

PROJECT ID: 1146-75-76

COUNTY: OUTAGAMIE

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS =



DESIGN DESIGNATION

A.A.D.T. (2019)	=	12,200
A.A.D.T. (2044)	=	21,600
D.H.V.	=	2,550
D.D.	=	62-38
T.	=	5.2%
DESIGN SPEED	=	60 MPH
ESALS	=	2,620,700

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

ROCK	
LABEL	
95.36	
NONSTANDARD SYMBOLS	
DRIVEWAY TO BE REMOVED	
PROPOSED RELOCATION	
RETAINING WALL	
DITCH	
MEDIAN DRAIN/OUTFALL	

NONSTANDARD SYMBOLS	
DRIVEWAY TO BE REMOVED	
PROPOSED RELOCATION	
RETAINING WALL	
DITCH	
MEDIAN DRAIN/OUTFALL	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STH 76 - NEW LONDON

CTH T - WI CENTRAL RR

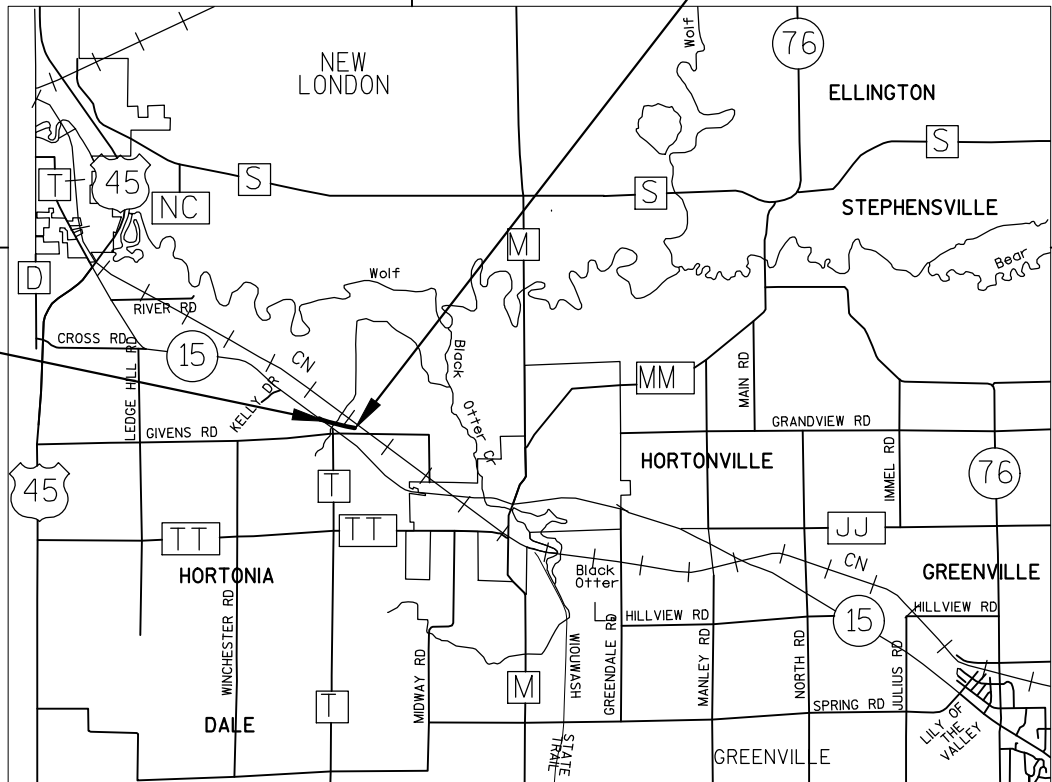
STH 15

OUTAGAMIE COUNTY

STATE PROJECT NUMBER
1146-75-76

END PROJECT
PROJ. ID: 1146-75-76
STA 275'EB'+00

BEGIN PROJECT
PROJ ID: 1146-75-76
STA 256'EB'+00
Y=602275.20
X=743951.68



LAYOUT
SCALE 0 2 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.360

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, OUTAGAMIE COUNTY, NAD83 (2007) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAN.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 88 (2007).

STATE PROJECT

1146-75-71

FEDERAL PROJECT

PROJECT

CONTRACT

TRANS 220
PROJECT PLAN
FOR
DESIGN OF UTILITY FACILITY
ALTERATIONS OR RELOCATIONS

Date: _____

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	WISDOT NORTHEAST REGION
Designer	MASON SIMMONS
Project Manager	WILLIAM BERTRAND
Regional Examiner	XXX
Regional Supervisor	TAMMY RABE

APPROVED FOR THE DEPARTMENT

DATE: _____ (Signature)

E

UTILITIES

CHARTER COMMUNICATIONS
RUDI RUDIGER
5024 HEFFRON STREET
STEVENS POINT, WI 54481
(715) 302-1550
RRUDIGER@CHARTERCOM.COM

VILLAGE OF HORTONVILLE PUBLIC WORKS-SEWER & WATER
CARL MCCRARY
531 N NASH STREET
HORTONVILLE, WI 54944
(920) 378-3958
DPW@VOHORTONVILLE.COM

WE ENERGIES-GAS/PETROLEUM
CODY BECKMAN
800 SOUTH LYNNDALE DRIVE
APPLETON, WI 54914
(920)380-3422 (O)
(920)428-1038 (M)
CODY.BECKMAN@WE-ENERGIES.COM

HORTONVILLE AREA SCHOOLS
BEN DUMKE
246 NORTH OLK STREET
HORTONVILLE, WI 54944
(920) 799-7900
BENDUMKE@HASD.ORG

WE ENERGIES-ELECTRIC
CHRISTOPHER SCHULZ
800 SOUTH LYNNDALE DRIVE
APPLETON, WI 54914
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(414) 588-0455 (M)
CHRIS.SCHULZ@WE-ENERGIES.COM

AT&T WISCONSIN - COMMUNICATIONS
JOE KASSAB
205 S JEFFERSON ST
GREEN BAY, WI 54301
(920)433-4200
JK572K@ATT.COM



Dial 811 or (800)242-8511
www.DiggersHotline.com

DNR AREA LIAISON

MATTHEW SCHAEVE
DEPARTMENT OF NATURAL RESOURCES
2984 SHAWANO AVE
GREEN BAY, WI 54303
PHONE: 920-662-5472
EMAIL: MATTHEW.SCHAEVE@WISCONSIN.GOV

ORDER OF SECTION 2 SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- INTERSECTION DETAILS
- PAVING GRADES
- DRIVEWAY DETAILS
- EROSION CONTROL
- STORM SEWER PLAN
- PLANTING
- PERMANENT SIGNING
- LIGHTING PLAN
- PAVEMENT MARKING
- STAGE CONSTRUCTION
- DETOUR
- ALIGNMENT DIAGRAMS

COUNTY SURVEYOR OR
SURVEYS CONTACT PERSON

CORMAC MCINNIS
944 VANDERPERREN WAY
GREEN BAY WI, 54304
PHONE: 920-492-5638
EMAIL: CORMAC.MCINNIS@DOT.WI.GOV

STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC
AEW	APRON ENDWALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C-C	CENTER TO CENTER
CPCM	CULVERT PIPE CORRUGATED METAL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE
	HORIZONTAL ELLIPTICAL
	CONCRETE SURFACE DRAIN
CSD	CENTER
CTR	HUNDRED WEIGHT
CWT	CUBIC YARD
CY	DEGREE OF CURVE
D	DELTA
Δ	DIRECTIONAL DISTRIBUTION
DD	DESIGN HOUR VOLUME
DHV	DIAMETER
DIA OR Ø	ELEVATION
EL OR ELEV	FULL SUPERELEVATION
FS	FOOT
FT	HIGHWAY EASEMENT
HE	HOT MIX ASPHALT
HMA	INCIDENTAL
INCID	INLET
INL	LENGTH OF CURVE
L	LINEAR FOOT
LF	LONGITUDINAL
LONG	LEFT
LT	MANHOLE
MH	MATCH LINE
ML OR M/L	NORMAL CROWN
NC	NOT TO SCALE
NTS	PAVEMENT
PAVT	POINT OF CURVATURE
PC	POINT OF COMPOUND CURVATURE
PCC	POINT OF INTERSECTION
PI	PERMANENT LIMITED EASEMENT
PLE	POINT OF TANGENCY
PT	POINT OF VERTICAL CURVATURE
PVC	POINT OF VERTICAL INTERSECTION
PVI	POINT OF VERTICAL TANGENCY
PVT	RADIUS
R	REFERENCE LINE
R/L	RUN OFF LENGTH
RO	RIGHT
RT	RIGHT OF WAY
RW OR R/W	STANDARD DETAIL DRAWINGS
SDD	STORM SEWER
SS	STORM SEWER PIPE REINFORCED CONCRETE
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
SSPRCHE	HORIZONTAL ELLIPTICAL
	STATION
STA	SQUARE YARD
SY	SYMMETRICAL
SYM	TANGENT LENGTH
T	TEMPORARY
TEMP	TEMPORARY LIMITED EASEMENT
TLE	TYPICAL
TYP	VELOCITY OR DESIGN SPEED
V	VARIABLE OR VARIES
VAR	WATER MAIN
WM	YARD
YD	

APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO NAVD 88 (2007)

COORDINATES SHOWN ON THE PLAN ARE REFERENCED TO NAD 83 (2007).

CURVE DATA IS BASED ON ARC DEFINITION.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND ALL UTILITIES IN THE VICINITY OF THE PROJECT TO LOCATE THEIR FACILITIES AT LEAST THREE WORKING DAYS PRIOR TO BEGINNING WORK. ANY UTILITY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

THE LOCATION OF SAW CUTS WILL BE DETERMINED OR AS APPROVED BY THE ENGINEER. SAW CUT JOINTS SHALL BE ACCOMPLISHED WITHOUT DAMAGE TO REMAINING PORTIONS.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS UNCLASSIFIED EXCAVATION. THE LOCATION OF EBS WILL BE DETERMINED BY THE ENGINEER.

THE EXACT LOCATIONS OF ALL EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER.

IN PERFORMANCE OF THE WORK UNDER THE ITEM "REMOVING FENCE", THE FENCE SHALL BE REMOVED TO A PULL OR STRETCHER POST ASSEMBLY AS DETERMINED IN THE FIELD BY THE ENGINEER.

ALL RADII ARE MEASURED TO EDGE OF PAVEMENT UNLESS OTHERWISE SHOWN OR NOTED ON THE PLAN.

EXPANSION JOINTS TO BE CONSTRUCTED AT ALL RADIUS POINTS IN CURB AND GUTTER OR AT LOCATIONS SHOWN ON THE PLAN.

THE LOCATION OF EXISTING MANHOLES AS SHOWN ON THE PLANS IS APPROXIMATE.

ALL NEW CONCRETE CULVERT PIPES REQUIRE JOINT TIES.

EXISTING DRAINAGE DITCHES AND CULVERT PIPES WILL REMAIN FUNCTIONAL DURING EXCAVATION OPERATIONS.-INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES ARE APPROXIMATE AND SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE LAST SECTION OF ALL EXISTING REINFORCED CONCRETE CULVERT PIPES THAT ARE TO BE EXTENDED SHALL BE, IF NECESSARY, RESET PRIOR TO INSTALLING THE PIPE EXTENSION.

THE FIRST SECTION OF ALL REINFORCED CONCRETE CULVERT PIPE EXTENSIONS SHALL BE CONSTRUCTED TO MATCH THE EXISTING CULVERT PIPE OR OTHER CONNECTIONS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.

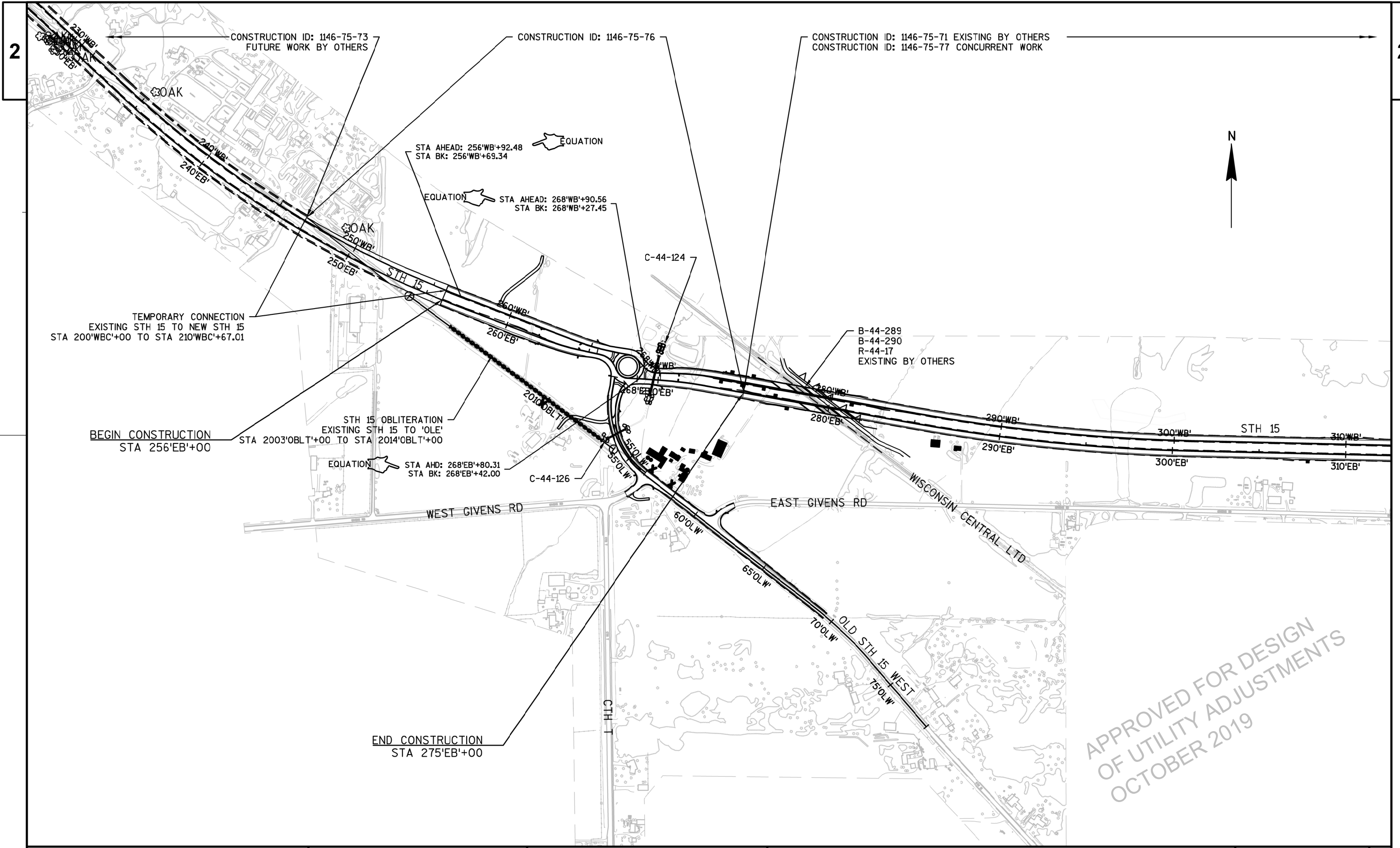
THE EXACT LOCATION OF PRIVATE AND FIELD ENTRANCES ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN CONSTRUCTION OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO THE DRIVEWAY SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER WORK IS COMPLETED.

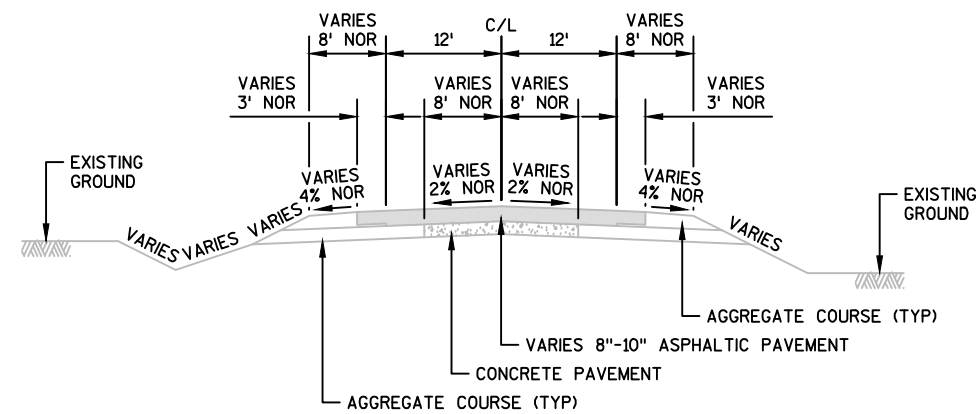
THE EXACT LOCATION OF ACCESS POINTS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER, EXCEPT FOR CONTROLLED LOCATIONS SHOWN ON THE PLAT.

DRIVEWAY SURFACE BEYOND EDGE OF SHOULDER SHALL BE REPLACED IN-KIND WITH A MINIMUM SECTION OF: 3" ASPHALTIC SURFACE OVER 6" BASE AGGREGATE DENSE 3/-INCH FOR ASPHALTIC PRIVATE DRIVEWAYS AND FIELD ENTRANCES; 6" BASE AGGREGATE DENSE 3/4-INCH FOR GRAVEL DRIVEWAYS.

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OCTOBER 2019



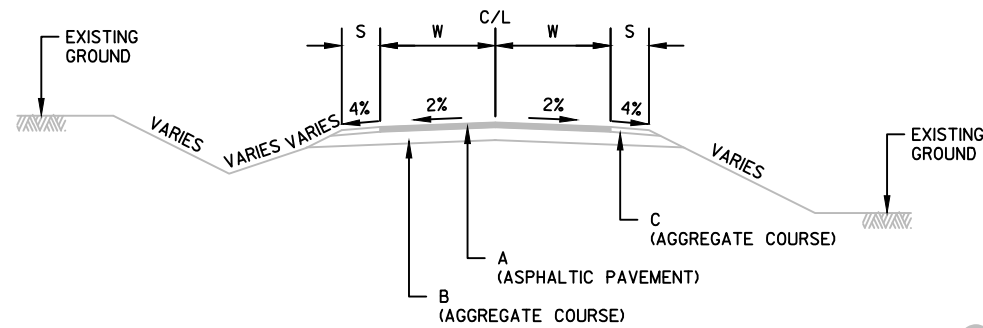
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OCTOBER 2019



EXISTING TYPICAL SECTION
STH 15

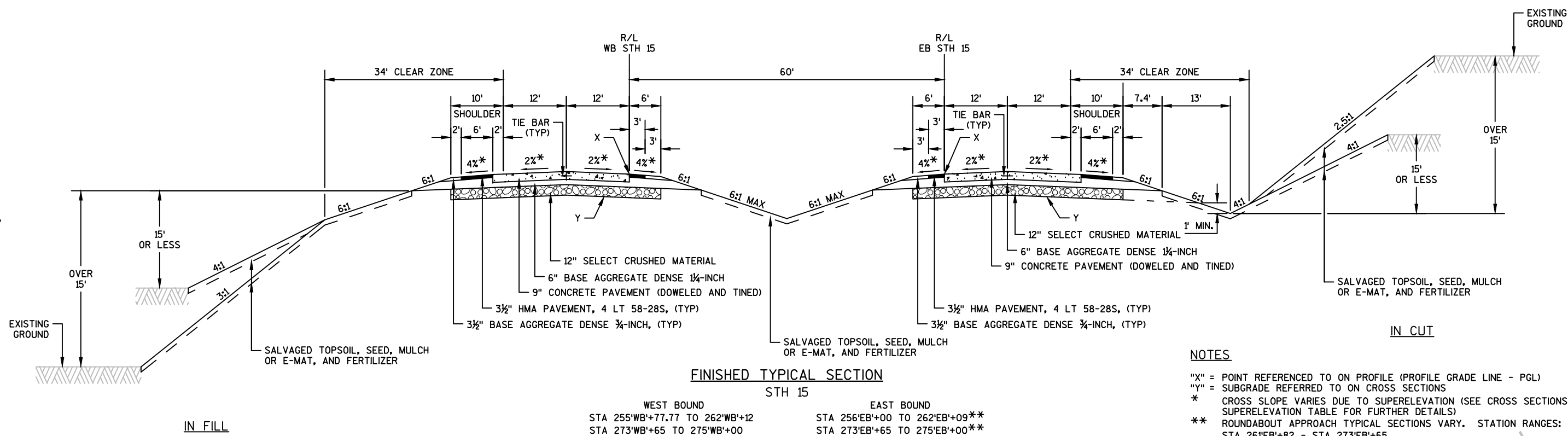
STA 219+50 TO STA 266+57
STA 50+00 TO STA 69+50 (OLD STH 15 WEST ALIGNMENT)

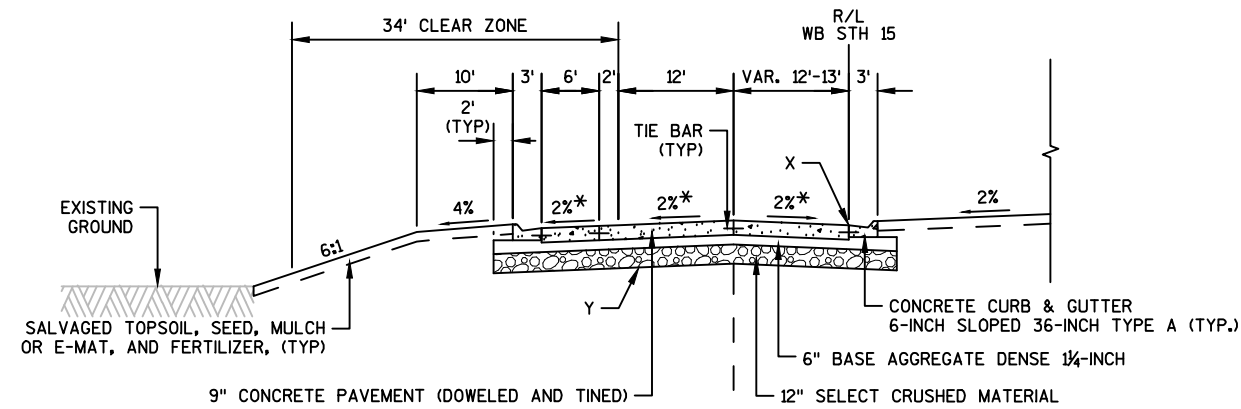
LOCAL ROADS					
ROAD	PAVEMENT (NOR)		AGGREGATE SHOULDER (NOR)		BASE (NOR)
	WIDTH (W)	THICKNESS (A)	WIDTH (S)	THICKNESS (C)	THICKNESS (B)
GIVENS RD (WEST)	12'	3"	2'	3"	8"
GIVENS RD (EAST)	10'	3"	2'	3"	8"



EXISTING TYPICAL SECTION
LOCAL ROADS - SEE TABLE

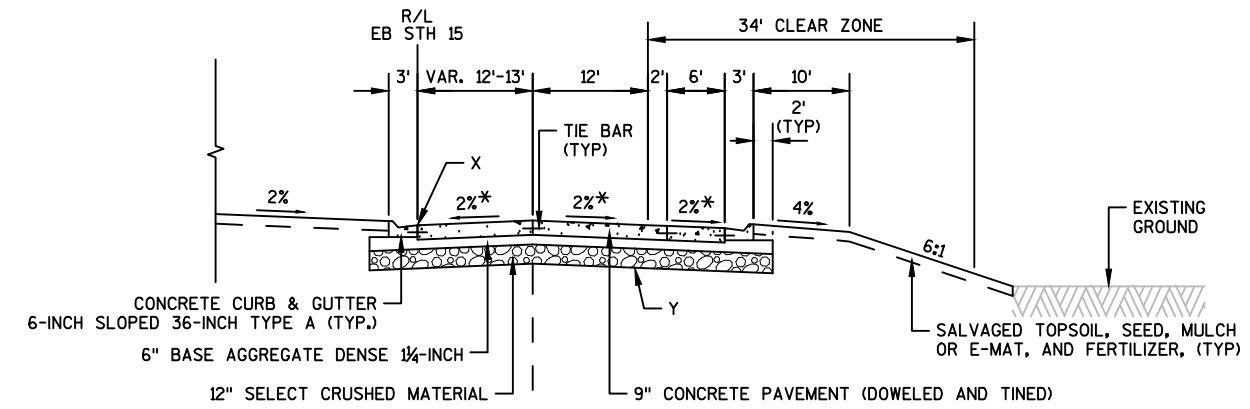
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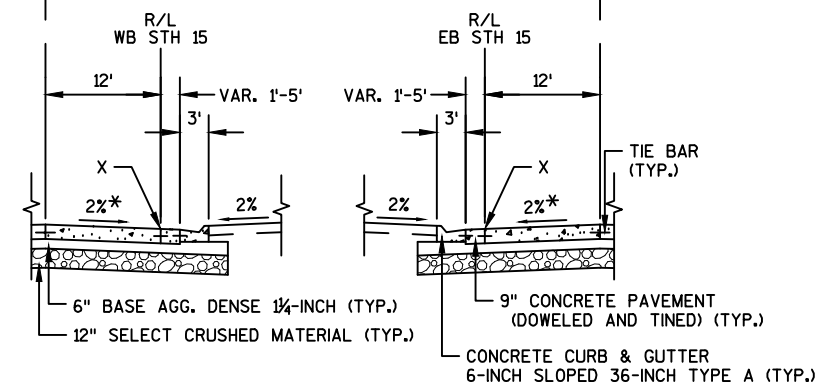
FINISHED TYPICAL HALF SECTION

STH 15
STA 262'WB'+12 - STA 265'WB'+39
STA 270'WB'+07 - STA 272'WB'+89



FINISHED TYPICAL HALF SECTION

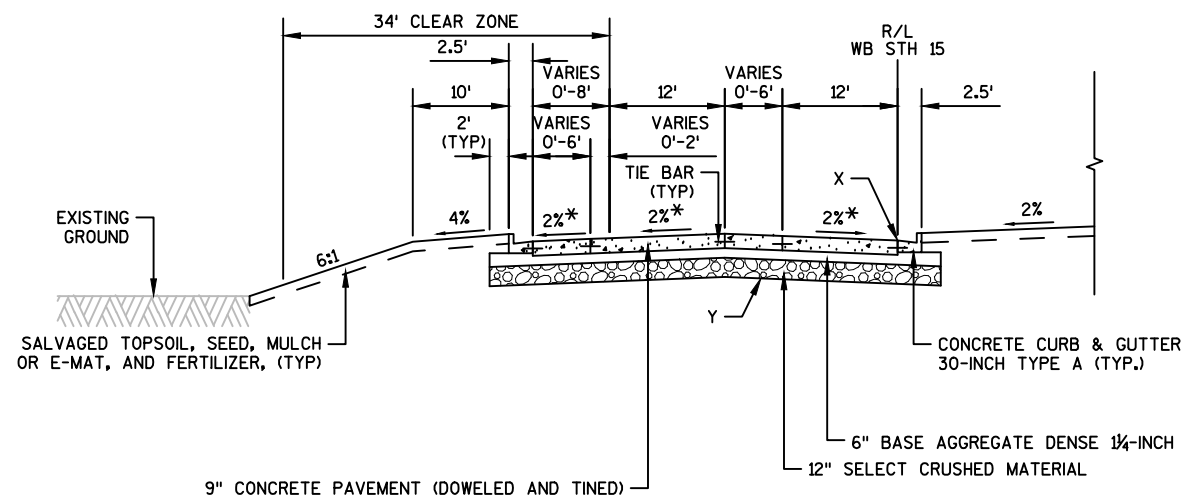
STH 15
STA 262'EB'+67 - STA 265'EB'+46
STA 270'EB'+15 - STA 273'EB'+65



FINISHED TYPICAL PARTIAL SECTION

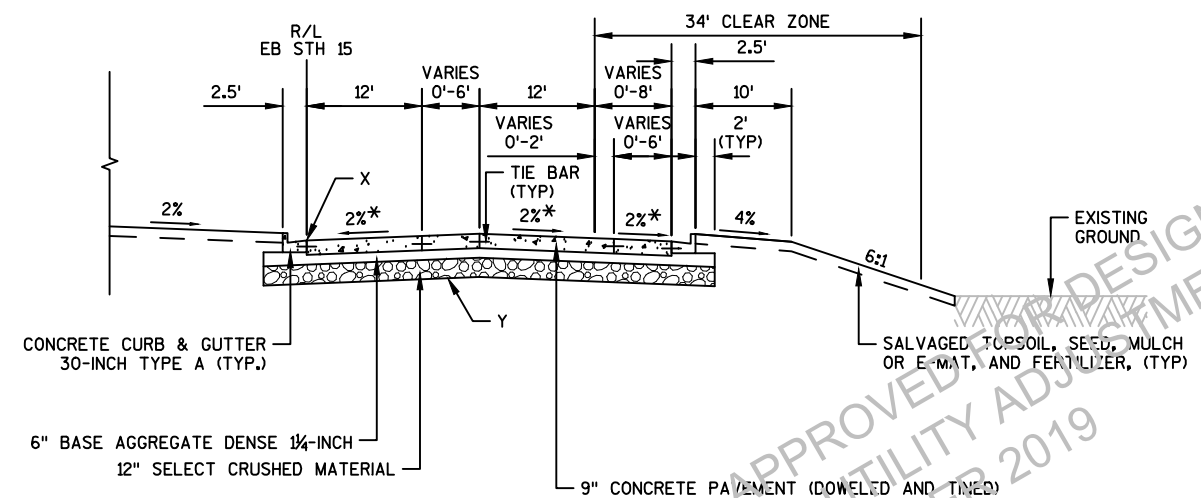
STH 15
STA 272'WB'+89* - STA 273'WB'+65
STA 262'EB'+09 - STA 262'EB'+67*

*STATION IS APPROXIMATE. MATCH NEAREST MAINLINE CONTRACTION JOINT



FINISHED TYPICAL HALF SECTION

STH 15
STA 265'WB'+39 - STA 266'WB'+63
STA 269'WB'+06 - STA 270'WB'+07



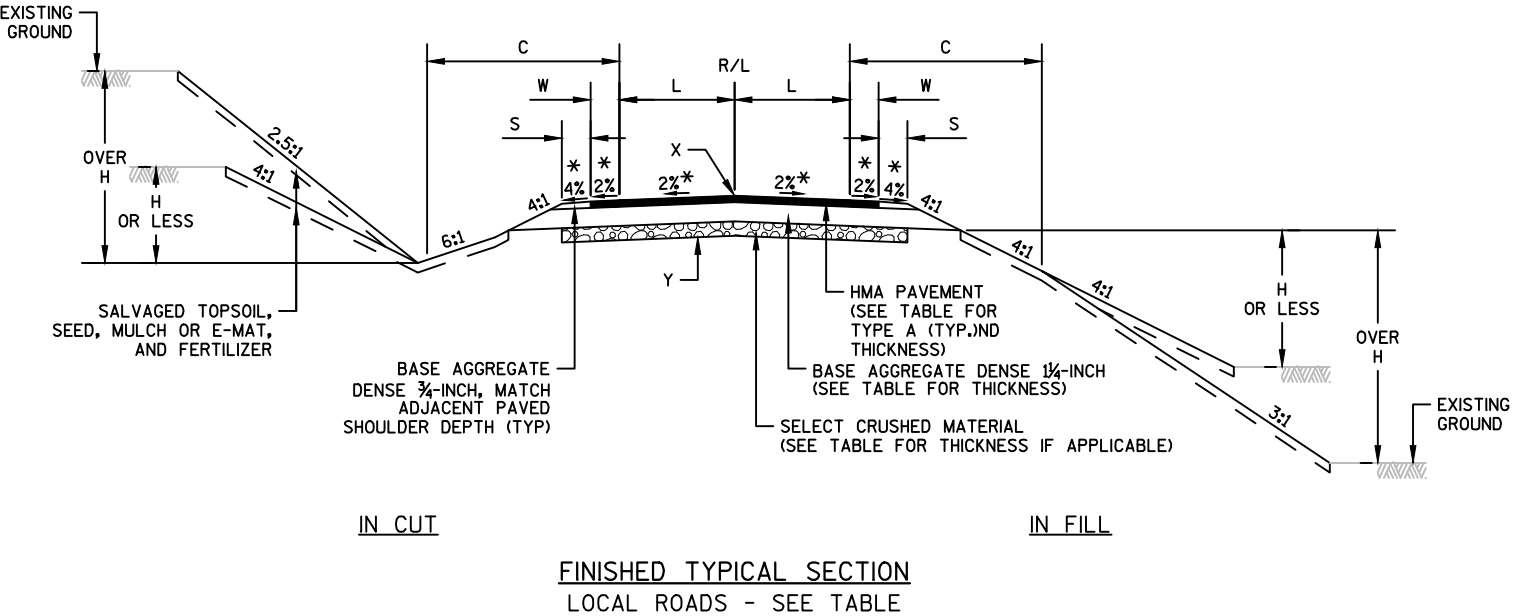
FINISHED TYPICAL HALF SECTION

STH 15
STA 265'EB'+46 - STA 266'EB'+55
STA 268'EB'+95 - STA 270'EB'+15

NOTES

- "X" = POINT REFERENCED TO ON PROFILE (PROFILE GRADE LINE - PGL)
- "Y" = SUBGRADE REFERRED TO ON CROSS SECTIONS
- * CROSS SLOPE VARIES DUE TO SUPERELEVATION (SEE CROSS SECTIONS AND SUPERELEVATION TABLE FOR FURTHER DETAILS)

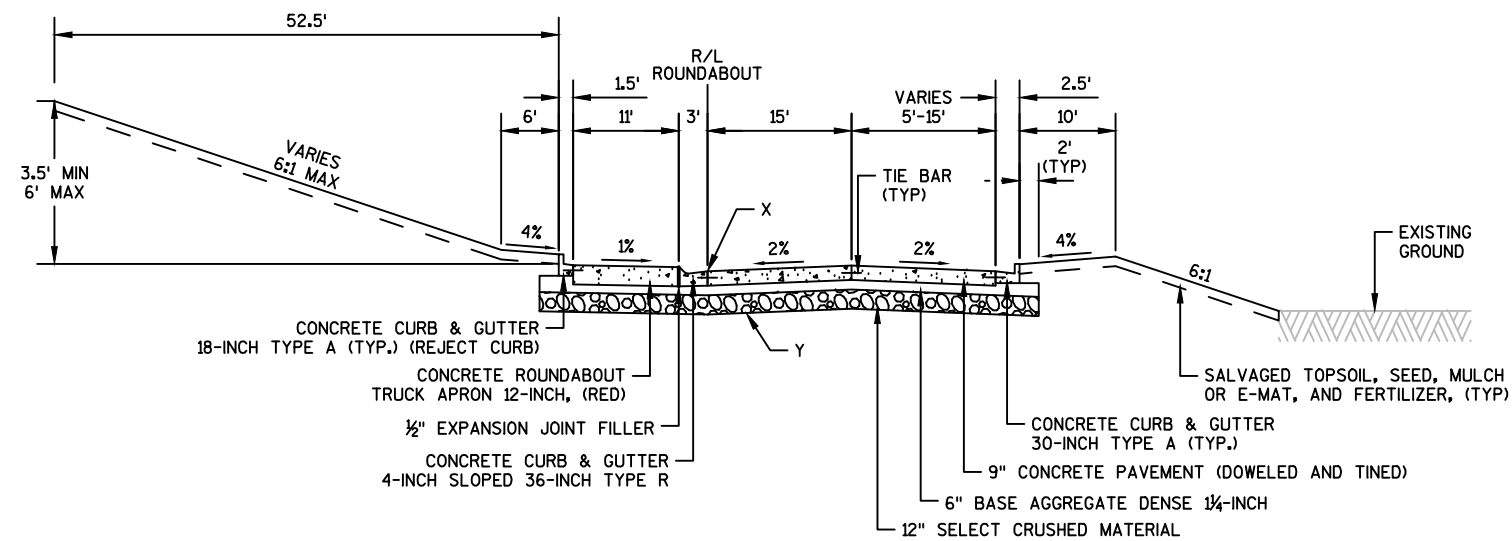
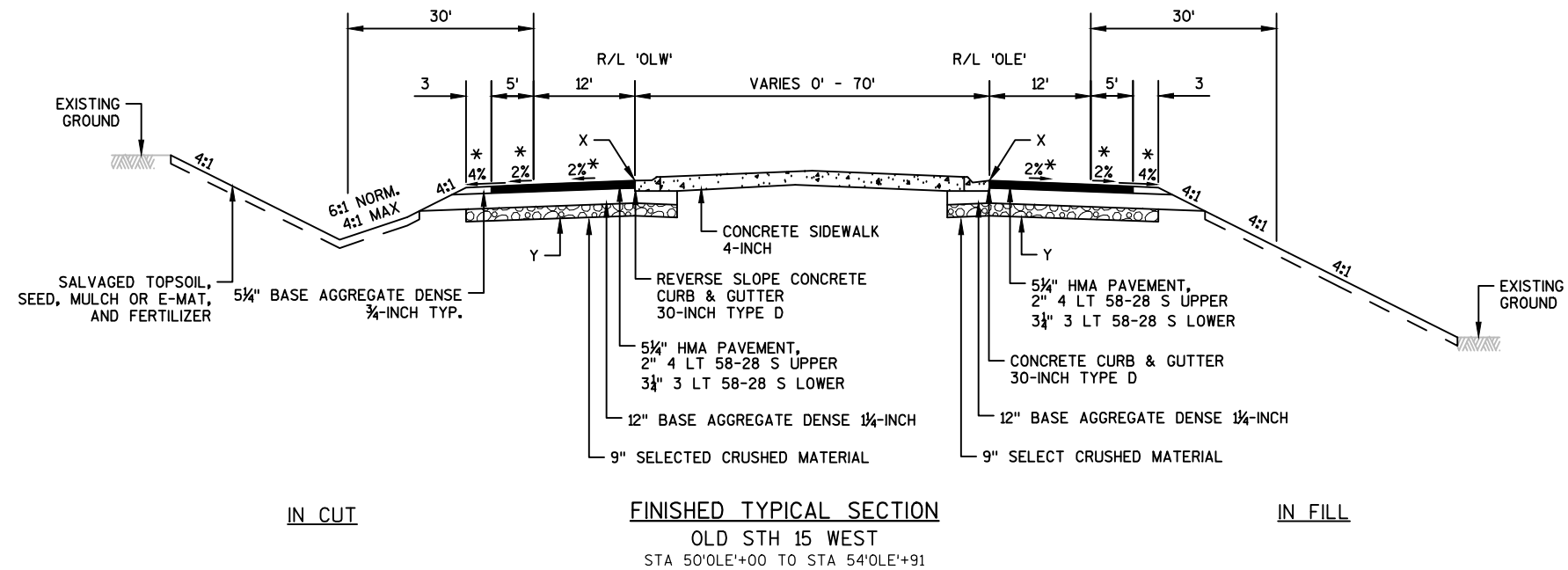
LOCAL ROADS											
ROAD	PAVEMENT		AGGREGATE SHOULDER	CLEAR ZONE	SIDE SLOPE	PAVEMENT STRUCTURE				HMA PAVEMENT LAYER THICKNESS	
	LANE WIDTH (L)	SHOULDER WIDTH (W)	WIDTH (S)	WIDTH (C)	HEIGHT (H)	HMA TYPE	HMA THICKNESS	B.A.D. 1/4-INCH THICKNESS	SELECTED CRUSHED MATERIAL THICKNESS	UPPER LAYER	LOWER LAYER
GIVENS RD (WEST)	11'	1'	4'	14'	10'	4 LT 58-28 S UPPER 3 LT 58-28 S LOWER	4.0"	12.0"	N/A	1 3/4"	2 1/4"
GIVENS RD (EAST)	10'	0'	3'	14'	10'	4 LT 58-28 S UPPER 3 LT 58-28 S LOWER	4.0"	12.0"	N/A	1 3/4"	2 1/4"
OLD STH 15 WEST	12'	5'	3'	30'	15'	4 LT 58-28 S UPPER 3 LT 58-28 S LOWER	5.25"	12.0"	9.0"	2"	3 1/4"



NOTES

- "X" = POINT REFERENCED TO ON PROFILE (PROFILE GRADE LINE - PGL)
- "Y" = SUBGRADE REFERRED TO ON CROSS SECTIONS
- * CROSS SLOPE VARIES DUE TO SUPERELEVATION (SEE CROSS SECTIONS AND SUPERELEVATION TABLE FOR FURTHER DETAILS)

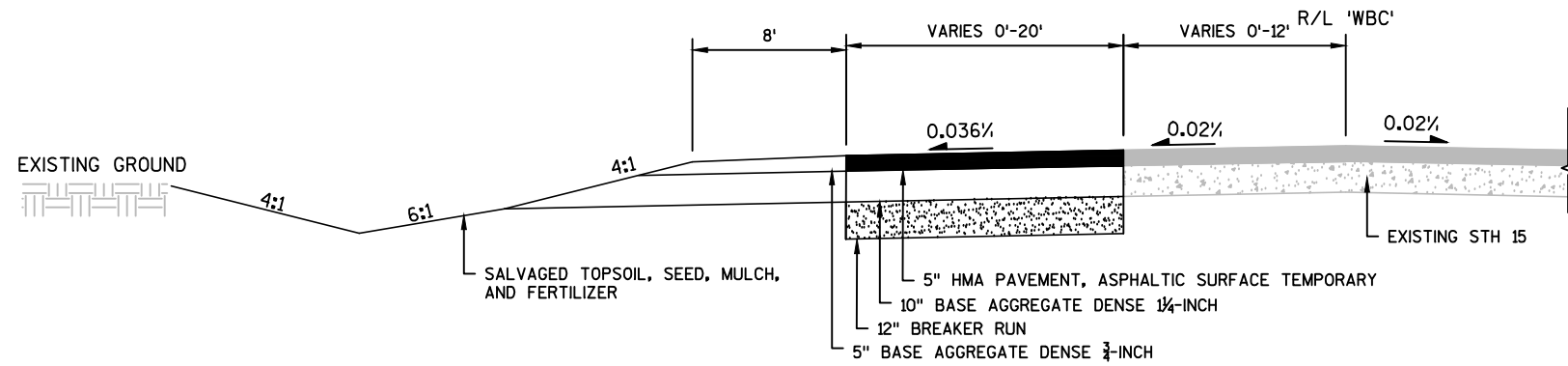
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OCTOBER 2019



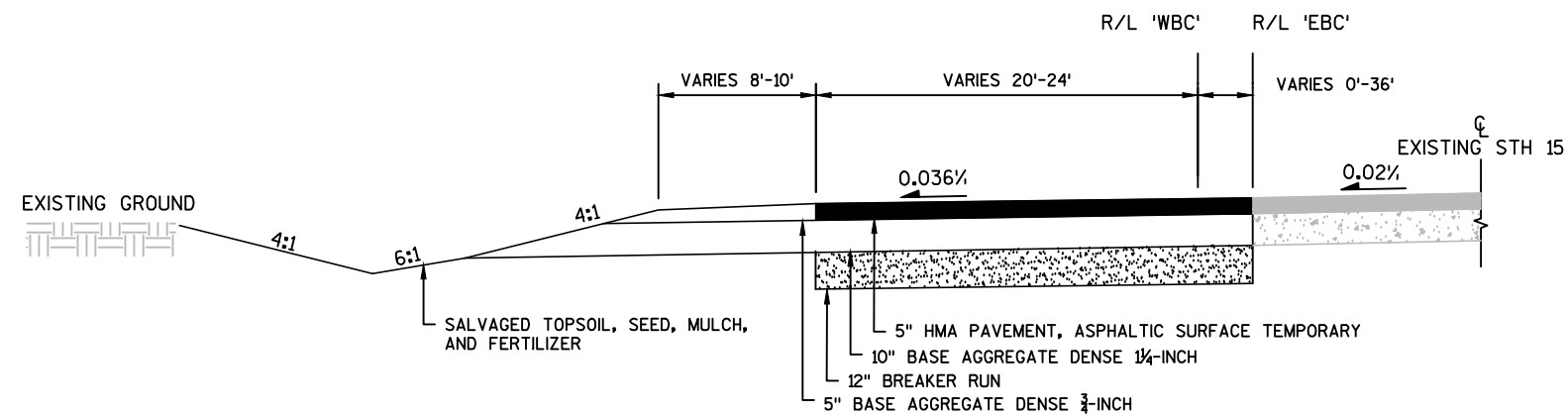
NOTES

- "X" = POINT REFERENCED TO ON PROFILE (PROFILE GRADE LINE - PGL)
 "Y" = SUBGRADE REFERRED TO ON CROSS SECTIONS
 * CROSS SLOPE VARIES DUE TO SUPERELEVATION (SEE CROSS SECTIONS AND SUPERELEVATION TABLE FOR FURTHER DETAILS)

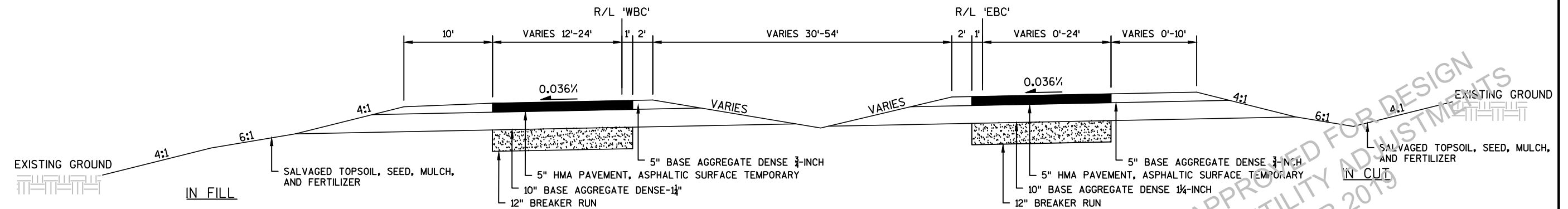
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OCTOBER 2019



STAGE 2 - TEMPORARY CONNECTION
EXISTING STH 15 TO NEW STH 15
STA 200'WBC'+00 TO STA 201'WBC'+74.85



STAGE 2 - TEMPORARY CONNECTION
EXISTING STH 15 TO NEW STH 15
STA 201'WBC'+74.85 TO STA 205'WBC'+11.31



STAGE 2 - TEMPORARY CONNECTION
EXISTING STH 15 TO NEW STH 15
STA 205'WBC'+11.31 TO STA 210'WBC'+67.01

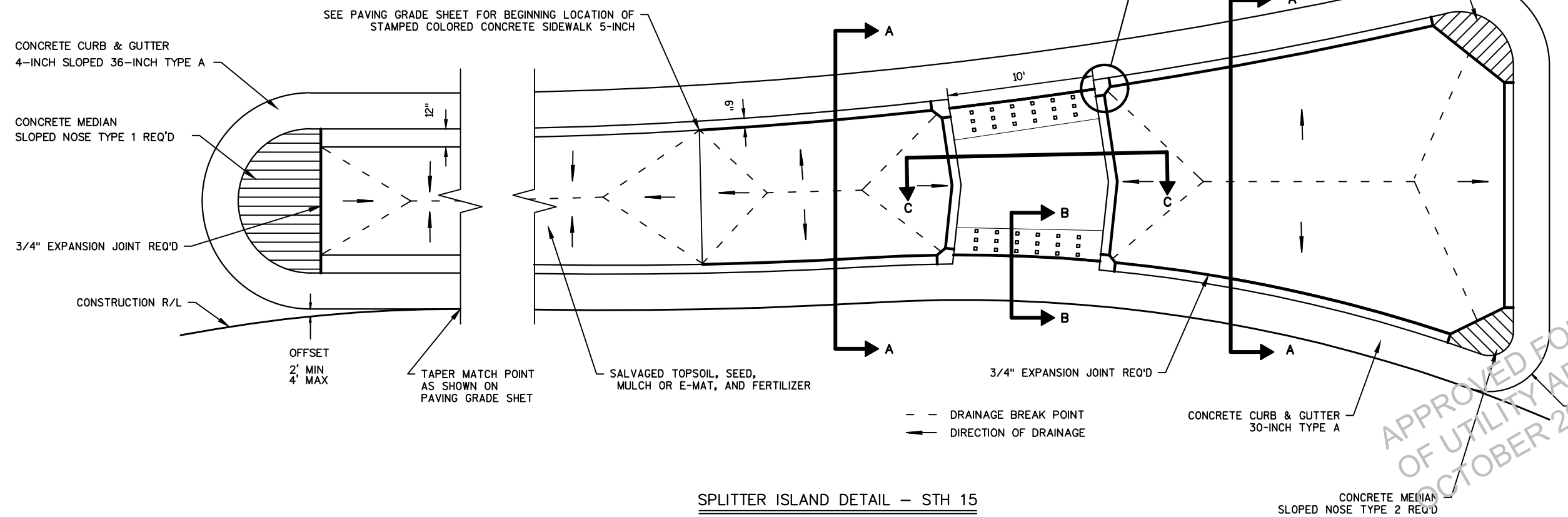


WISDOT/CADDS SHEET 42

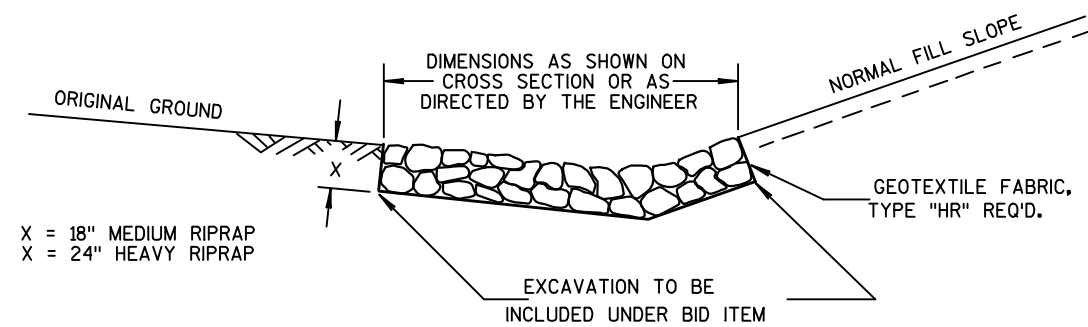
SECTION A-A

SECTION B-B

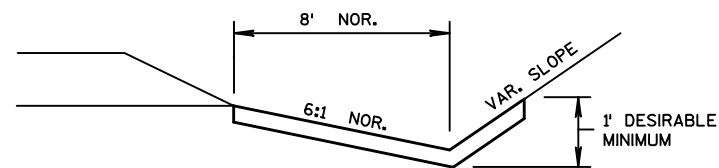
SECTION C-C



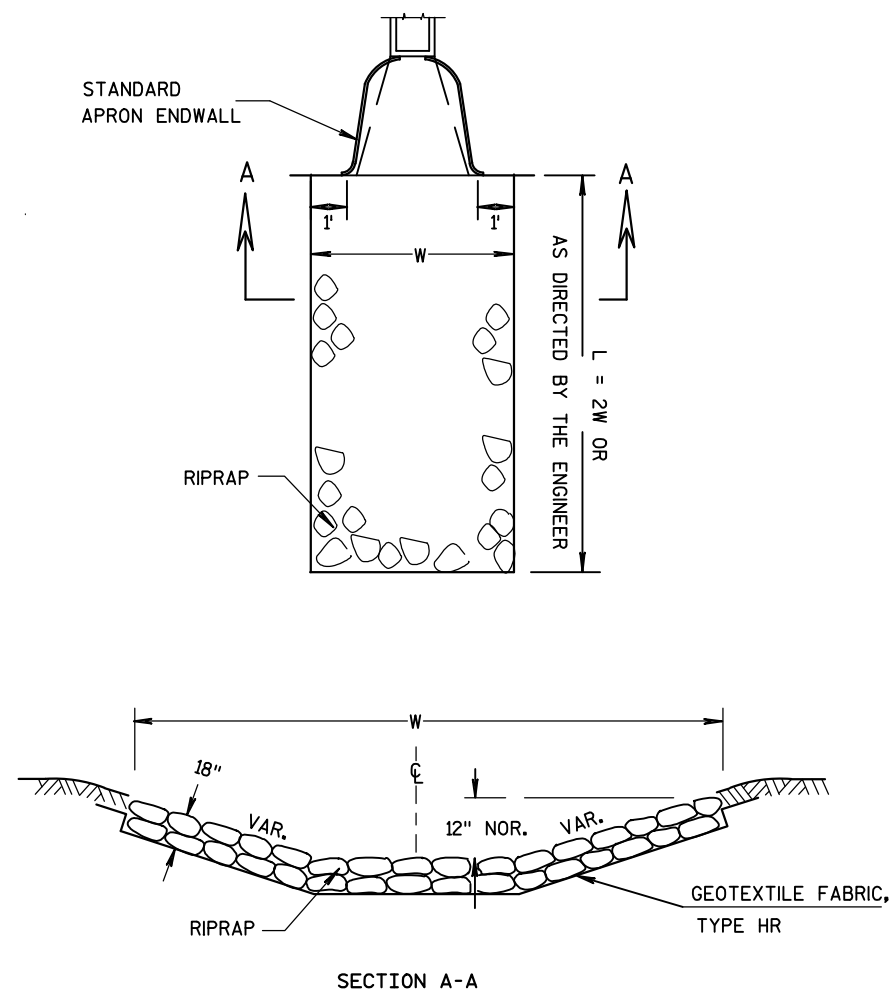
SPLITTER ISLAND DETAIL – STH 15



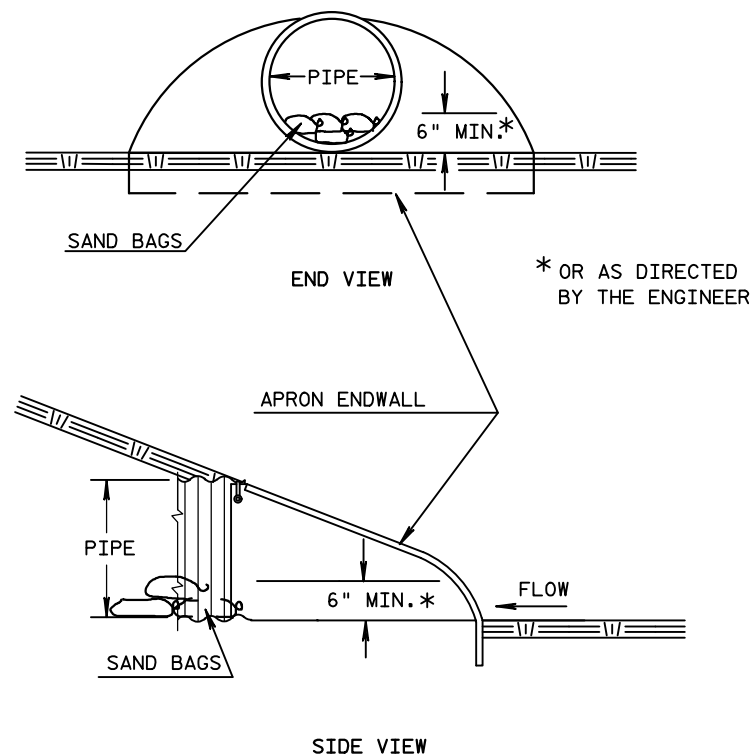
DETAIL FOR RIPRAP IN DITCHES



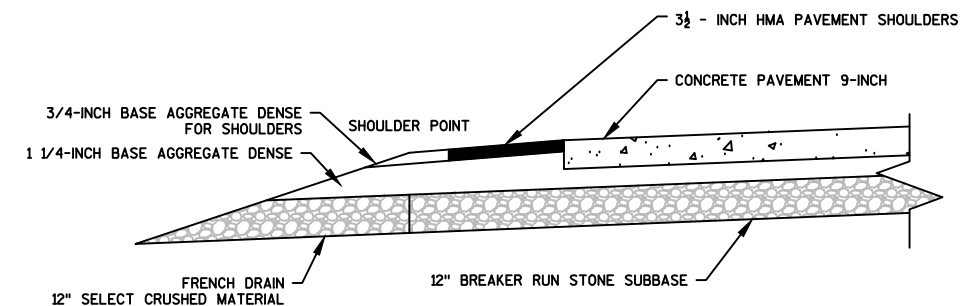
EROSION MAT DETAIL FOR DITCHES



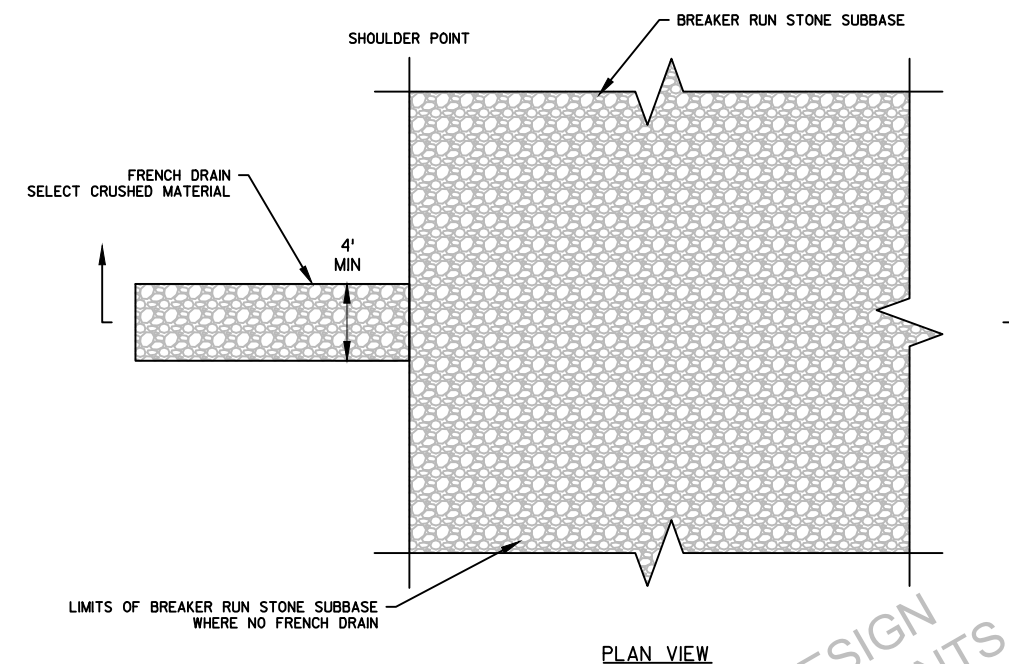
RIPRAP MEDIUM DETAIL AT APRON ENDWALLS



CULVERT PIPE DITCH CHECK



SECTION VIEW

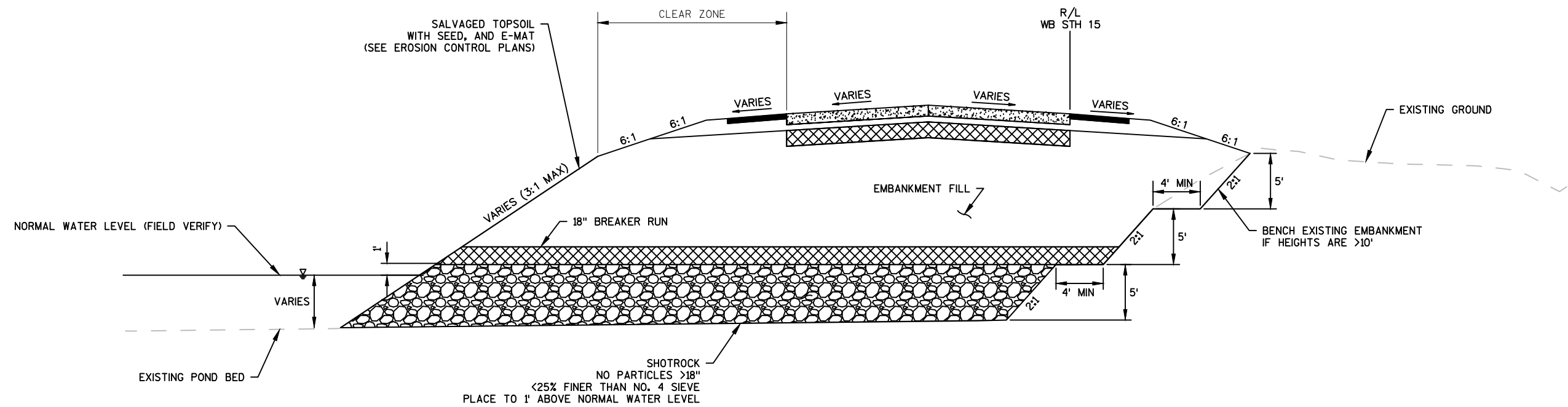


PLAN VIEW

FRENCH DRAIN DETAIL

DRAINS ARE TO BE CONSTRUCTED AT LEAST EVERY 250' AND AT EACH LOW POINT OF A SAG VERTICAL CURVE IN THE PROFILE. LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

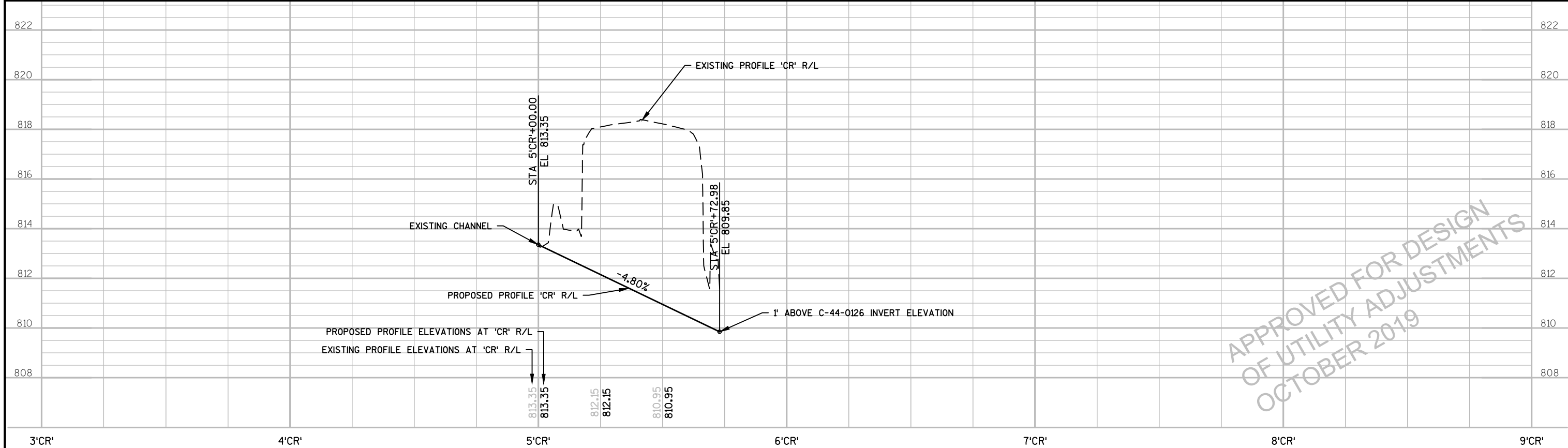
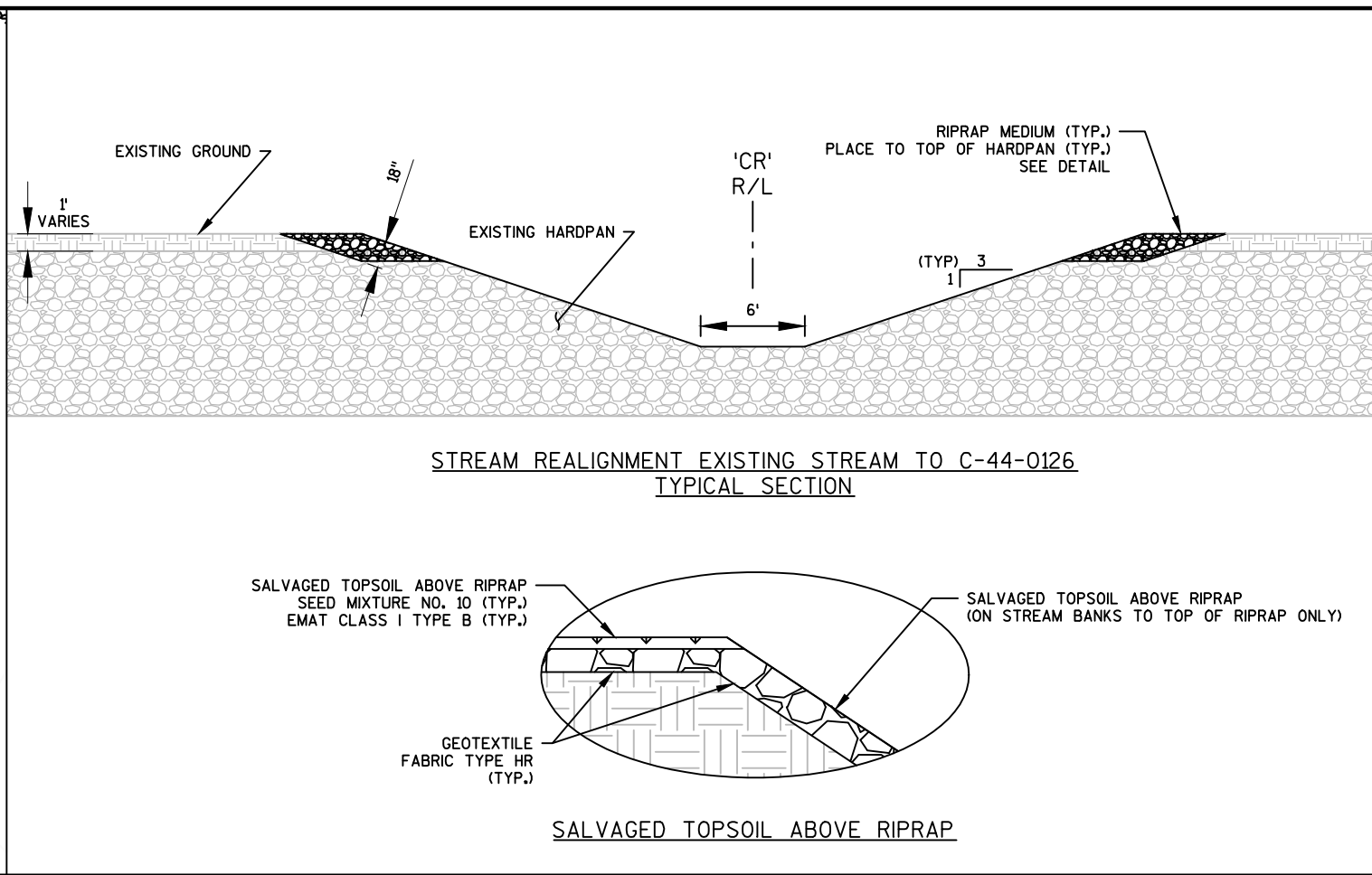
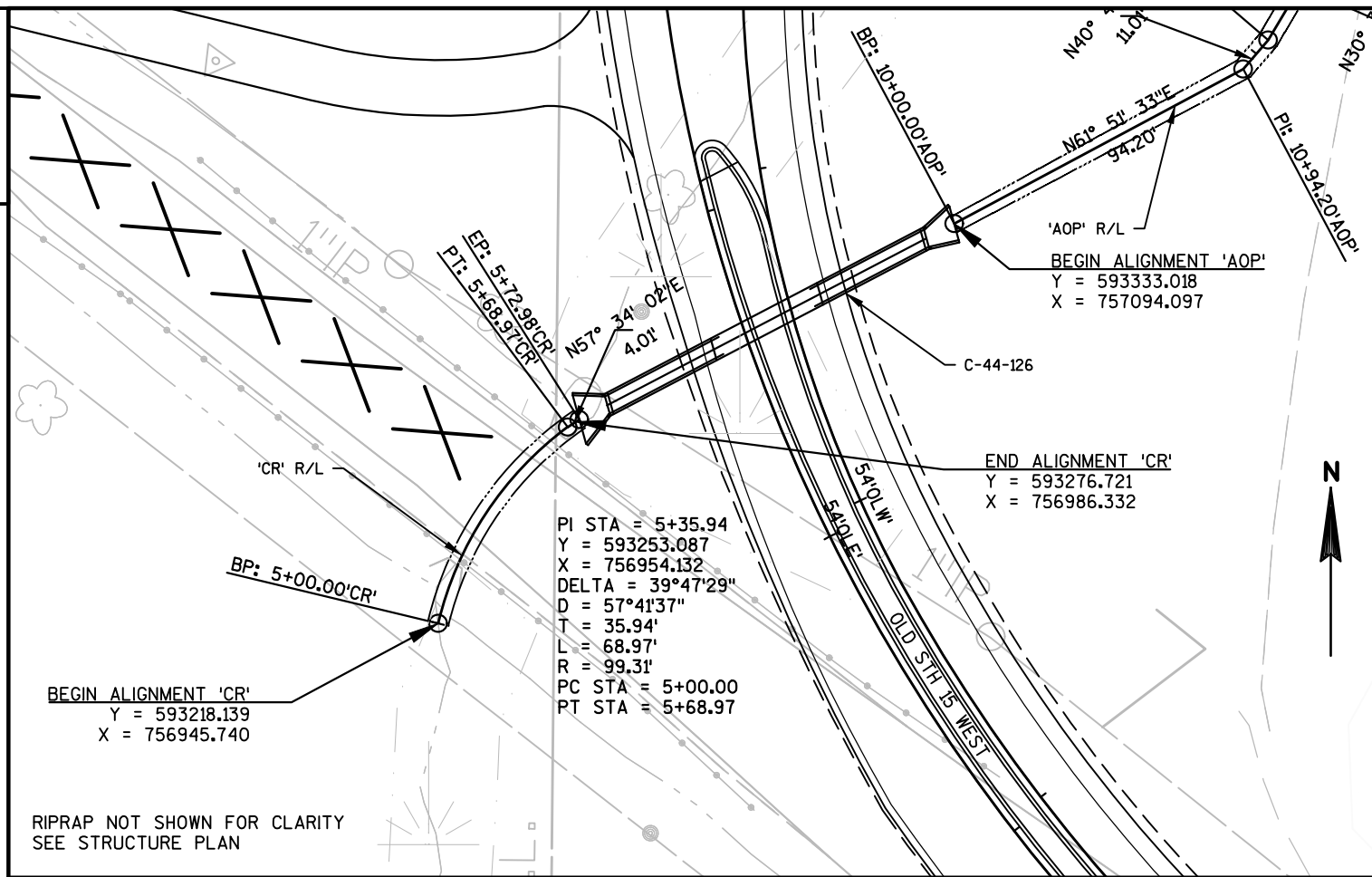
EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS IS INCIDENTAL TO THE ITEM BREAKER RUN STONE.

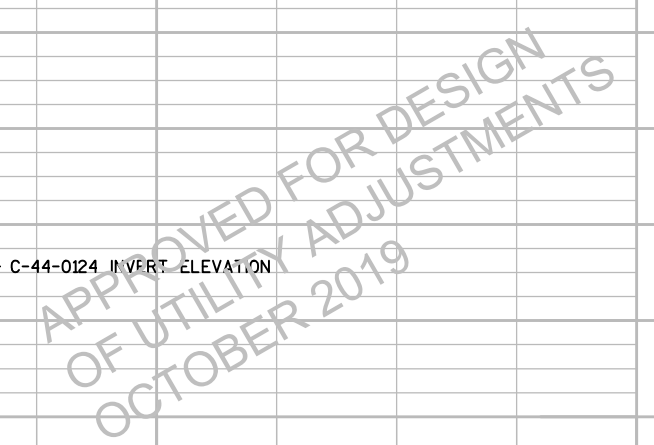
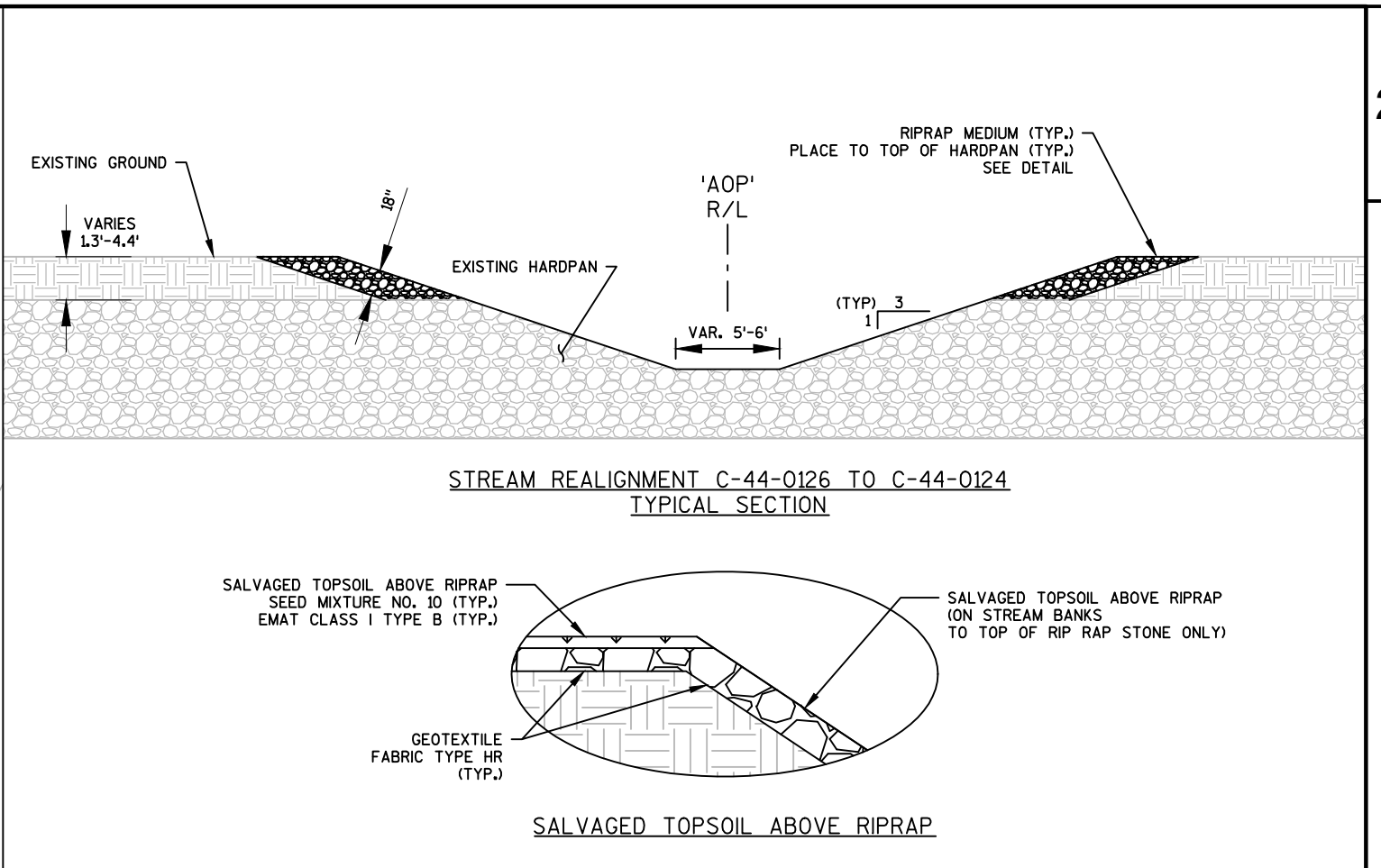
**NOTE:**

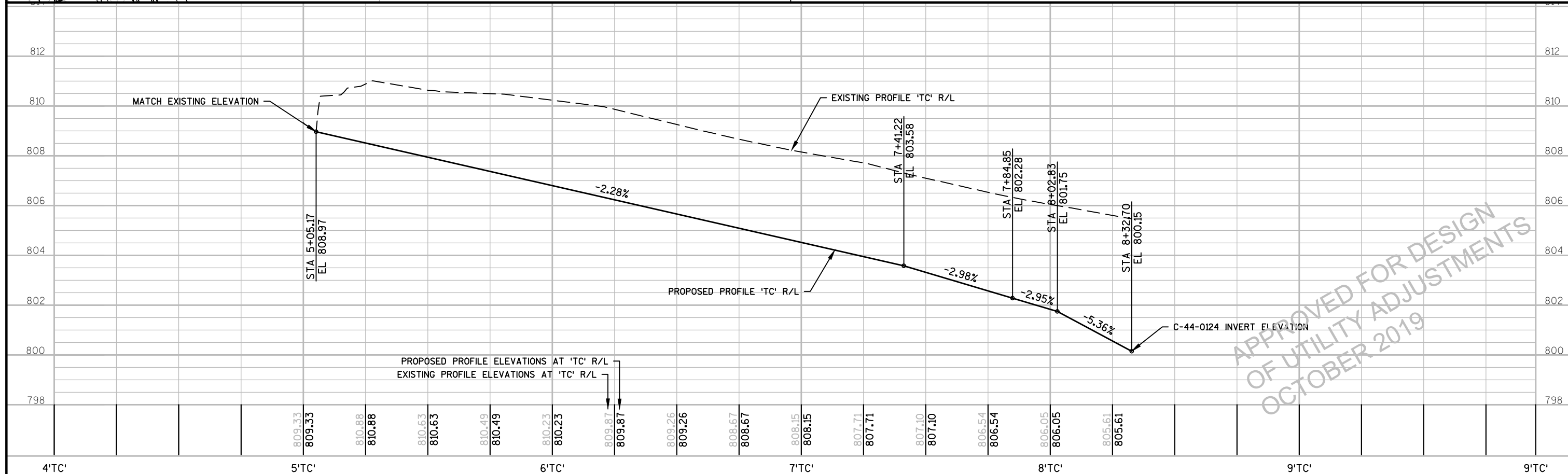
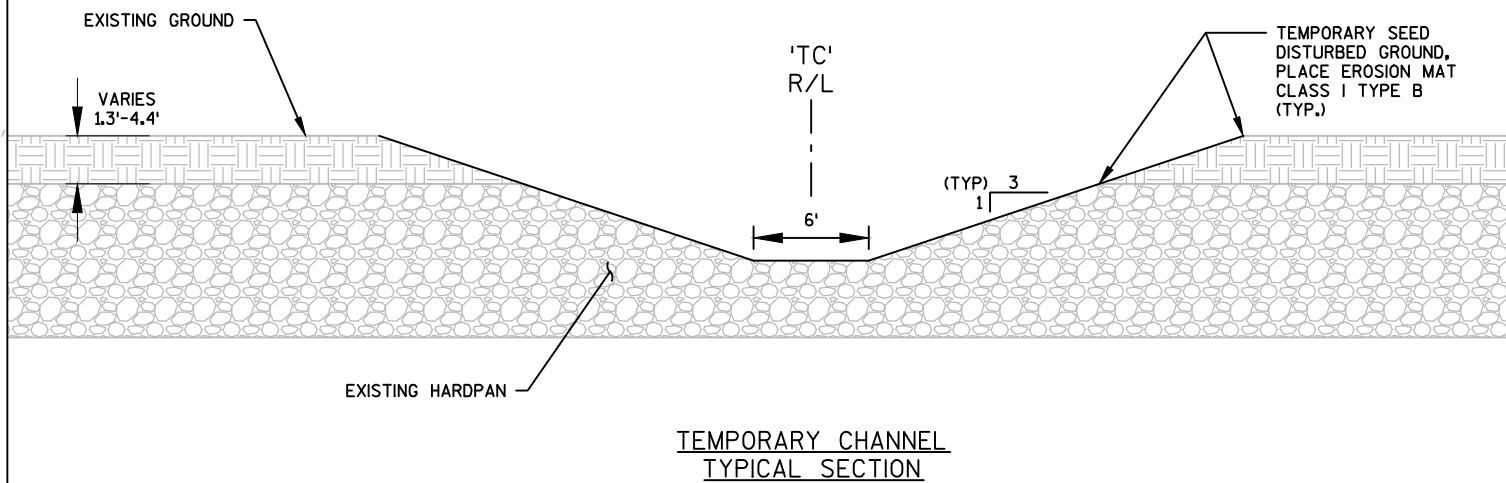
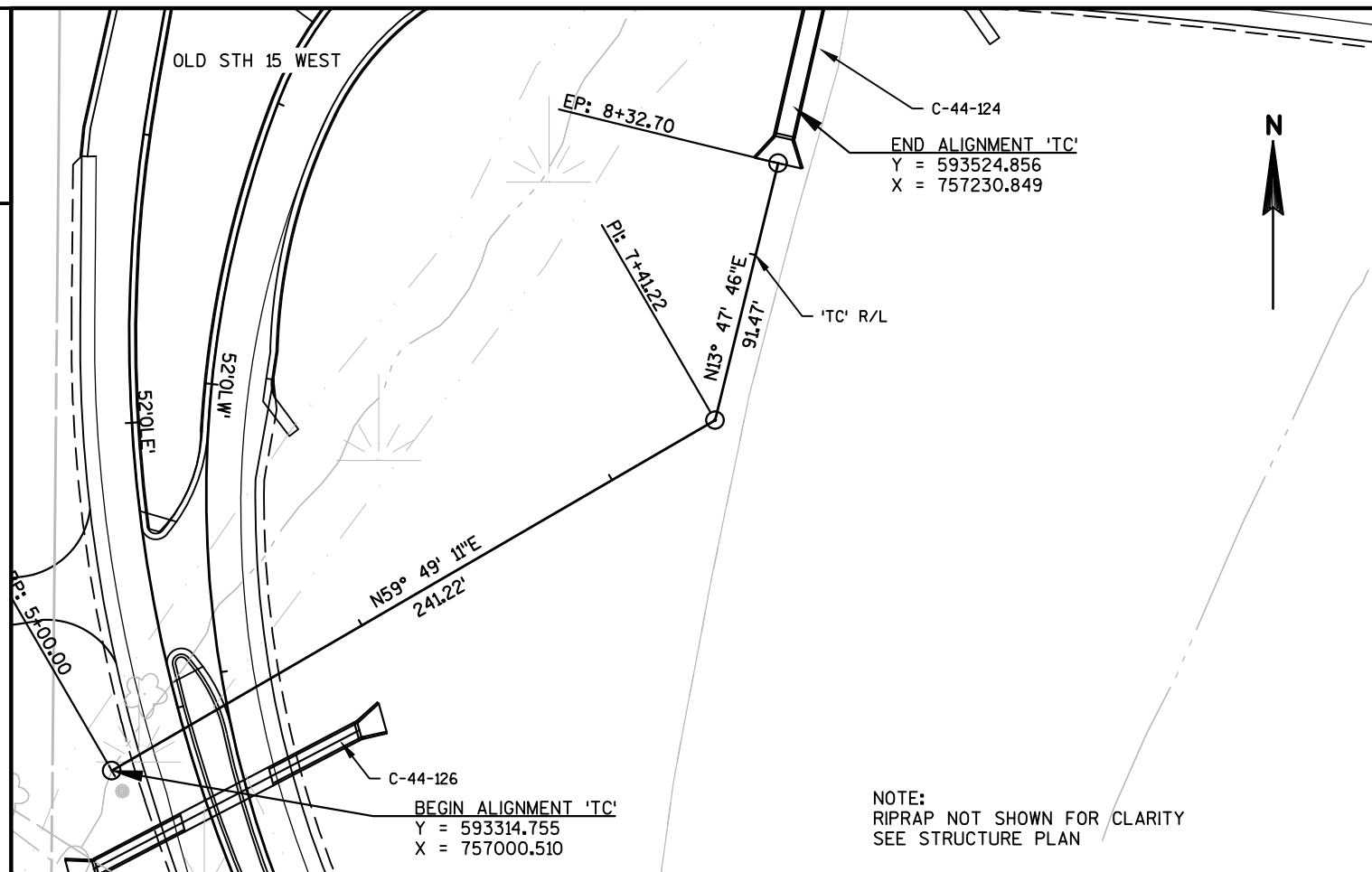
SEE CROSS SECTIONS FOR APPROXIMATE
POND DEPTHS AT EACH STATION

POND FILL DETAIL

APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019







PROJECT NO: 1146-75-76

HWY: STH 15

COUNTY: OUTAGAMIE

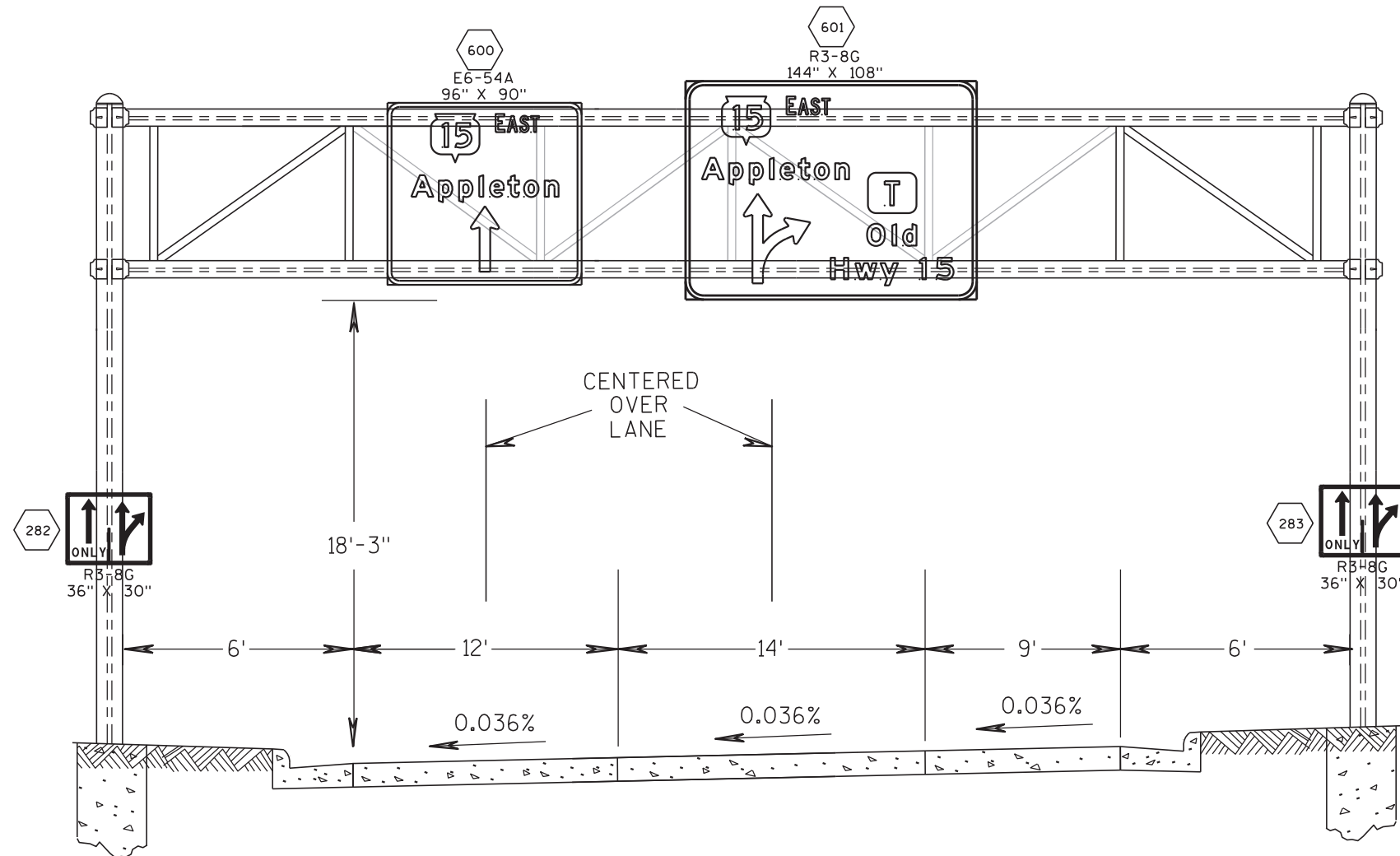
CONSTR. DETAIL - TEMPORARY CHANNEL

SHEET

E

GENERAL NOTES

- 1) DRAWINGS NOT TO SCALE
- 2) DESIGN NEW OVERHEAD SIGN SUPPORTS ACCORDING TO THE LATEST EDITION OF, AND SUPPLEMENTAL TO THE STATE OF WISCONSIN "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" AND AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS."
- 3) PROVIDE AN IDENTIFICATION PLAQUE FOR ALL OVERHEAD SIGN SUPPORTS, TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "OVERHEAD SIGN SUPPORT".
- 4) SIZE THE ANCHOR BOLT/TEMPLATE ASSEMBLY TO FIT WITHIN THE BAR CAGE OF THE FOOTING BASE SHOWN IN THE CONTRACT PLANS FOR A 36" DIAMETER BASE. IN ADDITION TO MEETING ALL APPLICABLE DESIGN REQUIREMENTS FOR THE DESIGN OF THE UPRIGHT BASE CONNECTION.
- 5) PROVIDE DESIGN CALCULATIONS
- 6) SIGNS OR BLANKS SHALL BE INSTALLED ON THE OVERHEAD SIGN SUPPORT AT THE TIME OF ERECTION. BLANKS, IF USED, SHALL BE OF THE SAME SIZE AND LOCATION AS PERM SIGNING.
- 7) SIGNS SHALL BE ATTACHED TO SIGN BRIDGE AS SHOWN ON STANDARD SIGN PLATE A4-7.



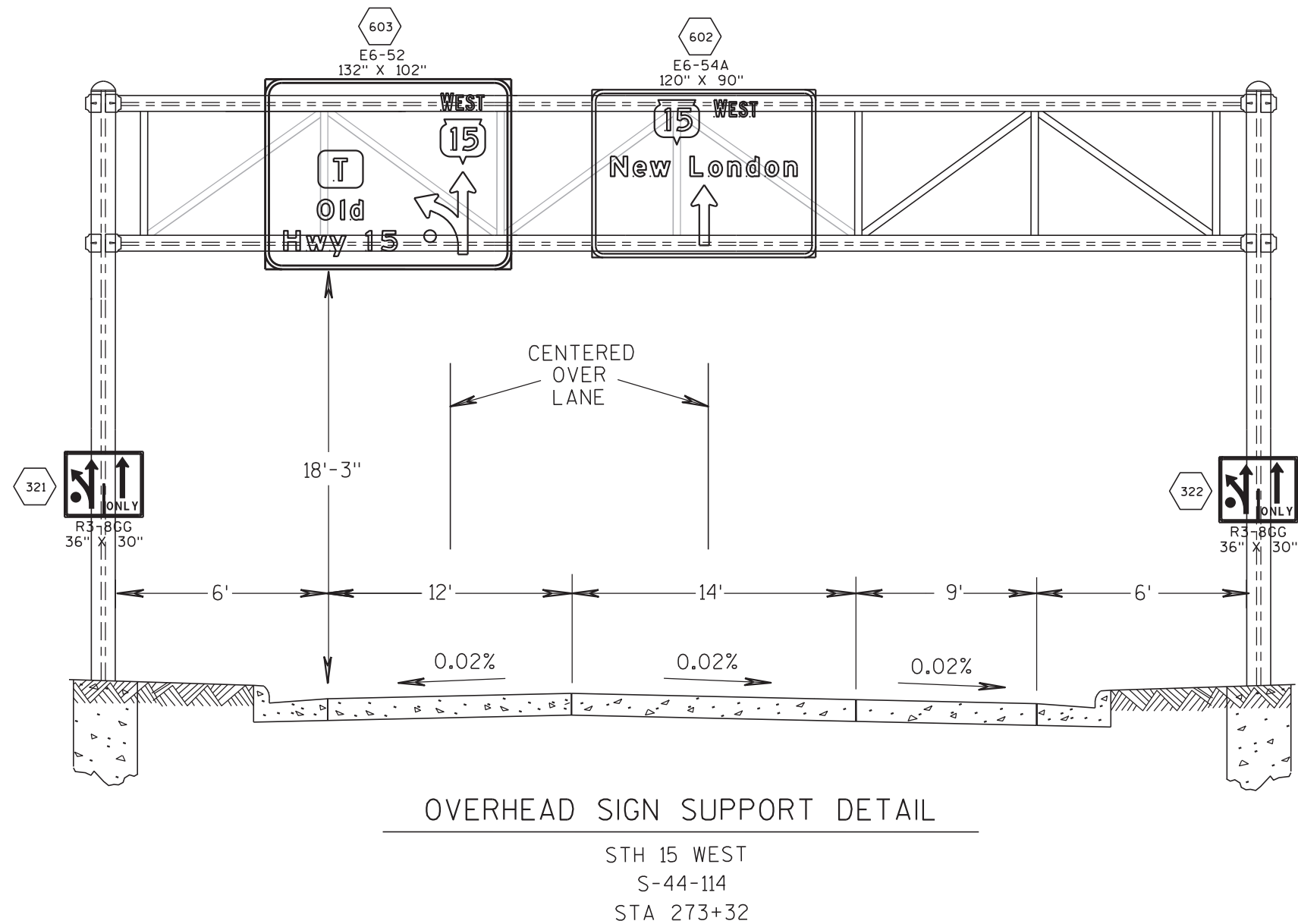
OVERHEAD SIGN SUPPORT DETAIL

STH 15 EAST
S-44-113
STA 262+27

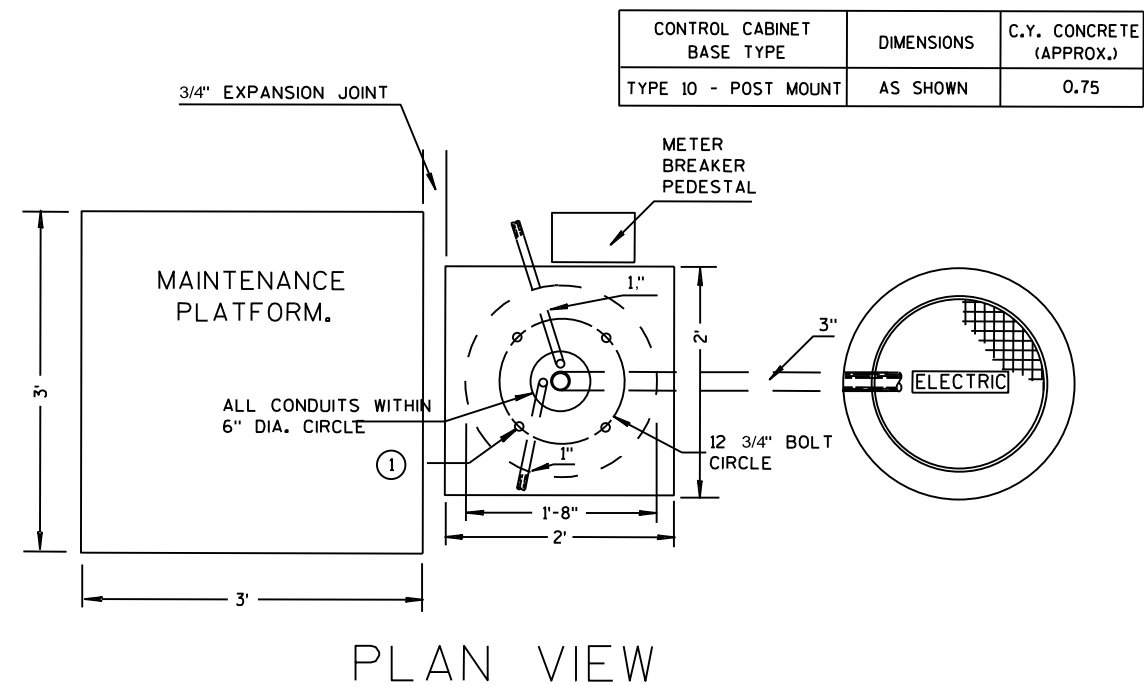
APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019

GENERAL NOTES

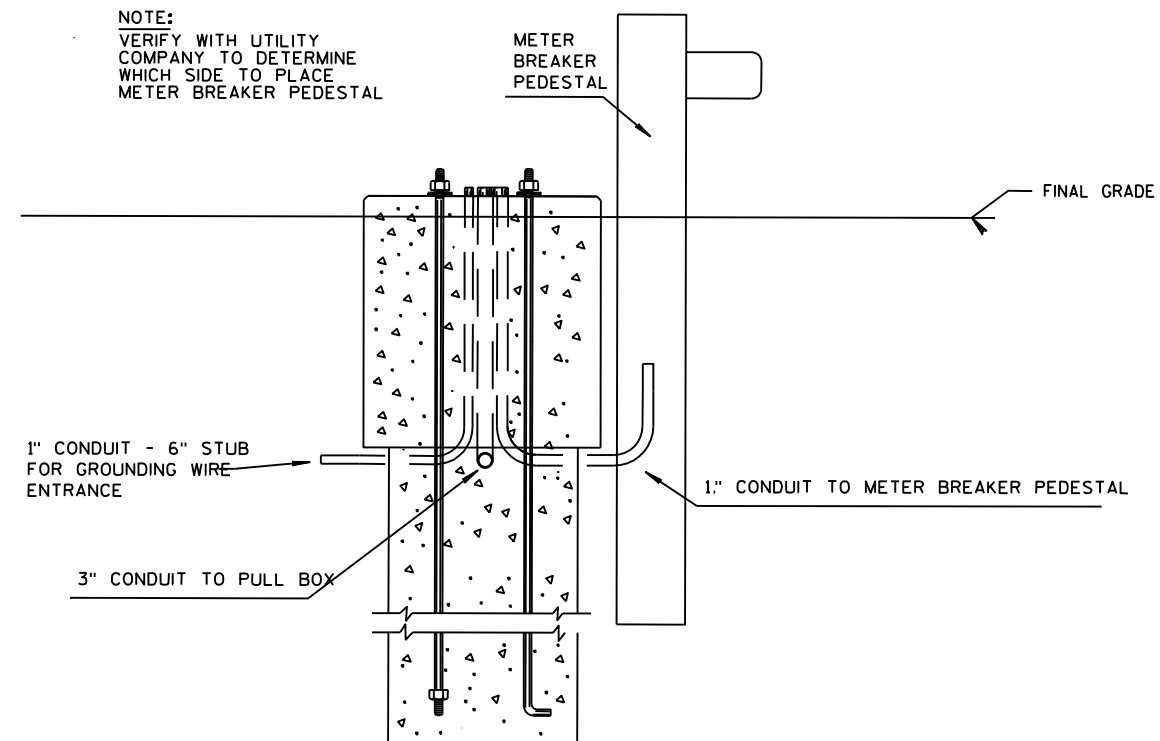
- 1) DRAWINGS NOT TO SCALE
- 2) DESIGN NEW OVERHEAD SIGN SUPPORTS ACCORDING TO THE LATEST EDITION OF, AND SUPPLEMENTAL TO THE STATE OF WISCONSIN "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" AND AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS."
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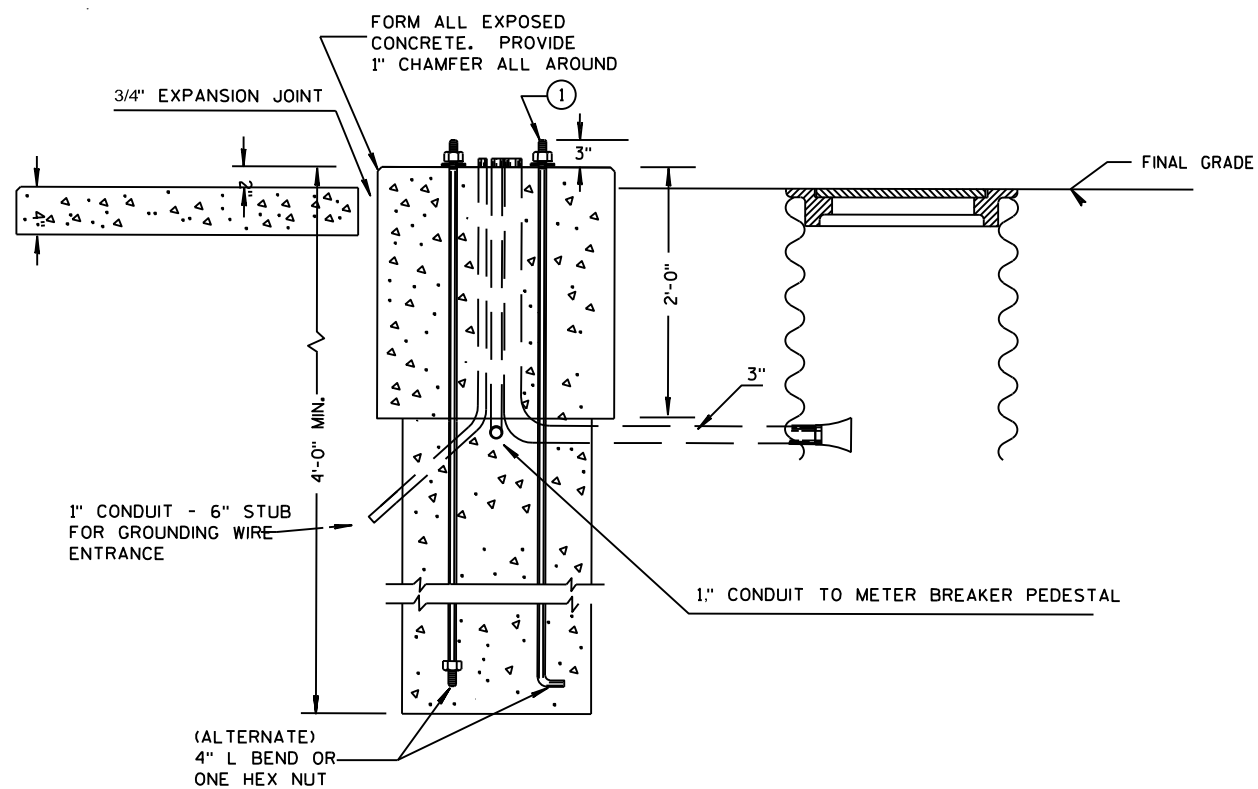
APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019



PLAN VIEW



FRONT VIEW



PROFILE VIEW

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED AND LEVEL.

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A 36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM FINISHED AND LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

ALL CONDUIT ENDS AT THE TOP OF THE CONCRETE BASE SHALL PLUGGED IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10 BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6"

ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH A-449, OR ASTM, A-687 (GRADE 105).

120/240 VOLT ELECTRIC SERVICE

DATE: 8/9/2018

SHEET NO. 1 OF 1

PROJECT NO: 1146-75-76

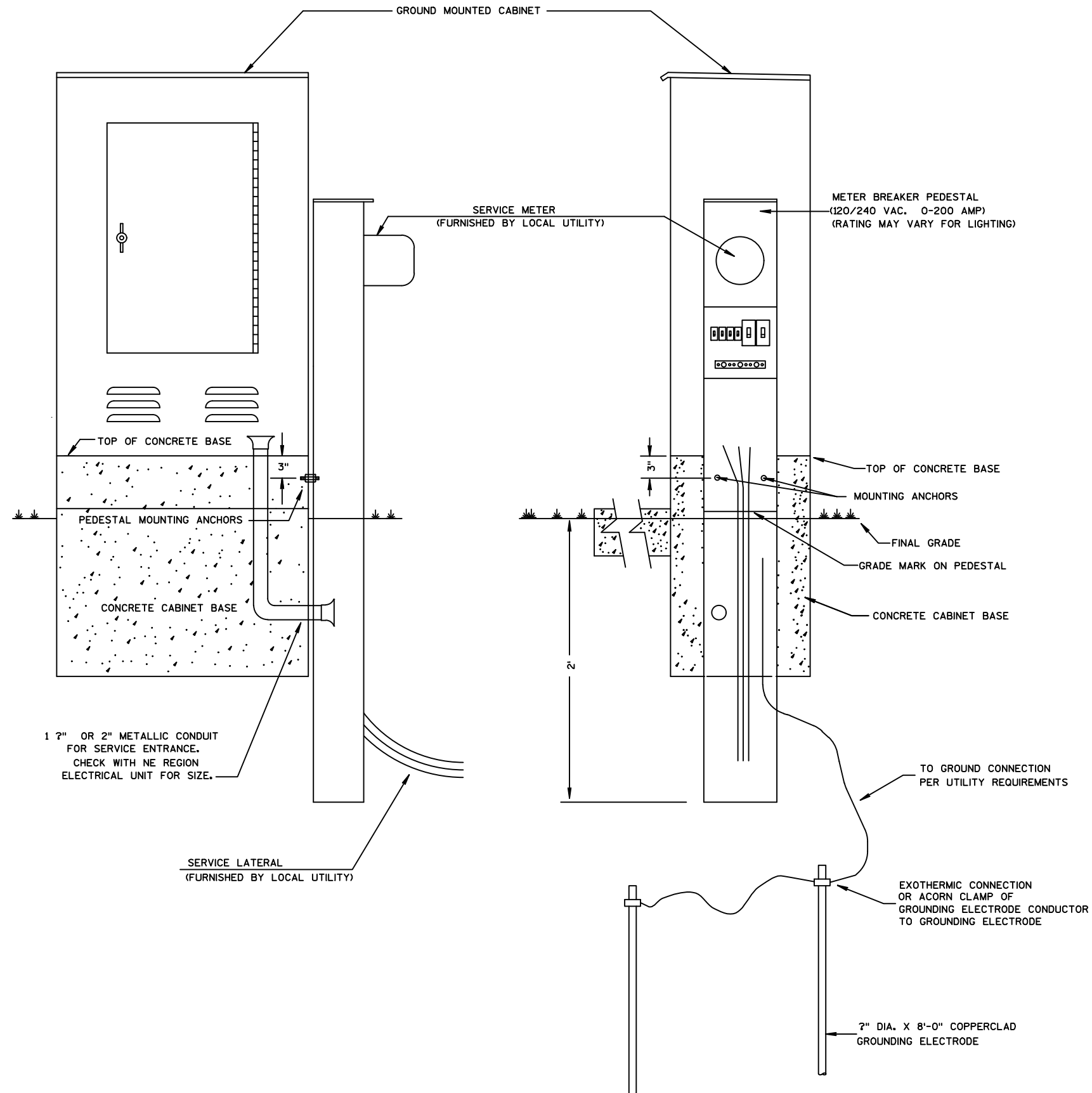
HWY: STH 15

COUNTY: OUTAGAMIE

CONSTRUCTION DETAIL - LIGHTING CABINET TYPE 10 NER

SHEET

E



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE, CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

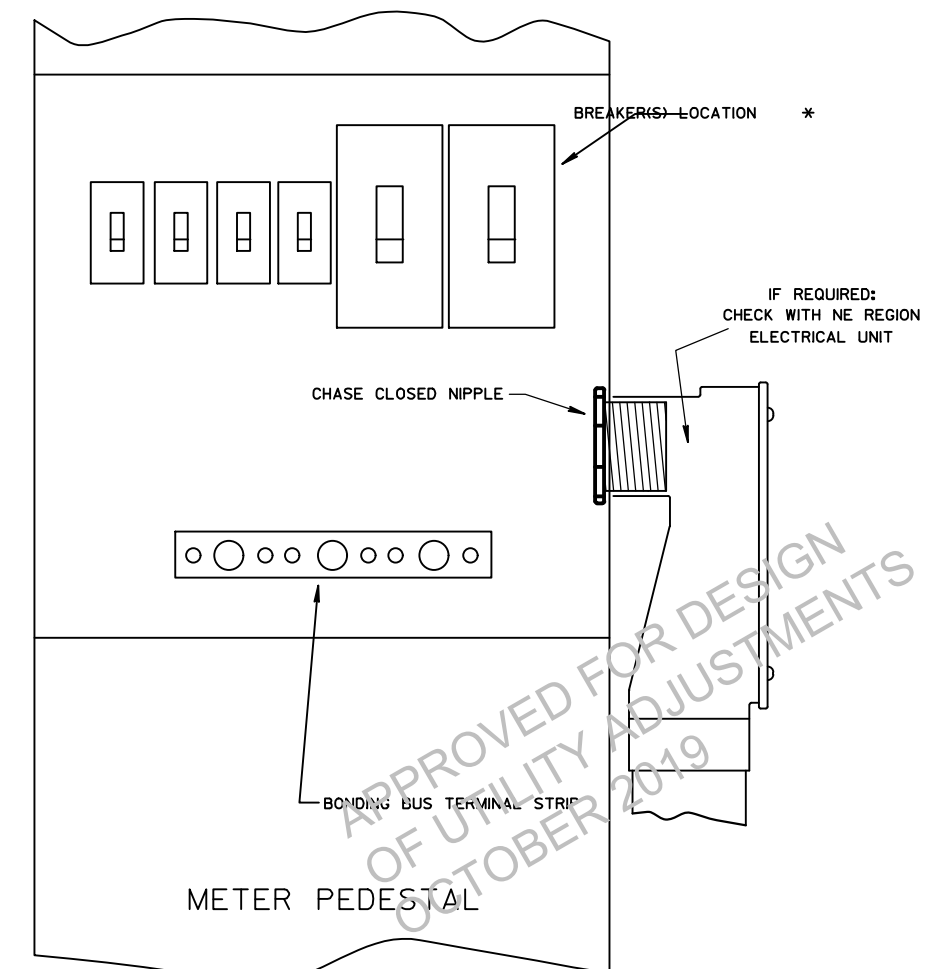
SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT OR SCHEDULE 80 PVC, NIPPLES AND/OR CONDULETS AS REQUIRED. CONDUIT LB SHALL BE OF METALLIC SERVICE ENTRANCE TYPE.

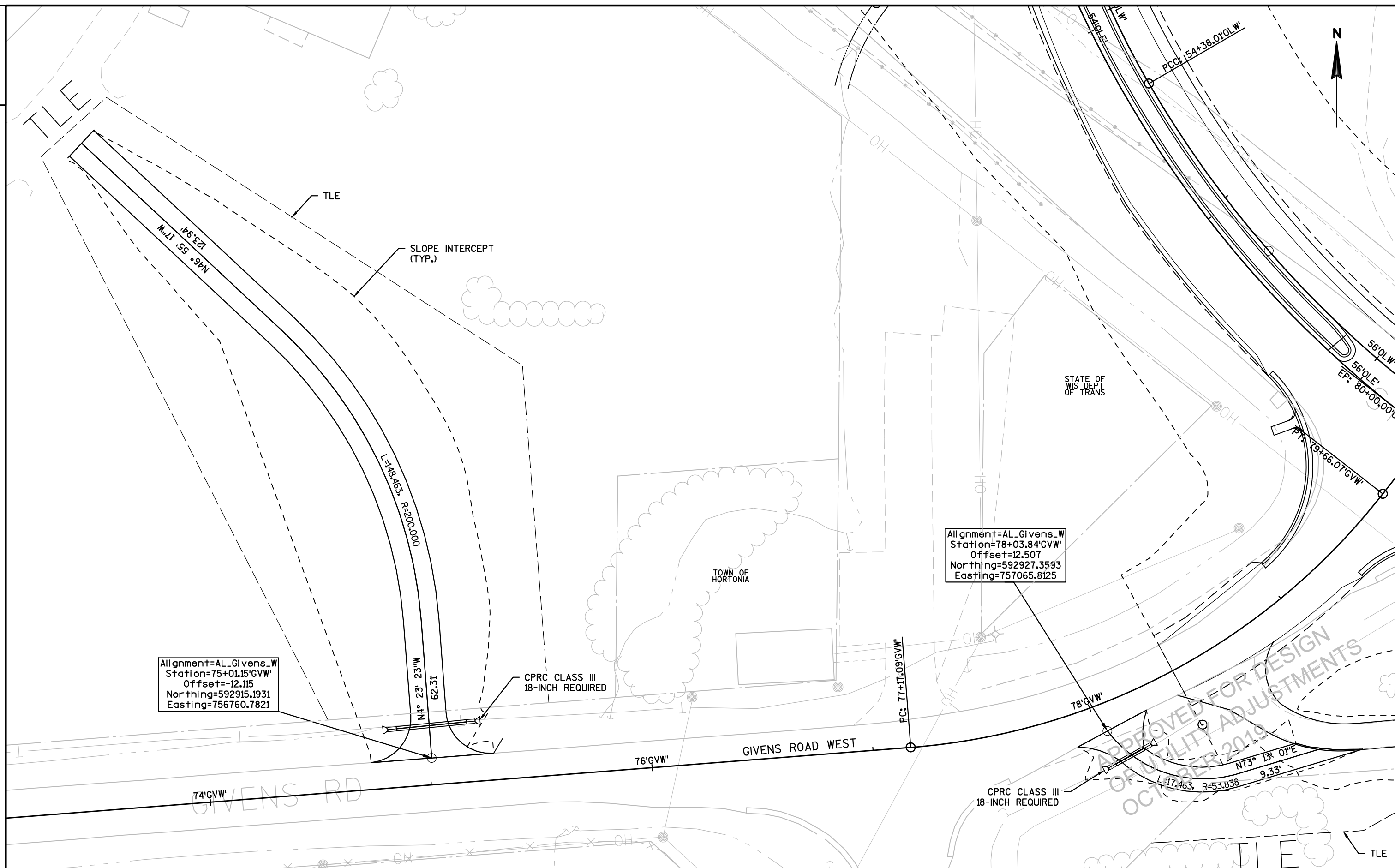
SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

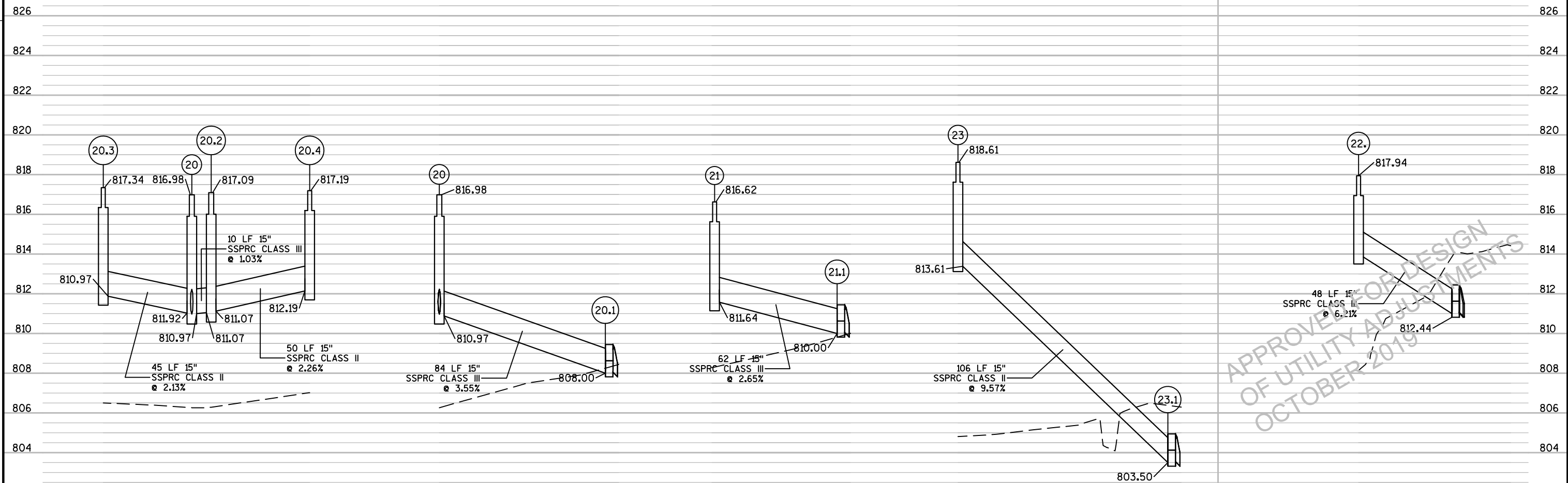
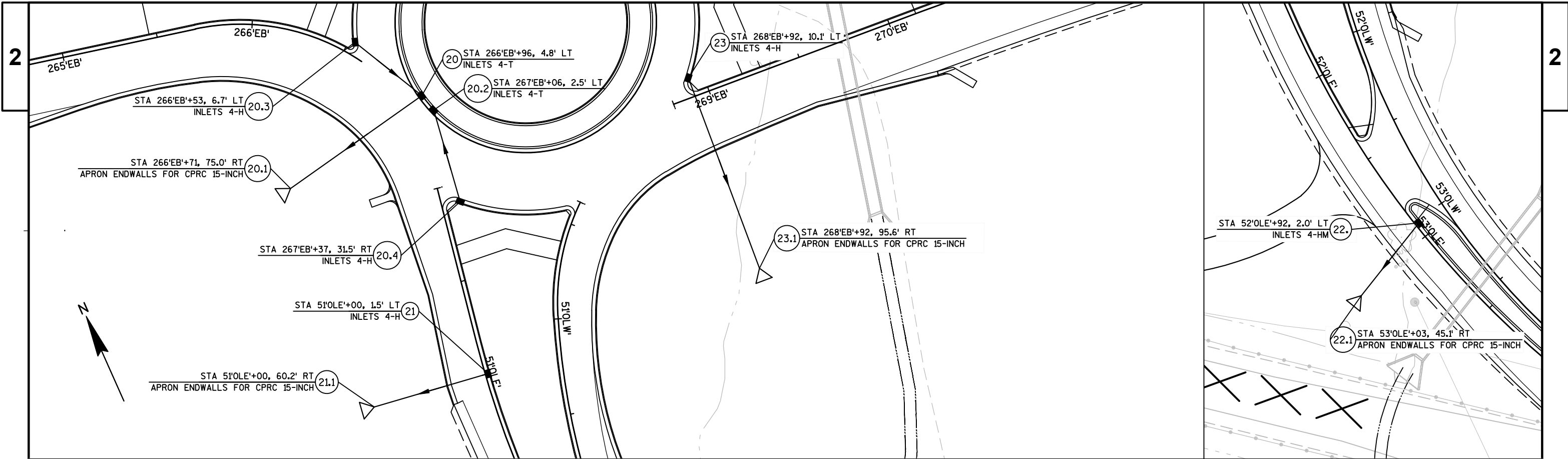
IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER NEC.

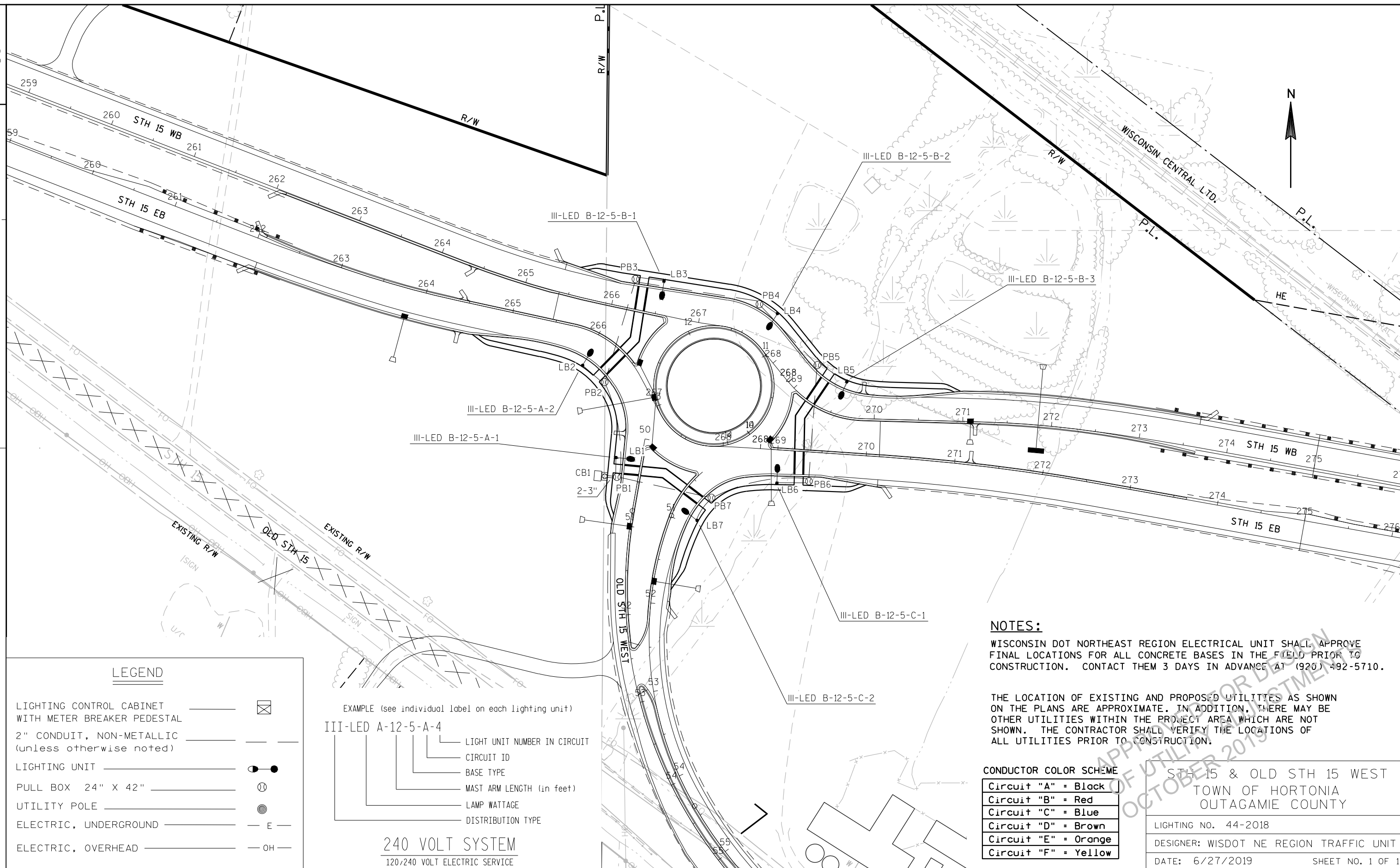
*

SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

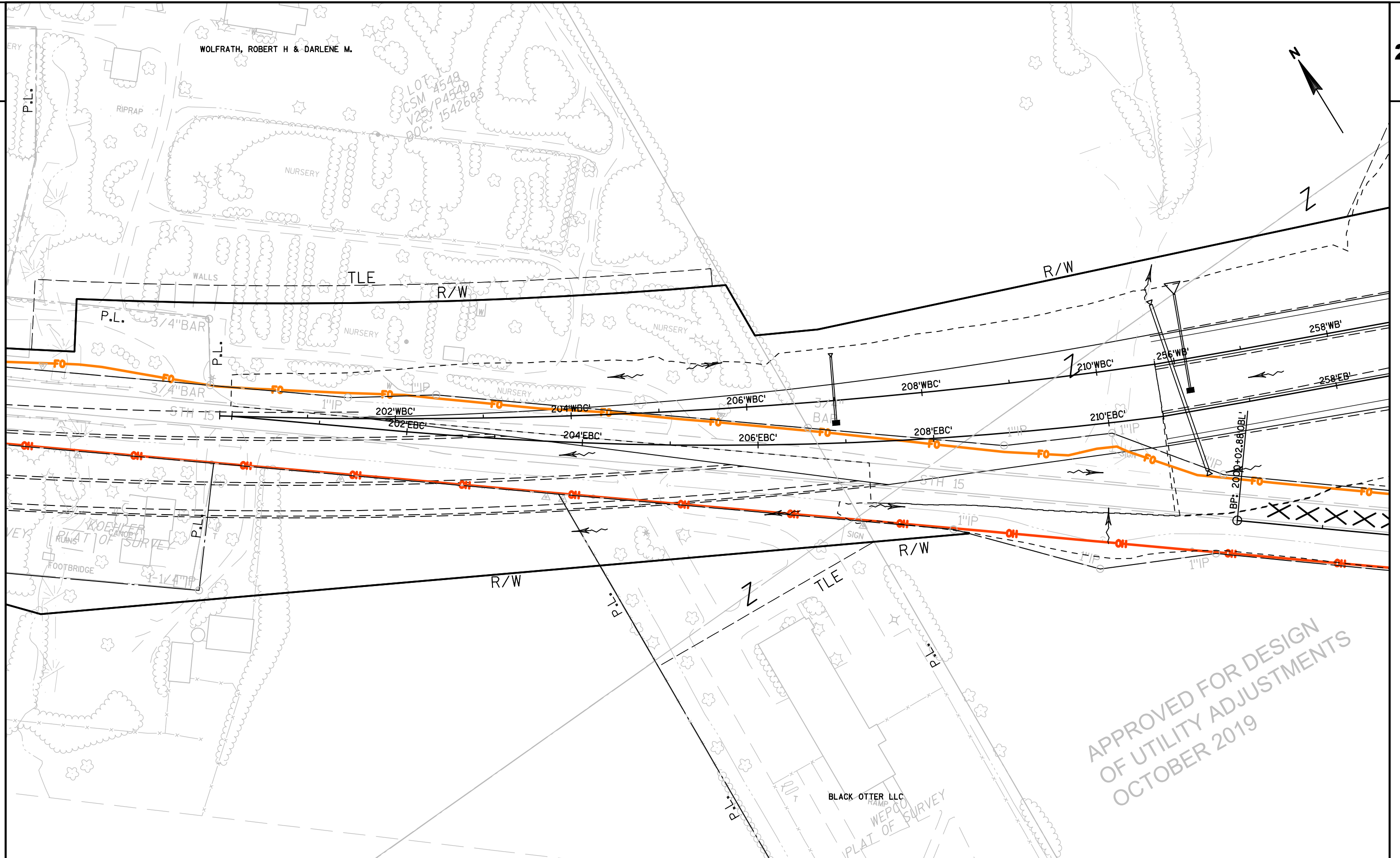




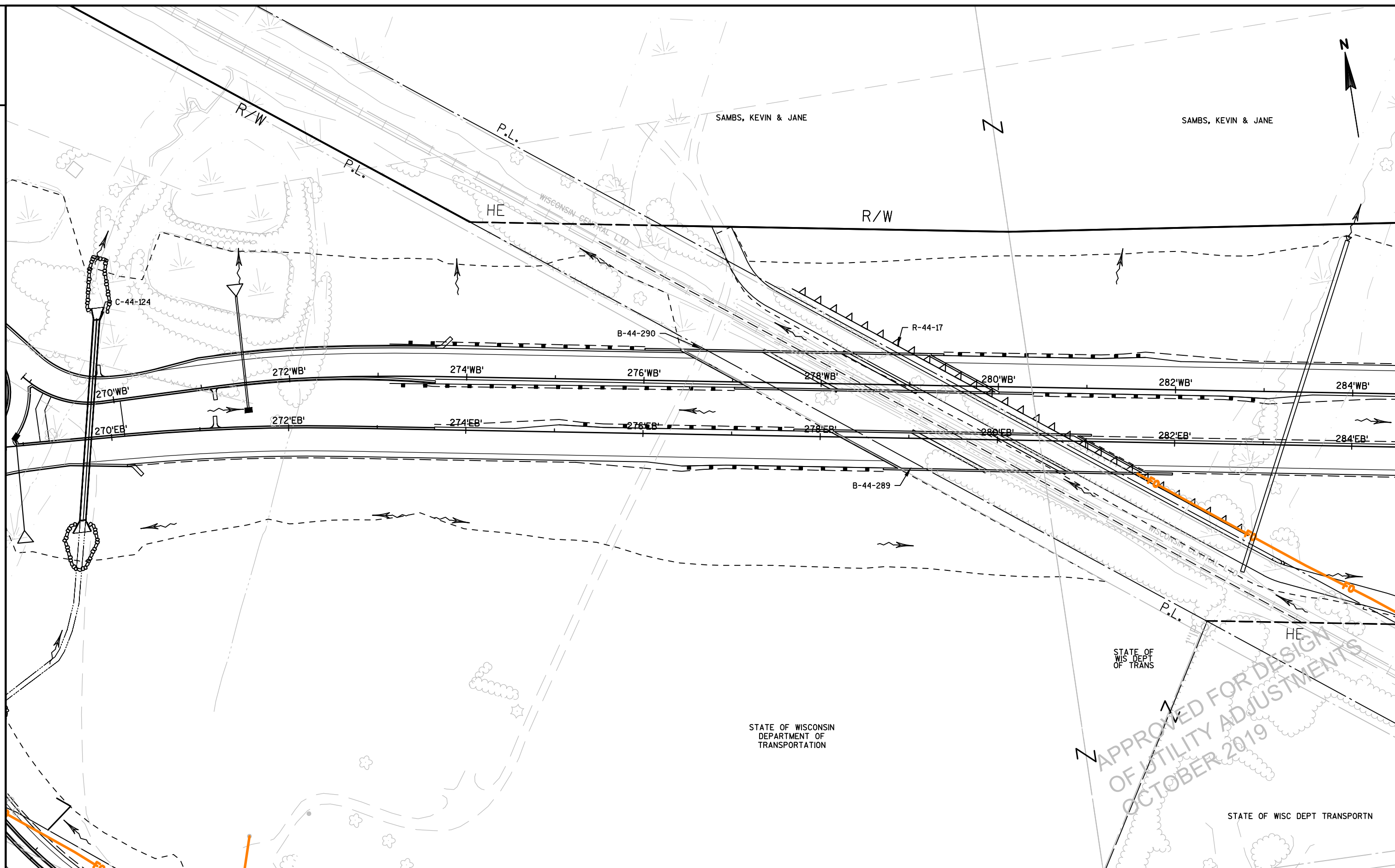












PROJECT NO: 1146-75-76

HWY: STH 15

COUNTY: OUTAGAMIE

UTILITY PLAN - STH 15

SHEET

E

FILE NAME : N:\PDS\C3D\11467571\SHEETS\PLAN\11467571_023001_UP.DWG
LAYOUT NAME - 023003-UP

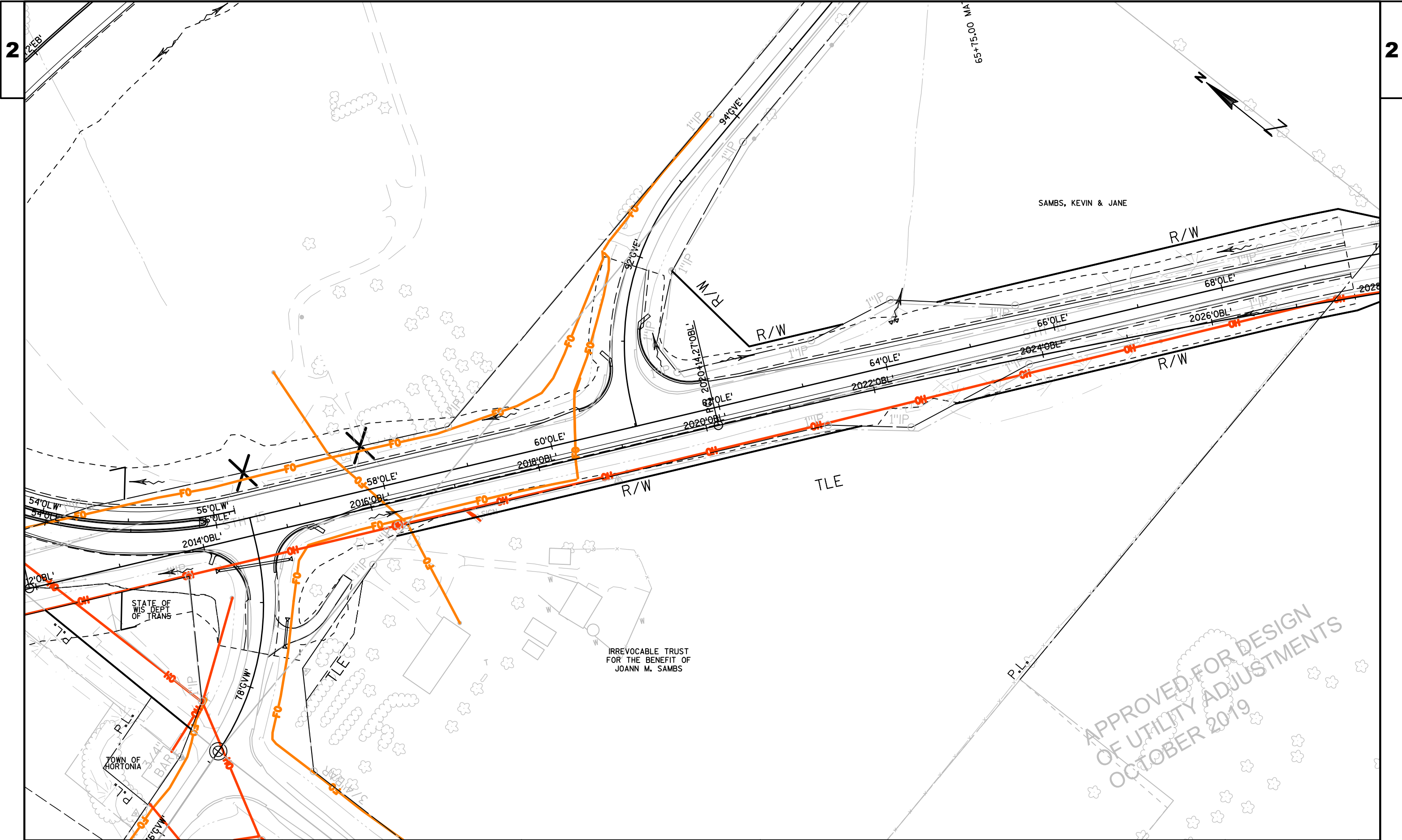
PLOT DATE : 1/25/2016 9:42 AM

PLOT BY : SIMMONS, MASON A

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42



PROJECT NO:1146-75-76

HWY:STH 15

COUNTY:OUTAGAMIE

UTILITY PLAN - OLD STH 15 WEST/ GIVENS ROAD W. & E.

SHEET

E

FILE NAME : N:\PDS\C3D\11467571\SHEETSP\PLAN\11467571_023001_UP.DWG
LAYOUT NAME - 023016-UP

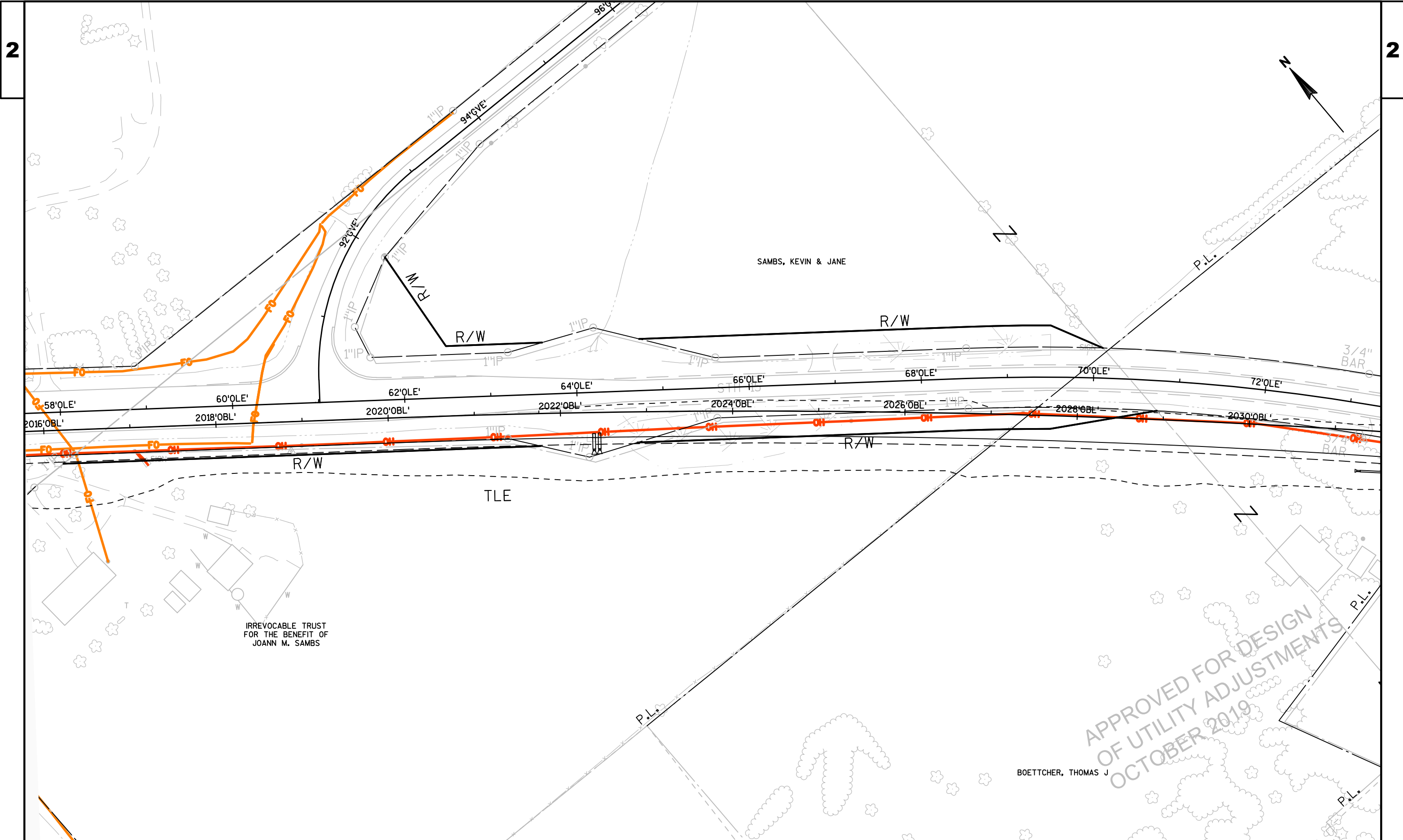
PLOT DATE : 1/25/2016 9:48 AM

PLOT BY : SIMMONS, MASON A

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42



CULVERT PIPE REINFORCED CONCRETE - STH 15

ALL ITEMS CATEGORY 0010

INLET			OUTLET			SLOPE	LOCATION	522.0118	522.0136	REMARKS
STATION	OFFSET, FT	ELEVATION	STATION	OFFSET, FT	ELEVATION			CPRC CLASS III 18 - INCH	CPRC CLASS III 36 - INCH	
207+00	25.4 RT	804.25	207+00	49.9 LT	804.00	0.33%	STH 15 WBC	76		
256+40	69.4 RT	802.30	256+07	127.3 LT	799.30	0.88%	STH 15 EB		200	STAGED CONSTR.
256+13	35.9 RT	804.52	256+13	74.8 LT	800.31	3.80%	STH 15 WB	112		
262+50	33.3 RT	810.50	263+50	79.4 LT	801.00	8.43%	STH 15 WB	92		
271+50	31.3 RT	813.50	271+50	97.7 LT	800.50	0.1008	STH 15 WB	94		
TOTAL								374	200	

APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE - STH 15

ALL ITEMS CATEGORY 0010

INLET			OUTLET			LOCATION	522.1018	522.1036	633.5200	REMARKS
STATION	OFFSET, FT	ELEVATION	STATION	OFFSET, FT	ELEVATION		AEW FOR CPRC 18 - INCH	AEW FOR CPRC 36 - INCH	MARKERS CULVERT END	
207+00	25.4 RT	804.25	207+00	49.9 LT	804.00	STH 15 WBC	1		1	
256+40	69.4 RT	802.30	256+07	127.3 LT	799.30	STH 15 EB		2	2	
256+13	35.9 RT	804.52	256+13	74.8 LT	800.31	STH 15 WB	1		1	
262+50	33.3 RT	810.50	263+50	79.4 LT	801.00	STH 15 WB	1		1	
271+50	31.3 RT	813.50	271+50	97.7 LT	800.50	STH 15 WB	1		1	
TOTAL							4	2	6	

CULVERT PIPE REINFORCED CONCRETE - SIDE ROADS

ALL ITEMS CATEGORY 0010

INLET			OUTLET			SLOPE	LOCATION	522.0118	522.0124	REMARKS
STATION	OFFSET, FT	ELEVATION	STATION	OFFSET, FT	ELEVATION			CPRC CLASS III 18 - INCH	CPRC CLASS III 24 - INCH	
64+17	N/A	N/A	+	47.0 LT	812.70	0.00%	OLD 15 WEST			PIPE NOT REQ'D
64+24	N/A	N/A	+	47.0 LT	813.00	0.00%	OLD 15 WEST			PIPE NOT REQ'D
74+86	26.5 LT	825.31	75+18	27.5 LT	824.48	2.61%	GIVENS RD	32		TEMP PE
78+02	27.7 RT	822.90	78+15	26.0 RT	822.82	0.54%	GIVENS RD	14		TEMP PE
78+54	28.2 RT	821.00	78+80	28.2 RT	820.00	3.60%	GIVENS RD	28		PE
79+45	47.8 RT	816.50	79+45	34.2 LT	815.50	1.22%	GIVENS RD		82	
TOTAL								74	82	

APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE - SIDE ROADS

ALL ITEMS CATEGORY 0010

INLET			OUTLET			LOCATION	522.1018	522.1024	522.1030	633.5200	REMARKS
STATION	OFFSET, FT	ELEVATION	STATION	OFFSET, FT	ELEVATION		AEW FOR CPRC 18 - INCH	AEW FOR CPRC 24 - INCH	AEW FOR CPRC 30 - INCH	MARKERS CULVERT END	
64+17	N/A	N/A	+	47.0 LT	812.70	OLD 15 WEST			1		COLLAR REQ'D
64+24	N/A	N/A	+	47.0 LT	813.00	OLD 15 WEST			1		COLLAR REQ'D
74+86	26.5 LT	825.31	75+18	27.2 LT	824.48	GIVENS RD	2				
78+02	27.7 RT	822.90	78+15	26.0 RT	822.82	GIVENS RD	2				
78+54	28.2 RT	821.00	78+80	28.2 RT	820.00	GIVENS RD	2				PE
79+45	47.8 RT	816.50	79+45	34.2 LT	815.50	GIVENS RD		2		2	
TOTAL							6	2	2	2	

DRAINAGE ITEM NOTES:

- 1) JOINT TIES FOR CONCRETE PIPE SHALL BE PROVIDED AT ALL CONCRETE APRON ENDWALLS.
APRON ENDWALLS SHALL BE TIED FOR THE LAST THREE JOINTS AT PIPE ENDS.
THE COST OF THESE TIES SHALL BE INCIDENTAL TO THE COST OF THE PIPE.
- 2) STATIONS AND OFFSETS ARE TO THE CENTER OF STRUCTURE OR TO THE END OF PIPE WHERE THERE IS AN ENDWALL.
- 3) PIPE LENGTHS AND SLOPES ARE MEASURED TO THE CENTER OF STRUCTURE.
- 4) RIM ELEVATIONS ARE GIVEN AT THE FLANGE LINE FOR INLET GRATES OR THE CENTER OF THE MANHOLE COVER FOR MANHOLES.
- 5) STRUCTURE DEPTH = RIM ELEVATION - INVERT - CASTING HEIGHT - ADJUSTMENT + PIPE THICKNESS
ADJUSTMENT = 4" TYPICAL (NO ADJUSTMENT FOR INLETS MEDIAN 1 - 4 GRATE)
CASTING HEIGHTS FOR INLET COVERS:
TYPES J AND C = 0.75'
TYPE T = 0.58'
TYPES H AND HM = 0.50'
TYPE MS = 0'

MEDIAN INLET SUMMARY

			611.3901	611.3902	611.0642				
			INLET	INLET	INLET COVER*				
			MEDIAN	MEDIAN	INLET COVER*	1 GRATE	2 GRATE	TYPE MS	RIM/GRATE DISCHARGE STRUCTURE
STATION	OFFSET, FT	LOCATION	EACH	EACH	EACH	ELEVATION	ELEVATION	DEPTH, FT	REMARKS
207+00	25.4 RT	STH 15 WBC	1		1	808.16	804.25	4.12	
256+13	35.9 RT	STH 15 WB	1		1	808.98	804.52	4.67	
262+50	33.3 RT	STH 15 WB	1		1	814.61	810.50	4.32	
271+50	31.3 RT	STH 15 WB		1	2	817.00	813.50	3.71	
TOTAL			3	1	5				

* PROVIDE NO SLOPE INLET COVERS FOR 1G-MS
PROVIDE TWO SLOPE INLET COVERS FOR 2G-MS

ALL ITEMS CATEGORY 0010

STORM SEWER STRUCTURE SUMMARY

				611.0624	611.0627	611.0652	611.3004				
				INL. COVER	INL. COVER	INL. COVER	INLET				
STRUCTURE				TYPE H	TYPE HM	TYPE T	4-FT	RIM/GRATE	DISCHARGE	STRUCTURE	
NUMBER	STATION	LOCATION	OFFSET, FT	EACH	EACH	EACH	EACH	ELEVATION	ELEVATION	DEPTH, FT	REMARKS
20	12+90	RAB CIRC. RDWY	1.7 LT			1	1	816.98	810.97	5.29	
20.1	12+90	RAB CIRC. RDWY	74.7 RT					--	--	--	AEW
20.2	13+00	RAB CIRC. RDWY	1.7 LT			1	1	817.09	811.07	5.30	
20.3	12+56	RAB CIRC. RDWY	21.5 RT	1			1	817.34	811.92	4.78	
20.4	13+31	RAB CIRC. RDWY	31.5 RT	1			1	817.19	812.19	4.36	
21	51+00	OLD 15 EB	1.3 LT	1			1	816.62	811.64	4.34	
21.1	51+00	OLD 15 EB	60.2 RT					--	--	--	AEW
22	52+93	OLD 15 EB	1.8 LT		1		1	817.94	814.00	3.30	
22.1	53+00	OLD 15 EB	44.6 RT					--	--	--	AEW
23	268+92	STH 15 EB	1.8 LT	1			1	818.61	813.61	4.36	
23.1	268+92	STH 15 EB	44.6 RT					--	--	--	AEW
TOTAL				4	1	2	7				

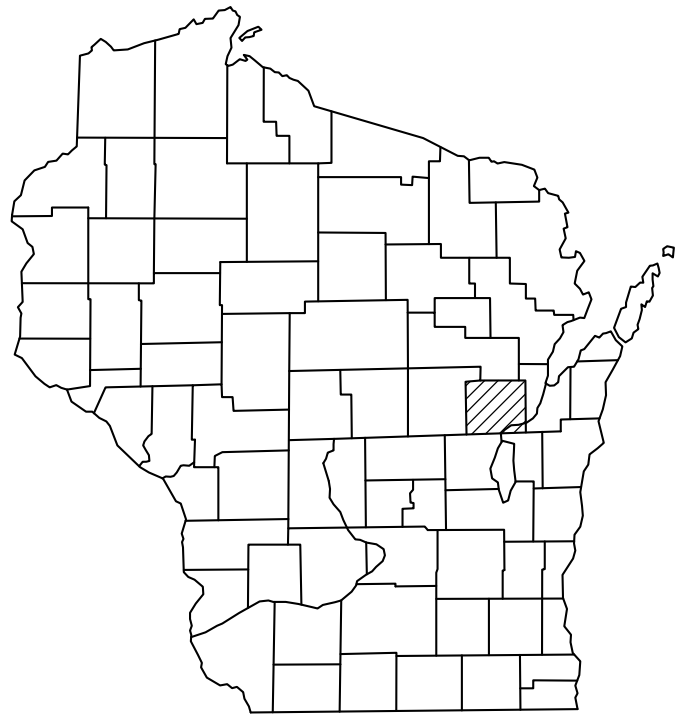
ALL ITEMS CATEGORY 0010

STORM SEWER PIPE SUMMARY

				522.1015	608.0315	633.5200			
				AEW	SSPRC				
				FOR CPRC	CLASS III	MARKERS			
FROM	TO	INLET	DISCHARGE	15 - INCH	15 - INCH	CULVERT END			
STR.	STR.	ELEVATION	ELEVATION	SLOPE	EACH	L.F.	EACH	REMARKS	
20	20.1	810.97	808.00	3.55%	1	84	1		
20.2	20	811.07	810.97	1.03%		10			
20.3	20	811.92	810.97	2.13%		45			
20.4	20.2	812.19	811.07	2.26%		50			
21	21.1	811.64	810.00	2.66%	1	62	1		
22	22.1	814.00	811.00	6.21%	1	48	1		
23	23.1	813.61	803.50	9.57%	1	106	1		
TOTAL					4	405	4		

ALL ITEMS CATEGORY 0010

APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

TRANSPORTATION PROJECT PLAT TITLE SHEET

PROJECT NO. 1146-75-22

STH 76 - NEW LONDON
(LILY OF THE VALLEY DRIVE - USH 45)

STH 15
OUTAGAMIE COUNTY

NOTES:

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, OUTAGAMIE COUNTY ZONE, ENGLISH, NAD83(2007) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT. TYPE 2 MONUMENTS ARE TYPICALLY 1" I.D. x 24" IRON PIPES WEIGHING 1.68 LBS/FT. UNLESS OTHERWISE NOTED.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER SURVEYS OF PUBLIC RECORD.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. EXCLUDING RIGHT-OF-WAY BOUNDARIES, THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

NOT WITHSTANDING ITS DEPICTION ON A PLAT, THE BOUNDARY OF A PARCEL EXTENDS TO THE BOUNDARY OF THE ADJOINING PROPERTY PARCEL OR BODY OF WATER.

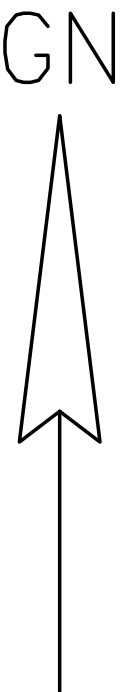
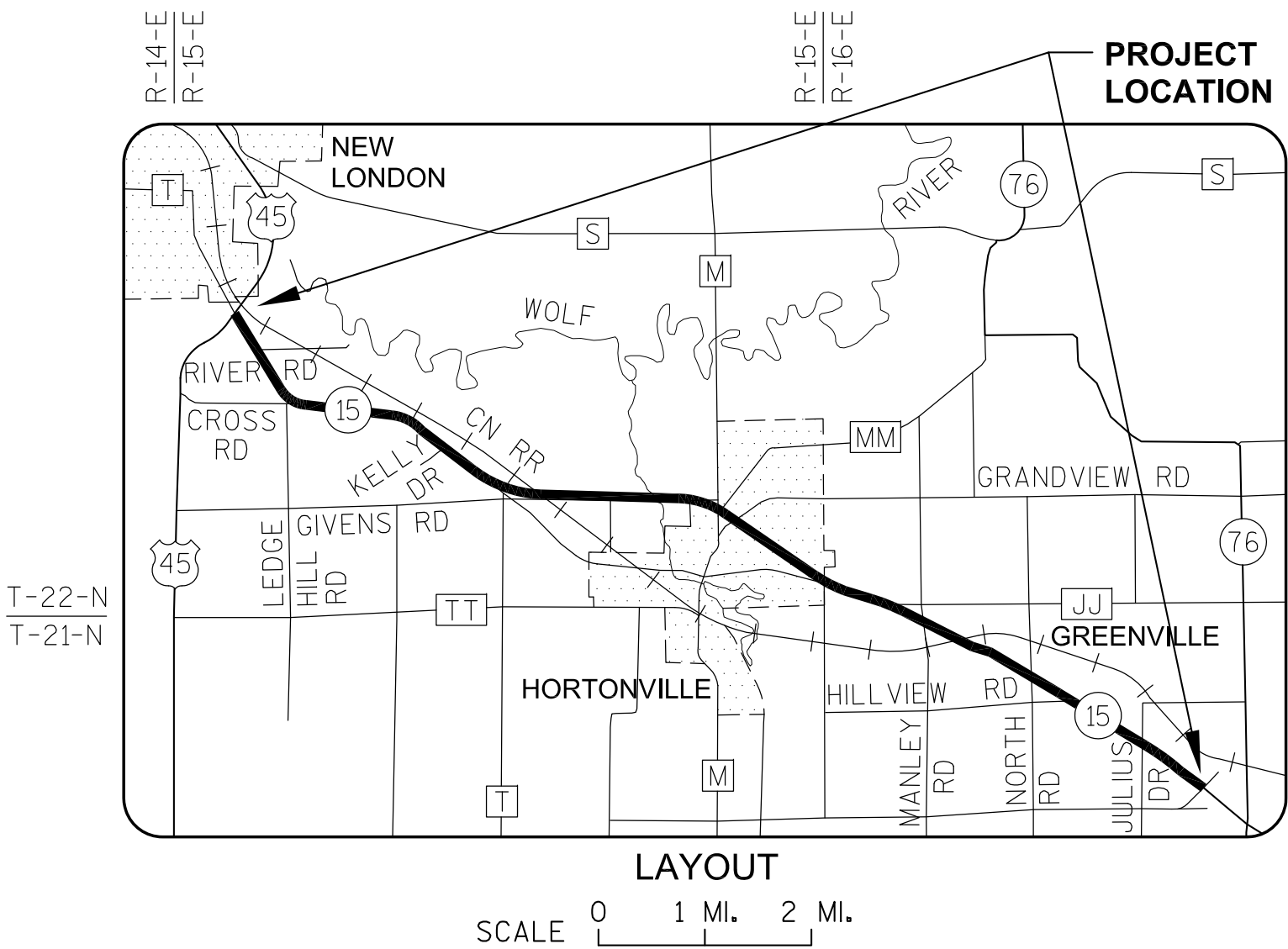
A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLEs EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE THE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

A HIGHWAY EASEMENT (HE) IS AN EASEMENT FOR HIGHWAY PURPOSES, AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE.

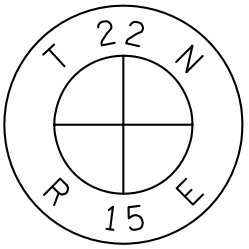
DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE WISCONSIN DEPARTMENT OF TRANSPORTATION REGION OFFICE IN GREEN BAY.



CONVENTIONAL SYMBOLS AND ABBREVIATIONS

SECTION LINE	---	AC	ACRES
QUARTER LINE	---	ACC	ACCESS CONTROL
SIXTEENTH LINE	---	AP	ACCESS POINT
NEW REFERENCE LINE	---	BAR	ROUND IRON REBAR
NEW R/W LINE	---	BLDG	BUILDING
EXISTING R/W LINE	---	C	CURVE
PROPERTY LINE	---	CSM	CERTIFIED SURVEY MAP
LOT AND TIE LINES	---	DOC	DOCUMENT
UNDERGROUND FACILITY	---	E	ELECTRIC CABLE
TEMP. LIMITED EASEMENT	---	EX	EXISTING
PERM. LIMITED EASEMENT	---	FO	FIBER OPTIC CABLE
R/W MONUMENT (SET)	---	FRAC	FRACTIONAL
IRON PIPE OR BAR (FOUND)	---	G	GAS MAIN
SIGN	---	GAR	GARAGE
POWER POLE	---	H	HOUSE
TELEPHONE POLE	---	HE	HIGHWAY EASEMENT
UTILITY PEDESTAL	---	INL	INLET
LIGHT POLE	---	IP	IRON PIPE
POLE	---	J/I	JACKET/IMAGE
MANHOLE	---	MC	MEANDER CORNER
INLET	---	MH	MANHOLE
HYDRANT	---	M/L	MEANDER LINE
VALVE	---	N.T.	NON-TANGENT
R/W GUARD POST	---	OH	OVERHEAD UTILITY LINE
P. POLE (COMPENSABLE)	---	OL	OUTLOT
PEDESTAL (COMPENSABLE)	---	PID	TAX PARCEL IDENTIFICATION NUMBER
RECORDED AS	---	PERM	PERMANENT
SAME OWNERSHIP	---	P.L.	PROPERTY LINE
ACCESS RESTRICTED (BY ACQUISITION)	---	PLE	PERMANENT LIMITED EASEMENT
ACCESS RESTRICTED (BY PREVIOUS PROJECT/CONTROL)	---	POS	PLAT OF SURVEY
NO ACCESS (BY STATUTORY AUTHORITY)	---	PP	POWER POLE
POINT NUMBER, MAJOR	---	R/L	REFERENCE LINE
POINT NUMBER, MINOR	---	ROR	RELEASE OF RIGHTS
POINT NUMBER, EXISTING	---	R/W	RIGHT OF WAY
IRON PIPES / MONUMENTS	---	RWGP	R/W GUARD POST
SECTION CORNER:	---	SAN	SANITARY SEWER
	---	SEC	SECTION
	---	SS	STORM SEWER
	---	T	TELEPHONE CABLE
	---	TEMP	TEMPORARY
	---	TLE	TEMPORARY LIMITED EASEMENT
	---	TV	CABLE TELEVISION
	---	VAR	VARIES
	---	V/P	VOLUME/PAGE



SCHEDULE OF LANDS & INTERESTS
REQUIRED

PARCEL OWNER (S) NUMBER	INTEREST REQUIRED	R/W ACRES REQUIRED NEW EXISTING TOTAL	TLE ACRES TEMP.
56 KEVIN SAMBS	FEE, ACCESS RIGHTS, TLE	11.302 0 11.302	0.921
57 ELIZABETH GAIGG	FEE, TLE	0.034 0 0.034	0.839

UTILITY INTERESTS REQUIRED:

922	AT&T WISCONSIN	RELEASE OF RIGHTS
-----	----------------	-------------------

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT
TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

TRANSPORTATION PROJECT PLAT NO: 1146-75-22 - 4.18
AMENDMENT NO: 1

AMENDS PARCEL 57 OF TRANSPORTATION PROJECT PLAT 1146-75-22-4.18, RECORDED AS DOCUMENT #2037962.
PART OF THE NE1/4-SE1/4 AND PART OF THE SE1/4-SE1/4 OF SECTION 28, T22N, R15E, ALL IN THE TOWN OF
HORTONIA, OUTAGAMIE COUNTY, WISCONSIN

RELOCATION ORDER - STH 15 (LILY OF THE VALLEY DRIVE - USH 45), OUTAGAMIE COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE,
THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND
INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF
TRANSPORTATION HEREBY ORDERS THAT:
1) THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2) THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN
THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF TRANSPORTATION
PROJECT PLAT NO: 1146-75-22 - 4.01, AS DOCUMENT #2016623 FOR ADDITIONAL INFORMATION.

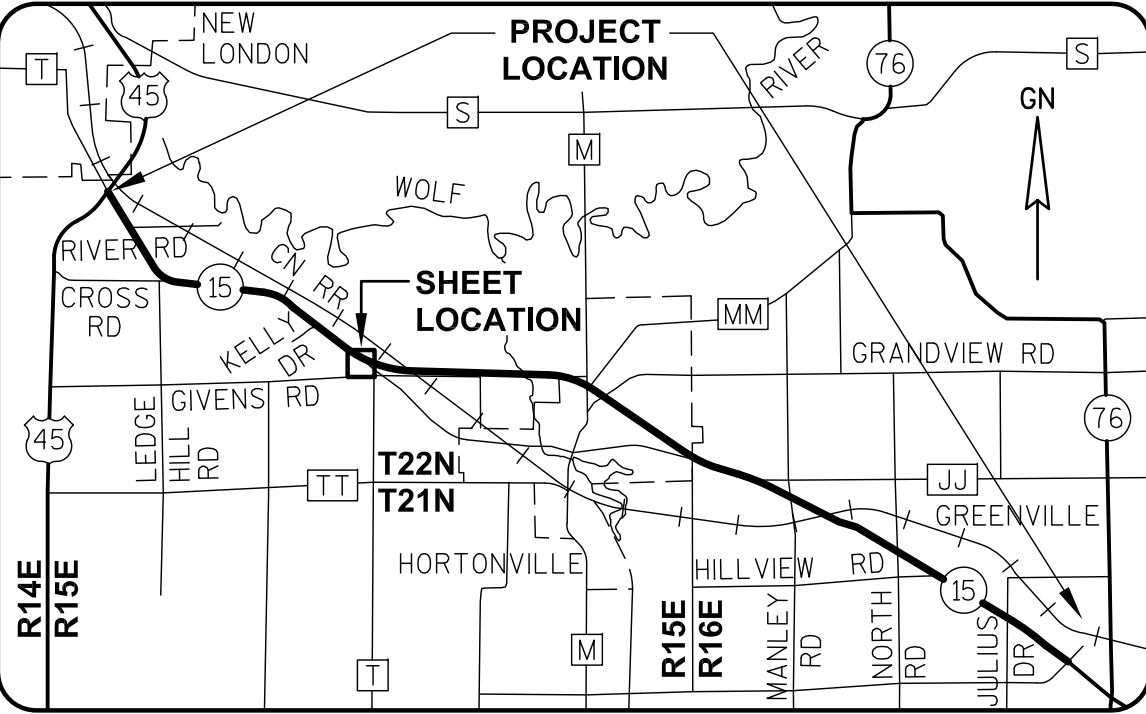
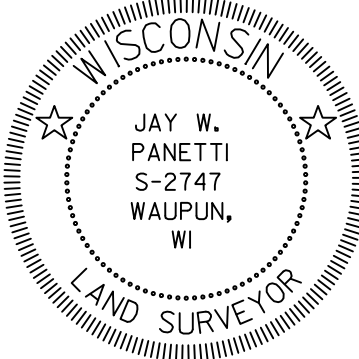
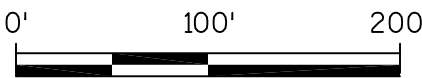
BASIS OF EXISTING HIGHWAY R/W

ROUTE	BASIS	YEAR
STH 15 AND CTH T	TPP NO: 6430-06-00 - 4.12	2011

EXISTING ACCESS CONTROL: PROJECT 1146-1-22/F 07(19)

GN

SCALE, FEET

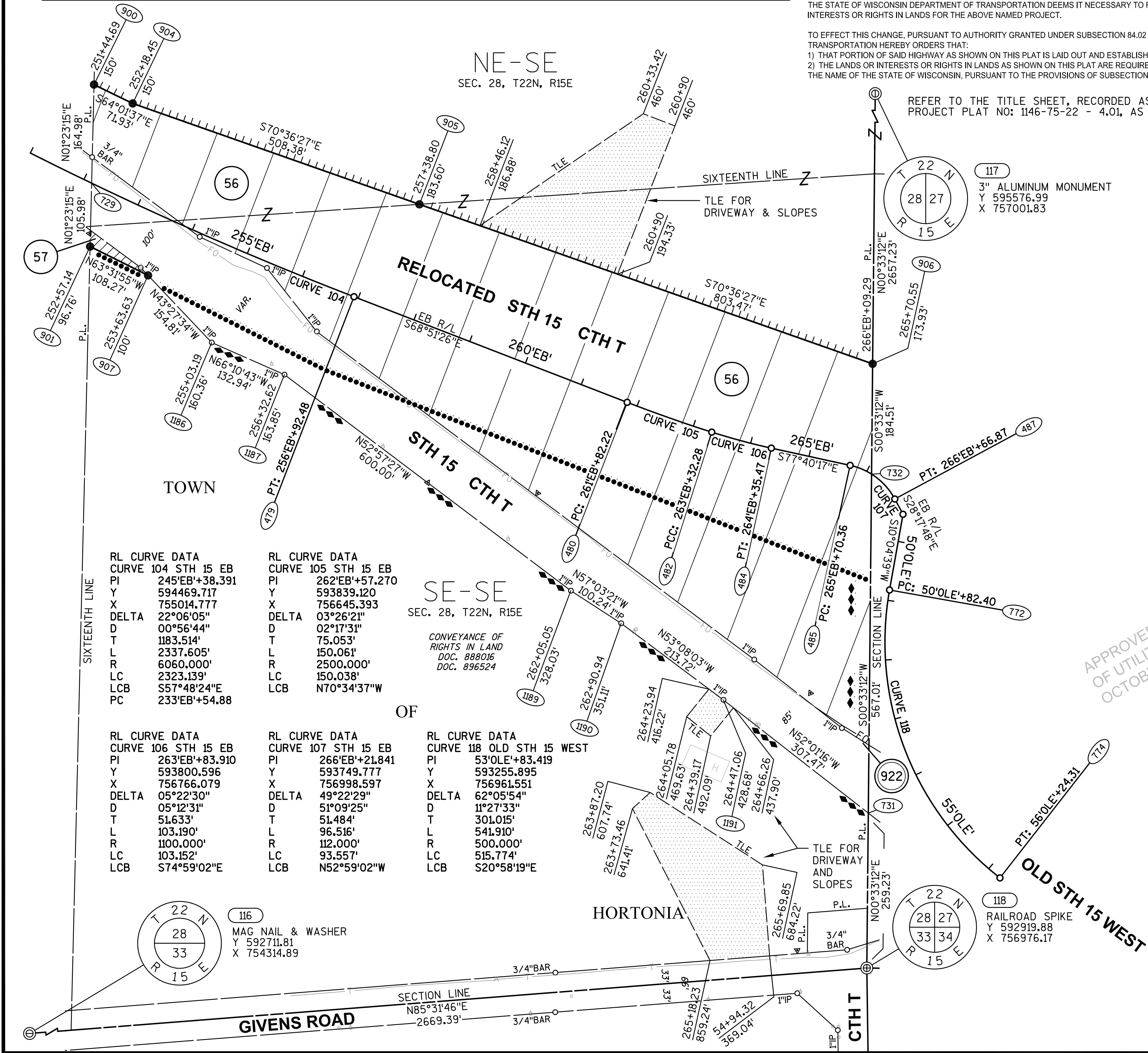


I, JAY W. PANETTI, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY
THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF
THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN
DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED
TRANSPORTATION PROJECT PLAT 1146-75-22-4.18, AND THAT SUCH PLAT
CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED
LAND.

DATE 12/28/2015 JAY W. PANETTI
PLS S-2747, FOR GREMER & ASSOCIATES, INC.
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE
WISCONSIN DEPARTMENT OF TRANSPORTATION.
DATE 1/19/2016 CURT VAN EREM
REAL ESTATE SUPERVISOR

REVISED: 12/28/2015

040418.15.DWG



APPRAISAL PLAT DATE:

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL OWNER (S) NUMBER	INTEREST REQUIRED	R/W NEW	ACRES REQUIRED EXISTING	TOTAL	TLE ACRES TEMP.
56 KEVIN SAMBS	FEE, ACCESS RIGHTS, TLE	11.302	0	11.302	0.921
57 ELIZABETH GAIGG	FEE, TLE	0.034	0	0.034	0.895

UTILITY INTERESTS REQUIRED:

922	AT&T WISCONSIN	RELEASE OF RIGHTS
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OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

TLE ACRES TEMP.

TRANSPORTATION PROJECT PLAT NO: 1146-75-22 - 4.18

PART OF THE NE1/4-SE1/4 AND PART OF THE SE1/4-SE1/4 OF SECTION 28, T22N, R15E, ALL IN THE TOWN OF HORTONIA, OUTAGAMIE COUNTY, WISCONSIN

RELOCATION ORDER - STH 15 (LILY OF THE VALLEY DRIVE - USH 45), OUTAGAMIE COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1) THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2) THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF TRANSPORTATION PROJECT PLAT NO: 1146-75-22 - 4.01, AS DOCUMENT #2016623 FOR ADDITIONAL INFORMATION.

Document #: 2037962
Date: 03-16-2015 Time: 08:28 AM
Pages: 1 Fee: \$25.00
County: OUTAGAMIE COUNTY State: WI
SARAH R VAN CAMP, REGISTER OF DEEDS
The above recording information verifies this document has been electronically recorded and returned to the submitter

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1146-75-22- 4.18
AMENDMENT NO:

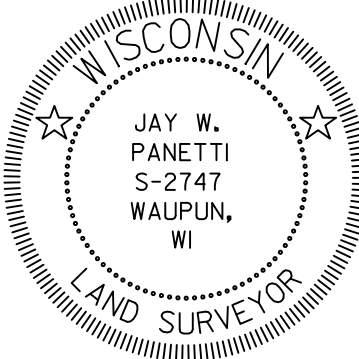
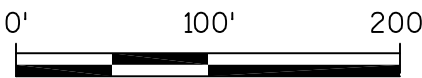
BASIS OF EXISTING HIGHWAY R/W

ROUTE	BASIS	YEAR
STH 15 AND CTH T	TPP NO: 6430-06-00 - 4.12	2011

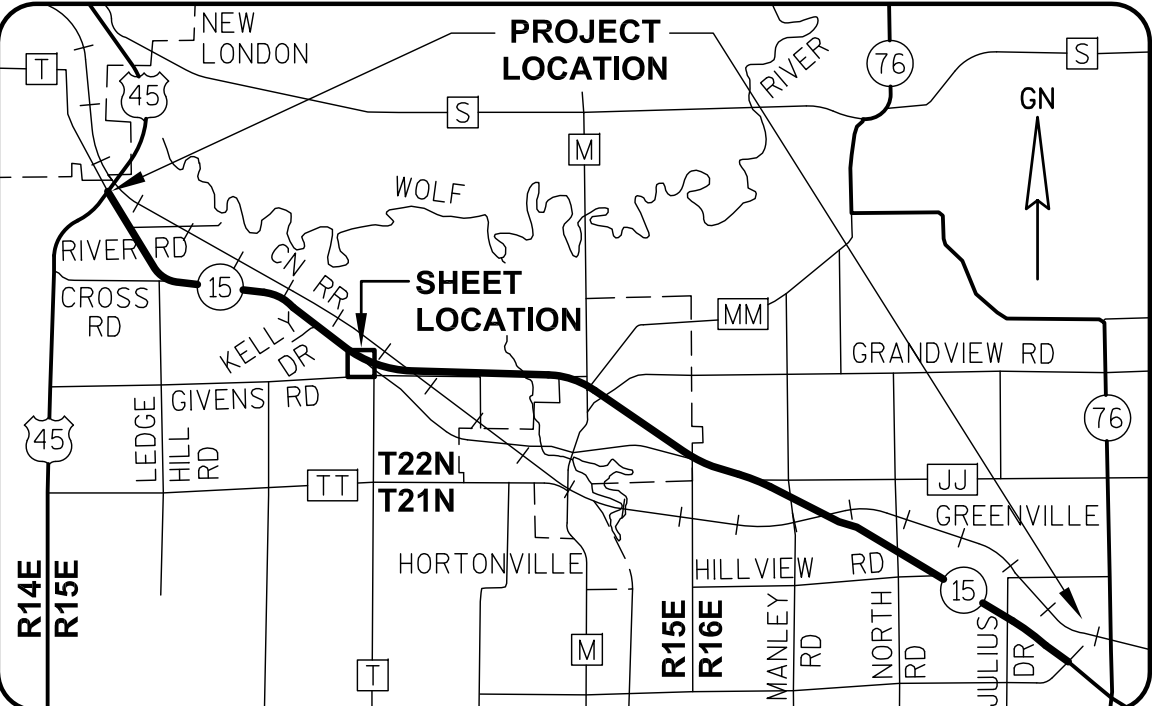
EXISTING ACCESS CONTROL: PROJECT 1146-1-22/F 07(19)

GN

SCALE, FEET



APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019

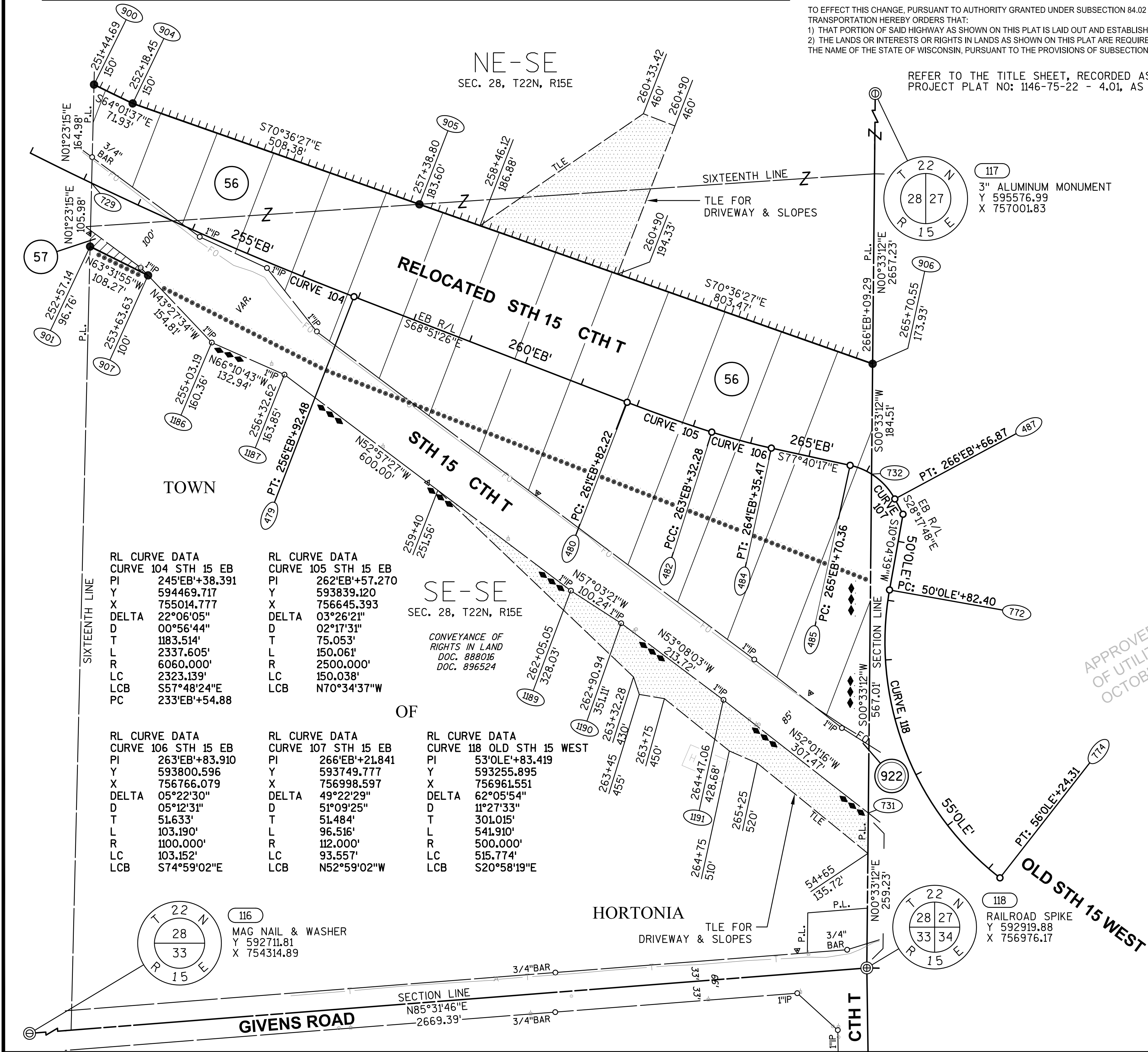


I, JAY W. PANETTI, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1146-75-22-4.18, AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

DATE 11/06/2014 JAY W. PANETTI
RLS S-2747, FOR GREMER & ASSOCIATES, INC.
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.
DATE 3/11/2015 CURT VAN EREM
REAL ESTATE SUPERVISOR

REVISED: 11/06/2014

040418.15.DWG



APPRAISAL PLAT DATE:

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL OWNER (S) NUMBER	INTEREST REQUIRED	R/W ACRES REQUIRED			H.E. ACRES PERM.	TLE ACRES TEMP.
		NEW	EXISTING	TOTAL		
58 WISCONSIN CENTRAL, LTD.	HIGHWAY EASEMENT	0	0	0	1.413	0
59 KEVIN SAMBS & JANE SAMBS	FEE	0.994	0	0.994	0	0

UTILITY INTERESTS REQUIRED:

922	AT&T WISCONSIN	RELEASE OF RIGHTS
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OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

TRANSPORTATION PROJECT PLAT NO: 1146-75-22 - 4.19

PART OF THE SW1/4-SW1/4 OF SECTION 27, T22N, R15E, TOWN OF HORTONIA, OUTAGAMIE COUNTY, WISCONSIN

RELOCATION ORDER - STH 15 (LILY OF THE VALLEY DRIVE - USH 45), OUTAGAMIE COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1) THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2) THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF TRANSPORTATION PROJECT PLAT NO: 1146-75-22 - 4.01, AS DOCUMENT #2016623 FOR ADDITIONAL INFORMATION.

Document #: 2037963
Date: 03-16-2015 Time: 08:28 AM
Pages: 1 Fee: \$25.00
County: OUTAGAMIE COUNTY State: WI
SARAH R VAN CAMP, REGISTER OF DEEDS
The above recording information verifies this document has been electronically recorded and returned to the submitter

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1146-75-22- 4.19
AMENDMENT NO:

RL CURVE DATA
CURVE 118 OLD STH 15 WEST
PI 53°01'E+83.419
Y 593255.895
X 756961.551
DELTA 62°05'54"
D 11°27'33"
T 301.015'
L 541.910'
R 500.000'
LC 515.774'
LCB S20°58'19"E

ROUTE	BASIS	YEAR
STH 15 AND CTH T	TPP NO: 6430-06-00 - 4.11, 4.12	2011
GIVENS ROAD	TPP NO: 6430-06-00 - 4.11	2011
WISCONSIN CENTRAL, LTD. RAILROAD	V39/P328	1876

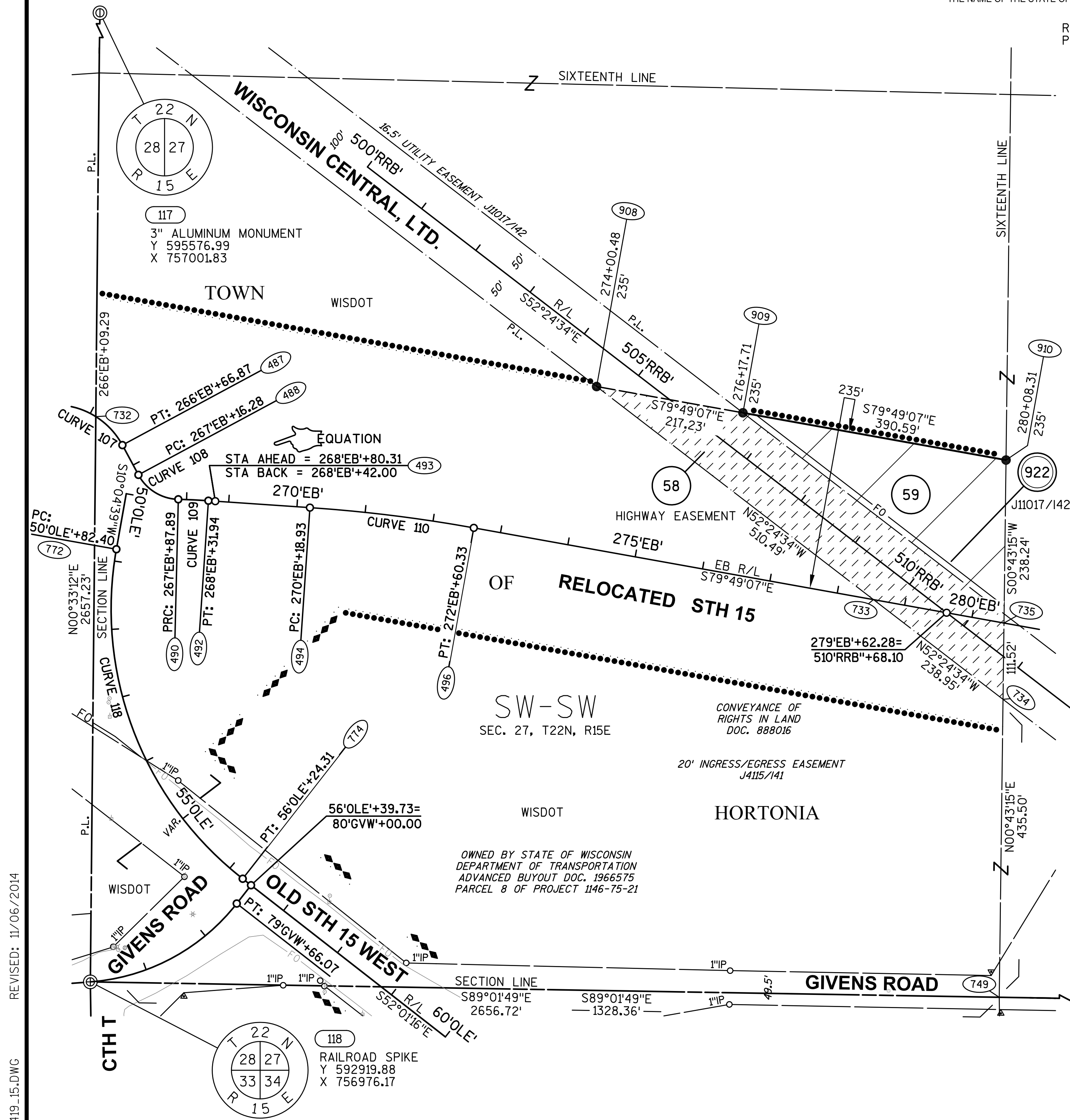
EXISTING ACCESS CONTROL: PROJECT 1146-1-22/F 07(19)

RL CURVE DATA
CURVE 107 STH 15 EB
PI 266°EB'+21.841
Y 593749.777
X 756998.597
DELTA 49°22'29"
D 51°09'25"
T 51.484'
L 96.516'
R 112.000'
LC 93.557'
LCB N52°59'02"W
PC 265°EB'+70.36

RL CURVE DATA
CURVE 108 STH 15 EB
PI 267°EB'+55.804
Y 593626.141
X 757065.159
DELTA 60°20'00"
D 84°15'31"
T 39.524'
L 71.605'
R 68.000'
LC 68.342'
LCB S58°27'48"E

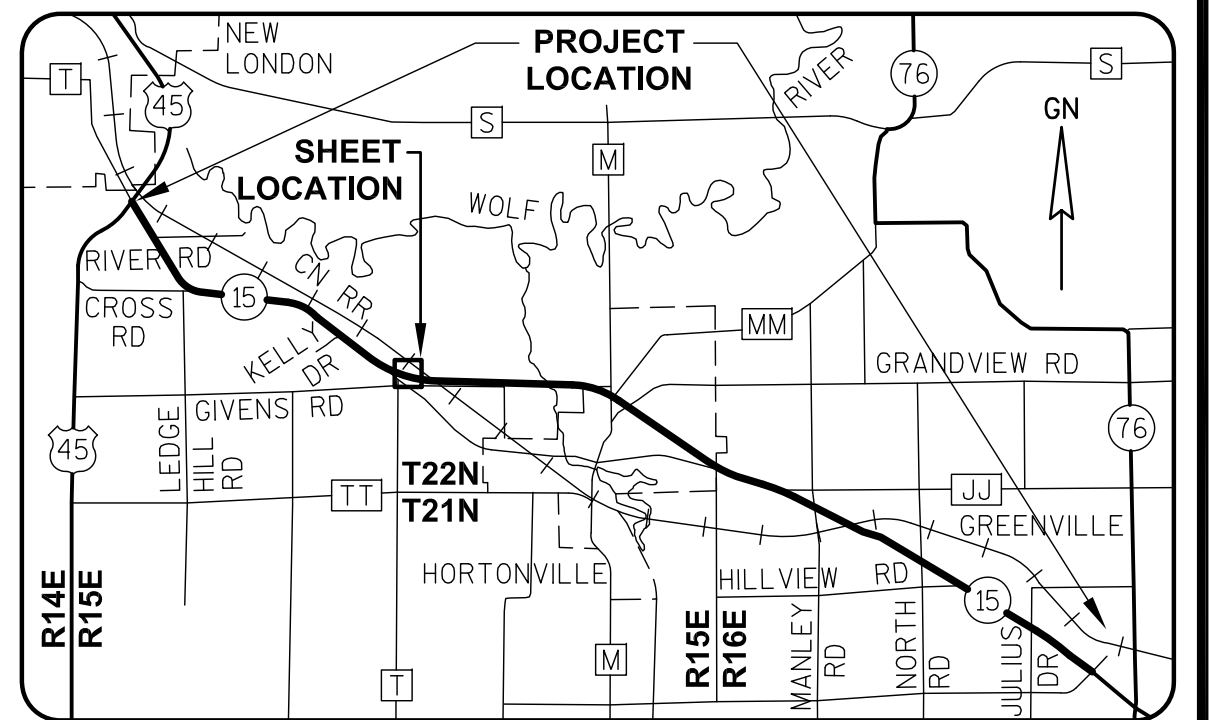
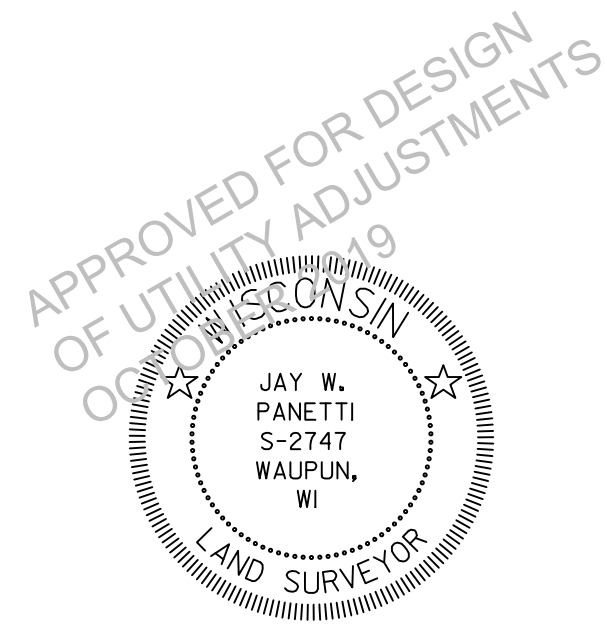
RL CURVE DATA
CURVE 109 STH 15 EB
PI 268°EB'+09.918
Y 593624.669
X 757126.699
DELTA 02°31'28"
D 05°43'46"
T 22.033'
L 44.059'
R 1000.000'
LC 44.056'
LCB N87°22'04"W

RL CURVE DATA
CURVE 110 STH 15 EB
PI 271°EB'+39.750
Y 593604.869
X 757417.556
DELTA 06°17'13"
D 02°36'16"
T 120.822'
L 241.401'
R 2200.000'
LC 241.280'
LCB N82°57'43"W



GN

SCALE, FEET
0' 100' 200'



I, JAY W. PANETTI, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1146-75-22-4.19, AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.
DATE 11/06/2014 JAY W. PANETTI
MAG NAIL RLS S-2747, FOR GREMER & ASSOCIATES, INC.
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.
DATE 3/11/2015 CURT VAN EREM
REAL ESTATE SUPERVISOR

REVISED: 11/06/2014
040419_15.DWG

APPRAISAL PLAT DATE:

SCHEDULE OF LANDS & INTERESTS
REQUIRED

PARCEL OWNER (S) NUMBER	INTEREST REQUIRED	R/W ACRES REQUIRED			ACRES TEMP.
		NEW	EXISTING	TOTAL	
59	KEVIN SAMBS & JANE SAMBS	FEE	0.443	0	0.443
61	JUDITH M. RIESE, CHARLES M. SAMBS, DANIEL W. SAMBS, GREGORY J. SAMBS, JANICE M. FLENZ, MARY J. RIHA, BARBARA H. REARICK, KEVIN J. SAMBS, AND JANICE M. FLENZ AS TRUSTEE FOR THE 1994 IRREVOCABLE TRUST FOR THE BENEFIT OF JOANN M. SAMBS DATED JULY 14, 1994	FEE, TLE	0.353	0	0.353
62	THOMAS J. BOETTCHER	FEE	0.054	0	0.054

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT
TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

TRANSPORTATION PROJECT PLAT NO: 1146-75-22 - 4.20
AMENDMENT NO: 1

AMENDS PARCEL 61 AND PARCEL 62 OF TRANSPORTATION PROJECT PLAT 1146-75-22-4.20, RECORDED AS
DOCUMENT #2037964.

PART OF THE NW1/4-NW1/4 OF SECTION 34, T22N, R15E, TOWN OF HORTONIA, OUTAGAMIE COUNTY, WISCONSIN

RELOCATION ORDER - STH 15 (LILY OF THE VALLEY DRIVE - USH 45), OUTAGAMIE COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE,
THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND
INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF
TRANSPORTATION HEREBY ORDERS THAT:

- 1) THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
- 2) THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN
THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF TRANSPORTATION
PROJECT PLAT NO: 1146-75-22 - 4.01, AS DOCUMENT #2016623 FOR ADDITIONAL INFORMATION.

UTILITY INTERESTS REQUIRED:

919	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS
922	AT&T WISCONSIN	RELEASE OF RIGHTS

BASIS OF EXISTING HIGHWAY R/W

ROUTE	BASIS	YEAR
STH 15	TPP NO: 6430-06-00 - 4.11	2011
CTH T	TPP NO: 6430-06-00 - 4.11	2011
GIVENS ROAD	TPP NO: 6430-06-00 - 4.11	2011

EXISTING ACCESS CONTROL: PROJECT 1146-1-22/F 07(19)

COURSE TABLE

FROM POINT	TO POINT	BEARING	DISTANCE
118	922	S89°01'49"E	325.39'
922	736	S89°01'49"E	99.68'
736	737	S89°01'49"E	341.00'
737	1233	S00°58'11"W	49.54'
1233	911	S05°39'59"W	125.07'
911	912	S52°01'16"E	111.90'
912	1229	S66°03'26"E	61.84'
1229	913	S36°04'31"E	54.60'
913	914	S52°01'16"E	379.20'
*914	915	S50°48'57"E	98.93'
915	916	S26°35'59"E	65.99'
916	738	S00°34'29"E	47.75'
738	917	S00°34'29"E	48.40'
917	918	N59°30'41"W	125.64'
*918	919	N50°48'57"W	93.88'
919	920	N52°01'16"W	385.45'
920	1224	N66°57'08"W	58.22'
1224	921	N37°05'21"W	58.21'
921	922	N52°01'16"W	554.22'

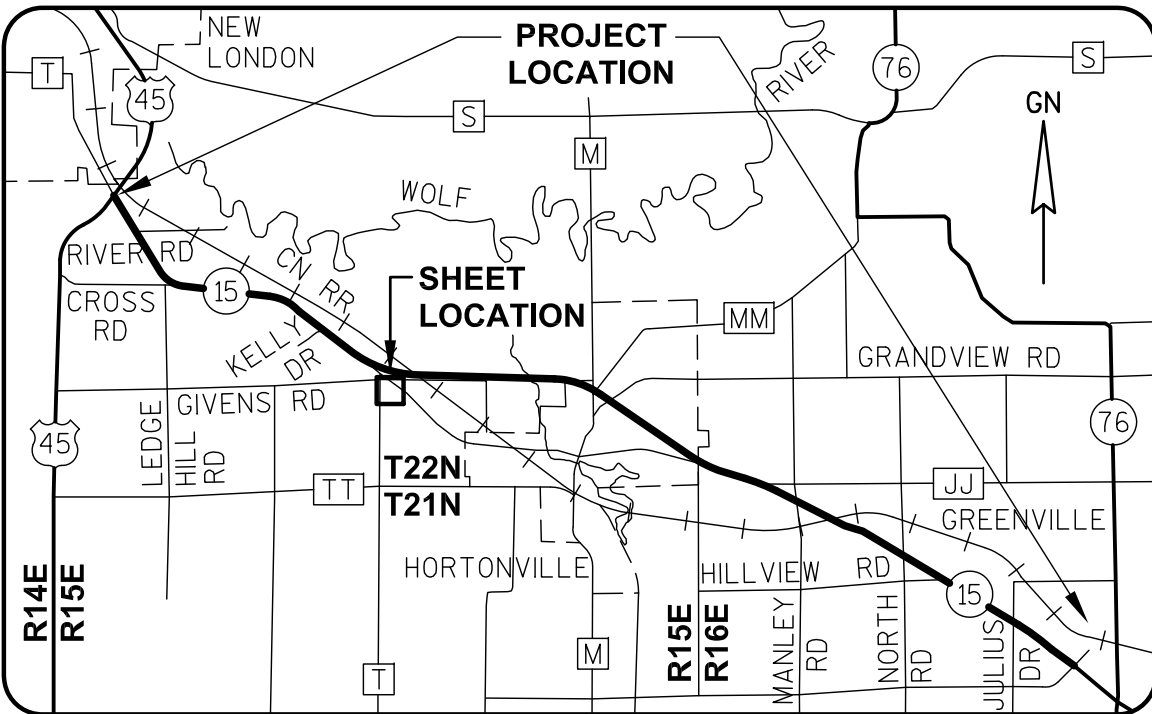
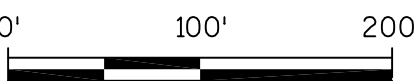
*SEE CURVE TABLE

CURVE TABLE

FROM POINT	TO POINT	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
914	915	2351.76'	98.93'	S50°48'57"E	98.93'
918	919	2231.76'	93.89'	N50°48'57"W	93.88'

GN

SCALE, FEET



I, JAY W. PANETTI, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY
THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF
THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN
DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED
TRANSPORTATION PROJECT PLAT 1146-75-22-4.20, AND THAT SUCH PLAT
CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED
LAND.

DATE 12/28/2015 JAY W. PANETTI
PLS S-2747, FOR GREMER & ASSOCIATES, INC.
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE
WISCONSIN DEPARTMENT OF TRANSPORTATION.
DATE 1/19/2016 CURT VAN EREM
REAL ESTATE SUPERVISOR

REVISED: 12/28/2015

040420_15.DWG

APPRAISAL PLAT DATE:

SCHEDULE OF LANDS & INTERESTS
REQUIRED

PARCEL OWNER (S) NUMBER	INTEREST REQUIRED	R/W ACRES REQUIRED NEW EXISTING TOTAL	TLE ACRES TEMP.
59 KEVIN SAMBS & JANE SAMBS	FEE	0.443 0 0.443	0
61 JUDITH M. RIESE, CHARLES M. SAMBS, DANIEL W. SAMBS, GREGORY J. SAMBS, JANICE M. FLENZ, MARY J. RIHA, BARBARA H. REARICK, KEVIN J. SAMBS, AND JANICE M. FLENZ AS TRUSTEE FOR THE 1994 IRREVOCABLE TRUST FOR THE BENEFIT OF JOANN M. SAMBS DATED JULY 14, 1994	FEE, TLE	0.353 0 0.353	1.387
62 THOMAS J. BOETTCHER	FEE, TLE	0.054 0 0.054	0.463

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT
TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

TRANSPORTATION PROJECT PLAT NO: 1146-75-22 - 4.20

PART OF THE NW1/4-NW1/4 OF SECTION 34, T22N, R15E, TOWN OF HORTONIA, OUTAGAMIE COUNTY, WISCONSIN

RELOCATION ORDER - STH 15 (LILY OF THE VALLEY DRIVE - USH 45), OUTAGAMIE COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE,
THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND
INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF
TRANSPORTATION HEREBY ORDERS THAT:
1) THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2) THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN
THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF TRANSPORTATION
PROJECT PLAT NO: 1146-75-22 - 4.01, AS DOCUMENT #2016623 FOR ADDITIONAL INFORMATION.

UTILITY INTERESTS REQUIRED:

919	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS
922	AT&T WISCONSIN	RELEASE OF RIGHTS

COURSE TABLE

FROM POINT	TO POINT	BEARING	DISTANCE
118	922	S89°01'49"E	325.39'
922	736	S89°01'49"E	99.68'
736	737	S89°01'49"E	341.00'
737	1233	S00°58'11"W	49.54'
1233	911	S05°39'59"W	125.07'
911	912	S52°01'16"E	111.90'
912	1229	S66°03'26"E	61.84'
1229	913	S36°04'31"E	54.60'
913	914	S52°01'16"E	379.20'
*914	915	S50°48'57"E	98.93'
915	916	S26°35'59"E	65.99'
916	738	S00°34'29"E	47.75'
738	917	S00°34'29"E	48.40'
917	918	N59°30'41"W	125.64'
*918	919	N50°48'57"W	93.88'
919	920	N52°01'16"W	385.45'
920	1224	N66°57'08"W	58.22'
1224	921	N37°05'21"W	58.21'
921	922	N52°01'16"W	554.22'

*SEE CURVE TABLE

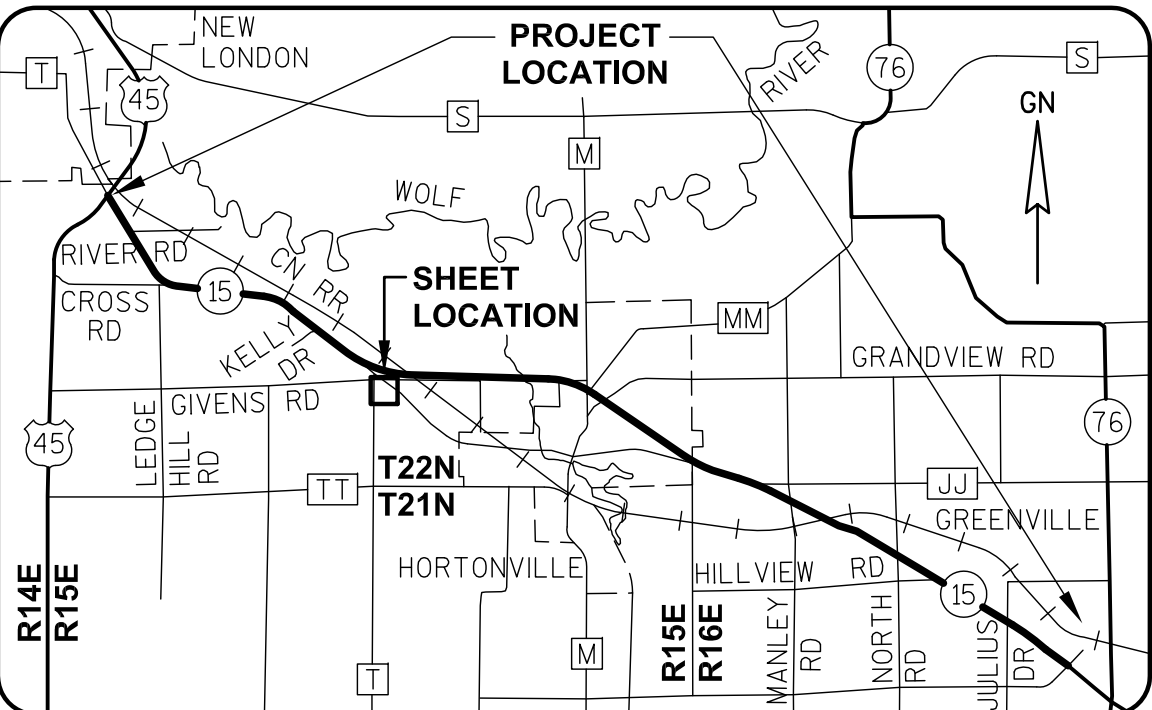
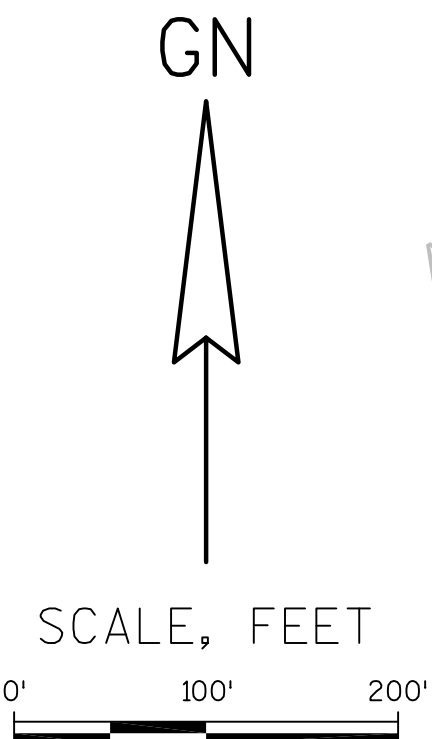
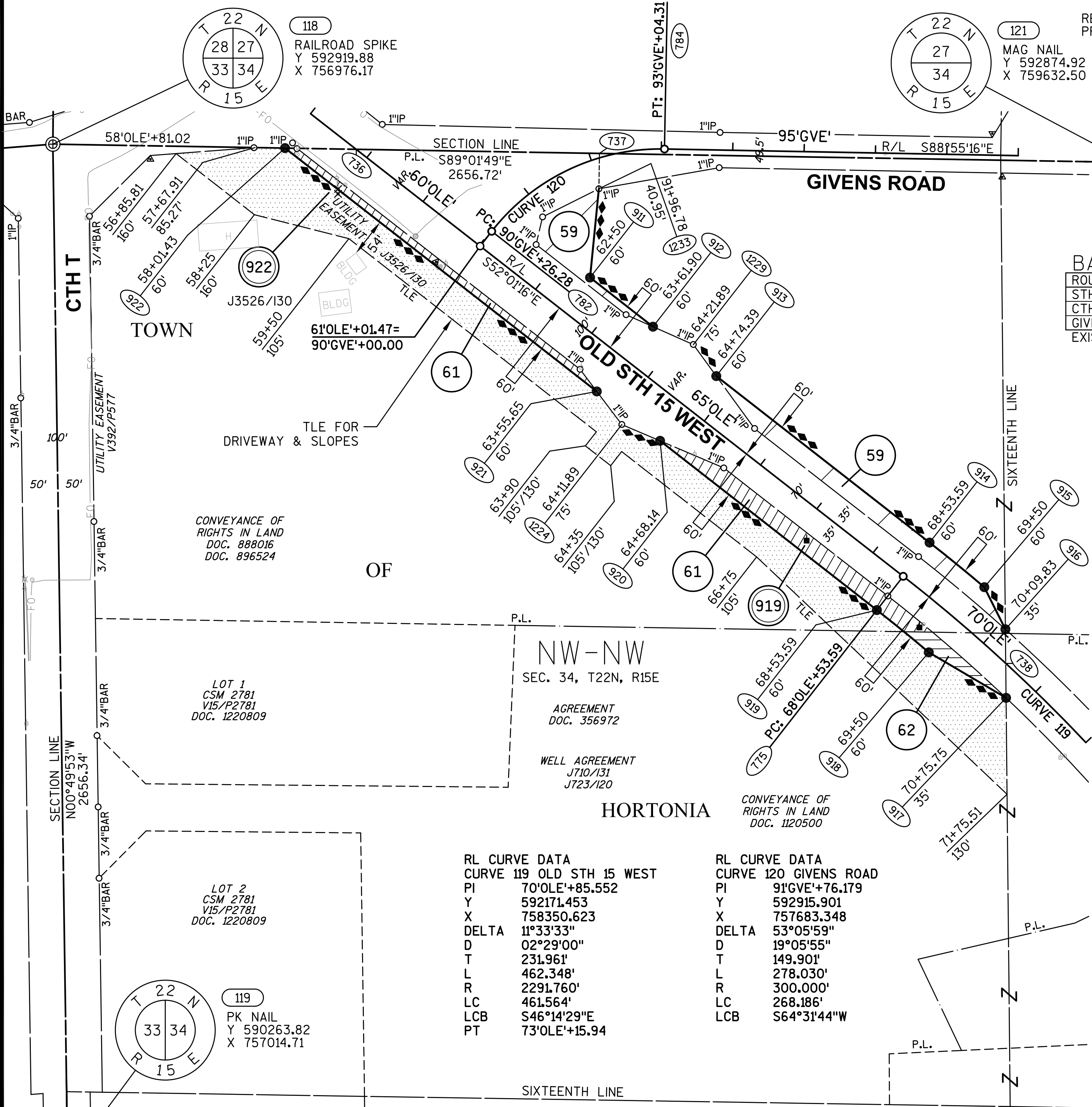
CURVE TABLE

FROM POINT	TO POINT	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
914	915	2351.76'	98.93'	S50°48'57"E	98.93'
918	919	2231.76'	93.89'	N50°48'57"W	93.88'

BASIS OF EXISTING HIGHWAY R/W

ROUTE	BASIS	YEAR
STH 15	TPP NO: 6430-06-00 - 4.11	2011
CTH T	TPP NO: 6430-06-00 - 4.11	2011
GIVENS ROAD	TPP NO: 6430-06-00 - 4.11	2011

EXISTING ACCESS CONTROL: PROJECT 1146-1-22/F 07(19)



I, JAY W. PANETTI, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT
IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE
WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN
DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED
TRANSPORTATION PROJECT PLAT 1146-75-22-4.20, AND THAT SUCH PLAT
CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED
LAND.

DATE 11/06/2014 JAY W. PANETTI
RLS S-2747, FOR GREMMER & ASSOCIATES, INC.

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE
WISCONSIN DEPARTMENT OF TRANSPORTATION.

DATE 3/11/2015 CURT VAN EREM
REAL ESTATE SUPERVISOR

Document Number
VACATION ORDER
TRANSPORTATION PROJECT PLAT

Wisconsin Department of Transportation
s.84.095(3)(b) Wis. Stats.
DT1875 2002

This Vacation Order applies to Transportation Project Plat 1146-75-22-4.21, recorded in Document # 2037965 in the Office of the Register of Deeds for Outagamie County.

Whereas the above described Transportation Project Plat has been determined to be unnecessary for transportation improvement project purposes, said plat is hereby vacated and rescinded.

2069815

Recorded

April 15, 2016 11:12 AM

OUTAGAMIE COUNTY
SARAH R VAN CAMP
REGISTER OF DEEDS

Fee Amount: \$30.00
Total Pages: 1

This space is reserved for recording data

Return to

Wisconsin Department of Transportation
NE Region
944 Vanderperren Way
Green Bay, WI 54304

Attn: Real Estate

Parcel Identification Number/Tax Key Number
R/W

This Vacation Order has been approved by the Wisconsin Department of Transportation.

Carolyn Sampson
(Signature)
Carolyn Sampson
(Print Name)

Right of Way Plat Coordinator
(Title)

4-12-16
(Date)

State of Wisconsin)
Brown County) ss.

On the above date, this instrument was acknowledged before me by the named person(s).

Ruth A Johnson
(Signature, Notary Public, State of Wisconsin)

Ruth A Johnson
(Print or Type Name, Notary Public, State of Wisconsin)

4-17-17
(Date Commission Expires)

(Seal)

SCHEDULE OF LANDS & INTERESTS
REQUIRED

PARCEL OWNER (S) NUMBER	INTEREST REQUIRED	R/W NEW	ACRES EXISTING	ACRES REQUIRED TOTAL	TLE ACRES TEMP.
60 JOHN WILLIAM SHARKEY & MARY K. SHARKEY	TLE	0	0	0	0.238
62 THOMAS J. BOETTCHER & HOLLY J. BOETTCHER	TLE	0	0	0	0.557
65 JAMES R. BOLSSSEN & LINDA M. BOLSSSEN	TLE	0	0	0	0.542

UTILITY INTERESTS REQUIRED:

919	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS
-----	------------------------	-------------------

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT
TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

TRANSPORTATION PROJECT PLAT NO: 1146-75-22 - 4.21

PART LOT 1 OF CSM 2313, PART OF THE NE1/4-NW1/4 AND PART OF THE SE1/4-NW1/4 OF SECTION 34, T22N, R15E,
ALL IN THE TOWN OF HORTONIA, OUTAGAMIE COUNTY, WISCONSIN

RELOCATION ORDER - STH 15 (LILY OF THE VALLEY DRIVE - USH 45), OUTAGAMIE COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE,
THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND
INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF
TRANSPORTATION HEREBY ORDERS THAT:

- 1) THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
- 2) THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN
THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF TRANSPORTATION
PROJECT PLAT NO: 1146-75-22 - 4.01, AS DOCUMENT #2016623 FOR ADDITIONAL INFORMATION.

Document #: 2037965
Date: 03-16-2015 Time: 08:29 AM
Pages: 1 Fee: \$25.00
County: OUTAGAMIE COUNTY State: WI
SARAH R VAN CAMP, REGISTER OF DEEDS
***The above recording information verifies
this document has been electronically
recorded and returned to the submitter***

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1146-75-22- 4.21
AMENDMENT NO:

BASIS OF EXISTING HIGHWAY R/W

ROUTE	BASIS	YEAR
STH 15	TPP NO: 6430-06-00 - 4.11, CERTIFIED SURVEY MAP 2313	2011 1995
EXISTING ACCESS CONTROL: PROJECT 1146-1-22/F 07(19)		

COURSE TABLE

FROM POINT	TO POINT	BEARING	DISTANCE
118	749	S89°01'49"E	1328.36'
749	738	S00°34'29"E	705.19'
*738	777	S43°53'08"E	273.71'
777	778	S40°27'43"E	501.41'
*778	780	S41°25'23"E	192.20'
780	5580	S47°36'58"W	35.00'
*5580	5581	N41°25'23"W	193.37'
5581	5582	N40°27'43"W	155.46'
5582	5583	N54°29'54"W	103.07'
5583	5584	N26°25'37"W	103.08'
5584	5586	N40°27'40"W	145.95'
*5586	917	N43°27'54"W	236.41'
917	738	N00°34'29"W	48.40'

*SEE CURVE TABLE

CURVE TABLE

FROM POINT	TO POINT	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
738	777	2291.76'	273.88'	S43°53'08"E	273.71'
778	780	5729.58'	192.20'	S41°25'23"E	192.20'
5580	5581	5764.58'	193.38'	N41°25'23"W	193.37'
5586	917	2256.76'	236.52'	N43°27'54"W	236.41'

VACATED

OF

NE-NW

SEC. 34, T22N, R15E

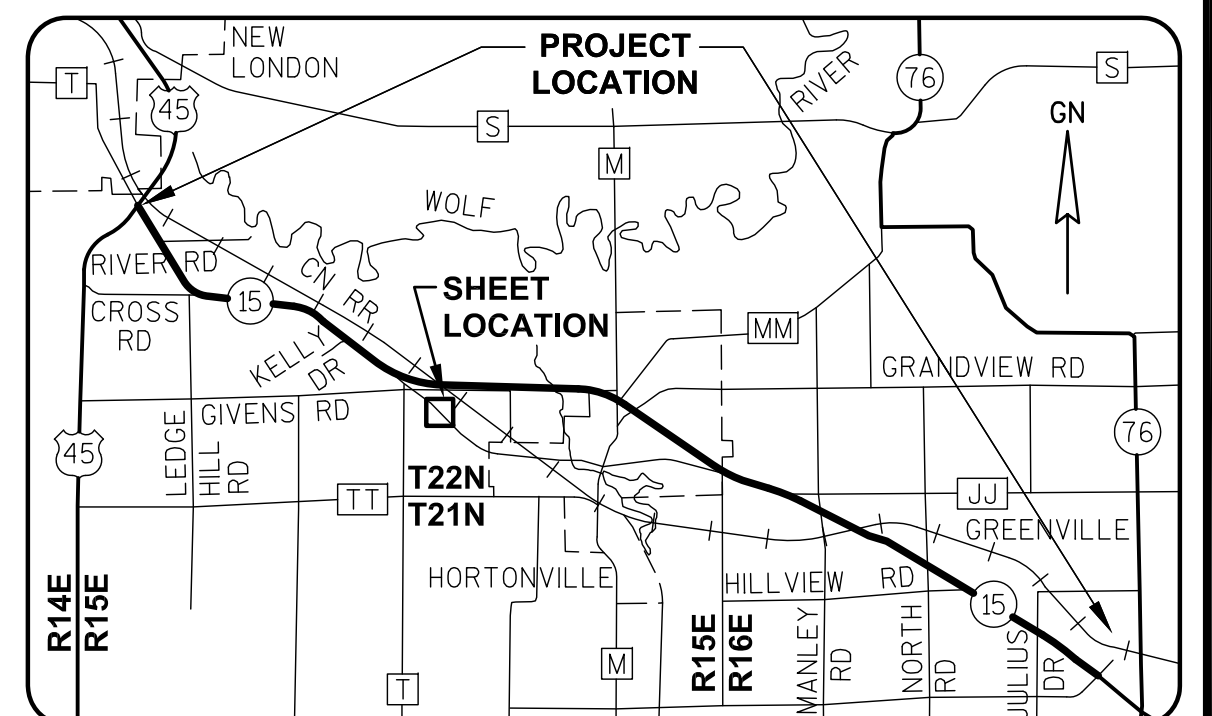
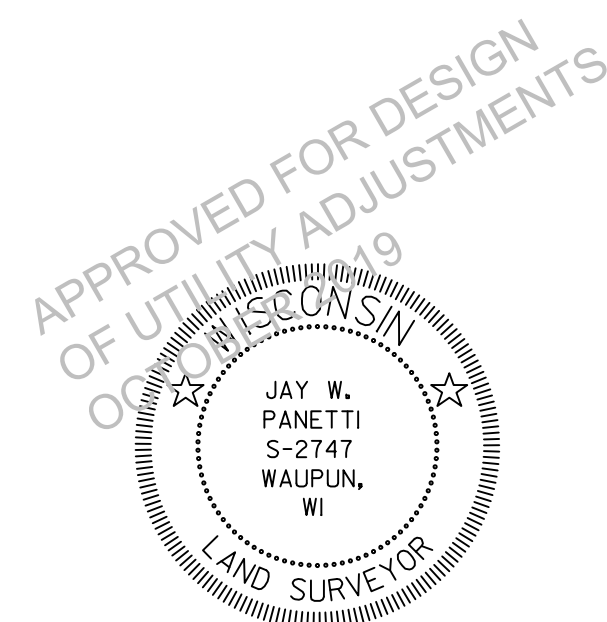
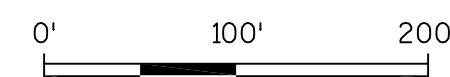
CONVEYANCE OF
RIGHTS IN LAND
DOC. 888016

HORTONIA

KLUGE
PLAT OF SURVEY

GN

SCALE, FEET



GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac

I, JAY W. PANETTI, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT
IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE
WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN
DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED
TRANSPORTATION PROJECT PLAT 1146-75-22-4.21, AND THAT SUCH PLAT
CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED
LAND.

DATE 11/06/2014 JAY W. PANETTI
RLS S-2747, FOR GREMMER & ASSOCIATES, INC.
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE
WISCONSIN DEPARTMENT OF TRANSPORTATION.
DATE 3/11/2015 CURT VAN EREM
REAL ESTATE SUPERVISOR

REVISED: 11/06/2014

040421.15.DWG

APPRAISAL PLAT DATE:

SCHEDULE OF LANDS & INTERESTS
REQUIRED

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED			H.E. TLE ACRES PERM.	ACRES TEMP.
			NEW	EXISTING	TOTAL		
58	WISCONSIN CENTRAL, LTD.	HIGHWAY EASEMENT	0	0	0	0.756	0
59	KEVIN SAMBS & JANE SAMBS	FEE	12.190	0	12.190	0	0

UTILITY INTERESTS REQUIRED:

922	AT&T WISCONSIN	RELEASE OF RIGHTS
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OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT
TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

TRANSPORTATION PROJECT PLAT NO: 1146-75-22 - 4.22
AMENDMENT NO: 1

ADDS STRUCTURES TO BE REMOVED FROM PARCEL 59 OF TRANSPORTATION PROJECT PLAT 1146-75-22-4.22,
RECORDED AS DOCUMENT #2037966.
PART OF THE SE1/4-SW1/4 OF SECTION 27, T22N, R15E, TOWN OF HORTONIA, OUTAGAMIE COUNTY, WISCONSIN

RELOCATION ORDER - STH 15 (LILY OF THE VALLEY DRIVE - USH 45), OUTAGAMIE COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE,
THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND
INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF
TRANSPORTATION HEREBY ORDERS THAT:

- 1) THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
- 2) THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN
THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

Document #: **2065979**
Date: **02-18-2016** Time: **02:44 PM**
Pages: **1** Fee: **\$25.00**
County: **OUTAGAMIE COUNTY** State: **WI**
SARAH R VAN CAMP, REGISTER OF DEEDS
This document has been electronically
recorded and returned to:
WidOtheRegionGreenbay

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1146-75-22- 4.22
AMENDMENT NO: 1

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF TRANSPORTATION
PROJECT PLAT NO: 1146-75-22 - 4.01, AS DOCUMENT #2016623 FOR ADDITIONAL INFORMATION.

BASIS OF EXISTING HIGHWAY R/W

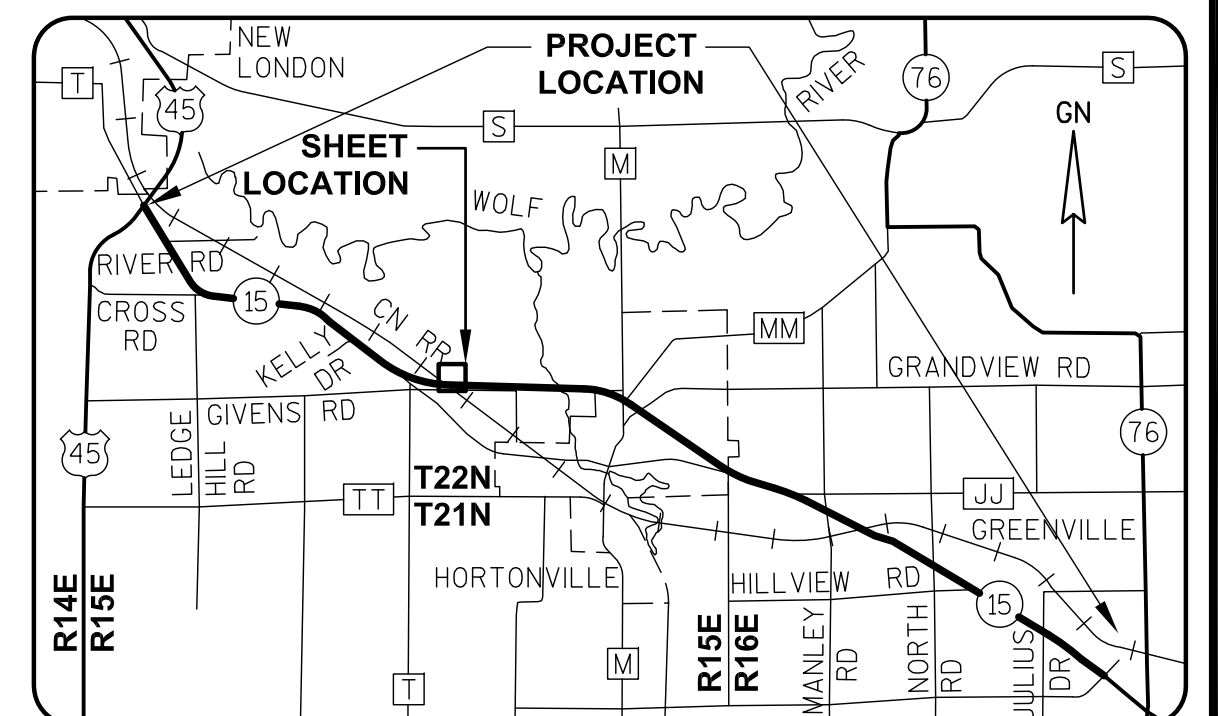
ROUTE	BASIS	YEAR
GIVENS ROAD	TPP NO: 6430-06-00 - 4.11	2011
WISCONSIN CENTRAL, LTD. RAILROAD	V39/P344	1876

RL CURVE DATA
CURVE 111 STH 15 EB
PI 292'EB'+98.857
Y 593223.171
X 759542.903
DELTA 08°52'45"
D 00°33'11"
T 804.363'
L 1605.506'
R 10360.000'
LC 1603.900'
LCB S84°15'30"E
PT 301'EB'+00.00

120
2" IRON PIPE
Y 595495.61
X 759673.25

GN

SCALE, FEET



GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac

I, JAY W. PANETTI, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY
THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF
THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN
DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED
TRANSPORTATION PROJECT PLAT 1146-75-22-4.22, AND THAT SUCH PLAT
CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED
LAND.

DATE 2/3/2016 JAY W. PANETTI
PLS S-2747, FOR GREMMER & ASSOCIATES, INC.
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE
WISCONSIN DEPARTMENT OF TRANSPORTATION.
DATE 2/18/2016 CURT VAN EREM
REAL ESTATE SUPERVISOR

REVISED: 2/3/2016

040422_15.DWG

APPRAISAL PLAT DATE:

SCHEDULE OF LANDS & INTERESTS
REQUIRED

PARCEL OWNER (S) NUMBER	INTEREST REQUIRED	R/W ACRES REQUIRED			ACRES PERM.	ACRES TEMP.
		NEW	EXISTING	TOTAL		
58	WISCONSIN CENTRAL, LTD.	HIGHWAY EASEMENT	0	0	0	0.756
59	KEVIN SAMBS & JANE SAMBS	FEE	12.190	0	12.190	0

UTILITY INTERESTS REQUIRED:

922	AT&T WISCONSIN	RELEASE OF RIGHTS
-----	----------------	-------------------

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT
TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.
H.E. TLE

TRANSPORTATION PROJECT PLAT NO: 1146-75-22 - 4.22

PART OF THE SE1/4-SW1/4 OF SECTION 27, T22N, R15E, TOWN OF HORTONIA, OUTAGAMIE COUNTY, WISCONSIN

RELOCATION ORDER - STH 15 (LILY OF THE VALLEY DRIVE - USH 45), OUTAGAMIE COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE,
THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND
INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF
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1) THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2) THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN
THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2 OF TRANSPORTATION
PROJECT PLAT NO: 1146-75-22 - 4.01, AS DOCUMENT #2016623 FOR ADDITIONAL INFORMATION.

Document #: 2037966
Date: 03-16-2015 Time: 08:29 AM
Pages: 1 Fee: \$25.00
County: OUTAGAMIE COUNTY State: WI
SARAH R VAN CAMP, REGISTER OF DEEDS
***The above recording information verifies
this document has been electronically
recorded and returned to the submitter***

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1146-75-22- 4.22
AMENDMENT NO:

BASIS OF EXISTING HIGHWAY R/W

ROUTE	BASIS	YEAR
GIVENS ROAD	TPP NO: 6430-06-00 - 4.11	2011
WISCONSIN CENTRAL, LTD. RAILROAD	V39/P344	1876

RL CURVE DATA
CURVE 111 STH 15 EB
PI 292'EB'+98.857
Y 593223.171
X 759542.903
DELTA 08°52'45"
D 00°33'11"
T 804.363'
L 1605.506'
R 10360.000'
LC 1603.900'
LCB S84°15'30"E
PT 301'EB'+00.00

120
2" IRON PIPE
Y 595495.61
X 759673.25

3/4" BAR

QUARTER LINE
N00°53'27"E
2621.01'

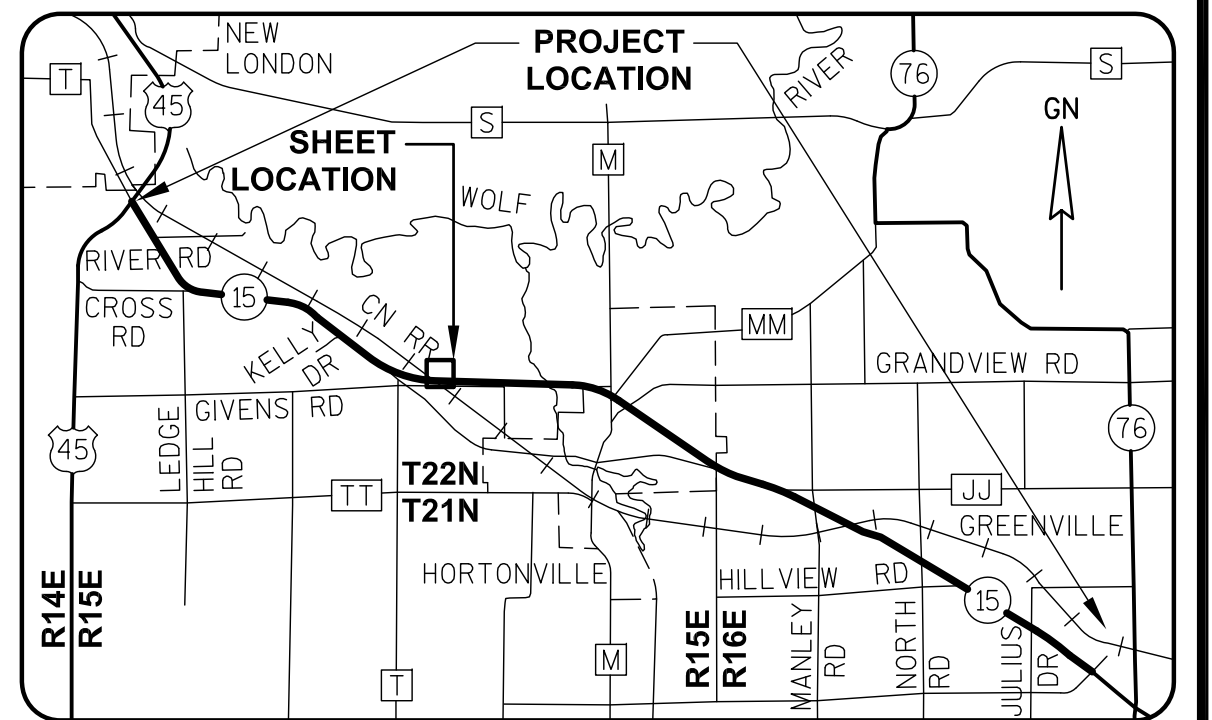
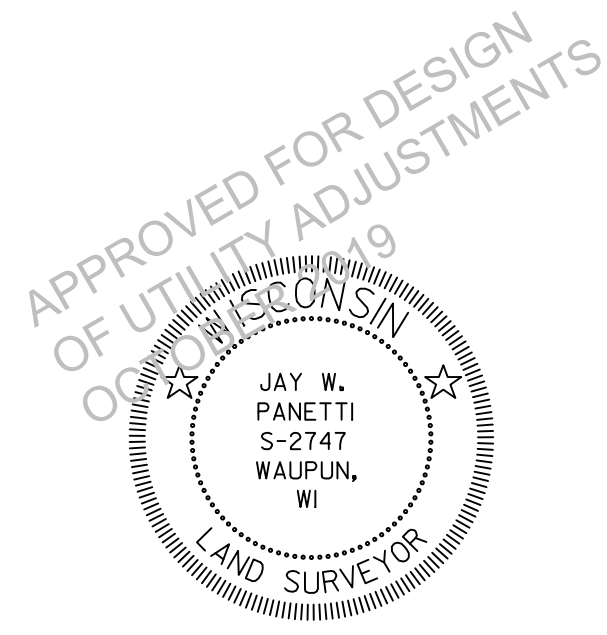
924

293'EB'+89.91
P.L.
293+72.06
230'

295'EB'

SCALE, FEET
0' 100' 200'

GN



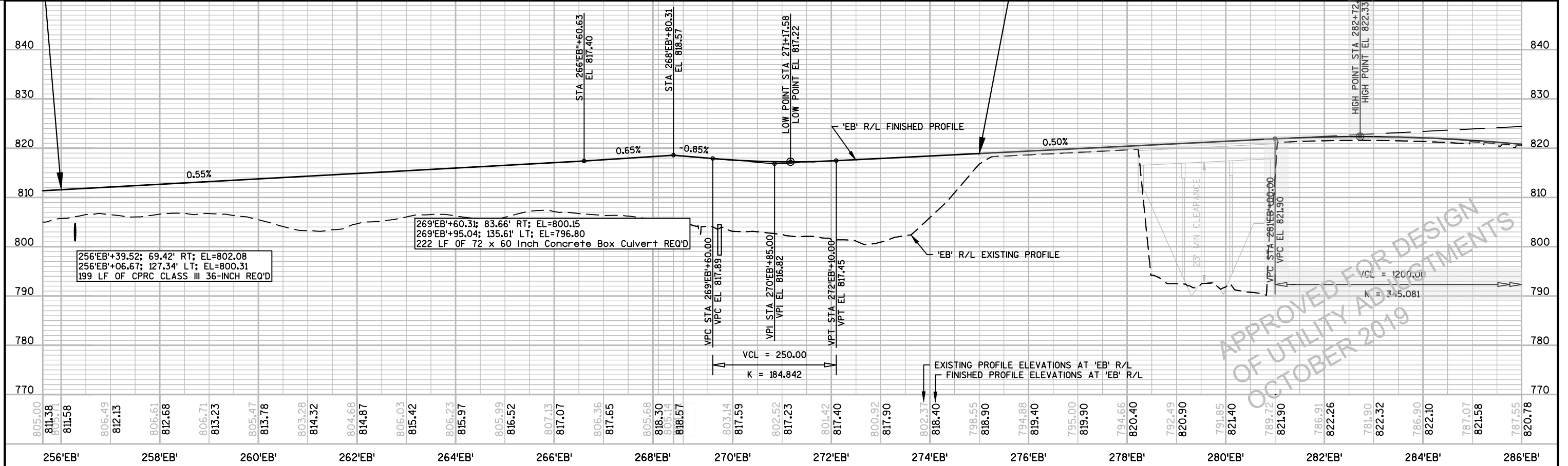
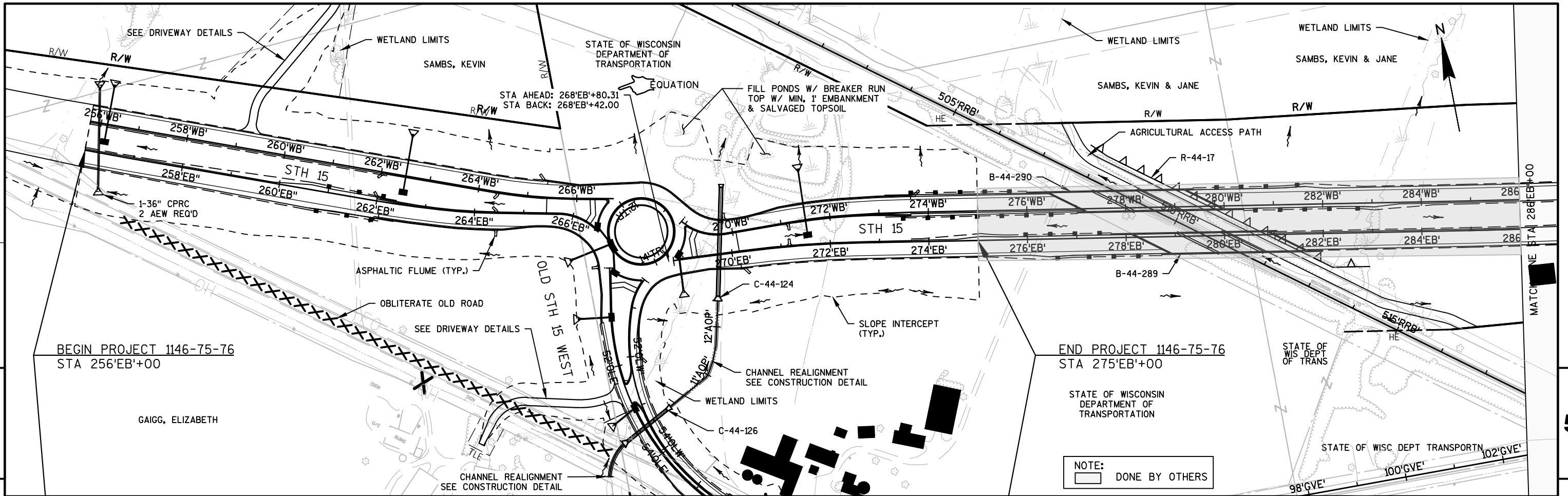
I, JAY W. PANETTI, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT
IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE
WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN
DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED
TRANSPORTATION PROJECT PLAT 1146-75-22-4.22, AND THAT SUCH PLAT
CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED
LAND.

DATE 11/06/2014 JAY W. PANETTI
RLS S-2747, FOR GREMER & ASSOCIATES, INC.
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE
WISCONSIN DEPARTMENT OF TRANSPORTATION.
DATE 3/11/2015 CURT VAN EREM
REAL ESTATE SUPERVISOR

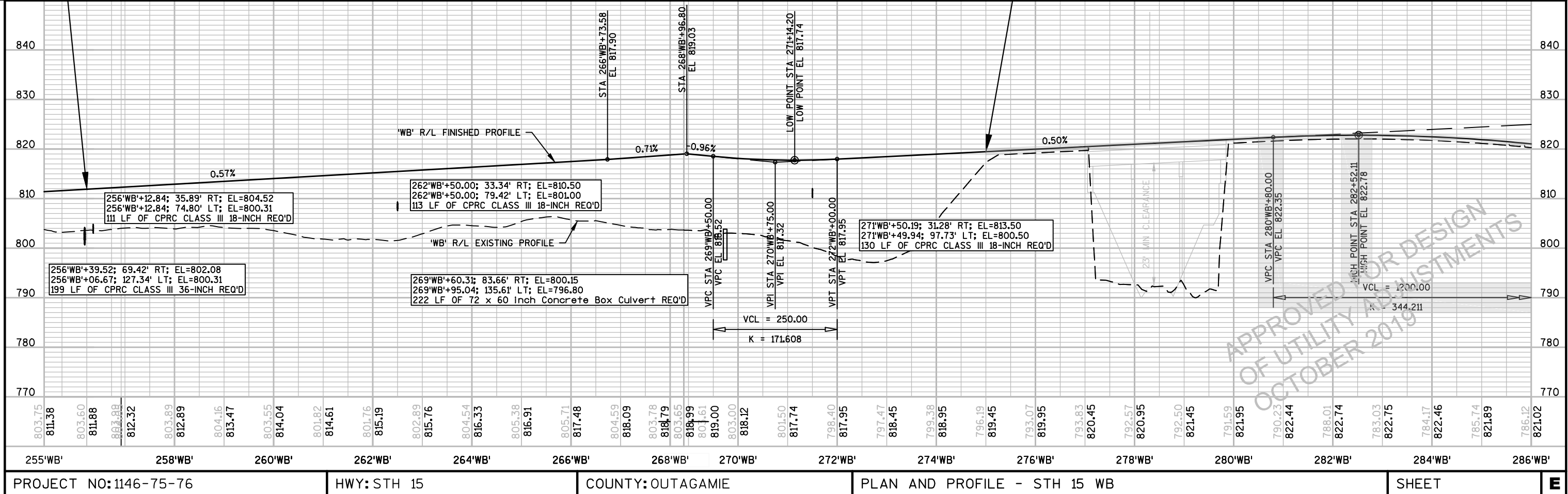
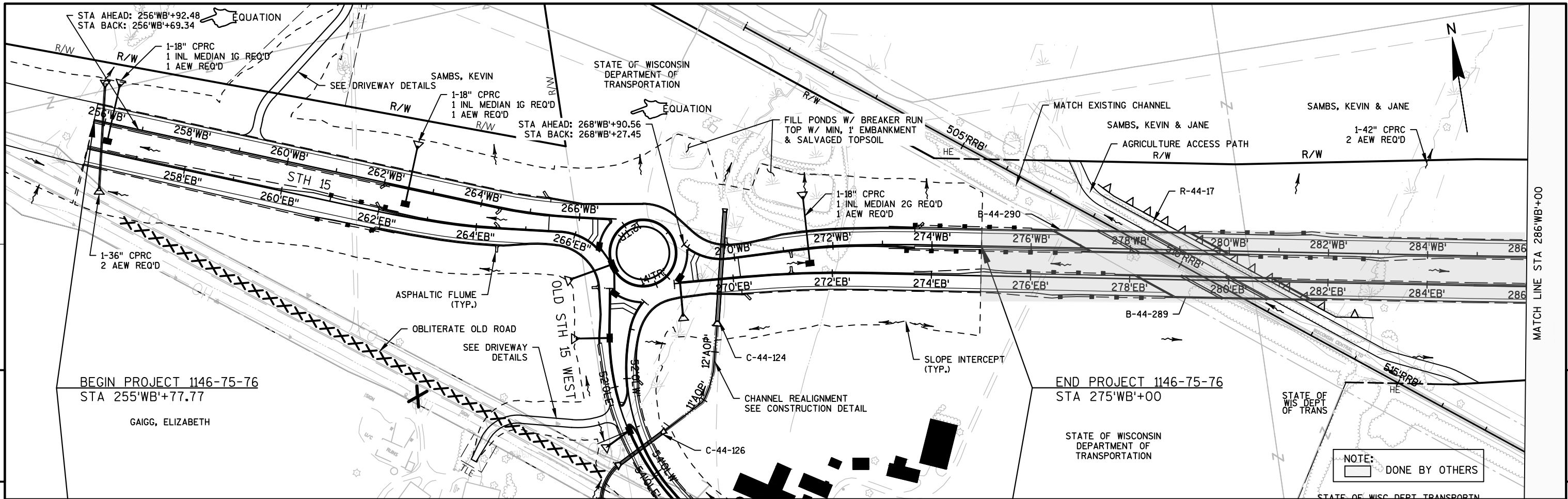
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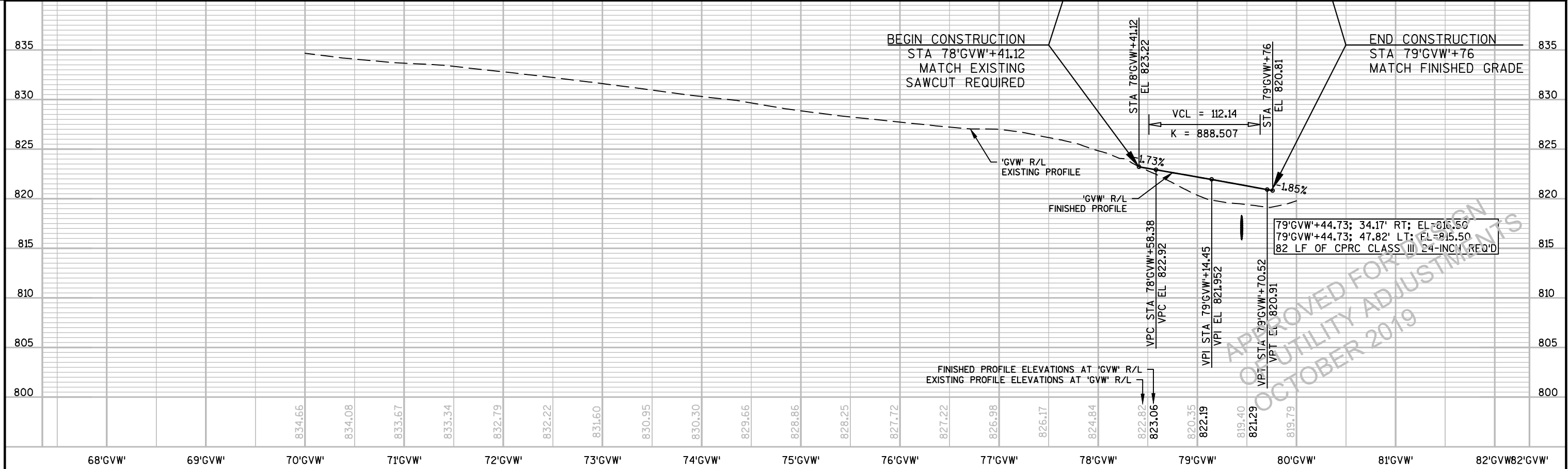
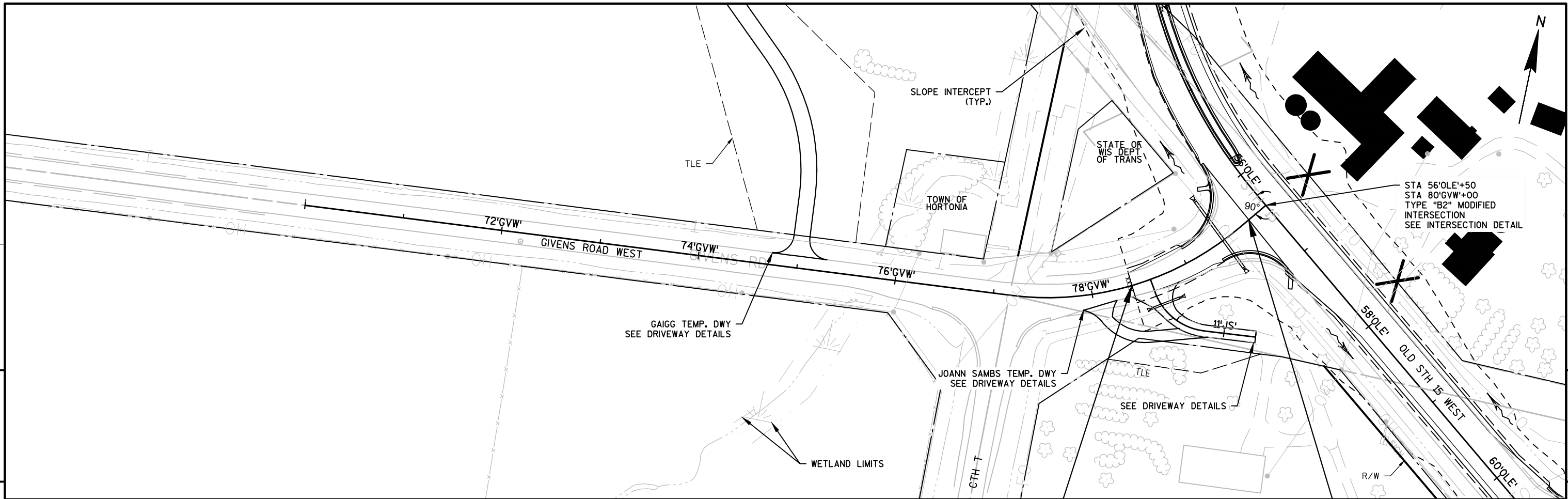
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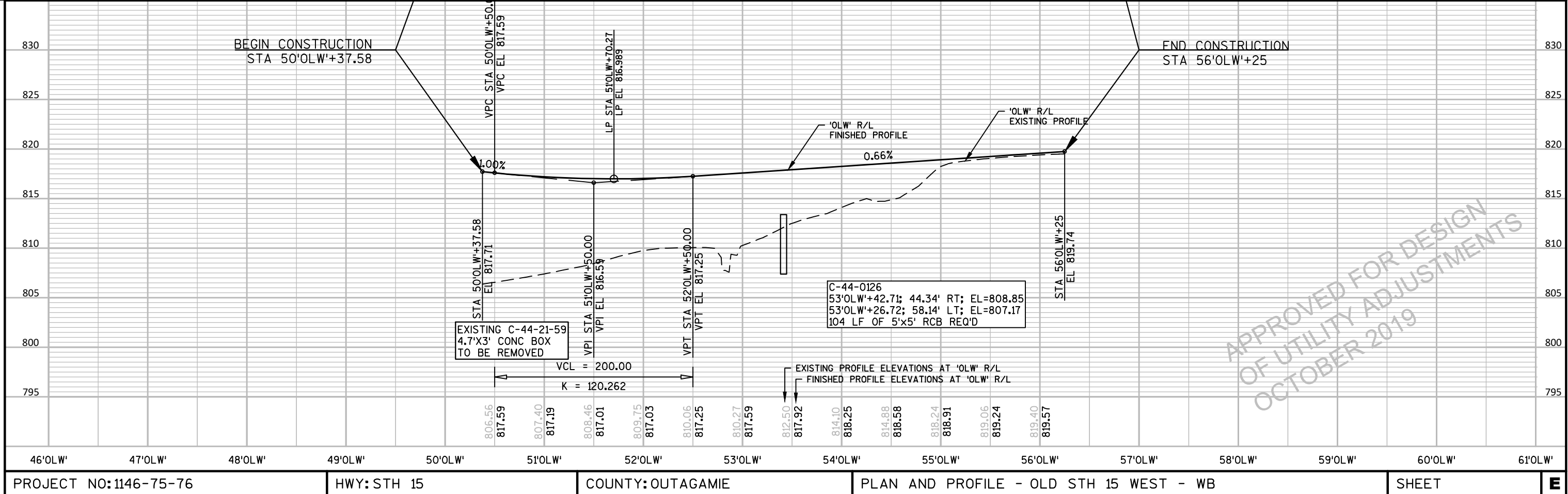
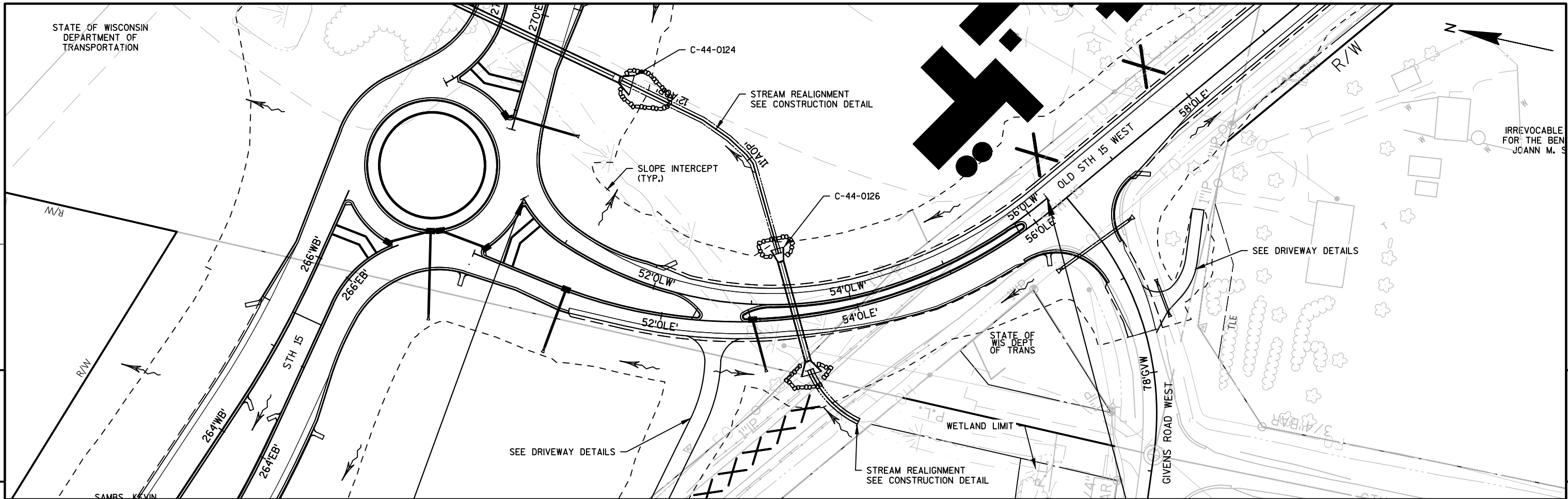
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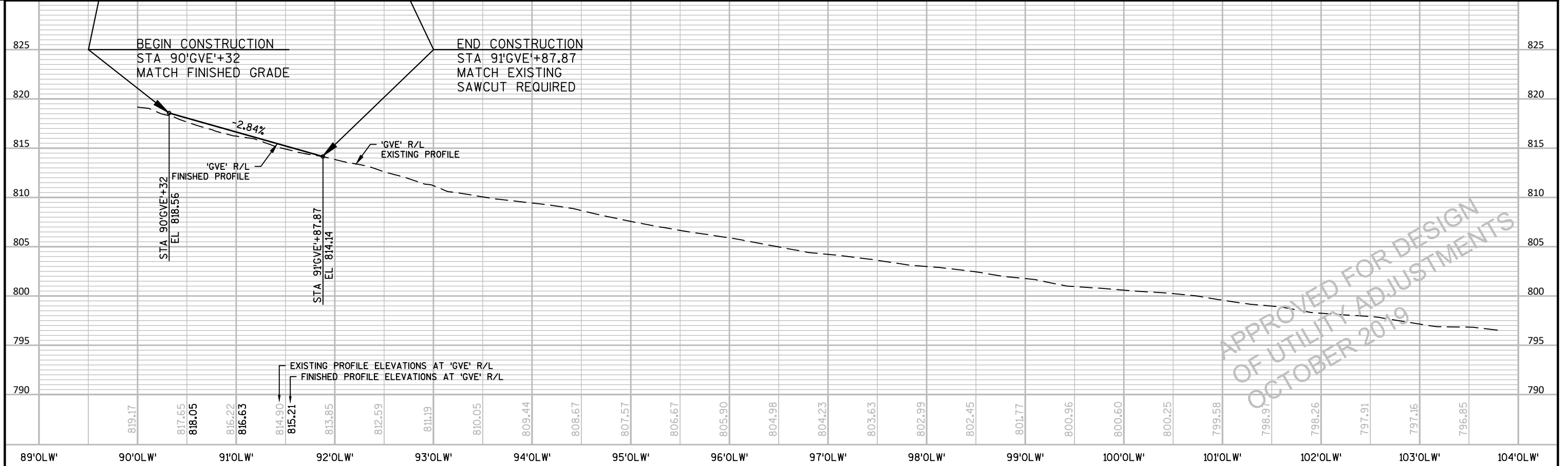
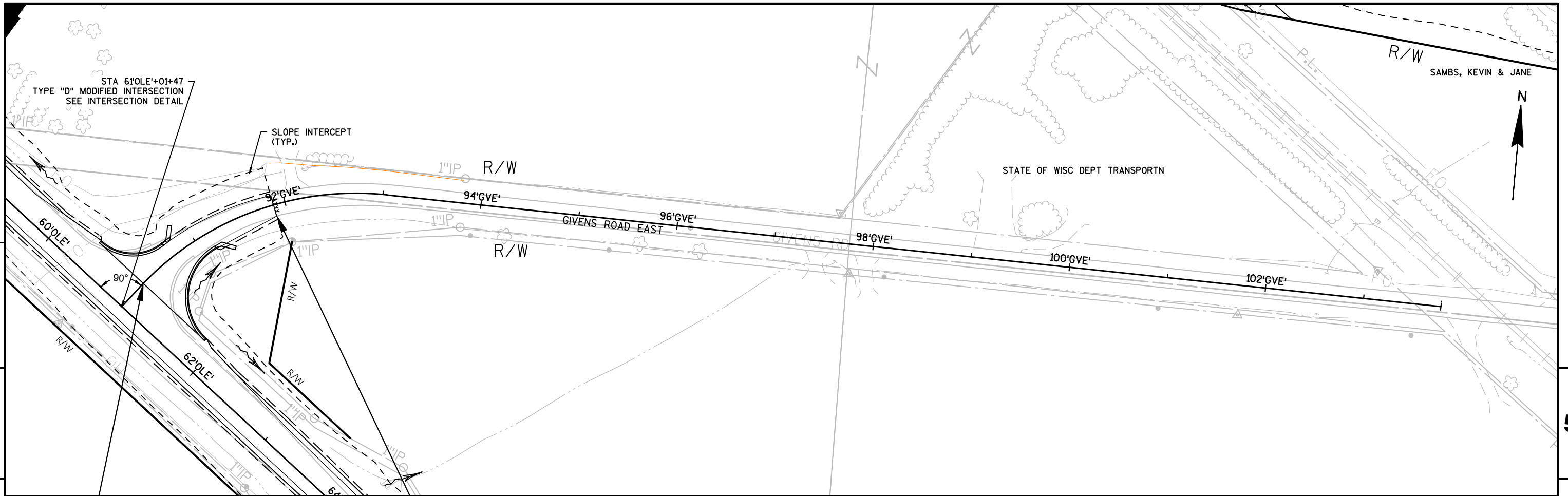


PROJECT NO: 1146-75-76	HWY: STH 15	COUNTY: OUTAGAMIE	PLAN AND PROFILE - STH 15 EB	SHEET	5
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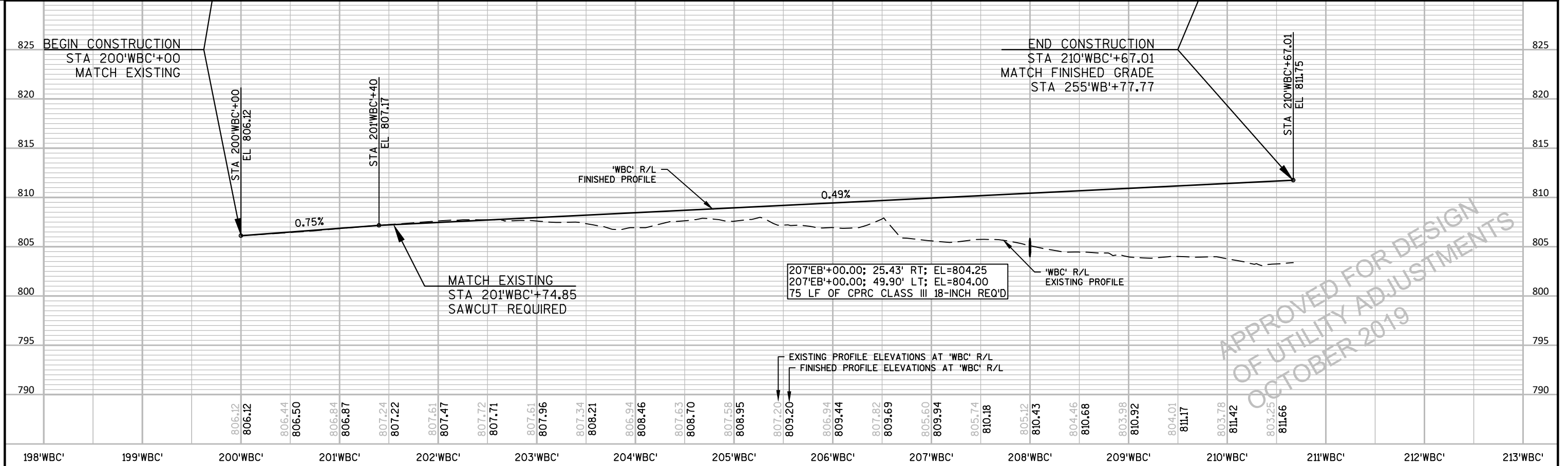
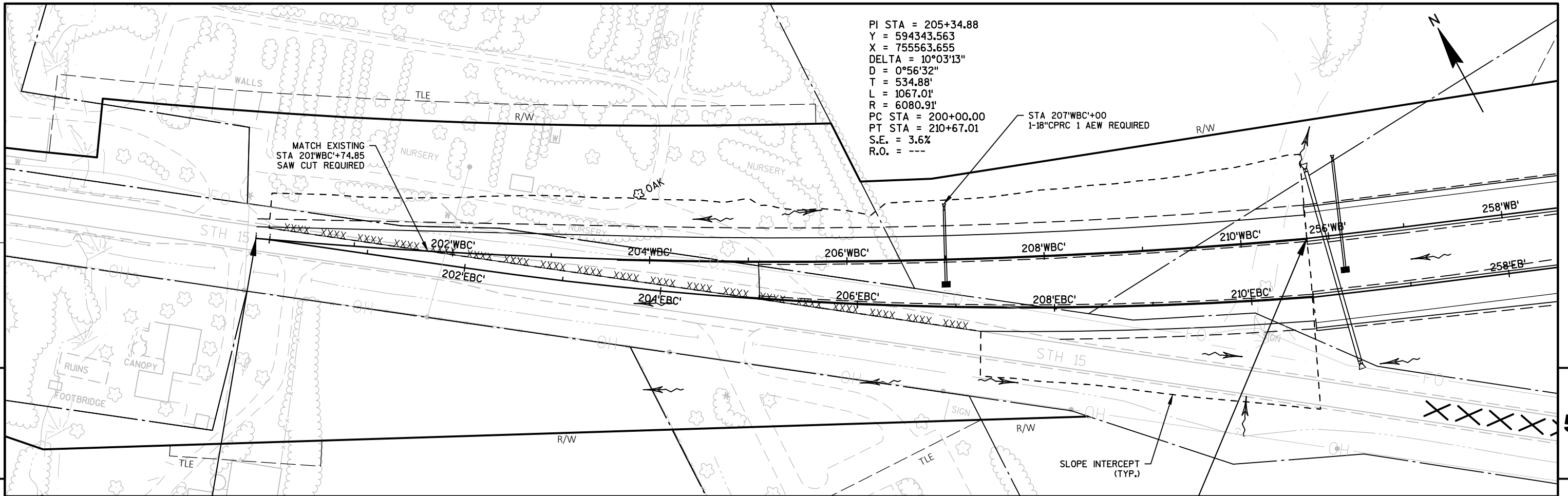




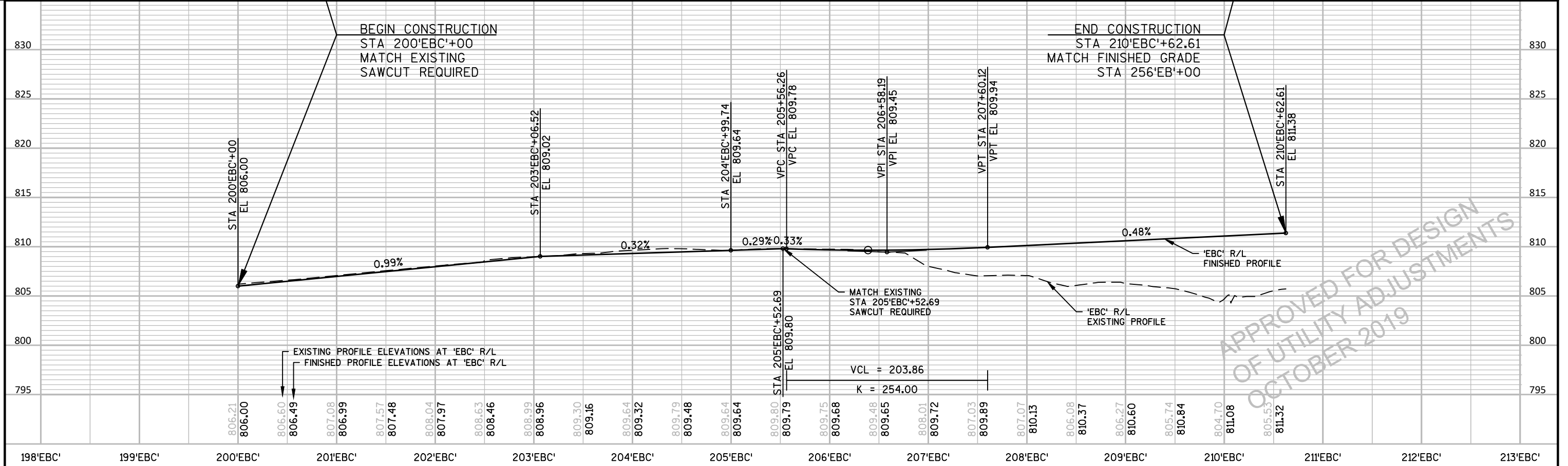
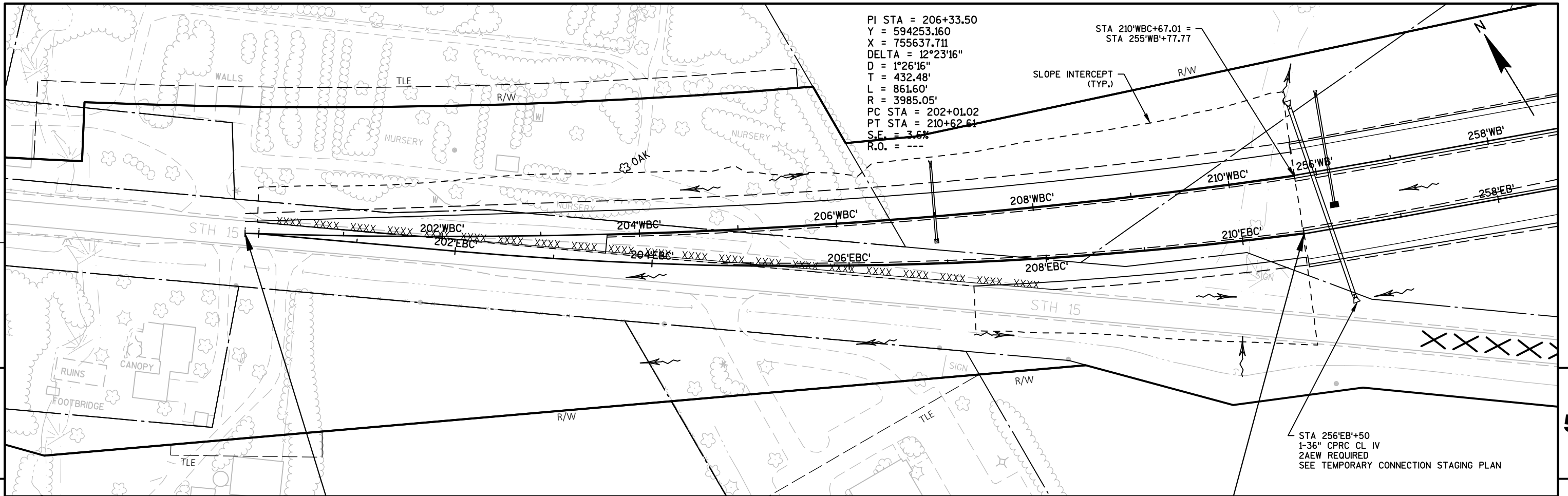




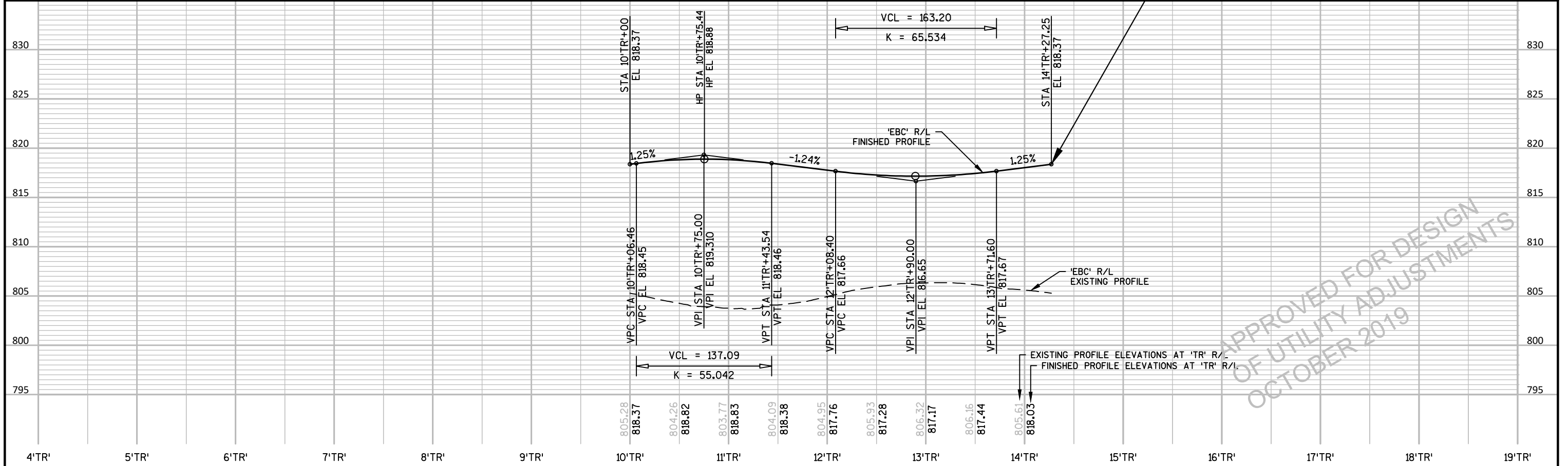
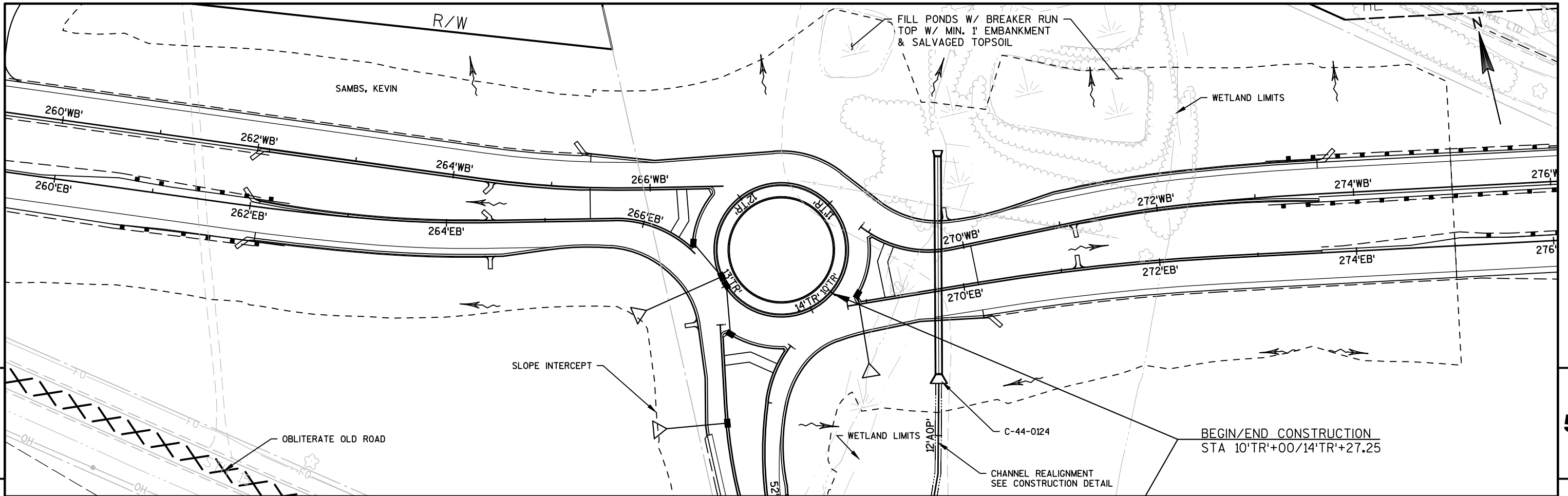
PROJECT NO: 1146-75-76	HWY: STH 15	COUNTY: OUTAGAMIE	PLAN AND PROFILE - GIVENS ROAD EAST	SHEET	5
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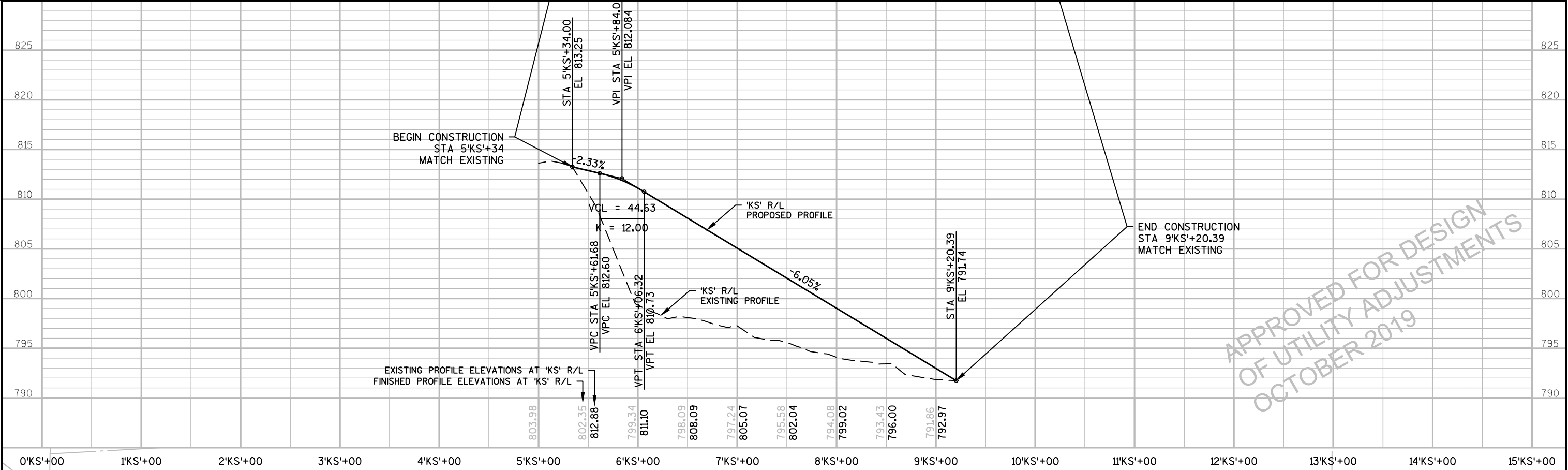
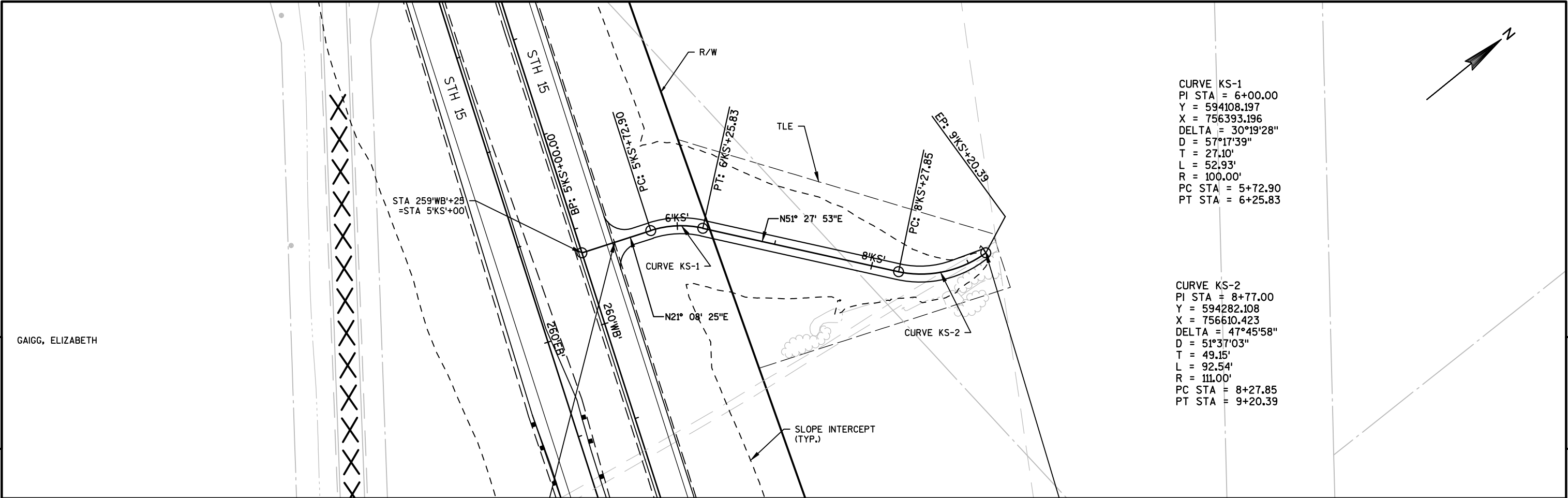


198'WBC'	199'WBC'	200'WBC'	201'WBC'	202'WBC'	203'WBC'	204'WBC'	205'WBC'	206'WBC'	207'WBC'	208'WBC'	209'WBC'	210'WBC'	211'WBC'	212'WBC'	213'WBC'
PROJECT NO: 1146-75-76			HWY: STH 15			COUNTY: OUTAGAMIE			PLAN AND PROFILE - TEMPORARY CONNECTION - WESTBOUND				SHEET		E

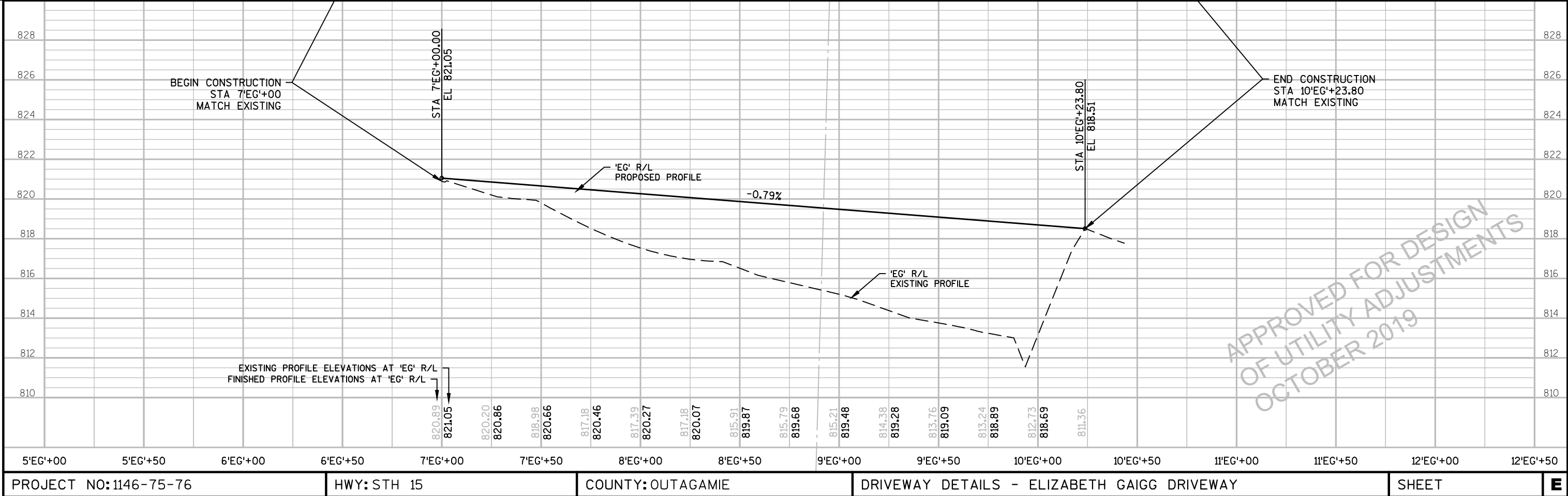
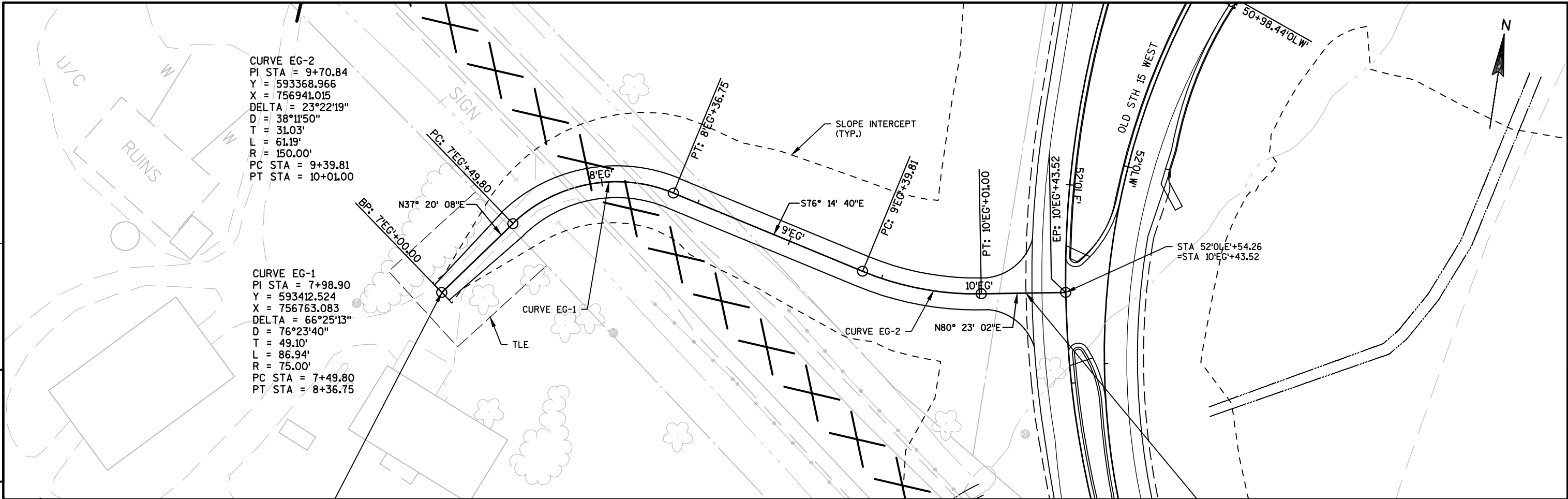


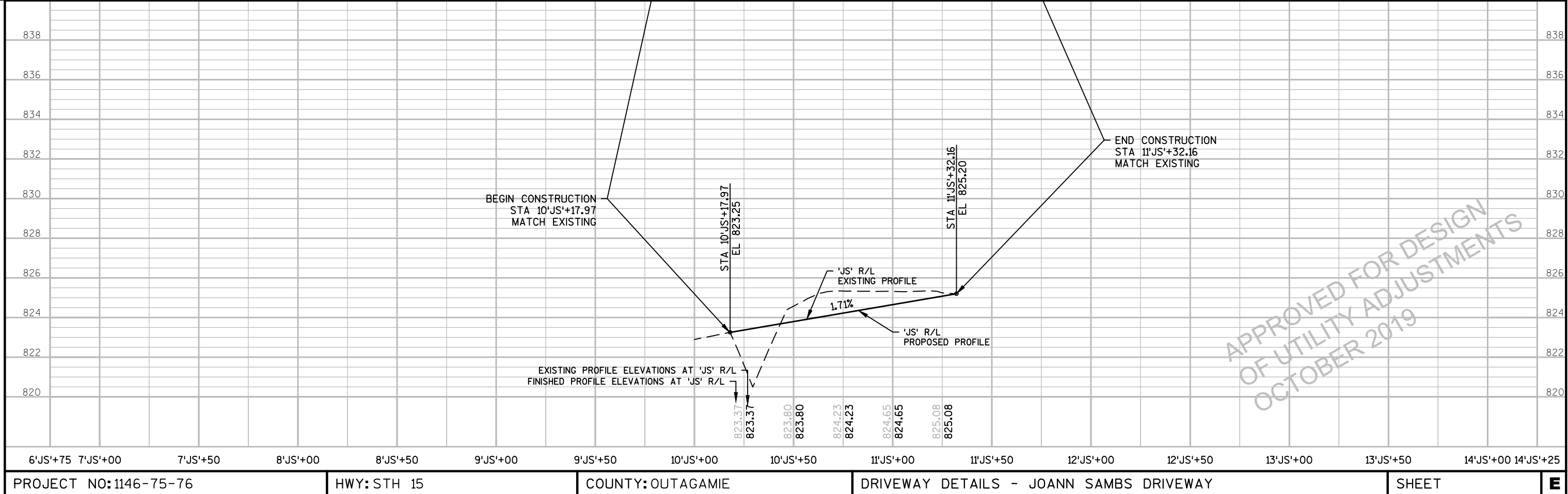
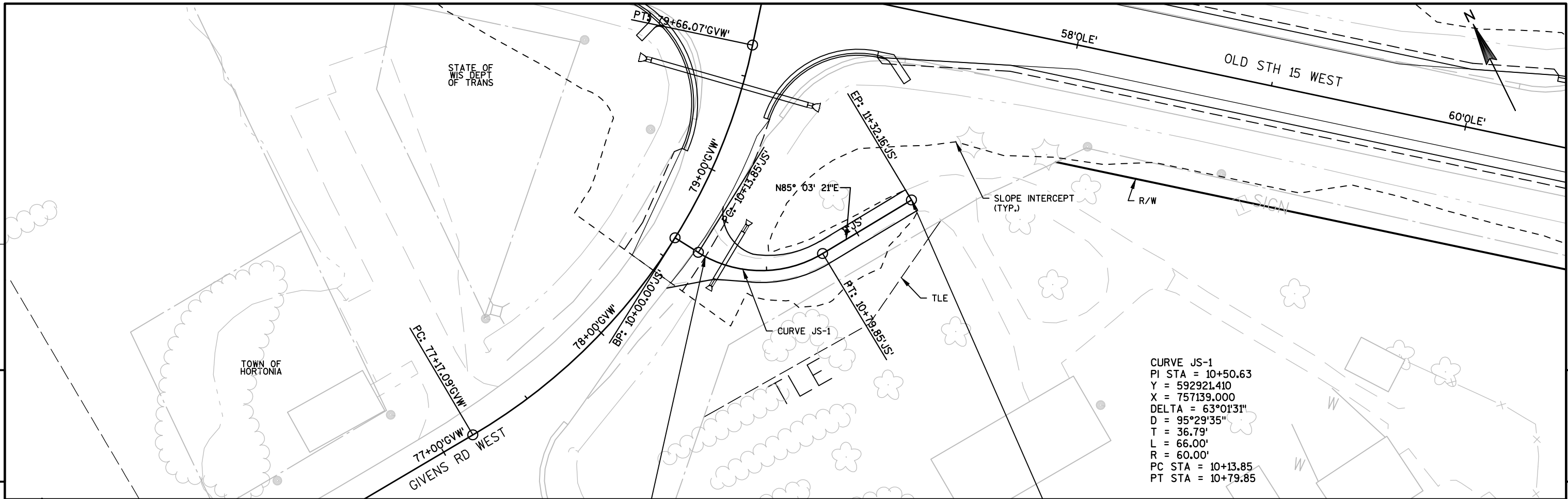
PROJECT NO: 1146-75-76	HWY: STH 15	COUNTY: OUTAGAMIE	PLAN AND PROFILE - TEMPORARY CONNECTION - EASTBOUND	SHEET	E
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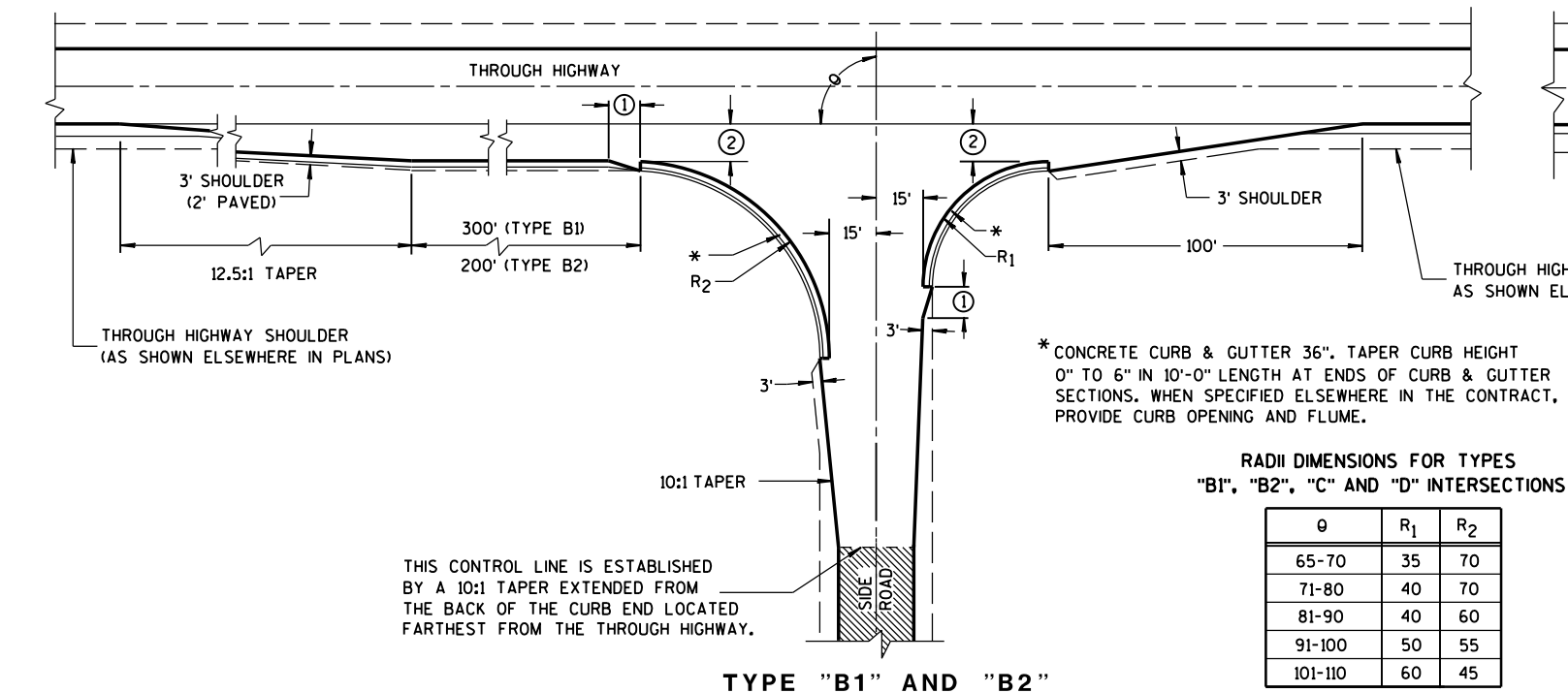




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RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R ₁	R ₂
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

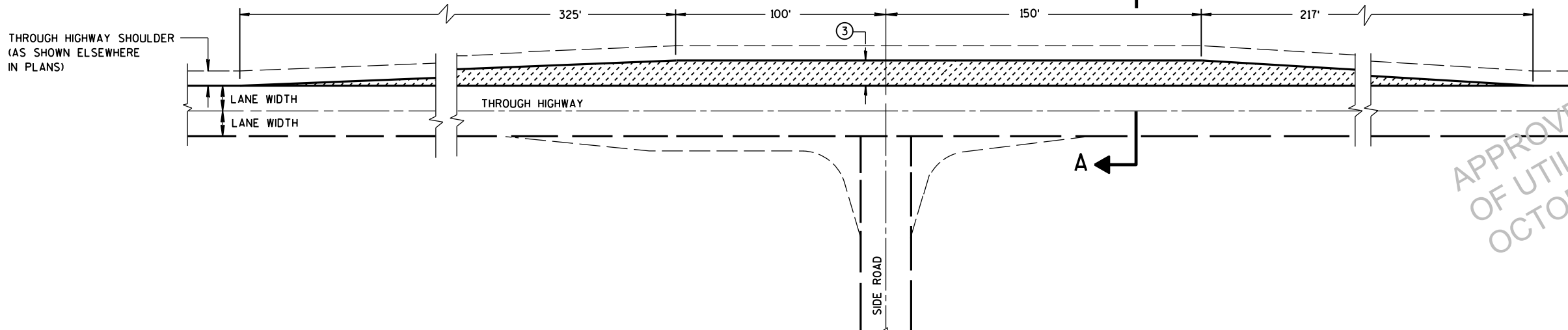
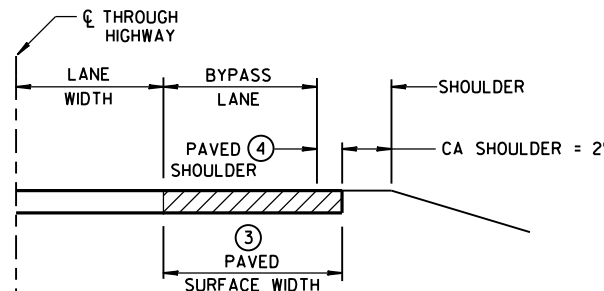
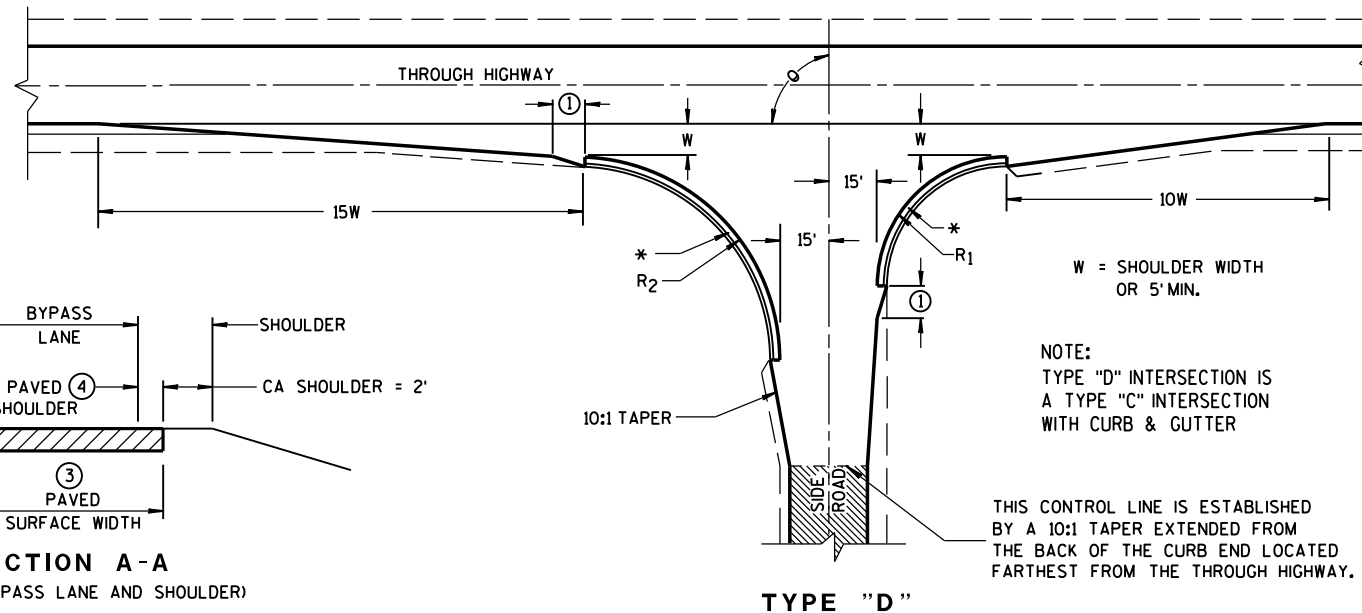
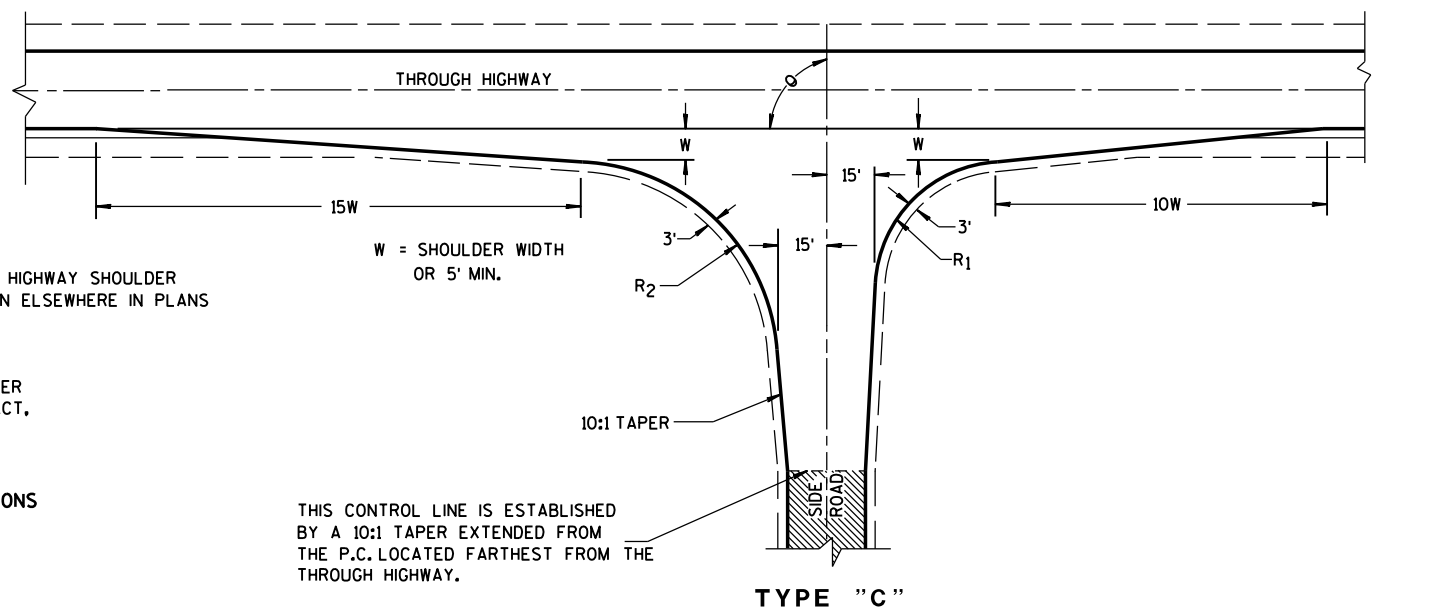
WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

- 10-FT TYPICAL.
- 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.

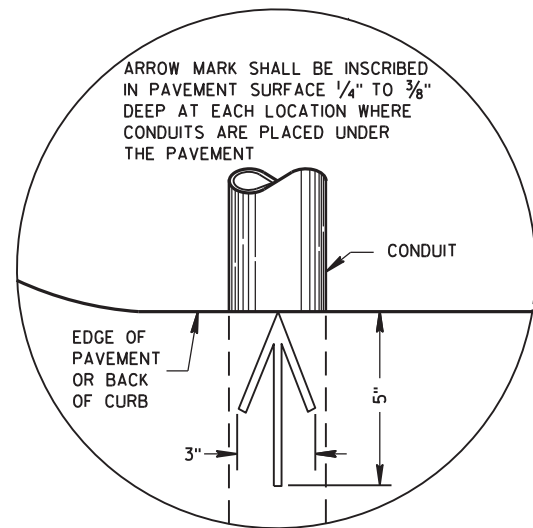


TEE INTERSECTION BYPASS LANE DETAIL

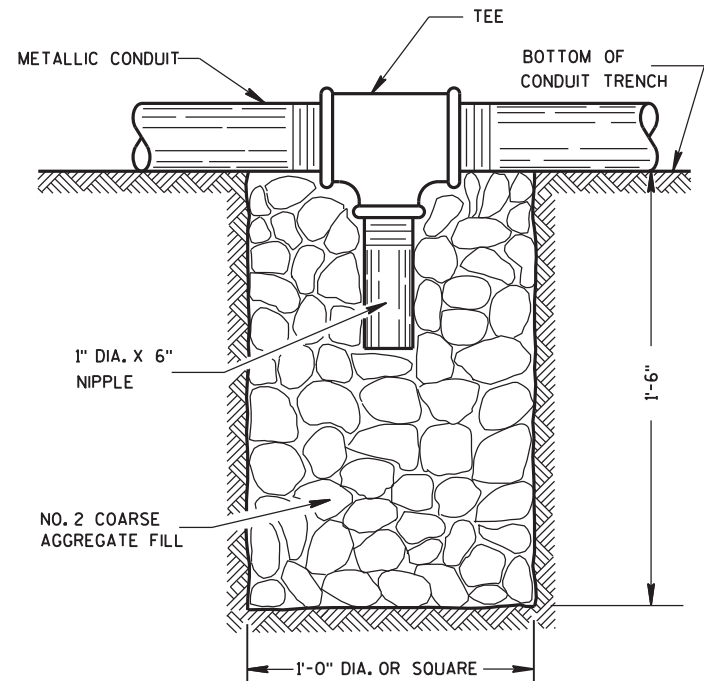
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OCTOBER 2019

AT-GRADE SIDE ROAD
INTERSECTION, TYPES "B1", "B2",
"C" AND "D" AND TEE
INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

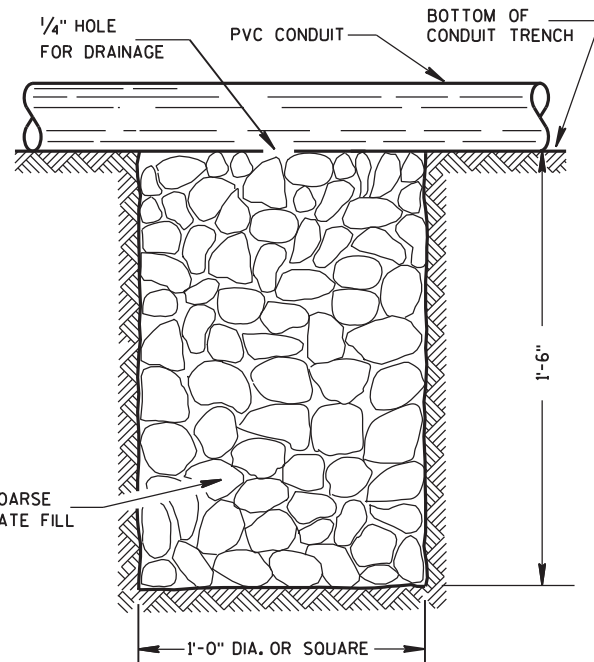


PLAN VIEW
ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

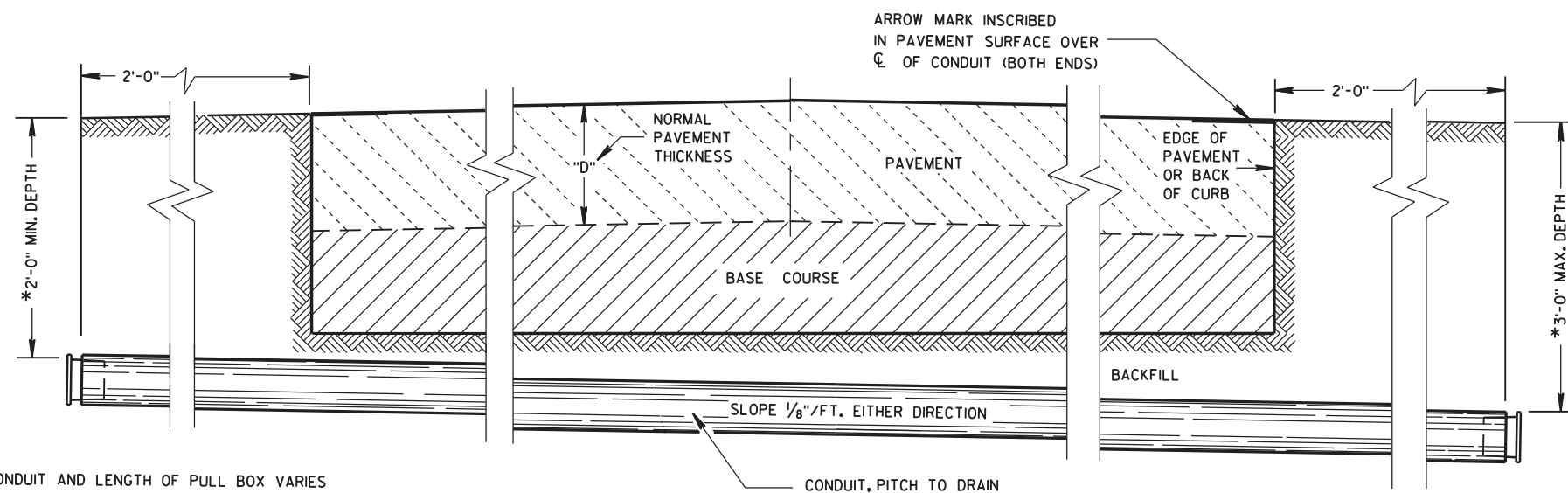
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019

CONDUIT UNDER PAVED HIGHWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014
DATE

FHWA

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

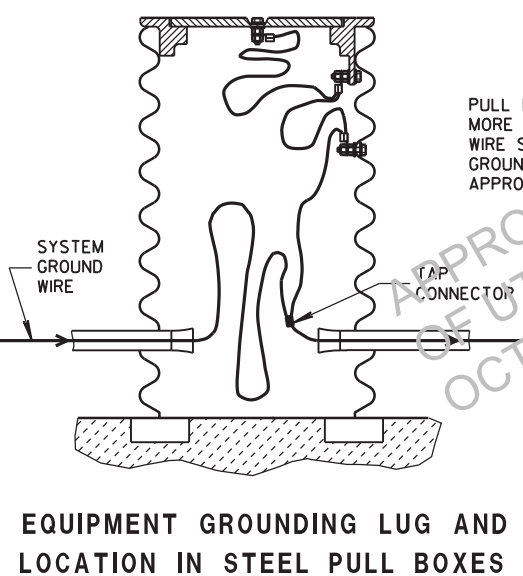
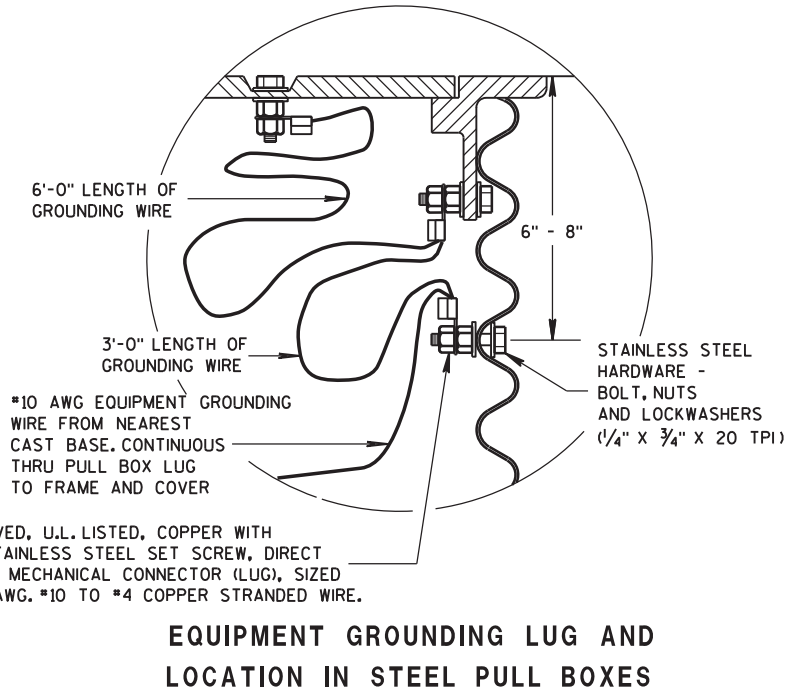
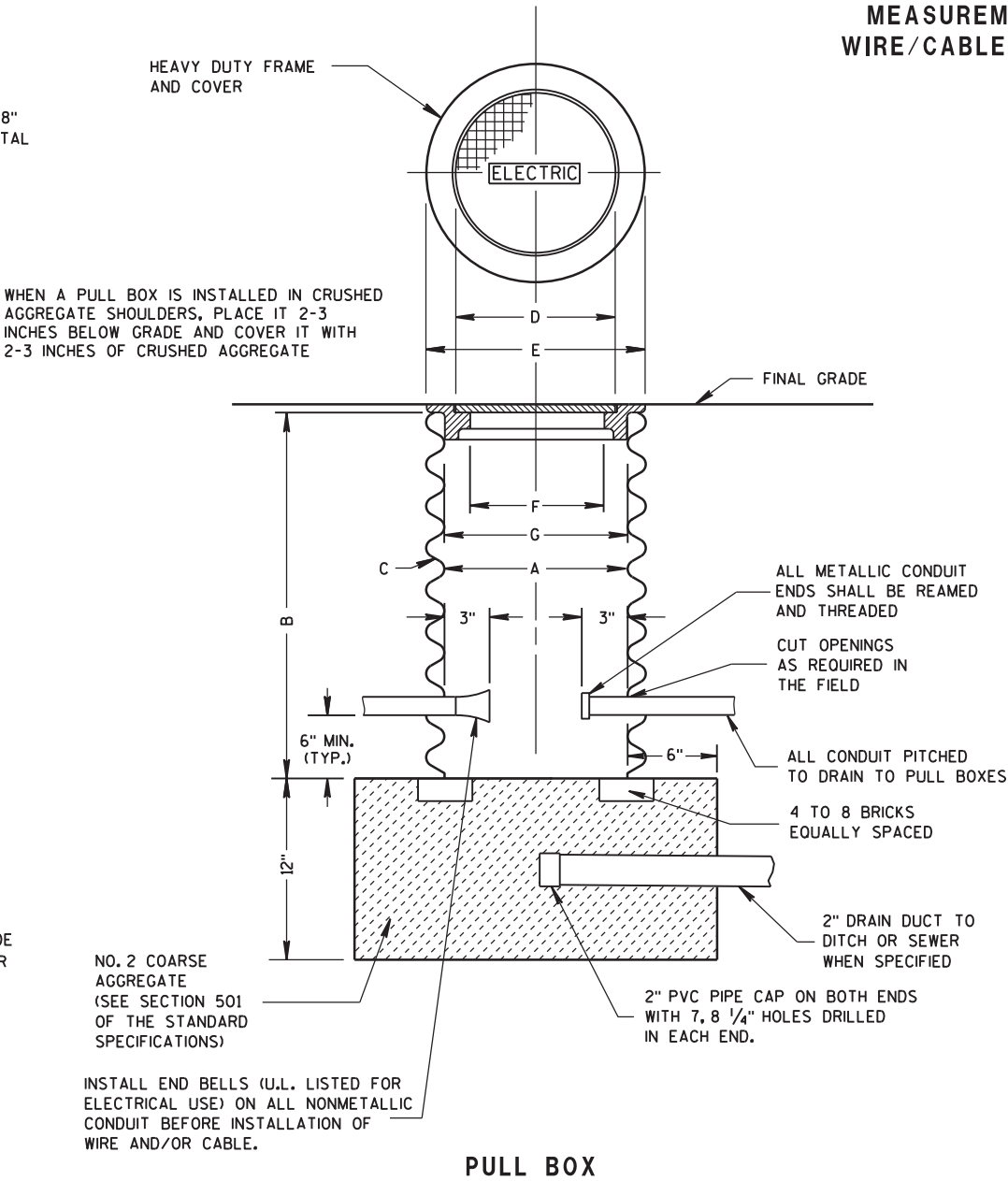
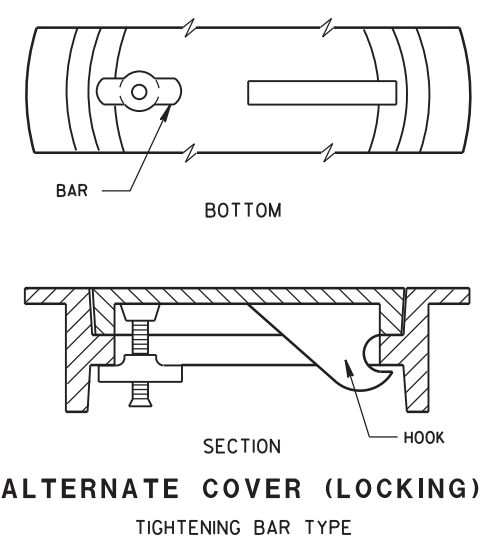
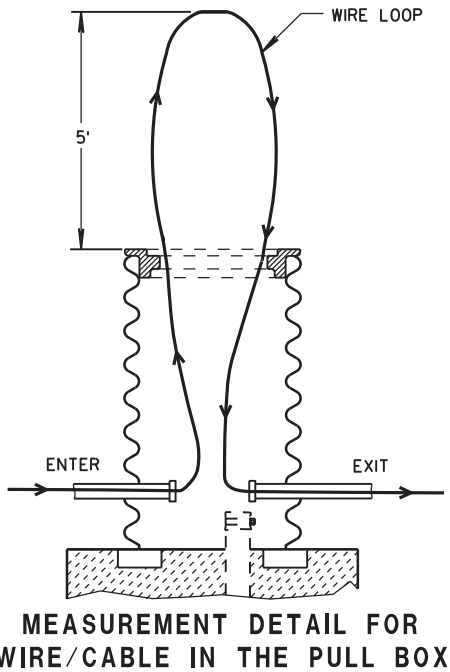
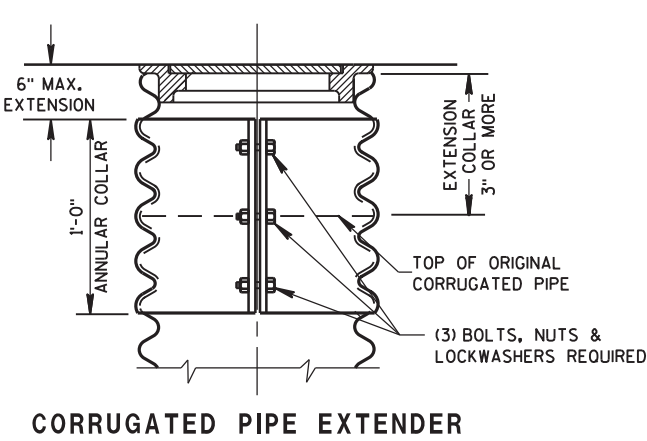
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

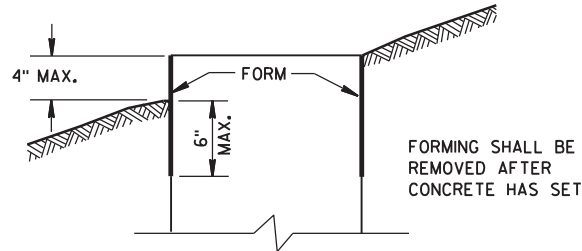
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirelek STATE ELECTRICAL ENGINEER
FHWA	

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

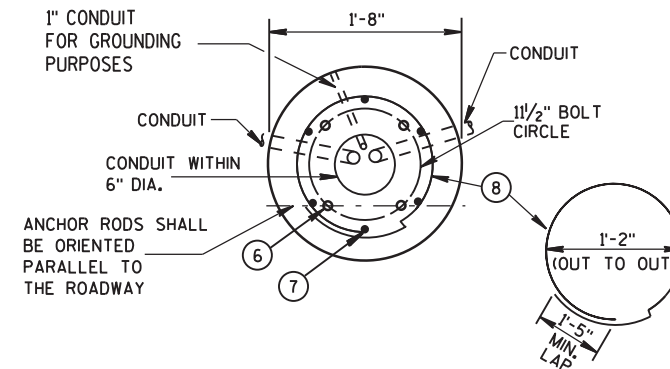
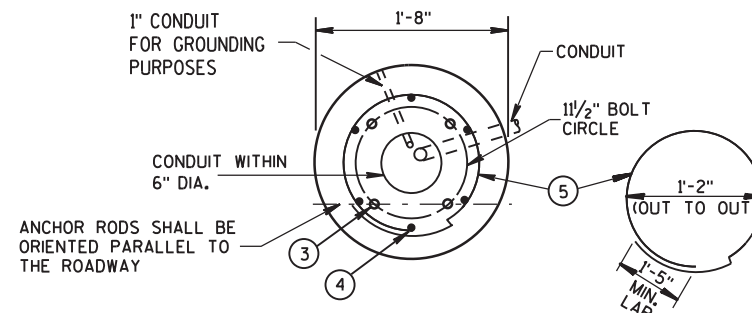
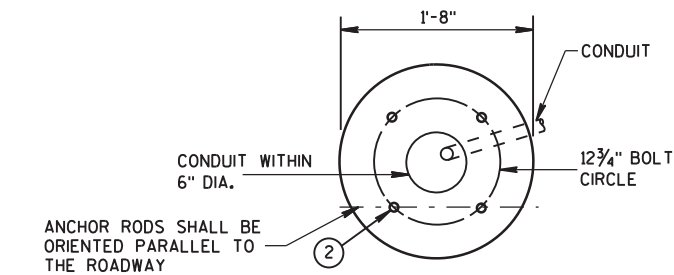
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

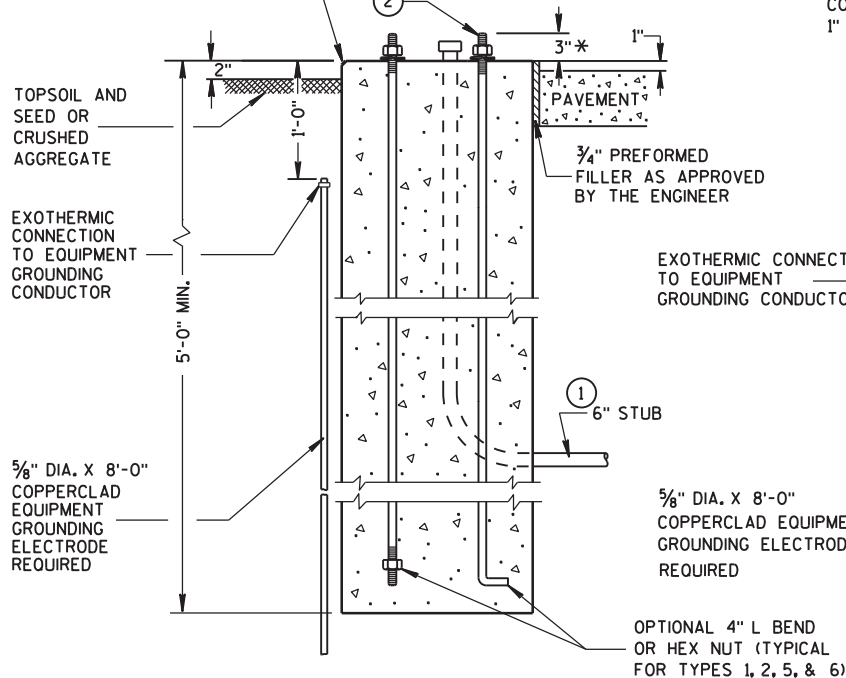
- 1 THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

- 2 (4) 1" DIA. X 3'-6" ANCHOR RODS.
3 (4) 1" DIA. X 5'-0" ANCHOR RODS.
4 (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.
5 (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.
6 (4) 1" DIA. X 3'-6" ANCHOR RODS.
7 (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.
8 (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

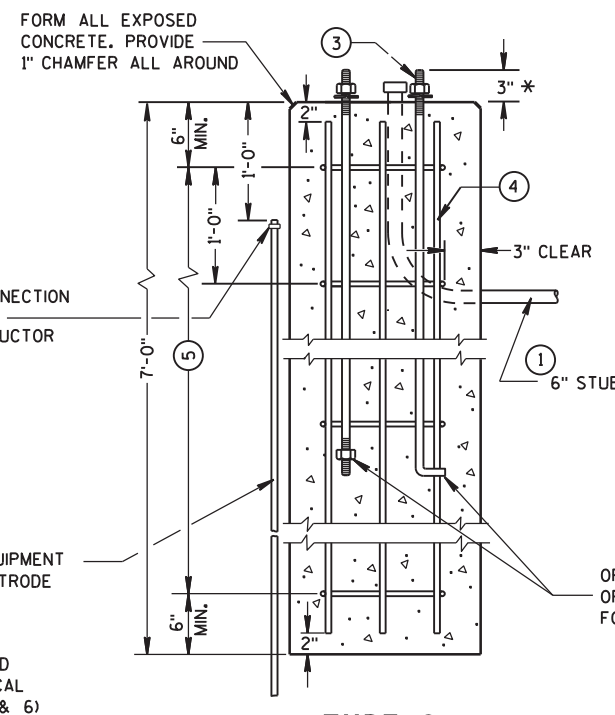


FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

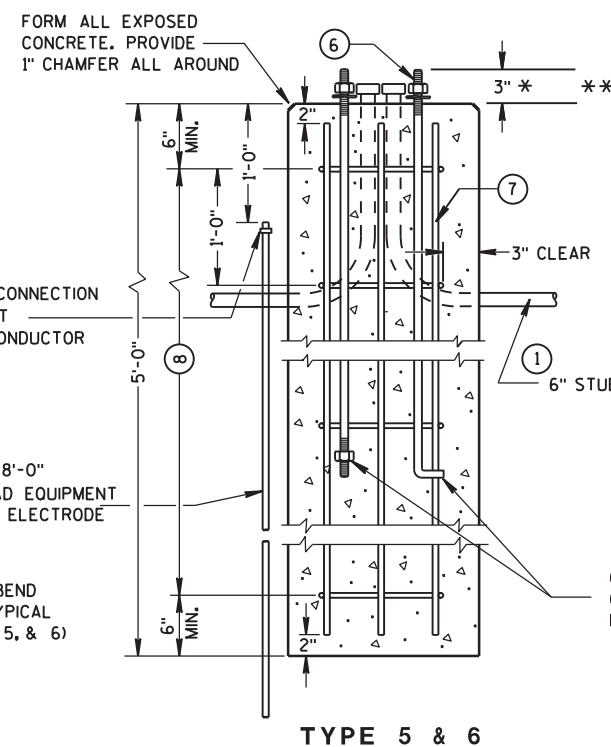
HALF SECTION IN UNPAVED AREA (TYPICAL FOR TYPES 1, 2, 5, & 6)



HALF SECTION IN PAVEMENT (TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 2 CONCRETE BASES



TYPE 5 & 6

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 3/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014

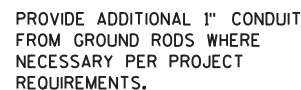
DATE

/S/ Ahmet Demirbilek

STATE ELECTRICAL ENGINEER

FHWA

S.D.D. 9 C 14-1



(C.Y. CONCRETE = APPROX. 0.4)

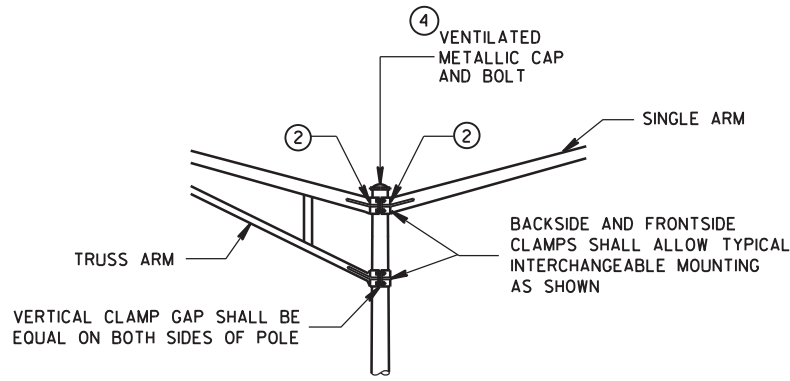
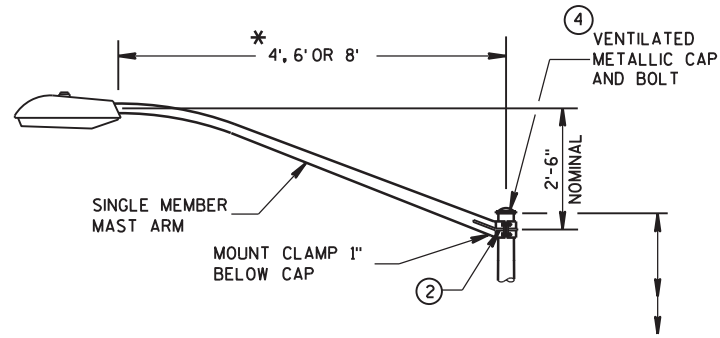
PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE L

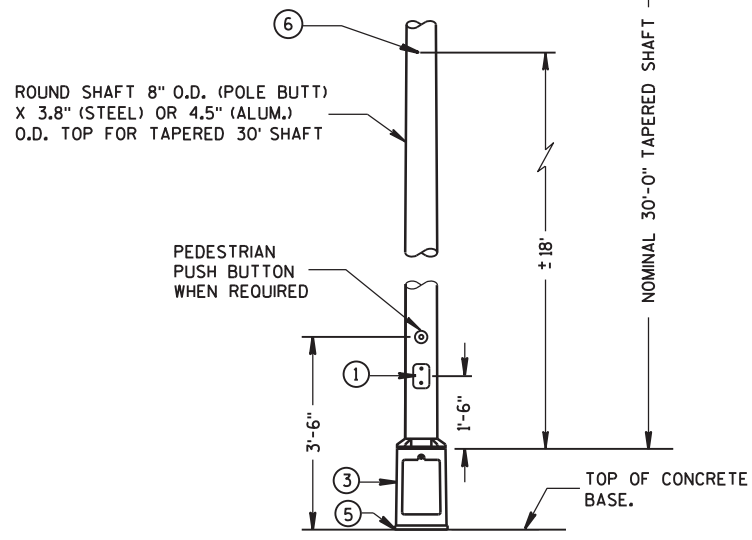
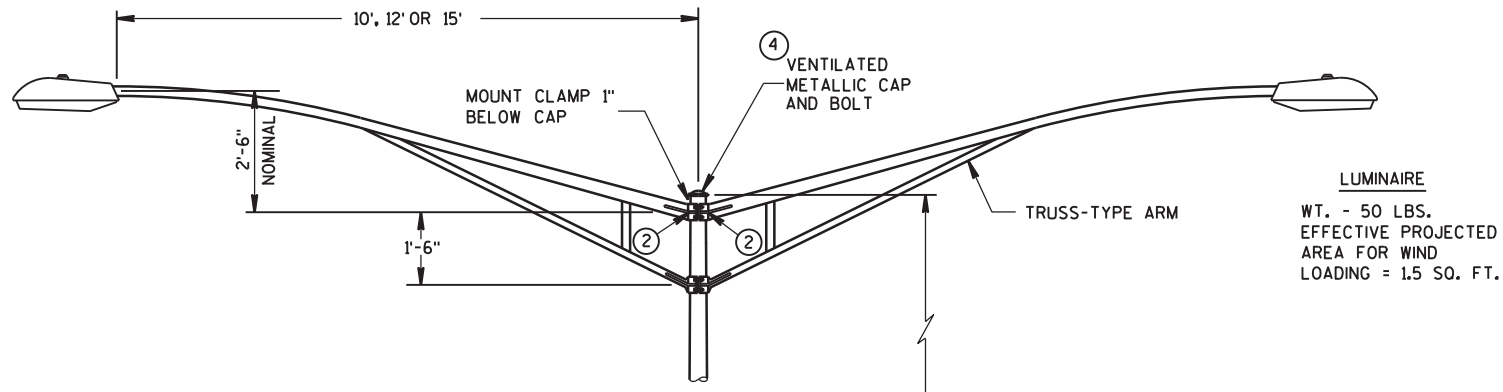
BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

SD D 9 C 14-1

* RISE FOR 4' ARM SHALL BE 2'-0".



INTERCHANGEABLE MOUNTING DETAIL



TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8 INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

- ① 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) 1/4" x 3/4" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- ② GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.
- ③ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- ④ FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" x 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑤ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.
- ⑥ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

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POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

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14B20 sheet a: Steel Thrie Beam Structure Approach

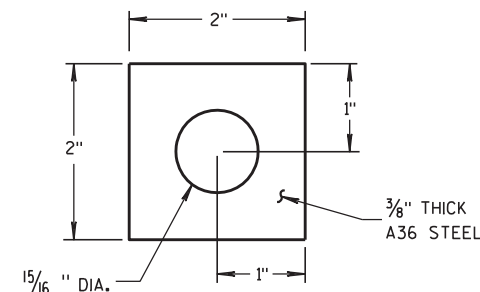
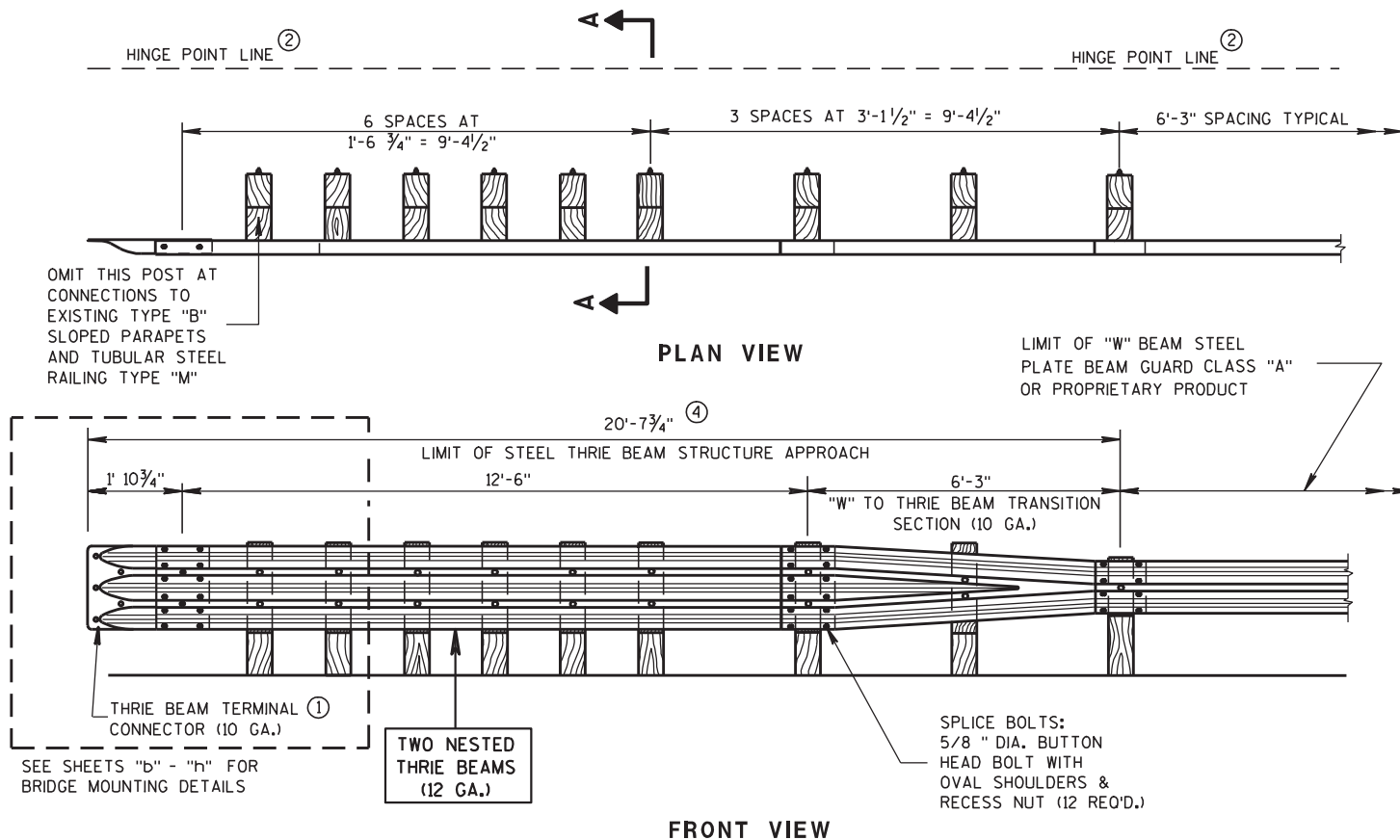
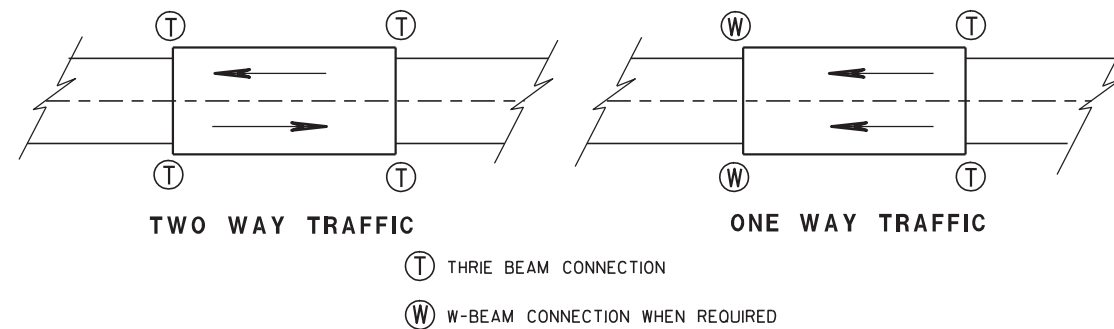


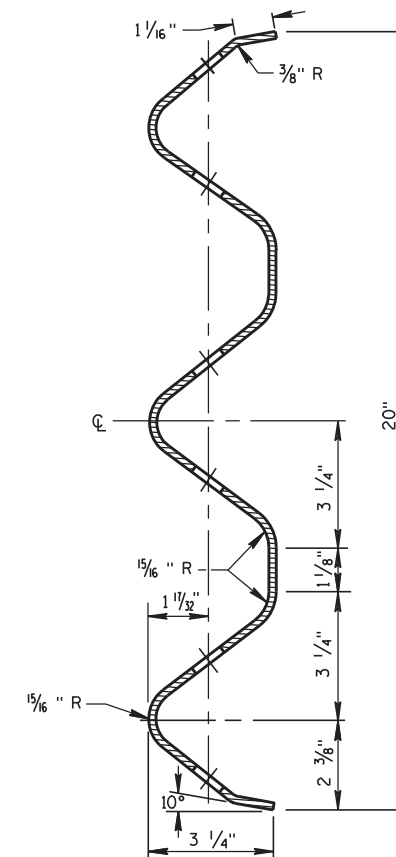
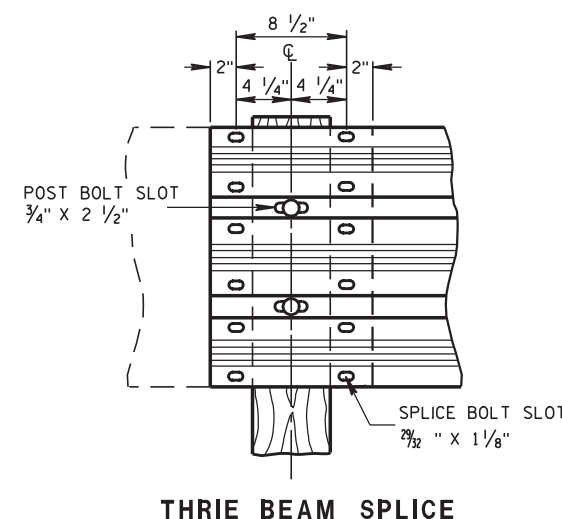
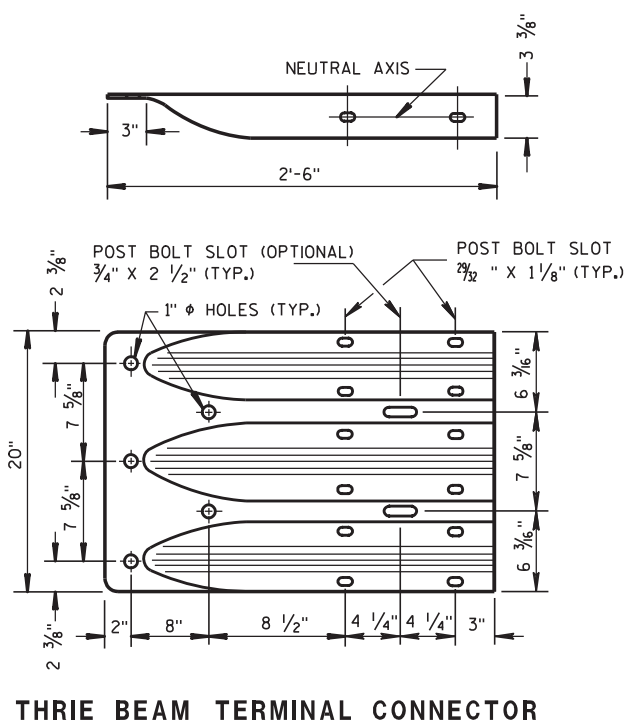
PLATE WASHER DETAIL

GENERAL NOTES

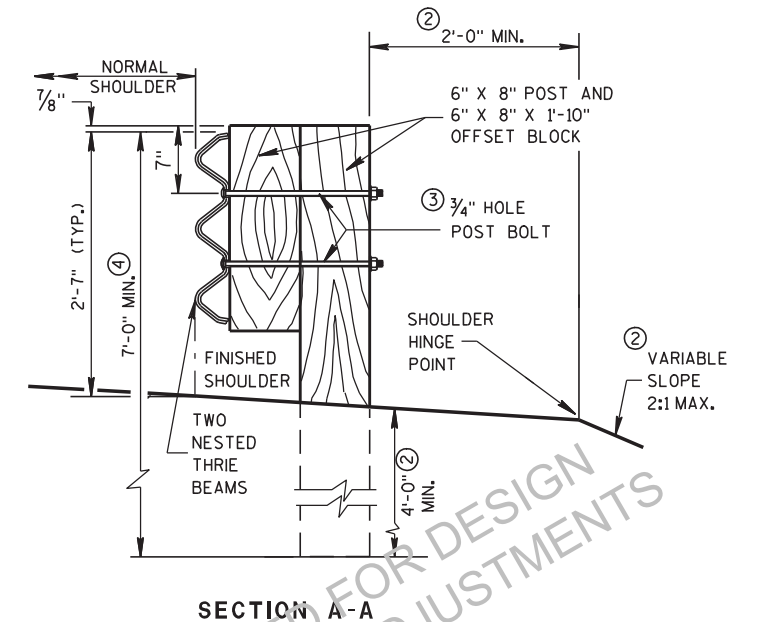
- BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.
- POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.
- ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE



SECTION THRU THRIE BEAM RAIL ELEMENT



STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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8/31/2012

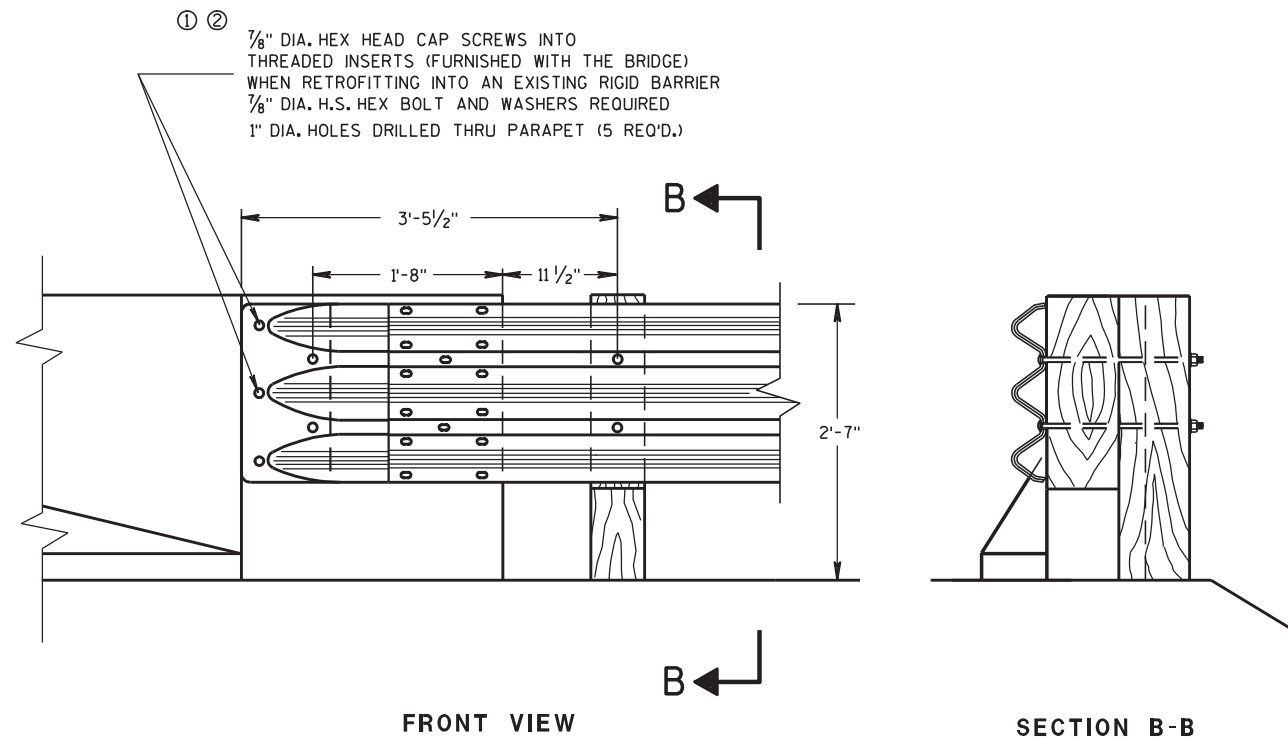
DATE

FHWA

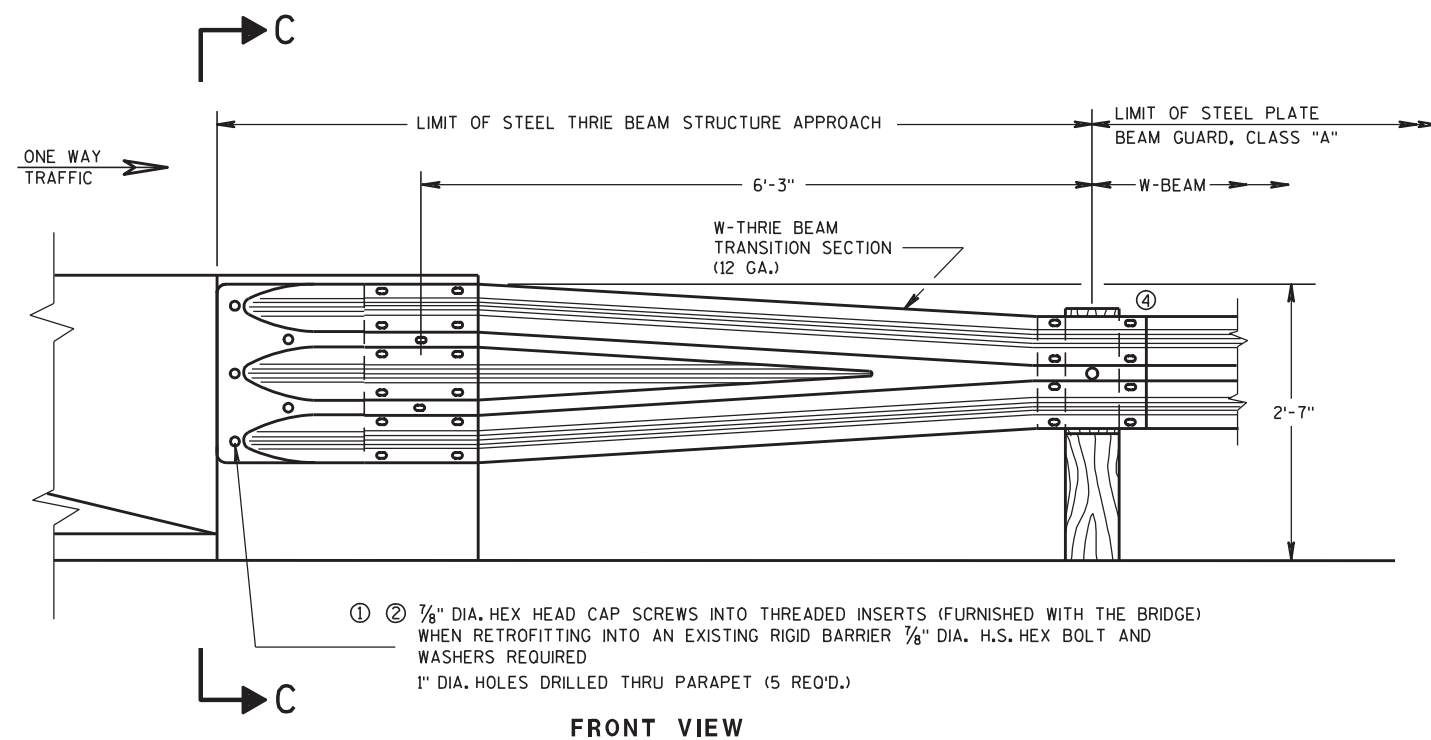
/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



14B20 sheet b: Steel Thrie Beam Structure Approach, Connection to Square End Parapets



THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS



W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

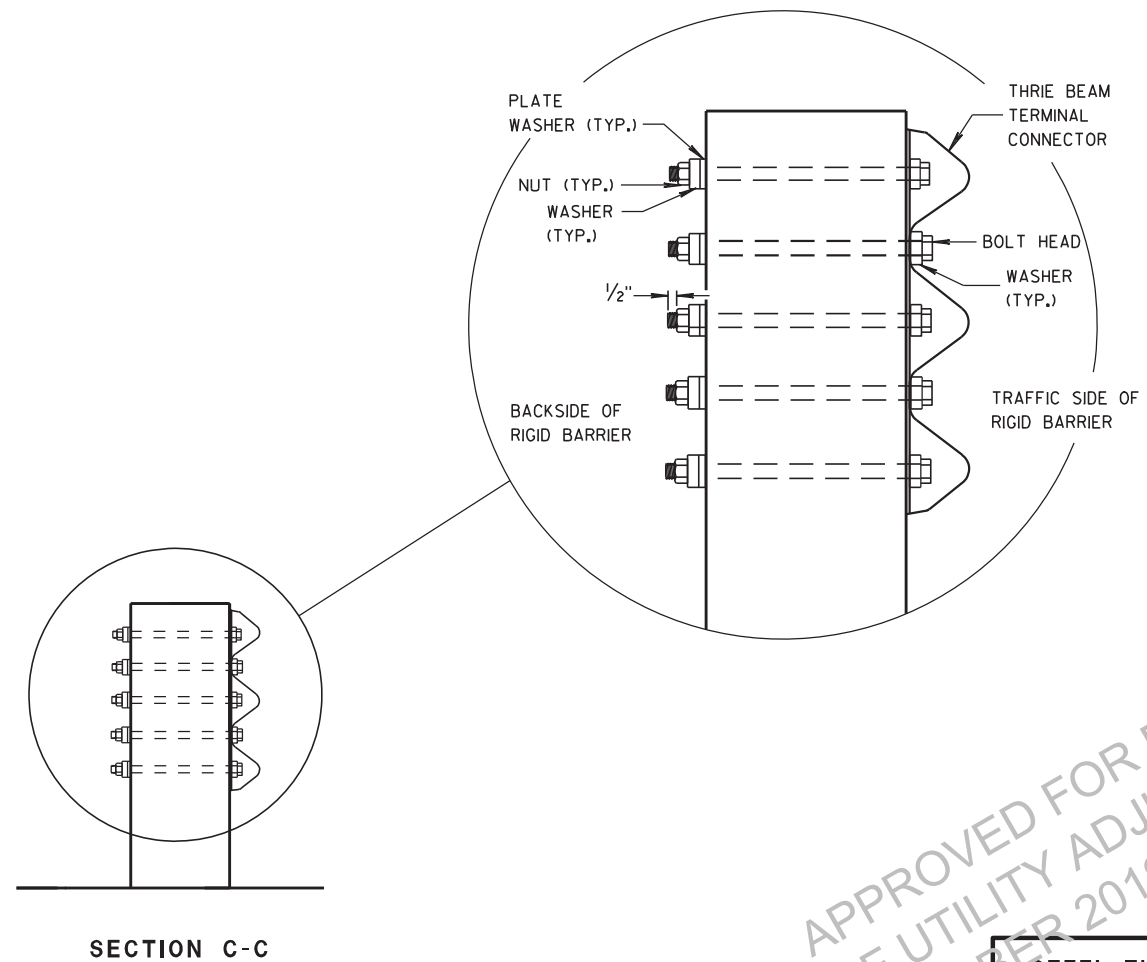
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}$ " THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}$ ".

- ④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



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STEEL THRIE BEAM STRUCTURE
APPROACH, CONNECTION TO
SQUARE END PARAPETS

STATE OF WISCONSIN
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/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

6

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S.D.D. 14 B 20-11b

S.D.D. 14 B 20-11b



14B20 sheet c: Steel Thrie Beam Structure Approach, Connection to Vertical Faced Parapets

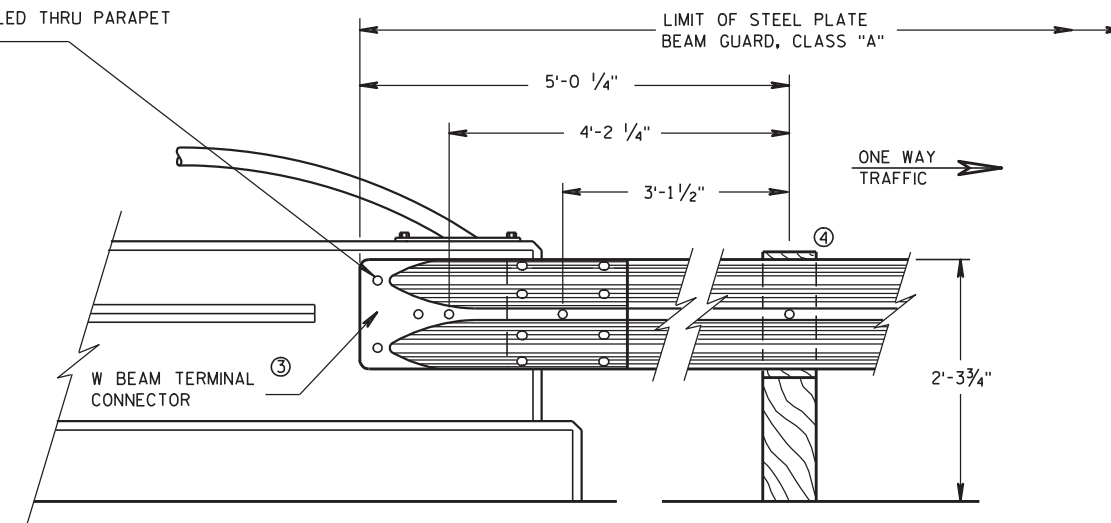
GENERAL NOTES

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BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

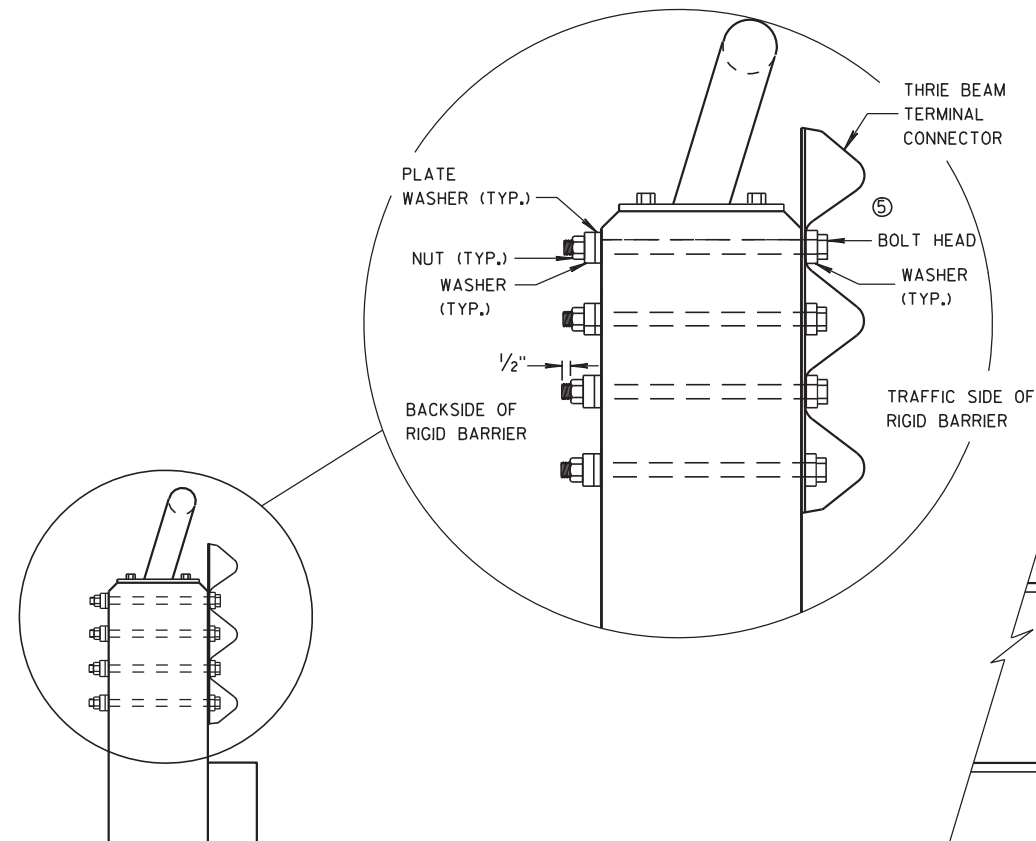
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
 - ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}$ " THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
 - ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}$ ".
 - ④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.
 - ⑤ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.
- DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

- ① ② $\frac{7}{8}$ " DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER $\frac{7}{8}$ " DIA. H.S. HEX BOLT AND WASHERS REQUIRED
- 1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

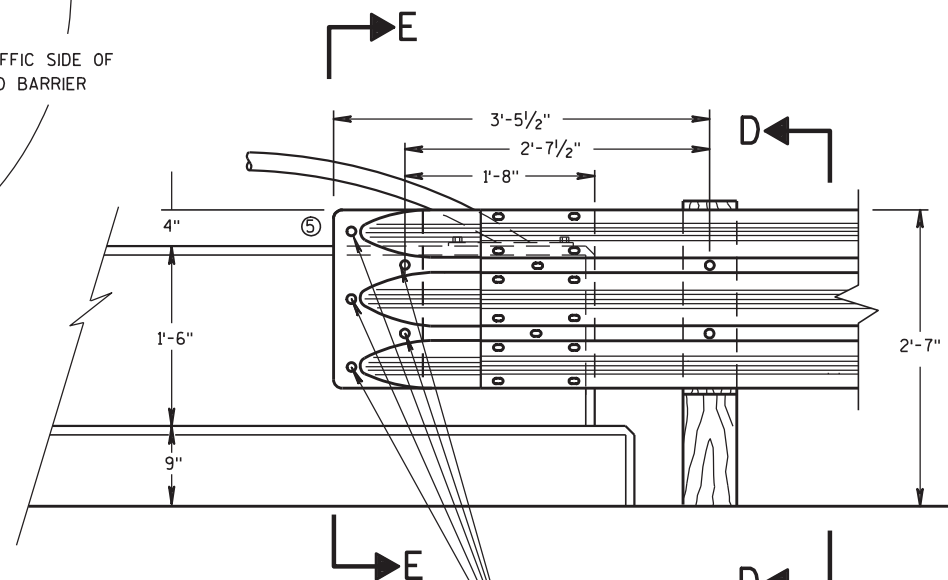


FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



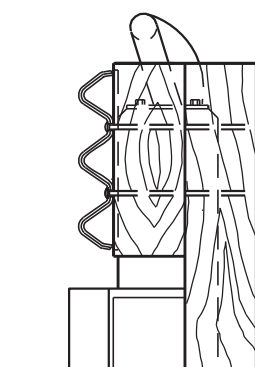
SECTION E-E



FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

- ① ② $\frac{7}{8}$ " DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER $\frac{7}{8}$ " DIA. H.S. HEX BOLT AND WASHERS REQUIRED
- 1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)



SECTION D-D

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OCTOBER 2019

STEEL THRIE BEAM STRUCTURE
APPROACH, CONNECTION TO
VERTICAL FACED PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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8/31/2012

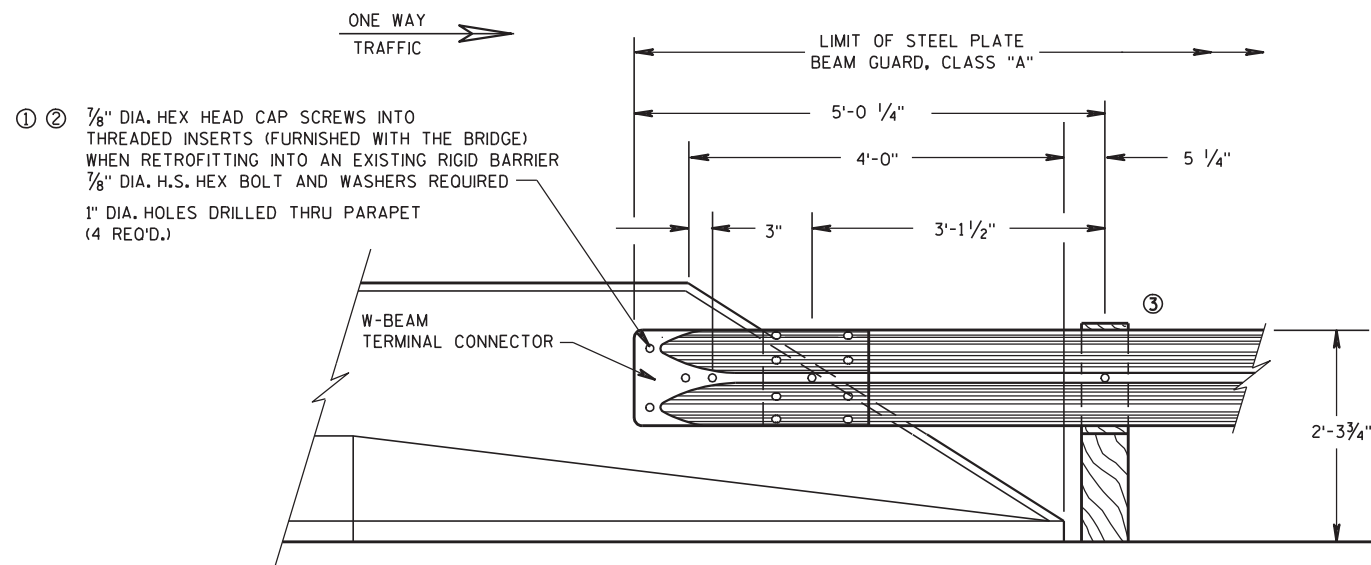
DATE

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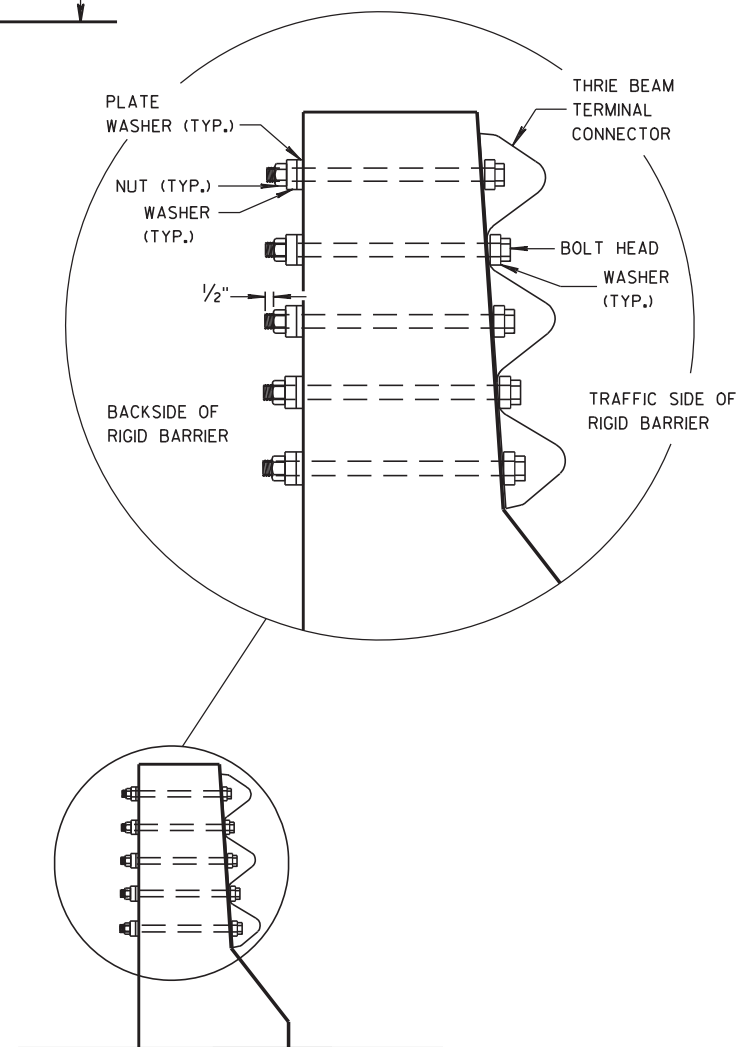
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



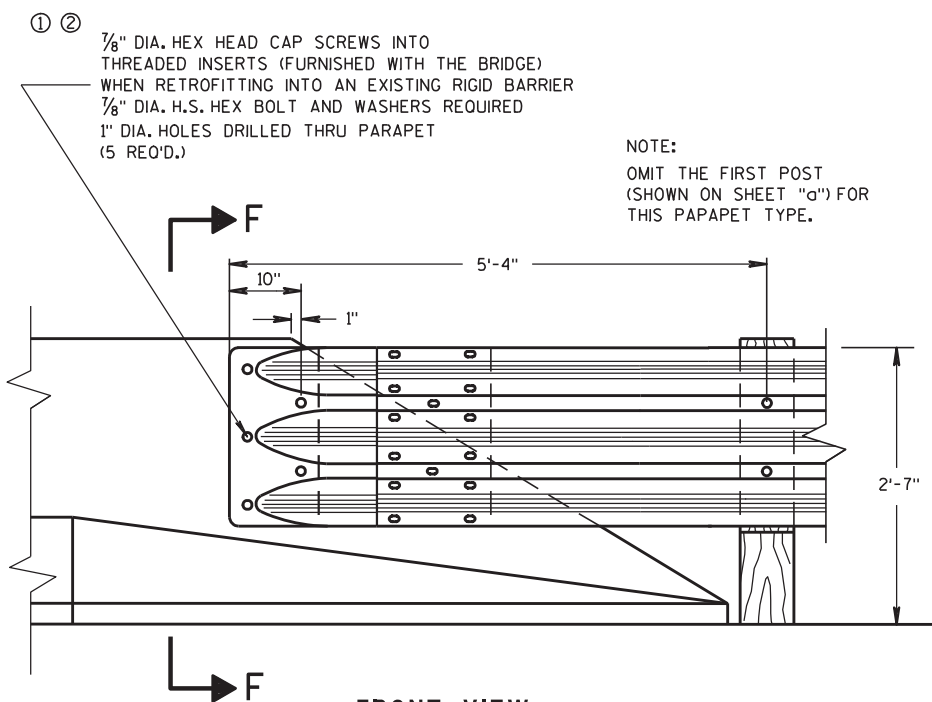
14B20 sheet d: Steel Thrie Beam Structure Approach, Connection to Sloped End Parapets



FRONT VIEW
W BEAM CONNECTION TO
PARAPETS WITH SLOPED ENDS
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)



SECTION F-F



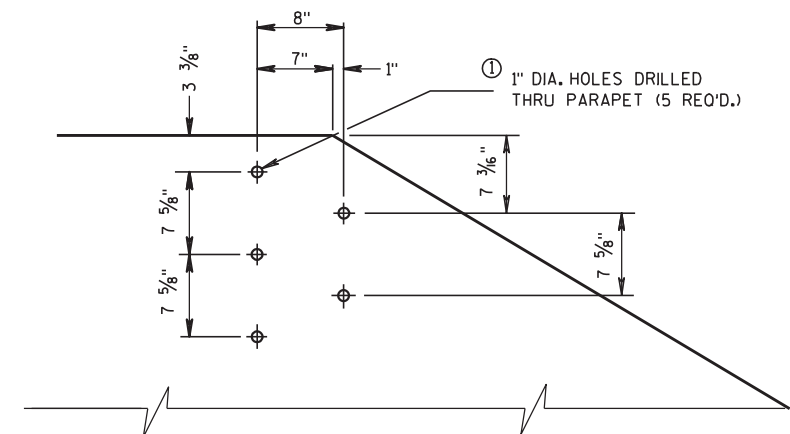
FRONT VIEW
THRIE BEAM CONNECTION TO BRIDGE
PARAPETS WITH SLOPED ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION

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STEEL THRIE BEAM STRUCTURE
APPROACH, CONNECTION TO
SLOPED END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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ROADWAY STANDARDS DEVELOPMENT
ENGINEER

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S.D.D. 14 B 20-11d

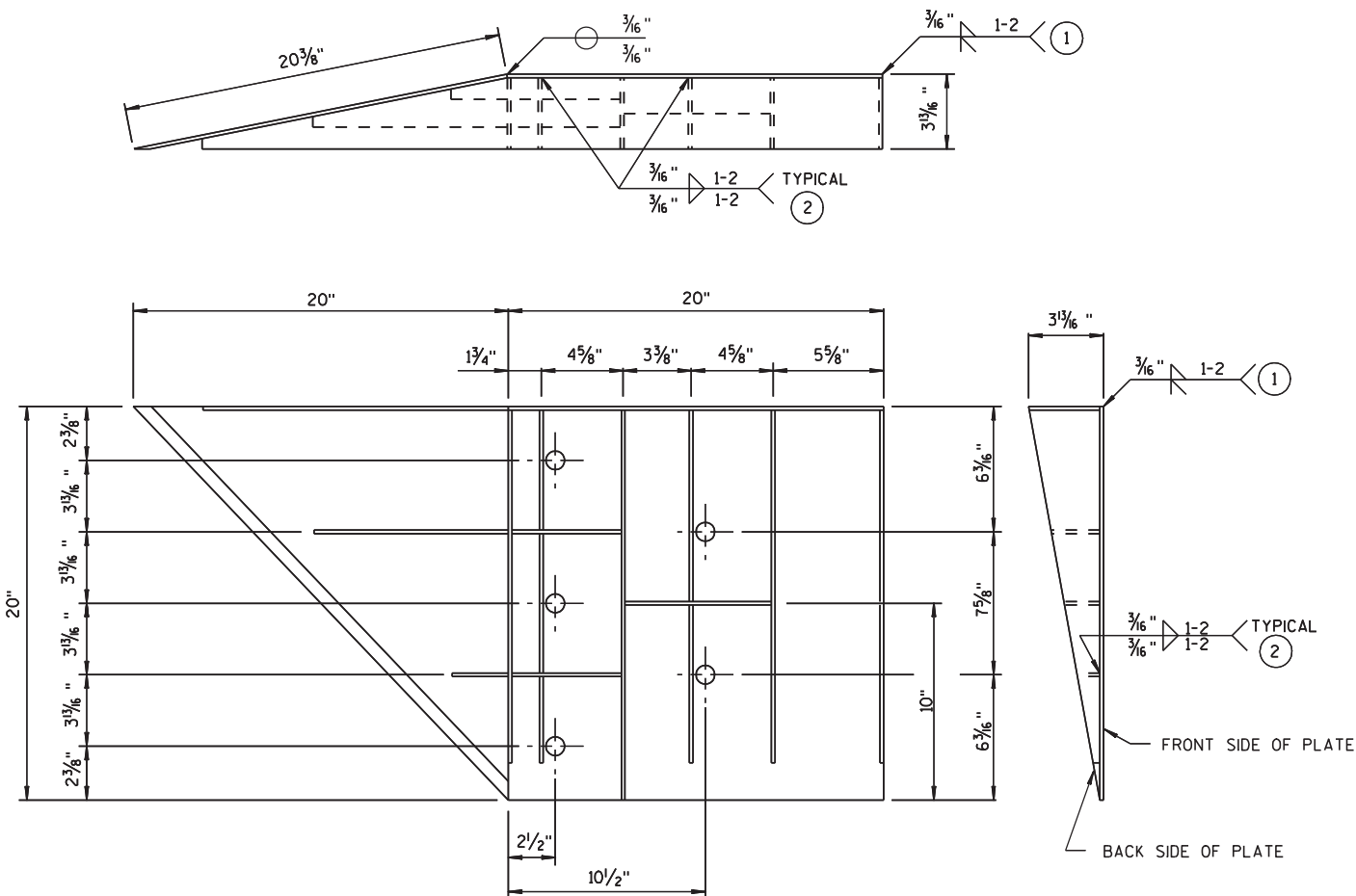
S.D.D. 14 B 20-11d



GENERAL NOTES

- COVER PLATE PANELS ARE $\frac{3}{16}$ " THICK.
- ALL STIFFENERS ARE $\frac{1}{4}$ " THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- ① STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- ② STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
 $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

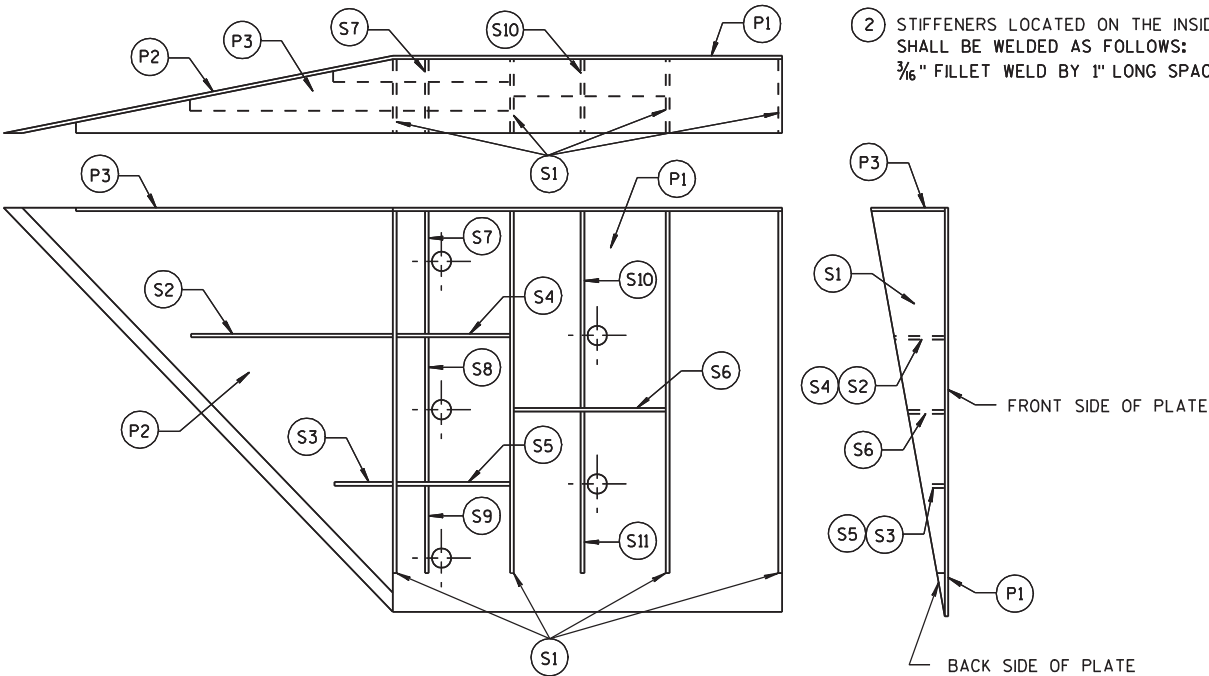


PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)

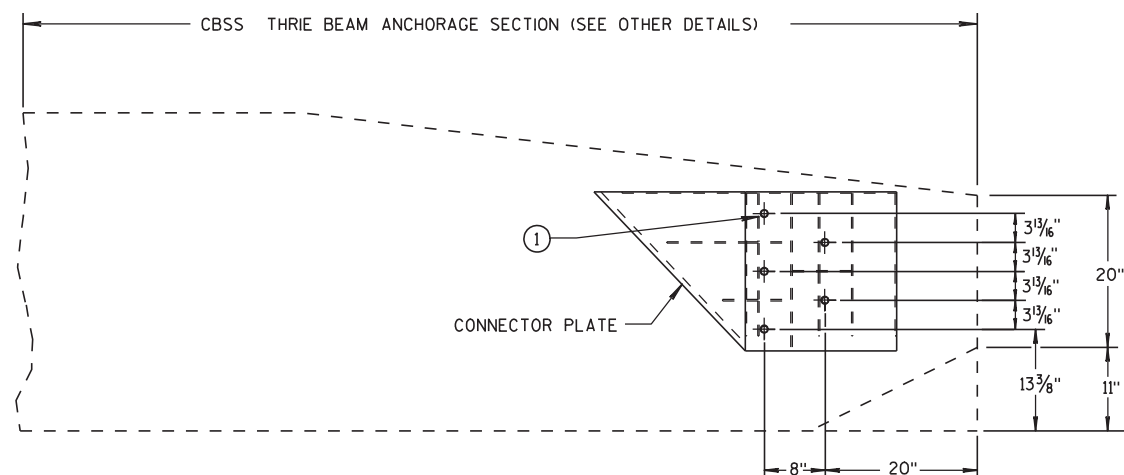
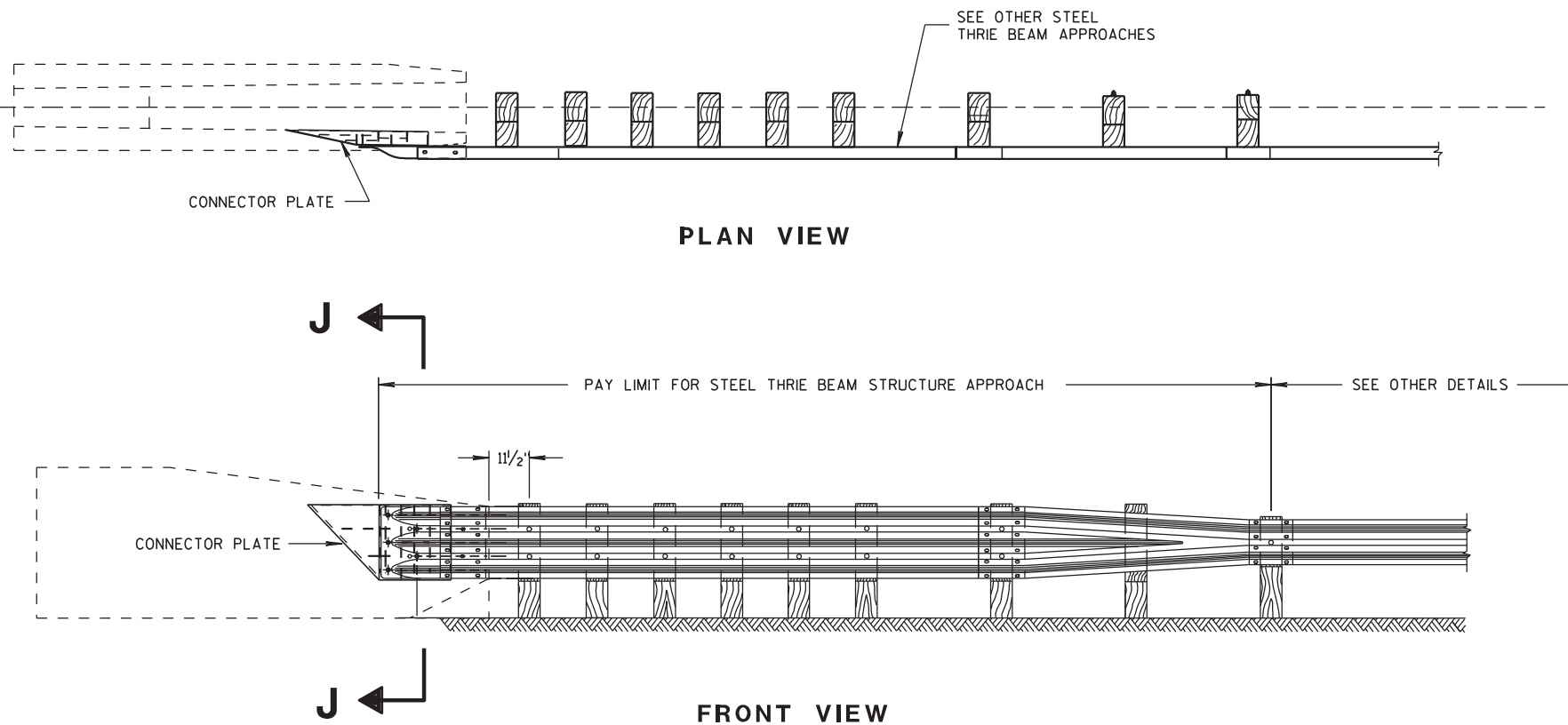
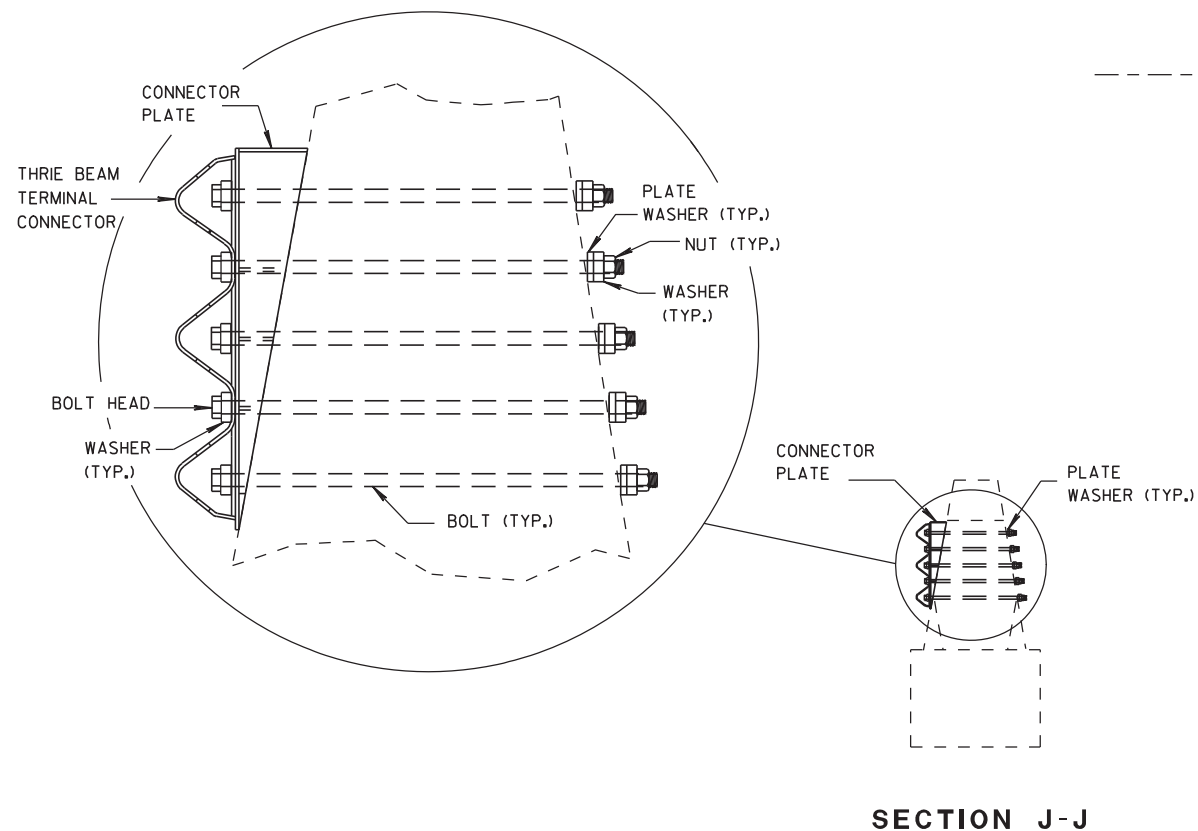
CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	$\frac{3}{16}$ "
P2	1		20" x 20" x 28 $\frac{3}{16}$ "	$\frac{3}{16}$ "
P3	1		39" x 3 $\frac{5}{8}$ " x 20" x 19 $\frac{5}{16}$ "	$\frac{3}{16}$ "
S1	4		18 $\frac{7}{16}$ " x 3 $\frac{5}{8}$ " x 18 $\frac{3}{4}$ "	$\frac{1}{4}$ "
S2	1		10 $\frac{1}{4}$ " x 2 $\frac{7}{16}$ " x 10 $\frac{3}{8}$ " x $\frac{1}{2}$ "	$\frac{1}{4}$ "
S3	1		3" x 1 $\frac{1}{16}$ " x 3 $\frac{1}{8}$ " x $\frac{1}{2}$ "	$\frac{1}{4}$ "
S4	1		6 $\frac{1}{8}$ " x 2 $\frac{7}{16}$ "	$\frac{1}{4}$ "
S5	1		6 $\frac{1}{8}$ " x 1 $\frac{1}{16}$ "	$\frac{1}{4}$ "
S6	1		7 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ "	$\frac{1}{4}$ "
S7	1		2 $\frac{9}{16}$ " x 6" x 3 $\frac{5}{8}$ " x 5 $\frac{7}{8}$ "	$\frac{1}{4}$ "
S8	1		1 $\frac{7}{32}$ " x 7 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " x 7 $\frac{3}{8}$ "	$\frac{1}{4}$ "
S9	1		6 $\frac{1}{16}$ " x 6 $\frac{3}{16}$ " x 1 $\frac{1}{32}$ "	$\frac{1}{4}$ "
S10	1		1 $\frac{7}{8}$ " x 9 $\frac{7}{8}$ " x 3 $\frac{5}{8}$ " x 9 $\frac{1}{16}$ "	$\frac{1}{4}$ "
S11	1		8 $\frac{1}{2}$ " x 8 $\frac{3}{4}$ " x 1 $\frac{1}{16}$ "	$\frac{1}{4}$ "

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OCTOBER 2019

STEEL THRIE BEAM
STRUCTURE APPROACH,
CONNECTOR PLATE DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



CONNECTOR PLATE LOCATION

STEEL THRIE BEAM STRUCTURE APPROACH

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

CONNECTOR PLATE, DRILLING HOLES THROUGH PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

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OCTOBER 2019

STEEL THRIE BEAM
STRUCTURE APPROACH,
SINGLE SLOPE ATTACHMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER

BILL OF MATERIALS

NOTE NO.	QTY.	DESCRIPTION
①	4	WOOD BREAKAWAY TERMINAL POST: 5 1/2" X 7 1/2" X 3'-9"
②	**	STEEL TUBE: OPTION 1 - QUANTITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANTITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG
③	2	SOIL PLATE: 2'-0" X 1'-6" X 1/4" **
④	4	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	6	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	1	PIPE SLEEVE: 2" X 5 1/2" STANDARD PIPE
⑦	1	BEARING PLATE
⑧	1	BCT CABLE ASSEMBLY
⑨	1	CABLE ANCHOR BOX
⑩	1	STRUT & YOKE
⑪	1	STEEL PLATE BEAM, END PANEL 12 GA. 13'-6 1/2" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS
⑫	3	STEEL PLATE BEAM: 12 GA. 13'-6 1/2"
⑬	1	ET-2000/ET-2000 PLUS GUARDRAIL EXTRUDER OR SKT-350 IMPACT HEAD: AS FURNISHED BY MANUFACTURER
⑭	1	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑮	1	E.A.T. MARKER POST

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS, IF NONE ARE AVAILABLE, INSTALL 3/8" ϕ X 1'-6" BUTTON HEAD BOLTS AT ALL POSTS EXCEPT FOR POST 1.

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) THE 13 SLOT FIRST RAIL PANEL MAY BE USED IN LIEU OF THE 3 SLOT RAIL PANEL ON SKT-350 ONLY.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 THROUGH 4 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(E) THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST 5 THROUGH 8 SHALL BE 3/4" ABOVE THE FINISHED GROUND LINE.

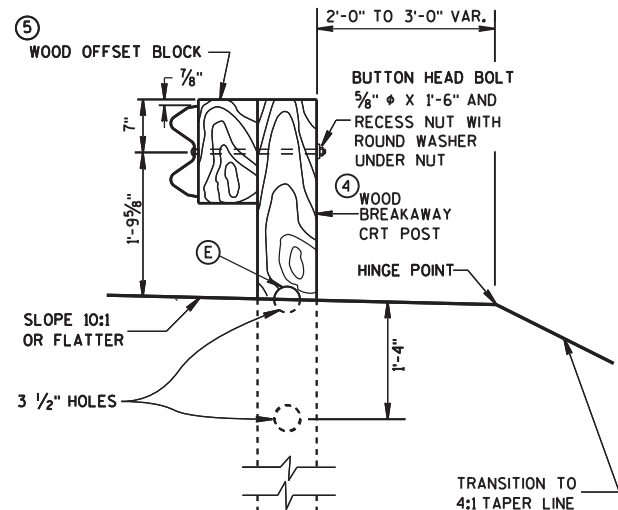
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.

STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

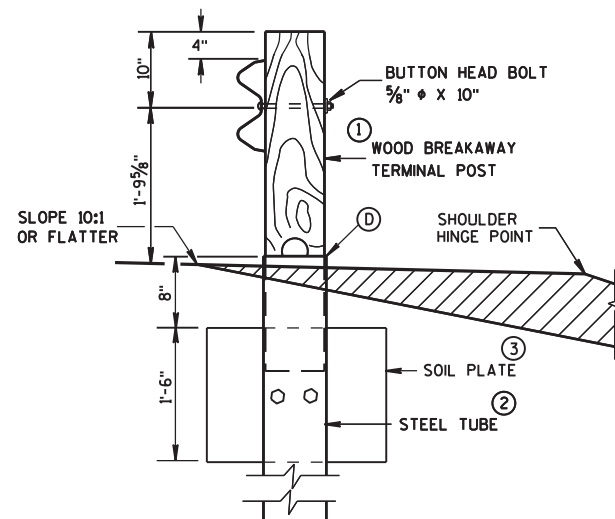
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

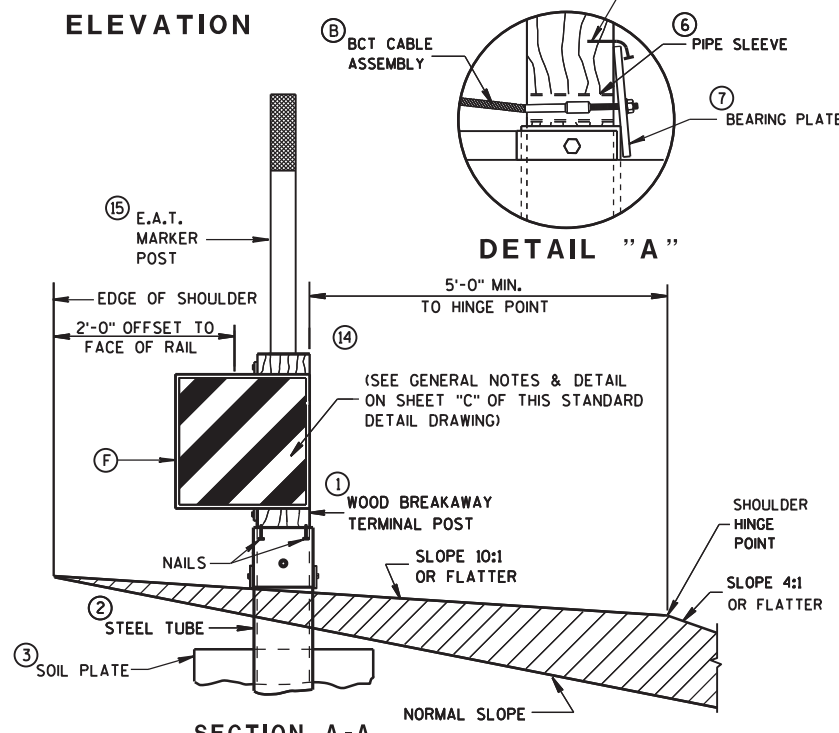
** SDD SHOWS 4 - 54 INCH STEEL TUBES WITH SOIL PLATES INSTALLED ON POST 1 AND POST 2. POST 3 AND 4 DO NOT NEED SOIL PLATES. AN ALTERNATIVE INSTALLATION WOULD CONSIST OF 2 - 72 INCH STEEL TUBES ON POST 1 AND POST 2 AND 54 INCH SOIL TUBES ON POSTS 3 AND 4. THE ALTERNATIVE INSTALLATION DOES NOT REQUIRE SOIL PLATES.



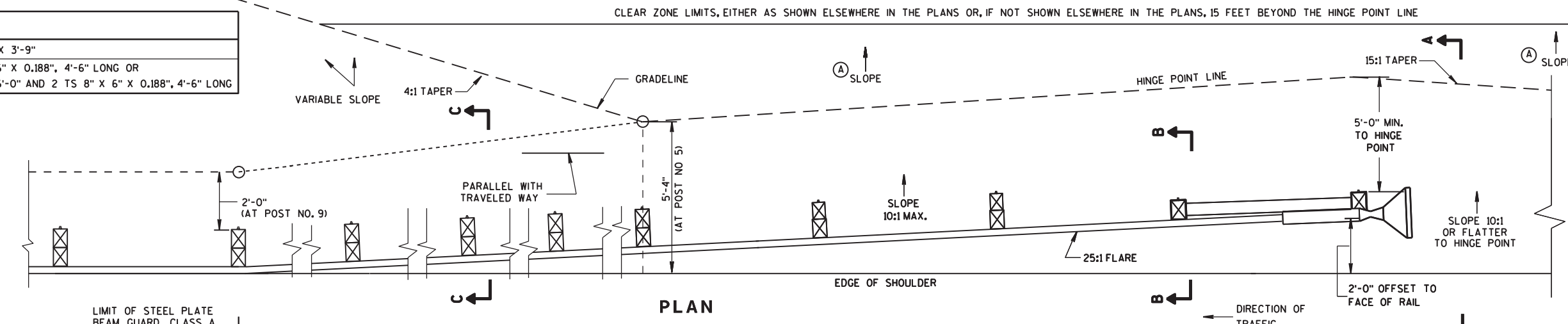
SECTION C-C
TYPICAL AT POST NOS. 6, 8



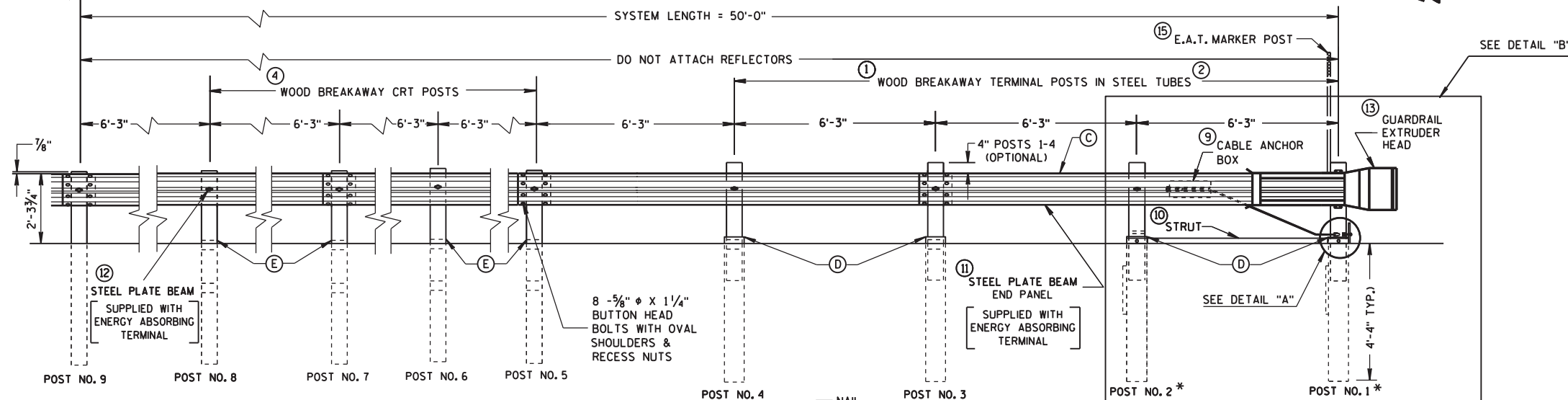
SECTION B-B
TYPICAL AT POST NO. 2 *



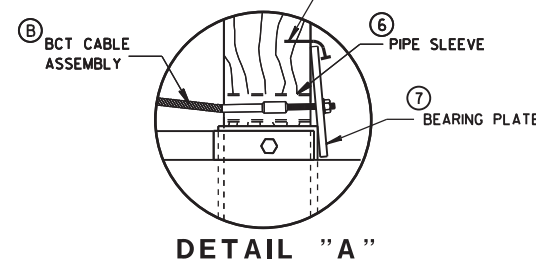
SECTION A-A
TYPICAL AT POST NO. 1 *



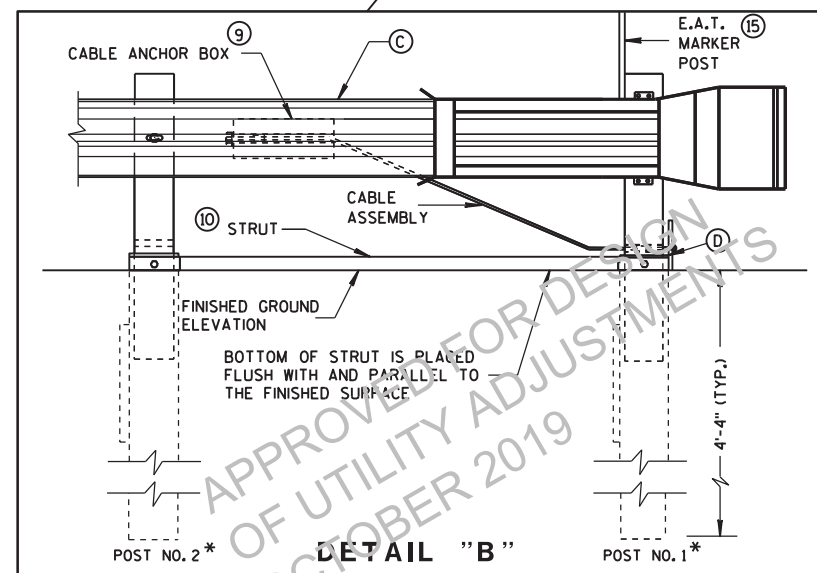
PLAN



ELEVATION



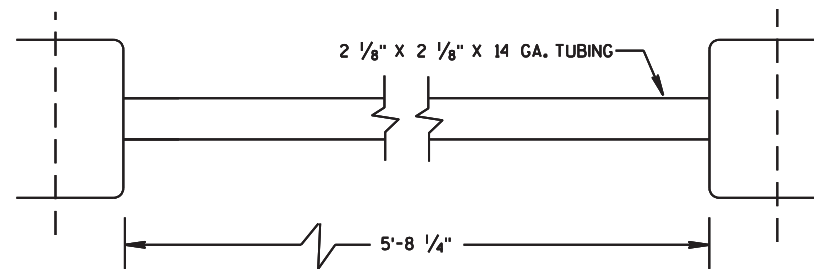
DETAIL "A"



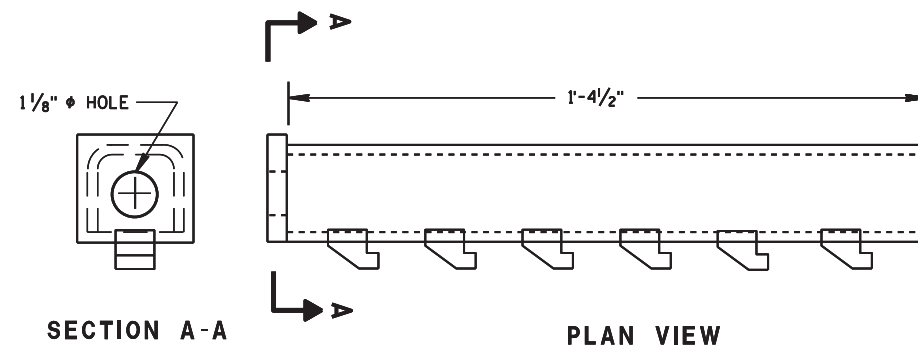
DETAIL "B"

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

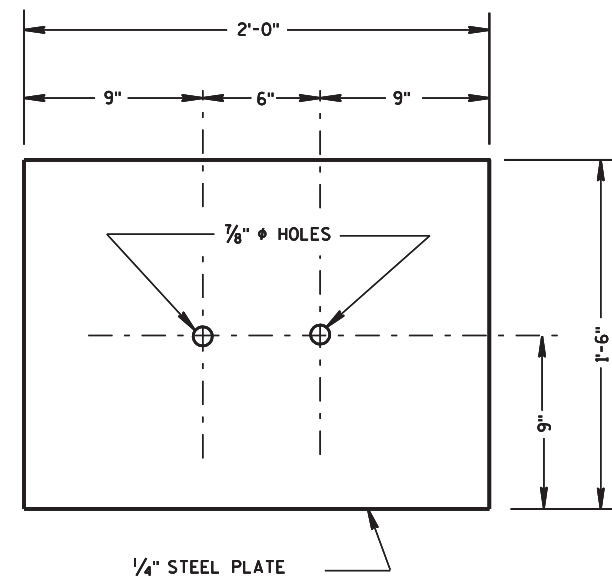
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



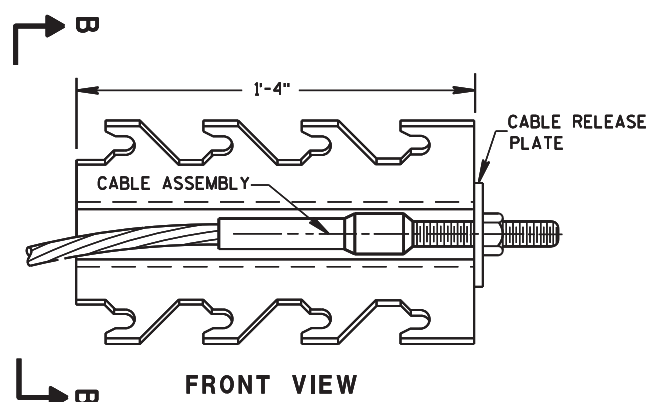
⑩ STRUT DETAIL (SKT-350)



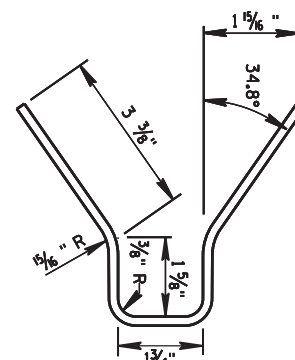
⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)



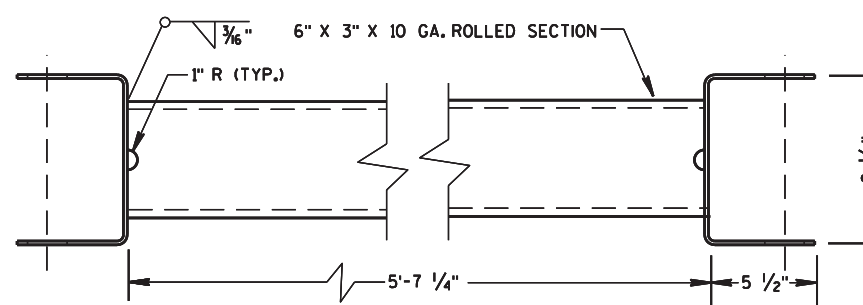
③ SOIL PLATE
(SKT-350, ET-2000/ET-2000 PLUS)



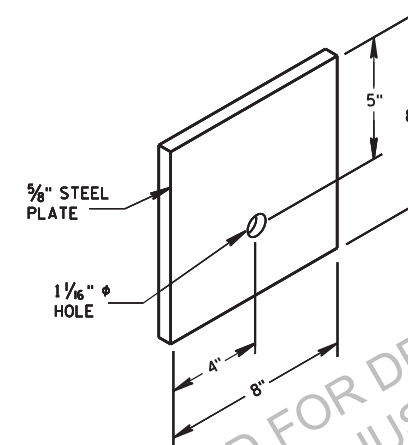
⑨ CABLE ANCHOR BOX (SKT-350)
(SKT-350)



SECTION B-B



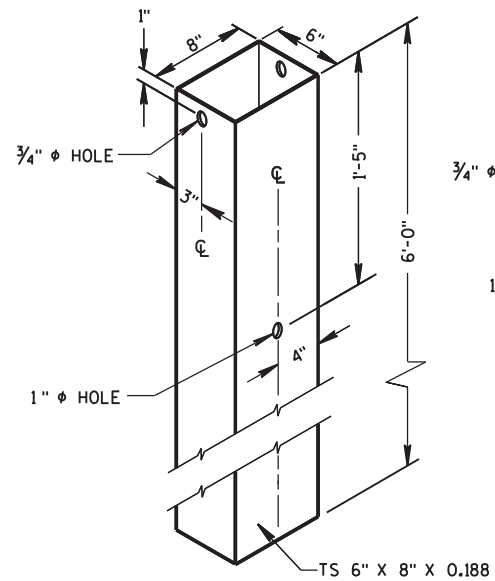
⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)
(ET-2000/ET-2000 PLUS)



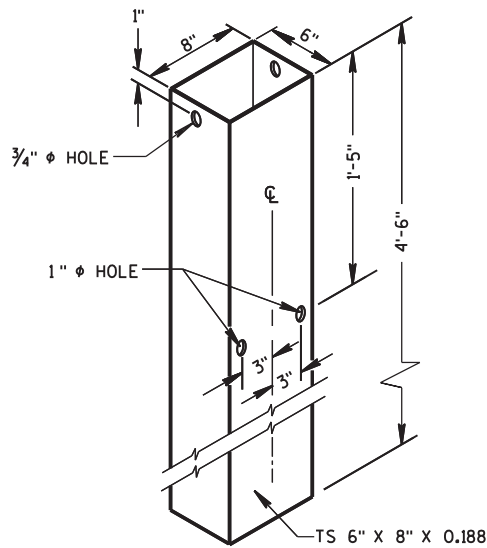
⑦ STEEL BEARING PLATE
(SKT-350, ET-2000/ET-2000 PLUS)

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

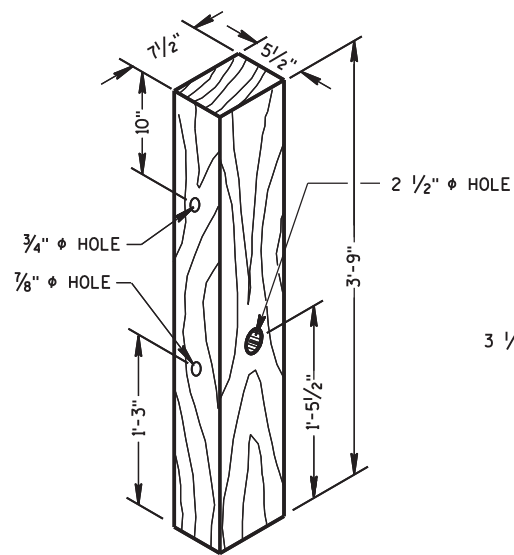
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



② 72" STEEL TUBE
(POSTS NO. 1-4)

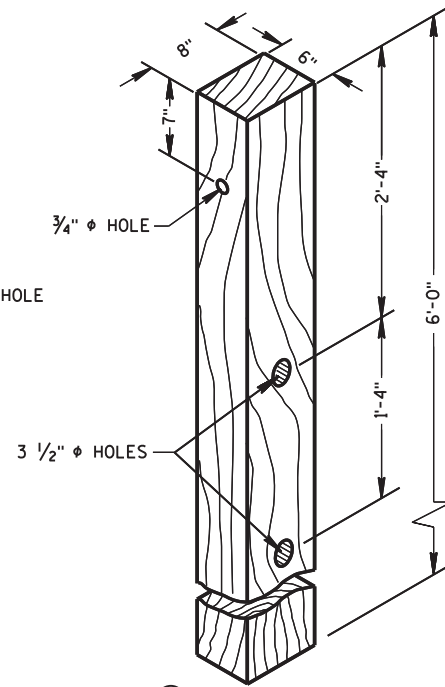


② 54" STEEL TUBE
(POSTS NO. 1-4)

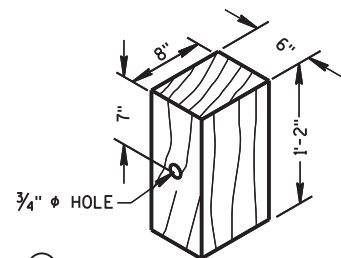


① TERMINAL POST
(POSTS NO. 1-4)

WOOD BREAKAWAY POSTS

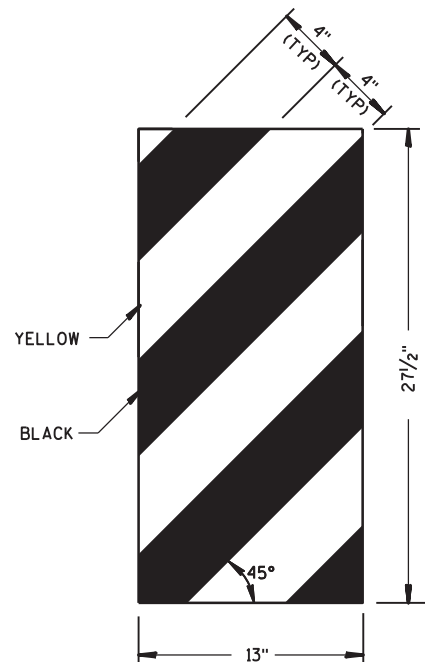


④ CRT POST
(POSTS NO'S 5-8)



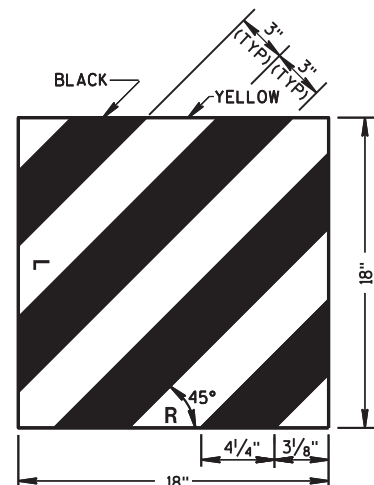
⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9"
SEE STANDARD
SPECIFICATION 637

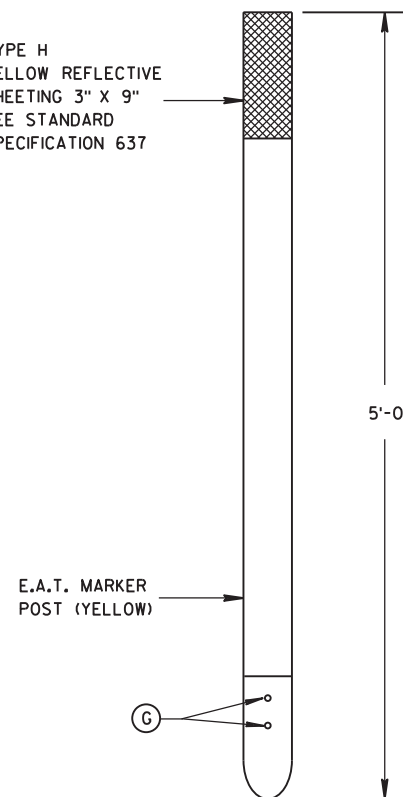


ET-2000 PLUS ONLY

⑭ REFLECTIVE SHEETING DETAILS



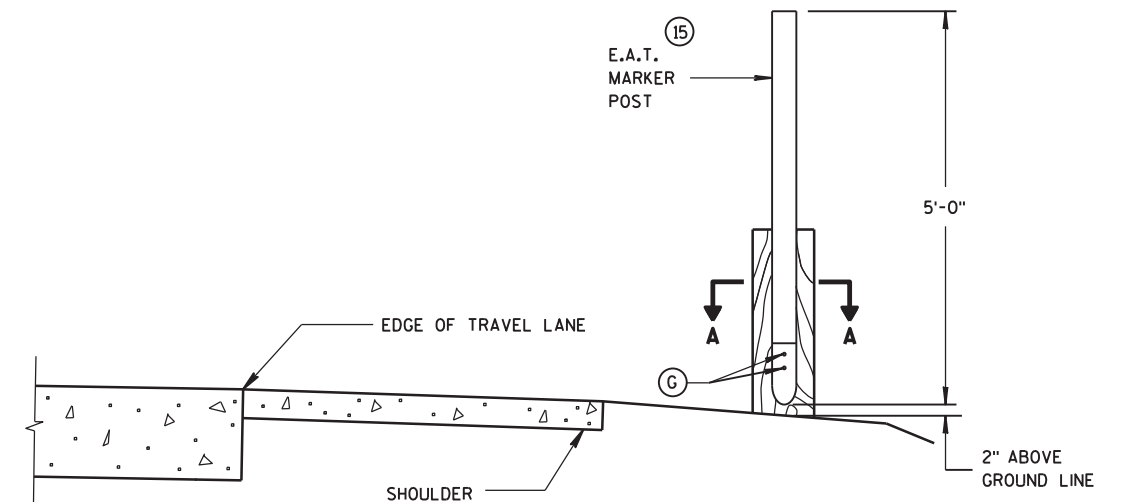
ET-2000 AND SKT-350



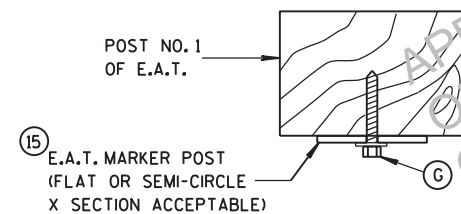
FRONT VIEW

SIDE VIEW

⑮ E.A.T. MARKER POST



TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

GENERAL NOTES

WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

SEE APPROVED PRODUCTS LIST FOR ACCEPTABLE E. A. T. MARKER POST.

⑮ 1/2" DIA. X 3" LAG BOLT WITH WASHER.

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

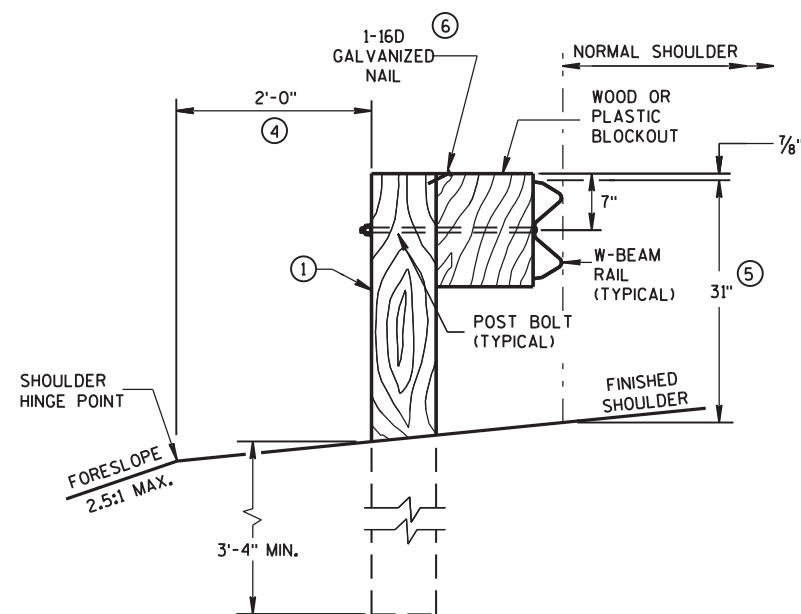
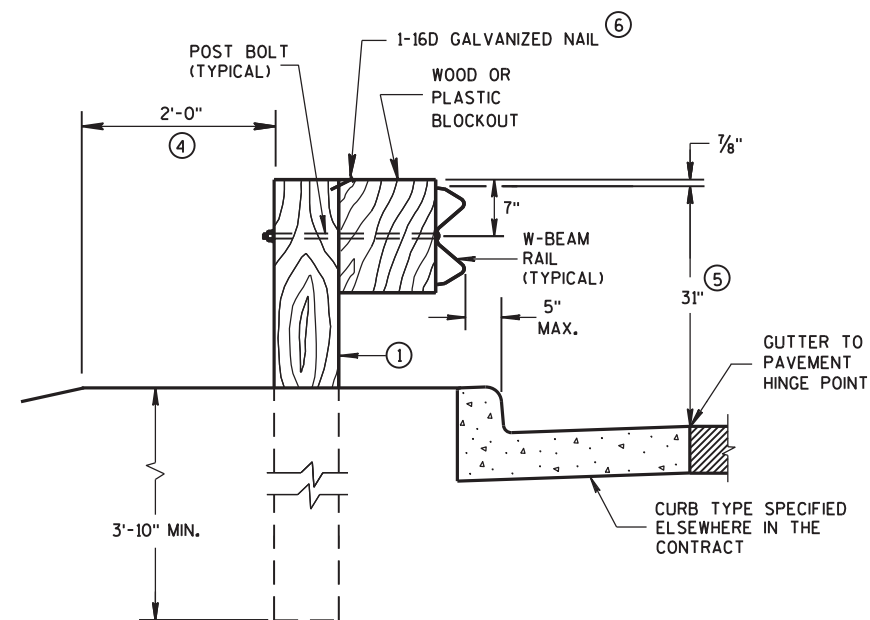
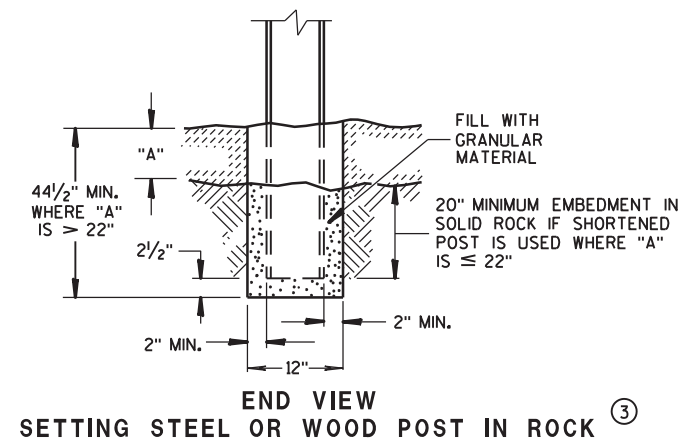
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

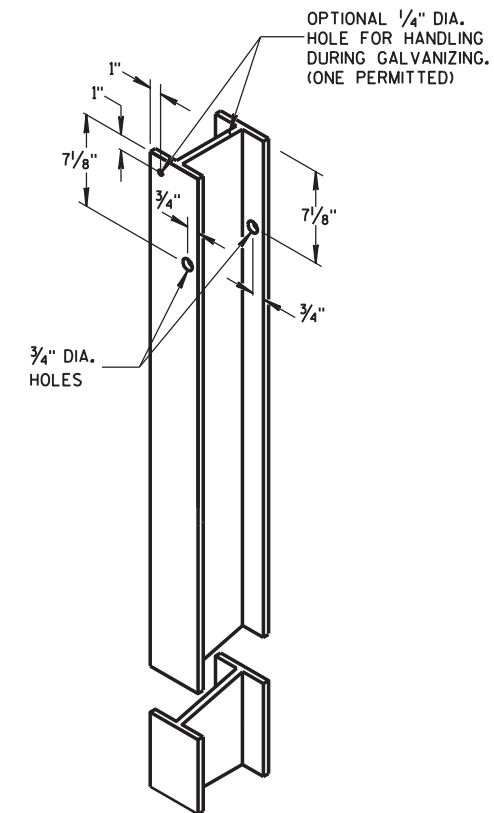
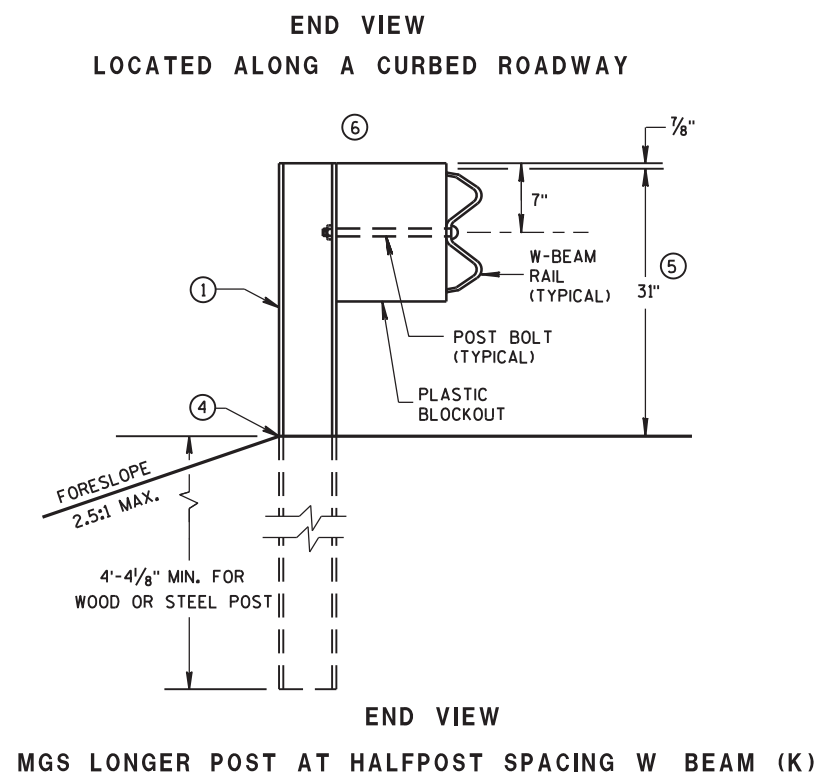
GENERAL NOTES

- ① WOOD OR STEEL POSTS (w6x9 OR w6x8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS TO THE LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

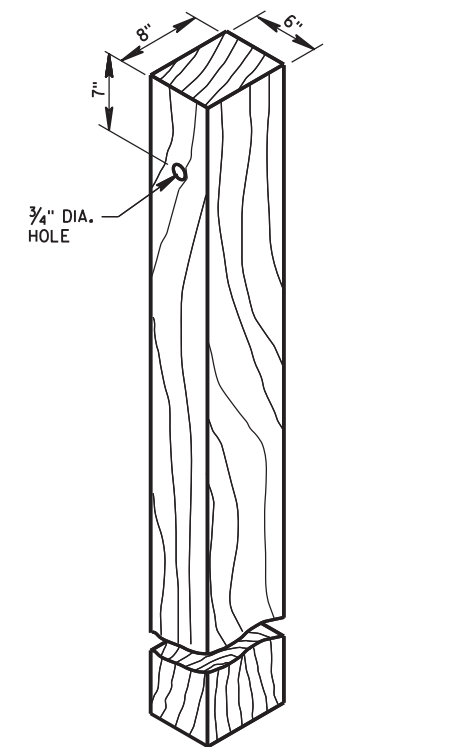


END VIEW

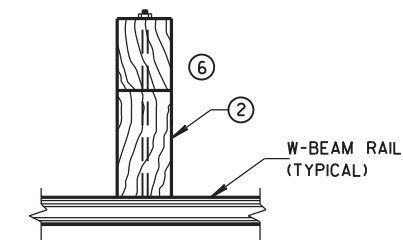
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



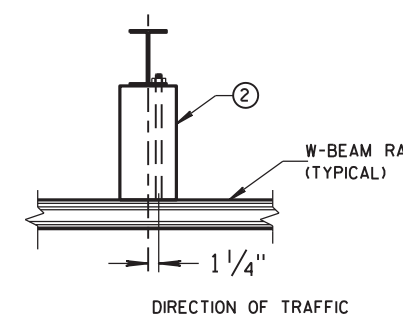
**STEEL POST &
HOLE PUNCHING DETAIL
(w6X9)^①**



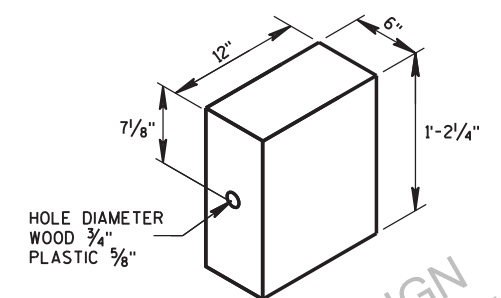
WOOD POST
(6" X 8") NOMINAL ^①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



**WOOD OR
PLASTIC BLOCKOUT** ②

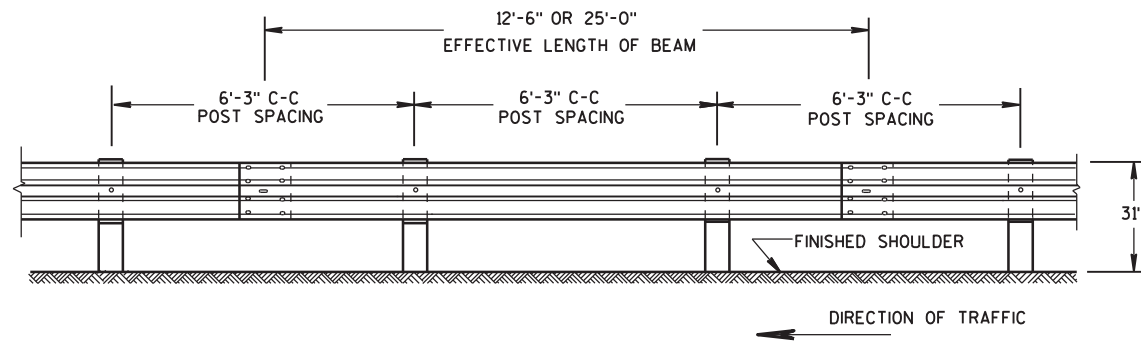
PLASTIC $\frac{5}{8}$ "

WOOD OR
PLASTIC BLOCKOUT ②

APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019

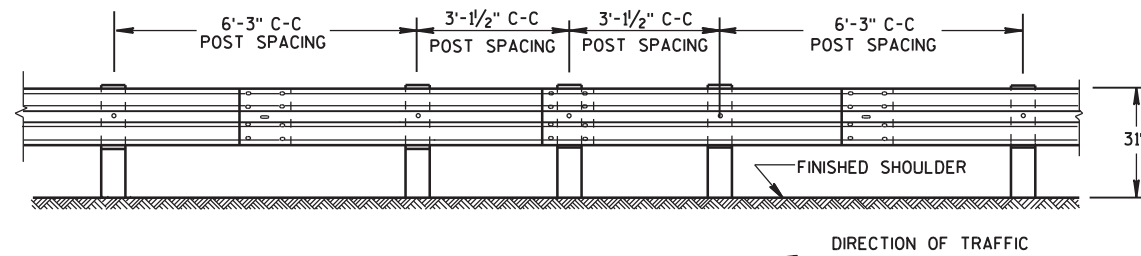
**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



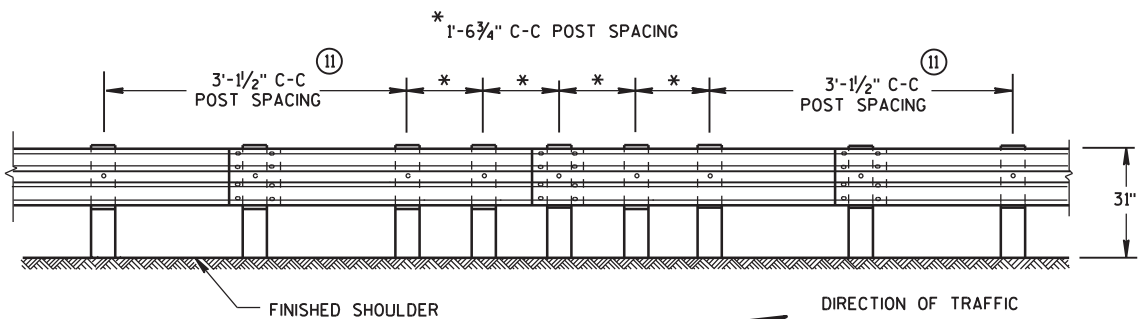
FRONT VIEW

POST SPACING STANDARD INSTALLATION



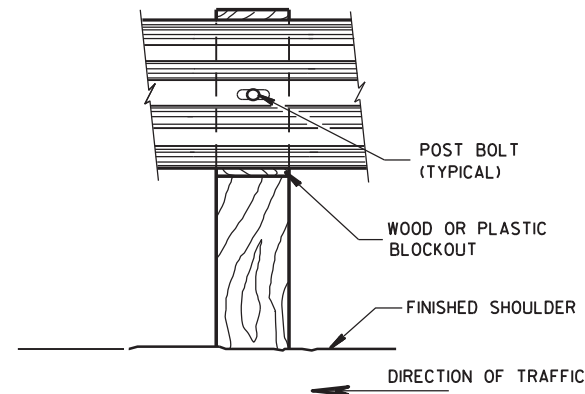
FRONT VIEW

HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)

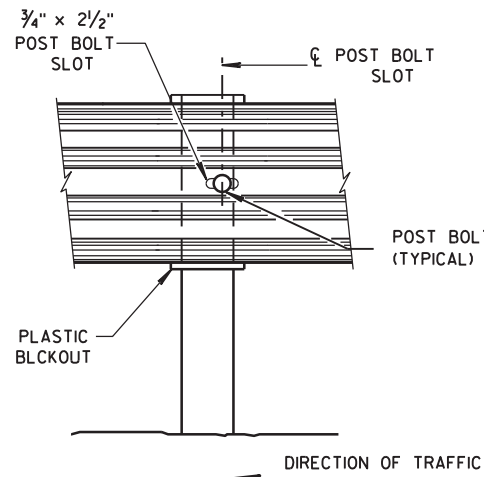


FRONT VIEW

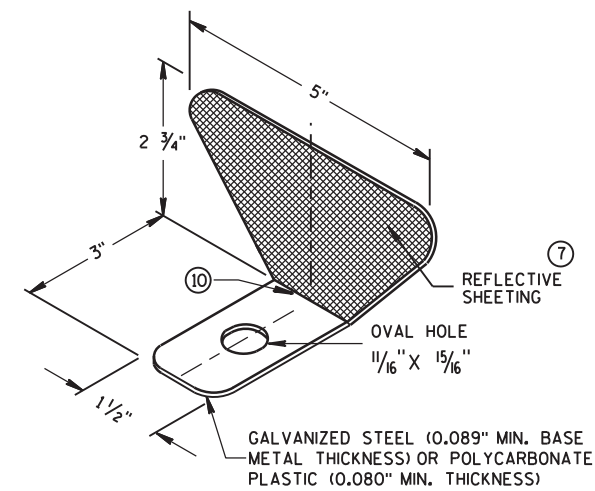
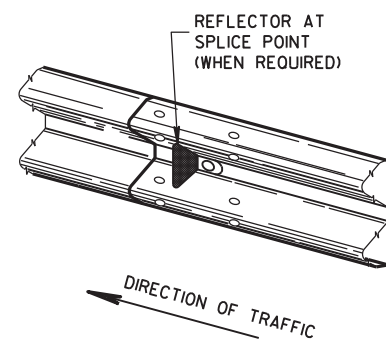
QUARTER POST SPACING (QS)



FRONT VIEW AT WOOD POST



FRONT VIEW AT STEEL POST



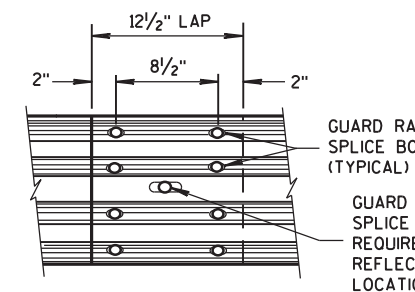
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

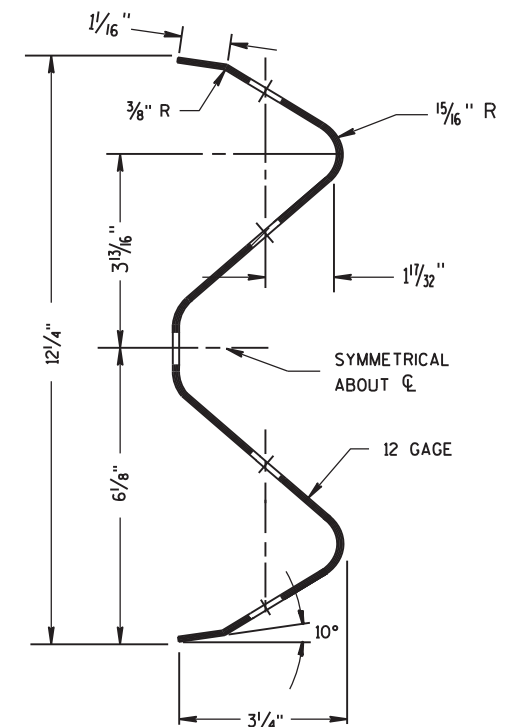
- PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
- DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
- REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
- 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL

REFLECTOR SPACING

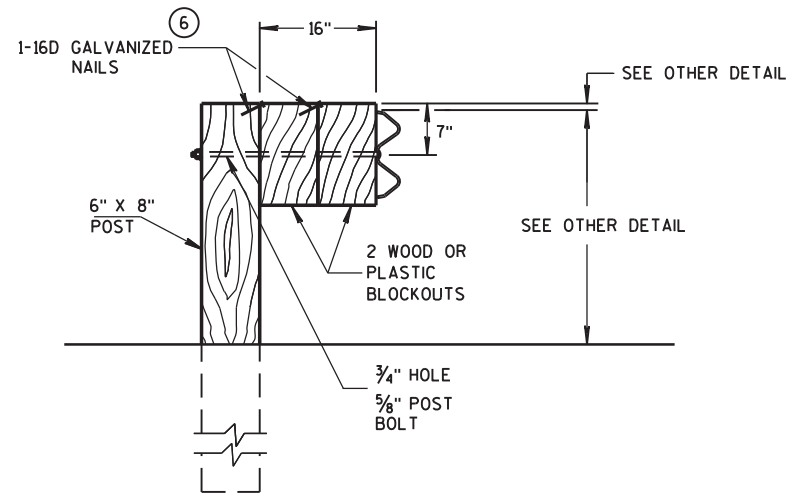
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

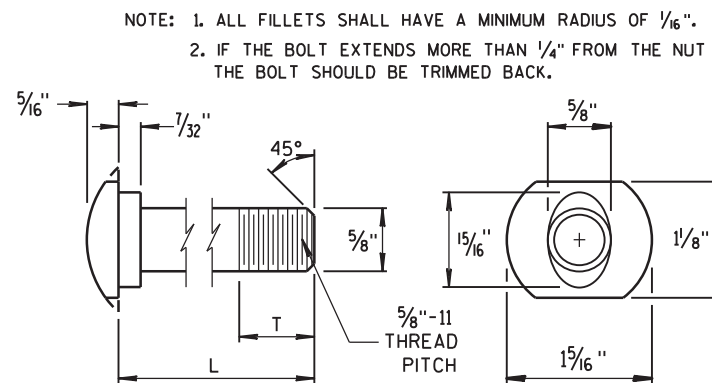


14B42 sheet c: Midwest Guardrail System (MGS) Post spacing, Reflector, W-beam rail, Bolt placement



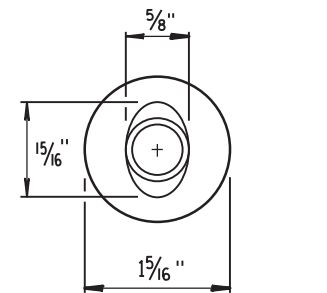
DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

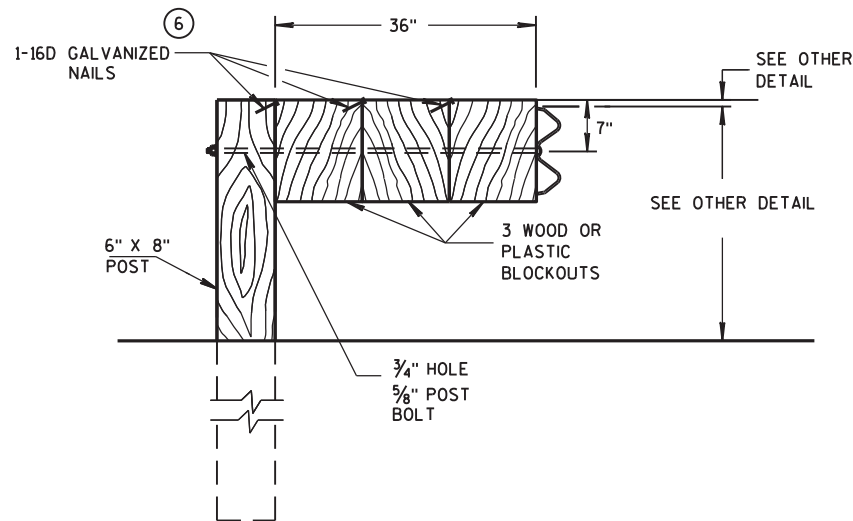


POST BOLT TABLE

L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



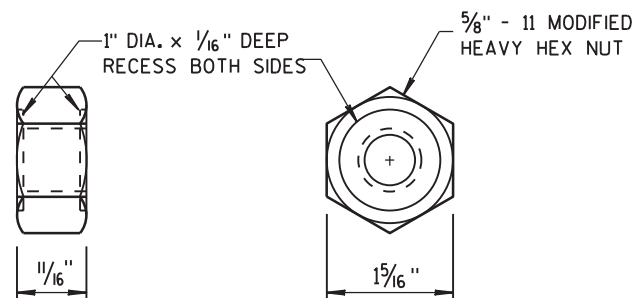
ALTERNATE BOLT HEAD



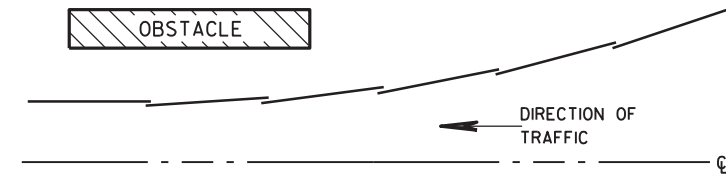
DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

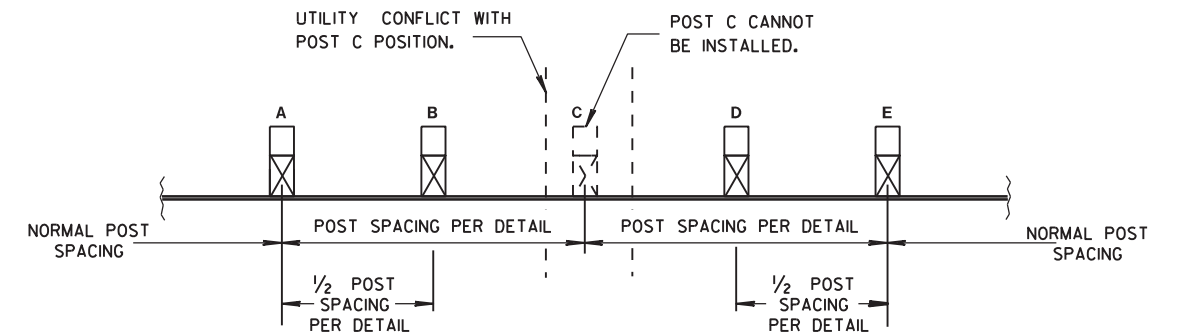
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



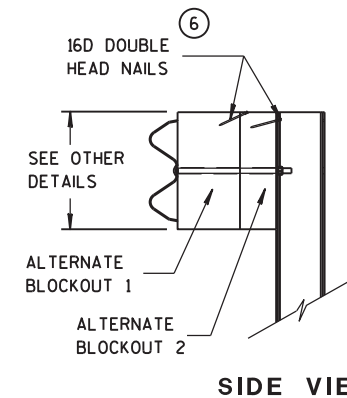
POST BOLT AND RECESS NUT



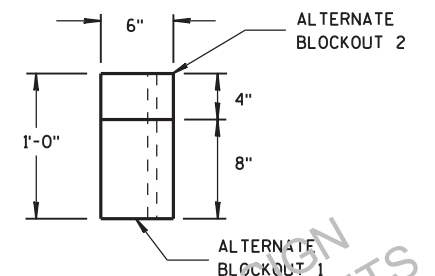
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

6

6

S.D.D. 14 B 42-3C

S.D.D. 14 B 42-3C

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

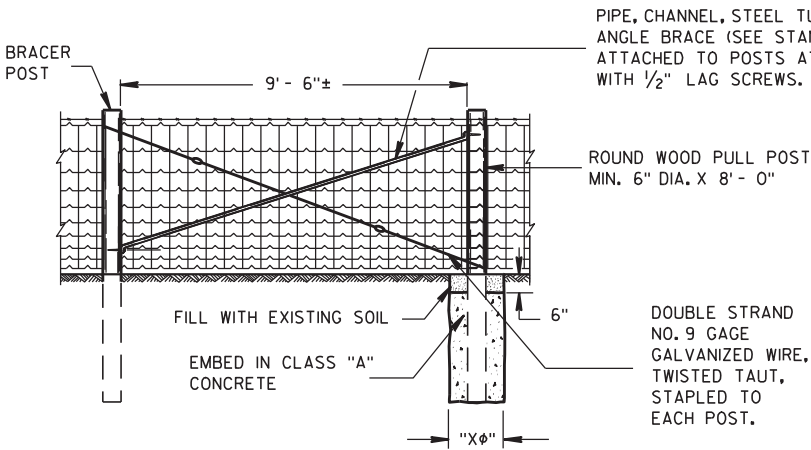
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
FHWA

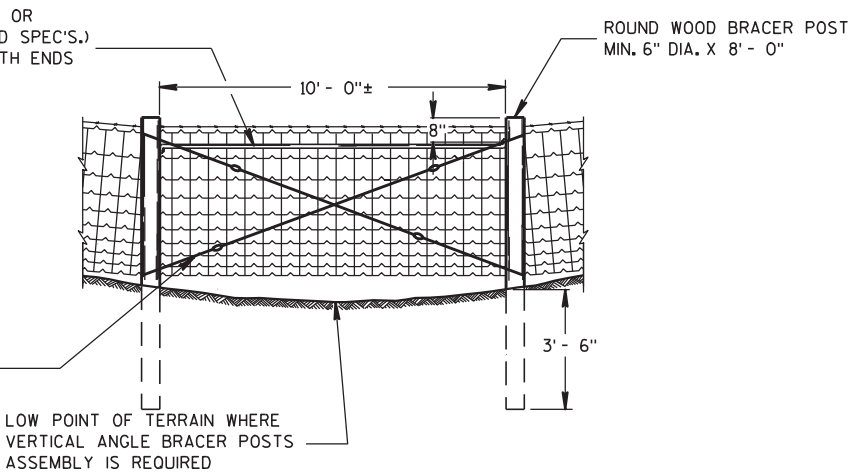
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

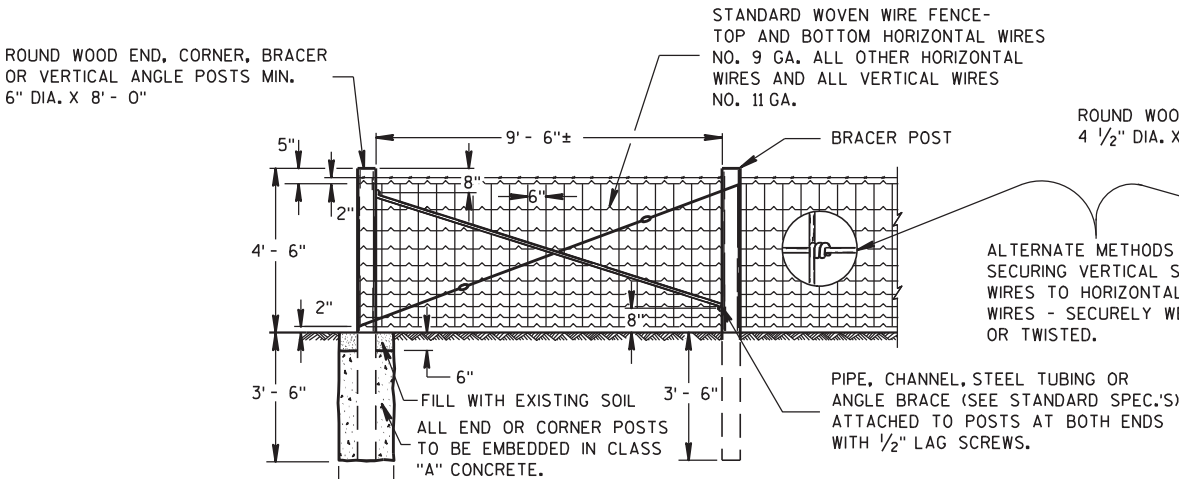
GENERAL NOTES

"Xφ" = DIAMETER OF THE POST PLUS 12".

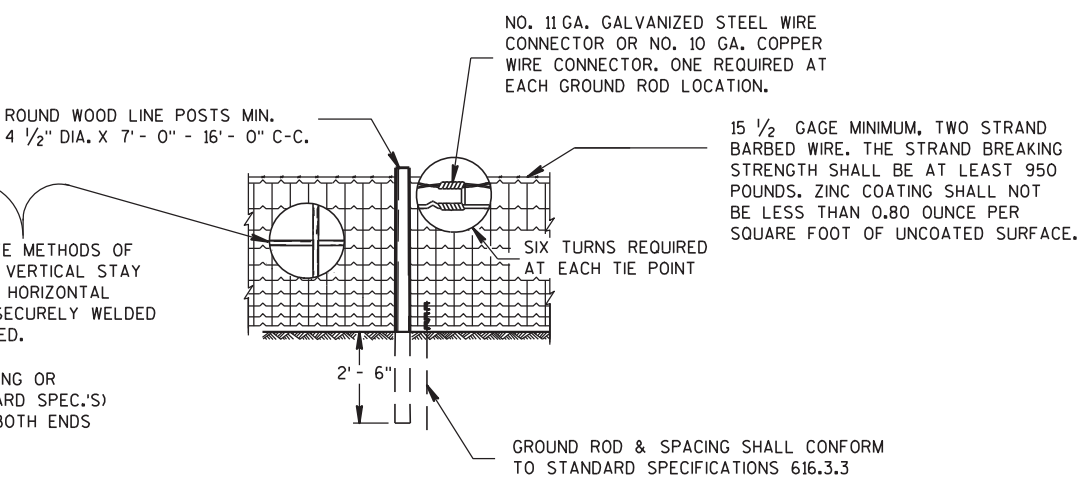
FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.

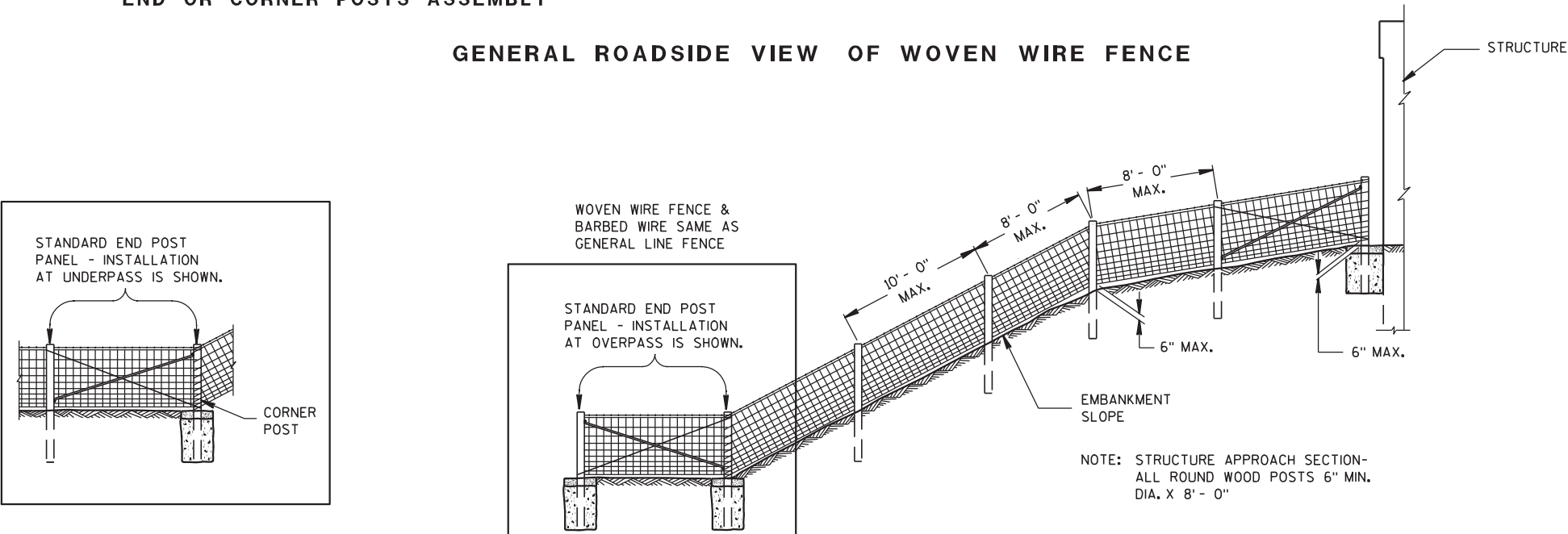


END OR CORNER POSTS ASSEMBLY

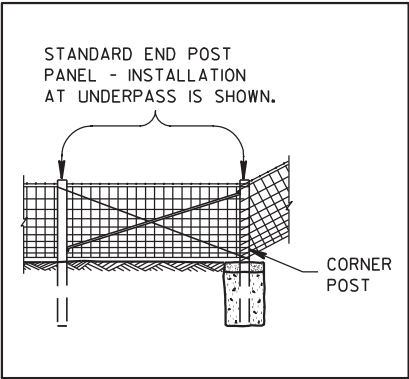


LINE FENCE CONSTRUCTION

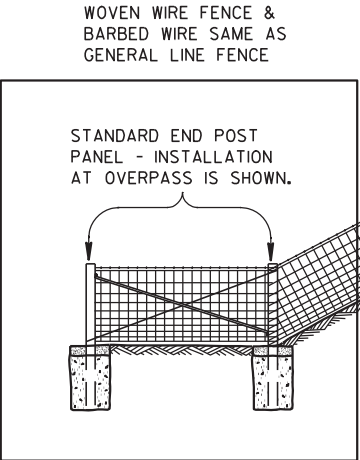
GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



FENCE DESIGN AT STRUCTURE APPROACH



ALTERNATE FENCE DESIGN AT STRUCTURE



STANDARD END POST PANEL - INSTALLATION AT OVERPASS IS SHOWN.

STANDARD END POST PANEL - INSTALLATION AT UNDERPASS IS SHOWN.

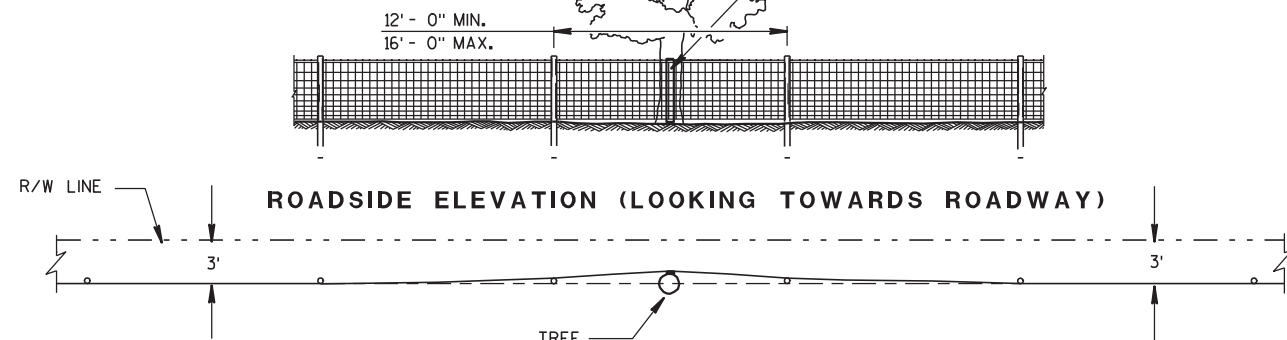
APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019

FENCE WOVEN WIRE

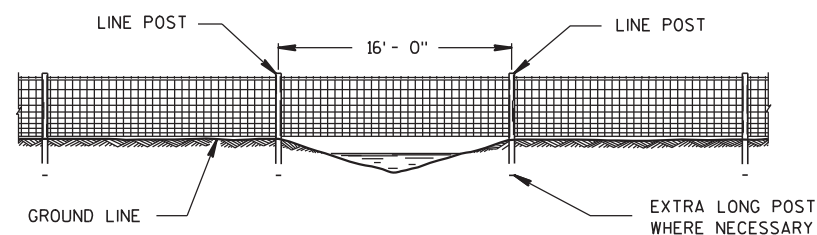
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.

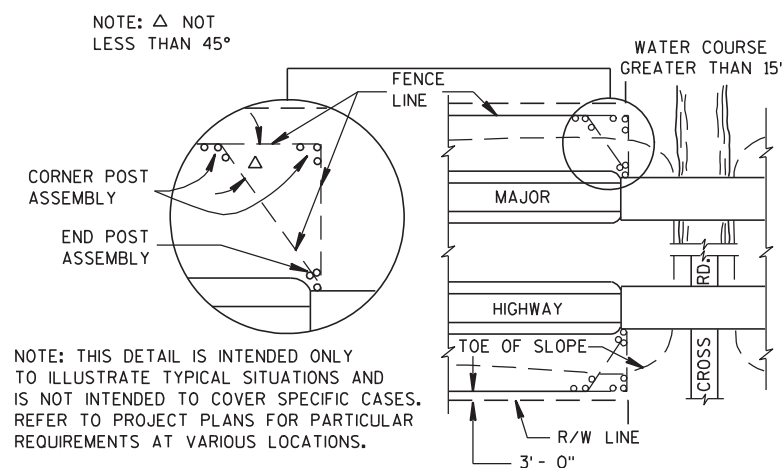
2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.



PLAN VIEW
FENCE DESIGN AT TREES REMAINING
IN NORMAL FENCE LINE

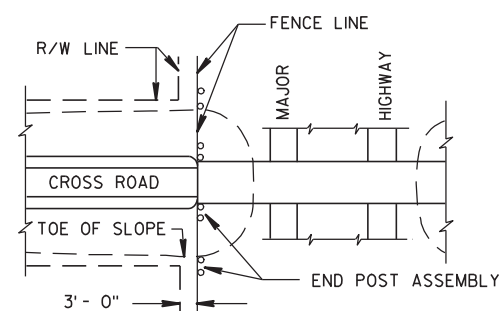


FENCE CONSTRUCTION OVER STREAM
COURSES OF 15 FT. OR LESS IN WIDTH

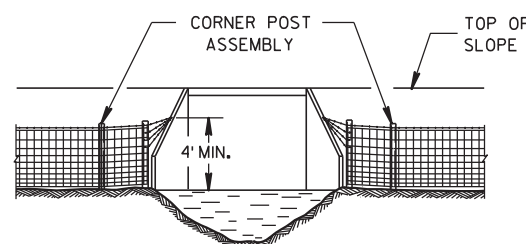


PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE
CROSSING OF GREATER THAN 15 FT. IN WIDTH

FENCE LOCATION AT STRUCTURES

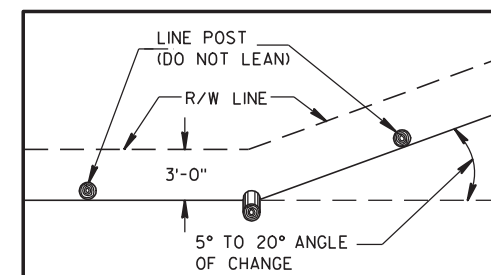


PLAN VIEW
MAJOR HIGHWAY UNDERPASS

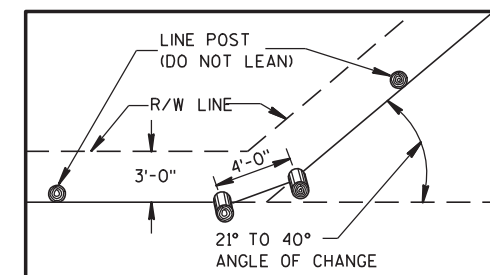


FENCE INSTALLATION TO WINGWALLS

NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



PLAN VIEW
SINGLE POST CORNER

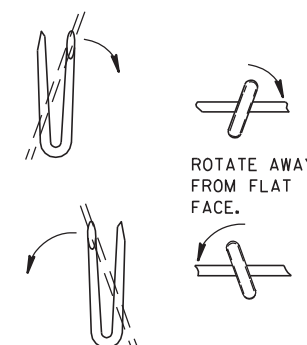


PLAN VIEW
DOUBLE POST CORNER

RIGHT OF WAY LINE CHANGE 40° AND LESS

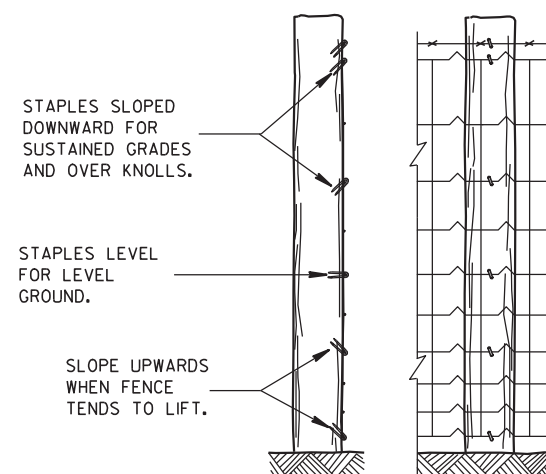
NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



LINE POST

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION
FARM SIDE ELEVATION
FENCE MOUNTING DETAIL

APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

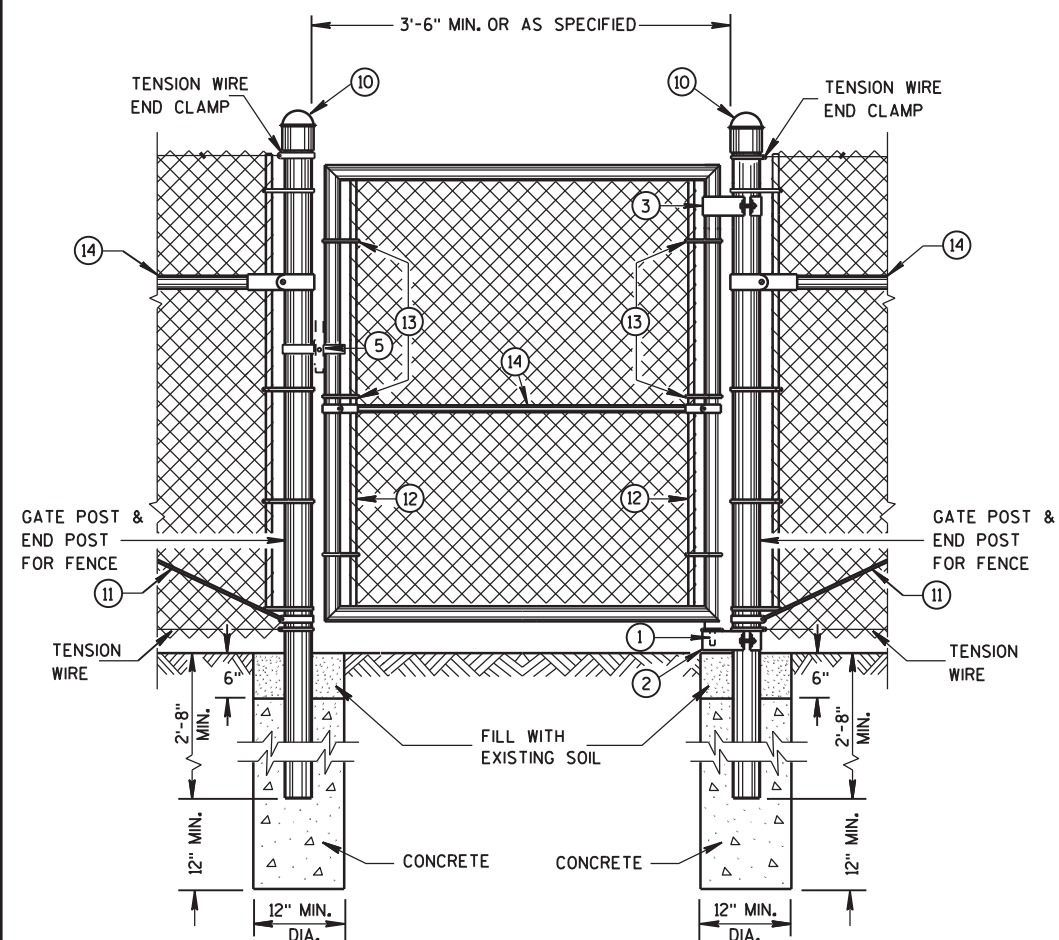
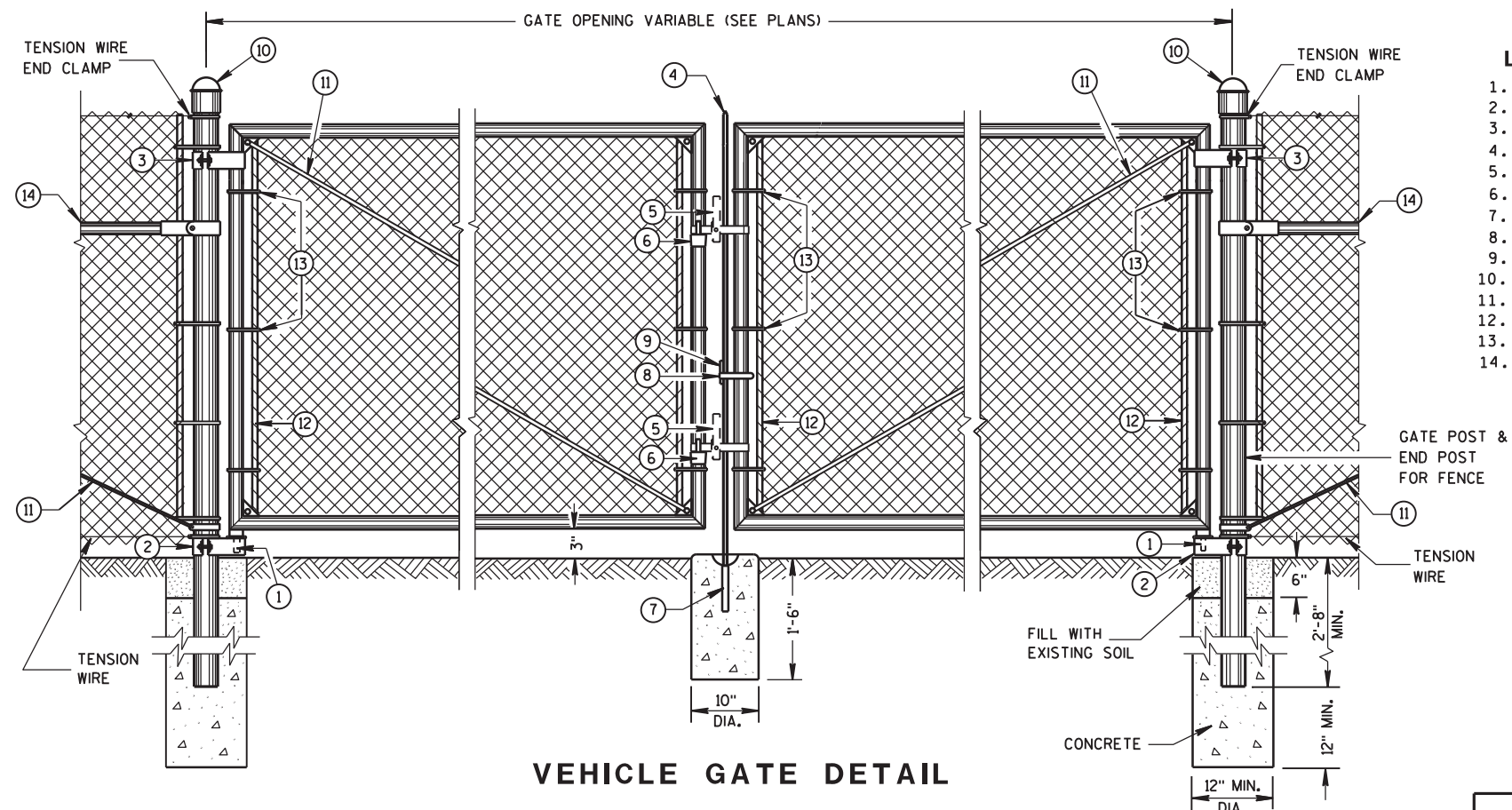
APPROVED

4/4/2008

DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



- ### LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

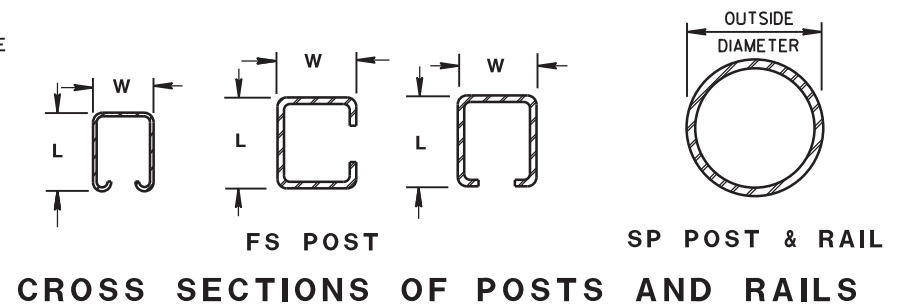
FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.



SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR FORMED STEEL FENCE POST

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR ROUND STEEL FENCE POST

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

REQUIRED POST SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2+
	GREATER THAN OR EQUAL TO 8 FT.	FS3

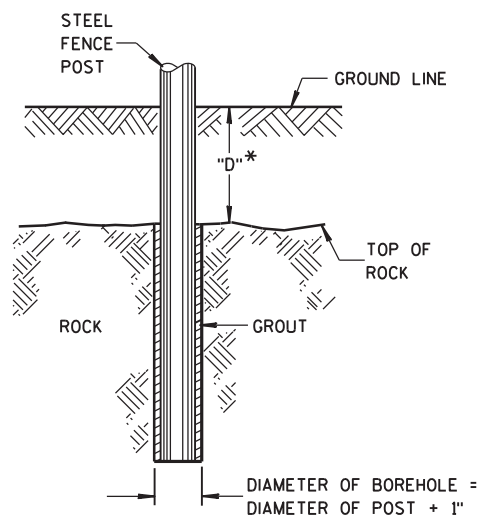
BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND
INTERMEDIATE BRACED POSTS

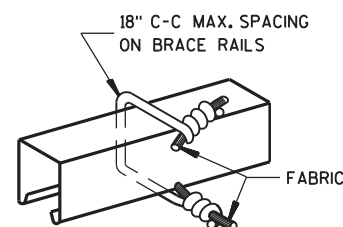
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



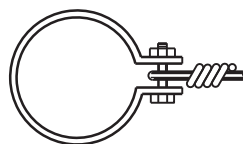
* IF "D" IS LESS THAN 2'-6",
DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST

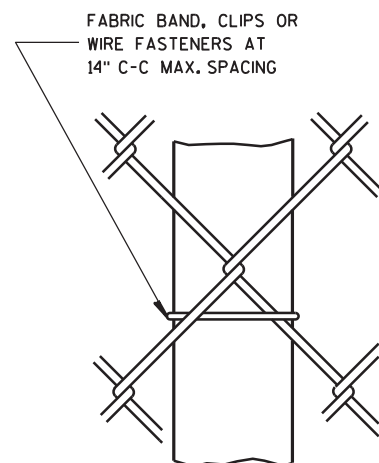


BRACE RAIL FABRIC FASTENER

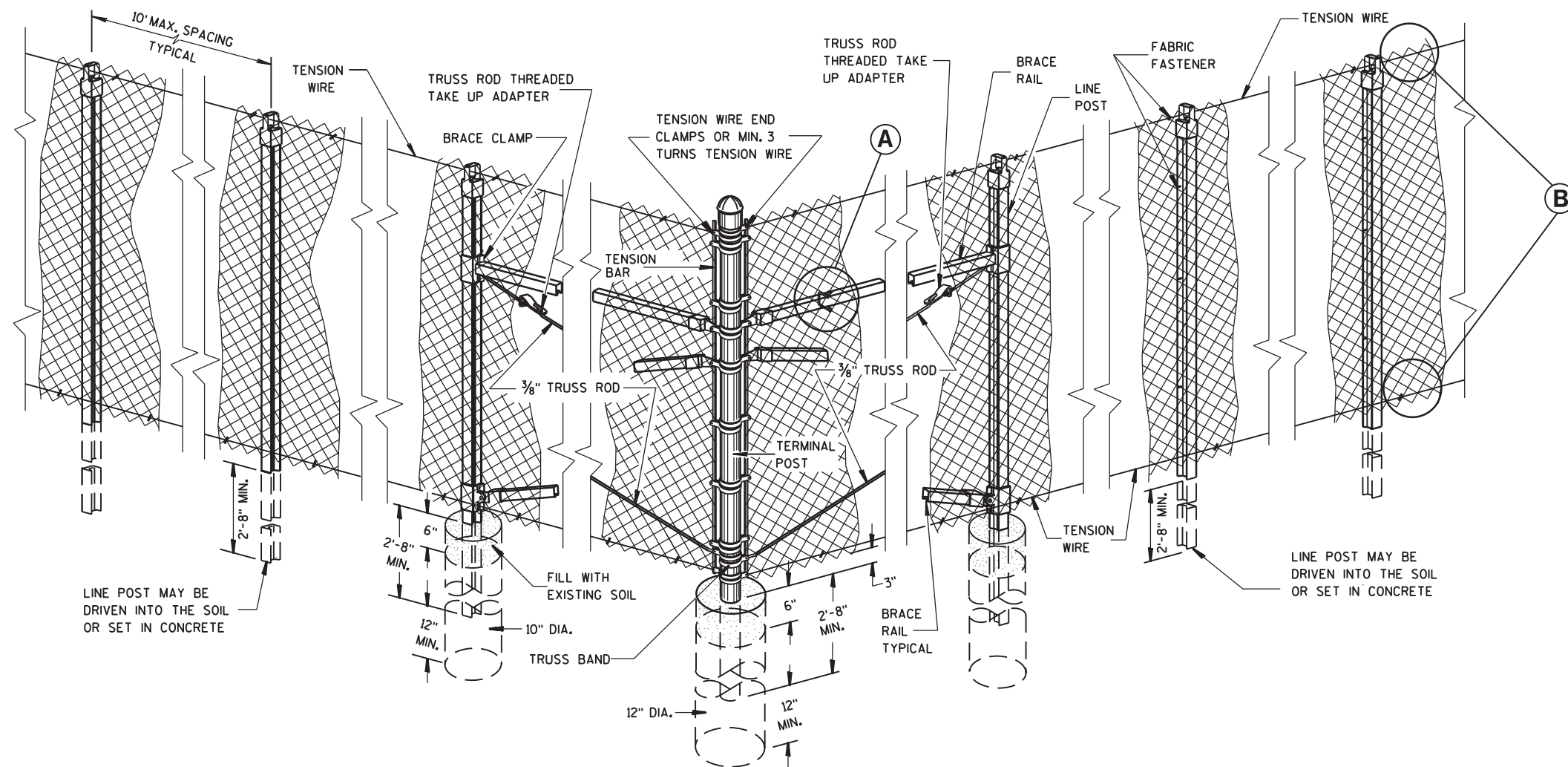
(A)



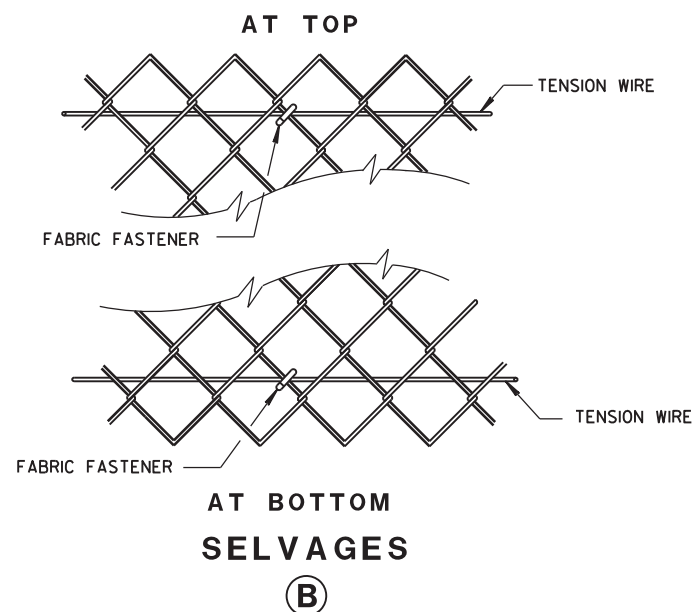
TENSION WIRE END CLAMP



LINE POST FABRIC FASTENER



END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/16/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

GENERAL NOTES

ORIENT ANCHOR BOLTS IN FOOTING AND PROVIDE ANCHOR BOLT STICK OUT ABOVE TOP OF CONCRETE FOOTING BASE PER FABRICATION DRAWING.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

SIGN SUPPORTS SHALL BE LOCATED NORMAL TO ROADWAY.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

WELDING OF ANCHOR BOLTS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BAR CAGE TO BE ASSEMBLED USING TIE WIRES ONLY, NO WELDING.

BASES (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACK FILLING AROUND THE BASE. ANY REQUIRED BACKFILL SHALL BE WELL COMPACTED IN LAYERS OF 1 FOOT OR LESS. COMPACTION SHALL BE BY MECHANICAL MEANS. CARE SHALL BE TAKEN SO NO DAMAGE OCCURS TO THE CONCRETE BASE DURING COMPACTION.

EXCAVATION OF MATERIALS NOT OCCUPIED BY CONCRETE SHALL BE MINIMIZED TO REDUCE DISTURBANCE OF THE SURROUNDING SOILS.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

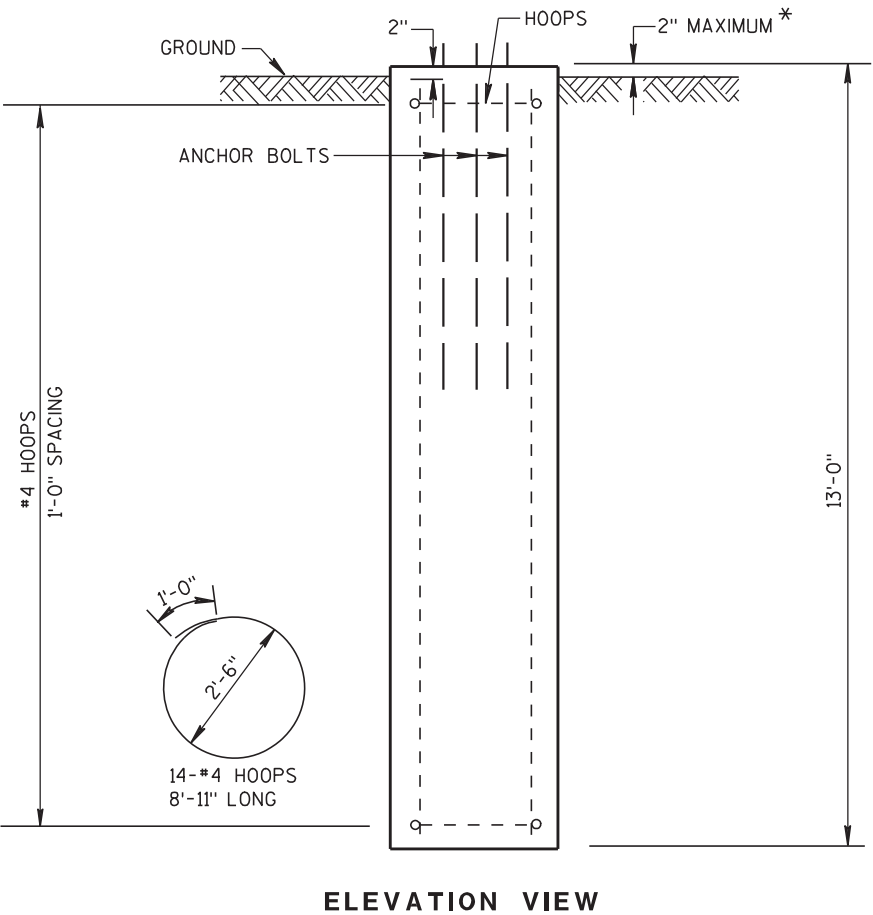
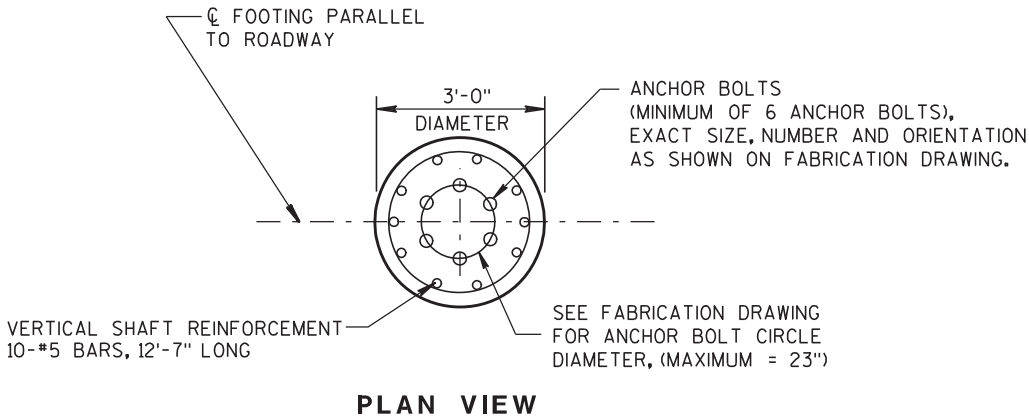
IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

THE REINFORCEMENT AND ANCHOR BOLTS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

ANY DAMAGE TO THE CONCRETE BASE DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

CONCRETE MASONRY ----- $f_c=3,500$ p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ----- $f_y=60,000$ p.s.i.
ANCHOR BOLTS ----- AASHTO M314 GRADE 55

THIS FOOTING HAS BEEN DESIGNED FOR SITES WHERE SOILS EXHIBIT A PHI-ANGLE GREATER THAN OR EQUAL TO 20 DEGREES (GRANULAR SOILS), OR A COHESION VALUE GREATER THAN OR EQUAL TO 350 PSF (COHESIVE SOILS).



* FOR OVERHEAD SIGN SUPPORTS THAT ARE INSTALLED ADJACENT TO SIDEWALKS, THE TOP OF THE BASE SHALL BE POURED FLUSH WITH THE GROUND.

CONCRETE - 3.4 C.Y. PER FOOTING
H.S. REINFORCEMENT - 215 LBS. PER FOOTING

APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019

36" DIAMETER FULL SPAN
OVERHEAD SIGN SUPPORT BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/17/09 /S/ Thomas N. Notbohm
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

94'-6"

24'-0"

15'-0"

CL RIPRAP CHUTE

CL CULVERT

6°

LIMITS OF RIPRAP EXTRA HEAVY AND GEOTEXTILE FABRIC TYPE HR.

RIPRAP TO MATCH IN WITH EXISTING CHANNEL

This plan view diagram illustrates the layout of a riprap chute and culvert. The chute is a rectangular structure with a width of 24 feet and a length of 94 feet 6 inches. It is divided into two sections by a vertical centerline (CL). The culvert is a rectangular structure with a width of 15 feet and a length of 24 feet, located at the downstream end of the chute. The culvert is shown at a 6-degree angle to the horizontal. The riprap is shown as a series of rounded stones. The limits of the riprap are indicated by dashed lines. The riprap to match in with the existing channel is shown at the upstream end of the chute.

The diagram illustrates the profile of a riprap chute. Key dimensions and features include:

- CHUTE OUTLET APRON:** 22'-0" long, 2'-6" wide at the outlet, and 1'-0" high.
- CHUTE INLET APRON:** 14'-0" long, 51'-0" wide at the inlet, and 1'-0" high.
- Elevations:** EL. 782.00 at the outlet, EL. 781.00 at the apron, EL. 794.33 at the chute slope, and EL. 796.18 at the inlet.
- Slope:** 40% (3.23 horizontal to 1 vertical).
- Radius:** R = 56'-0" at the inlet.
- Materials:** RIPRAP TO MATCH IN WITH DOWNSTREAM CHANNEL, RIPRAP EXTRA HEAVY, and GEOTEXTILE FABRIC TYPE HR.

RIPRAP CHUTE PROFILE
ALONG CL CHUTE

Diagram illustrating the cross-section of a riprap channel. The channel is filled with **RIPRAP EXTRA HEAVY** and lined with **GEOTEXTILE FABRIC TYPE HR**. The channel width at the top is **24'-0"**, and the width at the bottom is **16'-8"**. The channel depth is **2'-3"**. The channel is flanked by **1** and **2** on the left side. The channel is flanked by **40°** on the right side. The channel is flanked by **30'-8"** on the bottom.

NO.		DATE	REVISION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE 2-11-121			

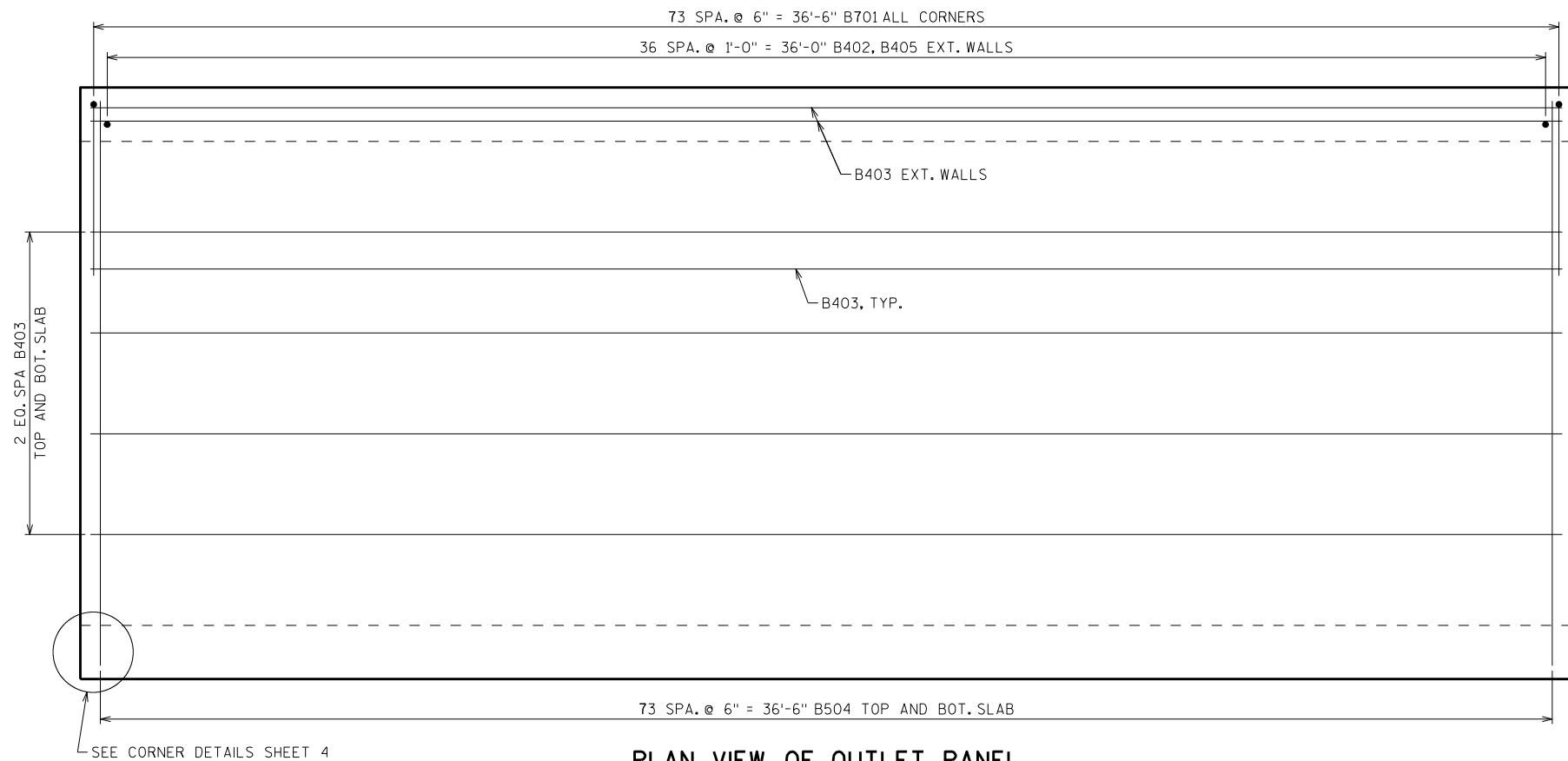
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-44-124			
DRAWN BY		DFD	PLANS CK'D.
RIPRAP CHUTE DETAILS		SHEET 2	

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

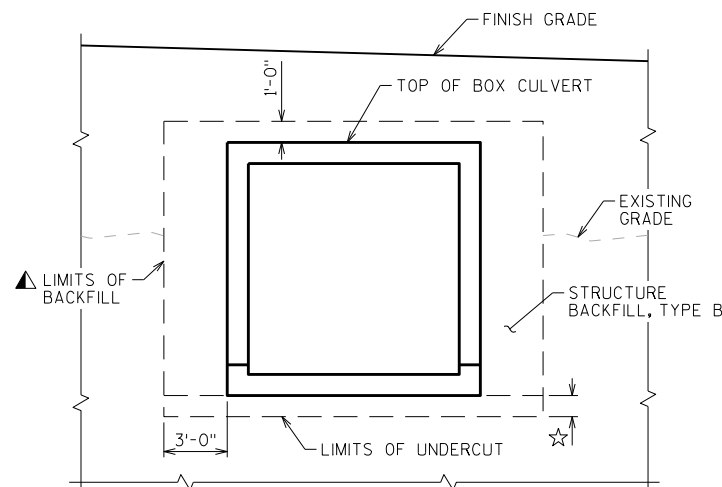
BAR MARK	CONT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B701		1776	6'-3"	X		CORNERS
B402		432	1'-11"			EXTERIOR WALL DOWELS
B403		168	36'-6"			TOP AND BOT. SLAB AND WALLS LONGIT.
B504		888	7'-0"			TOP AND BOT. SLAB TRANSVERSE
B405		432	4'-10"			EXTERIOR WALLS VERTICAL
B406		4	7'-0"			HEADERS HORIZONTAL
B307		10	2'-0"	X		HEADER STIRRUP
B308		10	2'-4"	X		HEADER STIRRUP
B509		130	4'-0"			VERTICAL CONST. JOINT

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



PLAN VIEW OF OUTLET PANEL

USE IDENTICAL STEEL IN OTHER PANELS
APRON AND HEADER ARE NOT SHOWN

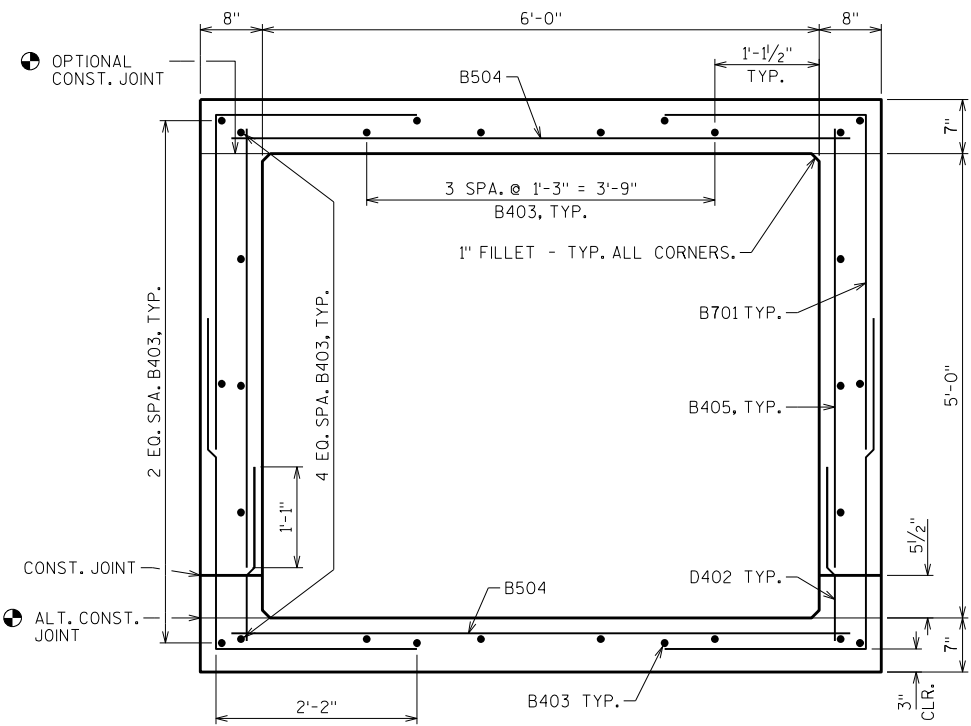


TYPICAL SECTION THRU BOX CULVERT

▲ BACKFILL PAY LIMITS, BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

☆ UNDER CUT 1'-0". EXCAVATION FOR UNDER CUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE TYPE C" AND BACKFILL WITH "BREAKER RUN".

IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED TO DETERMINE IF "OTHER GRANULAR MATERIAL" IS ACCEPTABLE.



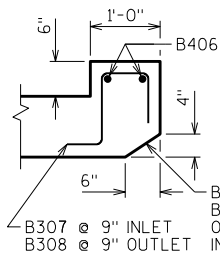
TYPICAL SECTION THRU BOX

⊕ OMIT 1" FILLET IF JOINT IS USED

B701

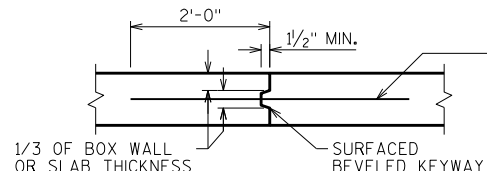
B307

B308



SECTION THRU HEADER

BEVEL TO EXTEND BETWEEN INSIDE FACES OF BOX WALLS. BEVEL INLET END ONLY.

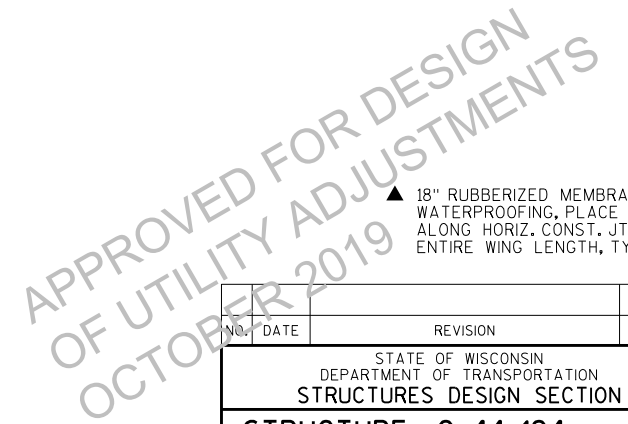


VERTICAL CONSTRUCTION JOINT

2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING MAY BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-44-124			
DRAWN BY		DFD	PLANS CK'D.
BOX DETAILS			SHEET 3

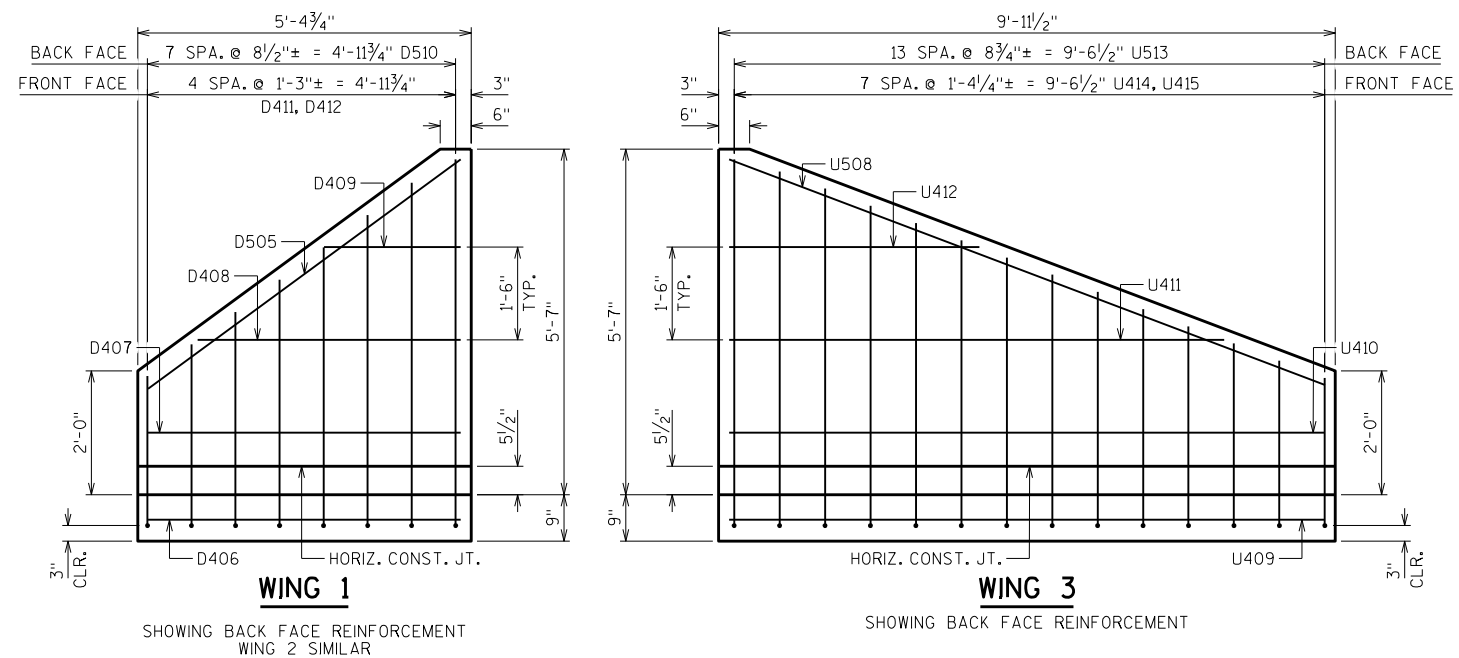
▲ HORIZ. CO
JT., TYP.



18" RUBBERIZED MEMBRANE
WATERPROOFING, PLACE
ALONG HORIZ. CONST. JT. FOR
ENTIRE WING LENGTH, TYP.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-44-124			
DRAWN BY		DFD	PLANS CK'D.
APRON DETAILS			SHEET 4

SCALE = 1.50



BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

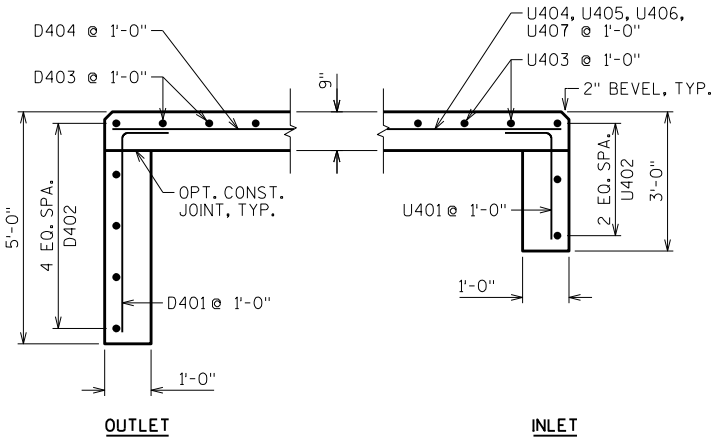
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
D401		10	5'-6"	X		OUTLET APRON AND CUTOFF WALL VERT.
D402		5	9'-4"			OUTLET APRON AND CUTOFF WALL HORIZ.
D403		5	8'-1"		▲	OUTLET APRON SLAB HORIZ.
D404		8	7'-5"			OUTLET APRON AND BOX SLAB HORIZ.
D505	X	4	6'-1"			WINGS 1 & 2 HORIZ. TOP BOTH FACES
D406	X	4	5'-0"			WINGS 1 & 2 HORIZ. APRON SLAB
D407	X	4	5'-0"			WINGS 1 & 2 HORIZ. BOTTOM BOTH FACES
D408	X	4	4'-3"			WINGS 1 & 2 HORIZ.
D409	X	4	2'-2"			WINGS 1 & 2 HORIZ.
D510	X	16	9'-2"	X	▲	WINGS 1 & 2 VERT. BACK FACE
D411	X	10	3'-2"		▲	WINGS 1 & 2 VERT. FRONT FACE
D412	X	10	2'-3"			WINGS 1 & 2 DOWELS FRONT FACE
U401		16	3'-6"	X		INLET APRON AND CUTOFF WALL VERT.
U402		3	16'-4"			INLET APRON AND CUTOFF WALL HORIZ.
U403		8	11'-9"		▲	INLET APRON SLAB HORIZ.
U404		8	11'-0"			INLET APRON AND BOX SLAB HORIZ.
U405		2	6'-11"			INLET APRON SLAB HORIZ.
U406		2	5'-2"			INLET APRON SLAB HORIZ.
U407		2	3'-5"			INLET APRON SLAB HORIZ.
U508	X	4	10'-3"			WINGS 3 & 4 HORIZ. TOP BOTH FACES
U409	X	4	9'-7"			WINGS 3 & 4 HORIZ. APRON SLAB
U410	X	4	9'-7"			WINGS 3 & 4 HORIZ. BOTTOM BOTH FACES
U411	X	4	8'-0"			WINGS 3 & 4 HORIZ.
U412	X	4	4'-0"			WINGS 3 & 4 HORIZ.
U513	X	28	9'-2"	X	▲	WINGS 3 & 4 VERT. BACK FACE
U414	X	16	3'-2"		▲	WINGS 3 & 4 VERT. FRONT FACE
U415	X	16	2'-3"			WINGS 3 & 4 DOWELS FRONT FACE

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

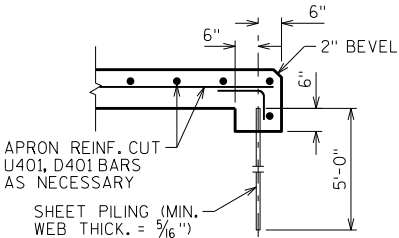
BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
D403	1 SERIES OF 5	7'-0" TO 9'-2"
D510	2 SERIES OF 8	7'-5" TO 10'-11"
D411	2 SERIES OF 5	1'-5" TO 4'-11"
U403	1 SERIES OF 8	7'-5" TO 10'-11"
U513	2 SERIES OF 14	7'-5" TO 10'-11"
U414	2 SERIES OF 8	1'-5" TO 4'-11"

BUNDLE AND TAG EACH SERIES SEPARATELY

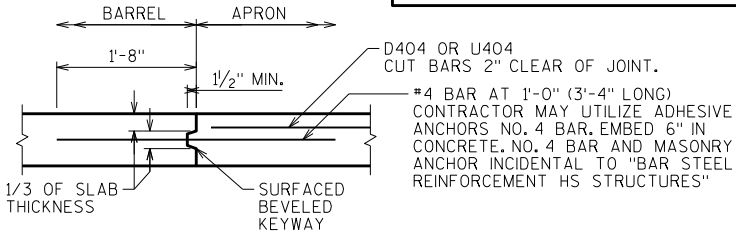
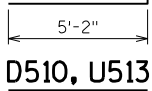
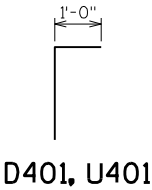


CUT-OFF WALLS



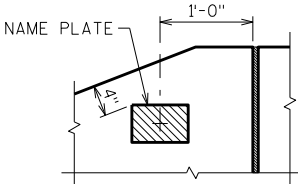
ALTERNATE CUT-OFF WALLS

THE ABOVE ALTERNATIVE MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONCRETE CUT-OFF WALLS.

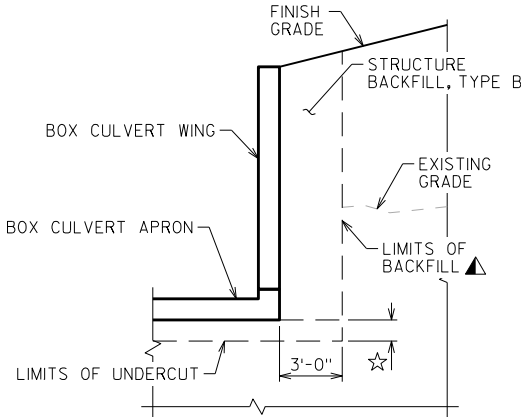


OPTIONAL CONSTRUCTION JOINT

2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING MAY BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.



NAME PLATE LOCATION
WING 4



TYPICAL SECTION
THRU BOX CULVERT WING

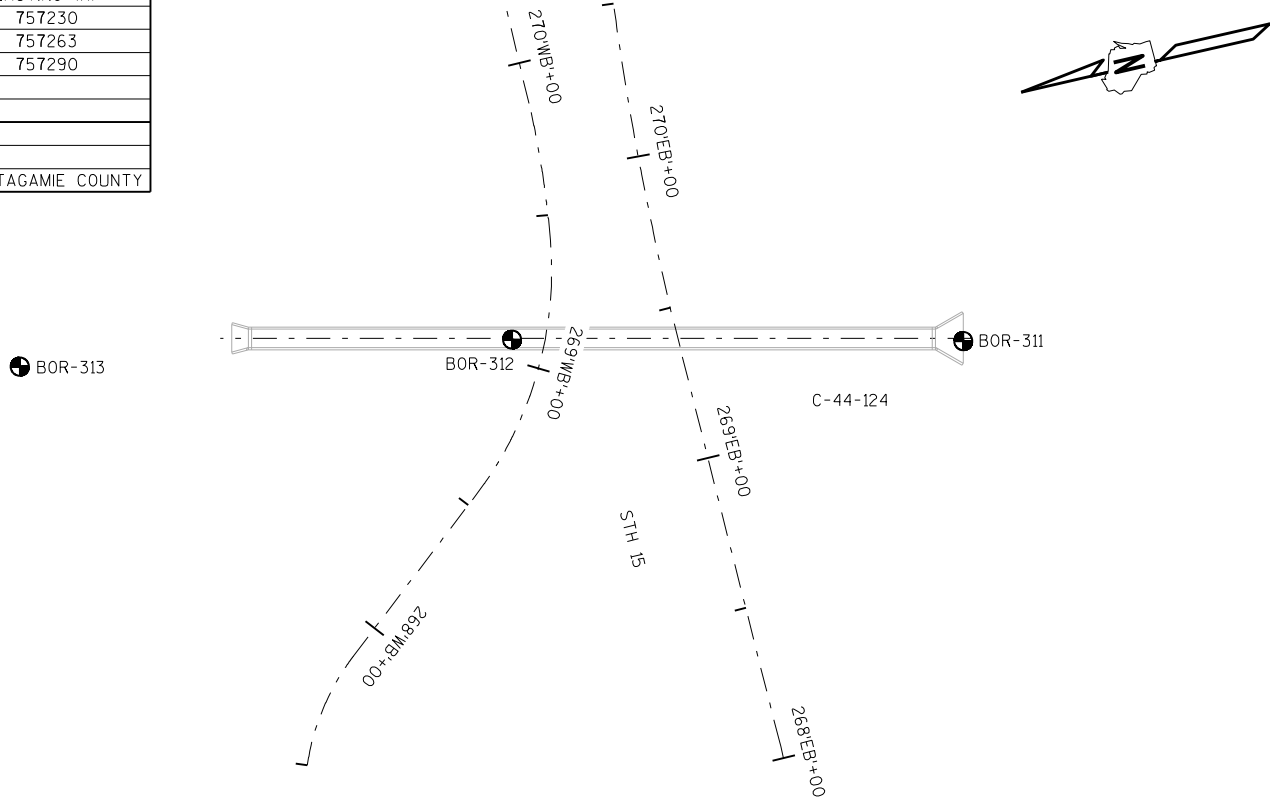
- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- ☆ UNDER CUT 1'-0". EXCAVATION FOR UNDER CUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE TYPE C" AND BACKFILL WITH "BREAKER RUN".

IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARS- AGGREGATE SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED TO DETERMINE IF "OTHER GRANULAR MATERIAL" IS ACCEPTABLE.

- 3/4" FILLER, TYP. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.
- 1" BEVEL, TYP.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM HORIZ. CONST. JT. TO TOP OF WALL.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-44-124			
DRAWN BY		DFD	PLANS CK'D.
DETAILS		SHEET 5	

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
311	3/28/2014	593525	757230
312	3/28/2014	593667	757263
313	3/28/2014	593824	757290
BORINGS COMPLETED BY: GESTRA			
REPORT COMPLETED BY: CH2M HILL			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) OUTAGAMIE COUNTY			



STATE PROJECT NUMBER

1146-75-71

MATERIAL SYMBOLS

ASPHALT

CONCRETE

SAND

BOULDERS OR COBBLES

SHALE

TOPSOIL

FILL

CLAY

LIMESTONE

SANDSTONE

PEAT

GRAVEL

SILT

BEDROCK (UNKNOWN)

IGNEOUS/META

LEGEND OF BORING

BORING #/EL. STA., OFFSET

ST

0.25

17

F-C

COBBLE OR BOULDER

WEATHERED LIMESTONE

CORE RUN #1 - 24'-29'

REC=80%, ROD=72%

(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ END OF DRILLING

▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

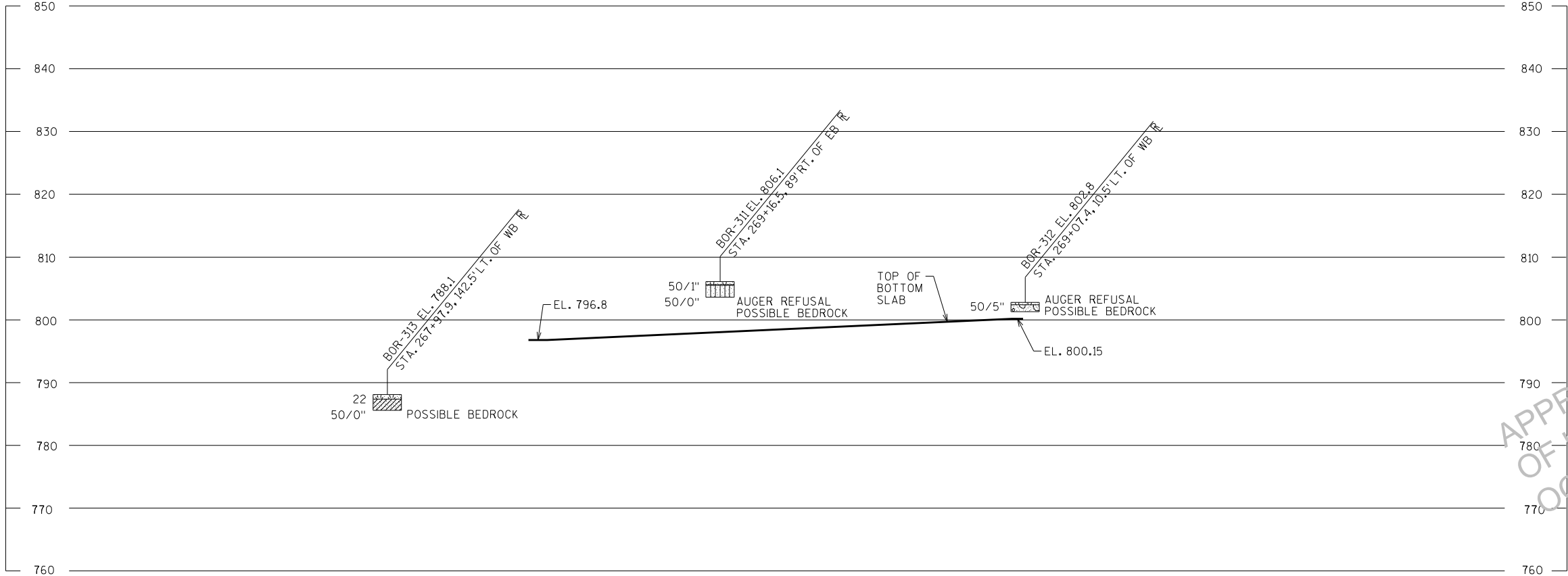
BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-44-124			
DRAWN BY TLP/DFD		PLANS CK'D.	
SUBSURFACE EXPLORATION		SHEET 6	

8

8

SCALE = 30.00



CULVERT

TRIB. TO WOLF RIVER

EXISTING STRUCTURE C-44-21,
A SINGLE CELL CONCRETE
CULVERT TO BE REMOVED IN
STAGE 2.



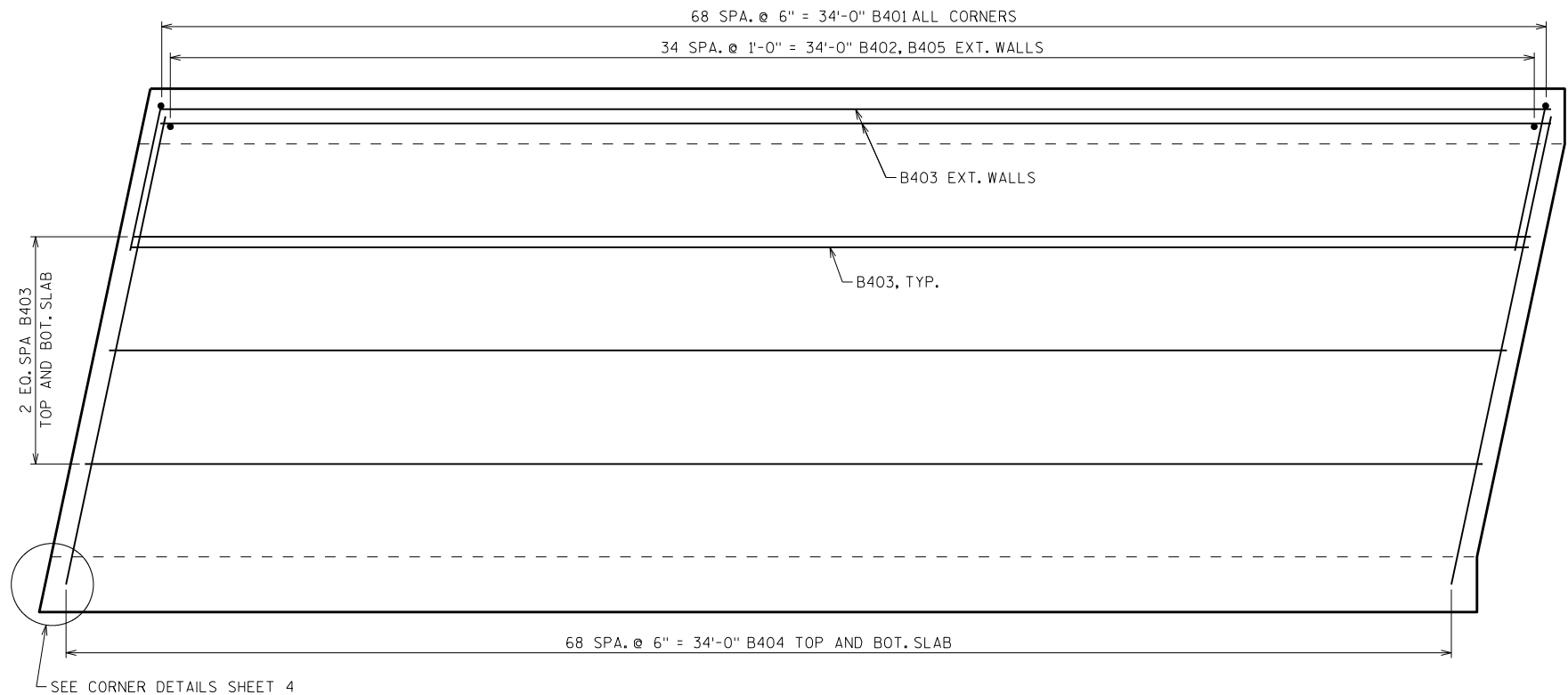
SCALE = 4.00

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

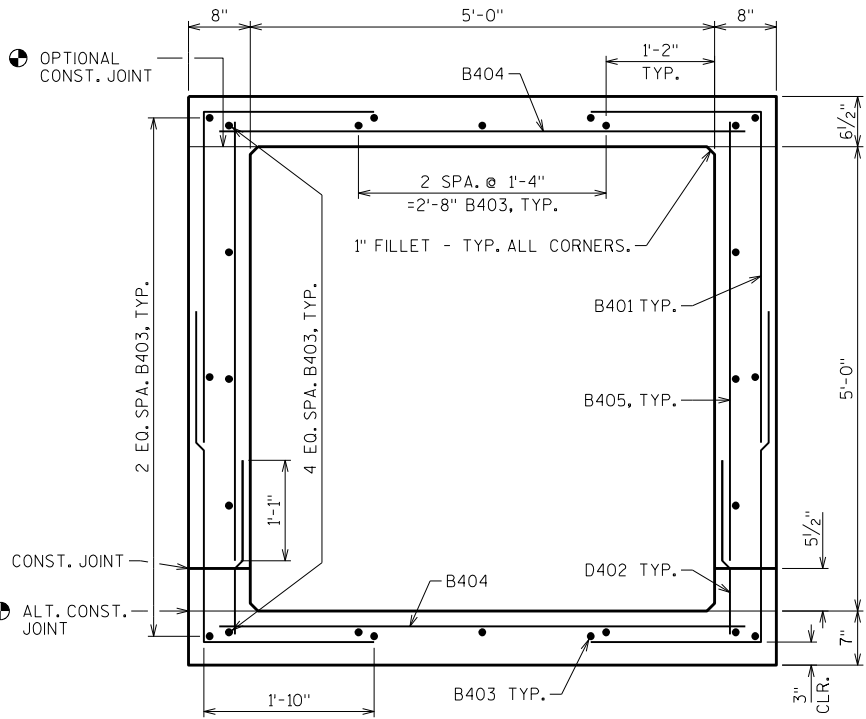
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401		828	5'-4"	X		CORNERS
B402		210	1'-11"			EXTERIOR WALL DOWELS
B403		78	34'-0"			TOP AND BOT. SLAB AND WALLS LONGIT.
B404		414	6'-0"			TOP AND BOT. SLAB TRANSVERSE
B405		210	4'-10"			EXTERIOR WALLS VERTICAL
B406		4	6'-0"			HEADERS HORIZONTAL
B307		9	2'-0"	X		HEADER STIRRUP
B308		9	2'-4"	X		HEADER STIRRUP
B509		60	4'-0"			VERTICAL CONST. JOINT

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



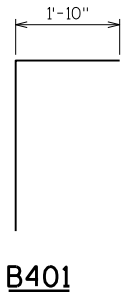
PLAN VIEW OF OUTLET PANEL

USE IDENTICAL STEEL IN OTHER PANELS
APRON AND HEADER ARE NOT SHOWN

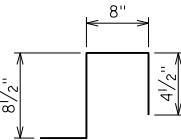


TYPICAL SECTION THRU BOX

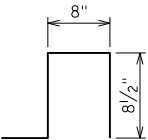
⊕ OMIT 1" FILLET IF JOINT IS USED



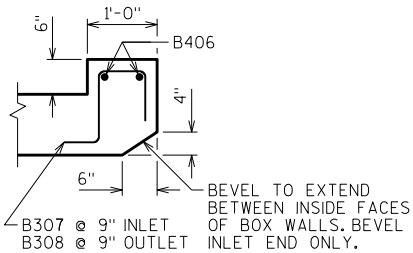
B401



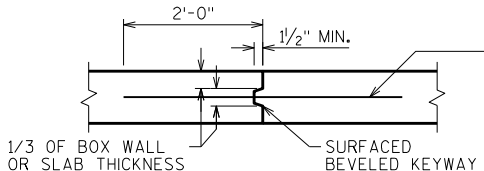
B307



B308

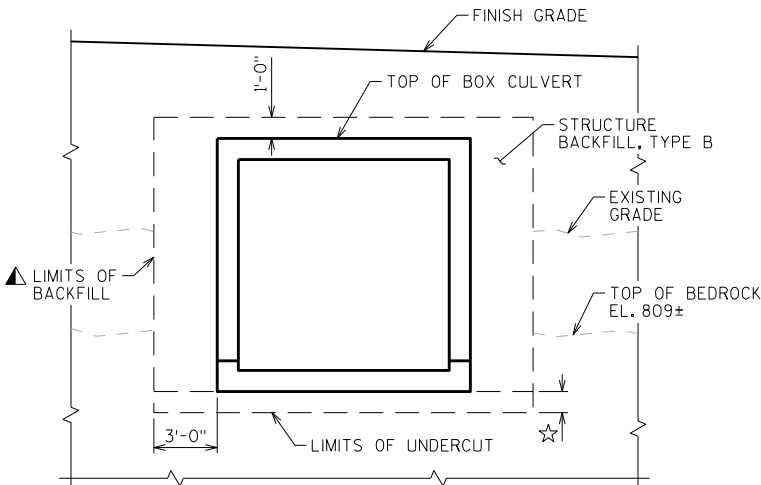


SECTION THRU HEADER



VERTICAL CONSTRUCTION JOINT

2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING MAY BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.



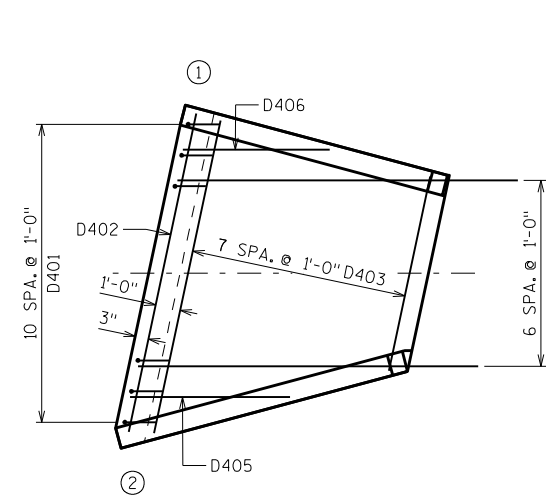
TYPICAL SECTION THRU BOX CULVERT

▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

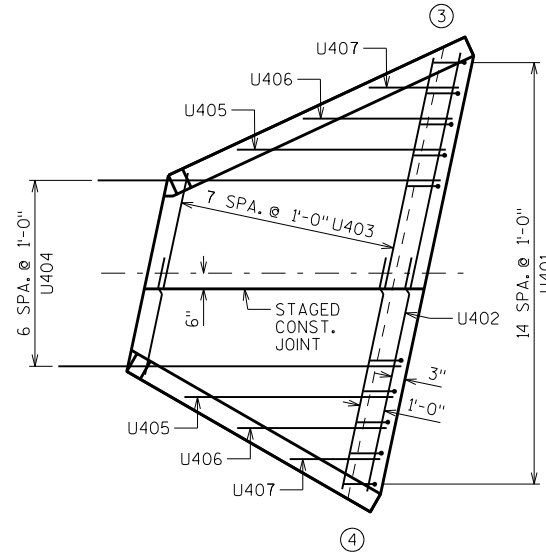
☆ UNDER CUT 1'-0". EXCAVATION FOR UNDER CUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE TYPE C" AND BACKFILL WITH "BREAKER RUN".

IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED TO DETERMINE IF "OTHER GRANULAR MATERIAL" IS ACCEPTABLE.

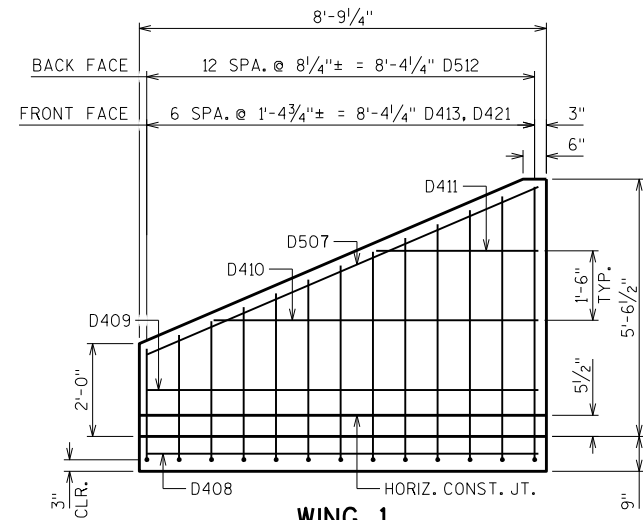
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-44-126			
DRAWN BY		DFD	PLANS CK'D.
BOX DETAILS			SHEET 2



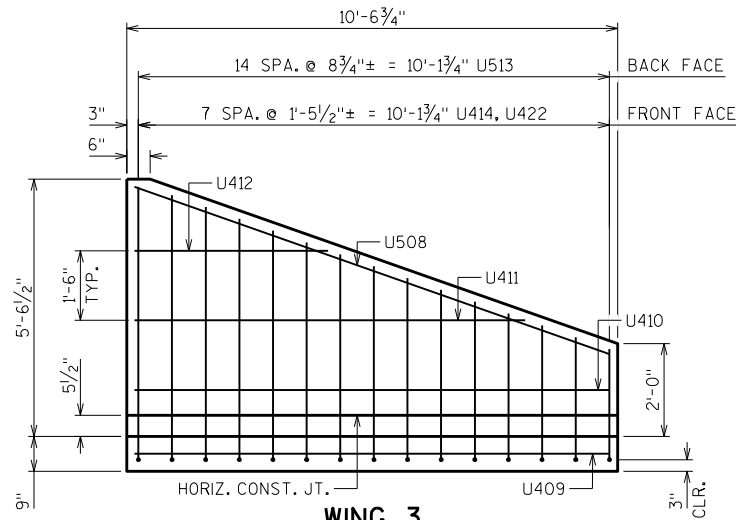
OUTLET APRON PLAN



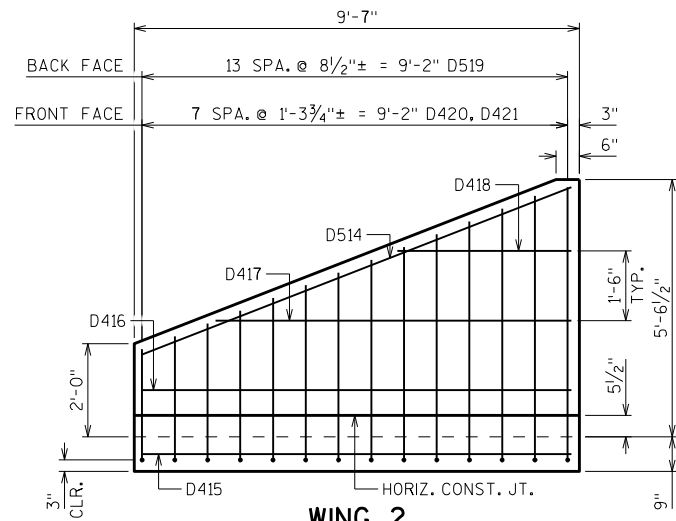
INLET APRON PLAN



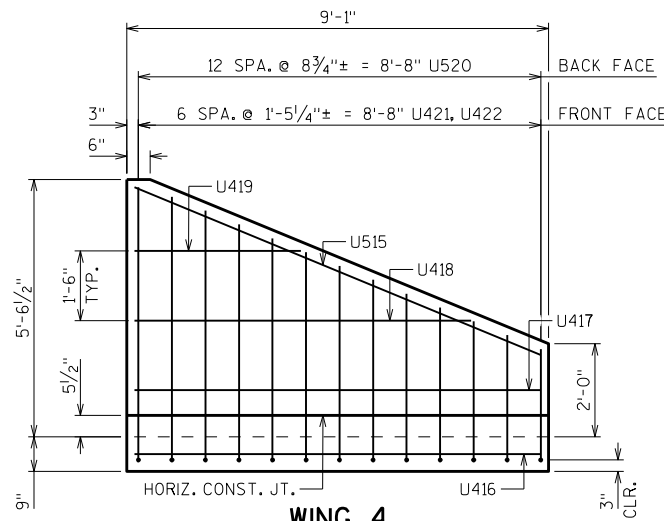
WING 1
SHOWING BACK FACE REINFORCEMENT



WING 3
SHOWING BACK FACE REINFORCEMENT

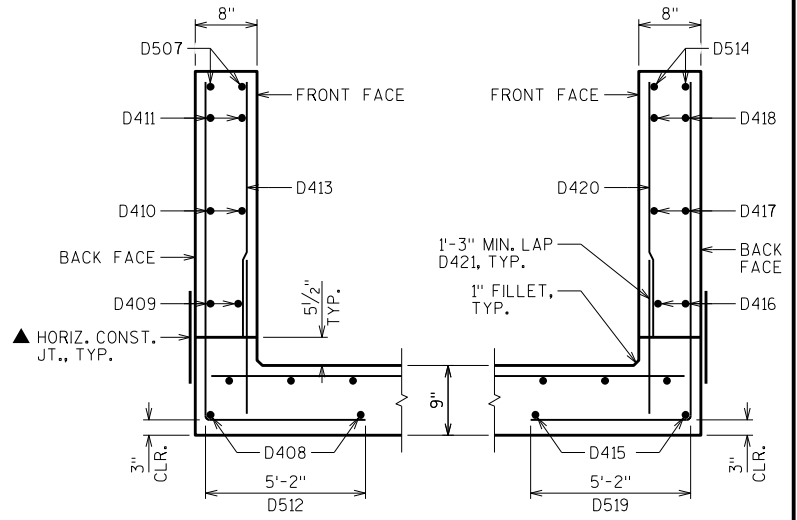


WING 2
SHOWING BACK FACE REINFORCEMENT

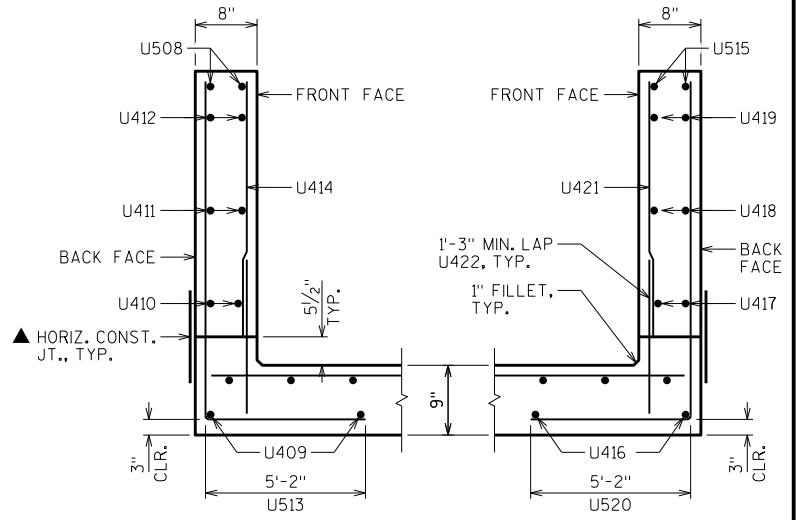


WING 4
SHOWING BACK FACE REINFORCEMENT

○ INDICATES WING NUMBER



WING 1 SECTION WING 2 SECTION



WING 3 SECTION WING 4 SECTION

APPROVED FOR DESIGN
OF UTILITY ADJUSTMENTS
OCTOBER 2019

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING, PLACE ALONG HORIZ. CONST. JT. FOR ENTIRE WING LENGTH, TYP.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-44-126			
DRAWN BY		DFD	PLANS CK'D.
APRON DETAILS			SHEET 3

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

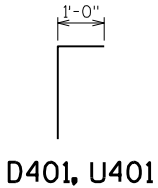
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
D401		11	5'-6"	X		OUTLET APRON AND CUTOFF WALL VERT.
D402		5	10'-7"			OUTLET APRON AND CUTOFF WALL HORIZ.
D403		8	8'-5"		▲	OUTLET APRON SLAB HORIZ.
D404		7	11'-0"			OUTLET APRON AND BOX SLAB HORIZ.
D405		1	5'-2"			OUTLET APRON SLAB HORIZ.
D406		1	4'-9"			OUTLET APRON SLAB HORIZ.
D507	X	2	9'-2"			WING 1 HORIZ. TOP BOTH FACES
D408	X	2	8'-5"			WING 1 HORIZ. APRON SLAB
D409	X	2	8'-5"			WING 1 HORIZ. BOTTOM BOTH FACES
D410	X	2	7'-0"			WING 1 HORIZ.
D411	X	2	3'-6"			WING 1 HORIZ.
D512	X	13	9'-3"	X	▲	WING 1 VERT. BACK FACE
D413	X	7	3'-2"		▲	WING 1 VERT. FRONT FACE
D514	X	2	9'-11"			WING 2 HORIZ. TOP BOTH FACES
D415	X	2	9'-3"			WING 2 HORIZ. APRON SLAB
D416	X	2	9'-3"			WING 2 HORIZ. BOTTOM BOTH FACES
D417	X	2	7'-8"			WING 2 HORIZ.
D418	X	2	3'-9"			WING 2 HORIZ.
D519	X	14	9'-3"	X	▲	WING 2 VERT. BACK FACE
D420	X	8	3'-2"		▲	WING 2 VERT. FRONT FACE
D421	X	15	2'-3"			WINGS 1 & 2 DOWELS FRONT FACE
U401		15	3'-6"	X		INLET APRON AND CUTOFF WALL VERT.
U402		6	7'-9"			INLET APRON AND CUTOFF WALL HORIZ.
U403		16	5'-9"		▲	INLET APRON SLAB HORIZ.
U404		7	11'-0"			INLET APRON AND BOX SLAB HORIZ.
U405		2	6'-9"			INLET APRON SLAB HORIZ.
U406		2	4'-10"			INLET APRON SLAB HORIZ.
U407		2	2'-11"			INLET APRON SLAB HORIZ.
U508	X	2	10'-10"			WING 3 HORIZ. TOP BOTH FACES
U409	X	2	10'-2"			WING 3 HORIZ. APRON SLAB
U410	X	2	10'-2"			WING 3 HORIZ. BOTTOM BOTH FACES
U411	X	2	8'-5"			WING 3 HORIZ.
U412	X	2	4'-2"			WING 3 HORIZ.
U513	X	15	9'-3"	X	▲	WING 3 VERT. BACK FACE
U414	X	8	3'-2"		▲	WING 3 VERT. FRONT FACE
U515	X	2	9'-5"			WING 4 HORIZ. TOP BOTH FACES
U416	X	2	8'-9"			WING 4 HORIZ. APRON SLAB
U417	X	2	8'-9"			WING 4 HORIZ. BOTTOM BOTH FACES
U418	X	2	7'-3"			WING 4 HORIZ.
U419	X	2	3'-7"			WING 4 HORIZ.
U520	X	13	9'-3"	X	▲	WING 4 VERT. BACK FACE
U421	X	7	3'-2"		▲	WING 4 VERT. FRONT FACE
U422	X	15	2'-3"			WINGS 3 & 4 DOWELS FRONT FACE

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

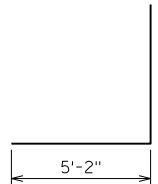
BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
D403	1 SERIES OF 8	6'-5" TO 10'-4"
D511	1 SERIES OF 13	9'-9" TO 13'-6"
D412	1 SERIES OF 7	1'-5" TO 4'-11"
D517	1 SERIES OF 14	9'-10" TO 13'-6"
D418	1 SERIES OF 8	1'-5" TO 4'-11"
D403	1 SERIES OF 8	6'-5" TO 10'-4"
U511	1 SERIES OF 15	9'-11" TO 13'-6"
U412	1 SERIES OF 8	1'-5" TO 4'-11"
U517	1 SERIES OF 13	9'-11" TO 13'-6"
U418	1 SERIES OF 7	1'-5" TO 4'-11"

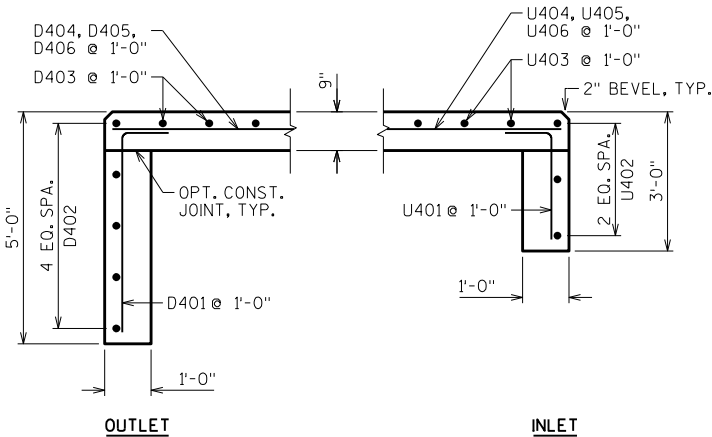
BUNDLE AND TAG EACH SERIES SEPARATELY



D401, U401



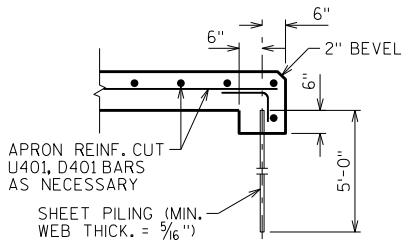
D512, D519,
U513, U520



OUTLET

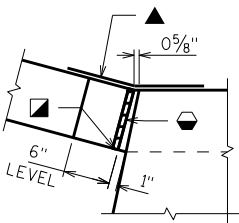
INLET

CUT-OFF WALLS

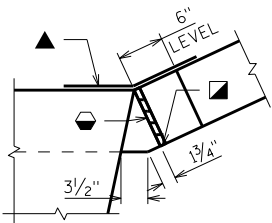


ALTERNATE CUT-OFF WALLS

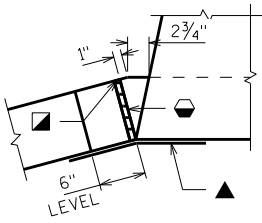
THE ABOVE ALTERNATIVE MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONCRETE CUT-OFF WALLS.



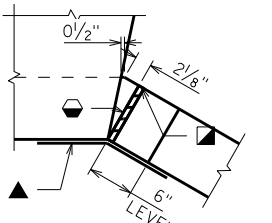
CORNER 1



CORNER 3

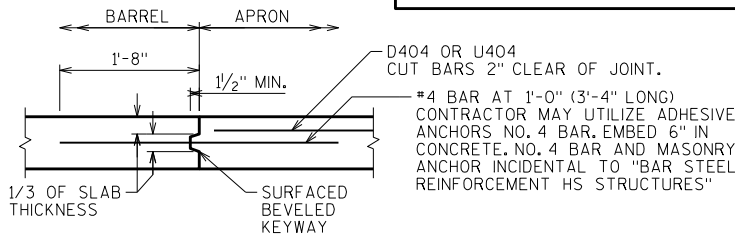


CORNER 2



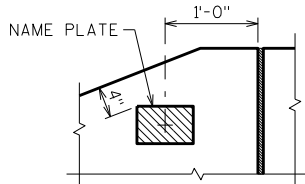
CORNER 4

CORNER DETAILS

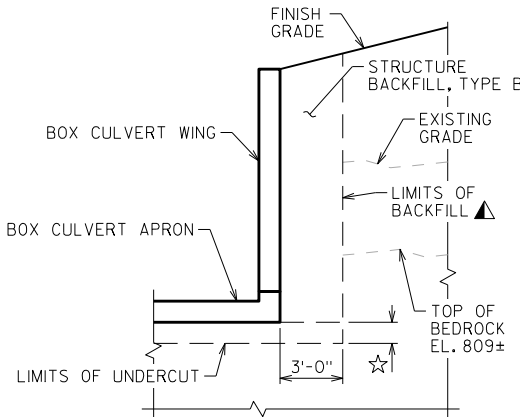


OPTIONAL CONSTRUCTION JOINT

2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING MAY BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.



NAME PLATE LOCATION
WING 4



TYPICAL SECTION
THRU BOX CULVERT WING

▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

☆ UNDER CUT 1'-0". EXCAVATION FOR UNDER CUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE TYPE C" AND BACKFILL WITH "BREAKER RUN".

IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED TO DETERMINE IF "OTHER GRANULAR MATERIAL" IS ACCEPTABLE.

3/4" FILLER, TYP. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.

1" BEVEL, TYP.

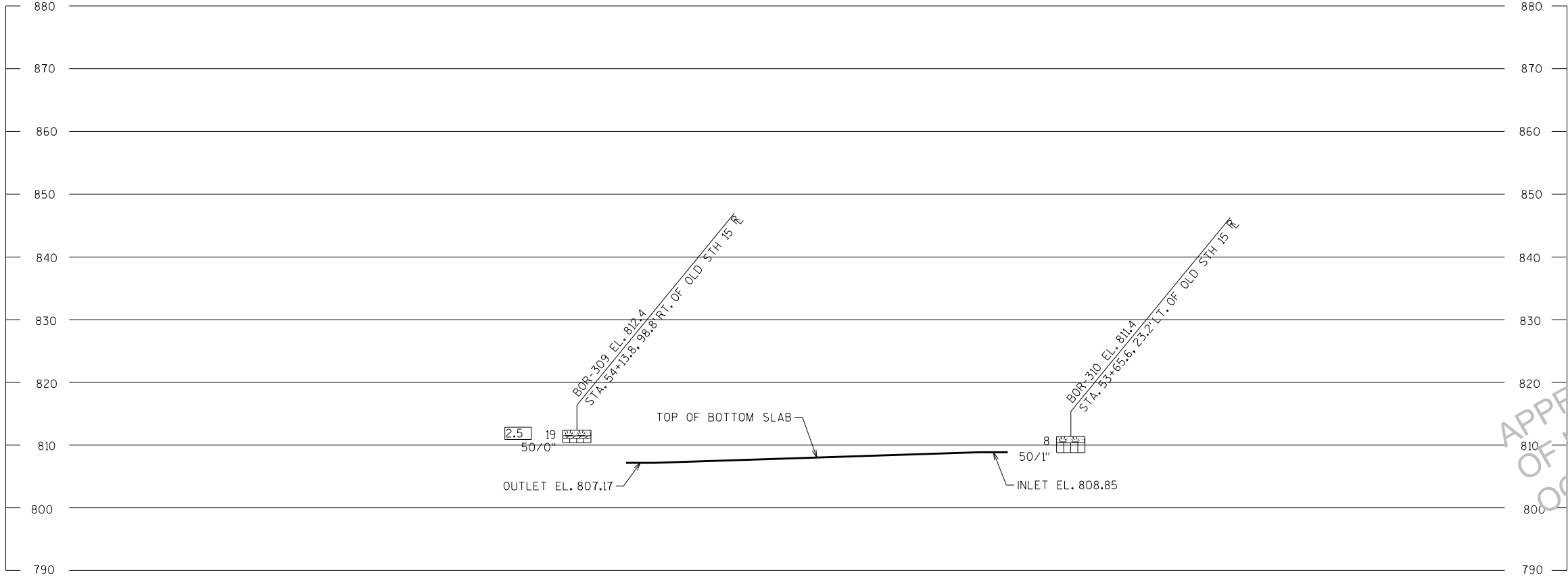
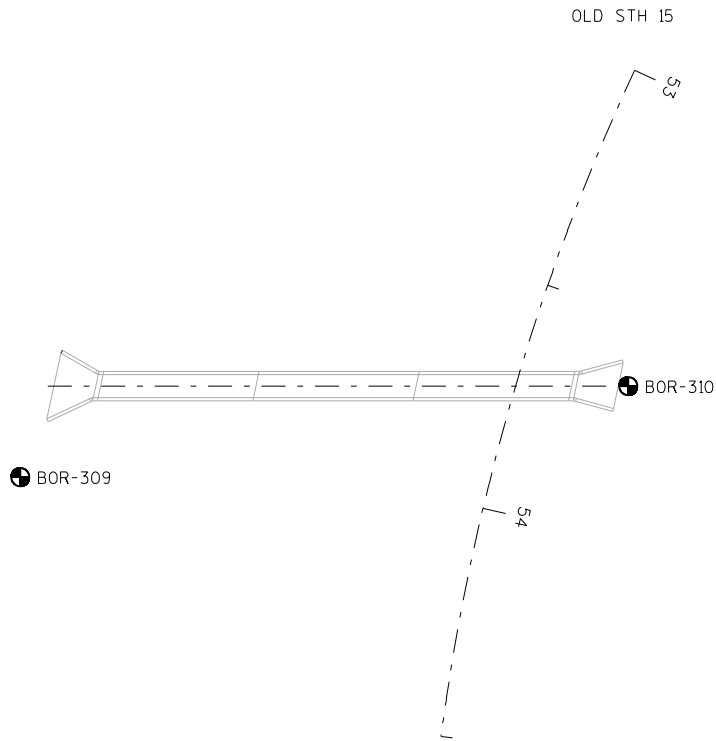
18" RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM HORIZ. CONST. JT. TO TOP OF WALL.

STATE PROJECT NUMBER

1146-75-71

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-44-126			
DRAWN BY		DFD	PLANS CK'D.
DETAILS			SHEET 4

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
309	3/28/2014	593256	756989
310	3/28/2014	593334	757096
BORINGS COMPLETED BY: GESTRA			
REPORT COMPLETED BY: CH2M HILL			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) OUTAGAMIE COUNTY			



STATE PROJECT NUMBER

1146-75-71

MATERIAL SYMBOLS

ASPHALT

CONCRETE

SAND

BOULDERS OR COBBLES

SHALE

TOPSOIL

FILL

CLAY

LIMESTONE

SANDSTONE

PEAT

GRAVEL

SILT

BEDROCK (UNKNOWN)

IGNEOUS/META

LEGEND OF BORING

BORING #/EL.
STA./OFF-SET

ST

(1) 0.25

(2) 17

F-C

COBBLE OR BOULDER

WEATHERED LIMESTONE

CORE RUN #1- 24'-29'

REC=80%, ROD=72%

(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ END OF DRILLING

▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO. DATE REVISION BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-44-126

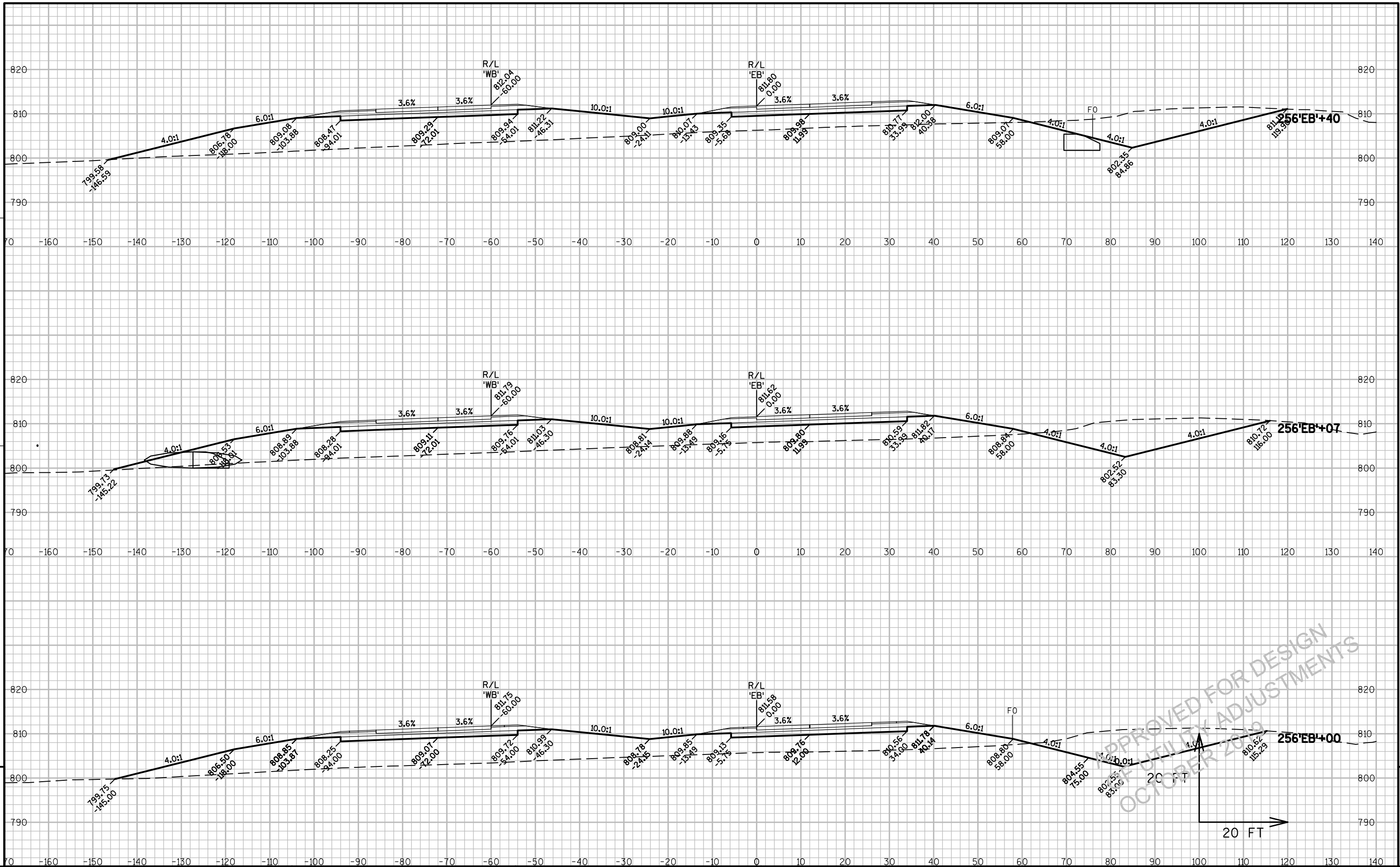
DRAWN BY TLP/DFD PLANS CK'D.

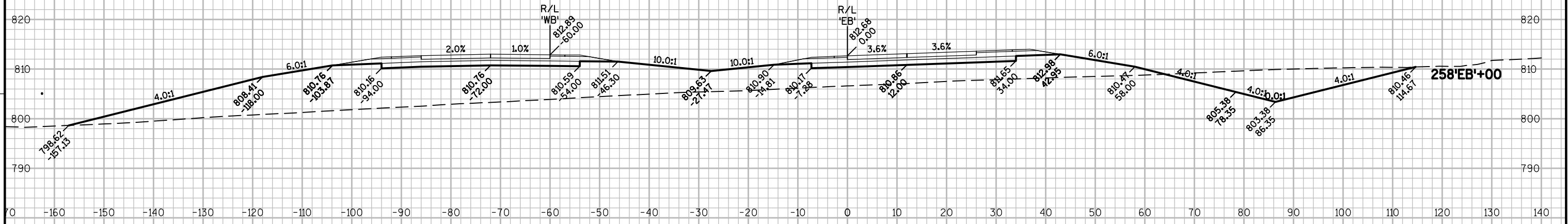
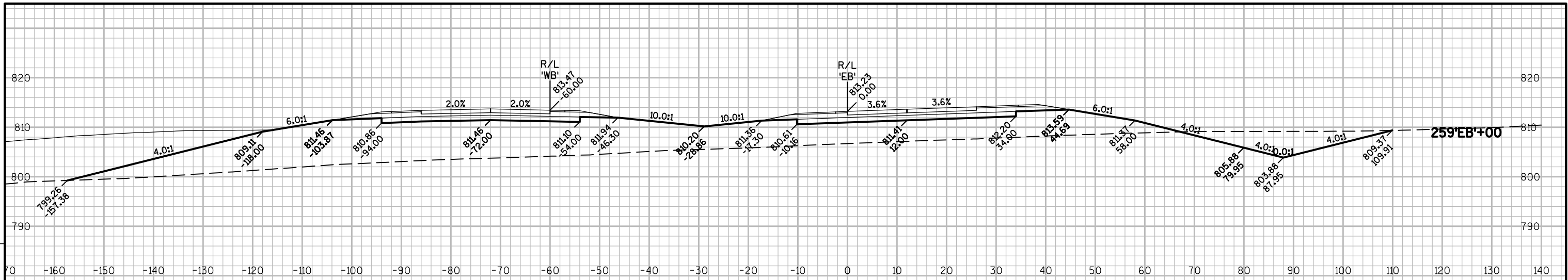
SUBSURFACE EXPLORATION SHEET 5

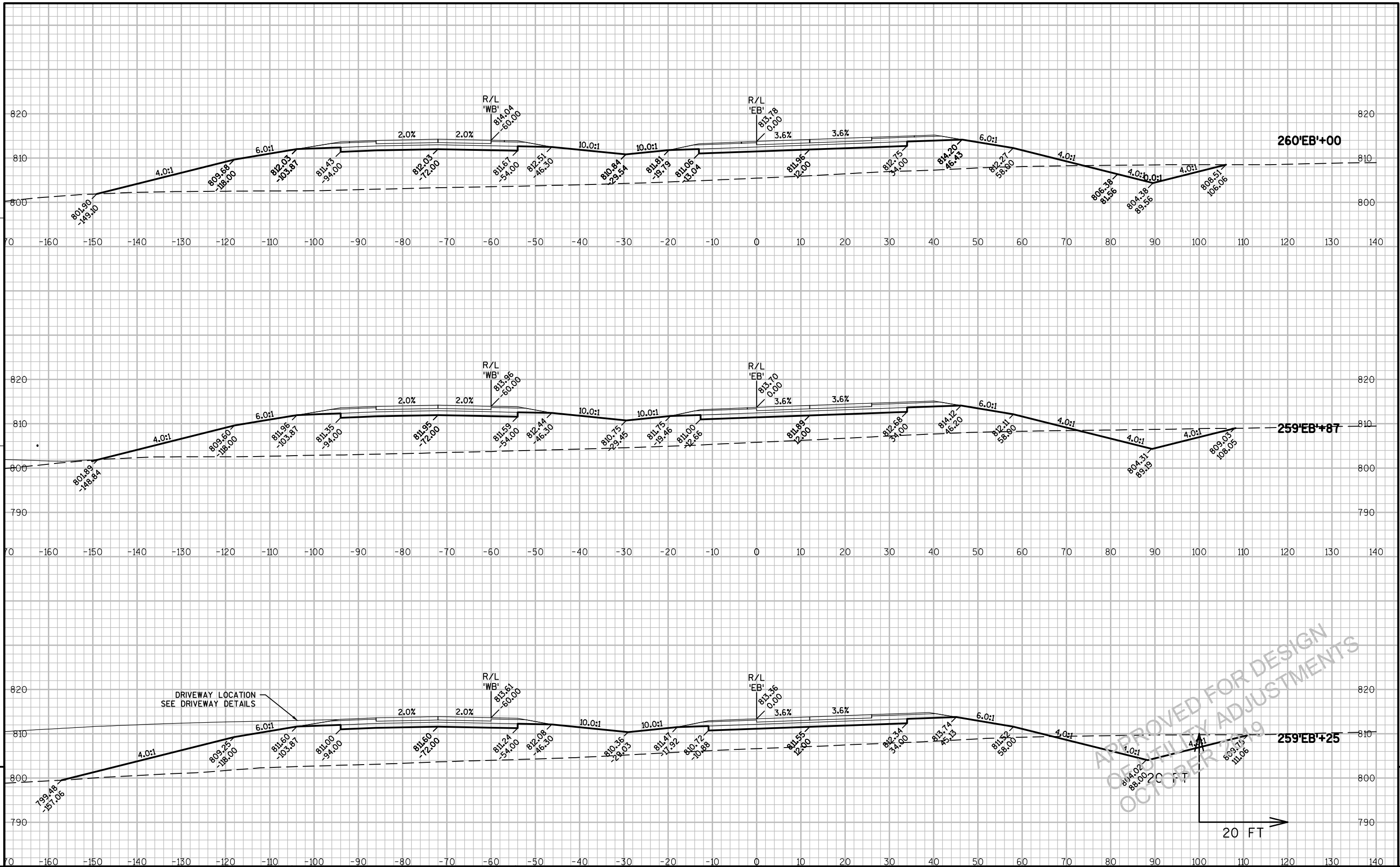
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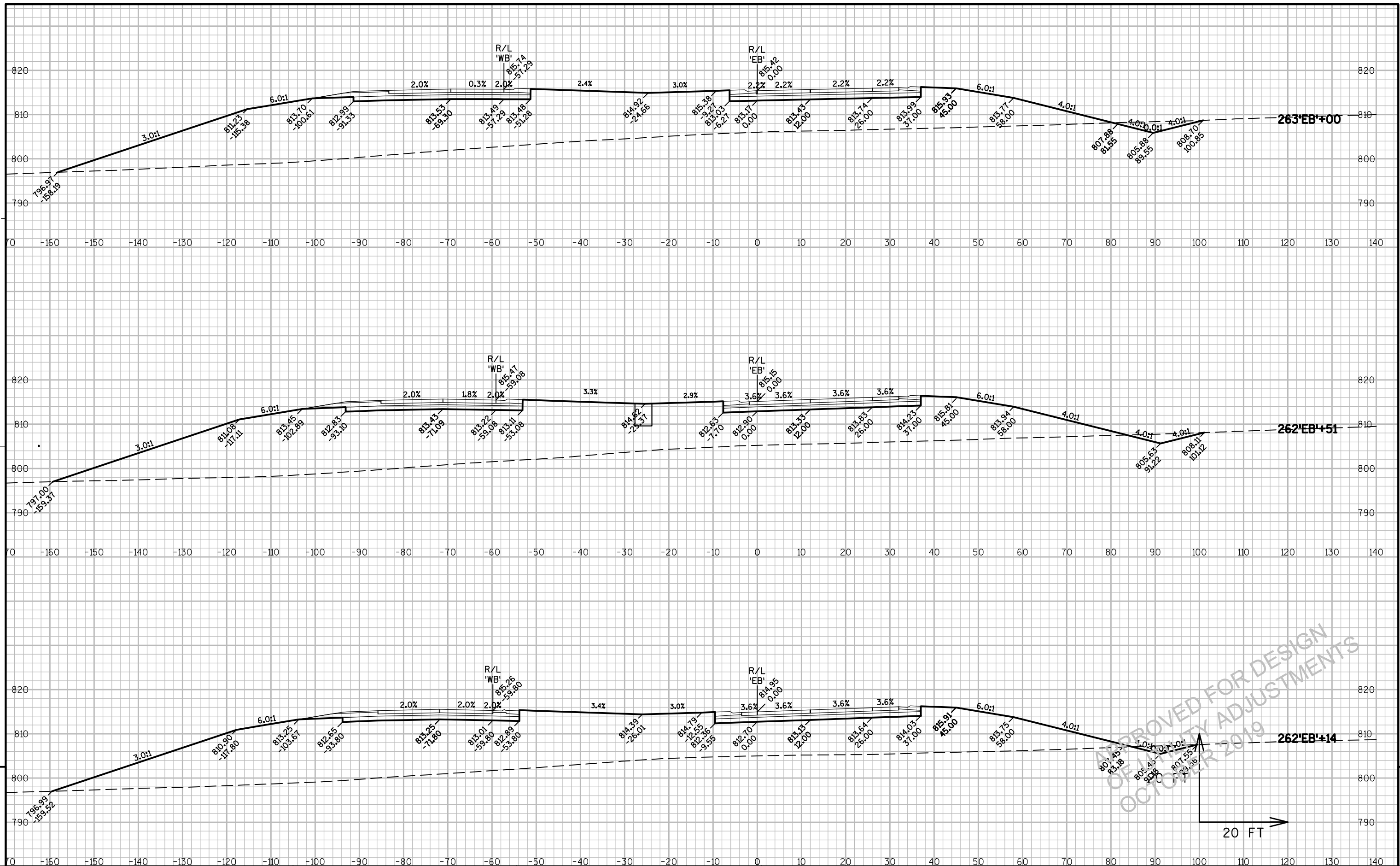
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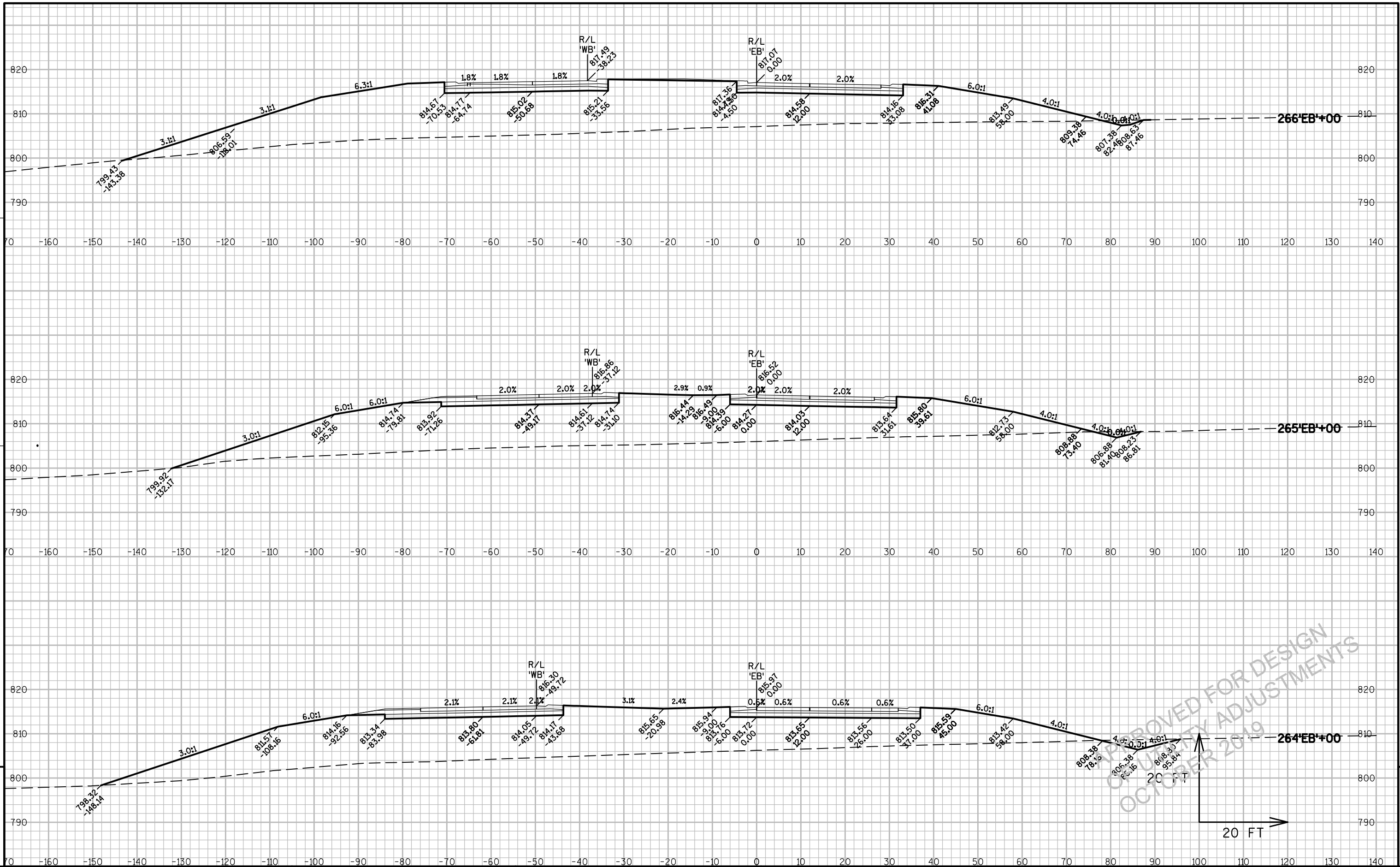
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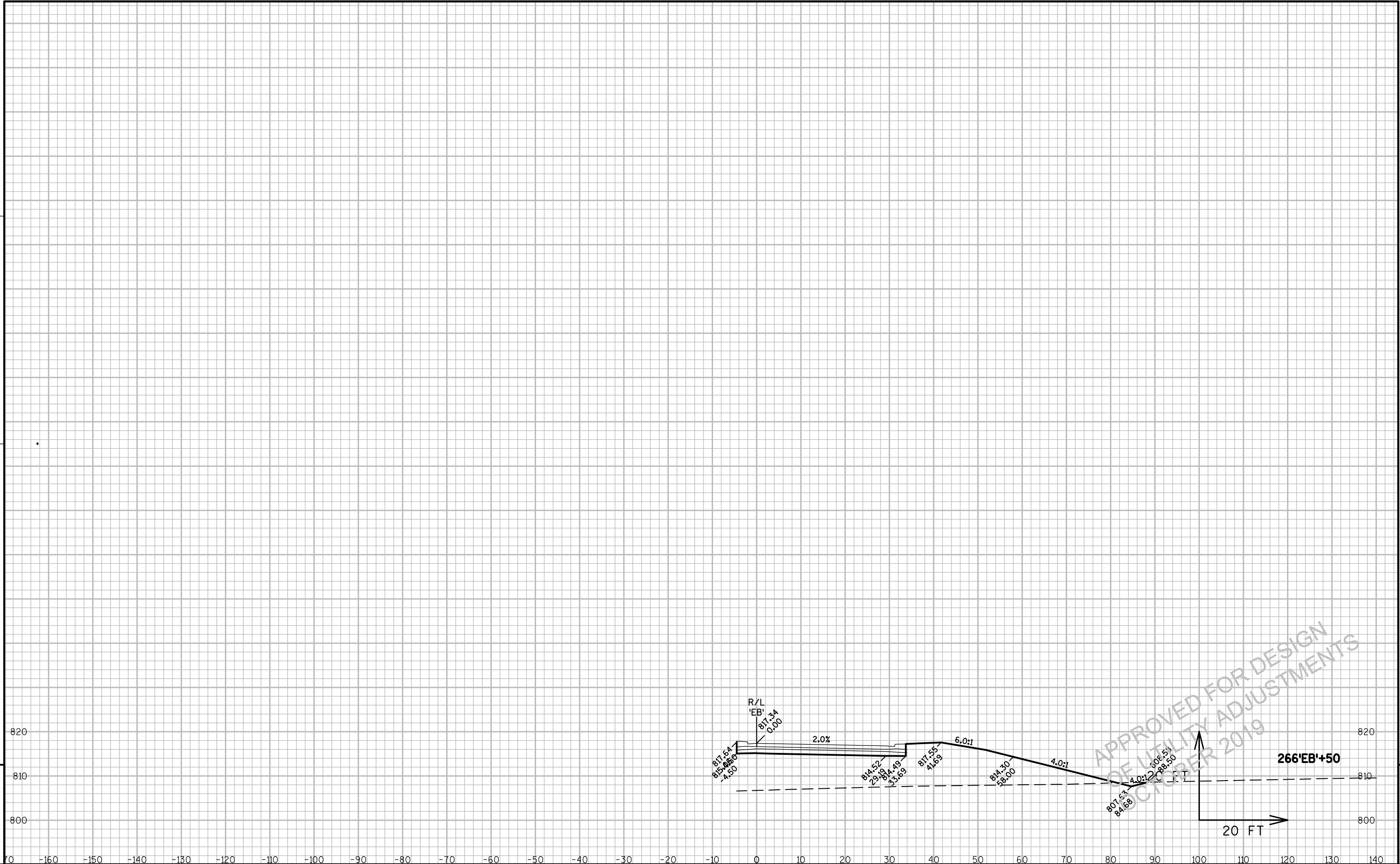






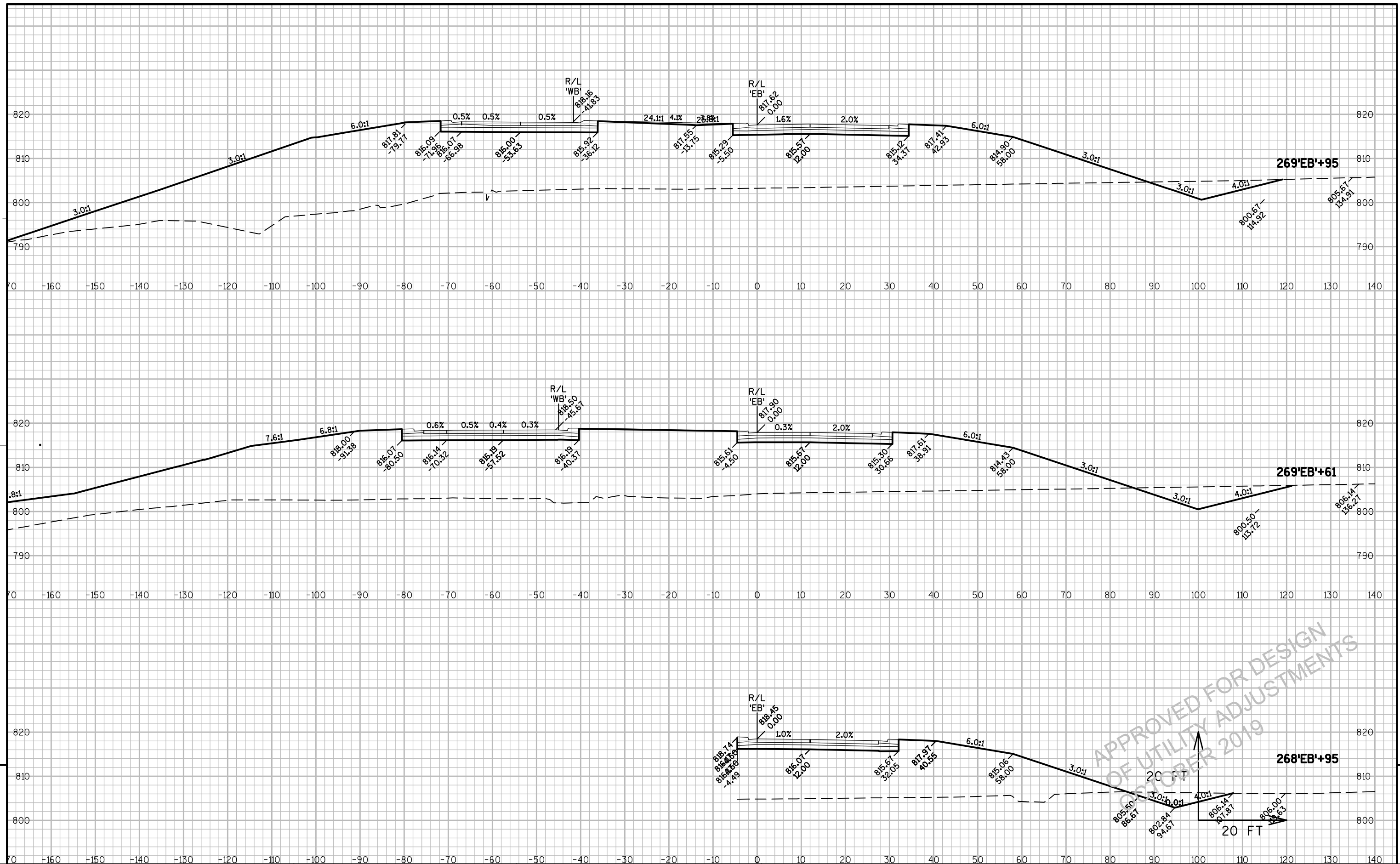


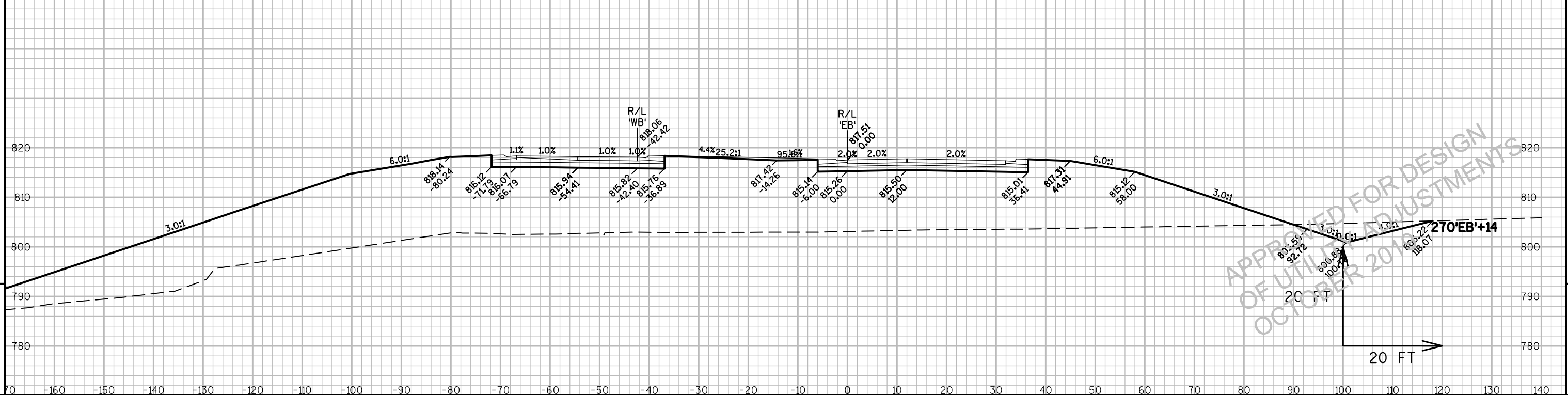
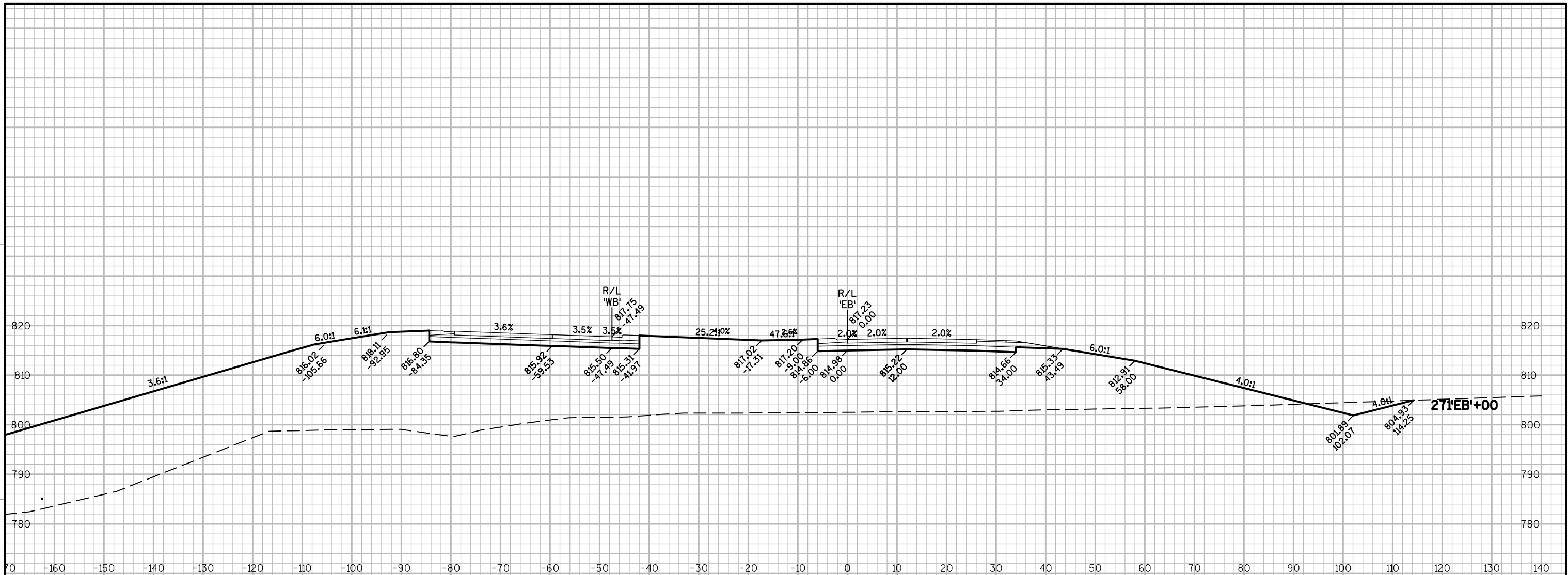
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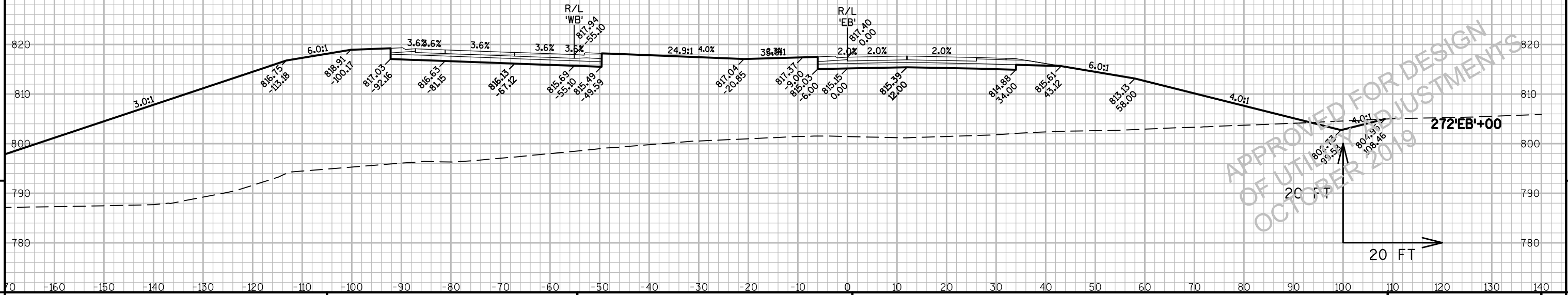
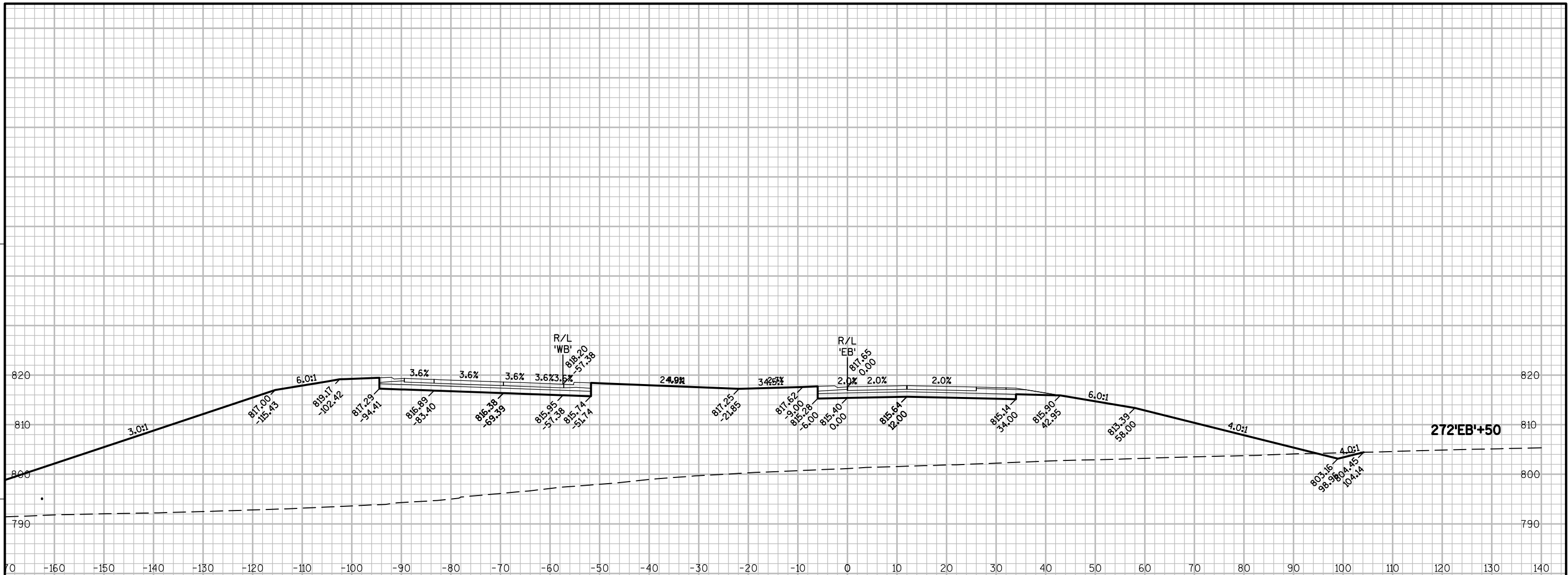
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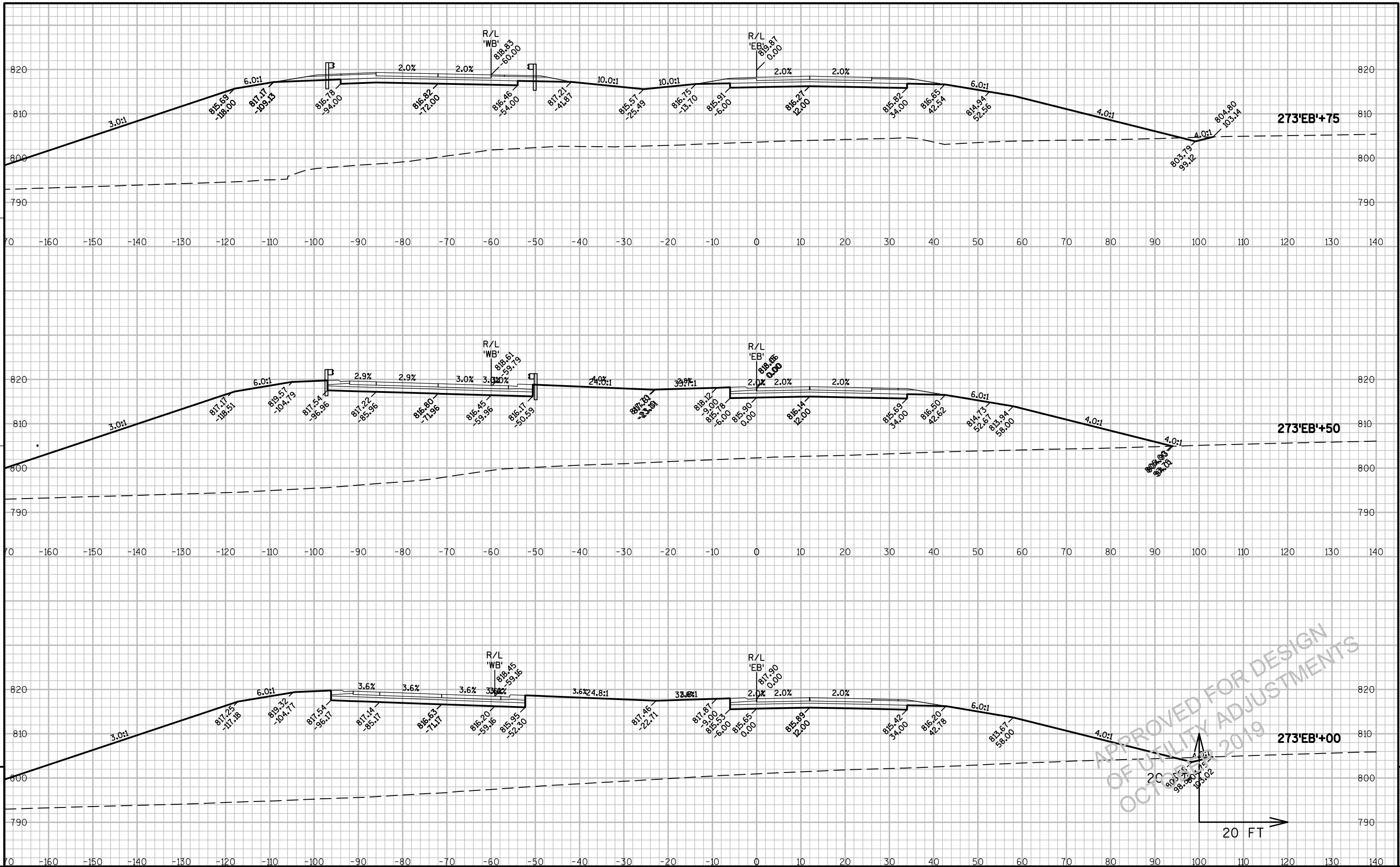


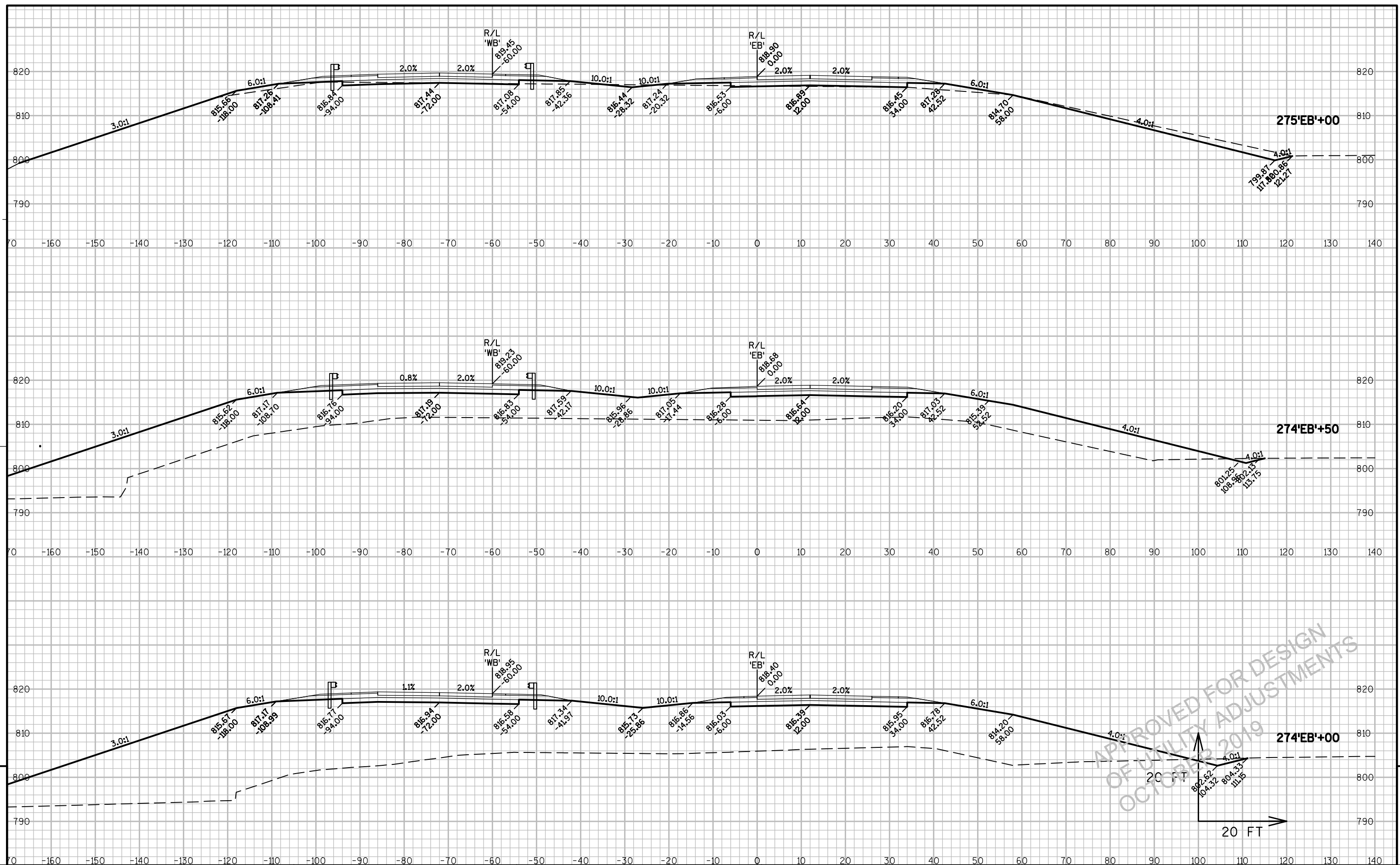


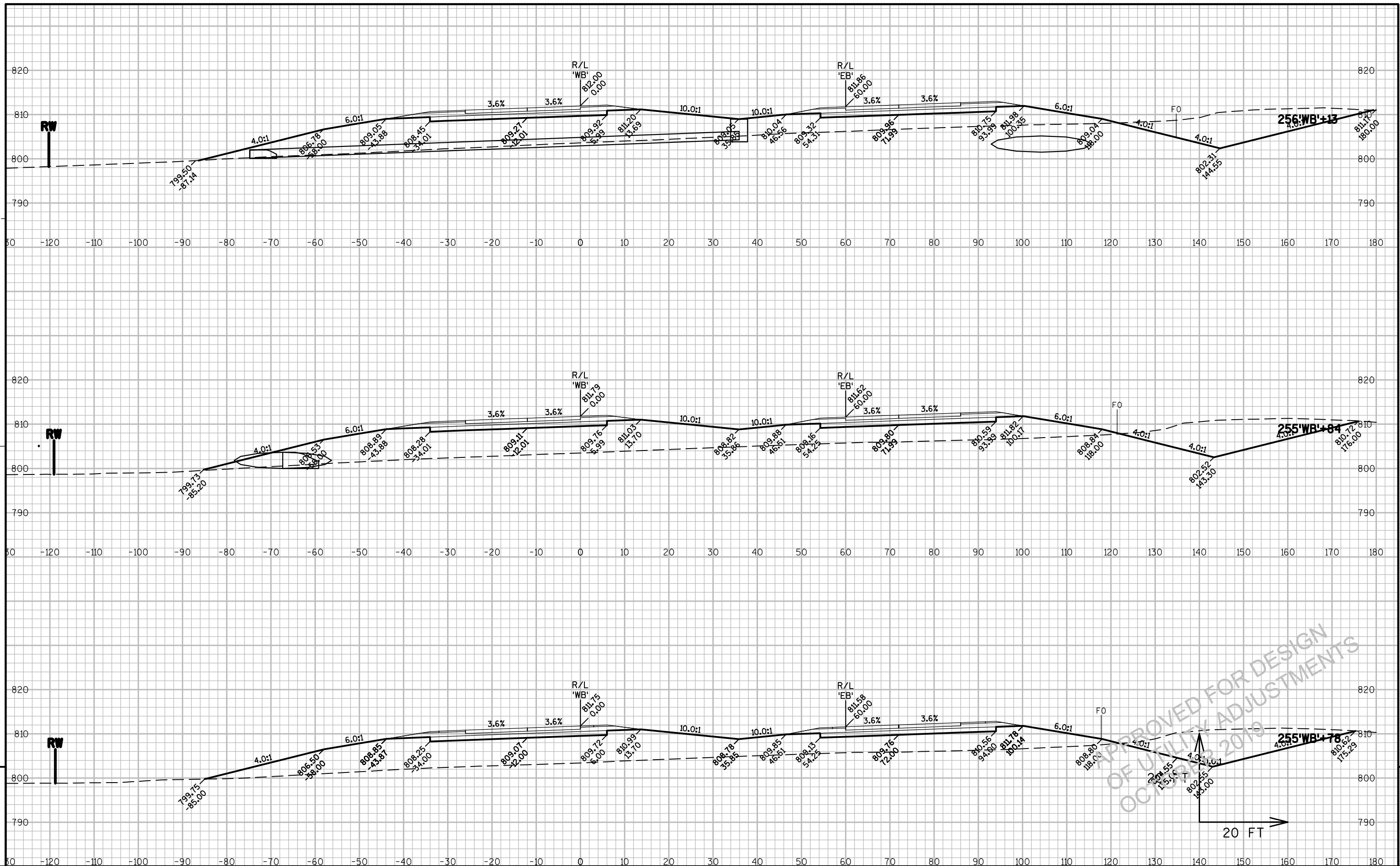
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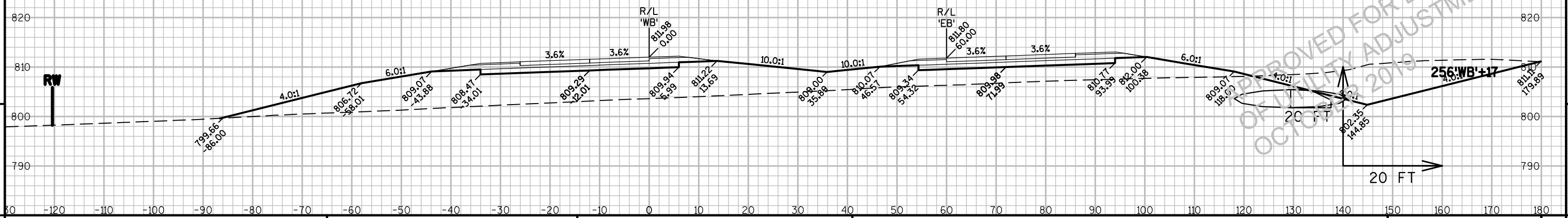
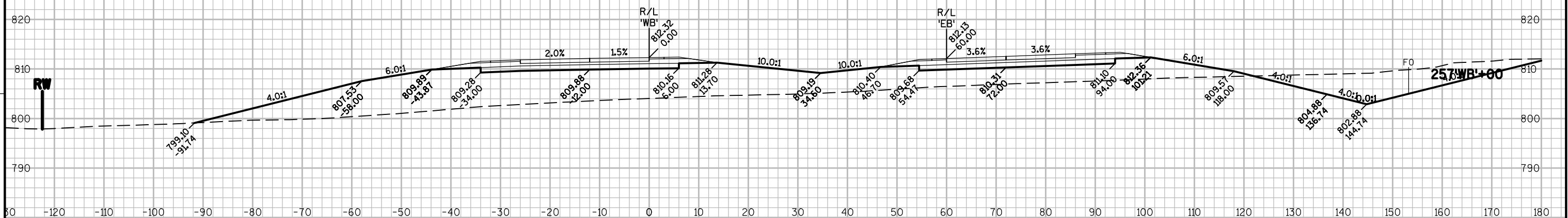
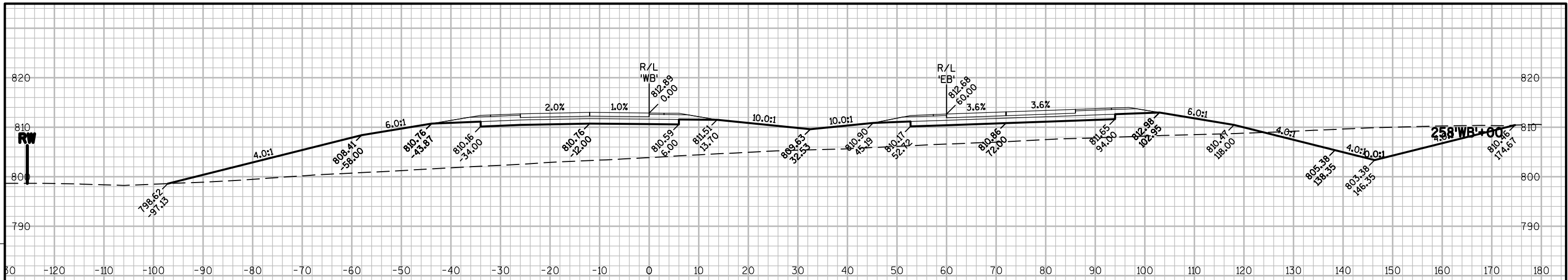


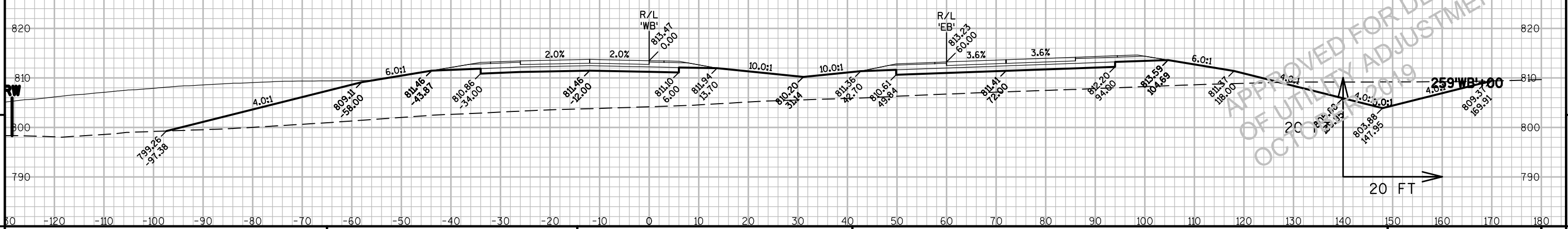
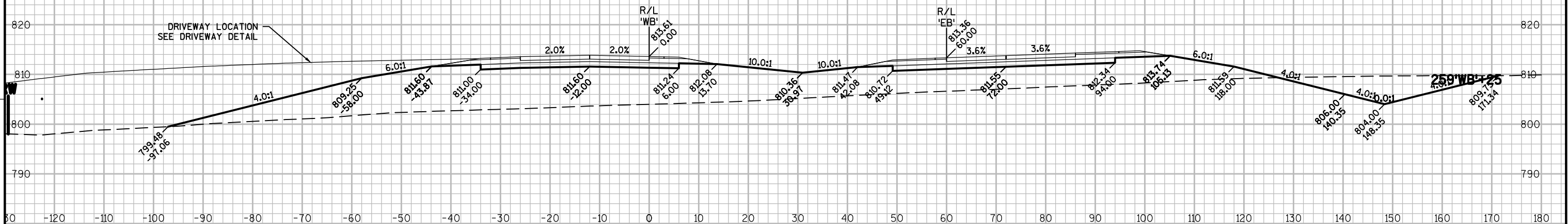
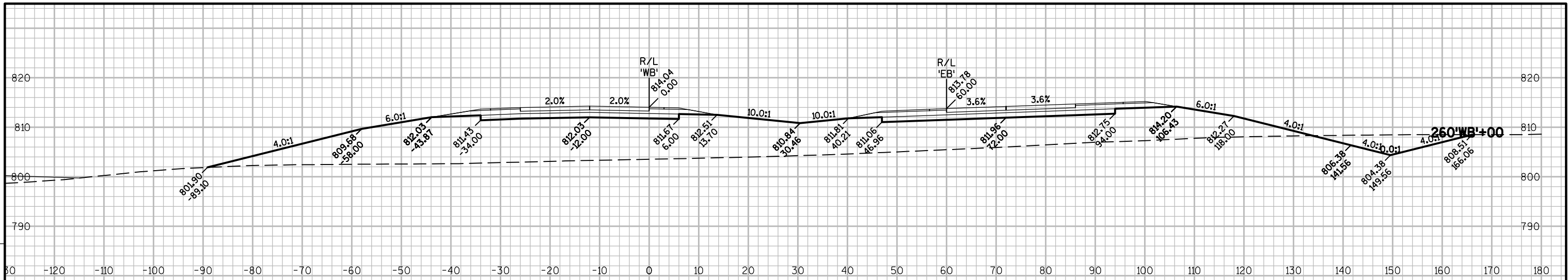
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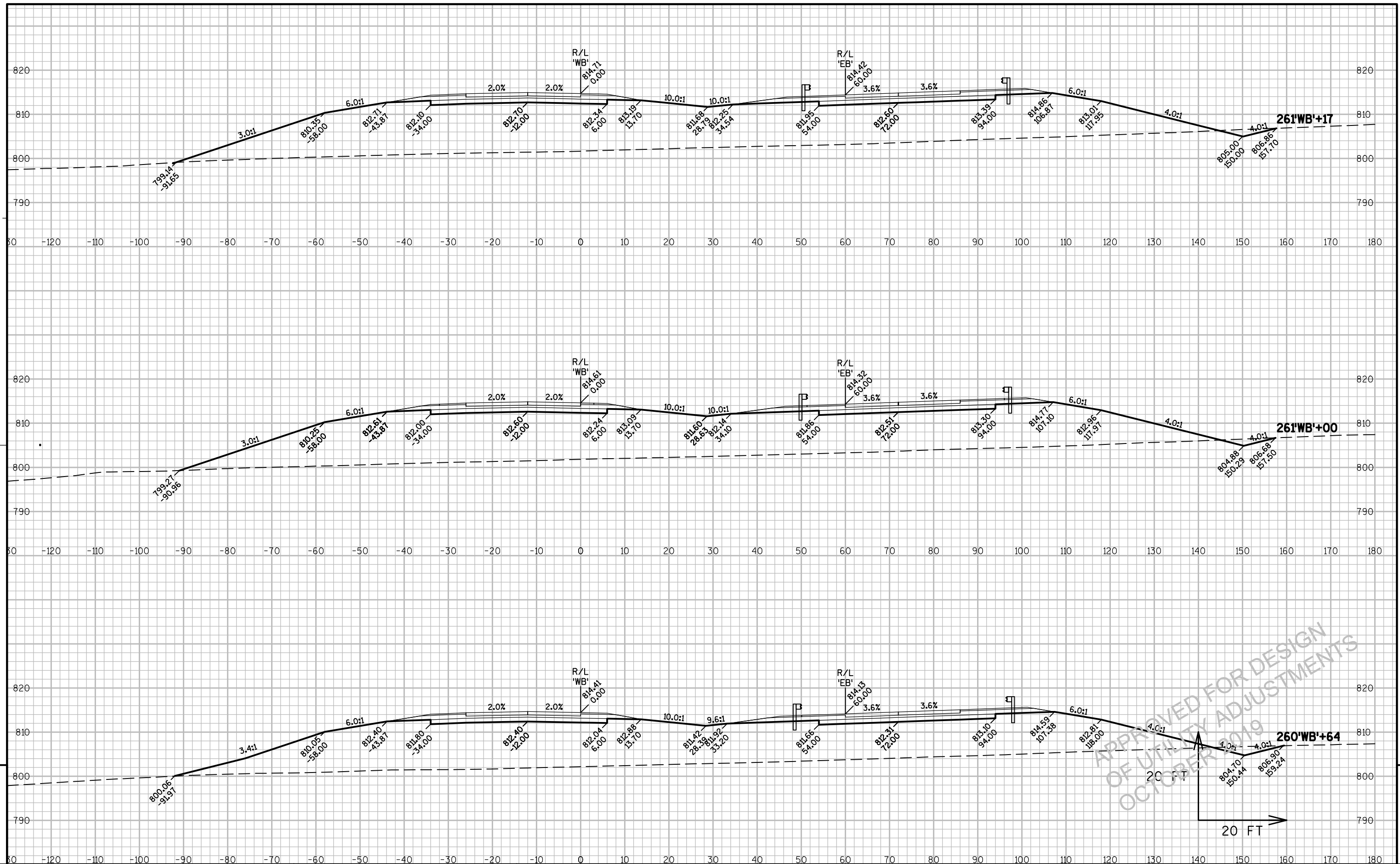


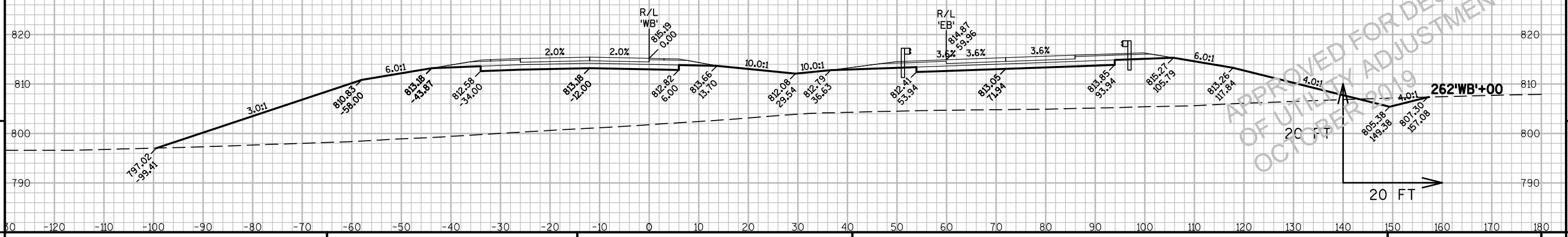
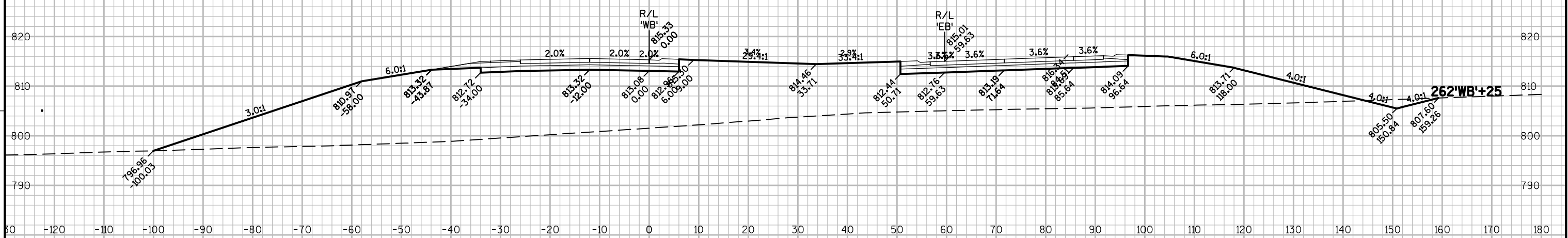
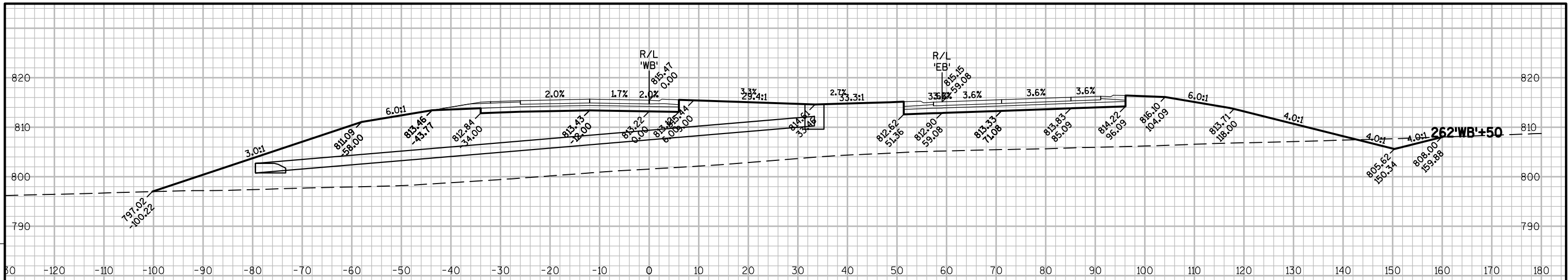


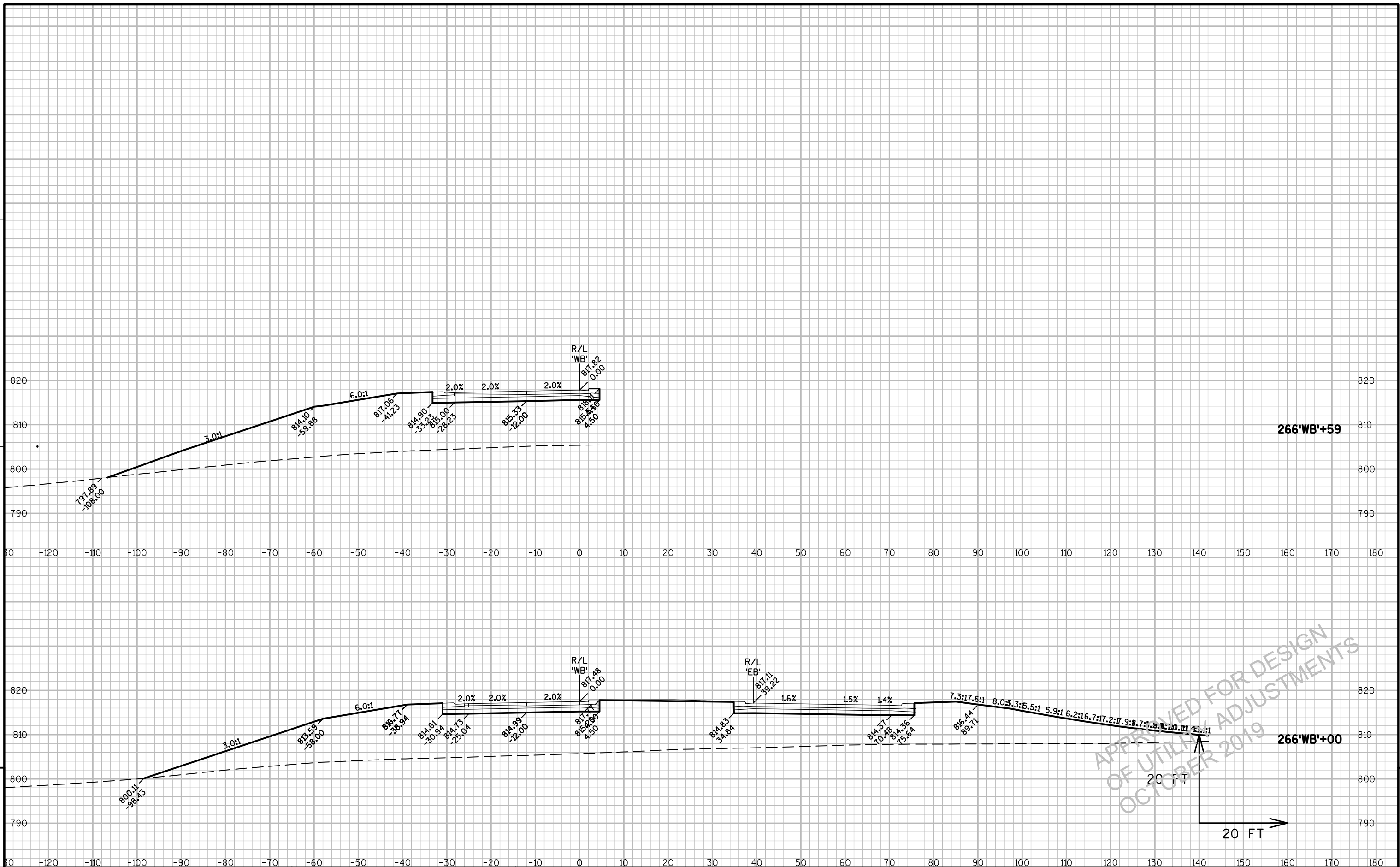


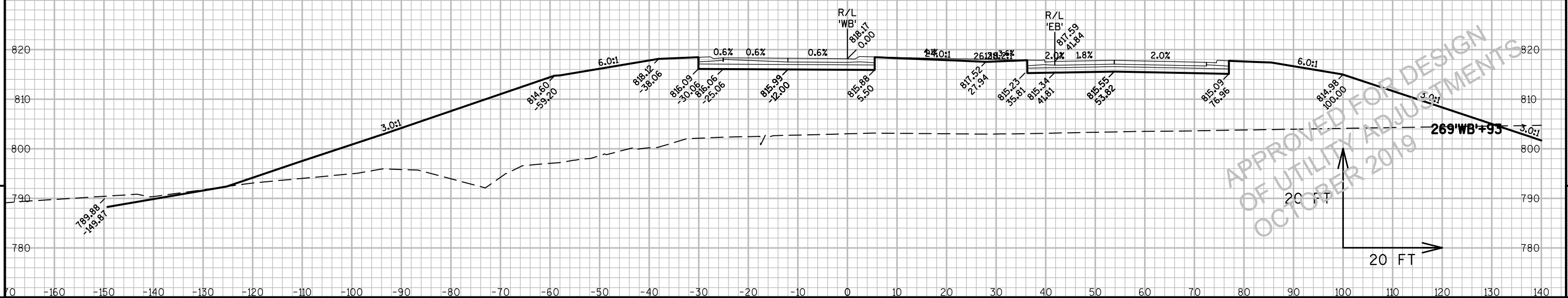
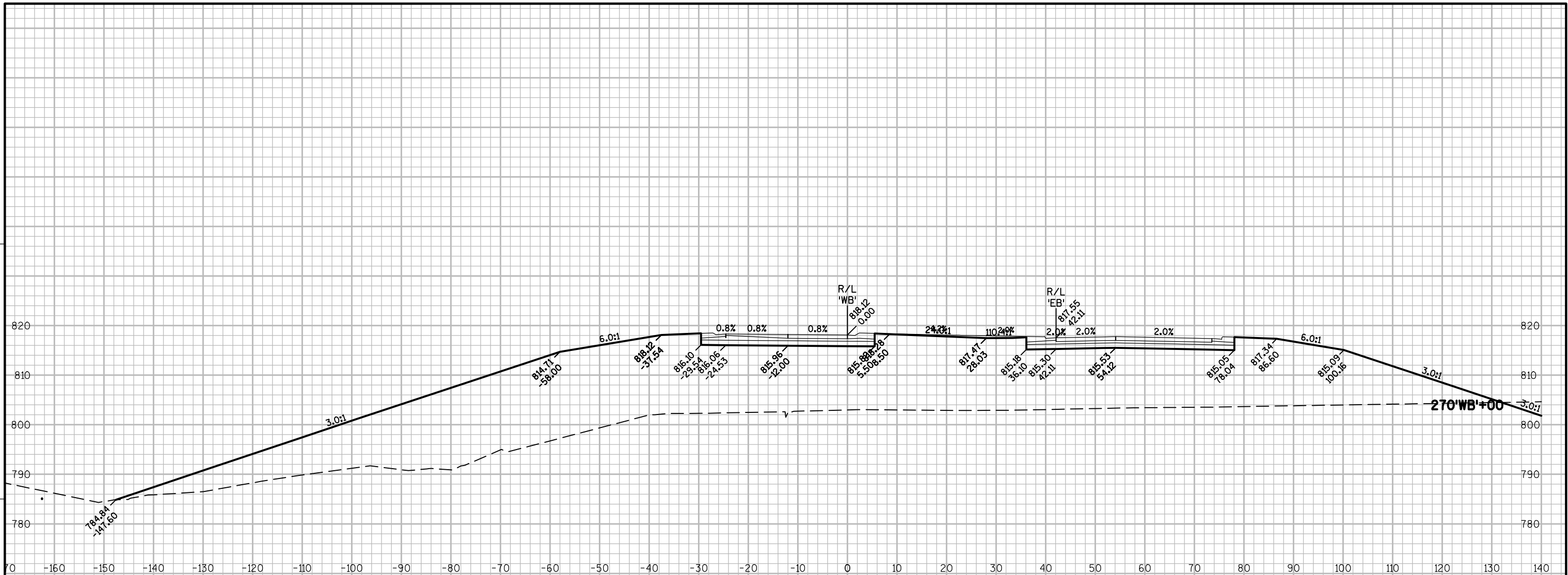


PROJECT NO: 1146-75-76 HWY: STH 15 COUNTY: OUTAGAMIE CROSS SECTIONS - STH 15 'WB' SHEET E

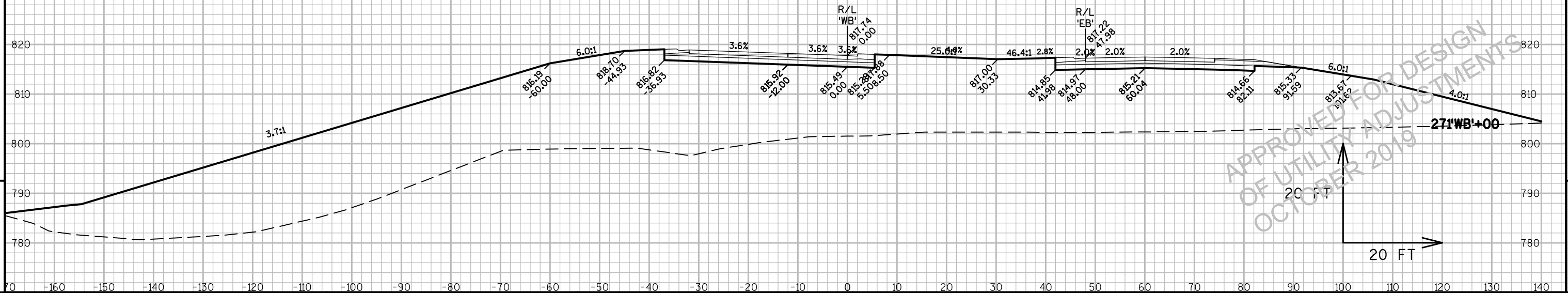
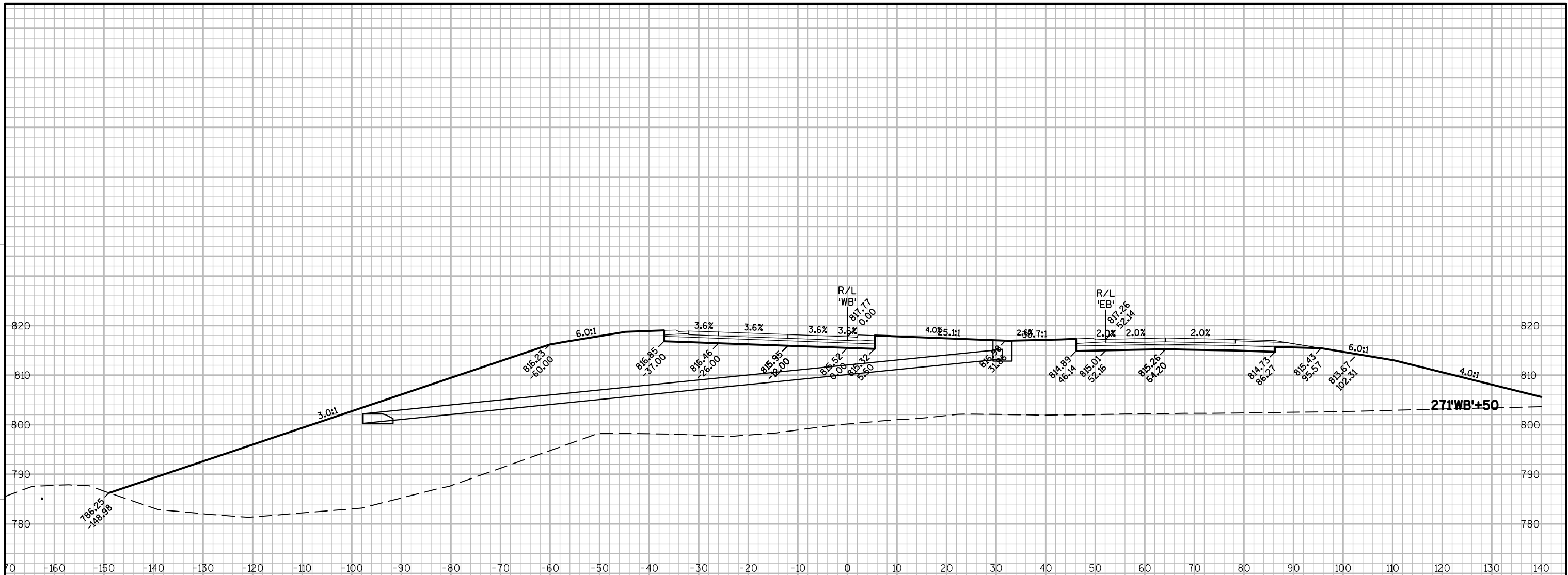


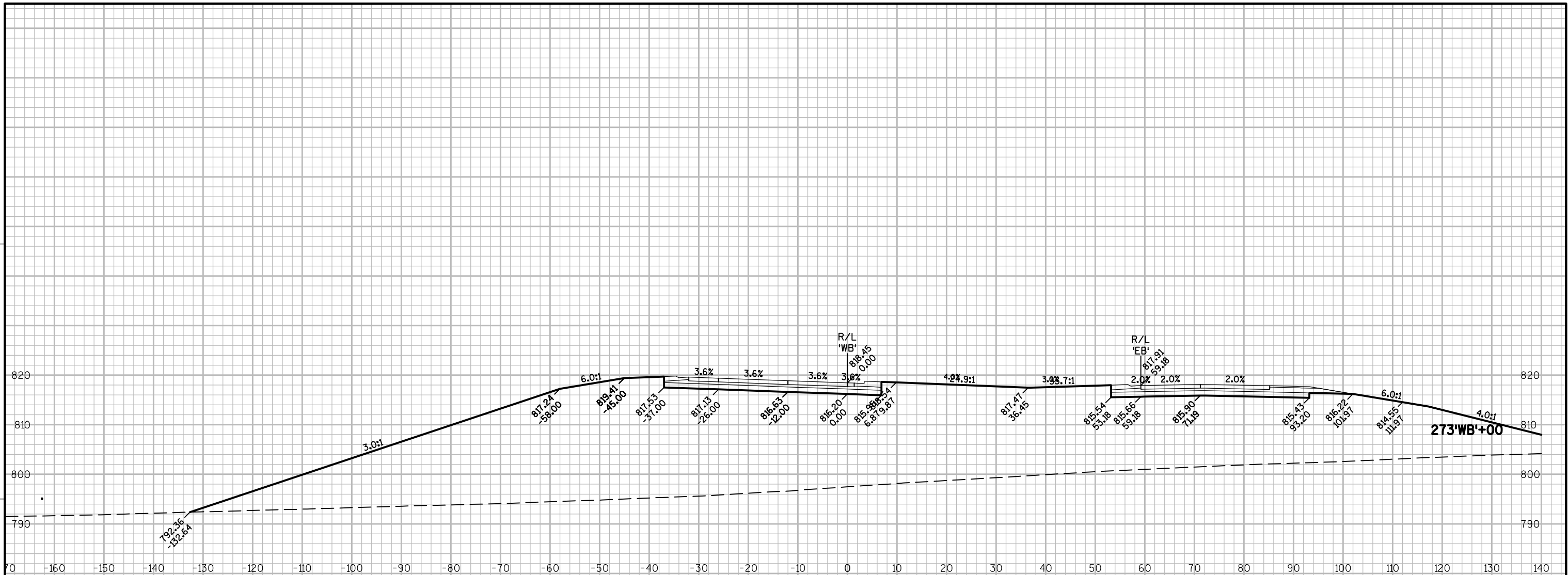




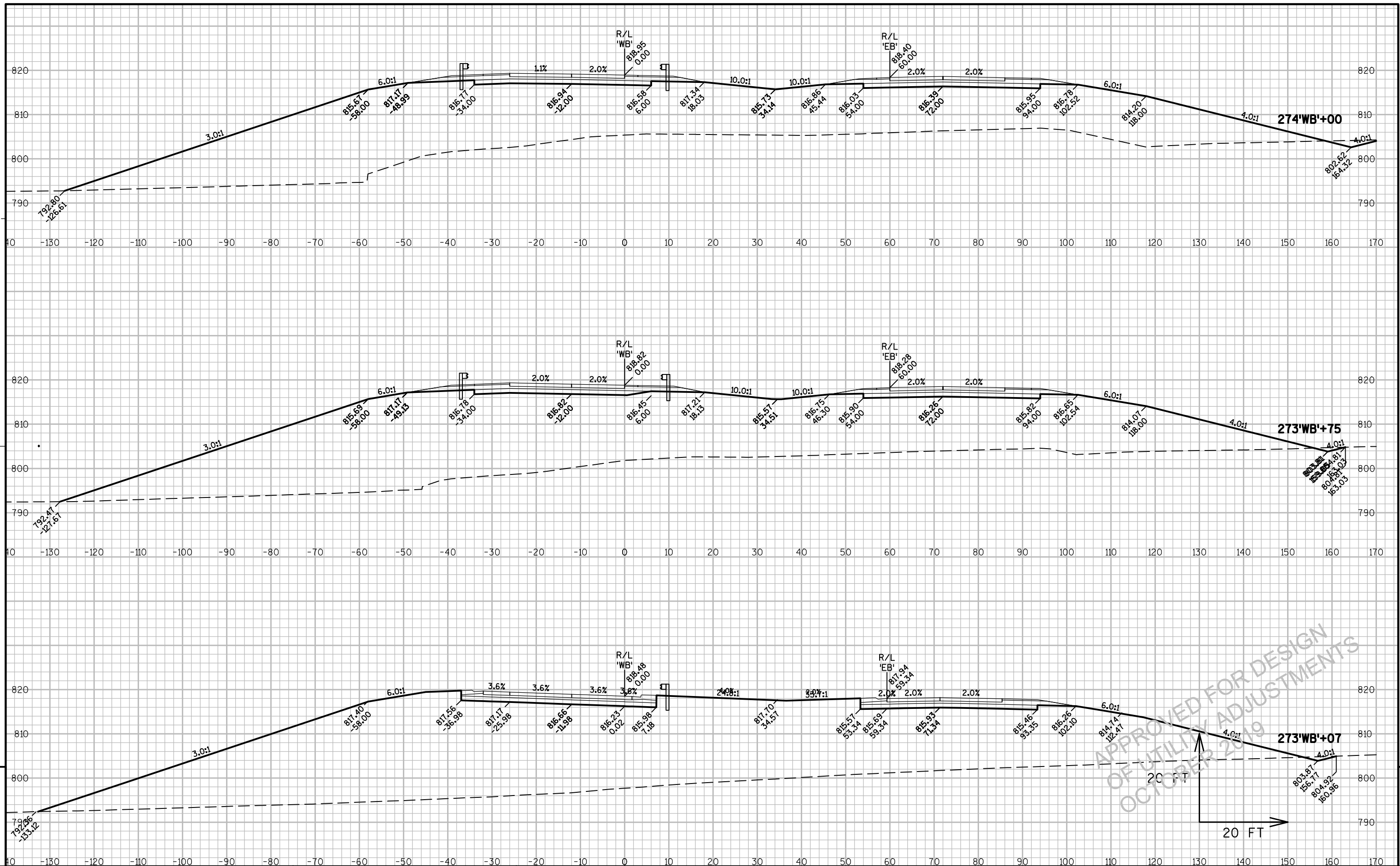


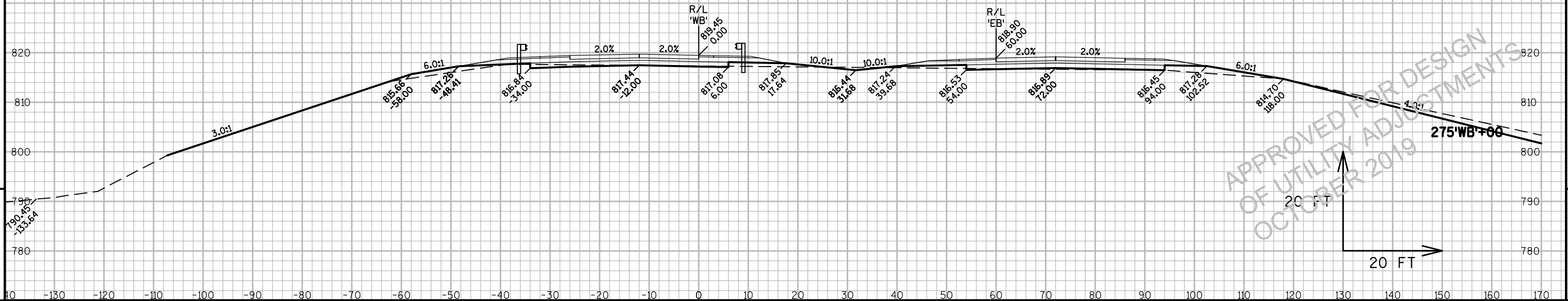
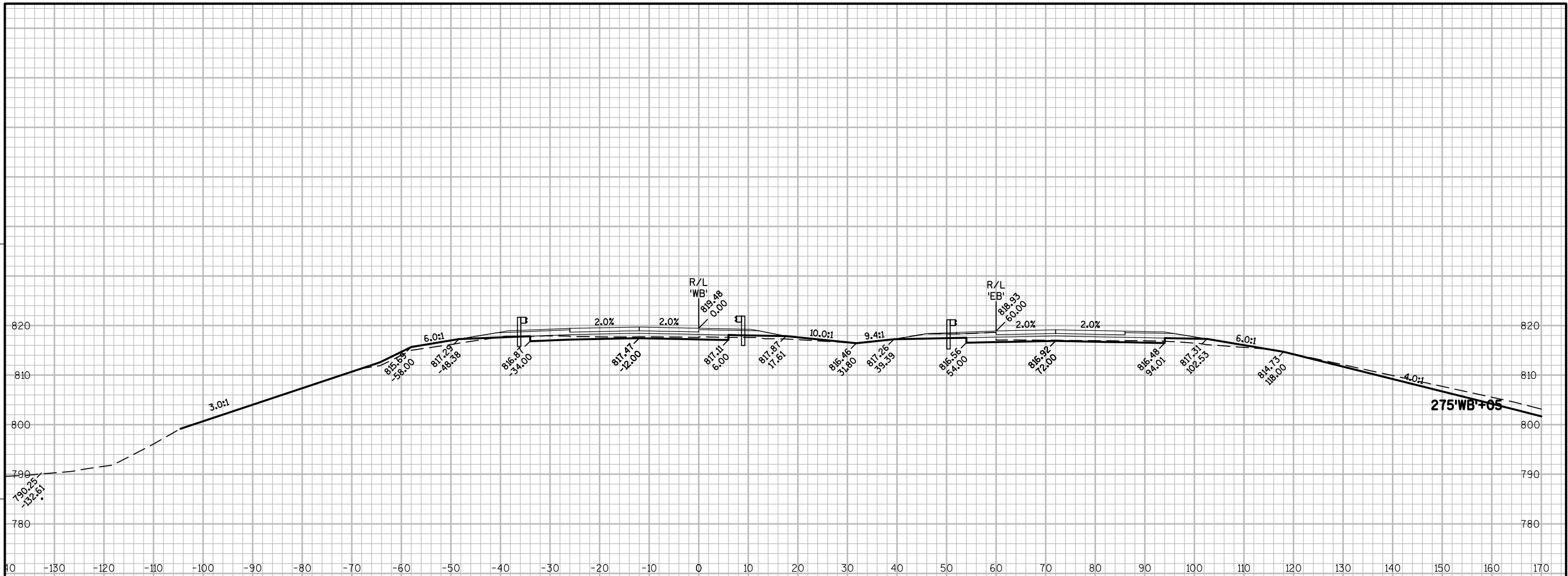
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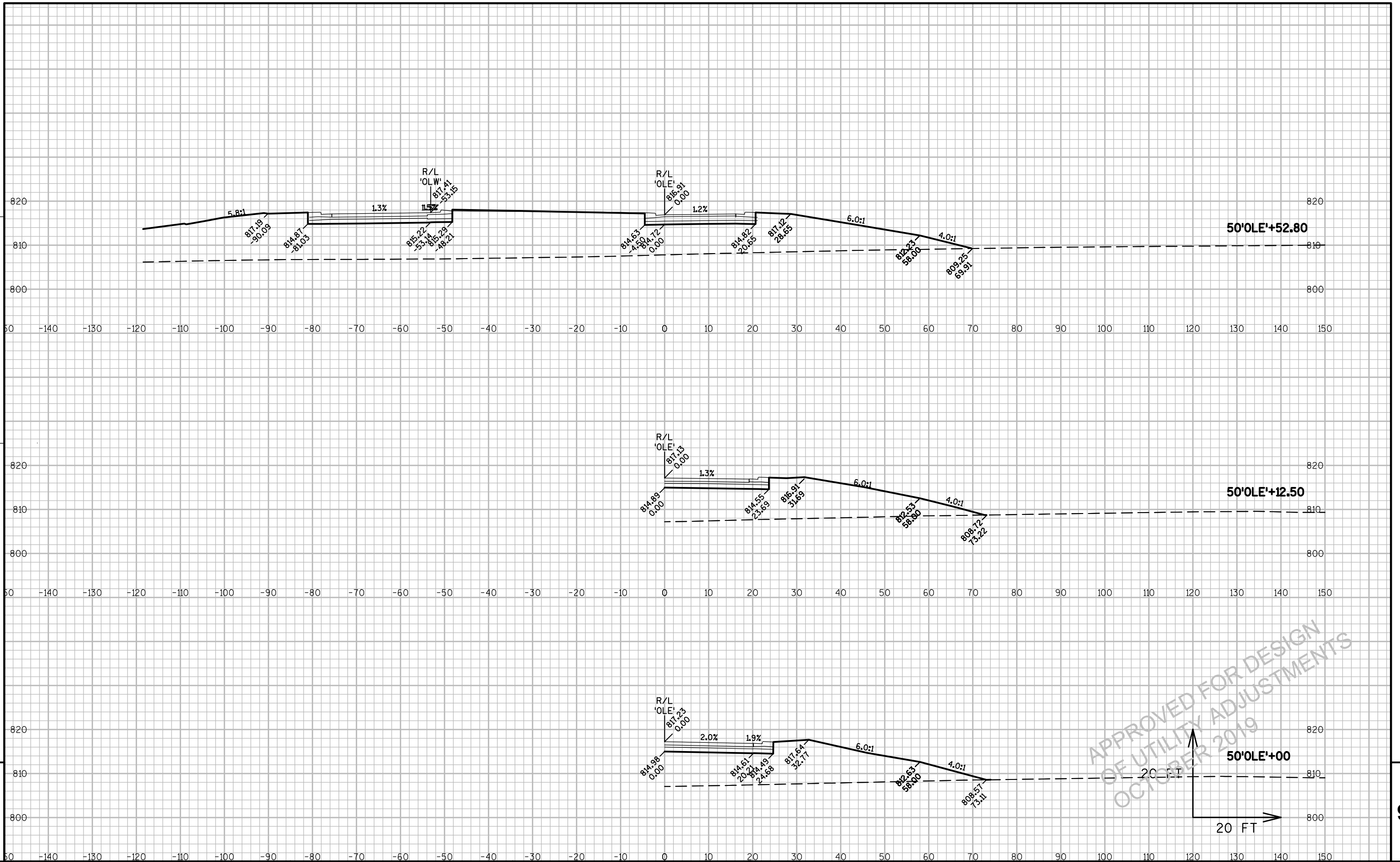


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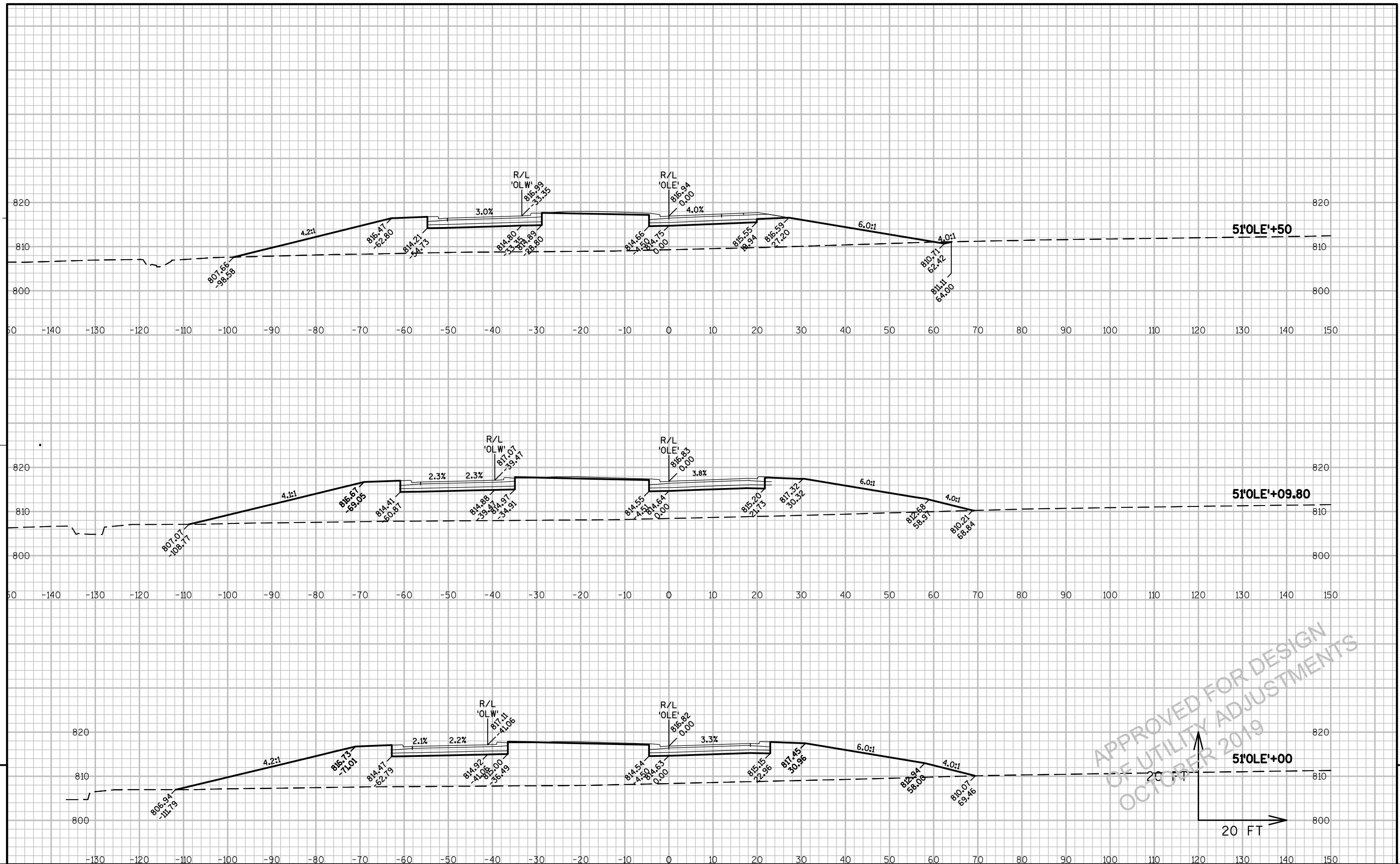


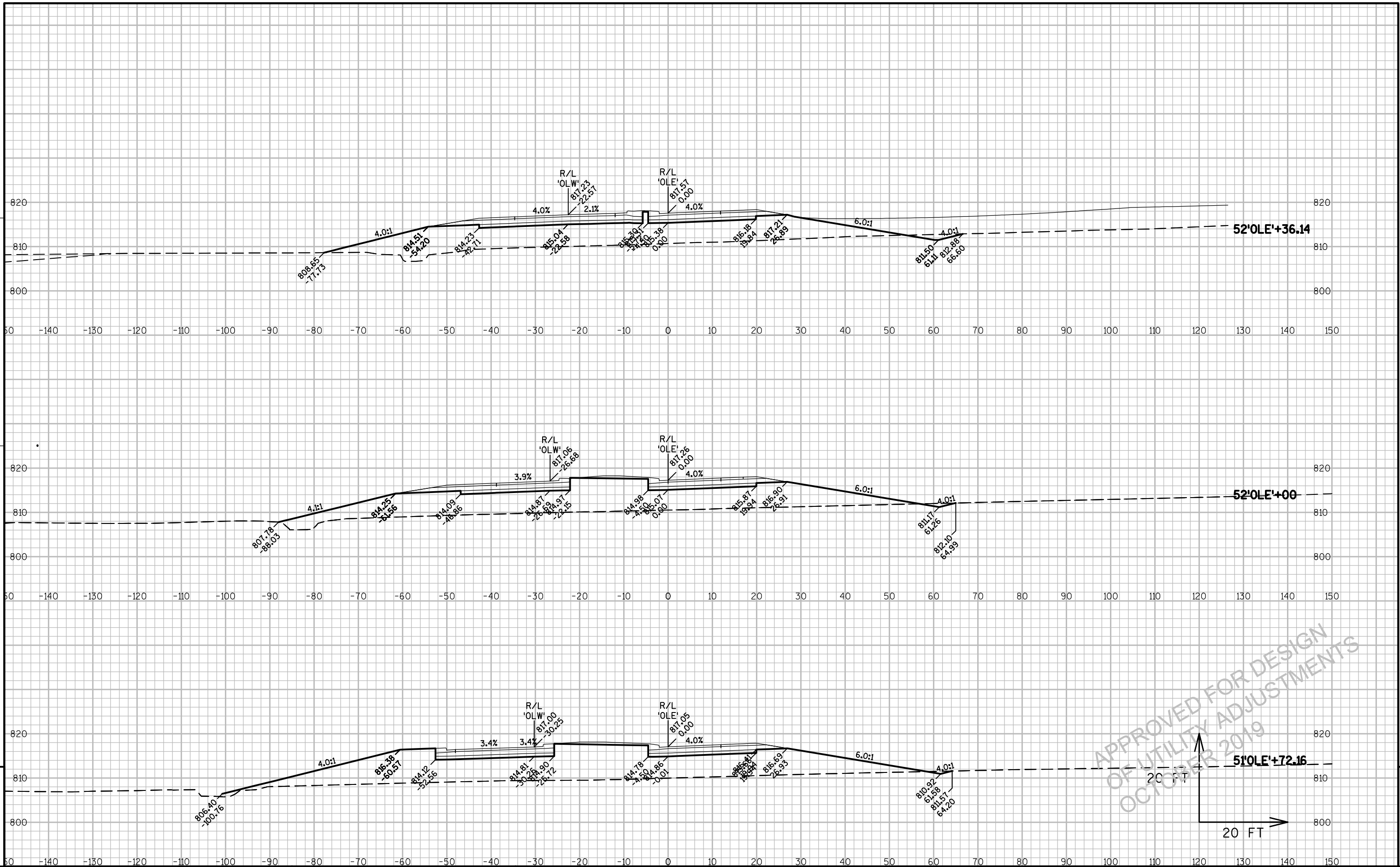


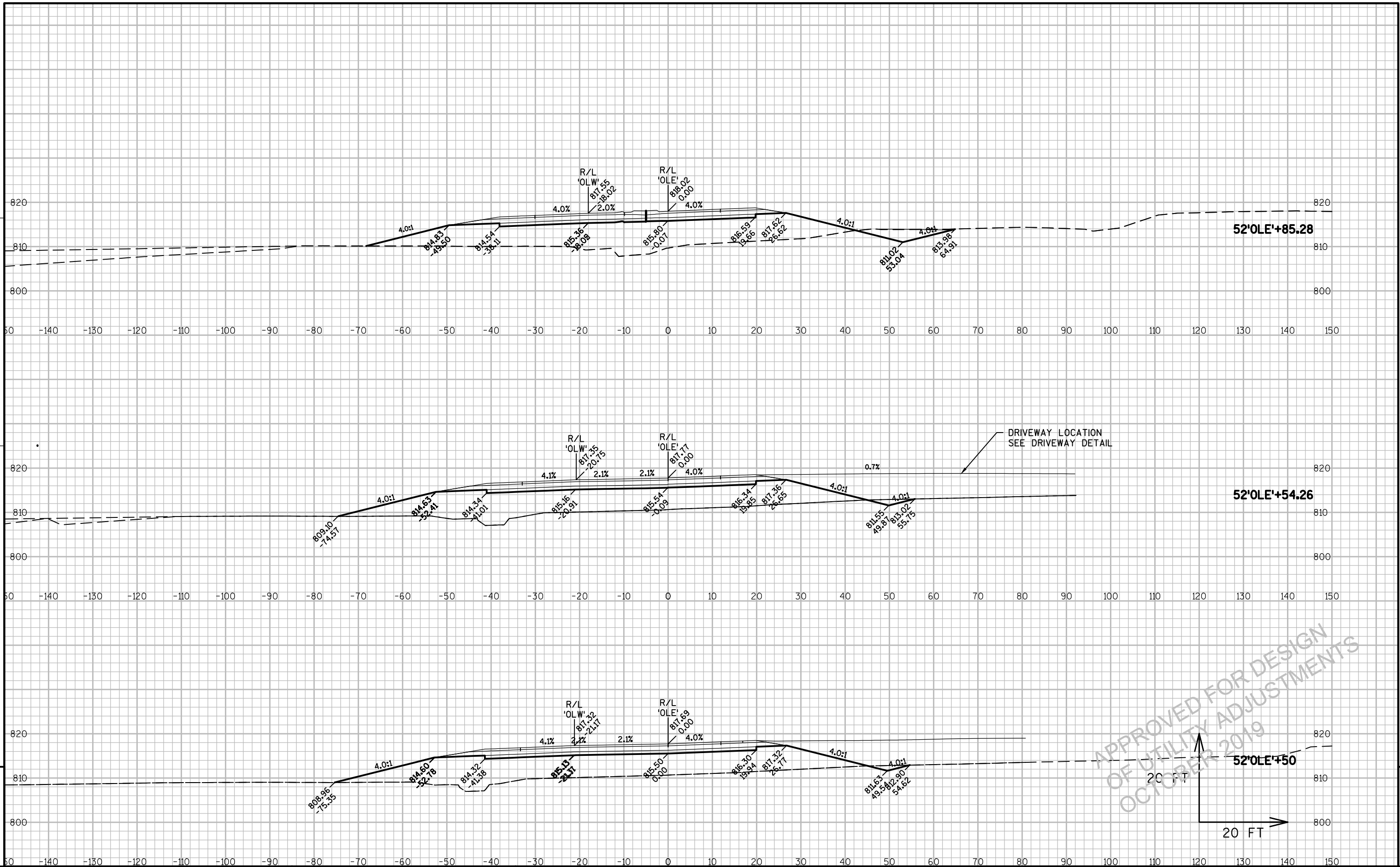
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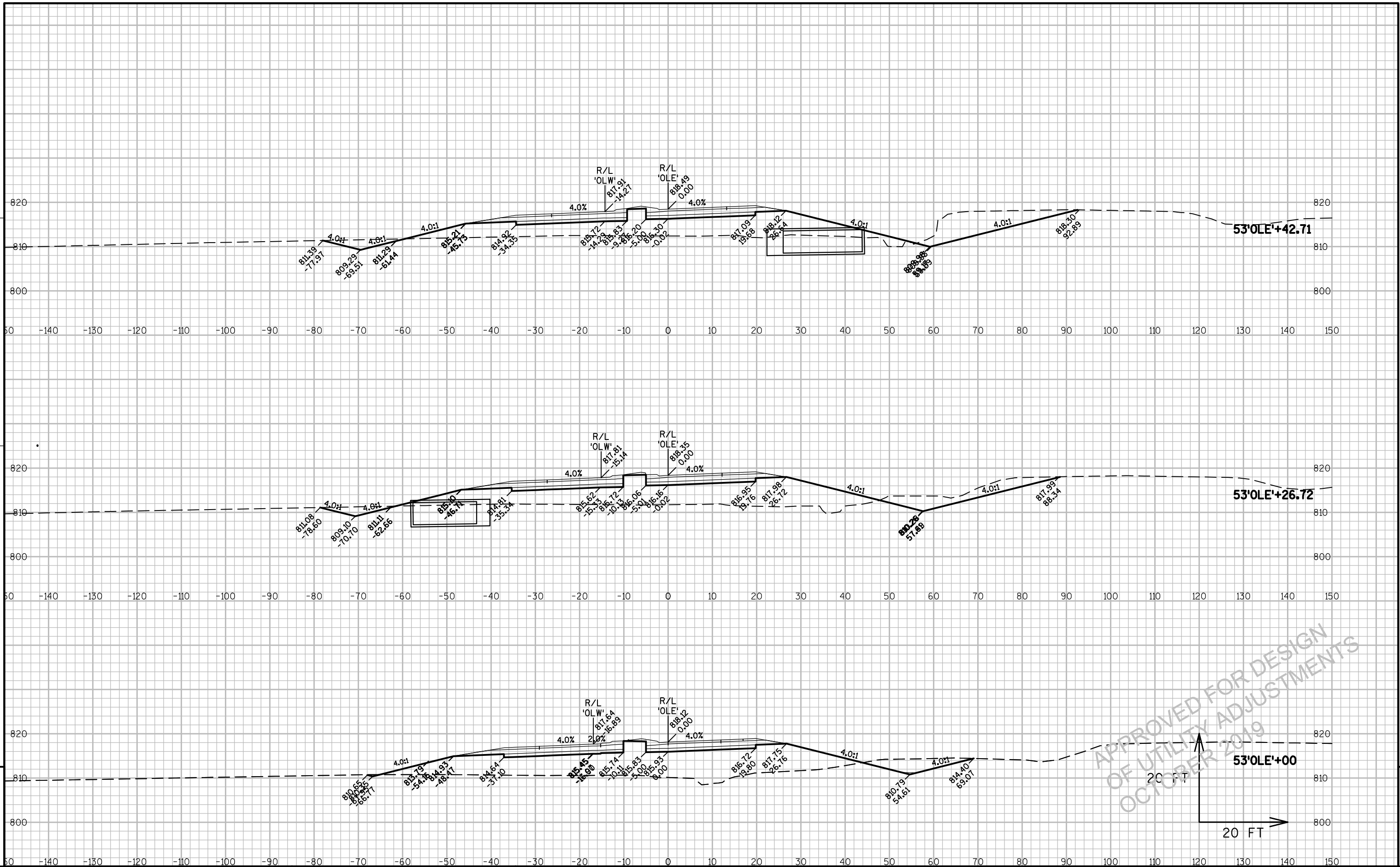


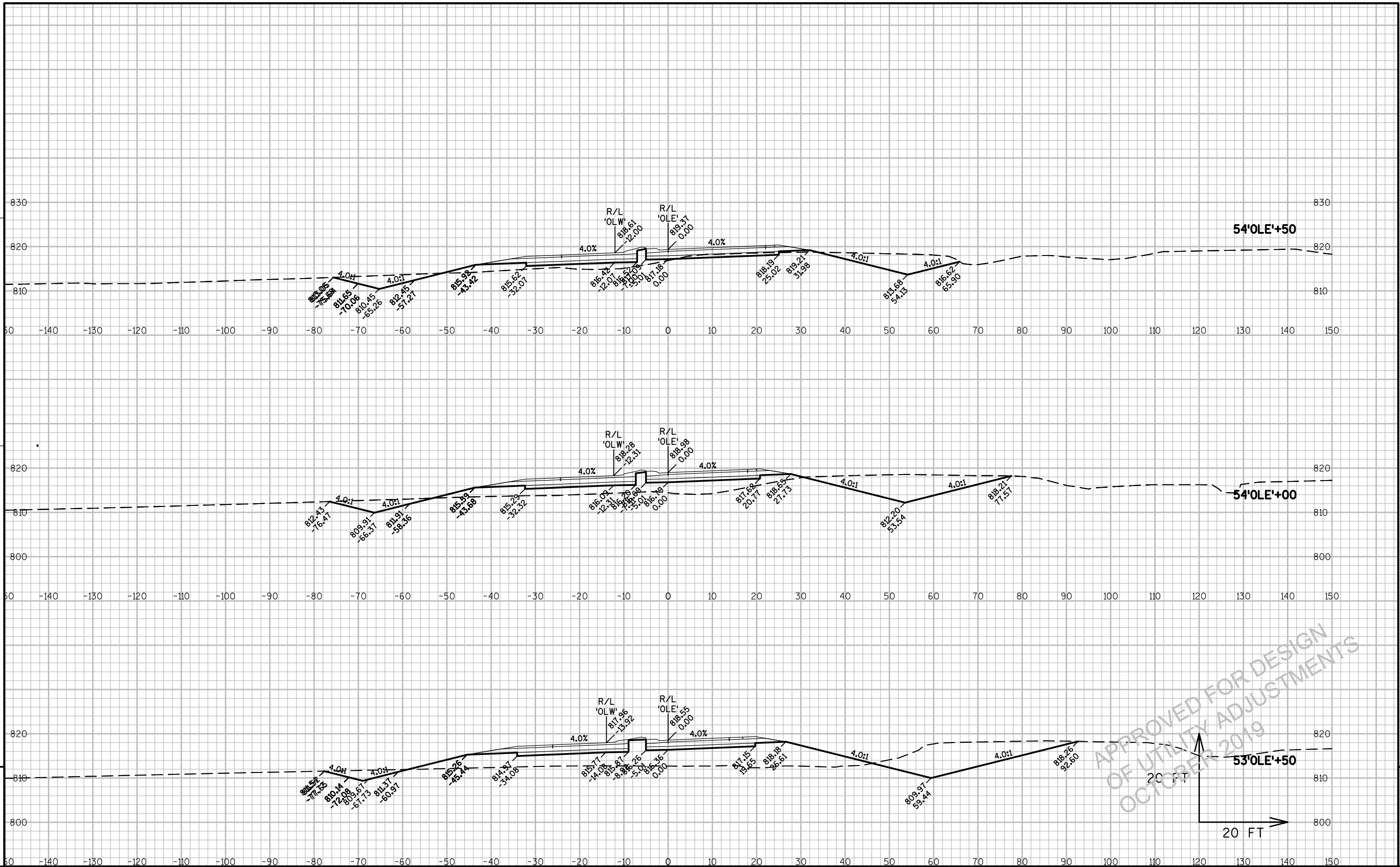
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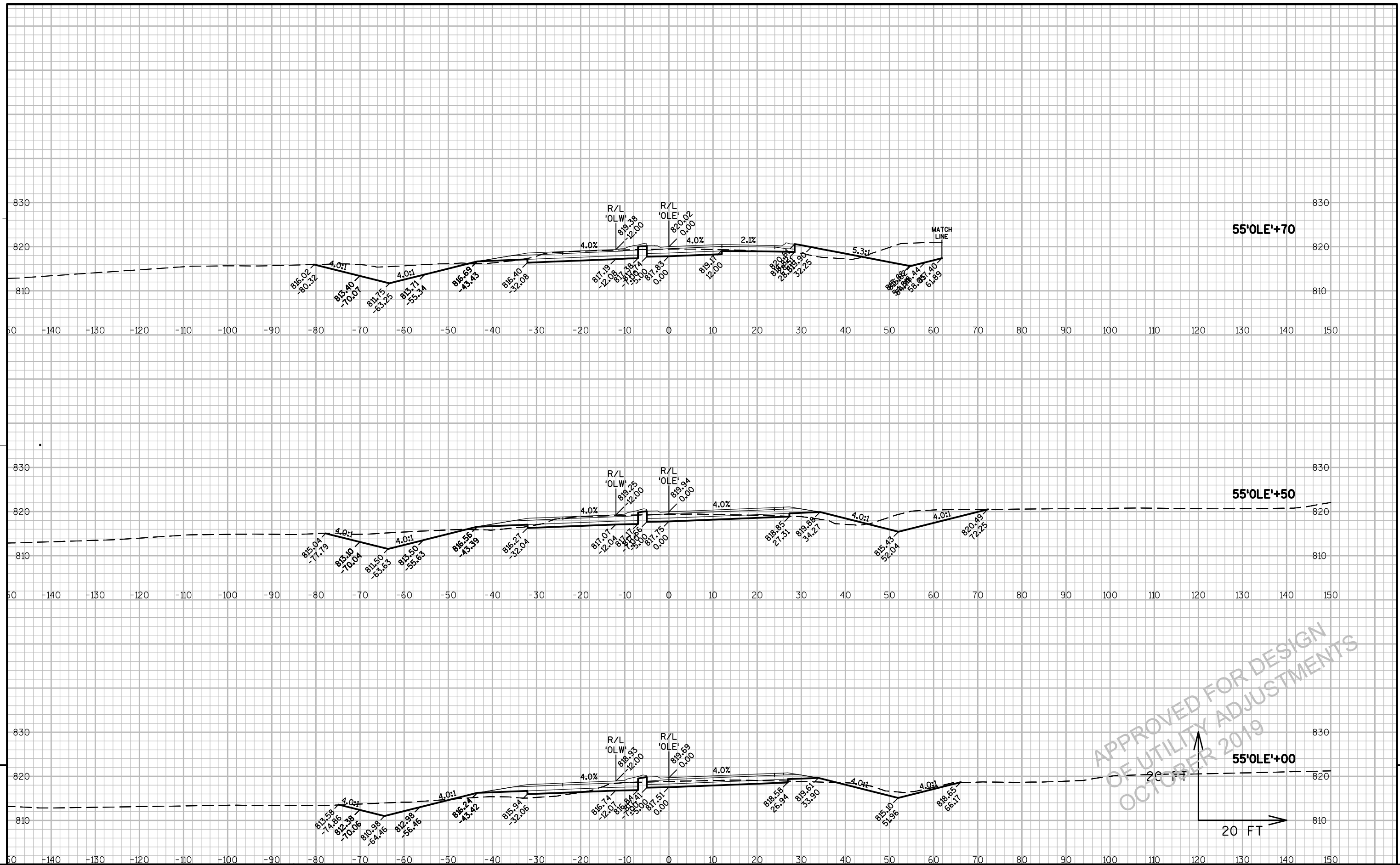


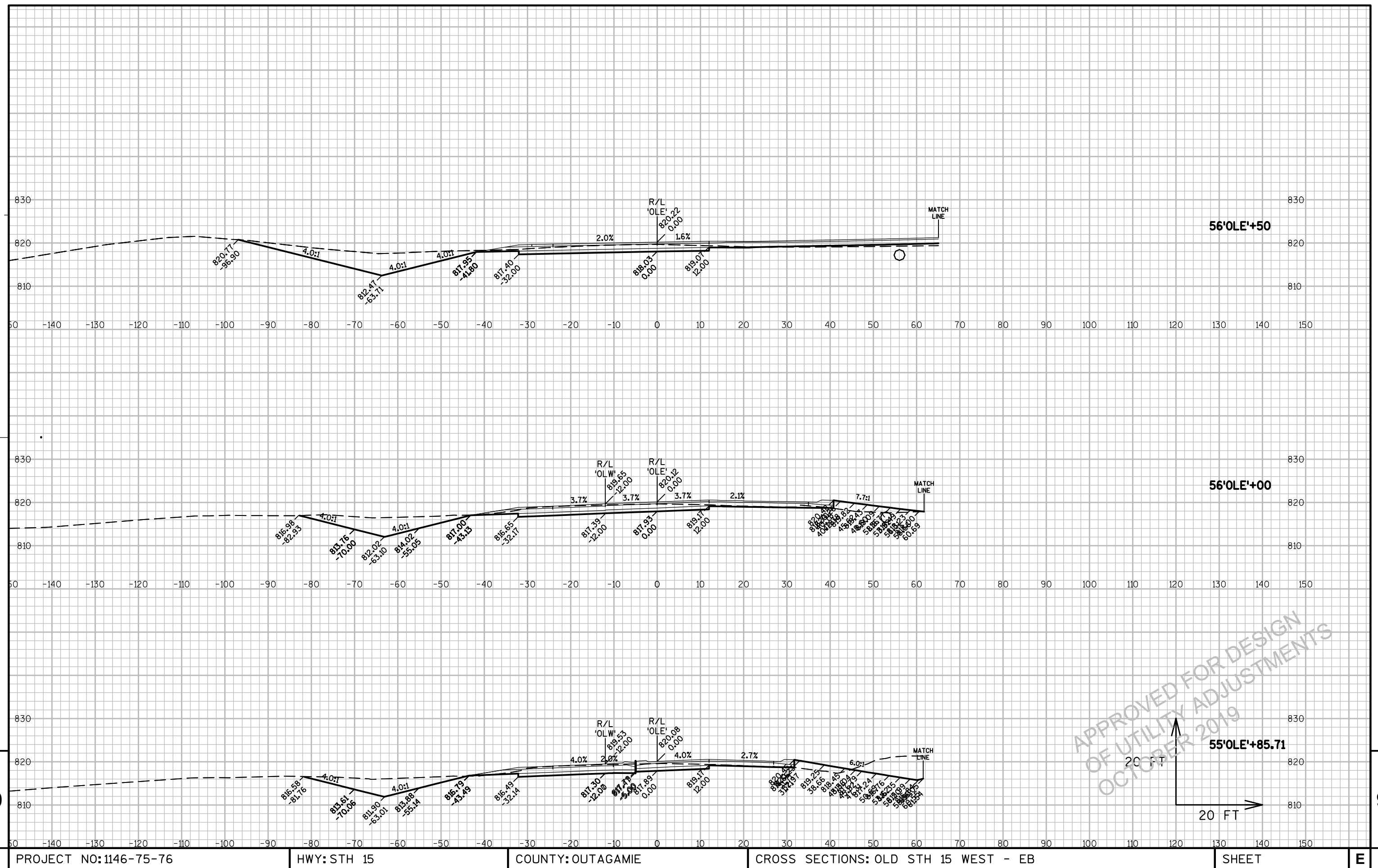


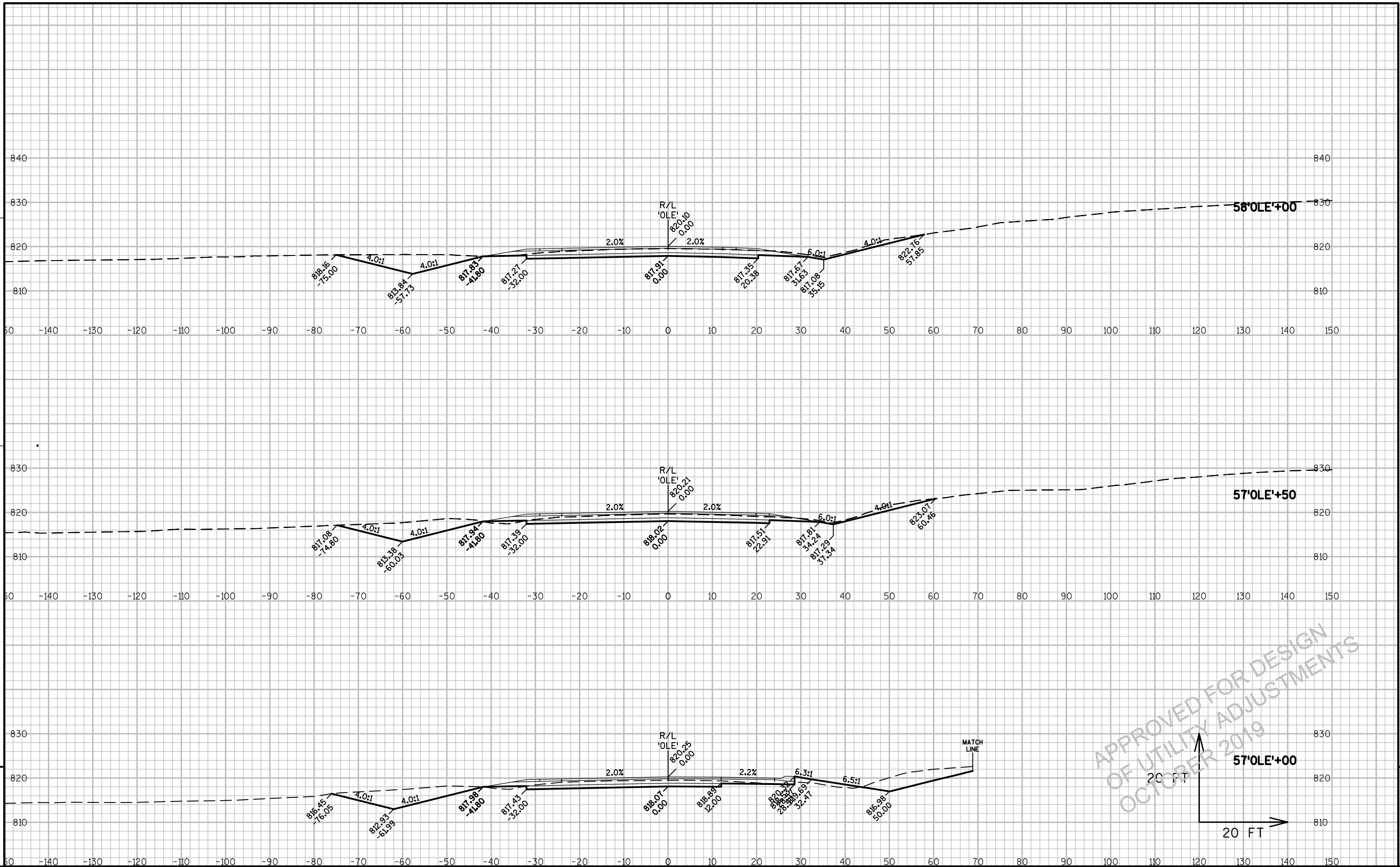


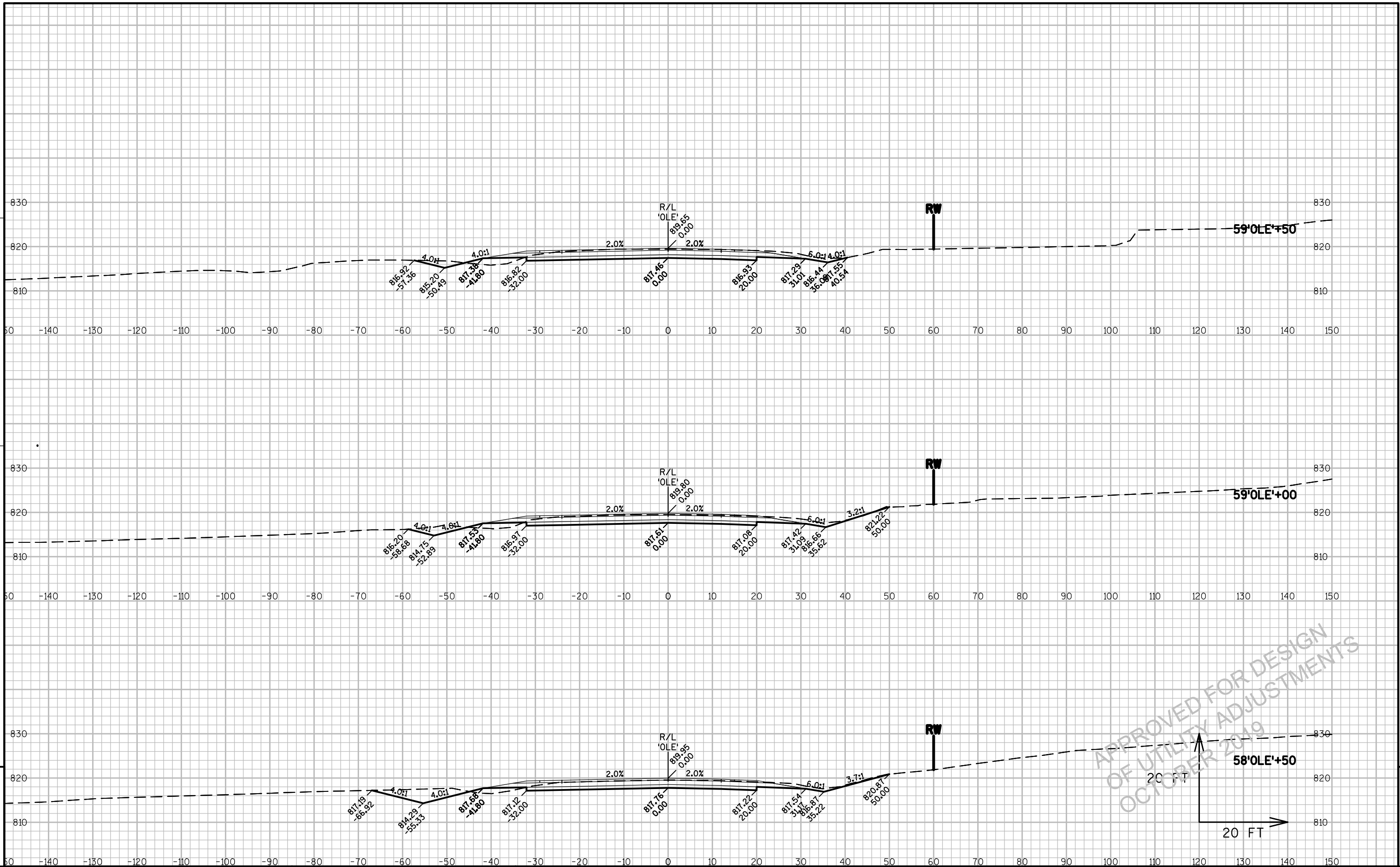


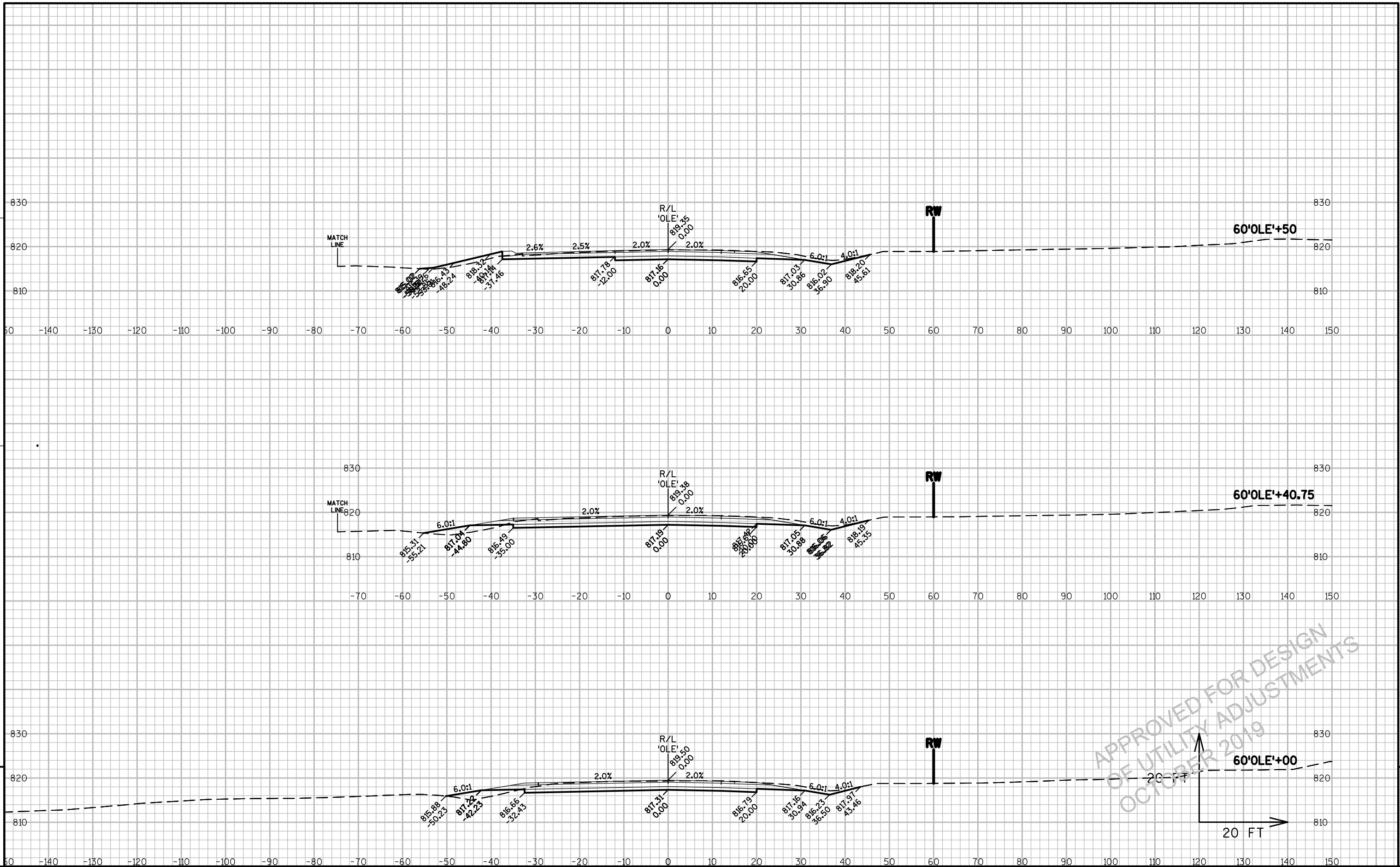


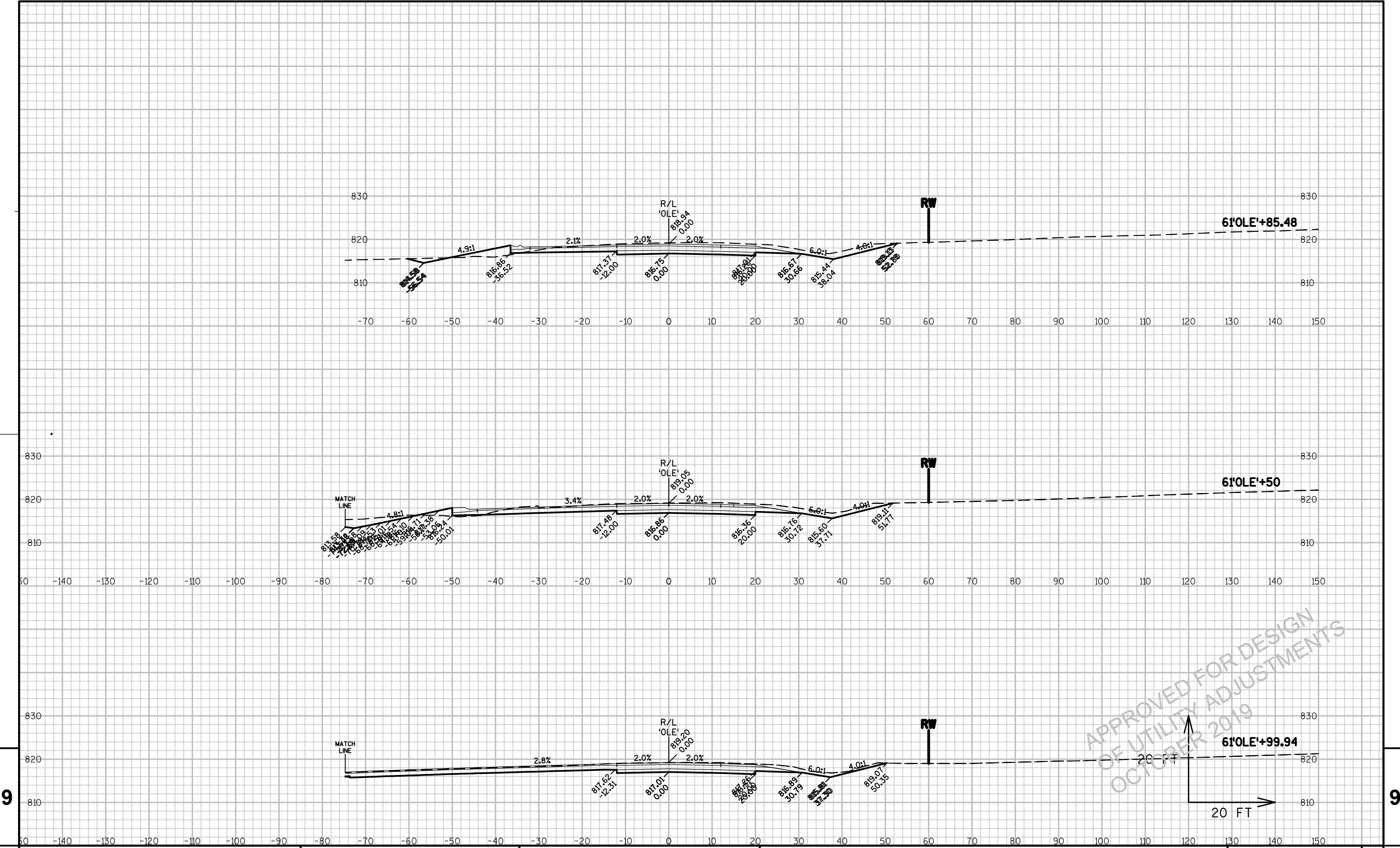




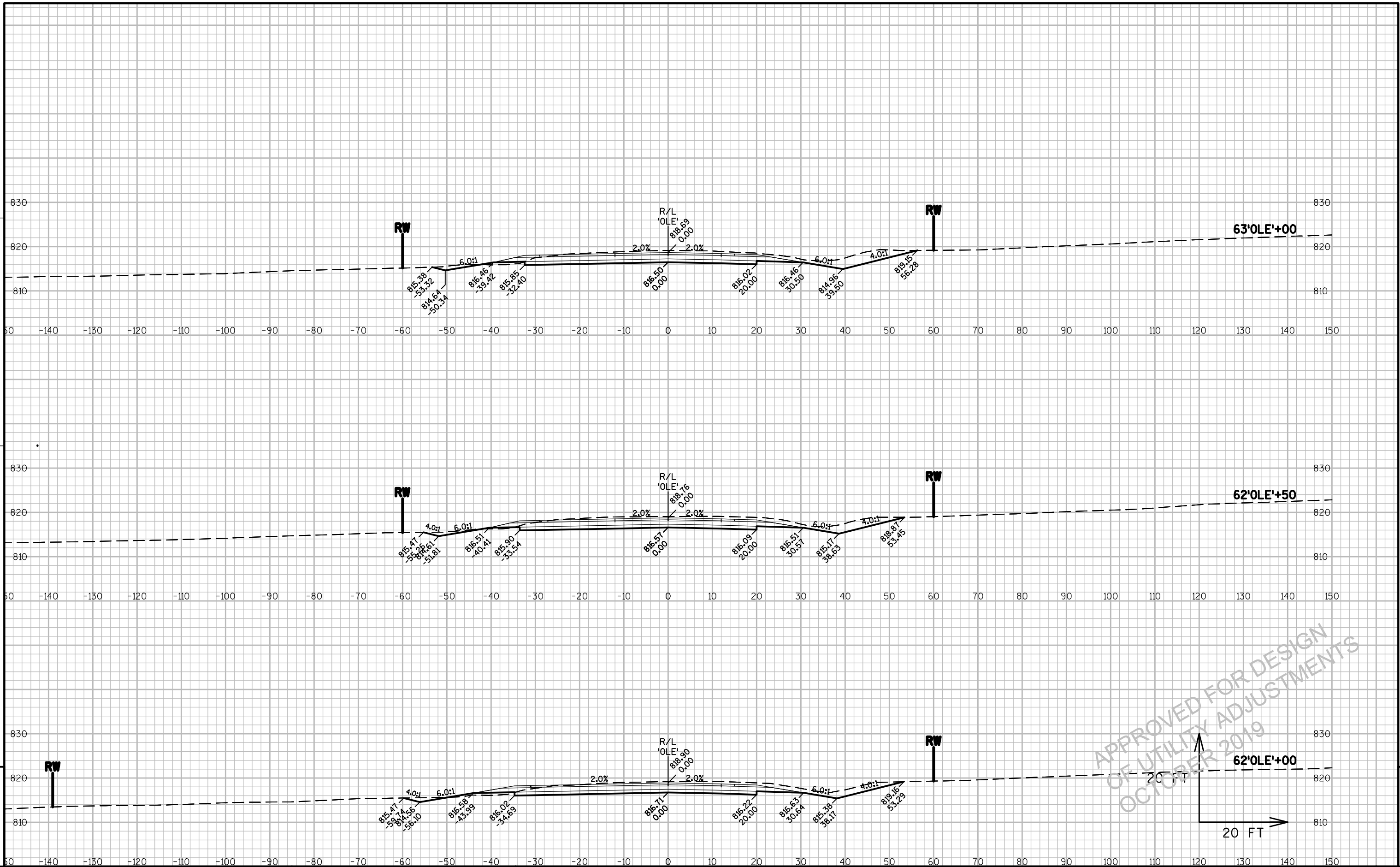




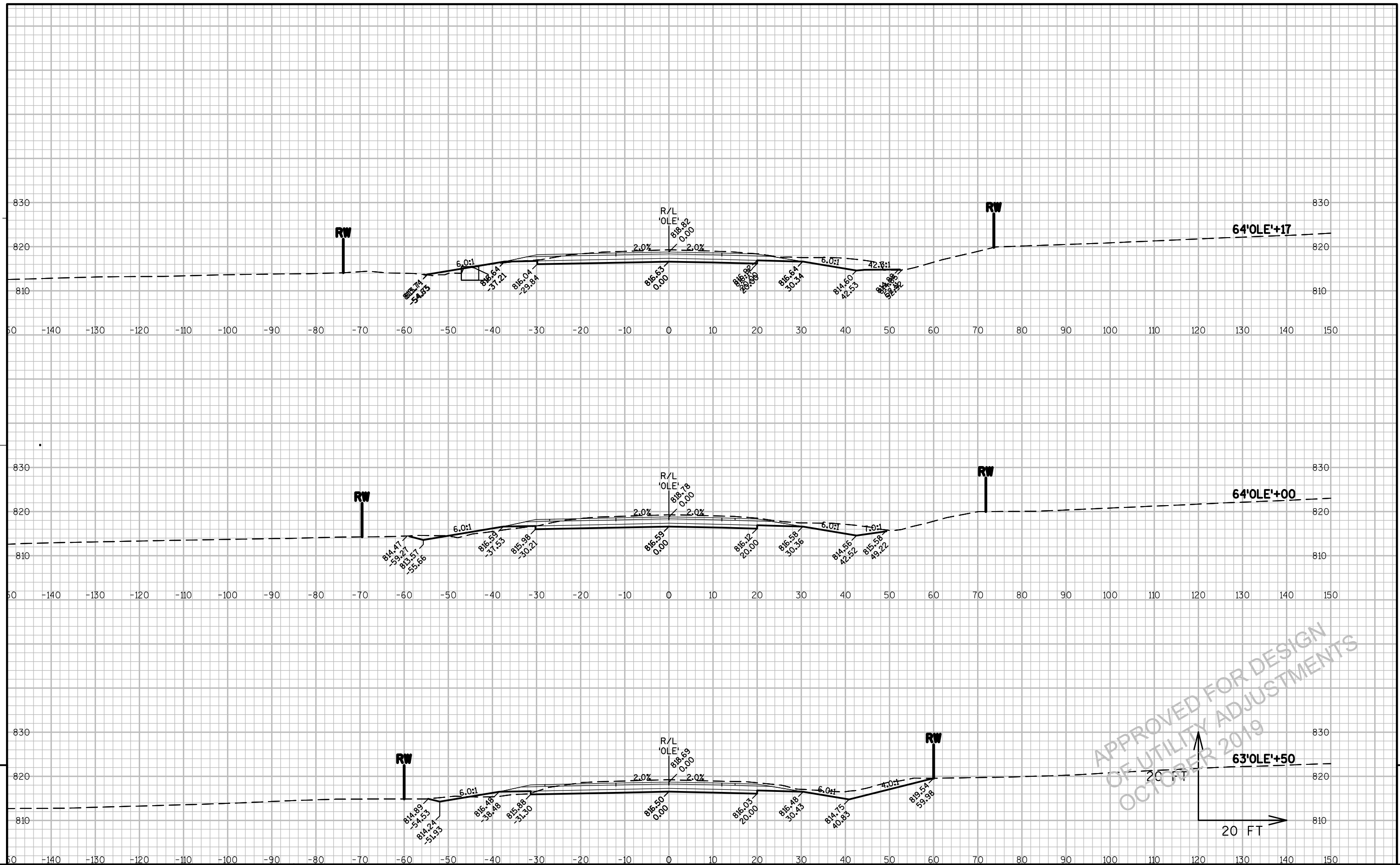


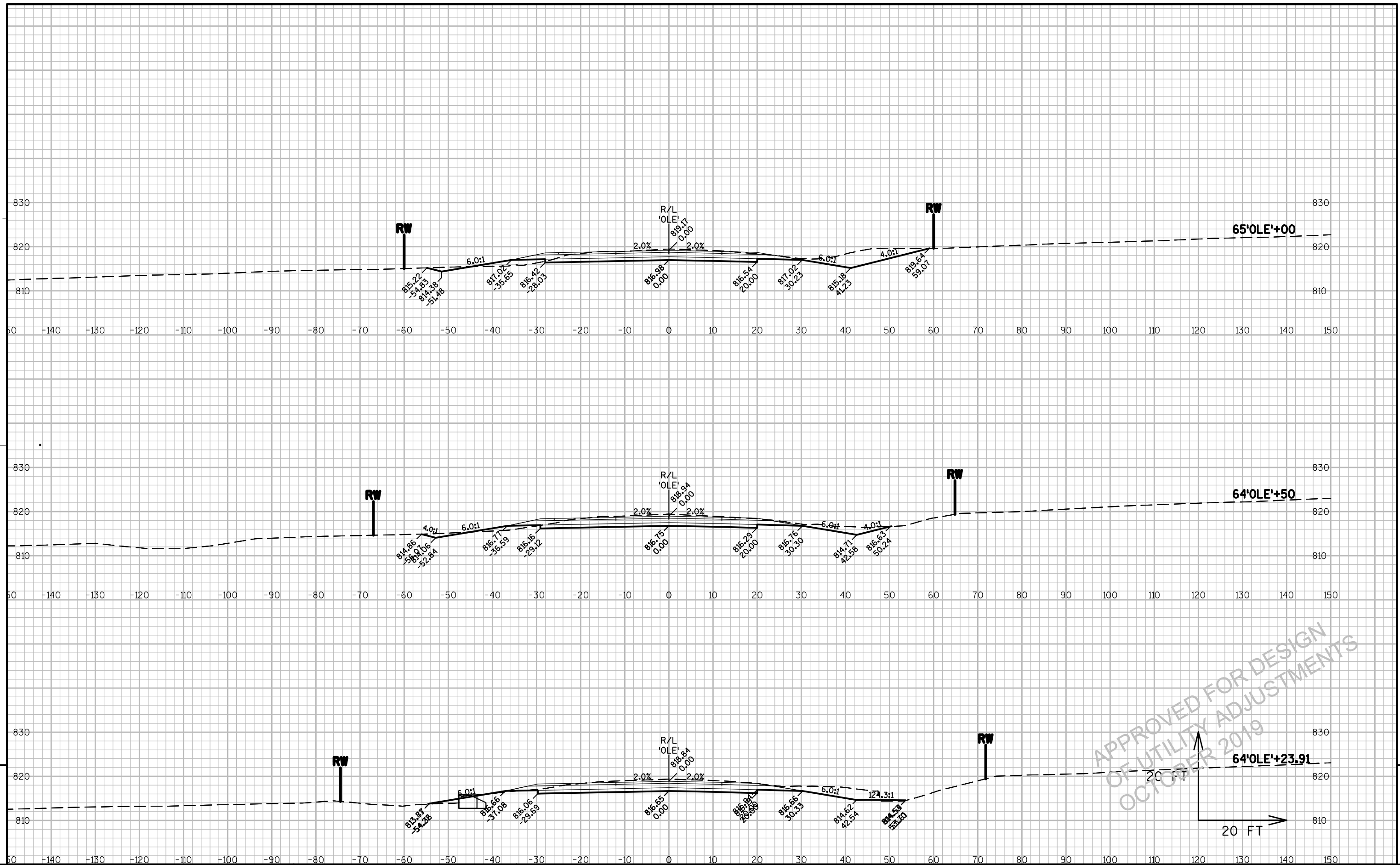


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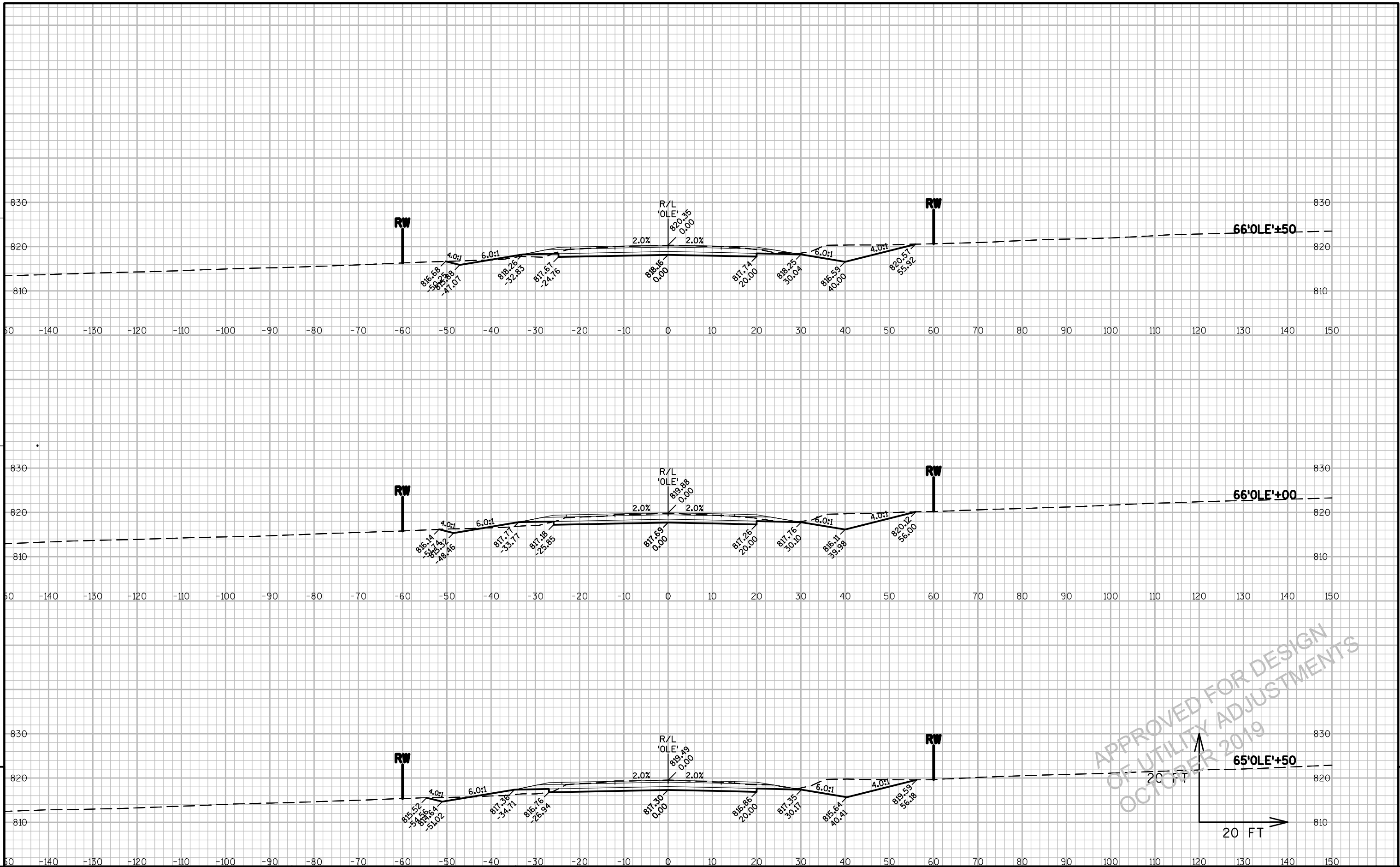


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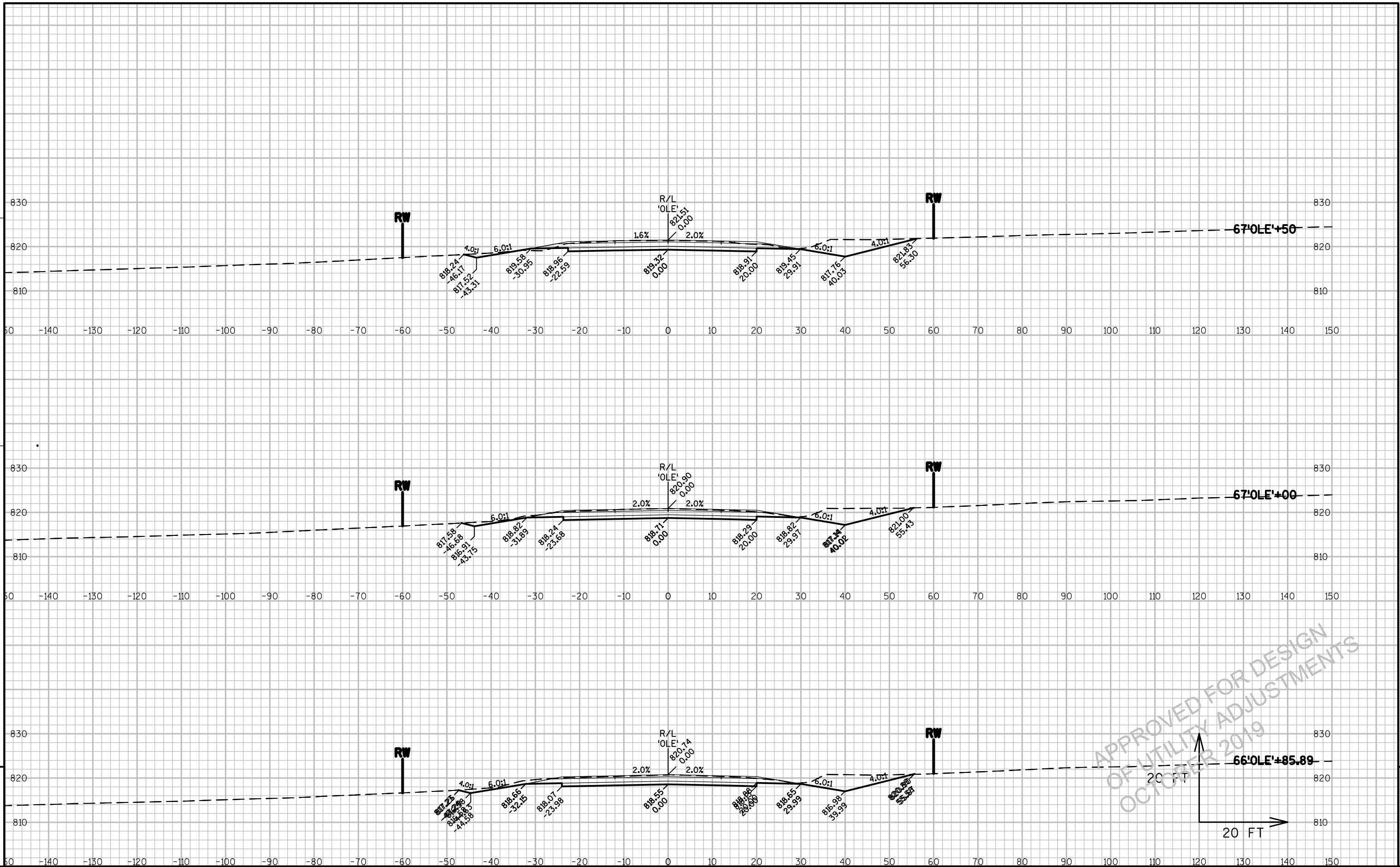




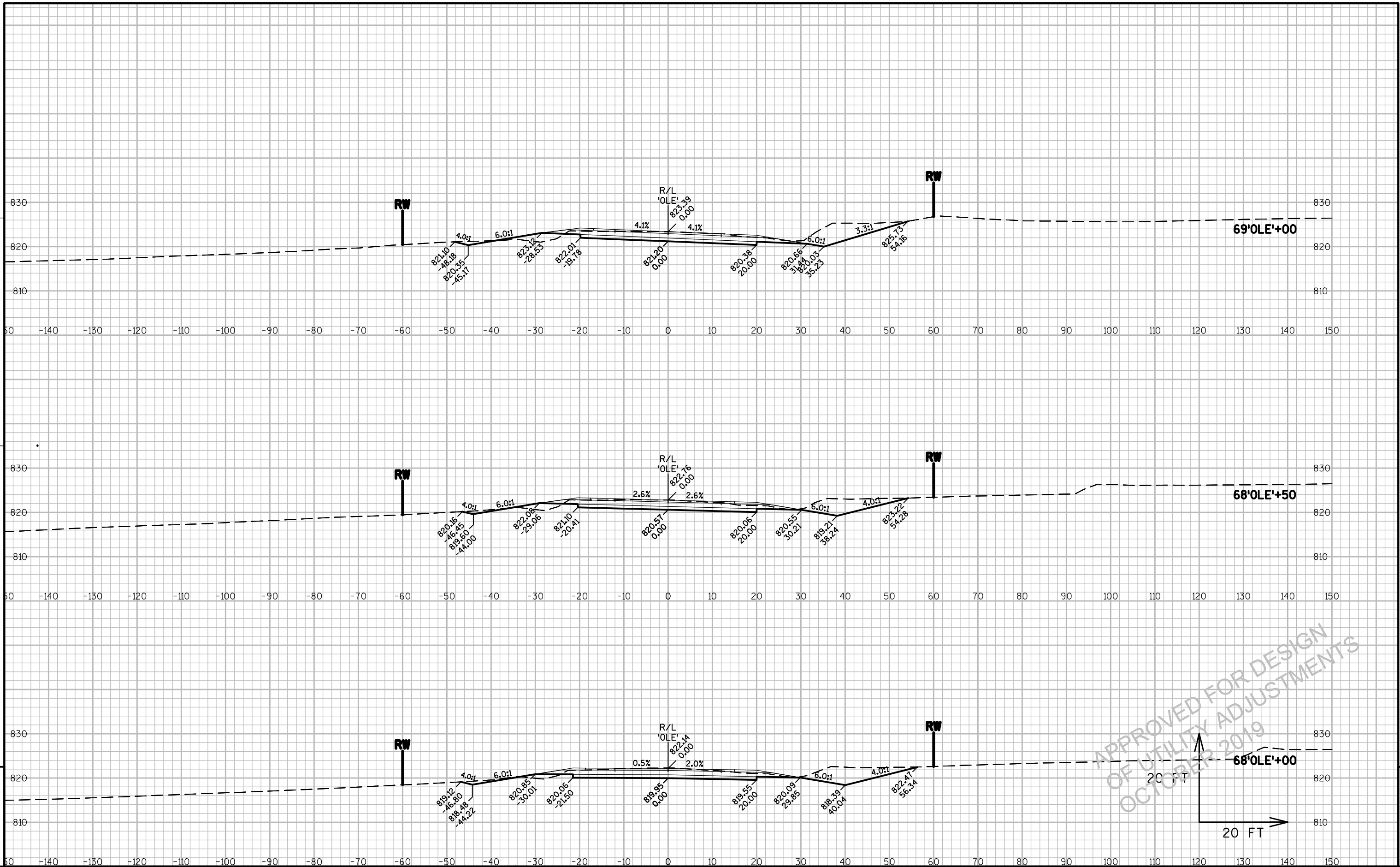
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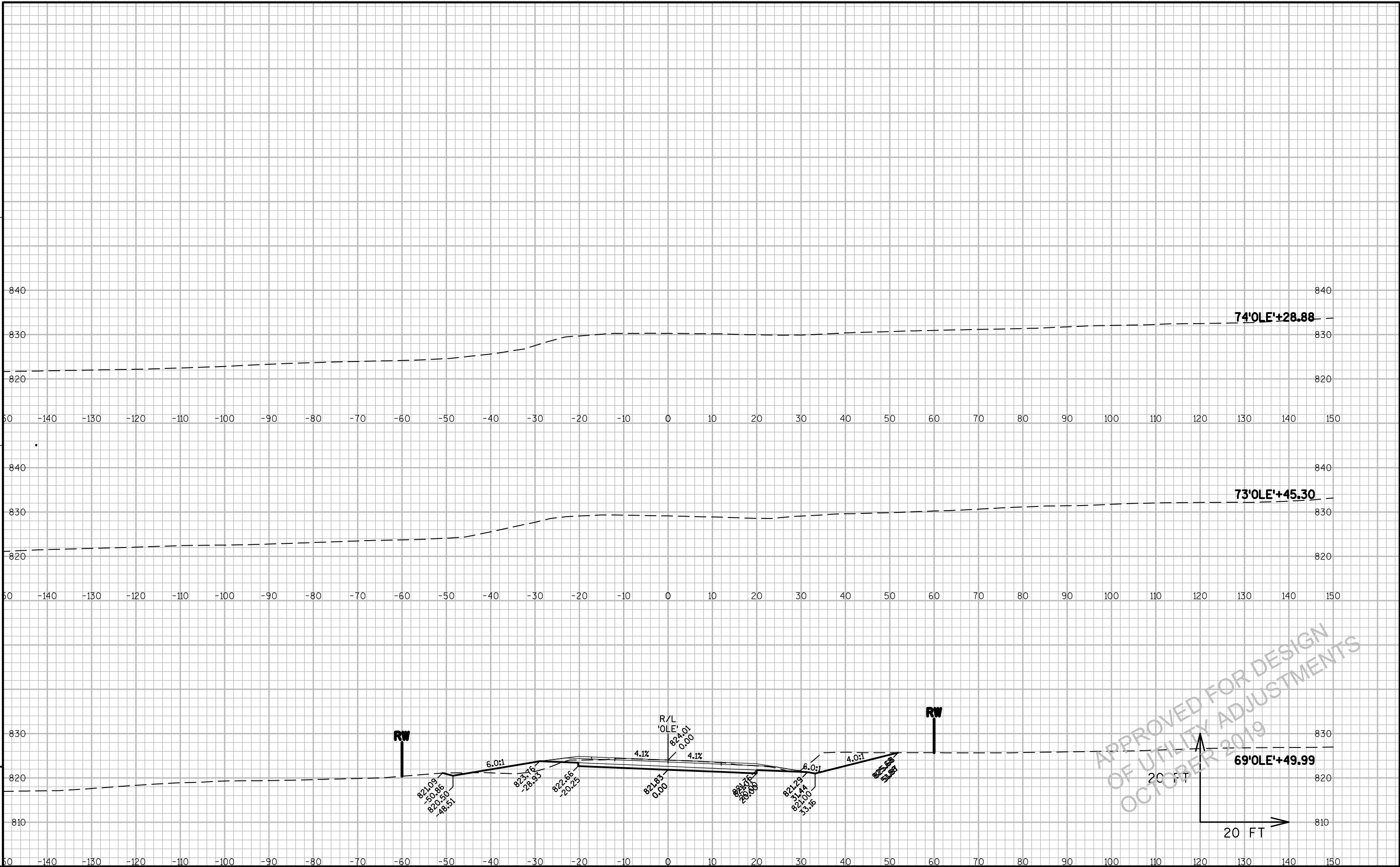


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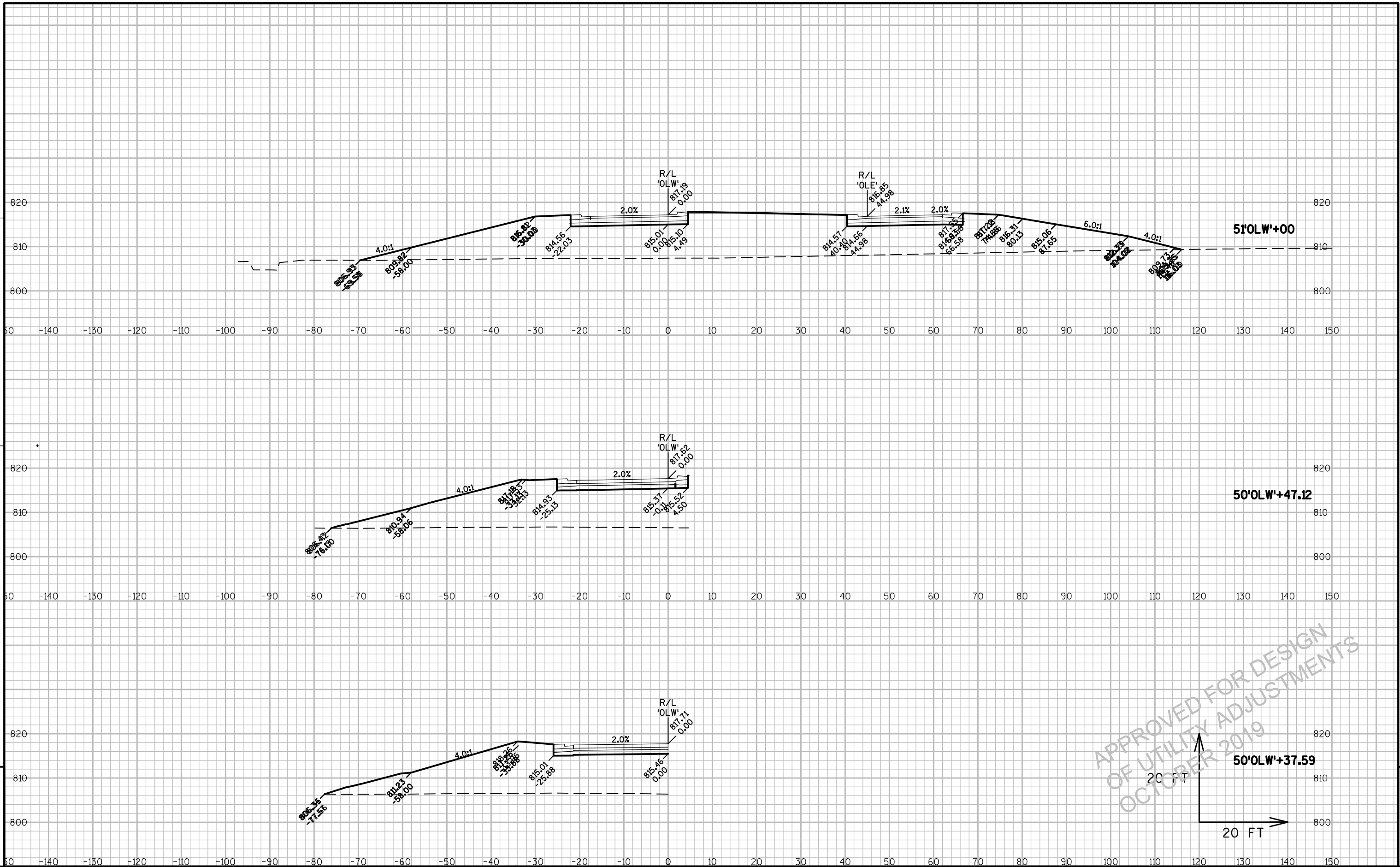


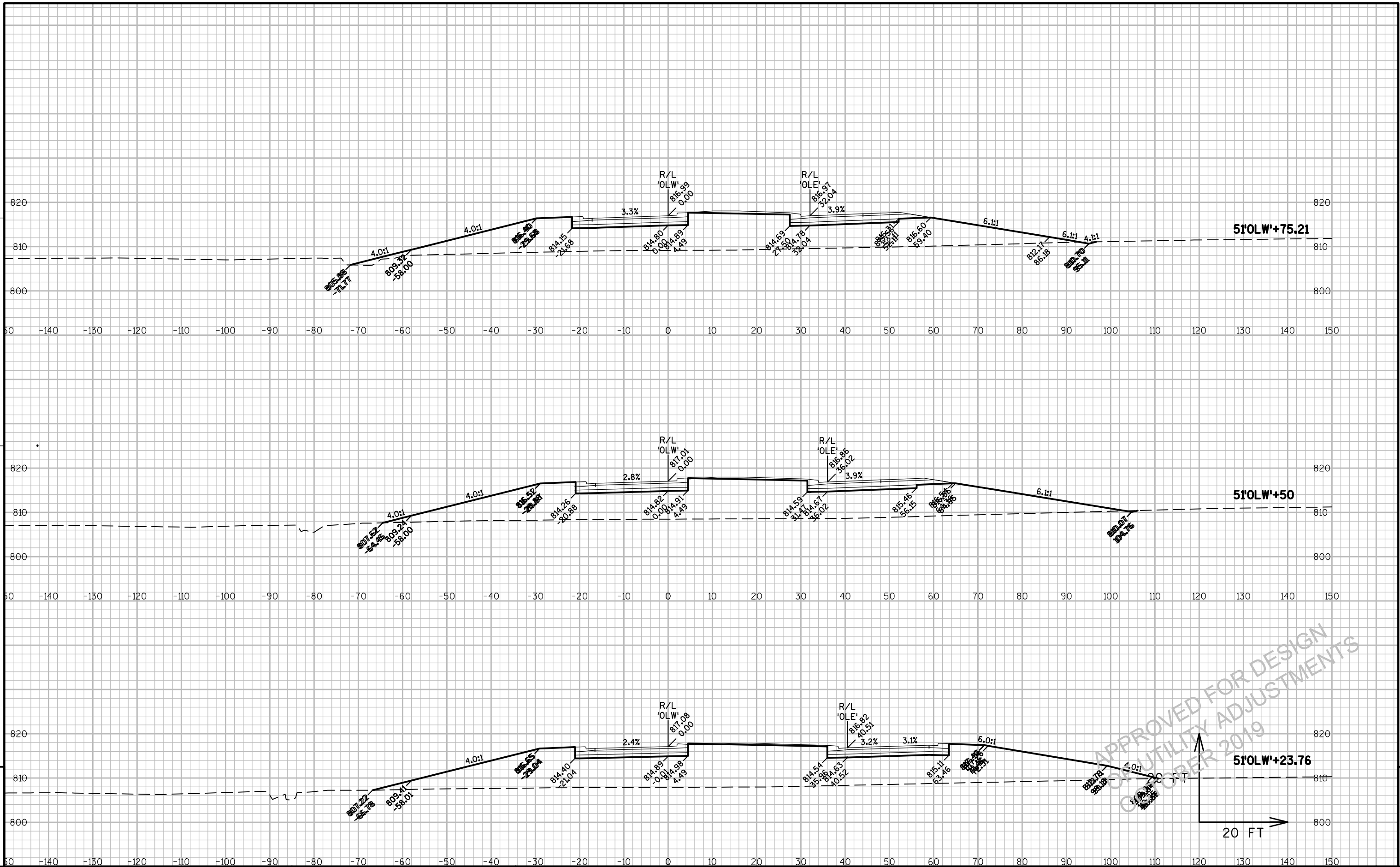
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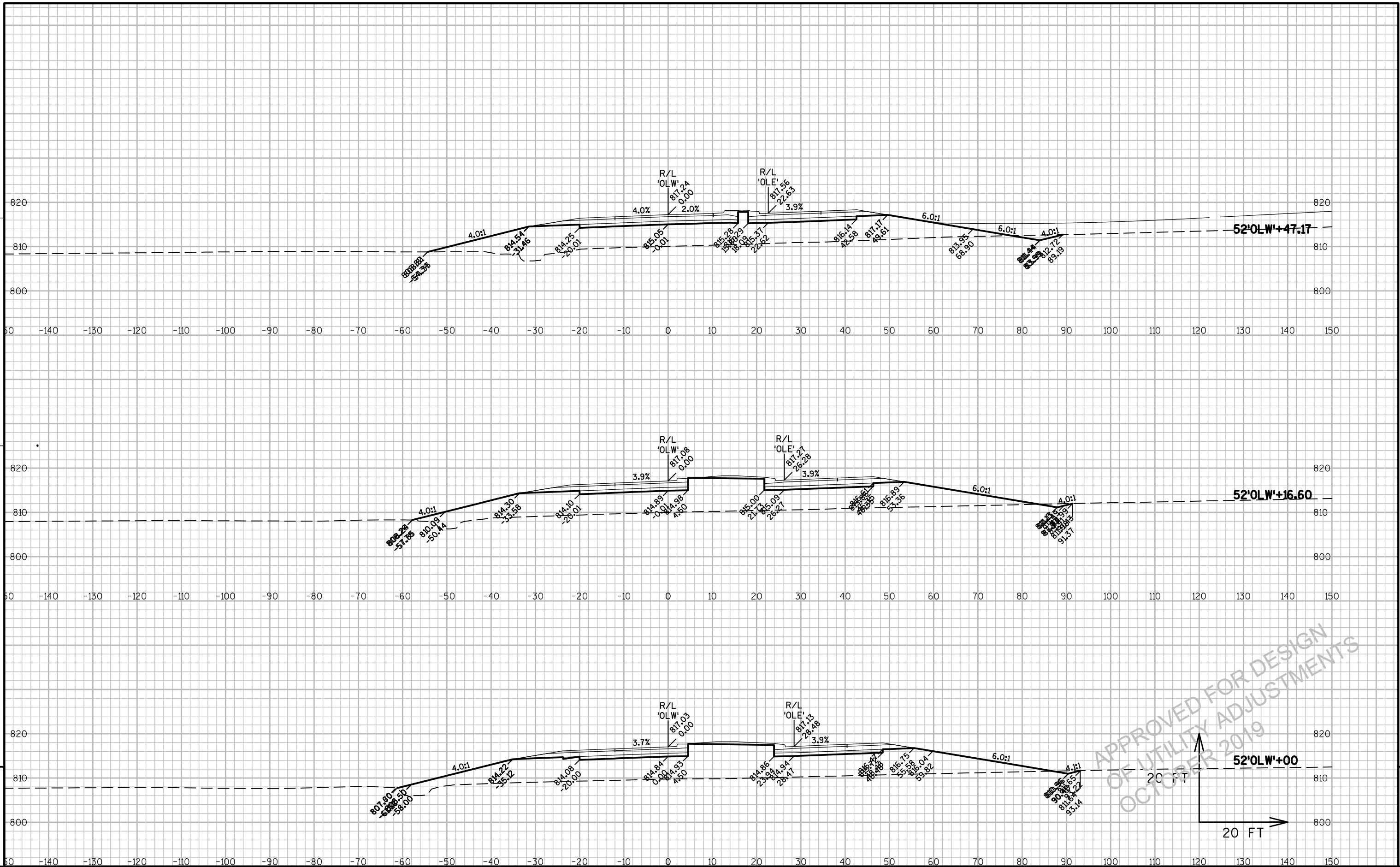


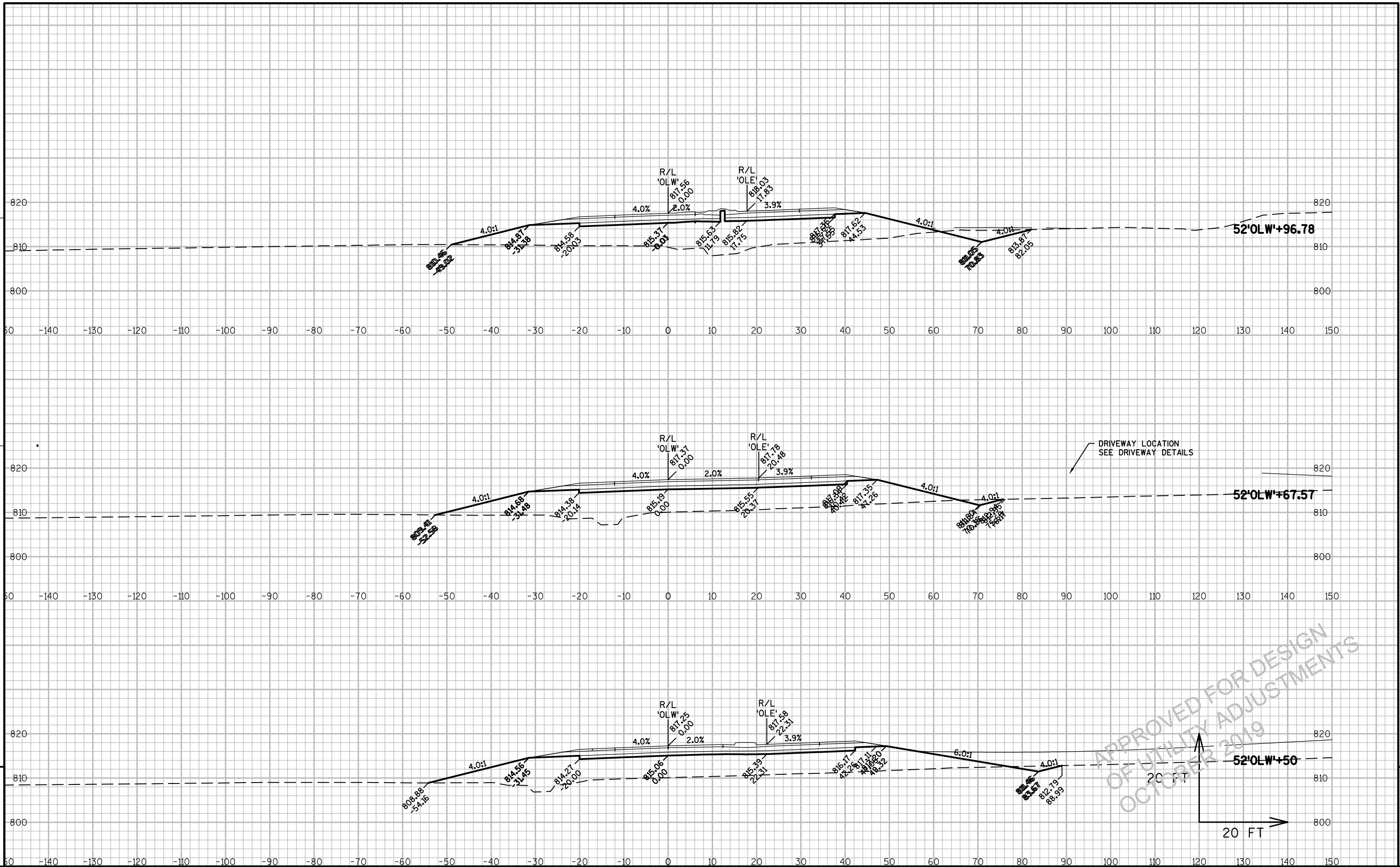


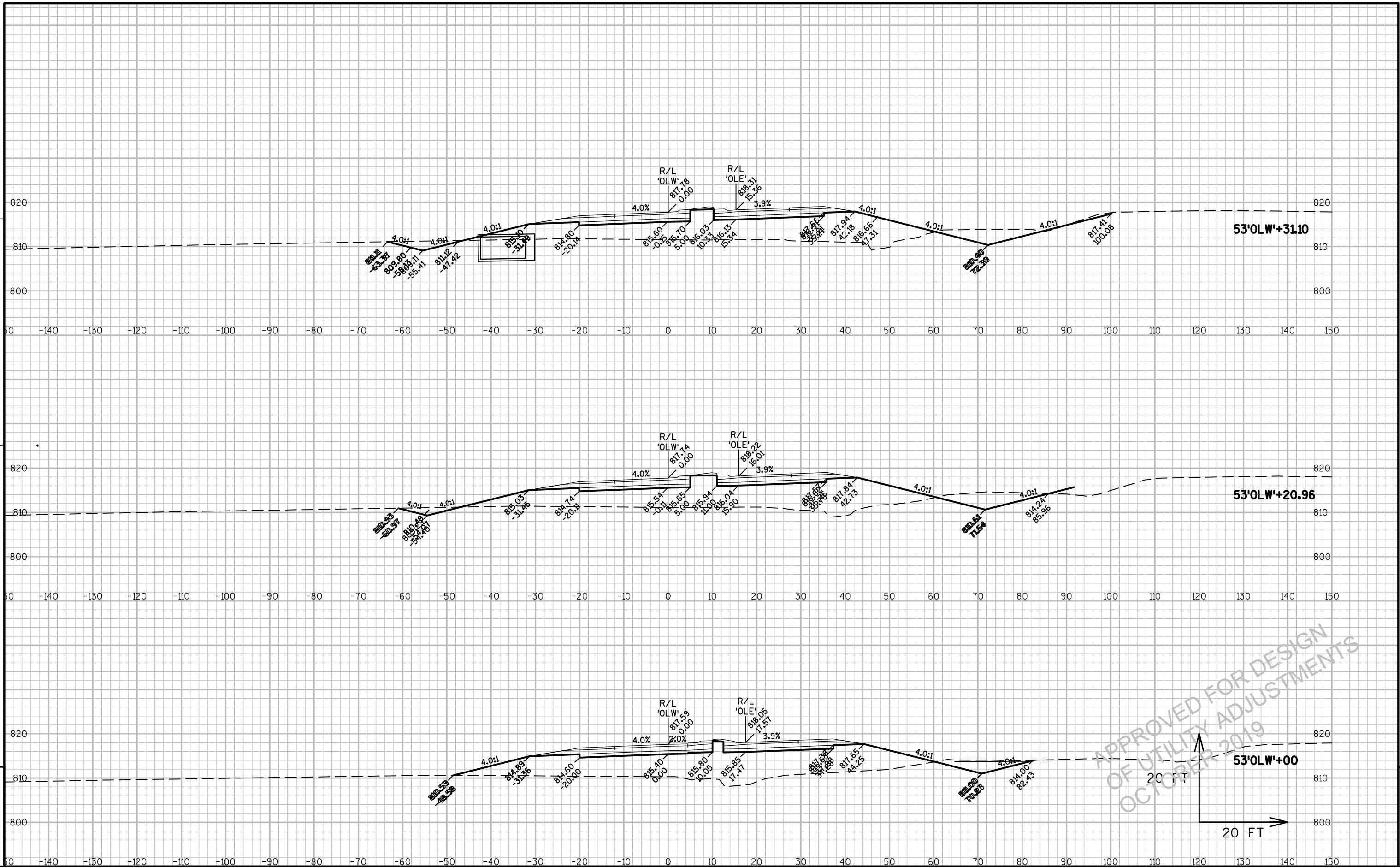
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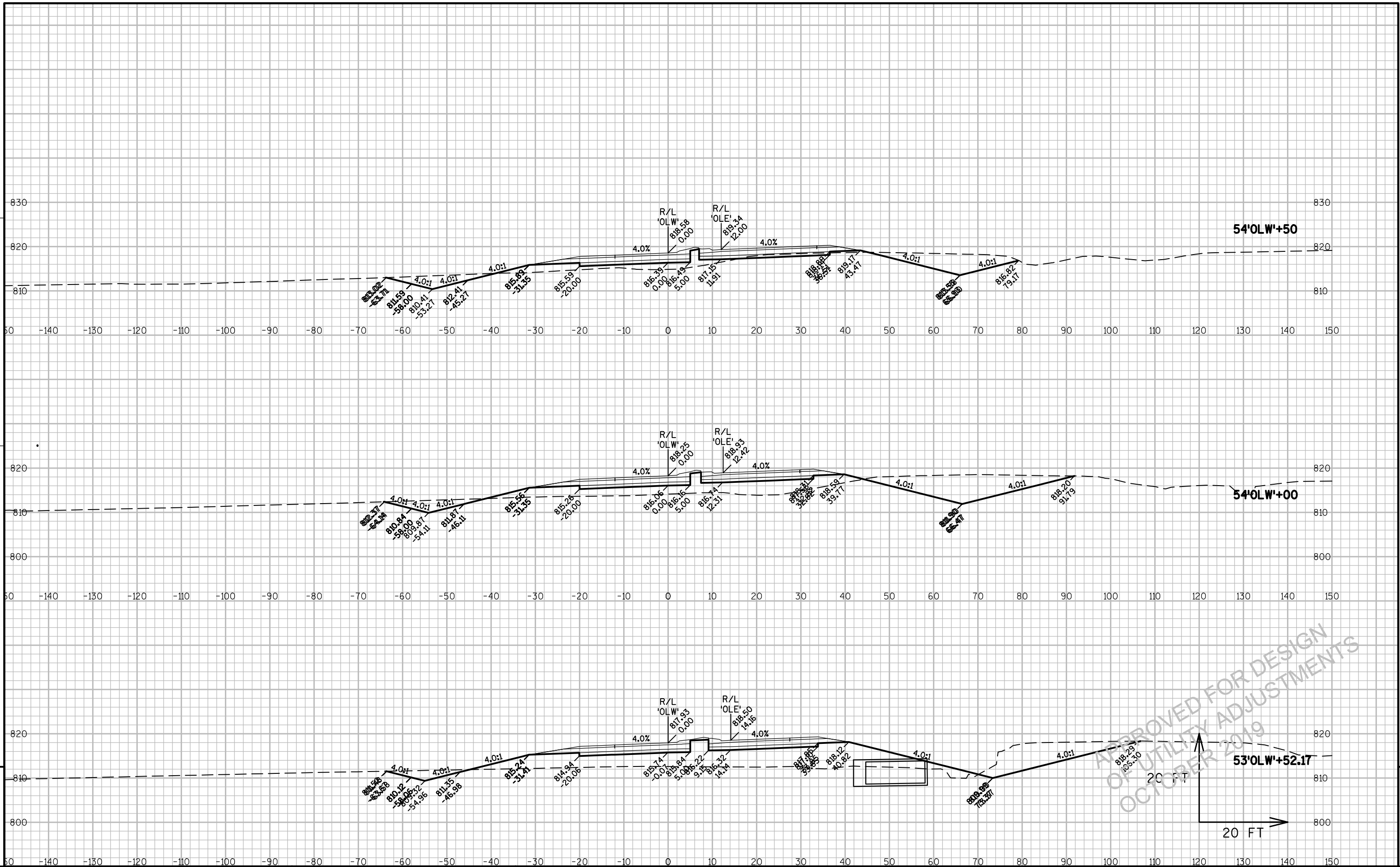


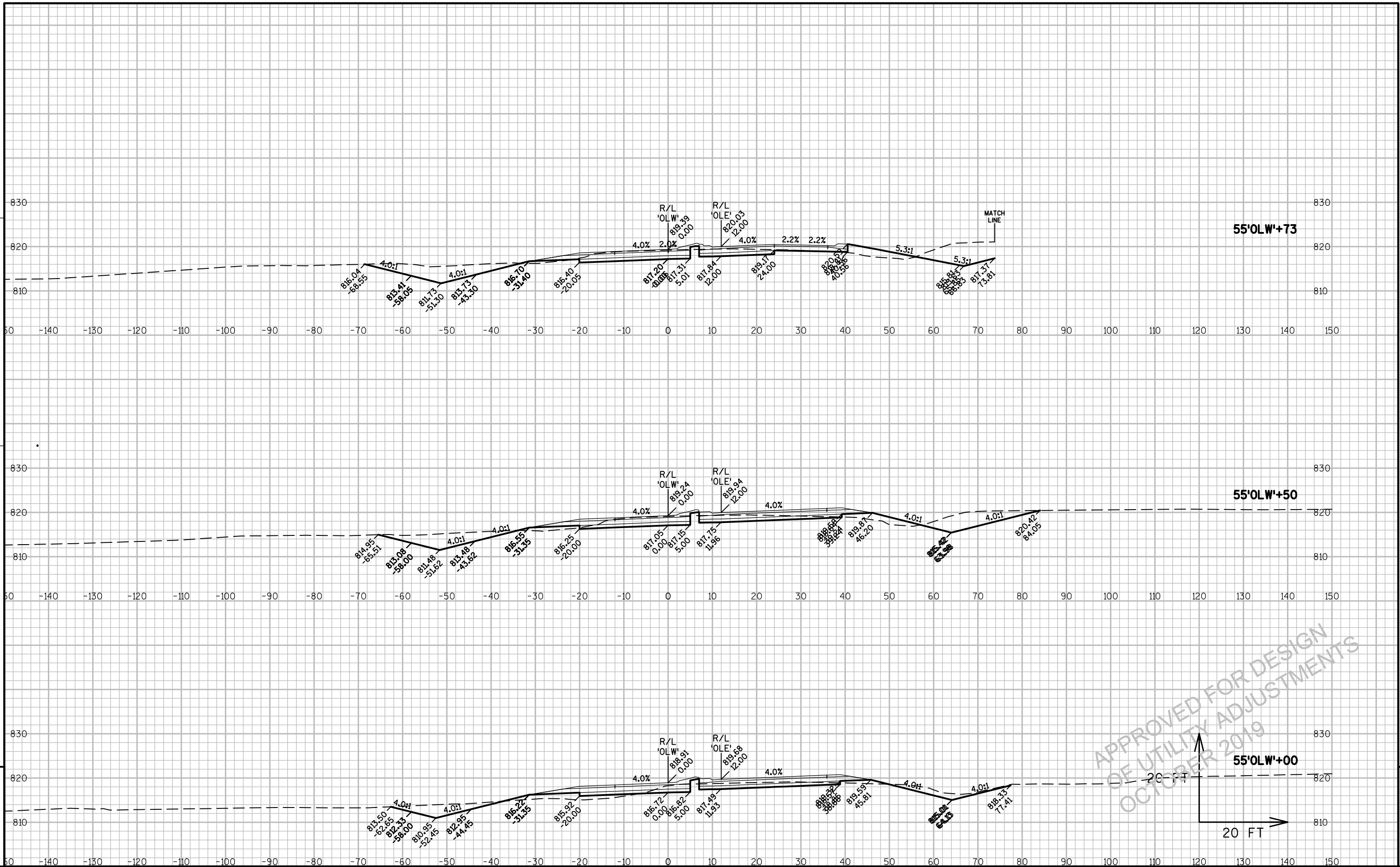


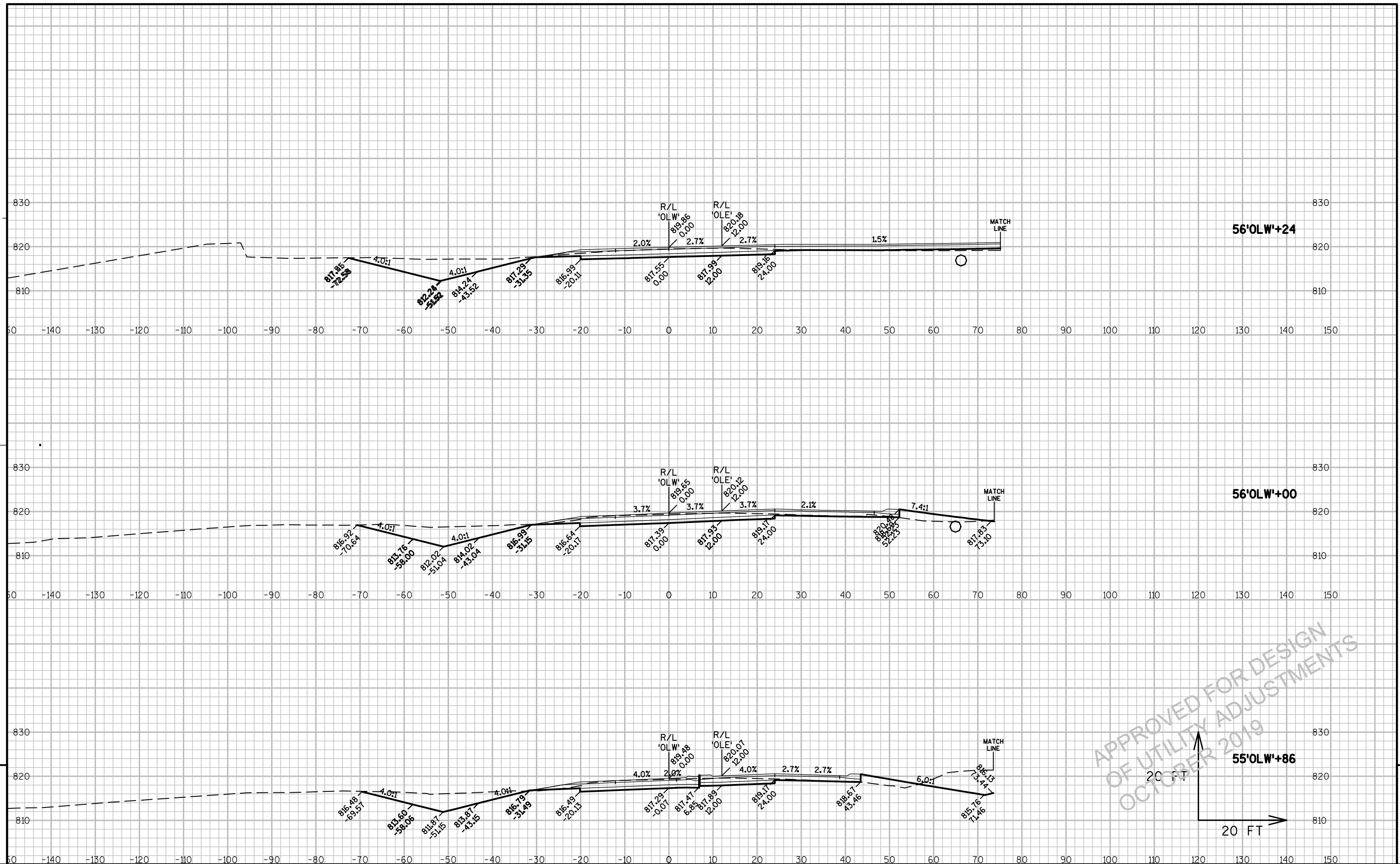


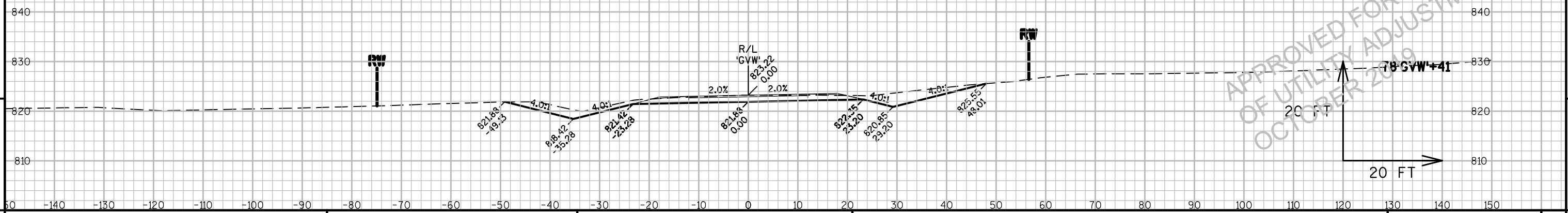
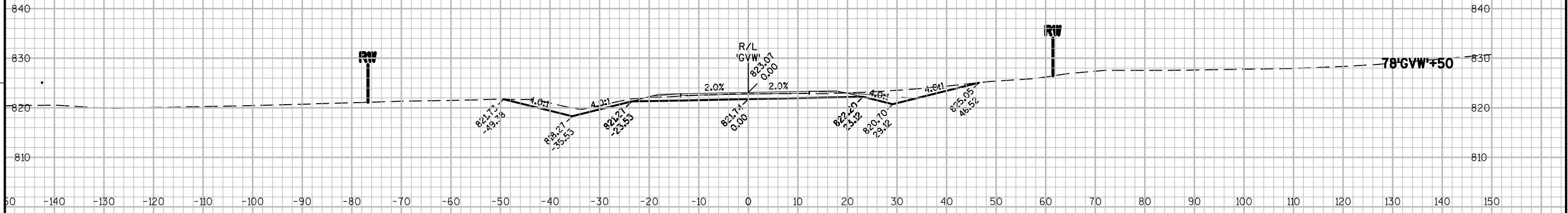
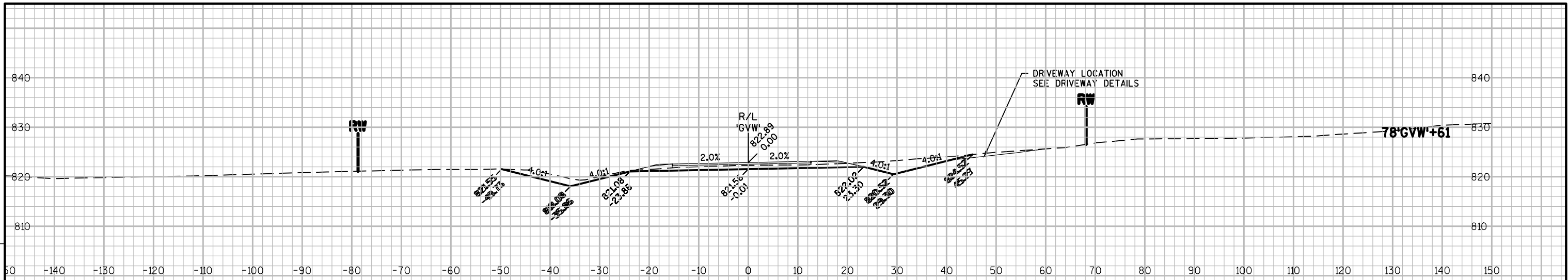




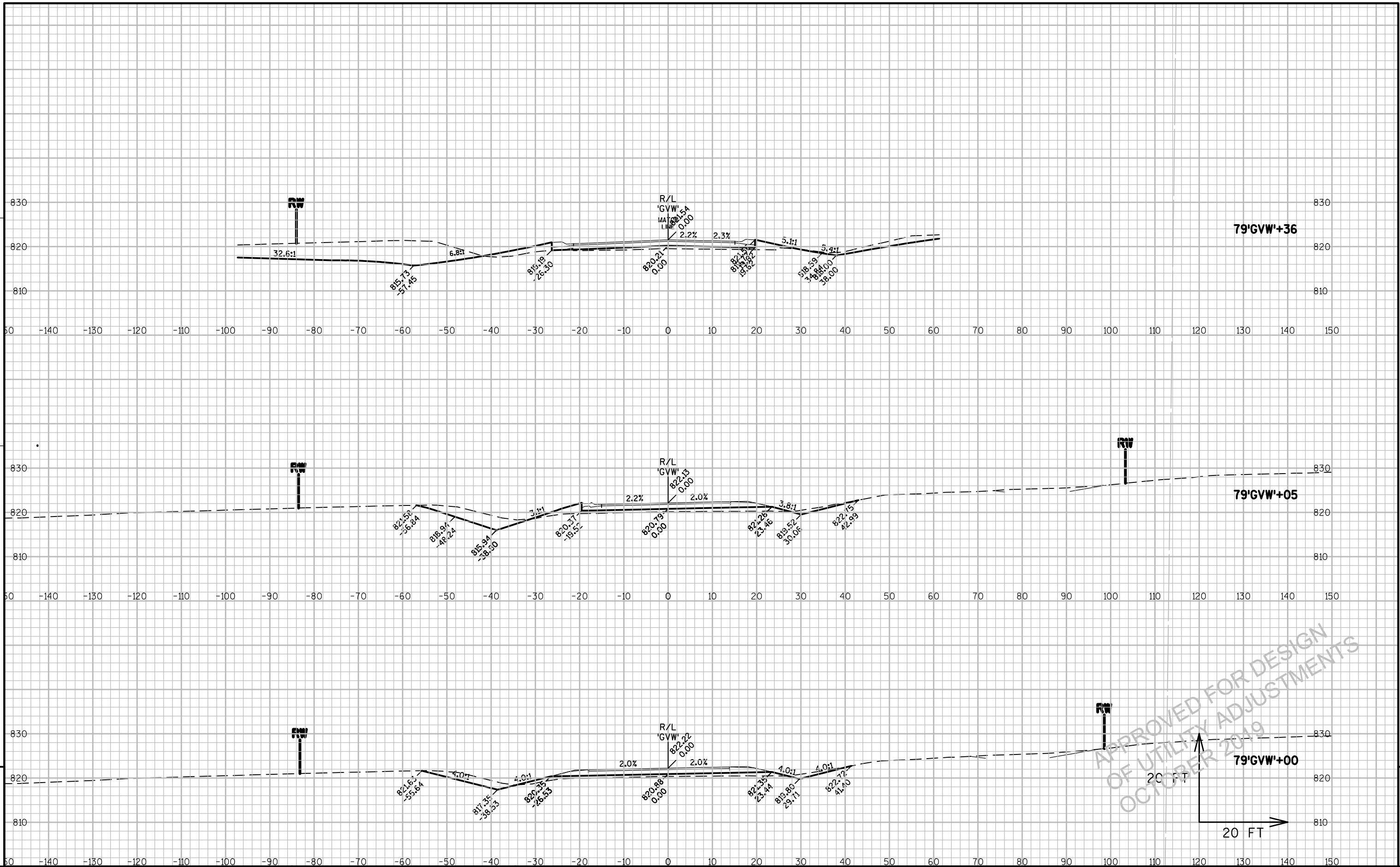


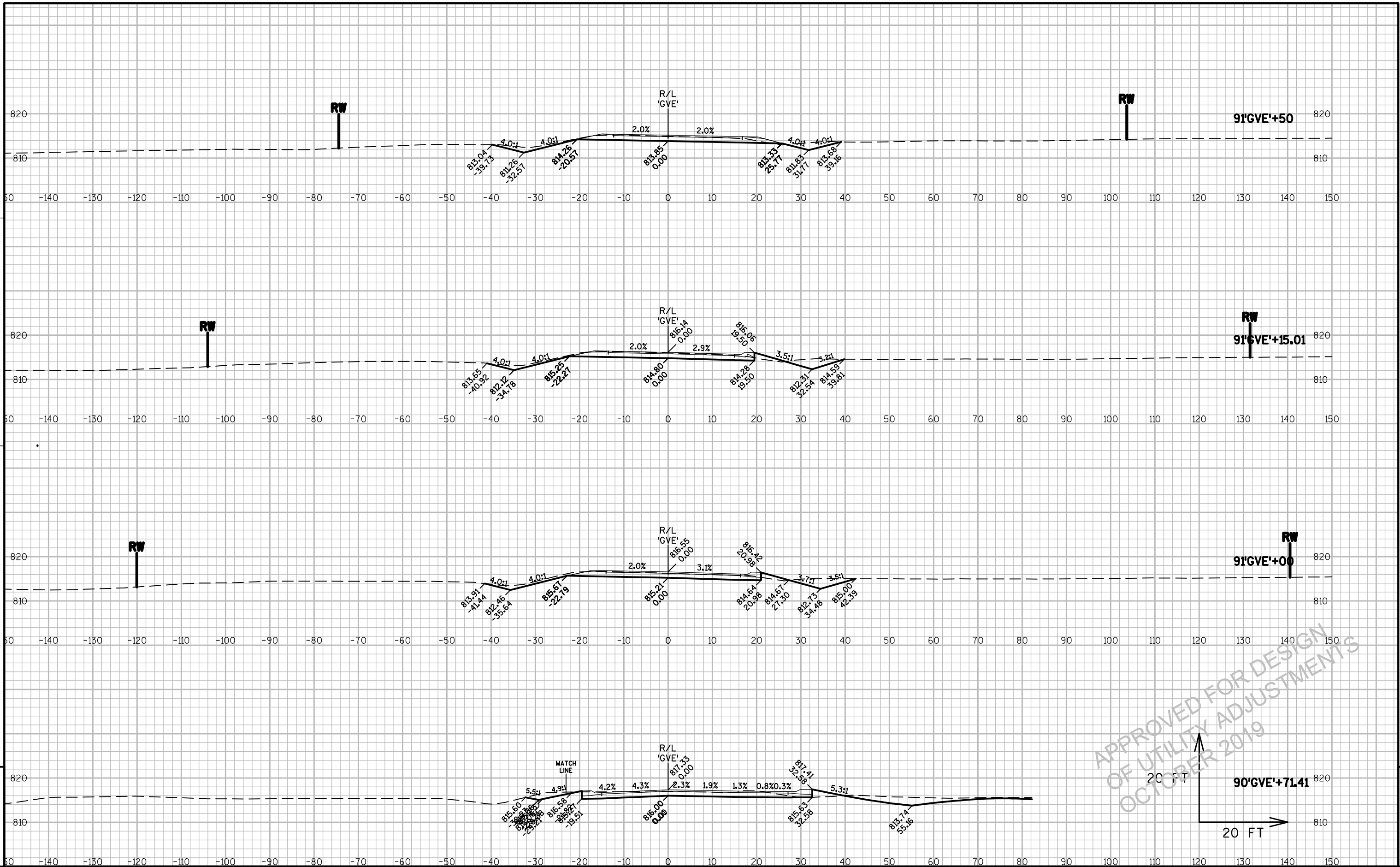






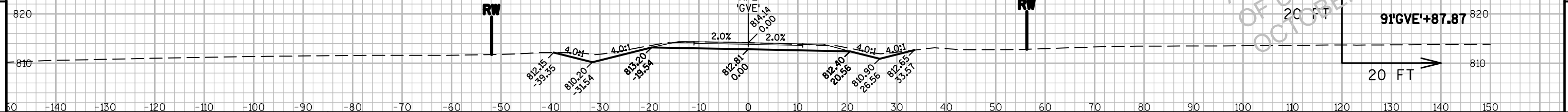
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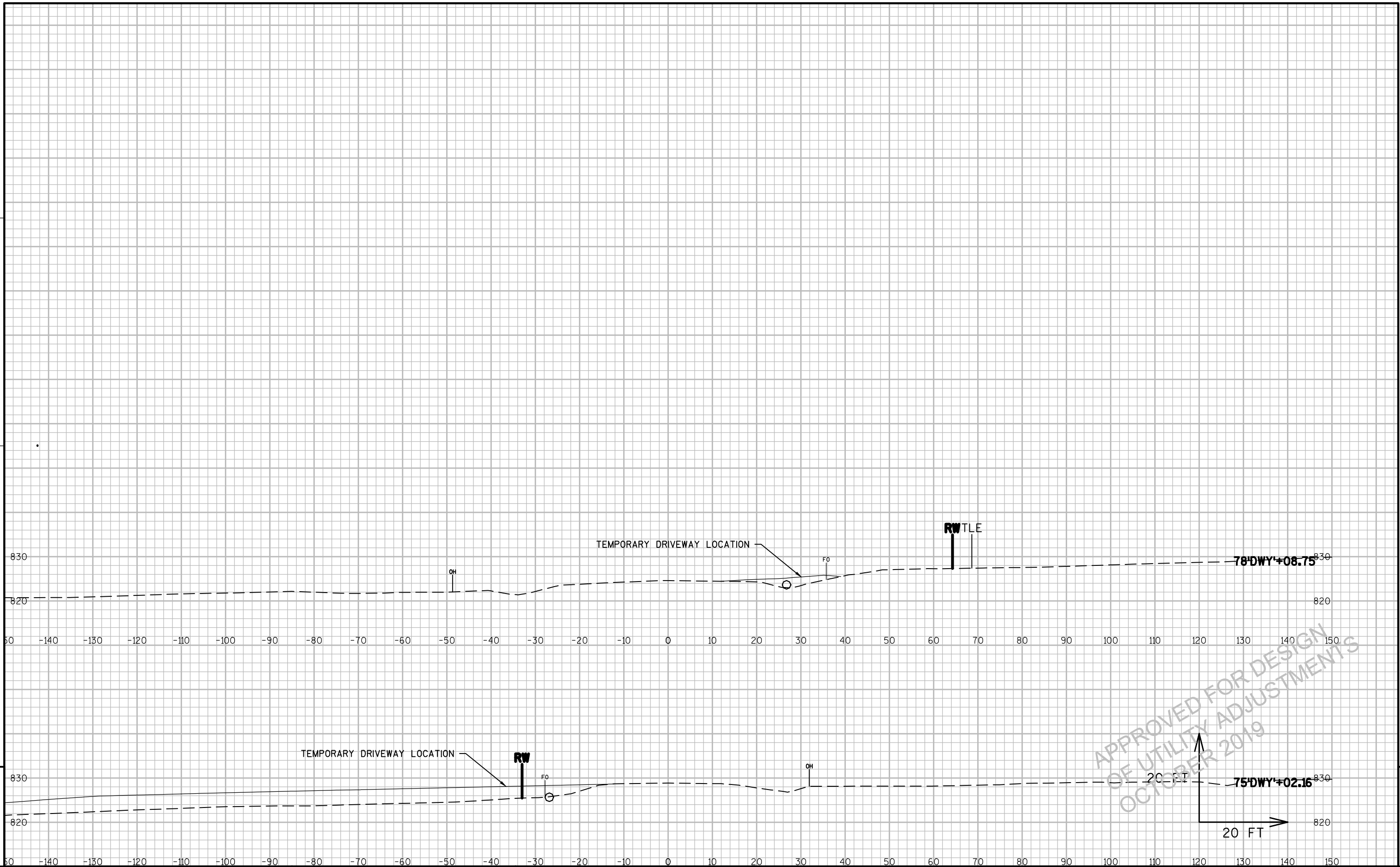


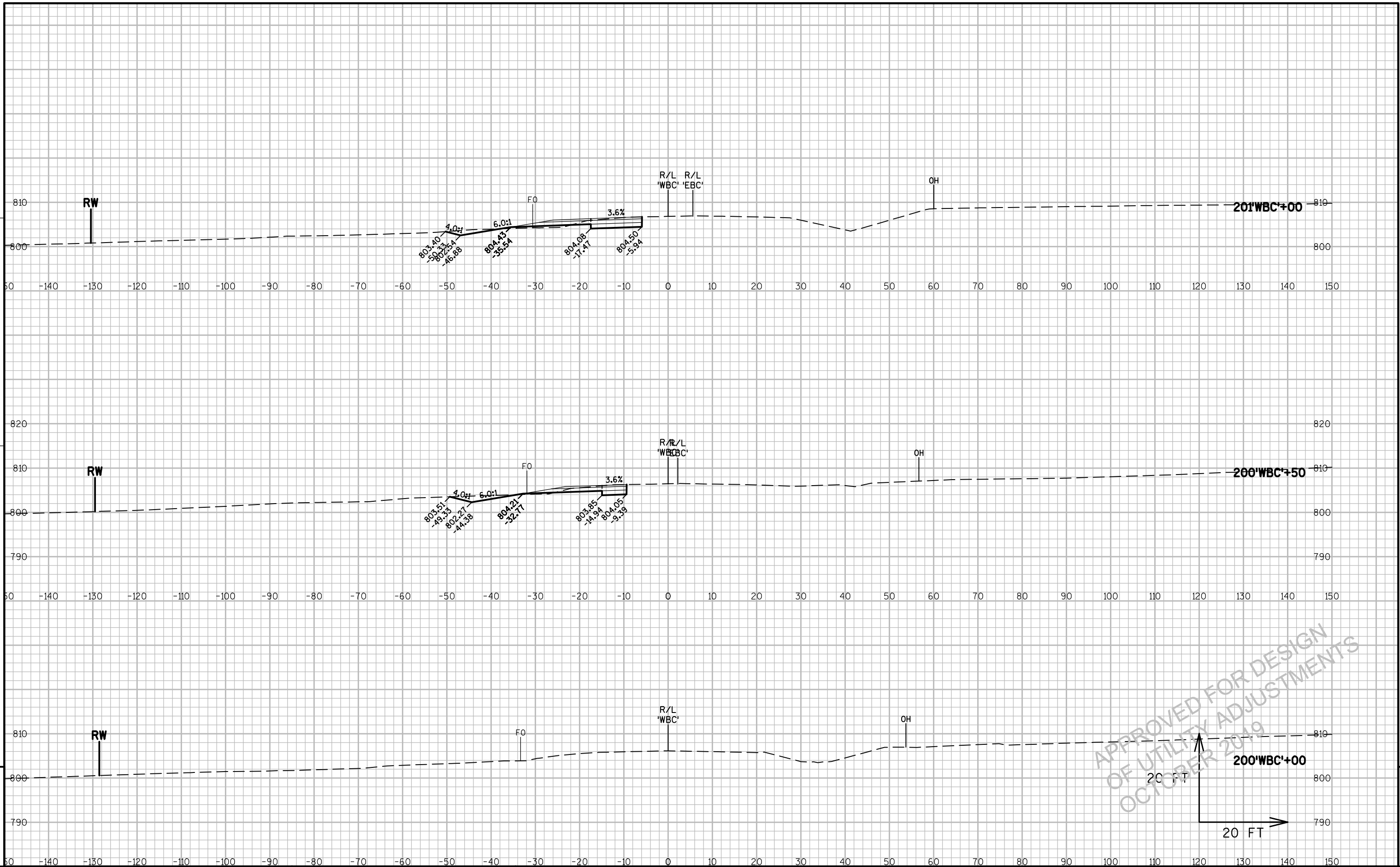
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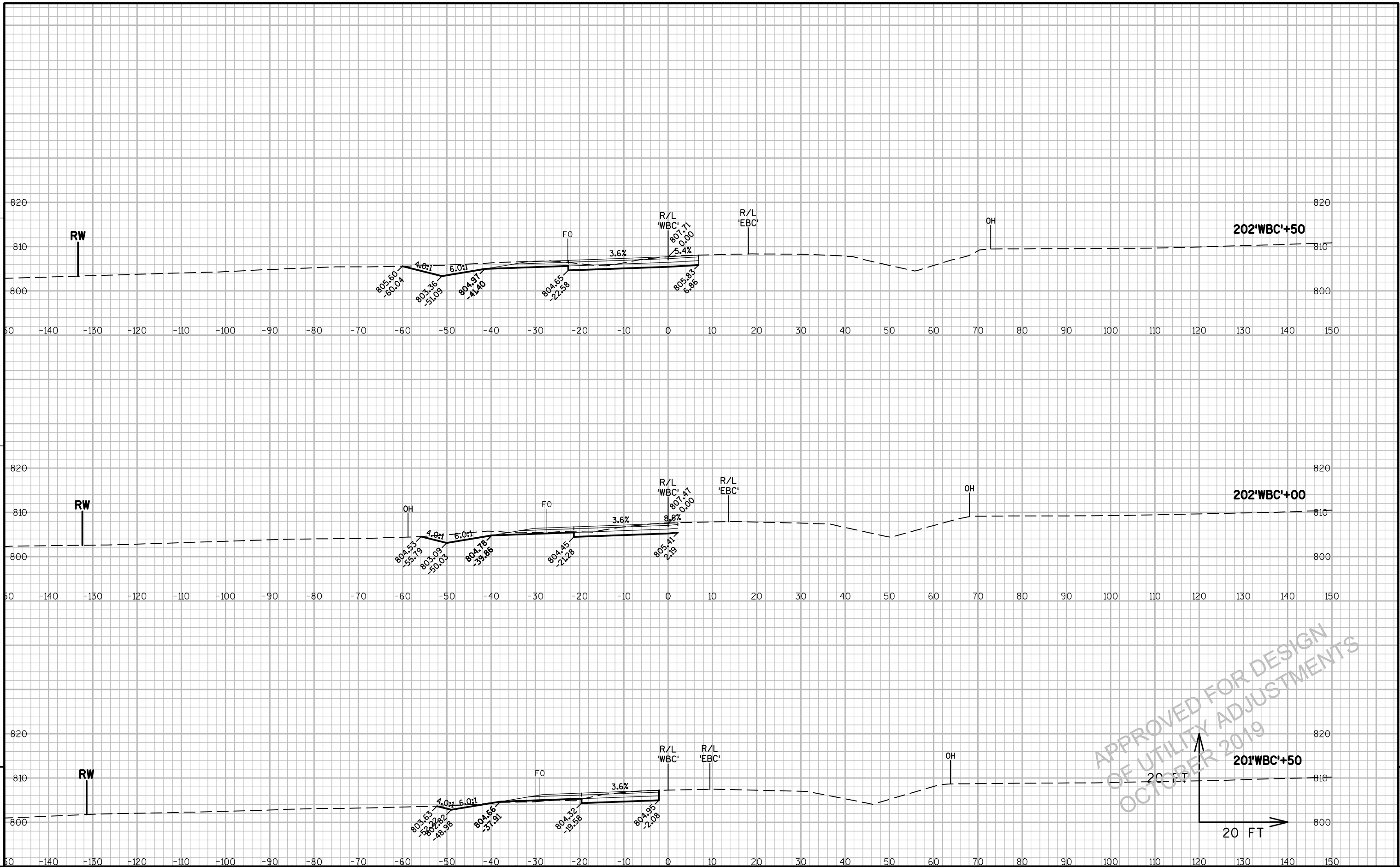
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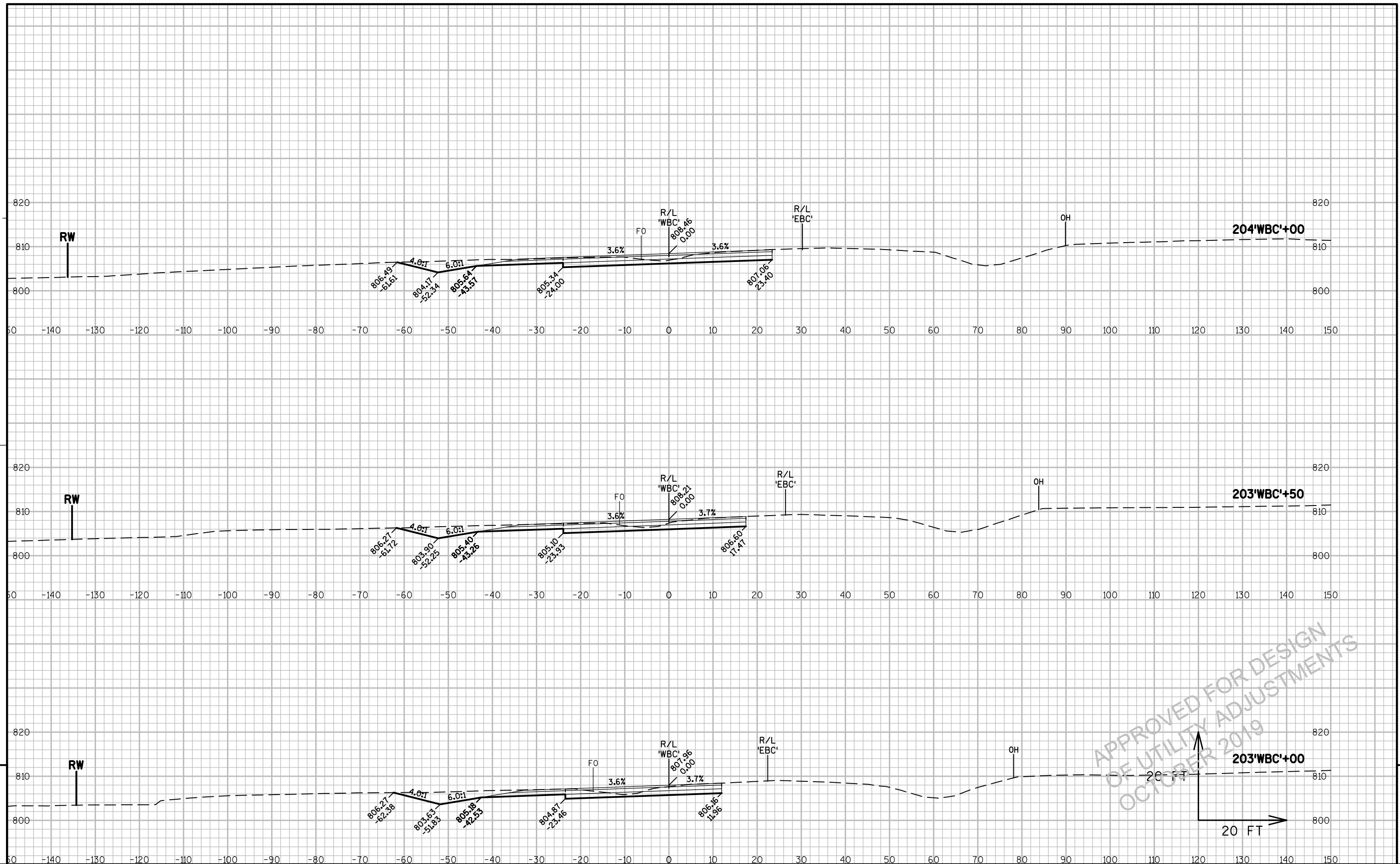


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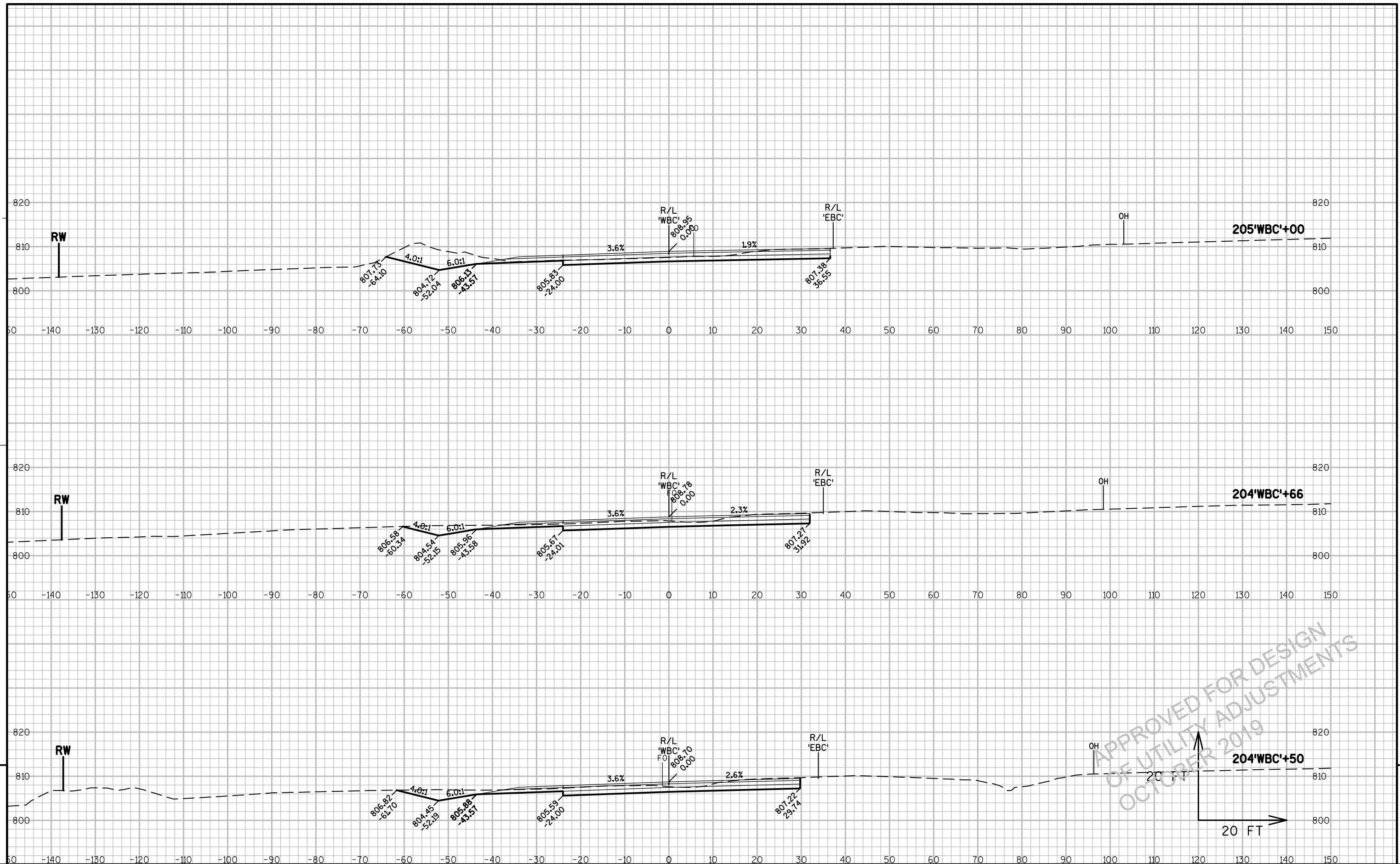


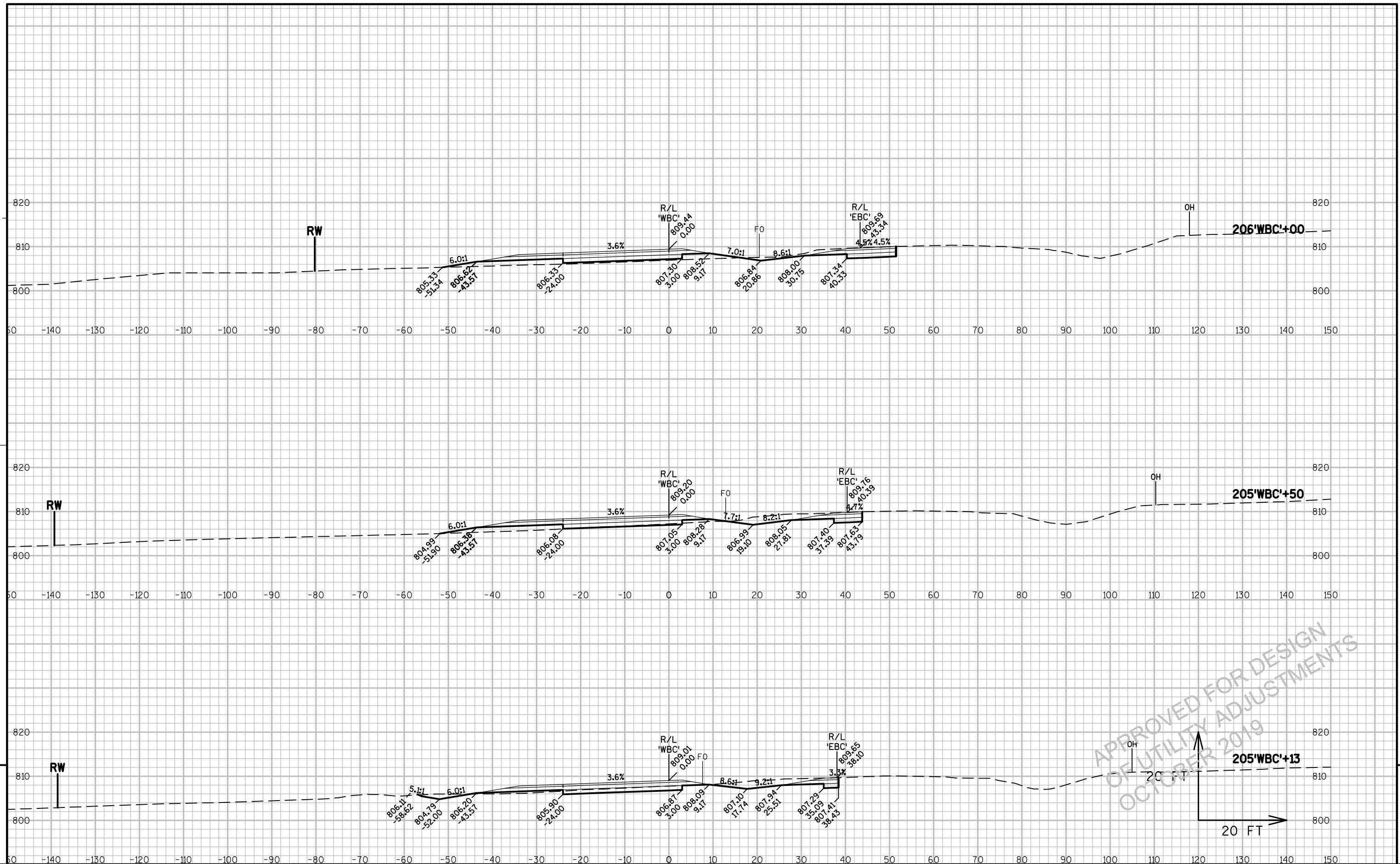




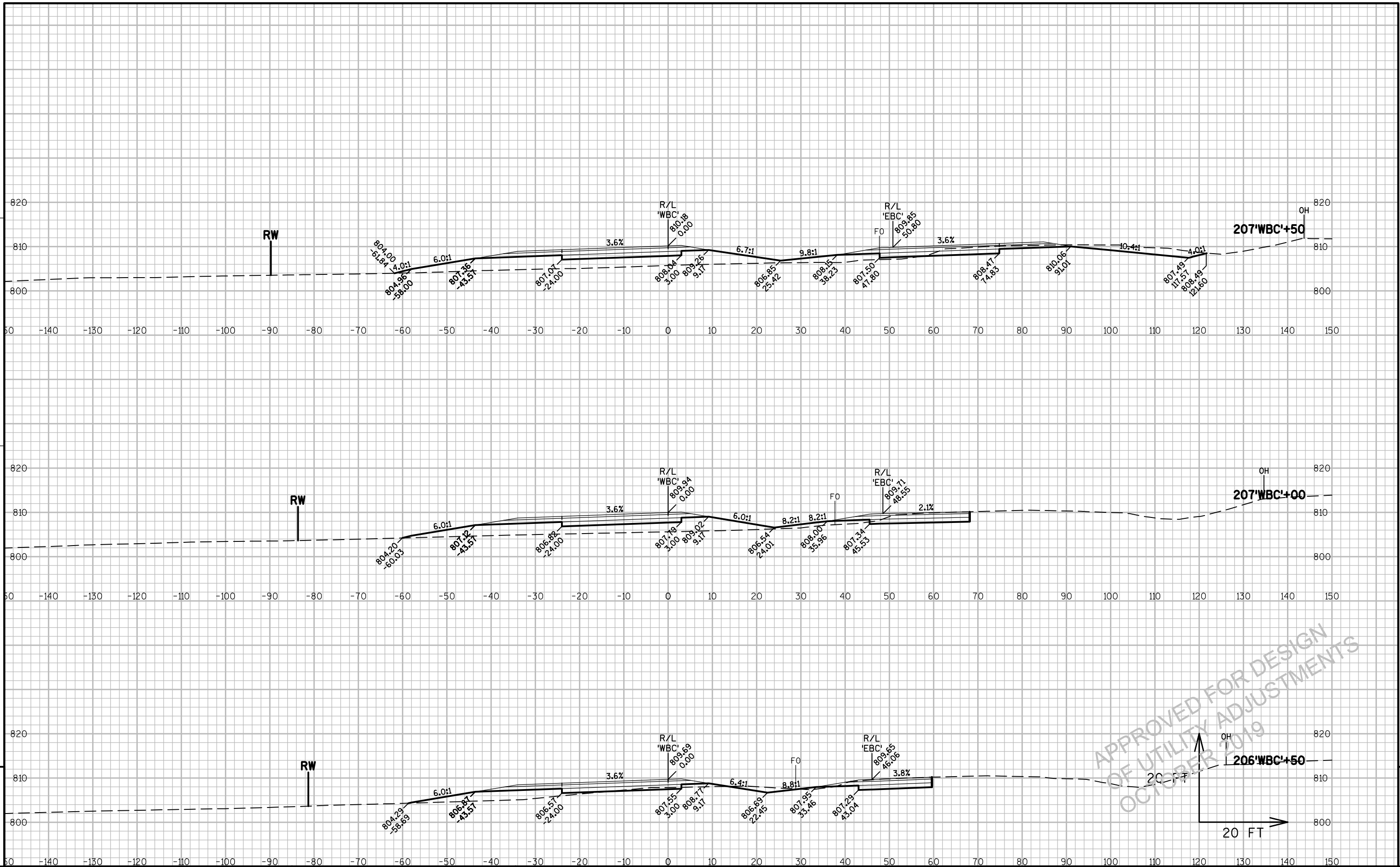


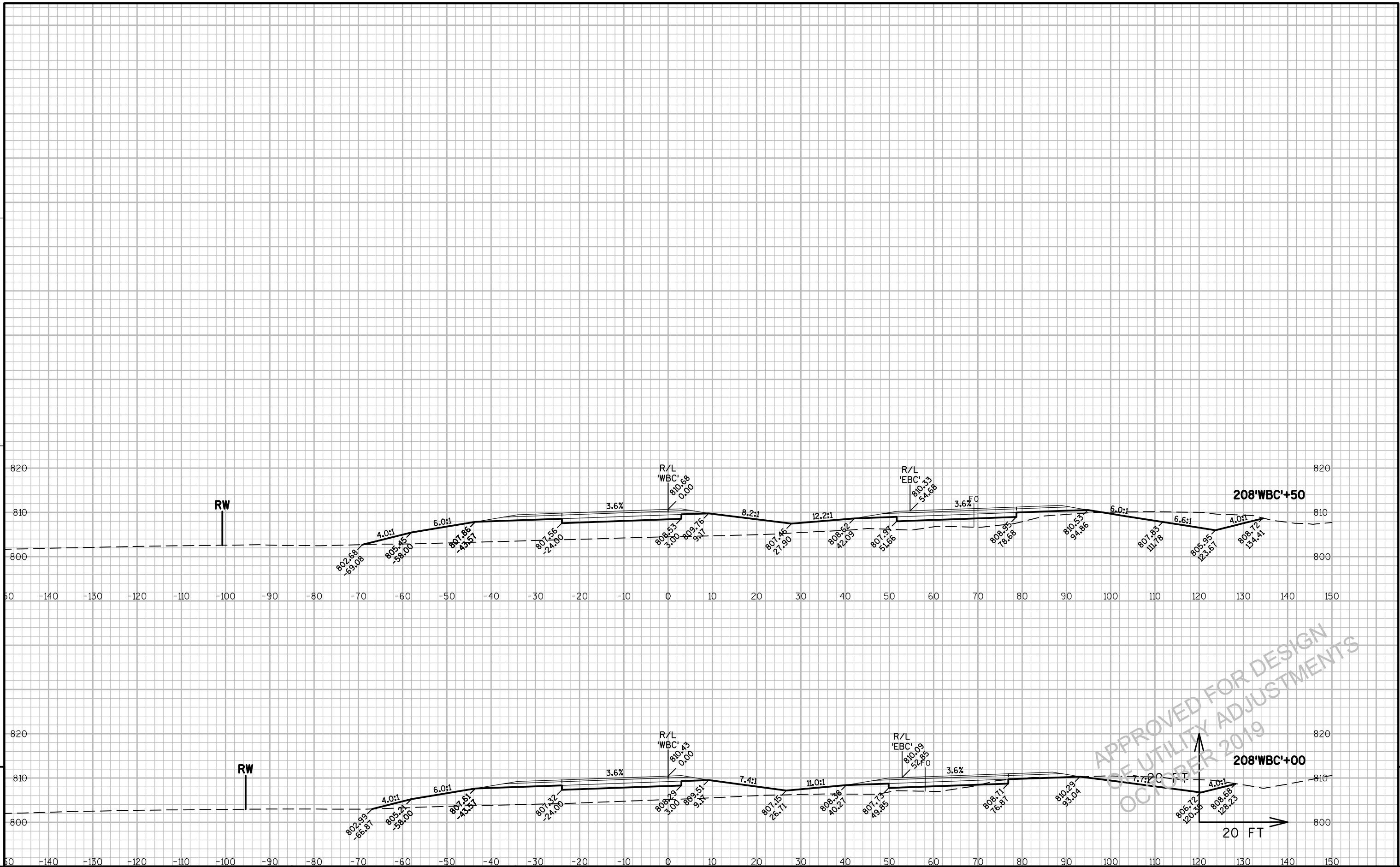
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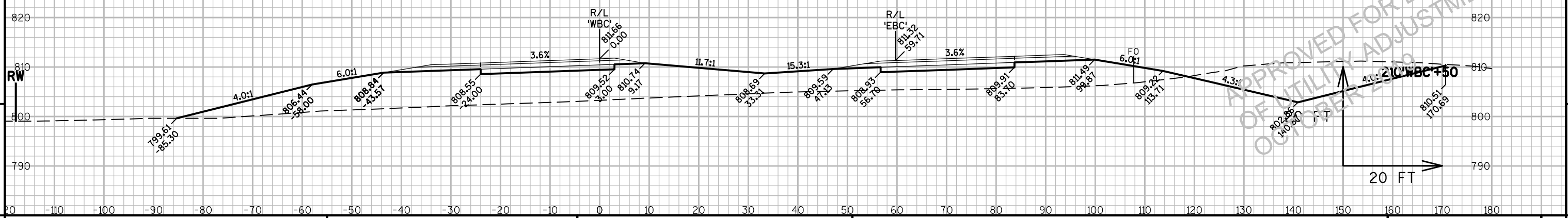
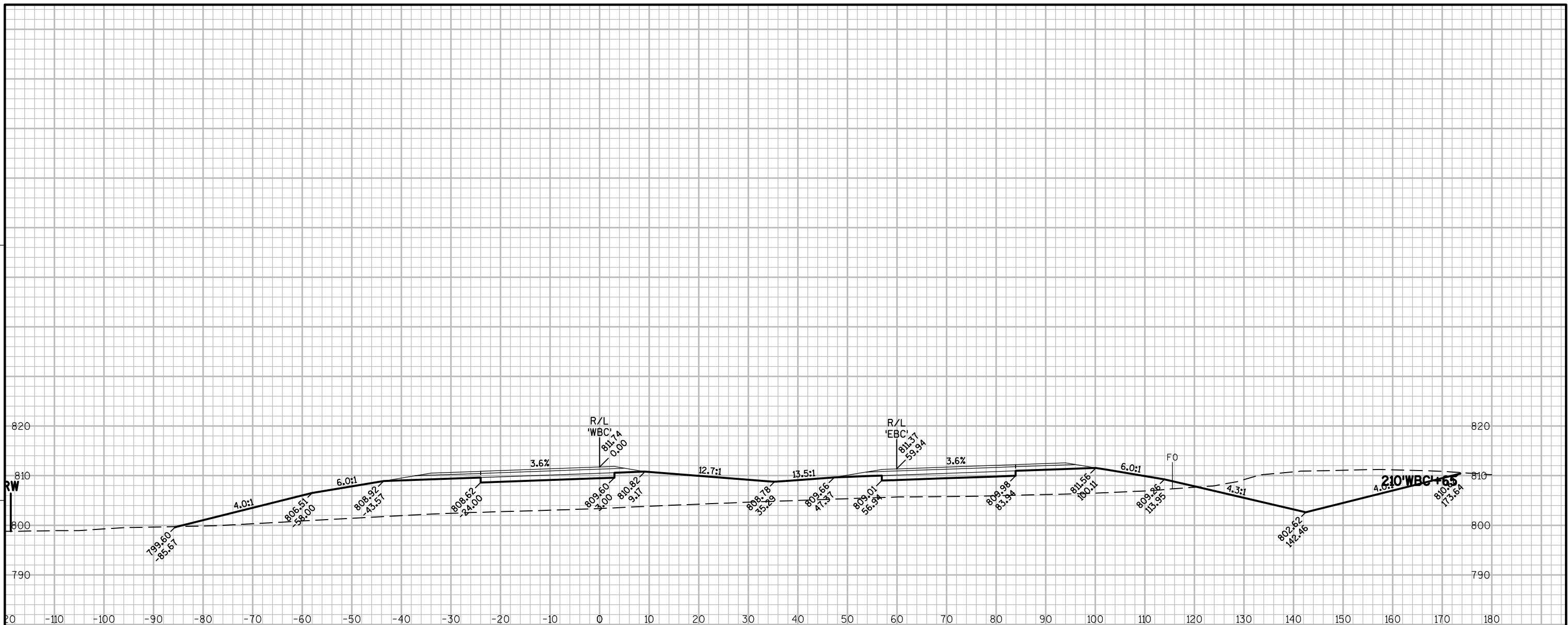




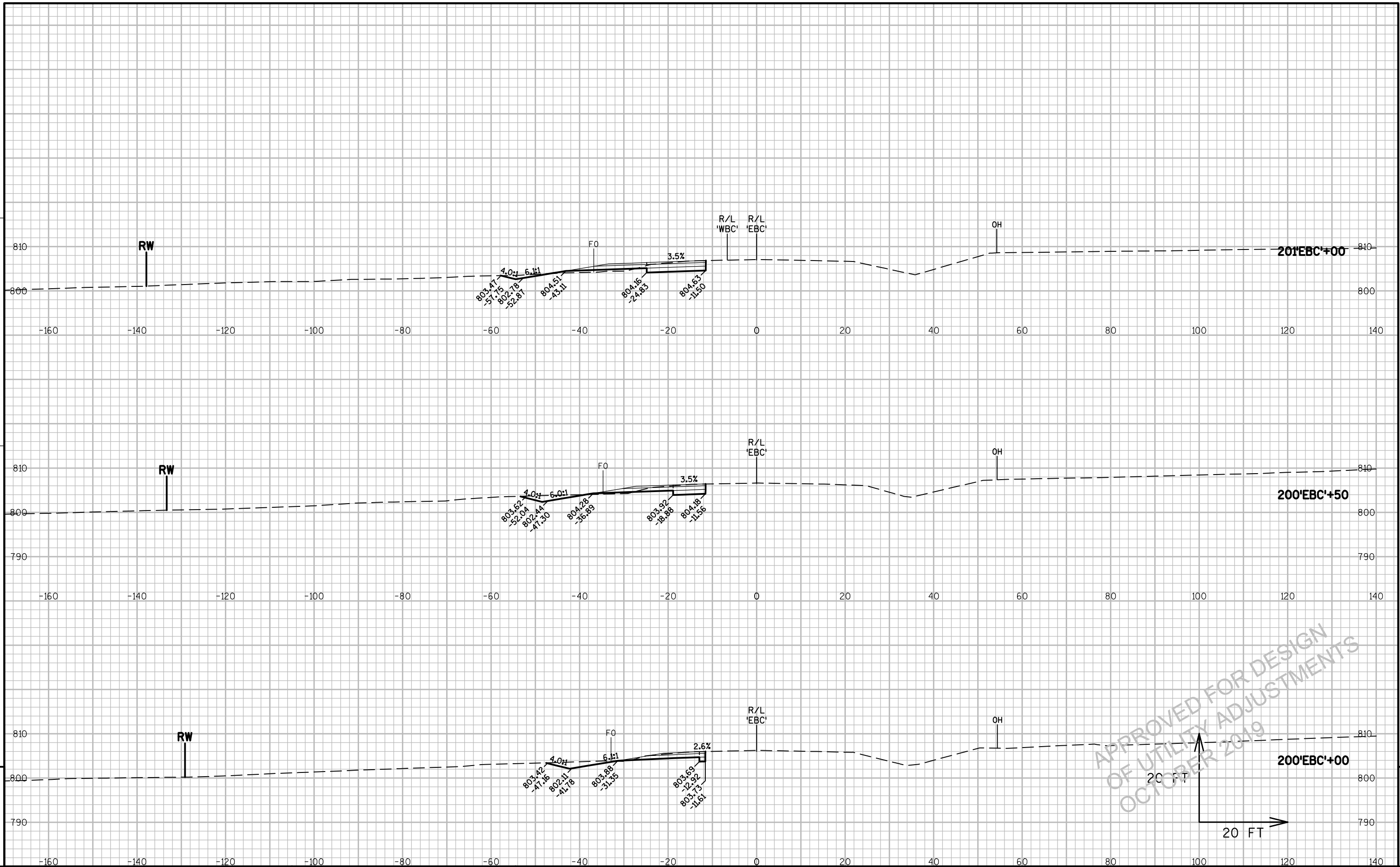
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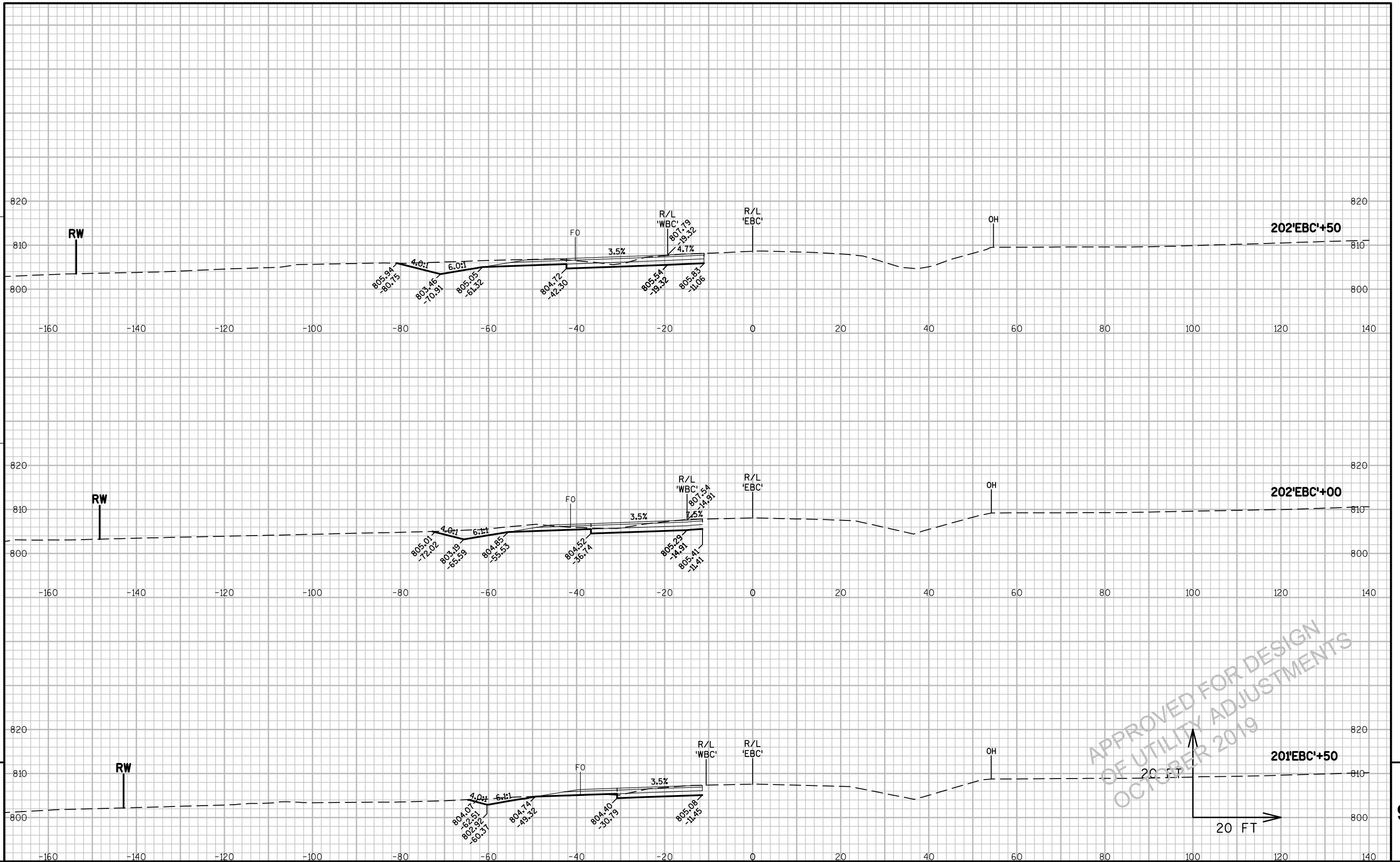




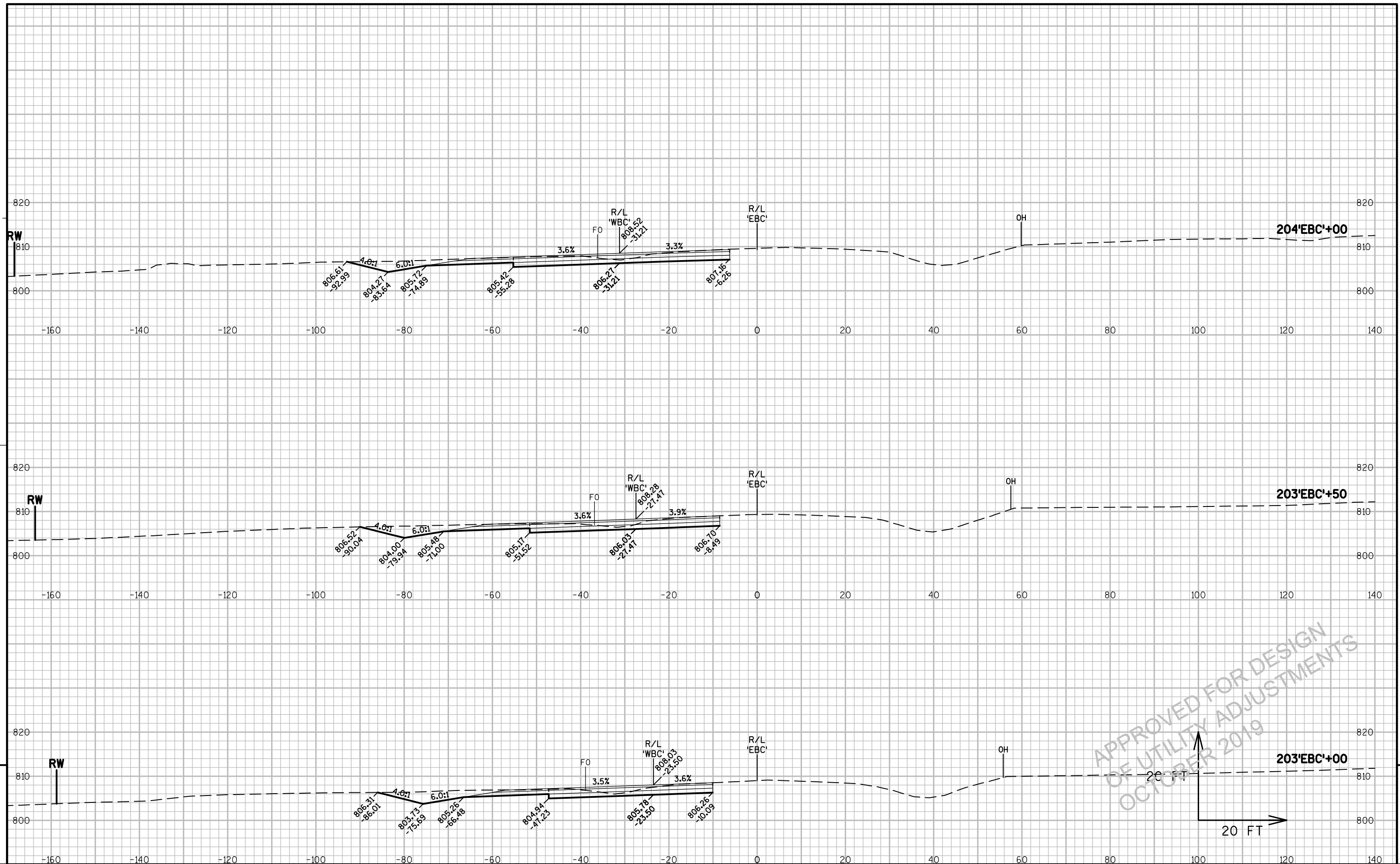


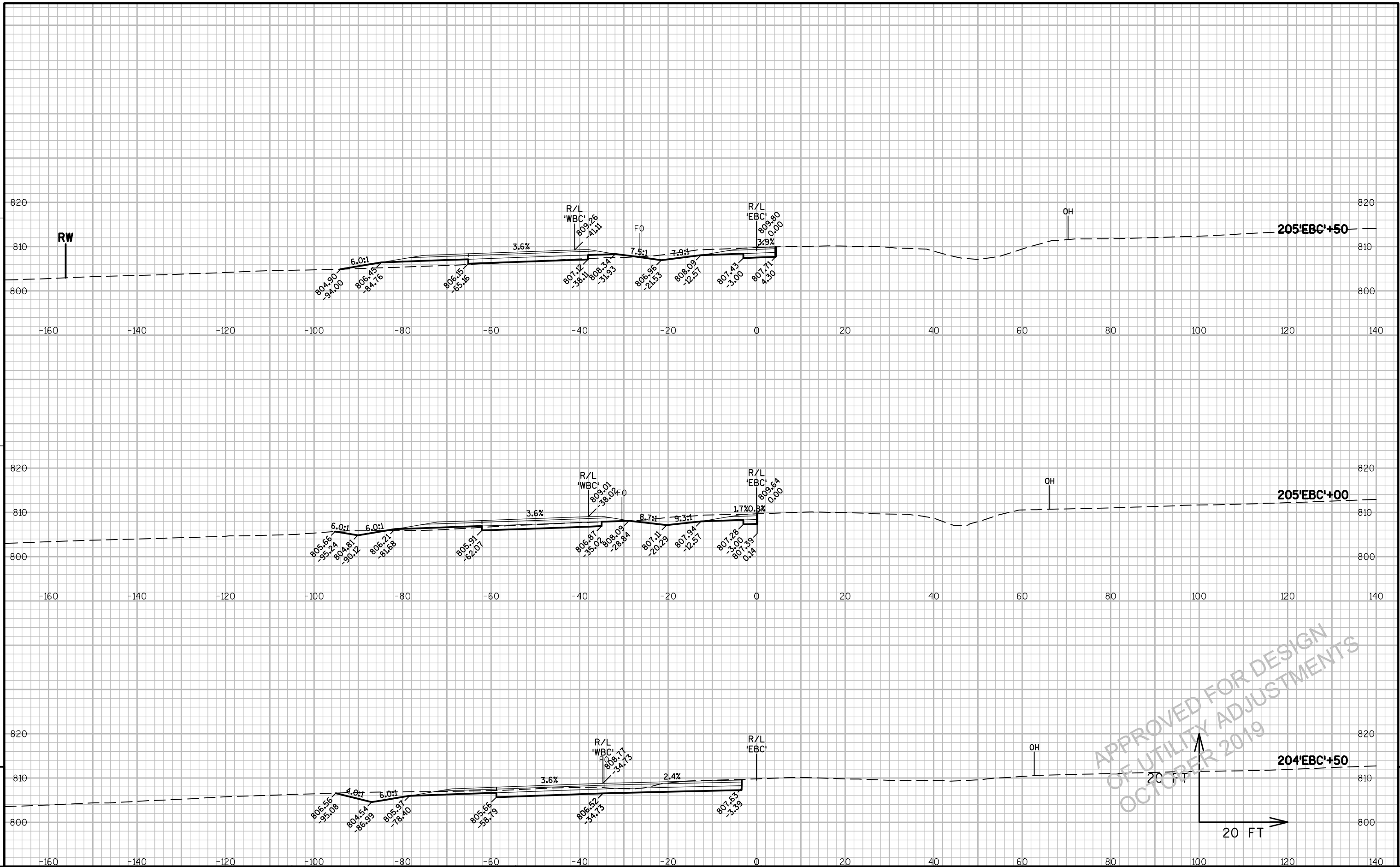
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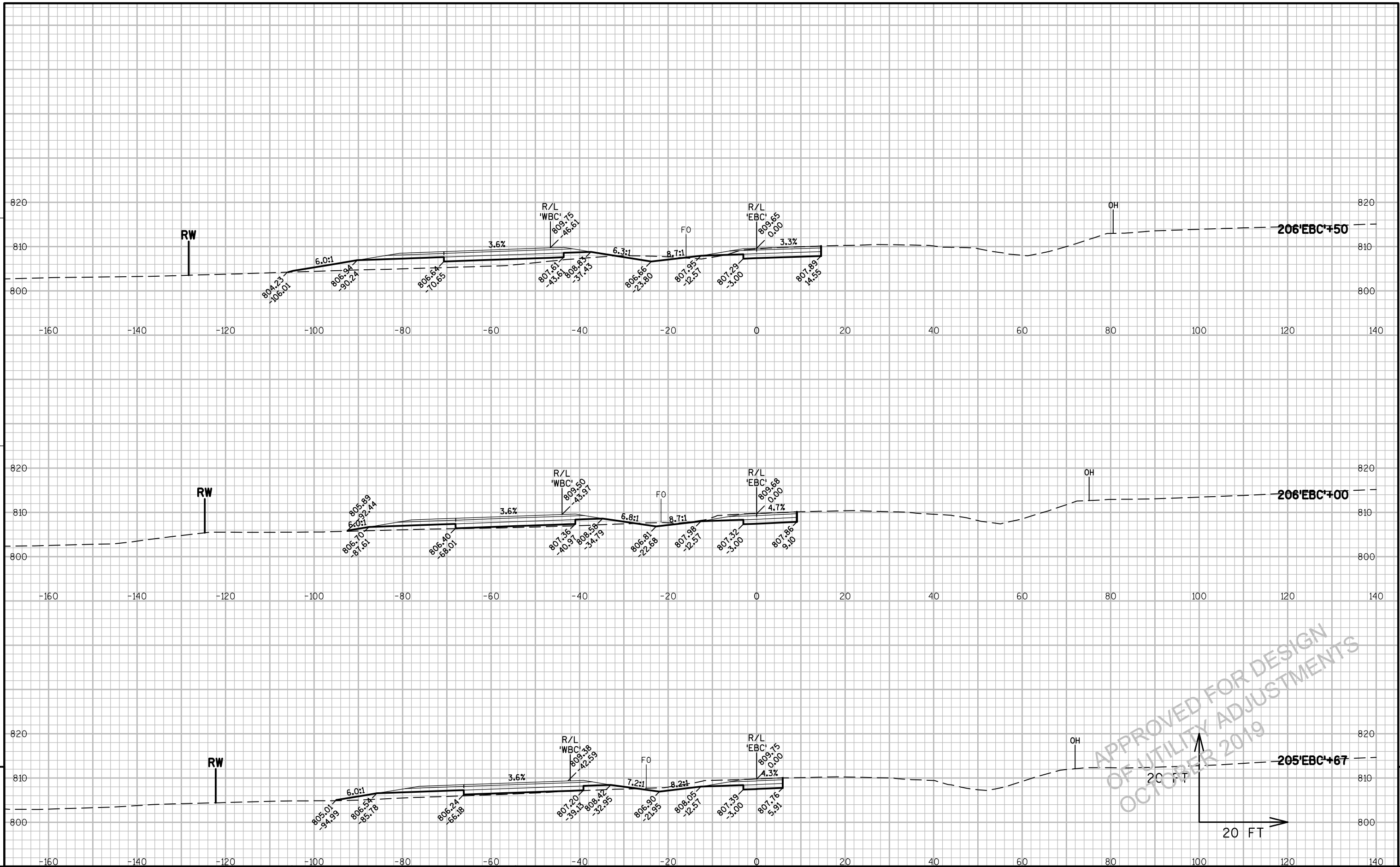


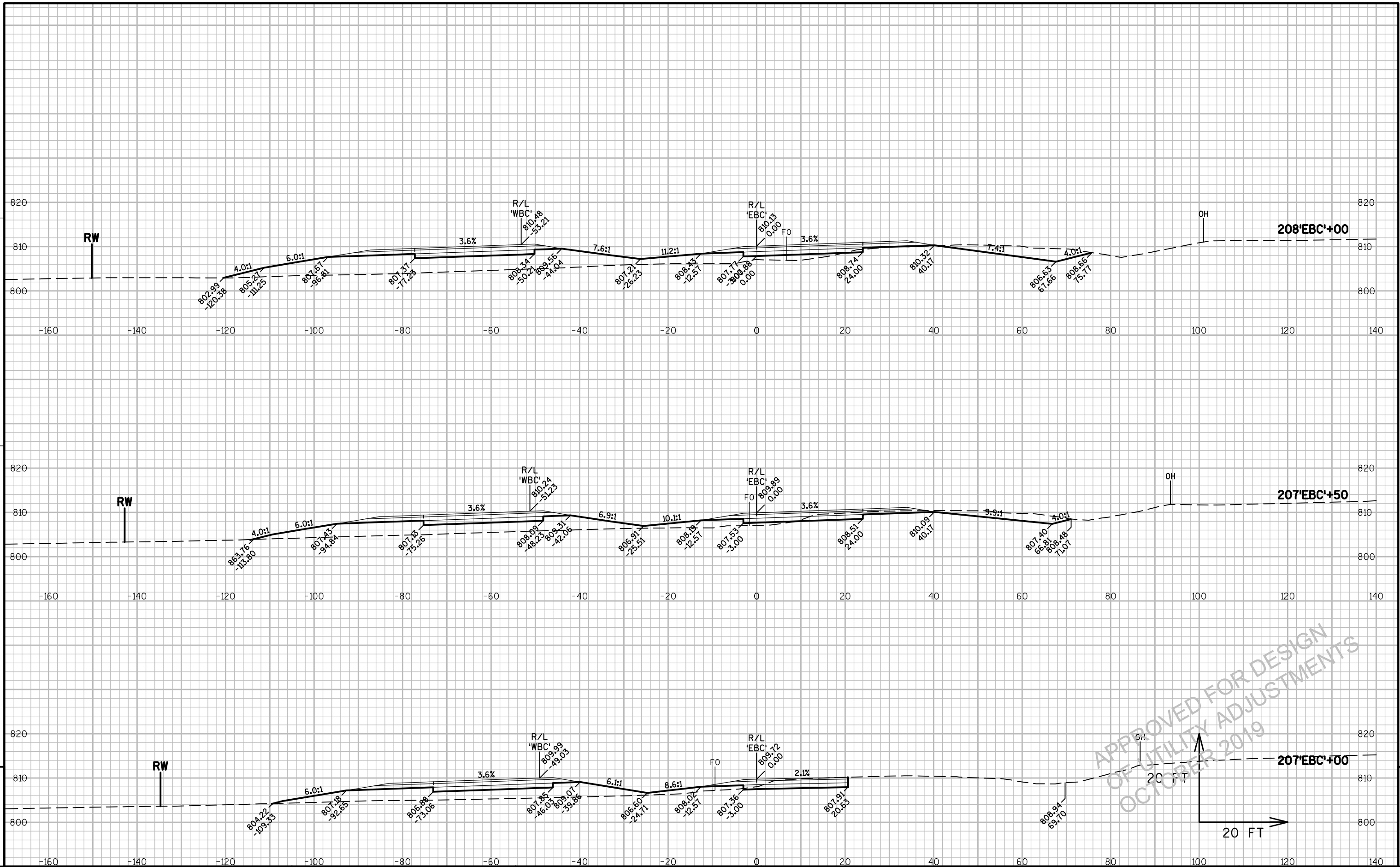


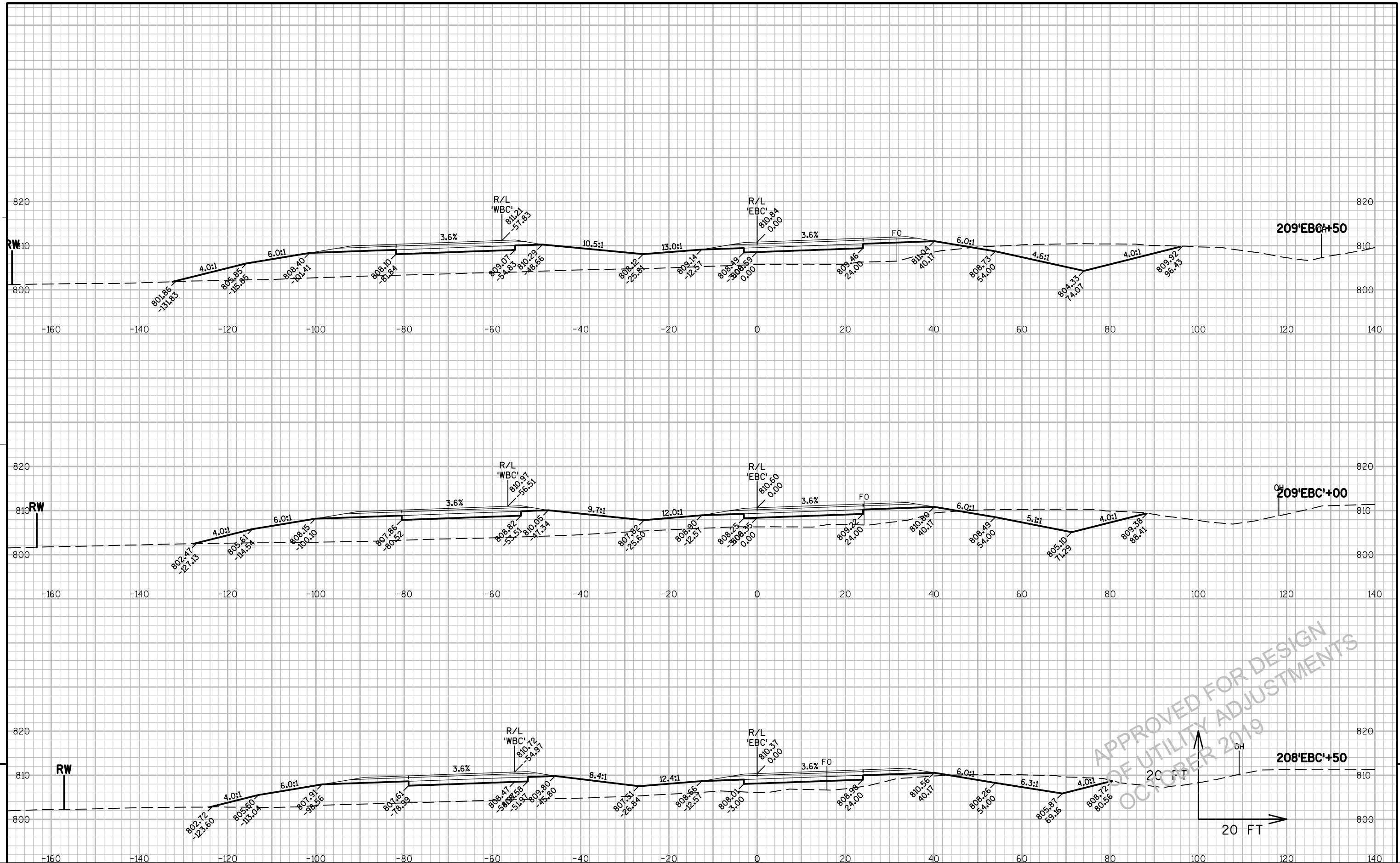
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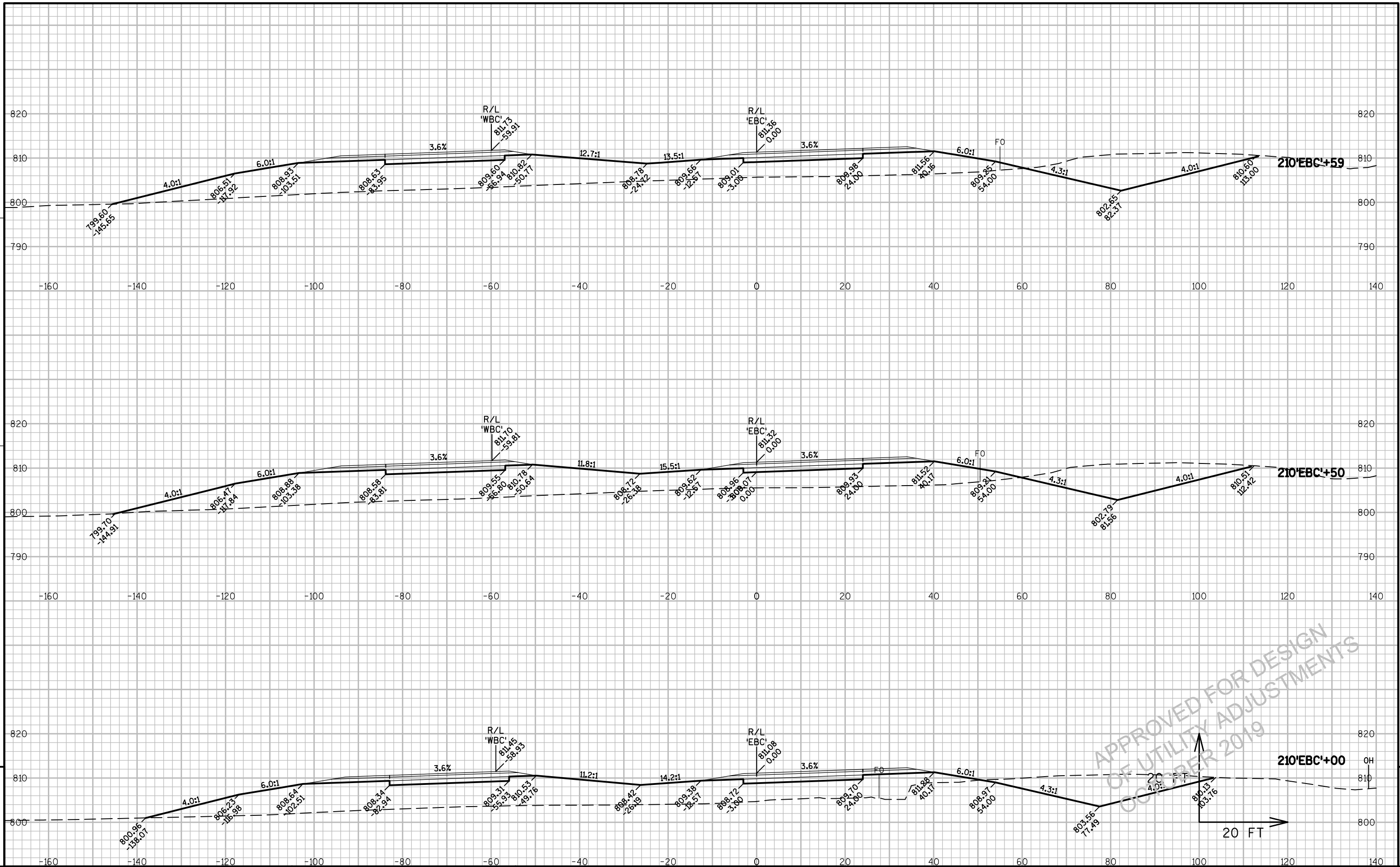












EPlans Preliminary Sheet Numbering Tool

Notes

- Acrobat 5 or higher is required to Insert Preliminary Sheet Numbers.
- The Bureau of Highway Construction Plan Examiner places sheet numbers in the final plan.
- This sheet is for placing preliminary sheet numbers with a “PRE_” prefix.
- If a plan contains multiple projects, number each plan individually.
- Leave this sheet in the plan.

TO ADD PRELIMINARY SHEET NUMBERS

- 1. Insert this sheet at the end of the plan**
 - a. With the plan open in Acrobat, select Document > Insert Pages.
 - b. In the Select File to Insert dialog box, select this file (Preliminary_Sheet_Numbers.pdf)
 - c. In the Insert dialog box, choose After for Location and Last page for Page.
 - d. Click OK.
- 2. Click the Place Preliminary Sheet Numbers button**
 - a. Go to the last sheet of the plan.
 - b. Click the Place Preliminary Sheet Numbers button once.
(The preliminary sheet number appears in the bottom right corner of the sheets.
The number should match the page number in the Acrobat Status bar).
- 3. Re-Save the PDF**
 - a. Select File > Save As and save the PDF.

TO REMOVE PRELIMINARY SHEET NUMBERS

STARTING PAGE NUMBER

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