

HARRISON CO.

RCB CULVERT NEW- SINGLE BOX
STPN-037-3(8)--2J-43

LETTING DATE
10-4-2016



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
HARRISON COUNTY
RCB CULVERT NEW- SINGLE BOX

Ditch 2.8 miles E of US 30

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



REVISIONS

TOTAL

PROJECT IDENTIFICATION NUMBER

12-43-037-010

PROJECT NUMBER

STPN-037-3(8)--2J-43

R.O.W. PROJECT NUMBER

STPN-037-3(9)--2J-43

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	IA 37
F Sheets	Detour or Temporary Pavement Sheets
* F.1	Detour Plan and Profile Sheets
G Sheets	Survey Sheets
G.1 - 2	Reference Ties and Bench Marks
G.3	Horizontal Control Tab. & Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control & Staging Plan
V Sheets	Bridge and Culvert Situation Plans
V.1	Culvert Situation Plans
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 3	Mainline Cross Sections
Y Sheets	Temporary Road Cross Sections
Y.1 - 2	Temporary Road Cross Sections
	* Color Plan Sheets

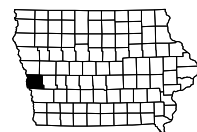
INDEX OF SEALS

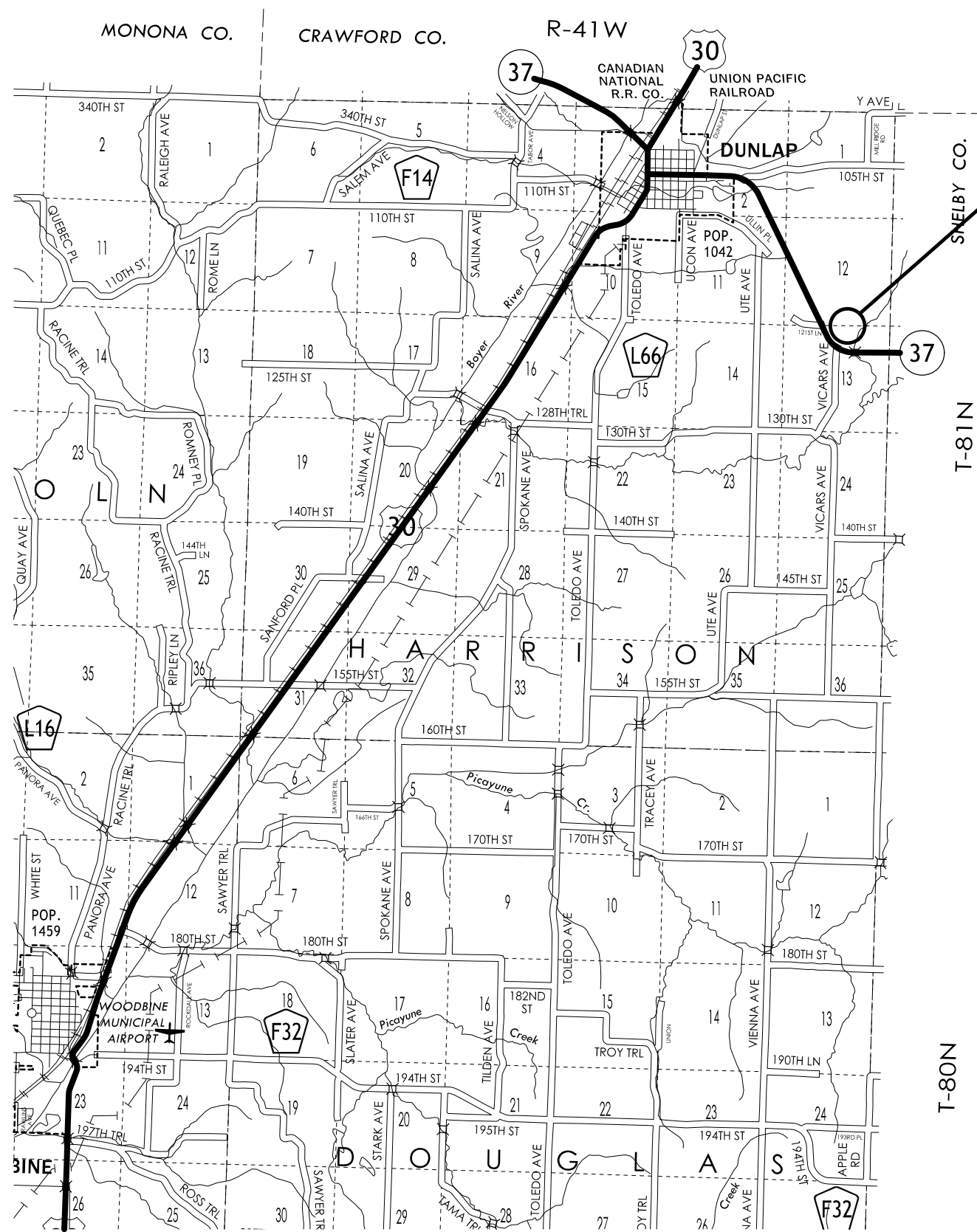
SHEET NO.	NAME	TYPE
A.1		Primary Signature Block

PRELIMINARY PLANS

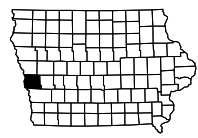
Subject to change by final design.

D5 PLAN - Date: 2-16-2015

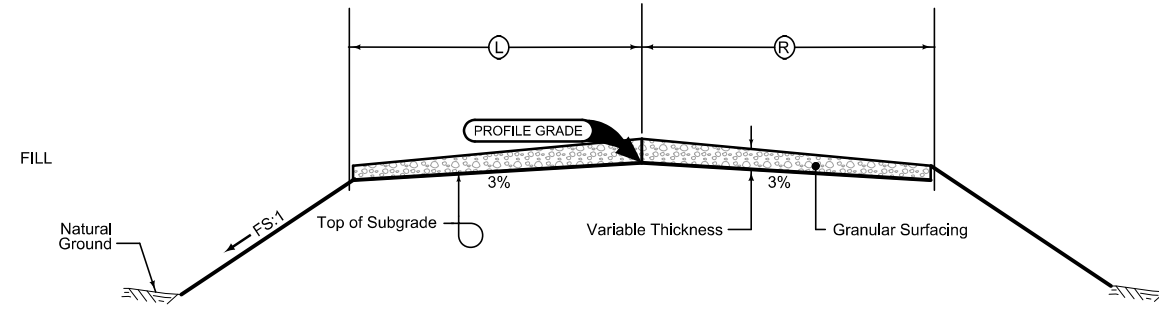




Project Location
 STA. 119+50.00 (IA 37)



LOCATION		DIMENSIONS					
ROAD IDENTIFICATION	STATION TO STATION		L Feet	R Feet	FS	BS	DW Feet
Entrance	500+19.83	501+41.39	12	12	3:1	-	-
Temporary Entrance	1000+18.84	1001+20.00	7.5	7.5	2:1	-	-
Temporary Entrance ①	1001+20.00	1001+83.77	7.5	7.5			
① Granular Surfacing only, no Grading							



GRADING AND GRANULAR SURFACING

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

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

Place Granular Surfacing as follows:
Grading design application rate is 4435.2 tons per mile.

SURVEY SYMBOLS

- TPD Telephone Pedestal
- FW Wire Fence
- MIS Miscellaneous
- * TEV Evergreen Tree
- BRG Bridge
- ☐ TDC Tree Deciduous
- EP Edge of Paved Roads (ML or SR)
- SNP Unpaved Shoulder
- SH Paved Shoulder
- ENU Edge Unpaved Entrance & Parking
- ENT Centerline BL of Entrance
- BNK Stream Bank
- D Centerline Draw or Stream (Down)
- CON Concrete or A/C Slab
- DU Centerline Draw or Stream (Up)
- C Centerline BL of Road (ML or SR)
- BL Topo Breakline
- PPA Power Pole Co. 1
- RET Retaining Walls
- BLD Building or Foundation
- SWK Sidewalk
- EW Edge of Water
- ENP Edge Paved Entrance & Park Lot

UTILITY LEGEND

(G11) WINDSTREAM COMMUNICATIONS
 Contact Name : Joel Schroeder
 Contact Phone: 8002891901
 Contact Email: locate_desk@windstream.com

(HCR) HARRISON COUNTY RURAL ELECTRIC
 Contact Name : David M. Stevens
 Contact Phone: 7126472727
 Contact Email: hrcr@pionet.net

(INS) IOWA NETWORK SERVICES
 Contact Name : Jeff Klocko
 Contact Phone: 5158300445
 Contact Email: jeff@netins.com

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

CONVENTIONAL SIGNS

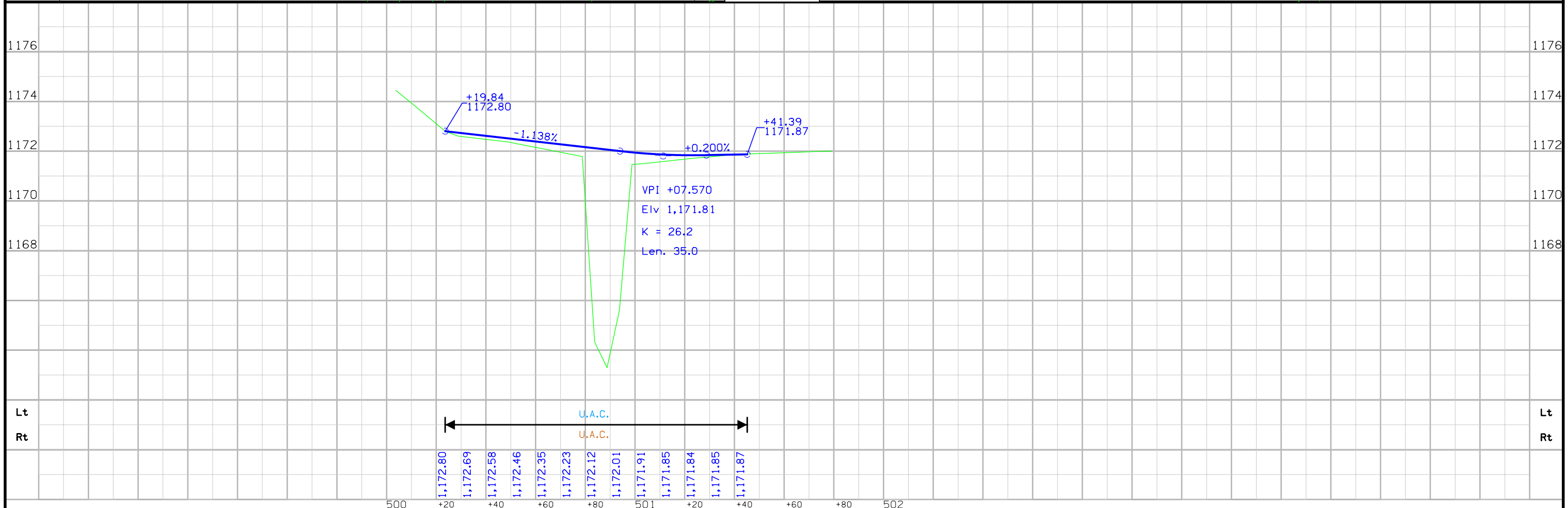
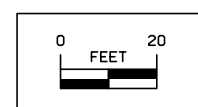
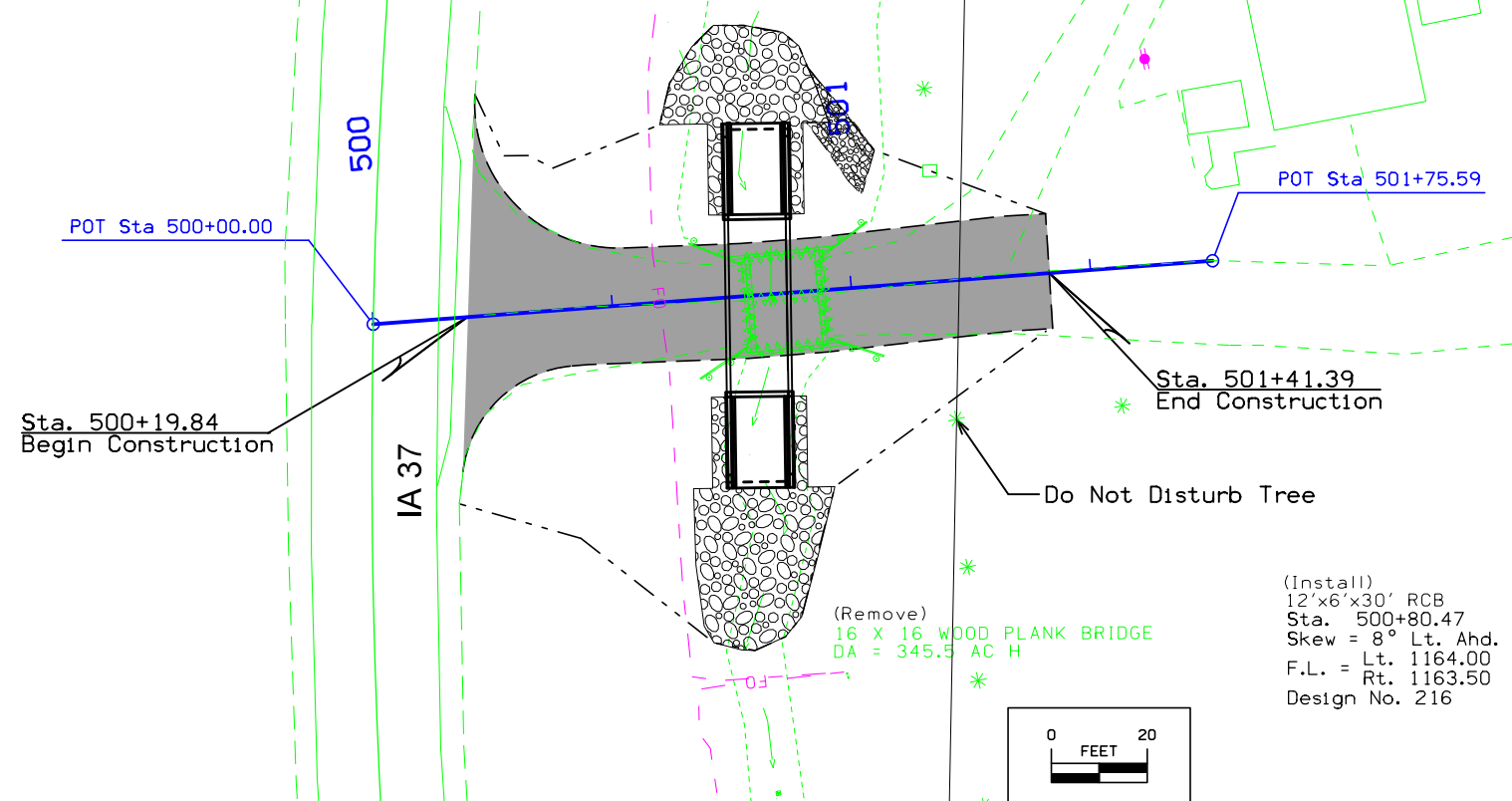
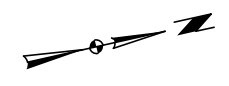
- Reference Point
- Station
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Clearing & Grubbing Area
- Pavement Removal

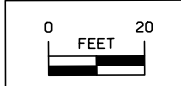
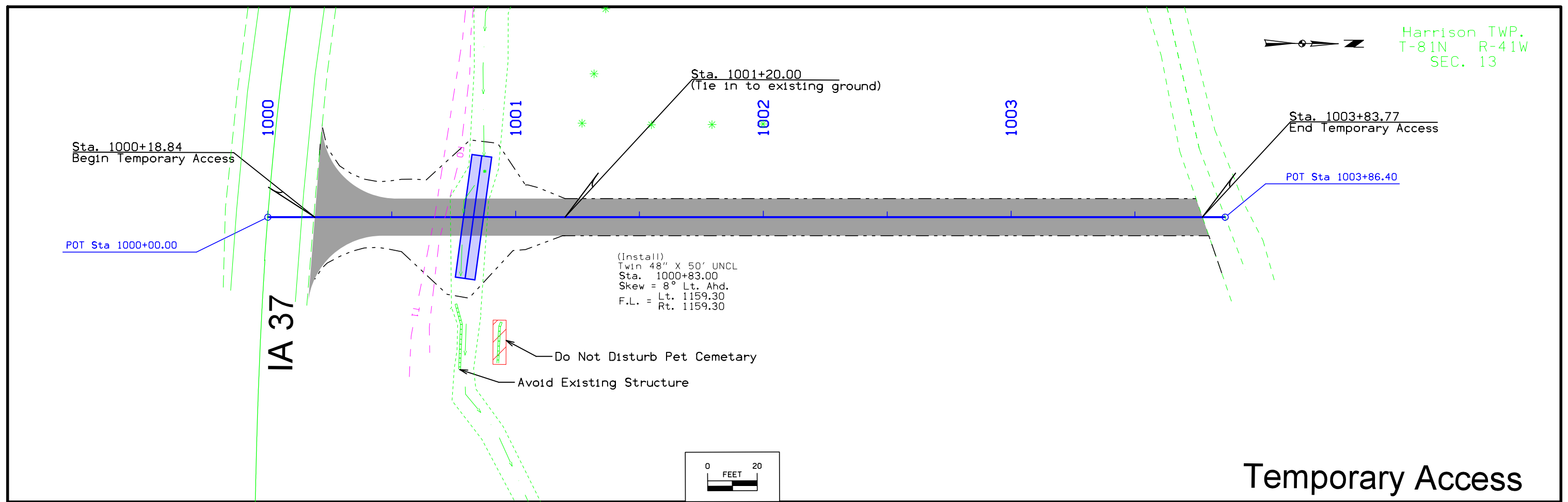
RIGHT-OF-WAY LEGEND

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

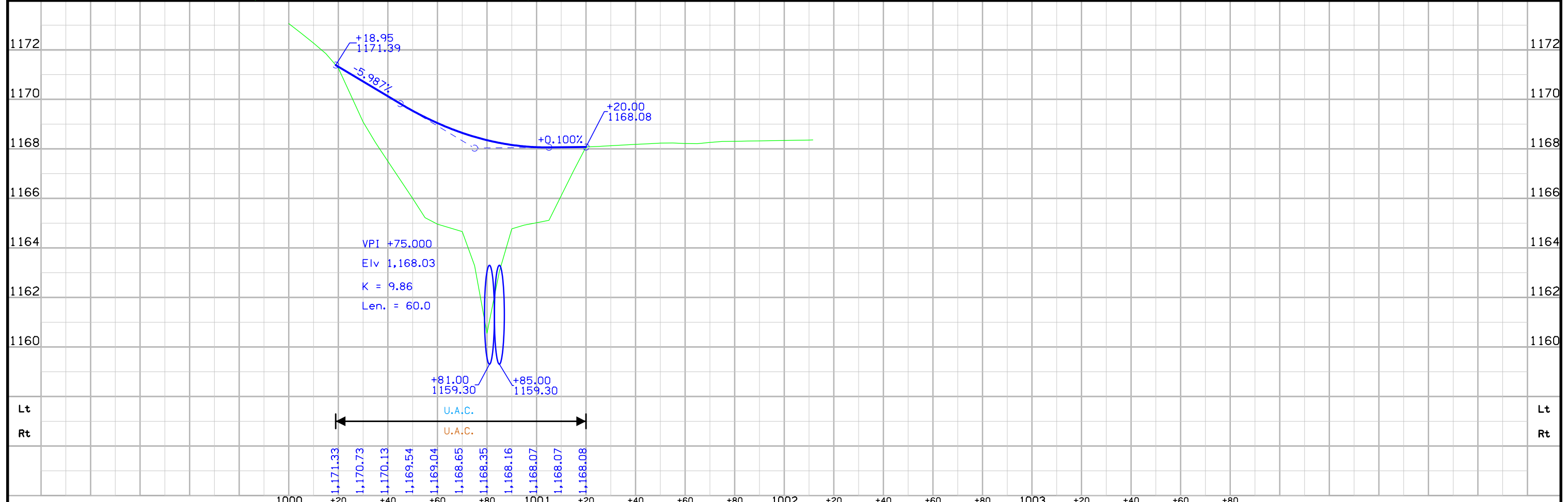
PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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





Temporary Access

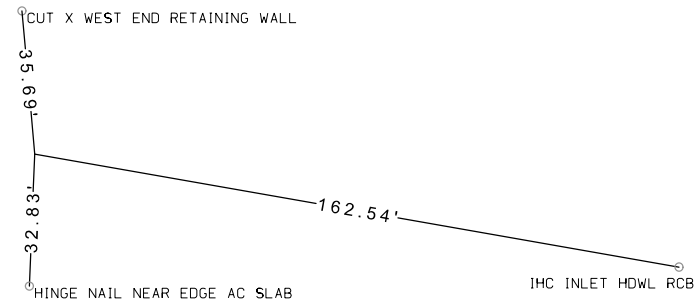


Survey Information

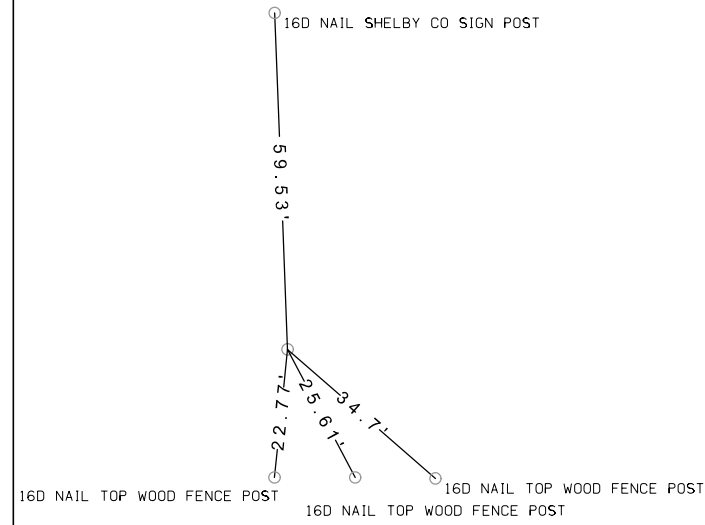
VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Feature	Description
4	673593.149	1079813.068	1224.276	14+085.96	88.748	CP	2 SET FENO
500	675117.233	1076393.635	1233.412	12+178.41	2070.209	BM	500 BOLT IN HDWL OF CATTLE PASS
501	674199.449	1076882.805	1192.293	11+017.54	21.151	BM	501 IHC BUTTON INLET HDWL RCB
502	673719.853	1078095.910	1173.658	12+367.58	-20.227	BM	502 IHC BUTTON INLET HDWL RCB

CP Sta. 122+05.60, 45.26 Lt.
CP No. 2, Set Feno Monumnt
N=673747.948, E=1077935.814, Z=1168.883



CP Sta. 140+85.96, 88.75 Rt.
CP No. 4, Set Feno Monumnt
N=673593.149, E=1079813.068, Z=1224.276



Harrison	ROW: STPN-037-3(9)--2J-43			PIN	12-43-037-010													
	Ditch 2.8 miles E of US 30																	
		STATE		COUNTY		CITY			BORROW									
PARCEL NO	OWNER NAME	FEE	EASE	FEE	EASE	FEE	EASE	EXCESS	FEE	T.E.	MITIGATION	OTHER	HOUSE	BUILDING(S)	A/C ONLY	TOTAL ACQ.		
1	Dede Sullivan - Fee																	
2	Kenneth W Hicks - Fee																	
2 Parcels	"TOTALS	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC				
		0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF				

①
DEDE & JOHN
SULLIVAN

②
KENNETH W. & LINDA
HICKS

TEMPORARY EASEMENT
TO SHAPE

TEMPORARY EASEMENT
TO SHAPE

118+85
C141'

POT Sta 501+75.59

119+19±P
C145'

119+30
C145'

119+40
C121'±Ex.R/W

(Remove)
16 X 16 PLANK BRIDGE
DA = 345'



POT Sta 500+00.00

500

IA 37




Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: LARSON /CUVA
ROW #: STPN-37-3(9)- -2J-43
Plan Date: 05/06/2015

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: LARSON /CUVA	
ROW #: STPN-37-3(9)- -2J-43	
Plan Date: 05/06/2015	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

108-23A
08-01-08

TRAFFIC CONTROL PLAN

Traffic on IA 37 and the entrance will be maintained at all times via staged construction. A temporary entrance will be placed during construction to maintain traffic.

108-26A
08-01-08

STAGING NOTES

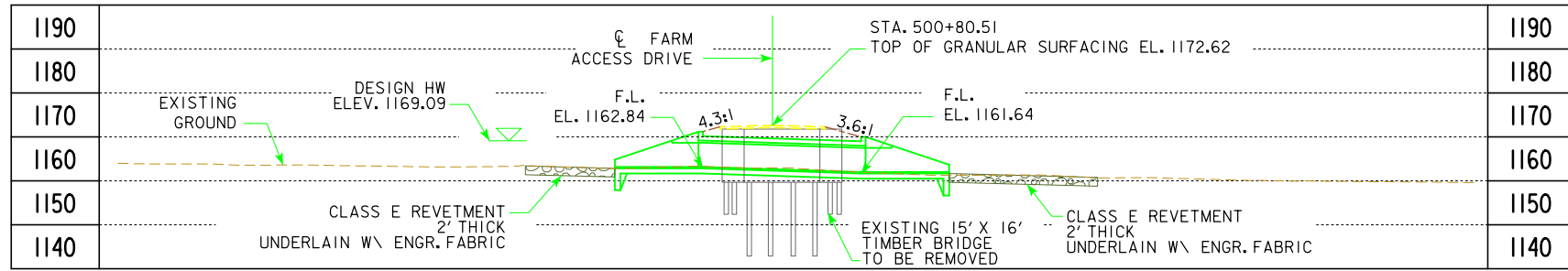
Stage 1: Traffic- On existing bridge
Construction-Temporary entrance
Stage 2: Traffic- On previously constructed temporary entrance
Construction-Build culvert and new entrance
Stage 3: Traffic- On newly constructed entrance
Construction- Remove temporary entrance

108-25
10-21-14

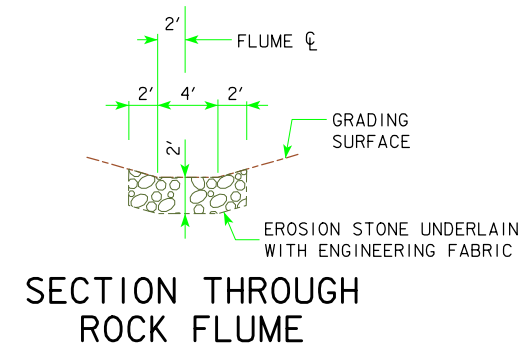
511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
IA 37		Harrison	2.8 miles East of US 30	Bridge for farm	RCB Culvert		Horizontal		No Restriction			

BENCH MARK NO. 501 STA. 123+67.58, 20.23' LT, EL. 1192.293 IHC BUTTON INLET HDWL RCB



LONGITUDINAL SECTION ALONG CL CULVERT



SECTION THROUGH ROCK FLUME

LIMITS OF CLASS E REVETMENT		
POINT	STATION	OFFSET
(A)	500+97.93	34.83' LT
(B)	500+62.70	36.98' LT
(C)	500+93.49	41.05' RT
(D)	500+64.05	39.25' RT

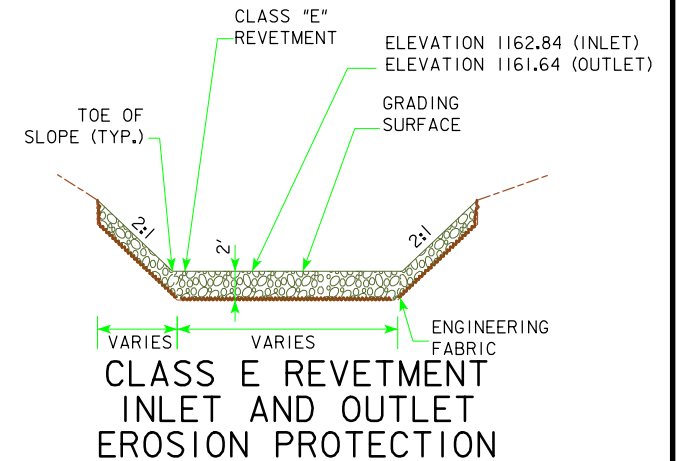
UTILITIES LEGEND:

- - POWER POLE - HARRISON COUNTY RURAL ELECTRIC
- FO - IOWA NETWORK SERVICES
- TI - TELEPHONE - WINDSTREAM COMMUNICATIONS

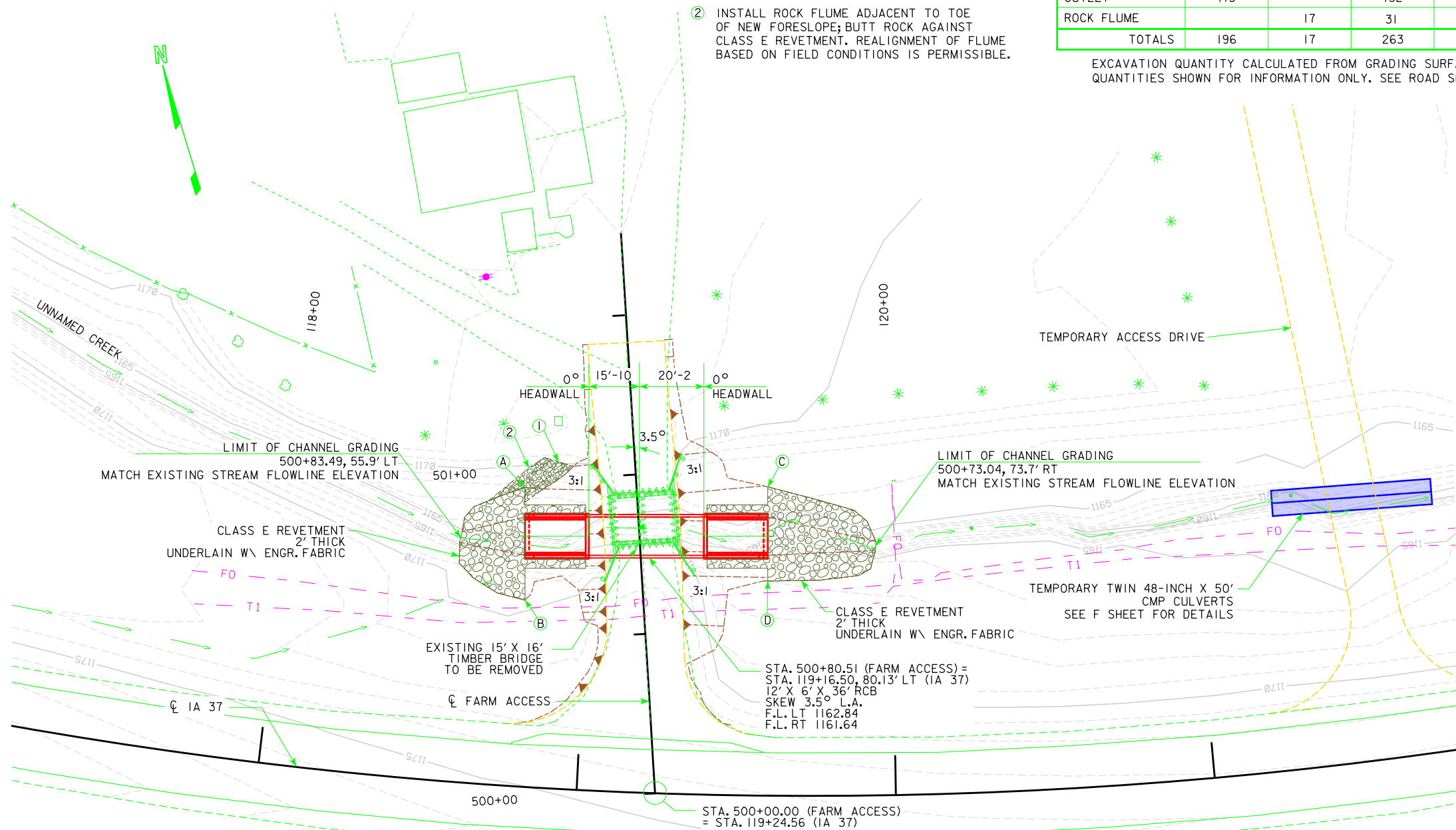
- ① BEGIN ROCK FLUME STA. 501+05.4, 23.9' LT FLOWLINE EL. 1170.0. LOCATION STATION TO CENTERLINE OF FLUME REMOVE 12-INCH X 6 FOOT LONG HDPE PIPE AT END OF FLUME; DO NOT REPLACE. INCLUDE REMOVAL COST OF PIPE IN BID ITEM FOR EROSION STONE.
- ② INSTALL ROCK FLUME ADJACENT TO TOE OF NEW FORESLOPE; BUTT ROCK AGAINST CLASS E REVETMENT. REALIGNMENT OF FLUME BASED ON FIELD CONDITIONS IS PERMISSIBLE.

ESTIMATED REVETMENT QUANTITIES INCLUDED WITH ROAD PLANS				
LOCATION	REVETMENT CL. "E" (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
INLET	83		100	52
OUTLET	113		132	70
ROCK FLUME		17	31	11
TOTALS	196	17	263	133

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE. QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.



CLASS E REVETMENT INLET AND OUTLET EROSION PROTECTION



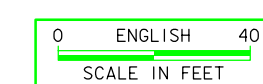
SITUATION PLAN

PROPOSED PROFILE GRADE FARM ACCESS
 -1.1378% 0.200%
 VPI STA = 501+07.57 VC = 35'
 VPI ELEV = 1171.81
 VPC STA = 500+90.07 VPT STA = 501+25.07
 VPC ELEV = 1172.01 VPT ELEV = 1171.84

PROPOSED PROFILE GRADE FARM ACCESS

HYDRAULIC DATA
 DRAINAGE AREA = 356 ACRES
 Q₁₀ = 426 CFS
 HW ELEV. = 1169.09
 STREAM SLOPE = 49.1 FT./MI.

LOCATION
 FARM ACCESS OVER AN UNNAMED CREEK
 T-8IN R-4IW
 SECTION 13
 HARRISON TOWNSHIP
 HARRISON COUNTY
 LATITUDE 41.831070°
 LONGITUDE 95.565025°



PRELIMINARY

DESIGN FOR 4° SKEW L.A.

12' X 6' X 36' REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

STATION 500+80.51 (FARM ACCESS) = DECEMBER 2014
 STATION 119+16.50, 80.13' LT (IA 37)

HARRISON COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 1 OF 1 FILE NO. 31133 DESIGN NO. 216

LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)

- - - - - - Existing Ground Line
- Proposed Template
- Proposed Topsoil Placement
- - - - - Additional Topsoil Removal
- Subgrade Treatment
- - - - - Granular Shoulder
- Pavement
- - - - - Existing Pipe\RCB
- Proposed Pipe\RCB
- Proposed Dike
- All Elements Associated with Proposed Entrances

LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)

- TS——— Topsoil (Class 10)
- TS A——— Topsoil (Type A Disposal)
- TS B——— Topsoil (Type B Disposal)
- TS C——— Topsoil (Type C Disposal)
- CL 10——— Class 10 Materials
- SEL LO——— Select Loams And Clay-Loams
- SEL SA——— Select Sand
- UNS A——— Unsuitable Type A Disposal
- UNS B——— Unsuitable Type B Disposal
- UNS C——— Unsuitable Type C Disposal
- SHALE——— Shale
- WASTE——— Waste
- B&W LS——— Broken and Weathered Rock
- ROCK——— Solid Rock
- BLDRS——— Boulders

Note: All layer lines and descriptions identify layers above the line.

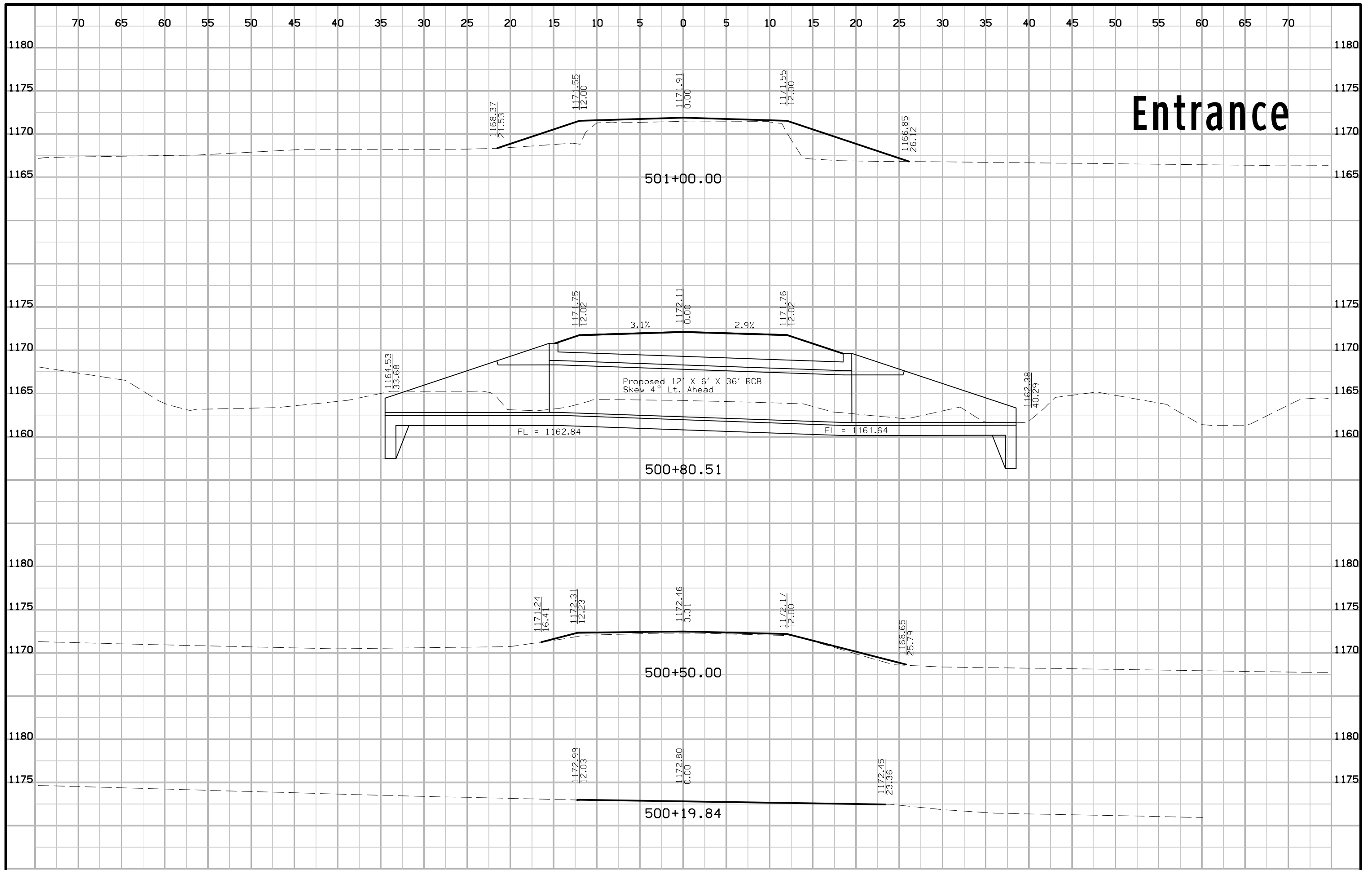
Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

SYMBOL LEGEND OF CROSS SECTION SHEETS

- Existing ROW
|
Existing Right-of-Way Limit
- Proposed ROW
|
Proposed Right-of-Way Limit
- Temporary ROW
|
Temporary Right-of-Way Limit

**CROSS SECTION
LEGEND AND SYMBOL
INFORMATION SHEET**

(COVERS SHEET SERIES W, X, Y, & Z)



Entrance

501+00.00

500+80.51

500+50.00

500+19.84

Proposed 12' X 6' X 36' RCB
Skew 4° Lt. Ahead

FL = 1162.84

FL = 1161.64

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

Entrance

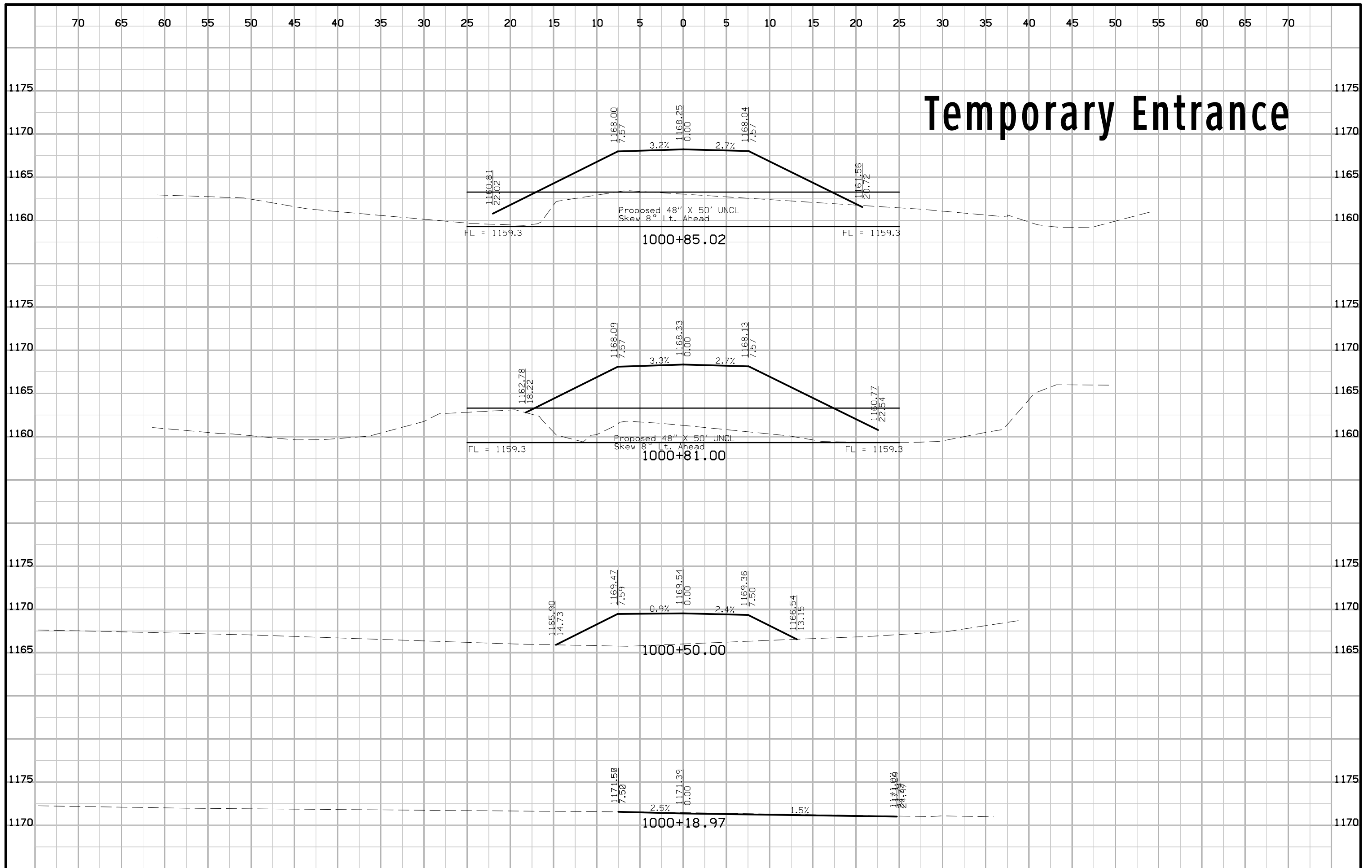
1180 1180

1175 1175

501+41.39

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

Temporary Entrance



20

Temporary Entrance

