LETTING DATE 06/16/2019

PAVEMENT - GRADE AND NEW
NHS-020-9(183)--19-31
DUBUQUE Co.

INDEX OF SHEETS

IOWA DOT

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

DUBUQUE COUNTY

PAVEMENT - GRADE AND NEW

FROM 0.2 MILES EAST OF COTTINGHAM ROAD
TO 1.5 MILES EAST OF SWISS VALLEY ROAD

SCALES: As Noted

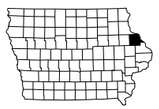
Refer to the Proposal Form for list of applicable specifications.

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

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

REVISIONS

TOTAL
PROJECT IDENTIFICATION NUMBER
90-31-020-060
PROJECT NUMBER
NHS-020-9(183)--19-31
R.O.W. PROJECT NUMBER
NHSX-020-9(144)--2R-31



For Project Location Map
Refer to Sheet A.2

DESIGN DATA URBAN

2020 AADT	15200	V.P.D.
2040 AADT	33900	V.P.D.
2040 DHV	3675	V.P.H.
TRUCKS	9	%
Total Design ESALs	N/A	

INDEX OF SEALS

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

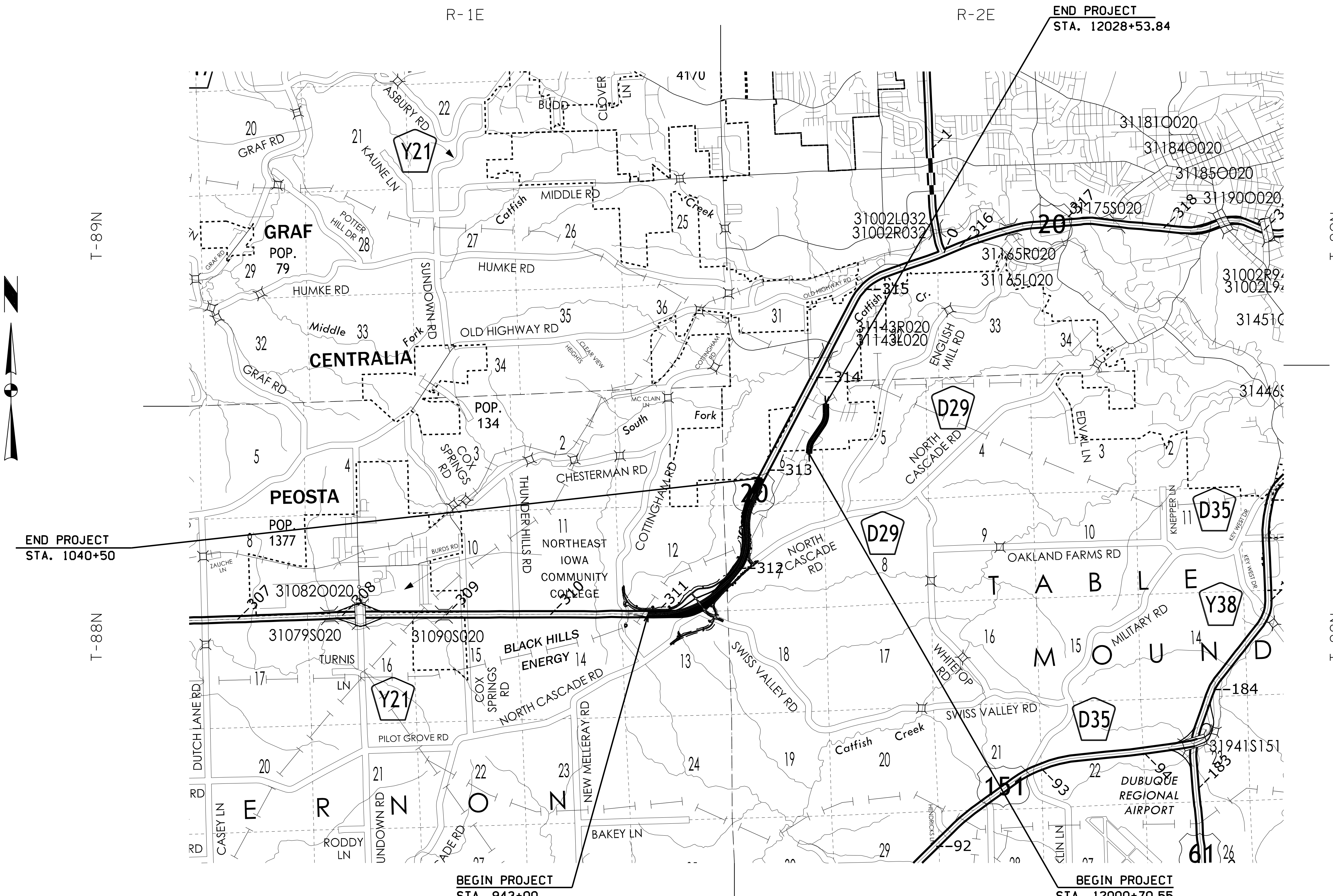
PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN UPDATE
Date: October, 2018

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER A.1

10:51:27 PM 10/29/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183A01.sht



R-1E
R-2E
T-89N
T-88N
END PROJECT
STA. 12028+53.84
END PROJECT
STA. 1040+50
BEGIN PROJECT
STA. 943+00
BEGIN PROJECT
STA. 12000+70.55
GRAF
POP. 79
CENTRALIA
POP. 134
PEOSTA
POP. 1377
TABLE MOUND
VERNON
GRAF RD
HUMKE RD
OLD HIGHWAY RD
MIDDLE RD
ASBURY RD
KAUNE LN
SUNDOWN RD
COX SPRINGS RD
CHESTERMAN RD
COTTINGHAM RD
THUNDER HILLS RD
NORTHEAST IOWA COMMUNITY COLLEGE
BLACK HILLS ENERGY
NORTH CASCADE RD
NEW MELLERAY RD
SWISS VALLEY RD
WHITETOP RD
ENGLISH MILL RD
OAKLAND FARMS RD
MILITARY RD
EDVAL LN
PILOT GROVE RD
DUTCH LANE RD
CASEY LN
RODDY LN
BAKEY LN
TURNIS LN
POTTER HILL DR
CLOVER LN
BUDD
DUBUQUE REGIONAL AIRPORT
Catfish Creek
Middle Fork
South Fork
20
151
61
Y21
D29
D35
Y38
31082O020
31079S020
31090S020
31002L032
31002R032
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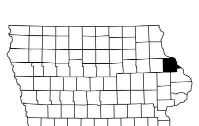
31941S151



LOCATION MAP SCALE

0 0.5 1 1.5

Miles

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT		DUBUQUE COUNTY	PROJECT NUMBER	NHS-020-9(183)--19-31	SHEET NUMBER	A.2

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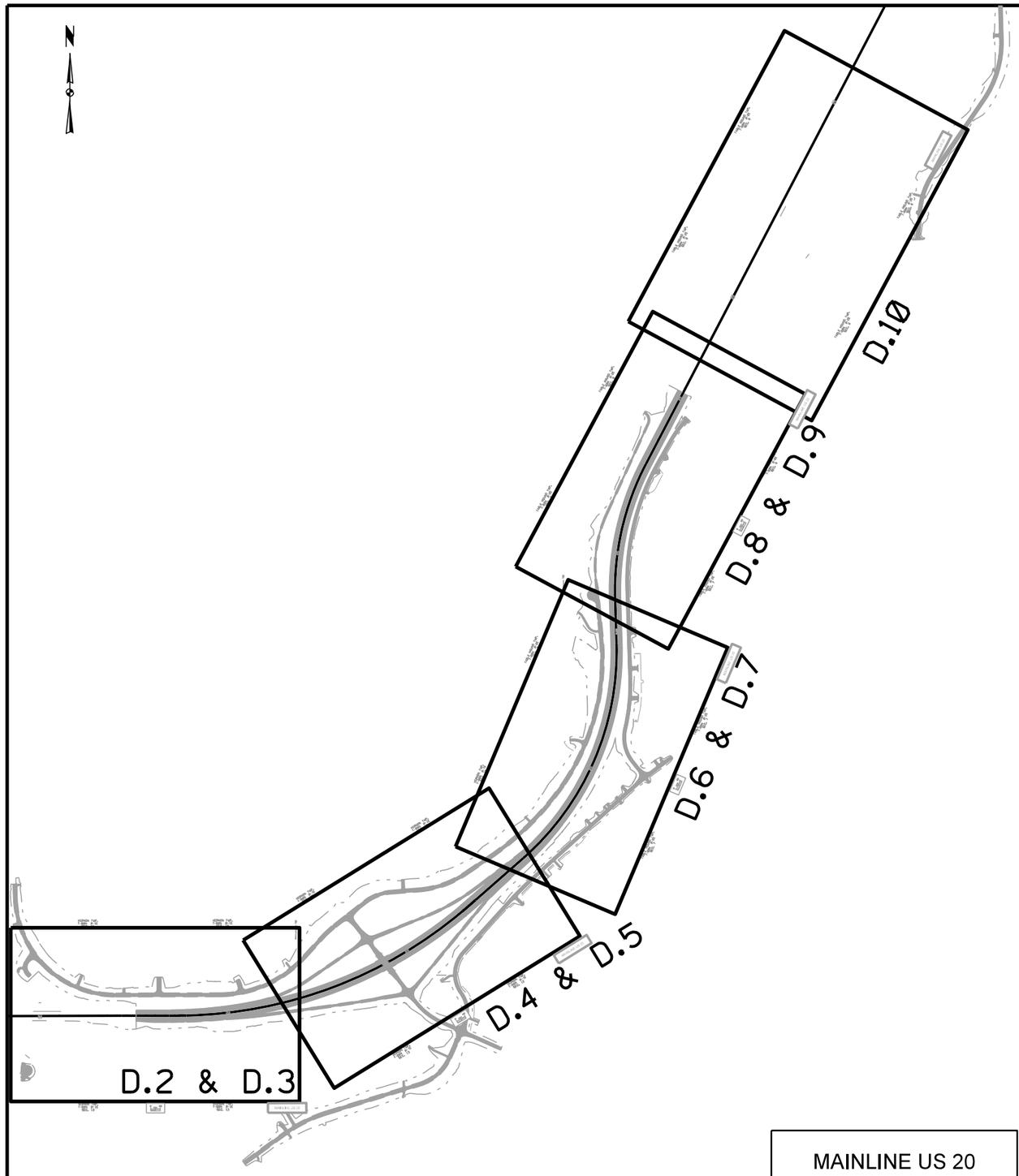
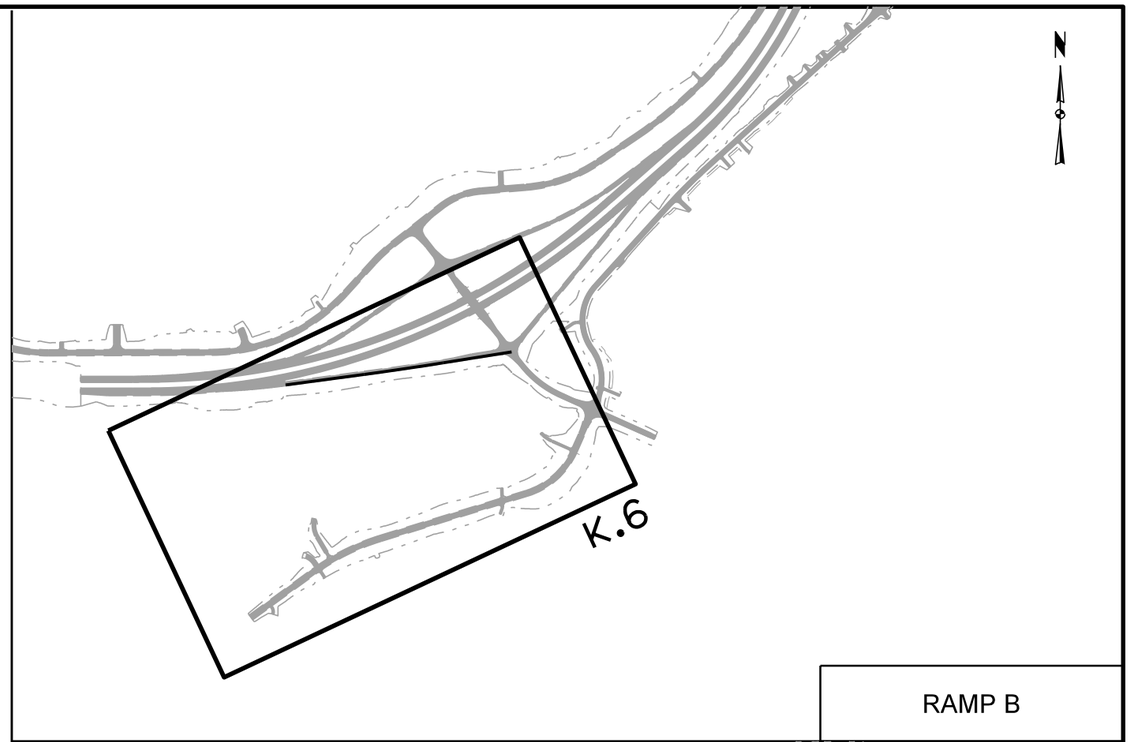
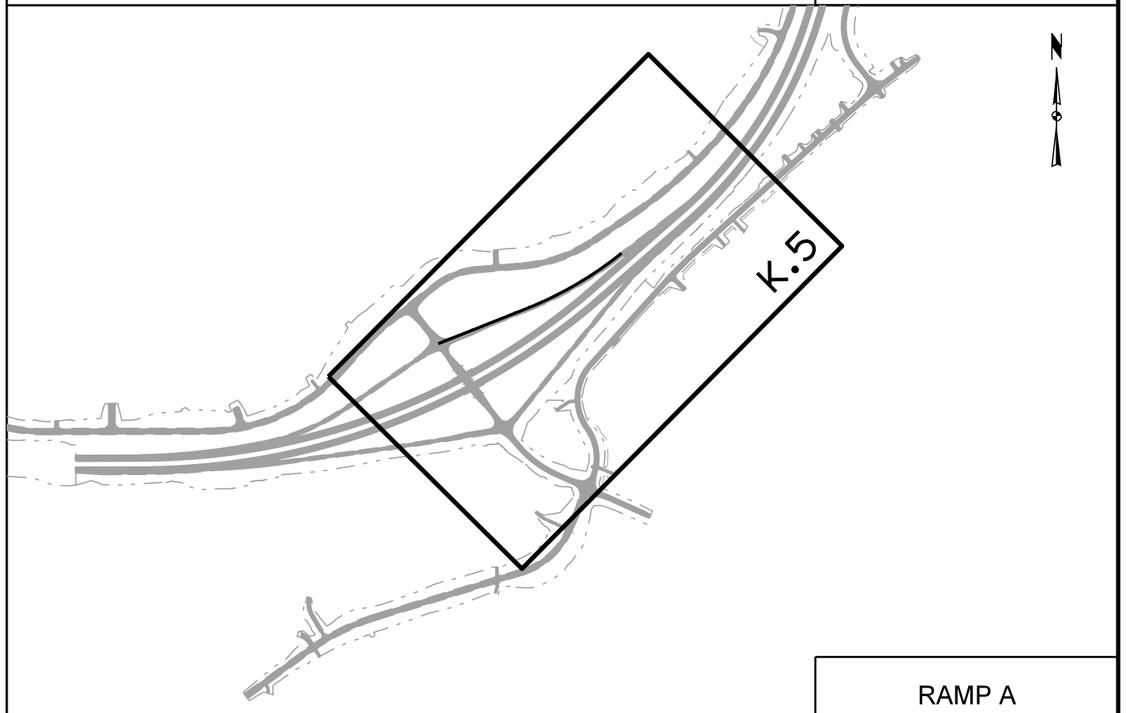


MAINLINE US 20



RAMP B



RAMP A

Project Key Maps

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER A.3

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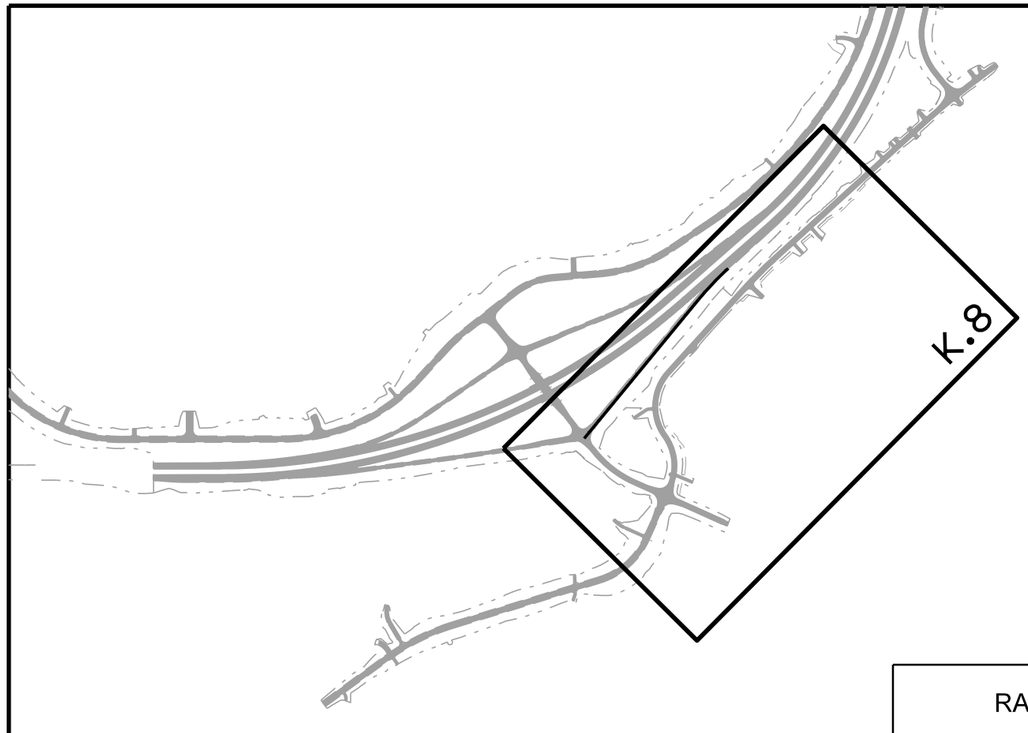

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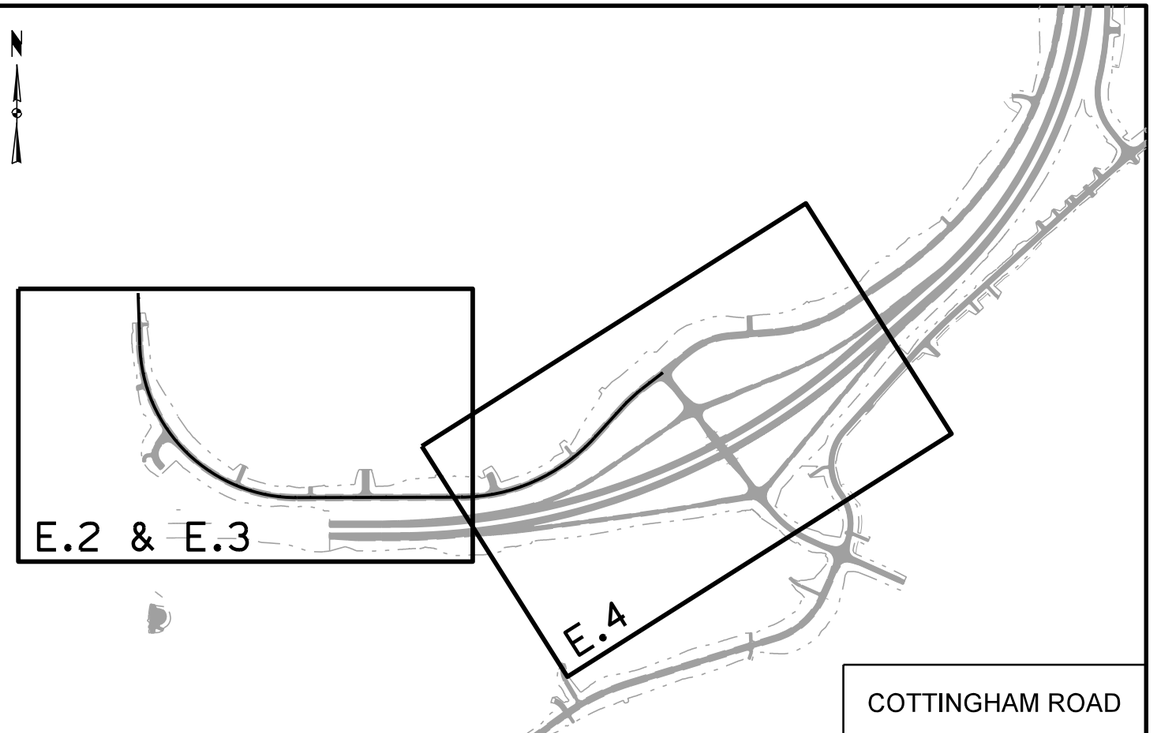
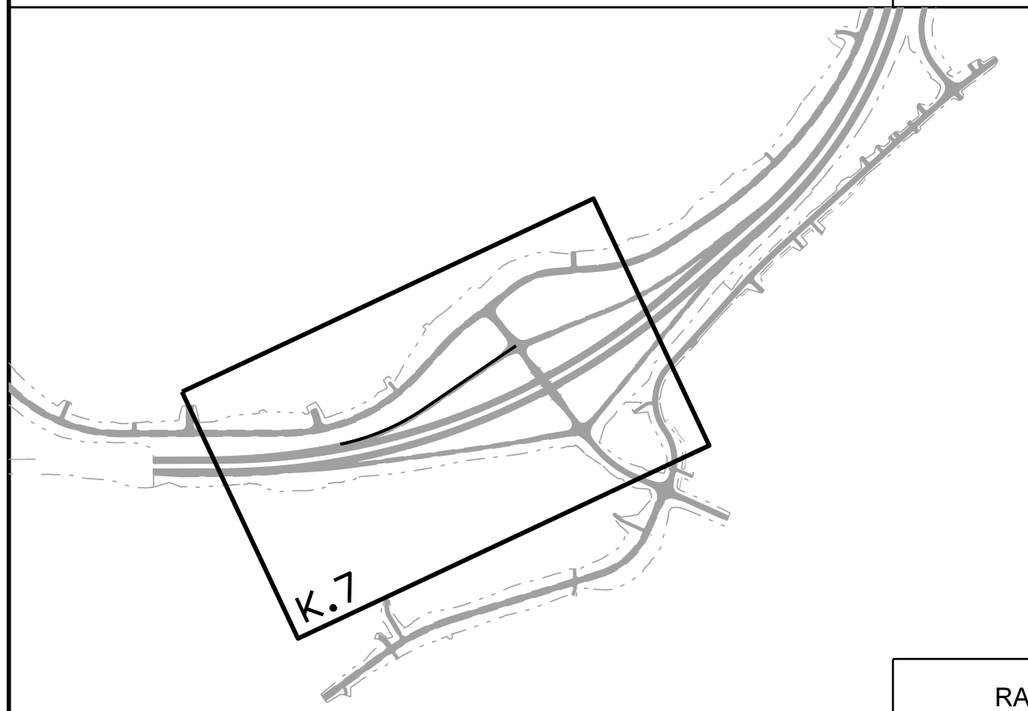


COTTINGHAM ROAD



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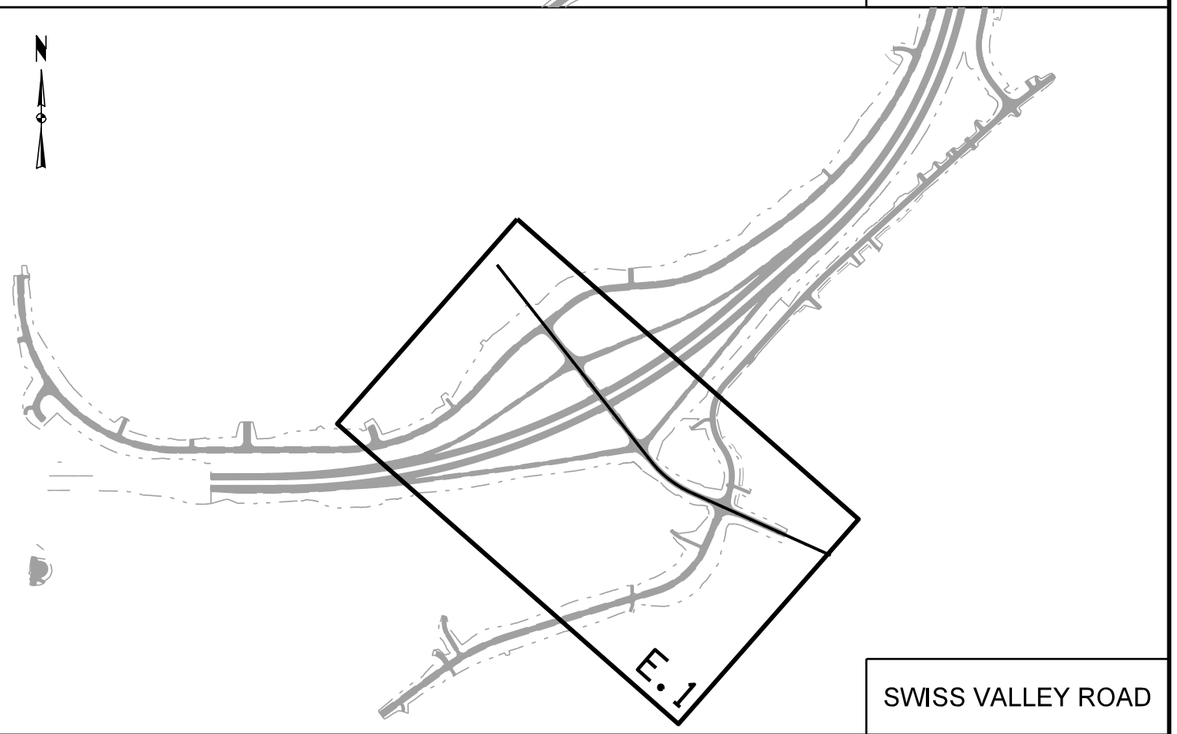

SWISS VALLEY ROAD

Project Key Maps

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER A.4

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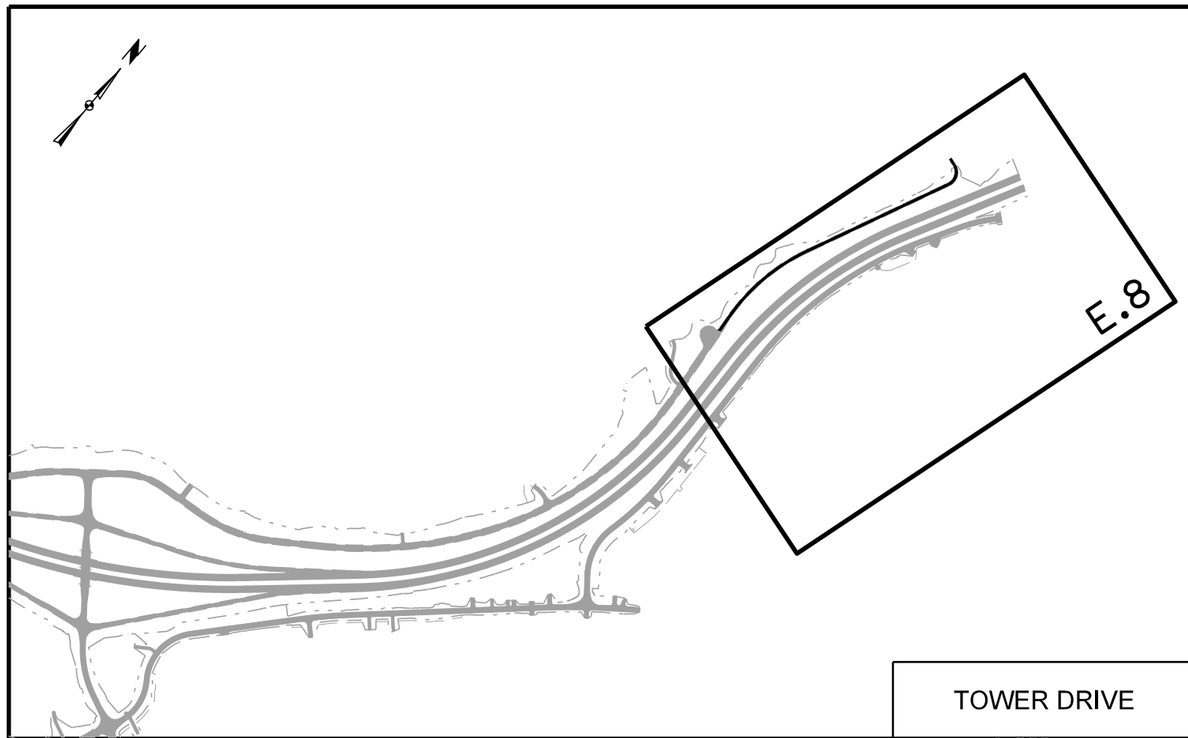
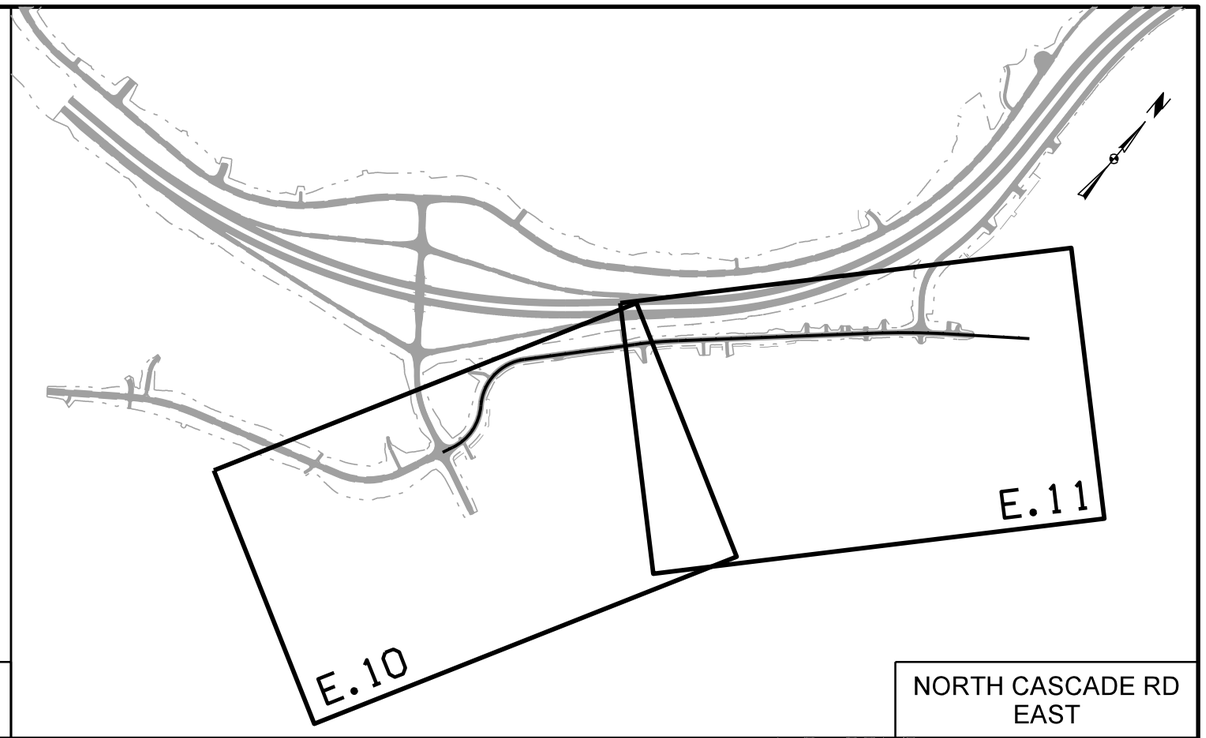
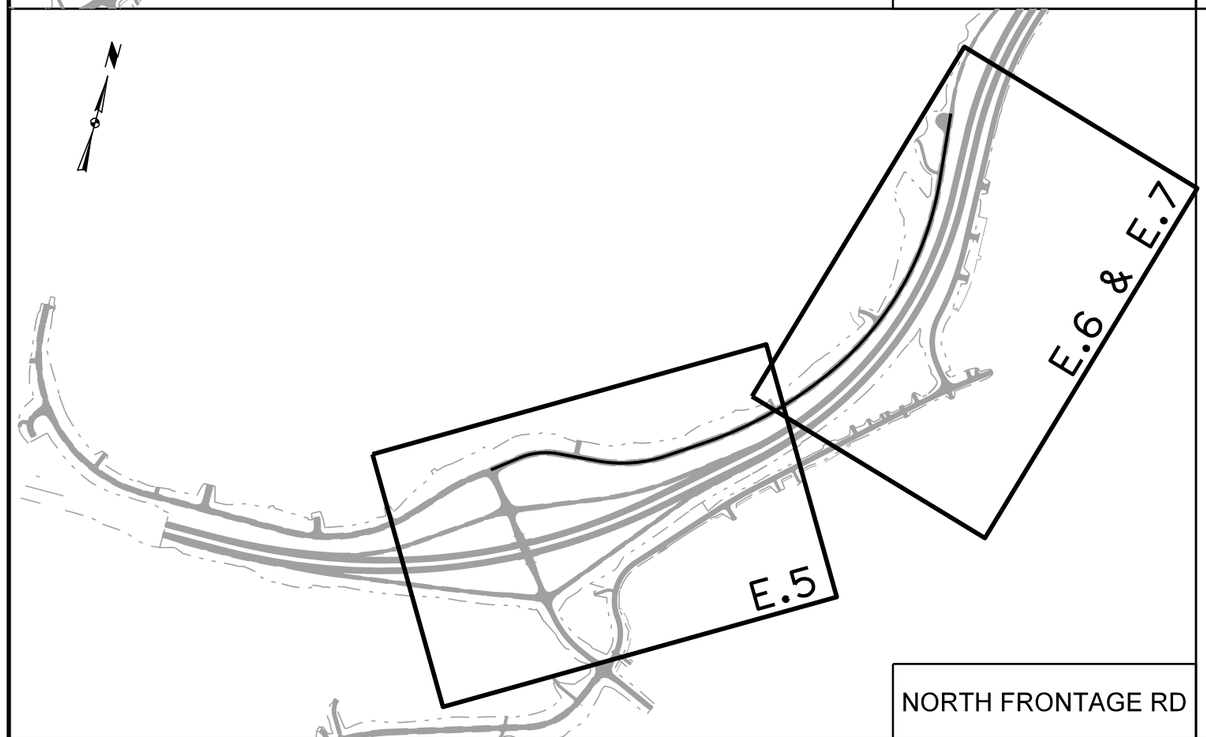


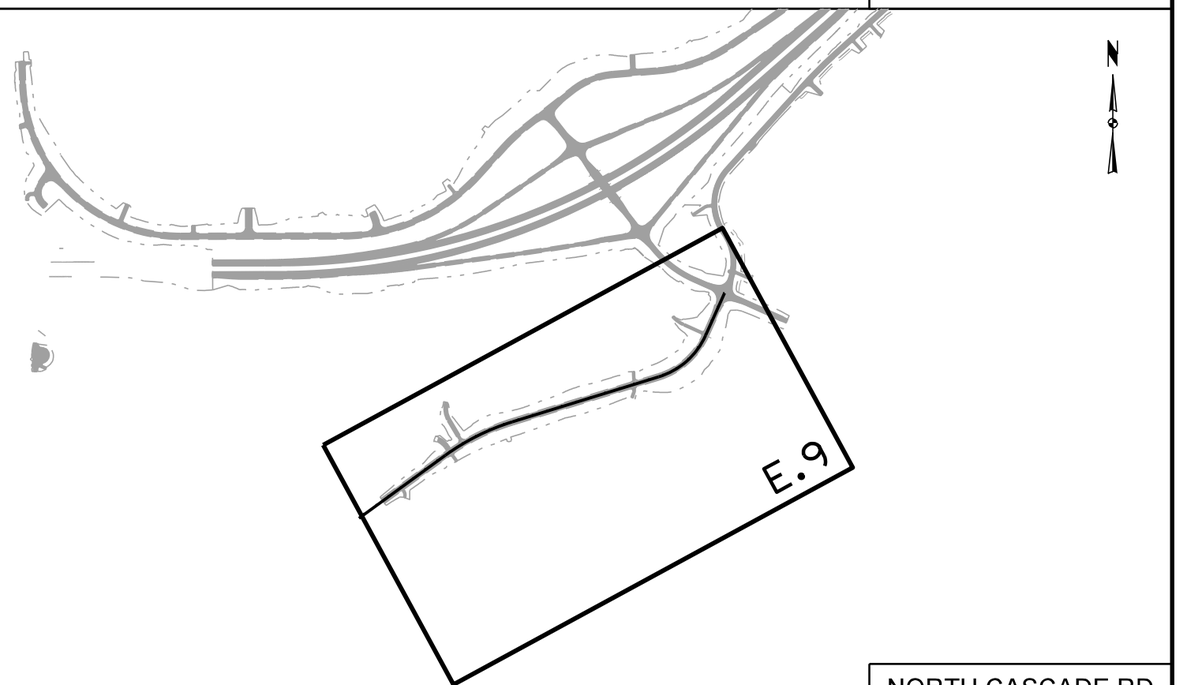
TOWER DRIVE



NORTH CASCADE RD
EAST



NORTH FRONTAGE RD



NORTH CASCADE RD
WEST

Project Key Maps

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER A.5

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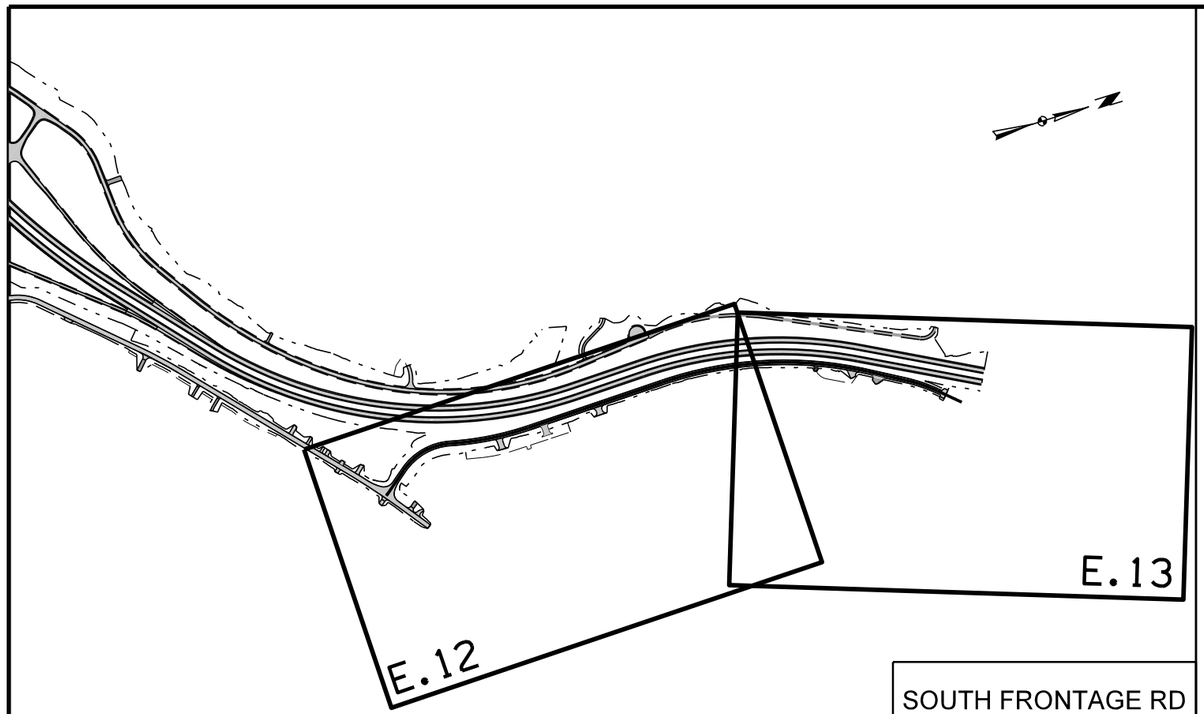
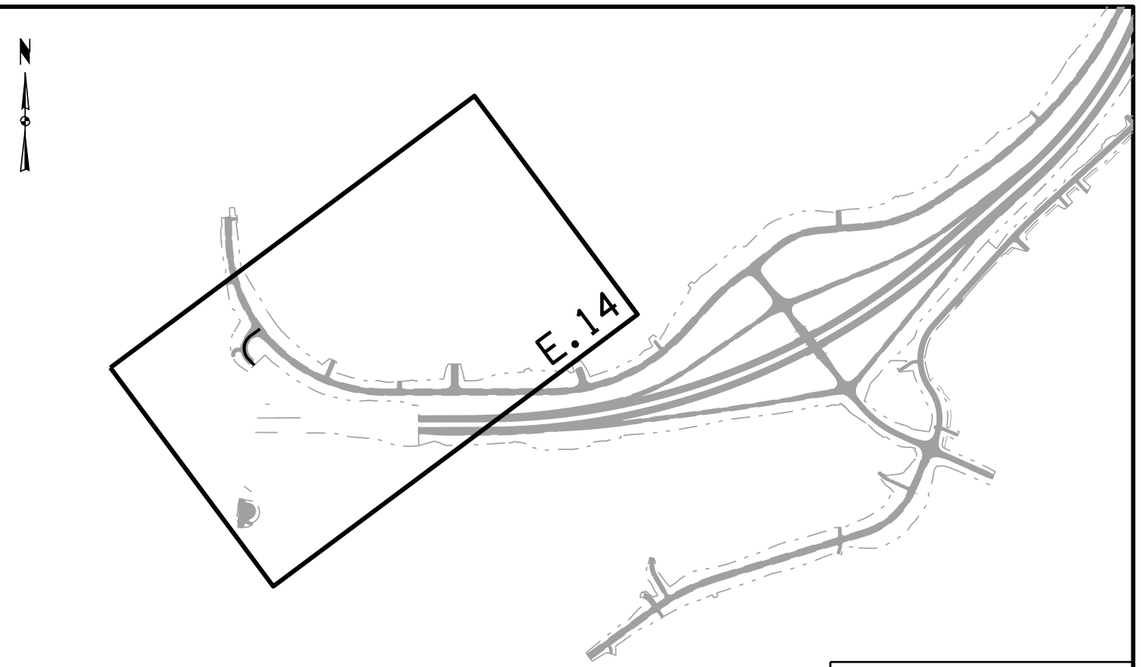
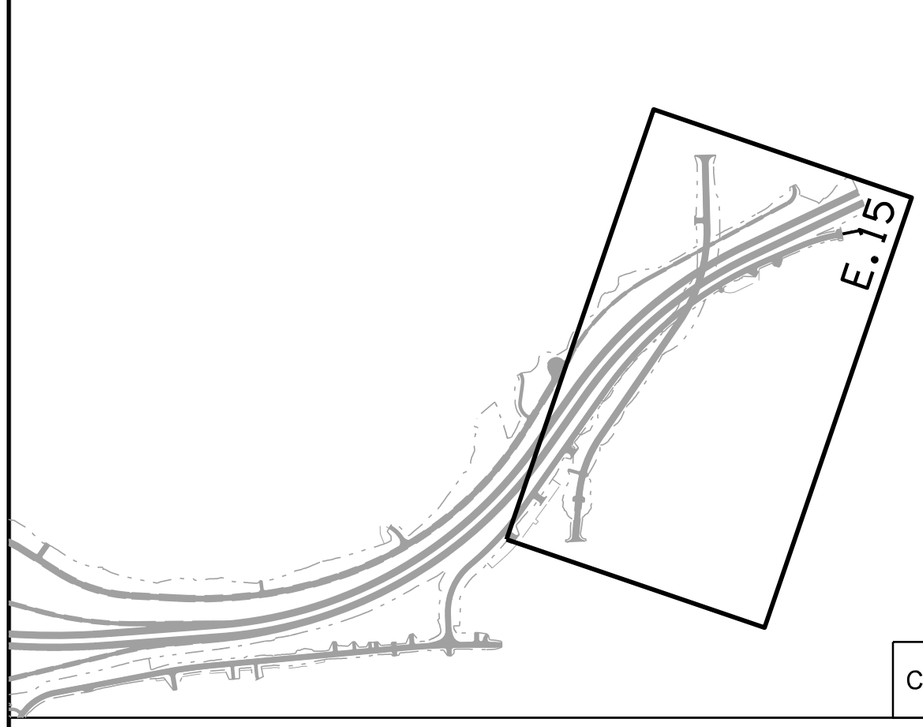


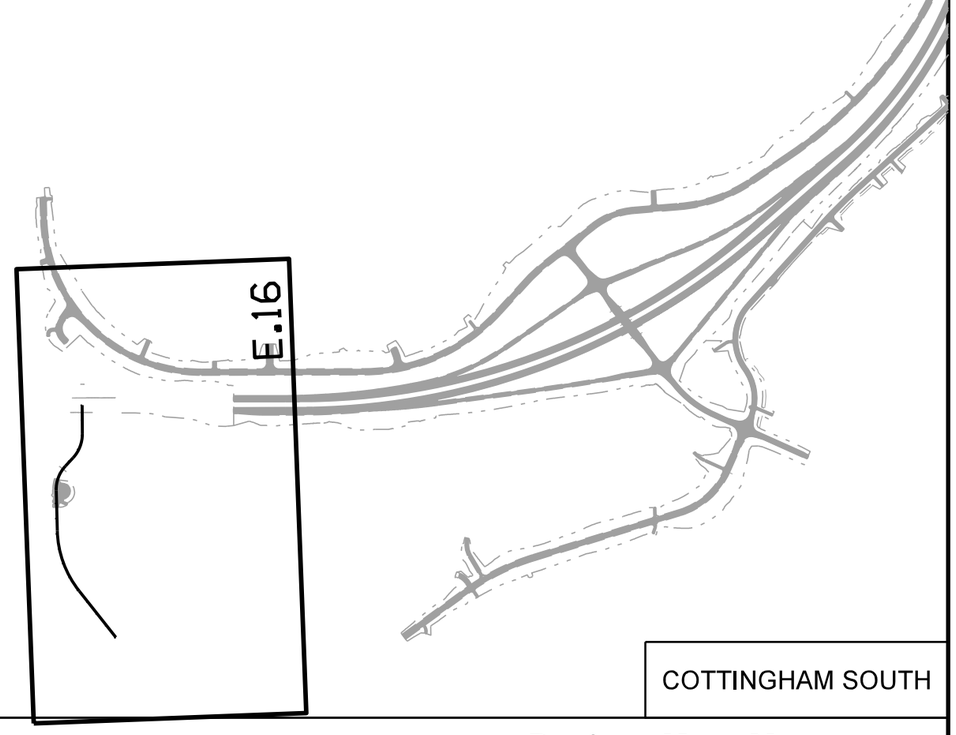
SOUTH FRONTAGE RD



COTTINGHAM ROAD CONNECTOR



CHESTERFIELD ROAD



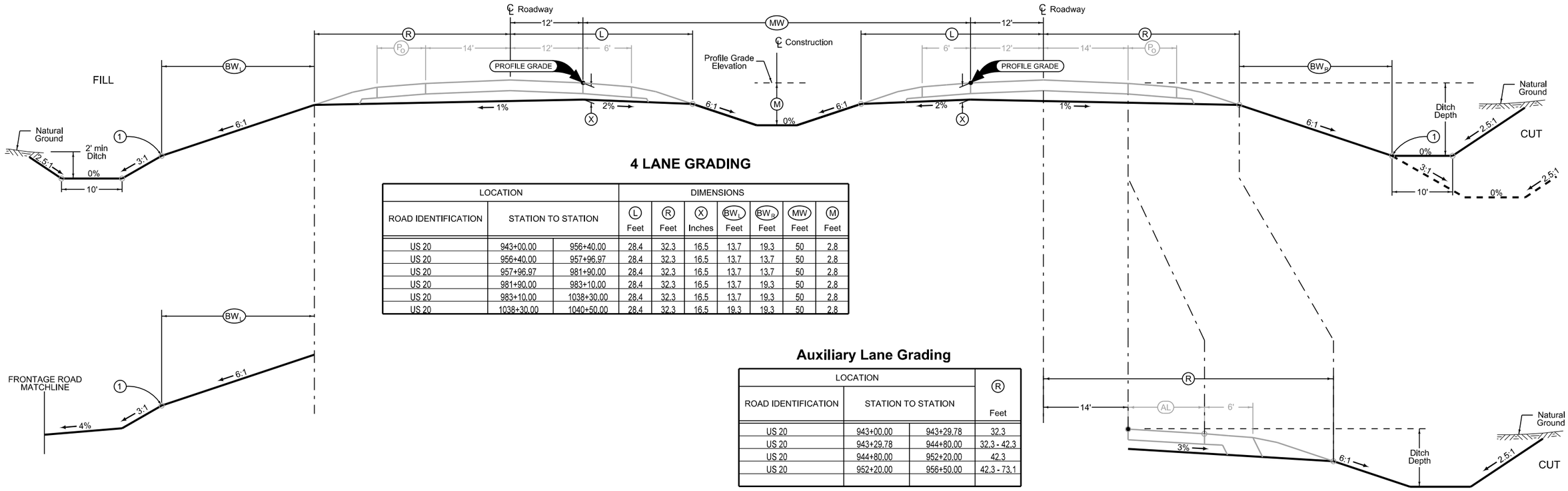
COTTINGHAM SOUTH

Project Key Maps

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER A.6

10:51:37 PM 10/29/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020183A01.sht

G_4D_Grade
Modified



4 LANE GRADING

LOCATION			DIMENSIONS						
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW_L) Feet	(BW_R) Feet	(MW) Feet	(M) Feet
US 20	943+00.00	956+40.00	28.4	32.3	16.5	13.7	19.3	50	2.8
US 20	956+40.00	957+96.97	28.4	32.3	16.5	13.7	13.7	50	2.8
US 20	957+96.97	981+90.00	28.4	32.3	16.5	13.7	13.7	50	2.8
US 20	981+90.00	983+10.00	28.4	32.3	16.5	13.7	19.3	50	2.8
US 20	983+10.00	1038+30.00	28.4	32.3	16.5	13.7	19.3	50	2.8
US 20	1038+30.00	1040+50.00	28.4	32.3	16.5	19.3	19.3	50	2.8

Auxiliary Lane Grading

LOCATION			(R) Feet
ROAD IDENTIFICATION	STATION TO STATION		
US 20	943+00.00	943+29.78	32.3
US 20	943+29.78	944+80.00	32.3 - 42.3
US 20	944+80.00	952+20.00	42.3
US 20	952+20.00	956+50.00	42.3 - 73.1

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

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.

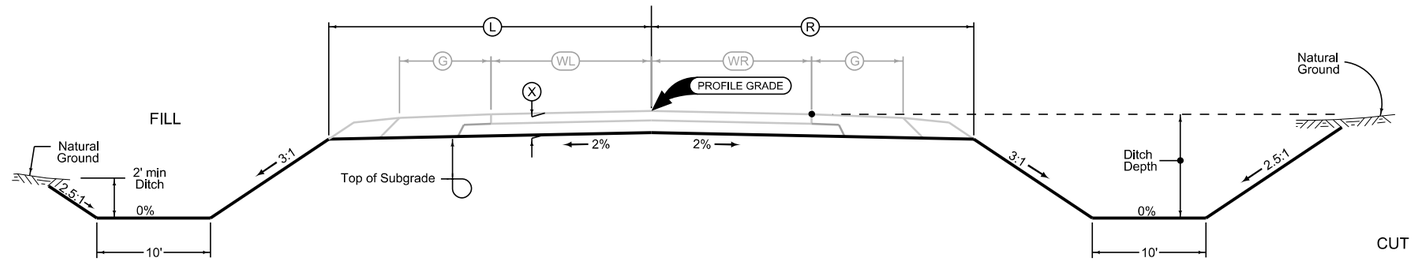
MAINLINE US 20

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER B.1

10:51:52 PM 10/29/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020183B01.sht

LOCATION			DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches
NORTH CASCADE ROAD WEST	6931+50.00	6958+84.50	26.2	26.2	21
RELOCATED COTTINGHAM ROAD	8931+65.00	8976+00.00	26.2	26.2	21
NORTH FRONTAGE ROAD	9976+24.00	10024+44.74	26.2	26.2	21
SWISS VALLEY ROAD	5973+00.00	5976+24.00	26.2	26.2	21
COTTINGHAM ROAD CONNECTOR	136+65.00	139+33.00	26.2	26.2	21
COTTINGHAM SOUTH ROAD	13025+75.00	13027+60.00	21.4	21.4	21

G_2_Grade
Modified



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

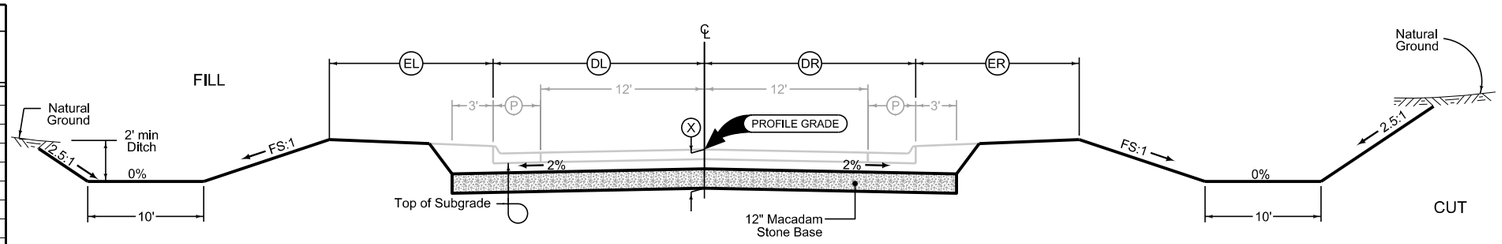
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

2 LANE RURAL SECONDARY ROADS

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER B.2

10:51:54 PM 10/29/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183B01.sht

LOCATION			DIMENSIONS					
ROAD IDENTIFICATION	STATION TO STATION		(DL) Feet	(DR) Feet	(EL) Feet	(ER) Feet	(X) Inches	FS
SOUTH FRONTAGE ROAD	1992+02.83	2032+74.92	15.5	15.5	12	12.0	27	3
SWISS VALLEY ROAD	5954+50.00	5967+48.00	15.5	15.5	12.0	12.0	27	3
SWISS VALLEY ROAD	5967+48.00	5967+68.00	15.5	15.5 - 17.5	12.0	12.0	27	3
SWISS VALLEY ROAD	5967+68.00	5968+28.83	15.5 - 21.6	17.5 - 23.6	12.0	12.0	27	3
SWISS VALLEY ROAD	5968+28.83	5968+48.83	21.6 - 23.6	23.6	12.0	12.0	27	3
SWISS VALLEY ROAD	5968+48.83	5971+01.04	23.6	23.6	12.0	12.0	27	3
SWISS VALLEY ROAD	5971+01.04	5971+26.00	23.6	23.6 - 21.1	12.0	12.0	27	3
SWISS VALLEY ROAD	5971+26.00	5971+81.87	23.6 - 18.0	21.1 - 15.5	12.0	12.0	27	3
SWISS VALLEY ROAD	5971+81.87	5972+06.83	18.0 - 15.5	15.5	12.0	12.0	27	3
SWISS VALLEY ROAD	5972+06.83	5973+00.00	15.5	15.5	12.0	12.0	27	3
NORTH CASCADE ROAD EAST	7958+66.12	7997+00.00	15.5	15.5	12	12.0	27	3
CHESTERFIELD DRIVE	12000+70.55	12028+72.68	18.5	18.5	12.0	12.0	27	3



G_2_Grade Modified

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

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

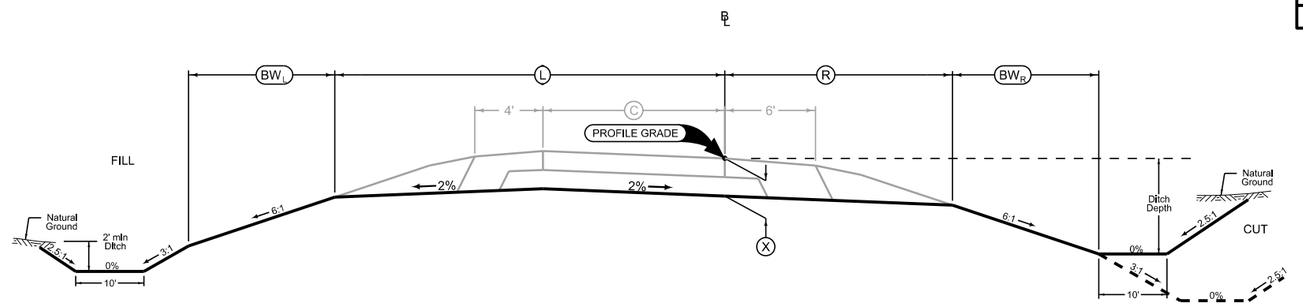
2 LANE URBAN ROADS

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER B.3

10:51:55 PM 10/29/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183B01.sht

LOCATION				DIMENSIONS					
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW_L) Feet	(BW_R) Feet
SWISS VALLEY ROAD	A	1969+70.86	1971+94.74	38.6	16.4	24	22.5	9.5	7.7
		1971+94.74	1973+14.73	38.6-30.6	16.4	24 - 16	22.5	9.5	7.7
		1973+14.73	1983+10.13	30.6	16.4	16	22.5	9.5	7.7
SWISS VALLEY ROAD	B	2956+40.00	2967+62.30	30.6	16.4	16	22.5	9.5	7.7
		2967+62.30	2968+82.30	30.6 - 38.6	16.4	16 - 24	22.5	9.5	7.7
		2968+82.30	2971+29.80	38.6	16.4	24	22.5	9.5	7.7
SWISS VALLEY ROAD	C	3957+91.54	3968+75.26	30.6	16.4	16	22.5	9.5	7.7
SWISS VALLEY ROAD	D	4969+65.53	4981+91.34	30.6	16.4	16	22.5	9.5	7.7

G_1R_Grade
Modified



Section view is in direction of traffic.

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

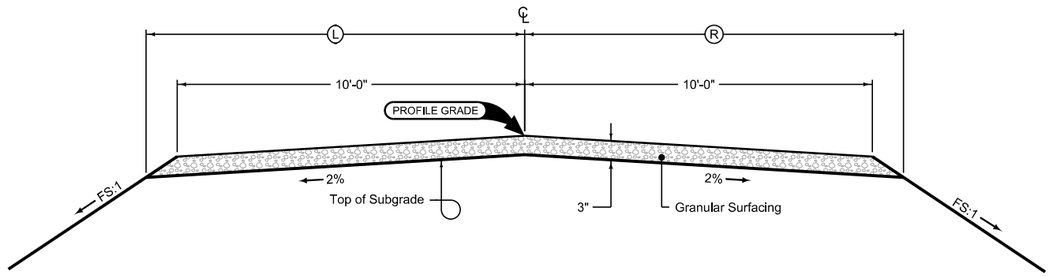
RAMPS

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER B.4

10:51:56 PM 10/29/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183B01.sht

2_GradeGran
Modified

LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	FS	BS	Ditch Depth Feet
Tower Drive	400+00.00	420+00.00	10.8	10.8	3		



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

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.

TOWER DRIVE

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER B.5

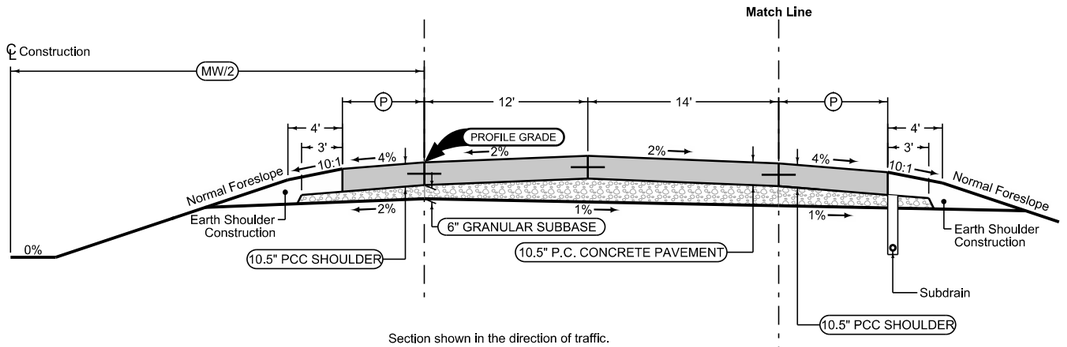
10:51:57 PM 10/29/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183B01.sht

Full Depth PCC Shoulder

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

4_P_FullPCC_ 10-19-10

Direction of Travel	BEGIN STATION	END STATION	(P) Feet
E.B.	943+00.00	1040+50.00	6
W.B.	943+00.00	1040+50.00	6

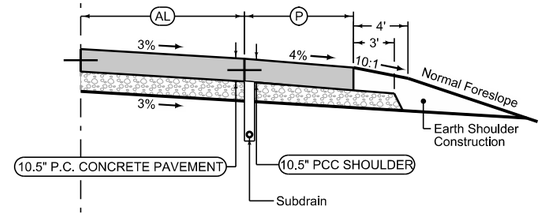


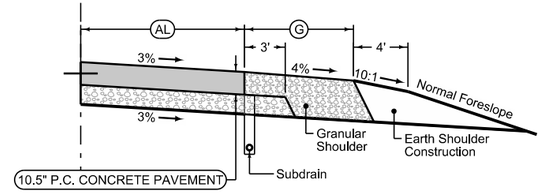
Section shown in the direction of traffic.

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

4DP_ 10-19-10

Direction of Travel	BEGIN STATION	END STATION	(MW) Feet
E.B.	943+00.00	1040+50.00	50
W.B.	943+00.00	1040+50.00	50





Full Depth PCC Shoulder

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

4_P_FullPCC_ 10-19-10

Direction of Travel	BEGIN STATION	END STATION	(P) Feet
E.B.	956+40.00	969+14.68	8
E.B.	970+67.89	981+89.84	8
E.B.	990+20.11	1040+50.00	8
W.B.	943+00.00	945+50.00	8
W.B.	957+96.97	968+90.96	8
W.B.	970+45.75	983+10.00	8
W.B.	989+10.00	1040+50.00	8

Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

4_AuxLane_PCC_ 10-19-10

Direction of Travel	BEGIN STATION	END STATION	(AL) Feet
E.B.	943+00.00	943+30.00	2
E.B.	943+30.00	944+20.00	2 - 8
E.B.	990+20.00	994+20.00	2 - 8
W.B.	945+50.00	946+50.00	2
W.B.	946+50.00	944+20.00	2 - 8
W.B.	987+90.41	989+10.00	8 - 2

Auxiliary Lane
Full Depth Shoulder

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

4_AL_Shldr_FullPCC_ 10-19-10

(P) Feet
6
6
6
6
6
6

Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

4_AuxLane_PCC_ 10-19-10

Direction of Travel	BEGIN STATION	END STATION	(AL) Feet
E.B.	944+20.00	944+80.00	8 - 12
E.B.	944+80.00	952+20.00	12
E.B.	952+20.00	956+40.00	12 - 40
E.B.	981+90.00	990+20.00	37.7 - 8
W.B.	949+50.00	957+96.97	8 - 37.7
W.B.	983+10.00	987+90.41	37.7 - 8

Auxiliary Lane
Granular Shoulder

4_AL_Shldr_G_ 10-19-10

(G) Feet
6
6
6
6
6
6

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

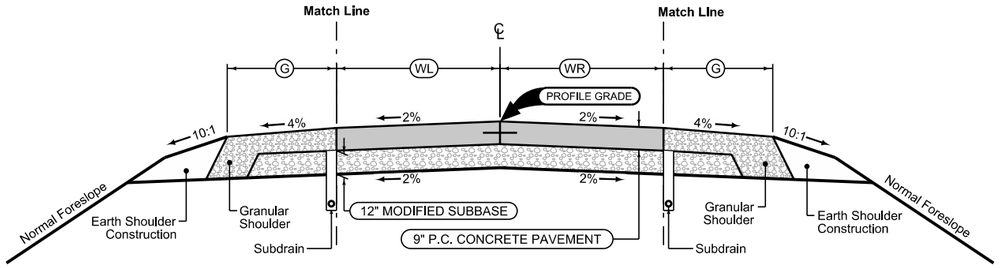
See Tab 112-9 for shoulder quantities.

MAINLINE US 20

Granular Shoulder

2_G_SR_Mod
02-14-14

ROAD IDENTIFICATION	STATION TO STATION		(G) Feet
COTTINGHAM CONNECTOR	136+65.00	139+33.00	8
NORTH CASCADE WEST	6931+50.00	6958+84.50	8
COTTINGHAM	8931+65.00	8976+00.00	8
NORTH FRONTAGE ROAD	9976+24.00	10024+44.74	8
COTTINGHAM SOUTH	13025+75.00	13027+60.00	4



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

2P_Mod
02-14-14

ROAD IDENTIFICATION	STATION TO STATION		(WL) Feet	(WR) Feet
COTTINGHAM CONNECTOR	136+65.00	139+33.00	12.0	12.0
NORTH CASCADE WEST	6931+50.00	6958+84.50	12.0	12.0
COTTINGHAM	8931+65.00	8976+00.00	12.0	12.0
NORTH FRONTAGE ROAD	9976+24.00	10024+44.74	12.0	12.0
COTTINGHAM SOUTH	13025+75.00	13027+60.00	11.0	11.0

Granular Shoulder

2_G_SR_Mod
02-14-14

ROAD IDENTIFICATION	STATION TO STATION		(G) Feet
COTTINGHAM CONNECTOR	136+65.00	139+33.00	8
NORTH CASCADE WEST	6931+50.00	6958+84.50	8
COTTINGHAM	8931+65.00	8976+00.00	8
NORTH FRONTAGE ROAD	9976+24.00	10024+44.74	8
COTTINGHAM SOUTH	13025+75.00	13027+60.00	4

See Tab 100-24 or 100-25 for pavement quantities.
See Tab 112-9 for shoulder quantities.

RURAL SECONDARY ROADS

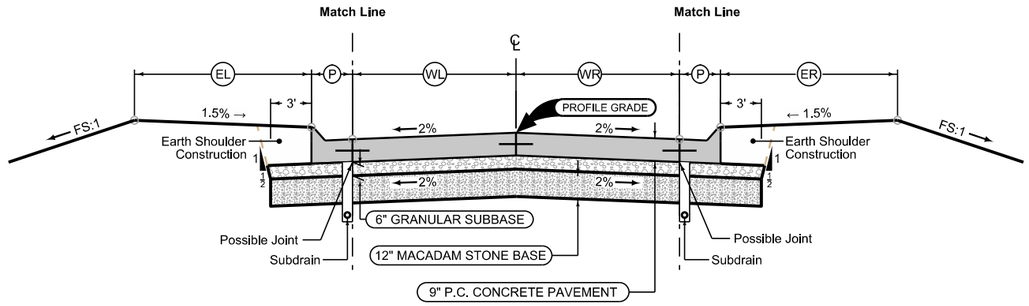
Curbed Shoulder

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

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

2_Curb_MOD
02-14-14

ROAD IDENTIFICATION	STATION TO STATION		(P) Feet	Curb Type See PV-102
SOUTH FRONTAGE ROAD	1993+02.83	2032+74.92	3.5	6" STANDARD
SWISS VALLEY ROAD	5954+50.00	5967+48.00	3.5	6" STANDARD
SWISS VALLEY ROAD	5967+48.00	5967+68.00	3.5	6" STANDARD
SWISS VALLEY ROAD	5967+68.00	5968+28.83	3.5	6" STANDARD
SWISS VALLEY ROAD	5968+28.83	5968+48.83	3.5	6" STANDARD
SWISS VALLEY ROAD	5968+48.83	5971+01.04	3.5	6" STANDARD
SWISS VALLEY ROAD	5971+01.04	5971+26.00	3.5	6" STANDARD
SWISS VALLEY ROAD	5971+26.00	5971+81.87	3.5	6" STANDARD
SWISS VALLEY ROAD	5971+81.87	5972+06.83	3.5	6" STANDARD
SWISS VALLEY ROAD	5972+06.83	5973+00.00	3.5	6" STANDARD
NORTH CASCADE EAST	7958+66.12	7997+50.00	3.5	6" STANDARD
CHESTERFIELD DRIVE	12000+70.55	12028+53.84	6.5	6" STANDARD



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

2P_MOD
02-14-14

ROAD IDENTIFICATION	STATION TO STATION		(WL) Feet	(WR) Feet
SOUTH FRONTAGE ROAD	1993+02.83	2032+74.92	12.0	12.0
SWISS VALLEY ROAD	5954+50.00	5967+48.00	12.0	12.0
SWISS VALLEY ROAD	5967+48.00	5967+68.00	12.0	12.0 - 14.0
SWISS VALLEY ROAD	5967+68.00	5968+28.83	12.0 - 18.1	14.0 - 20.1
SWISS VALLEY ROAD	5968+28.83	5968+48.83	18.1 - 20.1	20.1
SWISS VALLEY ROAD	5968+48.83	5971+01.04	20.1	20.1
SWISS VALLEY ROAD	5971+01.04	5971+26.00	20.1	20.1 - 17.6
SWISS VALLEY ROAD	5971+26.00	5971+81.87	20.1 - 14.5	17.6 - 12.0
SWISS VALLEY ROAD	5971+81.87	5972+06.83	12.8 - 12.0	12.0 - 14.7
SWISS VALLEY ROAD	5972+06.83	5973+00.00	12.0	12.0
NORTH CASCADE EAST	7958+66.12	7997+50.00	12.0	12.0
CHESTERFIELD DRIVE	12000+70.55	12028+53.84	12	12

Curbed Shoulder

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

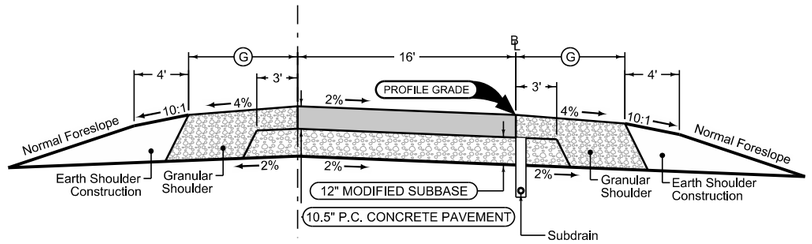
Single pour: L-2
Staged : KT-2
Transverse:C at 20' spacing

2_Curb_MOD
02-14-14

ROAD IDENTIFICATION	STATION TO STATION		(P) Feet	Curb Type See PV-102
SOUTH FRONTAGE ROAD	1993+02.83	2032+74.92	3.5	6" STANDARD
SWISS VALLEY ROAD	5954+50.00	5967+48.00	3.5	6" STANDARD
SWISS VALLEY ROAD	5967+48.00	5967+68.00	3.5	6" STANDARD
SWISS VALLEY ROAD	5967+68.00	5968+28.83	3.5	6" STANDARD
SWISS VALLEY ROAD	5968+28.83	5968+48.83	3.5	6" STANDARD
SWISS VALLEY ROAD	5968+48.83	5971+01.04	3.5	6" STANDARD
SWISS VALLEY ROAD	5971+01.04	5971+26.00	3.5	6" STANDARD
SWISS VALLEY ROAD	5971+26.00	5971+81.87	3.5	6" STANDARD
SWISS VALLEY ROAD	5971+81.87	5972+06.83	3.5	6" STANDARD
	5972+06.83	5973+00.00	3.5	6" STANDARD
NORTH CASCADE EAST	7958+66.12	7997+50.00	3.5	6" STANDARD
CHESTERFIELD DRIVE	12000+70.55	12028+53.84	6.5	6" STANDARD

See Tab 100-24 or 100-25 for pavement quantities.
See Tab 112-9 for shoulder quantities.

2 LANE URBAN ROADS



Section shown in the direction of traffic.

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

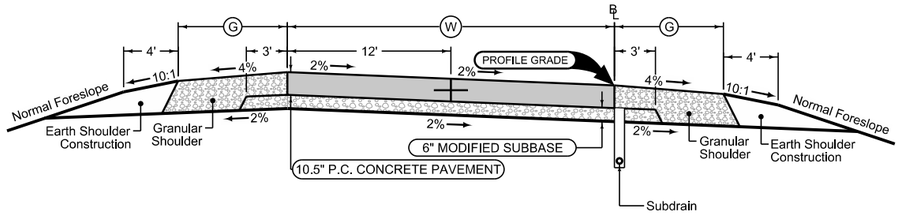
Granular Shoulder

			1R_G_ 10-19-10
ROAD IDENTIFICATION	BEGIN STATION	END STATION	(G) Feet
RAMP A	1973+14.74	1983+10.13	4
RAMP B	2956+40.00	2967+62.30	4
RAMP C	3957+91.86	3968+75.26	4
RAMP D	4969+65.53	4981+91.34	4

			1RP_ Modified
ROAD IDENTIFICATION	BEGIN STATION	END STATION	
RAMP A	1973+14.74	1983+10.13	
RAMP B	2956+40.00	2967+62.30	
RAMP C	3957+91.86	3968+75.26	
RAMP D	4969+65.53	4981+91.34	

Granular Shoulder

			1R_G_ 10-19-10
ROAD IDENTIFICATION	BEGIN STATION	END STATION	(G) Feet
RAMP A	1973+14.74	1983+10.13	6
RAMP B	2956+40.00	2967+62.30	6
RAMP C	3957+91.86	3968+75.26	6
RAMP D	4969+65.53	4981+91.34	6



Section shown in the direction of traffic.

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

Granular Shoulder

			1R_G_ 10-19-10
ROAD IDENTIFICATION	BEGIN STATION	END STATION	(G) Feet
RAMP A	1969+70.86	1973+14.73	4
RAMP B	2967+62.30	2971+29.80	4

			2RP_ Modified
ROAD IDENTIFICATION	BEGIN STATION	END STATION	(W) Feet
RAMP A	1969+70.86	1971+94.74	24
RAMP A	1971+94.74	1973+14.73	24 - 16
RAMP B	2967+62.30	2968+82.30	16 - 24
RAMP B	2968+82.30	2971+29.80	24

Granular Shoulder

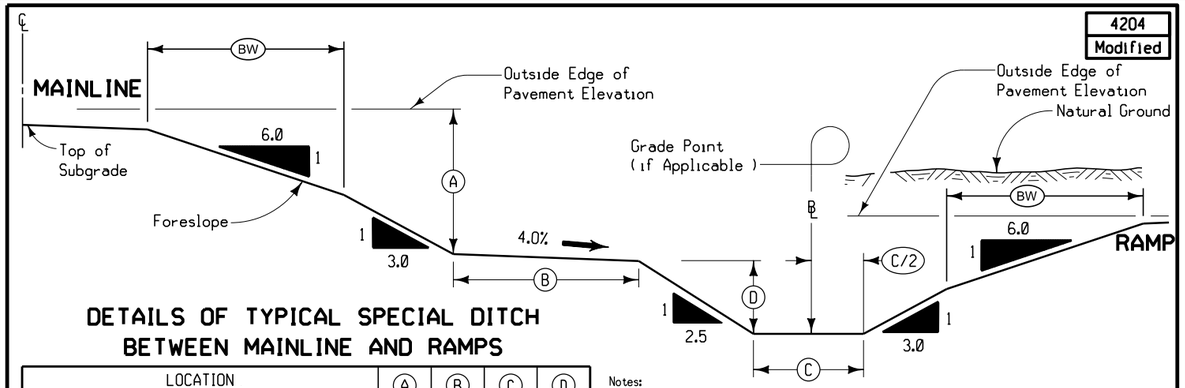
			1R_G_ 10-19-10
ROAD IDENTIFICATION	BEGIN STATION	END STATION	(G) Feet
RAMP A	1969+70.86	1973+14.73	6
RAMP B	2967+62.30	2971+29.80	6

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

See Tab 112-9 for shoulder quantities.

RAMPS

4204
Modified



DETAILS OF TYPICAL SPECIAL DITCH BETWEEN MAINLINE AND RAMPS

LOCATION			(A)	(B)	(C)	(D)
STATION TO STATION		SIDE	Feet	Feet	Feet	Feet
958+05	963+00	RT	Varies	Varies	0'-10'	Varies
963+00	968+96	RT	Varies	Varies	10'	2'
958+50	961+50	LT	Varies	Varies	0'-10'	Varies
961+50	968+52	LT	Varies	Varies	10'	2'
970+87	977+75	RT	Varies	Varies	10'	2'
977+75	979+75	RT	Varies	Varies	0'-10'	Varies
970+94	978+50	LT	Varies	Varies	10'	2'
978+50	980+00	LT	Varies	Varies	0'-10'	Varies

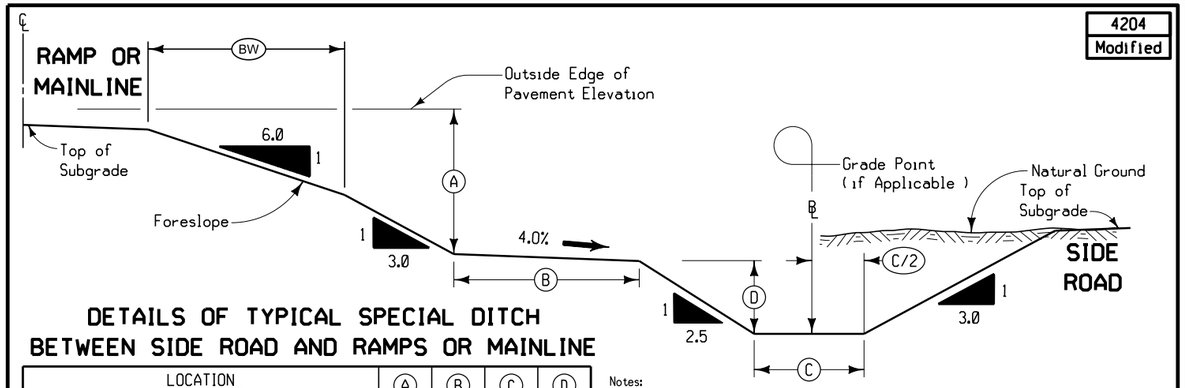
Notes:

Section view is in direction of traffic.

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

Borrow backslope shall be used at those locations shown on plans or specifically required by the engineer.

4204
Modified



DETAILS OF TYPICAL SPECIAL DITCH BETWEEN SIDE ROAD AND RAMPS OR MAINLINE

LOCATION			(A)	(B)	(C)	(D)
STATION TO STATION		SIDE	Feet	Feet	Feet	Feet
943+00	957+95	LT	Varies	Varies	10'	2'
3957+91.5	3967+61	LT	Varies	Varies	10'	2'
1970+09	1983+10	LT	Varies	Varies	10'	2'
983+10	1008+61	LT	Varies	Varies	10'	2'

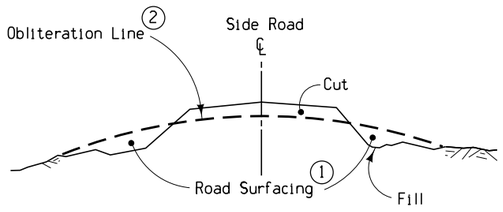
Notes:

Section view is in direction of traffic.

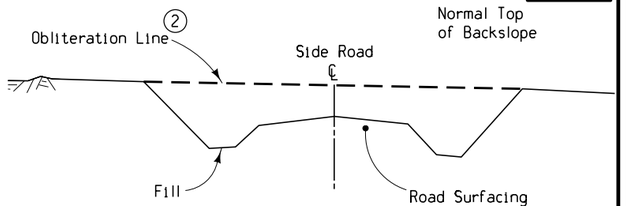
Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or superelevated curves.

Borrow backslope shall be used at those locations shown on plans or specifically required by the engineer.

4302
04-03-01



Fill Section



Cut Section

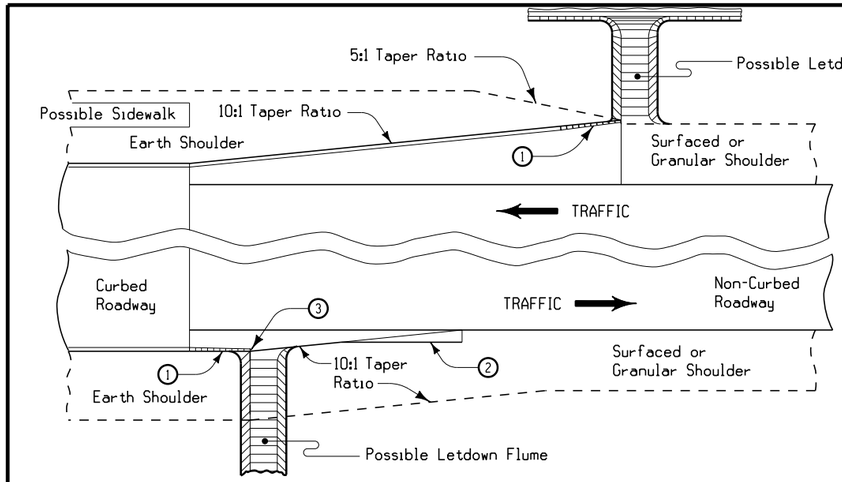
Existing road surfacing (granular material) shall be placed as shown unless otherwise directed by the Engineer or provided for in the detail project plans.

(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

6147
10-20-15



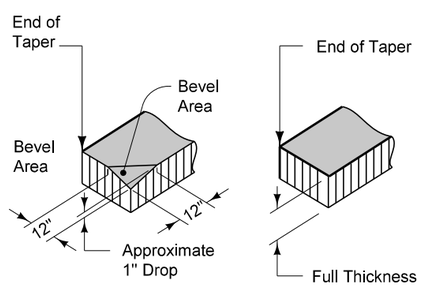
(1) Runout curb according to PV-102

(2) End of Taper Details see Typical Detail 7101

(3) End earth shoulder at the end of the curb transition when no flume is needed.

TRANSITION BETWEEN CURBED AND NON-CURBED ROADWAYS

7101
10-19-10



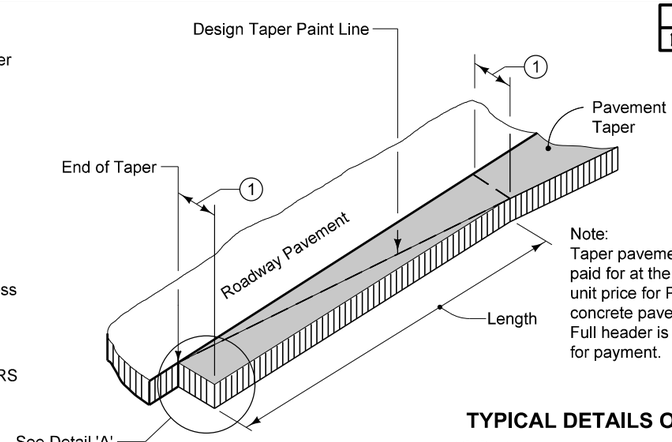
DETAIL 'A'

FOR GRANULAR SHOULDERS

DETAIL 'A'

FOR PAVED SHOULDERS

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



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

TYPICAL DETAILS OF PCC PAVEMENT HEADER

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER B.10

10:52:04 PM 10/29/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020183B01.sht

SURVEY SYMBOLS

- LUM Luminaire
- SIGN SI Sign
- ROW Right of Way Rail
- PPA Power Pole Co. 1
- PRA Power Riser Co. 1
- TEV Evergeen Tree
- SHR Shrub
- TDC Tree Deciduous
- SWAMP
- LP L.P. Tank
- OUT Tile Outlet
- TSG Traffic Signal
- IN Storm Sewer Intake
- INB Storm Sewer Intake Beehive
- MH Utility Access (Manhole)
- BB Billboard
- MIS Miscellaneous
- Flg FLG Flagpole
- MM MM Mile Marker Post
- SIGN SL Speed Limit Sign
- TP TPD Telephone Pedestal
- TCB TCB Utilities
- EB EB Electrical Box
- WV WV Water Valve
- FHYD Fire Hydrant
- UB UB Utility Box
- TVP TVP TV Pedestal
- TLN Tree Line
- TIL Tile Line
- FCL Chain Link and Security Fence
- FW Wire Fence
- FWD Wood Fence
- DU Centerline Draw or Stream (Up)
- D Centerline Draw or Stream (Down)
- DIK Centerline of Dike or Dam
- EW Edge of Water
- BNK Stream Bank
- GDL Guard Rail Steel
- RIP Rip-Rap
- RR Centerline of Railroad Tracks
- UV Underground Utility Vault
- E1 ELA Underground Electric Line Co. 1
- E2 ELB Underground Electric Line Co. 2
- E3 ELC Underground Electric Line Co. 3
- W WLA Underground Water Line Co. 1
- T1 TLA Underground Telephone Line Co. 1
- T2 TLB Underground Telephone Line Co. 2
- T3 TLC Underground Telephone Line Co. 3
- G GLA Underground Gas Line Co. 1
- FO FOA Underground Fiber Optic Co. 1
- FO2 FOB Underground Fiber Optic Co. 2
- St.S. STA Storm Sewer Co. 1
- St.S.2 STB Storm Sewer Co. 2

UTILITY LEGEND

GENERAL LOCATES: IOWA ONE CALL 800-292-8989

ELECRICAL:
MAQUOKETA VALLEY ELECTIC COOPERATIVE — OFFICE 319-462-3541
P.O. BOX 370 — jlauzon@mvec.com
ANAMOSA, IOWA 52205
ATTN: JAMES LAUZON

CENTRAL IOWA POWER COOPERATIVE (CIPCO) — OFFICE 319-366-8011
1400 HWY. 13 SE — FAX 319-366-8626
CEDAR RAPIDS, IOWA 52403
ATTN:

FIBER OPTICS:
VERIZON BUSINESS (f.k.a. MCI) — OFFICE 927-729-6322
2400 NORTH GLENNVILLE DRIVE — dean.boyers@verizon
RICHARDSON, TX
ATTN: DEAN BOYERS

IOWA COMMUNICATIONS NETWORK — OFFICE 515-725-4741
400 EAST 1ST STREET — larry.klawitter@iowa.gov
DES MOINES, IOWA 50319
ATTN: LARRY KLAWITTER

QWEST COMMUNICATIONS — OFFICE 563-588-6831
1600 JOHN F. KENNEDY ROAD
DUBUQUE, IOWA 52002
ATTN: CHRIS LOTSPEICH

GAS:
AQUILLA, INC. — OFFICE 563-583-0415
1015 CEDAR CROSS ROAD — FAX 563-583-0850
DUBUQUE, IOWA 52003
ATTN: LAURA ROUSSELL

THREE RIVERS FS COMPANY (PROPANE) — OFFICE 563-588-1250
14775 NORTH CASCADE ROAD
DUBUQUE, IOWA 52003
ATTN: DON ALBRECHT

GAS (HIGH PRESSURE):
NORTHERN NATURAL GAS COMPANY. — OFFICE
5557 COUNTY ROAD D
PLATTEVILLE, WISCONSIN 53818
ATTN: MIKE GLEAVES — CELL 402-530-2852
ATTN: LENNY KLAAS — CELL 402-530-2806

SEWER (SANITARY AND STORM):
SANITARY SEWER (PRIVATE)
STORM SEWER (STATE OF IOWA)

TELEPHONE:
QWEST COMMUNICATIONS — OFFICE 563-588-6831
1600 JOHN F. KENNEDY ROAD
DUBUQUE, IOWA 52002
ATTN: CHRIS LOTSPEICH

TELEVISION:
MEDIACOM COMMUNICATIONS — OFFICE 563-387-6119
207 WEST PEARL STREET — bfrazer@mediacomcc.com
DECORAH, IOWA 52101
ATTN: BOB FRAZOR

WATER:
WATER LINE (PRIVATE)

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

Reference Point
Station
Survey Line
Section Corner
Ground Line Intercept
Saw Cut
Guardrail
Trench Drain
HighTension Cable Guardrail
Sheet Pile
Pavement Removal
Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

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

Proposed Borrow Elements
Aquisition Outline
Conceptual Outline

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D & E)

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER D.1

10:59:10 PM 10/29/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183lgd.sht

VERNON TWP.
T-88N R-1E
SEC. 12

VERNON TWP.
T-88N R-1E
SEC. 12

NOTE: HIGH PRESSURE GAS PIPELINE RELOCATED BY OTHERS

RELOCATED COTTINGHAM ROAD

PROPOSED CORRIDOR FENCE

PROPOSED CORRIDOR FENCE

930 935 940 945 950 955 960

PI Sta 941+45.26

SS Sta 946+43.69

SC Sta 948+23.69

PI Sta 947+63.69

U.S. 20

(USE AS CONSTRUCTED)

(USE AS CONSTRUCTED)

RAMP C

RAMP B

(Close)

(Close)

OBLITERATE

BEGIN PROJECT
Sta. 943+00.00 BK (Exist. US 20) =
Sta. 943+00.00 AH (NHS-20-9(121)-19-31

+80 Prop. Type "M" Dike
Elev. = 1122.20

Sta. 945+00 - 37' Lt.
Install 24" DR-653
F.L. = Lt. 1104.51
Rt. 1120.27
Other 1105.01
Other 1116.06
Other 1117.45

Sta. 951+32.19 (Left)
Extend 3'x3' RCB & 42" RCP
With 42" DR-622 & DR-122
Skew = 15° Lt. Ahd. Extension Skew
Lt. 1086.19
F.L. = Rt. N/A
Other 1091.19 (Exist.)
Other 1101.40 (Exist.)
Other 1102.00 (Exist.)
Other 1117.27 (Exist.)

Sta. 951+32.19 (Right)
Extend 3'x3' RCB
With 42" DR-621 & DR-122
Skew = 5° Lt. Ahd.
Lt. N\A
F.L. = Rt. 1119.00
Other 1117.27
Other 1102.00 (Exist.)

Sta. 934+00.60
5' X 7' X 142.9' RCB
D.A. = 20A - H
(U.A.C.)

Sta. 936+24.80
24"/X 66.2' Conc Pipe
D.A. = A - MEDIAN
(U.A.C.)

Sta. 941+50.00
4' X 4' X 104' RCB
w/ 54" RCP
D.A. = 39A - H
(U.A.C.)

Sta. 944+98.70
24" X 66.3' Conc Pipe
D.A. = A - MEDIAN
(REMOVE)

Sta. 951+30.69
3' X 3' X 149.6' RCB
w/ 42" X 140' RCP
D.A. = 12A - H
(EXTEND LEFT AND RIGHT)

Sta. 954+92.79
24" X 64.0' Conc Pipe
D.A. = A - MEDIAN
(REMOVE)

VERNON TWP.
T-88N R-1E
SEC. 13

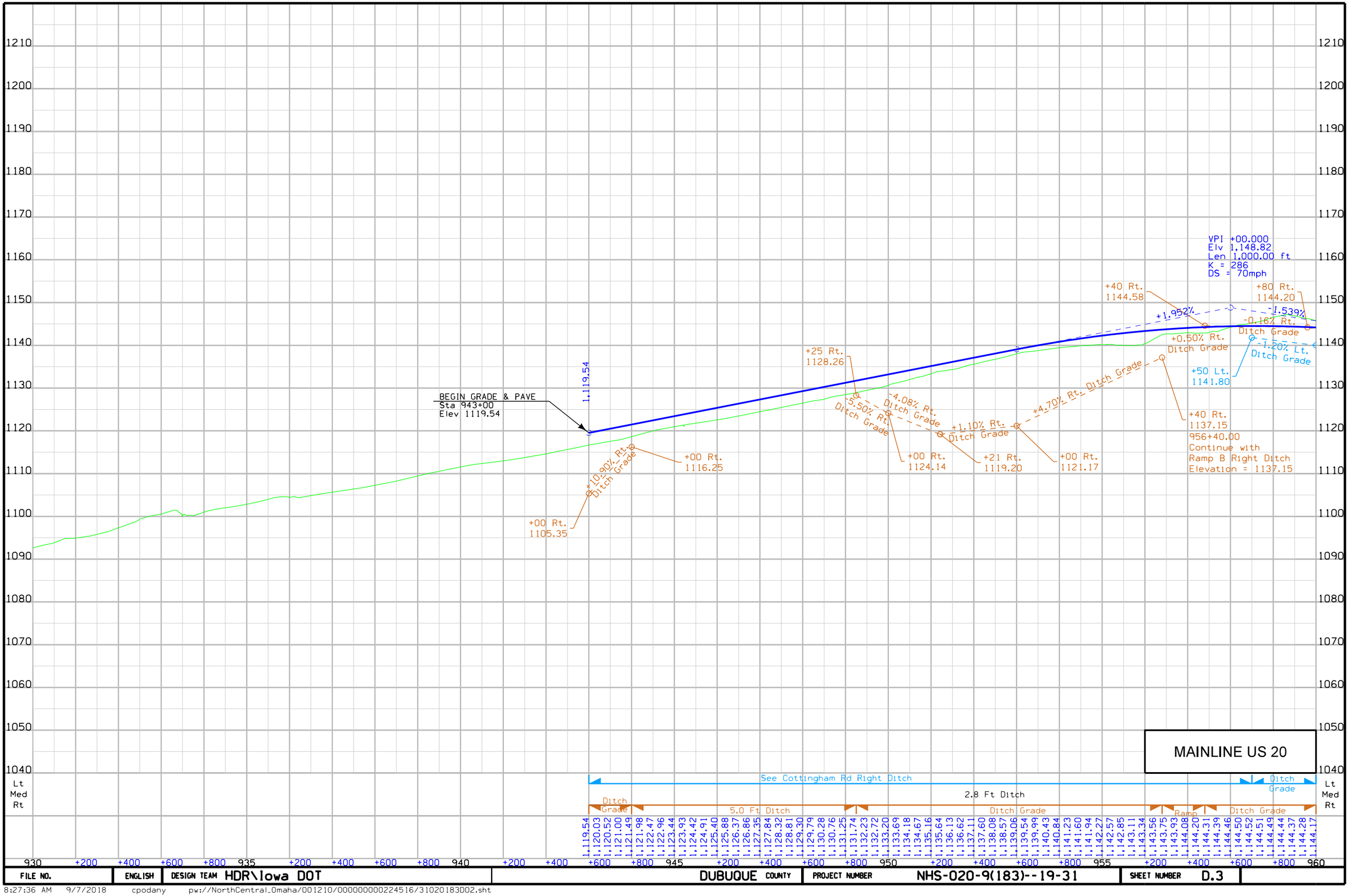
VERNON TWP.
T-88N R-1E
SEC. 13

0 100 FEET

MAINLINE US 20

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER D.2

2:48:51 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183D02.sht



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER D.3

8:27:36 AM 9/7/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183D02.sht

VERNON TWP.
T-88N R-1E
SEC. 12

Sta. 966+80 - 37' Lt.
Install 24" x 80' DR-601 & DR-141
F.L. = Lt. 1126.27
Rt. 1132.17
Other 1131.00

Sta. 975+75
Install 36" x 252' DR-601
Skew = 35° Lt. Ahd.
F.L. = Lt. 1109.80
Rt. 1111.04

VERNON TWP.
T-88N R-1E
SEC. 12

Sta. 983+50 - 37' Lt.
Install 24" DR-653
F.L. = Lt. 1084.70
Rt. 1111.30
Other 1084.80
Other 1108.09
Other 1108.78

+70 Prop. Type "M" Dike
Elev. = 1113.00

NOTE: HIGH PRESSURE GAS PIPELINE RELOCATED BY OTHERS

RELOCATED COTTINGHAM ROAD

SWISS VALLEY ROAD

NORTH FRONTAGE ROAD

SCS PI Sta 964+61.57
Δ = 41° 10' 21.30" (LT)
Theta = 1° 07' 15.62"
Ls = 180.00
Ts = 1,817.88
Es = 314.09
P = 0.29
K = 90.00
Xc = 179.99
Yc = 1.17
LT = 120.00
ST = 60.00
LC = 180.00

Curve Data
Δ = 38° 55' 50.07" (LT)
T = 1,625.81
L = 3,125.55
R = 4,600.00
E = 278.86
e = 4.0%
L = 180
x = 90

PROPOSED CORRIDOR FENCE

RAMP C

RAMP A

RAMP B

RAMP D

+00 Prop. Type "M" Dike
Elev. = 1134.20

Equation:
Sta. 5969+80.00 Swiss Valley Rd. =
Sta. 969+80.00 ML US 20

U.S. 20

PI Sta 964+49.50

Sta. 979+49.24 BT
Sta. 981+29.24 ET
Sta. 987+87.55

24" C.M.P. (REMOVE)
18" C.M.P. (REMOVE)
(CLOSE)

NORTH CASCADE ROAD EAST

SWISS VALLEY ROAD

Sta. 966+91.96
18" X 64.8' Conc Pipe
D.A. = A - MEDIAN
(REMOVE)

Sta. 969+47.15
24" X 85.0' Conc Pipe
D.A. = 3 A - R
(REMOVE)

Sta. 969+72.11
24" X 114.1' Conc Pipe
D.A. = 3 A - GR
(REMOVE)

Sta. 973+69.54
15" X 93.0' Conc Pipe
(REMOVE)

Sta. 974+53.69
24" X 163.0' Conc Pipe
D.A. = 6 A - R
(REMOVE)

Sta. 977+98.90
15" X 67.4' Conc Pipe
(REMOVE)

VERNON TWP.
T-88N R-1E
SEC. 13

VERNON TWP.
T-88N R-1E
SEC. 12

0 100 FEET

MAINLINE US 20

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER D.4

2:50:04 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183D02.sht

MAINLINE US 20

+00 Lt.
1140.00

-2.04% Rt. Ditch Grade

+00 Rt.
1135.62

-2.52% Lt. Ditch Grade

-1.539%

-1.200%

+0.40% Lt. Ditch Grade

+70 Lt.
1125.61

+00 Lt.
1126.93

VPI +00.000
Elv 1,131.89
Len 300.00 ft
K = 885
DS = 70mph

+00 Rt.
1124.33

-4.48% Rt. Ditch Grade

-3.10% Lt. Ditch Grade

+00 Rt.
1110.90

+00 Lt.
1121.05

+1.37% Rt.
Ditch Grade

+0.13% Rt. Ditch Grade

+0.50% Lt. Ditch Grade

+70 Lt.
1112.04

+9.13% Lt.
Ditch Grade

+50 Lt.
1110.19

+00 Rt.
1115.00

+00 Rt.
1115.40
981+90.00
5' Right Ditch
See Ramp D
4981+89.18
Elevation 1109.74

+25 Lt.
1114.79

-1.200%

-2.280%

VPI +50.000
Elv 1,112.09
Len 500.00 ft
K = 463
DS = 70mph

Lt	Ditch Grade	Swiss Valley Rd.	5.0 Ft Ditch	Ditch Grade	See North Frontage Rd. Right Ditch	Lt
Med				2.8 Ft Ditch		Med
Rt	Ditch Grade	5.0 Ft Ditch	Swiss Valley Rd.	5.0 Ft Ditch	Ramp	5.0 Ft Ditch	Rt

960	+200	+400	+600	+800	965	+200	+400	+600	+800	970	+200	+400	+600	+800	975	+200	+400	+600	+800	980	+200	+400	+600	+800	985	+200	+400	+600	+800	990
1144.17	1144.04	1143.88	1143.70	1143.50	1143.28	1143.04	1142.78	1142.49	1142.18	1141.85	1141.50	1141.12	1140.74	1140.35	1139.97	1139.58	1139.20	1138.82	1138.43	1138.05	1137.66	1137.28	1136.89	1136.51	1136.12	1135.74	1135.35	1134.97	1134.58	1134.20	1133.82	1133.44	1133.08	1132.72	1132.36	1132.02	1131.68	1131.35	1131.02	1130.70	1130.39	1130.09	1129.79	1129.49	1129.19	1128.89	1128.59	1128.29	1127.99	1127.69	1127.39	1127.09	1126.79	1126.49	1126.19	1125.89	1125.59	1125.29	1124.99	1124.69	1124.39	1124.09	1123.79	1123.49	1123.19	1122.89	1122.59	1122.29	1121.99	1121.69	1121.39	1121.09	1120.79	1120.49	1120.19	1119.89	1119.59	1119.29	1118.99	1118.69	1118.39	1118.09	1117.79	1117.49	1117.19	1116.89	1116.59	1116.29	1115.99	1115.69	1115.39	1115.09	1114.78	1114.46	1114.13	1113.78	1113.42	1113.05	1112.66	1112.26	1111.84	1111.41	1110.97	1110.52	1110.05	1109.57	1109.07	1108.56	1108.04	1107.50	1106.95	1106.39	1105.82	1105.25	1104.68	1104.11	1103.54	1102.97	1102.40	1101.83

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER D.5

8:27:39 AM 9/7/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183D02.sht

VERNON TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

Sta. 990+50 - 37' Lt.
Install 24" DR-611 w/ DR-205
F.L. = Lt. 1084.06
Rt. 1098.25
Other 1084.24
Top 1099.03

+25 Prop. Type "M" Dike
Elev. = 1100.50

Curve Data
Δ = 50° 32' 23.51" (LT)
T = 1,345.36
L = 2,513.95
R = 2,850.00
E = 301.59
e = 5.6%
L = 252
x = 90

Sta. 1010+00
Build SW-562 Intake w/ 24" x 220'
F.L. = Top 1053.82 F.L. In 1049.63
Inlet 1053.57

Sta. 1012+24
Build SW-513 Intake w/ 36" x 18' and SW-545 Intake w/ 36" x 31' and SW-545 Intake w/ 36" x 19' and SW-513 Intake w/ 42" x 86' and SW-402 Manhole w/ 42" x 112' and SW-513 Intake w/ 42" x 60'
F.L. = Top 1056.24 F.L. Out 1049.72
Inlet 1054.99
Form Grade 1056.66 F.L. Out 1049.57
F.L. In 1049.67
Form Grade 1056.66 F.L. Out 1049.16
F.L. In 1049.26
Top 1055.98 F.L. In 1048.98
Inlet 1054.73 F.L. Out 1048.58
Top 1054.96 F.L. In 1047.43
F.L. In 1047.73 F.L. Out 1047.16
Top 1042.40 F.L. In 1036.16
Inlet 1041.15 F.L. Out 1035.86
Other 1034.61

Sta. 1015+00
Install 24" x 78' and SW-562 Intake w/ 24" x 80' and SW-562 Intake w/ 24" x 192' DR-611
F.L. = Lt. 1036.36 Other 1036.68
Rt. 1056.42
Top 1057.08 F.L. In 1051.60
Inlet 1056.83 F.L. Out 1051.44
Top 1057.14 F.L. In 1049.14
Inlet 1056.89 F.L. Out 1049.05

+75 Prop. Type "M" Dike
Elev. = 1059.00

+75 Prop. Type "M" Dike
Elev. = 1059.00

PROPOSED CORRIDOR FENCE

PROPOSED CORRIDOR FENCE

NORTH FRONTAGE ROAD

NORTH FRONTAGE ROAD

NORTH CASCADE ROAD EAST

SOUTH FRONTAGE ROAD

U.S. 20

CLOSE

24" C.M.P. (REMOVE)

PI Sta 1001+32.94

Sta. 1000+09.90
15" X 55.3' Conc Pipe
(REMOVE)

Sta. 1000+79.00
24" X 179' Conc Pipe
D.A. = 9 A - R
(REMOVE)

Sta. 1006+13.00
30" X 200.5' Conc Pipe
D.A. = 3 A - H
(REMOVE)

Sta. 1007+68.63
15" X 64.8' Conc Pipe
(REMOVE)

Sta. 1010+10.25
30" X 209.8' Conc Pipe
D.A. = 11 A - H
(REMOVE)

Sta. 1011+68.00
15" X 79.0' Conc Pipe
(REMOVE)

Sta. 1015+40.50
24" X 249.5' Conc Pipe
D.A. = 5 A - H
(REMOVE)

Sta. 1002+50 - 37' Rt.
Install 24" DR-611 w/ DR-205
F.L. = Lt. 1067.04
Rt. 1065.09
Other 1065.64
Top 1067.83

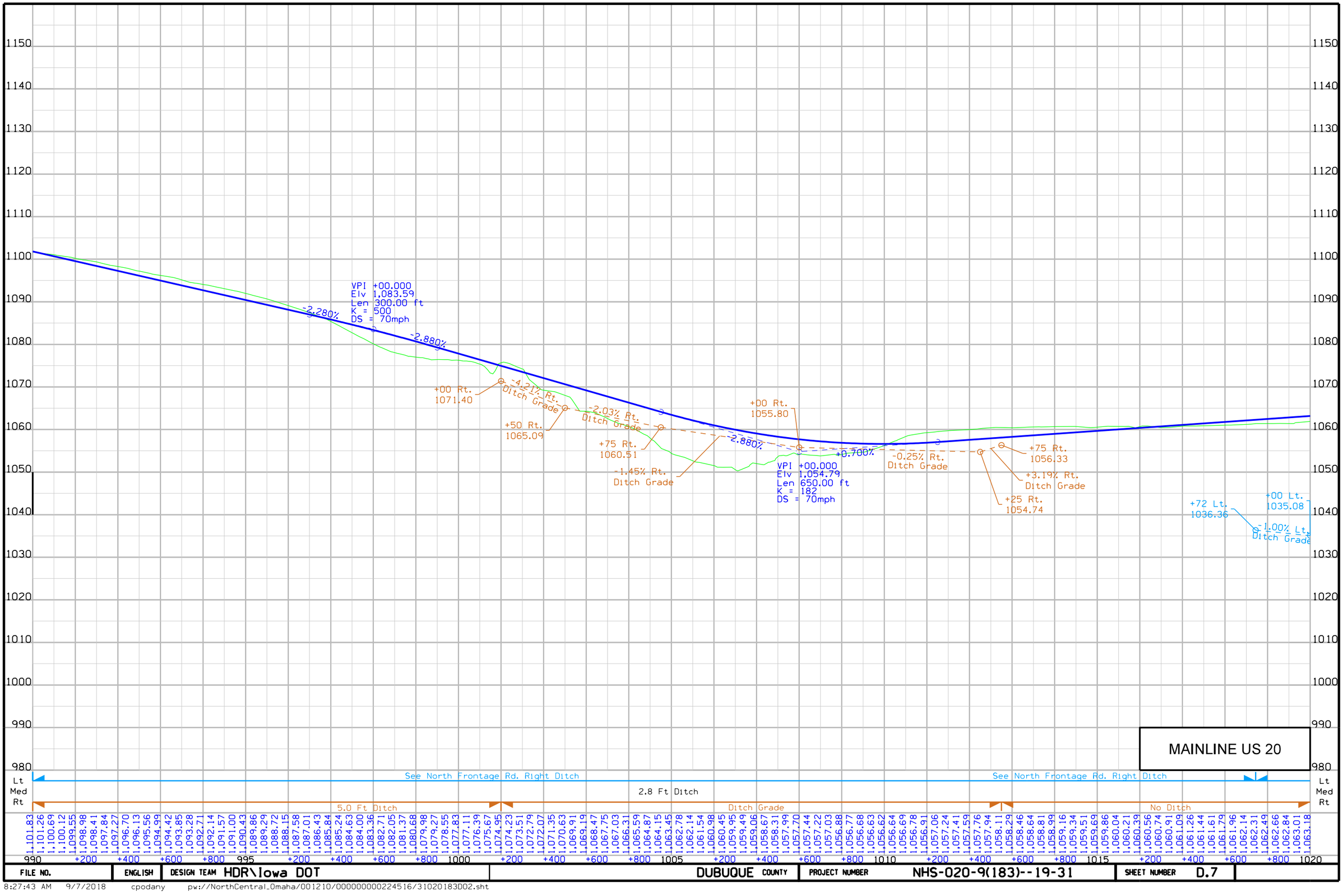
+75 Prop. Type M Dike
Elev. = 1069.90

0 100 FEET

MAINLINE US 20

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER D.6

2:51:42 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183D02.sht



1,101.83 1,101.26 1,100.69 1,100.12 1,099.55 1,098.98 1,098.41 1,097.84 1,097.27 1,096.70 1,096.13 1,095.56 1,094.99 1,094.42 1,093.85 1,093.28 1,092.71 1,092.14 1,091.57 1,091.00 1,090.43 1,089.86 1,089.29 1,088.72 1,088.15 1,087.58 1,087.01 1,086.43 1,085.84 1,085.24 1,084.63 1,084.00 1,083.36 1,082.71 1,082.05 1,081.37 1,080.68 1,079.98 1,079.27 1,078.55 1,077.83 1,077.11 1,076.39 1,075.67 1,074.95 1,074.23 1,073.51 1,072.79 1,072.07 1,071.35 1,070.63 1,069.91 1,069.19 1,068.47 1,067.75 1,067.03 1,066.31 1,065.59 1,064.87 1,064.15 1,063.45 1,062.78 1,062.14 1,061.54 1,060.98 1,060.45 1,059.95 1,059.49 1,059.06 1,058.67 1,058.31 1,057.99 1,057.70 1,057.44 1,057.22 1,057.03 1,056.88 1,056.77 1,056.68 1,056.63 1,056.62 1,056.64 1,056.69 1,056.78 1,056.91 1,057.06 1,057.24 1,057.41 1,057.59 1,057.76 1,057.94 1,058.11 1,058.29 1,058.46 1,058.64 1,058.81 1,058.99 1,059.16 1,059.34 1,059.51 1,059.69 1,059.86 1,060.04 1,060.21 1,060.39 1,060.56 1,060.74 1,060.91 1,061.09 1,061.26 1,061.44 1,061.61 1,061.79 1,061.96 1,062.14 1,062.31 1,062.49 1,062.66 1,062.84 1,063.01 1,063.18

990 +200 +400 +600 +800 995 +200 +400 +600 +800 1000 +200 +400 +600 +800 1005 +200 +400 +600 +800 1010 +200 +400 +600 +800 1015 +200 +400 +600 +800 1020

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER D.7

8:27:43 AM 9/7/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183D02.sht

Sta. 1020+75
Build SW-509 Intake w/ 24" x 104'
and modified SW-562 w/ 24" x 162' DR-653
F.L. = Lt. 1033.51 Other 1050.76
Other 1033.62
Form Grade 1057.41
F.L. Out 1052.99
Top 1061.16 F.L. In 1051.96
Inlet 1060.91 F.L. Out 1051.66

+50 Prop. Type "M" Dike
Elev. = 1062.70

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

Sta. 1040+50.00 BK (NHS-20-9(121)-19-31) =
Sta. 1043+01.65 AH (Exist. US 20)
END PROJECT

PROPOSED CORRIDOR FENCE

℄ CONSTR.

TOWER DRIVE

U.S. 20

NORTH FRONTAGE ROAD

SOUTH FRONTAGE ROAD

CLOSE

24" C.M.P. (REMOVE)

18" C.M.P. (REMOVE)

PI Sta 1025+03.71

PI Sta 1032+17.84

1030

1035

1040

1045

Curve Data
Δ = 29° 22' 28.05" (RT)
T = 747.00
L = 1,461.14
R = 2,850.00
E = 96.27
e = 5.6%
L = 252
x = 90

Open Storage

Sheds

Bldg.

Mobile Homes

Barn

Silo

Gate

Sta. 1018+34.26
15" X 85.7' Conc Pipe
(REMOVE)

Sta. 1020+54.82
15" X 63.8' Conc Pipe
(REMOVE)

Sta. 1026+32.72
24" X 216.8' Conc Pipe
D.A. = 4 A - H
(REMOVE)

Sta. 1035+49.20
15" X 72.8' Conc Pipe
(REMOVE)

0 100
FEET

MAINLINE US 20

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER D.8

2:52:34 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183D02.sht

VPI +00.000
Elv 1,064.58
Len 300.00 ft
K = 3011
DS = 70mph

VPI +75.000
Elv 1,072.83
Len 950.00 ft
K = 299
DS = 70mph

+0.700%
+0.600%
-2.578%
-2.10% Rt. Ditch Grade
-1.56% Rt. Ditch Grade
+0.40% Lt. Ditch Grade
+6.00% Lt. Ditch Grade
-2.10% Lt. Ditch Grade
+3.62% Lt. Ditch Grade
-0.90% Lt. Ditch Grade
-2.10% Lt. Ditch Grade

+25 Lt.
1066.68

+00 Rt.
1068.72

+75 Lt.
1068.08

+00 Lt.
1066.06

+00 Rt.
1064.04

+75 Lt.
1062.38

+50 Rt.
1056.69

+75 Lt.
1033.68

+25 Lt.
1028.25

1,060.59

END GRADE & PAVE
Sta 1040+50
Elev 1060.59

MAINLINE US 20

Lt	Ditch Grade	2.8 Ft Ditch	No Ditch
Med			
Rt	No Ditch		Ditch Grade

1063.18 1063.36 1063.53 1063.71 1063.88 1064.05 1064.22 1064.38 1064.55 1064.71 1064.87 1065.02 1065.18 1065.33 1065.48 1065.63 1065.78 1065.93 1066.08 1066.23 1066.38 1066.53 1066.68 1066.83 1066.98 1067.13 1067.28 1067.43 1067.58 1067.73 1067.88 1068.03 1068.18 1068.33 1068.48 1068.63 1068.78 1068.93 1069.08 1069.23 1069.38 1069.53 1069.68 1069.83 1069.98 1070.12 1070.24 1070.34 1070.42 1070.47 1070.51 1070.52 1070.52 1070.49 1070.44 1070.37 1070.28 1070.17 1070.04 1069.88 1069.71 1069.51 1069.30 1069.06 1068.80 1068.52 1068.23 1067.90 1067.56 1067.20 1066.82 1066.41 1065.99 1065.54 1065.08 1064.59 1064.08 1063.55 1063.00 1062.43 1061.84 1061.22 1060.59

1020 +200 +400 +600 +800 1025 +200 +400 +600 +800 1030 +200 +400 +600 +800 1035 +200 +400 +600 +800 1040 +200 +400 +600 +800 1045 +200 +400 +600 +800 1050

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER D.9

8:27:46 AM 9/7/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020183D02.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

LANDFILL ROAD (BY OTHERS)

DEACTIVATED PRIVATE UTILITY ELECTRICAL BOX

PROPOSED CORRIDOR FENCE

CLOSE (BY OTHERS)

CLOSE

PROPOSED CORRIDOR FENCE

U.S. 20

1050 1055 1060 1065 1070 1075

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

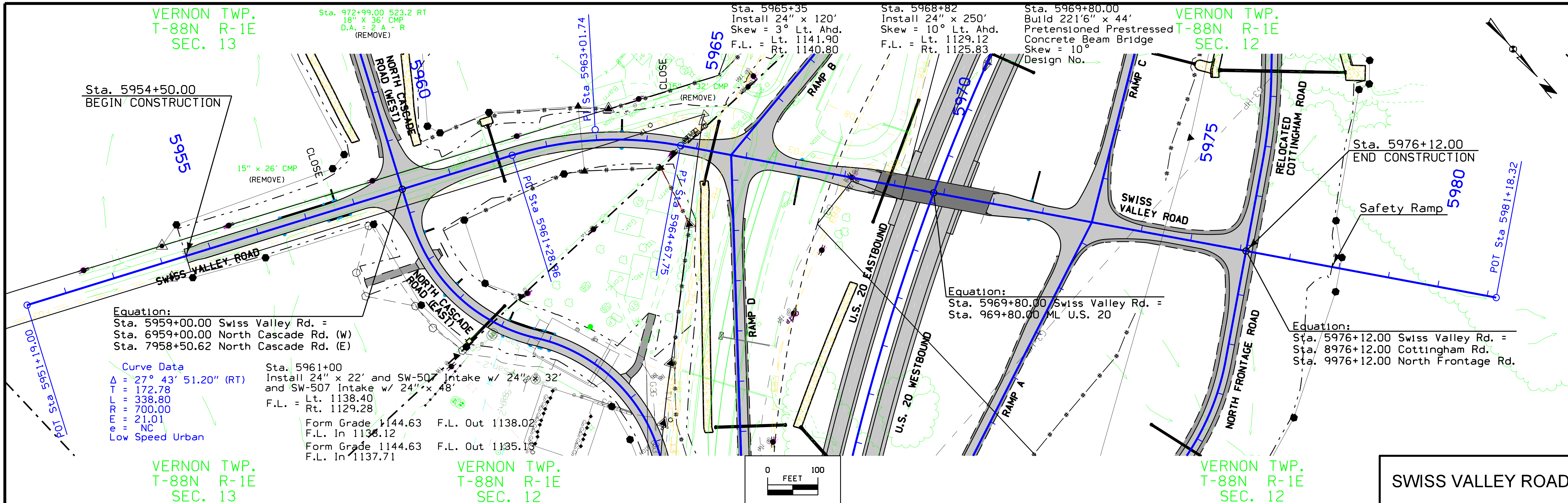
TABLE MOUND TWP.
T-88N R-2E
SEC. 6

0 100
FEET

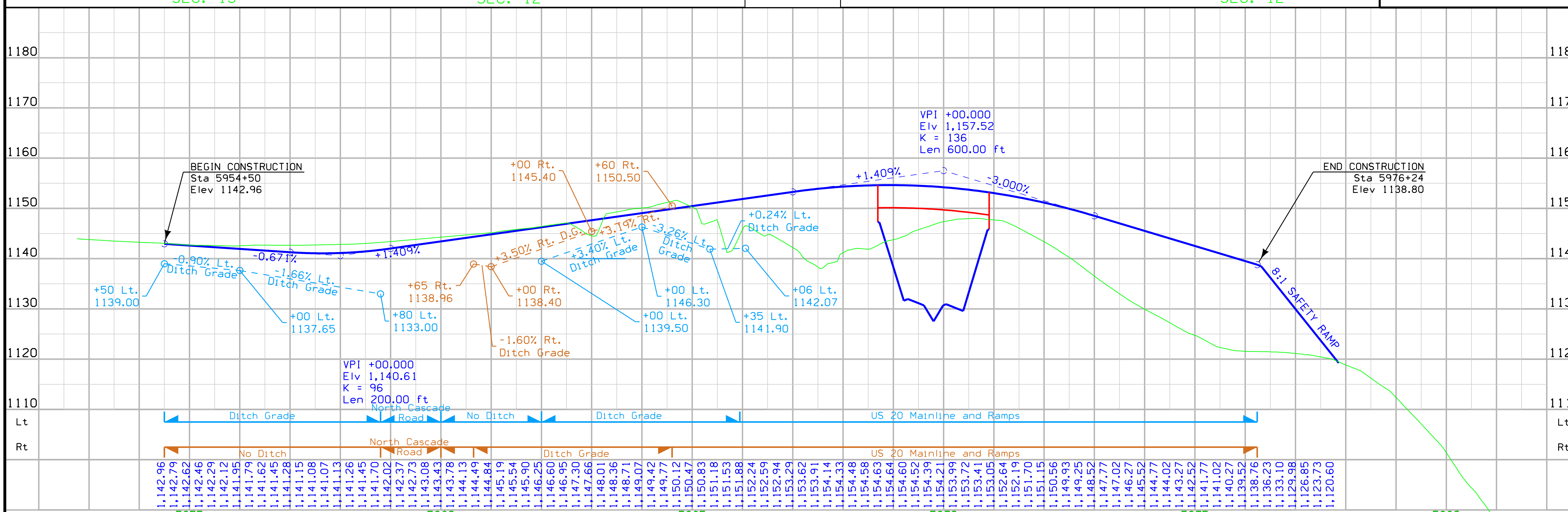
MAINLINE US 20

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER D.10

2:53:14 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183D02.sht


VERNON TWP.
T-88N R-1E
SEC. 13
Sta. 972+99.00 523.2 RT
18" X 36' CMP
D.A. = 2 A - R
(REMOVE)
Sta. 5954+50.00
BEGIN CONSTRUCTION
5955
15" x 26' CMP
(REMOVE)
CLOSE
NORTH CASCADE ROAD (WEST)
5960
PI Sta 5963+01.74
15" x 32' CMP
(REMOVE)
CLOSE
5965
Sta. 5965+35
Install 24" x 120'
Skew = 3° Lt. Ahd.
F.L. = Lt. 1141.90
Rt. 1140.80
Sta. 5968+82
Install 24" x 250'
Skew = 10° Lt. Ahd.
F.L. = Lt. 1129.12
Rt. 1125.83
Sta. 5969+80.00
Build 221'6" x 44'
Pretensioned Prestressed
Concrete Beam Bridge
Skew = 10°
Design No.
VERNON TWP.
T-88N R-1E
SEC. 12
RAMP B
5970
RAMP C
5975
RELOCATED COTTINGHAM ROAD
Sta. 5976+12.00
END CONSTRUCTION
5980
Safety Ramp
POT Sta 5981+18.32
SWISS VALLEY ROAD
PI Sta 5961+28.96
PI Sta 5964+67.75
U.S. 20 EASTBOUND
RAMP D
U.S. 20 WESTBOUND
RAMP A
NORTH FRONTAGE ROAD
NORTH CASCADE ROAD (EAST)
POT Sta 5951+19.00
Equation:
Sta. 5959+00.00 Swiss Valley Rd. =
Sta. 6959+00.00 North Cascade Rd. (W)
Sta. 7958+50.62 North Cascade Rd. (E)
Curve Data
Δ = 27° 43' 51.20" (RT)
T = 172.78
L = 338.80
R = 700.00
E = 21.01
e = NC
Low Speed Urban
Sta. 5961+00
Install 24" x 22' and SW-507 Intake w/ 24" x 32'
and SW-507 Intake w/ 24" x 48'
F.L. = Lt. 1138.40
Rt. 1129.28
Form Grade 1144.63 F.L. Out 1138.02
F.L. In 1138.12
Form Grade 1144.63 F.L. Out 1135.13
F.L. In 1137.71
Equation:
Sta. 5969+80.00 Swiss Valley Rd. =
Sta. 969+80.00 ML U.S. 20
Equation:
Sta. 5976+12.00 Swiss Valley Rd. =
Sta. 8976+12.00 Cottingham Rd.
Sta. 9976+12.00 North Frontage Rd.
VERNON TWP.
T-88N R-1E
SEC. 13
VERNON TWP.
T-88N R-1E
SEC. 12
0 FEET 100
VERNON TWP.
T-88N R-1E
SEC. 12

SWISS VALLEY ROAD


1180
1170
1160
1150
1140
1130
1120
1110
BEGIN CONSTRUCTION
Sta 5954+50
Elev 1142.96
-0.671%
+1.409%
VPI +00.000
Elv 1,157.52
K = 136
Len 600.00 ft
+1.409%
-3.000%
END CONSTRUCTION
Sta 5976+24
Elev 1138.80
8:1 SAFETY RAMP
+00 Rt.
1145.40
+60 Rt.
1150.50
+3.50% Rt. D.G.
+3.19% Rt.
+3.70% Lt. Ditch Grade
-3.26% Lt. Ditch Grade
+0.24% Lt. Ditch Grade
-0.90% Lt. Ditch Grade
-1.66% Lt. Ditch Grade
+50 Lt.
1139.00
+00 Lt.
1137.65
+80 Lt.
1133.00
+65 Rt.
1138.96
+00 Rt.
1138.40
-1.60% Rt. Ditch Grade
+00 Lt.
1139.50
+00 Lt.
1146.30
+35 Lt.
1141.90
+06 Lt.
1142.07
VPI +00.000
Elv 1,140.61
K = 96
Len 200.00 ft
Lt
Rt
Ditch Grade
North Cascade Road
No Ditch
Ditch Grade
US 20 Mainline and Ramps
No Ditch
North Cascade Road
Ditch Grade
US 20 Mainline and Ramps
5955
5960
5965
5970
5975
5980

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER E.1

10:31:50 PM 10/29/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020183E01.sht

VERNON TWP.
T-88N R-1E
SEC. 11

Sta. 8940+90
Install 42" DR-601
Skew = 40° Rt. Ahd.
F.L. = Lt. 1078.03
Rt. 1082.81

Sta. 8942+00
Install 6' x 7' x 86'
Precast Box Culvert
Stock Pass
F.L. = Lt. 1087.14
Rt. 1085.37

Sta. 8948+70
Install 54" DR-601
Skew = 25° Rt. Ahd.
F.L. = Lt. 1085.71
Rt. 1090.01

Sta. 8956+00
Install 24" DR-601
F.L. = Lt. 1100.08
Rt. 1104.92

VERNON TWP.
T-88N R-1E
SEC. 12

N

POT Sta 8929+67.19

8930

+75 Prop.
Type "C" Ent.

Prop. 18"
Uncl. Ent. Pipe

Sta. 8931+65.00
BEGIN CONSTRUCTION

PC Sta 8933+11.36

Curve Data
Δ = 88° 22' 23.73" (LT)
T = 1,009.91
L = 1,602.56
R = 1,039.00
E = 409.95
e = NC
Low Speed Urban

8935

+80 Prop.
Type "C" Ent.

RELOCATED
COTTINGHAM ROAD

Equation:
POC Sta. 8939+45.00 Cottingham Road =
POT Sta. 139+45.00 Cottingham Road Connector

8940

NOTE: HIGH PRESSURE GAS PIPELINE
RELOCATED BY OTHERS

+00 Prop.
Type "B" Ent.

8945

PI Sta 8943+21.27

PT Sta 8949+13.92

+00 Prop.
Type "B" Ent.

8950

18" Uncl. Ent.

RELOCATED
COTTINGHAM ROAD

+65 Prop.
Type "B" Ent.

8955

PC Sta 8959+89.97

8960

+20 Prop. Type "M" Dike
Elev. = 1107.40

U.S. 20

VERNON TWP.
T-88N R-1E
SEC. 14

VERNON TWP.
T-88N R-1E
SEC. 13

0 100
FEET

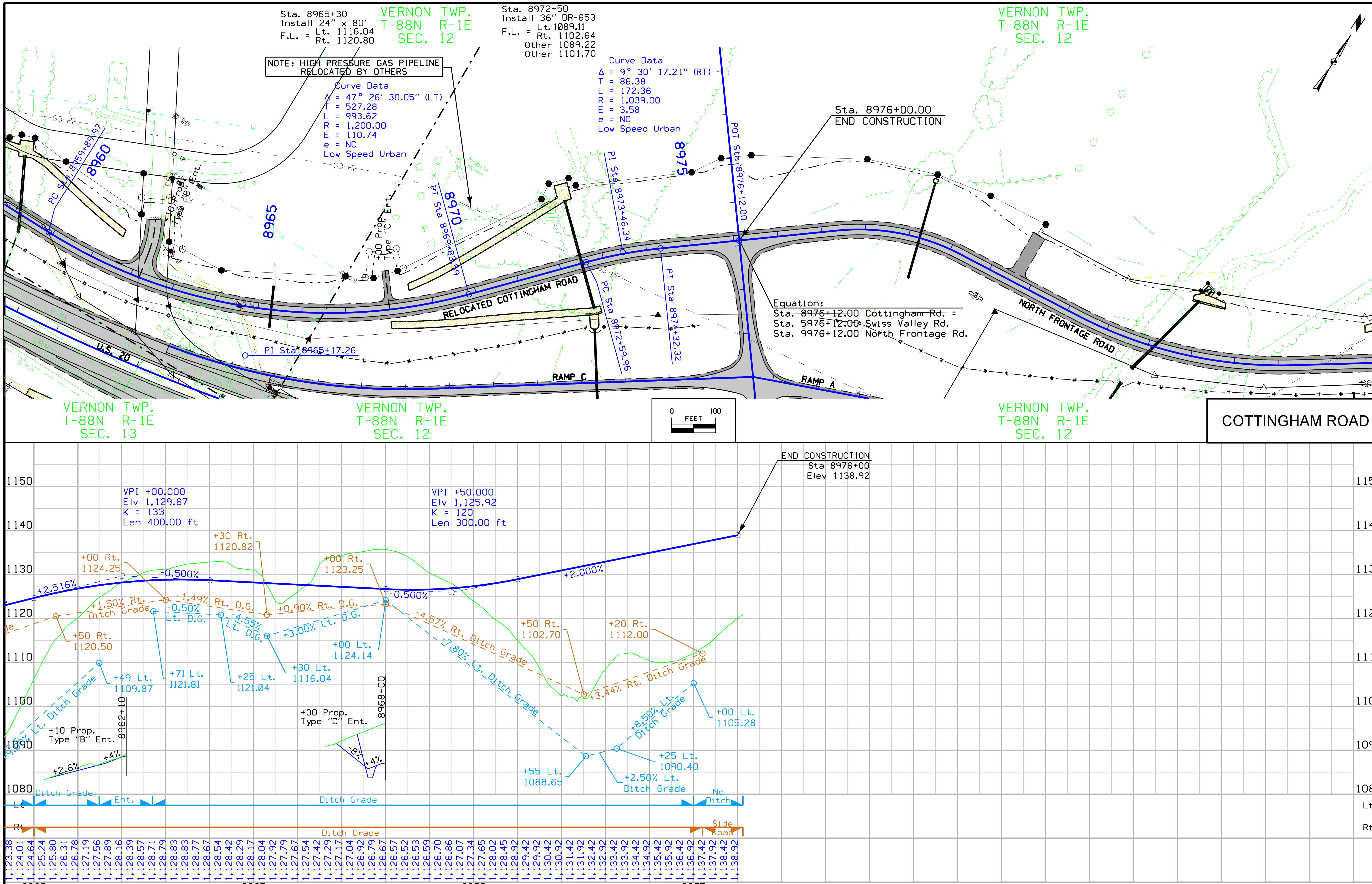
COTTINGHAM ROAD

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.2

2:56:25 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020183E01.sht

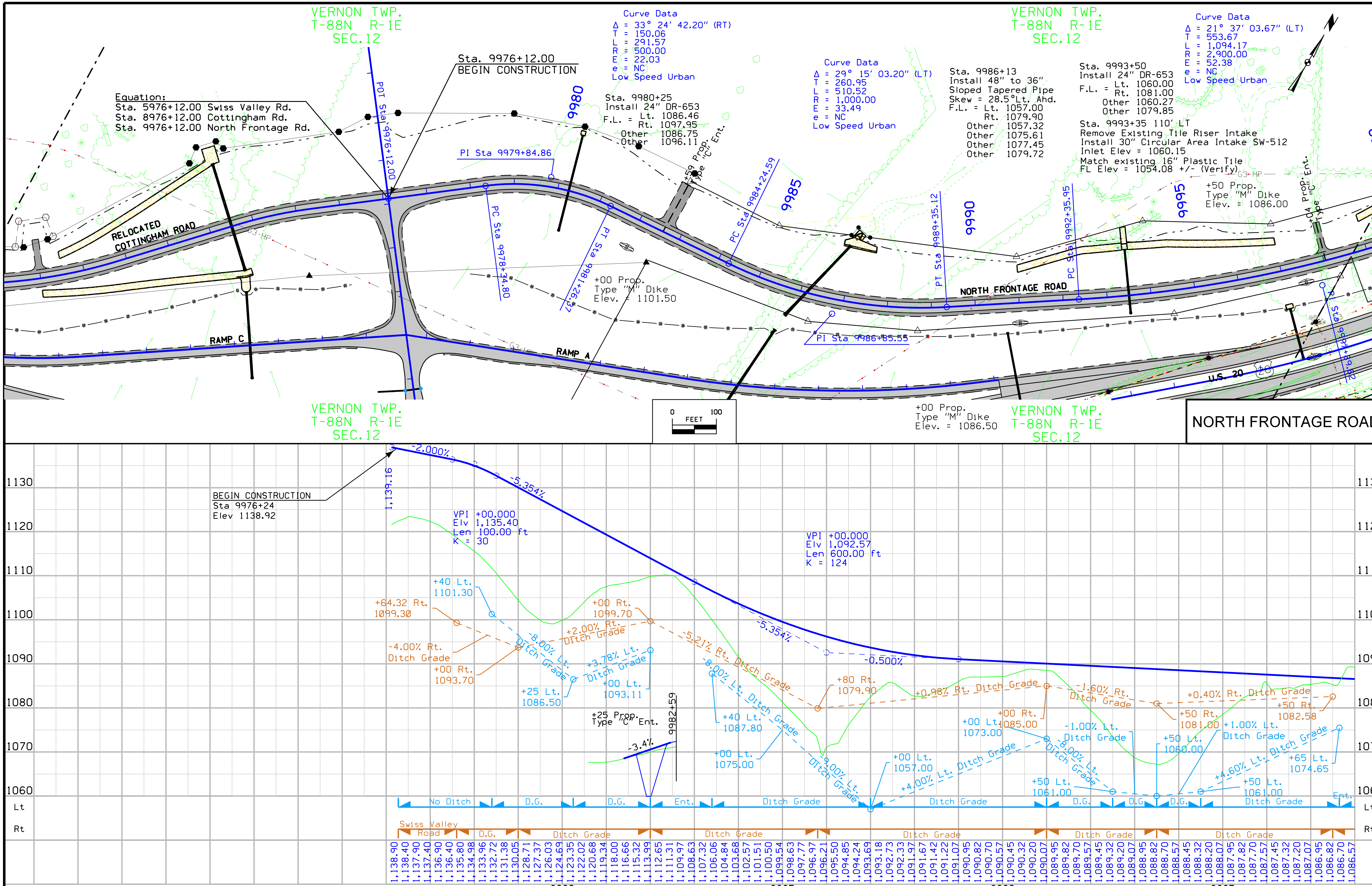
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT		DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.3

8:28:54 AM 9/7/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183E01.sht


Sta. 8965+30
Install 24" x 80'
F.L. = Lt. 1116.04
Rt. 1120.80
VERNON TWP.
T-88N R-1E
SEC. 12
Sta. 8972+50
Install 36" DR-653
F.L. = Lt. 1089.11
Rt. 1102.64
Other 1089.22
Other 1101.70
NOTE: HIGH PRESSURE GAS PIPELINE RELOCATED BY OTHERS
Curve Data
Δ = 47° 26' 30.05" (LT)
T = 527.28
L = 993.62
R = 1,200.00
E = 110.74
e = NC
Low Speed Urban
Curve Data
Δ = 9° 30' 17.21" (RT)
T = 86.38
L = 172.36
R = 1,039.00
E = 3.58
e = NC
Low Speed Urban
Sta. 8976+00.00
END CONSTRUCTION
8960
PC Sta 8959+89.97
+10 Prop. "B" Ent.
Type
8965
+00 Prop. "C" Ent.
Type
PT Sta 8969+83.59
8970
PI Sta 8973+46.34
8975
POT Sta 8976+12.00
PC Sta 8972+59.96
PT Sta 8974+32.32
PI Sta 8965+17.26
RELOCATED COTTINGHAM ROAD
NORTH FRONTAGE ROAD
U.S. 20
RAMP C
RAMP A
Equation:
Sta. 8976+12.00 Cottingham Rd. =
Sta. 5976+12.00 Swiss Valley Rd.
Sta. 9976+12.00 North Frontage Rd.
VERNON TWP.
T-88N R-1E
SEC. 13
VERNON TWP.
T-88N R-1E
SEC. 12
0 FEET 100
VERNON TWP.
T-88N R-1E
SEC. 12
COTTINGHAM ROAD
END CONSTRUCTION
Sta 8976+00
Elev 1138.92
1150
1140
1130
1120
1110
1100
1090
1080
VPI +00.000
Elv 1,129.67
K = 133
Len 400.00 ft
VPI +50.000
Elv 1,125.92
K = 120
Len 300.00 ft
+2.516%
-0.500%
-0.500%
+2.000%
+00 Rt.
1124.25
+30 Rt.
1120.82
+00 Rt.
1123.25
+50 Rt.
1102.70
+20 Rt.
1112.00
+1.50% Rt. Ditch Grade
-1.49% Rt. D.G.
+0.90% Rt. D.G.
-4.57% Rt. Ditch Grade
+3.44% Rt. Ditch Grade
-0.50% Lt. D.G.
-4.55% Lt. D.G.
+3.00% Lt. D.G.
-7.80% Lt. Ditch Grade
+8.50% Lt. Ditch Grade
+50 Rt.
1120.50
+49 Lt.
1109.87
+71 Lt.
1121.81
+25 Lt.
1121.04
+30 Lt.
1116.04
+00 Lt.
1124.14
+00 Lt.
1105.28
+25 Lt.
1090.40
+55 Lt.
1088.65
+2.50% Lt.
Ditch Grade
Lt. Ditch Grade
+10 Prop.
Type "B" Ent.
8962+10
+2.6%
+4%
+00 Prop.
Type "C" Ent.
8968+00
-8%
+4%
Ditch Grade
Ent.
Ditch Grade
No Ditch
Lt
Rt
Ditch Grade
Side Road
1,123.38
1,124.01
1,124.64
1,125.24
1,125.80
1,126.31
1,126.78
1,127.19
1,127.56
1,127.89
1,128.16
1,128.39
1,128.57
1,128.71
1,128.79
1,128.83
1,128.83
1,128.77
1,128.67
1,128.54
1,128.42
1,128.29
1,128.17
1,128.04
1,127.92
1,127.79
1,127.67
1,127.54
1,127.42
1,127.29
1,127.17
1,127.04
1,126.92
1,126.79
1,126.67
1,126.57
1,126.52
1,126.53
1,126.59
1,126.70
1,126.86
1,127.07
1,127.34
1,127.65
1,128.02
1,128.45
1,128.92
1,129.42
1,129.92
1,130.42
1,130.92
1,131.42
1,131.92
1,132.42
1,132.92
1,133.42
1,133.92
1,134.42
1,134.92
1,135.42
1,135.92
1,136.42
1,136.92
1,137.42
1,137.92
1,138.42
1,138.92
8960
8965
8970
8975

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.4

3:00:00 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020183E01.sht



VERNON TWP.
T-88N R-1E
SEC.12
Curve Data
Δ = 33° 24′ 42.20″ (RT)
T = 150.06
L = 291.57
R = 500.00
E = 22.03
e = NC
Low Speed Urban
Sta. 9976+12.00
BEGIN CONSTRUCTION
Equation:
Sta. 5976+12.00 Swiss Valley Rd.
Sta. 8976+12.00 Cottingham Rd.
Sta. 9976+12.00 North Frontage Rd.
POT Sta 9976+12.00
9980
Sta. 9980+25
Install 24″ DR-653
F.L. = Lt. 1086.46
Rt. 1097.95
Other 1086.75
Other 1096.11
PI Sta 9979+84.86
Curve Data
Δ = 29° 15′ 03.20″ (LT)
T = 260.95
L = 510.52
R = 1,000.00
E = 33.49
e = NC
Low Speed Urban
Sta. 9986+13
Install 48″ to 36″
Sloped Tapered Pipe
Skew = 28.5°Lt. Ahd.
F.L. = Lt. 1057.00
Rt. 1079.90
Other 1057.32
Other 1075.61
Other 1077.45
Other 1079.72
VERNON TWP.
T-88N R-1E
SEC.12
Curve Data
Δ = 21° 37′ 03.67″ (LT)
T = 553.67
L = 1,094.17
R = 2,900.00
E = 52.38
e = NC
Low Speed Urban
Sta. 9993+50
Install 24″ DR-653
F.L. = Lt. 1060.00
Rt. 1081.00
Other 1060.27
Other 1079.85
Sta. 9993+35 110′ LT
Remove Existing Tile Riser Intake
Install 30″ Circular Area Intake SW-512
Inlet Elev = 1060.15
Match existing 16″ Plastic Tile
FL Elev = 1054.08 +/- (Verify)
+50 Prop.
Type "M" Dike
Elev. = 1086.00
RELOCATED COTTINGHAM ROAD
PC Sta 9978+34.80
PT Sta 9978+69.27
+00 Prop.
Type "M" Dike
Elev. = 1101.50
PC Sta 9984+24.59
9985
PT Sta 9989+35.12
9990
PC Sta 9992+35.95
9995
NORTH FRONTAGE ROAD
PI Sta 9986+85.55
RAMP C
RAMP A
U.S. 20
VERNON TWP.
T-88N R-1E
SEC.12
0 FEET 100
+00 Prop.
Type "M" Dike
Elev. = 1086.50
VERNON TWP.
T-88N R-1E
SEC.12
NORTH FRONTAGE ROAD
-2.000%
-5.354%
1,139.16
BEGIN CONSTRUCTION
Sta 9976+24
Elev 1138.92
VPI +00.000
Elv 1,135.40
Len 100.00 ft
K = 30
VPI +00.000
Elv 1,092.57
Len 600.00 ft
K = 124
-5.354%
-0.500%
+40 Lt.
1101.30
+64.32 Rt.
1099.30
-4.00% Rt.
Ditch Grade
+00 Rt.
1093.70
-8.00% Lt.
Ditch Grade
+25 Lt.
1086.50
+2.00% Rt.
Ditch Grade
+00 Rt.
1099.70
+3.78% Lt.
Ditch Grade
+00 Lt.
1093.11
+25 Prop.
Type "C" Ent.
-3.4%
9982+59
-5.21% Rt. Ditch Grade
-8.00% Lt. Ditch Grade
+40 Lt.
1087.80
+00 Lt.
1075.00
-9.00% Lt.
Ditch Grade
+80 Rt.
1079.90
+0.98% Rt. Ditch Grade
+00 Lt.
1057.00
+4.00% Lt. Ditch Grade
+00 Lt.
1073.00
+00 Rt.
1085.00
-1.60% Rt.
Ditch Grade
-1.00% Lt.
Ditch Grade
-8.00% Lt.
Ditch Grade
+50 Lt.
1061.00
+50 Rt.
1081.00
+0.40% Rt. Ditch Grade
+50 Rt.
1082.58
+50 Lt.
1060.00
+1.00% Lt.
Ditch Grade
+4.60% Lt. Ditch Grade
+50 Lt.
1061.00
+65 Lt.
1074.65
1130
1120
1110
1100
1090
1080
1070
1060
Lt
Rt
No Ditch
D.G.
D.G.
Ent.
Ditch Grade
Ditch Grade
D.G.
D.G.
D.G.
Ditch Grade
Ent.
Swiss Valley Road
D.G.
Ditch Grade
Ditch Grade
Ditch Grade
Ditch Grade
Ditch Grade
9980
9985
9990
9995

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.5

3:02:20 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020183E01.sht

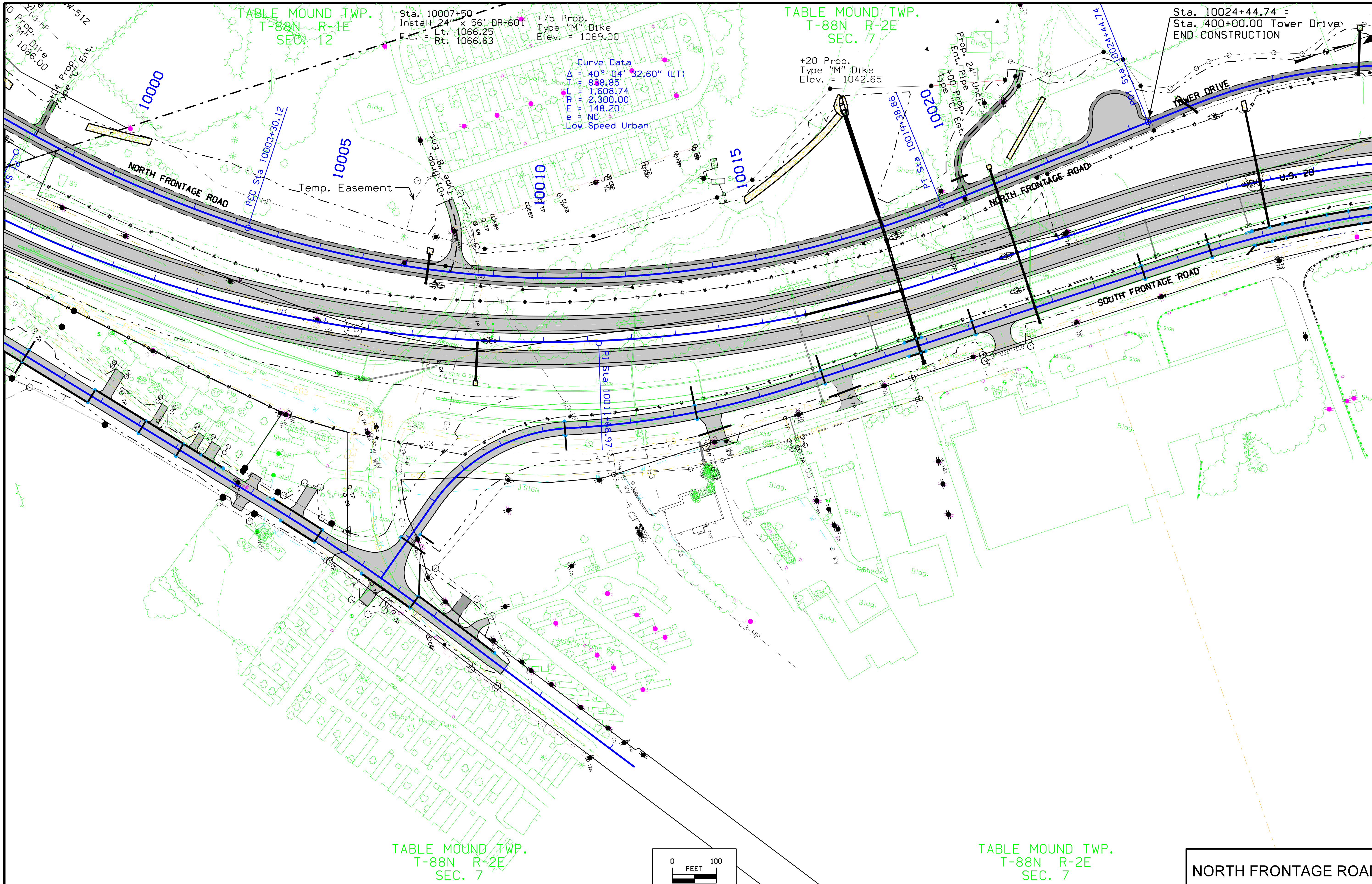


TABLE MOUND TWP.
T-88N R-1E
SEC. 12
Sta. 10007+50
Install 24" x 56' DR-601
F.E. = Lt. 1066.25
Rt. 1066.63
+75 Prop.
Type "M" Dike
Elev. = 1069.00
TABLE MOUND TWP.
T-88N R-2E
SEC. 7
Sta. 10024+44.74 =
Sta. 400+00.00 Tower Drive
END CONSTRUCTION
Curve Data
Δ = 40° 04' 32.60" (LT)
T = 838.85
L = 1,608.74
R = 2,300.00
E = 148.20
e = NC
Low Speed Urban
+20 Prop.
Type "M" Dike
Elev. = 1042.65
NORTH FRONTAGE ROAD
SOUTH FRONTAGE ROAD
TOWER DRIVE
U.S. 20
Temp. Easement
PCC Sta 10003+30.12
PI Sta 10019+38.86
PT Sta 10024+44.74
PI Sta 10011+68.97
10000
10005
10010
10015
10020
TABLE MOUND TWP.
T-88N R-2E
SEC. 7
TABLE MOUND TWP.
T-88N R-2E
SEC. 7
0 FEET 100

NORTH FRONTAGE ROAD

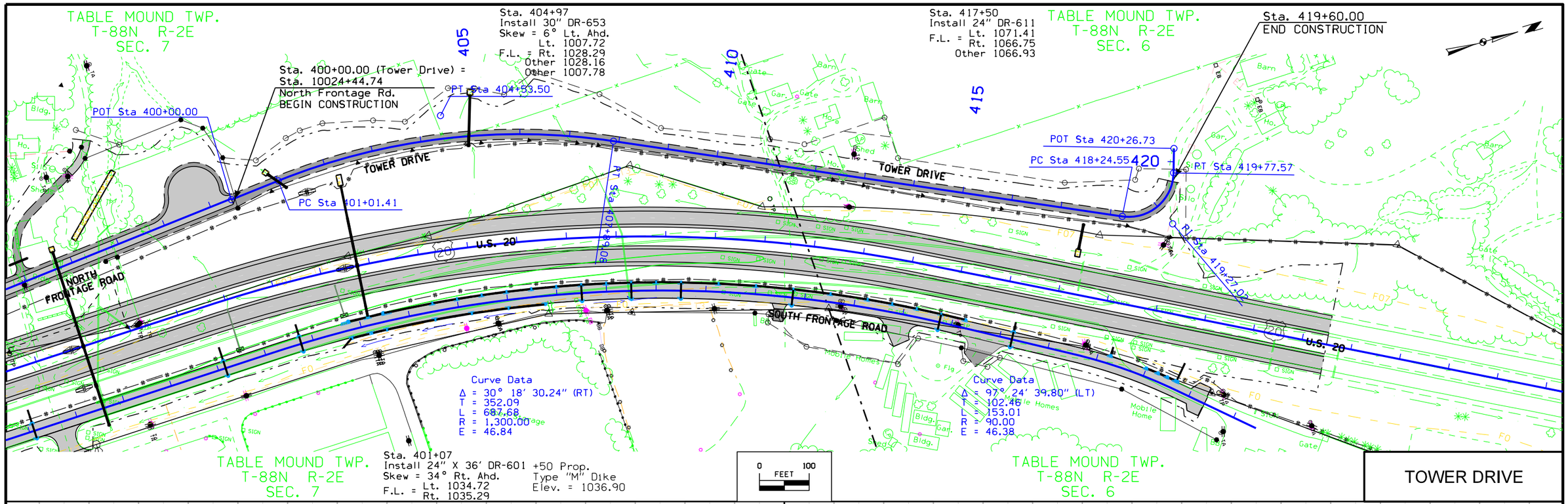
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.6

3:03:23 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020183E01.sht

NORTH FRONTAGE ROAD

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.7

8:29:04 AM 9/7/2018 cpodany pw://NorthCentral_Omaha/001210/000000000224516/31020183E01.sht



TOWER DRIVE

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.8

3:04:39 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183E01.sht

VERNON TWP.
T-88N R-1E
SEC. 13

Equation:
Sta. 6959+00.00 North Cascade Rd. (W) =
Sta. 5959+00.00 Swiss Valley Rd.
Sta. 7958+50.62 North Cascade Rd. (E)

Sta. 6941+00
Install 48" x 122'
F.L. = Lt. 1105.94
Rt. 1100.01

Sta. 6954+66
Install 36" x 186'
Skew = 10°30' Lt. Ahd.
F.L. = Lt. 1103.66
Rt. 1096.22

Curve Data
Δ = 48° 43' 40.00" (LT)
T = 226.43
L = 425.23
R = 500.00
E = 48.88
e = 4.3%
L = 74
x = 34
m = 22.2

Sta. 6959+00.00
END CONSTRUCTION

POT Sta 6929+54.61

OBLITERATE

+00 Prop. Type "C" Ent.
Prop. 18" Uncl. Ent. Pipe

PI Sta 6939+10.90

PC Sta 6936+60.21

PT Sta 6941+57.00

NORTH CASCADE ROAD (WEST)

Sta. 6931+50.00
BEGIN CONSTRUCTION

Curve Data
Δ = 18° 58' 33.32" (RT)
T = 250.69
L = 496.79
R = 1,500.00
E = 20.80
e = 4.5 %
L = 100
x = 45
m = 30.0

+98 Prop. Type "C" Ent.
Prop. 18" Uncl. Ent. Pipe

PC Sta 6951+68.75

PI Sta 6953+95.18

PT Sta 6955+93.98

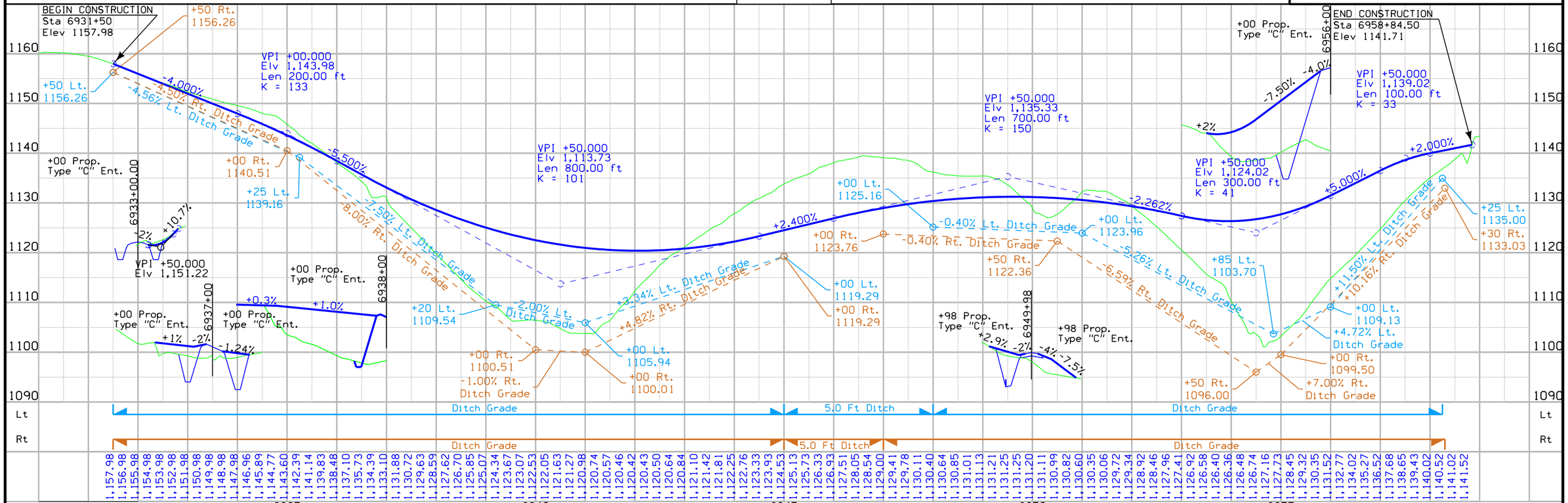
SWISS VALLEY ROAD

NORTH CASCADE ROAD (EAST)

POT Sta 6959+00.00

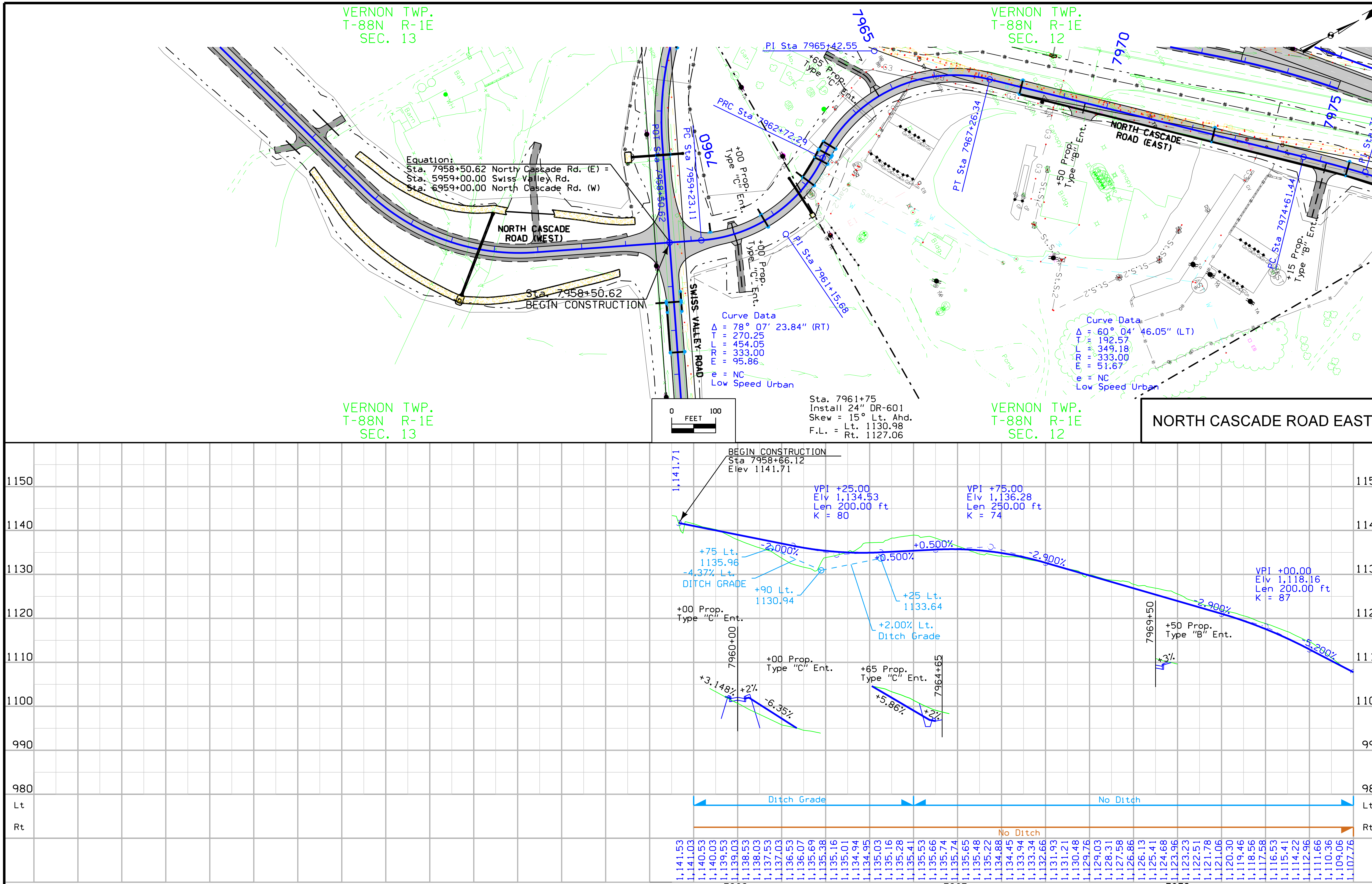
0 FEET 100

NORTH CASCADE ROAD WEST



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.9

3:06:50 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183E01.sht


VERNON TWP.
T-88N R-1E
SEC. 13
VERNON TWP.
T-88N R-1E
SEC. 12
7965
7970
7975
7960
PI Sta 7965+42.55
+65 Prop. Type "C" Ent.
PRC Sta 7962+72.29
PT Sta 7967+26.34
NORTH CASCADE ROAD (EAST)
+50 Prop. Type "B" Ent.
Equation:
Sta. 7958+50.62 North Cascade Rd. (E) =
Sta. 5959+00.00 Swiss Valley Rd.
Sta. 6959+00.00 North Cascade Rd. (W)
PC Sta 7959+23.11
POT Sta 7958+50.62
+00 Prop. Type "C" Ent.
NORTH CASCADE ROAD (WEST)
PI Sta 7961+15.68
PC Sta 7974+61.44
+15 Prop. Type "B" Ent.
Sta. 7958+50.62
BEGIN CONSTRUCTION
SWISS VALLEY ROAD
Curve Data
Δ = 78° 07' 23.84" (RT)
T = 270.25
L = 454.05
R = 333.00
E = 95.86
e = NC
Low Speed Urban
Curve Data
Δ = 60° 04' 46.05" (LT)
T = 192.57
L = 349.18
R = 333.00
E = 51.67
e = NC
Low Speed Urban
0 FEET 100
Sta. 7961+75
Install 24" DR-601
Skew = 15° Lt. Ahd.
F.L. = Lt. 1130.98
Rt. 1127.06
VERNON TWP.
T-88N R-1E
SEC. 13
VERNON TWP.
T-88N R-1E
SEC. 12
NORTH CASCADE ROAD EAST
BEGIN CONSTRUCTION
Sta 7958+66.12
Elev 1141.71
1,141.71
VPI +25.00
Elv 1,134.53
Len 200.00 ft
K = 80
VPI +75.00
Elv 1,136.28
Len 250.00 ft
K = 74
VPI +00.00
Elv 1,118.16
Len 200.00 ft
K = 87
-2.000%
+0.500%
+0.500%
-2.900%
-2.900%
-5.200%
+75 Lt.
1135.96
-4.37% Lt.
DITCH GRADE
+90 Lt.
1130.94
+25 Lt.
1133.64
+2.00% Lt.
Ditch Grade
+00 Prop.
Type "C" Ent.
7960+00
+00 Prop.
Type "C" Ent.
+65 Prop.
Type "C" Ent.
7964+65
7969+50
+50 Prop.
Type "B" Ent.
+3.148%
+2%
-6.35%
+5.86%
+2%
+3%
1150
1140
1130
1120
1110
1100
990
980
Lt
Rt
Ditch Grade
No Ditch
No Ditch
1,141.53
1,141.03
1,140.53
1,140.03
1,139.53
1,139.03
1,138.53
1,138.03
1,137.53
1,137.03
1,136.53
1,136.07
1,135.69
1,135.38
1,135.16
1,135.01
1,134.94
1,134.95
1,135.03
1,135.16
1,135.28
1,135.41
1,135.53
1,135.66
1,135.74
1,135.74
1,135.65
1,135.48
1,135.22
1,134.88
1,134.45
1,133.94
1,133.34
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1,129.03
1,128.31
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1,126.86
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1,119.46
1,118.56
1,117.58
1,116.53
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1,114.22
1,112.96
1,111.66
1,110.36
1,109.06
1,107.76
7960
7965
7970

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.10

3:07:58 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020183E01.sht

VERNON TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

U.S. 20

NORTH CASCADE ROAD (EAST)

SOUTH FRONTAGE ROAD

7975
7980
7985
7990
7995
8000

PC Sta 7974+61.44
PT Sta 7976+05.94
PT Sta 7977+50.32
PC Sta 7990+45.61
PT Sta 7992+82.43
PT Sta 7995+20.29
POT Sta 8000+70.44

+15 Prop. Type "B" Ent.
+15 Prop. Type "C" Ent.
+70 Prop. Type "C" Ent.
+99 Prop. Type "C" Ent.
+29 Prop. Type "C" Ent.
+34 Prop. Type "C" Ent.
+74 Prop. Type "C" Ent.
+90 Prop. Type "C" Ent.
+90 Prop. Type "B" Ent.
+10 Prop. Type "B" Ent.
+35 Prop. Type "B" Ent.
+91 Prop. Type "B" Ent.
+52 Prop. Type "B" Ent.

Curve Data
Δ = 5° 31' 01.58" (RT)
T = 144.55
L = 288.87
R = 3,000.00
E = 3.48
e = NC
Low Speed Urban

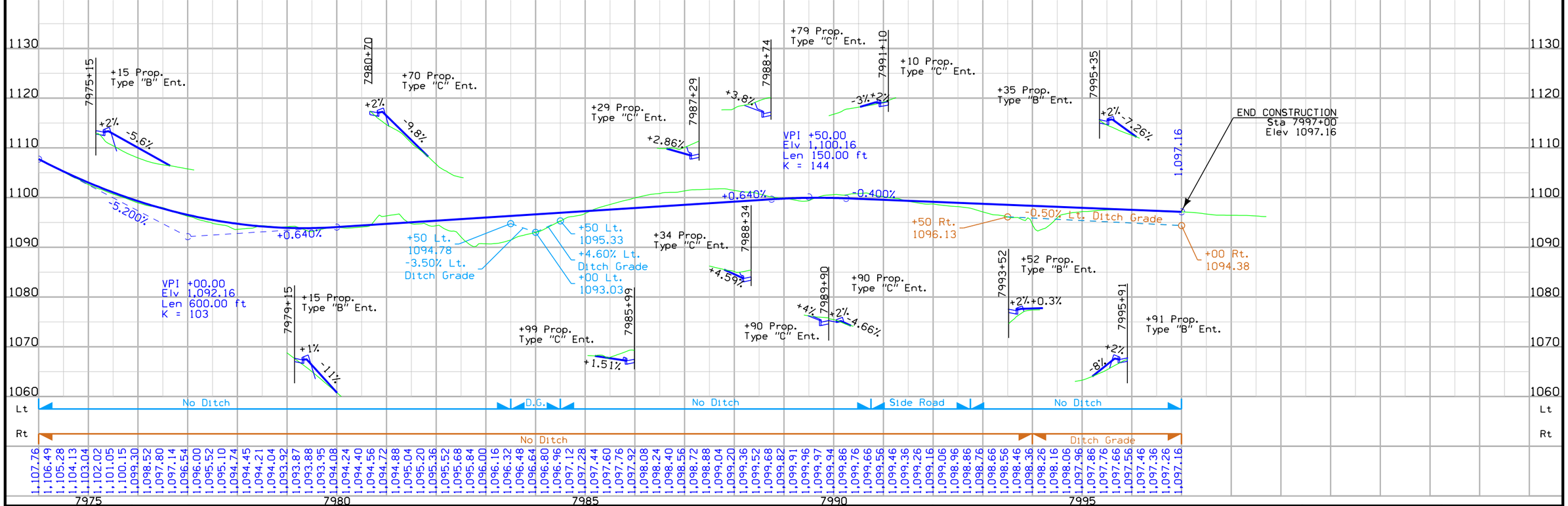
Curve Data
Δ = 5° 26' 21.64" (RT)
T = 237.51
L = 474.67
R = 5,000.00
E = 5.64
e = NC
Low Speed Urban

Equation:
Sta. 7993+52.00 North Cascade Rd. (E) =
Sta. 1992+87.33 South Frontage Rd.

Sta. 7997+00.00
END CONSTRUCTION

0 100 FEET

NORTH CASCADE ROAD EAST



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.11

3:08:49 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183E01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

NORTH CASCADE ROAD (EAST)

CLOSE

SOUTH FRONTAGE ROAD

NORTH FRONTAGE ROAD

TOWER DRIVE

U.S. 20

U.S. 20

SOUTH FRONTAGE ROAD

Sta. 1992+87.33
BEGIN CONSTRUCTION

Equation:
Sta. 1992+87.33 South Frontage Rd. =
Sta. 7993+52.00 North Cascade Rd. (East)

PC Sta 1994+95.25

PRC Sta 1998+58.45

PT Sta 2000+86.54

PRC Sta 2003+33.53

+80 Prop. Type "B" Unc. Ent. 18" Unc. Ent.

+90 Prop. Type "B" Unc. Ent. 18" Unc. Ent.

+65 Prop. Type "B" Ent.

PC Sta 2013+19.41

Temp. Easement

Curve Data
Δ = 52° 01' 32.08" (RT)
T = 195.20
L = 363.21
R = 400.00
E = 45.09
e = NC
Low Speed Urban

Curve Data
Δ = 15° 05' 59.44" (LT)
T = 265.08
L = 527.08
R = 2,000.00
E = 17.49
e = NC
Low Speed Urban

Curve Data
Δ = 31° 28' 20.88" (RT)
T = 704.42
L = 1,373.25
R = 2,500.00
E = 97.35
e = NC
Low Speed Urban

0 100 FEET

SOUTH FRONTAGE ROAD

1,098.24

VPI +50.002
Elv 1,095.30
Len 100.00 ft
K = 30

BEGIN CONSTRUCTION
Sta 1993+02.83
Elev 1098.24

-2.000%

-5.335%

5.30% Rt. Ditch Grade

+50 Rt. 1091.35

+00 Rt. 1078.10

+30 Lt. 1072.61

-4.40% Rt. Ditch Grade

5.00% Lt. Ditch Grade

+50 Rt. 1061.61

+00 Rt. 1064.90

-5.335%

-0.50% Rt. Ditch Grade

+50 Rt. 1064.15

-1.800%

-2.80% Rt. Ditch Grade

+25 Rt. 1059.25

VPI +50.000
Elv 1,068.62
Len 350.00 ft
K = 99

2001+80

+80 Prop. Type "B" Ent.

+2.42%

+90 Prop. Type "B" Ent.

2004+90

+3.35%

VPI +50.000
Elv 1,056.02
Len 250.00 ft
K = 81

+25 Rt. 1056.00

-1.800%

0.40% Rt. Ditch Grade

+78 Rt. 1054.99

+1.300%

+55 Rt. 1057.39

+3.12% Rt. Ditch Grade

2008+65

+65 Prop. Type "B" Ent.

+3.15%

VPI +00.000
Elv 1,060.57
Len 150.00 ft
K = 79

+1.300%

-0.600%

-0.600%

+00 Rt. 1056.80

+0.40% Rt. Ditch Grade

+0.500%

+15 Rt. 1057.46

VPI +00.001
Elv 1,057.57
Len 300.00 ft
K = 273

+0.500%

1110
1100
1090
1080
1070
1060
1050
1040

Lt
Rt

D.G. | Ditch Grade | Ditch Grade | Ditch Grade | D.G. | U.A.C. | Ditch Grade | D.G. | See ML Right Ditch | U.A.C Existing | D.G. | No Ditch

1,097.80 1,097.30 1,096.80 1,096.30 1,095.69 1,094.88 1,093.86 1,092.63 1,091.29 1,089.96 1,088.63 1,087.29 1,085.96 1,084.63 1,083.29 1,081.96 1,080.62 1,079.29 1,077.96 1,076.66 1,075.42 1,074.24 1,073.13 1,072.08 1,071.09 1,070.17 1,069.31 1,068.51 1,067.78 1,067.11 1,066.50 1,065.95 1,065.47 1,065.02 1,064.57 1,064.12 1,063.67 1,063.22 1,062.77 1,062.32 1,061.87 1,061.42 1,060.97 1,060.52 1,060.07 1,059.62 1,059.17 1,058.72 1,058.27 1,057.86 1,057.53 1,057.27 1,057.09 1,056.99 1,056.97 1,057.02 1,057.15 1,057.36 1,057.65 1,057.97 1,058.30 1,058.62 1,058.95 1,059.27 1,059.60 1,059.88 1,060.09 1,060.22 1,060.26 1,060.23 1,060.12 1,059.97 1,059.82 1,059.67 1,059.52 1,059.37 1,059.22 1,059.07 1,058.92 1,058.77 1,058.62 1,058.47 1,058.33 1,058.22 1,058.12 1,058.05 1,058.01 1,057.98 1,057.98 1,058.00 1,058.05 1,058.12 1,058.21 1,058.32 1,058.45 1,058.57 1,058.70 1,058.82 1,058.95 1,059.07 1,059.20 1,059.32 1,059.45 1,059.57 1,059.70 1,059.82 1,059.95 1,060.07

1995 2000 2005 2010 2015

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.12

3:09:38 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183E01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TOWER DRIVE

U.S. 20

SOUTH FRONTAGE ROAD

2020

2025

2030

PI Sta 2020+23.83

+50 Prop. Type "B" Ent.

+68 Prop. Type "B" Ent.

+00 Prop. Type "B" Ent.

PT Sta 2026+92.66

PC Sta 2029+53.16

PT Sta 2031+72.48

POT Sta 2031+19.92

PI Sta 2030+83.23

Curve Data
Δ = 12° 04' 59.26" (RT)
T = 110.07
L = 219.33
R = 1,040.00
E = 5.81
e = NC
Low Speed Urban

Curve Data
Δ = 12° 04' 59.26" (RT)
T = 110.07
L = 219.33
R = 1,040.00
E = 5.81

Sta. 2032+35.00
END CONSTRUCTION

Open Storage

Mobile Homes

Barn

Shed

Silo

Gate

Bldg.

Fig

F07

F0

0 FEET 100

SOUTH FRONTAGE ROAD

1100
1090
1080
1070
1060
1050
1040
1030

VPI +00.001
Elv 1,066.97
Len 150.00 ft
K = 136

VPI +50.000
Elv 1,069.22
Len 150.00 ft
K = 107

VPI +00.001
Elv 1,060.57
Len 150.00 ft
K = 136

END CONSTRUCTION
Sta 2032+35.00
Elev 1066.88

0.500%
+1.600%
+1.600%
+0.500%
+0.500%
-0.900%

2023+50
+2.0%
-4.8%

2026+68
+68 Prop. Type "B" Ent.
+1.38%

2008+00
+2.00%
+2.00%

Lt
No Ditch
See ML Right Ditch

Rt
No Ditch

1,059.82 1,059.95 1,060.07 1,060.20 1,060.34 1,060.54 1,060.78 1,061.06 1,061.39 1,061.77 1,062.17 1,062.57 1,062.97 1,063.37 1,063.77 1,064.17 1,064.57 1,064.97 1,065.37 1,065.77 1,066.15 1,066.48 1,066.77 1,067.00 1,067.20 1,067.35 1,067.47 1,067.60 1,067.72 1,067.85 1,067.97 1,068.10 1,068.22 1,068.35 1,068.47 1,068.60 1,068.72 1,068.85 1,068.94 1,068.98 1,068.96 1,068.88 1,068.74 1,068.55 1,068.32 1,068.10 1,067.87 1,067.65 1,067.42 1,067.20 1,066.97 1,066.75 1,066.52

2020 2025 2030

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.13

3:10:34 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183E01.sht

VERNON TWP.
T-88N R-1E
SEC. 11

Sta. 138+75
Install 24" x 128'
Skew = 5 ° Lt. Ahd.
F.L. = Lt. 1087.41
Rt. 1085.77

VERNON TWP.
T-88N R-1E
SEC. 12

RELOCATED COTTINGHAM ROAD

PI Sta 138+08.52

Curve Data
Δ = 96° 39' 51.00" (RT)
T = 112.36
L = 168.71
R = 100.00
E = 50.42

+65 Prop. Type "C" Ent.

Prop. 18" Uncl. Ent. Pipe

PT Sta 138+64.87

Equation:
Sta. 139+45.00 Cottingham Road Connector =
Sta. 8939+45.00 Cottingham Road

PC Sta 136+96.16

POT Sta 136+38.05

Sta. 139+33.00
END CONSTRUCTION

Sta. 136+65.00
BEGIN CONSTRUCTION

VERNON TWP.
T-88N R-1E
SEC. 13

0 100
FEET

VERNON TWP.
T-88N R-1E
SEC. 12

COTTINGHAM ROAD CONNECTOR

BEGIN CONSTRUCTION
Sta 136+65
Elev 1101.03

VPI +50.000
Elv 1,102.23
K = 26
Len 100.00 ft

+1.400%
-2.400%
+2.000%

+38 Lt.
1096.00
-3.85% Lt. Ditch Grade

+2.25% Lt.
Ditch Grade

+75 Lt.
1086.88

+00 Lt.
1087.44

END CONSTRUCTION
Sta 139+33
Elev 1101.49

137+65

VPI +50.000
Elv 1,099.83
K = 23
Len 100.00 ft

-0.6%
+4%

+65 Prop.
Type "C" Ent.

Ditch Grade

See Cottingham Road Right Ditch

1,100.83
1,101.18
1,101.53
1,101.76
1,101.75
1,101.51
1,101.03
1,100.56
1,100.38
1,100.46
1,100.83
1,101.33

136 137 138 139

1120 1110 1100 1090 1080 1070 1060 1050
Lt
Rt

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.14

Sta. 12002+90
Install 54" x 148' DR-601
Skew = 10° Rt. Ahd.
F.L. = Lt. 820.17
Rt. 816.85

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

Sta. 12018+50
Install 36" DR-653
F.L. = Lt. 805.58
Rt. 793.84
Other 805.21
Other 793.92

BARRINGTON DRIVE

POT Sta 12001+00.00

+25 Prop. Type "C" Ent. 24" Uncl. Pipe

12005

PI Sta 12005+91.49

Curve Data
Δ = 29° 31' 23.11" (RT)
T = 210.79
L = 412.22
R = 800.00
E = 27.31
DS = 45mph

12010

POT Sta 12003+80.69

+25 Prop. Type "C" Ent.

PI Sta 12007+92.91

CHESTERFIELD DRIVE

12015

PC Sta 12017+16.27

Curve Data
Δ = 36° 01' 08.00" (LT)
T = 341.36
L = 660.08
R = 1,050.00
E = 54.09
DS = 45mph

12020

+50 Prop. Type "C" Ent.

PT Sta 12023+76.35

12025

+00 Prop. Type "B" Ent.

Sta.12028+53.84
END CONSTRUCTION

STONE VALLEY DRIVE

POT Sta 12029+82.47

Sta.12000+71.89
BEGIN CONSTRUCTION

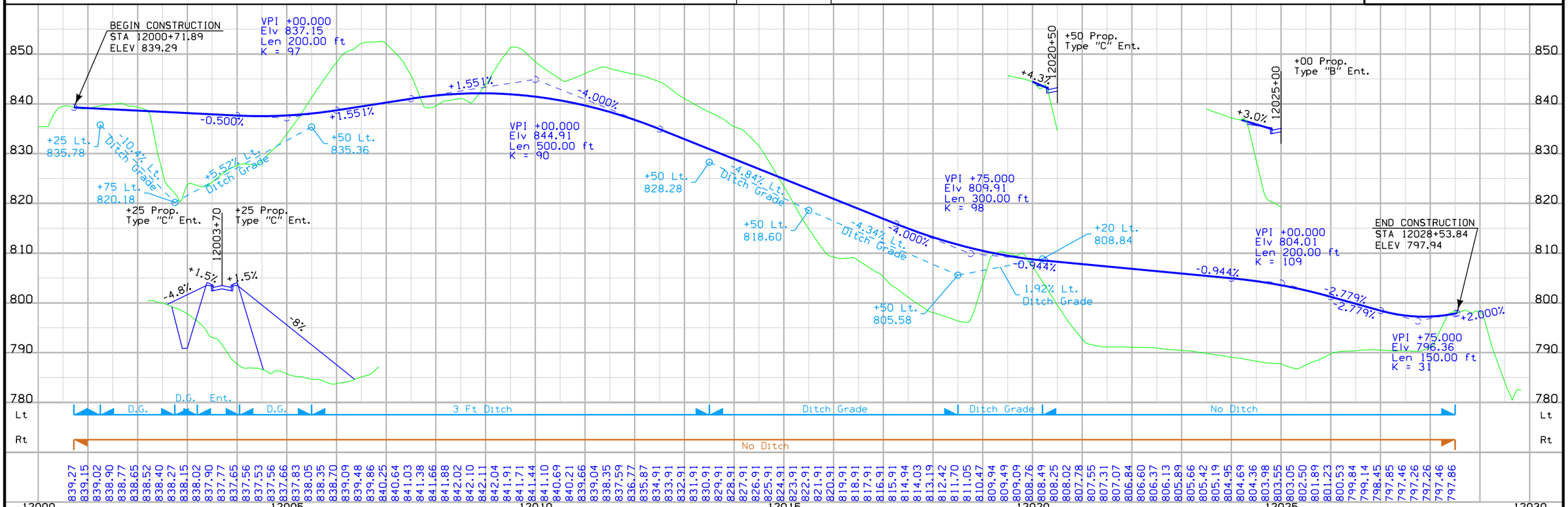
Pond

0 100 FEET

PI Sta 12020+57.63

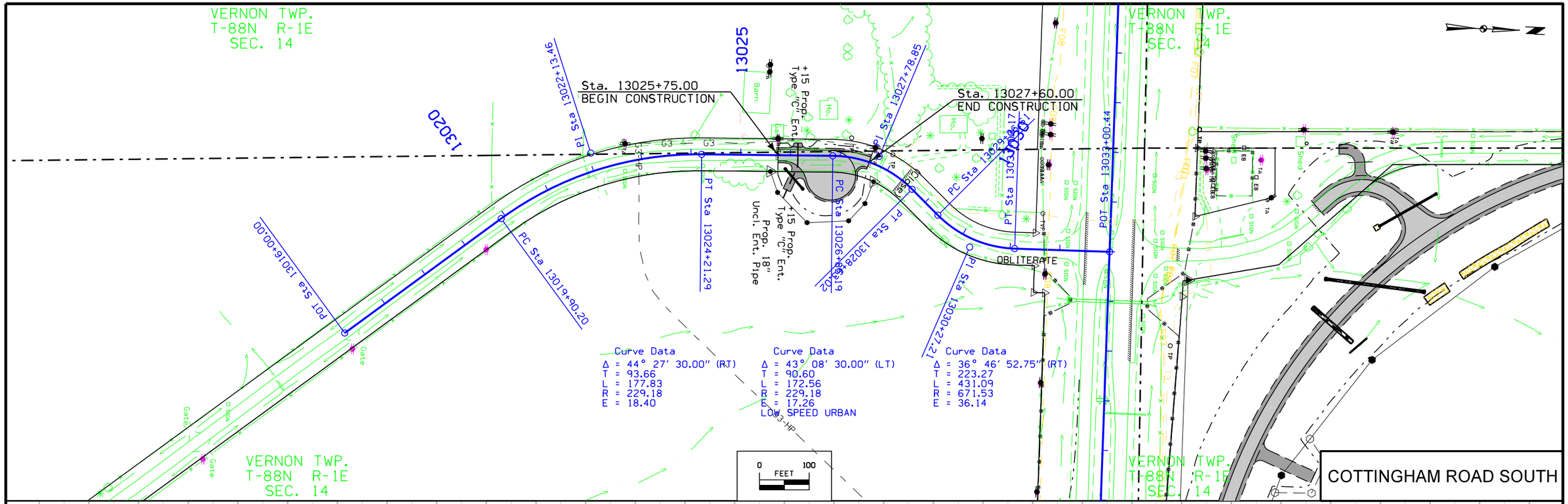
TABLE MOUND TWP.
T-88N R-2E
SEC. 5

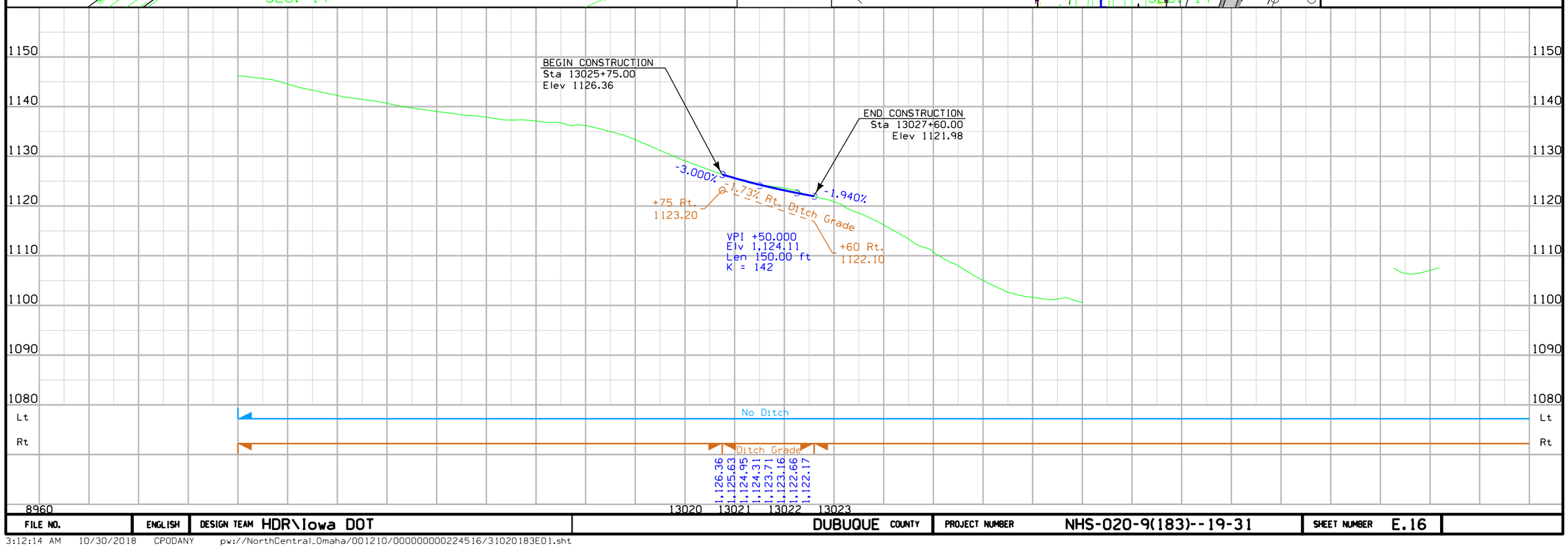
CHESTERFIELD DRIVE



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.15

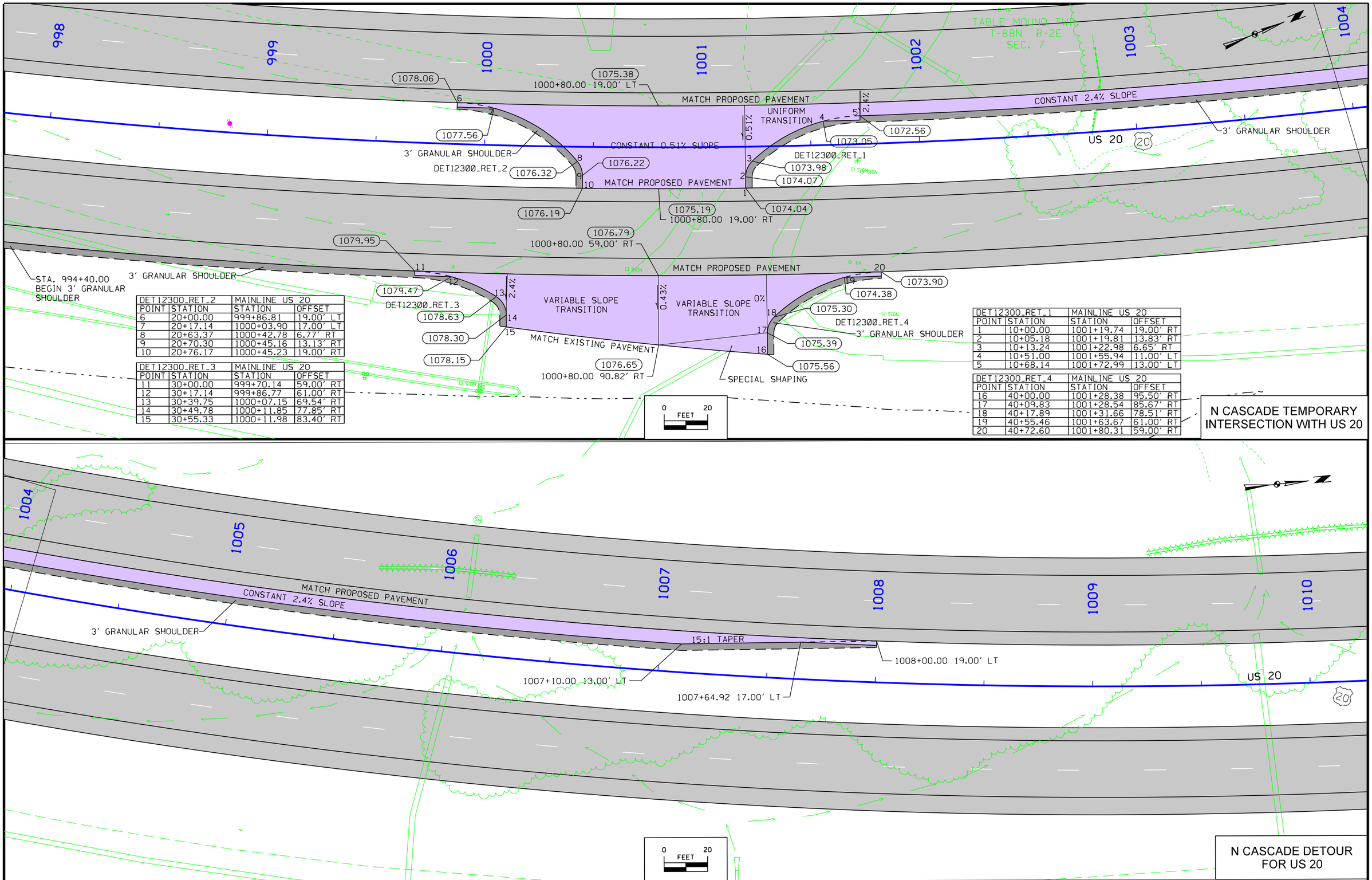
8:29:27 AM 9/7/2018 cpodany pw://NorthCentral_Omaha/001210/D00000000224516/31020183E01.sht





FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER E.16

3:12:14 AM 10/30/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183E01.sht



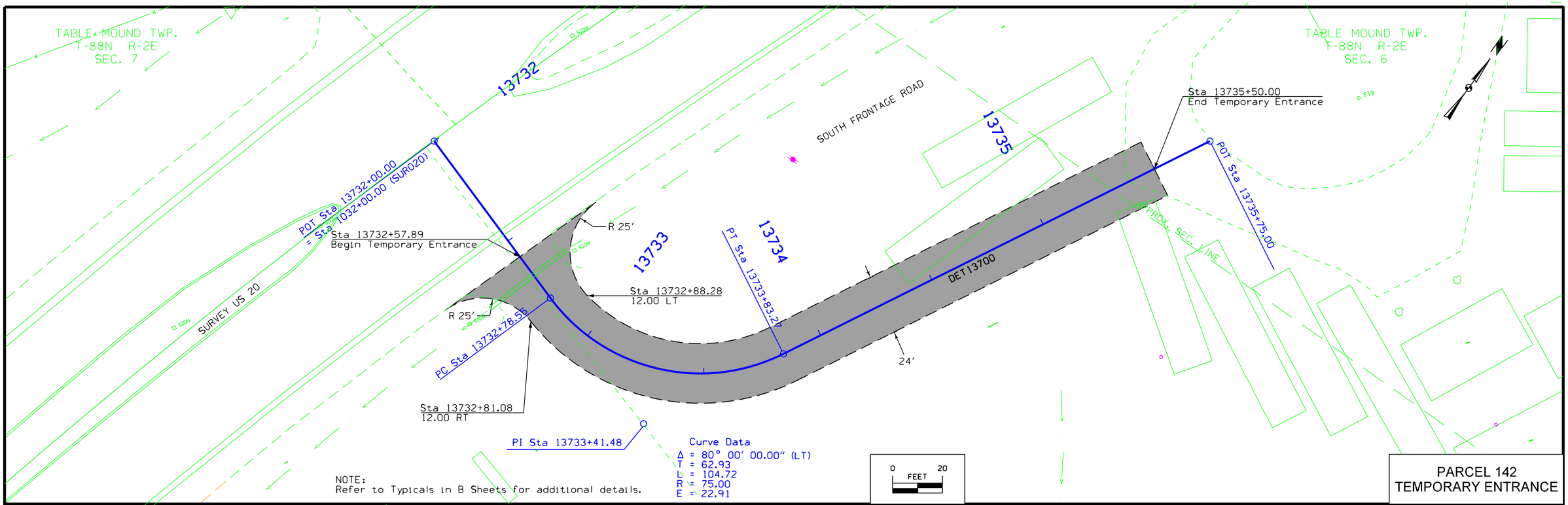
DET12300_RET_2		MAINLINE US 20	
POINT	STATION	STATION	OFFSET
6	20+00.00	999+86.81	19.00' LT
7	20+17.14	1000+03.90	17.00' LT
8	20+63.37	1000+42.78	6.77' RT
9	20+70.30	1000+45.16	13.13' RT
10	20+76.17	1000+45.23	19.00' RT

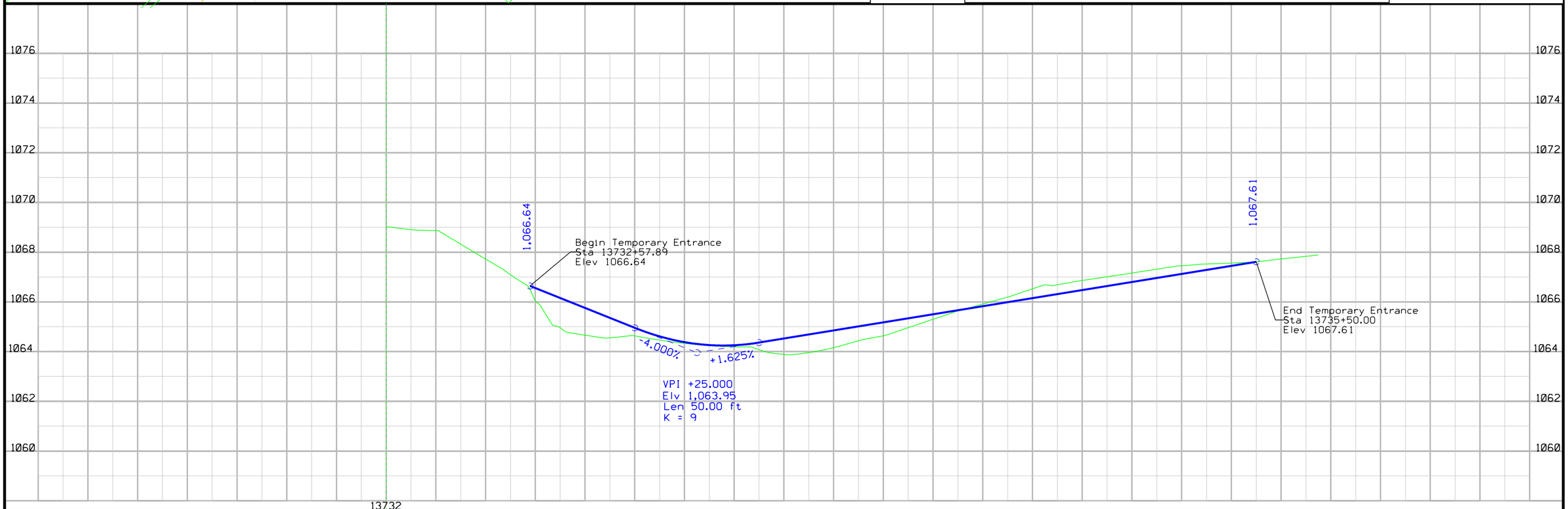
DET12300_RET_3		MAINLINE US 20	
POINT	STATION	STATION	OFFSET
11	30+00.00	999+70.14	59.00' RT
12	30+17.14	999+86.77	61.00' RT
13	30+39.75	1000+07.15	69.54' RT
14	30+49.78	1000+11.85	77.85' RT
15	30+55.33	1000+11.98	83.40' RT

DET12300_RET_1		MAINLINE US 20	
POINT	STATION	STATION	OFFSET
1	10+00.00	1001+19.74	19.00' RT
2	10+05.18	1001+19.81	13.83' RT
3	10+13.24	1001+22.98	6.65' RT
4	10+51.00	1001+55.94	11.00' LT
5	10+68.14	1001+72.99	13.00' LT

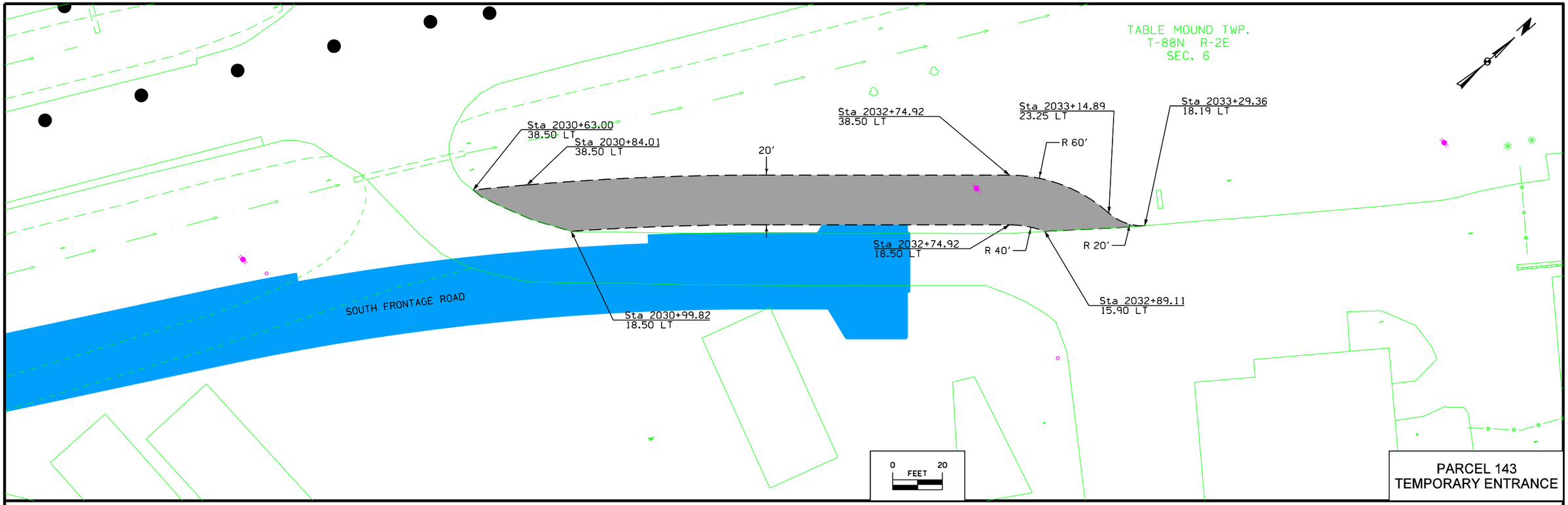
DET12300_RET_4		MAINLINE US 20	
POINT	STATION	STATION	OFFSET
16	40+00.00	1001+28.38	95.50' RT
17	40+09.83	1001+28.54	85.67' RT
18	40+17.89	1001+31.66	78.51' RT
19	40+55.46	1001+63.67	61.00' RT
20	40+72.60	1001+80.31	59.00' RT

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER F.1





FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER F.2



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER F.3

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

Sta. 13000+50.00
Begin Detour Construction
East End Crossover WB Detour

Sta. 13029+38.15
End Detour Construction
East End Crossover WB Detour

Curve Data
Δ = 23° 40' 16.43" (RT)
T = 608.94
L = 1,200.51
R = 2,905.82
E = 63.12

PC Sta 13006+08.94

PT Sta 13012+00.51

PC Sta 13019+39.18

PT Sta 13020+82.63

PI Sta 13020+84.12

PC Sta 13000+00.00
= Sta 1027+41.95
80.97' RT (ML020)

POT Sta 13030+00.00
= Sta 1051+56.77
25.00' LT (ML020)

1070.44

1070.38

1069.00

1059.56

1055.19

+00.51

+20.00

+30.00

+85.23

+39.18

+84.12

CONSTANT 6.5% SLOPE

6.5% UNIFORM TRANSITION

2.0%

12' CONSTANT 2% SLOPE

2.0%

2.0%

DET 13000

MATCH EXISTING PAVEMENT

6' HEADER

US 20 (ML020)

50'

CONSTANT 2% SLOPE

CONSTANT 2% SLOPE

REFER TO MODIFIED STANDARD ROAD PLAN PV-428 IN U SHEETS

Curve Data
Δ = 2° 20' 53.78" (LT)
T = 71.73
L = 143.45
R = 3,500.00
E = 0.74

STATION	OFFSET	ELEVATION
13000+50	6' RT	1062.12
13001+00	6.06' RT	1062.48
13001+50	6.23' RT	1062.84
13002+00	6.52' RT	1063.34
13002+50	6.92' RT	1063.92
13003+00	7.44' RT	1064.24
13003+50	8.08'RT	1064.67
13004+00	8.83' RT	1065.16
13004+50	9.69' RT	1065.60
13005+00	10.67' RT	1066.00
13005+50	11.76' RT	1066.52
13006+00	12.97' RT	1066.81
13006+50	14.29' RT	1067.32

STATION	OFFSET	ELEVATION
13007+00	15.72' RT	1067.29
13007+50	17.26' RT	1067.70
13008+00	18.91' RT	1068.24
13008+50	20.68' RT	1068.32
13009+00	22.55' RT	1068.36
13009+50	24.53' RT	1068.59
13010+00	26.63' RT	1068.54
13010+50	28.82' RT	1068.52
13011+00	31.13' RT	1068.40
13011+50	33.54' RT	1068.23
13011+85.23	35.30' RT	1068.10

STATION	OFFSET	ELEVATION
13019+50	36.00' RT	1059.26
13020+00	36.00' RT	1057.13
13020+50	36.00' RT	1055.52

0 100
FEET

EAST END CROSSOVER
FOR WESTBOUND DETOUR

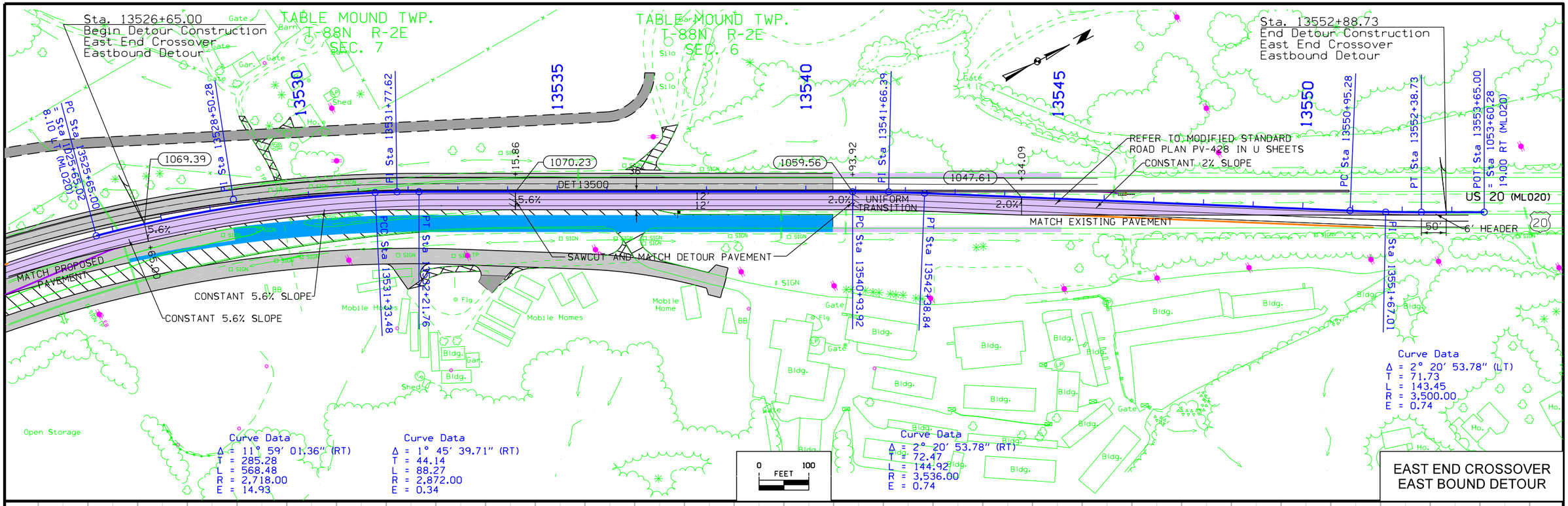
Sta. 13012+00.77
Elev 1070.44
Match Existing Pavement

Sta. 13019+39.18
Elev 1059.56

1100 1090 1080 1070 1060 1050 1040 1030 1020

13004 13009 13014 13019 13024 13029

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER F.4



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER F.5

VERNON TWP.
T-88N R-1E
SEC. 12

Sta. 941+45.00 (US 20 Survey)
Construct Median Crossover
per Standard Road Plan PV-502.

Sta. 10001+59.51
Begin Detour Construction
West End Eastbound Detour

Sta. 953+50.00 (US 20 Survey)
Construct Median Crossover
per Standard Road Plan PV-502.

Curve Data
Δ = 7° 44' 22.70" (LT)
T = 164.37
L = 328.25
R = 2,430.00
E = 5.55

Sta. 955+00.00 (Median)
Extend 24" RCP
With 18" Uncl. per Modified
Detail 500-6 in U Sheets.
Existing Inlet Apron 1138.82
F.L. = Beveled Pipe & Guard 1140.20

10000 10005 10010 10015 10020 10025

US 20 (ML020)
US 20 (SURVEY)

MATCH EXISTING PAVEMENT
2.0%
11'
50'
6' HEADER
CONSTANT 2% SLOPE
DET10000
30'

POT Sta 10000+00.00
= Sta 934+00.00
52.00 RT (US 20 SURVEY)

PC Sta 10002+09.51

PRC Sta 10005+33.70

+76.14

PI Sta 10006+98.08

1113.10

PT Sta 10008+61.95

PC Sta 10017+01.96

PI Sta 10018+66.34

1138.78

+87.77

PRC Sta 10020+30.21

PT Sta 10023+54.41

POT Sta 10025+00.00
= Sta 958+96.05
51.37 RT (US 20 SURVEY)

Sta. 10024+04.41
End Detour Construction
West End Eastbound Detour

REFER TO MODIFIED STANDARD
ROAD PLAN PV-428 IN U SHEETS

REFER TO MODIFIED
STANDARD ROAD PLAN
PV-428 IN U SHEETS

Curve Data
Δ = 7° 44' 22.70" (RT)
T = 162.35
L = 324.20
R = 2,400.00
E = 5.48

VERNON TWP.
T-88N R-1E
SEC. 13

Curve Data
Δ = 7° 44' 22.70" (LT)
T = 164.37
L = 328.25
R = 2,430.00
E = 5.55

VERNON TWP.
T-88N R-2E
SEC. 13

Sta. 941+50.00 (Right)
Extend 4'x4' RCB
with 54" DR-621 & DR-122
Lt. N/A
F.L. = Rt. 1102.81
Other 1101.23

Stage 3A:
Remove headwall from RCB inlet.
Install 30' of 54" RCP with apron.
Temporary FL RT = 1103.95

Stage 3C:
Remove 16' of 54" RCP and reinstall apron.

Sta. 951+32.17 (Right)
Extend 3'x3' RCB
With 42" DR-621 & DR-122
Skew = 5° Lt. Ahd.
Lt. N\A
F.L. = Rt. 1119.20
Other 1117.27
Other 1102.00 (Exist.)

Stage 3A:
Install 32' of 42" RCP and apron.
Temporary section requires two 'D' Sections.
Temporary FL RT = 1121.58
Temporary Other FL = 1121.58, 1121.03

Stage 3C:
Remove 12' of 42" RCP in and reinstall apron.

VERNON TWP.
T-88N R-2E
SEC. 18

0 100 FEET

WESTBOUND CROSSOVER
AND EASTBOUND DETOUR

+1.820%

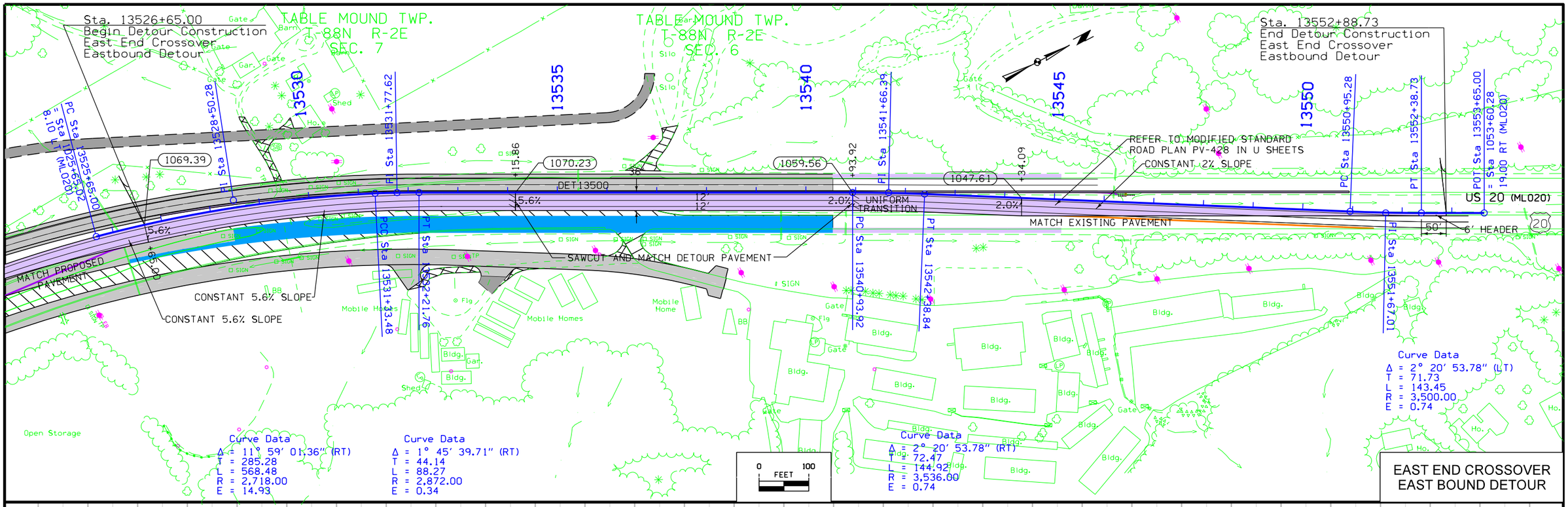
Sta. 10005+76.14
Elev 1113.10
Match Existing Pavement

Sta. 10019+87.77
Elev 1138.78
Match Existing Pavement

1160 1150 1140 1130 1120 1110 1100 1090 1080

10004 10009 10014 10019 10024 10029

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER F.6



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER F.7

VERNON TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

Sta. 12079+50.66
Begin Detour Construction
Eastbound Widening

Sta. 12101+89.68
End Detour Construction
Eastbound Widening

US 20 (SURVEY)

3' Shoulder

MATCH EXISTING PAVEMENT

DET12000

CONSTANT 3% SLOPE

3.0%

60:1 Taper

30:1 Taper

8.0%

1.0%

25'

Uniform Transition

Sta. 12080+01.04 3.00' RT

Sta. 12079+63.50 3.00' RT
Match Existing Slope of 7.5%
Begin Slope Transition

Sta. 12084+36.92 10.26' RT
Match Existing Slope of 3%
End Slope Transition

Sta. 12093+21.04 25.00' RT

Sta. 12094+51.39 25.00' RT

Sta. 12095+79.50 21.04' RT
Match Existing Slope of 3%
Begin Slope Transition

Sta. 12100+61.94 3.00' RT

Sta. 12100+77.21 3.00' RT
Match Existing Slope of 8%

Sta. 12101+89.68 3.00' RT
Match Existing Slope of 1%
End Slope Transition

12080 12085 12090 12095 12100 12105

STATION	OFFSET	ELEVATION
12079+50.66	3.00' RT	1129.80
12079+63.50	3.00' RT	1129.66
12080+00.00	3.00' RT	1129.07
12080+01.04	3.00' RT	1129.05
12080+50.00	3.82' RT	1128.04
12081+00.00	4.65' RT	1126.92
12081+50.00	5.48' RT	1125.32
12082+00.00	6.32' RT	1123.75
12082+50.00	7.15' RT	1122.31
12083+00.00	7.98' RT	1120.96
12083+50.00	8.82' RT	1119.77
12084+00.00	9.65' RT	1118.57
12084+36.92	10.26' RT	1117.64
12084+50.00	10.48' RT	1117.35
12085+00.00	11.32' RT	1116.47
12085+50.00	12.15' RT	1115.43
12086+00.00	12.98' RT	1114.48
12086+50.00	13.82' RT	1113.39
12087+00.00	14.65' RT	1112.32
12087+50.00	15.48' RT	1111.28
12088+00.00	16.32' RT	1110.16
12088+50.00	17.15' RT	1109.18
12089+00.00	17.98' RT	1108.20
12089+50.00	18.82' RT	1107.21
12090+00.00	19.65' RT	1106.18
12090+50.00	20.48' RT	1104.96
12091+00.00	21.32' RT	1103.93

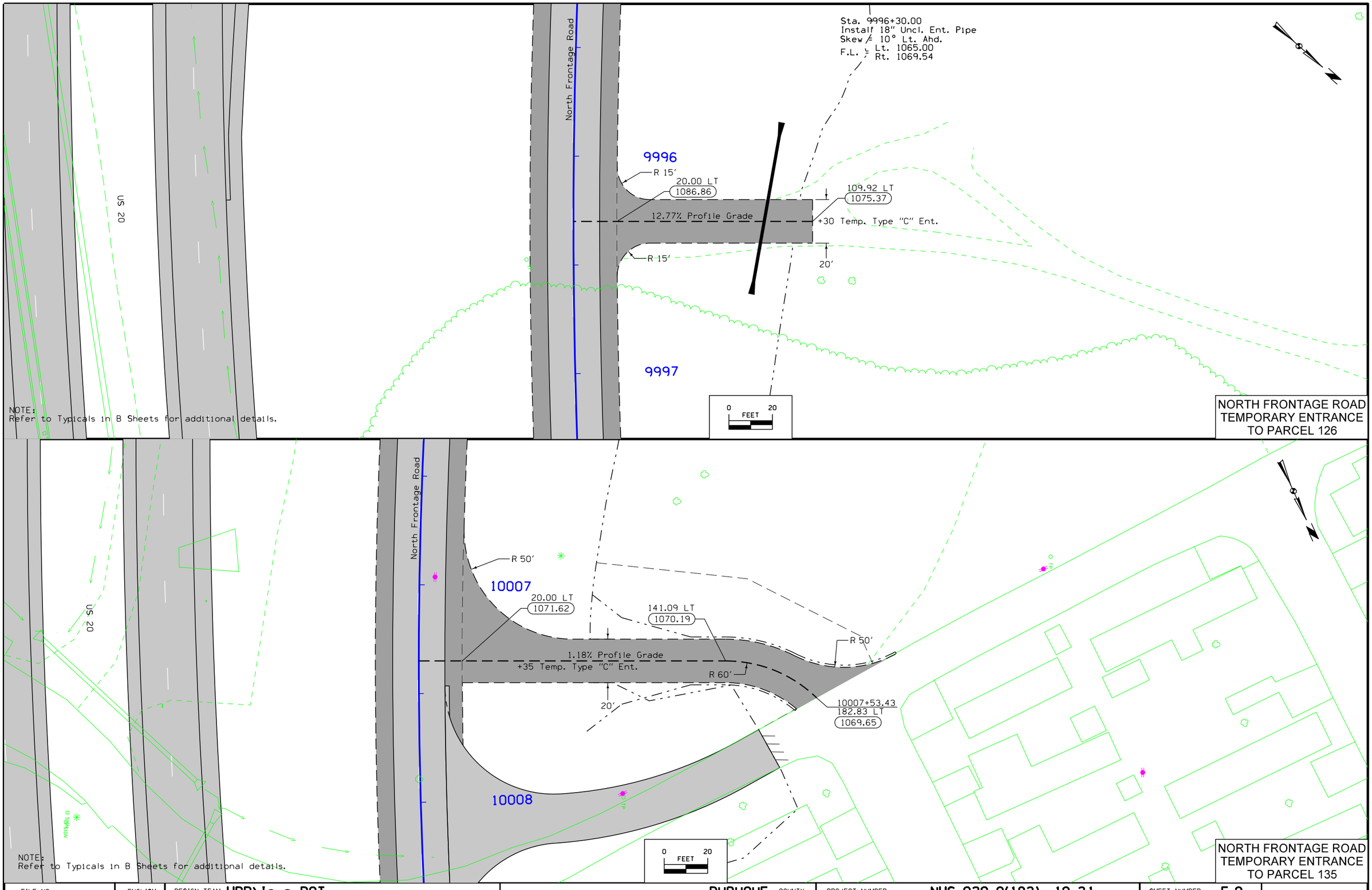
STATION	OFFSET	ELEVATION
12091+50.00	22.15' RT	1102.79
12092+00.00	22.98' RT	1101.80
12092+50.00	23.82' RT	1100.83
12093+00.00	24.65' RT	1099.74
12093+21.04	25.00' RT	1099.30
12093+50.00	25.00' RT	1098.55
12094+00.00	25.00' RT	1097.60
12094+50.00	25.00' RT	1096.59
12094+51.39	25.00' RT	1096.56
12095+00.00	23.38' RT	1095.64
12095+50.00	21.71' RT	1094.59
12095+79.50	21.04' RT	1094.48
12096+00.00	20.05' RT	1094.22
12096+50.00	18.38' RT	1093.54
12097+00.00	16.71' RT	1092.75
12097+50.00	15.05' RT	1091.93
12098+00.00	13.08' RT	1090.76
12098+50.00	10.88' RT	1089.83
12099+00.00	8.81' RT	1089.02
12099+50.00	6.87' RT	1088.38
12100+00.00	5.06' RT	1087.39
12100+50.00	3.38' RT	1086.56
12100+61.94	3.00' RT	1086.34
12100+77.21	3.00' RT	1086.13
12101+00.00	3.00' RT	1085.67
12101+50.00	3.00' RT	1084.51
12101+89.68	3.00' RT	1083.52

CONSTRUCTION STAGE 3B

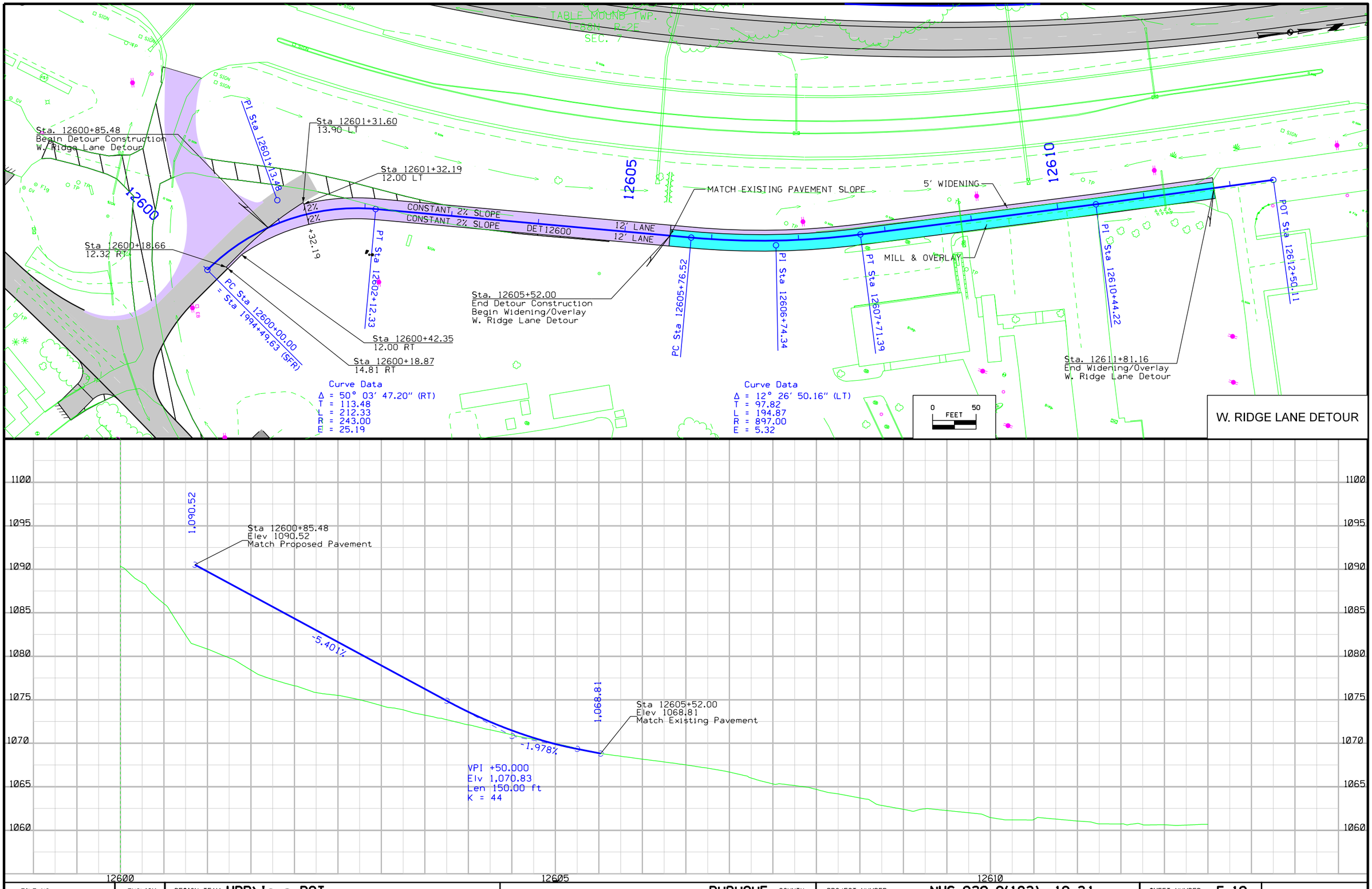
0 100 FEET

EASTBOUND WIDENING

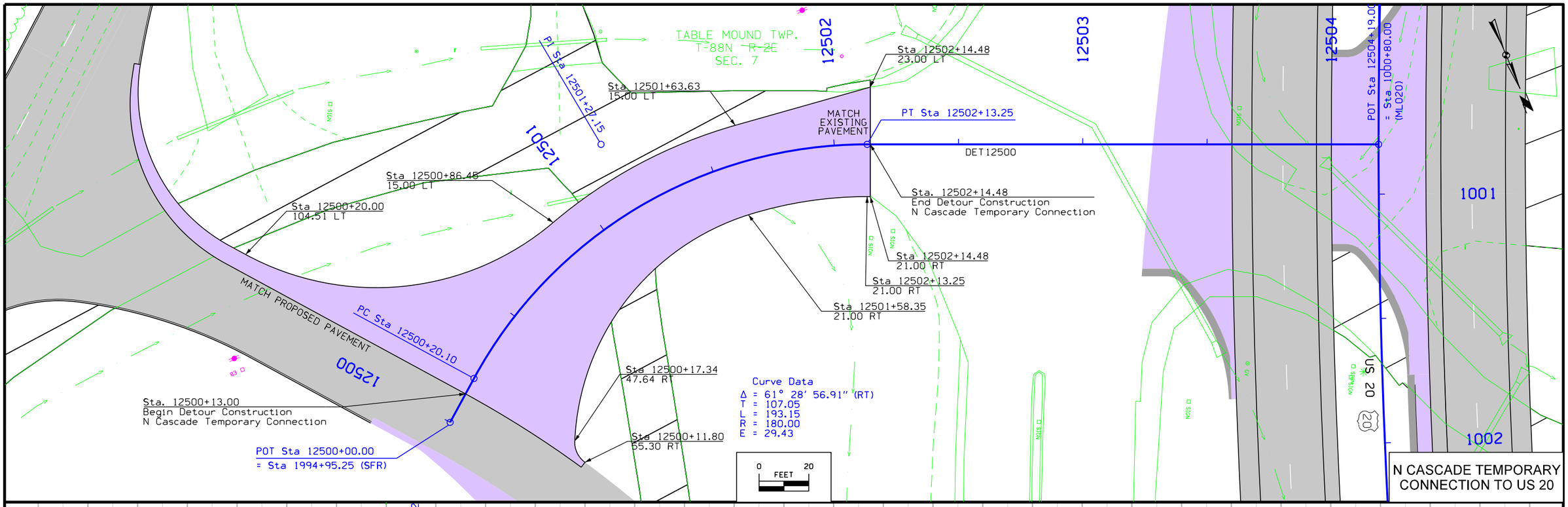
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER F.8

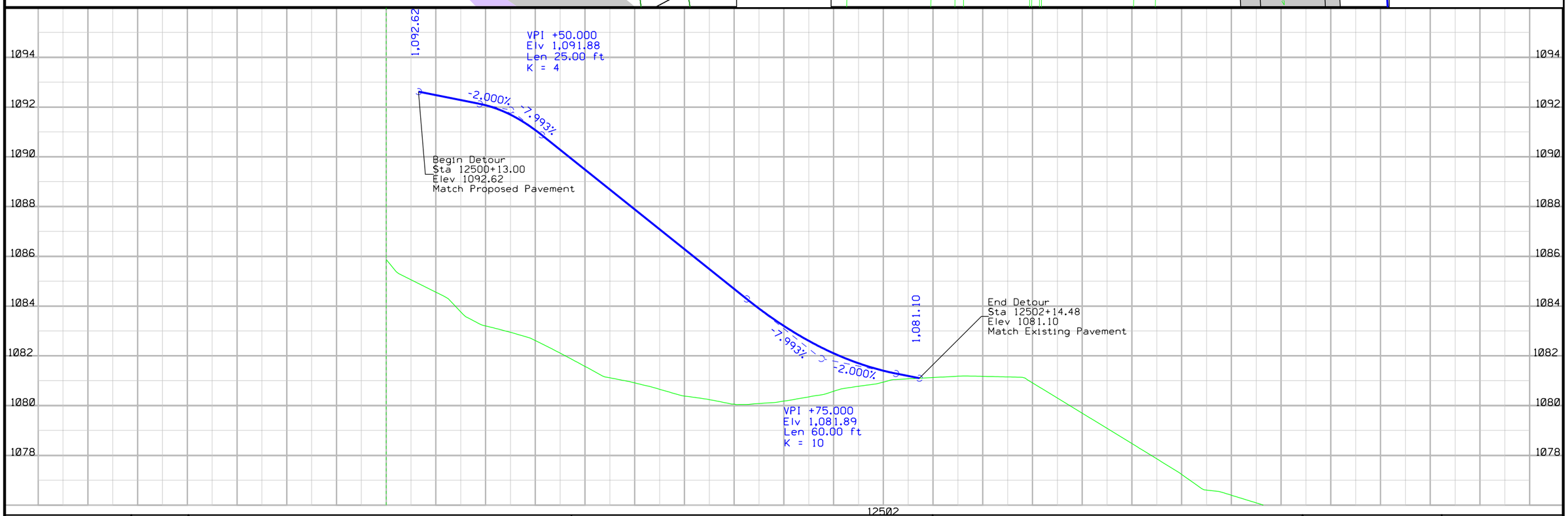


FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER F.9



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER F.10





FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER F.11

BENCH CONTROL

This survey is relative to the NAVD88 vertical datum. A three wire bench level loop was run from the beginning to the end of the project. An automatic engineer's level and three-section Philadelphia level rod was used. The bench loop originated and closed on project benchmark #501. This is benchmark #501 from the 1994 Iowa DOT US 20 Survey SAP# 331 NHS-20-9(121)--19-31. The elevation of 325.038 meters was converted to 1066.395 feet for this survey.

The bench loop followed the corridor of the 1987 US 20 P.C.C. Paving (Grading) As-built plans F-20-9(72)--20-31 and the 1986 US 20 Grading P.C.C. Paving (& A.C.C Resurfacing) plans F-20-9(65)--20-31.

The datum plane for the above plans is indicated as "U.S.C. & G.S." The bench loop included 11 benchmarks recovered from the 1987 plans with the elevation differences ranging from 11.39 feet to 11.45 feet higher than this survey and averaging 11.43 feet higher than this survey. The bench loop included 2 benchmarks recovered from the 1986 plans with the elevation differences being 0.01 feet higher and 0.04 feet higher than this survey.

Vertical equations to the Project Benchmarks and other benches along this survey are as follows:

BM	# 600	This survey	EL=1001.10	
= BM	# 106A	1987 As-Built Plan F-20-9(72)-20-31	EL=1012.55	
BM	# 601	This survey	EL=997.22	
= BM	# 107B	1987 As-Built Plan F-20-9(72)-20-31	EL=1008.61	
BM	# 602	This survey	EL=1051.59	
= BM	# 108G	1987 As-Built Plan F-20-9(72)-20-31	EL=1062.99	
BM	# 603	This survey	EL=1016.48	
= BM	# 109B	1987 As-Built Plan F-20-9(72)-20-31	EL=1027.98	
BM	# 606	This survey	EL=1027.31	
= BM	# 112	1987 As-Built Plan F-20-9(72)-20-31	EL=1038.76	
BM	# 608	This survey	EL=1044.33	
= BM	# 114	1987 As-Built Plan F-20-9(72)-20-31	EL=1055.77	
BM	# 611	This survey	EL=1082.32	
= BM	# 116B	1987 As-Built Plan F-20-9(72)-20-31	EL=1093.71	
BM	# 613	This survey	EL=1049.88	
= BM	# 118	1987 As-Built Plan F-20-9(72)-20-31	EL=1061.27	
BM	# 615	This survey	EL=1102.92	
= BM	# 119	1987 As-Built Plan F-20-9(72)-20-31	EL=1114.35	
BM	# 616	This survey	EL=1106.82	
= BM	# 120	1987 As-Built Plan F-20-9(72)-20-31	EL=1118.26	
BM	# 617	This survey	EL=1122.01	
= BM	# 121	1987 As-Built Plan F-20-9(72)-20-31	EL=1133.46	
BM	# 625	This survey	EL=1060.18	
= BM	# 2	1986 Paving Plans F-20-9(65)-20-31	EL=1060.22	
BM	# 501	This survey	EL=1066.40	
= BM	# 118	1986 Paving Plans F-20-9(65)-20-31	EL=1066.41	
= BM	# 501	1994 DOT Survey NHS-20-9(121)--19-31	EL=1066.40	(325.038 meters)

DENSIFICATION OF PROJECT CONTROL

The purpose of this portion of the survey was to retrace the as-built mainline horizontal alignment of U.S. 20 from the Peosta Iowa interchange to the westerly terminus of the 1994 Iowa DOT US 20 Survey SAP# 331 NHS-20-9(121)--19-31.

This survey is in English units and the horizontal datum is the 2000 Iowa DOT Local Project Plane.

The 1987 US 20 P.C.C. Paving (Grading) As-Built Plans F-20-9(72)--20-31; the 1986 US 20 Grading P.C.C. Paving (& A.C.C Resurfacing) Plans F-20-9(65)--20-31; and information from the 1994 Iowa DOT US 20 Survey SAP# 331 NHS-20-9(121)--19-31 were used.

BOP stationing started at a found 1/2" rod at POT Sta. 759+82.78 of the 1987 plans and carried forward to the EOP.

The alignment was retraced using found 1/2" rods at POT 759+82.78 and PC 792+99.93 of the F-20-9(72)--20-31 As-Built Plans; and found 1/2" rods at POT 941+51.21 (PI this survey) and PC 959+99.14, found cut "x" in centerline of WBL near PT 979+78.83, a found 1/2" rod near PI 1006+40.88, a found cut "x" near ST 1014+43.49, and found 1/2" rods near PC 1022+20.39 and near PI 1029+64.85 of the F-20-9(65)--20-31 As-Built Plans

Horizontal Equations are as follows:

BOP POT Sta 759+82.78 this survey
= POT Sta 759+82.78 F-20-9(72)--20-31 As-Built Plans

PC Sta 793+00.05 this survey =
= PC Sta 792+99.93 F-20-9(72)--20-31 As-Built Plans

PI Sta 798+75.60 this survey =
= PI Sta 798+75.48 F-20-9(72)--20-31 As-Built Plans

PT Sta 804+51.04 this survey = (not set in field)
= PT Sta 804+50.93 F-20-9(72)--20-31 As-Built Plans

PI Sta 941+51.26 this survey =
= POT Sta 941+51.21 F-20-9(72)--20-31 As-Built Plans
= POT Sta 941+51.21 F-20-9(65)--20-31 Plans.

PC Sta 959+99.27 this survey =
= PC Sta 959+99.14 F-20-9(65)--20-31 Plans.

PI Sta 970+56.50 this survey =
= PI Sta 970+57.36 F-20-9(65)--20-31 Plans.

PT Sta 979+76.89 this survey =
= PT Sta 979+78.83 F-20-9(65)--20-31 Plans.

TS Sta 997+73.61 this survey =
= TS Sta 997+73.34 F-20-9(65)--20-31 Plans.

SC Sta 1000+73.61 this survey =
= SC Sta 1000+73.34 F-20-9(65)--20-31 Plans.

PI Sta 1006+23.40 this survey =
= PI Sta 1006+40.88 F-20-9(65)--20-31 Plans.

CS Sta 1011+43.59 this survey =
= CS Sta 1011+43.49 F-20-9(65)--20-31 Plans.

ST Sta 1014+43.59 this survey =
= ST Sta 1014+43.49 F-20-9(65)--20-31 Plans.
= PI Sta 309+18.604 (metric) NHS-20-9(121)--19-31 Survey

PC Sta 1022+22.35 this survey =
= PC Sta 1022+20.58 F-20-9(65)--20-31 Plans.

PI Sta 1029+81.67 this survey =
= PI Sta 1029+79.71 F-20-9(65)--20-31 Plans.

PT Sta 1037+07.49 this survey =
= PT Sta 1037+05.36 F-20-9(65)--20-31 Plans.

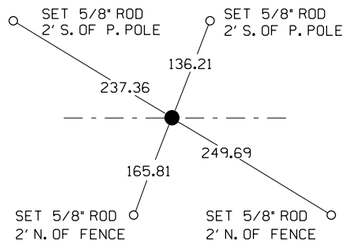
POT Sta 1154+73.68 this survey

BENCHMARKS						ELEVATION
No. 600	Sta. 772+19.980	118.03 Rt.	FD RR SPK NO.SIDE PO.POLE			1001.095
No. 601	Sta. 783+69.982	86.98 Lt.	FD DOT PLUG TRIPLE HDWL			997.215
No. 602	Sta. 798+54.986	128.99 Rt.	FD DOT PLUG SW COR BRIDGE RAIL			1051.593
No. 603	Sta. 809+29.992	119.91 Rt.	FD "X" IN HEADWALL LETDOWN FLUME			1016.481
No. 604	Sta. 817+84.990	77.83 Rt.	FD IHC PLUG IN HDWL RCB			1012.821
No. 605	Sta. 829+09.987	64.73 Rt.	SET NAIL IN 54" RCP			1011.501
No. 606	Sta. 841+24.983	79.73 Rt.	FD CUT SQUARE HDWL RCB			1027.311
No. 640	Sta. 851+49.132	1017.74 Lt.	CUT + INLET HDWL 6'X6'RCB			1028.113
No. 639	Sta. 851+71.936	889.84 Rt.	SET RR SPK E.SIDE GATE PO			1076.404
No. 638	Sta. 852+26.020	1744.39 Rt.	CUT + OUTLET 60"CIR CMP			1048.848
No. 607	Sta. 854+17.981	129.74 Rt.	SET RR SPK N.SIDE PO.POLE			1068.793
No. 608	Sta. 864+23.978	68.73 Rt.	FD IHC PLUG IN HDWL RCB			1044.329
No. 609	Sta. 870+24.982	83.69 Rt.	SET RR SPK N.SIDE PO.POLE			1051.187
No. 642	Sta. 877+73.883	1629.38 Lt.	SET RR SPK W.SIDE PO.POLE			1061.998
No. 641	Sta. 878+05.215	496.79 Lt.	SET RR SPK W.SIDE PO.POLE			1068.093
No. 610	Sta. 882+03.986	107.63 Rt.	SET RR SPK N.SIDE PO.POLE			1060.656
No. 611	Sta. 893+71.982	110.57 Rt.	FD RR SPK N.SIDE PO.POLE			1082.317
No. 612	Sta. 906+18.979	113.54 Rt.	SET RR SPK N.SIDE PO.POLE			1098.110
No. 613	Sta. 918+24.977	127.52 Rt.	FD IHC PLUG IN HDWL RCB			1049.876
No. 614	Sta. 924+77.964	109.53 Rt.	SET RR SPK N.SIDE PO.POLE			1074.472
No. 615	Sta. 933+99.973	67.64 Rt.	FD IHC PLUG IN HDWL RCB			1102.916
No. 616	Sta. 941+49.972	84.72 Rt.	FD IHC PLUG IN HDWL RCB			1106.815
No. 617	Sta. 951+32.970	91.80 Rt.	FD IHC PLUG UPSTREAM HDWL RCB			1122.007
No. 631	Sta. 957+01.410	1207.56 Rt.	SET RR SPK NW SIDE P.POLE			1138.617
No. 618	Sta. 957+49.983	81.15 Lt.	SET RR SPK S.SIDE PO.POLE			1145.132
No. 630	Sta. 958+06.699	110.01 Rt.	FD RR SPK N.SIDE POW POLE			1153.942
No. 619	Sta. 966+30.010	92.89 Rt.	SET RR SPK N.SIDE PO.POLE			1158.221
No. 632	Sta. 969+97.477	98.45 Rt.	FD RR SPK N.SIDE P. POLE			1151.920
No. 633	Sta. 975+64.875	1282.73 Rt.	SET RR SPK NE SIDE P.POLE			1144.442
No. 620	Sta. 976+00.046	110.93 Rt.	TOP OF BOLT AT NW CORNER SIGN			1138.111
No. 621	Sta. 984+30.059	101.96 Rt.	SET RR SPK N.SIDE PO.POLE			1114.297
No. 634	Sta. 990+16.090	86.64 Rt.	SET RR SPK NW SIDE PP			1102.173
No. 635	Sta. 993+32.166	82.51 Rt.	FD RR SPK SOUTH SIDE PP			1098.159
No. 622	Sta. 995+95.058	110.99 Rt.	SET RR SPK E.SIDE PO.POLE			1084.786
No. 636	Sta. 1002+11.952	264.71 Rt.	CUT + EAST BOLT FLAG POLE			1097.048
No. 637	Sta. 1003+68.565	376.36 Lt.	SET RR SPK NE SIDE PP			1072.407
No. 623	Sta. 1007+59.936	165.34 Rt.	SET RR SPK W.SIDE PO.POLE			1072.623
No. 624	Sta. 1016+09.892	77.52 Rt.	SET RR SPK W.SIDE PO.POLE			1059.135
No. 625	Sta. 1027+84.942	85.39 Rt.	FD RR SPK W.SIDE PO. POLE			1060.177
No. 627	Sta. 1037+83.643	90.99 Rt.	FD.RR SPK.W.SIDE PO.POLE			1067.250
No. 501	Sta. 1041+18.820	138.90 Rt.	FD.RR SPK.W.SIDE PO.POLE			1066.396
No. 542	Sta. 1169+86.119	1286.425 Rt.	Y:3642964.553	X:5658625.768	SET DIMPLE TOP 4TH GUARDRAIL FROM N	848.885
No. 543	Sta. 1171+81.677	1602.182 Rt.	Y:3642991.974	X:5658996.164	SET MAG NAIL CENTER CUL H	840.134
No. 544	Sta. 1196+97.158	538.368 Rt.	Y:3645714.306	X:5659215.834	CUT "X" NW BOLT FIRE HYDRANT	822.480
No. 545	Sta. 1198+03.051	953.922 Rt.	Y:3645616.082	X:5659633.267	CUT "X" S BOLT FIRE HYDRANT	803.146
No. 546	Sta. 1199+00.149	1353.028 Rt.	Y:3645517.664	X:5660032.050	CUT "X" SW BOLT FIRE HYDRANT	796.026

DETAILS OF REFERENCE INFORMATION

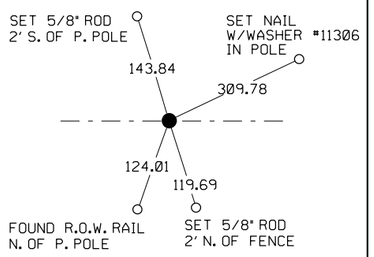
All References are Plumb Distances unless otherwise noted.

POT STA. 759+82.78, 0.00 RT.
POINT # 300
FOUND 1/2" ROD
XC=5632425.154 YC=3634789.978

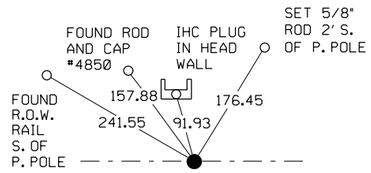


THESE ARE CROSS TIES

CP STA. 772+63.08, 0.00 RT.
POINT # 301
SET 5/8" ROD
XC=5633704.623 YC=3634836.052



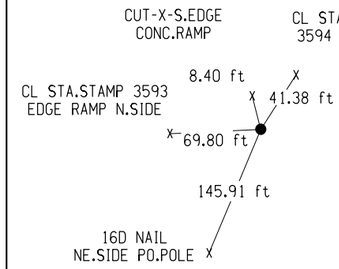
CP STA. 783+92.23, 0.00 RT.
POINT # 302
SET 5/8" ROD
XC=5634833.042 YC=3634876.685



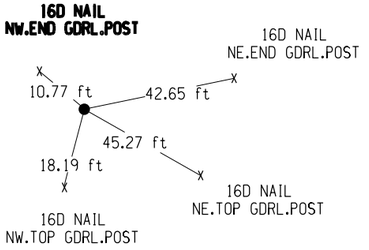
PC STA. 793+00.05, 0.00 RT.
POINT # 303
FOUND 1/2" ROD
XC=5635740.275 YC=3634909.354

NO REFERENCE TIES SET

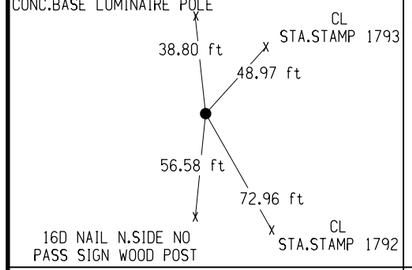
CP STA 793+37.31, 268.66 LT.
CP POINT 365
SET IRON PIN 5"DEEP
XC=5635768.138 YC=3635179.173



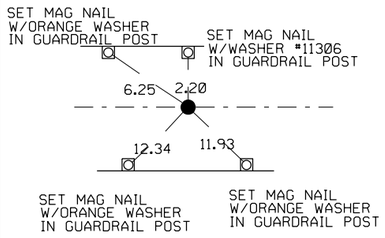
CP STA 798+59.50, 190.83 LT.
CP POINT 366
SET IRON PIN 6"DEEP
XC=5636295.741 YC=3635115.727



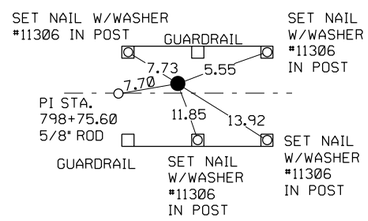
CP STA 798+64.34, 610.20 RT.
CP POINT 363
SET IRON PIN 8"DEEP
XC=5636316.289 YC=3634314.949
CUT-X-SE.SIDE
CONC.BASE LUMINAIRE POLE



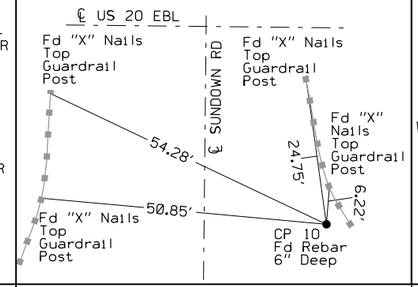
PI STA. 798+75.60
POINT # 463
SET 5/8" ROD
XC=5636315.452 YC=3634930.066



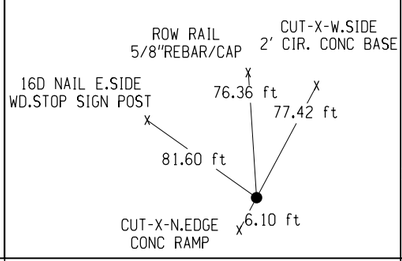
CP STA. 798+83.24, 4.95 LT.
POINT # 304
SET 5/8" ROD
XC=5636323.143 YC=3634930.349



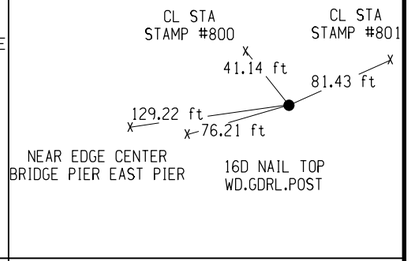
GPS STA 799+07.21, 191.75 RT.
GPS POINT 10
FND 5/8" REBAR 6"DEEP
XC=5636350.720 YC=3634734.130



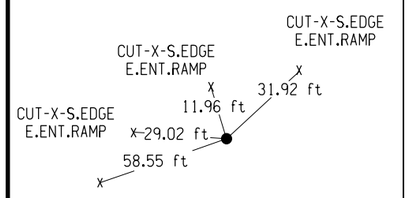
CP STA 799+79.01, 466.01 LT.
CP POINT 367
SET IRON PIN 6"DEEP
XC=5636411.511 YC=3635393.034



CP STA 800+24.80, 15.60 LT.
CP POINT 368
SET IRON PIN 6"DEEP
XC=5636464.540 YC=3634943.395



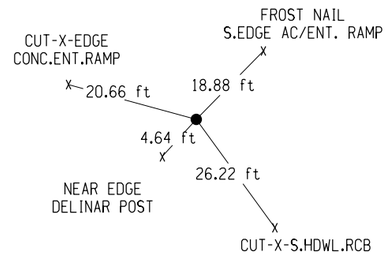
CP STA 800+64.48, 422.15 RT.
CP POINT 364
SET IRON PIN 8"DEEP
XC=5636510.258 YC=3634506.257



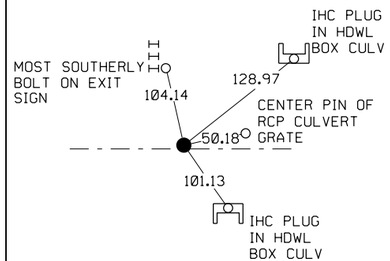
CP STA. 804+50.12, 0.13 RT.
POINT # 305
FOUND 1/2" ROD
XC=5636890.079 YC=3634931.382

NO REFERENCE TIES SET

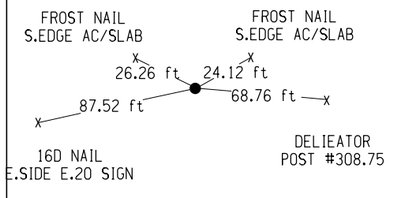
CP STA 809+09.16, 111.48 RT.
CP POINT 369
SET IRON PIN 9"DEEP
XC=5637349.400 YC=3634821.189



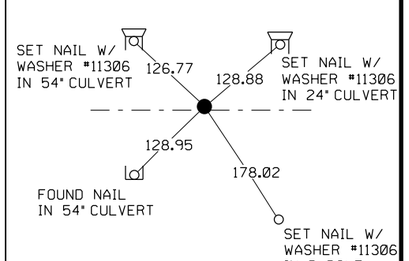
CP STA. 817+25.52, 0.07 LT.
POINT # 306
SET 5/8" ROD
XC=5638165.471 YC=3634934.783



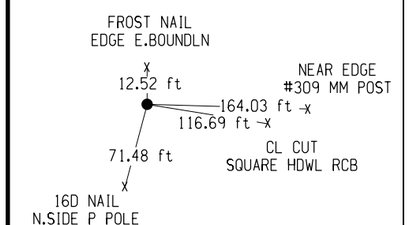
CP STA 827+88.0, 960.40 RT.
CP POINT 370
SET IRON PIN 8"DEEP
XC=5639228.197 YC=3634876.982



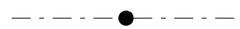
CP STA. 830+01.07, 0.13 LT.
POINT # 307
FOUND 1/2" ROD
XC=5639441.015 YC=3634938.052



CP STA 840+11.06 61.74 RT.
CP POINT 371
SET IRON PIN 7"DEEP
XC=5640451.166 YC=3634878.723

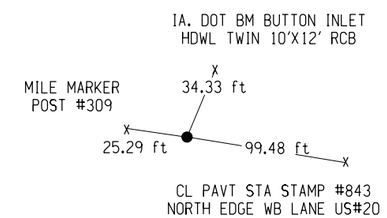


CP STA. 840+98.20, 0.00 RT.
POINT # 308
SET 5/8" ROD
XC=5640538.146 YC=3634940.677

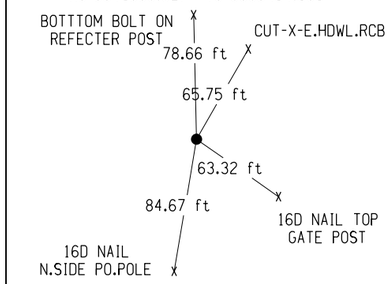


NO REFERENCE TIES SET

CP STA 842+01.44, 64.08 LT.
CP POINT 372
SET IRON PIN 6" DEEP
XC=5640641.227 YC=3635005.015



CP STA 851+16.30, 960.82 LT.
CP PIONT 377
SET IRON PIN 3"DEEP
XC=5641553.827 YC=3635904.050



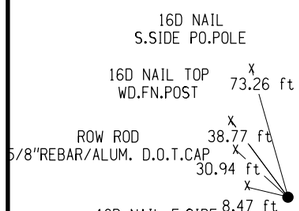
DETAILS OF REFERENCE INFORMATION

All References are Plumb Distances unless otherwise noted.

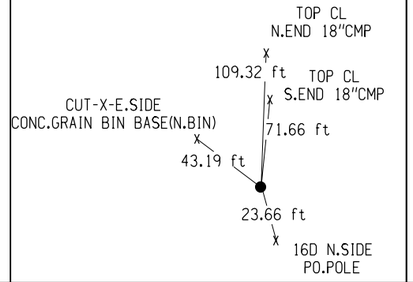
FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER G.2

10:38:34 AM 10/22/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183G01.sht

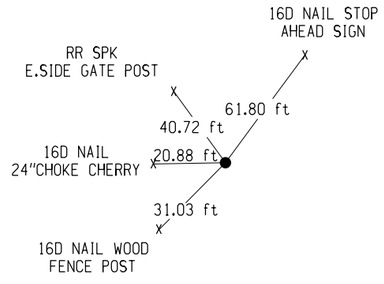
CP STA 851+36.36, 310.32 LT.
CP POINT 376
SET IRON PIN 6"DEEP
XC=5641575.526 YC=3635253.603



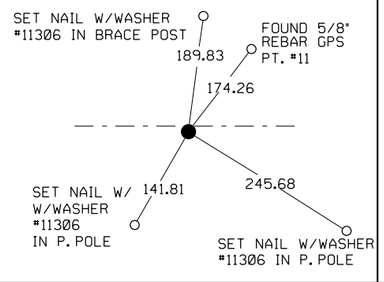
CP STA 851+47.19, 339.10 RT.
CP POINT 373
SET IRON PIN 3"DEEP
XC=5641587.987 YC=3634603.318



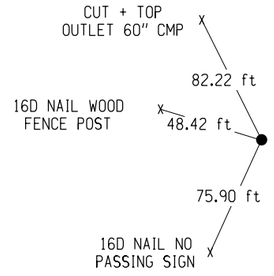
CP STA 851+95.78, 922.92 RT
CP POINT 374
SET IRON PIN 8" DEEP
XC=5641638.040 YC=3634020.520



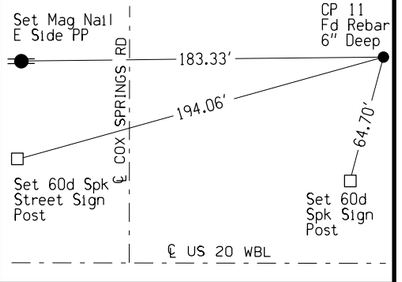
CP STA. 852+03.40, 0.13 RT.
POINT # 309
SET 5/8" ROD
XC=5641643.344 YC=3634943.321



CP STA 852+62.62, 1818.02 RT.
CP POINT 375
SET IRON PIN 8" DEEP
XC=5641707.131 YC=3633125.588



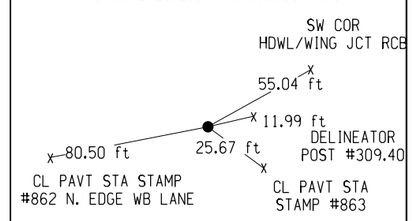
GPS STA 853+08.95, 138.54 LT.
GPS POINT 11
FND 5/8"REBAR 6"DEEP
XC=5641748.540 YC=3635082.260



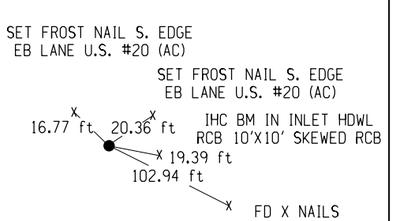
CP STA. 860+01.94, 0.10 RT.
POINT # 310
FOUND 1/2" ROD
XC=5642441.881 YC=3634945.361

NO REFERENCE TIES SET

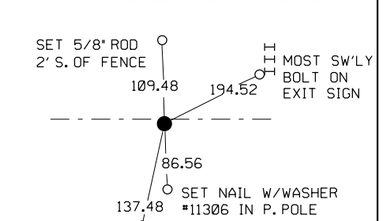
CP STA 862+80.43, 63.77 LT.
CP POINT 379
SET IRON PIN 6" DEEP
XC=5642720.206 YC=3635009.931



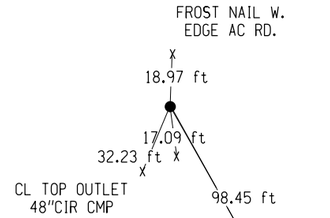
CP STA 864+08.50, 60.59 RT.
CP POINT 378
SET IRON PIN 4" DEEP
XC=5642848.592 YC=3634885.889



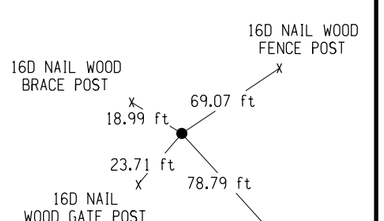
CP STA. 872+95.62, 0.07 RT.
POINT # 311
SET 5/8" ROD
XC=5643735.560 YC=3634948.640



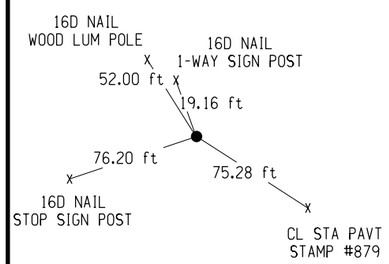
CP STA 877+25.54, 1715.09 LT.
CP POINT 383
SET IRON PIN
XC=5644161.162 YC=3636664.877



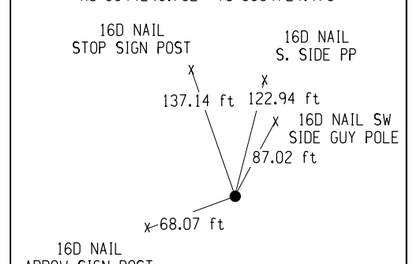
CP STA 877+38.78, 1153.32 LT.
CP POINT 382
SET IRON PIN
XC=5644175.815 YC=3636103.138



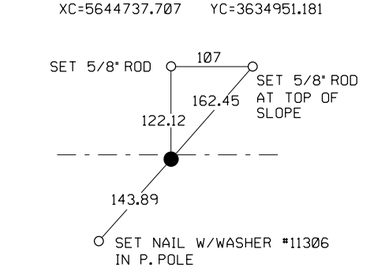
CP STA 878+36.33, 89.44 LT.
CP POINT 381
SET IRON PIN
XC=5644276.044 YC=3635039.510



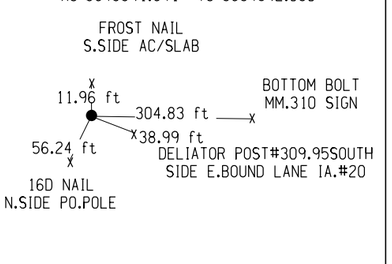
CP STA 878+56.23, 225.65 RT.
CP POINT 380
SET IRON PIN 5" DEEP
XC=5644296.732 YC=3634724.473



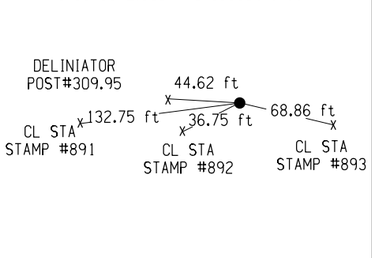
CP STA. 882+97.77, 0.05 RT.
POINT # 312
SET 5/8" ROD
XC=5644737.707 YC=3634951.181



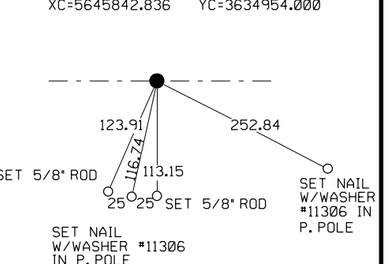
CP STA 891+51.56, 61.35 RT.
CP POINT 384
SET IRON PIN 6"DEEP
XC=5645591.641 YC=3634892.030



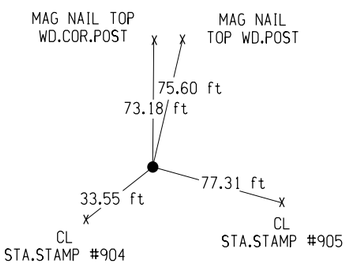
CP STA 892+32.73, 64.21 LT.
CP POINT 385
SET IRON PIN 6"DEEP
XC=5645672.500 YC=3635017.788



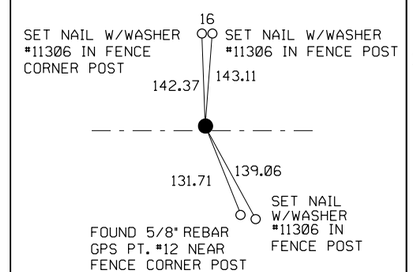
CP STA. 894+02.91, 0.01 RT.
POINT # 313
FOUND 1/2" ROD
XC=5645842.836 YC=3634954.000



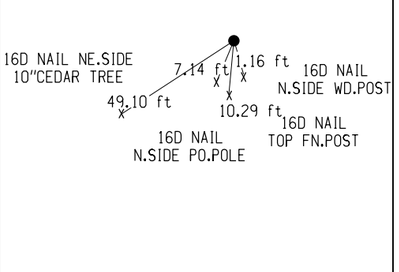
CP STA 904+25.51, 69.17 LT.
CP POINT 388
SET IRON PIN 6"DEEP
XC=5646865.262 YC=3635025.749



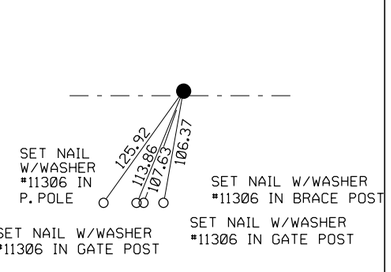
CP STA. 904+32.08, 0.03 LT.
POINT # 314
SET 5/8" ROD
XC=5646872.005 YC=3634956.623



GPS STA 904+80.33, 122.52 RT.
GPS POINT 12
FND.5/8"REBAR 6"DEEP
XC=5646920.560 YC=3634834.190



CP STA. 913+77.16, 0.05 LT.
POINT # 315
SET 5/8" ROD
XC=5647817.079 YC=3634959.019



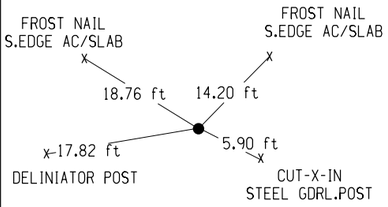
DETAILS OF REFERENCE INFORMATION

All References are Plumb Distances unless otherwise noted.

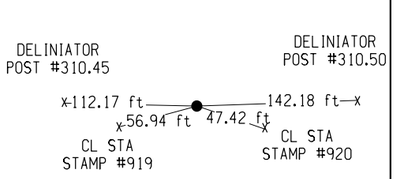
FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER G.3

10:38:34 AM 10/22/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183G01.sht

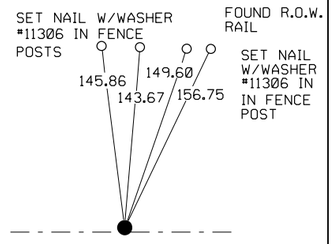
CP STA 917+71.19, 59.53 RT.
CP POINT 386
SET IRON PIN 3"DEEP
XC=5648211.260 YC=3634900.425



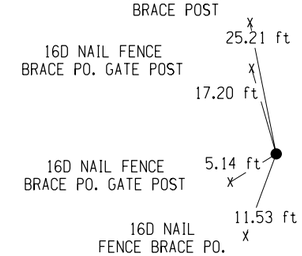
CP STA 919+54.57, 62.80 LT.
CP POINT 387
SET IRON PIN 3"DEEP
XC=5648394.337 YC=3635023.220



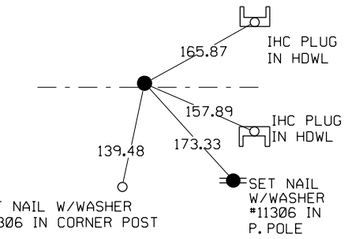
CP STA. 923+01.50, 0.12 LT.
POINT # 316
FOUND 1/2" ROD
XC=5648741.420 YC=3634961.406



CP STA 930+28.99, 35.20 LT.
CP POINT 330
SET IRON PIN
XC=5649466.421 YC=3635898.358

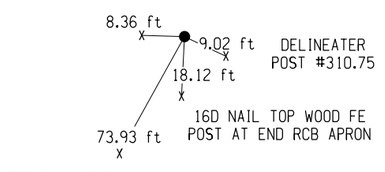


CP STA. 932+55.70, 0.07 LT.
POINT # 317
SET 5/8" ROD
XC=5649695.619 YC=3634963.753



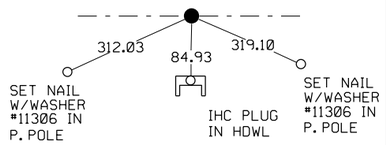
GPS STA 934+08.72, 63.46 RT.
GPS POINT GO13
FOUND REBAR
XC=5649848.800 YC=3634900.610

IHC BM BUTTON S. HDWL
OF STOCK PASS (RCB)

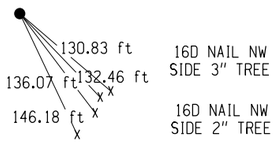


REF NAIL #LS
11306 IN PP

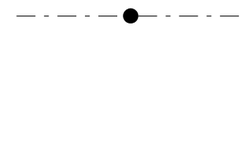
PI STA. 941+51.26
POINT # 318
FOUND 1/2" ROD
XC=5650591.174 YC=3634965.938



CP STA 945+65.54, 552.50 LT.
CP POINT 337
SET IRON PIN ON TERRACE
XC=5653527.698 YC=3635918.819

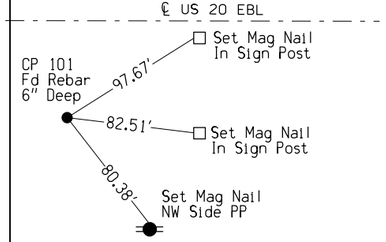


CP STA. 951+11.86, 0.00 RT.
POINT # 319
SET 5/8" ROD
XC=5651551.768 YC=3634968.005

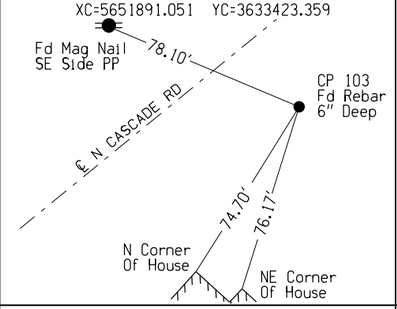


NO REFERENCE TIES SET

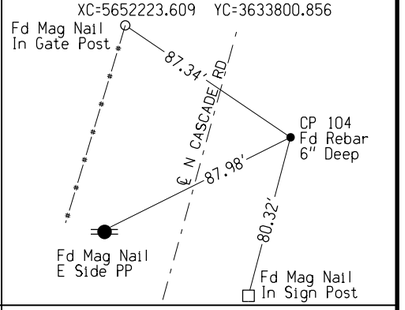
CP STA. 951+86.06, 59.85 RT.
CONTROL POINT 101
FND 5/8" REBAR 6" DEEP
XC=5651626.097 YC=3634908.318



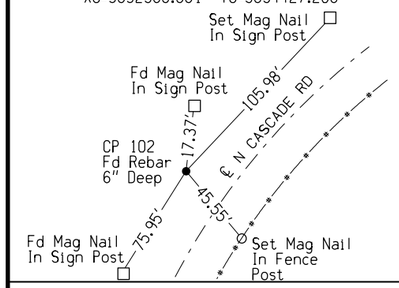
CP STA. 954+47.81, 1545.37 RT.
CONTROL POINT 103
FND 5/8" REBAR 6" DEEP
XC=5651891.051 YC=3633423.359



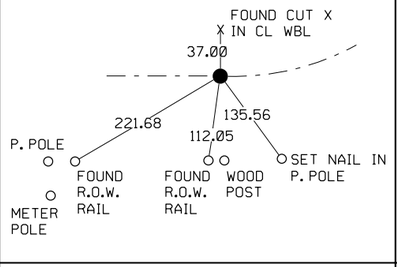
CP STA. 957+81.18, 1168.59 RT.
CONTROL POINT 104
FND 5/8" REBAR 6" DEEP
XC=5652223.609 YC=3633800.856



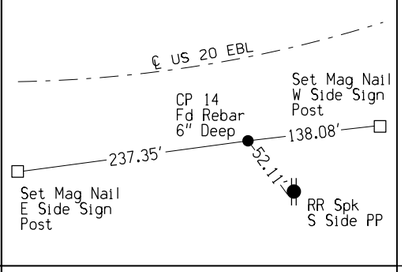
CP STA. 959+45.58, 542.60 RT.
CONTROL POINT 102
PREVIOUS CONTROL POINT 343
FND 5/8" REBAR 6" DEEP
XC=5652386.661 YC=3634427.206



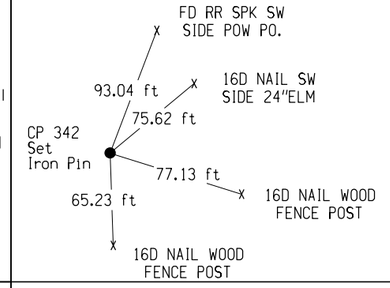
P.C. STA. 959+99.27, 0.00 RT.
CONTROL POINT # 320
FOUND 1/2" ROD
XC=5652439.182 YC=3634969.915



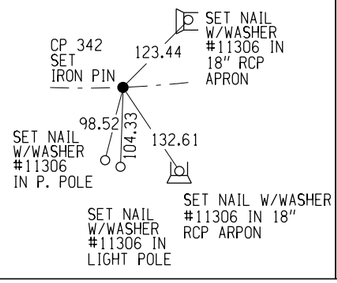
GPS STA 963+17.14, 61.12 RT.
GPS POINT GO14
Fd 5/8" Rebar 6" Deep
XC=5652764.660 YC=3634932.430



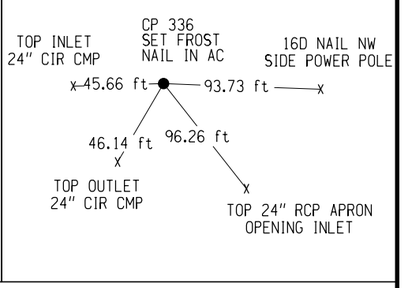
CP STA 965+77.53, 177.33 RT.
CONTROL POINT 342
SET IRON PIN
XC=5653056.262 YC=3634873.309



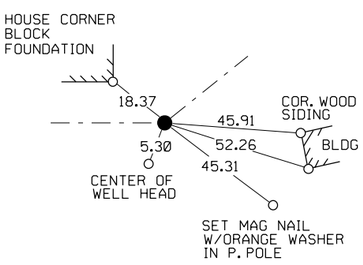
CP STA 969+89.05, 0.46 RT.
CONTROL POINT 321
SET 5/8" ROD
XC=5653397.318 YC=3635184.982



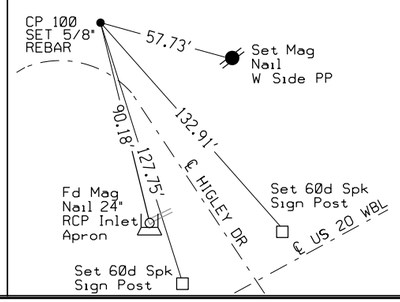
CP STA 970+22.63, 204.90 LT.
CP POINT 336
SET FROST NAIL IN AC
XC=5653337.302 YC=3635383.963



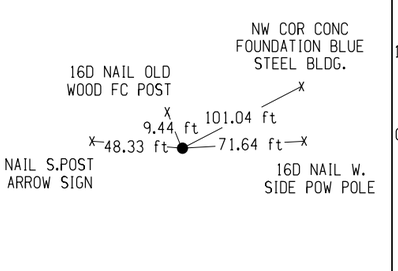
P.I. STA. 970+56.50
CONTROL POINT # 475
SET 5/8" ROD
XC=5653496.410 YC=3634972.190



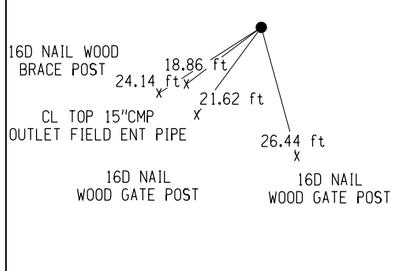
CP STA 970+65.90 198.60 LT.
CONTROL POINT 100
SET 5/8" REBAR 6" DEEP
XC=5653375.358 YC=3635395.997



CP STA 971+25.24, 161.94 RT.
CP POINT 341
SET IRON PIN
XC=5653596.225 YC=3635105.060



CP STA 974+09.30, 815.31 RT.
CP POINT 340
SET IRON PIN
XC=5654236.444 YC=3634738.256



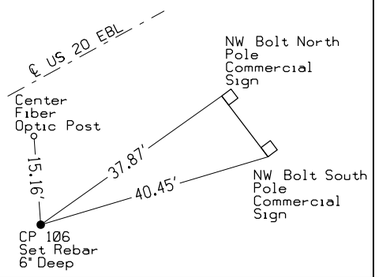
DETAILS OF REFERENCE INFORMATION

All References are Plumb Distances unless otherwise noted.

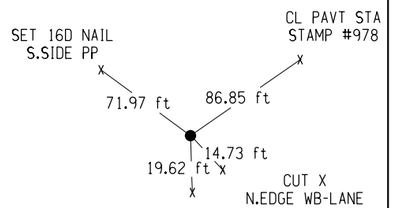
FILE NO.	ENGLISH	DESIGN TEAM		COUNTY	PROJECT NUMBER	SHEET NUMBER G.4	

10:38:35 AM 10/22/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183G01.sht

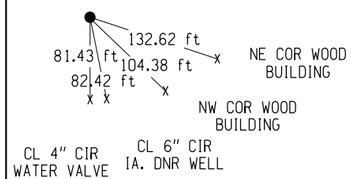
CP STA. 975+60.54, 110.89 RT.
CONTROL POINT 106
SET 5/8" REBAR 6" DEEP
XC=5653948.815 YC=3635406.180



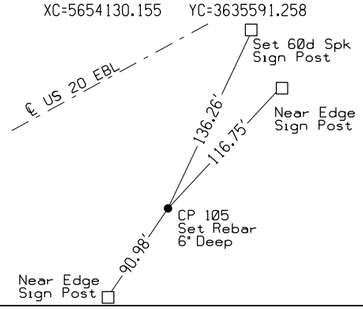
CP STA 977+11.41, 50.70 LT.
CP POINT 338
SET IRON PIN
XC=5653955.758 YC=3635628.404



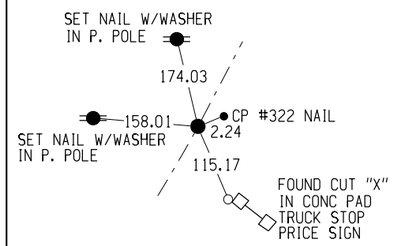
CP STA 977+98.75, 352.89 RT.
CP POINT 344
SET FROST NAIL
XC=5654305.651 YC=3635406.934



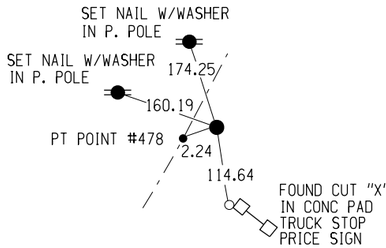
CP STA. 978+08.01, 98.59 RT.
CONTROL POINT 105
SET 5/8" REBAR 6" DEEP
XC=5654130.155 YC=3635591.258



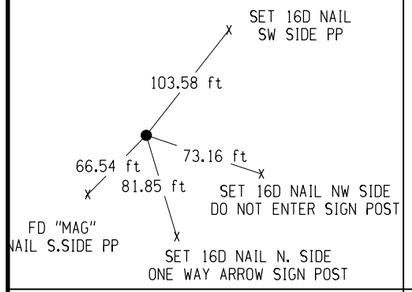
PT STA. 979+76.89, 0.00 RT.
PT POINT 478
SET CUT "X"
XC=5654171.884 YC=3635785.498



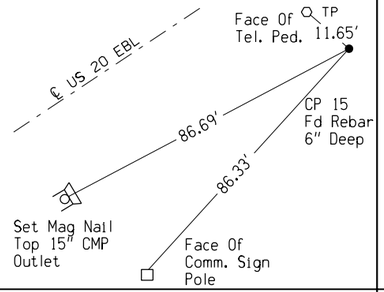
CP STA 979+78.46, 1.61 RT.
CP POINT 322
SET MAG NAIL
XC=5654174.120 YC=3635785.679



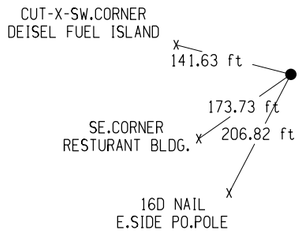
CP STA 981+56.23, 126.35 LT.
CP POINT 339
SET IRON PIN
XC=5654189.266 YC=3636004.188



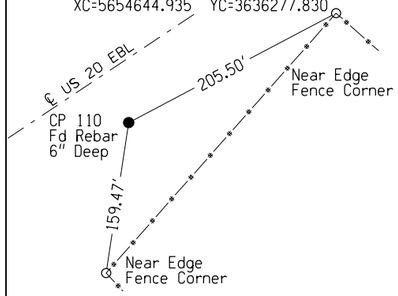
GPS STA 982+04.79, 103.01 RT.
GPS POINT G015
FOUND 5/8" REBAR 6" DEEP
XC=5654396.730 YC=3635895.000



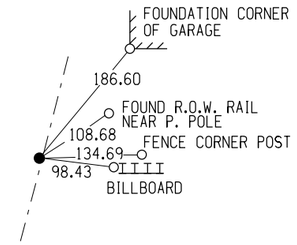
CP STA 982+55.87, 404.20 RT.
CP POINT 345
SET FROST NAIL
XC=5654661.070 YC=3635741.865



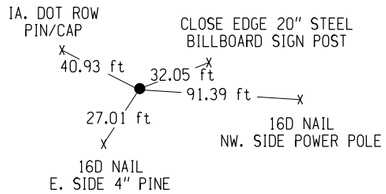
CP STA 986+57.87, 49.35 RT.
CP POINT 110
FOUND 5/8" REBAR 6" DEEP
XC=5654644.935 YC=3636277.830



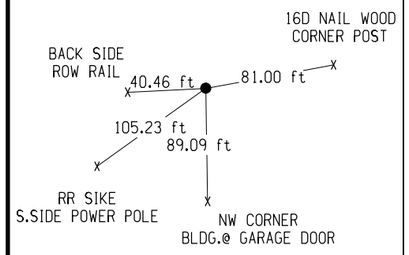
CP STA 989+53.60, 0.70 LT.
CP POINT 323
SET MAG NAIL IN MEDIAN
XC=5654795.373 YC=3636537.309



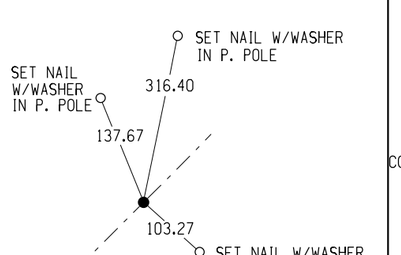
CP STA 993+84.90, 188.72 LT.
CP POINT 348
SET IRON PIN 4" DEEP
XC=5654926.300 YC=3636989.228



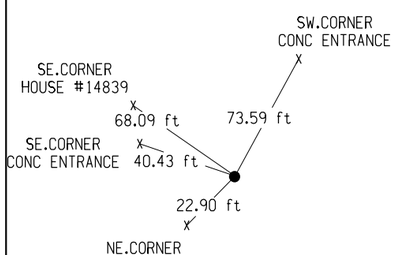
CP STA 994+33.27, 111.58 RT.
CP POINT 349
SET IRON PIN 6" DEEP
XC=5655188.216 YC=3636834.570



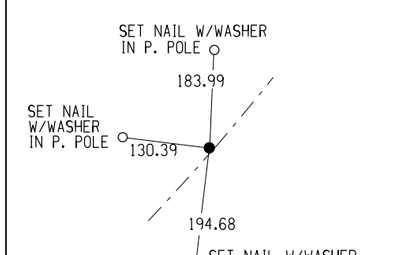
TS STA. 997+73.61, 0.00 RT.
TS POINT 481
SET MAG NAIL IN CONCRETE MEDIAN
XC=5655319.822 YC=3637167.679



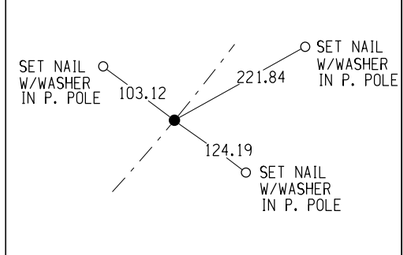
CP STA 998+52.01, 244.78 RT.
CP POINT 350
SET IRON PIN 3" DEEP
XC=5655558.945 YC=3637072.690



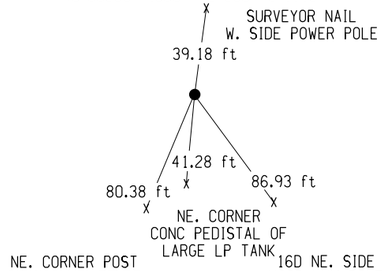
CP STA 999+23.07, 0.13 LT.
CP POINT 324
SET MAG NAIL
XC=5655414.461 YC=3637283.353



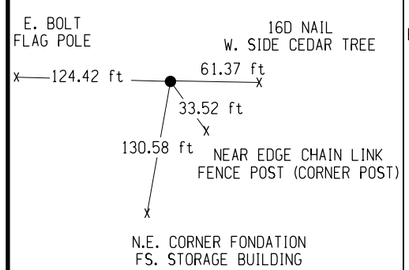
SC STA. 1000+73.61, 0.00 RT.
CP POINT 482
SET MAG NAIL IN TURNING LANE
XC=5655505.263 YC=3637403.393



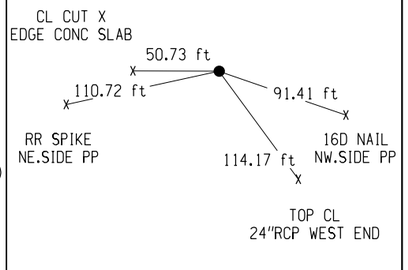
CP STA 1002+26.38, 126.99 RT.
CP POINT 352
SET IRON PIN 4"DEEP
XC=5655697.550 YC=3637467.113



CP STA 1002+63.04 373.79 RT.
CP POINT 351
SET IRON PIN 3" DEEP
XC=5655932.057 YC=3637379.739

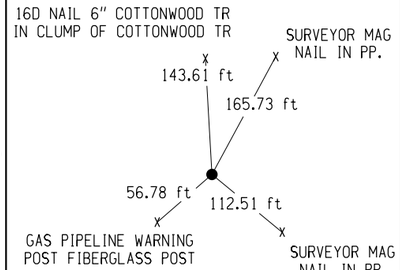


CP STA 1004+49.47, 288.47 LT.
CP POINT 353
SET IRON PIN 4"DEEP
XC=5655425.941 YC=3637846.287

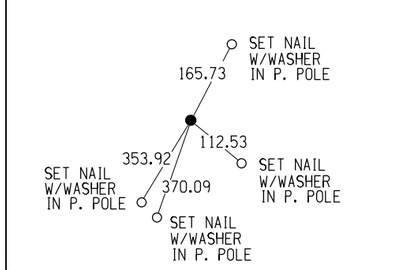


PI STA 1006+41.06
PI POINT 410
FND 1/2" ROD 6" DEEP
XC=5655874.047 YC=3637834.996

16D NAIL 6" COTTONWOOD TR IN CLUMP OF COTTONWOOD TR



PI STA 1006+41.06
PI POINT 410
FND 1/2" ROD 6" DEEP
XC=5655874.047 YC=3637834.996

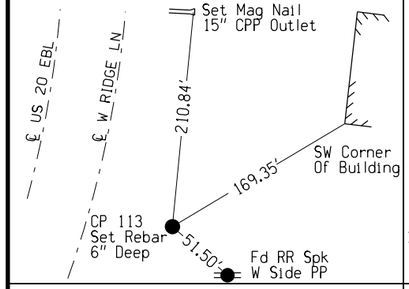


DETAILS OF REFERENCE INFORMATION

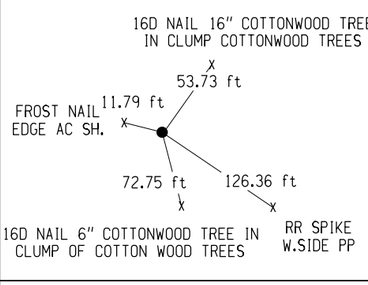
All References are Plumb Distances unless otherwise noted.

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER G.5

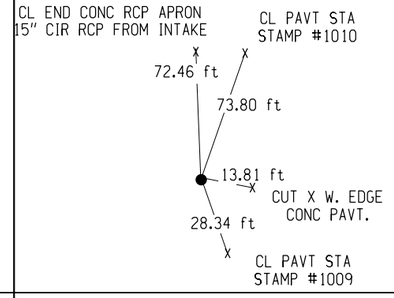
CP STA. 1007+81.38, 121.43 RT.
CONTROL POINT 113
SET 5/8" REBAR 6" DEEP
XC=5655914.098 YC=3638015.397



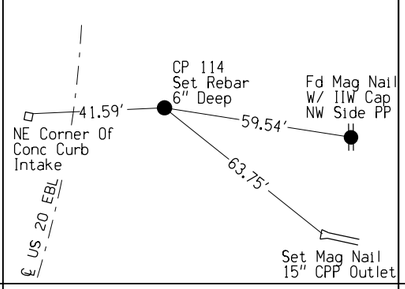
GPS STA 1008+01.04, 48.28 RT.
GPS PIONT 16
FND 5/8"REBAR
XC=5655847.980 YC=3638052.140



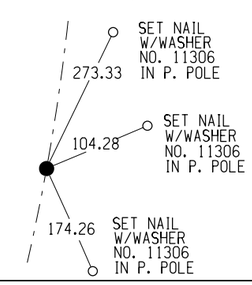
CP STA 1009+25.79, 48.14 LT.
CP POINT 354
SET IRON PIN
XC=5655777.691 YC=3638193.215



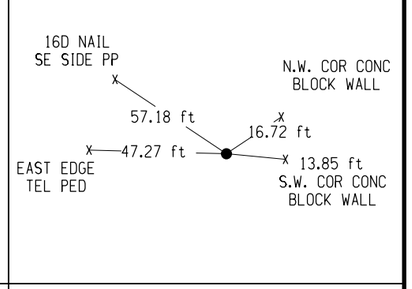
CP STA 1010+11.66, 48.30 RT.
CP POINT 114
SET 5/8" REBAR 6" DEEP
XC=5655884.743 YC=3638264.993



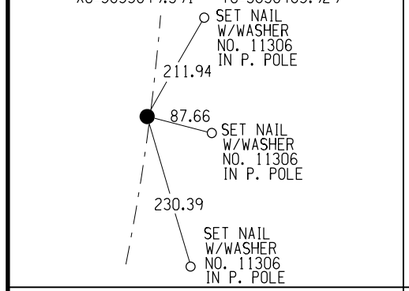
CS STA. 1011+43.59, 0.00 RT.
POINT # 484
SET MAG NAIL IN CONCRETE MEDIAN
XC=5655847.540, YC=3638402.077



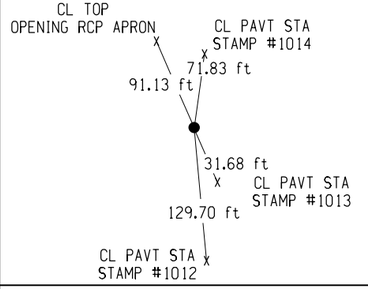
CN STA 1011+70.25, 136.43 RT.
CN POINT 356
SET FROST NAIL IN AC
XC=5655984.958 YC=3638424.187



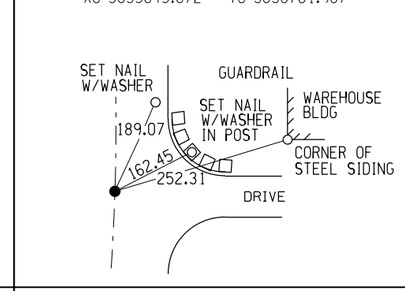
CP STA. 1012+07.63, 0.59 LT.
POINT # 325
SET MAG NAIL IN MEDIAN
XC=5655849.391 YC=3638465.929



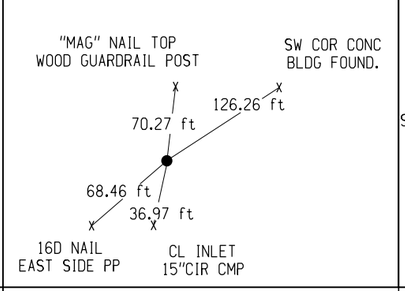
CP STA 1013+29.84, 45.79 LT.
CP POINT 355
SET IRON PIN
XC=5655803.705 YC=3638587.170



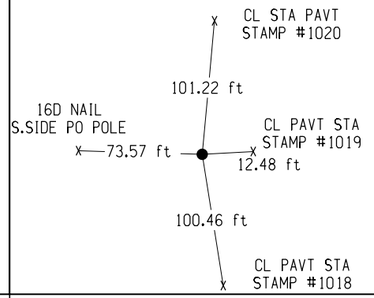
ST STA. 1014+43.59, 0.00 RT.
POINT # 409
FOUND CUT "X" IN TURNING LANE
XC=5655845.672 YC=3638701.987



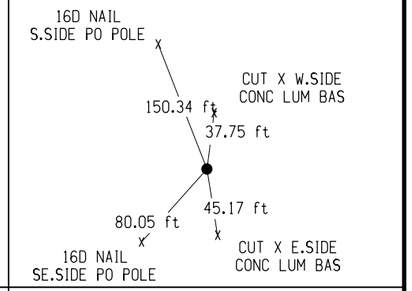
CP STA 1014+45.28, 135.23 RT.
CP POINT 357
SET IRON PIN
XC=5655981.367 YC=3638707.845



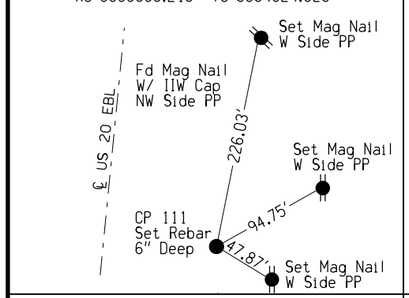
CP STA 1018+99.42, 45.99 LT.
CP POINT 359
SET IRON PIN 4" DEEP
XC=5655784.793 YC=3639156.075



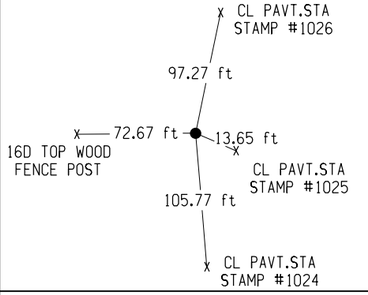
CN STA 1019+19.47, 136.24 RT.
CN POINT 358
CLOSE NAIL SET FROST NAIL
XC=5655966.274 YC=3639182.076



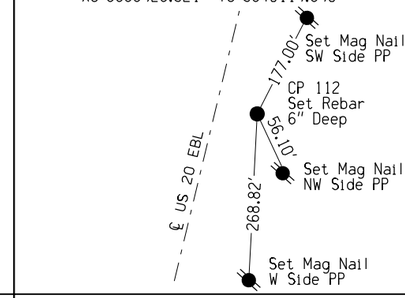
CP STA 1023+72.50, 49.05 RT.
CP POINT 111
SET 5/8" REBAR 6" DEEP
XC=5655868.218 YC=3639629.523



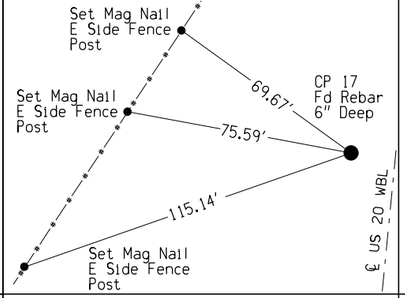
CP STA 1025+04.13, 49.23 LT.
CP POINT 360
SET IRON PIN 6" DEEP
XC=5655775.573 YC=3639765.150



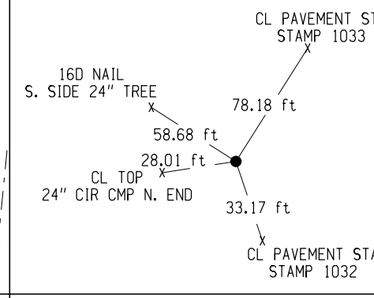
CP STA 1028+75.63, 54.93 RT.
CP POINT 112
SET 5/8" REBAR 6" DEEP
XC=5655926.321 YC=3640119.590



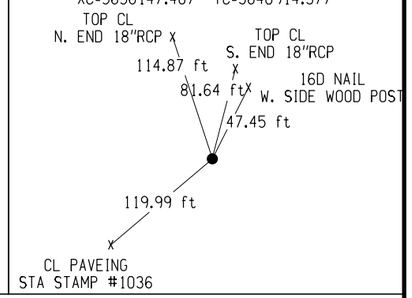
GPS STA 1029+64.92 97.99 LT.
GPS POINT 17
FOUND 5/8" REBAR 6" DEEP
XC=5655795.360 YC=3640239.250



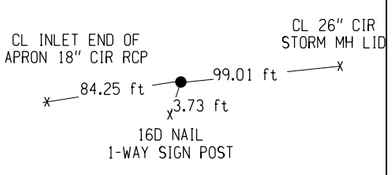
CP STA 1032+24.86, 62.62 LT.
CP POINT 361
SET IRON PIN 6"DEEP
XC=5655900.367 YC=3640487.328



CP STA 1037+09.6, 10.09 RT.
CP POINT 362
FOUND IRON PIN 7" DEEP
XC=5656147.487 YC=3640914.377



CP STA 1093+94.28, 68.85 RT.
CP POINT 18818
SET IRON PIN
XC=5658836.755 YC=3645923.169



DETAILS OF REFERENCE INFORMATION

All References are Plumb Distances
unless otherwise noted.

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER G.6

ALIGNMENT COORDINATES

101-16
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
999	U.S. 20 (Survey)	941+51.26	3634965.9380	5650591.1740															
1000	U.S. 20 (Survey)							959+99.27	3634969.9150	5652439.1820	970+56.50	3634972.1902	5653496.4096	979+76.89	3635785.4982	5654171.8838			
1001	U.S. 20 (Survey)				997+74.34	3637168.2411	5655320.2891	1000+74.34	3637403.9550	5655505.7304	1006+23.44	3637852.8830	5655821.9142	1011+43.04	3638401.3635	5655847.9471	1014+43.04	3638701.2747	5655846.2820
1002	U.S. 20 (Survey)							1022+27.73	3639485.5602	5655821.1450	1029+84.57	3640242.0153	5655796.9000	1037+08.11	3640913.1081	5656146.8236			
1003	U.S. 20 (Survey)	1148+92.52	3650830.3178	5661317.8893															
499	U.S. 20	941+51.26	3634965.9380	5650591.1740															
500	U.S. 20				946+43.69	3634966.9977	5651083.6040	948+23.69	3634968.5590	5651263.5941	964+49.50	3635003.8643	5652889.0205	979+49.24	3636052.7112	5654131.2674	981+29.24	3636170.6153	5654267.2730
501	U.S. 20							987+87.55	3636605.0679	5654761.8716	1001+32.91	3637492.9347	5655772.6556	1013+01.50	3638837.6037	5655729.5578			
502	U.S. 20							1017+56.70	3639292.5733	5655714.9757	1025+03.71	3640039.1945	5655691.0459	1032+17.84	3640701.5625	5656036.4218			
503	U.S. 20	1152+32.45	3651345.6000	5661586.5000															
99	Swiss Valley Road	5951+19.00	3634486.5206	5654832.3296															
100	Swiss Valley Road							5961+28.96	3634899.9907	5653910.8833	5963+01.74	3634970.7274	5653753.2418	5964+67.75	3635106.6930	5653646.6218			
101	Swiss Valley Road	5981+18.32	3636405.5383	5652628.1073															
109	Relocated Cottingham Road	8929+67.19	3636531.4723	5649475.5203															
110	Relocated Cottingham Road							8933+11.36	3636187.4736	5649486.2846	8943+21.27	3635178.0560	5649517.8709	8949+13.92	3635180.9740	5650527.7784			
111	Relocated Cottingham Road							8959+89.97	3635184.0831	5651603.8289	8965+17.26	3635185.6066	5652131.1105	8969+83.59	3635575.0271	5652486.6101			
112	Relocated Cottingham Road							8972+59.96	3635779.1413	5652672.9448	8973+46.34	3635842.9349	5652731.1816	8974+32.32	3635896.2360	5652799.1531			
113	Relocated Cottingham Road	8976+12.00	3636007.1095	5652940.5429															
119	North Frontage Road	9976+12.00	3636007.1095	5652940.5429															
120	North Frontage Road							9978+34.80	3636144.5925	5653115.8659	9979+84.86	3636237.1917	5653233.9517	9981+26.37	3636249.4635	5653383.5120			
121	North Frontage Road							9984+24.59	3636273.8513	5653680.7362	9986+85.55	3636295.1915	5653940.8169	9989+35.12	3636440.8950	5654157.3068			
122	North Frontage Road							9992+35.95	3636608.8644	5654406.8798	9997+89.62	3636918.0040	5654866.2071	10003+30.12	3637374.6211	5655179.3359			
123	North Frontage Road							10003+30.12	3637374.6211	5655179.3359	10011+68.97	3638066.4334	5655653.7517	10019+38.86	3638901.2328	5655571.3836			
124	North Frontage Road	10024+44.74	3639404.6641	5655521.7110															
126	Tower Drive	400+00.00	3639404.8605	5655523.7014															
127	Tower Drive							401+01.41	3639505.7790	5655513.7439	404+53.50	3639856.1641	5655479.1721	407+89.08	3640176.1059	5655513.7439			
128	Tower Drive							418+24.55	3641117.0404	5656058.4006	419+27.02	3641210.1504	5656101.1740	419+77.57	3641240.5565	5656003.3246			
129	Tower Drive	420+26.73	3641255.1447	5655956.3785															
130	North Cascade Road (West)	6929+54.61	3633319.3515	5651705.9243															
131	North Cascade Road (West)							6936+60.21	363374.9044	5652276.1766	6939+10.90	3633882.5446	5652478.7793	6941+57.00	3633956.2808	5652276.1766			
132	North Cascade Road (West)							6951+68.75	3634253.8717	5653685.3803	6953+95.18	3634320.4723	5653901.7943	6955+93.98	3634527.0578	5653994.4930			
133	North Cascade Road (West)	6959+00.00	3634806.2571	5654119.7750															
139	North Cascade Road (East)	7958+50.62	3634806.2571	5654119.7750															
140	North Cascade Road (East)							7959+23.11	3634872.3967	5654149.4531	7961+15.68	3635048.0856	5654228.2879	7962+72.29	3635204.0466	5654115.3379			
141	North Cascade Road (East)							7962+72.29	3635204.0466	5654115.3379	7965+42.55	3635422.9260	5653956.8211	7967+26.34	3635623.0966	5654138.3915			
142	North Cascade Road (East)							7974+61.44	3636167.5723	5654632.2737	7976+05.99	3636274.6372	5654729.3900	7977+50.32	3636371.8691	5654836.3500			
143	North Cascade Road (East)							7990+45.61	3637243.1569	5655794.8111	7992+83.13	3637402.9224	5655970.5613	7995+20.29	3637545.3088	5656160.6646			
144	North Cascade Road (East)	7998+70.44	3637755.2212	5656440.9234															
149	South Frontage Road	1992+87.33	3637442.1766	5656027.6942															
150	South Frontage Road							1994+95.25	3637604.3010	5655897.5222	1996+90.45	3637442.1766	5656027.6942	1998+58.45	3637946.5089	5655820.0967			
151	South Frontage Road							1998+58.45	3637946.5089	5655820.0967	2001+23.53	3638204.5153	5655880.9161	2003+85.54	3638469.4573	5655872.4245			
152	South Frontage Road							2013+19.41	3639402.8507	5655842.5085	2020+23.83	3640106.9137	5655819.9427	2026+92.66	3640719.1842	5656168.2799			
153	South Frontage Road							2029+53.16	3640945.6057	5656297.0972	2030+63.23	3641041.2772	5656351.5274	2031+72.48	3641123.4352	5656424.7785			
154	South Frontage Road	2033+49.92	3641255.8725	5656542.8582															
159	Swiss Valley Road Ramp A	1969+54.70	3635761.5941	5653133.0685															
160	Swiss Valley Road Ramp A							1975+89.67	3635996.5561	5653722.9694	1979+21.93	3636119.5038	5654031.6449	1982+50.00	3636321.6872	5654295.3086			
161	Swiss Valley Road Ramp A	1983+10.13	3636358.2788	5654343.0271															
169	Swiss Valley Road Ramp B	2956+40.00	3634969.2155	5652091.8715															
170	Swiss Valley Road Ramp B							2961+64.49	3635038.5632	5652611.7563	2964+27.10	3635073.2860	5652872.0653	2966+89.69	3635114.8317	5653131.3728			
171	Swiss Valley Road Ramp B	2971+47.52	3635187.2614	5653583.4426															
180	Swiss Valley Road Ramp C							3955+50.00	3635111.3309	5651972.7929	3958+55.65	3635171.7043	5652272.4181	3961+53.04	3635344.5026	5652524.5312			
181	Swiss Valley Road Ramp C	3968+90.79	3635761.5941	5653133.0685															
189	Swiss Valley Road Ramp D	4969+49.66	3635187.2614	5653583.4426															
190	Swiss Valley Road Ramp D							4981+37.05	3636104.1086	5654337.9588	4982+78.76	3636213.5296	5654428.0064	4984+20.00	3636309.1606	5654532.5829			
199	Cottingham Road Connector	136+38.05	3635359.5411	5649654.9636															
200	Cottingham Road Connector							136+96.16	3635401.7606	5649615.0405	138+08.52	3635483.4033	5649537.8383	138+64.87	3635550.6092	5649627.8887			
201	Cottingham Road Connector	139+45.00	3635598.5353	5649692.1057															

GEOMETRIC DESIGN U.S. 20 MAINLINE AND SIDEROADS

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER G.7

10:38:36 AM 10/22/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183G01.sht

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{scs}	Horizontal Alignment Data													Remarks
			Spiral Data								Curve Data					
			θs	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E	
1000	U.S. 20 (Survey)										50° 09′ 58.14″	1057.2300	1977.6209	2258.6810	235.1865	
1001	U.S. 20 (Survey)	41° 32′ 46.68″	4° 33′ 11.45″	300					200.0662	100.0602	32° 26′ 23.77″	549.0980	1068.7011	1887.5520	78.2458	
1002	U.S. 20 (Survey)										29° 22′ 27.63″	756.8435	1480.3861	2887.5500	97.5391	
500	U.S. 20	41° 10′ 21.30″	1° 07′ 15.62″	180	1817.8795	314.09	179.9931		120.0024	60.0022	38° 55′ 50.07″	1625.8097	3125.5468	4600	278.8582	
501	U.S. 20										50° 32′ 23.51″	1345.3594	2513.9480	2850	301.5856	
502	U.S. 20										29° 22′ 28.05″	747.0046	1461.1409	2850	96.2715	
100	Swiss Valley Road										27° 43′ 51.20″	172.7845	338.7967	700	21.0094	
110	Relocated Cottingham Road										88° 22′ 23.73″	1009.9117	1602.5581	1039	409.9454	
111	Relocated Cottingham Road										47° 26′ 30.05″	527.2839	993.6163	1200	110.7358	
112	Relocated Cottingham Road										9° 30′ 17.21″	86.3779	172.3594	1039	3.5844	
120	North Frontage Road										33° 24′ 42.20″	150.0629	291.5723	500	22.0334	
121	North Frontage Road										29° 15′ 03.20″	260.9548	510.5243	1000	33.4880	
122	North Frontage Road										21° 37′ 03.67″	553.6685	1094.1695	2900	52.3802	
123	North Frontage Road										40° 04′ 32.60″	838.8531	1608.7426	2300	148.1982	
127	Tower Drive										30° 18′ 30.24″	352.0866	687.6758	1300	46.8352	
128	Tower Drive										97° 24′ 39.80″	90.0000	153.0129	90	46.3783	
131	North Cascade Road (West)										18° 58′ 33.32″	250.6899	496.7885	1500	20.8042	
132	North Cascade Road (West)										48° 43′ 40.00″	226.4302	425.2301	500	48.8813	
140	North Cascade Road (East)										60° 04′ 46.05″	192.5656	349.1786	333	51.6694	
141	North Cascade Road (East)										78° 07′ 23.84″	270.2518	454.0484	333	95.8648	
142	North Cascade Road (East)										5° 31′ 01.58″	144.5492	288.8750	3000	3.4804	
143	North Cascade Road (East)										5° 26′ 21.64″	237.5146	474.6723	5000	5.6381	
150	South Frontage Road										52° 01′ 32.08″	195.2036	363.2071	400	45.0892	
151	South Frontage Road										15° 05′ 59.44″	265.0780	527.0840	2000	17.4901	
152	South Frontage Road										31° 28′ 20.88″	704.4245	1373.2455	2500	97.3475	
153	South Frontage Road										12° 04′ 59.26″	110.0712	219.3260	1040	5.8086	
160	Swiss Valley Road Ramp A										15° 45′ 50.56″	332.2600	660.3227	2400	22.8902	
170	Swiss Valley Road Ramp B										1° 30′ 16.50″	262.6146	525.1991	20000	1.7241	
180	Swiss Valley Road Ramp C										23° 02′ 03.79″	305.6472	603.0388	1500	30.8234	
190	Swiss Valley Road Ramp D										8° 06′ 20.88″	141.7093	282.9458	2000	5.0141	
200	Cottingham Road Connector										96° 39′ 51.00″	112.3642	168.7108	100	50.4184	

GEOMETRIC DESIGN U.S. 20 MAINLINE AND SIDEROADS

FILE NO.	ENGLISH	DESIGN TEAM		COUNTY	PROJECT NUMBER	SHEET NUMBER G.8	

10:38:36 AM 10/22/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020183G01.sht

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{scs}	Horizontal Alignment Data												Remarks
			Spiral Data								Curve Data				
			θs	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E	
24291	Ramp A at Swiss Valley										33° 20′ 10.98″	22.46′	43.64′	75′	3.29′	
24292	Ramp A at Swiss Valley										58° 03′ 05.96″	24.97′	45.59′	45′	6.46′	
24293	Ramp A at Swiss Valley										14° 59′ 42.27″	26.32′	52.34′	200′	1.72′	
24281	Ramp A at Swiss Valley										14° 55′ 33.15″	65.50′	130.25′	500′	4.27′	
24282	Ramp A at Swiss Valley										52° 25′ 37.06″	36.93′	68.63′	75′	8.60′	
24283	Ramp A at Swiss Valley										06° 15′ 41.27″	27.35′	54.64′	500′	0.75′	
24301	Ramp B at Swiss Valley										22° 03′ 31.07″	24.36′	48.12′	125′	2.35′	
24302	Ramp B at Swiss Valley										64° 01′ 55.07″	25.01′	44.70′	40′	7.18′	
24303	Ramp B at Swiss Valley										34° 12′ 40.26″	23.08′	44.78′	75′	3.47′	
24311	Ramp B at Swiss Valley										09° 47′ 33.28″	25.70′	51.27′	300′	1.10′	
24312	Ramp B at Swiss Valley										34° 23′ 46.14″	23.21′	45.02′	75′	3.51′	
24313	Ramp B at Swiss Valley										15° 04′ 36.13″	52.93′	105.26′	400′	3.49′	
24321	Ramp C at Swiss Valley										14° 19′ 26.20″	63.32′	125.59′	400′	4.98′	
24322	Ramp C at Swiss Valley										114° 35′ 29.61″	29.41′	53.17′	50′	8.01′	
24323	Ramp C at Swiss Valley										28° 38′ 52.40″	25.89′	51.50′	200′	1.67′	
24331	Ramp C at Swiss Valley										11° 27′ 32.96″	73.41′	145.77′	500′	5.36′	
24332	Ramp C at Swiss Valley										190° 59′ 09.35″	20.86′	36.45′	30′	6.54′	
24341	Ramp D at Swiss Valley										87° 39′ 16.98″	38.40′	61.19′	40′	15.45′	
24342	Ramp D at Swiss Valley										14° 47′ 25.44″	64.90′	129.07′	500′	4.19′	
24351	Ramp D at Swiss Valley										62° 25′ 15.96″	45.44′	81.71′	75′	12.69′	
24352	Ramp D at Swiss Valley										15° 08′ 03.09″	53.14′	105.66′	400′	3.51′	
1993	South Frontage Road at NCSD										11° 44′ 18.32″	30.84′	61.46′	300′	1.58′	
1994	South Frontage Road at NCSD										70° 48′ 35.10″	49.76′	86.51′	70′	15.88′	
1995	South Frontage Road at NCSD										19° 43′ 58.94″	34.79′	68.88′	200′	3.00′	
1996	South Frontage Road at NCSD										69° 17′ 16.60″	41.46′	72.56′	60′	12.93′	
7959	North Cascade at SVLLY										15° 22′ 56.20″	40.51′	80.54′	300′	2.72′	
7960	North Cascade at SVLLY										66° 20′ 39.69″	32.68′	57.90′	50′	9.74′	
7962	North Cascade at SVLLY										80° 01′ 10.34″	54.56′	90.78′	65′	19.86′	
7963	North Cascade at SVLLY										13° 53′ 26.67″	46.29′	92.13′	380′	2.81′	
7965	North Cascade at SVLLY										75° 46′ 14.62″	54.46′	92.57′	70′	18.69′	
7966	North Cascade at SVLLY										14° 13′ 46.41″	56.17′	111.76′	450′	3.49′	
7968	North Cascade at SVLLY										13° 13′ 06.72″	23.17′	46.14′	200′	1.34′	
7969	North Cascade at SVLLY										62° 35′ 36.18″	36.48′	65.55′	60′	10.22′	
7970	North Cascade at SVLLY										14° 11′ 15.42″	49.78′	99.05′	400′	3.09′	
5975	North Frontage at SVLLY										23° 02′ 36.51″	20.38′	40.22′	100′	10.22′	
5976	North Frontage at SVLLY										52° 40′ 57.58″	24.76′	45.97′	50′	3.09′	
5977	North Frontage at SVLLY										14° 16′ 44.35″	50.10′	99.69′	400′	9.74′	
5978	Cottingham at Swiss Valley										13° 28′ 21.89″	23.62′	47.03′	200′	3.49′	
5979	Cottingham at Swiss Valley										62° 29′ 52.80″	30.34′	54.54′	50′	18.69′	
5980	Cottingham at Swiss Valley										14° 01′ 45.31″	49.22′	97.94′	400′	1.34′	

GEOMETRIC DESIGN U.S. 20 MAINLINE AND SIDEROADS

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

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

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

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

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White
Violet	(15)	Temporary barrier rail, Unpinned
Flush Orange	(228)	Temporary barrier rail, Pinned

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

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

●	Channelizing Device		Crash Cushion (Temp or Perm)
✕	Drum		Traffic Signal
◘	Temporary Lane Separator		Flagger
◆	Tubular Marker		Temporary Floodlighting
♦	Channelizer Marker		Traffic Sign
△	Concrete Barrier Marker		Type III Barricade
‹	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout	1	Lane Identification

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

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)

VERNON TWP.
T-88N R-1E
SEC. 12

VERNON TWP.
T-88N R-1E
SEC. 12

REFER TO SHEET J.3 FOR PHASING
TYPICAL AT STA. 944+00

ROAD CLOSED
R11-2
48" x 30"

8930

8935

8940

139

138

+65 Prop.
Type "C" Ent.

137

COTTINGHAM CONNECTOR

8945

8950

8955

SHOULDER DROP OFF
W8-9A
48" x 48"

8960

5968

ROAD WORK AHEAD
W20-1
48" x 48"

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

930

ROAD CLOSED
R11-2
48" x 30"

935

940

ML020

RELOCATED COTTINGHAM RD

945

950

955

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

VERNON TWF
T-88N R-1I
SEC. 13

0 FEET 100

VERNON TWP.
T-88N R-1E
SEC. 13

CONSTRUCTION STAGE 1A

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.4

1:54:22 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

ML020

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

10650 10700 10750 10800 10850 10900 10950

STONE VALLEY DRIVE

ROAD CLOSED
R11-2
48" x 30"

12005 12010 12015 12020 12025

BARRINGTON DRIVE

CHESTERFIELD DR

ROAD CLOSED
R11-2
48" x 30"

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

0 100
FEET

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

CONSTRUCTION STAGE 1A

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.5

1:54:30 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/D0000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 12

VERNON TWP.
T-88N R-2E
SEC. 12

N

8935
8940
8945
8950
8955
8960
8965
8970
139
138
137
930
935
940
945
950
955
960

ROAD CLOSED AHEAD
W20-3
48" x 48"

ROAD CLOSED
R11-2
48" x 30"

ROAD CLOSED
R11-2
48" x 30"

ML020

RELOCATED COTTINGHAM RD

RAMP C

PROPOSED WESTBOUND MAINLINE US 20

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

12'
12'
12'
12'
12'
12'
12'
12'

EB
TP
GV

VERNON TWP.
T-88N R-2E
SEC. 13

VERNON TWP.
T-88N R-2E
SEC. 13

0 FEET 100

CONSTRUCTION STAGE 1B

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.6

1:54:30 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

ROAD CLOSED
R11-2
48" x 30"

VERNON TWP.
T-88N R-2E
SEC. 12

VERNON TWP.
T-88N R-2E
SEC. 12

RELOCATED COTTINGHAM RD

SWISS VALLEY RD

NORTH FRONTAGE RD

RAMP C

RAMP A

PROPOSED WESTBOUND MAINLINE US 20

PROPOSED EASTBOUND MAINLINE US 20

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

ML020

VERNON TWP.
T-88N R-2E
SEC. 13

VERNON TWP.
T-88N R-2E
SEC. 12

0 FEET 100

CONSTRUCTION STAGE 1B

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.7

1:54:37 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020121J03.sht

VERNONTWP.
T-88N R-2E
SEC. 12

VERNON TWP.
T-88N R-2E
SEC. 12

9990
985
9995
990
10000
995
10005
1000
1005
10010
1010
10015
1015
10020
F05
Temporary Drive
Temporary Drive
LOST CANYON RD
NORTH FRONTAGE RD
WESTBOUND MAINLINE US 20
EASTBOUND MAINLINE US 20
PROPOSED WESTBOUND MAINLINE US 20
PROPOSED EASTBOUND MAINLINE US 20
Construct Intersection
During Offpeak Hours
ROAD
CLOSED
R11-2
48" x 30"
NORTH CASCADE ROAD
WEST RIDGE LANE
12'
12'
TABLE MOUND TWP.
T-88N R-2E
SEC. 7
TABLE MOUND TWP.
T-88N R-2E
SEC. 7
0 100
FEET
CONSTRUCTION STAGE 1B

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.8

1:54:40 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/000000000224516/31020121J03.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

1020
1025
1030
1035
1040
1045

PROPOSED WESTBOUND MAINLINE US 20

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

12'
12'

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 100
FEET

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

CONSTRUCTION STAGE 1B

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.9

1:54:48 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 13

VERNON TWP.
T-88N R-2E
SEC. 12

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

MI 020

HIGLEY DR

ROAD WORK AHEAD

W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

CONTRACTOR TO MAINTAIN ACCESS TO PROPERTY

OBLITERATE

ROAD CLOSED

R11-2
48" x 30"

CLOSE

+00 Prop. Type "C" Ent.

+65 Prop. Type "C" Ent.

+50 Prop. Type "C" Ent.

NORTH CASCADE RD EAST

NORTH CASCADE RD WEST

+98 Prop. Type "C" Ent.

+61 Field Ent CLOSE

SWISS VALLEY RD

CONTRACTOR SHALL PRIORITIZE SWISS VALLEY ROAD RECONSTRUCTION TO MINIMIZE CLOSURE PERIOD.

ROAD CLOSED 500 FT

W20-3
48" x 48"

5970
5965
5960
5955
6970
6965
6960
6955
6950
6945
6940
6935

0 100
FEET

CONSTRUCTION STAGE 2A

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.10

1:54:49 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 12

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

980
985
990
995
1000
1005
1010
7980
7985
7990
7995
8000

ML020

WESTBOUND MAINLINE US 20
EASTBOUND MAINLINE US 20

+15 Prop. Type "B" Ent.
+15 Prop. Type "C" Ent.
+70 Prop. Type "C" Ent.
Temporary Access

NORTH CASCADE RD EAST

+99 Prop. Type "C" Ent.
+29 Prop. Type "C" Ent.
+34 Prop. Type "C" Ent.
+79 Prop. Type "C" Ent.
+90 Prop. Type "C" Ent.

ROAD CLOSED
R11-2
48" x 30"

+10 Prop. Type "B" Ent.

+35 Prop. Type "B" Ent.
+91 Prop. Type "B" Ent.
+52 Prop. Type "B" Ent.

12'
12'
12'

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 100
FEET

CONSTRUCTION STAGE 2A

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.11

1:54:54 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 13

VERNON TWP.
T-88N R-2E
SEC. 12

ML020

HIGLEY DR

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

OBLITERATE

6930

6935

6945

6950

6955

ROAD CLOSED
R11-2
48" x 30"

N CASCADE RD WEST

CONTRACTOR TO MAINTAIN ACCESS TO PROPERTY

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

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

ROAD CLOSED
R11-2
48" x 30"

ROAD WORK AHEAD
W20-1
48" x 48"
Sta. 608+00
(2 EA)
RELOCATED

ROAD CLOSED TO THRU TRAFFIC
R11-2
60" x 30"

VERNON TWP.
T-88N R-2E
SEC. 13

0 100 FEET

VERNON TWP.
T-88N R-2E
SEC. 13

CONSTRUCTION STAGE 2A

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.12

1:54:55 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 12

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

980
985
990
995
1000
1005
7970
7975
7980
7985
7990
7995

ROAD CLOSED
R11-2
48" x 30"

NORTH CASCADE RD EAST

ROAD CLOSED
R11-2
48" x 30"

WESTBOUND MAINLINE US 20
EASTBOUND MAINLINE US 20

ML020

Temporary Access

ROAD CLOSED
R11-2
48" x 30"

ROAD CLOSED
R11-2
48" x 30"

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 FEET 100

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

CONSTRUCTION STAGE 2B

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.13

1:54:57 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020121J03.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TOWER DRIVE

TOWER DRIVE

1025

1030

1035

1040

1045

1050

2015

2020

2025

2030

U.S. 20

U.S. 20

SOUTH FRONTAGE ROAD

SOUTH FRONTAGE RD

ML020

WESTBOUND MAINLINE US 20

U.S. 20

EASTBOUND MAINLINE US 20

12'
12'

12'
12'
12'

12'
12'

Temporary Entrance

+50 Prop. Type "B" Ent.

+68 Prop. Type "B" Ent.

+00 Prop. Type "B" Ent.

Temporary Entrance

Sta. 2032+35.00
END CONSTRUCTION

Stage Construct Entrance using Full Depth Patch

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 100
FEET

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

CONSTRUCTION STAGE 2B

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.14

1:54:57 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 12

N

SIGN

Shed

EB

Pool

Ho.

ROAD WORK AHEAD
W20-1
48" x 48"

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

920

925

930

935

940

945

947+00

ROAD WORK AHEAD
W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

SPEED LIMIT 55
R2-1
48" x 60"

55 MPH
W1-4BR-48
W13-1P-24

55 MPH
W1-4BR-48
W13-1P-24
(2 EA)
STA 923+99

12'

TP

GV

M

0 FEET 100

VERNON TWP.
T-88N R-2E
SEC. 13

CONSTRUCTION STAGE 3A

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.15

1:55:02 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 12

VERNON TWP.
T-88N R-2E
SEC. 12

N

ROAD WORK AHEAD

W20-1
48" x 48"

W1-6
48" x 24"

55 MPH

W1-4BR-48
W13-1P-24

55 MPH

W1-4BR-48
W13-1P-24
(2 EA)
STA 923+99

55 MPH

W1-4BL-48
W13-1P-24
(2 EA)
STA 923+99

ML020

PROPOSED WESTBOUND MAINLINE US 20

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

947+00

930 935 940 945 950 955 960

Mobile Home
Pool
Ho.
Shed
Barn
Conc.
SIGN
EB
TP
GV
MM
WV
BB

0 100
FEET

VERNON TWP.
T-88N R-2E
SEC. 13

VERNON TWP.
T-88N R-2E
SEC. 13

CONSTRUCTION STAGE 3A

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.16

1:54:59 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 12

VERNON TWP.
T-88N R-2E
SEC. 13

PROPOSED WESTBOUND MAINLINE US 20

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

ML020

947+00

94

95

96

965

970

975

W1-6
48" x 24"

55 MPH
W1-4BR-48
W13-1P-24
(2 EA)
STA 923+99

55 MPH
W1-4BL-48
W13-1P-24
(2 EA)
STA 923+99

55 MPH
W1-4BL-48
W13-1P-24

SPEED LIMIT 55
R2-1
48" x 60"

Mobile Home
Mobile Home

Ho.
Barn
Conc.
Shed
Gar.

0 FEET 100

CONSTRUCTION STAGE 3A

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.17

1:55:04 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 12

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

ML020

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

CONSTRUCT 5' WIDENING
AND OVERLAY EXISTING PAVEMENT

CONSTRUCT TEMPORARY PAVEMENT
DURING OFFPEAK HOURS

SOUTH FRONTAGE ROAD

NORTH CASCADE RD EAST

ROAD
CLOSED
R11-2
48" x 30"

ROAD
CLOSED
R11-2
48" x 30"

7980
7985
7990
7995
8000
8005
8010
8015

0 100
FEET

CONSTRUCTION STAGE 3A

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.18

1:55:05 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

1025 1030 1035 1040 1045 1050

2020 2025 2030 2015

35+00

CLOSE

CLOSE

CLOSE

PROPOSED WESTBOUND MAINLINE US 20

ML020

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

12'
12'

12'
12'

+50 Prop. Type "B" Ent.

+68 Prop. Type "B" Ent.

+00 Prop. Type "B" Ent.

CONSTRUCT TEMPORARY PAVEMENT
DURING OFFPEAK HOURS

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 100
FEET

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

CONSTRUCTION STAGE 3A

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.19

1:55:12 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

CONSTRUCTED BY OTHERS

1055 1060 1065 1070 1075 1080 1085

55 MPH
W1-4BL-48
W13-1P-24
(2 EA)
STA 923+99

SPEED LIMIT 55
R2-1
48" x 60"

ROAD WORK AHEAD
W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

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

0 100 FEET

CONSTRUCTION STAGE 3A

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.20

1:55:13 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 12

N

ROAD WORK AHEAD

W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

915 920 925 930 935 940

END ROAD WORK

G20-2A
48" x 24"

ML020

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

ROAD WORK AHEAD

W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

SPEED LIMIT 55

R2-1
48" x 60"
Sta. 595+00
(2 EA)

55 MPH

W1-4BR-48
W13-1P-24
(2 EA)
STA 923+99

ROAD WORK AHEAD

W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

0 FEET 100

VERNON TWP.
T-88N R-2E
SEC. 13

CONSTRUCTION STAGE 3B

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.21

1:55:14 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 12

VERNON TWP.
T-88N R-2E
SEC. 12

N

ROAD WORK AHEAD

W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

ML020

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

PROPOSED EASTBOUND MAINLINE US 20

55 MPH

W1-4BR-48
W13-1P-24
(2 EA)
STA 923+99

ROAD WORK AHEAD

W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

55 MPH

W1-4BL-48
W13-1P-24
(2 EA)
STA 923+99

VERNON TWP.
T-88N R-2E
SEC. 13

VERNON TWP.
T-88N R-2E
SEC. 13

0 FEET 100

CONSTRUCTION STAGE 3B

FILE NO.	ENGLISH	DESIGN TEAM		COUNTY	PROJECT NUMBER	SHEET NUMBER J.22	

1:55:14 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 12

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

ROAD WORK AHEAD

W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

975
980
985
990
995
1000
1005

ML020

WESTBOUND MAINLINE US 20

PROPOSED EASTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

55 MPH

W1-4R
48" x 48"

WRONG WAY

R5-1A
42" x 30"

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 100
FEET

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

CONSTRUCTION STAGE 3B

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.23

1:55:17 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

1025
1030
1035
1040
1020
1015

ML020

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

PROPOSED EASTBOUND MAINLINE US 20

12'

WRONG WAY
R5-1A
42" x 30"

RIGHT IN/RIGHT OUT

WRONG WAY
R5-1A
42" x 30"

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 100
FEET

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

CONSTRUCTION STAGE 3B

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.24

1:55:19 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020121J03.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

CONSTRUCTED BY OTHERS

1035

1040

1045

1050

1055

1060

ML020

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

12'
12'

WRONG WAY

R5-1A
42" x 30"

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

0 100
FEET

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

CONSTRUCTION STAGE 3B

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.25

1:55:19 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020121J03.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

CONSTRUCTED BY OTHERS

1045 1050 1055 1060 1065 1070

ROAD WORK AHEAD

W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

12' 12'

END ROAD WORK

G20-2A
48" x 24"

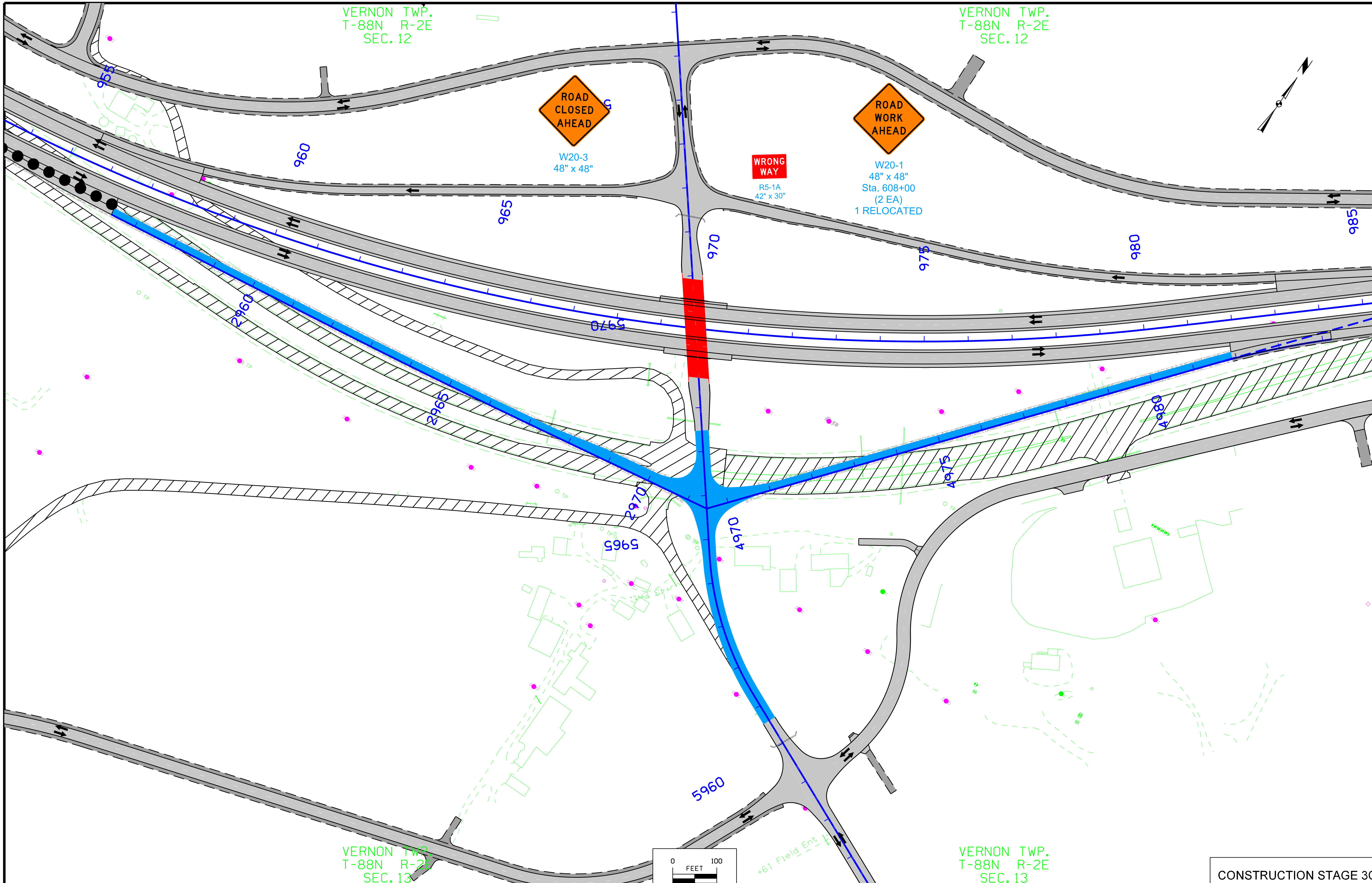
TABLE MOUND TWP.
T-88N R-2E
SEC. 6

0 100
FEET

CONSTRUCTION STAGE 3B

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.26

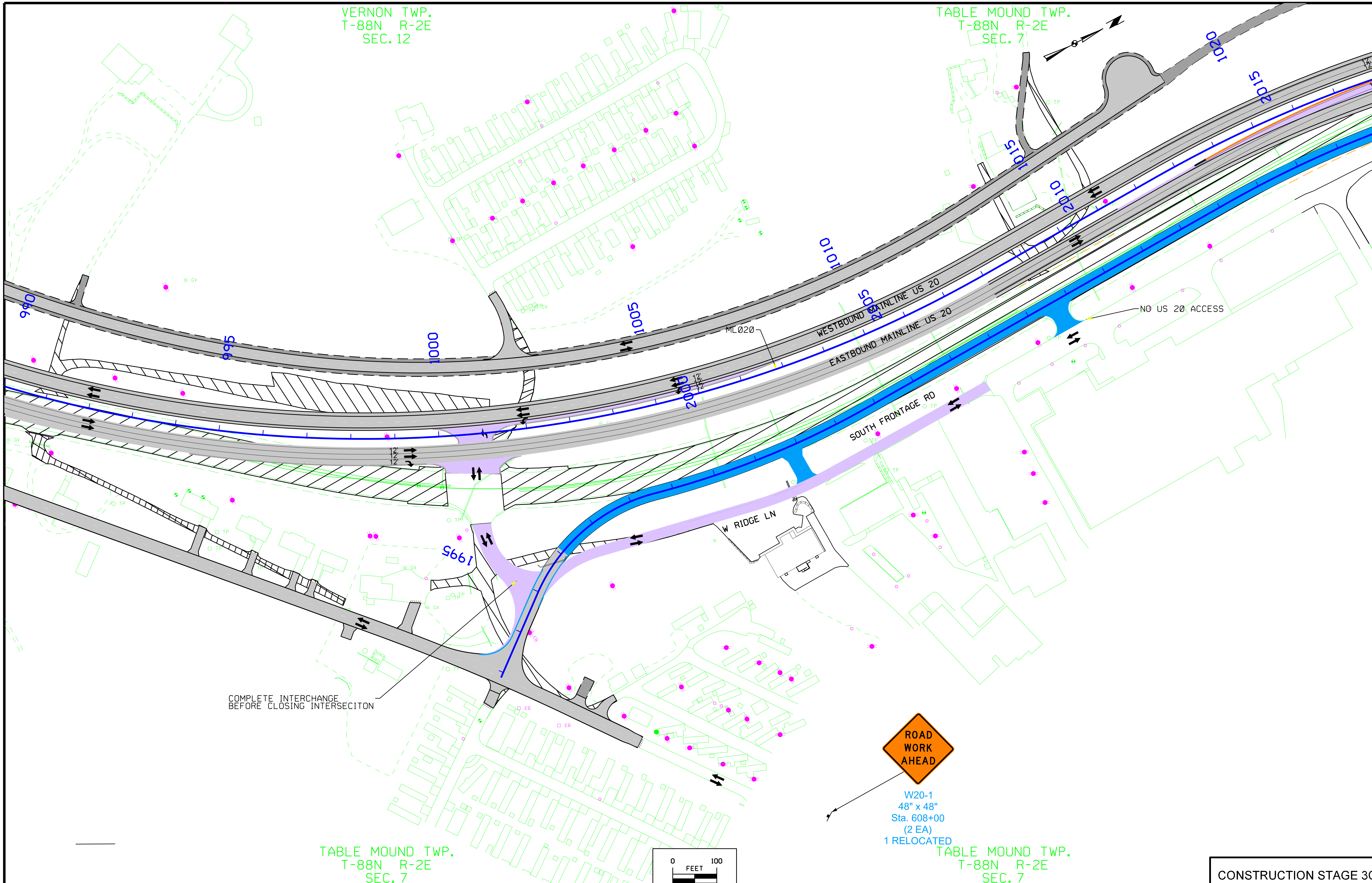
1:55:21 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht



CONSTRUCTION STAGE 3C

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.27

1:55:21 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/000000000224516/31020121J03.sht



CONSTRUCTION STAGE 3C

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.28

1:55:28 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/000000000224516/31020121J03.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

1025 1030 1035 1040 1045 1050

2020 2025 2030

ML020

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

SOUTH FRONTAGE RD

SUBSTAGE 3C.3

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 FEET 100

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

CONSTRUCTION STAGE 3C

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.29

1:55:29 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 12

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

ML020

NO US 20 ACCESS

SOUTH FRONTAGE RD

W RIDGE LN

COMPLETE INTERCHANGE
BEFORE CLOSING INTERSECITON

ROAD WORK AHEAD

W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 100
FEET

CONSTRUCTION STAGE 3C

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.30

1:55:30 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020121J03.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

1005
1010
1015
1020
1025
1030
1035
1040
1045
1050
2020
2025
2030

ML020

WESTBOUND MAINLINE US 20
EASTBOUND MAINLINE US 20
PROPOSED EASTBOUND MAINLINE US 20

12'
12'
12'
12'

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 FEET 100

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

CONSTRUCTION STAGE 3C

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.31

1:55:31 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020121J03.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

CONSTRUCTED BY OTHERS

1045 1050 1055 1060 1065 1070

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

12'
12'

12'
12'

ROAD WORK AHEAD

W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

END ROAD WORK

G20-2A
48" x 24"

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

0 100
FEET

CONSTRUCTION STAGE 3C

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.32

1:55:32 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/000000000224516/31020121J03.sht

VERNON TWP.
T-88N R-2E
SEC. 12

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

ML020

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

SHOULDER DROP OFF

W8-9A
48" x 48"

ROAD WORK AHEAD

W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

0 FEET 100

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.33

1:55:32 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020121J03.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

1015
1020
1025
1030
1035
1040
1045
1050

ML020

SHOULDER DROP OFF
W8-9A
48" x 48"

ROAD WORK AHEAD
W20-1
48" x 48"
Sta. 608+00
(2 EA)
1 RELOCATED

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

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

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 100
FEET

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

CONSTRUCTION STAGE 3C

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER J.34

1:55:33 PM 2/16/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020121J03.sht

VERNON TWP.
T-88N R-1E
SEC. 12

VERNON TWP.
T-88N R-1E
SEC. 12

POT Sta 955+50.00 71.00' LT =
POT Sta 3955+50.00
Point "G" Modified Standard Road Plan PV-411

Curve 3000-1 Data
Δ = 23° 02' 03.79" (LT)
T = 305.65
L = 603.04
R = 1,500.00
E = 30.82
e = 6.0%

P.O.C. Sta 956+88.71

PC Sta 3955+50.00

PT Sta 3961+53.04

3960

3965

Curve 3000-1

RAMP C

RAMP A

Relocated Cottingham Road

North Frontage Road

Equation:
POT Sta 3968+91.12 Ramp C Bk=
POT Sta 1969+54.70 Ramp A Ahd=
POT Sta 5973+00.00 Swiss Valley Road

180' 15:1 Taper

1080' 50:1 Taper

480' 15:1 Taper

26'

50'

12'

16'

22°24'29.11"

93°40'32.56"

80°00'00.00"

100°00'00.00"

POT Sta 956+40.00 91' RT =
POT Sta 2956+40.00
Point "M" Modified Standard Road Plan PV-410

2960

PC Sta 2961+64.49

PT Sta 2966+84.69

RAMP B

Curve 2000-1

2965

PT Sta 2964+27.10

POT Sta 969+79.84 =
POT Sta 5969+79.99

61°00'00.00"

120' 15:1 Taper

24'

RAMP D

2970

SWISS VALLEY ROAD

Curve 2000-1 Data
Δ = 1° 30' 16.50" (LT)
T = 262.61
L = 525.20
R = 20,000.00
E = 1.72
e = NC

Equation:
POT Sta 2971+47.52 Ramp B Bk=
POT Sta 4969+49.66 Ramp D Ahd=
POT Sta 5965+70.14 Swiss Valley Road

VERNON TWP.
T-88N R-1E
SEC. 13

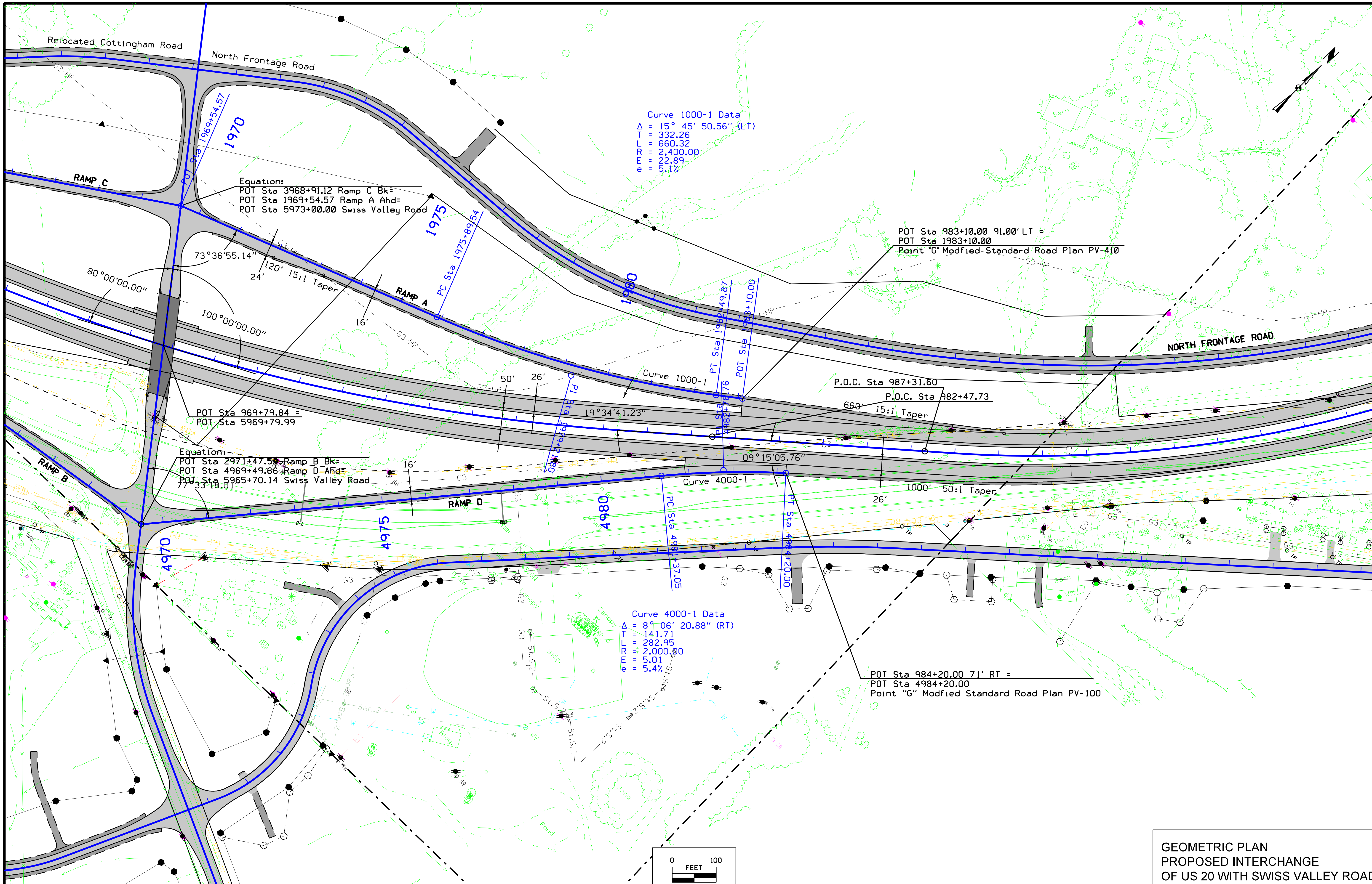
VERNON TWP.
T-88N R-1E
SEC. 13

0 FEET 100

GEOMETRIC PLAN
PROPOSED INTERCHANGE
OF US 20 WITH SWISS VALLEY ROAD

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER K.1

8:47:40 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183K01.sht



Relocated Cottingham Road
North Frontage Road
RAMP C
RAMP A
RAMP B
RAMP D
NORTH FRONTAGE ROAD
Equation:
POT Sta 3968+91.12 Ramp C Bk=
POT Sta 1969+54.57 Ramp A Ahd=
POT Sta 5973+00.00 Swiss Valley Road
Curve 1000-1 Data
Δ = 15° 45' 50.56" (LT)
T = 332.26
L = 660.32
R = 2,400.00
E = 22.89
e = 5.1%
POT Sta 983+10.00 91.00' LT =
POT Sta 1983+10.00
Point "G" Modfied Standard Road Plan PV-410
POT Sta 1969+54.57
PC Sta 1975+89.54
PT Sta 1982+49.87
POT Sta 1983+10.00
1970
1975
1980
73°36'55.14"
80°00'00.00"
100°00'00.00"
120' 15:1 Taper
24'
16'
50'
26'
Curve 1000-1
19°34'41.23"
P.O.C. Sta 987+31.60
P.O.C. Sta 982+47.73
660' 15:1 Taper
POT Sta 969+79.84 =
POT Sta 5969+79.99
Equation:
POT Sta 2971+47.58 Ramp B Bk=
POT Sta 4969+49.66 Ramp D Ahd=
POT Sta 5965+70.14 Swiss Valley Road
77°33'18.01"
16'
09°15'05.76"
Curve 4000-1
1000' 50:1 Taper
26'
4970
4975
4980
PC Sta 4981+37.05
PT Sta 4984+20.00
Curve 4000-1 Data
Δ = 8° 06' 20.88" (RT)
T = 141.71
L = 282.95
R = 2,000.00
E = 5.01
e = 5.4%
POT Sta 984+20.00 71' RT =
POT Sta 4984+20.00
Point "G" Modfied Standard Road Plan PV-100
0 FEET 100

GEOMETRIC PLAN
PROPOSED INTERCHANGE
OF US 20 WITH SWISS VALLEY ROAD

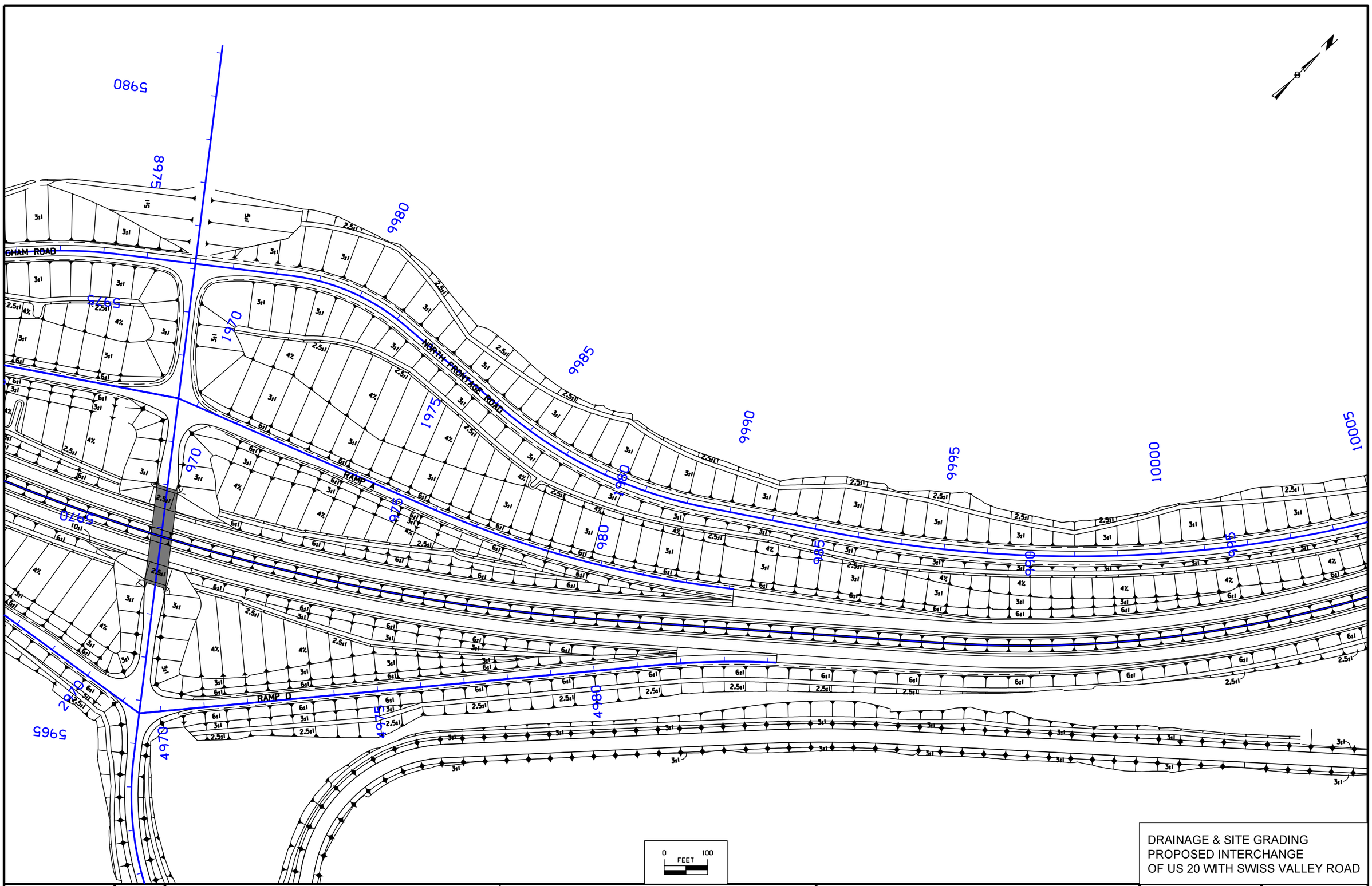
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER K.2

8:47:43 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/000000000224516/31020183K01.sht

DRAINAGE & SITE GRADING
PROPOSED INTERCHANGE
OF US 20 WITH SWISS VALLEY ROAD

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER K.3

8:47:44 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/000000000224516/31020183K01.sht



DRAINAGE & SITE GRADING
PROPOSED INTERCHANGE
OF US 20 WITH SWISS VALLEY ROAD

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER K.4	

8:47:48 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183K01.sht

VERNON TWP.
T-88N R-1E
SEC. 12

VERNON TWP.
T-88N R-1E
SEC. 12

VERNON TWP.
T-88N R-1E
SEC. 12

VERNON TWP.
T-88N R-1E
SEC. 12

POT Sta 1969+54.57

1970

Equation:
POT Sta 3968+91.12 Ramp C Bk=
POT Sta 1969+54.57 Ramp A Ahd=
POT Sta 5973+00.00 Swiss Valley Road

1975

PC Sta 1975+89.54

1980

Curve 1000-1 Data
Δ = 15° 45' 50.56" (LT)
T = 332.26
L = 660.32
R = 2,400.00
E = 22.89
e = 5.1%

POT Sta 983+10.00 91.00' LT =
POT Sta 1983+10.00
Point "G" Modfied Standard Road Plan PV-410

PT Sta 1983+49.87

POT Sta 1983+10.00

BEGIN CONSTRUCTION
Sta 1969+54.57

RAMP A

G3-HP

END CONSTRUCTION
Sta 1983+10.00

P.O.C. Sta 982+47.73

PI Sta 1979+21.80

0 FEET 100

RAMP A

BEGIN CONSTRUCTION
Sta 1969+70.73
Elev 1148.35

1,14

VPI +25.000
Elv 1,146.69
Len 150.00 ft
K = 38

-1.080%

-4.987%

-4.987%

-1.020%

1,113.77

END CONSTRUCTION
Sta 1983+10.00
Elev 1113.73

VPI +50.000
Elv 1,120.50
Len 650.00 ft
K = 164

1150
1140
1130
1120
1110
1100
1090
1080

See North Frontage Rd Right Ditch

See ML Left Ditch

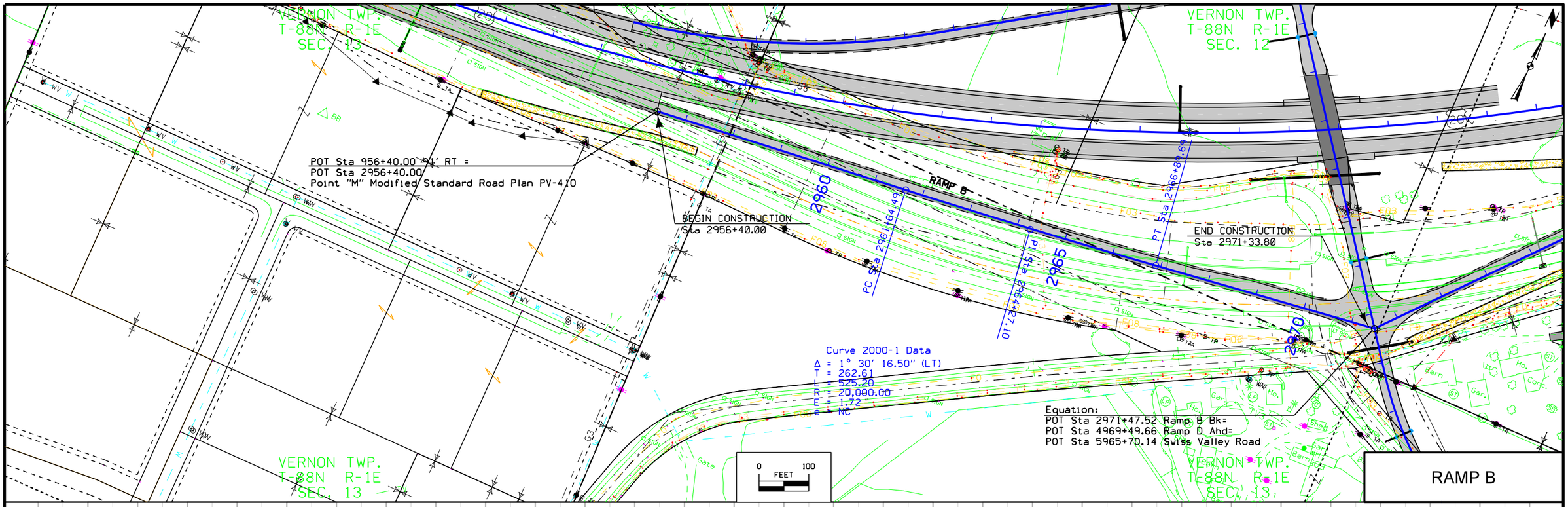
Lt
Rt

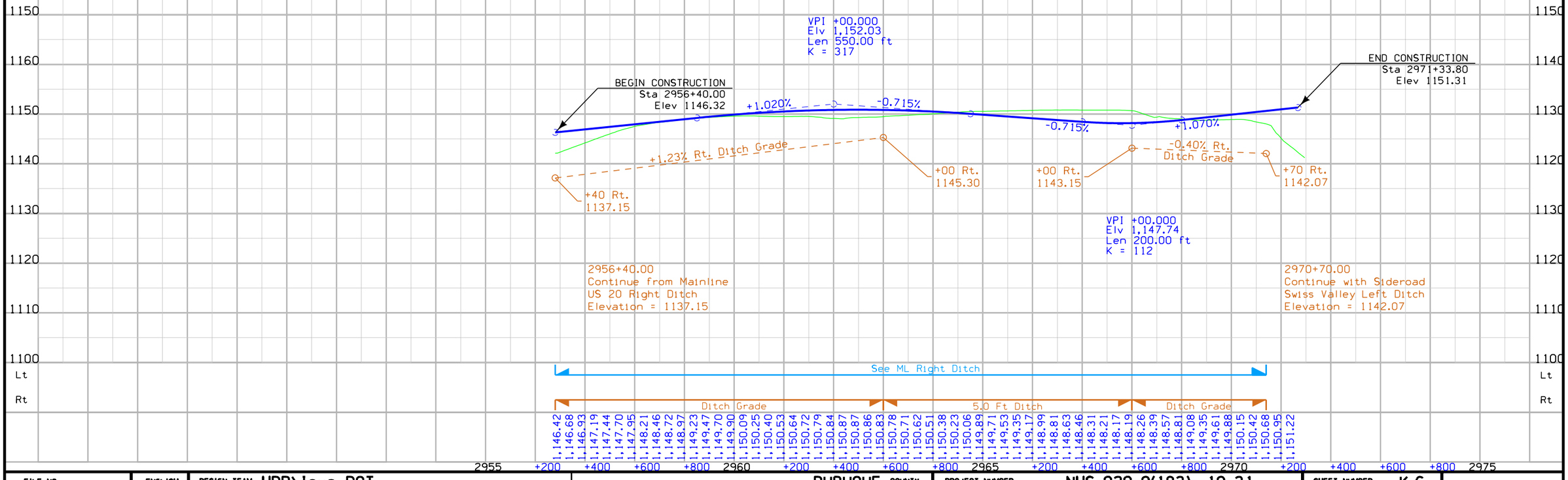
1,148.31 1,148.04 1,147.77 1,147.50 1,147.14 1,146.63 1,145.95 1,145.11 1,144.11 1,142.94 1,141.70 1,140.45 1,139.20 1,137.96 1,136.71 1,135.48 1,134.29 1,133.14 1,132.03 1,130.95 1,129.92 1,128.92 1,127.96 1,127.03 1,126.15 1,125.30 1,124.50 1,123.73 1,122.99 1,122.30 1,121.64 1,121.03 1,120.45 1,119.91 1,119.40 1,118.94 1,118.51 1,118.12 1,117.77 1,117.46 1,117.19 1,116.93 1,116.68 1,116.42 1,116.17 1,115.91 1,115.66 1,115.40 1,115.15 1,114.89 1,114.64 1,114.38 1,114.13 1,113.87

1970 +200 +400 +600 +800 1975 +200 +400 +600 +800 1980 +200 +400 +600 +800

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER K.5

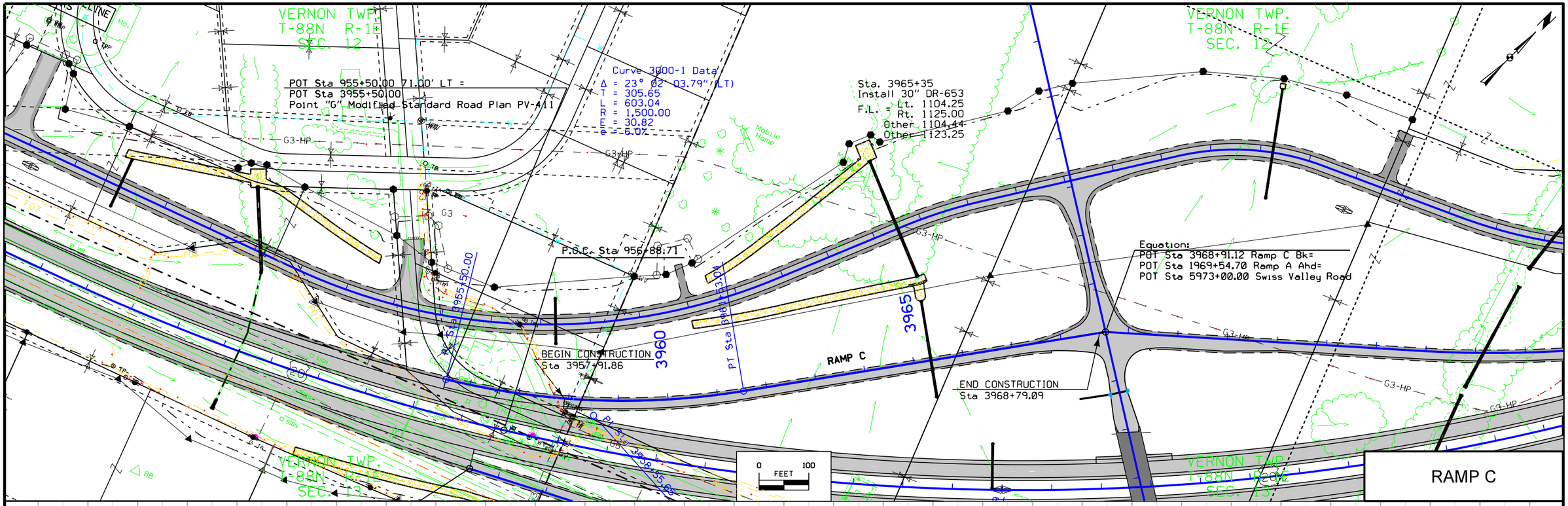
8:47:50 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183K01.sht

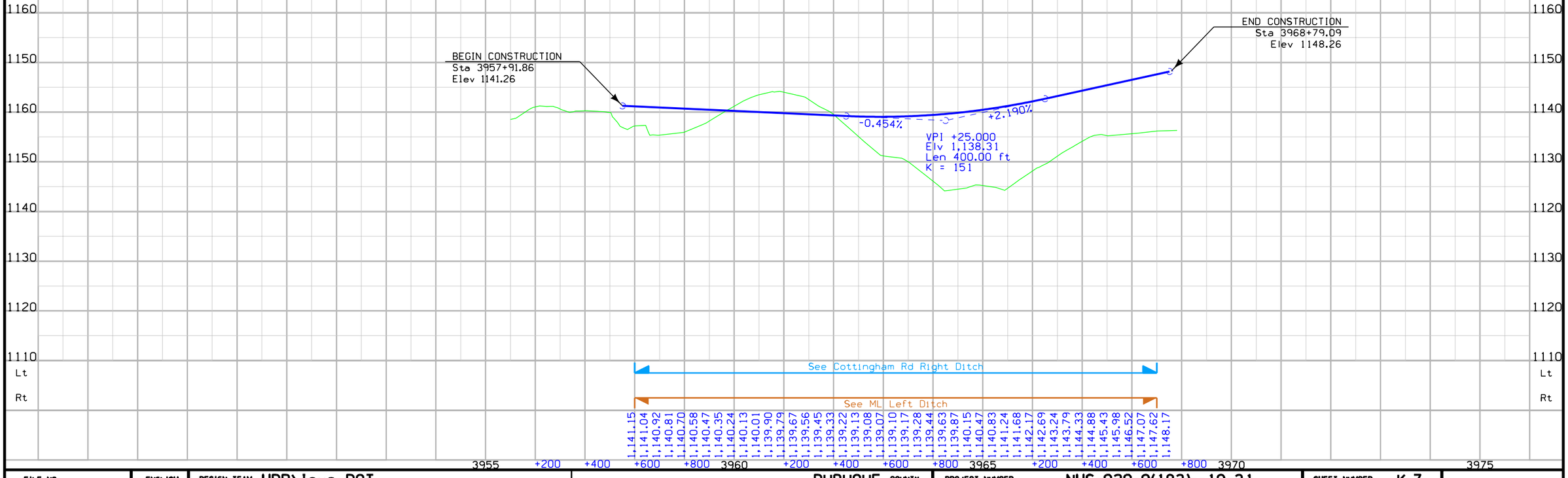




FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER K.6

8:47:52 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183K01.sht





FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER K.7

8:47:56 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183K01.sht

VERNON TWP.
T-88N R-1E
SEC. 12

VERNON TWP.
T-88N R-1E
SEC. 12

VERNON TWP.
T-88N R-1E
SEC. 12

Equation:
POT Sta 2971+47.58 Ramp B Bk=
POT Sta 4969+49.66 Ramp D Ahd=
POT Sta 5965+70.14 Swiss Valley Road

RAMP D

P.O.C. Sta 987+31.60

PI Sta 4982+78.76

4975

4980

BEGIN CONSTRUCTION
Sta 4969+49.66

END CONSTRUCTION
Sta 4981+91.34

PC Sta 4981+37.05

PT Sta 4988+20.00

Curve 4000-1 Data
Δ = 8° 06' 20.88" (RT)
T = 141.71
L = 282.95
R = 2,000.00
E = 5.01
e = 5.4%

POT Sta 984+20.00 71' RT =
POT Sta 4984+20.00
Point "G" Modfied Standard Road Plan PV-100

Sta 4974+90
Install 30" x 130' DR-611
F.L. = Lt. 1111.13
Rt. 1119.57
Other 1111.13

0 100 FEET

RAMP D

BEGIN CONSTRUCTION
Sta 4969+61.95
Elev 1151.26

VPI +50.001
Elv 1,149.81
Len 150.00 ft
K = 65

-1.649%

-3.967%

+20 Rt.
1140.80

-4.50% Rt. Ditch Grade

+90 Rt.
1119.65

+3.20% Rt.
Ditch Grade

+00 Rt.
1123.17

-3.967%

-0.980%

VPI +50.001
Elv 1,118.07
Len 500.00 ft
K = 167

END CONSTRUCTION
Sta 4981+91.34
Elev 1114.73

1160 1150 1140 1130 1120 1110 1100 1090

Lt

Rt

See ML Right Ditch

Ditch Grade

5.0 Ft Ditch

1,151.04 1,150.58 1,150.03 1,149.37 1,148.62 1,147.78 1,146.83 1,145.84 1,144.85 1,143.86 1,142.86 1,141.87 1,140.88 1,139.89 1,138.90 1,137.91 1,136.91 1,135.92 1,134.93 1,133.94 1,132.95 1,131.96 1,130.96 1,129.97 1,128.98 1,127.99 1,127.02 1,126.08 1,125.18 1,124.32 1,123.50 1,122.71 1,121.96 1,121.25 1,120.58 1,119.94 1,119.34 1,118.78 1,118.25 1,117.76 1,117.31 1,116.90 1,116.52 1,116.19 1,115.88 1,115.62 1,115.38 1,115.13 1,114.89

4970 +200 +400 +600 +800 4975 +200 +400 +600 +800 4980 +200 +400

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER K.8

8:47:59 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183K01.sht

5975

SWISS VALLEY ROAD

BEGIN CURVE 24281
P.O.T. STA. 5974+60.30 (SWISS VALLEY RD.)
RT. 12.00 FT. EL.

END CURVE 24323
P.O.T. STA. 5974+09.75 (SWISS VALLEY RD.)
LT. 12.00 FT. EL.

BEGIN CURVE 24323
P.O.T. STA. 5973+58.52 (SWISS VALLEY RD.)
LT. 18.67 FT. EL.

SRRAMPC RET3

5974

CURVE 24281

CURVE 24323

BEGIN CURVE 24322
P.O.T. STA. 3968+35.02 (RAMP C)
LT. 19.30 FT. EL.

BEGIN CURVE 24282
P.O.T. STA. 5973+31.77 (SWISS VALLEY RD.)
RT. 28.80 FT. EL.

SRRAMPA RET2

BEGIN CURVE 24321
P.O.T. STA. 3967+12.27 (RAMP C)
LT. 0.00 FT. EL.

CURVE 24322

P.I. STA. 1969+54.70 (RAMP A)
= P.I. STA. 3968+91.12 (RAMP C)
= P.O.T. STA. 5973+00+00 (SWISS VALLEY RD.)

3967

CURVE 24321

3968

BEGIN CURVE 24283
P.O.T. STA. 1970+29.15 (RAMP A)
LT. 2.49 FT. EL.

86°19'27.44"

106°23'04.86"

1970

CURVE 24282

END CURVE 24283
P.O.T. STA. 1970+83.76 (RAMP A)
LT. 0.00 FT. EL.

5973

RAMP C

CURVE 24283

93°40'32.56"

73°36'55.14"

1971

BEGIN CURVE 24331
P.O.T. STA. 3967+14.34 (RAMP C)
RT. 16.00 FT. EL.

CURVE 24331

1972

END 4' GRANULAR SHOULDER
BEGIN CURB

BEGIN CURVE 24332
P.O.T. STA. 5972+65.08 (SWISS VALLEY RD.)
LT. 35.05 FT. EL.

CURVE 24332

RAMP A

END CURVE 24332
P.O.T. STA. 5972+36.95 (SWISS VALLEY RD.)
LT. 15.50 FT. EL.

SRRAMPC RET4

5972

CURVE 24292

CURVE 24293

END CURB
BEGIN 4'
GRANULAR SHOULDER

END CURVE A-3
P.O.T. STA. 1970+84.72 (RAMP A)
RT. 24.00 FT. EL.

CURVE 24291

BEGIN CURVE A-3
P.O.T. STA. 1970+32.97 (RAMP A)
RT. 30.81 FT. EL.

STA. 1971+94.60
RT. 24.00 FT.
BEGIN 15:1 TAPER

SRRAMPA RET1

BEGIN CURVE A-2
P.O.T. STA. 5972+28.07 (SWISS VALLEY RD.)
RT. 27.84 FT. EL.

STA. 1973+14.60
RT. 16.00 FT.
END 15:1 TAPER

BEGIN CURVE A-1
P.O.T. STA. 5971+86.85 (SWISS VALLEY RD.)
RT. 15.50 FT. EL.

0 20
FEET

GEOMETRIC & STAKING DETAILS
INTERSECTION OF RAMP A, C
AT SWISS VALLEY ROAD
AT STA. 969+20.35 ML

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER K.9

8:48:00 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183K01.sht

SRRAMPB RET3

STA. 2967+62.30
LT. 16.00 FT.
BEGIN 15:1 TAPER

STA. 2968+82.30
LT. 24.00 FT.
END 15:1 TAPER

BEGIN CURVE 24301
P.O.T. STA. 2970+07.99 (RAMP B)
LT. 24.00 FT. EL.

BEGIN CURVE 24302
P.O.T. STA. 2970+54.94 (RAMP B)
LT. 33.15 FT. EL.

BEGIN CURVE 24303
P.O.T. STA. 5966+63.96 (SWISS VALLEY RD.)
LT. 25.30 FT. EL.

END CURVE 24303
P.O.T. STA. 5967+01.03 (SWISS VALLEY RD.)
LT. 15.50 FT. EL.

END 4' GRANULAR SHOULDER
BEGIN CURB

CURVE 24301

CURVE 24302

CURVE 24303

RAMP B

3966
3967
3968
3969

5968
5967
5966
5965

BEGIN CURVE 24311
P.O.T. STA. 2970+35.39 (RAMP B)
RT. 0.00 FT. EL.

CURVE 24311

BEGIN CURVE 24312
P.O.T. STA. 2970+86.33 (RAMP B)
RT. 4.36 FT. EL.

CURVE 24312

END 6' GRANULAR SHOULDER
BEGIN CURB

BEGIN CURVE 24313
P.O.T. STA. 2971+26.82 (RAMP B)
RT. 24.43 FT. EL.

SRRAMPB RET4

CURVE 24313

END CURVE 24313
P.O.T. STA. 5964+56.05 (SWISS VALLEY RD.)
LT. 15.50 FT. EL.

SWISS VALLEY ROAD

61°00'00.00"
77°33'18.01"
119°00'00.00"
102°26'41.99"

SRRAMPD RET2

BEGIN CURVE 24341
P.O.T. STA. 5966+55.37 (SWISS VALLEY RD.)
RT. 15.50 FT. EL.

CURVE 24341

BEGIN CURVE 24342
P.O.T. STA. 4970+12.01 (RAMP D)
LT. 32.56 FT. EL.

CURVE 24342

END CURB
BEGIN 4'
GRANULAR SHOULDER

END CURVE 24342
P.O.T. STA. 4971+39.64 (RAMP D)
LT. 16.00 FT. EL.

RAMP D

4970
4971
4972

CURVE 24352

END CURVE 24352
P.O.T. STA. 4971+08.15 (RAMP D)
RT. 0.00 FT. EL.

END CURB
BEGIN 6'
GRANULAR SHOULDER

BEGIN CURVE 24352
P.O.T. STA. 4970+03.72 (RAMP D)
RT. 13.87 FT. EL.

P.I. STA. 2971+47.52 (RAMP B)
= P.I. STA. 4969+49.66 (RAMP D)
= P.O.T. STA. 5965+70.14 (SWISS VALLEY RD.)

CURVE 24351

BEGIN CURVE 24351
P.O.T. STA. 5965+01.77 (SWISS VALLEY RD.)
RT. 15.50 FT. EL.

SRRAMPD RET1

0 20
FEET

GEOMETRIC & STAKING DETAILS
INTERSECTION OF RAMP B, D
AT SWISS VALLEY ROAD
AT STA. 970+45.43 ML

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER K.10

8:48:02 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020183K01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 11

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

8938

8939

8940

8941

BEGIN CURVE
P.O.T. STA. 8938+70.89 (COTTINGHAM RD.)
RT. 12.00 FT. EL. 1101.66

CURVE SRCDC_RET_2-2

BEGIN CURVE
P.O.T. STA. 8938+84.40 (COTTINGHAM RD.)
RT. 14.00 FT. EL. 1101.73

CURVE SRCDC_RET_2-1

BEGIN CURVE
P.O.T. STA. 138+02.04 (COTTINGHAM RD. CONNECTOR)
LT. 31.18 FT. EL. 1101.06

6:1 TAPER

BEGIN CURVE
P.O.T. STA. 138+31.80 (COTTINGHAM RD. CONNECTOR)
LT. 12.00 FT. EL. 1100.25

90°00'00"

POC STA. 8939+45.00 COTTINGHAM ROAD =
POT STA. 139+45.00 COTTINGHAM ROAD CONNECTOR

24'

12' 12'

COTTINGHAM ROAD CONNECTOR

COTTINGHAM ROAD

BEGIN CURVE
P.O.T. STA. 138+75.63 (COTTINGHAM RD. CONNECTOR)
RT. 12.00 FT. EL. 1100.23

CURVE SRCDC_RET_3-3

BEGIN CURVE
P.O.T. STA. 8939+90.39 (COTTINGHAM RD.)
RT. 22.89 FT. EL. 1100.94

CURVE SRCDC_RET_3-2

BEGIN CURVE
P.O.T. STA. 8940+34.42 (COTTINGHAM RD.)
RT. 14.00 FT. EL. 1101.01

CURVE SRCDC_RET_3-1

BEGIN CURVE
P.O.T. STA. 8940+68.00 (COTTINGHAM RD.)
RT. 12.00 FT. EL. 1100.88

0 20
FEET

137

138

SIGN

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

GEOMETRIC DETAILS
INTERSECTION OF COTTINGHAM ROAD
WITH COTTINGHAM ROAD CONNECTOR

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.1

2:03:12 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 11

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

8938

8938+70.89
Rt 14.00
1,101.82

8938+70.89
Rt 62.00

8938+84.40
Rt 14.00
1,101.73

8938+70.89
Rt 12.00
1,101.86

8949+13.92
Lt 1039.00

CURVE SRCDC_RET_2-1

CURVE SRCDC_RET_2-2

139+02.04
Lt 31.18
1,101.06

139

8939

138+31.80
Lt 12.00
1,100.25

138

0.70%
40.89'

8939+30.00
Rt 12.00
1,101.57

8939+45.00
Rt 12.00
1,101.49

2.00%
16.00'

1.53%
27.37'

2.07%
30.00'

0.53%
15.00'

1,100.47

2.00%
12.00'

1,100.89

2.00%
20.18'

0.47%
15.00'

8939+60.00
Rt 12.00
1,101.42

138+75.63
Rt 12.00
1,100.23

8940

8940+03.06
Rt 71.11

0.26%
288.0'

8939+90.39
Rt 22.89
1,100.94

8949+13.92
Lt 1039.00

CURVE SRCDC_RET_3-3

0.44%
190.63'

137

CURVE SRCDC_RET_3-1

8940+68.01
Rt 412.00

8940+34.42
Rt 14.00
1,101.01

2.00%
12.00'

1.40%
12.00'

8940+68.00
Rt 12.00
1,100.88

CURVE SRCDC_RET_3-2

8940+68.00
Rt 14.00
1,100.84

8941

136+65.00
Lt 12.00
1,100.80

136+65.00
Rt 12.00
1,100.80

SIGN

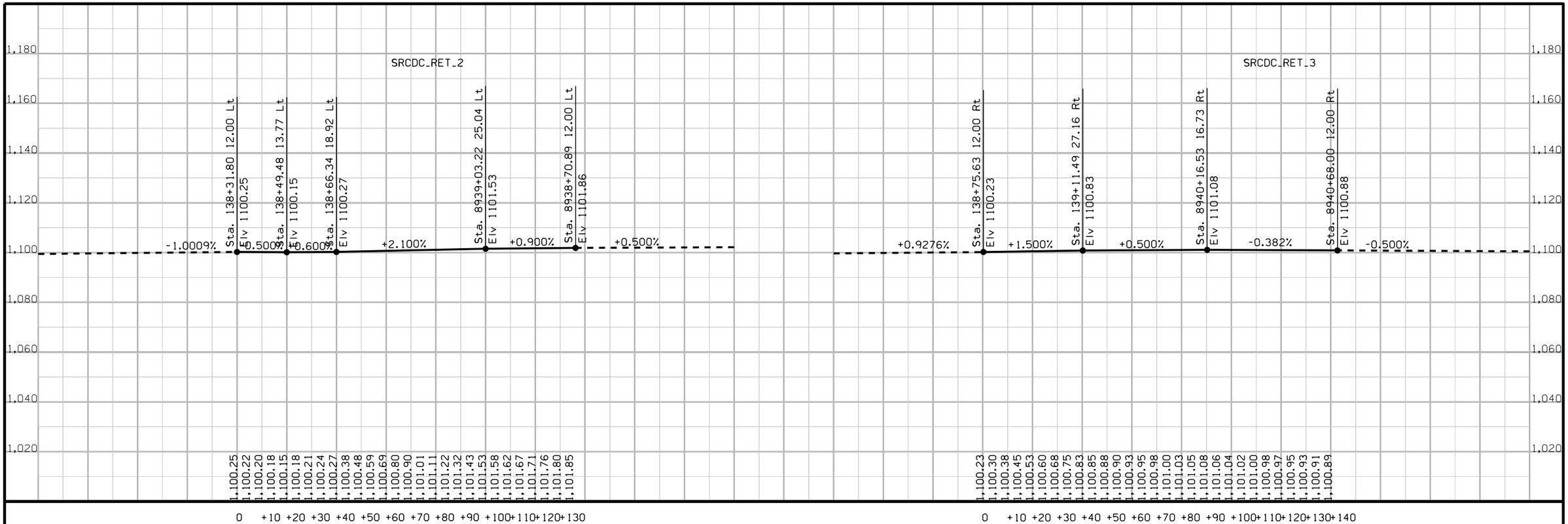
TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

STAKING DETAILS
INTERSECTION OF COTTINGHAM ROAD
WITH COTTINGHAM ROAD CONNECTOR

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.2

2:03:13 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht



Edge Return Profiles
Intersection of
Cottingham Road and
Cottingham Road Connector

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.3

2:03:14 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 11

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

CURVE SRCDC_RET_2-2

CURVE SRCDC_RET_2-1

CURVE SRCDC_RET_3-3

CURVE SRCDC_RET_3-2

CURVE SRCDC_RET_3-1

8938

8939

8940

8941

138

139

137

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

JOINTING DETAILS
INTERSECTION OF COTTINGHAM ROAD
WITH COTTINGHAM ROAD CONNECTOR

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.4

2:03:16 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

N

EB

POT Sta 256+09.77

256

255+48.22
Lt 28.82
1,110.95

255+48.76
Rt 00.00
1,111.52

255+49.28
Rt 28.18

255+46.22
Lt 28.78
1,110.97

255+47.28
Rt 28.22
1,110.97

2.00%
28.82'

2.00%
28.19'

0.90%
16.47'

255+32.28
Rt 28.50

255+31.22
Lt 28.50

255+32.28
Rt 13.50
1,111.40

255+31.22
Lt 13.50
1,111.41

255+32.28
Rt 13.50
1,111.67

255

3.20%
109.22'

254+22.00
Rt 13.50
1,107.64

254+22.00
Rt 58.56

254+22.00
Lt. 58.33

254+22.00
Lt. 13.50
1,107.64

254+00.00
Lt. 00.00
1,107.96

CYPRESS_RET_2

CYPRESS_RET_1

8951

8952

8953

254

8954

8955

8956

1.52%
22.0'

2.00%
18.5'

2.00%
18.5'

2.00%
23.0'

8953+06.50
Lt. 14.00
1,106.91

8954+23.56
Lt. 12.00
1,1109.85

2.52%
40'

2.52%
18.5'

2.52%
18.5'

2.52%
40'

POT Sta 253+65.00

8953+06.50
Lt. 12.00
1,106.95

8953+19.77
Lt. 14.00
1,106.98

8954+10.23
Lt. 14.00
1,109.79

8954+23.56
Lt. 12.00
1,1109.89

8953+65.00
Lt. 12.00
1,108.42

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

GV

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

0 20
FEET

STAKING DETAILS
INTERSECTION OF COTTINGHAM ROAD
WITH CYPRESS ROAD

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.5

2:03:16 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

N

EB

POT Sta 256+09.77

256

255+46.22
Lt 28.78
1,110.97

255+47.28
Rt 28.22
1,110.97

255+32.28
Rt 28.50

255+31.22
Lt 28.50

255+32.28
Rt 13.50
1,111.40

255+31.22
Lt 13.50
1,111.41

255

12.25'

CYPRESS ROAD

254+22.00
Rt 13.50
1,107.64

254+22.00
Rt 58.56

254+22.00
Lt. 58.33

254+22.00
Lt. 13.50
1,107.64

CYPRESS_RET_2

CYPRESS_RET_1

8951

8952

8953

254

8954

8955

8956

8953+06.50
Lt. 12.00
1,106.95

8954+23.56
Lt. 12.00
1,1109.89

90°00'00"

POT Sta 253+65.00

13.50'

COTTINGHAM ROAD

POT Sta 8953+65.00 COTTINGHAM
= POT Sta 253+65.00 CYPRESS

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

GV

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

0 20
FEET

GEOMETRIC & JOINTING DETAILS
INTERSECTION OF COTTINGHAM ROAD
WITH CYPRESS ROAD

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.6

2:52:31 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

Curve Data
Δ = 18° 12' 18.95" (LT)
T = 40.06
L = 79.44
R = 250.00
E = 3.19

363+84.12
Rt 00.00
1,123.93

363+84.12
Rt 13.50
1,123.66

363+84.12
Lt 13.50
1,123.66

POT Sta 2+00.65

2.00%
13.50'

2.00%
13.50'

PI Sta 1+37.84

2.46%
117.82'

PI Sta 0+98.46

362+86.30
Lt 300.00

362+86.30
Rt 00.00
1,126.83

362+86.30
Lt 13.50
1,126.56

362+86.30
Rt 13.50
1,126.56

362+68.50
Lt 13.50
1,126.88

362+68.50
Rt 13.50
1,126.88

362+68.50
Lt 58.50

362+68.50
Rt 58.50

PI Sta 0+58.41

1.80%
17.30'

2.00%
13.50'

2.00%
13.50'

8959

8960

8961

8962

8963

8964

8965

8961+48.56
Lt 14.00
1,127.26

HIGLEY_RET_2

8962+10.00
Lt 32.00
1,127.63

HIGLEY_RET_1

8962+71.44
Lt 12.00
1,128.45

2.00%
24.00'

2.00%
16.00'

2.00%
16.00'

0.12%
45.0'

0.99%
16.44'

0.80%
26.00'

0.87%
16.44'

0.64%
45.0'

1,127.86

1,127.86

1,128.16

POT Sta 0+00.00

8961+48.56
Lt 12.00
1,127.30

8961+62.23
Lt 14.00
1,127.45

8962+10.00
Lt 12.00
1,128.02

8962+57.78
Lt 14.00
1,128.34

8962+71.44
Lt 12.00
1,128.45

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

0 FEET 20

STAKING DETAILS
INTERSECTION OF COTTINGHAM ROAD
WITH HIGLEY ROAD

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.7

2:03:20 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

Curve Data
Δ = 18° 12' 18.95" (LT)
T = 40.06
L = 79.44
R = 250.00
E = 3.19

HIGLEY ROAD

363+84.12
Rt 13.50
1,123.66

363+84.12
Lt 13.50
1,123.66

POT Sta 2+00.65

PI Sta 1+37.84

362+86.30
Lt 300.00

PI Sta 0+98.46

362+86.30
Lt 13.50
1,126.56

362+86.30
Rt 13.50
1,126.56

362+68.50
Lt 13.50
1,126.88

362+68.50
Lt 58.50

362+68.50
Rt 13.50
1,126.88

362+68.50
Rt 58.50

PI Sta 0+58.41

8961+48.56
Lt 14.00
1,127.26

HIGLEY_RET_2

HIGLEY_RET_1

8962+71.44
Lt 12.00
1,128.45

POT Sta 0+00.00

8961+48.56
Lt 12.00
1,127.30

8961+62.23
Lt 14.00
1,127.45

8962+57.78
Lt 14.00
1,128.34

8962+71.44
Lt 12.00
1,128.45

COTTINGHAM ROAD

POT Sta 8962+07.08 COTTINGHAM
= POT Sta 362+58.40 HIGLEY

8959
8960
8961
8962
8963
8964
8965

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

0 20
FEET

GEOMETRIC & JOINTING DETAILS
INTERSECTION OF COTTINGHAM ROAD
WITH HIGLEY ROAD

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.8

2:03:21 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

8974
8975
8976
9977
9978
9979

5977
5976
5975
5974

POT Sta 8976+12.00 COTTINGHAM
= POT Sta 9976+12.00 NFR
= POT Sta 5976+12.00 SWISS VALLEY

8975+04.61
Rt 12.00
1,136.77

8975+51.21
Rt 17.50
1,137.85

90°00'00"

9976+65.66
Rt 24.36
1,137.90

9977+64.32
Rt 12.00
1,135.84

NORTH FRONTAGE ROAD

12'

COTTINGHAM ROAD

COTTHAM_RET_3

5975+57.99
Lt 23.93
1,139.83

NFR_RET_4

5975+58.76
Rt 19.98
1,139.88

5975+19.62
Rt 112.00

5975+19.99
Rt 12.00
1,141.68

5974+61.03
Lt 12.00
1,143.45

5974+89.94
Lt 213.48

SWISS VALLEY DRIVE

5974+04.72
Rt 128.22

5974+00.00
Lt 107.39

0 20
FEET

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

GEOMETRIC DETAILS
INTERSECTION OF SWISS VALLEY ROAD WITH RELOCATED COTTINGHAM ROAD AND WITH NORTH FRONTAGE ROAD AT STA. 968+53.11 ML

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.9

2:03:22 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

5977

8974 8975 8976 9977 9978 9979

8975+04.61
Rt 12.00
1,136.77

8975+51.21
Rt 17.50
1,137.85

9976+65.66
Rt 24.36
1,137.90

9977+64.32
Rt 12.00
1,135.84

5976

3.15%
87.34'

2.78%
132.32

1,139.12

2.00%
20.00

1,139.52

3.00%
20.00

2.00%
20.00

1,140.12

1,139.12

2.00%
20.00

5975+57.99
Lt 23.93
1,139.83

5975+58.76
Rt 19.98
1,139.88

3.00%
118.97

5975+19.62
Rt 112.00

5975+19.99
Rt 12.00
1,141.68

5975

5974+61.03
Lt 12.00
1,143.45

5974+89.94
Lt 213.48

2.00%
12.00

2.00%
12.00

1,143.69

5974+04.72
Rt 128.22

5974+00.00
Lt 107.39

3.00%
20.00

5974

0 20
FEET

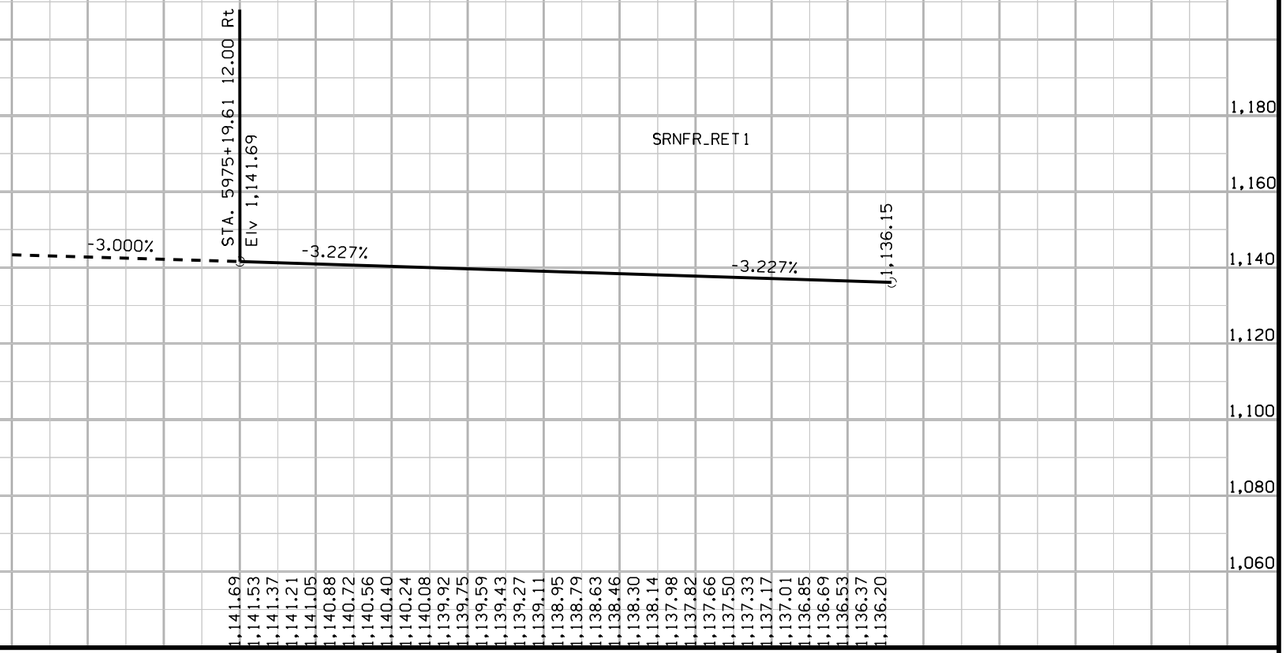
TABLE MOUND TWP.
T-88N R-1E
SEC. 12

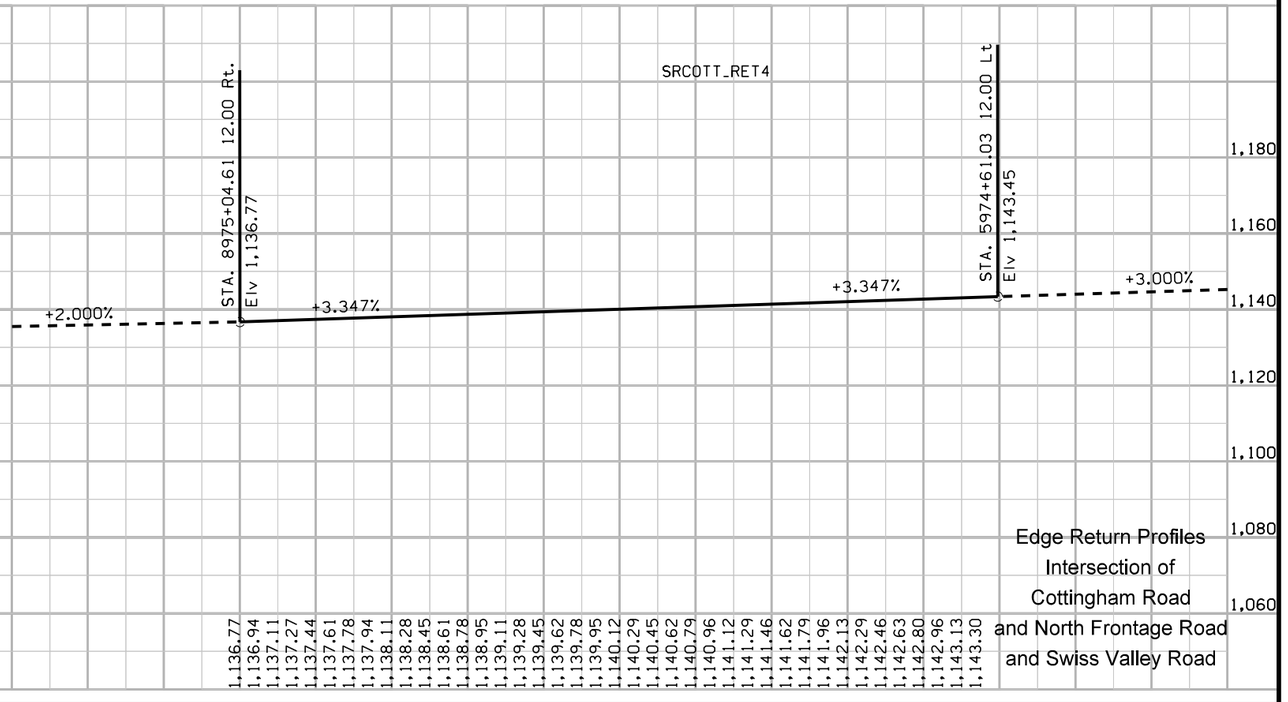
TABLE MOUND TWP.
T-88N R-1E
SEC. 12

STAKING DETAILS
INTERSECTION OF SWISS VALLEY ROAD
WITH RELOCATED COTTINGHAM ROAD
AND WITH NORTH FRONTAGE ROAD
AT STA. 968+53.11 ML

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.10

2:03:24 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht





Edge Return Profiles
Intersection of
Cottingham Road
and North Frontage Road
and Swiss Valley Road

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.11

2:03:25 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

8974 8975 8976 9977 9978 9979

5977 5976 5975 5974

COTTHAM_RET_3

NFR_RET_4

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

0 20
FEET

JOINTING DETAILS
INTERSECTION OF SWISS VALLEY ROAD WITH RELOCATED COTTINGHAM ROAD AND WITH NORTH FRONTAGE ROAD AT STA. 968+53.11 ML

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.12

2:03:46 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

1007+78.33
Lt 160.71
1,069.72

1007+87.85
Lt 165.38
1,069.52

1007+68.86
Lt 156.00
1,069.52

1007+96.76
Lt 149.51
1,069.35

1007+75.24
Lt 114.83
1,069.40

PC Sta 10007+87.26

1007+77.80
Lt 140.17
1,069.35

1007+97.88
Lt 64.30
1,068.57

10008+72.43
Lt 62.00

10006+04.61
Lt 49.79

1007+46.52
Lt 62.00

PT Sta 10008+09.38

1007+97.85
Lt 60.11
1,068.61

AP 1000810RET2

AP 1000810RET1

10008+21.07
Lt 60.95
1,068.50

1006+05.74
Lt 44.29

10007+46.52
Lt 14.00
1,071.51

10008+72.44
Lt 12.00
1,067.23

10007+46.52
Lt 12.00
1,071.55

10007+60.76
Lt 14.00
1,071.89

10008+09.47
Lt 12.00
1,069.41

10008+72.44
Lt 14.00
????

10008+72.44
Lt 12.00
1,067.27

10005 10006 10007 10008 10009 10010 10011

0 20
FEET

STAKING DETAILS
INTERSECTION OF
NORTH FRONTAGE ROAD
WITH AP 1000810

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.13

2:03:47 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121LO1.sht

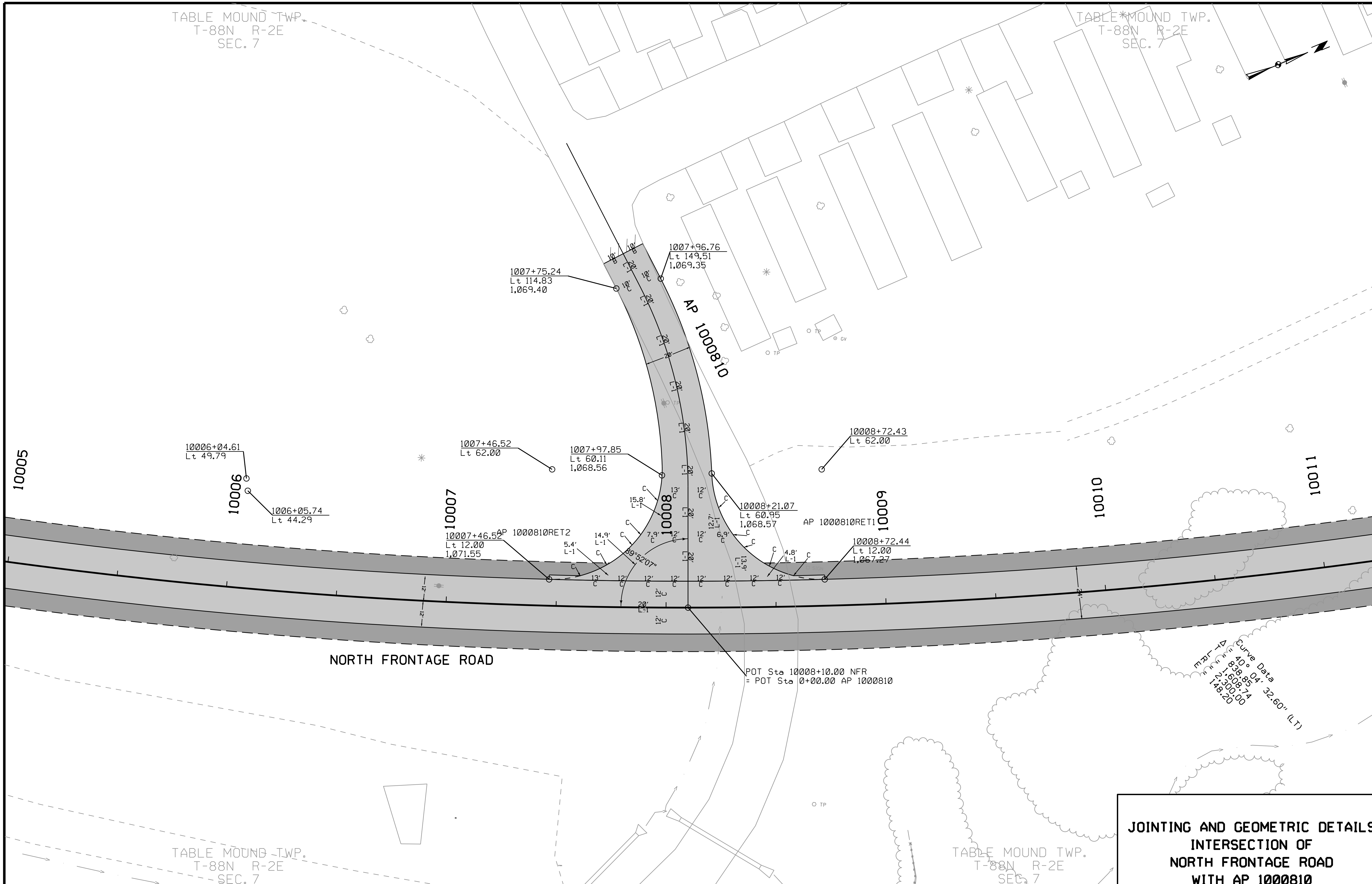


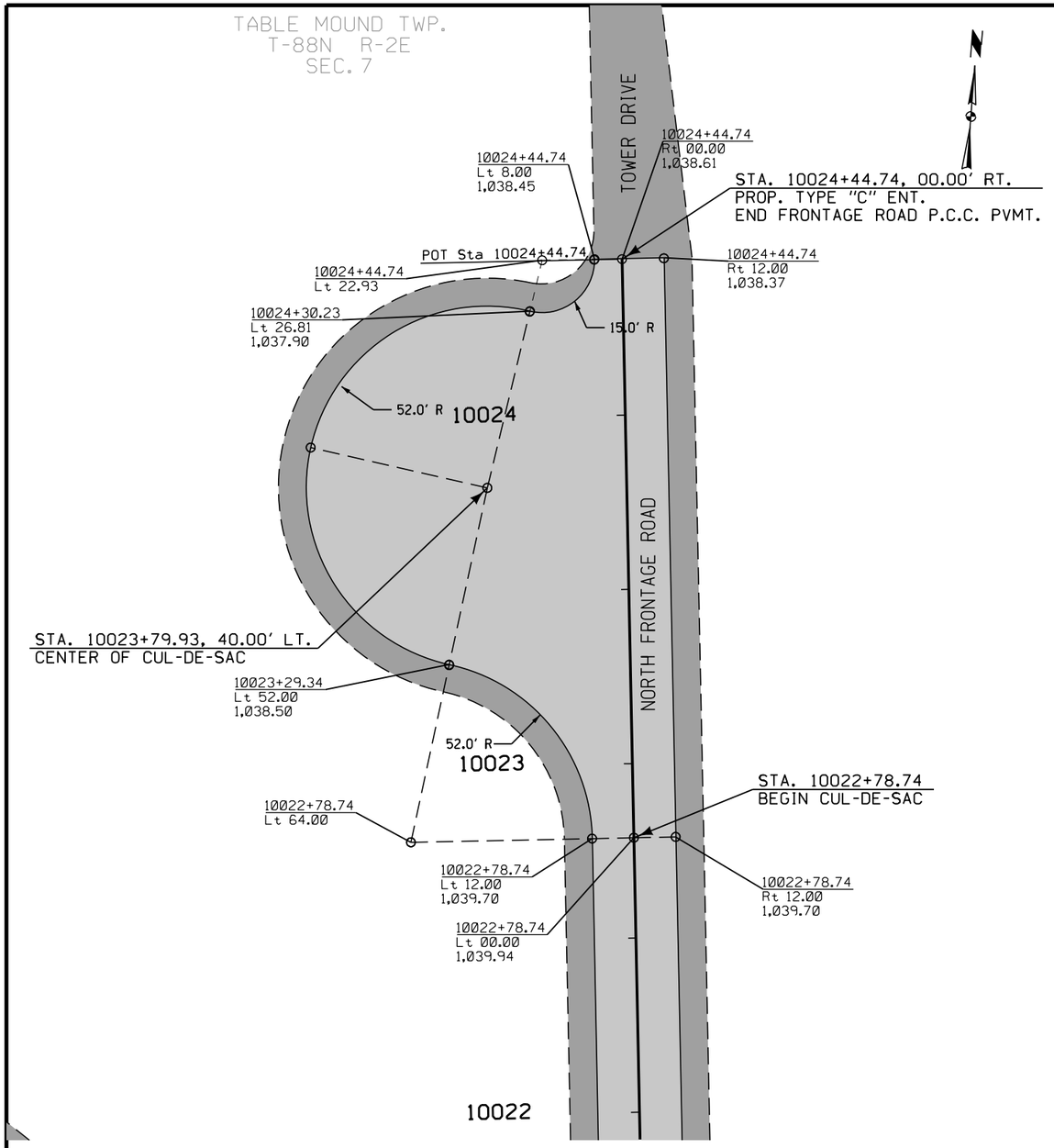
TABLE MOUND TWP.
T-88N R-2E
SEC. 7
AP 1000810
1007+96.76
Lt 149.51
1,069.35
1007+75.24
Lt 114.83
1,069.40
10006+04.61
Lt 49.79
1006+05.74
Lt 44.29
1007+46.52
Lt 62.00
1007+97.85
Lt 60.11
1,068.56
10008+72.43
Lt 62.00
10008+21.07
Lt 60.95
1,068.57
AP 1000810RET1
AP 1000810RET2
1007+46.52
Lt 12.00
1,071.55
10008+72.44
Lt 12.00
1,067.27
89°52'07"
10005
10006
10007
10008
10009
10010
10011
NORTH FRONTAGE ROAD
POT Sta 10008+10.00 NFR
= POT Sta 0+00.00 AP 1000810
Curve Data
Δ = 40° 04' 32.60" (LT)

JOINTING AND GEOMETRIC DETAILS
INTERSECTION OF
NORTH FRONTAGE ROAD
WITH AP 1000810

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.14

2:03:49 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020121L01.sht

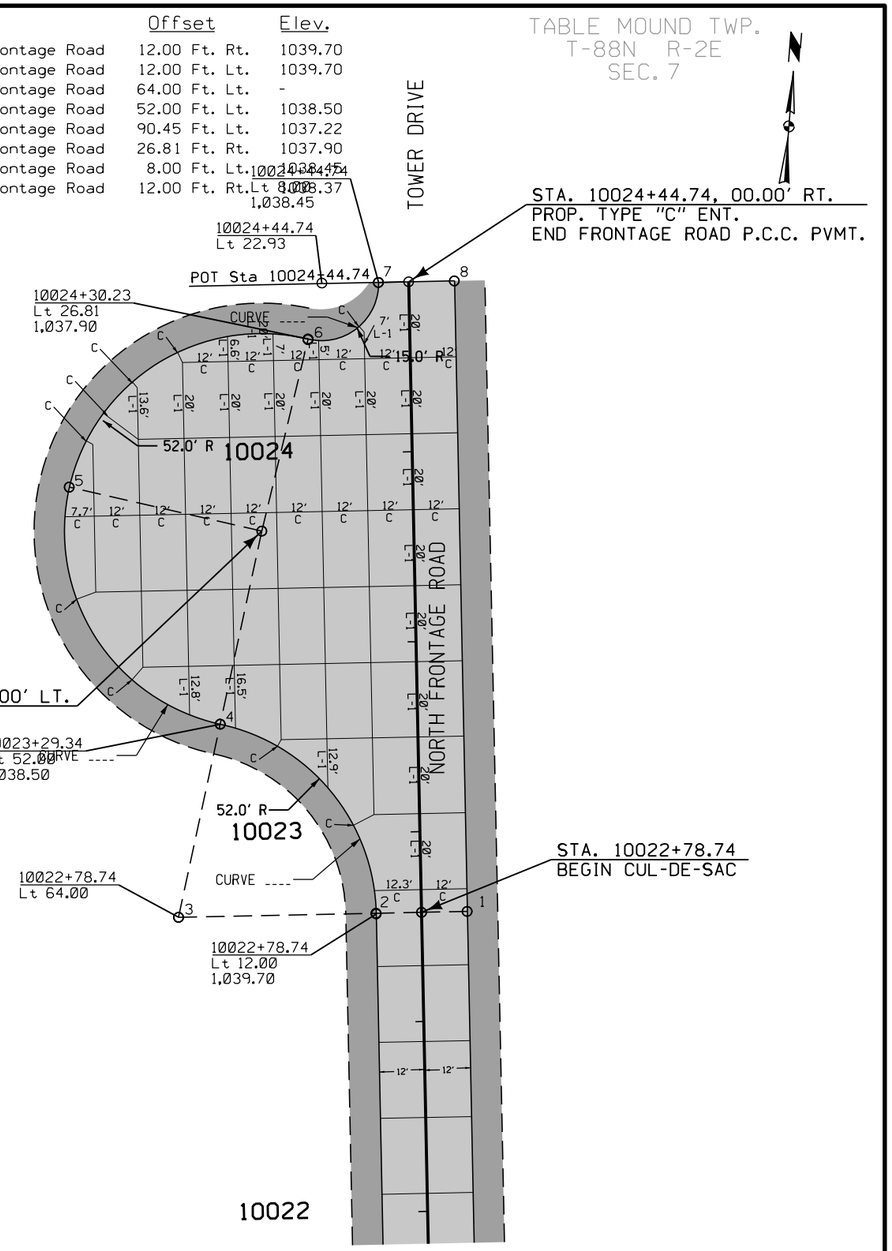
TABLE MOUND TWP.
T-88N R-2E
SEC. 7



NORTH FRONTAGE ROAD CUL-DE-SAC JOINTS

Pt.	Stationing	Offset	Elev.
1	10022+78.74 North Frontage Road	12.00 Ft. Rt.	1039.70
2	10022+78.74 North Frontage Road	12.00 Ft. Lt.	1039.70
3	10022+78.74 North Frontage Road	64.00 Ft. Lt.	-
4	10023+29.34 North Frontage Road	52.00 Ft. Lt.	1038.50
5	10023+92.53 North Frontage Road	90.45 Ft. Lt.	1037.22
6	10024+30.23 North Frontage Road	26.81 Ft. Rt.	1037.90
7	10024+44.74 North Frontage Road	8.00 Ft. Lt.	1038.45
8	10024+44.74 North Frontage Road	12.00 Ft. Rt.	1038.37

TABLE MOUND TWP.
T-88N R-2E
SEC. 7



NORTH FRONTAGE ROAD CUL-DE-SAC - ELEVATIONS

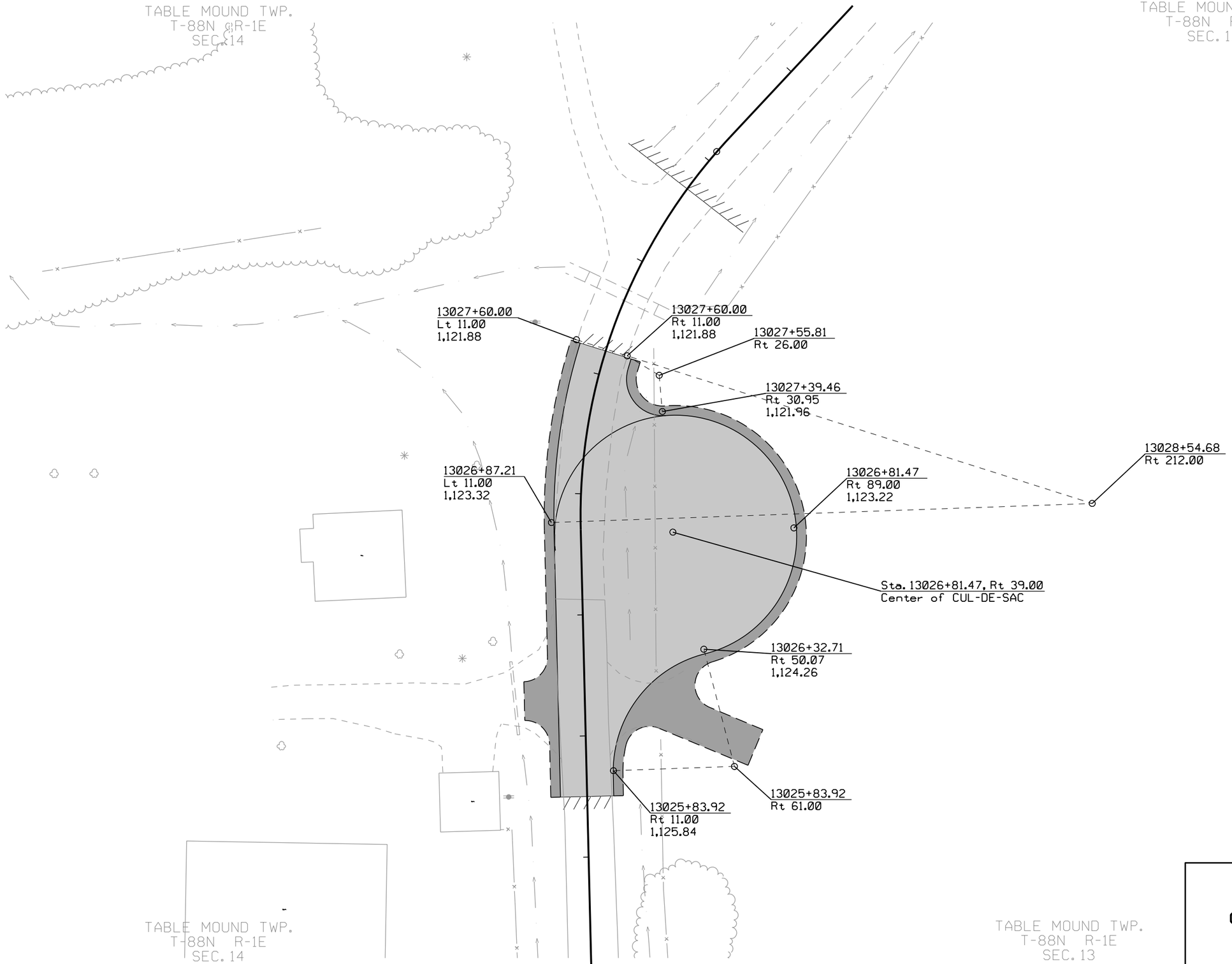
TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 FEET 20

GEOMETRIC DETAILS
CUL-DE-SAC ON
NORTH FRONTAGE ROAD
AT STA. 1017+09.58 ML

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.15

2:03:50 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht



STAKING DETAILS INTERSECTION OF COTTINGHAM GRAVEL ROAD (OR COTTINGHAM SOUTH) WITH US 20

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.16

2:03:52 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 14

TABLE MOUND TWP.
T-88N R-1E
SEC. 13

COTTINGHAM SOUTH /
COTTINGHAM GRAVEL ROAD

PT Sta 13028+54.68

13027+60.00
Lt 00.00
1,122.10

PI Sta 13027+75.57

13027+60.00
Lt 11.00
1,121.88

13027+60.00
Rt 11.00
1,121.88

13027+55.81
Rt 26.00

13027+39.46
Rt 30.95
1,121.96

APPROX. SEC. LINE

13028+54.68
Rt 212.00

13026+87.21
Lt 11.00
1,123.32

PC Sta 13026+87.21

13026+81.47
Rt 89.00
1,123.22

Sta. 13026+81.47, Rt 39.00
Center of CUL-DE-SAC

13026+32.71
Rt 50.07
1,124.26

13025+83.92
Rt 61.00

13025+75.00
Lt 11.00
1,126.10

13025+83.92
Rt 11.00
1,125.84

13025+75.00
Rt 00.00
1,126.31

13025+75.00
Rt 11.00
1,126.10

APPROX. SEC. LINE

TABLE MOUND TWP.
T-88N R-1E
SEC. 14

TABLE MOUND TWP.
T-88N R-1E
SEC. 13

GEOMETRIC AND JOINTING DETAILS
INTERSECTION OF
COTTINGHAM GRAVEL ROAD
(COTTINGHAM SOUTH)
WITH US 20

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.17

2:03:53 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

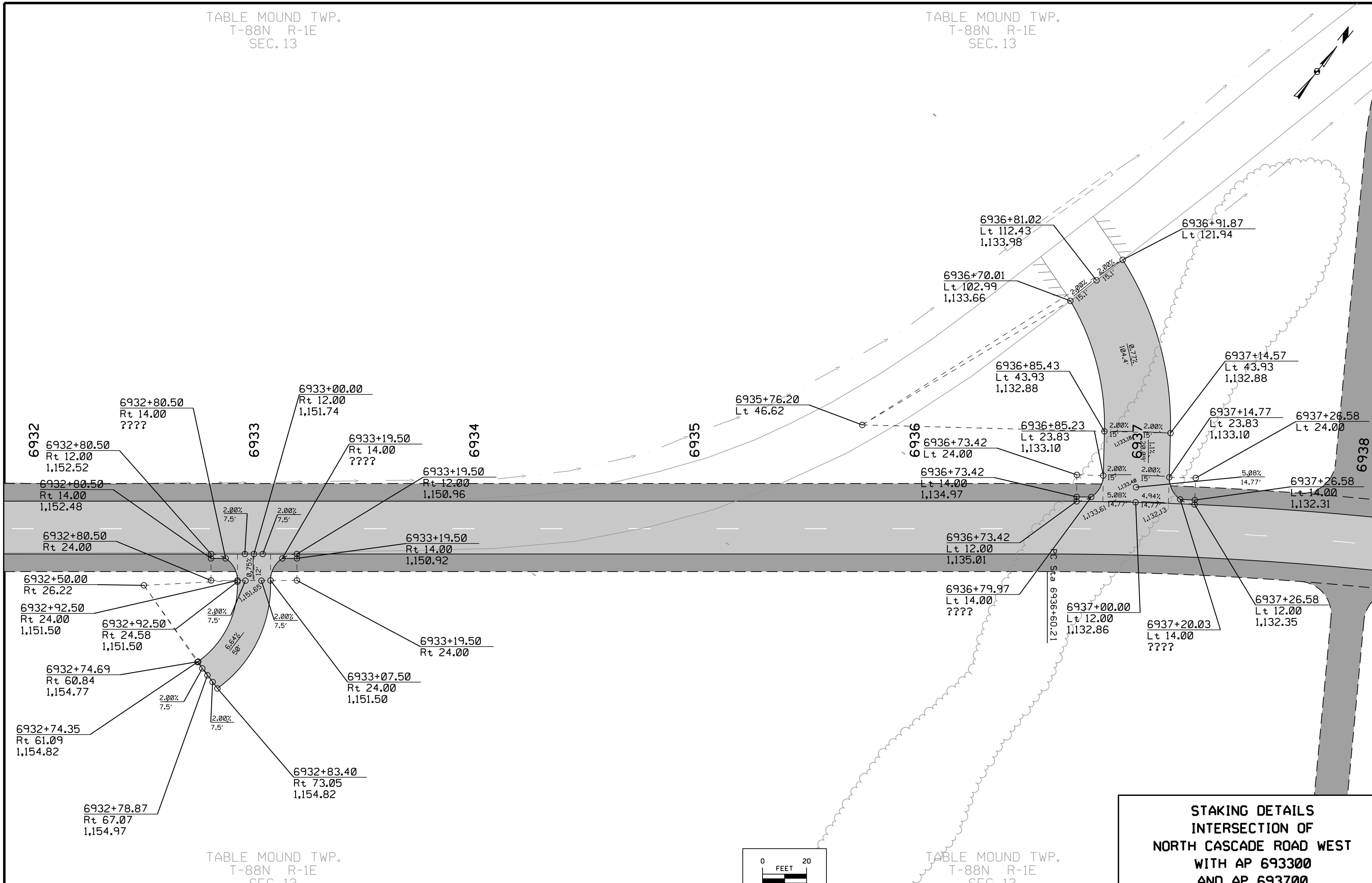


TABLE MOUND TWP.
T-88N R-1E
SEC. 13
TABLE MOUND TWP.
T-88N R-1E
SEC. 13
6932
6933
6934
6935
6936
6937
6938
6932+80.50
Rt 14.00
????
6933+00.00
Rt 12.00
1,151.74
6933+19.50
Rt 14.00
????
6932+80.50
Rt 12.00
1,152.52
6932+80.50
Rt 14.00
1,152.48
6933+19.50
Rt 12.00
1,150.96
6932+80.50
Rt 24.00
6933+19.50
Rt 14.00
1,150.92
6932+50.00
Rt 26.22
6932+92.50
Rt 24.00
1,151.50
6932+92.50
Rt 24.58
1,151.50
6933+19.50
Rt 24.00
6933+07.50
Rt 24.00
1,151.50
6932+74.69
Rt 60.84
1,154.77
6932+74.35
Rt 61.09
1,154.82
6932+83.40
Rt 73.05
1,154.82
6932+78.87
Rt 67.07
1,154.97
2.00%
7.5'
0.75%
12'
1,151.65
6.64%
50'
6935+76.20
Lt 46.62
6936+81.02
Lt 112.43
1,133.98
6936+91.87
Lt 121.94
6936+70.01
Lt 102.99
1,133.66
2.00%
15.1'
0.77%
104.4'
6936+85.43
Lt 43.93
1,132.88
6937+14.57
Lt 43.93
1,132.88
6936+85.23
Lt 23.83
1,133.10
6937+14.77
Lt 23.83
1,133.10
6937+26.58
Lt 24.00
6936+73.42
Lt 24.00
6936+73.42
Lt 14.00
1,134.97
6937+26.58
Lt 14.00
1,132.31
6936+73.42
Lt 12.00
1,135.01
6936+79.97
Lt 14.00
????
6937+00.00
Lt 12.00
1,132.86
6937+20.03
Lt 14.00
????
6937+26.58
Lt 12.00
1,132.35
PC Sta 6936+60.21
2.00%
15'
5.08%
14.77'
4.94%
1,133.61
1,132.13
1,133.40
0
FEET
20

**STAKING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD WEST
WITH AP 693300
AND AP 693700**

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.18

2:03:55 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 13

TABLE MOUND TWP.
T-88N R-1E
SEC. 13

AP 693700

6936+91.87
Lt 121.94

6936+70.01
Lt 102.99
1,133.66

6937+14.57
Lt 43.93
1,132.88

6936+85.43
Lt 43.93
1,132.88

6935+76.20
Lt 46.62

6936+85.23
Lt 23.83
1,133.10

6937+14.77
Lt 23.83
1,133.10

6937+26.58
Lt 24.00

6936+73.42
Lt 24.00

6936+73.42
Lt 12.00
1,135.01

6932+80.50
Rt 12.00
1,152.52

6932+80.50
Rt 24.00

POT Sta 6933+00.00 NCSDW
= POT Sta 0+11.00 AP 693300

6932 6933 6934 6935 6936 6937 6938

90°00'00"

6932+50.00
Rt 26.22

6933+19.50
Rt 12.00
1,150.96

6932+92.50
Rt 24.00
1,151.50

6933+19.50
Rt 24.00

6933+07.50
Rt 24.00
1,151.50

AP 693300

6932+83.40
Rt 73.05
1,154.82

NORTH CASCADE ROAD WEST

6937+26.58
Lt 12.00
1,132.35

POT Sta 6937+00.00 NCSDW
= POT Sta 0+12.00 AP 693700

TABLE MOUND TWP.
T-88N R-1E
SEC. 13

TABLE MOUND TWP.
T-88N R-1E
SEC. 13

0 20
FEET

GEOMETRIC AND JOINTING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD WEST
WITH AP 693300
AN AP 693700

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.19

2:03:55 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121IL01.sht

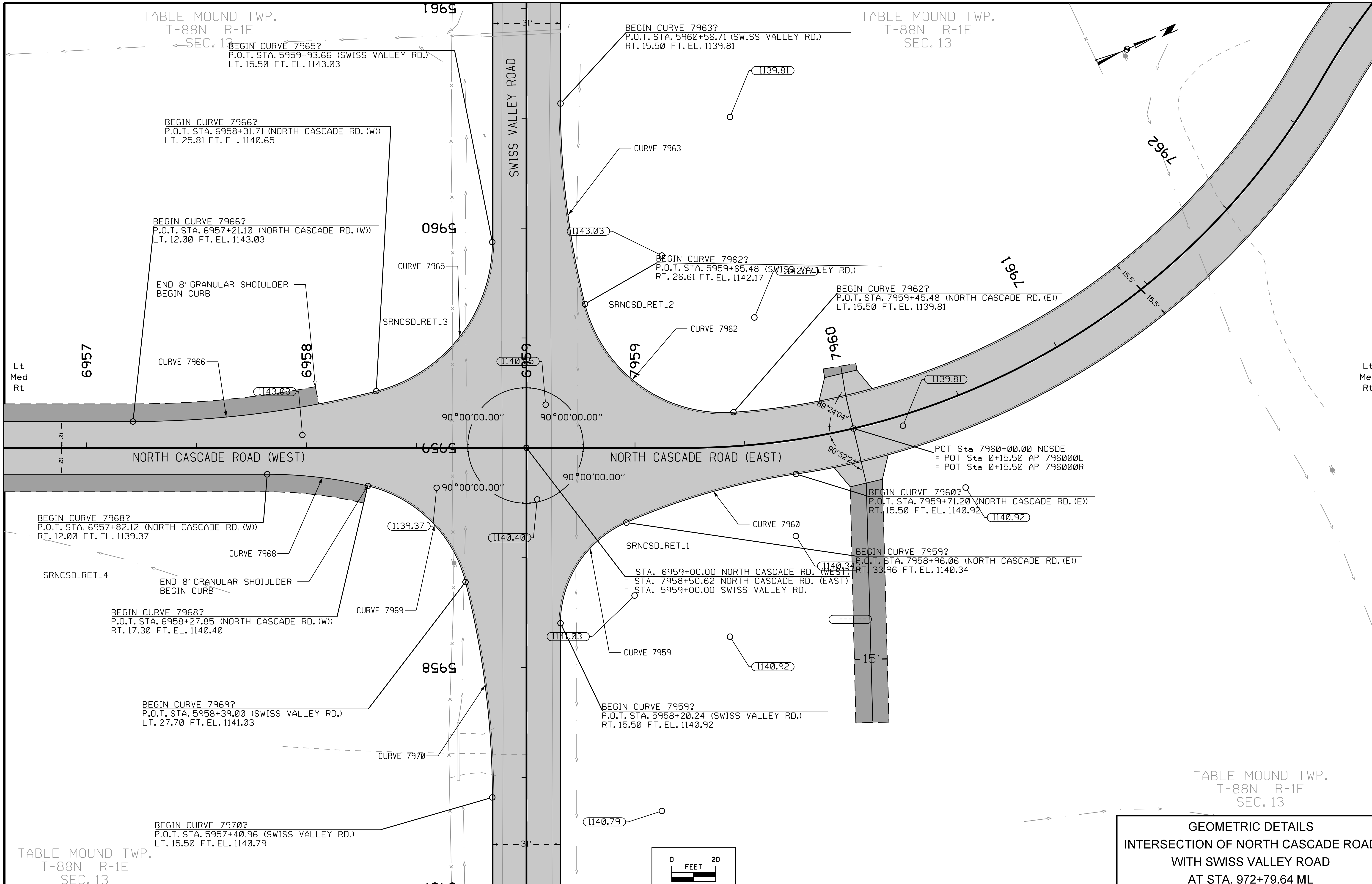


TABLE MOUND TWP.
T-88N R-1E
SEC. 13
BEGIN CURVE 7965?
P.O.T. STA. 5959+93.66 (SWISS VALLEY RD.)
LT. 15.50 FT. EL. 1143.03
BEGIN CURVE 7963?
P.O.T. STA. 5960+56.71 (SWISS VALLEY RD.)
RT. 15.50 FT. EL. 1139.81
BEGIN CURVE 7966?
P.O.T. STA. 6958+31.71 (NORTH CASCADE RD. (W))
LT. 25.81 FT. EL. 1140.65
SWISS VALLEY ROAD
CURVE 7963
1139.81
7962
BEGIN CURVE 7966?
P.O.T. STA. 6957+21.10 (NORTH CASCADE RD. (W))
LT. 12.00 FT. EL. 1143.03
5960
1143.03
BEGIN CURVE 7962?
P.O.T. STA. 5959+65.48 (SWISS VALLEY RD.)
RT. 26.61 FT. EL. 1142.17
7961
CURVE 7965
END 8' GRANULAR SHOIULDER
BEGIN CURB
BEGIN CURVE 7962?
P.O.T. STA. 7959+45.48 (NORTH CASCADE RD. (E))
LT. 15.50 FT. EL. 1139.81
SRNCSD_RET_3
SRNCSD_RET_2
CURVE 7962
7960
Lt
Med
Rt
6957
CURVE 7966
6958
6959
7959
1139.81
1143.03
89°24'04"
90°00'00.00"
90°00'00.00"
NORTH CASCADE ROAD (WEST)
5959
NORTH CASCADE ROAD (EAST)
POT Sta 7960+00.00 NCSDE
= POT Sta 0+15.50 AP 796000L
= POT Sta 0+15.50 AP 796000R
90°52'21"
90°00'00.00"
90°00'00.00"
BEGIN CURVE 7960?
P.O.T. STA. 7959+71.20 (NORTH CASCADE RD. (E))
RT. 15.50 FT. EL. 1140.92
1140.92
BEGIN CURVE 7968?
P.O.T. STA. 6957+82.12 (NORTH CASCADE RD. (W))
RT. 12.00 FT. EL. 1139.37
1139.37
1140.40
CURVE 7960
CURVE 7968
SRNCSD_RET_1
BEGIN CURVE 7959?
P.O.T. STA. 7958+96.06 (NORTH CASCADE RD. (E))
RT. 33.96 FT. EL. 1140.34
1140.34
SRNCSD_RET_4
END 8' GRANULAR SHOIULDER
BEGIN CURB
STA. 6959+00.00 NORTH CASCADE RD. (WEST)
= STA. 7958+50.62 NORTH CASCADE RD. (EAST)
= STA. 5959+00.00 SWISS VALLEY RD.
BEGIN CURVE 7968?
P.O.T. STA. 6958+27.85 (NORTH CASCADE RD. (W))
RT. 17.30 FT. EL. 1140.40
CURVE 7969
1141.03
CURVE 7959
15'
1140.92
5958
BEGIN CURVE 7969?
P.O.T. STA. 5958+39.00 (SWISS VALLEY RD.)
LT. 27.70 FT. EL. 1141.03
BEGIN CURVE 7959?
P.O.T. STA. 5958+20.24 (SWISS VALLEY RD.)
RT. 15.50 FT. EL. 1140.92
CURVE 7970
TABLE MOUND TWP.
T-88N R-1E
SEC. 13
1140.79
BEGIN CURVE 7970?
P.O.T. STA. 5957+40.96 (SWISS VALLEY RD.)
LT. 15.50 FT. EL. 1140.79
TABLE MOUND TWP.
T-88N R-1E
SEC. 13
0 FEET 20
5957

GEOMETRIC DETAILS
INTERSECTION OF NORTH CASCADE ROAD
WITH SWISS VALLEY ROAD
AT STA. 972+79.64 ML

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.20

TABLE MOUND TWP.
T-88N R-1E
SEC. 13

6957+21.10
Lt 462.00

5963+10.39
Lt 209.28

5959+93.66
Lt 15.50
1,143.03

5959+93.66
Lt 85.50

6957+21.10
Lt 12.00
1,137.27

SRNCSD_RET_3

6958+31.71
Lt 25.81
1,140.65

6958+05.57
Lt 20.00
1,139.96

6957+82.12
Rt 12.00
1,139.37

6958+27.85
Rt 17.30
1,140.40

SRNCSD_RET_4

5958+39.00
Lt 27.70
1,141.02

5958+24.29
Lt 85.87

5957+40.96
Lt 415.50

5957+40.96
Lt 15.50
1,140.79

6957+82.12
Rt 212.00

TABLE MOUND TWP.
T-88N R-1E
SEC. 13

5960+56.71
Rt 15.50
1,143.92

5960+56.71
Rt 395.50

5959+65.48
Rt 26.61
1,142.17

5959+81.09
Rt 89.71

SRNCSD_RET_2

7959+45.84
Lt 15.50
1,139.81

7959+97.88
Lt 25.41
1,139.13

7959+87.01
Lt 15.50
1,138.98

2.00%
7.53'

1,139.3

2.00%
7.53'

7960+08.18
Lt 25.41
1,139.13

7960+00.00
Lt 15.50
1,138.72

7960+13.04
Lt 15.50
1,138.46

2.00%
13.04'

2.00%
13'

1.9%
12.6'

1.9%
12.6'

7960+12.06
Rt 15.50
1,138.48

7960+00.00
Rt 15.50
1,138.72

7959+71.20
Rt 15.50
1,139.30

7959+87.94
Rt 15.50
1,138.96

2.00%
7.5'

7960+06.97
Rt 25.58
1,139.02

SRNCSD_RET_1

7958+95.81
Rt 33.39
1,140.34

3.2%
7.5'

1,139.17

7959+93.03
Rt 25.58
1,138.93

5958+20.24
Rt 65.50

5958+20.24
Rt 15.50
1,140.92

7959+71.20
Rt 315.50

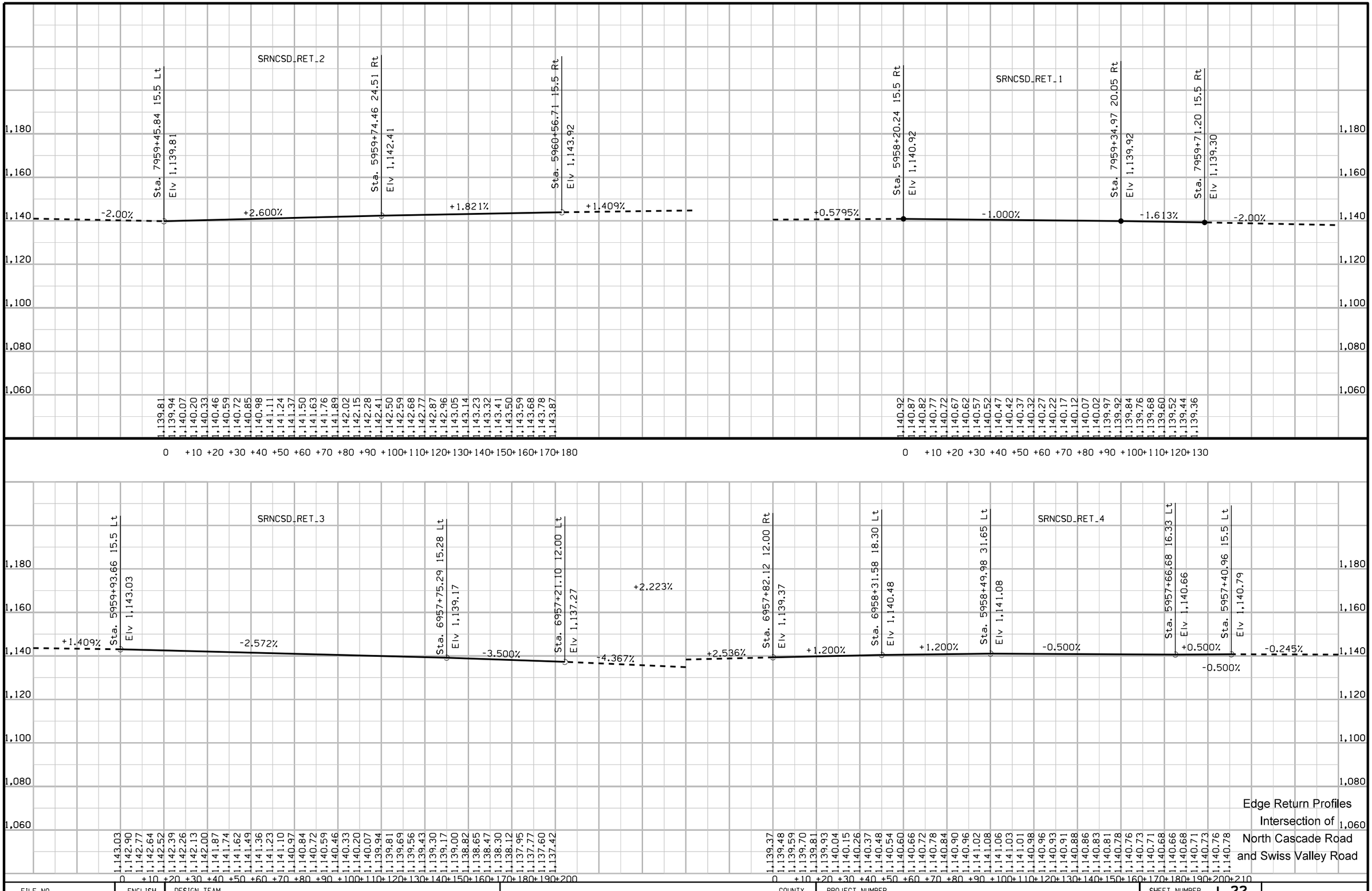
TABLE MOUND TWP.
T-88N R-1E
SEC. 13

0 FEET 20

STAKING DETAILS
INTERSECTION OF NORTH CASCADE ROAD
WITH SWISS VALLEY ROAD
AT STA. 972+79.64 ML

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.21

2:03:59 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht



FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER L.22

2:04:01 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 13

TABLE MOUND TWP.
T-88N R-1E
SEC. 13

TABLE MOUND TWP.
T-88N R-1E
SEC. 13

TABLE MOUND TWP.
T-88N R-1E
SEC. 13

5961
5960
5959
5958
5957
6957
6958
6959
7959
7960
7961
7962

SRNCSD_RET_1
SRNCSD_RET_2
SRNCSD_RET_3
SRNCSD_RET_4

0 20
FEET

JOINTING DETAILS
INTERSECTION OF NORTH CASCADE ROAD WITH SWISS VALLEY ROAD AT STA. 972+79.64 ML

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.23

2:04:02 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

7969
7968
7967
7966
7965
7964

7968+50.00
Rt 15.50
1,128.00

7968+96.99
Rt 15.50
1,126.63

7968+96.99
Rt 40.50

7968+03.01
Rt 15.50
1,129.36

7968+27.50
Rt 35.50
1,128.37

7968+72.50
Rt 35.50
1,128.37

7968+03.01
Rt 40.50

7968+50.00
Rt 35.50
1,128.82

2.81%
27'
1,128.6
2.89%
20'
2.91%
20'
1,127.4
2.85%
27'
2.89%
20'
2.00%
20'
2.00%
20'

7964+31.42
Lt 151.22
1,143.41

7964+71.71
Lt 39.06
1,136.35

7964+71.95
Lt 26.20
1,135.72

7964+64.44
Lt 68.55
1,137.93

7964+77.36
Lt 15.50
1,135.43

7964+26.72
Lt 148.08
1,143.56

7964+53.55
Lt 61.07
1,137.93

7964+21.96
Lt 145.04
1,143.41

7964+58.29
Lt 39.06
1,136.35

7964+20.51
Lt 42.33

7964+58.05
Lt 26.20
1,135.72

7964+52.64
Lt 15.50
1,135.36

7964+52.64
Lt 15.50
1,135.41

2.00%
7.5'
5.81%
94.3'
1,138.08
4.34%
27.0'
4.34%
12.9'
1,135.87
0.155%
12.9'
4.34%
10.6'
0.388%
12.9'

TP
SIGN
Fig

0 20
FEET

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

STAKING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD EAST
WITH AP 79465
AND AP 796850

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.24	

2:04:03 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

NORTH CASCADE ROAD EAST

7966
7967
7968
7969

POT Sta 7968+50.00 NCSDE
= POT Sta 0+15.50 AP 796850

90°00'00"

7968+96.99
Rt 15.50
1,126.63

7968+03.01
Rt 15.50
1,129.36

7968+96.99
Rt 40.50

7968+27.50
Rt 35.50
1,128.37

7968+03.01
Rt 40.50

7968+72.50
Rt 35.50
1,128.37

AP 796850

7964+64.44
Lt 68.55
1,137.93

7964+71.71
Lt 39.06
1,136.35

AP 796465

7964+53.55
Lt 61.07
1,137.93

7964+58.29
Lt 39.06
1,136.35

90°37'15"

7964+20.51
Lt 42.33

POT Sta 7964+65.00 NCSDE
= POT Sta 0+15.50 AP 796465

7964
7965

0 20
FEET

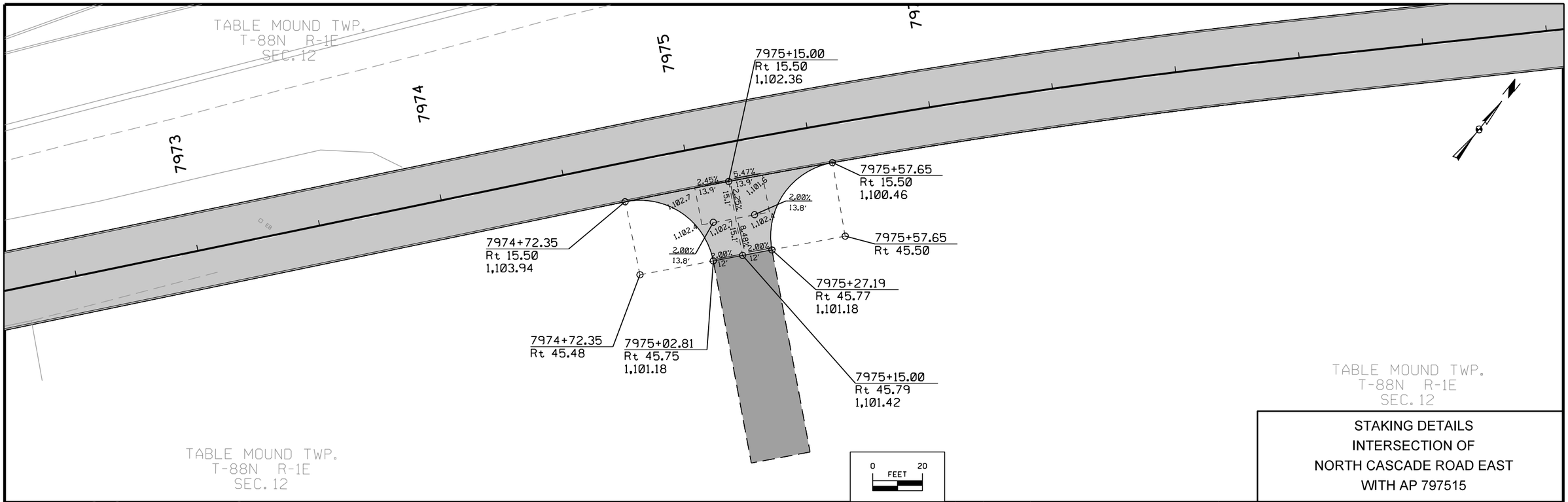
TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

GEOMETRIC AND JOINTING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD EAST
WITH AP 79465
AND AP 796850

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.25

2:04:05 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.26

2:04:07 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

7973 7974 7975

NORTH CASCADE ROAD EAST

POT Sta 7975+15.00 NCSDE
= POT Sta 0+24.72 AP 797915

89°53'28"

7975+57.65
Rt 15.50
1,100.46

7975+57.65
Rt 45.50

7974+72.35
Rt 15.50
1,103.94

7975+27.19
Rt 45.77
1,101.18

7974+72.35
Rt 45.48

7975+02.81
Rt 45.75
1,101.18

AP 797515

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

GEOMETRIC AND JOINTING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD EAST
WITH AP 797515

0 FEET 20

TABLE MOUND TWP.
T-88N R-1E
SEC. 12

7977 7978 7979 7980 7981 7982

TABLE MOUND TWP.
T-88N R-E
SEC. 7

NORTH CASCADE ROAD EAST

90°00'00"

POT Sta 7979+15.00 NCSDE
= POT Sta 0+15.50 AP 797915

AP 797915

90°00'00"

POT Sta 7980+70.00 NCSDE
= POT Sta 0+15.50 AP 798070

AP 798070

TABLE MOUND TWP.
T-88N R-E
SEC. 7

TABLE MOUND TWP.
T-88N R-E
SEC. 7

GEOMETRIC AND JOINTING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD EAST
WITH AP 797915
AND AP 798070

0 FEET 20

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.27

2:04:08 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-E
SEC. 7

7985+98.77
Lt 81.25
1,098.84

7986+08.00
Lt 80.25
1,098.65

7985+90.00
Lt 82.21
1,098.67

7986+08.00
Lt 25.50
1,097.82

7985+90.00
Lt 25.50
1,097.82

7986+13.00
Lt 15.50
1,097.69

7985+85.00
Lt 15.50
1,097.53

7985+99.00
Lt 15.50
1,097.60

7985
7986
7987

1.88% 9.05′
2.10% 9.05′
2.05% 41′
1,098.0
2.00% 9′
2.00% 9′
10′
4.00%
0.5% 14′
0.64% 14′

7988+34.00
Lt 56.15
1,101.23

7988+42.00
Lt 55.62
1,101.05

7988+26.00
Lt 56.68
1,101.09

7988+42.00
Lt 25.50
1,099.66

7988+26.00
Lt 25.50
1,099.66

7988+21.00
Lt 15.50
1,099.02

7988+34.00
Lt 15.50
1,099.11

7988+47.00
Lt 15.50
1,099.19

7988
7989
7990

1.75% 8.02′
2.24% 8.02′
2.00% 8′
1,099.82
4.68% 30.65′
2.00% 8′
7.7%
10′
0.69% 13′
0.62% 13′

0 FEET 20

STAKING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD EAST
WITH AP 798599
AND 798834

TABLE MOUND TWP.
T-88N R-E
SEC. 7

7988+79.00
Lt 54.32
1,101.35

7988+86.50
Lt 54.12
1,101.19

7988+71.50
Lt 54.51
1,101.21

7987+37.00
Lt 68.00
1,100.02

7987+37.00
Lt 69.47
1,100.04

7988+71.50
Lt 25.50
1,099.84

7988+86.50
Lt 25.50
1,099.84

7988+91.50
Lt 15.50
1,099.46

7987+37.00
Lt 25.50
1,098.81

7987+21.00
Lt 25.50
1,098.81

7987+16.00
Lt 15.50
1,098.35

7987+29.00
Lt 15.50
1,098.43

7987+42.00
Lt 15.50
1,098.52

7988+66.50
Lt 15.50
1,099.31

7988+79.00
Lt 15.50
1,099.39

7987
7988
7989
7990

1,100.2
2.24% 8.03′
2.00% 8.03′
2.85% 43.2′
1,098.97
2.00% 8′
2.00% 8′
5.94% 9.9′
0.62% 13′
0.69% 13′
1.87% 7.5′
2.13% 7.5′
1,100.08
2.00% 7.5′
2.00% 7.5′
6.88% 28.82′
10′
5.2%
0.5% 14′
0.5% 14′

TABLE MOUND TWP.
T-88N R-E
SEC. 7

7991+10.00
Lt 84.31

7991+21.79
Lt 88.06

7990+98.19
Lt 80.59

7991+21.93
Lt 28.71
1,099.32

7990+98.07
Lt 28.71
1,099.32

7991+28.56
Lt 15.50
1,099.13

7990+91.44
Lt 15.50
1,099.28

7991+10.00
Lt 15.50
1,099.21

7990
7991
7992

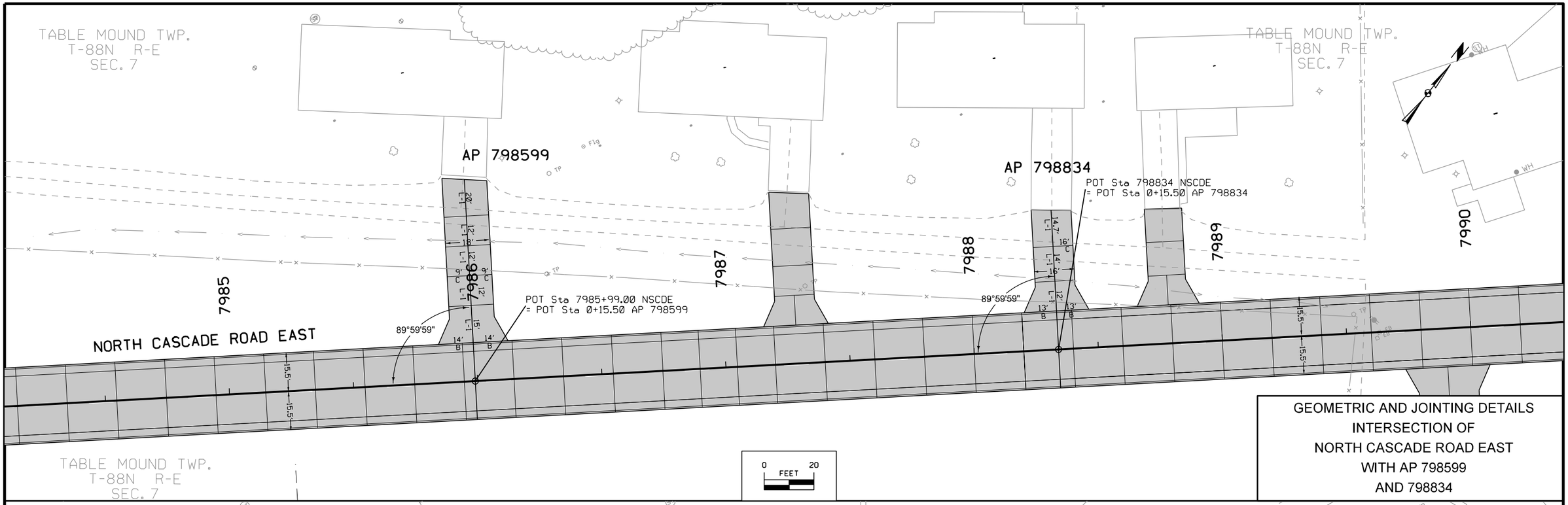
??? ???
??? ???
1,099.6
2.00% 11.5′
2.00% 12.5′
2.68% 13.2′
0.39% 18.13′
0.42% 19.1′

0 FEET 20

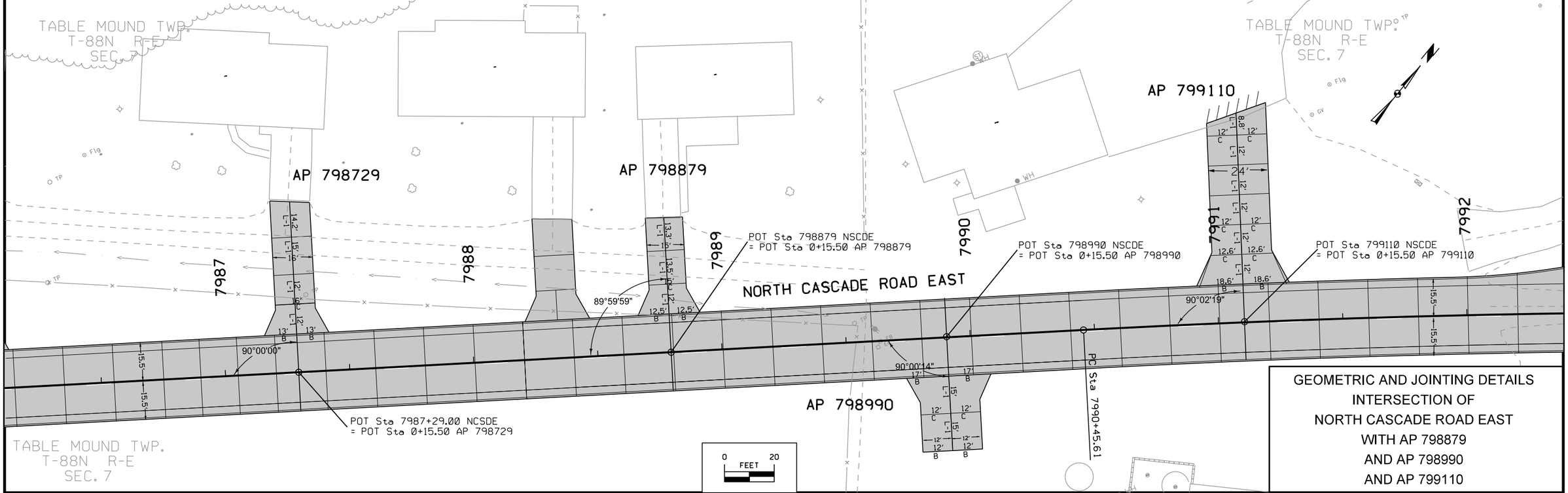
STAKING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD EAST
WITH AP 798879
AND AP 798990
AND AP 799110

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.28

2:04:10 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121LO1.sht



GEOMETRIC AND JOINTING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD EAST
WITH AP 798599
AND 798834



GEOMETRIC AND JOINTING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD EAST
WITH AP 798879
AND AP 798990
AND AP 799110

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.29

2:04:11 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N - R-2E
SEC. 7

5953

5952

7989

7990

7991

7992

7993

7994

7995

7989+90.00
Lt 15.50
1,099.64

7990+07.00
Lt 15.50
1,099.61

7993+52.00
Rt 15.50
1,098.24

7993+19.33
Rt 15.50
1,098.37

7993+84.73
Rt 15.50
1,098.11

7989+73.00
Lt 15.50
1,099.66

0.12%
17'

0.18%
17'

0.4%
12.5'

0.39%
20.13'

0.4%
12.5'

0.39%
20.13'

1,098.29

1,098.19

7993+84.73
Rt 35.50

2.00%
12.5'

2.39%
20.1'

7993+19.27
Rt 35.50

7990+02.00
Lt 25.50
1,099.85

7993+64.59
Rt 35.59
1,098.47

7993+39.41
Rt 35.59
1,098.47

1,098.72

1,098.8

2.00%
12.5'

2.39%
27.6'

7993+64.66
Rt 64.09
1,098.55

4.5%
10'

4.55%
20'

2.00%
12'

7989+78.00
Lt 25.50
1,099.85

2.00%
12'

1,100.1

2.00%
12'

2.00%
12'

4.48%
5.8'

7993+39.34
Rt 62.31
1,098.56

2.00%
12.5'

2.00%
12.5'

7989+78.00
Lt 45.50
1,098.92

7990+02.00
Lt 45.50
1,098.92

7993+63.72
Rt 70.70
1,098.30

7993+38.63
Rt 67.15
1,098.30

7993+51.17
Rt 68.94
1,098.57

7989+90.00
Lt 45.50
1,099.16

TABLE MOUND TWP.
T-88N - R-2E
SEC. 7

TABLE MOUND TWP.
T-88N - R-2E
SEC. 7

0 20
FEET

STAKING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD EAST
WITH AP 798990
AND AP 799352

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.30

2:04:13 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

1994

1993

1992

1991

1990

7989

7990

7992

7993

7994

7995

POT Sta 798990 NSCDE
= POT Sta 0+15.50 AP 798990

POT Sta 7993+52.00 NCSDE
= POT Sta 0+15.00 AP 799352
= POT Sta 5952+38.42 SVLLY

7993+19.33
Rt 15.50
1,098.37

7993+84.73
Rt 15.50
1,098.11

7993+84.73
Rt 35.50

7993+19.27
Rt 35.50

7993+64.59
Rt 35.59
1,098.47

7993+39.41
Rt 35.59
1,098.47

89°54'30"

90°00'14"

NORTH CASCADE ROAD EAST

AP 798990

AP 799352

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 20
FEET

GEOMETRIC AND JOINTING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD EAST
WITH AP 798990
AND AP 799352

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.31

2:04:15 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

SOUTH FRONTAGE ROAD

15.5' 15.5'

NORTH CASCADE ROAD (EAST)

15.5' 15.5'

7991+95.77
Lt 315.50

BEGIN CURVE
P.O.T. STA. 1993+84.81 (SOUTH FRONTAGE RD.)
LT. 15.50 FT. EL. 1096.29

1993+84.81
Lt 85.50

1993+84.81
Lt 15.50
1,096.29

CURVE SRSFR_RET_2-1

BEGIN CURVE
P.O.T. STA. 7991+95.77 (NORTH CASCADE RD. (E))
LT. 15.50 FT. EL. 1098.86

BEGIN CURVE
P.O.T. STA. 7992+91.41 (NORTH CASCADE RD. (E))
LT. 32.28 FT. EL. 1097.67

7992+91.41
Lt 32.28
1,097.44

CURVE SRSFR_RET_2-2

1994+12.81
Rt 15.50
1,095.70

1994+12.81
Rt 215.50

BEGIN CURVE
P.O.T. STA. 1994+12.81 (SOUTH FRONTAGE RD.)
RT. 15.50 FT. EL. 1095.70

CURVE SRSFR_RET_1-2

1993+62.12
Rt 85.50

BEGIN CURVE
P.O.T. STA. 1993+40.39 (SOUTH FRONTAGE RD.)
RT. 29.07 FT. EL. 1097.09

1993+40.39
Rt 29.07
1,097.09

7994+35.74
Lt 15.50
1,097.90

CURVE SRSFR_RET_1-1

BEGIN CURVE
P.O.T. STA. 7994+35.74 (NORTH CASCADE RD. (E))
LT. 15.50 FT. EL. 1097.90

90°00'00.00" 90°00'00.00"

STA. 7993+52.00 NORTH CASCADE RD. (EAST)
= STA. 1992+87.33 SOUTH FRONTAGE RD.

7991+95.77
Lt 15.50
1,098.86

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 20
FEET

GEOMETRIC DETAILS
INTERSECTION OF NORTH CASCADE ROAD
(EAST) WITH SOUTH FRONTAGE ROAD
AT STA. 1000+90.42 ML

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.32

2:58:49 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

7991+95.77
Lt 315.50

1995

1994

1993+84.81
Lt 85.50

1993+84.81
Lt 15.50
1,096.29

7991

7992

7992+91.41
Lt 32.28
1,097.44

7993

1993

7991+95.77
Lt 15.50
1,098.86

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

1994+12.81
Rt 215.50

1994+12.81
Rt 15.50
1,095.70

1993+62.12
Rt 85.50

1993+40.39
Rt 29.07
1,097.09

7994+35.74
Lt 15.50
1,097.90

7994

7995

7996

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 FEET 20

STAKING DETAILS
INTERSECTION OF NORTH CASCADE ROAD
(EAST) WITH SOUTH FRONTAGE ROAD
AT STA. 1000+90.42 ML

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.33

2:04:17 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/D0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

7991+95.77
Lt 315.50

1994+12.81
Rt 215.50

1994+12.81
Rt 15.50
1,095.70

1993+62.12
Rt 85.50

1993+84.81
Lt 85.50

1993+84.81
Lt 15.50
1,096.29

1993+40.39
Rt 29.07
1,097.09

7994+35.74
Lt 15.50
1,097.90

7992+91.41
Lt 32.28
1,097.44

7991+95.77
Lt 15.50
1,098.86

1991 7992 7993 7994 7995 7996

1993 1994 1995

3.5' C | 12' C | 12' C | 3.5' C

20' L-1 | 12' L-1 | 12' L-1 | 20' L-1

3.5' L-1 | 12' C | 12' C | 3.5' L-1

20' C | 20' C | 20' C | 12' C | 12' C | 20' C | 20' C | 20' C | 20' C

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 20
FEET

JOINTING DETAILS
INTERSECTION OF NORTH CASCADE ROAD
(EAST) WITH SOUTH FRONTAGE ROAD
AT STA. 1000+90.42 ML

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE	CONTRACT NUMBER	NHS-020-9(121)--19-31	SHEET NUMBER L.34

2:04:18 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

JOINTING DETAILS
INTERSECTION OF NORTH CASCADE ROAD
(EAST) WITH SOUTH FRONTAGE ROAD
AT STA. 1000+90.42 ML

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

1995
1994
1993
7992
7993
7994
7995
7996
7997

7995+35.00
Lt 36.50
1,097.16

7995+47.00
Lt 36.49
1,096.92

7995+63.49
Lt 36.49

7995+23.00
Lt 36.50
1,096.92

2.00%
12'

0.35%
19.93'

7993+03.12
Lt 35.50

0.35%
19.93'

1.57%
20.67'

0.43%
16.17'

7995+63.17
Lt 20.00

1,097.56

4.17%
12'

4.17%
12'

1,097.46

7995+03.12
Lt 15.50
1,097.63

7995+63.17
Lt 15.50
1,097.39

7995+35.00
Lt 15.50
1,097.51

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

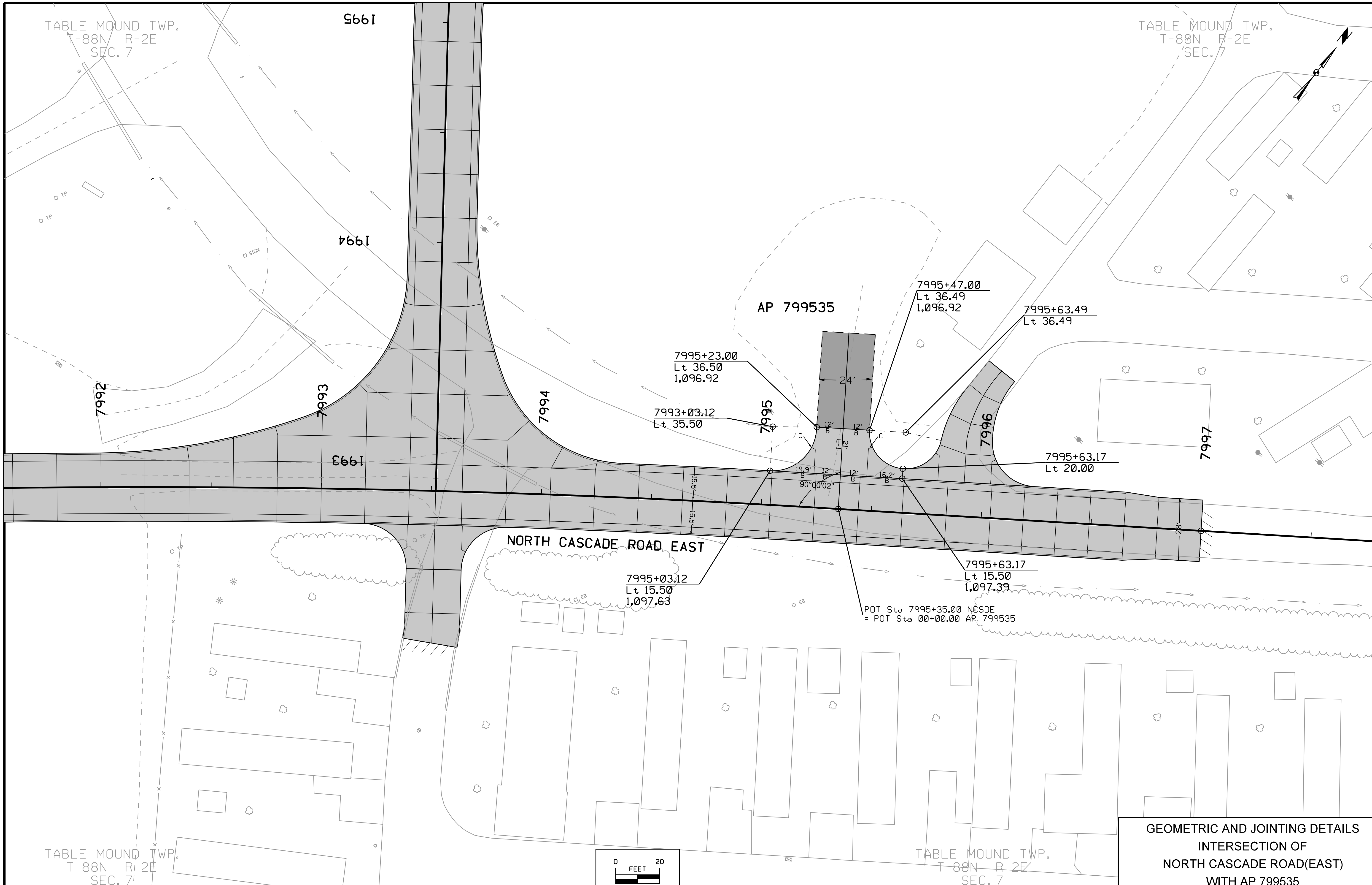
TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 20
FEET

STAKING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD(EAST)
WITH AP 799535

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.35

2:04:20 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht



GEOMETRIC AND JOINTING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD(EAST)
WITH AP 799535

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.36

2:04:20 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

1995
1994
1993
7993
7994
7995
7996
7997
7998

7996+05.36
Lt 66.91
1,094.13

7995+99.26
Lt 71.26
1,093.98

7996+11.47
Lt 62.55
1,093.98

7995+89.70
Lt 57.88
1,095.2

7996+03.00
Lt 37.08
1,096.42

7996+03.00
Rt 35.50
1,096.58

7996+23.00
Lt 35.50

7995+79.76
Lt 33.81
1,096.88

7996+45.50
Lt 37.08

7995+63.17
Lt 15.50
1,097.39

7996+36.50
Rt 24.47

7996+23.00
Rt 15.50
1,097.16

7996+03.81
Rt 29.85
1,097.13

7995+91.33
Lt 15.50
1,096.88

2.00%
7.5'

2.00%
7.5'

0.57%
12.19'
1,097.2

2.63%
12.19'

1.83%
16.43'

0.36%
16.6'

3.89%
11.57'

2.80%
12.48'

0.36%
19.2'

1,097.33

1,097.23

0 20
FEET

STAKING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD (EAST)
WITH AP 799591

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.37

2:04:21 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

1995
1994
1993
7993
7994
7995
7996
7997
7998

7995+89.70
Lt 57.88
1,095.2

7995+79.76
Lt 33.81
1,096.88

7995+63.17
Lt 15.50
1,097.39

AP 799591

7996+03.00
Lt 37.08
1,096.42

7996+03.00
Rt 35.50
1,096.58

7996+23.00
Lt 35.50

7996+45.50
Lt 37.08

7996+36.50
Rt 24.47

7996+23.00
Rt 15.50
1,097.16

89°59'57"

POT Sta 7995+91.00 NCSDE
= POT Sta 00+15.50 AP 799591

NORTH CASCADE ROAD EAST

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 FEET 20

GEOMETRIC AND JOINTING DETAILS
INTERSECTION OF
NORTH CASCADE ROAD (EAST)
WITH AP 799591

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.38

2:04:22 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

1999 2000 2001 2002 2003 2004 2005

2001+56.06
Rt 15.50
1,064.60

2001+83.02
Rt 15.50
1,064.12

2002+06.93
Rt 15.50
1,063.69

1.92%
12'
1,063.89
1.83%
12'
1.72%
15.1'
1,064.34
1.72%
15.1'
1.65%
12.1'

2001+65.20
Rt 30.50
1,064.35

2002+00.84
Rt 30.50
1,064.44

2.49%
18.1'
1,064.8
1.99%
18.1'
1.72%
2.39%

2001+69.16
Rt 67.49
1,065.25

2002+04.23
Rt 68.38
1,065.36

2002+23.51
Rt 66.67

2.49%
18.1'
1.88%
18.1'
1,065.7
2.12%
28.8'

2001+49.94
Rt 69.75

2002+25.06
Rt 86.61
1,065.44

2.34%
20.1'
2.49%
18.1'
3.09%
19.4'
3.8%
20'
1,065.8
1,066.20

2001+52.19
Rt 89.61
1,065.33

2001+87.35
Rt 88.69
1,066.14

0 20
FEET

STAKING DETAILS
INTERSECTION OF
SOUTH FRONTAGE ROAD
WITH AP 200179

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

2006 2007 2008 2009 2010 2011 2012

2008+20.44
Rt 15.50
1,057.93

2008+65.44
Rt 15.50
1,058.51

2009+10.44
Rt 15.50
1,059.10

1.30%
33'
1,058.39
1.25%
12'
1.33%
12'
1,058.67
1.30%
33'

2008+85.44
Rt 40.50
1,058.95

3.12%
5.77'
3.36%
25'

2008+45.44
Rt 40.50
1,058.95

1,059.35
2.00%
20'
2.00%
20'
2.00%
20'
2.00%
20'

2009+10.44
Rt 40.50

2008+20.44
Rt 40.50

2009+10.44
Rt 46.34

2008+20.44
Rt 46.27

1,059.53
25.1'
3.15%

2008+45.44
Rt 46.27
1,059.13

2.00%
33.92'
2.00%
12'
2.00%
12'
2.00%
33'
1,060.08
1,060.08

2008+85.44
Rt 46.34
1,059.13

2008+65.25
Rt 71.39
1,060.32

2009+10.42
Rt 71.34
1,059.42

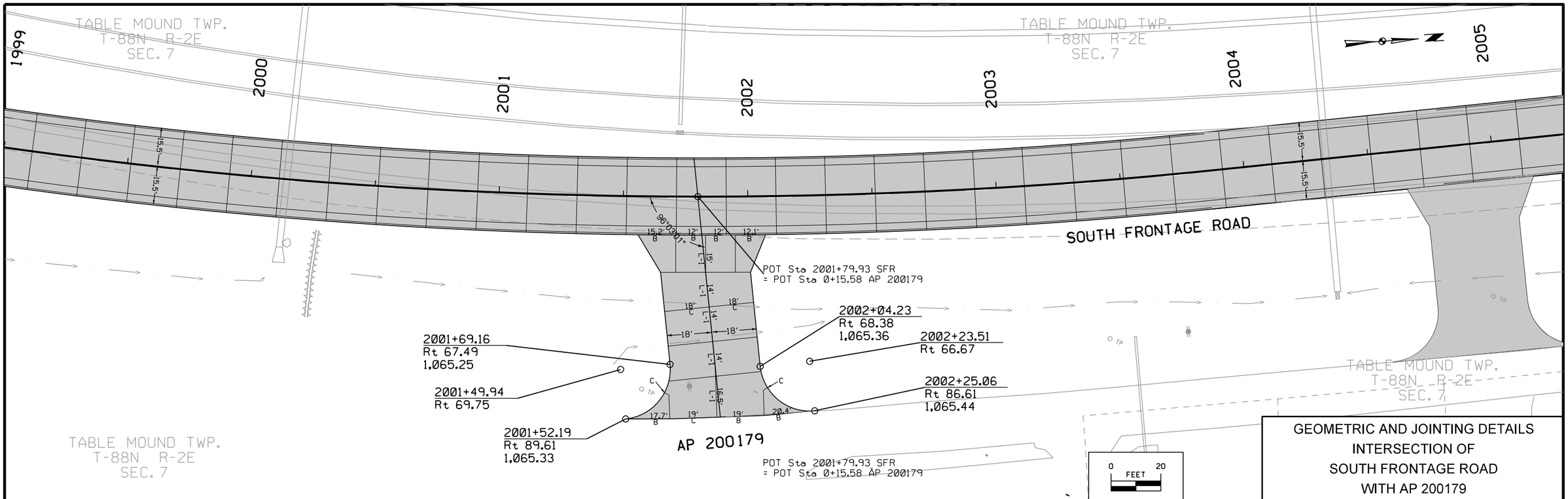
2008+20.42
Rt 71.27
1,059.42

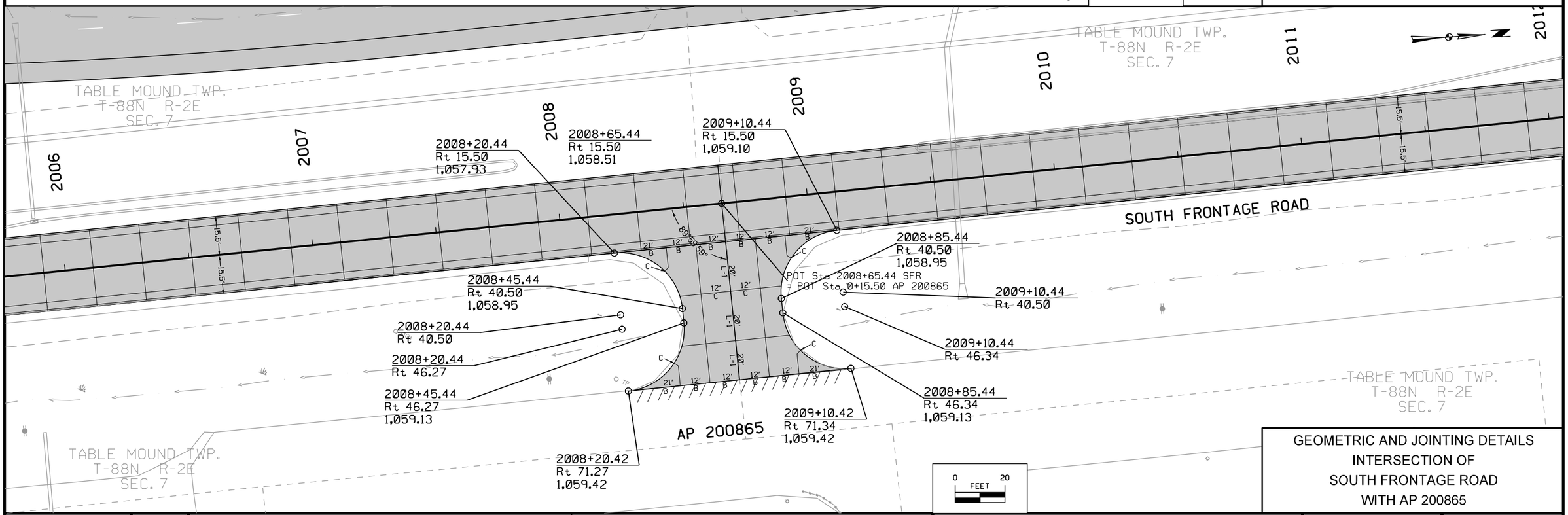
0 20
FEET

STAKING DETAILS
INTERSECTION OF
SOUTH FRONTAGE ROAD
WITH AP 200865

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.39

2:04:41 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht





FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.40

2:04:43 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121LO1.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

2023

2024

2025

2026

2027

2028

2023+34.91
Rt 15.50
1,064.02

2023+50.00
Rt 15.50
1,064.26

2025+47.01
Rt 15.50
1,066.87

2025+94.77
Rt 15.50
1,067.14

2026+39.58
Rt 15.50
1,067.36

2027+25.94
Rt 15.50
1,067.79

2027+45.91
Rt 34.33
1,067.32

2027+63.53
Rt 15.50
1,067.98

2028+01.07
Rt 15.50
1,068.17

1.60%
15'

1.60%
10'

1.60%
15'

2023+65.09
Rt 15.50
1,164.50

2023+39.90
Rt 25.52

2023+60.10
Rt 25.52

2023+50.00
Rt 25.54

2025+47.01
Rt 35.50

2025+63.82
Rt 24.36
1,066.71

2025+93.72
Rt 67.25

2026+39.58
Rt 35.50

2026+23.04
Rt 47.14
1,067.56

2026+08.44
Rt 57.24

2027+25.94
Rt 35.50

2027+46.16
Rt 38.71
1,067.39

2027+63.63
Rt 37.69
1,067.74

0.5%
37.5'

0.5%
37.5'

1.80%
22'

2.00%
17.5'

2.00%
17.5'

2028+01.07
Rt 35.50

2027+81.10
Rt 36.67
1,067.39

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

0 20
FEET

STAKING DETAILS
INTERSECTION OF
SOUTH FRONTAGE ROAD
WITH AP 202601
AND AP 202761

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.41

2:04:44 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

2023
2024
2025
2026
2027
2028

POT Sta 2026+01.35 SFR
= POT Sta 0+15.58 AP 202601

POT Sta 2027+61.43 SFR
= POT Sta 0+15.53 AP 202761

2025+47.01
Rt 15.50
1,066.87

2026+39.58
Rt 15.50
1,067.36

2027+25.94
Rt 15.50
1,067.79

2027+45.91
Rt 34.33
1,067.32

2028+01.07
Rt 15.50
1,068.17

SOUTH FRONTAGE ROAD

2025+47.01
Rt 35.50

2026+39.58
Rt 35.50

2027+25.94
Rt 35.50

2028+01.07
Rt 35.50

2025+63.82
Rt 24.36
1,066.71

AP 202601

2026+23.04
Rt 47.14
1,067.56

2027+46.16
Rt 38.71
1,067.39

AP 202761

2027+81.10
Rt 36.67
1,067.39

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

TABLE MOUND TWP.
T-88N R-2E
SEC. 7

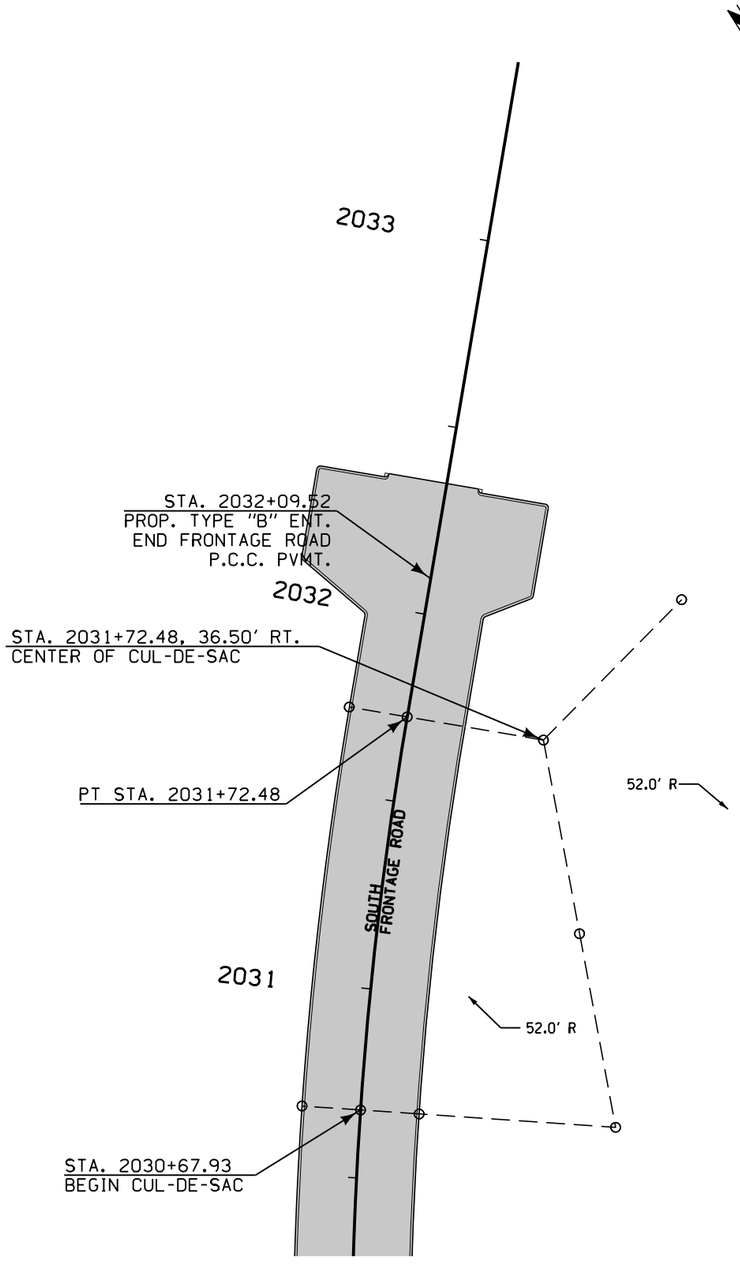
0 FEET 20

GEOMETRIC AND JOINTING DETAILS
INTERSECTION OF
SOUTH FRONTAGE ROAD
WITH AP 202601
AND AP 202761

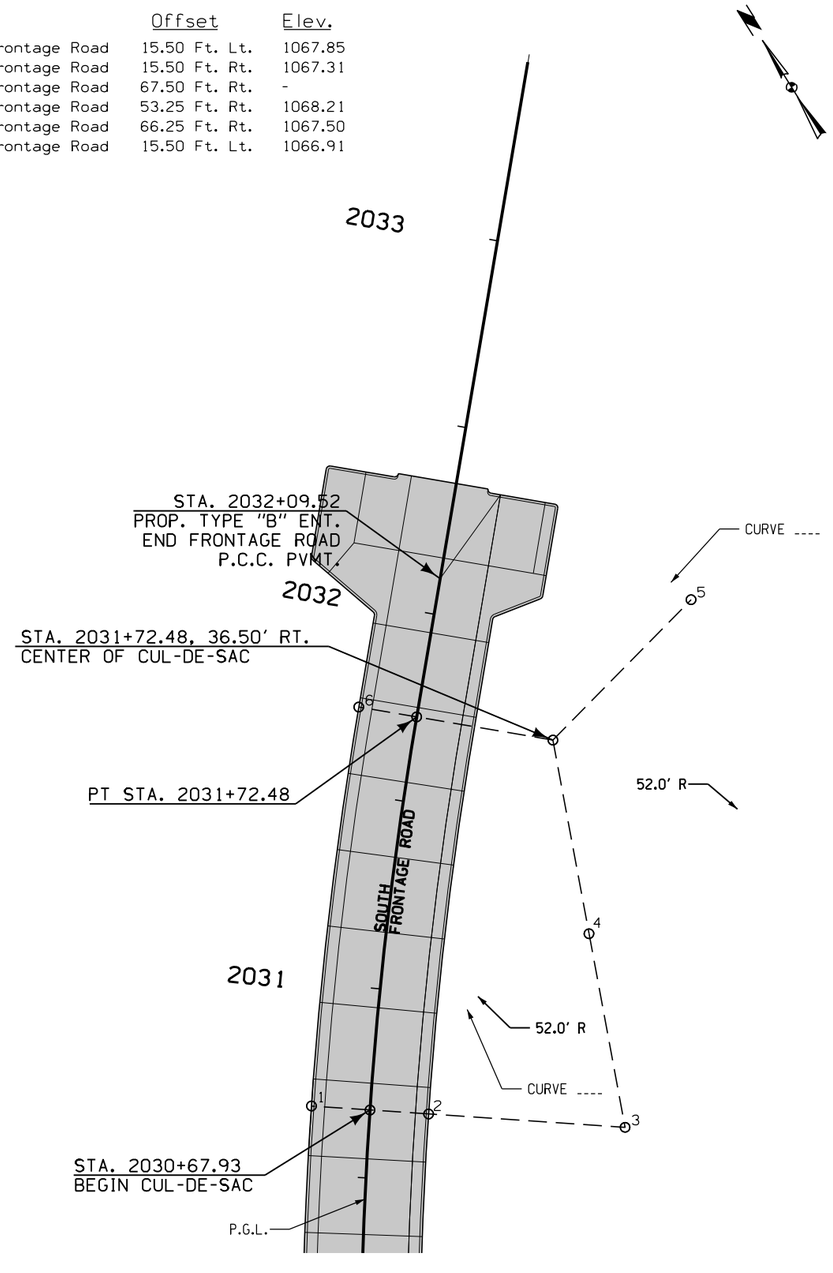
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.42

2:04:45 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020121L01.sht

Pt.	Stationing		Offset	Elev.
1	2030+67.93	South Frontage Road	15.50 Ft. Lt.	1067.85
2	2030+67.93	South Frontage Road	15.50 Ft. Rt.	1067.31
3	2030+67.93	South Frontage Road	67.50 Ft. Rt.	-
4	2031+21.03	South Frontage Road	53.25 Ft. Rt.	1068.21
5	2032+15.13	South Frontage Road	66.25 Ft. Rt.	1067.50
6	2031+72.48	South Frontage Road	15.50 Ft. Lt.	1066.91



SOUTH FRONTAGE ROAD CUL-DE-SAC - JOINTS



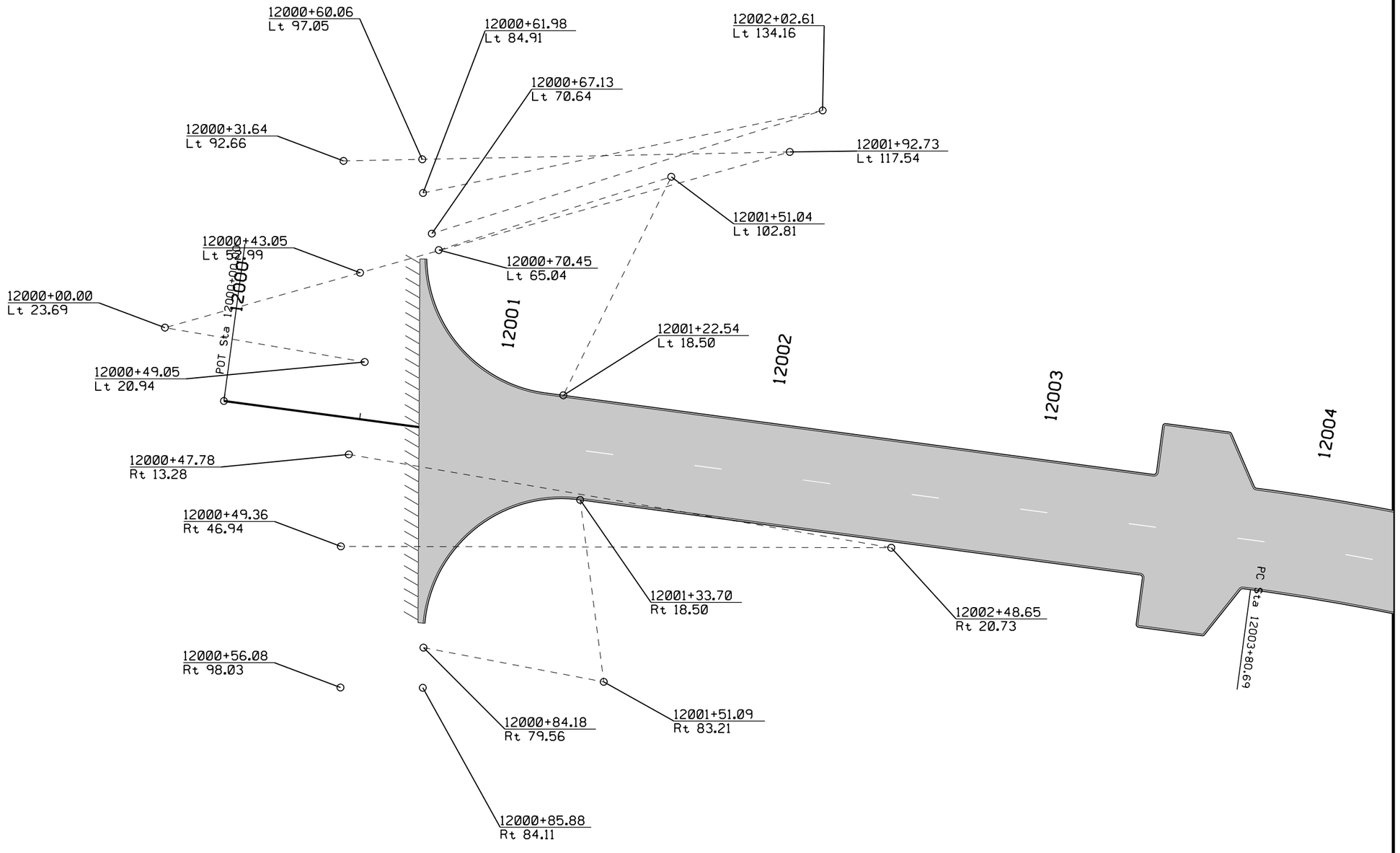
SOUTH FRONTAGE ROAD CUL-DE-SAC - ELEVATIONS

0 FEET 20

GEOMETRIC DETAILS
CUL-DE-SAC ON
SOUTH FRONTAGE ROAD
AT STA. 1038+05.44 ML

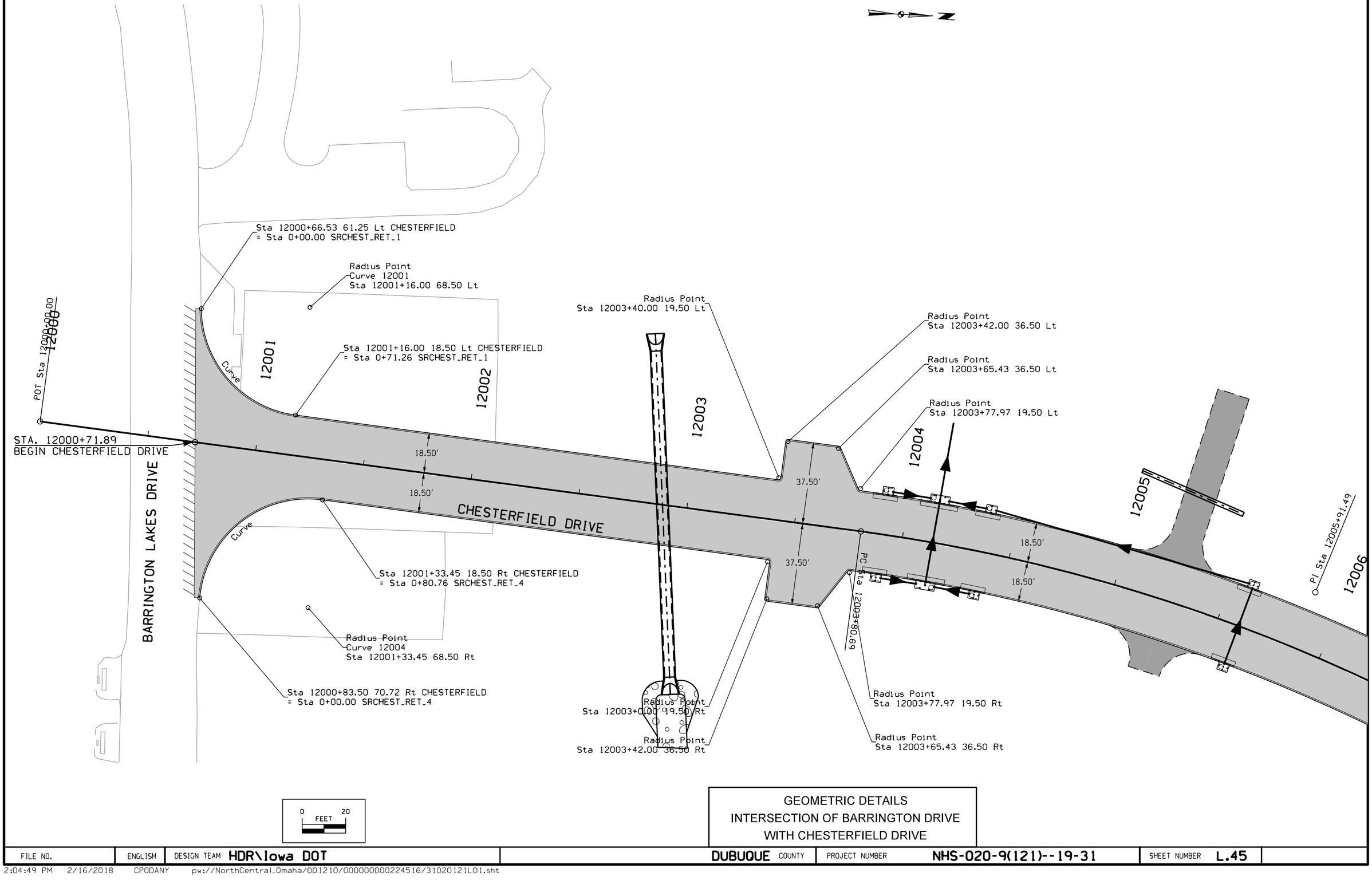
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.43

3:02:18 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020121L01.sht



FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.44

2:04:47 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht



GEOMETRIC DETAILS
INTERSECTION OF BARRINGTON DRIVE
WITH CHESTERFIELD DRIVE

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.45

2:04:49 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

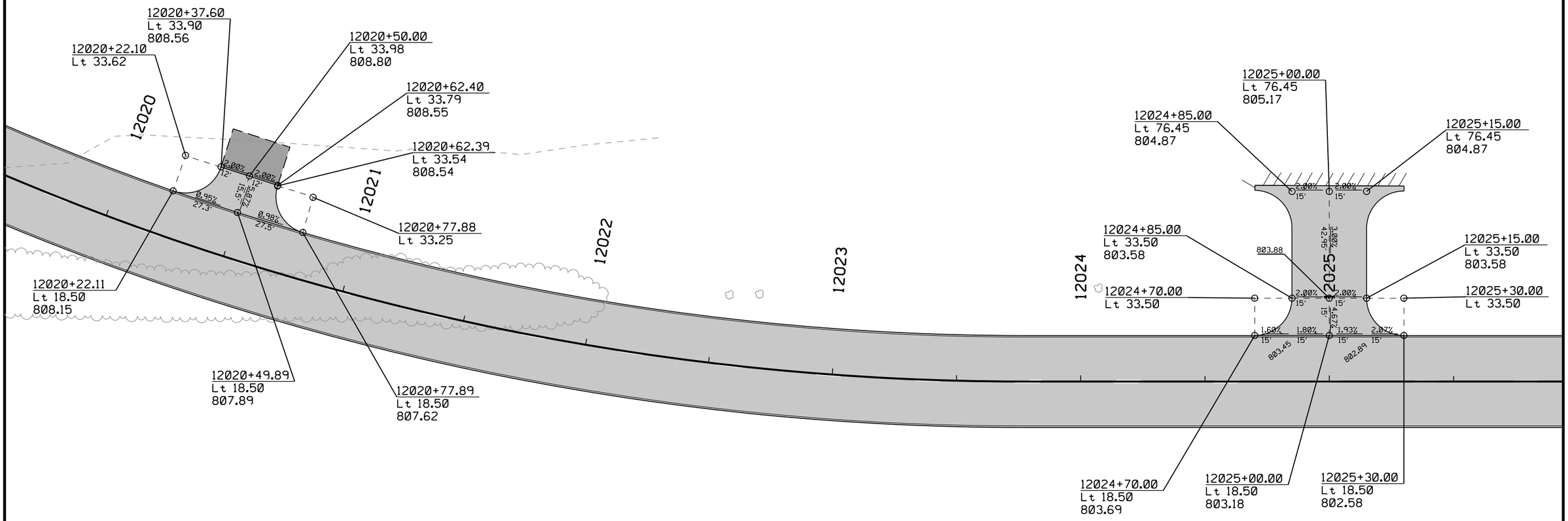


TABLE MOUND TWP.
T-88N R-2E
SEC. 5

TABLE MOUND TWP.
T-88N R-2E
SEC. 5

0 FEET 20

STAKING DETAILS
INTERSECTION OF CHESTERFIELD DRIVE
WITH AP 1202050
AND AP 1202500

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.46

2:04:50 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121LO1.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

12020+37.60
Lt 33.90
808.56

12020+22.10
Lt 33.62

AP 1202050

12020

12021

12020+62.39
Lt 33.54
808.54

12020+77.88
Lt 33.25

12022

12023

12020+22.11
Lt 18.50
808.15

12020+77.89
Lt 18.50
807.62

POT Sta 12020+50.00 CHESTERFIELD
= POT Sta 0+00.00 AP 1202050

CHESTERFIELD DRIVE

AP 1202500

12024

12024+85.00
Lt 33.50
803.58

12024+70.00
Lt 33.50

12025

12025+15.00
Lt 33.50
803.58

12025+30.00
Lt 33.50

12024+70.00
Lt 18.50
803.69

12025+30.00
Lt 18.50
802.58

POT Sta 1205+00.00 CHERSTERFIELD
= POT Sta 0+00.00 AP 1202500

TABLE MOUND TWP.
T-88N R-2E
SEC. 5

TABLE MOUND TWP.
T-88N R-2E
SEC. 5

0 FEET 20

GEOMETRIC AND JOINTING DETAILS
INTERSECTION OF CHESTERFIELD DRIVE
WITH AP 1202050
AND AP 1202500

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.47

2:04:51 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

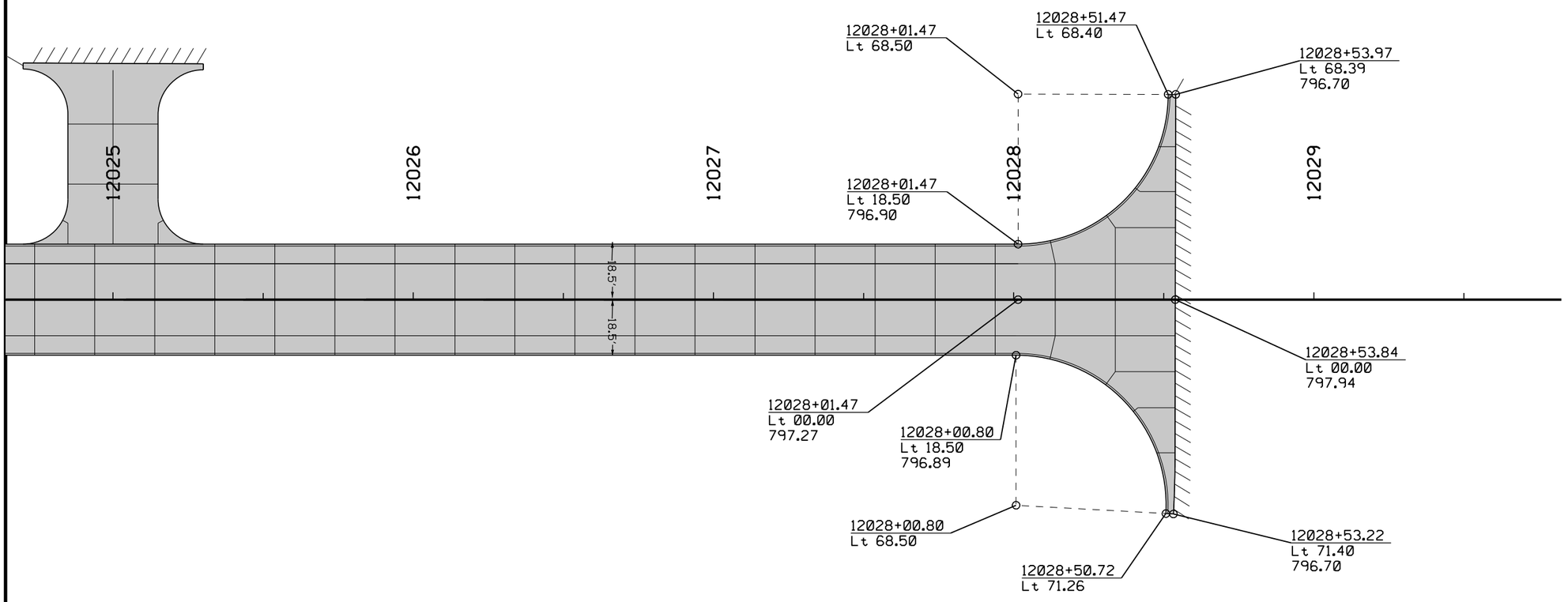


TABLE MOUND TWP.
T-88N R-2E
SEC. 5

TABLE MOUND TWP.
T-88N R-2E
SEC. 5

GEOMETRIC DETAILS
INTERSECTION OF STONE VALLEY DRIVE
WITH CHESTERFIELD DRIVE

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.48

2:04:52 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/00000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

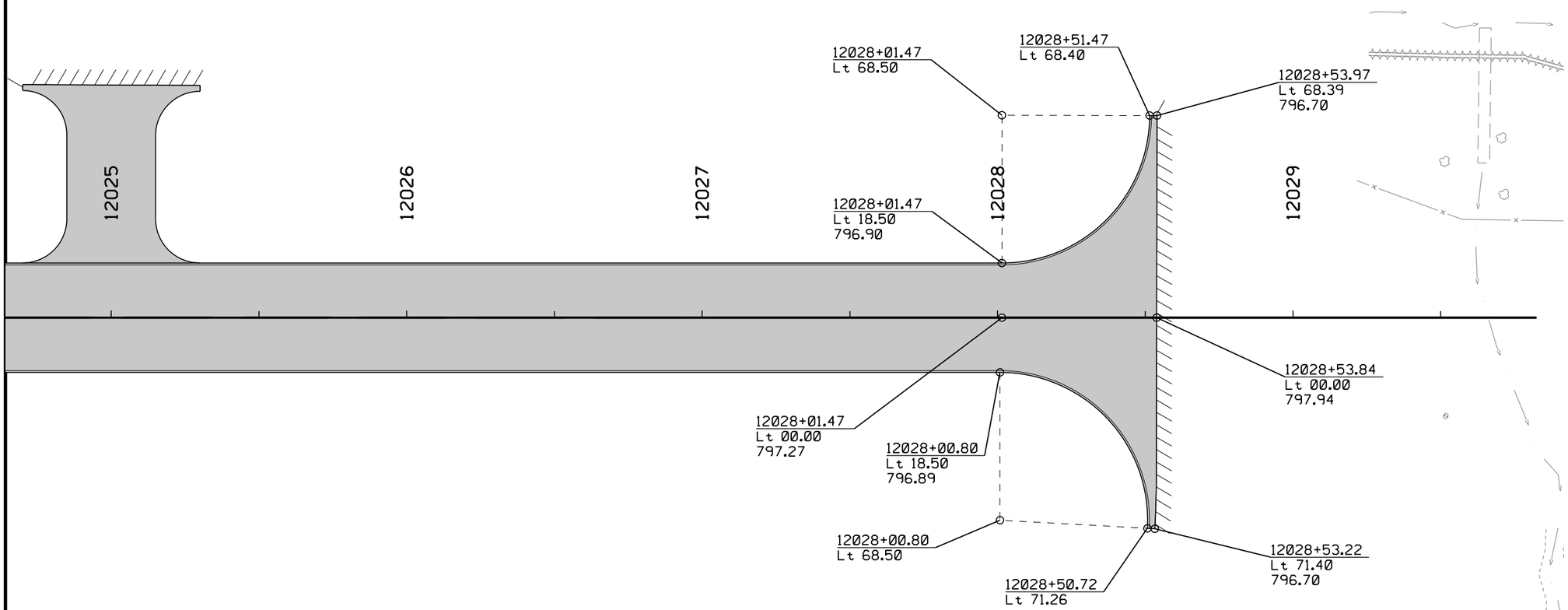


TABLE MOUND TWP.
T-88N R-2E
SEC. 5

TABLE MOUND TWP.
T-88N R-2E
SEC. 5

STAKING DETAILS
INTERSECTION OF STONE VALLEY DRIVE
WITH CHESTERFIELD DRIVE

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.49

2:04:53 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/D0000000000224516/31020121L01.sht

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

TABLE MOUND TWP.
T-88N R-2E
SEC. 6

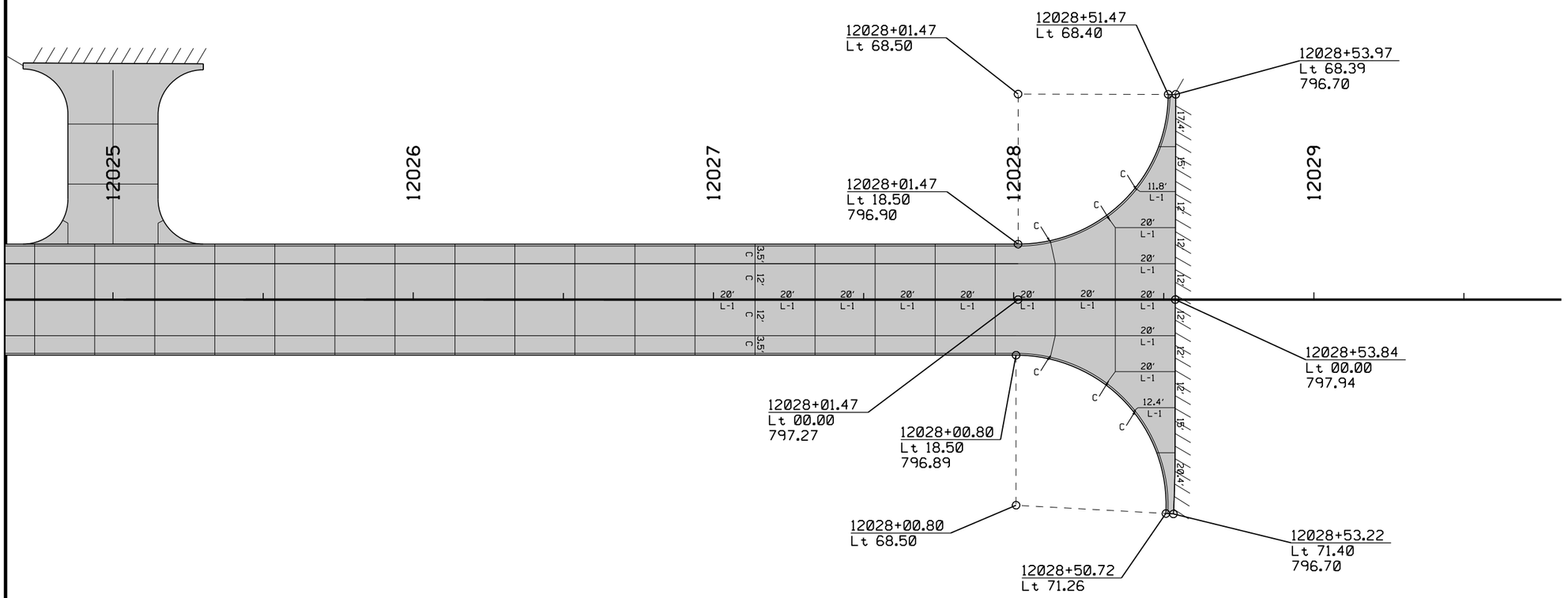


TABLE MOUND TWP.
T-88N R-2E
SEC. 5

TABLE MOUND TWP.
T-88N R-2E
SEC. 5

JOINTING DETAILS
INTERSECTION OF STONE VALLEY DRIVE
WITH CHESTERFIELD DRIVE

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER L.50

2:04:54 PM 2/16/2018 CPODANY pw://NorthCentral_Omaha/001210/0000000000224516/31020121L01.sht

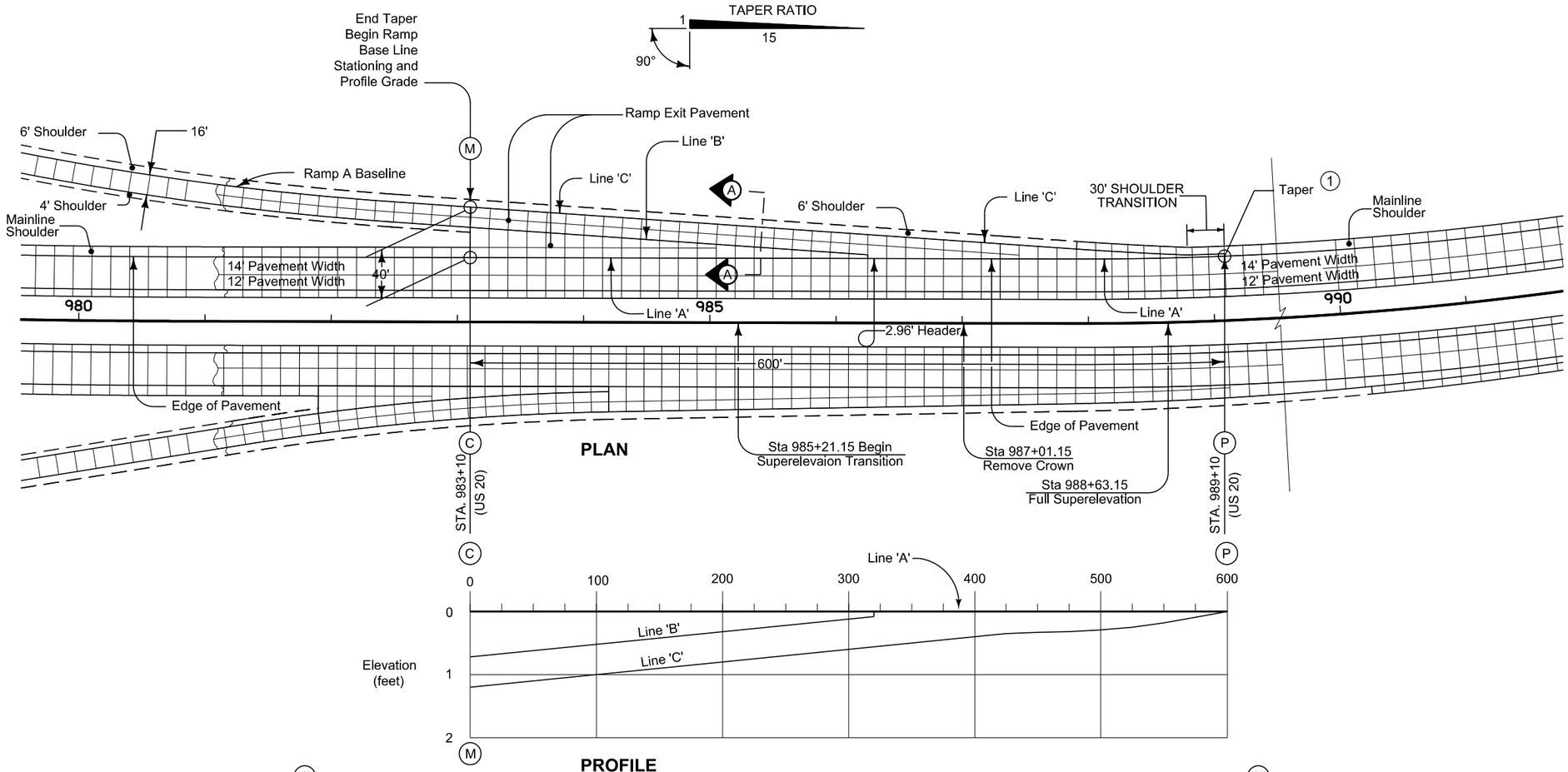
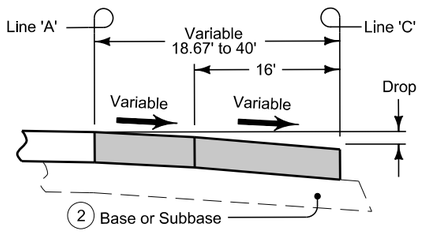


TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER																											
DISTANCE (Ft.)	0	25	50	75	100	125	150	160	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600
OFFSET (Ft.)	40	38.33	36.67	35.00	33.33	31.67	30.00	29.33	28.33	26.67	25.00	23.33	21.67	20.00	18.33	16.67	15.00	13.33	11.67	10.00	8.33	6.67	5.00	3.33	1.67	0
SLOPE (%)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.31	3.86	4.42	4.97	5.53	5.60	0
DROP (Ft.)	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.88	0.85	0.80	0.75	0.70	0.65	0.60	0.55	0.50	0.45	0.40	0.35	0.33	0.32	0.29	0.25	0.18	0.09	0



SECTION A-A

Construct ramp exit pavement the same thickness as mainline pavement.

Ramp exit pavement shown by shaded area is 1336 square yards.

For jointing layout, see Standard Road Plan PV-410, Sheet 2 of 2.

This design is based on 60 mph design speed at e max = 6%.

For location equivalent stations, see Tabulation 101-15.
Equate Point 'M' (Ramp Stationing) to Point 'C' (Mainline Stationing).

(1) For header construction details at the beginning of taper, see Typical 7101 or Typical 7102.

(2) Construct subbase for ramp exit pavement the same thickness as mainline subbase.

RAMP "A"

MODIFIED
STANDARD ROAD PLAN

REVISION	
2	10-18-11

PV-410

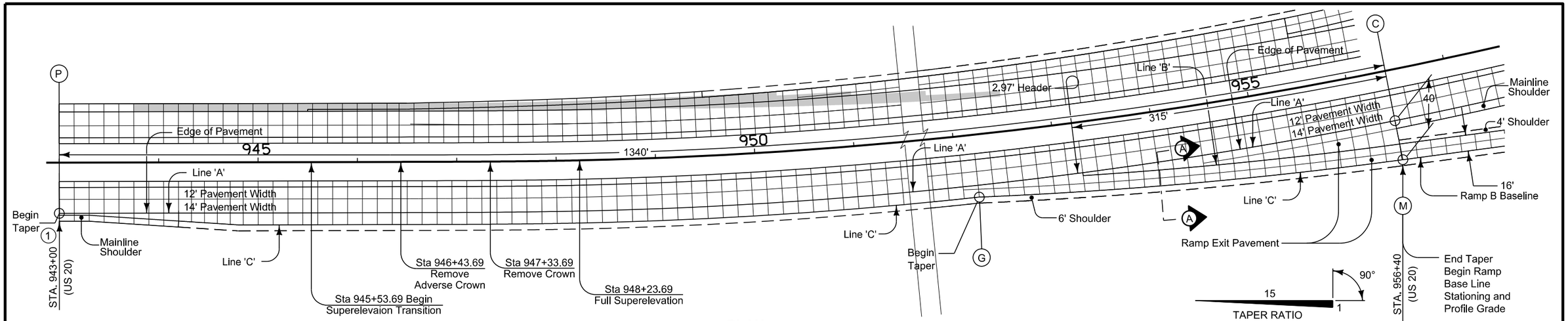
SHEET 1 of 1

MODIFICATIONS: Revised to accommodate the curvature of mainline lanes.
Removed Sheet 2

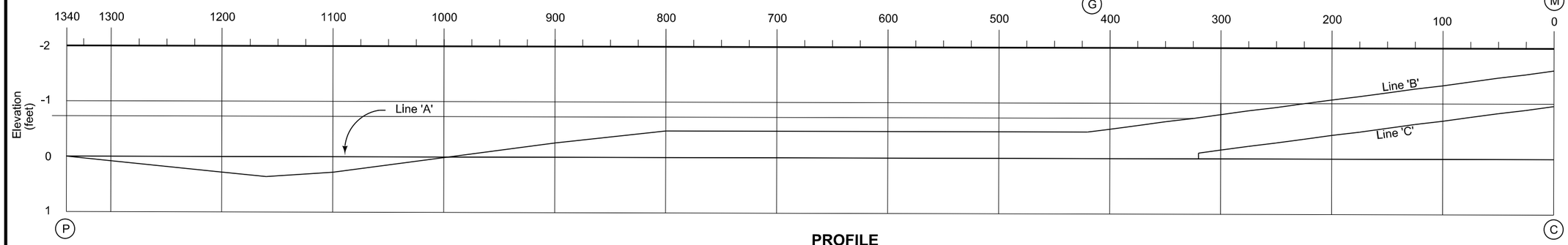
DECELERATION TAPER FOR 16' EXIT RAMP

FILE NO.	ENGLISH	DESIGN TEAM	HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER	NHS-020-9(183)--19-31	SHEET NUMBER	U.1

8:51:47 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020183U01.sht



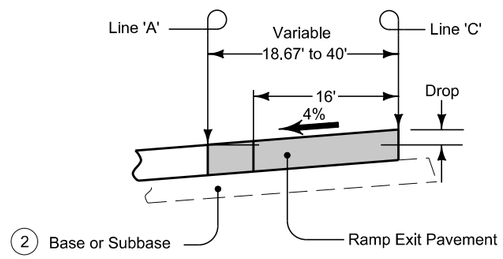
PLAN



PROFILE

TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER																																
DISTANCE (Ft.)	1340	1300	1200	1160	1100	1000	900	800	700	600	500	450	425	420	400	375	350	315	300	275	250	225	200	175	150	125	100	75	50	25	0
OFFSET (Ft.)	0	2.67	9.33	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	13.33	15.00	16.67	18.63	20.00	21.67	23.33	25.00	26.67	28.33	30.00	31.67	33.33	35.00	36.67	38.33	40
SLOPE (%)	3.00	3.00	3.00	3.00	2.30	0.08	2.14	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
DROP (Ft.)	0	0.08	0.28	0.36	0.28	0.01	-0.26	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.53	-0.60	-0.67	-.77	-0.80	-0.87	-0.93	-1.00	-1.07	-1.13	-1.20	-1.27	-1.33	-1.40	-1.47	-1.53	-1.60

M G M



SECTION A-A

Construct ramp exit pavement the same thickness as mainline pavement.

Ramp exit pavement shown by shaded area is 2349 square yards.

For jointing layout, see Modified Road Plan PV-410. See Sheet U.3.

This design is based on 60 mph design speed at e max = 6%.

For location equivalent stations, see Tabulation 101-15.
Equate Point 'M' (Ramp Stationing) to Point 'C' (Mainline Stationing).

(1) Ramp exit subbase shall be the same thickness as mainline subbase.

(2) Refer to detail project plans for mainline and ramp alignment and grade data.

RAMP "B"

MODIFIED
STANDARD ROAD PLAN

REVISION	
2	10-18-11

PV-410

SHEET 1 of 1

MODIFICATIONS: Revised to accommodate the curvature of mainline lanes.

DECELERATION TAPER FOR 16' EXIT RAMP

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER U.2

8:51:49 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020183U01.sht

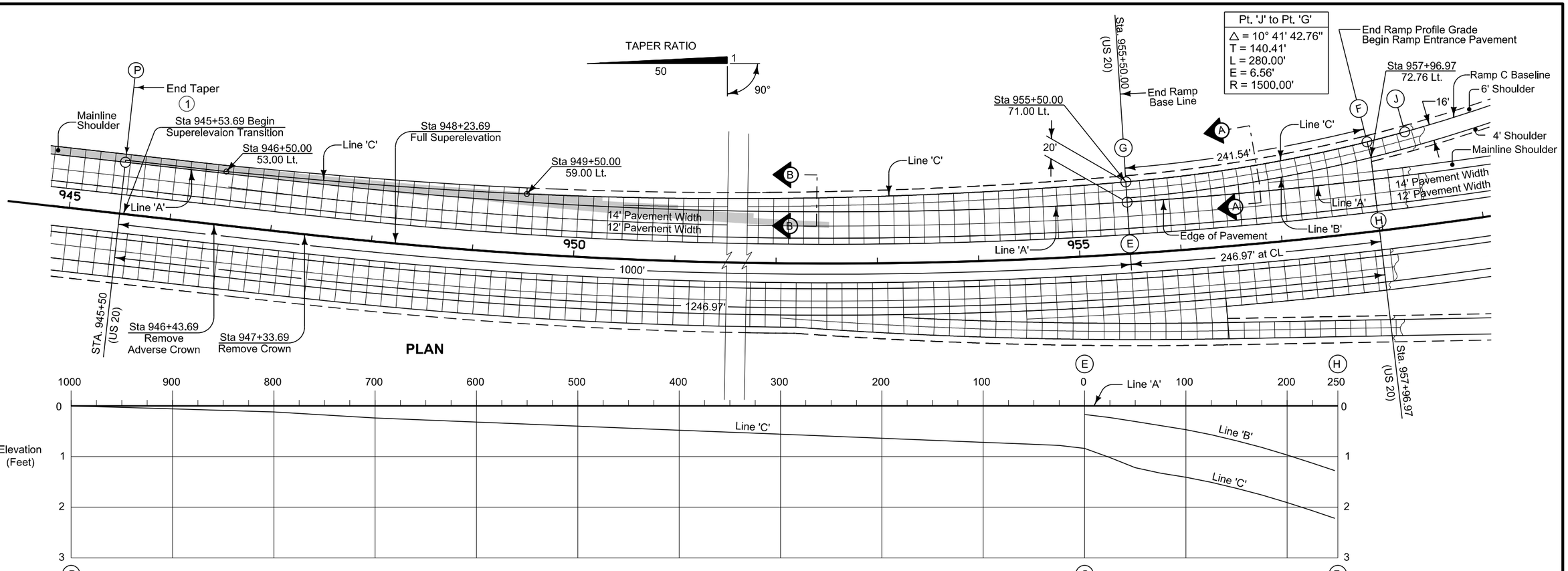
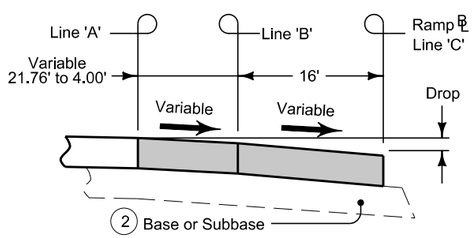
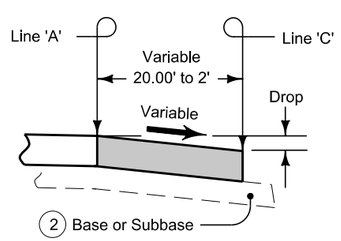


TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER																							
1000	900	800	700	600	500	400	300	200	100	75	50	25	0	25	50	75	100	125	150	175	200	225	246.97	Dist. From Pt. (E) Along U.S. 20 ℄ (Ft.)	
													4.00	4.60	5.47	6.61	8.02	9.70	11.65	13.87	16.36	19.11	21.76	Offset (Ft.)	From Line 'A' To Line 'B'
													4.19	4.92	5.66	← Constant 5.9% Slope →								Slope (%)	
													0.17	0.23	0.31	0.39	0.47	0.57	0.69	0.82	0.97	1.13	1.28	Drop (Ft.)	
													← Constant 16.0' Offset →											Offset (Ft.)	From Line 'B' To Line 'C'
													4.19	4.92	5.66	← Constant 5.9% Slope →								Slope (%)	
													0.67	0.79	0.91	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	Drop (Ft.)	
0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	18.50	19.00	19.50												Offset (Ft.)	From Line 'A' To Line 'C'
3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00												Slope (%)	
0.00	0.06	0.12	0.24	0.32	0.40	0.48	0.56	0.64	0.72	0.74	0.76	0.78	0.84	1.02	1.22	1.33	1.41	1.51	1.63	1.76	1.91	2.07	2.22	Drop (Ft.)	
													0.00	24.14	48.59	73.05	97.51	121.98	146.46	170.95	195.46	219.98	241.54	Distance From Point (G) Along Line 'C' (Ft.)	
P													G										F		



SECTION A-A



SECTION B-B

Construct ramp entrance pavement the same thickness as mainline pavement.

Ramp entrance pavement shown by shaded area is 1831 square yards.

For jointing layout, see Standard Road Plan PV-411. See Sheet 2 of 2.

This design is based on 60 mph design speed at e max = 6%.

For location equivalent stations, see Tabulation 101-15.

(1) Ramp entrance subbase shall be the same thickness as mainline subbase.

(2) Refer to detail project plans for mainline and ramp alignment and grade data.

RAMP "C"

MODIFIED STANDARD ROAD PLAN

REVISION 2 10-18-11

PV-411

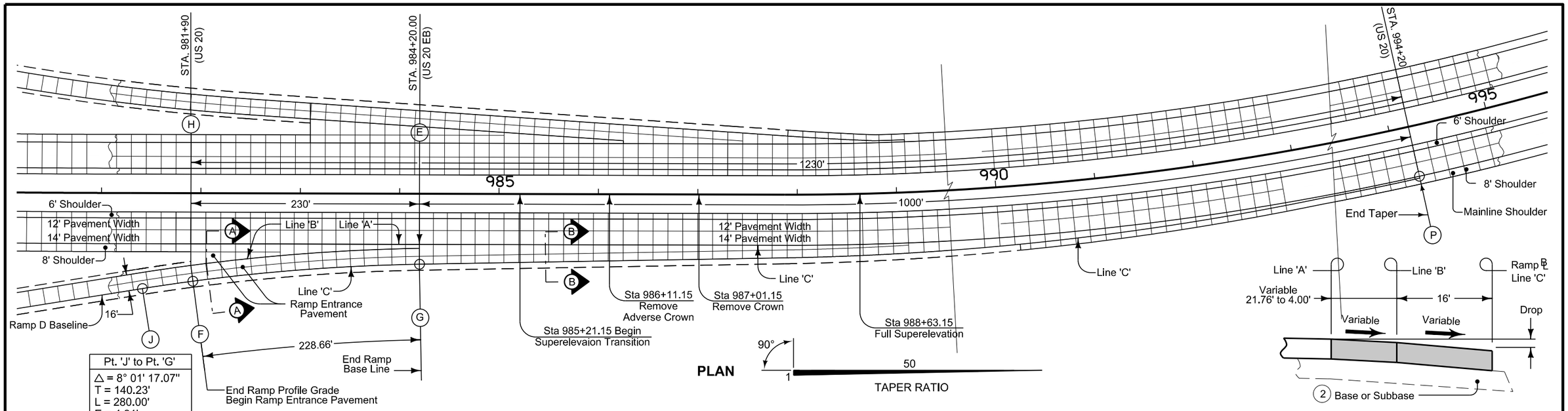
SHEET 1 of 1

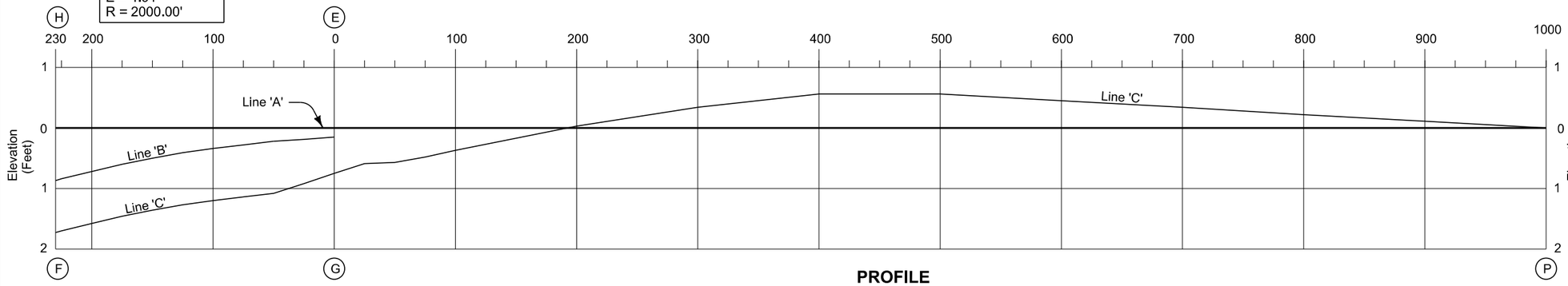
MODIFICATIONS: Revised to accommodate the curvature of mainline lanes. Removed Sheet 2

ACCELERATION TAPER FOR 16' ENTRANCE RAMP

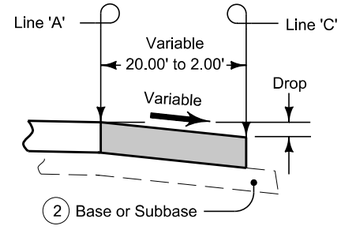
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER U.3

8:51:50 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183U01.sht





PROFILE



SECTION B-B

TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER																								
Dist. From Pt. Ⓔ Along U.S. 20 ℄ (Ft.)		230	225	200	175	150	125	100	75	50	25	0	25	50	75	100	200	300	400	500	600	700	800	900	1000
From Line 'A' To Line 'B'	Offset (Ft.)	21.76	21.09	17.94	15.10	12.57	10.36	8.47	6.88	5.61	4.65	4.00													
	Slope (%)	← Constant 4.0% Slope →										3.78													
	Drop (Ft.)	0.87	0.84	0.72	0.60	0.50	0.41	0.34	0.28	0.22	0.19	0.15													
From Line 'B' To Line 'C'	Offset (Ft.)	← Constant 16.0' Offset →																							
	Slope (%)	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	4.58	3.78													
	Drop (Ft.)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.73	0.60													
From Line 'A' To Line 'C'	Offset (Ft.)												19.50	19.00	18.50	18.00	16.00	14.00	12.00	10.00	8.00	6.00	4.00	2.00	0
	Slope (%)												3.00	3.00	2.58	2.03	0.20	2.42	4.64	5.60	5.60	5.60	5.60	5.60	5.60
	Drop (Ft.)	1.73	1.70	1.58	1.46	1.36	1.27	1.20	1.14	1.08	0.92	0.75	0.59	0.57	0.48	0.37	-0.03	-034	-0.56	-0.56	-0.45	-0.34	-0.22	-0.11	0
Distance From Point Ⓖ Along Line 'C' (Ft.)		228.66	223.66	198.66	173.70	148.77	123.87	99.00	74.15	49.31	24.49	0.00													

Construct ramp entrance pavement the same thickness as mainline pavement.

Ramp entrance pavement shown by shaded area is 1813 square yards.

For jointing layout, see Standard Road Plan PV-411. See Sheet 2 OF 2.

This design is based on 60 mph design speed at e max = 6%.

For location equivalent stations, see Tabulation 101-15.

(1) Ramp entrance subbase shall be the same thickness as mainline subbase.

(2) Refer to detail project plans for mainline and ramp alignment and grade data.

RAMP "D"

MODIFIED
STANDARD ROAD PLAN

REVISION 2 10-18-11

PV-411

SHEET 1 of 1

MODIFICATIONS: Revised to accommodate the curvature of mainline lanes. Removed Sheet 2

ACCELERATION TAPER FOR 16' ENTRANCE RAMP

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER U.4

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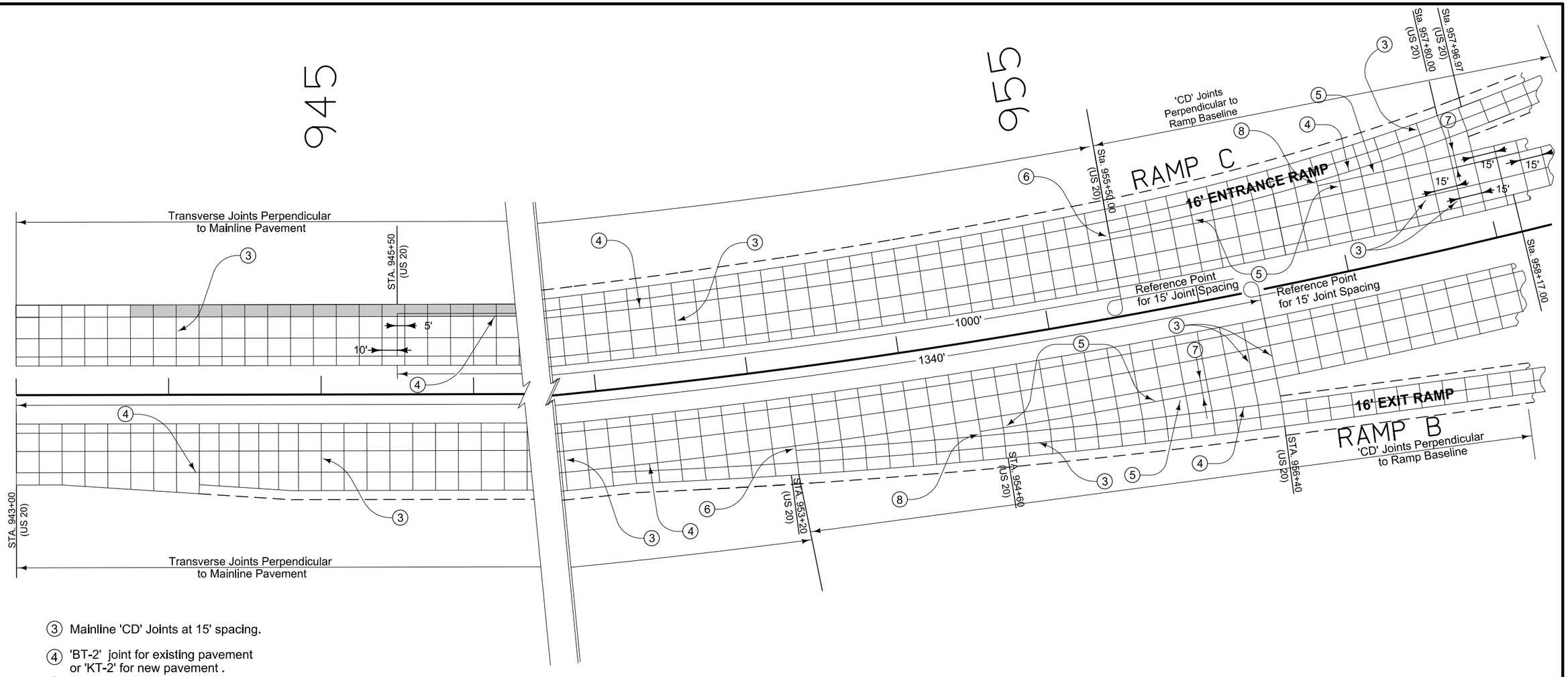


③ Mainline 'CD' Joints at 15' spacing.

④ 'BT-2' joint for existing pavement or 'KT-2' for new pavement .

⑤ 'C' Joint.

⑥ 'B' Joint. 2' minimum. 4' maximum.

⑦ 10' minimum or equal to mainline shoulder width.

⑧ 'B' or 'C' Joint. 2' minimum. 4' maximum.

RAMP "B"
AND
RAMP "C"

MODIFIED
STANDARD ROAD PLAN

REVISION	
2	10-18-11

PV-410

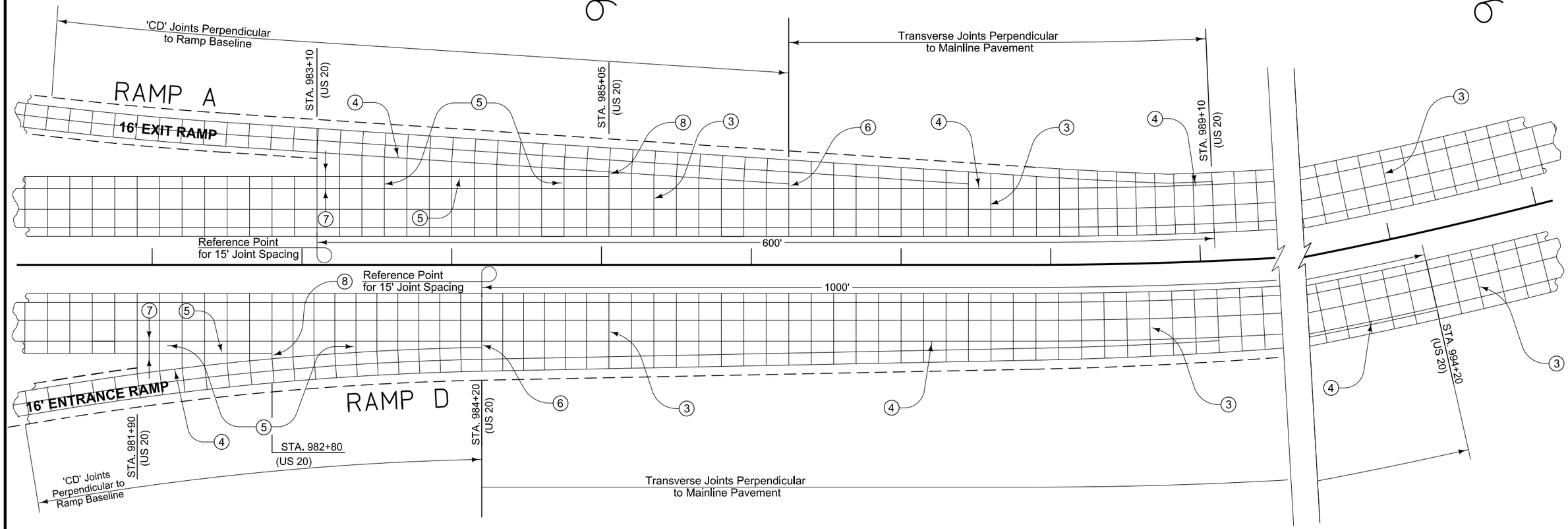
SHEET 2 of 2

MODIFICATIONS: Revised to accommodate the curvature of mainline lanes.

DECELERATION TAPER FOR 16' EXIT RAMP AND ACCELERATION TAPER FOR 16' ENTRANCE RAMP

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER U.5

8:51:52 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020183U01.sht



③ Mainline 'CD' Joints at 15' spacing.

④ 'BT-2' joint for existing pavement or 'KT-2' for new pavement .

⑤ 'C' Joint.

⑥ 'B' Joint. 2' minimum. 4' maximum.

⑦ 10' minimum or equal to mainline shoulder width.

⑧ 'B' or 'C' Joint. 2' minimum. 4' maximum.

RAMP "A" AND RAMP "D"

MODIFIED STANDARD ROAD PLAN

REVISION	
2	10-18-11

PV-410

SHEET 2 of 2

MODIFICATIONS: Revised to accommodate the curvature of mainline lanes.

DECELERATION TAPER FOR 16' EXIT RAMP AND ACCELERATION TAPER FOR 16' ENTRANCE RAMP

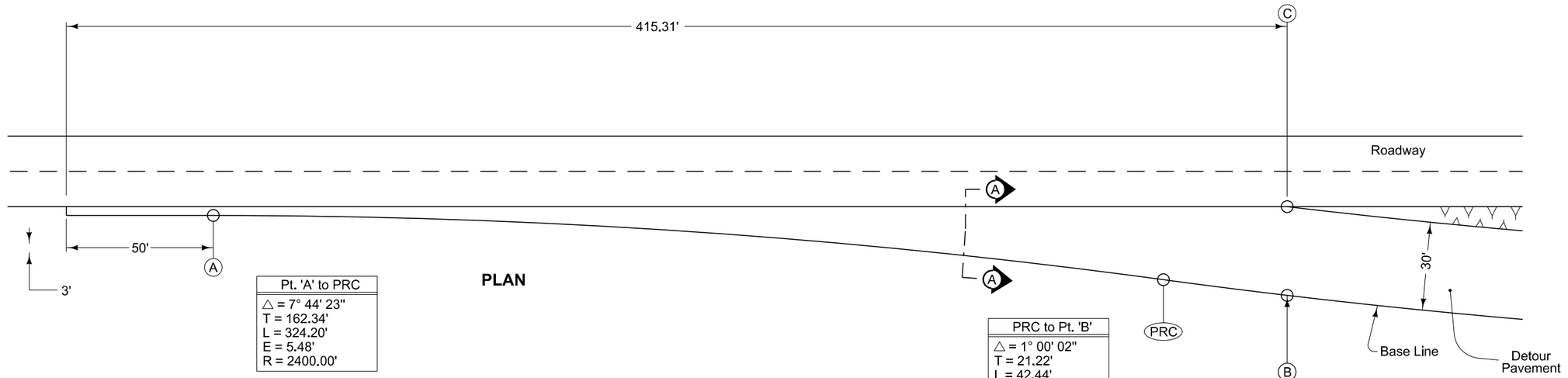
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER U.6

8:51:53 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/00000000224516/31020183U01.sht

Construct detour connection pavement and subbase the same thickness as detour pavement and subbase.

Detour connection pavement shown by shaded area is 514.76 square yards.

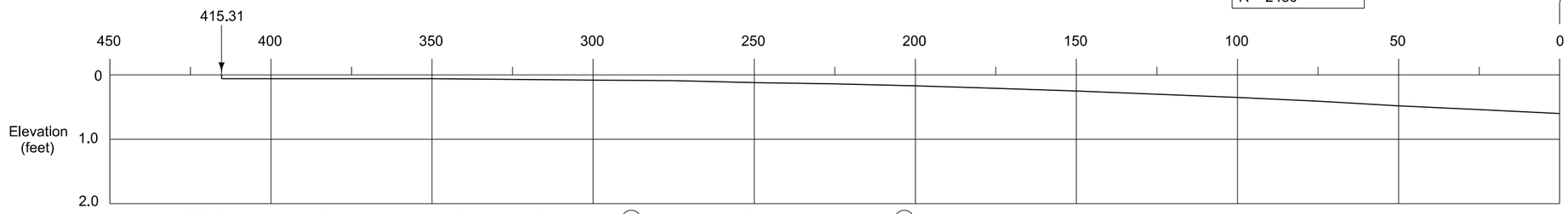
For joint details, see PV-101



PLAN

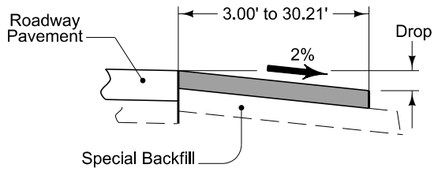
Pt. 'A' to PRC
△ = 7° 44' 23"
T = 162.34'
L = 324.20'
E = 5.48'
R = 2400.00'

PRC to Pt. 'B'
△ = 1° 00' 02"
T = 21.22'
L = 42.44'
E = 0.09'
R = 2430'



NOTE: The algebraic difference between profile grade for Base Line at (B) and relative profile grade of Mainline at (C) is 0.24%.

PROFILE



SECTION A-A

TABLE OF OFFSETS AND DROPS FOR DETOUR PAVEMENT																		
DISTANCE (Ft.)	415.31	400	375	350	325	300	275	250	225	200	175	150	125	100	75	50	25	0
OFFSET (Ft.)	3.00	3.00	3.00	3.05	3.34	3.89	4.70	5.77	7.11	8.70	10.56	12.68	15.06	17.71	20.62	23.80	27.13	30.21
DROP (Ft.)	0.06	0.06	0.06	0.06	0.07	0.08	0.09	0.12	0.14	0.17	0.21	0.25	0.30	0.35	0.41	0.48	0.54	0.60

NOTE: The elevations are established by a constant 2% slope across the appropriate detour [illegible] a radius of 2400'. Drop = (0.02) x (Offset).

RAMP "D"

Possible Contract Items:
Detour Pavement
Special Backfill

MODIFIED
STANDARD ROAD PLAN

REVISION	
1	10-21-14

PV-428

SHEET 1 of 1

MODIFICATIONS: Standard applies to West End Eastbound Detour (See F Sheets)
Changed geometry for a 30' pavement width

WEST END EASTBOUND DETOUR (SEE F SHEETS)

TWO-LANE DETOUR CONNECTION

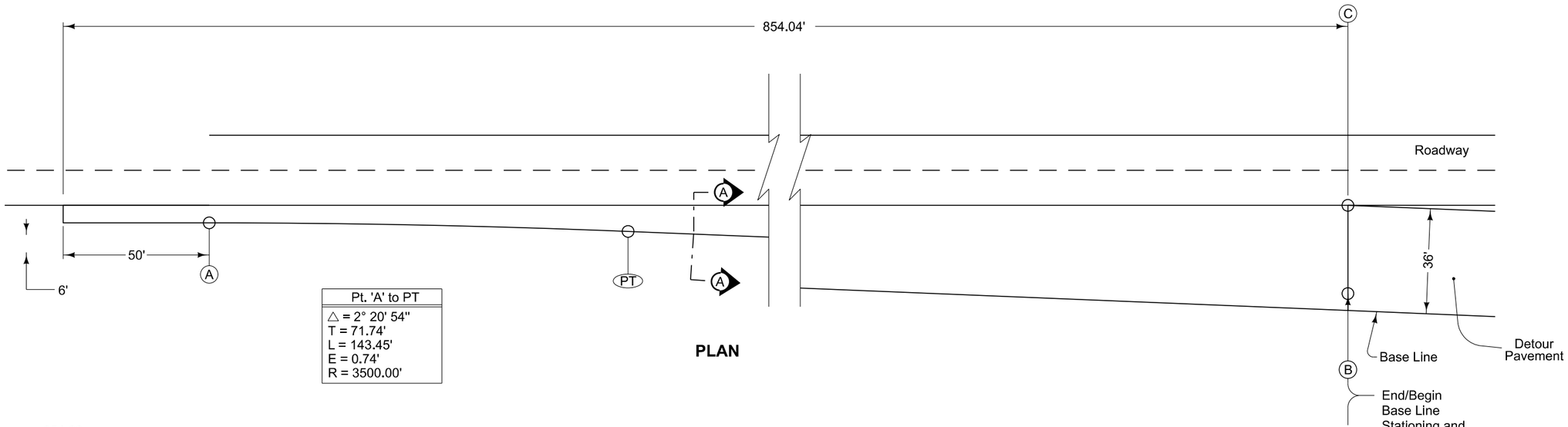
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER U.7

8:51:54 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183U01.sht

Construct detour connection pavement and subbase the same thickness as detour pavement and subbase.

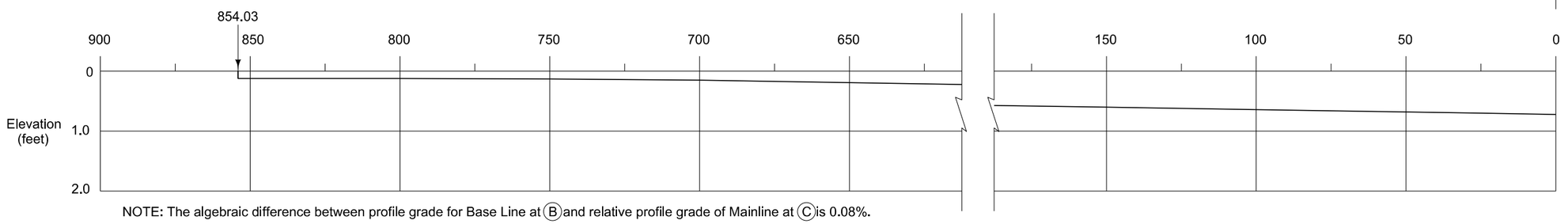
Detour connection pavement shown by shaded area is 1795 square yards.

For joint details, see PV-101



Pt. 'A' to PT
△ = 2° 20' 54"
T = 71.74'
L = 143.45'
E = 0.74'
R = 3500.00'

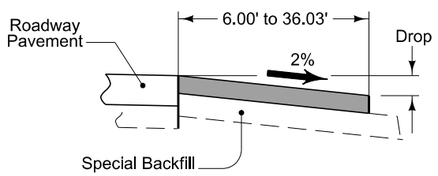
PLAN



NOTE: The algebraic difference between profile grade for Base Line at (B) and relative profile grade of Mainline at (C) is 0.08%.

PROFILE

Possible Contract Items:
Detour Pavement
Special Backfill



SECTION A-A

TABLE OF OFFSETS AND DROPS FOR DETOUR PAVEMENT																						
DISTANCE (Ft.)	854.04	850	800	750	700	650	600	550	500	450	400	350	300	250	200	150	100	75	50	25	0
OFFSET (Ft.)	6.00	6.00	6.00	6.42	7.55	9.38	11.43	13.48	15.53	17.58	19.63	21.68	23.73	25.78	27.83	29.88	31.93	32.95	33.98	35.01	36.03
DROP (Ft.)	0.12	0.12	0.12	0.13	0.15	0.19	0.23	0.27	0.31	0.35	0.39	0.43	0.47	0.52	0.56	0.60	0.64	0.66	0.68	0.70	0.72

NOTE: The elevations are established by a constant 2% slope across the appropriate detour widths based on a radius of 3500'. Drop = (0.02) x (Offset).

MODIFIED
STANDARD ROAD PLAN

REVISION
1 | 10-21-14

PV-428

SHEET 1 of 1

MODIFICATIONS: Standard applies to East End Crossover for Westbound and Eastbound Detours (See F Sheets)
Changed geometry for a 36' pavement width

EAST END CROSSOVER FOR EASTBOUND AND WESTBOUND DETOURS (SEE F SHEETS)

TWO-LANE DETOUR CONNECTION

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER U.8

8:51:56 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/000000000224516/31020183U01.sht

CYPRESS_RET_1 HORIZONTAL CURVE DATA

P.I. Station 0+45.00 N 3,635,194.3163 E 5,650,992.3251
Delta = 90° 00' 00.00" (RT)
Degree = 127° 19' 26.24"
Tangent = 45.0000
Length = 70.6858
Radius = 45.0000
External = 18.6396
Long Chord = 63.6396
Mid. Ord. = 13.1802
P.C. Station 0+00.00 N 3,635,194.4463 E 5,651,037.3249
P.T. Station 0+70.69 N 3,635,239.3161 E 5,650,992.1951

Back = S 89° 50' 04.02" W
Ahead = N 0° 09' 55.98" W
Chord Bear = N 45° 09' 55.98" W

CYPRESS_RET_2 HORIZONTAL CURVE DATA

P.I. Station 0+45.00 N 3,635,194.2383 E 5,650,965.3252
Delta = 90° 00' 00.00" (LT)
Degree = 127° 19' 26.24"
Tangent = 45.0000
Length = 70.6858
Radius = 45.0000
External = 18.6396
Long Chord = 63.6396
Mid. Ord. = 13.1802
P.C. Station 0+00.00 N 3,635,194.1083 E 5,650,920.3254
P.T. Station 0+70.69 N 3,635,239.2381 E 5,650,965.1952

Back = N 89° 50' 04.02" E
Ahead = N 0° 09' 55.98" W
Chord Bear = N 44° 50' 04.02" E

CYPRESS DRIVE DITCH GRADE LEFT
VERTICAL PROFILE DATA

		STATION	ELEV	GRADE
VPI	1	254+22.00	1,103.7900	
VPI	2	255+48.76	1,109.4892	4.5000

CYPRESS DRIVE CENTERLINE HORIZONTAL ALIGNMENT DATA

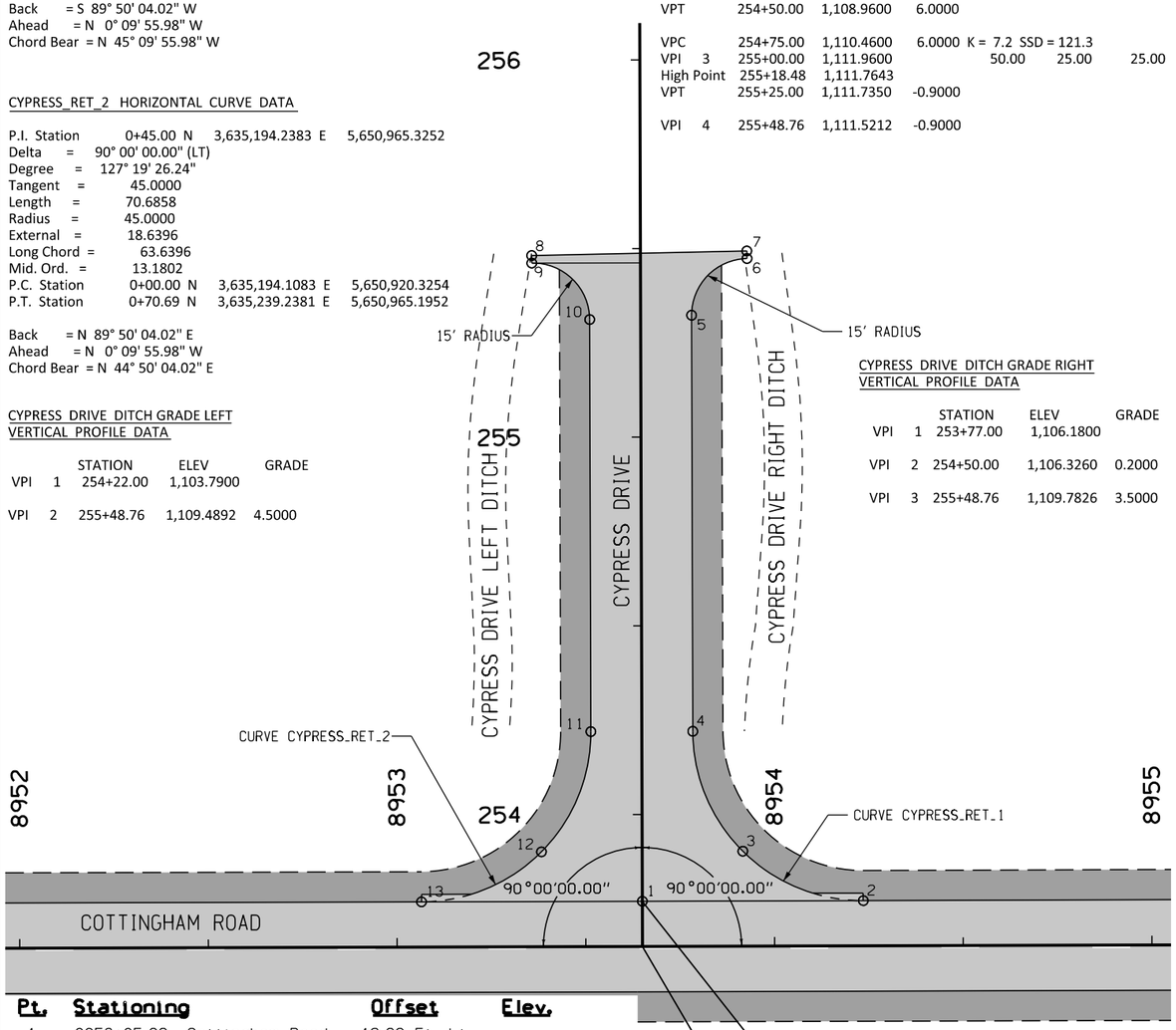
Point 895368 N 3,635,182.2774 E 5,650,978.8598 Sta 253+65.00
Course from 895368 to 895367 N 0° 09' 55.98" W Distance 244.7712
Point 895367 N 3,635,427.0476 E 5,650,978.1526 Sta 256+09.77

CYPRESS DRIVE VERTICAL PROFILE DATA

		STATION	ELEV	GRADE	TOTAL L	BACK L	AHEAD L
VPI	1	253+77.00	1,108.4200				
VPC		254+00.00	1,107.9600	-2.0000	K = 6.2		
Low Point		254+12.50	1,107.8350				
VPI	2	254+25.00	1,107.4600		50.00	25.00	25.00
VPT		254+50.00	1,108.9600	6.0000			
VPC		254+75.00	1,110.4600	6.0000	K = 7.2	SSD = 121.3	
VPI	3	255+00.00	1,111.9600		50.00	25.00	25.00
High Point		255+18.48	1,111.7643				
VPT		255+25.00	1,111.7350	-0.9000			
VPI	4	255+48.76	1,111.5212	-0.9000			

CYPRESS DRIVE DITCH GRADE RIGHT
VERTICAL PROFILE DATA

		STATION	ELEV	GRADE
VPI	1	253+77.00	1,106.1800	
VPI	2	254+50.00	1,106.3260	0.2000
VPI	3	255+48.76	1,109.7826	3.5000



Pt.	Stationing		Offset	Elev.
1	8953+85.00	Cottingham Road	12.00 Ft. Lt.	-
2	8954+23.50	Cottingham Road	12.00 Ft. Lt.	-
3	253+90.18	Cypress Drive	26.68 Ft. Rt.	-
4	254+22.00	Cypress Drive	13.50 Ft. Rt.	-
5	255+32.28	Cypress Drive	13.50 Ft. Rt.	-
6	255+47.28	Cypress Drive	28.22 Ft. Rt.	-
7	255+49.28	Cypress Drive	28.18 Ft. Rt.	-
8	255+48.22	Cypress Drive	28.82 Ft. Lt.	-
9	255+46.22	Cypress Drive	28.78 Ft. Lt.	-
10	255+31.22	Cypress Drive	13.50 Ft. Lt.	-
11	254+22.00	Cypress Drive	13.50 Ft. Lt.	-
12	253+90.18	Cypress Drive	26.68 Ft. Lt.	-
13	8953+06.50	Cottingham Road	12.00 Ft. Lt.	-

GEOMETRIC DETAILS
INTERSECTION OF RELOCATED
COTTINGHAM ROAD
WITH CYPRESS DRIVE

HIGLEY_RET_1 HORIZONTAL CURVE DATA

P.I. Station 0+47.37 N 3,635,218.2707 E 5,651,833.7724
Delta = 92° 56' 01.47" (RT)
Degree = 127° 19' 26.24"
Tangent = 47.3652
Length = 72.9900
Radius = 45.0000
External = 20.3335
Long Chord = 65.2479
Mid. Ord. = 14.0052
P.C. Station 0+00.00 N 3,635,229.4122 E 5,651,879.8086
P.T. Station 0+72.99 N 3,635,264.8168 E 5,651,825.0017
C.C. N 3,635,273.1495 E 5,651,869.2235
Back = S 76° 23' 42.46" W
Ahead = N 10° 40' 16.06" W
Chord Bear = N 57° 08' 16.80" W

HIGLEY_RET_2 HORIZONTAL CURVE DATA

P.I. Station 0+47.37 N 3,635,213.2711 E 5,651,807.2393
Delta = 92° 56' 01.47" (LT)
Degree = 127° 19' 26.24"
Tangent = 47.3652
Length = 72.9900
Radius = 45.0000
External = 20.3335
Long Chord = 65.2479
Mid. Ord. = 14.0052
P.C. Station 0+00.00 N 3,635,206.8942 E 5,651,760.3053
P.T. Station 0+72.99 N 3,635,259.8172 E 5,651,798.4686
C.C. N 3,635,251.4845 E 5,651,754.2469
Back = N 82° 15' 45.41" E
Ahead = N 10° 40' 16.06" W
Chord Bear = N 35° 47' 44.68" E

Back = S 76° 23' 42.46" W
Ahead = N 10° 40' 16.06" W
Chord Bear = N 57° 08' 16.80" W

HIGLEY DRIVE VERTICAL
PROFILE DATA

		STATION	ELEV	GRADE	TOTAL L	BACK L	AHEAD L
VPI	1	362+22.00	1,128.0200				
VPC		362+25.00	1,127.9600	-2.0000	K = 154.5		
VPI	2	362+50.00	1,127.4600		50.00	25.00	25.00
VPT		362+75.00	1,127.0409	-1.6763			
VPC		362+75.00	1,127.0409	-1.6763	K = 32.8	SSD = 461.1	
VPI	3	363+00.00	1,126.6218		50.00	25.00	25.00
VPT		363+25.00	1,125.8218	-3.2000			
VPI	4	363+84.12	1,123.9300	-3.2000			

HIGLEY DRIVE CENTERLINE HORIZONTAL ALIGNMENT DATA

Point 896210 N 3,635,204.8306 E 5,651,822.5673 Sta 362+10.00

Course from 896210 to PC AP896210-1 N 10° 40' 16.06" W Dist 76.2972

Curve Data

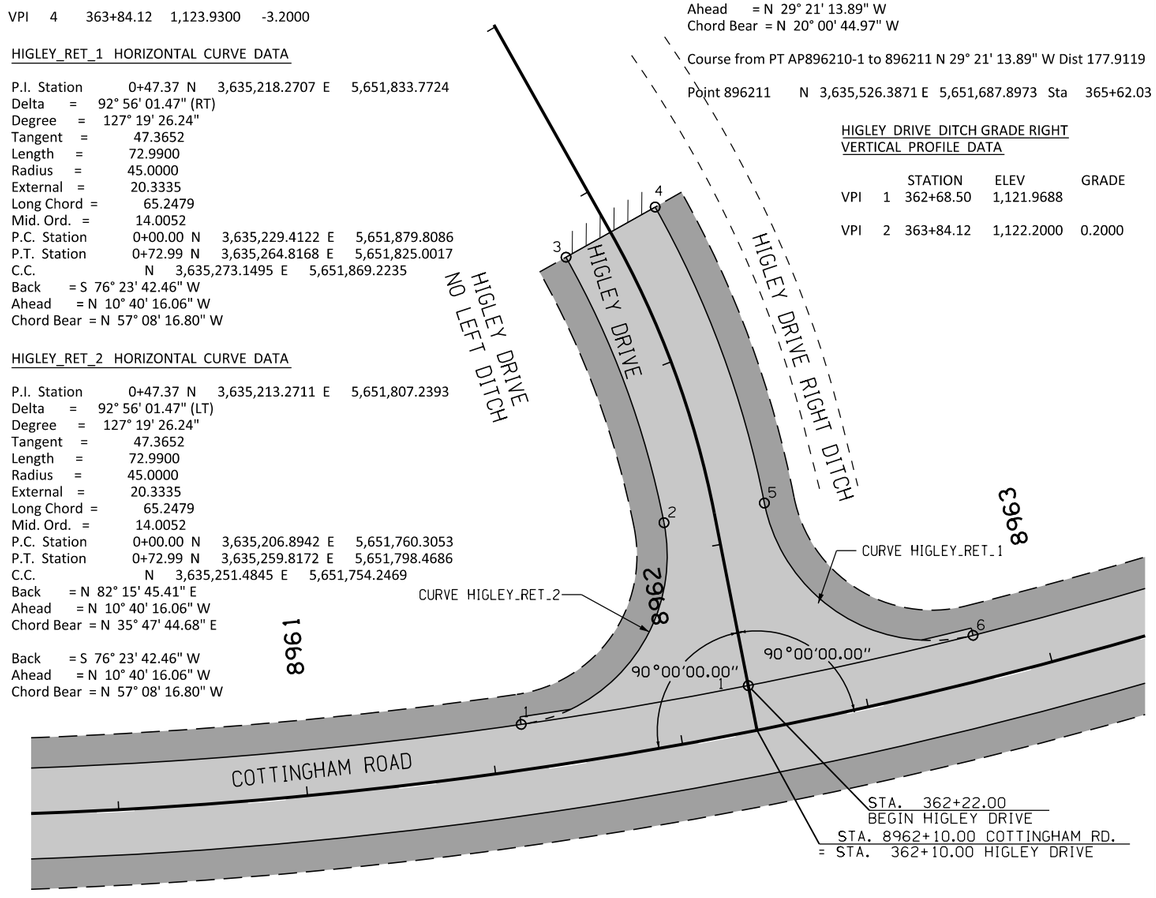
Curve AP896210-1
P.I. Station 363+35.65 N 3,635,328.3042 E 5,651,799.3012
Delta = 18° 40' 57.83" (LT)
Degree = 19° 05' 54.94"
Tangent = 49.3493
Length = 97.8225
Radius = 300.0000
External = 4.0318
Long Chord = 97.3897
Mid. Ord. = 3.9784
P.C. Station 362+86.30 N 3,635,279.8084 E 5,651,808.4393
P.T. Station 363+84.12 N 3,635,371.3175 E 5,651,775.1101
C.C. N 3,635,224.2569 E 5,651,513.6274
Back = N 10° 40' 16.06" W
Ahead = N 29° 21' 13.89" W
Chord Bear = N 20° 00' 44.97" W

Course from PT AP896210-1 to 896211 N 29° 21' 13.89" W Dist 177.9119

Point 896211 N 3,635,526.3871 E 5,651,687.8973 Sta 365+62.03

HIGLEY DRIVE DITCH GRADE RIGHT
VERTICAL PROFILE DATA

		STATION	ELEV	GRADE
VPI	1	362+68.50	1,121.9688	
VPI	2	363+84.12	1,122.2000	0.2000

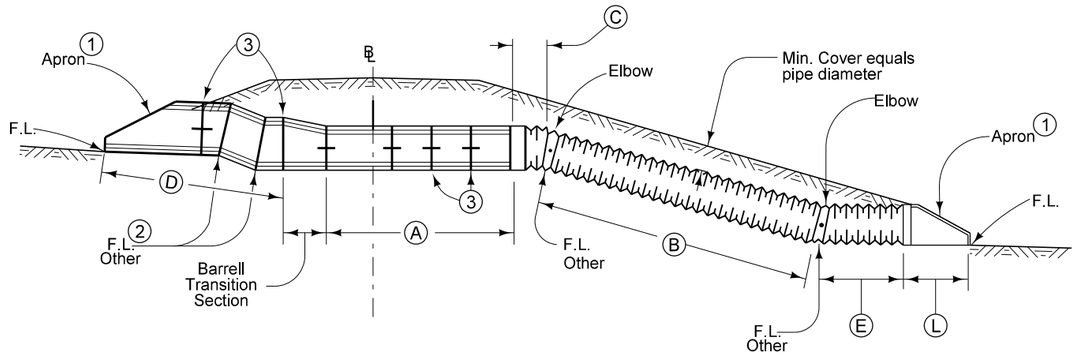


Pt.	Stationing		Offset	Elev.
1	8962+10.00	Cottingham Road	12.00 Ft. Lt.	-
2	8962+71.44	Cottingham Road	12.00 Ft. Lt.	-
3	362+35.87	Higley Drive	27.51 Ft. Rt.	-
4	362+68.50	Higley Drive	13.50 Ft. Rt.	-
5	363+35.21	Higley Drive	13.50 Ft. Rt.	-
6	363+84.12	Higley Drive	13.50 Ft. Rt.	-
7	363+84.12	Higley Drive	13.50 Ft. Lt.	-
8	363+35.21	Higley Drive	13.50 Ft. Lt.	-
9	362+68.50	Higley Drive	13.50 Ft. Lt.	-
10	362+35.87	Higley Drive	27.51 Ft. Lt.	-
11	8961+48.56	Cottingham Road	12.00 Ft. Lt.	-

GEOMETRIC DETAILS
INTERSECTION OF RELOCATED
COTTINGHAM ROAD
WITH HIGLEY DRIVE

FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER U.9

8:51:57 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/D0000000224516/31020183U01.sht



SECTION

A = Concrete Pipe Length
B+C+E = Unclassified Roadway Letdown Pipe Length

℄ is ℄ of roadway, dike, survey, or other as detailed on the 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)

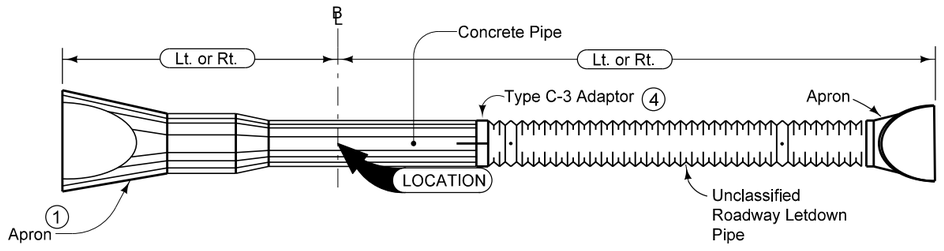
Standard type joint couplings are required. See Materials I.M. 441.

(1) Refer to the following:
DR-201 for circular concrete.
DR-202 for low clearance concrete.
DR-203 for circular metal.
DR-204 for arch metal (metal pipe only).
DR-205 for circular concrete with end wall.
DR-206 for low clearance concrete with end wall.

(2) Optional "D" section only when specified in the tabulation. Refer to DR-141.

(3) See DR-121

(4) See DR-122.



PLAN

Possible Tabulation:
104-3

MODIFIED
STANDARD ROAD PLAN

REVISION
1 | 04-18-17

DR-653

SHEET 1 of 1

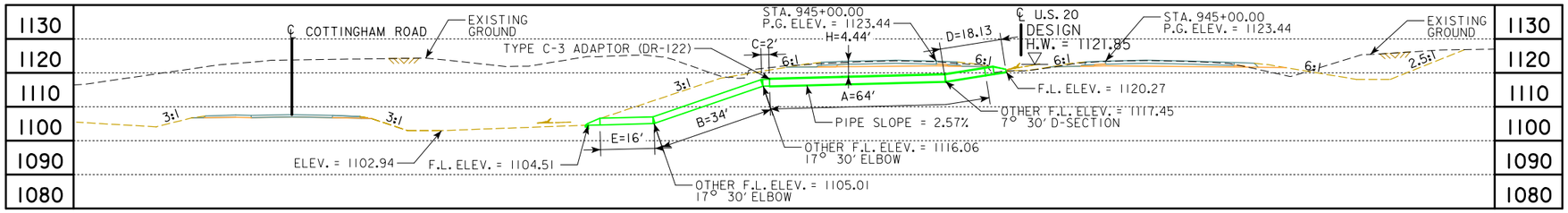
MODIFICATIONS: Changed left side to show a slope taper pipe.

SLOPE TAPERED CONCRETE/UNCLASSIFIED ROADWAY LETDOWN PIPE WITH METAL APRON

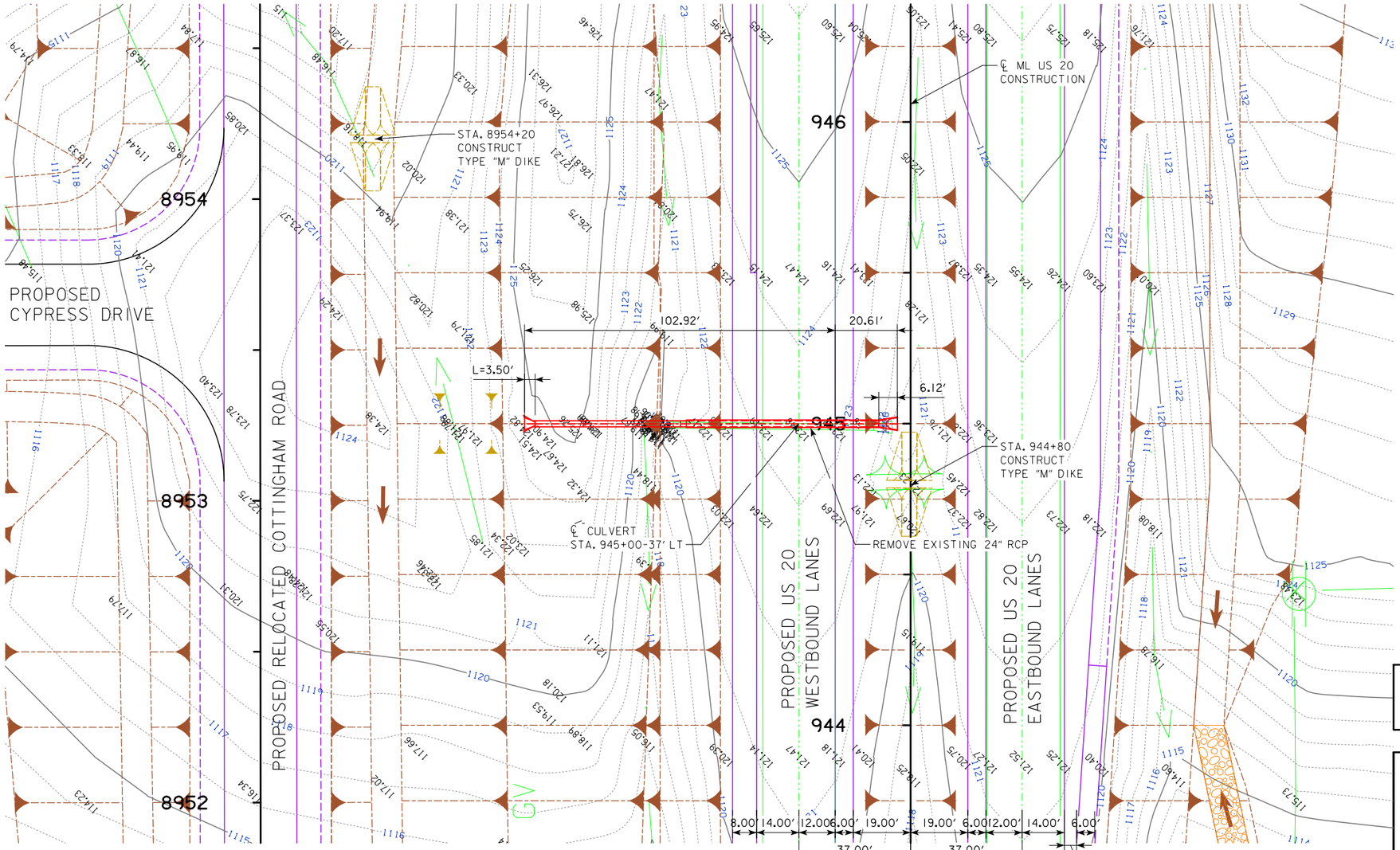
FILE NO.	ENGLISH	DESIGN TEAM HDR\Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(183)--19-31	SHEET NUMBER U.10

8:51:58 AM 10/22/2018 cpodany pw://NorthCentral_Omaha/001210/0000000000224516/31020183U01.sht

BENCH MARK NO.616 - FD IHC PLUG UPSTREAM EL=1106.82, STA. 941+49.97 Δ 84.72 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

N

TRAFFIC ESTIMATE

2017 AADT	15200	V.P.D.
2040 AADT	33900	V.P.D.
2040 DHV	3675	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 13
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26′23.08″N
LONGITUDE 90°47′46.52″W

HYDRAULIC DATA

DRAINAGE AREA = 3.1 ACRES - ROLLING
Q_{50} = 10 CFS
HW ELEV. = 1121.85

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 116 ft.
REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE
PLAT PLAN

STA. 945+00 - 37′ LT. (℄ US20) JANUARY 2017

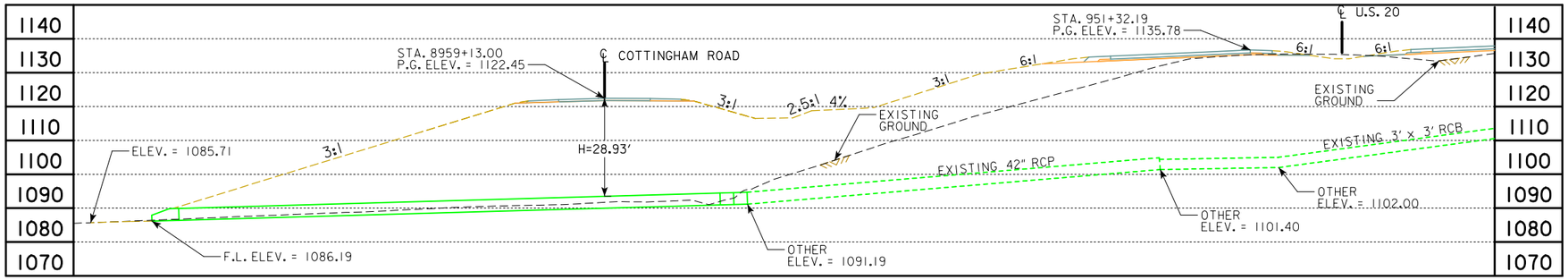
DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

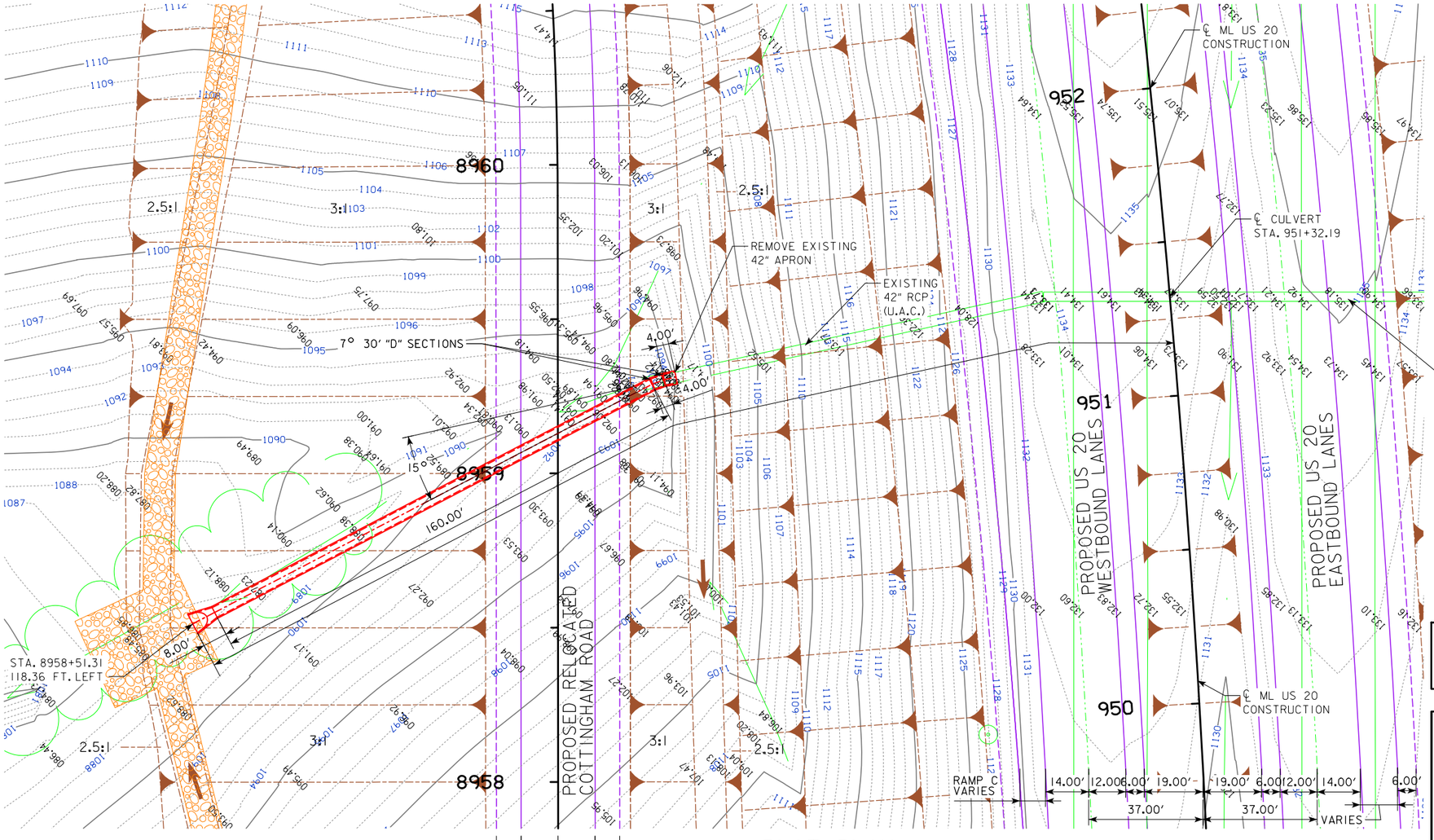
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.

DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.1

BENCH MARK NO.617 - FD IHC PLUG UPSTREAM EL=1122.01, STA. 951+32.97 Δ 91.80 RT.



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

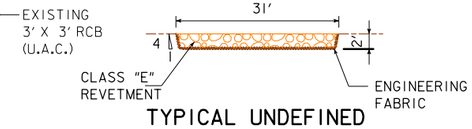
2017AADT	15200	V.P.D.
2040 AADT	33900	V.P.D.
2040 DHV	3675	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'23.07"N
LONGITUDE 90°47'38.12"W

HYDRAULIC DATA

DRAINAGE AREA = 12.0 ACRES - HILLY
Q_{50} = 39 CFS



TYPICAL UNDEFINED CHANNEL PROTECTION

QUANTITIES

CLASS 'E' REVETMENT 5.1 TONS
ENGINEERING FABRIC 157 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 15° LEFT EXTENSION SKEW

42 in. x 168 ft. EXT. LEFT REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 951+32.19 LEFT (℄ US20) JANUARY 2017

DUBUQUE COUNTY

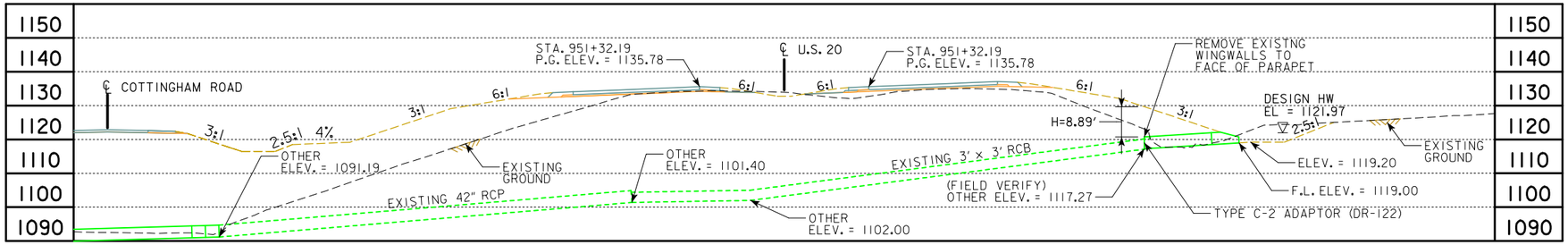
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

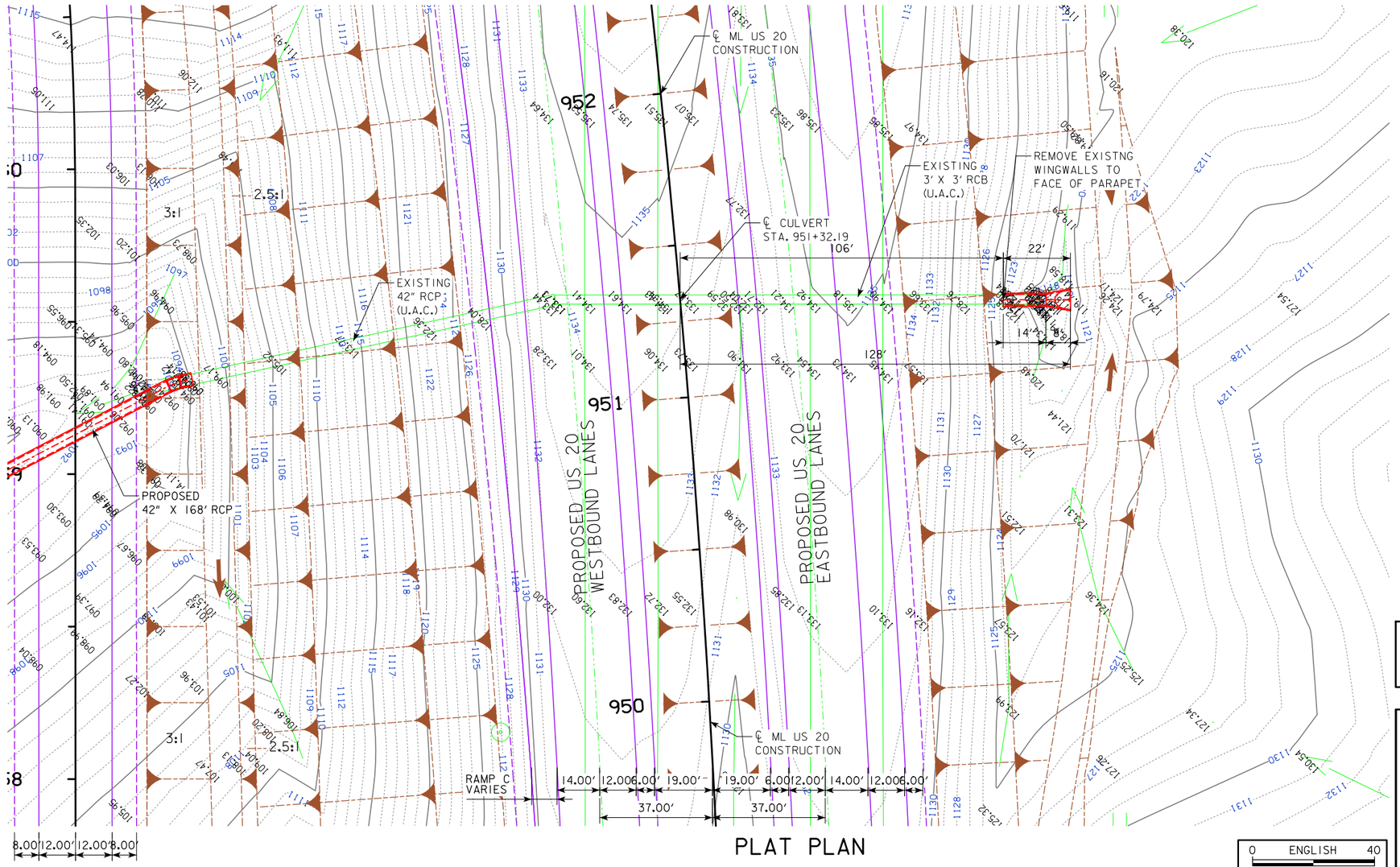
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.2

2/8/2017 7:50:01 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V2 11x17c_pdf.pltcfg

BENCH MARK NO.617 - FD IHC PLUG UPSTREAM EL=1122.01, STA. 951+32.97 Δ 91.80 RT.



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

2017 AADT	15200	V.P.D.
2040 AADT	33900	V.P.D.
2040 DHV	3675	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 13
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'23.07"N
LONGITUDE 90°47'38.12"W

HYDRAULIC DATA

DRAINAGE AREA = 12.0 ACRES - HILLY
Q_{50} = 39 CFS
HW ELEV. = 1121.97

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0°

42 in. x 14 ft. EXT. RIGHT REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 951+32.19 RIGHT (℄ US20) JANUARY 2017

DUBUQUE COUNTY

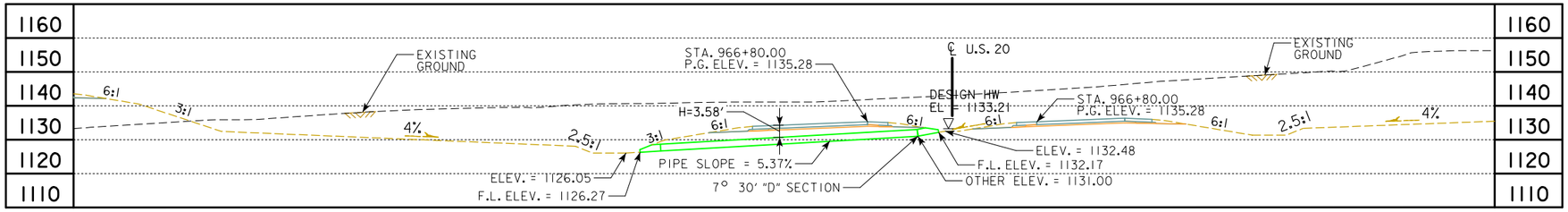
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

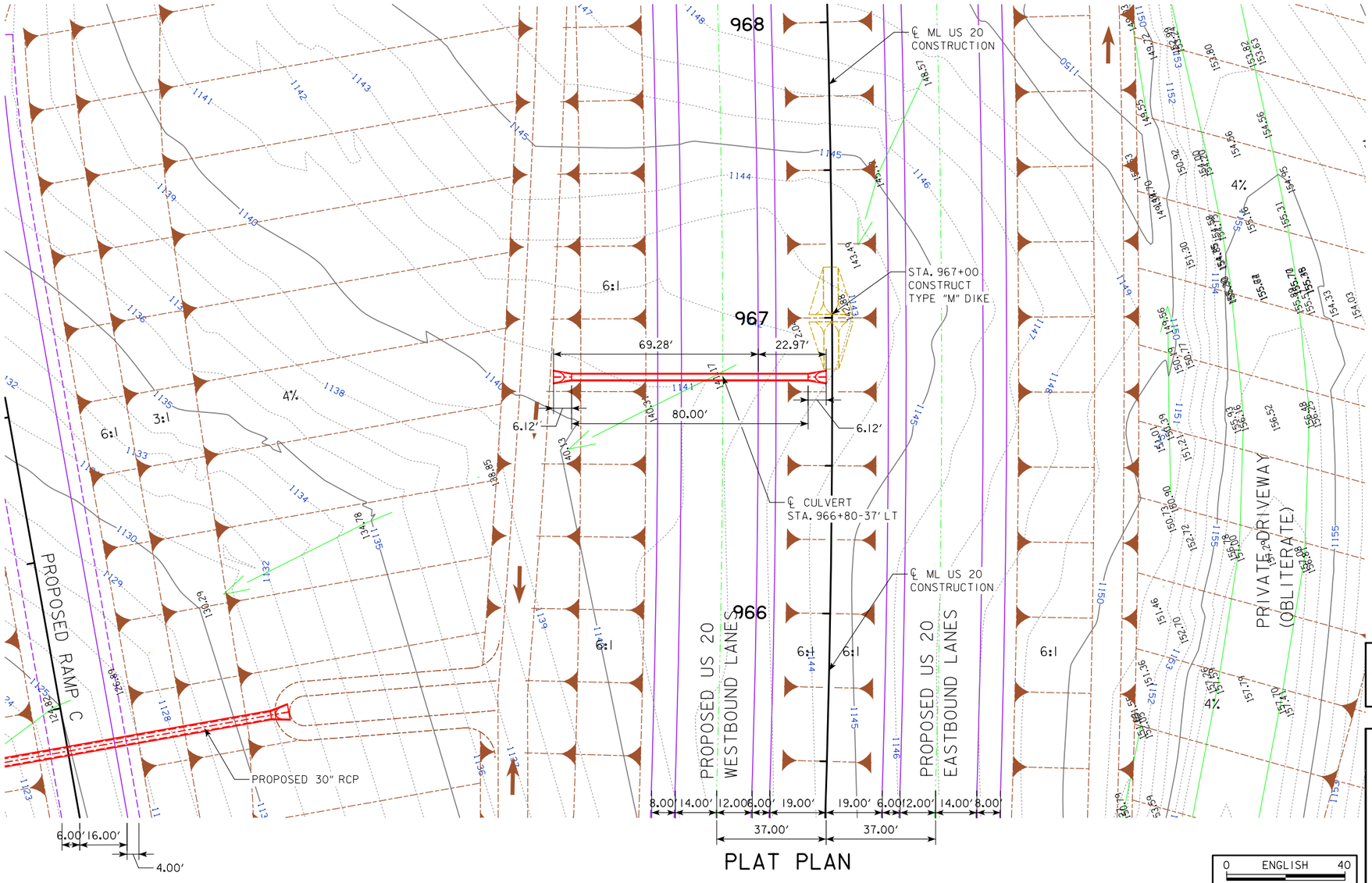
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.3

2/8/2017 7:50:04 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V3 11x17c_pdf.pltcfg

BENCH MARK NO.619 - SET RR SPK N. SIDE PO. POLE EL=1158.22, STA. 966+30.01 Δ 92.89 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

N

TRAFFIC ESTIMATE

2017 AADT	15200	V.P.D.
2040 AADT	33900	V.P.D.
2040 DHV	3675	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'26.47"N
LONGITUDE 90°47'18.10"W

HYDRAULIC DATA

DRAINAGE AREA = 1.4 ACRES - ROLLING
Q_{50} = 5 CFS
HW ELEV. = 1133.21

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 80 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 966+80 - 37' LT. (℄ US20) JANUARY 2017

DUBUQUE COUNTY

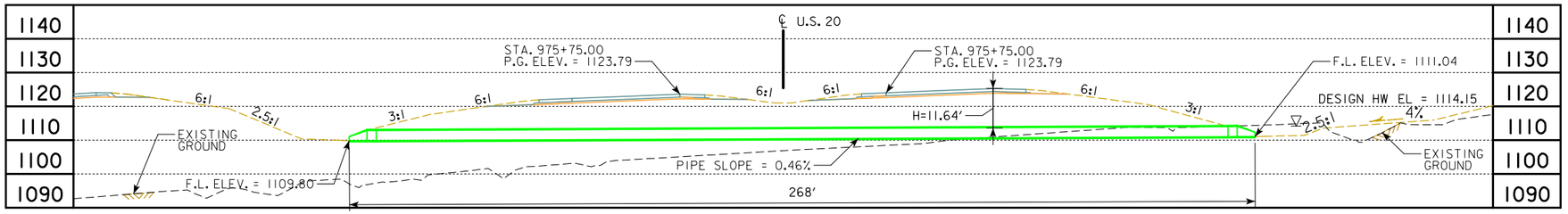
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

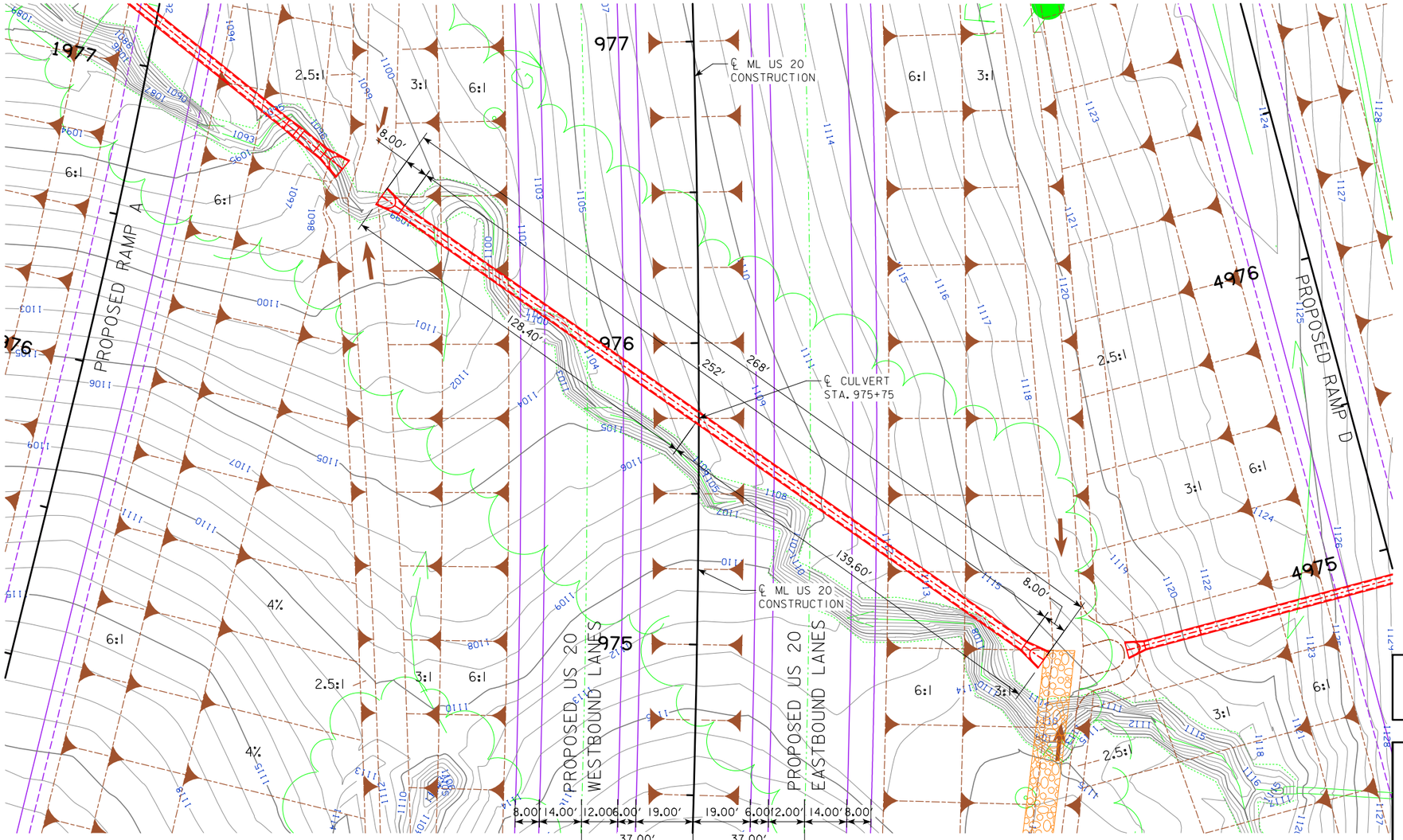
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.4

2/8/2017 7:50:07 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V4 11x17c_pdf.pltcfg

BENCH MARK NO.620 - TOP OF BOLT AT NW CORNER EL=1138.11, STA. 976+00.05 Δ 110.93 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

N

TRAFFIC ESTIMATE

2017 AADT	15200	V.P.D.
2040 AADT	33900	V.P.D.
2040 DHV	3675	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'30.64"N
LONGITUDE 90°47'7.54"W

HYDRAULIC DATA

DRAINAGE AREA = 16.0 ACRES - ROLLING
Q_{50} = 37 CFS
HW ELEV. = 1114.15

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 35° SKEW LT. AHD.

36 in. x 252 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 975+75 (℄ US20) JANUARY 2017

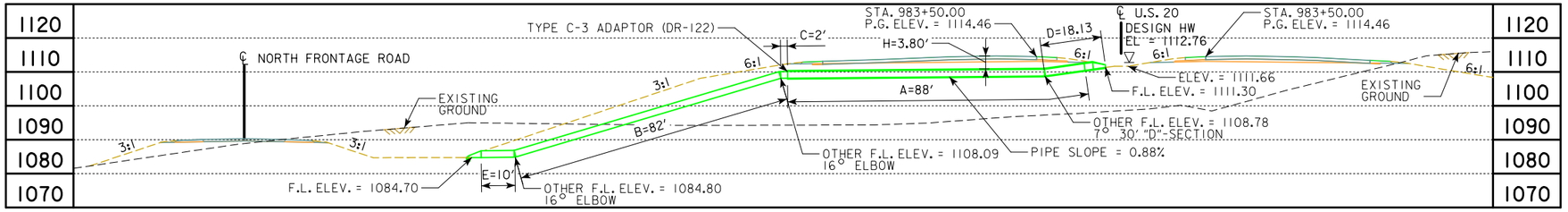
DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

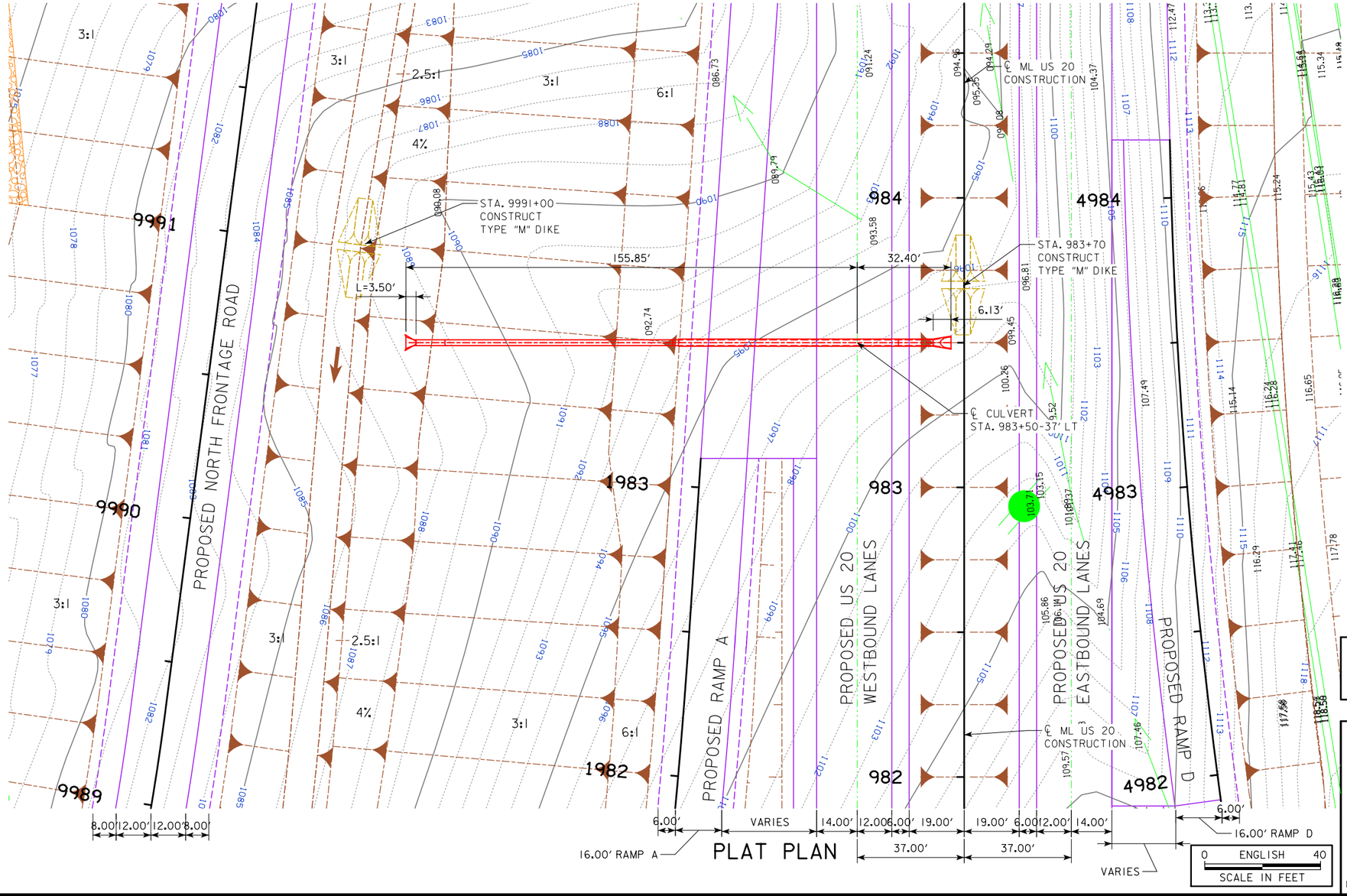
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.

DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.5

BENCH MARK NO.621 - SET RR SPK N. SIDE PO. POLE EL=1114.30, STA. 984+30.06 Δ 101.96 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



TRAFFIC ESTIMATE

2017 AADT	15200	V.P.D.
2040 AADT	33900	V.P.D.
2040 DHV	3675	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'35.58"N
LONGITUDE 90°46'59.70"W

HYDRAULIC DATA

DRAINAGE AREA = 2.8 ACRES - ROLLING
Q_{50} = 9 CFS
HW ELEV. = 1112.76

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 182 ft.
REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE
PLAT PLAN

STA. 983+50 - 37' LT. (℄ US20) JANUARY 2017

DUBUQUE COUNTY

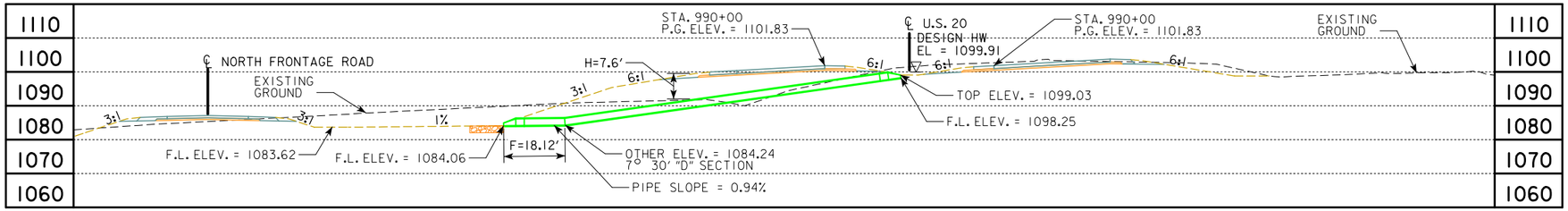
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.

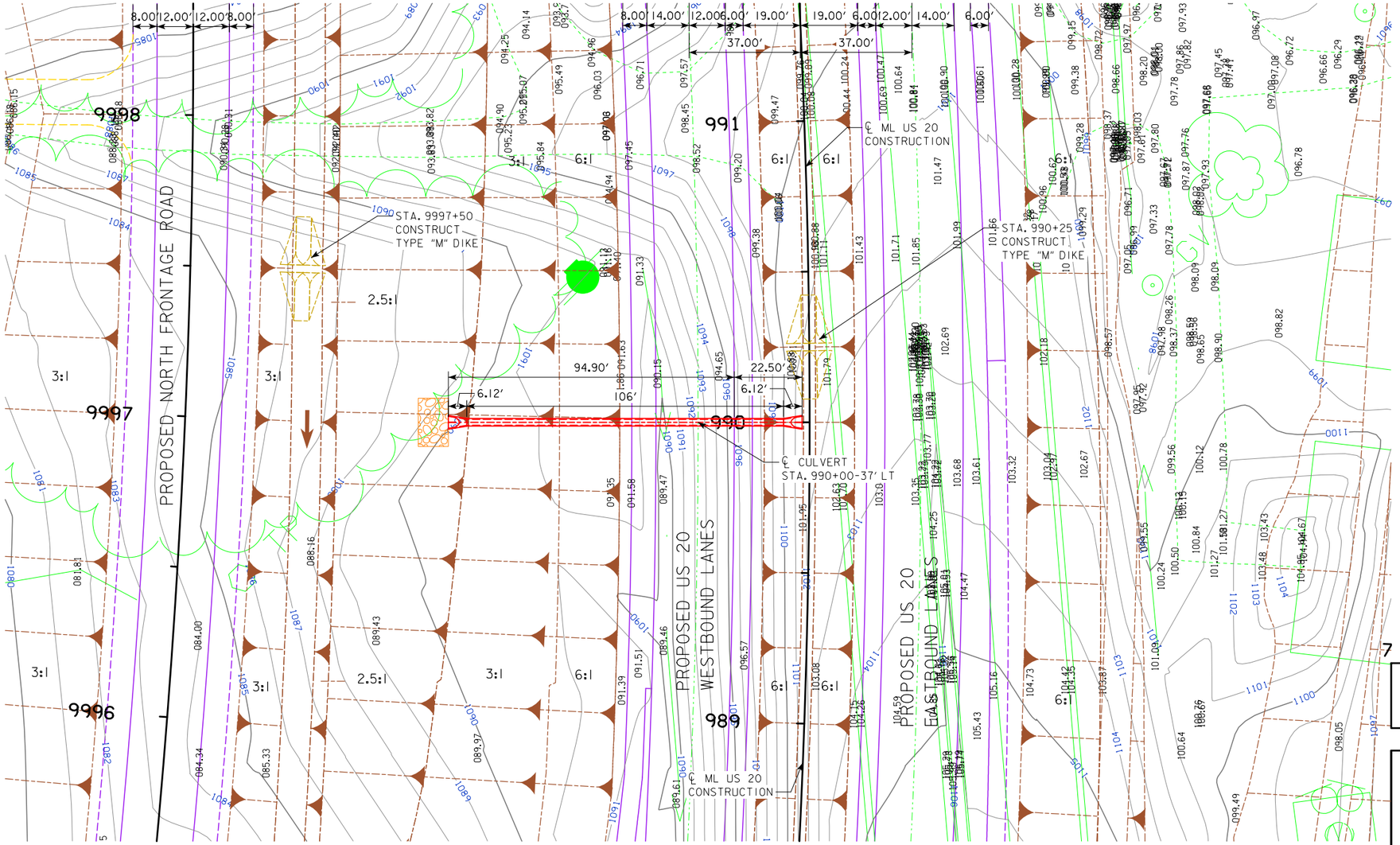
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.6

2/8/2017 7:50:12 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V6 11x17c_pdf.pltcfg

BENCH MARK NO.634 - SET RR SPK NW SIDE PO. POLE EL=1102.17, STA. 990+16.09 Δ 86.64 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

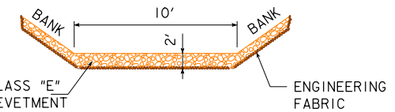
2017 AADT	15200	V.P.D.
2040 AADT	33900	V.P.D.
2040 DHV	3675	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-2 E
SECTION 7
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'39.71"N
LONGITUDE 90°46'53.10"W

HYDRAULIC DATA

DRAINAGE AREA = 1.0 ACRES - ROLLING
Q_{50} = 4 CFS
HW ELEV. = 1099.91



TYPICAL DEFINED CHANNEL PROTECTION

QUANTITIES

CLASS 'E' REVETMENT 20 TONS
ENGINEERING FABRIC 29.3 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 106 ft.
REINFORCED CONC. PIPE LETDOWN

PLAT PLAN

STA. 990+00 - 37' LT. (℄ US20) JANUARY 2017

DUBUQUE COUNTY

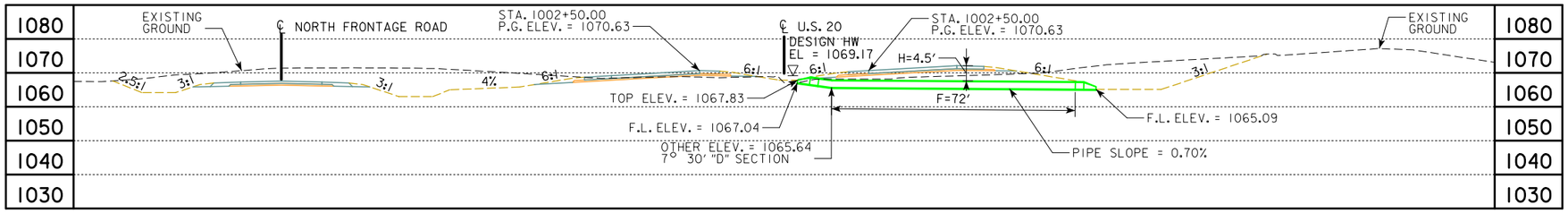
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

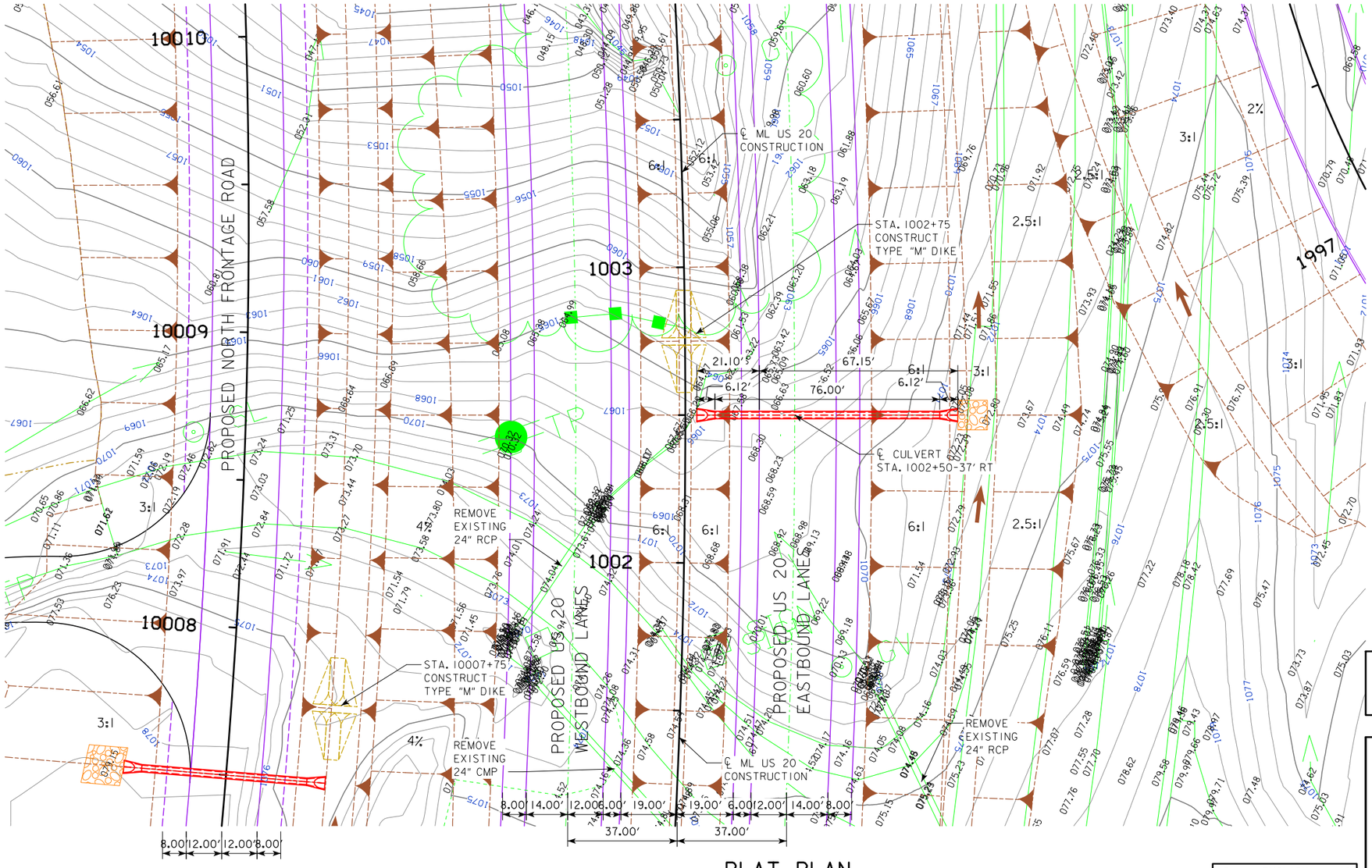
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.7

2/8/2017 7:50:14 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V7 11x17c_pdf.pltcfg

BENCH MARK NO.636 - CUT & EAST BOLT FLAG POLE EL=1097.05, STA. 1002+11.95 Δ 264.71 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

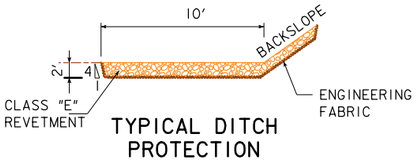
2017 AADT	15200	V.P.D.
2040 AADT	33900	V.P.D.
2040 DHV	3675	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-2 E
SECTION 7
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26′49.50″N
LONGITUDE 90°46′43.12″W

HYDRAULIC DATA

DRAINAGE AREA = 2.2 ACRES - ROLLING
Q_{50} = 7 CFS
HW ELEV. = 1069.17



TYPICAL DITCH PROTECTION

QUANTITIES
CLASS 'E' REVETMENT 12 TONS
ENGINEERING FABRIC 20 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 76 ft.
REINFORCED CONC. PIPE LETDOWN

PLAT PLAN

STA. 1002+50 - 37′ RT. (℄ US20) JANUARY 2017

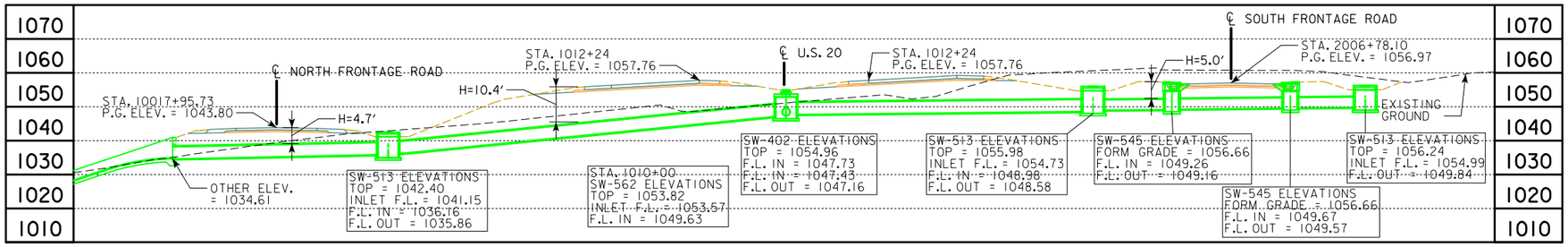
DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

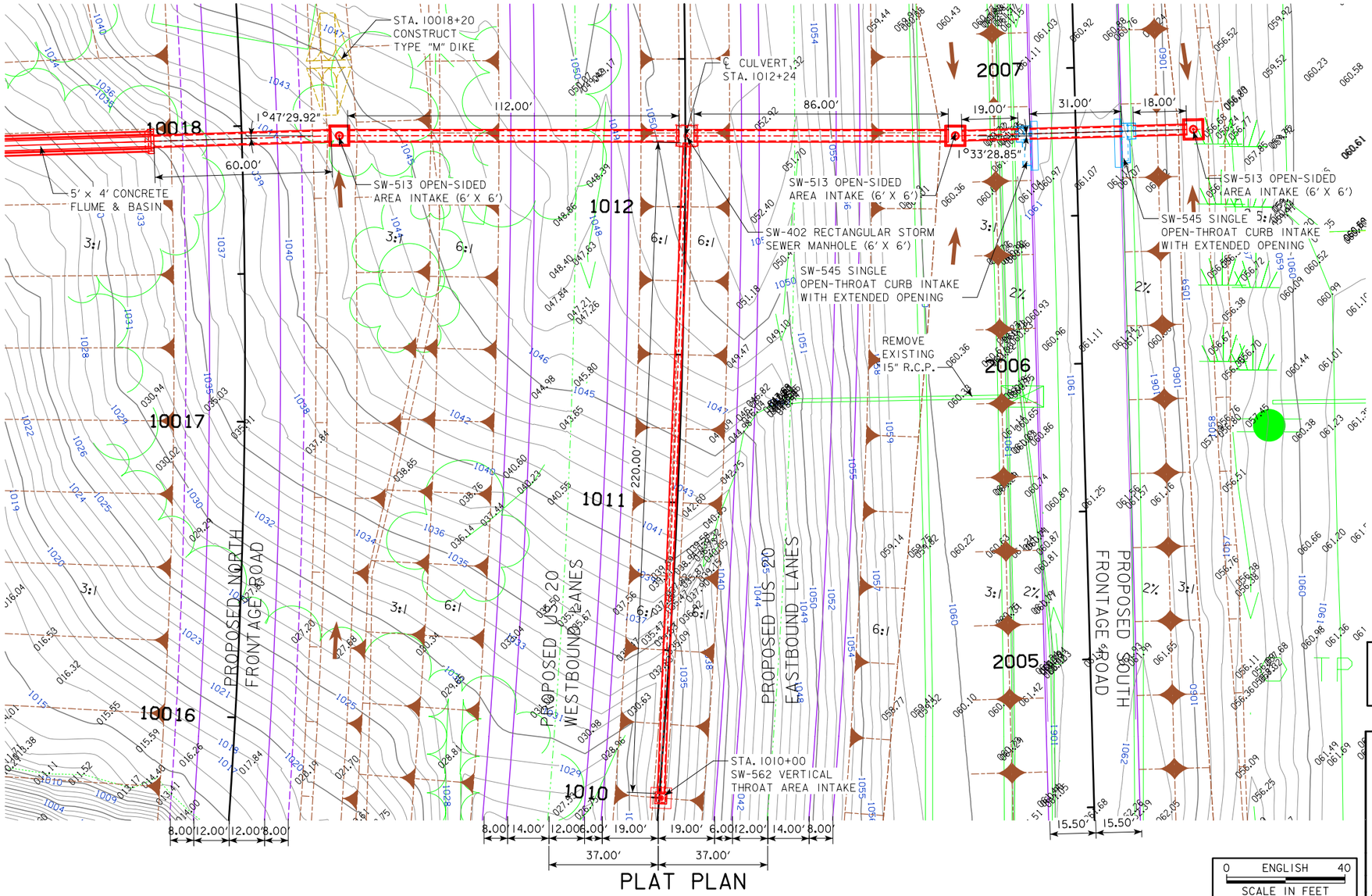
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.

DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.8

BENCH MARK NO. 624 - SET RR SPK W. SIDE PO. POLE EL=1059.14, STA. 1016+09.89 Δ 77.52 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

N

TRAFFIC ESTIMATE

2017 AADT	15200	V.P.D.
2040 AADT	33900	V.P.D.
2040 DHV	3675	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-2 E
SECTION 7
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26′59.02″N
LONGITUDE 90°46′41.03″W

HYDRAULIC DATA

INLET INTAKE
DRAINAGE AREA = 12.8 ACRES - HILLY
Q_{50} = 41 CFS
HW ELEV. = 1055.63

RIGHT DITCH INTAKE
DRAINAGE AREA = 16.3 ACRES - HILLY
Q_{50} = 50 CFS
HW ELEV. = 1055.46

UPSTREAM MEDIAN INTAKE TO MANHOLE
DRAINAGE AREA = 2.1 ACRES - HILLY
Q_{50} = 10 CFS
HW ELEV. = 1054.27

LEFT DITCH INTAKE
DRAINAGE AREA = 2.9 ACRES - HILLY
Q_{50} = 12 CFS
HW ELEV. = 1041.43

OUTLET PIPE
Q_{50} = 113 CFS

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 220 ft., 36 in. x 68 ft., 42 in. x 258 ft. RCP & INTAKES

PLAT PLAN

STA. 1012+24 (℄ US20) JANUARY 2017

DUBUQUE COUNTY

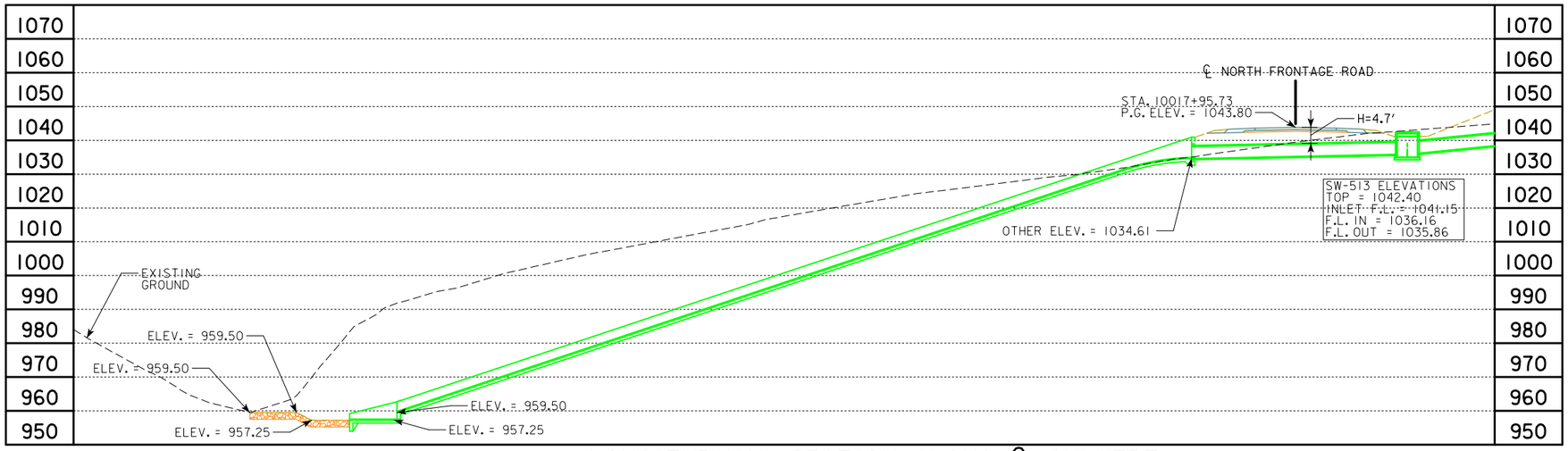
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 30069 DESIGN NO. _____

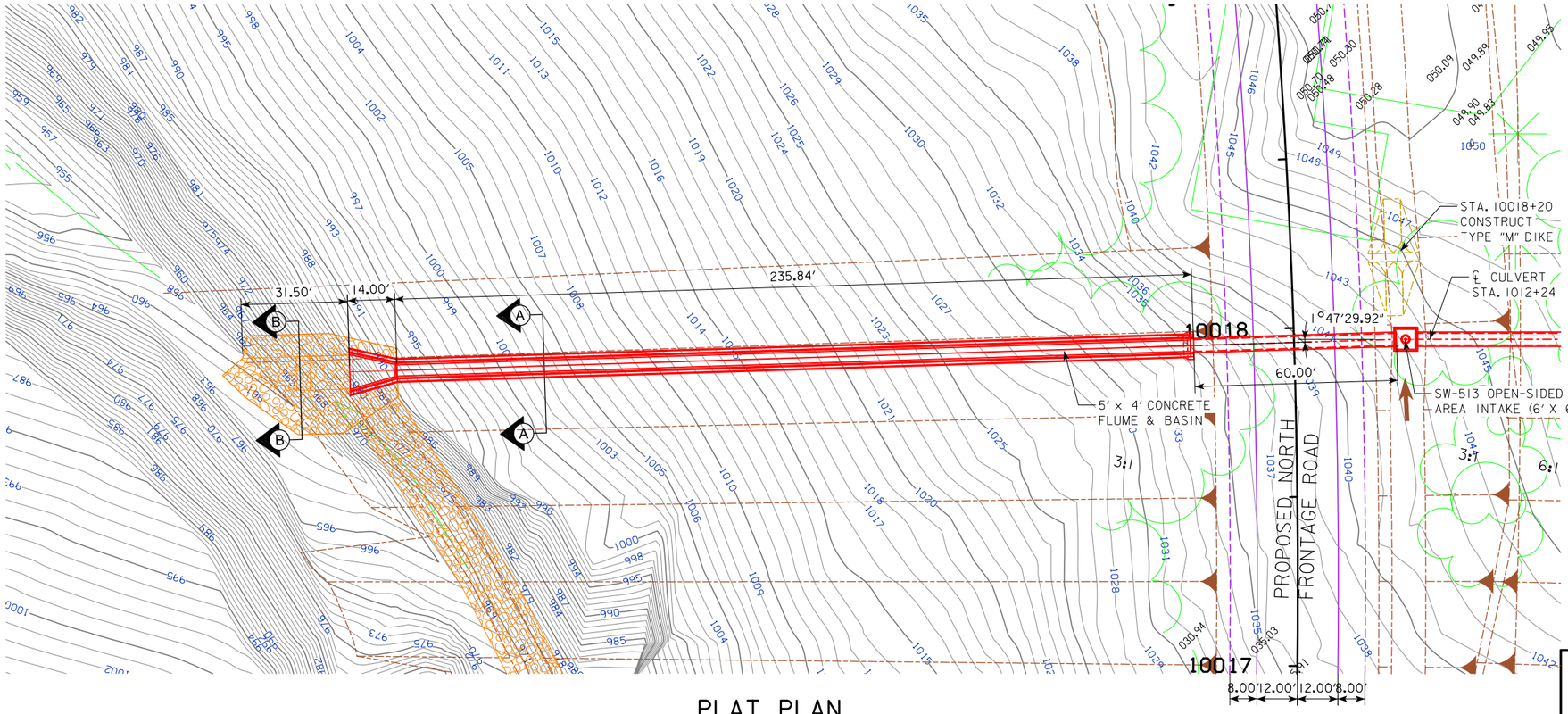
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.9

2/8/2017 7:50:20 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V9 11x17c_pdf.pltcfg

BENCH MARK NO. 624 - SET RR SPK W. SIDE PO. POLE EL=1059.14, STA. 1016+09.89 Δ 77.52 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

N

TRAFFIC ESTIMATE

2017 AADT	15200	V.P.D.
2040 AADT	33900	V.P.D.
2040 DHV	3675	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-2 E
SECTION 7
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'59.02"N
LONGITUDE 90°46'41.03"W

HYDRAULIC DATA

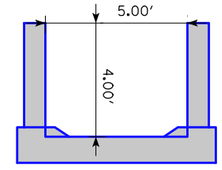
INLET INTAKE
DRAINAGE AREA = 12.8 ACRES - HILLY
Q_{50} = 41 CFS
HW ELEV. = 1055.63

RIGHT DITCH INTAKE
DRAINAGE AREA = 16.3 ACRES - HILLY
Q_{50} = 50 CFS
HW ELEV. = 1055.46

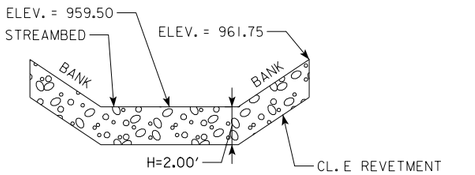
UPSTREAM MEDIAN INTAKE TO MANHOLE
DRAINAGE AREA = 2.1 ACRES - HILLY
Q_{50} = 10 CFS
HW ELEV. = 1054.27

LEFT DITCH INTAKE
DRAINAGE AREA = 2.9 ACRES - HILLY
Q_{50} = 12 CFS
HW ELEV. = 1041.43

OUTLET PIPE
Q_{50} = 115 CFS



SECTION A-A



SECTION B-B

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

0 ENGLISH 40
SCALE IN FEET

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 220 ft., 36 in. x 76 ft., 42 in. x 258 ft. RCP & INTAKES

PLAT PLAN

STA. 1012+24 (℄ US20) JANUARY 2017

DUBUQUE COUNTY

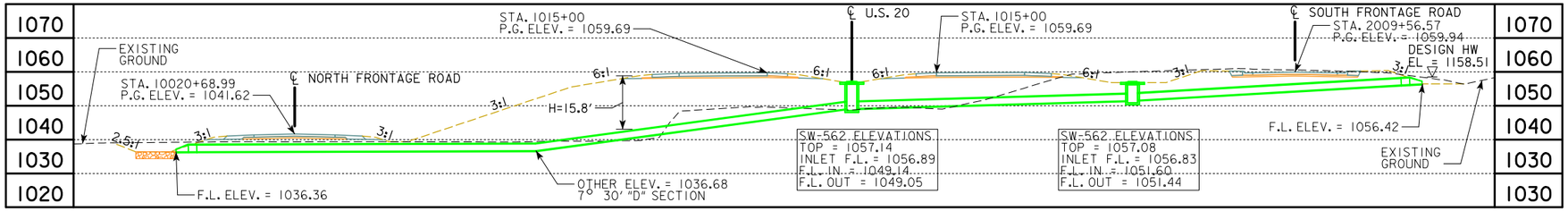
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30069 DESIGN NO.

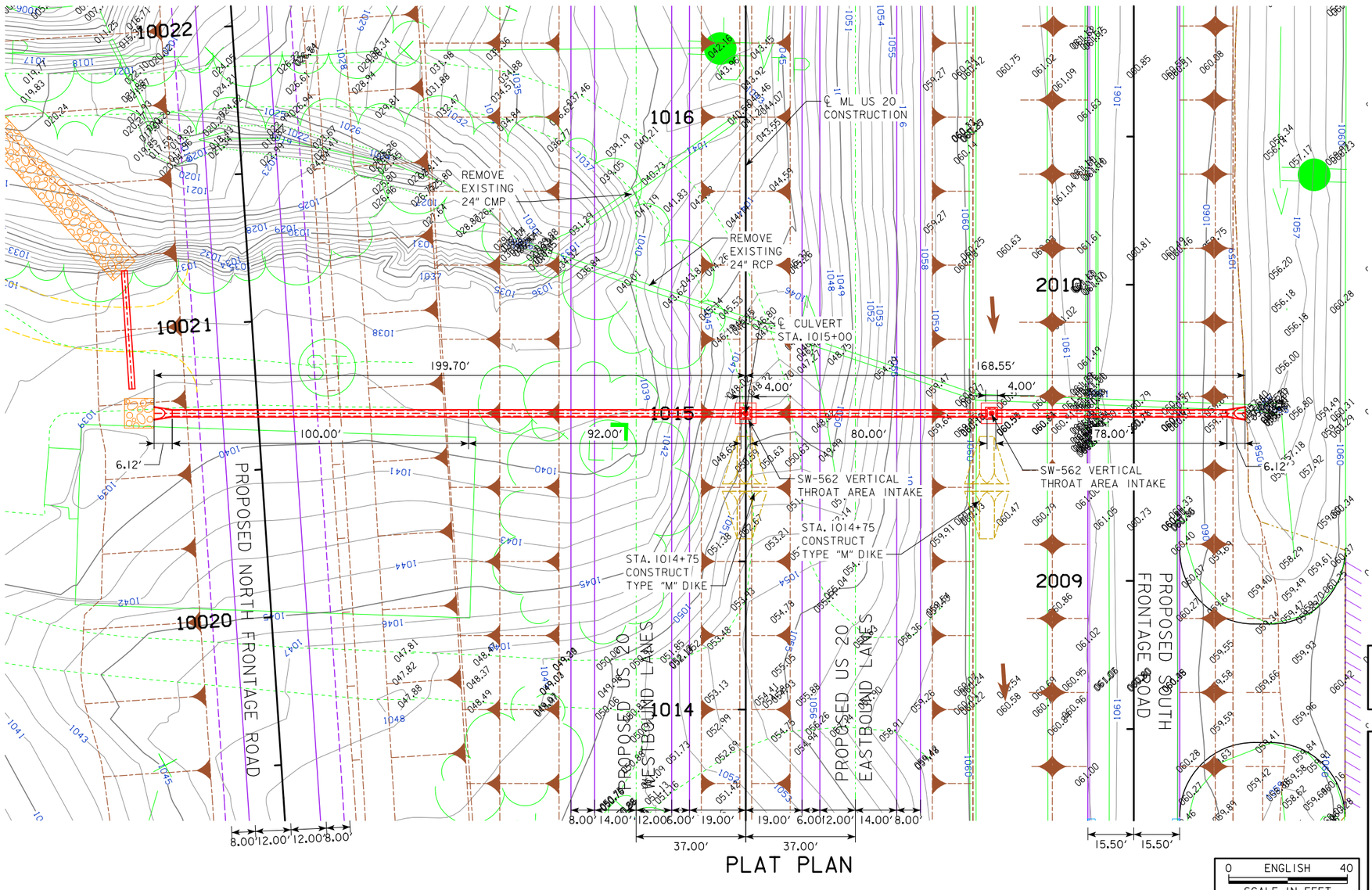
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.10

2/8/2017 7:50:23 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V10 11x17c_pdf.pltcfg

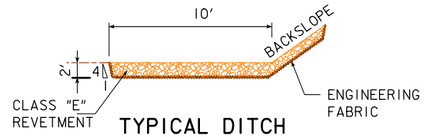
BENCH MARK NO. 624 - SET RR SPK W. SIDE PO. POLE EL=1059.14, STA. 1016+09.89 Δ 77.52 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN



TYPICAL DITCH PROTECTION

QUANTITIES
CLASS 'E' REVETMENT 12 TONS
ENGINEERING FABRIC 20 SQ. YDS.

N

TRAFFIC ESTIMATE

2017 AADT	15200	V.P.D.
2040 AADT	33900	V.P.D.
2040 DHV	3675	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-2 E
SECTION 7
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°27'01.75"N
LONGITUDE 90°46'41.02"W

HYDRAULIC DATA

INLET APRON
DRAINAGE AREA = 4.9 ACRES - ROLLING
Q_{50} = 14 CFS
HW ELEV. = 1158.51

RIGHT DITCH INTAKE
DRAINAGE AREA = 1.0 ACRES - ROLLING
Q_{50} = 4 CFS
HW ELEV. = 1057.07

MEDIAN INTAKE
DRAINAGE AREA = 1.0 ACRES - ROLLING
Q_{50} = 4 CFS
HW ELEV. = 1057.13

OUTLET PIPE
Q_{50} = 22 CFS

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 350 ft. REINFORCED CONCRETE PIPE LETDOWN WITH INTAKES PLAT PLAN

STA. 1015+00 (℄ US20) JANUARY 2017

DUBUQUE COUNTY

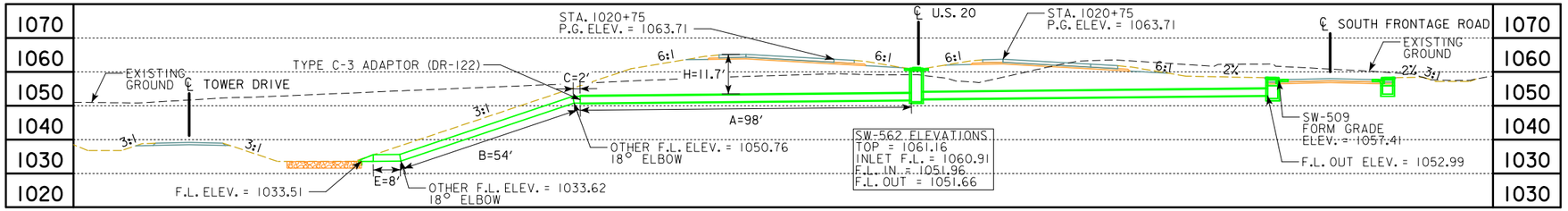
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

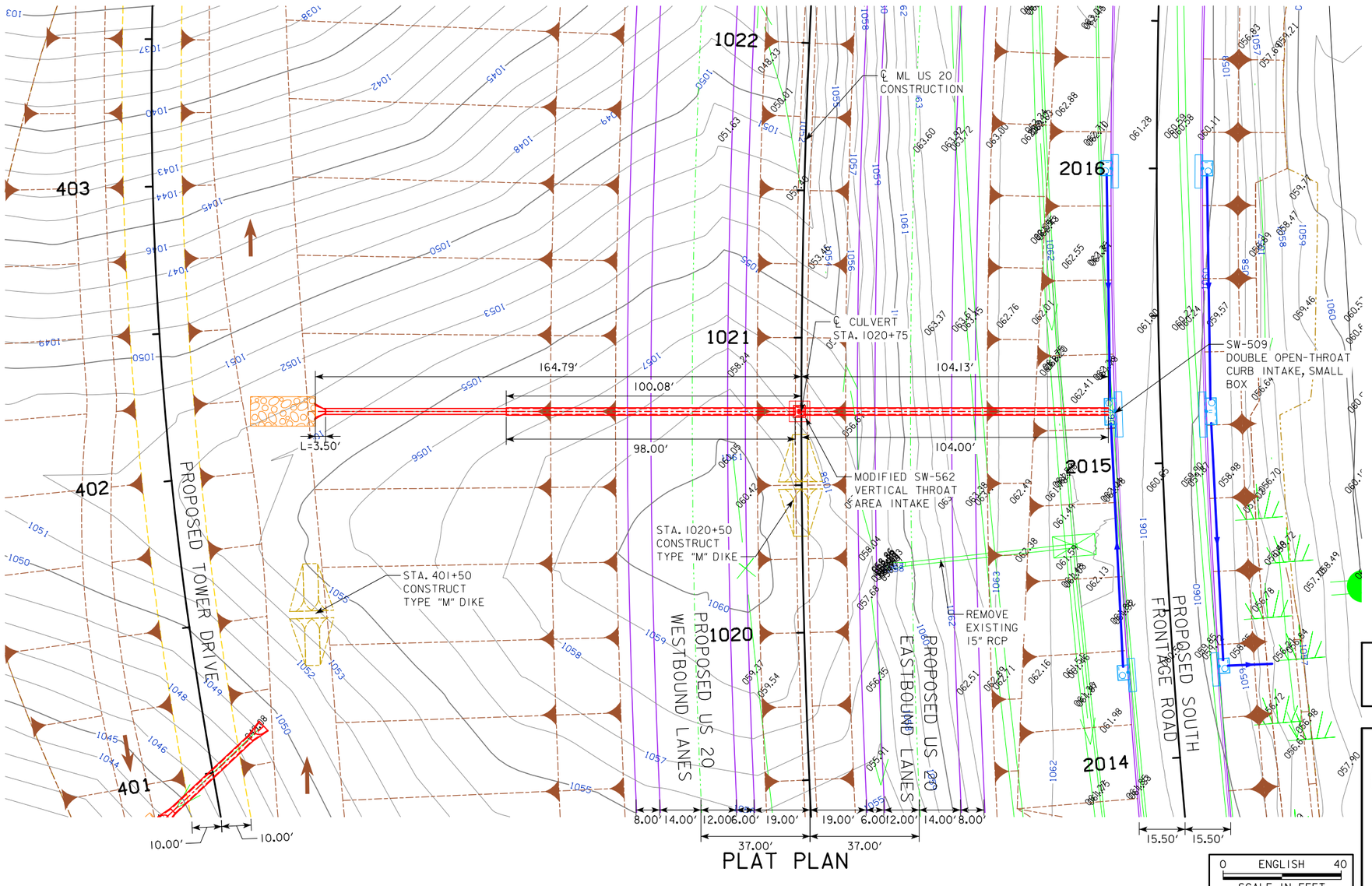
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.11

2/8/2017 7:50:26 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V11 11x17c_pdf.pltcfg

BENCH MARK NO. 624 - SET RR SPK W. SIDE PO. POLE EL=1059.14, STA. 1016+09.89 Δ 77.52 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

N

TRAFFIC ESTIMATE

2017 AADT	15200	V.P.D.
2040 AADT	33900	V.P.D.
2040 DHV	3675	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	--	

LOCATION

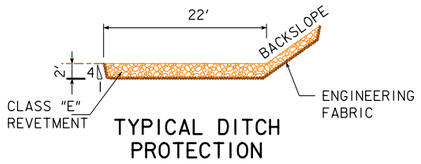
US 20
T-88 N R-2 E
SECTION 7
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°27'07.42"N
LONGITUDE 90°46'40.78"W

HYDRAULIC DATA

CURB INTAKE
DRAINAGE AREA = 3.5 ACRES - ROLLING
Q_{50} = 11 CFS

MEDIAN INTAKE
DRAINAGE AREA = 2.2 ACRES - ROLLING
Q_{50} = 7 CFS
HW ELEV. = 1061.26

OUTLET PIPE
Q_{50} = 18 CFS



TYPICAL DITCH PROTECTION

QUANTITIES
CLASS 'E' REVETMENT 27 TONS
ENGINEERING FABRIC 39 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 266 ft. REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE WITH INTAKES PLAT PLAN

STA. 1020+75 (℄ US20) JANUARY 2017

DUBUQUE COUNTY

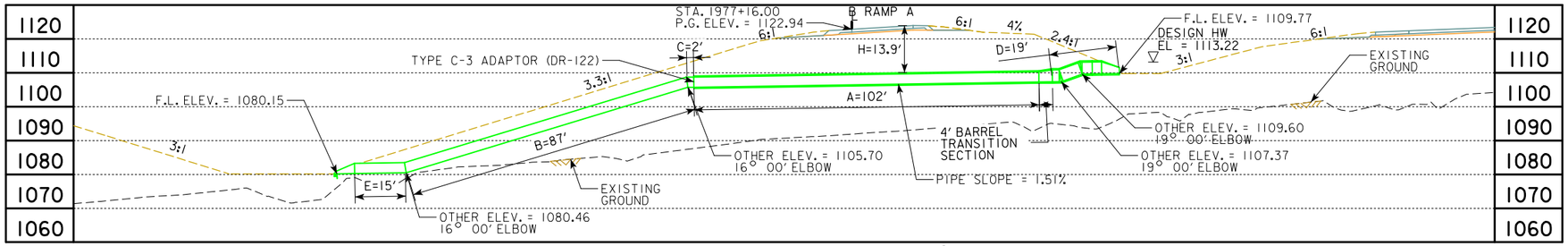
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

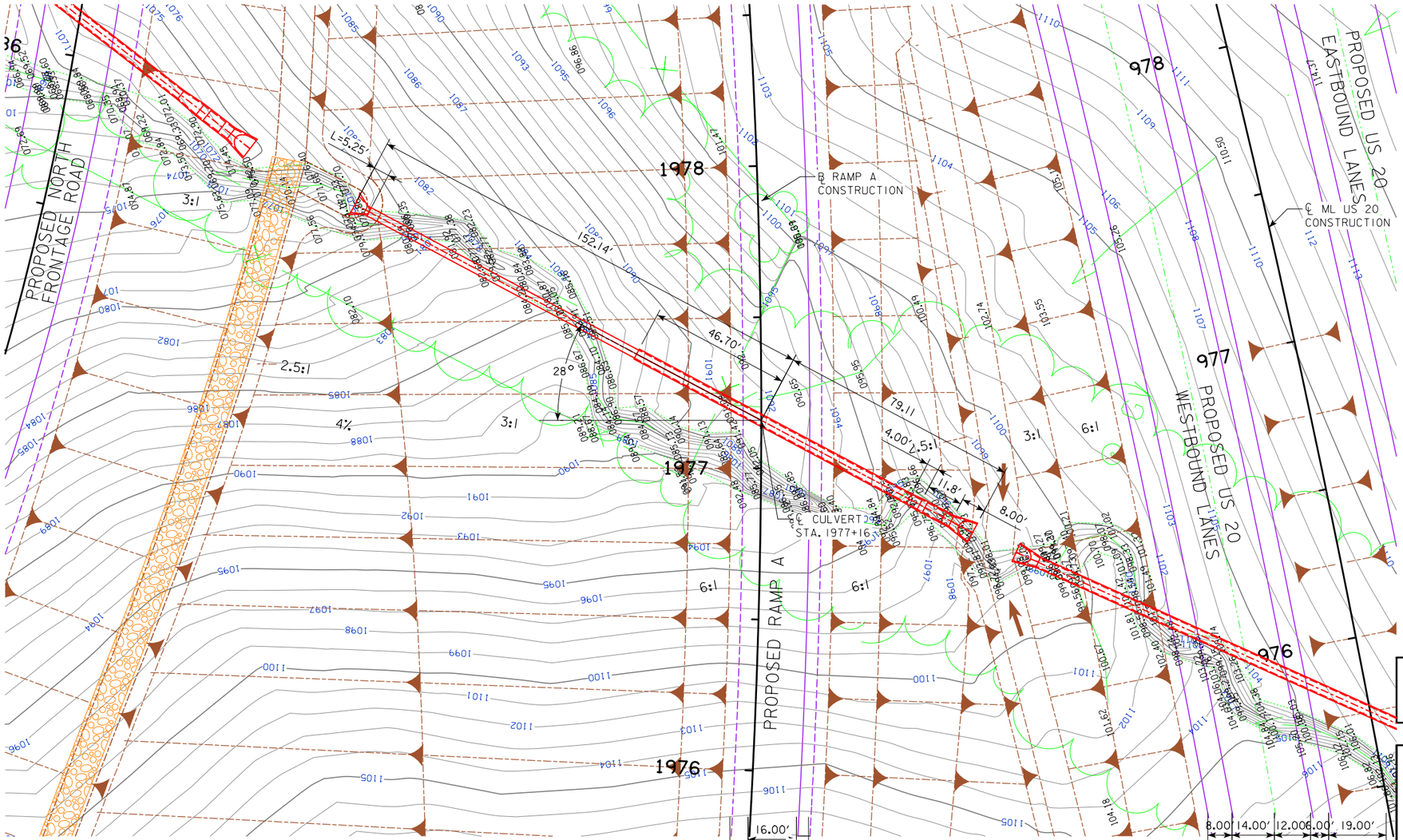
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.12

2/8/2017 7:50:29 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V12 11x17c_pdf.pltcfg

BENCH MARK NO. 620 TOP OF BOLT AT NW CORNER M.L. US 20 (SURVEY) STA. 976+00.05, 110.93' RT. ELEV. 1138.11



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

TRAFFIC ESTIMATE

2017 AADT	N/A	V.P.D.
2030 AADT	2111	V.P.D.
2030 DHV	239	V.P.H.
TRUCKS	10	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'32.81"N
LONGITUDE 90°47'7.39"W

HYDRAULIC DATA

DRAINAGE AREA = 20.9 ACRES - ROLLING
Q_{50} = 45 CFS
HW ELEV. = 1113.22

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 28° SKEW LT. AHD.

42 in. to 36 in. SLOPE TAPERED REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE

PLAT PLAN

STA. 1977+16 (℄ RAMP A) JANUARY 2017

DUBUQUE COUNTY

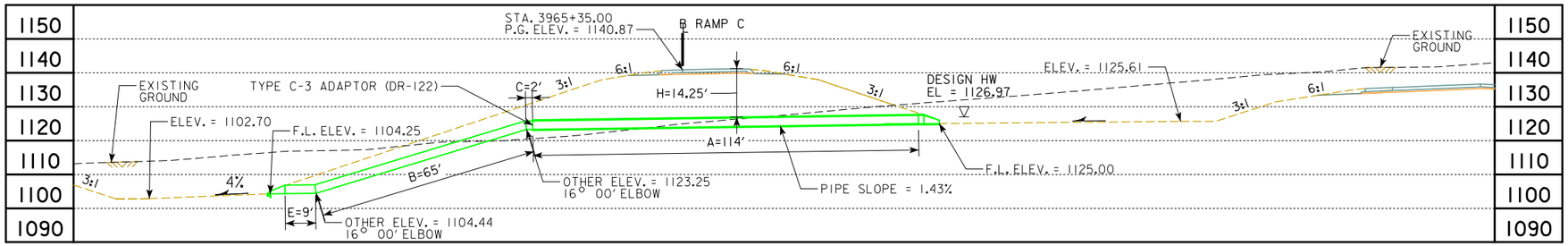
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

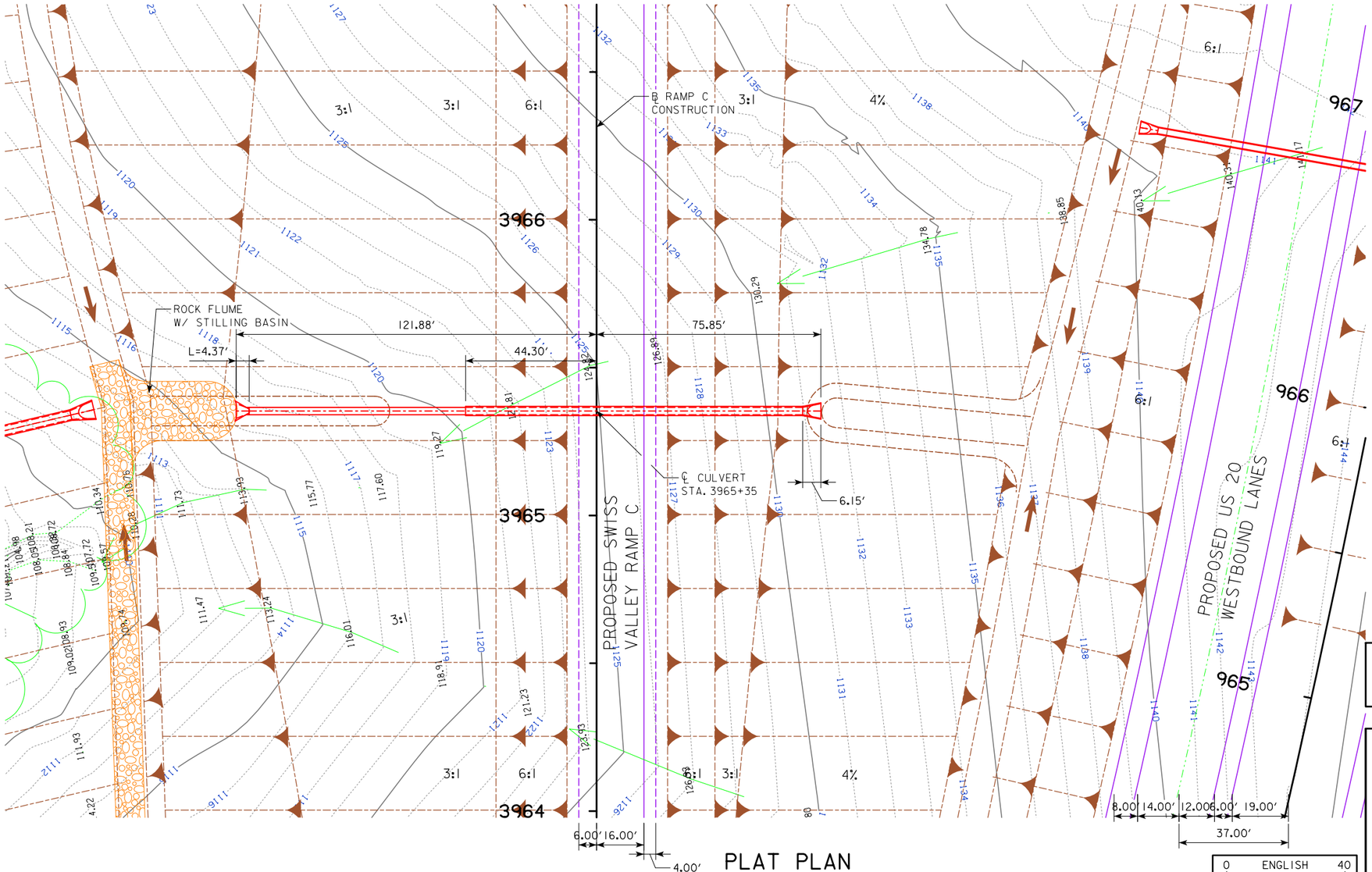
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.13

2/8/2017 7:50:31 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V13 11x17c_pdf.pltcfg

BENCH MARK NO. 620 TOP OF BOLT AT NW CORNER M.L. US 20 (SURVEY) STA. 976+00.05, 110.93' RT. ELEV. 1138.11



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

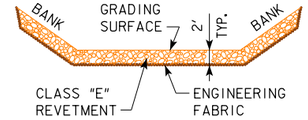
2017 AADT	N/A	V.P.D.
2040 AADT	1344	V.P.D.
2040 DHV	156	V.P.H.
TRUCKS	10	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'28.37"N
LONGITUDE 90°47'21.02"W

HYDRAULIC DATA

DRAINAGE AREA = 5.8 ACRES - ROLLING
Q_{50} = 17 CFS
HW ELEV. = 1126.97



ESTIMATED REVETMENT QUANTITIES INCLUDED WITH ROAD PLANS

LOCATION	REVETMENT CL. "E" (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
INLET	XX	XX	XX
OUTLET	86.3	110	54
TOTALS	86.3	110	54

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.
QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

30 in. x 190 ft. REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE

PLAT PLAN

STA. 3965+35 (℄ RAMP C) JANUARY 2017

DUBUQUE COUNTY

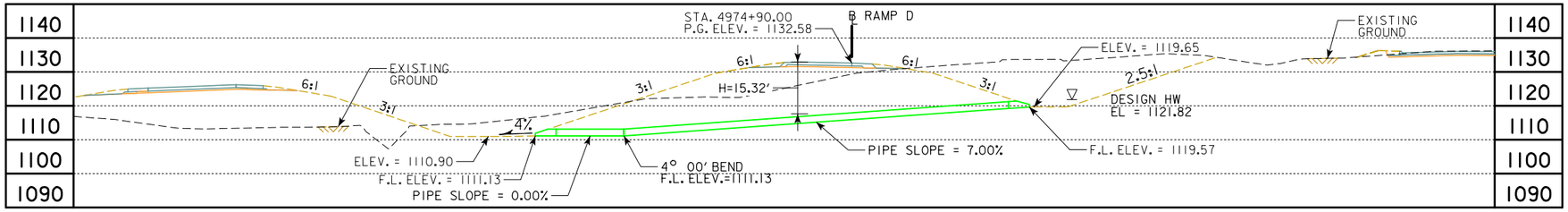
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

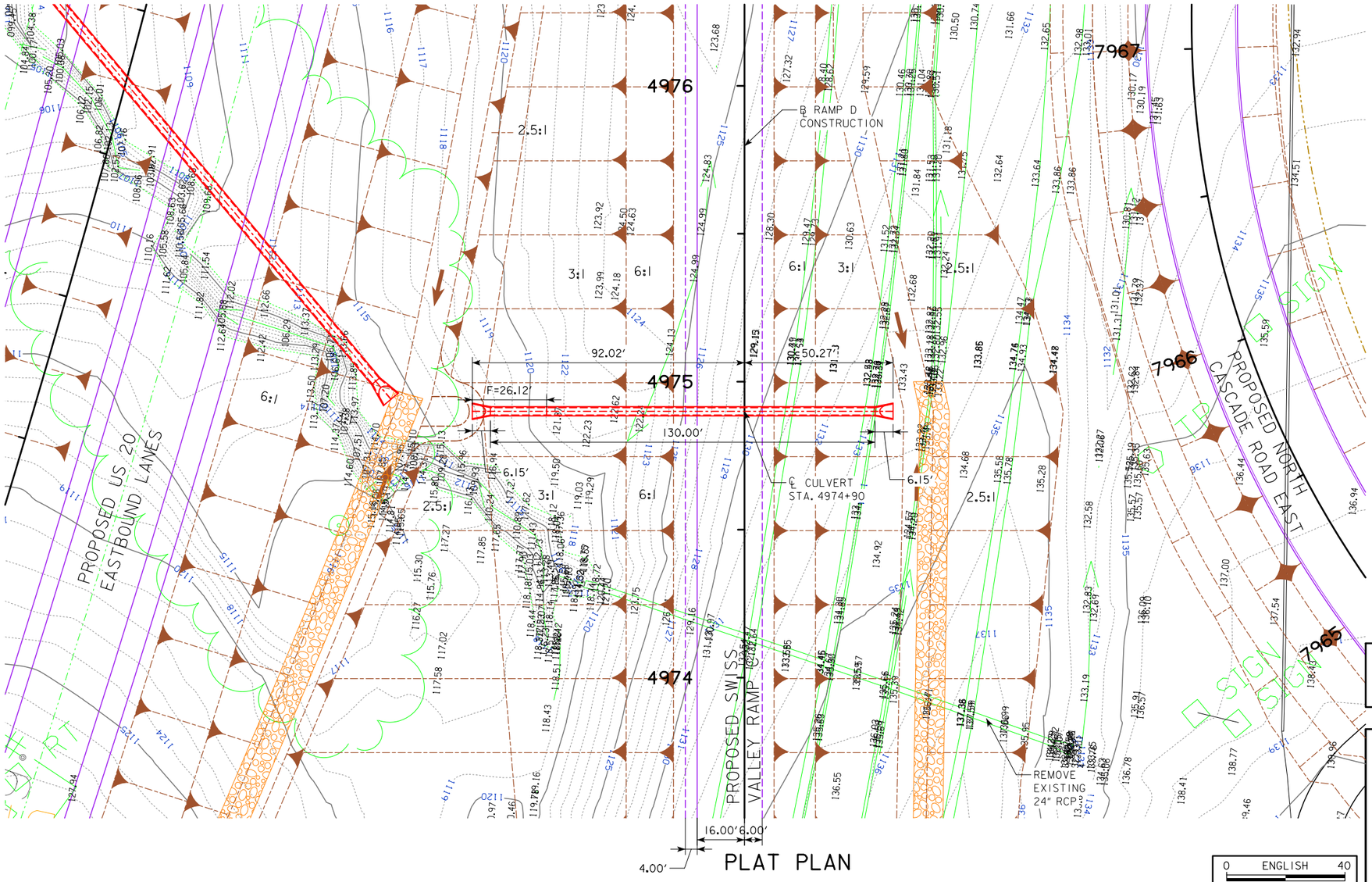
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.14

2/8/2017 7:50:34 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V14 11x17c_pdf.pltcfg

BENCH MARK NO. 620 TOP OF BOLT AT NW CORNER M.L. US 20 (SURVEY) STA. 976+00.05, 110.93' RT. ELEV. 1138.11



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

N

TRAFFIC ESTIMATE

2017 AADT	N/A	V.P.D.
2040 AADT	2360	V.P.D.
2040 DHV	266	V.P.H.
TRUCKS	10	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'28.43"N
LONGITUDE 90°47'6.45"W

HYDRAULIC DATA

DRAINAGE AREA = 7.4 ACRES - ROLLING
Q_{50} = 20 CFS
HW ELEV. = 1121.82

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

30 in. x 130 ft.
REINFORCED CONC. PIPE LETDOWN

PLAT PLAN

STA. 4974+90 (℄ RAMP D) JANUARY 2017

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

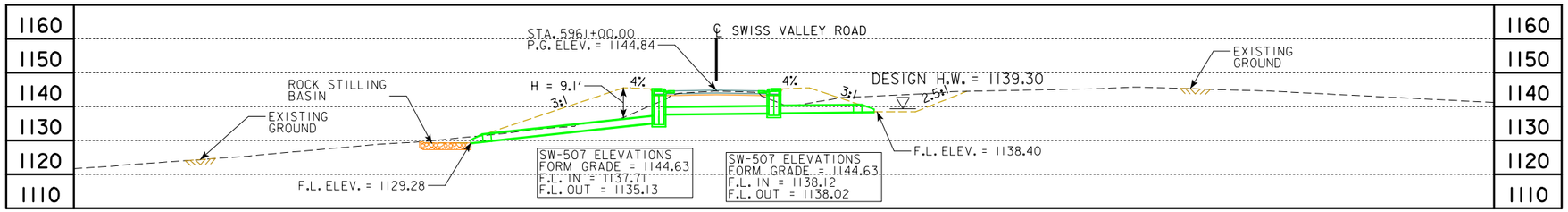
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

0 ENGLISH 40
SCALE IN FEET

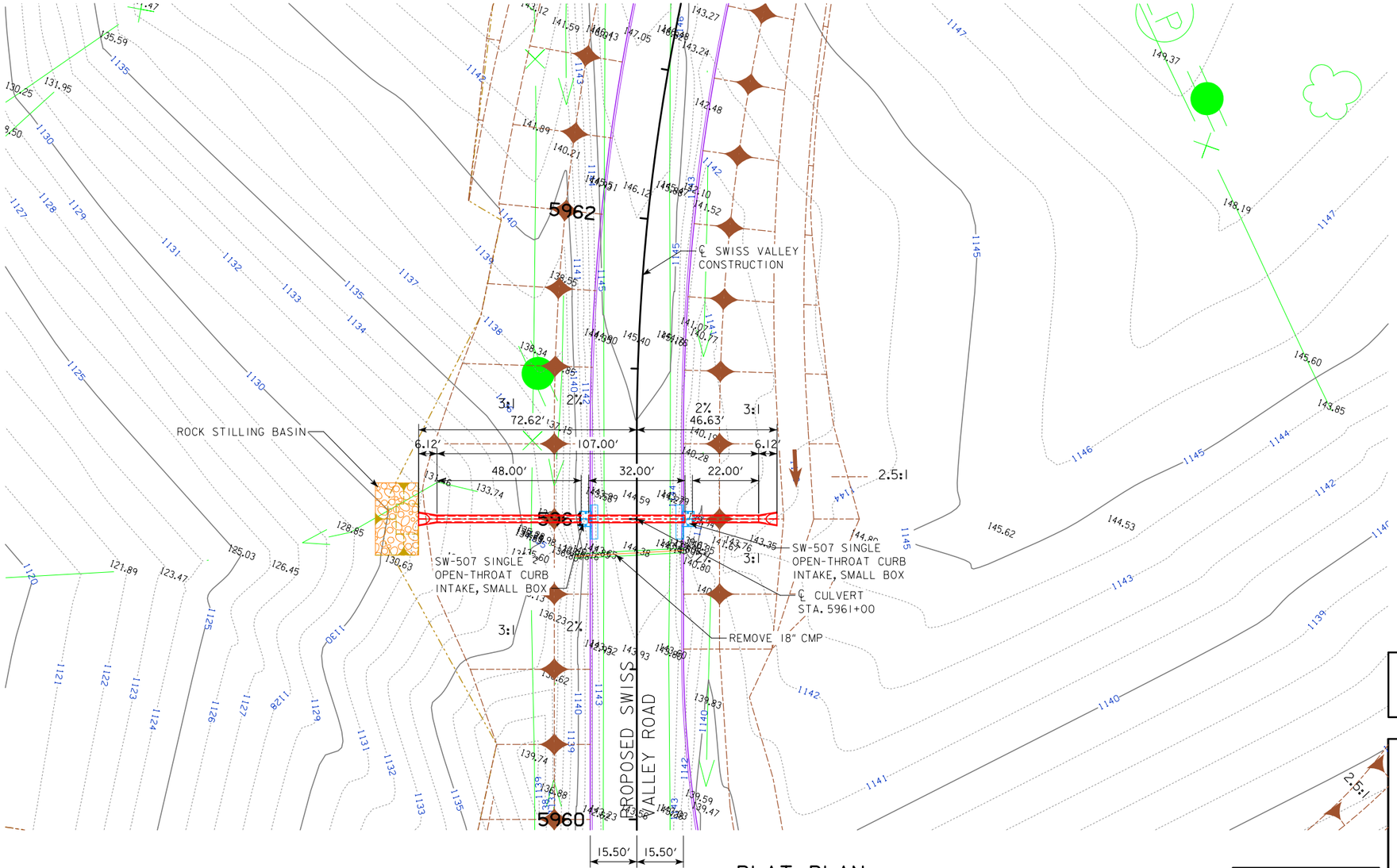
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.15

2/8/2017 7:50:37 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V15 11x17c_pdf.pltcfg

BENCH MARK NO. 632 FD RR SPK N. SIDE P. POLE M.L. US 20 (SURVEY) STA. 969+97.48, 98.45' RT. ELEV. 1151.92



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

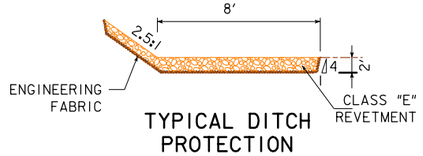
2017 AADT	952	V.P.D.
2040 AADT	3088	V.P.D.
2040 DHV	381	V.P.H.
TRUCKS	4	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 13
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'21.34"N
LONGITUDE 90°47'6.59"W

HYDRAULIC DATA

DRAINAGE AREA = 1.2 ACRES - ROLLING
Q_{50} = 4 CFS
HW ELEV. = 1139.30



TYPICAL DITCH PROTECTION

QUANTITIES

CLASS 'E' REVETMENT 42 TONS
ENGINEERING FABRIC 56 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 102 ft. REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 5961+00 (℄ SWISS VALLEY ROAD) JANUARY 2017

DUBUQUE COUNTY

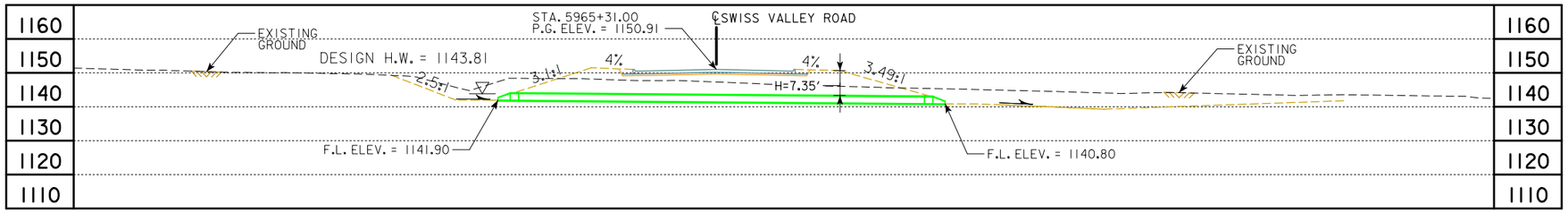
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

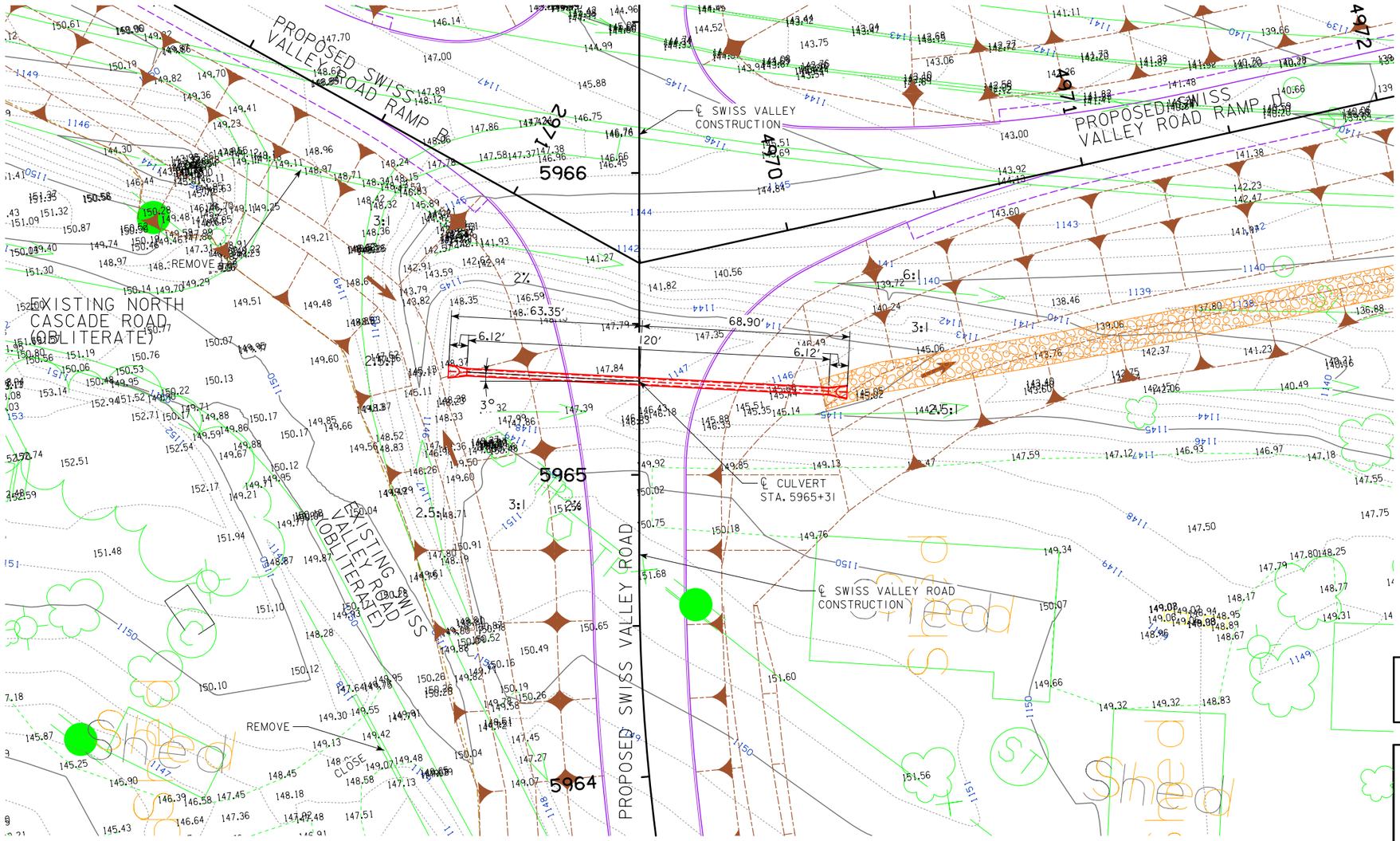
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.16

2/8/2017 7:50:39 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V16 11x17c_pdf.pltcfg

BENCH MARK NO. 632 FD RR SPK N. SIDE P. POLE M.L. US 20 (SURVEY) STA. 969+97.48, 98.45' RT. ELEV. 1151.92

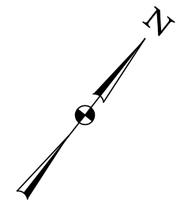


LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET



TRAFFIC ESTIMATE

2017 AADT	952	V.P.D.
2040 AADT	3088	V.P.D.
2040 DHV	381	V.P.H.
TRUCKS	4	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'24.14"N
LONGITUDE 90°47'10.89"W

HYDRAULIC DATA

DRAINAGE AREA = 4.0 ACRES - ROLLING
Q_{50} = 12 CFS
HW ELEV. = 1143.81

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 3° SKEW LT. AHD.

24 in. x 120 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 5965+31 (℄ SWISS VALLEY ROAD) JANUARY 2017

DUBUQUE COUNTY

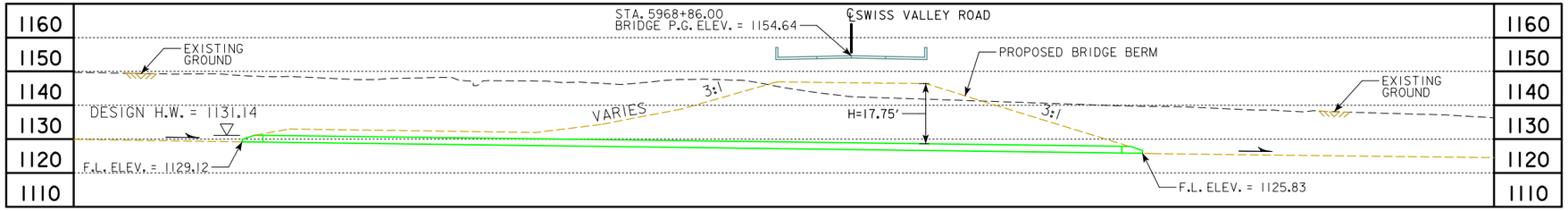
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

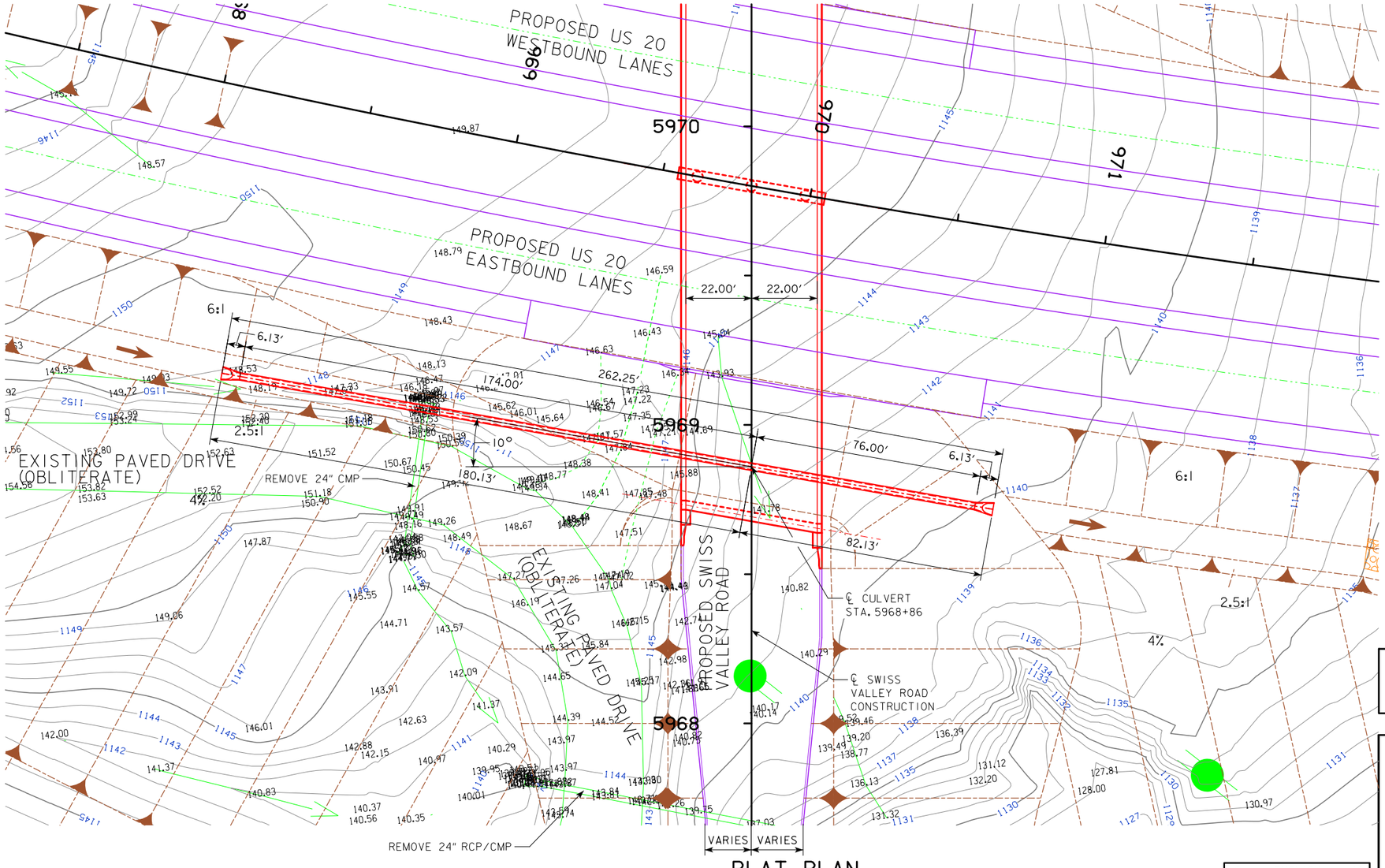
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.17

2/8/2017 7:50:42 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V17 11x17c_pdf.pltcfg

BENCH MARK NO. 632 FD RR SPK N. SIDE P. POLE M.L. US 20 (SURVEY) STA. 969+97.48, 98.45' RT. ELEV. 1151.92



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

N

TRAFFIC ESTIMATE

2017 AADT	952	V.P.D.
2040 AADT	3088	V.P.D.
2040 DHV	381	V.P.H.
TRUCKS	4	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'26.91"N
LONGITUDE 90°47'13.66"W

HYDRAULIC DATA

DRAINAGE AREA = 4.3 ACRES - ROLLING
Q_{50} = 13 CFS
HW ELEV. = 1131.14

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 10° SKEW LT. AHD.

24 in. x 250 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 5968+86 (℄ SWISS VALLEY ROAD) JANUARY 2017

DUBUQUE COUNTY

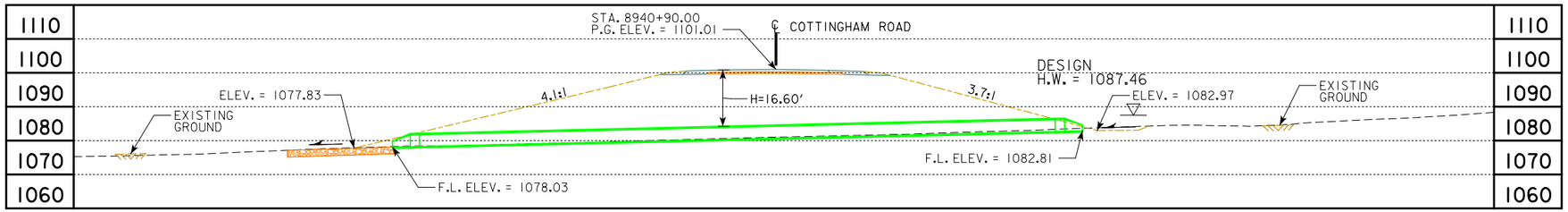
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.

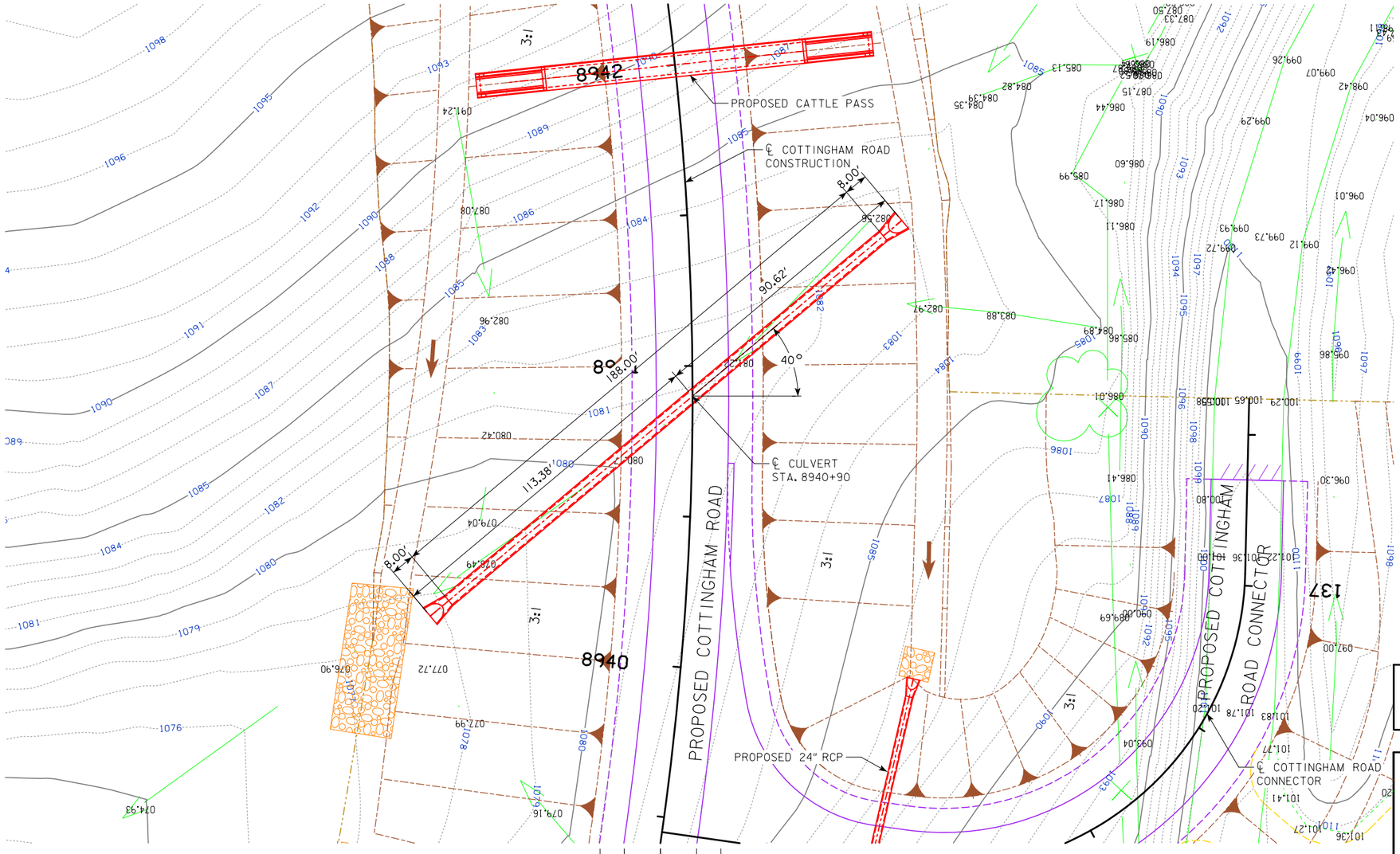
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.18

2/8/2017 7:50:45 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V18 11x17c_pdf.pltcfg

BENCH MARK NO.616 - FD IHC PLUG UPSTREAM EL=1106.82, STA. 941+49.97 Δ 84.72 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

TRAFFIC ESTIMATE

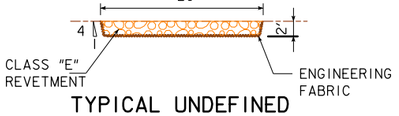
2017 AADT	215	V.P.D.
2040 AADT	589	V.P.D.
2040 DHV	77	V.P.H.
TRUCKS	10	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'28.56"N
LONGITUDE 90°48'1.63"W

HYDRAULIC DATA

DRAINAGE AREA = 27.4 ACRES - HILLY
Q_{50} = 74 CFS
HW ELEV. = 1087.46



TYPICAL UNDEFINED CHANNEL PROTECTION

QUANTITIES
CLASS 'E' REVETMENT 4.5 TONS
ENGINEERING FABRIC 132.4 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 40° SKEW RT. AHD.

42 in. x 188 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 8940+90 (℄ COTTINGHAM) JANUARY 2017

DUBUQUE COUNTY

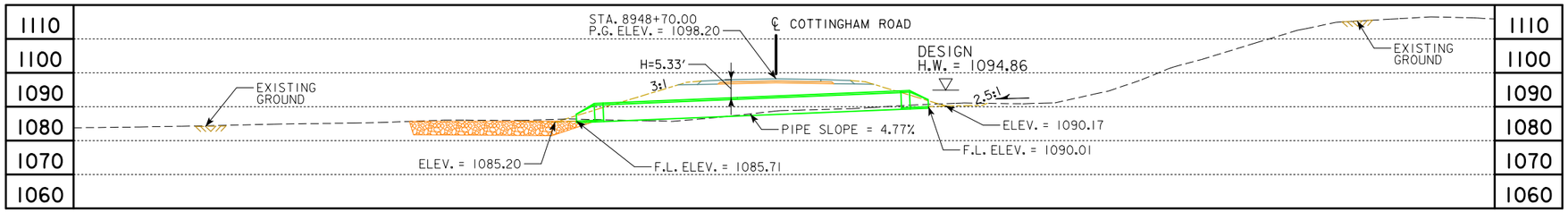
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.

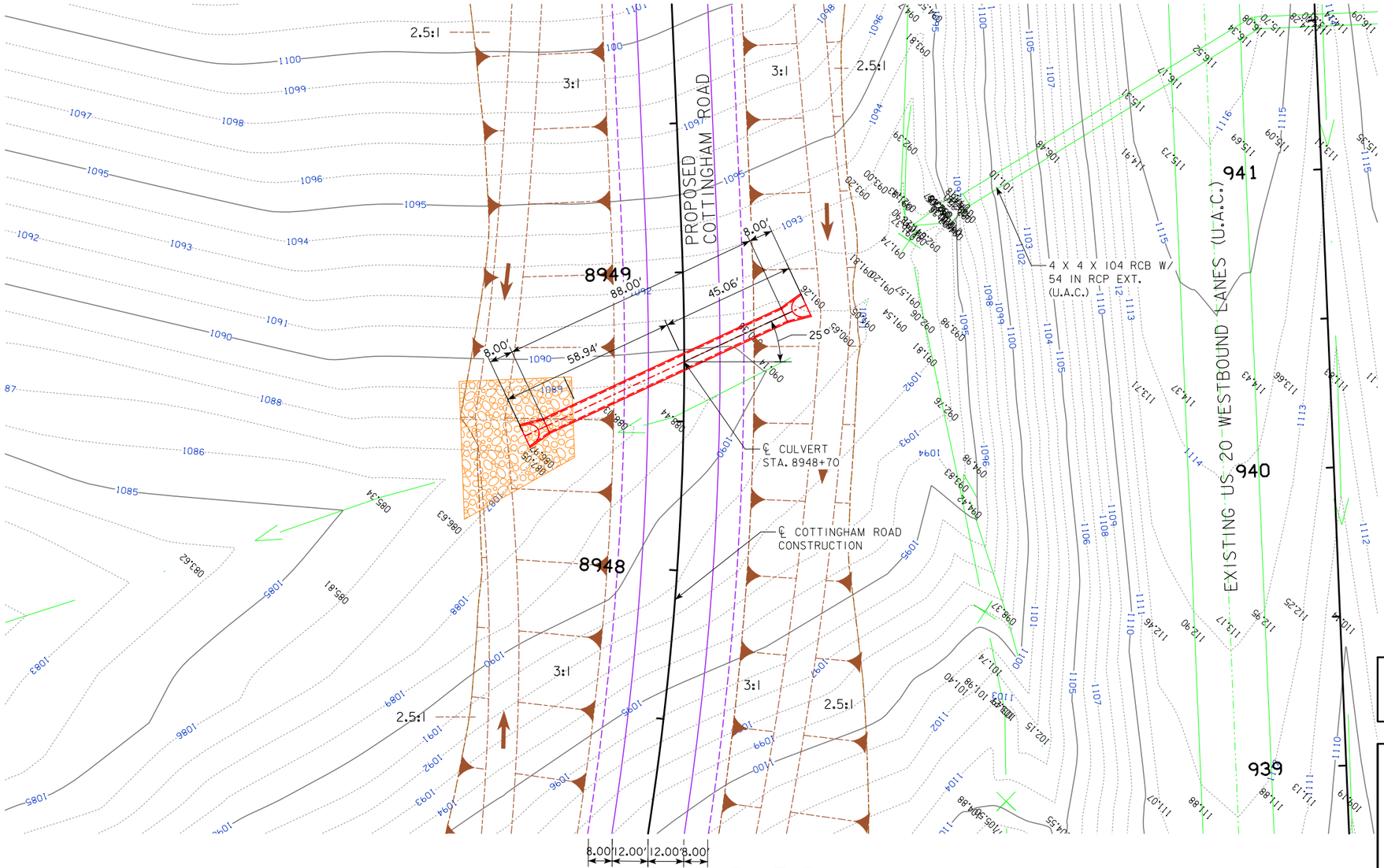
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.19

2/8/2017 7:50:47 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V19 11x17c_pdf.pltcfg

BENCH MARK NO.616 - FD IHC PLUG UPSTREAM EL=1106.82, STA. 941+49.97 Δ 84.72 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

N

TRAFFIC ESTIMATE

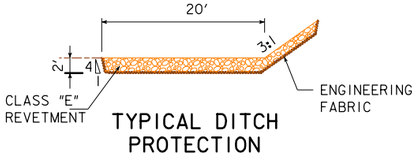
2017 AADT	215	V.P.D.
2040 AADT	589	V.P.D.
2040 DHV	77	V.P.H.
TRUCKS	10	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'25.36"N
LONGITUDE 90°47'52.53"W

HYDRAULIC DATA

DRAINAGE AREA = 45.9 ACRES - HILLY
Q_{50} = 110.2 CFS
HW ELEV. = 1094.86



TYPICAL DITCH PROTECTION

QUANTITIES

CLASS 'E' REVETMENT 6.1 TONS
ENGINEERING FABRIC 188 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 25° SKEW RT. AHD.

54 in. x 88 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 8948+70 (℄ COTTINGHAM) JANUARY 2017

DUBUQUE COUNTY

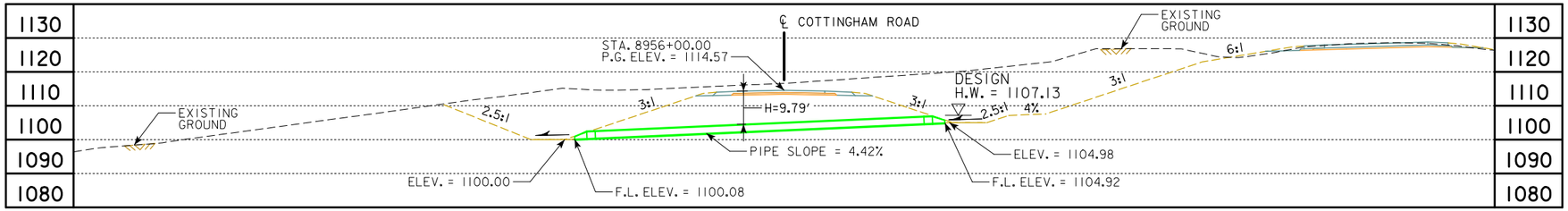
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.

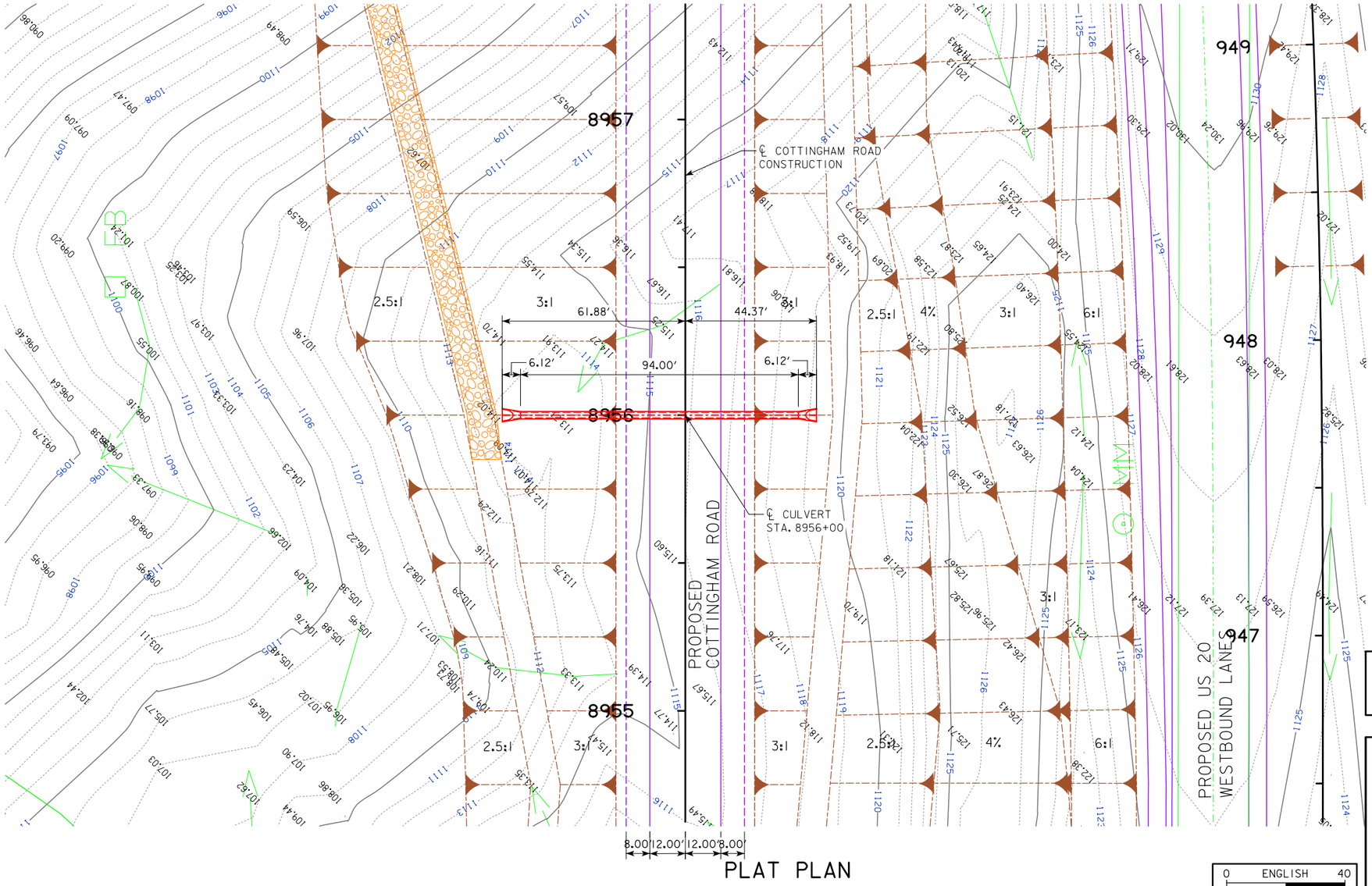
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.20

2/8/2017 7:50:50 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V20 11x17c_pdf.pltcfg

BENCH MARK NO.616 - FD IHC PLUG UPSTREAM EL=1106.82, STA. 941+49.97 Δ 84.72 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

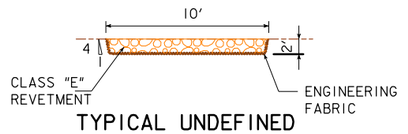
2017 AADT	215	V.P.D.
2040 AADT	589	V.P.D.
2040 DHV	77	V.P.H.
TRUCKS	10	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'25.14"N
LONGITUDE 90°47'42.78"W

HYDRAULIC DATA

DRAINAGE AREA = 3.7 ACRES - HILLY
Q_{50} = 15 CFS
HW ELEV. = 1107.13



TYPICAL UNDEFINED CHANNEL PROTECTION

QUANTITIES

CLASS 'E' REVETMENT 1.3 TONS
ENGINEERING FABRIC 49.3 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 94 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 8956+00 (℄ COTTINGHAM) JANUARY 2017

DUBUQUE COUNTY

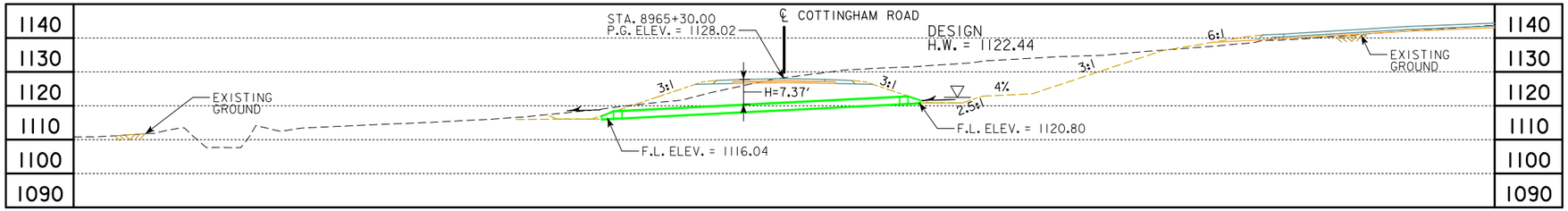
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

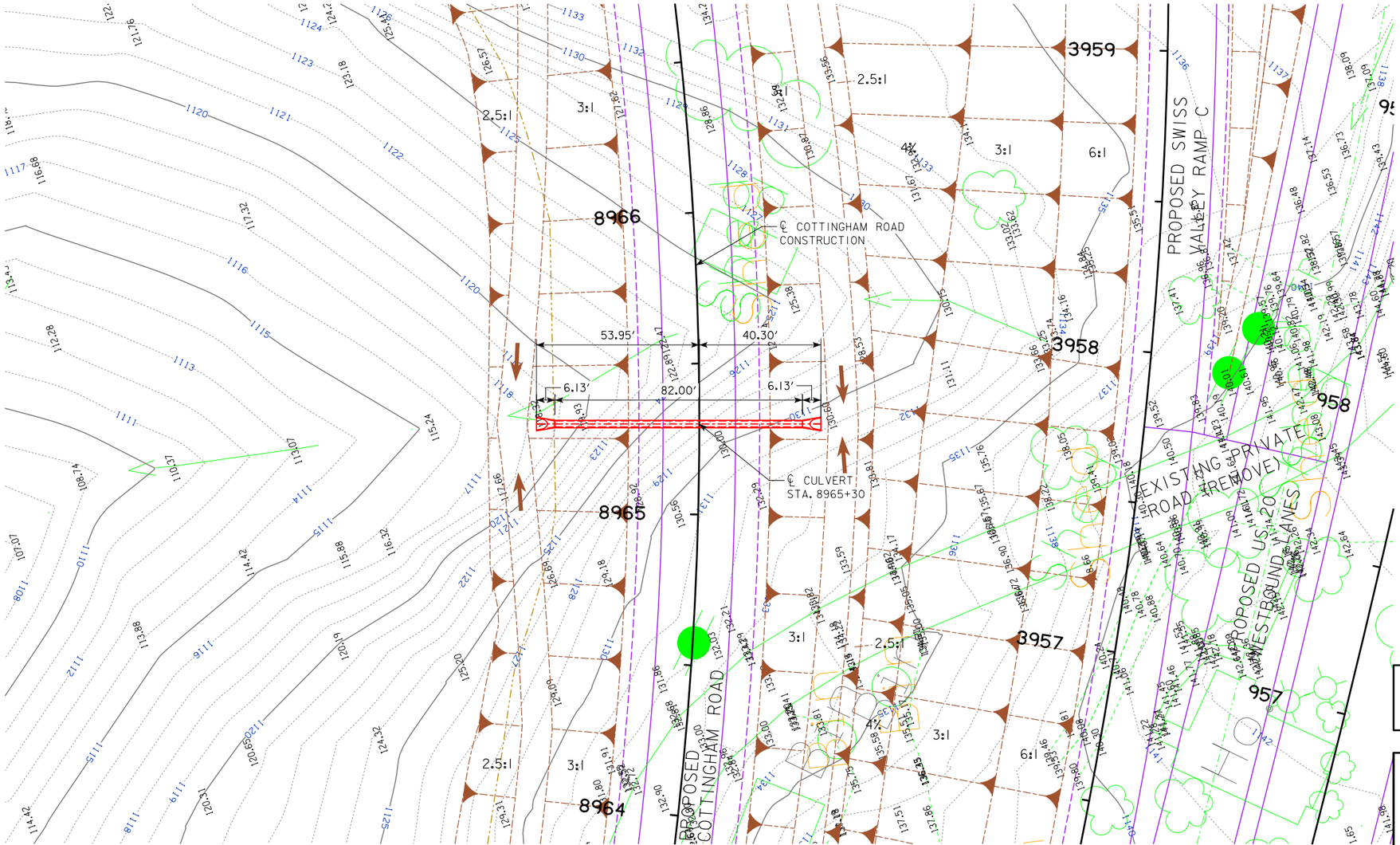
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.21

2/8/2017 7:50:53 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V21 11x17c_pdf.pltcfg

BENCH MARK NO.618 - SET RR SPK S.SIDE PO.POLE, EL=1145.13, STA 957+49.98 Δ 81.15' LT



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

N

TRAFFIC ESTIMATE

2017 AADT	215	V.P.D.
2040 AADT	589	V.P.D.
2040 DHV	77	V.P.H.
TRUCKS	10	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'25.04"N
LONGITUDE 90°47'38.60"W

HYDRAULIC DATA

DRAINAGE AREA = 2.3 ACRES - HILLY
Q_{50} = 10 CFS
HW ELEV. = 1122.44

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 82 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

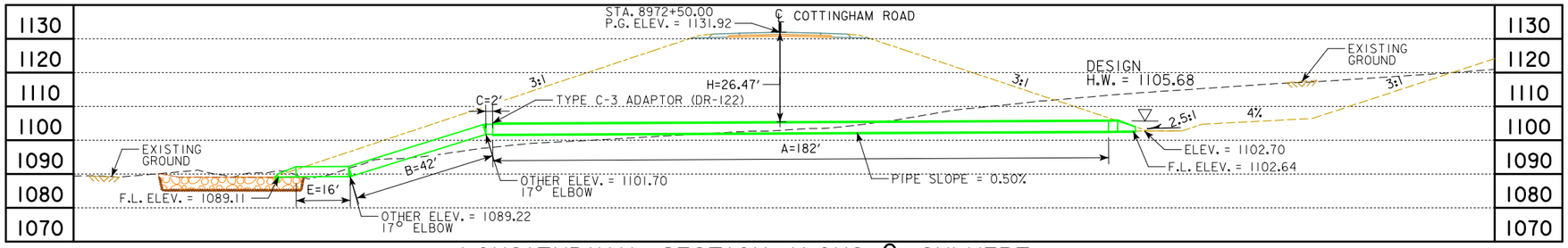
STA. 8965+30 (℄ COTTINGHAM) JANUARY 2017

DUBUQUE COUNTY

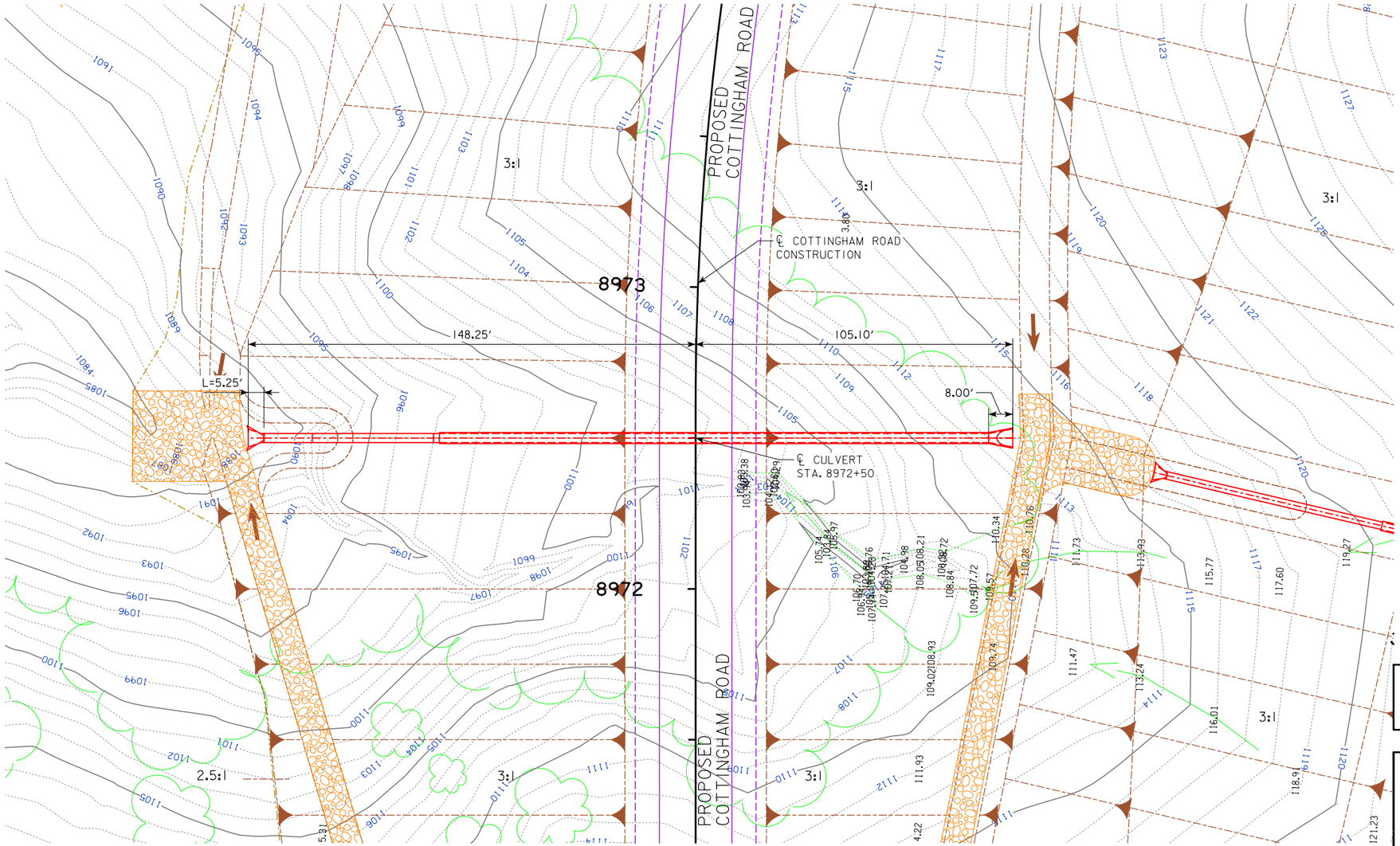
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.22



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

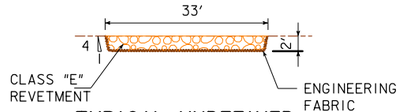
2017 AADT	215	V.P.D.
2040 AADT	589	V.P.D.
2040 DHV	77	V.P.H.
TRUCKS	10	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26′30.51″N
LONGITUDE 90°47′23.16″W

HYDRAULIC DATA

DRAINAGE AREA = 11.2 ACRES - HILLY
Q_{50} = 37 CFS
HW ELEV. = 1105.68



TYPICAL UNDEFINED CHANNEL PROTECTION

QUANTITIES
CLASS 'E' REVETMENT 4.5 TONS
ENGINEERING FABRIC 28.5 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

36 in. x 242 ft.
REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE
PLAT PLAN

STA. 8972+50 (℄ COTTINGHAM) JANUARY 2017

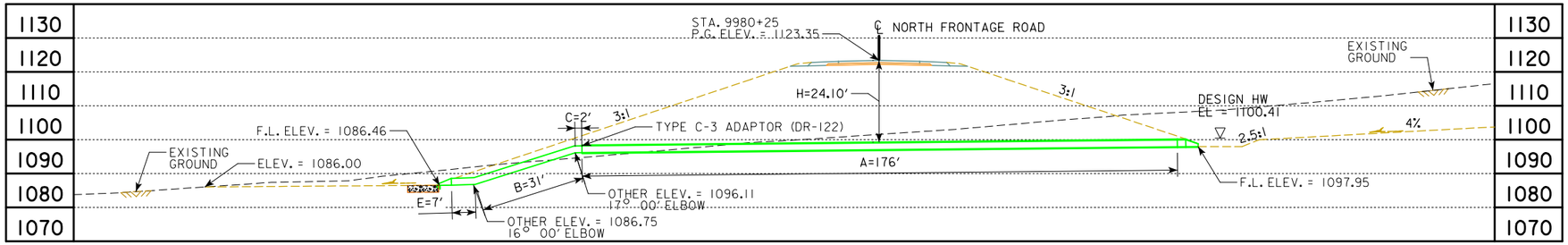
DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

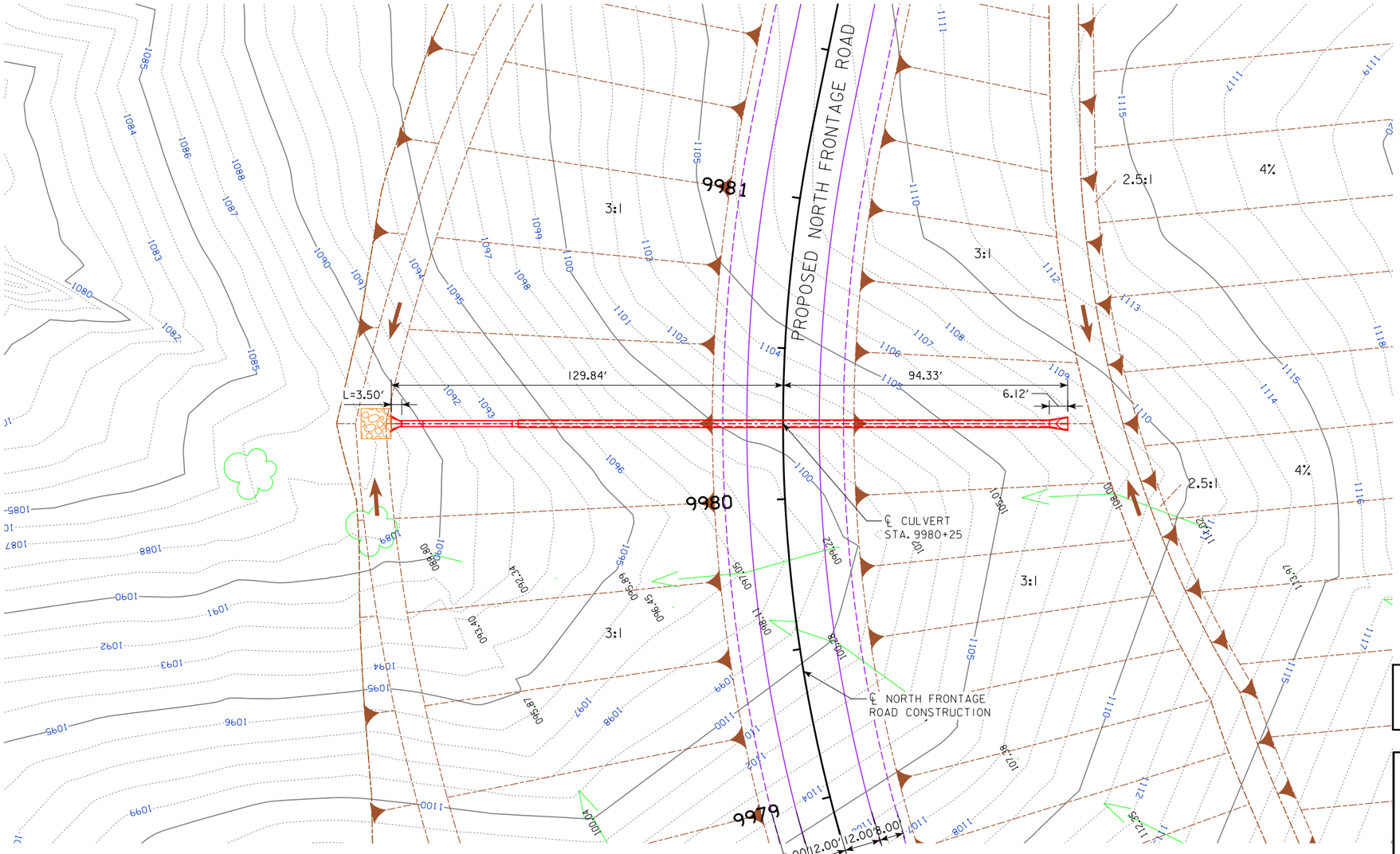
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.

DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.23

BENCH MARK NO. 620 TOP OF BOLT AT NW CORNER M.L. US 20 (SURVEY) STA. 976+00.05, 110.93' RT. ELEV. 1138.11



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

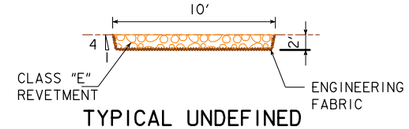
2017 AADT	142	V.P.D.
2040 AADT	197	V.P.D.
2040 DHV	29	V.P.H.
TRUCKS	4	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-2 E
SECTION 7
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'34.82"N
LONGITUDE 90°47'14.74"W

HYDRAULIC DATA

DRAINAGE AREA = 4.3 ACRES - HILLY
Q_{50} = 17 CFS
HW ELEV. = 1100.41



TYPICAL UNDEFINED CHANNEL PROTECTION

QUANTITIES

CLASS 'E' REVETMENT 12.0 TONS
ENGINEERING FABRIC 20.0 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 216 ft. RCP & UNCL. LETDOWN STRUCTURE

PLAT PLAN

STA. 9980+25- (℄ NORTH FRONTAGE ROAD) NOVEMBER 2013 MARCH 2017

DUBUQUE COUNTY

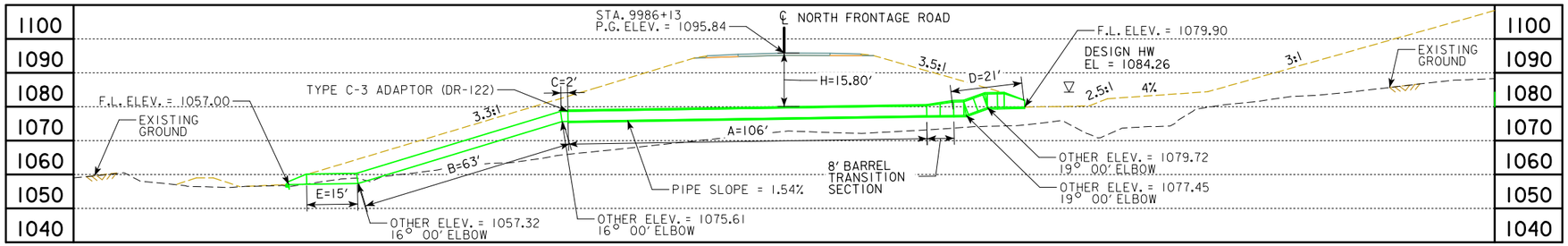
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.

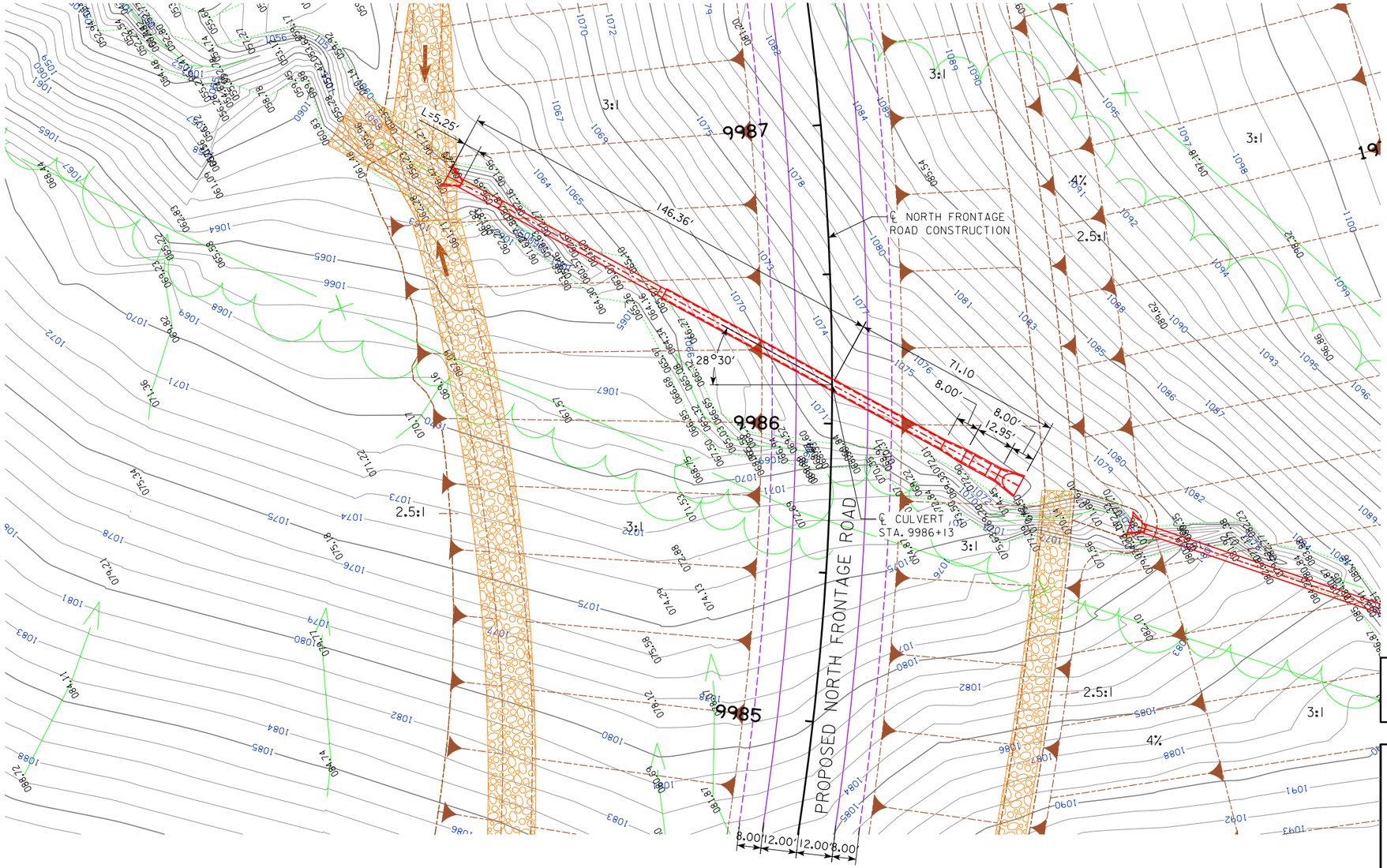
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.24

2/8/2017 7:51:01 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V24 11x17c_pdf.pltcfg

BENCH MARK NO. 620 TOP OF BOLT AT NW CORNER M.L. US 20 (SURVEY) STA. 976+00.05, 110.93' RT. ELEV. 1138.11



LONGITUDINAL SECTION ALONG ℄ CULVERT



TRAFFIC ESTIMATE

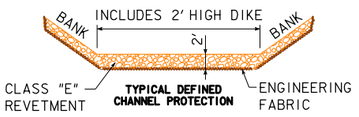
2017 AADT	142	V.P.D.
2040 AADT	197	V.P.D.
2040 DHV	29	V.P.H.
TRUCKS	4	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-2 E
SECTION 7
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'32.81'N
LONGITUDE 90°47'7.39''W

HYDRAULIC DATA

DRAINAGE AREA = 30 ACRES - HILLY
Q_{50} = 81 CFS
HW ELEV. = 1084.26



QUANTITIES

CLASS 'E' REVETMENT 210 TONS
ENGINEERING FABRIC 240 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 28.5° SKEW LT. AHD.

48 in. to 36 in. SLOPE TAPERED REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE

PLAT PLAN

STA. 9986+13 (℄ NORTH FRONTAGE ROAD) JANUARY 2017

DUBUQUE COUNTY

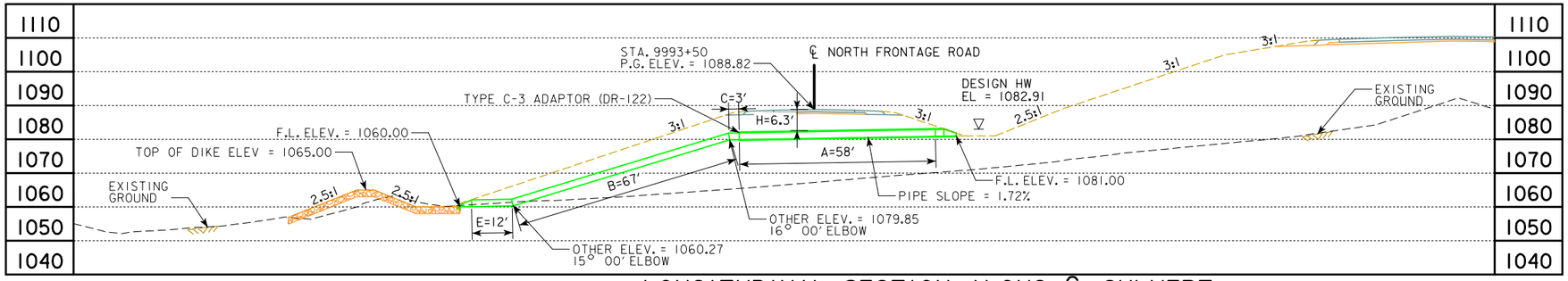
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

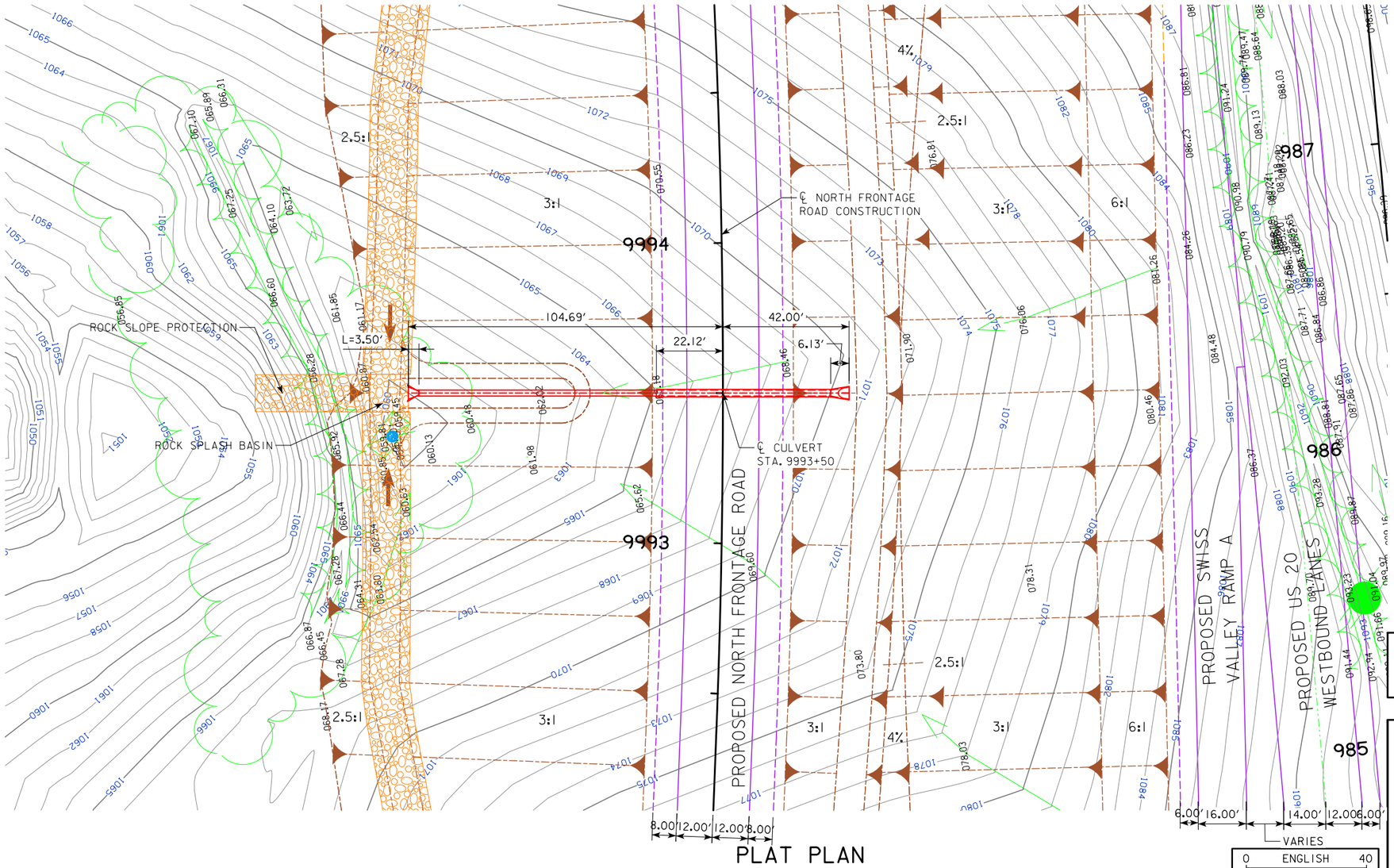
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.25

2/8/2017 7:51:03 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V25 11x17c_pdf.pltcfg

BENCH MARK NO.621 - SET RR SPK N. SIDE PO. POLE EL=1114.30, STA. 984+30.06 Δ 101.96 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

TRAFFIC ESTIMATE

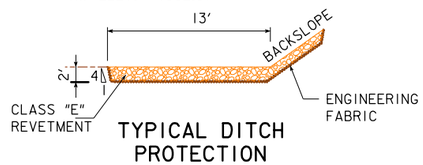
2017 AADT	142	V.P.D.
2040 AADT	197	V.P.D.
2040 DHV	29	V.P.H.
TRUCKS	4	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26′36.24″N
LONGITUDE 90°46′57.88″W

HYDRAULIC DATA

DRAINAGE AREA = 4 ACRES - ROLLING
Q_{50} = 12 CFS
HW ELEV. = 1082.91



TYPICAL DITCH PROTECTION

QUANTITIES
CLASS 'E' REVETMENT 21 TONS
ENGINEERING FABRIC 31 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 140 ft.
REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE
PLAT PLAN

STA. 9993+50 (℄ NORTH FRONTAGE ROAD) JANUARY 2017

DUBUQUE COUNTY

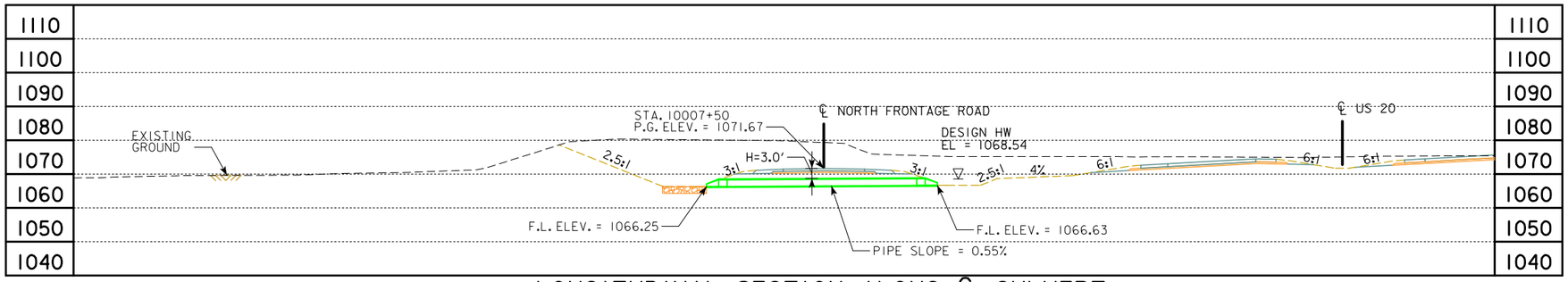
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

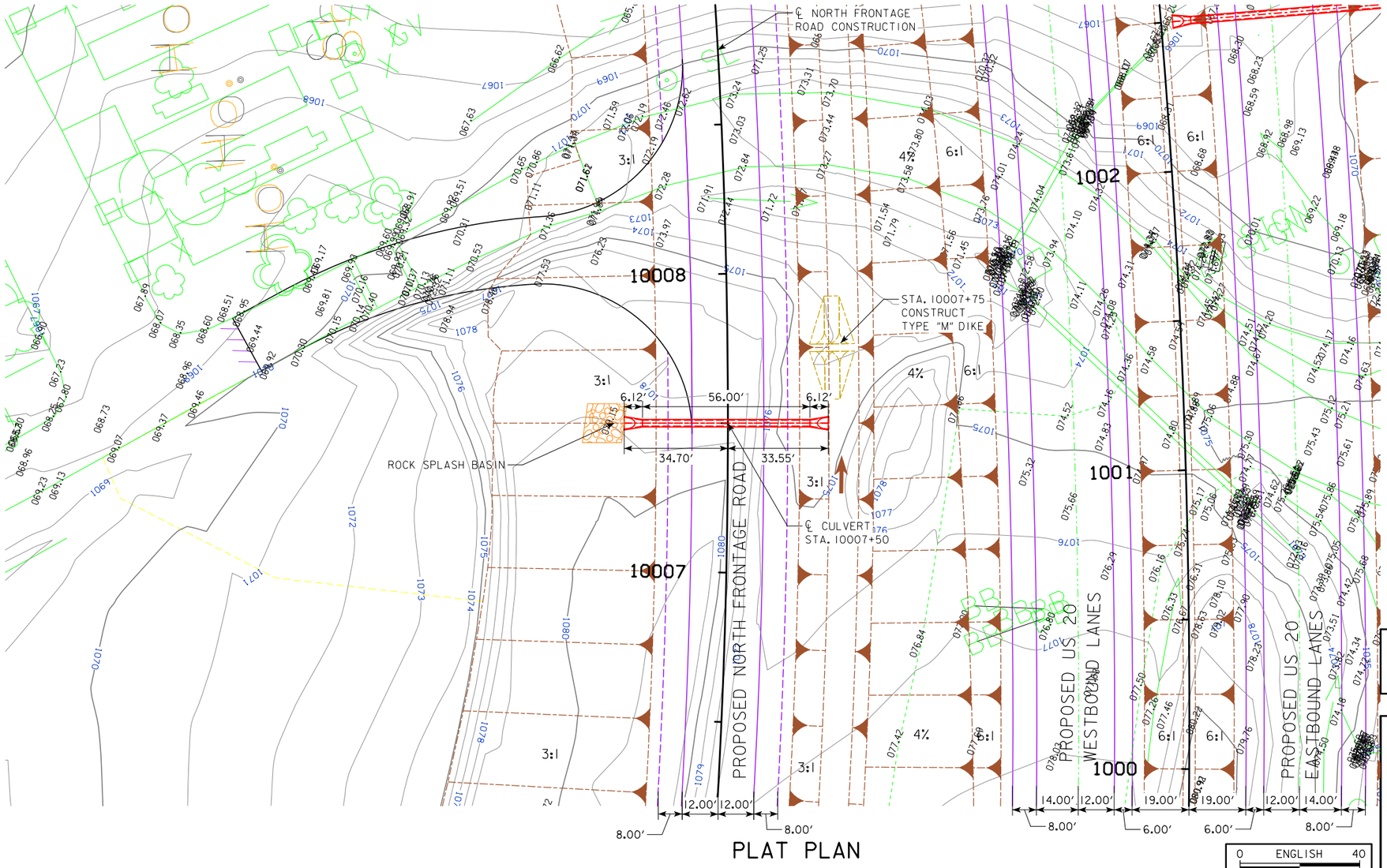
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.26

2/8/2017 7:51:14 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V26 11x17c_pdf.pltcfg

BENCH MARK NO.636 - CUT & EAST BOLT FLAG POLE EL=1097.05, STA. 1002+11.95 Δ 264.71 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

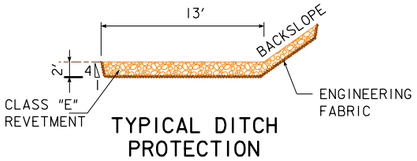
2017 AADT	142	V.P.D.
2040 AADT	197	V.P.D.
2040 DHV	29	V.P.H.
TRUCKS	4	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'49.06"N
LONGITUDE 90°46'46.10"W

HYDRAULIC DATA

DRAINAGE AREA = 3.8 ACRES - ROLLING
Q_{50} = 12 CFS
HW ELEV. = 1068.54



TYPICAL DITCH PROTECTION

QUANTITIES
CLASS 'E' REVETMENT 21 TONS
ENGINEERING FABRIC 31 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 56 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 10007+50 (℄ NORTH FRONTAGE ROAD) JANUARY 2017

DUBUQUE COUNTY

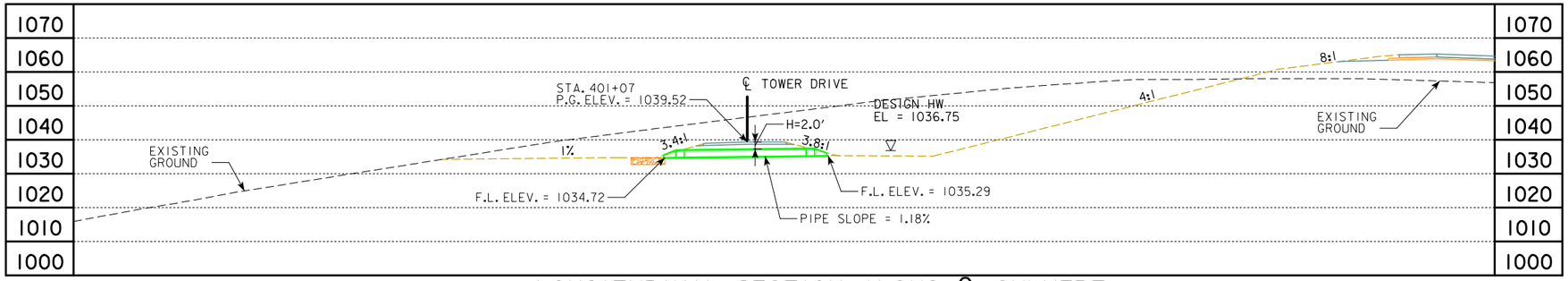
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

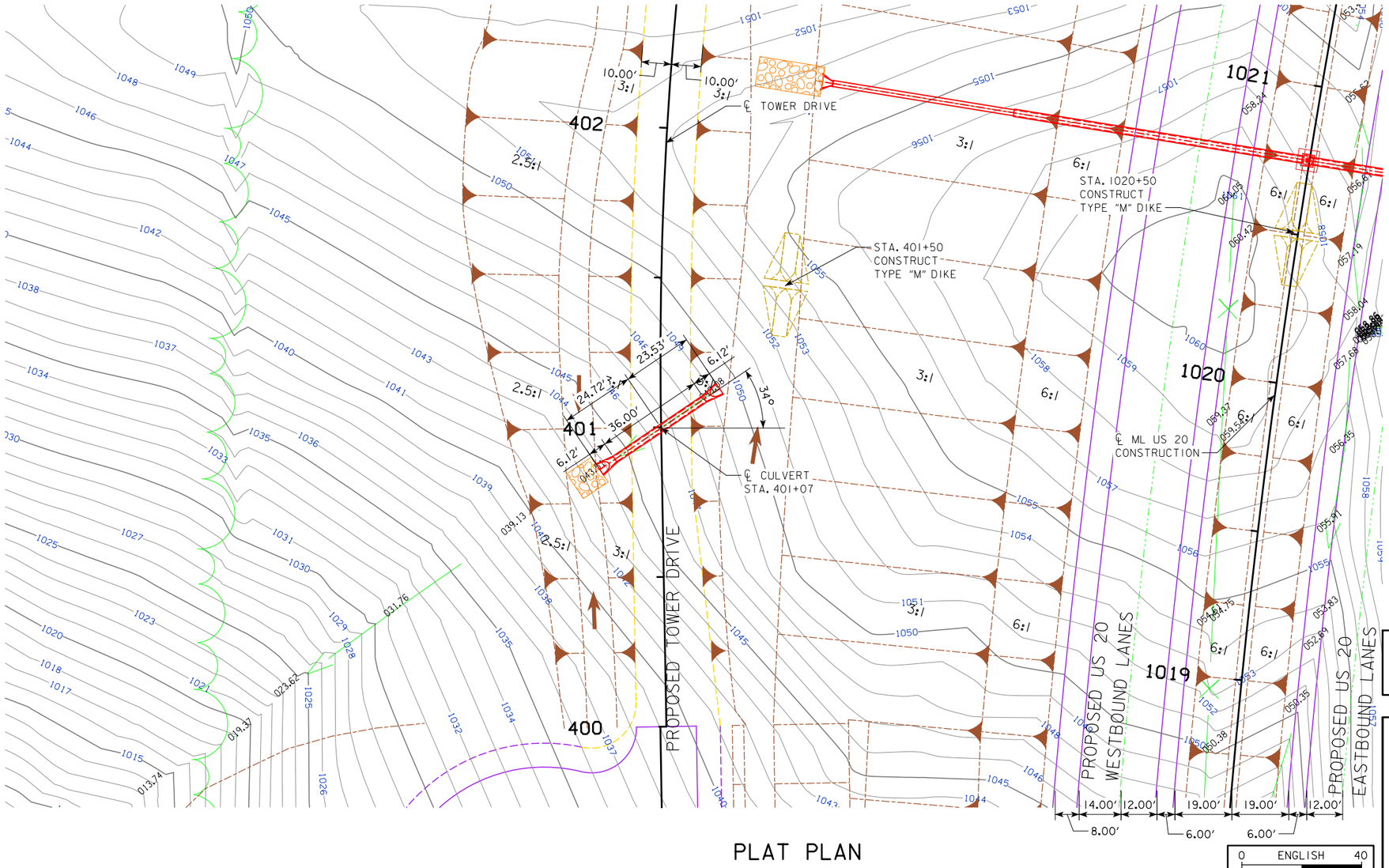
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.27

2/8/2017 7:51:16 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V27 11x17c_pdf.pltcfg

BENCH MARK NO. 624 - SET RR SPK W. SIDE PO. POLE EL=1059.14, STA. 1016+09.89 Δ 77.52 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

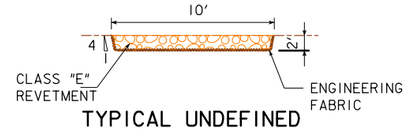
0 ENGLISH 40
SCALE IN FEET

LOCATION

US 20
T-88 N R-2 E
SECTION 7
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°27'06.43"N
LONGITUDE 90°46'43.61"W

HYDRAULIC DATA

DRAINAGE AREA = 2.3 ACRES - ROLLING
Q_{50} = 8 CFS
HW ELEV. = 1036.75



TYPICAL UNDEFINED CHANNEL PROTECTION

QUANTITIES
CLASS 'E' REVETMENT 12 TONS
ENGINEERING FABRIC 16 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 34° SKEW

24 in. x 36 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 401+07 (℄ TOWER DRIVE) JANUARY 2017

DUBUQUE COUNTY

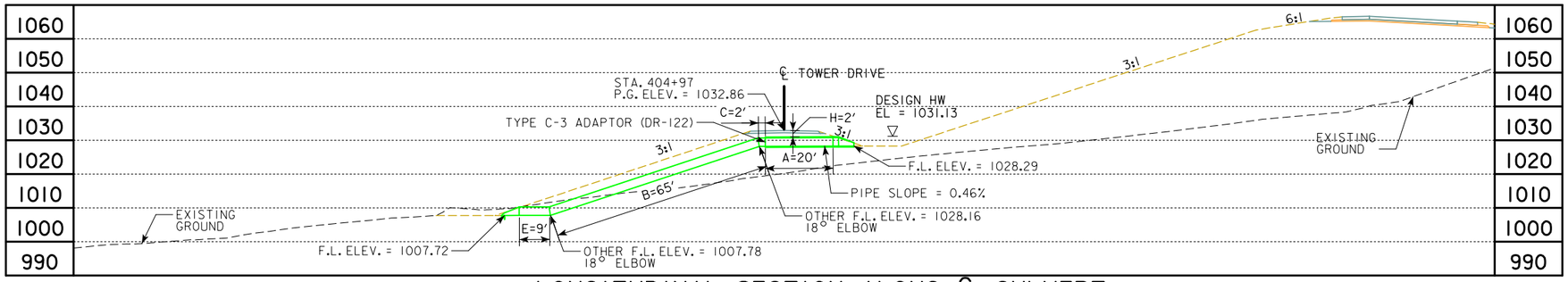
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

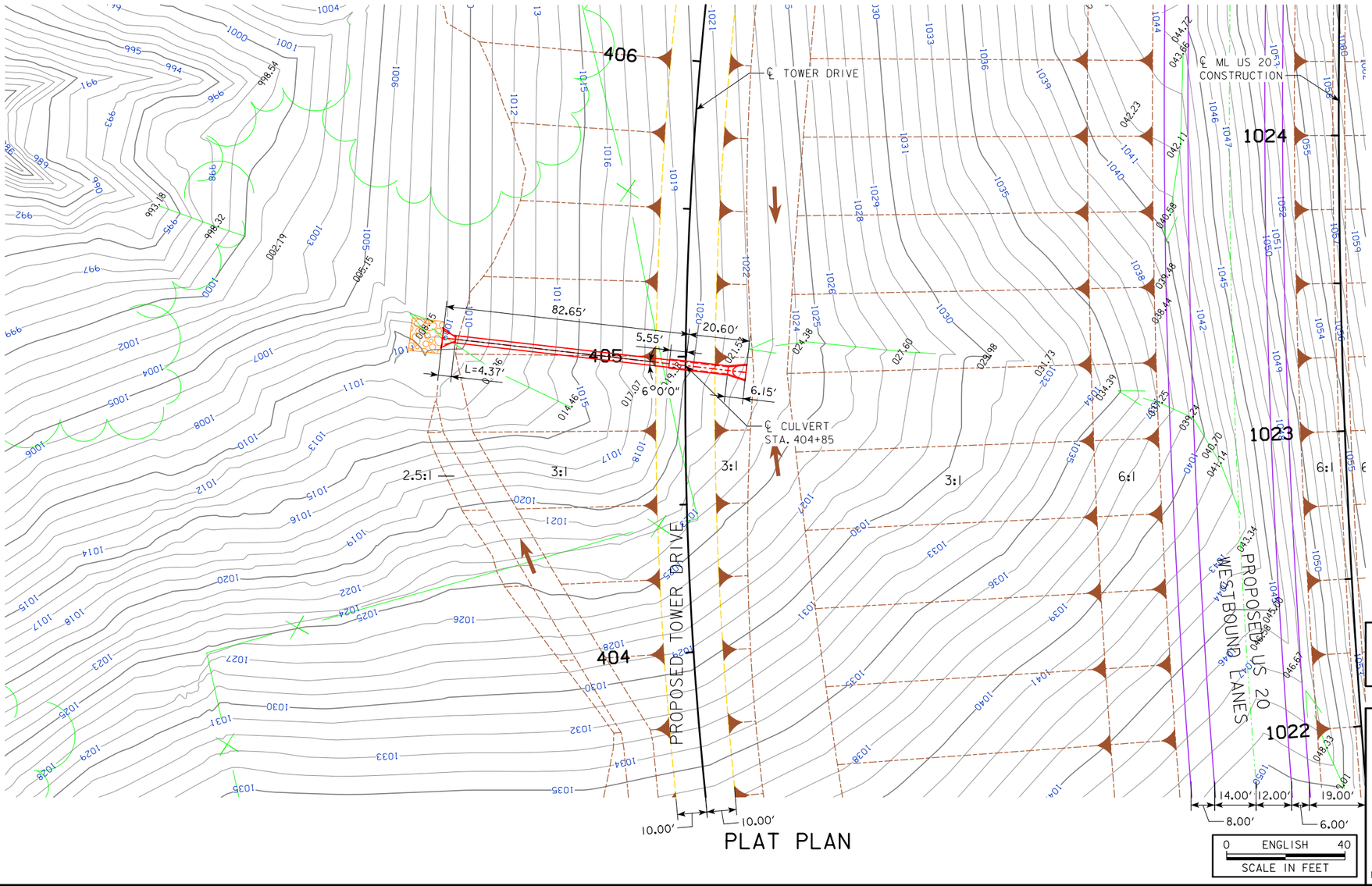
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.28

2/8/2017 7:51:19 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V28 11x17c_pdf.pltcfg

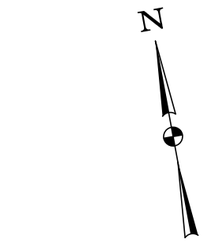
BENCH MARK NO. 625 -FD RR SPK W. SIDE PO. POLE EL=1060.18, STA. 1027+84.94 Δ 85.39 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

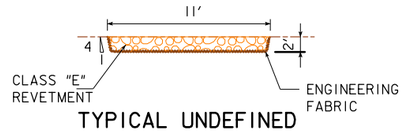


LOCATION

US 20
T-88 N R-2 E
SECTION 7
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°27′10.33″N
LONGITUDE 90°46′43.16″W

HYDRAULIC DATA

DRAINAGE AREA = 9.7 ACRES - ROLLING
Q_{50} = 25 CFS
HW ELEV. = 1031.13



TYPICAL UNDEFINED CHANNEL PROTECTION

QUANTITIES

CLASS 'E' REVETMENT 15 TONS
ENGINEERING FABRIC 24 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 6° SKEW

30 in. x 96 ft.
REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE
PLAT PLAN

STA. 404+97 (℄ TOWER DRIVE) JANUARY 2017

DUBUQUE COUNTY

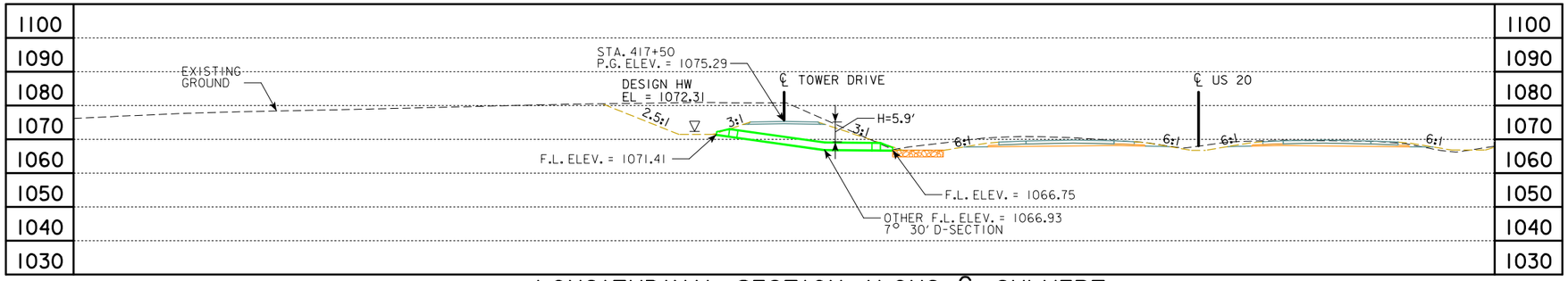
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

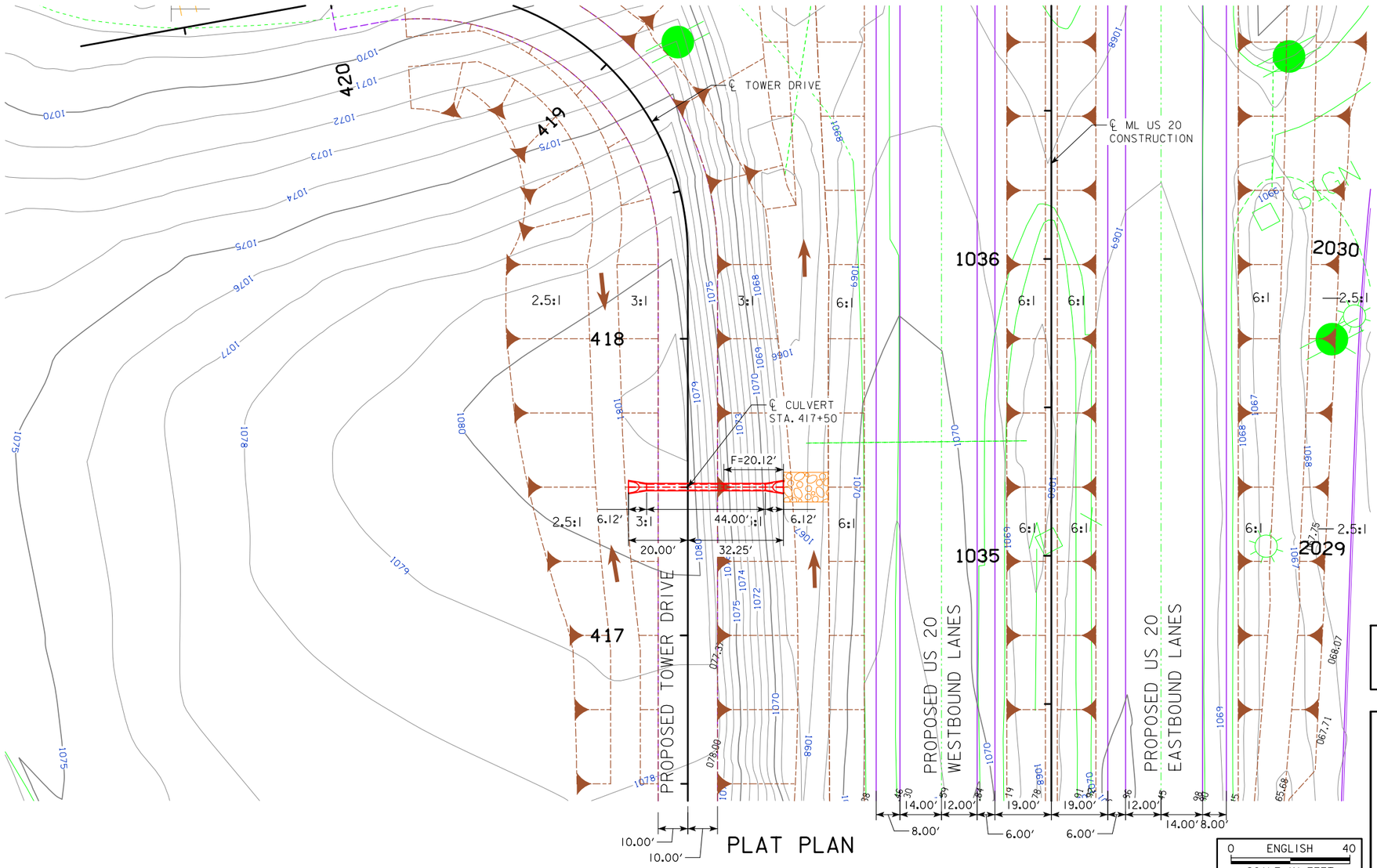
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.29

2/8/2017 7:51:21 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V29 11x17c_pdf.pltcfg

BENCH MARK NO. 627 -FD RR SPK W. SIDE PO. POLE EL=1067.25, STA. 1037+83.64 Δ 90.99 RT.



LONGITUDINAL SECTION ALONG ℄ CULVERT

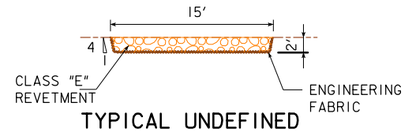


LOCATION

US 20
T-88 N R-2 E
SECTION 6
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°27'21.31"N
LONGITUDE 90°46'35.55"W

HYDRAULIC DATA

DRAINAGE AREA = 1.0 ACRES - ROLLING
Q_{50} = 4 CFS
HW ELEV. = 1072.31



TYPICAL UNDEFINED CHANNEL PROTECTION

QUANTITIES
CLASS 'E' REVETMENT 18 TONS
ENGINEERING FABRIC 28 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

24 in. x 40 ft.
REINFORCED CONCRETE PIPE LETDOWN
PLAT PLAN

STA. 417+50 (℄ TOWER DRIVE) JANUARY 2017

DUBUQUE COUNTY

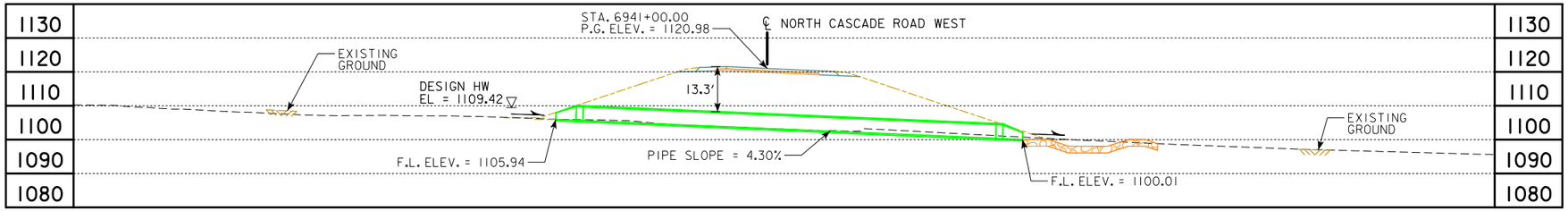
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

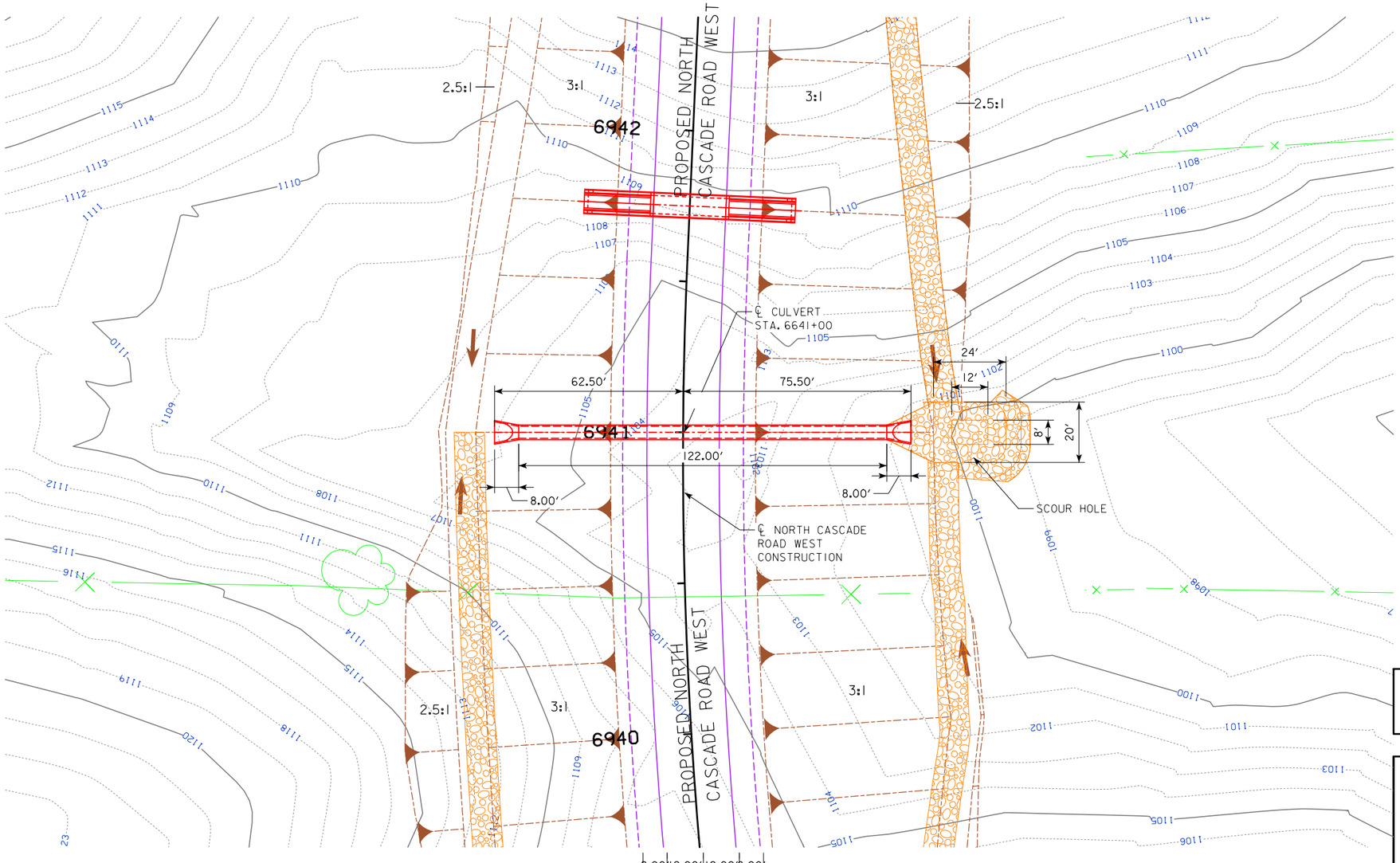
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.30

2/8/2017 7:51:24 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\00000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V30 11x17c_pdf.pltcfg

BENCH MARK NO. 631 SET RR SPK NW SIDE P. POLE M.L. US 20 (SURVEY) STA. 957+01.41, 1207.56' RT. ELEV. 1138.62



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

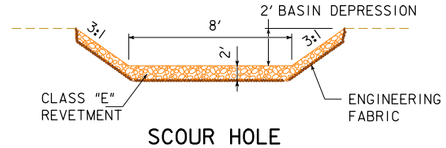
2017 AADT	471	V.P.D.
2040 AADT	771	V.P.D.
2040 DHV	99	V.P.H.
TRUCKS	7	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 13
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'12.35"N
LONGITUDE 90°47'23.97"W

HYDRAULIC DATA

DRAINAGE AREA = 31 ACRES - ROLLING
Q_{50} = 61 CFS
HW ELEV. = 1109.42



SCOUR HOLE

QUANTITIES

CLASS 'E' REVETMENT 110 TONS
ENGINEERING FABRIC 136 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

48 in. x 122 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 6941+00 (℄ NORTH CASCADE ROAD) JANUARY 2017

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.

DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.31

2/8/2017 7:51:27 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V31 11x17c_pdf.pltcfg

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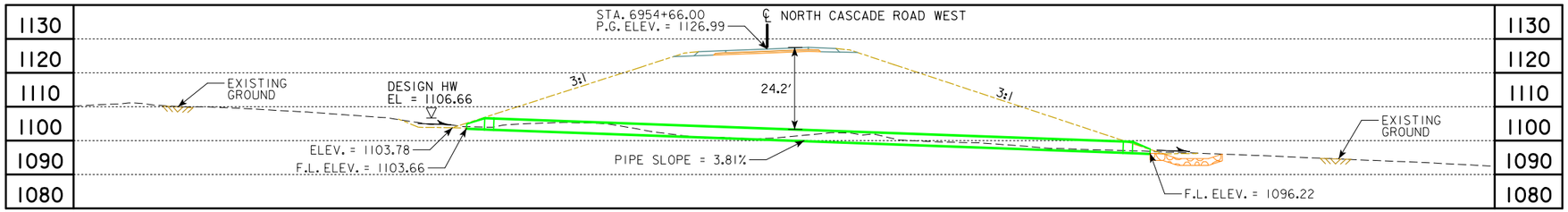
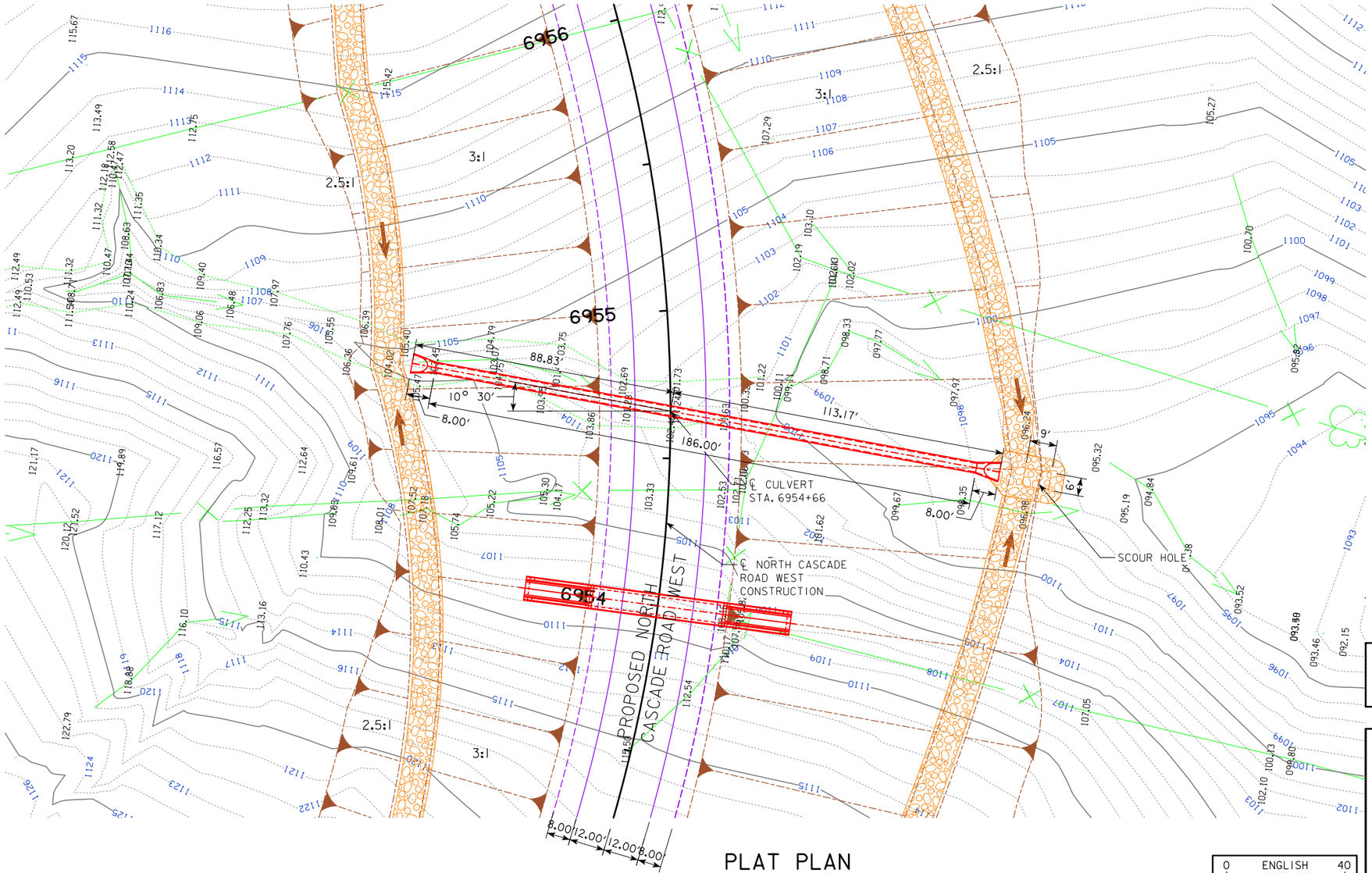


LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

N

TRAFFIC ESTIMATE

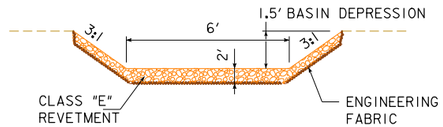
2017 AADT	1320	V.P.D.
2040 AADT	1877	V.P.D.
2040 DHV	234	V.P.H.
TRUCKS	3	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 13
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'16.73"N
LONGITUDE 90°47'6.94"W

HYDRAULIC DATA

DRAINAGE AREA = 15.4 ACRES - ROLLING
Q_{50} = 36 CFS
HW ELEV. = 1106.66



SCOUR HOLE

QUANTITIES
CLASS 'E' REVETMENT 39 TONS
ENGINEERING FABRIC 54 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 10°30' SKEW LT. AHD.

36 in. x 186 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 6954+66 (℄ NORTH CASCADE ROAD) JANUARY 2017

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.

DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.32

2/8/2017 7:51:30 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V32 11x17c_pdf.pltcfg

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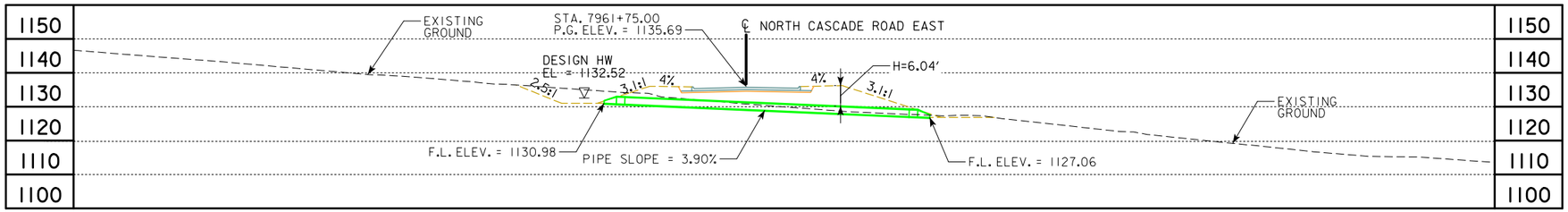
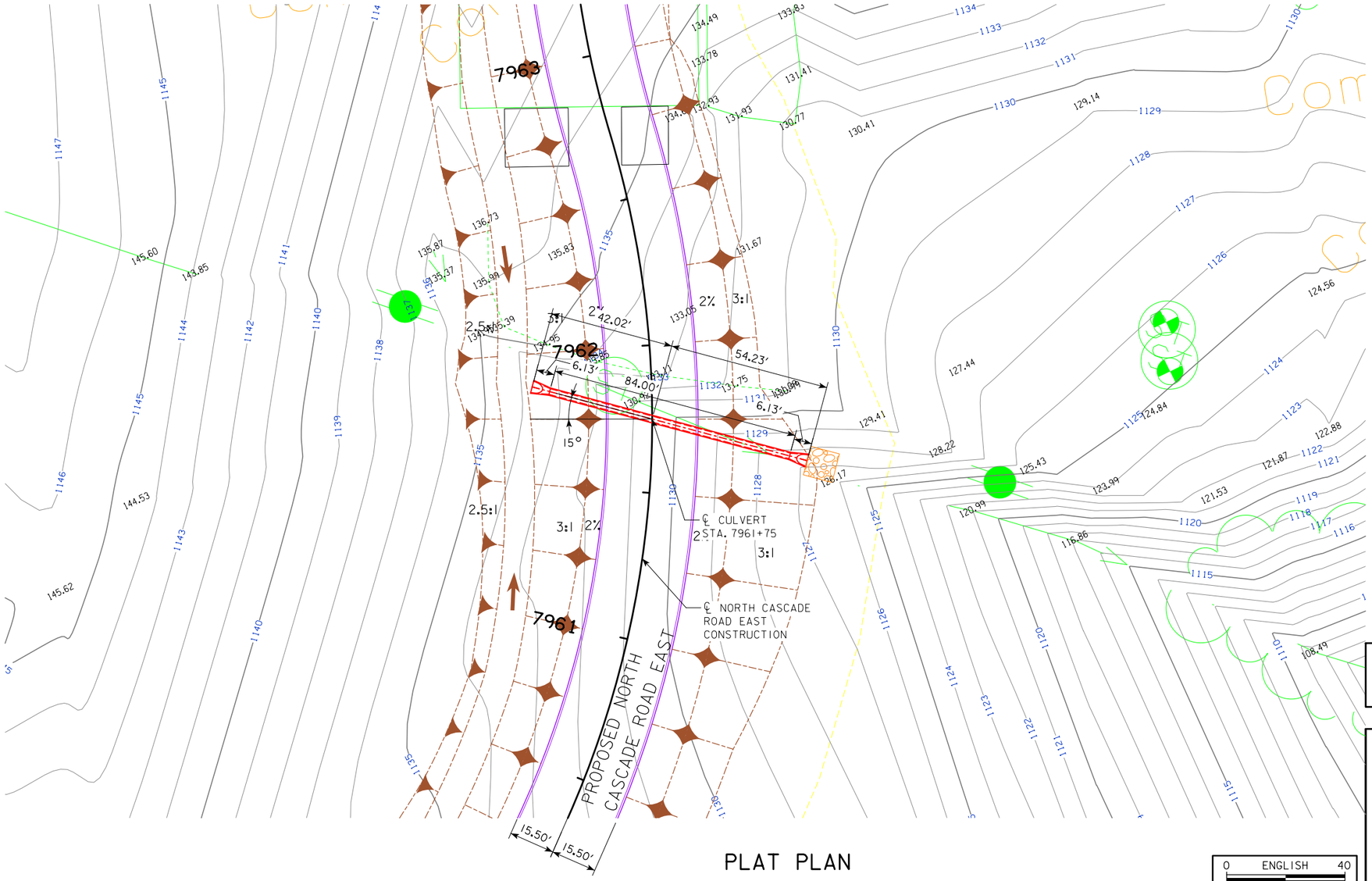


LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

N

TRAFFIC ESTIMATE

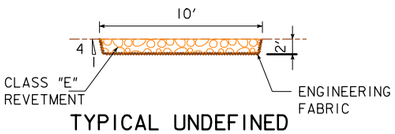
2017 AADT	471	V.P.D.
2040 AADT	771	V.P.D.
2040 DHV	99	V.P.H.
TRUCKS	7	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 13
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'23.56"N
LONGITUDE 90°47'3.54"W

HYDRAULIC DATA

DRAINAGE AREA = 2.6 ACRES - ROLLING
Q_{50} = 9 CFS
HW ELEV. = 1132.52



TYPICAL UNDEFINED CHANNEL PROTECTION

QUANTITIES

CLASS 'E' REVETMENT 12 TONS
ENGINEERING FABRIC 16 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 15° SKEW LT. AHD.

24 in. x 84 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 7961+75 (℄ NORTH CASCADE ROAD) JANUARY 2017

DUBUQUE COUNTY

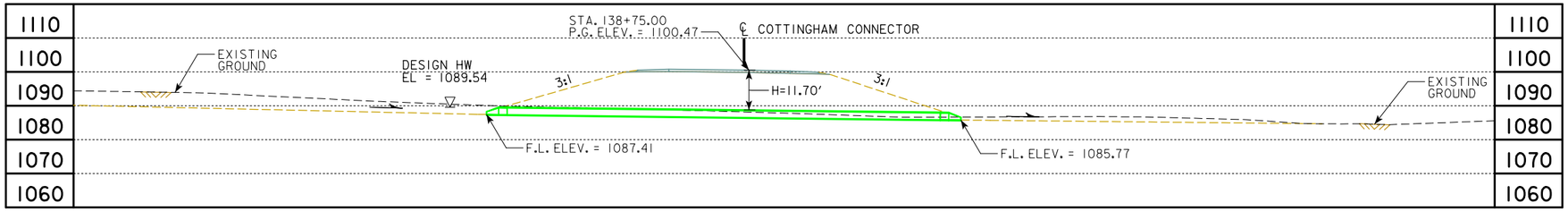
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

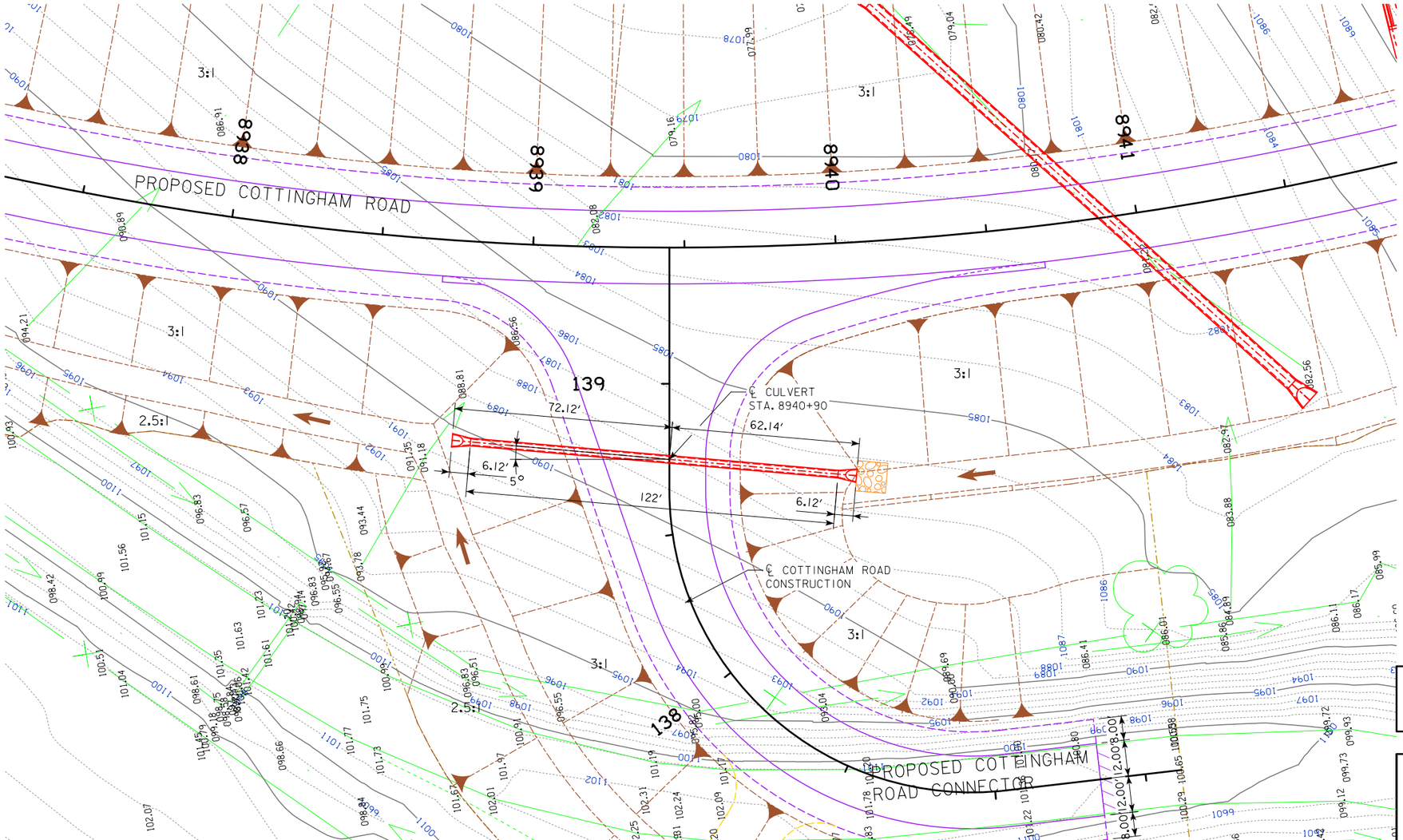
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.33

2/8/2017 7:51:33 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V33 11x17c_pdf.pltcfg

BENCH MARK NO.616 - FD IHC PLUG UPSTREAM EL=1106.82, STA. 941+49.97 Δ 84.72 RT.



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

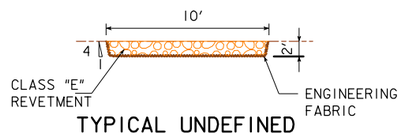
2017 AADT	215	V.P.D.
2040 AADT	589	V.P.D.
2040 DHV	77	V.P.H.
TRUCKS	10	%
TOTAL DESIGN ESALs	--	

LOCATION

US 20
T-88 N R-1 E
SECTION 12
VERNON TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°26'29.22"N
LONGITUDE 90°48'3.84"W

HYDRAULIC DATA

DRAINAGE AREA = 3.4 ACRES - HILLY
Q_{50} = 14 CFS
HW ELEV. = 1089.54



TYPICAL UNDEFINED CHANNEL PROTECTION

QUANTITIES

CLASS 'E' REVETMENT 12 TONS
ENGINEERING FABRIC 16 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 5° SKEW LT. AHD.

24 in. x 122 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 138+75 (℄ COTTINGHAM CONNECTOR) JANUARY 2017

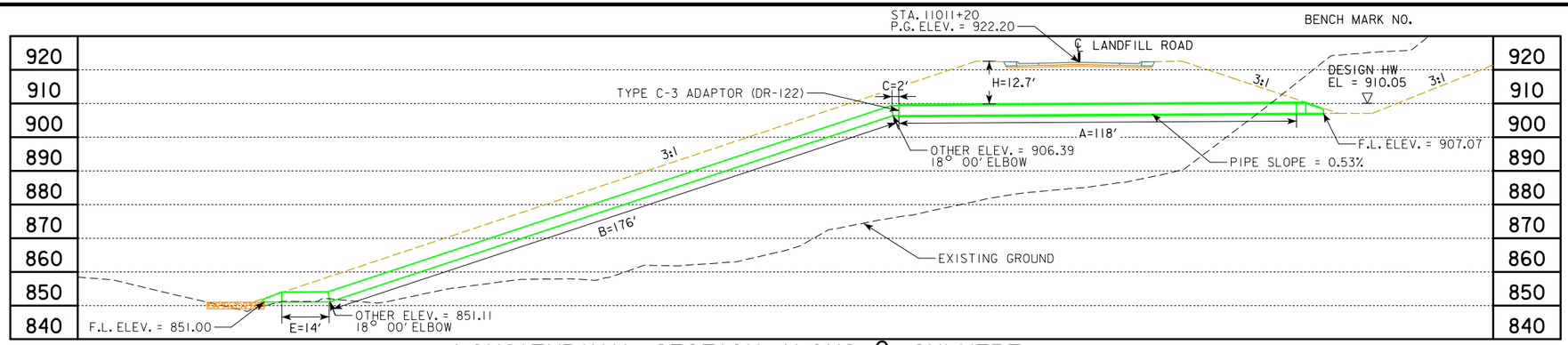
DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

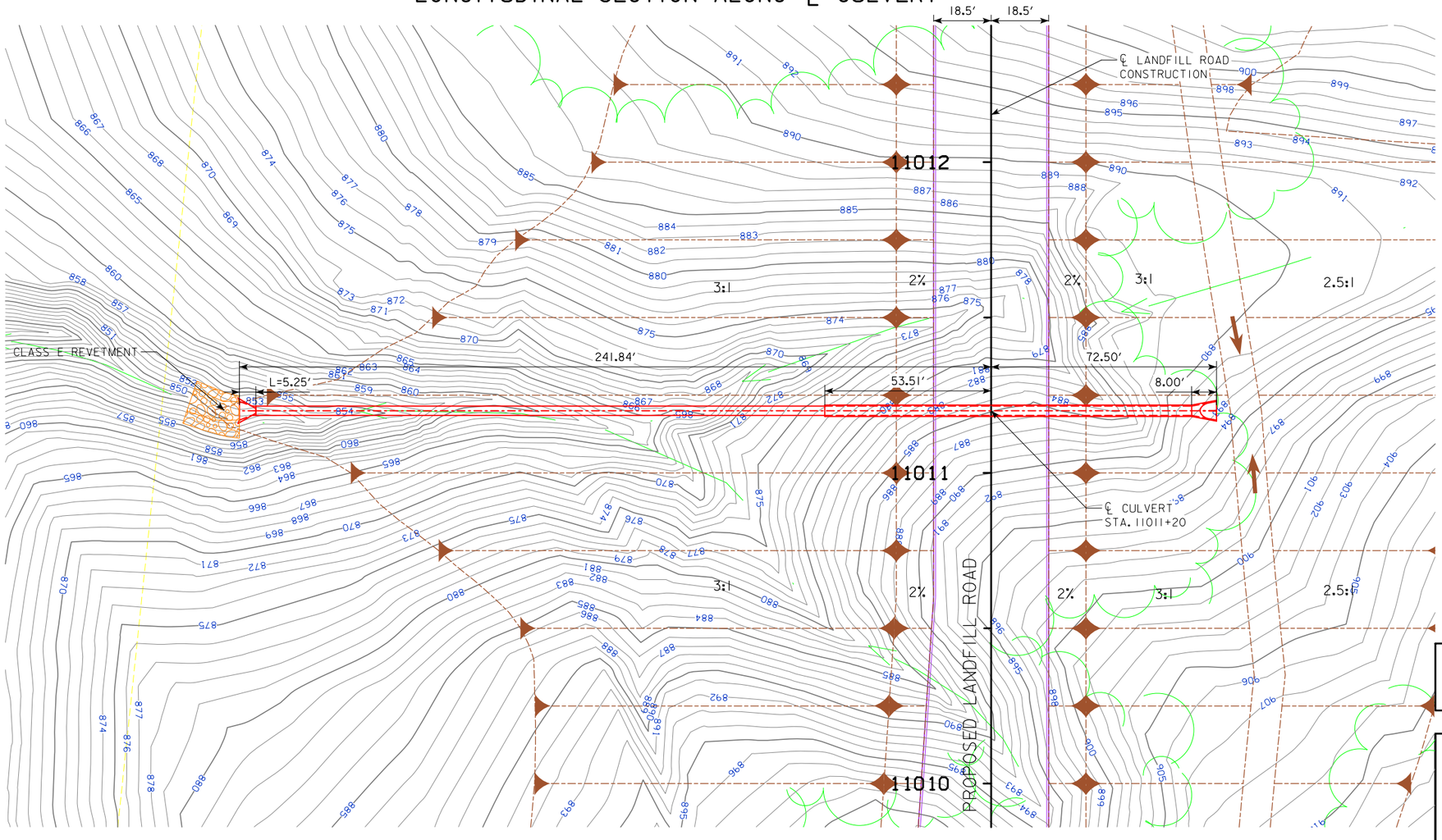
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.34

2/8/2017 7:51:36 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V34 11x17c_pdf.pltcfg



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

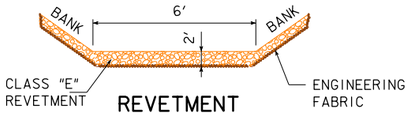
0 ENGLISH 40
SCALE IN FEET

LOCATION

US 20
T-88 N R-2 E
SECTION 6
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°27'54.31"N
LONGITUDE 90°46'19.10"W

HYDRAULIC DATA

DRAINAGE AREA = 11.8 ACRES - HILLY
Q_{50} = 39 CFS
HW ELEV. = 910.05



REVETMENT

QUANTITIES

CLASS 'E' REVETMENT 28 TONS
ENGINEERING FABRIC 40 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

36 in. x 310 ft.
REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE
PLAT PLAN

STA. 11011+20 (℄ LANDFILL ROAD) JANUARY 2017

DUBUQUE COUNTY

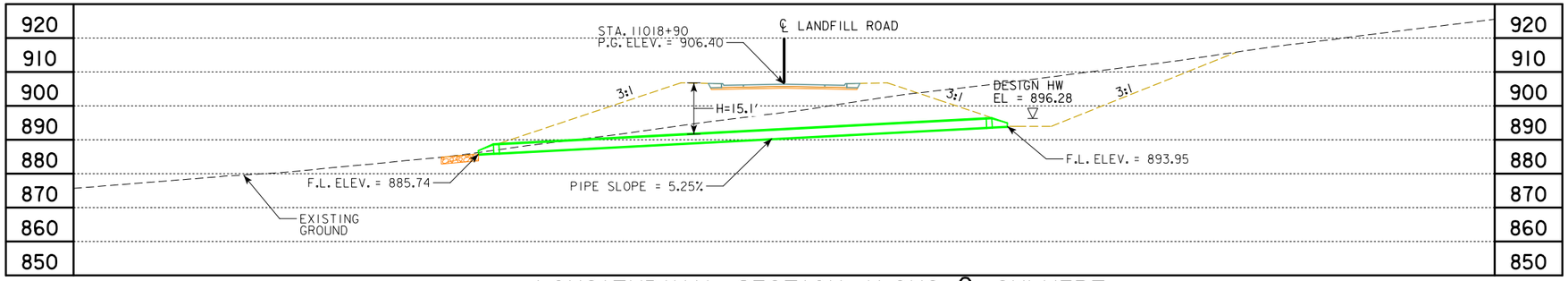
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.

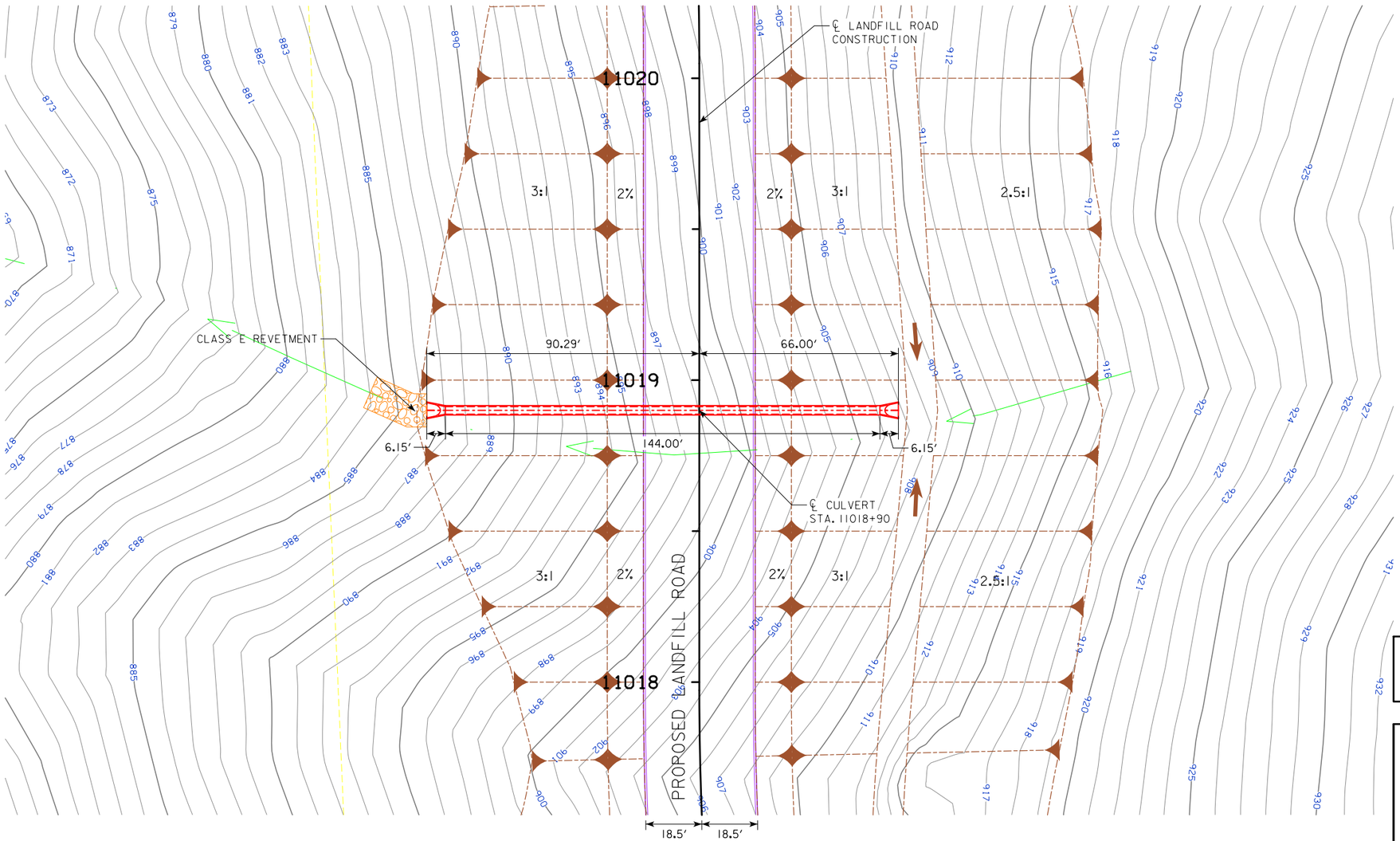
DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.35

2/8/2017 7:51:38 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V35 11x17c_pdf.pltcfg

BENCH MARK NO.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

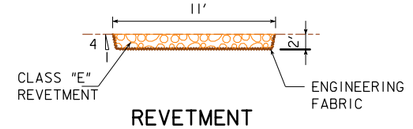
N

LOCATION

US 20
T-88 N R-2 E
SECTION 6
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°28'00.61"N
LONGITUDE 90°46'13.67"W

HYDRAULIC DATA

DRAINAGE AREA = 5.6 ACRES - HILLY
Q_{50} = 21 CFS
HW ELEV. = 896.28



REVETMENT

QUANTITIES
CLASS 'E' REVETMENT 27 TONS
ENGINEERING FABRIC 38.2 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

30 in. x 144 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 11018+90 (℄ LANDFILL ROAD) JANUARY 2017

DUBUQUE COUNTY

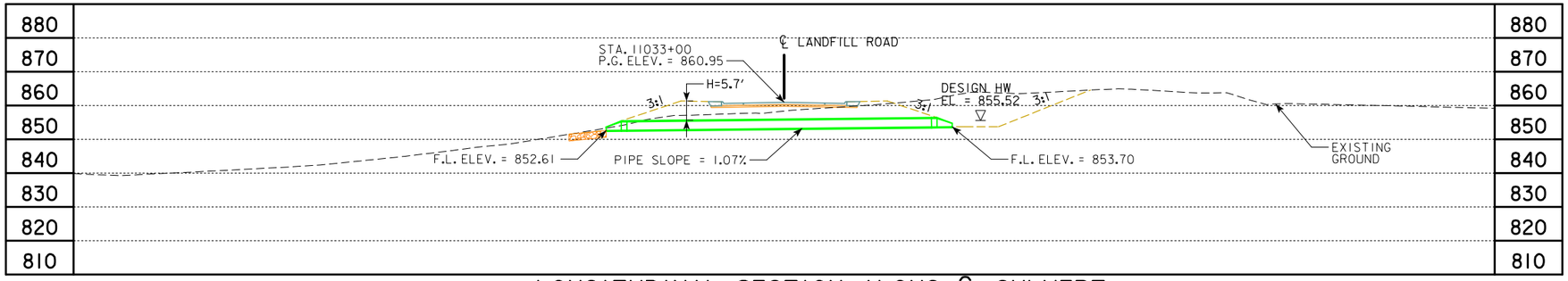
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

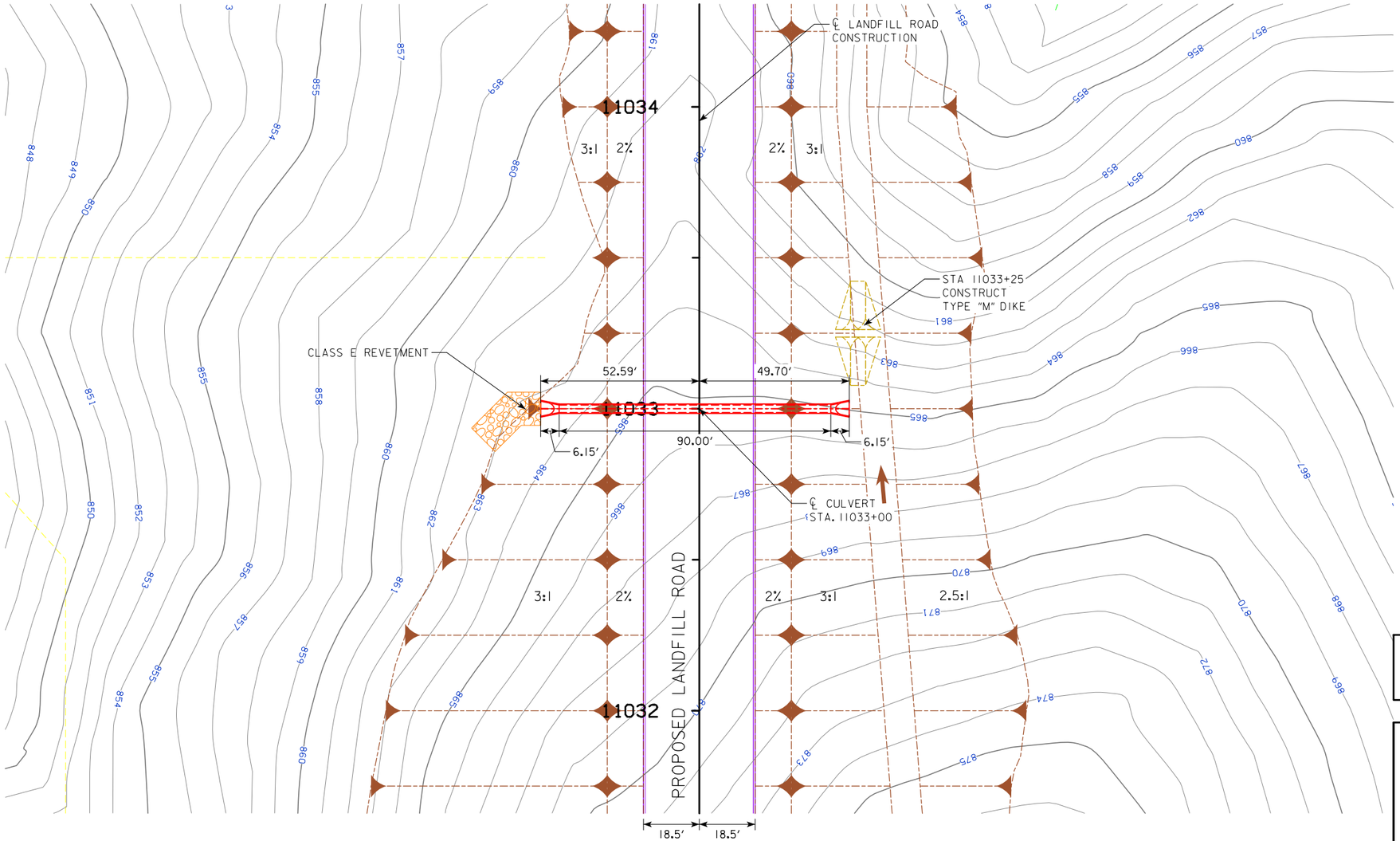
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.36

2/8/2017 7:51:41 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V36 11x17c_pdf.pltcfg

BENCH MARK NO.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

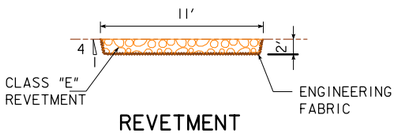
N

LOCATION

US 20
T-88 N R-2 E
SECTION 6
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°28'12.01"N
LONGITUDE 90°46'03.02"W

HYDRAULIC DATA

DRAINAGE AREA = 3.4 ACRES - HILLY
Q_{50} = 14 CFS
HW ELEV. = 855.52



REVETMENT

QUANTITIES

CLASS 'E' REVETMENT 31 TONS
ENGINEERING FABRIC 43.6 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

30 in. x 90 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 11033+00 (℄ LANDFILL ROAD) JANUARY 2017

DUBUQUE COUNTY

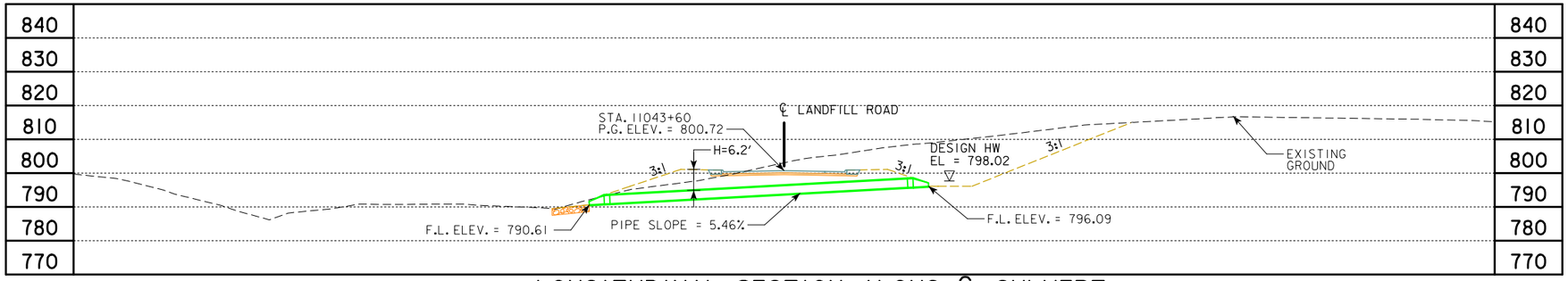
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

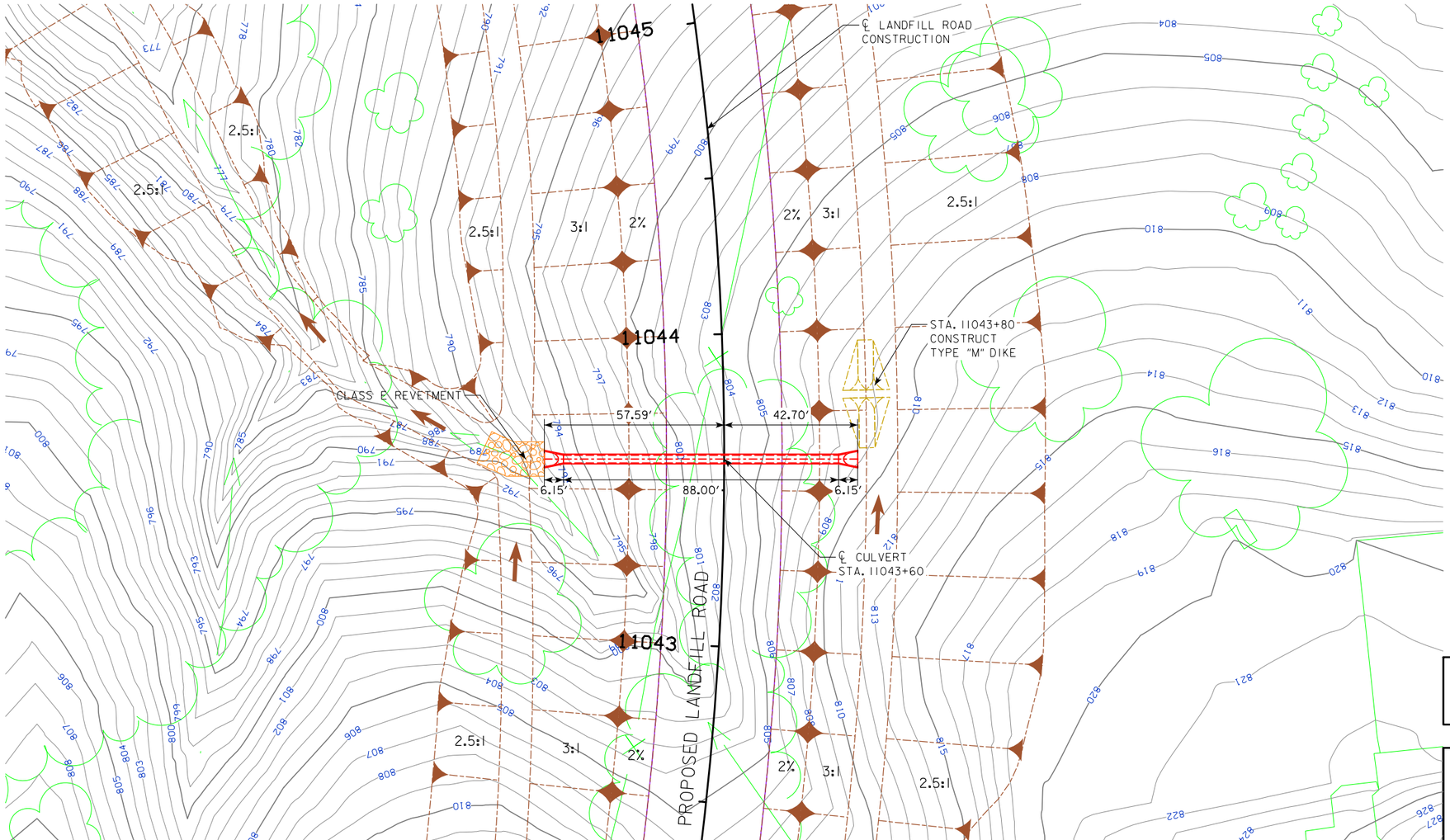
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.37

2/8/2017 7:51:43 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V37 11x17c_pdf.pltcfg

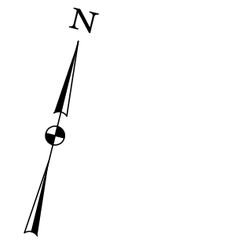
BENCH MARK NO.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

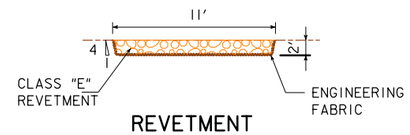


LOCATION

US 20
T-89 N R-2 E
SECTION 31
DUBUQUE TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°28'21.79"N
LONGITUDE 90°45'59.38"W

HYDRAULIC DATA

DRAINAGE AREA = 3.9 ACRES - HILLY
Q_{50} = 16 CFS
HW ELEV. = 798.02



REVETMENT

QUANTITIES
CLASS 'E' REVETMENT 27 TONS
ENGINEERING FABRIC 38.2 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

30 in. x 88 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 11043+60 (℄ LANDFILL ROAD) JANUARY 2017

DUBUQUE COUNTY

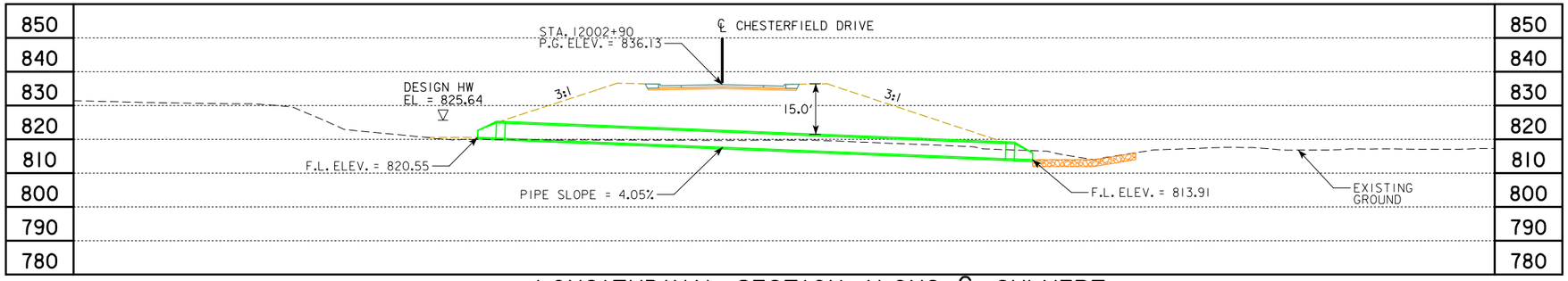
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

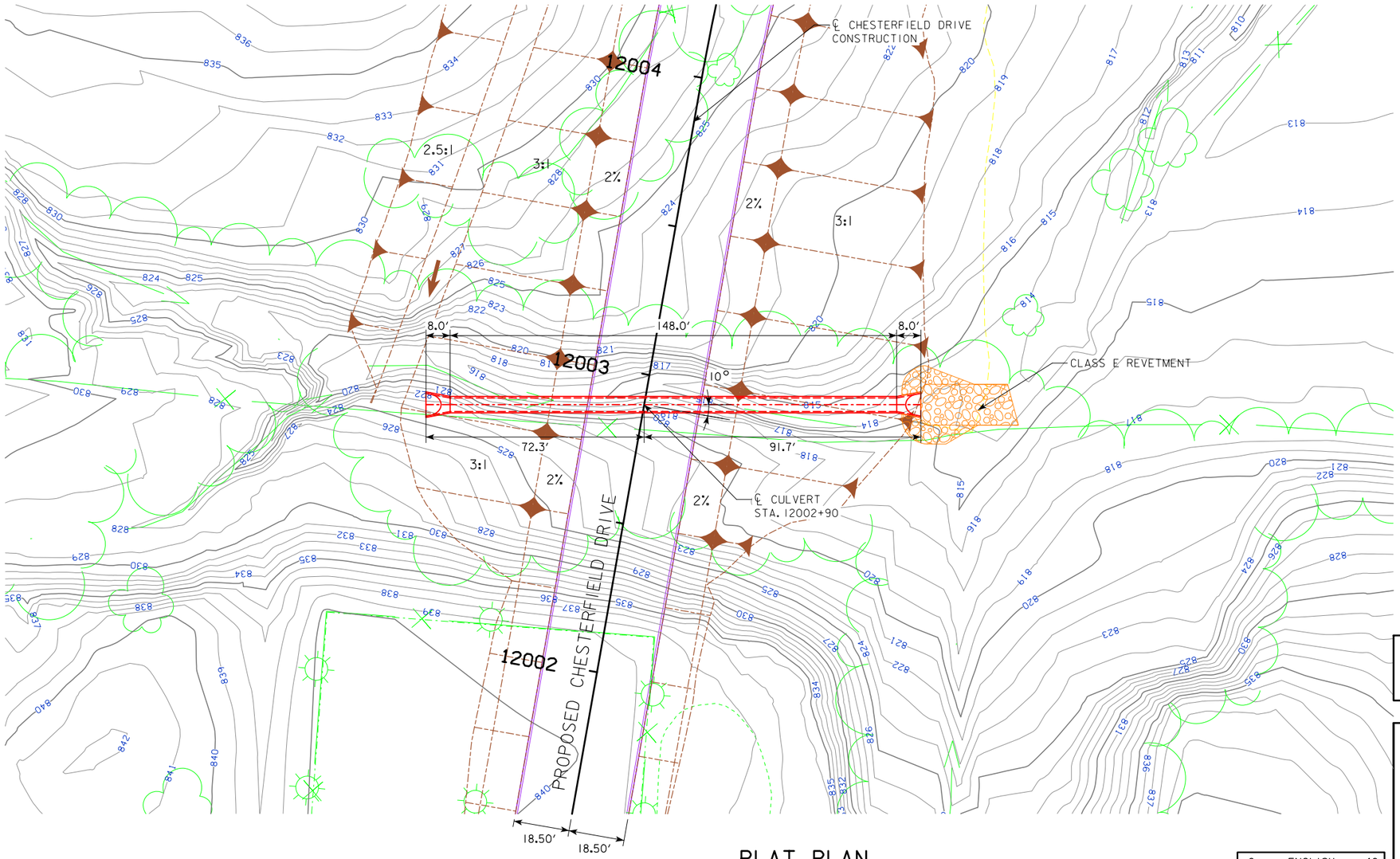
DESIGN TEAM HDR/Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHS-020-9(121)--19-31 | SHEET NUMBER V.38

2/8/2017 7:51:46 AM cpodany pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\001210\0000000000224516\13.00_CAD\13.01_Bridge\13.01.01_(121)_Full_Build\31020121.str 31020121_V38 11x17c_pdf.pltcfg

BENCH MARK NO.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

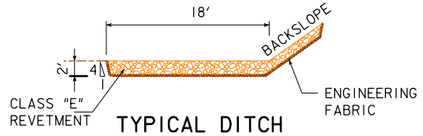
N

LOCATION

US 20
T-88 N R-2 E
SECTION 6
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°27'42.27"N
LONGITUDE 90°45'57.08"W

HYDRAULIC DATA

DRAINAGE AREA = 49.6 ACRES - HILLY
Q_{50} = 117 CFS
HW ELEV. = 825.64



TYPICAL DITCH PROTECTION

QUANTITIES

CLASS 'E' REVETMENT 78 TONS
ENGINEERING FABRIC 96 SQ. YDS.

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 10° SKEW

54 in. x 148 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STA. 12002+90 (℄ CHESTERFIELD DRIVE) JANUARY 2017

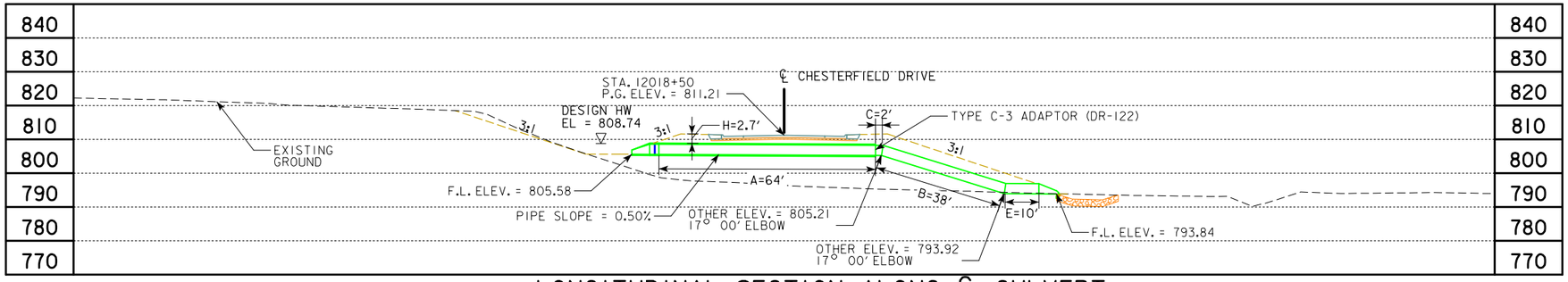
DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

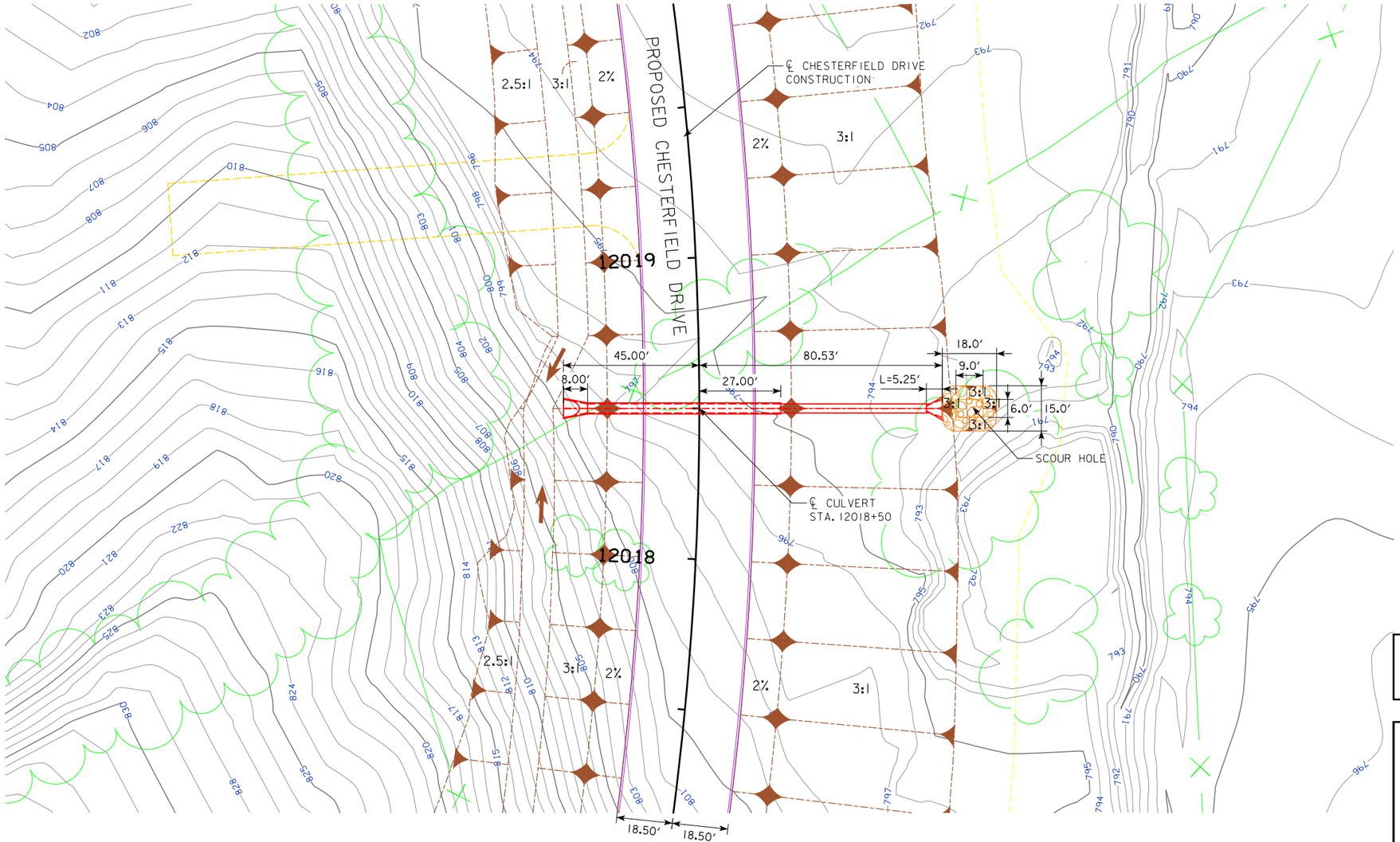
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.

DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.39

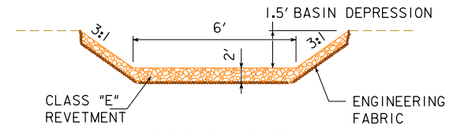
BENCH MARK NO.



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN



SCOUR HOLE

QUANTITIES
CLASS 'E' REVETMENT 31 TONS
ENGINEERING FABRIC 42 SQ. YDS.

LOCATION

US 20
T-88 N R-2 E
SECTION 6
TABLE MOUND TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42°27′55.40″N
LONGITUDE 90°45′46.78″W

HYDRAULIC DATA

DRAINAGE AREA = 12.3 ACRES - HILLY
Q_{50} = 40 CFS
HW ELEV. = 808.74

NOTE:
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

PRELIMINARY

DESIGN FOR A 0° SKEW

36 in. x 114 ft.
REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE
PLAT PLAN

STA. 12018+50 (℄ CHESTERFIELD DRIVE) JANUARY 2017

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. _____

0 ENGLISH 40
SCALE IN FEET

DESIGN TEAM HDR/Iowa DOT	DUBUQUE COUNTY	PROJECT NUMBER NHS-020-9(121)--19-31	SHEET NUMBER V.40

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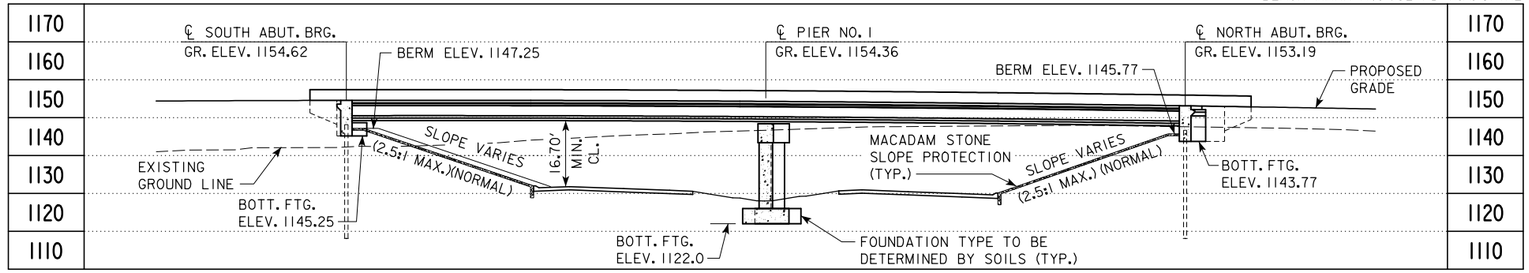
BENCH MARK NO. 632 FD R.R. SPIKE NORTH SIDE P. POL M.L. U.S. 20 (SURVEY) STA. 969+97.48, 98.45' RT. ELEV. 1151.92



LONGITUDINAL SECTION ALONG ℄ ROADWAY

SWISS VALLEY ROAD PROPOSED GRADE

+1.4090% -3.0000%

VPI STA. = 5958+00.00	VPI STA. = 5970+00.000	VPI STA. = 5976+24.00
VPI ELEV. = 1140.61	VPI ELEV. = 1157.52	VPI ELEV. = 1138.80
V.C. = 200'	V.C. = 600'	

U.S. 20 PROPOSED GRADE

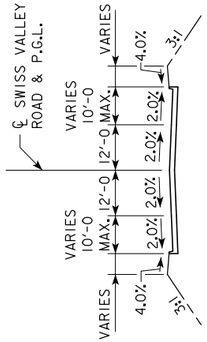
-1.5392% -1.2000%

VPI STA. = 958+00.00	VPI STA. = 969+00.000	VPI STA. = 985+50.00
VPI ELEV. = 1148.82	VPI ELEV. = 1131.89	VPI ELEV. = 1112.09
V.C. = 1000'	V.C. = 300'	V.C. = 500'

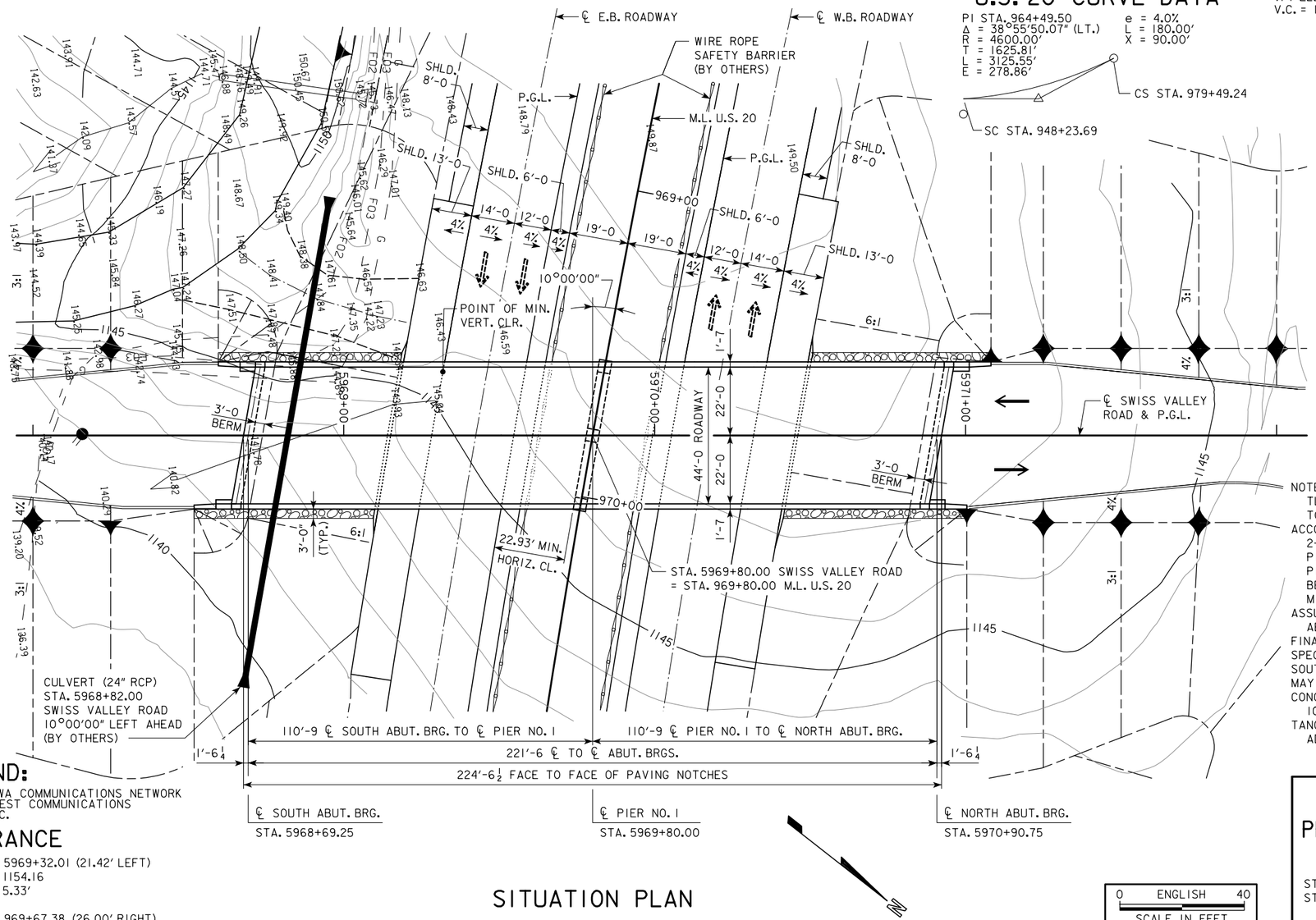
U.S. 20 CURVE DATA

PI STA. 964+49.50
Δ = 38°55'50.07" (LT.)
R = 4600.00'
T = 1625.81'
L = 3125.55'
E = 278.86'
e = 4.0%
L = 180.00'
X = 90.00'

SC STA. 948+23.69
CS STA. 979+49.24



TYPICAL APPROACH SECTION



LOCATION

SWISS VALLEY ROAD OVER U.S. 20
T-88N R-1E
SECTION 13
VERNON TOWNSHIP
DUBUQUE COUNTY
FHWA NO. 700465
BRIDGE MAINT. NO.
LATITUDE 42.4410246°
LONGITUDE -90.7873406°

TRAFFIC ESTIMATE

2017 AADT	15,200	V.P.D.
2040 AADT	33,900	V.P.D.
2040 DHV	3,675	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	N.A.	

UTILITIES LEGEND:

— FO2 — FIBER OPTIC - IOWA COMMUNICATIONS NETWORK
— FO3 — FIBER OPTIC - QWEST COMMUNICATIONS
— G — GAS - AQUILLA, INC.

MIN. VERT. CLEARANCE

OVERHEAD STATION	= 5969+32.01 (21.42' LEFT)
OVERHEAD ELEVATION	= 1154.16
DEPTH OF SUPERSTRUCTURE (SLAB, HAUNCH & BEAM)	= 5.33'
UNDERPASS STATION	= 969+67.38 (26.00' RIGHT)
UNDERPASS ELEVATION	= 1132.13
MINMUM VERTICAL CLEARANCE	= 16.70'

SITUATION PLAN

0 ENGLISH 40
SCALE IN FEET

NOTES:
TL-4 BRIDGE RAILING PROPOSED.
TOP OF BRIDGE DECK CROWN IS 0.03' BELOW PROFILE GRADE TO ACCOUNT FOR PARABOLIC CROWN.
2-SPAN GRADING SHOWN.
PIER TYPE - FRAME PIER WITH CRASH WALL.
PIER DESIGNED FOR VEHICULAR COLLISION FORCE.
BEAM TYPE - D BEAM
MINIMUM HORIZONTAL CLEARANCE TO PIER IS BASED ON AN ASSUMED PIER WIDTH OF 4 FEET.
AESTHETIC CONSIDERATIONS WILL BE INCORPORATED DURING FINAL DESIGN. COORDINATE FEATURES WITH BRIDGE AESTHETIC SPECIALIST TO REFLECT AESTHETIC THEME DEVELOPED FOR DUBUQUE SOUTHWEST ARTERIAL PROJECT. PIER, ABUTMENTS AND BARRIERS MAY BE AFFECTED BY AESTHETIC TREATMENTS INCLUDING SPECIAL CONCRETE SHAPES AND TEXTURES.
10° SKEW ANGLE AT PIER NO. 1 IS REFERENCED TO A LOCAL TANGENT ALONG M.L. U.S. 20.
ADD 1000 FEET TO ALL SPOT ELEVATIONS.

PRELIMINARY

DESIGN FOR 10°00'00" SKEW (L.A.)

221'-6 x 44' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

110'-9, 110'-9 SPANS

SITUATION PLAN

STA. 5969+80.00 (SWISS VALLEY ROAD)
STA. 969+80.00 (M.L. U.S. 20)

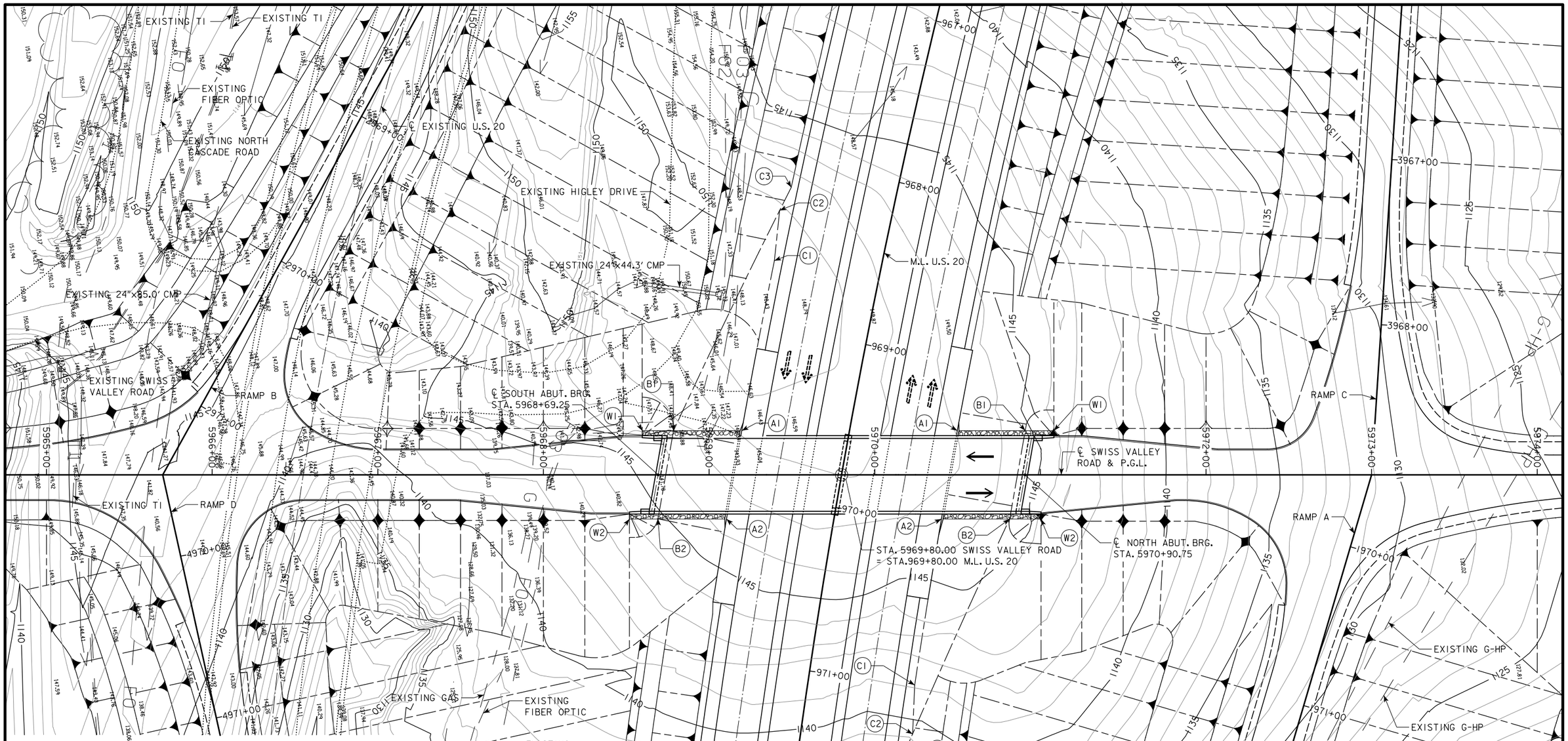
NOVEMBER, 2014

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. ___ OF ___ FILE NO. 30069 DESIGN NO. 118

DESIGN TEAM HDR | DUBUQUE COUNTY | PROJECT NUMBER NHS-20-9(121)--19-31 | SHEET NUMBER V.1



BERM SLOPE LOCATION TABLE

	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION
A1	5969+19.73	26.58' LT.	1131.68	5970+49.84	26.58' LT.	1129.90
A2	5969+10.48	26.58' RT.	1131.00	5970+40.33	26.58' RT.	1129.19
B1	5968+78.51	26.58' LT.	1147.25	5970+90.87	26.58' LT.	1145.77
B2	5968+69.13	26.58' RT.	1147.25	5970+81.49	26.58' RT.	1145.77
W1	5968+59.63	26.58' LT.	1154.02	5971+08.13	26.58' LT.	1152.33
W2	5968+51.87	26.58' RT.	1154.00	5971+00.37	26.58' RT.	1152.45

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE.

RECOVERABLE BERM LOCATION TABLE

	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION
B	5968+78.51	26.58' LT.	1147.25	5970+81.49	26.58' RT.	1145.77
C1	5969+39.41	129.39' LT.	1133.08	5970+24.14	126.98' RT.	1127.94
C2	5969+42.59	159.66' LT.	1133.38	5970+22.84	156.54' RT.	1127.46
C3	5969+56.73	187.59' LT.	1134.14	5970+10.84	184.60' RT.	1127.42

DESIGN FOR 10°00'00" SKEW (L.A.)

221'-6 x 44' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

110'-9, 110'-9 SPANS

SITE PLAN

STA. 5969+80.00 (SWISS VALLEY ROAD)
STA. 969+80.00 (M.L. U.S. 20)

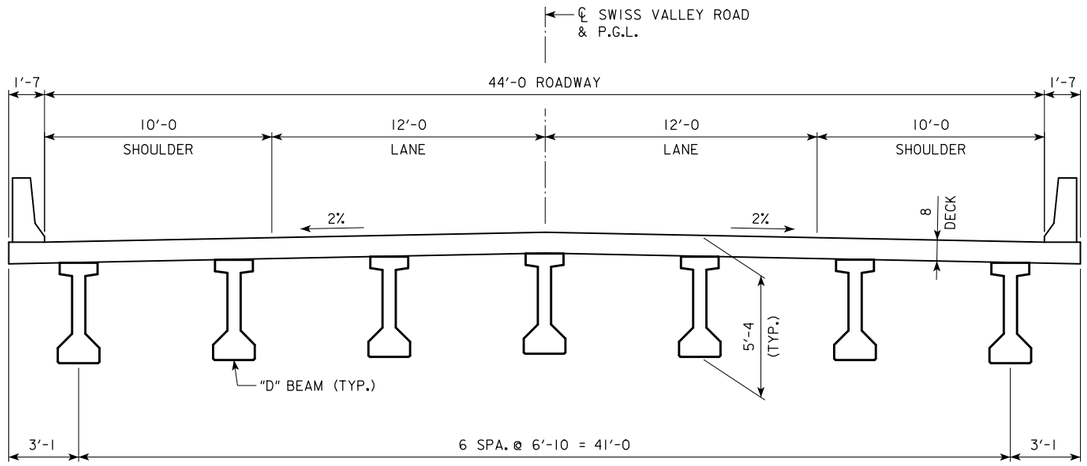
NOVEMBER, 2014

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. ____ OF ____ FILE NO. 30069 DESIGN NO. 118

DESIGN TEAM HDR | DUBUQUE COUNTY | PROJECT NUMBER NHS-20-9(121)--19-31 | SHEET NUMBER V.2



TYPICAL SECTION

PRELIMINARY

DESIGN FOR 10°00'00" SKEW (L.A.)

221'-6 x 44' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

110'-9, 110'-9 SPANS

SITUATION PLAN

STA. 5969+80.00 (SWISS VALLEY ROAD)
STA. 969+80.00 (M.L. U.S. 20)

NOVEMBER, 2014

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. ____ OF ____ FILE NO. 30069 DESIGN NO. 118

DESIGN TEAM HDR	DUBUQUE COUNTY	PROJECT NUMBER NHS-20-9(121)--19-31	SHEET NUMBER V.3

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