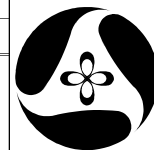


LUCAS CO.
BRIDGE REPLACEMENT - CCS
BRF-014-2(34)--38-59

LETTING DATE
 1/21/2015

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 3	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	"Mainline 014"
G Sheets	Survey Sheets
G.1	Reference Ties and Bench Marks
G.2	Horizontal Control Tab. & Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan
W Sheets	Mainline Cross Sections
W.1 - 5	Mainline Cross Sections
	* Color Plan Sheets



Iowa Department of Transportation
 Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
LUCAS COUNTY
RCB CULVERT NEW - TRIPLE BOX
 Over English Creek 1.5 Miles North Of Co. Rd. S-45.

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

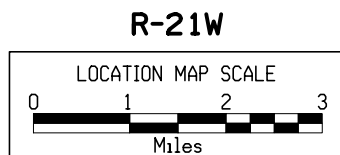
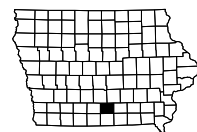
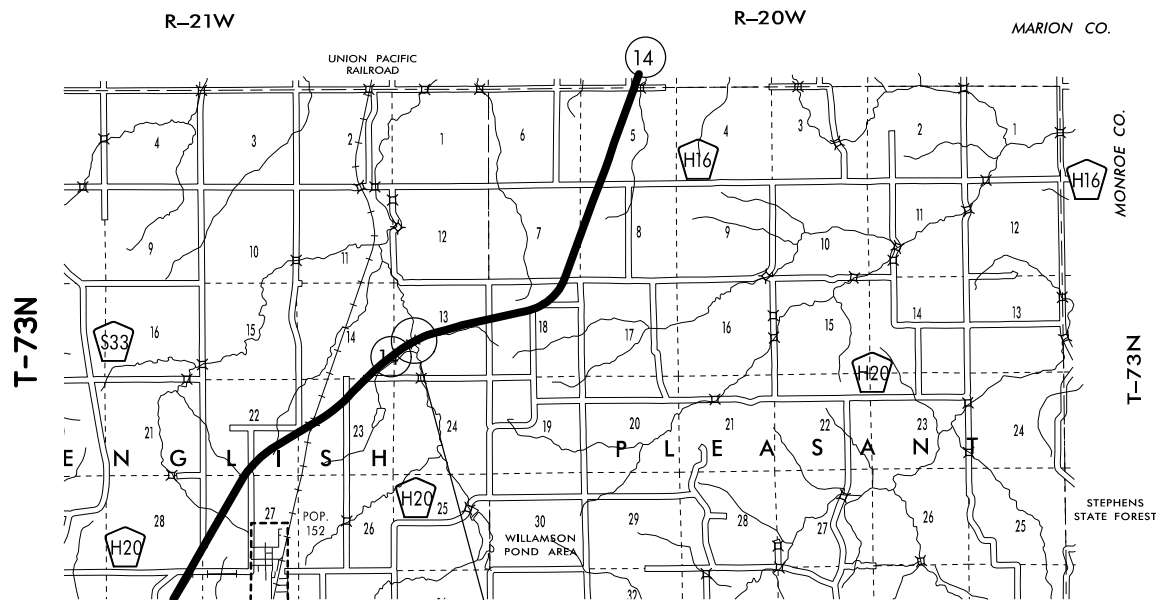
Value Engineering Saves. Refer to Article 1105.15 of the Specifications.

NO MILEAGE SUMMARY



REVISIONS

TOTAL
14
PROJECT IDENTIFICATION NUMBER
09-59-014-010
PROJECT NUMBER
BRF-014-2(34)--38-59
R.O.W. PROJECT NUMBER
STPN-014-2(35)--2J-59



DESIGN DATA RURAL			
2014 AADT	2,350	V.P.D.	
2034 AADT	3,490	V.P.D.	
20 DHV		V.P.H.	
TRUCKS	15	%	
Total Design ESALs			

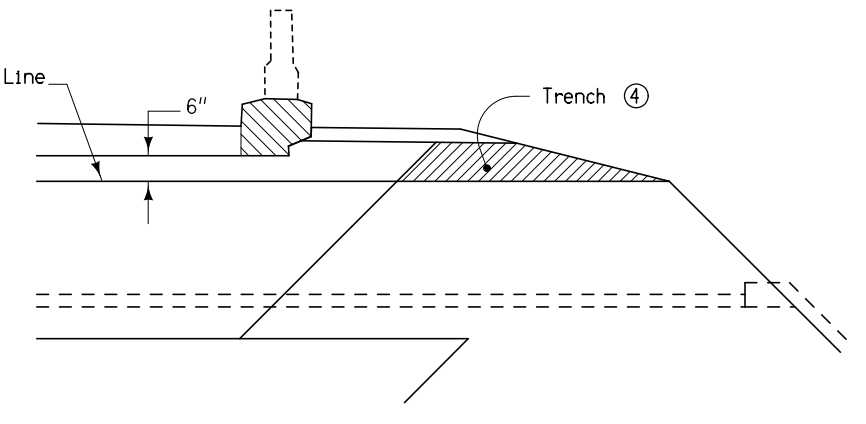
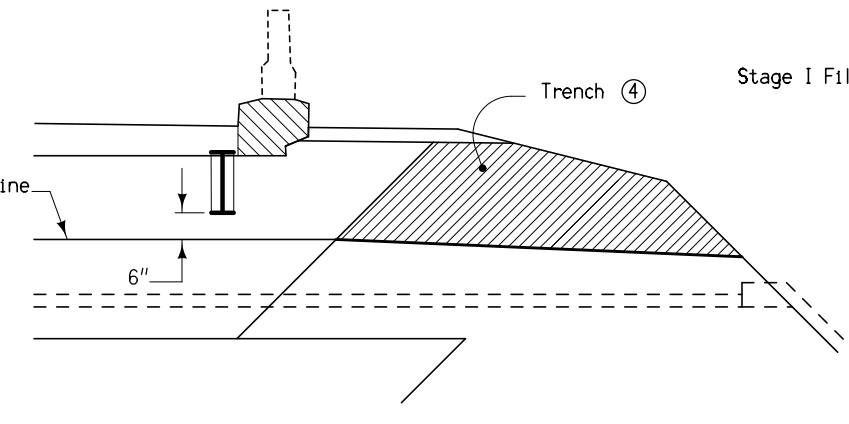
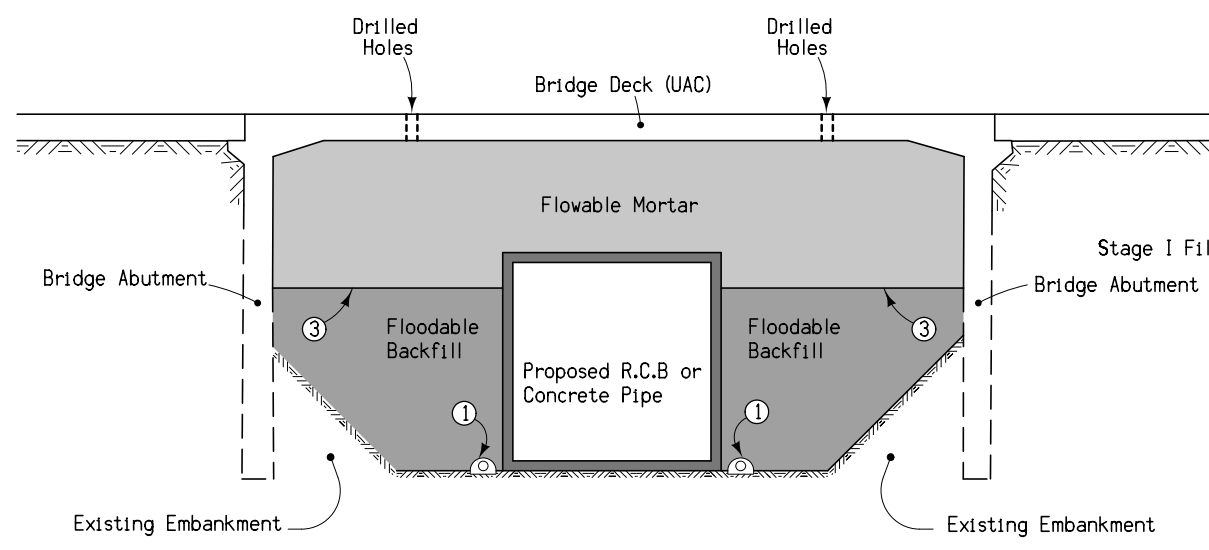
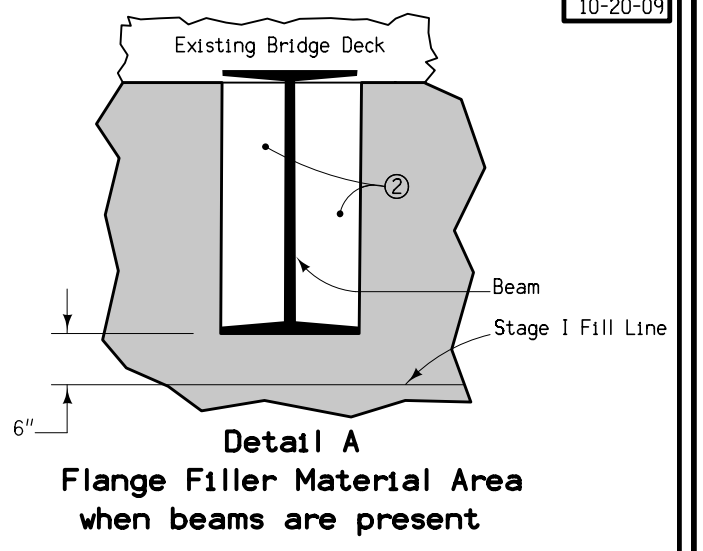
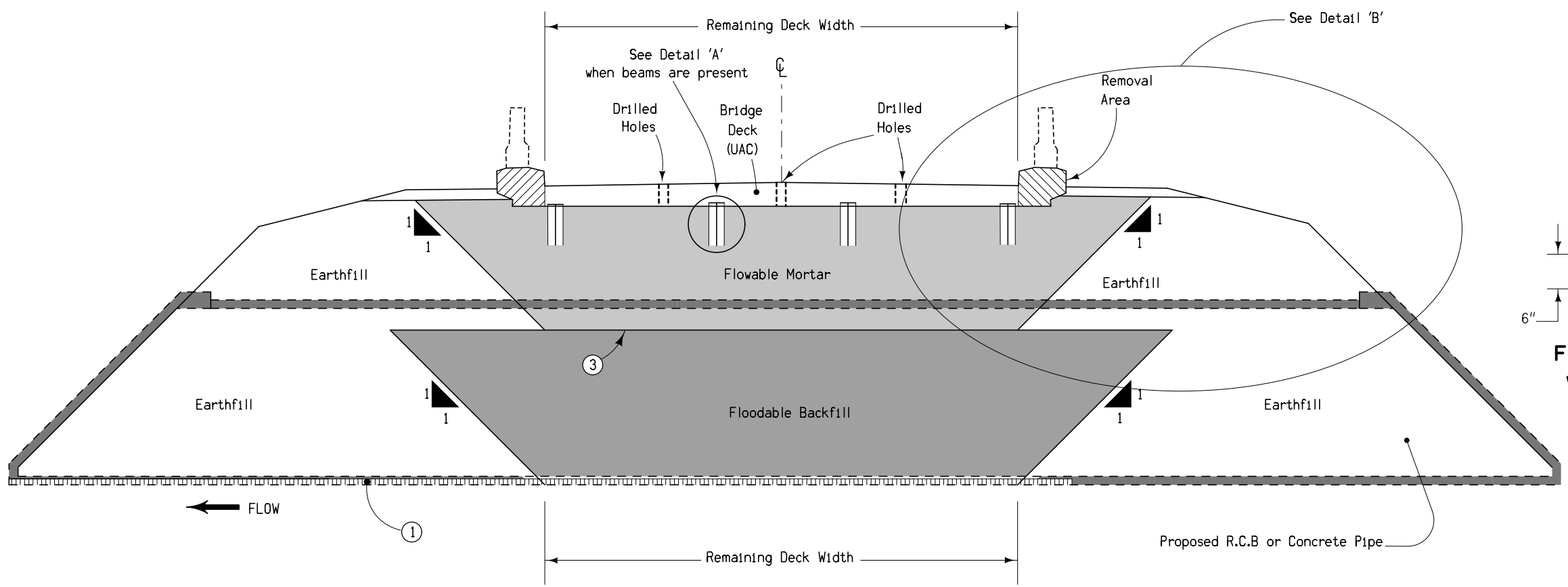
INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Paul Flattery	Primary Signature Block
X	X	X

Design No. 115
 File No. 30745

PRELIMINARY PLANS

Subject to change by final design.

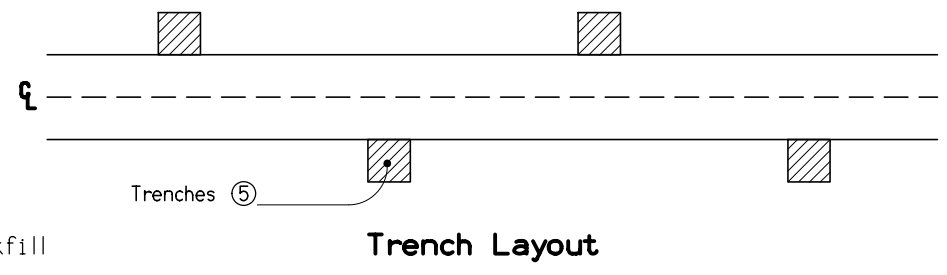
D5 PLAN - Date: 08/17/2012



Section along Centerline

Detail B (Beam Bridge)

Detail B (Slab Bridge)



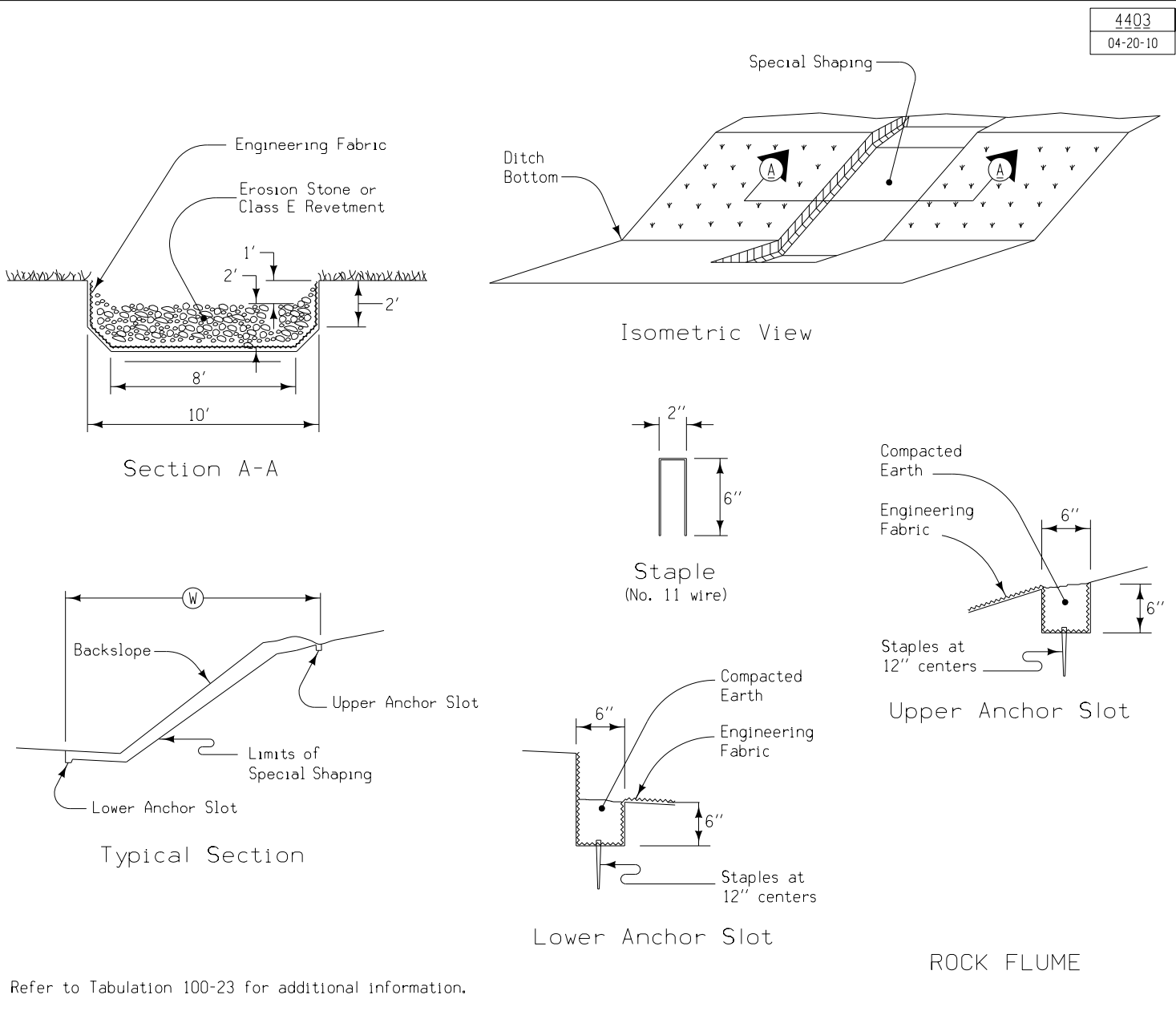
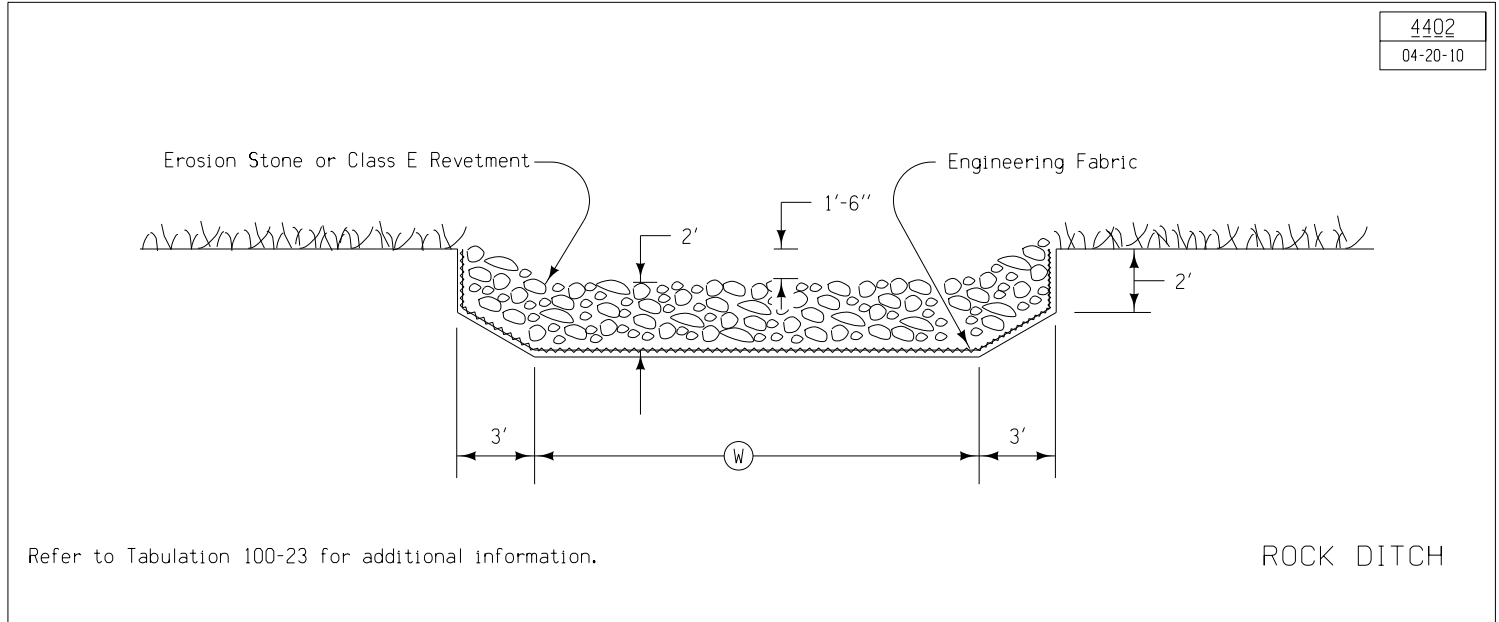
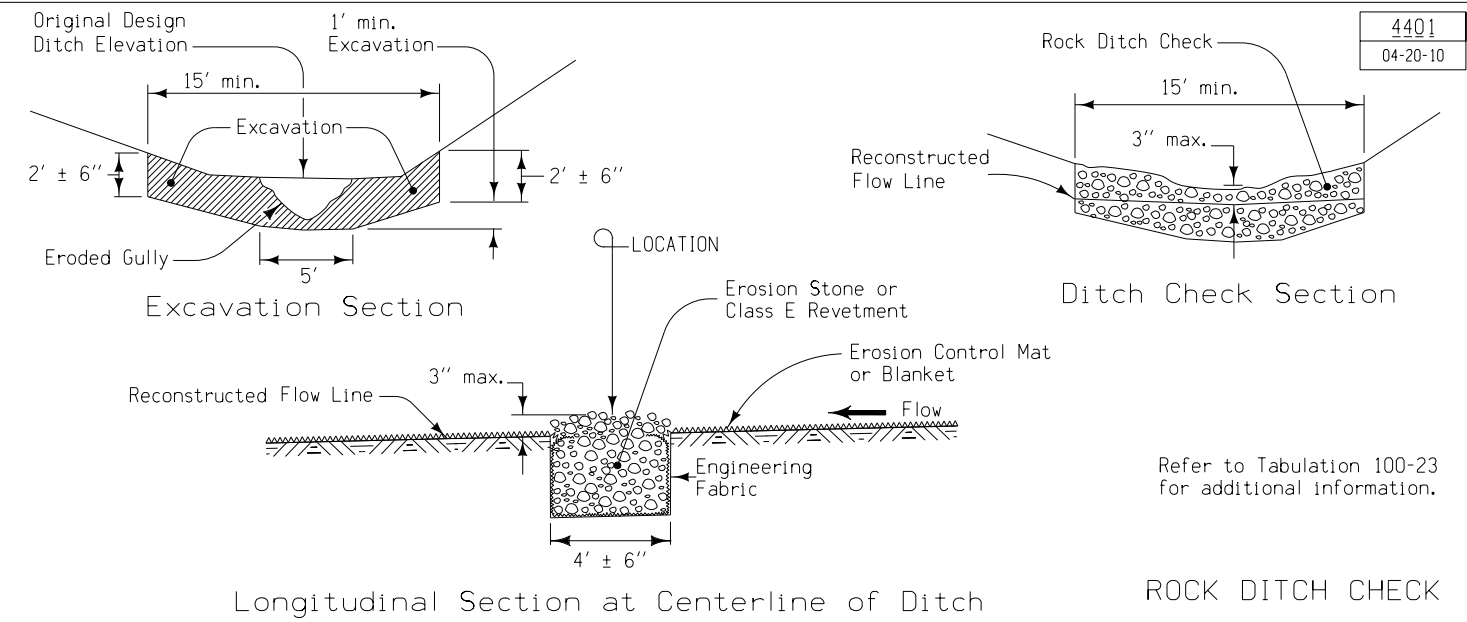
Trench Layout

Denotes pay limits for flooded backfill

- ① 4" Subdrain at flowline elevation of culvert with 4" cover of porous backfill.
- ② Flange Filler Material is incidental to flowable mortar.
- ③ Fill void with the maximum amount of Floodable Backfill possible. Distance from Floodable Backfill to bridge beams (when present) or bridge deck shall not exceed 5'.
- ④ Cut trenches in the soil plug to provide drainage for the flowable mortar. Backfill the trenches with open graded crushed stone, gravel, or recycled PCC to allow water to drain. Backfill material is incidental to flowable mortar.
- ⑤ Place trenches at 20' spacing with a minimum of two trenches on each side of the roadway.

Design No. 115
File No. 30745

FILL FOR CULVERT USED IN BRIDGE REPLACEMENTS



Design No. 115
 File No. 30745

SURVEY SYMBOLS

- GDL Guard Rail (Rail and Cable)
- PPA Power Pole Co. 1
- TDC Tree Deciduous
- GP Guard Post (Less Than 4 Posts)
- FW Wire Fence
- TPD Telephone Pedestal
- PPB Power Pole Co. 2
- WHD Water Hydrant
- OUT Tile Outlet
- TIL Tile Line
- SEP Septic Tank
- WEL Well
- PR Electric Riser Pole
- TEV Evergreen Tree
- TV Satellite TV Dish
- WV Water Valve
- MH Utility Access (Manhole)
- FCL Chain Link and Security Fence
- LP L.P. Tank
- D Centerline Draw or Stream (Down)
- DU Centerline Draw or Stream (Up)
- DIK Centerline of Dike or Dam
- EW Edge of Water
- TLA Existing Telephone Line
- WLA Existing Water Line

UTILITY LEGEND

- TLA Windstream
- WLA Rathbun Regional Water Association, INC
- PPA Alliant
- PPB Clark Electric Coop

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

- Green (2) Existing Topographic Features and Labels
- Blue (1) Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
- Purple (5) Existing Utilities
- 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 (237) Grading Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

- Green (2) Existing Ground Line Profile
- Blue (1) Proposed Profile and Annotation
- Purple (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
- Survey Line
- Section Corner
- Clearing & Grubbing Area
- Pavement Removal

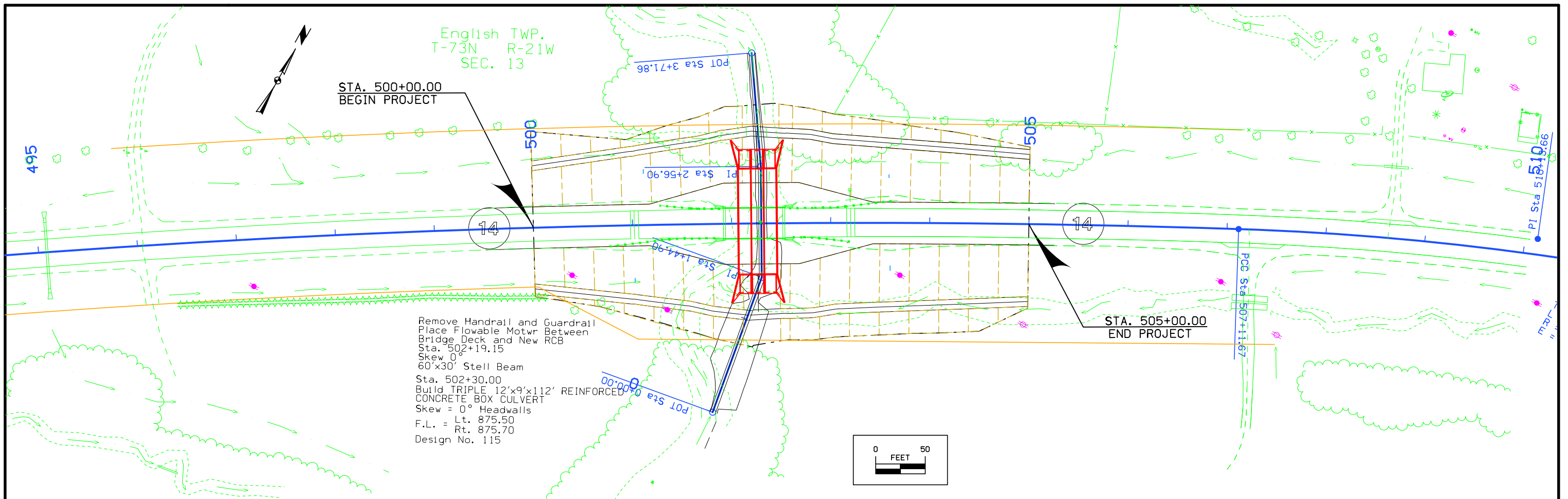
RIGHT-OF-WAY LEGEND

- Proposed Right-of-Way
- Existing Right-of-Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Borrow
- Easement (Temporary)
- Easement
- Excess
- Property Line
- Access Control

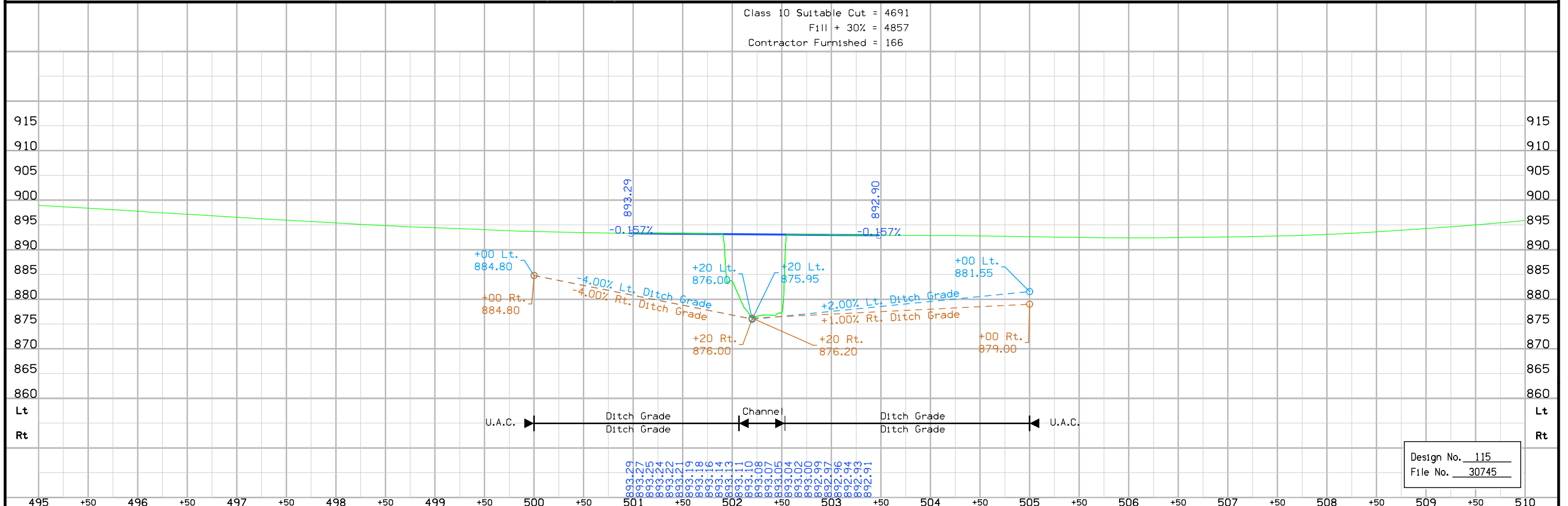
Design No. 115
File No. 30745

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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



Class 10 Suitable Cut = 4691
Fill + 30% = 4857
Contractor Furnished = 166



Design No. 115
File No. 30745

Survey Information

General Information

Measurement units for this survey are US survey feet. This survey is for Bridge @ English Creek on IA Hwy 14 in Lucas County. This project is a complete field survey for the digital terrain model.

Vertical Control

This survey control is relative to NAVD88 Datum in accordance with 3rd. order vertical accuracy. NAVD88 height was transferred to the project averaging IARTN observations applying Geoid 2009. Iowa RTN reference stations are relative vertically to highly accurate National Geodetic Survey (NGS) Reference Stations that are used by NGS for reporting heights relative to NAVD88 datum. This survey also observed local area markers reported to be relative to NAVD88 datum. These local area markers are relative to a statewide leveling network conducted by the NGS many years ago using leveling and adjustment methods accepted at that time. Many of the marks are reported by the NGS to be subject to surface motion but may hold. The comparative heights of local area marks relative to RTN NAVD88 using Geoid 09 and local area Published (NGS datasheet) NAVD88 are:

2nd Order NGS mark Des. R 113 NAVD88 = Published Elev. 1015.98
 = This survey and RTN NAVD88 =Elev. 1016.02
 (8.35 mi. SW. of Project)

2ND Order NGS mark Des. 59 38 NAVD88 = Published Elev. 1037.49
 = This Survey and RTN NAVD88 =El.:1037.56
 (8.7 mi. SW of project)

This survey also observed as built plan benchmark elevations

Vertical equations are as follows:

BM # 502 this survey Elevation = 913.34
 = BM 63 AB Plans Proj. # F 63(11) Elevation = 912.80

Horizontal Control

This survey control is relative to IARTN reference stations. IARTN Reference station coordinates are relative to the National Reference Station network: (NAD83 (1996CORS) for Epoch 2002.00. Fully constrained adjusted coordinates of the IARTN reference stations are reported to be accurate to about +/-0.02 ft. in horizontal and +/-0.05 ft. in vertical at 95% confidence level (2 sigma). Project control coordinates were determined by averaging redundant IARTN observations. The coordinate system for this project is Iowa State Plane South Zone in U.S Survey ft. units.

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. 63(11)
 Survey stationing was equated to the plans at PI Sta. 489+33.6 and carried back and ahead with no equation throughout the survey.

Equations are as follows:

CP Sta. 453+04.71 This Survey
 = PT Sta. 454+00.6 As-built Plans Project No. 63(11)

PI Sta. 489+33.6 This Survey
 = PI Sta. 489+33.6 As-built Plans Project No. 63(11)
 PCC Sta. 507+11.67 This Survey
 = PCC Sta. 507+09.3 As-built Plans Project No. 63(11)

PI STA 510+13.66 This survey
 = PI STA 510+10.3 0 As-built Plans Project No. 63(11)

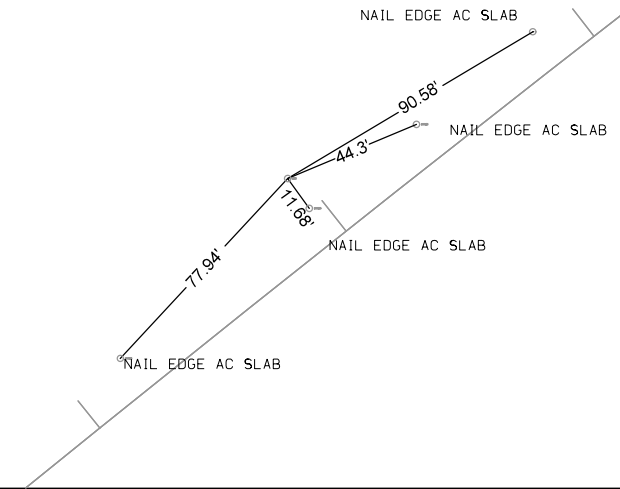
PI STA 532+47.9 This survey
 = PI STA 532+45.2 As-built Plans Project No. 63(11).

VERTICAL CONTROL

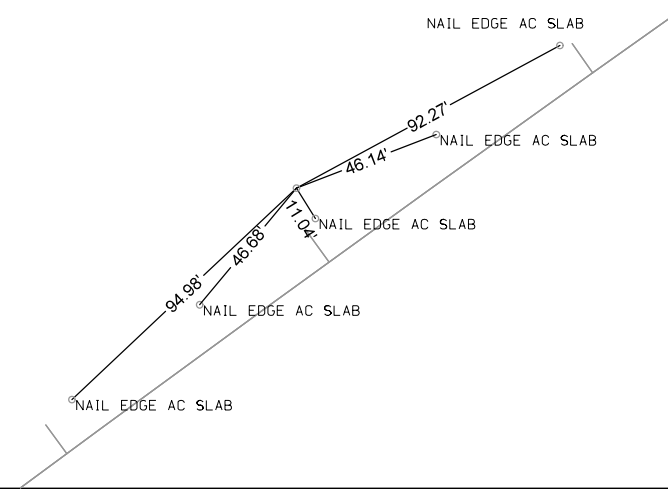
Point	Station	Description	Offset	North	East	Elevation
580	481+98.87	BM 58 AS BUILT PLANS PROJECT * F 63(11) FOUND IHC BUIION TOP OF INLET HDWL 4.0 X 5.6 PCB BENCH MARK	-28.574	488814.208	1713624.828	908.896
581	582+93.84	ROAD DOT BUIION ON SE WING POST BRIDGE BENCH MARK	15.578	489721.123	1713345.943	895.778
582	517+38.57	BM 63 AS BUILT PLANS PROJECT * F 63(11) FOUND IHC BM INLET HDWL 3.0 X 3.8 PCB BENCH MARK	-24.711	489761.742	1716697.842	913.335

Design No. 115
 File No. 30745

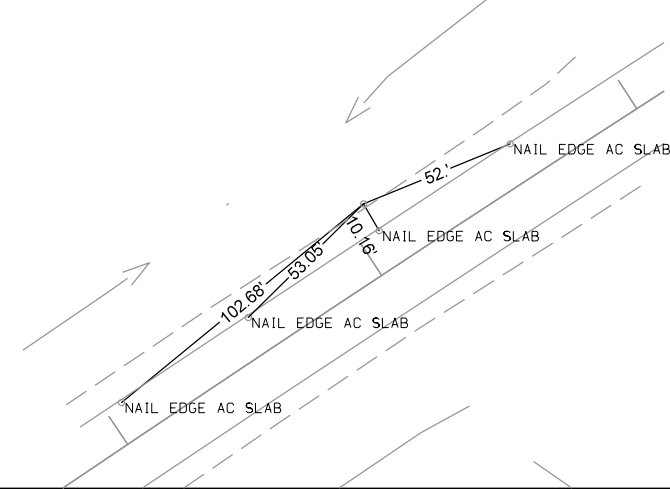
CP STA. 484+95.84, 24.56 Lt.
 CP No. 300, Set Iron Pin
 N=408219.158, E=1713863.163



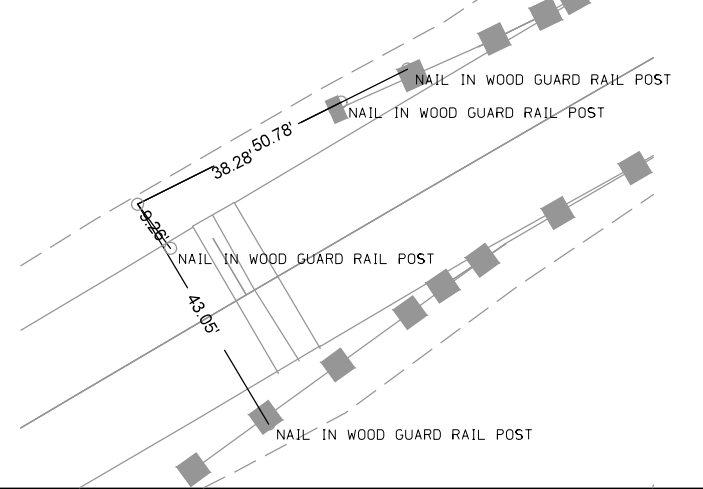
CP STA. 490+05.21, 24.35 Lt.
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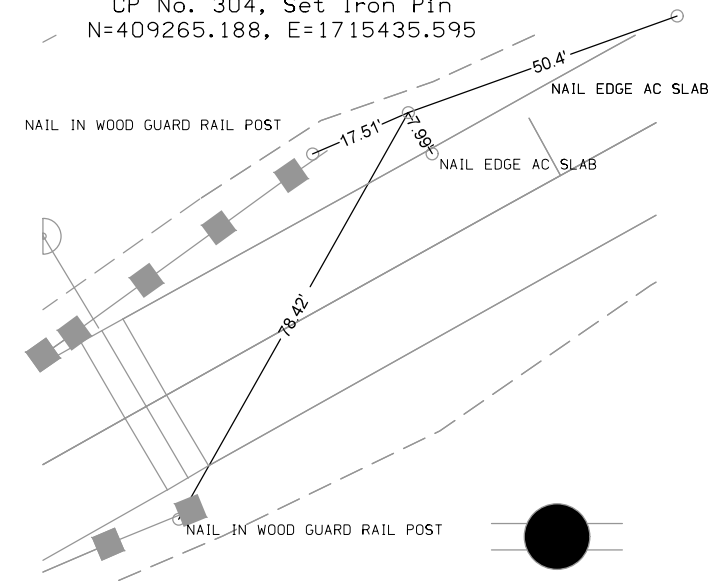
CP STA. 495+07.97, 22.81 Lt.
 CP No. 302, Set Iron Pin
 N=408812.278, E= 1714685.462



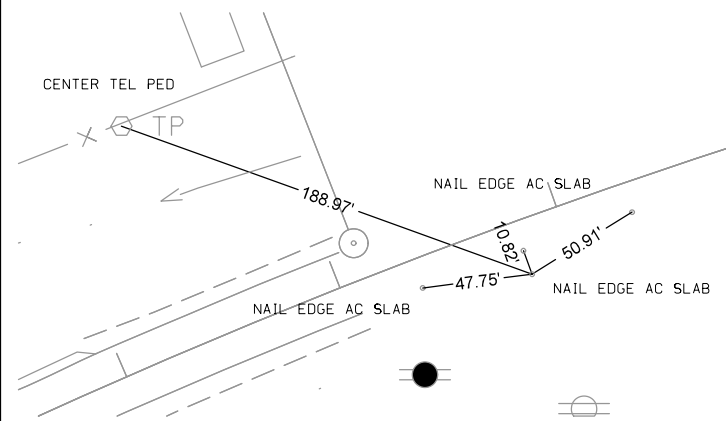
CP STA. 500+91.97, 22.40 Lt.
 CP No. 303, Set Iron Pin
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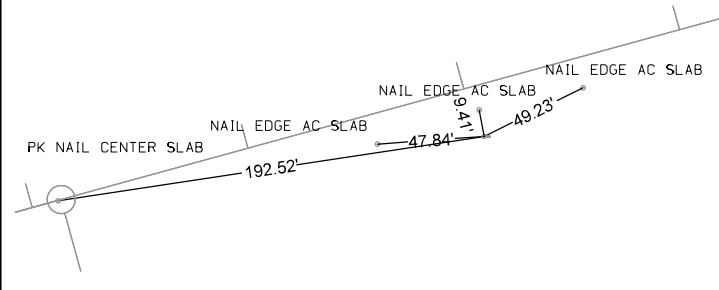
CP STA. 503+82.75, 21.63 Lt.
 CP No. 304, Set Iron Pin
 N=409265.188, E=1715435.595



CP STA. 510+80.19, 23.99 Rt.
 CP No. 305, Set Iron Pin
 N=409527.170, E=1716081.377



CP STA. 515+03.15, 22.84 Rt.
 CP No. 306, Set Iron Pin
 N=409648.698, E=1716484.331



Design No. 115
 File No. 30745

PARCEL CHECK BY PROJ UPDATED 09/17/12 14:10 PAGE: 1

R2360003 PARCEL CHECK LIST BY PROJECT NUMBER

COUNTY : LUCAS PROJECT NO. :STPN-014-2(35)--2J-59 PIN: 09-59-014010-00

CONSTRUCTION NO.:BRF-014-2(34)--38-59 ASSIGNED TO: SJD

DESCRIPTION : Ia. 14 Over English Creek 1.5 Miles N. Of Co. Rd. S-45

PARCEL KEY OWNER TYPE R/W W.D OR EASE. BORROW W.D OR EASE. HOUSE OR OTHER COMMERCIAL OCC ENVIRONMENTAL CONCERNS

0001 26180 WILLIAM B. PARDOCK FEE STATE OF IOWA
0.23 WD ACRE

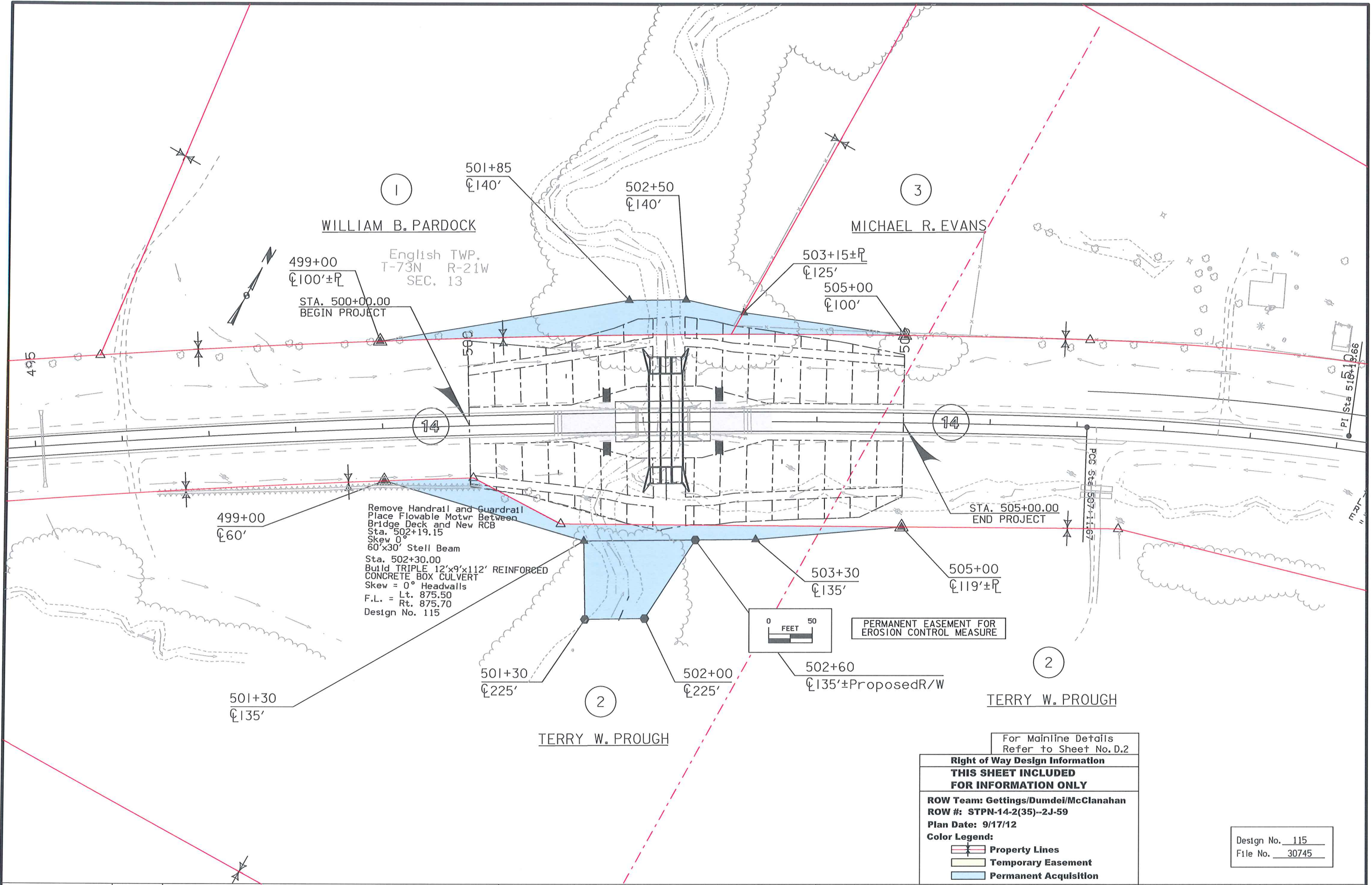
0002 26181 TERRY W. PROUGH FEE STATE OF IOWA
0.20 EASE ACRE
0.21 WD ACRE

0003 26517 MICHAEL R. EVANS FEE STATE OF IOWA
0.06 WD ACRE

STATE OF IOWA

0.23 WARRANTY DEED ACRES

3 TOTAL PARCELS ON PROJECT



English TWP.
T-73N R-21W
SEC. 13

Remove Handrail and Guardrail
Place Flowable Motwr Between
Bridge Deck and New RCB
Sta. 502+19.15
Skew 0°
60'x30' Steel Beam
Sta. 502+30.00
Build TRIPLE 12'x9'x112' REINFORCED
CONCRETE BOX CULVERT
Skew = 0° Headwalls
F.L. = Lt. 875.50
Rt. 875.70
Design No. 115

PERMANENT EASEMENT FOR
EROSION CONTROL MEASURE

For Mainline Details
Refer to Sheet No. D.2

Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: Gettings/Dumdei/McClanahan
ROW #: STPN-14-2(35)--2J-59
Plan Date: 9/17/12

Color Legend:
 Property Lines
 Temporary Easement
 Permanent Acquisition

Design No. 115
File No. 30745

TRAFFIC CONTROL PLAN

108-23A
08-01-08

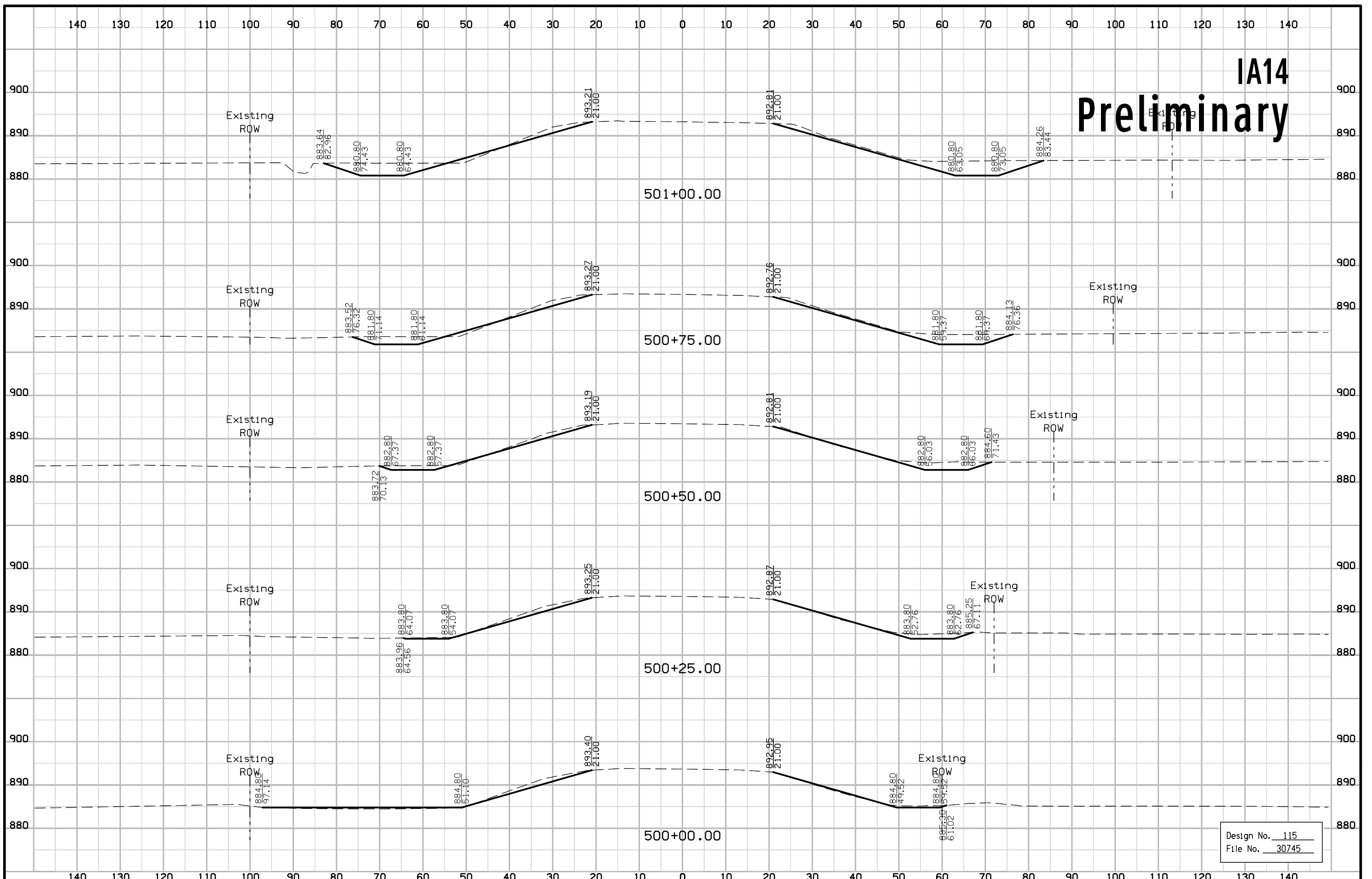
The roadway will remain open to traffic during construction. It will be necessary to reduce traffic to one lane while the flowable mortar is being placed.

TABULATION OF SPECIAL EVENTS

102-15
08-01-08

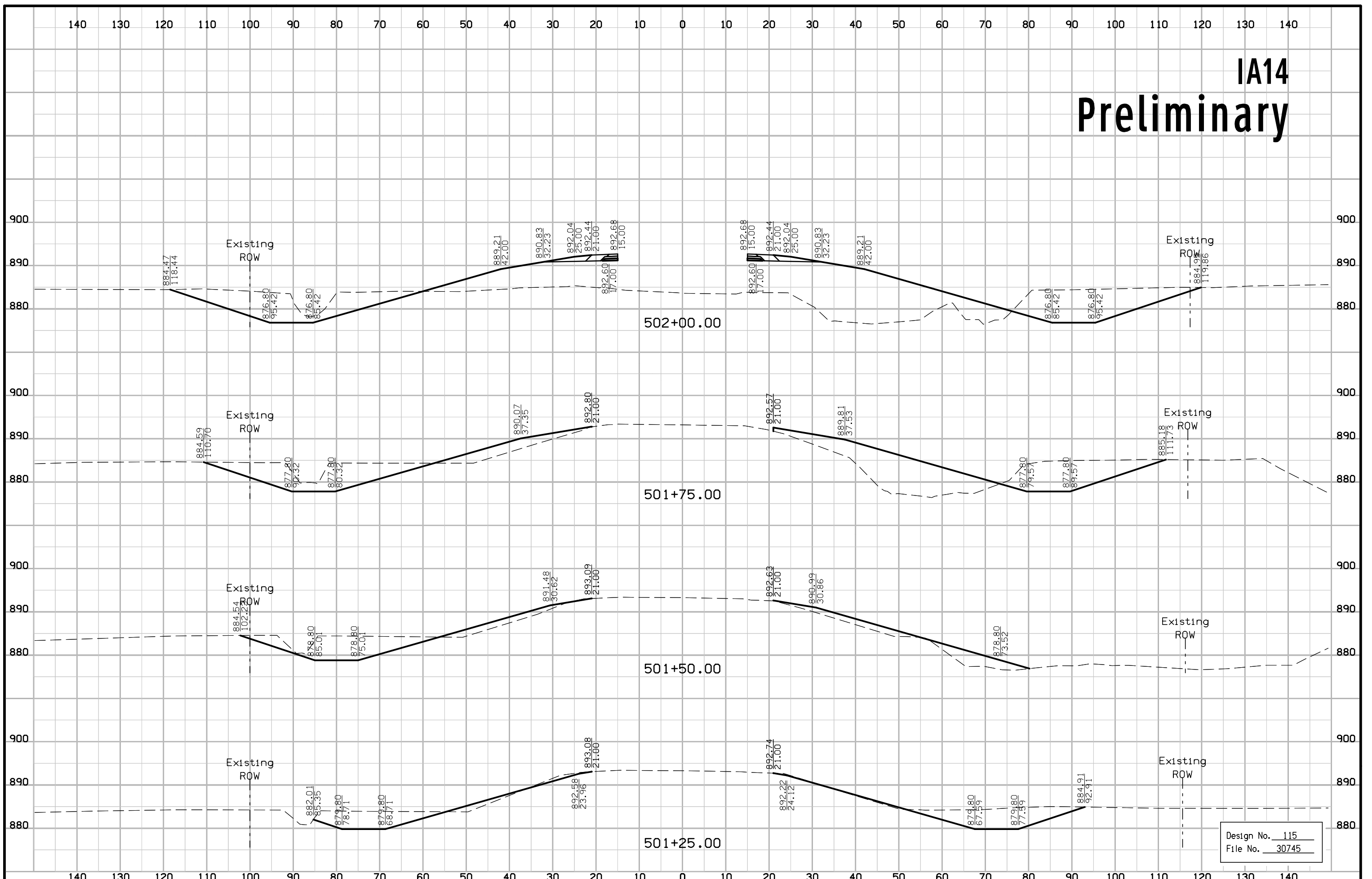
Event	Location	Date
None Provided.		

IA14 Preliminary



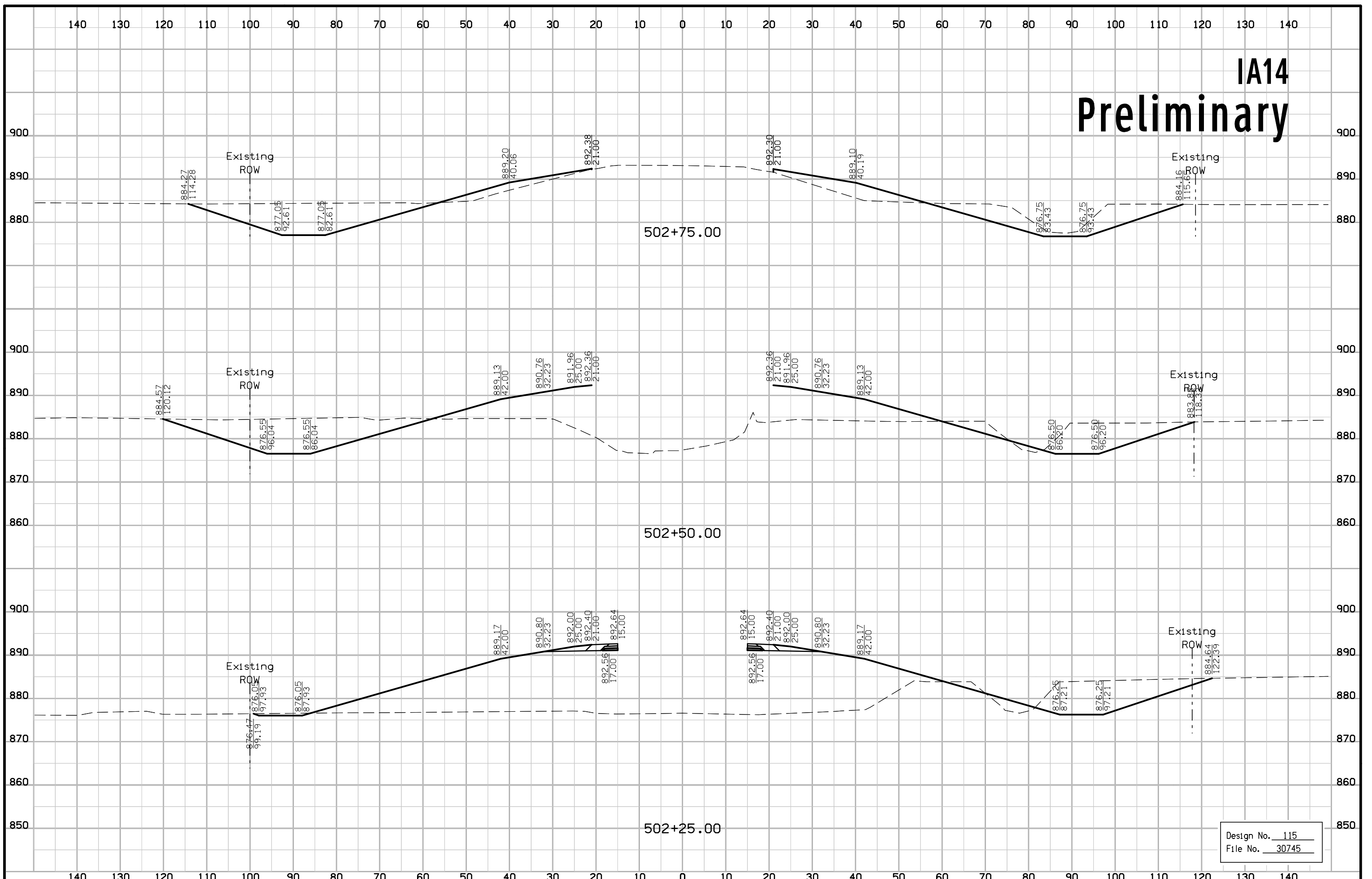
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IA14 Preliminary



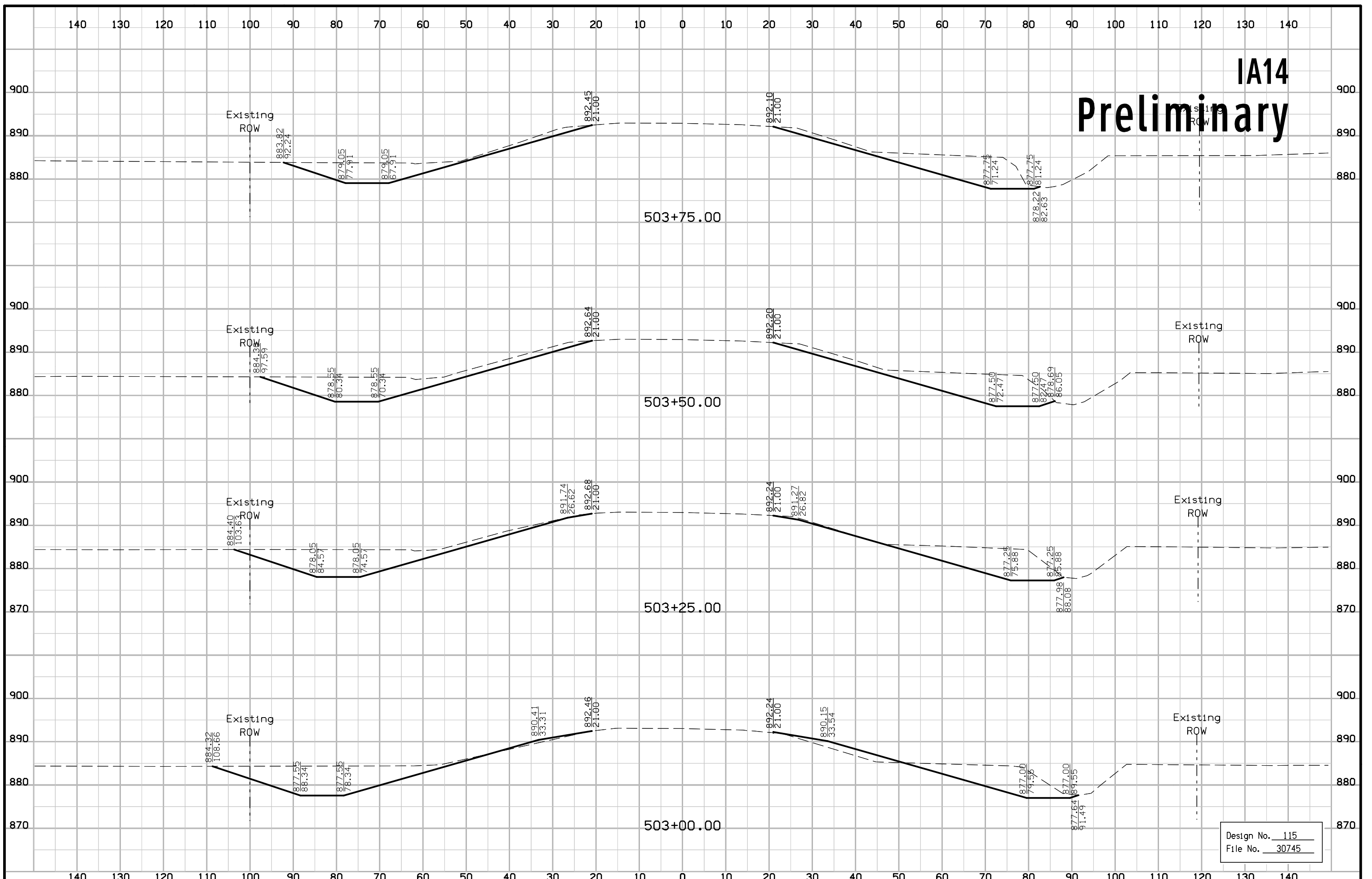
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IA14 Preliminary



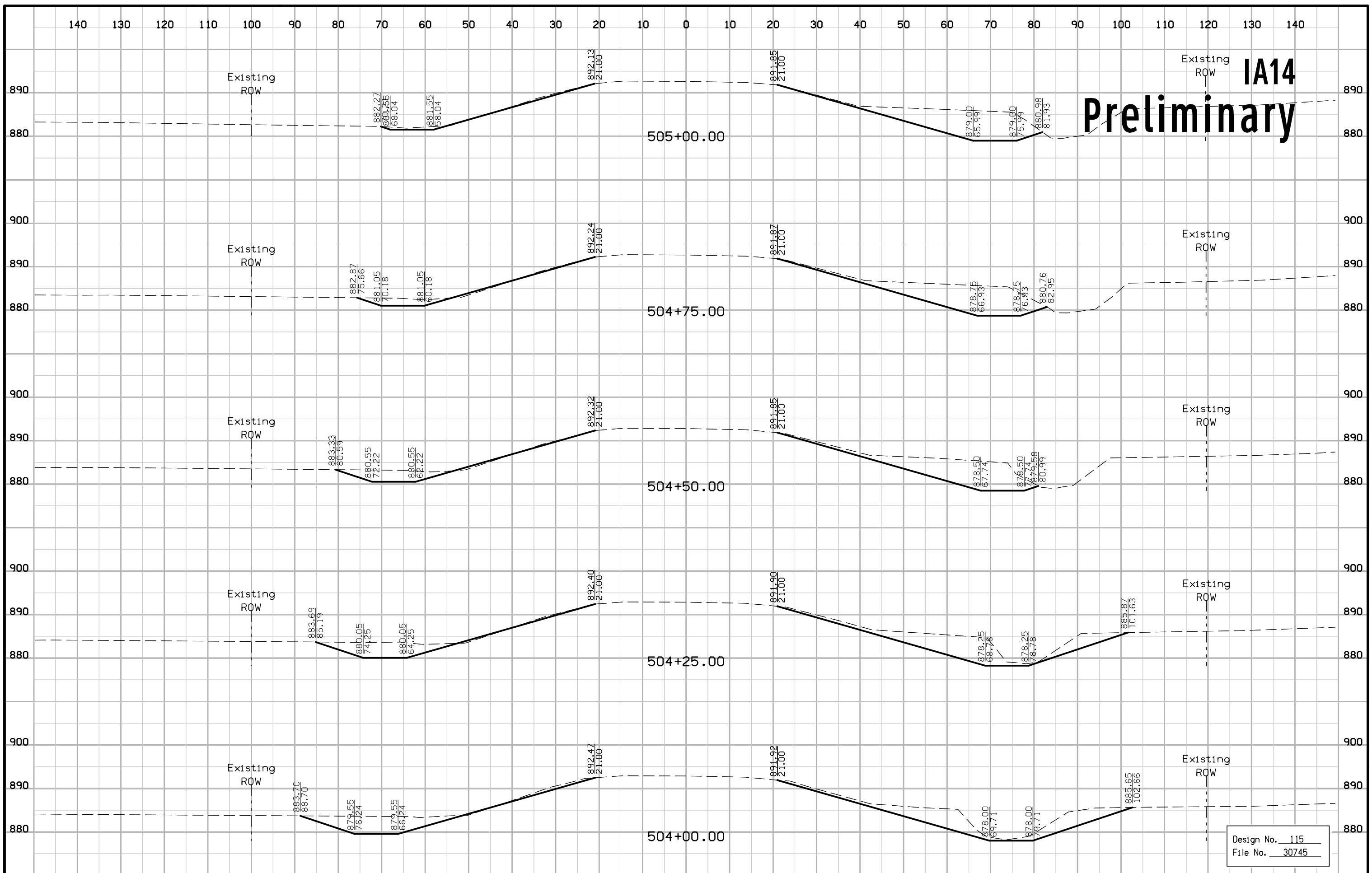
Design No. 115
File No. 30745

IA14 Preliminary



Design No. 115
File No. 30745

IA14 Preliminary



Design No. 115
File No. 30745