GRE

JANUARY 2021

PROJECT ID: 4616-03-71

WITH: N/A

COUNTY: BROWN

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	2	Erosion Control
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 = 110

N

DESIGN DESIGNATION 4616-03-71

A.A.D.T. (2019)	=	2200
A.A.D.T. (2039)	=	2950
D.H.V. (K100, 2039)	=	350
D.D.	=	60/40
T. (DHV)	=	5.1
DESIGN SPEED	=	40 MPH
ESALS	=	340,000

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE		ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	
WOODED OR SHRUB AREA		POWER POLE	
		TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T WRIGHTSTOWN, CTH ZZ

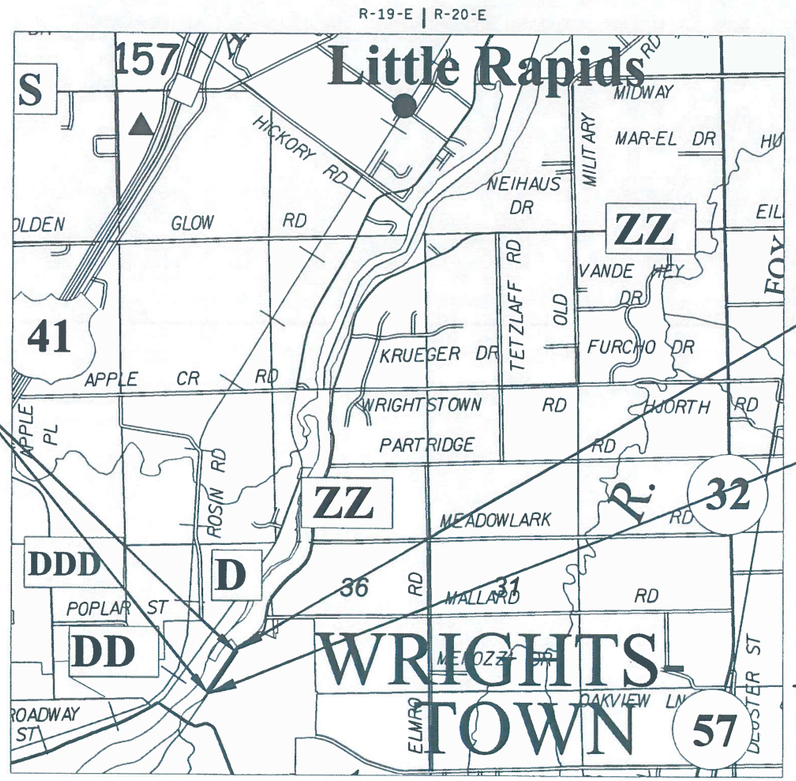
CLAY STREET - MALLARD ROAD

CTH ZZ

BROWN COUNTY

STATE PROJECT NUMBER
4616-03-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4616-03-71	WISC 2021092	1



LAYOUT

SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.393 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, BROWN COUNTY, NAD83 (YEAR), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ACCEPTED FOR
BROWN COUNTY, WISCONSIN

7-21-2020 (Date) Engineering Manager (Signature & Title of Official)

ORIGINAL PLANS PREPARED BY

OMNNI ASSOCIATES

WISCONSIN PROFESSIONAL ENGINEER
MARGARET A. HAWLEY
E-26879
MENASHA, WI

7/21/20 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	OMNNI ASSOCIATES, INC.
Designer	OMNNI ASSOCIATES, INC.
Project Manager	BRIAN EDWARDS, P.E.
Regional Examiner	NE REGION
Regional Supervisor	JAMES THOMPSON, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 7/21/2020 (Signature)

E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-010101-TI.DWG
LAYOUT NAME - 46160371-010101-TI

PLOT DATE : 7/21/2020 7:05 AM PLOT BY : ANDY WESTBROOK PLOT NAME :

GENERAL NOTES

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

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPERATELY.

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

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

ALL DISTURBED AREAS, NOT OTHERWISE SURFACED ARE TO BE TOPSOILED, SEEDED, FERTILIZED, AND MULCHED OR E-MATTED AS SHOWN IN THE PLAN.

DISTURBED AREAS ADJACENT TO LAWNS SHALL BE SEEDED WITH MIXTURE NO. 40 AND ALL OTHER AREAS SHALL BE SEEDED WITH MIXTURE NO. 10. SEED MIX NO. 30 SHALL BE USED WITHIN 15 FEET OF SHOULDER POINT IN RURAL SECTIONS THAT ARE NOT ADJACENT TO LAWN TYPE TURF.

SEED AND FERTILIZE TO TOP OF SHOULDER.

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

ALL MANHOLE AND INLET OFFSETS ARE GIVEN TO THE CENTER OF THE STRUCTURE. ALL ENDWALL OFFSETS ARE GIVEN TO THE END OF PIPE.

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL FIELD VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN WITH THE ENGINEER. THIS INCLUDES VERIFICATION OF INVERT ELEVATIONS AT ALL PROPOSED STORM SEWER CONNECTION POINTS TO EXISTING SYSTEMS.

WETLAND AREAS ARE SHOWN ON THE PLANS, CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO WORK WITHIN THE SLOPE INTERCEPTS IN THE WETLAND AREAS.

NON PAVED DRIVEWAYS SHALL CONSIST OF 6" OF BASE AGGREGATE DENSE. RESIDENTIAL ASPAHLTIC DRIVEWAYS SHALL CONSIST OF 6" BASE AGGREGATE DENSE AND 3" OF ASPHALTIC PAVEMENT.

FERTILIZER SHALL NOT BE USED WITHIN 10 FEET OF NAVIGABLE WATERWAYS AND WETLANDS.

UTILITIES

CONTACTS

ELECTRIC & GAS

WISCONSIN PUBLIC SERVICE CORPORATION
2850 SOUTH ASHLAND AVENUE
PO BOX 19001
GREEN BAY, WI 54307-9001
ATTN: RANDY STEIER (ELECTRIC)
TELEPHONE: (920) 617-5167
CELL: (920) 655-1596
EMAIL: randy.steier@wisconsinpublicservice.com

ATTN: BOB LASKOWSKI (GAS)
TELEPHONE: (920) 617-2775
CELL: (920) 676-2717
EMAIL: RTLaskowski@wisconsinpublicservice.com

SEWER/WATER

VILLAGE OF WRIGHTSTOWN
352 HIGH STREET
WRIGHTSTOWN, WI 54180
ATTN: ANDREW VICKMAN
TELEPHONE: (920) 532-0434
CELL: (920) 362-2468
EMAIL: avickman@wrightstown.us

COMMUNICATION

US SIGNAL/TURN KEY NETWORK SOLUTIONS
1806 HAGEMANN DRIVE
BATAVIA, IL 60510
ATTN: ROB FISHER
TELEPHONE: (616) 862-5319
CELL: (616) 862-7102
EMAIL: rfisher@tkns.net

COMMUNICATION

CHARTER COMMUNICATION
3520 EAST DESTINATION DRIVE
APPLETON, WI 54915
ATTN: VINCE ALBIN
TELEPHONE: (920) 831-9248
CELL : (920) 749-1154
EMAIL: vince.albin@charter.com

UTILITIES

CONTACTS

COMMUNICATION

AT&T
205 S. JEFFERSON STREET
GREEN BAY, WI 54301
ATTN: JOE KASSAB
OFFICE: (920) 433-4200
CELL PHONE: (920)202-4002
EMAIL: joseph.kassab@att.com

COMMUNICATION

NETLEC
1700 INDUSTRIAL DRIVE
GREEN BAY, WI 54302
ATTN: DENNIS LAFAVE
TELEPHONE: 920-619-9774
EMAIL: dlafave@mi-tech.us

OTHER CONTACTS

BROWN COUNTY

NICK UITENBROEK
2198 GLENDALE AVENUE
GREEN BAY, WI 54303
TELEPHONE: (920) 662-2152
EMAIL: uitenbroek_ns@co.brown.wi.us

DNR LIAISON

JIM DOPERALSKI
DEPARTMENT OF NATURAL RESOURCES
2984 SHAWANO AVENUE
GREEN BAY, WI 54307-0448
TELEPHONE: (920) 662-5119
EMAIL: james.doperalski@wisconsin.gov

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

EROSION CONTROL NOTES

RUNOFF COEFFICIENTS FOR THIS PROJECT: EXISTING PAVEMENT 0.95, EXISTING SLOPES 0.30, NEW PAVEMENT 0.95, NEW SLOPES 0.30.

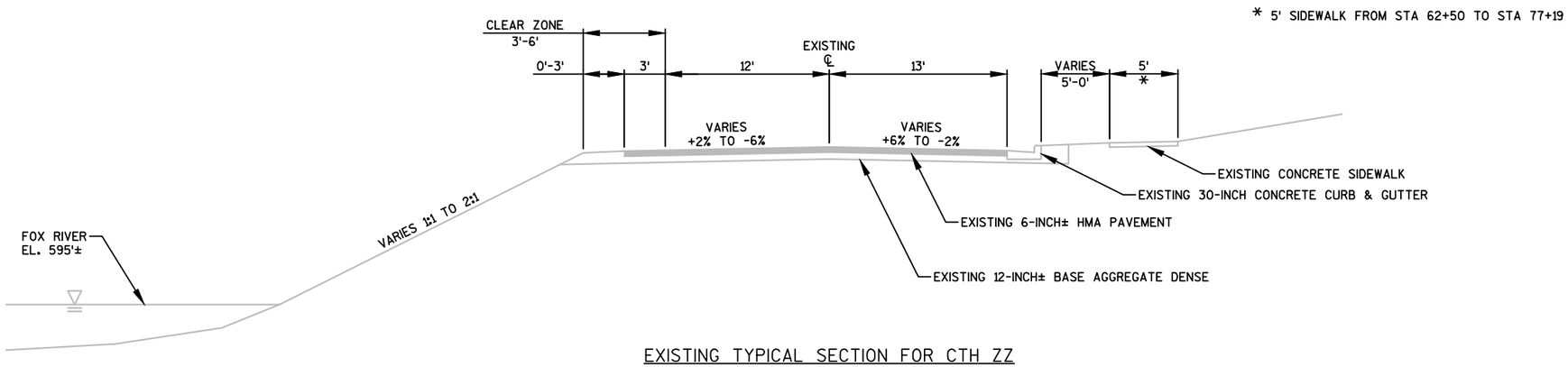
TOTAL PROJECT AREA = 3.90 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.62 ACRES

ORDER OF "SECTION 2" SHEETS

SHEET TITLE

GENERAL NOTES
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PAVING DETAILS
EROSION CONTROL
STORM SEWER
SIGNING AND PAVEMENT MARKING
TRAFFIC CONTROL
ALIGNMENT DIAGRAM
SUPER ELEVATION TABLE

2



* 5' SIDEWALK FROM STA 62+50 TO STA 77+19

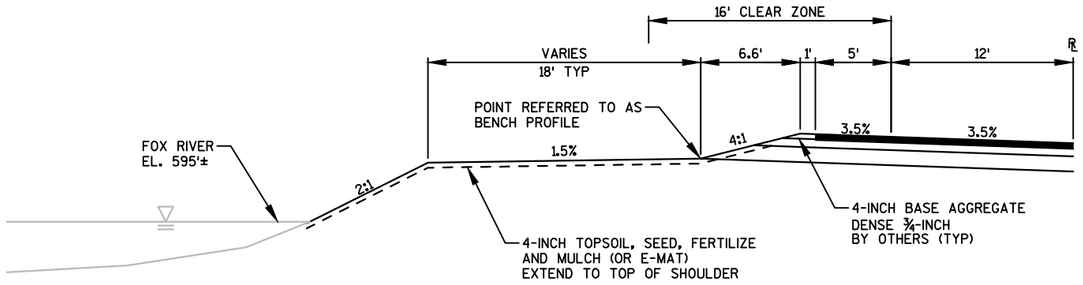
EXISTING TYPICAL SECTION FOR CTH ZZ

STA 62+75 TO STA 83+50

PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	TYPICAL SECTIONS	SHEET 3 E

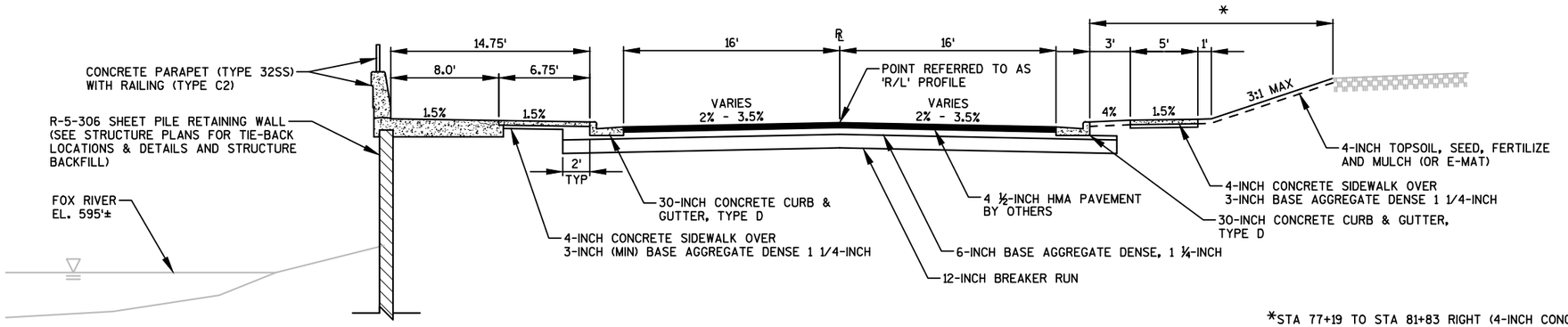
FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-020300-TS.DWG
LAYOUT NAME - ****
PLOT DATE : 2/21/2020 9:44 AM
PLOT BY : OMNNI ASSOCIATES - ANDY WESTBROOK
PLOT SCALE : **********
WISDOT/CADDS SHEET 42

2



FINISHED TYPICAL SECTION FOR CTH ZZ

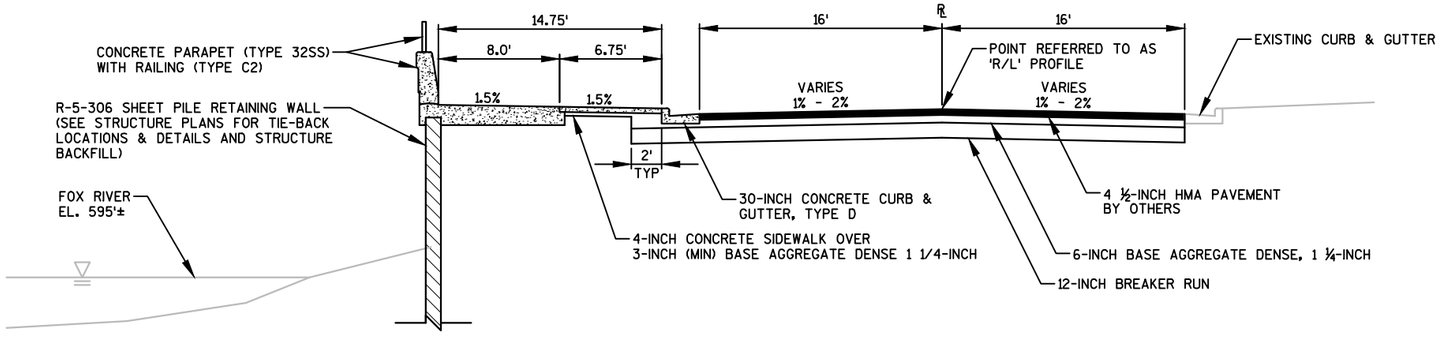
STA 83+00 TO STA 83+50 LEFT



*STA 77+19 TO STA 81+83 RIGHT (4-INCH CONCRETE SIDEWALK)

FINISHED TYPICAL SECTION FOR CTH ZZ

STA 77+19 TO STA 83+50 RIGHT
STA 77+19 TO STA 83+00 LEFT

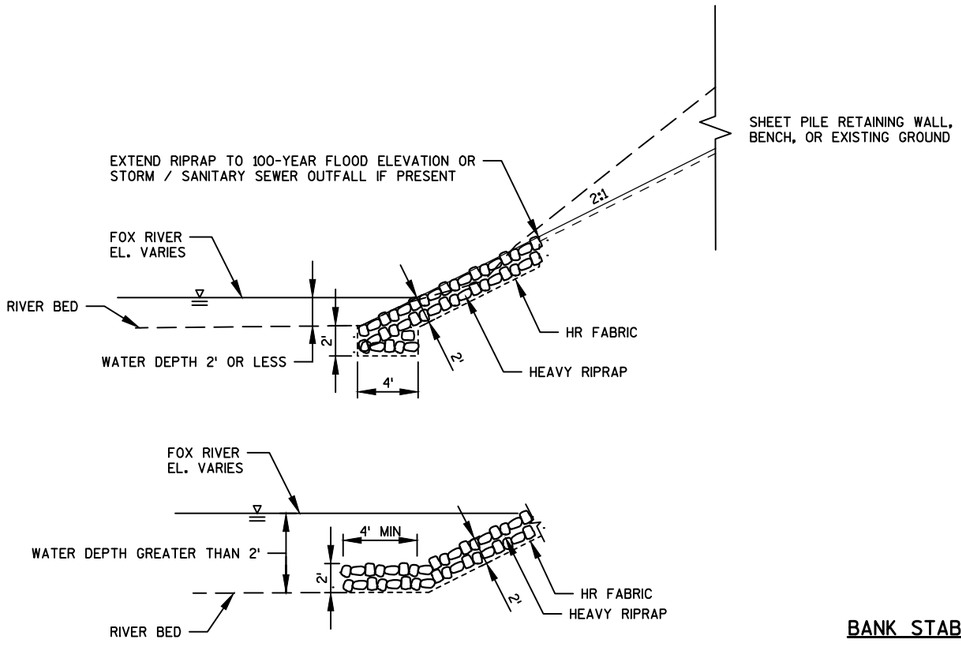


FINISHED TYPICAL SECTION FOR CTH ZZ

STA 62+75 TO STA 77+19 LEFT
STA 64+29 TO STA 77+19 RIGHT

PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	TYPICAL SECTIONS	SHEET 4	E

2

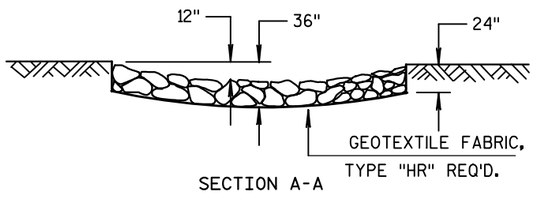


ALTERNATE TOE DETAIL FOR WATER DEPTHS GREATER THAN 2'

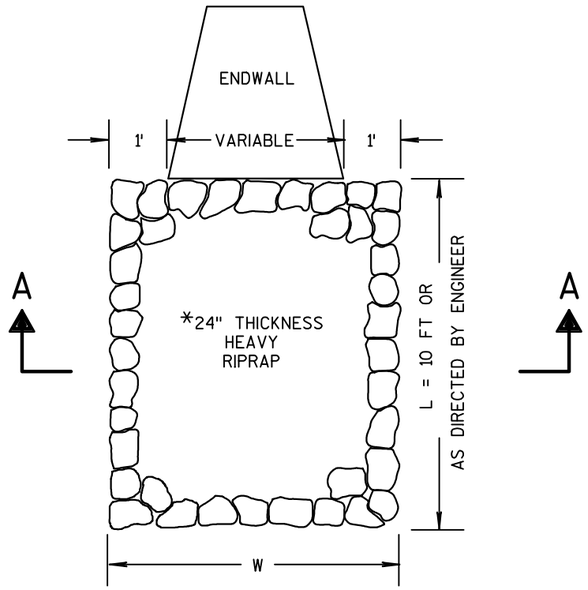
BANK STABILIZATION LOCATIONS			
STATION RANGE	ORDINARY HIGH WATER ELEVATION	100-YEAR FLOOD ELEVATION	COMMENT
76+02	596.8	601.2	SANITARY SEWER OUTAFLL
83+12	596.7	601.1	STORM SEWER OUTFALL

FINAL LIMITS TO BE APPROVED BY THE ENGINEER IN THE FIELD

BANK STABILZATION

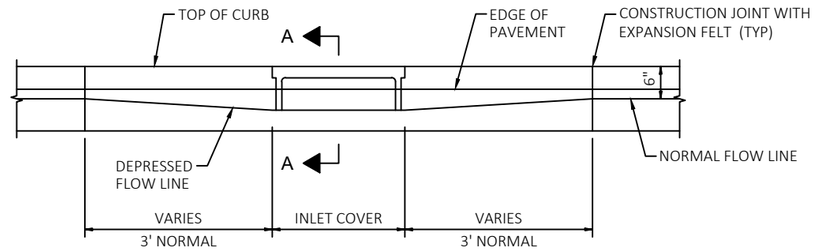


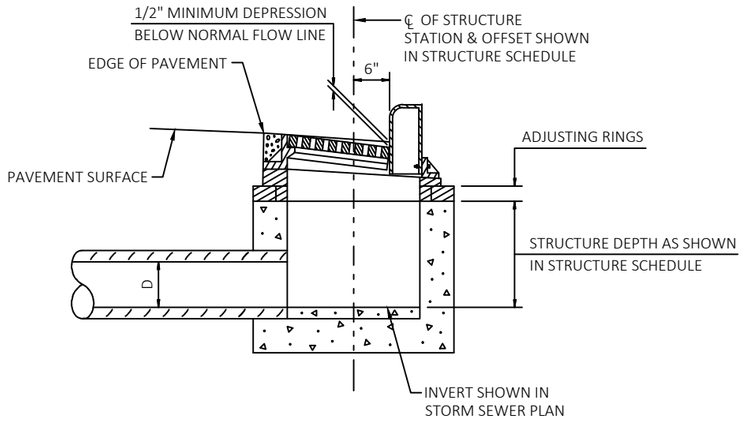
SECTION A-A



RIPRAP TREATMENT AT CULVERTS

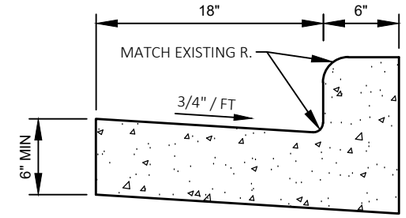
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CONSTRUCTION DETAIL	SHEET 5	E



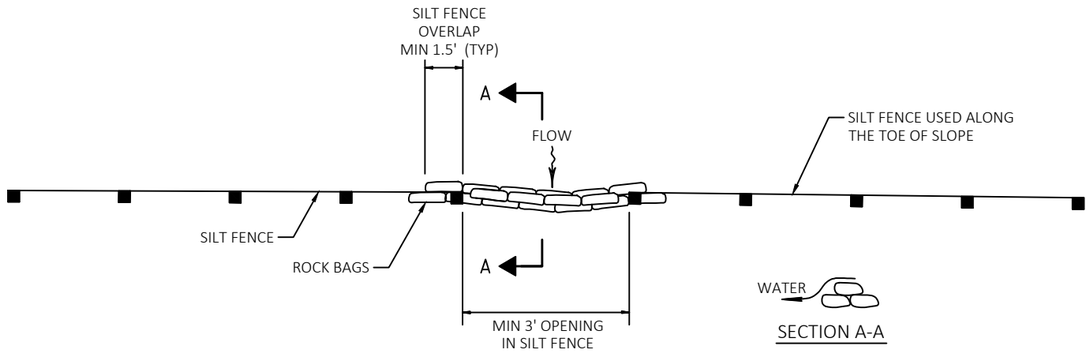


SECTION A-A

DETAIL OF CURB AND GUTTER AT INLETS



CONCRETE CURB AND GUTTER SPECIAL 24-INCH

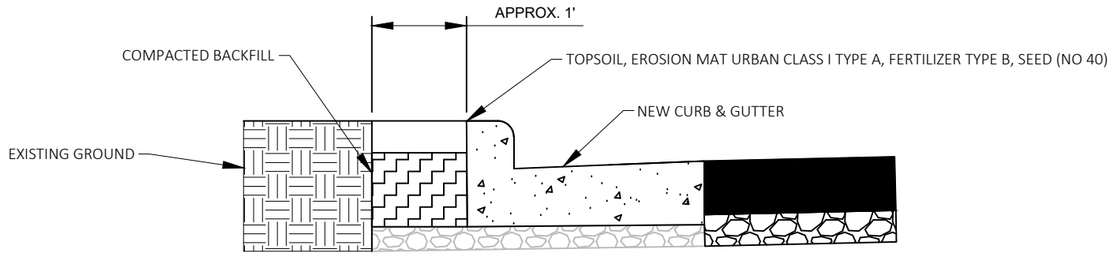


SECTION A-A

TOP VIEW

ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

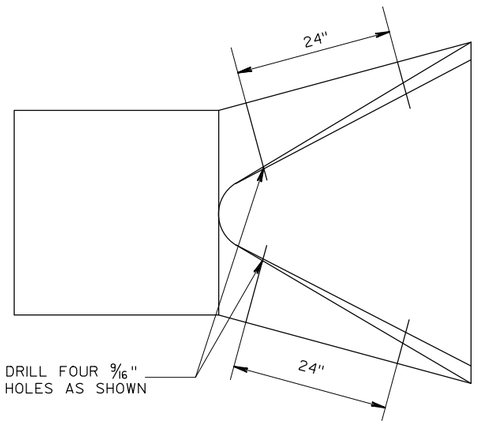
LOCATIONS TO BE DETERMINED BY ENGINEER IN THE FIELD

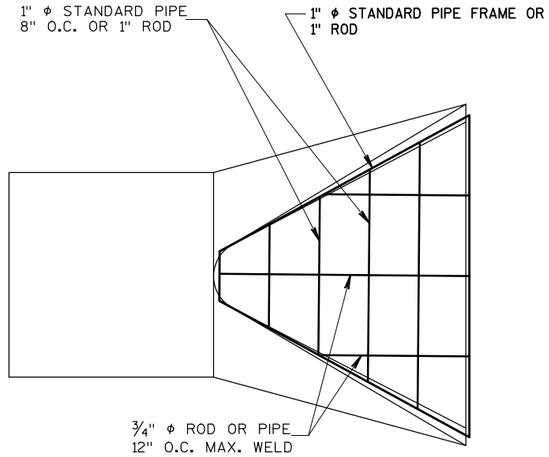


RESTORATION FOR CURB REPLACEMENT

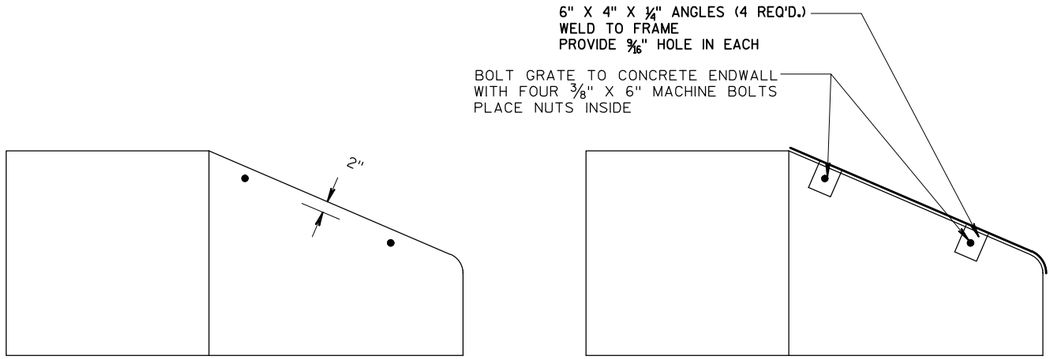
STA 66+00 TO STA 67+30

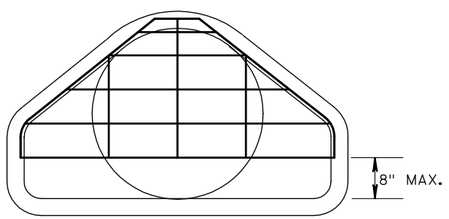
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CONSTRUCTION DETAIL	SHEET 6	E



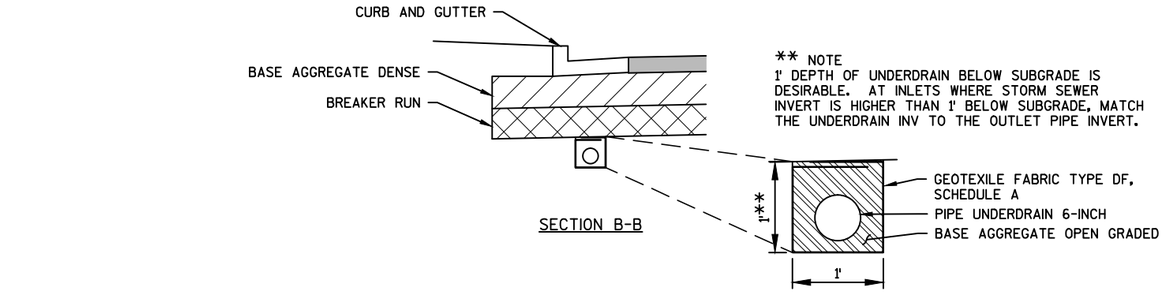


AT EACH PIPE

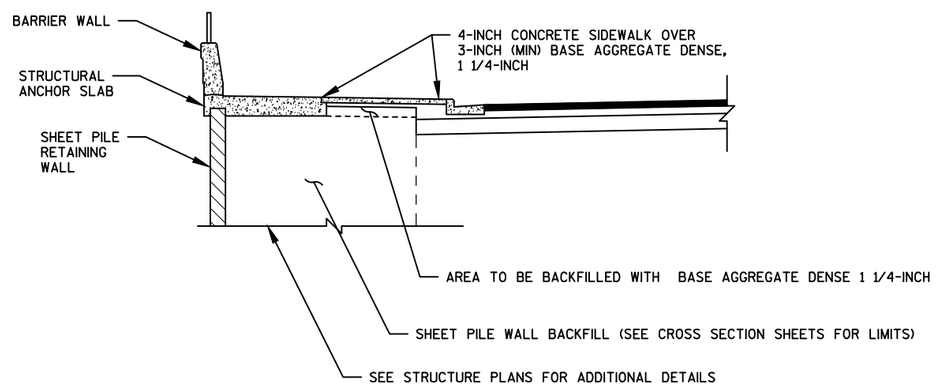




PIPE GRATE DETAIL



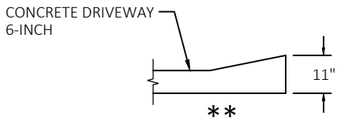
PIPE UNDERDRAIN DETAIL AT INLETS



SIDEWALK BACKFILL DETAIL ALONG SHEET PILE RETAINING WALLS

PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CONSTRUCTION DETAIL	SHEET 7	E

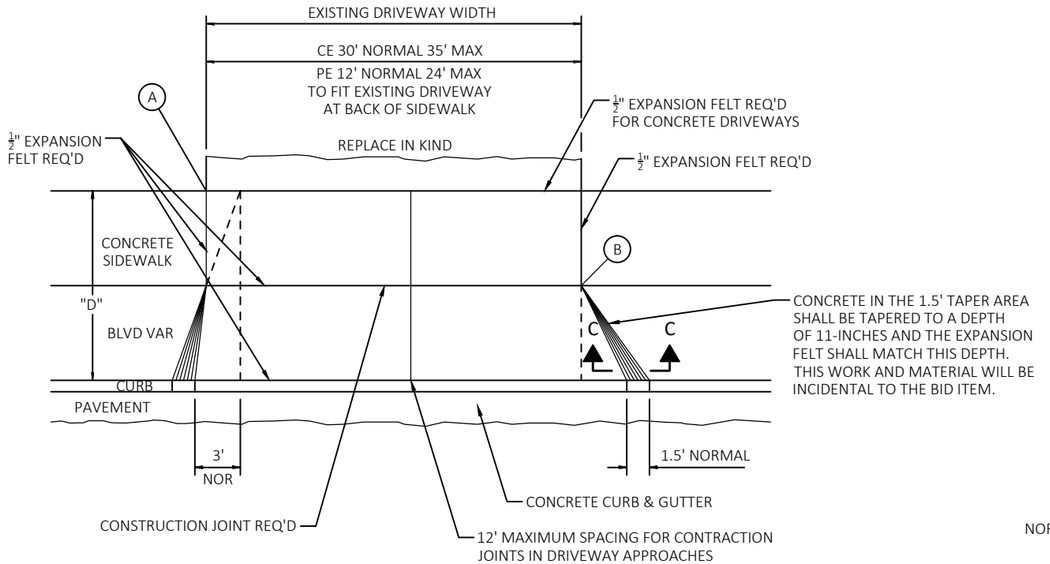
2



SECTION C-C

Ⓐ WHEN "D" IS 13' OR LESS, ALIGN TAPER WITH BACK OF SIDEWALK

Ⓑ WHEN "D" IS GREATER THAN 13', ALIGN TAPER WITH FRONT OF SIDEWALK



PLAN VIEW

① 6" CONCRETE DRIVEWAY OR HES CONCRETE DRIVEWAY

② 6" BASE AGGREGATE DENSE 1 1/4-INCH

③ 6" BASE AGGREGATE DENSE 1 1/4-INCH BASE WITH 3" ASPHALTIC SURFACE

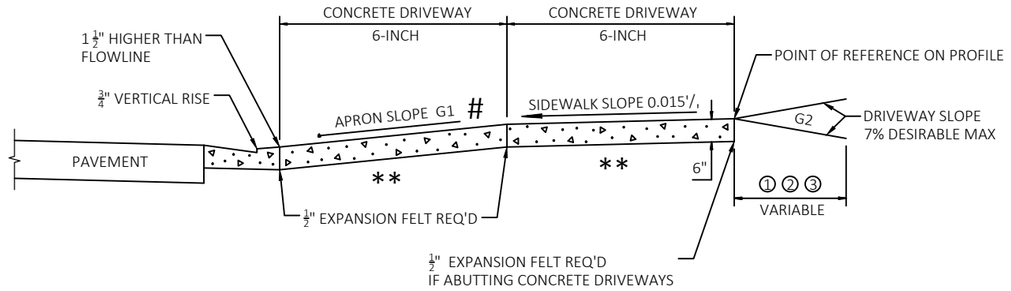
** 6" BASE AGGREGATE DENSE 1 1/4-INCH REQ'D UNDER CONCRETE DRIVEWAY

# TERRACE WIDTH	APRON SLOPE G1		
	MIN %	DESIRABLE %	MAXIMUM %
3 FT	7.0	8.5	10.0
4 FT	5.0	7.0	10.0
5 FT	4.0	7.0	10.0
6 FT	4.0	7.0	10.0
7 FT	3.5	7.0	10.0
8 FT	3.0	7.0	10.0

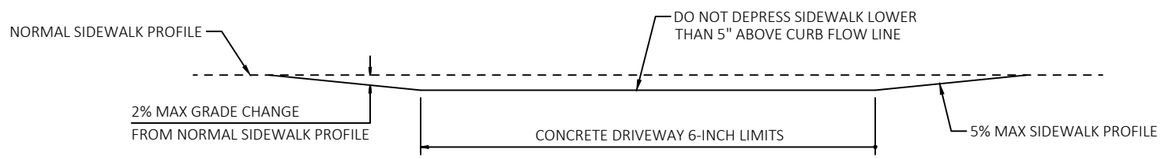
NOTE:

ALGEBRAIC DIFFERENCE BETWEEN TANGENT GRADES G1 & G2 NOT TO EXCEED 10% DESIRABLE MAXIMUM.

DEPRESS SIDEWALK PROFILE IF DRIVEWAY APRON EXCEEDS MAXIMUM SLOPE.

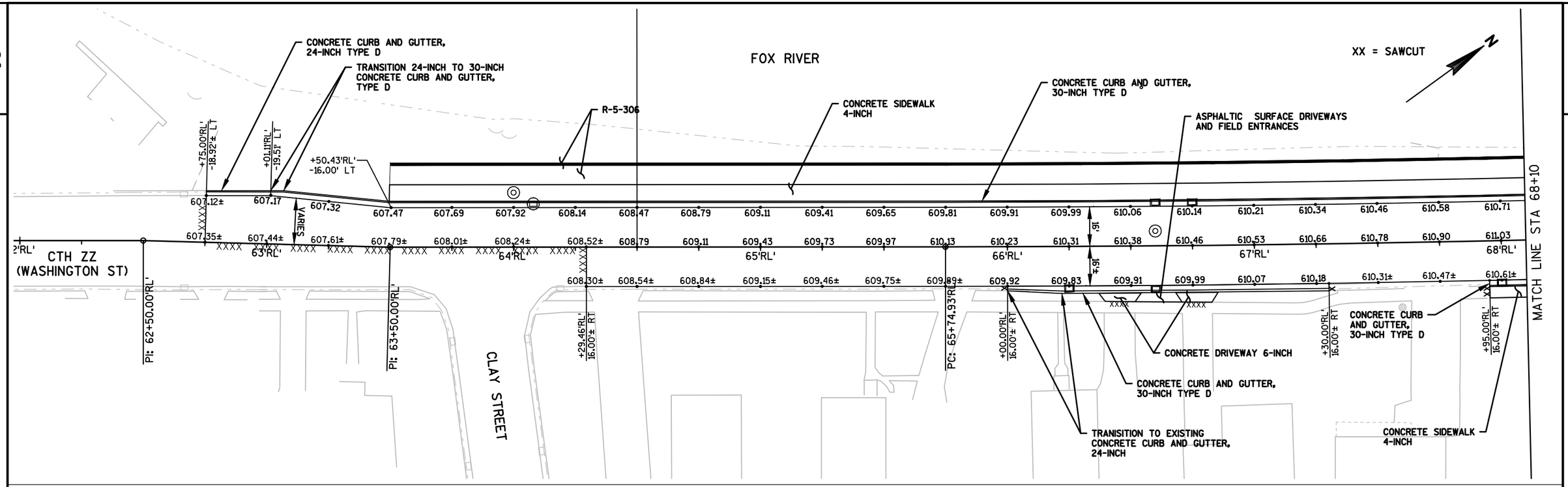


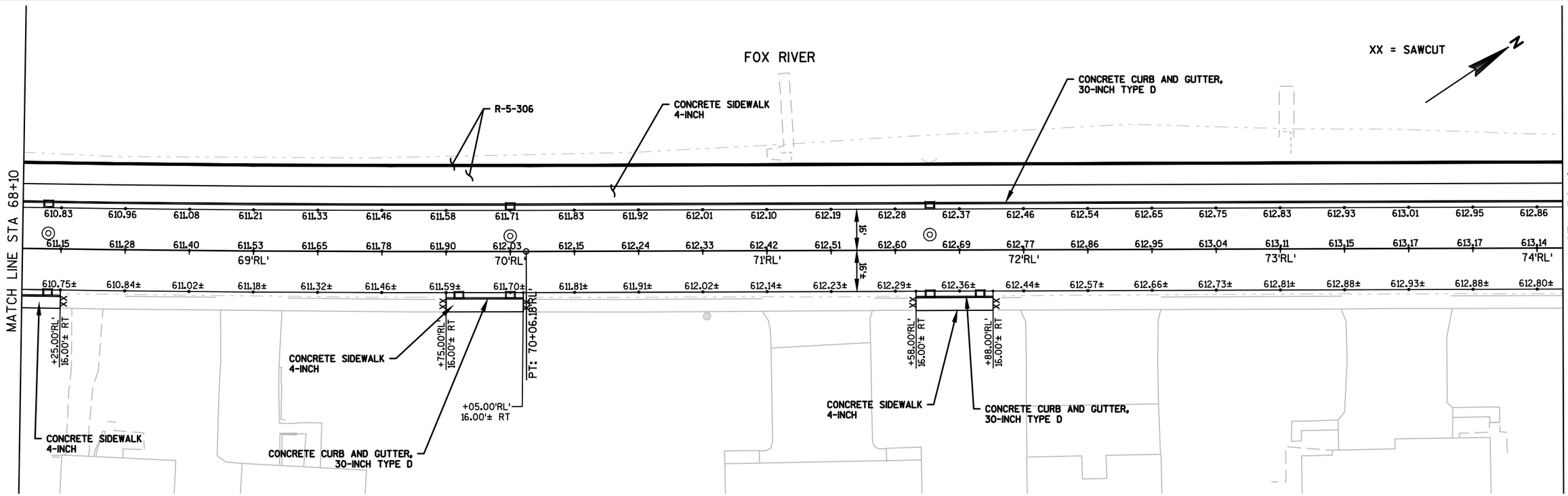
TYPICAL SIDEWALK SECTION



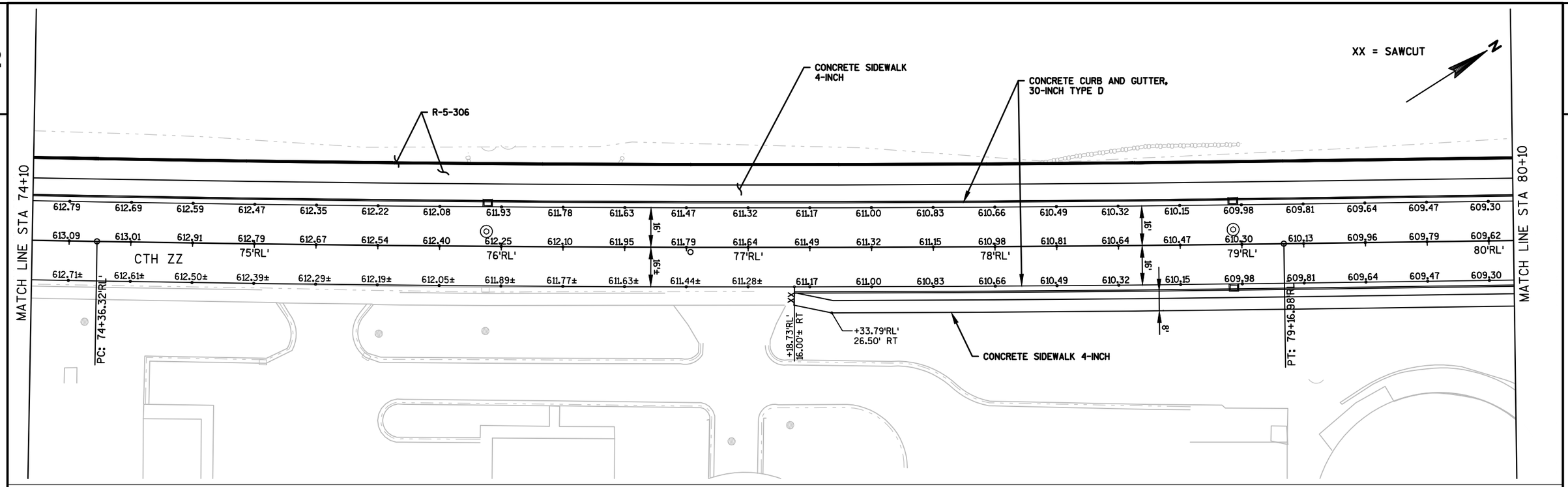
DEPRESSED SIDEWALK PROFILE DETAIL

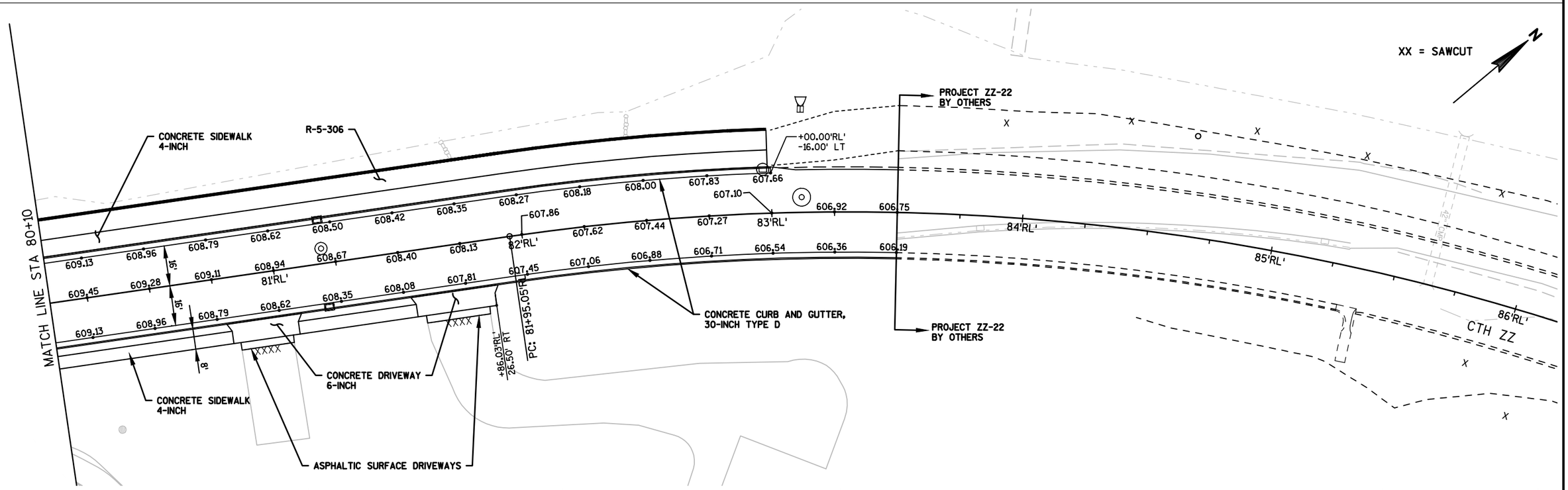
DRIVEWAY ENTRANCE DETAIL WITH SIDEWALK, CURB & GUTTER





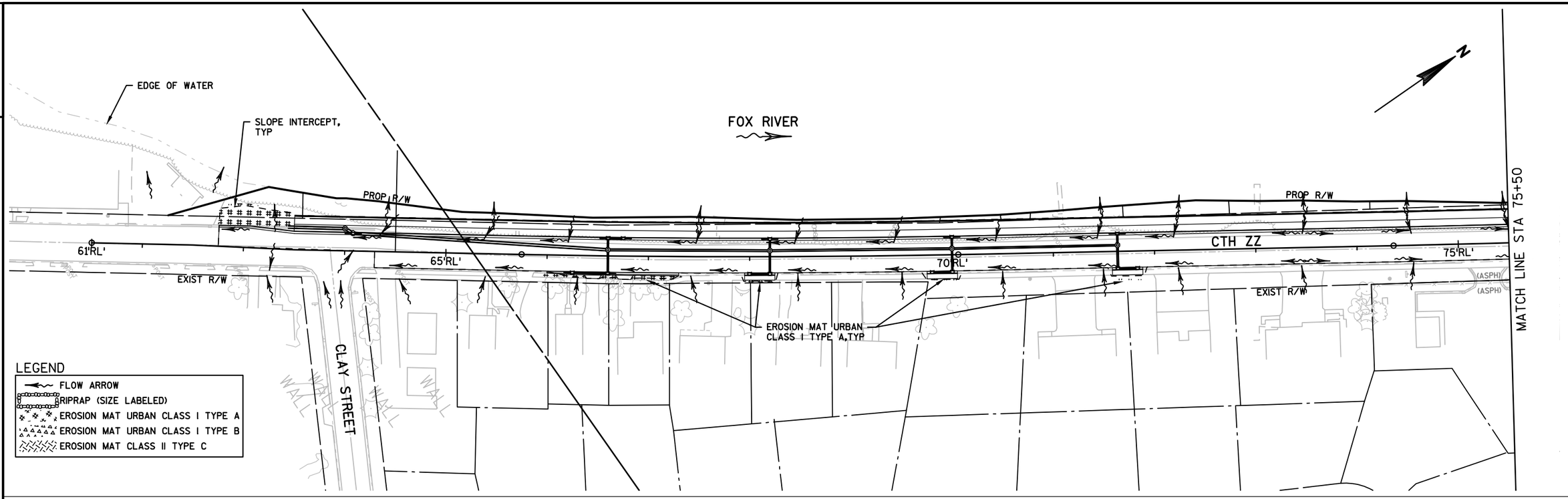
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	PAVING DETAIL	SHEET 9	E

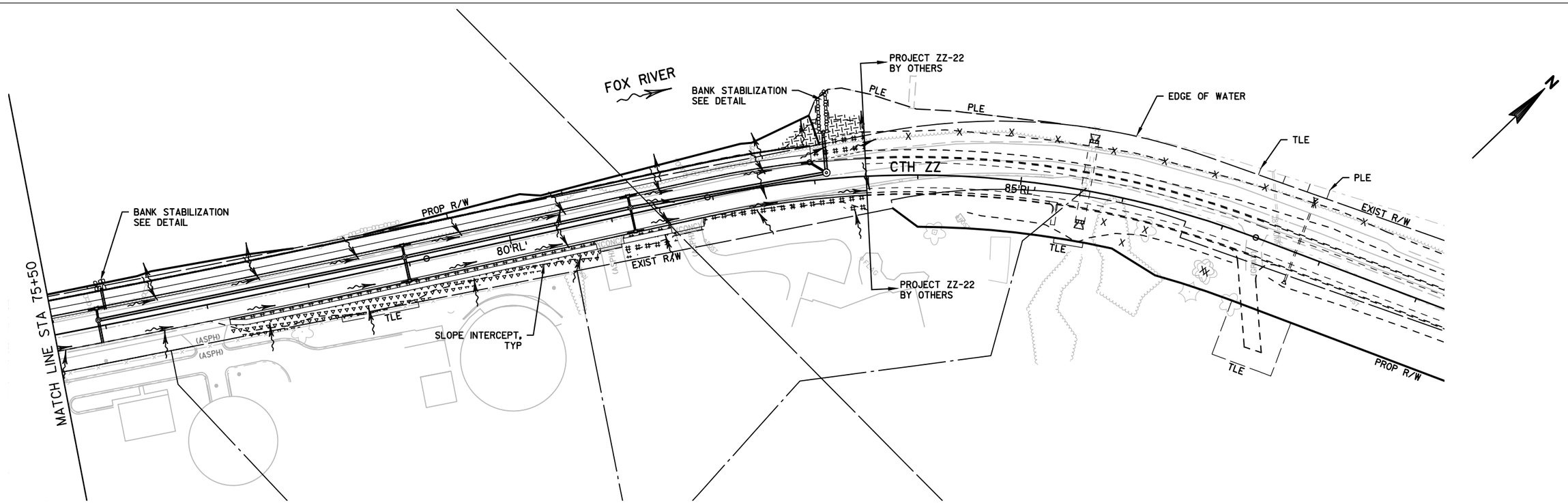




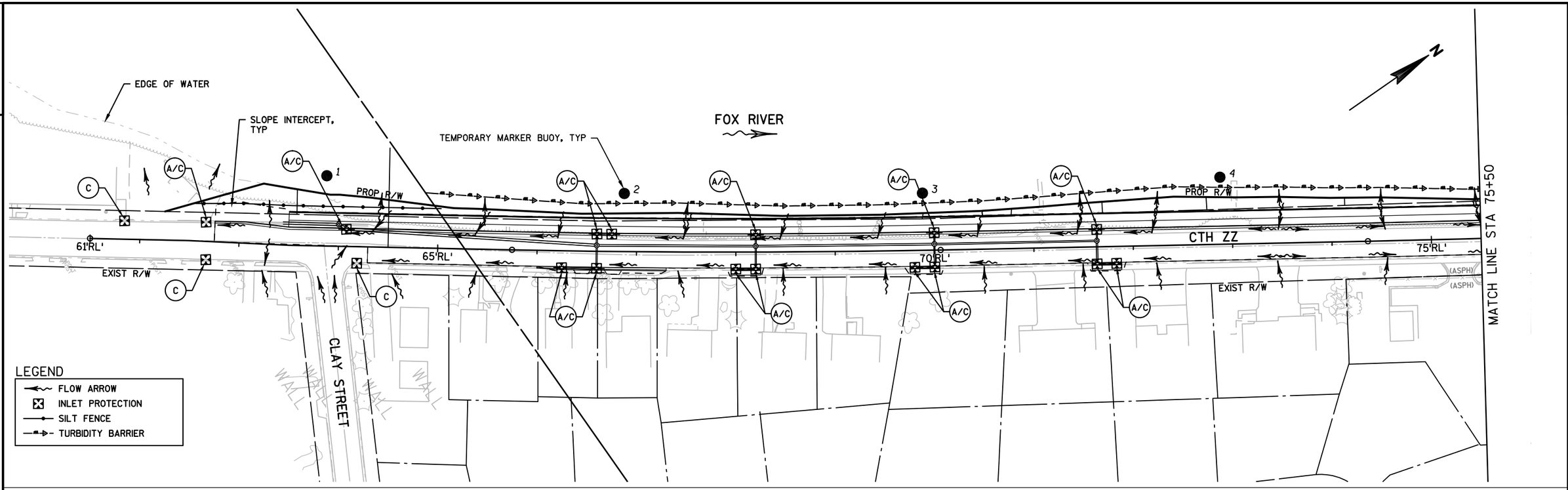
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	PAVING DETAIL	SHEET 10	E

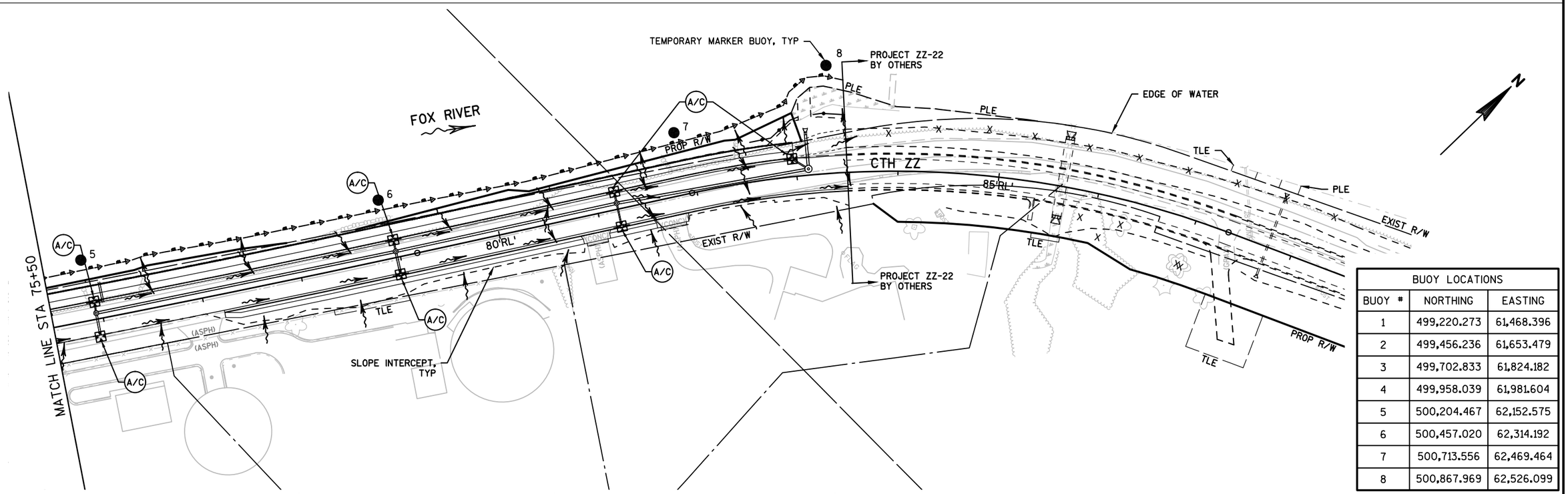
2





PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	EROSION CONTROL - PERMANENT	SHEET 11	E





BUOY LOCATIONS		
BUOY #	NORTHING	EASTING
1	499,220.273	61,468.396
2	499,456.236	61,653.479
3	499,702.833	61,824.182
4	499,958.039	61,981.604
5	500,204.467	62,152.575
6	500,457.020	62,314.192
7	500,713.556	62,469.464
8	500,867.969	62,526.099

PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	EROSION CONTROL - TEMPORARY	SHEET 12	E

2

EX ENDWALL
(CONSTRUCTED WITH 2019 CLAY STREET RECONSTRUCTION)

EX MH W-1
(CONSTRUCTED WITH 2019 CLAY STREET RECONSTRUCTION)

SS320.0 STA 64+00.0, 22.0' LT
MANHOLES 4-J

R-5-306

SS320.1 STA 64+08.0, 17.5' LT
INLETS 4-H

CTH ZZ

62+00 63+00 64+00 65+00 66+00

EX INL 3

CLAY ST

SS320.1
INLETS 4-H
RIM: 607.90
STR DEPTH: 5.48'
SUMP DEPTH: 0.0'
E 15" INV: 603.27
NE 24" INV: 601.41
SW 24" INV: 601.41
SW 6" INV: 605.08
NE 6" INV: 605.08

EX INL 3

UNDERDRAIN 6-INCH

SS320.0
MANHOLES 4-J
RIM: 608.34
STR DEPTH: 5.74'
SUMP DEPTH: 0.0'
NE 24" INV: 601.37
SW 24" INV: 601.37

SS320.1
INLETS 4-H
RIM: 607.90
STR DEPTH: 5.48'
SUMP DEPTH: 0.0'
E 15" INV: 603.27
NE 24" INV: 601.41
SW 24" INV: 601.41
SW 6" INV: 605.08
NE 6" INV: 605.08

EX MH W-1
(CONSTRUCTED WITH 2019 CLAY STREET RECONSTRUCTION)

FINISH GROUND ALONG STORM SEWER, TYP

EXIST GROUND ALONG STORM SEWER, TYP

FINISH SUBGRADE ALONG STORM SEWER, TYP

UNDERDRAIN 6-INCH

EX ENDWALL
(CONSTRUCTED WITH 2019 CLAY STREET RECONSTRUCTION)

SSPRC CLASS IV 24-INCH 252 LF @ 0.50%

601.06

SSPRC CLASS IV 24-INCH 9 LF @ 0.50%

EX 48" STORM SEWER
(CONSTRUCTED WITH 2019 CLAY STREET RECONSTRUCTION)

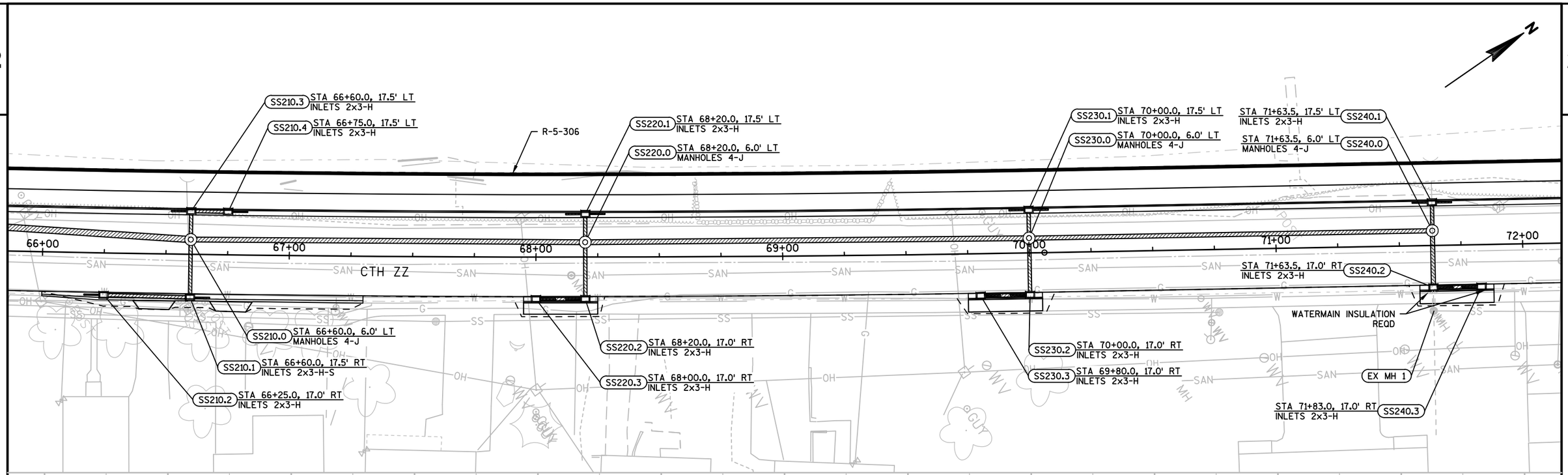
SSPRC CLASS IV 24-INCH 61 LF @ 0.50%

610
605
600
595

1. LOCATION FOR INLETS AND MANHOLES REFERS TO CENTER OF STRUCTURE.
2. RIM ELEVATION REFERS TO CENTER OF STRUCTURE FOR MANHOLES AND INLETS. ADD 0.09' TO CENTER OF INLET ELEVATION FOR FLANGELINE ELEVATION.
3. STRUCTURE DEPTH = RIM ELEVATION - SUMP ELEVATION - ADJUSTMENT FACTOR (ADJUSTMENT FACTOR FOR INLET COVERS = 1.0', MANHOLE COVERS = 1.24'.
4. INVERTS OF EXISTING PIPE AND STRUCTURES SHALL BE VERIFIED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO ORDERING STRUCTURES.

PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	STORM SEWER	SHEET 13	E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-022501-SS.DWG
LAYOUT NAME - 46160371-022501-SS
PLOT DATE : 12/1/2020 1:15 PM PLOT BY : ANDY WESTBROOK PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 41



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2. RIM ELEVATION REFERS TO CENTER OF STRUCTURE FOR MANHOLES AND INLETS. ADD 0.09' TO CENTER OF INLET ELEVATION FOR FLANGELINE ELEVATION.
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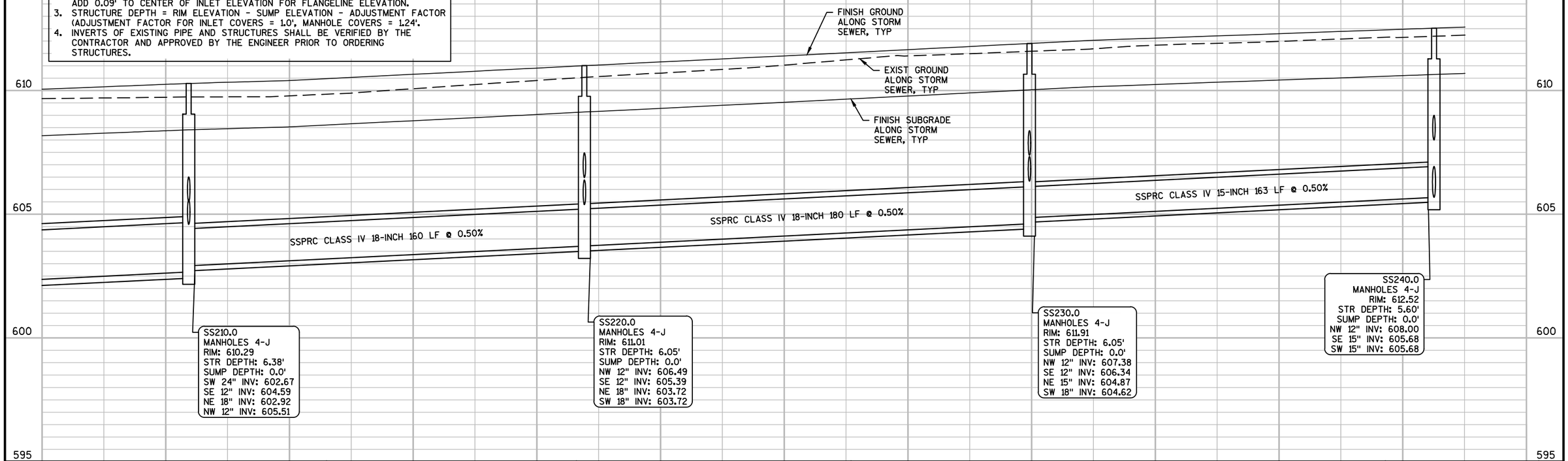
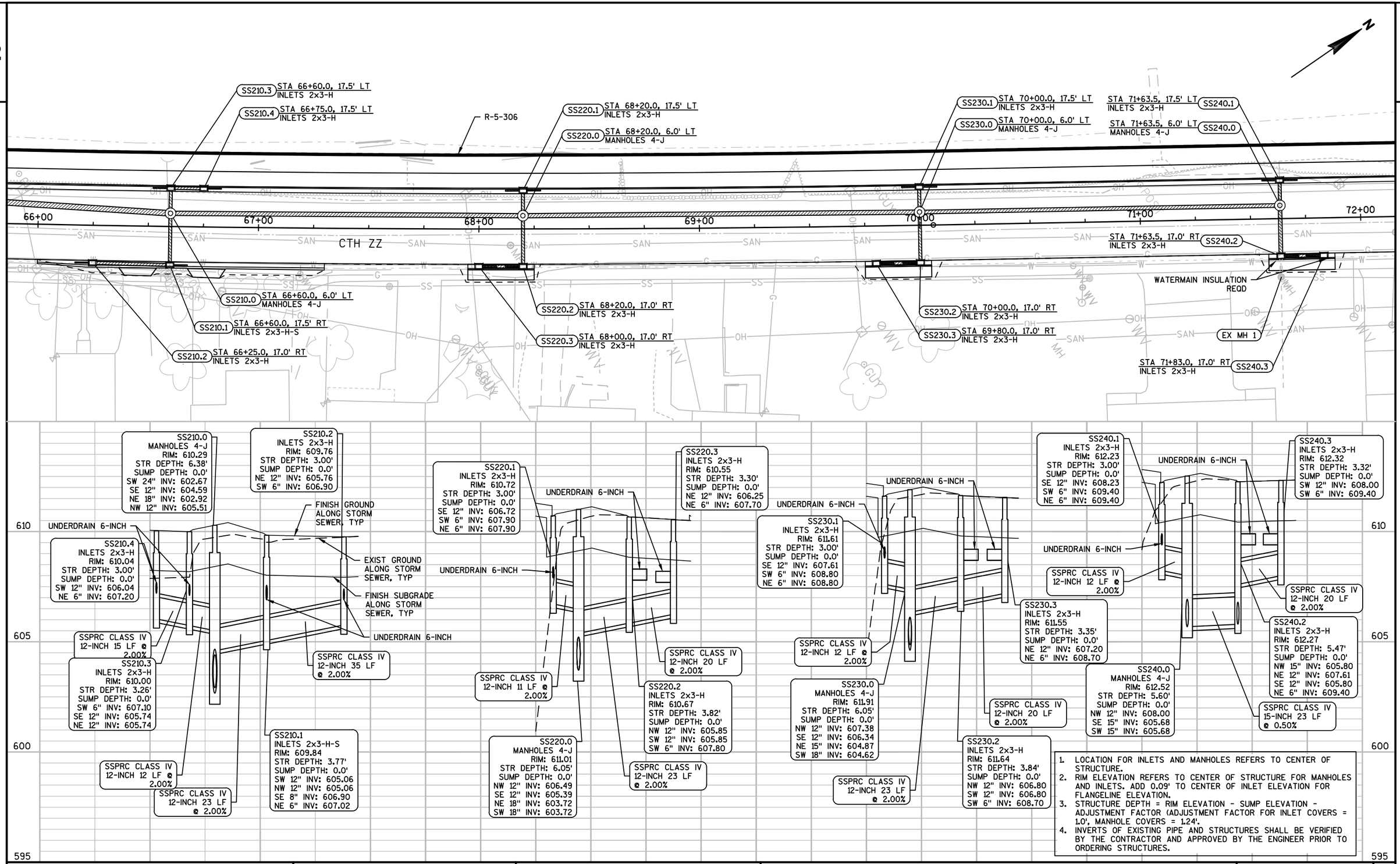


PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	STORM SEWER	SHEET 14	E

2



1. LOCATION FOR INLETS AND MANHOLES REFERS TO CENTER OF STRUCTURE.
2. RIM ELEVATION REFERS TO CENTER OF STRUCTURE FOR MANHOLES AND INLETS. ADD 0.09' TO CENTER OF INLET ELEVATION FOR FLANGELINE ELEVATION.
3. STRUCTURE DEPTH = RIM ELEVATION - SUMP ELEVATION - ADJUSTMENT FACTOR (ADJUSTMENT FACTOR FOR INLET COVERS = 1.0', MANHOLE COVERS = 1.24'.
4. INVERTS OF EXISTING PIPE AND STRUCTURES SHALL BE VERIFIED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO ORDERING STRUCTURES.

PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	STORM SEWER	SHEET 15	E

SS140.1 STA 75+94.4, 17.5' LT
INLETS 2x3-H

WWTP OUTFALL
SSPRC CLASS IV 18-INCH 20 LF
CONCRETE COLLAR REQD
SEE STRUCTURE R-5-306 PLANS

SS140.0 STA 75+94.0, 6.0' LT
MANHOLES 4-J

R-5-306

SS130.1 STA 78+96.5, 17.5' LT
INLETS 2x3-H

SS130.0 STA 78+96.5, 6.0' LT
MANHOLES 4-J

SS120.1 STA 81+20.0, 17.5' LT
INLETS 2x3-H

76+00 77+00 78+00 79+00 80+00 81+00

CTH ZZ

EX INL

EX INL 2

ADJUSTING MANHOLE COVERS

SS130.2 STA 78+96.5, 17.5' RT
INLETS 2x3-H

EX MH

SS120.0 STA 81+20.0, 6.0' LT
MANHOLES 4-J

SS120.2 STA 81+20.0, 17.5' RT
INLETS 2x3-H

615
610
605
600
597

FINISH GROUND ALONG STORM SEWER, TYP

EXIST GROUND ALONG STORM SEWER, TYP

FINISH SUBGRADE ALONG STORM SEWER, TYP

SSPRC CLASS IV 24-INCH 302 LF @ 0.49%

SSPRC CLASS IV 24-INCH 223 LF @ 0.44%

SS140.0
MANHOLES 4-J
RIM: 612.17
STR DEPTH: 5.13'
SUMP DEPTH: 0.0'
NE 24" INV: 605.80
NW 12" INV: 607.64
SE 18" INV: 606.30

SS130.0
MANHOLES 4-J
RIM: 610.20
STR DEPTH: 4.65'
SUMP DEPTH: 0.0'
SW 24" INV: 604.31
NE 24" INV: 604.31
SE 18" INV: 604.81
NW 12" INV: 605.68

SS120.0
MANHOLES 4-J
RIM: 608.66
STR DEPTH: 4.10'
SUMP DEPTH: 0.0'
SW 24" INV: 603.32
NE 24" INV: 603.32
SE 12" INV: 604.08
NW 12" INV: 604.19

1. LOCATION FOR INLETS AND MANHOLES REFERS TO CENTER OF STRUCTURE.
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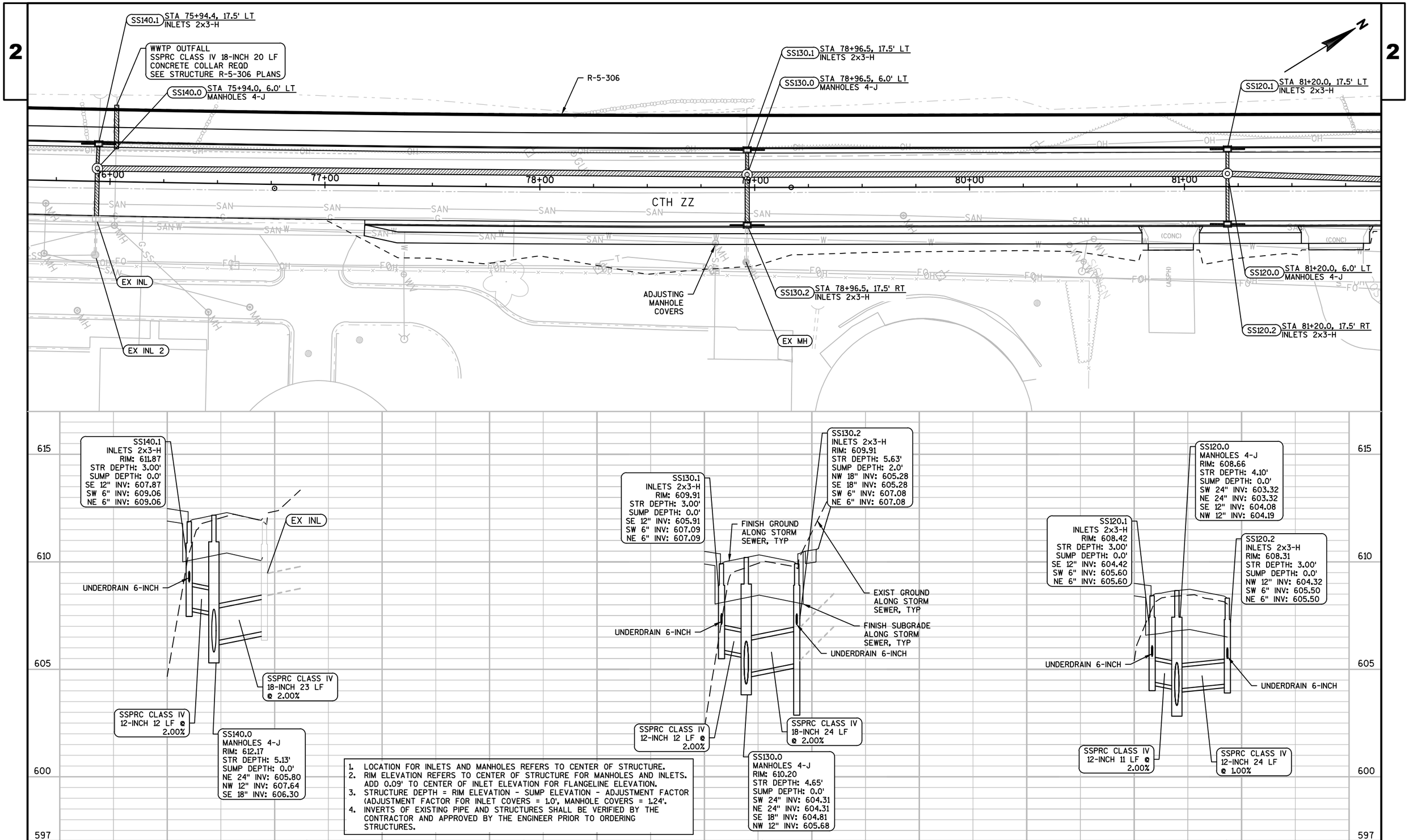
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	STORM SEWER	SHEET 16	E



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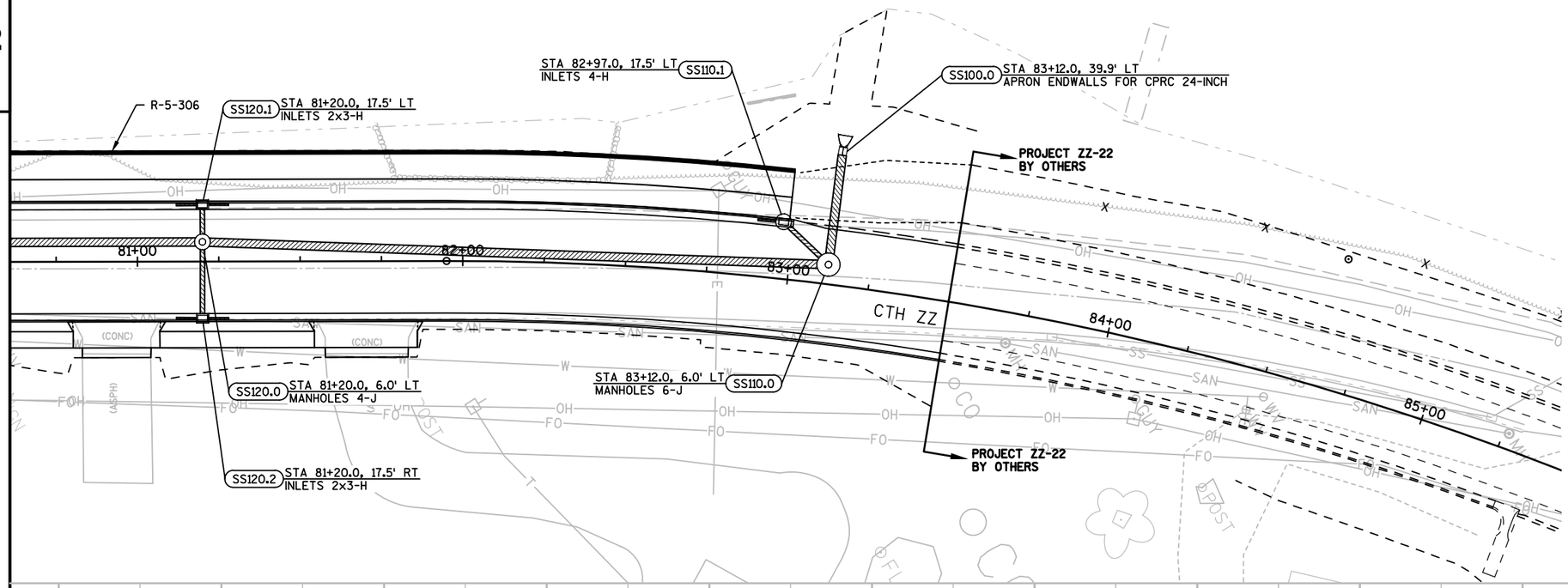
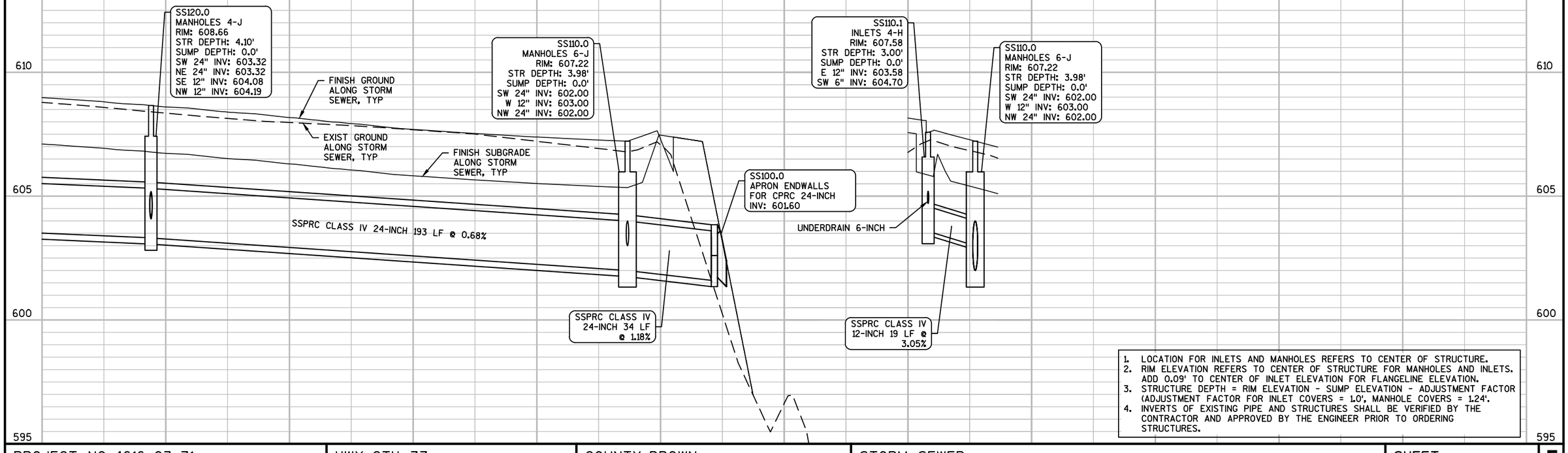
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	STORM SEWER	SHEET 17	E

2





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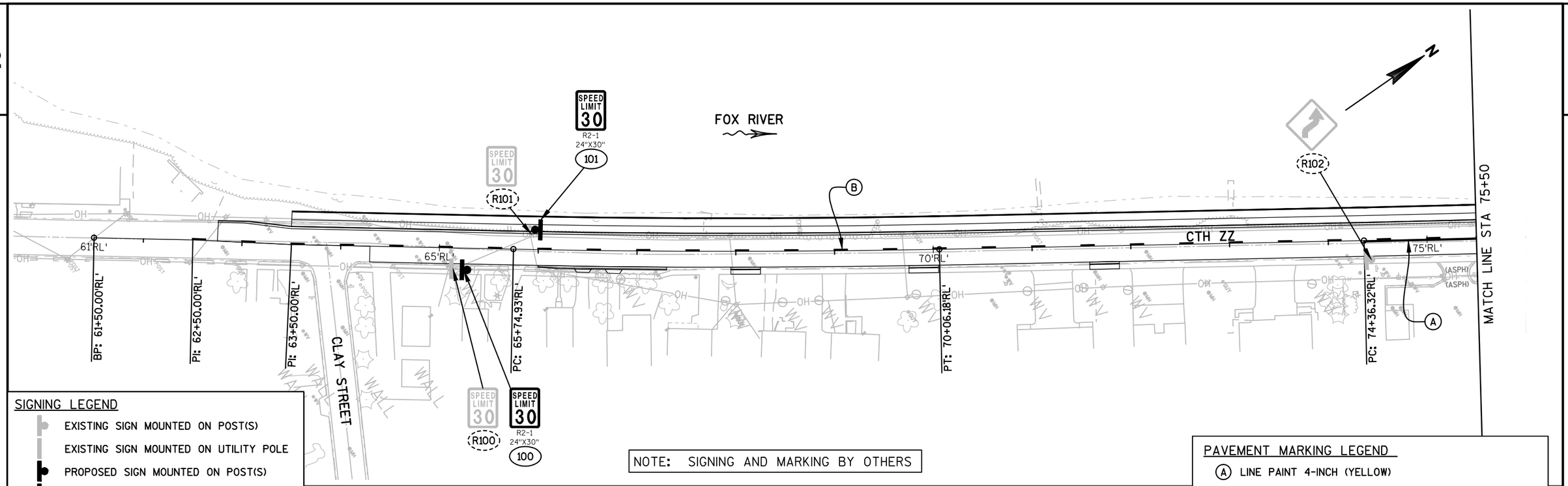
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	STORM SEWER	SHEET 18	E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-022501-SS.DWG
LAYOUT NAME - 46160371-022506-SS
PLOT DATE : 12/1/2020 1:17 PM PLOT BY : ANDY WESTBROOK PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 41

2

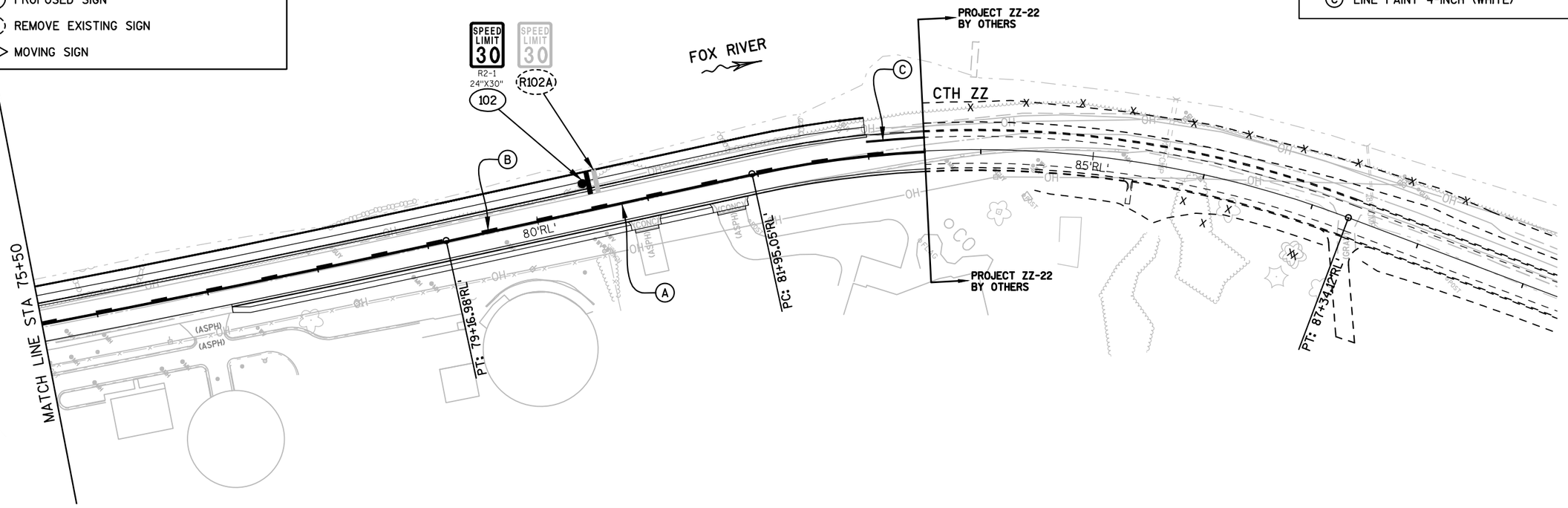


SIGNING LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON UTILITY POLE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON UTILITY POLE
- (000) PROPOSED SIGN
- (000) REMOVE EXISTING SIGN
- <000> MOVING SIGN

PAVEMENT MARKING LEGEND

- (A) LINE PAINT 4-INCH (YELLOW)
- (B) LINE PAINT 4-INCH 12.5-FT LINE 37.5-FT GAP (YELLOW)
- (C) LINE PAINT 4-INCH (WHITE)



PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	PERMANENT SIGNING & PAVEMENT MARKING (BY OTHERS)	SHEET 19	E

2

TRAFFIC CONTROL GENERAL NOTES

1. DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON METHODS OR SEQUENCE OF OPERATIONS.

2. ALL TRAFFIC CONTROL SIGNING WILL CONFORM TO THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

3. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

4. WARNING LIGHTS SHALL NOT BE WORKING ON "COVERED" OR "DOWNED" SIGN OR BARRICADE.

5. DURING HOURS OF DARKNESS, ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH TYPE "A" LIGHTS.

6. PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE PLACED ONE WEEK IN ADVANCE OF INITIAL ROAD CLOSURE. COORDINATE WITH BROWN COUNTY.

7. LAYOUT INFORMATION PROVIDED IS NOT INTENDED TO REPLACE WHAT IS PROVIDED IN APPLICABLE STANDARD DETAIL DRAWINGS.

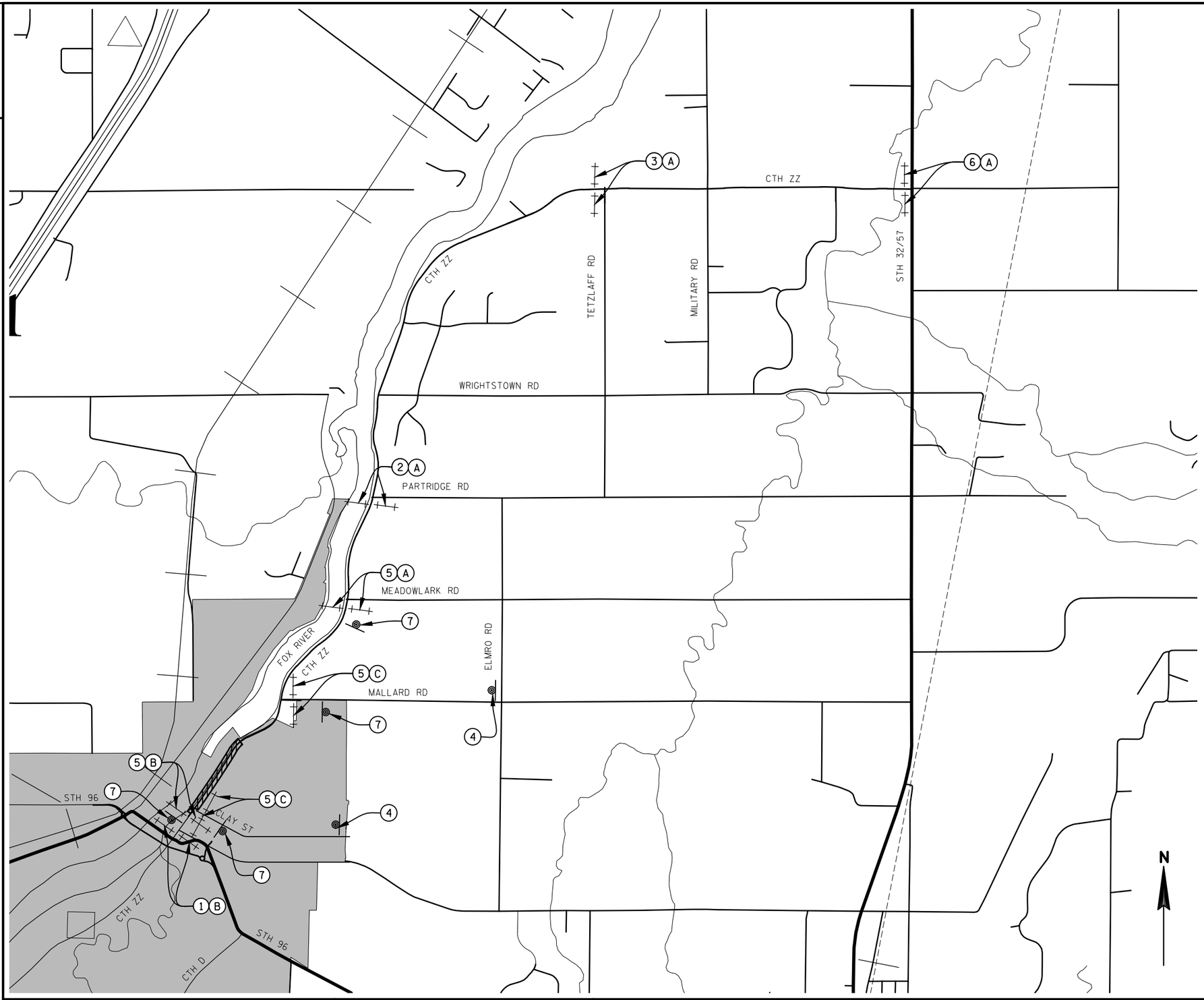
8. SEE ADDITIONAL TRAFFIC CONTROL DETAIL SHEETS AND STANDARD DETAIL DRAWINGS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.

   NOTE : COUNTY WILL BE PLACING DETOUR SIGNING. COORDINATE WITH COUNTY REGARDING TIMING OF DETOUR SIGN PLACEMENT

PORTABLE CHANGEABLE MESSAGE SIGNS

(BY BROWN COUNTY)

			PRIOR TO CONSTRUCTION		DURING CONSTRUCTION	
SITE NO	LOCATION	ROADWAY CONDITION/ CONSTRUCTION	PHASE I (2 SEC)	PHASE II (2 SEC)	PHASE I (2 SEC)	PHASE II (2 SEC)
PCMS 1	ON NB CTH ZZ	GENERAL	CTH ZZ ROAD WORK	BEGINS XX/XX/XX	(NO MESSAGE)	
PCMS 2	ON SB CTH ZZ	GENERAL	CTH ZZ ROAD WORK	BEGINS XX/XX/XX	(NO MESSAGE)	



SIGN PLATE LEGEND

ROAD CLOSED .1 MILES AHEAD LOCAL TRAFFIC ONLY R11-3 60"X30" (1)	ROAD CLOSED .7 MILES AHEAD LOCAL TRAFFIC ONLY R11-3 60"X30" (2)	ROAD CLOSED 3 MILES AHEAD LOCAL TRAFFIC ONLY R11-3 60"X30" (3)
ROAD CLOSED AHEAD W20-3-A 48" X 48" (4)	ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30" (5)	ROAD CLOSED 4.5MILES AHEAD LOCAL TRAFFIC ONLY R11-3 60"X30" (6)

END ROAD WORK
G20-2A
48"X24"
(7)

LEGEND

- (1) SIGN NUMBER
- (A) NOTE LETTER
- POST MOUNTED SIGN
- TYPE III BARRICADE
- WORK AREA

NOTES

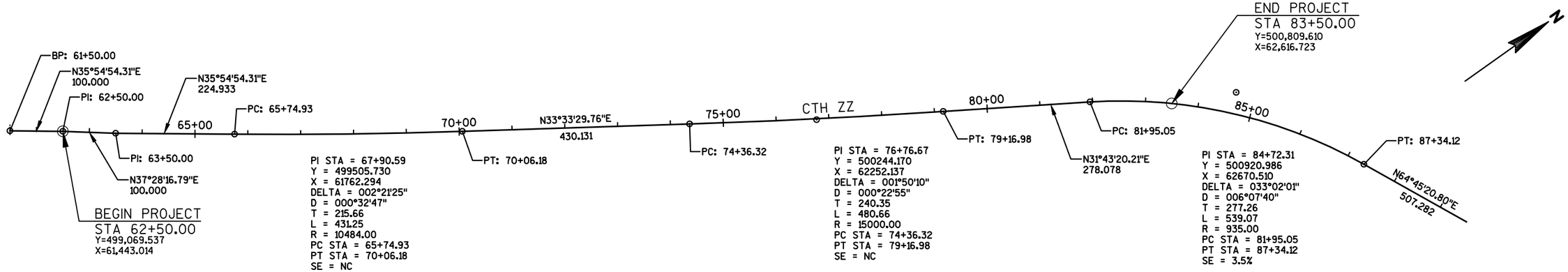
NOTE A:
USE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL A AND DETAIL E

NOTE B:
USE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL B AND DETAIL E

NOTE C:
USE SDD "BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES" DETAIL 4

PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	TRAFFIC CONTROL - OVERVIEW	SHEET 21	E

2



PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	ALIGNMENT DIAGRAM	SHEET 22	E

2

CTH ZZ 4616-03-71 SUPERELEVATION STATION TABLE

STATION	DESCRIPTION	LEFT LANE SLOPE	RIGHT LANE SLOPE
61+50.00	BEGIN PROJECT	-2.00%	-2.00%
62+25.00	END NORMAL CROWN	-2.00%	-2.00%
62+50.00	WARP FOR CURB MATCH	-1.61%	-2.00%
62+75.00	WARP FOR CURB MATCH	-1.47%	-2.00%
63+00.00	WARP FOR CURB MATCH	-1.32%	-2.00%
63+25.00	WARP FOR CURB MATCH	-1.65%	-2.00%
63+50.00	BEGIN NORMAL CROWN	-2.00%	-2.00%
72+25.00	END NORMAL CROWN	-2.00%	-2.00%
73+00.00	WARP FOR DRAINAGE AT HP	-1.75%	-2.00%
73+50.00	WARP FOR DRAINAGE AT HP	-1.00%	-2.00%
74+00.00	WARP FOR DRAINAGE AT HP	-1.75%	-2.00%
74+50.00	BEGIN NORMAL CROWN	-2.00%	-2.00%
81+05.91	END NORMAL CROWN	-2.00%	-2.00%
81+47.05	LEVEL CROWN	0.00%	-2.00%
81+88.19	REVERSE CROWN	2.00%	-2.00%
82+19.05	BEGIN FULL SUPER	3.50%	-3.50%
83+50.00	END PROJECT	3.50%	-3.50%

4616-03-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	21.000	21.000
0004	204.0100	Removing Concrete Pavement	SY	67.000	67.000
0006	204.0150	Removing Curb & Gutter	LF	1,005.000	1,005.000
0008	204.0155	Removing Concrete Sidewalk	SY	49.000	49.000
0010	204.0180	Removing Delineators and Markers	EACH	17.000	17.000
0012	204.0220	Removing Inlets	EACH	3.000	3.000
0014	204.0245	Removing Storm Sewer (size) 01. 12 to 24-Inch	LF	255.000	255.000
0016	204.9060.S	Removing (item description) 01. Dock	EACH	5.000	5.000
0018	205.0100	Excavation Common	CY	5,148.000	5,148.000
0020	206.3000	Excavation for Structures Retaining Walls (structure) 01. R-05-306	LS	1.000	1.000
0022	213.0100	Finishing Roadway (project) 01. 4616-03-71	EACH	1.000	1.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	3,773.000	3,773.000
0026	310.0110	Base Aggregate Open-Graded	TON	17.000	17.000
0028	311.0110	Breaker Run	TON	7,140.000	7,140.000
0030	416.0160	Concrete Driveway 6-Inch	SY	65.000	65.000
0032	502.3200	Protective Surface Treatment	SY	370.000	370.000
0034	504.0500	Concrete Masonry Retaining Walls	CY	944.000	944.000
0036	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	100,990.000	100,990.000
0038	506.0105	Structural Steel Carbon	LB	256,284.000	256,284.000
0040	506.0605	Structural Steel HS	LB	23,310.000	23,310.000
0042	512.0500	Piling Steel Sheet Permanent Delivered	SF	67,856.000	67,856.000
0044	512.0600	Piling Steel Sheet Permanent Driven	SF	38,550.000	38,550.000
0046	513.7011	Railing Steel Type C2 01. R-05-306	LF	1,950.000	1,950.000
0048	517.1010.S	Concrete Staining (structure) 01. R-05-306	SF	956.000	956.000
0050	517.1015.S	Concrete Staining Multi-Color (structure) 01. R-05-306	SF	3,276.000	3,276.000
0052	517.1050.S	Architectural Surface Treatment (structure) 01. R-05-306	SF	3,276.000	3,276.000
0054	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000
0056	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	1.000	1.000
0058	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	2,850.000	2,850.000
0060	602.0405	Concrete Sidewalk 4-Inch	SF	15,650.000	15,650.000
0062	606.0300	Riprap Heavy	CY	20.000	20.000
0064	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	304.000	304.000
0066	608.0415	Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	LF	186.000	186.000
0068	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	407.000	407.000
0070	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-	LF	1,074.000	1,074.000

4616-03-71

Line	Item	Item Description	Unit	Total	Qty
		Inch			
0072	611.0530	Manhole Covers Type J	EACH	9.000	9.000
0074	611.0624	Inlet Covers Type H	EACH	19.000	19.000
0076	611.0639	Inlet Covers Type H-S	EACH	1.000	1.000
0078	611.2004	Manholes 4-FT Diameter	EACH	8.000	8.000
0080	611.2006	Manholes 6-FT Diameter	EACH	1.000	1.000
0082	611.3004	Inlets 4-FT Diameter	EACH	2.000	2.000
0084	611.3230	Inlets 2x3-FT	EACH	18.000	18.000
0086	611.9800.S	Pipe Grates	EACH	1.000	1.000
0088	612.0106	Pipe Underdrain 6-Inch	LF	232.000	232.000
0090	619.1000	Mobilization	EACH	1.000	1.000
0092	624.0100	Water	MGAL	53.000	53.000
0094	625.0100	Topsoil	SY	330.000	330.000
0096	625.0500	Salvaged Topsoil	SY	1,400.000	1,400.000
0098	627.0200	Mulching	SY	230.000	230.000
0100	628.1504	Silt Fence	LF	415.000	415.000
0102	628.1520	Silt Fence Maintenance	LF	415.000	415.000
0104	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0106	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0108	628.2006	Erosion Mat Urban Class I Type A	SY	910.000	910.000
0110	628.2008	Erosion Mat Urban Class I Type B	SY	590.000	590.000
0112	628.2027	Erosion Mat Class II Type C	SY	200.000	200.000
0114	628.6005	Turbidity Barriers	SY	2,110.000	2,110.000
0116	628.7005	Inlet Protection Type A	EACH	24.000	24.000
0118	628.7015	Inlet Protection Type C	EACH	27.000	27.000
0120	628.7560	Tracking Pads	EACH	2.000	2.000
0122	628.7570	Rock Bags	EACH	60.000	60.000
0124	629.0210	Fertilizer Type B	CWT	1.100	1.100
0126	630.0110	Seeding Mixture No. 10	LB	4.000	4.000
0128	630.0130	Seeding Mixture No. 30	LB	2.000	2.000
0130	630.0140	Seeding Mixture No. 40	LB	25.000	25.000
0132	630.0200	Seeding Temporary	LB	4.000	4.000
0134	630.0500	Seed Water	MGAL	30.000	30.000
0136	642.5401	Field Office Type D	EACH	1.000	1.000
0138	643.0300	Traffic Control Drums	DAY	10,500.000	10,500.000
0140	643.0420	Traffic Control Barricades Type III	DAY	1,540.000	1,540.000
0142	643.0705	Traffic Control Warning Lights Type A	DAY	3,080.000	3,080.000
0144	643.0715	Traffic Control Warning Lights Type C	DAY	3,500.000	3,500.000
0146	643.0900	Traffic Control Signs	DAY	2,730.000	2,730.000
0148	643.5000	Traffic Control	EACH	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
0150	645.0111	Geotextile Type DF Schedule A	SY	129.000	129.000
0152	645.0120	Geotextile Type HR	SY	50.000	50.000
0154	645.0140	Geotextile Type SAS	SY	5,219.000	5,219.000
0156	650.4000	Construction Staking Storm Sewer	EACH	30.000	30.000
0158	650.4500	Construction Staking Subgrade	LF	2,075.000	2,075.000
0160	650.5000	Construction Staking Base	LF	2,075.000	2,075.000
0162	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	2,875.000	2,875.000
0164	650.6500	Construction Staking Structure Layout (structure) 01. R-5-306	LS	1.000	1.000
0166	650.9910	Construction Staking Supplemental Control (project) 01. 4616-03-71	LS	1.000	1.000
0168	650.9920	Construction Staking Slope Stakes	LF	2,075.000	2,075.000
0170	690.0150	Sawing Asphalt	LF	236.000	236.000
0172	690.0250	Sawing Concrete	LF	84.000	84.000
0174	715.0502	Incentive Strength Concrete Structures	DOL	5,664.000	5,664.000
0176	SPV.0060	Special 01. Adjusting Sanitary Manhole Covers	EACH	7.000	7.000
0178	SPV.0060	Special 03. Adjusting Water Valve Box	EACH	8.000	8.000
0180	SPV.0090	Special 02. Concrete Curb and Gutter Special 24-Inch	LF	25.000	25.000
0182	SPV.0165	Special 01. Insulation Board 4-Inch	SF	100.000	100.000
0184	SPV.0195	Special 01. Sheet Pile Wall Backfill	TON	14,770.000	14,770.000

GRUBBING

STATION	TO	STATION	ROADWAY	201.0205 GRUBBING STA	COMMENT
PROJECT 4616-03-71					
CATEGORY 0010					
62+50	-	68+00	CTH ZZ	5	
68+00	-	74+00	CTH ZZ	6	
74+00	-	80+00	CTH ZZ	6	
80+00	-	83+50	CTH ZZ	4	

PROJECT TOTALS 21

REMOVING CURB AND GUTTER

STATION	TO	STATION	DIR	ROADWAY	204.0150 LF
PROJECT 4616-03-71					
CATEGORY 0010					
62+75	-	64+30	LT	CTH ZZ	155
66+00	-	67+30	RT	CTH ZZ	130
67+95	-	68+25	RT	CTH ZZ	30
69+75	-	70+05	RT	CTH ZZ	30
71+58	-	71+88	RT	CTH ZZ	30
77+18	-	83+50	RT	CTH ZZ	630

PROJECT TOTAL 1,005

REMOVING STORM SEWER

STATION	DIR	ROADWAY	204.0245.01 REMOVING STORM SEWER 12 TO 24-INCH LF
PROJECT 4616-03-71			
CATEGORY 0010			
64+06	LT	CTH ZZ	44
66+60	RT & LT	CTH ZZ	45
71+64	RT & LT	CTH ZZ	50
75+94	RT & LT	CTH ZZ	55
76+03	LT	CTH ZZ	13
78+97	RT & LT	CTH ZZ	48

PROJECT TOTALS 255

REMOVING DOCK

STATION	DIR	ROADWAY	204.9060.S.01 REMOVING DOCK EA
PROJECT 4616-03-71			
CATEGORY 0010			
65+70	LT	CTH ZZ	1
67+70	LT	CTH ZZ	1
71+08	LT	CTH ZZ	1
72+00	LT	CTH ZZ	1
73+02	LT	CTH ZZ	1

PROJECT TOTAL 5

REMOVING PAVEMENT

STATION	DIR	ROADWAY	204.0100 SY	COMMENT
PROJECT 4616-03-71				
CATEGORY 0010				
66+45	RT	CTH ZZ	7	DWY APRON
66+76	RT	CTH ZZ	7	DWY APRON
80+94	RT	CTH ZZ	24	DWY APRON
81+70	RT	CTH ZZ	29	DWY APRON

PROJECT TOTAL 67

REMOVING CONCRETE SIDEWALK

STATION	DIR	ROADWAY	204.0155 SY	COMMENT
PROJECT 4616-03-71				
CATEGORY 0010				
67+95 - 68+25	RT	CTH ZZ	15	
69+75 - 70+05	RT	CTH ZZ	17	
71+58 - 71+88	RT	CTH ZZ	17	

PROJECT TOTAL 49

REMOVING INLETS

STATION	OFFSET FT	DIR	ROADWAY	204.0220 REMOVING INLETS EA
PROJECT 4616-03-71				
CATEGORY 0010				
64+06	21.4	LT	CTH ZZ	1
66+60	16.9	RT	CTH ZZ	1
78+97	17.1	RT	CTH ZZ	1

PROJECT TOTAL 3

REMOVING DELINEATORS AND MARKERS

STATION	TO	STATION	ROADWAY	204.0180 REMOVING DELINEATORS EA
PROJECT 4616-03-71				
CATEGORY 0010				
66+00 - 124+50			CTH ZZ	17

PROJECT TOTALS 17

3

EARTHWORK SUMMARY

ROADWAY	FROM / TO STATION	205.0100 COMMON EXCAVATION (1)		AVAILABLE MATERIAL (3)	UNEXPANDED FILL	EXPANDED FILL	MASS ORDINATE (4)	WASTE	COMMENT
		CUT	EBS (2)			FACTOR 1.25			
CATEGORY 0010									
CTH ZZ	62+75 / 83+50	4,448	0	4,448	120	150	4,298	4,298	
UNDISTRIBUTED		0	700	0	700	875	-875	-875	ASSUME 25% OF ROADWAY, 1' DEEP
CATEGORY 0010 SUBTOTALS		4,448	700	4,448	820	1,025		3,423	
		5,148							
PROJECT TOTALS		5,148		4,448	820	1,025		3,423	

1) SALVAGED / UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN COMMON EXCAVATION. COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS COLUMNS.
2) EBS SHALL BE BACKFILLED WITH BREAKER RUN OR COMMON EXCAVATION ACCEPTABLE TO THE ENGINEER IN THE FIELD. EBS SHALL NOT BE PLACED WITHIN THE PROJECT LIMITS.
3) AVAILABLE MATERIAL = CUT - SALVAGED MATERIAL.
4) MASS ORDINATE = AVAILABLE MATERIAL - EXPANDED FILL.

BASE AGGREGATE DENSE AND BREAKER RUN

STATION		TO STATION	ROADWAY	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH			311.0110 BREAKER RUN		624.0100 WATER	COMMENT
				SIDEWALKS TON	ROADWAY TON	DRIVEWAYS TON	ROADWAY TON	EBS TON	MGAL	
PROJECT 4616-03-71										
CATEGORY 0010										
62+75	-	68+00	CTH ZZ	0	681	4	1,297	0	10	RT SIDEWALK ONLY
63+50	-	83+00	CTH ZZ	682	0	0	0	0	10	LT SIDEWALK ONLY
68+00	-	74+00	CTH ZZ	7	866	0	1,650	0	12	RT SIDEWALK ONLY
74+00	-	80+00	CTH ZZ	33	901	0	1,716	0	13	RT SIDEWALK ONLY
80+00	-	83+50	CTH ZZ	15	559	24	1,077	0	8	RT SIDEWALK ONLY
UNDISTRIBUTED (100% EBS VOLUME)				0	0	0	0	1,400	0	
CATEGORY 0010 TOTALS				737	3,007	28	5,740	1,400	53	
PROJECT TOTALS					3,773		7,140		53	

CONCRETE DRIVEWAY

STATION	DIR	ROADWAY	416.0160 6-INCH SY
PROJECT 4616-03-71			
CATEGORY 0010			
66+45	RT	CTH ZZ	6
66+75	RT	CTH ZZ	6
80+93	RT	CTH ZZ	24
81+70	RT	CTH ZZ	29
PROJECT TOTAL			65

UNDERDRAIN

STATION	STRUCTURE	ROADWAY	310.0110 BASE AGGREGATE OPEN GRADED TON	612.0106 PIPE UNDERDRAIN 6-INCH LF	645.0111 GEOTEXTILE FABRIC TYPE DF SCHEDULE A SY
PROJECT 4516-07-71					
CATEGORY 0010					
64+08	320.1	CTH ZZ	1.2	16	9
66+60	210.1	CTH ZZ	0.6	8	4
66+25	210.2	CTH ZZ	0.6	8	4
66+60	210.3	CTH ZZ	0.6	8	4
66+75	210.4	CTH ZZ	0.6	8	4
68+20	220.1	CTH ZZ	1.2	16	9
68+20	220.2	CTH ZZ	0.6	8	4
68+00	220.3	CTH ZZ	0.6	8	4
70+00	230.1	CTH ZZ	1.2	16	9
70+00	230.2	CTH ZZ	0.6	8	4
69+80	230.3	CTH ZZ	0.6	8	4
71+64	240.1	CTH ZZ	1.2	16	9
71+64	240.2	CTH ZZ	0.6	8	4
71+83	240.3	CTH ZZ	0.6	8	4
75+94	140.1	CTH ZZ	1.2	16	9
78+96	130.1	CTH ZZ	1.2	16	9
78+96	130.2	CTH ZZ	1.2	16	9
81+20	120.1	CTH ZZ	1.2	16	9
81+20	120.2	CTH ZZ	1.2	16	9
82+97	110.1	CTH ZZ	0.6	8	4
PROJECT TOTALS			17	232	129

STORM SEWER PIPE

FROM	-	TO	608.0412	608.0415	608.0418	608.0424	JOINT TIES (INFORMATION ONLY)
			STORM SEWER PIPE REINFORCED CLASS IV				
			12-INCH LF	15-INCH LF	18-INCH LF	24-INCH LF	
PROJECT 4616-03-71							
CATEGORY 0010							
SS110.0	-	SS100.0	---	---	---	34	6
SS110.1	-	SS110.0	19	---	---	---	---
SS120.0	-	SS110.0	---	---	---	193	---
SS120.1	-	SS120.0	11	---	---	---	---
SS120.2	-	SS120.0	24	---	---	---	---
SS130.0	-	SS120.0	---	---	---	223	---
SS130.1	-	SS130.0	12	---	---	---	---
SS130.2	-	SS130.0	---	---	24	---	---
SS140.0	-	SS130.0	---	---	---	302	---
SS140.1	-	SS140.0	12	---	---	---	---
EX INL	-	SS140.0	---	---	23	---	---
SS210.1	-	SS210.0	23	---	---	---	---
SS210.2	-	SS210.1	35	---	---	---	---
SS210.3	-	SS210.0	12	---	---	---	---
SS210.4	-	SS210.3	15	---	---	---	---
SS220.0	-	SS210.0	---	---	160	---	---
SS220.1	-	SS220.0	11	---	---	---	---
SS220.2	-	SS220.0	23	---	---	---	---
SS220.3	-	SS220.2	20	---	---	---	---
SS230.0	-	SS220.0	---	---	180	---	---
SS230.1	-	SS230.0	12	---	---	---	---
SS230.2	-	SS230.0	23	---	---	---	---
SS230.3	-	SS230.2	20	---	---	---	---
SS240.0	-	SS230.0	---	163	---	---	---
SS240.1	-	SS240.0	12	---	---	---	---
SS240.2	-	SS240.0	---	23	---	---	---
SS240.3	-	SS240.2	20	---	---	---	---
SS210.0	-	SS320.1	---	---	---	252	---
SS320.1	-	SS320.0	---	---	---	9	---
SS320.0	-	EX MH	---	---	---	61	---
EXISTING WWTF OUTFALL			---	---	20	---	---
PROJECT TOTALS			304	186	407	1,074	

CONCRETE COLLARS FOR PIPE

STATION	DIR	ROADWAY	520.8000 CONCRETE COLLARS FOR PIPE EACH
PROJECT 4616-03-71			
CATEGORY 0010			
76+03	LT	CTH ZZ	1
PROJECT TOTALS			1

PIPE GRATES

STRUCTURE	ROADWAY	611.9800.S PIPE GRATES EA	REMARKS
PROJECT 4616-03-71			
CATEGORY 0010			
SS100.0	CTH ZZ	1	24-INCH ENDWALL
PROJECT TOTALS		1	

3

STORM SEWER STRUCTURES

STRUCT	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	611.0530 MANHOLE COVERS TYPE J EACH	611.0624 INLET COVERS TYPE H EACH	611.0639 INLET COVERS TYPE H-S EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	611.2006 MANHOLES 6-FT DIAMETER EACH	611.3004 INLETS 4-FT DIAMETER EACH	611.3230 INLETS 2X3-FT EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH
PROJECT 4616-03-71									
CATEGORY 0010									
SS100.0	1	---	---	---	---	---	---	---	1
SS110.0	---	1	---	---	---	1	---	---	1
SS110.1	---	---	1	---	---	---	1	---	1
SS120.0	---	1	---	---	1	---	---	---	1
SS120.1	---	---	1	---	---	---	---	1	1
SS120.2	---	---	1	---	---	---	---	1	1
SS130.0	---	1	---	---	1	---	---	---	1
SS130.1	---	---	1	---	---	---	---	1	1
SS130.2	---	---	1	---	---	---	---	1	1
SS140.0	---	1	---	---	1	---	---	---	1
SS140.1	---	---	1	---	---	---	---	1	1
SS210.0	---	1	---	---	1	---	---	---	1
SS210.1	---	---	---	1	---	---	---	1	1
SS210.2	---	---	1	---	---	---	---	1	1
SS210.3	---	---	1	---	---	---	---	1	1
SS210.4	---	---	1	---	---	---	---	1	1
SS220.0	---	1	---	---	1	---	---	---	1
SS220.1	---	---	1	---	---	---	---	1	1
SS220.2	---	---	1	---	---	---	---	1	1
SS220.3	---	---	1	---	---	---	---	1	1
SS230.0	---	1	---	---	1	---	---	---	1
SS230.1	---	---	1	---	---	---	---	1	1
SS230.2	---	---	1	---	---	---	---	1	1
SS230.3	---	---	1	---	---	---	---	1	1
SS240.0	---	1	---	---	1	---	---	---	1
SS240.1	---	---	1	---	---	---	---	1	1
SS240.2	---	---	1	---	---	---	---	1	1
SS240.3	---	---	1	---	---	---	---	1	1
SS320.0	---	1	---	---	1	---	---	---	1
SS320.1	---	---	1	---	---	---	1	---	1
	1	9	19	1	8	1	2	18	30

CONCRETE CURB AND GUTTER

STATION TO STATION			ROADWAY	601.0411 30-INCH TYPE D LF	SPV.0090.02 SPECIAL 24-INCH LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF
PROJECT 4616-03-71						
CATEGORY 0010						
62+75	-	68+00	CTH ZZ	635	25	660
68+00	-	74+00	CTH ZZ	685	---	685
74+00	-	80+00	CTH ZZ	880	---	880
80+00	-	83+50	CTH ZZ	650	---	650
			PROJECT TOTALS	2,850	25	2,875

CONCRETE SIDEWALK

STATION TO STATION			DIR	ROADWAY	602.0405 4-INCH SF
PROJECT 6170-15-71					
CATEGORY 0010					
63+50	-	82+99	LT	CTH ZZ	13,160
67+95	-	68+25	RT	CTH ZZ	140
69+75	-	70+05	RT	CTH ZZ	150
71+58	-	71+88	RT	CTH ZZ	150
77+18	-	81+54	RT	CTH ZZ	2,050
				PROJECT TOTAL	15,650

EROSION CONTROL

STATION TO STATION			ROADWAY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EA	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EA	628.6005 TURBIDITY BARRIER SY	628.7005 INLET PROTECTION TYPE A EA	628.7015 INLET PROTECTION TYPE C EA	628.7560 TRACKING PADS EA	628.7570 ROCK BAGS EA
PROJECT 4616-03-71												
CATEGORY 0010												
62+50	-	68+00	CTH ZZ	250	250	---	---	350	7	10	1	---
68+00	-	74+00	CTH ZZ	---	---	---	---	670	8	8	---	---
74+00	-	80+00	CTH ZZ	---	---	---	---	670	4	4	---	---
80+00	-	83+50	CTH ZZ	85	85	---	---	420	3	3	---	---
UNDISTRIBUTED				80	80	5	2	---	2	2	1	60
			PROJECT TOTALS	415	415	5	2	2,110	24	27	2	60

RIP RAP AND GEOTEXTILE FABRIC

STATION	ROADWAY	645.0120 GEOTEXTILE TYPE HR SY	606.0300 RIPRAP HEAVY CY	COMMENTS
PROJECT 4616-03-71				
CATEGORY 0010				
76+02	CTH ZZ	7	3	WWTF SS OUTFALL
83+12	CTH ZZ	43	17	SS OUTFALL
PROJECT TOTALS		50	20	

CONSTRUCTION STAKING

STATION		TO STATION	ROADWAY	650.4500 SUBGRADE LF	650.5000 BASE LF	650.6500.01 STRUCTURE LAYOUT R-5-306 LS	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF
PROJECT 4616-03-71								
CATEGORY 0010								
62+75	-	68+00	CTH ZZ	525	525	---	---	525
68+00	-	74+00	CTH ZZ	600	600	---	---	600
74+00	-	80+00	CTH ZZ	600	600	---	---	600
80+00	-	83+50	CTH ZZ	350	350	---	---	350
UNDISTRIBUTED				---	---	1	1	---
PROJECT TOTALS				2,075	2,075	1	1	2,075

NOTES: CONSTRUCTION STAKING STORM SEWER LOCATED IN STORM SEWER TABLES.
CONSTRUCTION STAKING CURB AND GUTTER LOCATED IN CURB AND GUTTER TABLE.
CONSTRUCTION STAKING PIPE CULVERTS LOCATED IN CROSSDRAIN AND DRIVEWAY CULVERT TABLES.

RESTORATION

STATION		TO STATION	ROADWAY	630.0500 SEED WATER MGAL	625.0100 TOPSOIL SY	625.0500 SALVAGED TOPSOIL SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.2027 EROSION MAT CLASS II TYPE C SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0110 SEEDING MIXTURE #10 LB	630.0130 SEEDING MIXTURE #30 LB	630.0140 SEEDING MIXTURE #40 LB	630.0200 SEEDING TEMPORARY LB
PROJECT 4616-03-71															
CATEGORY 0010															
62+50	-	68+00	CTH ZZ	0	0	230	210	0	0	20	0.1	0	0	4	0
68+00	-	74+00	CTH ZZ	0	0	30	30	0	0	0	0.0	0	0	1	0
74+00	-	80+00	CTH ZZ	10	0	480	90	380	0	10	0.3	0	0	9	0
80+00	-	83+50	CTH ZZ	10	260	380	400	90	160	0	0.4	3	2	7	4
UNDISTRIBUTED				10	70	280	180	120	40	200	0.2	1	0	5	0
PROJECT TOTALS				30	330	1,400	910	590	200	230	1.1	4	2	25	4

NOTE: APPLY TEMPORARY SEED TO AREAS NOT RECEIVING LAWN TYPE TURF (SEED MIX #40) AT A RATE OF 1.5 LBS/1000 SF.

TRAFFIC CONTROL

LOCATION	APPROX. SERVICE DAYS	643.0300 TRAFFIC CONTROL DRUMS NO IN SERVICE	643.0300 DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO IN SERVICE	643.0420 DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A NO IN SERVICE	643.0705 DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C NO IN SERVICE	643.0715 DAYS	643.0900 TRAFFIC CONTROL SIGNS NO IN SERVICE	643.0900 DAYS
PROJECT 4616-03-71											
CATEGORY 0010											
CTH ZZ / HIGH ST	70	0	0	2	140	4	280	0	0	4	280
CTH ZZ / CLAY ST	70	0	0	4	280	8	560	0	0	6	420
CLAY ST	70	0	0	2	140	4	280	0	0	4	280
MALLARD RD	70	0	0	2	140	4	280	0	0	4	280
CTH ZZ / MEADOWLARK	70	0	0	4	280	8	560	0	0	6	420
CTH ZZ/ PARTRIDGE ROAD	70	0	0	2	140	4	280	0	0	2	140
CTH ZZ/ TETZLAFF	70	0	0	2	140	4	280	0	0	2	140
CTH ZZ/ STH 32/57	70	0	0	2	140	4	280	0	0	1	70
UNDISTRIBUTED	70	150	10,500	2	140	4	280	50	3,500	10	700
PROJECT TOTALS			10,500		1,540		3,080		3,500		2,730

SAWING

STATION	DIR	ROADWAY	690.0150 SAWING ASPAHLT LF	690.0250 SAWING CONCRETE LF
PROJECT 4616-03-71				
CATEGORY 0010				
62+75	LT	CTH ZZ	19	2.5
63+40	R/L	CTH ZZ	155	---
64+30	RT	CTH ZZ	16	---
66+00	RT	CTH ZZ	---	2.5
66+45	RT	CTH ZZ	---	12.0
66+75	RT	CTH ZZ	---	12.0
67+30	RT	CTH ZZ	---	2.5
67+95	RT	CTH ZZ	---	7.5
68+25	RT	CTH ZZ	---	7.5
69+75	RT	CTH ZZ	---	7.5
70+05	RT	CTH ZZ	---	7.5
71+58	RT	CTH ZZ	---	7.5
71+88	RT	CTH ZZ	---	7.5
77+18	RT	CTH ZZ	---	7.5
80+95	RT	CTH ZZ	21	---
81+70	RT	CTH ZZ	25	---
PROJECT TOTAL			236	84

ADJUSTING UTILITIES

STATION	DIR	ROADWAY	SPV.0060.01 ADJUSTING SANITARY MANHOLE COVERS EA	SPV.0060.03 ADJUSTING WATER VALVE BOX EA	PROPOSED RIM ELEVATION	COMMENT
PROJECT 4616-03-71						
CATEGORY 0030						
63+24	LT	CTH ZZ	---	1	---	
63+73	LT	CTH ZZ	---	1	---	
64+35	LT	CTH ZZ	---	1	---	
64+77	RT	CTH ZZ	---	1	---	
64+78	LT	CTH ZZ	---	1	---	
65+02	RT	CTH ZZ	---	1	---	
65+08	LT	CTH ZZ	1	---	609.40	RIM ELEVATION 0.5" BELOW FINISHED GROUND
65+12	RT	CTH ZZ	1	---	609.46	
68+14	RT	CTH ZZ	1	---	610.87	
72+16	RT	CTH ZZ	1	---	612.65	
75+70	RT	CTH ZZ	1	---	612.16	
78+82	RT	CTH ZZ	1	---	610.62	
79+69	RT	CTH ZZ	1	---	609.52	
80+46	RT	CTH ZZ	---	1	---	
80+58	RT	CTH ZZ	---	1	---	
PROJECT TOTAL			7	8		

INSULATION BOARD

STATION	DIR	ROADWAY	SPV.0165.01 4-INCH SF
PROJECT 4616-03-71			
CATEGORY 0030			
71+63	RT	CTH ZZ	100
PROJECT TOTAL			100

WORK BY OTHERS – FOR INFORMATION ONLY

BASE AGGREGATE DENSE 3/4-INCH
(FOR INFORMATION ONLY)

STATION		TO STATION	ROADWAY	305.0110 BASE AGGREGATE DENSE 3/4-INCH FOR ROADWAY SHOULDER TON
PROJECT 4616-03-71				
62+50	-	68+00	CTH ZZ	0
68+00	-	74+00	CTH ZZ	0
74+00	-	80+00	CTH ZZ	0
80+00	-	83+50	CTH ZZ	2
		PROJECT TOTAL		2

REMOVING SIGNS
(FOR INFORMATION ONLY)

SIGN NO.	STA	DIRECTION	LOCATION	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
PROJECT 4616-03-71					
R100	65+10	RT	CTH ZZ	1	---
R101	65+95	LT	CTH ZZ	1	---
R102	74+43	RT	CTH ZZ	1	1
R102A	80+35	LT	CTH ZZ	1	---
		PROJECT TOTALS		4	1

ASPHALTIC ITEMS
(FOR INFORMATION ONLY)

STATION		TO STATION	ROADWAY	455.0605 TACK COAT GAL	460.6223 HMA PAVEMENT 3 MT 58-28 S TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
PROJECT 4616-03-71							
62+75	-	68+00	CTH ZZ	97	232	185	2
68+00	-	74+00	CTH ZZ	128	307	245	0
74+00	-	80+00	CTH ZZ	128	307	245	0
80+00	-	83+50	CTH ZZ	75	180	144	3
			PROJECT TOTALS	428	1,025	820	5

WORK BY OTHERS – FOR INFORMATION ONLY

3

3

CLEARING
(FOR INFORMATION ONLY)

STATION	TO	STATION	ROADWAY	201.0105 CLEARING STA	COMMENT
PROJECT 4616-03-71					
62+50	-	68+00	CTH ZZ	5	
68+00	-	74+00	CTH ZZ	6	
74+00	-	80+00	CTH ZZ	6	
80+00	-	83+50	CTH ZZ	4	
			PROJECT TOTALS	21	

PERMANENT SIGNS
(FOR INFORMATION ONLY)

SIGN NO.	STA.	FACE DIRECTION	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	634.0616 POSTS WOOD 4x6x16 EACH	REMARKS
PROJECT 4616-03-71								
100	65+10 RT	NB	CTH ZZ	R2-1	24"x30"	5.00	1	
101	65+95 LT	SB	CTH ZZ	R2-1	24"x30"	5.00	1	
102	80+35 LT	SB	CTH ZZ	R2-1	24"x30"	5.00	1	
				PROJECT TOTALS		15.00	3	

TRAFFIC CONTROL
(FOR INFORMATION ONLY)

LOCATION	APPROX. SERVICE DAYS	643.1050 TRAFFIC CONTROL SIGNS PCMS NO IN SERVICE	643.1050 TRAFFIC CONTROL SIGNS PCMS DAYS
PROJECT 4616-03-71			
CTH ZZ / HIGH ST	70	0	0
CTH ZZ / CLAY ST	70	0	0
CLAY ST	70	0	0
MALLARD RD	70	0	0
CTH ZZ / MEADOWLARK	70	0	0
CTH ZZ/ PARTRIDGE ROAD	70	0	0
CTH ZZ/ TETZLAFF	70	0	0
CTH ZZ/ STH 32/57	70	0	0
UNDISTRIBUTED	70	2	14
		PROJECT TOTALS	14

PAVEMENT MARKING
(FOR INFORMATION ONLY)

STATION - STATION			ROADWAY	646.1005 LINE PAINT 4-INCH (YELLOW) LF	646.1005 LINE PAINT 4-INCH (WHITE) LF
PROJECT 4616-03-71					
62+50	-	75+50	CTH ZZ	439	--
75+50	-	83+50	CTH ZZ	1,000	50
			SUBTOTALS	1,439	50
			TOTAL	1,489	

LOCATING NO-PASSING ZONES
(FOR INFORMATION ONLY)

STATION - STATION			ROADWAY	648.0100 LOCATING NO-PASSING ZONES MI
PROJECT 4616-03-71				
62+75	-	75+50	CTH ZZ	0.24
75+50	-	83+50	CTH ZZ	0.15
			TOTAL	0.39

PROJECT NUMBER 4616-03-71 - 4.01
SHEET SHEET 2 OF 2
AMENDMENT NO:___

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

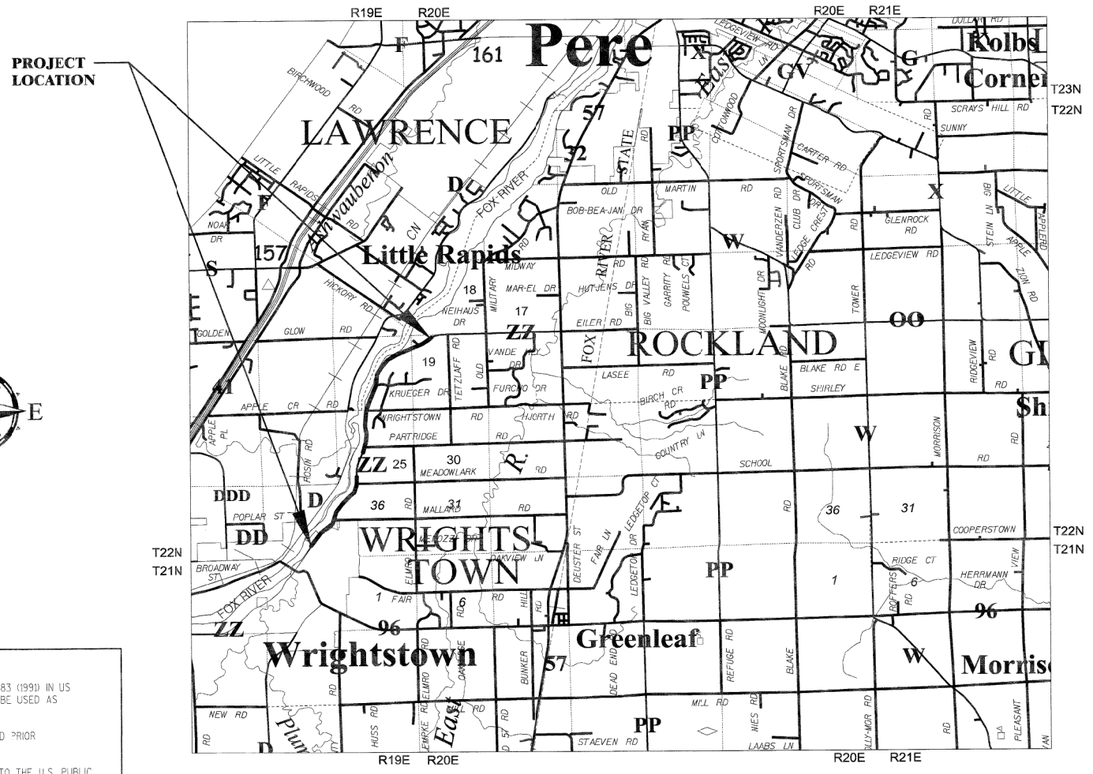
TRANSPORTATION PROJECT PLAT TITLE SHEET

4616-03-71

CLAY STREET TO TETZLAFF ROAD

CTH ZZ

BROWN COUNTY



LAYOUT
SCALE 0 1 MI.

CONVENTIONAL SYMBOLS

SECTION LINE		SECTION CORNER	
QUARTER LINE		NOTATION FOR COMBUSTABLE FLUIDS	CAUTION
SIXTEENTH LINE		NOTATION FOR HIGH VOLTAGE TRANSMISSION LINES	CAUTION
NEW REFERENCE LINE			
NEW R/W LINE			
EXISTING R/W LINE			
PROPERTY LINE	P.L.		
LOT, TIE & OTHER MINOR LINES			
CORPORATE LIMITS			
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)	W (TYPE)		
FEE ACQUISITION AREA (HATCHING VARIES BY OWNER)			
TEMPORARY LIMITED EASEMENT AREA			
EASEMENT AREA (HIGHWAY, PERMANENT LIMITED, OR RESTRICTED DEVELOPMENT)			
TRANSMISSION STRUCTURES			
BUILDING			
NATIONAL GEODETIC SURVEY MONUMENT			
SIXTEENTH CORNER MONUMENT			

R/W MONUMENT			
NON-MONUMENTED R/W POINT			
FOUND IRON PIN	IP		
VALVE (GAS, WATER, ETC.)	(TYPE)		
SIGN	SIGN		
OFF-PREMISE SIGN	SIGN		
	COMPENSABLE	NON-COMPENSABLE	
ELECTRIC POLE			
TELEPHONE POLE			
PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)			
ACCESS CONTROLLED BY ACQUISITION			
NO ACCESS (BY STATUTORY AUTHORITY)			
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)			
BRIDGE		PARCEL NUMBER	25
		UTILITY NUMBER	40

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	POINT OF COMPOUND CURVE	PCC
ACRES	AC	POINT OF INTERSECTION	PI
AHEAD	AH	PROPERTY LINE	PL
ALUMINUM	ALUM	RECORDED AS	(100')
AND OTHERS	ET AL	REFERENCE LINE	R/L
BACK	BK	REMAINING	REM
BLOCK	BLK	RIGHT	RT
CENTERLINE	C/L	RIGHT OF WAY	R/W
CERTIFIED SURVEY MAP	CSM	SECTION	SEC
CONCRETE	CONC	SEPTIC VENT	SEPV
COUNTY	CO	SQUARE FEET	SF
COUNTY TRUNK HIGHWAY	CTH	STATE TRUNK HIGHWAY	STH
DISTANCE	DIST	STATION	STA
CORNER	COR	SUBDIVISION	SUBD
DOCUMENT NUMBER	DOC	TANGENT	TAN
EASEMENT	EASE	TELEPHONE PEDESTAL	TP
EXISTING	EX	TEMPORARY LIMITED EASEMENT	TLE
GAS VALVE	GV	TRANSPORTATION PROJECT PLAT	TPP
GRID NORTH	GN	UNITED STATES HIGHWAY	USH
HIGHWAY EASEMENT	HE	VOLUME	V
IDENTIFICATION	ID		
LAND CONTRACT	LC		
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY NUMBER	NGS NO		
OUTLOT	CL		
PAGE	F		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		

CURVE DATA

LONG CHORD	LC
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	Δ
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD TRANSMISSION LINES	OH
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN REFERENCE SYSTEM COORDINATES (WISCRS) BROWN COUNTY, NAD 1983 (1991) IN US SURVEY FEET, VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES, GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1-INCH BY 24-INCH IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

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

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 TLE'S EXPIRE AT THE COMPLETION OF THE 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 OWNERS 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.

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\RW\E2166-PRW-TPP.DWG
APPRAISAL PLAT DATE : _____

PLOT DATE : 12/4/2017 12:12 PM PLOT BY : OMNNI ASSOCIATES, INC. - JAIRO MAZARIEGOS

TRANSPORTATION PROJECT PLAT NO: 4616-03-71 - 4.01

THAT PART OF LOT 1, BLOCK 1 ASSESSORS PLAT & REPLAT OF THE VILLAGE OF WRIGHTSTOWN (ORIGINAL PLAT), EAST SIDE FOX RIVER, BROWN COUNTY, WISCONSIN, LOCATED IN PART OF GOVERNMENT LOT 1, SECTION 2, T21N, R19E, ALSO PART OF OUTLOT 1, OUTLOT 2, OUTLOT 3, OUTLOT 4, BROWN COUNTY CERTIFIED SURVEY MAP, VOLUME 34, PAGE 53, LOCATED IN AND BEING A PART OF GOVERNMENT LOT 2, AND BEING PART LOT 1 AND OUTLOT 1, BROWN COUNTY CERTIFIED SURVEY MAP, VOLUME 40, PAGE 55, LOCATED IN GOVERNMENT LOT 1 AND 2, ALL IN SECTION 35, T22N, R19E, VILLAGE OF WRIGHTSTOWN, EAST SIDE FOX RIVER, BROWN COUNTY, WISCONSIN

RELOCATION ORDER CTH ZZ BROWN COUNTY
WRIGHTSTOWN - ROCKLAND

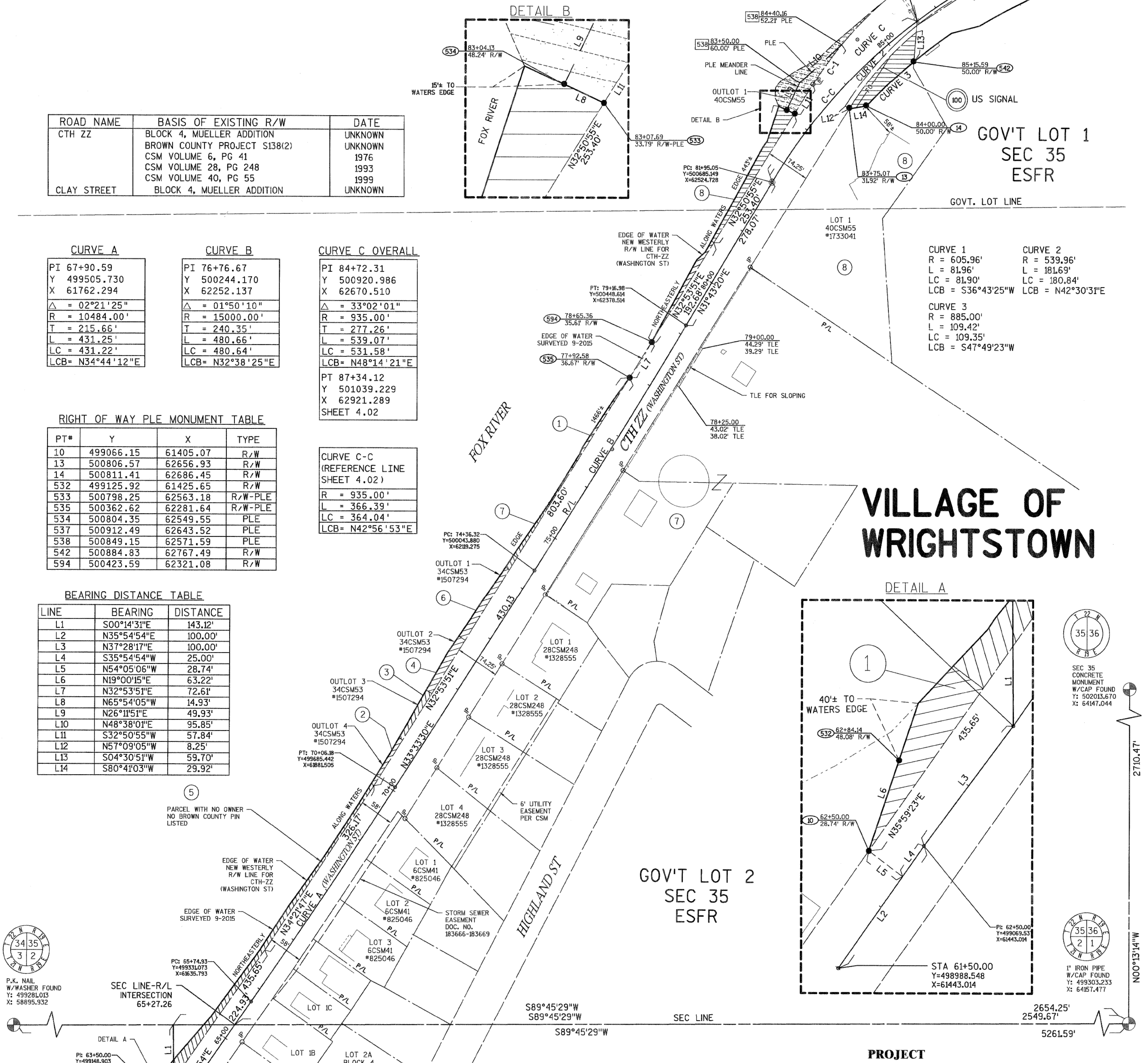
TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, BROWN COUNTY DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 83.07 AND 83.08, WISCONSIN STATUTES, BROWN COUNTY 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 PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE COUNTY FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF BROWN COUNTY, PURSUANT TO THE PROVISIONS OF SECTION 83.07 AND 83.08, WISCONSIN STATUTES.

REGISTER'S OFFICE
Brown Co. Wis
Received for record the 7th day of December A.D. 2017 at 3:33 o'clock P M. and recorded in Vol 1 of Transportation on page 178 Plats 179
Register of deeds
Sarah Liegeois Deputy

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 4616-03-71 - 4.01
SHEET 1 OF 2
AMENDMENT NO:___

SCALE, FEET
0 100 200



ROAD NAME	BASIS OF EXISTING R/W	DATE
CTH ZZ	BLOCK 4, MUELLER ADDITION	UNKNOWN
	BROWN COUNTY PROJECT S138(2)	UNKNOWN
	CSM VOLUME 6, PG 41	1976
	CSM VOLUME 28, PG 248	1993
	CSM VOLUME 40, PG 55	1999
CLAY STREET	BLOCK 4, MUELLER ADDITION	UNKNOWN

CURVE A

PI	67+90.59
Y	499505.730
X	61762.294
Δ	= 02°21'25"
R	= 10484.00'
T	= 215.66'
L	= 431.25'
LC	= 431.22'
LCB	= N34°44'12"E

CURVE B

PI	76+76.67
Y	500244.170
X	62252.137
Δ	= 01°50'10"
R	= 15000.00'
T	= 240.35'
L	= 480.66'
LC	= 480.64'
LCB	= N32°38'25"E

CURVE C OVERALL

PI	84+72.31
Y	500920.986
X	62670.510
Δ	= 33°02'01"
R	= 935.00'
T	= 277.26'
L	= 539.07'
LC	= 531.58'
LCB	= N48°14'21"E
PT	87+34.12
Y	501039.229
X	62921.289
SHEET 4.02	

CURVE C-C (REFERENCE LINE SHEET 4.02)

R	= 935.00'
L	= 366.39'
LC	= 364.04'
LCB	= N42°56'53"E

CURVE 1
R = 605.96'
L = 81.96'
LC = 81.90'
LCB = S36°43'25"W

CURVE 2
R = 539.96'
L = 181.69'
LC = 180.84'
LCB = N42°30'31"E

CURVE 3
R = 885.00'
L = 109.42'
LC = 109.35'
LCB = S47°49'23"W

RIGHT OF WAY PLE MONUMENT TABLE

PT#	Y	X	TYPE
10	499066.15	61405.07	R/W
13	500806.57	62656.93	R/W
14	500811.41	62686.45	R/W
532	499125.92	61425.65	R/W
533	500798.25	62563.18	R/W-PLE
535	500362.62	62281.64	R/W-PLE
534	500804.35	62549.55	PLE
537	500912.49	62643.52	PLE
538	500849.15	62571.59	PLE
542	500884.83	62767.49	R/W
594	500423.59	62321.08	R/W

BEARING DISTANCE TABLE

LINE	BEARING	DISTANCE
L1	S00°14'31"E	143.12'
L2	N35°54'54"E	100.00'
L3	N37°28'17"E	100.00'
L4	S35°54'54"W	25.00'
L5	N54°05'06"W	28.74'
L6	N19°00'15"E	63.22'
L7	N32°53'51"E	72.61'
L8	N65°54'05"W	14.93'
L9	N26°11'51"E	49.93'
L10	N48°38'01"E	95.85'
L11	S32°50'55"W	57.84'
L12	N57°09'05"W	8.25'
L13	S04°30'51"W	59.70'
L14	S80°41'03"W	29.92'

UTILITY INTEREST REQUIRED

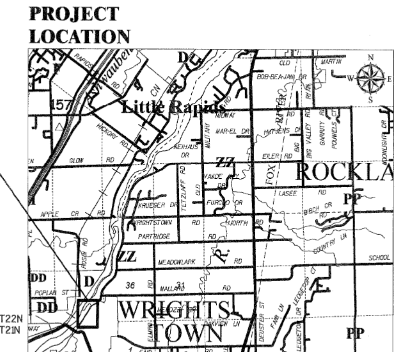
UTILITY	OWNERS	INTEREST REQUIRES
100	US SIGNAL	RELEASE OF RIGHTS

SCHEDULE OF LANDS AND INTEREST

"OWNERS" NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE COUNTY

PARCEL NO.	OWNER	INTEREST REQUIRED	AREA ACRES REQUIRED NEW	EXISTING	TOTAL	TLE AREA	PLE AREA
1	VILLAGE OF WRIGHTSTOWN	FEE TLE	0.09 AC	---	0.09 AC	0.01 AC	---
2	HENRY W. OLLILIA AND BEVERLY J. OLLILIA	FEE	0.01 AC	---	0.01 AC	---	---
3	BVDH PROPERTIES, LLC.	FEE	0.02 AC	---	0.02 AC	---	---
4	KRIS J. STEPHENS	FEE	0.03 AC	---	0.03 AC	---	---
5	UNKNOWN	FEE	0.12 AC	---	0.12 AC	---	---
6	JEFFREY LEMERY AND SUSAN LEMERY	FEE	0.03 AC	---	0.03 AC	---	---
7	CHARLES A. TOMES AND CAROL A. TOMES	FEE	0.02 AC	---	0.02 AC	---	---
8	DARRELL J. KLISTER, GAYLEN J. LABREC AND YVONNE M. LABREC	FEE PLE	0.20 AC	---	0.20 AC	---	0.11 AC

PROJECT LOCATION



OMNI ASSOCIATES
OMNI ASSOCIATES
ONE SYSTEMS DRIVE
APPLETON, WI 54914-1654
PHONE (920) 735-6900
FAX (920) 830-6100

I, DAVID A. YURK, 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 COUNTY, I HAVE AND MAPPED THIS SURVEYED TRANSPORTATION PROJECT PLAT AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN DAVID A. YURK S-2648 OSHKOSH, WI PROFESSIONAL LAND SURVEYOR

(SIGNATURE) David a. Yurk DATE 12-7-2017
(PRINTED NAME) DAVID A. YURK
(REGISTRATION NO.) S-2648

THIS PLAT AND RELOCATION ORDER IS APPROVED FOR THE BROWN COUNTY

(SIGNATURE) Paul Fontecchio DATE 12/7/17
(PRINTED NAME) Paul Fontecchio

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\RW\E2166-PRW-TPP.DWG
APPRAISAL PLAT DATE : ----------------

PLOT DATE : 12/7/2017 11:57 AM PLOT BY : OMNI ASSOCIATES, INC. - JAIRO MAZARIEGOS

4.---

4

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
16	63+23, 23' LT	HYDRANT TAG BOLT SW QUAD CLAY ST	609.39

APPROXIMATE EDGE OF WATER, TYP
SLOPE INTERCEPT, TYP
FOX RIVER
EXISTING VILLAGE UTILITIES (TO REMAIN)
ADJUST WATER VALVE
REMOVE STORM SEWER
RETAINING WALL R-5-306
APPROXIMATE EDGE OF WATER & SLOPE INTERCEPT
DOCK (TO BE REMOVED)
WPS
PROP R/W
REMOVE INLET
EXIST R/W
BM 16
CTH ZZ (WASHINGTON ST)
ADJUST SANITARY MANHOLE COVER
WPS ELEC
MATCH LINE STA 68+00
62'RL'
63'RL'
64'RL'
65'RL'
66'RL'
67'RL'
68'
BEGIN PROJECT
STA 62+75.00
Y=499,089.378
X=61,458.223
WPS ELEC/ AT&T/TWC/ US SIGNAL
SAWCUT AND MATCH EXISTING PAVEMENT
NETLEC
CLAY ST
WPS GAS
ADJUST WATER VALVE
SECTION LINE
CAUTION
WPS ELEC/ AT&T/ TWC/ US SIGNAL
SLOPE INTERCEPT, TYP
P/L

LEGEND:
X REMOVE TREE(S)

PVI STA = 62+75.00 RL
PVI ELEV = 607.35
PVI STA = 63+00.00 RL
PVI ELEV = 607.44
PVI STA = 63+50.00 RL
PVI ELEV = 607.79
PVI STA = 64+25.00 RL
PVI ELEV = 608.46
VPC STA = 65+05.00RL
VPC ELEV = 609.50
VPI STA = 65+50.00RL
VPI ELEV = 610.08
g1 = 1.29%
g2 = 0.30%
L = 90.00
K = 91
VPT STA = 65+95.00RL
VPC ELEV = 610.22
PVI STA = 67+00.00 RL
PVI ELEV = 610.53
0.37%
0.69%
0.90%
1.29%
0.30%
PROPOSED ℄ PROFILE
EXISTING ℄ PROFILE

620 615 610 605

607.1 607.2 607.3 607.35 607.44 607.61 607.79 608.01 608.24 608.46 608.79 609.11 609.43 609.73 609.97 610.13 610.23 610.31 610.38 610.46 610.53 610.66 610.78 610.90 611.03

62+00 62+25 62+50 62+75 63+00 63+25 63+50 63+75 64+00 64+25 64+50 64+75 65+00 65+25 65+50 65+75 66+00 66+25 66+50 66+75 67+00 67+25 67+50 67+75 68+00

PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	PLAN AND PROFILE: CTH ZZ	SHEET 39	E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-050100-PP.DWG
LAYOUT NAME - ****
PLOT DATE : 12/1/2020 12:16 PM
PLOT BY : OMNNI ASSOCIATES - ANDY WESTBROOK
PLOT SCALE : **********

FOX RIVER

MATCH LINE STA 68+00

MATCH LINE STA 74+00

CTH ZZ (WASHINGTON ST)

APPROXIMATE EDGE OF WATER, TYP

RETAINING WALL R-5-306

DOCK (TO BE REMOVED)

REMOVE STORM SEWER

DOCK (TO BE REMOVED)

DOCK (TO BE REMOVED)

PROP R/W

EXIST R/W

WPS ELEC

WPS GAS

ADJUST SANITARY MANHOLE COVER

WPS ELEC/ AT&T/ TWC/ US SIGNAL

CAUTION

SLOPE INTERCEPT, TYP

WPS ELEC/ AT&T/ TWC

US SIGNAL

P/L

LEGEND:
X REMOVE TREE(S)

PVI STA = 70+25.00 RL
PVI ELEV = 612.15

VPC STA = 72+65.00RL
VPC ELEV = 613.01

VPI STA = 73+75.00RL
VPI ELEV = 613.40
g1 = 0.36%
g2 = -0.49%
L = 220.00
K = 260

VPT STA = 74+85.00RL
VPC ELEV = 612.86

HP STA = 73+57.80RL
HP ELEV = 613.17HP

PROPOSED ℄ PROFILE

EXISTING ℄ PROFILE

0.50%

0.36%

PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	PLAN AND PROFILE: CTH ZZ	SHEET 40	E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-050100-PP.DWG
LAYOUT NAME - ****

PLOT DATE : 5/14/2020 2:34 PM PLOT BY : OMNNI ASSOCIATES - ANDY WESTBROOK PLOT SCALE : **********

WISDOT/CADDS SHEET 44

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
15	74+55, 35' RT	HYD TAG BOLT SW COR WW TREATMENT	614.74

FOX RIVER

N

MATCH LINE STA 74+00

MATCH LINE STA 80+00

APPROXIMATE EDGE OF WATER, TYP

REMOVE STORM SEWER

REMOVE EXISTING SANITARY STORM OUTFALL PIPE

RETAINING WALL R-5-306

REMOVE STORM SEWER

PROP R/W

EXIST R/W

EXIST R/W

PROP R/W

WPS ELEC

WPS ELEC

ADJUST SANITARY MANHOLE COVER

ADJUST SANITARY MANHOLE COVER

ADJUST SANITARY MANHOLE COVER

75'RL'

76'RL'

77'RL'

78'RL'

79'RL'

80'

CTH ZZ (WASHINGTON ST)

WPS GAS

BM 15

EXIST R/W

WPS ELEC

TWC

WPS ELEC/ AT&T

US SIGNAL

CAUTION

SLOPE INTERCEPT, TYP

WPS ELEC/ AT&T

WPS GAS

AT&T

TLE

AT&T

US SIGNAL

EXIST R/W

REMOVE INLET

5' CONCRETE SIDEWALK

P/L

P/L

LEGEND:
X REMOVE TREE(S)

5

5

620

615

610

605

VPT STA = 74+85.00RL
VPC ELEV = 612.86

PVI STA = 75+60.00 RL
PVI ELEV = 612.49

PVI STA = 77+20.00 RL
PVI ELEV = 611.52

-0.49%

-0.61%

-0.68%

PROPOSED ℄ PROFILE

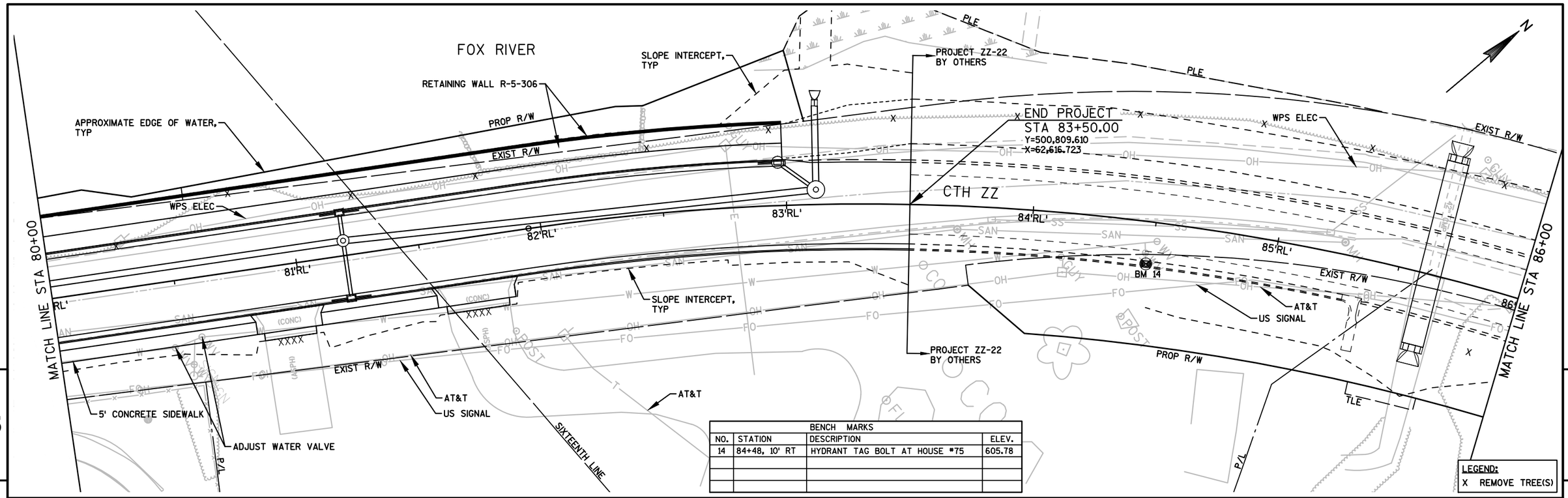
EXISTING ℄ PROFILE

EXISTING ℄ PROFILE

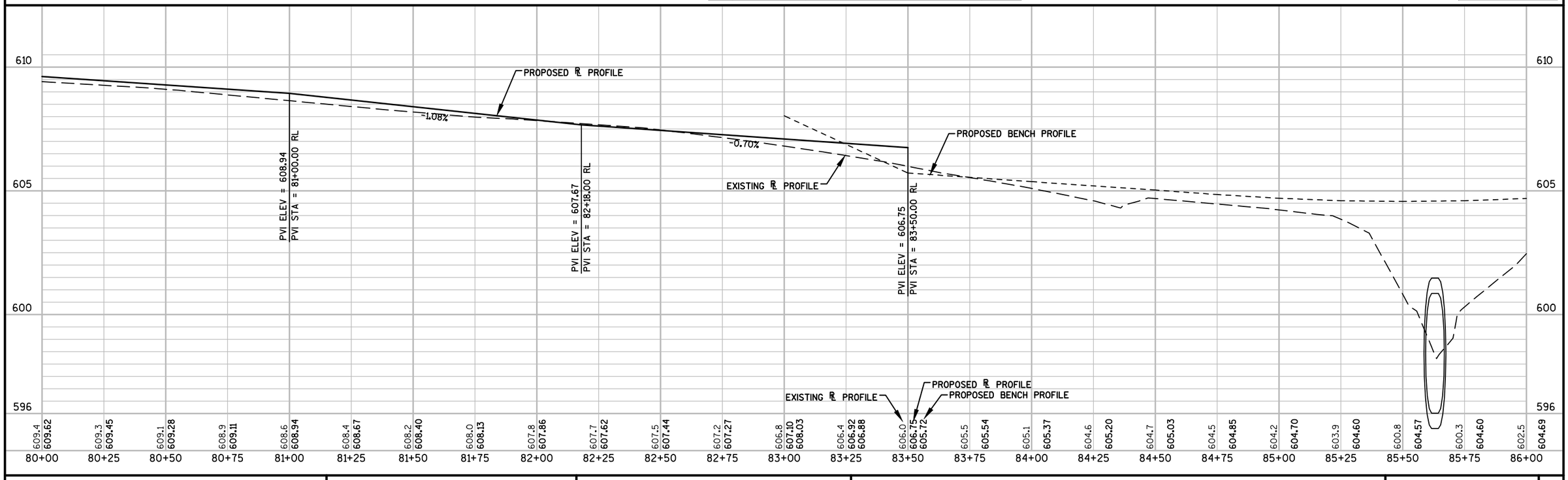
PROPOSED ℄ PROFILE

612.9	612.8	612.8	612.7	612.6	612.5	612.4	612.2	612.1	611.9	611.8	611.6	611.4	611.2	611.1	610.8	610.6	610.4	610.2	610.1	609.9	609.8	609.7	609.6	609.4
613.14	613.09	613.01	612.91	612.79	612.67	612.54	612.40	612.25	612.10	611.95	611.79	611.64	611.49	611.32	611.15	610.98	610.81	610.64	610.47	610.30	610.13	609.96	609.79	609.62
74+00	74+25	74+50	74+75	75+00	75+25	75+50	75+75	76+00	76+25	76+50	76+75	77+00	77+25	77+50	77+75	78+00	78+25	78+50	78+75	79+00	79+25	79+50	79+75	80+00

PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	PLAN AND PROFILE: CTH ZZ	SHEET 41	E



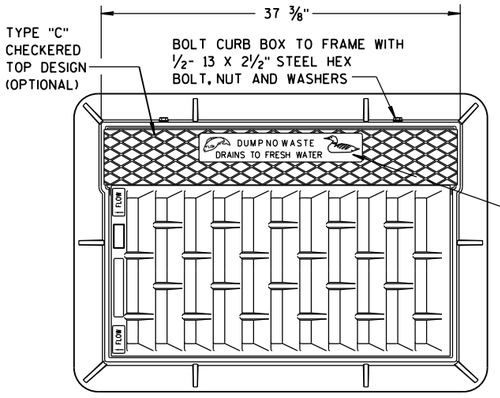
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
14	84+48, 10' RT	HYDRANT TAG BOLT AT HOUSE #75	605.78



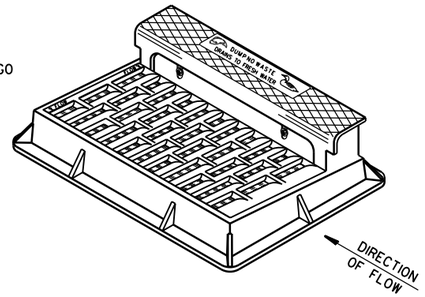
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	PLAN AND PROFILE: CTH ZZ	SHEET 42	E

Standard Detail Drawing List

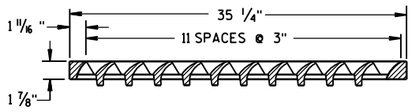
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A08-02	CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER
08A09-02	CATCH BASINS 2X3-FT AND 2.5X3-FT
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-21A	CONCRETE CURB & GUTTER
08D01-21B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

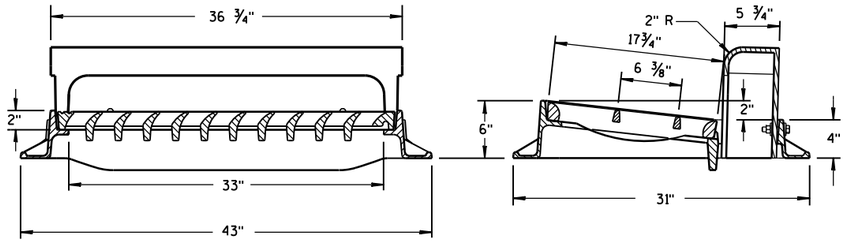


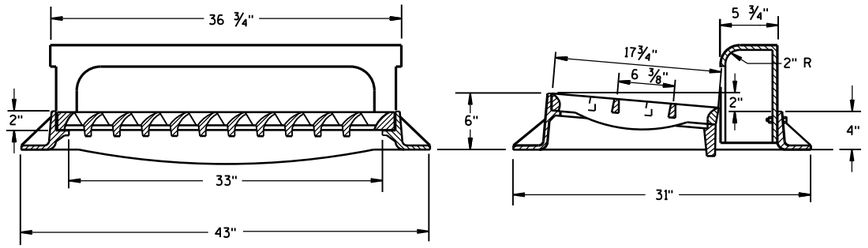
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

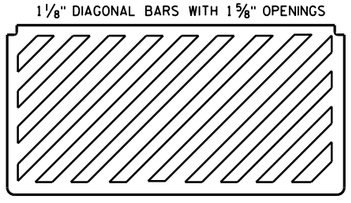






TYPE "H"

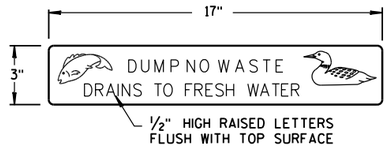
NOTE: EITHER CASTING IS ACCEPTABLE



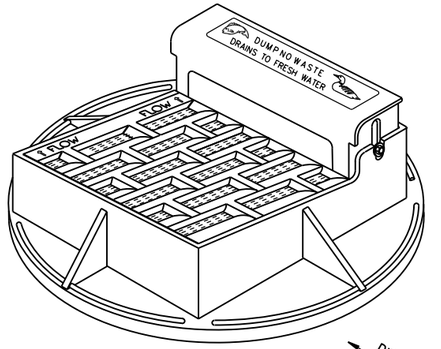
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

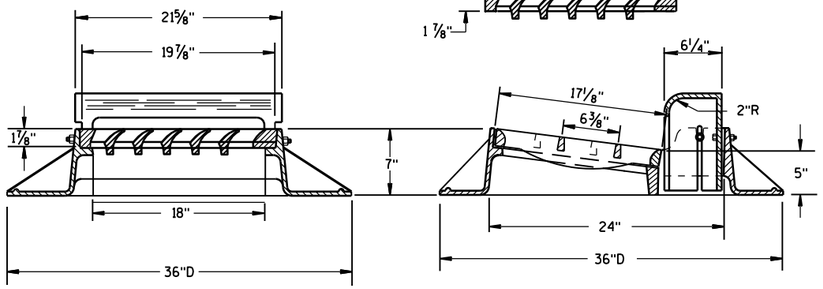


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



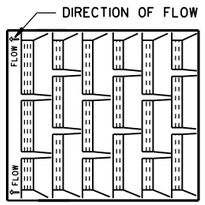
TYPE "A"

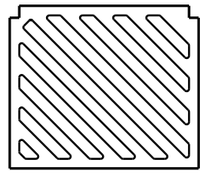
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

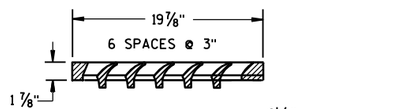


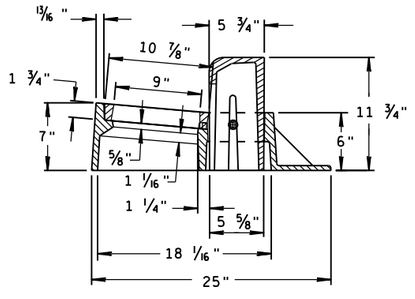


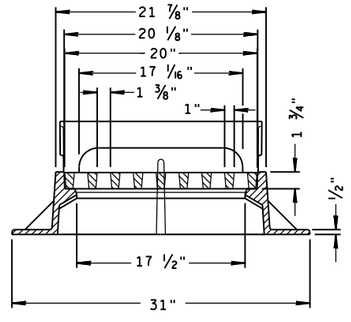
SPECIAL GRATE FOR TYPE "A" COVER

(MEASURES 19 3/4" X 17" X 1 7/8")

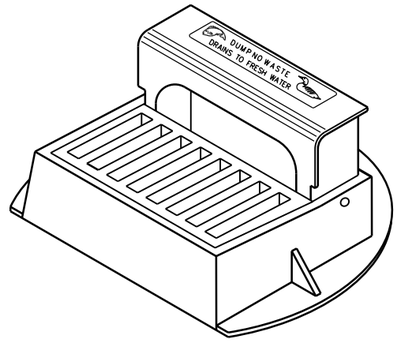
(NOTED AS TYPE A-S ON DRAINAGE TABLE)







TYPE "Z"



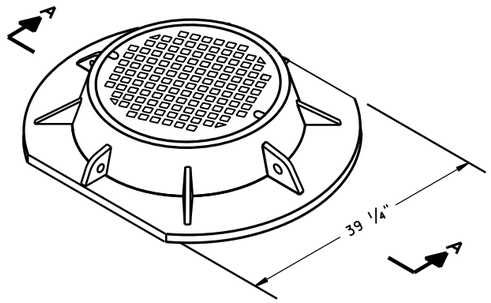
INLET COVERS
TYPE A, H, A-S, H-S & Z

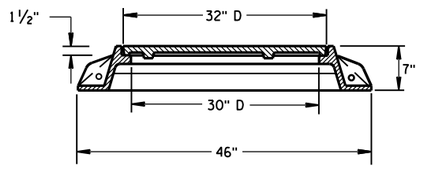
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

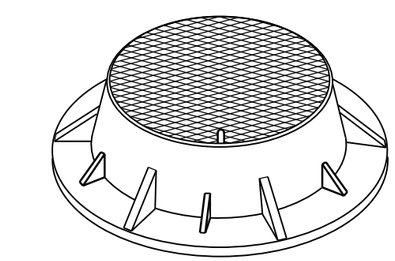
6

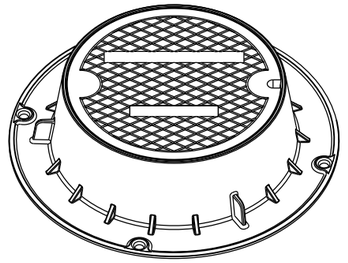
S.D.D. 8 A 5-19a

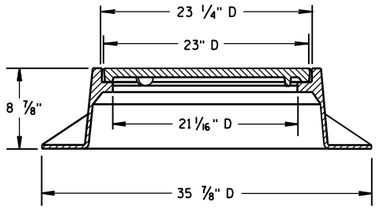


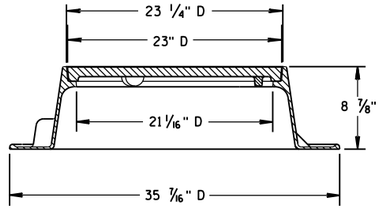


SECTION A-A
TYPE "K"









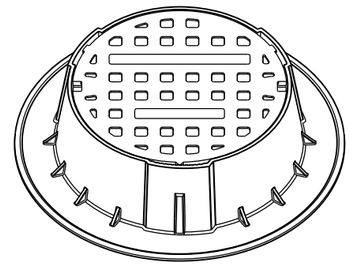
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

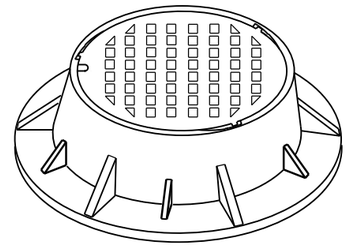
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

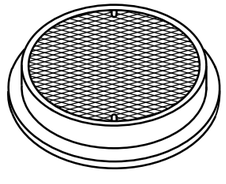
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

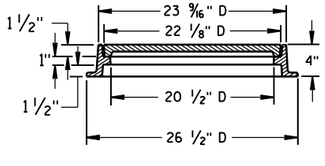
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



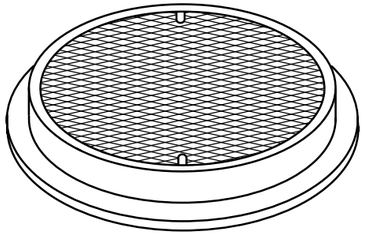


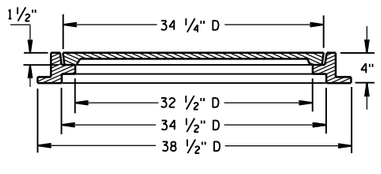
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



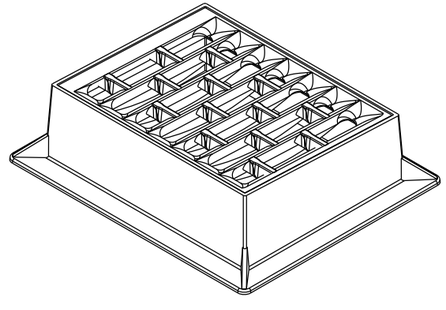


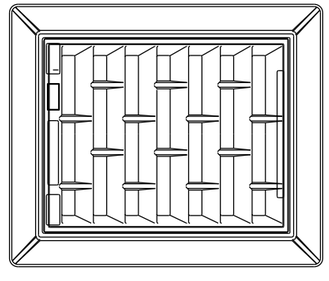
TYPE "L"

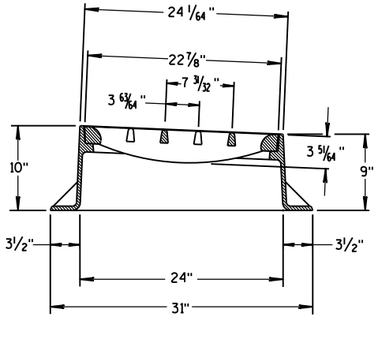


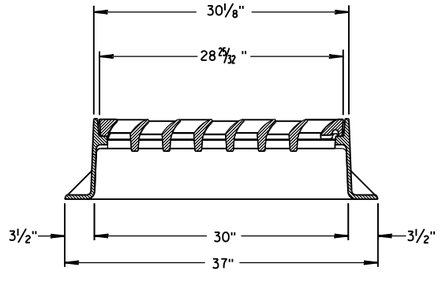


TYPE "M"









INLET COVER TYPE "BW"

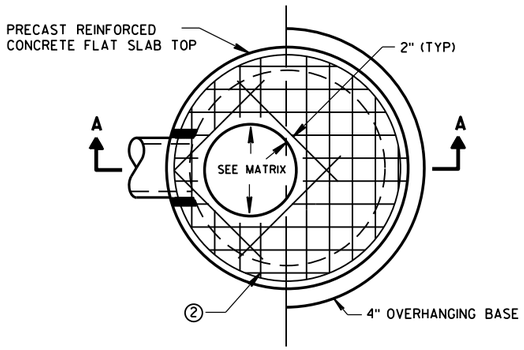
INLET COVER TYPE BW
MANHOLE COVERS, TYPE K, J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

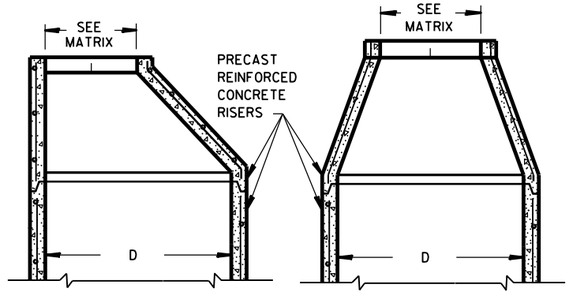
APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 A 5-19d

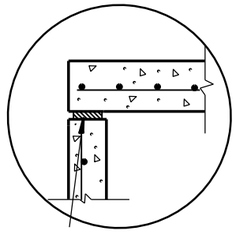


PLAN VIEW CIRCULAR OPENING

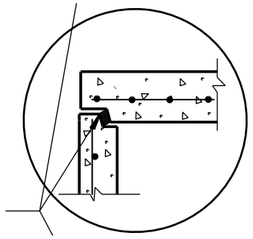


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

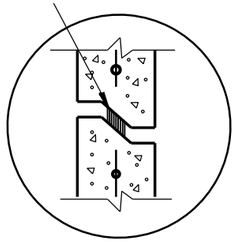
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT

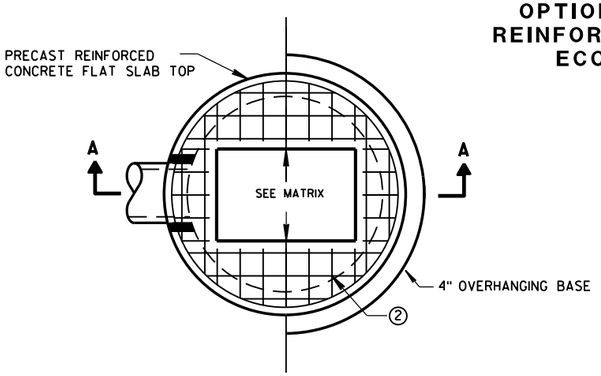


TOP WITH TONGUE AND GROOVE JOINT

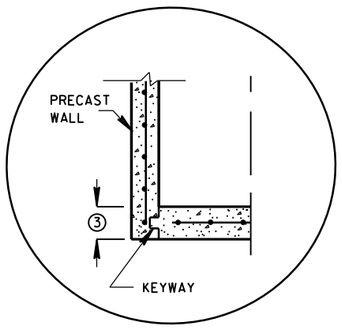


RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

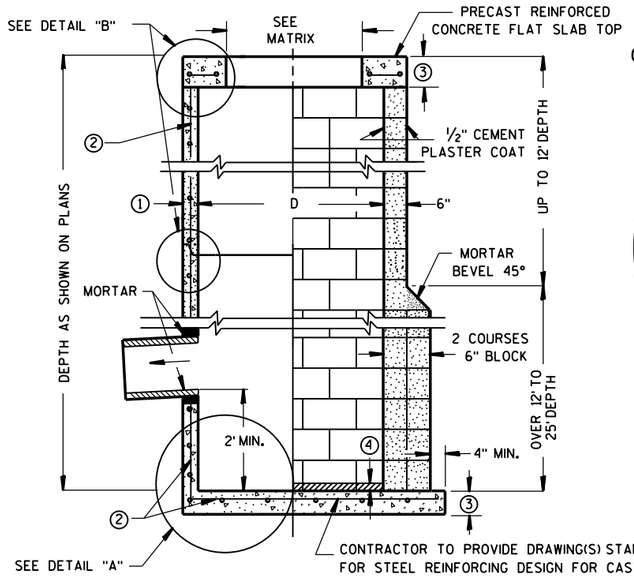


PLAN VIEW RECTANGULAR OPENING



JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)

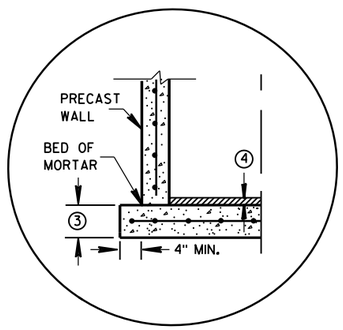
PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SECTION A-A

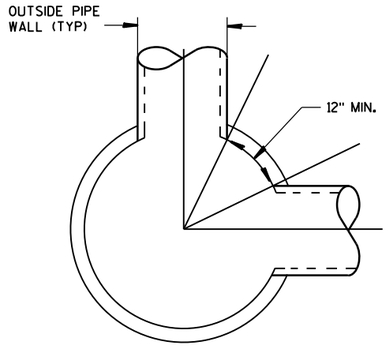
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT AND 7 INCHES FOR 6-FT DIAMETER PRECAST CATCH BASINS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

④ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER OPENING MATRIX

CATCH BASIN SIZE	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
	OPENING SIZE (FT)											
3-FT	2X2	X	X					X		X		
	2 DIA.				X							X
4-FT-6-FT	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2 DIA.				X							X
	2X3						X					
	2.5X3					X						

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	30

CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

STATE OF WISCONSIN
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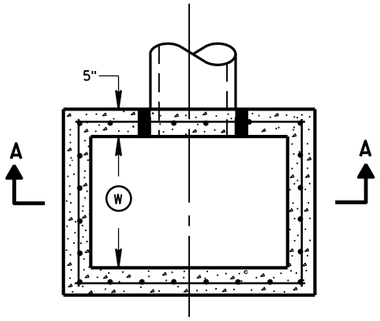
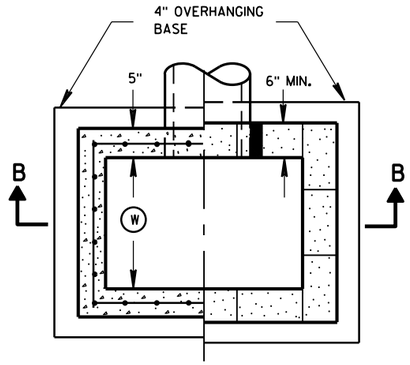
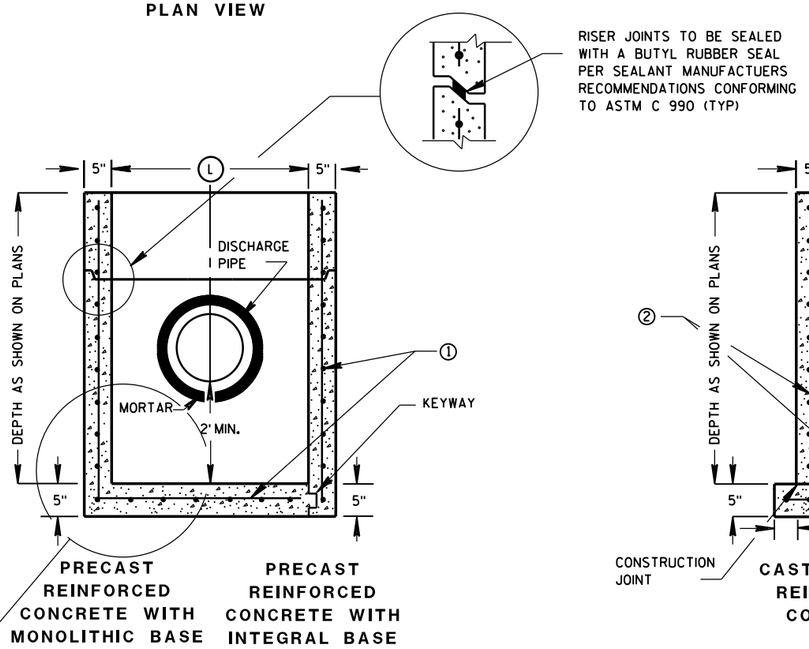


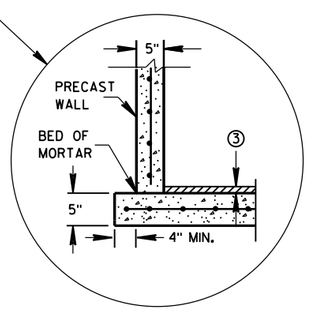
PLAN VIEW



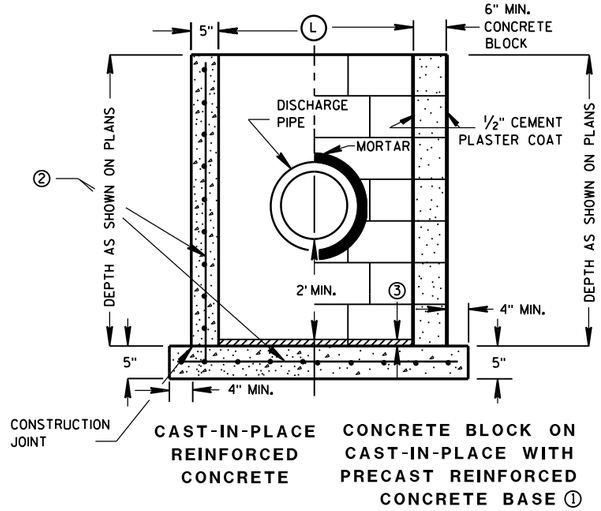
PLAN VIEW



SECTION A-A



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



SECTION B-B

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST CATCH BASIN UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

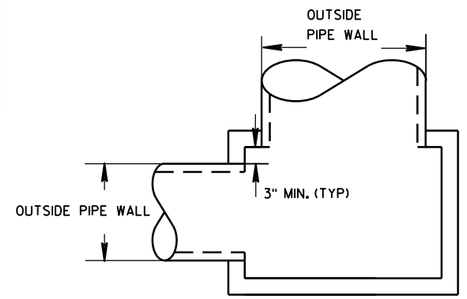
③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER MATRIX

CATCH BASIN SIZE		INLET COVER TYPE	F	ALL H'S
	WIDTH (W) (FT)	LENGTH (L) (FT)		
2X3-FT	2	3		X
2.5X3-FT	2.5	3	X	

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

CATCH BASINS 2X3-FT AND 2.5X3-FT

CATCH BASINS 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
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FHWA

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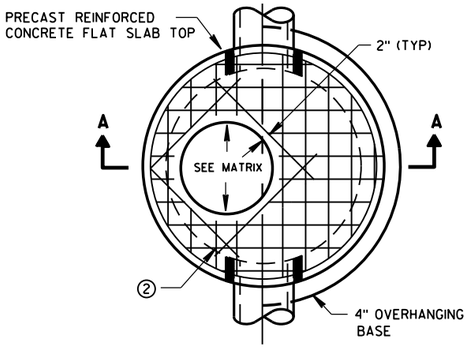
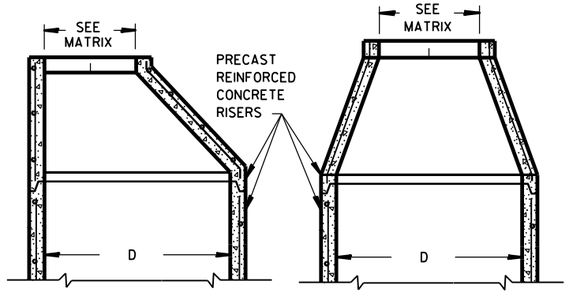
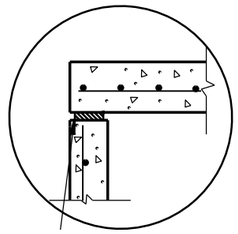


PLAN VIEW CIRCULAR OPENING

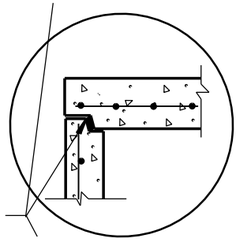


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

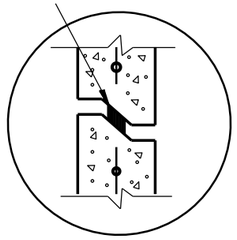


TOP WITH PLAIN END JOINT



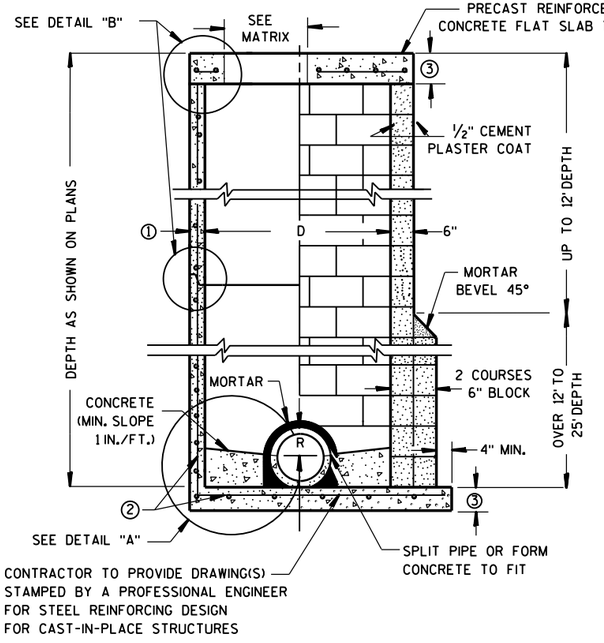
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



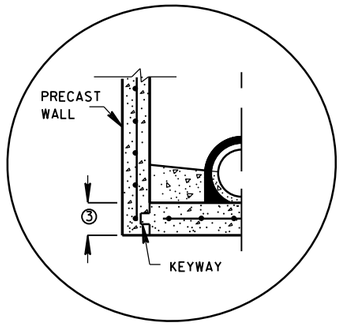
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

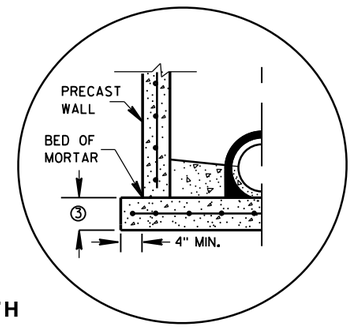


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

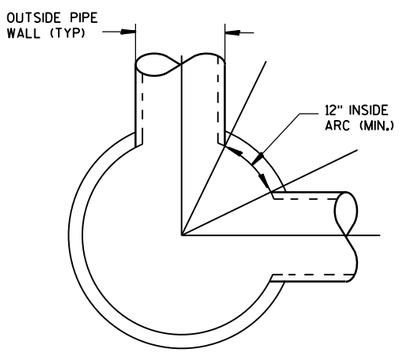


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
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APPROVED

Sept., 2016
DATE

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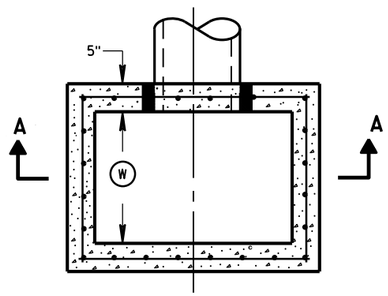
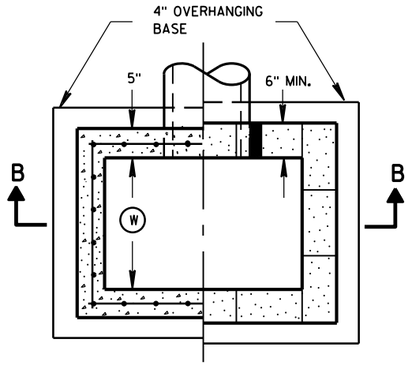
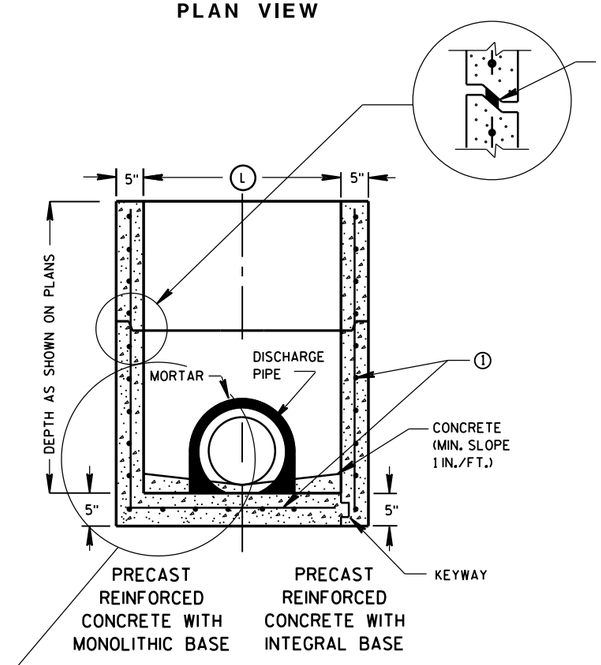


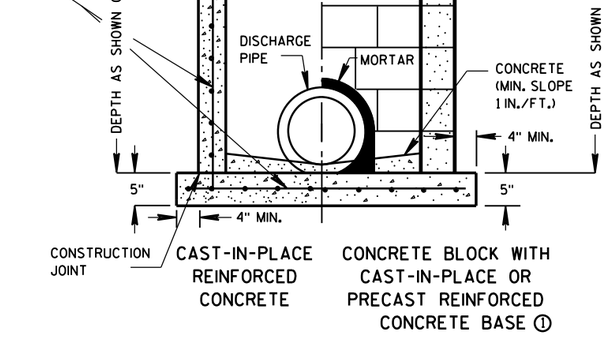
PLAN VIEW



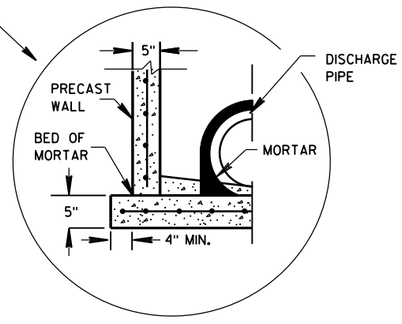
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

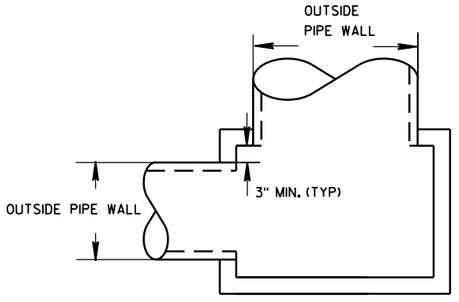
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
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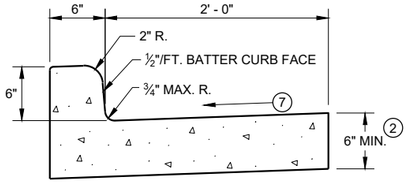
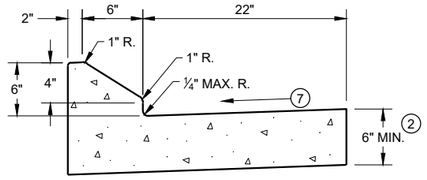
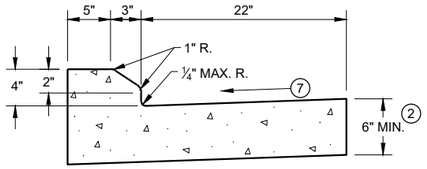


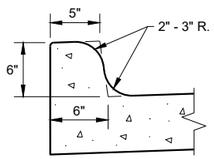
TYPES A[1] & D



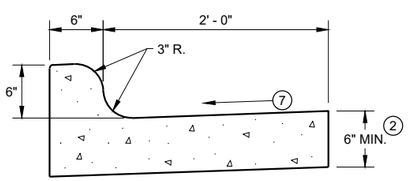
6" SLOPED CURB TYPES G[1] & J



4" SLOPED CURB TYPES G[1] & J

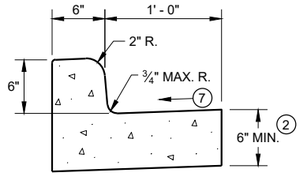


TYPES K[1] & L
(OPTIONAL CURB SHAPE)



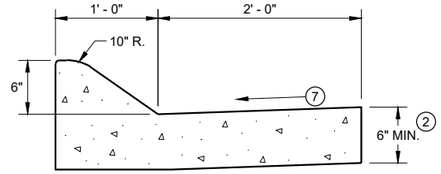
TYPES K[1] & L

CONCRETE CURB AND GUTTER 30"

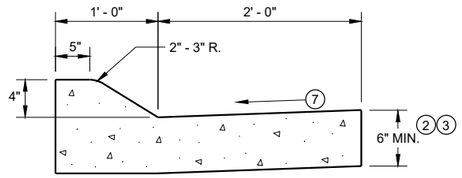


TYPES A[1] & D

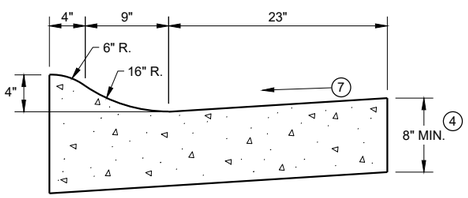
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A[1] & D



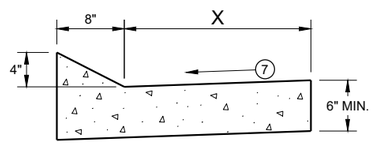
4" SLOPED CURB TYPES A[1] & D



4" SLOPED CURB TYPES R[1] & T[5]

CONCRETE CURB AND GUTTER 36"

TBT & TBTT	X
30"	22"
36"	28"

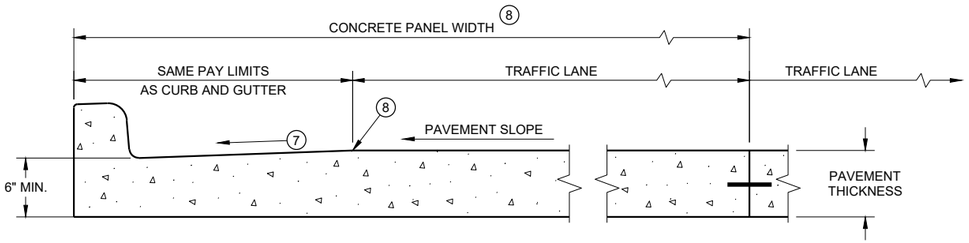


TYPES TBT & TBTT[1]

CONCRETE CURB AND GUTTER

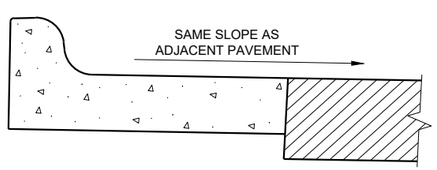
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER[6]
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

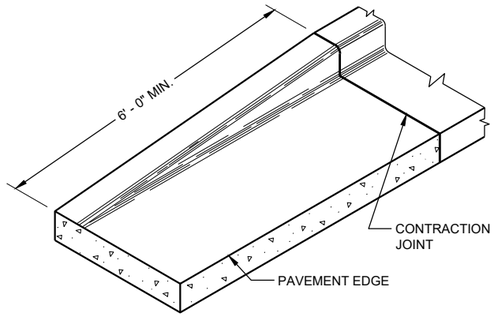
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

1. TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
3. USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
4. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
5. THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
6. WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
7. USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
8. INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

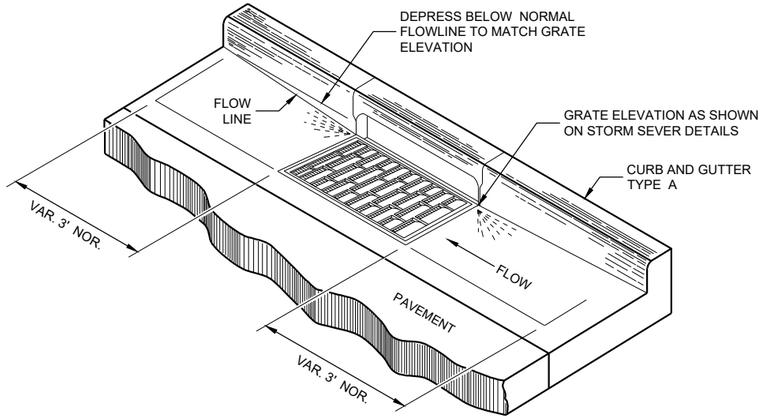
CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 08D01 - 21a



END SECTIONCURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

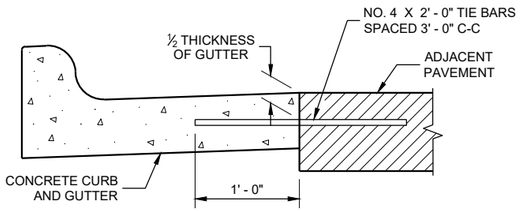
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

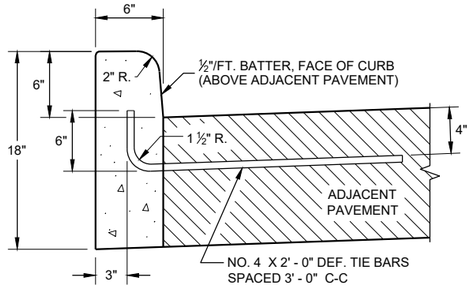
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

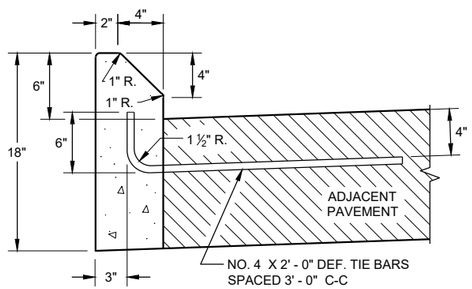
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

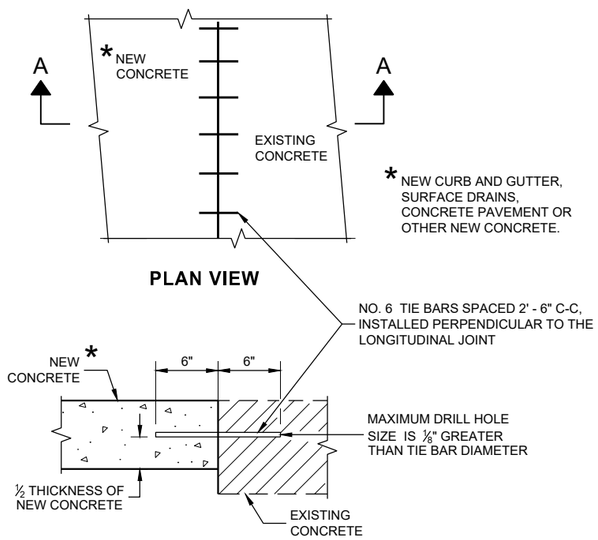


TYPES A (1) & D



TYPES G (1) & J

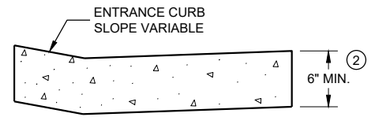
CONCRETE CURB



PLAN VIEW

SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

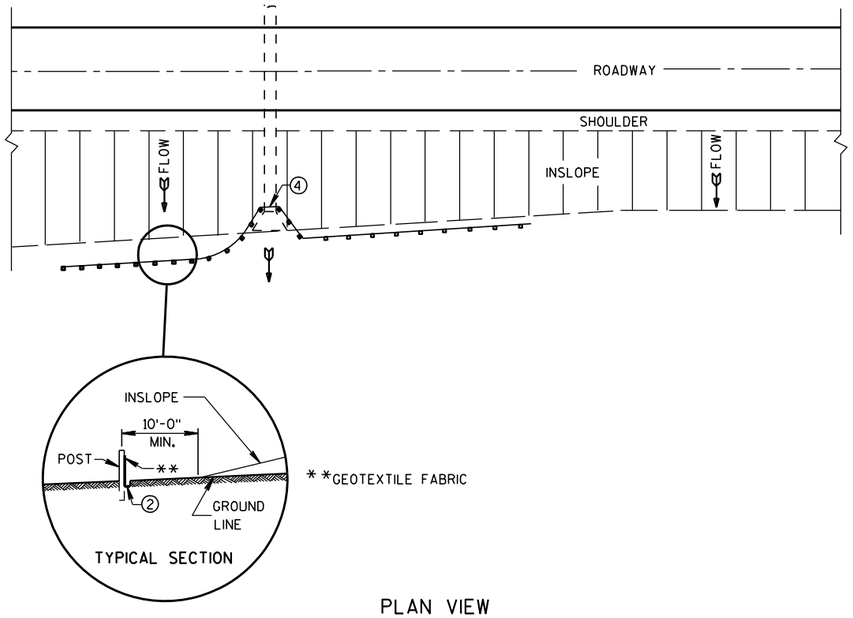
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

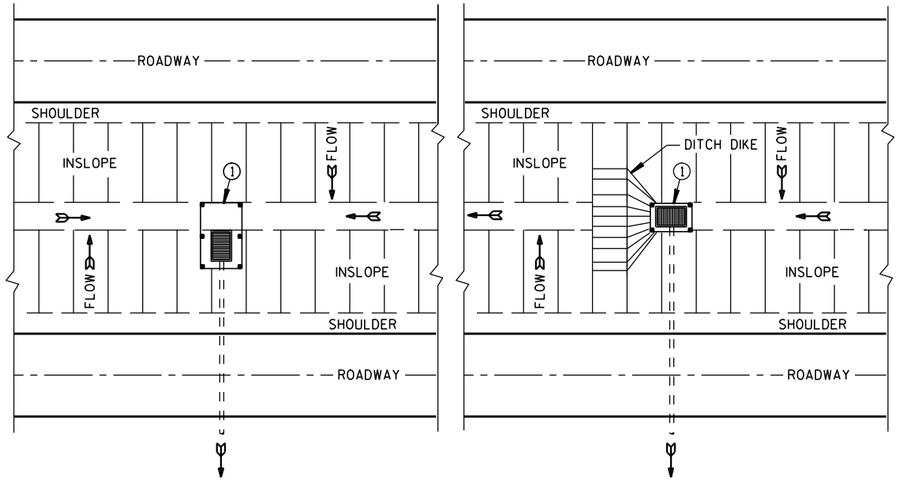
6

SDD08D01 - 21b



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



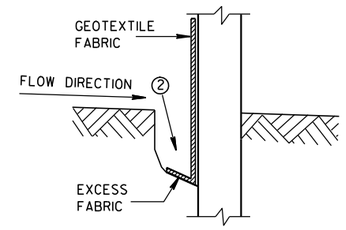
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

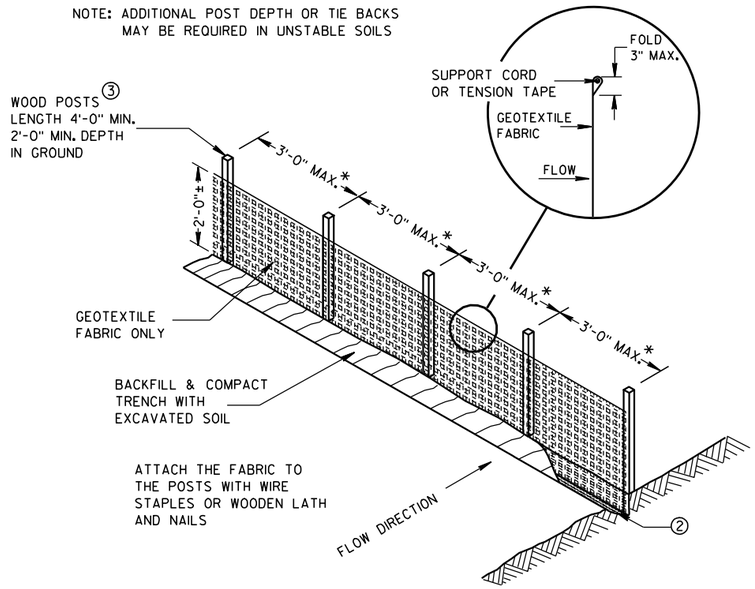
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

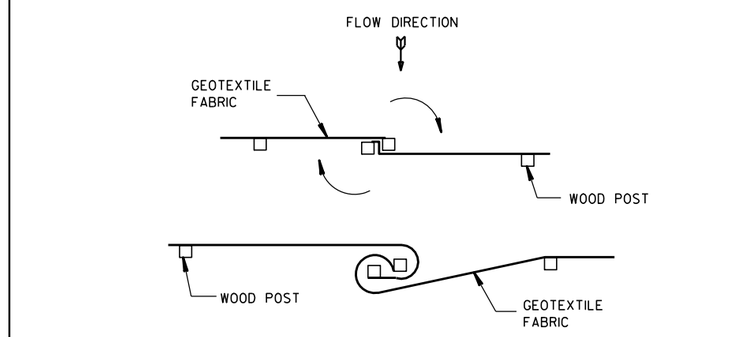


TRENCH DETAIL

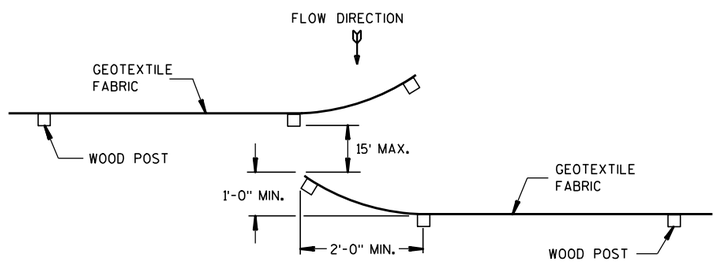


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

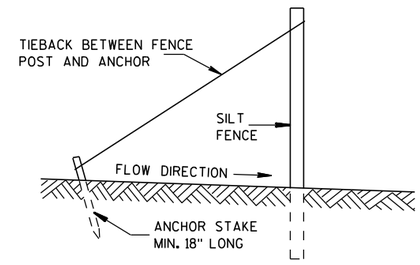


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 9-6

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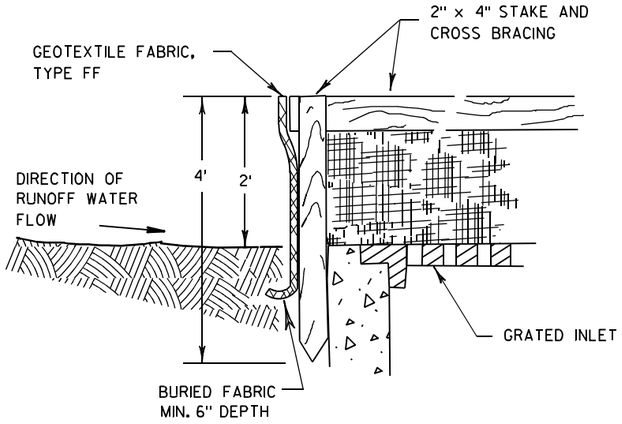
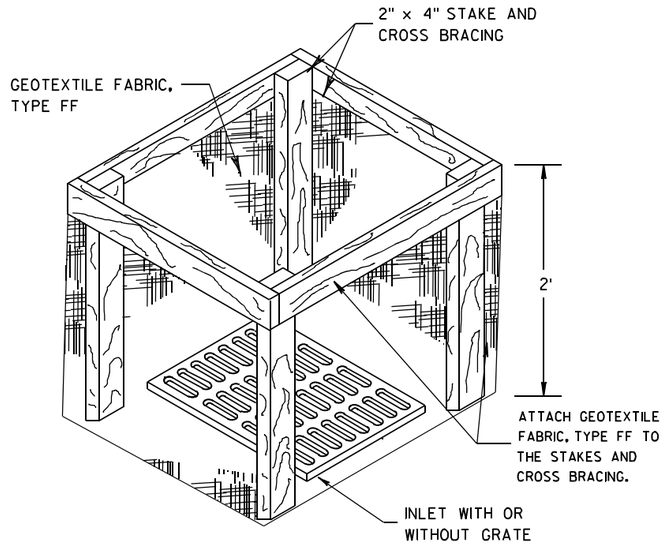
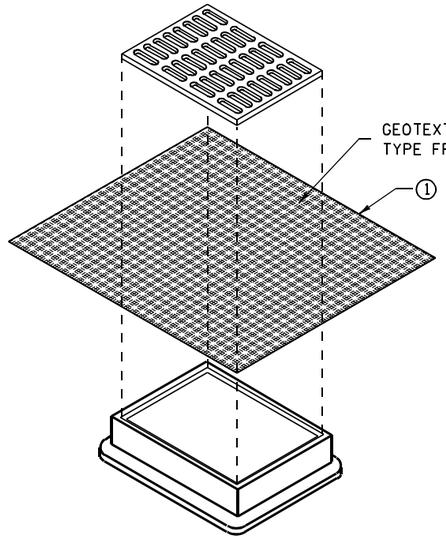
S.D.D. 8 E 9-6



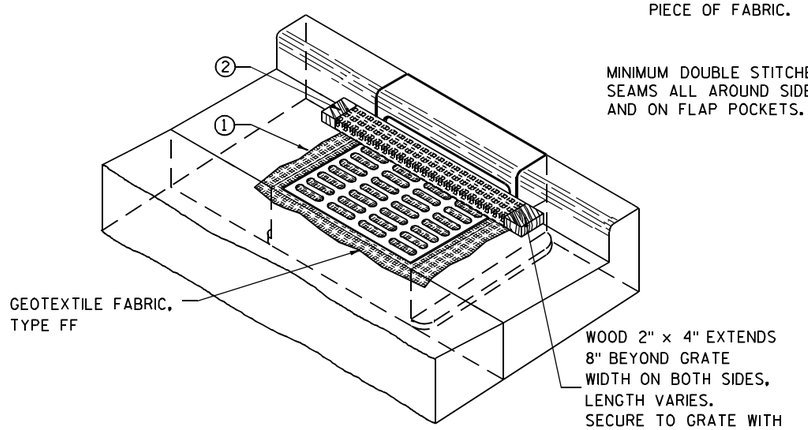


INLET PROTECTION, TYPE A

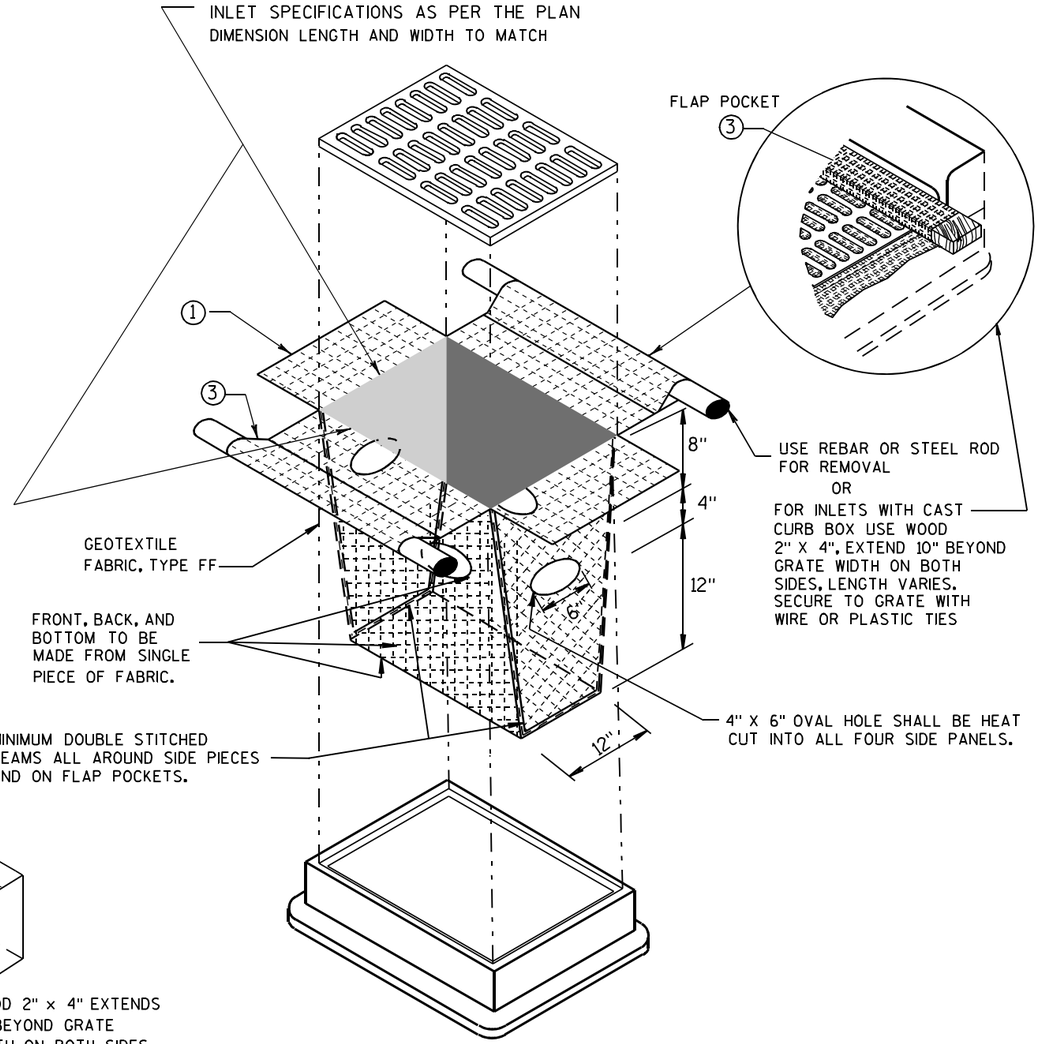


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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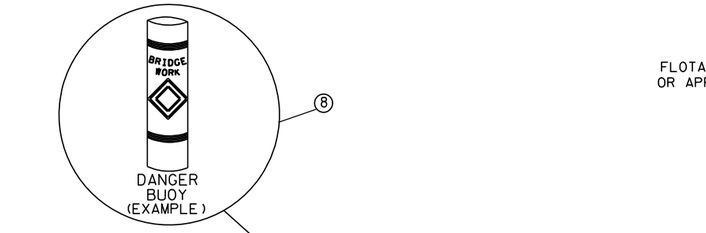
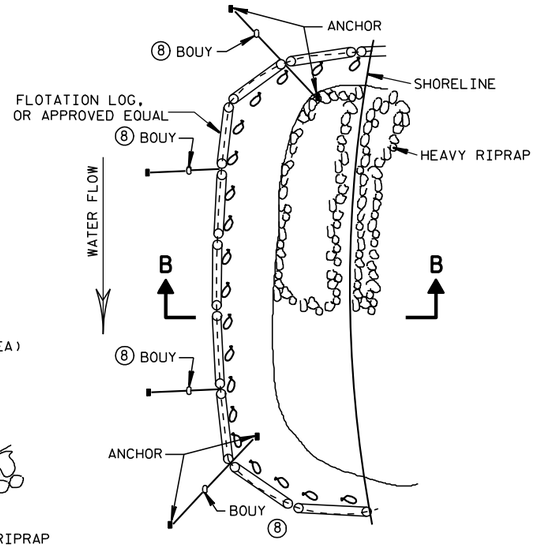
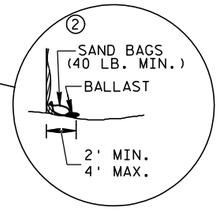
S.D.D. 8 E 10-2

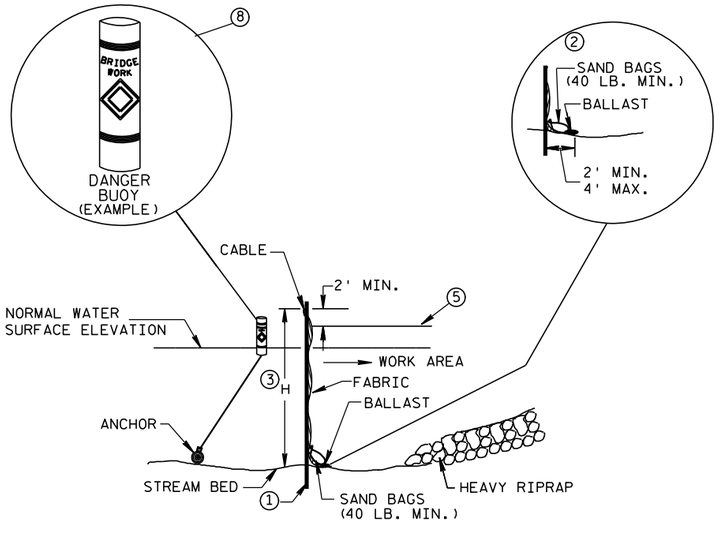


SECTION B-B

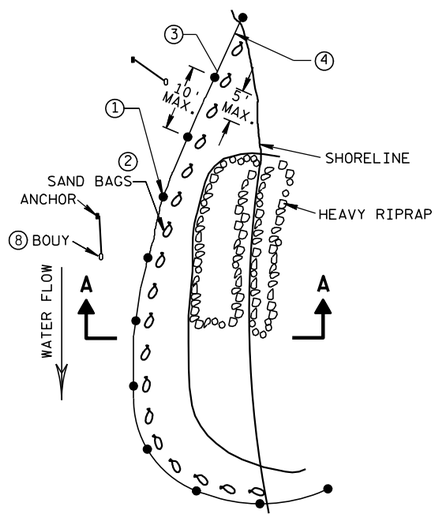




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

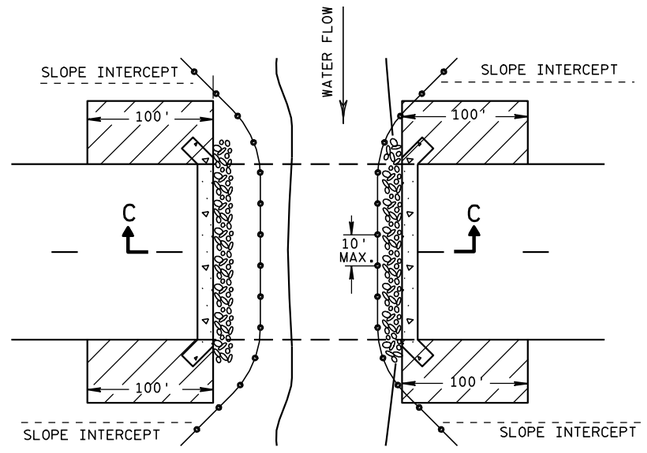
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

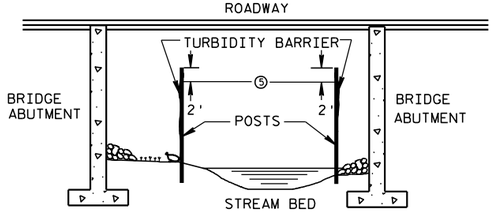
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02 DATE
/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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S.D.D. 8 E 11-2

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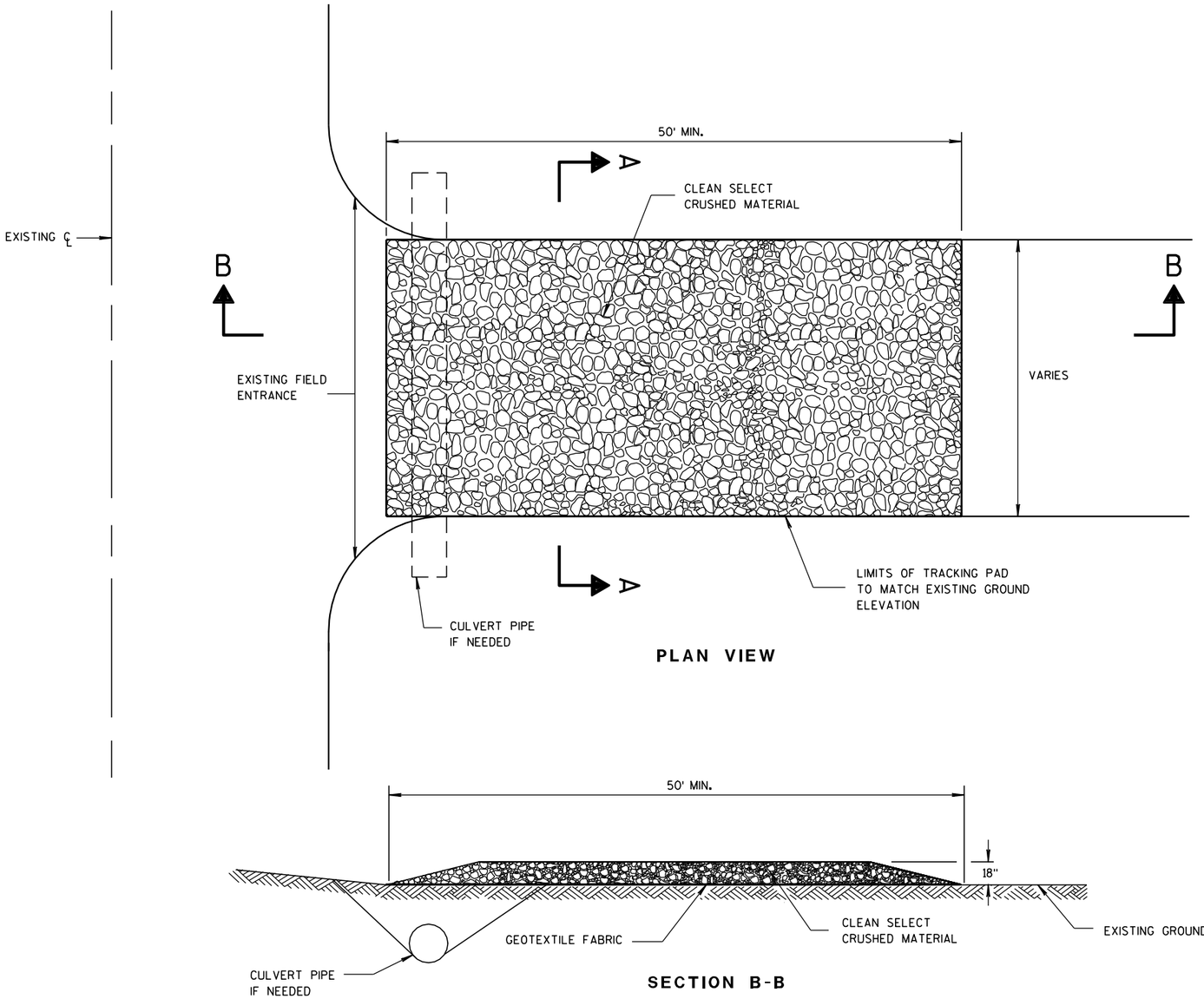
S.D.D. 8 E 11-2



PLAN VIEW

SECTION B-B

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

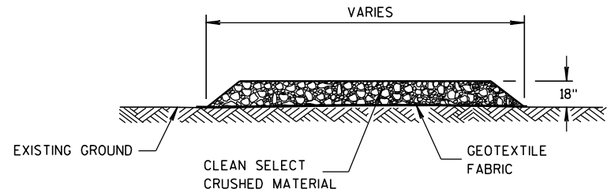
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A-A

TRACKING PAD

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011 — DATE
/S/ Jerry H. Zona — ROADWAY STANDARDS ENGINEER
FHWA

METAL APRON ENDWALLS

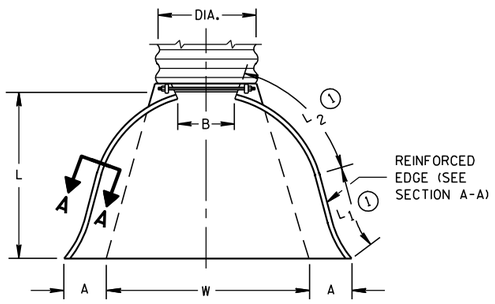
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

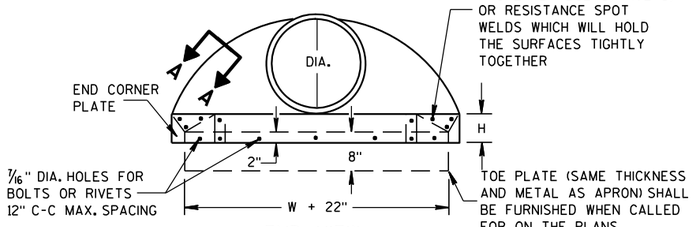
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

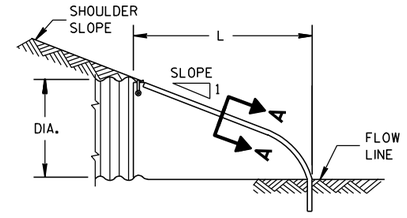
*MINIMUM
**MAXIMUM



PLAN VIEW

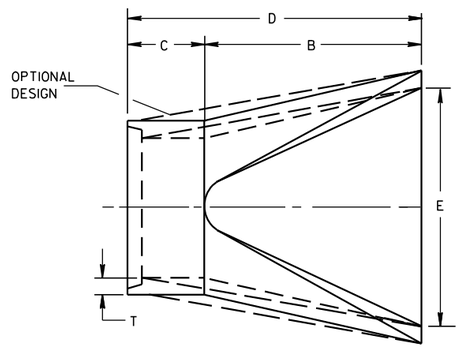


END VIEW

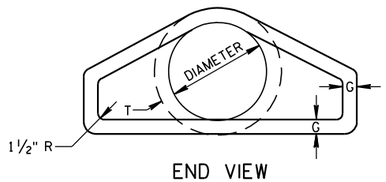


SIDE ELEVATION

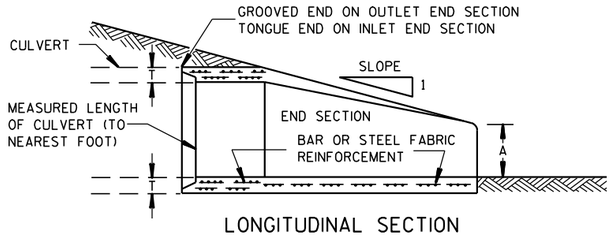
METAL ENDWALLS



PLAN

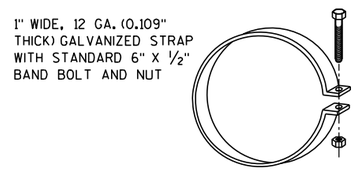


END VIEW



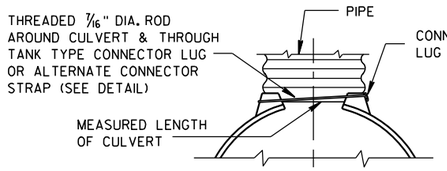
LONGITUDINAL SECTION

CONCRETE ENDWALLS

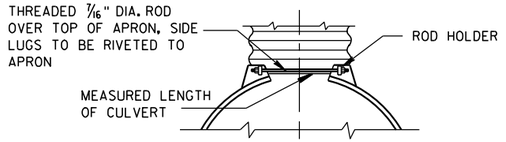


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

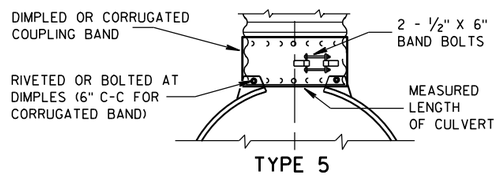


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

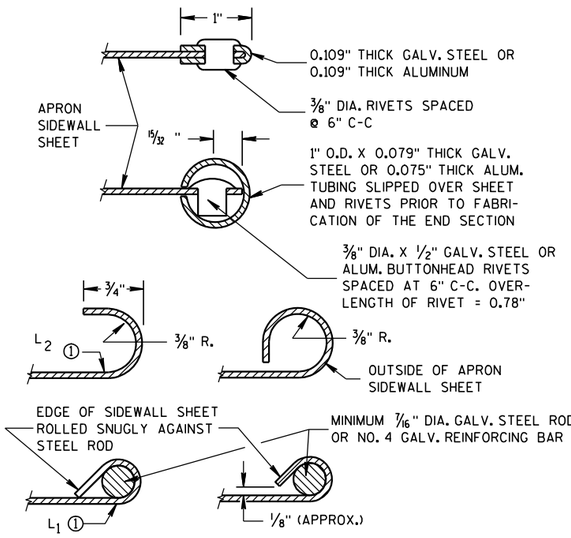
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 — DATE
/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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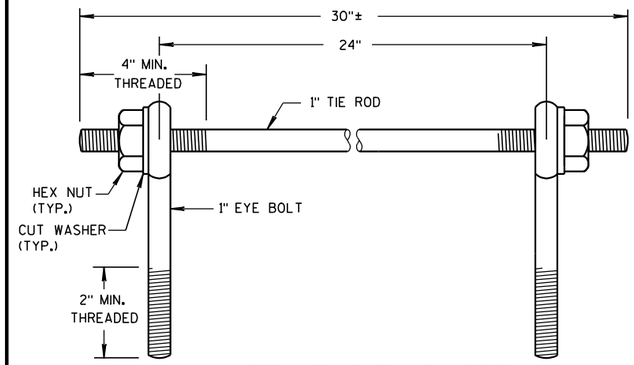
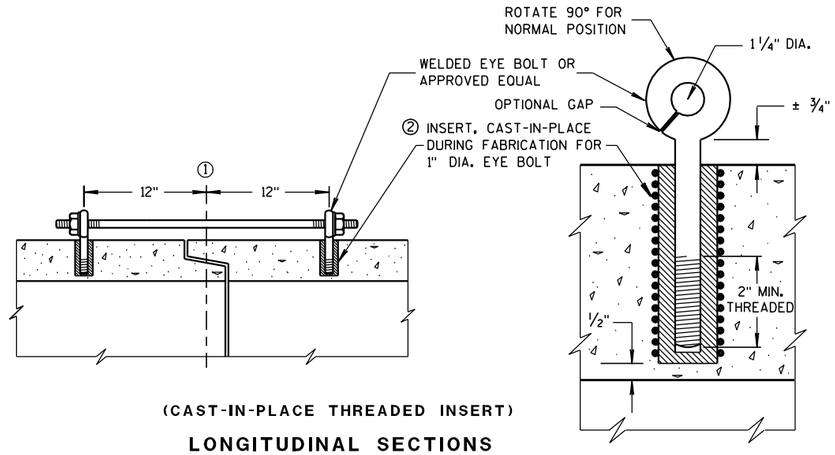
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

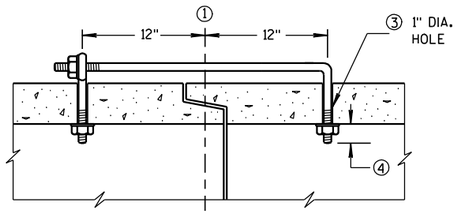
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

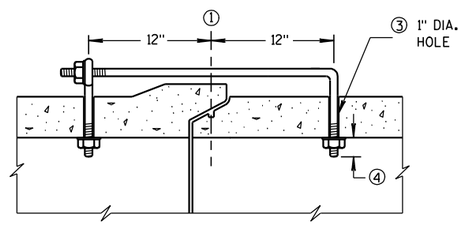
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

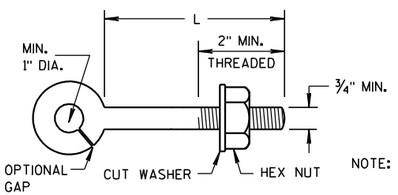


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

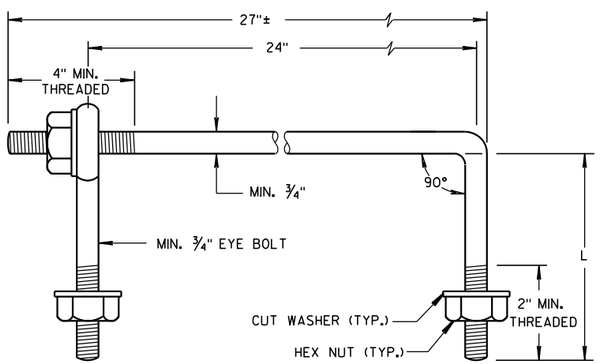
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

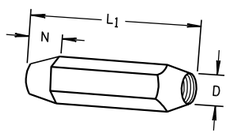
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



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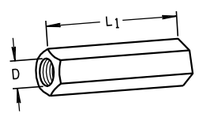
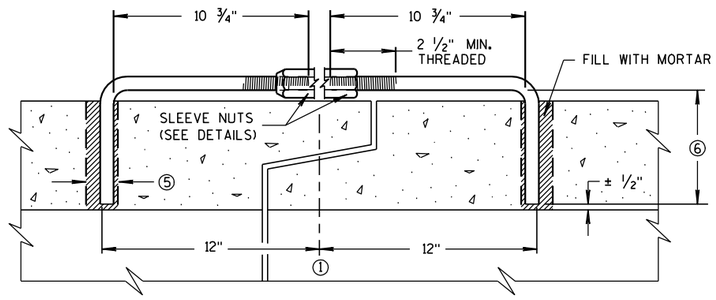


PLAIN

RIGHT AND LEFT THREADS

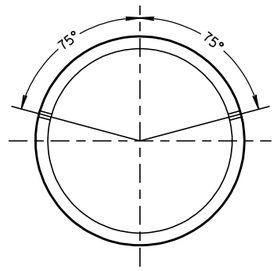
SLEEVE NUTS



LONGITUDINAL SECTION

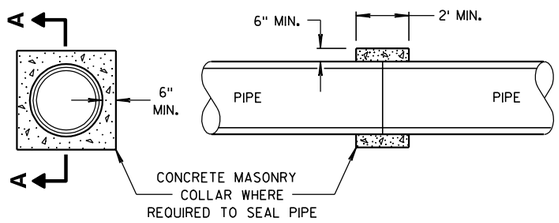
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
57 — FHWA

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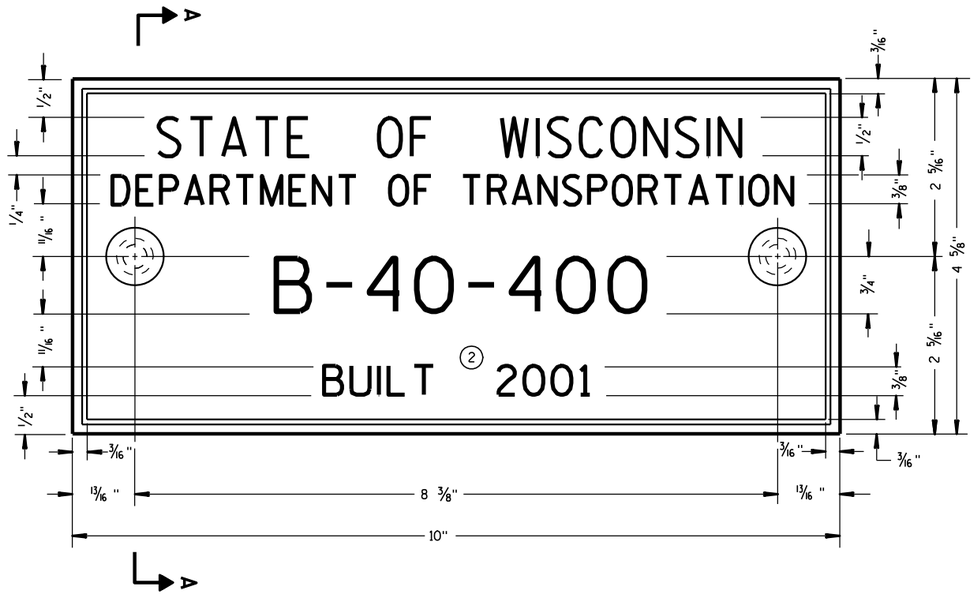
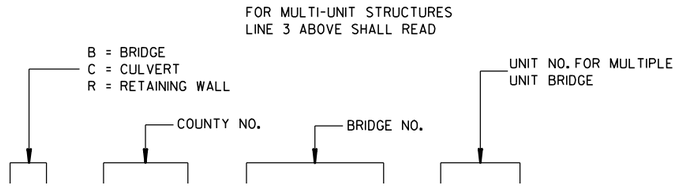
S.D.D. 8 F 4-7



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

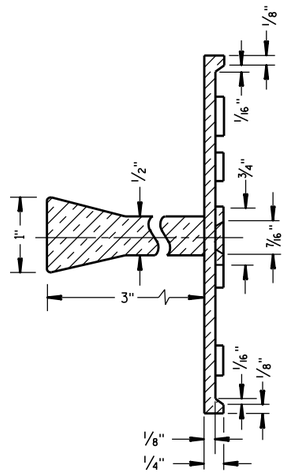
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

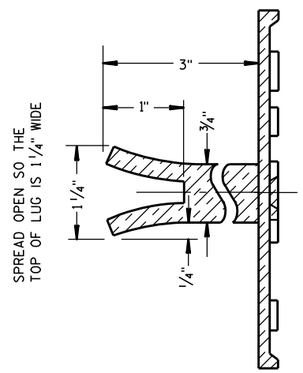
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

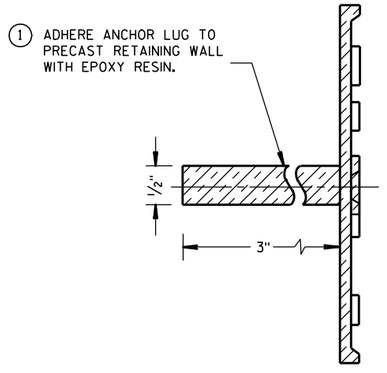
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

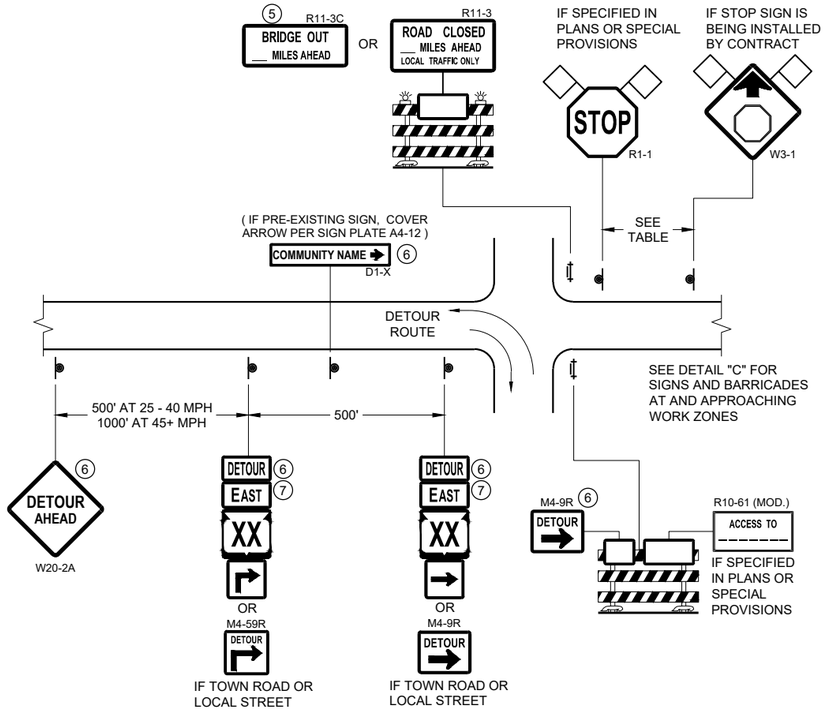
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10 DATE	/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER
FHWA	

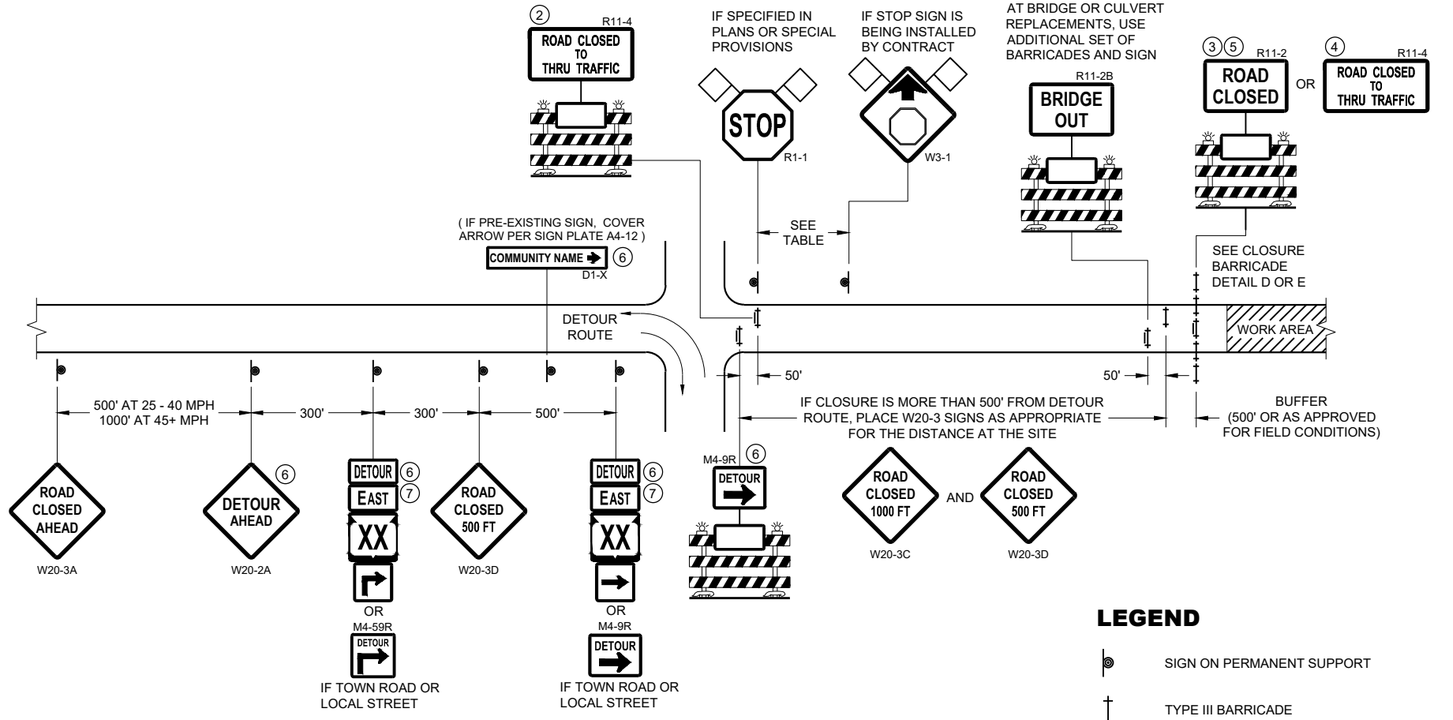
6

S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10



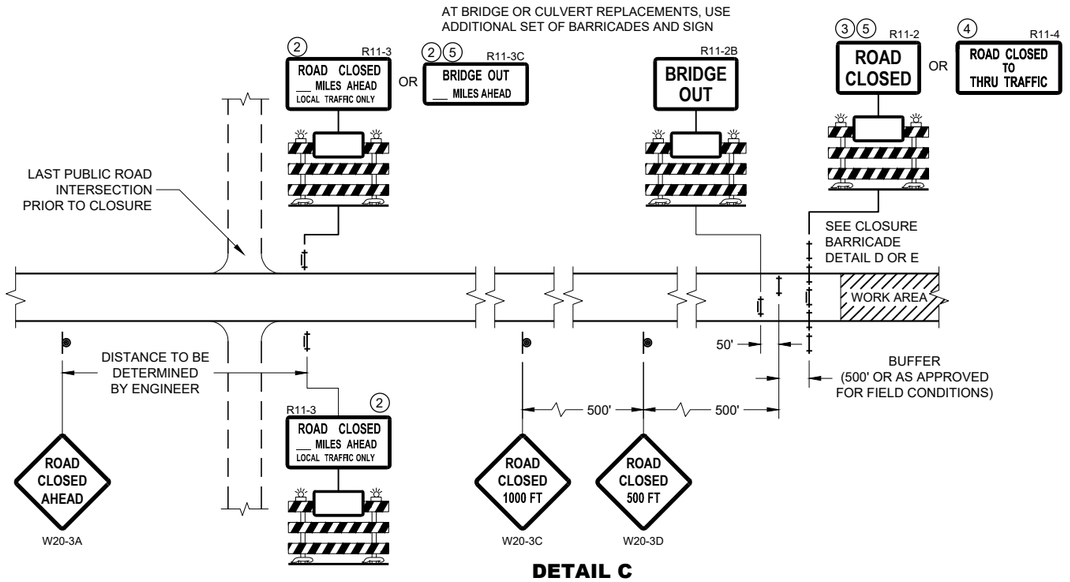


DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

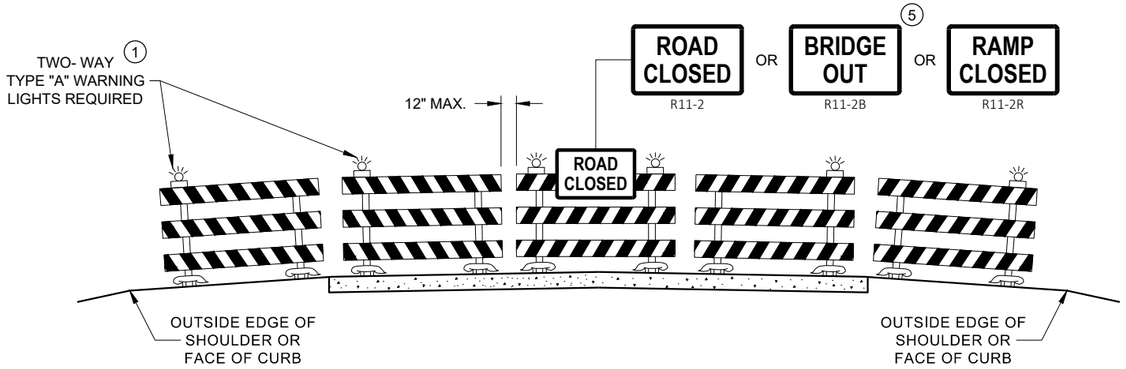
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

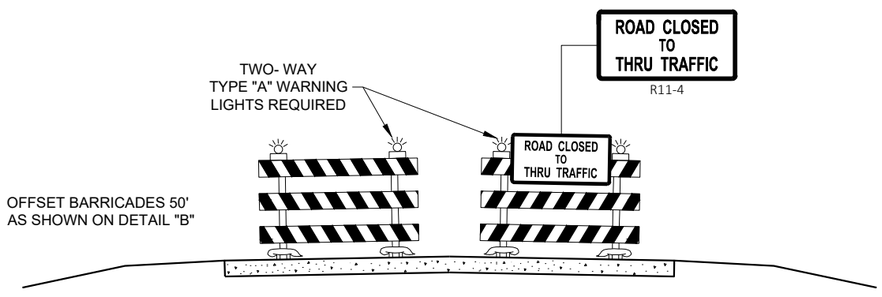
6

SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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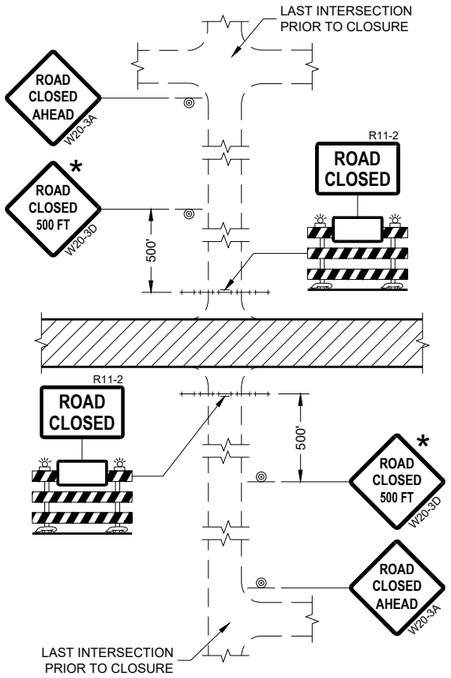
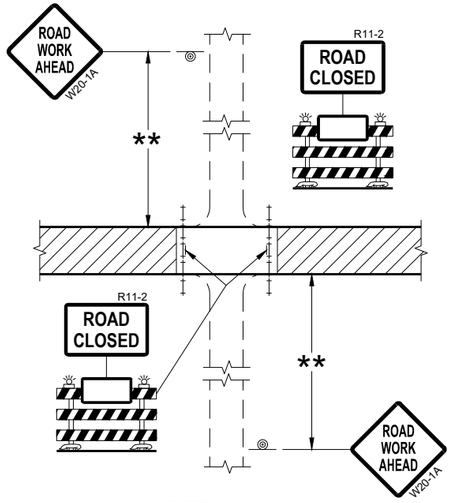
SDD 15C02 - 08b

6

SDD 15C02 - 08b



DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

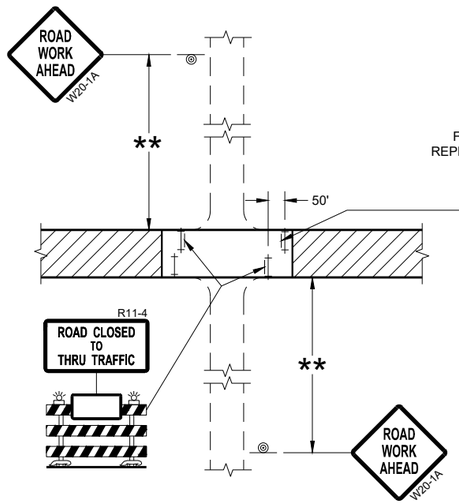
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

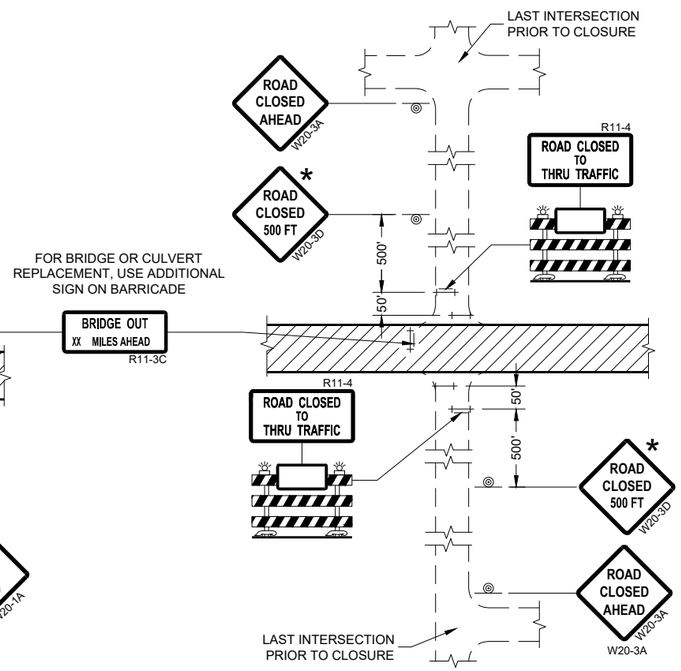
THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.





DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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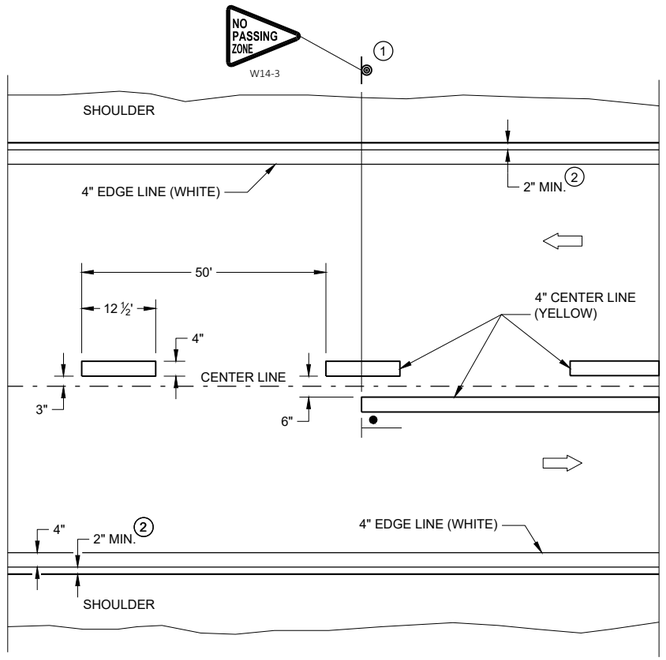
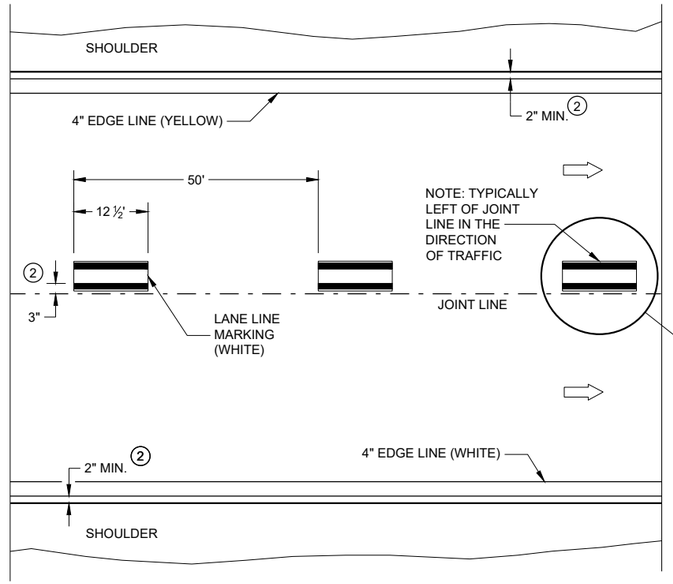
SDD 15C03 - 05

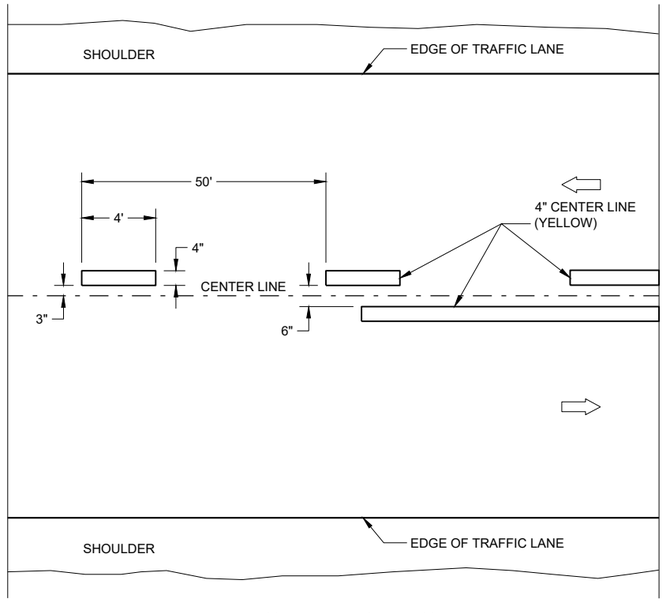


TWO WAY TRAFFIC

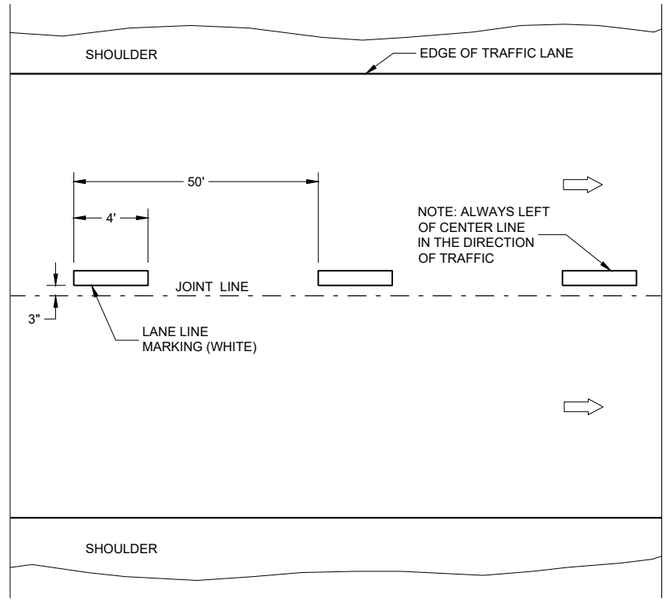


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

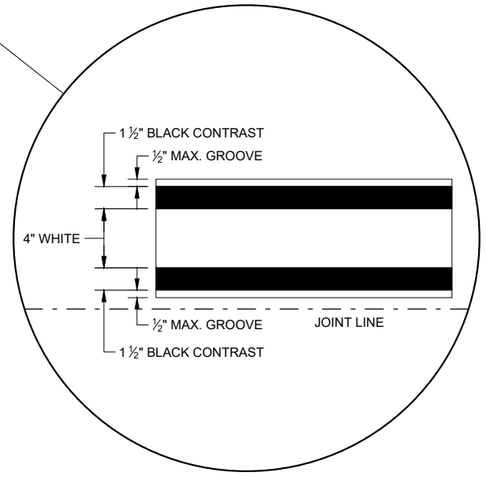
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Matthew Rauch
STATEWIDE SIGNING AND M ENGINEER

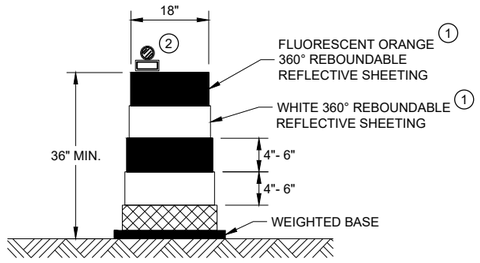
FHWA

SDD 15C08 - 20a

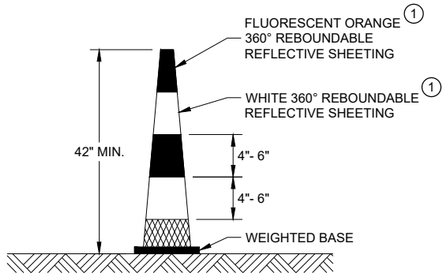
SDD 15C08 - 20a

GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

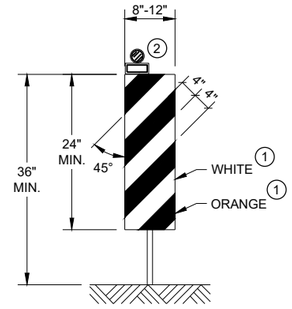


DRUM



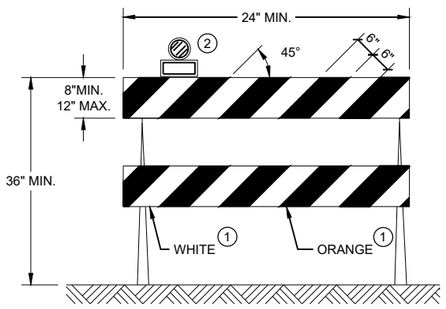
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



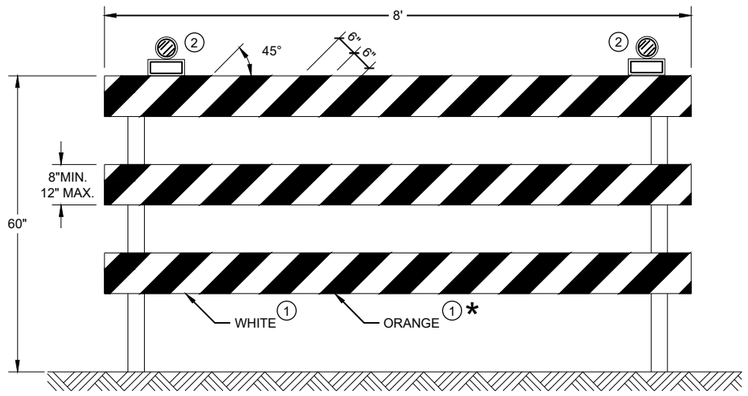
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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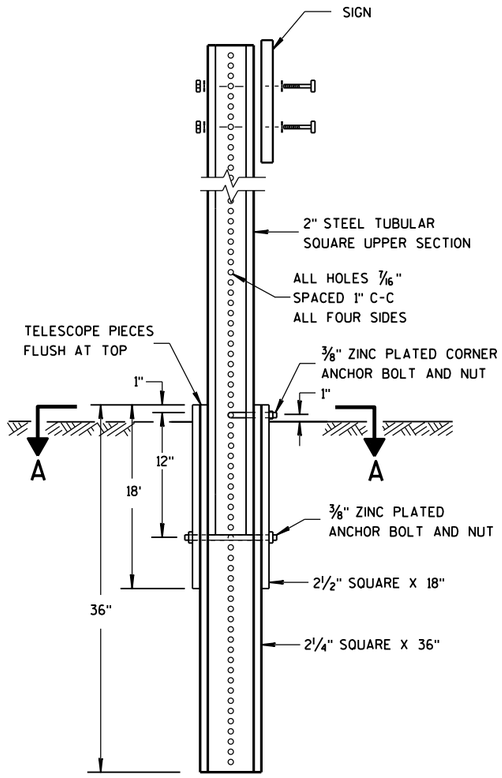
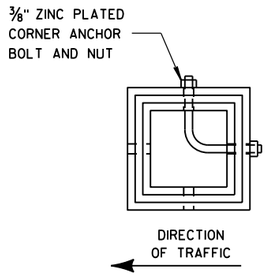
SDD 15C11 - 07b

6

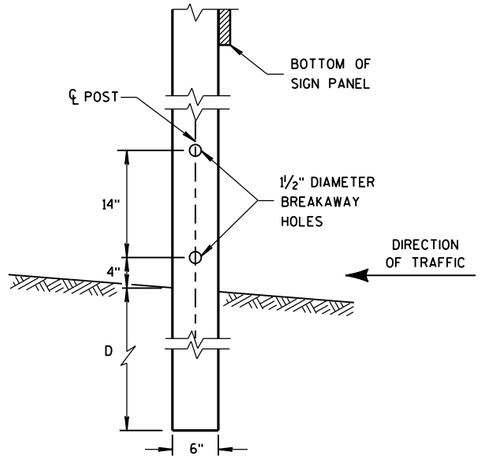
SDD 15C11 - 07b



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



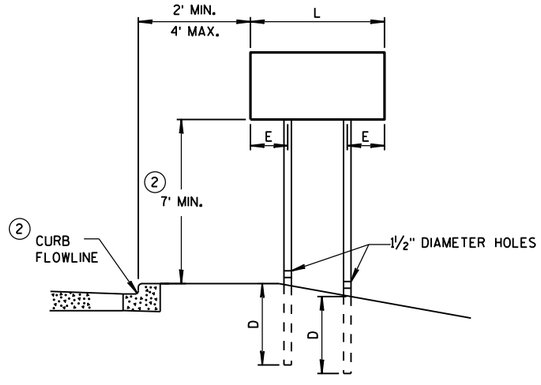
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

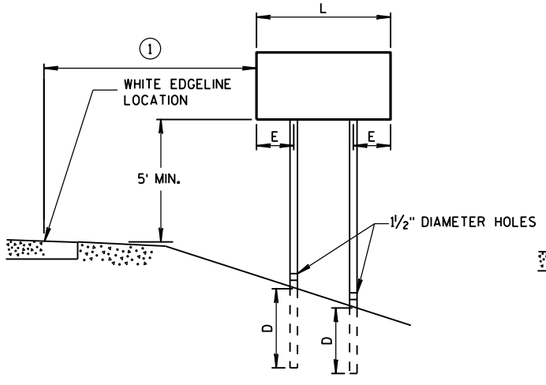
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

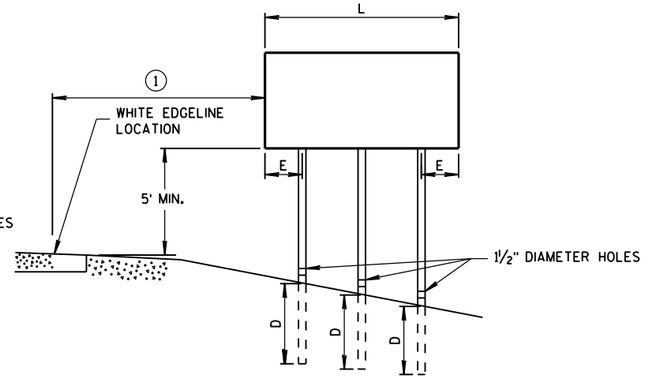
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

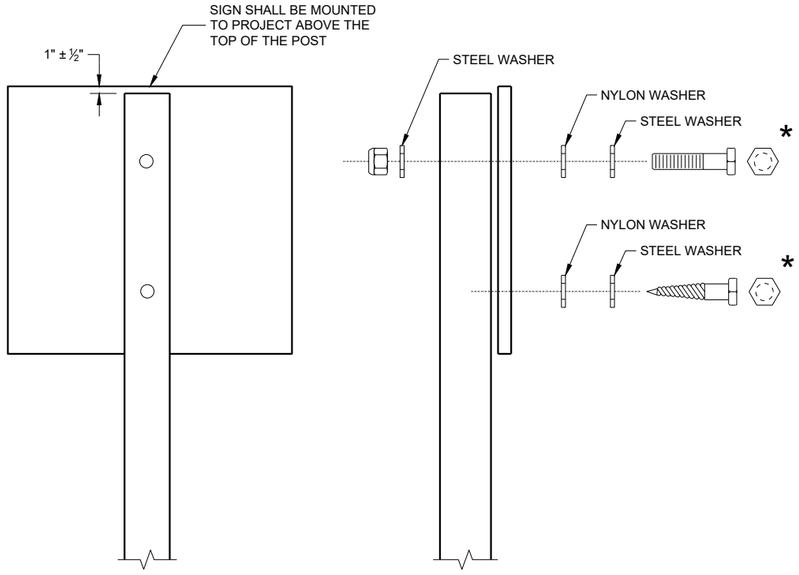
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-2a
S.D.D. 15 D 38-2a



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POST (4" x 6")
LAG SCREWS - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH, GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 NYLON

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

SDD 15D38 - 02b

SDD15D38 - 02b

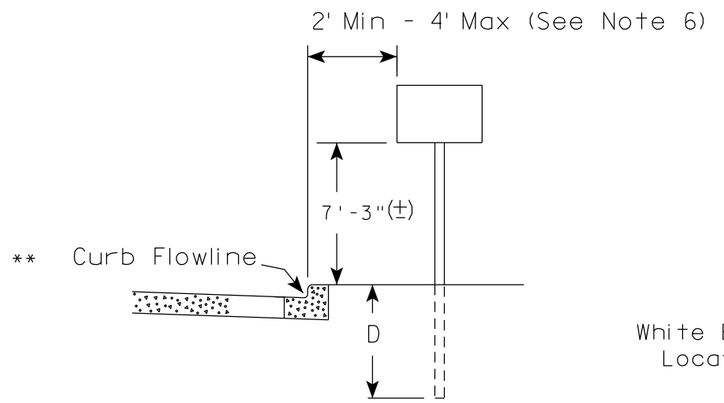
ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

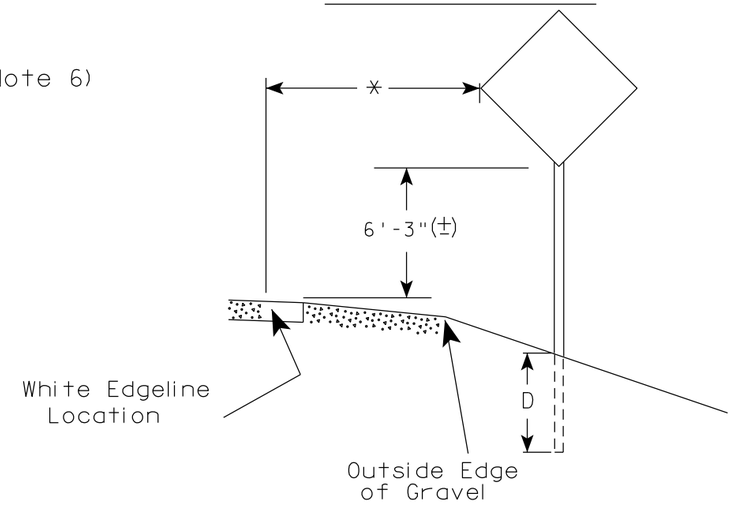
APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

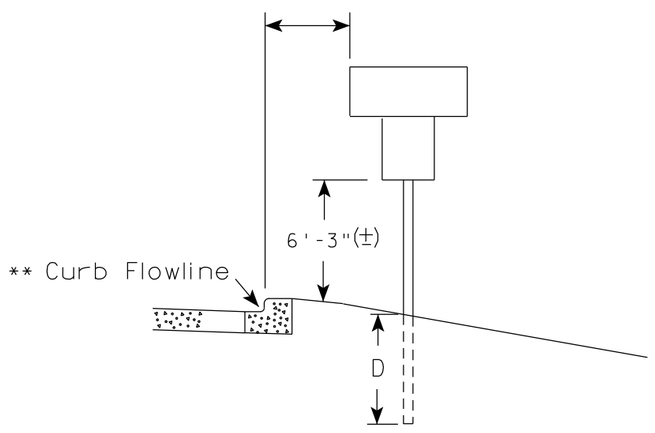
FHWA

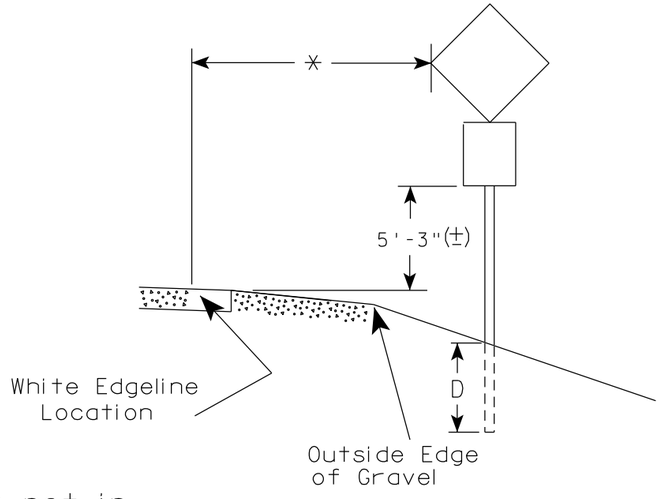
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.

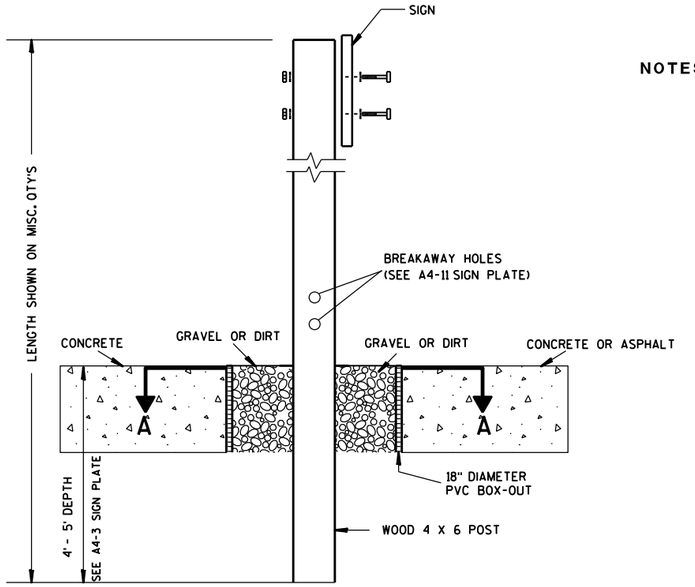
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

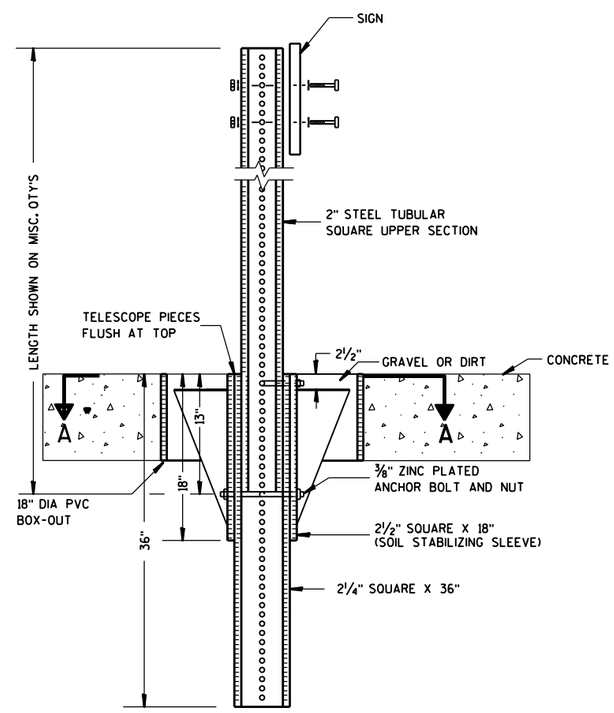
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 66	E



ELEVATION VIEW

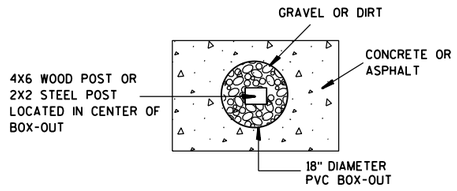
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

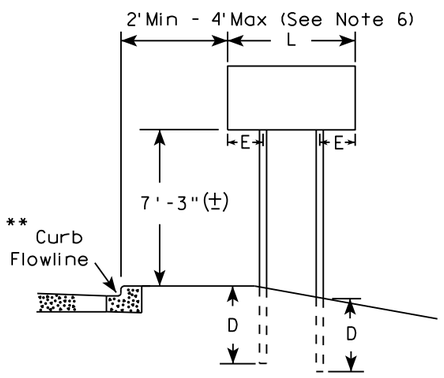
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

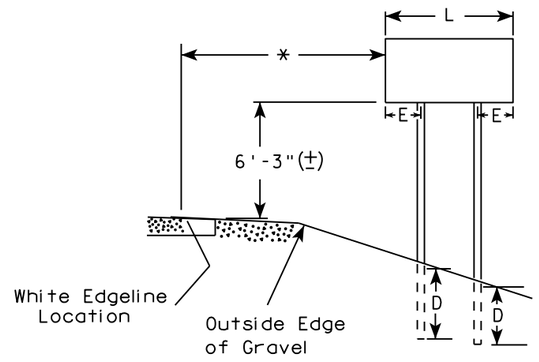
DATE 1/27/14 PLATE NO. A4-3B.1

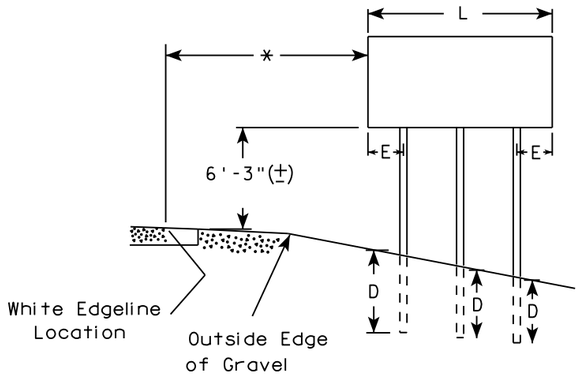
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

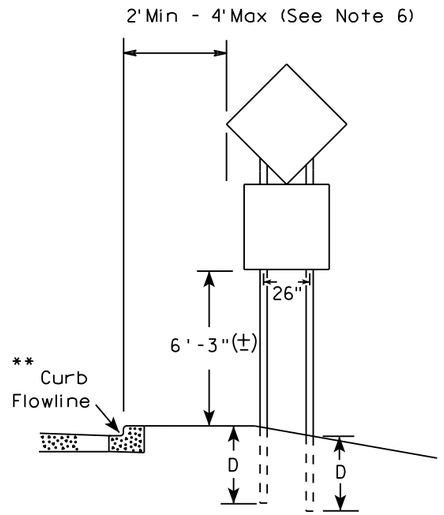
URBAN AREA



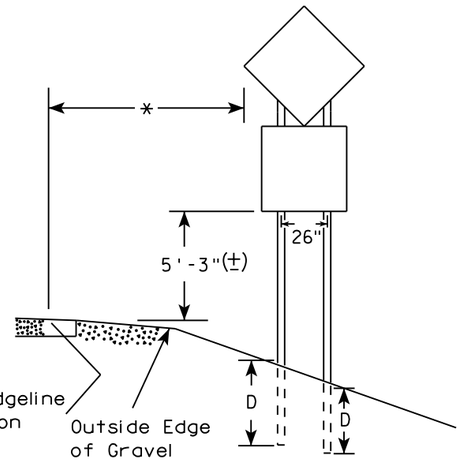
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
	L	E
	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

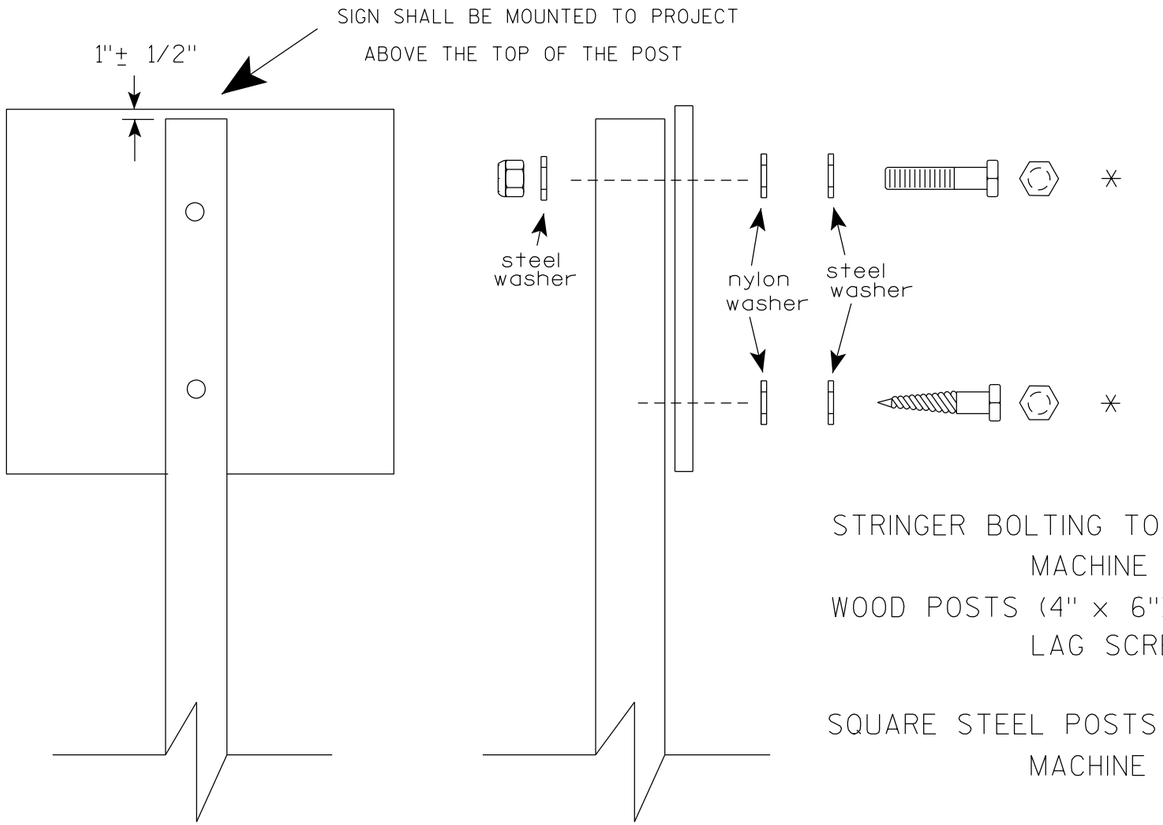
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 68	E



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

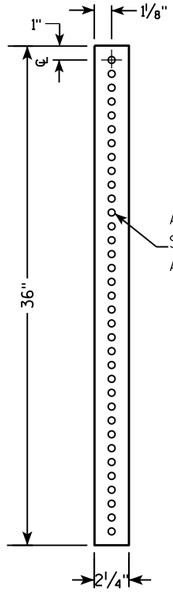
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

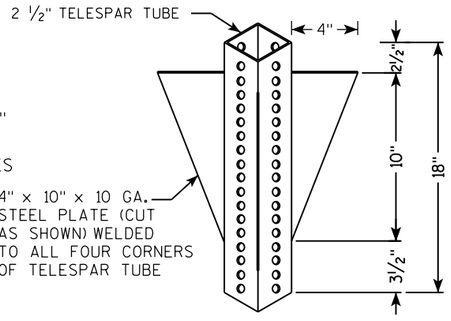
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

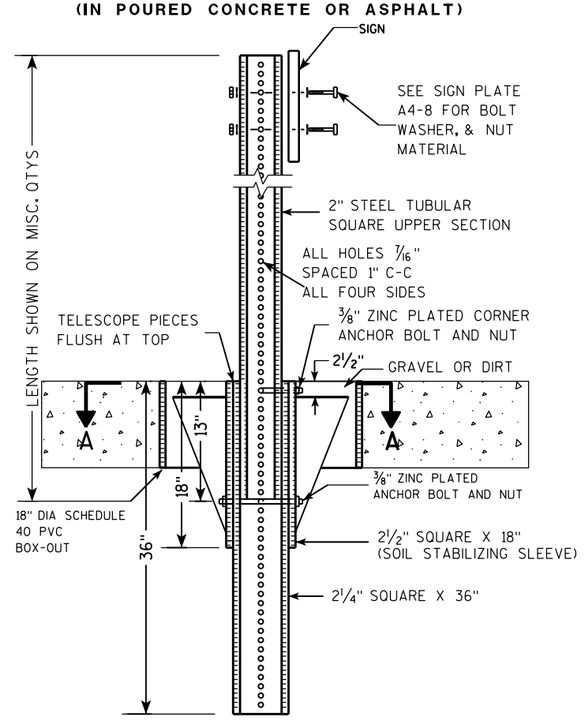
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



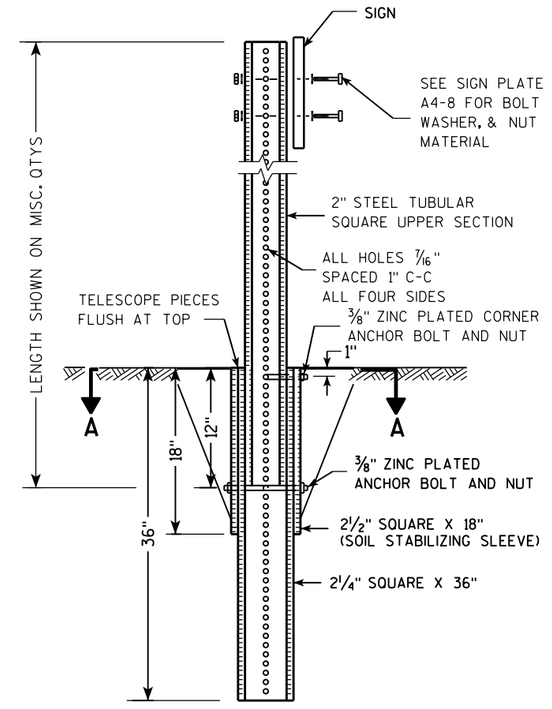
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

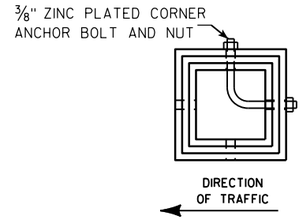


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

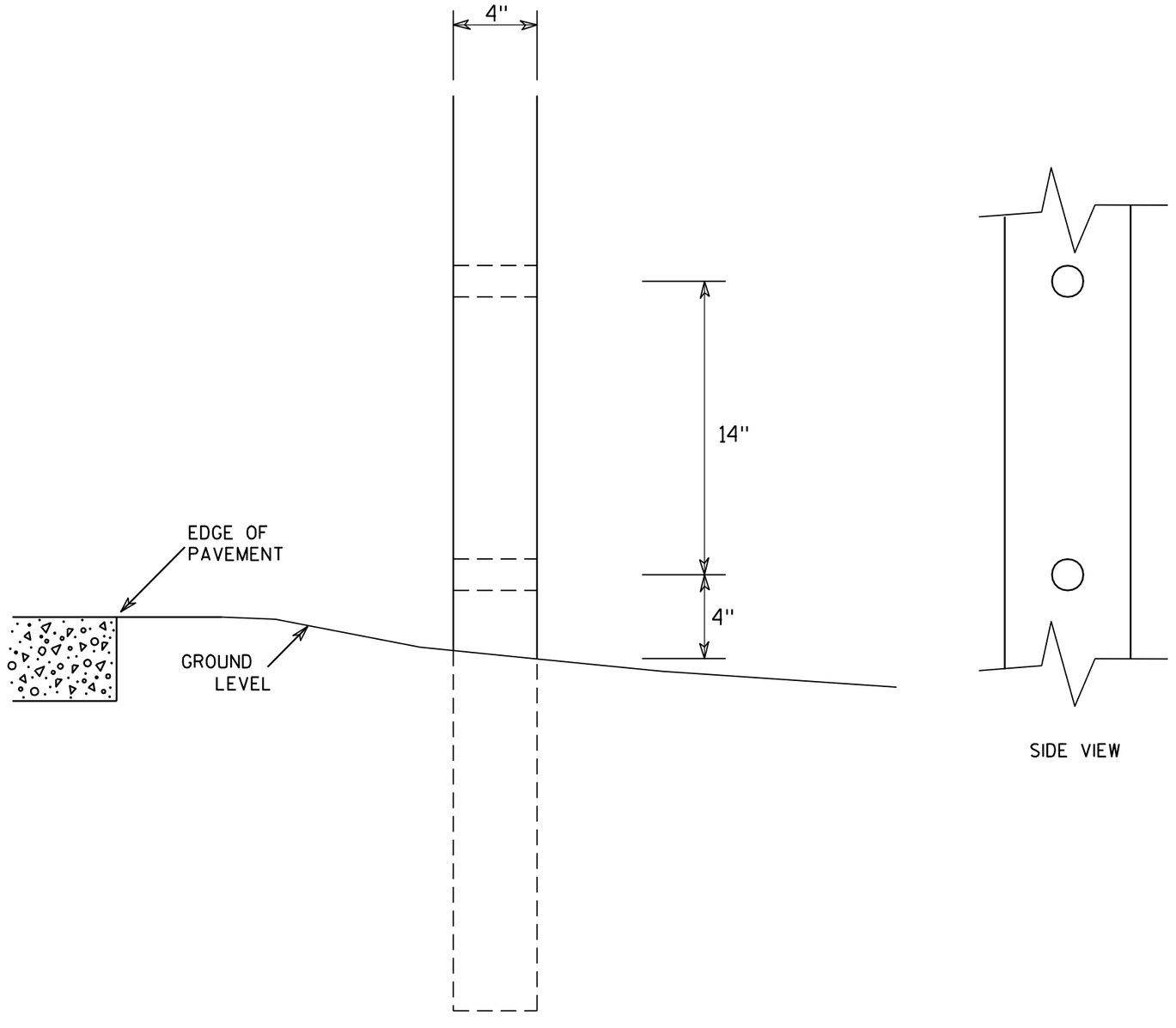
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 70 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

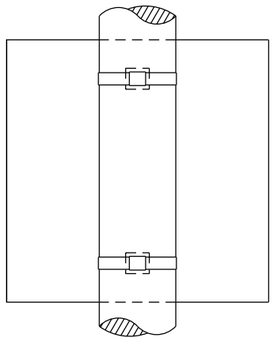
APPROVED Chester J Spang
for State Traffic Engineer

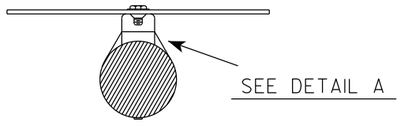
DATE 3/27/97 PLATE NO. A4-11.2

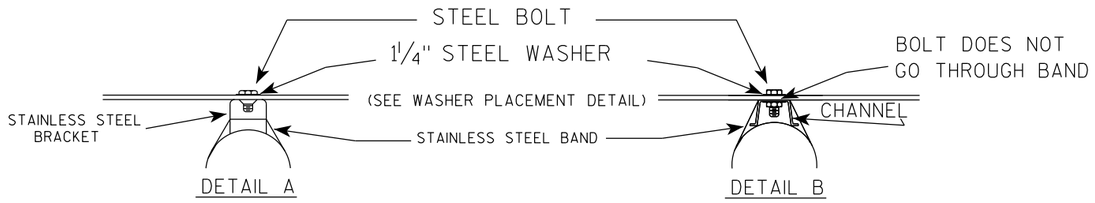
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 71	E

BANDING

SINGLE SIGN



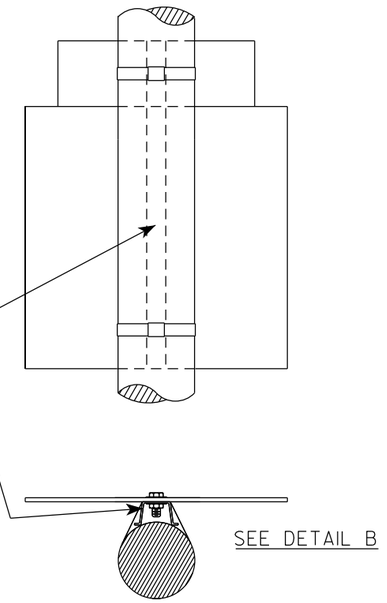




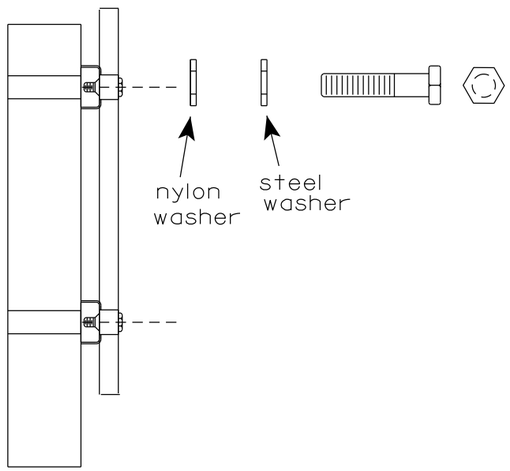
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

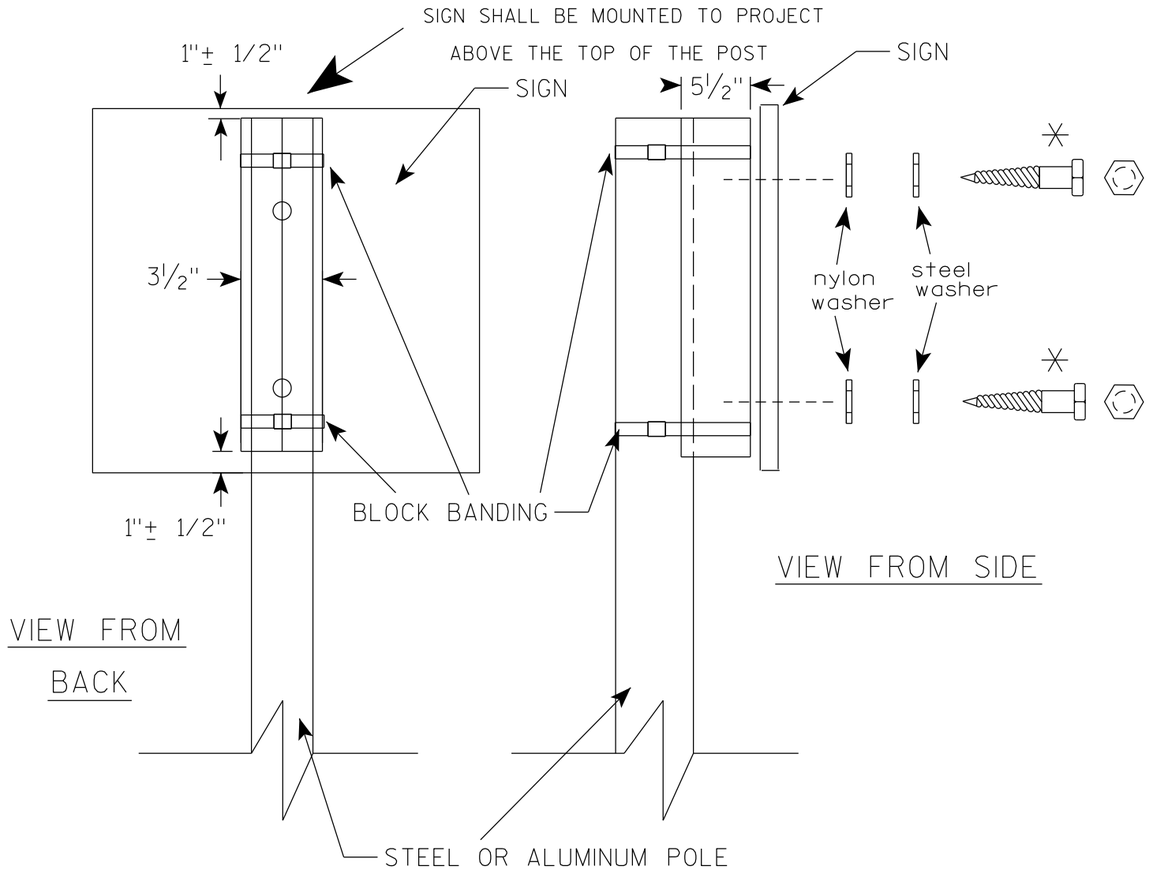
DATE 6/10/19 PLATE NO. A5-9.4

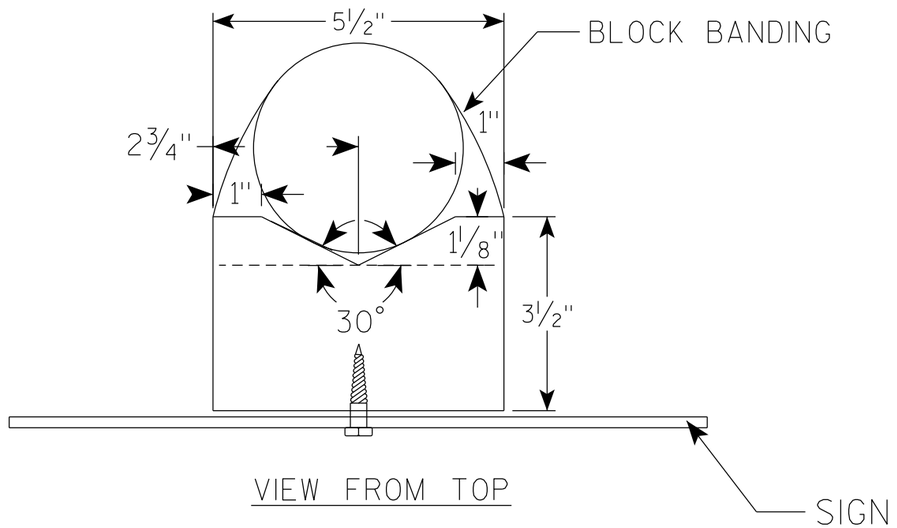
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 72	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

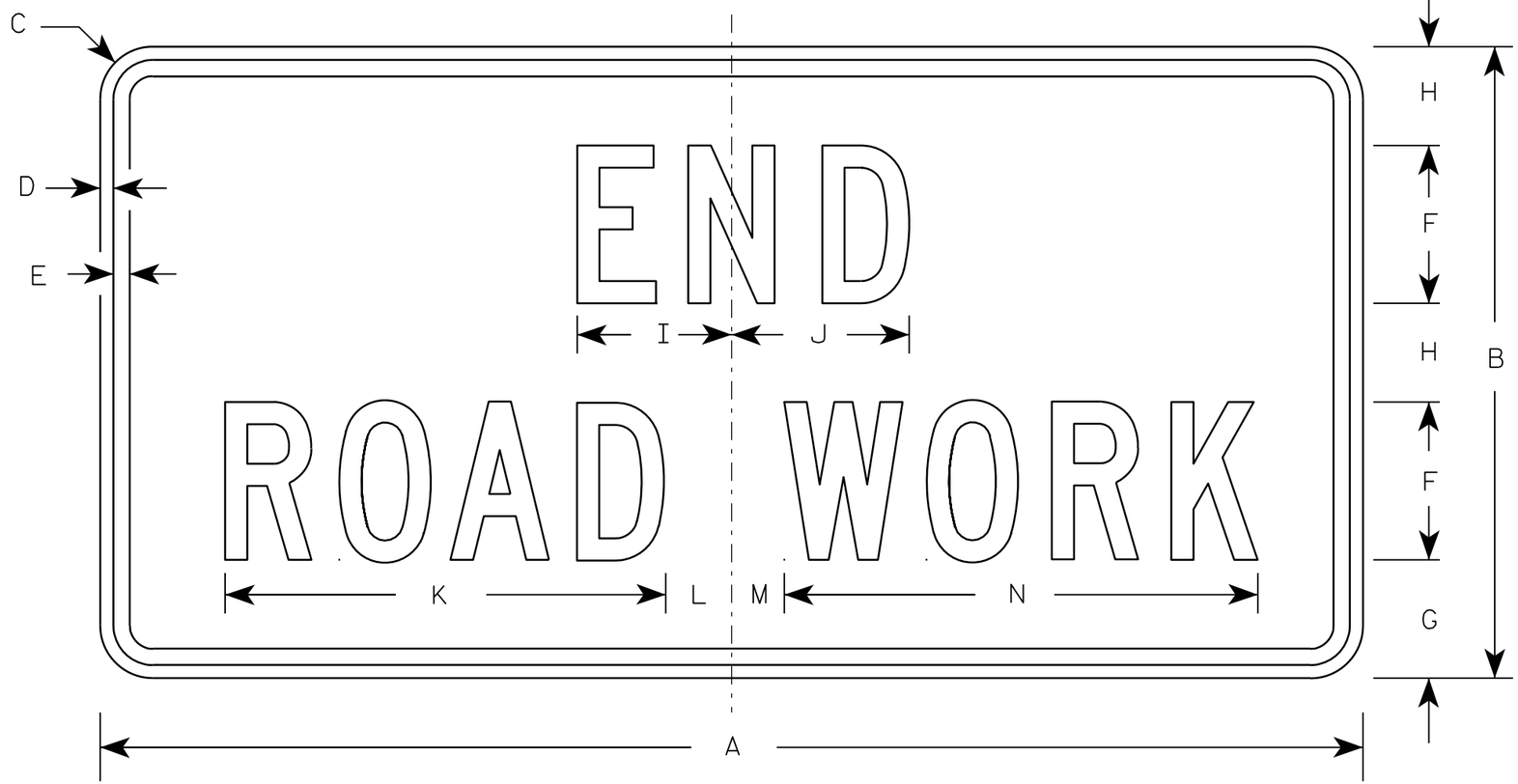
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO:

SHEET NO: 73 E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

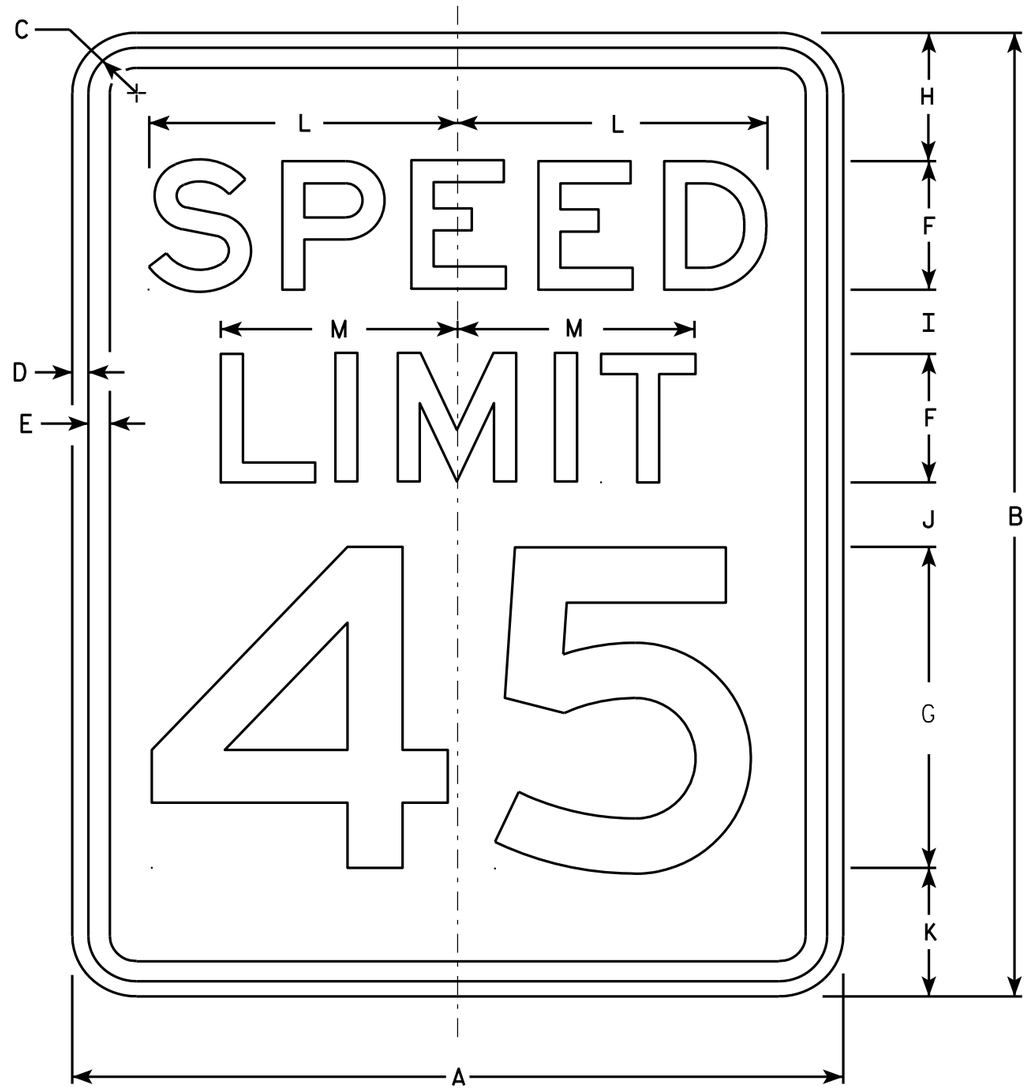
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 74	E



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

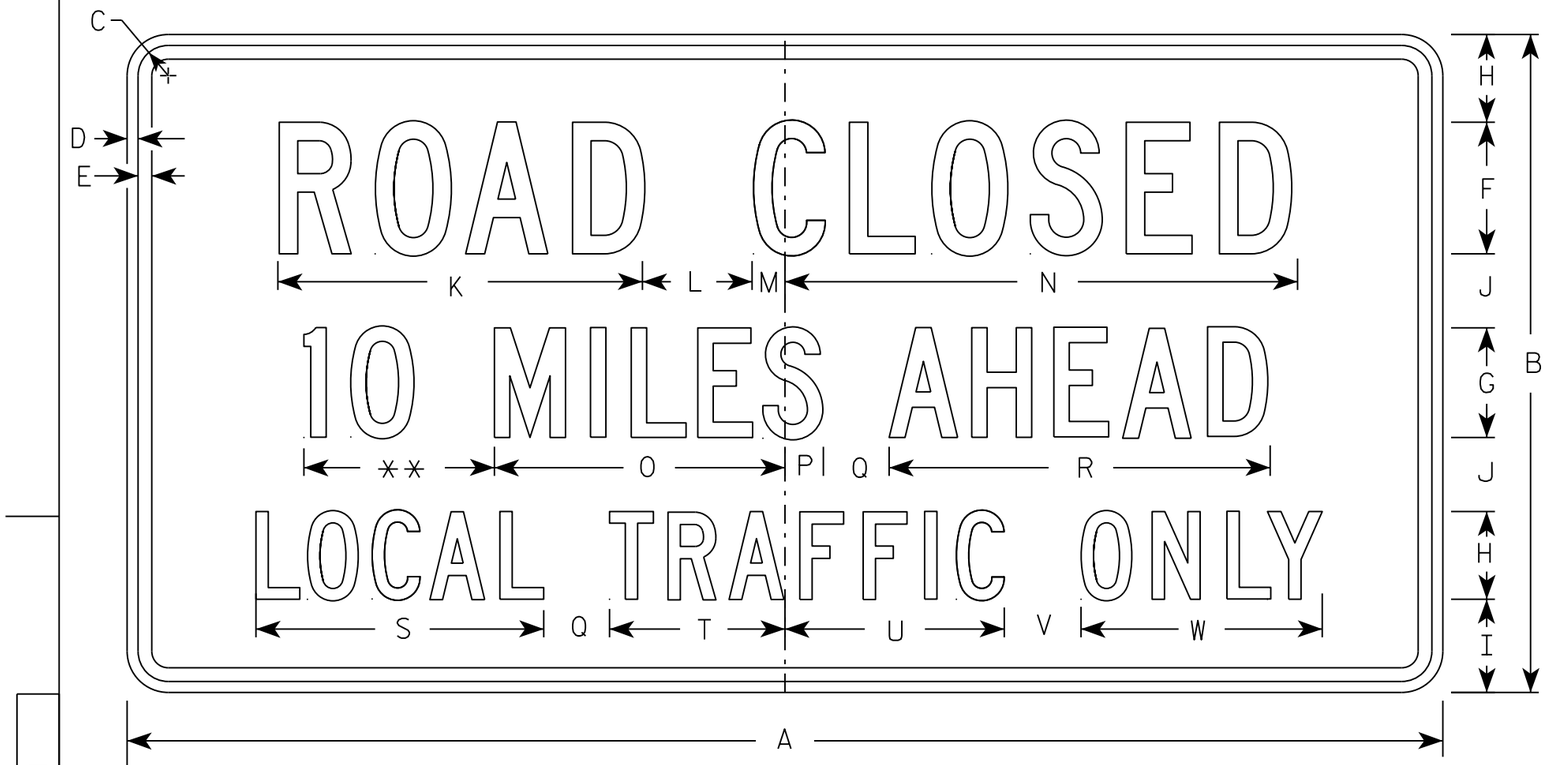
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

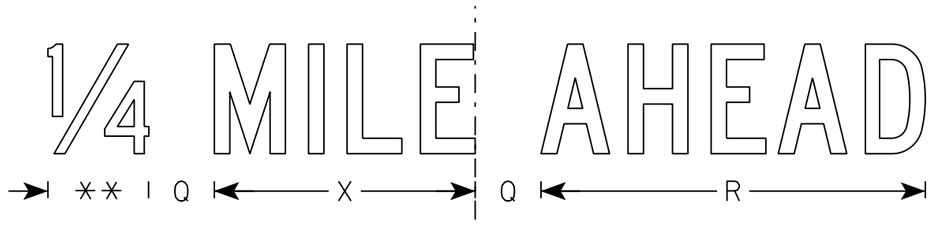
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 75 | E



R11-3

** See Note 5



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	11 1/8	3	1 1/8	15 1/4	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

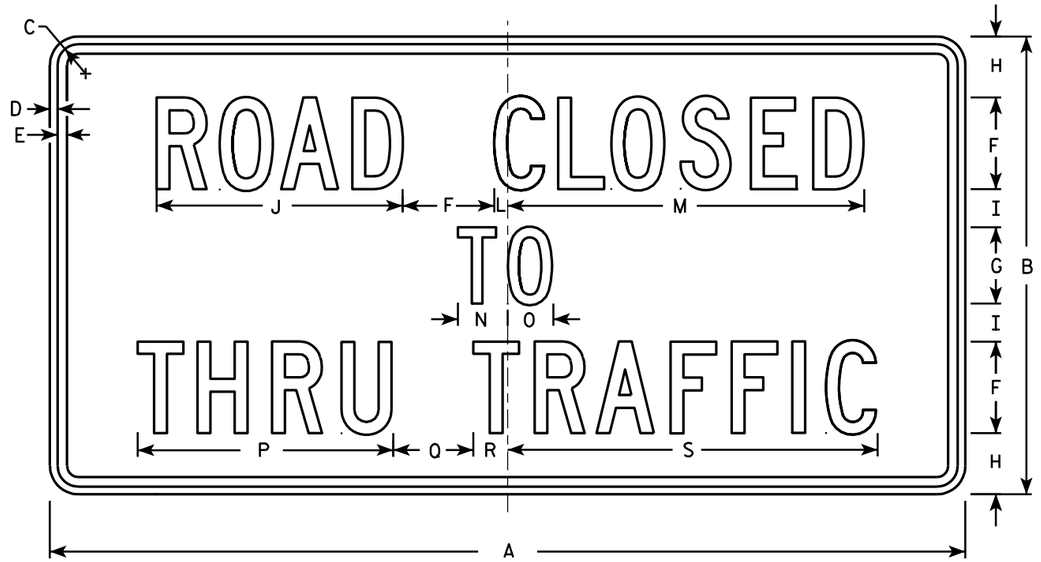
STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/17 PLATE NO. R11-3.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 76 | E



R11-4

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

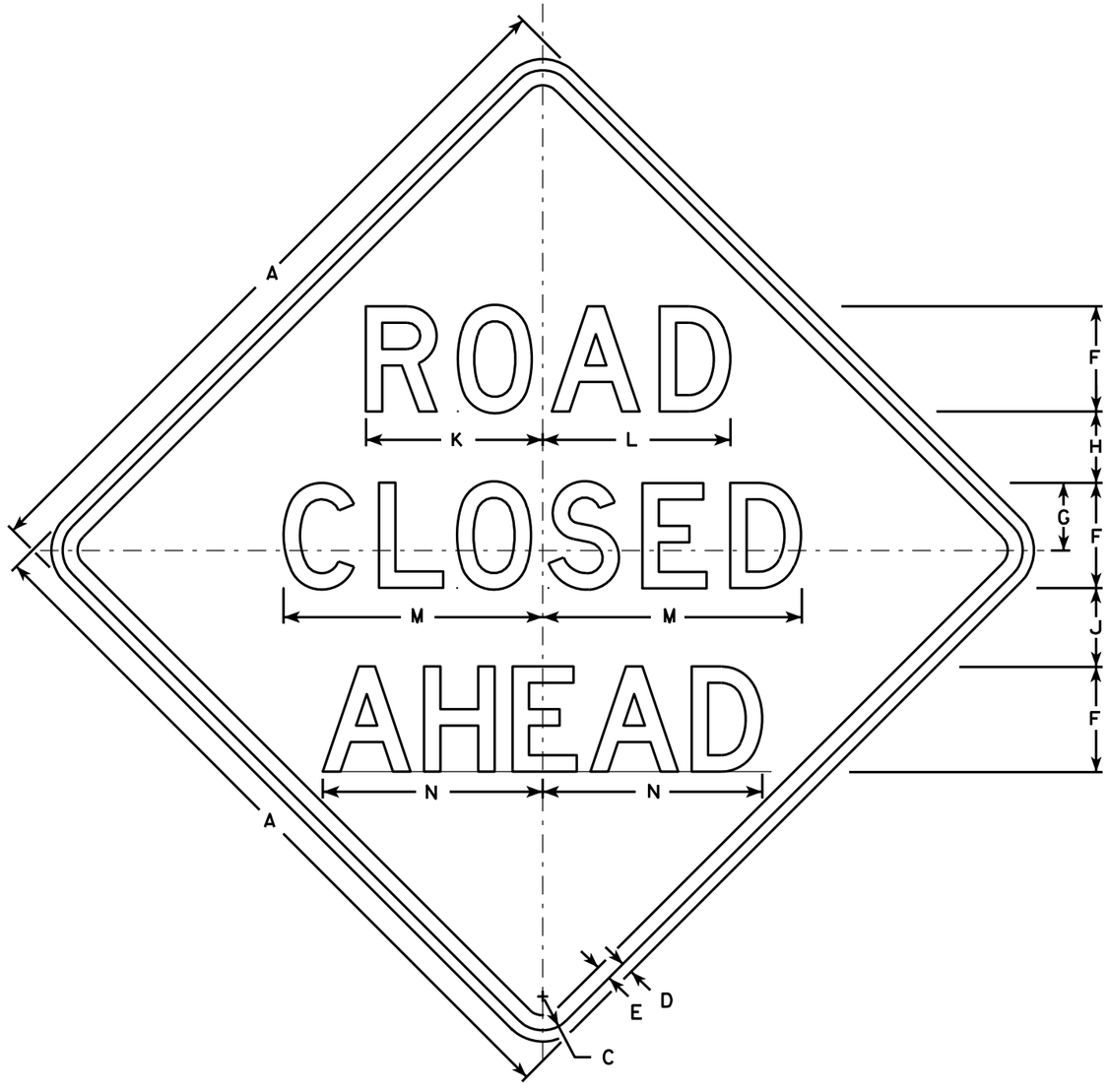
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

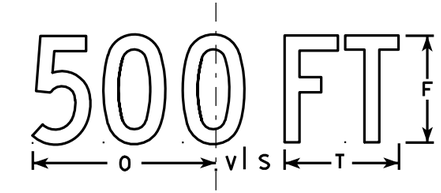
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

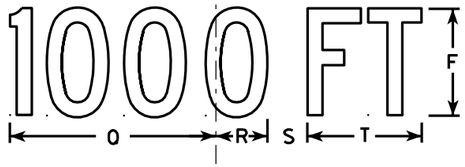
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 77 | E



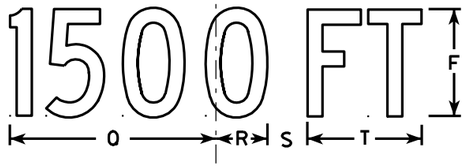
W20-3A



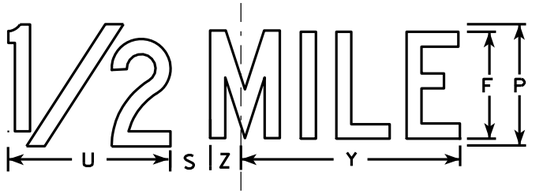
W20-3D



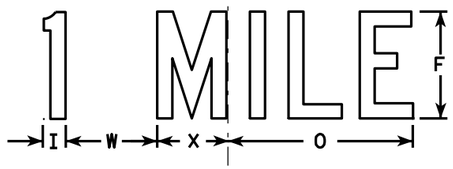
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

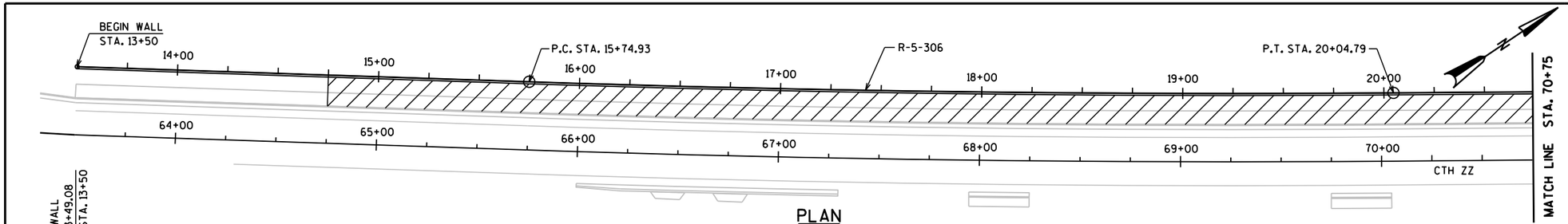
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 78 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000

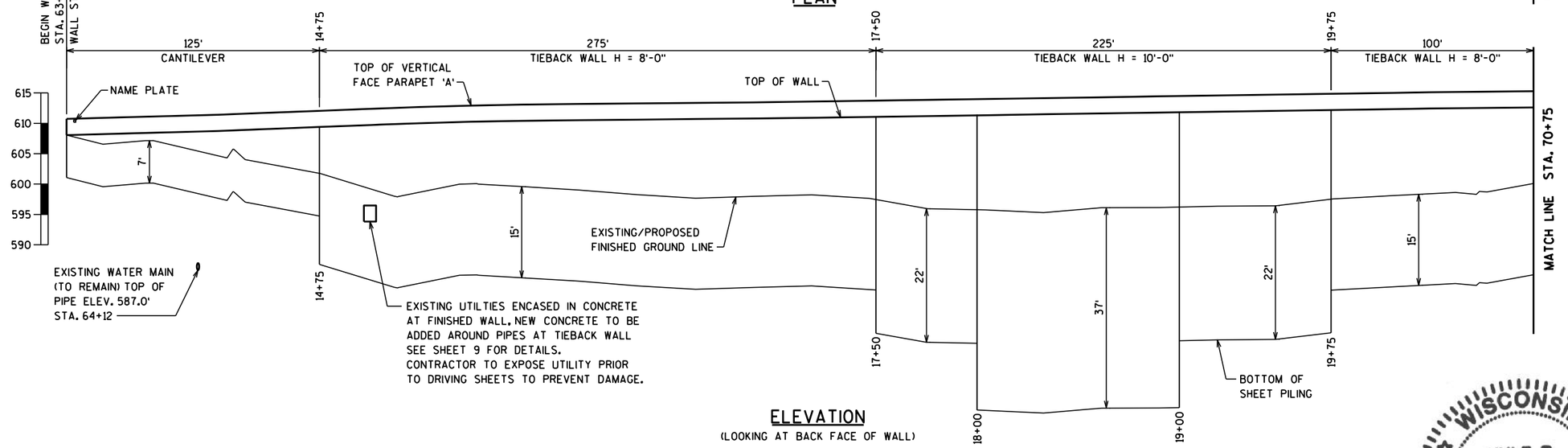
WISDOT/CADDS SHEET 42

7

7



PLAN



ELEVATION
(LOOKING AT BACK FACE OF WALL)

GEOMETRY TABLE

ROADWAY STATIONING	STATIONING ALONG FF OF WALL	OFFSET FACE OF WALL FROM REF. LINE (FT)	TOP OF WALL ELEVATION	FINISHED GROUND LINE ELEVATION	BOTTOM OF WALL ELEVATION
63+49.08	13+50.00	34.00	607.29	607.22	600.22
63+75.00	13+75.00	34.00	608.30	606.76	599.76
64+00.00	14+00.00	34.00	608.52	606.60	599.60
64+25.00	14+25.00	34.00	608.75	604.65	597.65
64+50.00	14+50.00	34.00	609.07	603.30	596.30
64+75.00	14+75.00	34.00	609.40	601.75	586.75
65+00.00	15+00.00	34.00	609.72	599.23	584.23
65+25.00	15+25.00	34.00	610.02	598.70	583.70
65+50.00	15+50.00	34.00	610.25	600.03	585.03
65+75.00	15+75.00	34.00	610.42	599.58	584.58
66+00.08	16+00.00	34.00	610.51	599.09	584.09
66+25.16	16+25.00	34.00	610.59	598.44	583.44
66+50.24	16+50.00	34.00	610.67	597.89	582.89
66+75.33	16+75.00	34.00	610.74	597.83	582.83
67+00.41	17+00.00	34.00	610.83	598.07	583.07
67+25.49	17+25.00	34.00	610.94	598.09	583.09
67+50.57	17+50.00	34.00	611.07	597.45	575.45
67+75.65	17+75.00	34.00	611.19	595.90	573.90
68+00.73	18+00.00	34.00	611.32	595.56	558.56
68+25.81	18+25.00	34.00	611.44	595.25	558.25
68+50.89	18+50.00	34.00	611.57	595.11	558.11
68+75.98	18+75.00	34.00	611.69	595.43	558.43
69+01.06	19+00.00	34.00	611.82	596.00	574.00
69+26.14	19+25.00	34.00	611.94	596.37	574.37
69+51.22	19+50.00	34.00	612.07	596.53	574.53
69+76.30	19+75.00	34.00	612.19	597.51	582.51
70+01.38	20+00.00	34.00	612.32	597.99	582.99

GEOMETRY TABLE

ROADWAY STATIONING	STATIONING ALONG FF OF WALL	OFFSET FACE OF WALL FROM REF. LINE (FT)	TOP OF WALL ELEVATION	FINISHED GROUND LINE ELEVATION	BOTTOM OF WALL ELEVATION
70+26.40	20+25.00	34.00	612.44	598.43	583.43
70+51.40	20+50.00	34.00	612.53	598.74	583.74
70+76.40	20+75.00	34.00	612.62	600.09	585.09
71+01.40	21+00.00	34.00	612.71	601.60	586.60
71+26.40	21+25.00	34.00	612.80	602.58	587.58
71+51.40	21+50.00	34.00	612.89	603.05	588.05
71+76.40	21+75.00	34.00	612.98	604.36	589.36
72+01.40	22+00.00	34.00	613.07	605.41	590.41
72+26.40	22+25.00	34.00	613.16	604.37	589.37
72+51.40	22+50.00	34.00	613.26	603.78	588.78
72+76.40	22+75.00	34.00	613.36	605.02	590.02
73+01.40	23+00.00	34.00	613.44	605.08	590.08
73+26.40	23+25.00	34.00	613.54	602.75	587.75
73+51.40	23+50.00	34.00	613.61	601.02	586.02
73+76.40	23+75.00	34.00	613.55	601.47	586.47
74+01.40	24+00.00	34.00	613.46	601.52	586.52
74+26.40	24+25.00	34.00	613.39	600.89	585.89
74+51.43	24+50.00	34.00	613.29	600.42	585.42
74+76.49	24+75.00	34.00	613.18	600.63	585.63
75+01.55	25+00.00	34.00	613.07	600.80	585.80
75+26.60	25+25.00	34.00	612.94	600.01	585.01
75+51.66	25+50.00	34.00	612.82	600.10	585.10
75+76.72	25+75.00	34.00	612.68	601.08	586.08
76+01.77	26+00.00	34.00	612.53	600.70	585.70
76+26.83	26+25.00	34.00	612.37	600.13	585.13
76+51.89	26+50.00	34.00	612.22	599.77	584.77
76+76.94	26+75.00	34.00	612.07	599.83	584.83

GEOMETRY TABLE

ROADWAY STATIONING	STATIONING ALONG FF OF WALL	OFFSET FACE OF WALL FROM REF. LINE (FT)	TOP OF WALL ELEVATION	FINISHED GROUND LINE ELEVATION	BOTTOM OF WALL ELEVATION
77+02.00	27+00.00	34.00	611.92	599.38	584.38
77+27.06	27+25.00	34.00	611.75	598.91	583.91
77+52.11	27+50.00	34.00	611.59	598.46	583.46
77+77.17	27+75.00	34.00	611.42	598.02	583.02
78+02.23	28+00.00	34.00	611.25	596.92	581.92
78+27.28	28+25.00	34.00	611.08	596.99	581.99
78+52.34	28+50.00	34.00	610.91	597.96	582.96
78+77.40	28+75.00	34.00	610.74	597.97	582.97
79+02.46	29+00.00	34.00	610.57	597.84	582.84
79+27.49	29+25.00	34.00	610.40	597.66	582.66
79+52.49	29+50.00	34.00	610.23	597.56	582.56
79+77.49	29+75.00	34.00	610.06	597.68	582.68
80+02.49	30+00.00	34.00	609.89	597.82	582.82
80+27.49	30+25.00	34.00	609.72	597.49	582.49
80+52.49	30+50.00	34.00	609.55	597.58	582.58
80+77.49	30+75.00	34.00	609.38	598.43	583.43
81+02.49	31+00.00	34.00	609.20	599.22	584.22
81+27.49	31+25.00	34.00	609.10	600.01	585.01
81+52.49	31+50.00	34.00	609.02	600.79	585.79
81+77.49	31+75.00	34.00	608.95	600.98	585.98
82+02.23	32+00.00	34.00	608.87	601.40	586.40
82+26.35	32+25.00	34.00	608.77	601.62	586.62
82+50.47	32+50.00	34.00	608.61	601.92	586.92
82+74.60	32+75.00	34.00	608.44	608.17	601.17
82+98.67	33+00.00	34.00	608.26	608.28	601.28

STATE PROJECT NUMBER
4616-03-71

WALL GEOMETRY

PI STA = 17+89.89
N = 499525.108
E = 61734.347
Δ = 002°21'25"
D = 000°32'54"
T = 214.96
L = 429.85
R = 10450.00
PC STA = 15+74.93
PT STA = 20+04.79

LIST OF DRAWINGS

1. GENERAL PLAN 1
2. GENERAL PLAN 2
3. WALL DETAILS
4. ANCHOR SLAB SECTIONS
5. ANCHOR SLAB DETAILS
6. TIEBACK DETAILS
7. PARAPET AND AESTHETICS
8. COMBINATION RAIL TYPE 'C2'
9. WALL PENETRATIONS
10. SUBSURFACE EXPLORATION 1
11. SUBSURFACE EXPLORATION 2
12. SUBSURFACE EXPLORATION 3

NOTES

AREA WITH TIEBACKS FOR ADDITIONAL WALL SUPPORT. SHEET PILE ANCHOR WALL TYPICALLY LOCATED UNDER PROPOSED CURB AND GUTTER.

WISCONSIN
KYLE R. WEEKS
E-46056
GREENVILLE, WI
PROFESSIONAL ENGINEER
12/2/2020

BRIDGE OFFICE CONTACT
AARON BONK
(608) 261-0261

CONSULTANT CONTACT
KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED SDR 12/03/20
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-5-306

RETAINING WALL WEST OF CTH ZZ

COUNTY	BROWN	VILLAGE	WRIGHTSTOWN
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS	LOAD	HL-93
DESIGNED BY	BRE	DESIGN CK'D.	KRO
DRAWN BY	BRE	PLANS CK'D.	KRO

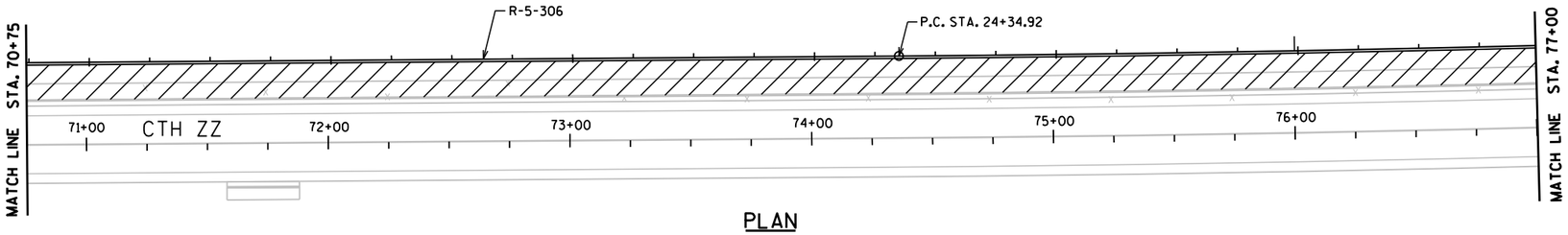
GENERAL PLAN 1

SHEET 1 OF 12

79

8

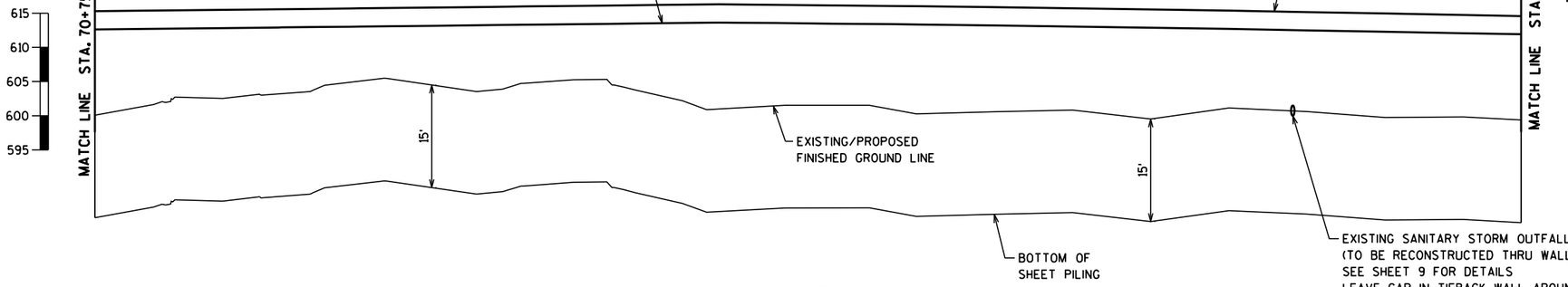
8



PLAN

WALL GEOMETRY

PI STA = 26+74.72
N = 500262.511
E = 62223.503
Δ = 001°50'10"
D = 000°22'58"
T = 239.81
L = 479.57
R = 14966.00
PC STA = 24+34.92
PT STA = 29+14.49

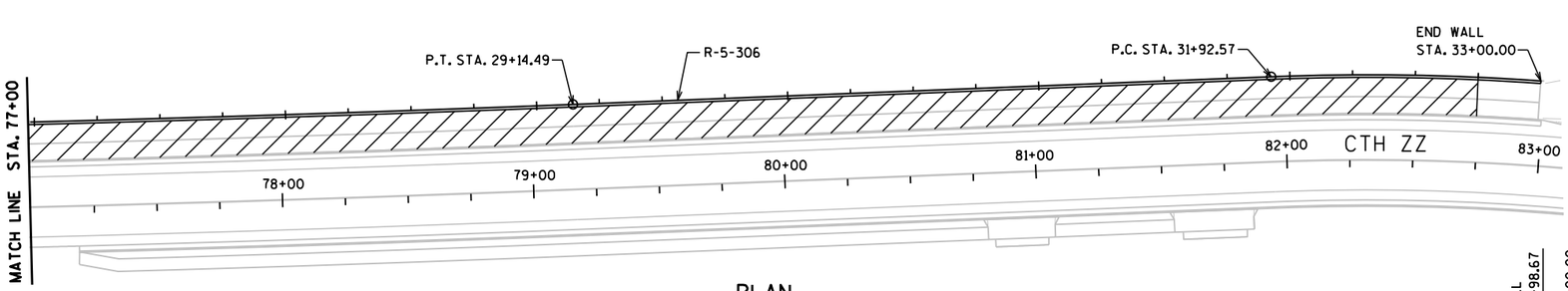


ELEVATION

(LOOKING AT BACK FACE OF WALL)

NOTES

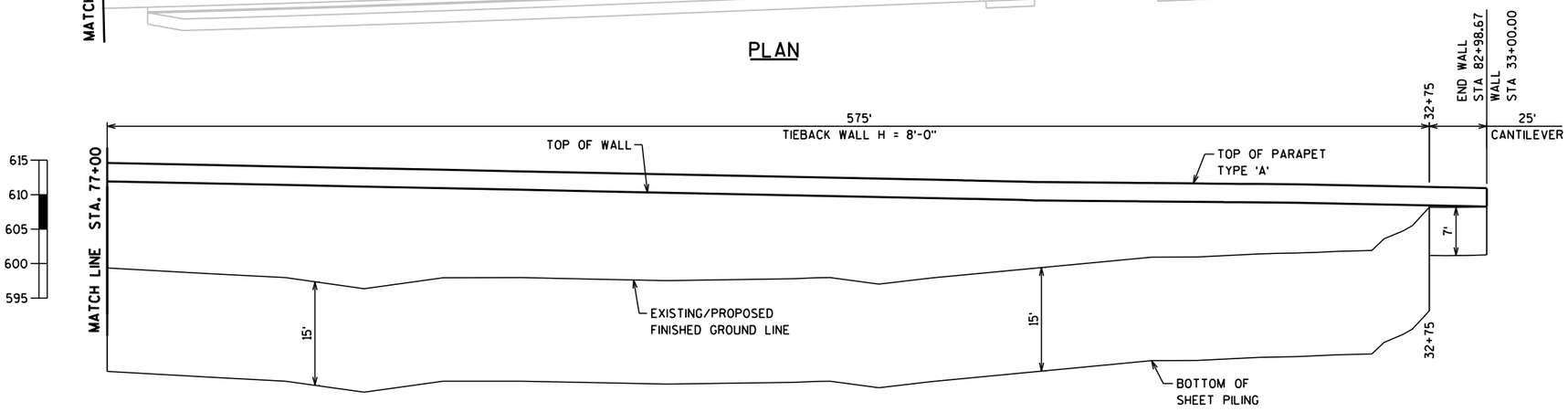
AREA WITH TIEBACKS FOR ADDITIONAL WALL SUPPORT. SHEET PILE ANCHOR WALL TYPICALLY LOCATED UNDER PROPOSED CURB AND GUTTER.



PLAN

WALL GEOMETRY

PI STA = 32+34.02
N = 500738.286
E = 62517.603
Δ = 004°53'57"
D = 005°54'46"
T = 41.45
L = 82.85
R = 969.00
PC STA = 31+92.57
PT STA = 32+75.42



ELEVATION

(LOOKING AT BACK FACE OF WALL)

STATE PROJECT NUMBER
4616-03-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-5-306

DRAWN BY: BRE | PLANS CK'D.: KRO

GENERAL PLAN 2

SHEET 2 OF 12

80

8

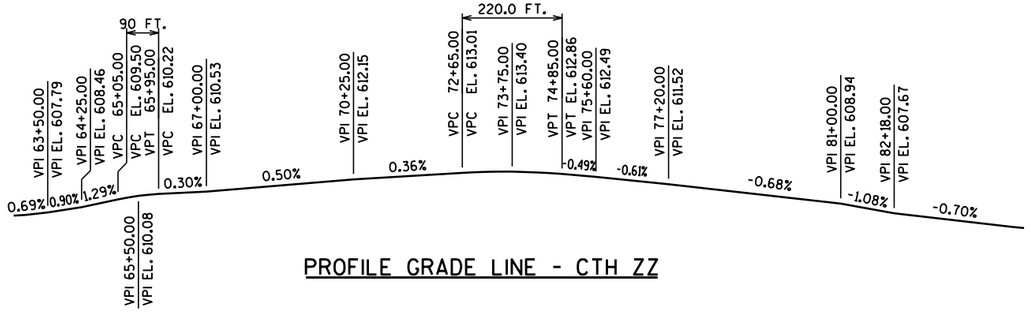
8

FILE NAME : F:±TR±JOBS±E2166A15±Sheets±Retaining Walls±R-05-0306 STA 63+50 - 82+75 SHEET PILE±R-05-0306 02 gp.dgn

PLOT BY : BREpley PLOT DATE: 12/2/2020 4:56:31 PM

STATE PROJECT NUMBER

4616-03-71



PROFILE GRADE LINE - CTH ZZ

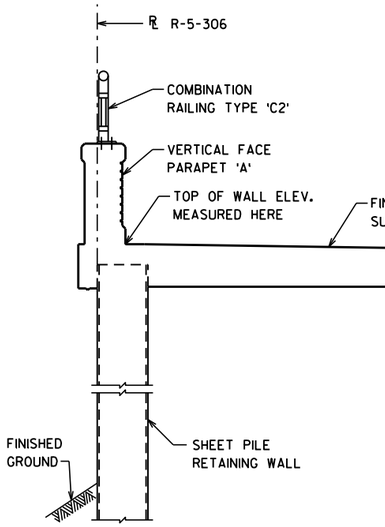
BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
14	84+48, 10'RT	HYDRANT TAG BOLT AT HOUSE #75	605.78
15	74+55, 35'RT	HYD TAG BOLT SW COR WW TREATMENT	614.74
16	63+23, 23'LT	HYDRANT TAG BOLT SW QUAD CLAY ST	609.39

☆ REDUCE OFFSET FROM STA 14+75 TO STA 15+00 TO AVOID CONFLICT WITH STORM SEWER.

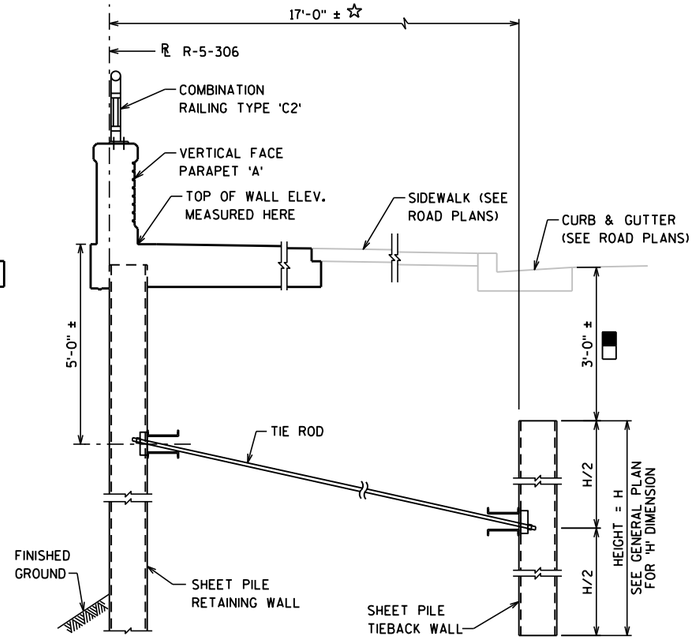
■ TO ACCOMMODATE PROPOSED STORM SEWER CATCH BASINS INSTALL TIEBACK WALL TO DEPTH OF 6'-0" BELOW PROPOSED ROADWAY SURFACE FOR MIN. LATERAL DISTANCE OF 3'-0" BOTH UP-STATION AND DOWN-STATION OF CATCH BASIN. TIEBACK WALL WALER PERMITTED TO REMAIN CONTINUOUS AND LEVEL.

REQUIRED AT ROADWAY STATIONS: STA 66+60
STA 66+75
STA 68+20
STA 70+00
STA 71+63.50
STA 75+94.40
STA 78+96.50
STA 81+20



CANTILEVER SHEET PILE WALL

STA. 13+50 TO STA. 14+75
STA. 32+75 TO STA. 33+00



TIEBACK SHEET PILE WALL

STA. 14+75 TO STA. 32+75

SOIL PARAMETERS

Table 1: Soil Parameters - Sheet Pile Walls

Soil Description	Friction Angle (Degrees)	Cohesion (Psf)	Unit Weight (Pcf)
Soil Behind Wall in Short and Long Term Condition			
Anchor Slab and Base Course : Within the Wall in the Reinforcing Zone.	40	0	150
Granular Structural Backfill : Required along entire wall from Bottom of Anchor Slab Base Course to Finished Grade Line.	36	0	120
Natural Existing Clay : Beneath Backfill at Finished Grade Line to Depth of Sheeting.	0	600	130
Soil in Front of Wall in Short and Long Term Condition			
River Muck : Toe of Wall to 2.0 ft depth.	0	200	120
Natural Existing Clay : Beneath Backfill at Finished Grade Line to Depth of Sheeting.	0	600	130

SHEET PILE WALL ANALYSIS

Table 2: Results of Sheet Pile Wall External Stability Evaluation

Wall Type	Cantilever	Tieback		
Soil Parameter Term Condition	Short & Long			
Backfill Type	Structural			
Dimensions				
Maximum Exposed Wall Height (feet)	6.0	15.0	16.0	17.0
Required Wall Embedment (feet)	5.4	12.0	18.1	30.4
Factored Wall Embedment (feet) [1]	**6.5**	**15.0**	**21.7**	**36.5**
Safety Factors				
Embedment (CDR > 1.0) [2]	1.00	1.00	1.00	1.00
Global Stability, South Wall(FS_{req} > 1.5) [3]	3.0	2.00		
Global Stability, North Wall (FS_{req} > 1.5) [3]	3.0	2.81		
Design Results				
Max Factored Bending Moment (Lb_ft)	4,949	23,002	34,104	52,603
Section Modulus Required ($in.^3/ft$)	1.32	6.13	9.09	14
Wall Deflection (in./ft) [4]	1/4	1/2	3/4	2
Tieback Force (LB/ft.)	N/A	7,303	8,640	10,518

1. Since the wall embedment depth uses the Simplified Method with continuous vertical elements, a 20% increase in embedment will be included.
2. CDR (Capacity to Demand Ratio) given in Chapter 14 of the WisDOT Bridge Manual.
3. FS_{req} (Safety Factor Required) determined from *WinStabl* program.
4. Wall Deflection using moment of inertia of 184.20 in.4/ft, property of PZ27 sheet pile.

TOTAL ESTIMATED QUANTITIES

BID ITEMS

206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS R-5-306	1 LS
502.3200	PROTECTIVE SURFACE TREATMENT	370 SY
504.0500	CONCRETE MASONRY RETAINING WALLS	944 CY
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	100,990 LB
506.0105	STRUCTURAL STEEL CARBON	256,284 LB
506.0605	STRUCTURAL STEEL HS	23,310 LB
512.0500	PILING STEEL SHEET PERMANENT DELIVERED	67,856 SF
512.0600	PILING STEEL SHEET PERMANENT DRIVEN	38,550 SF
513.7011	RAILING STEEL TYPE C2 R-5-306	1,950 LF
517.1010.S	CONCRETE STAINING R-5-306	956 SF
517.1015.S	CONCRETE STAINING MULTI-COLOR R-5-306	3,276 SF
517.1050.S	ARCHITECTURAL SURFACE TREATMENT R-5-306	3,276 SF
645.0140	GEOTEXTILE TYPE SAS	5,219 SY
SPV.0195.01	SHEET PILE WALL BACKFILL	14,770 TON

NON-BID ITEMS

PREFORMED JOINT FILLER, 1-INCH

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

EXCAVATION FOR STRUCTURES INCLUDES ORGANIC MATERIAL AND TOP SOIL (ASSUMED TO BE 1' DEEP) FROM THE SHEET PILE WALL TO THE LIMIT OF STRUCTURE BACKFILL AREA AS SHOWN ON SHEET 5. SEE ROADWAY CROSS SECTIONS FOR BACKFILL LIMITS.

LENGTH OF RETAINING WALL IS MEASURED ALONG THE FRONT FACE AT THE REFERENCE LINE.

ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH SHEET PILE WALL BACKFILL AS SHOWN IN THE PLANS.

ALL RETAINING WALL STATIONS AND OFFSETS ARE MEASURED ALONG THE REFERENCE LINE FOR CTH ZZ.

OFFSETS ARE MEASURED TO THE FRONT FACE OF RETAINING WALLS.

APPLY PROTECTIVE SURFACE TREATMENT TO TOP AND INSIDE FACES OF PARAPET THAT ARE NOT STAINED.

BEVEL EXPOSED EDGES OF CONCRETE 1" UNLESS OTHERWISE NOTED.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

ALL BAR STEEL IS TO BE EPOXY COATED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK INDICATE THE SIZE OF BAR.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB AND PARAPETS IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

DESIGN DATA

LIVE LOAD:

LIVE LOAD SURCHARGE (CONSTRUCTION) — 100 P.S.F.

MATERIAL PROPERTIES:

ANCHOR SLAB
CONCRETE MASONRY
RETAINING WALLS — f'c = 3,500 P.S.I.
HIGH STRENGTH BAR STEEL
REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.
CANTILEVER SHEET PILE
PERMANENT STEEL SHEET
PILING (ASTM A572) — fy = 50,000 P.S.I.
DESIGN SECTION MODULUS
PER LINEAL FOOT OF WIDTH — 60.7 $IN.^3$
TIEBACK WALL SHEET PILE
PERMANENT STEEL SHEET
PILING (ASTM A572) — fy = 50,000 P.S.I.
DESIGN SECTION MODULUS
PER LINEAL FOOT OF WIDTH — 30.2 $IN.^3$

PAID FOR UNDER STRUCTURAL STEEL CARBON

C15X33.9 CHANNELS
DOUBLE WALER
CHANNELS (ASTM A709) — fy = 50,000 P.S.I.
STEEL PLATES
SPLICE PLATES, WASHER
PLATES, ETC. (A709) — fy = 36,000 P.S.I.
BOLTS
VARIOUS SIZE BOLTS (A325) — fy = 90,000 P.S.I.

PAID FOR UNDER STRUCTURAL STEEL HS

ANCHOR RODS
THREADED TIE RODS (A722) — fu = 150,000 P.S.I.

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DEPARTMENT OF TRANSPORTATION

STRUCTURE R-5-306

DRAWN BY BRE | PLANS CK'D. KRO

WALL DETAILS

SHEET 3 OF 12

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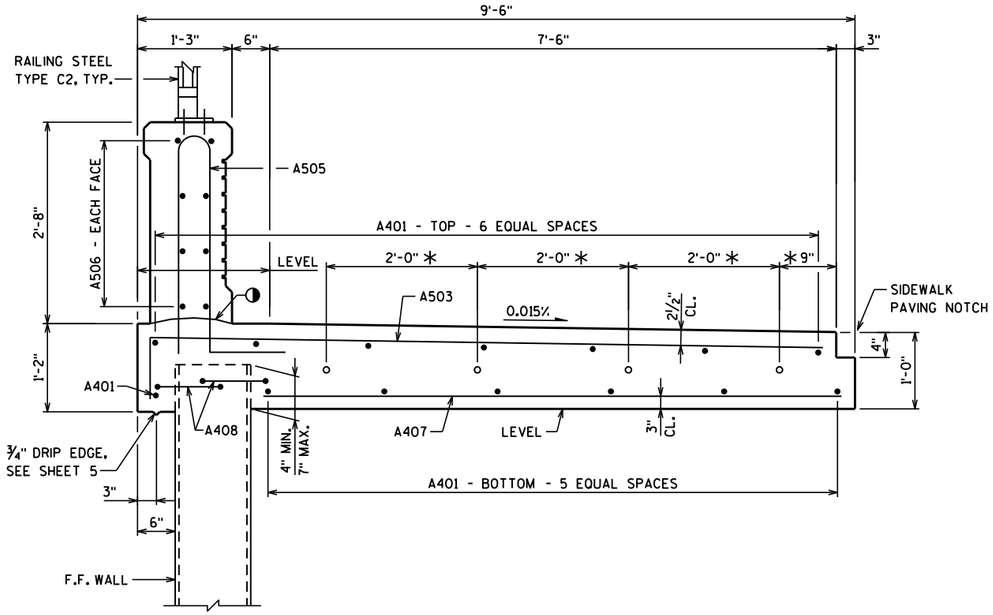
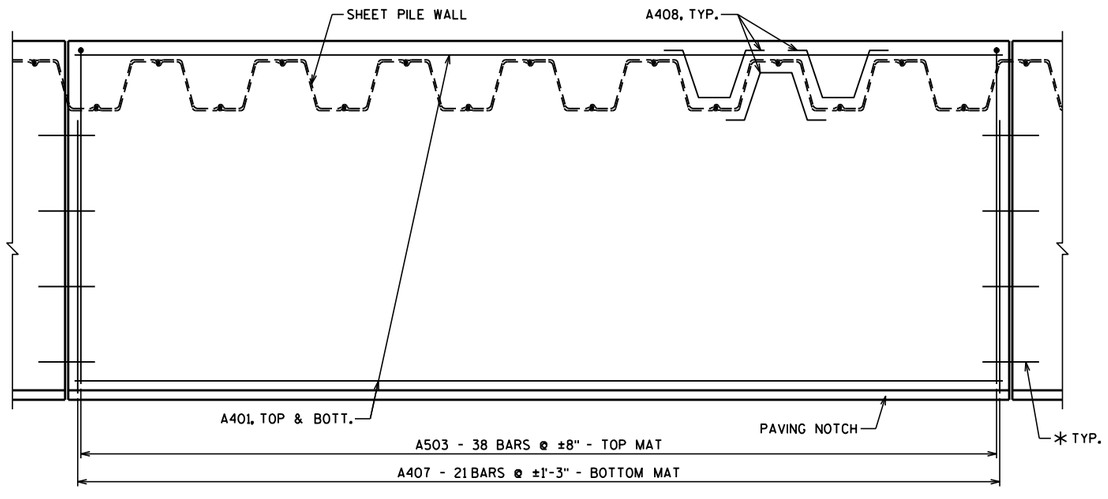


SECTION THRU ANCHOR SLAB



TYPICAL ANCHOR SLAB PLAN

NOTES:

◑ HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

* (4) - ¾" DIA. SMOOTH DOWEL BARS, 1'-6" LONG, AT EXPANSION JOINT. EMBED 9". USE APPROVED DEBONDER ON ½ OF BAR LENGTH. COST INCLUDED IN "CONCRETE MASONRY RETAINING WALLS".

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ANCHOR SLAB SECTIONS

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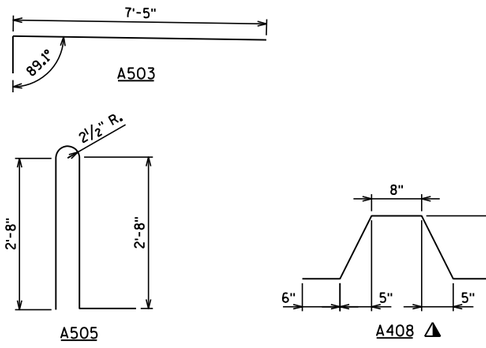
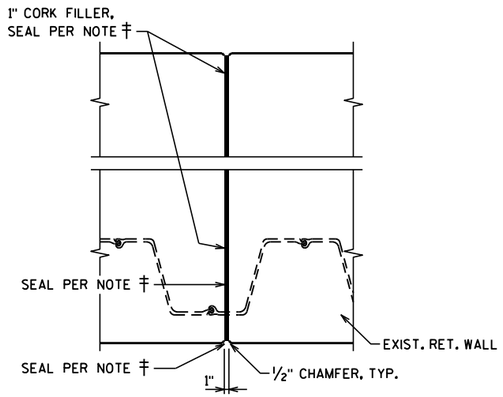
BILL OF BARS

(BILL OF BARS FOR ONE ANCHOR SLAB PANEL, 78 PANELS REQ'D.)

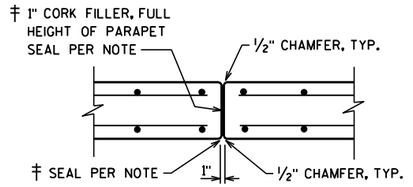
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A401	X	14	24'-7"		ANCHOR SLAB TOP & BOTTOM
A503	X	38	9'-7"	X	ANCHOR SLAB TOP
A505	X	31	6'-9"	X	PARAPET - VERTICAL
A506	X	8	24'-7"		PARAPET - HORIZONTAL
A407	X	21	6'-2"		ANCHOR SLAB BOTTOM
⚠ A408	X	15	3'-3"	X	ANCHOR SLAB AT SHEET PILE



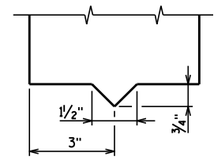
BAR BEND DIAGRAMS



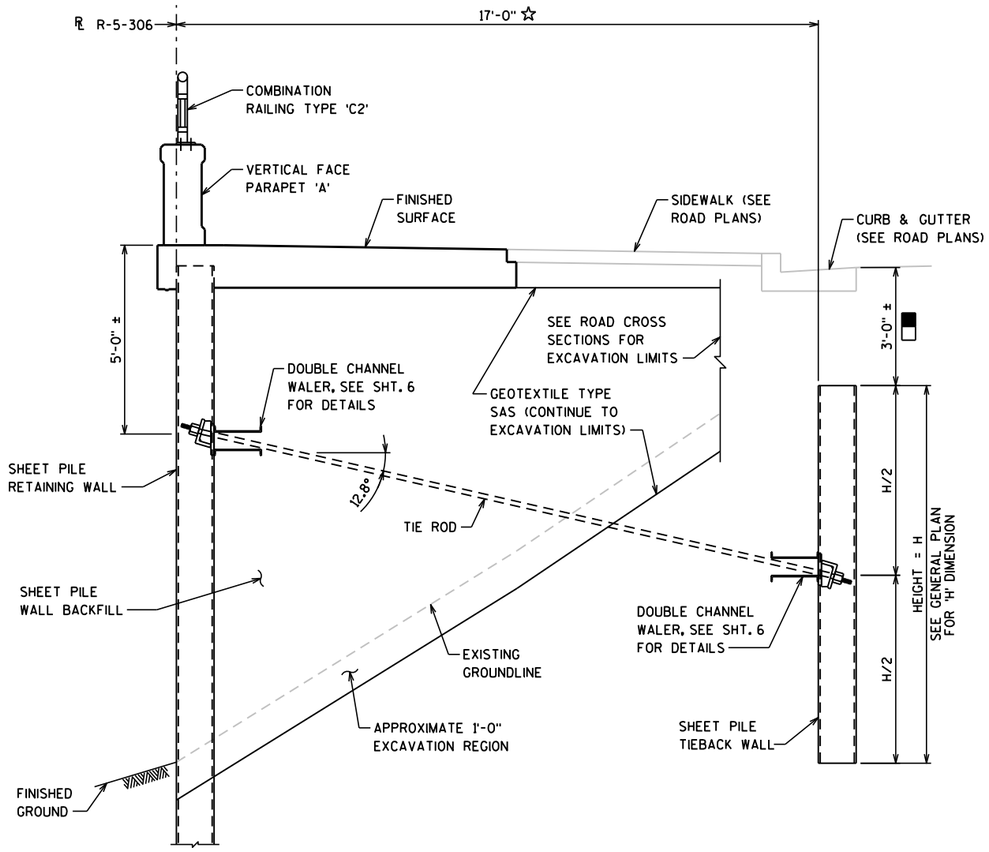
ANCHOR SLAB EXPANSION JOINT DETAIL



PARAPET EXPANSION JOINT DETAIL



¾" DRIP EDGE DETAIL



TYPICAL SECTION THRU WALL WITH TIEBACK WALL

NOTES

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING COLOR TO MATCH STAIN OF NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 25'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.

⚠ DIMENSIONS GIVEN MAY NOT FIT CHOOSEN SHEET PILE SECTION. ADJUST DIMENSIONS AS NECESSARY TO ALLOW PROPER FIT.

☆ REDUCE OFFSET FROM STA 14+50 TO STA 15+00 TO AVOID CONFLICT WITH STORM SEWER.

■ TO ACCOMMODATE PROPOSED STORM SEWER CATCH BASINS INSTALL ANCHOR WALL TO DEPTH OF 6'-0" BELOW PROPOSED ROADWAY SURFACE FOR MIN. LATERAL DISTANCE OF 3'-0" BOTH UP-STATION AND DOWN-STATION OF CATCH BASIN. TIEBACK WALL WALER PERMITTED TO REMAIN CONTINUOUS AND LEVEL.

REQUIRED AT ROADWAY STATIONS:
STA 66+60
STA 66+75
STA 68+20
STA 70+00
STA 71+63.50
STA 75+94.40
STA 78+96.50
STA 81+20

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ANCHOR SLAB DETAILS

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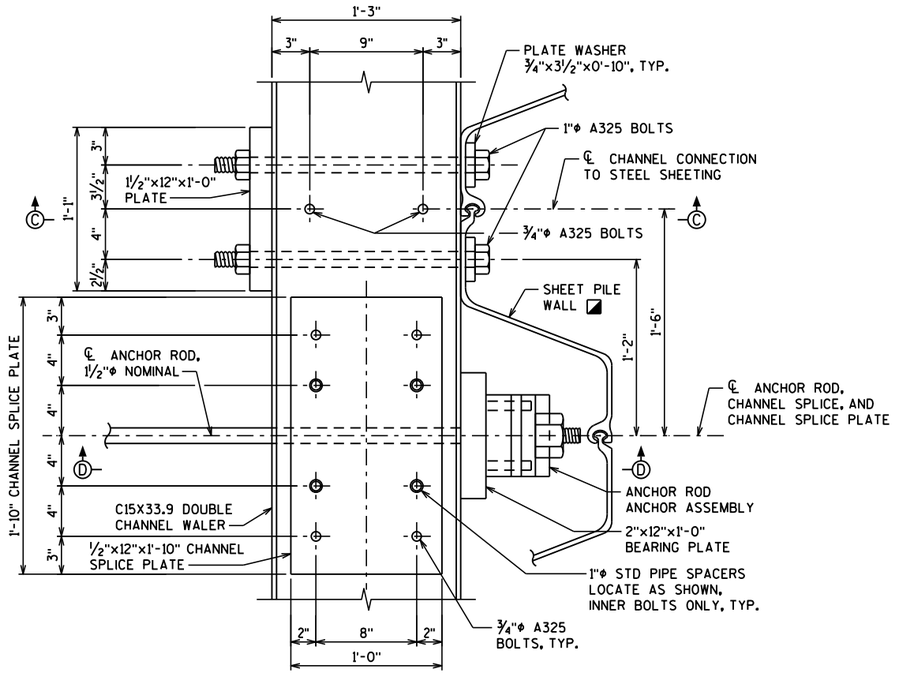
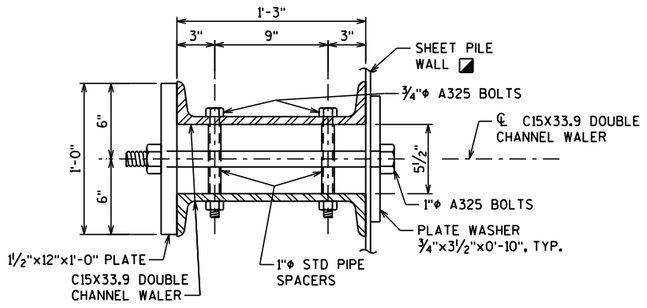
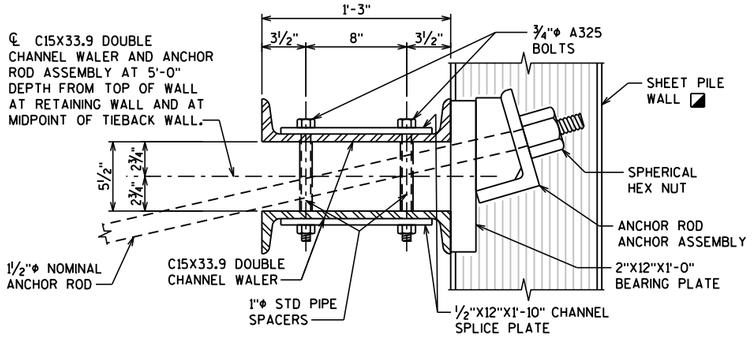


PLAN VIEW



SECTION C-C



SECTION D-D

NOTES:

DIMENSIONS GIVEN MAY NOT FIT CHOOSEN SHEET PILE SECTION. ORIENTATION OF SHEET PILE SECTIONS MAY ALSO EFFECT CONNECTIONS. ADJUST DIMENSIONS AS NECESSARY TO ALLOW PROPER CONNECTION DETAILS.

9'-0" MAX ANCHOR ROD SPACING

◪ TIEBACK AND WALER DETAILS MIRRORED TO BURIED TIEBACK WALL

ANCHOR ROD ANGLE SHALL NOT EXCEED 13° FROM HORIZONTAL

ANCHOR RODS

ALL ANCHOR RODS SHALL MEET THE REQUIREMENTS OF ASTM A722, Fu = 150,000 PSI. THE DESIGN SERVICE LOAD FOR THE ANCHOR RODS SHALL NOT EXCEED 60% OF THE MANUFACTURER'S GUARANTEED ULTIMATE LOAD. THE DESIGN SERVICE LOAD FOR THE 1½" ANCHOR RODS IS 101 KIPS. THE CONTRACTOR MAY FURNISH ANCHOR RODS CONSTRUCTED FROM MATERIAL OTHER THAN ASTM A722 WITH THE APPROVAL OF THE ENGINEER.

ANCHOR RODS PAID FOR UNDER STRUCTURAL STEEL HS.

SPHERICAL HEX NUTS, BEARING PLATES, AND ANCHOR ROD ASSEMBLIES SHALL BE USED AT ALL ANCHOR ROD CONNECTION POINTS.

ANCHOR RODS SHOULD NOT BE SUBJECTED TO THE HEAT OF A TORCH, WELDING OR USED AS A GROUND. FIELD CUTTING SHOULD BE DONE WITH AN ABRASIVE WHEEL OR BAND SAW ONLY.

ALL ANCHOR RODS SHALL BE EPOXY COATED BY THE MANUFACTURER.

ALL ANCHOR ROD COUPLERS, SPHERICAL NUTS, BEARING PLATES, AND ANCHOR ROD ASSEMBLIES SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A-153. THE GALVANIZED COATING THICKNESS FOR THE ANCHOR ROD COMPONENTS (COUPLERS, SPHERICAL NUTS, BEARING PLATES, ETC.) SHOULD BE BETWEEN 3 AND 4 MILS - MINIMUM.

THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN PLACING AND COMPACTING BACKFILL MATERIAL IN AND AROUND THE INSTALLED ANCHOR RODS. THE ANCHOR RODS SHALL BE TEMPORARILY SUPPORTED IN THEIR FINAL POSITION UNTIL A SUFFICIENT AMOUNT OF COMPACTED BACKFILL HAS BEEN PLACED TO PERMANENTLY SUPPORT THE ANCHOR RODS.

PRETENSION THE ANCHOR RODS AS REQUIRED TO RETURN THE RETAINING WALL TO A VERTICAL AND PLUMB CONDITION PRIOR TO CONTINUING ADDITIONAL BACKFILL OPERATIONS. THE MINIMUM ANCHOR ROD PRETENSION FORCE SHALL EQUAL 20 KIPS.

STRUCTURAL STEEL

CHANNEL SPLICE LOCATION SHOWN AT ANCHOR ROD LOCATION ON PLANS. CHANNEL SPLICE IS PERMITTED ANYWHERE ALONG TIEBACK WALL BUT MUST BE CENTERED ON CHANNEL SPLICE PLATE.

STEEL SHAPES, PLATES, BOLTS, NUTS, & WASHERS PAID FOR UNDER STRUCTURAL STEEL CARBON.

ALL C15X33.9 DOUBLE CHANNEL WALERS SHALL MEET THE REQUIREMENTS OF ASTM A709 GRADE 50, Fy = 50,000 PSI.

ALL PLATE WASHERS AND MISC. STEEL PLATES SHALL MEET THE REQUIREMENTS OF ASTM A709 GRADE 36, Fy = 36,000 PSI.

ALL HIGH-STRENGTH BOLTS, NUTS AND WASHERS SHALL MEET ASTM A325 REQUIREMENTS. ALL HEX HEAD BOLTS SHALL HAVE NUTS AND TWO STANDARD WASHERS. ALL NUTS, BOLTS AND WASHERS SHALL HAVE THE MANUFACTURER'S MARKINGS ON THEM. STANDARD SIZED HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

ALL BOLTS SHALL BE TIGHTENED USING THE TURN-OF-THE-NUT METHOD OR AN ENGINEER APPROVED EQUAL METHOD.

ALL HIGH-STRENGTH BOLTS, WASHERS AND NUTS USED IN ALL CONNECTIONS SHALL BE HOT-DIPPED GALVANIZED. GALVANIZED HIGH- STRENGTH BOLTS AND NUTS MUST BE CONSIDERED A MANUFACTURED ASSEMBLY.

ALL ATTACHMENTS TO THE NEW STRUCTURAL STEEL FOR CONSTRUCTION PURPOSES MUST BE APPROVED BY THE ENGINEER.

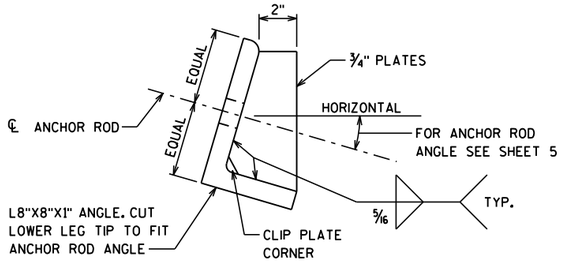
SHEET PILING

UNLESS THE ENGINEER DIRECTS OTHERWISE, THE CONTRACTOR SHALL SUBMIT BEFORE DELIVERY OF THE STEEL SHEET PILING, TWO (2) COPIES OF A CERTIFIED REPORT OF TEST OR ANALYSIS SHOWING BOTH THE PHYSICAL AND CHEMICAL TESTS OF THE MATERIAL FOR EACH HEAT OF MATERIAL.

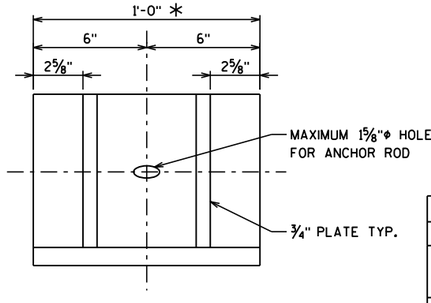
THE STEEL SHEET PILING FOR THE MAIN WALL, AND THE TIEBACK WALL TO BE IN ACCORDANCE WITH ASTM A572, Fy = 50,000 PSI.

A SHEET PILE SECTION OTHER THAN PZ-27 FOR A CANTILEVER RETAINING WALL OR A TIEBACK RETAINING WALL AND ANCHOR WALL IS ACCEPTABLE PROVIDED THAT THE SECTION MEETS THE MINIMUM REQUIREMENTS FOR SECTION MODULUS, WEB THICKNESS AND MOMENT OF INERTIA. SUBSTITUTIONS WILL BE ALLOWED WITH PRIOR APPROVAL OF THE ENGINEER.

ANY STEEL SHEETING DAMAGED IN DRIVING BY REASON OF INTERNAL DEFECTS; IMPROPER DRIVING; DRIVEN OUT OF THEIR PROPER LOCATION; OR DRIVEN BELOW THE TOP ELEVATION SPECIFIED ON THE PLANS, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.



SIDE VIEW



FRONT VIEW

ANCHOR ROD ANCHOR ASSEMBLY

* L = LENGTH AS REQUIRED TO ACCOMMODATE ANCHOR ROD ANCHORAGE.

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DEPARTMENT OF TRANSPORTATION

STRUCTURE R-5-306

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TIEBACK DETAILS

SHEET 6 OF 12

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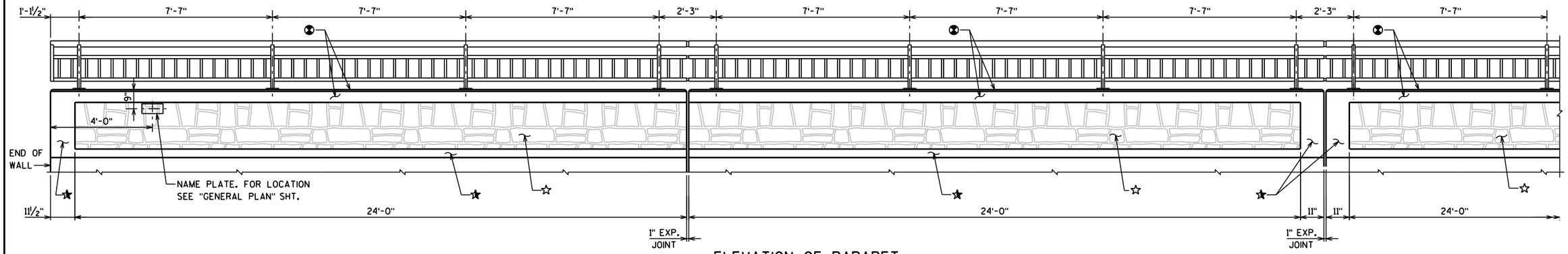
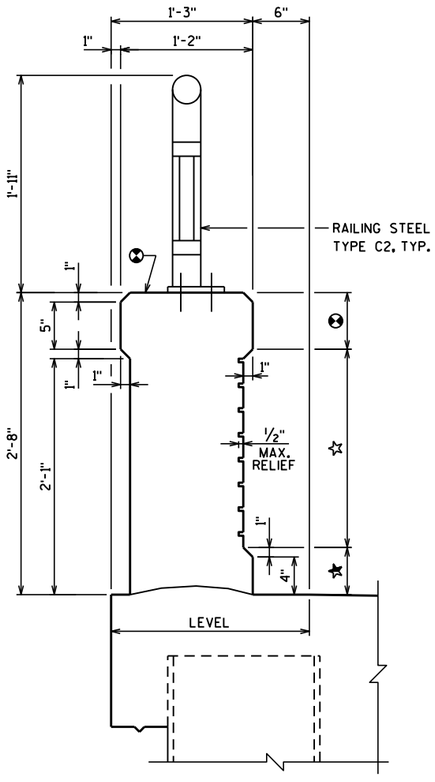
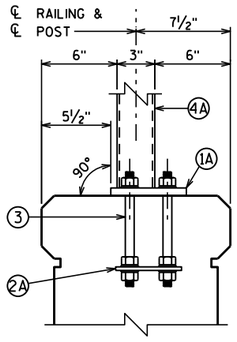


ELEVATION OF PARAPET

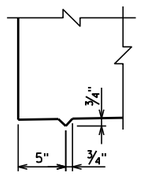


SECTION THRU PARAPET

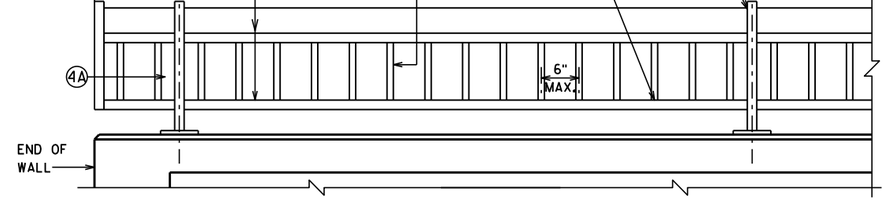


RAILING BASE PLATE DETAIL

NOTE: SEE SHEET 13 FOR RAILING DETAILS.

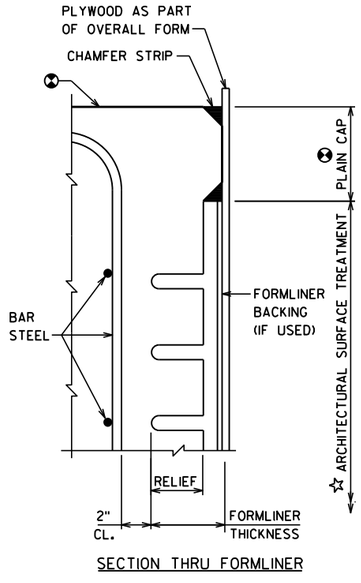


⊕ ¾" V-DRIP EDGE DETAIL

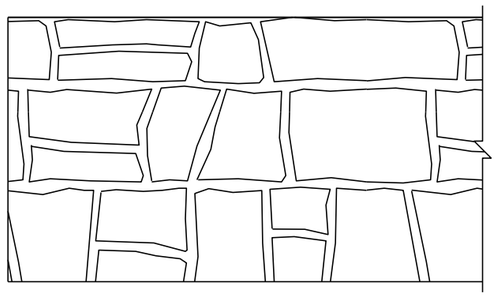


ELEVATION OF STEEL RAIL TYPE 'C2'

NOTE: SEE SHEET 8 FOR RAILING DETAILS



SECTION THRU FORMLINER



DRYSTACK STONE FORMLINER

FORMLINER THICKNESS = 3"
SIZE = 3" TO 24"
MAX. RELIEF = ½"

ARCHITECTURAL SURFACE TREATMENT

LEGEND

- ⊕ PROTECTIVE SURFACE TREATMENT (GRAY)
- ☆ "ARCHITECTURAL SURFACE TREATMENT" AND "CONCRETE STAINING MULTI-COLOR" MATCH B-5-381 STH 96 OVER THE FOX RIVER.
- ★ "CONCRETE STAINING" REQ'D FEDERAL COLOR NO. 33522

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DEPARTMENT OF TRANSPORTATION

STRUCTURE R-5-306

DRAWN BY BRE | PLANS CK'D. KRO

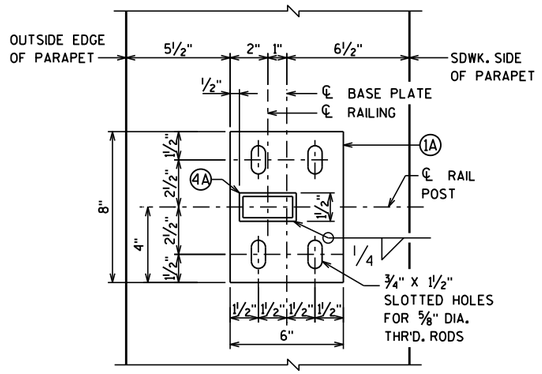
PARAPET AND AESTHETICS

SHEET 7 OF 12

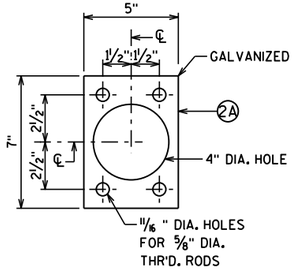
8

8

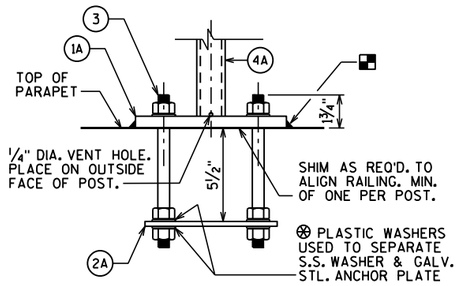
FILE NAME : F:±TR±JOBS±E2166A15±Sheets±Retaining Walls±R-05-0306 STA 63+50 - 82+75 SHEET PILE±R-05-0306 07 para.dgn PLOT BY : BREpley PLOT DATE: 5/17/2020 1:26:47 PM



TYPICAL RAIL POST BASE PLATE

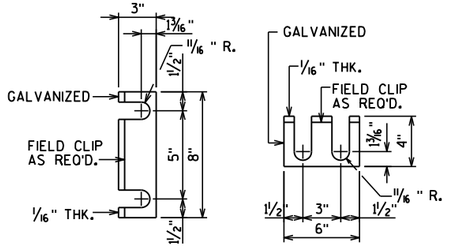


ANCHOR PLATE



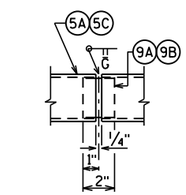
ANCHORAGE FOR RAIL POSTS

NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



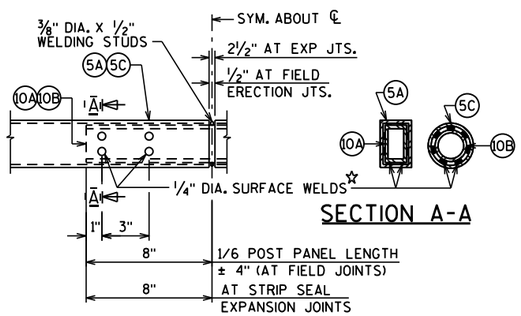
RAIL POST SHIM DETAIL

(2 SETS PER POST)



SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



FIELD ERECTION JOINT DETAIL

☆ MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

SECTION A-A

STATE PROJECT NUMBER

4616-03-71

LEGEND

(1A) PLATE ⅝" X 6" X 8" WITH ¾" X 1½" SLOTTED HOLES.

(2A) ¼" X 5" X 7" ANCHOR PLATE WITH 11⁄16 " DIA. HOLES FOR THR'D. RODS NO. 3.

(3) ⅝" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS ⅝-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS. EMBED 5" IN CONCRETE FOR END RAILS. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.

(4A) STRUCTURAL TUBING 3" X 1½" X 3⁄16". PLACE VERTICAL. WELD TO NO. 1 & 5.

(5A) STRUCTURAL TUBING 3" X 1½" X 3⁄16" RAILS. WELD TO NO. 1. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.

(5C) STRUCTURAL TUBING 2½" DIA. (STANDARD SIZE) (2.875" O.D.). WELD TO NO. 1. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.

(6A) BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE VERTICAL.

(9A) RECTANGULAR SLEEVE FABRICATED FROM 3⁄16" PLATES. PROVIDE "SLIDING FIT".

(9B) CIRCULAR SLEEVE FABRICATED FROM STRUCTURAL TUBING 2" DIA. (STANDARD SIZE) (2.375" O.D.)

(10A) RECTANGULAR SLEEVE FABRICATED FROM 3⁄16" PLATES. (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL JTS.)

(10B) CIRCULAR SLEEVE FABRICATED FROM STRUCTURAL TUBING 2" DIA. (STANDARD SIZE) (2.375" O.D.) (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL TYPE C2 R-5-306", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL PLATES, BARS, AND RECTANGULAR SLEEVES SHALL CONFORM TO ASTM A709 GRADE 36. ALL STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET NORMAL TO GRADE.

CUT BOTTOM OF POST TO MAKE POST VERTICAL IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTION.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

▪ CAULK AROUND PERIMETER OF BASE PLATES, NO. 1, AND FILL BOLT SLOT OPENINGS IN SHIMS AND BASE PLATES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ALL JOINTS AND RECESSES IN CONCRETE PARAPET ARE TO BE VERTICAL.

ALL MATERIAL (EXCEPT NO. 3 & 12) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. 20059, BROWN.

VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

TOUCH-UP PAINTING TO BE DONE AT COMPLETION OF STEEL RAILING INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-5-306

DRAWN BY BRE | PLANS CK'D. KRO

COMBINATION RAIL TYPE 'C2'

SHEET 8 OF 12

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8

STATE PROJECT NUMBER

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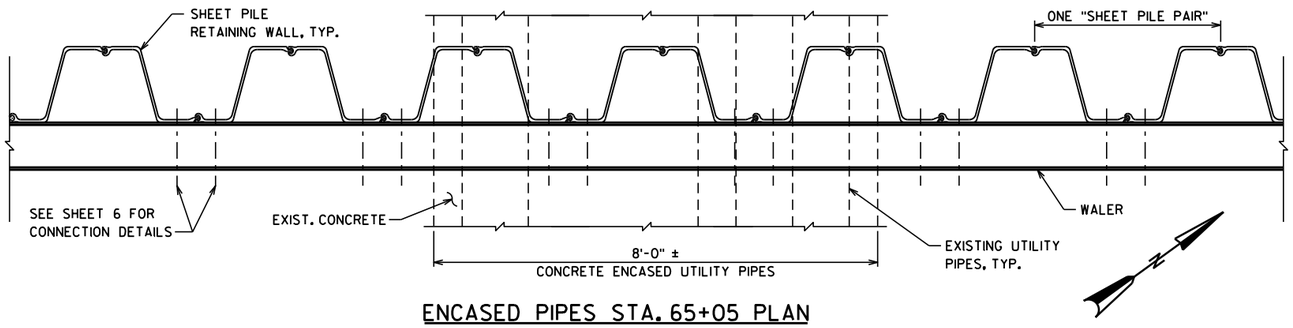
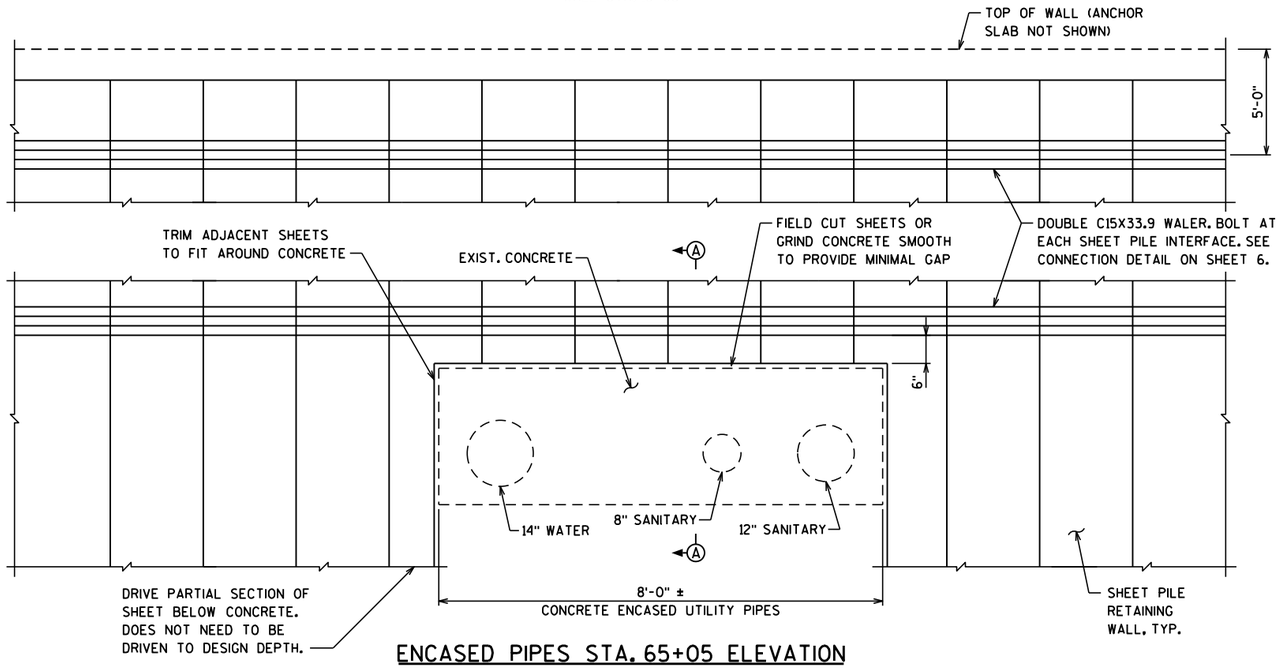


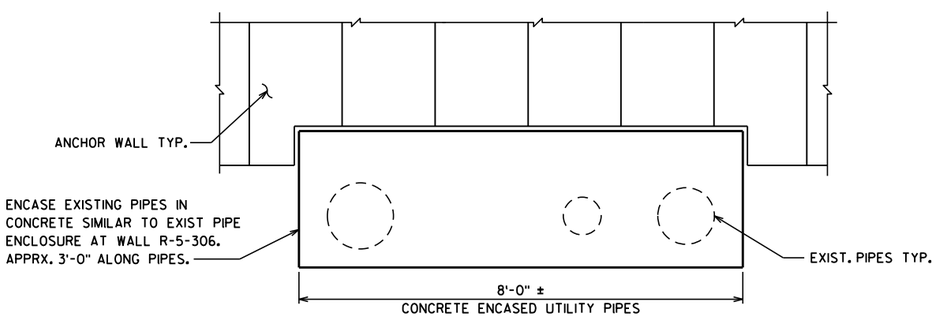
ENCASED PIPES STA. 65+05 PLAN

EXISTING UTILITIES ENCASED IN CONCRETE
WALL STA. 15+05

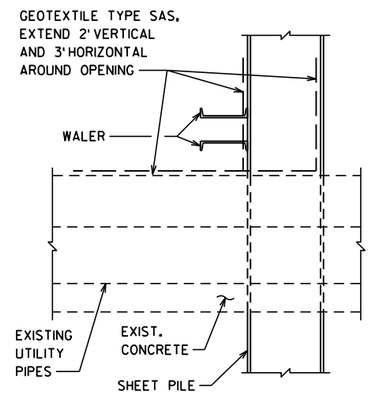


ENCASED PIPES STA. 65+05 ELEVATION

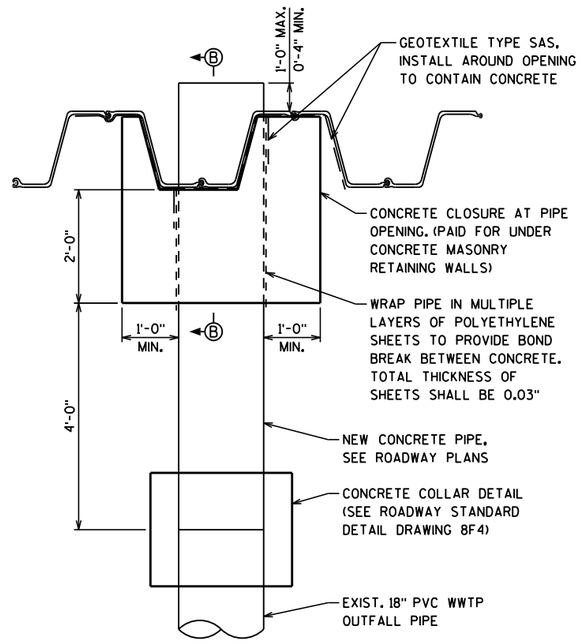
EXISTING UTILITIES ENCASED IN CONCRETE
WALL STA. 15+05
LOOKING AT BACK FACE OF WALL



EXISTING PIPES STA. 65+05 ANCHOR WALL ELEVATION

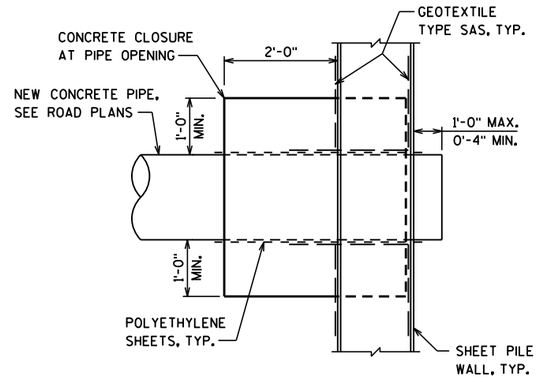


SECTION A-A



NEW PIPE OUTFALL STA. 76+02 PLAN VIEW

CONCRETE CLOSURE AT PIPE OUTFALL OPENING
ROAD STA. 76+02
WALL STA. 26+02



SECTION B-B

NOTES

WALERS SHALL SPAN ACROSS CUT SHEET PILE SECTIONS, AND EXTEND PAST THREE (3) ADJACENT FULL SHEET PILE PAIRS.

TWO (2) SETS OF WALERS SHALL BE INSTALLED AT EACH OPENING. ONE WALER 6" ABOVE THE BOTTOM OF CUT SHEETS, AND ANOTHER 5'-0" BELOW THE TOP OF WALL.

INSTALL ANCHOR WALL WITH A 4'-0" GAP AT STA 76+02

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WALL PENETRATIONS

SHEET 9 OF 12

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STATE PROJECT NUMBER
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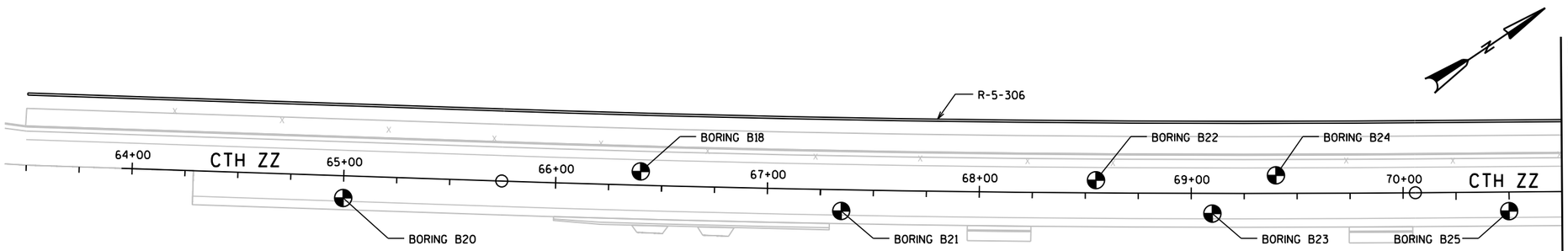
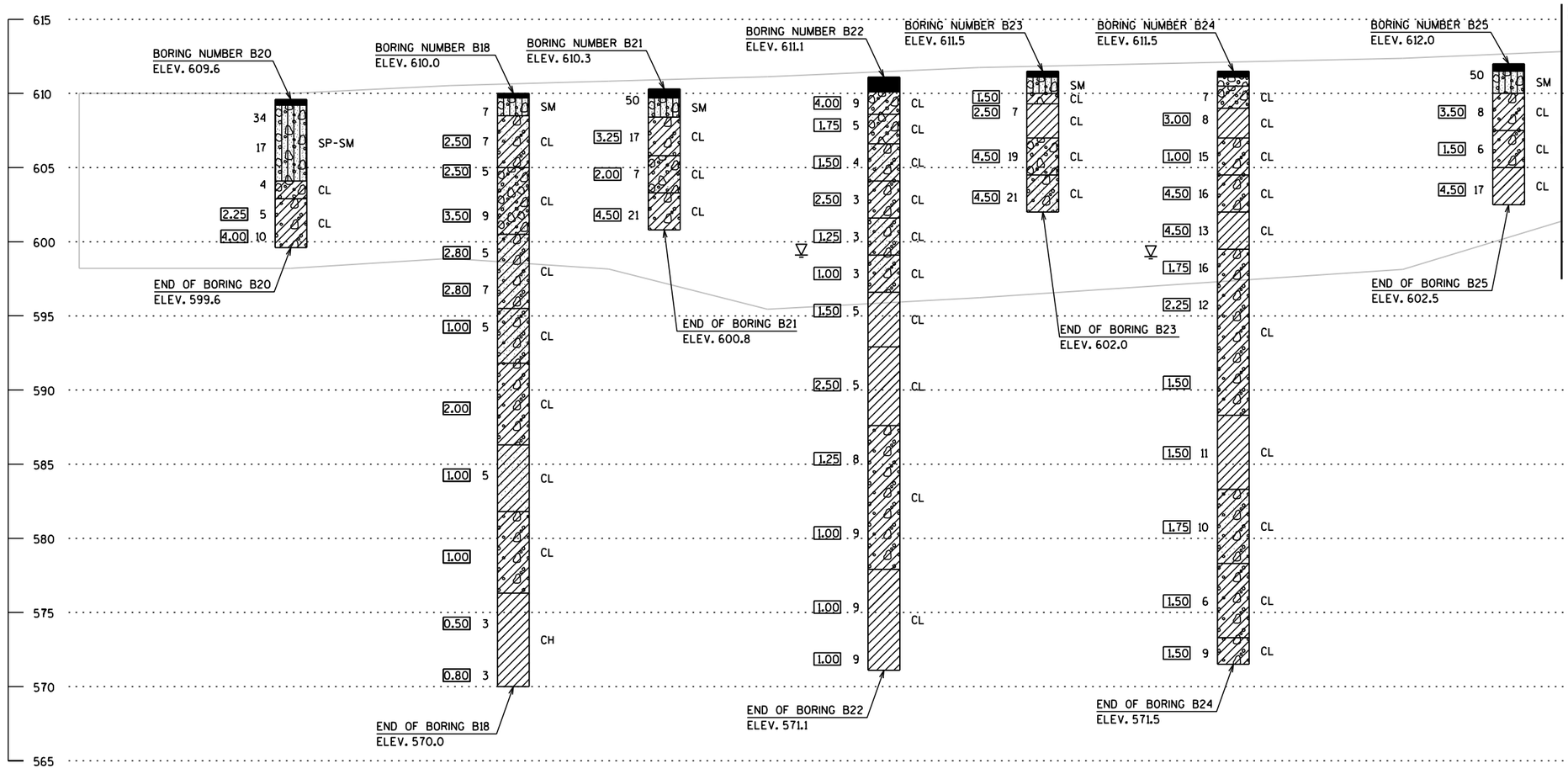


BORINGS TAKEN BY:
SOILS ENGINEERING SERVICES, INC.
LITTLE SUAMICO, WI
JANUARY 30, 2017

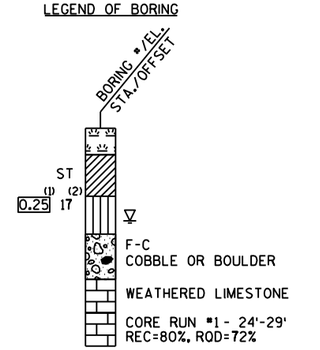
GEOTECHNICAL REPORT BY:
OMNNI ASSOCIATES, LLC.
APPLETON, WI
MAY 2017



MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



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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.

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SUBSURFACE EXPLORATION

SHEET 10 OF 12

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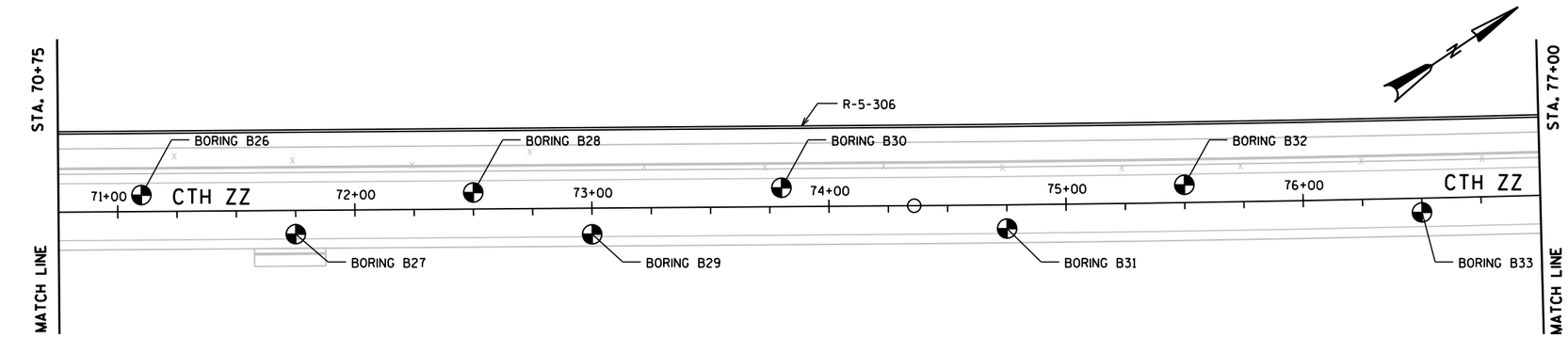
STATE PROJECT NUMBER
4616-03-71



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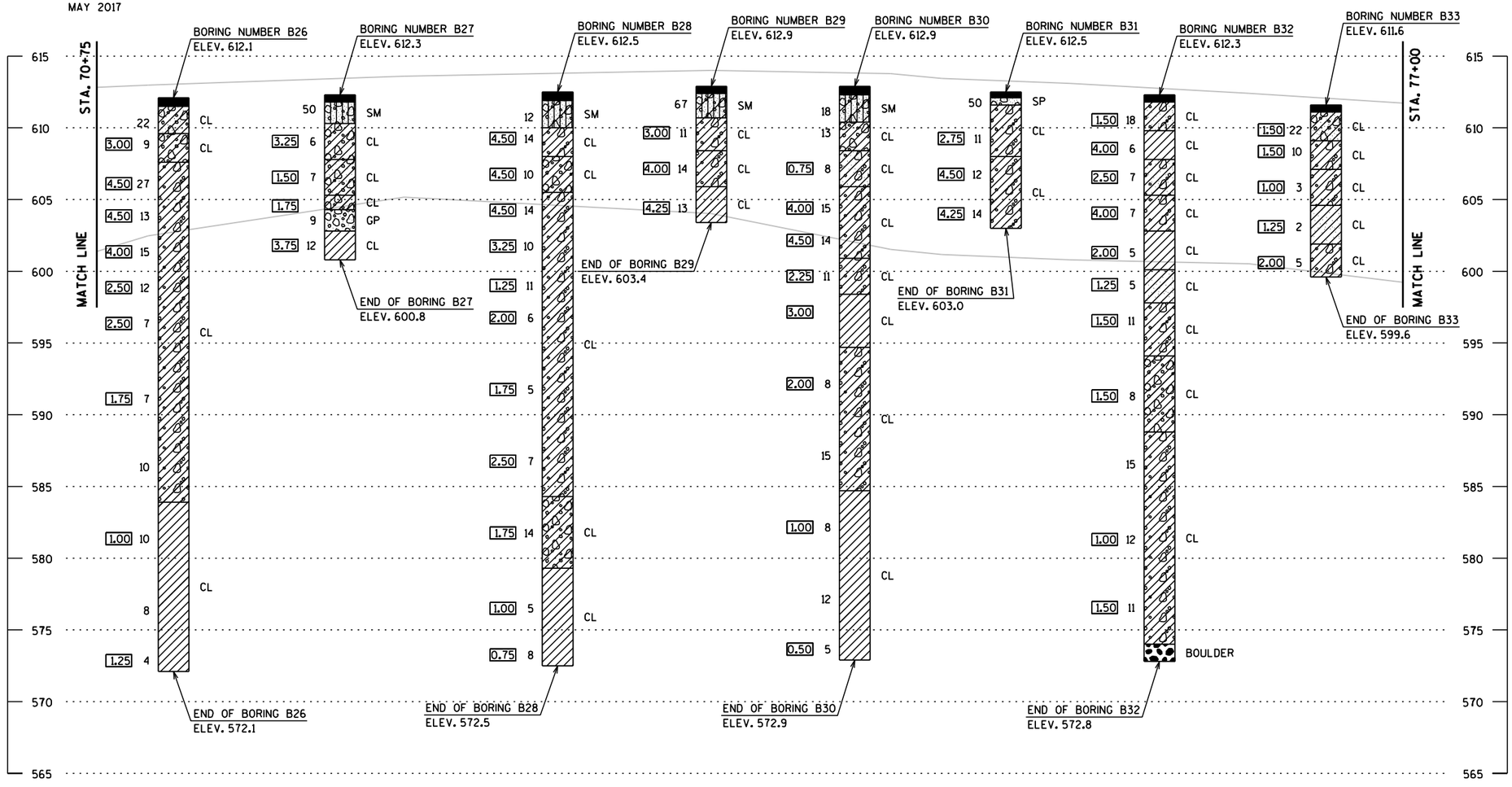

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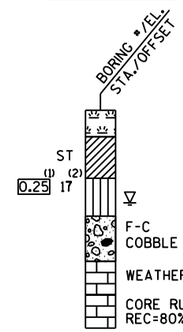
LEGEND OF BORING



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STRUCTURE R-5-306

DRAWN BY BRE | PLANS CK'D. KRO

SUBSURFACE EXPLORATION

SHEET 11 OF 12

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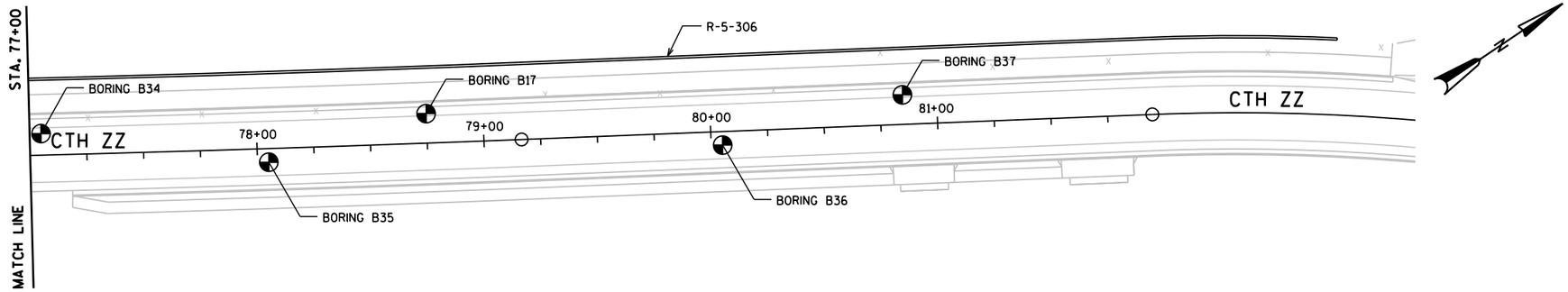
4616-03-71



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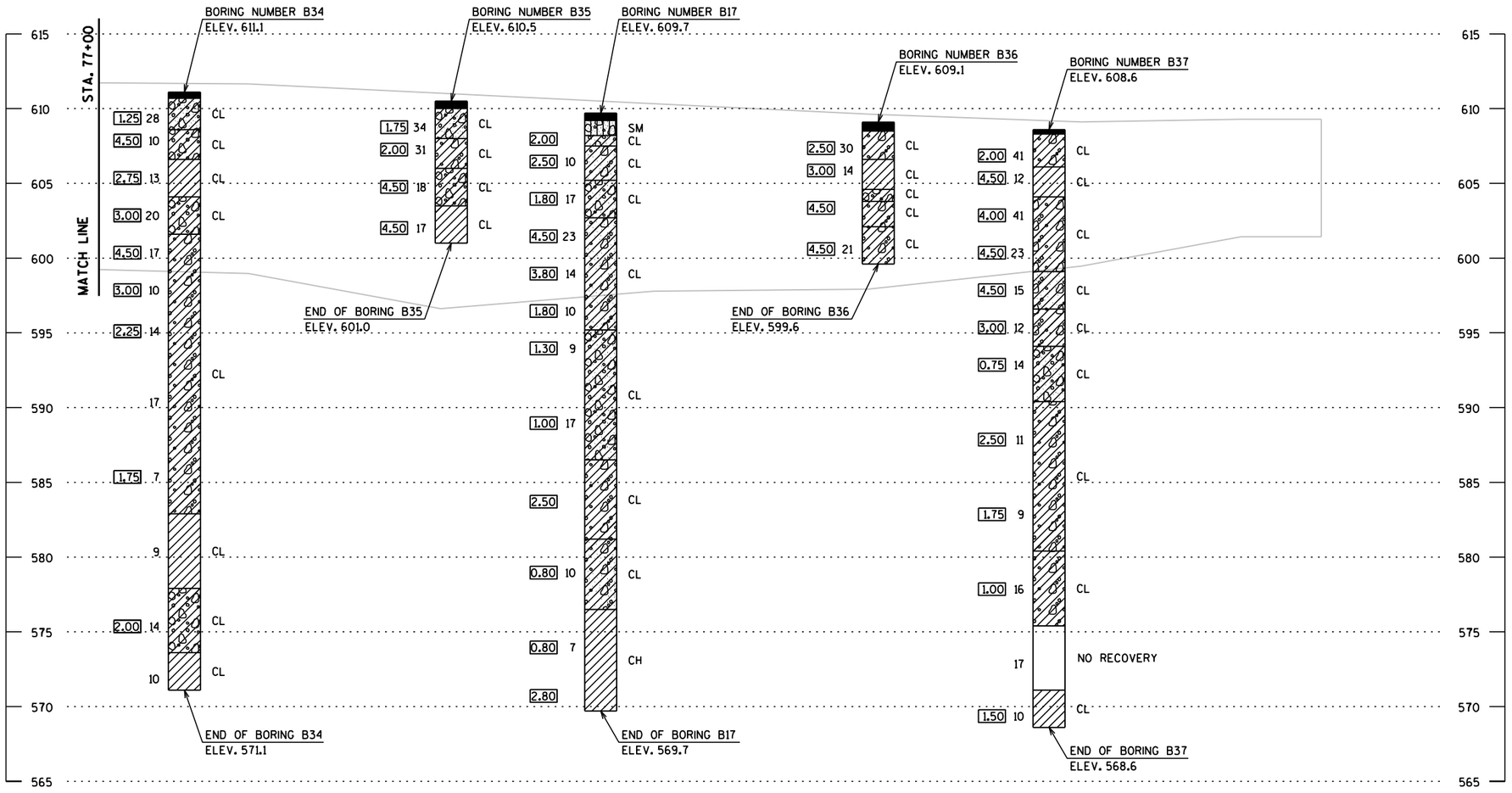

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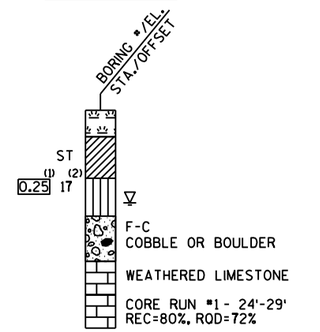

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DRAWN BY BRE | PLANS CK'D. KRO

SUBSURFACE EXPLORATION

SHEET 12 OF 12

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FILE NAME : F:±TR±JOBS±E2166A15±Sheets±Retaining Walls±R-05-0306 STA 63+50 - 82+75 SHEET PILE±R-05-0306 12 sub explr.dgn PLOT BY : EpleyB PLOT DATE: 6/4/2018 2:30:04 PM

CTH ZZ EARTHWORK DETAIL

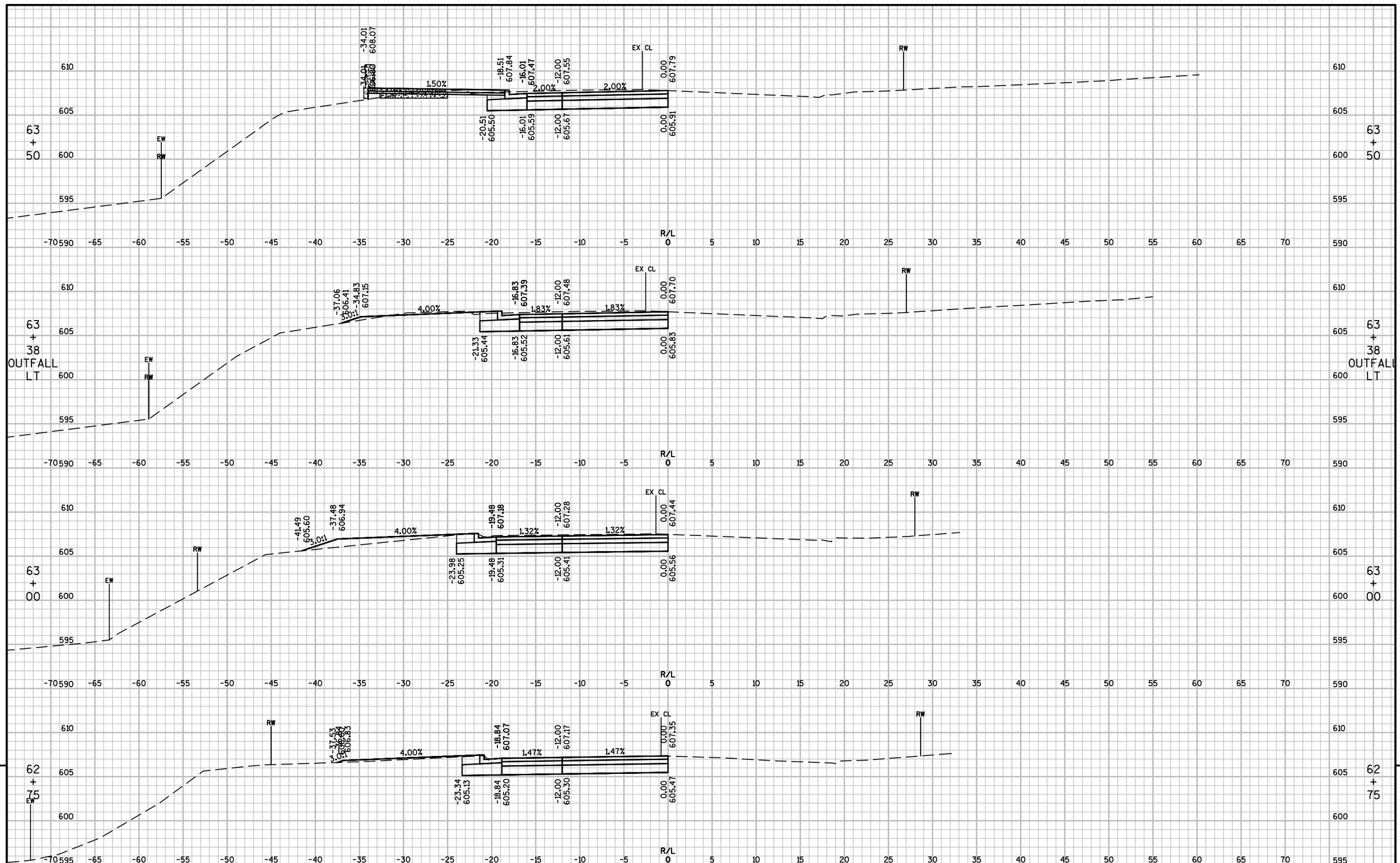
STATION	AREA (SF)			INCREM VOL (CY) (UNADJ)			CUM VOL (CY)			MASS ORDINATE
	CUT	FILL	SHEET PILE WALL BACKFILL	CUT	FILL	SHEET PILE WALL BACKFILL / STRUCTURAL	CUT 1.00	EXPANDED FILL 1.25	EXPANDED SHEET PILE WALL BACKFILL 1.00	
62+75	44.5	2.2	0.0	0	0	0	0	0	0	0
63+00	48.5	8.6	0.0	43	5	0	43	6	0	37
63+50	45.6	0.0	0.0	87	8	0	130	16	0	114
64+00	40.3	0.0	0.0	80	0	0	210	16	0	194
64+50	66.2	0.0	30.1	99	0	28	308	16	28	292
65+00	64.5	0.0	76.8	121	0	99	429	16	127	413
65+50	60.9	0.0	76.1	116	0	142	545	16	268	529
66+00	54.5	0.0	87.4	107	0	151	652	16	420	636
66+50	55.7	0.0	121.4	102	0	193	754	16	613	738
67+00	51.0	0.0	123.8	99	0	227	853	16	840	837
67+50	44.3	0.0	148.8	88	0	252	941	16	1,093	925
68+00	58.3	0.0	160.2	95	0	286	1,036	16	1,379	1,020
68+50	47.1	0.0	180.9	98	0	316	1,134	16	1,695	1,118
69+00	49.9	0.0	156.0	90	0	312	1,224	16	2,006	1,208
69+50	52.5	0.0	154.8	95	0	288	1,319	16	2,294	1,302
70+00	62.7	0.0	125.1	107	0	259	1,425	16	2,553	1,409
70+50	52.0	0.0	133.8	106	0	240	1,531	16	2,793	1,515
71+00	55.8	0.0	95.9	100	0	213	1,631	16	3,006	1,615
71+50	56.9	0.0	66.5	104	0	150	1,736	16	3,156	1,719
72+00	54.8	0.0	56.8	103	0	114	1,839	16	3,270	1,823
72+50	51.7	0.0	78.8	99	0	126	1,938	16	3,396	1,921
73+00	53.0	0.0	66.2	97	0	134	2,035	16	3,530	2,018
73+50	53.1	0.0	117.4	98	0	170	2,133	16	3,700	2,117
74+00	53.7	0.0	110.4	99	0	211	2,232	16	3,911	2,216
74+50	54.8	0.0	124.8	100	0	218	2,332	16	4,129	2,316
75+00	54.7	0.0	114.0	101	0	221	2,434	16	4,350	2,417
75+50	55.6	0.0	116.4	102	0	213	2,536	16	4,563	2,520
76+00	56.8	0.0	105.6	104	0	206	2,640	16	4,769	2,624
76+50	55.3	0.0	114.0	104	0	203	2,744	16	4,972	2,727
77+00	53.7	0.0	120.4	101	0	217	2,845	16	5,189	2,828
77+50	71.1	0.0	134.9	116	0	236	2,960	16	5,426	2,944
78+00	60.2	0.2	144.4	122	0	259	3,082	16	5,684	3,065
78+50	62.8	0.0	139.2	114	0	263	3,196	17	5,947	3,179
79+00	67.5	0.0	131.2	121	0	250	3,316	17	6,197	3,299
79+50	63.5	0.0	125.1	121	0	237	3,438	17	6,435	3,421
80+00	66.6	0.1	111.5	120	0	219	3,558	17	6,654	3,541
80+50	66.3	0.7	104.8	123	1	200	3,681	18	6,854	3,663
81+00	71.6	0.0	74.9	128	1	166	3,809	19	7,020	3,790
81+50	67.0	0.7	57.2	128	1	122	3,937	20	7,143	3,918
82+00	70.7	0.0	51.8	128	1	101	4,065	20	7,244	4,044
82+50	74.1	0.0	36.8	134	0	82	4,199	20	7,326	4,178
83+00	66.1	0.0	22.0	130	0	54	4,328	20	7,380	4,308
83+12	68.4	82.8	0.0	30	18	5	4,358	43	7,385	4,315
83+50	59.0	38.9	0.0	90	86	0	4,448	150	7,385	4,298

9

9

PROJECT NO: 4616-03-71 | HWY: CTH ZZ | COUNTY: BROWN | EARTHWORK QUANTITIES | SHEET NO: E

FILE NAME: F:\TR\JOBS\E2166A15\Civil 3D 2014\SheetsPlan\4616-03-71\46160371-090101-ew.ppt ORIGINATOR: OMNNI ASSOCIATES ORIG. DATE: REV. DATE: PRINT DATE: July 13, 2020



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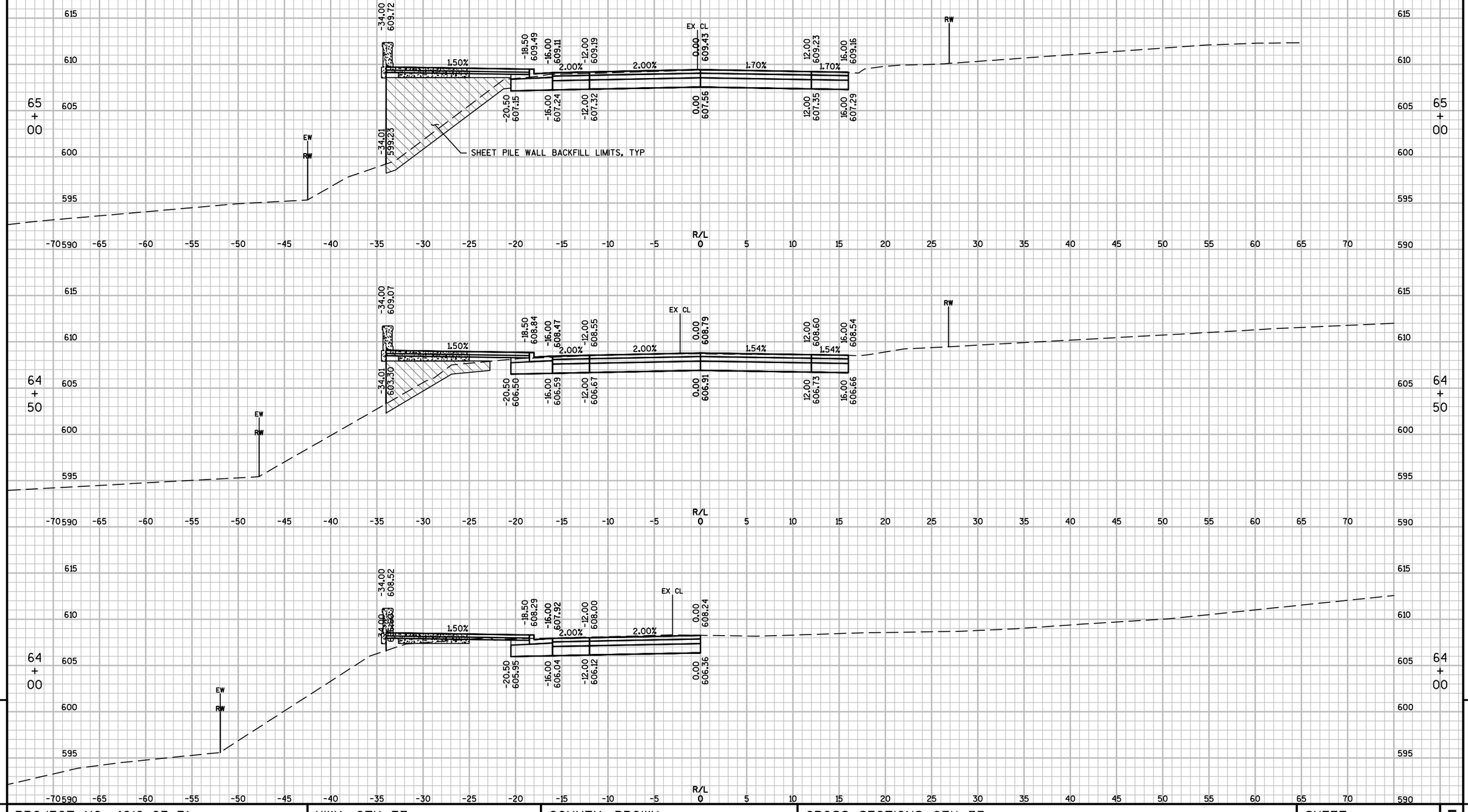
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 92 E



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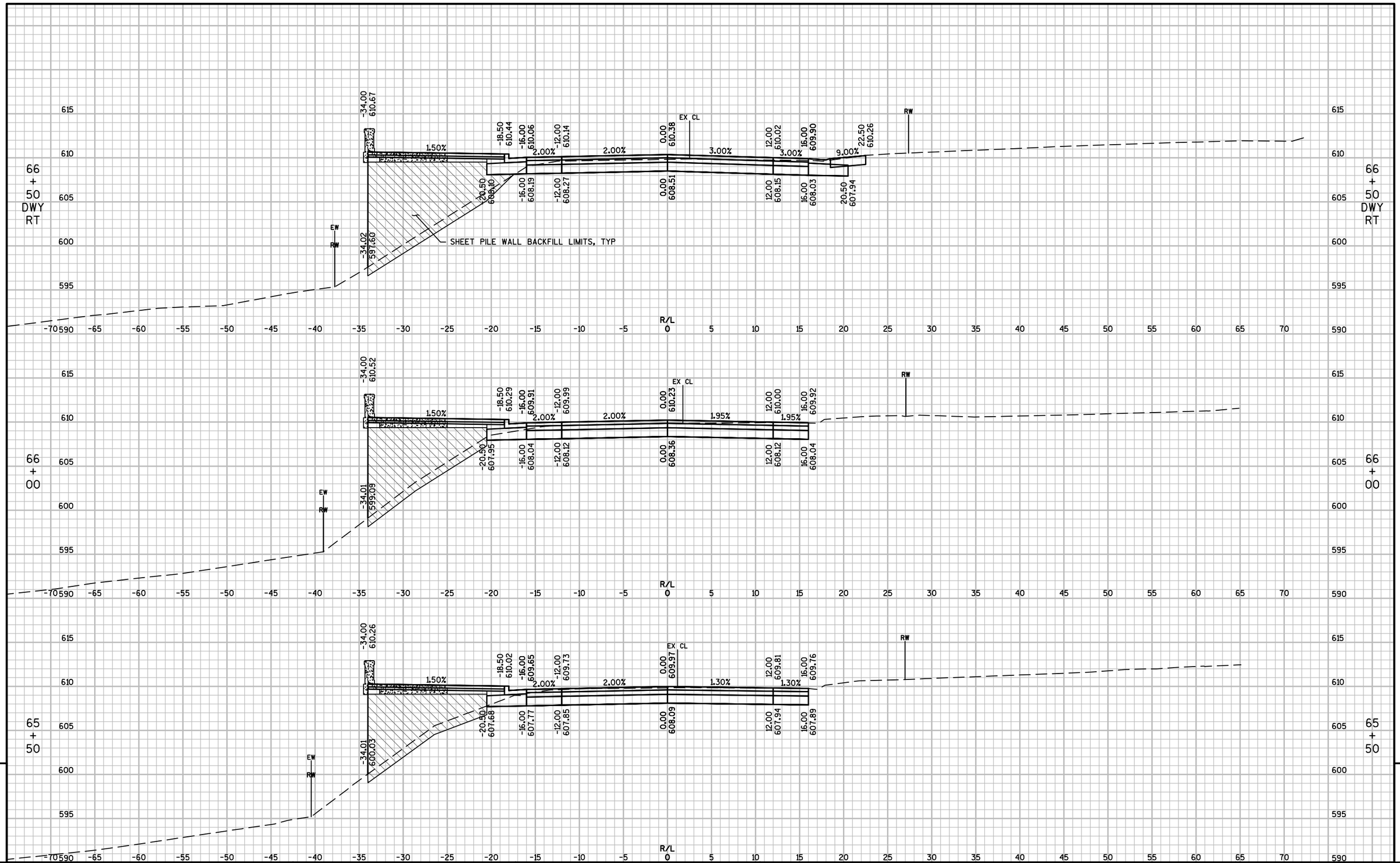
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 93	E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-090201-XS.DWG
LAYOUT NAME - ****
PLOT DATE : 11/3/2020 8:05 AM
PLOT BY : OMNNI ASSOCIATES - ANDY WESTBROOK
PLOT SCALE : **********
WISDOT/CADDS SHEET 49



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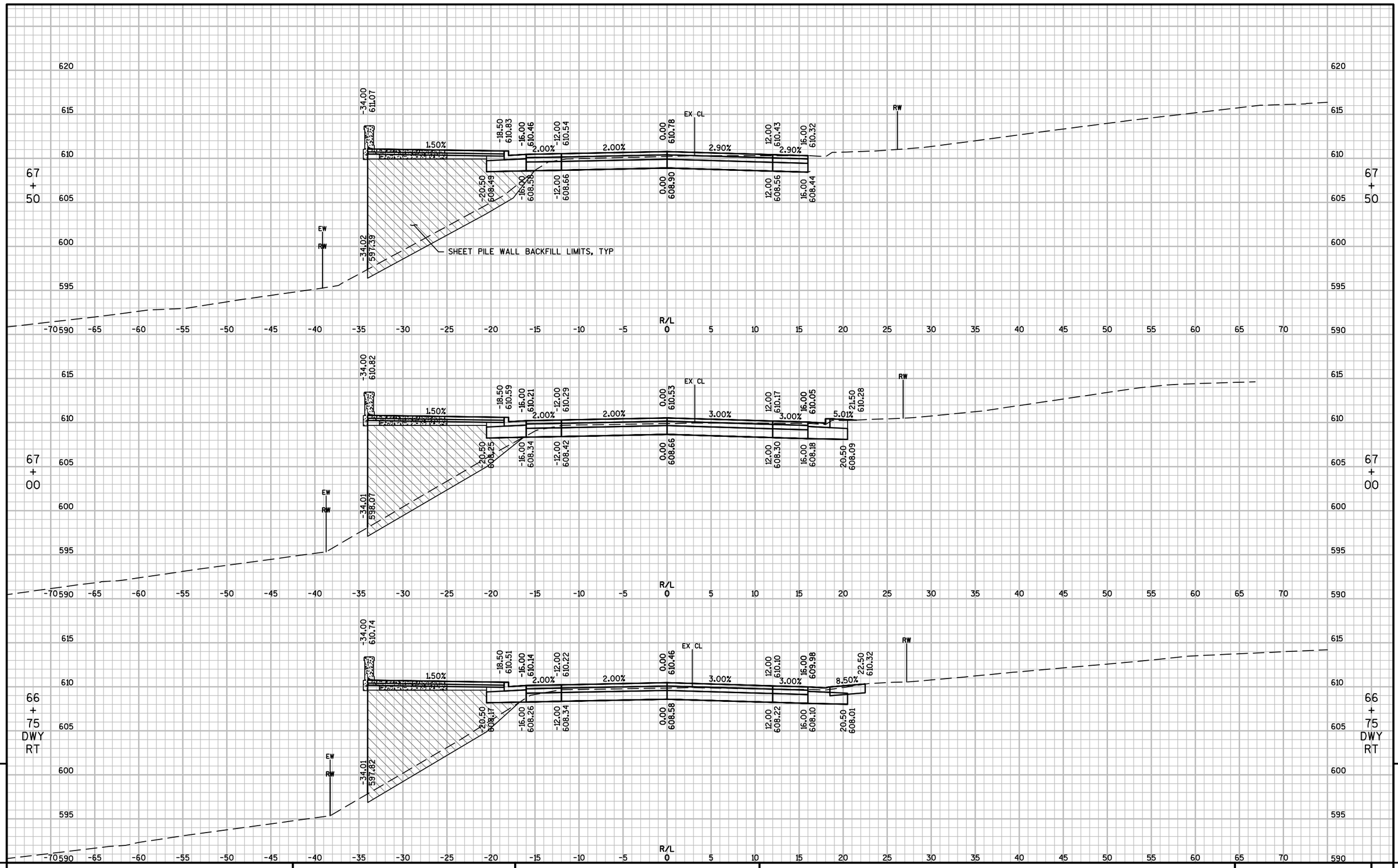
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 94	E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-090201-XS.DWG
LAYOUT NAME - ****

PLOT DATE : 11/3/2020 8:05 AM PLOT BY : OMNNI ASSOCIATES - ANDY WESTBROOK PLOT SCALE : **********

WISDOT/CADDS SHEET 49



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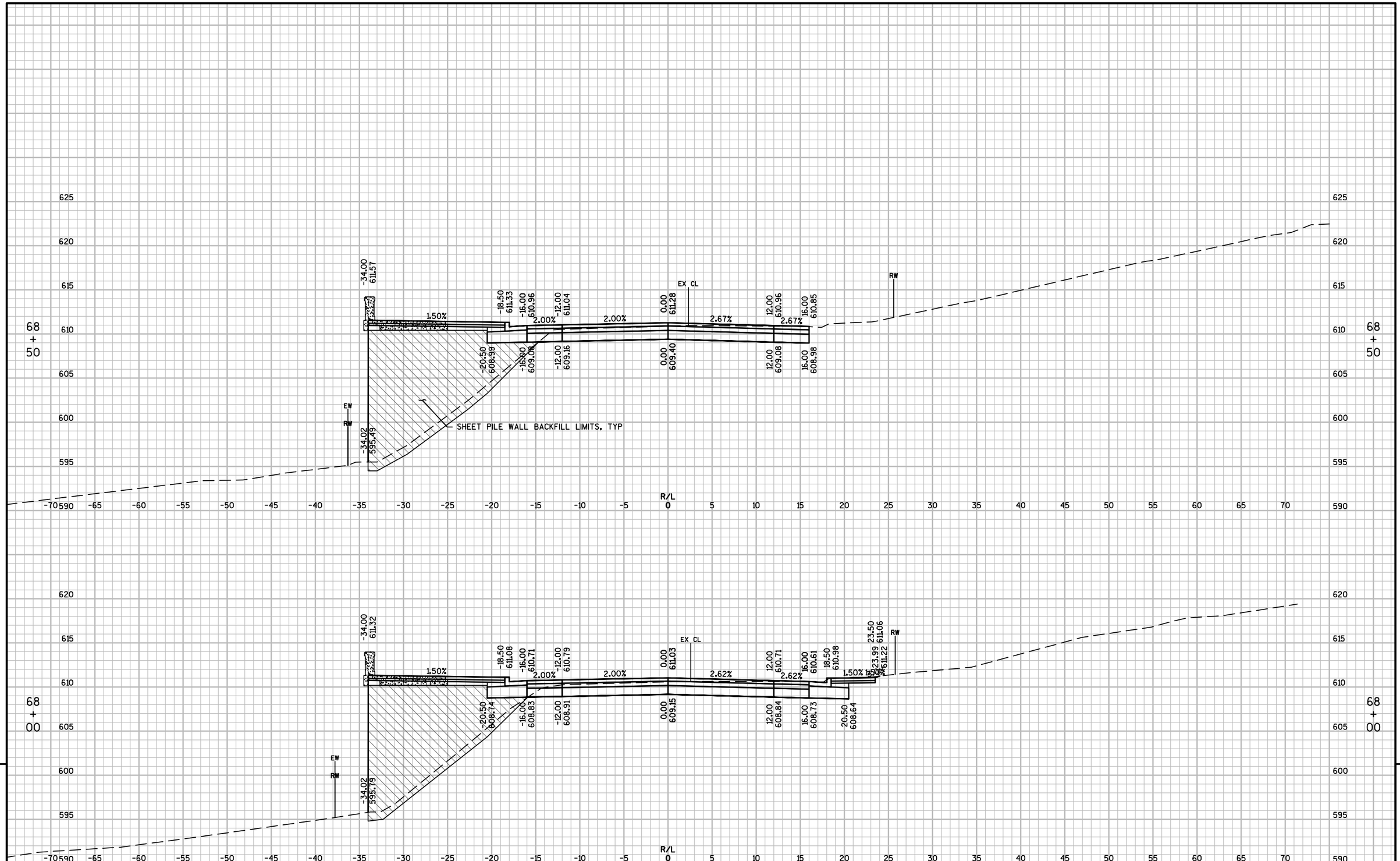
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 95	E

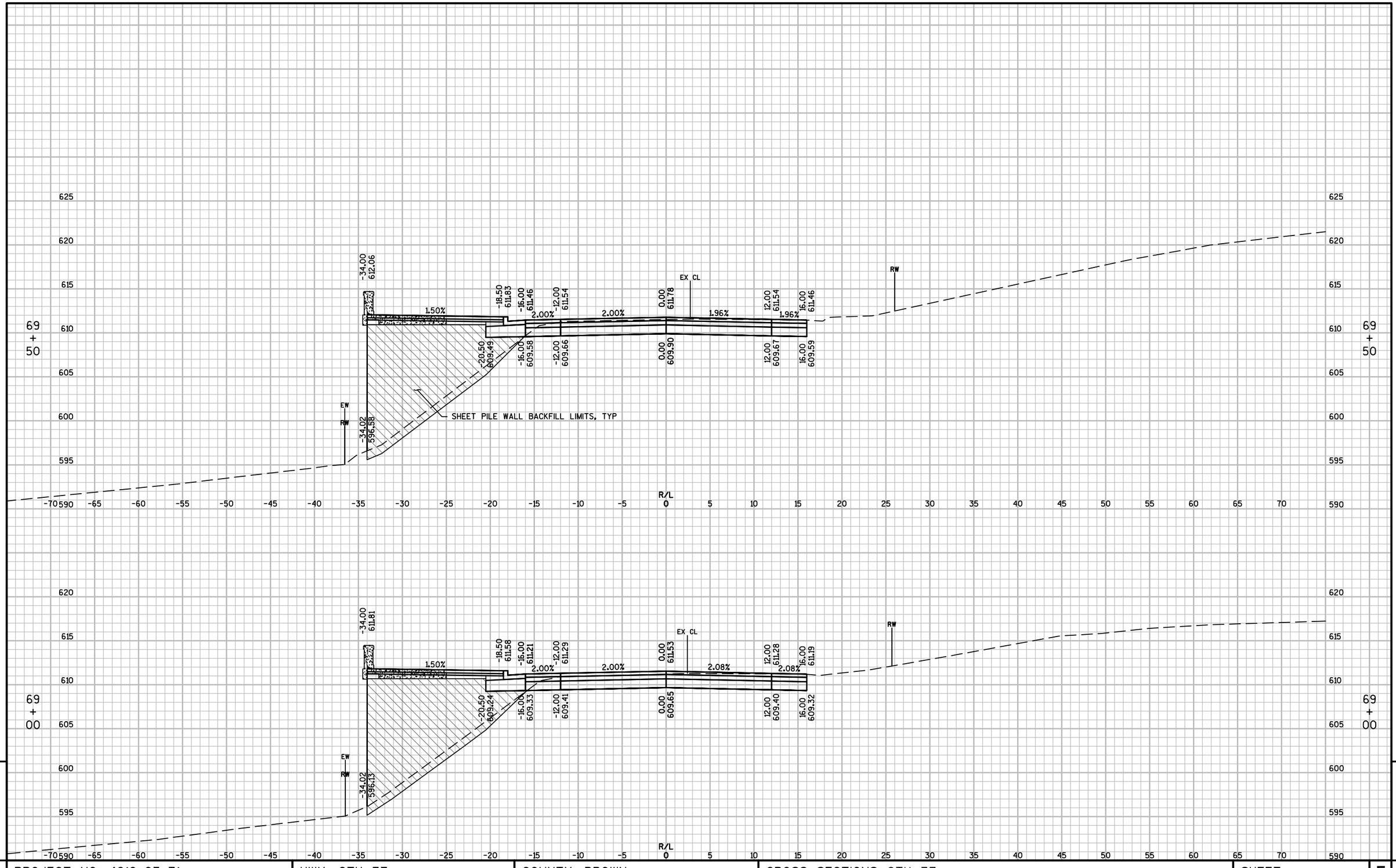


PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 96	E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-090201-XS.DWG
LAYOUT NAME - ****

PLOT DATE : 11/3/2020 8:06 AM PLOT BY : OMNNI ASSOCIATES - ANDY WESTBROOK PLOT SCALE : **********

WISDOT/CADDS SHEET 49



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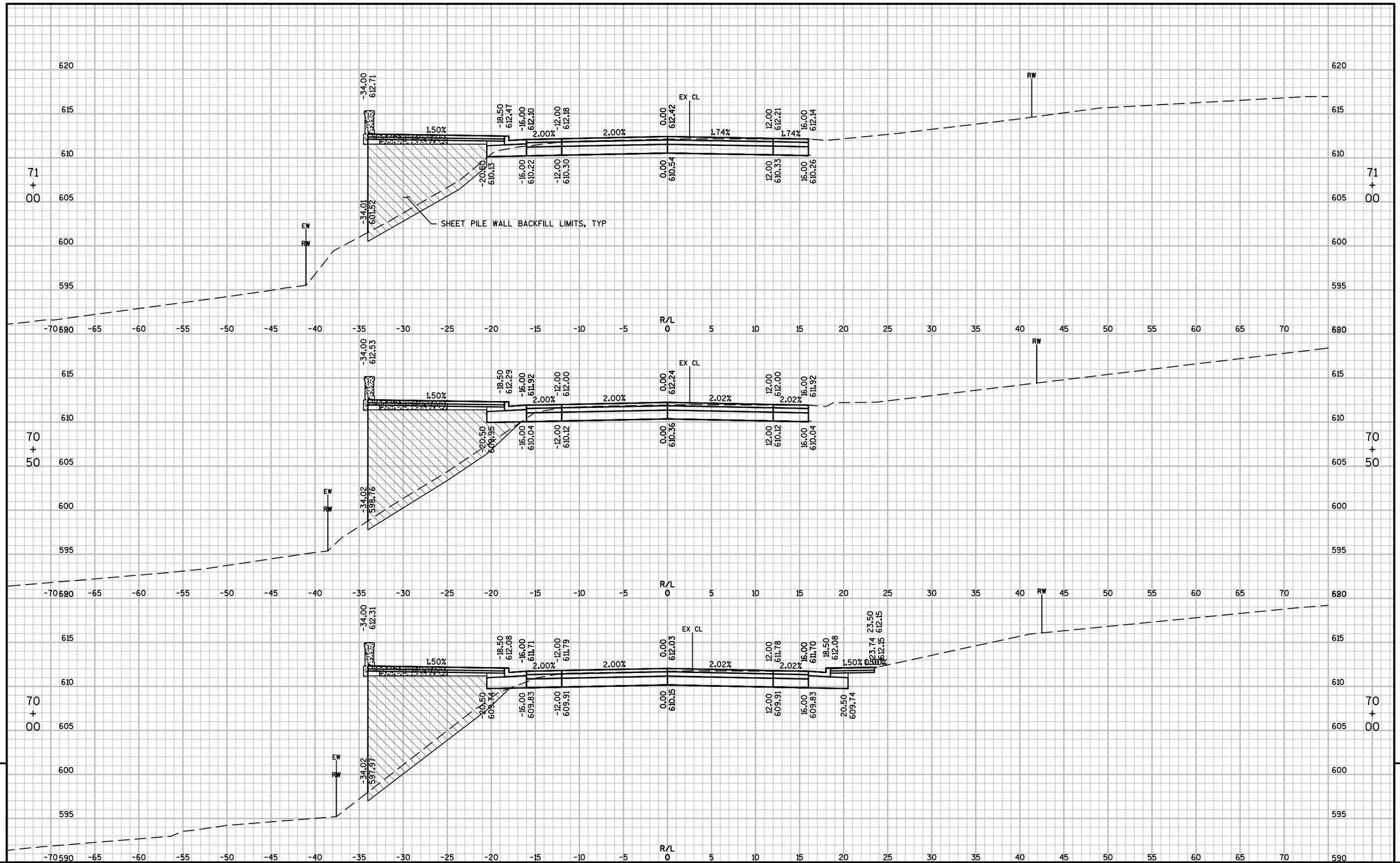
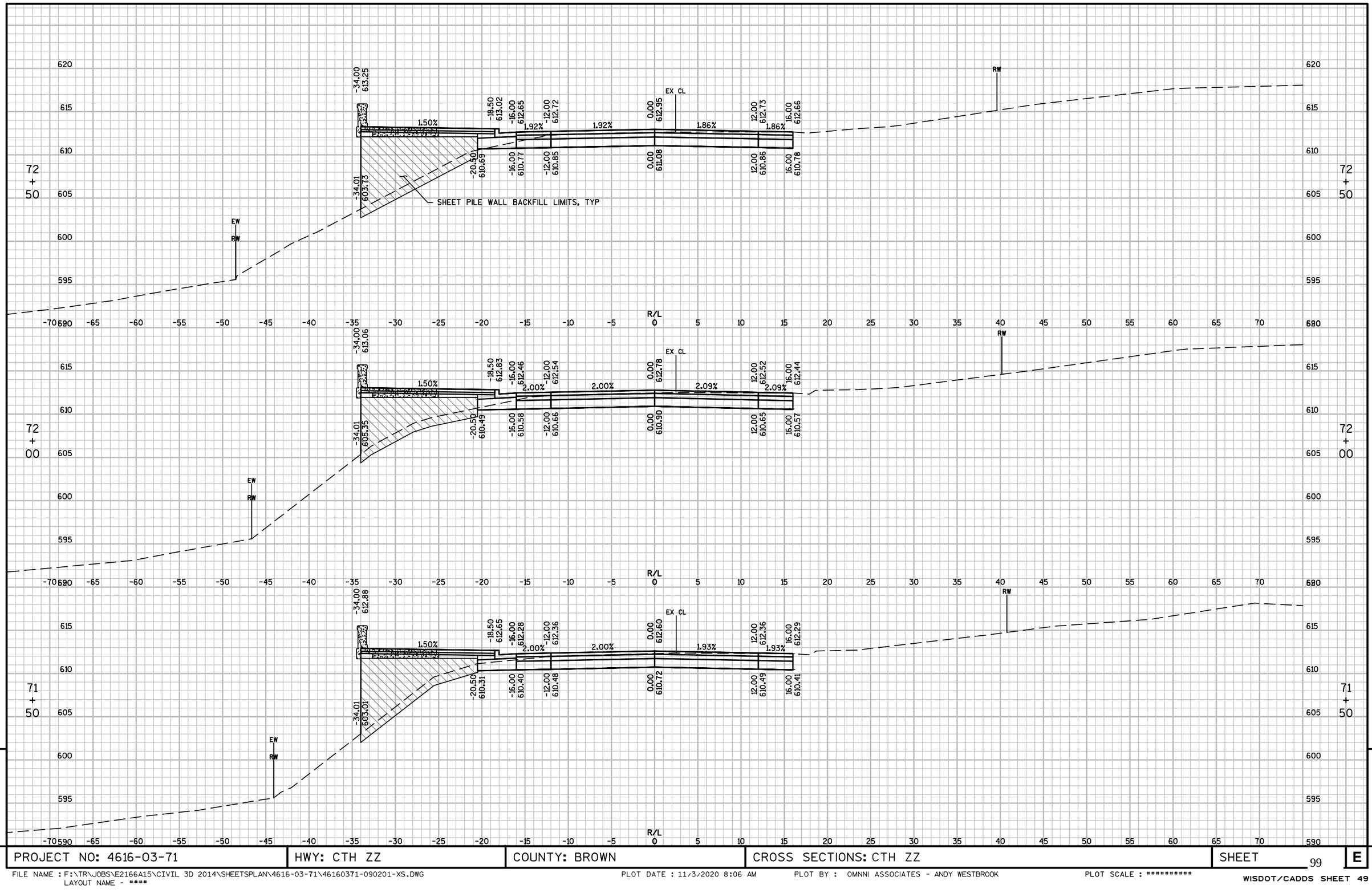
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 97	E



PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 98	E



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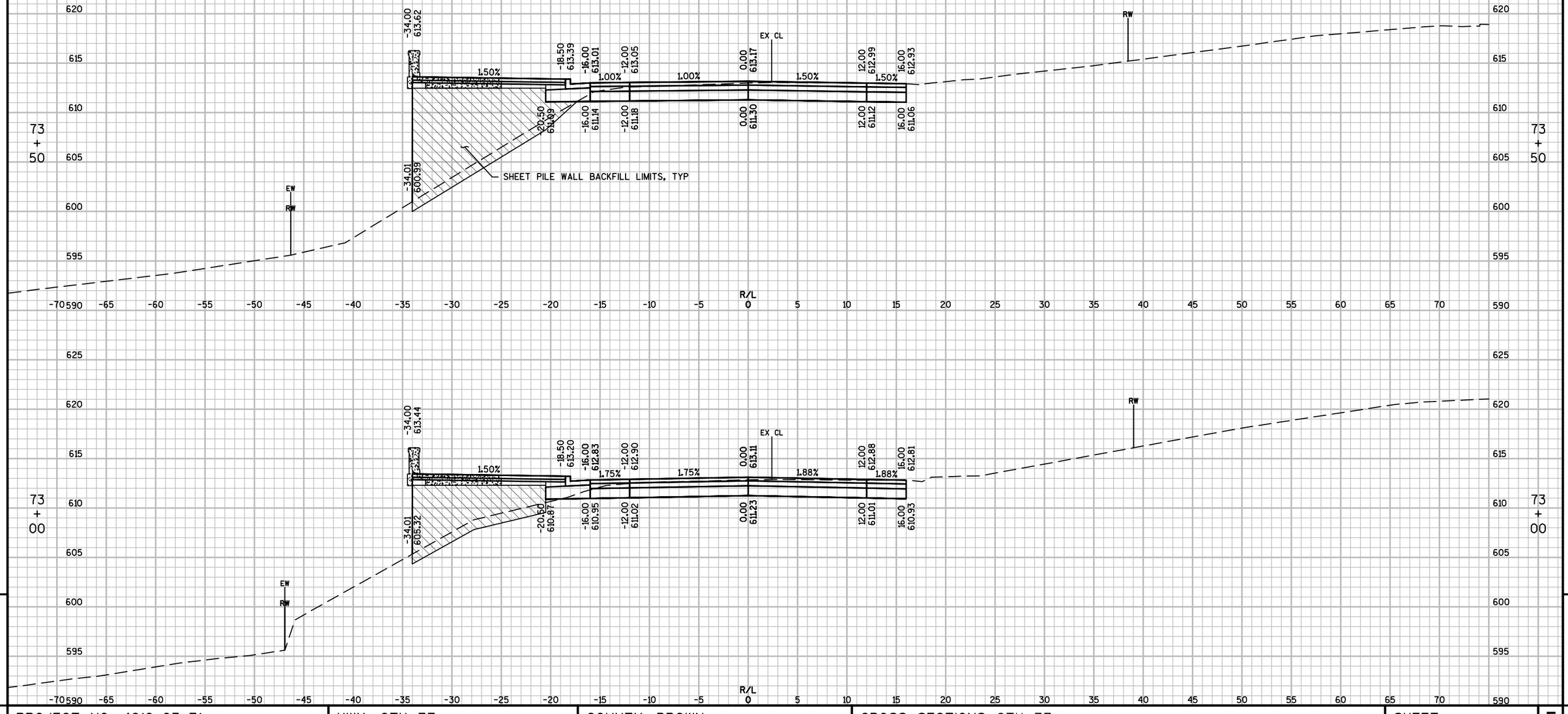
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 99	E

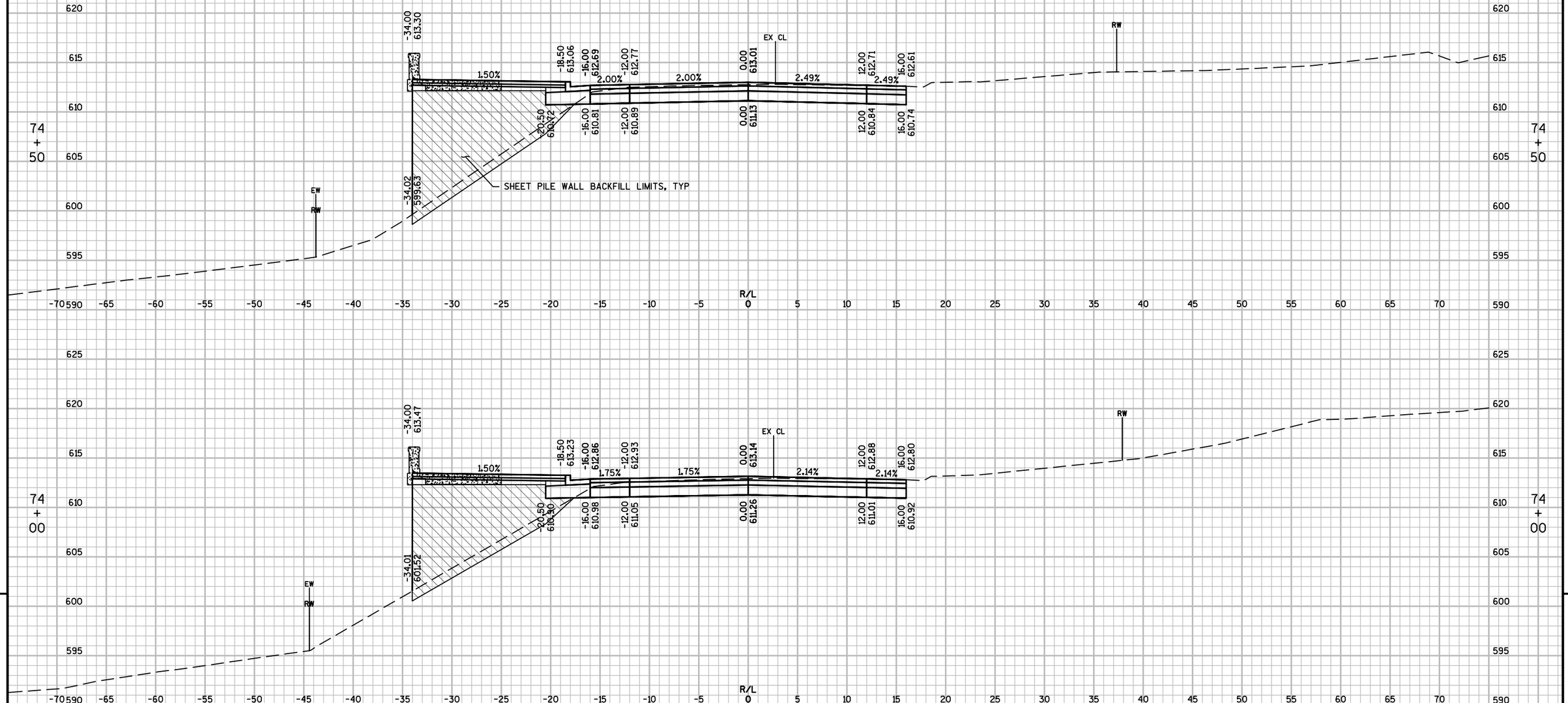


PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 100	E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-090201-XS.DWG
LAYOUT NAME - ****

PLOT DATE : 11/3/2020 8:06 AM PLOT BY : OMNNI ASSOCIATES - ANDY WESTBROOK PLOT SCALE : **********

WISDOT/CADDS SHEET 49



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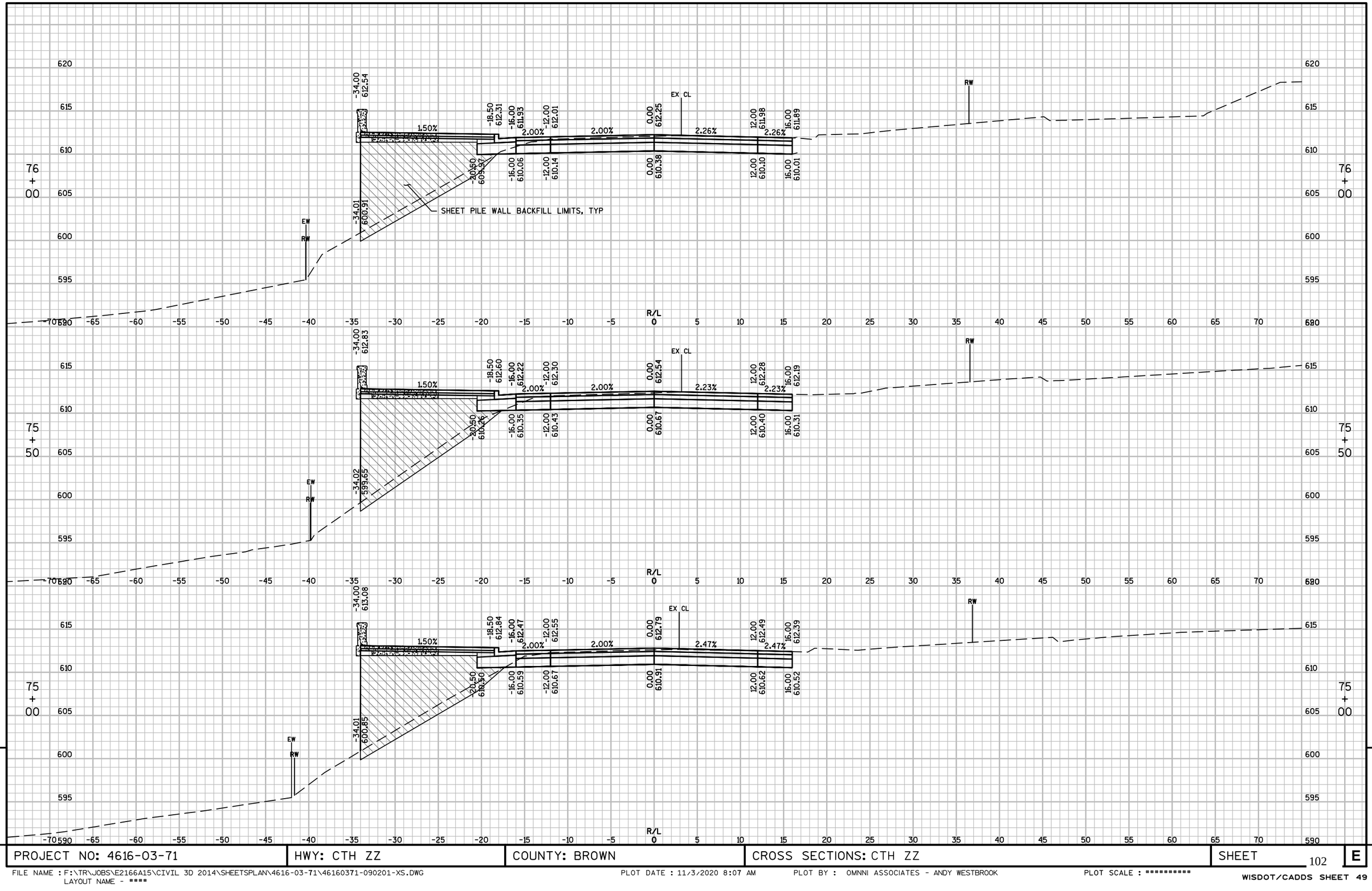
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 101 E

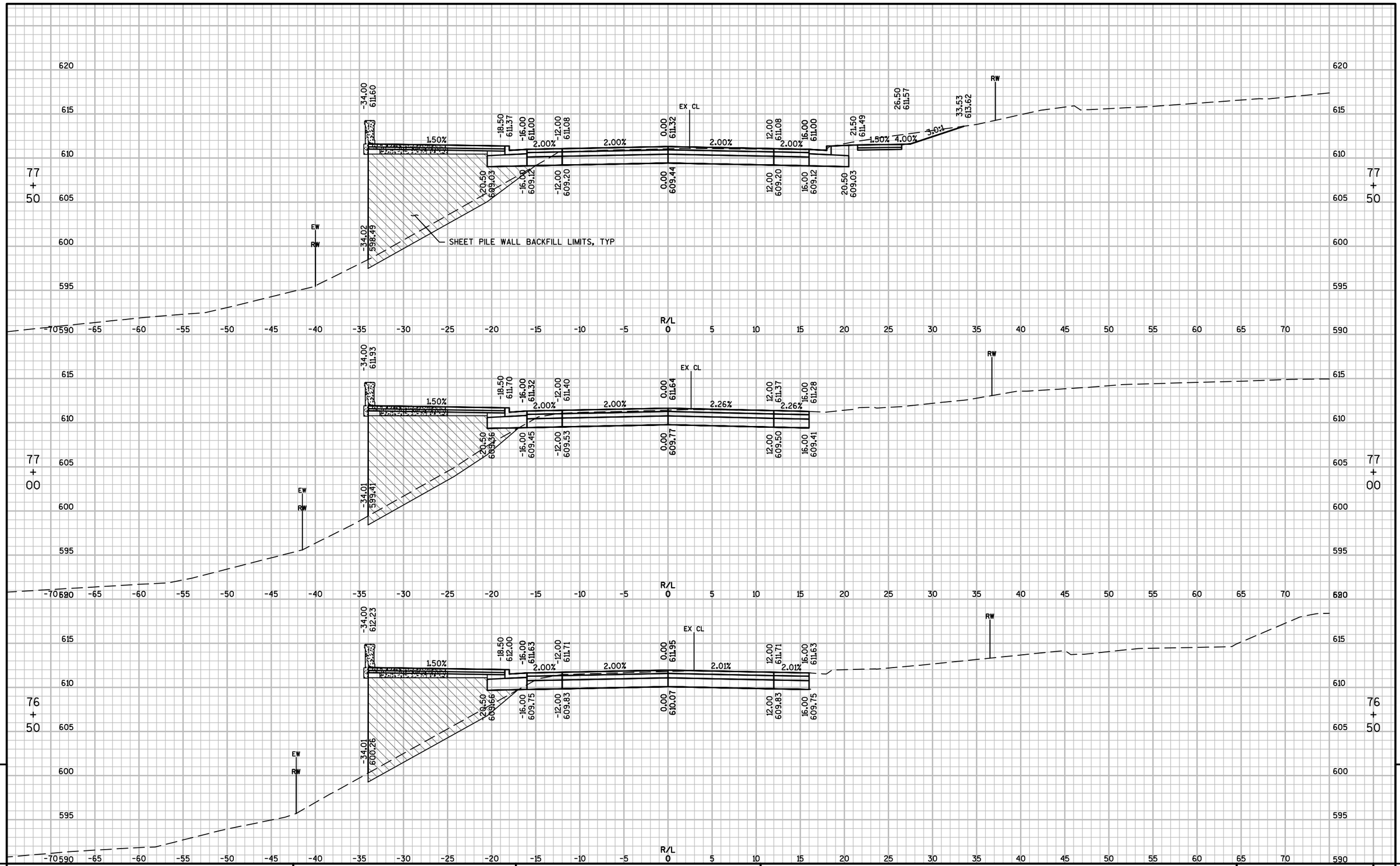
FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-090201-XS.DWG
LAYOUT NAME - ****

PLOT DATE : 11/3/2020 8:07 AM PLOT BY : OMNNI ASSOCIATES - ANDY WESTBROOK PLOT SCALE : **********

WISDOT/CADDS SHEET 49



PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 102	E



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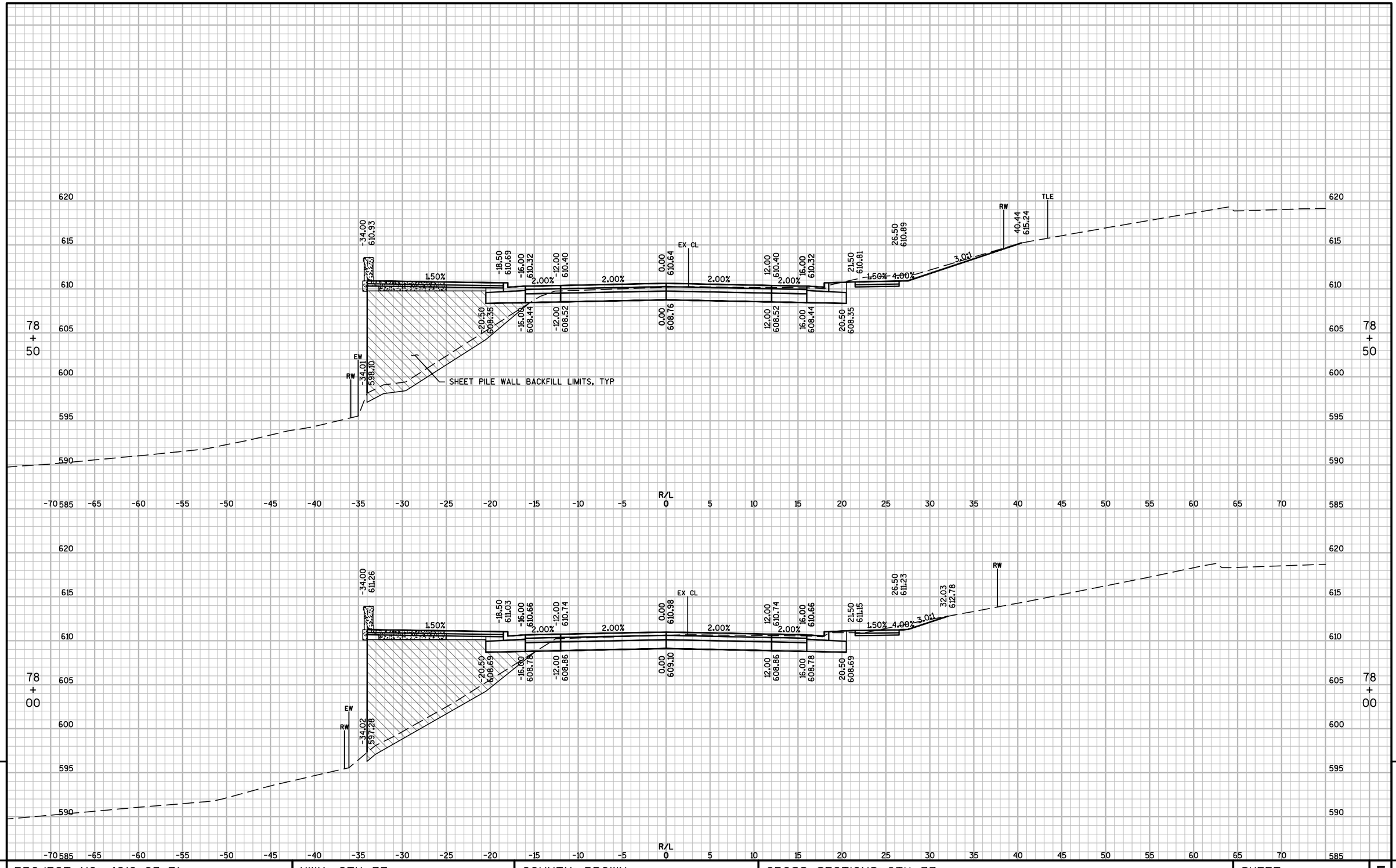
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET	E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-090201-XS.DWG
LAYOUT NAME - ****

PLOT DATE : 11/3/2020 8:07 AM PLOT BY : OMNNI ASSOCIATES - ANDY WESTBROOK PLOT SCALE : **********

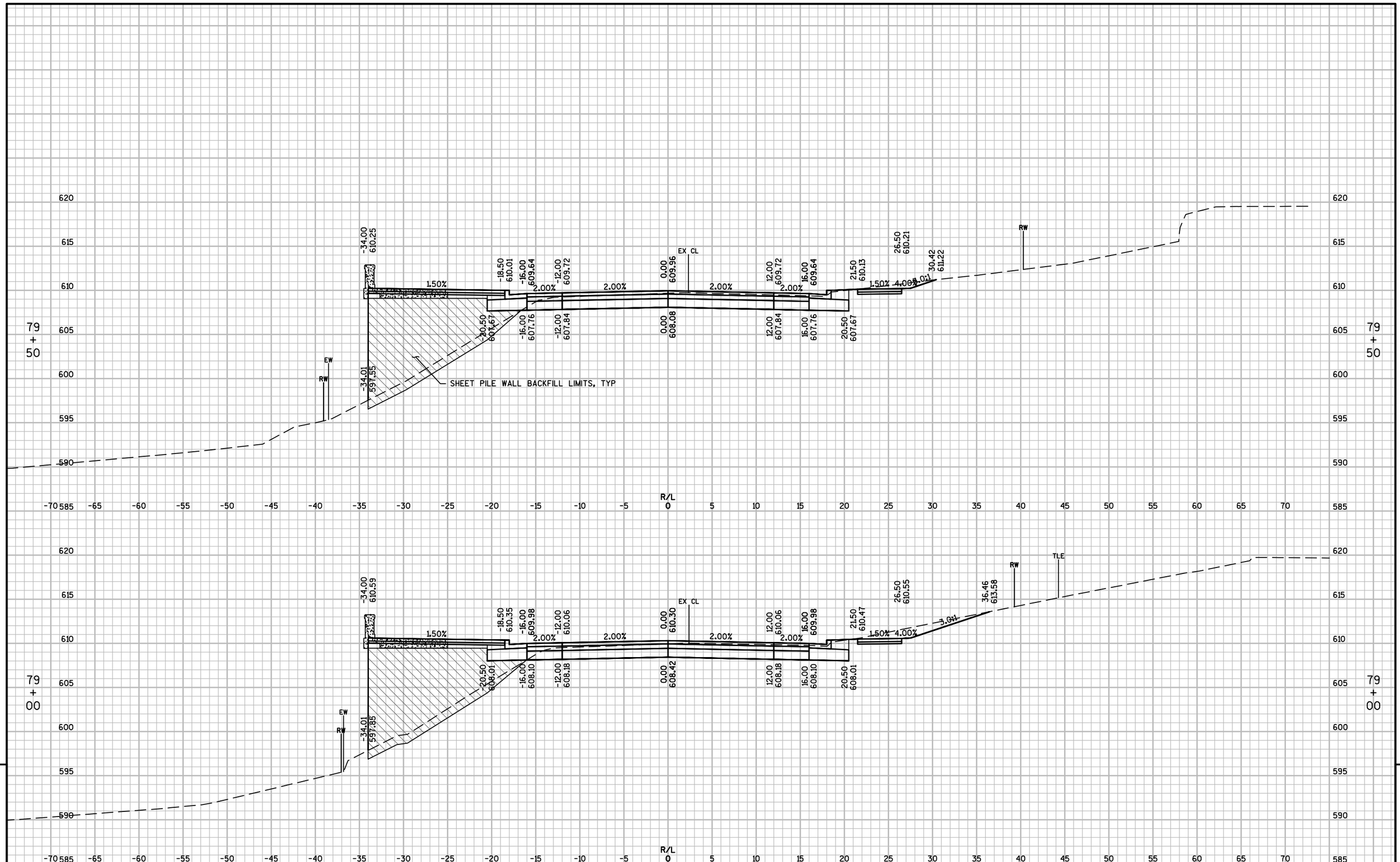
WISDOT/CADDS SHEET 49



PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 104 E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-090201-XS.DWG
LAYOUT NAME - ****

PLOT DATE : 11/3/2020 8:07 AM PLOT BY : OMNNI ASSOCIATES - ANDY WESTBROOK PLOT SCALE : **********

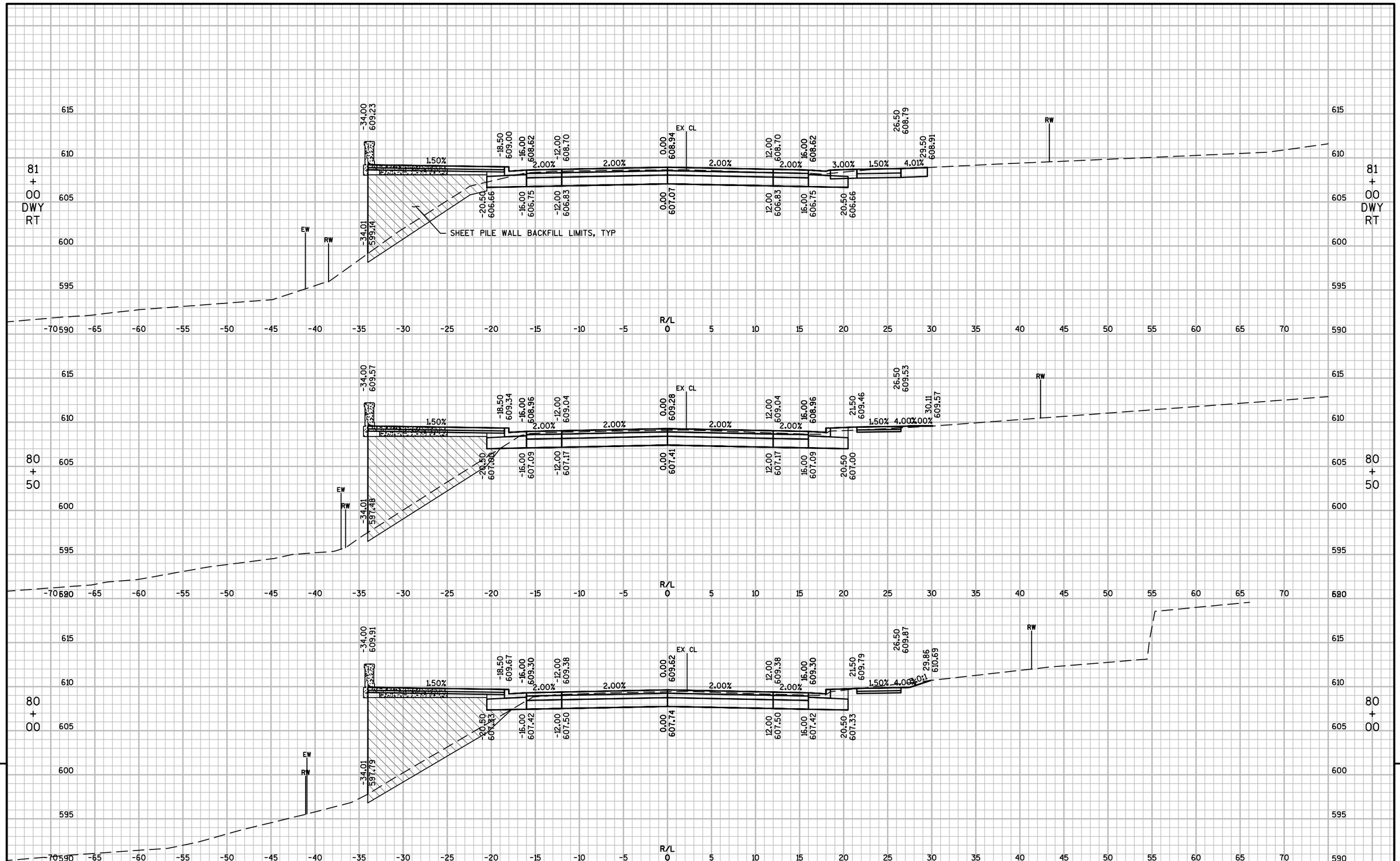


PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 105 E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-090201-XS.DWG
LAYOUT NAME - ****

PLOT DATE : 11/3/2020 8:08 AM PLOT BY : OMNNI ASSOCIATES - ANDY WESTBROOK PLOT SCALE : **********

WISDOT/CADDS SHEET 49



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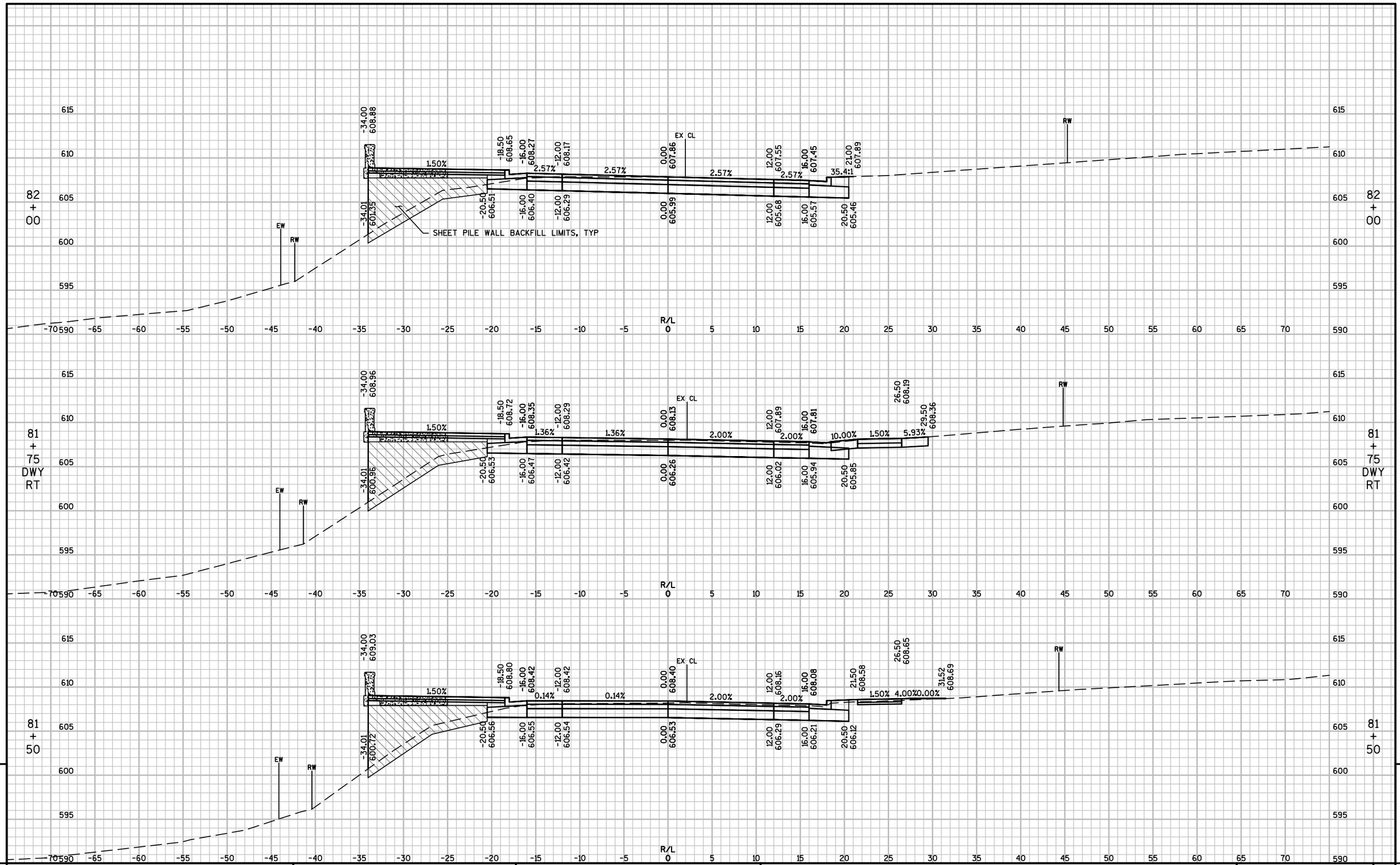
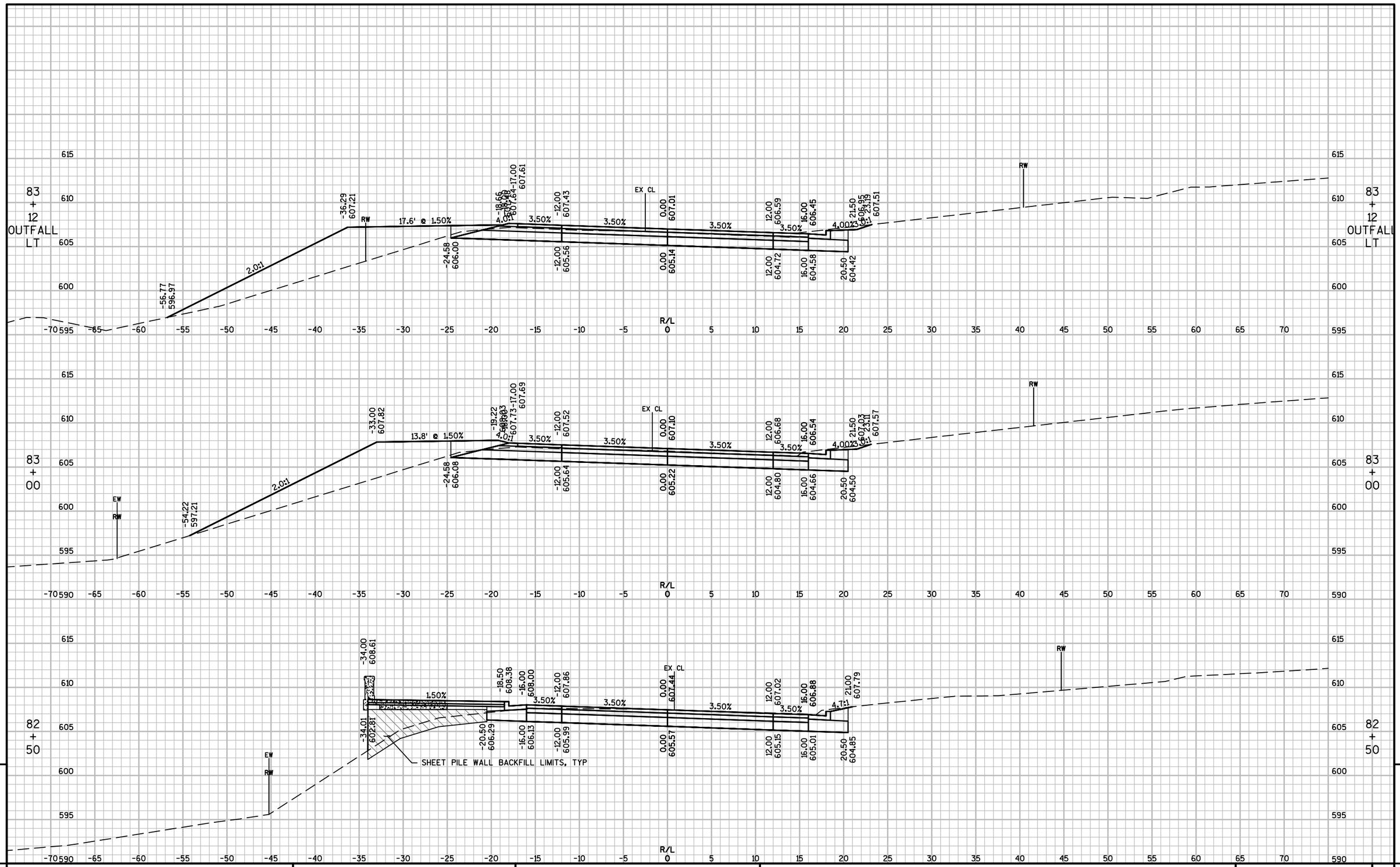
PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 106 E



PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 107 E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-090201-XS.DWG
LAYOUT NAME - ****
PLOT DATE : 11/3/2020 8:08 AM PLOT BY : OMNNI ASSOCIATES - ANDY WESTBROOK PLOT SCALE : **********
WISDOT/CADDS SHEET 49



PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET E

FILE NAME : F:\TR\JOBS\E2166A15\CIVIL 3D 2014\SHEETSPLAN\4616-03-71\46160371-090201-XS.DWG
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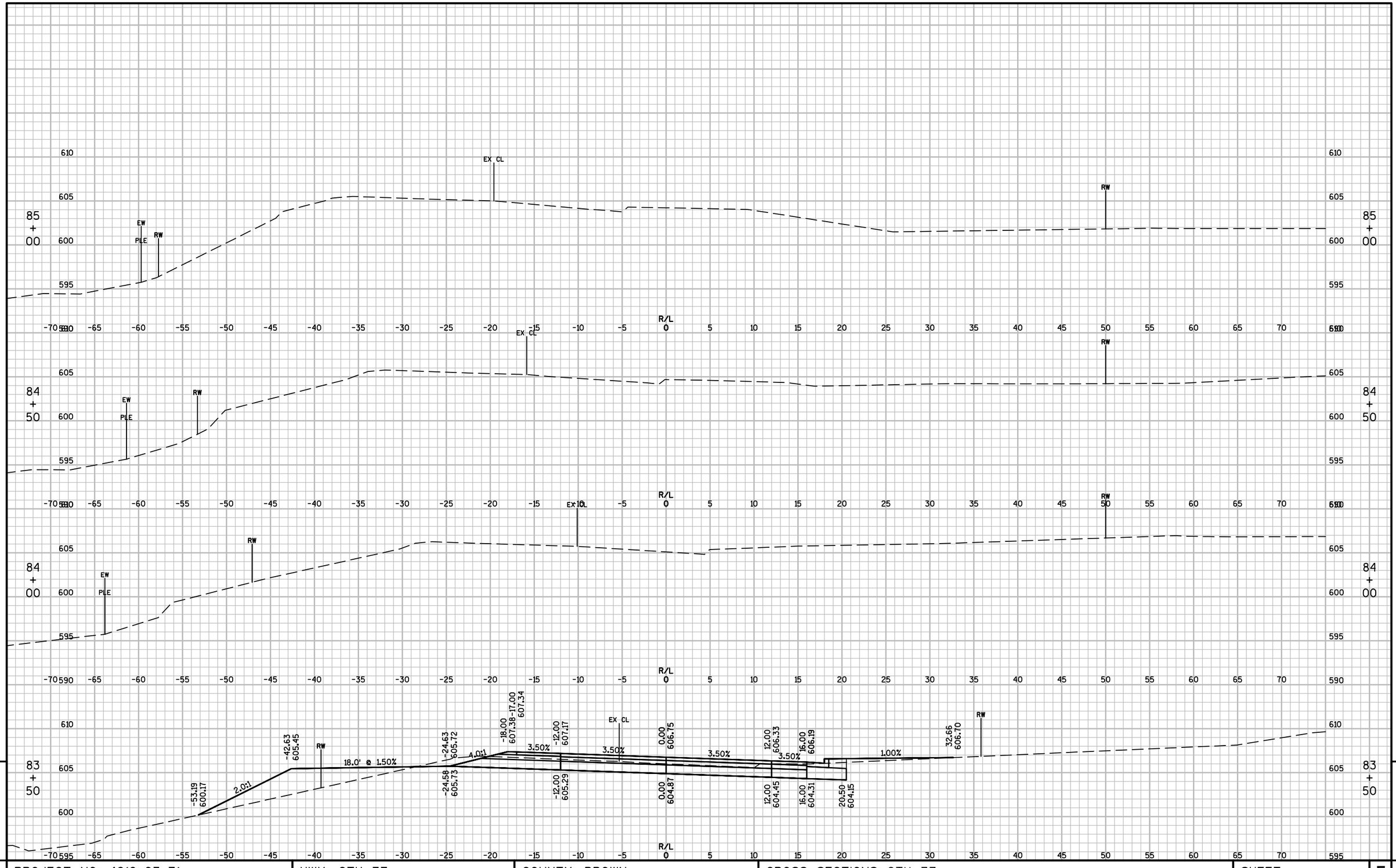
WISDOT/CADDS SHEET 49



9

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PROJECT NO: 4616-03-71	HWY: CTH ZZ	COUNTY: BROWN	CROSS SECTIONS: CTH ZZ	SHEET 109	E

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
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