IOWA DEPARTMENT OF TRANSPORTATION

TO OFFICE:	District 3	**DATE:**	July 19, 2012
ATTENTION:	Tony Lazarowicz	**REF. :**	Woodbury County NHSX-020-1(121)--3H-97
FROM:	Yanxiao Jia		PIN: 98-97-020-010-02 STP-031-1(32)--2C-97
OFFICE:	Design		PIN: 98-97-020-010-03

SUBJECT: Field Exam – City of Correctionville

A field exam was held on June 21, 2012 to review the proposed plan for the reconstruction of U.S. 20 and relocated IA 31 in the City of Correctionville.

Those present for the field exam included the following: Tony Lazarowicz, Shane Tymkowicz, Darwin Bishop, Dixie Nelson, and Tony Babcock from District 3; Sharon Dumdei from the Office of Right of Way; Dave Claman from the Office of Bridges and Structures; Ryan Miller, Dave Fullarton, Allison Smyth, Tyler Schlueter, and Yanxiao Jia from the Office of Design; and Mike Frahm and Pat Langschwager from the City of Correctionville.

U.S. 20

U.S. 20 is functionally classified as a "commercial and industrial" route and is a service level "B" roadway.

The 2015 and 2035 estimated daily traffic are:

- 5,900 AADT and 7,400 AADT respectively with 24% truck traffic from existing IA 31 to Hackberry Street;
- 6,630 AADT and 8,260 AADT respectively with 26% truck traffic for the remainder of the project.

U.S. 20 will be designed for 50 mph. Reconstruction will start from just west of Aspen Street (relocated IA 31) east to approximately Sta. 10867+60, a total of 4,900 ft. The typical section will provide a 5-lane roadway with a 14 ft. center turn lane throughout the project. From Driftwood Street (existing IA 31) to Hackberry Street, the typical cross section will be 68 ft. (back-to-back) wide curbed roadway, which consists of two 15 ft. outside lanes (includes 3 ft. curb and gutter section), two 12 ft. inside lanes, and a 14 ft. wide center turn lane. The typical cross section will also provide 19 ft. wide shoulders behind the curb on both sides of the roadway which will provide the preferred 22 ft. wide clearzone from the edge of the 12 ft. outside traveled lane. A 6" standard curb will be constructed in order to better control access along both sides of the highway. The typical section for the rest of the project will have two 14 ft. outside lanes, two 12 ft. inside lanes, and a 14 ft. center turn lane with 8 ft. shoulders and 6:1/3.5 foreslopes. Four foot of these shoulders will be paved.

U.S. 20 will be widened to the north side in order to reduce impacts to the businesses on the south side.

An eastbound right turn lane will be provided at the intersection of U.S. 20 and relocated IA 31/Aspen Street.

New storm sewer will be installed in the curbed section on both sides of the roadway to facilitate drainage and accommodate staged construction. Any sanitary sewer or water line relocation will be designed and paid for by the city.

Drainage on the south side, west of Aspen Street/Relocated IA 31, was discussed. Currently water from the south ditch drains north through a crossroad pipe. One suggestion was to eliminate this pipe and keep the drainage on the south side and drain it to the Little Sioux River. A flap gate will need to be used to control water from the river backing into the south ditch. After the field exam, Preliminary Bridge expressed their preference of utilizing a crossroad pipe.

Relocated IA 31

IA 31 is classified as an access route and is a service level "C" roadway. The 2015 and 2035 estimated daily traffic is 1,450 AADT and 1,850 AADT respectively with 21% truck traffic.

Relocated IA 31 will also be designed for 50 mph. It will start from existing IA 31 on the west side of Correctionville north to U.S. 20, a distance of approximately 3,700 ft. The typical section will consist of two 14 ft. lanes with 8 ft. granular shoulders and 6:1/3.5 foreslopes.

The horizontal alignment for relocated IA 31 will be shifted west to reduce impacts to the Mid-American transmission line, which is located on the east side of Aspen Street. It was discovered, after the Field Exam, that this transmission line is on private easement. In order to provide a 15' permanent highway right of way beyond the top of the backslope, the horizontal alignment will need to be shifted further west to avoid relocating most of the power poles.

Preliminary Bridge proposed to use 36" pipes under IA 31 to accommodate drainage. These pipes were sized to ensure water level on the east side of relocated IA 31 will recede at least at the same rate as the Little Sioux River after a major flooding event. Profile grade from 5th Street to Sioux Avenue will be lowered to improve sideroad connections.

Intersection returns at Sioux Avenue, 5th Street, and 7th Street should be designed to accommodate a WB-67. Side road connections for both 5th and 7th Street will have granular surfacing with a 28 ft. wide top width.

It is likely that access control for IA 31 will be Priority IV. In order to meet the 600 ft. spacing requirement, it is recommended to relocate the park entrance, at Sta. 2178+50 (left side), south to line up with 5th Street, and the field entrance at Sta. 2178+50,

right side, to a location along the north side of 5th Street.

It was also recommended that stop sign rumble strips be installed on the west approach of the existing IA 31 at the intersection of existing IA 31/relocated IA 31. This will need to be reviewed with Traffic and Safety according to the Design Manual.

Staging

These two projects will be tied and built using staged construction. Traffic on U.S. 20 and IA 31 shall be maintained at all times. The following is a summary of what was discussed:

- Hackberry Street from U.S. 20 north to IA 31 will be resurfaced with 2" HMA material to accommodate IA 31 traffic when the intersection of existing IA 31/U.S. 20 is under construction.
- Temporary pavement will be utilized on the south side of U.S. 20.
- During construction, two-way traffic will be maintained on existing U.S. 20 and the temporary pavement while the westbound lanes are constructed. Traffic will then be switched over to the newly completed westbound lanes while the eastbound lanes are constructed.
- The city requested that Hackberry Street and existing IA 31, north of U.S. 20, not be closed at the same time.
- It is recommended to maintain traffic on Sioux Avenue, if possible, during the fall harvest season in order to accommodate delivery trucks to the grain elevator, which is located between 5th Street and 7th Street.
- The district will discuss with the county to see if County Road L36/Osceola Avenue can be closed to speed up construction.
- Coordinate staging with the projects west (east of Moville to west of Correctionville) and east (east of Correctionville to west of the west junction with U.S. 59) of this project.
- Use of 35 mph as the regulatory speed limit during construction was also discussed. There were some concerns about reducing speed limit from 55 mph to 35 mph after a 6% grade for EB traffic on the west end of the project. District and Design will work together to resolve this issue.

Additional Survey Needs

It was identified that the following additional survey will be required:

- Entrance for DOT maintenance garage/nursing home
- 5th Street, 7th Street, and the relocated park entrance

Action Items for the District

- Obtain survey for the DOT maintenance garage entrance
- Work with the city to locate water line along Fir Street and U.S. 20 from Fir Street to Hackberry Street
- Work with the city on possible sanitary sewer and water main relocations

- Work with the county on possible closure of County Road L36/Osceola Avenue during construction

A bid item for Field Lab should be included in the plans. In order to accommodate temporary access for entrances and reduce extra work orders during construction, the District requested that the plans include a bid item for Granular Surfacing on Road and additional quantity for Class 10 fill material.

Permanent and temporary right of way will be required.

The Class 10 borrow needs are approximately 10,000 cubic yards for U.S. 20 and 33,300 cubic yards for IA 31. The borrow material will be from the west project (east of Moville to west of Correctionville).

No plans are included in this submittal; however, plan and cross section sheets may be viewed as pdf files in folder \\ntdfs\(W)DataStor\Projects2\97020050A98\Design\Section2\Design Events\D2.

These projects are currently scheduled for a February 2015 letting. The construction costs are estimated to be $6,874,700 for U.S. 20 and $1,479,500 for IA 31 respectively. There was no concept for these projects.

YJ:mk

cc:
M. J. Dillavou
M. J. Kennerly
D. L. Maifield
K. K. Patel
R. L. Stanley
T. Crouch
M. D. Masteller
C. B. Brakke
D. A. Popp
D. R. Claman
B. Hofer
Tony Babcock
Dixie Nelson
Dave Fullarton
M. J. Sankey
D. A. Widick
T. L. Gettings
J. P. Rost
S. C. Marler
L.C. Funnell
Donna Matulac
J. W. Smith
B. Bradley
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Sharon Dumdei
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S. J. Gent
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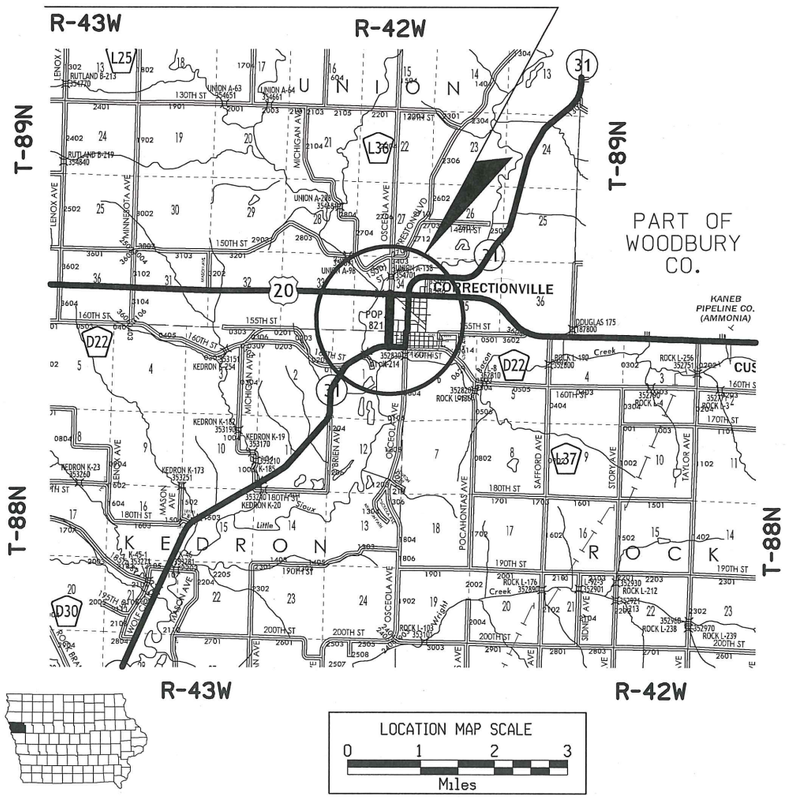
D. R. Tebben
M. A. Swenson
N. L. McDonald
G. A. Novey
J. Vortherms
Tyler Schlueter
Darwin Bishop
Ryan Miller

LETTING DATE 2-17-2015

WOODBURY CO. UNKNOWN PAVEMENT - GRADE AND NEW STP-031-1(32)--2C-97

INDEX OF SHEETS

PROJECT LOCATION



Iowa Department of Transportation

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

WOODBURY COUNTY

UNKNOWN PAVEMENT - GRADE AND NEW

Ia. 31 From SW Of Correctionville N. To US 20

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

For Mileage Summary Refer to Sheet A.2

DLM 7-12-12

For Project Location Map Refer to Sheet A.2

REVISIONS

TOTAL
PROJECT IDENTIFICATION NUMBER
98-97-020-010-03
PROJECT NUMBER
STP-031-1(32)--2C-97
R.O.W. PROJECT NUMBER
STPN-031-1(33)--2J-97

Field Exam Plans

Tony Lazarowicz
Shane Tymkowicz
Darwin Bishop
Dixie Nelson
Tony Babcock
} Dist. 3

Sharon Dundei — ROW

Dave Claman — Preliminary Bridge

Ryan Miller
Dave Fullerton
Allison Smyth
Tyler Schlueter
} Design

Yanxiao Jia
Mike Frahm
Pat Langschwager
> City of Comectionville

D3 PLAN – Date: 09-07-2012

D5 PLAN – Date: 02-01-2013

D8 PLAN – Date: 12-02-2014

Estimated Borrow: CY

DESIGN DATA URBAN		
2015 AADT	1,450	V.P.D.
2035 AADT	1,850	V.P.D.
2035 DHV	--	V.P.H.
TRUCKS	21	%
Total Design ESALs	--	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	X	Primary Signature Block
X	X	X

PRELIMINARY PLANS

Subject to change by final design.

D2 PLAN – Date: 06-21-2012

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER A.1

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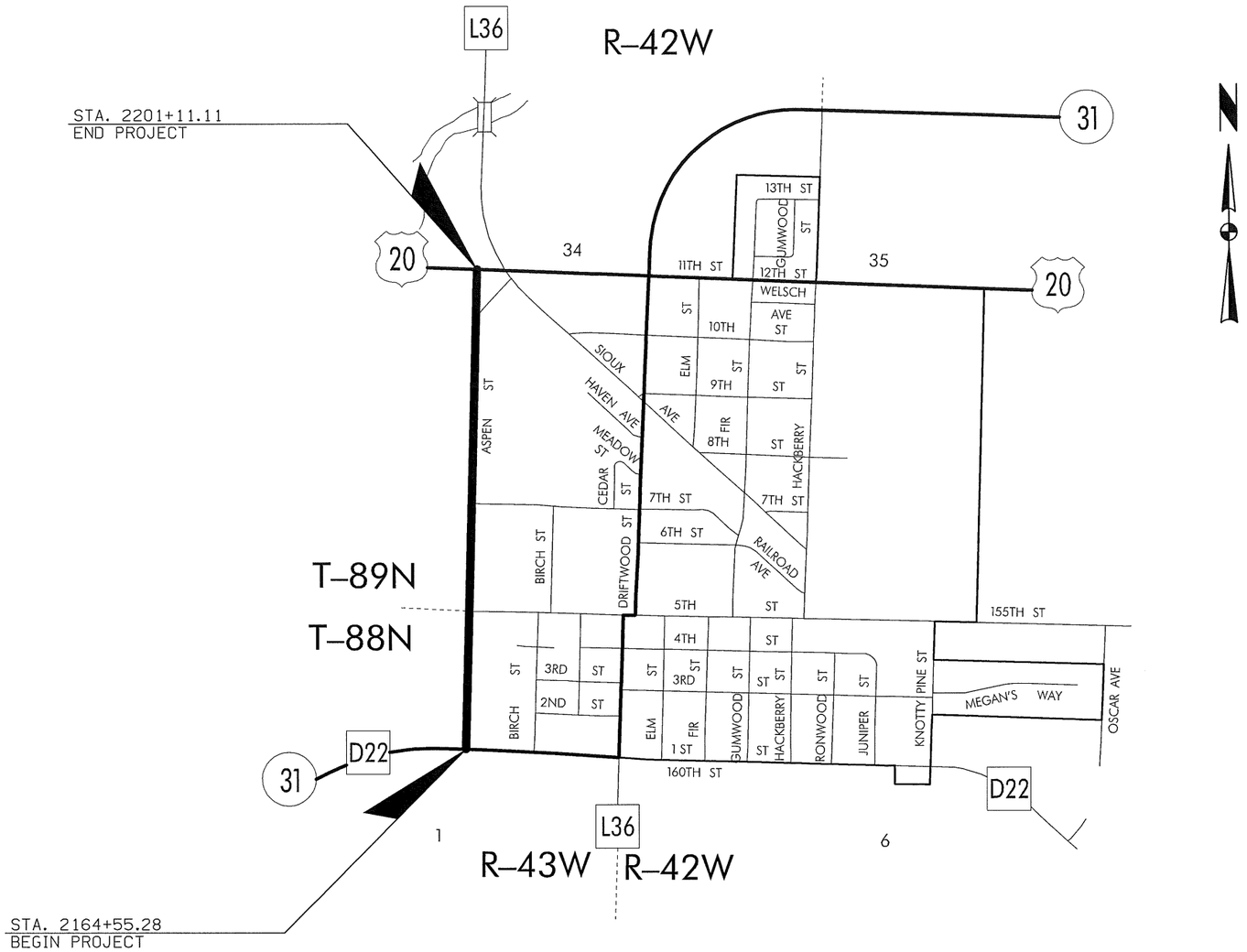
MILEAGE SUMMARY

Div.	Location	Lin. Ft.	Miles
1	IA 31 Sta. 2164+64.58 to Sta. 2201+11.11	3646.53	
	Total Length of Roadway	3646.53	0.691
	Total Length of Project	3646.53	0.691



HIGHWAY AND STREET MAP OF

CORRECTIONVILLE

IOWA

LOCATION MAP SCALE
0 0.1 0.2 0.3
Miles

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER A.2

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FIELD EXAM NOTES

FIELD EXAM QUESTIONS

DISTRICT TO PROVIDE

1. Names and Addresses of Affected Utility Companies (Y) (N) _____
2. List of special events (Y) (N) _____
3. Clearing and Grubbing (Y) (N) _____
4. District to remove/replace signs or Contractor? (Y) (N) _____

DISCUSS/REVIEW WITH DISTRICT

1. Furnished borrow? (Y) (N) _____
2. Field Lab? (Y) (N) _____
3. Field Office? (Y) (N) _____
4. Construction Survey? (Y) (N) _____
5. UAC ML crossroad culvert? UAC SR/entrance culverts? (Y) (N) _____
6. Relocate field entrance at approx. Sta. 2182+50? (Y) (N) _____
7. Relocate park entrance across from sideroad? (relocate field ent.?) (Y) (N) _____
8. Side road closures during construction? (Stage/alternate?) (Y) (N) _____
9. Design Speed/Speed Limit (Y) (N) _____

50 mph

10. Sioux Ave. Turning Path – Truck Type? (Y) (N) WB-67
11. Park Ent. Turning Path – Truck Type? (Y) (N) _____
12. Park Ent. Pave? Shoulder, Shldr + 20', or to End of Returns? (Y) (N) _____
13. Rock Field Ent's? To ROW, or Tie-In? (Y) (N) _____
14. Staging at BOP? Alternating one-way traffic on existing IA 31? (Y) (N) _____
15. (Y) (N) _____
16. (Y) (N) _____

CHECK/VERIFY ON FIELD EXAM

1. WB-67 (N+S Ends, 5th St., 7th St.?) (Y) (N) _____
2. (Y) (N) _____
3. (Y) (N) _____
4. (Y) (N) _____

Preferred Clear-zone Distances (feet).

design speed	design ADT	FORESLOPES			BACKSLOPES		
		6:1 or flatter	Steeper than 6:1, up to and including 4:1	Steeper than 4:1	Steeper than 4:1*	4:1 or flatter, up to 6:1	6:1 or flatter
40 mph or less	ADT < 750	10	10	**	10	10	10
	750 ≤ ADT < 1500	12	14	**	12	12	12
	1500 ≤ ADT < 6000	14	16	**	14	14	14
	ADT ≥ 6000	16	18	**	16	16	16
45 – 50 mph	ADT < 750	12	14	**	10	10	12
	750 ≤ ADT < 1500	16	20	**	12	14	16
	1500 ≤ ADT < 6000	18	26	**	14	16	18
	ADT ≥ 6000	22	28	**	16	20	22
55 mph	ADT < 750	14	18	**	10	12	12
	750 ≤ ADT < 1500	18	24	**	12	16	18
	1500 ≤ ADT < 6000	22	30	**	16	18	22
	ADT ≥ 6000	24	32	**	18	22	24
60 mph	ADT < 750	18	24	**	12	14	16
	750 ≤ ADT < 1500	24	32	**	14	18	22
	1500 ≤ ADT < 6000	30	40	**	18	22	26
	ADT ≥ 6000	32	44	**	22	26	28
65 – 70 mph	ADT < 750	20	26	**	12	16	16
	750 ≤ ADT < 1500	26	36	**	16	20	22
	1500 ≤ ADT < 6000	32	42	**	20	24	28
	ADT ≥ 6000	34	46	**	24	30	30

* Backslopes as steep as 2.5:1 can be considered as part of the clear zone, as long as they are relatively smooth and do not contain any fixed objects. Refer to Section 8A-4 of the Design Manual for information regarding backslopes steeper than 2.5:1.

** Since a vehicle traveling on a slope steeper than 4:1 is likely to be diverted to the bottom of the slope, the width of any slope steeper than 4:1 cannot be counted in the clear zone determination. Refer to Section 8A-2 of the Design Manual for information on providing clear recovery areas at the base of steep slopes.

Acceptable Clear-zone Distances (feet).

design speed	design ADT	FORESLOPES			BACKSLOPES		
		6:1 or flatter	Steeper than 6:1, up to and including 4:1	Steeper than 4:1	Steeper than 4:1*	4:1 or flatter, up to 6:1	6:1 or flatter
40 mph or less	ADT < 750	7	7	**	7	7	7
	750 ≤ ADT < 1500	10	12	**	10	10	10
	1500 ≤ ADT < 6000	12	14	**	12	12	12
	ADT ≥ 6000	14	16	**	14	14	14
45 – 50 mph	ADT < 750	10	12	**	8	8	10
	750 ≤ ADT < 1500	14	16	**	10	12	14
	1500 ≤ ADT < 6000	16	20	**	12	14	16
	ADT ≥ 6000	20	24	**	14	18	20
55 mph	ADT < 750	12	14	**	8	10	10
	750 ≤ ADT < 1500	16	20	**	10	14	16
	1500 ≤ ADT < 6000	20	24	**	14	16	20
	ADT ≥ 6000	22	26	**	16	20	22
60 mph	ADT < 750	16	20	**	10	12	14
	750 ≤ ADT < 1500	20	26	**	12	16	20
	1500 ≤ ADT < 6000	26	30	**	14	18	24
	ADT ≥ 6000	30	30	**	20	24	26
65 – 70 mph	ADT < 750	18	20	**	10	14	14
	750 ≤ ADT < 1500	24	28	**	12	18	20
	1500 ≤ ADT < 6000	28	30	**	16	22	26
	ADT ≥ 6000	30	30	**	22	26	28

* Backslopes as steep as 2.5:1 can be considered as part of the clear zone, as long as they are relatively smooth and do not contain any fixed objects. Refer to Section 8A-4 of the Design Manual for information regarding backslopes steeper than 2.5:1.

** Since a vehicle traveling on a slope steeper than 4:1 is likely to be diverted to the bottom of the slope, the width of any slope steeper than 4:1 cannot be counted in the clear zone determination. Refer to Section 8A-2 of the Design Manual for information on providing clear recovery areas at the base of steep slopes.

Preferred Effective Shoulder widths for Two-Lane Highways (values shown in feet)

Auxiliary Lanes (includes turn lanes)	6

Two-Lane Highways	Outside	
	Effective Shoulder	Paved
Any route with a designated bike trail	10	full width
On all curves with a radius of 954.93' or less	10	full width
On roadways approaching urban areas (due to increased bike traffic)	10	full width
On roadways with an existing ADT > 5000	10	6
On all other NHS	10	4
On non-NHS routes with an existing ADT > 3000	10	4

Acceptable Shoulder widths for Two-Lane Highways (values shown in feet)

Auxiliary Lanes (includes turn lanes)		4	
Two-Lane Highways		Effective Shoulder	Paved
Design Year Traffic in Vehicles / Day	under 400	4	2
	400-2000	6	2
	over 2000	8	2

Last Updated 7/29/2011		Acceptable Values	Preferred Values	Project Values	Comments
Design Element		Roadway Type: Rural Two-Lane Highways	Roadway Type: Rural Two-Lane Highways	Rural Two-Lane Highways	
design speed (mph)		Cannot be less than the posted speed limit	60	X 50	Verify Design Speed; 8100' R curve at N. end = 55mph
full depth paved width (ft)		12	14	14	
design lane width (ft)		11	12	12	
pavement cross-slope (%)		1.5% minimum, 3% maximum	2%, However, when adjacent lanes slope in the same direction, increase slope by 0.5% per lane up to 3%	2	
effective shoulder width and type (see Section 3C-4)		See Shoulder Tables	See Shoulder Tables	10	
shoulder cross-slope (%)		not less than the adjacent lane, 2 to 6% for paved, 4 to 6% for granular, 6 to 8% for earth	4	4	
foreslope (see Roadway Typical Cross Sections)	adjacent to shoulder	3:1	10:1 for 4' then 6:1	10:1 for 4' then 6:1	
	beyond standard ditch depth and design clearzone	3:1	3.5:1		
normal outside ditch (depth × width) (ft)		--	5 x 10	5 x 10	Verify Ditch Depth
Backslope (For cut areas greater than 25 feet, contact the Soils Design Section for assistance with backslope benches.)		2.5:1	3:1	3:1	
transverse slopes	w/ drainage structures	6:1	8:1	8:1	
	w/o drainage structures	6:1	10:1	10:1	
	at sideroads	6:1	10:1	10:1	
Level of Service		B	--		

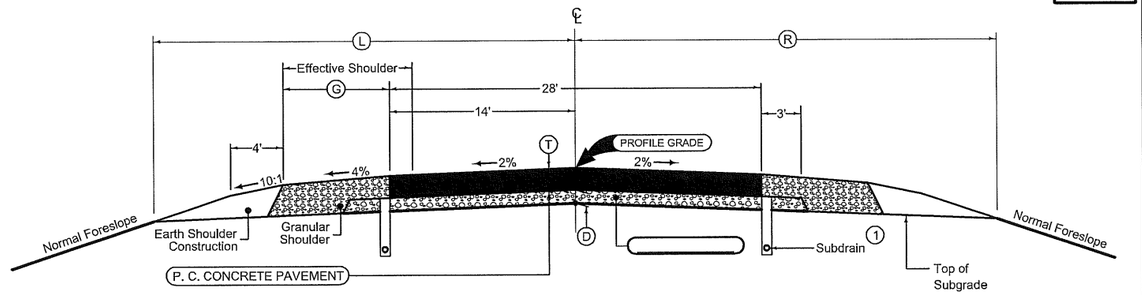
LOCATION			MAINLINE				SHLDR
ROAD IDENTIFICATION	STATION TO STATION		(T) Inches	(D) Inches	(L) Feet	(R) Feet	(G) Feet
IA 31	2164+55.28	2201+11.11	X	X	14	14	8
5th St.	75+14.00	76+86.56	X	X	14	14	8
7th St.	83+14.00	84+87.36	X	X	14	14	8
Sioux Ave.	99+14.07	100+00.00	X	X	14	14	8

Dimensions are symmetrical about the centerline.

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

(1) Refer to RF-19C.

2P_G-G
04-20-10



Mainline Pavement:

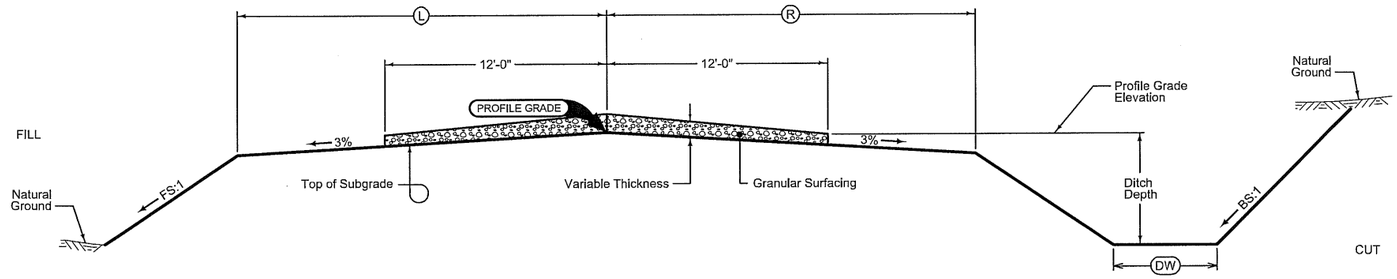
Transverse joints: CD at 20' spacing

Longitudinal joint: L-2

2-LANE PCC PAVING (Granular Shoulders)

LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	FS	BS	(DW) Feet
5th St.	76+86.56	78+35.00	14	14	3	3	X
Park Entrance	77+00.00	80+02.53	14	14	3	3	X
7th St.	84+87.36	86+00.00	14	14	3	3	X

2_GradeGran
04-17-12



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

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

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

GRADING AND GRANULAR SURFACING

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER B.1

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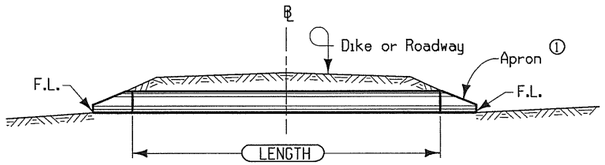
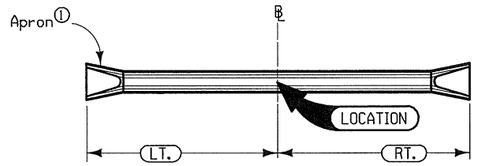
04-30-02



SECTION



PLAN

Notes:

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

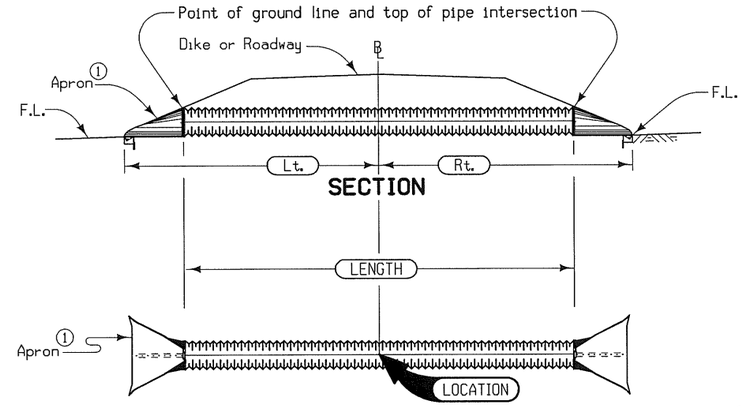
Skew angle is the angle which one end of the pipe is ahead (by stationing) of line perpendicular to the ℄ (example skew Rt. ahead 30°).

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

1601
10-16-12



SECTION

PLAN

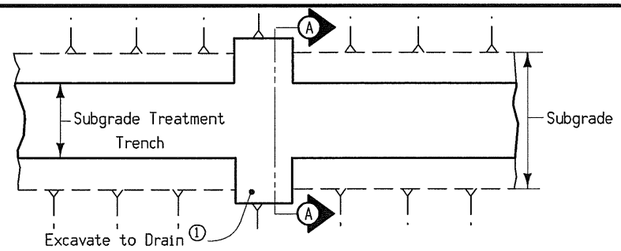
℄ shall be ℄ of roadway, dike, survey, or other; as detailed on plans.

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

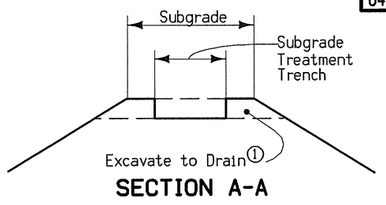
① See Standard Road Plan RF-3 for Concrete or RF-5 for Metal and Polyethylene.

UNCLASSIFIED PIPE CULVERT

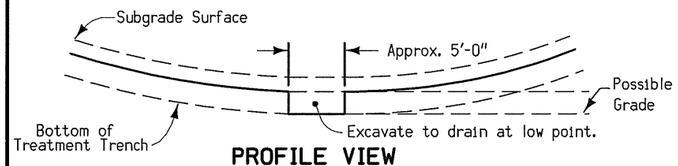
8301
04-20-04



PLAN VIEW



SECTION A-A



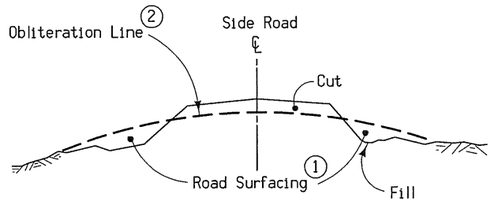
PROFILE VIEW

① The contractor shall excavate a portion of subgrade as necessary to provide drainage for the treatment trench. When the subgrade treatment is granular soils, the contractor shall excavate a portion of the subgrade and backfill it with the granular soils every 300 feet.

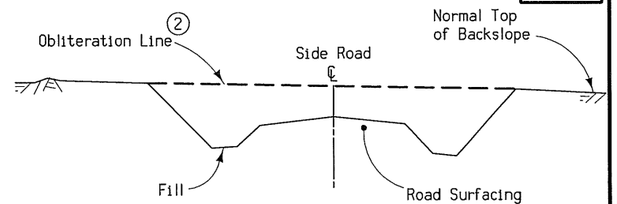
This excavation shall be considered incidental.

TYPICAL DETAILS OF DRAIN FOR SUBGRADE TREATMENT TRENCH

4302
04-03-01



Fill Section



Cut Section

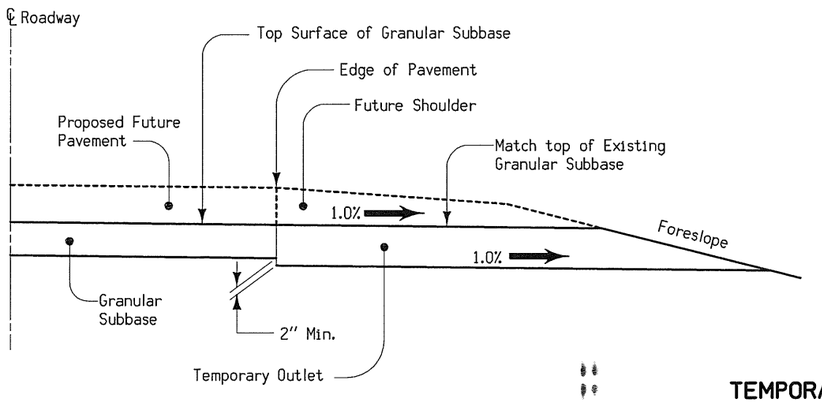
① Existing road surfacing (granular material) shall be placed as shown unless otherwise directed by the Engineer or provided for in the detail project plans.

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

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

TYPICAL DETAILS FOR OBLITERATION EXISTING ROADBED

8303
10-22-93



NOTES:

When granular subbase is placed under conditions where positive drainage is not present, a temporary outlet shall be constructed by placing a granular subbase 'French' drain a minimum 18" wide at the location tabulated for a future longitudinal subdrain outlet. This work shall be considered incidental to "Granular Subbase".

TEMPORARY OUTLET FOR GRANULAR SUBBASE DRAINAGE

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER B.2

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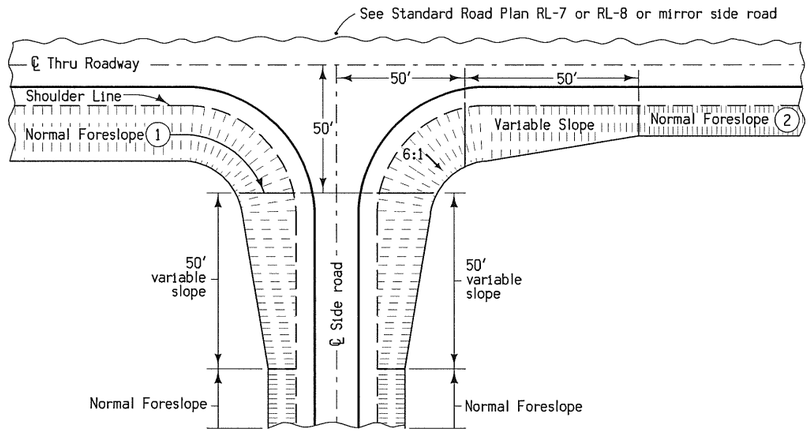
2116
04-15-08

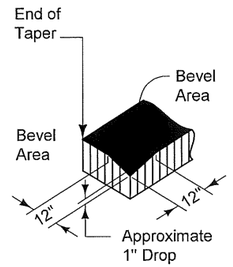


(1) For normal foreslopes 6:1 or flatter.

(2) For normal foreslopes steeper than 6:1.

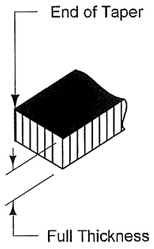
SIDE ROAD GRADING

7101
04-20-10



DETAIL 'A'

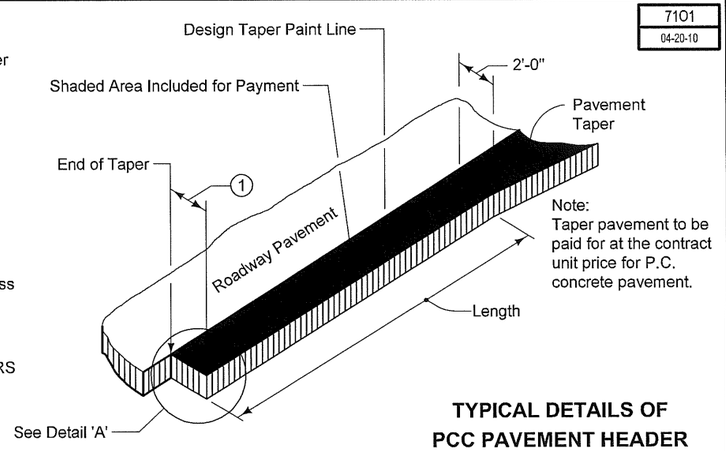
FOR
GRANULAR SHOULDERS



DETAIL 'A'

FOR
PAVED SHOULDERS

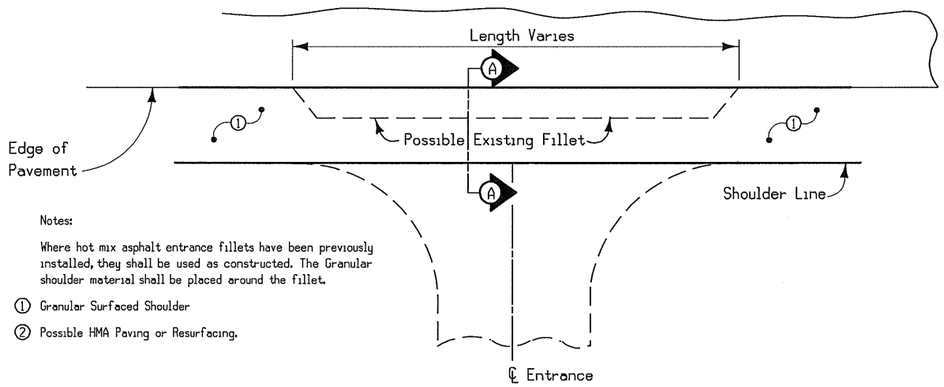
(1) Normal width is 2'-0". Construct 4'-0" width when butting into 4' wide HMA shoulders (See Typical 7154A).



Note:
Taper pavement to be paid for at the contract unit price for P.C. concrete pavement.

TYPICAL DETAILS OF PCC PAVEMENT HEADER

7117
10-02-01



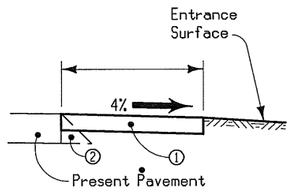
Notes:

Where hot mix asphalt entrance fillets have been previously installed, they shall be used as constructed. The Granular shoulder material shall be placed around the fillet.

(1) Granular Surfaced Shoulder

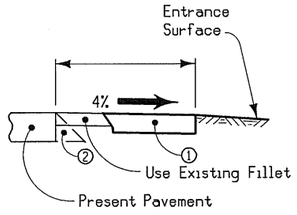
(2) Possible HMA Paving or Resurfacing.

Plan



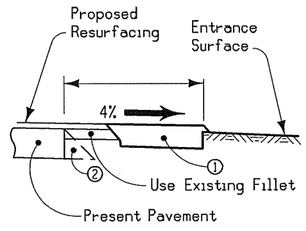
Section A-A

Without Fillet



Section A-A

With Previous Fillet

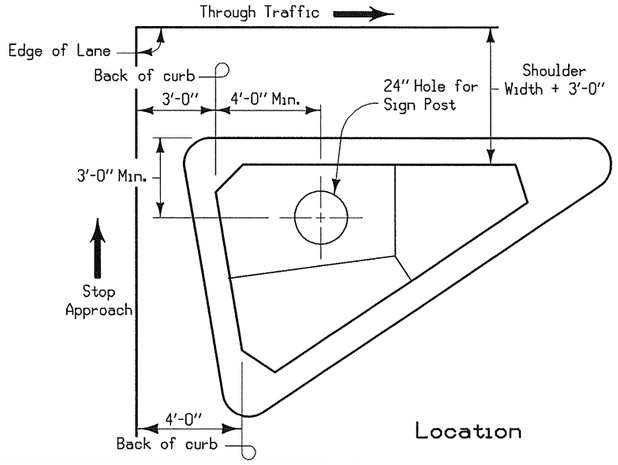


Section A-A

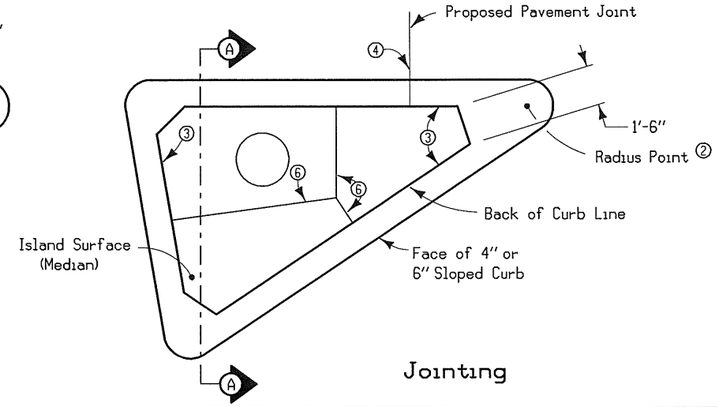
With Previous Fillet
And Resurfacing Less than 1½"

GRANULAR SHOULDER CONSTRUCTION THRU ENTRANCES

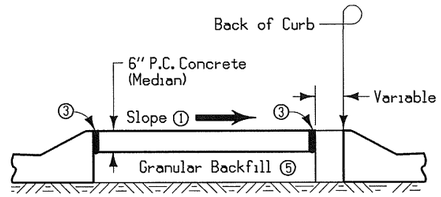
6144
04-19-11



Location



Jointing



Section A-A

① Surface of island shall be shaped as necessary to drain.

② Radius point is located at the back of curb line. Contractor shall pave across and between curbs on a straight line as indicated.

③ 'E' Joint, see PV-101.

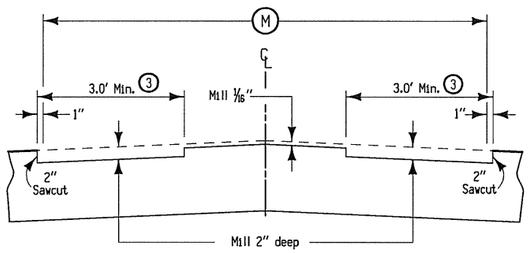
④ Construct 'C' Joint in Curb as needed to continue intersection pavement joints. See PV-101.

⑤ The furnishing and placing of granular backfill shall be incidental to the price bid for Portland Cement Concrete Median.

⑥ 'C' Joints as required. See PV-101.

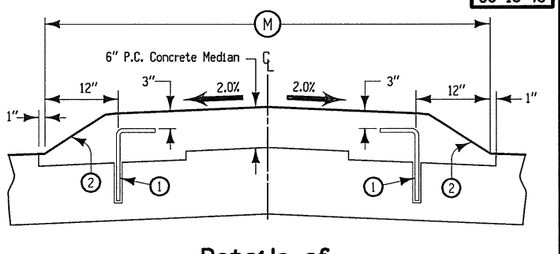
TRAFFIC ISLAND WITH SLOPED CURB

6150
06-15-93



Details of Milling

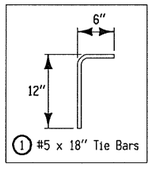
Notes:
This section may be appropriately modified in areas specifically designated by the Engineer.
Use 'C' joints in the doweled median and match the location of all transverse and longitudinal joints to the joints in the existing pavement.
Place tie bars at 24" C-C longitudinal spacing between joints in existing pavement. Drill ¾" holes for tie bars and epoxy to new pavement. See Tabulation 112-5 for additional details. Epoxy material shall be as specified in Materials IM491.11, appendix C.



Details of Median Placement

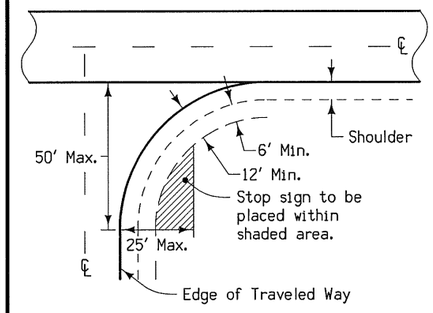
② 6" Sloped Curb

③ The contractor has the option to mill 2" across the total width of 'M'.

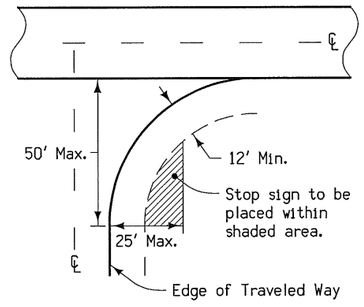


DOWELED MEDIAN WITH SLOPED CURB

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

SURVEY SYMBOLS

- SIGN SI Sign
- TDC Tree Deciduous
- TEV Evergeen Tree
- D Centerline Draw or Stream (Down)
- BLD Building or Foundation
- PPA Power Pole Co. 1
- EP Edge of Paved Roads (ML or SR)
- ENP Edge Paved Entrance & Park Lot
- SWK Sidewalk
- ENU Edge Unpaved Entrance & Parking
- LP LP. Tank
- FWD Wood Fence
- FCL Chain Link and Security Fence
- LUM Luminaire
- MH Utility Access (Manhole)
- TER Terrace
- EW Edge of Water
- SH Paved Shoulder
- CUL Culvert
- Flg FLG Flag Poles
- SHR Shrub
- RET Retaining Walls
- SNP Unpaved Shoulder
- BNK Stream Bank
- SIGN SI Sign
- EG Edge of Gravel Road
- SIGN SI Sign
- DIK Centerline of Dike or Dam
- BRG Bridge
- GDL Guard Rail Steel
- HDG Hedge Row
- WM Wind Mill
- B BIN Grain Bin
- TV Satelite TV Dish
- FHD Fire Hydrants
- RIP Rip-Rap

UTILITY LEGEND

- MidAmerican Energy
- Mid American(A)
- St.S. City of Holstein
- San. City of Holstein
- T1 Qwest Local Network
- T2 Frontier
- T3 Frontier formerly Western Iowa Telephone
- T4 Schaller Telephone
- T5 Knology
- W City of Holstein
- G MidAmerican Energy
- G2 Kaneb Pipeline Co.(B)
- E2 Northwest REC
- E3 Iowa D.O.T.
- F0 INS
- F02 Qwest
- F04 Mcleod
- F05 Knology
- F06 Prairie Wave formerly Knology
- F07 ICN
- F08 Schaller Telephone

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	J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER	STP-031-1(32)--2C-97	SHEET NUMBER	D.1

2:03:14 PM 3/26/2012 dfullar W:\Projects\9703101010\Design\97031032_lgd.sht

Install rumble strip
Review w/ Traffic and Safety

SCS PI Sta 1558+49.03
Δ = 32° 14' 26.39" (RT)
Theta = 4° 29' 59.99"
Ls = 300.00
Ts = 702.52
Ts = 702.52
Es = 80.21
P = 1.96
K = 149.97
Xc = 299.81
Yc = 7.85
LT = 200.06
ST = 100.06
LC = 299.92

Curve Data
Δ = 23° 14' 26.40" (RT)
T = 392.74
L = 774.69
R = 1,909.86
E = 39.96

KEDRON TWP.
T-88N R-43W
SEC. 1

CS Sta 1562+21.20

D22

31

Sta. 2164+55.28 ML
= 1564+55.33 SR, 11.97' Lt.
Begin Project

RT Sta 1563+21.26
600' R

88°52'44.63"
80' R

2160

2165

2170

Ground Line Intercept

200' R

31

1565

500' R

ST Sta 1565+21.20

80' R

Possible ~~21"x44"~~ Arch Pipe
44"x27"

200' R

Ground Line Intercept

31

D22

0 FEET 50

Relocated Mainline IA 31

VPI +55.280
Elv 1,117.05

VPI +90.000
Elv 1,117.38
K = 142
Len 65.00 ft
Des Spd 50

1,116.93

+0.958%

+0.500%

+0.500%

+00
1113.00

+0.80% Ditch Grade - Lt.

+50
1113.40

+00
1113.00

+0.20% Ditch Grade - Rt.

+50
1113.10

+0.13% Ditch Grade - Lt.

+0.10% Ditch Grade - Rt.

1125
1120
1115
1110
1105
1100
Lt
Rt

1,117.00 1,117.23 1,117.41 1,117.56 1,117.68 1,117.81 1,117.93 1,118.06 1,118.18 1,118.31 1,118.43 1,118.56 1,118.68 1,118.81 1,118.93 1,119.06 1,119.18 1,119.31 1,119.43 1,119.56 1,119.68 1,119.81 1,119.93 1,120.06 1,120.18 1,120.31 1,120.43 1,120.56 1,120.68 1,120.81 1,120.93 1,121.06 1,121.18 1,121.31 1,121.43

2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173

C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER D.2	REVISED

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KEDRON TWP.
T-88N R-43W
SEC. 1

UNION TWP.
T-89N R-43W
SEC. 34

Park entrance

Sta. 2175+21.55 ML
= Sta. 75+00.00 SR

90°00'00"

2175

Park Entrance

+ 50.29 Proposed Type 'A' Ent.

90°08'52.91"

2180

Ground Line Intercept

Field Entrance (Close)

shift west

36" pipe

+ 65.60 Proposed Type 'C' Ent.

Sta. 2183+65.60 ML
= Sta. 83+00.00 SR

89°59'59.96"

2185

31

PI Sta 75+00.00

75

80

PI Sta 80+16.53

PI Sta 83+76.52

31

Aspen St.

Aspen St.

WB-67

WB-67

WB-67

WB-67

89°29'08.19"

90°00'00.01"

89°58'57.87"

Granular Surfacing

Granular Surfacing

5th Street

7th Street

(Remove)
Sta. X+XX.XX
Install
X" X X' RCP
F.L. - X Lt.
X Rt.

50.29 Proposed Type 'C' Ent.

Ground Line Intercept

(Remove)
Sta. 2182+00
Install
X" X X' RCP
F.L. - X Lt.
X Rt.

Adjust alignment and profile to avoid/ reduce impact to these poles

0 FEET 50

(Remove)
Sta. X+XX.XX
Install
X" X X' RCP
F.L. - X Lt.
X Rt.

85

Relocated Mainline IA 31

Possible entrance??

VPI +85.000
Elv 1,124.36
K = 250
Len 250.00 ft
Des Spd 60

+0.500%

+0.500%

-0.500%

-0.500%

Lower profile

Existing Aspen St.

Existing Aspen St.

+0.13% Ditch Grade - Lt.

+0.10% Ditch Grade - Rt.

+50 1114.10

+50 1114.00

+50 1115.00

+00 1115.50

-0.11% Ditch Grade - Rt.

-0.733% Ditch Grade - Lt.

+00 1113.30

+00 1113.40

+10 1113.32

+30 1113.36

+00 1113.60

+0.20% Ditch Grade - Rt.

-0.20% Ditch Grade - Lt.

+00 1115.30

+00 1114.00

-0.50% Ditch Grade - Rt.

-0.20% Ditch Grade - Lt.

+00 1113.50

1125
1120
1115
1110
1105
1100
Lt
Rt

1,121.43 1,121.56 1,121.68 1,121.81 1,121.93 1,122.06 1,122.18 1,122.31 1,122.43 1,122.56 1,122.68 1,122.81 1,122.93 1,123.06 1,123.18 1,123.31 1,123.43 1,123.56 1,123.68 1,123.80 1,123.90 1,123.97 1,124.02 1,124.04 1,124.04 1,124.01 1,123.96 1,123.88 1,123.78 1,123.66 1,123.53 1,123.41 1,123.28 1,123.16 1,123.03 1,122.91 1,122.78 1,122.66 1,122.53 1,122.41 1,122.28 1,122.16 1,122.03 1,121.91 1,121.78 1,121.66 1,121.53 1,121.41 1,121.28 1,121.16 1,121.03 1,120.91 1,120.78 1,120.66 1,120.53 1,120.41 1,120.28 1,120.16 1,120.03 1,119.91 1,119.79

2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188

C	ENGLISH	IOWA DOT	DESIGN TEAM Jia\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER D.3

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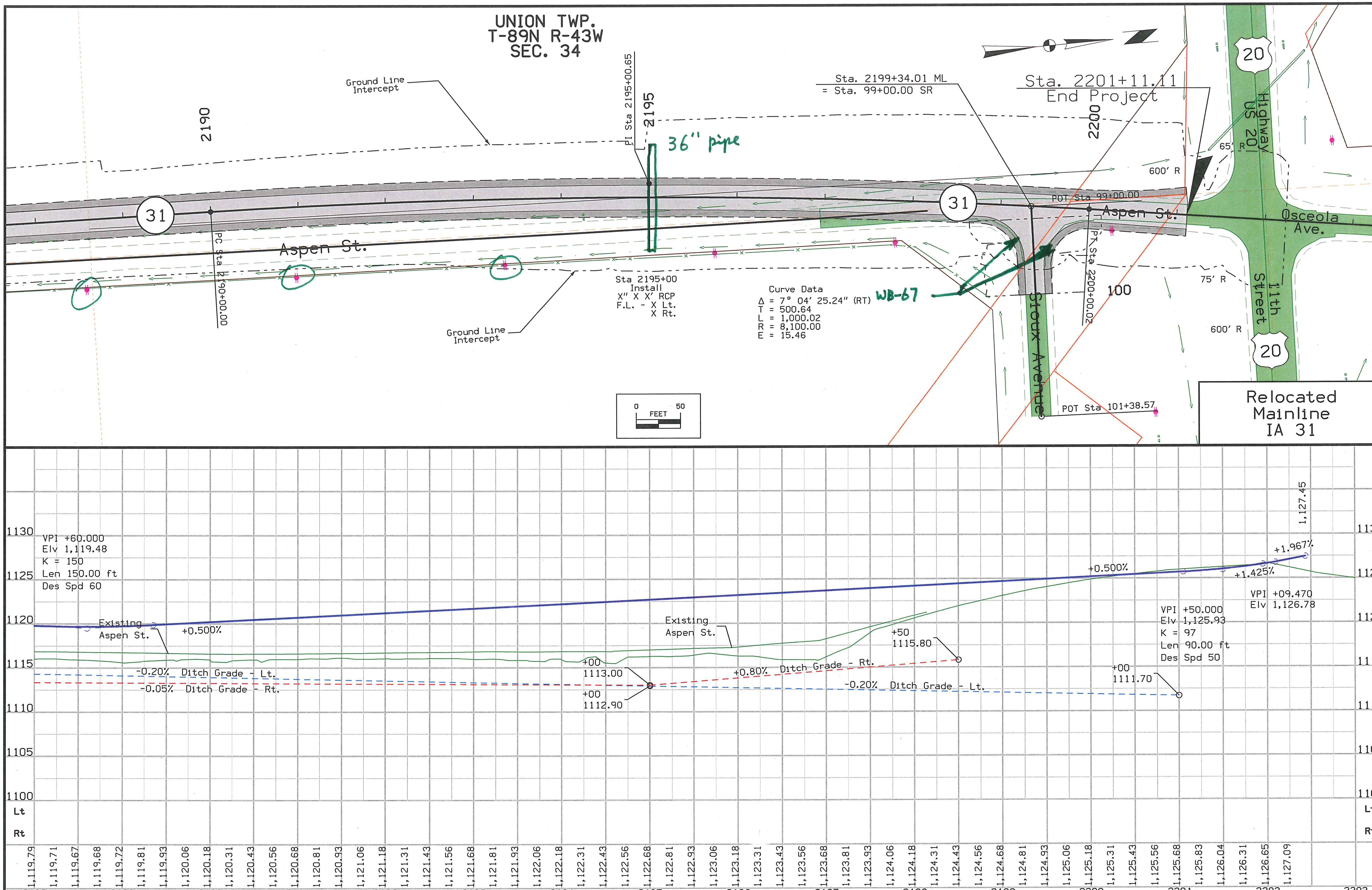

C | ENGLISH | IOWA DOT | DESIGN TEAM Jia\Miller\Fullarton | WOODBURY COUNTY | PROJECT NUMBER STP-031-1(32)--2C-97 | SHEET NUMBER D.4

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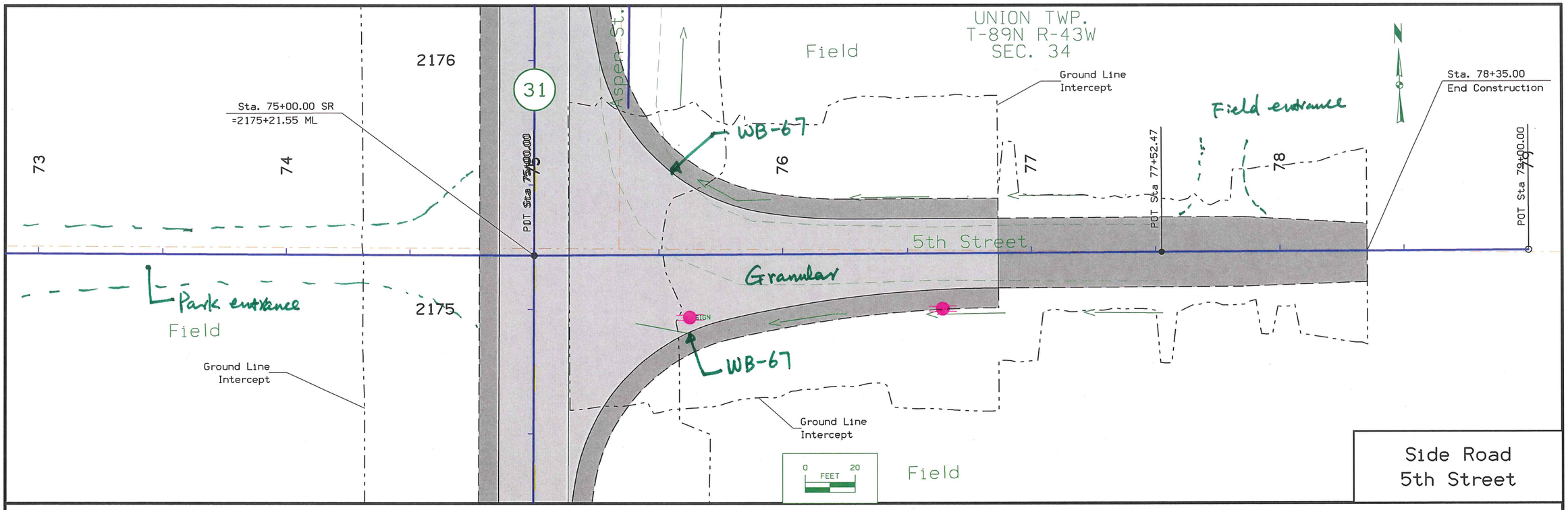

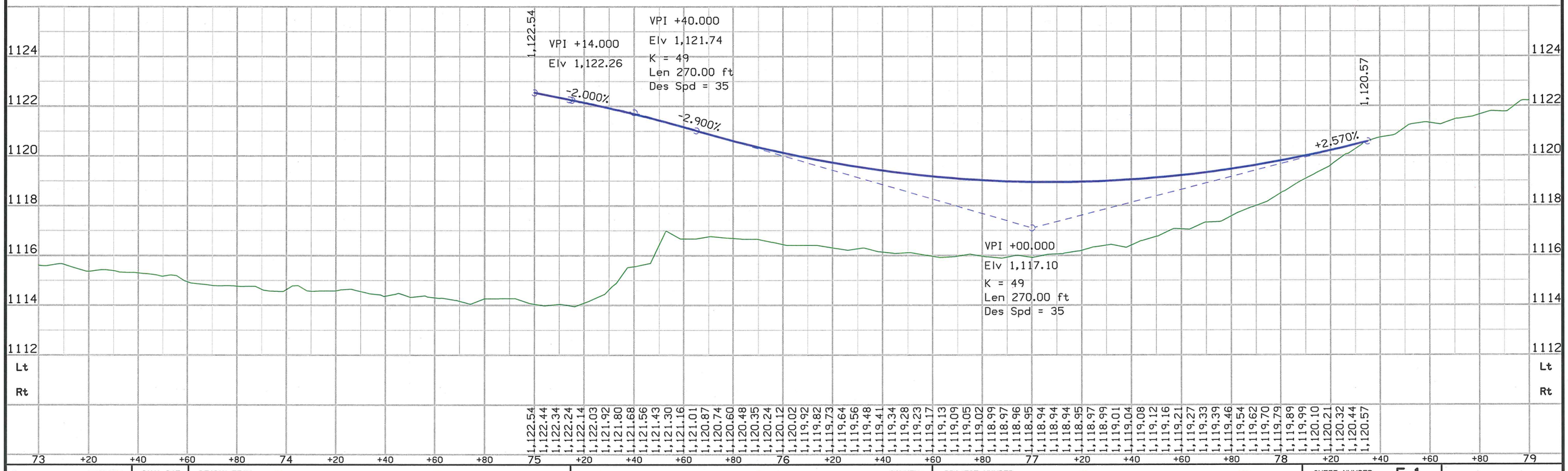

C	ENGLISH	IOWA DOT	DESIGN TEAM		COUNTY	PROJECT NUMBER	SHEET NUMBER E.1

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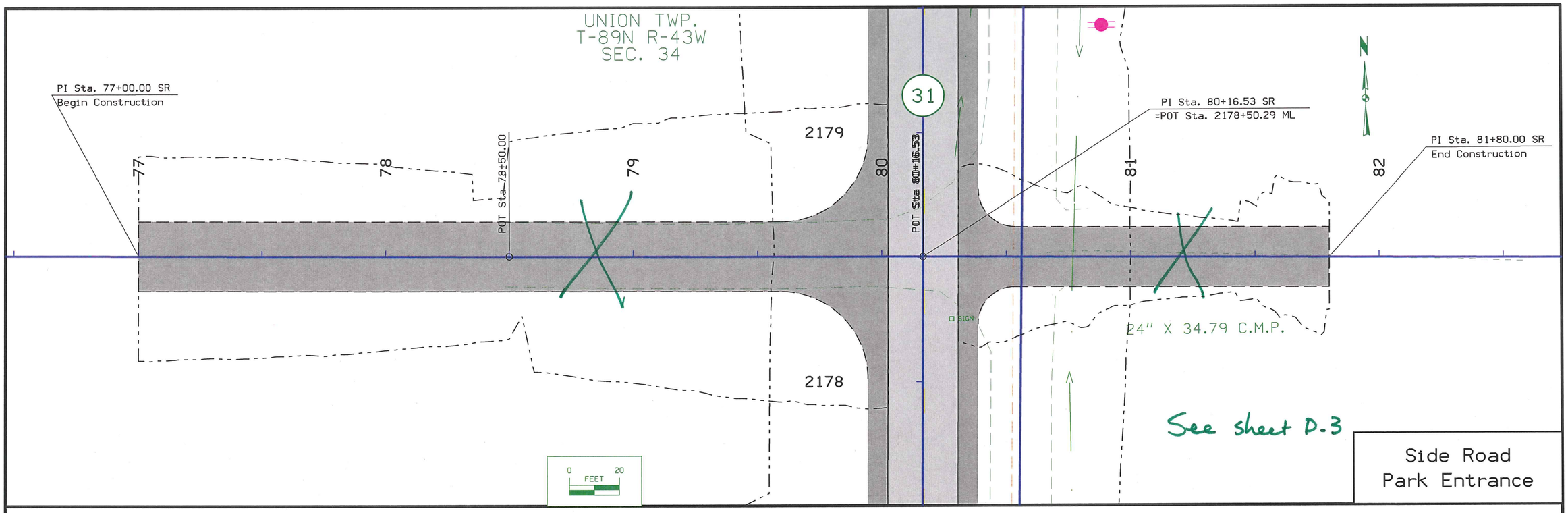
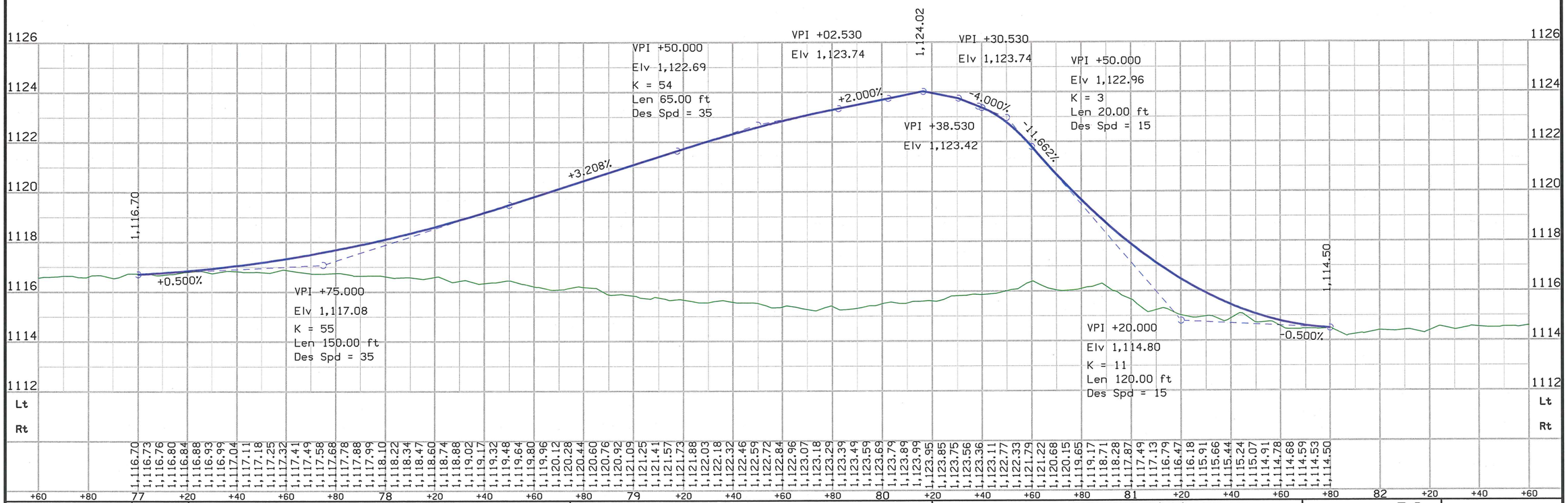


Side Road
Park Entrance



C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER E.2

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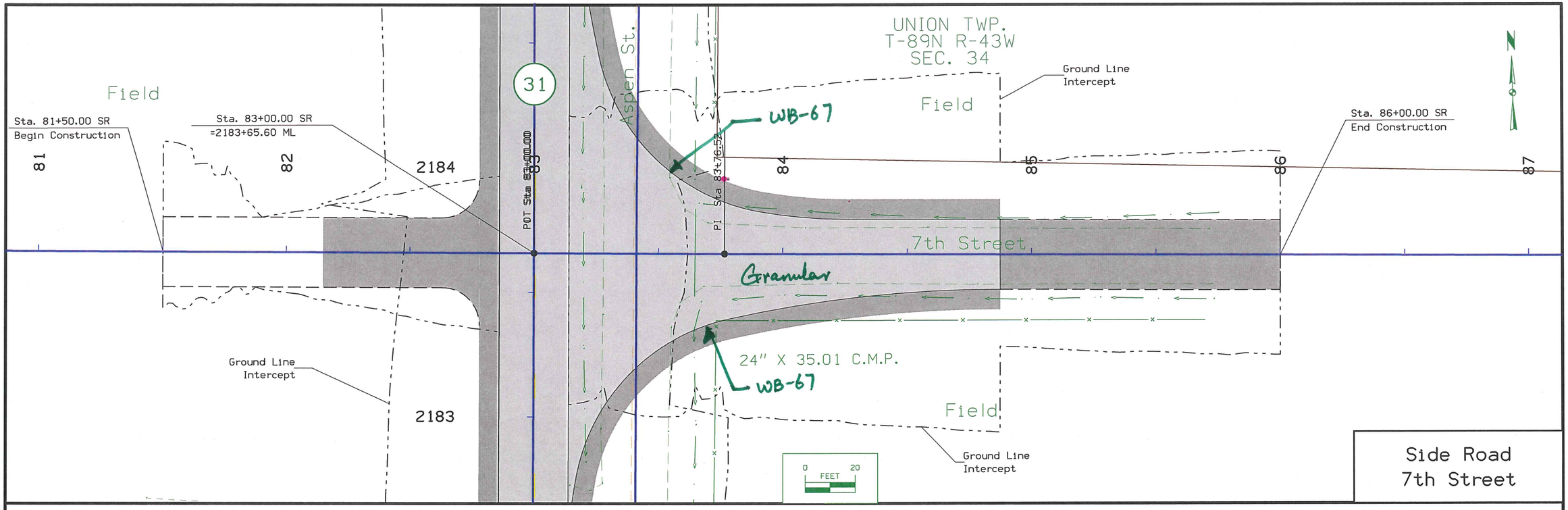

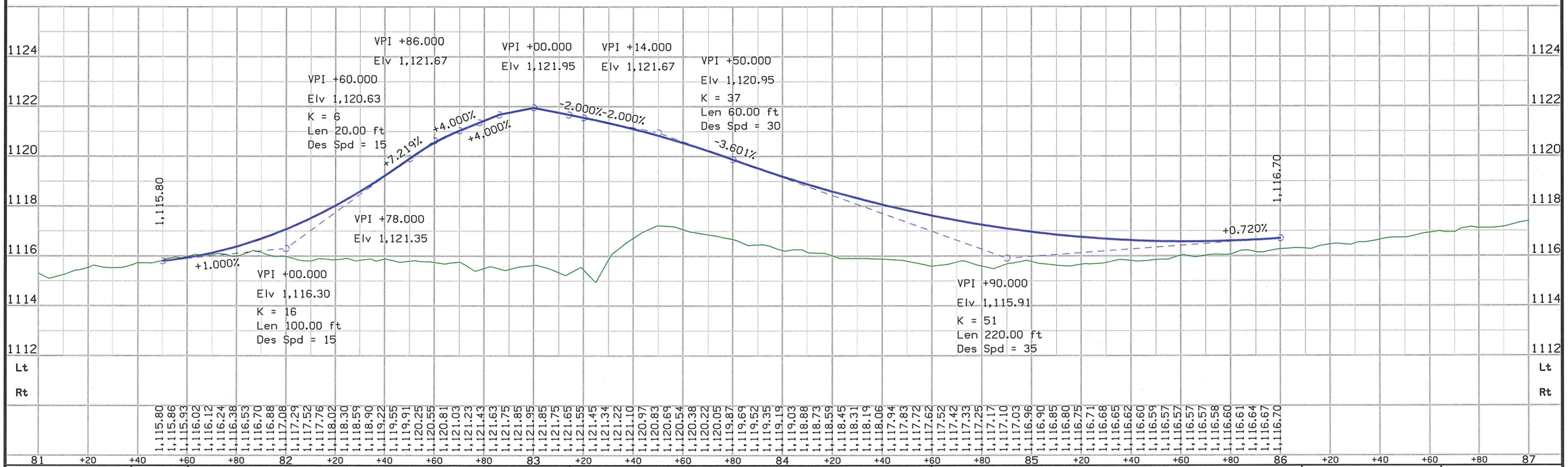

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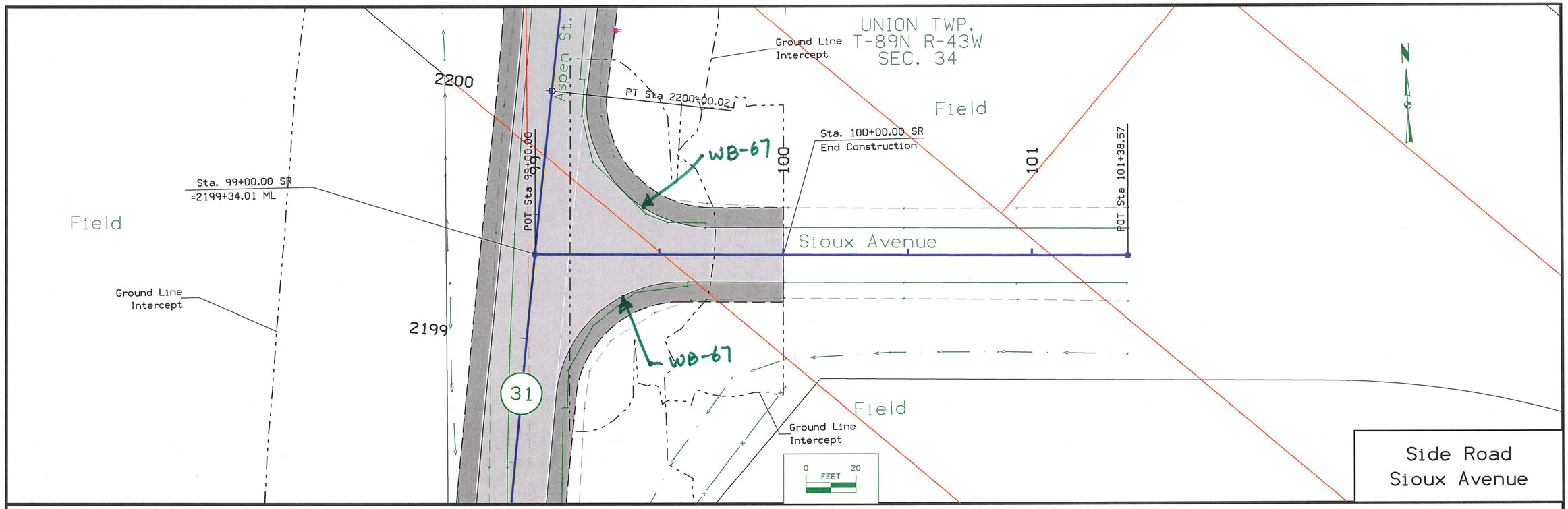
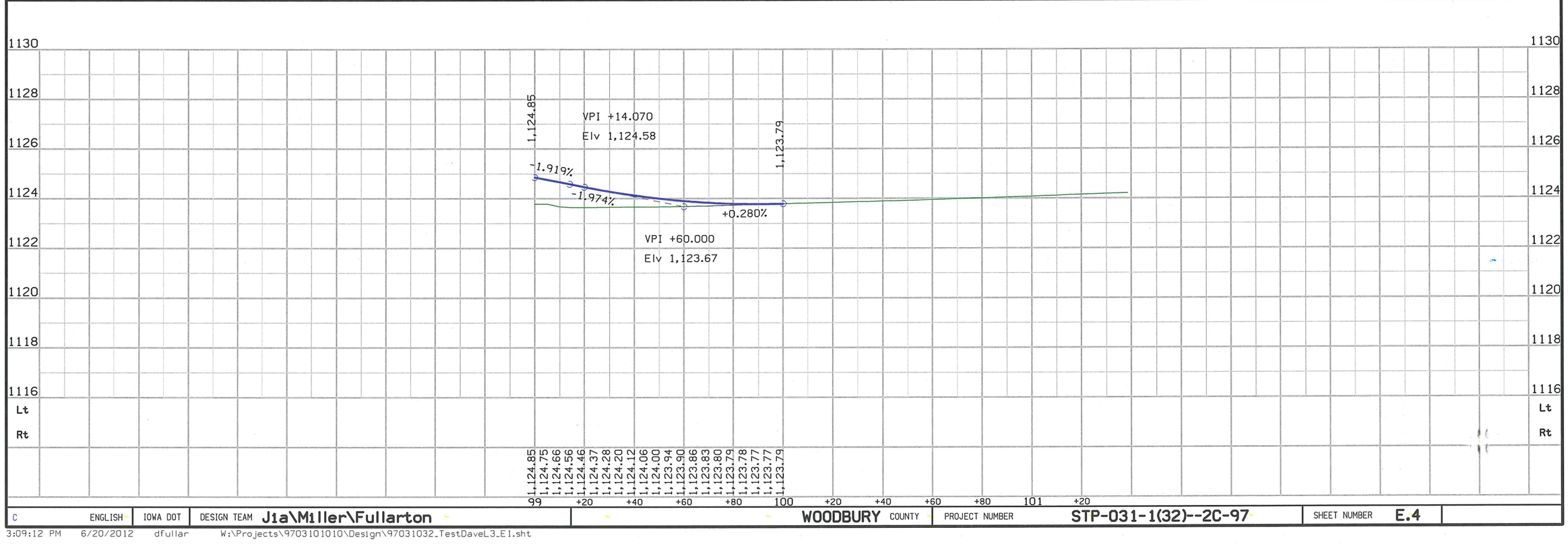




C ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER E.4	

3:09:12 PM 6/20/2012 dfullar W:\Projects\9703101010\Design\97031032_TestDaveL3_E1.sht

Survey Information

General Information

Measurement units for this survey are US survey feet. This survey is for proposed four lane for US 20 between just east of Moville to Early. Project control information is from a 1998 planning study survey (SAP's 130-133). 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

Vertical control for this survey is relative to a 1998 digital bench level survey. The 1998 survey is reported to be relative to NAVD88 datum. A level loop was started at BM 997 (USGS BM 29RS)and headed west along US 20 then back to BM 997 (USGS BM 29RS) where adjustments were made. Another run was started at BM 508 then continued east to BM 998 (USGS BM G14) where adjustments were made. NAVD88 elevations were determined at USGS BM 29RS and USGS BM G 14 by converting published NGVD29 elevations using transformation software. The unadjusted bench level run from BM 29RS had a misclosure at BM G 14 of 0.31'. This misclosure is verified by 1998 GPS observations. Even though the misclosure between the two marks is relatively high the error was distributed proportionately along the route.

Vertical equations are as follows:

Datum Benchmark
BM # 997 this survey = (USGS BM 29RS) Elevation = 1378.29 NAVD 1988
= NGVD29 Elevation 1377.761

Datum Benchmark
BM # 998 this survey = (USGS BM G14) Elevation = 1143.26 NAVD 1988
= NGVD29 Elevation 1142.816

Wolf Creek Bridge West Bridge Seat this survey Elevation = 1287.28
= Wolf Creek Bridge West Bridge Elevation = 1287.30
Project # FN-201(58)—21-97

Horizontal Control

Horizontal control for this survey is from 1998 GPS network survey as follows:
GENERAL INFORMATION FOR G.P.S. PROJECT :
SAP 130, NHS-20-1(77)--19-97

SAP 131, NHS-20-2(53)--19-47

SAP 132, NHS-20-2(54)--19-47
SAP 133, NHS-20-2(55)--19-81

STATE PLANE COORDINATE ZONE 1401 (IOWA NORTH LAMBERT)

STATE PLANE COORDINATES HELD AT POINT G046

AVERAGE PROJECT LATITUDE = 42 28 31.38335

RESULTING RADIUS = 6364559.741

MEAN PROJECT ELEVATION = 415.000

SEA LEVEL FACTOR = 0.999934799

AVERAGE PROJECT SCALE FACTOR = 0.999950986

COMBINED FACTOR (GRID) = 0.999885789

1 / GRID = 1.000114224

VERTICAL DATUM = NAVD 88 <> HORIZONTAL DATUM = NAD 83

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

Coordinates are metric units. Metric units were converted to US Survey feet units for project coordinates.

NOTE: GPS DERIVED HEIGHTS ARE NOT RELATIVE TO ADJUSTED PROJECT HEIGHTS.

Survey Information

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans, Fed. Project #
2, Fed. Project # 2 (15). Fed. Project # 2(19), and Fed. Project # 2(11). Stationing was established at PI Sta. 226+64.5. Stationing was then backed westerly to the BOP and carried forward to the EOP. The followings PI's were set by the District 3 Office.

PI Sta.. 226+64.5 (Fed. Project # 2 (19))
PI Sta. 274+54.6 (Fed. Project # 2)
PI Sta. 390+20.4 (Fed. Project # 2)
PI Sta. 422+35.2 (Fed. Project # 2)
PI Sta. 491+85.9 (Fed. Project # 2)
PI Sta. 533+02.9 (Fed. Project # 2 (15))
PI Sta. 580+47.1 (Fed. Project # 2 (15))
PI Sta. 690+48.1 (Fed. Project # 2 (15))
PI Sta. 742+55.0 (Fed. Project # 2 (15))
PI Sta. 776+98.7 (Fed. Project # 2 (15))
PC Sta. 882+75.6 (Fed. Project # 2 (11))
PT Sta. 905+83.1 (Fed. Project # 2 (11))
PC Sta. 916+76.4 (Fed. Project # 2 (11))
PT Sta. 940+20.5 (Fed. Project # 2 (11))
PI Sta. 966+07.1 (Fed. Project # 2 (11))
PI Sta. 1003+59.8 (Fed. Project # 2 (11))
PI Sta. 1035+20.3 (Fed. Project # 2 (11))
PI Sta. 1045+51.7 (Fed. Project # 2 (11))
PI Sta. 1057+00.1 (Fed. Project # 2 (11))
PI Sta. 1148+65.5 (Fed. Project # 2 (11))

Equations are as follows:

PI Sta. 226+64.5This Survey
= PI Sta. 226+64.5 (Fed. Project # 2 (19))

PI Sta. 274+54.22 this survey
= PI Sta. 274+54.6 (Fed. Project # 2)

PI Sta. 390+21.71 this survey
= PI Sta. 390+20.4 (Fed. Project # 2)

PI Sta. 422+36.66 this survey
= PI Sta. 422+35.2 (Fed. Project # 2)

PI Sta. 491+88.23 this survey
= PI Sta. 491+85.9 (Fed. Project # 2)

PI Sta. 533+05.21 this survey
= PI Sta. 533+02.9 (Fed. Project # 2 (15))

PI Sta. 580+49.39 this survey
= PI Sta. 580+47.1 (Fed. Project # 2 (15))

PI Sta. 690+49.96 this survey
= PI Sta. 690+48.1 (Fed. Project # 2 (15))

PI Sta. 742+55.60 this survey
= PI Sta. 742+55.0 (Fed. Project # 2 (15))

PI Sta. 776+98.28 this survey
= PI Sta. 776+98.7 (Fed. Project # 2 (15))

PC Sta. 882+75.6
= PC Sta. 882+75.6 (Fed. Project # 2 (11))

PT Sta. 905+83.1
= PT Sta. 905+83.1 (Fed. Project # 2 (11))

PC Sta. 916+76.4
= PC Sta. 916+76.4 (Fed. Project # 2 (11))

PT Sta. 940+20.5
= PT Sta. 940+20.5 (Fed. Project # 2 (11))

PI Sta. 966+07.1
= PI Sta. 966+07.1 (Fed. Project # 2 (11))

PI Sta. 1003+59.8
= PI Sta. 1003+59.8 (Fed. Project # 2 (11))

PI Sta. 1035+20.3
= PI Sta. 1035+20.3 (Fed. Project # 2 (11))

PI Sta. 1045+51.7
= PI Sta. 1045+51.7 (Fed. Project # 2 (11))

PI Sta. 1057+00.1
= PI Sta. 1057+00.1 (Fed. Project # 2 (11))

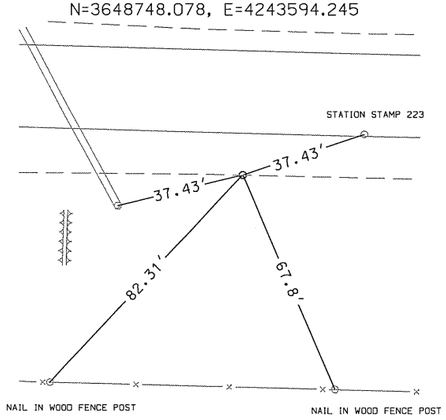
PI Sta. 1148+65.5
= PI Sta. 1148+65.5 (Fed. Project # 2 (11))

VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Feature	Description
500	3649009.3000	4240254.5810	1313.8820	Off Chain	Off Chain	BM	RR SPK S.POWER POLE LT
502	3648755.5510	4242322.1660	1271.2150	Off Chain	Off Chain	BM	IDOT PLUG HDWL RT
501	3648789.1480	4241190.0650	1280.1090	Off Chain	Off Chain	BM	IDOT PLUG HDWL RT
503	3648914.8360	4243634.3370	1332.8520	223+00.13	-59.9577	BM	ROW RAIL LT
504	3648883.2210	4245013.3210	1373.3440	236+79.76	-59.7188	BM	ROW RAIL LT
505	3648880.5430	4245805.0580	1400.2300	244+71.37	-74.0490	BM	CONC MONUMENT LT
506	3648731.2790	4246646.6500	1370.3710	253+15.98	57.1020	BM	FOUND X TOP RCP RT
507	3648733.4210	4247128.4400	1371.4610	257+97.61	44.6109	BM	FOUND X TOP RCP RT
508	3648663.7420	4247678.9030	1383.2880	263+49.44	102.4491	BM	FOUND RR SPK PP S.E. QUAD US 20 & JASPER
509	3648820.6030	4248737.9440	1415.3650	274+04.79	-77.2590	BM	BM RR SPK IN TREE LT.
510	3648638.2260	4250255.7190	1373.3170	289+26.39	68.8551	BM	CONC MONUMENT RT
511	3648654.6470	4250929.7690	1336.7590	295+99.85	36.2427	BM	FOUND X TOP RCP RT
512	3648737.1910	4251745.6830	1292.4380	304+13.55	-65.8824	BM	IDOT PLUG TOP HDWL LT
513	3648689.7330	4252730.7820	1286.9890	313+99.50	-42.1082	BM	FOUND X TOP HDWL LT STATION
724	3648605.0630	4253886.1280	1291.8446	325+56.55	14.7765	BM	FD IDOT BM EAST END OF S. HANDRAIL BRIDGE
515	3648524.2280	4255037.0420	1304.4070	337+09.08	67.9338	BM	R/R SPK GATE POST RT STATIO
516	3648662.5780	4255837.2690	1337.4250	345+05.75	-89.6043	BM	ROW RAIL LT STATION 345+00
725	3648521.3700	4256358.8970	1328.4313	350+30.62	39.0292	BM	CUT X TOP INLET 36" RCP
518	3648513.2100	4257279.5820	1328.6880	359+51.23	25.0644	BM	IDOT PLUG TOP HDWL RT
519	3648553.4570	4257730.4600	1334.3510	364+01.01	-26.0047	BM	IDOT PLUG TOP HDWL RT
726	3648577.1540	4258616.6980	1358.6557	372+86.43	-70.9895	BM	SET RAILROAD SPIKE SOUTH SIDE OF POWER POLE
727	3648507.2140	4259890.8270	1393.6735	385+61.87	-31.6847	BM	CUT X TOP INLET 24" RCP
523	3648370.6890	4260321.6200	1411.5790	389+97.13	92.1795	BM	CONC MONUMENT RT
524	3648367.5480	4261120.4000	1393.2090	397+96.41	54.9383	BM	FOUND RR SPK PP RT
525	3648431.4120	4261561.5830	1386.8150	402+33.47	-32.7952	BM	FOUND X TOP RCP
526	3648291.4180	4262723.9550	1359.6720	414+01.73	43.8557	BM	FOUND X TOP HDWL RT
728	3648163.5100	4263631.2360	1400.7000	423+12.77	125.5175	BM	CONC MONUMENT
527	3648487.3060	4263740.5120	1383.5180	424+09.87	-202.1719	BM	RR SPK PP LT
528	3648211.7220	4264854.4270	1358.8100	435+32.77	39.5503	BM	FOUND IDOT PLUG HDWL RT
529	3648248.7770	4266324.6580	1369.4260	450+01.25	-41.2764	BM	FOUND X TOP RCP LT
530	3648237.0710	4266883.7500	1372.9240	455+60.44	-46.2272	BM	IDOT PLUG TOP HDWL LT
531	3648073.7670	4267862.8910	1418.1730	465+44.01	87.8425	BM	G017 FOUND CONC MONUMENT RT
31849	3648061.2420	4269221.1900	1426.7945	479+02.08	59.9074	BM	RIGHT OF WAY RAIL RT
533	3648061.2630	4269221.2070	1426.7920	479+02.10	59.8859	BM	RIGHT OF WAY RAIL RT
534	3648007.8620	4270392.1980	1452.0670	490+73.86	78.7428	BM	FOUND RR SPK TREE STUMP RT
535	3648143.4060	4271456.8250	1434.5310	501+35.29	-77.1074	BM	CONC MONUMENT LT
536	3647976.8420	4272328.3530	1389.6660	510+09.59	74.2412	BM	FOUND RR SPK TREE STUMP
537	3647959.2670	4273008.0800	1359.2720	516+89.52	79.9664	BM	FOUND RIGHT OF WAY RAIL RT
538	3648073.5050	4273952.2250	1334.2850	526+31.53	-50.7100	BM	FOUND IDOT PLUG HDWL LT
729	3647921.0320	4274303.8370	1345.7290	529+85.75	95.6115	BM	SET RR SPK NE SIDE FENCE POST
540	3648044.8550	4275253.4990	1332.9800	539+32.04	-57.5810	BM	FOUND IDOT PLUG HDWL LT
730	3648070.4830	4275952.7200	1351.1465	546+29.79	-109.6778	BM	CONC MONUMENT
541	3647890.7560	4276420.9830	1343.6100	551+04.52	52.1819	BM	FOUND IDOT PLUG LT
731	3647841.2870	4276963.5000	1345.6242	556+48.53	81.0643	BM	CUT X BALL OF ROW RAIL
542	3647957.5900	4277579.0580	1333.8260	562+59.24	-58.4731	BM	FOUND X TOP HDWL LT
543	3647942.0310	4278633.9140	1389.3540	573+13.92	-82.8843	BM	FOUND RR SPK TREE STUMP
544	3647749.7800	4279936.4710	1404.1570	586+22.70	61.1136	BM	FOUND X TOP HDWL RT

Point	North	East	Elevation	Station	Offset	Feature	Description
545	3647867.4070	4280820.4180	1391.2080	595+01.88	-88.0327	BM	FOUND IDOT PLUG TOP HDWL LT
546	3647858.1930	4281262.6990	1389.6990	599+44.21	-94.6328	BM	FOUND IDOT PLUG TOP HDWL LT
547	3647710.5670	4281647.2850	1413.5960	603+33.82	39.1528	BM	FOUND X TOP HDWL RT
548	3647861.9560	4282319.3190	1443.0250	610+00.02	-136.1597	BM	CONC MONUMENT LT
549	3647615.3070	4284311.1180	1342.6810	629+99.36	39.1399	BM	FOUND IDOT PLUG HDWL RT
732	3647489.0570	4285028.9320	1337.0885	637+21.23	139.6527	BM	CONC MONUMENT
551	3647542.5230	4285710.5800	1305.7910	644+00.53	61.8571	BM	FOUND X TOP HDWL RT
552	3647525.0920	4287073.4860	1281.8150	657+63.19	30.5633	BM	FOUND IDOT PLUG TOP HDWL RT
553	3647566.3470	4288554.1920	1261.8150	672+41.47	-63.5894	BM	FOUND IDOT PLUG TOP HDWL LT
733	3647509.6640	4289486.4470	1294.9273	681+75.16	-40.2638	BM	CUT X TOP INLET 36" RCP
555	3647342.2790	4290406.0520	1328.0260	690+98.32	98.2926	BM	CONC MONUMENT RT
734	3647465.5870	4290866.7390	1304.5864	695+57.32	-28.4452	BM	CUT X NORTH BOLT STEEL CABLE GUARDRAIL BRACE PLATE
556	3647539.1710	4291406.1710	1260.9950	700+96.60	-103.1093	BM	FOUND IDOT PLUG TOP HDW LT
557	3647378.7120	4292288.3230	1302.8390	709+79.07	55.5827	BM	FOUND RR SPK TREE RT
558	3647393.0030	4293236.2150	1313.2060	719+26.93	39.3935	BM	FOUND X OUTLET HDWL RCP
559	3647511.4430	4294219.8770	1310.0700	729+10.36	-81.0162	BM	FOUND IDOT PLUG HDWL LT
560	3647358.9930	4295638.5790	1348.2130	743+30.21	66.2174	BM	FOUND RR SPK PP RT
561	3647316.2860	4296329.4540	1308.8560	750+22.38	94.3288	BM	FOUND X TOP HDWL RT
562	3647342.4540	4297247.8480	1316.6020	759+39.96	47.6365	BM	FOUND IDOT PLUG HDWL RT
563	3647317.5760	4297651.5360	1306.3980	763+44.10	63.4838	BM	FOUND IDOT PLUG HDWL RT
735	3647327.7700	4298256.7310	1310.9900	769+48.92	39.7632	BM	IHC BUTTON ON UMBRELLA INTA
564	3647294.2400	4298892.3400	1309.6960	775+85.46	58.4800	BM	RR SPK TREE RT
736	3647292.7940	4299613.4600	1264.9500	783+06.78	33.2427	BM	CUT X TOP INLET 30" RCP
565	3647387.9310	4300305.1910	1238.0450	789+94.07	-89.9636	BM	FOUND RR SPK TREE LT
737	3647247.8740	4300912.2140	1186.8380	796+06.29	25.2762	BM	CUT X ON STEEL CABLE GUARDR
567	3647224.5660	4302472.8730	1133.4820	811+66.60	-14.9419	BM	FOUND IDOT PLUG TOP N.W. RAIL LT
739	3647254.3480	4303398.6770	1119.6170	820+90.43	-82.3723	BM	739 SET RR SPK S P.POLE
742	3644474.0620	4303373.8510	1117.0750	821+78.76	2696.6211	BM	742 RR SPK W P.POLE
741	3645829.8300	4303432.4730	1117.5370	821+82.16	1339.5906	BM	741 RR SPIKE W SIDE PP STA
569	3647021.6670	4304734.0980	1127.6590	834+34.21	95.7747	BM	NOT FOUND RR SPK PP SW QUAD
570	3646995.8970	4306062.6190	1138.1930	847+62.68	67.4628	BM	FOUND RR SPK PP S.W. QUAD U
998	3643801.6430	4307026.8850	1143.2560	858+56.13	3219.8329	CP	GPS CONTROL PT
571	3646947.8780	4307437.8450	1131.1560	861+38.72	59.4809	BM	571 RR SPK N P.POLE
573	3646949.8700	4309451.7170	1199.7020	881+50.85	-24.4585	BM	573 IDOT DISC RCB LT.
576	3645500.1330	4312041.7170	1243.6950	912+14.91	-25.9809	BM	576 IDOT DISC RCB LT
577	3644694.6490	4312744.1960	1225.1030	922+78.34	46.7089	BM	577 FD D.O.T BUTTON OUTLET
740	3644231.1450	4312846.7550	1227.4960	925+94.78	378.7473	BM	740 SET R.R. SPIKE IN NORTH
578	3644315.7590	4313851.9420	1240.3160	934+56.82	-72.5628	BM	578 RR SPIKE S P.POLE
579	3644237.0810	4315038.0730	1242.7730	946+62.41	-80.2605	BM	579 RR SPK S P.POLE
580	3644182.4990	4316036.8730	1200.6440	956+62.34	-53.3316	BM	580 CUT X ON RCB LT
581	3644201.4600	4317270.4840	1248.6520	968+95.56	-104.7032	BM	581 RR SPIKE PP LT
582	3644151.9410	4318545.1390	1218.3470	981+70.99	-83.1254	BM	582 RR SPIKE PP LT
583	3644142.4450	4319766.8010	1232.7930	993+92.57	-100.4004	BM	583 RR SPIKE PP LT
584	3644073.7260	4321069.2390	1254.4960	1006+95.22	-65.4316	BM	584 RR SPIKE PP LT
598	3643438.8400	4336239.7740	1351.4640	1158+77.29	86.2737	BM	CONC MONUMENT

CP STA. 222+64.43, 107.80 RT.
CP No. 102, FOUND 5/8 REBAR
N=3648748.078, E=4243594.245



CP STA. 244+71.37, 74.05 LT.
CP No. 11 Conc Monument
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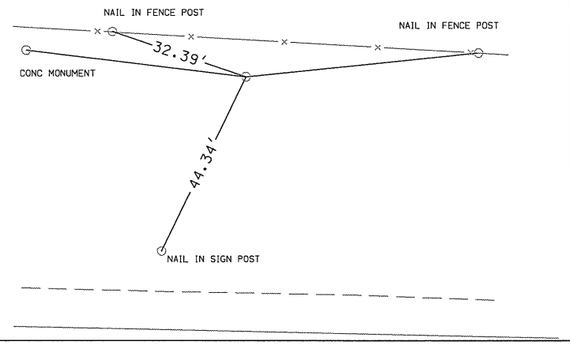
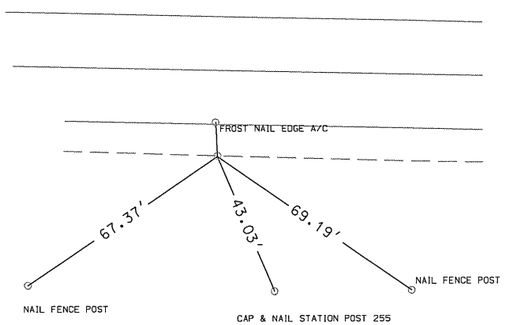


CP STA. 254+81.60, 25.04 Rt.
CP No. 104 Found Rebar
N=3648759.776, E=4246812.925



CP STA. 262+61.0, 1341.85 Rt.
CP No. 997 Found Disk
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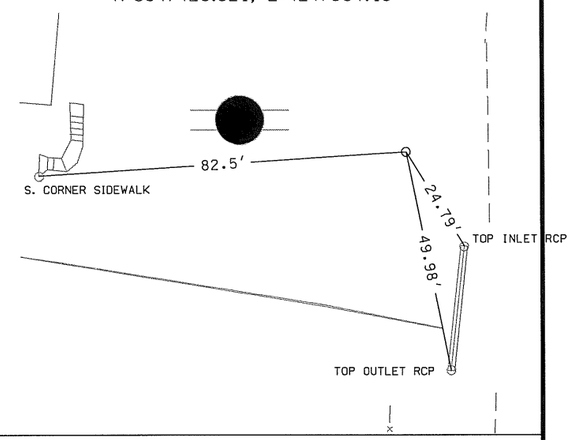
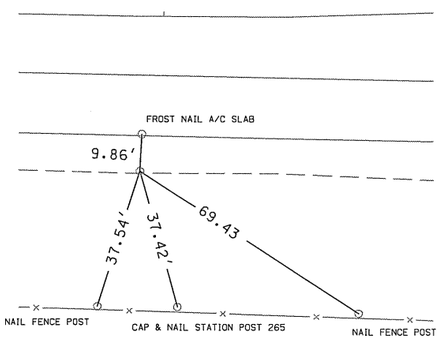
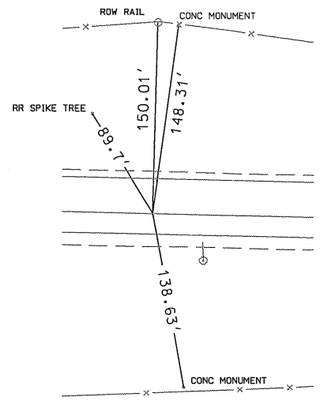


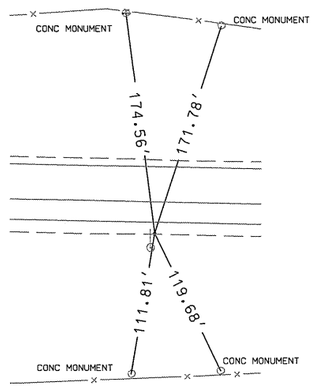
CP STA. 264+89.96, 25.53 Rt.
CP 105, Found 5/8 Rebar
N=3648737.623, E=4247821.041



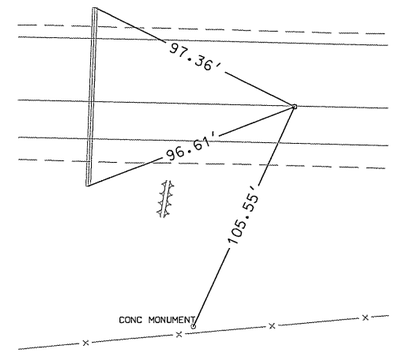
PI STA. 274+54.22
PI 413, Found PK Nail
N=3648742.4349, E=4248785.6266



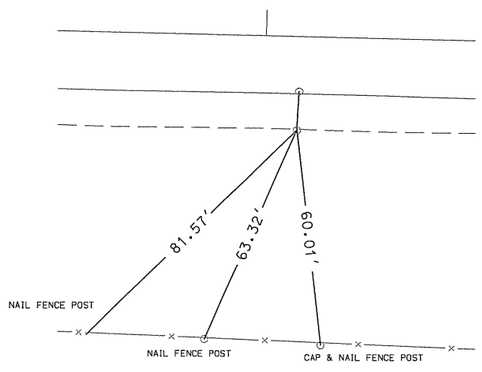
CP STA.274+98.03, 25.01 Rt.
CP 12 Found 5/8 Rebar
N=3648716.2360, E=4248828.8450



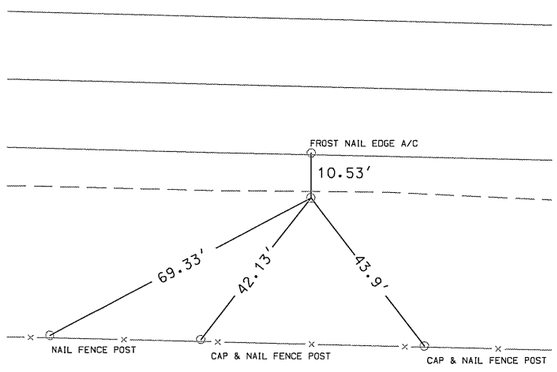
CP STA.279+99.82, 0.35 Rt.
CP 403 Found Hinge Nail
N=3648728.9800, E= 4249331.0580



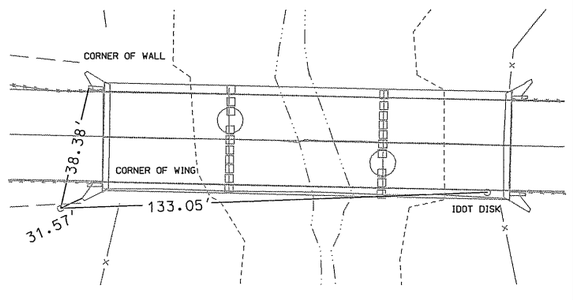
CP STA.298+09.00, 26.06 Rt.
CP 107 Found 5/8 Rebar
N=3648659.8010, E= 4251139.0960



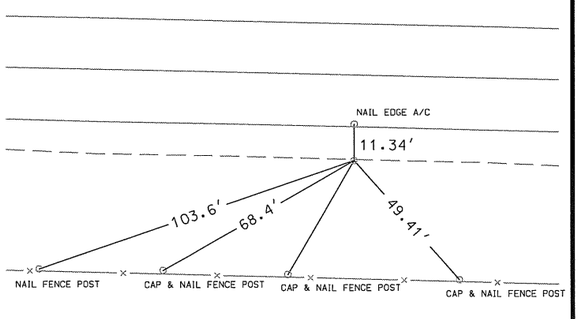
CP STA.311+15.83, 26.09 Rt.
CP 108 Found 5/8 Rebar
N=3648628.3670, E=4252445.5520



CP STA.324+23.74, 22.70 Rt.
CP 13 Found 5/8 Rebar
N=3648600.3370, E=4253753.1660

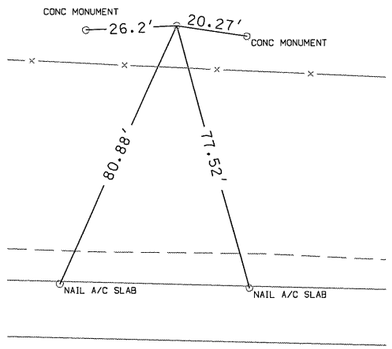


CP STA.334+65.85, 26.59 Rt.
CP 109 Found 5/8 Rebar
N=3648571.4010, E=4254794.8840

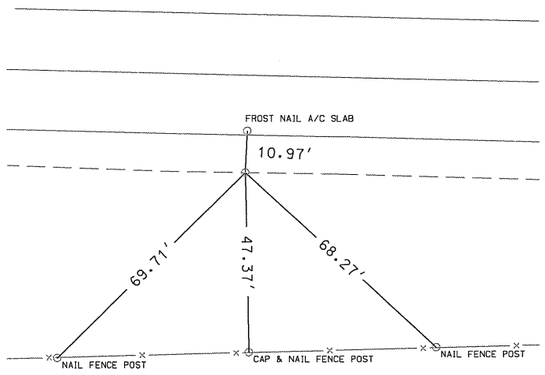


ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER C.4

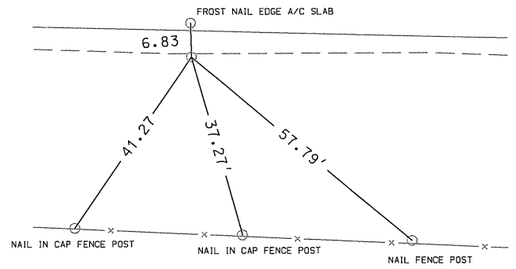
CP STA.345+05.75, 89.60 Lt.
CP 14 Found Right Of Way Rail
N=3648662.5780, E= 4255837.2690



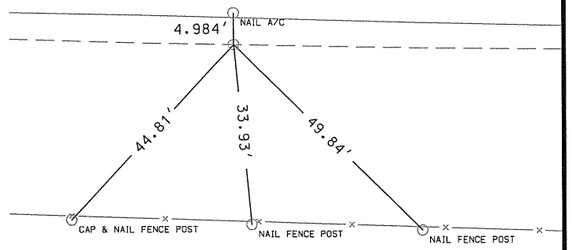
CP STA.356+33.49, 25.61 Rt.
CP 110 Found 5/8 Rebar
N=3648520.2950, E=4256961.9160



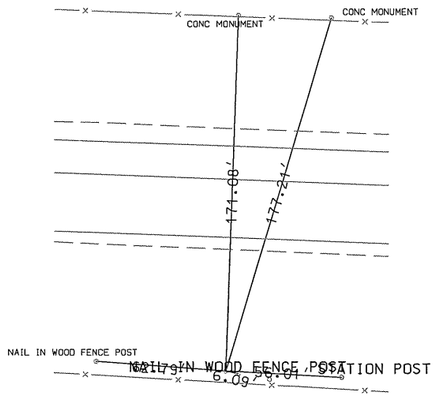
CP STA.367+56.46, 33.28 Rt.
CP 111 Found 5/8 Rebar
N=3648485.6490, E=4258084.3820



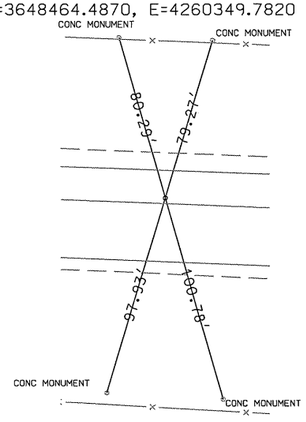
CP STA.378+79.17, 33.02 Rt.
CP 112 Found 5/8 Rebar
N=3648458.9350, E=4259206.7690



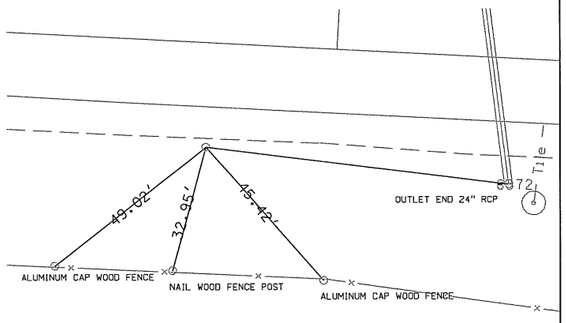
CP STA.389+97.13, 92.18 Rt.
CP 15 Found 5/8 Rebar
N=3648370.6890, E=4260321.6200



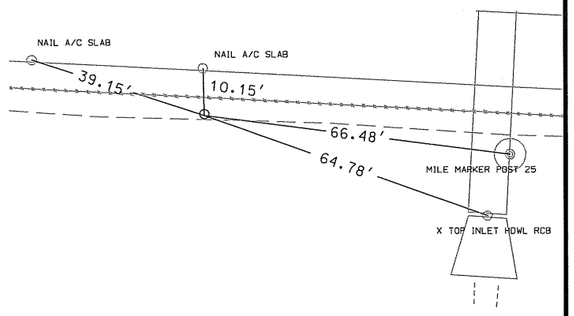
PI STA. 390+21.72
PI 404 Found PK Nail
N=3648464.4870, E=4260349.7820



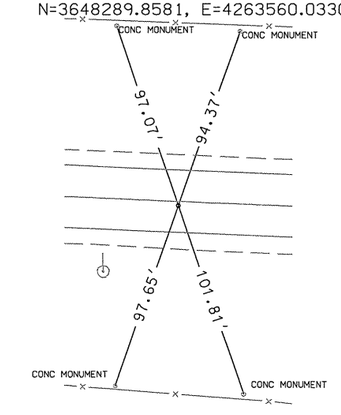
CP STA. 401+67.75 26.68 Rt.
CP 414 Found 5/8 Rebar
N=3648375.5989, E=4261492.7266



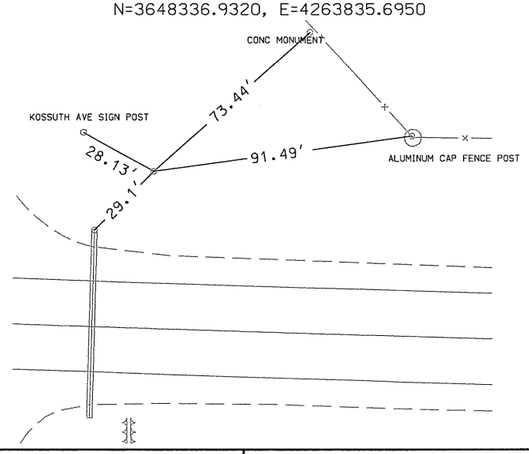
CP STA. 413+39.58, 25.58 Rt.
CP 415 Found 5/8 Rebar
N=3648313.0436, E=4262662.8897



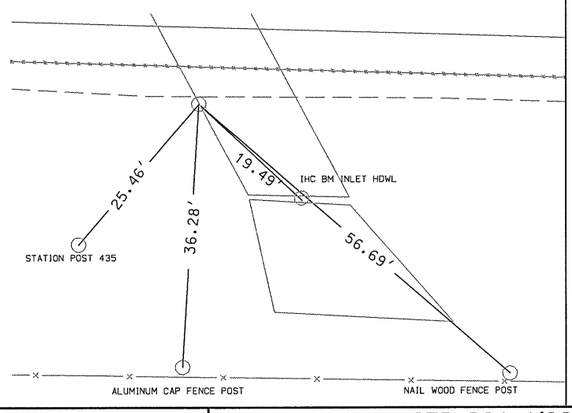
PI STA. 422+36.66
PI 405 Not Set
N=3648289.8581, E=4263560.0330



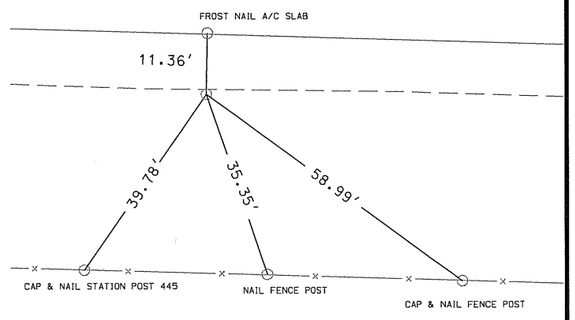
CP STA. 425+10.61, 55.15 Lt.
CP 16 Found 5/8 Rebar
N=3648336.9320, E=4263835.6950



CP STA. 435+18.11, 26.71 Rt.
CP 417 Found 5/8 Rebar
N=3648224.9930, E=4264840.1590

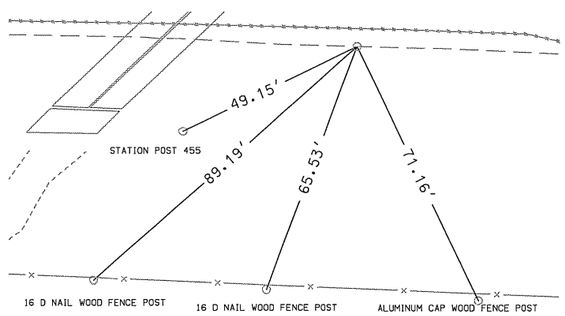


CP STA. 445+24.37, 27.28 Rt.
CP 418 Found 5/8 Rebar
N=3648194.4550, E=4265845.9500

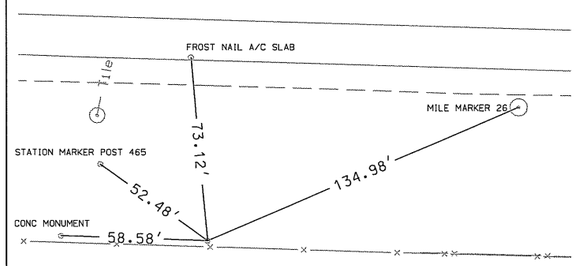


ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER C.5

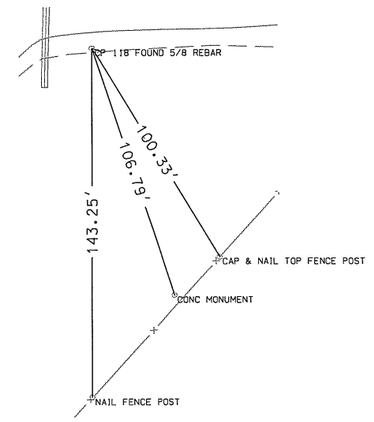
CP STA. 455+38.26, 26.61 Rt.
CP 419 Found 5/8 Rebar
N=3648164.9292, E=4266859.4135



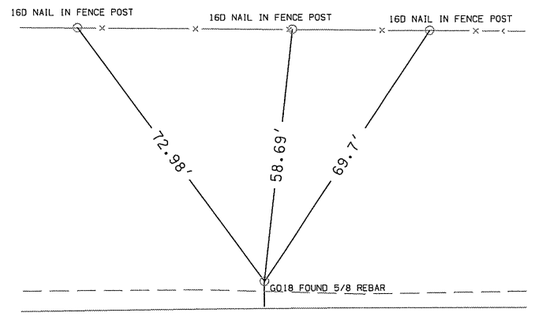
CP STA. 465+44.01, 87.84 Rt.
CP 17 Found Conc Monument
N=3648073.7670, E=4267862.8910



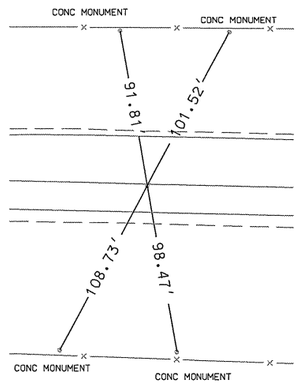
CP STA. 478+01.69, 29.65 Rt.
CP 118 Found 5/8 Rebar
N=3648094.4730, E=4269121.7500



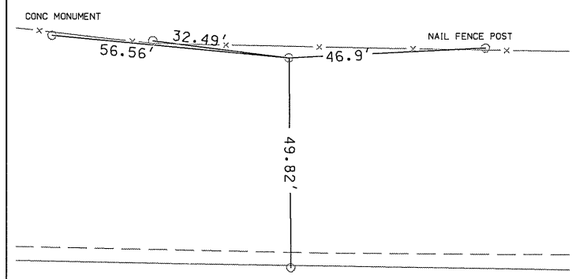
CP STA. 489+99.50, 29.50 Lt.
CP 18 Found 5/8 Rebar
N=3648118.0580, E=4270320.7210



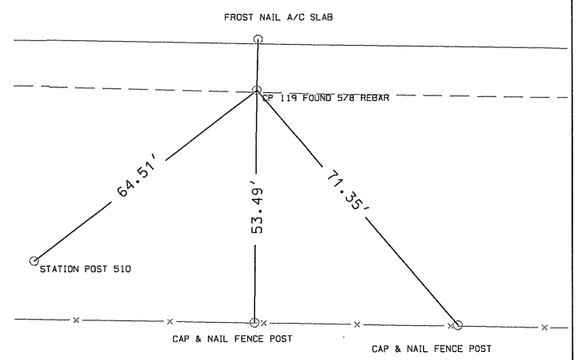
PI STA. 491+88.24
PI 406 Found PK Nail
N=3648082.8170, E=4270508.5610



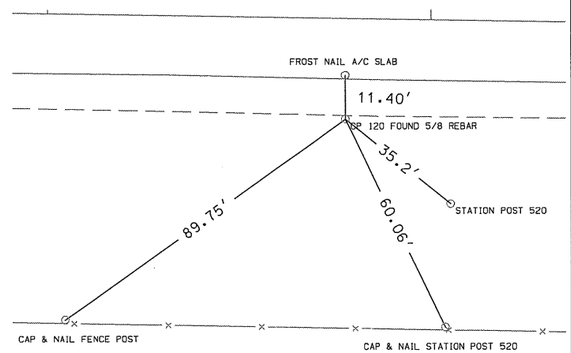
CP STA. 501+35.29, 77.107 Lt.
CP 19 Found Conc Monument
N=3648143.4060, E=4271456.8250



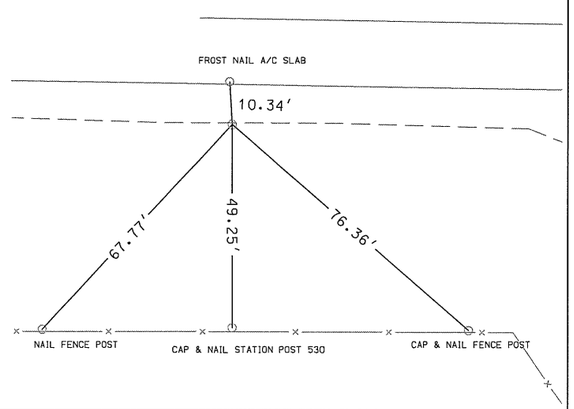
CP STA. 510+54.03, 26.39 Rt.
CP 119 Found 5/8 Rebar
N=3648023.9140, E=4272373.6160



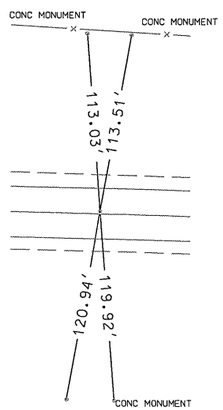
CP STA. 519+78.03, 26.20 Rt.
CP 120 Found 5/8 Rebar
N=3648007.9980, E=4273297.4830



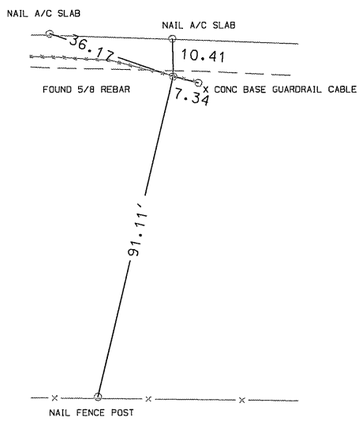
CP STA. 529+01.00, 25.70 Rt.
CP 20 Found 5/8 Rebar
N=3647992.4090, E=4274220.3200



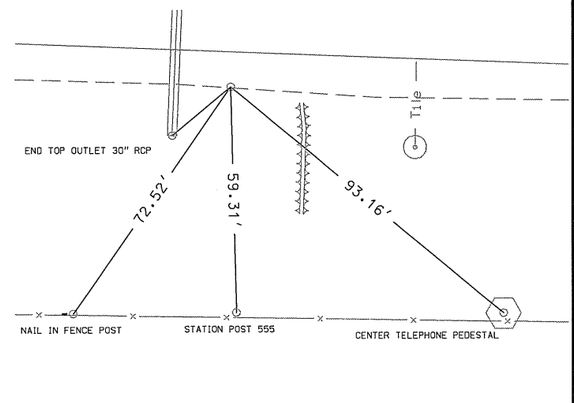
PI STA. 533+05.21
CP 407 Found PK Nail
N=3648011.0610, E=4274624.9170



CP STA. 542+06.59, 25.95 Rt.
CP 121 Found 5/8 Rebar
N=3647950.9870, E=4275524.6850



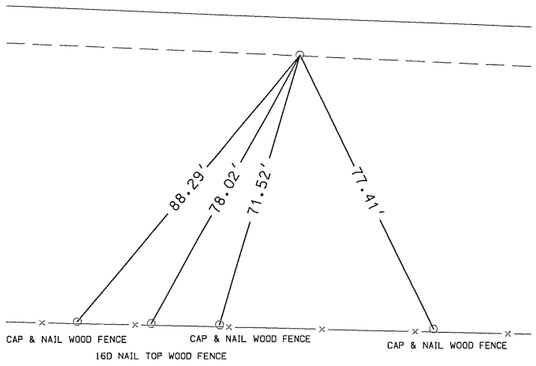
CP STA. 554+93.44, 24.93 Rt.
CP 21 Found 5/8 Rebar
N=3647903.2520, E=4276810.6490



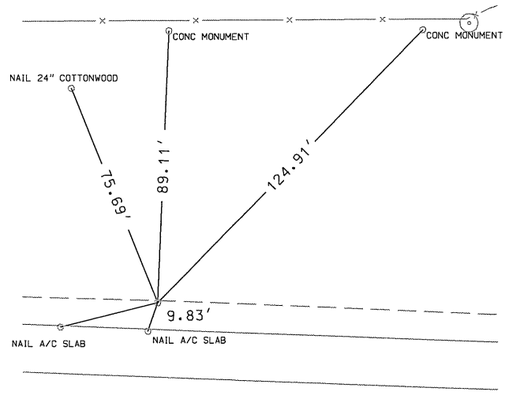
ENGLISH	IOWA DOT	DESIGN TEAM Jia\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER C.6

1:18:32 PM 6/15/2012 dfullar W:\Projects\9703101010\Design\97031032_G1.sht

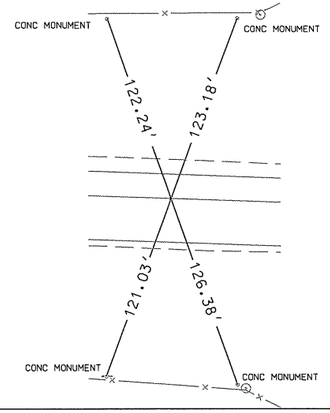
CP STA. 567+47.99, 25.35 Rt.
CP 122 Found 5/8 Rebar
N=3647855.3120, E=4278064.2880



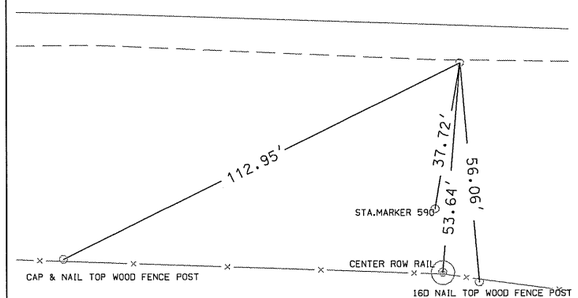
CP STA. 580+03.76, 24.36 Lt.
CP 22 Found 5/8 Rebar
N=3647857.5340, E=4279321.0210



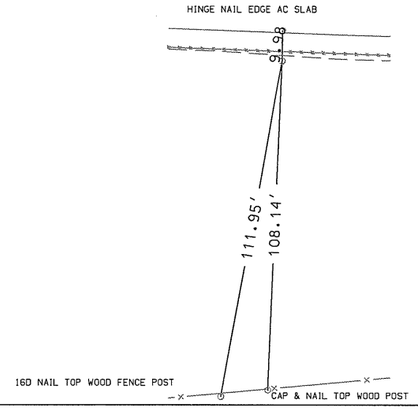
PI STA. 580+49.39.
CP 408 Found PK Nail
N=3647831.3460, E=4279365.7130



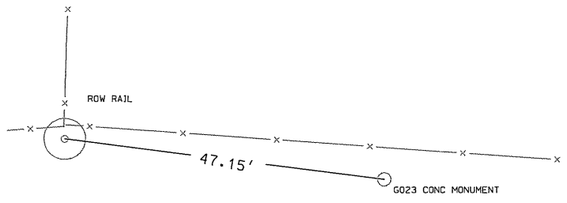
CP STA. 590+07.19, 25.75 Rt.
CP 123 Found Rebar
N=3647771.3800, E=4280321.9830



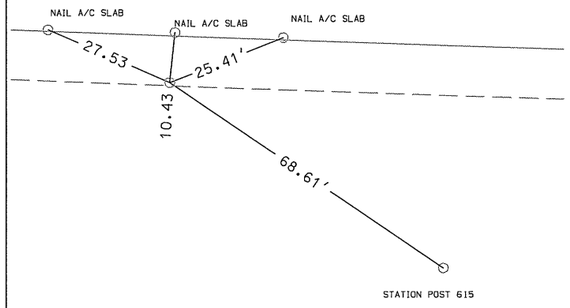
CP STA. 600+02.92, 25.49 Rt.
CP 124 Found Rebar
N=3647736.0510, E= 4281317.0850



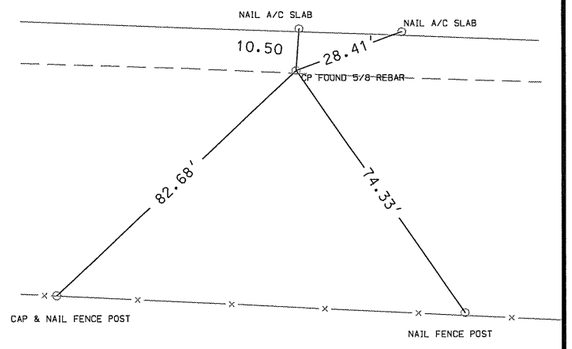
CP STA. 610+00.02, 136.159 Lt.
CP 23 Found Conc Monument
N=3647861.9560, E=4282319.3190



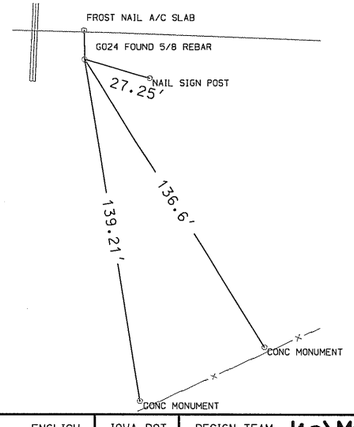
CP STA. 614+45.82, 25.15 Rt.
CP 125 Found Rebar
N=3647684.8140, E=4282759.0730



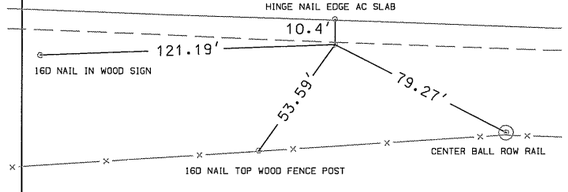
CP STA. 623+33.61, 25.22 Rt.
CP 126 Found Rebar
N=3647653.0180, E=4283646.2910



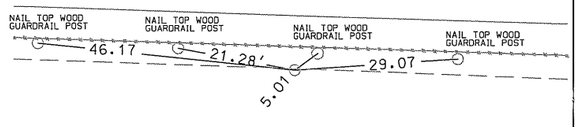
CP STA. 636+44.25, 26.84 Rt.
CP 24 Found Rebar
N=3647604.5520, E=4284956.0360



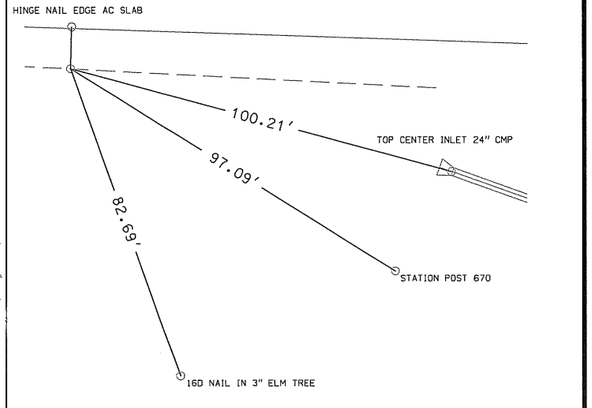
CP STA. 647+32.34, 25.50 Rt.
CP 127 Found Rebar
N=3647566.9980, E=4286043.4790



CP STA. 658+22.76 , 25.30 Rt.
CP 128 Found Rebar
N=3647528.2180, E=4287133.2130

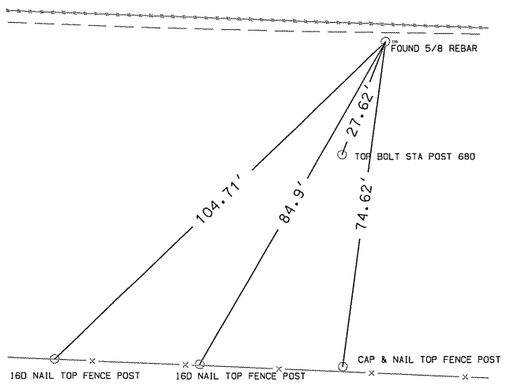


CP STA. 669+14.08, 25.81 Rt.
CP 129 Found Rebar
N=3647488.7090, E=4288223.8160

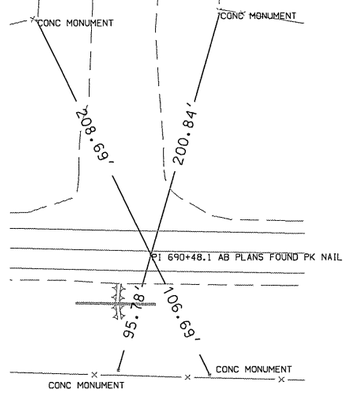


ENGLISH	IOWA DOT	DESIGN TEAM Jia\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER C.7

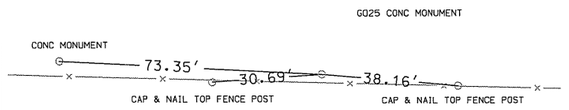
CP STA. 680+08.48, 25.78 Rt.
CP 130 Found Rebar
N=3647449.6210, E=4289317.5170



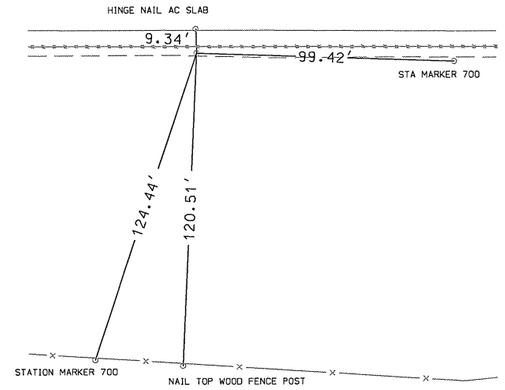
PI STA. 690+49.97
CP 409 Found PK Nail
N=3647438.1580, E=4290359.2610



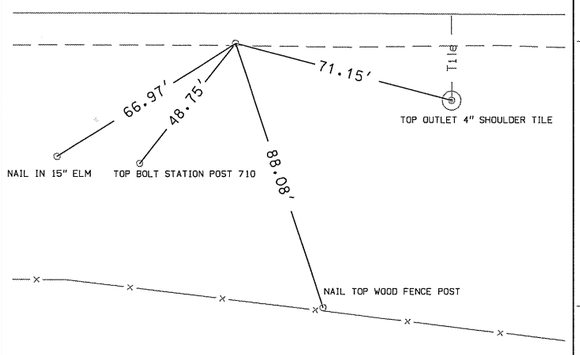
CP STA. 690+98.32, 98.29 Rt.
CP 25 Found Conc Monument
N=3647342.2790, E=4290406.0520



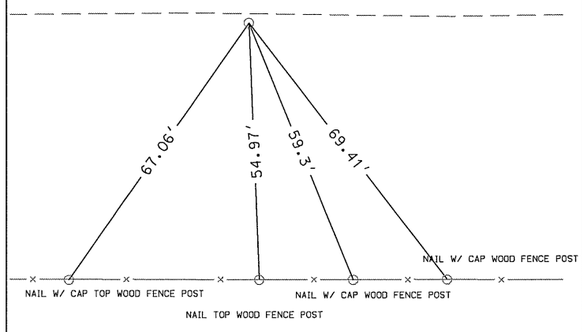
CP STA. 699+04.74, 24.26 Rt.
CP 131 Found Rebar
N=3647412.1890, E=4291214.0610



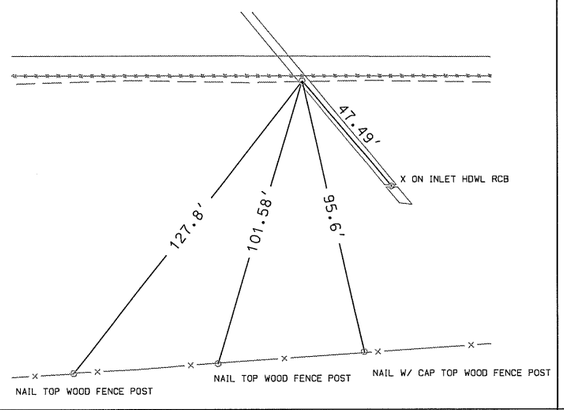
CP STA. 710+33.68, 25.17 Rt.
CP 132 Found Rebar
N=3647409.0200, E=4292342.9890



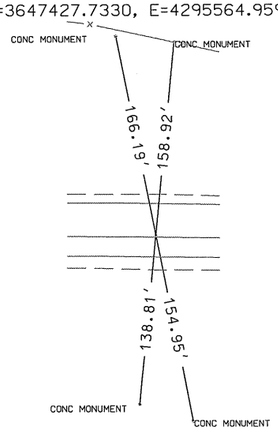
CP STA. 721+57.98, 25.02 Rt.
CP 133 Found Rebar
N=3647406.9090, E= 4293467.2900



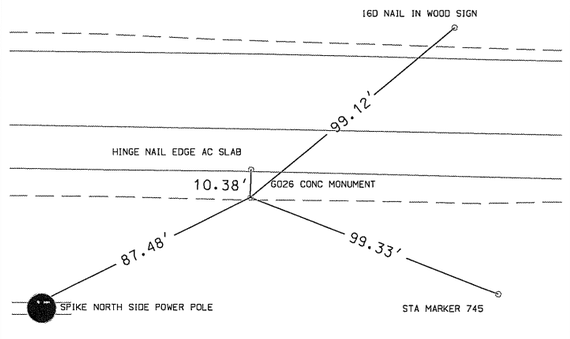
CP STA. 732+80.34, 24.20 Rt.
CP 134 Found Rebar
N=3647405.4890, E=4294589.6510



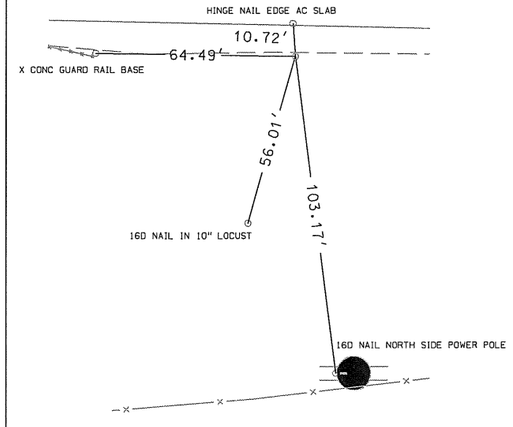
PI STA. 742+55.60
CP 410 Found PK Nail
N=3647427.7330, E=4295564.9590



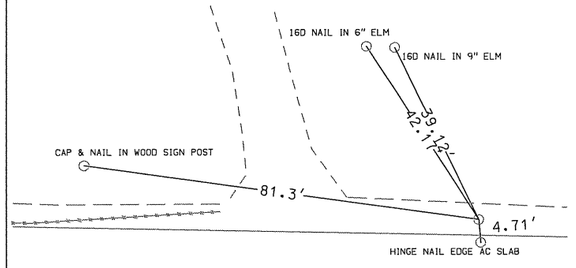
CP STA. 5744+08.08, 25.52 Rt.
CP 26 Found Conc Monument
N=3647398.4370, E=4295716.9660



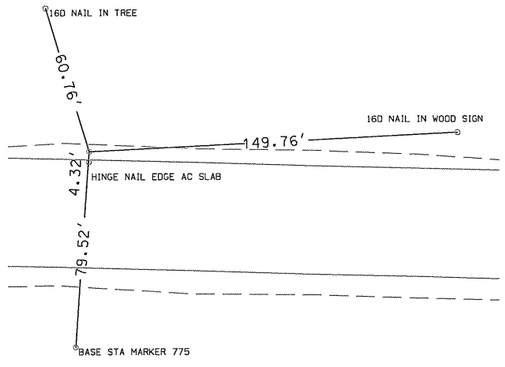
CP STA. 753+53.41, 26.29 Rt.
CP 135 Found Rebar
N=3647376.9040, E=4296661.9230



CP STA. 765+55.95, 30.79 Lt.
CP 27, Fd Rebar
N=3647407.092, E=4297865.44



CP STA. 775+05.00, 30.97 Lt.
CP 28, Fd Rebar
N=3647385.835, E=4298814.358



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER C.8

CP STA. 776+98.28
PI 411, Fd PK Nail
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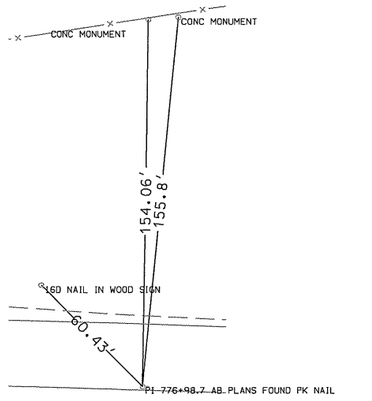
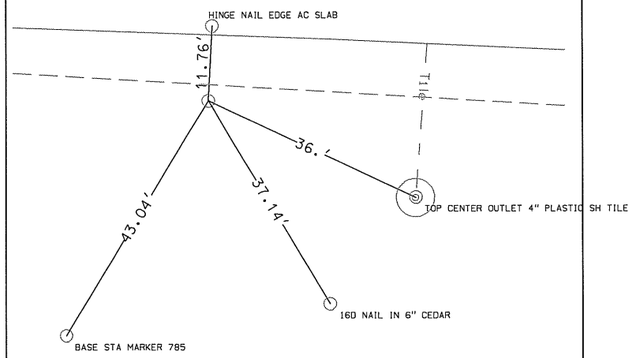
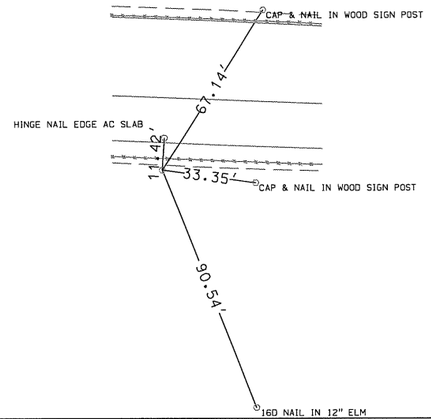


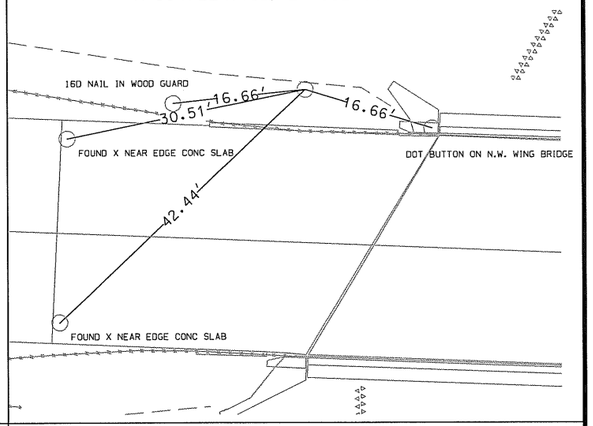
CP STA. 785+24.88, 26.29 Rt.
CP 136, Fd Rebar
N=3647290.866, E=4299831.664



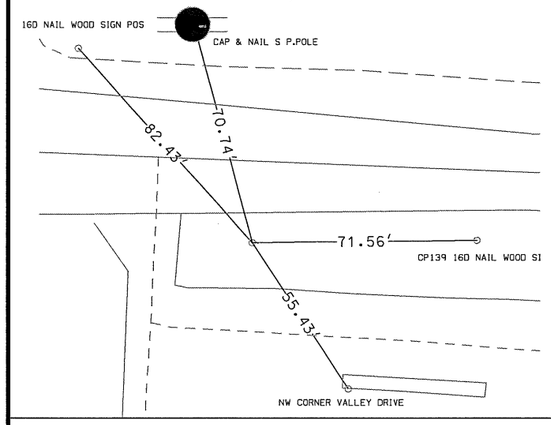
CP STA. 798+36.34, 25.73 Rt.
CP 137, Fd Rebar
N=3647238.059, E=4301142.052



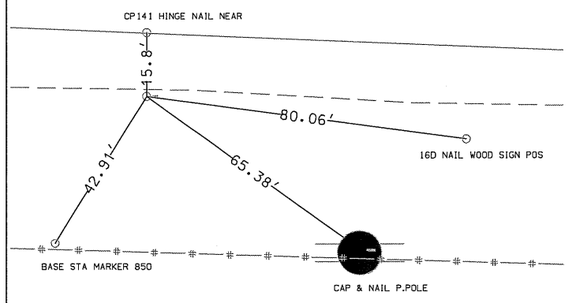
CP STA. 811+50.52, 19.14 Lt.
CP 29, Fd Rebar
N=3647229.415, E=4302456.976



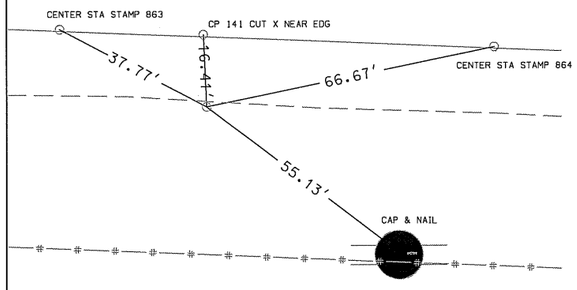
CP STA. 837+11.41, 25.73 Rt.
CP 139, Fd Rebar
N=3647080.376, E=4305013.913



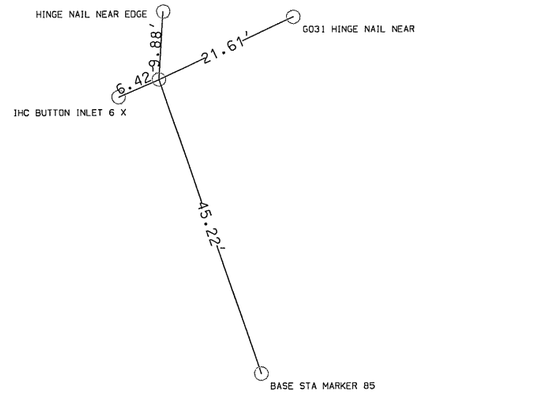
CP STA. 850+20.40, 27.43 Rt.
CP 140, Fd Rebar
N=3647025.413, E=4306321.757



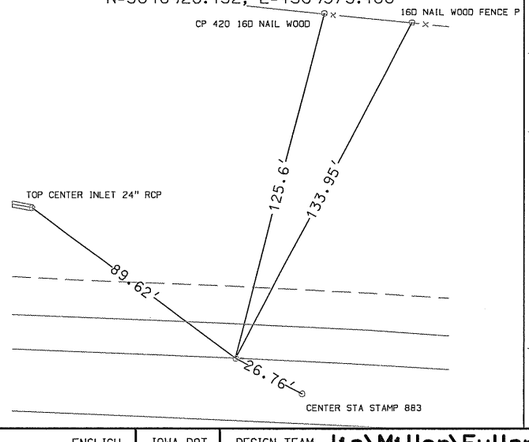
CP STA. 863+32.67, 27.68 Rt.
CP 141, Fd Rebar
N=3646971.759, E=4307632.922



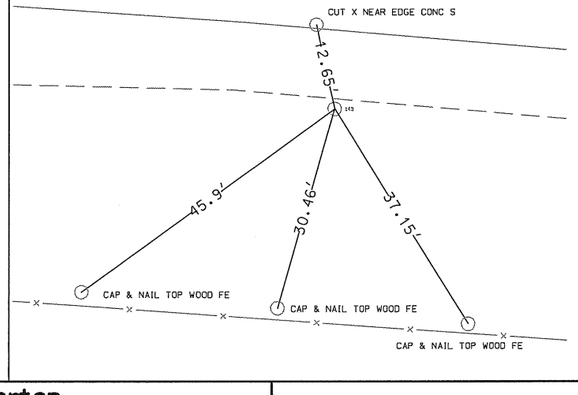
CP STA. 870+17.72, 1341.24 Lt.
CP 31, Fd Rebar
N=3648311.673, E=4308373.109



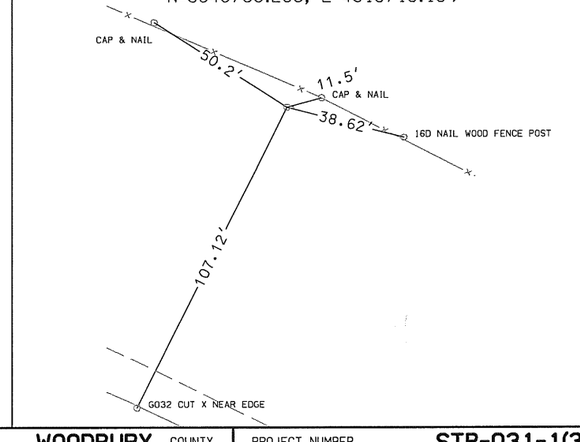
CP STA. 882+73.71
PC 420, Fd X
N=3646920.432, E=4309573.488



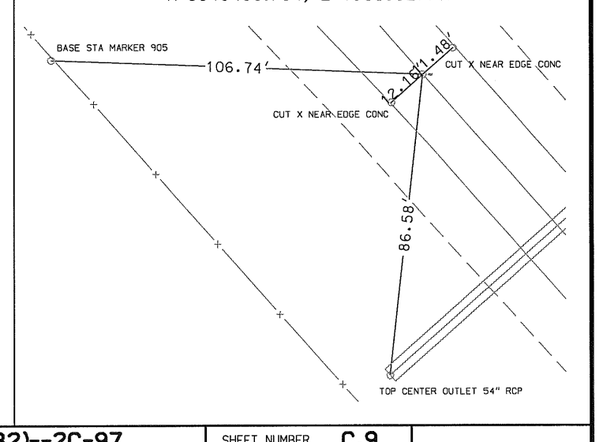
CP STA. 883+87.38, 33.64 Rt.
CP 143, Fd Rebar
N=3646880.032, E=4309684.243



CP STA. 893+99.13, 118.30 Lt.
CP 32, Fd Rebar
N=3646765.266, E=4310710.109



CP STA. 905+81.86
PT 421, Fd X
N=3645956.764, E=4311602.497



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER C.9

CP STA. 916+75.07
PC 422, Fd X
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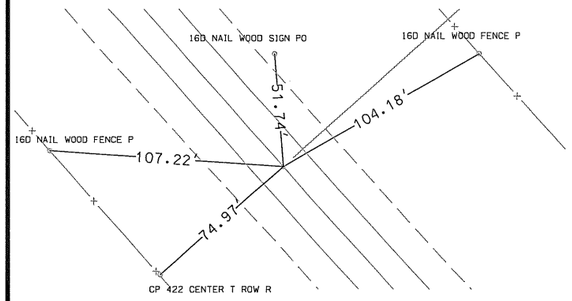

CP STA. 918+89.16, 95.84 Lt.
CP 33, Fd Rebar
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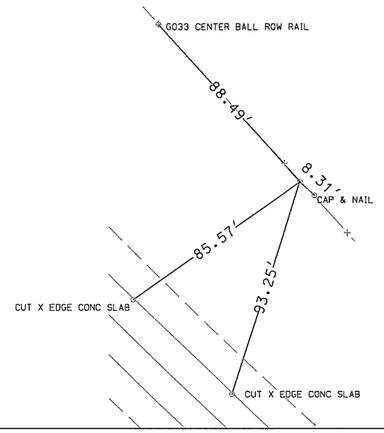
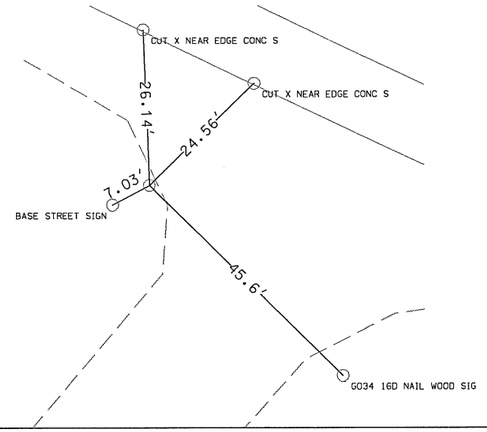
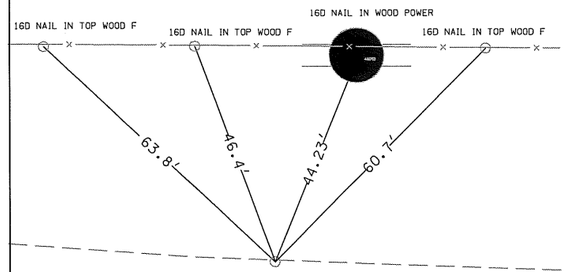


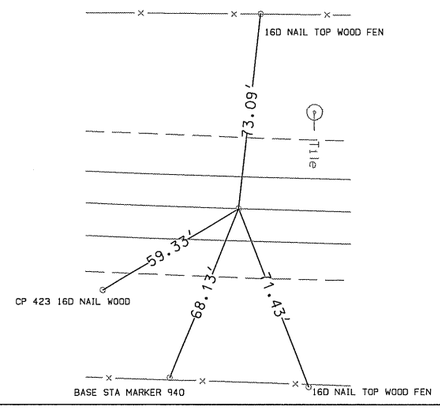
CP STA. 928+10.07, 35.09 Rt.
CP 34, Fd Rebar
N=3644426.592, E=4313211.439



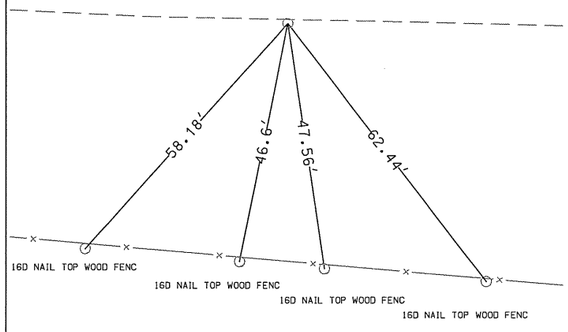
CP STA. 939+22.66, 25.69 Lt.
CP 35, Fd Rebar
N=3644204.569, E=4314298.015



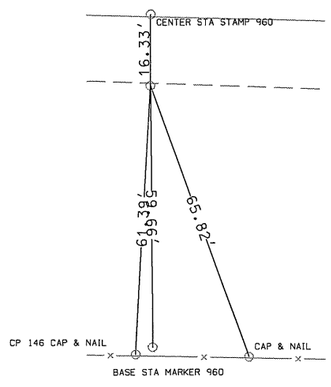
CP STA. 940+17.89
PT 423, Fd X
N=3644174.682, E=4314391.582



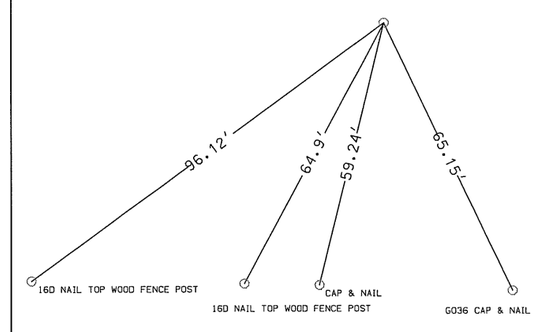
CP STA. 949+14.30, 28.33 Rt.
CP 145, Fd Rebar
N=3644121.560, E=4315286.858



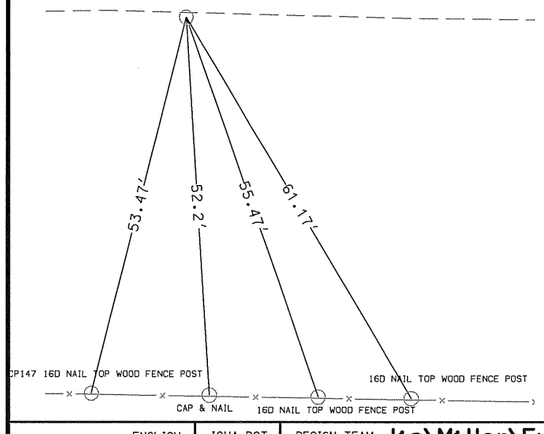
CP STA. 959+95.37, 27.90 Rt.
CP 146, Fd Rebar
N=3644092.082, E=4316367.533



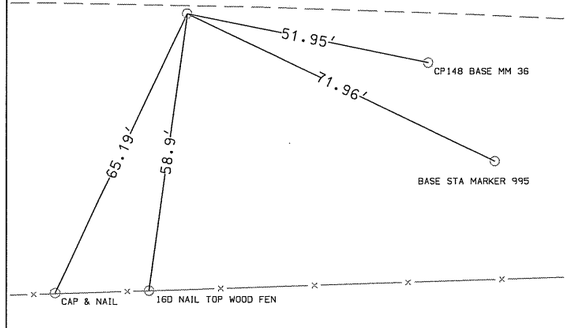
CP STA. 968+94.62 26.51 Rt.
CP 36, Fd Rebar
N=3644070.297, E=4317266.671



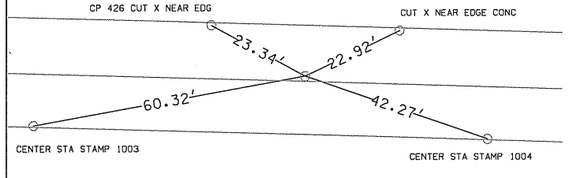
CP STA. 981+62.02, 26.81 Rt.
CP 147, Fd Rebar
N=3644042.230, E=4318533.760



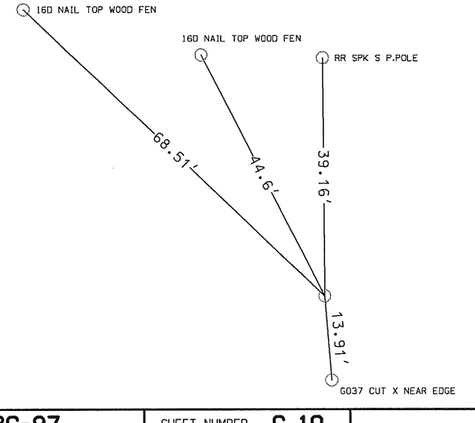
CP STA. 7994+31.06, 26.12 Rt.
CP 148, Fd Rebar
N=3644015.111, E=4319802.514



CP STA. 1003+56.18
PI 426, Fd PK Nail
N=3644020.957, E=4320727.989



CP STA. 1006+97.22, 25.40 Lt.
CP 37, Fd Rebar
N=3644033.650, E=4321069.750



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER C.10

2166

2165

1564

1565

1562

1563

PI Sta 1563+21.26

1566

1567

WB-67
AASHTO 2004 (US)

WB-67
AASHTO 2004 (US)

ok

CS Sta 1562+21.20

ST Sta 1565+21.20

2164

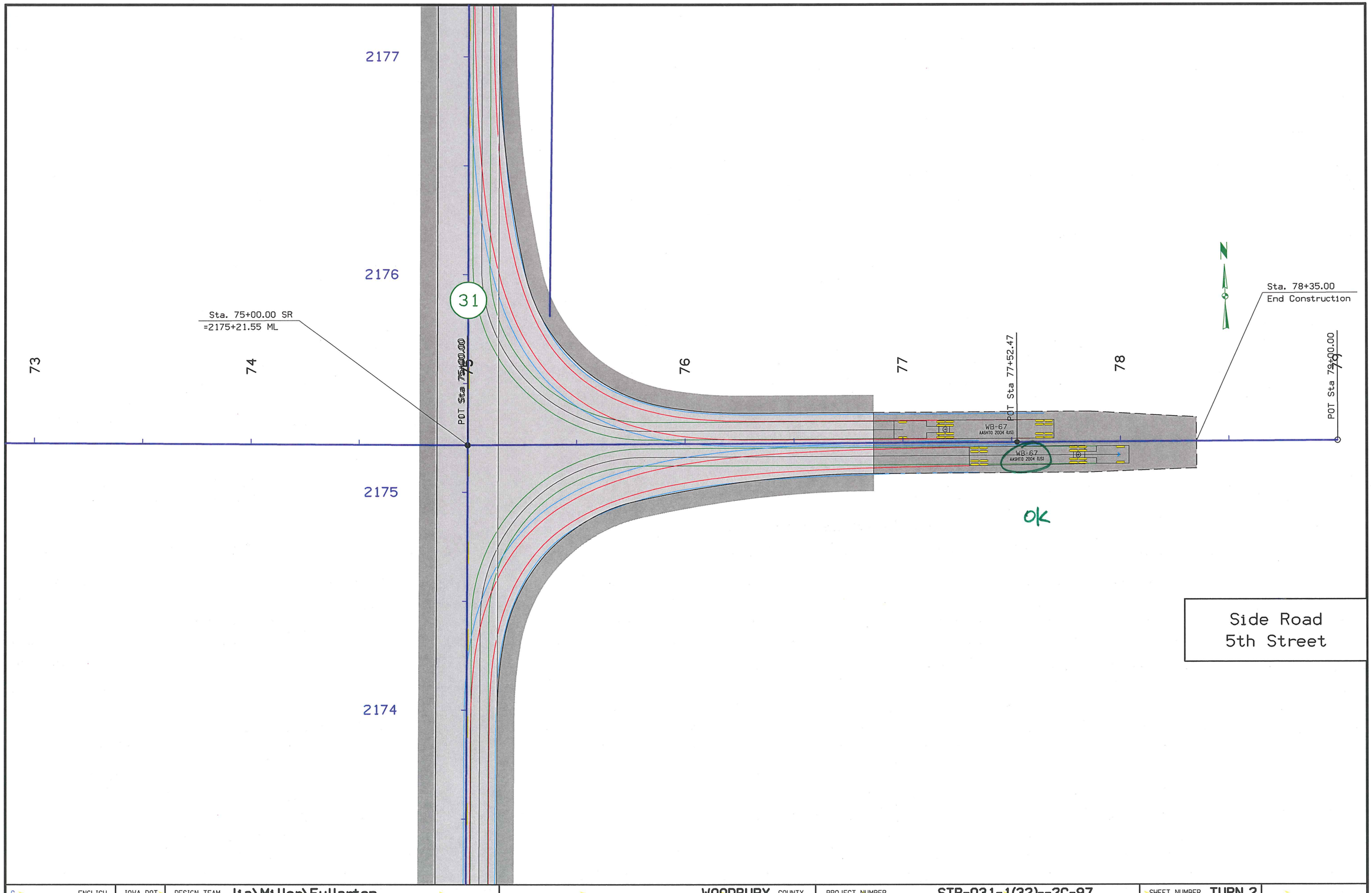
2163

N

Mainline
IA 31

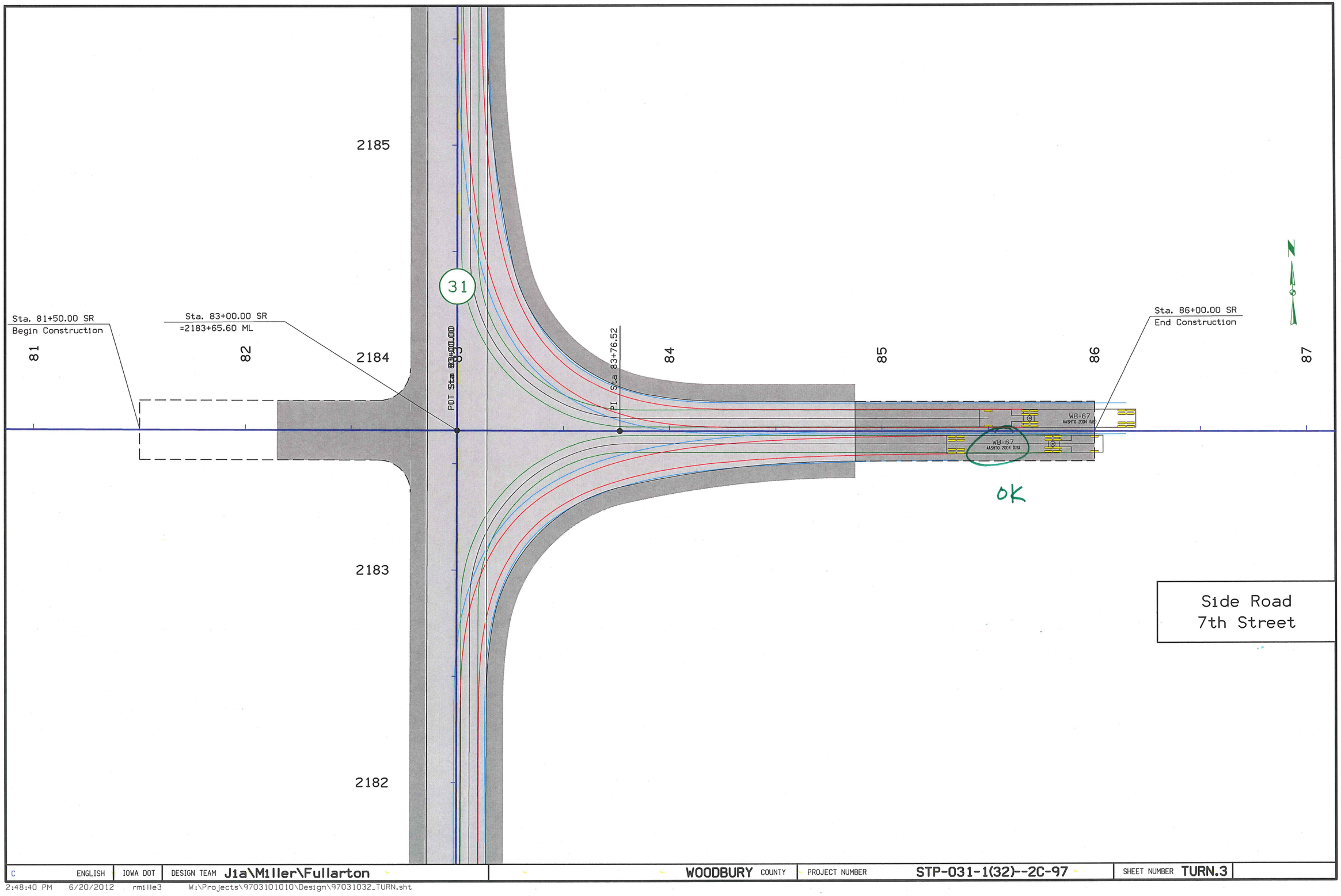
C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER TURN.1

3:44:17 PM 6/20/2012 rmille3 W:\Projects\9703101010\Design\97031032_TURN.sht



C ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER	STP-031-1(32)--2C-97	SHEET NUMBER TURN.2

2:48:38 PM 6/20/2012 rmille3 W:\Projects\9703101010\Design\97031032_TURN.sht



C	ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER TURN.3

2:48:40 PM 6/20/2012 rmille3 W:\Projects\9703101010\Design\97031032_TURN.sht

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

IA 31

Preliminary

2165+75.00

1115 1115

2165+50.00

1115 1115

2165+25.00

1115 1115

2165+00.00

1115 1115

2164+75.00

1115 1115

2164+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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.1

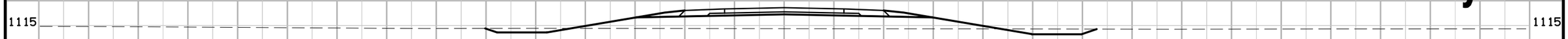
5:25:41 PM 6/5/2012 dfullar W:\Projects\9703101010\Design\97031032_TestDave3_280_W1.sht

IA 31

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

2167+25.00



2167+00.00

2166+75.00

2166+50.00

2166+25.00

2166+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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.2

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IA 31

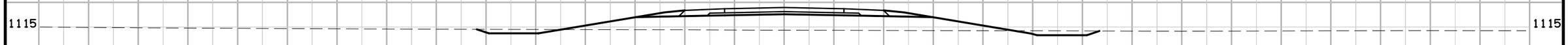
Preliminary

2168+75.00

2168+50.00

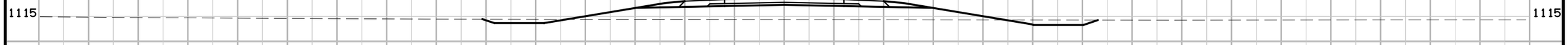
2168+25.00

2168+00.00



2167+75.00

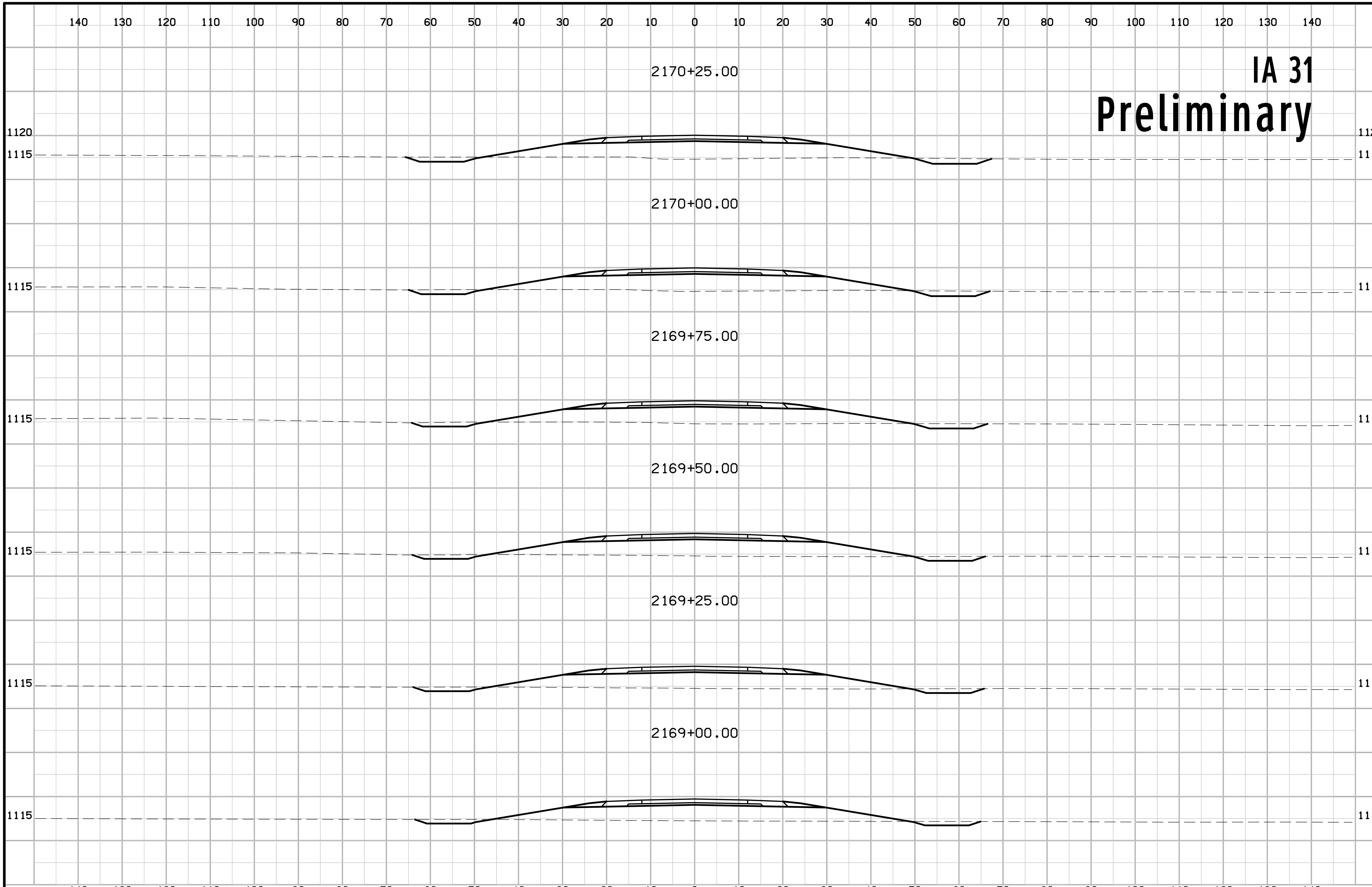
2167+50.00



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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.3

5:25:42 PM 6/5/2012 dfullar W:\Projects\9703101010\Design\97031032_TestDave3_280_W1.sht



ENGLISH	IOWA DOT	DESIGN TEAM Jia\Miller\Fullarton		WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.4

5:25:43 PM 6/5/2012 dfullar W:\Projects\9703101010\Design\97031032_TestDave3_280_W1.sht

IA 31

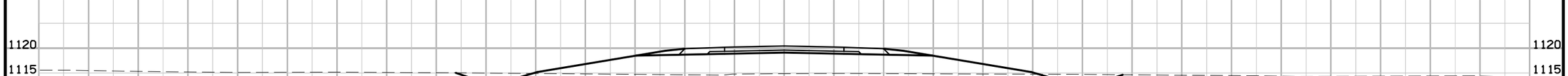
Preliminary

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

2171+50.00

2171+25.00

2171+00.00



2170+75.00

2170+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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.5

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IA 31

Preliminary

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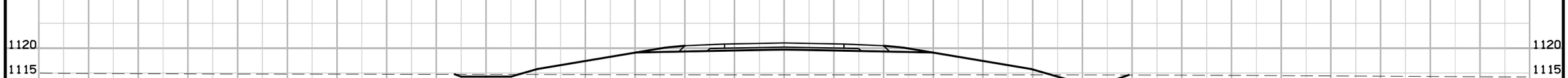
2172+75.00

2172+50.00

2172+25.00



2172+00.00

2171+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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.6

5:25:44 PM 6/5/2012 dfullar W:\Projects\9703101010\Design\97031032_TestDave3_280_W1.sht

IA 31

Preliminary

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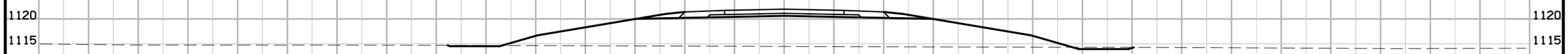
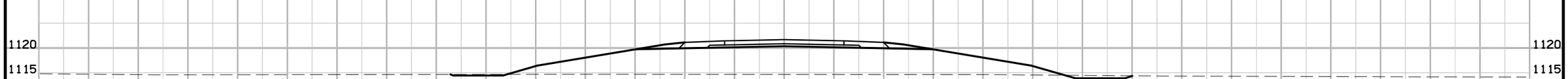
2174+00.00



2173+75.00

2173+50.00



2173+25.00

2173+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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.7

5:25:44 PM 6/5/2012 dfullar W:\Projects\9703101010\Design\97031032_TestDave3_280_W1.sht

IA 31

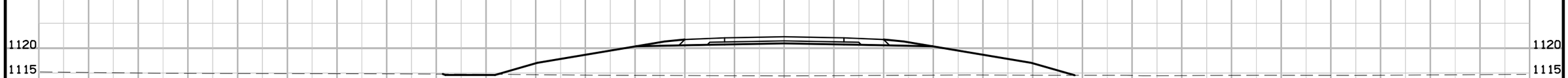
Preliminary

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

2175+25.00

2175+00.00

2174+75.00



2174+50.00

2174+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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.8

5:25:45 PM 6/5/2012 dfullar W:\Projects\9703101010\Design\97031032_TestDave3_280_W1.sht

IA 31

Preliminary

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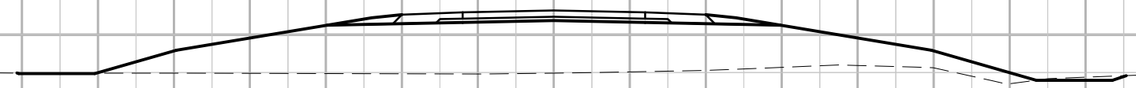
2176+50.00

1120
1115



1120
1115

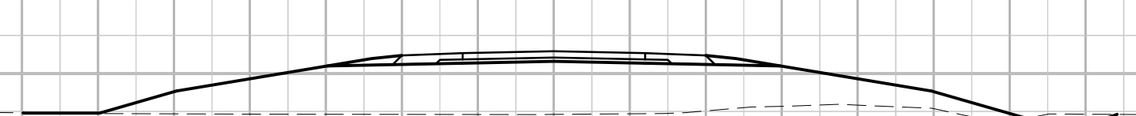
2176+25.00

1120
1115

1120
1115

2176+00.00

1120
1115



1120
1115

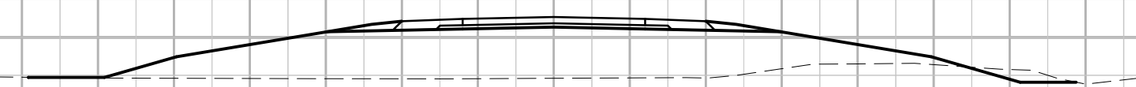
2175+75.00

1120
1115

1120
1115

2175+50.00

1120
1115



1120
1115

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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.9

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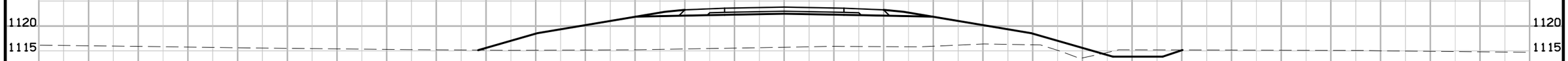
IA 31

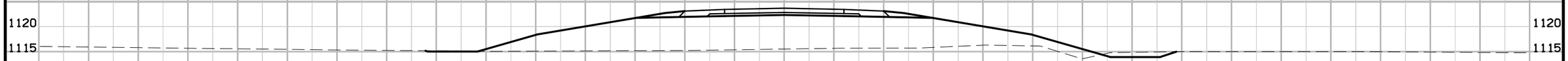
Preliminary

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

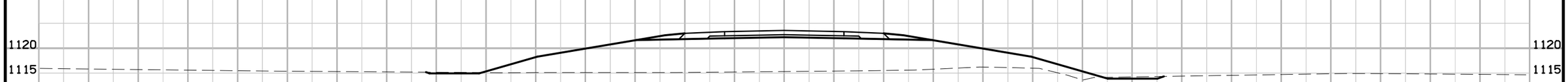
2177+75.00



2177+50.00



2177+25.00



2177+00.00

2176+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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.10

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IA 31

Preliminary

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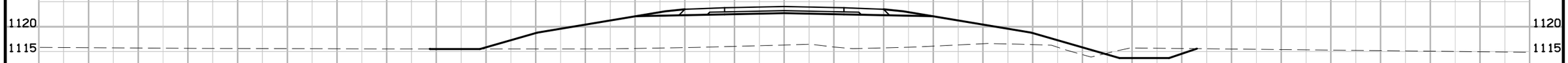
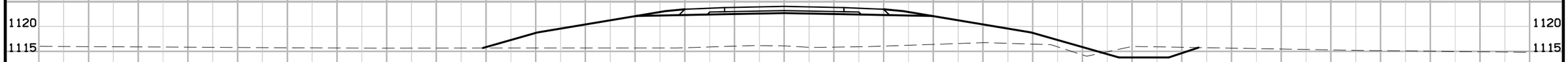
2179+00.00

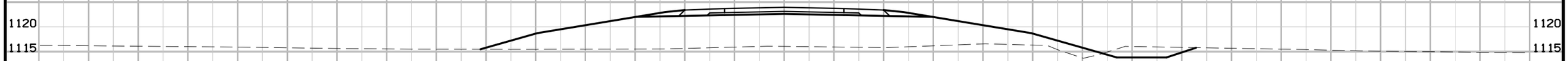


2178+75.00



2178+50.00

2178+25.00



2178+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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.11

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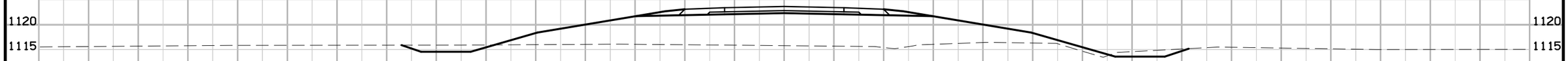
IA 31

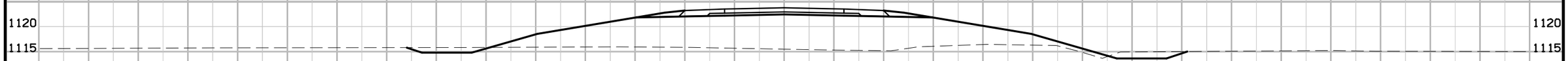
Preliminary

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

2180+25.00

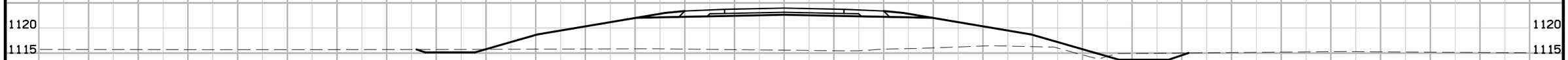


2180+00.00

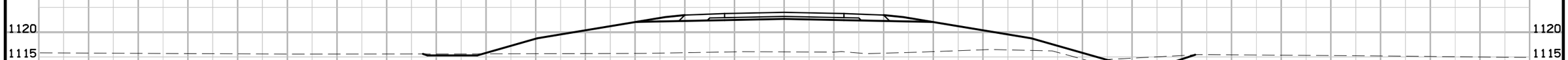


2179+75.00

2179+50.00



2179+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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.12

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IA 31

Preliminary

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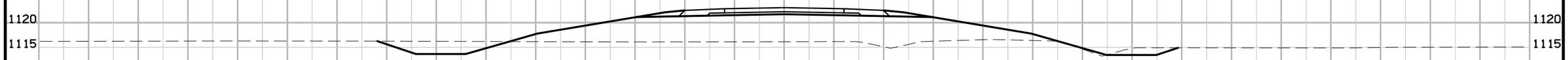
2181+50.00

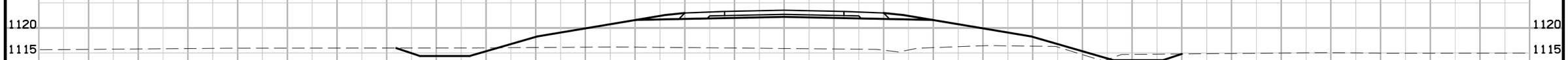


2181+25.00

2181+00.00

2180+75.00

2180+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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.13

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IA 31

Preliminary

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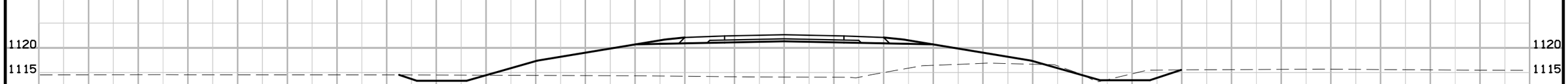
2182+75.00

2182+50.00

2182+25.00



2182+00.00

2181+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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.14

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IA 31

Preliminary

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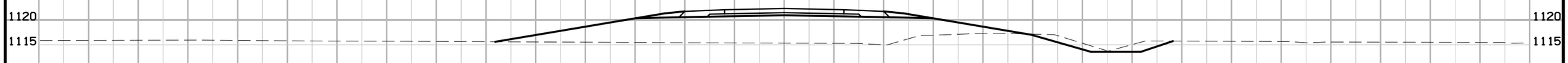
2184+00.00

2183+75.00

2183+50.00

2183+25.00

2183+00.00



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ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.15

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IA 31

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

2185+25.00

1120 1115 1120 1115

2185+00.00

1120 1115 1120 1115

2184+75.00

1120 1115 1120 1115

2184+50.00

1120 1115 1120 1115

2184+25.00

1120 1115 1120 1115

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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.16

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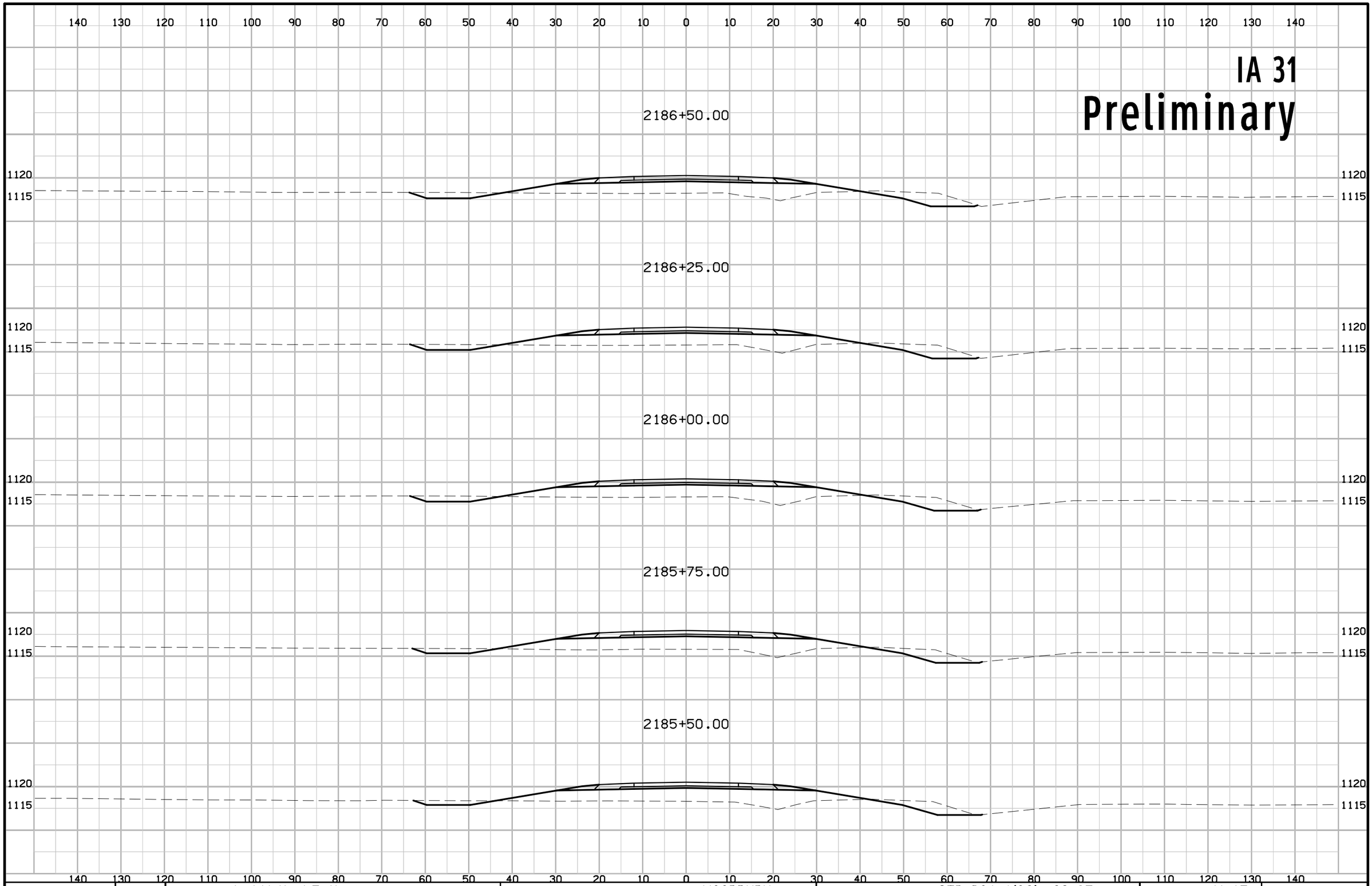
IA 31

Preliminary



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5:25:49 PM 6/5/2012 dfullar W:\Projects\9703101010\Design\97031032_TestDave3_280_W1.sht

IA 31

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

2187+75.00

1115 1115

2187+50.00

1120 1120
1115 1115

2187+25.00

1120 1120
1115 1115

2187+00.00

1120 1120
1115 1115

2186+75.00

1120 1120
1115 1115

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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.18

5:25:49 PM 6/5/2012 dfullar W:\Projects\9703101010\Design\97031032_TestDave3_280_W1.sht

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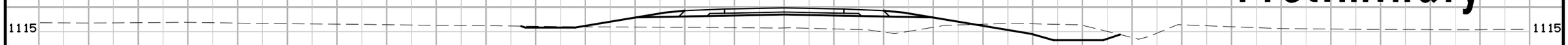
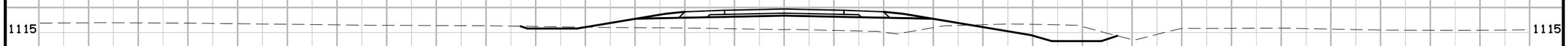
IA 31

Preliminary

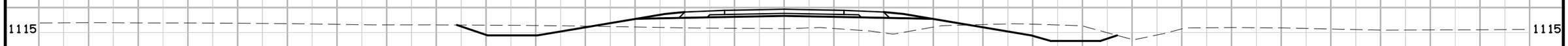
2189+25.00



2189+00.00



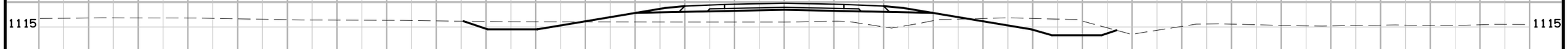
2188+75.00



2188+50.00

2188+25.00

2188+00.00



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ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.19

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IA 31

Preliminary

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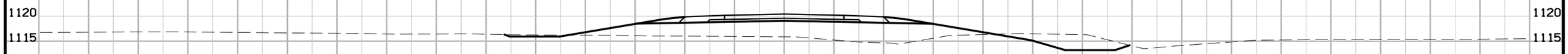
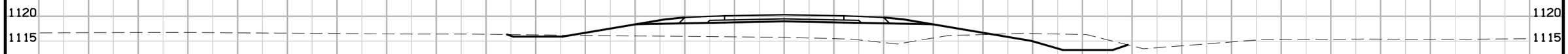
2190+50.00

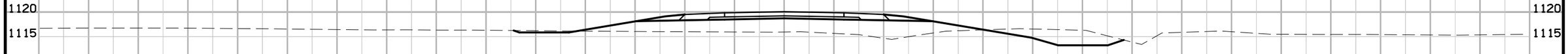


2190+25.00

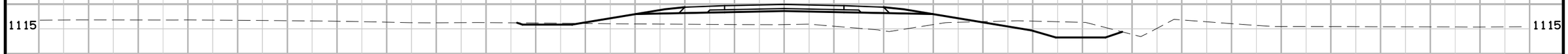


2190+00.00

2189+75.00



2189+50.00



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ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.20

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IA 31

Preliminary

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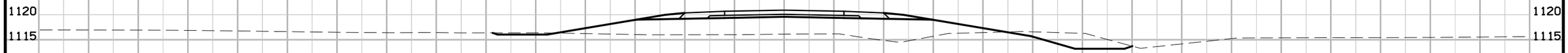
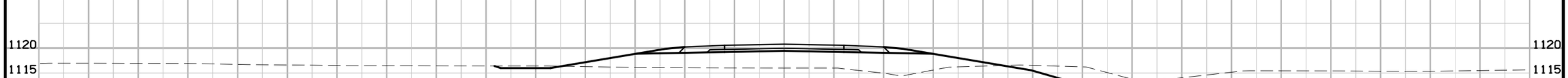
2191+75.00

2191+50.00



2191+25.00



2191+00.00

2190+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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.21

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IA 31

Preliminary

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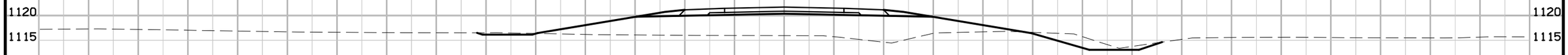
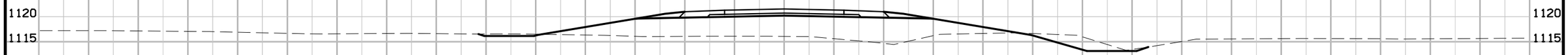
2193+00.00

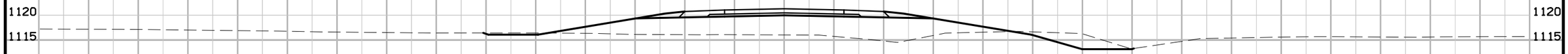


2192+75.00

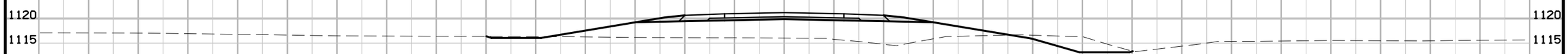


2192+50.00

2192+25.00



2192+00.00



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ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.22

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IA 31

Preliminary

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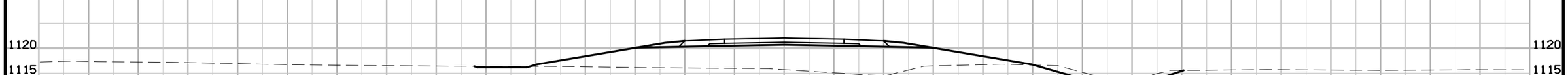
2194+25.00

2194+00.00

2193+75.00



2193+50.00

2193+25.00

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ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.23

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IA 31

Preliminary

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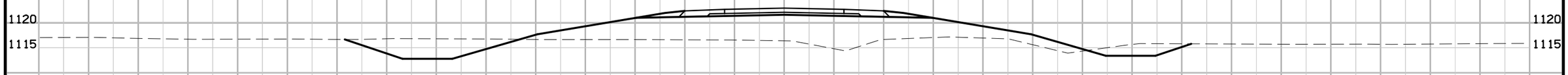
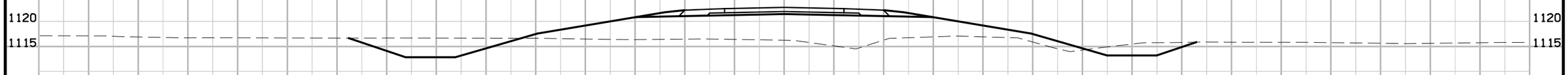
2195+50.00

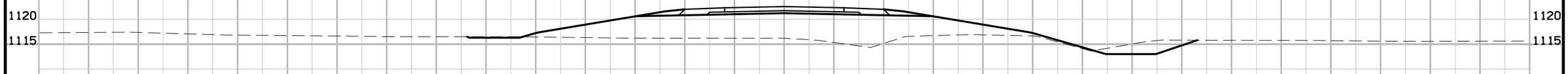


2195+25.00



2195+00.00

2194+75.00



2194+50.00

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ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.24

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IA 31

Preliminary

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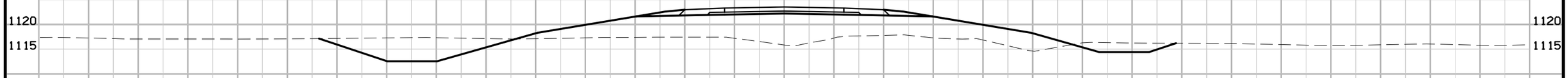
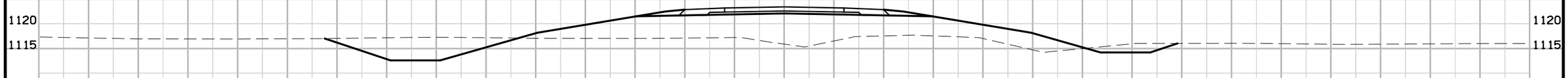
2196+75.00



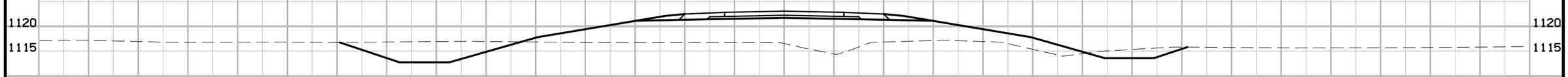
2196+50.00



2196+25.00

2196+00.00

2195+75.00



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ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.25

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IA 31

Preliminary

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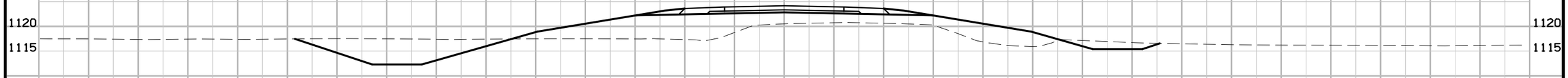
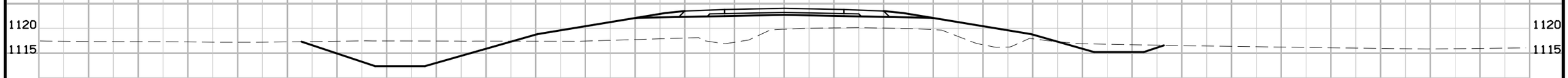
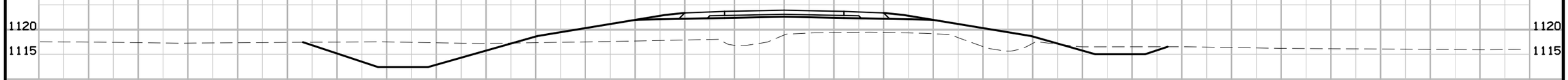
2198+00.00



2197+75.00



2197+50.00



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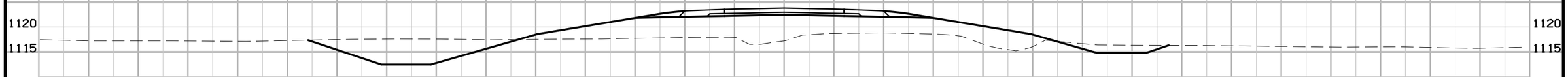

2197+00.00

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ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.26

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IA 31

Preliminary

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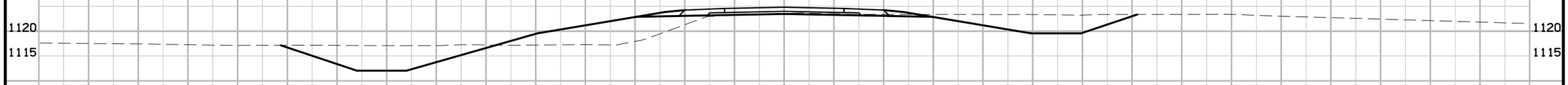
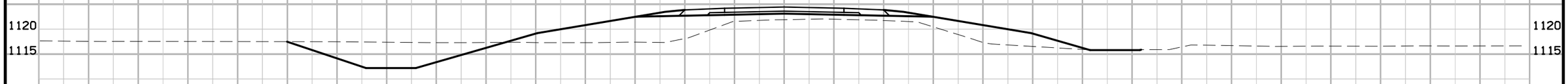
2199+25.00



2199+00.00

2198+75.00

2198+50.00



2198+25.00

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ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.27

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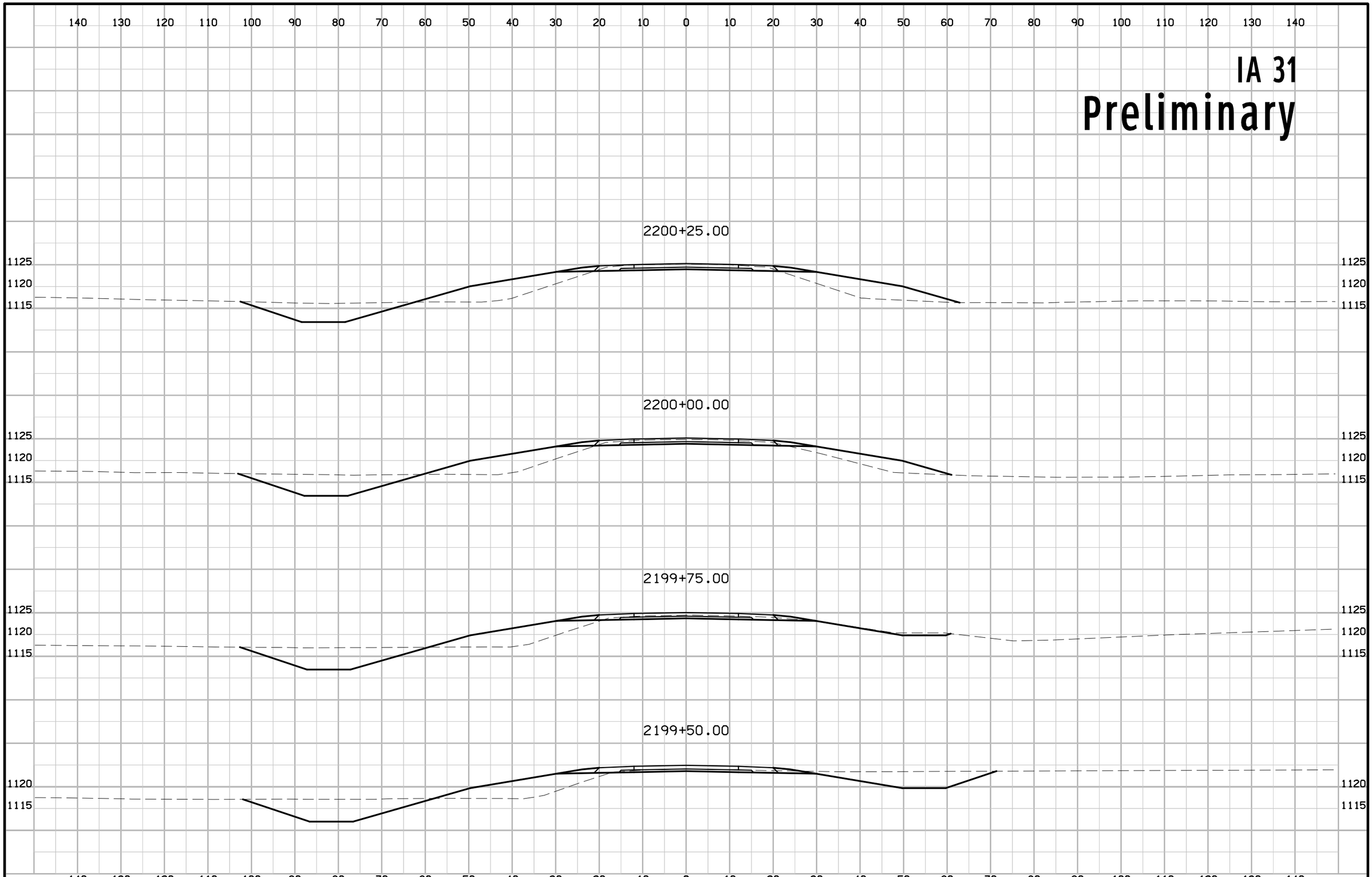
IA 31

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.28

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IA 31

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

2201+50.00

1125
1120

1125
1120

2201+25.00

1125
1120

1125
1120

2201+00.00

1125
1120
1115

1125
1120
1115

2200+75.00

1125
1120
1115

1125
1120
1115

2200+50.00

1125
1120
1115

1125
1120
1115

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\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.29

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IA 31

Preliminary

2202+00.00

1125

1125

2201+75.00

1125

1125

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER W.30

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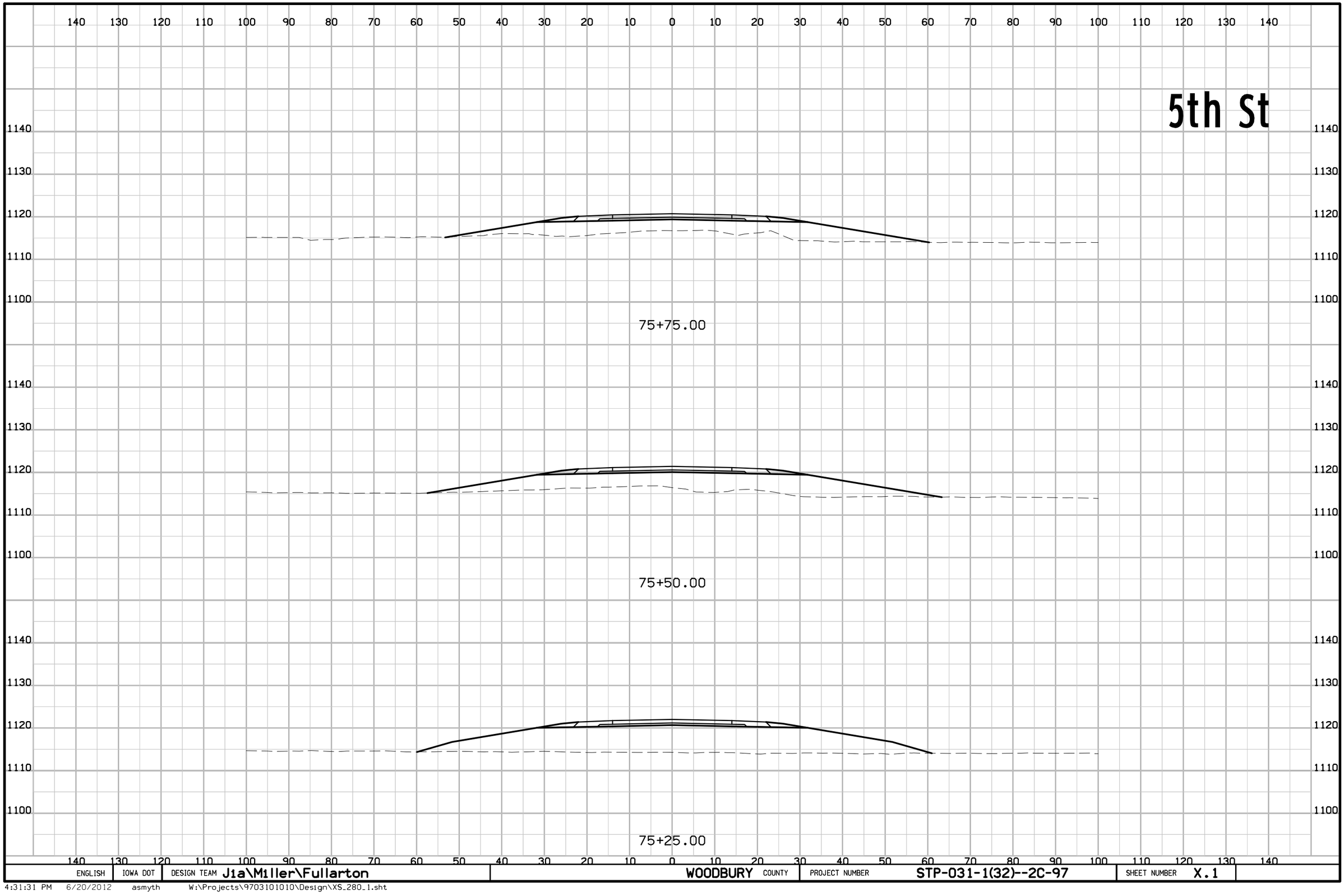
5th St



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.1

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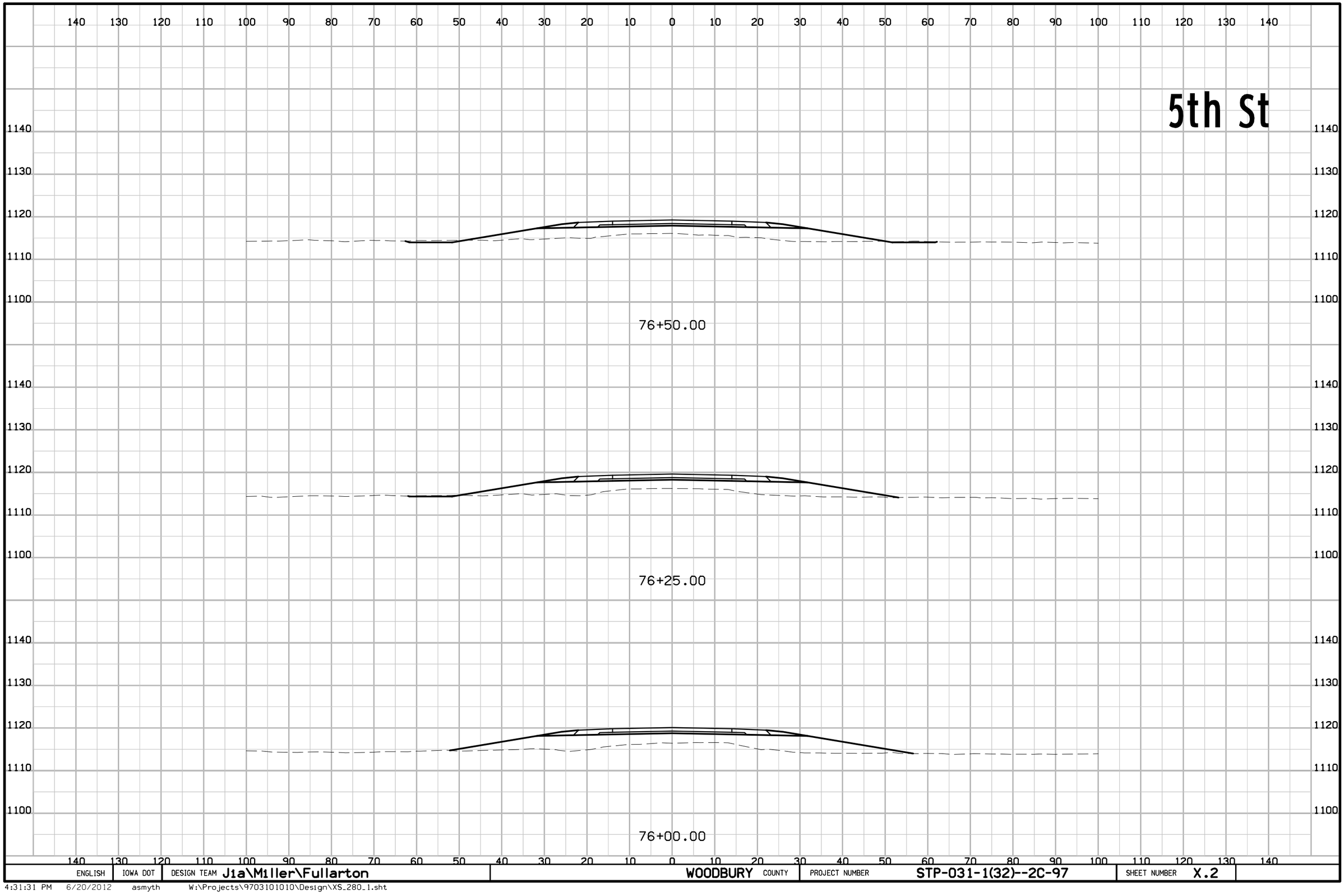
5th St



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.2

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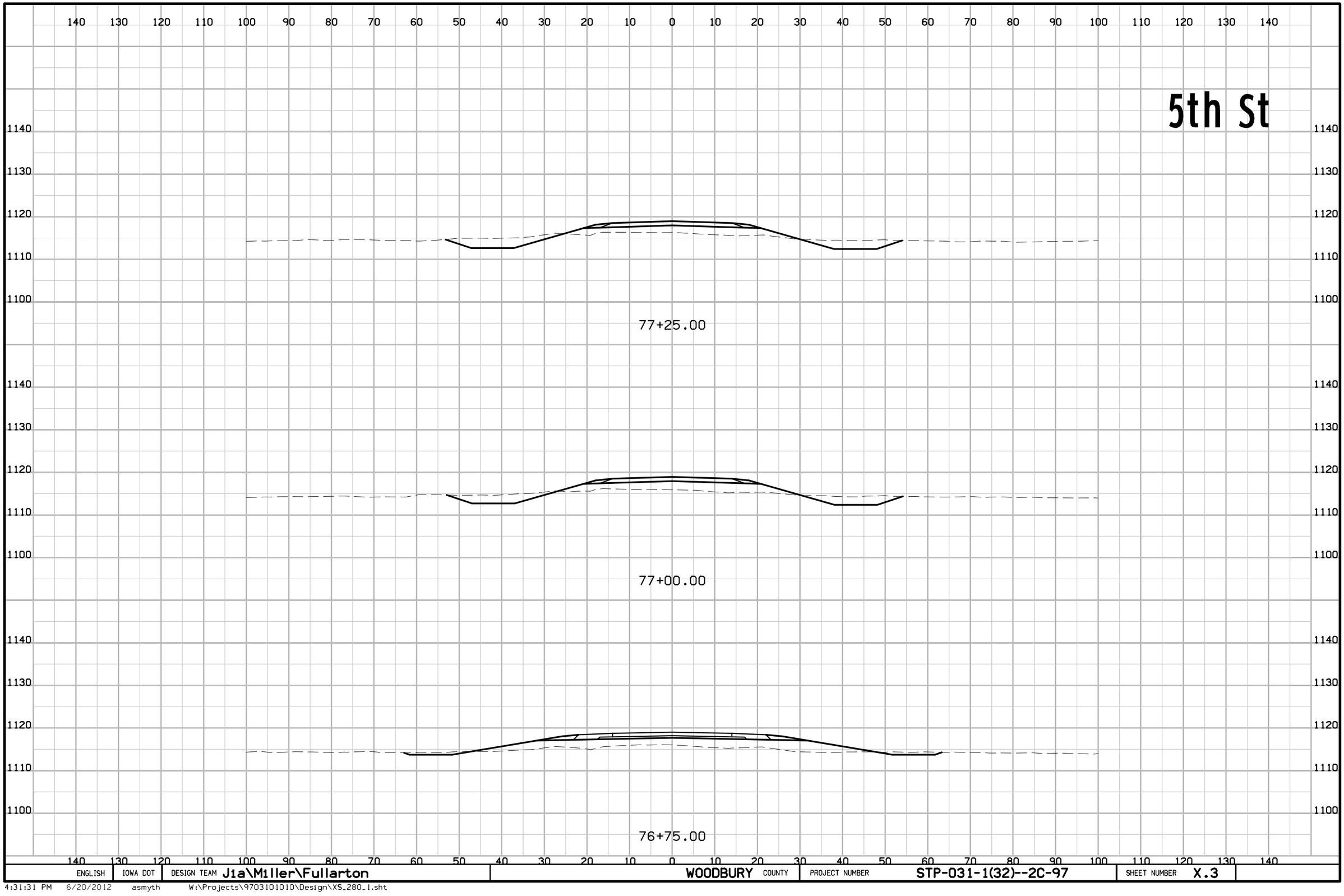
5th St



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.3

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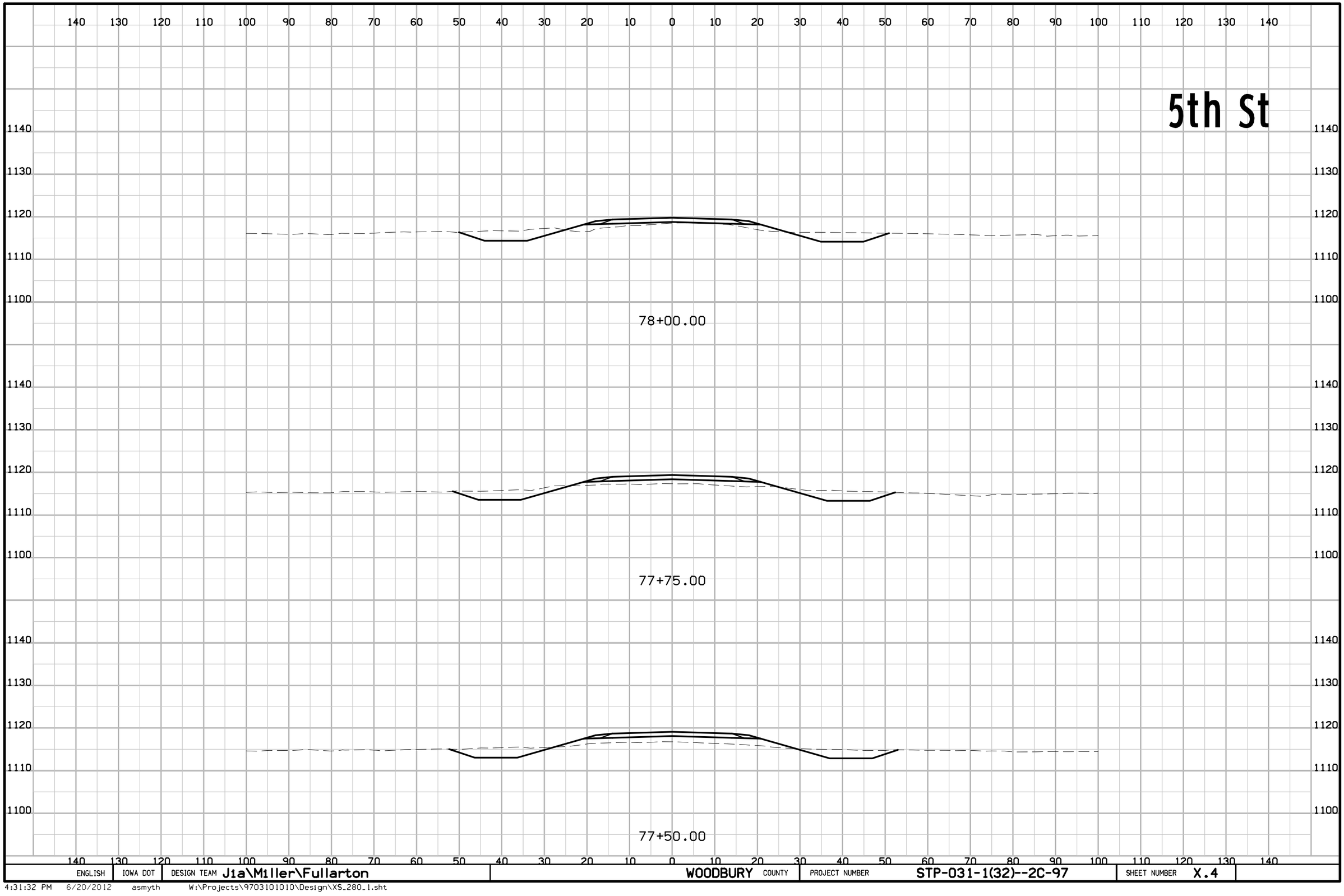
5th St



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.4

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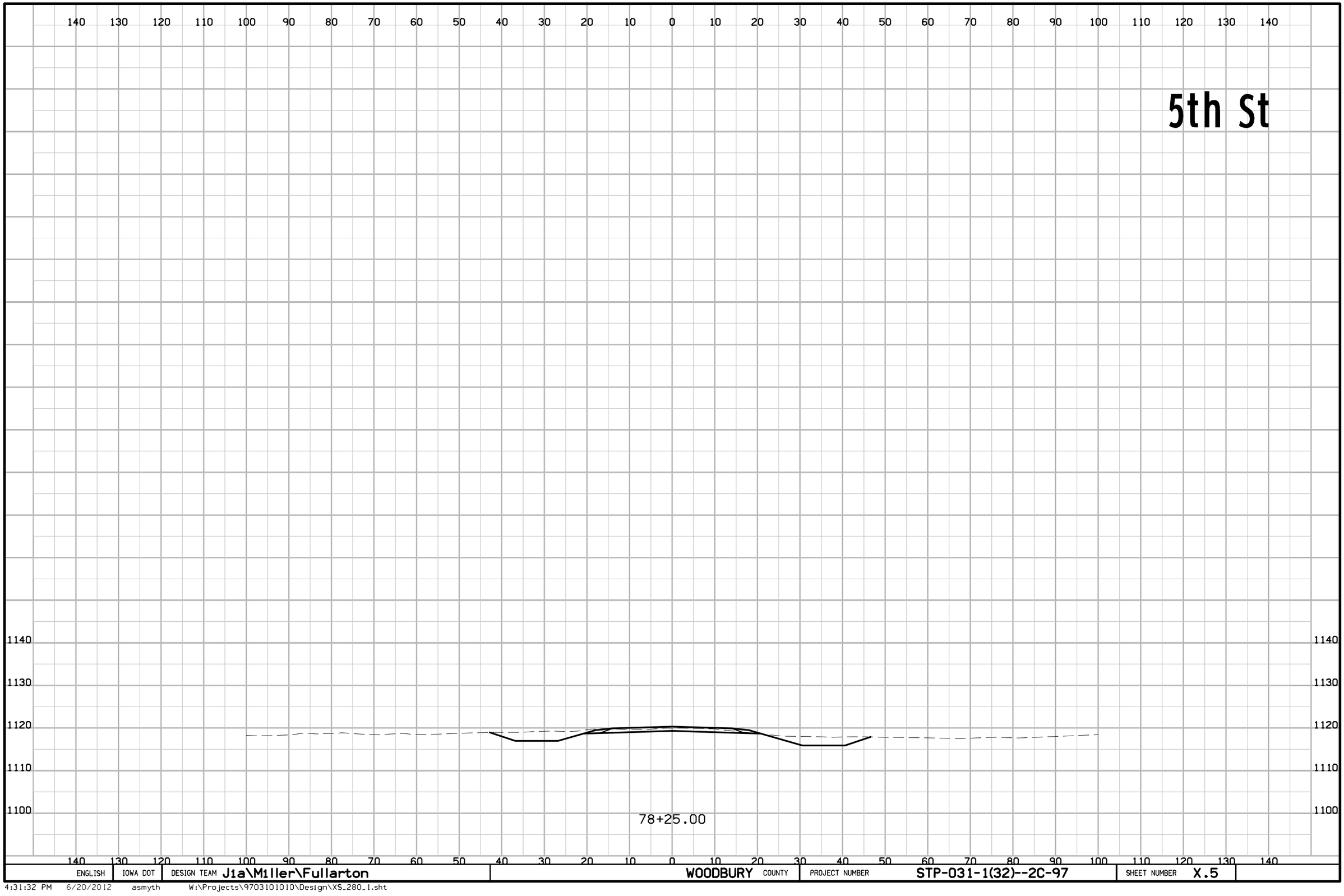

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.5

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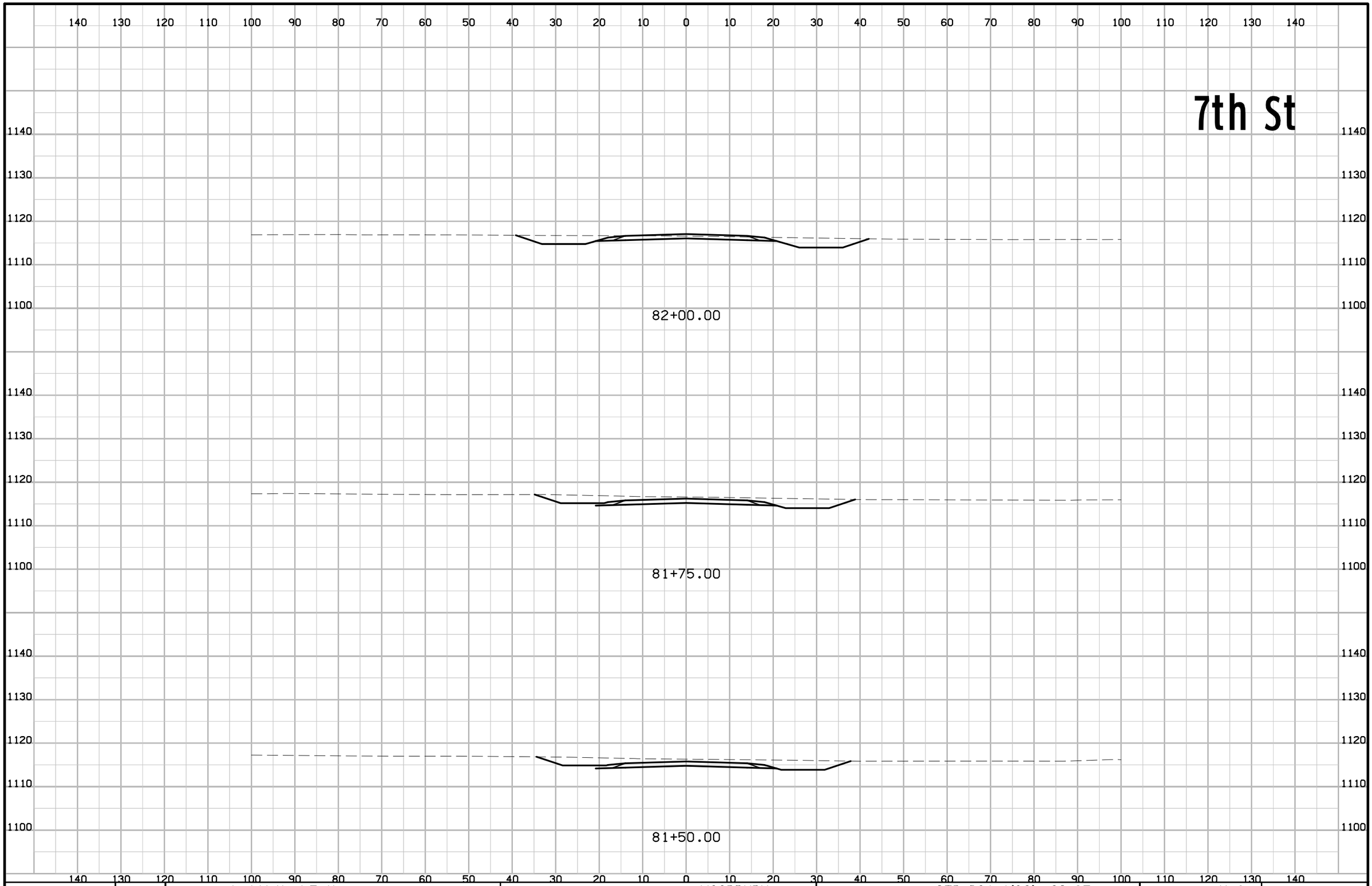
7th St



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.6

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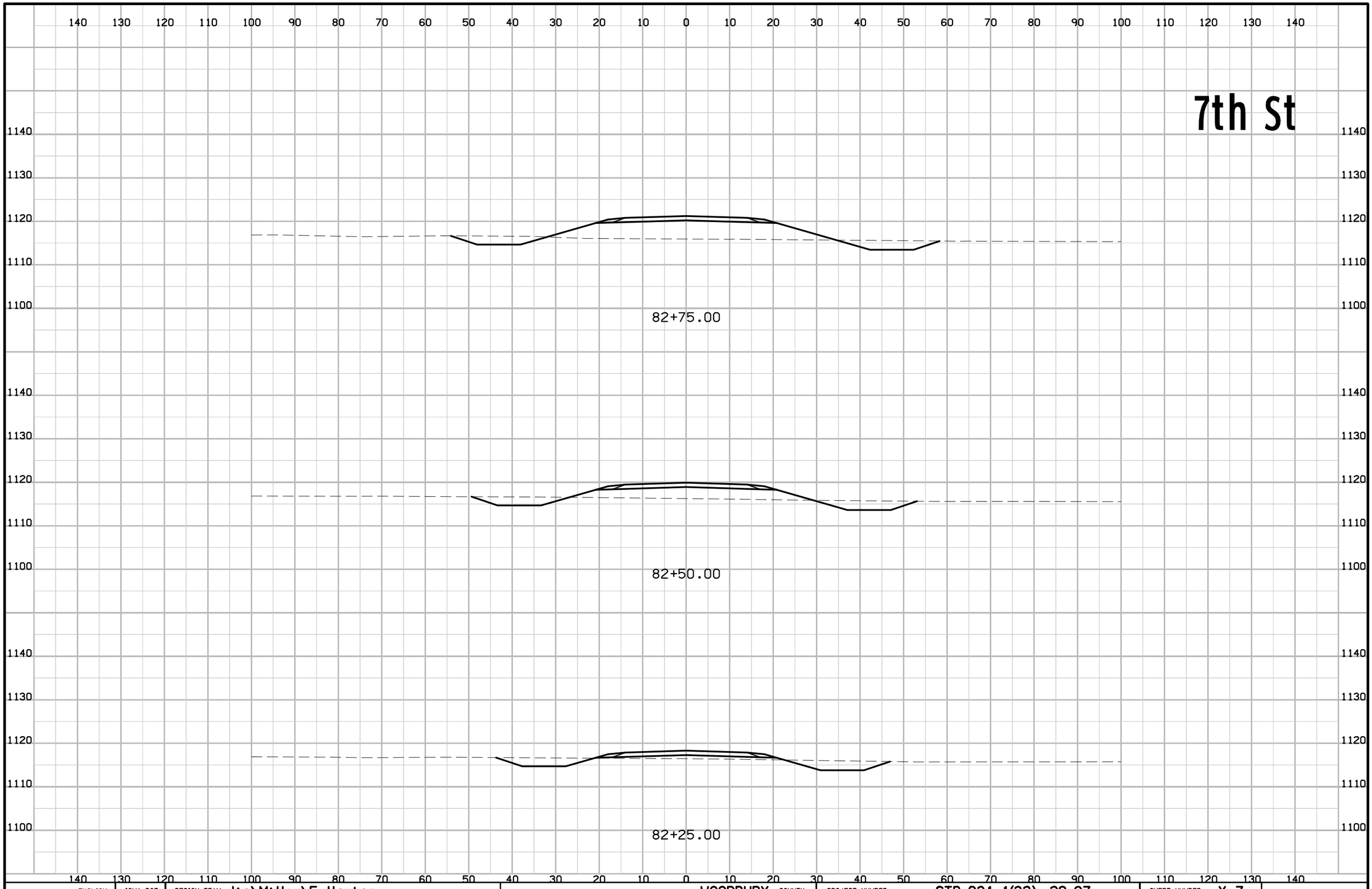
7th St



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.7

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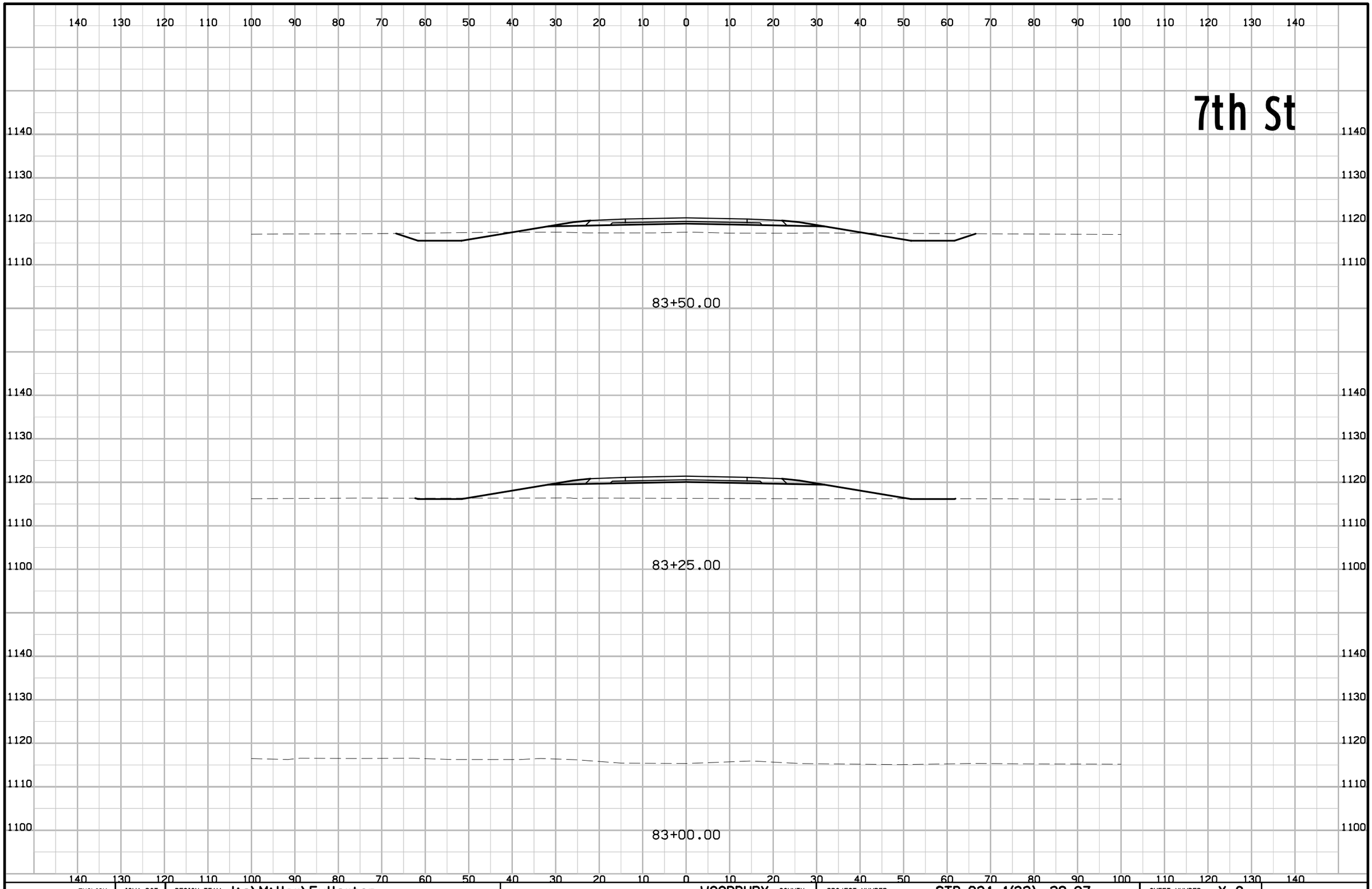
7th St



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.8

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7th St

84+25.00

84+00.00

83+75.00

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.9

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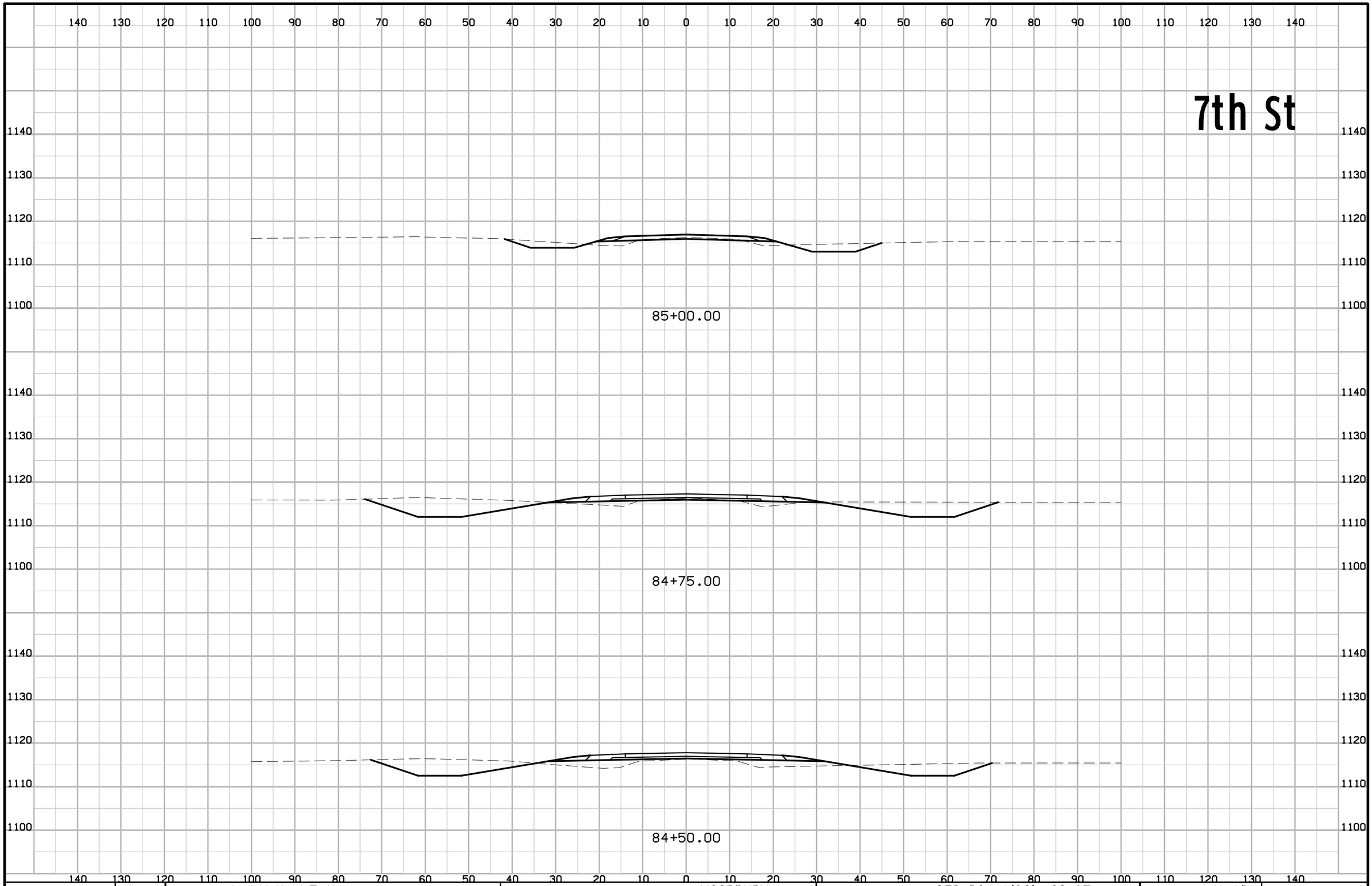
7th St



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.10

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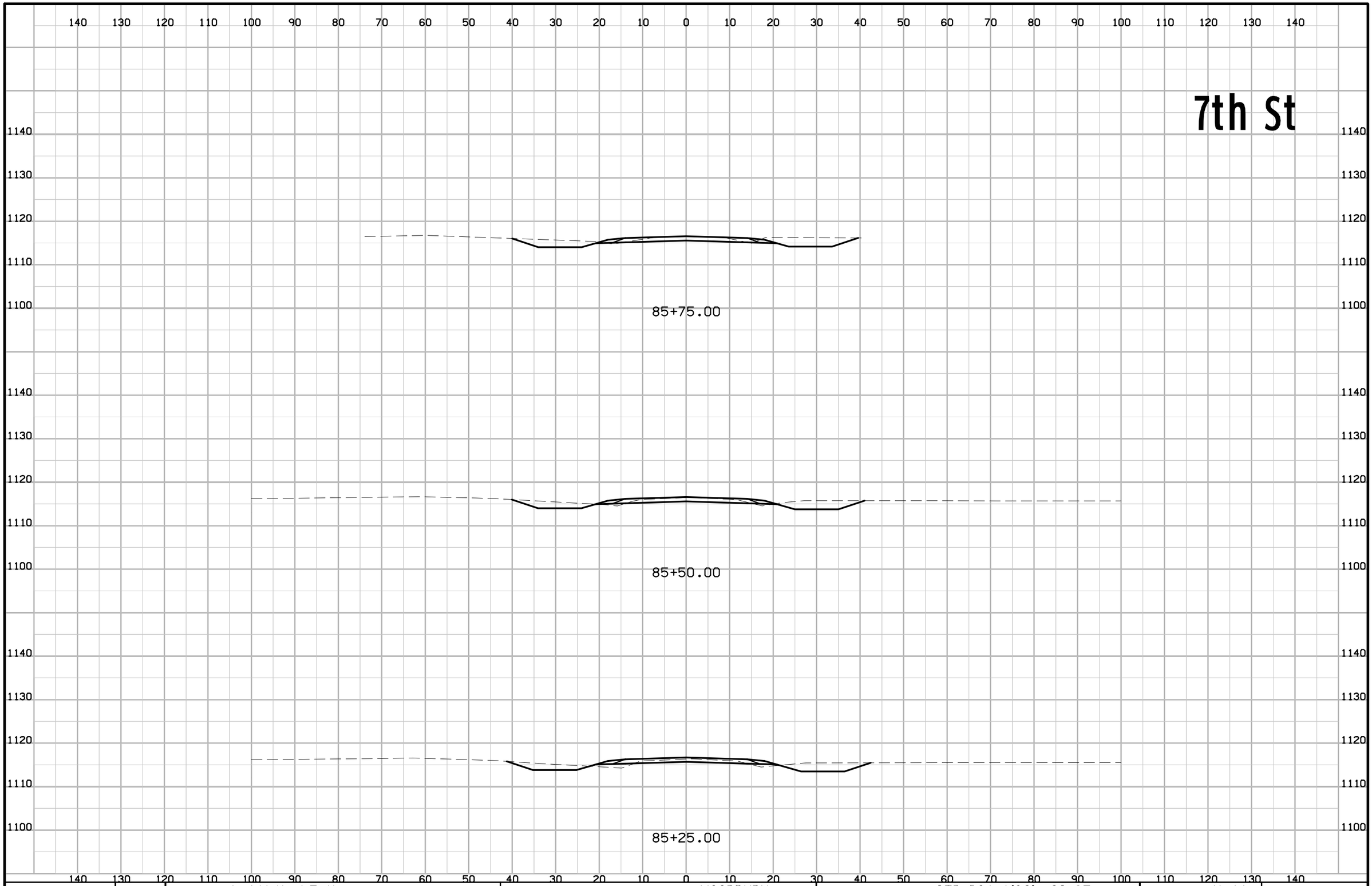
7th St



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.11

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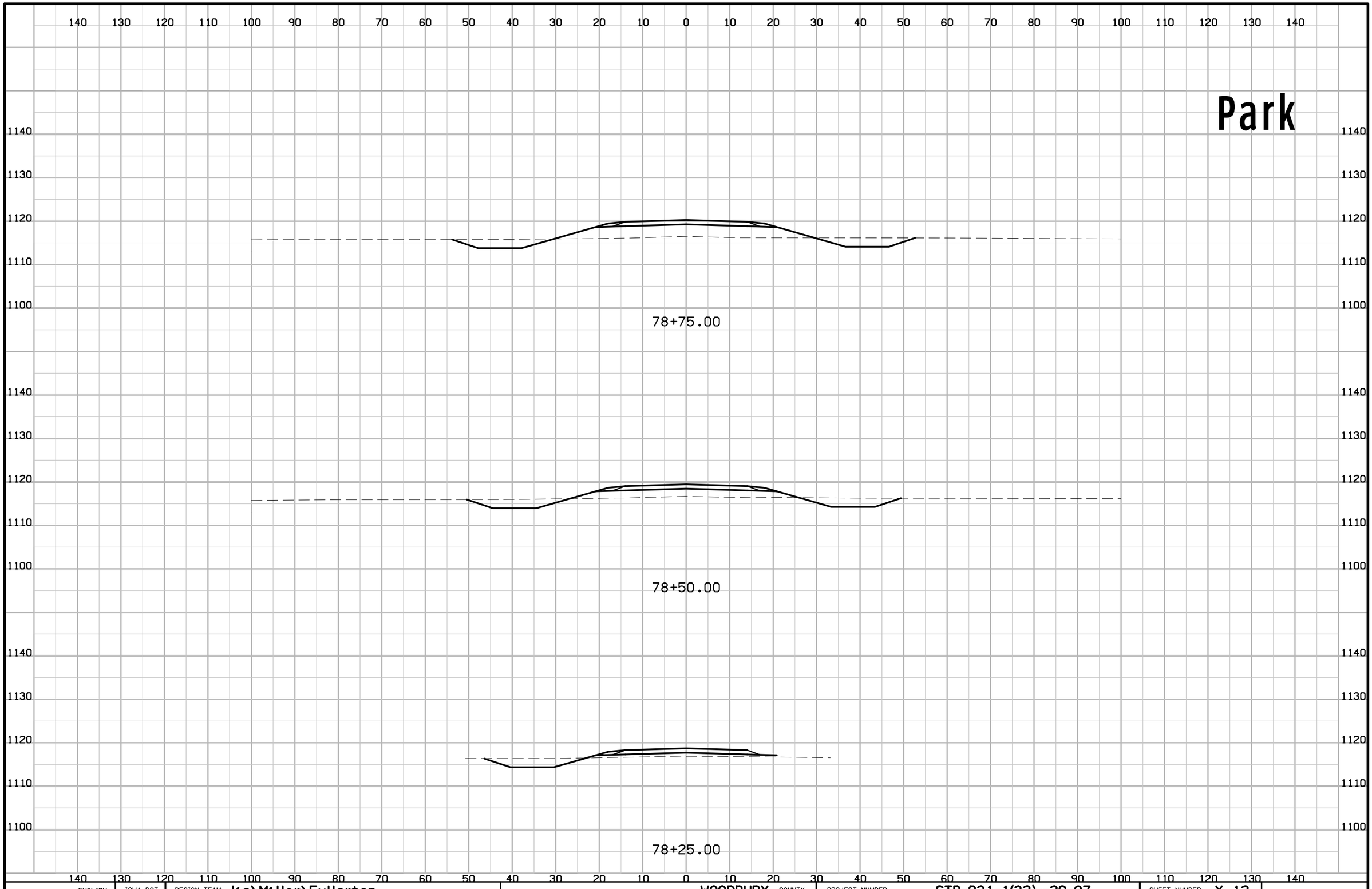

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.12

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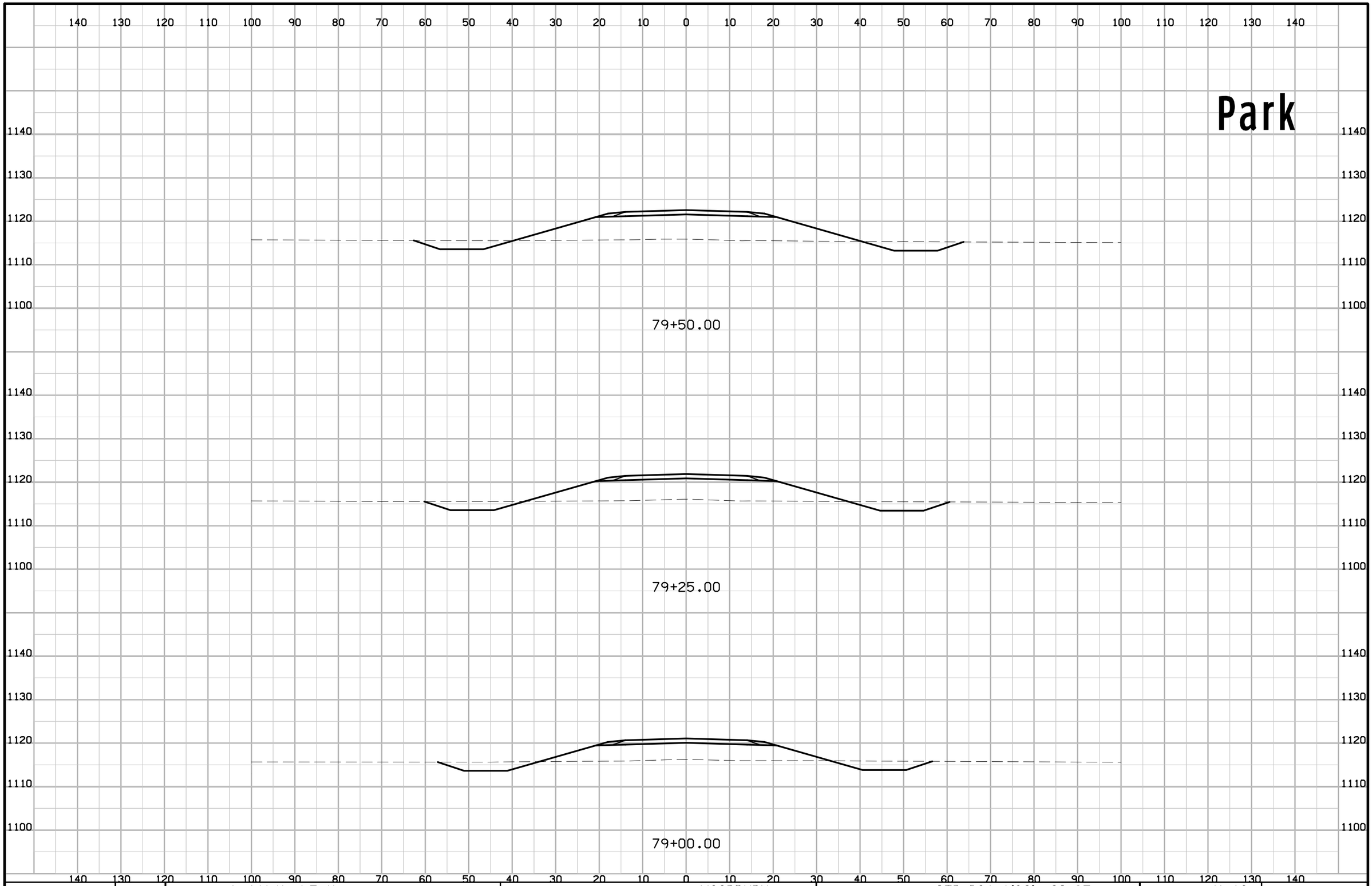
Park



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.13

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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

Park

1140
1130
1120
1110
1100

80+25.00

80+00.00

79+75.00

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.14

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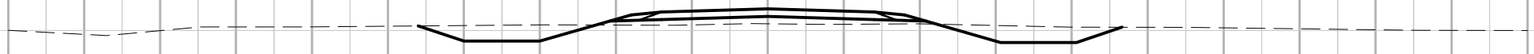
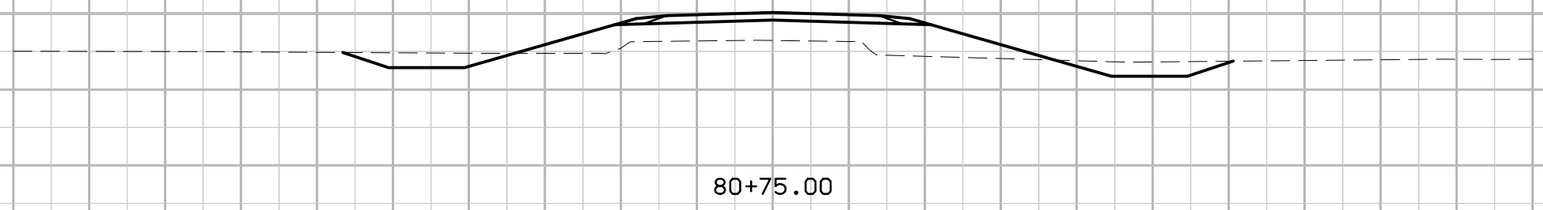
Park

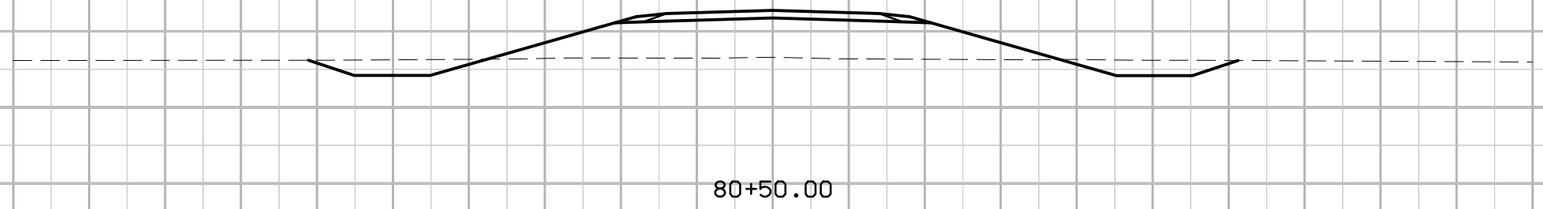
1140
1130
1120
1110
1100



81+00.00



80+75.00



80+50.00

ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.15

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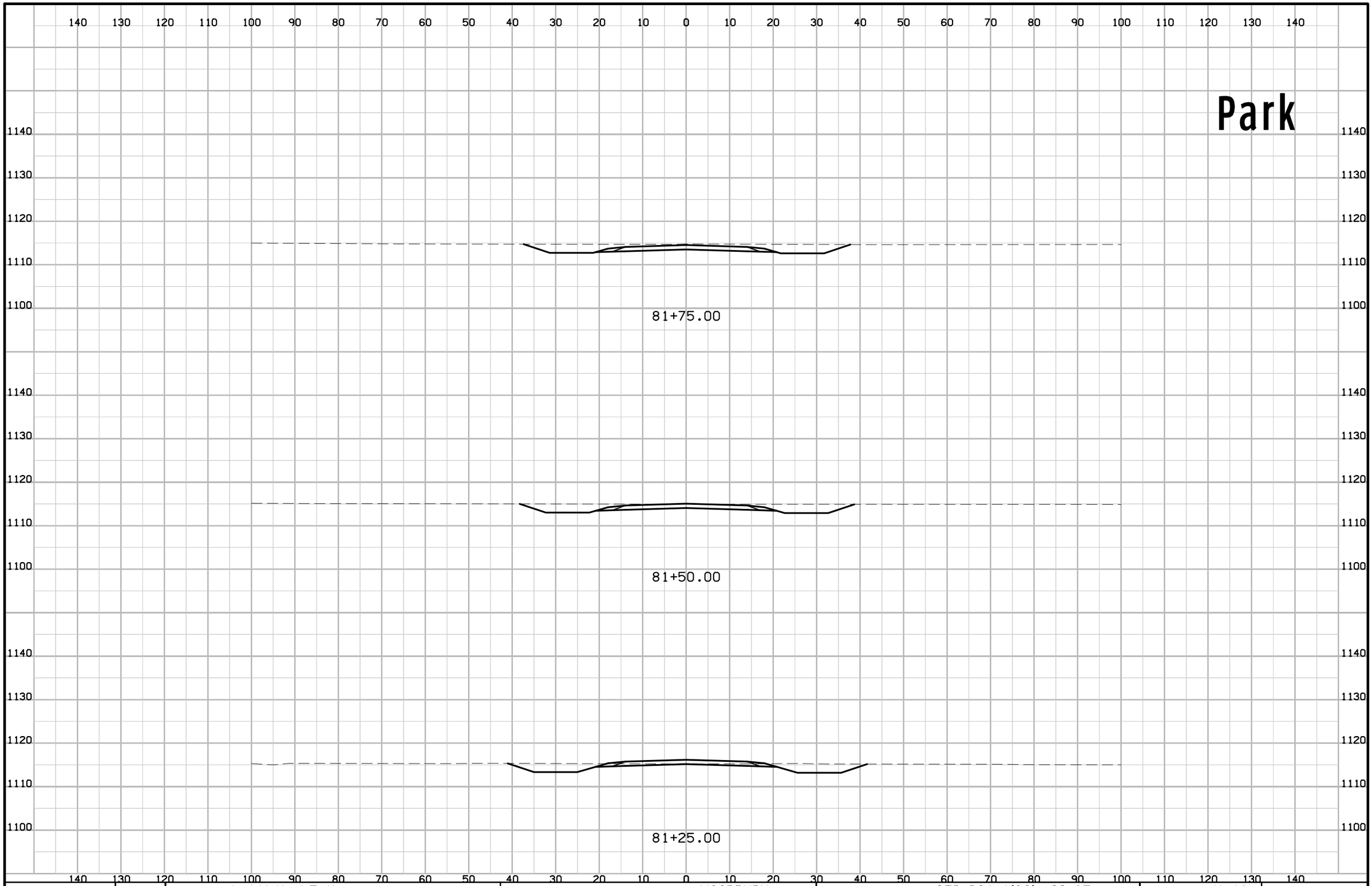
Park



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.16

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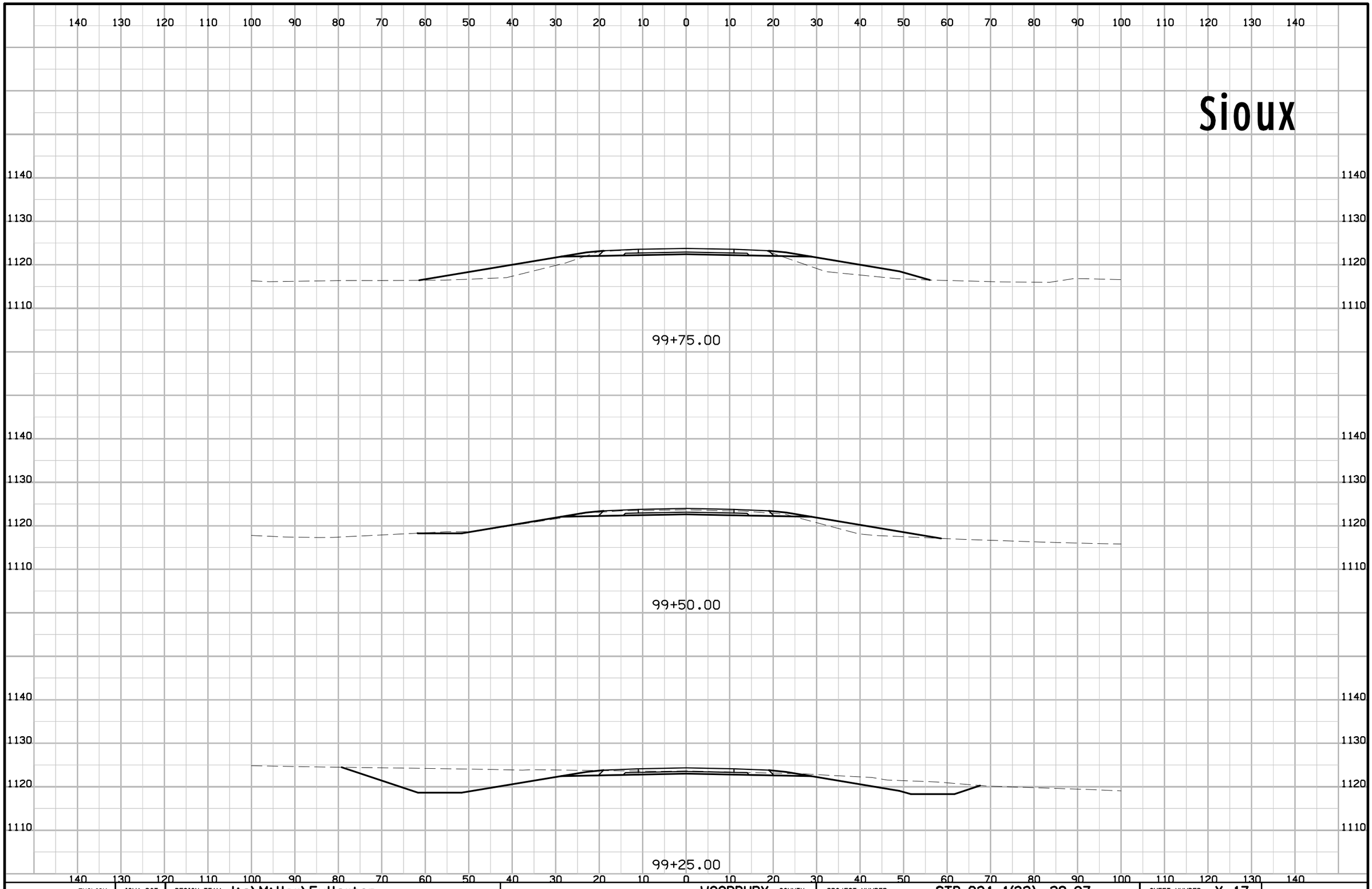
Sioux



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.17

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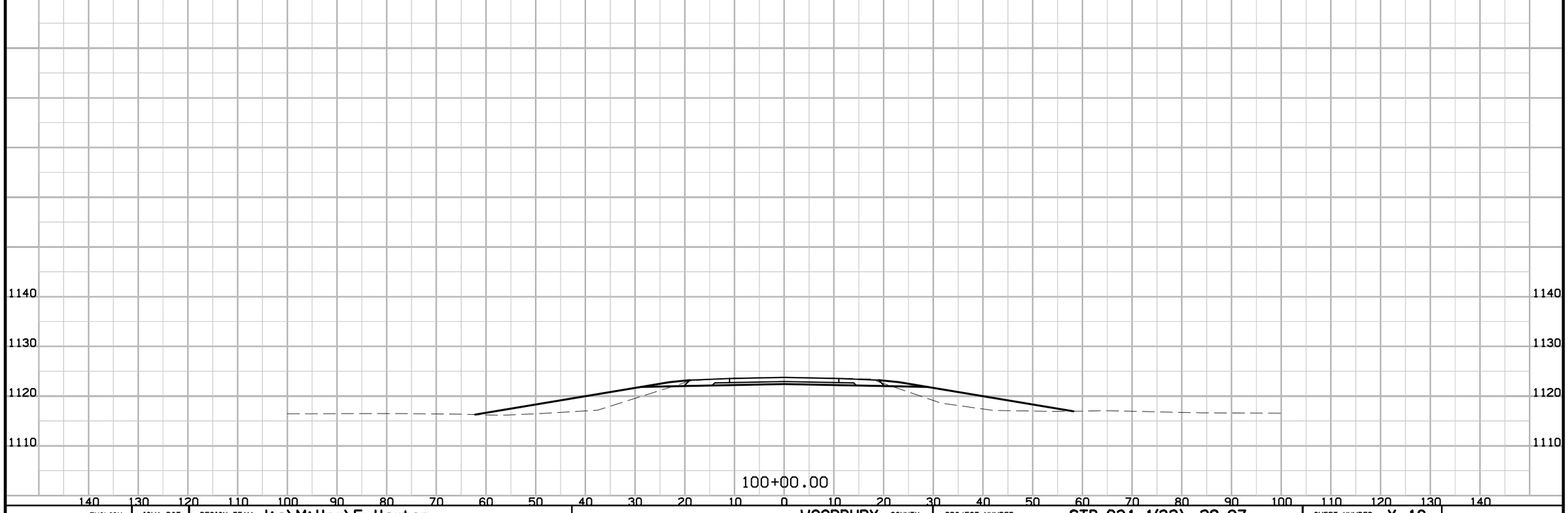
Sioux



ENGLISH	IOWA DOT	DESIGN TEAM J1a\Miller\Fullarton	WOODBURY COUNTY	PROJECT NUMBER STP-031-1(32)--2C-97	SHEET NUMBER X.18

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