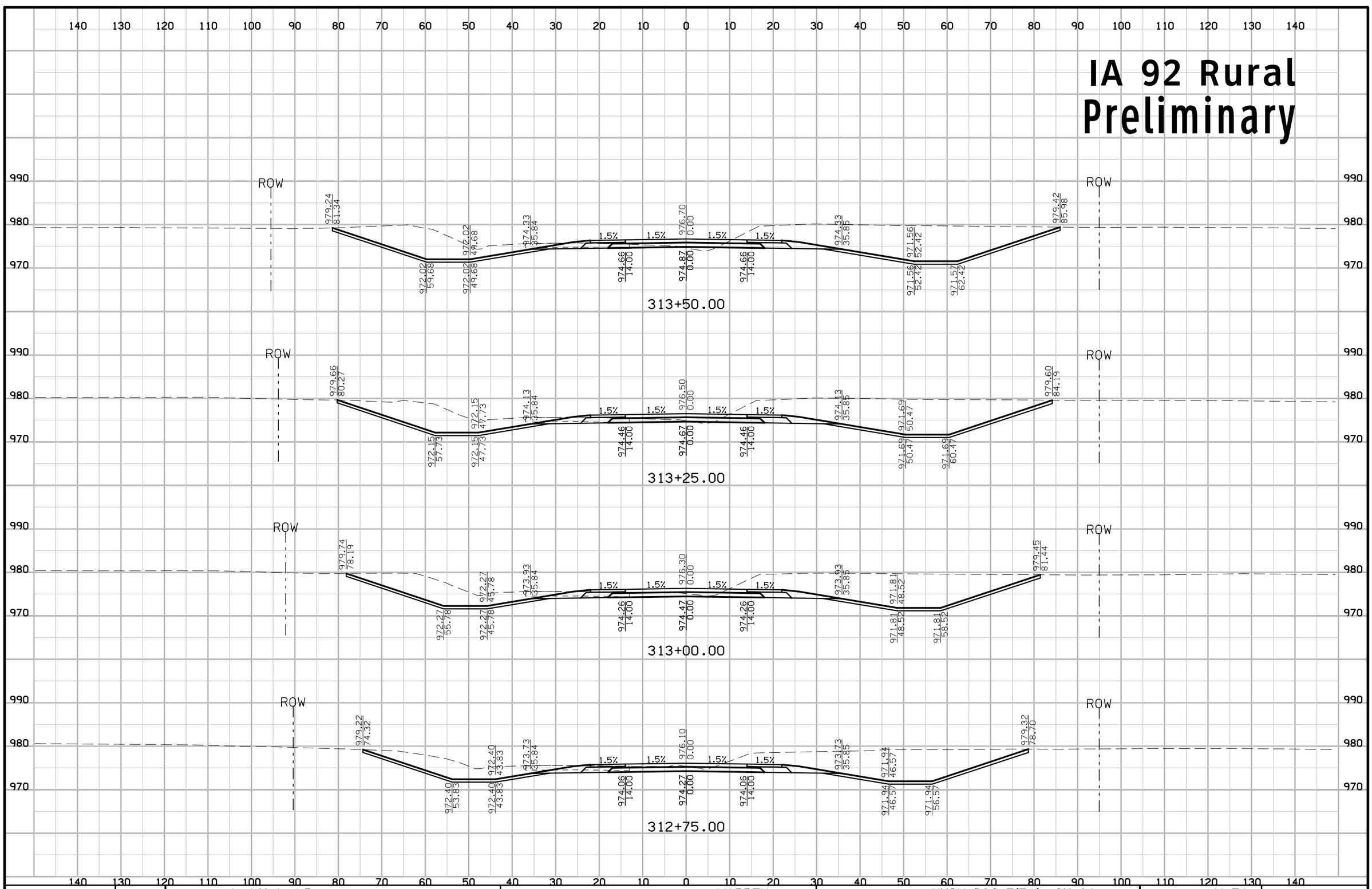
IA 92 Rural
Preliminary



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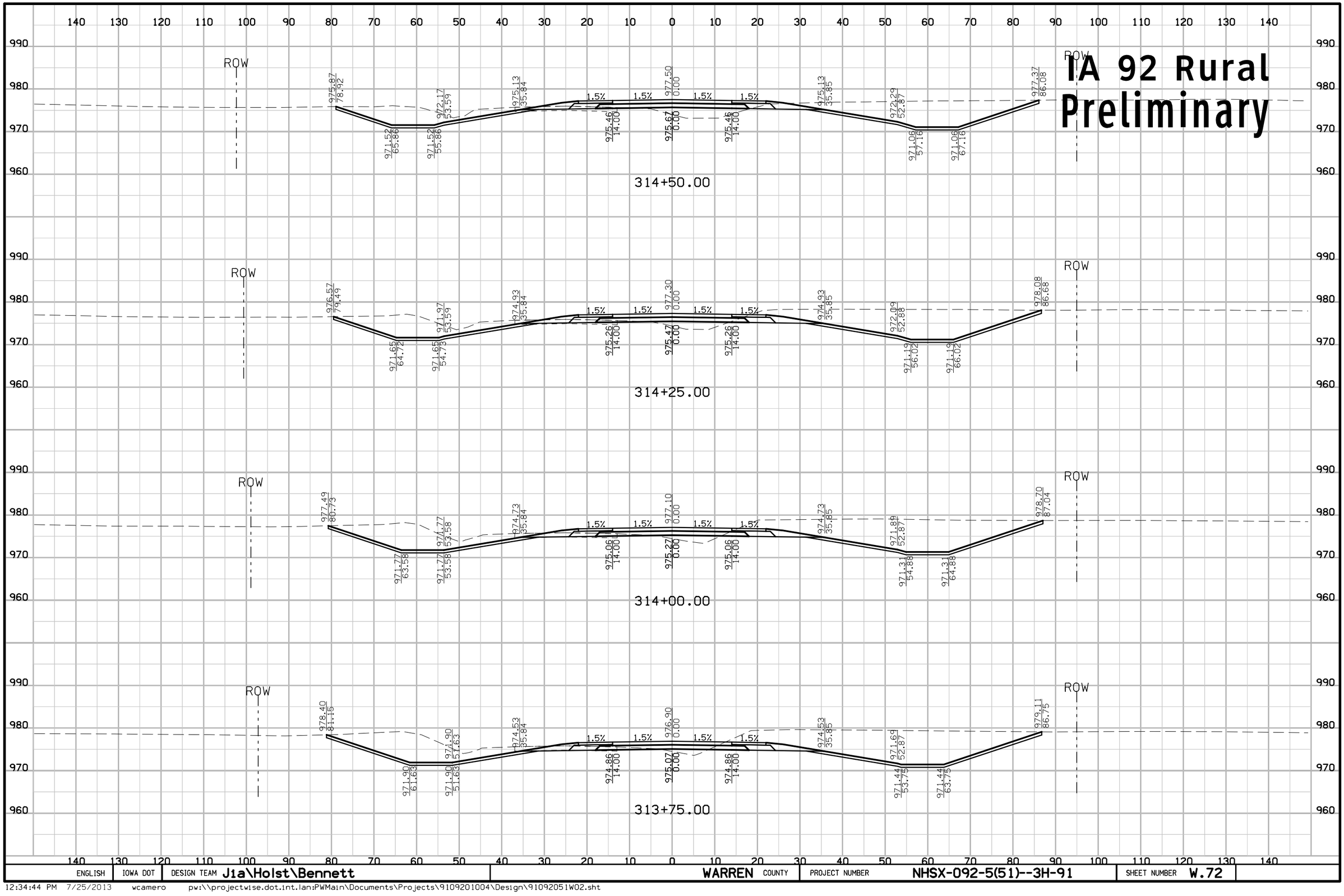
IA 92 Rural Preliminary



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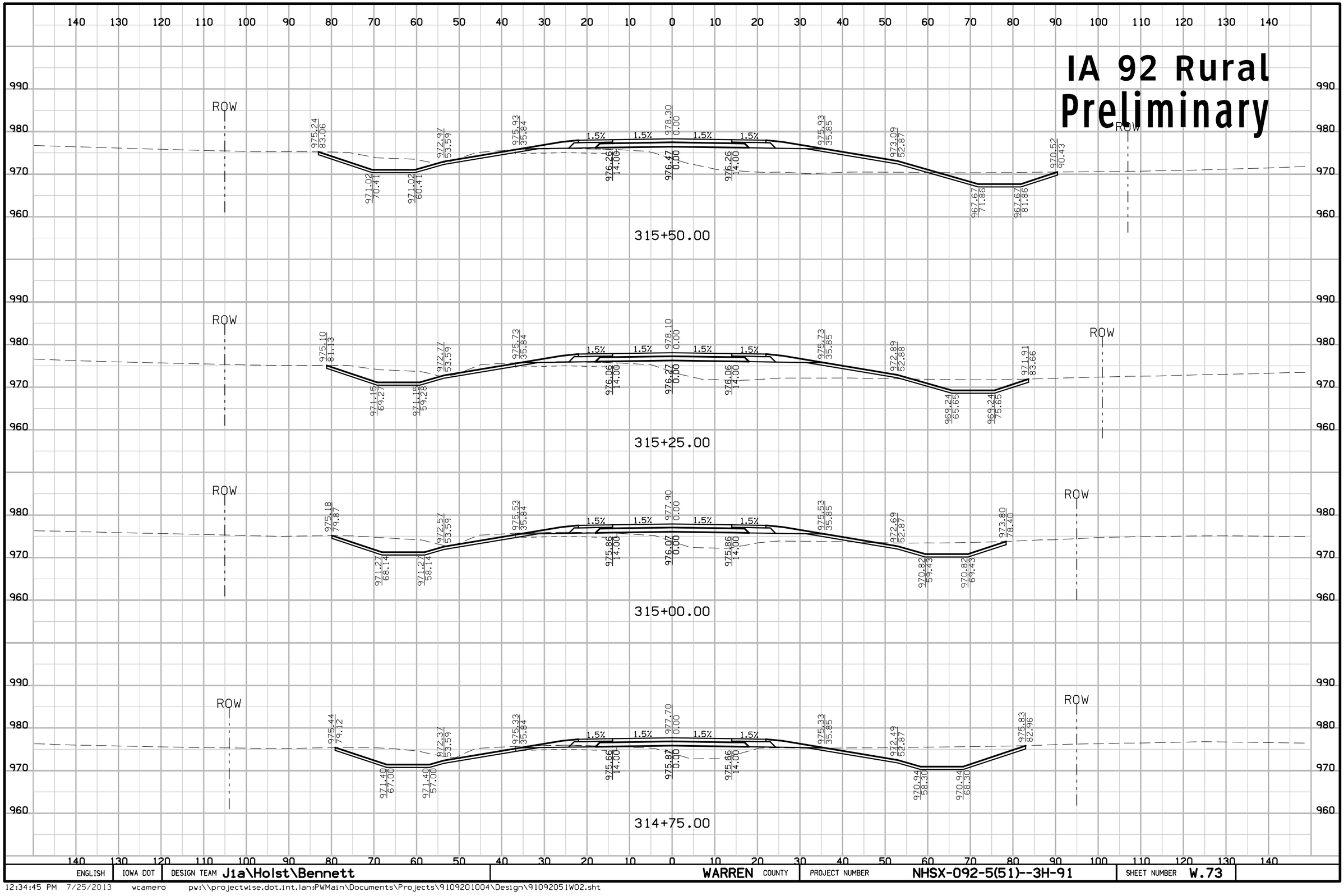
IA 92 Rural Preliminary



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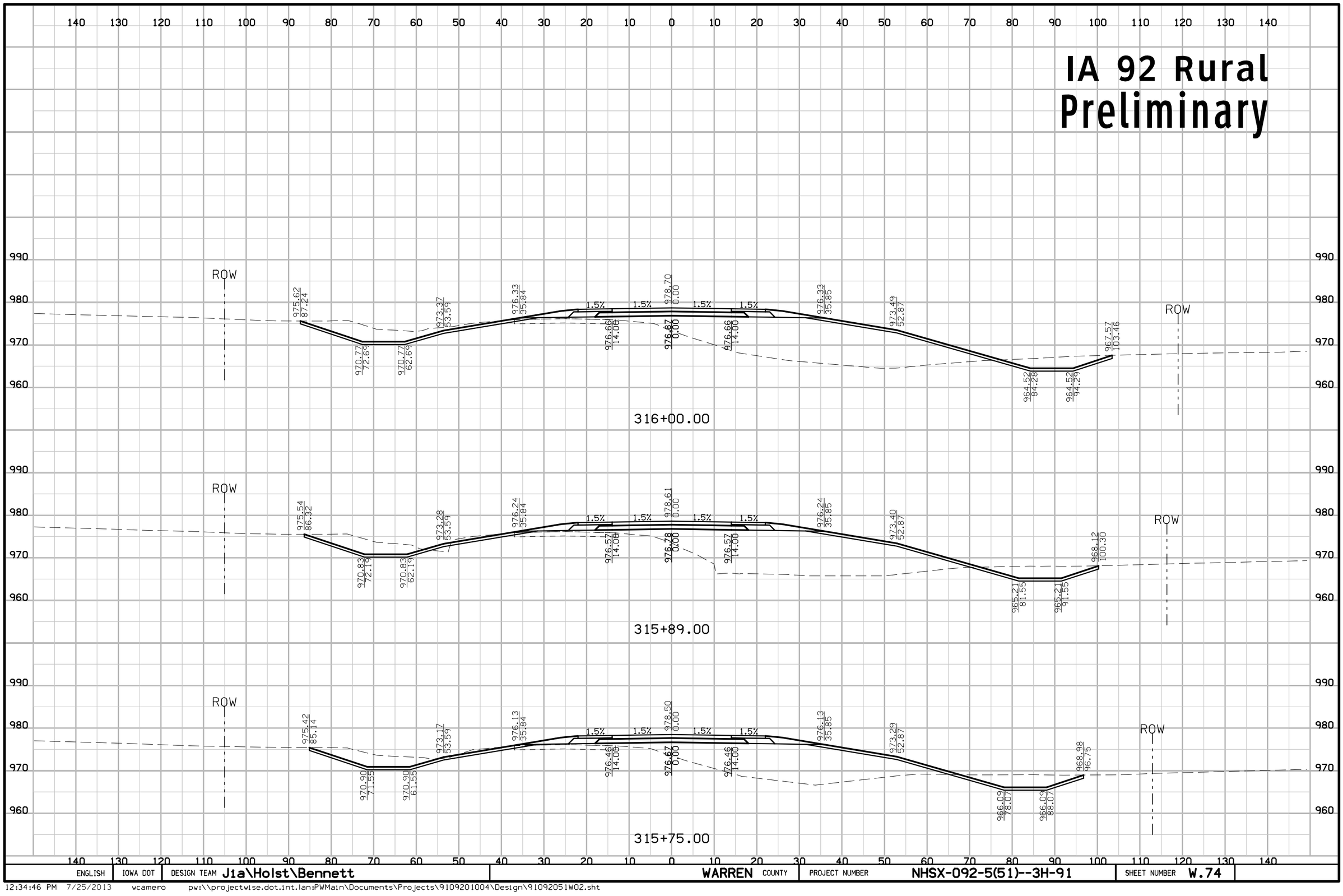
IA 92 Rural
Preliminary



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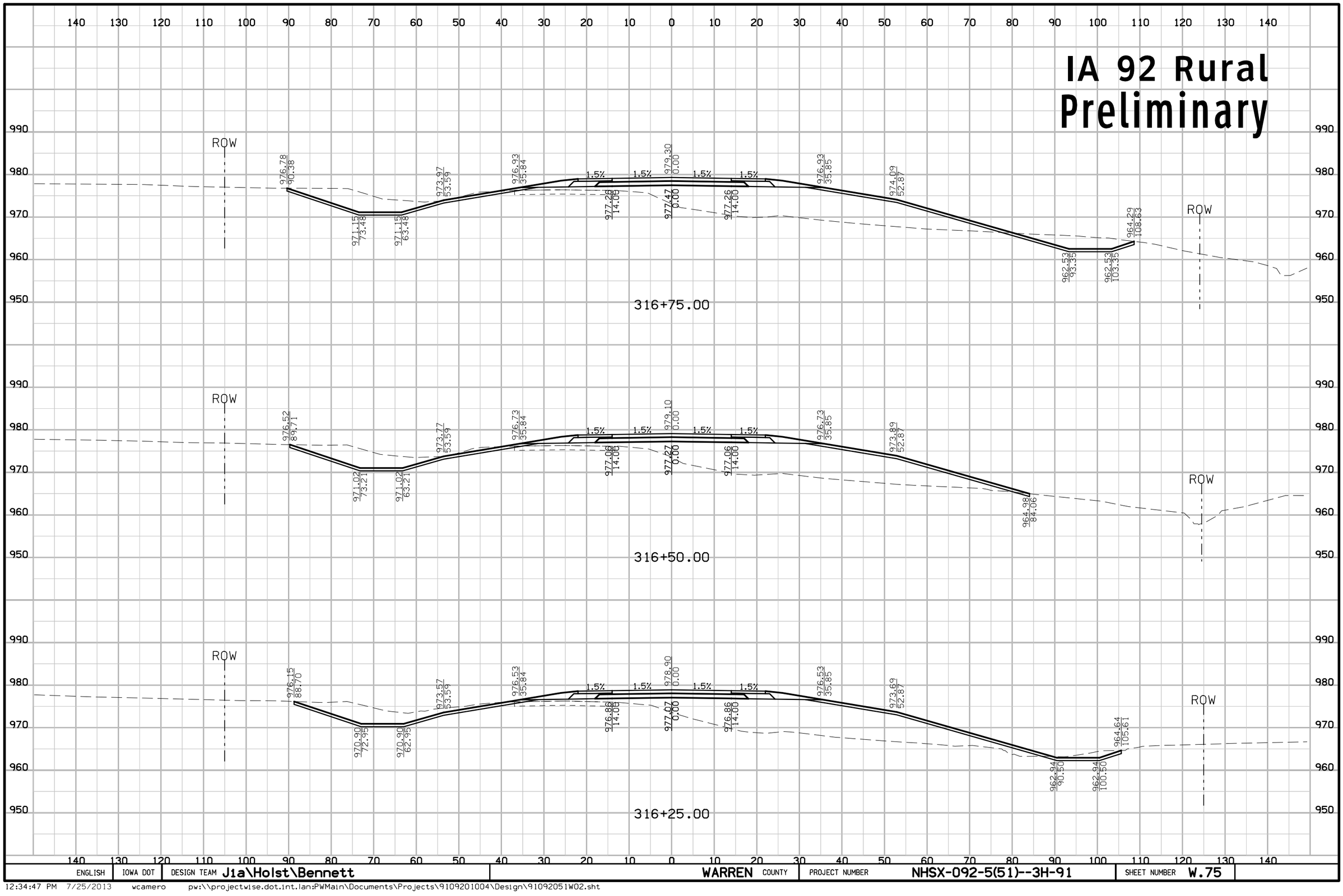
IA 92 Rural
Preliminary



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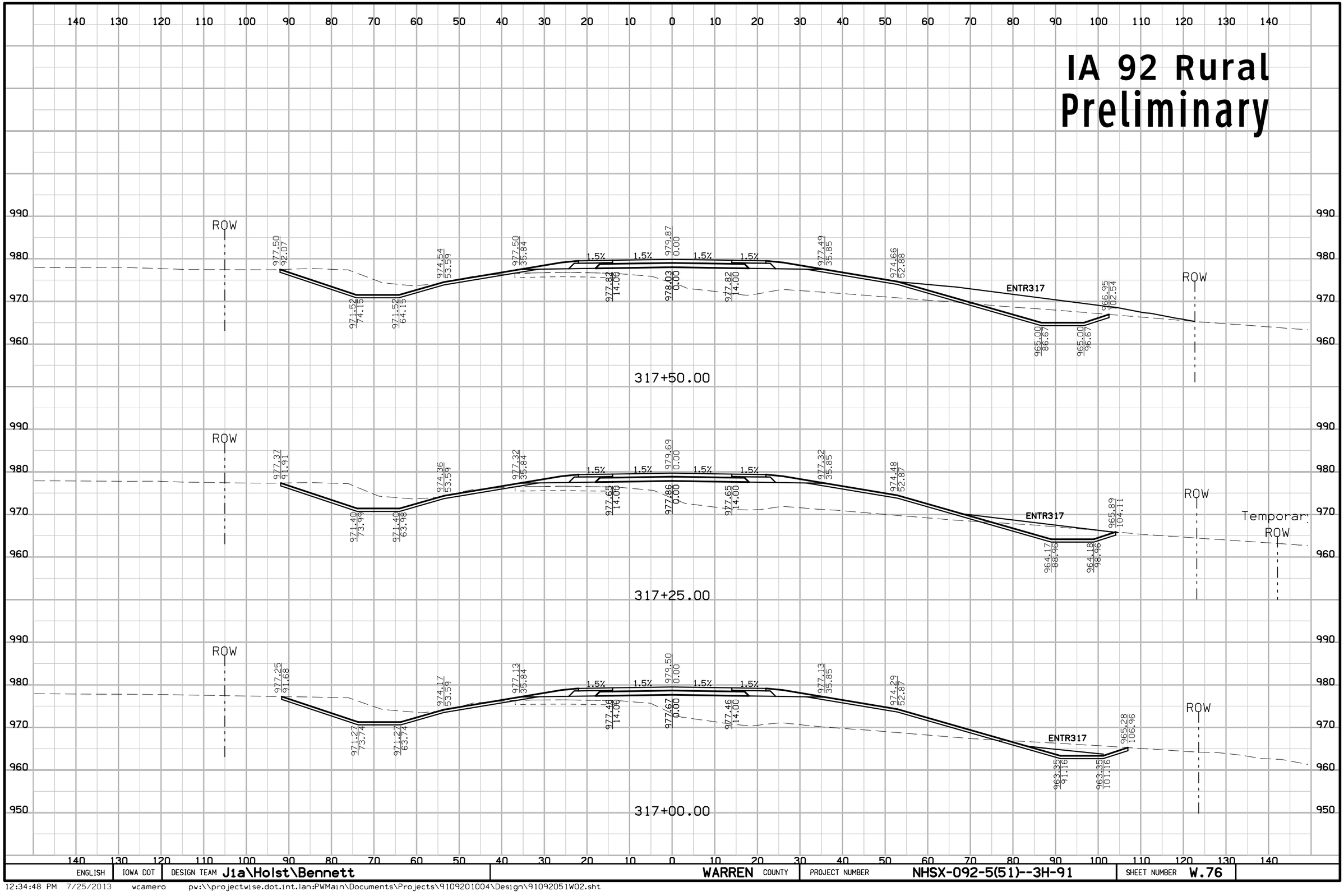
IA 92 Rural
Preliminary



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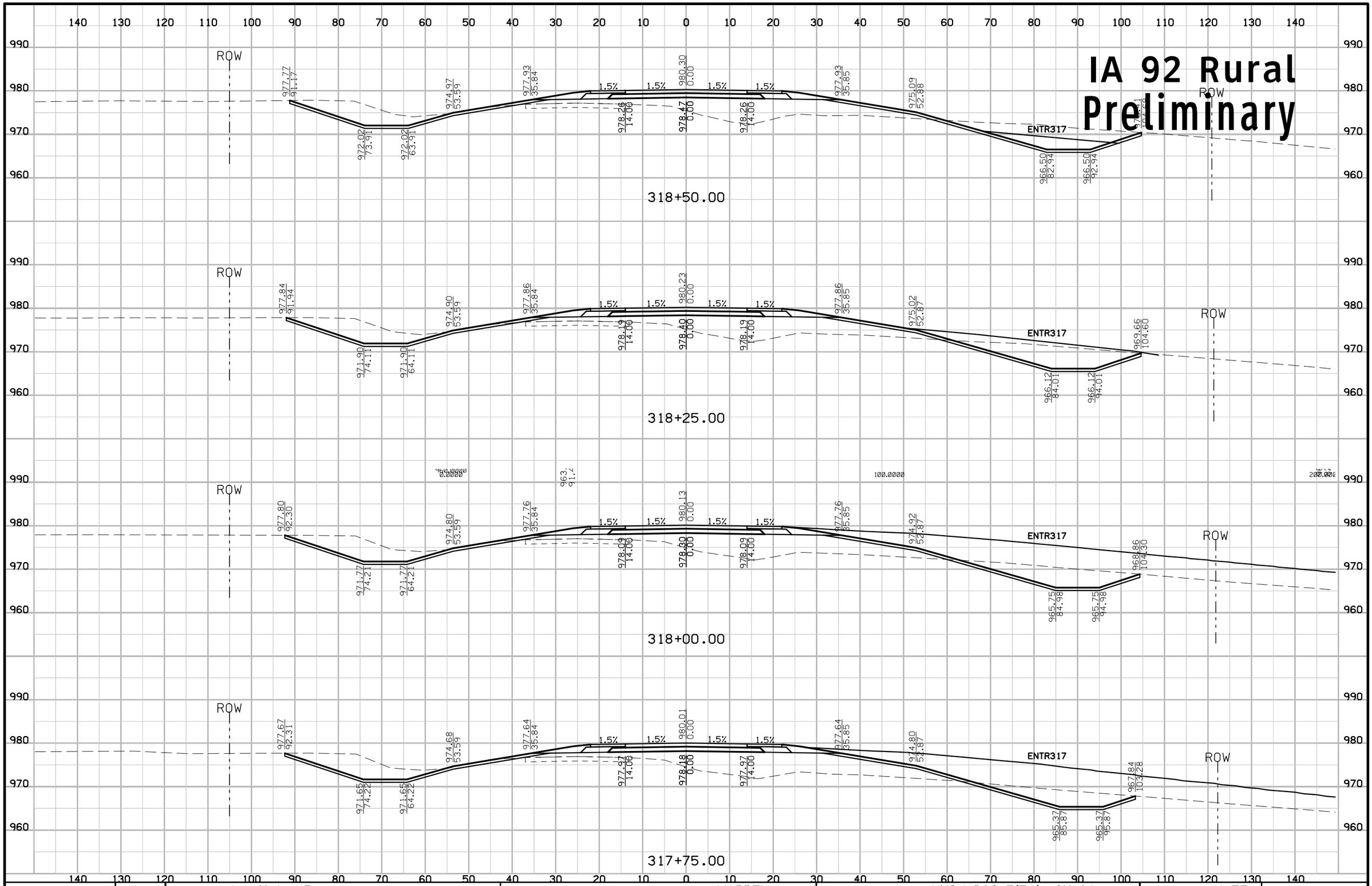
IA 92 Rural Preliminary



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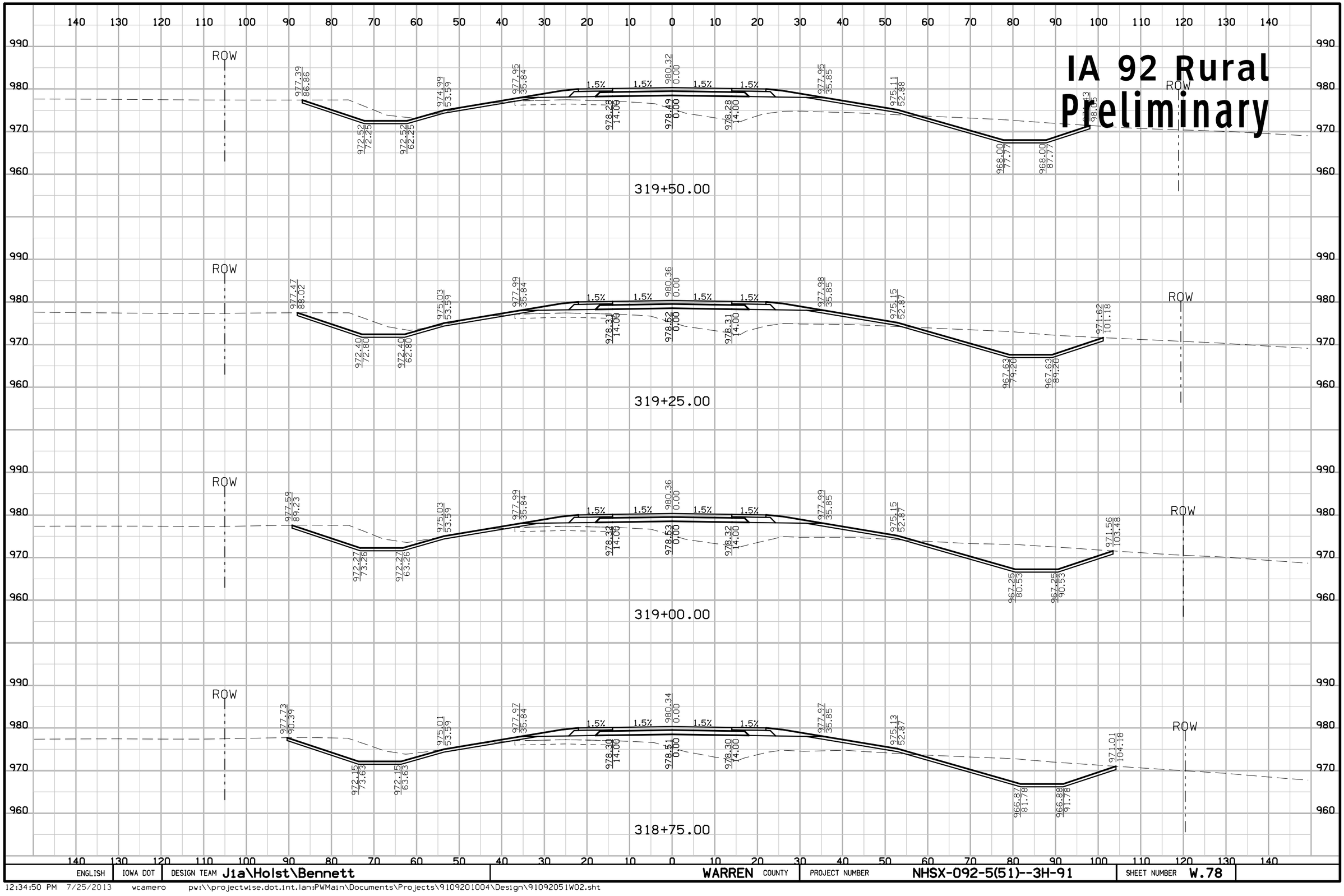
IA 92 Rural Preliminary



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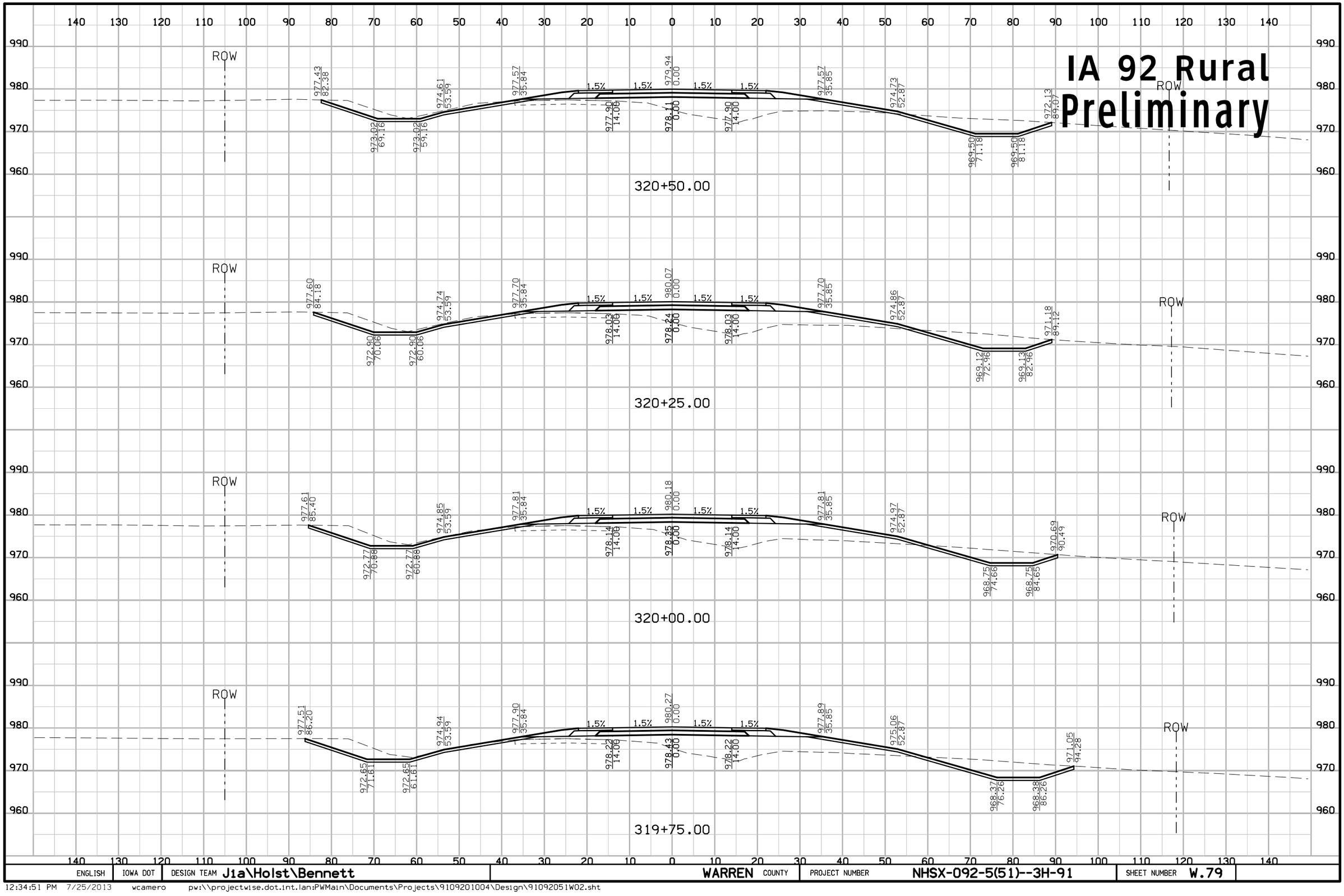
IA 92 Rural
Preliminary



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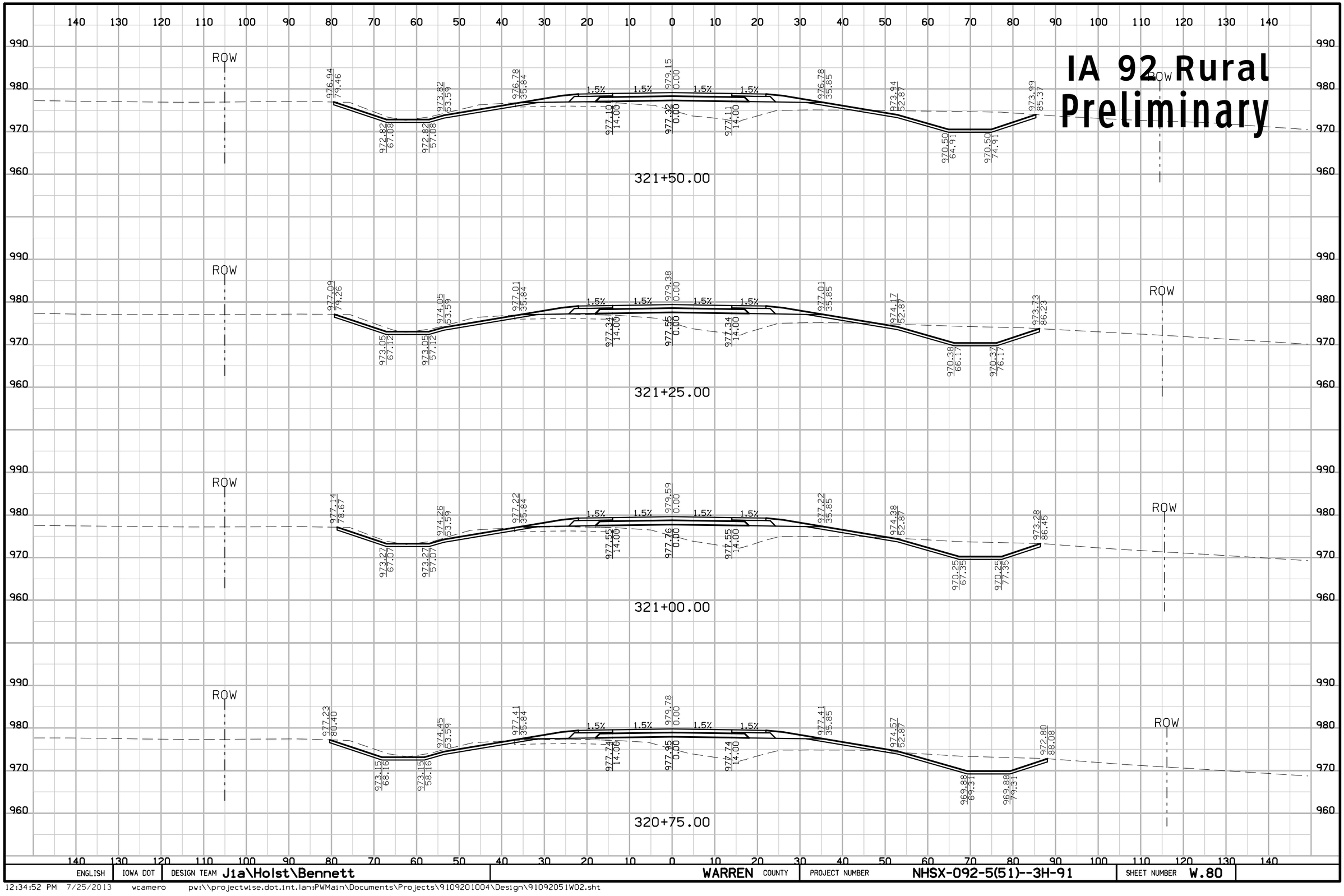
IA 92 Rural Preliminary



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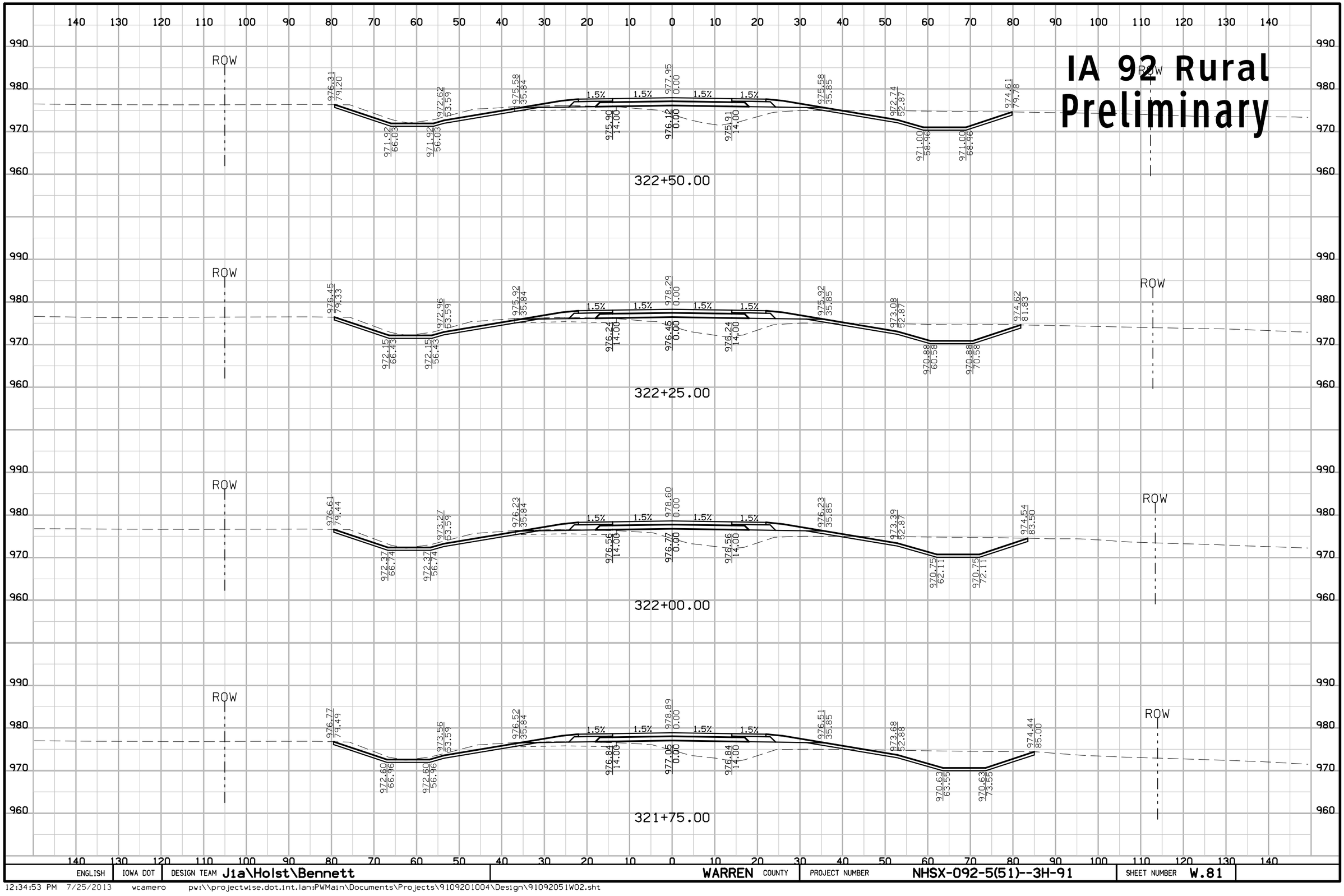
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.81

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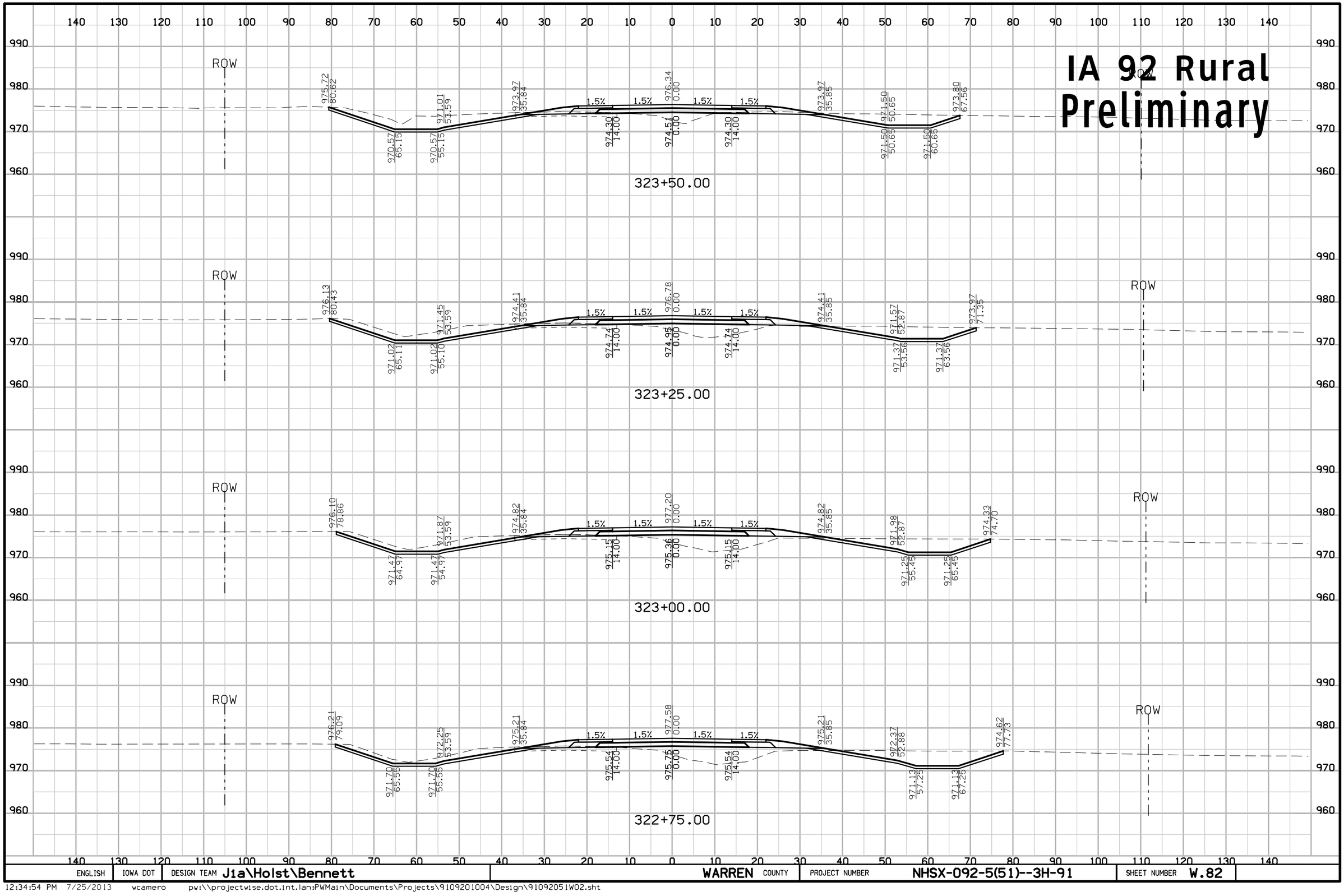
IA 92 Rural Preliminary



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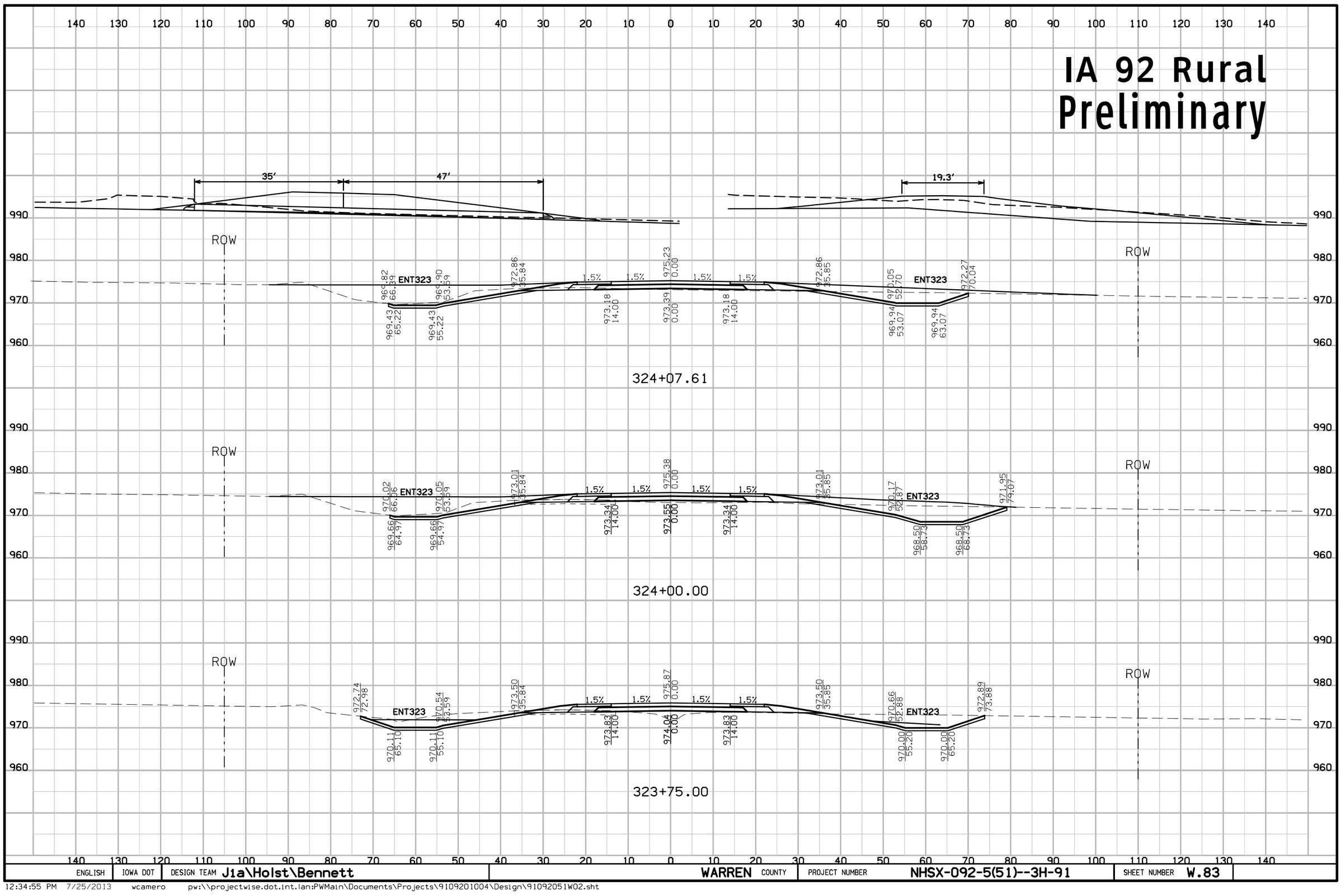
IA 92 Rural
Preliminary



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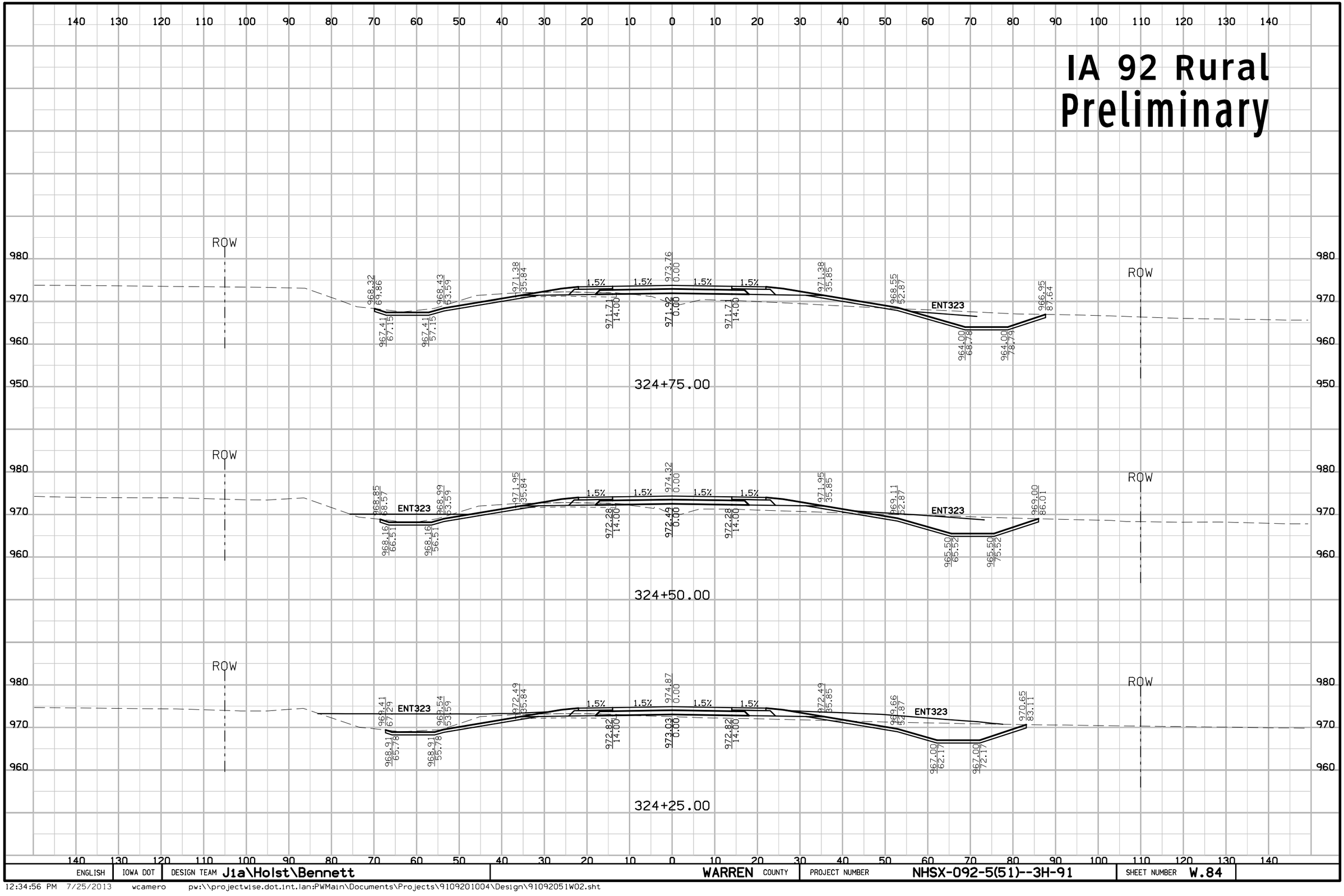
IA 92 Rural
Preliminary



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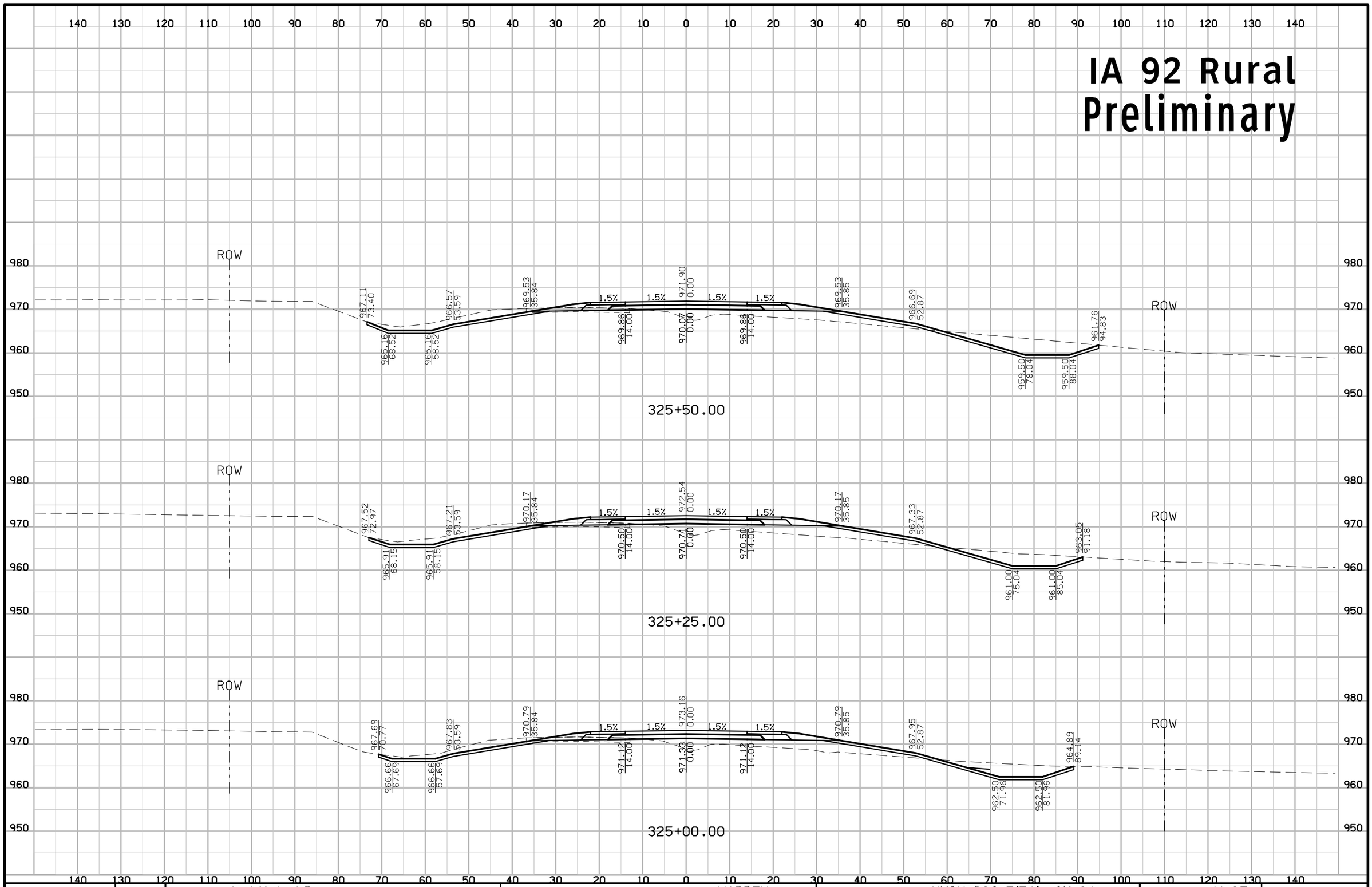
IA 92 Rural
Preliminary



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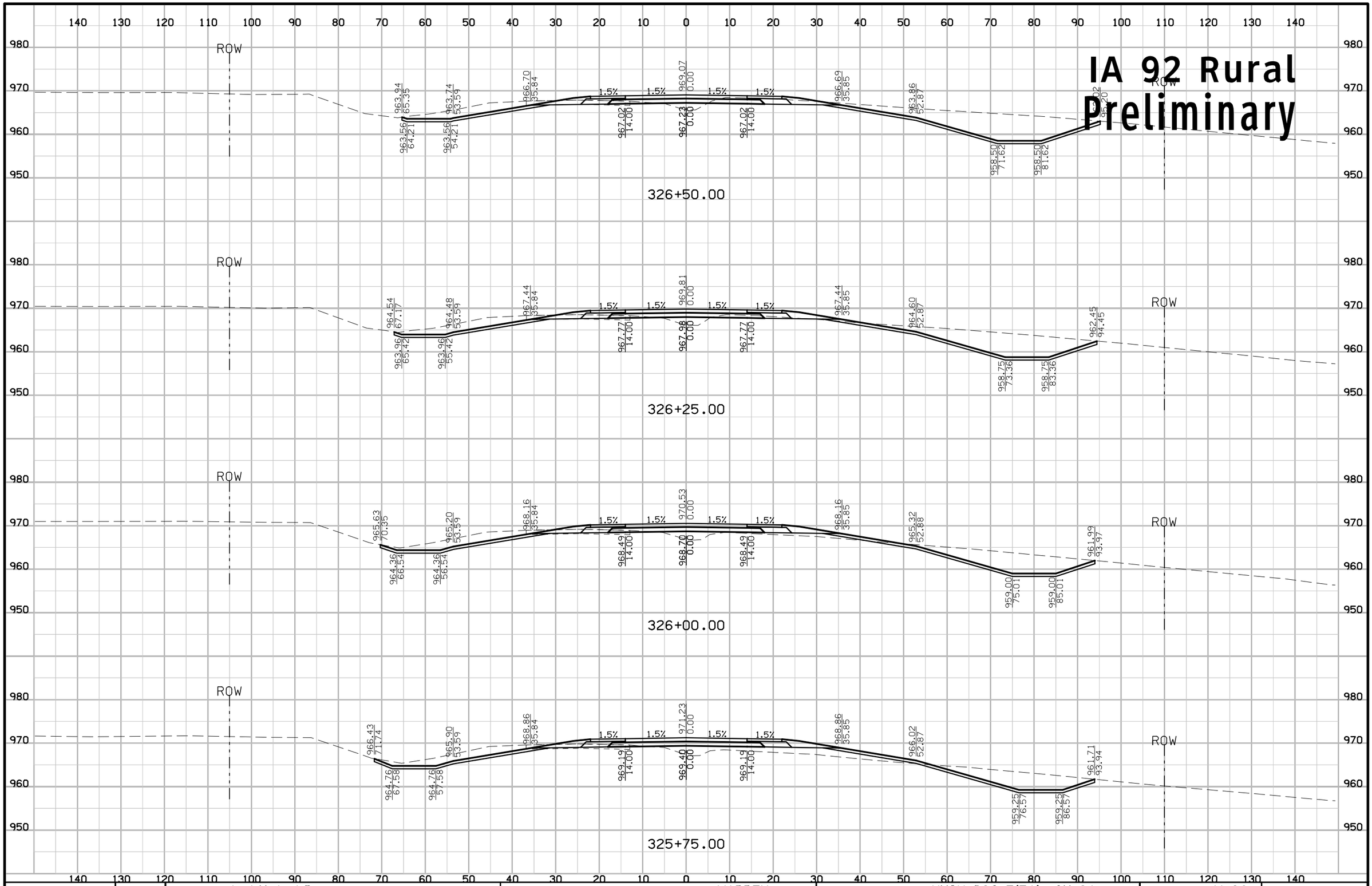
IA 92 Rural Preliminary



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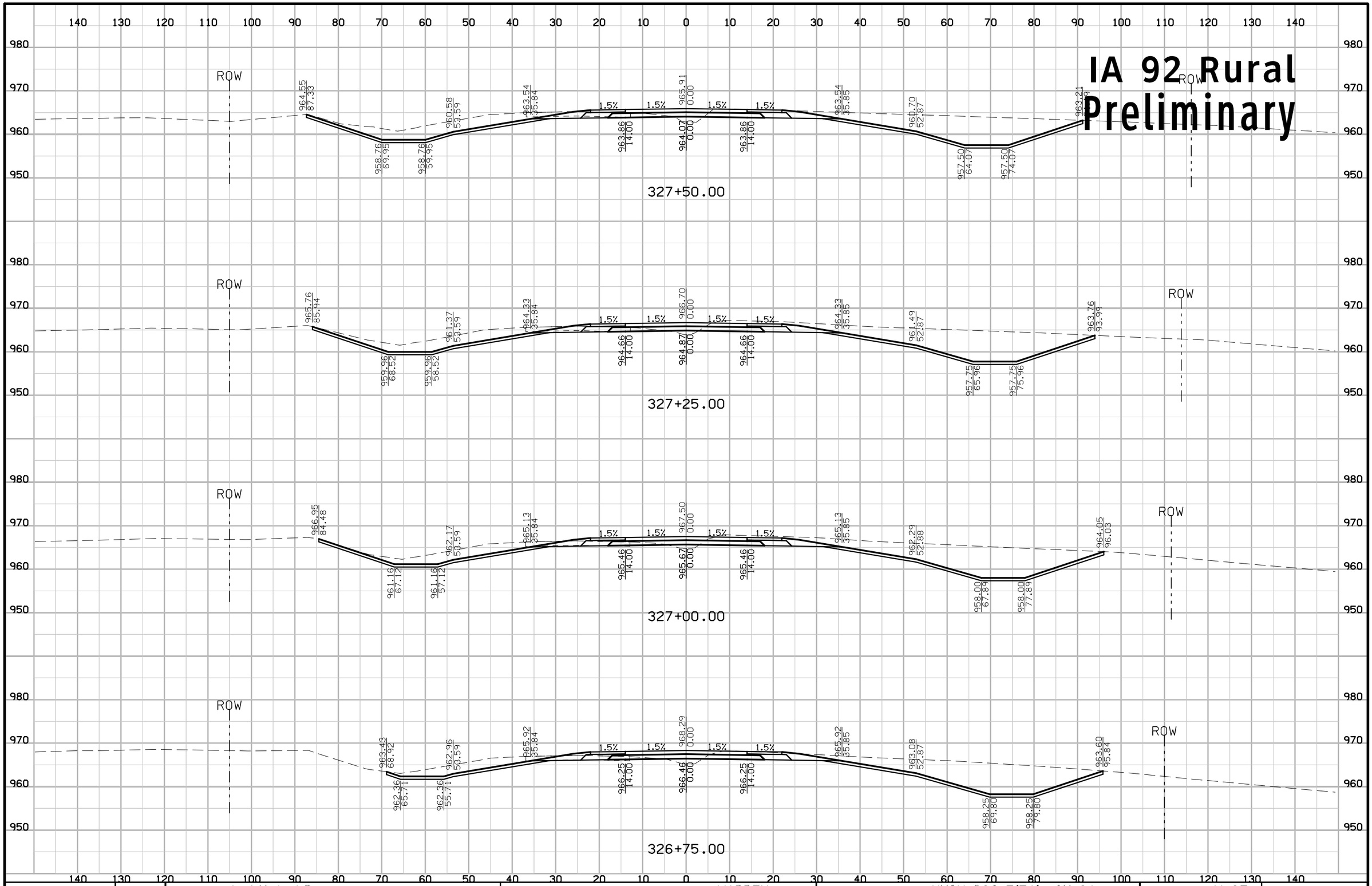
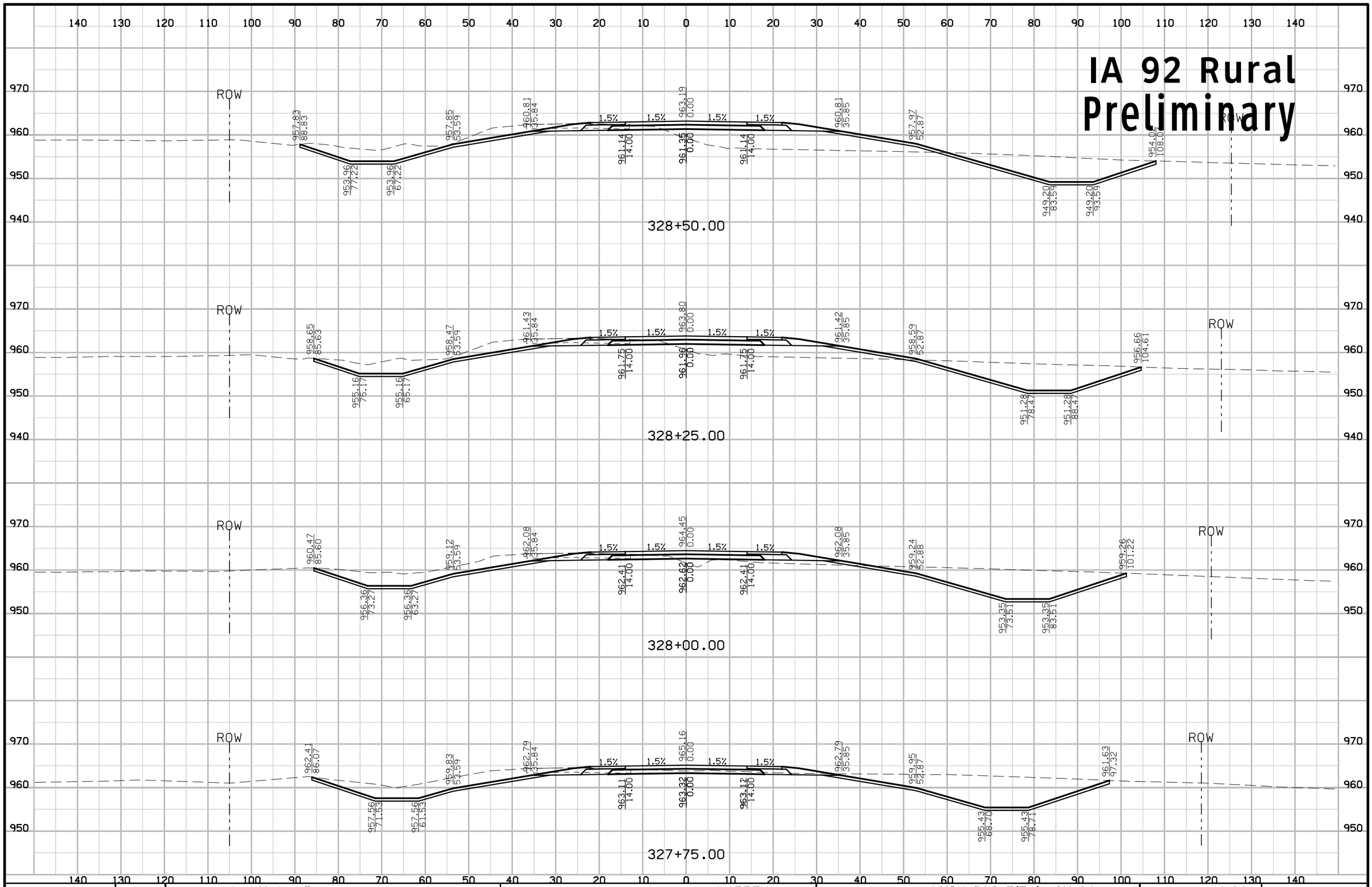
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.87

IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.88

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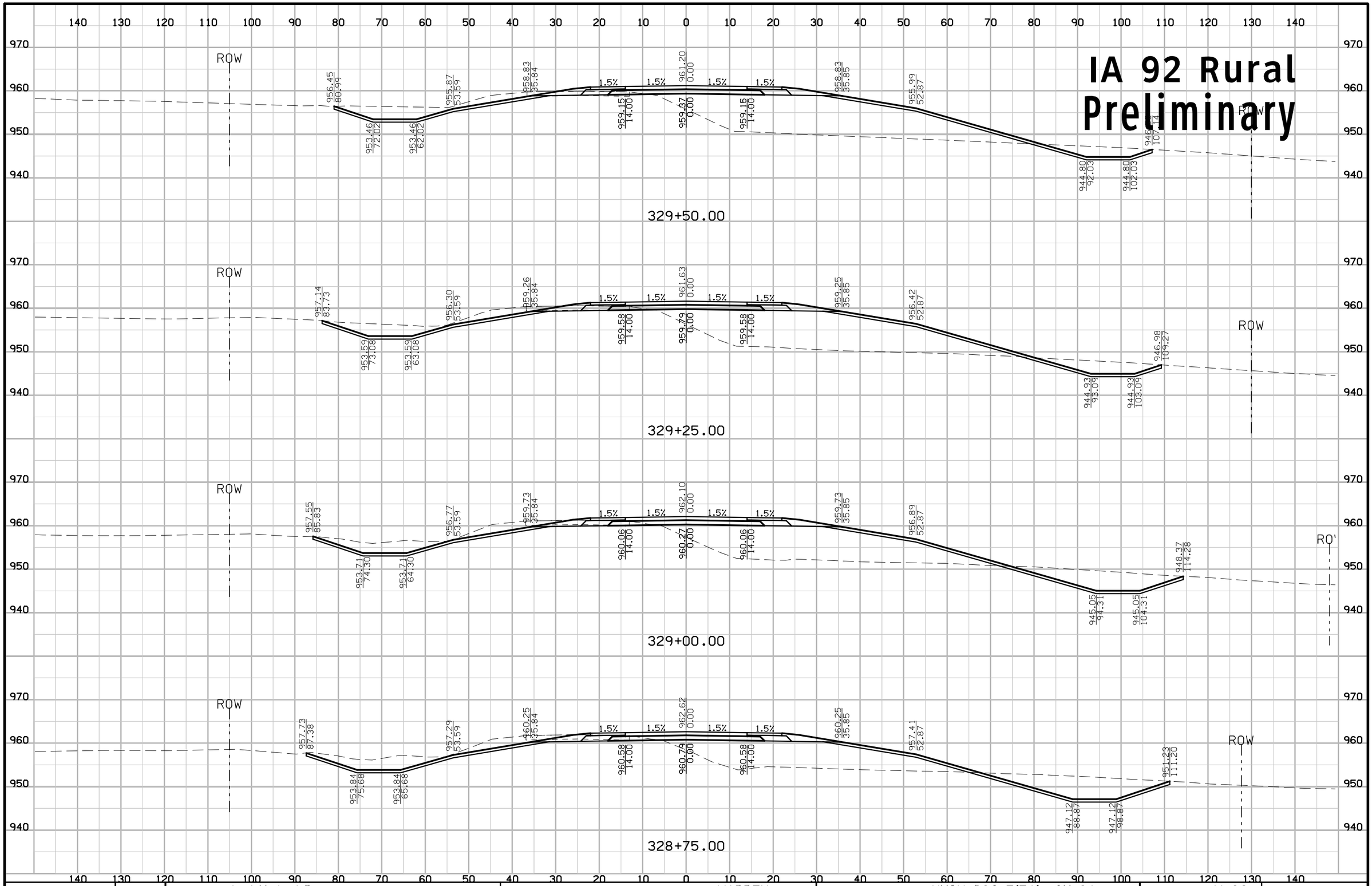
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.89

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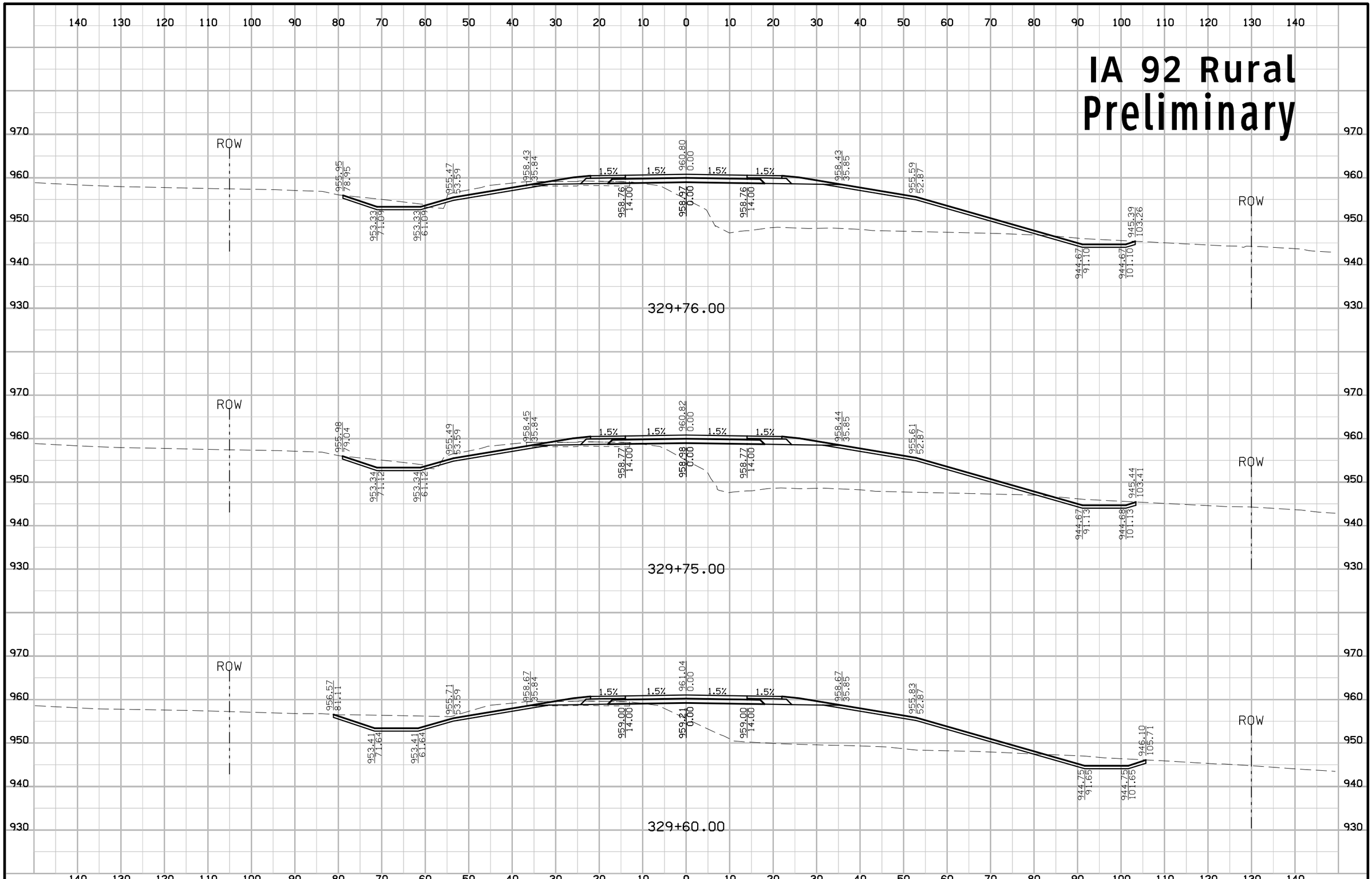
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.90

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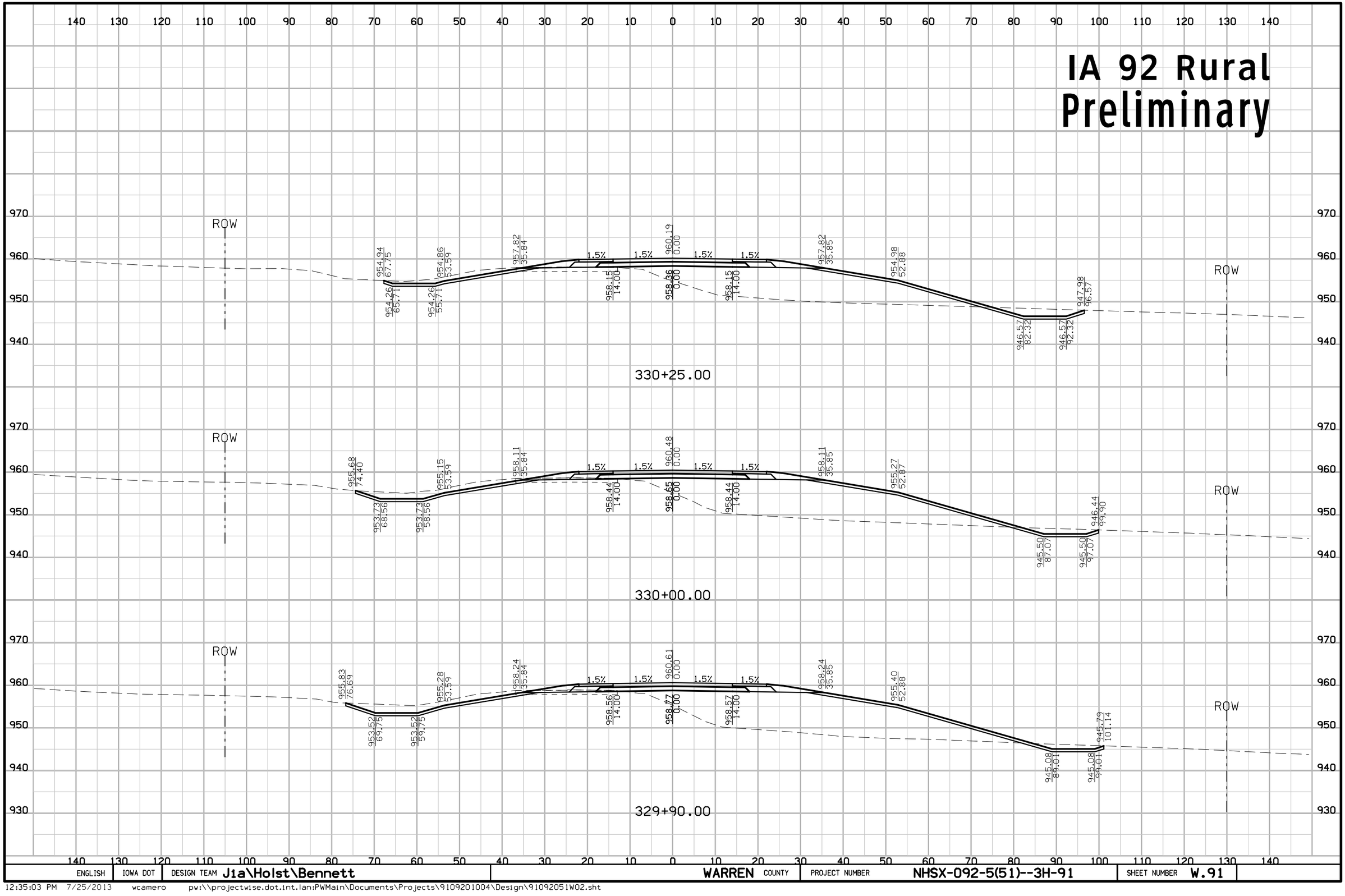
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.91

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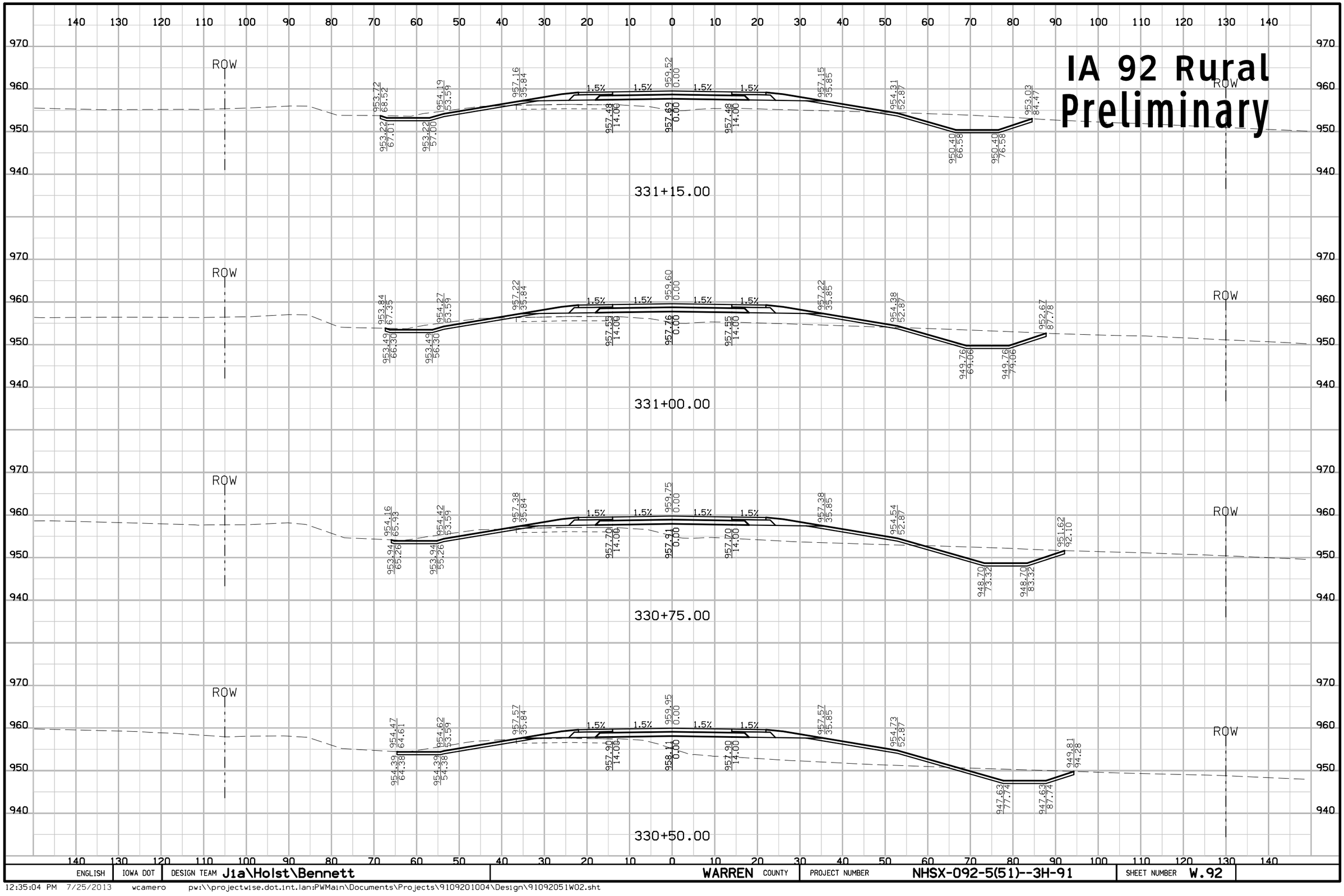
IA 92 Rural Preliminary



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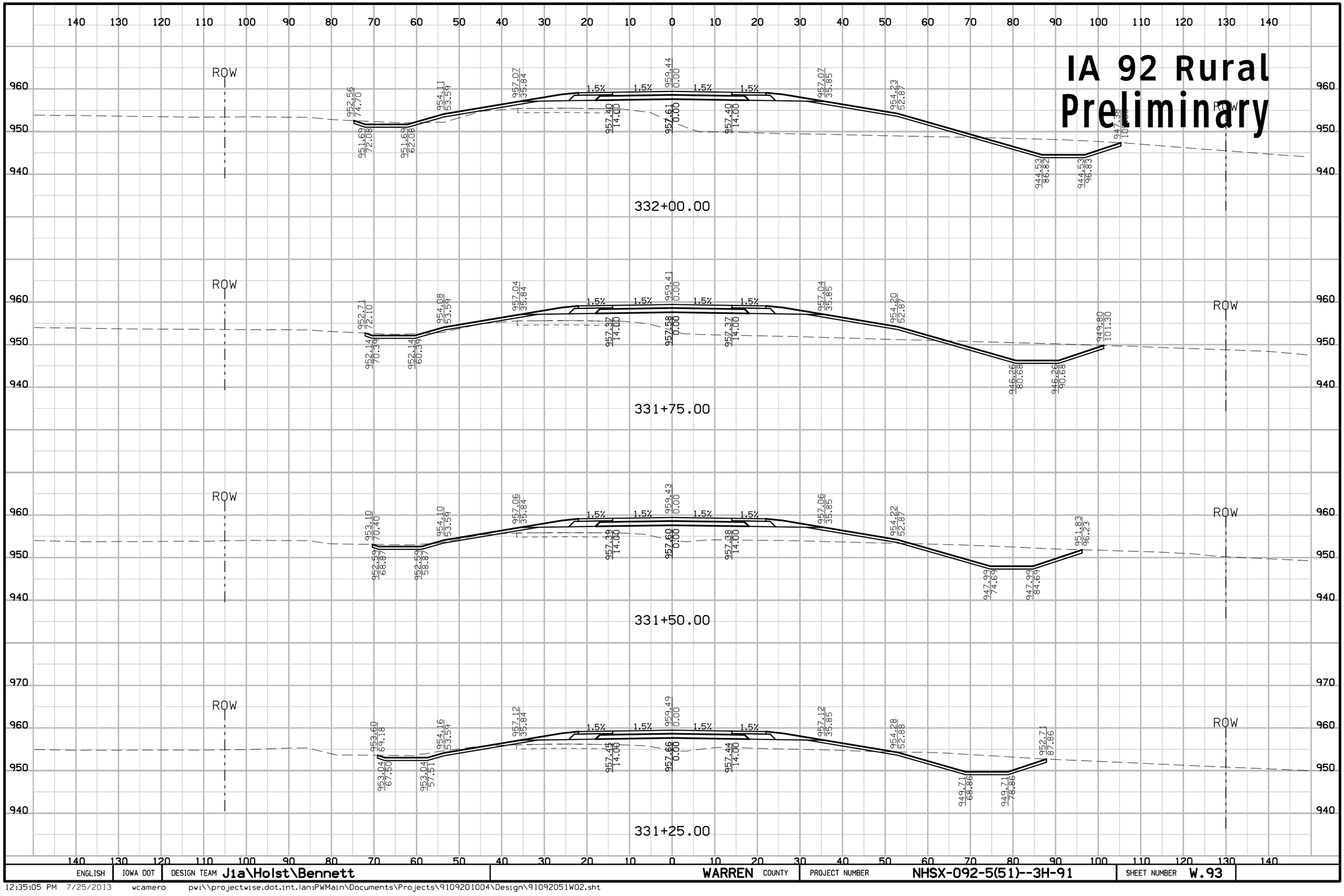
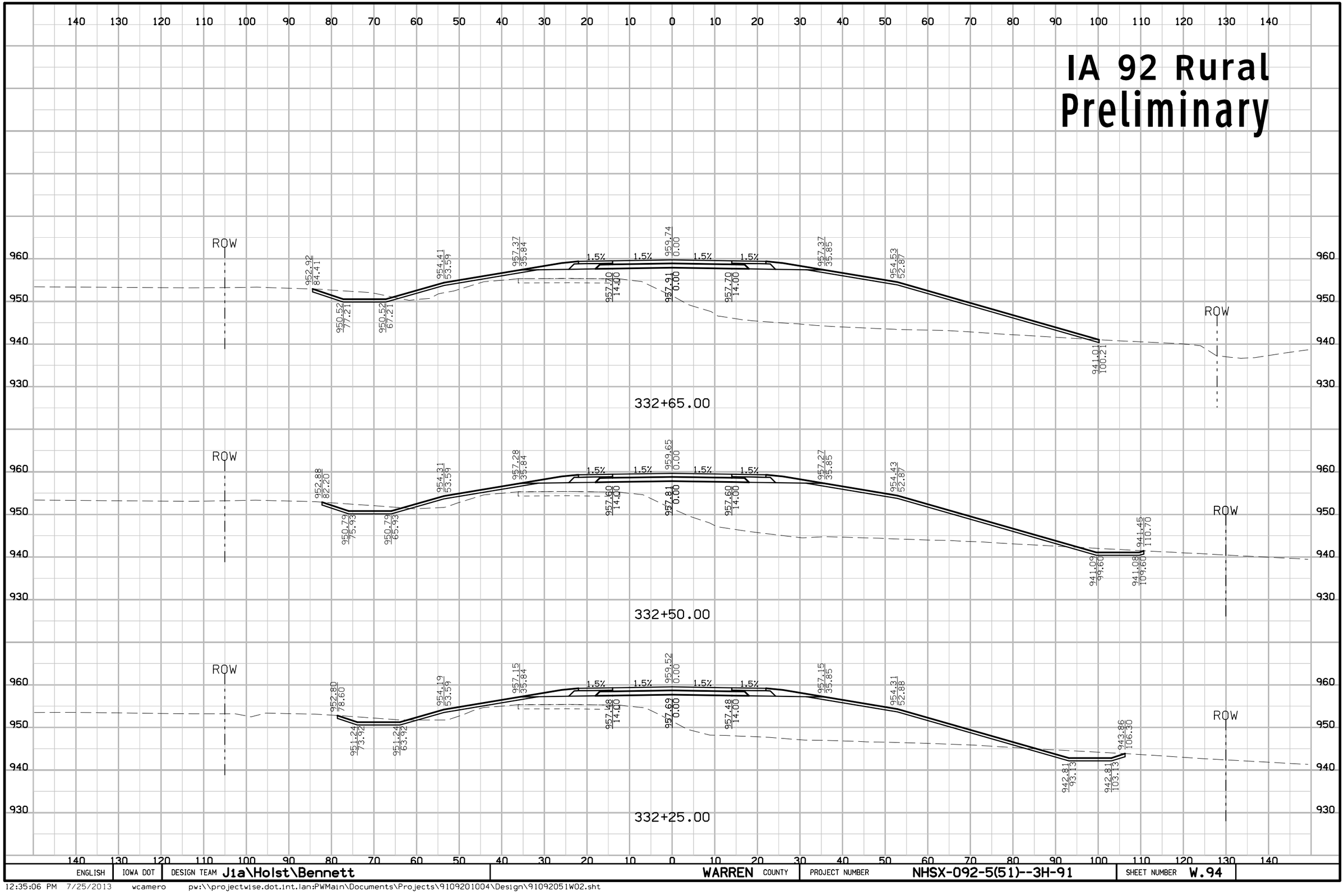
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.93

IA 92 Rural
Preliminary



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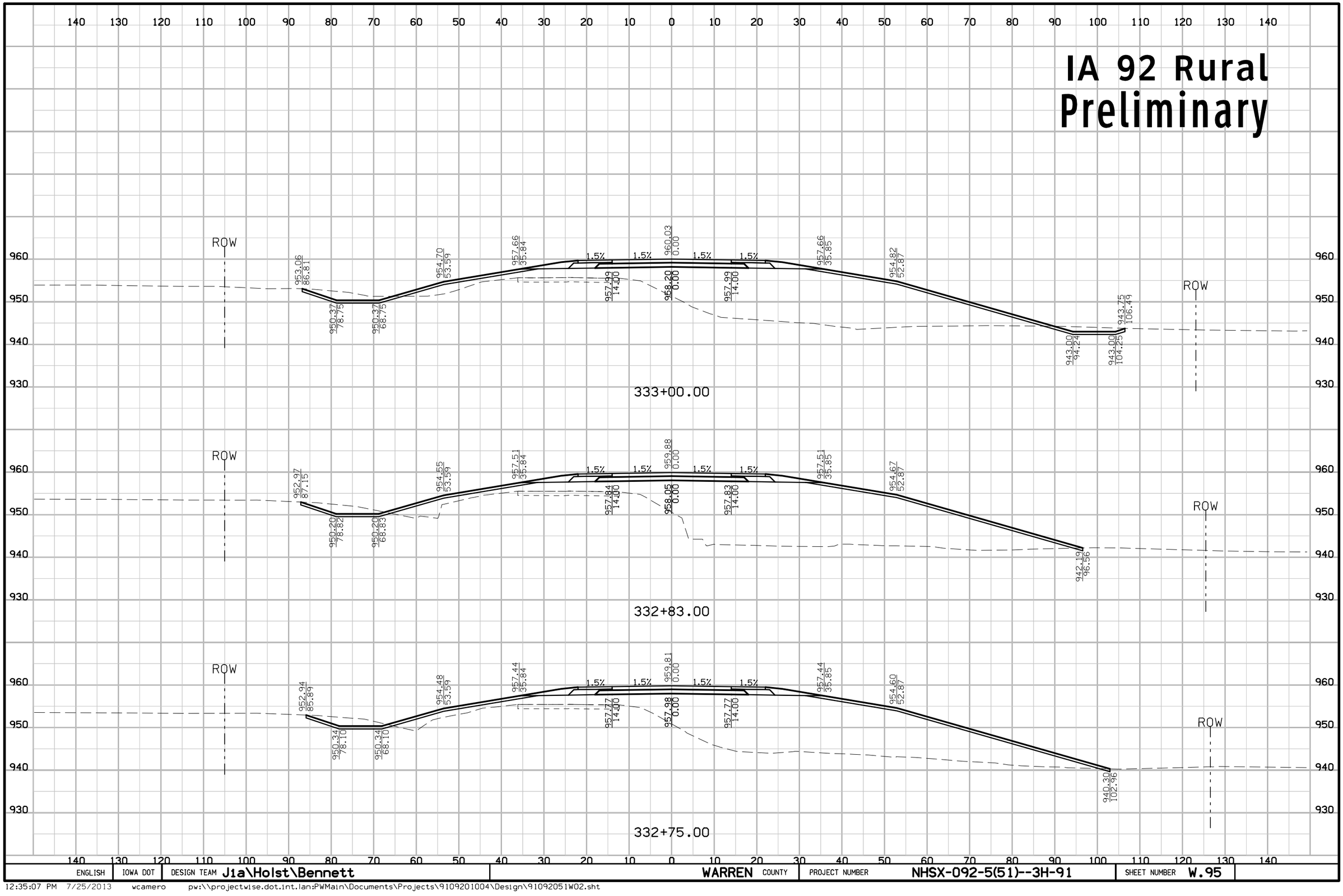
IA 92 Rural
Preliminary



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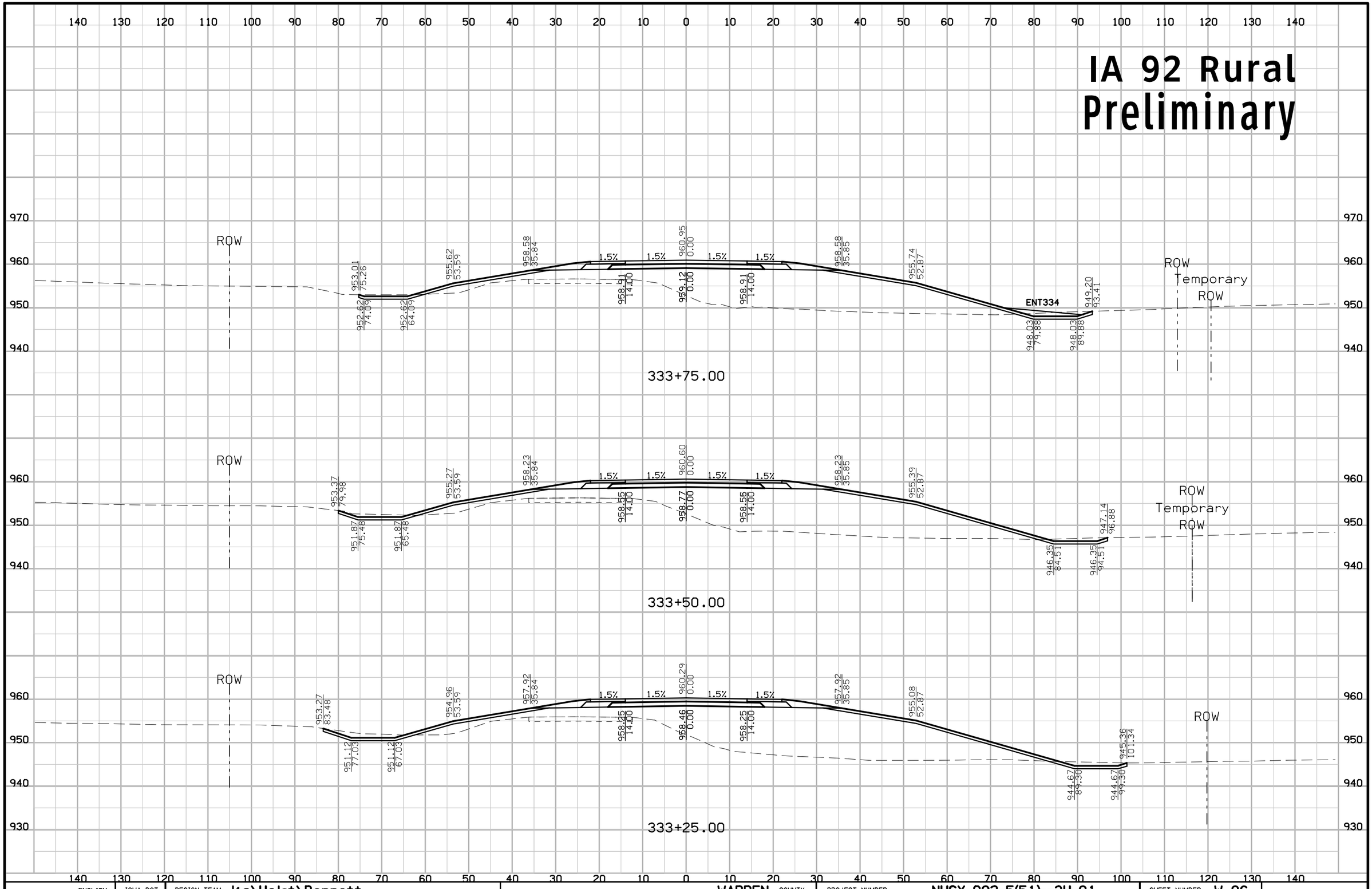
IA 92 Rural
Preliminary



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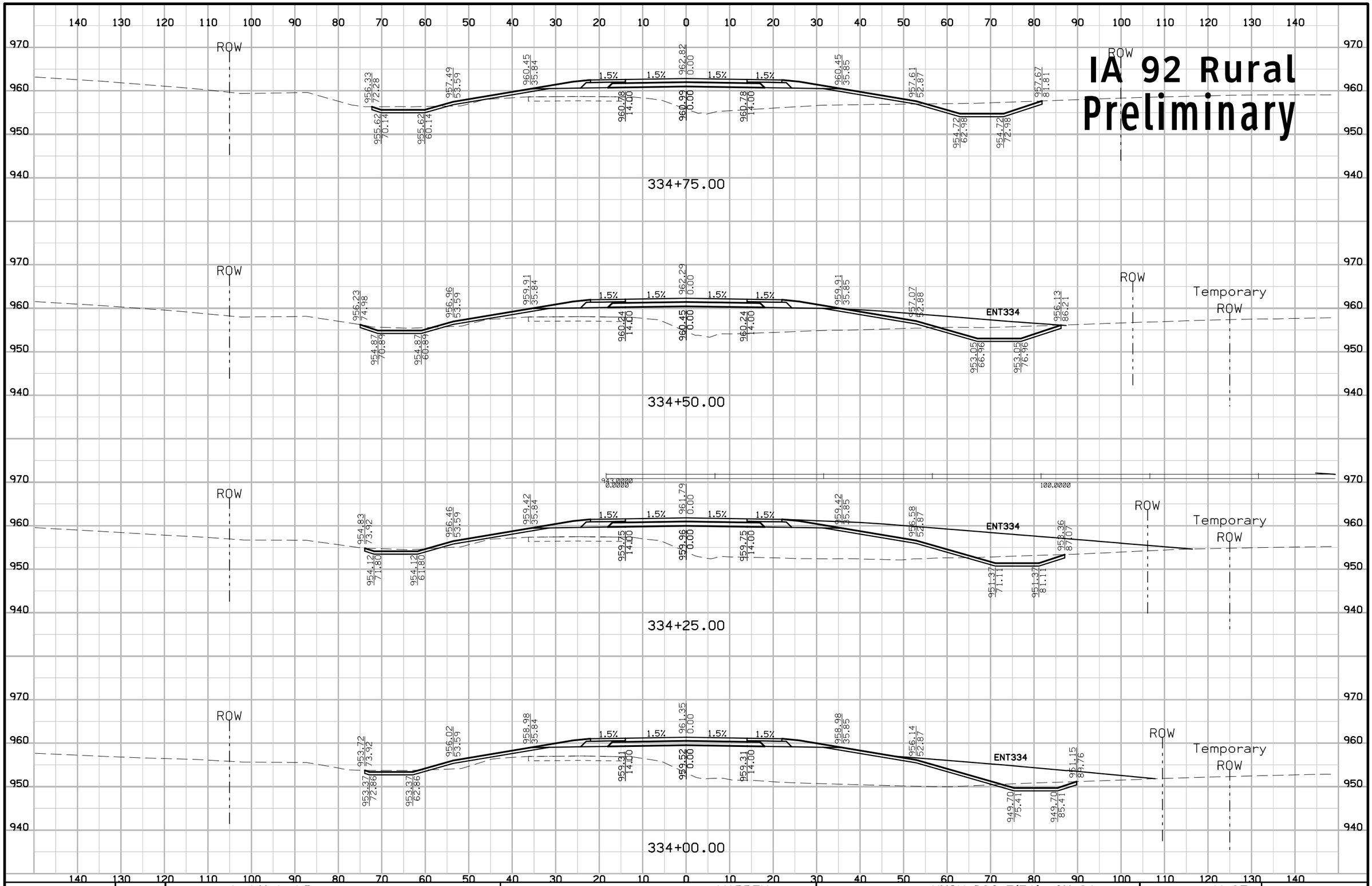
IA 92 Rural Preliminary



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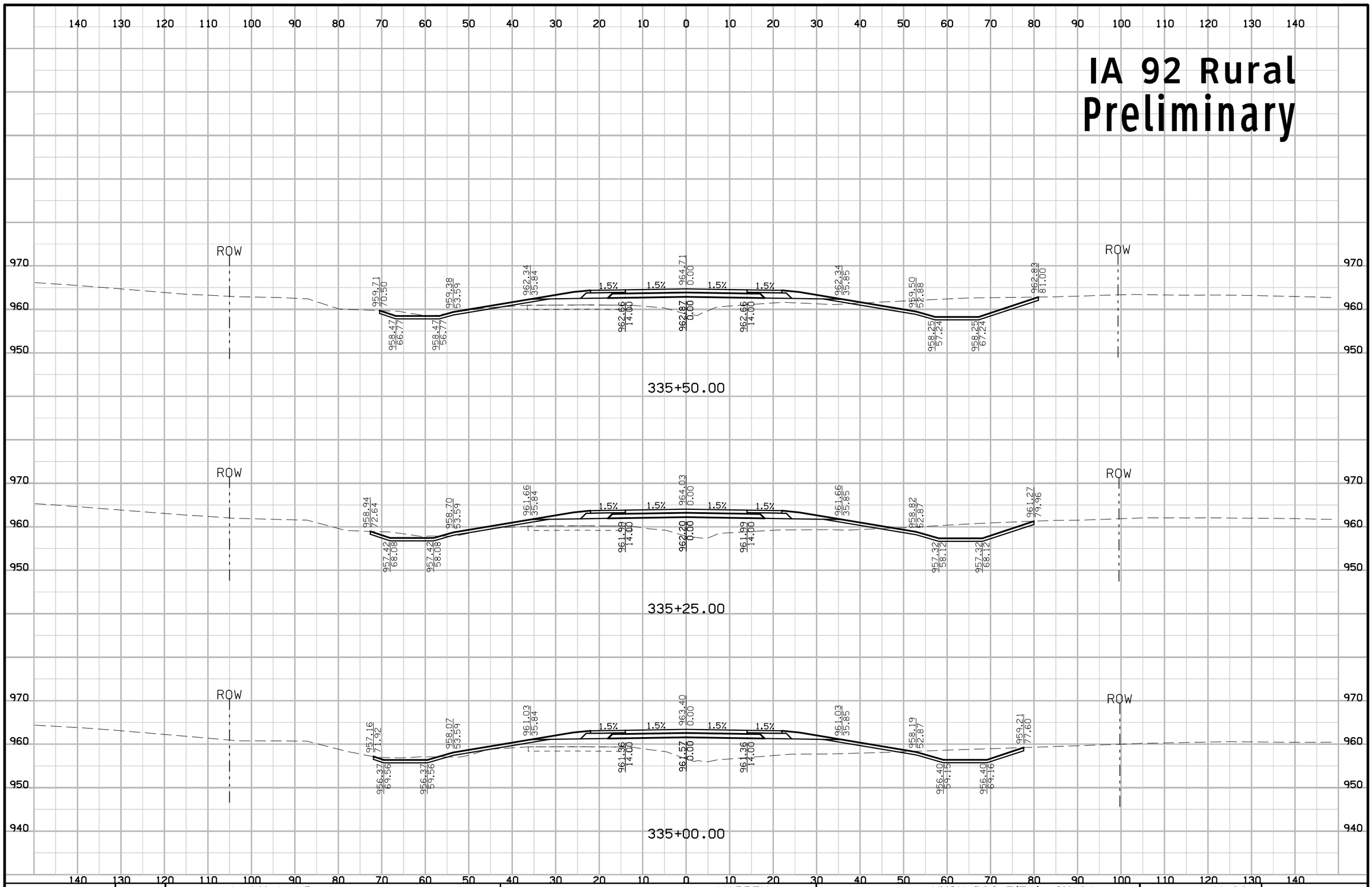
IA 92 Rural
Preliminary



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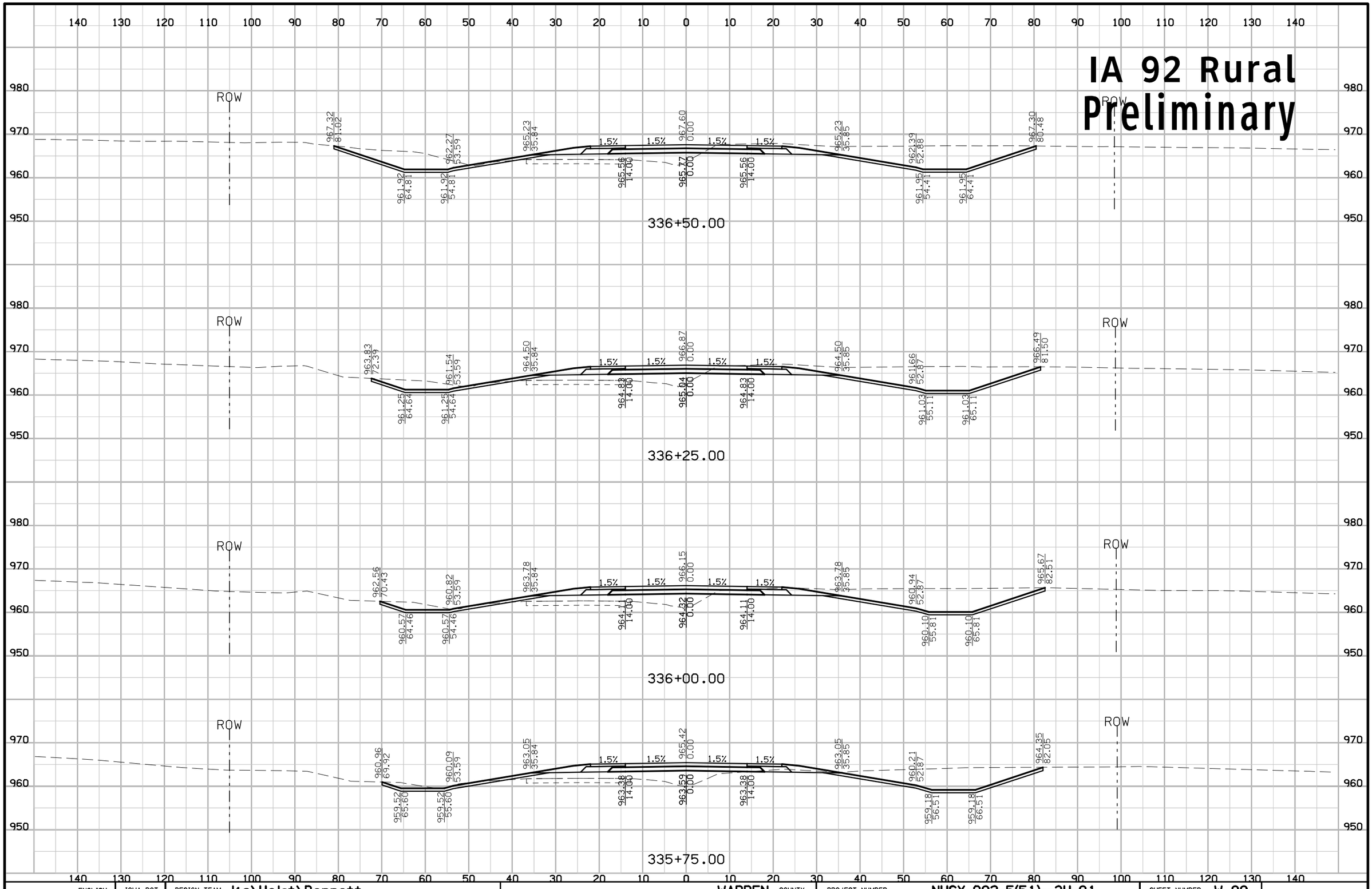
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.99

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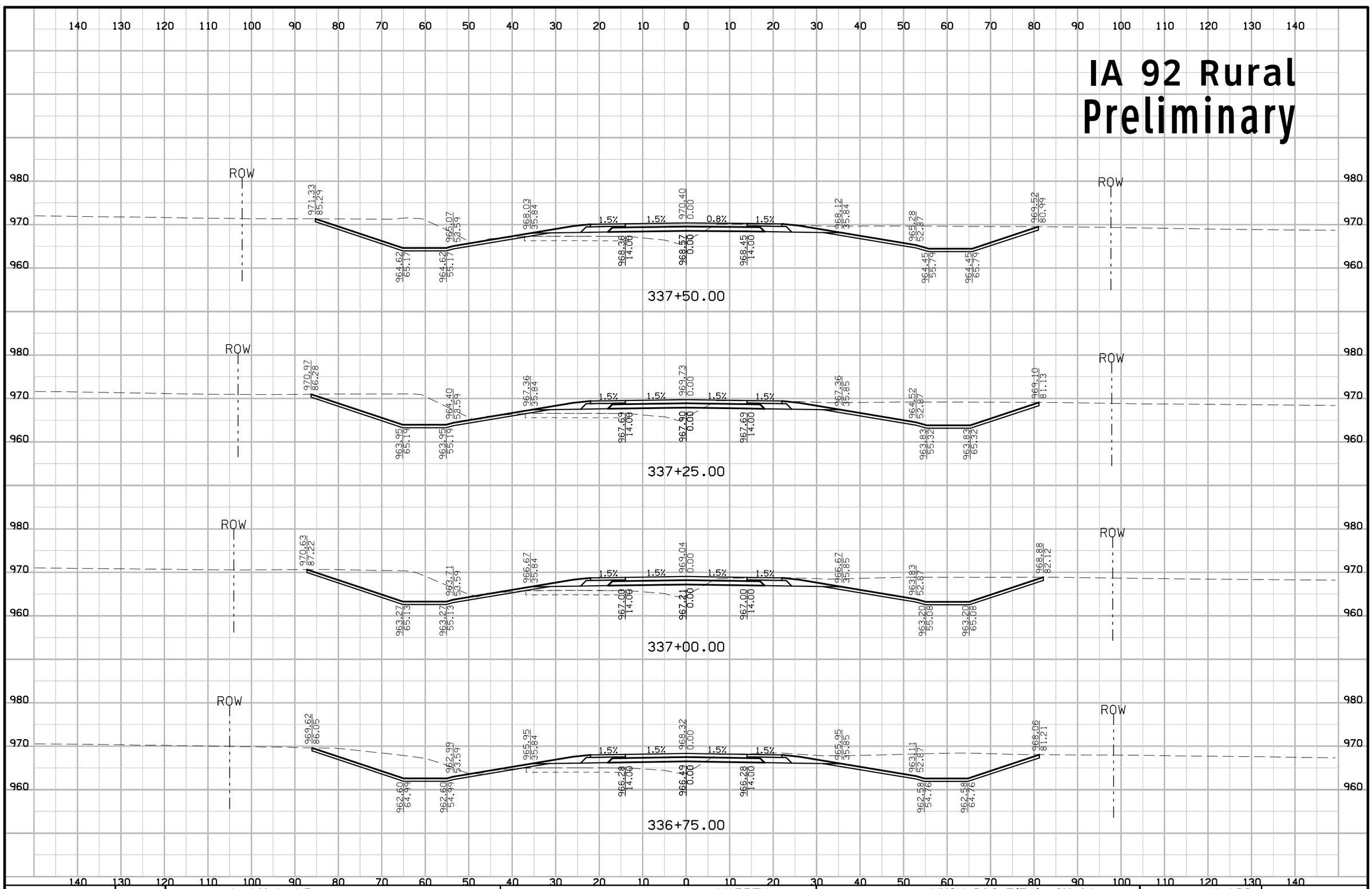
IA 92 Rural
Preliminary



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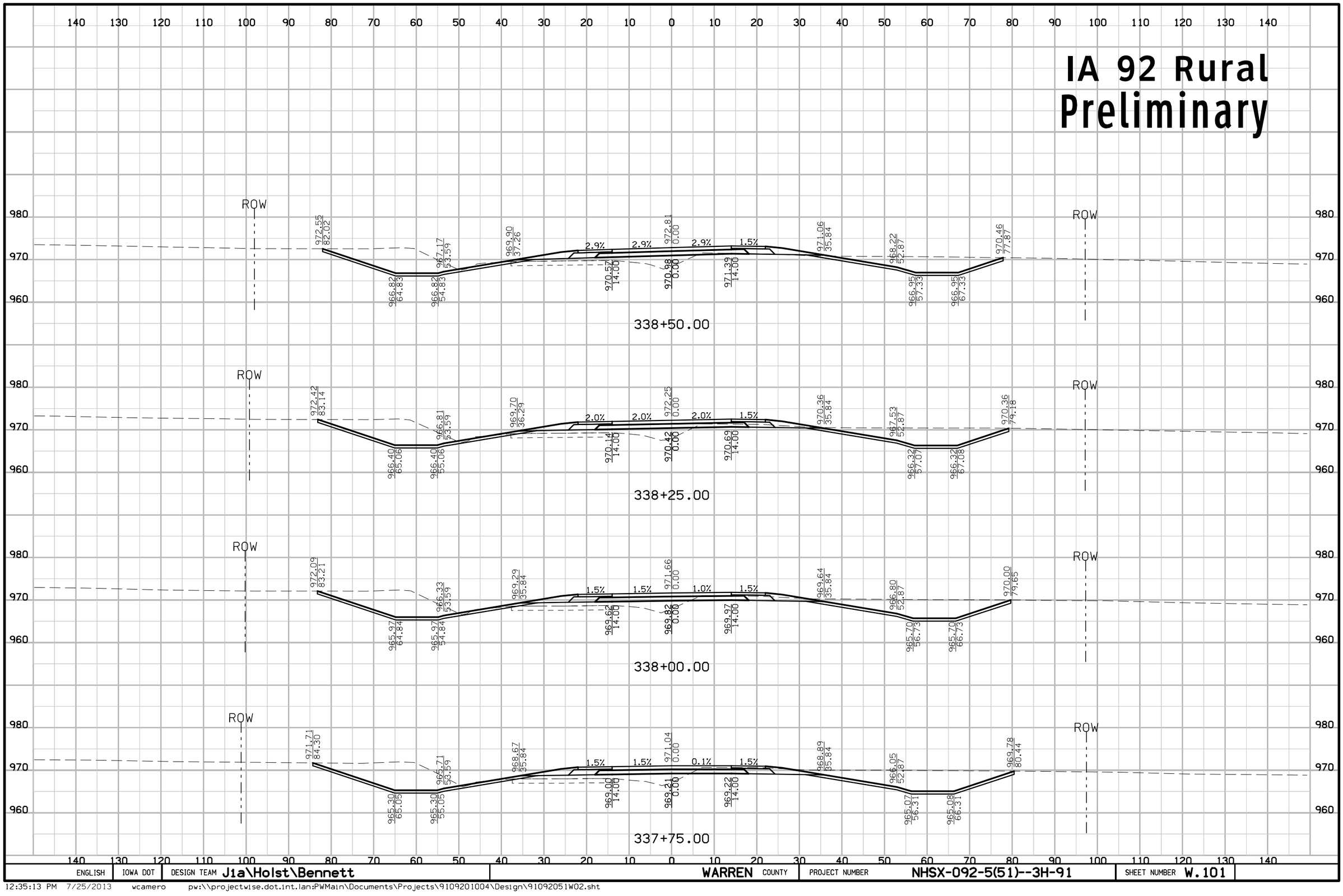
IA 92 Rural
Preliminary



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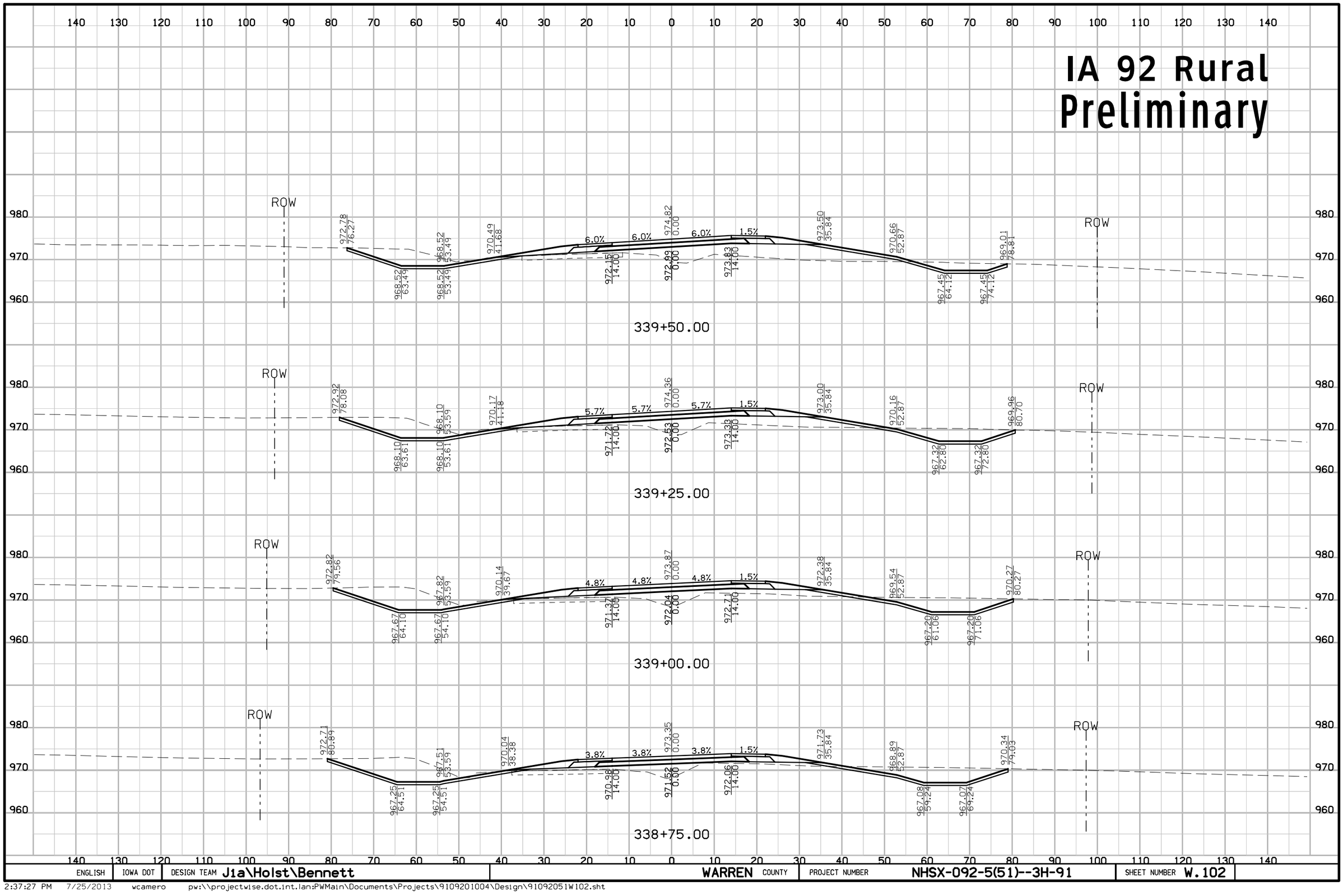
IA 92 Rural
Preliminary



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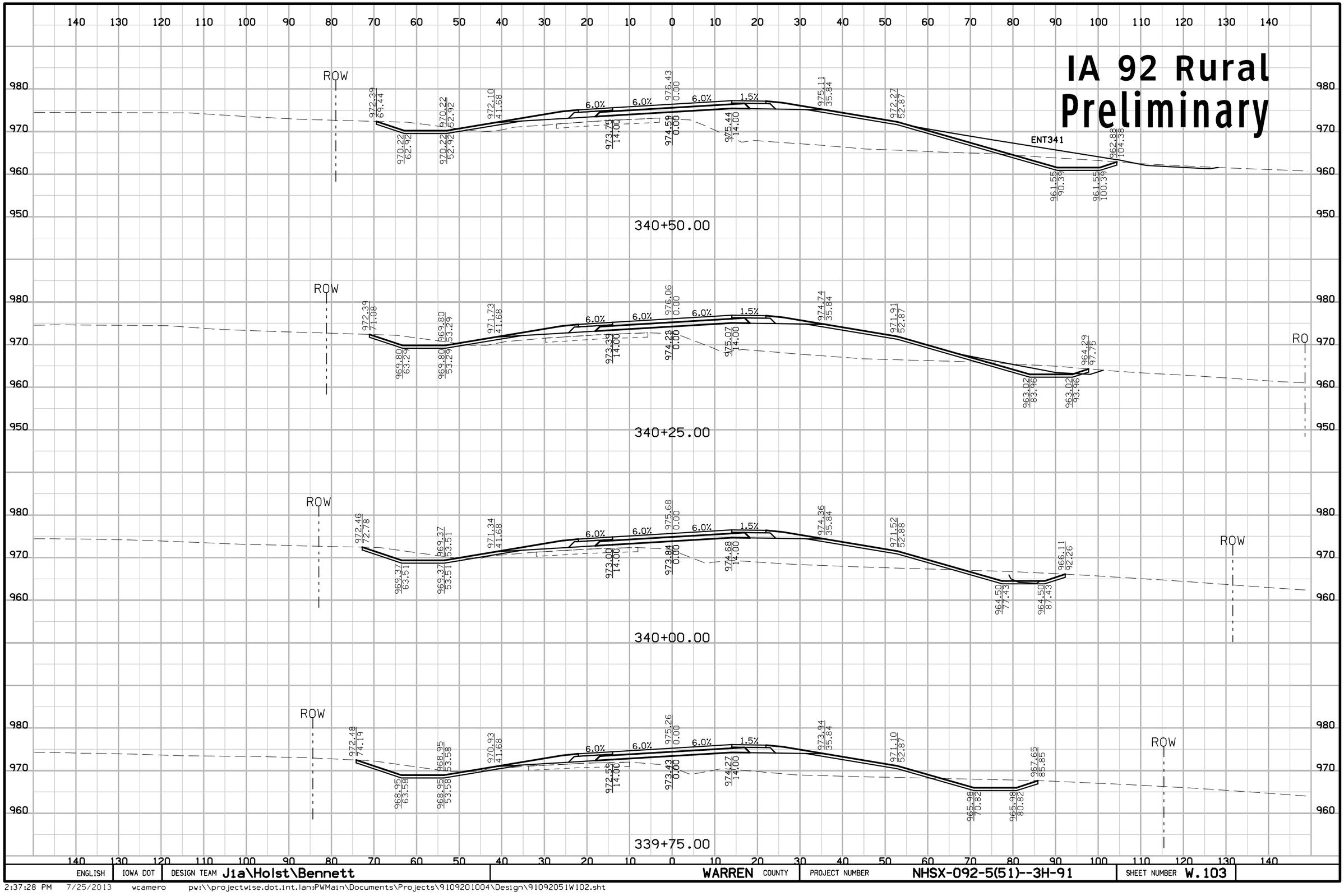
IA 92 Rural Preliminary



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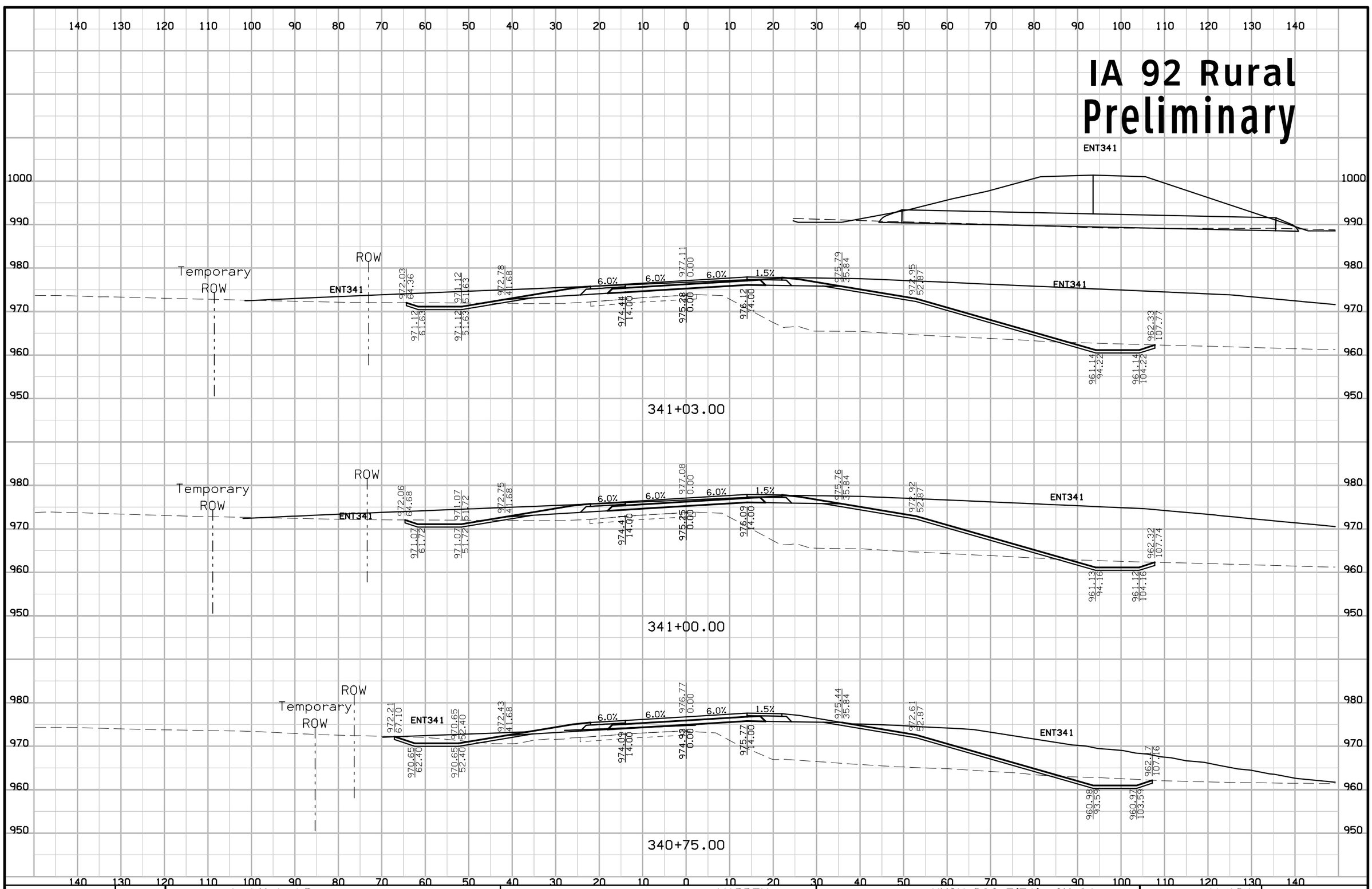
IA 92 Rural
Preliminary



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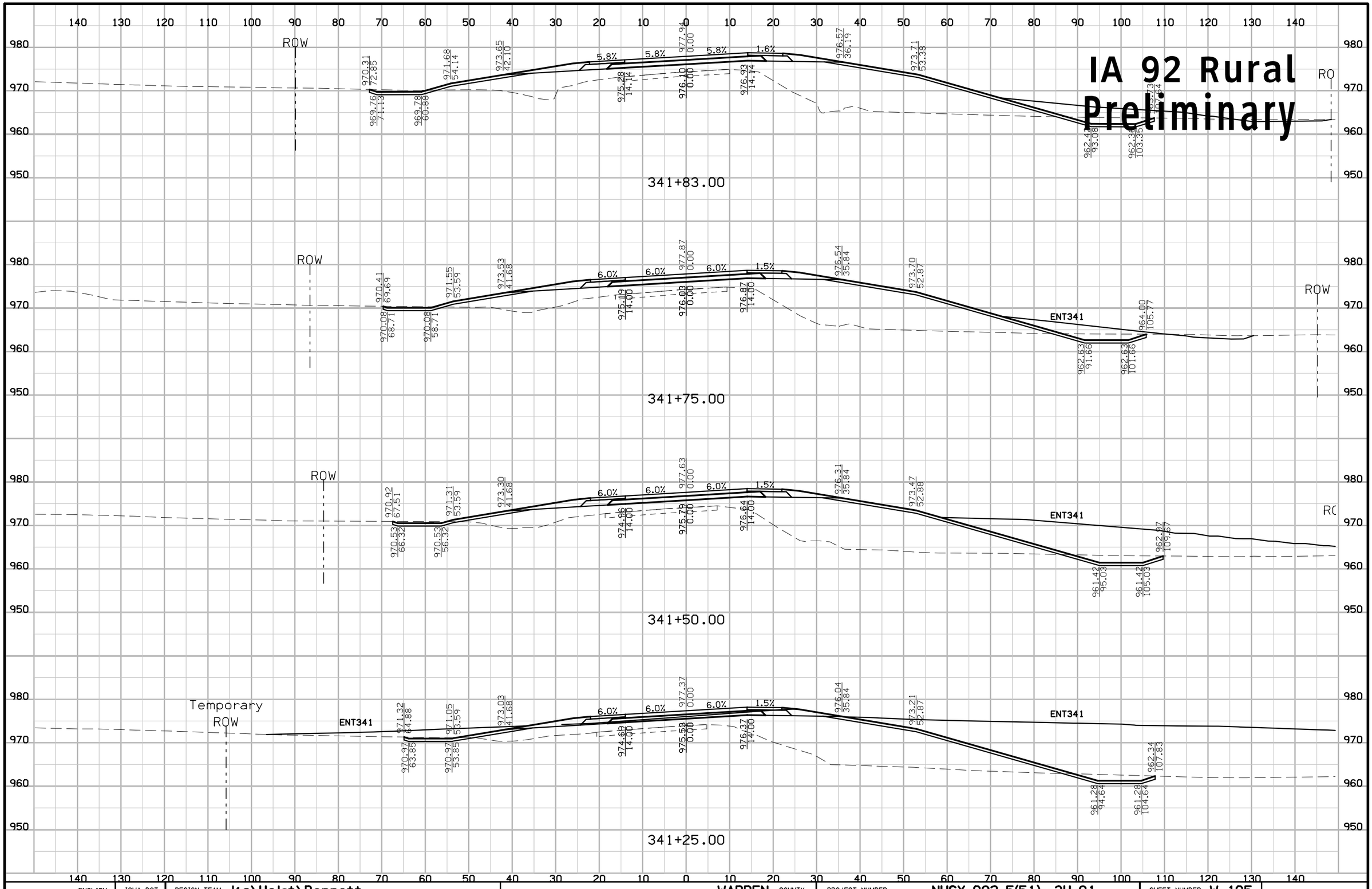
IA 92 Rural
Preliminary



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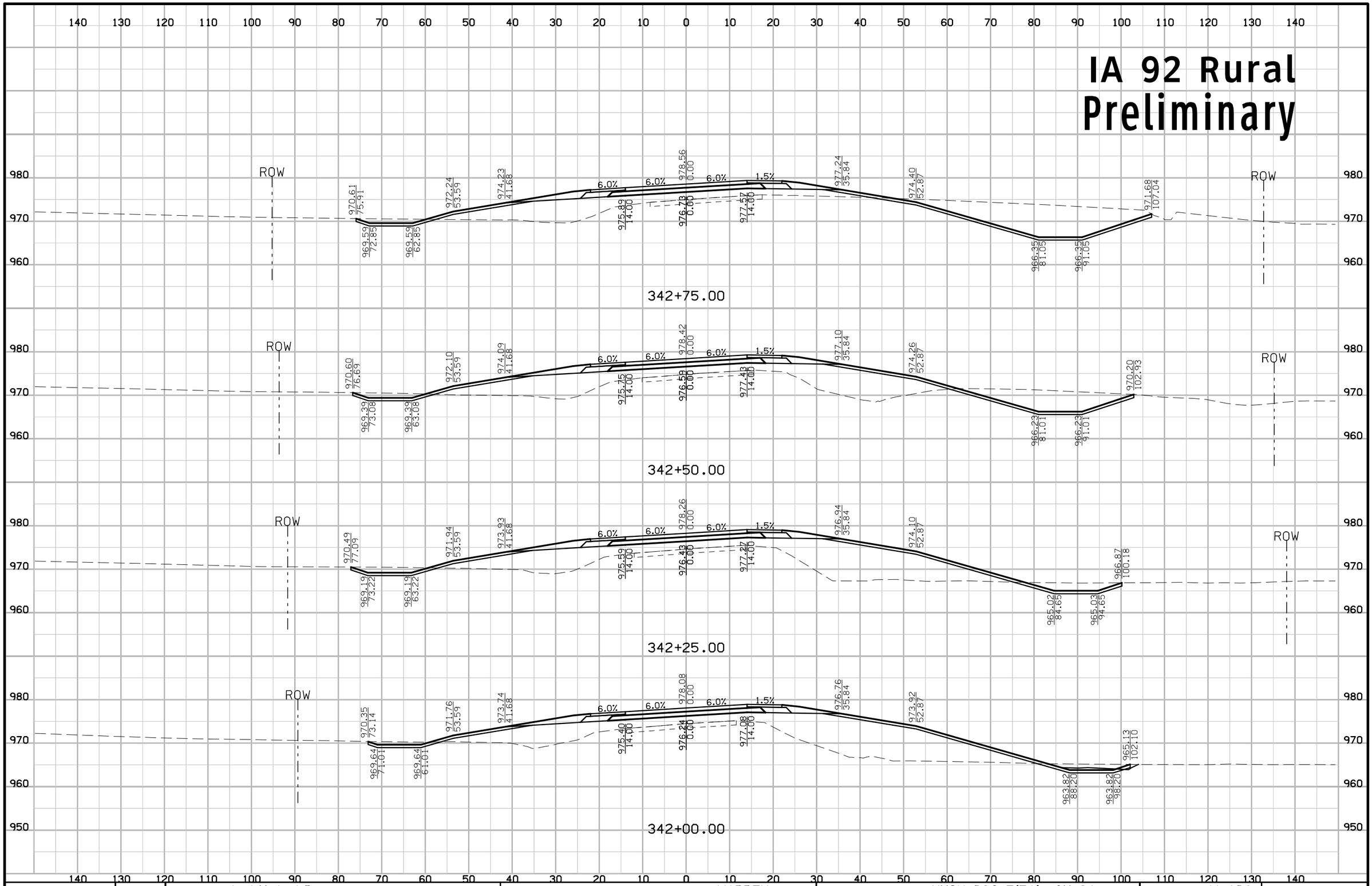
IA 92 Rural
Preliminary



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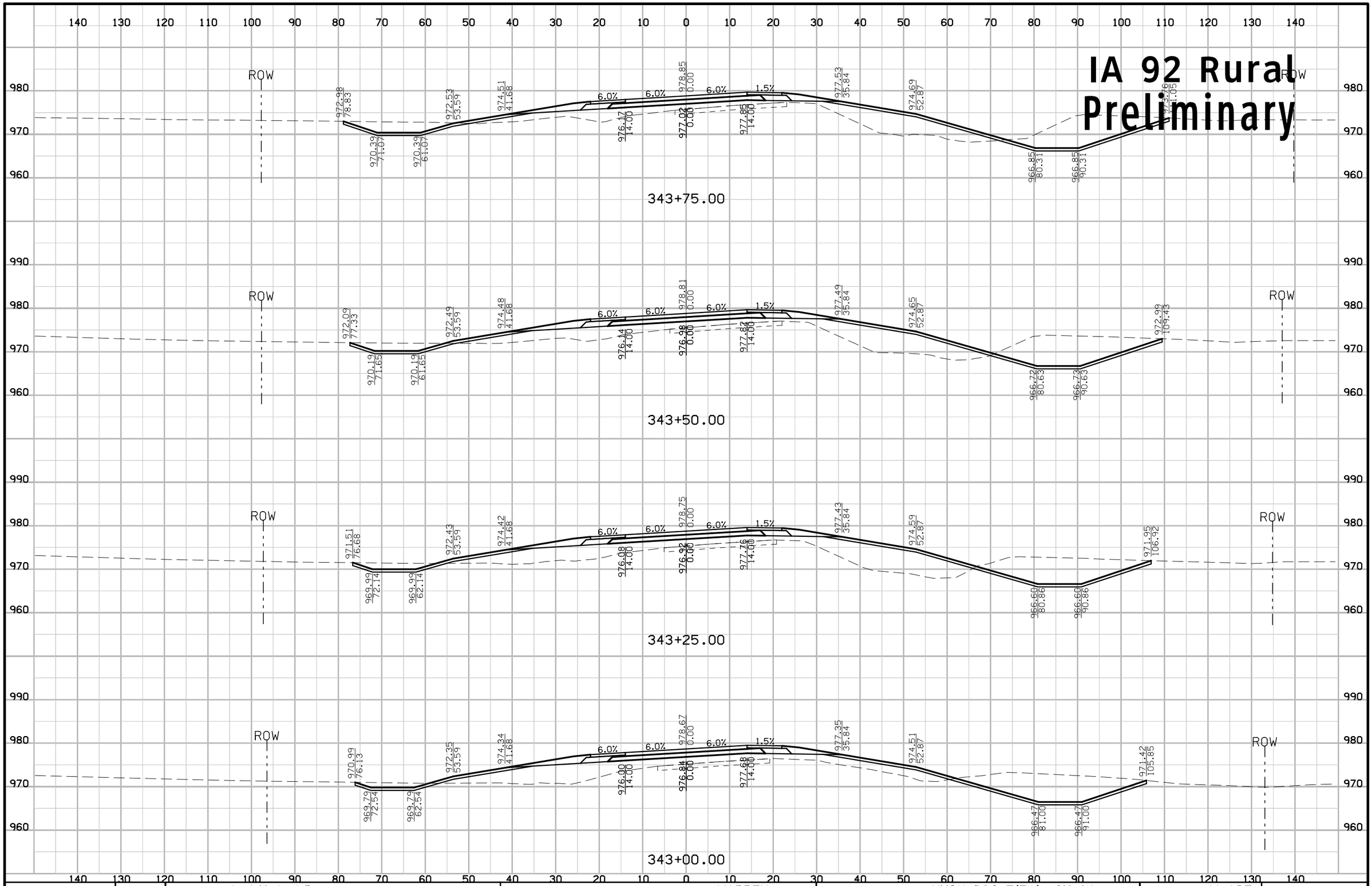
IA 92 Rural
Preliminary



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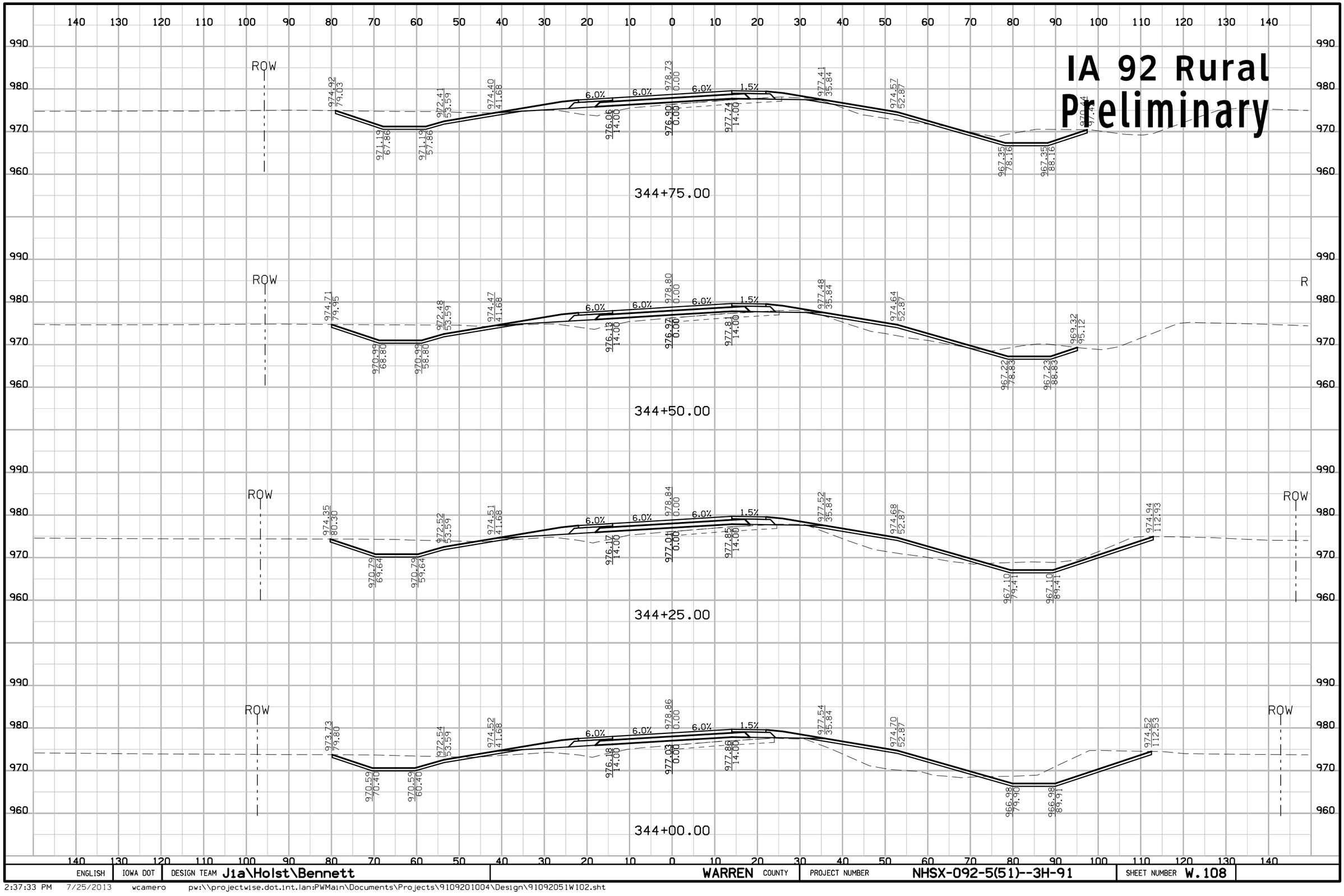
IA 92 Rural Preliminary



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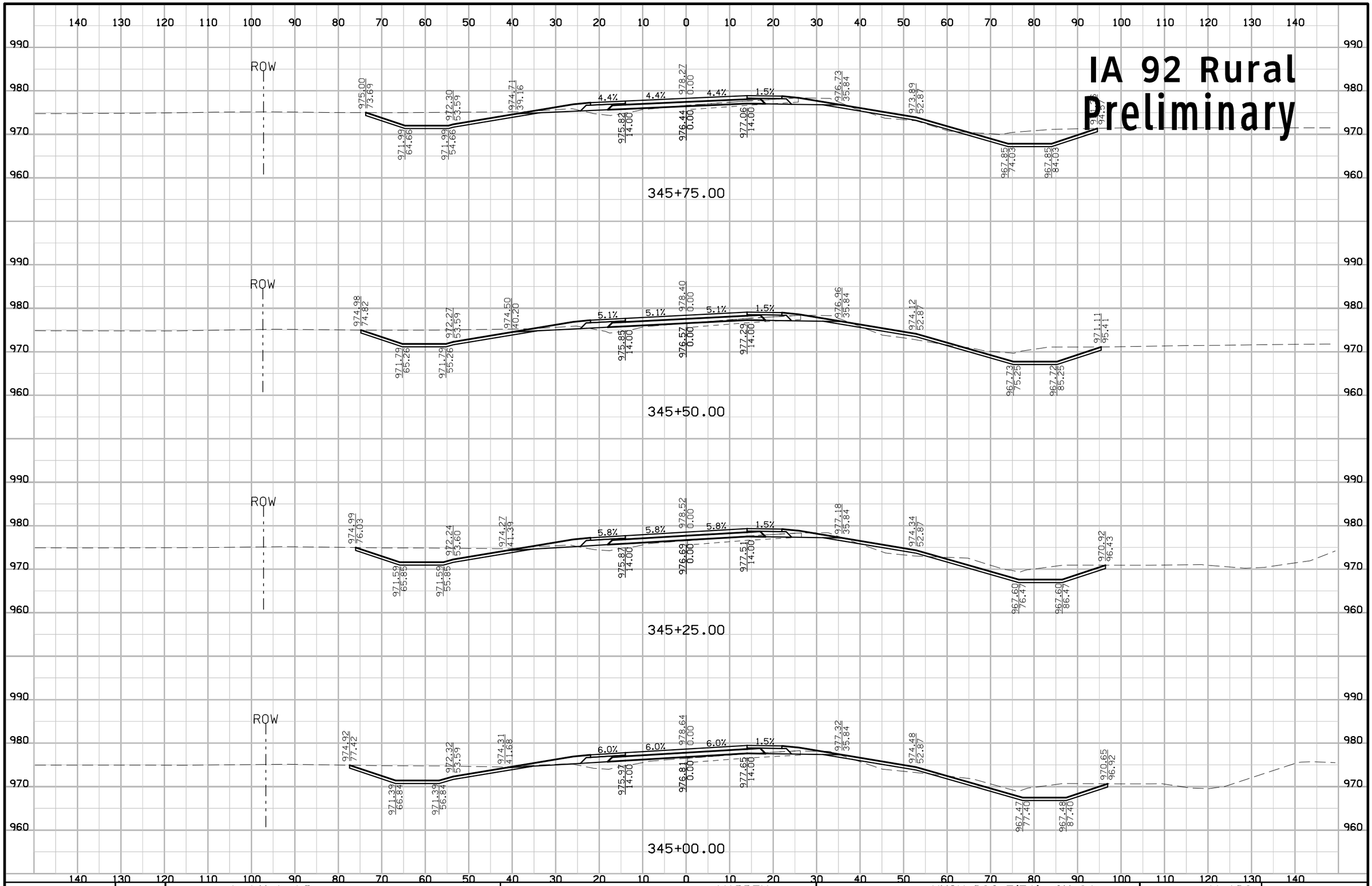
IA 92 Rural Preliminary



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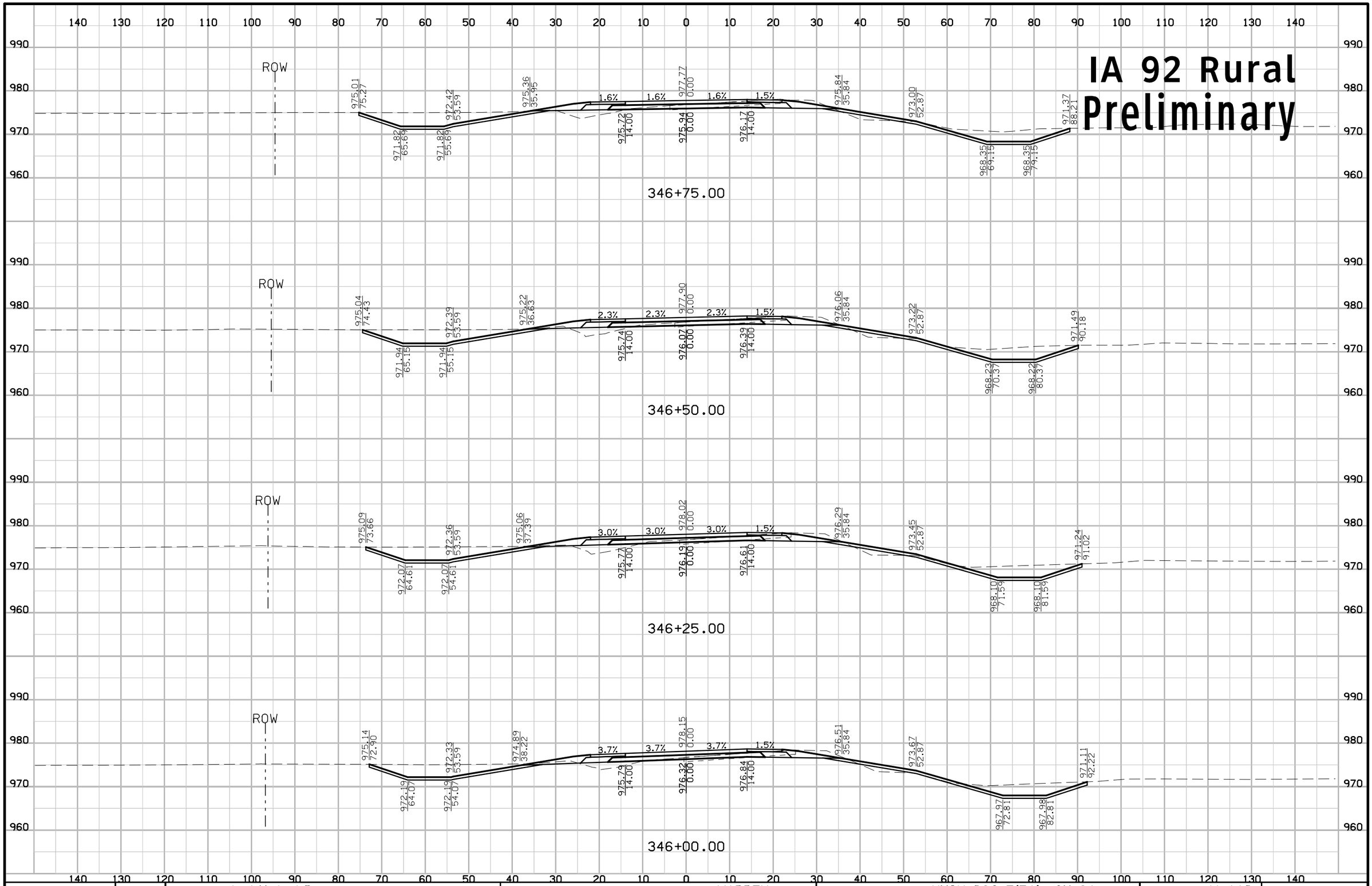
IA 92 Rural Preliminary



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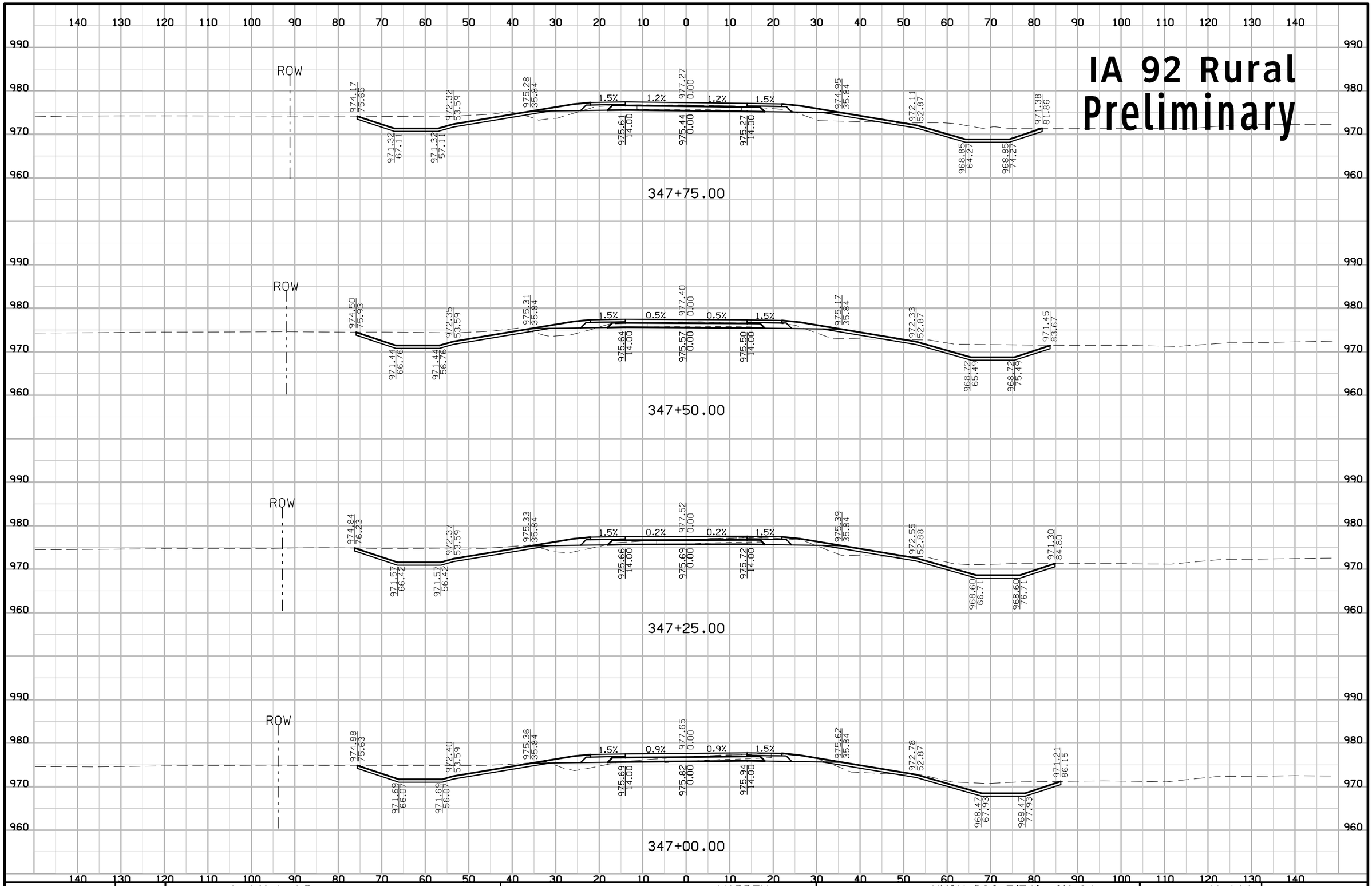
IA 92 Rural Preliminary



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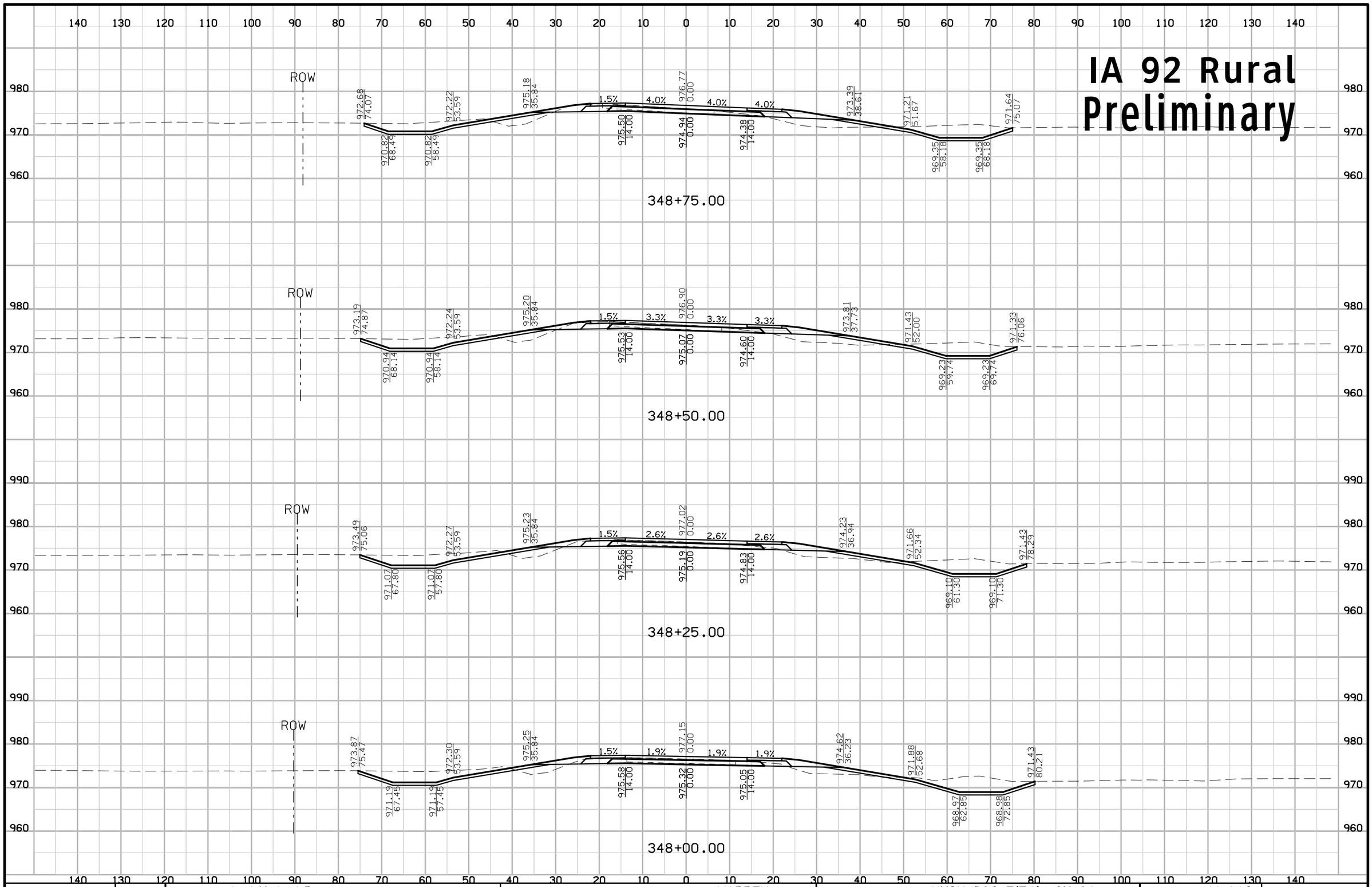
IA 92 Rural Preliminary



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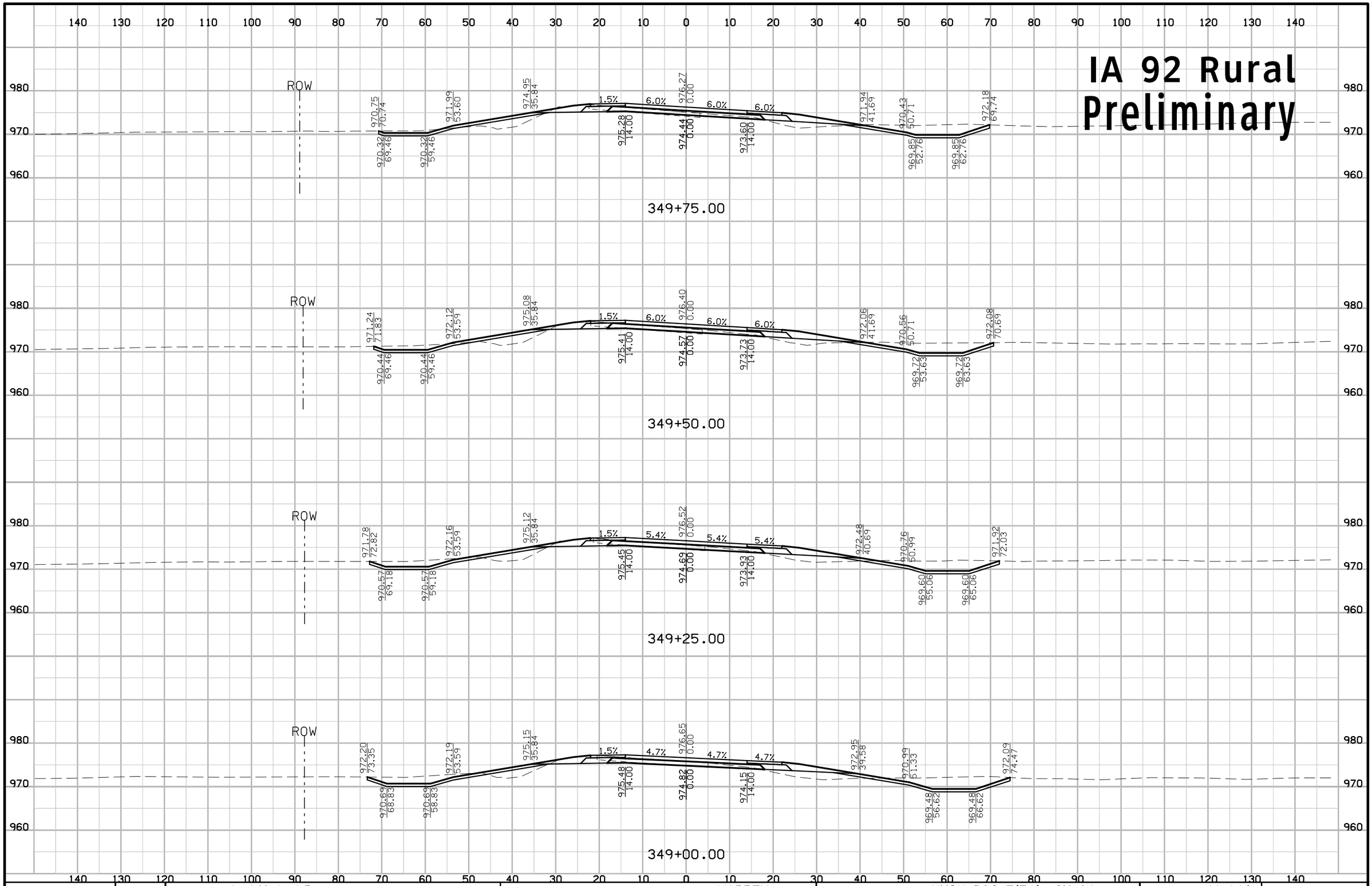
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.113

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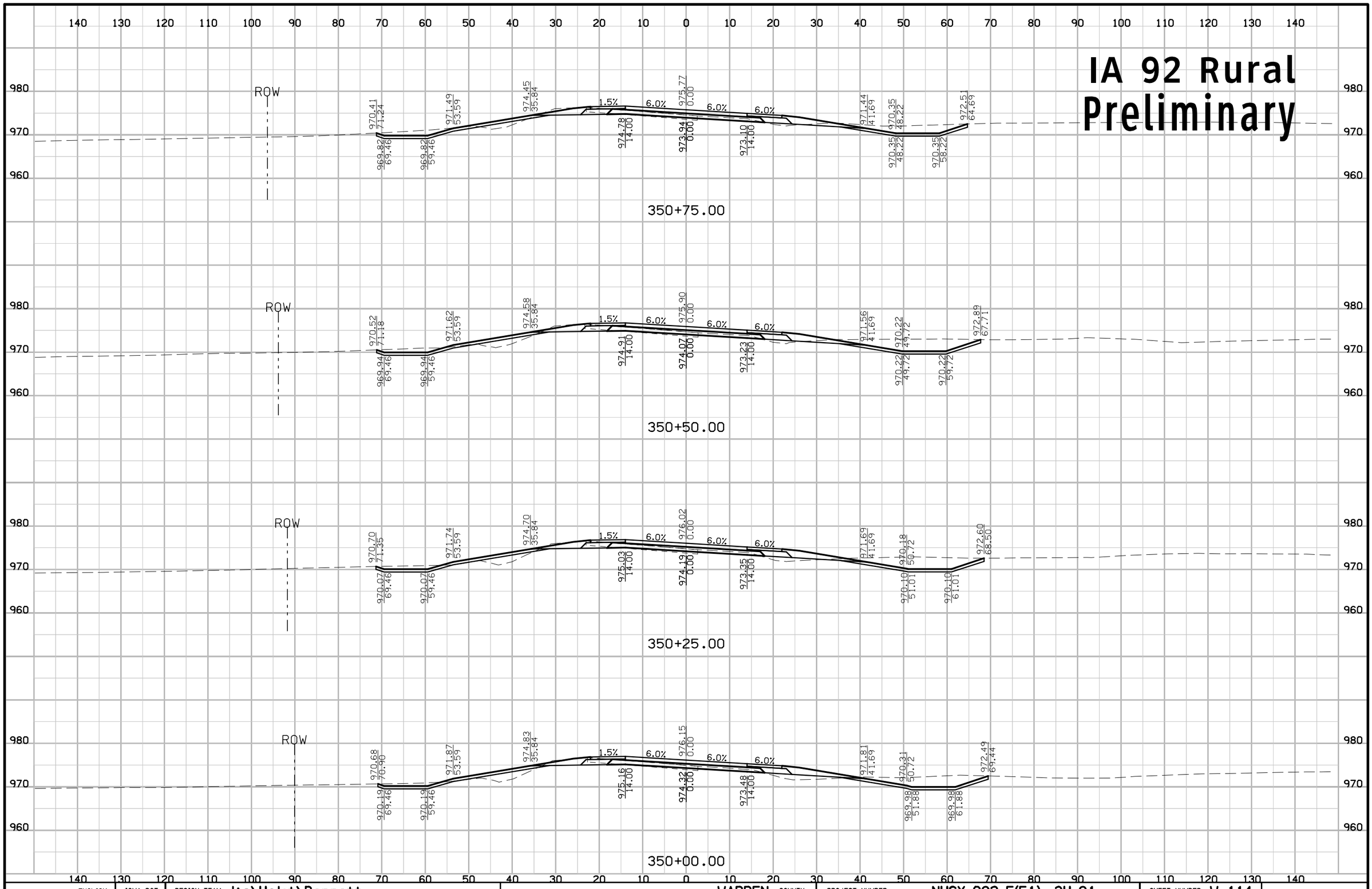
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.114

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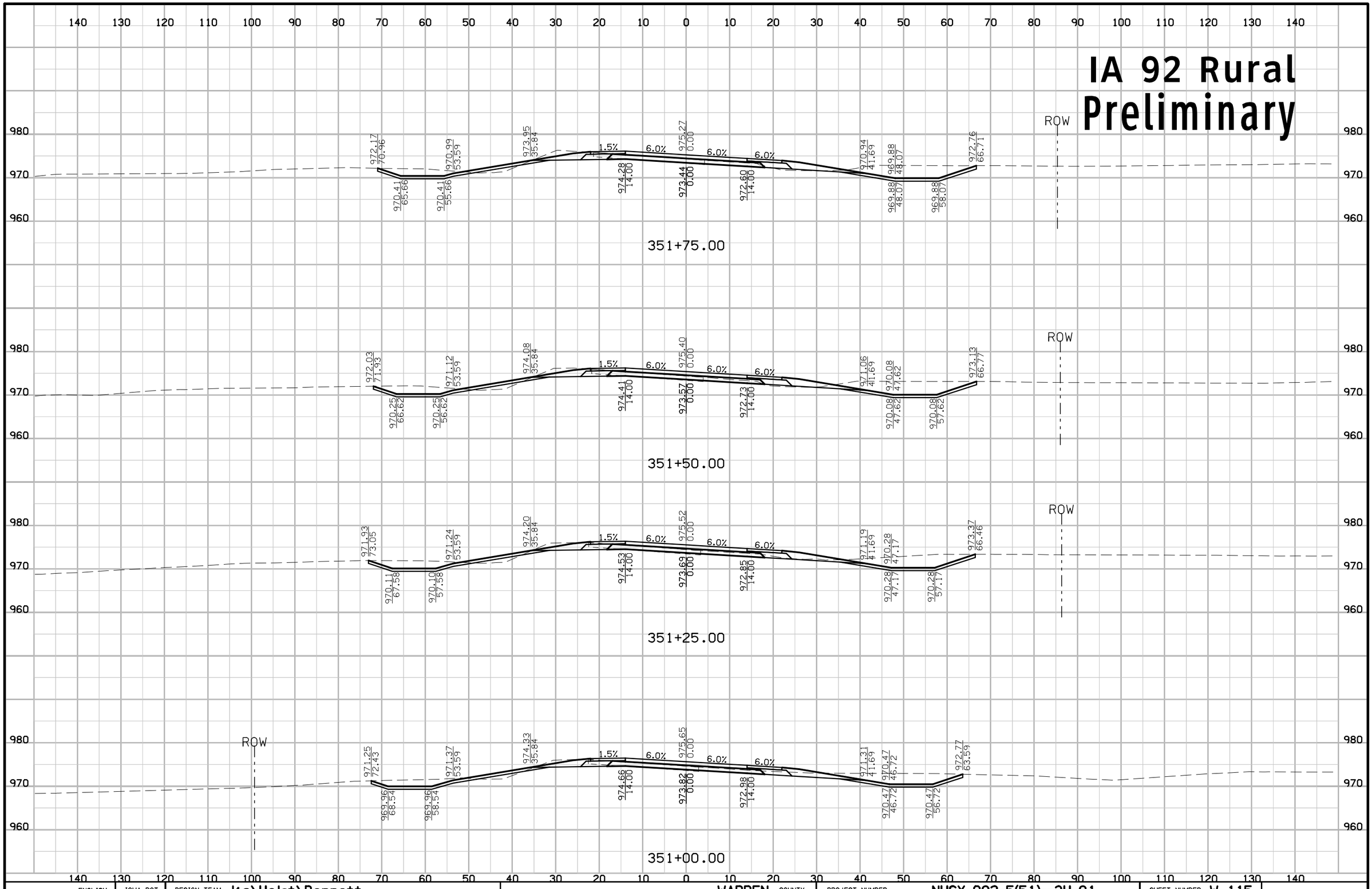
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.115

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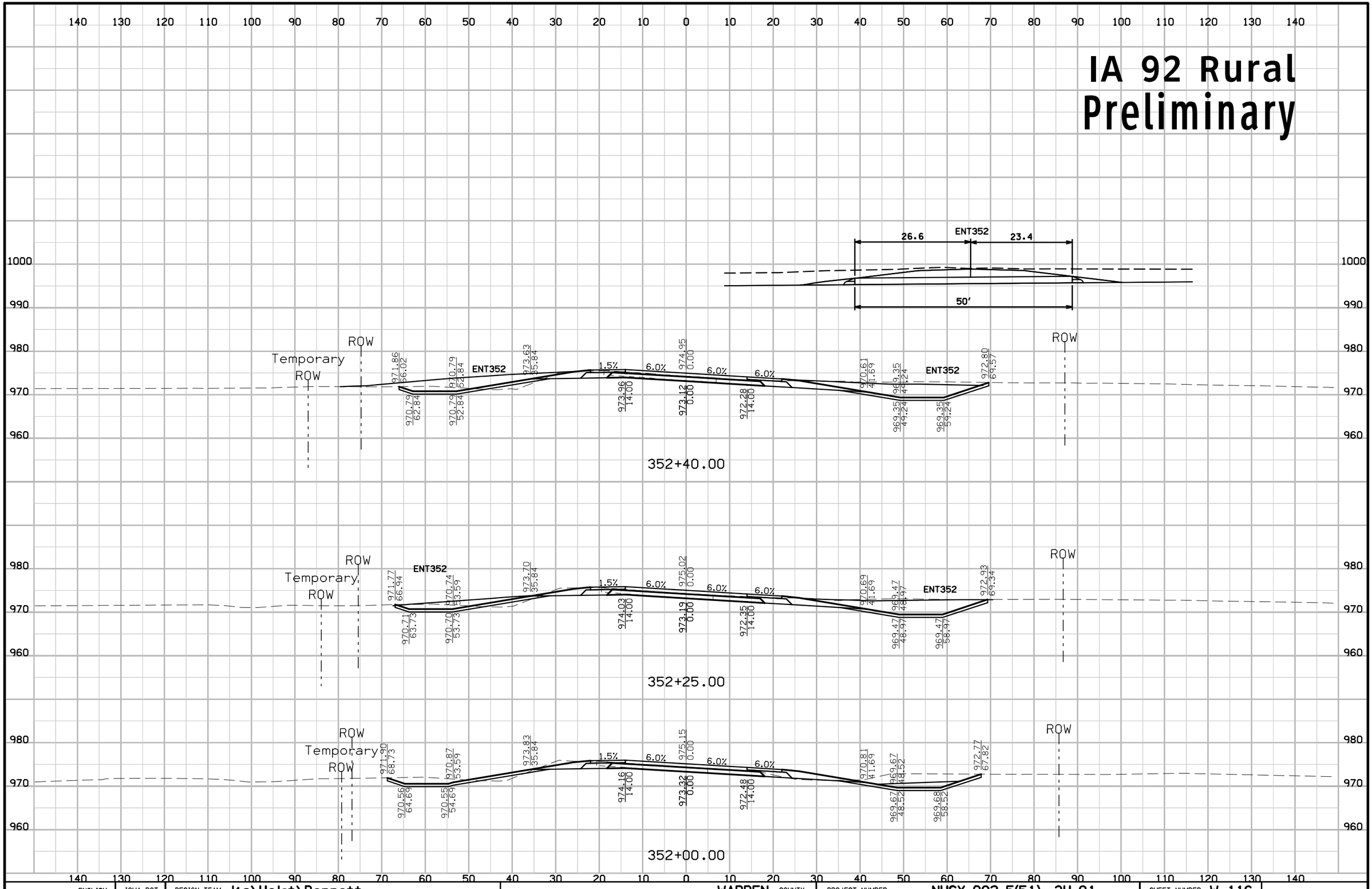
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.116

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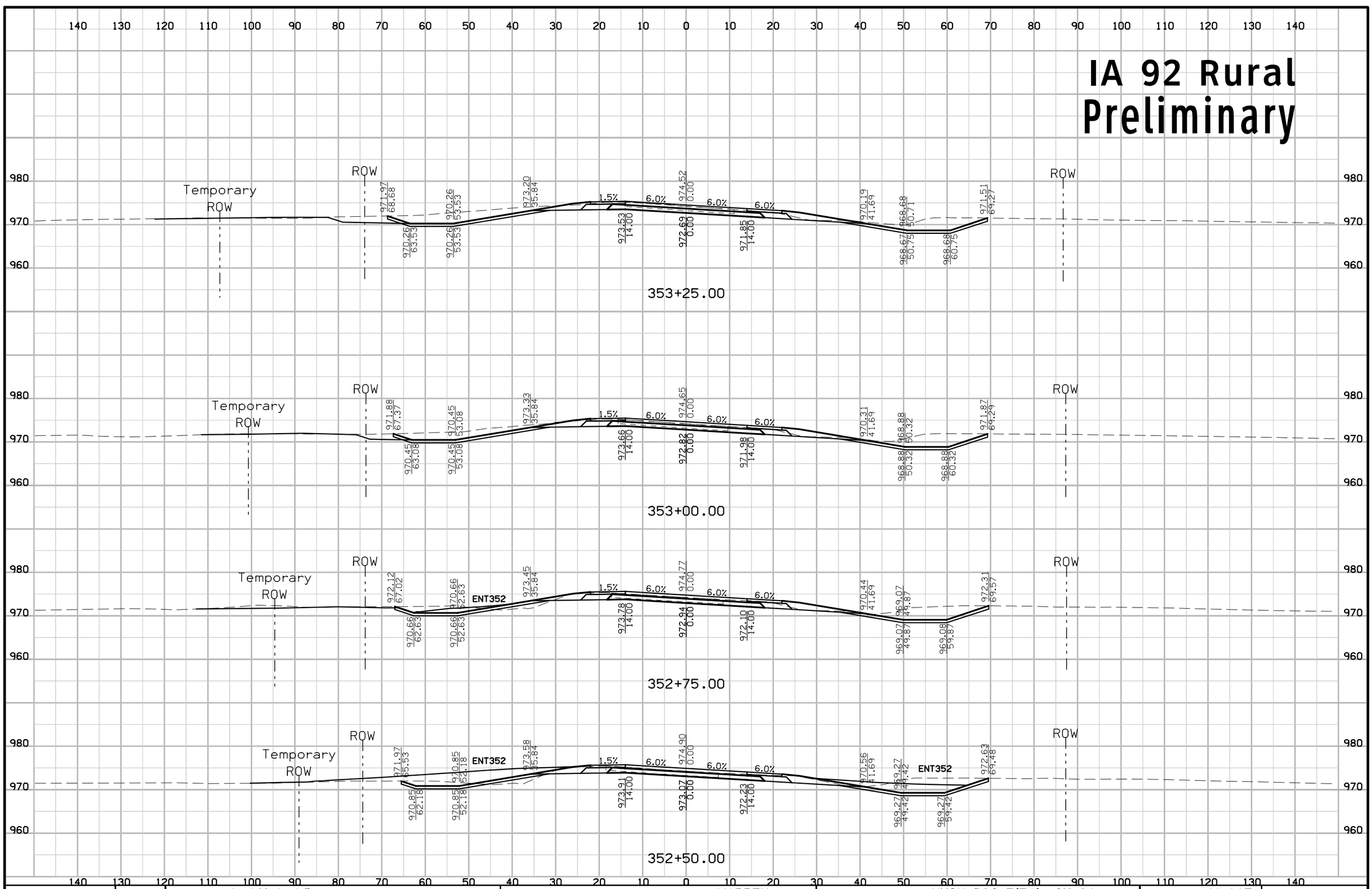
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.117

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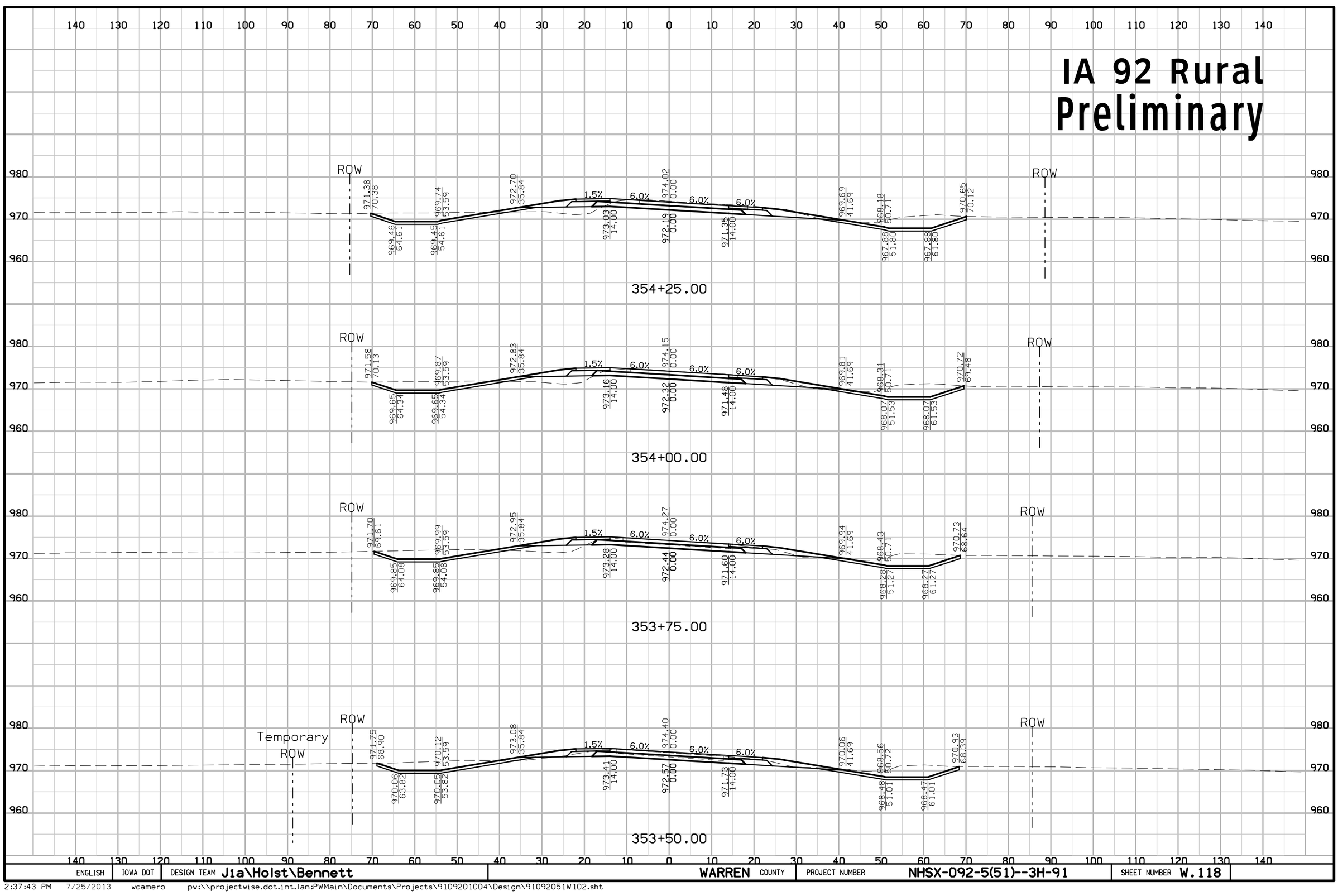
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.118

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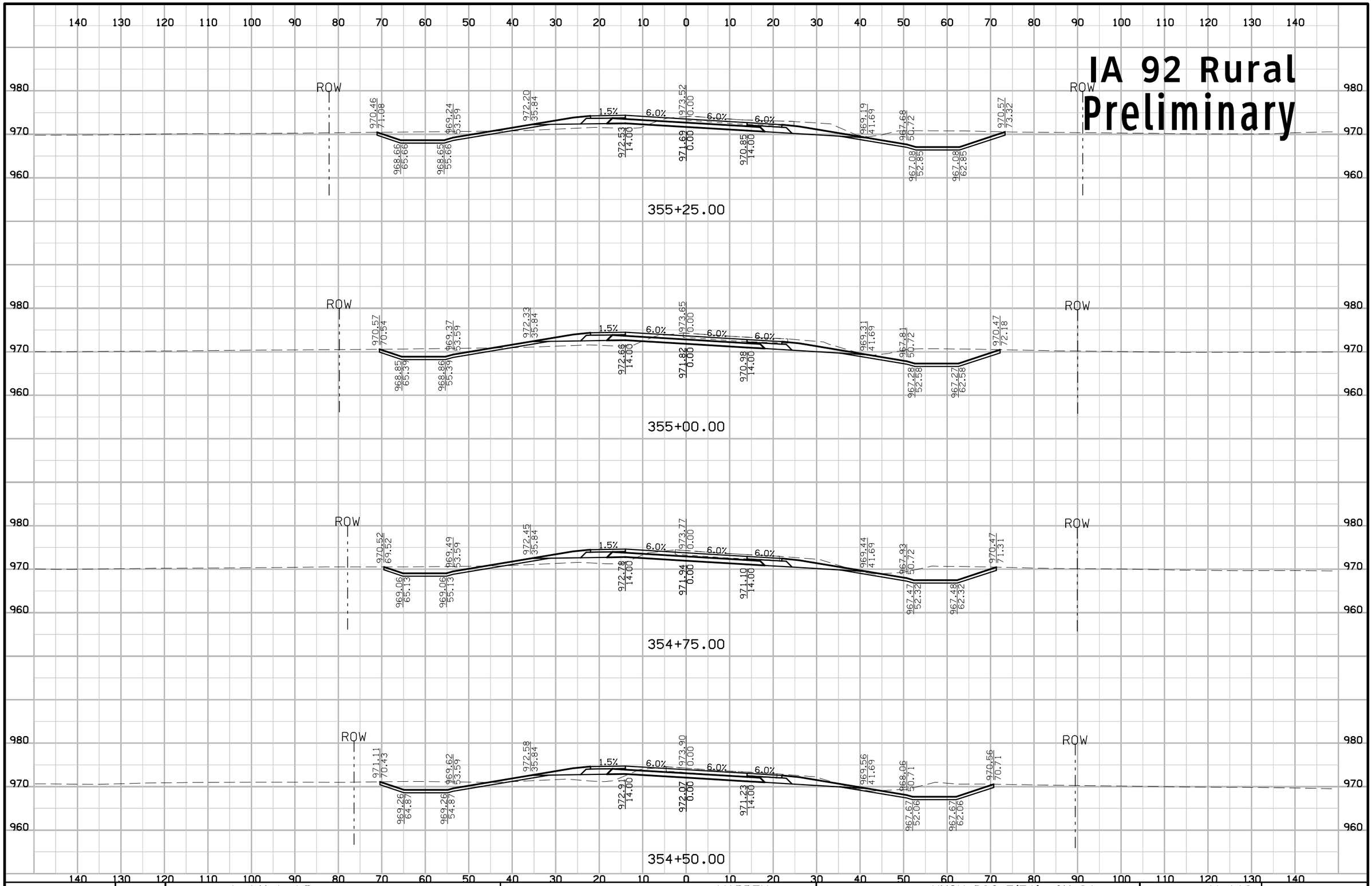
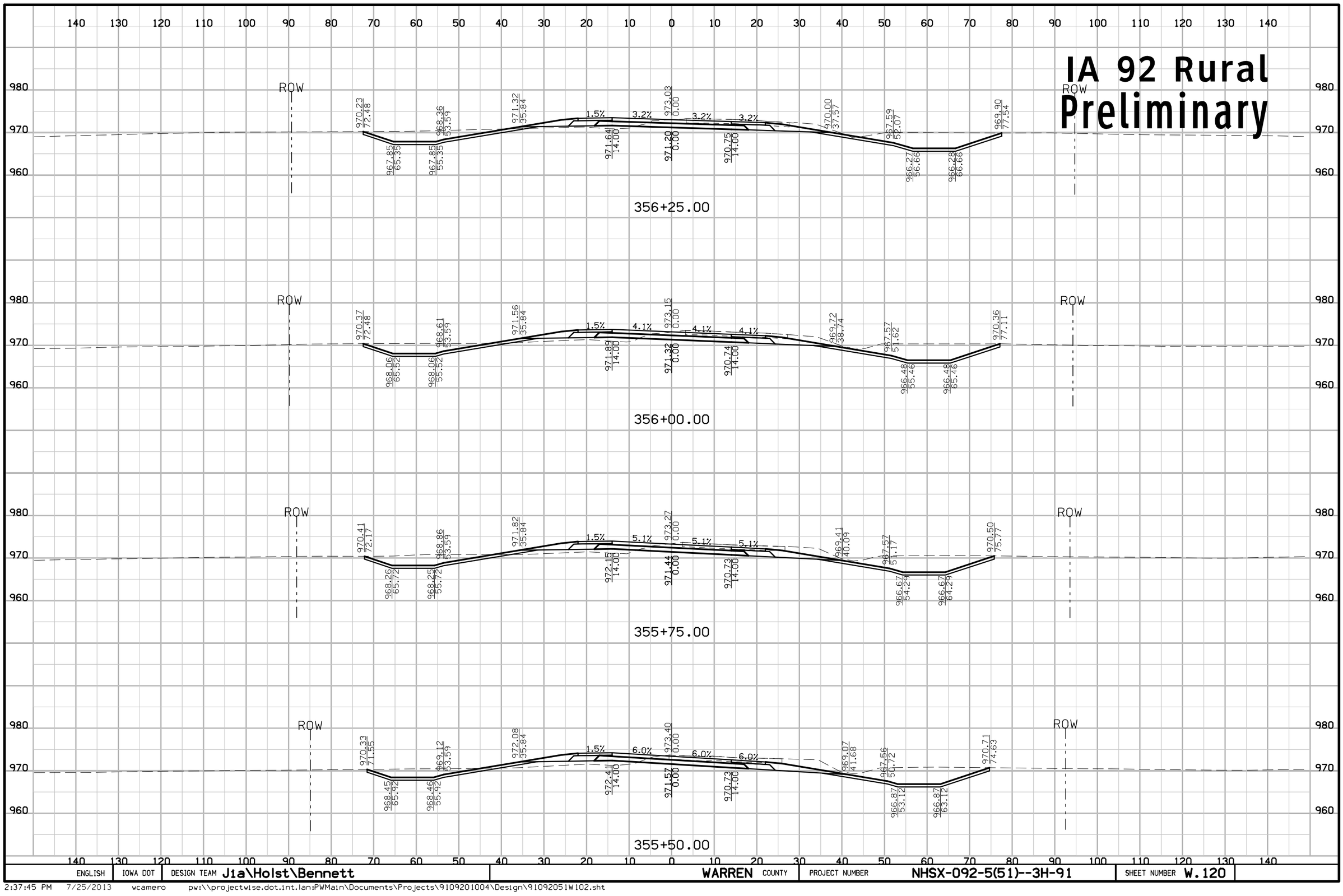
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.119

IA 92 Rural
Preliminary



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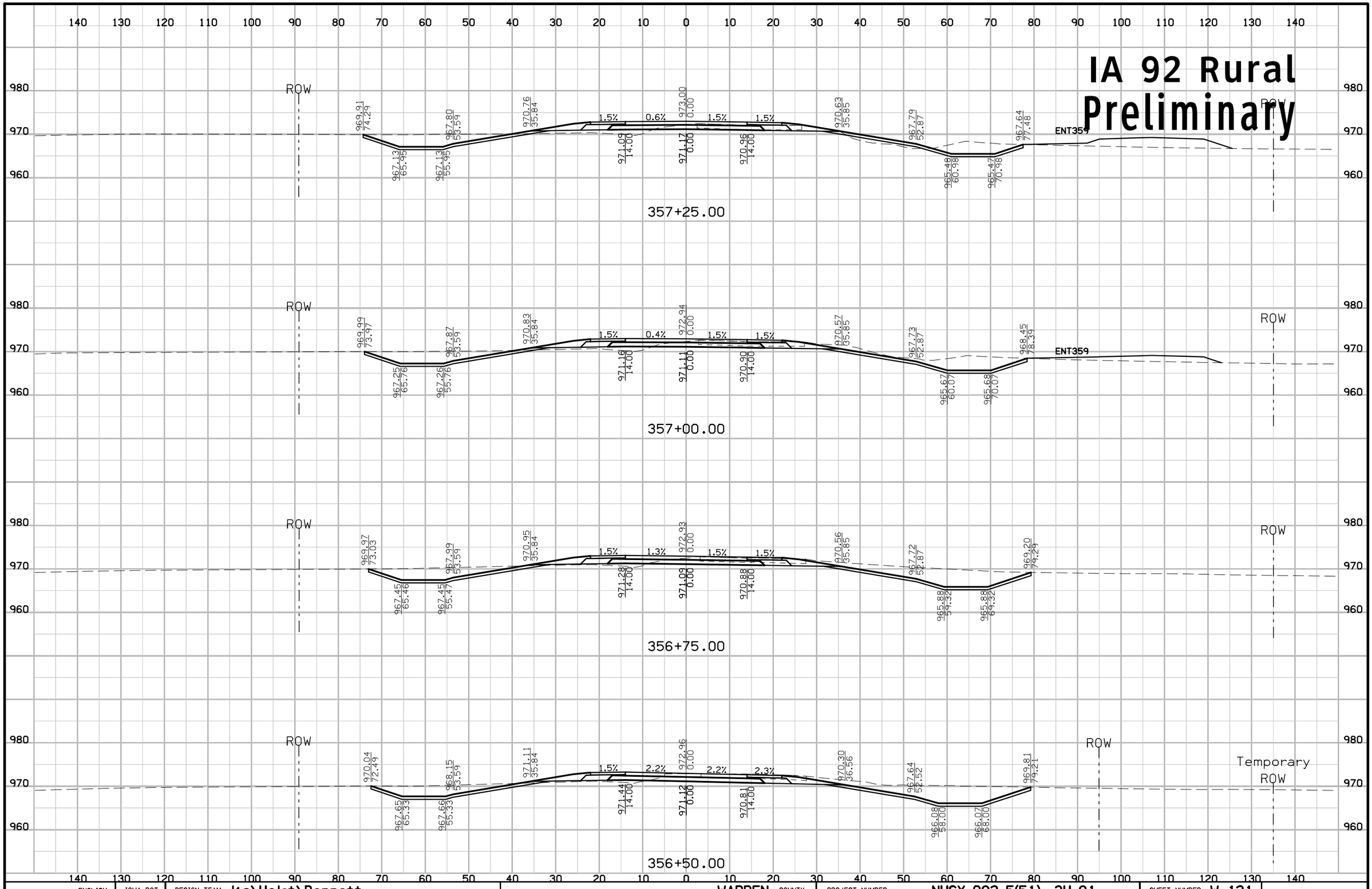
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.121

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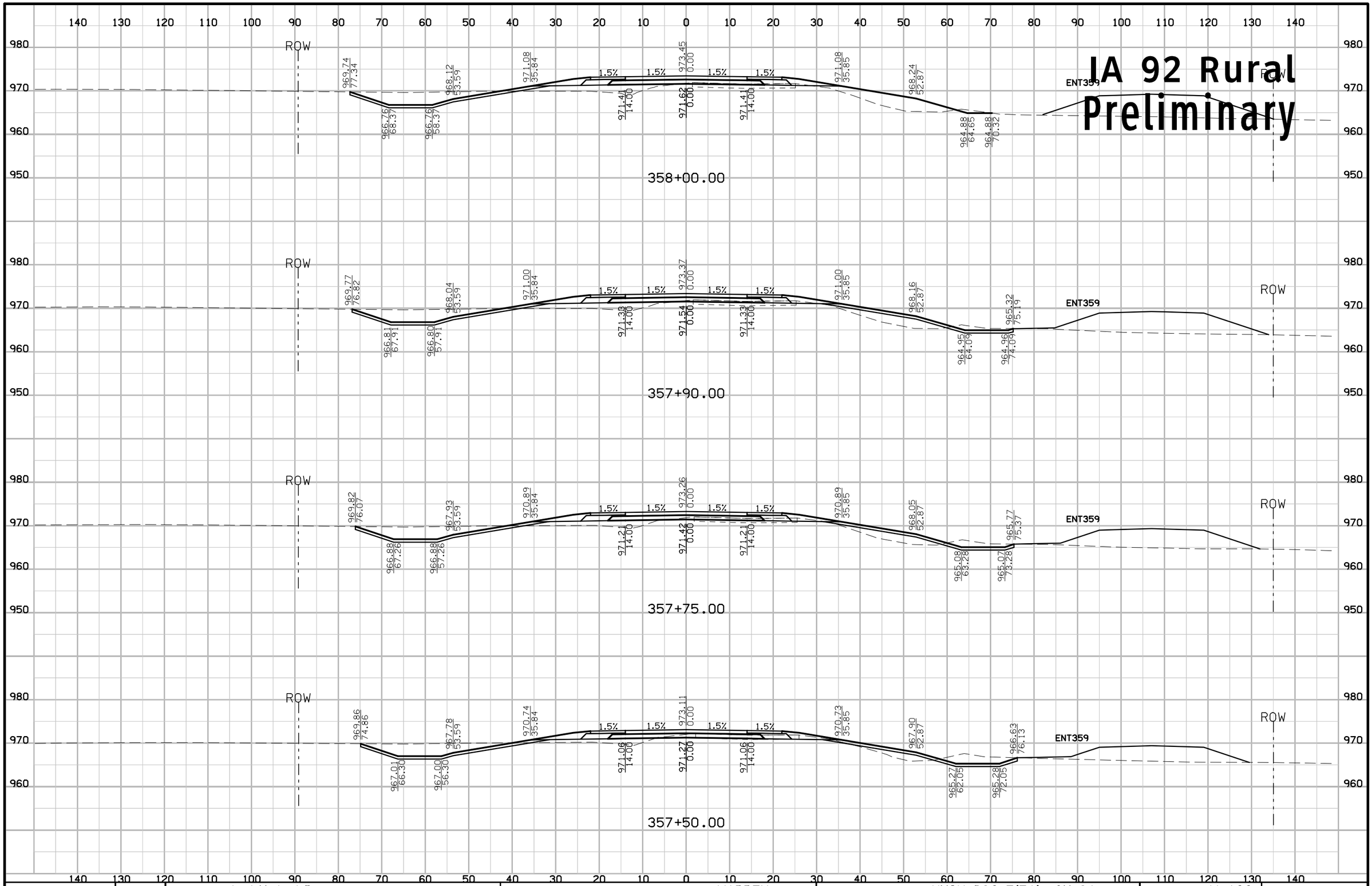
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.122

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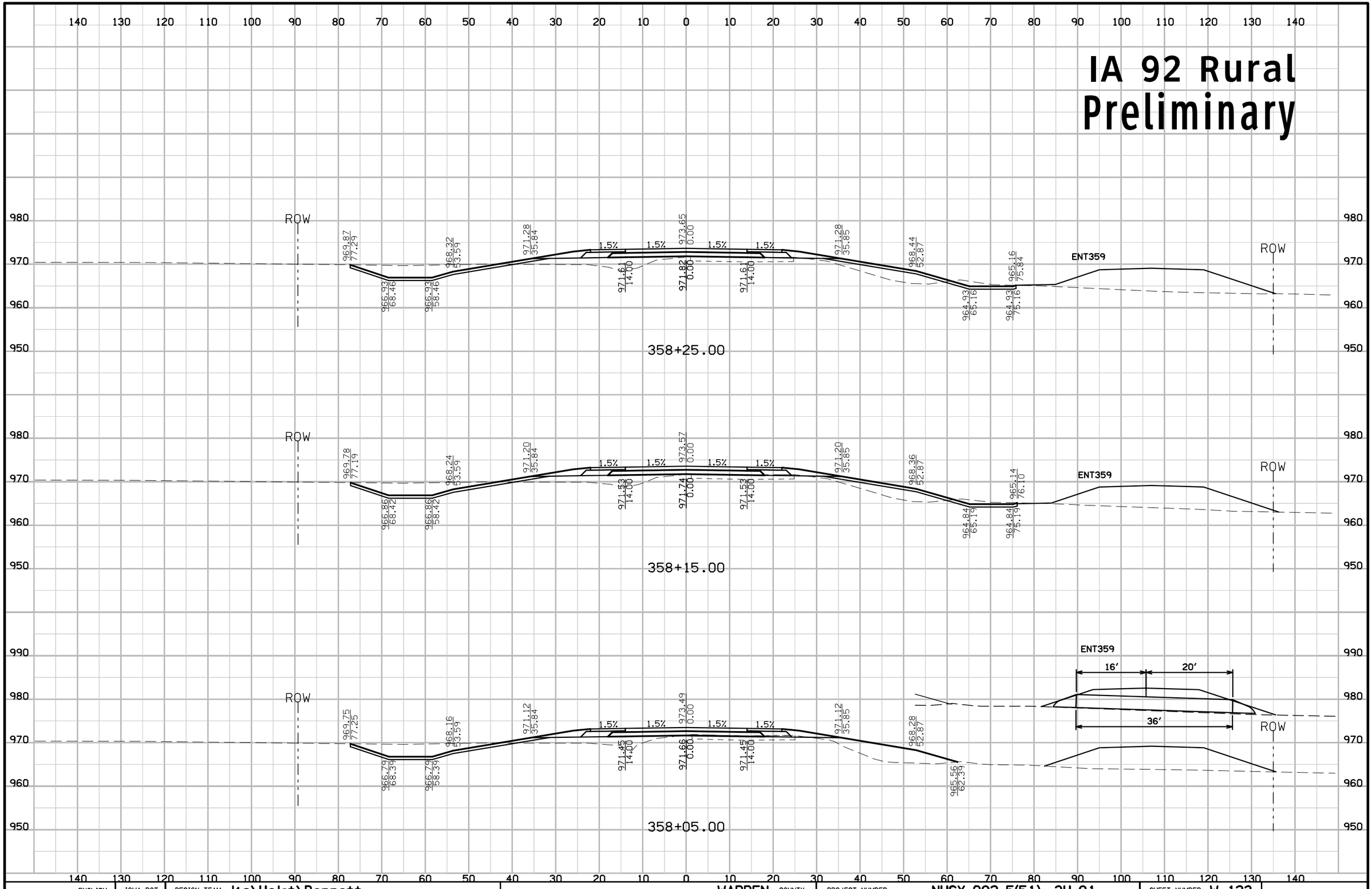
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.123

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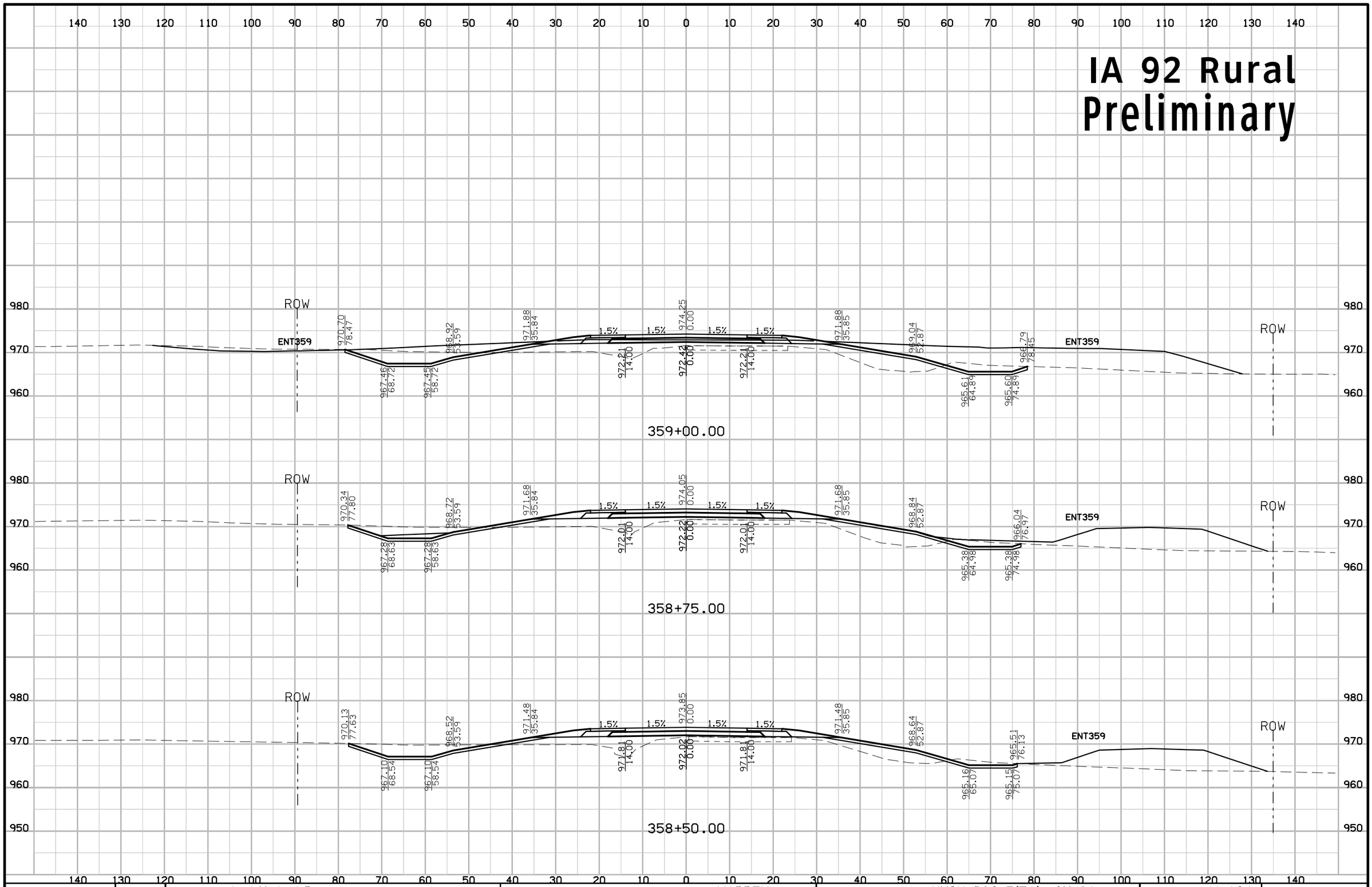
IA 92 Rural
Preliminary



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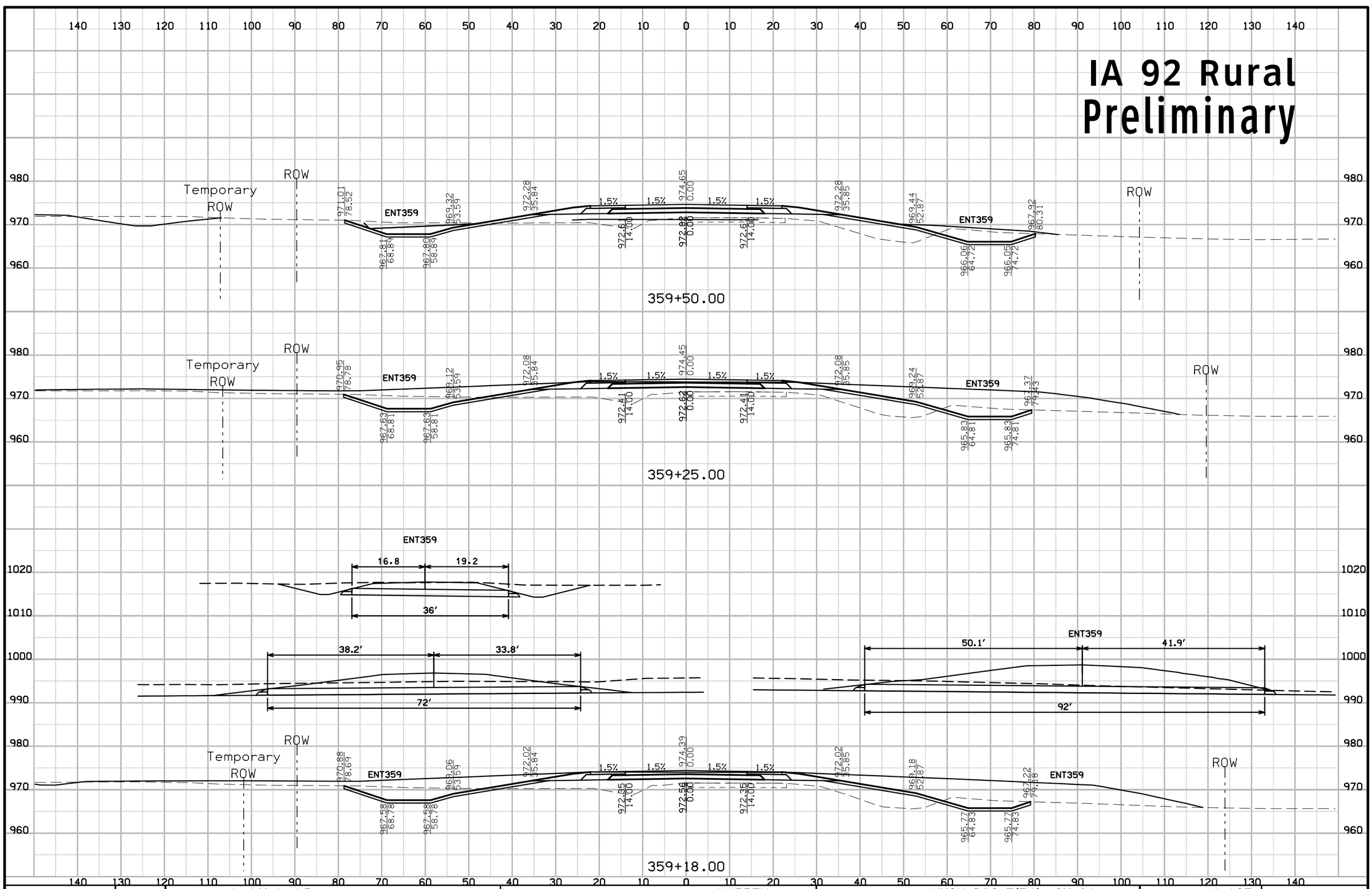
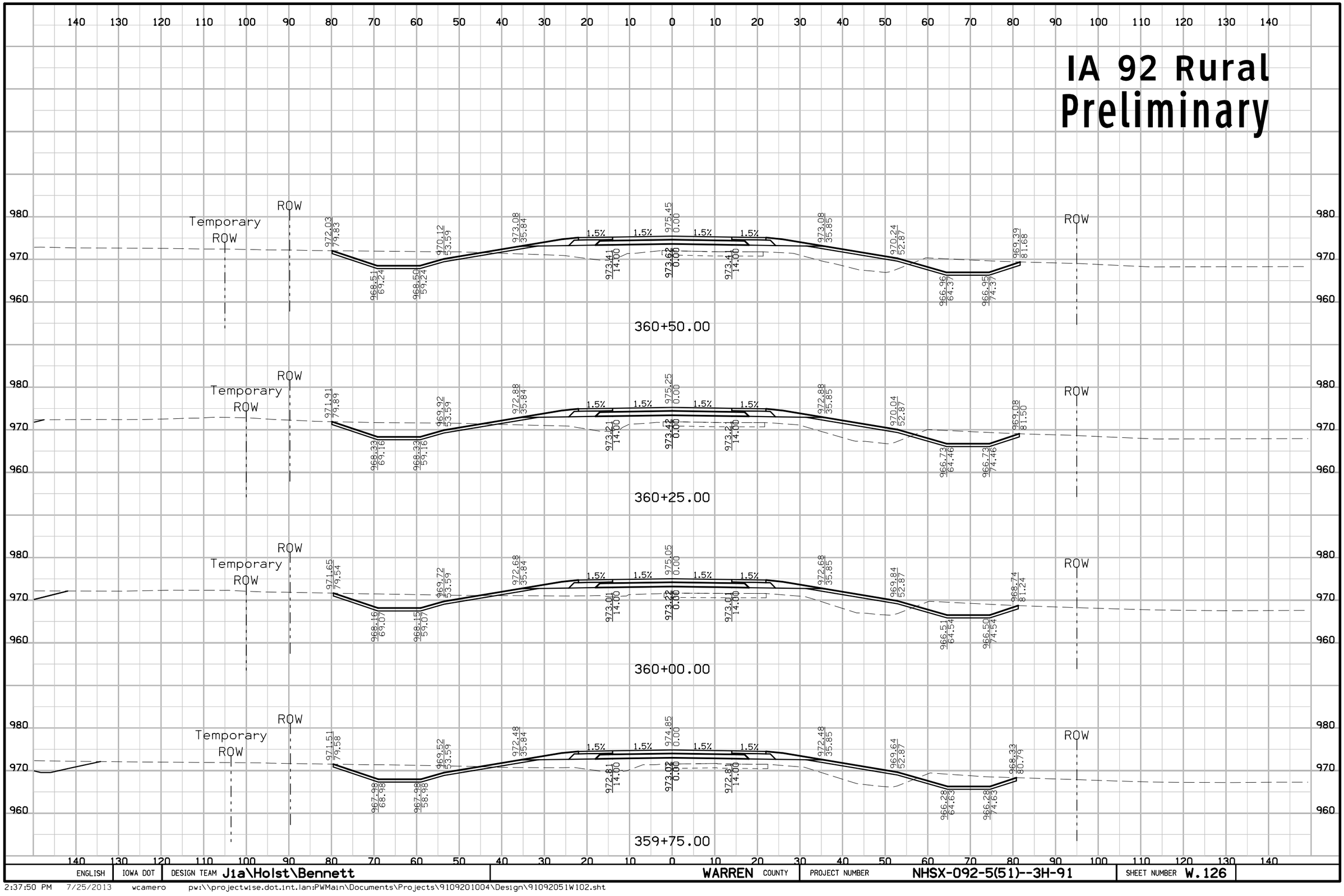
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.125

IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.126

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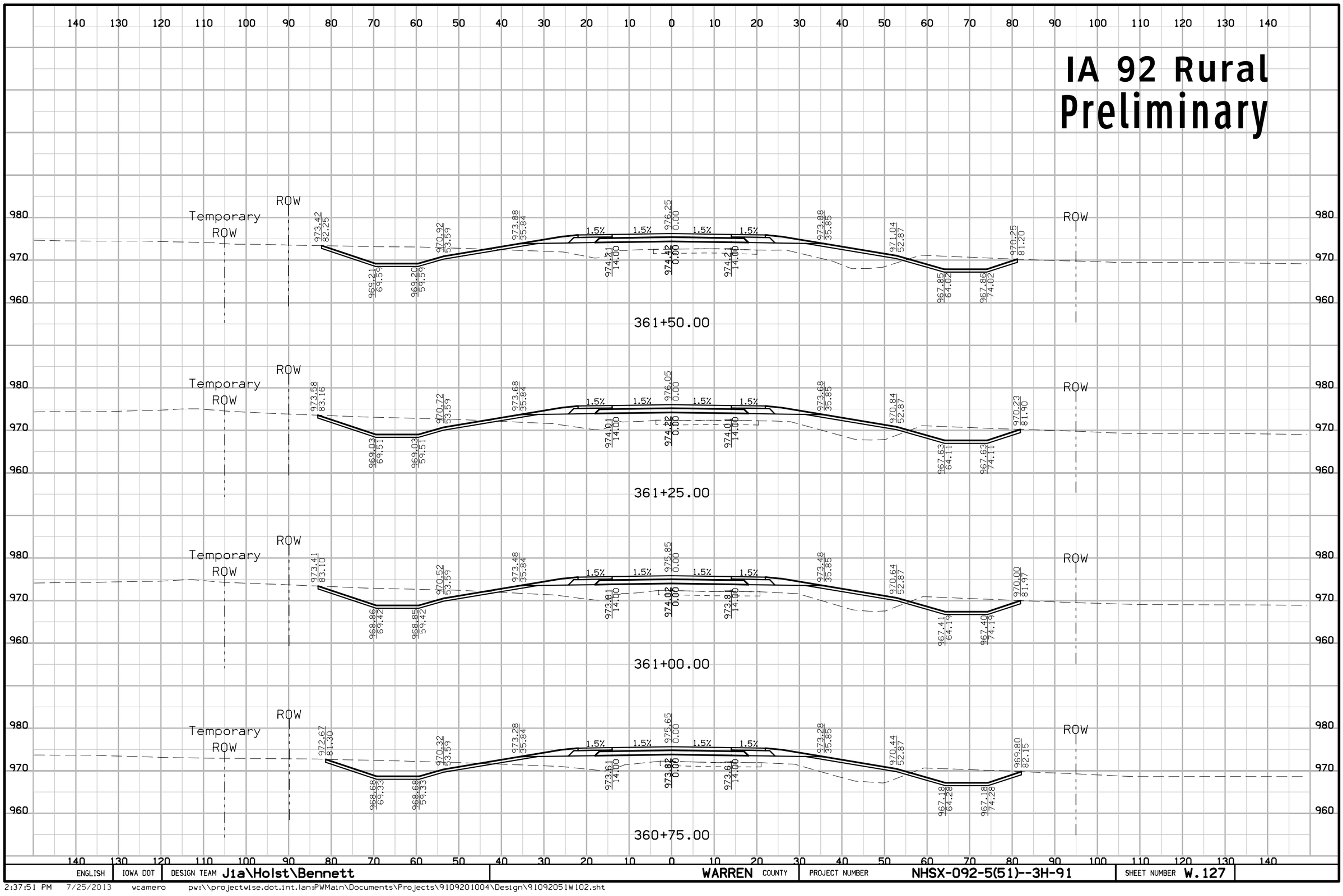
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.127

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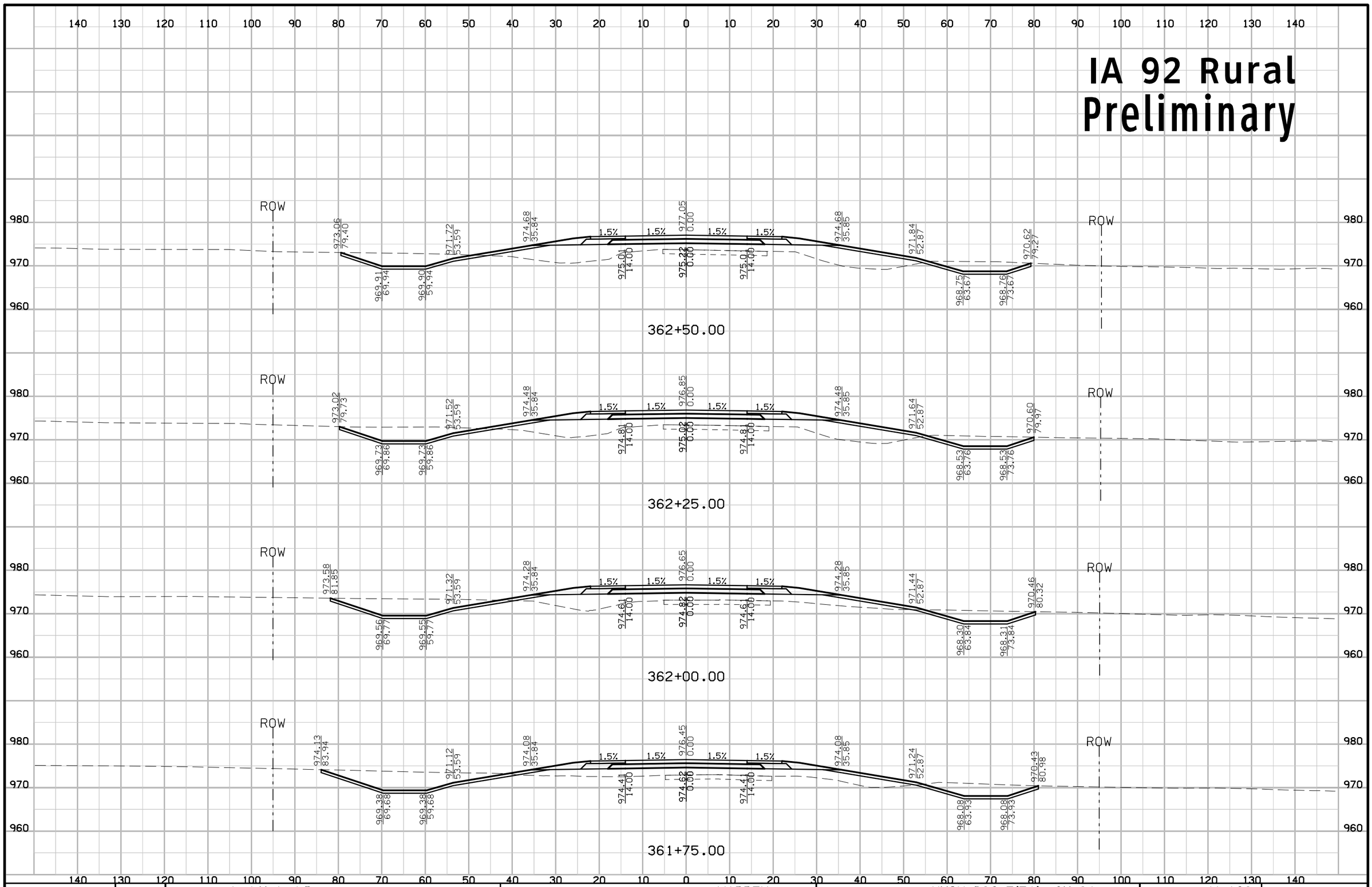
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.128

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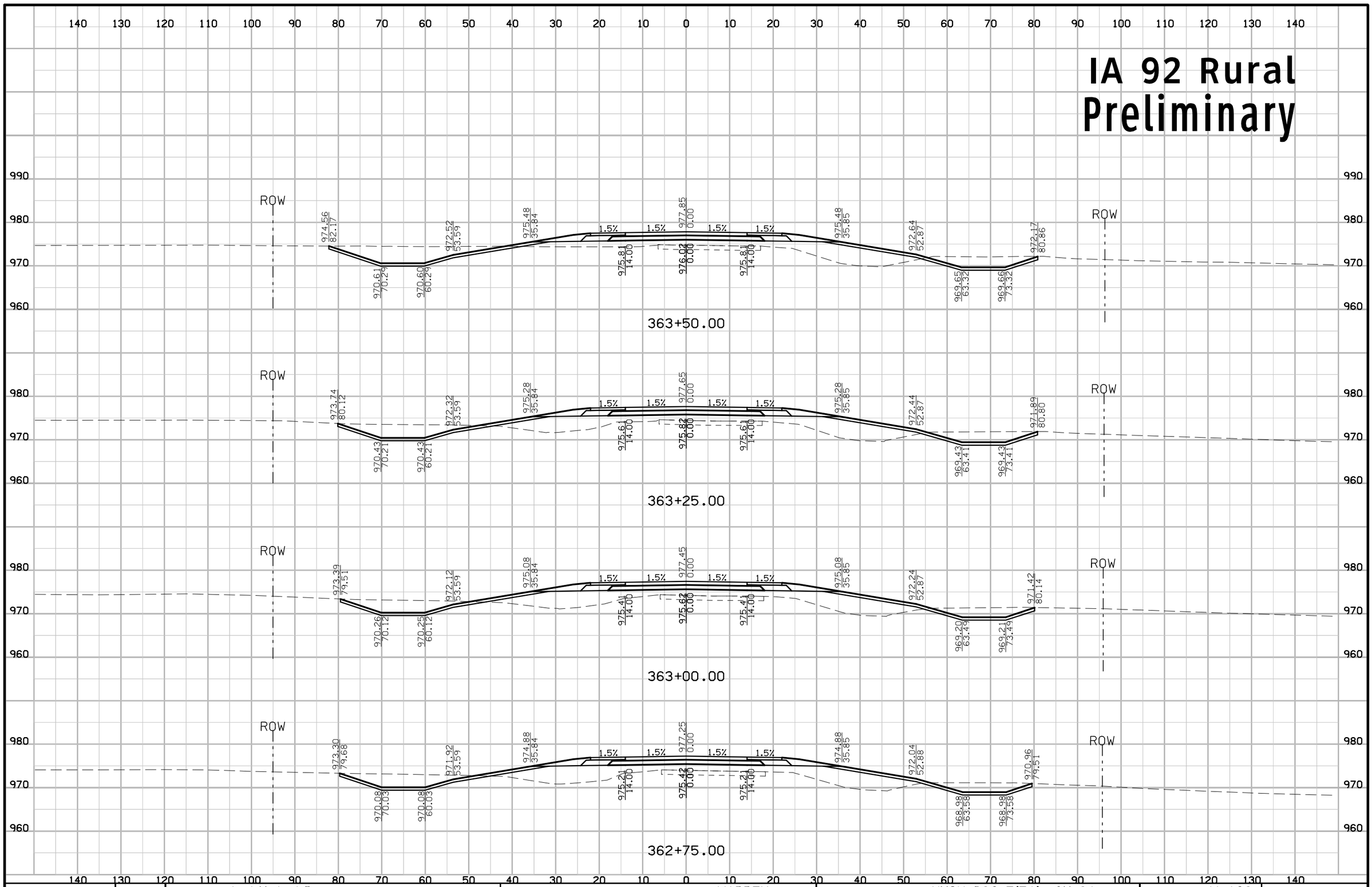
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.129

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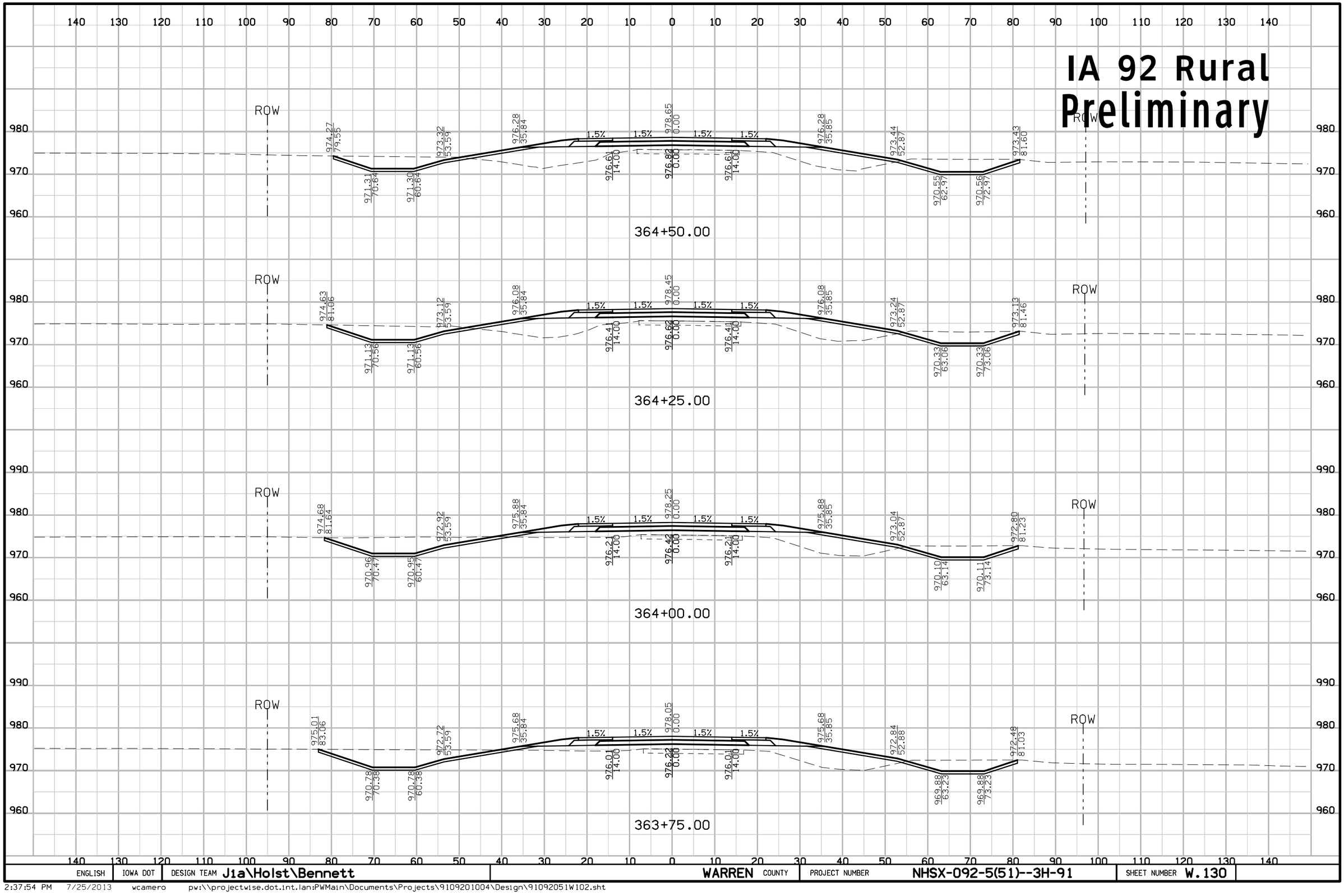
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.130

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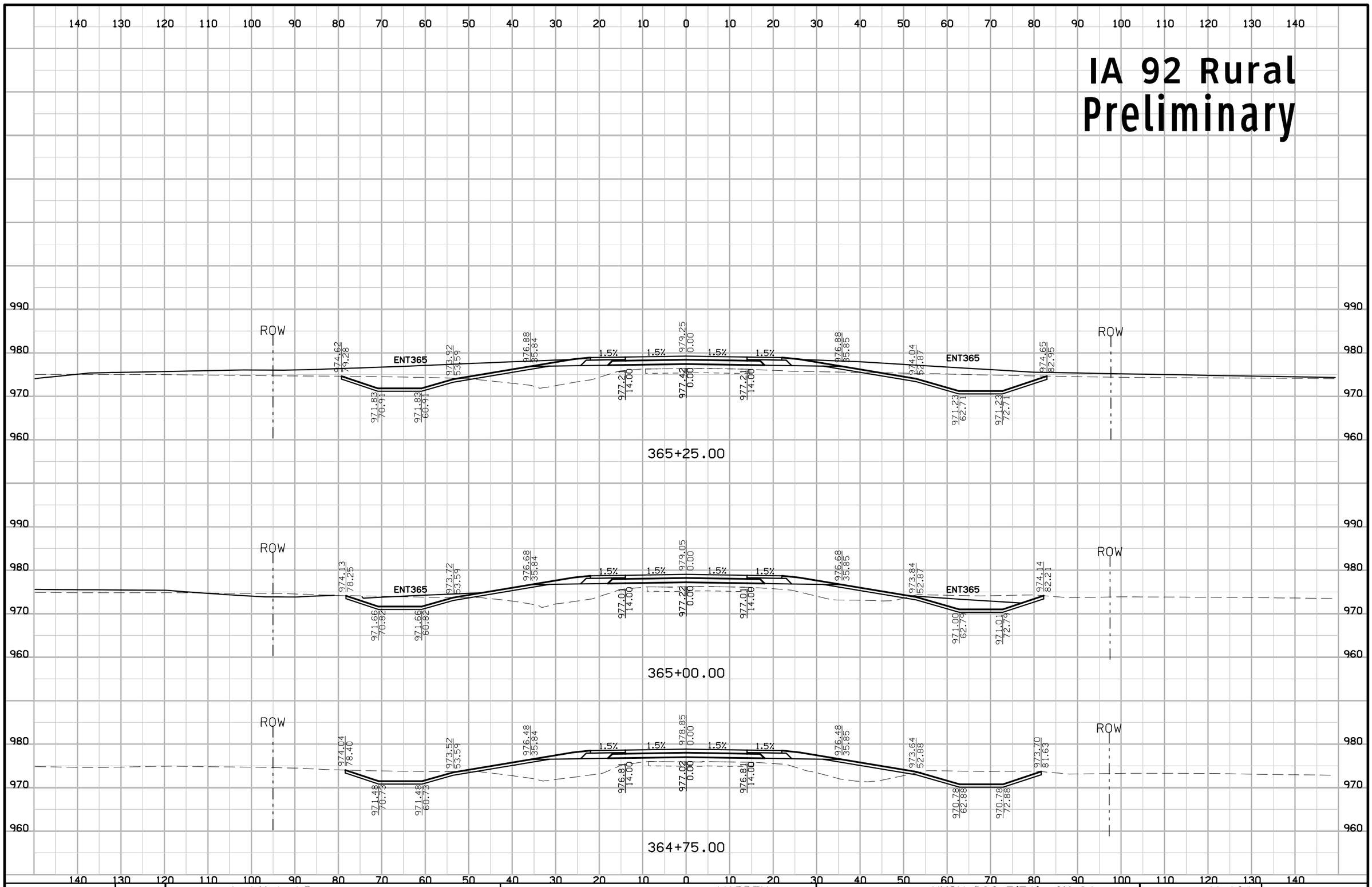
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.131

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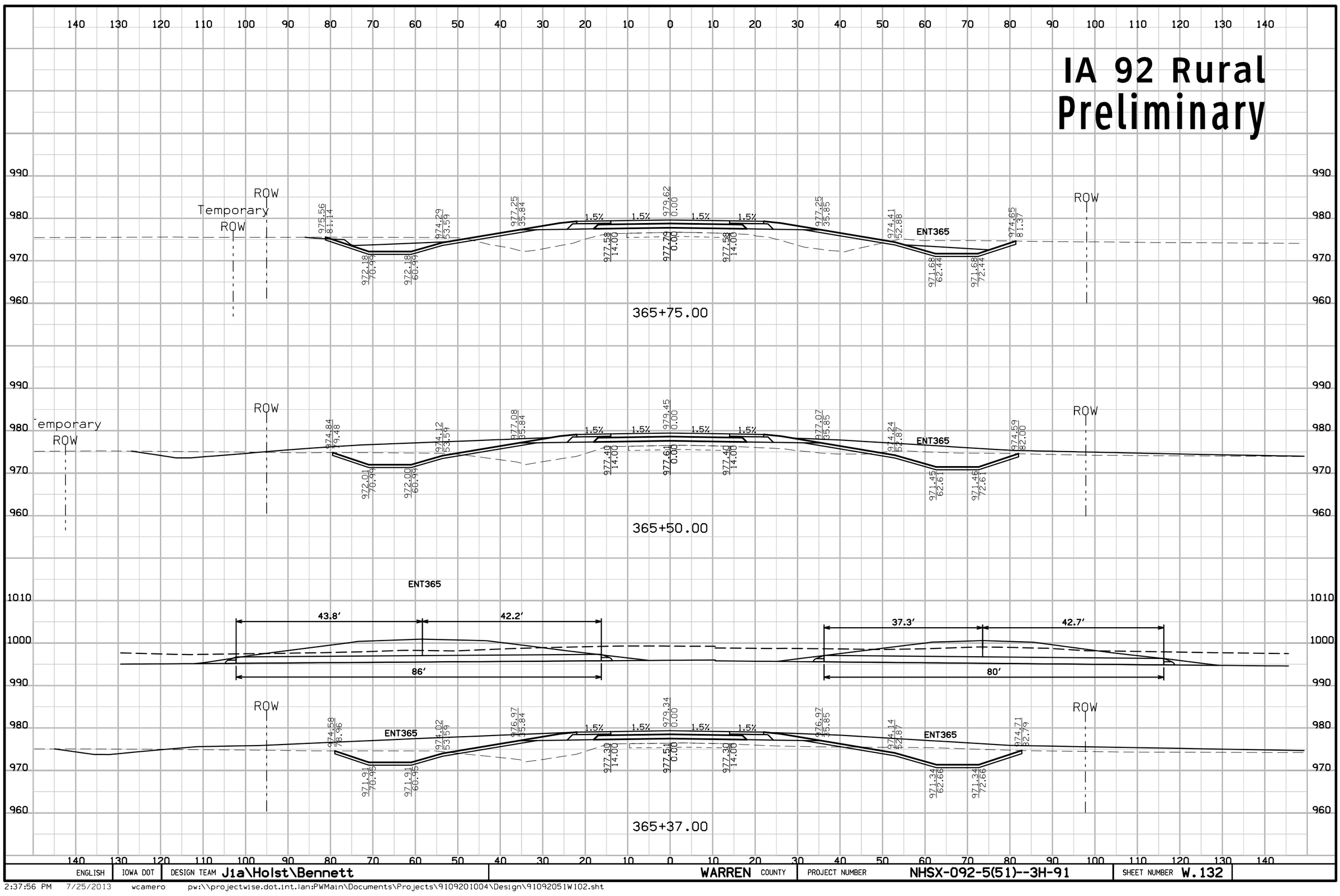
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.132

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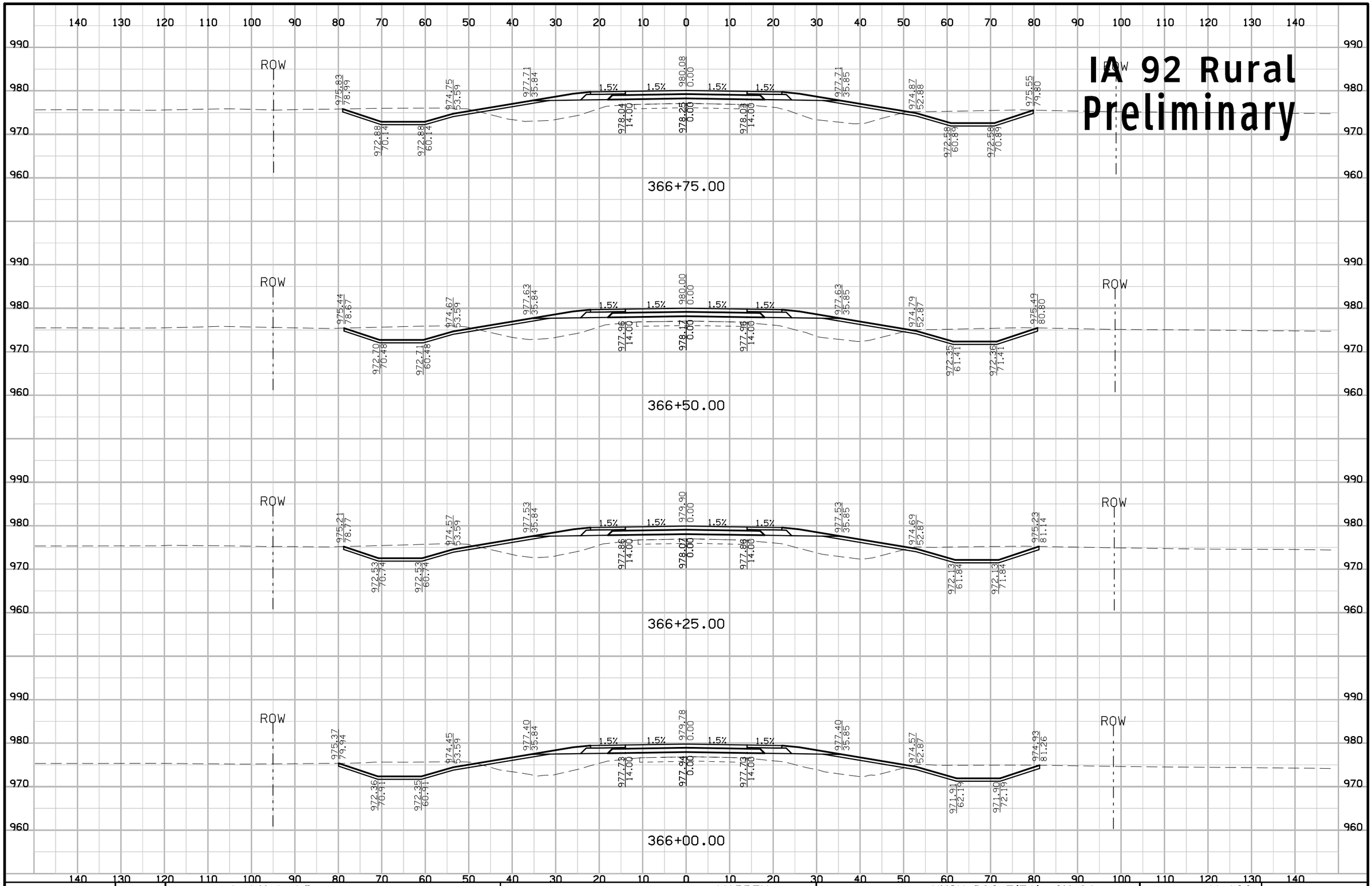
IA 92 Rural Preliminary



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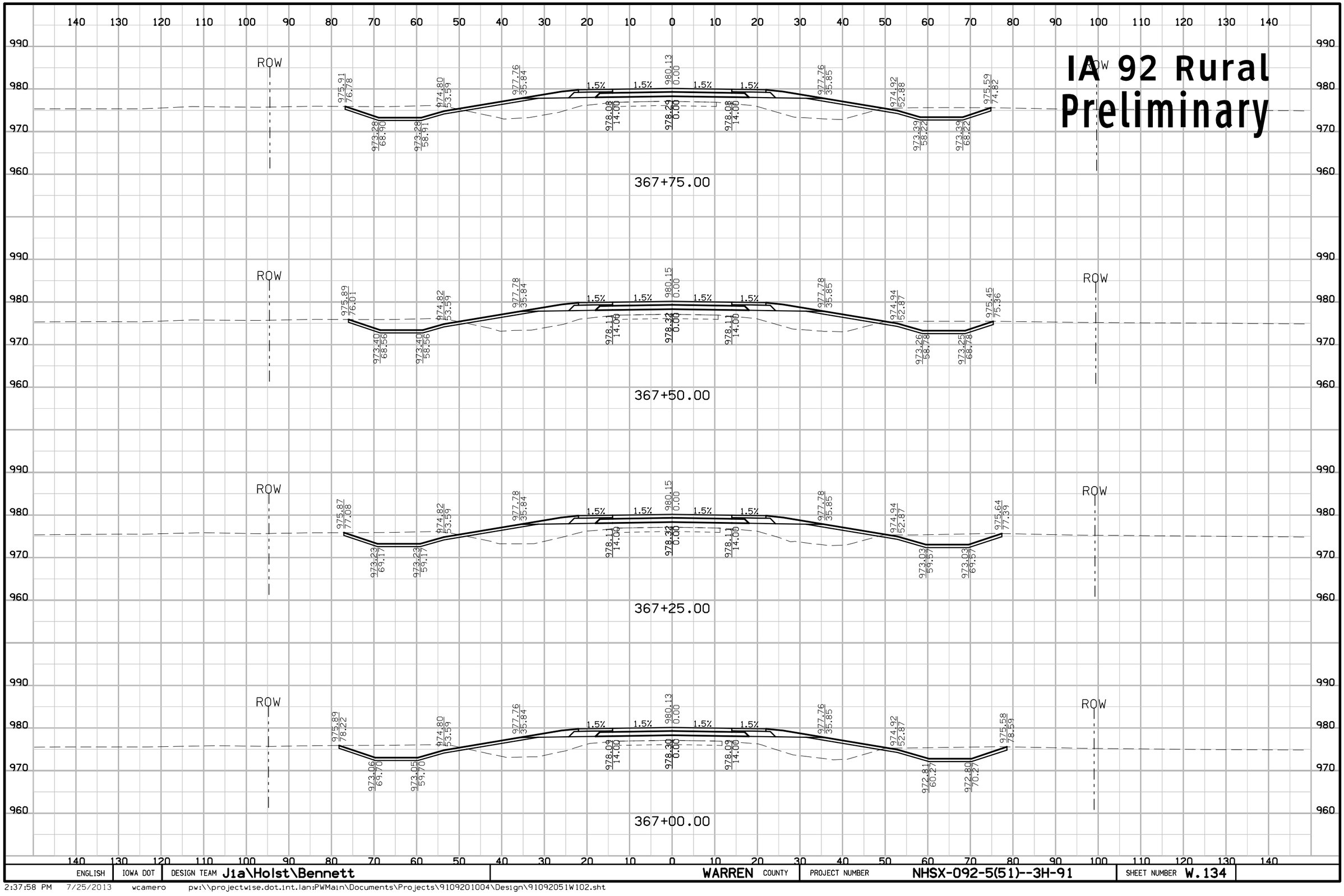
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.134

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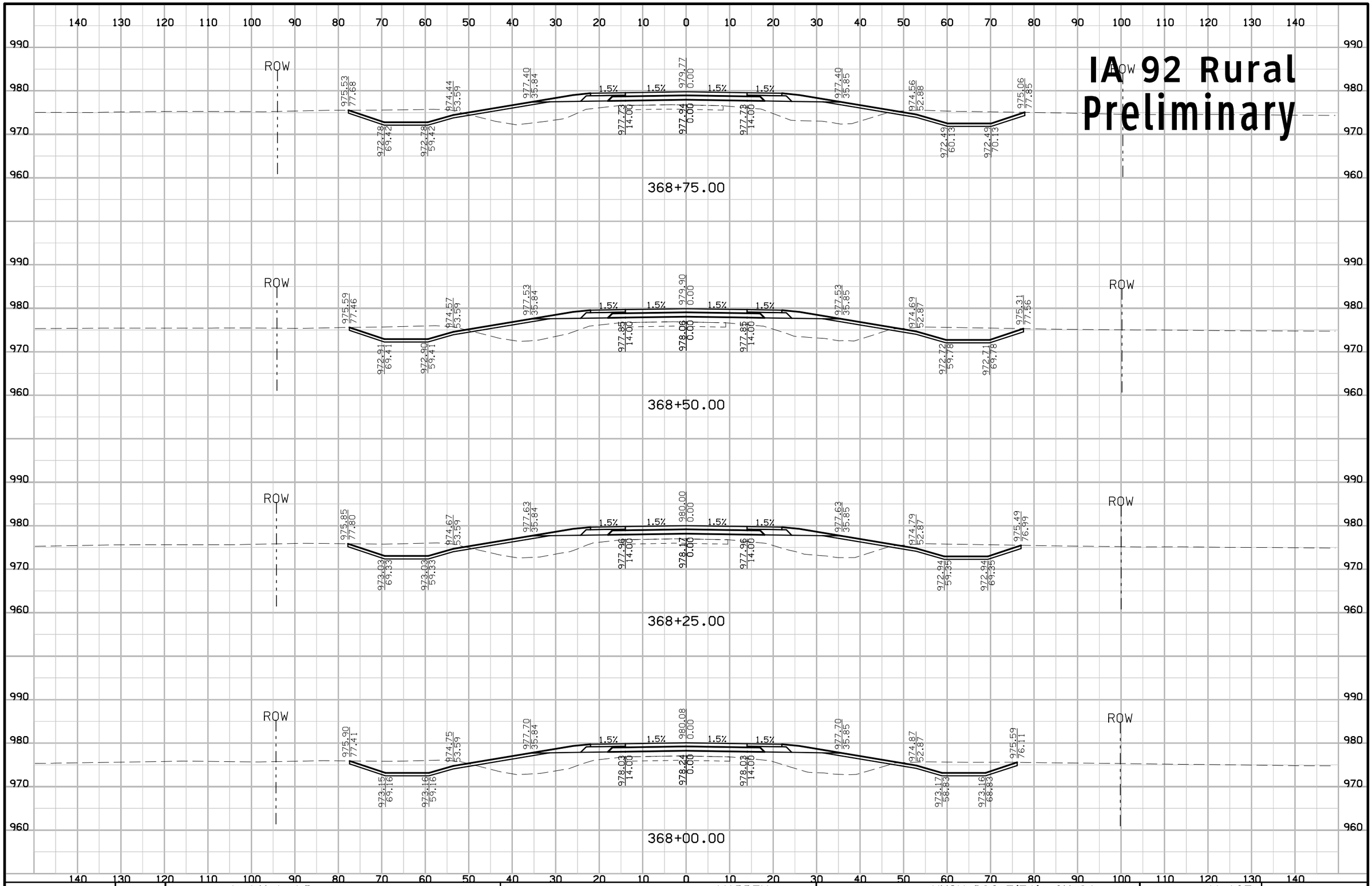
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.135

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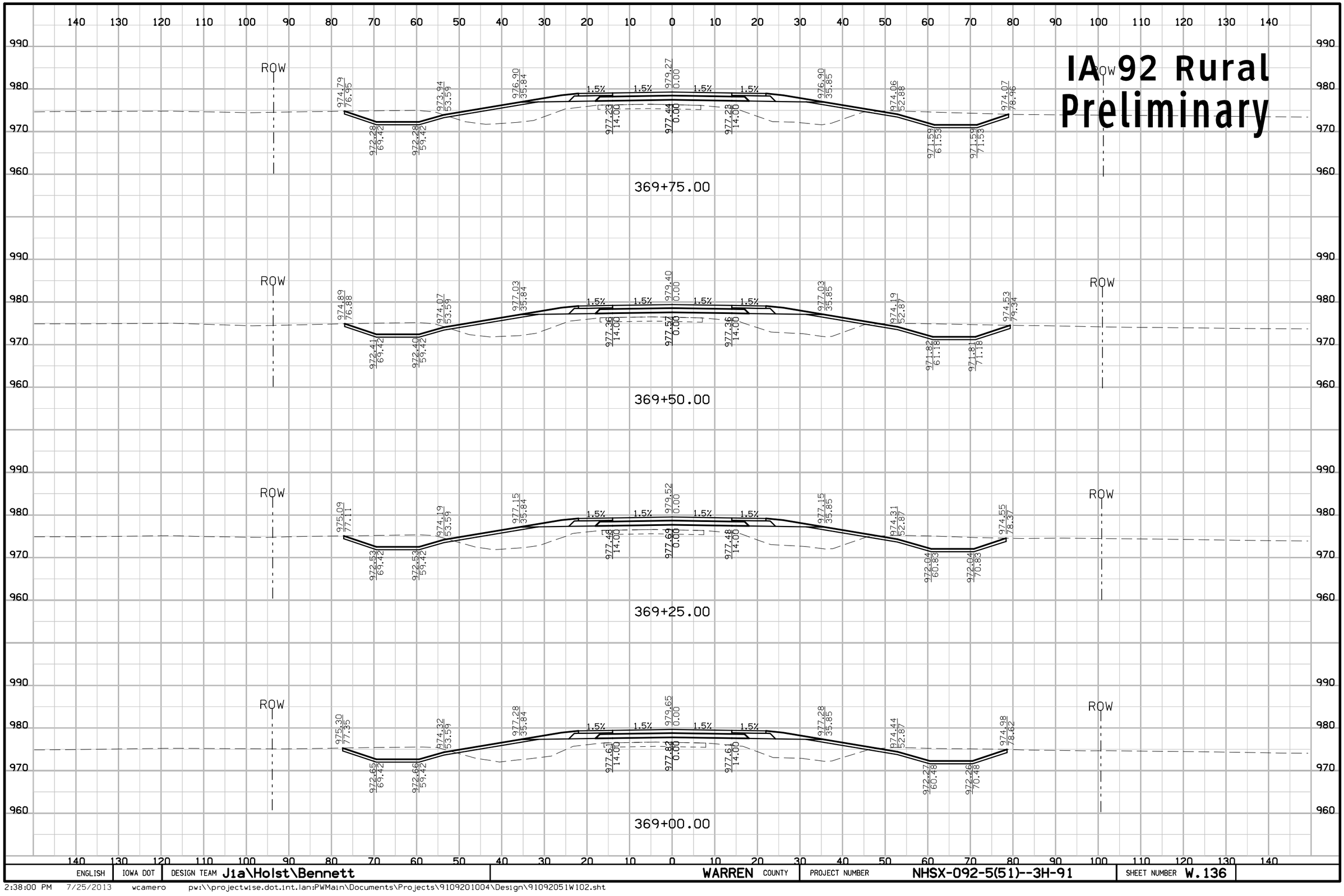
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.136

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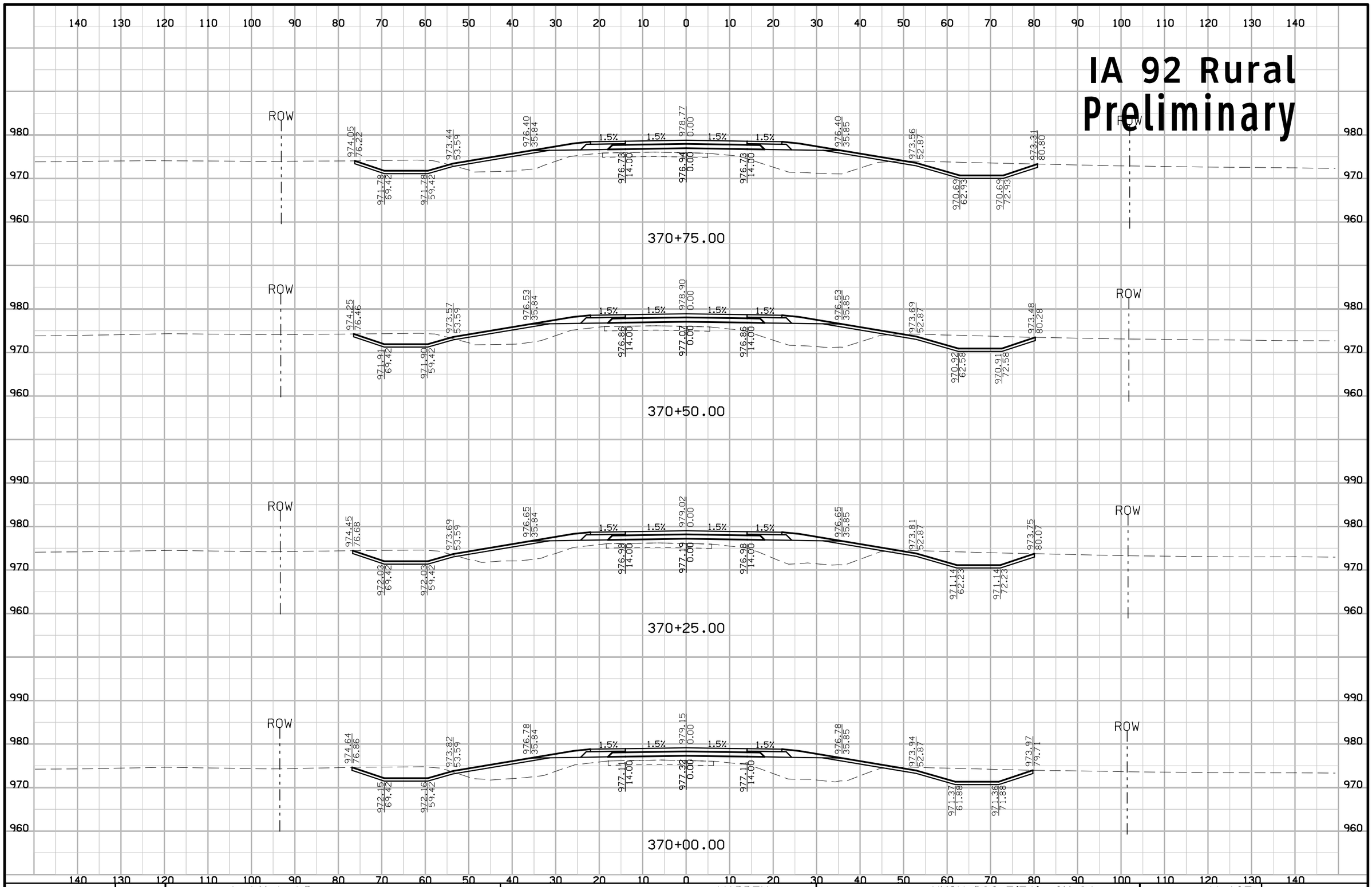
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.137

2:38:01 PM 7/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W102.sht

IA 92 Rural
Preliminary

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

980 970 960

ROW

973.58 76.31 | 972.94 53.59 | 975.90 35.84 | 978.27 0.00 | 975.90 35.85 | 973.06 52.87 | 972.16 81.44

971.28 69.42 | 971.28 59.42 | 976.23 14.00 | 976.44 0.00 | 976.23 14.00 | 969.79 64.33 | 969.79 74.33

1.5% 1.5% 1.5% 1.5%

ROW

371+75.00

ROW

973.67 76.20 | 973.07 53.59 | 976.03 35.84 | 978.40 0.00 | 976.03 35.85 | 973.19 52.87 | 972.36 81.02

971.40 69.42 | 971.41 59.42 | 976.36 14.00 | 976.57 0.00 | 976.36 14.00 | 970.01 63.98 | 970.02 73.98

1.5% 1.5% 1.5% 1.5%

ROW

371+50.00

ROW

973.74 76.07 | 973.19 53.59 | 976.15 35.84 | 978.52 0.00 | 976.15 35.85 | 973.31 52.87 | 972.81 81.34

971.53 69.42 | 971.53 59.42 | 976.48 14.00 | 976.69 0.00 | 976.48 14.00 | 970.24 63.63 | 970.24 73.63

1.5% 1.5% 1.5% 1.5%

ROW

371+25.00

ROW

973.85 76.00 | 973.32 53.59 | 976.28 35.84 | 978.65 0.00 | 976.28 35.85 | 973.44 52.87 | 973.00 80.88

971.65 69.42 | 971.66 59.42 | 976.61 14.00 | 976.80 0.00 | 976.64 14.00 | 970.46 63.28 | 970.46 73.28

1.5% 1.5% 1.5% 1.5%

ROW

371+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

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.138

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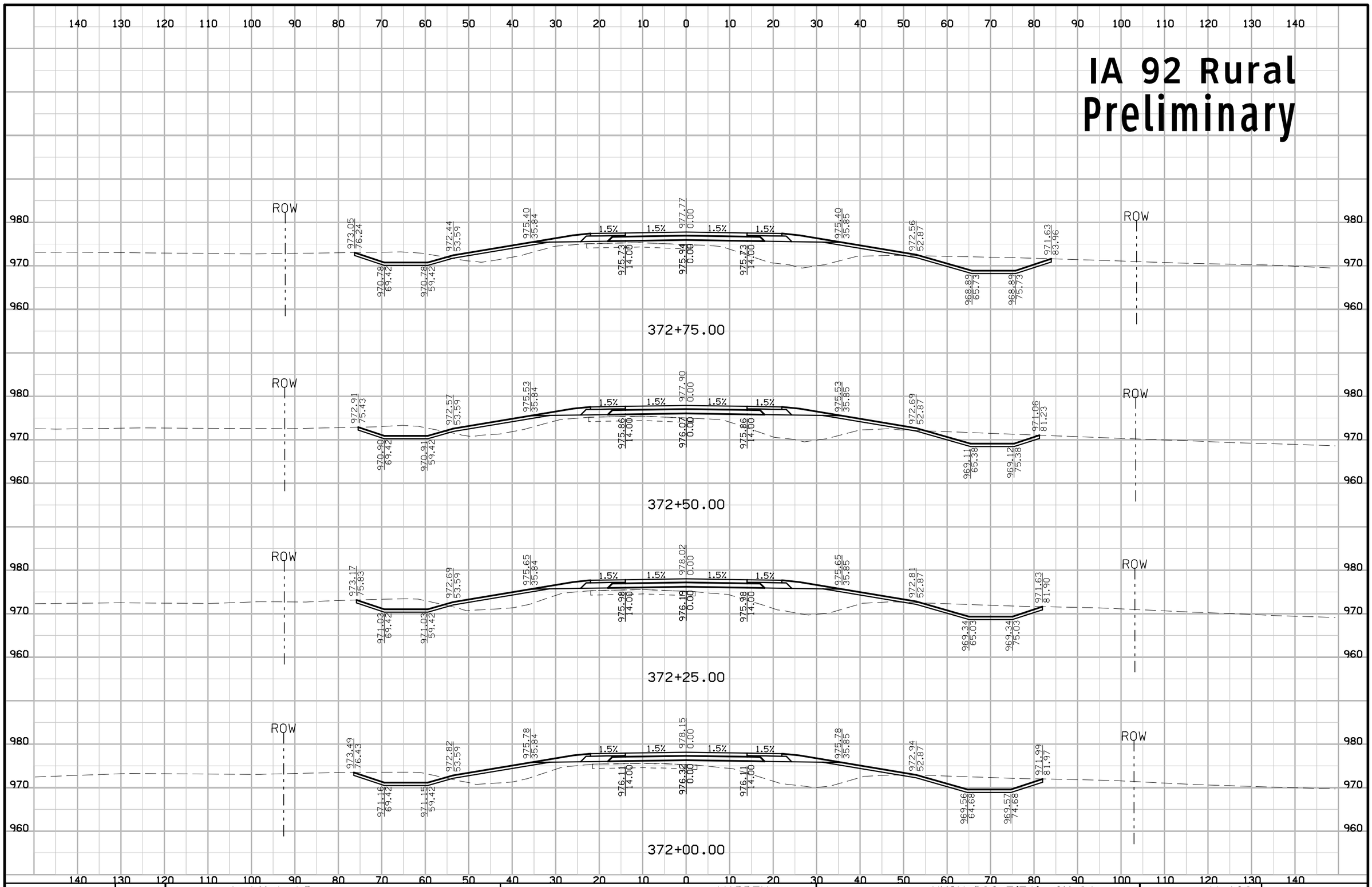
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.139

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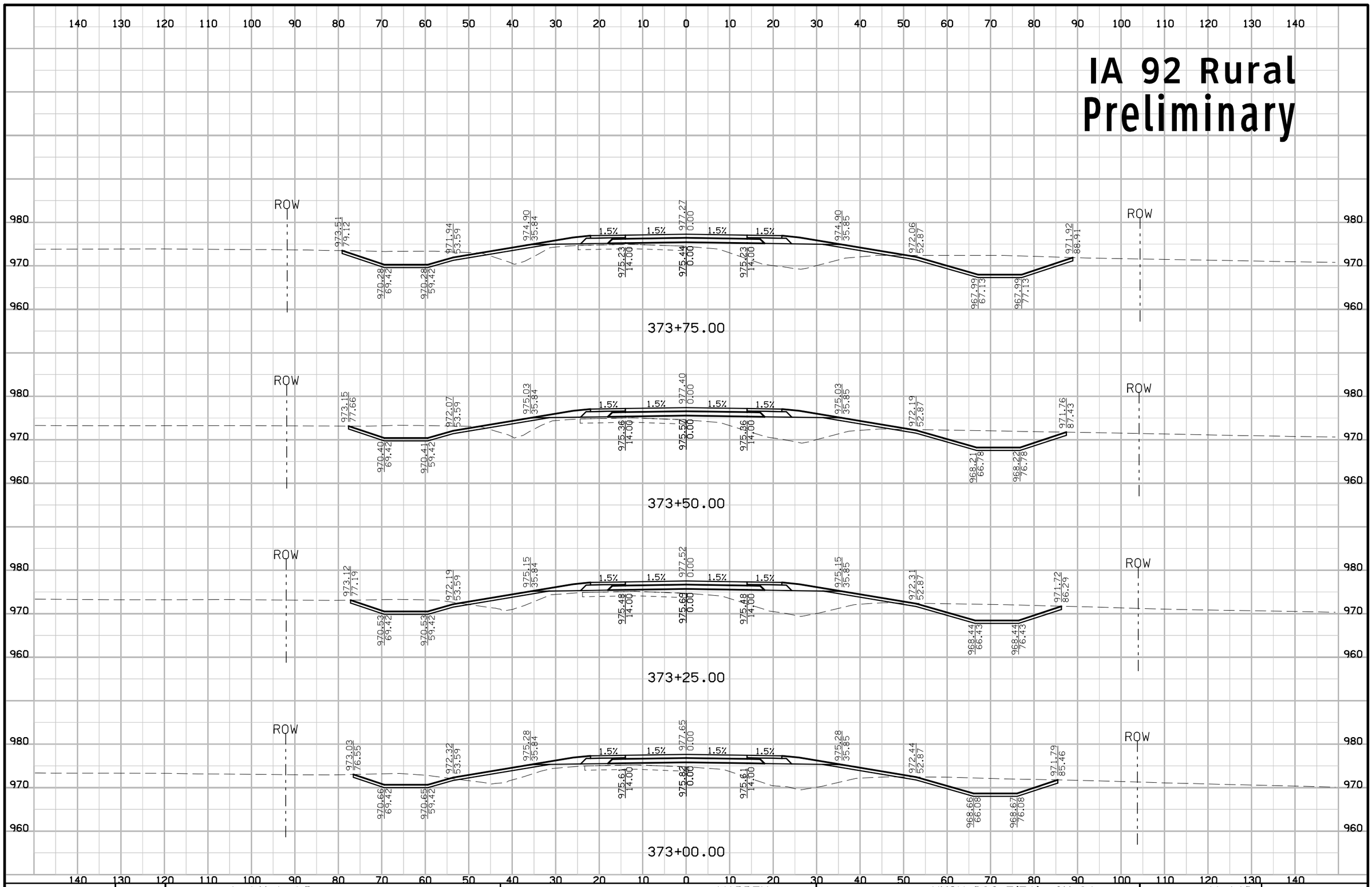
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.140

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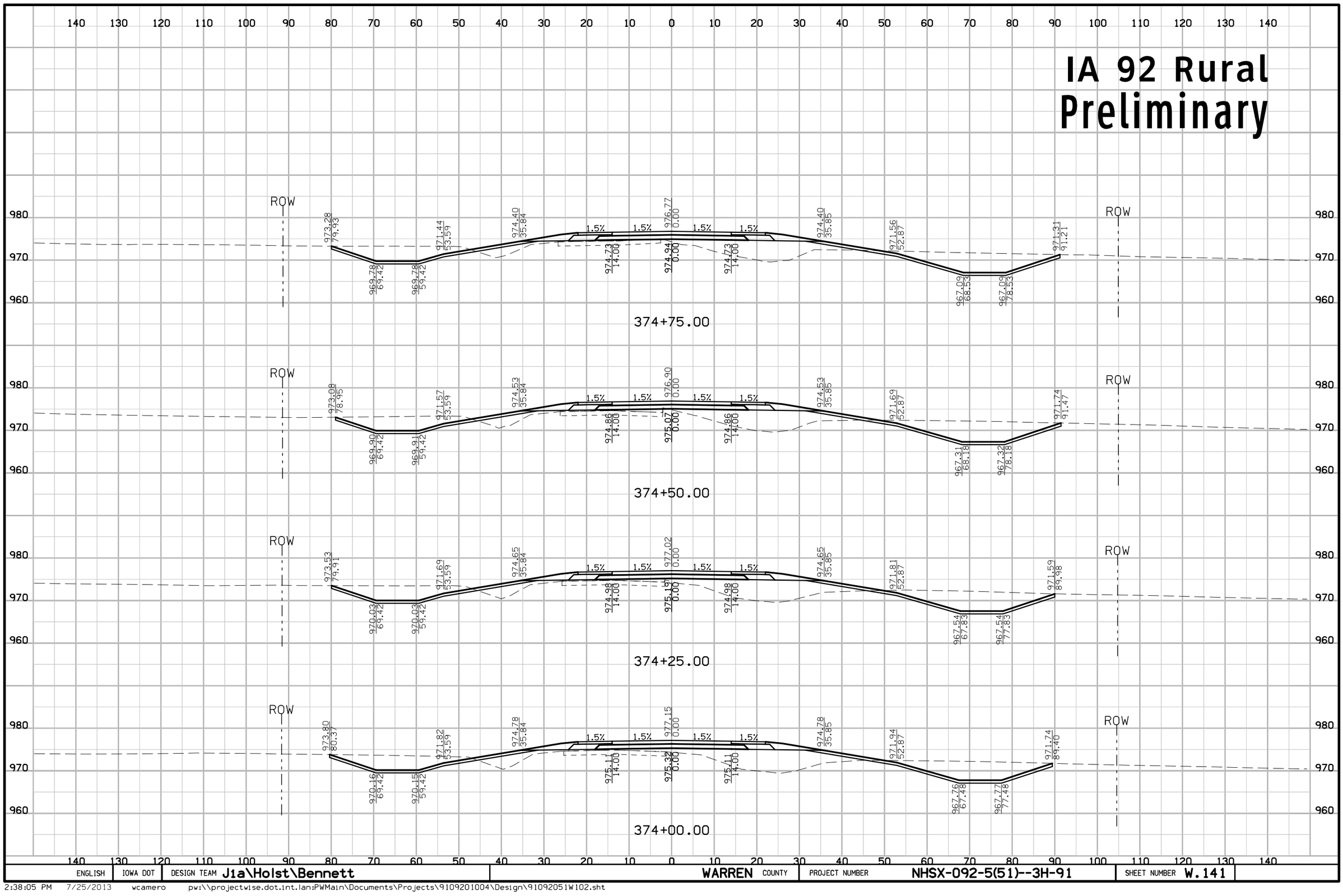
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.141

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IA 92 Rural Preliminary

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

980 970 960

ROW

973.27 81.00 | 971.07 53.59 | 974.03 35.84 | 976.40 0.00 | 974.03 35.85 | 971.19 52.87 | 970.78 92.69

969.41 69.42 | 969.40 59.42 | 974.36 14.00 | 974.57 0.00 | 974.36 14.00 | 966.41 69.58 | 966.42 79.58

1.5% 1.5% 1.5% 1.5%

ENT375

ROW

Temporary ROW

375+50.00

1000 990

ENT375

34.4′ 37.6′ 72′

55.5′ 50.4′ 106′

980 970 960

ROW

973.28 80.97 | 971.09 53.59 | 974.05 35.84 | 976.42 0.00 | 974.05 35.85 | 971.21 52.87 | 970.95 92.97

969.43 69.42 | 969.43 59.42 | 974.38 14.00 | 974.59 0.00 | 974.38 14.00 | 966.46 69.51 | 966.46 79.51

1.5% 1.5% 1.5% 1.5%

ENT375

ROW

Temporary ROW

375+45.00

980 970 960

ROW

973.32 80.79 | 971.19 53.59 | 974.15 35.84 | 976.52 0.00 | 974.15 35.85 | 971.31 52.87 | 971.35 93.36

969.53 69.42 | 969.53 59.42 | 974.48 14.00 | 974.69 0.00 | 974.48 14.00 | 966.64 69.23 | 966.64 79.23

1.5% 1.5% 1.5% 1.5%

ENT375 ENT375

ROW

Temporary ROW

375+25.00

980 970 960

ROW

973.43 80.75 | 971.32 53.59 | 974.28 35.84 | 976.65 0.00 | 974.28 35.85 | 971.44 52.87 | 971.25 92.04

969.66 69.42 | 969.65 59.42 | 974.61 14.00 | 974.82 0.00 | 974.61 14.00 | 966.86 68.88 | 966.87 78.88

1.5% 1.5% 1.5% 1.5%

ENT375

ROW

375+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

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.142

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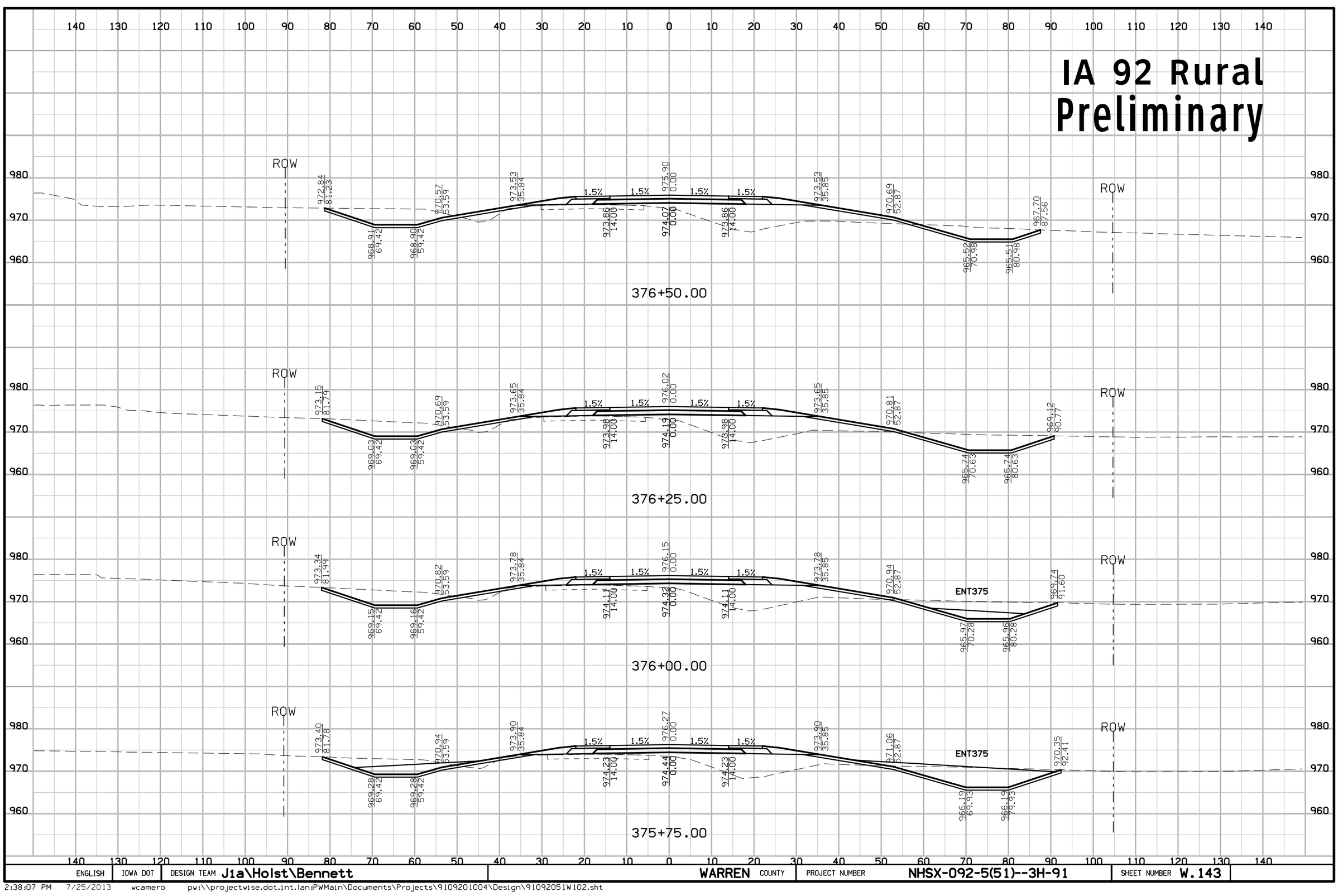
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.143

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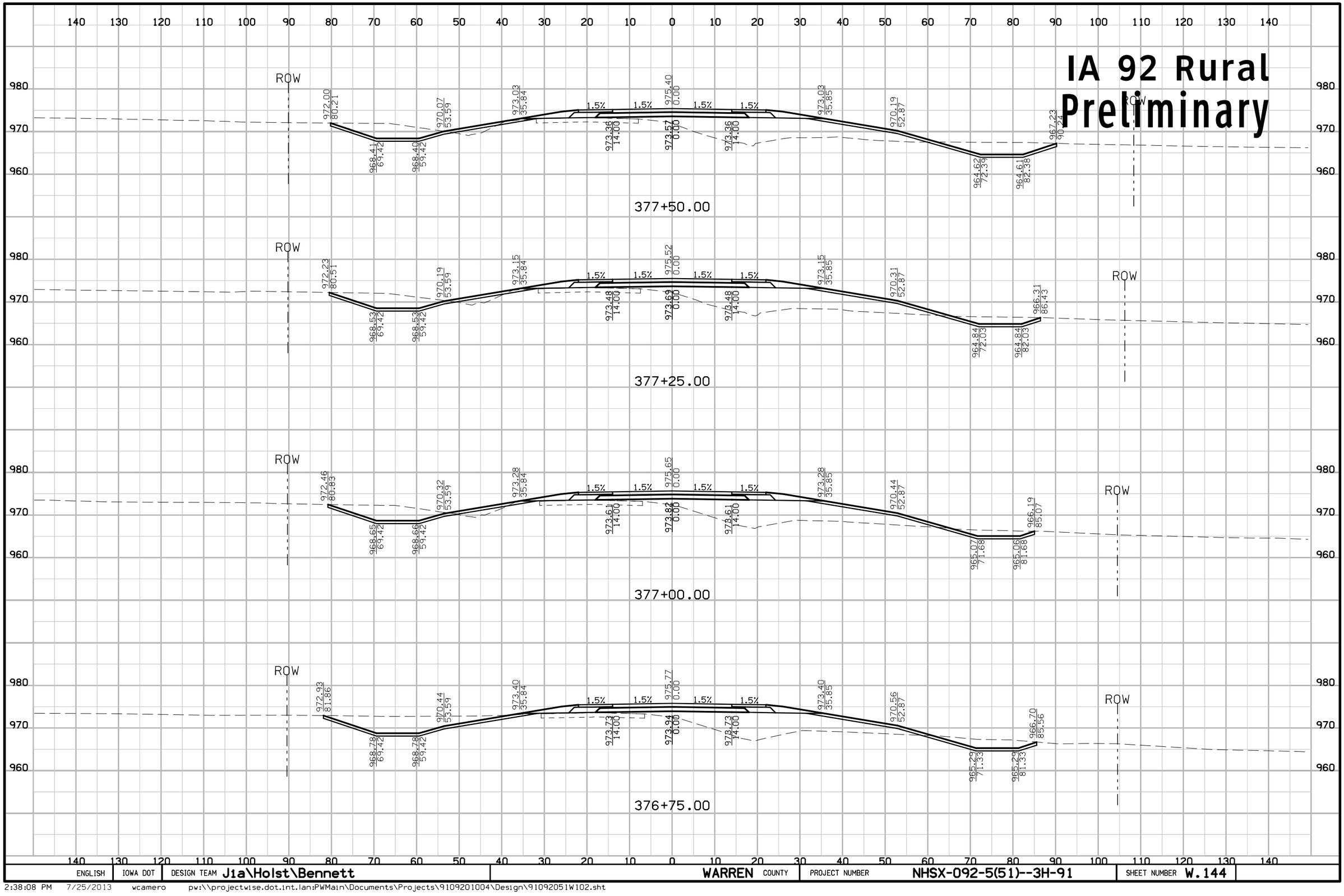
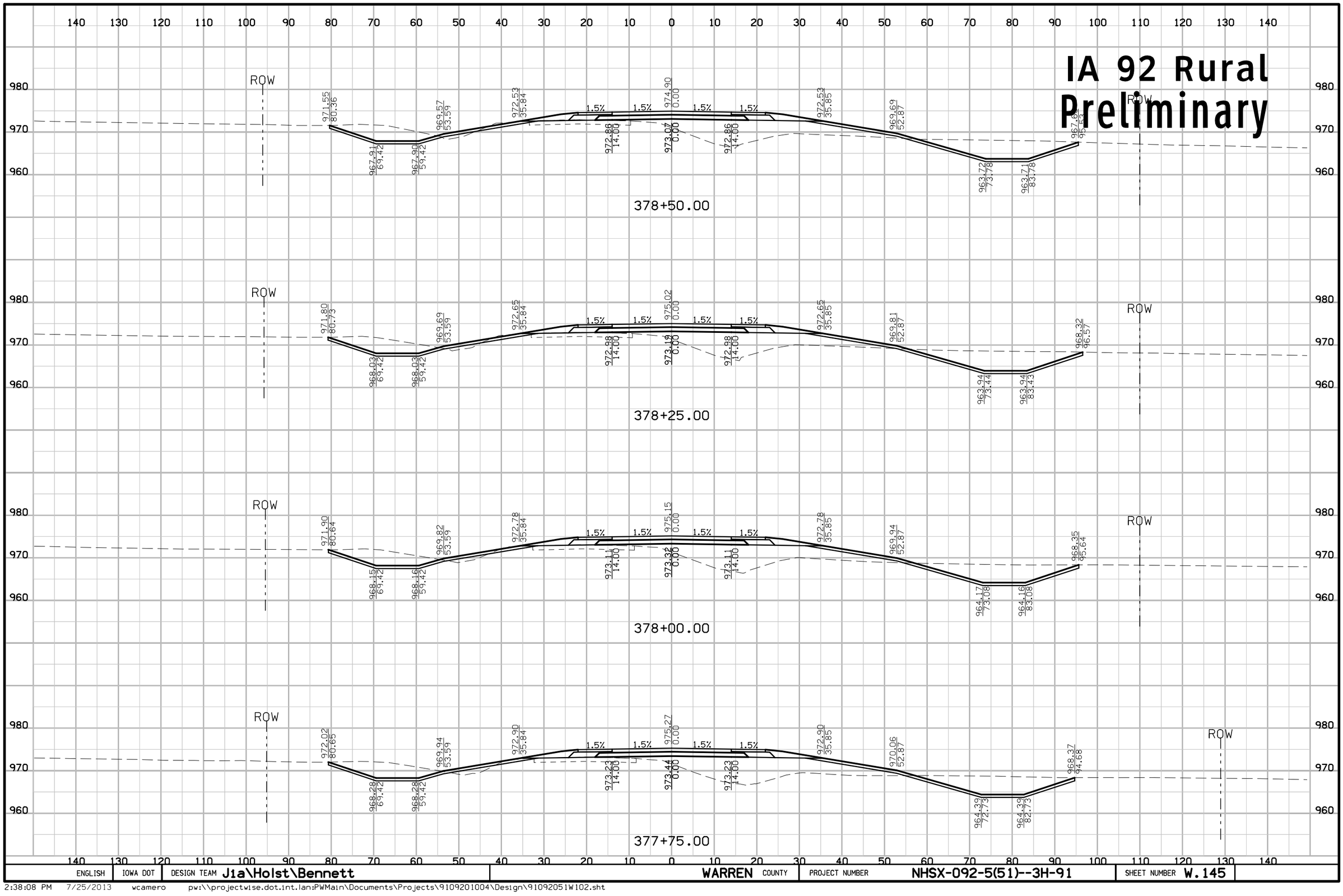
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.144

IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.145

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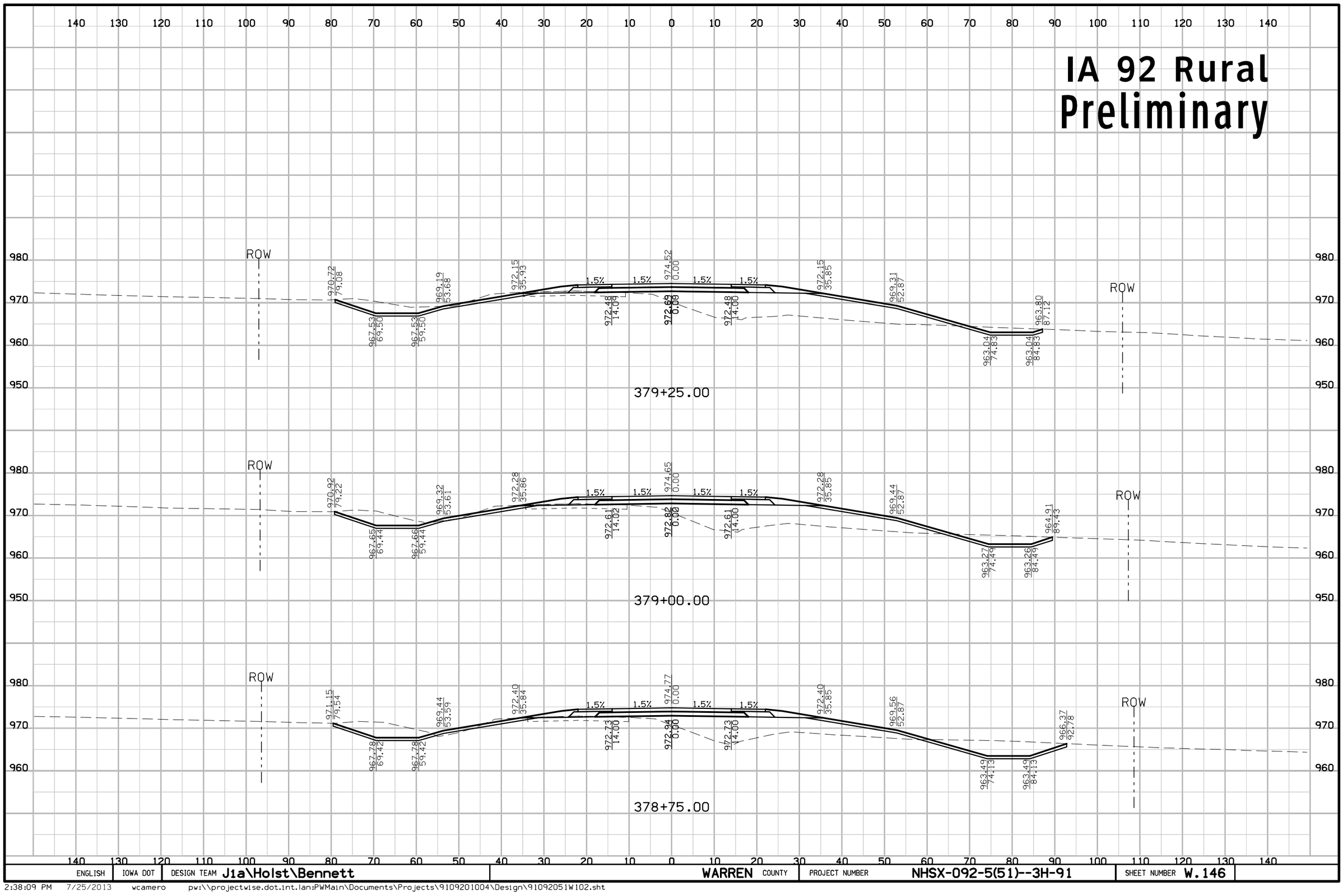
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.146

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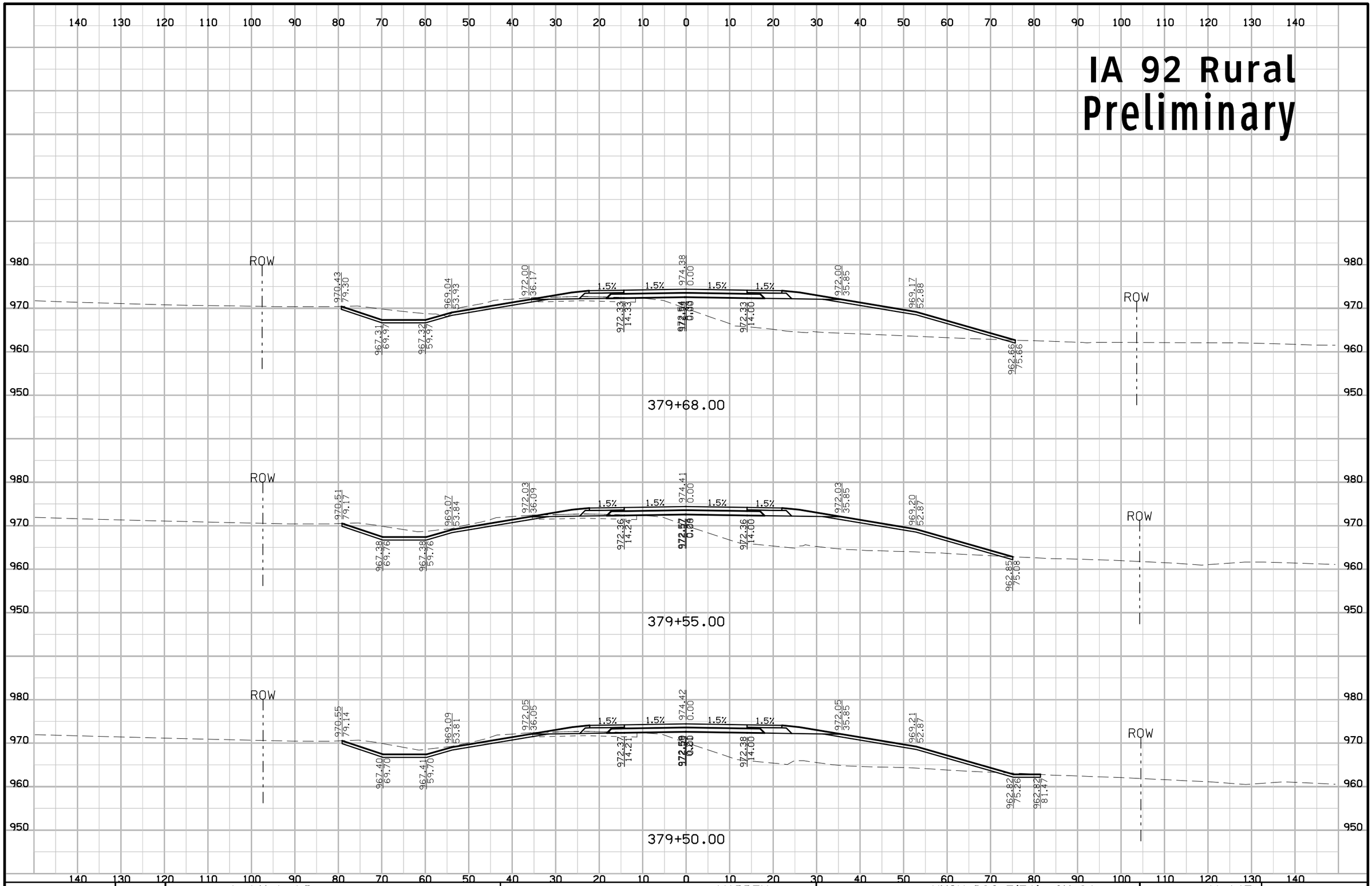
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.147

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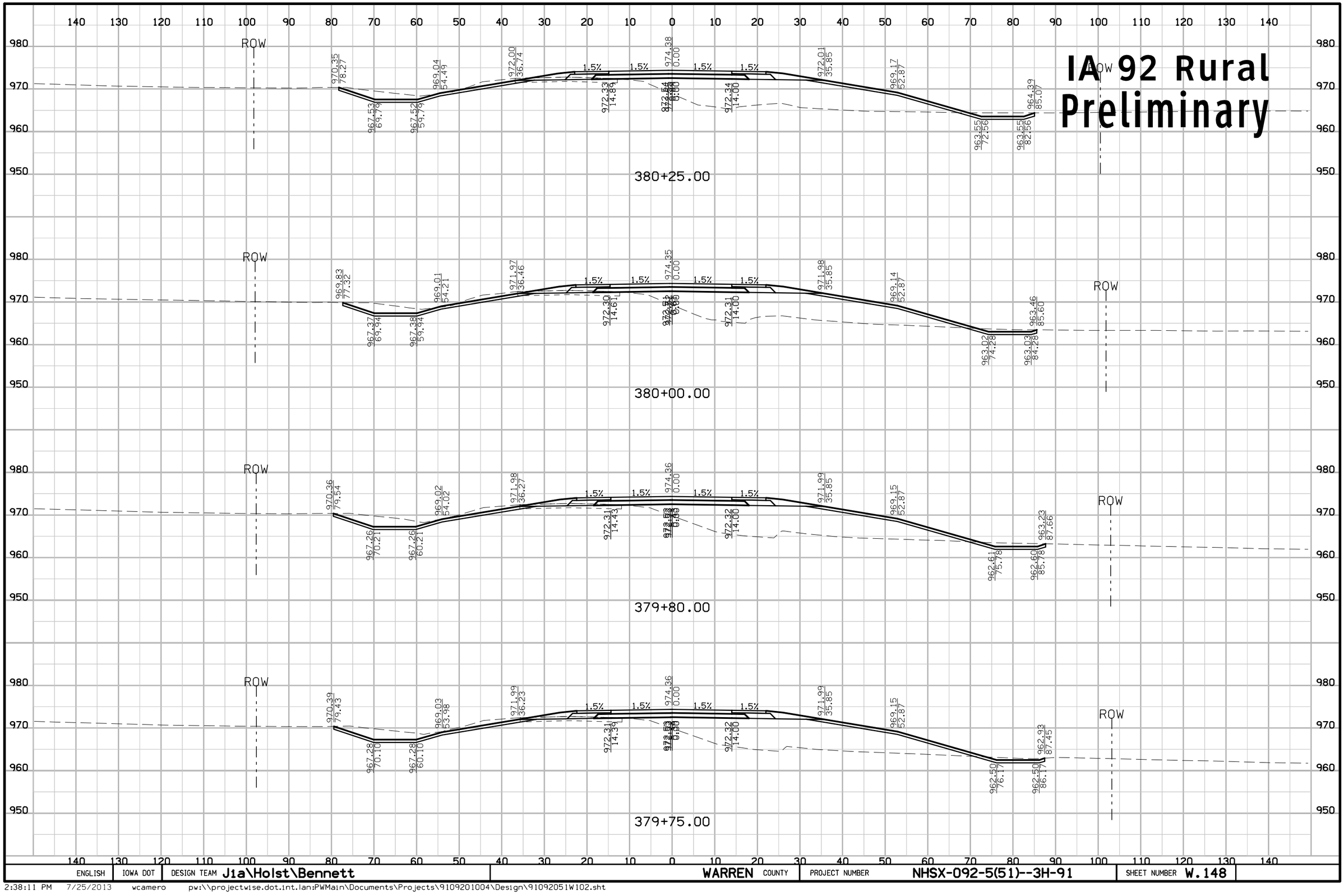
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.148

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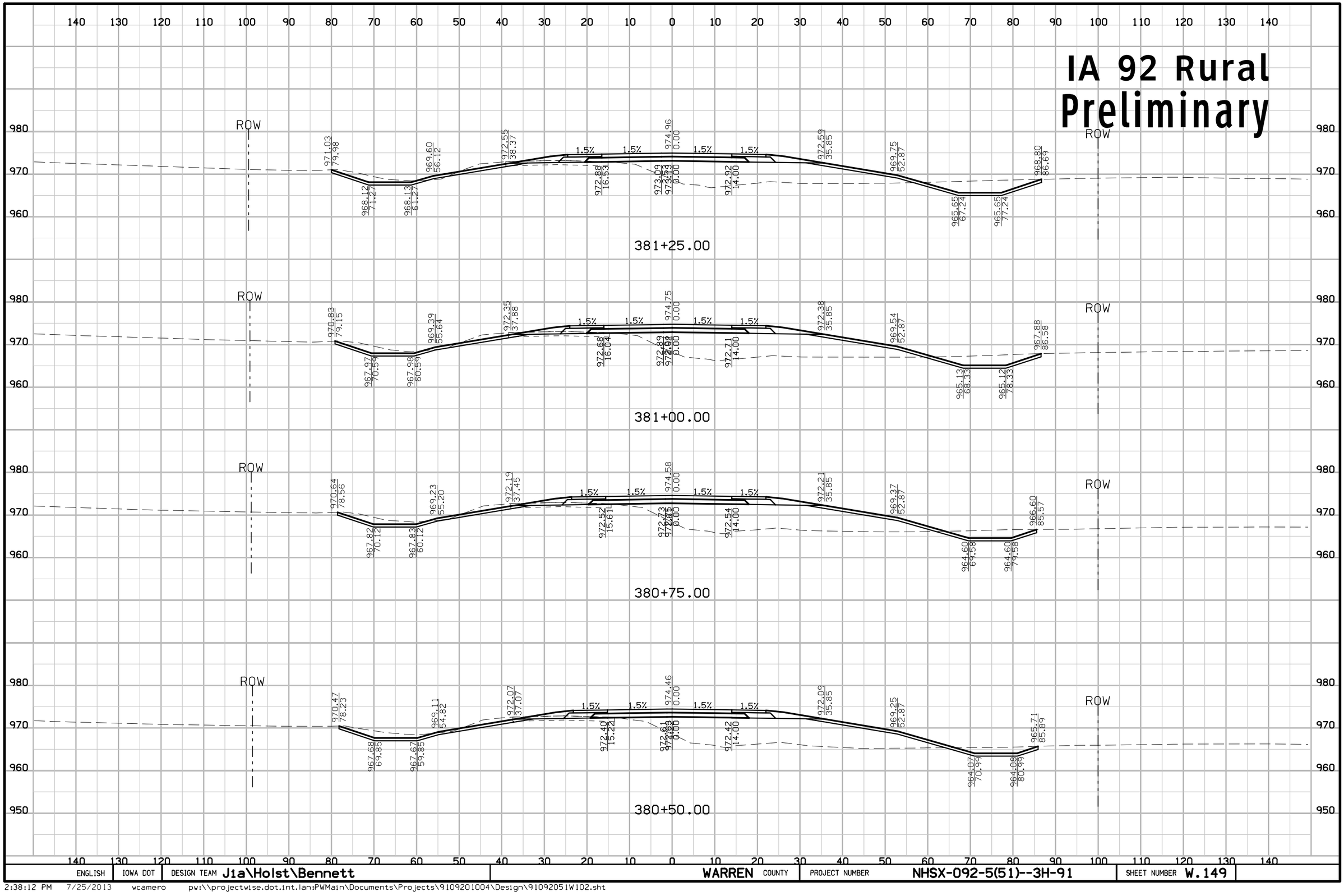
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.149

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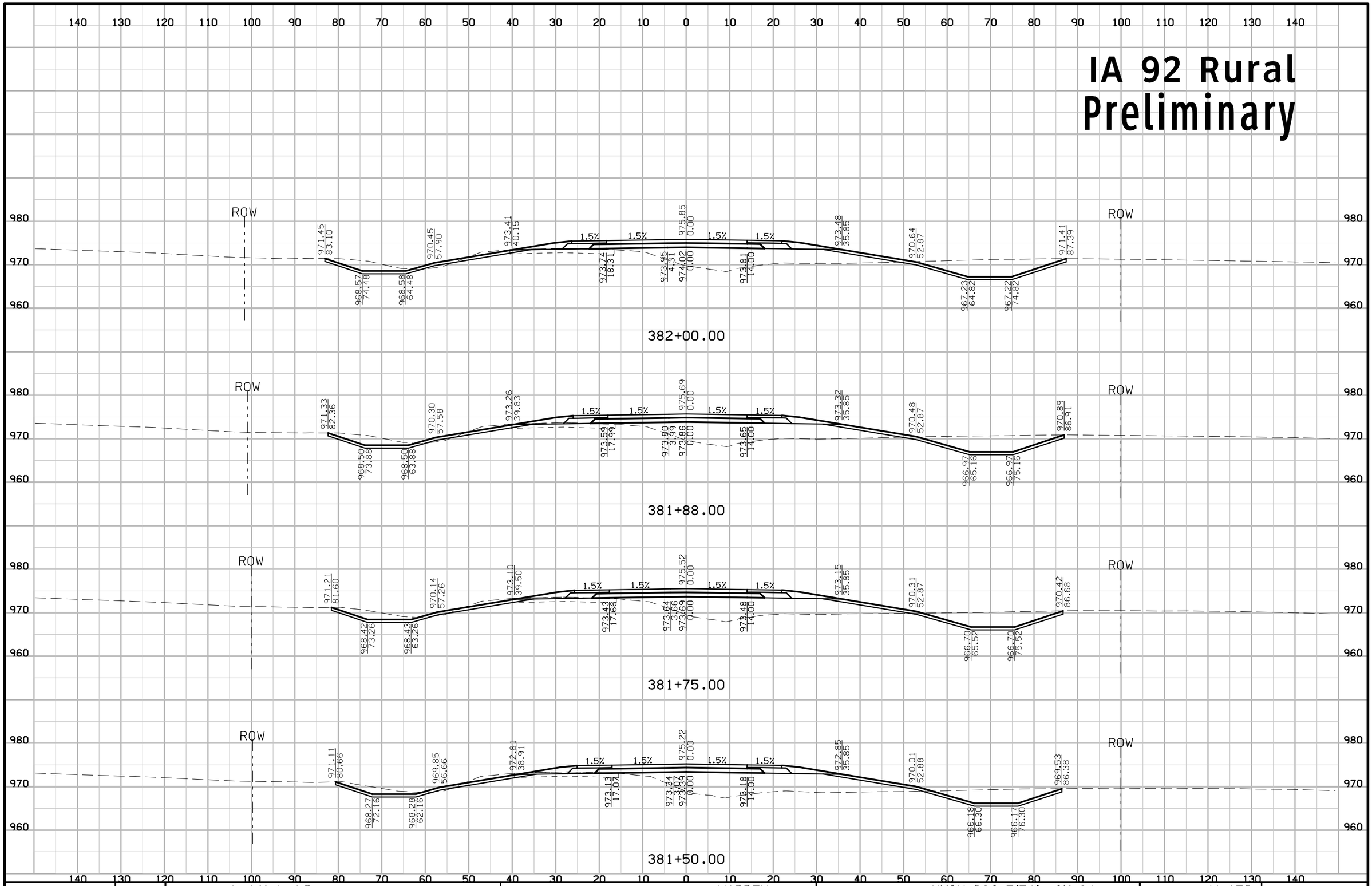
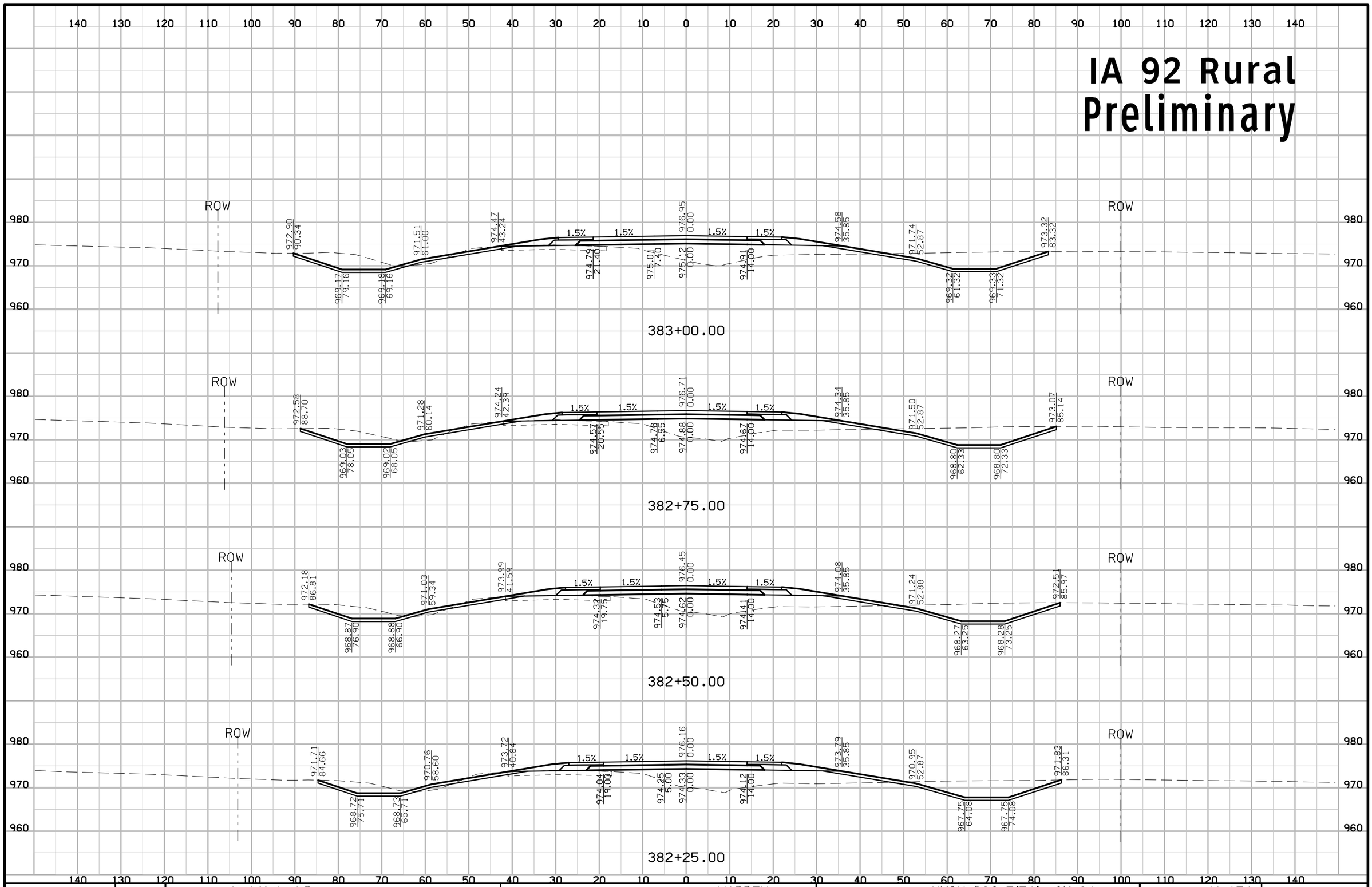
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.150

IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.151

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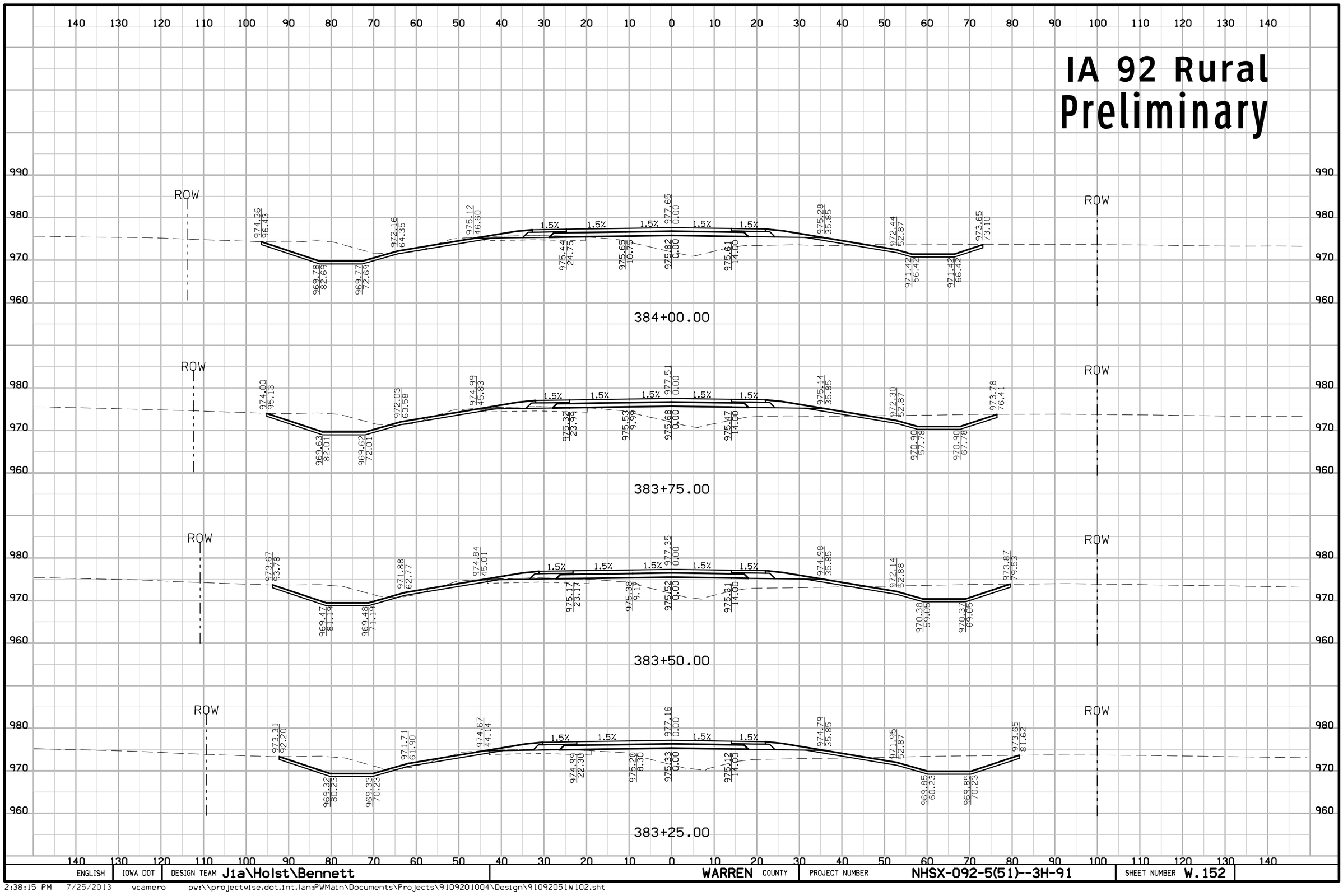
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.152

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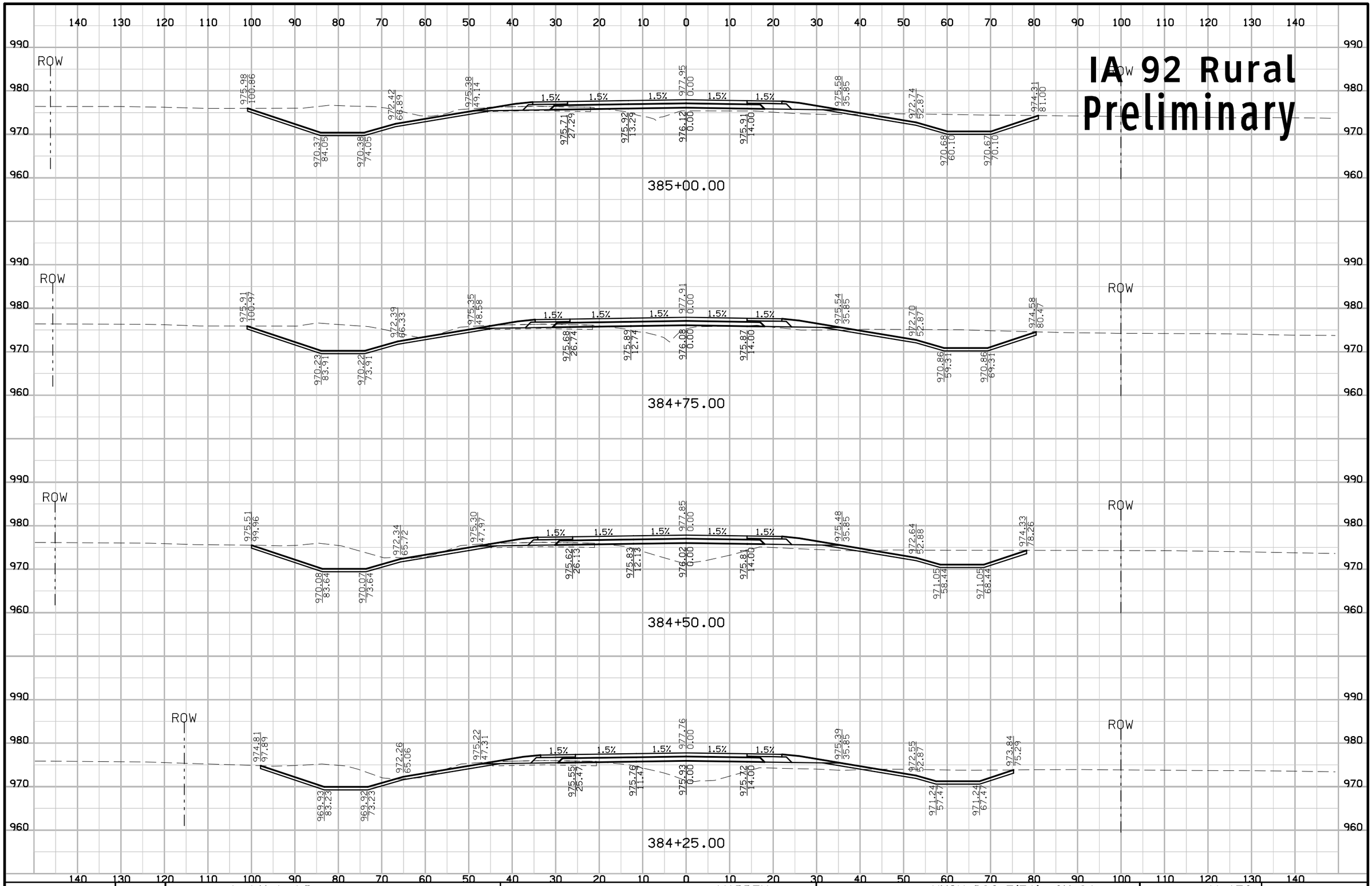
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.153

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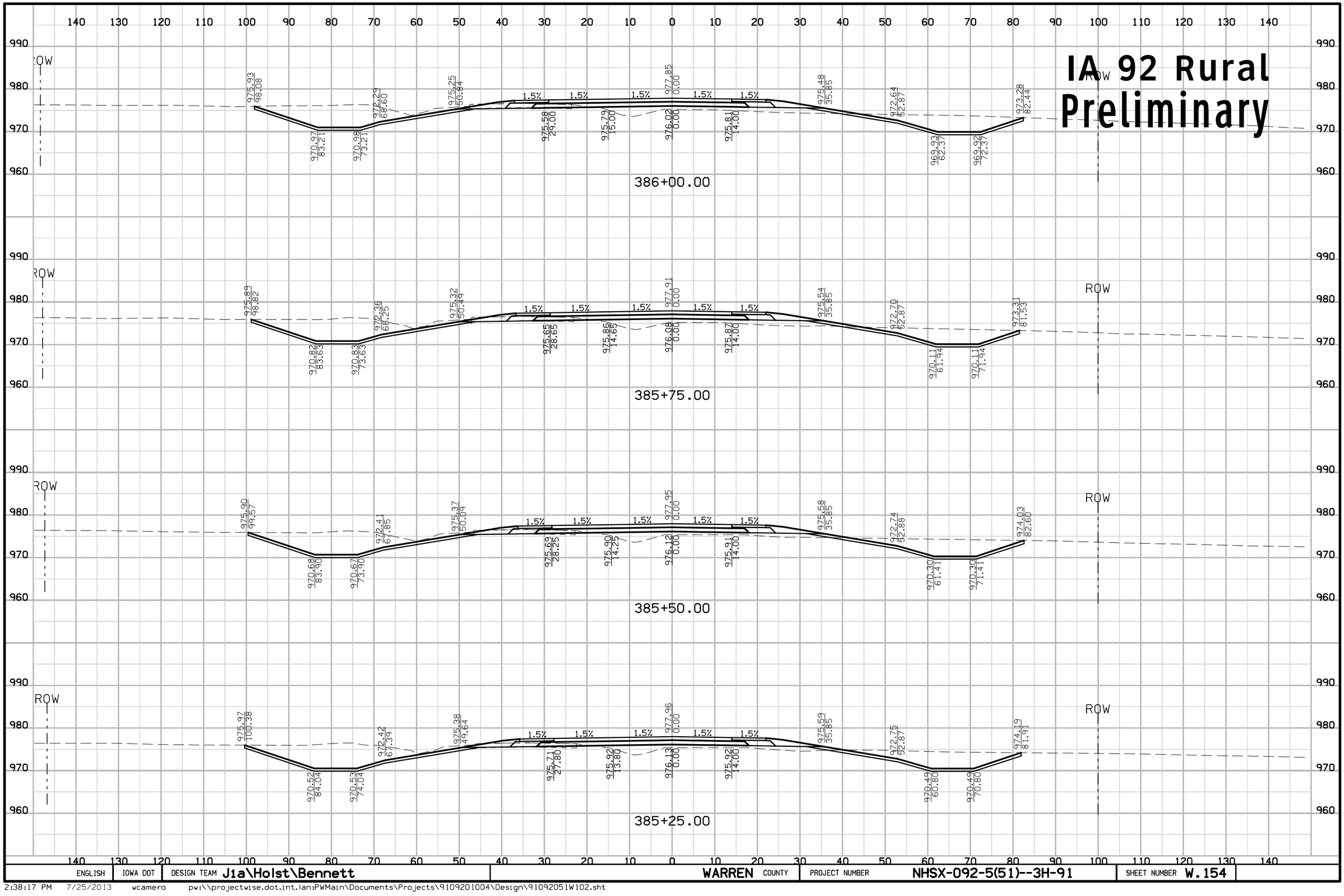
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.154

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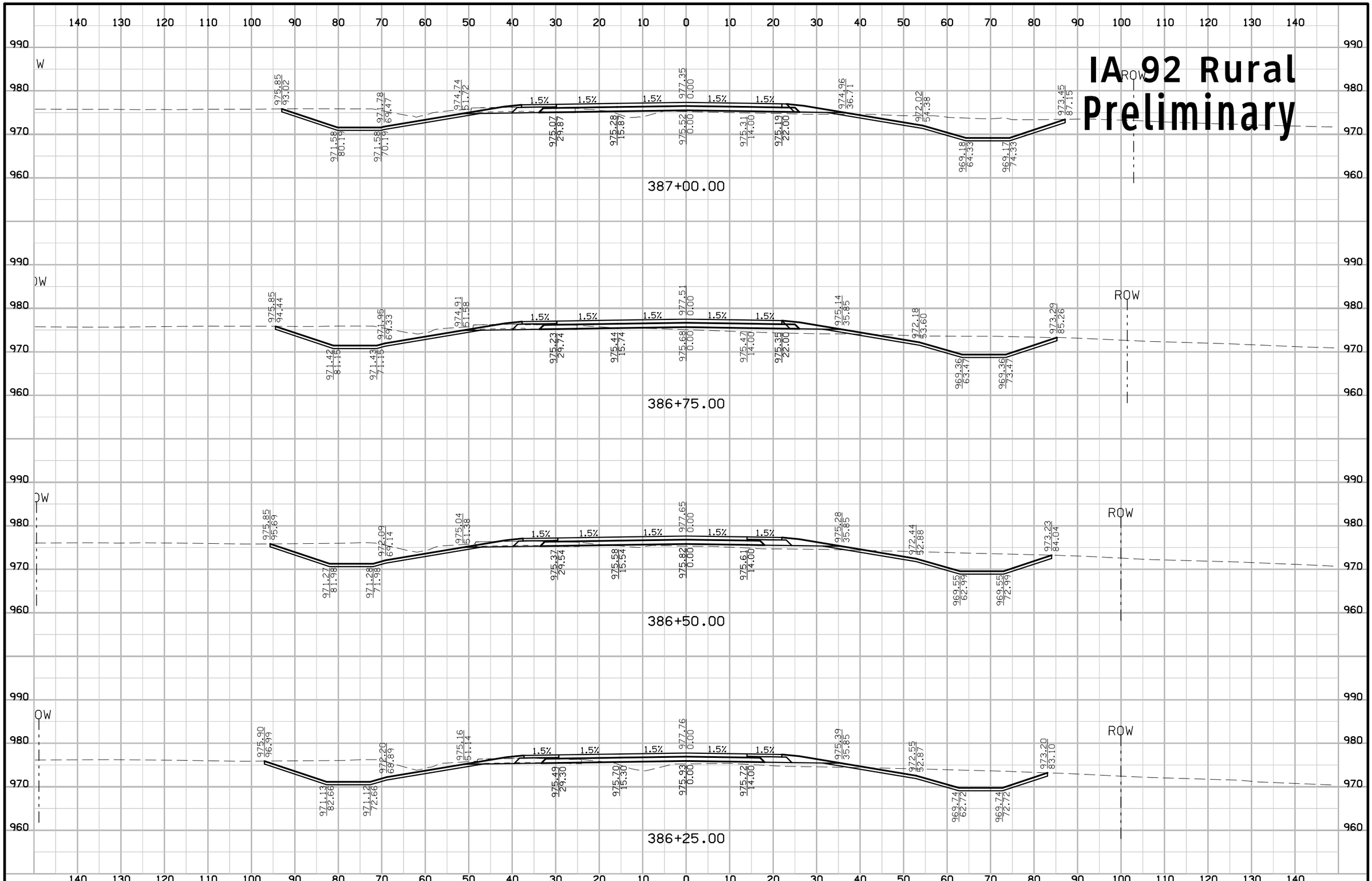
IA 92 Rural Preliminary



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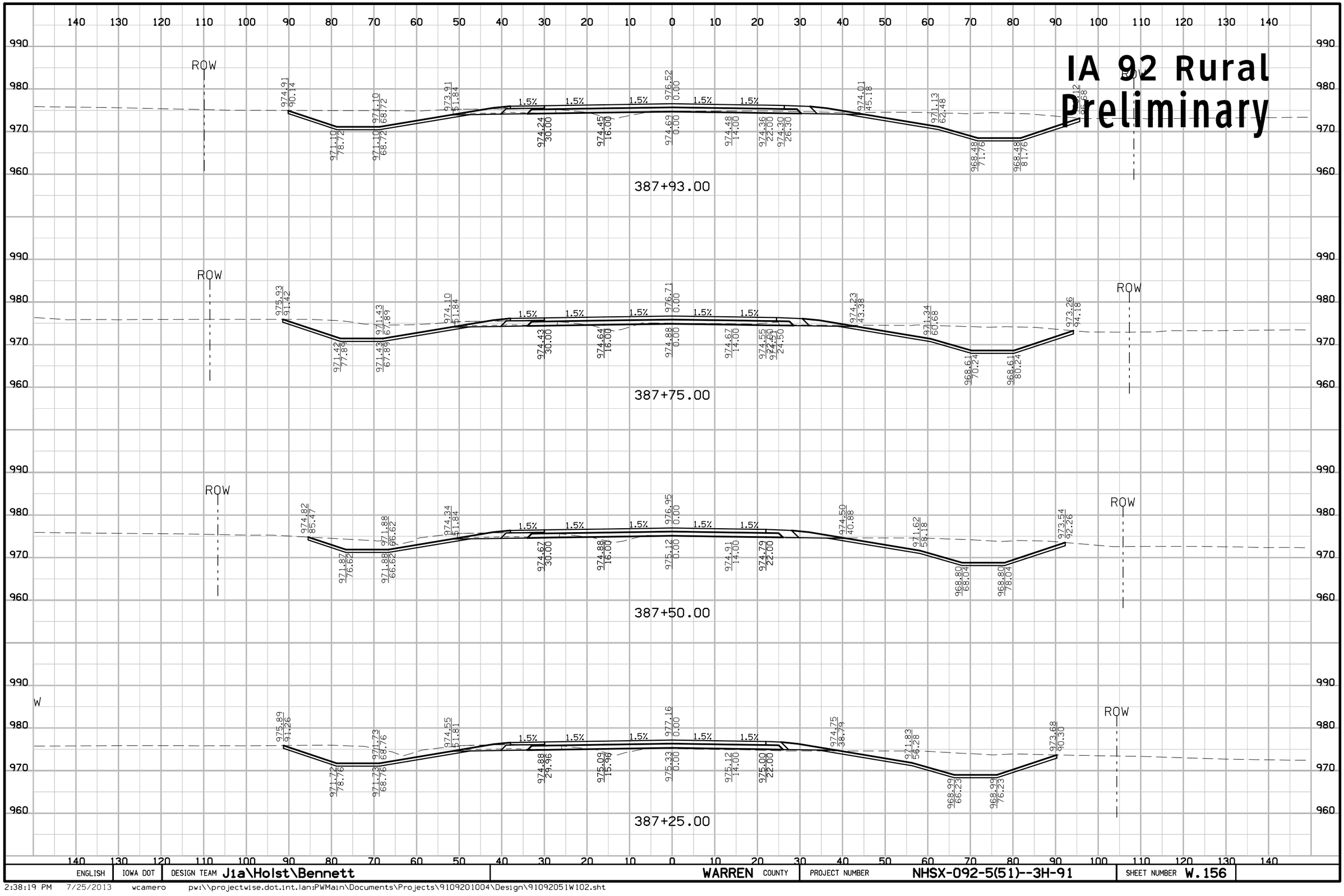
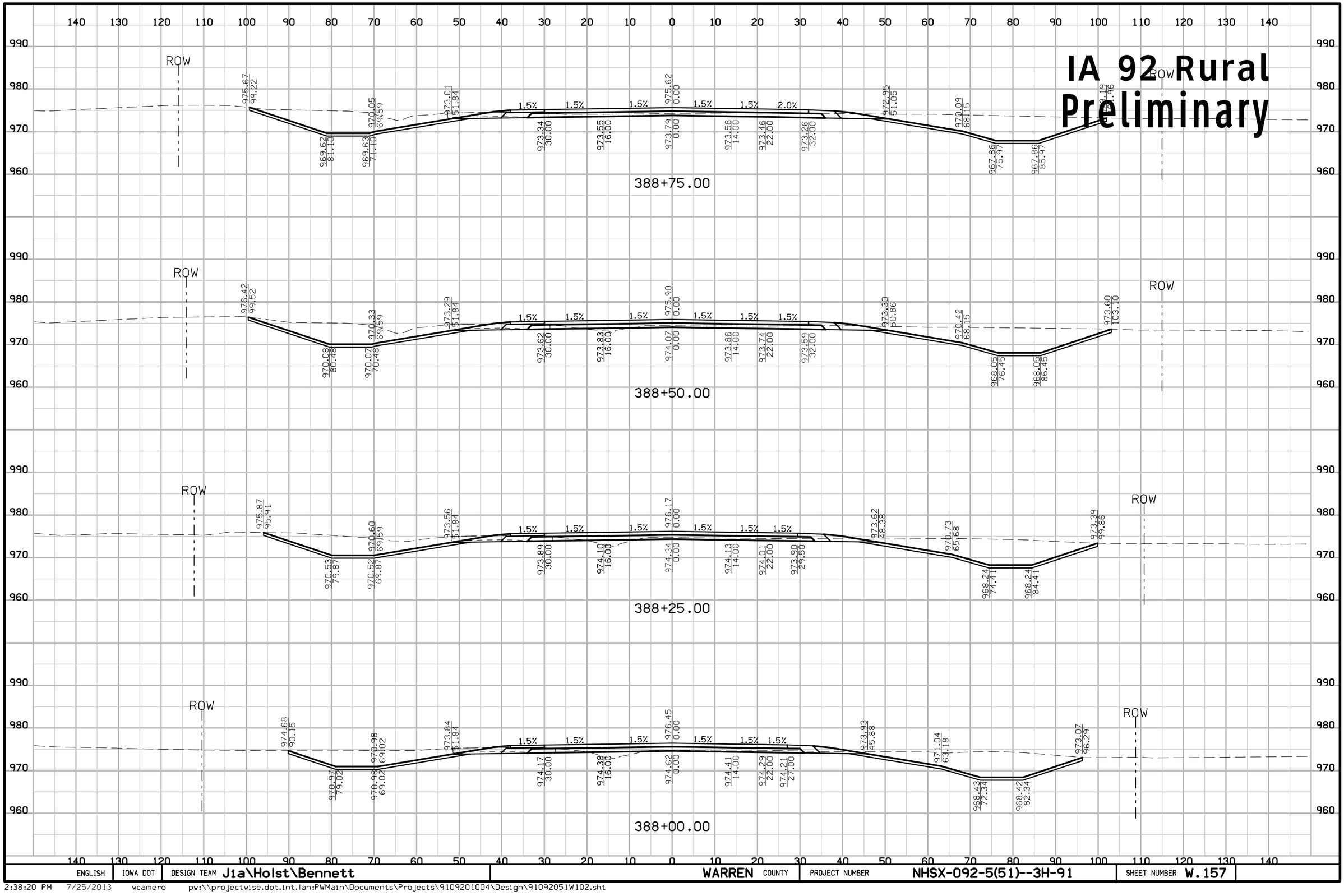
IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.156

IA 92 Rural Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.157

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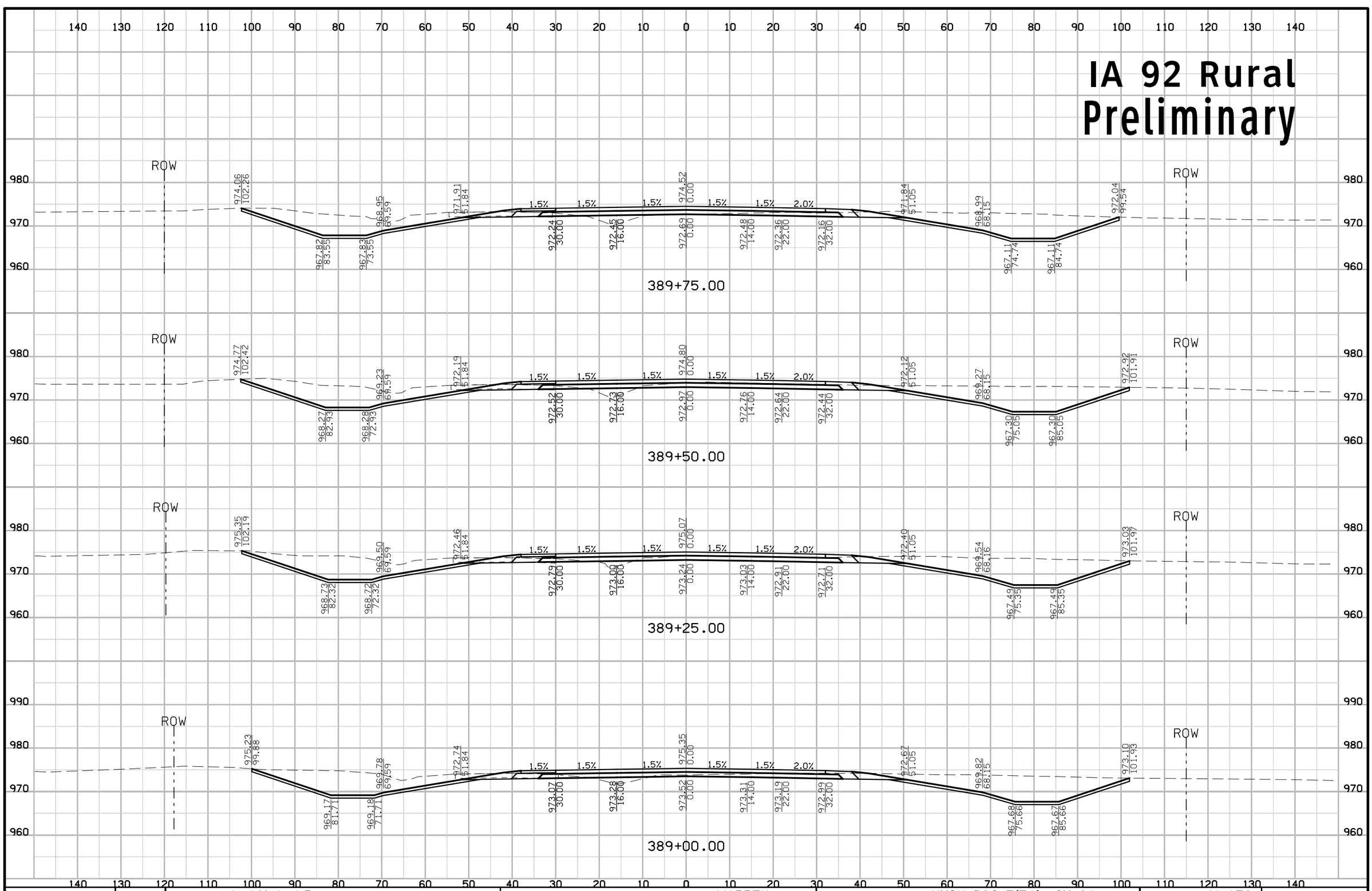
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.158

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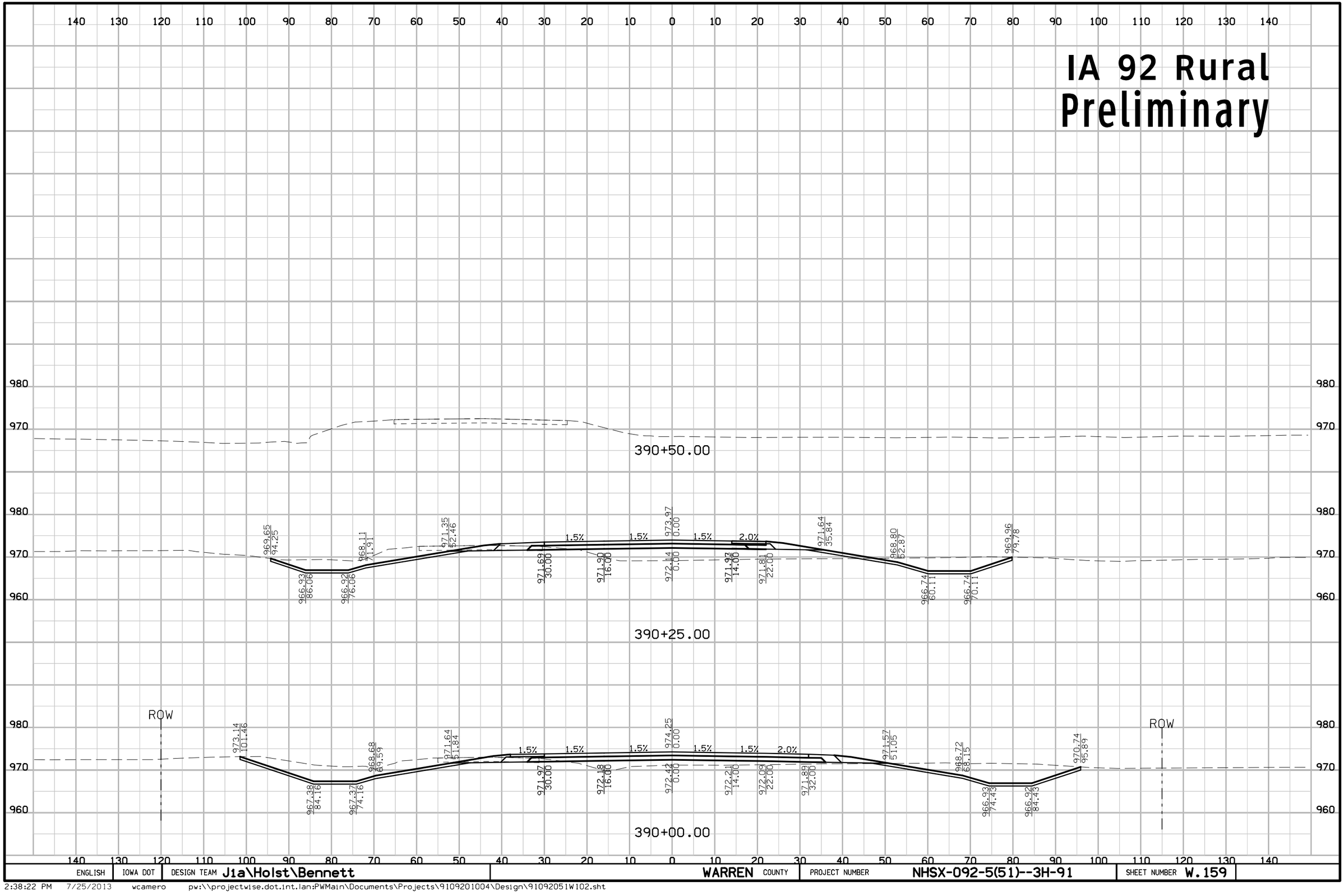
IA 92 Rural
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.159

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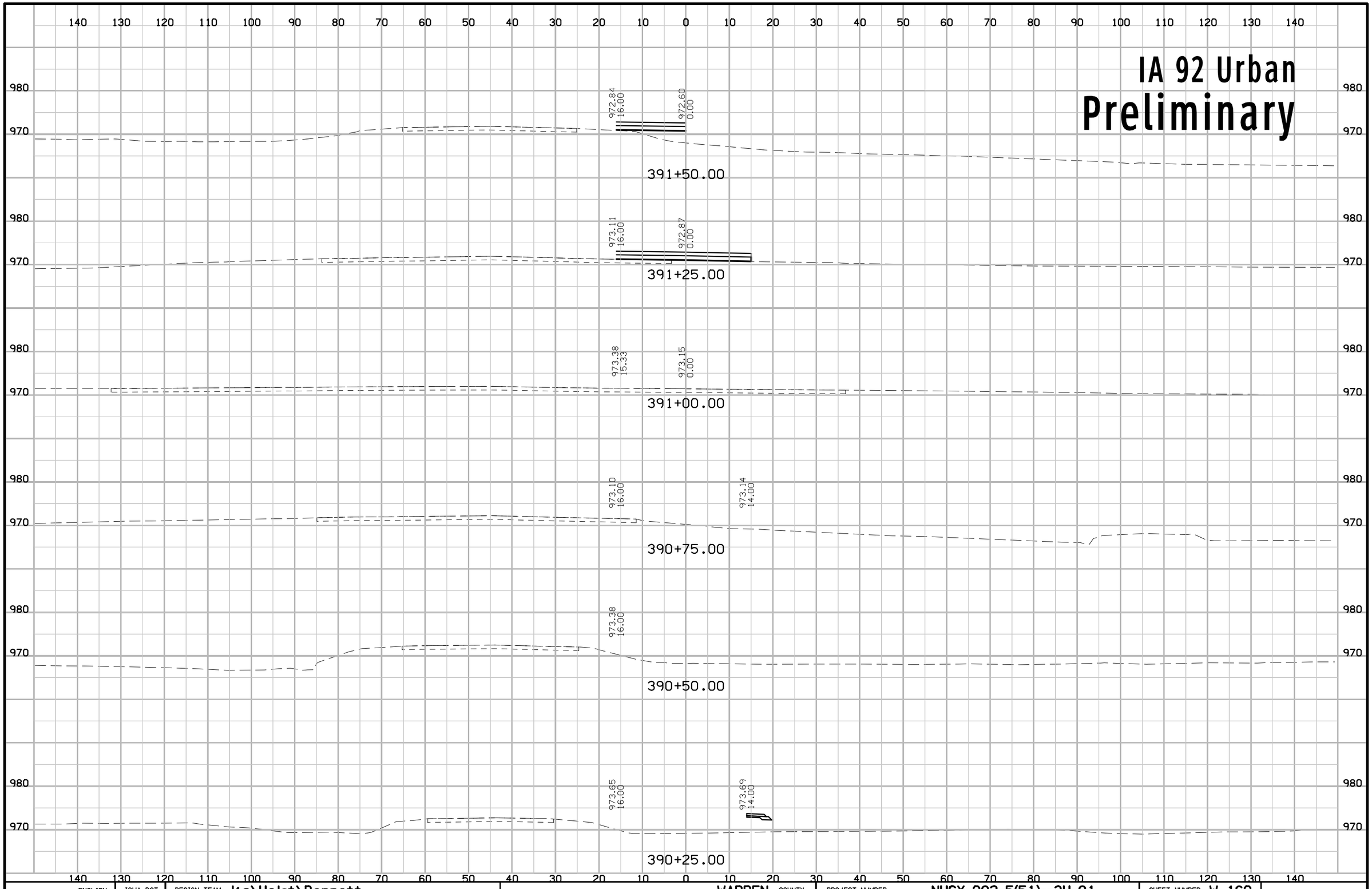
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.160

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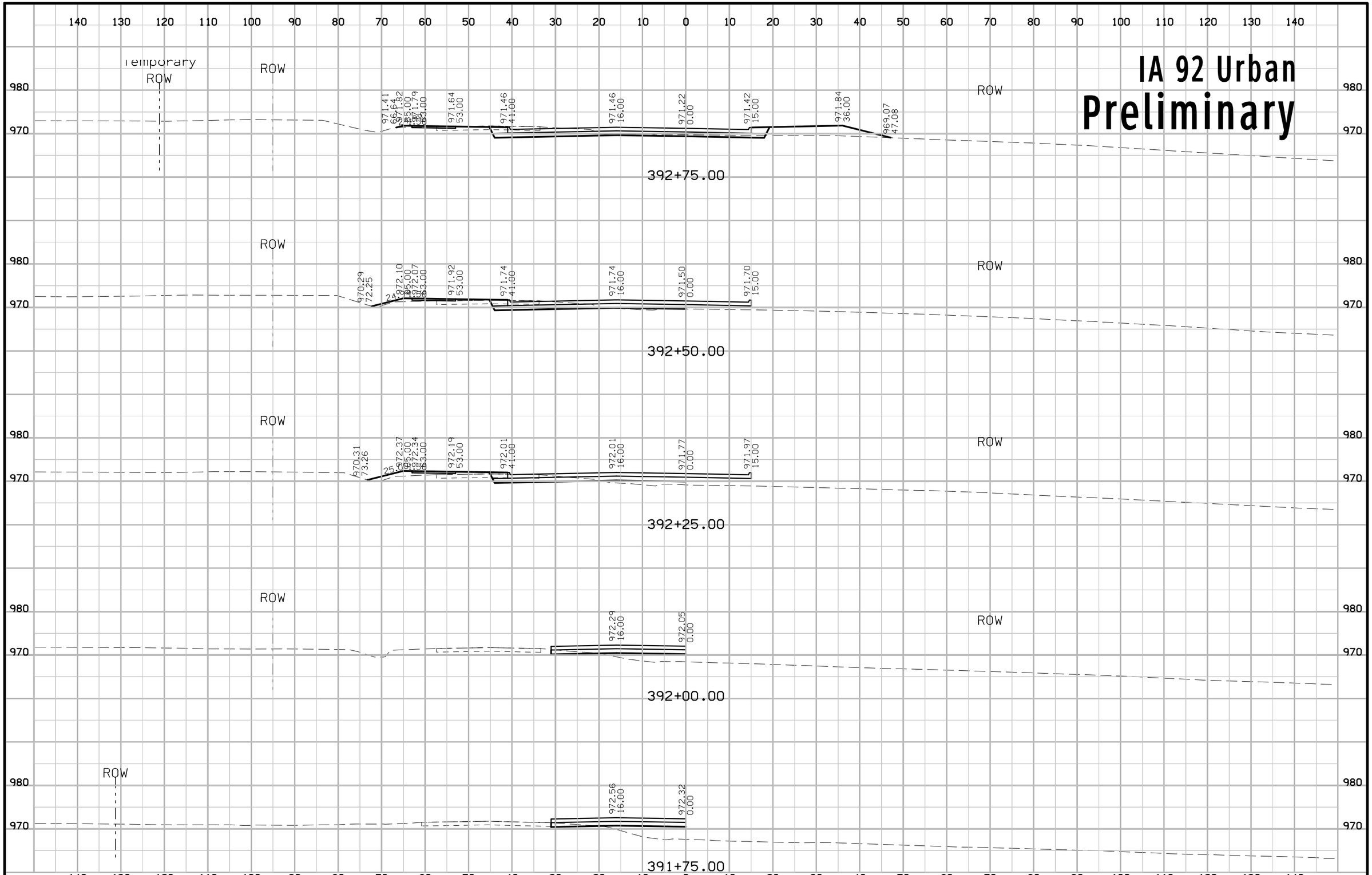

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.161

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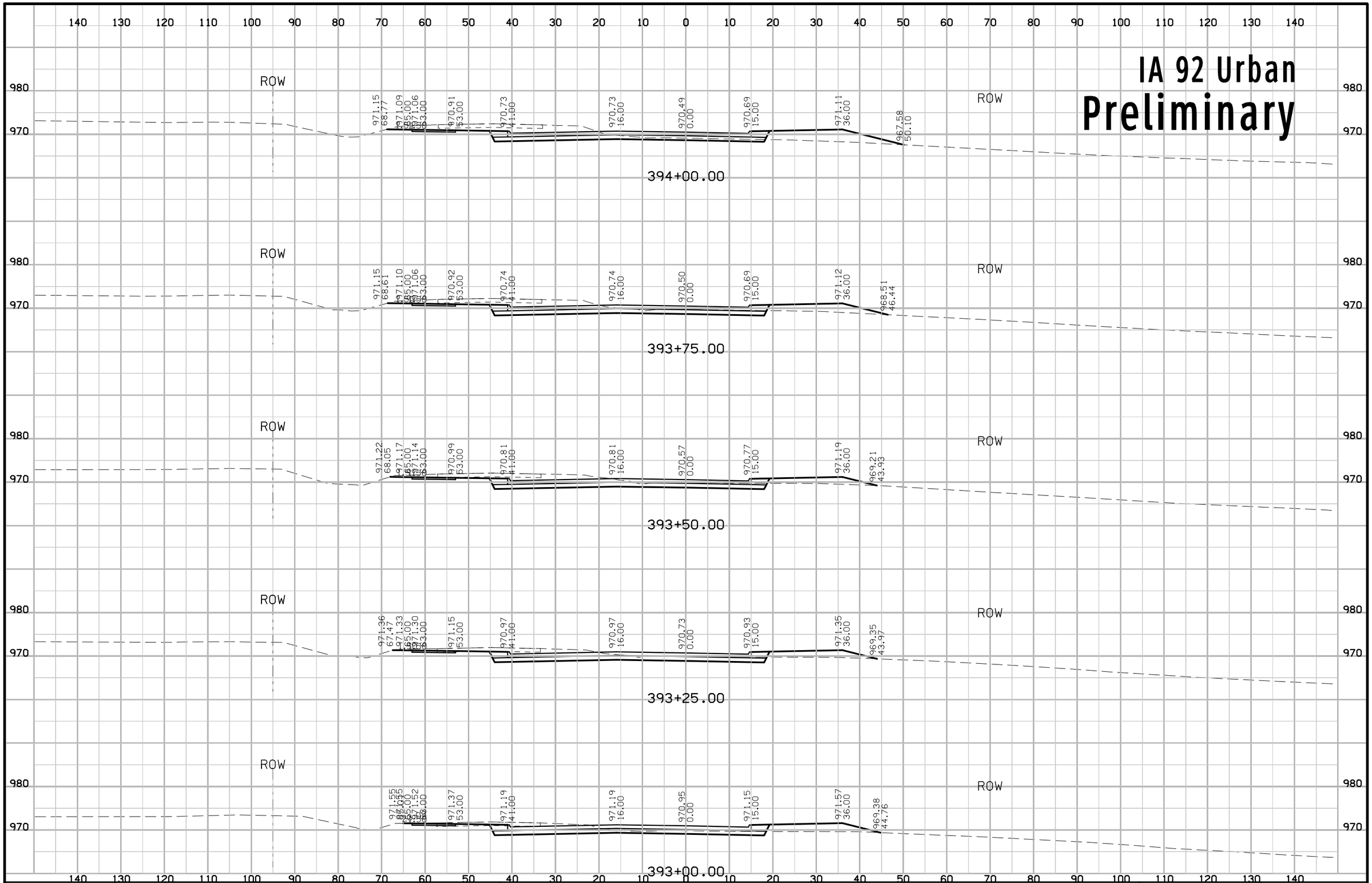

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.162

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IA 92 Urban
Preliminary

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

980 970

ROW

971.04 99.99 | 968.75 93.12 | 968.75 83.12 | 971.77 65.00 | 971.74 53.00 | 971.59 53.00 | 971.41 41.00 | 971.41 16.00 | 971.17 0.00 | 971.37 15.00 | 971.79 36.00 | 965.65 60.54

395+25.00

ROW

971.74 98.61 | 968.82 89.86 | 968.83 79.86 | 971.61 65.00 | 971.58 53.00 | 971.43 53.00 | 971.25 41.00 | 971.25 16.00 | 971.01 0.00 | 971.21 15.00 | 971.63 36.00 | 964.41 64.89

ROW

395+00.00

ROW

970.92 96.38 | 968.90 90.30 | 968.90 80.30 | 971.45 65.00 | 971.42 53.00 | 971.27 53.00 | 971.09 41.00 | 971.09 16.00 | 970.85 0.00 | 971.05 15.00 | 971.47 36.00 | 965.71 59.07

ROW

394+75.00

ROW

971.35 88.70 | 971.29 65.00 | 971.26 53.00 | 971.11 53.00 | 970.93 41.00 | 970.93 16.00 | 970.69 0.00 | 970.89 15.00 | 971.31 36.00 | 965.77 58.16

ROW

394+50.00

ROW

971.21 68.76 | 971.15 65.00 | 971.12 53.00 | 970.97 53.00 | 970.79 41.00 | 970.79 16.00 | 970.55 0.00 | 970.75 15.00 | 971.17 36.00 | 966.33 55.38

ROW

394+25.00

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

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.163

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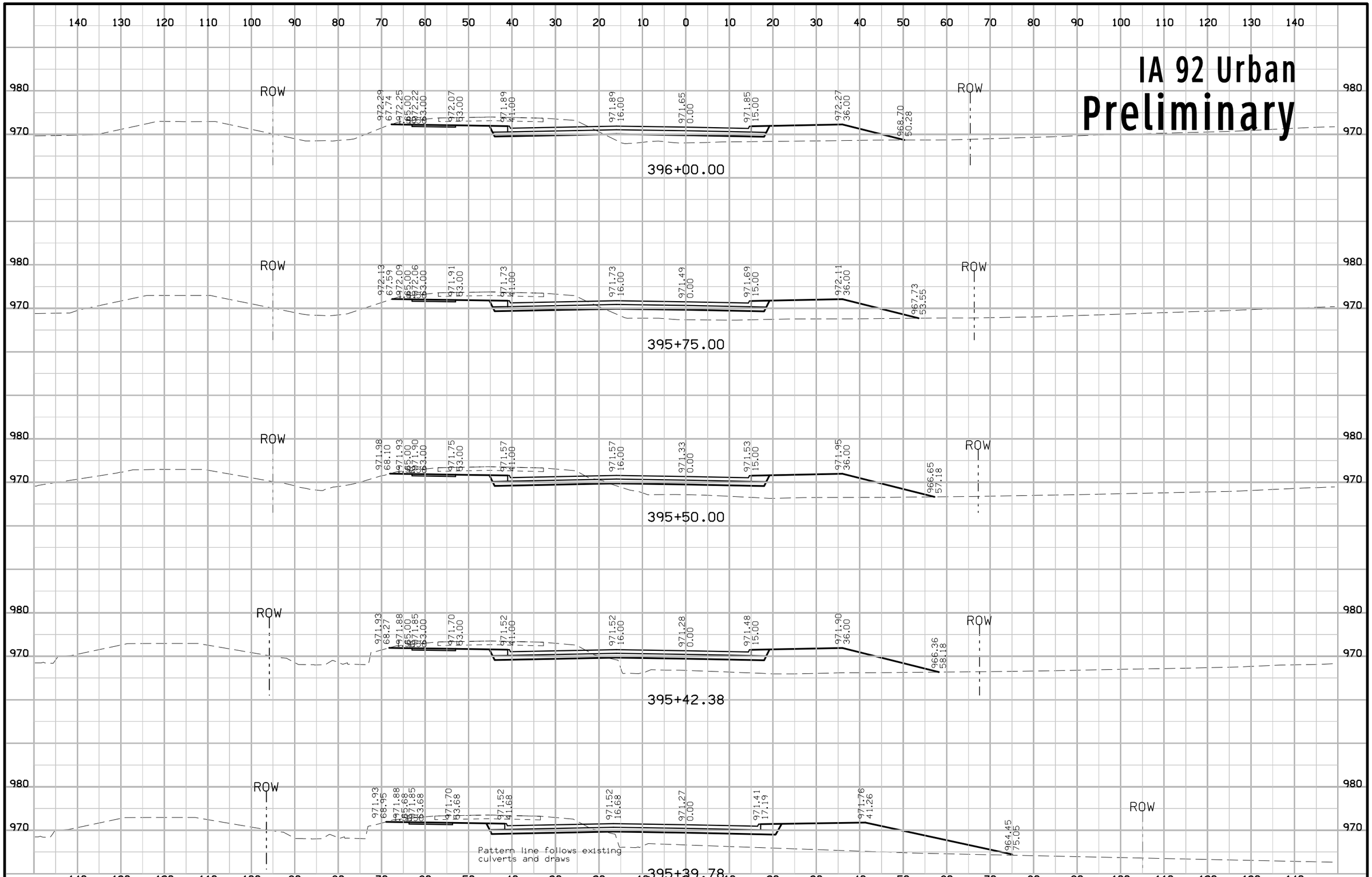

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.164

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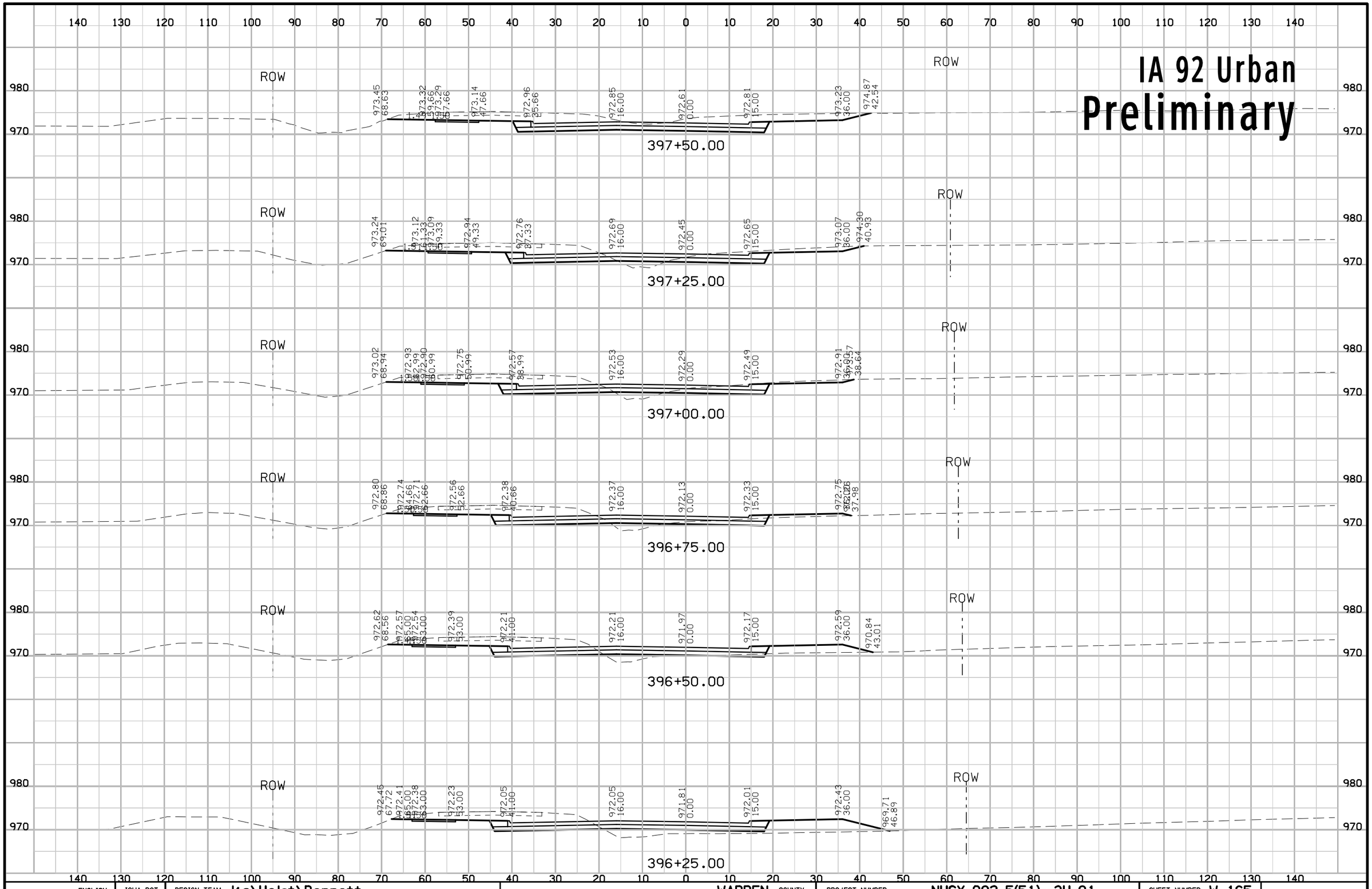
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.165

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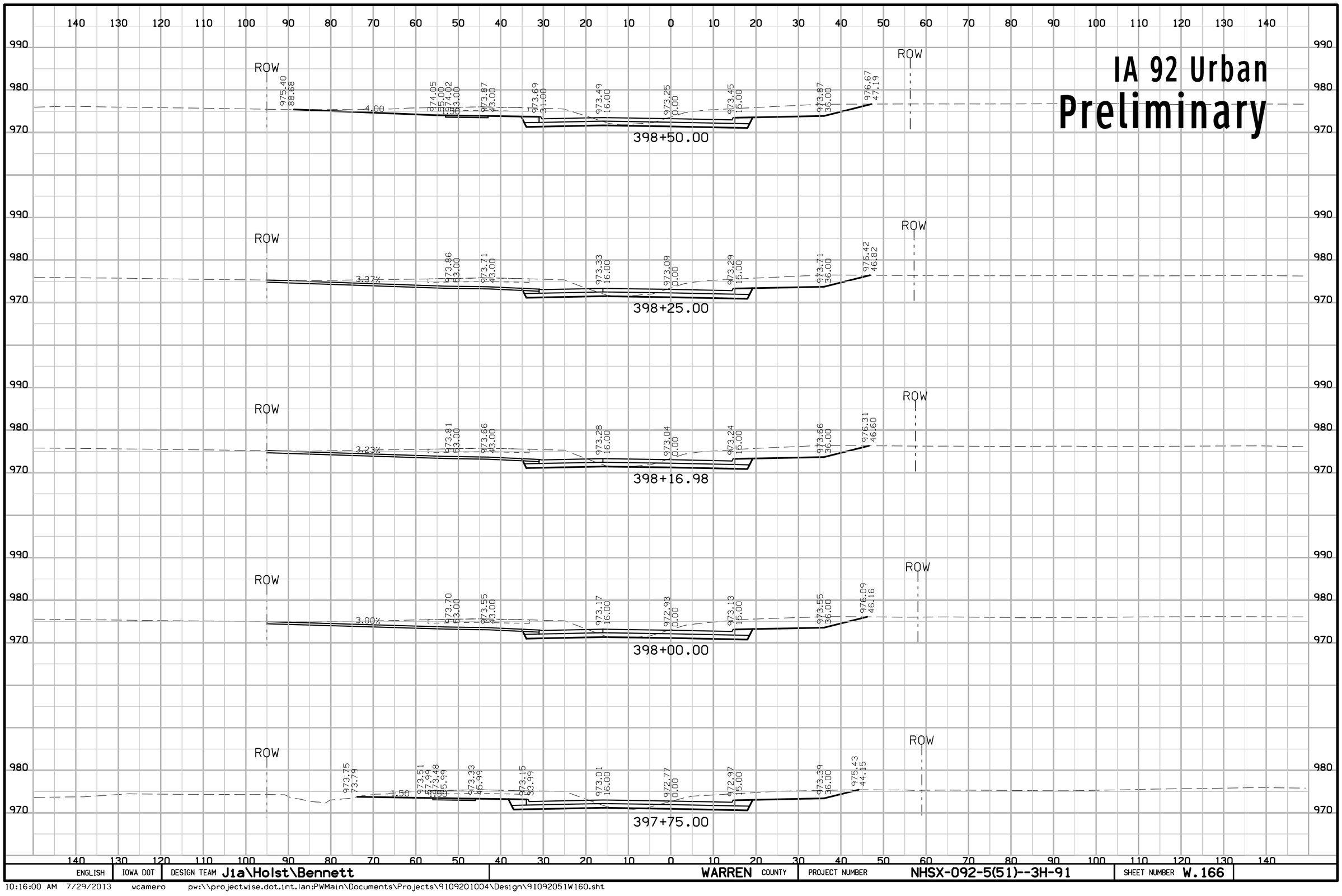
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.166

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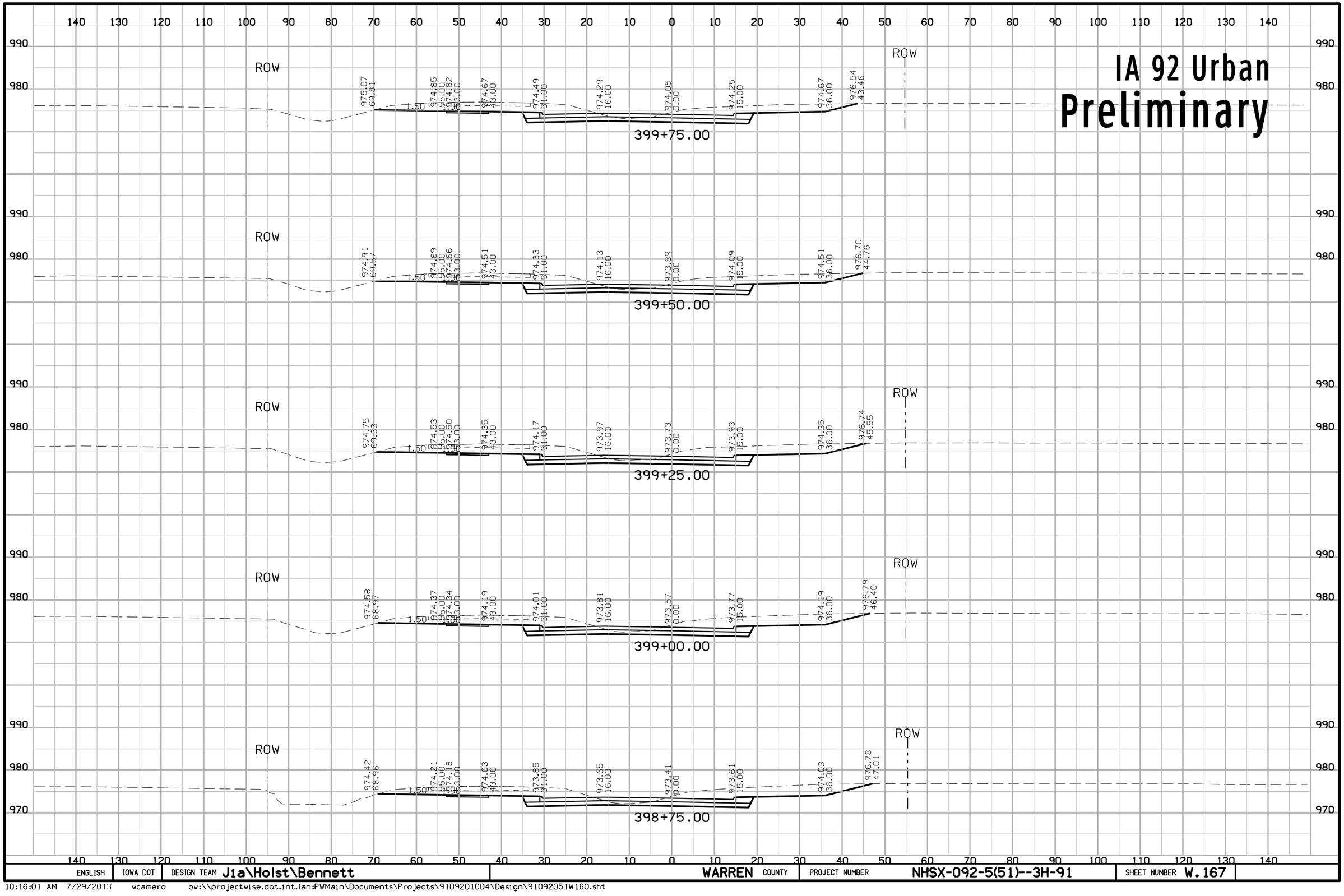
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.167

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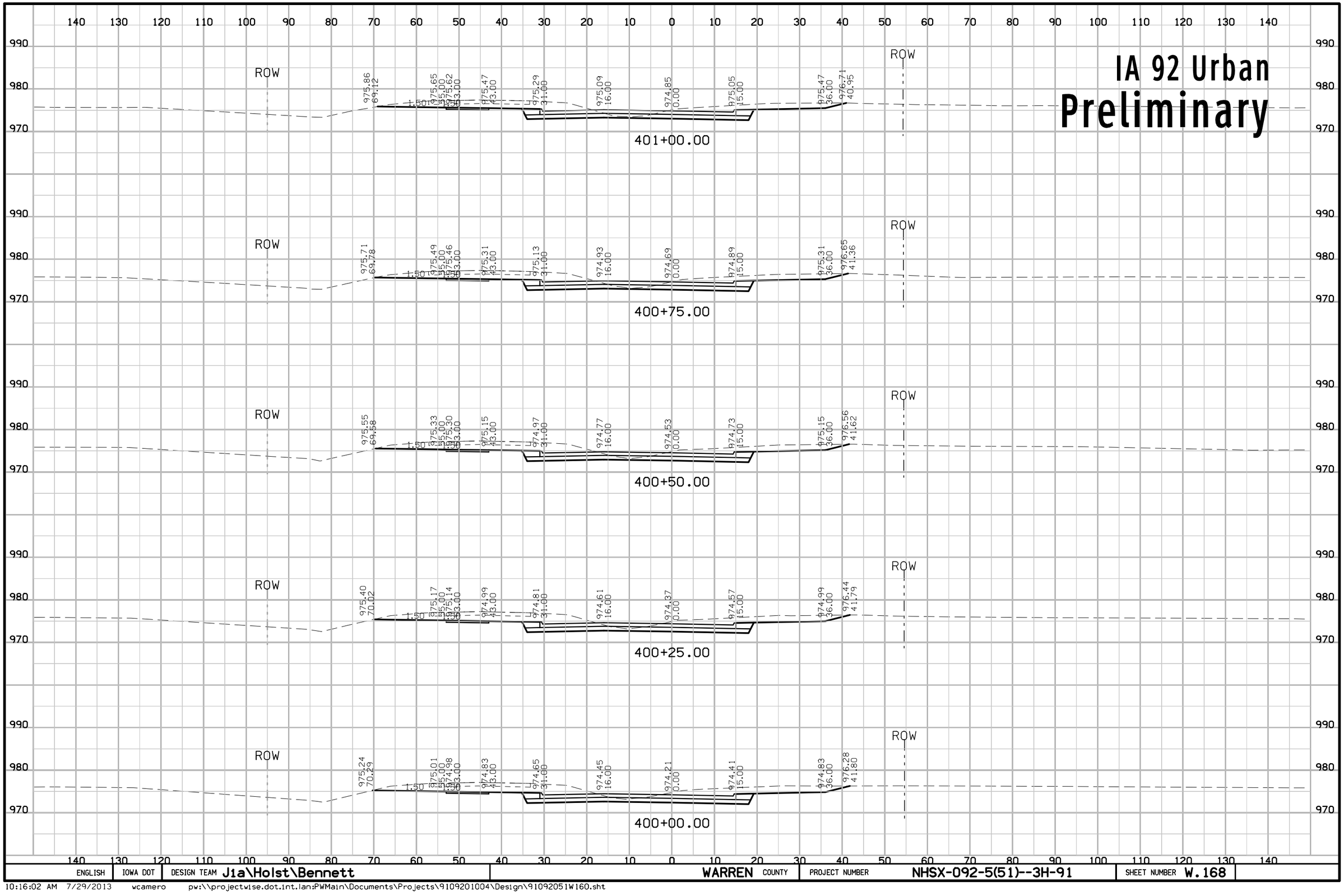
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.168

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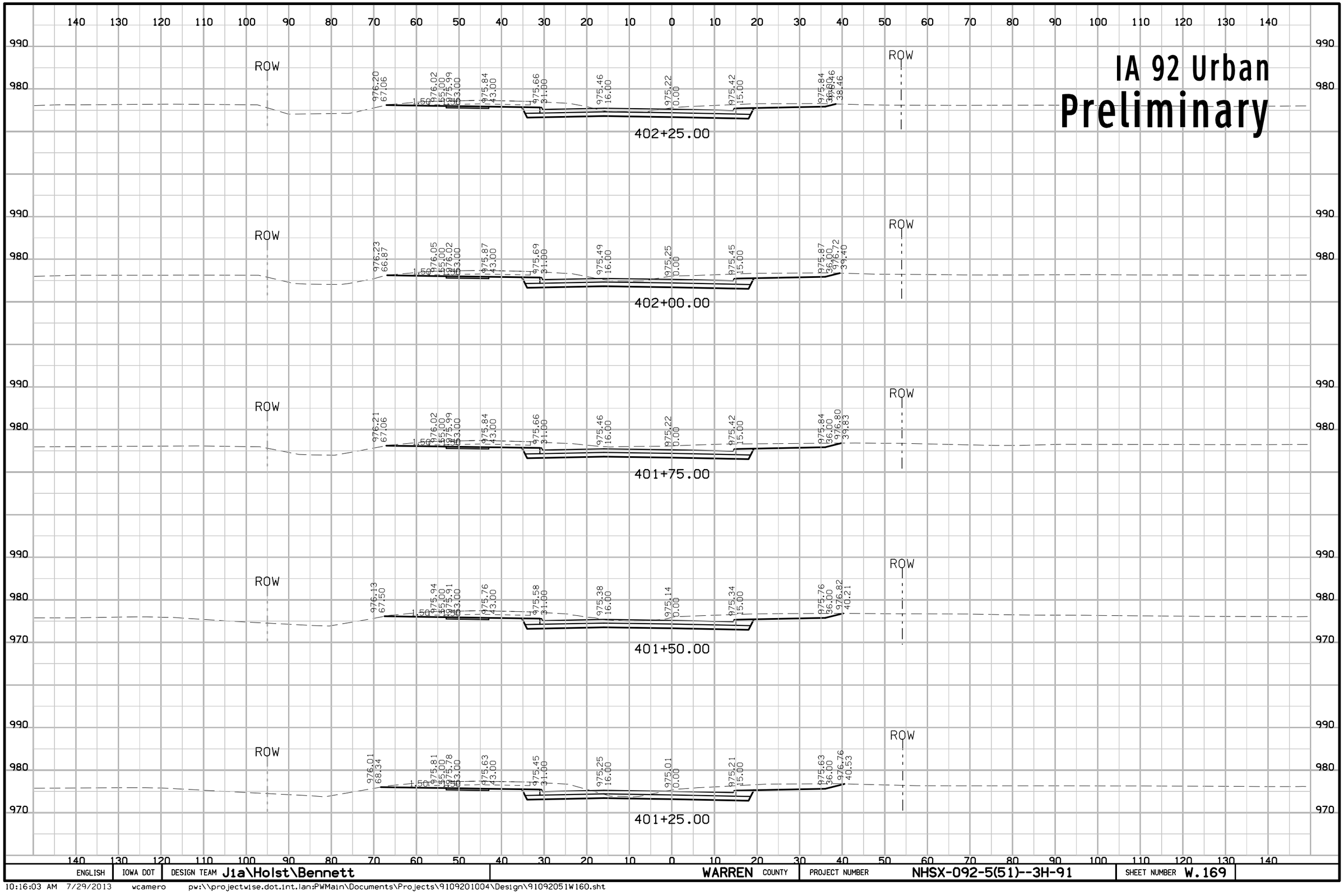
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.169

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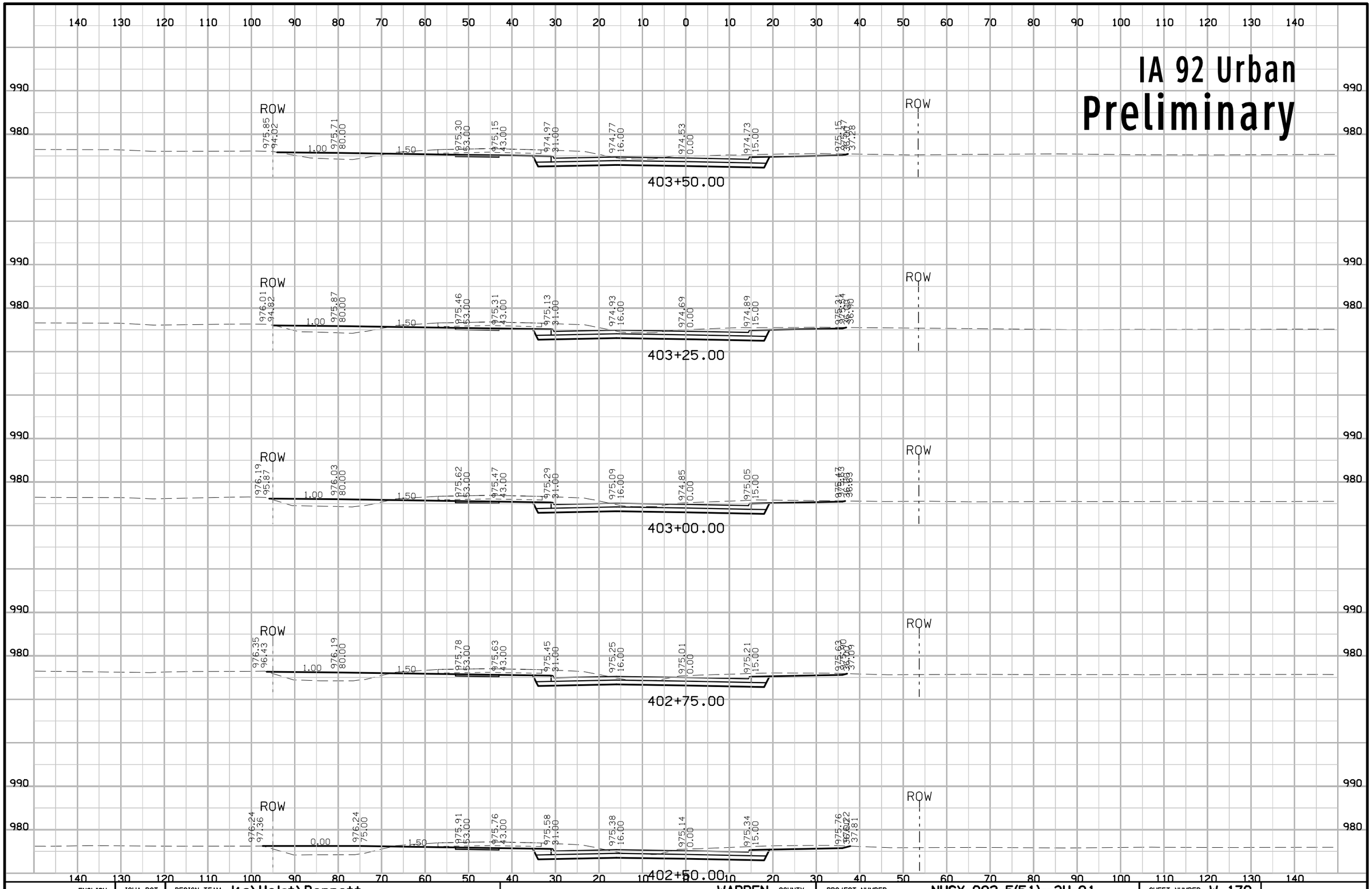
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.170

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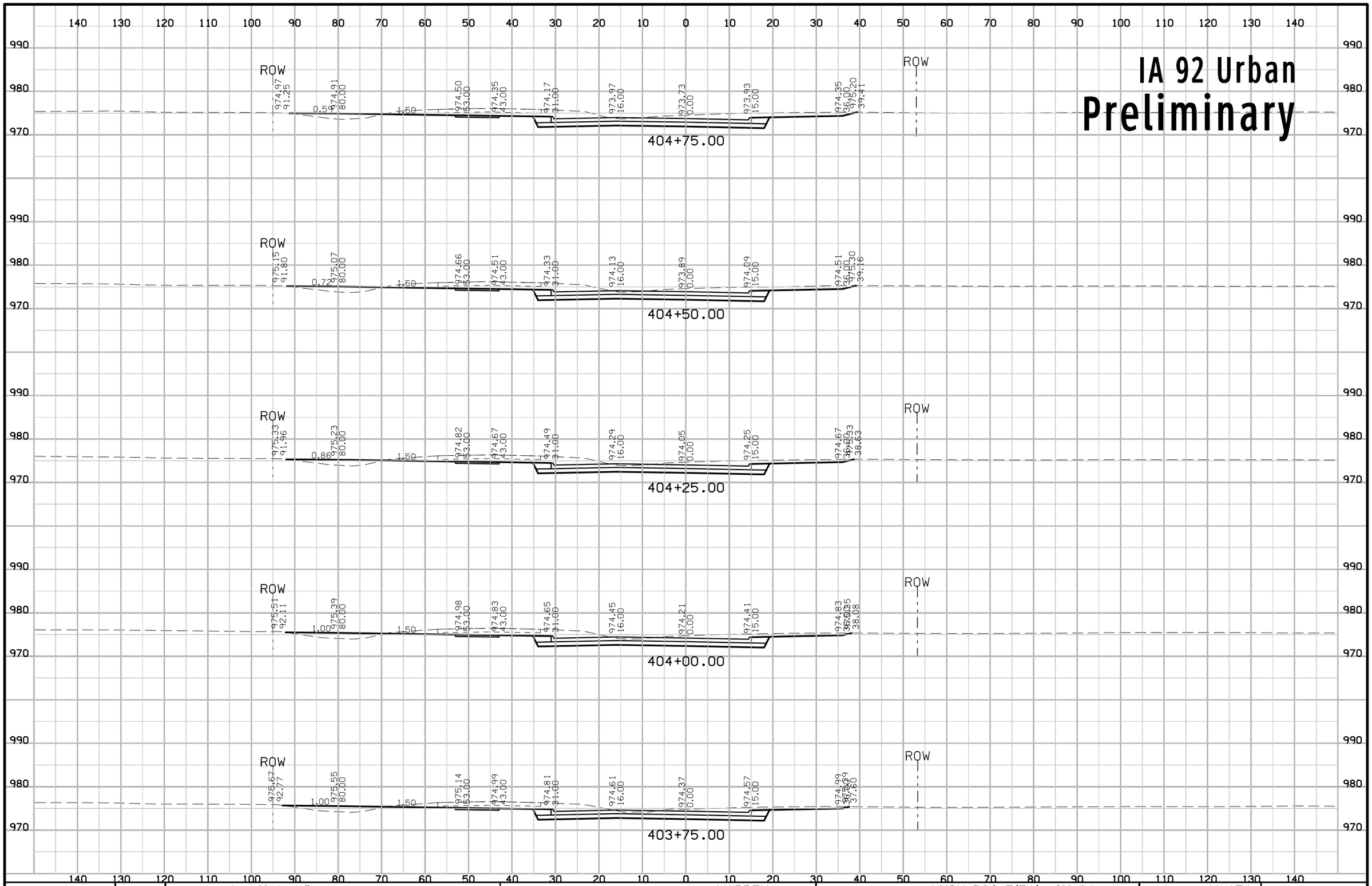
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.171

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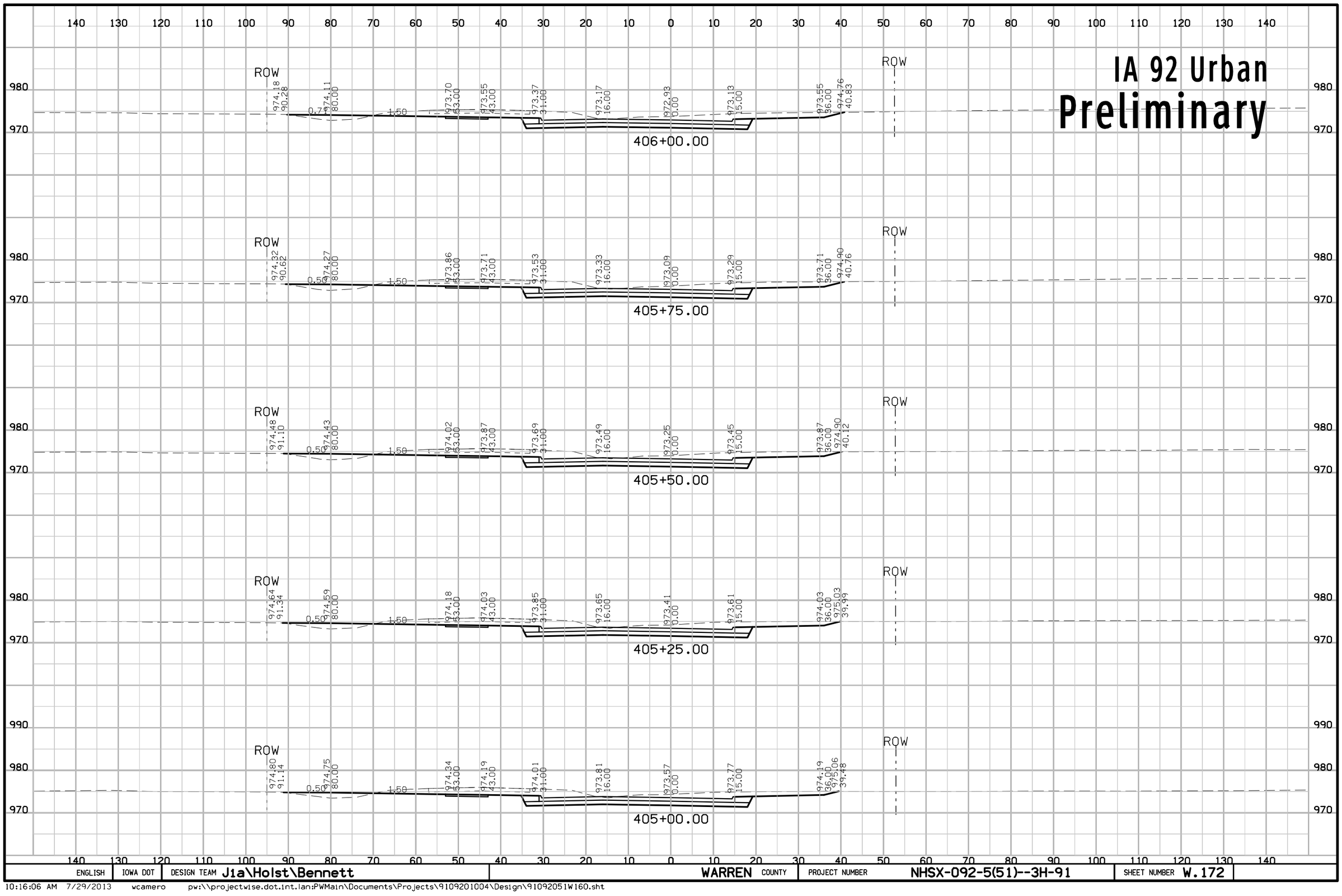
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.172

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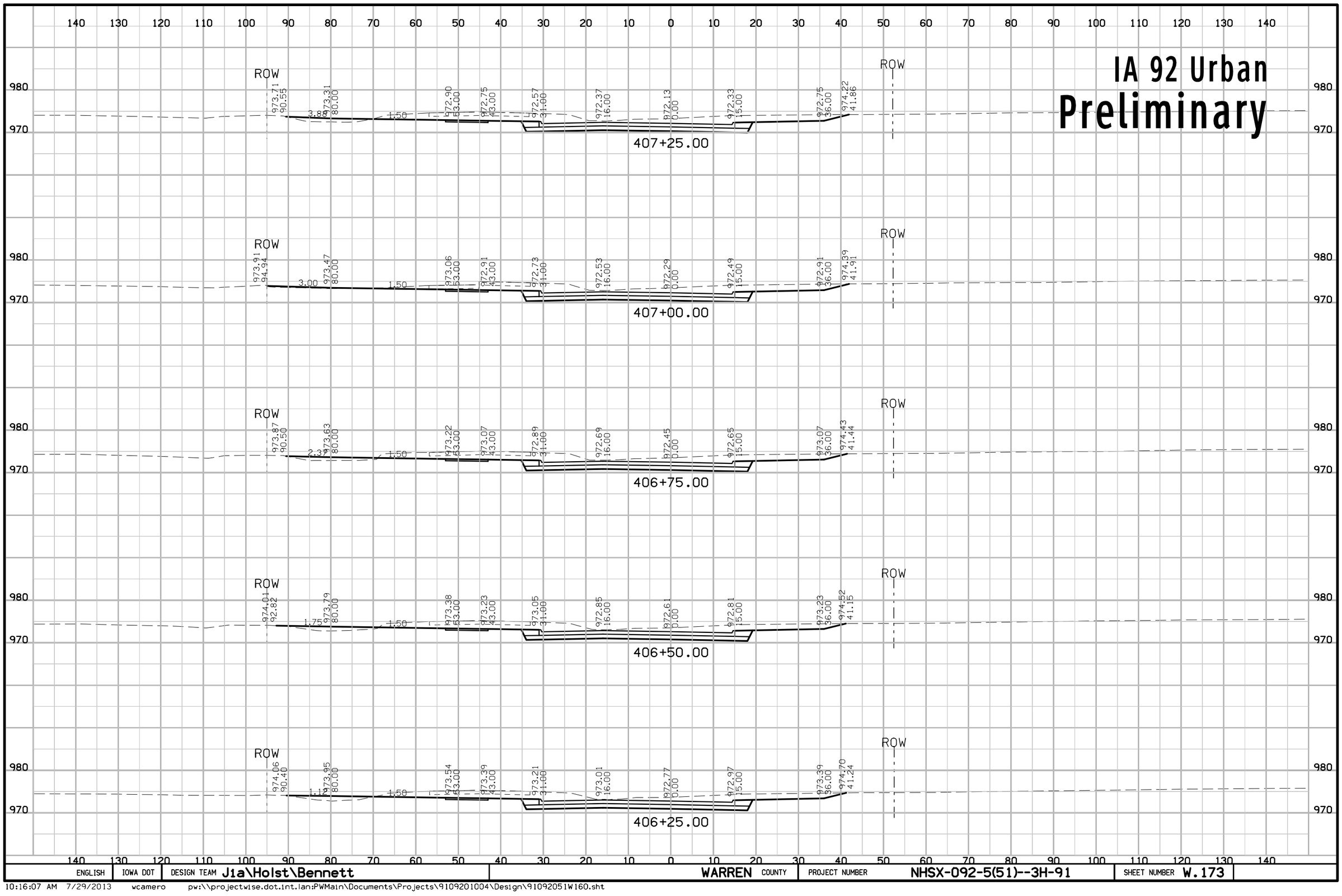
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.173

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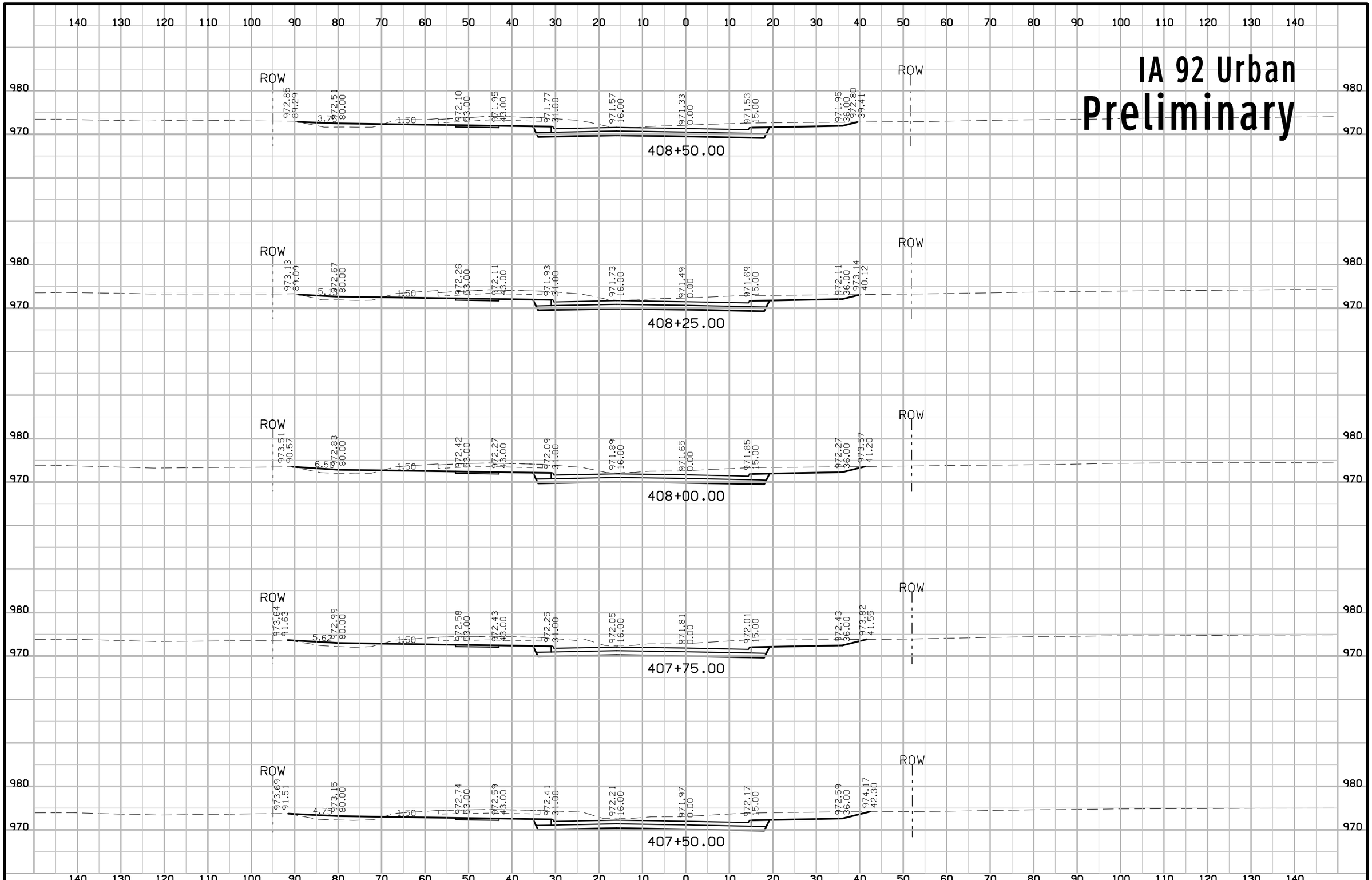
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.174

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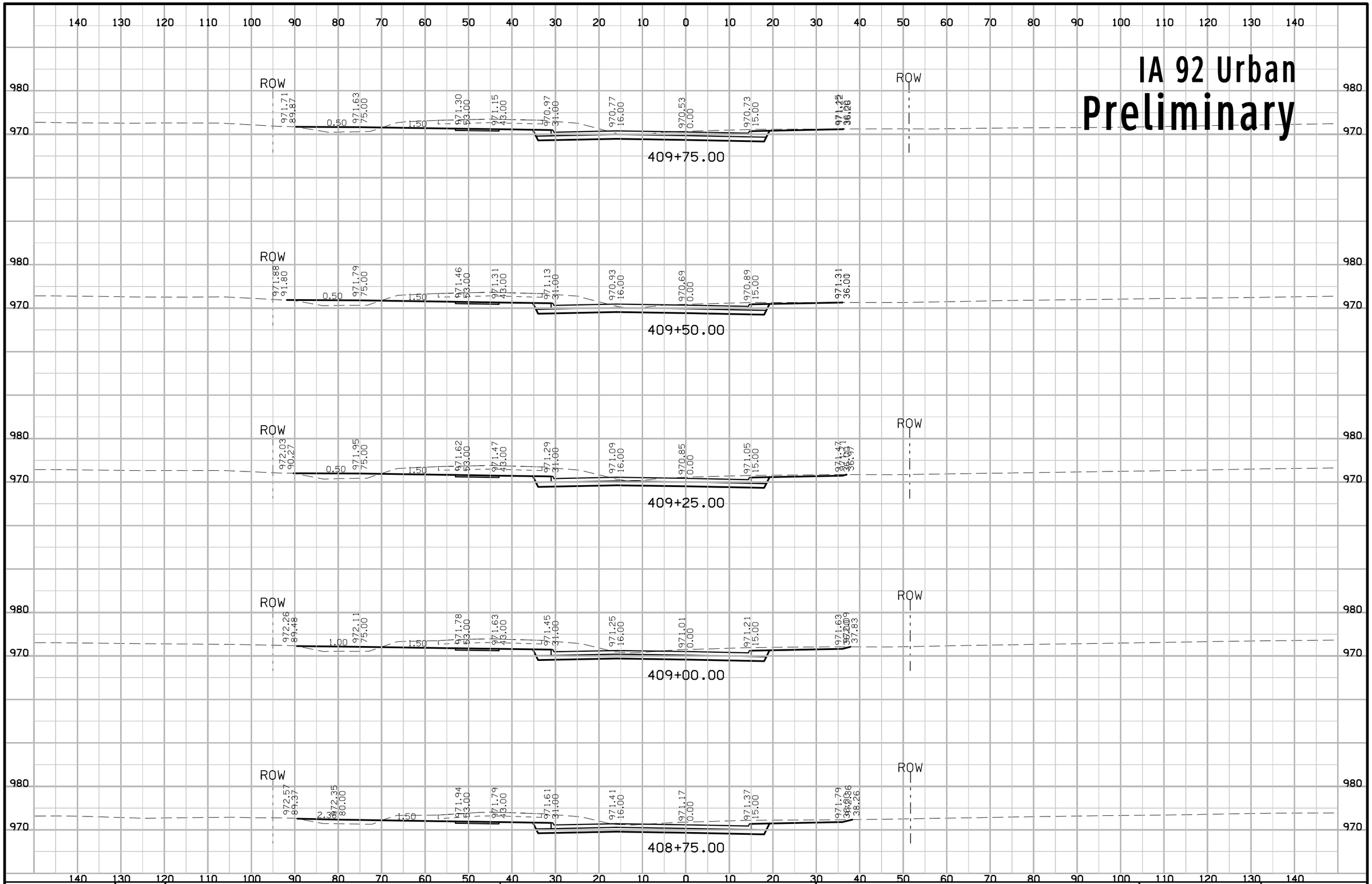
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.175

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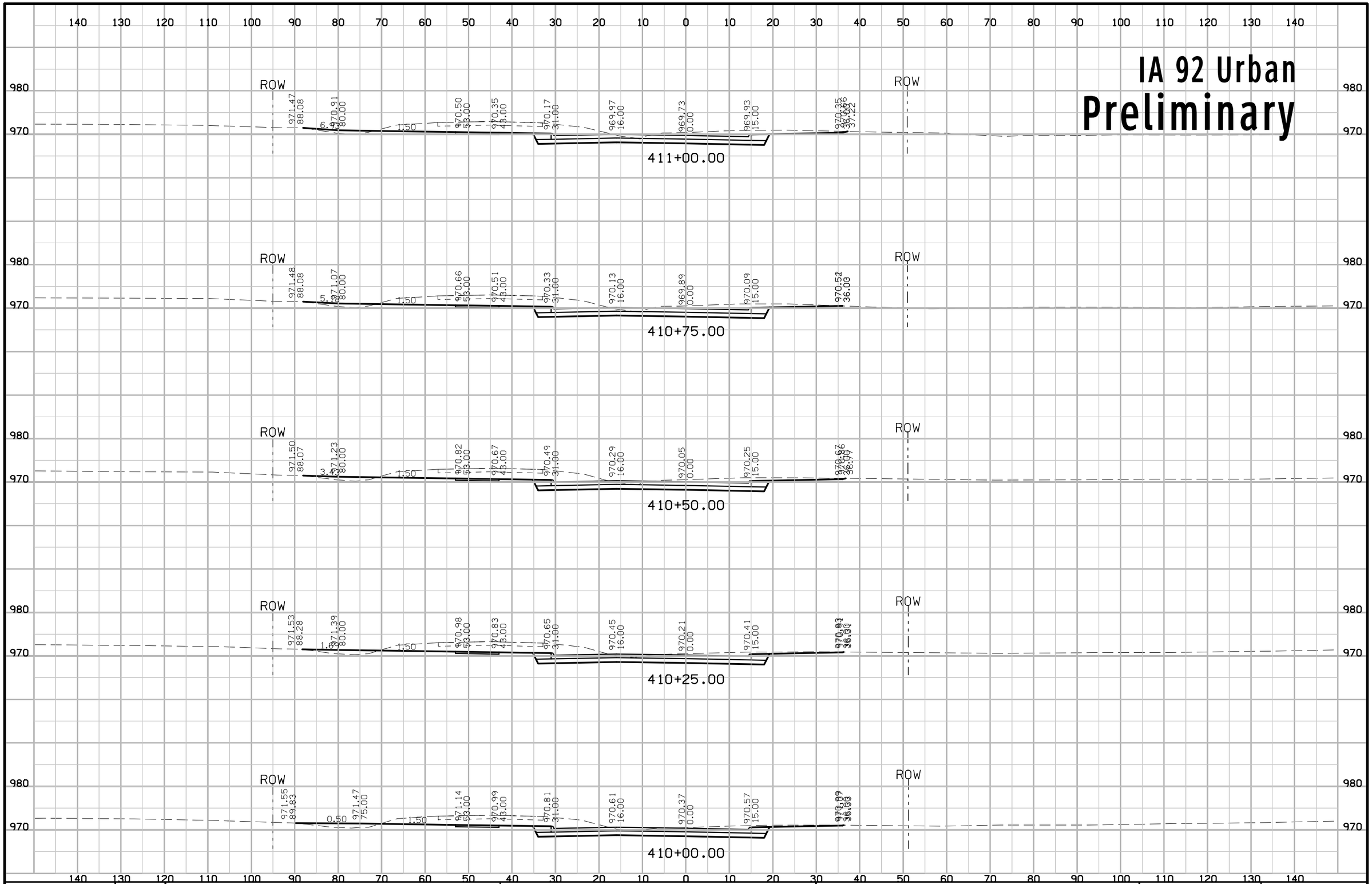
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.176

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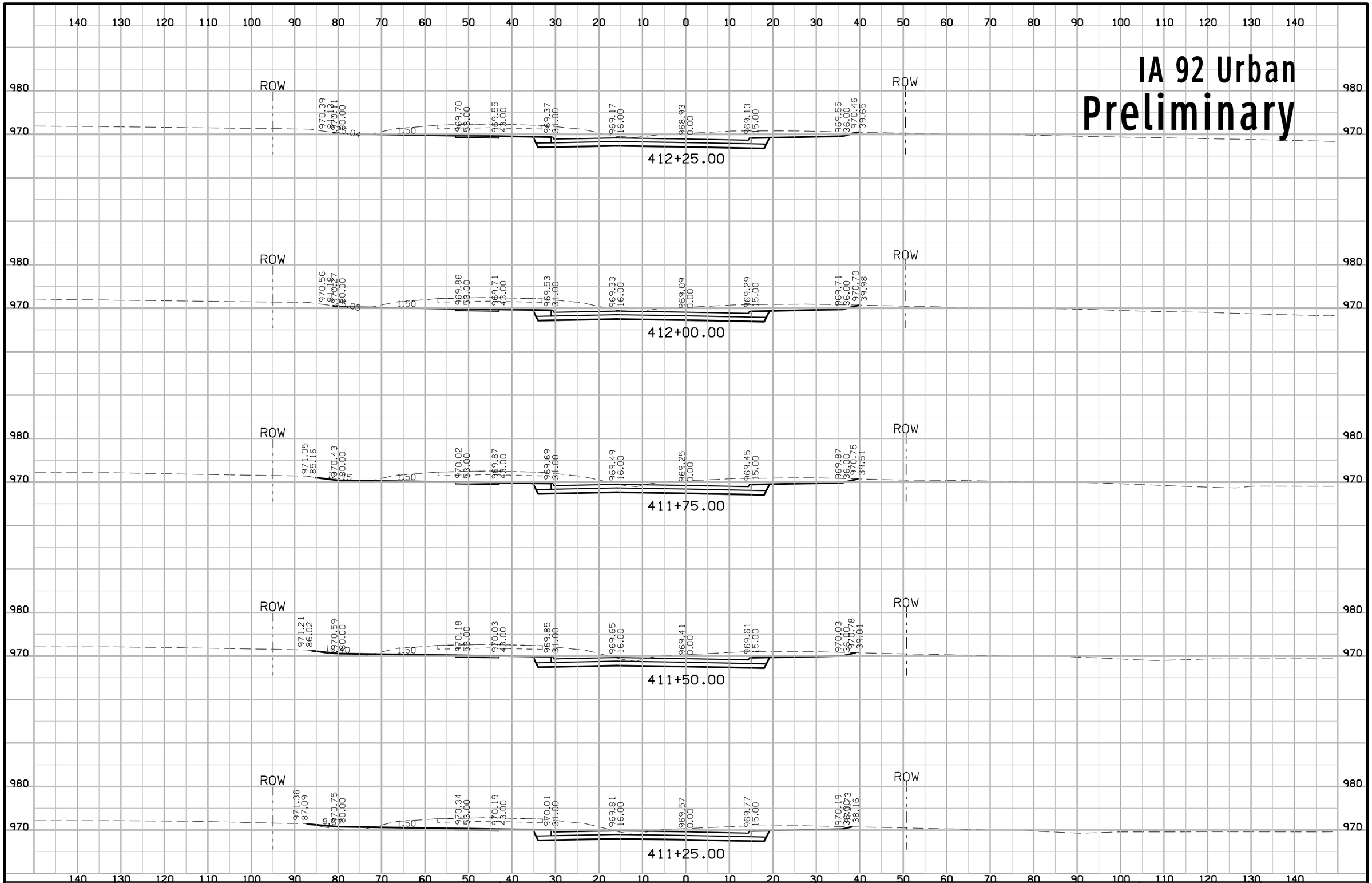

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.177

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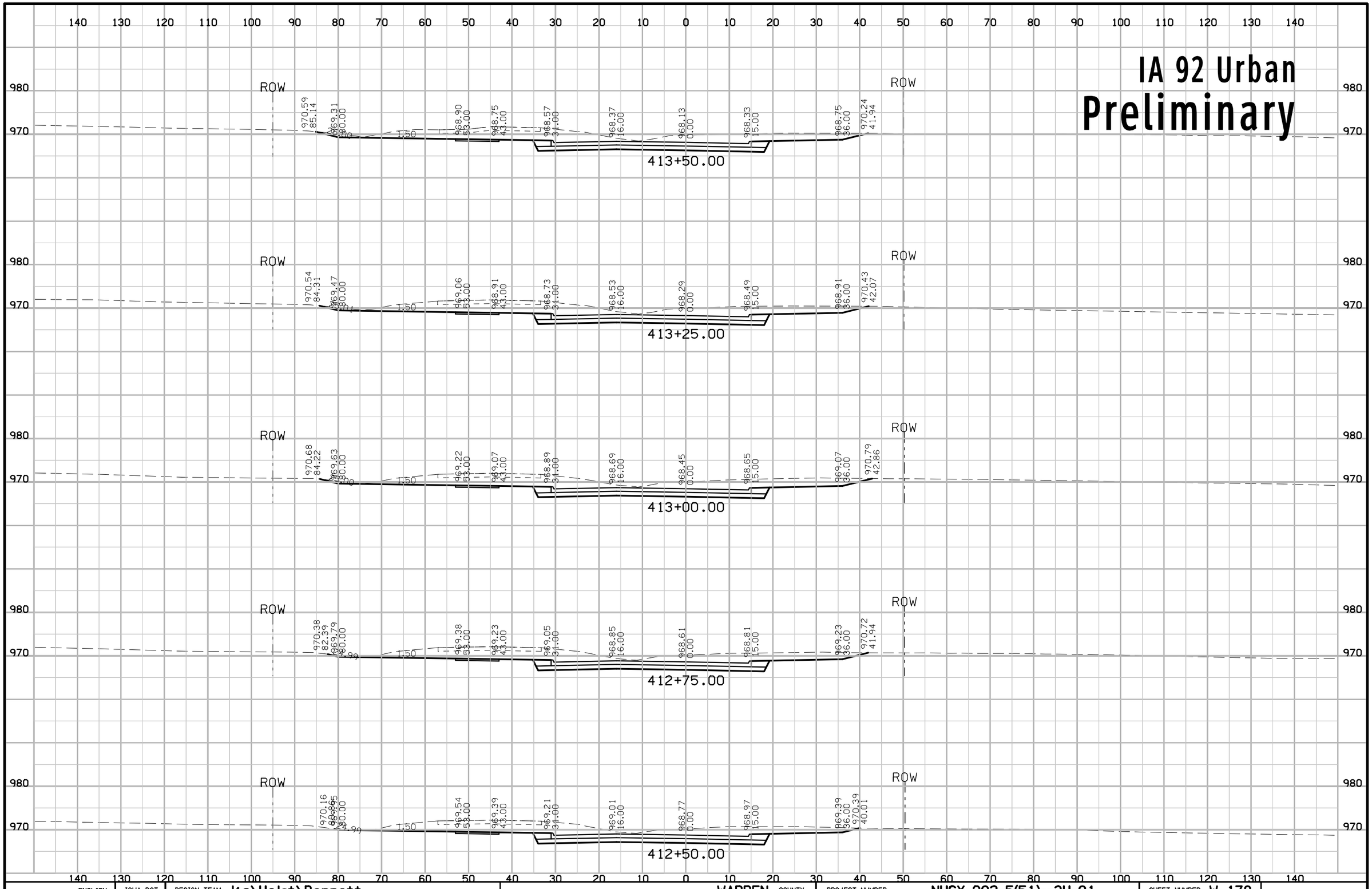
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.178

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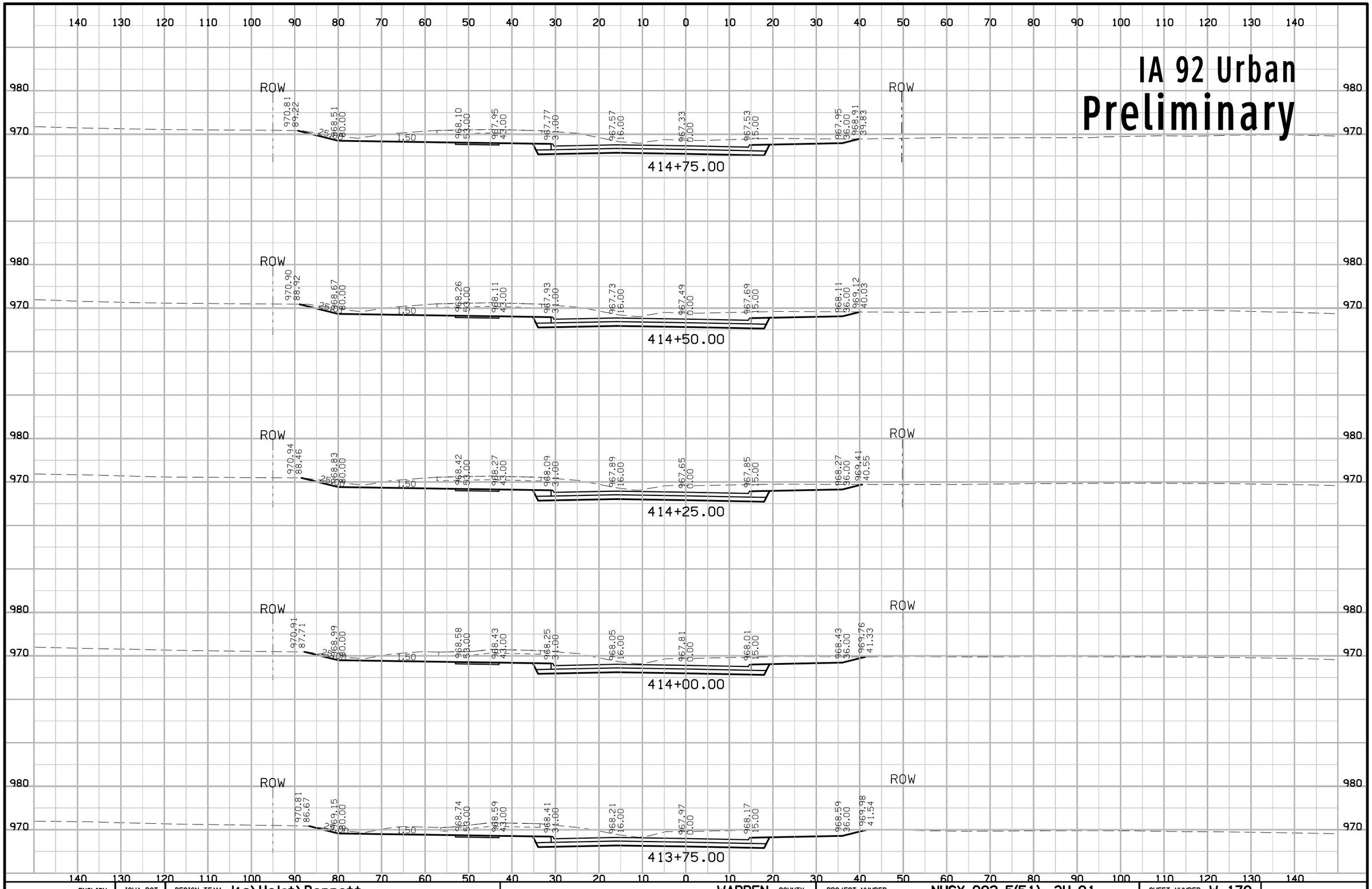
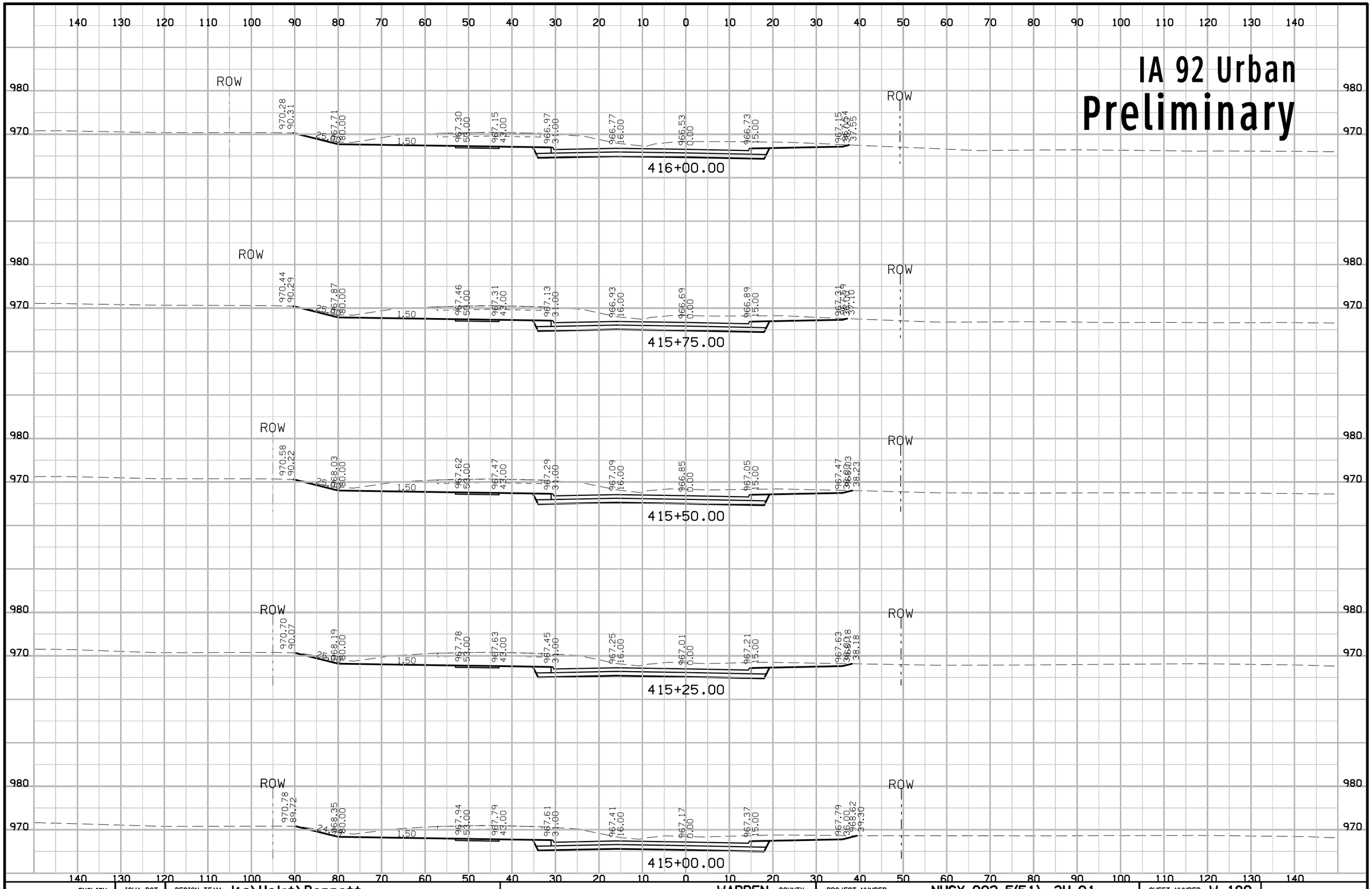
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.179

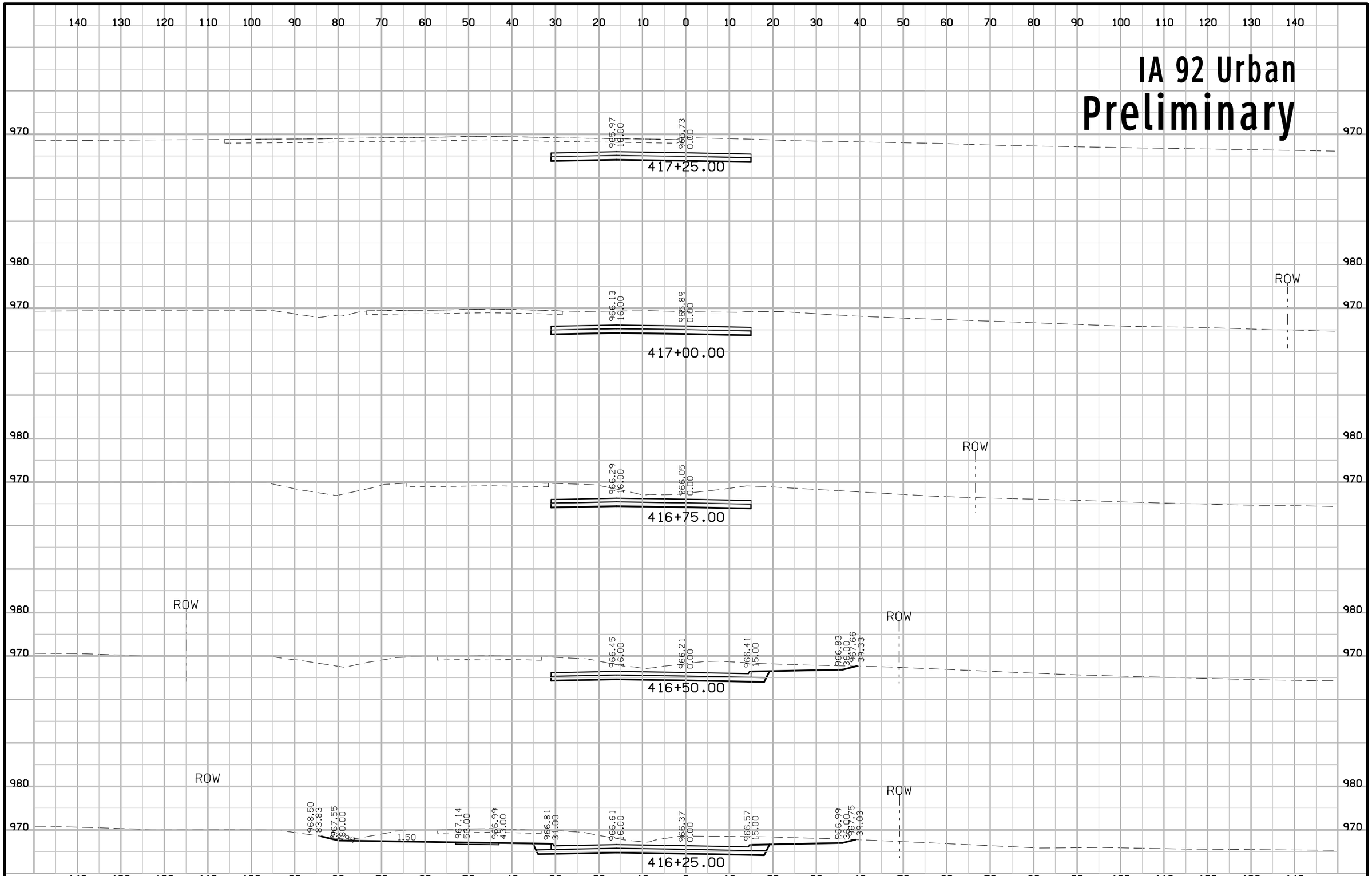
10:16:12 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.180

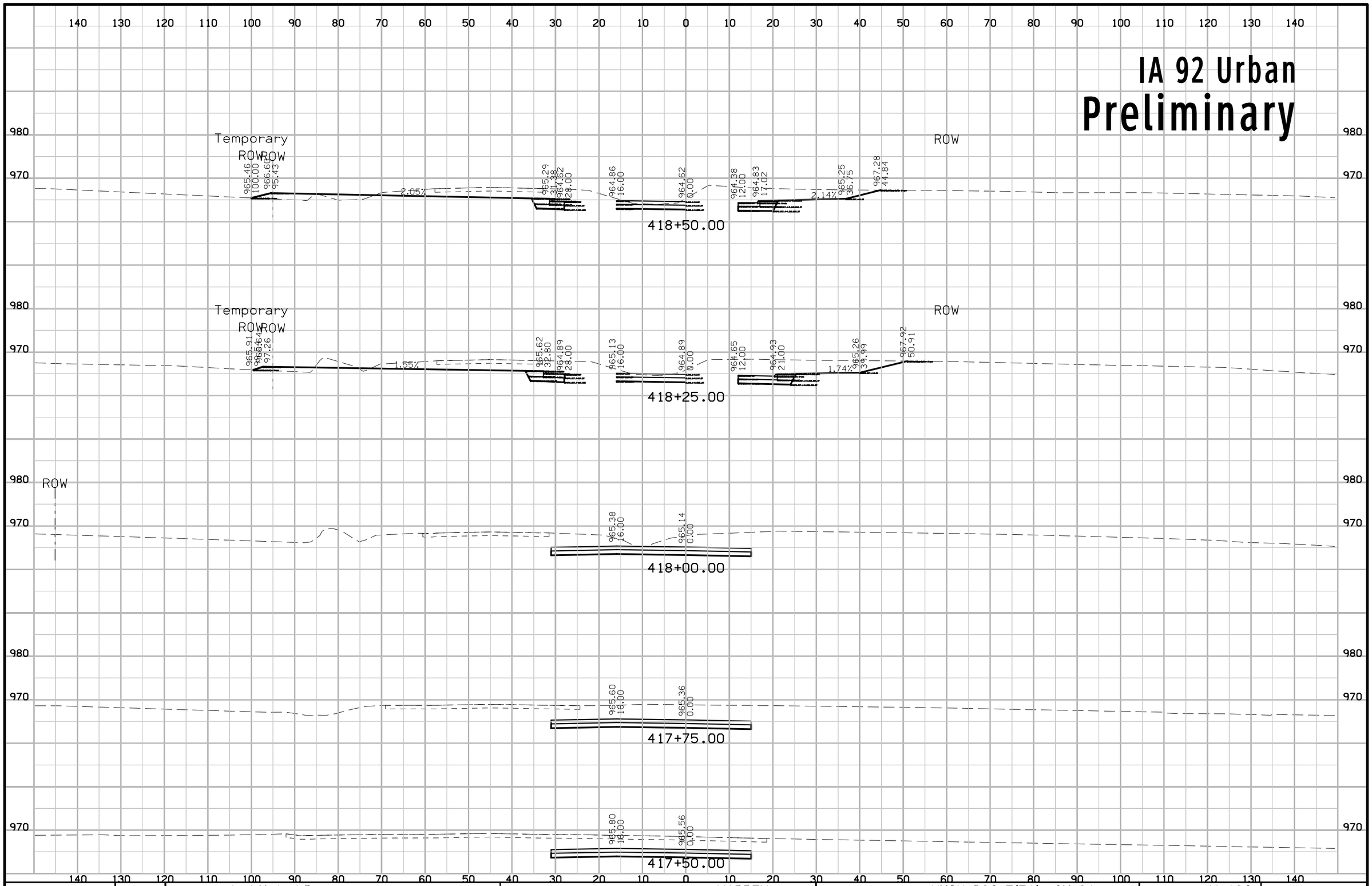
10:16:13 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.181

10:16:14 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

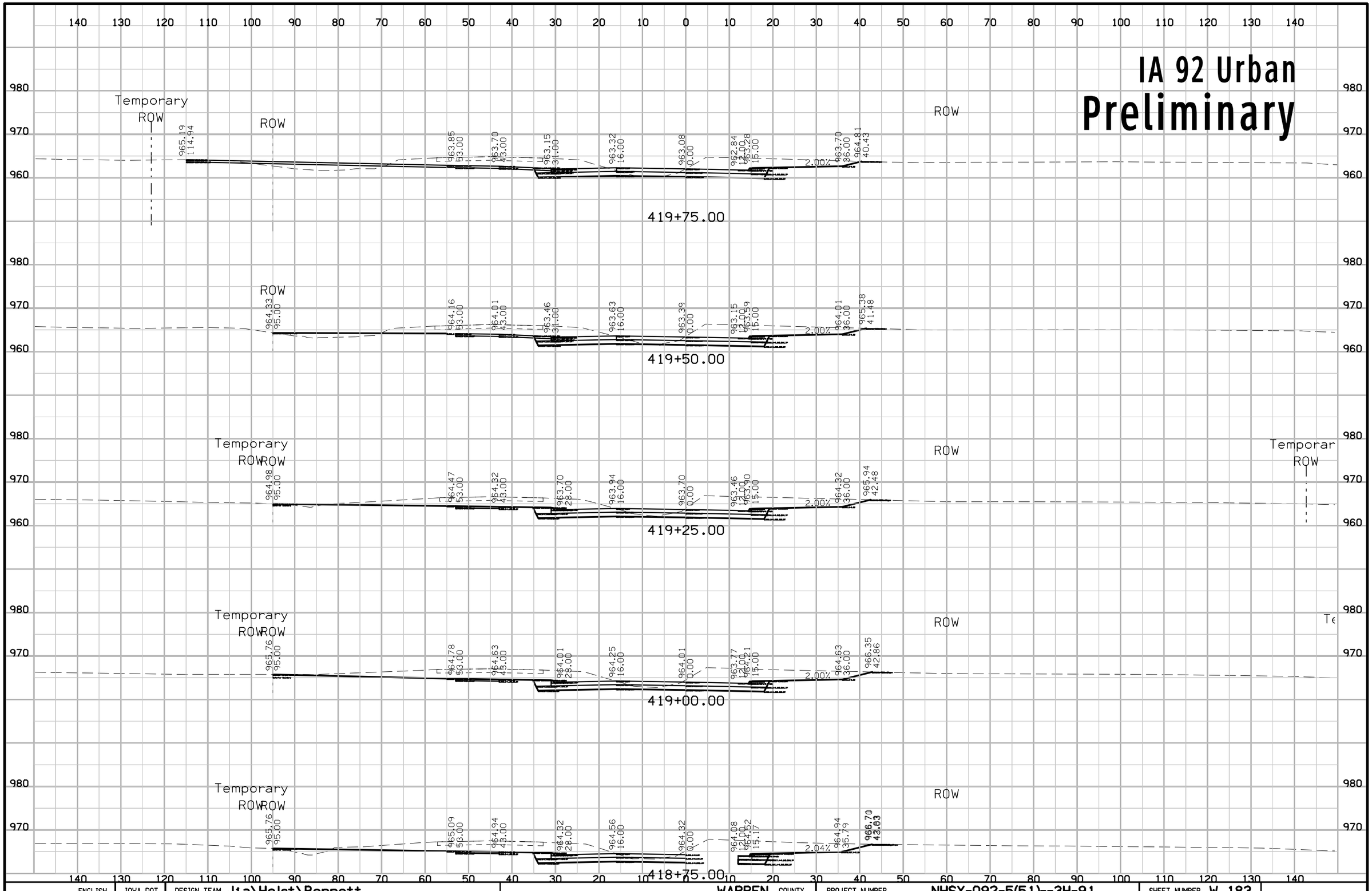
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.182

10:16:15 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

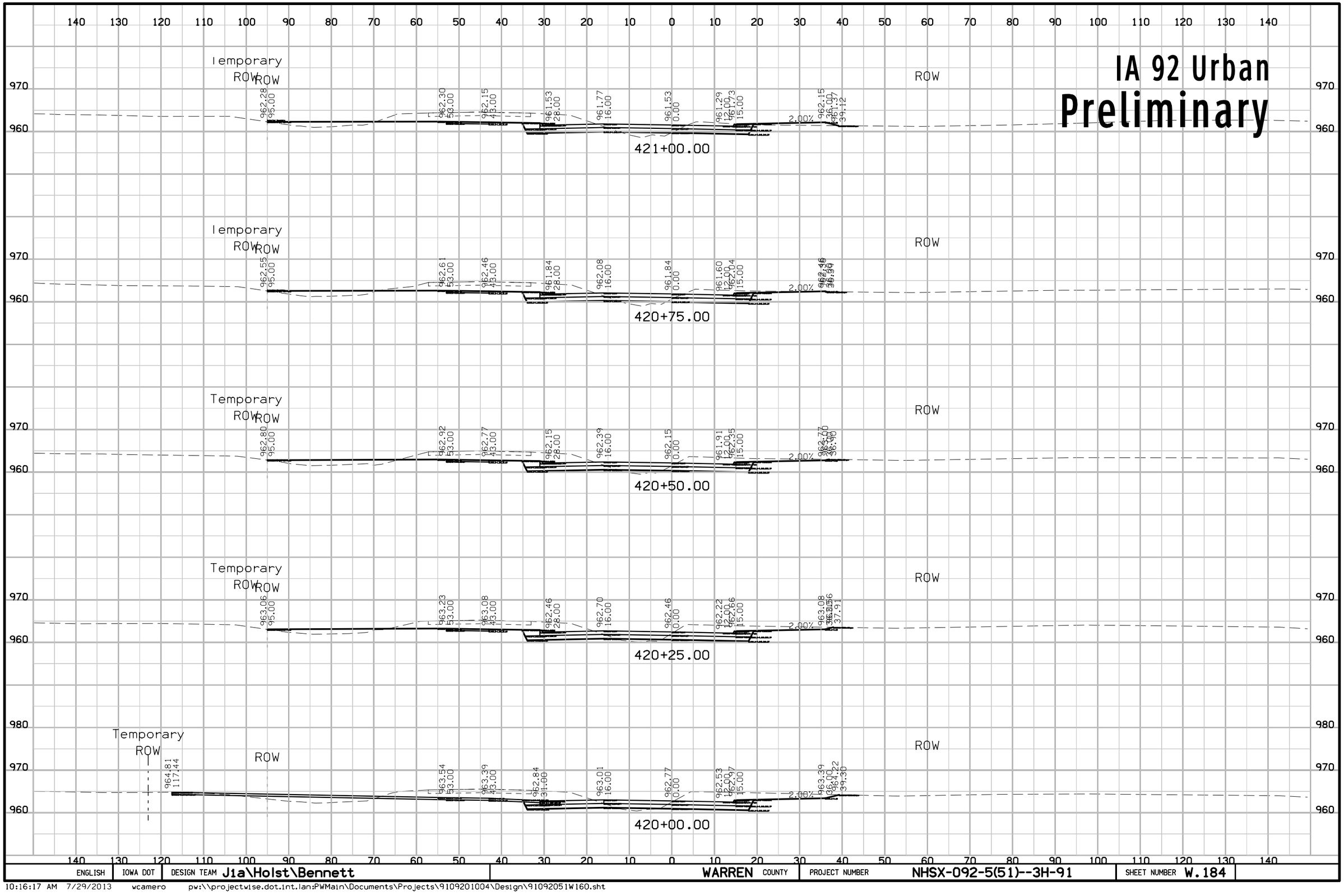
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.183

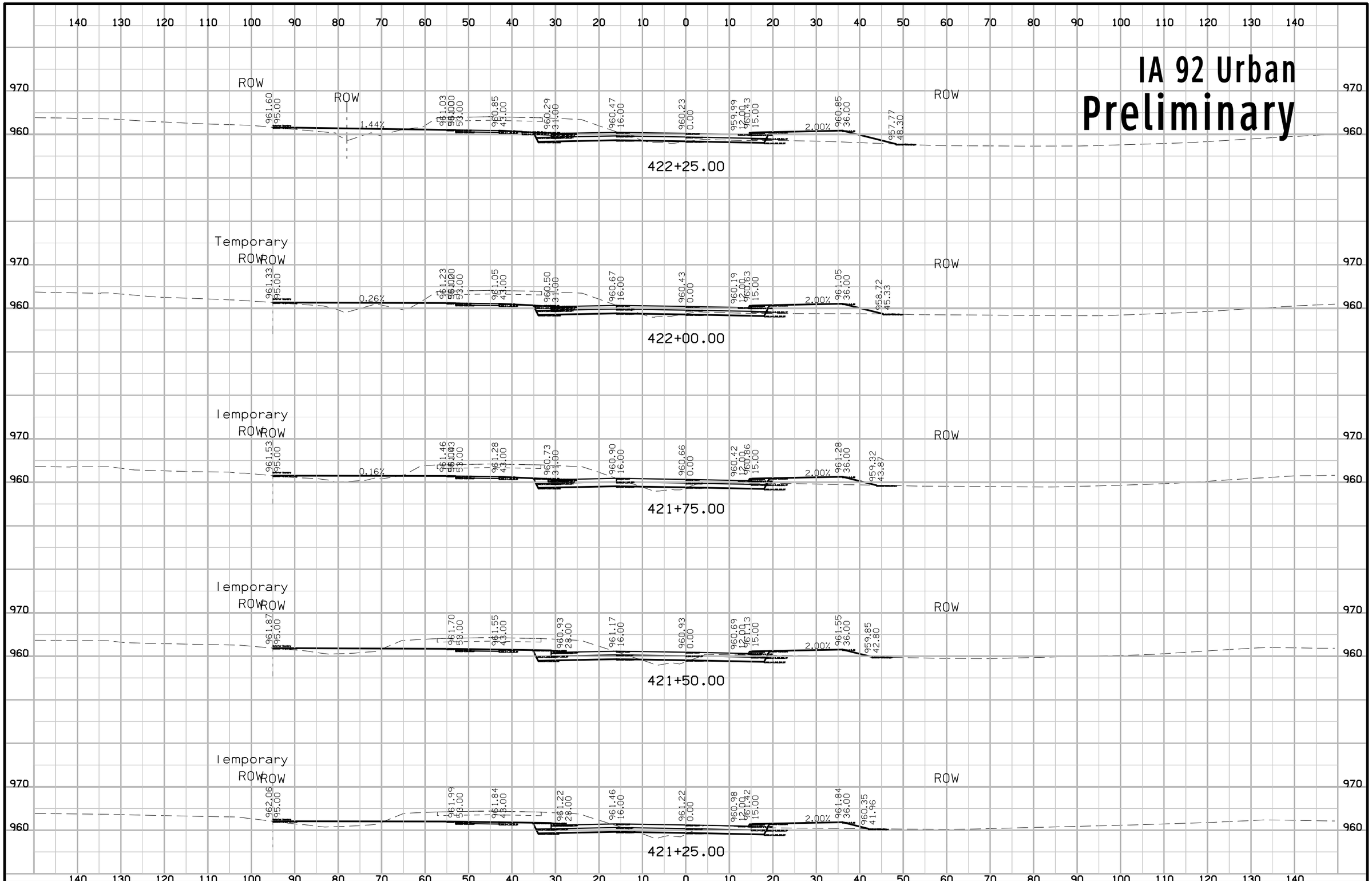
10:16:16 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.184

10:16:17 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.185

10:16:18 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary

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

970
960

ROW ROW ROW

4.00 %

960.50 53.00 | 960.35 43.00 | 960.17 31.00 | 959.97 16.00 | 959.73 0.00 | 959.93 15.00 | 960.35 36.00 | 957.51 47.38

423+11.51

ROW ROW ROW

963.56 66.87 | 960.59 55.00 | 960.56 53.00 | 960.41 43.00 | 960.23 31.00 | 960.03 16.00 | 959.79 0.00 | 959.99 15.00 | 960.41 36.00 | 957.37 48.18

423+00.00

ROW ROW ROW

963.42 65.83 | 960.72 55.00 | 960.69 53.00 | 960.54 43.00 | 960.36 31.00 | 960.16 16.00 | 959.92 0.00 | 960.12 15.00 | 960.54 36.00 | 957.34 48.77

422+75.00

ROW ROW ROW

963.56 123.03 | 961.46 95.00 | 7.52% | 1.50 | 960.83 53.00 | 960.68 43.00 | 960.50 31.00 | 960.30 16.00 | 960.06 0.00 | 960.26 15.00 | 960.68 36.00 | 956.59 52.36

422+50.00

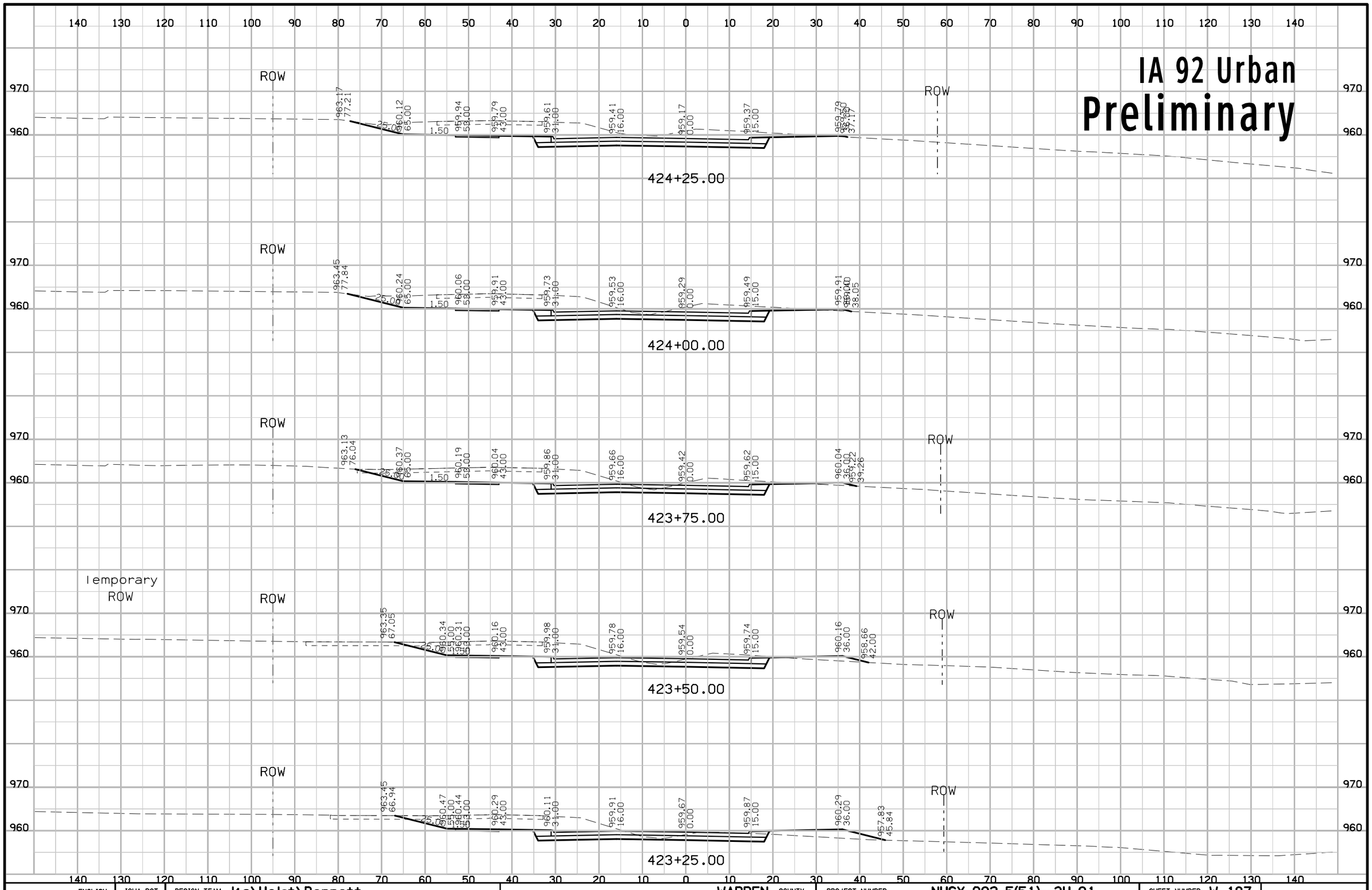
ROW ROW

422+41.02

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.186

10:16:19 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.187

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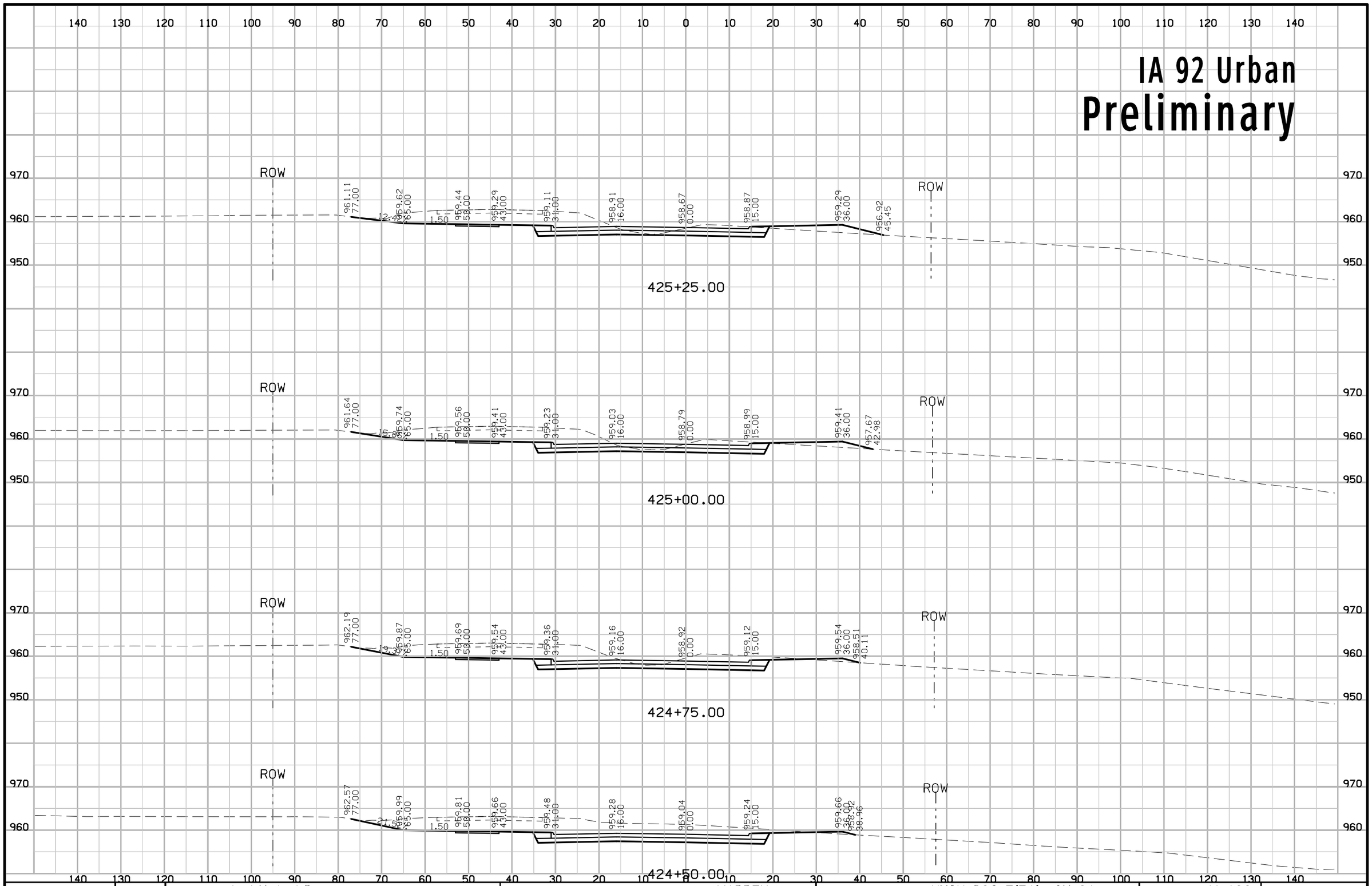
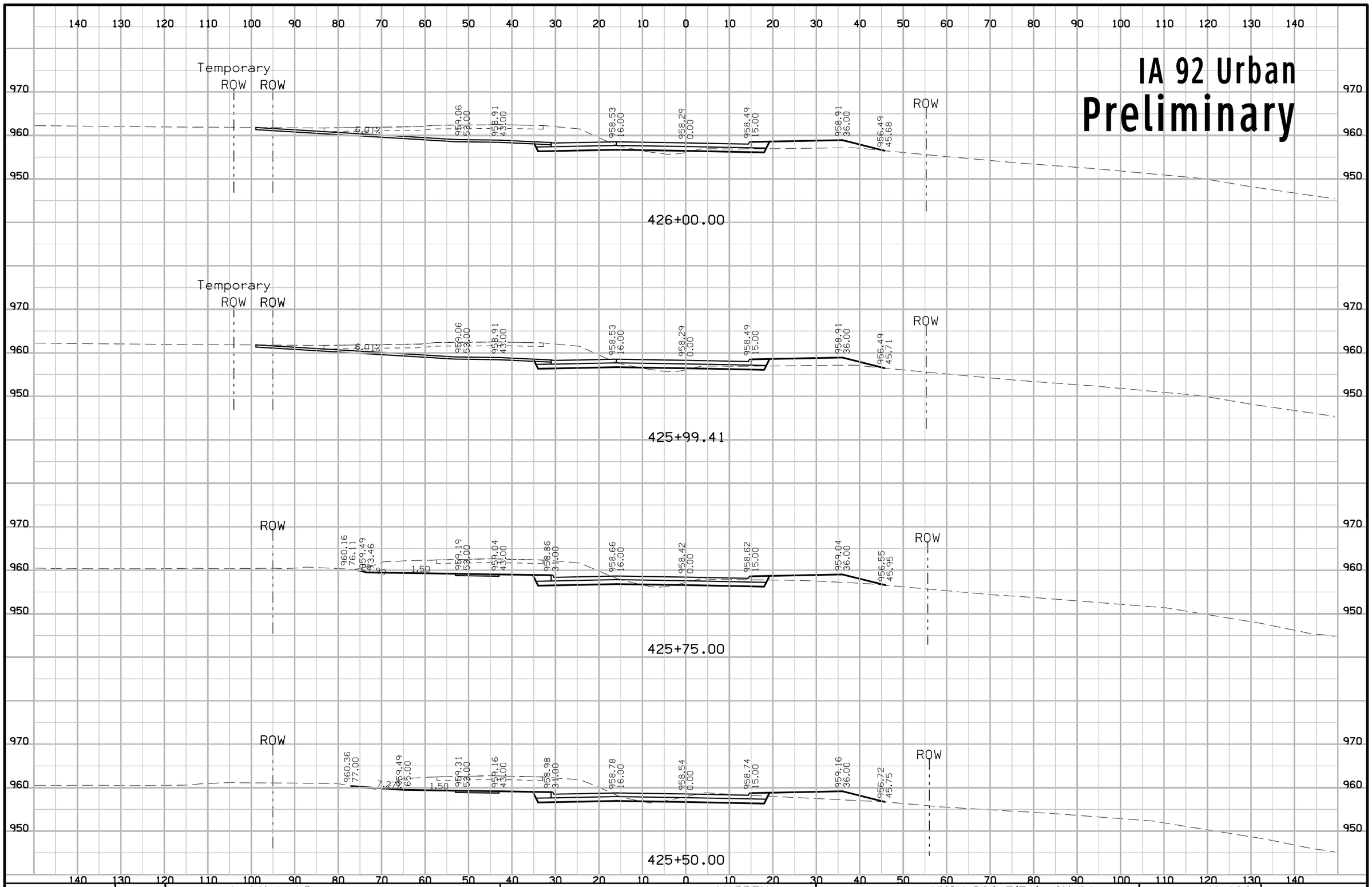
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.188

10:16:21 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.189

10:16:22 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary

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

970
960
950

ROW
959.87
12.52
ROW
1.90
959.25
80.00
1.50
958.85
53.00
958.70
43.00
958.52
31.00
958.32
16.00
958.08
0.00
958.28
15.00
958.70
36.00
953.43
57.07

426+50.00

960
950

426+40.00

960
950

426+35.00

960
950

426+30.00

Temporary
ROW
ROW
961.87
66.61
958.94
53.00
958.79
43.00
958.61
31.00
958.41
16.00
958.17
0.00
958.37
15.00
958.79
36.00
956.56
44.89

970
960
950

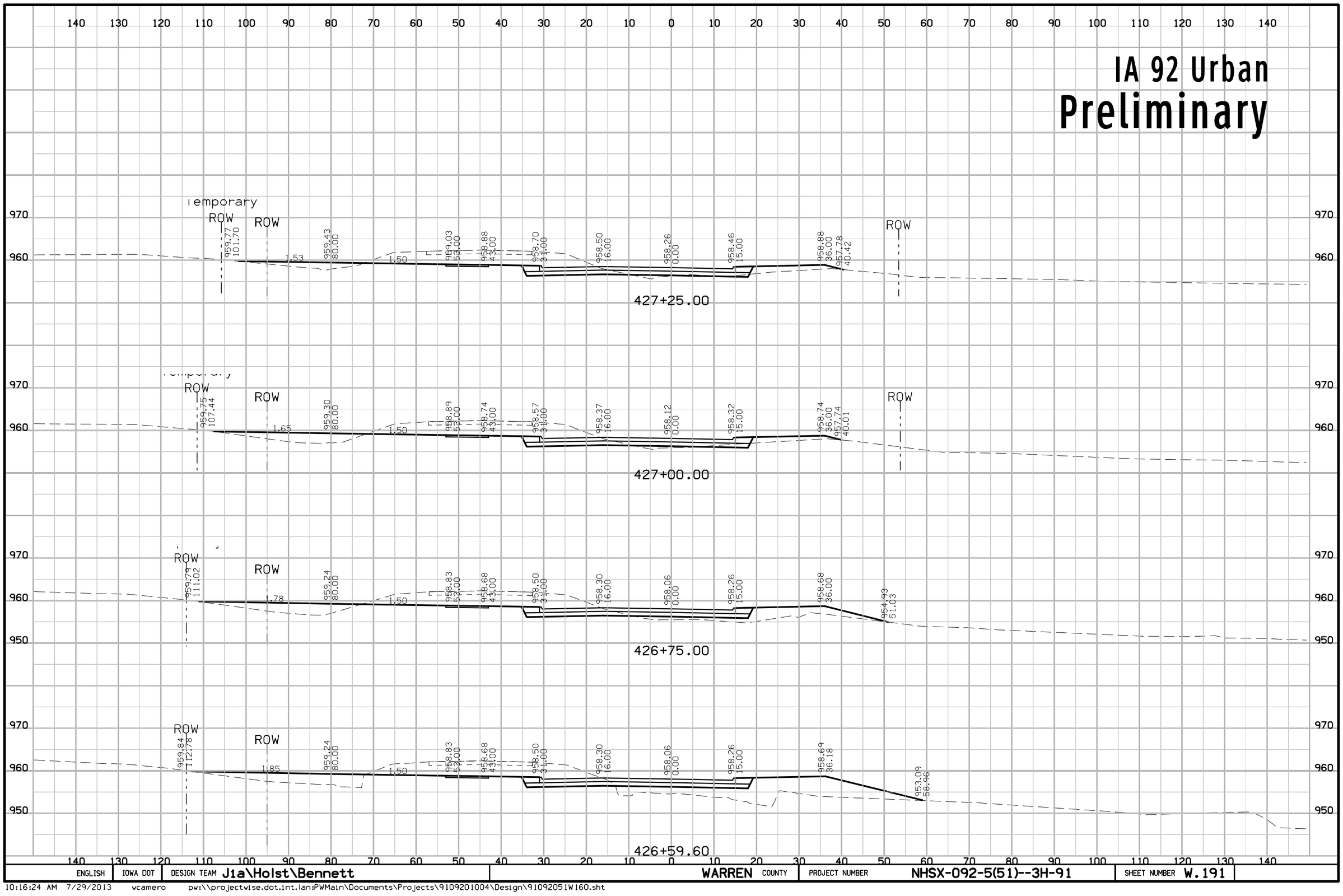
426+25.00

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

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.190

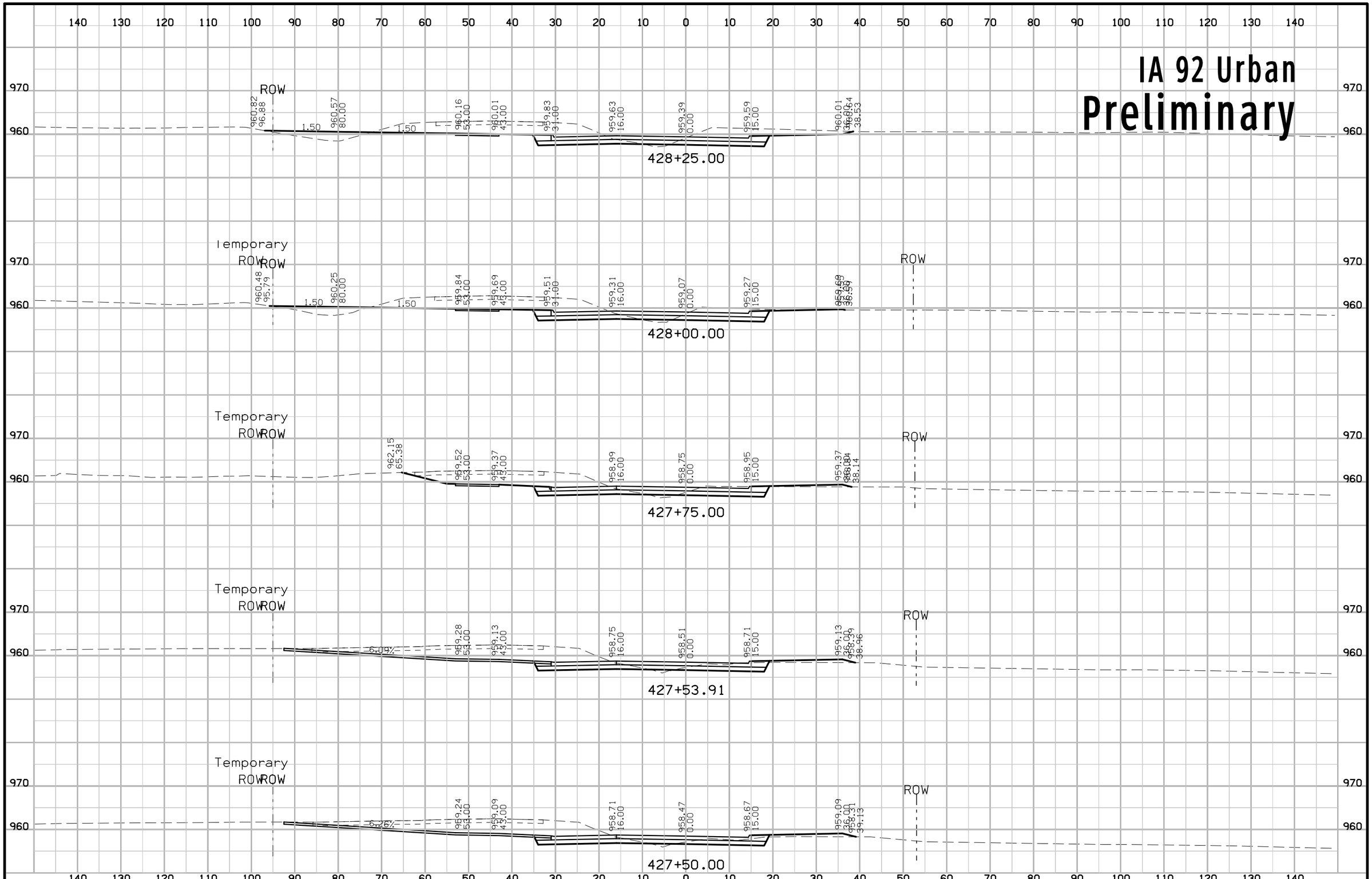
10:16:23 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.191

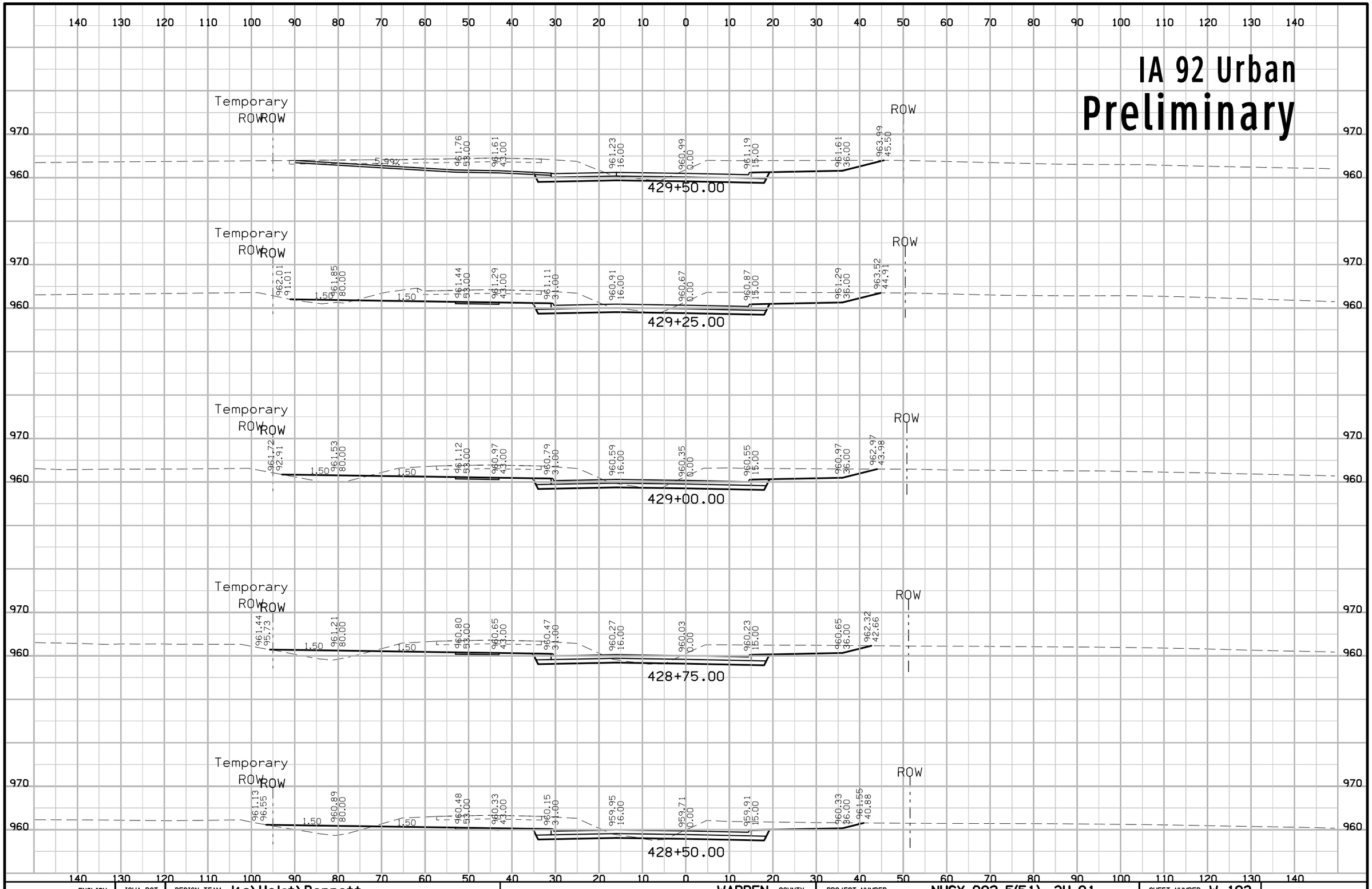
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.192

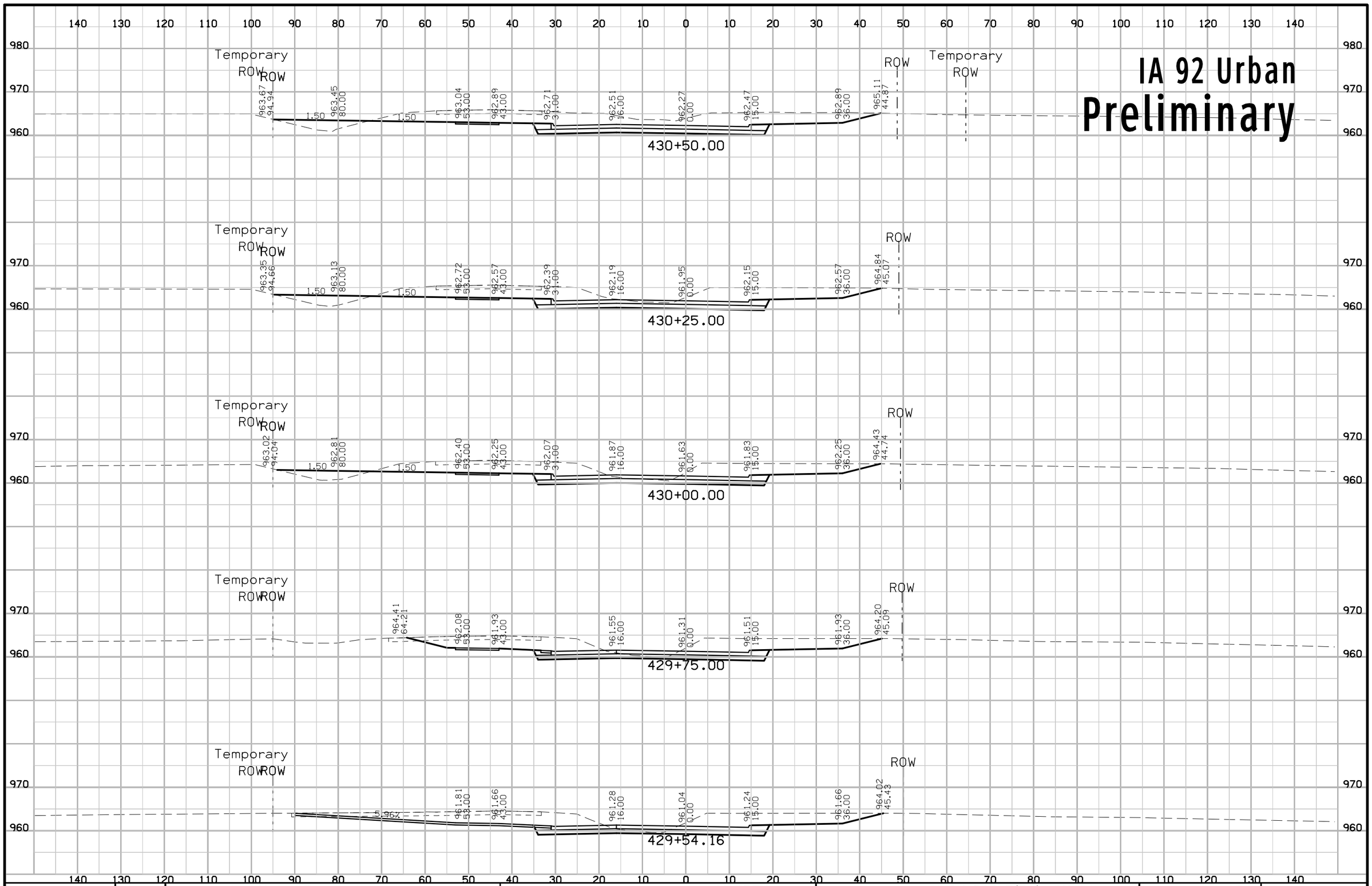
10:16:25 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.193

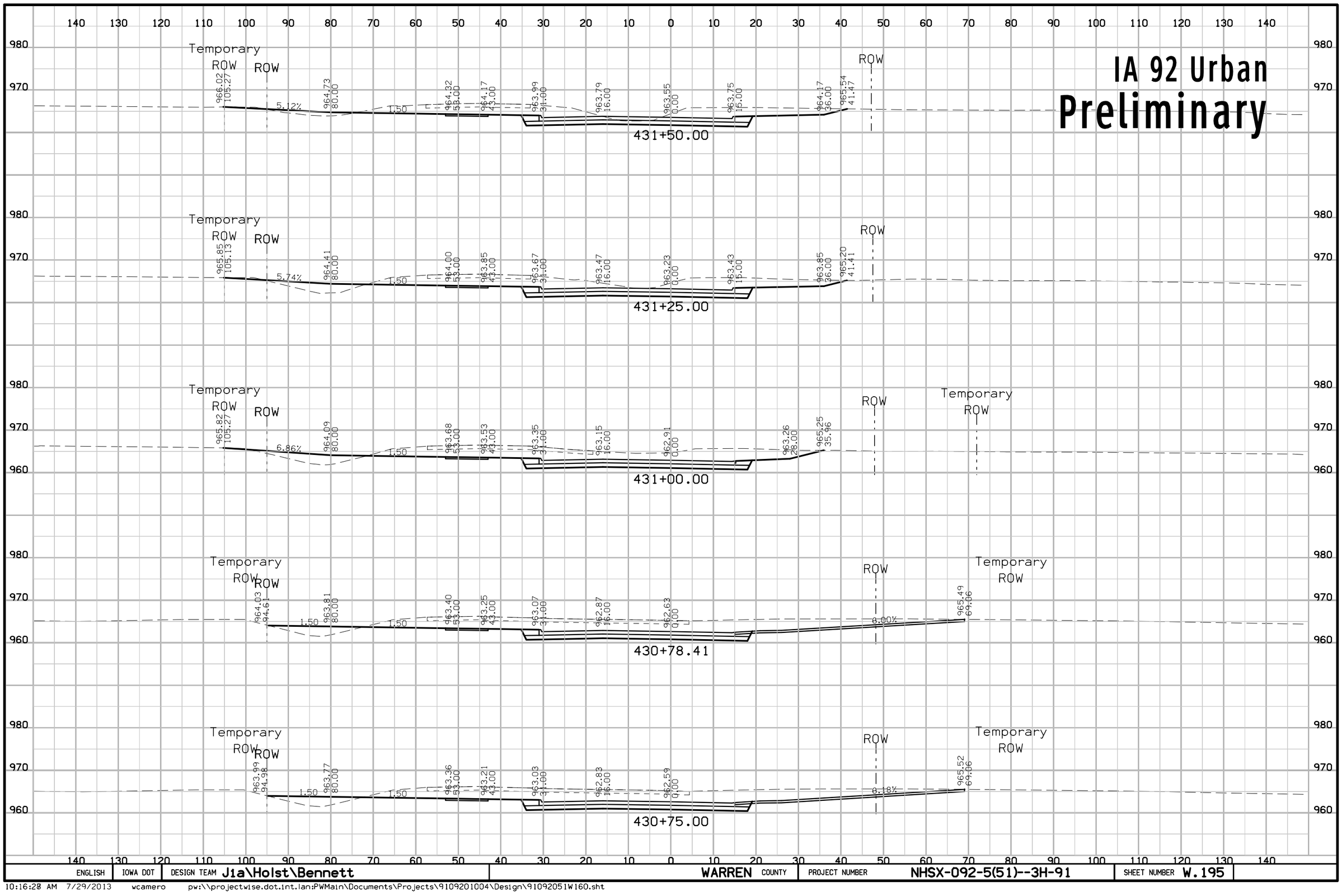
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.194

10:16:27 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.195

10:16:28 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary

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

980 970 960

ROW

966.77 119.18

2.24%

965.89 80.00

1.50

965.49 53.00 | 965.34 43.00 | 965.16 31.00 | 964.96 16.00 | 964.72 0.00 | 964.92 15.00 | 965.24 36.40

432+50.00

Temporary ROW

ROW

966.75 118.84

2.81%

965.66 80.00

1.50

965.25 43.00 | 965.10 43.00 | 964.92 31.00 | 964.72 16.00 | 964.48 0.00 | 964.68 15.00 | 965.10 37.41

ROW

432+25.00

ROW

5.78%

964.96 53.00 | 964.81 43.00 | 964.43 16.00 | 964.19 0.00 | 964.39 15.00 | 964.81 36.54 | 965.54 38.92

ROW

432+00.00

ROW

5.96%

964.91 53.00 | 964.76 43.00 | 964.38 16.00 | 964.14 0.00 | 964.34 15.00 | 964.76 36.56 | 965.56 39.19

ROW

431+96.41

Temporary ROW

ROW

966.43 98.95

4.00%

966.55 62.50

964.67 55.00 | 964.64 53.00 | 964.49 43.00 | 964.11 16.00 | 963.87 0.00 | 964.07 15.00 | 964.49 36.00 | 965.64 40.61

ROW

431+75.00

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.196

10:16:28 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary

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

980 / 970 / 960

ROW

965.87 53.00

965.72 43.00

965.34 16.00

965.10 0.00

2.09%

ROW

Temporary ROW

961.41 64.00

10.43%

433+47.86

980 / 970 / 960

ROW

965.88 53.00

965.73 43.00

965.35 16.00

965.11 0.00

2.17%

ROW

Temporary ROW

961.46 64.00

10.30%

433+46.06

980 / 970 / 960

Temporary ROW

ROW

966.43 57.15

965.86 53.00

965.71 43.00

965.33 16.00

965.09 0.00

965.44 28.00

963.47 35.87

ROW

433+25.00

970 / 960

ROW

966.61 140.45

0.80

ROW

966.05 70.00

1.50

965.79 53.00

965.64 43.00

965.46 31.00

965.26 16.00

965.02 0.00

965.22 15.00

965.64 36.00

964.73 39.67

ROW

433+00.00

970 / 960

ROW

966.67 119.33

ROW

1.52%

966.07 80.00

1.50

965.67 53.00

965.52 43.00

965.34 31.00

965.14 16.00

964.90 0.00

965.10 15.00

965.52 38.19

ROW

432+75.00

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

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.197

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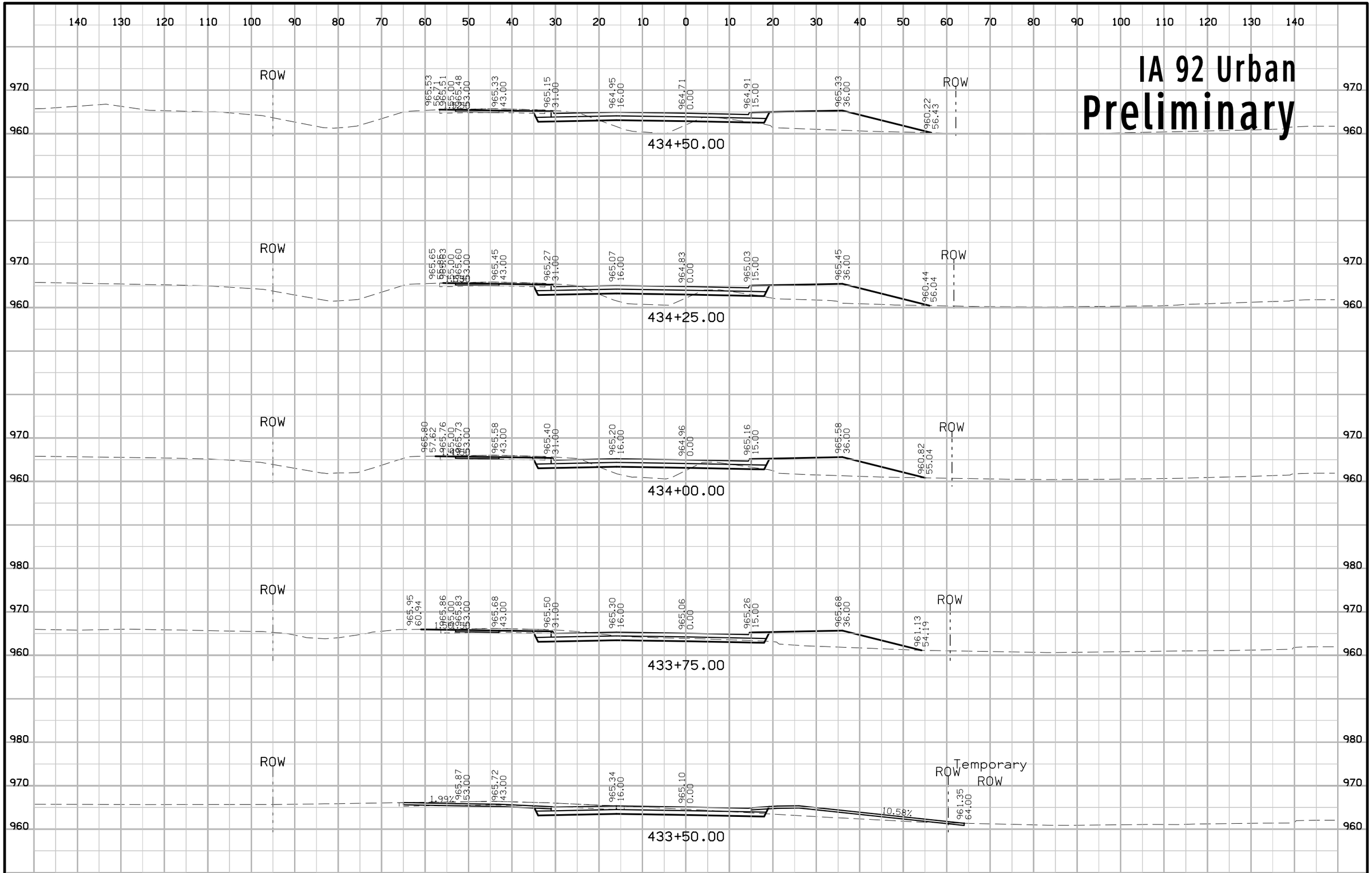
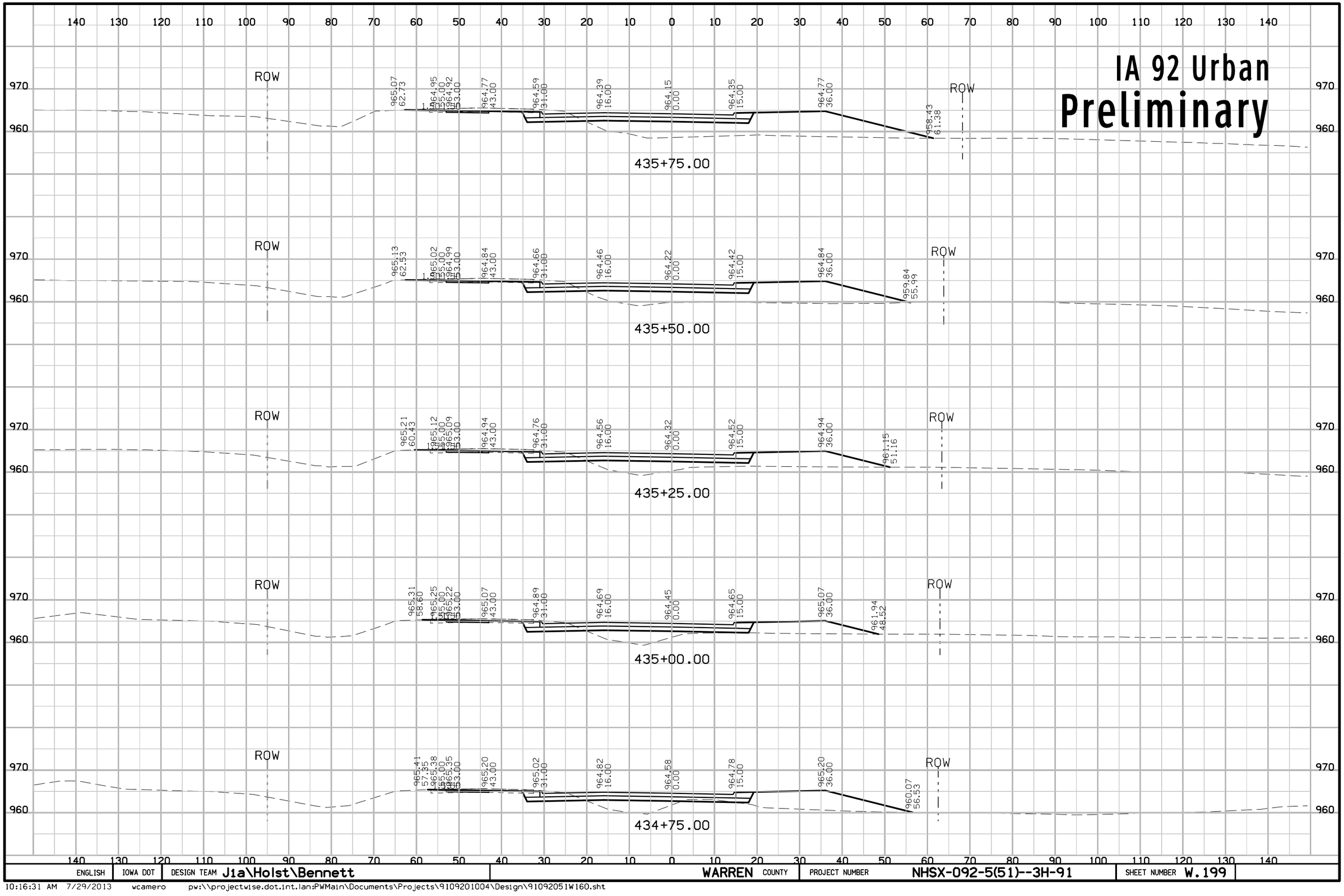


ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.198

10:16:30 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.199

10:16:31 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary

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

970
960

ROW

965.22 61.84 | 965.12 55.00 | 965.09 53.00 | 964.94 43.00 | 964.76 31.00 | 964.56 16.00 | 964.32 0.00 | 964.52 15.00 | 964.94 36.00 | 958.01 63.71

436+75.00

ROW

965.13 62.54 | 965.01 55.00 | 964.98 53.00 | 964.83 43.00 | 964.65 31.00 | 964.45 16.00 | 964.21 0.00 | 964.41 15.00 | 964.83 36.00 | 956.11 70.88

436+50.00

ROW

965.11 62.58 | 964.99 55.00 | 964.96 53.00 | 964.81 43.00 | 964.63 31.00 | 964.43 16.00 | 964.20 0.00 | 964.40 15.00 | 964.82 36.00 | 956.19 70.50

436+44.70

ROW

965.07 62.83 | 964.95 55.00 | 964.92 53.00 | 964.77 43.00 | 964.59 31.00 | 964.39 16.00 | 964.15 0.00 | 964.35 15.00 | 964.77 36.00 | 956.33 69.76

436+25.00

ROW

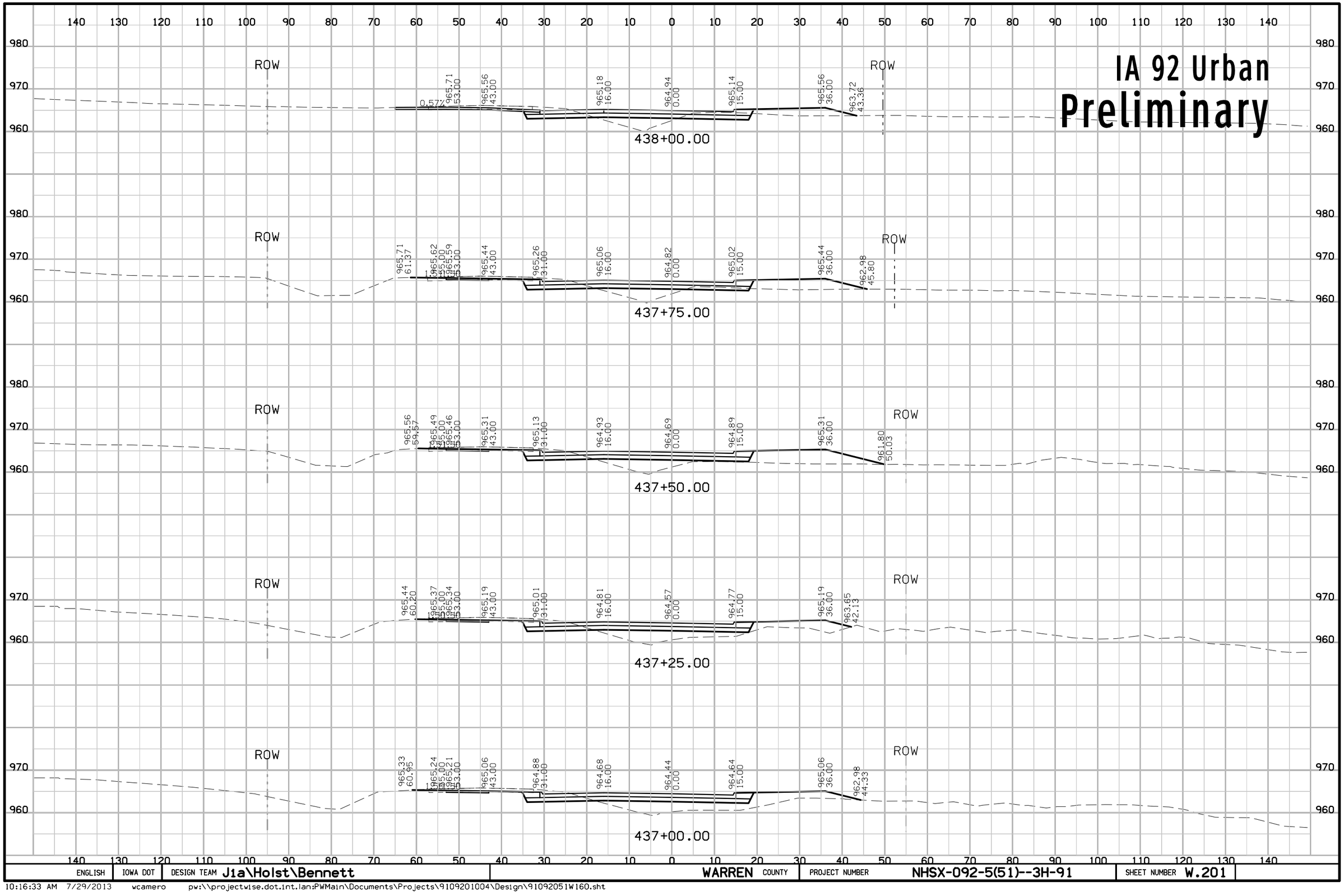
965.05 62.74 | 964.93 55.00 | 964.90 53.00 | 964.75 43.00 | 964.57 31.00 | 964.37 16.00 | 964.13 0.00 | 964.33 15.00 | 964.75 36.00 | 956.51 68.97

436+00.00

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.200

10:16:32 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.201

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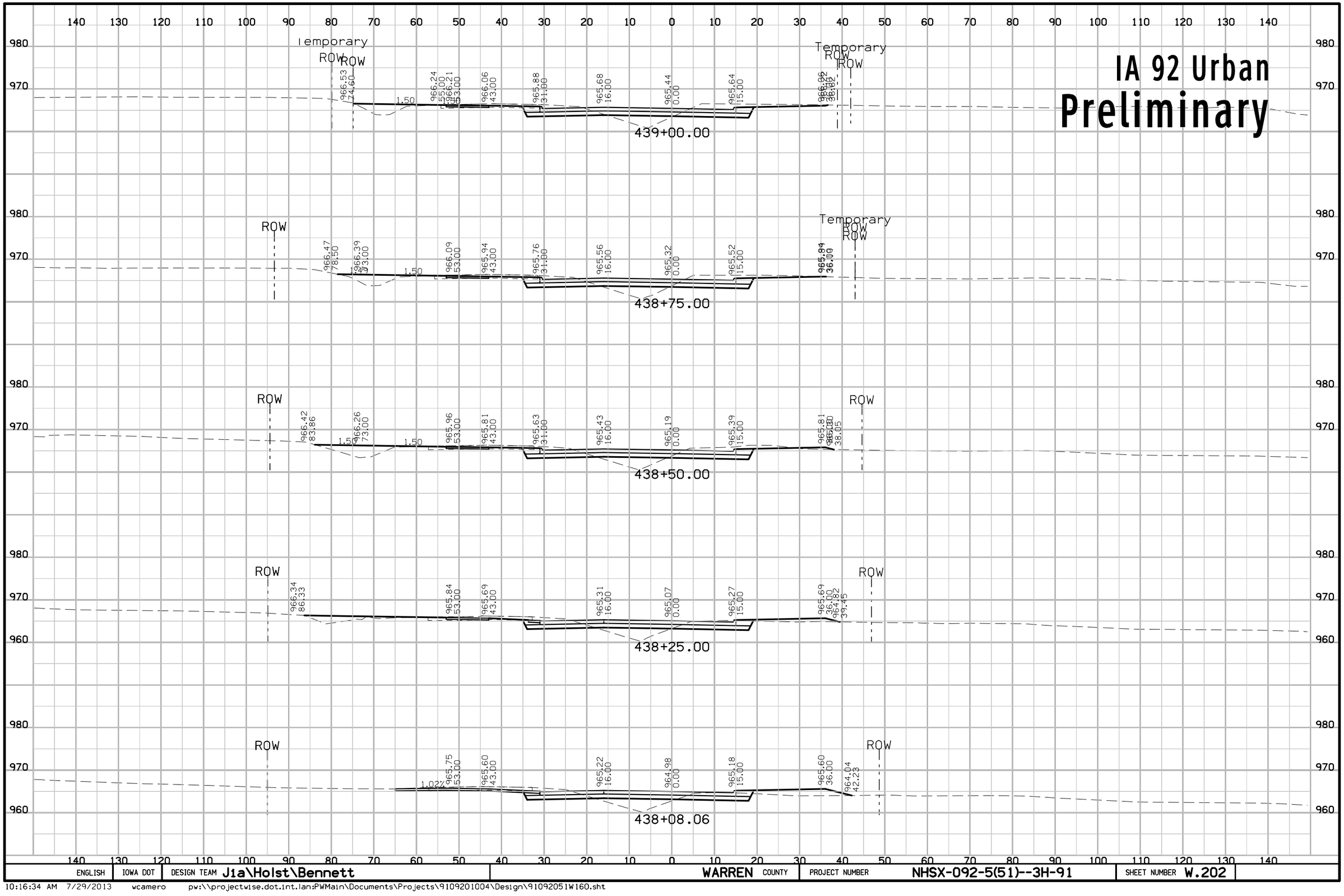
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.202

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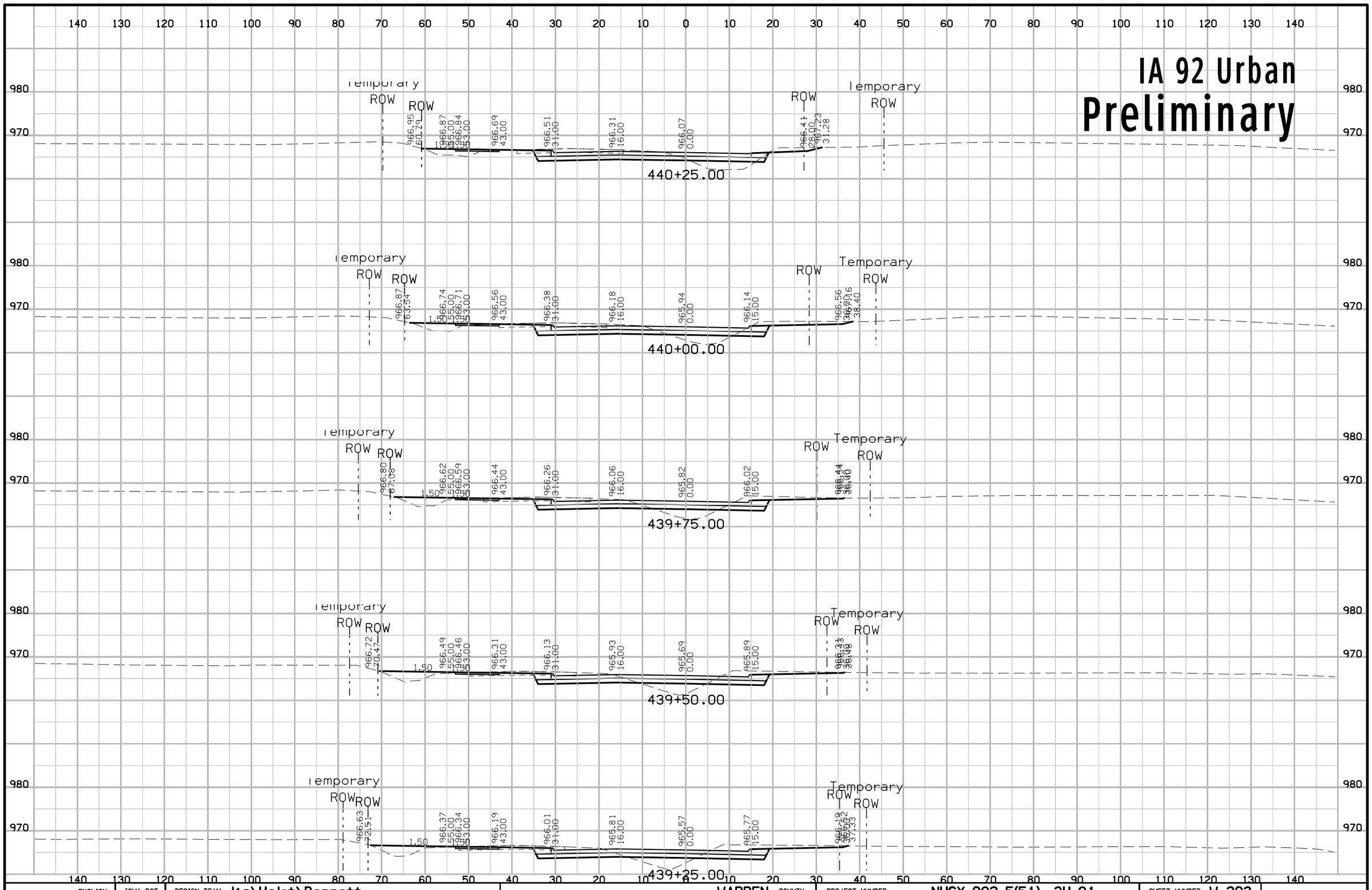
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.203

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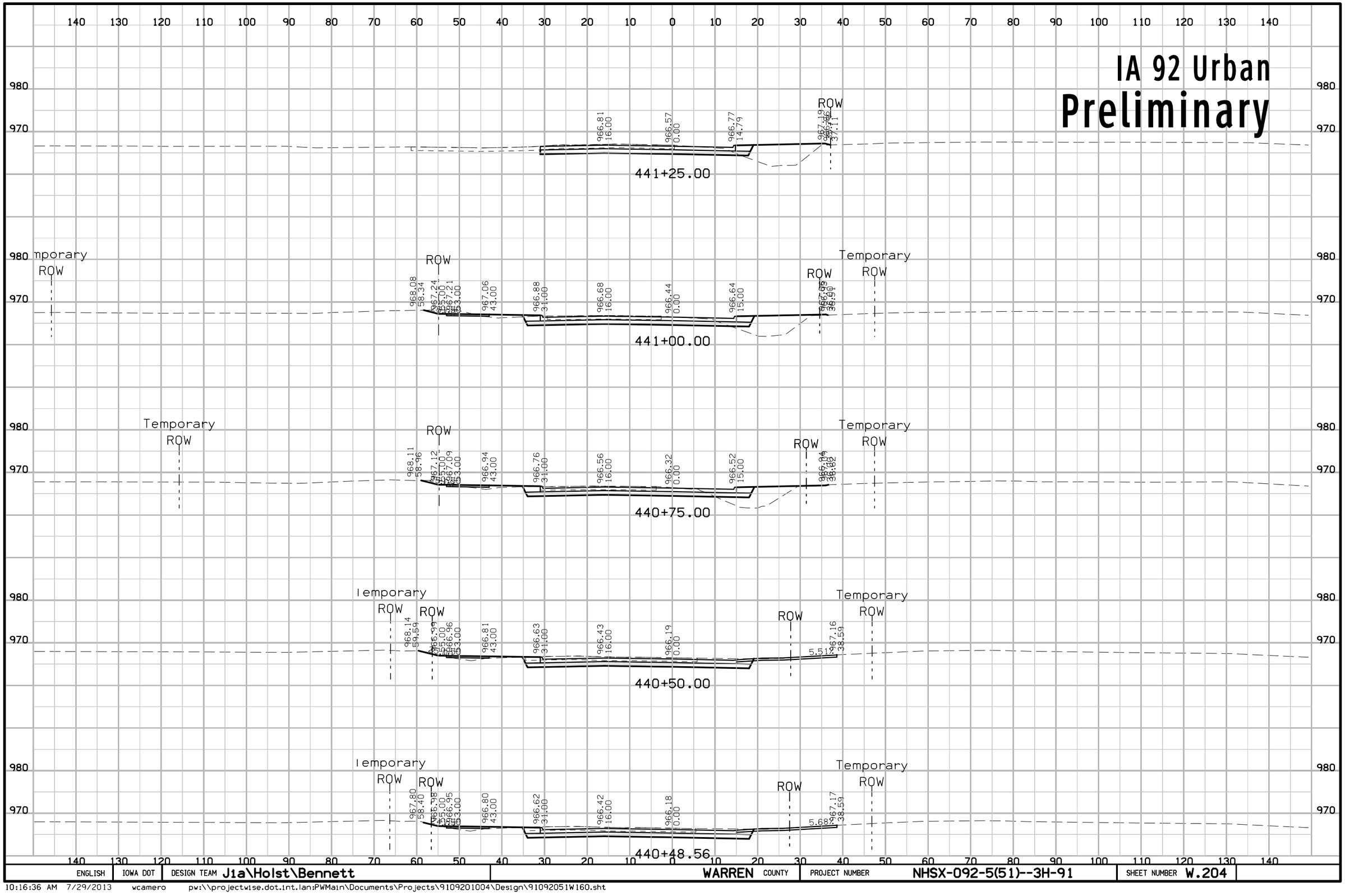
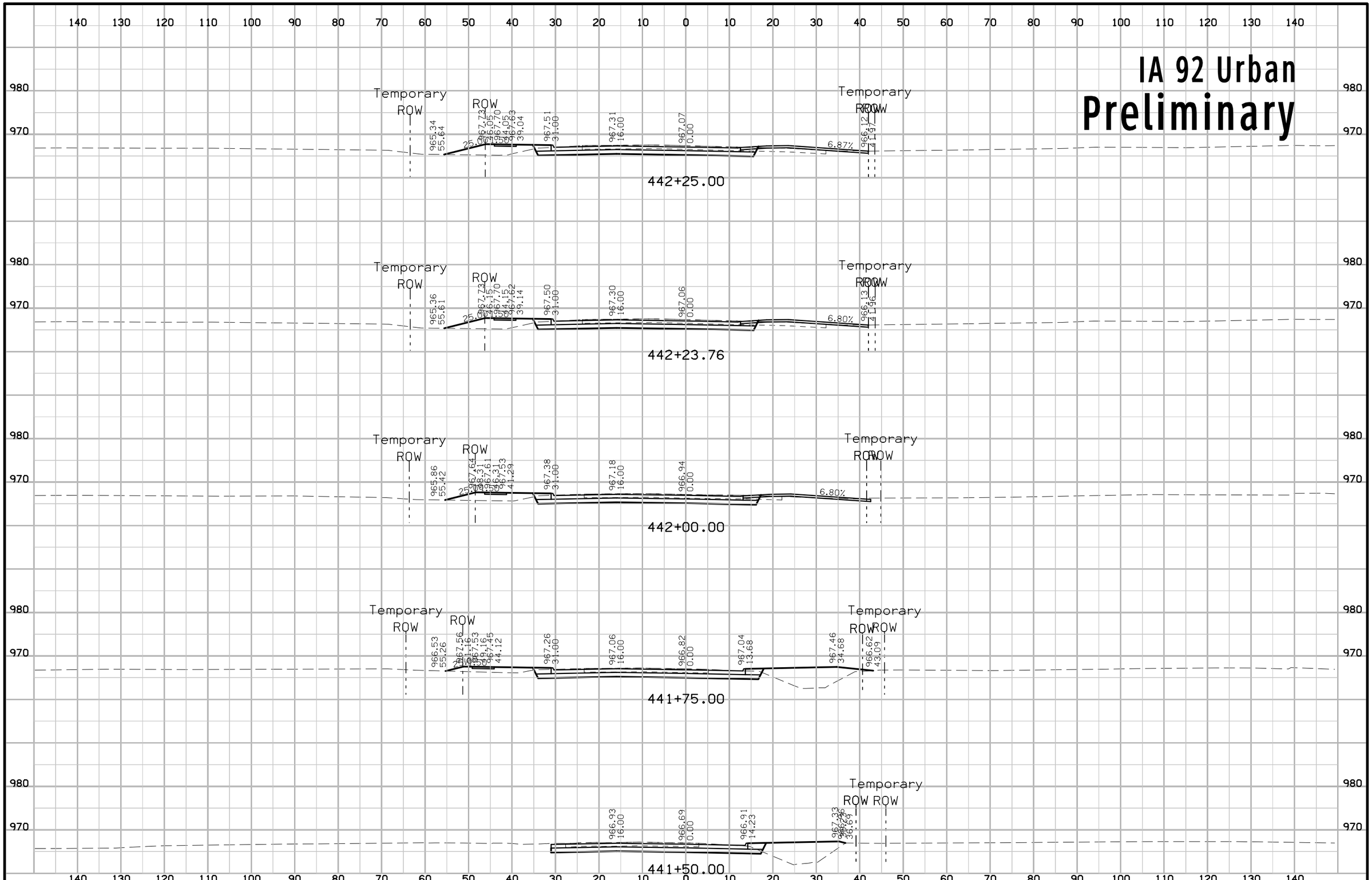
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.204

10:16:36 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

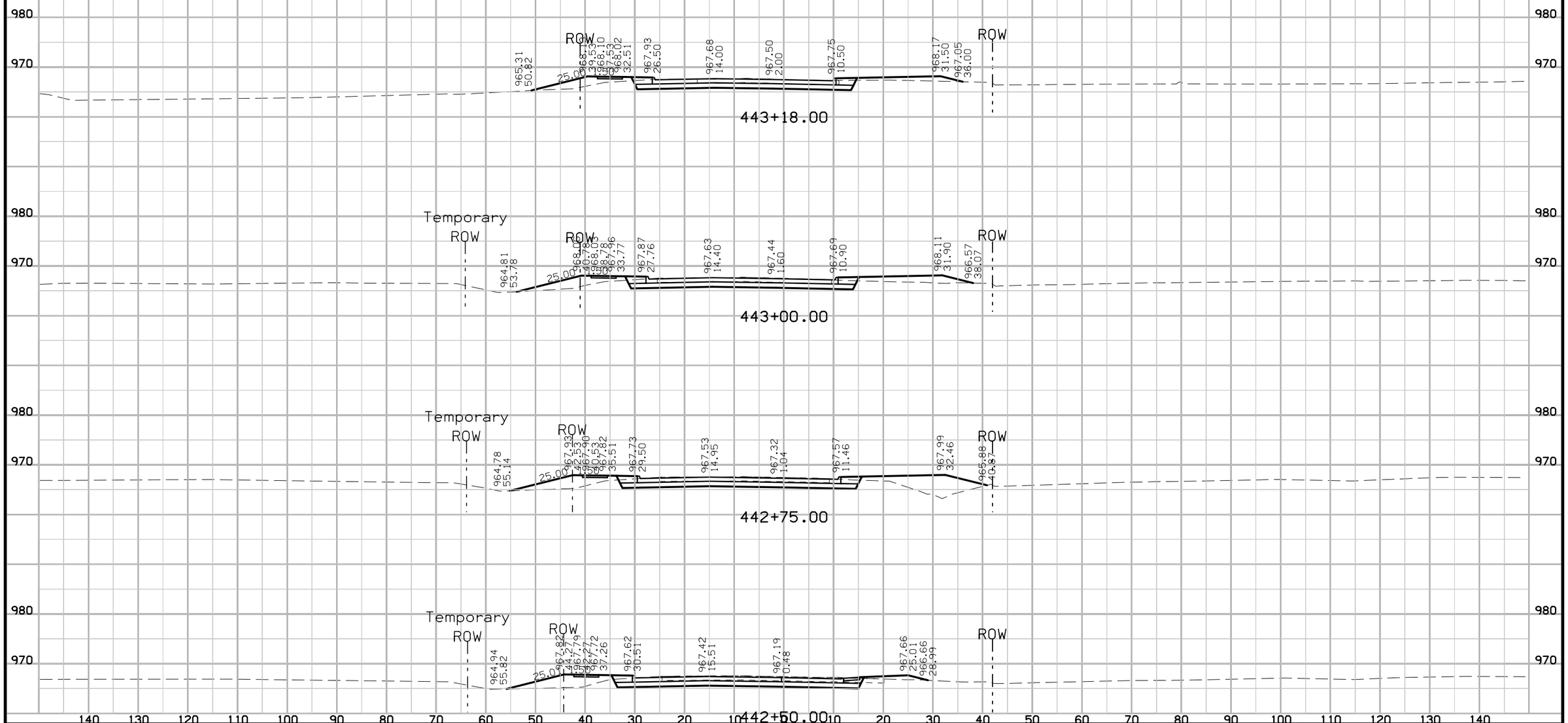
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.205

10:16:37 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

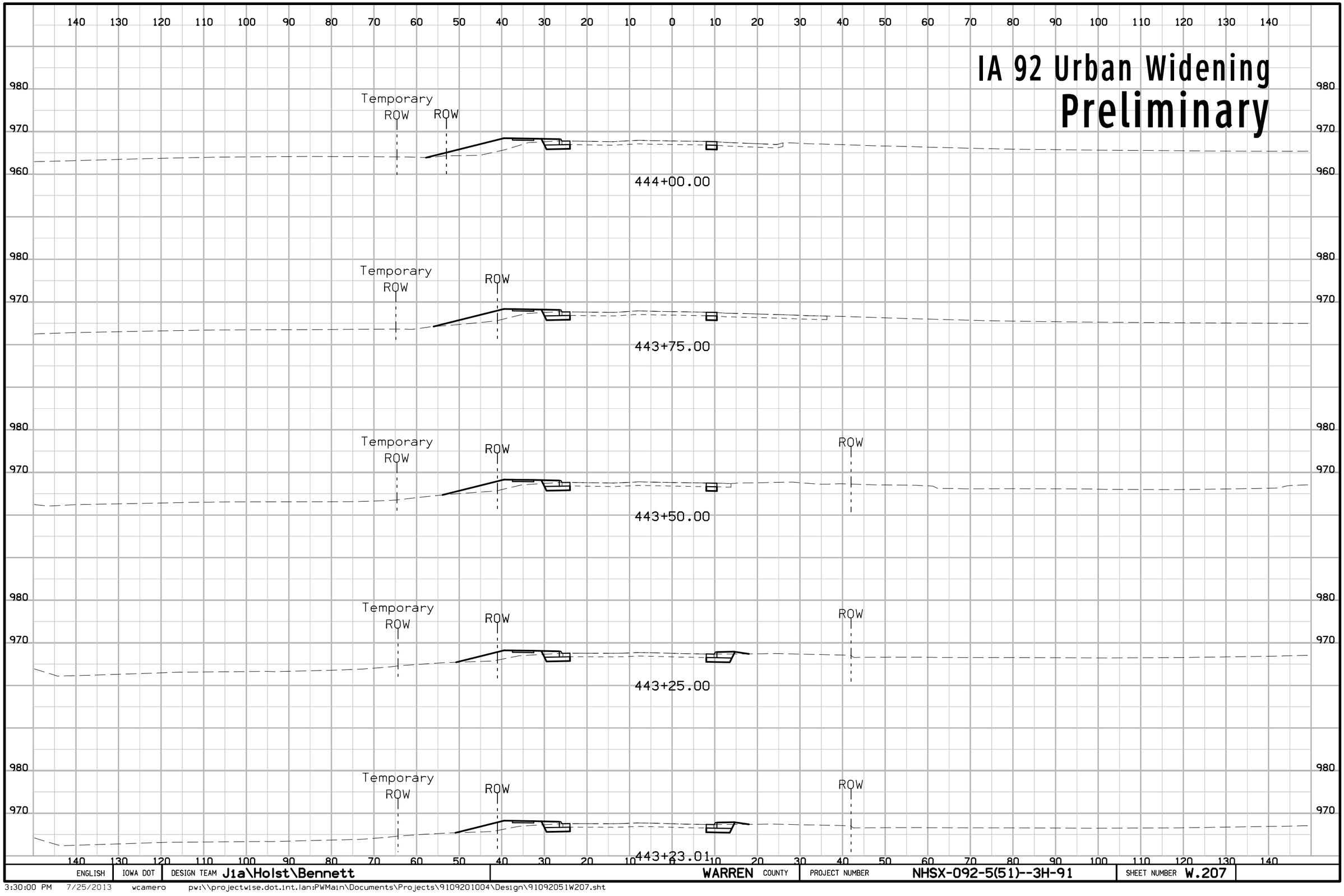
IA 92 Urban
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.206

10:16:38 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban Widening
Preliminary

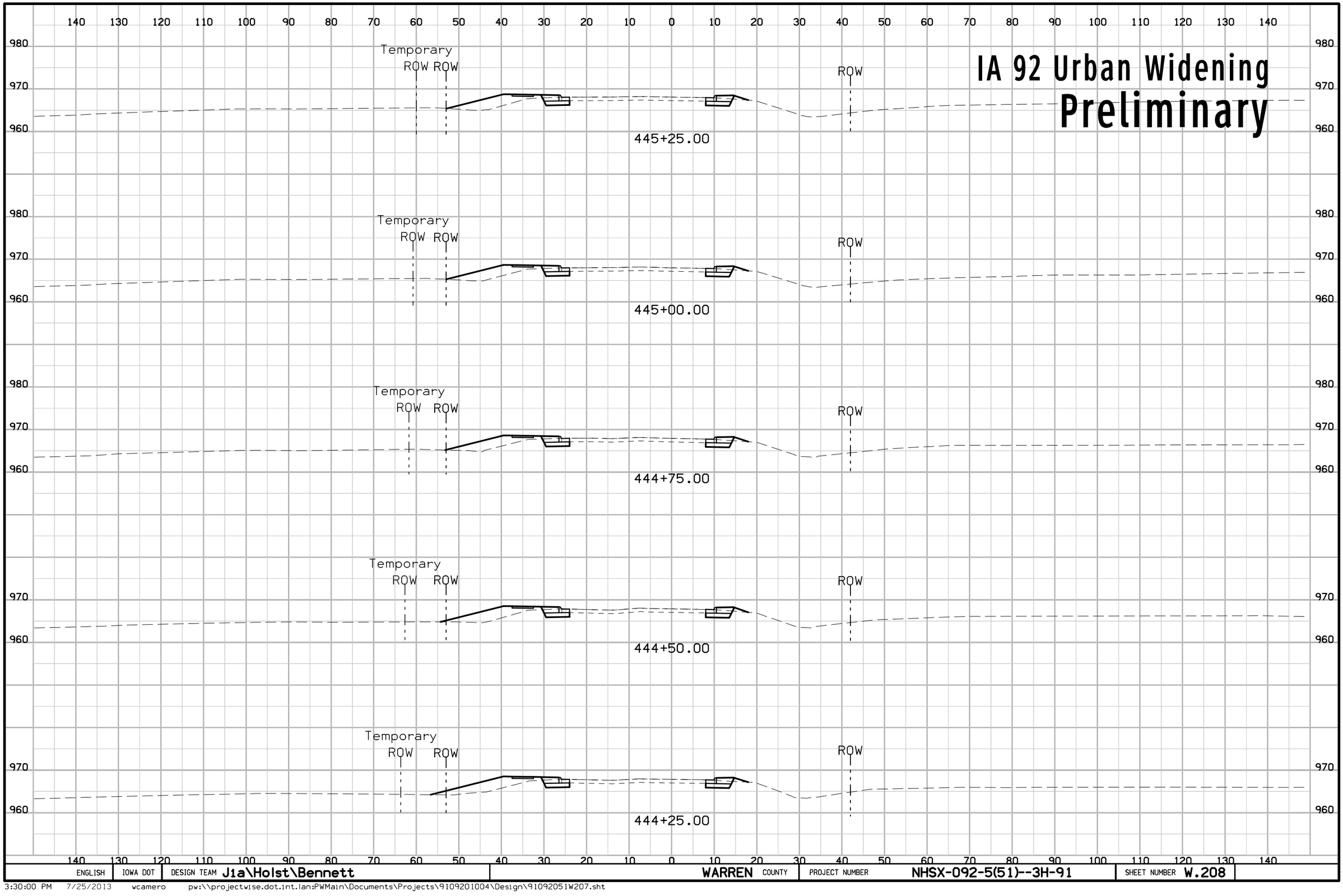


ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER W.207	

3:30:00 PM 7/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W207.sht

IA 92 Urban Widening

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.208

3:30:00 PM 7/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W207.sht

IA 92 Urban Widening
Preliminary

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

980 / 970

Temporary ROW | ROW | 8.11% | 7.24% | Temporary ROW ROW

446+48.51

446+25.00

Temporary ROW ROW | ROW

446+00.00

445+75.00

445+50.00

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.209

3:30:01 PM 7/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W207.sht

IA 92 Urban Widening
Preliminary

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

980
970

Temporary ROW ROW

ROW

447+25.00

980
970

Temporary ROW ROW

ROW

447+00.00

980
970

Temporary ROW

ROW

Temporary ROW ROW

446+75.00

980
970

Temporary ROW

ROW

8.12%

7.76%

Temporary ROW ROW

446+56.51

980
970

Temporary ROW

ROW

8.12%

7.23%

Temporary ROW ROW

446+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

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.210

3:30:02 PM 7/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W207.sht

IA 92 Urban Widening
Preliminary

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

980
970

Temporary ROW
ROW
9.69%
ROW

448+17.01

980
970

Temporary ROW
ROW
ROW

448+00.00

980
970

Temporary ROW ROW
ROW
10.13%

447+75.00

980
970

Temporary ROW ROW
ROW
10.25%

447+68.44

980
970

Temporary ROW ROW
ROW
11.19%

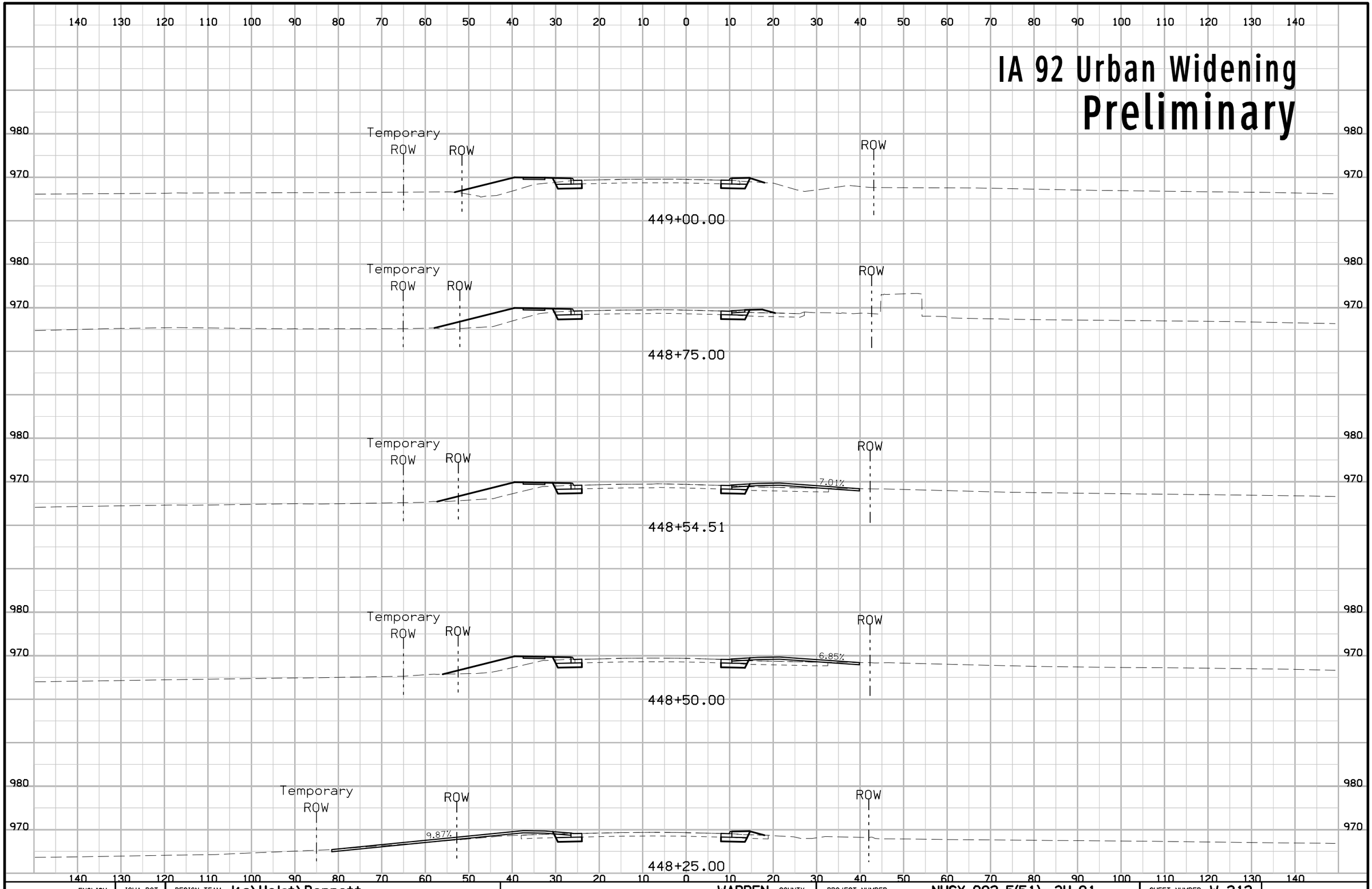
447+50.00

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

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.211

3:30:03 PM 7/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W207.sht

IA 92 Urban Widening
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.212

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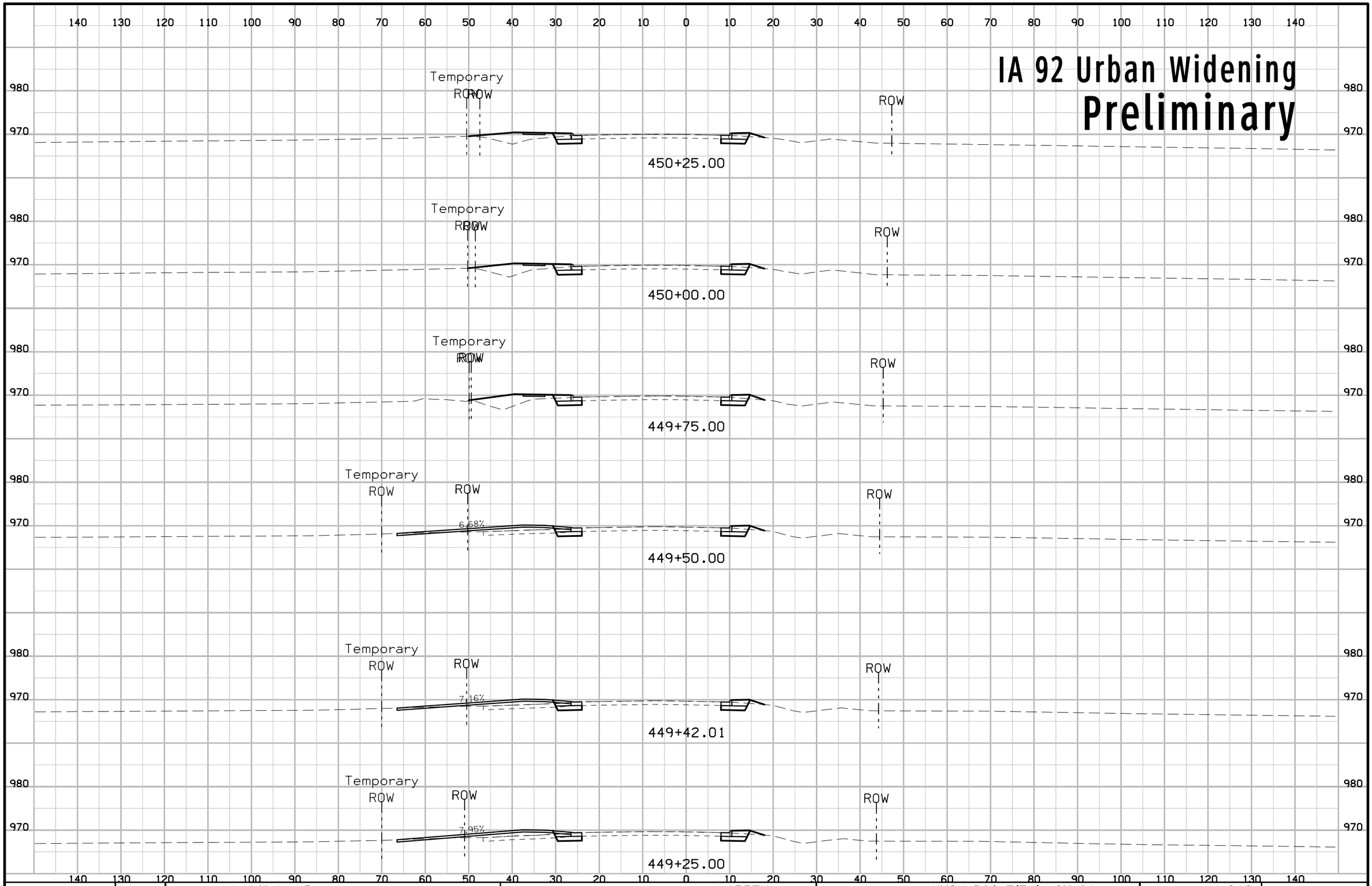
IA 92 Urban Widening
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.213

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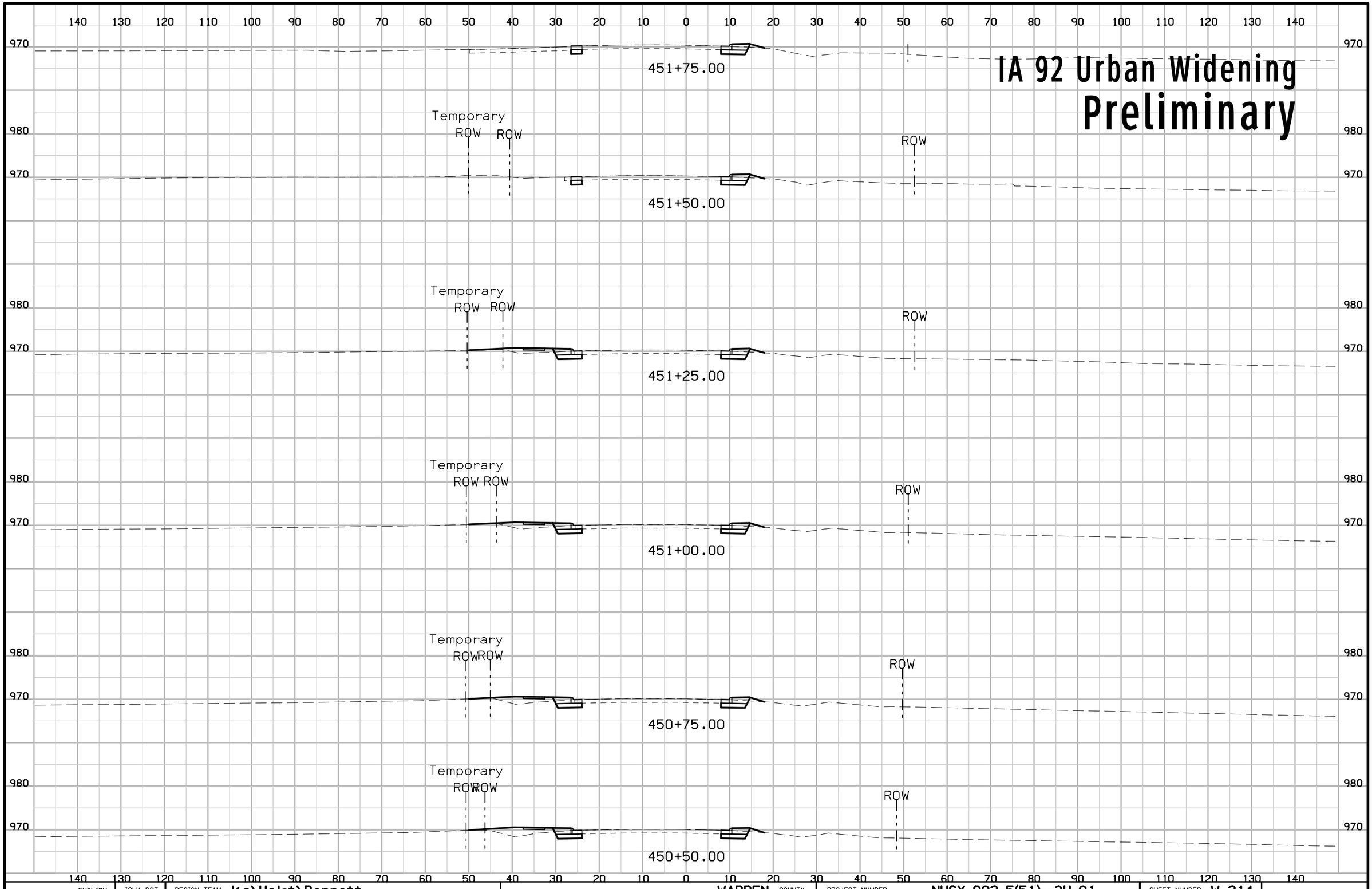
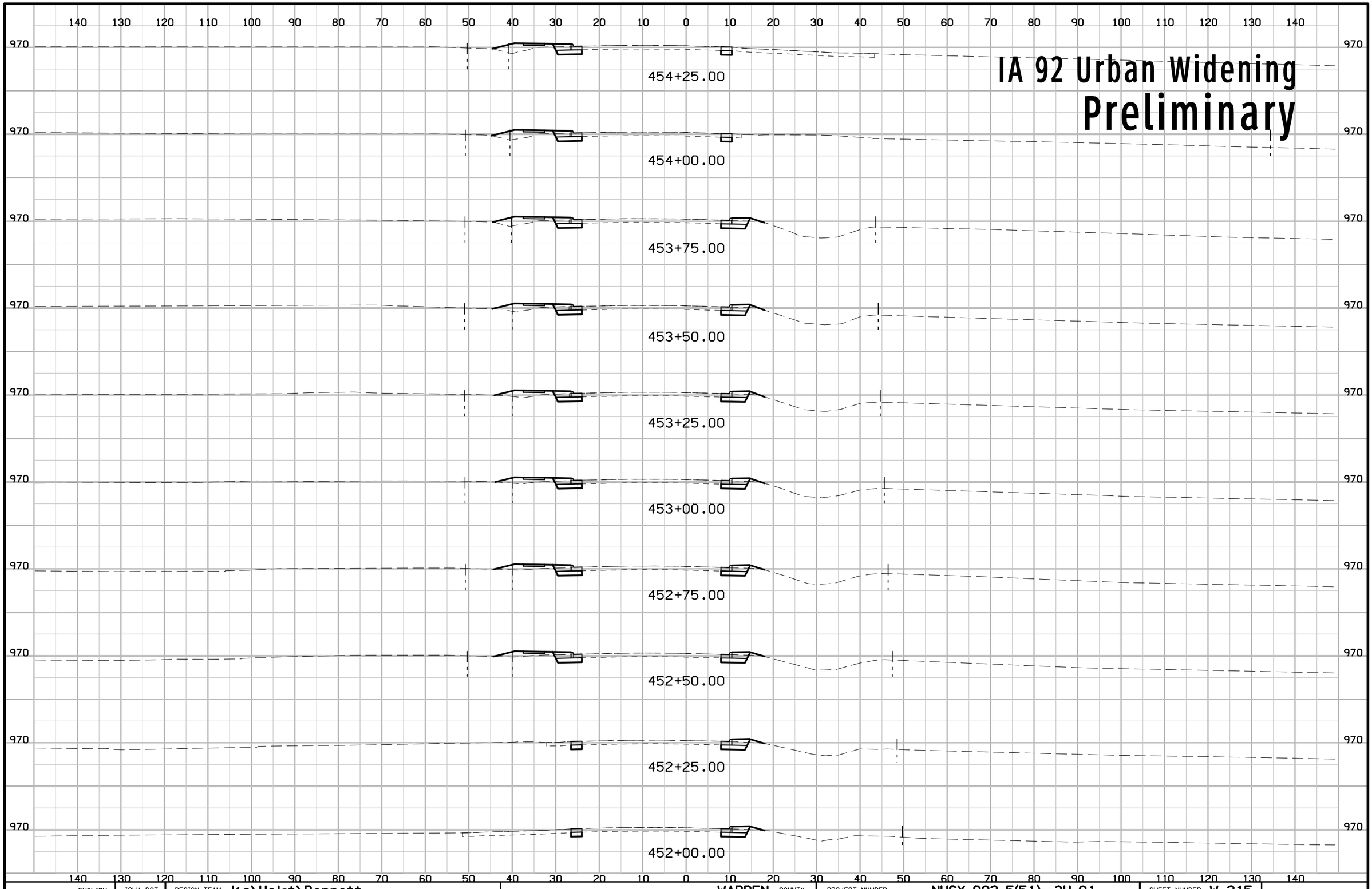
IA 92 Urban Widening
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER W.214

3:30:05 PM 7/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W207.sht

IA 92 Urban Widening
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.215

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IA 92 Urban Widening
Preliminary

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

970

456+75.00

456+50.00

456+25.00

456+00.00

455+75.00

455+50.00

455+25.00

455+00.00

454+75.00

454+50.00

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.216

3:30:07 PM 7/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W207.sht

IA 92 Urban Widening
Preliminary

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

459+00.00

970 970

6.05%

458+76.10

970 970

6.00%

458+75.00

458+50.00

970 970

458+25.00

970 970

458+00.00

970 970

457+75.00

970 970

457+50.00

970 970

457+25.00

970 970

457+00.00

970 970

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

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.217

3:30:08 PM 7/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W207.sht

IA 92 Urban Widening
Preliminary

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

970

6.01%

461+25.00

461+00.00

460+75.00

460+50.00

970

5.97%

460+25.00

970

5.57%

460+15.20

460+00.00

459+75.00

459+50.00

459+25.00

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

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.218

3:30:09 PM 7/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W207.sht

IA 92 Urban Widening

Preliminary

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

970

463+25.00

463+00.00

462+75.00

970

462+50.00

462+25.00

462+00.00

461+75.00

461+50.00

970

6.12%

461+34.29

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

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.219

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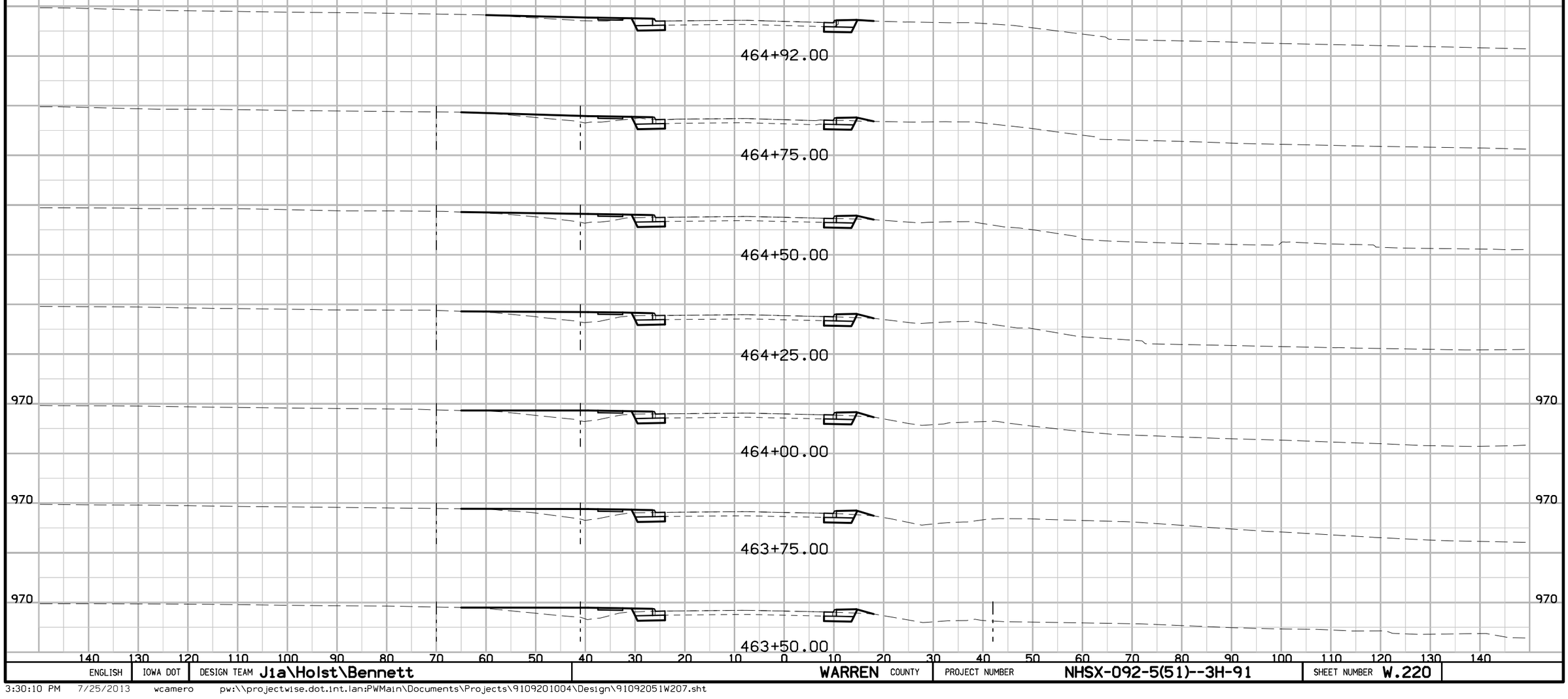
IA 92 Urban Widening
Preliminary



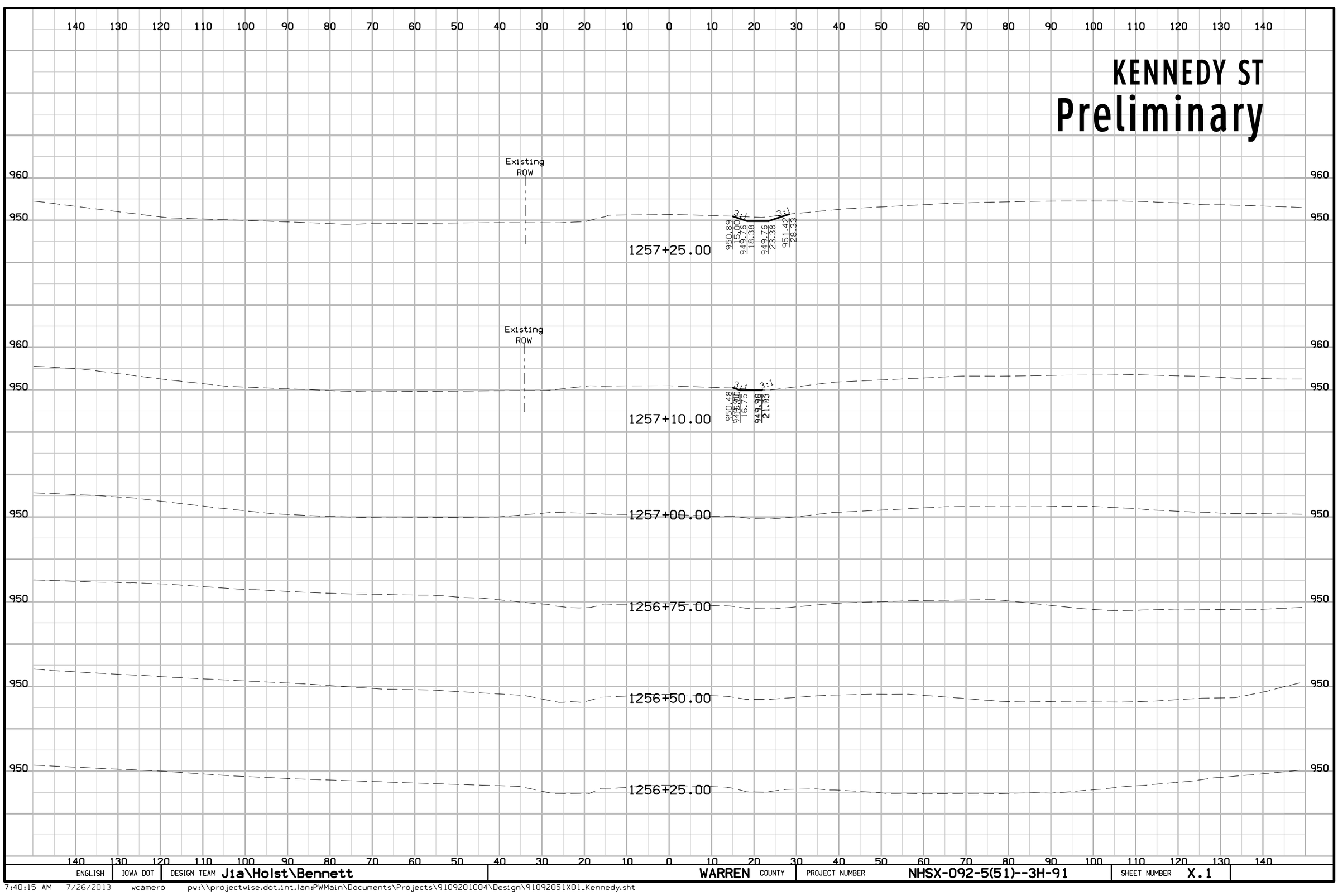
140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.220

3:30:10 PM 7/25/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W207.sht

KENNEDY ST

Preliminary

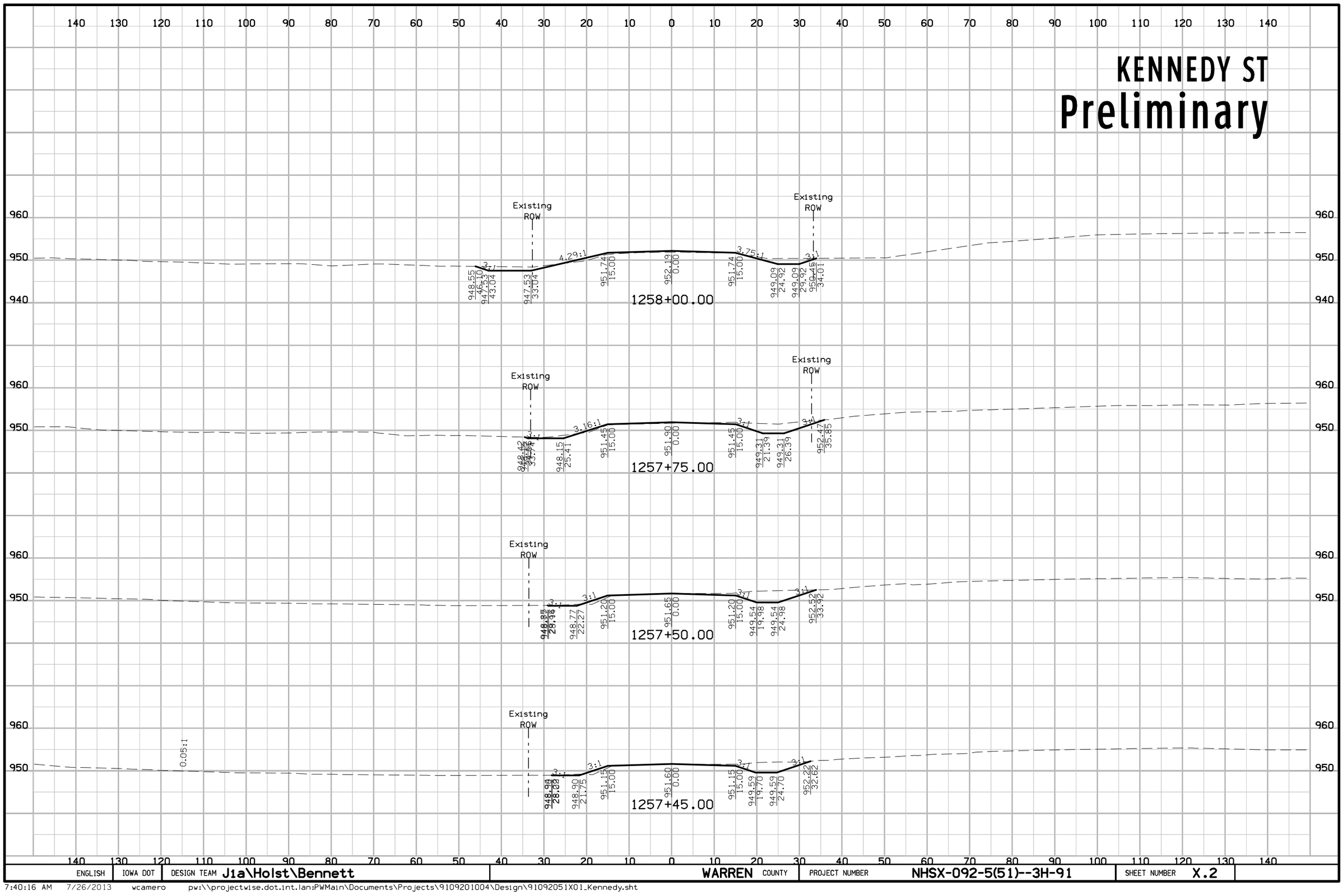


ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.1

7:40:15 AM 7/26/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X01_Kennedy.sht

KENNEDY ST

Preliminary

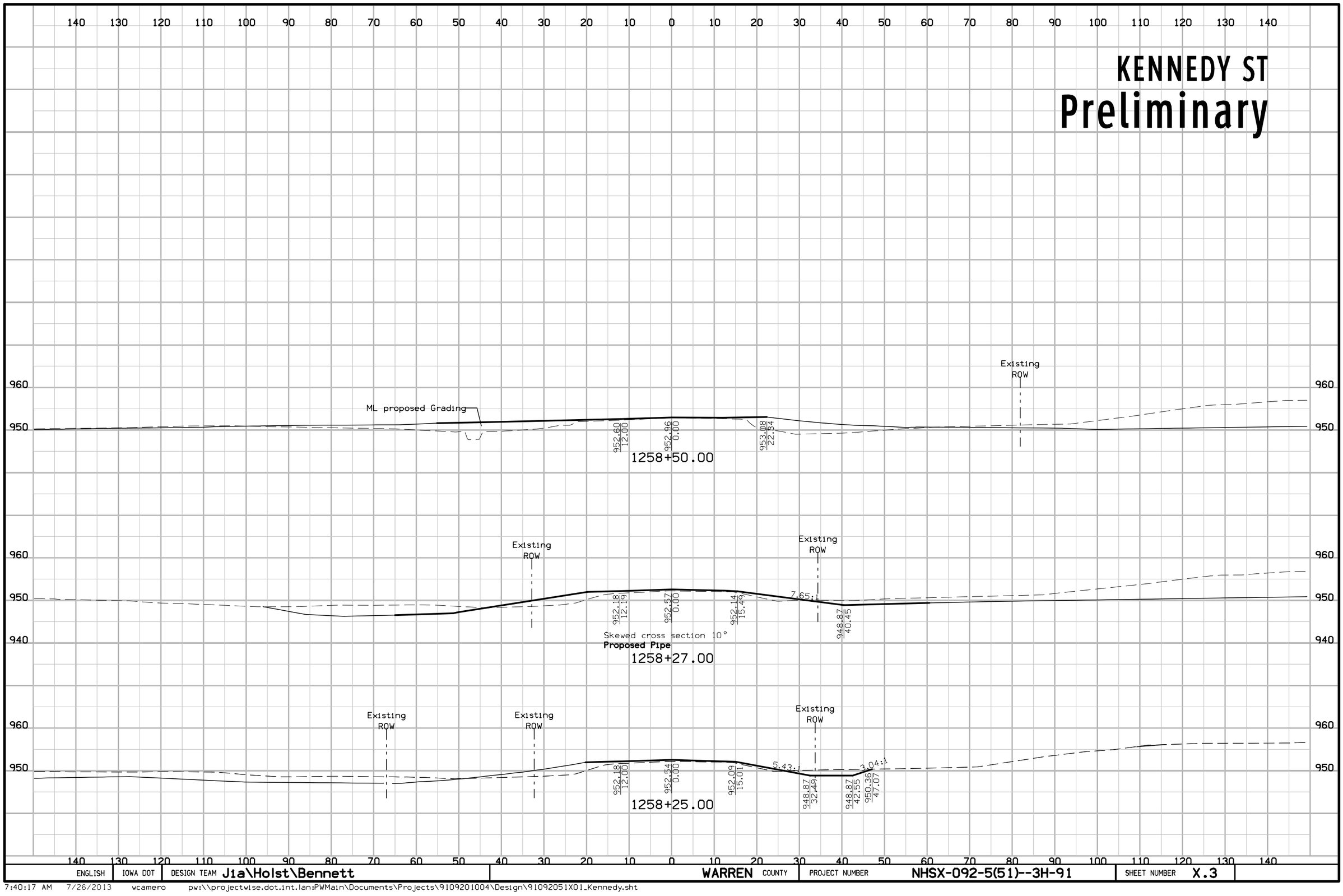


ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.2

7:40:16 AM 7/26/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X01_Kennedy.sht

KENNEDY ST

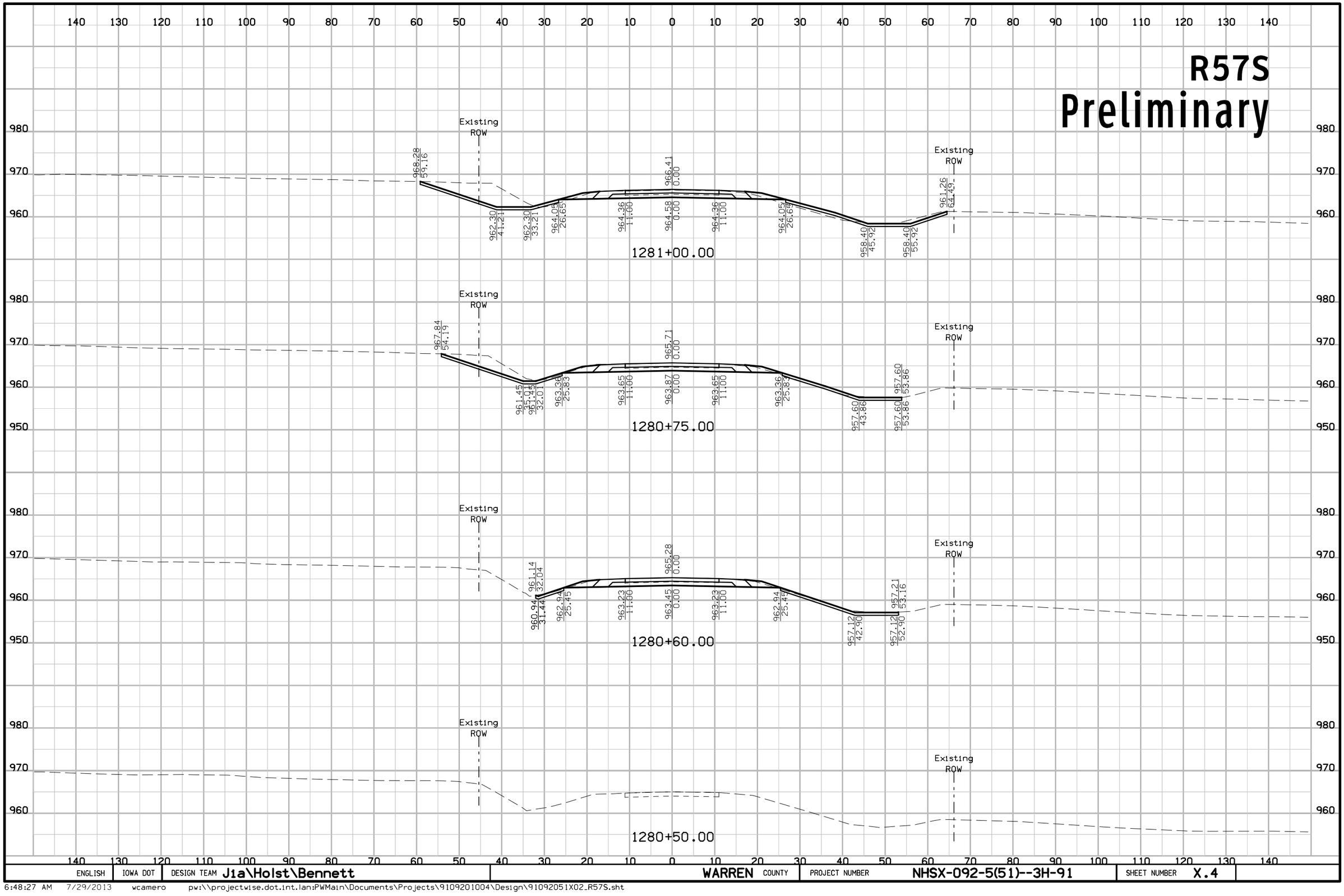
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.3

7:40:17 AM 7/26/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X01_Kennedy.sht

R57S
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.4

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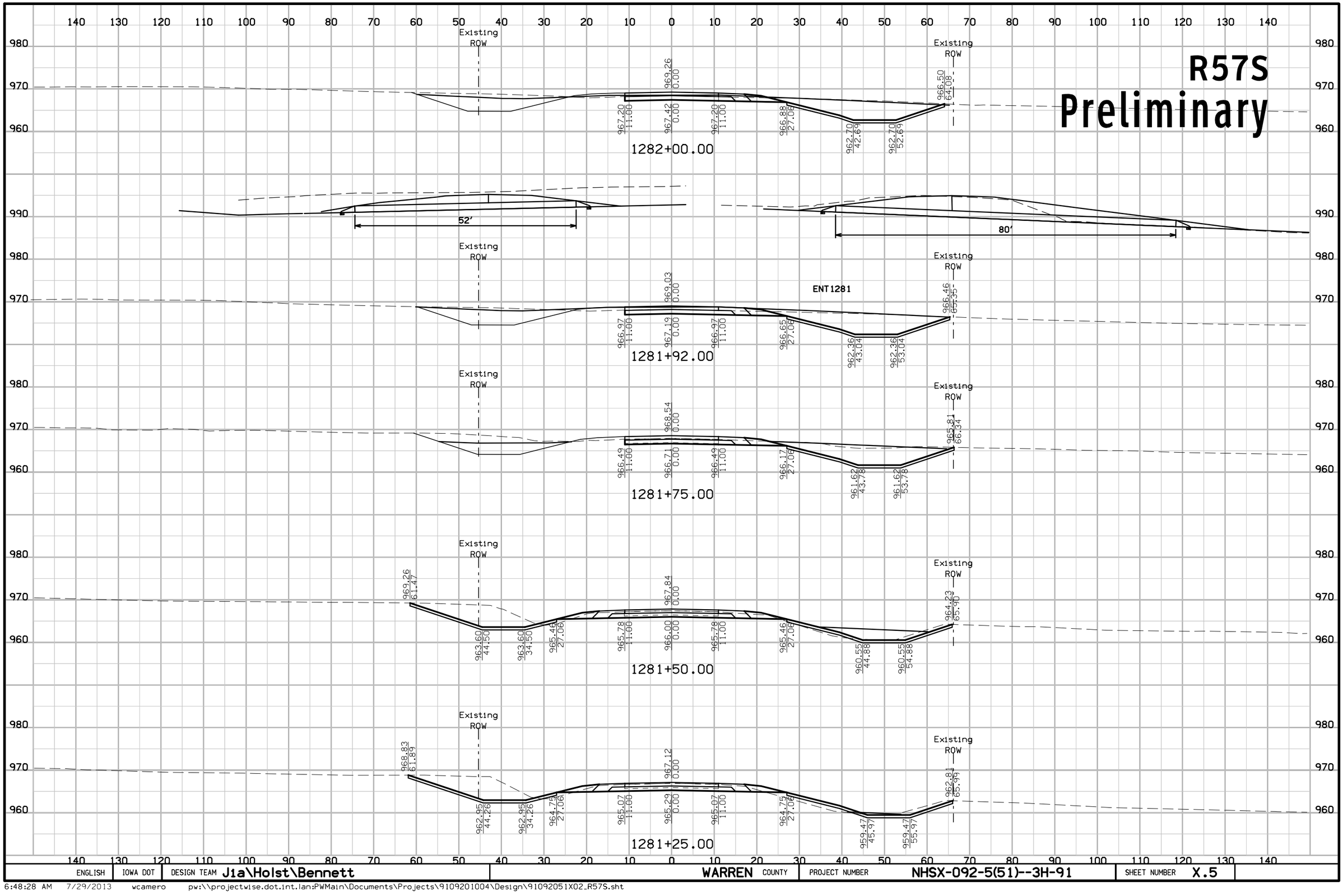
R57S
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.5

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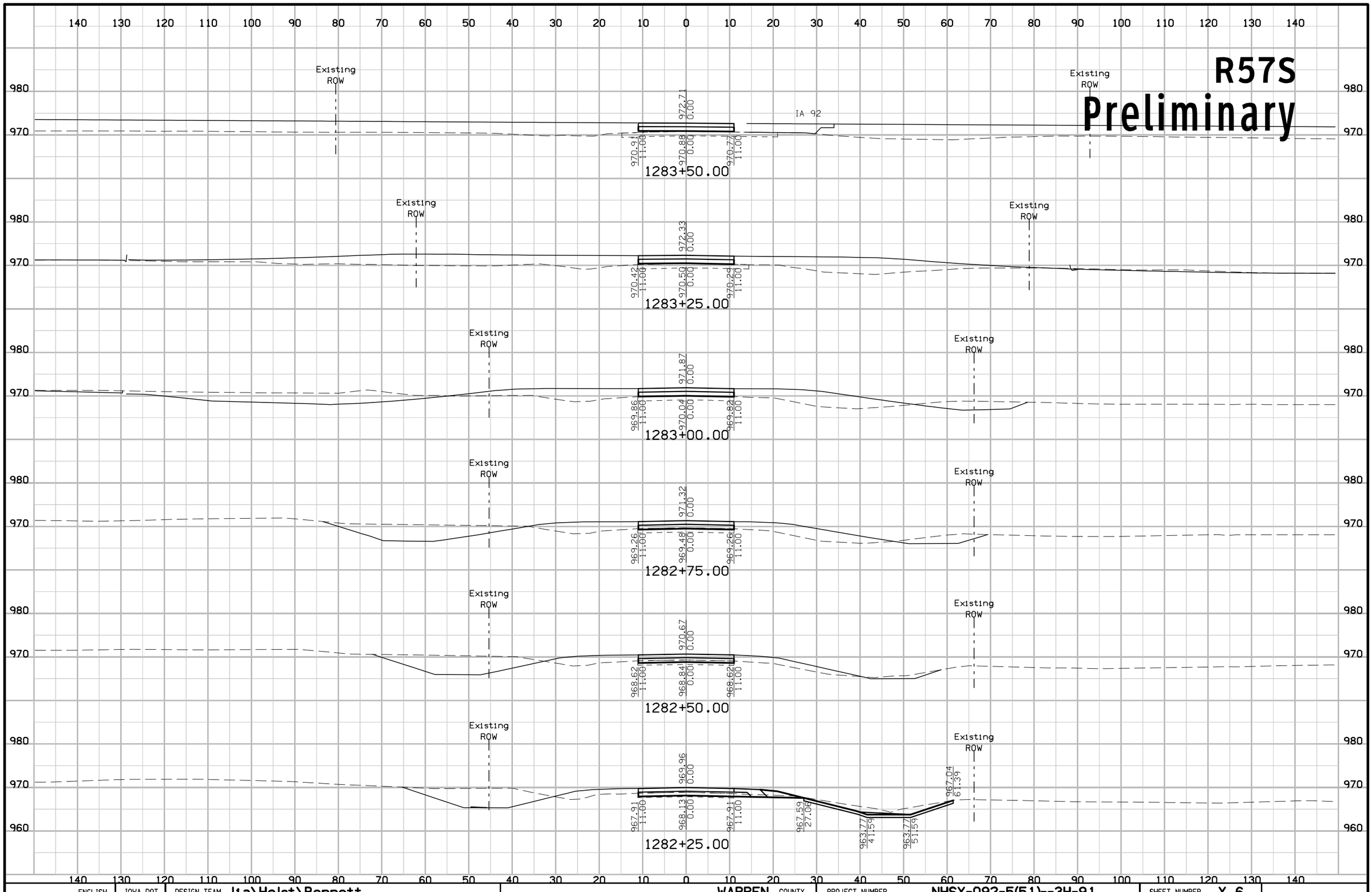
R57S
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.6

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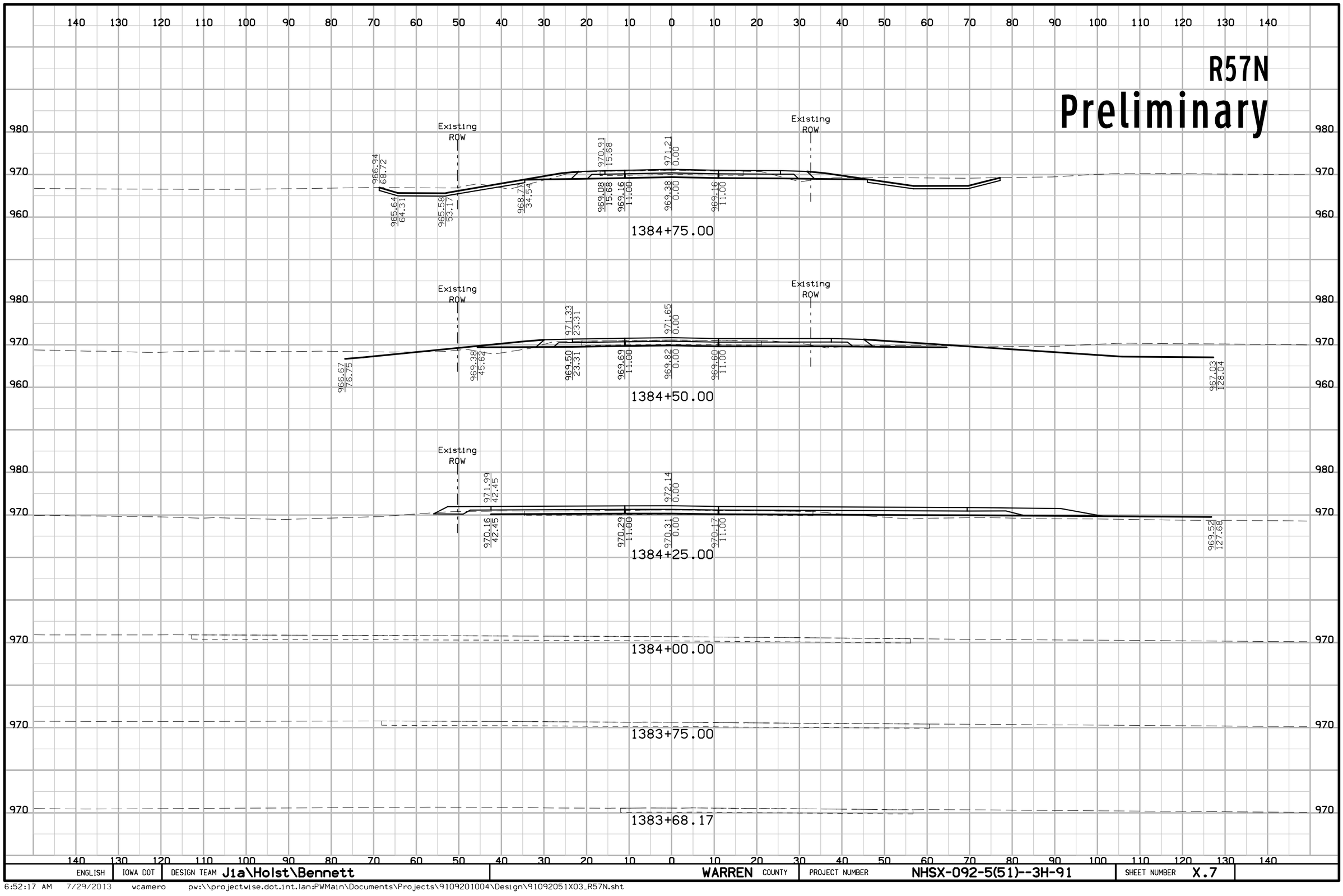
R57N

Preliminary



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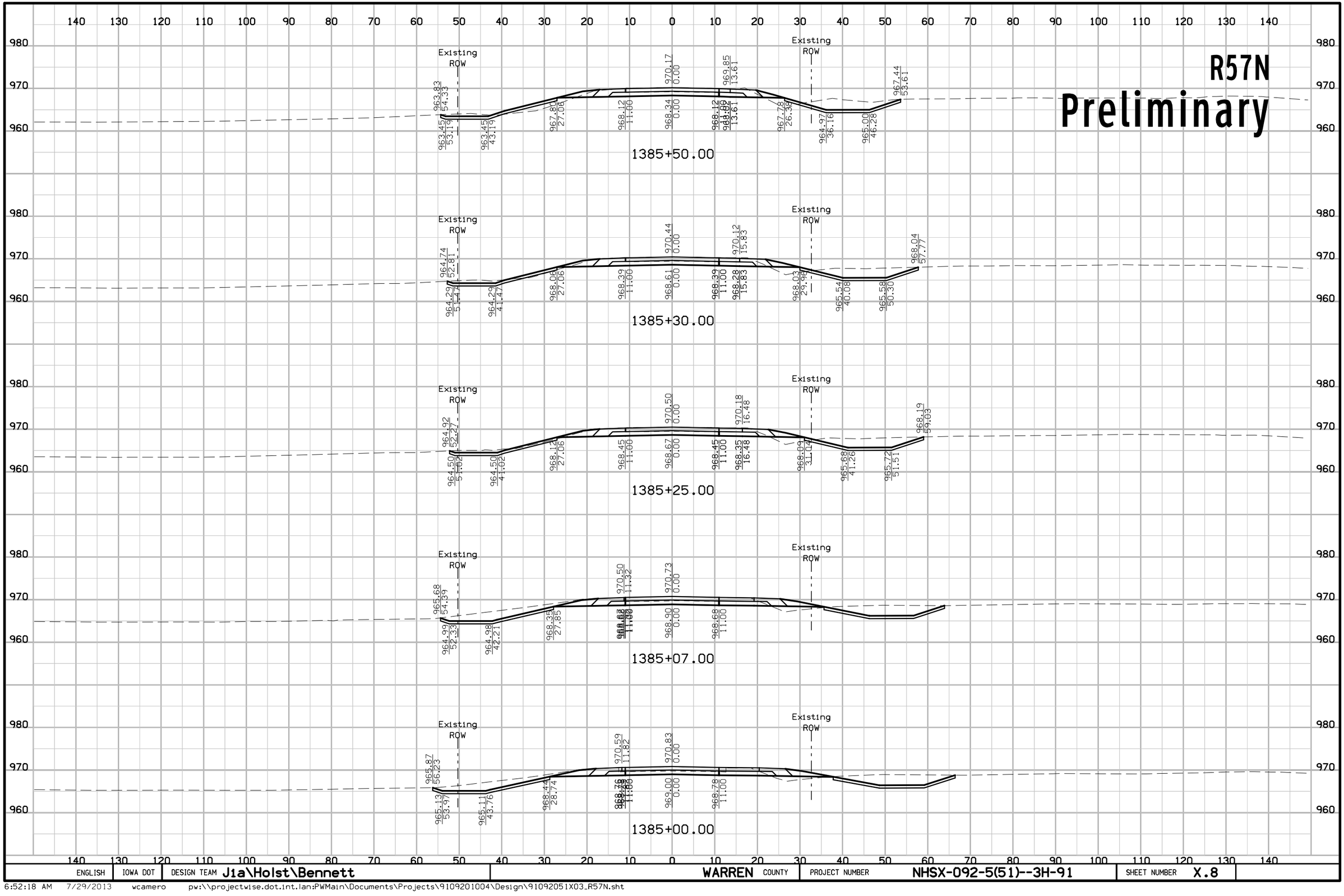
6:52:17 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X03_R57N.sht

R57N

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.8

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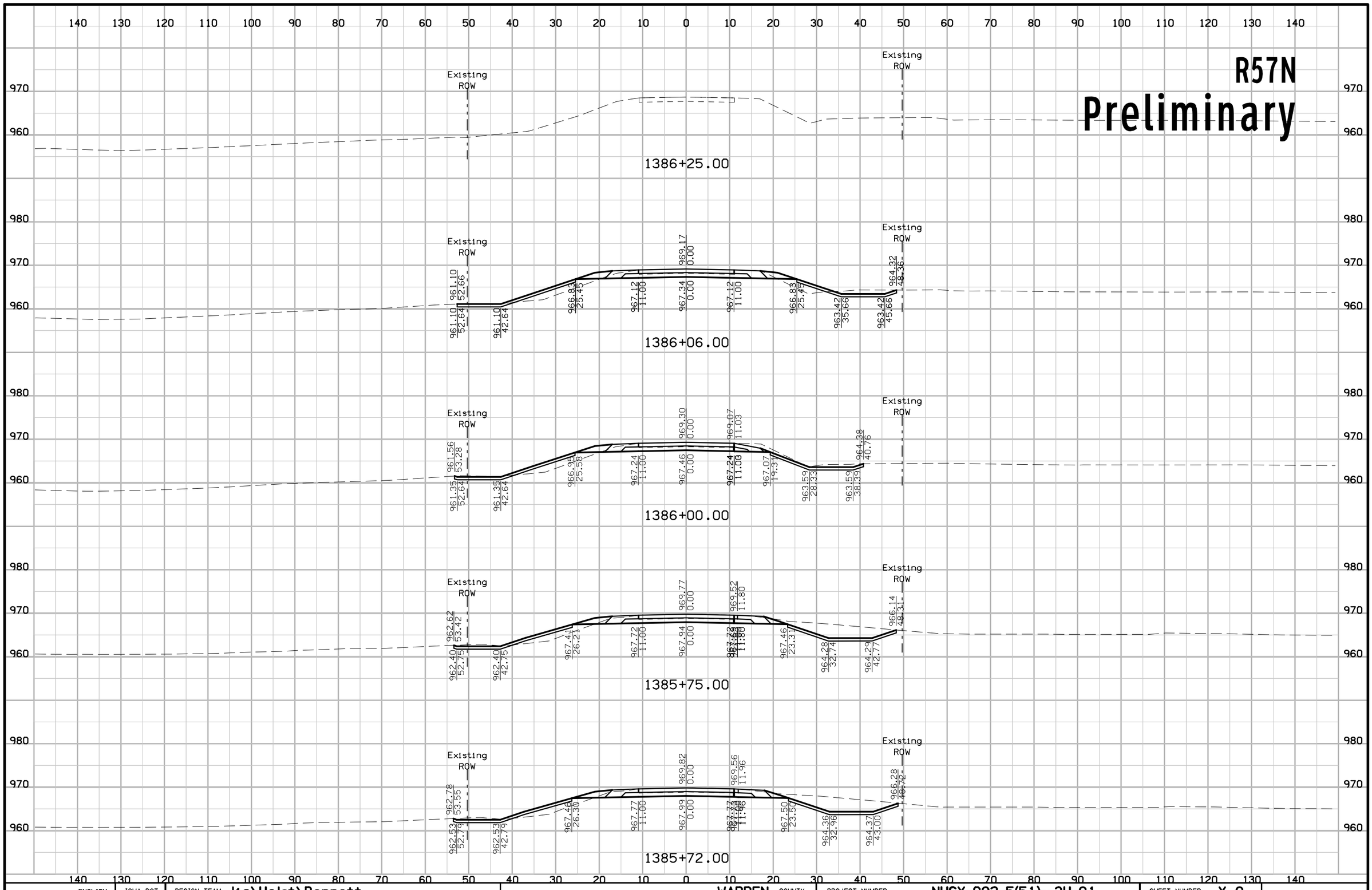
R57N

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.9

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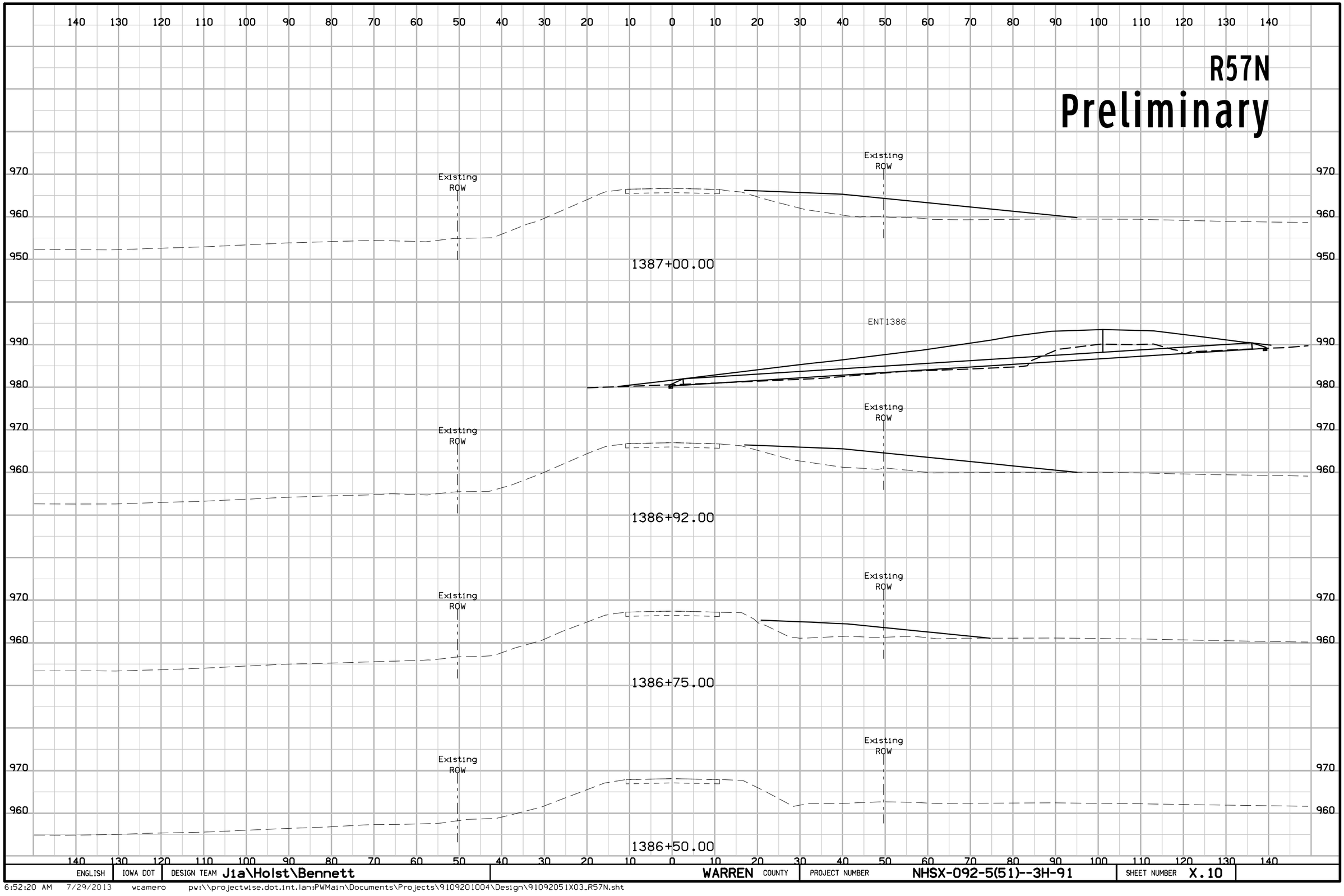
R57N

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER X.10

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ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.11	

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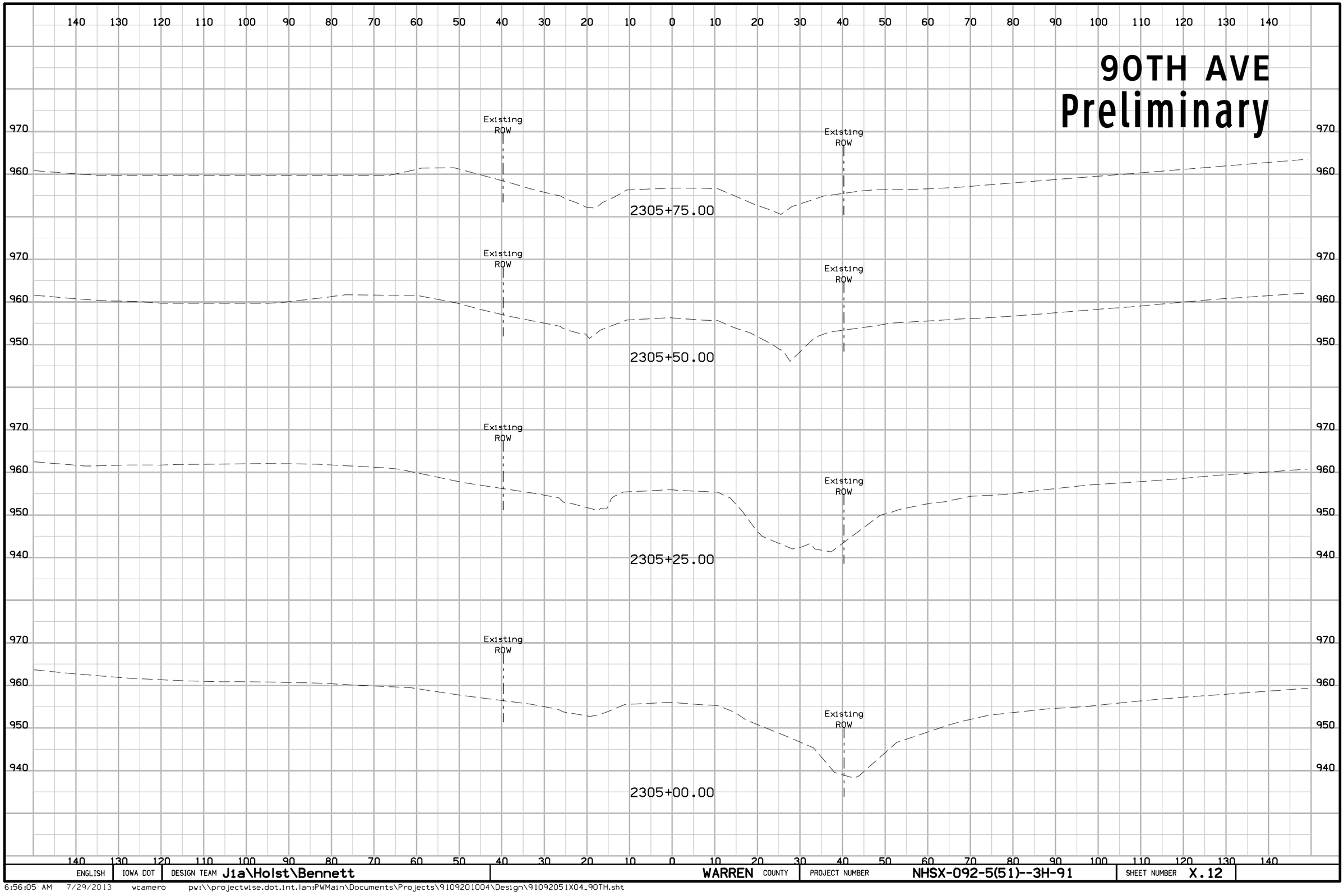
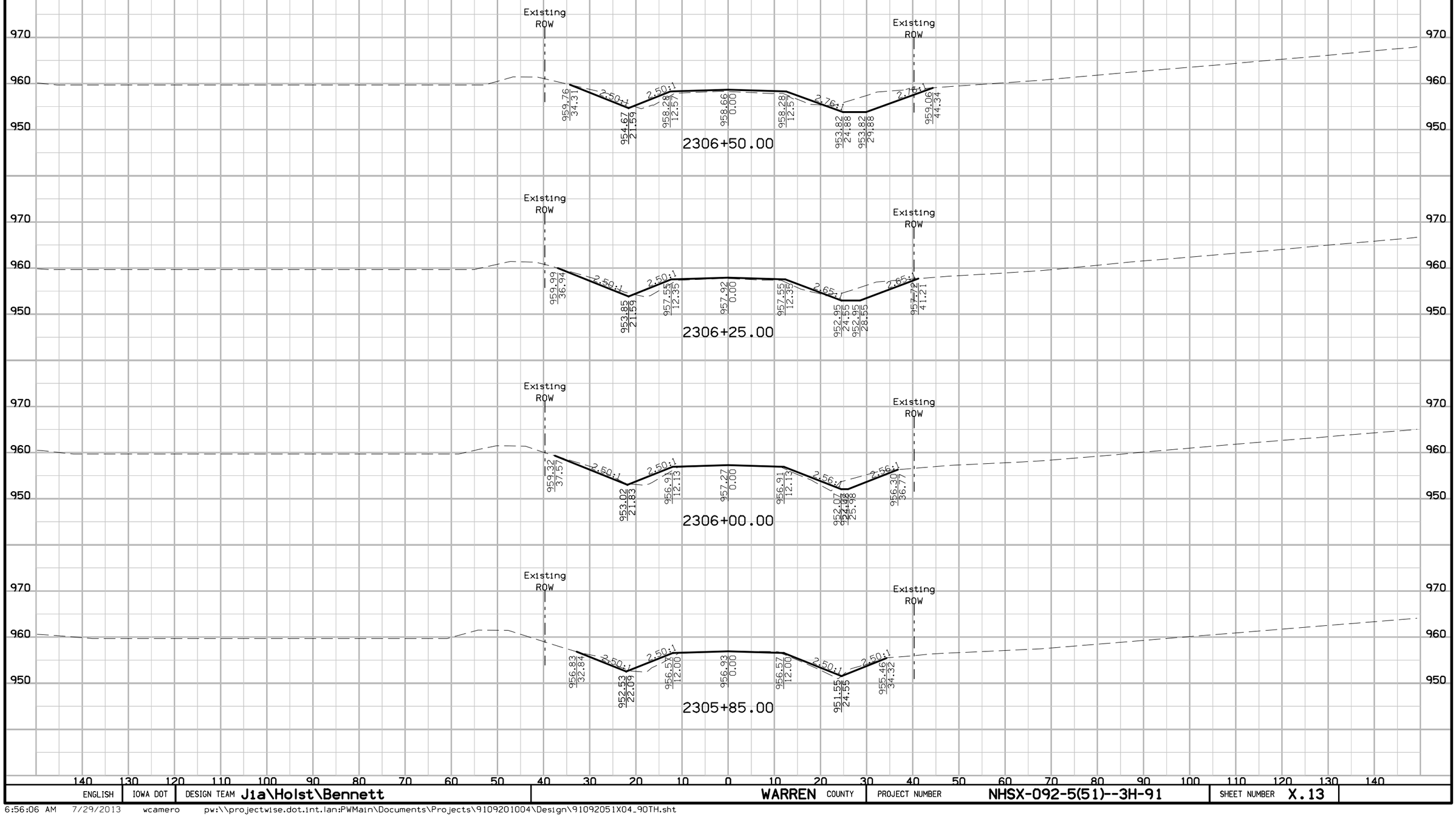
90TH AVE
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.12

6:56:05 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X04_90TH.sht

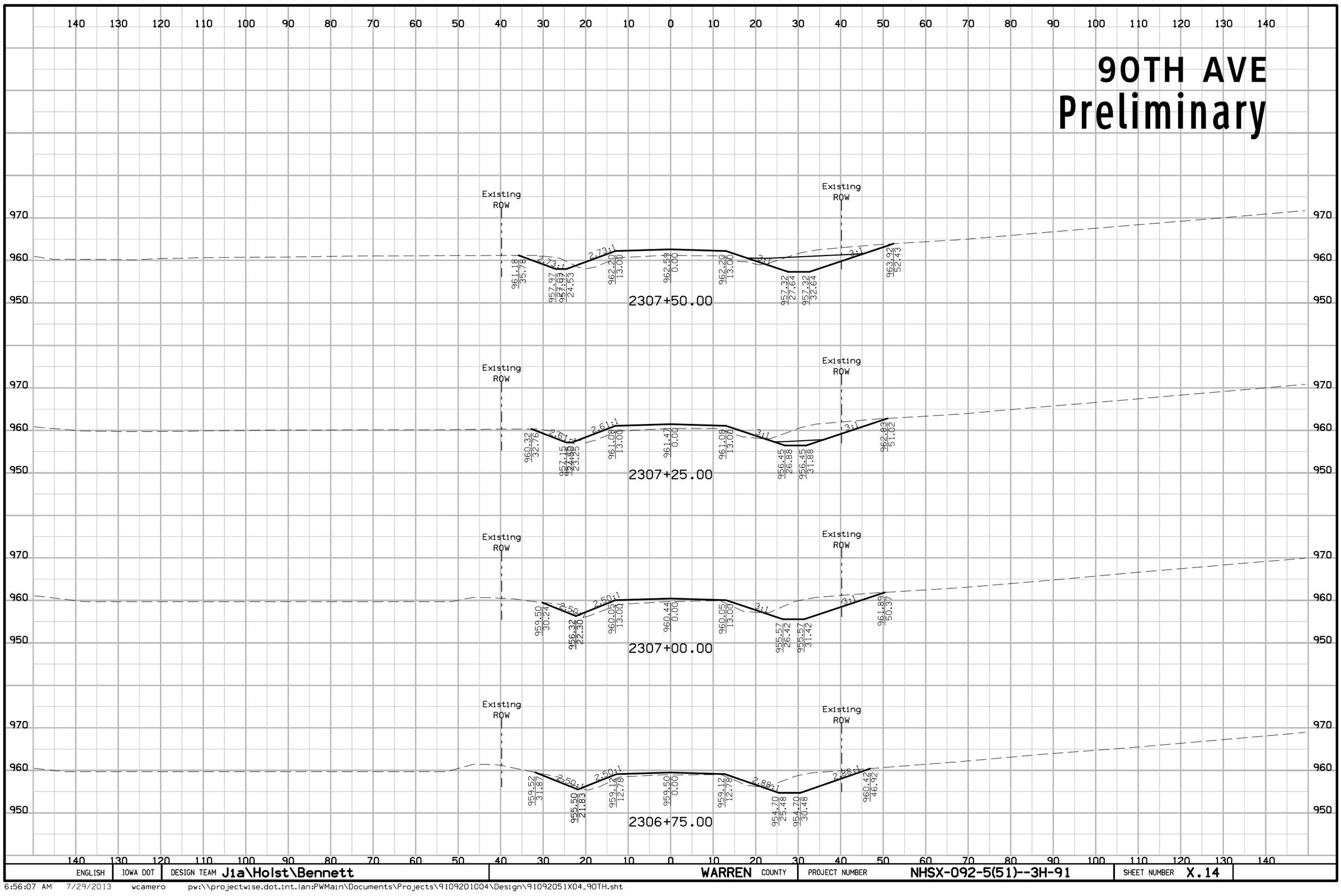
90TH AVE
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.13

6:56:06 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X04_90TH.sht

90TH AVE
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.14

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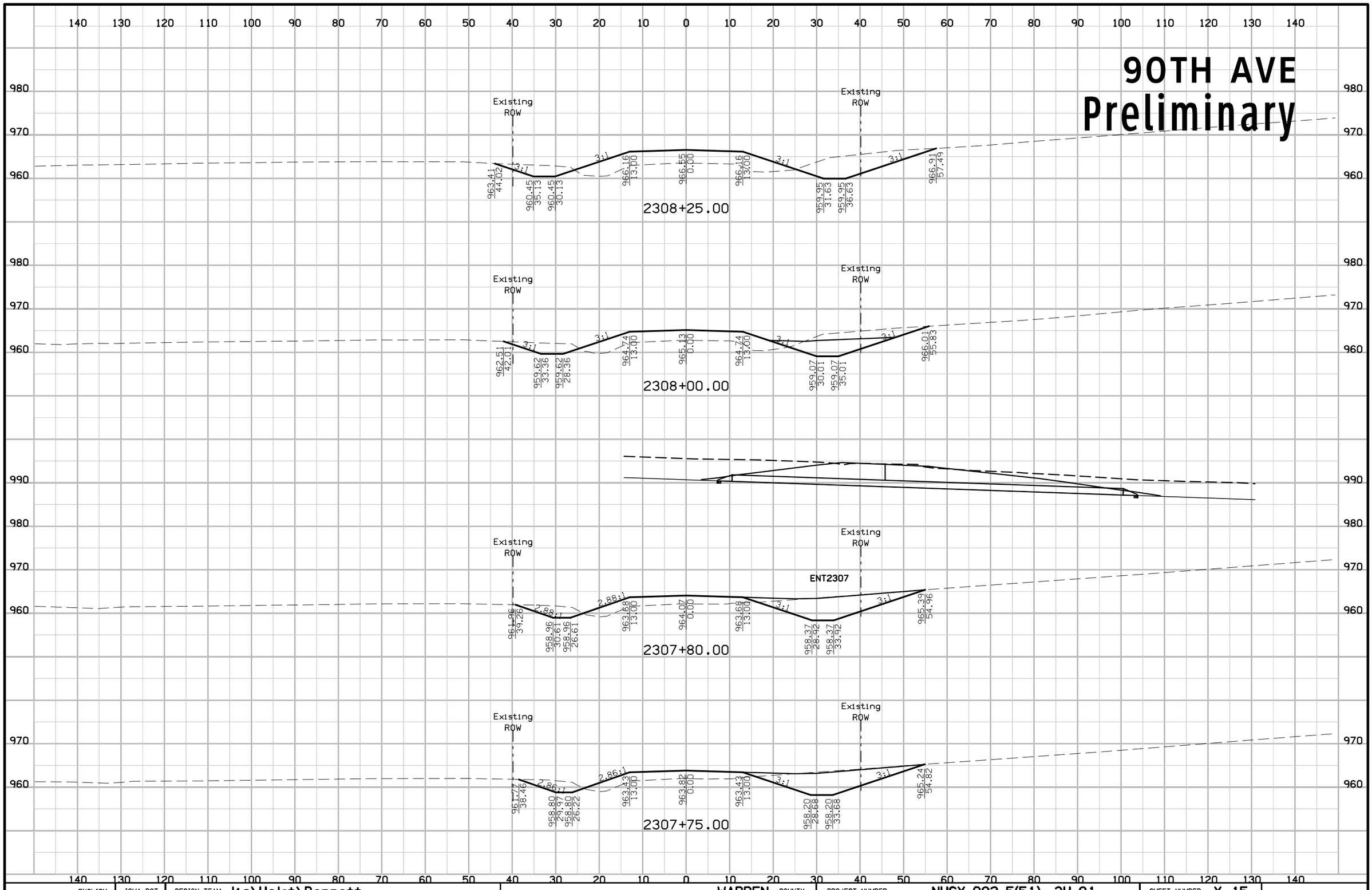
90TH AVE
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.15

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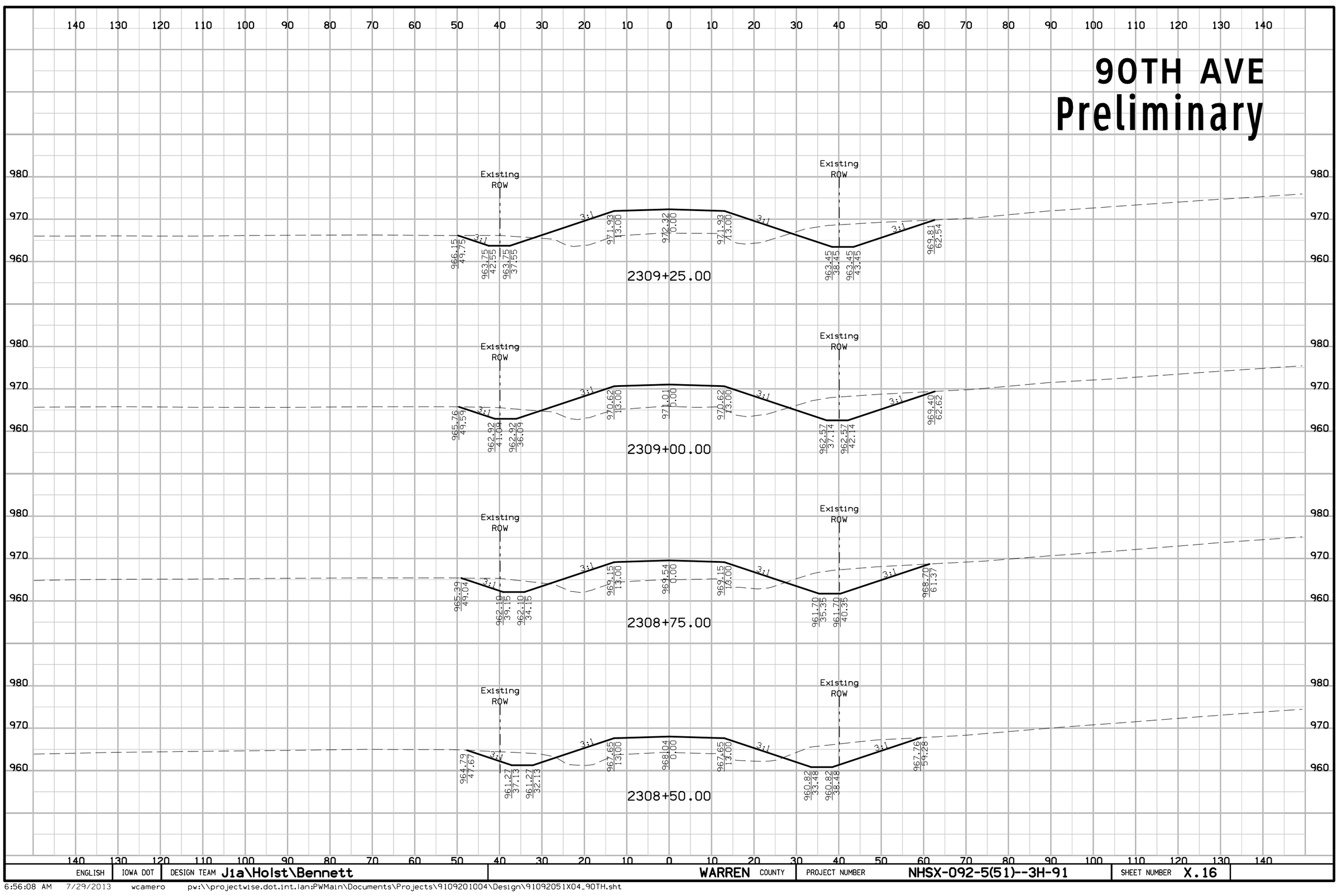
90TH AVE
Preliminary



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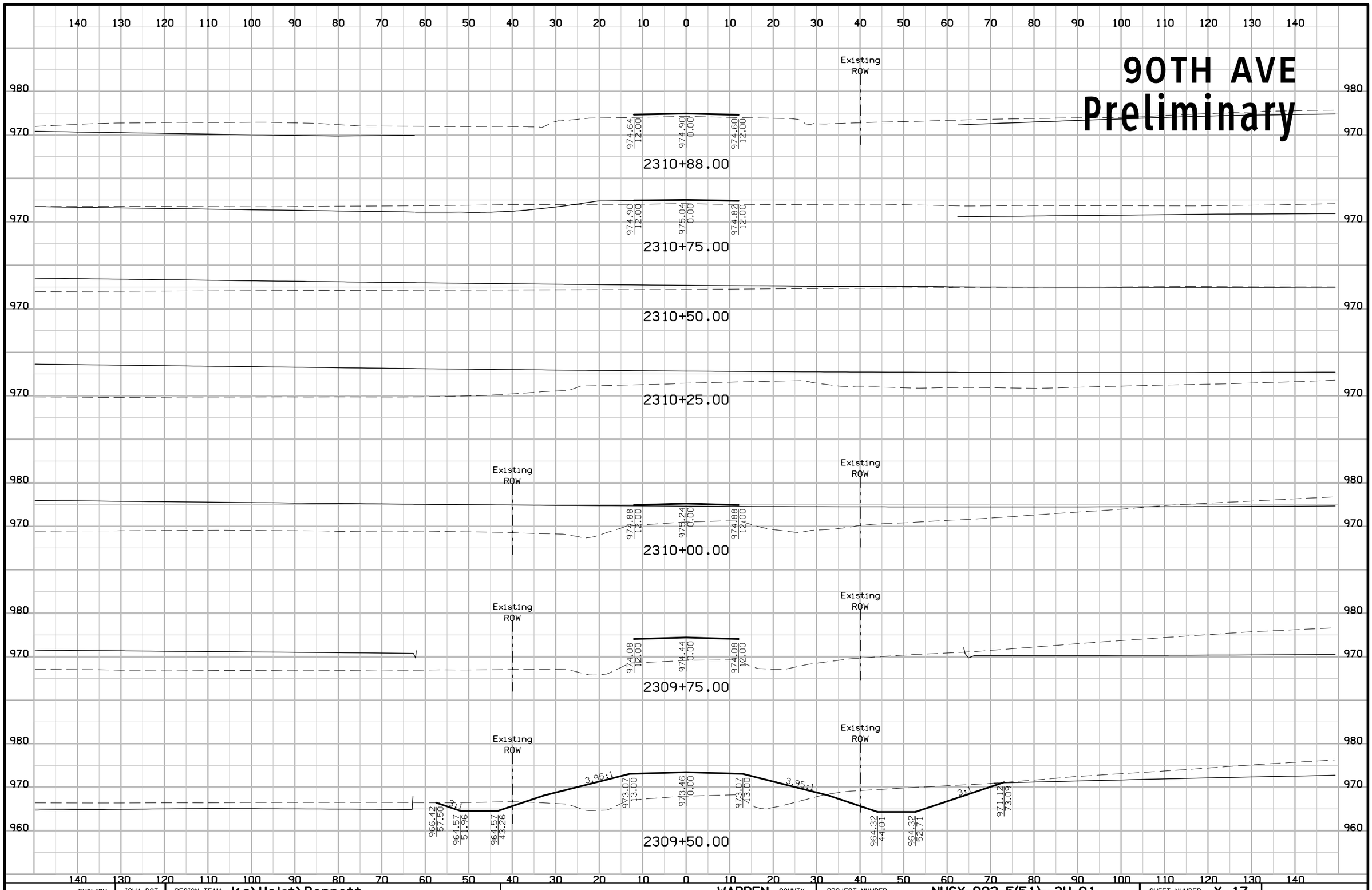

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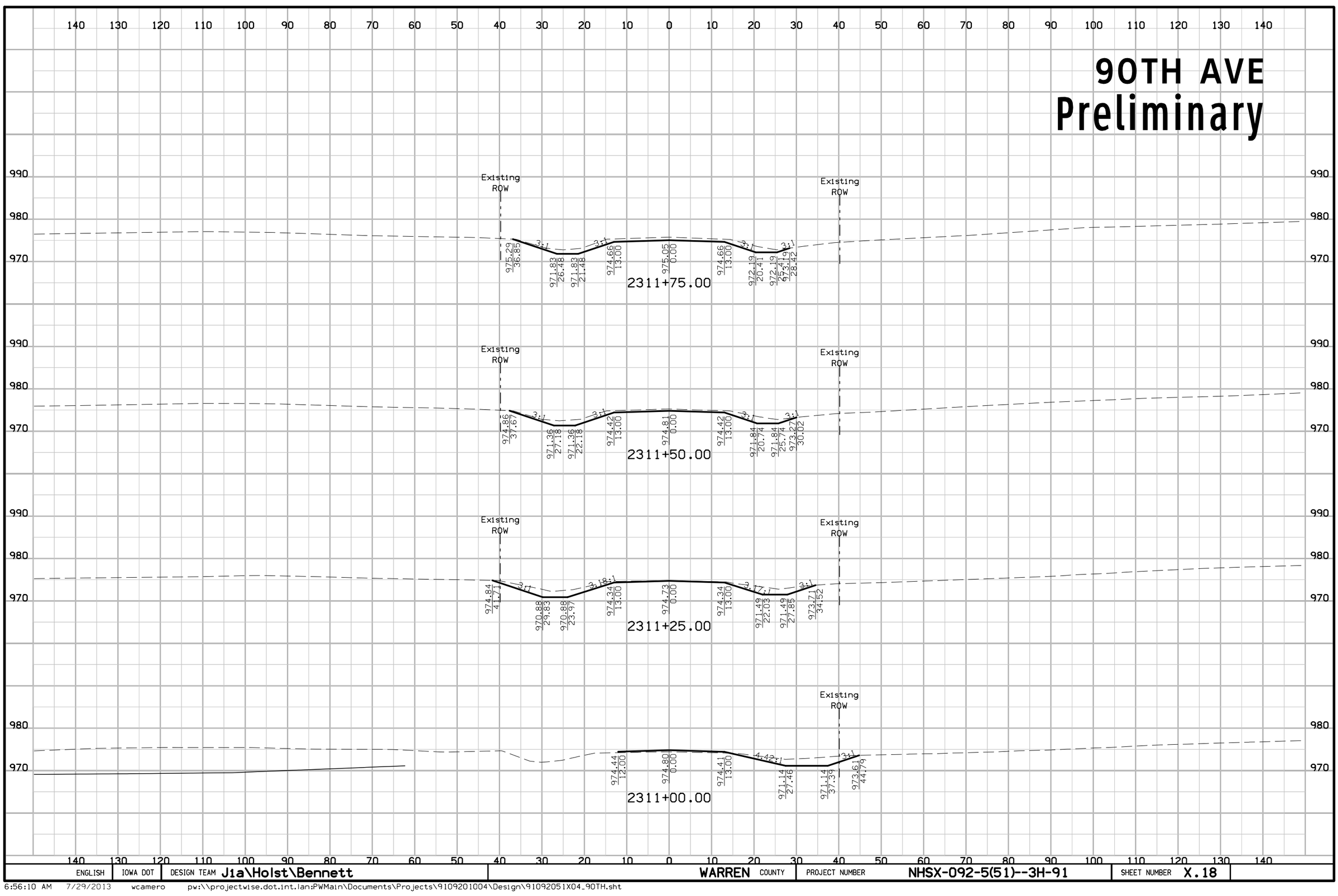

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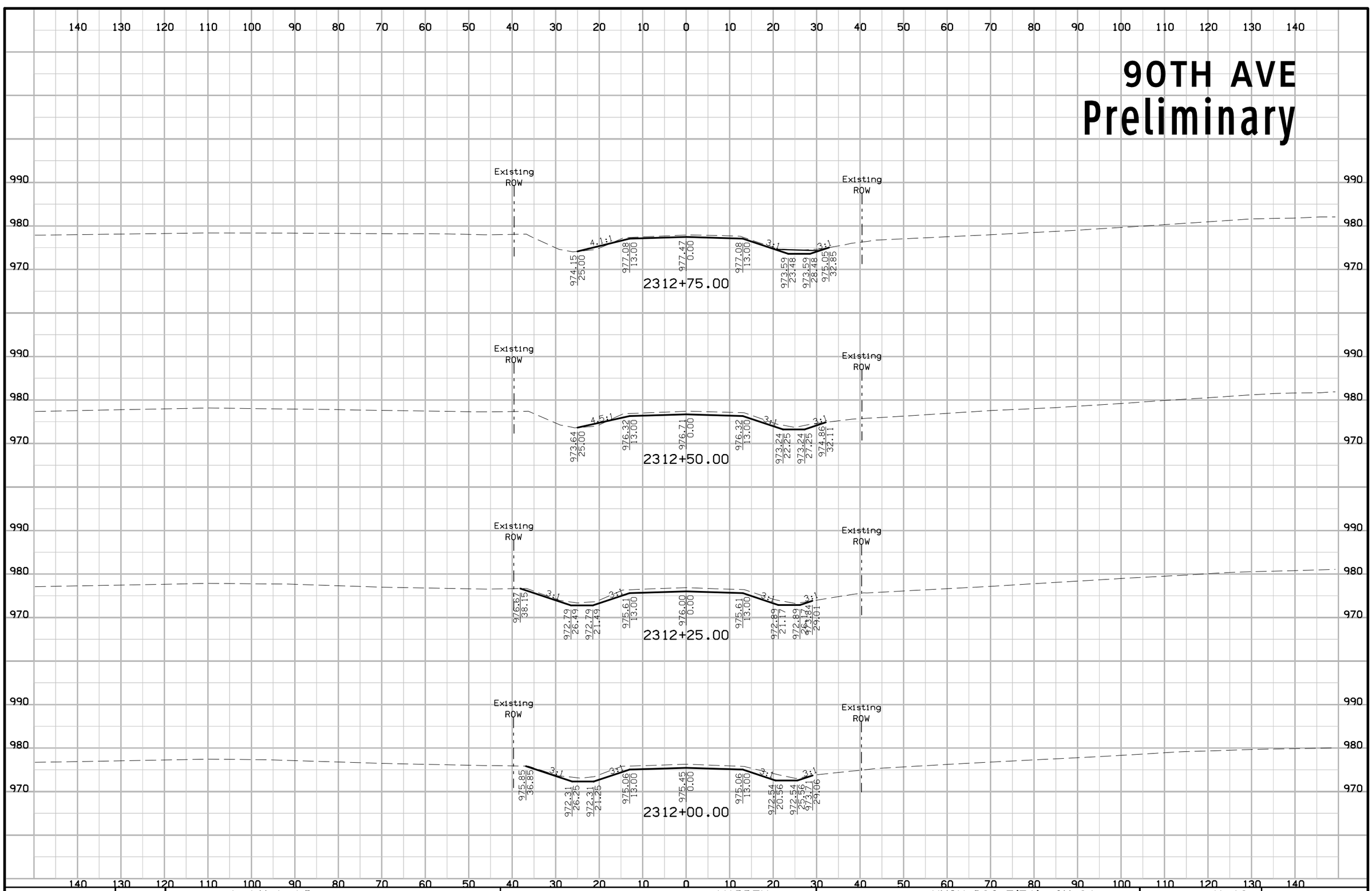
90TH AVE
Preliminary



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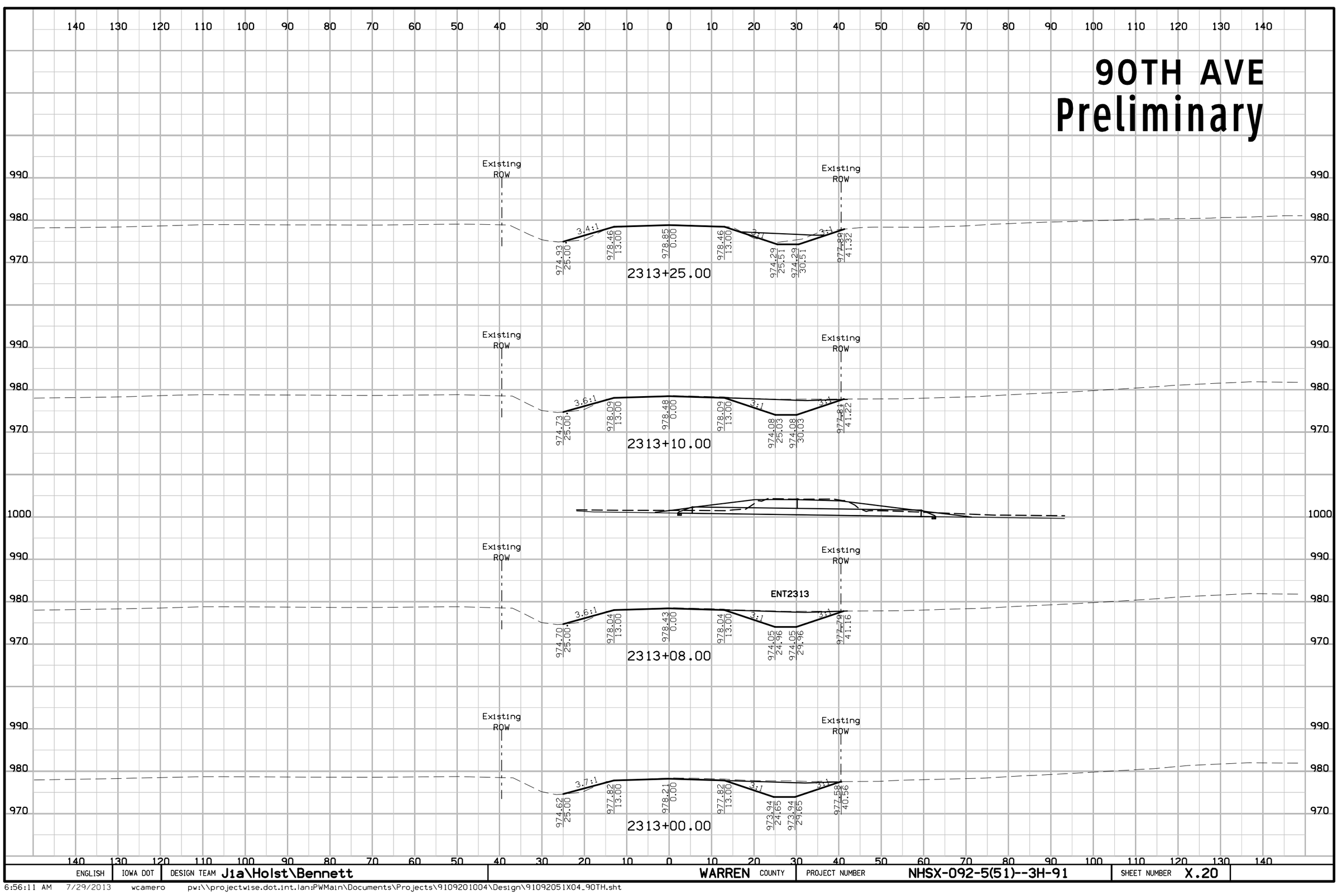
90TH AVE
Preliminary



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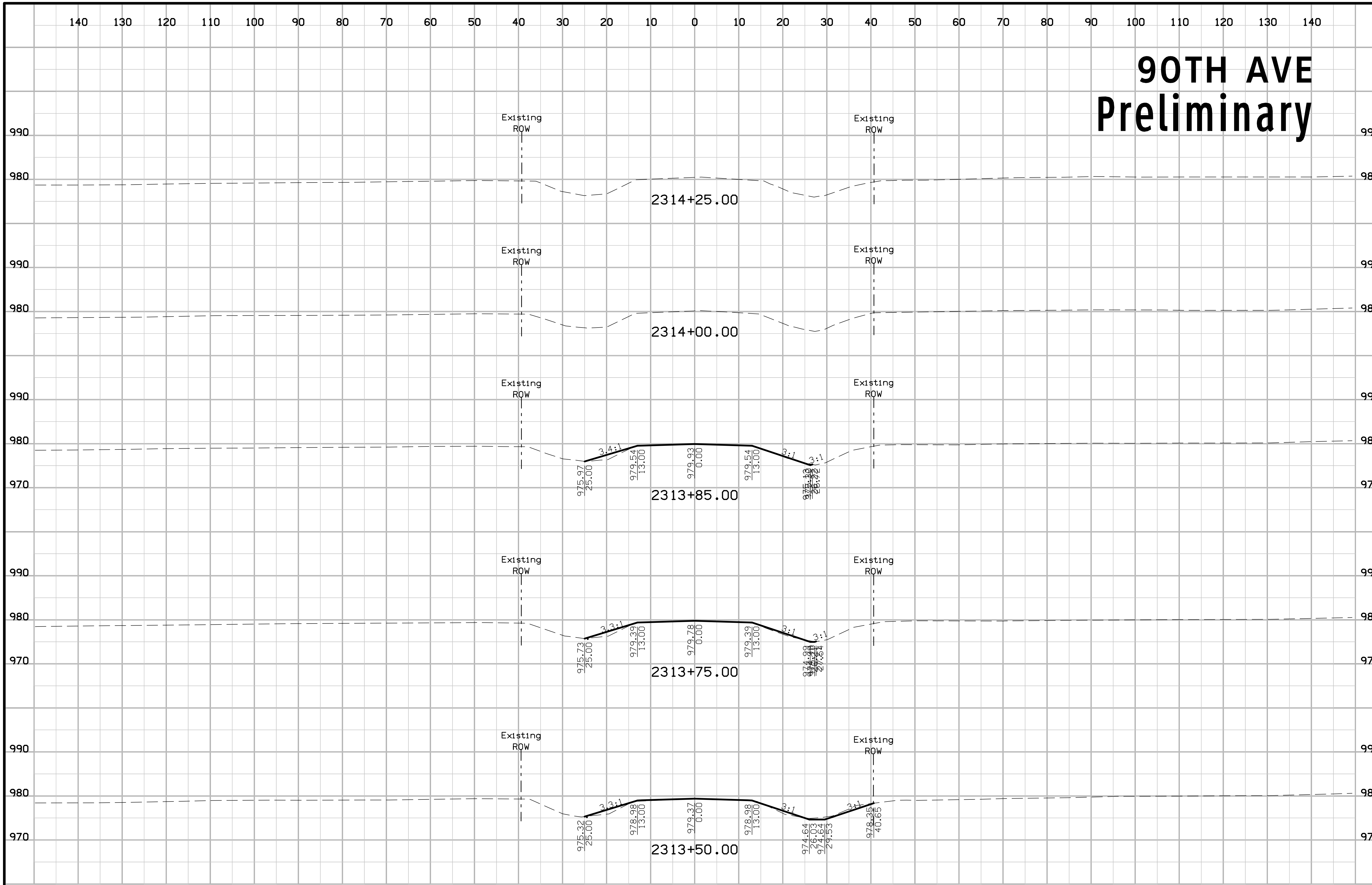
Preliminary



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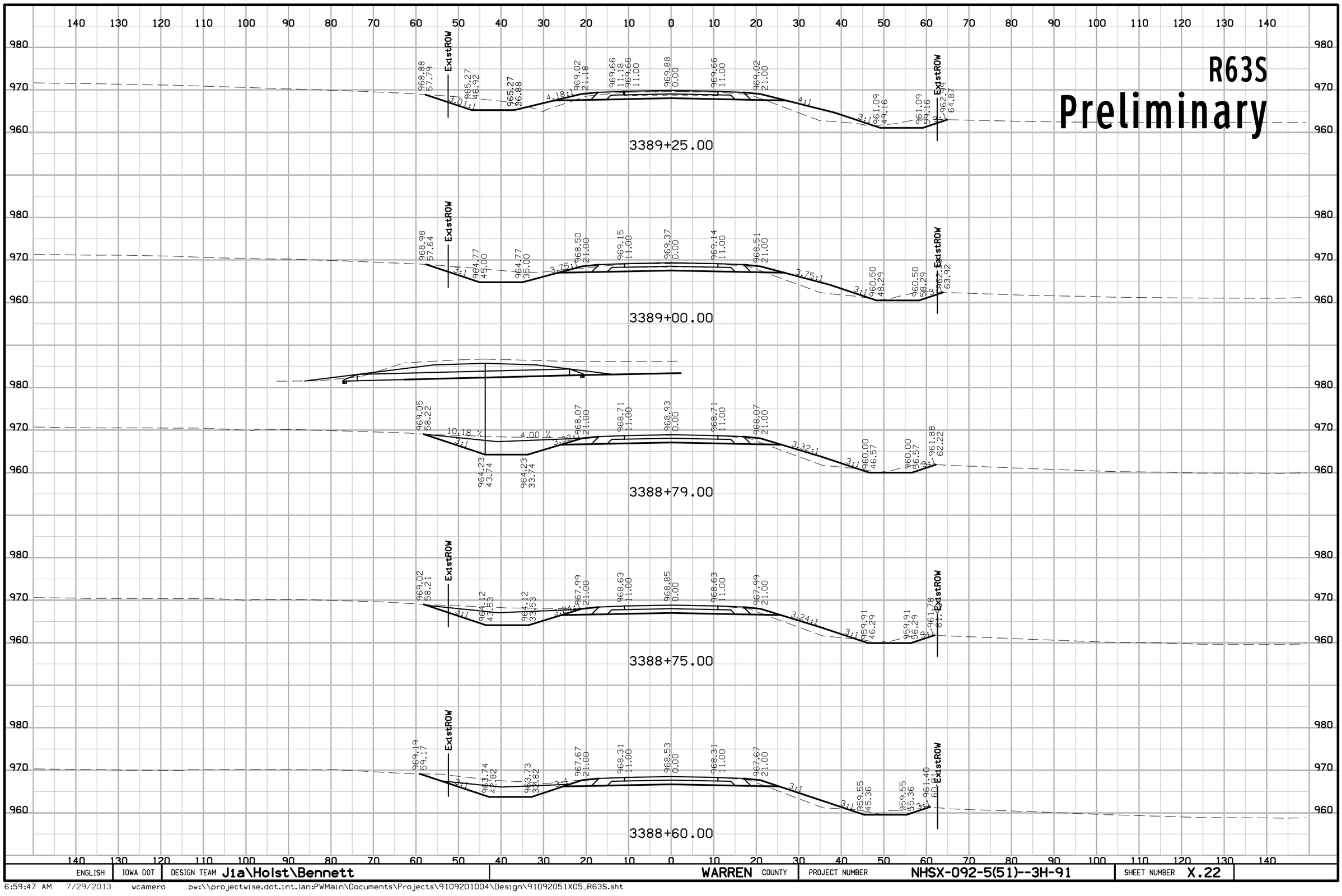
R63S

Preliminary



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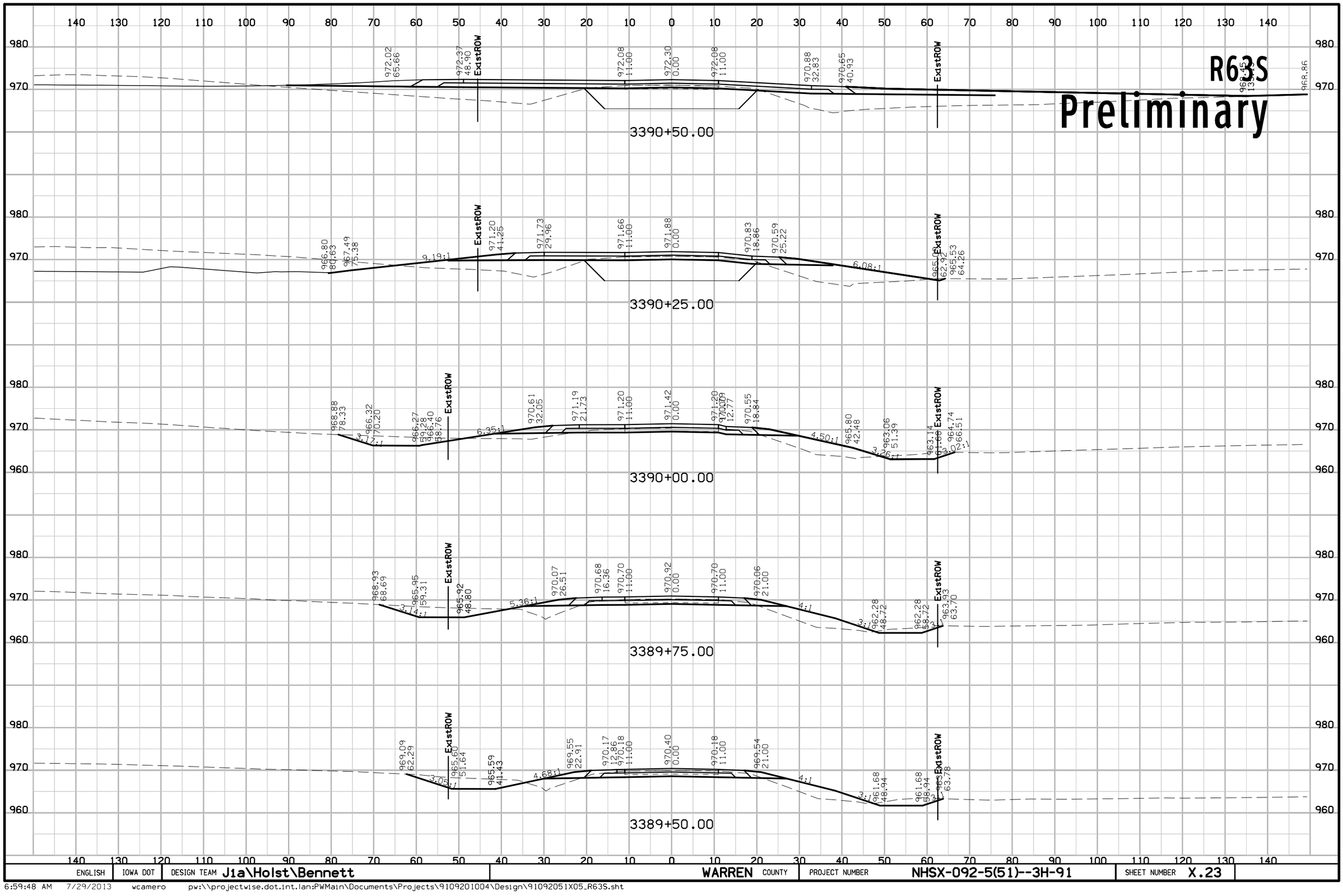
R63S

Preliminary



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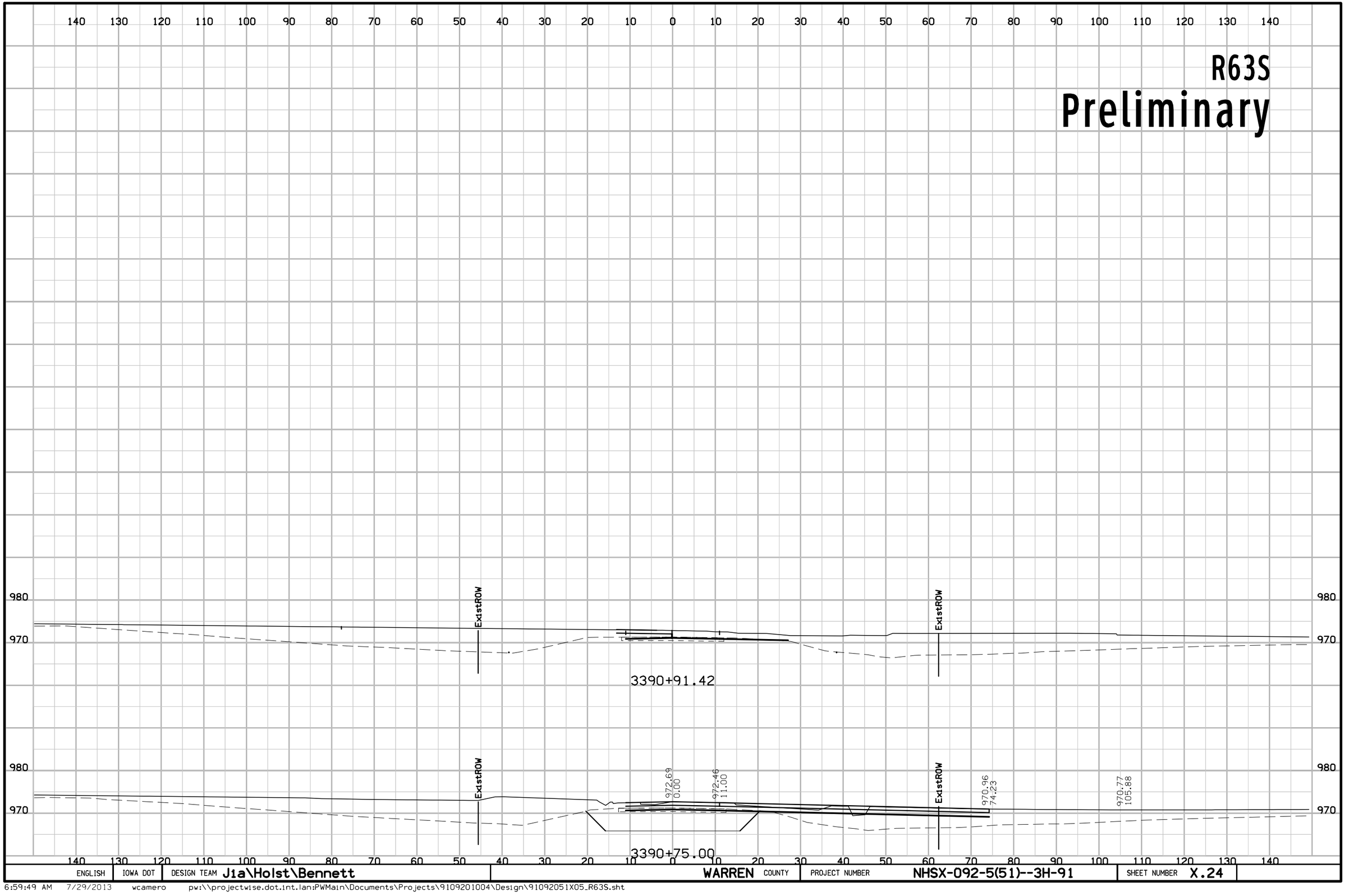
R63S

Preliminary



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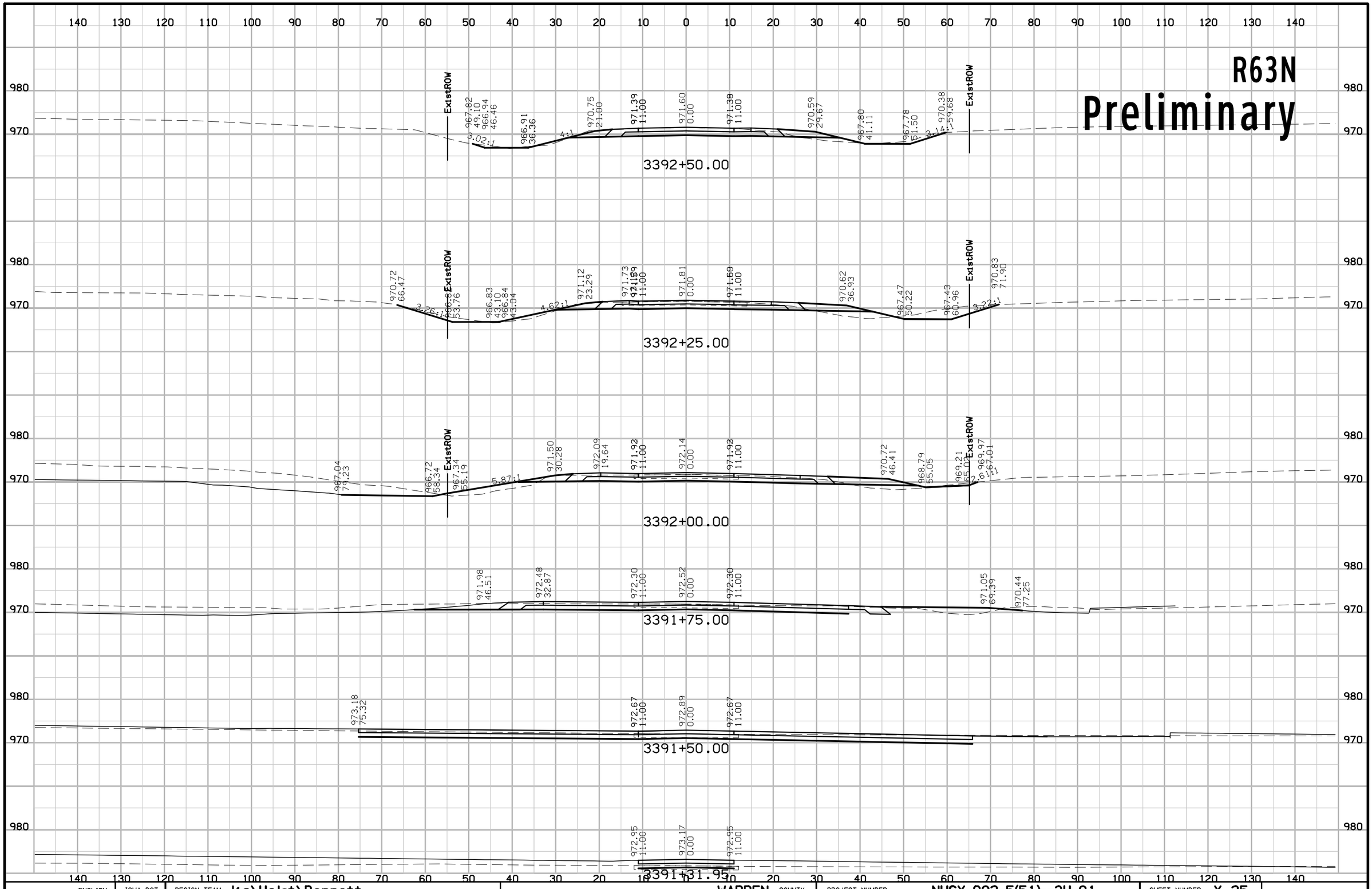
R63N

Preliminary



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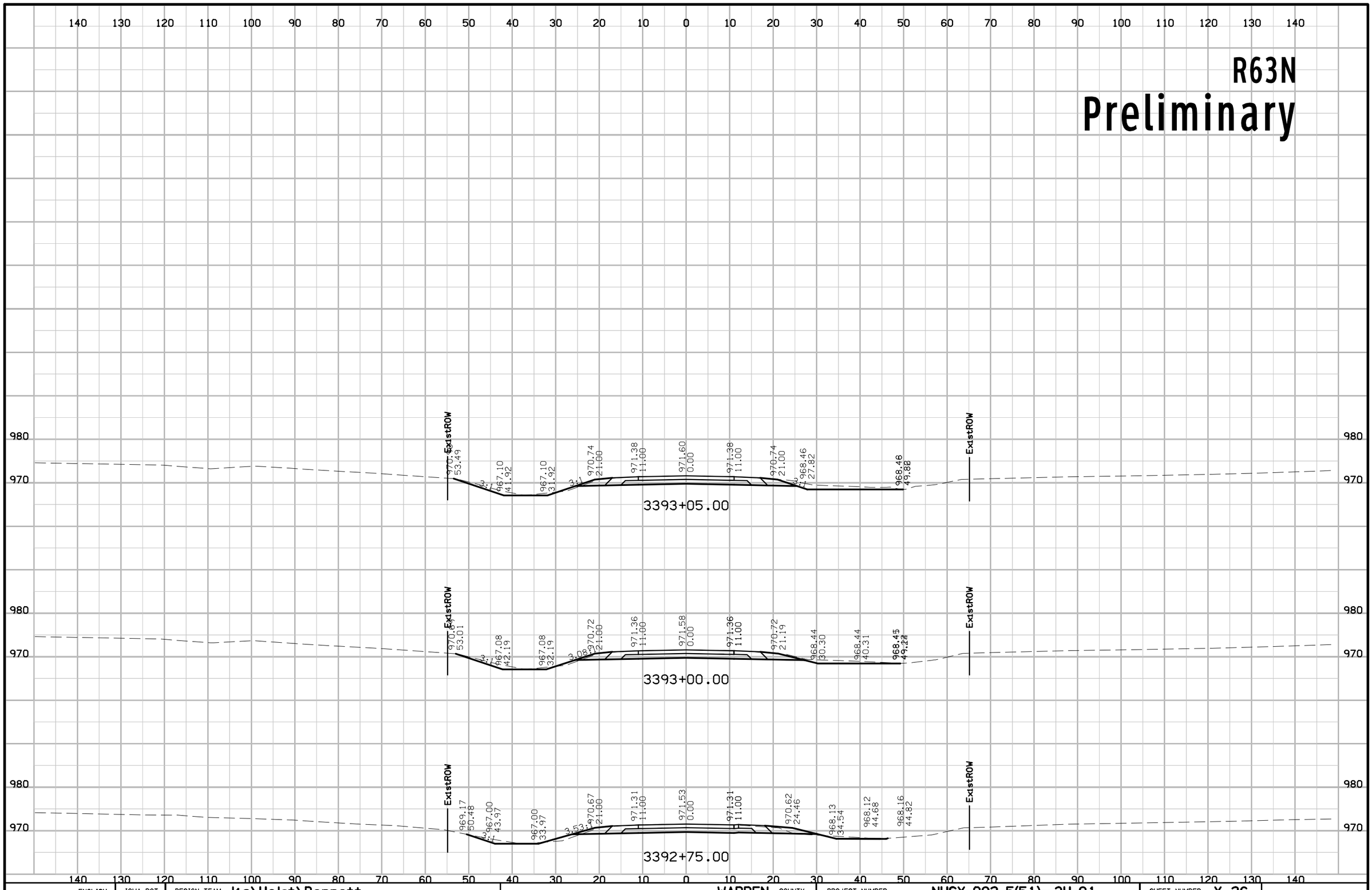
R63N

Preliminary



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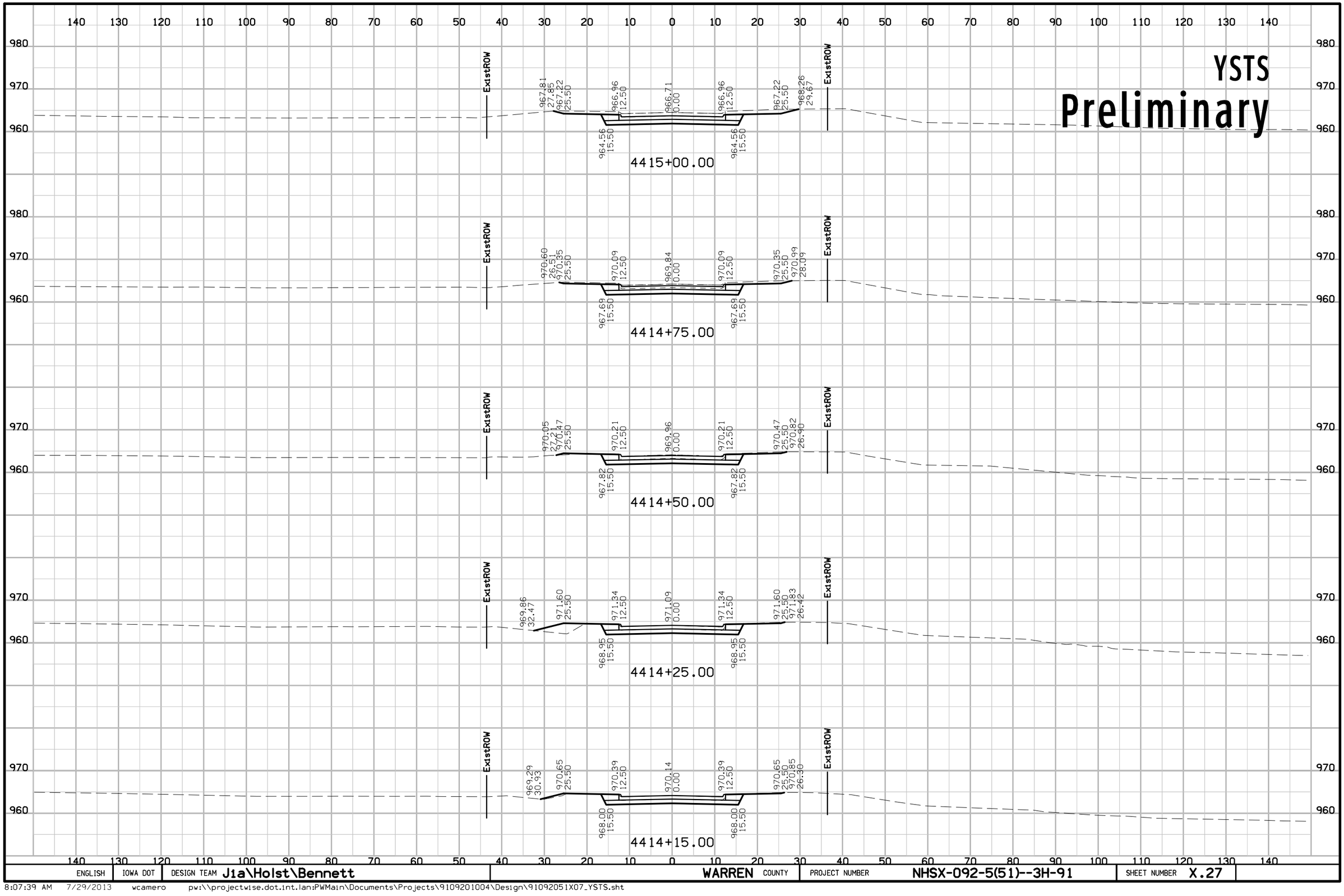
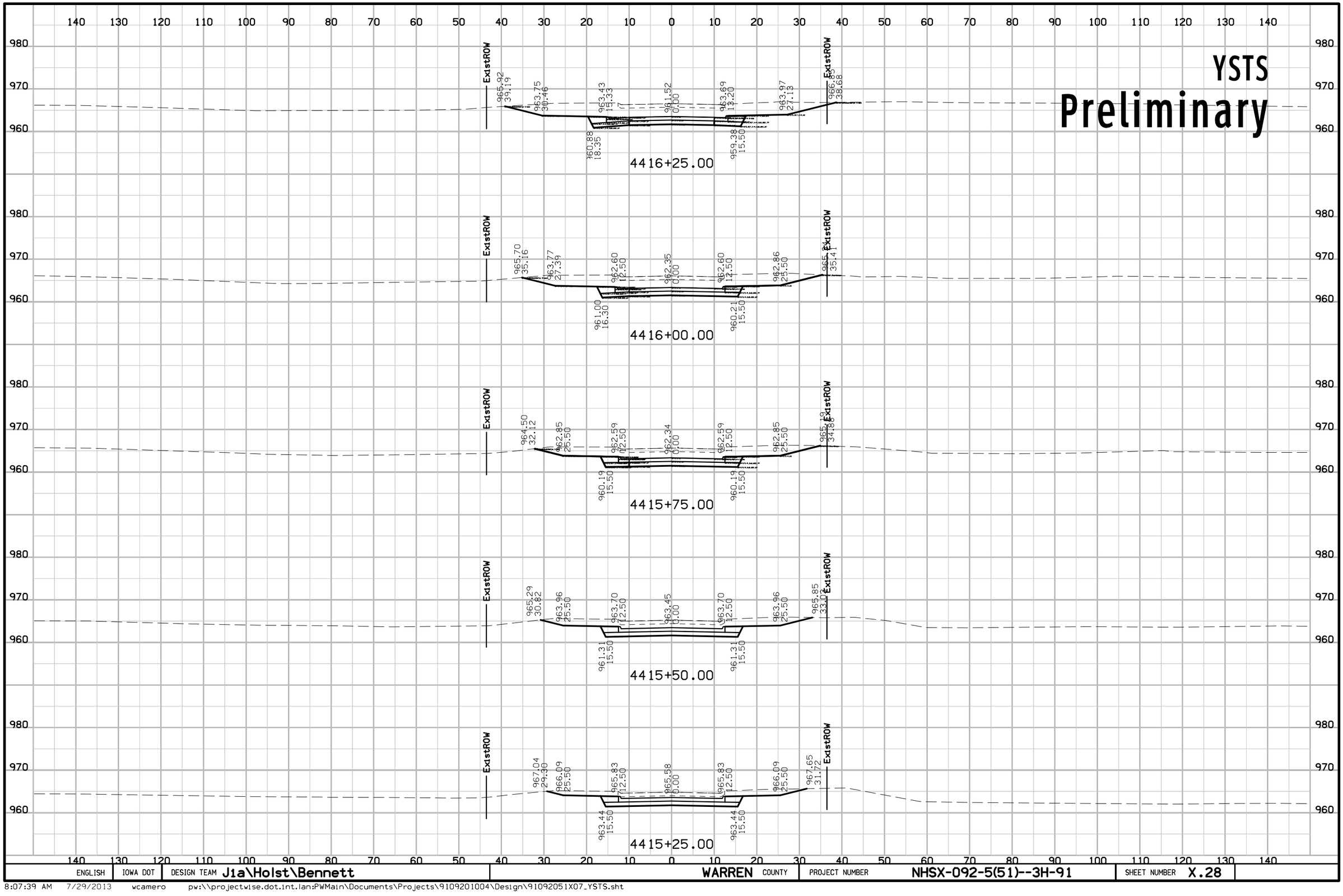
YSTS
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.27

YSTS

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.28

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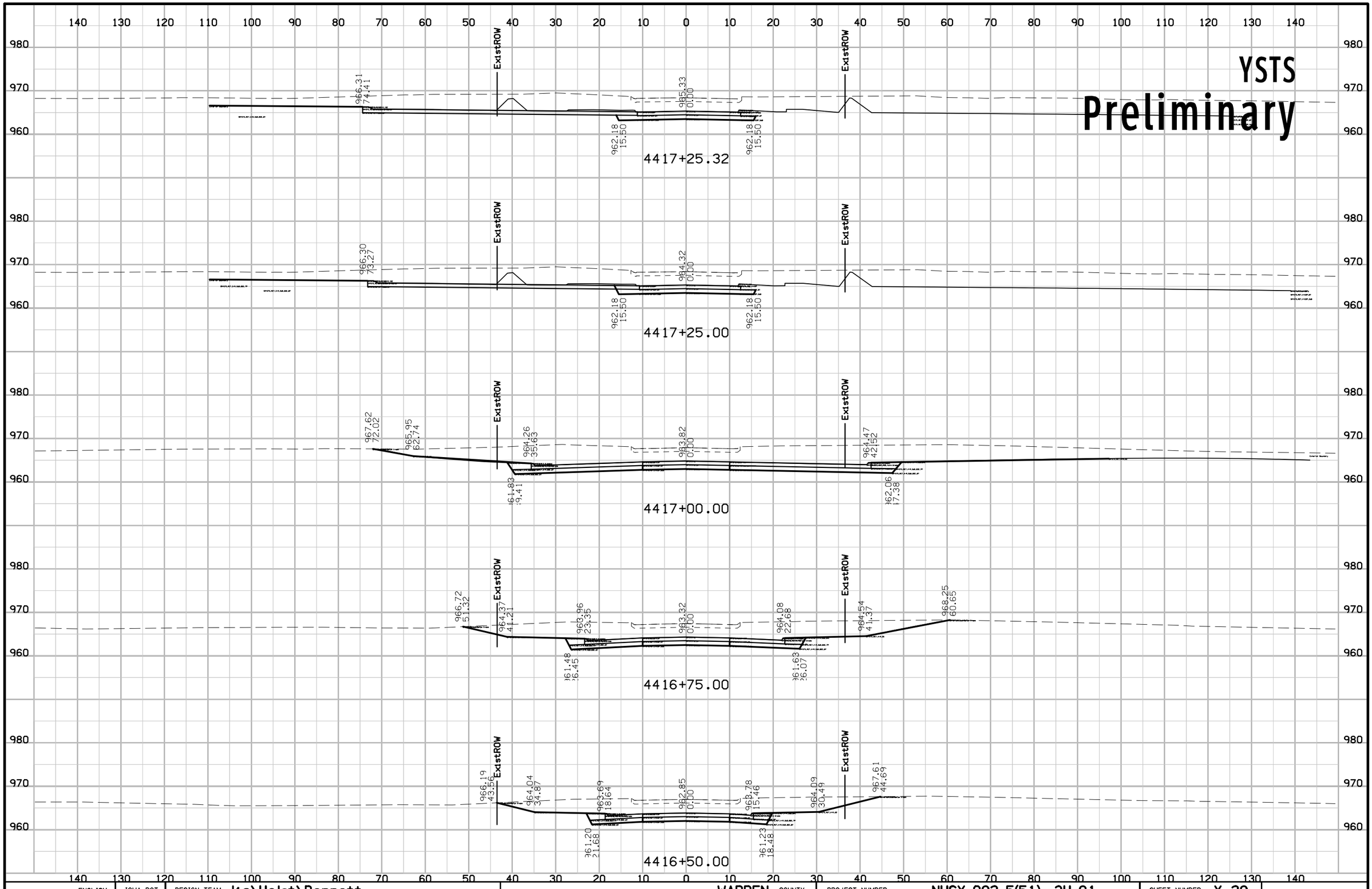
YSTS

Preliminary



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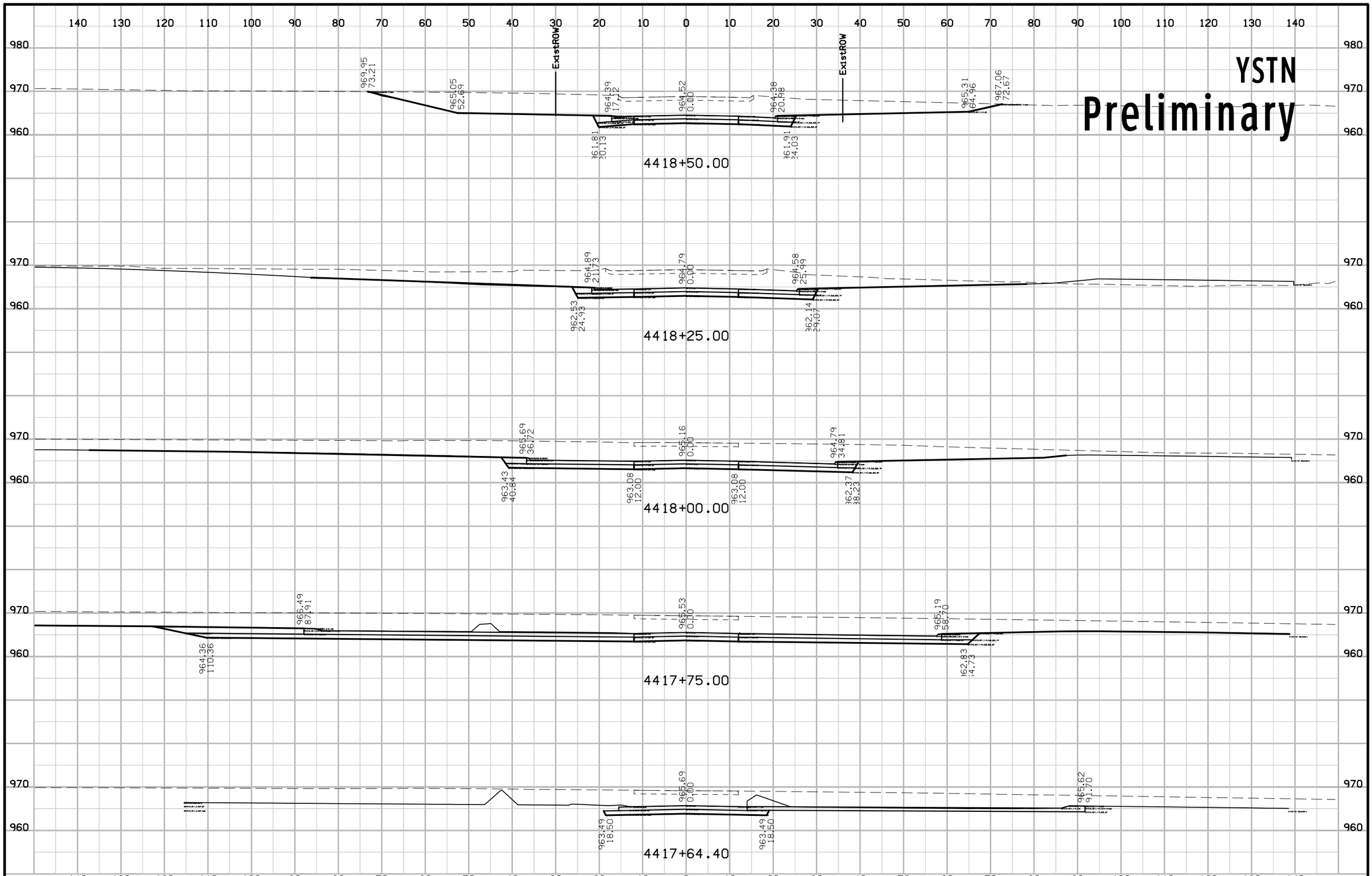
YSTN

Preliminary



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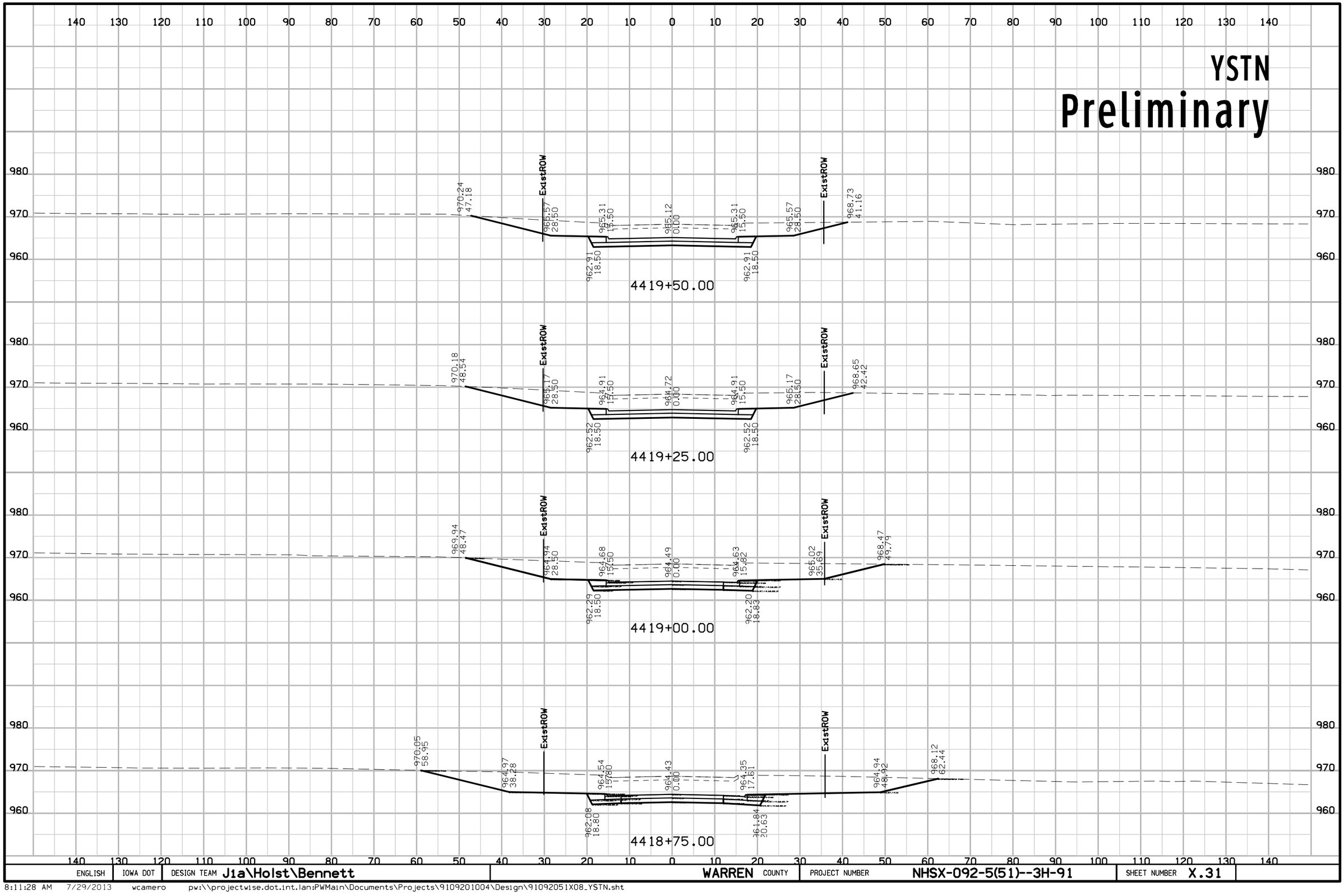
YSTN

Preliminary



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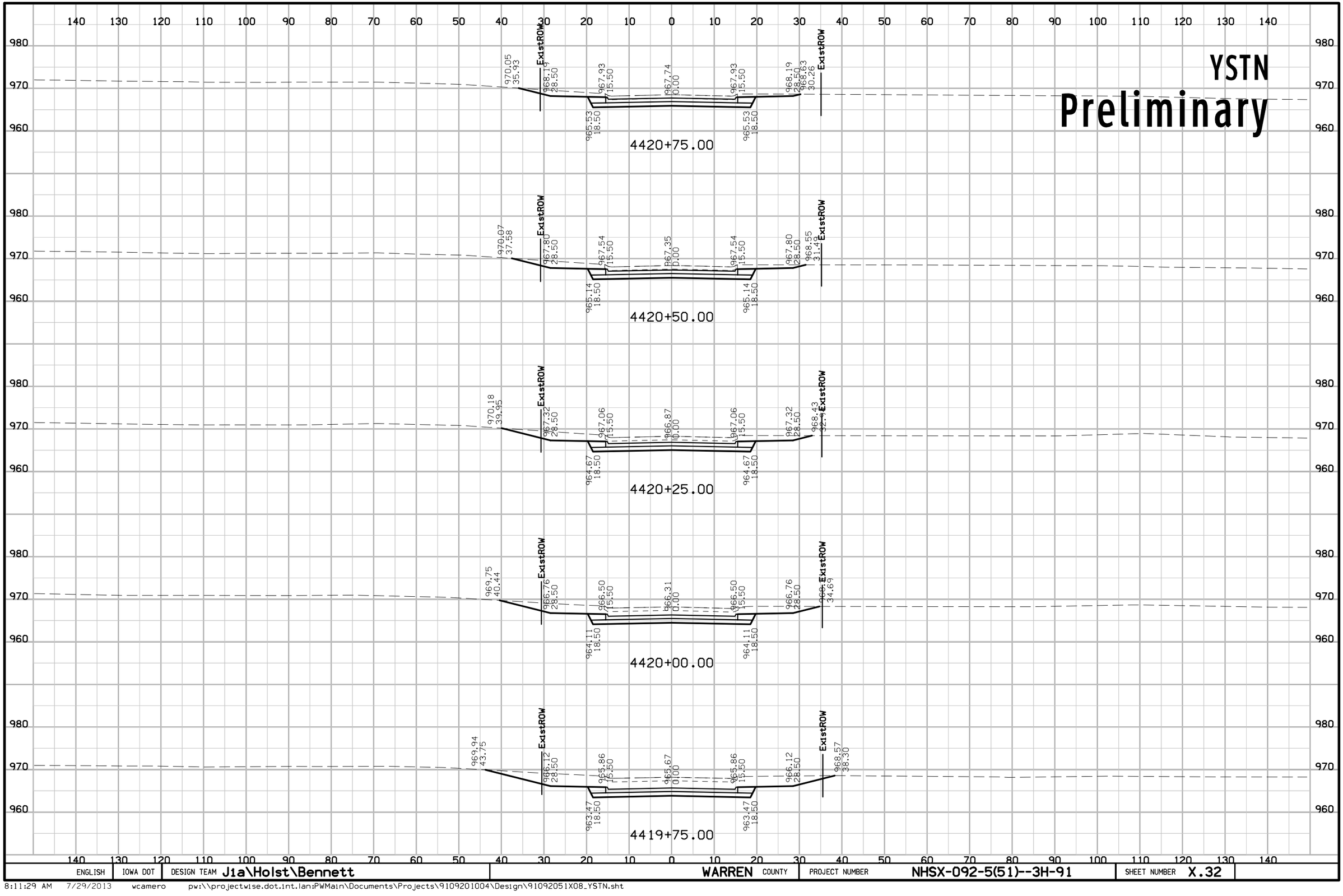
YSTN

Preliminary



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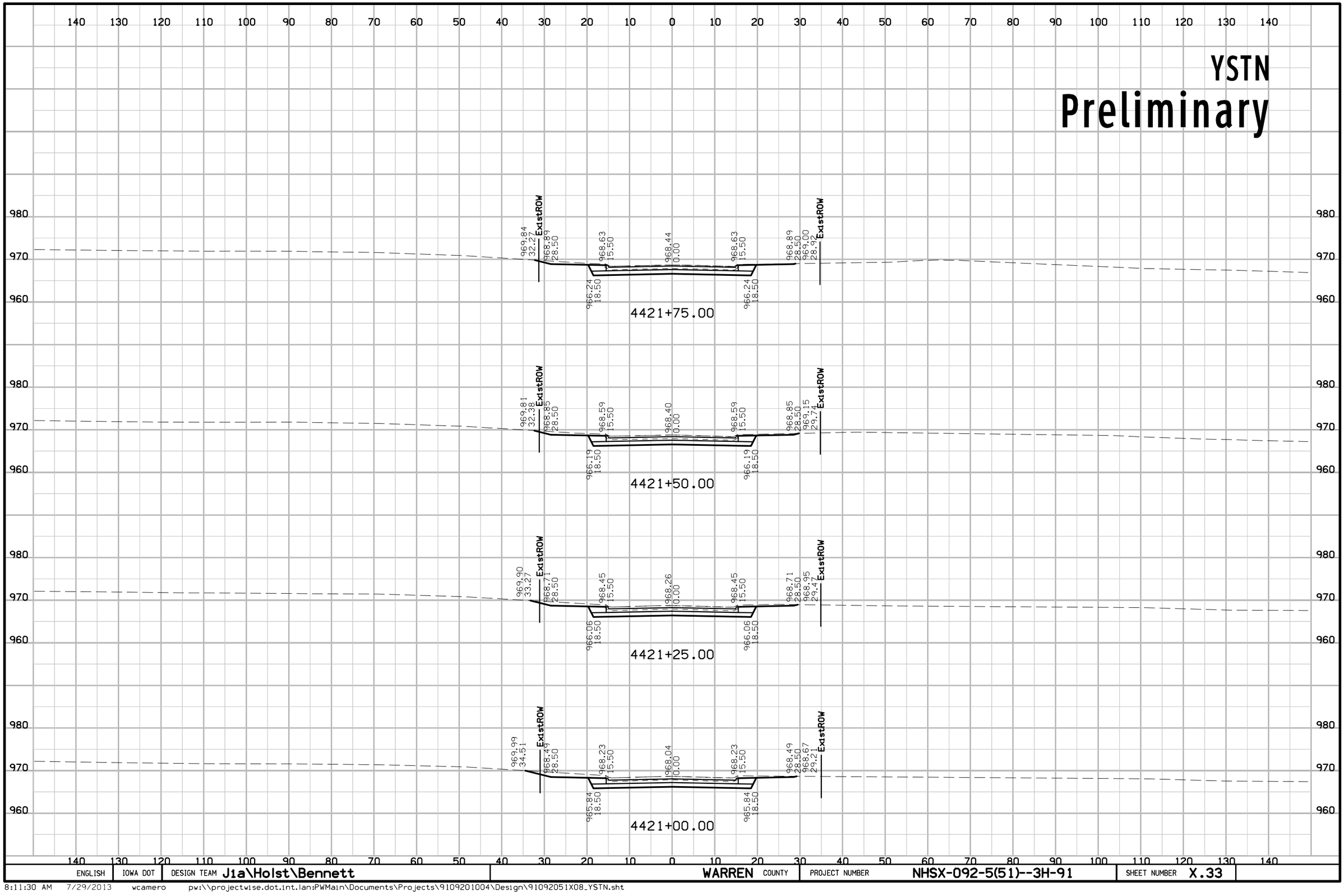
YSTN

Preliminary



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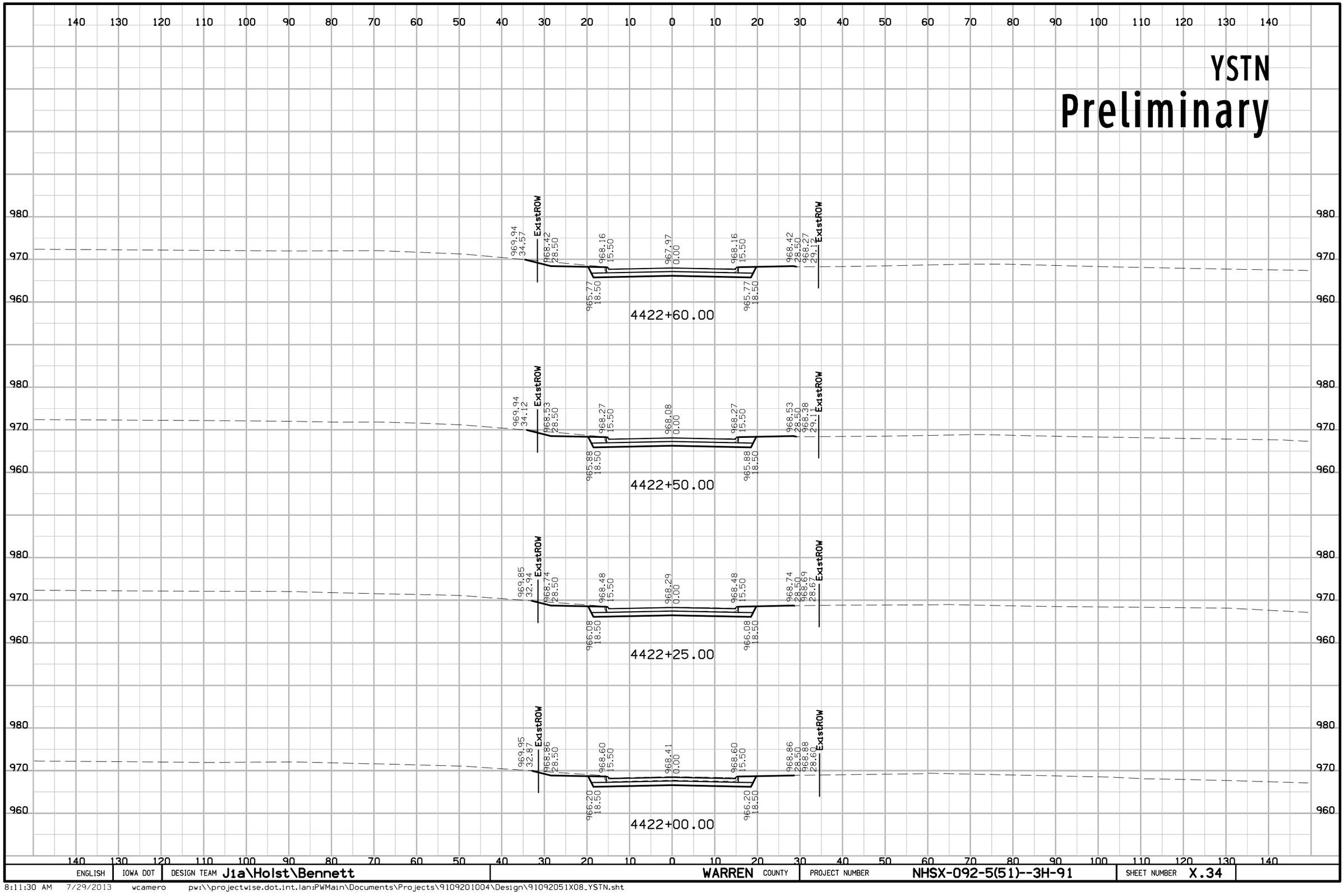
YSTN

Preliminary



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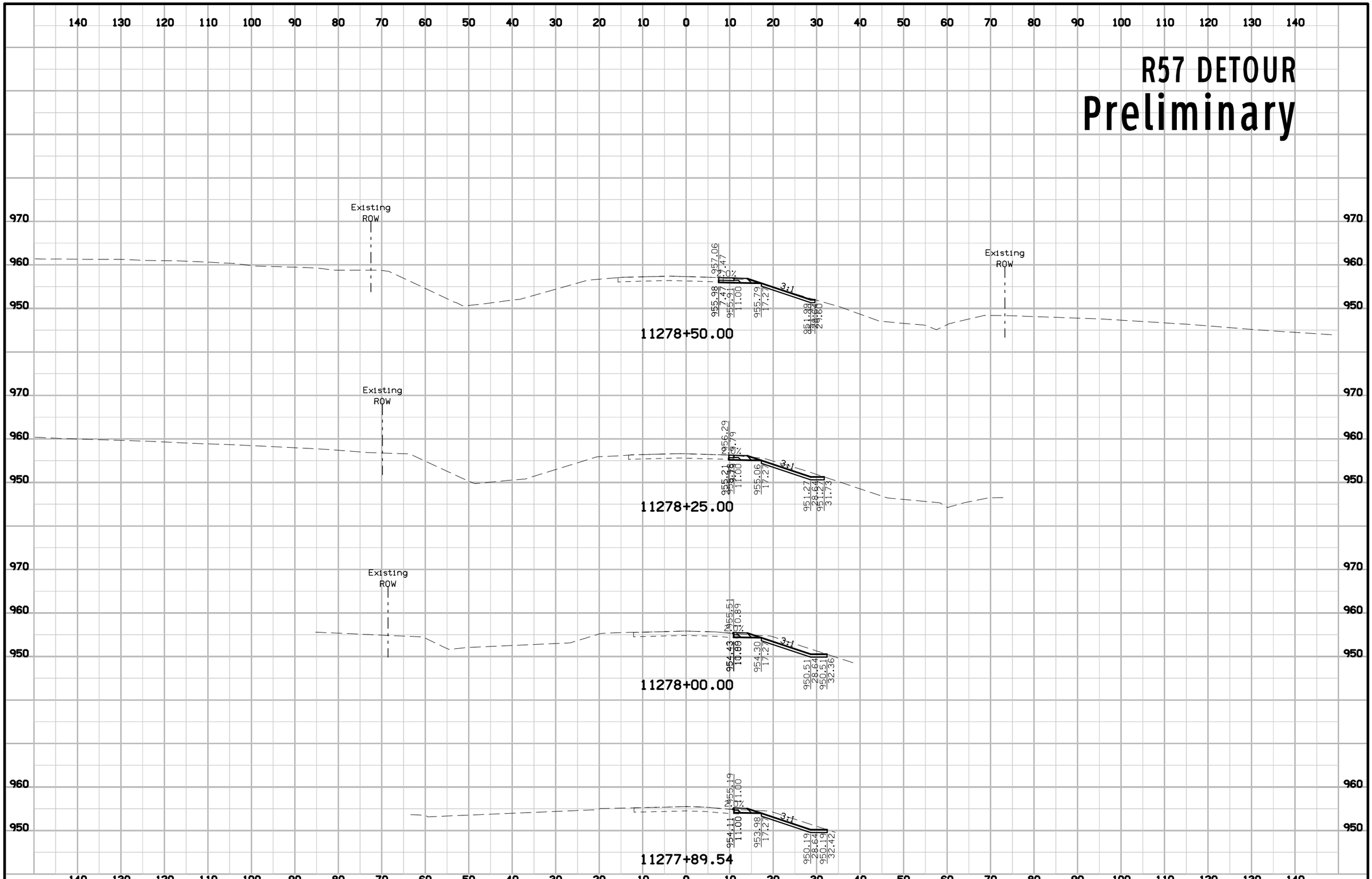
8:11:30 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X08_YSTN.sht

R57 DETOUR
Preliminary



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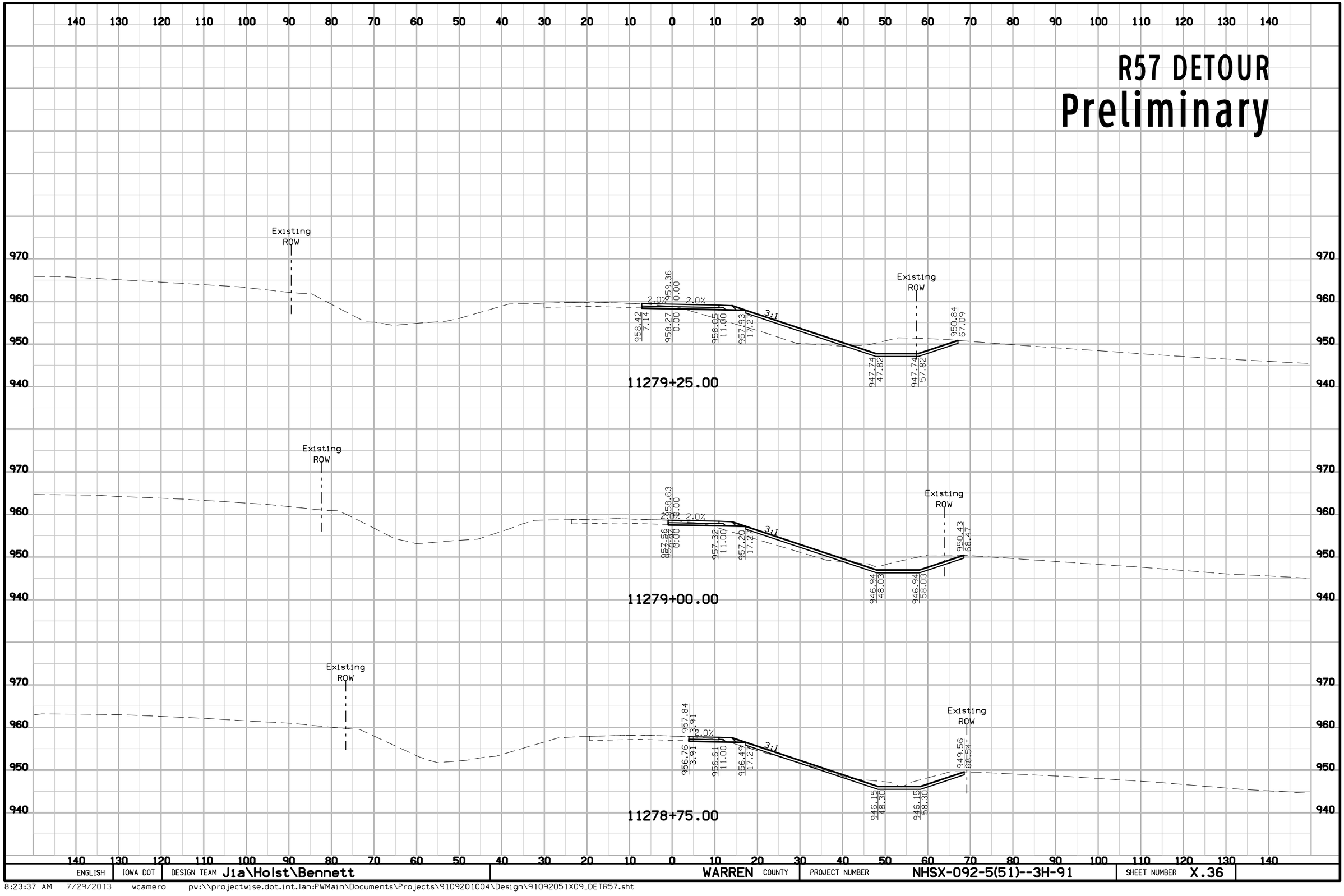
R57 DETOUR
Preliminary



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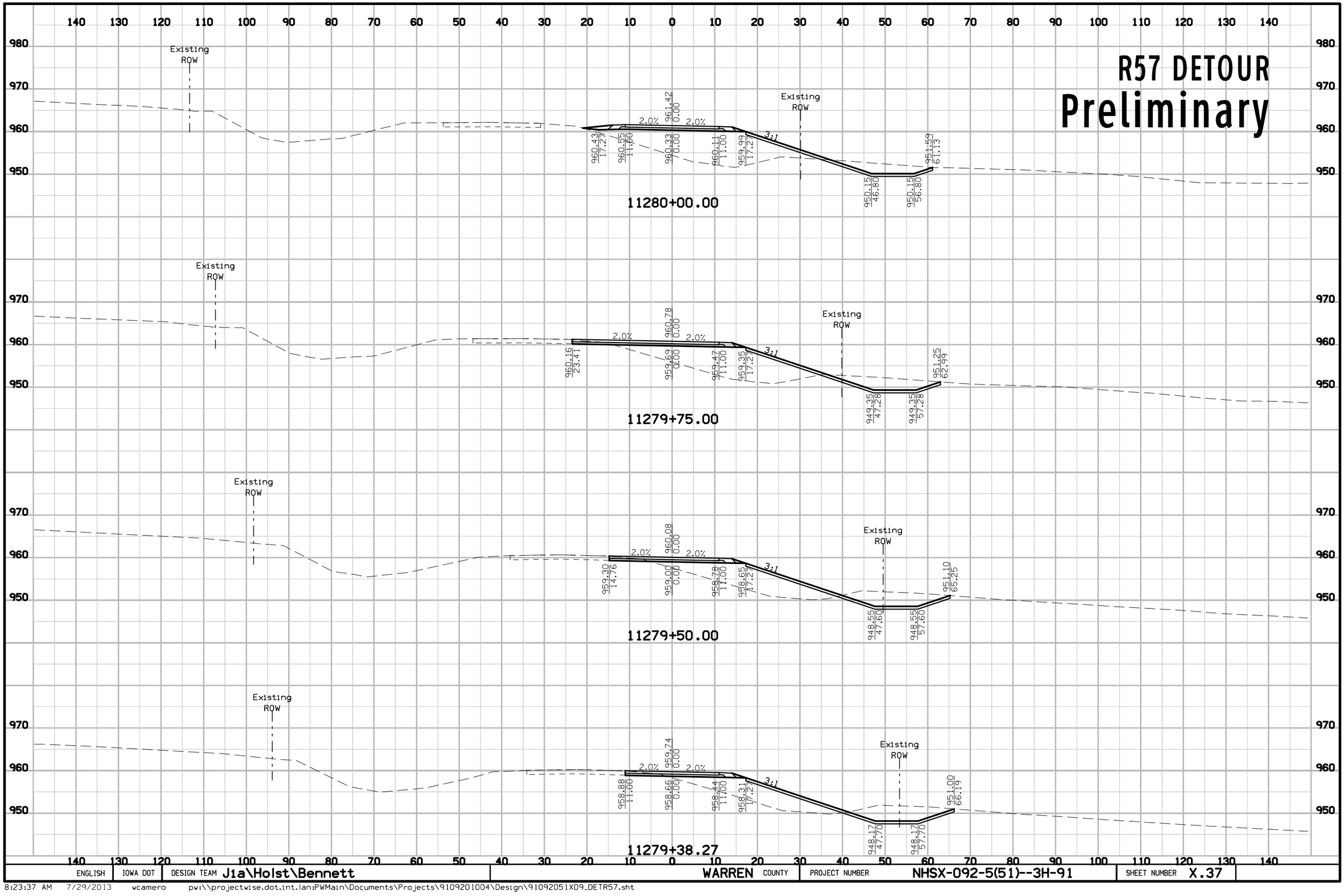
R57 DETOUR
Preliminary



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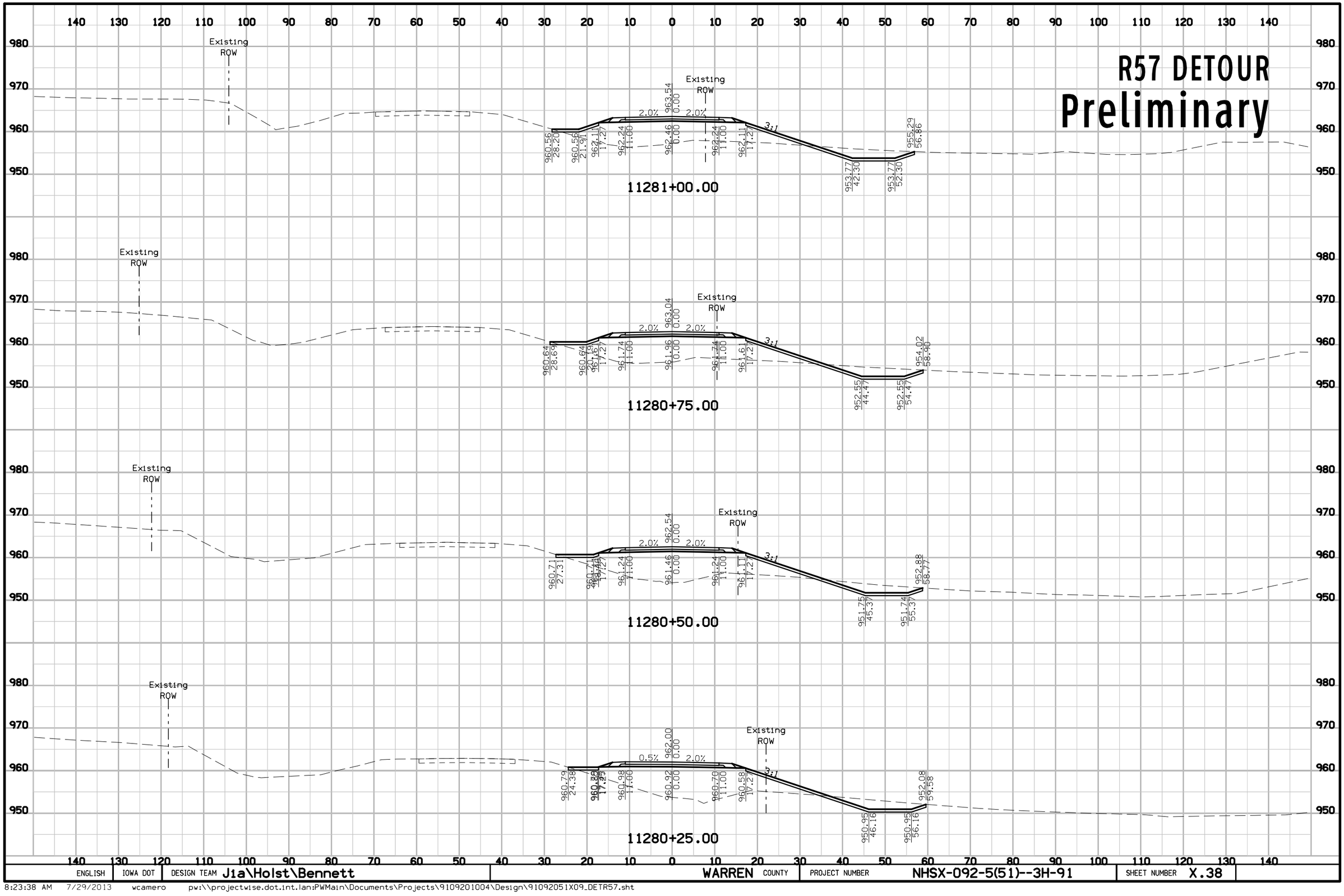
R57 DETOUR
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.38

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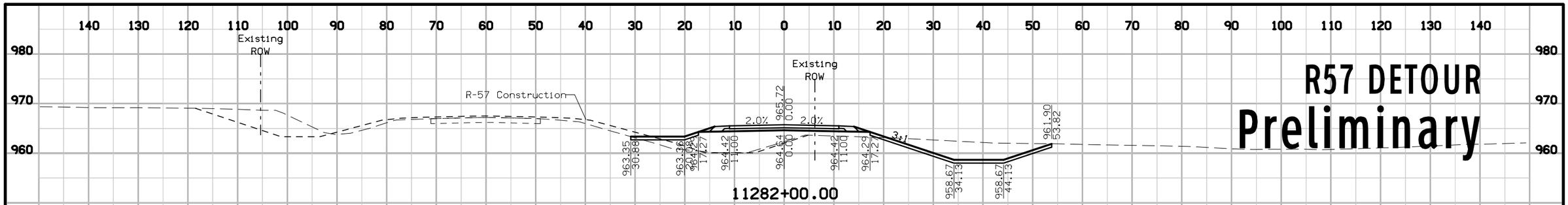
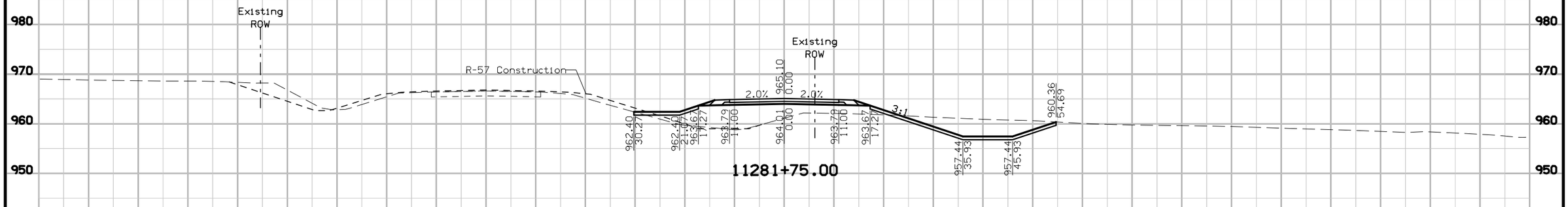
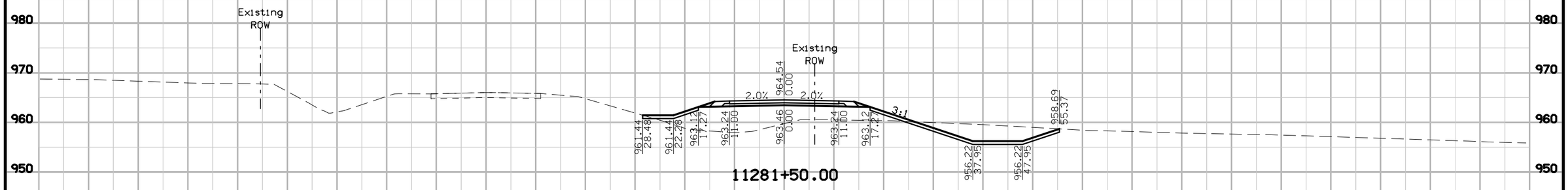
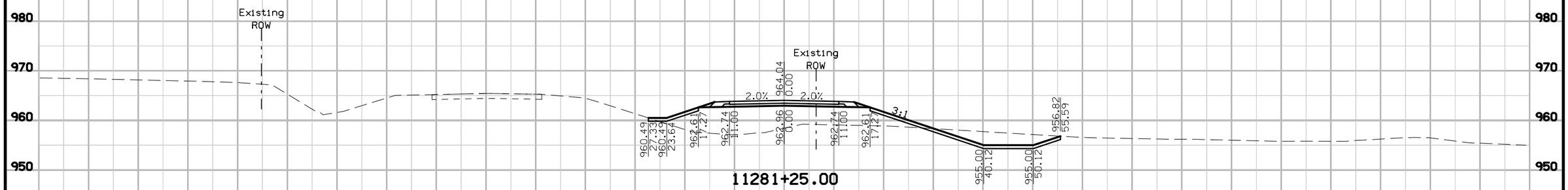
R57 DETOUR
Preliminary









ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.39

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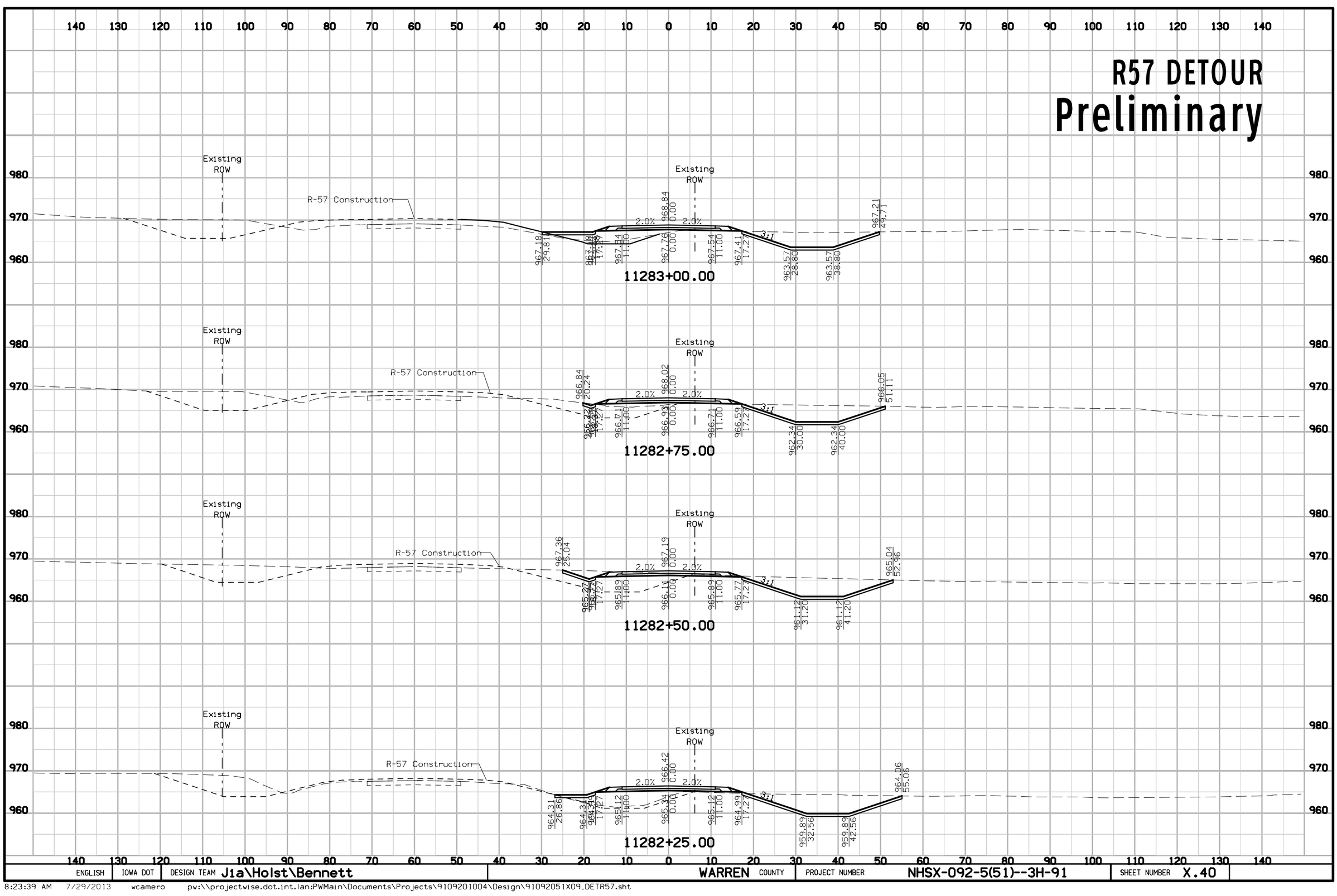
R57 DETOUR
Preliminary



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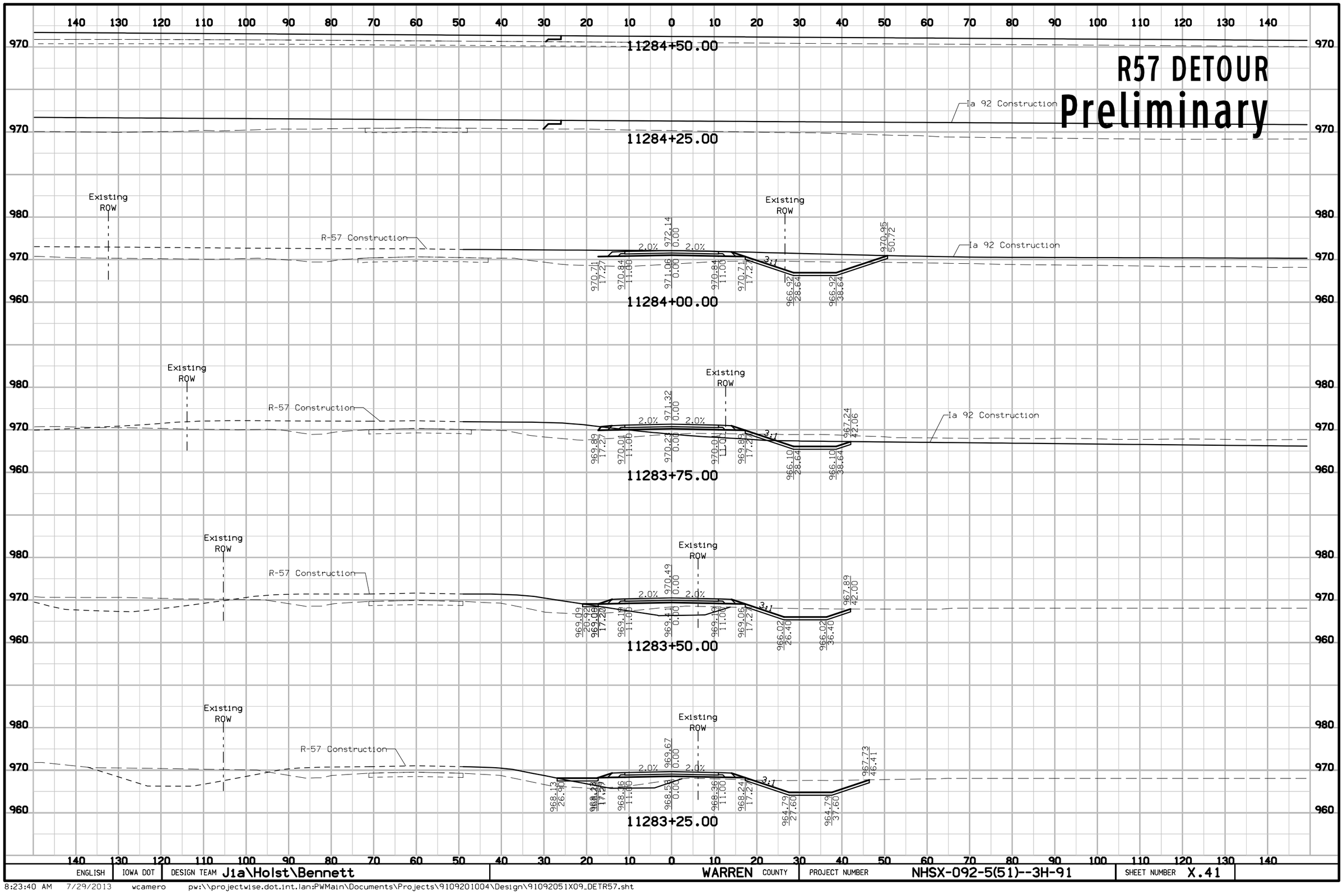
R57 DETOUR

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.41

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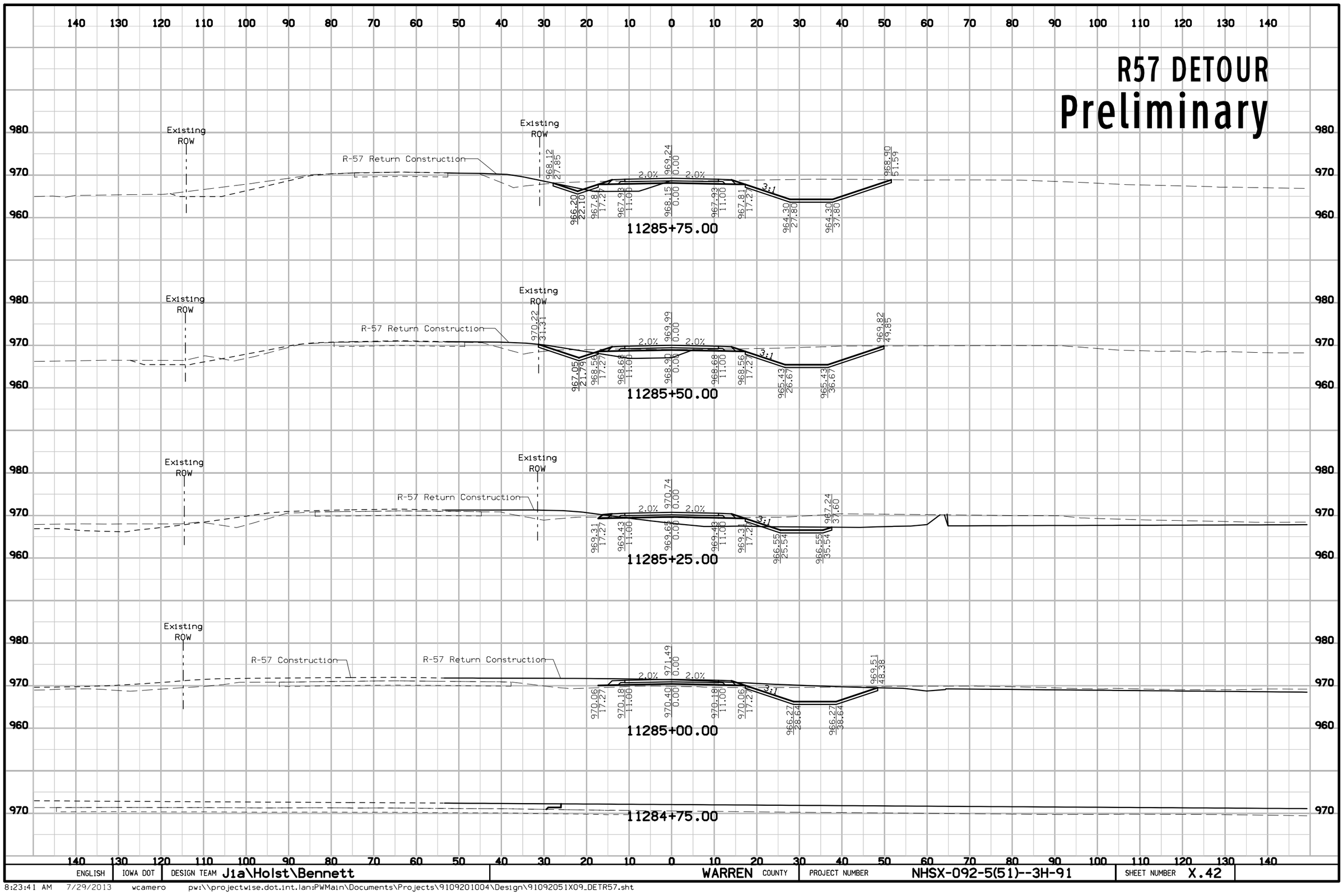
R57 DETOUR
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.42

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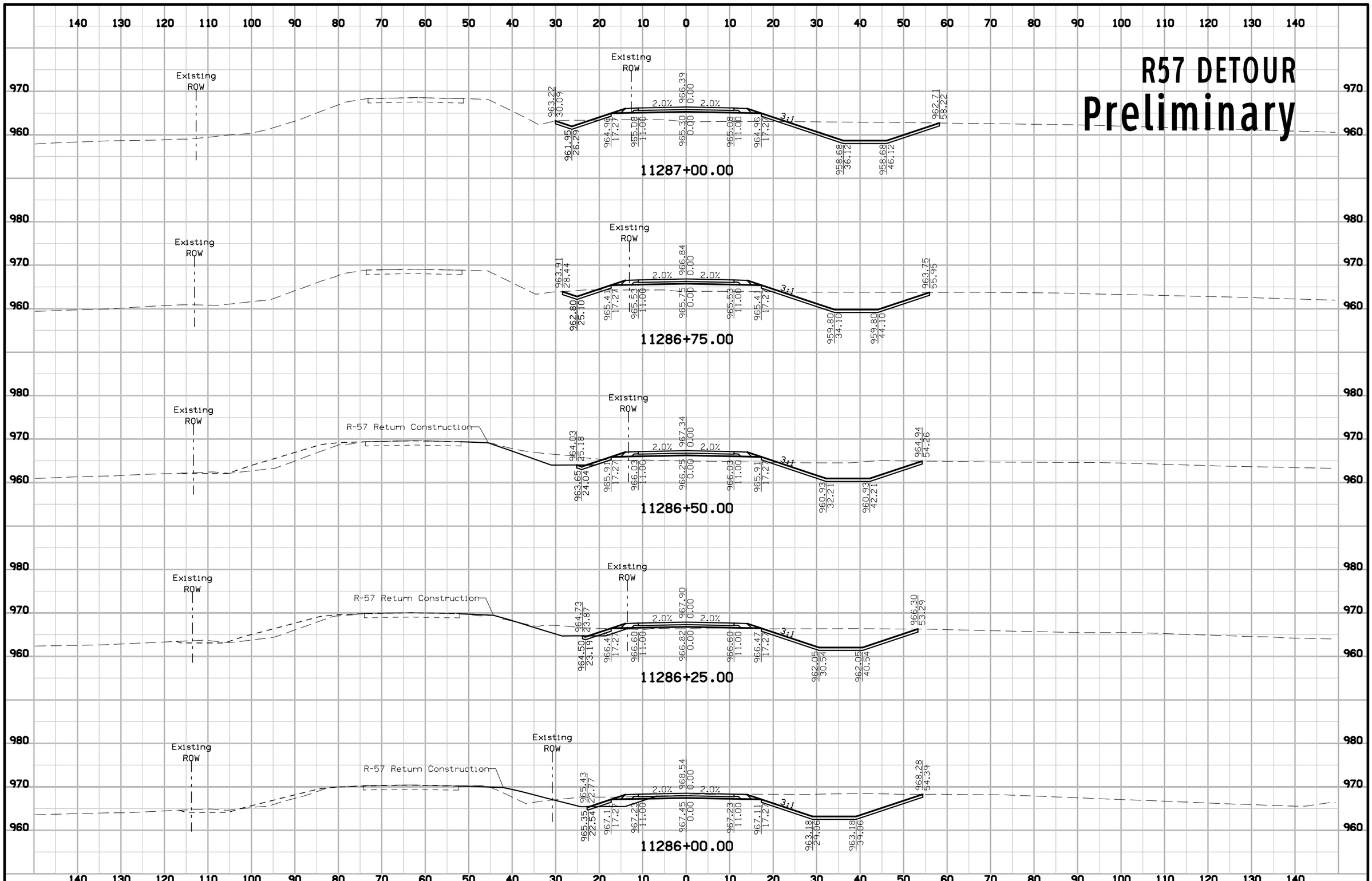
R57 DETOUR
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.43

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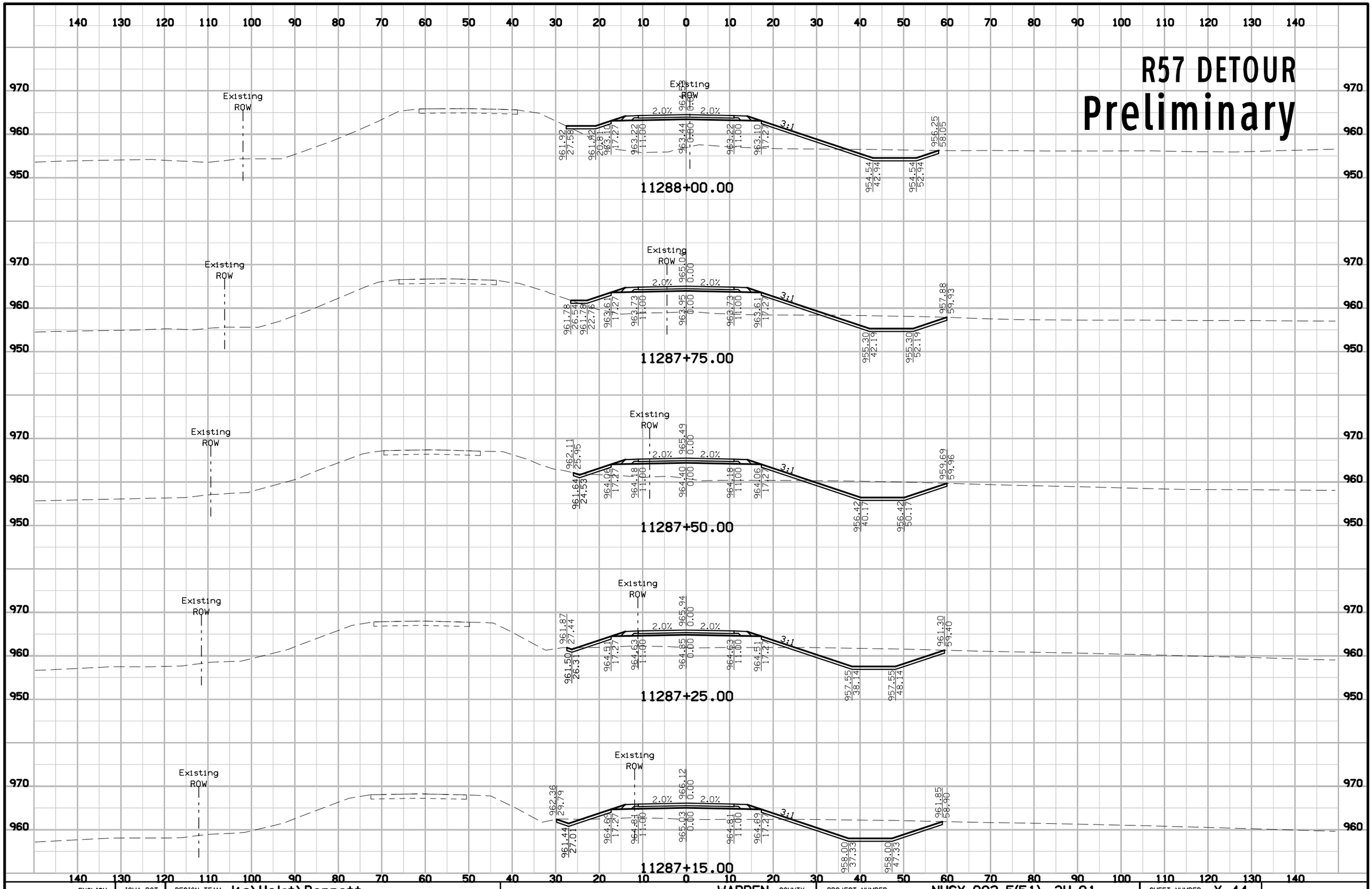
R57 DETOUR
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.44

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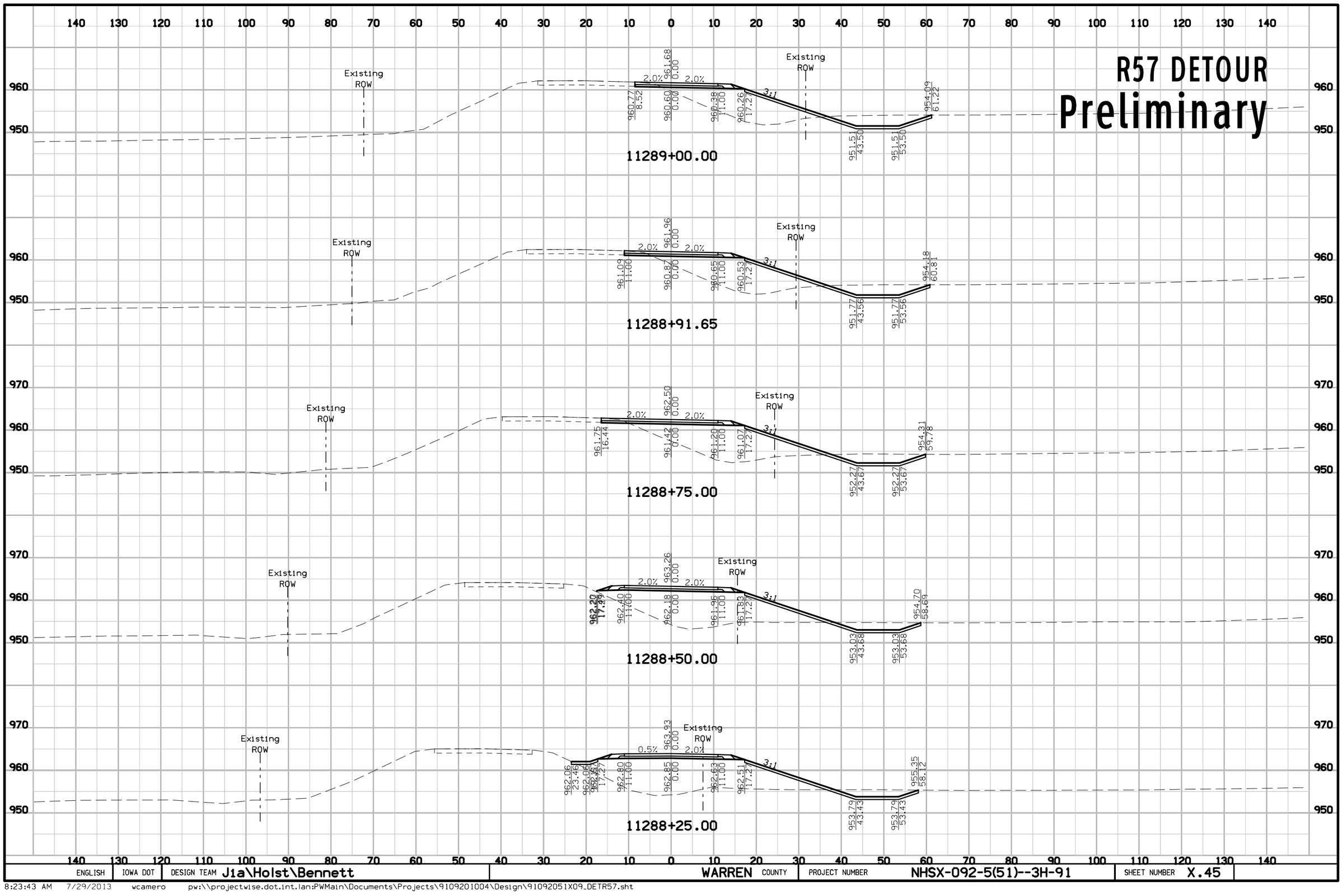
R57 DETOUR
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.45

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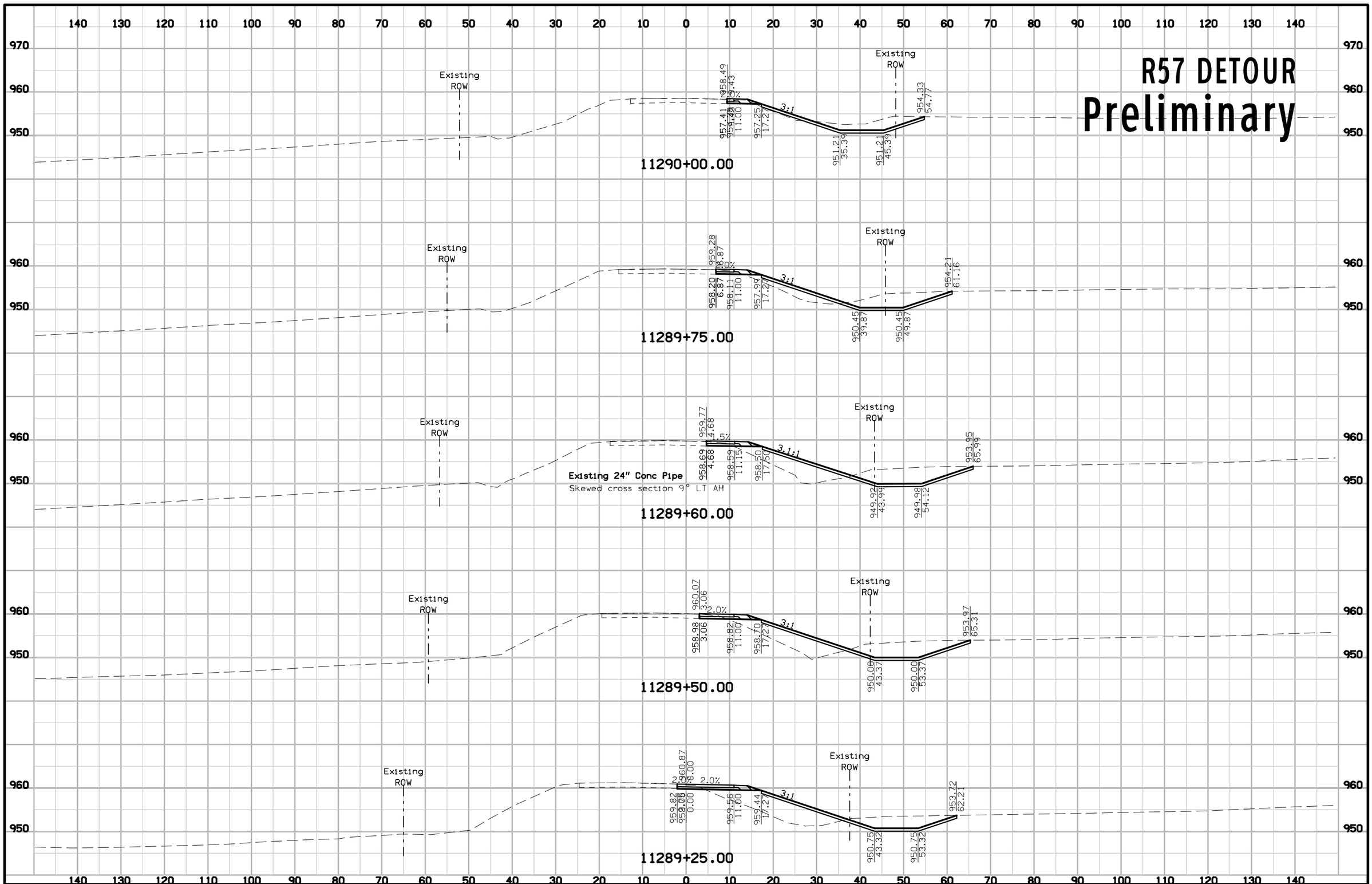
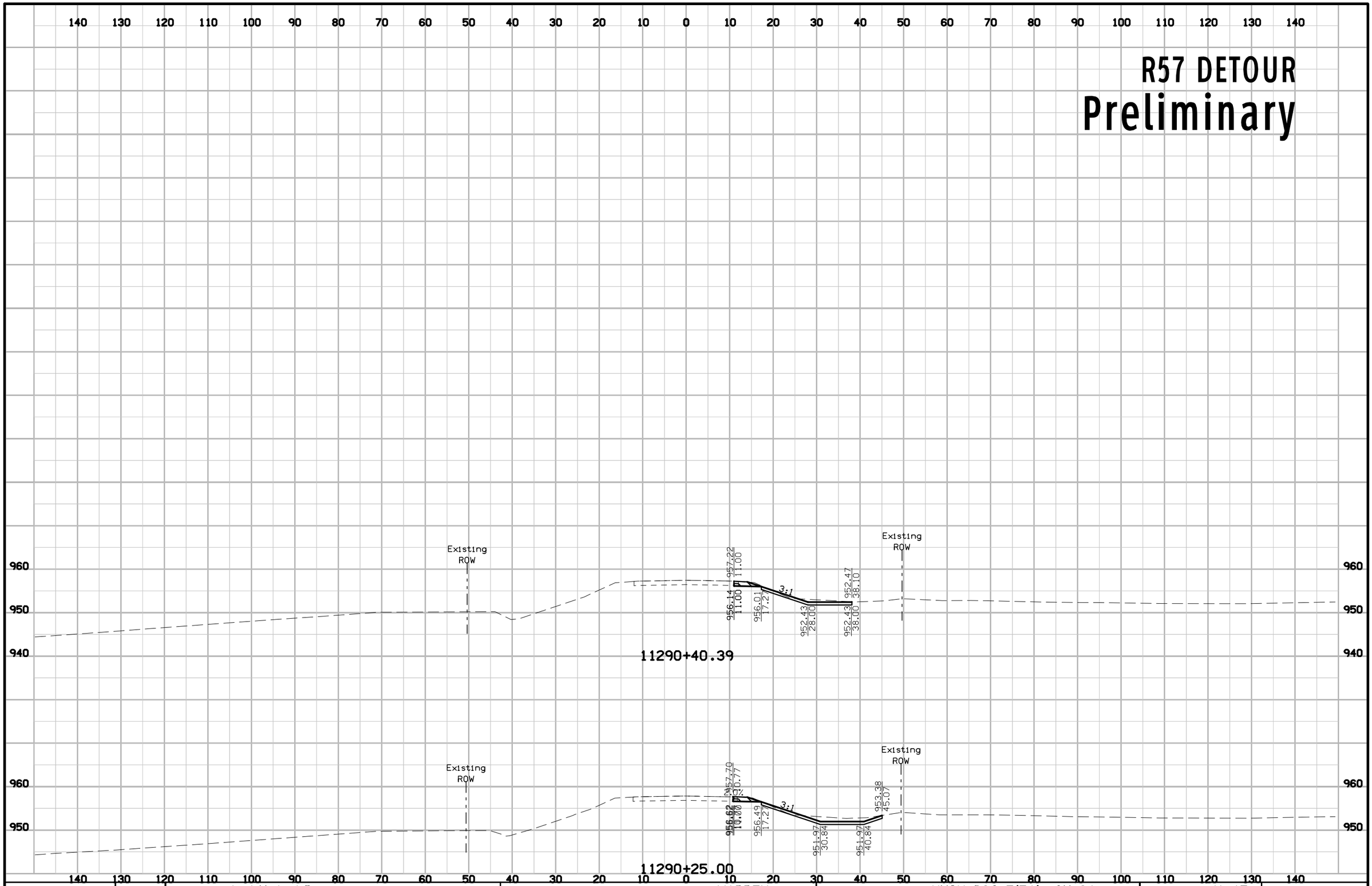
R57 DETOUR
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.46

R57 DETOUR
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.47

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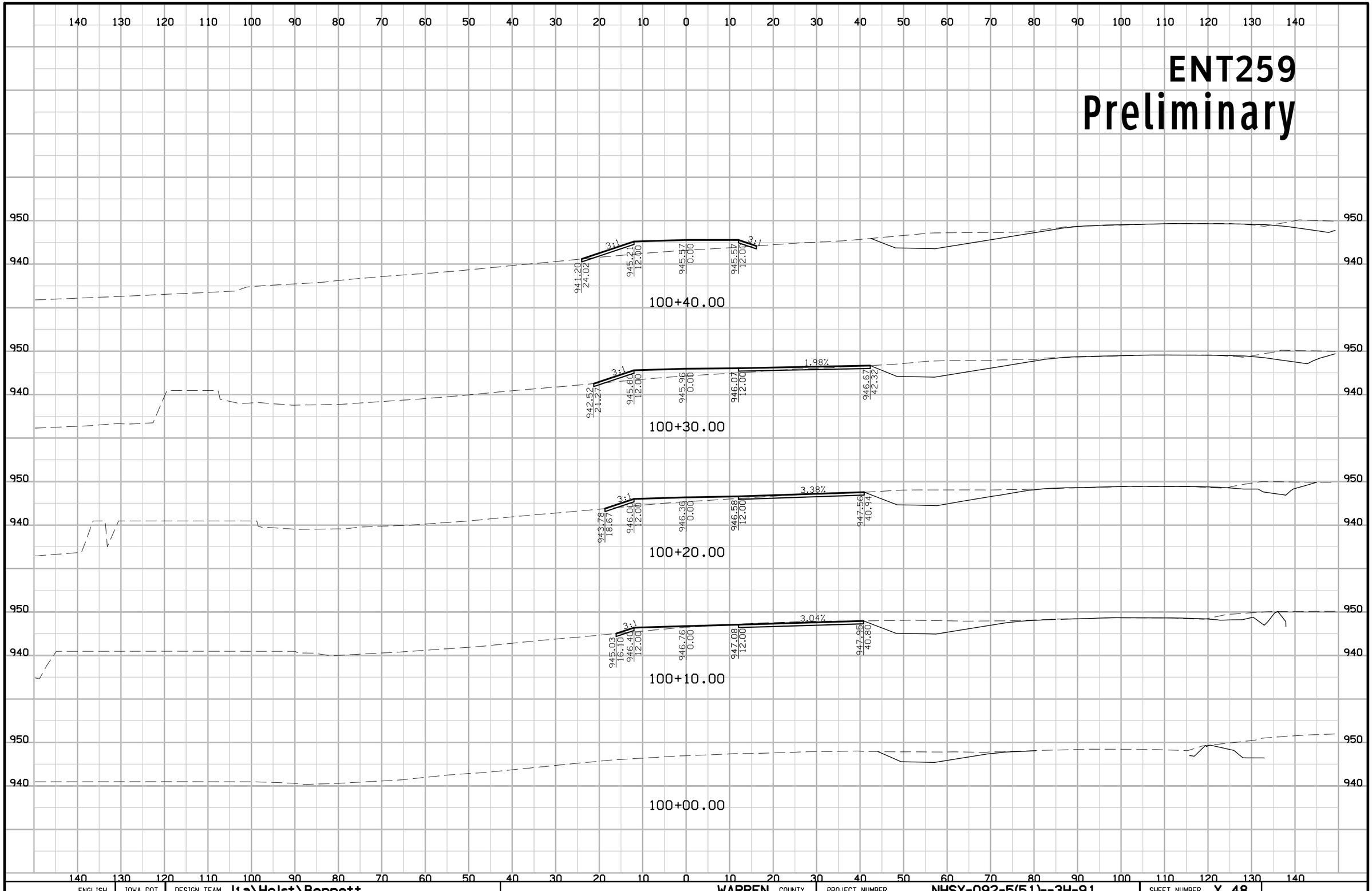
ENT259
Preliminary



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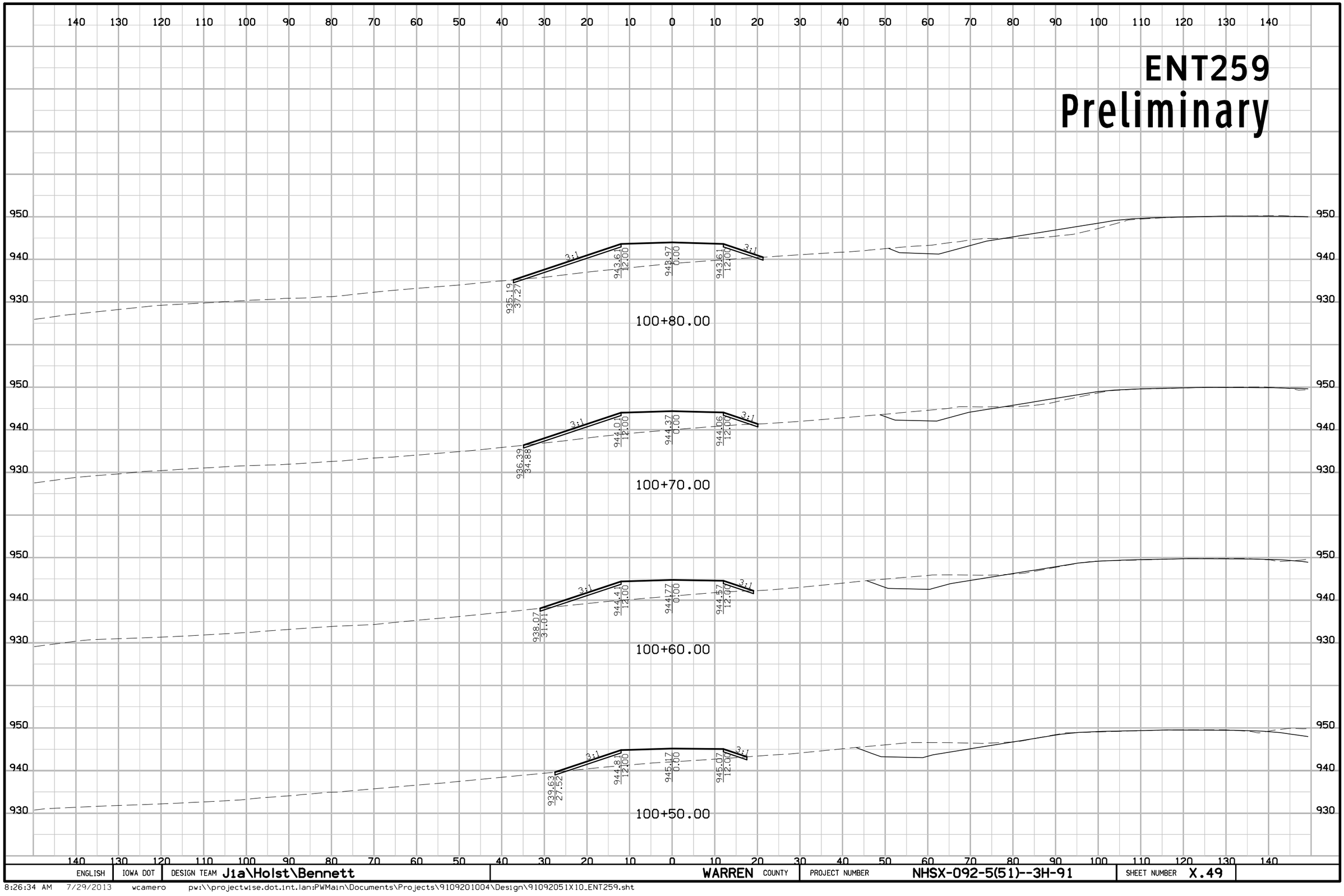
ENT259
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.49

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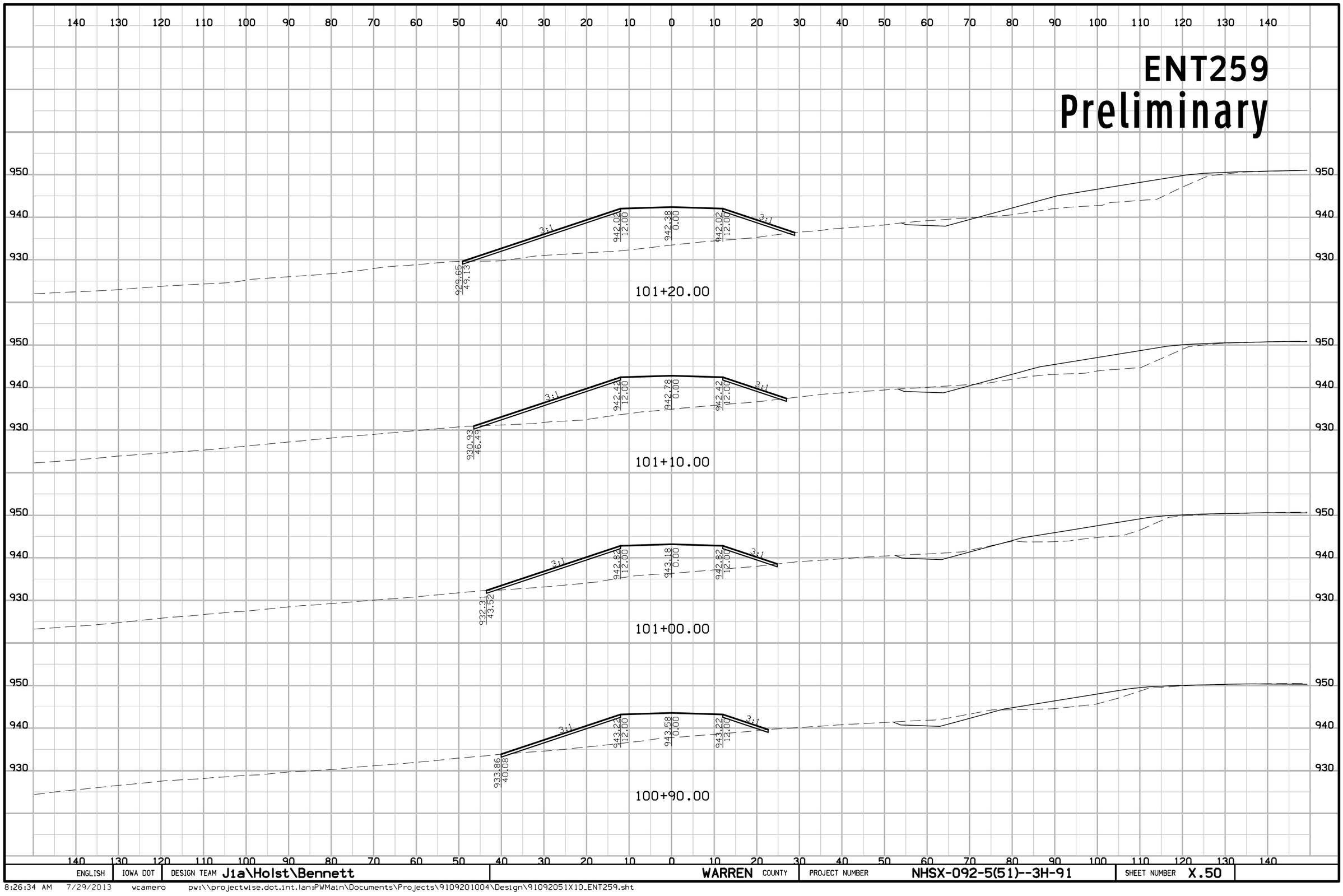
ENT259
Preliminary



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ENT259
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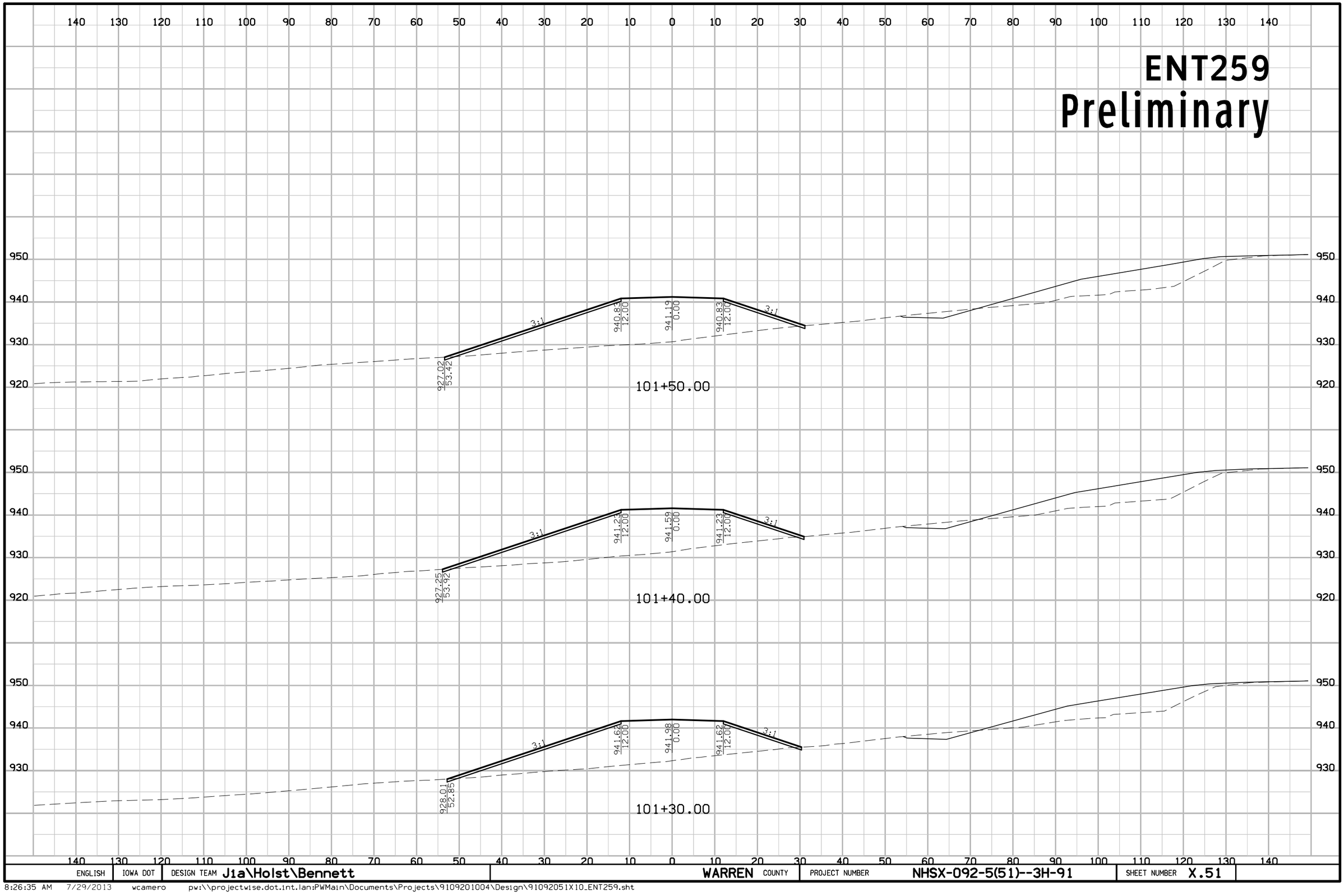

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.51

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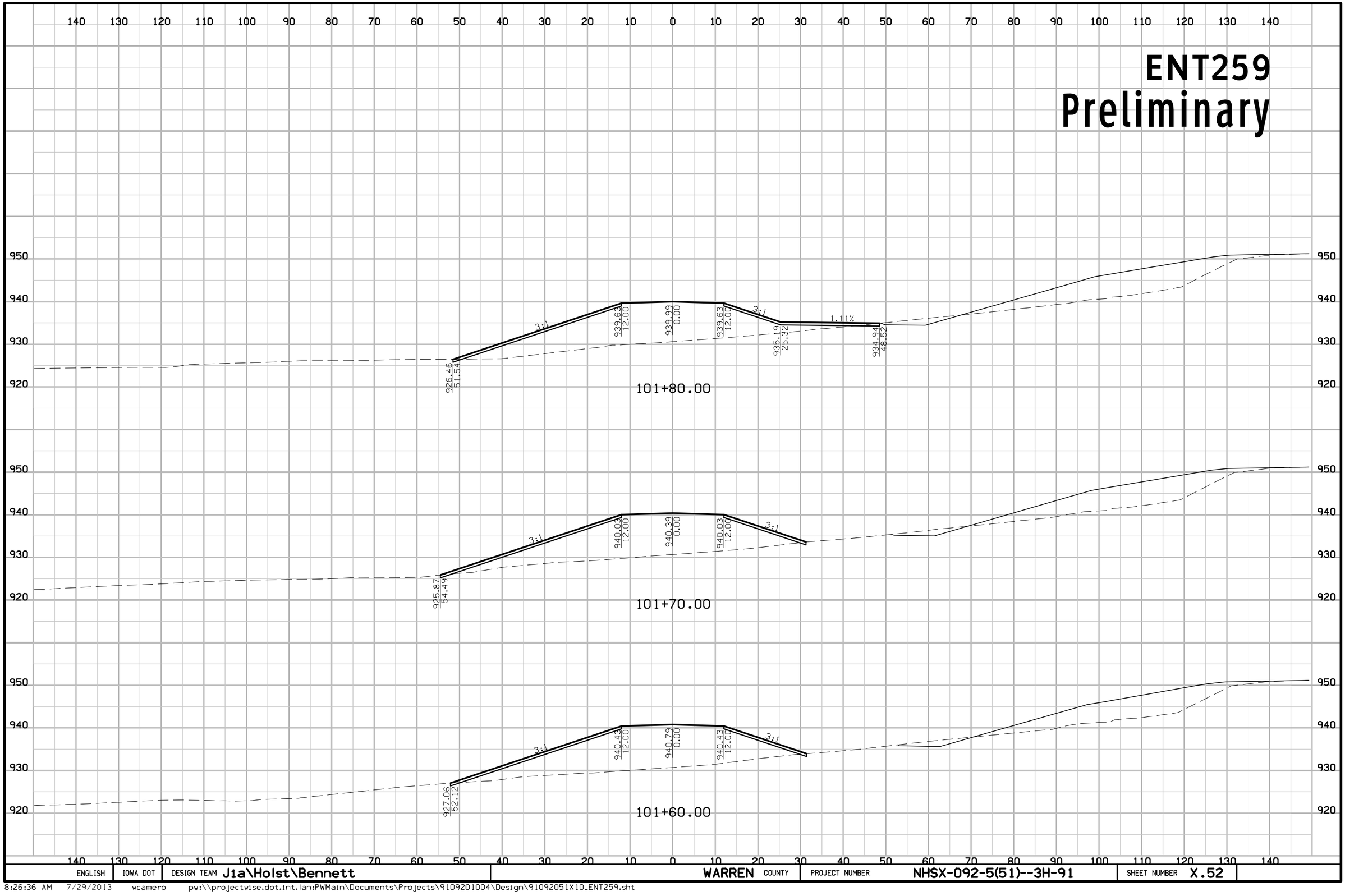
ENT259
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.52

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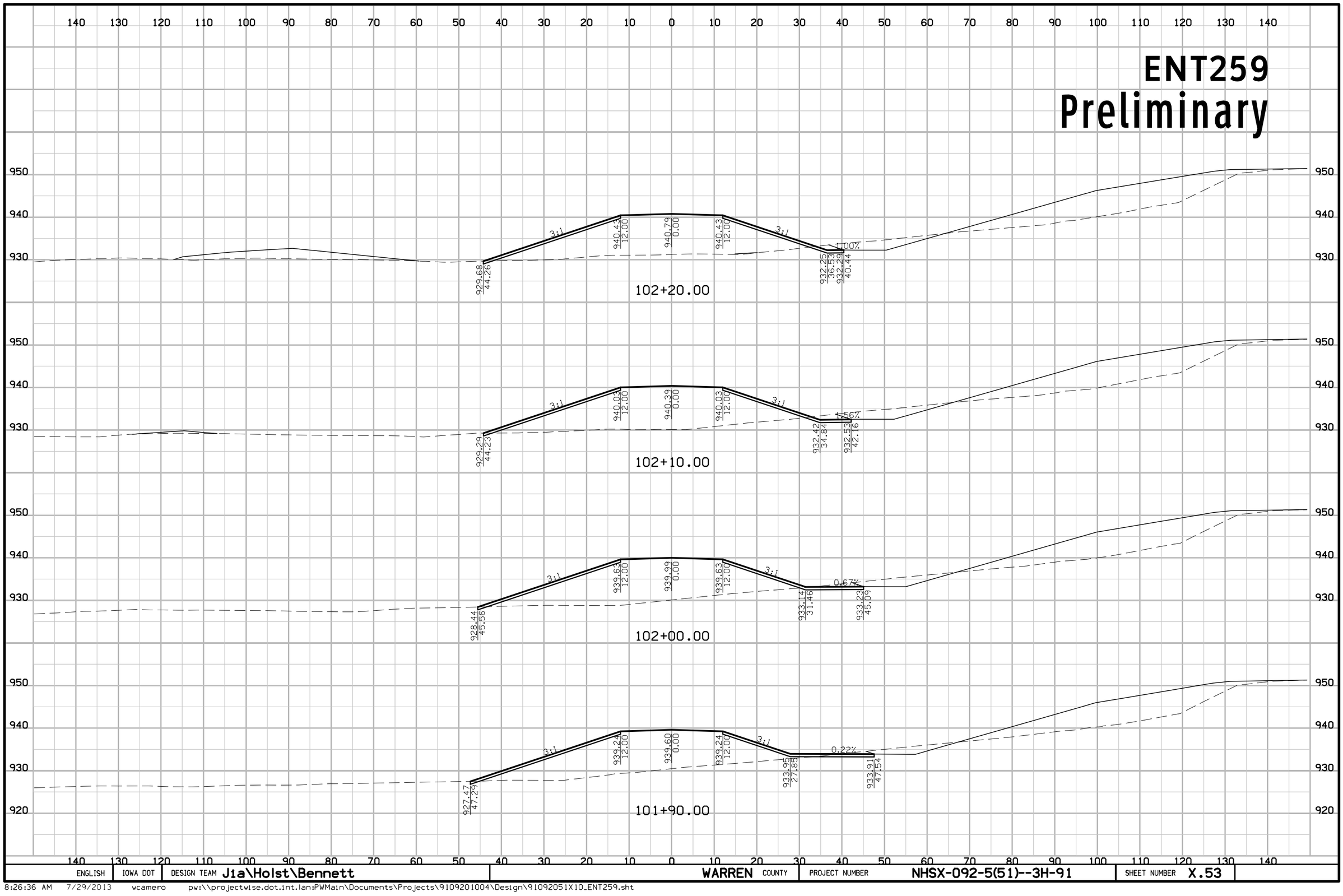
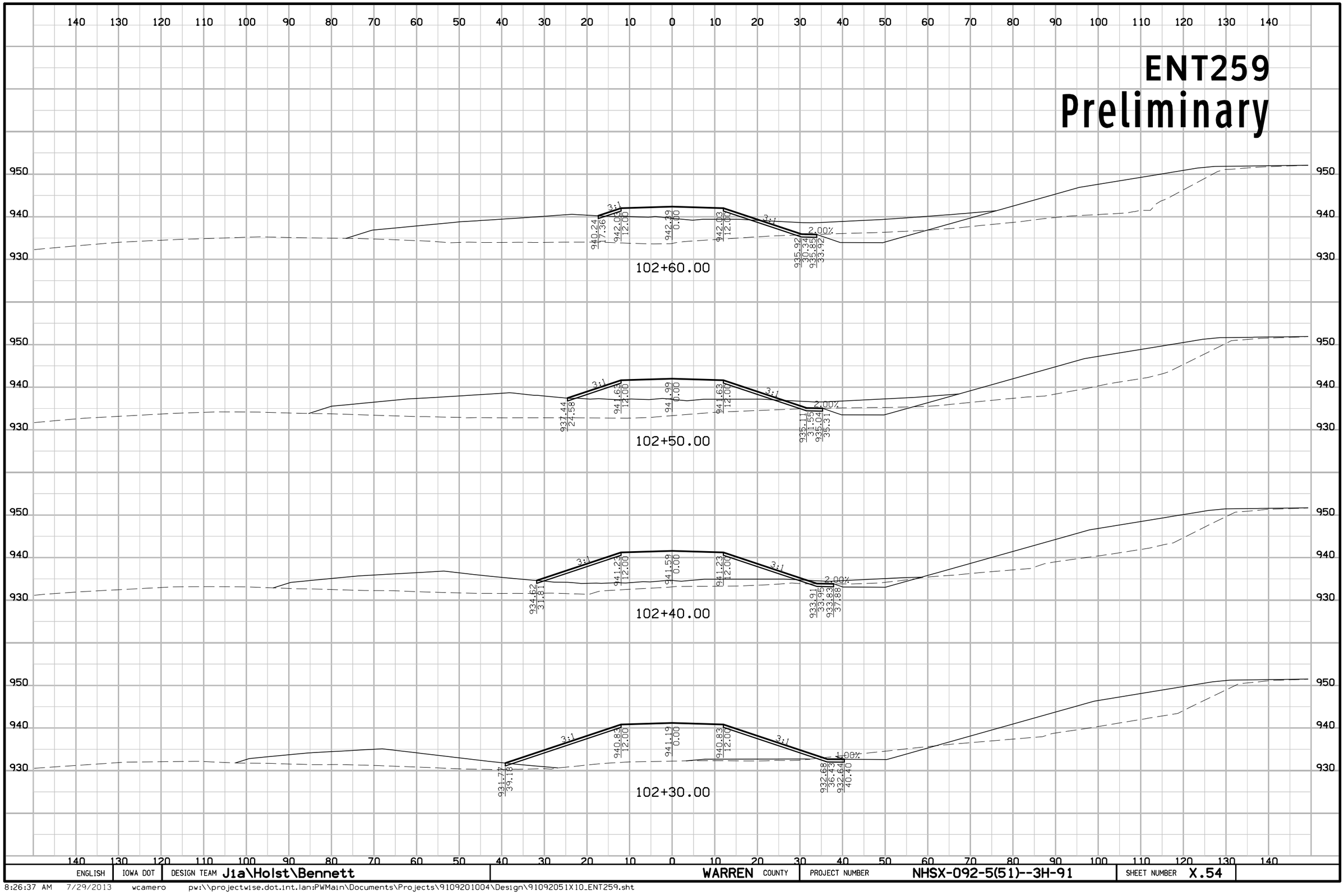
ENT259
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.53

ENT259
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.54

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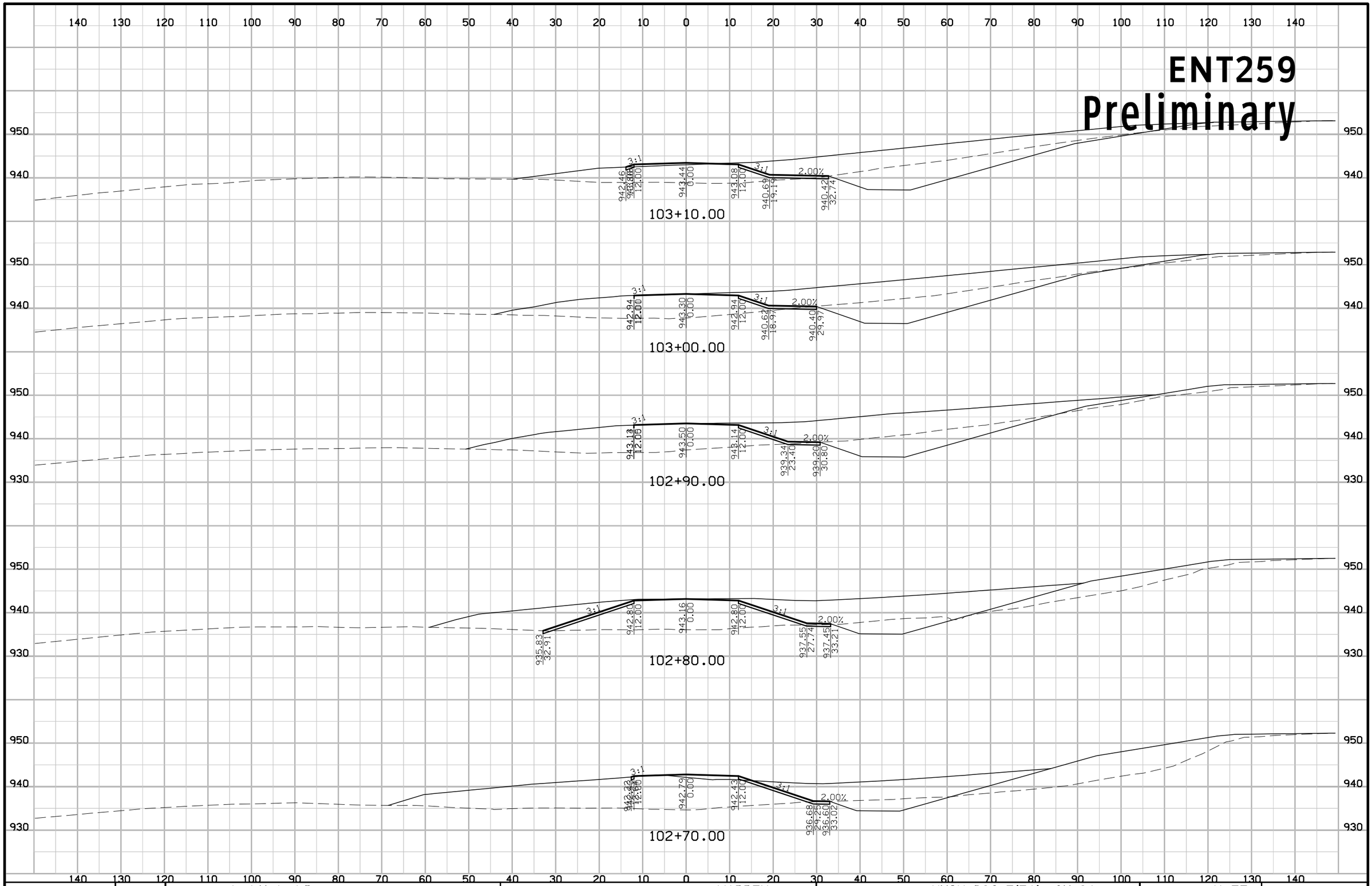
ENT259
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.55

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ENT259
Preliminary

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

950
940

946.97 12.00 | 947.33 0.00 | 946.97 12.00 | 946.53 32.46
3:1 3:1 2.00%
103+70.00

945.31 15.05 | 946.32 12.00 | 946.68 0.00 | 946.32 12.00 | 944.89 16.29 | 944.51 35.40
3:1 3:1 3:1 2.00%
103+60.00

943.80 17.63 | 945.68 12.00 | 946.04 0.00 | 945.68 12.00 | 943.60 18.21 | 943.24 36.18
3:1 3:1 3:1 2.00%
103+50.00

942.54 19.47 | 945.03 12.00 | 945.39 0.00 | 945.03 12.00 | 942.40 19.88 | 942.07 36.69
3:1 3:1 3:1 2.00%
103+40.00

941.46 20.76 | 944.38 12.00 | 944.74 0.00 | 944.38 12.00 | 941.74 19.92 | 941.42 35.65
3:1 3:1 3:1 2.00%
103+30.00

941.90 17.51 | 943.78 12.00 | 944.08 0.00 | 943.73 12.00 | 941.09 19.93 | 940.80 34.56
3:1 3:1 3:1 2.00%
103+20.00

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

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.56

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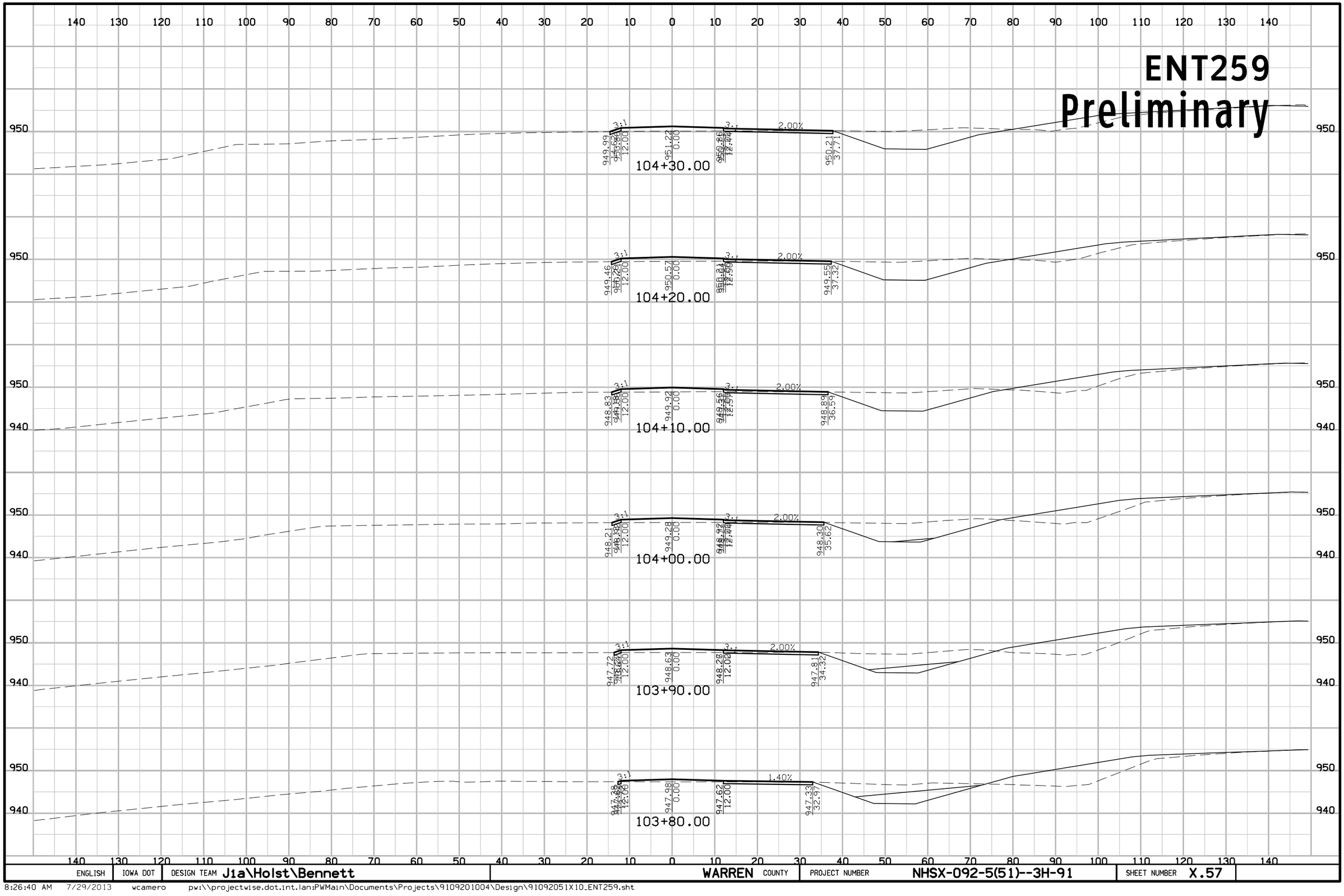
ENT259
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.57

8:26:40 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X10_ENT259.sht

ENT259
Preliminary

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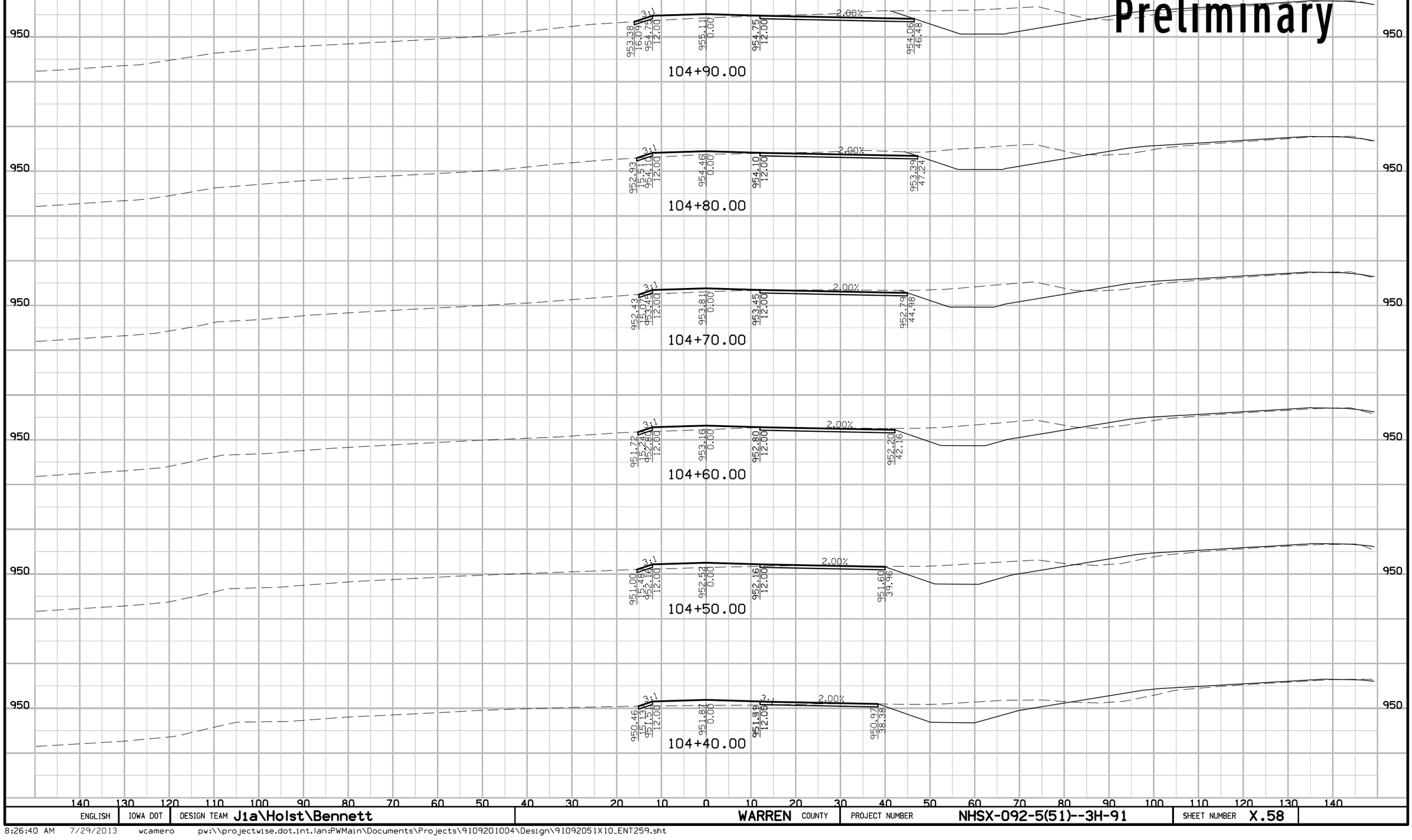
950



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.58

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ENT259
Preliminary

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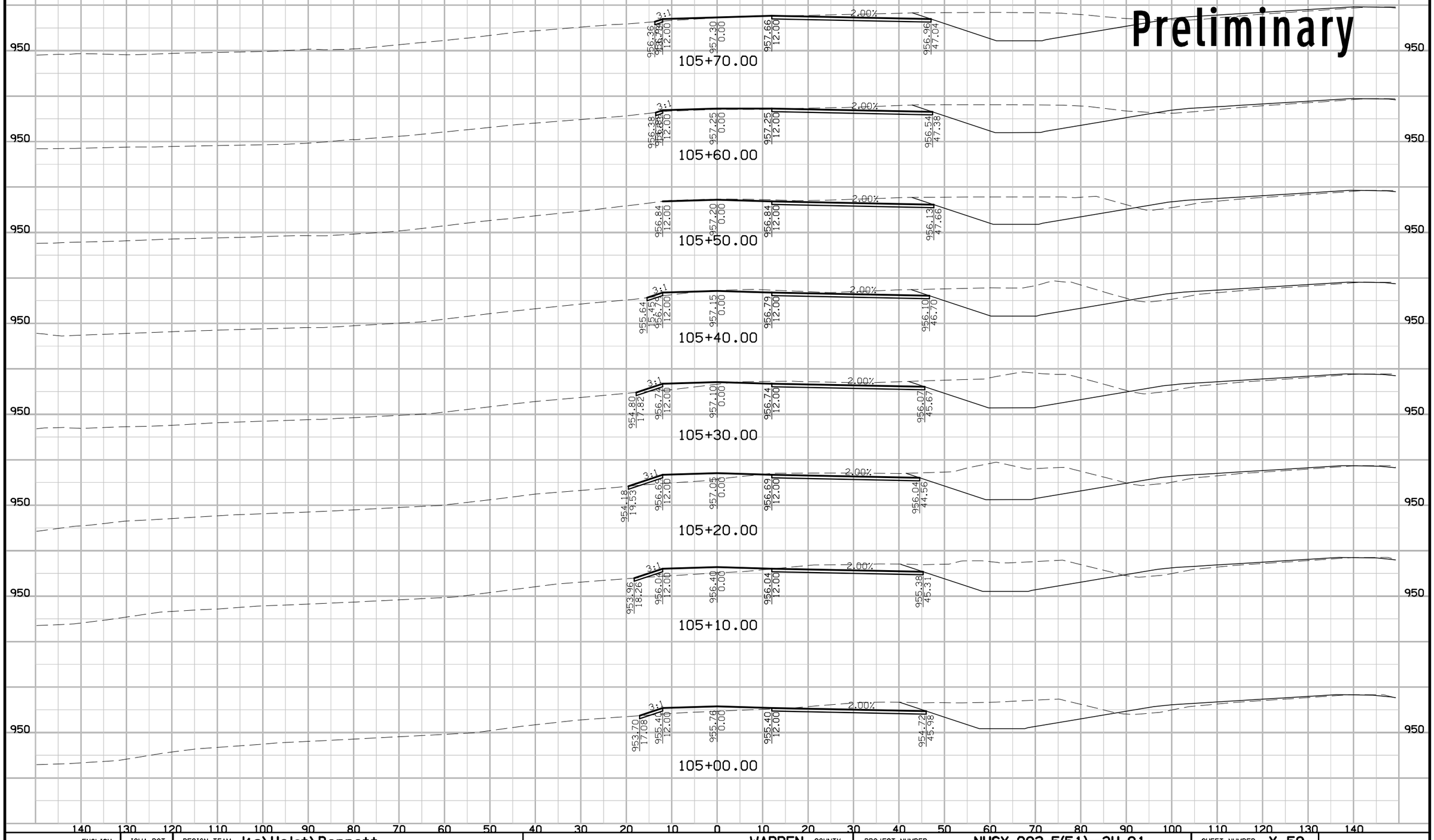
950



950

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

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.59

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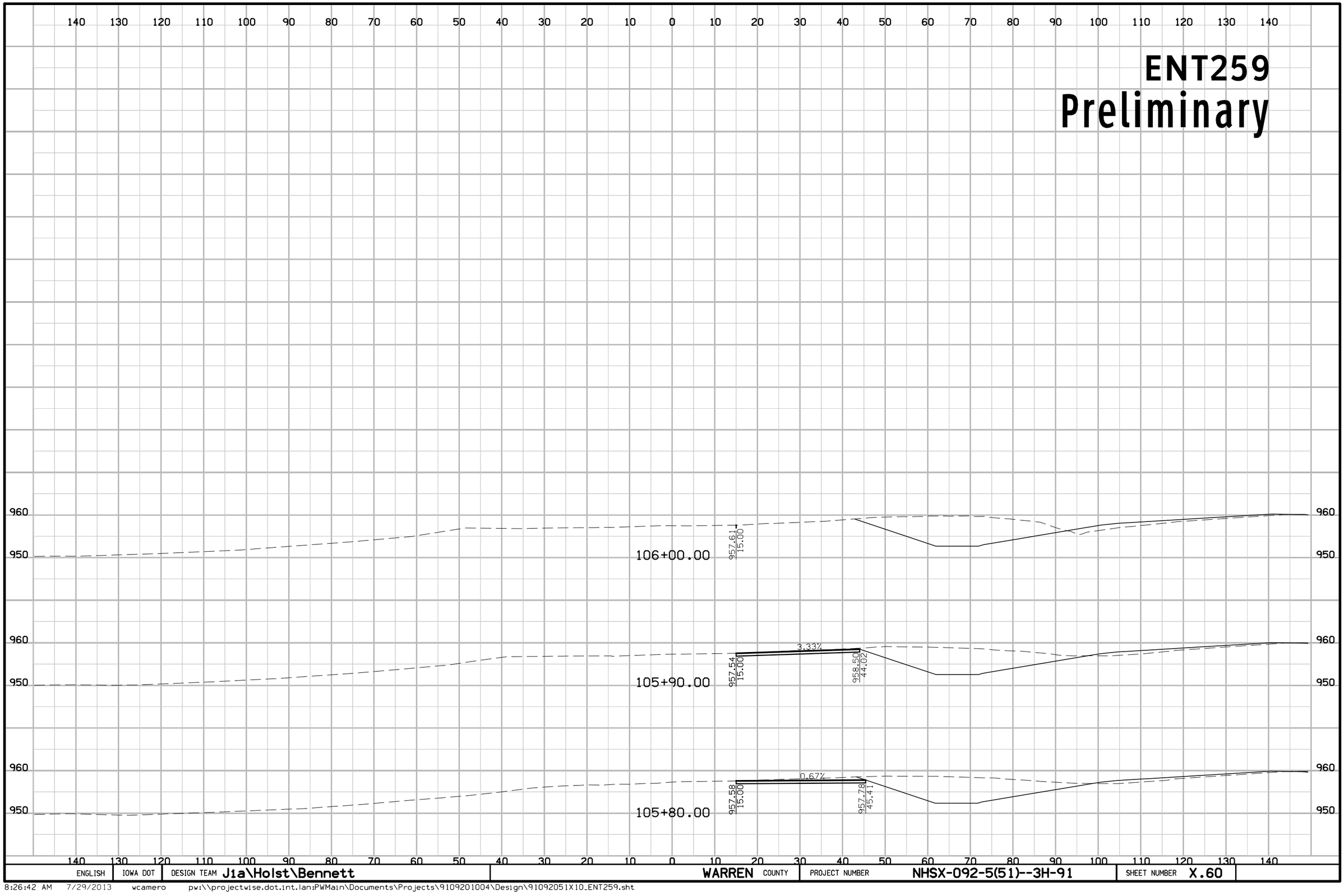
ENT259
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.60

8:26:42 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X10_ENT259.sht

DETR63

Preliminary

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

965
960
955

18387+00.00

960
955

18386+75.00

960
955

18386+50.00

960
955

18386+48.19

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.61

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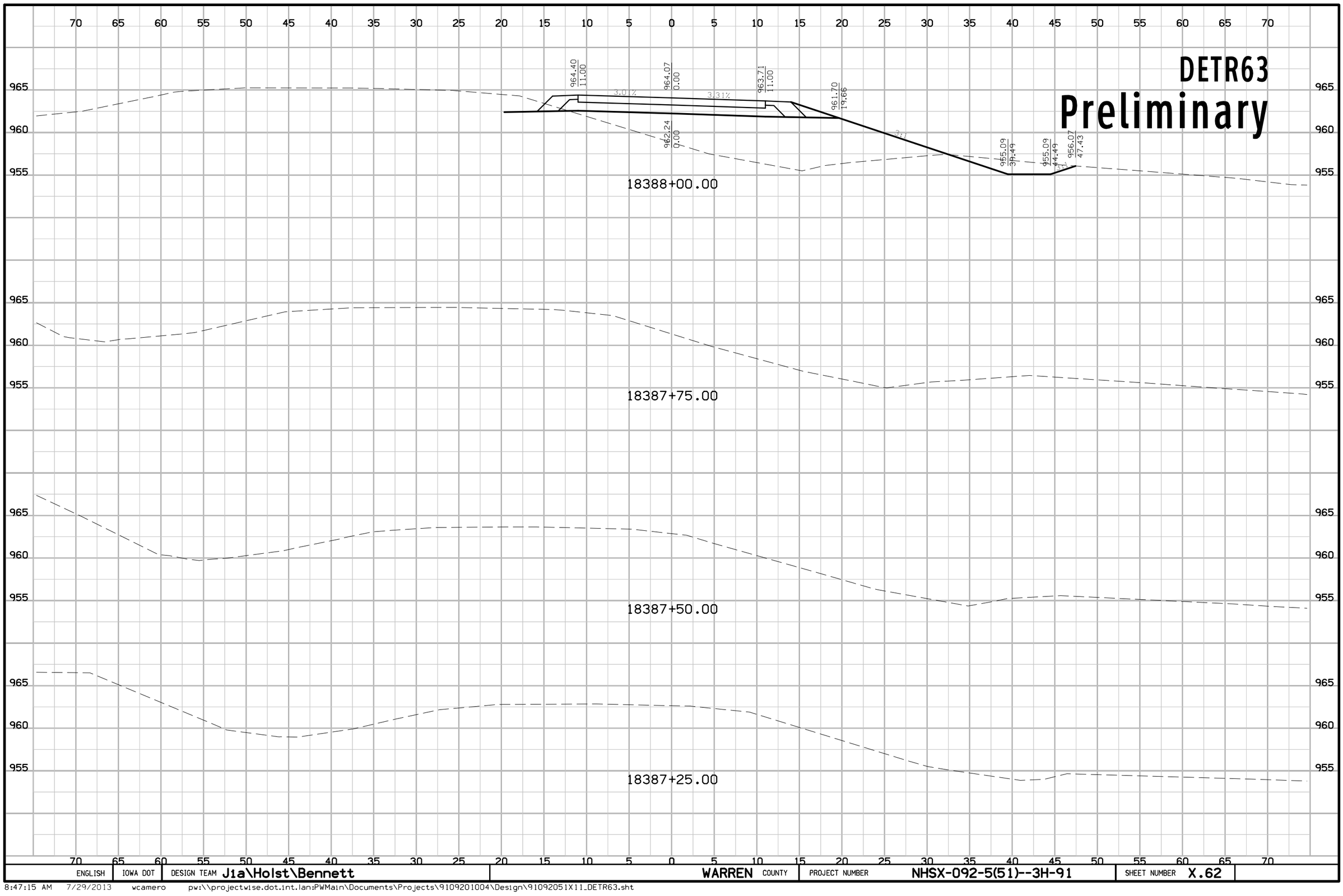
DETR63

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.62

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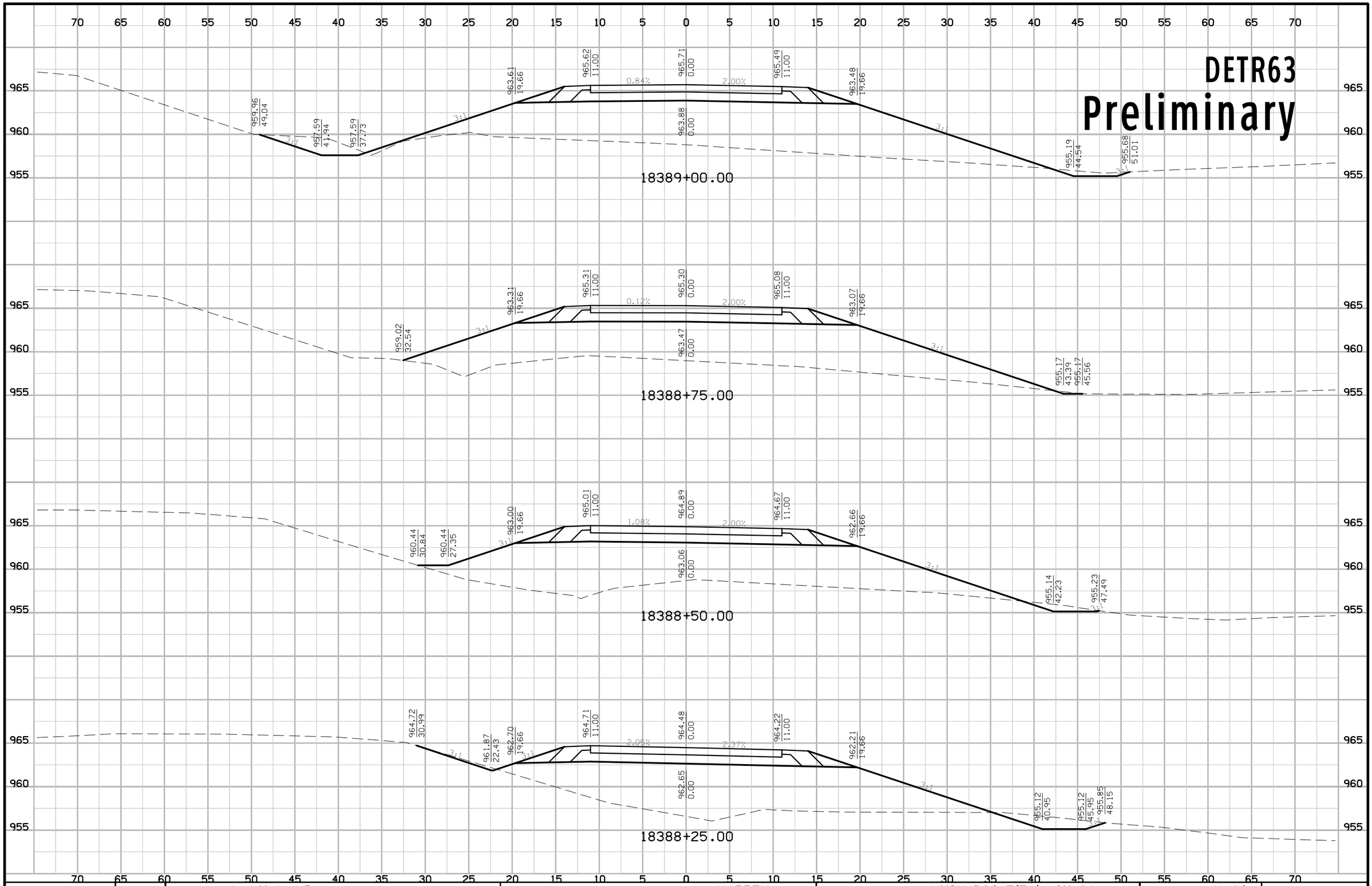
DETR63

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.63

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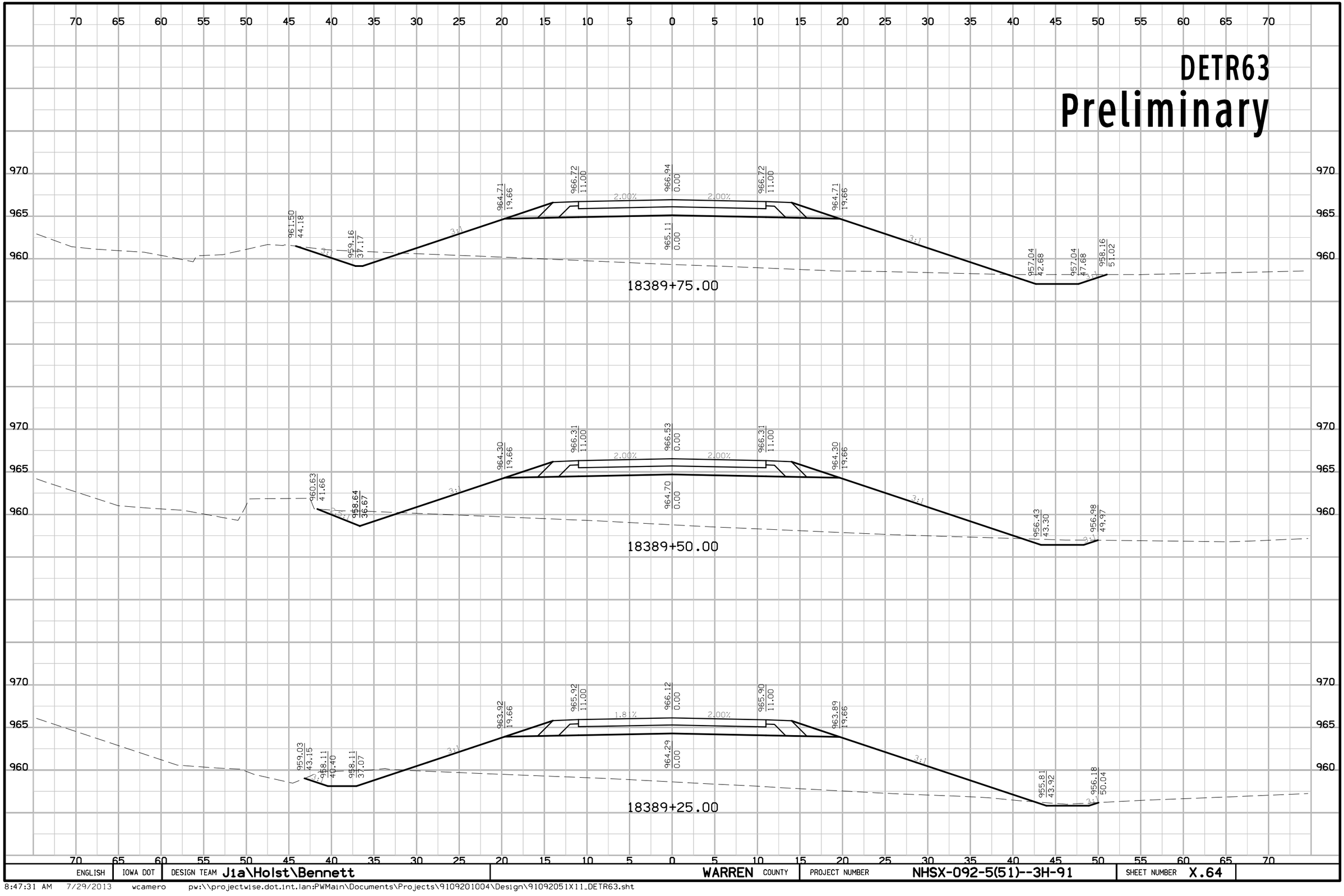
DETR63

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.64

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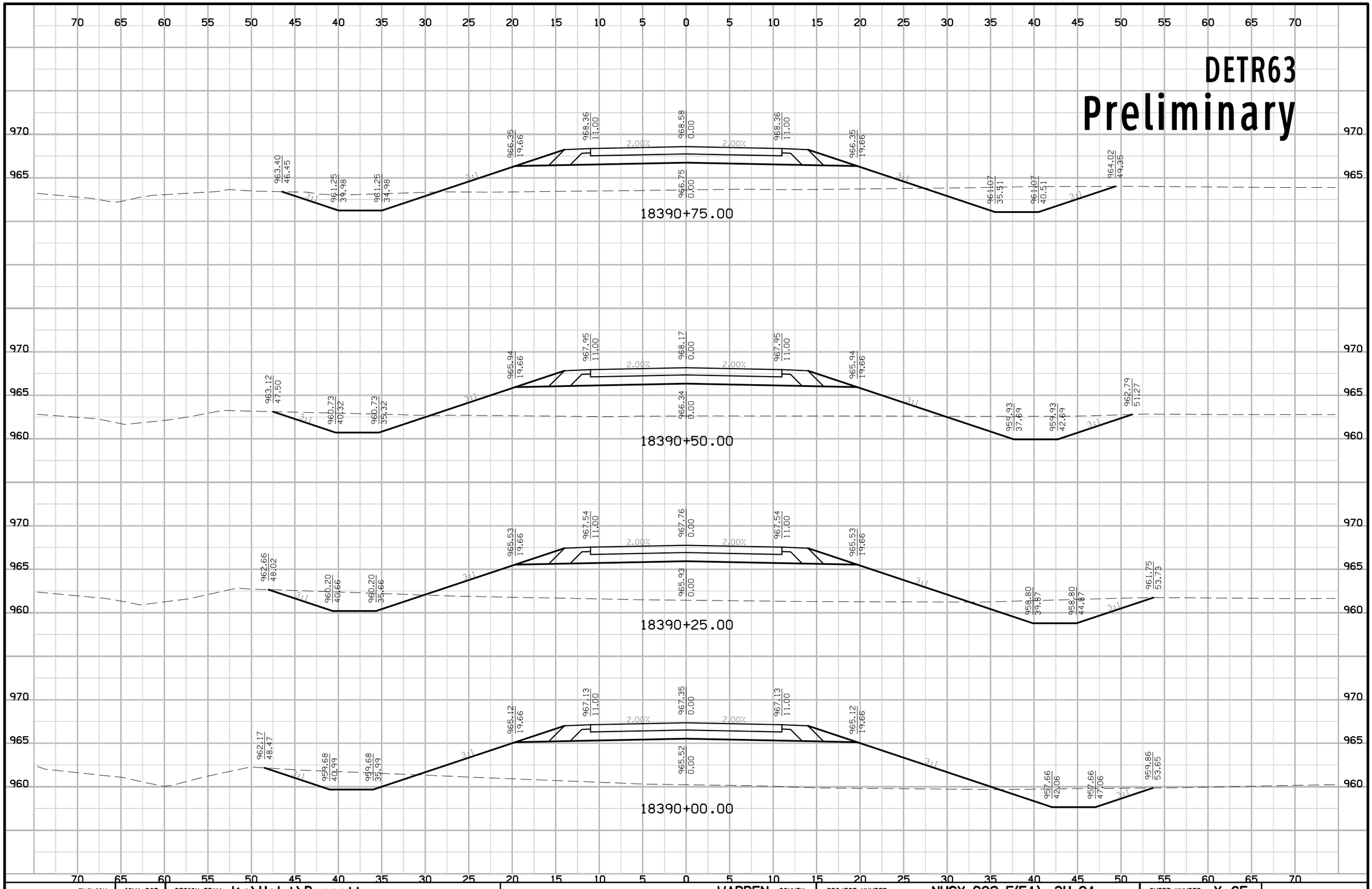
DETR63

Preliminary

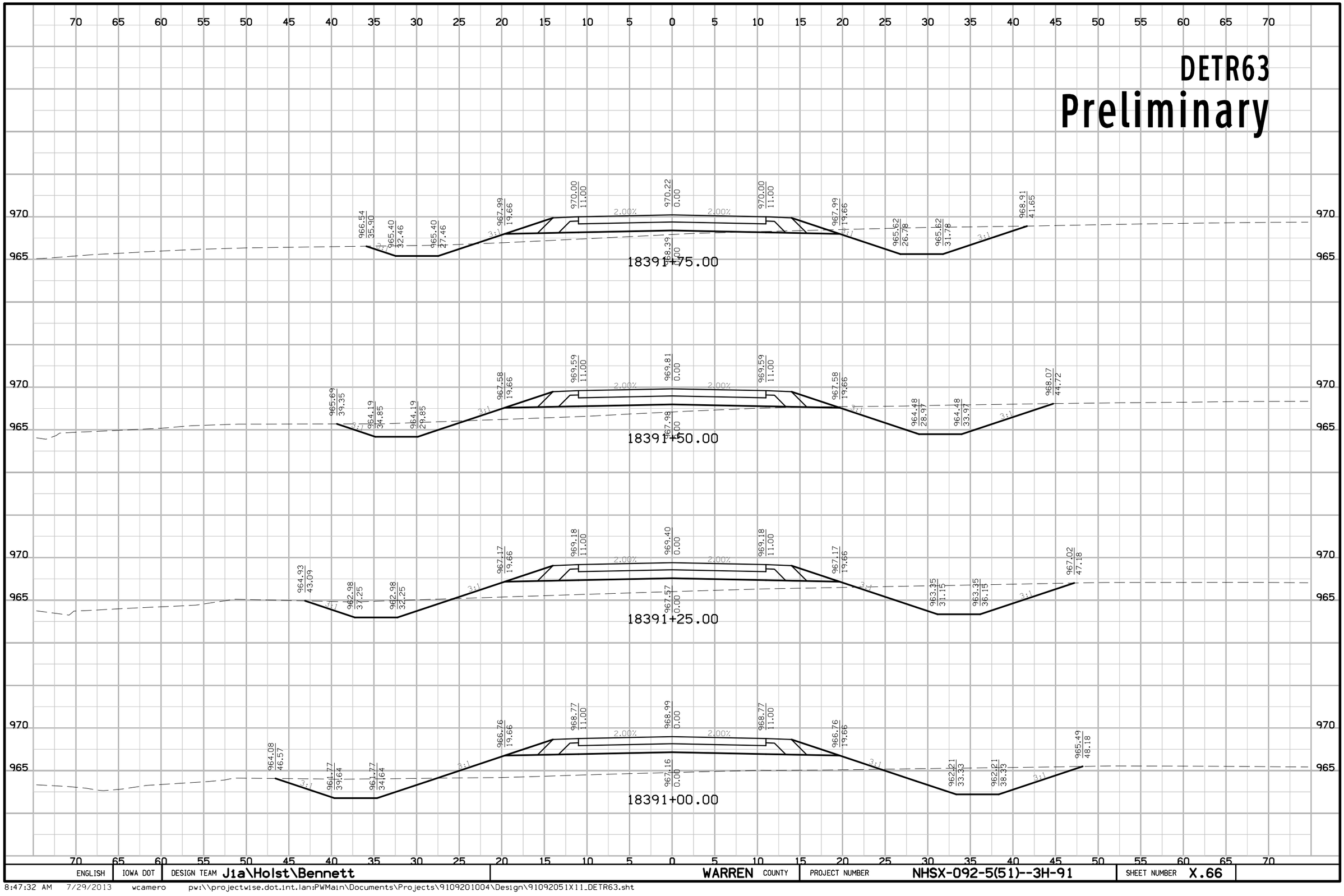


ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.65

8:47:32 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X11_DETR63.sht

DETR63

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.66

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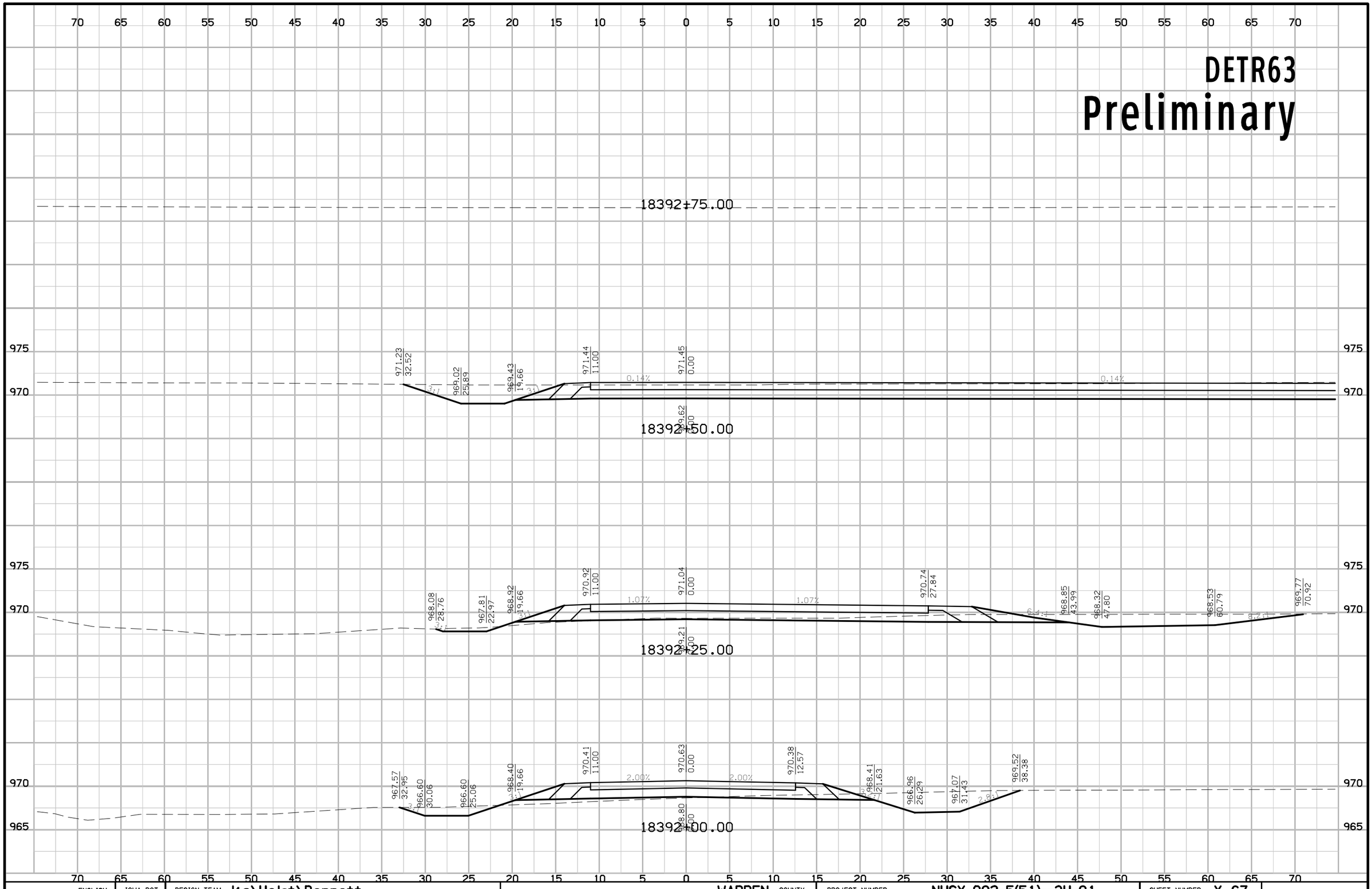
DETR63

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.67

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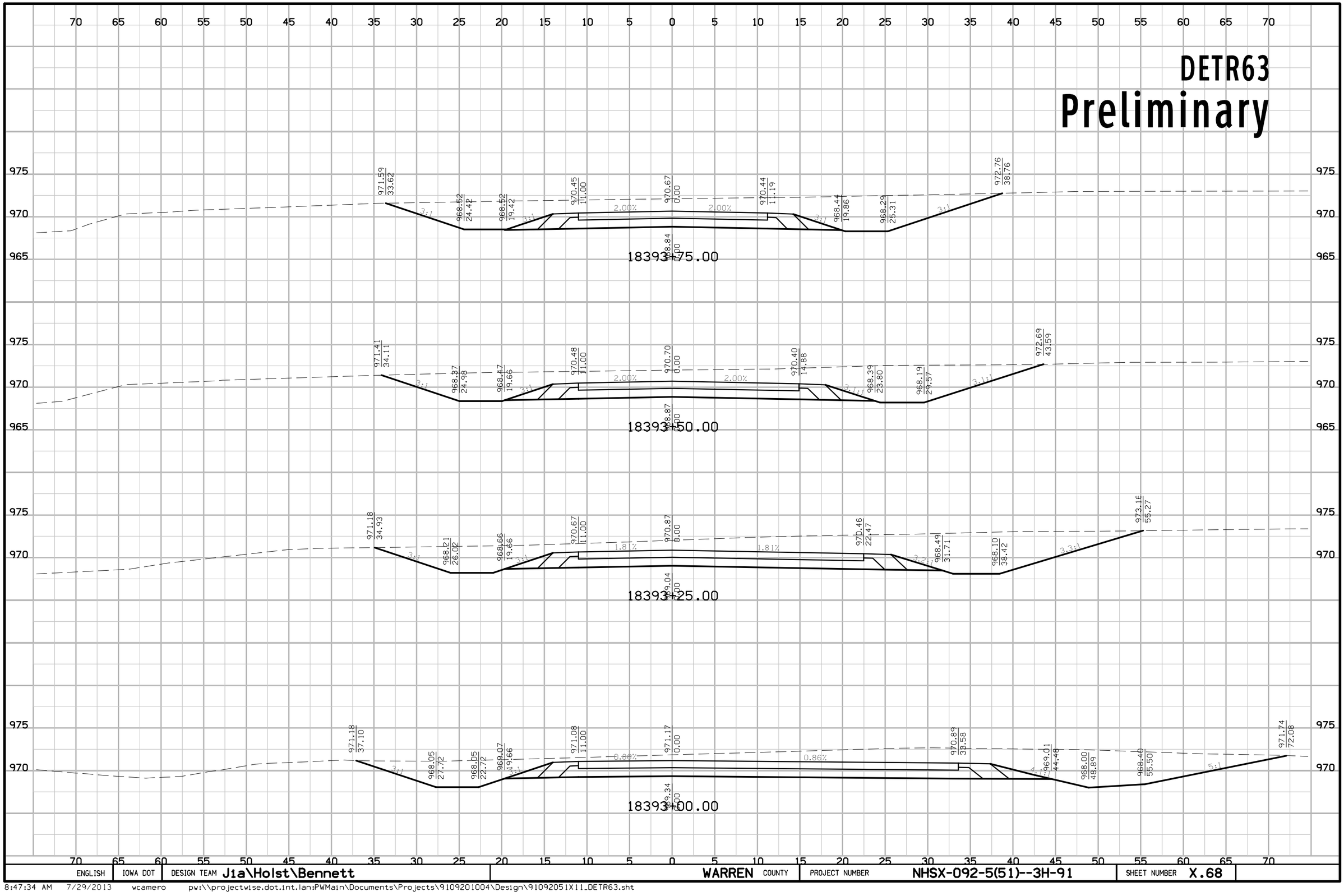
DETR63

Preliminary

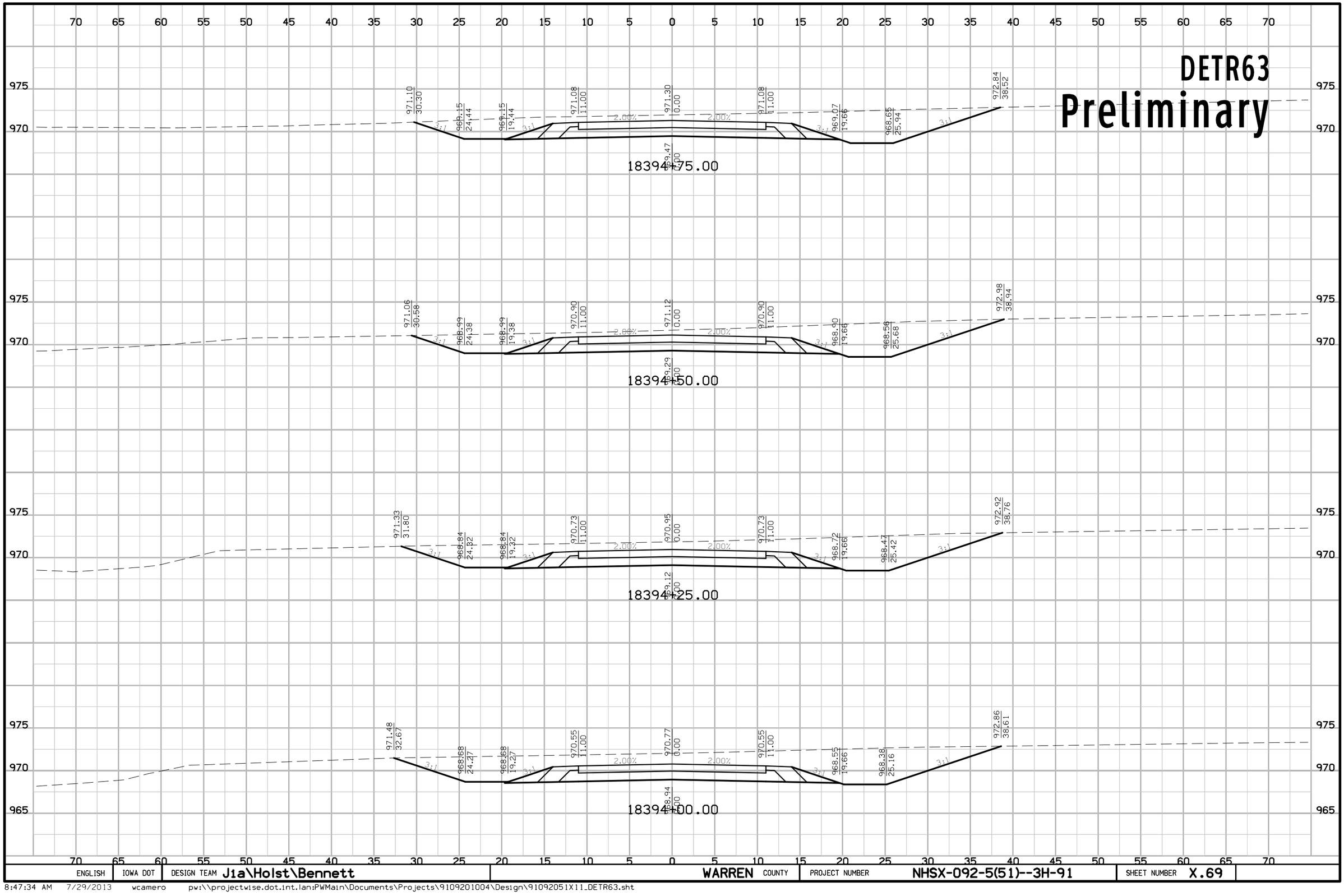


ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.68

8:47:34 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X11_DETR63.sht

DETR63

Preliminary

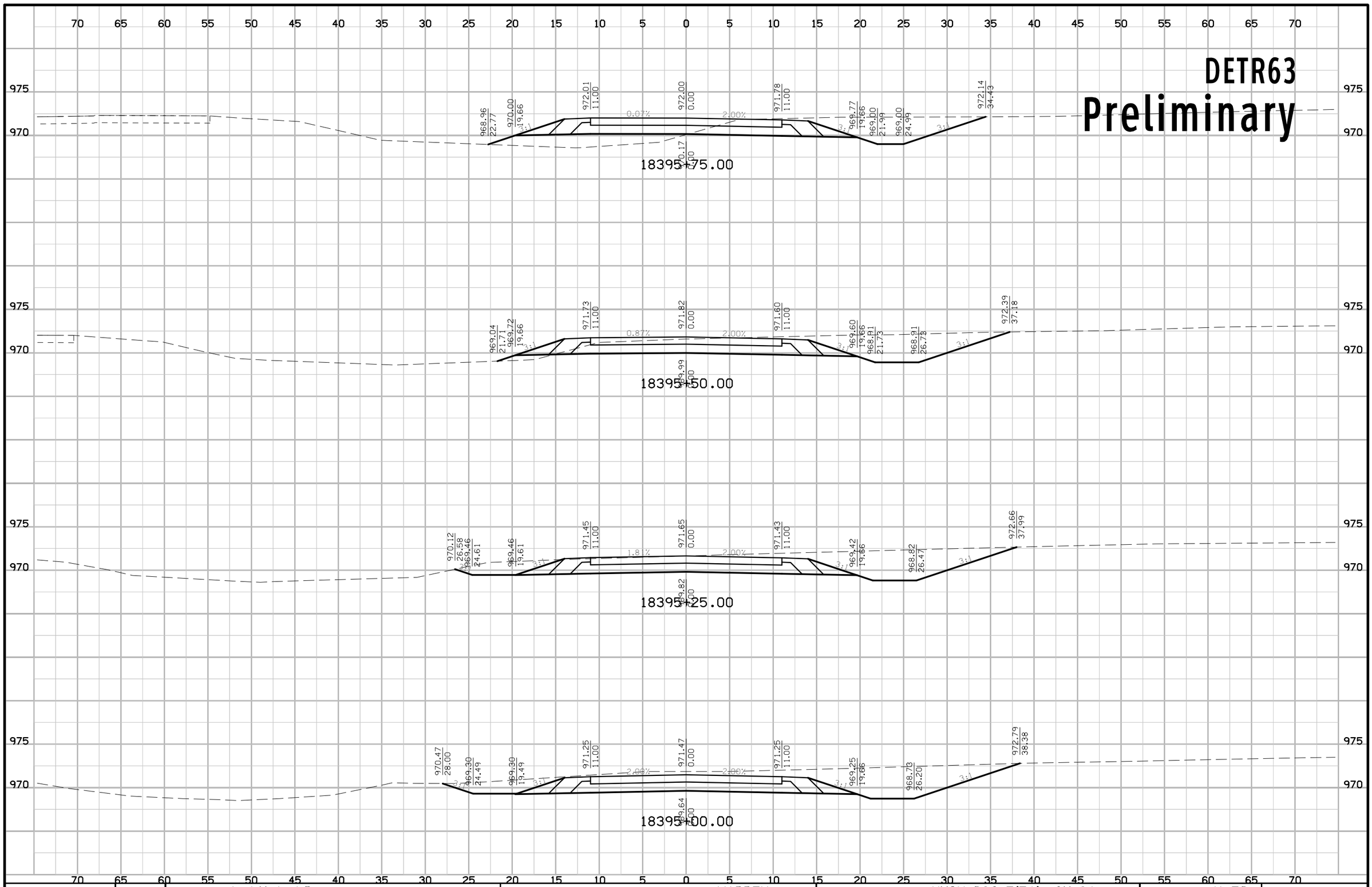


ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.69

8:47:34 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X11_DETR63.sht

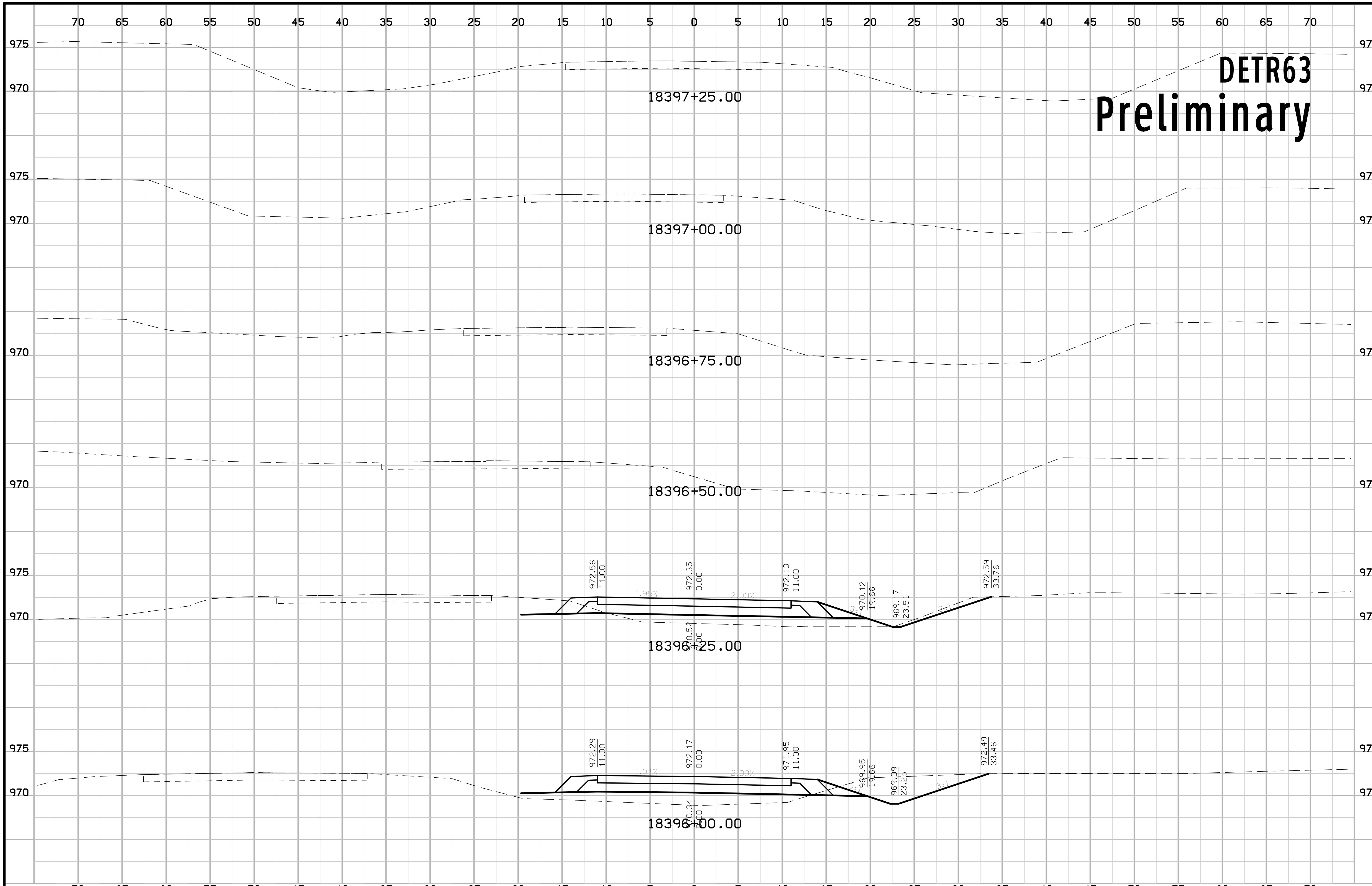
DETR63

Preliminary



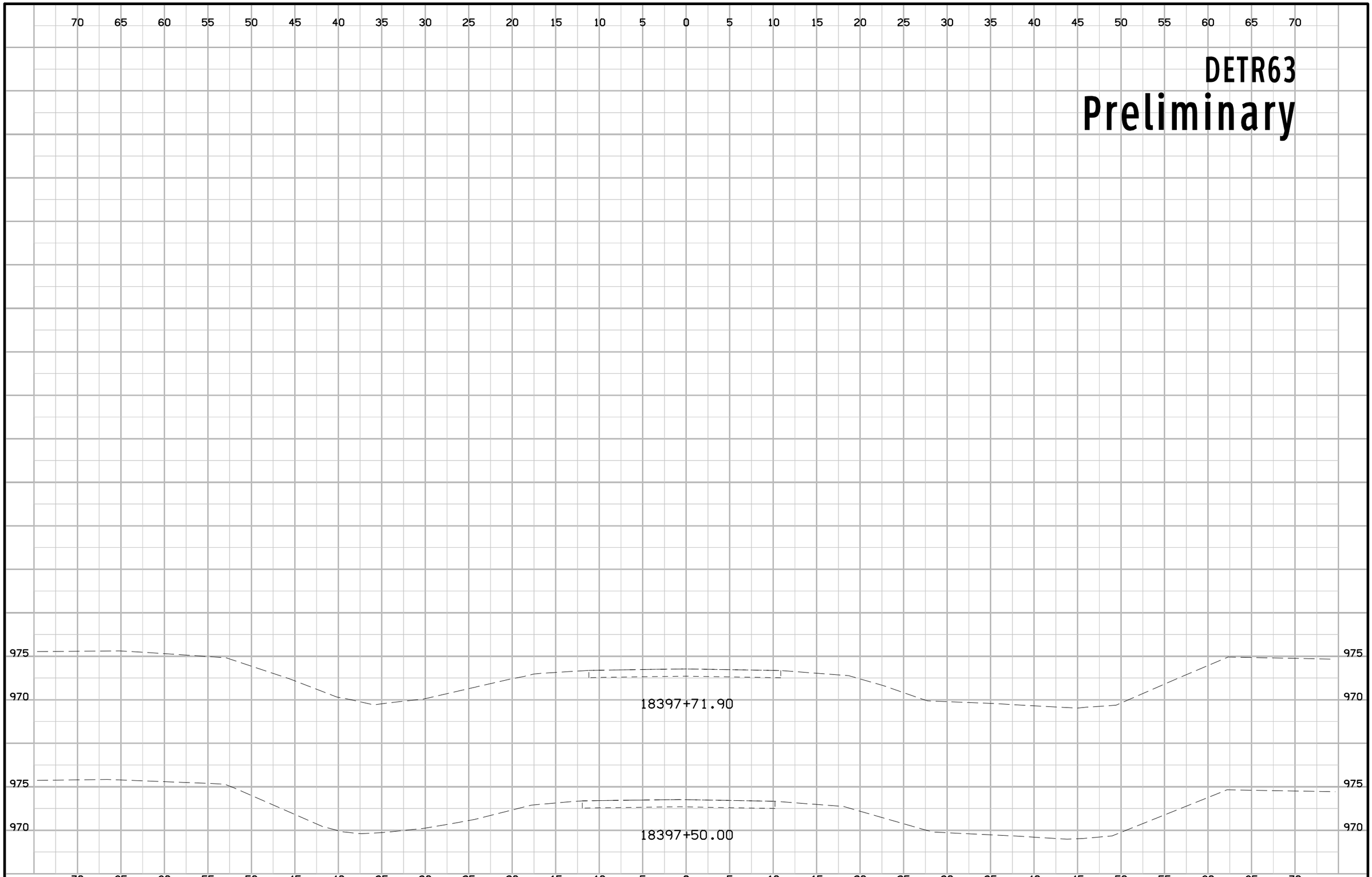
ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.70

8:47:35 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X11_DETR63.sht



ENGLISH	IOWA DOT	DESIGN TEAM **Jia\Holst\Bennett**		**WARREN** COUNTY	PROJECT NUMBER **NHSX-092-5(51)--3H-91**	SHEET NUMBER **X.71**

8:47:36 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X11_DETR63.sht



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.72

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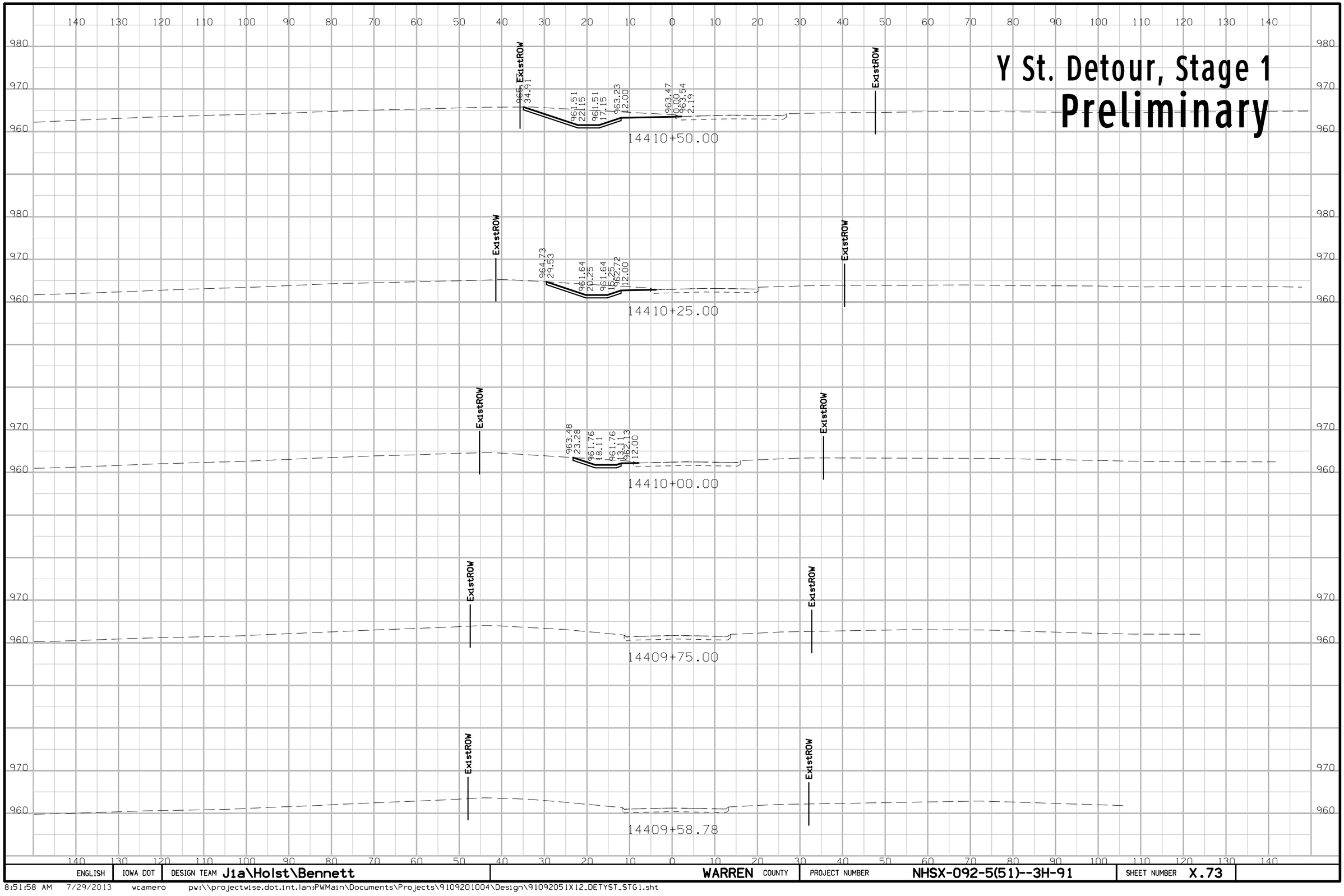
Y St. Detour, Stage 1

Preliminary

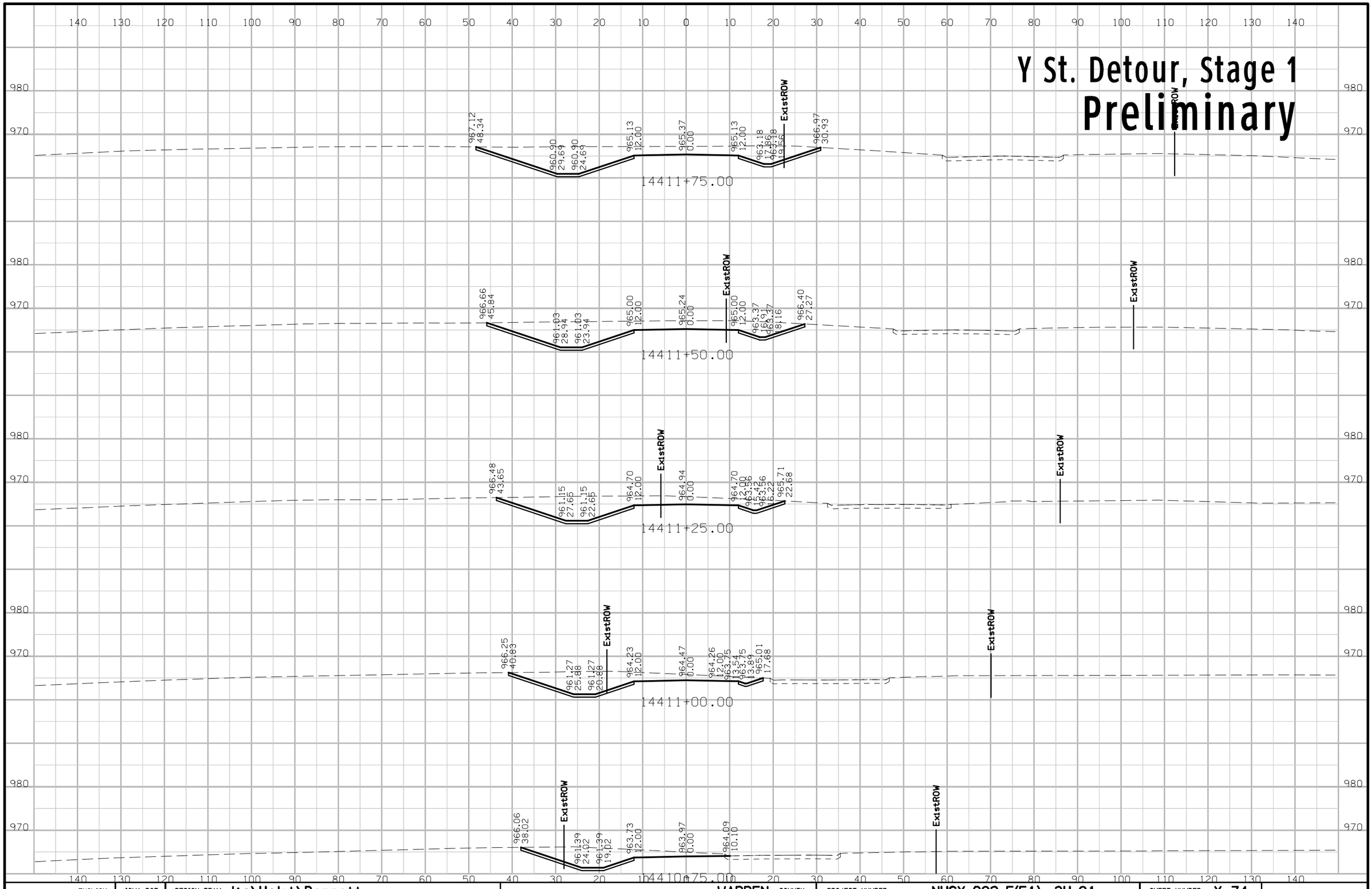


ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.73

8:51:58 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X12_DETYST_STG1.sht

Y St. Detour, Stage 1

Preliminary



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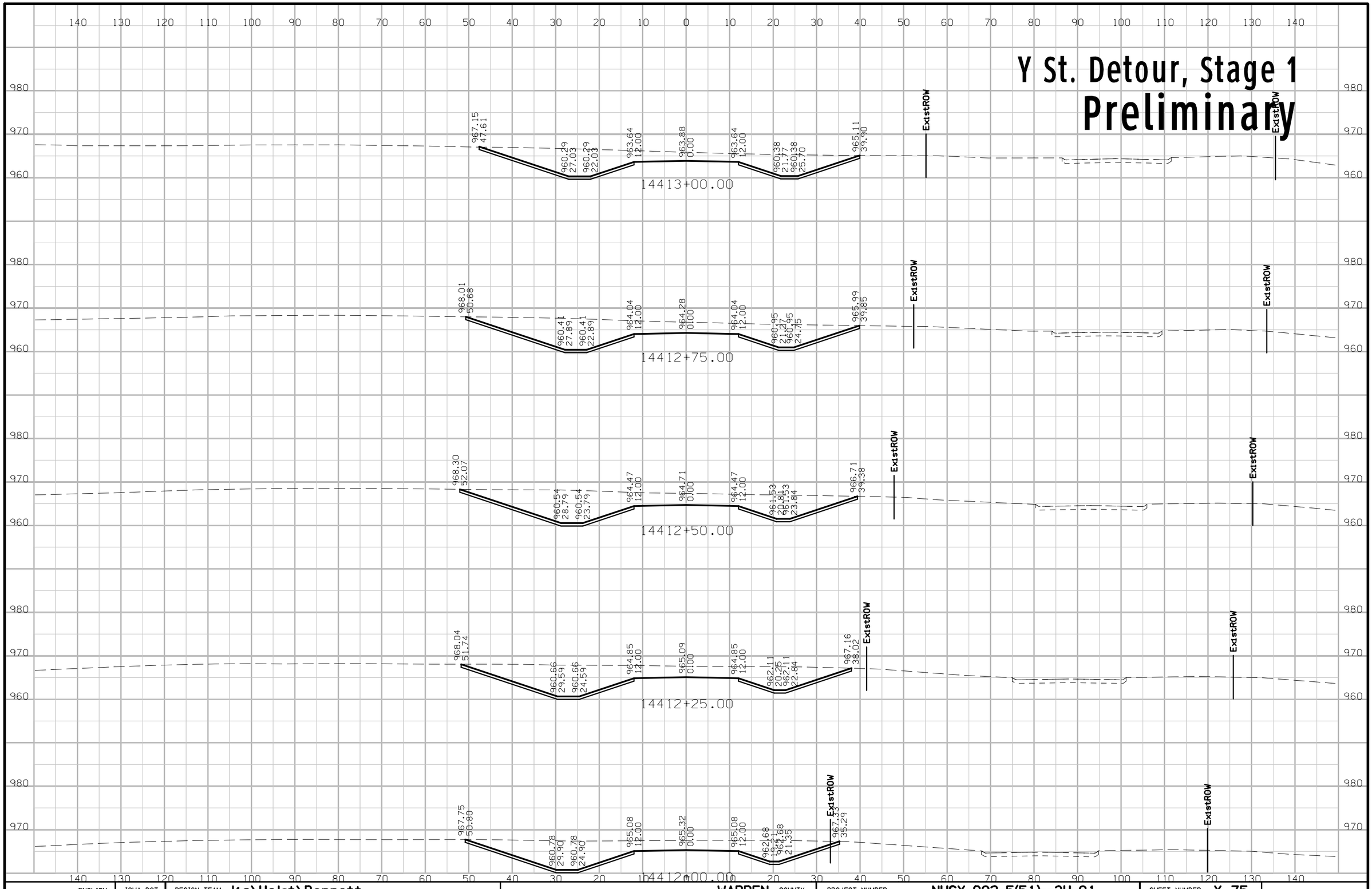
Y St. Detour, Stage 1

Preliminary



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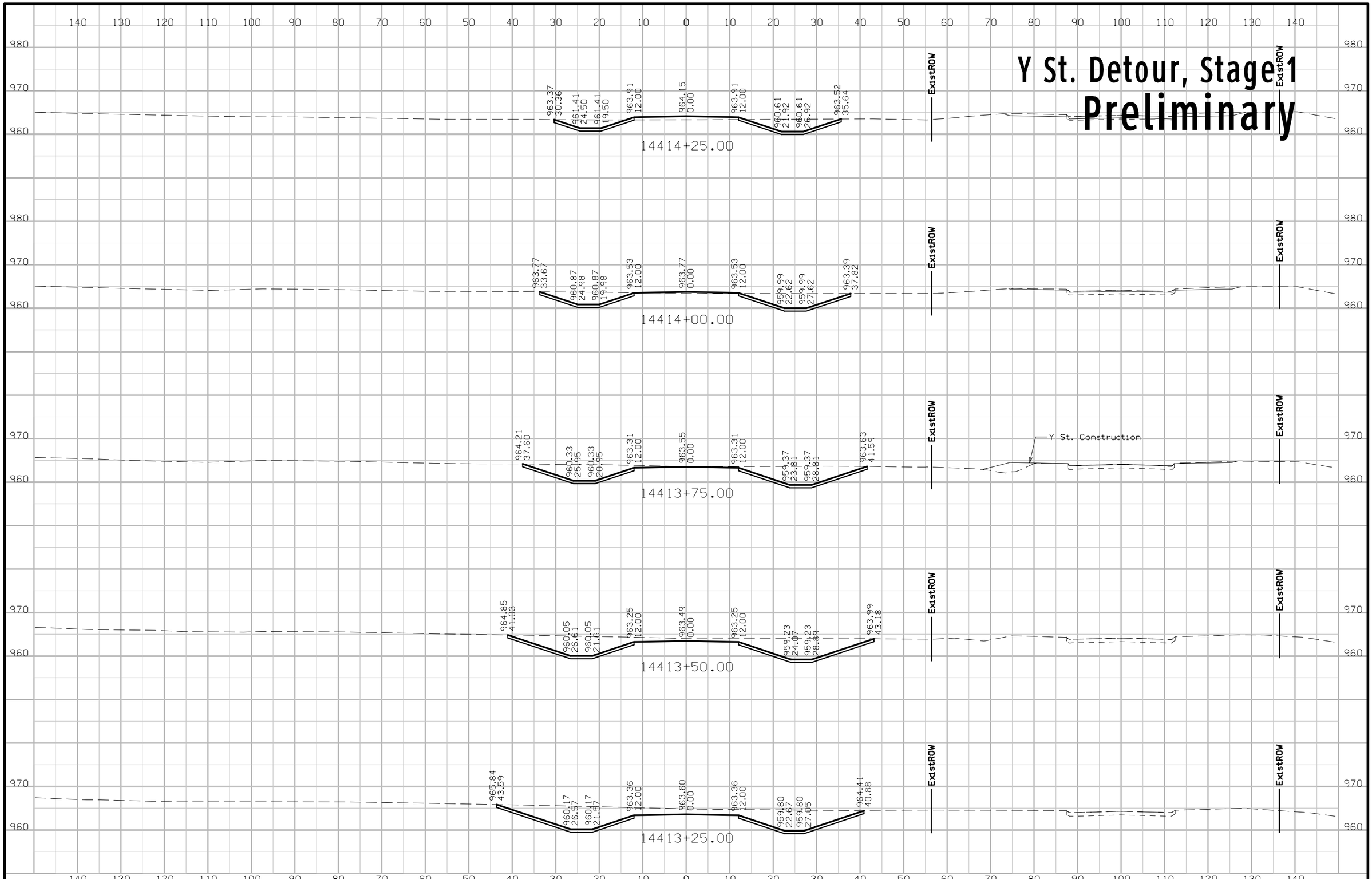
8:52:00 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X12_DETYST_STG1.sht

Y St. Detour, Stage 1

Preliminary



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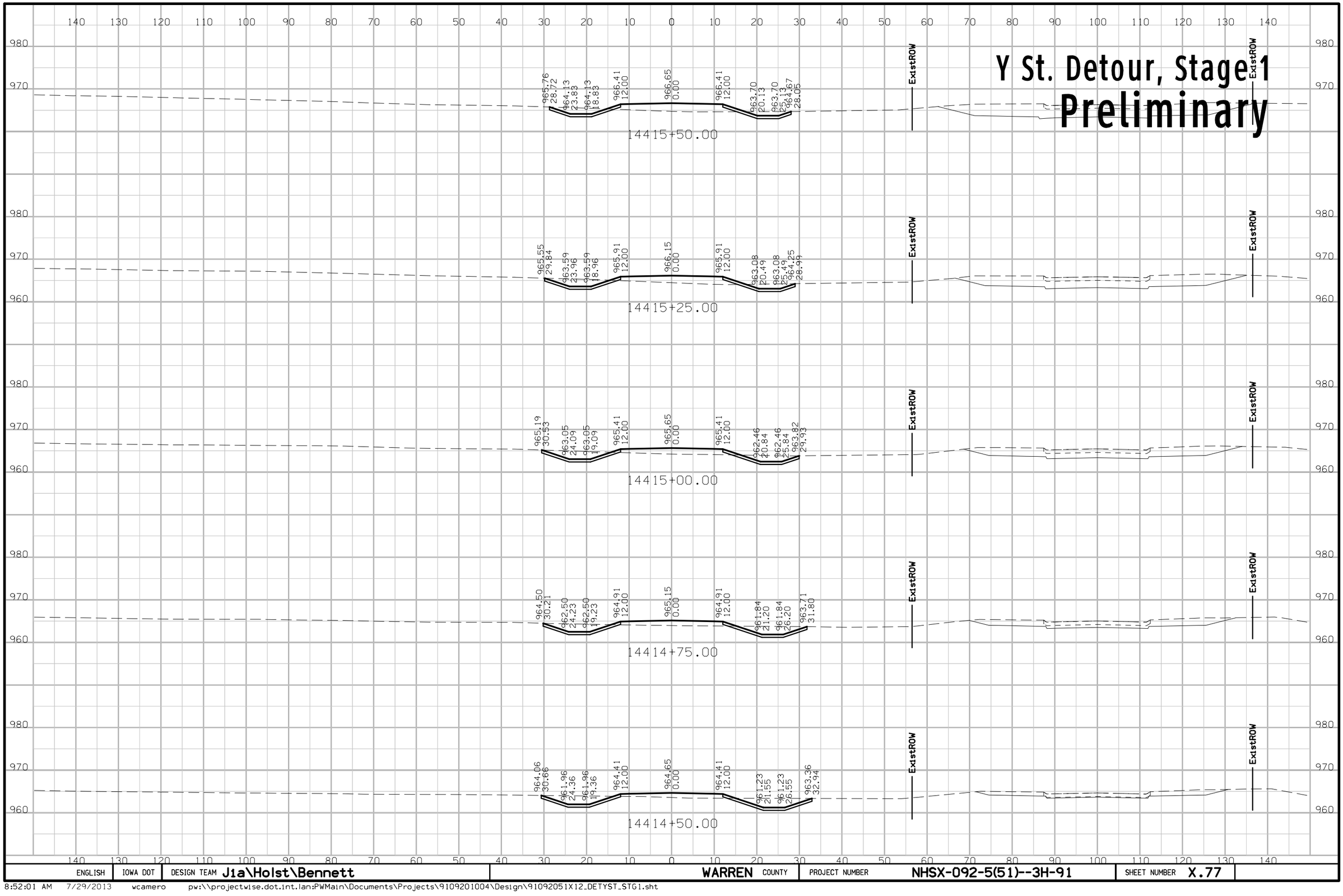
Y St. Detour, Stage 1

Preliminary



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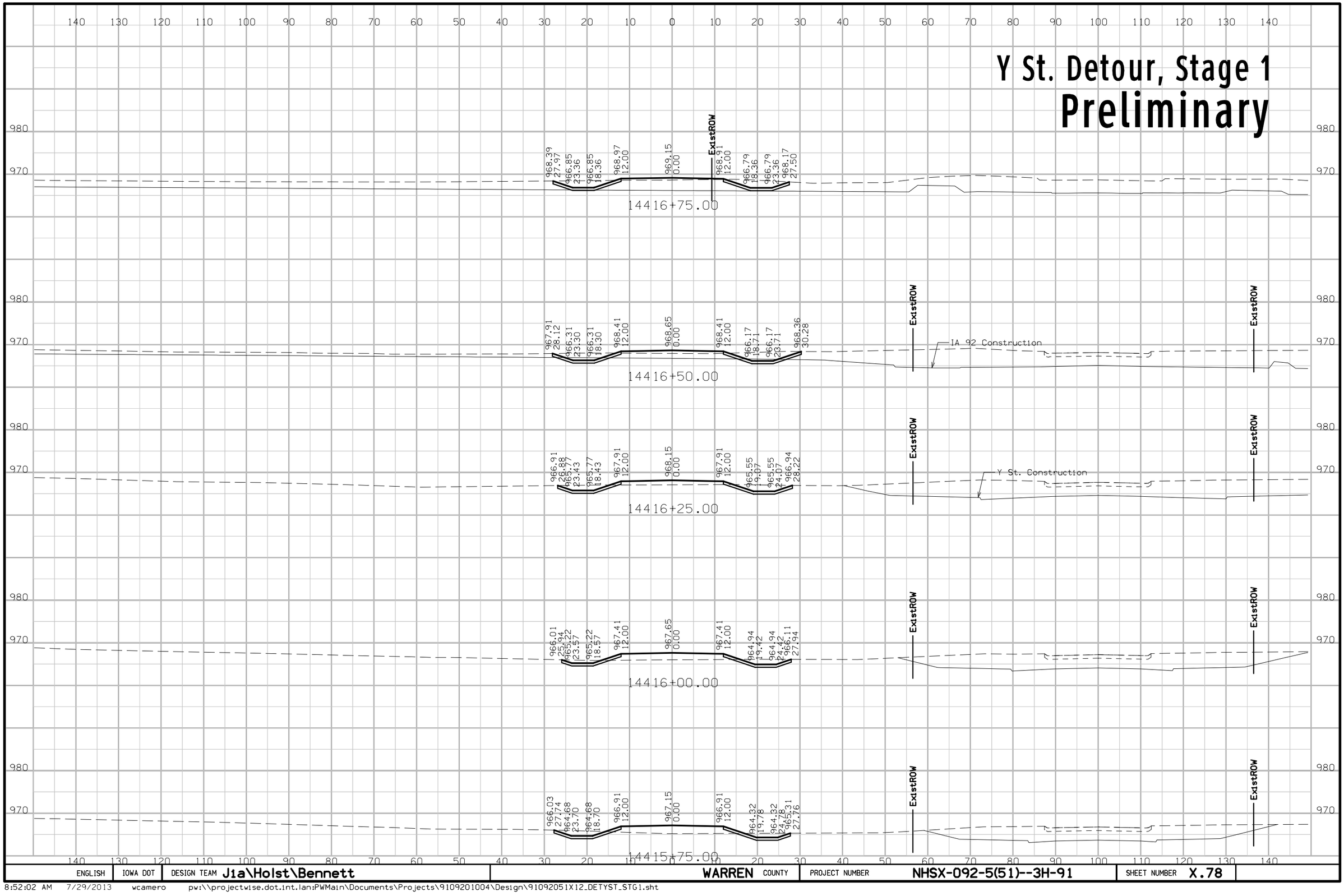
Y St. Detour, Stage 1
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.78

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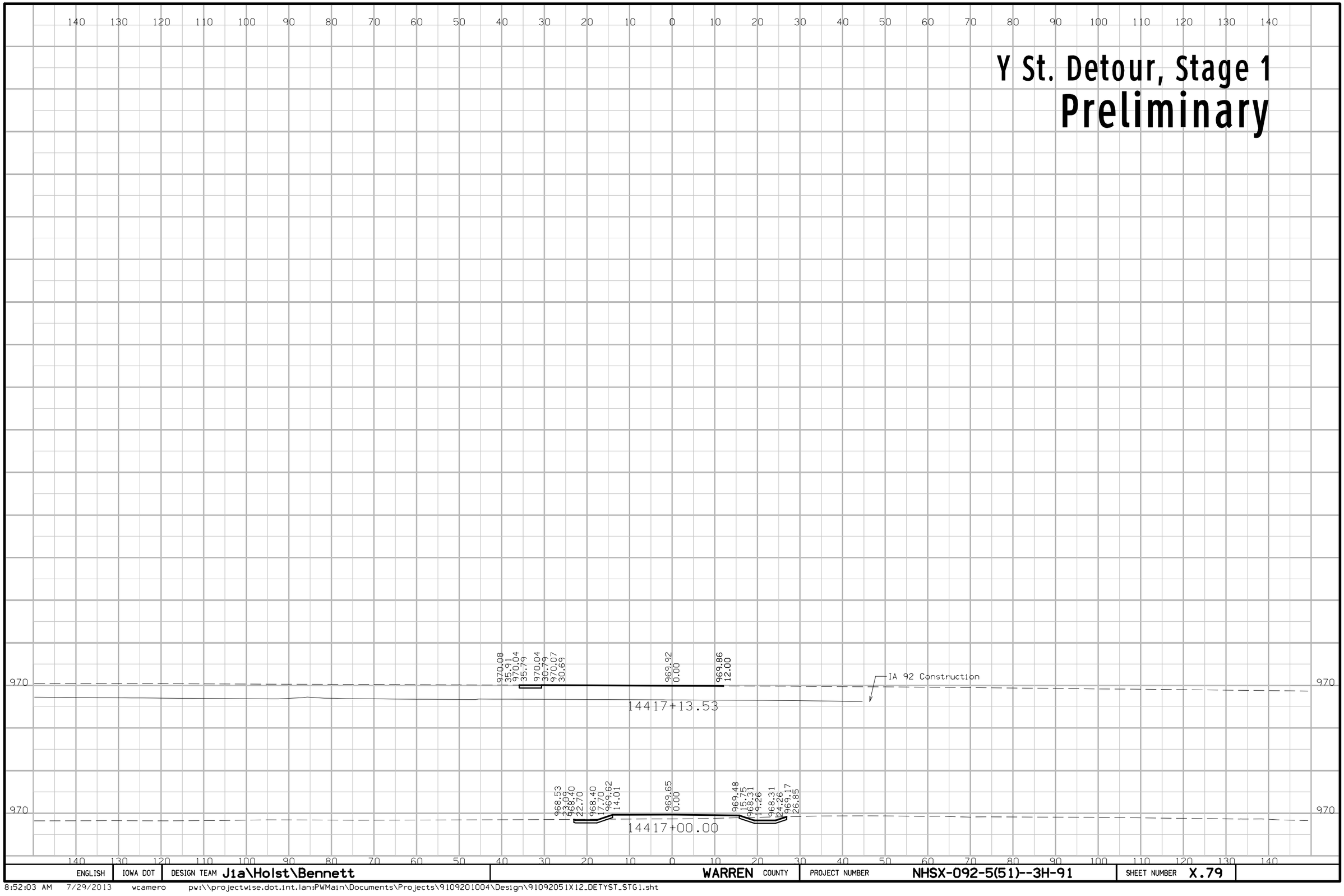
Y St. Detour, Stage 1

Preliminary



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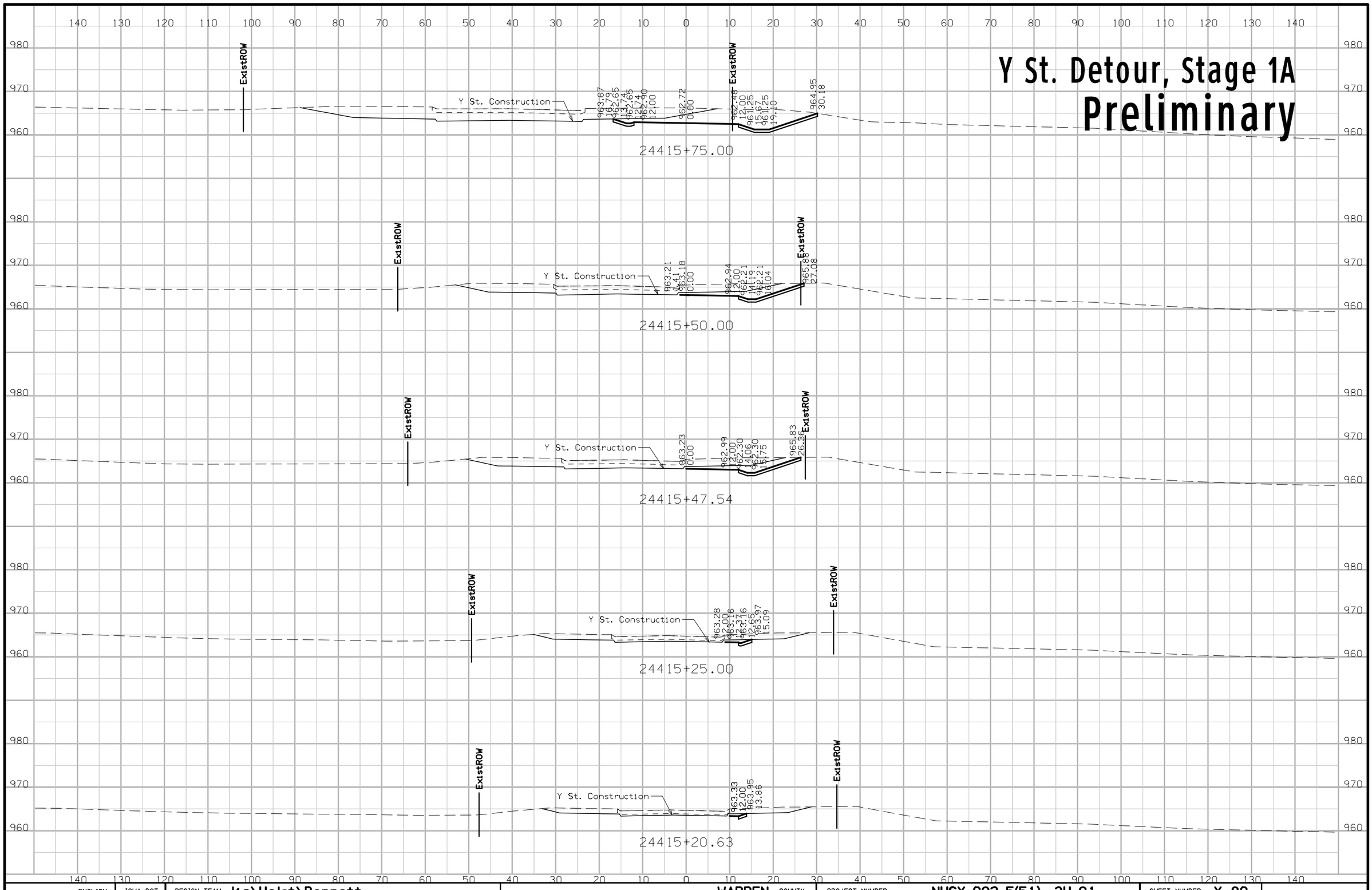
Y St. Detour, Stage 1A

Preliminary



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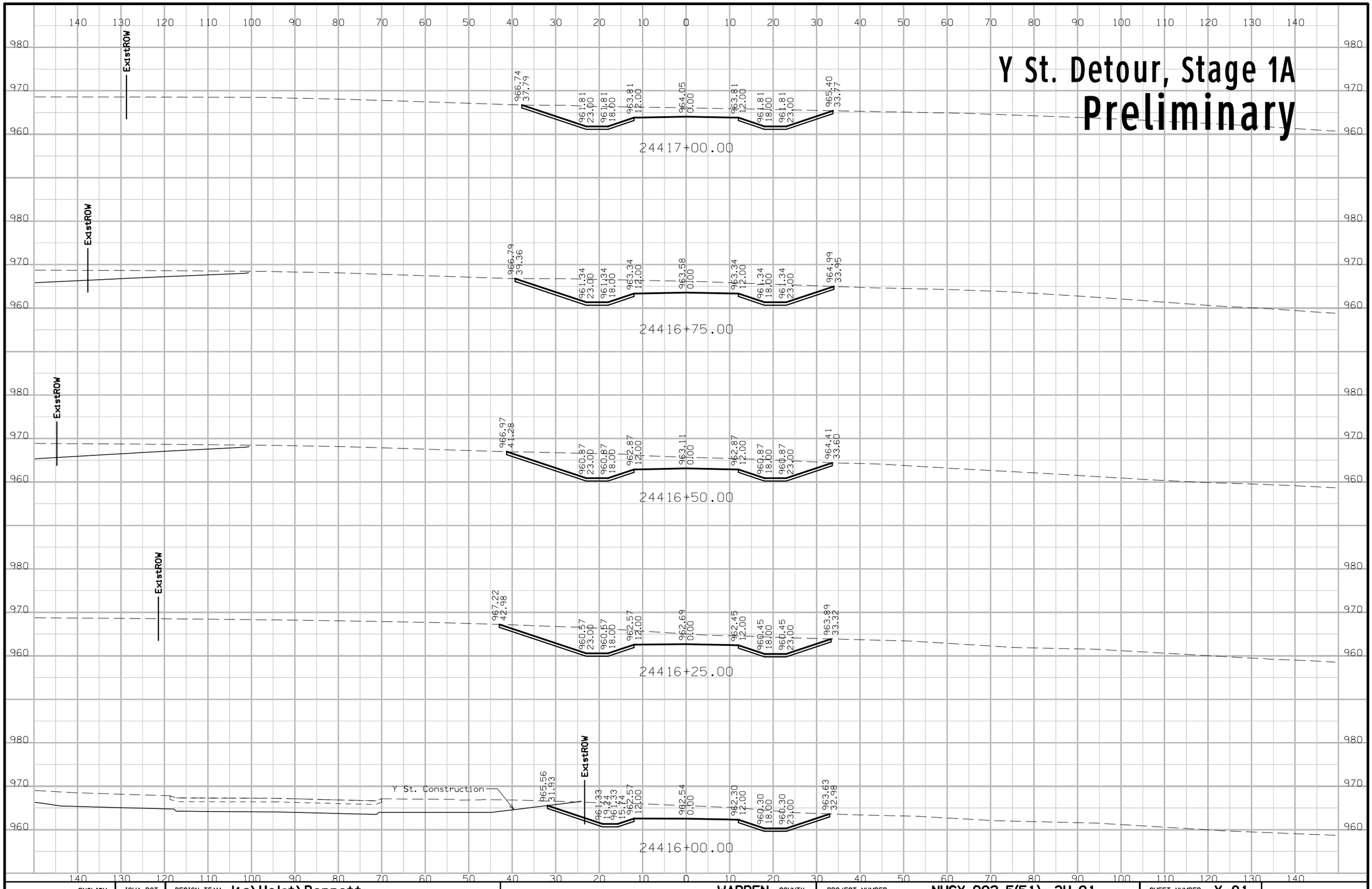
8:55:17 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X13_DETYST_STG1A.sht

Y St. Detour, Stage 1A

Preliminary



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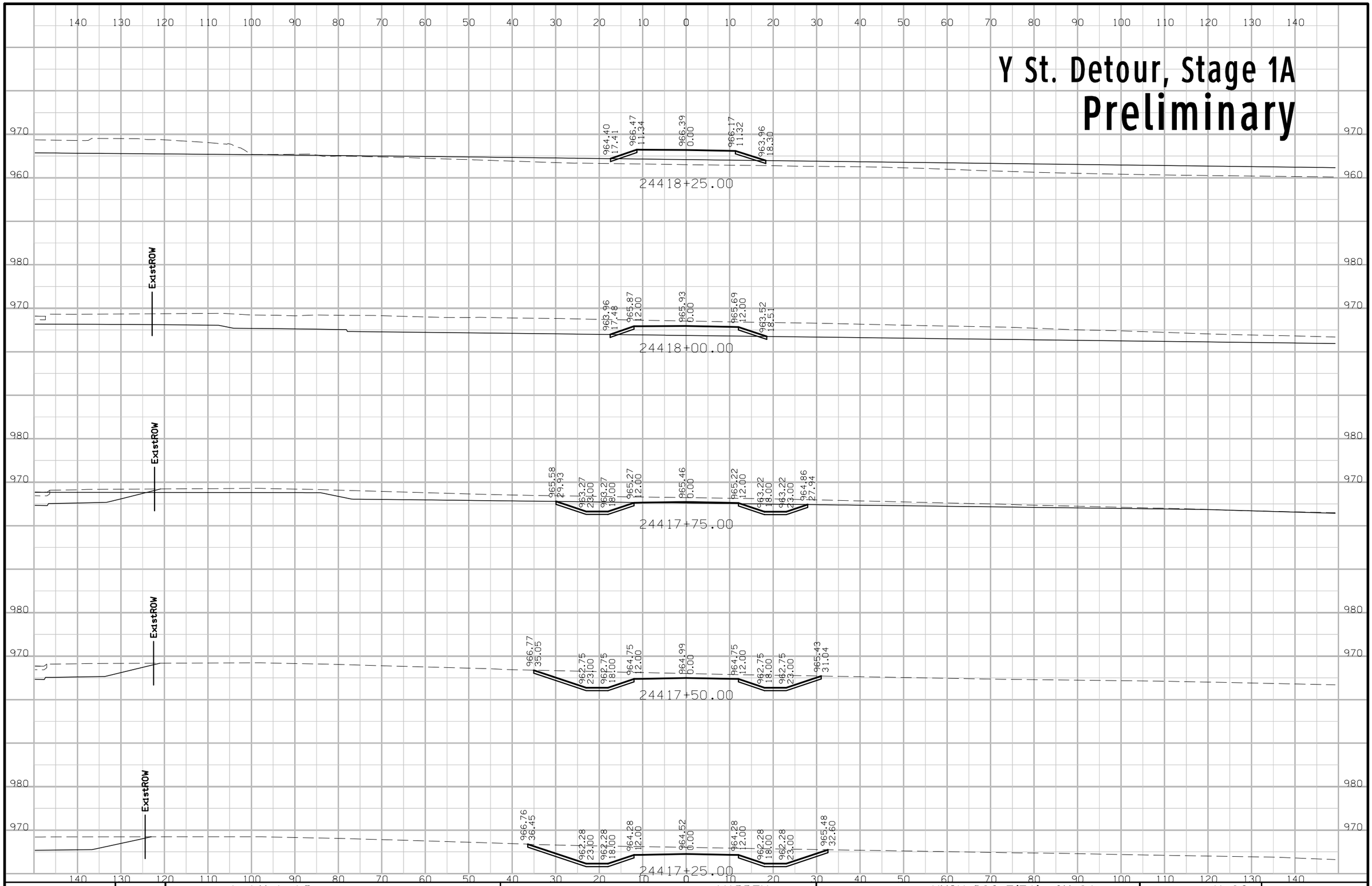
Y St. Detour, Stage 1A

Preliminary



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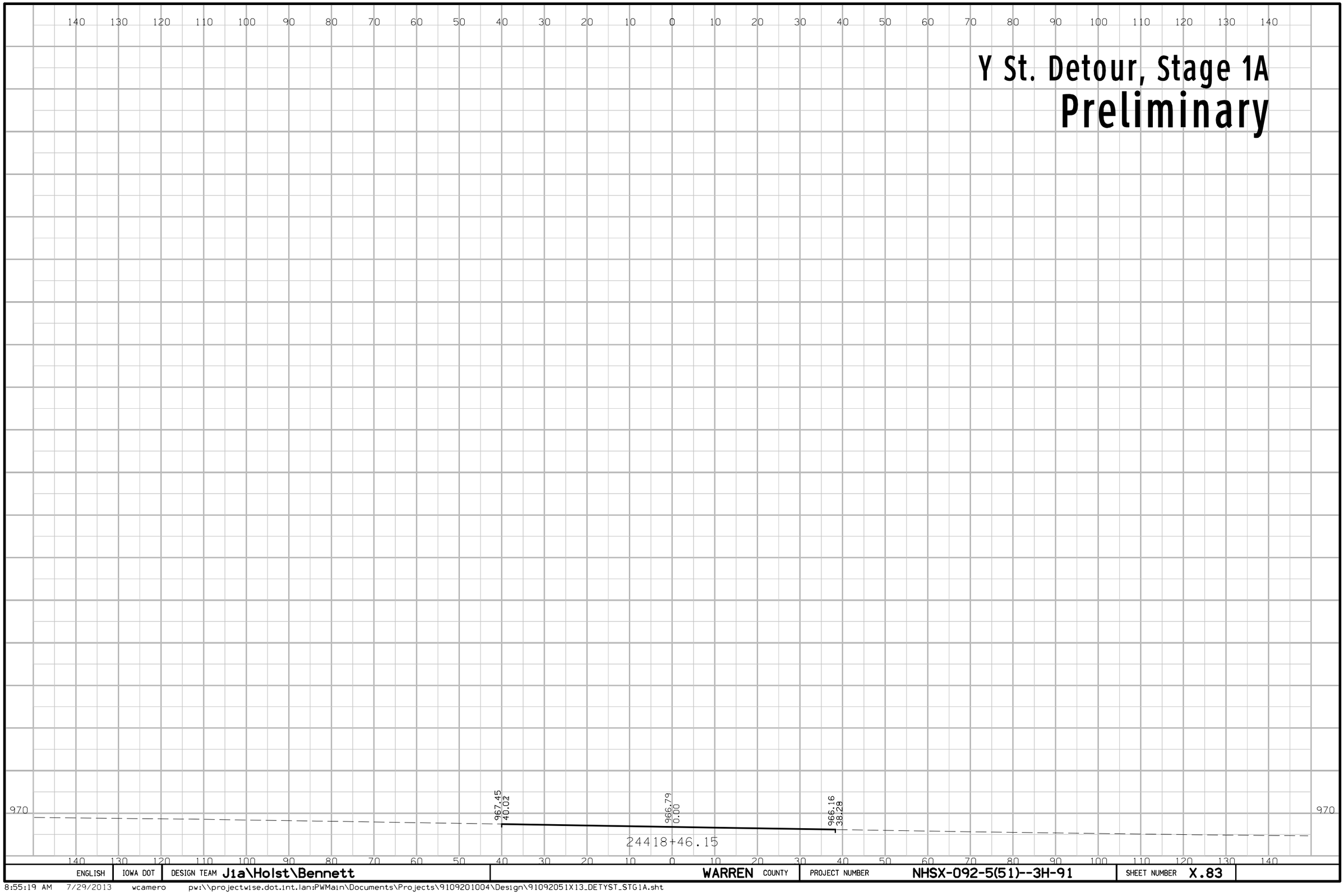
Y St. Detour, Stage 1A

Preliminary



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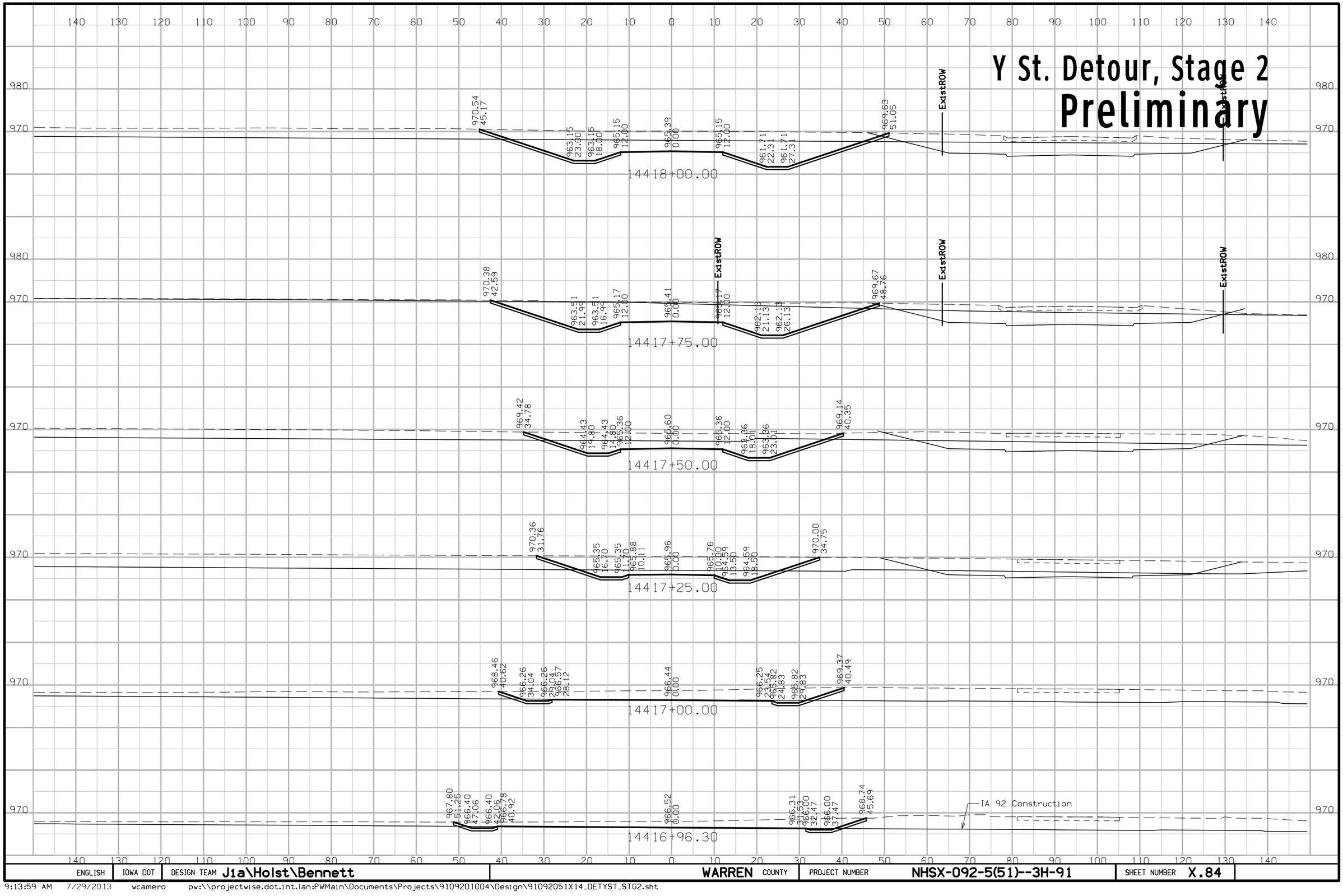
Y St. Detour, Stage 2

Preliminary



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Y St. Detour, Stage 2

Preliminary

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.85

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Y St. Detour, Stage 2

Preliminary

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.86

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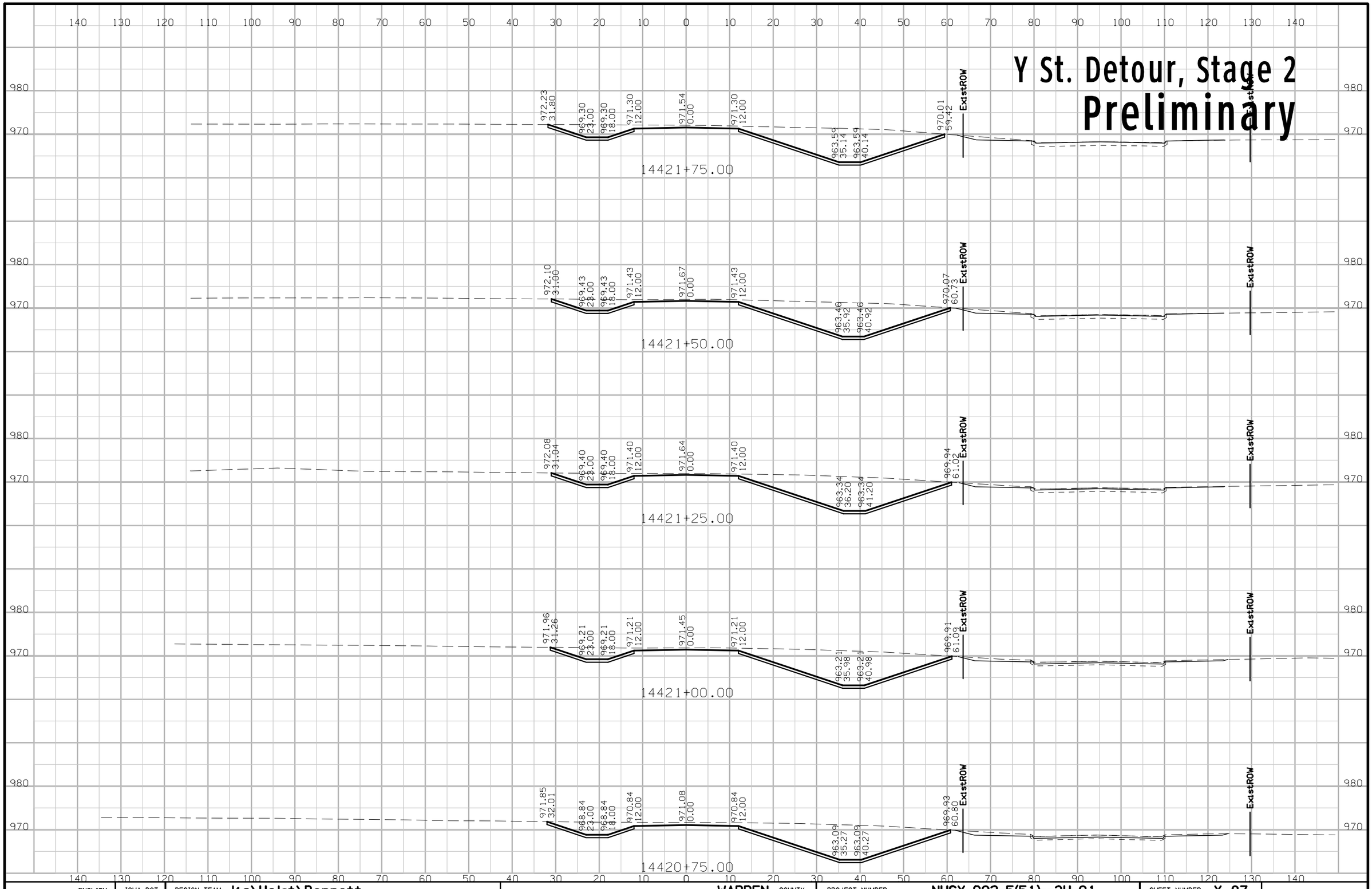
Y St. Detour, Stage 2

Preliminary



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Y St. Detour, Stage 2

Preliminary

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.88

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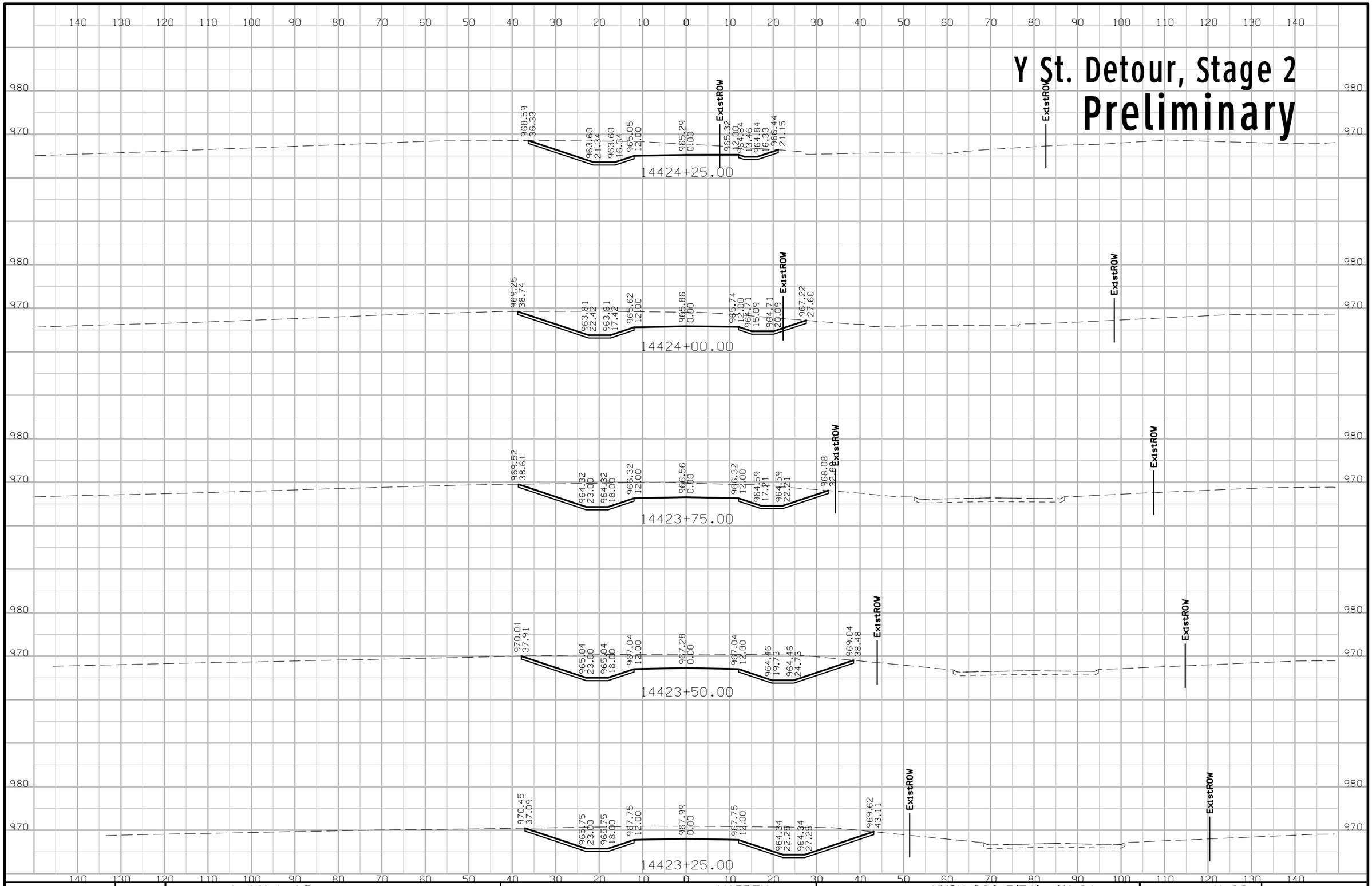
Y St. Detour, Stage 2

Preliminary



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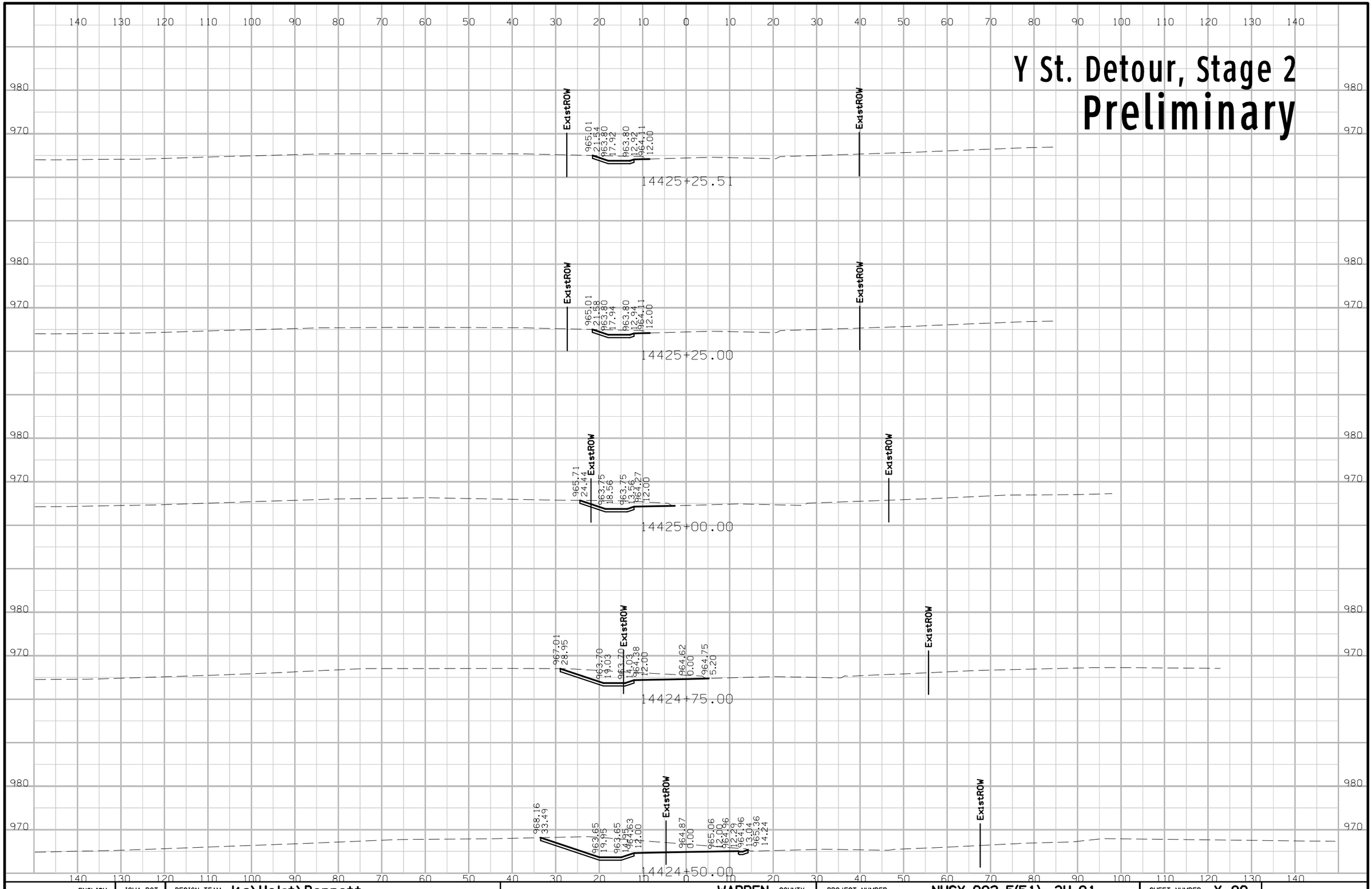
Y St. Detour, Stage 2
Preliminary



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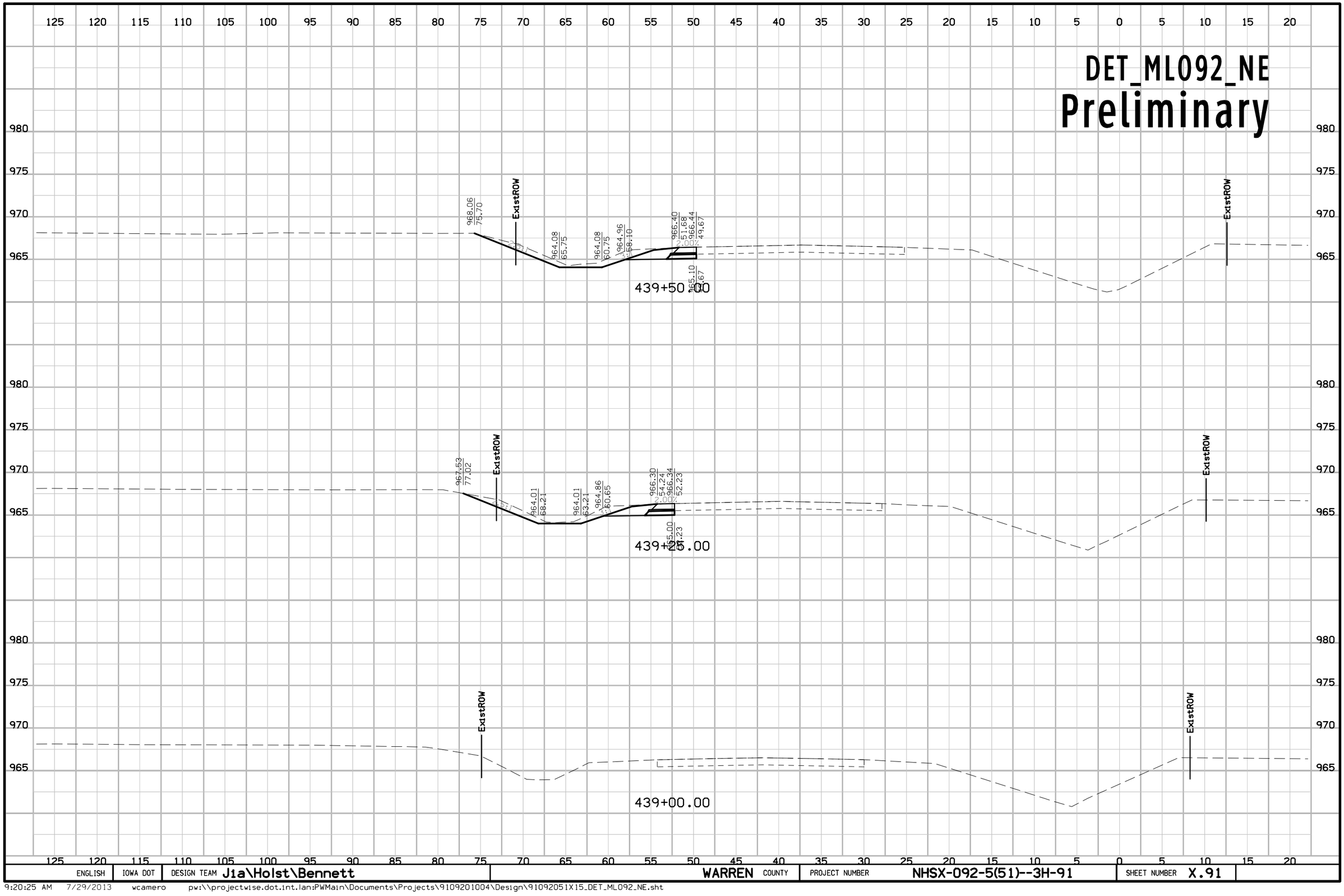
9:14:04 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X14_DETYST_STG2.sht

DET_ML092_NE

Preliminary

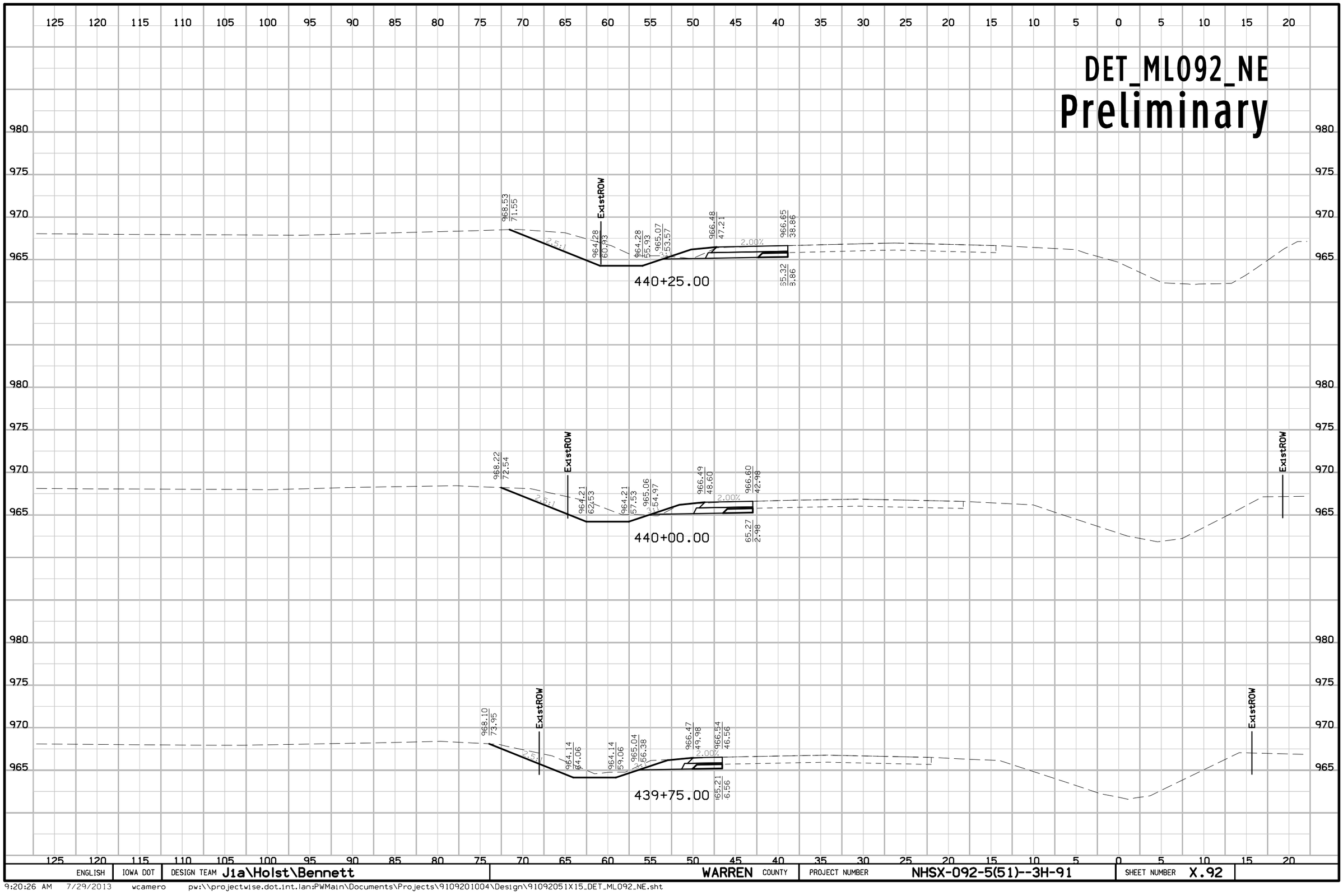


ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.91

9:20:25 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X15_DET_ML092_NE.sht

DET_ML092_NE

Preliminary



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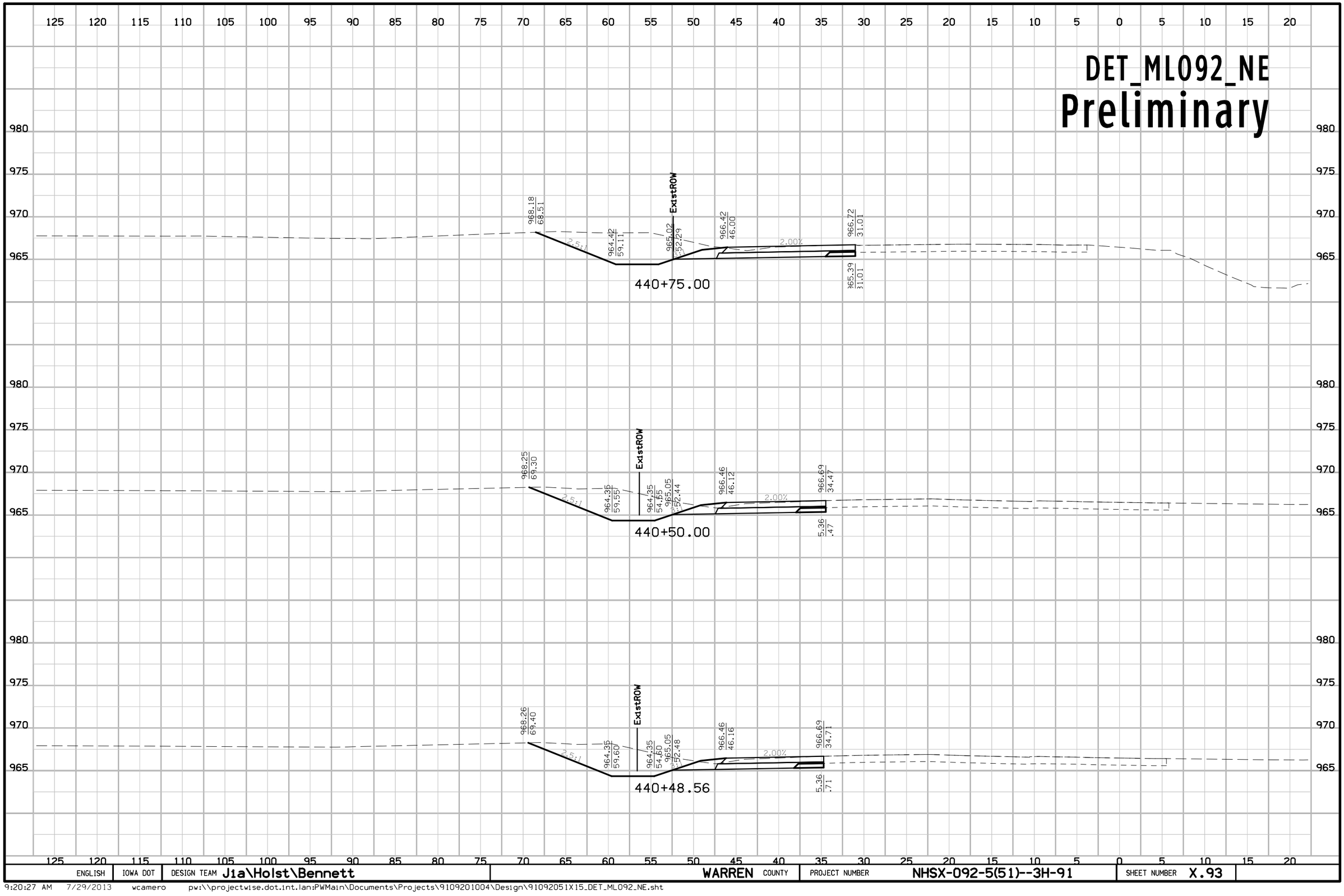
DET_ML092_NE

Preliminary



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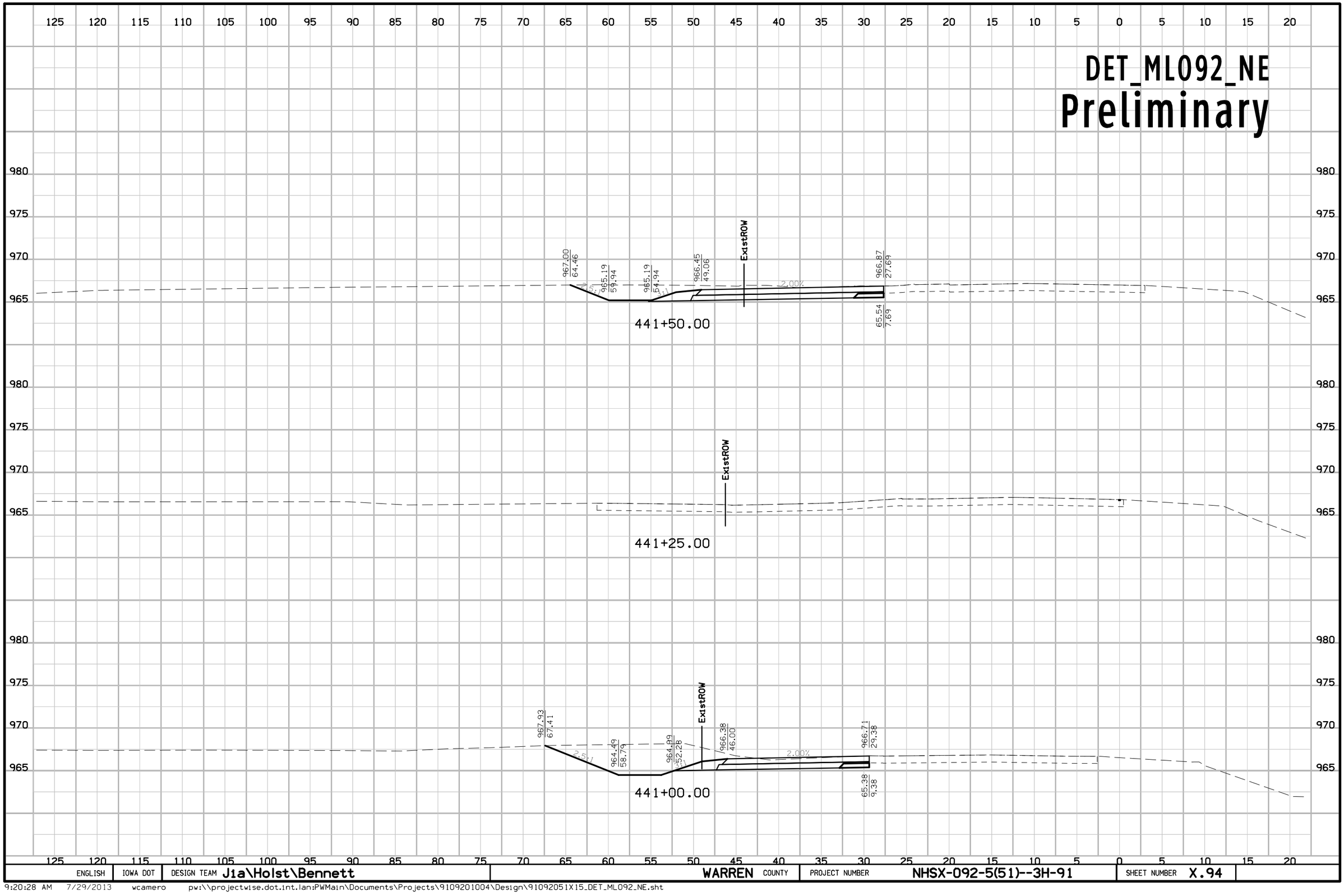
DET_ML092_NE

Preliminary



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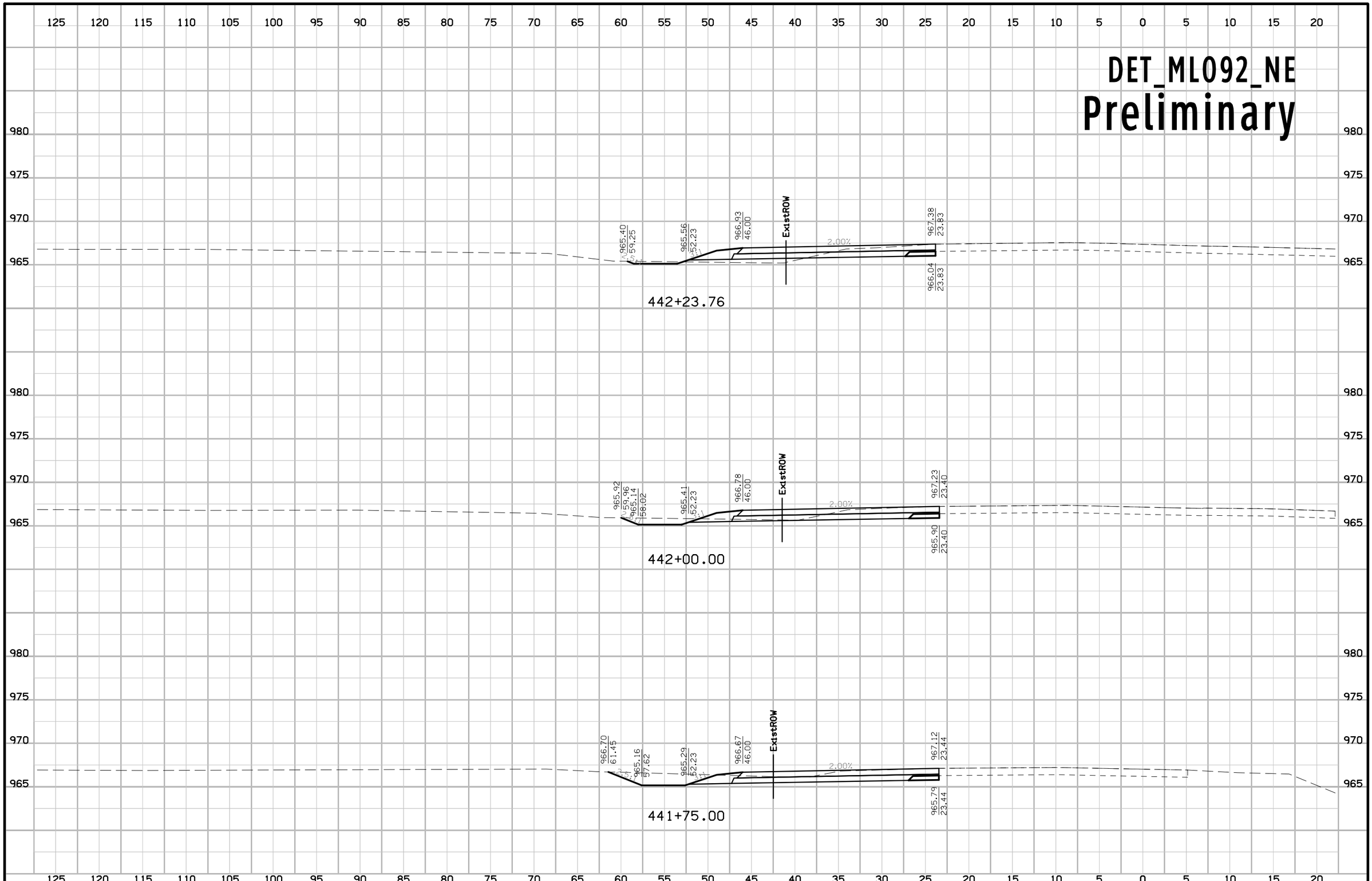
DET_ML092_NE

Preliminary



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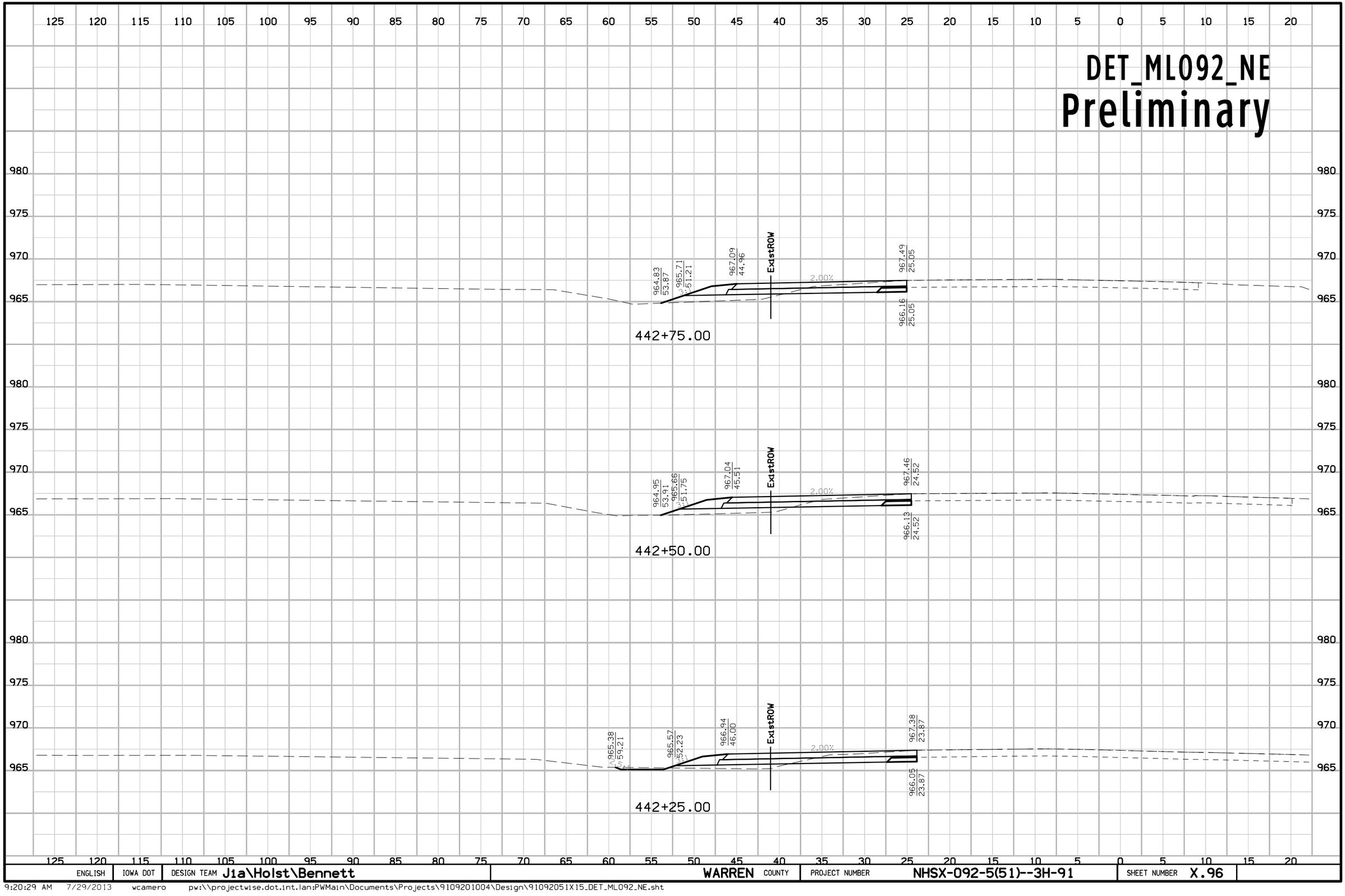
DET_ML092_NE

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.96

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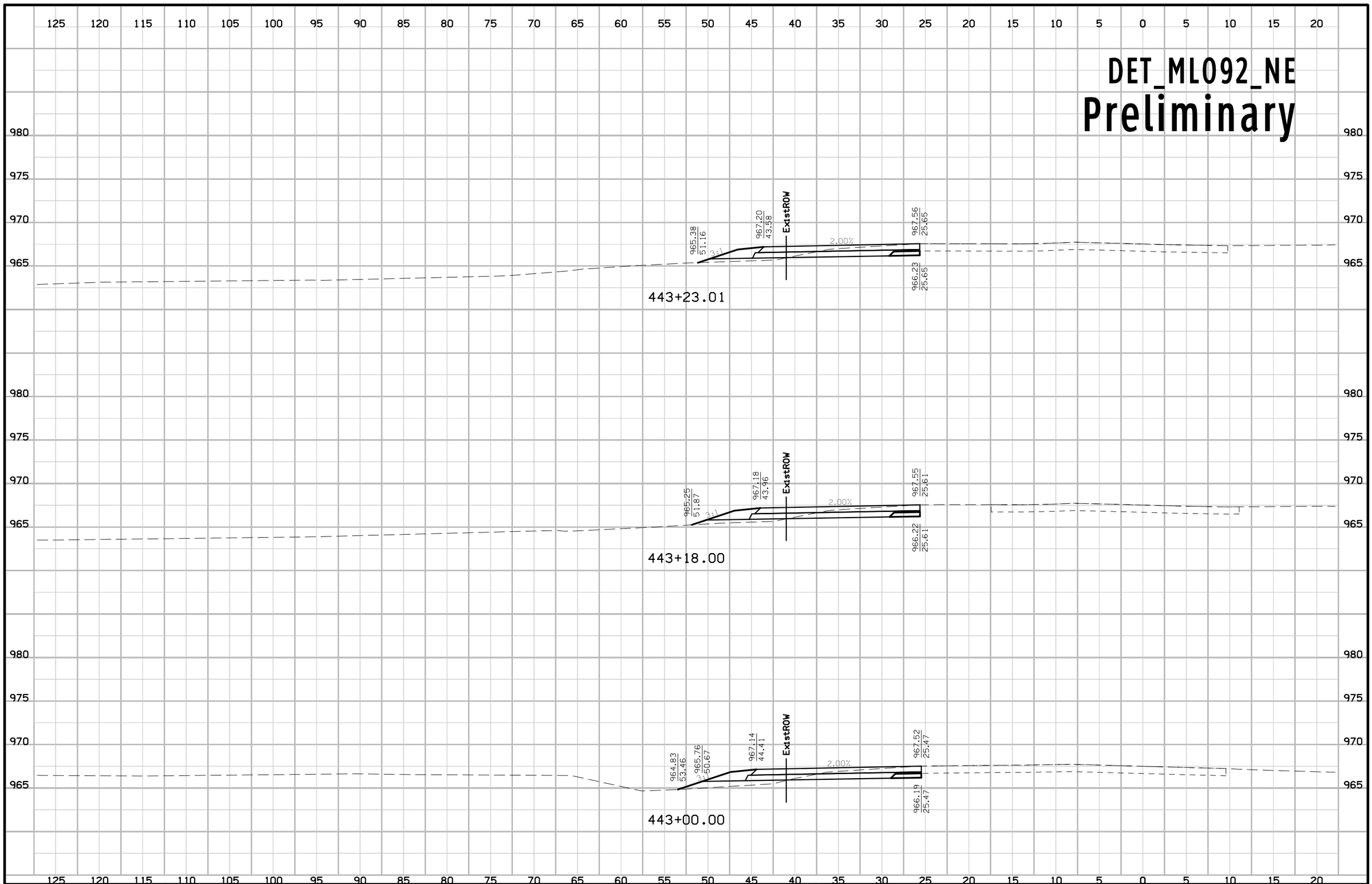
DET_ML092_NE

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	X.97

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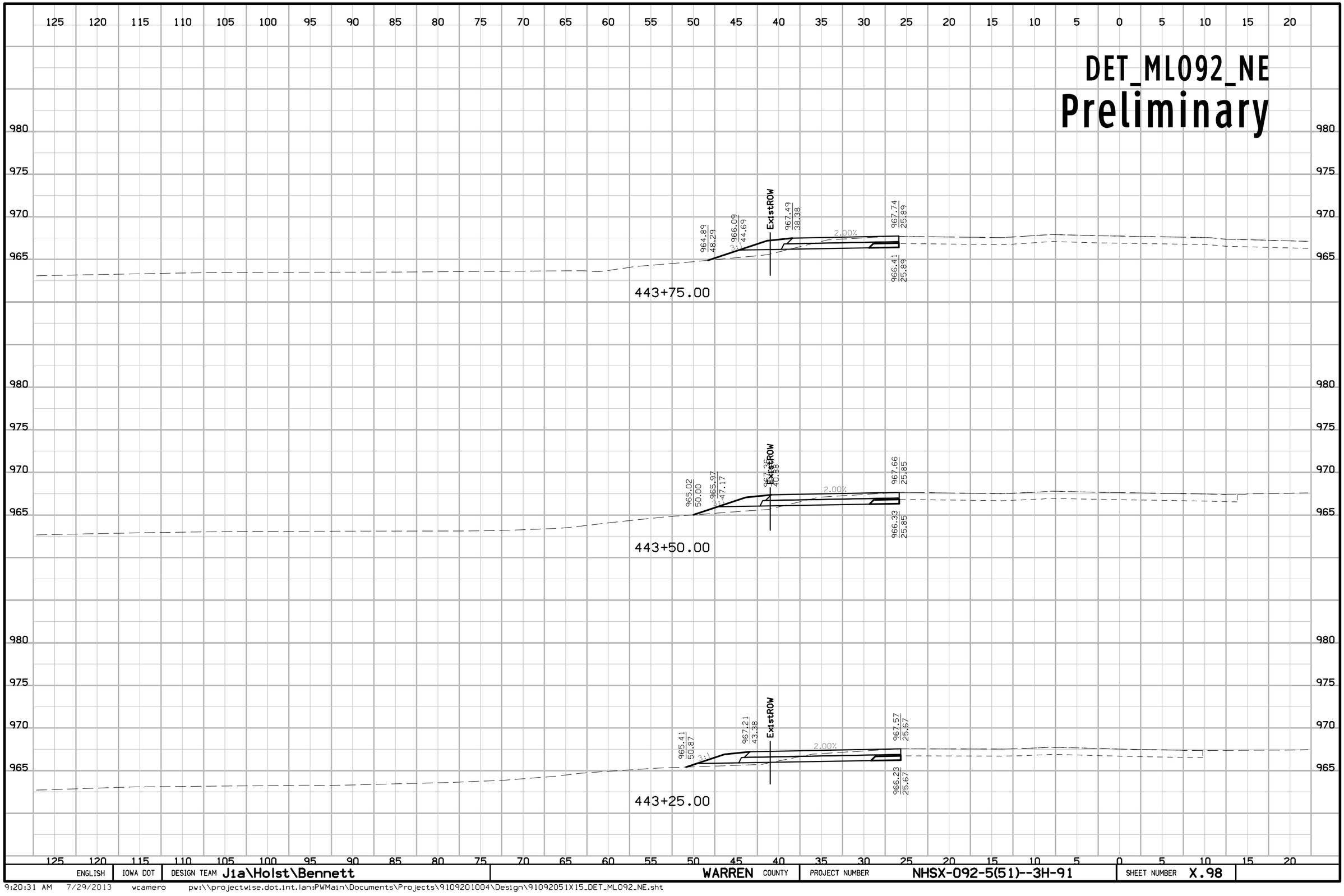
DET_ML092_NE

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.98

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DET_ML092_NE

Preliminary

125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20

975
970
965
960

ExistROW

964.91
43.03

3:1

966.37
37.26

967.80
30.88

2.00%

967.90
25.83

966.57
25.83

444+50.00

975
970
965
960

ExistROW

964.82
44.24

3:1

966.32
39.74

967.74
33.38

2.00%

967.89
25.86

966.56
25.86

444+25.00

975
970
965
960

ExistROW

964.38
47.74

3:1

966.22
42.22

967.64
35.88

2.00%

967.84
25.88

966.50
25.88

444+00.00

125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.99

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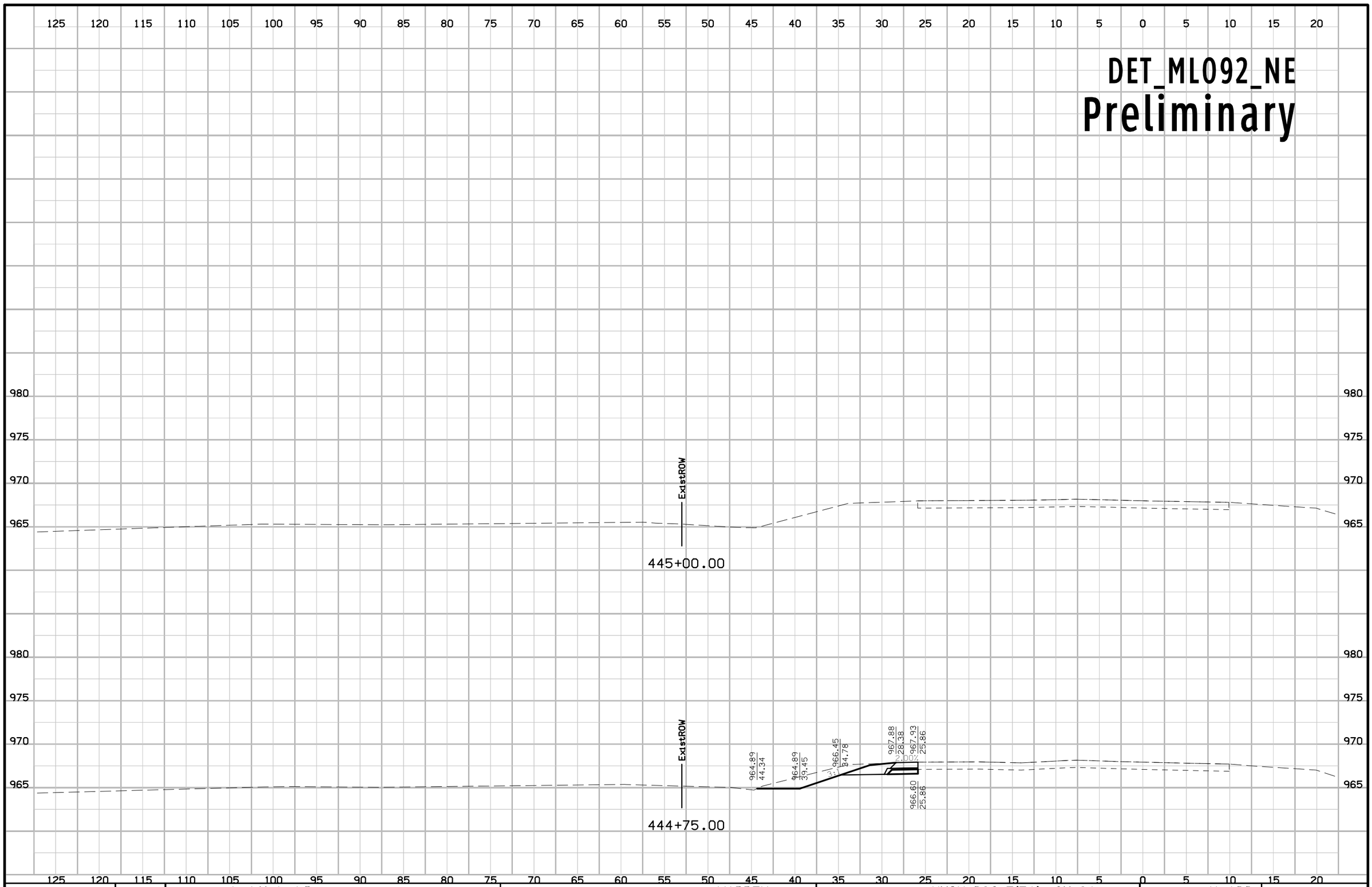
DET_ML092_NE

Preliminary

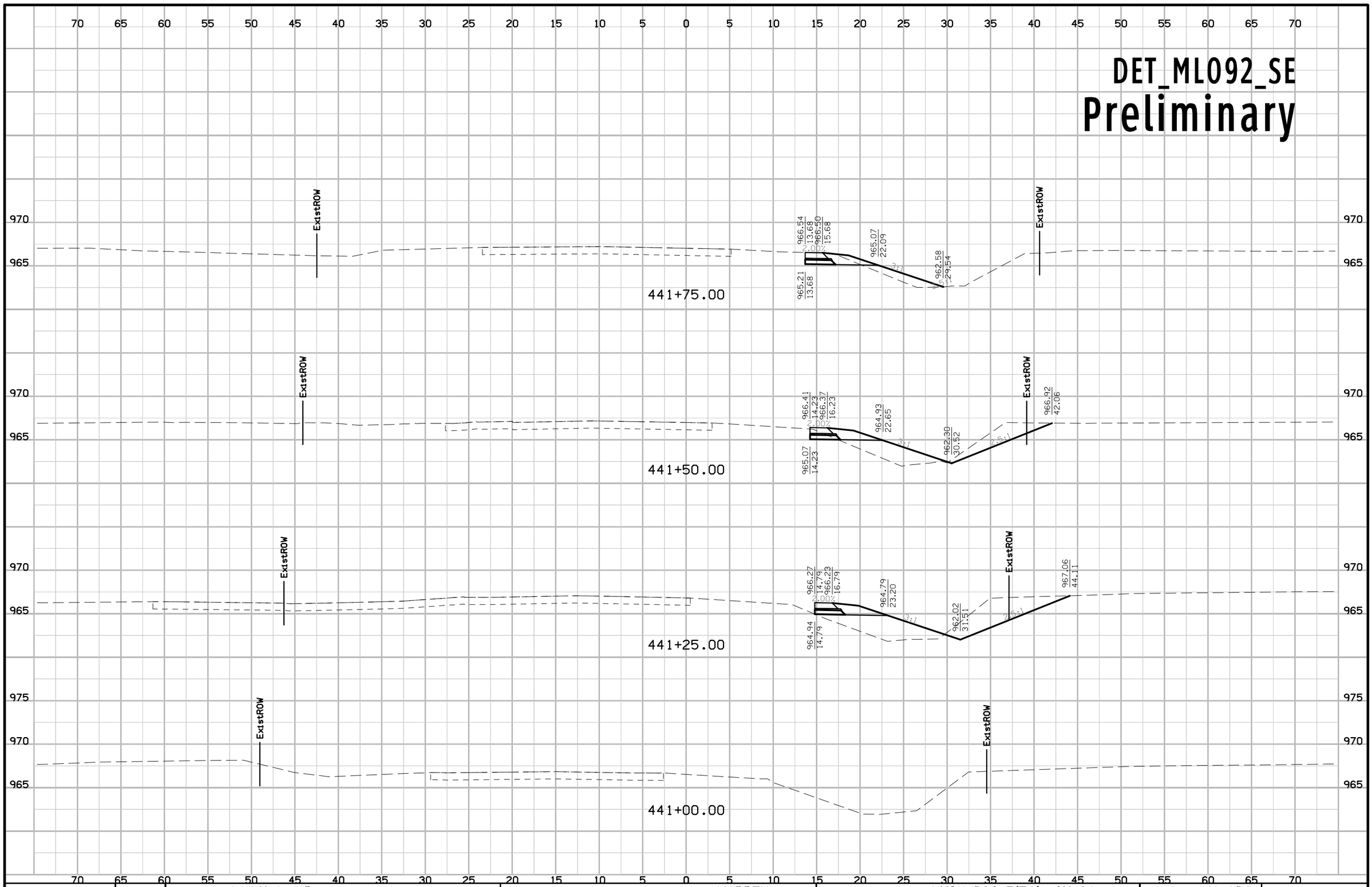


ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.100

9:20:32 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X15_DET_ML092_NE.sht

DET_ML092_SE

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.101

9:30:56 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X16_DET_ML092_SE.sht

DET_ML092_SE

Preliminary

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

970
965

ExistROW

967.17
12.01
2.00%
967.09
16.00
965.66
22.39
3:1
962.78
31.03
2.5:1
966.36
39.96
ExistROW

965.84
12.01

442+50.00

970
965

ExistROW

967.06
12.54
2.00%
966.99
15.98
965.56
22.38
3:1
962.73
30.96
2.5:1
966.19
39.52
ExistROW

965.73
12.54

442+25.00

970
965

ExistROW

967.05
12.58
2.00%
966.99
15.97
965.55
22.37
3:1
962.73
30.94
2.5:1
966.18
39.47
ExistROW

965.72
12.58

442+23.76

970
965

ExistROW

966.98
13.14
2.00%
966.93
15.70
965.50
22.10
3:1
962.69
30.55
2.5:1
966.11
39.13
ExistROW

965.65
13.14

442+00.00

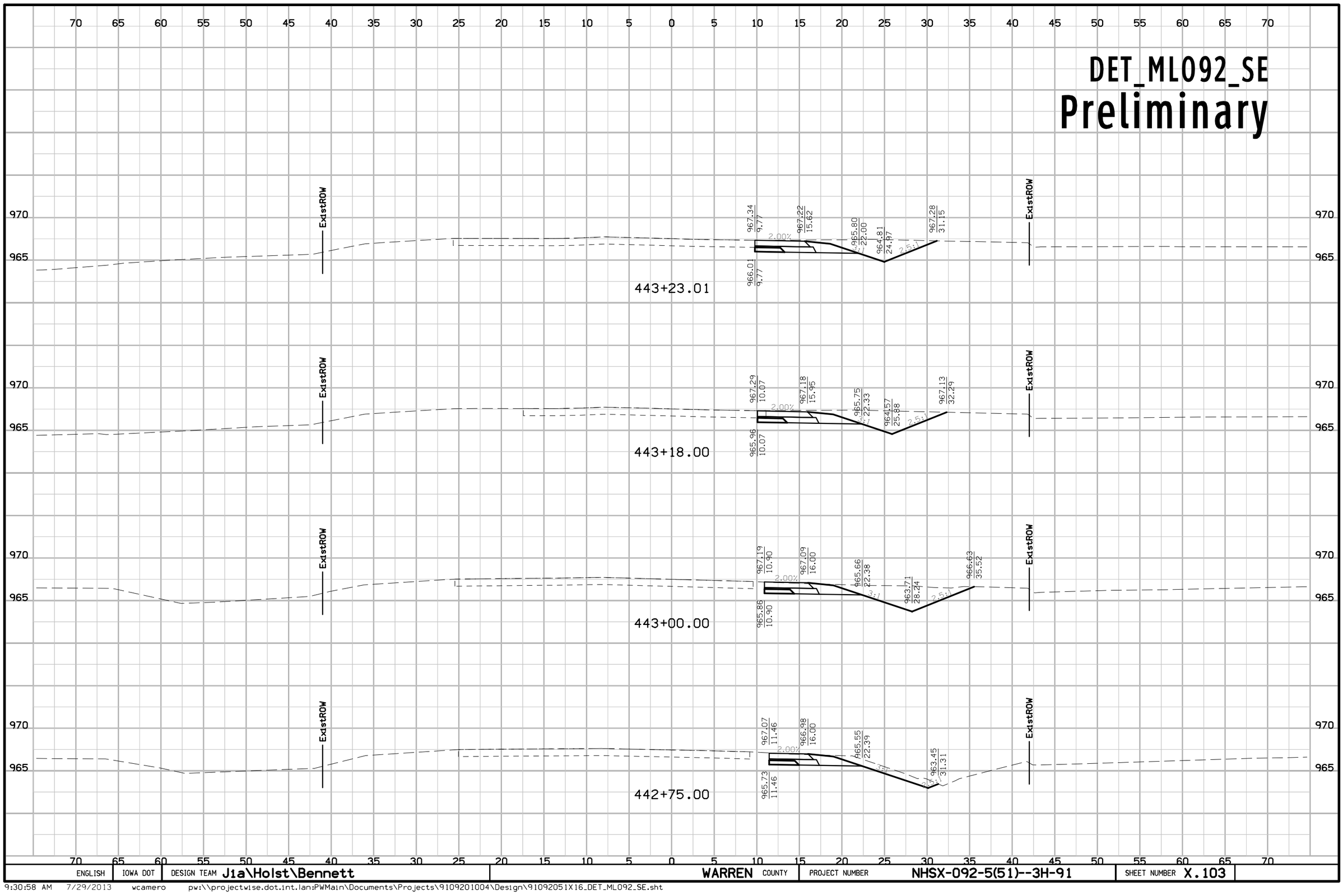
70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.102

9:30:57 AM 7/29/2013 wcamero pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X16_DET_ML092_SE.sht

DET_ML092_SE

Preliminary



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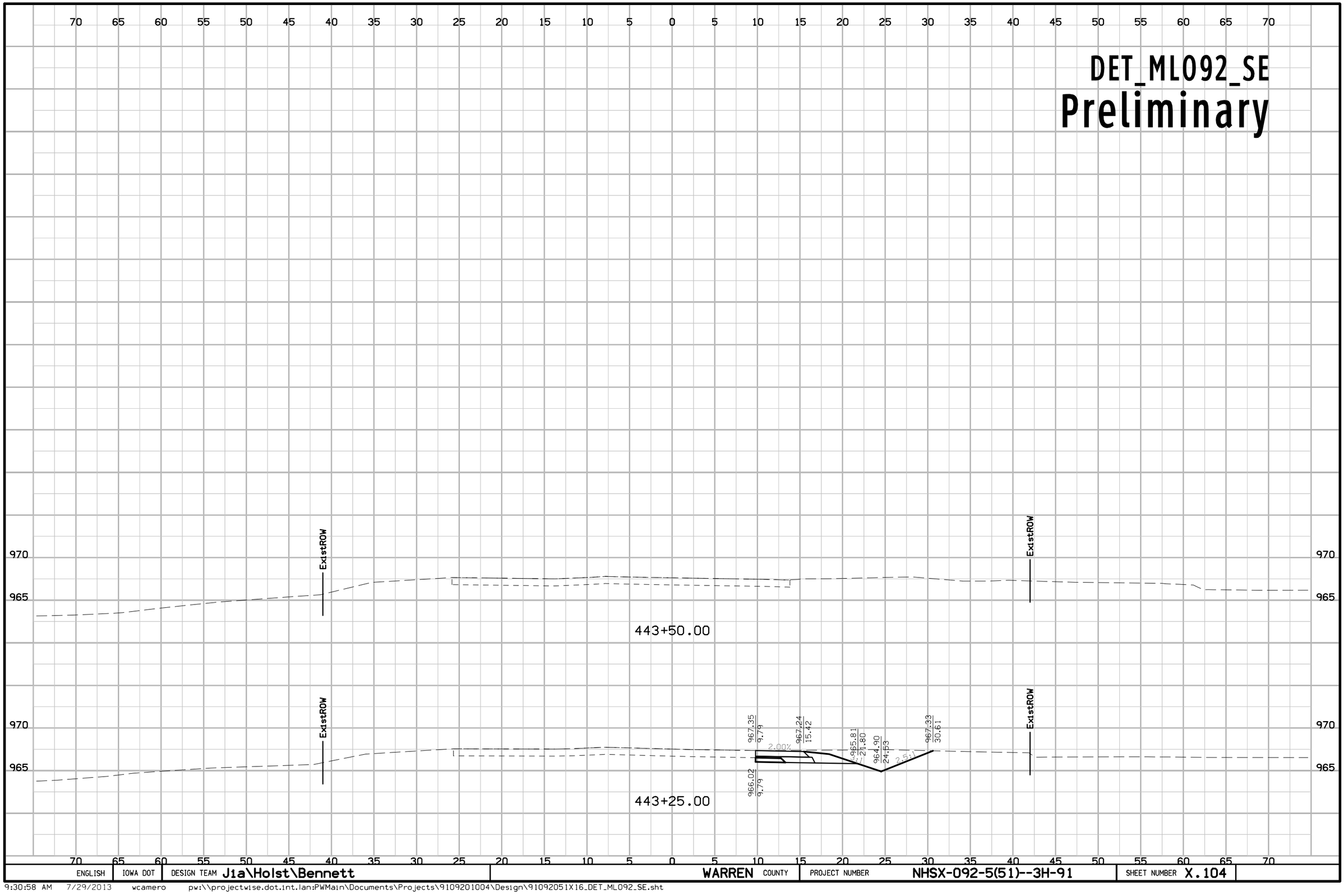
DET_ML092_SE

Preliminary



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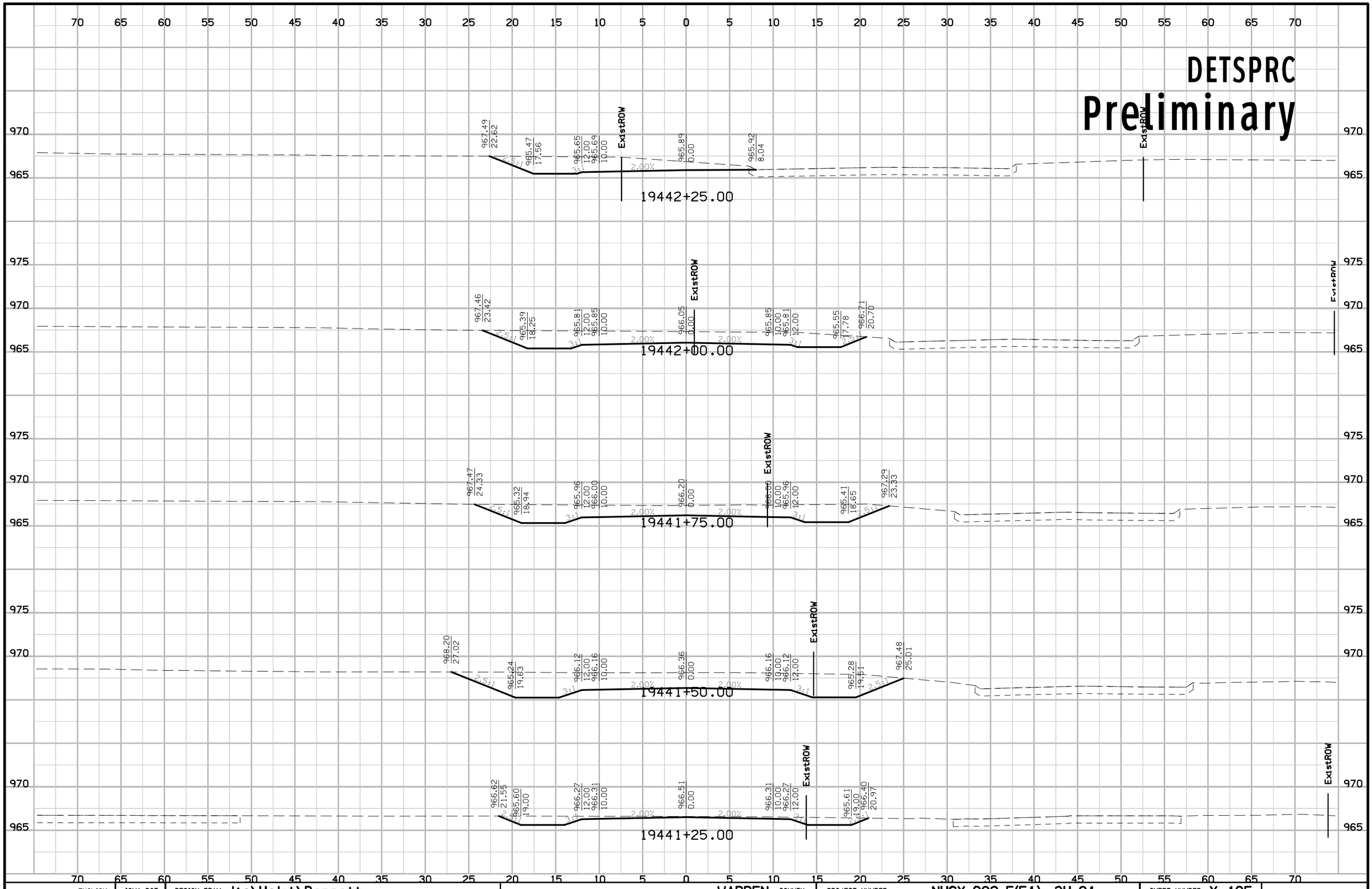
DETSPRC

Preliminary



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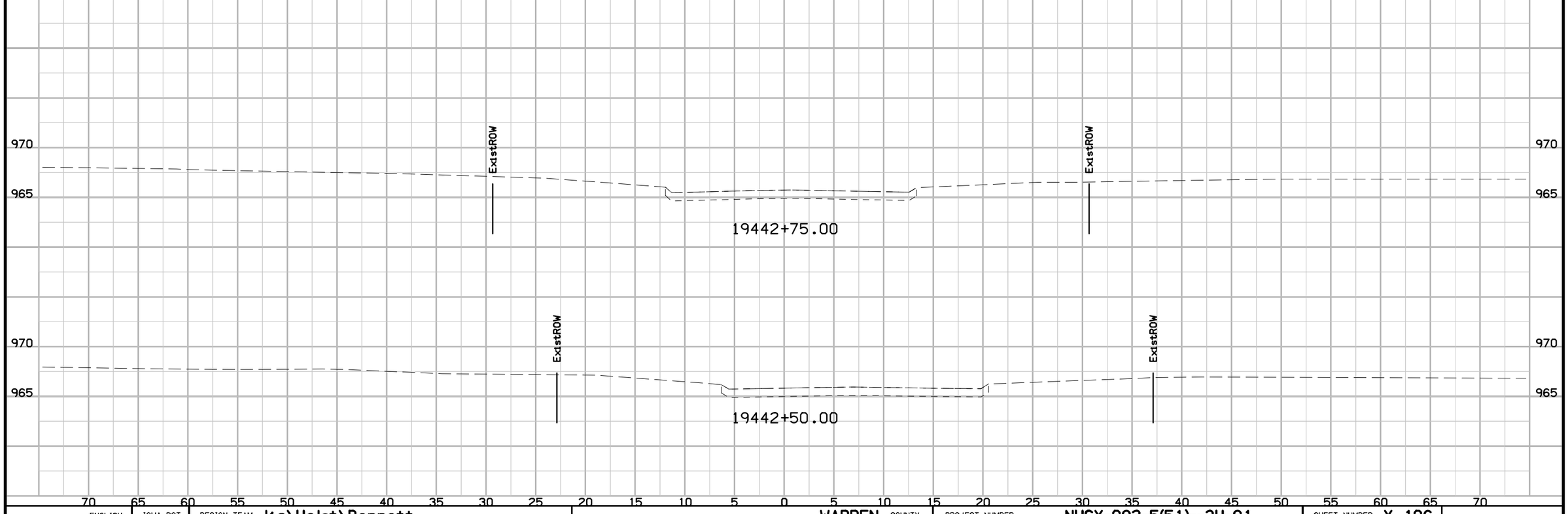
DETSPRC

Preliminary



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ENGLISH	IOWA DOT	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.106

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