PROJECT ID: 585900-14
WITH: N/A

COUNTY: OUTAGAMIE / WINNEBAGO

ORDER OF SHEETS

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

TOTAL SHEETS = ---

OUTAGAMIE COUNTY HIGHWAY DEPARTMENT

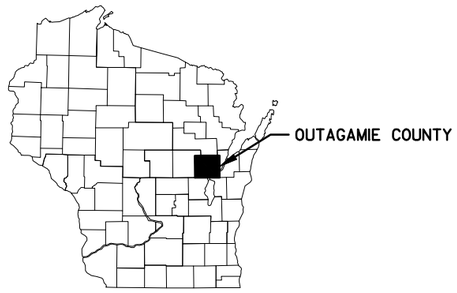
August 12, 2014

PLAN OF PROPOSED IMPROVEMENT

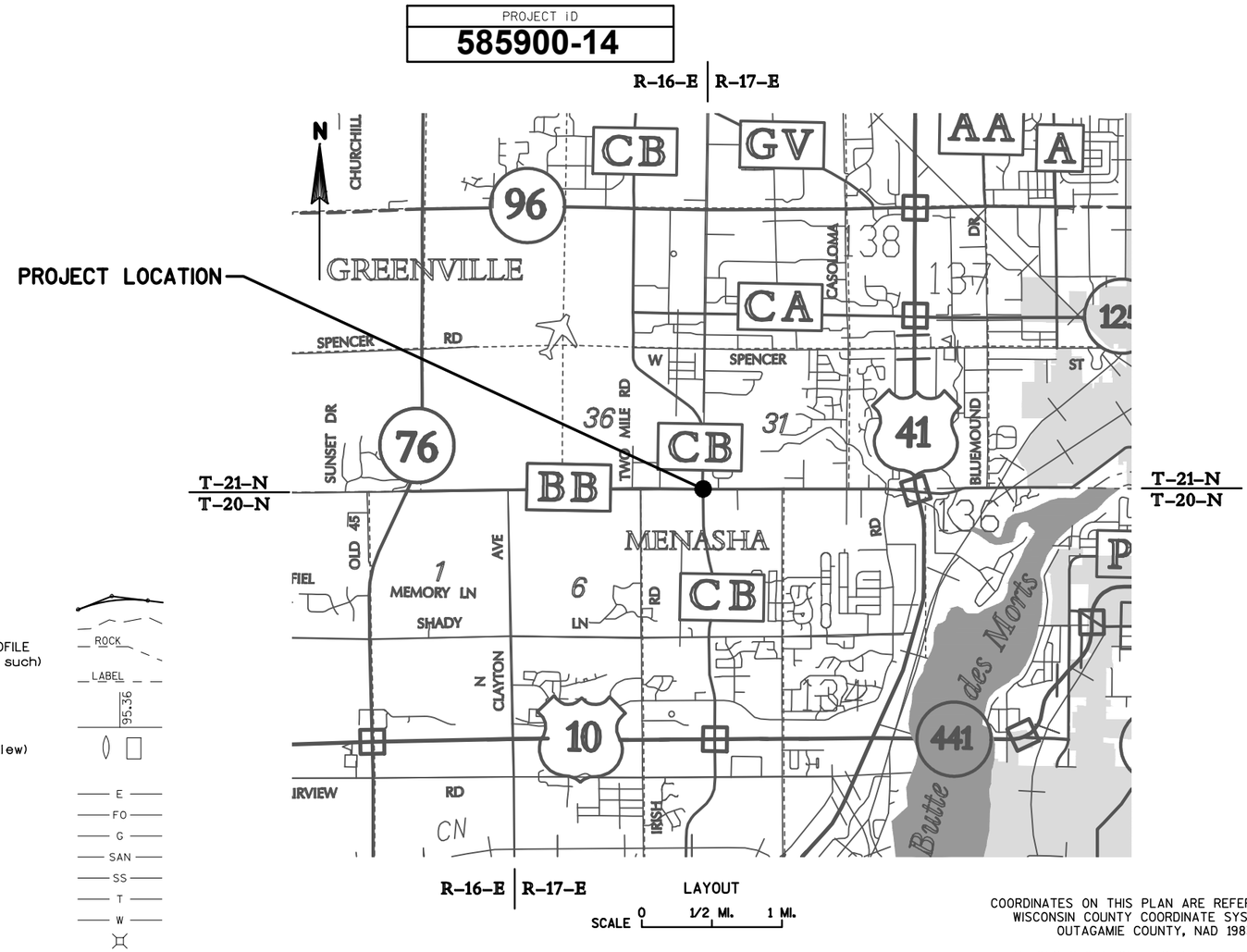
CTH BB AND CTH CB INTERSECTION IMPROVEMENT

CTH BB / CTH CB

OUTAGAMIE AND WINNEBAGO COUNTIES



PROJECT ID
585900-14



PROJECT LOCATION

R-16-E | R-17-E LAYOUT

SCALE 0 1/2 MI. 1 MI.

DESIGN DESIGNATION

		XXX	XXX
A.A.D.T. (2013)	=	XXX	XXX
A.A.D.T. (2033)	=	XXX	XXX
D.H.V. (K100, 2033)	=	XXX	XXX
D.D.	=	XXX	XXX
T. (DHV)	=	XXX	XXX
DESIGN SPEED	=	XXX	XXX
ESALS	=	XXX	XXX

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE (PL + 58.1)
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), OUTAGAMIE COUNTY, NAD 1983 (91)

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD 88 (91)

2

PAVEMENT WIDENING SECTIONS			
ROAD	LEG	HMA	BAD
CTH CB	S	6"	17"
CTH CB	N	5.5"	14.5"
CTH BB	W	4"	16"
CTH BB	E	4"	16"

18-in plastic pipe w/ metal AEW

30-in plastic pipe w/ metal AEW

FUTURE R/W AQUISITION

8 LF CPRCHE CLASS-IV 24X38-INCH

SALVAGE EXISTING ENDWALL

782.42

783.01

783.60

EXIST R/W

SQ CMP

CTH CB

11+00

FUTURE CB TRAIL CONNECTION

PROP R/W

CAUTION

782.02

50 LF CPRCHE CLASS-IV 24X38-INCH

SALVAGE EXISTING ENDWALL

WETLAND BOUNDARY

781.46

780.90

INSTALL CURB OPENING FOR FUTURE TRAIL

EXIST R/W

N

2

97+00 98+00 99+00 101+00 102+00 103+00

CTH BB

PI: 96+81.50

FUTURE CONCRETE SIDEWALK

LIMIT REMOVING ASPHALTIC SURFACE MILLING, TYP

9+00

CTH CB

20" HERCP

10'

FUTURE SIDEWALK/TRAIL

CONCRETE CURB AND GUTTER

SEE PAVEMENT MARKING DETAIL FOR CURB CUT STATIONS

10'

OPENING INLINE WITH TRAIL

1.5' TAPER, TYP

CURB CUT DETAIL

CTH BB

SAWING ASPHALT, TYP

780.63

780.90

ASPHALT FLUME, TYP

12" CMP

SIGNAL BASE, TYP

SIGNAL PULL BOX, TYP

EXIST R/W

TEMPORARY DITCH CHECK, TYP

781.16

FUTURE CONCRETE SIDEWALK INSTALL CURB OPENINGS

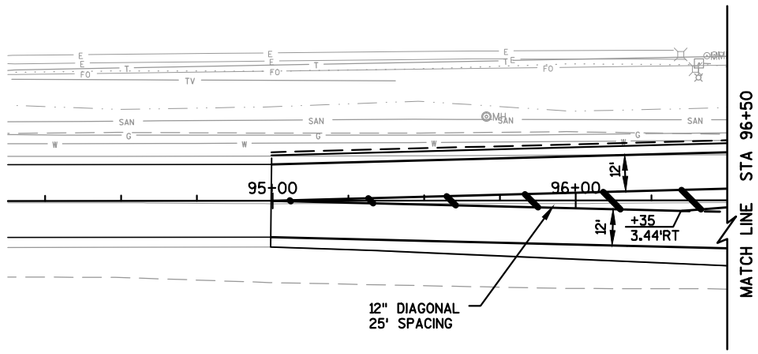
CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D, TYP

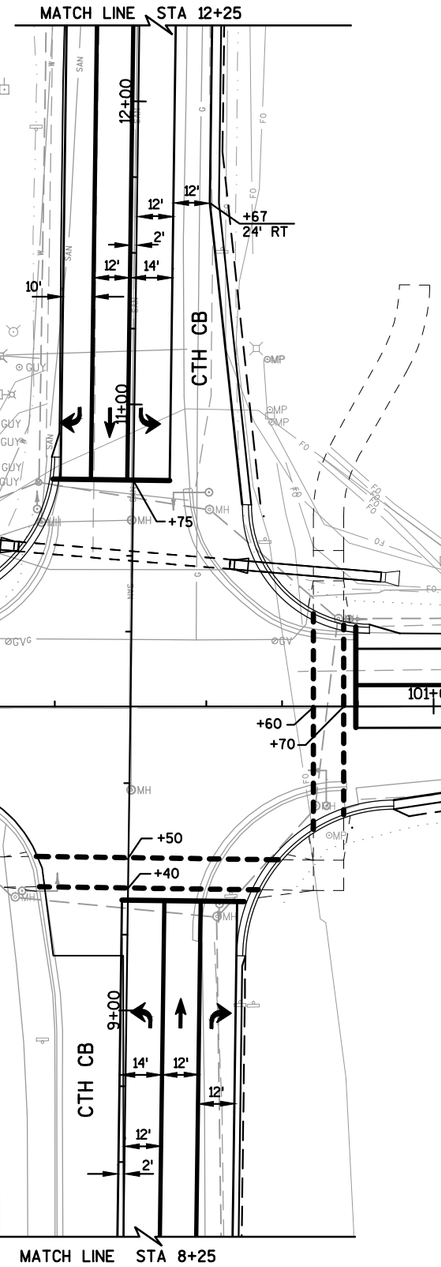
PROJECT NO: 585900-14	HWY: CTH CB	COUNTY: OUTAGAMIE/WINNEBAGO	INTERSECTION DETAIL: CTH CB AND CTH BB	SHEET 2	E

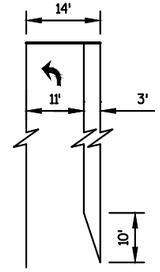
FILE NAME : F:\TR\JOBS\E2035A12\CIVIL 3D 2012\SHEETSPLAN\INTERIM\E2035_021101_ID.DWG
E2035_021101_id

PLOT DATE : 8/12/2014 9:27 AM PLOT BY : OMNNI ASSOCIATES, INC - DAVE PERRY

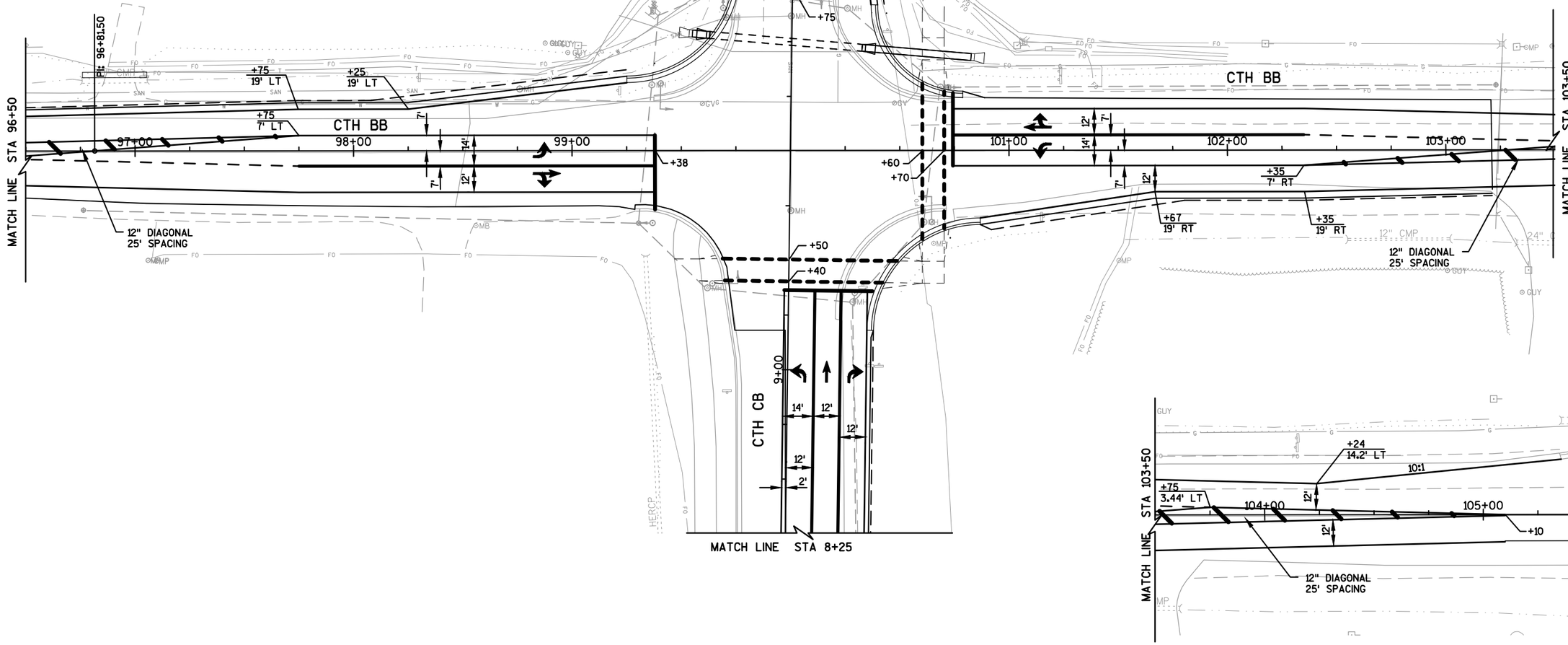
2

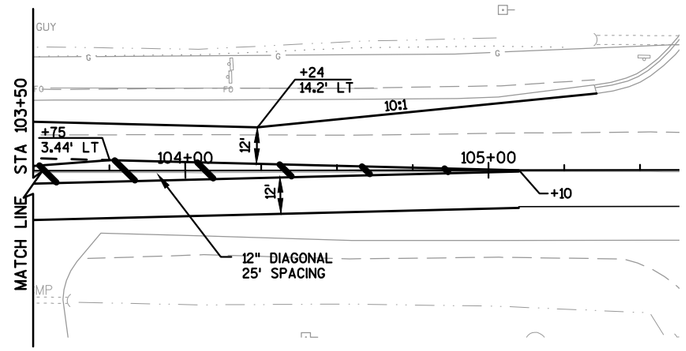






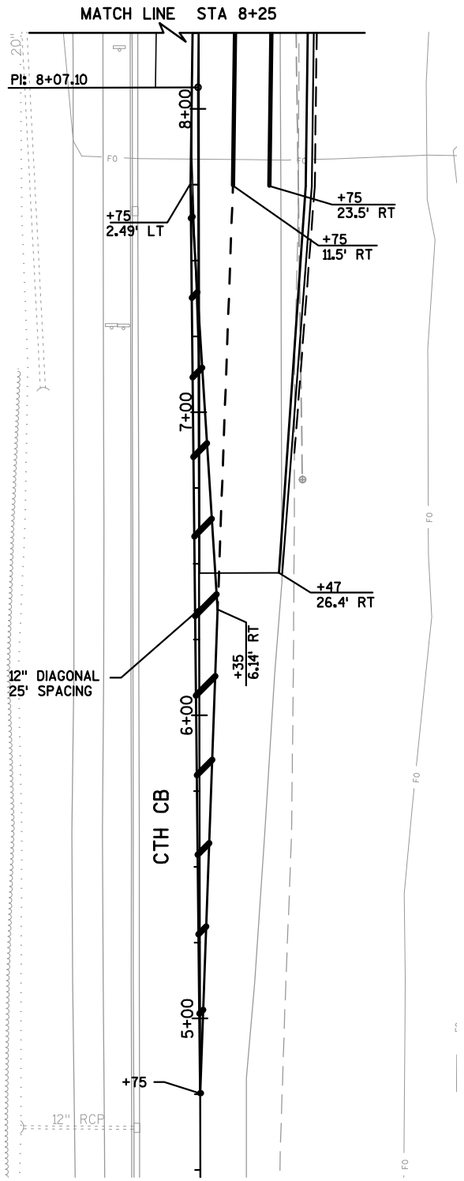
TURN LANE MARKING DETAIL

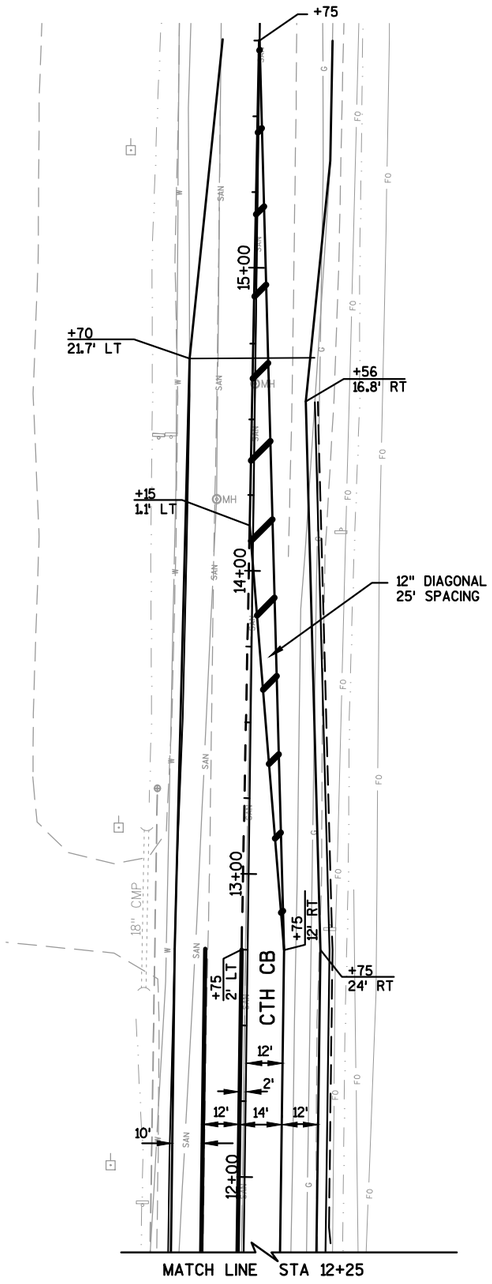




PROJECT NO:585900-14	HWY: CTH CB	COUNTY: OUTAGAMIE/WINNEBAGO	PAVEMENT MARKING PLAN	SHEET 3	E

FILE NAME : F:\TR\JOBS\E2035A12\CIVIL 3D 2012\SHEETSPLAN\E2035ULT_024500_PM.DWG
E2035ULT_024501_pm
PLOT DATE : 8/7/2014 10:46 AM
PLOT BY : OMNNI ASSOCIATES, INC - ANDREW WESTBROOK
WISDOT/CADDS SHEET 42





N

2

PROJECT NO: 585900-14	HWY: CTH CB	COUNTY: OUTAGAMIE/WINNEBAGO	PAVEMENT MARKING PLAN	SHEET 4	E

2

N

PB F

REMOVE PULLBOX

CTH CB

11+00

EXISTING PULLBOX
TO REMAIN

REMOVE AND SALVAGE TRAFFIC SIGNAL
STANDARD PEDESTAL BASE AND SIGNAL HEADS

PB 1

REMOVE AND SALVAGE TYPE 3 30' POLE,
TRANSFORMER BASE, TROMBONE ARM, SIGNAL
HEADS AND LUMINAIRE ARM

SB A

REMOVE PULLBOX

PB A

SB F

SB B

PB B

REMOVE AND SALVAGE TYPE 2 POLE,
TRANSFORMER BASE, TROMBONE ARM AND
SIGNAL HEADS

REMOVE PULLBOX

REMOVE AND SALVAGE TRAFFIC SIGNAL
STANDARD PEDESTAL BASE AND SIGNAL HEADS

SB C

PB C

PI: 96+81.50

97+00

99+00

101+00

103+00

REMOVE PULLBOX

PB G

PB J

REMOVE PULLBOX

CTH BB

CTH BB

SB 7

EXISTING PULLBOX
TO REMAIN

REMOVE AND SALVAGE TRAFFIC SIGNAL
STANDARD PEDESTAL BASE AND SIGNAL HEADS

SB 6

EXISTING PULLBOX
TO REMAIN

REMOVE AND SALVAGE TYPE 2 POLE,
TRANSFORMER BASE, TROMBONE ARM AND
SIGNAL HEADS

PB D

SB D

REMOVE AND SALVAGE TYPE 3 30' POLE,
TRANSFORMER BASE, TROMBONE ARM, SIGNAL
HEADS AND LUMINAIRE ARM

REMOVE PULLBOX

SB E

PB E

REMOVE AND SALVAGE TRAFFIC SIGNAL
STANDARD PEDESTAL BASE AND SIGNAL HEADS

REMOVE PULLBOX

9+00

CTH CB

7+00

REMOVE PULLBOX

PB H

NOTES

ALL CONDUIT RUNS UNDER PAVEMENT TO REMAIN INTACT.

REMOVE EXISTING TRAFFIC SIGNAL AND ELECTRIC CABLE.

SALVAGED EQUIPMENT NOT BEING REUSED ON THIS PROJECT
TO BE DELIVERED TO WINNEBAGO COUNTY.

PROJECT NO:585900-14	HWY: CTH CB	COUNTY: OUTAGAMIE/WINNEBAGO	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 5	E

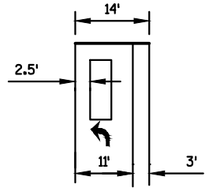
LEGEND

- PULL BOX 12" X 24"
- SIGNAL HEAD PEDESTAL MOUNT
- SIGNAL HEAD MAST-ARM MOUNT WITH LUMINAIRE
- X-X / X — MOUNTING CONFIGURATION / SIGNAL HEAD NUMBER
- CONDUIT
- LOOP DETECTOR 6' X 20'
- WALK/DON'T WALK INDICATOR 12"
- PEDESTRIAN HEAD
- PEDESTRIAN PUSH BUTTON
- LUMINAIRE
- PULL BOX 24" X 42"

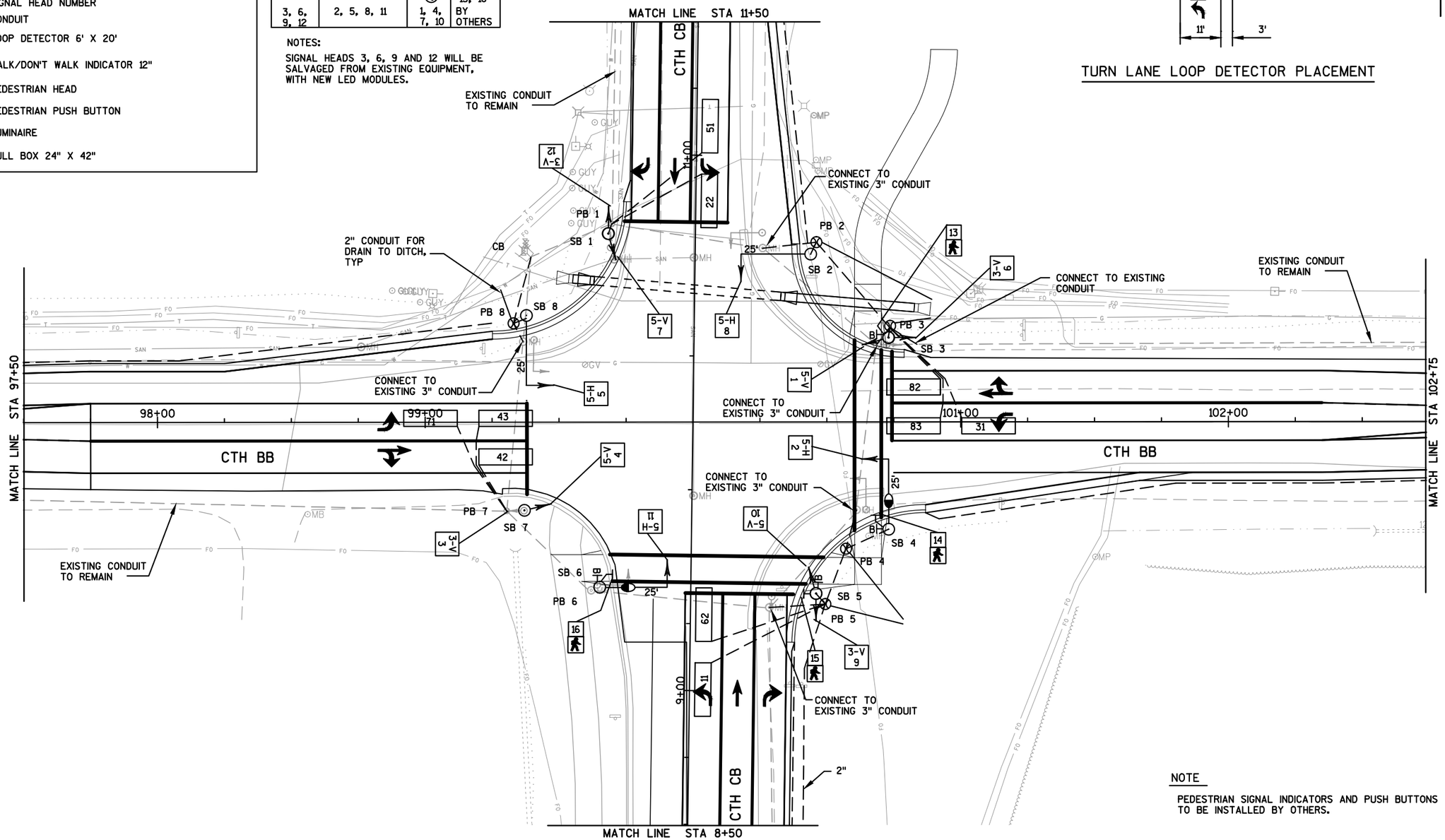
CONFIGURATION WITH HEAD NUMBER			
3-V	5-H	5-V	2-P
R Y G	R Y Y G G	R Y G Y Y	
3, 6, 9, 12	2, 5, 8, 11	1, 4, 7, 10	13, 14, 15, 16 BY OTHERS

NOTES:

SIGNAL HEADS 3, 6, 9 AND 12 WILL BE SALVAGED FROM EXISTING EQUIPMENT, WITH NEW LED MODULES.



TURN LANE LOOP DETECTOR PLACEMENT



NOTE

PEDESTRIAN SIGNAL INDICATORS AND PUSH BUTTONS TO BE INSTALLED BY OTHERS.

PROJECT NO: 585900-14	HWY: CTH CB	COUNTY: OUTAGAMIE/WINNEBAGO	SIGNAL PLAN	SHEET 6	E

LEGEND

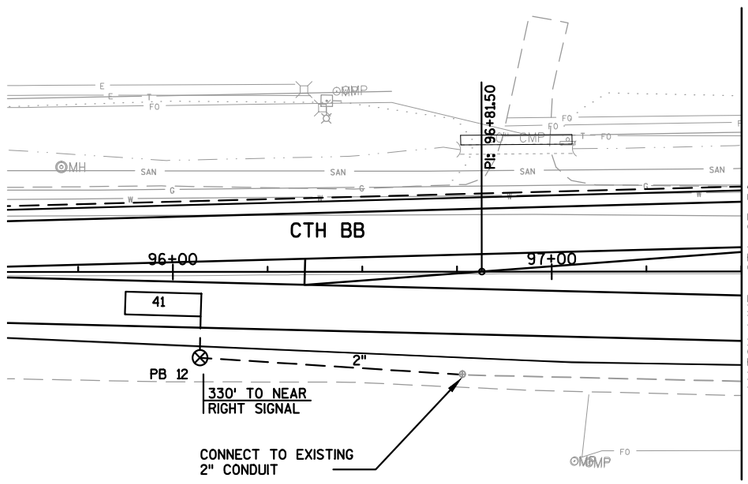
- PULL BOX 12" X 24"
- SIGNAL HEAD PEDESTAL MOUNT
- SIGNAL HEAD MAST-ARM MOUNT WITH LUMINAIRE
- X-X / X — MOUNTING CONFIGURATION / SIGNAL HEAD NUMBER
- CONDUIT
- LOOP DETECTOR 6' X 20'
- WALK/DON'T WALK INDICATOR 12"
- PEDESTRIAN HEAD
- PEDESTRIAN PUSH BUTTON
- LUMINAIRE
- PULL BOX 24" X 42"

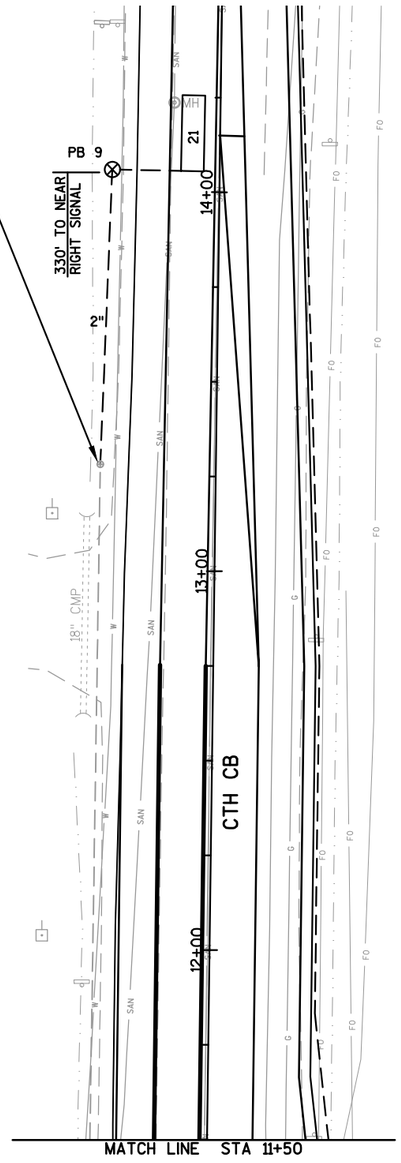
CONFIGURATION WITH HEAD NUMBER			
3-V	5-H	5-V	2-P
R Y G	R Y Y G G	R Y G Y G	
3, 6, 9, 12	2, 5, 8, 11	1, 4, 7, 10	13, 14, 15, 16 BY OTHERS

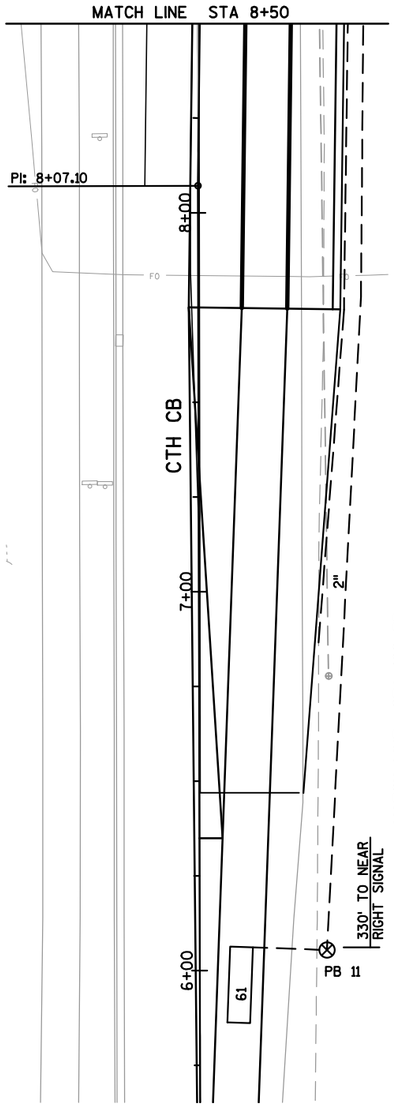
NOTES:

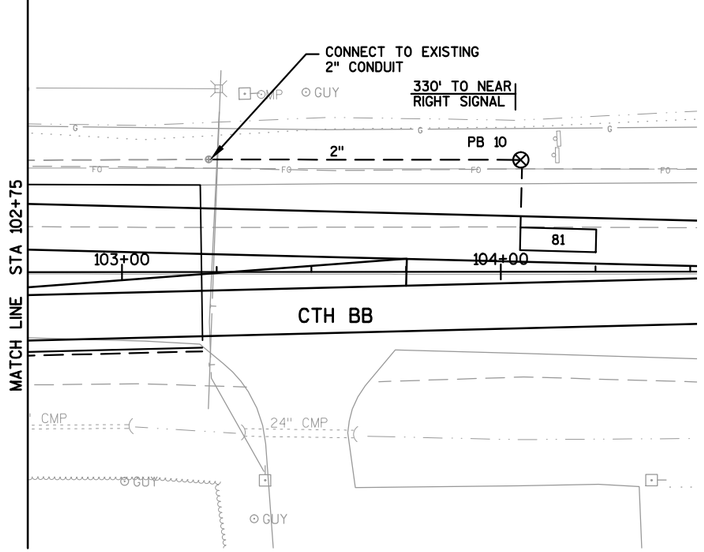
SIGNAL HEADS 3, 6, 9 AND 12 WILL BE SALVAGED FROM EXISTING EQUIPMENT.

N









PROJECT NO: 585900-14	HWY: CTH CB	COUNTY: OUTAGAMIE/WINNEBAGO	SIGNAL PLAN	SHEET 7	E

2

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	Ø1 R/W	Ø1 CLEAR TO **	Ø2 R/W	Ø2 CLEAR TO **	Ø3 R/W	Ø3 CLEAR TO **	Ø4 R/W	Ø4 CLEAR TO **	FLASH
Ø1	7, 8	GA	YA --	--	-- --	--	-- --	--	-- --	R
Ø2	10, 11, 12	R	R R	G	Y R	R	R R	R	R R	
Ø3	4, 5	--	-- --	--	-- --	GA	YA --	--	-- --	
Ø4	1, 2, 3	R	R R	R	R R	R	R R	G	Y R	R
Ø5	10, 11	--	-- --	--	-- --	--	-- --	--	-- --	
Ø6	7, 8, 9	R	R R	R	R R	R	R R	R	R R	R
Ø7	1, 2	--	-- --	--	-- --	--	-- --	--	-- --	
Ø8	4, 5, 6	R	R R	R	R R	R	R R	R	R R	R
Ø2P										
Ø4P	15, 16 ***	D	D D	D	D D	D	D D	*	D D	
Ø6P	13, 14 ***	D	D D	D	D D	D	D D	D	D D	
Ø8P										

RING 2

	HEAD NUMBERS	Ø5 R/W	Ø5 CLEAR TO **	Ø6 R/W	Ø6 CLEAR TO **	Ø7 R/W	Ø7 CLEAR TO **	Ø8 R/W	Ø8 CLEAR TO **
Ø1	7, 8	--	-- --	--	-- --	--	-- --	--	-- --
Ø2	10, 11, 12	R	R R	R	R R	R	R R	R	R R
Ø3	4, 5	--	-- --	--	-- --	--	-- --	--	-- --
Ø4	1, 2, 3	R	R R	R	R R	R	R R	R	R R
Ø5	10, 11	GA	YA --	--	-- --	--	-- --	--	-- --
Ø6	7, 8, 9	R	R R	G	Y R	R	R R	R	R R
Ø7	1, 2	--	-- --	--	-- --	GA	YA --	--	-- --
Ø8	4, 5, 6	R	R R	R	R R	R	R R	G	Y R
Ø2P									
Ø4P	15, 16 ***	D	D D	D	D D	D	D D	D	D D
Ø6P	13, 14 ***	D	D D	*	D D	D	D D	D	D D
Ø8P									

BARRIER

N

** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)

GA = GA ←

YA = Y ←

D = DON'T WALK

* WHEN CALLED, TIMED STEADY WALK,THEN FLASHING DON'T WALK, THEN GOES TO STEADY DON'T WALK

*** FUTURE PEDESTRIAN HEADS TO BE INSTALLED BY OTHERS

CHART 1

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
1	5 OR 6	2, 3, 4, 7, 8
2	5 OR 6	1, 3, 4, 7, 8
3	7 OR 8	1, 2, 4, 5, 6
4	7 OR 8	1, 2, 3, 5, 6
5	1 OR 2	3, 4, 6, 7, 8
6	1 OR 2	3, 4, 5, 7, 8
7	3 OR 4	1, 2, 5, 6, 8
8	3 OR 4	1, 2, 5, 6, 7

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION: CALLS AND EXTENDS	DETECTOR OPERATION: CALLS ONLY	DETECTOR OPERATION: EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
11	1	X			1	1				6X20	4
21	2	X			2	2				6X20	4
22	2	X			2	2				6X20	4
31	3	X			3	3				6X20	4
41	4			X		4			X	6X20	4
42	4	X			4	4		X		6X20	4
43	5	X			4	4				6X20	4
51	6	X			5	5				6X20	4
61	7	X			6	6				6X20	4
62	7	X			6	6				6X20	4
71	8	X			7	7				6X20	4
81	9			X		8			X	6X20	4
82	9	X			8	8		X		6X20	4
83	10	X			8	8				6X20	4

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1	--			YES
2	--		MIN	YES
3	--			YES
4	--			YES
5	--			YES
6	--		MIN	YES
7	--			YES
8	--			YES

OVERLAPS

O.L. "A" =
O.L. "B" =
O.L. "C" =
O.L. "D" =

TYPE OF INTERCONNECT COMMUNICATION	
NONE	
TBC	
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
RADIO	
*LOCATION OF MASTER CONTROLLER NO: S-	
SIGNAL SYSTEM #: SS-	

TYPE OF PRE-EMPT	
NONE	X
RAILROAD	
EMERGENCY VEHICLE	
3M	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1 AT LEFT.)

CTH CB & CTH BB
TOWN OF GREENVILLE
OUTAGAMIE COUNTY

SIGNAL NO.

CONTROLLER TYPE:

DATE 4/2014

REMOVING CONCRETE BASES

NUMBER	ALIGNMENT	STATION	OFFSET	204.0195 REMOVING CONCRETE BASES EACH
CATEGORY 0010				
SB A	CTH CB	10+65	31.6' LT	1
SB B	CTH CB	10+71	24.9' RT	1
SB C	CTH BB	100+72	28.7' LT	1
SB D	CTH BB	100+65	32.8' RT	1
SB E	CTH CB	9+35	30.2' RT	1
SB F	CTH BB	99+41	30.7' LT	1
			TOTALS	6

REMOVING PULL BOXES

NUMBER	ALIGNMENT	STATION	OFFSET	653.0905 REMOVING PULLBOXES EACH	NOTE: EXISTING SIZE
CATEGORY 0010					
PB A	CTH BB	99+37	30.0' LT	1	24"
PB B	CTH CB	10+66	25.1' RT	1	24"
PB C	CTH BB	100+69	28.9' LT	1	24"
PB D	CTH BB	100+61	32.9' RT	1	24"
PB E	CTH CB	9+31	29.4' RT	1	24"
PB F	CTH CB	13+28	30.5' LT	1	12"
PB G	CTH BB	103+23	29.7' LT	1	12"
PB H	CTH CB	6+78	34.2' RT	1	12"
PB J	CTH BB	96+76	33.5' RT	1	12"
			TOTALS	9	

CONDUIT

FROM	TO	652.0325 CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH LF	652.0335 CONDUIT RIGID NONMETALLIC SCHEDULE 80 3-INCH LF	SPV.0060.01 CONNECT TO EXISTING CONDUIT EACH
CATEGORY 0010				
EXISTING	PB 2	---	20	1
PB 2	PB 3	---	42	---
EXISTING	PB 3	---	8	1
EXISTING	PB 4	---	15	1
PB 4	PB 5	---	22	---
EXISTING	PB 5	---	21	1
EXISTING	PB 8	---	8	1
PB 8	CB	26	26	---
PB 1	SB 1	4	---	---
PB 2	SB 2	5	---	---
PB 3	SB 3	5	---	---
PB 4	SB 4	18	---	---
PB 5	SB 5	6	---	---
PB 8	SB 8	5	---	---
EXISTING	PB 9	78	---	1
PB 3	EXISTING	13	---	1
EXISTING	PB 10	82	---	1
PB 5	PB 11	328	---	---
EXISTING	PB 12	70	---	1
PULLBOX DRAINS		150	---	---
	SUBTOTAL	790	162	9
	UNDISTRIBUTED	250	0	0
	TOTALS	1,040	162	9

PULL BOXES

NUMBER	ALIGNMENT	STATION	OFFSET	653.0105 STEEL 12 X 24-INCH EACH	653.0140 STEEL 24 X 42-INCH EACH
CATEGORY 0010					
PB 1	CTH CB	10+74	31.3' LT	---	EXISTING
PB 2	CTH CB	10+68	45.2' RT	---	1
PB 3	CTH BB	100+74	35.1' LT	---	1
PB 4	CTH BB	100+57	47.4' RT	---	1
PB 5	CTH CB	9+33	50.3' RT	---	1
PB 6	CTH CB	9+37	37.2' LT	---	EXISTING
PB 7	CTH BB	99+30	33.2' RT	---	EXISTING
PB 8	CTH BB	99+33	36.9' LT	---	1
PB 9	CTH CB	14+06	28.3' LT	1	---
PB 10	CTH BB	104+05	29.5' LT	1	---
PB 11	CTH CB	6+05	33.6' RT	1	---
PB 12	CTH BB	96+07	22.7' RT	1	---
			TOTALS	4	5

CONCRETE BASES

BASE NUMBER	ALIGNMENT	STATION	OFFSET	654.0101 CONCRETE BASES TYPE 1 EACH	654.0102 CONCRETE BASES TYPE 2 EACH
CATEGORY 0010					
SB 1	CTH CB	10+70	32.5 LT	1	---
SB 2	CTH CB	10+64	43.2 RT	---	1
SB 3	CTH BB	100+73	31.5 LT	1	---
SB 4	CTH BB	100+73	40.1 RT	---	1
SB 5	CTH CB	9+37	46.8 RT	1	---
SB 6	CTH CB	9+38	34.0 LT	EXISTING	---
SB 7	CTH BB	99+37	33.0 RT	---	EXISTING
SB 8	CTH BB	99+38	39.8 LT	---	1
			TOTALS	3	3

LIGHTING CABLE AND WIRING

FROM	TO	655.0305 CABLE TYPE UF 2-12 AWG GROUNDED LF	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG LF
CATEGORY 0010			
CB	SB 6	211	---
CB	SB 4	324	---
	SB 6	---	43
	SB 4	---	43
	TOTALS	535	86

TRAFFIC SIGNAL CABLE AND WIRING

FROM	TO	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG LF	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG LF	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS (GRND CONDUCTOR) 10 AWG LF
CATEGORY 0010					
CB	SB 1	34	---	57	50
SB 1	SB 2	47	109	---	107
CB	SB 3	34	---	188	181
SB 3	SB 4	47	132	---	130
CB	SB 6	47	---	179	172
SB 6	SB 5	34	121	---	119
CB	SB 8	47	---	54	50
SB 8	SB 7	34	108	---	106
SB 1	PB 1	---	---	---	15
SB 2	PB 2	---	---	---	16
SB 3	PB 3	---	---	---	16
SB 4	PB 4	---	---	---	29
SB 5	PB 5	---	---	---	17
SB 6	PB 6	---	---	---	14
SB 7	PB 7	---	---	---	18
SB 8	PB 8	---	---	---	16
	TOTALS	324	470	478	1,056

LOOP DETECTORS

LOOP NO	ALIGNMENT	STATION	OFFSET	SIZE LF	TURNS	652.0800 CONDUIT LOOP DETECTOR LF	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE LF
CATEGORY 0010								
11	CTH CB	9+10	5.0' RT	6' X 20'	4	100	246	309
21	CTH CB	14+06	7.2' LT	6' X 20'	4	70	373	249
22	CTH CB	10+73	5.0' RT	6' X 20'	4	90	38	289
31	CTH BB	101+00	0.0' RT	6' X 20'	4	94	162	297
41	CTH BB	96+07	8.7' RT	6' X 20'	4	63	436	235
42	CTH BB	99+40	13.0' RT	6' X 20'	4	72	109	253
43	CTH BB	99+40	0.0' RT	6' X 20'	4	86	109	281
51	CTH CB	11+01	5.0' RT	6' X 20'	4	95	38	299
61	CTH CB	6+06	11.0' RT	6' X 20'	4	72	577	253
62	CTH CB	9+38	5.0' RT	6' X 20'	4	97	246	303
71	CTH BB	99+12	0.0' RT	6' X 20'	4	88	109	285
81	CTH BB	104+05	8.7' LT	6' X 20'	4	70	499	249
82	CTH BB	100+72	13.0' LT	6' X 20'	4	79	162	267
83	CTH BB	100+72	0.0' RT	6' X 20'	4	93	162	295
					TOTAL	1,169	3,266	3,864

3

TRAFFIC SIGNAL POLES, ARMS, & BASES

BASE NO.	RL	STA	OFFSET	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0305 POLES TYPE 2 EACH	657.0310 POLES TYPE 3 EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0595 TROMBONE ARMS 25-FT EACH	658.0110 TRAFFIC SIGNAL FACE 3 - 12 INCH VERTICAL EACH	658.0120 TRAFFIC SIGNAL FACE 5 - 12 INCH VERTICAL EACH	658.0165 TRAFFIC SIGNAL FACE 5 - 12 INCH HORIZONTAL EACH	658.0225 BACKPLATES SIGNAL FACE 5 SECTION 12-INCH EACH	658.0600 LED MODULES 12-INCH RED BALL EACH	658.0605 LED MODULES 12-INCH YELLOW BALL EACH	658.0610 LED MODULES 12-INCH GREEN BALL EACH
CATEGORY 0010																
SB 1	CTH CB	10+70	32.5 LT	SALV	---	---	---	1	---	SALV	1	---	1	1	1	1
SB 2	CTH CB	10+64	43.2 RT	---	SALV	SALV	---	---	1	---	---	1	1	---	---	---
SB 3	CTH BB	100+73	31.5 LT	SALV	---	---	---	1	---	SALV	1	---	1	1	1	1
SB 4	CTH BB	100+73	40.1 RT	---	SALV	---	SALV	---	1	---	---	1	1	---	---	---
SB 5	CTH CB	9+37	46.8 RT	SALV	---	---	---	1	---	SALV	1	---	1	1	1	1
SB 6	CTH CB	9+38	34.0 LT	---	SALV	---	SALV	---	1	---	---	1	1	---	---	---
SB 7	CTH BB	99+37	33.0 RT	SALV	---	---	---	1	---	SALV	1	---	1	1	1	1
SB 8	CTH BB	99+38	39.8 LT	---	SALV	SALV	---	---	1	---	---	1	1	---	---	---
			TOTALS	0	0	0	0	4	4	0	4	4	8	4	4	4

NOTES:
SALV = SALVAGED EQUIPMENT FROM EXISTING TRAFFIC SIGNAL INSTALLATION
PEDESTRIAN SIGNALS AND PUSHBUTTONS TO BE INSTALLED BY OTHERS AT LATER DATE

3

SIGNAL MOUNTING HARDWARE

PROJECT	658.5069 SIGNAL MOUNTING HARDWARE LS
CATEGORY 0010	
CTH CB & CTH BB	1
TOTAL	1

REMOVING EXISTING SIGNAL CABLES

PROJECT	SPV.0105.01 REMOVING EXISTING SIGNAL CABLES LS
CATEGORY 0010	
CTH CB & CTH BB	1
TOTAL	1

REMOVING TRAFFIC SIGNALS

PROJECT	SPV.0105.02 REMOVING TRAFFIC SIGNALS LS
CATEGORY 0010	
CTH CB & CTH BB	1
TOTAL	1

INSTALLING TRAFFIC SIGNAL EQUIPMENT

PROJECT	SPV.0105.03 INSTALLING SALVAGED TRAFFIC SIGNAL EQUIPMENT LS
CATEGORY 0010	
CTH CB & CTH BB	1
TOTAL	1

3

MILLING

LOCATION	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY
CTH BB 95+00 TO 103+20 CTH CB 6+45 TO 14+70	7,460
TOTAL	7,460

REMOVING CURB AND GUTTER

LOCATION	204.0150 REMOVING CURB AND GUTTER LF
SE QUAD CTH CB/CTH BB	82
NE QUAD CTH CB/CTH BB	83
NW QUAD CTH CB/CTH BB	62
TOTAL	227

BASE AGGREGATE DENSE

LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
CTH BB SOUTH LEG AND SE QUAD	21	662
CTH CB NORTH LEG AND NE QUAD	27	732
CTH BB WEST LEG AND NW QUAD	18	648
CTH BB EAST LEG	10	292
TOTALS	76	2,333

EARTHWORK

LOCATION	205.0100 EXCAVATION COMMON CY	UNUSABLE MATERIAL CY	AVAILABLE MATERIAL CY	UNADJUSTED FILL CY	ADJUSTED FILL FILL FACTOR = 1.2 CY	WASTE CY
CTH BB SOUTH LEG, SE QUAD, AND CTH BB EAST	260	0	260	190	228	32
CTH CB NORTH LEG AND NE QUAD	240	0	240	160	192	48
CTH BB WEST LEG AND NW QUAD	240	0	240	95	114	126
TOTAL	740					

ASPHALTIC ITEMS

LOCATION	PAVEMENT DEPTH (IN)	460.1103 HMA PAVEMENT TYPE E-3 TON	455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL
CTH BB SOUTH LEG AND SE QUAD	6	151	8	11
CTH CB NORTH LEG AND NE QUAD	5.5	184	10	15
CTH BB WEST LEG AND NW QUAD	4	93	5	10
CTH BB EAST LEG	4	40	2	4
CTH BB 95+00 TO 103+20 CTH CB 6+45 TO 14+70	2	858	47	187
TOTALS		1,327	73	227

PIPE

LOCATION	521.0130 CULVERT PIPE CORRUGATED STEEL 30-INCH LF	521.1530 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 30-INCH 6 TO 1	523.0424 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38 INCH LF	524.0636 APRON ENDWALLS FOR CULVERT PIPE SALVAGED 36-INCH EA	REMARKS
CTH CB STA 10+50	---	---	58	2	8' LT, 50' RT
CTH BB 96+93, LT	30	2	---	---	
TOTALS	30	2	58	2	

CONCRETE CURB AND GUTTER

LOCATION	601.0557 CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D LF
SE QUAD CTH CB/CTH BB	89
NE QUAD CTH CB/CTH BB	75
NW QUAD CTH CB/CTH BB	89
TOTAL	253

LANDSCAPING

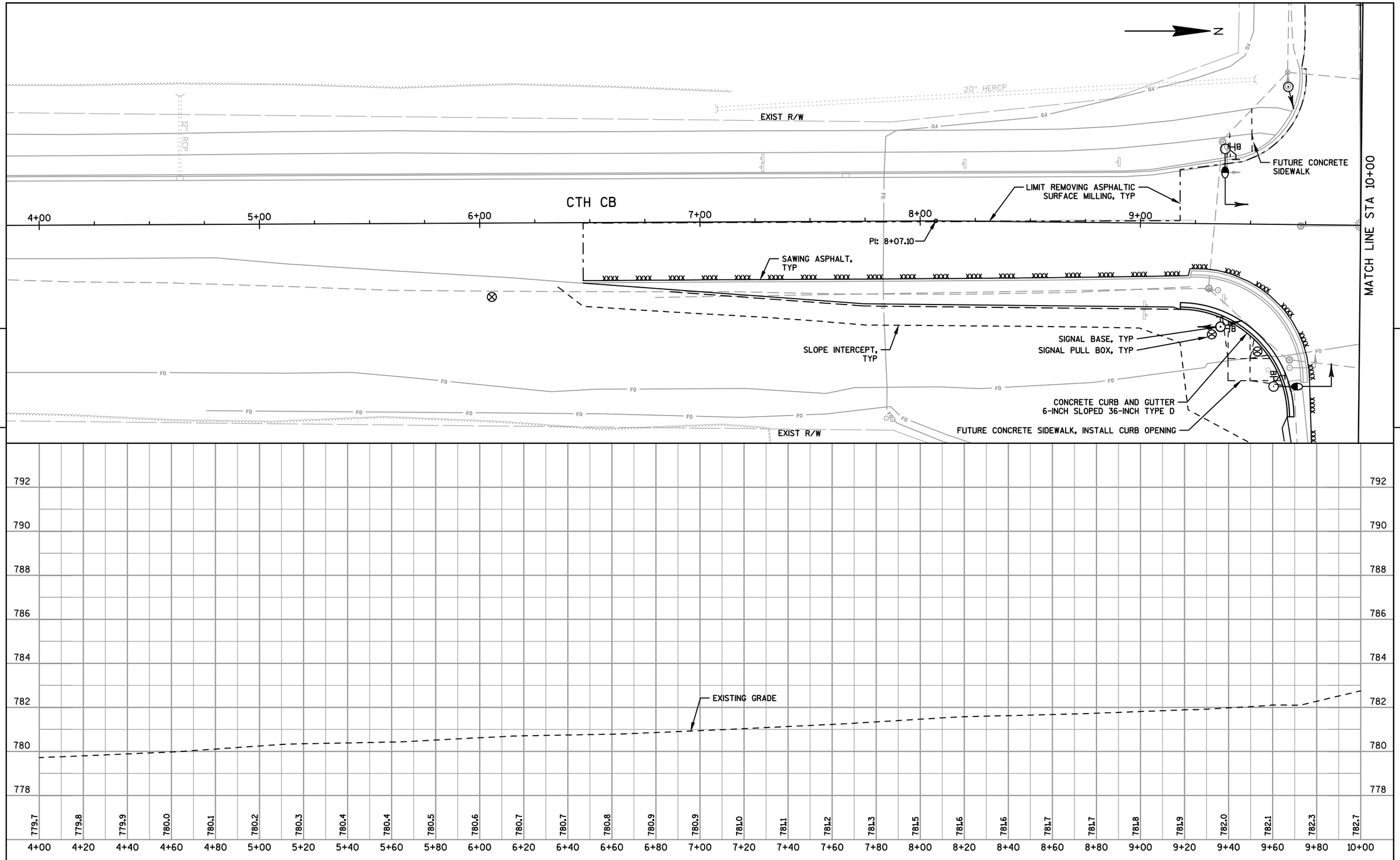
LOCATION	625.0100 TOPSOIL SY	628.2004 EROSION MAT CLASS 1 TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB
CTH BB / CTH CB INTERSECTION	3,445	3,445	2.2	0.9
TOTALS	3,445	3,445	2.2	0.9

EROSION CONTROL

LOCATION	628.1504 SILT FENCE LF	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EA
UNDISTRIBUTED	500	40	2
TOTALS	500	40	2

SAWING

LOCATION	690.0150 SAWING ASPHALT LF
CTH BB SOUTH LEG, SE QUAD, AND CTH BB EAST	612
CTH CB NORTH LEG AND NE QUAD	503
CTH BB WEST LEG AND NW QUAD	530
TOTAL	1,645



PROJECT NO: 585900-14	HWY: CTH CB	COUNTY: OUTAGAMIE/WINNEBAGO	PLAN AND PROFILE: INTERIM CTH CB	SHEET 13	E

MATCH LINE STA 10+00

SIGNAL PULL BOX, TYP
SIGNAL BASE, TYP
CULVERT PIPE CHECK
SALVAGE EXISTING ENDWALL
8 LF CPRCHE CLASS-IV 24X38-INCH
CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D, TYP
FUTURE R/W AQUISITION
EXIST R/W
18" CMP
N
11+00
12+00
13+00
14+00
15+00
16+00
SAWING ASPHALT, TYP
CTH CB
LIMIT REMOVING ASPHALTIC SURFACE MILLING, TYP
50 LF CPRCHE CLASS-IV 24X38-INCH
EXIST R/W
FUTURE CB TRAIL CONNECTION
CAUTION
SLOPE INTERCEPT, TYP
EXISTING UTILITY EASEMENT
WETLAND BOUNDARY
FUTURE CONCRETE SIDEWALK, INSTALL CURB OPENING
SALVAGE EXISTING ENDWALL
PROP R/W

5

5

796
794
792
790
788
786
784
782

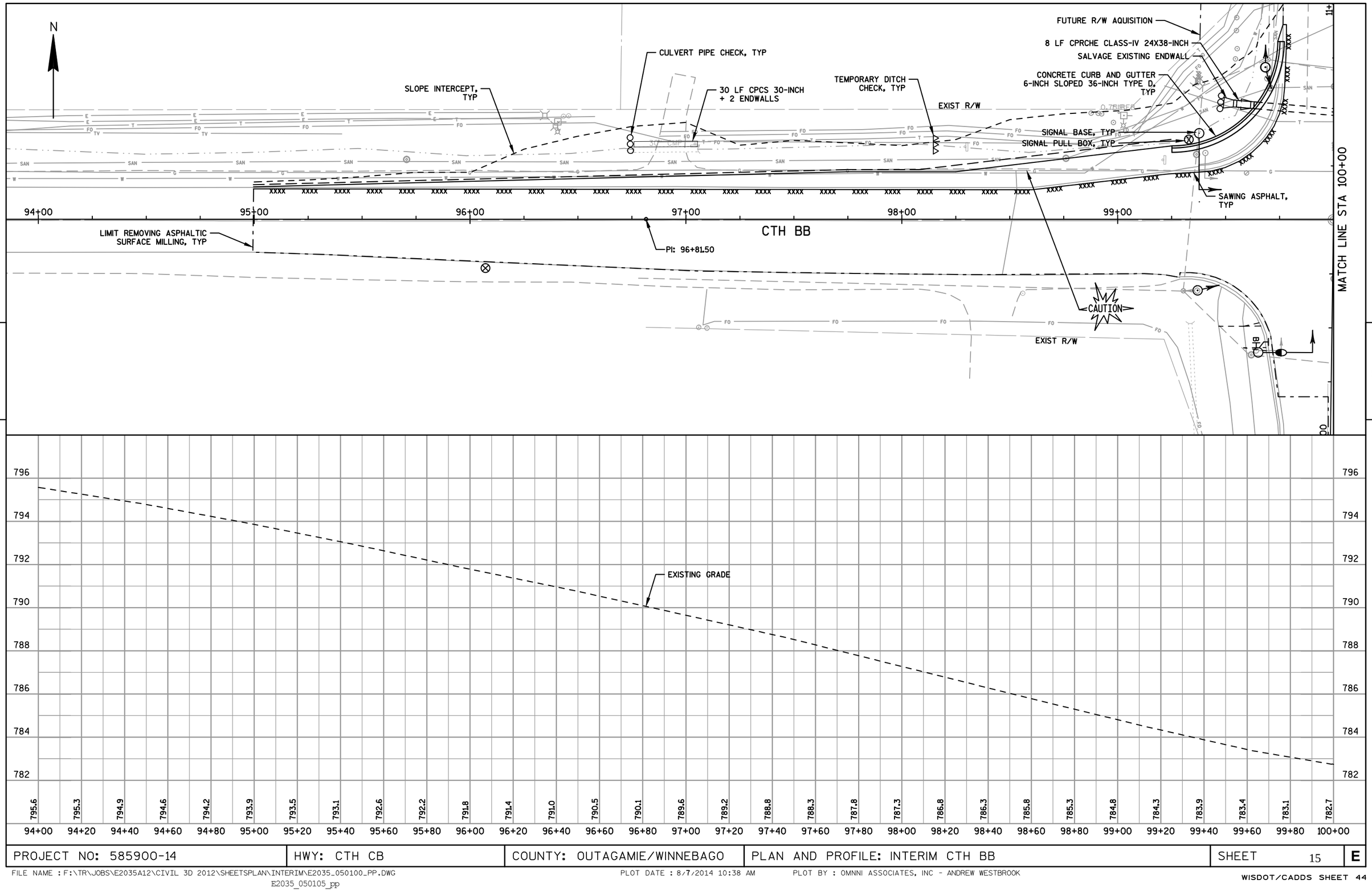
EXISTING GRADE

782.7 782.7 782.6 782.7 782.9 783.1 783.4 783.8 784.1 784.4 784.7 785.0 785.3 785.6 785.8 786.1 786.3 786.6 786.8 787.2 787.5 787.8 788.0 788.3 788.7 789.0 789.4 789.8 790.1 790.4 790.7

10+00 10+20 10+40 10+60 10+80 11+00 11+20 11+40 11+60 11+80 12+00 12+20 12+40 12+60 12+80 13+00 13+20 13+40 13+60 13+80 14+00 14+20 14+40 14+60 14+80 15+00 15+20 15+40 15+60 15+80 16+00

PROJECT NO: 585900-14	HWY: CTH CB	COUNTY: OUTAGAMIE/WINNEBAGO	PLAN AND PROFILE: INTERIM CTH CB	SHEET 14	E

FILE NAME : F:\TR\JOBS\E2035A12\CIVIL 3D 2012\SHEETSPLAN\INTERIM\E2035_050100_PP.DWG
E2035_050102_pp
PLOT DATE : 8/7/2014 10:38 AM
PLOT BY : OMNNI ASSOCIATES, INC - ANDREW WESTBROOK



PROJECT NO: 585900-14	HWY: CTH CB	COUNTY: OUTAGAMIE/WINNEBAGO	PLAN AND PROFILE: INTERIM CTH BB	SHEET 15	E

MATCH LINE STA 100+00

FUTURE CB TRAIL CONNECTION

50 LF CPRCHE CLASS-IV 24X38-INCH

SALVAGE EXISTING ENDWALL

PROP R/W

TEMPORARY DITCH CHECK, TYP

WETLAND BOUNDARY, TYP

EXIST R/W

CAUTION

N

36" CMP

FUTURE CONCRETE SIDEWALK, INSTALL CURB OPENING

101+00 102+00 103+00 104+00 105+00 106+00

CTH BB

SAWING ASPHALT, TYP

LIMIT REMOVING ASPHALTIC SURFACE MILLING, TYP

12" CMP

24" CMP

0.75"REB

EXIST R/W

0.75"REB

24" CMP

SIGNAL BASE, TYP

SIGNAL PULL BOX, TYP

FUTURE CONCRETE SIDEWALK, INTALL CURB OPENING

SLOPE INTERCEPT, TYP

CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D, TYP

5

5

790 788 786 784 782 780 778 776

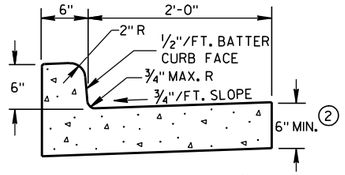
EXISTING GRADE

782.7 782.4 782.0 781.7 781.4 781.0 780.7 780.5 780.2 779.9 779.6 779.4 779.2 779.1 778.9 778.8 778.7 778.6 778.6 778.5 778.5 778.4 778.4 778.3 778.3 778.2 778.2 778.1 778.1 778.1 778.0

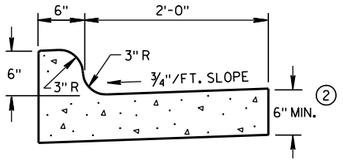
100+00 100+20 100+40 100+60 100+80 101+00 101+20 101+40 101+60 101+80 102+00 102+20 102+40 102+60 102+80 103+00 103+20 103+40 103+60 103+80 104+00 104+20 104+40 104+60 104+80 105+00 105+20 105+40 105+60 105+80 106+00

PROJECT NO: 585900-14	HWY: CTH CB	COUNTY: OUTAGAMIE/WINNEBAGO	PLAN AND PROFILE: INTERIM CTH BB	SHEET 16	E

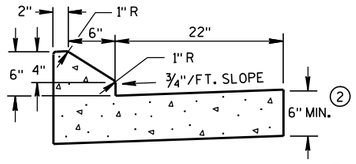
8D1: Concrete Curb, Concrete Curb & Gutter and Ties



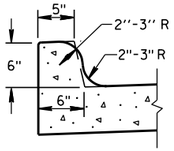
TYPES A & D (1)



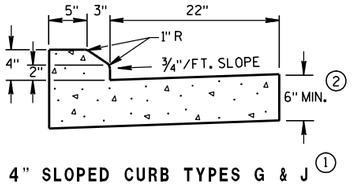
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

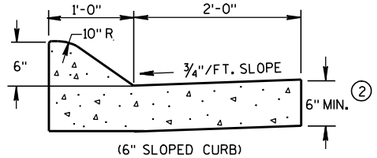


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

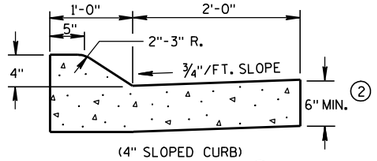


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

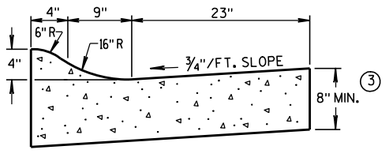


(6" SLOPED CURB)



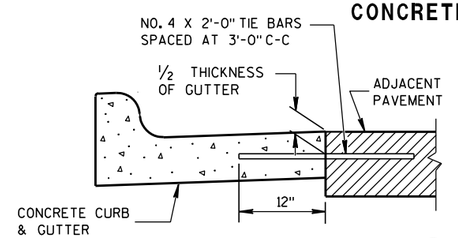
(4" SLOPED CURB)

TYPES A & D (1)

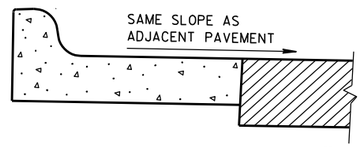


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)



REVERSE SLOPE GUTTER (5)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS 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 & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

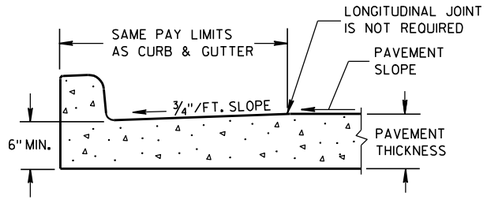
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(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.

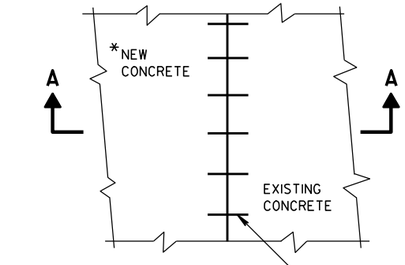
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

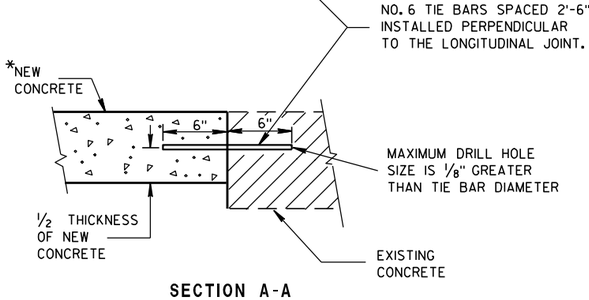


PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



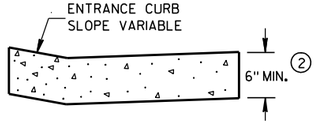
PLAN VIEW

*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

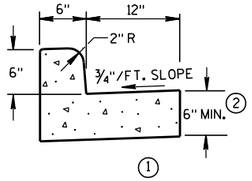


SECTION A-A

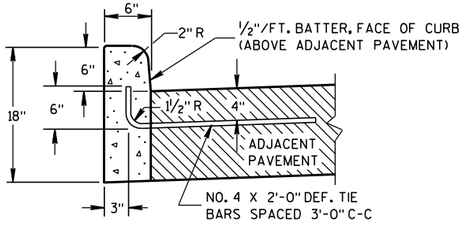
TIE BARS DRILLED INTO EXISTING PAVEMENT



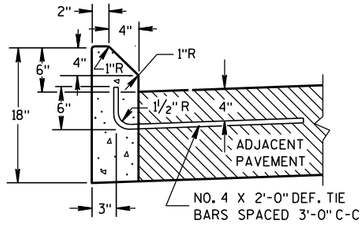
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



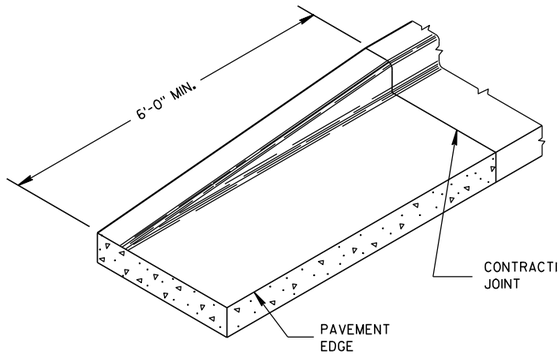
(1)
TYPES A & D
CONCRETE CURB & GUTTER 18"



(1)
TYPES A & D



(1)
TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

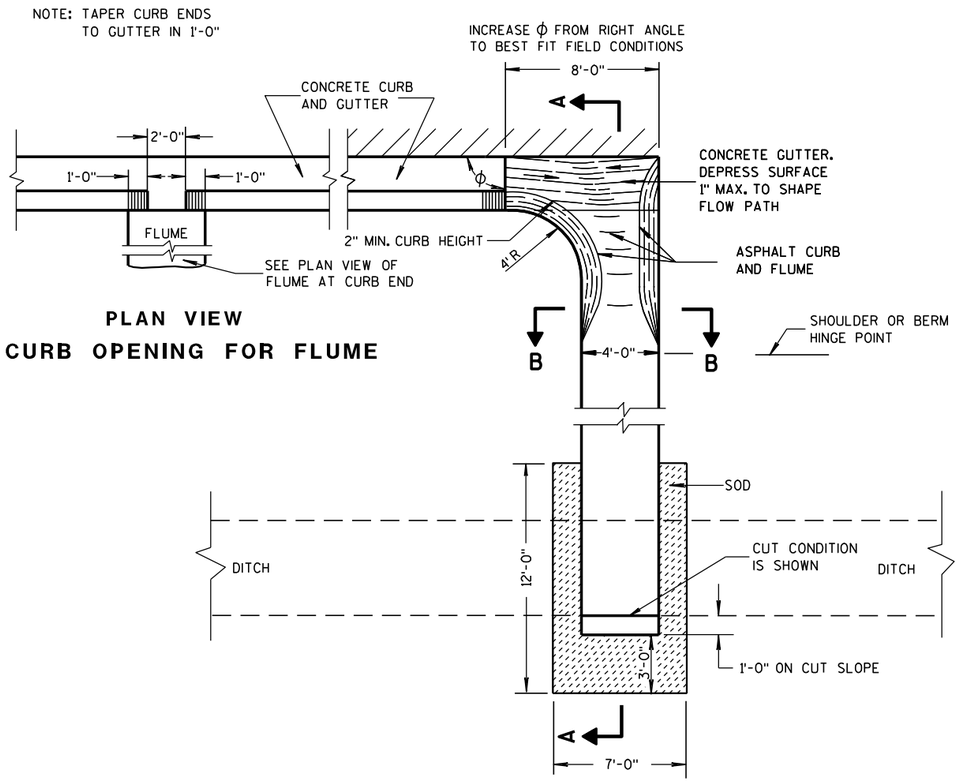
S.D.D. 8 D 1-17

6

S.D.D. 8 D 1-17

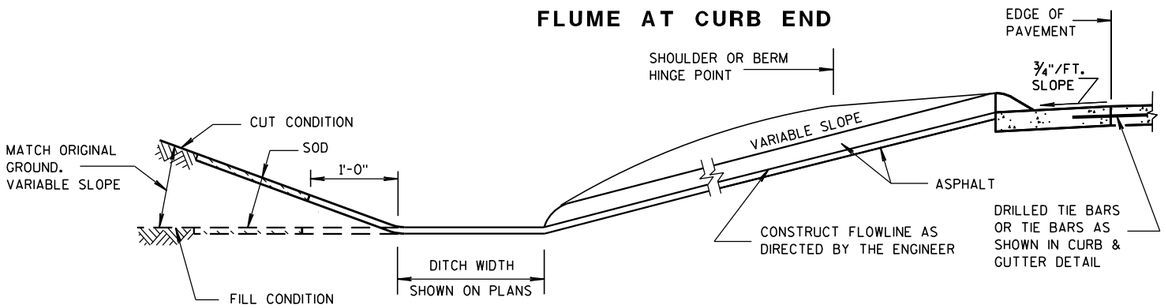
8D4: Concrete Surface Drains & Asphaltic Flumes

ASPHALTIC FLUME

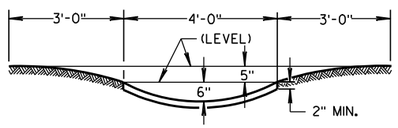


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

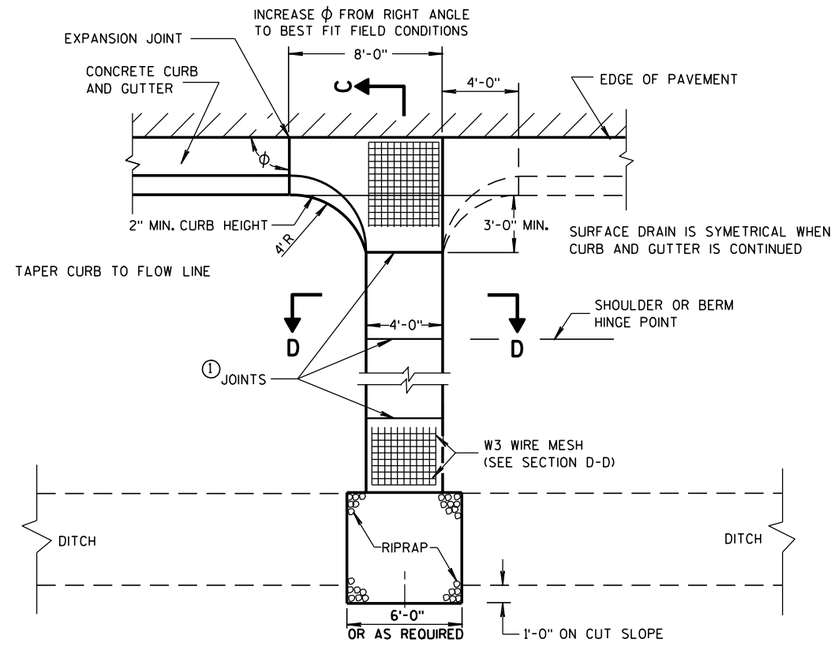
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE ⅛ TO ¼ INCH WIDE BY 1½ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

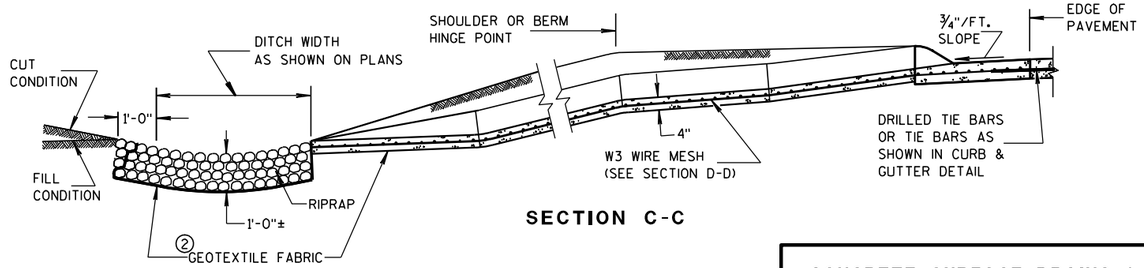
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

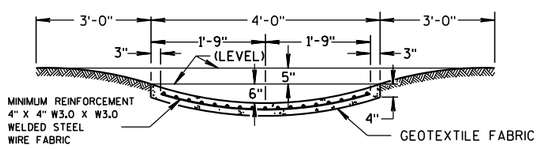
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

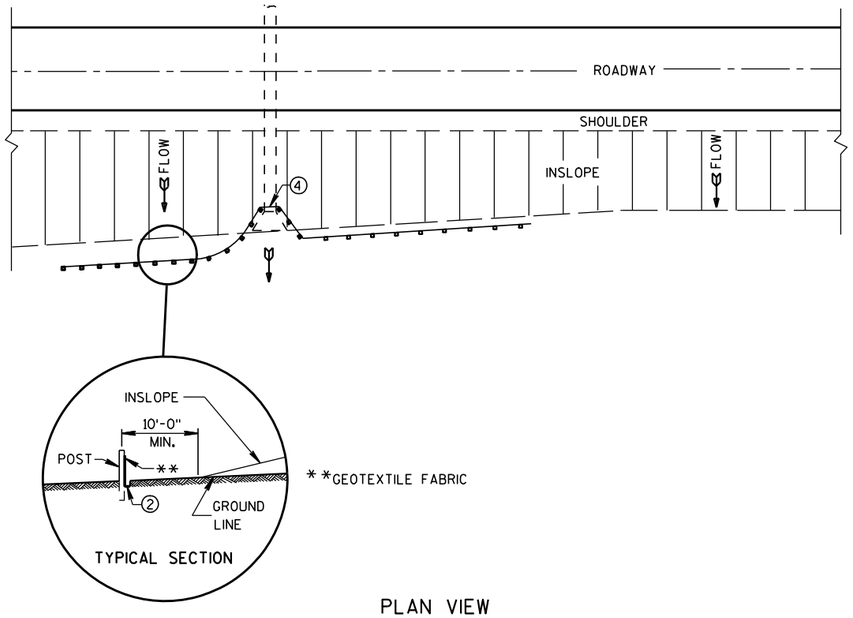
CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

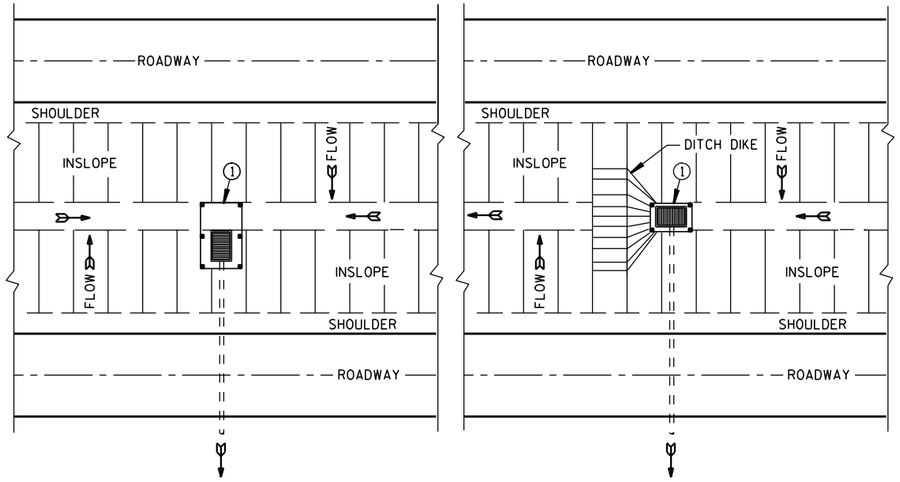
6
S.D.D. 8 D 4-5

8E9: Silt Fence



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



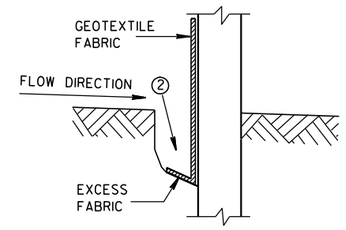
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

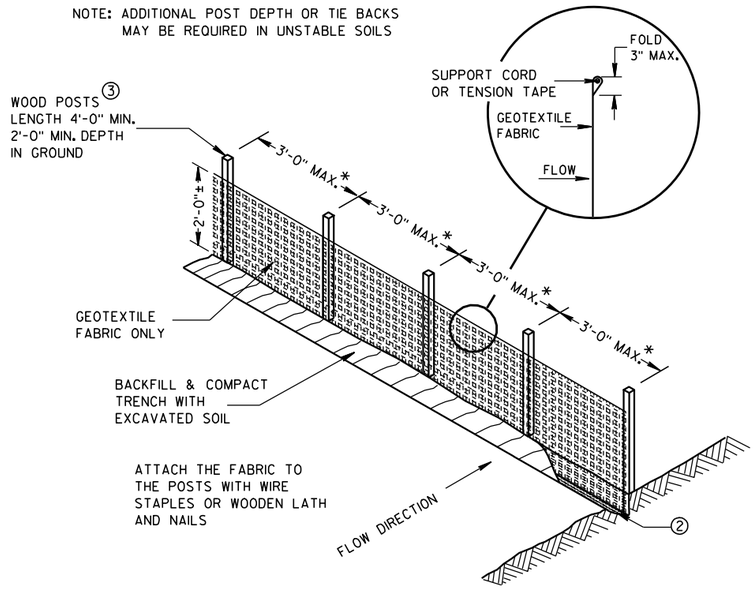
GENERAL NOTES

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.

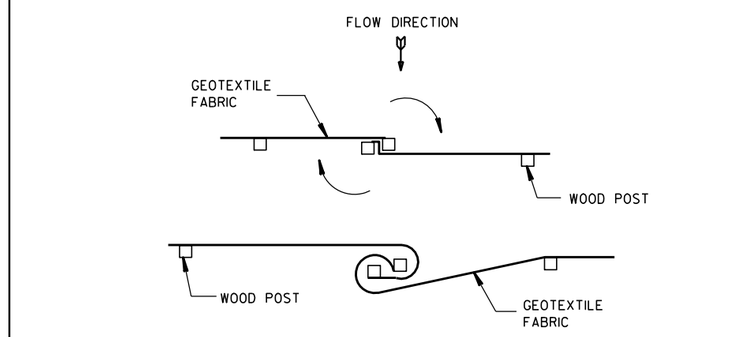


TRENCH DETAIL

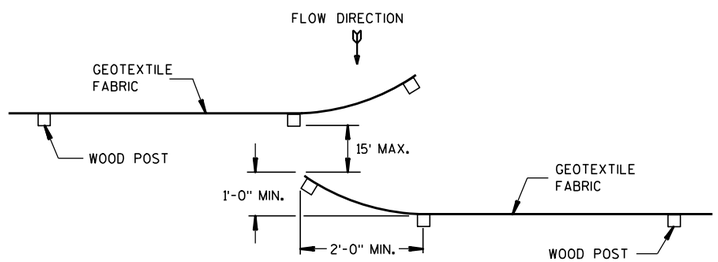


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

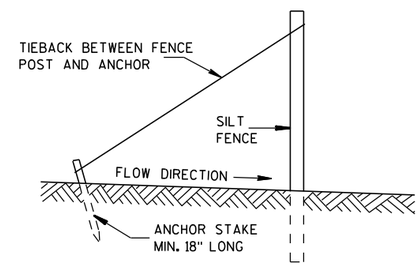


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

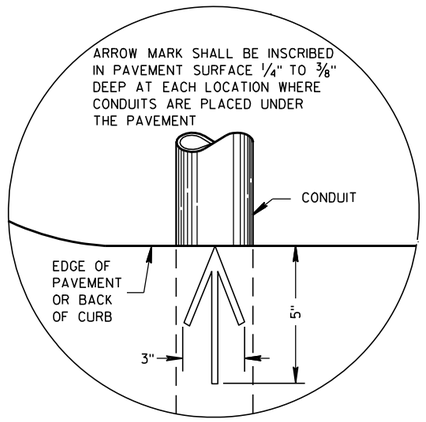
SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4-29-05 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

6

S.D.D. 8 E 9-6

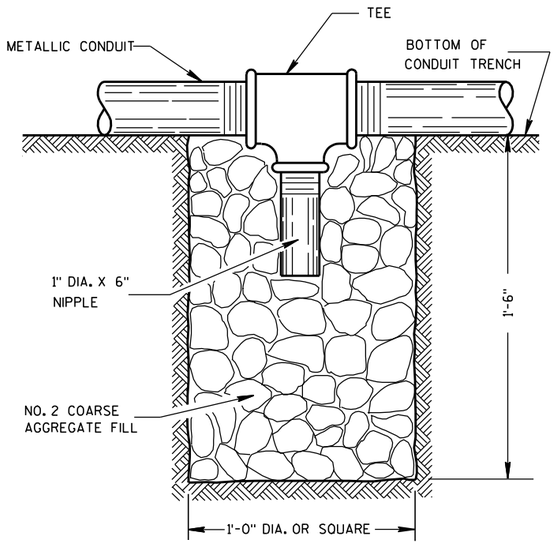
6

S.D.D. 8 E 9-6



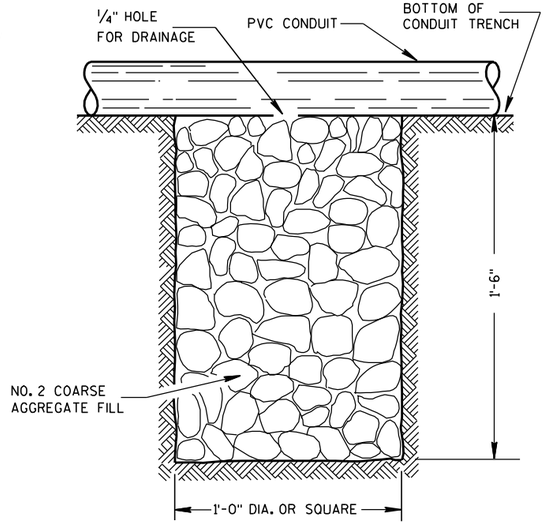
PLAN VIEW

ARROW MARK



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

DRAIN SUMP FOR METALLIC CONDUIT



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

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

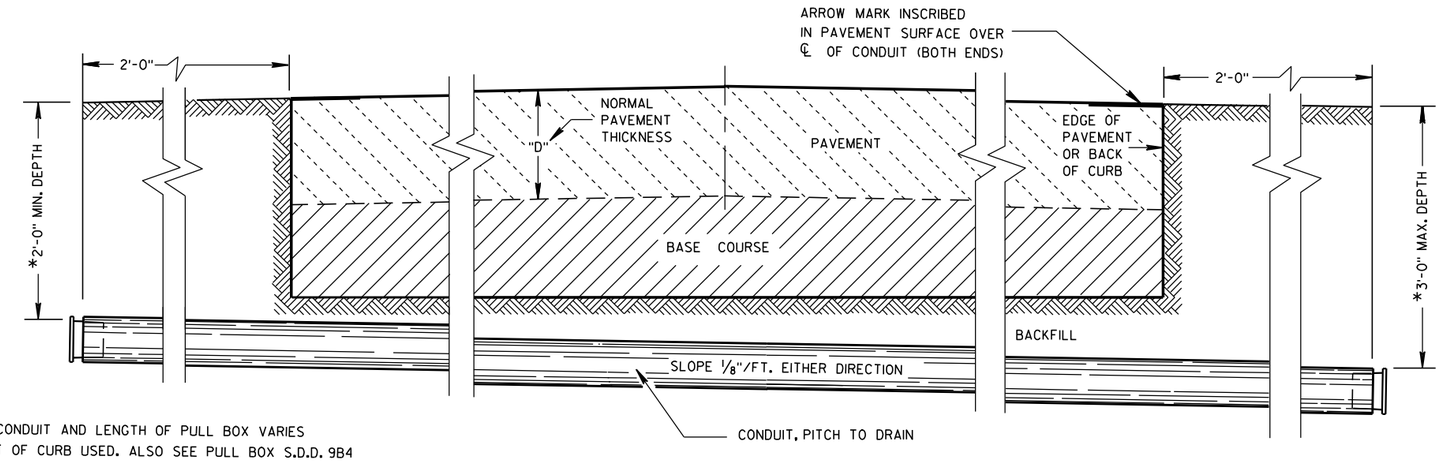
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

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

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



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGINEER FOR HWYS

FHWA

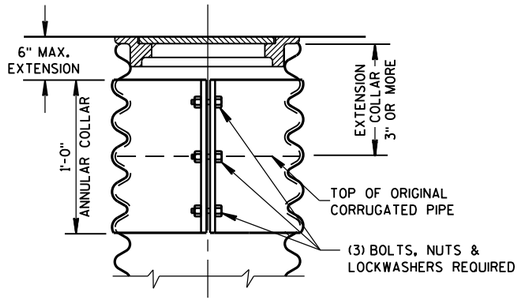
9B4: Pull Box

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

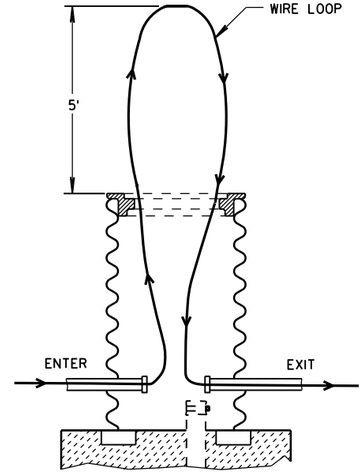
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2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

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

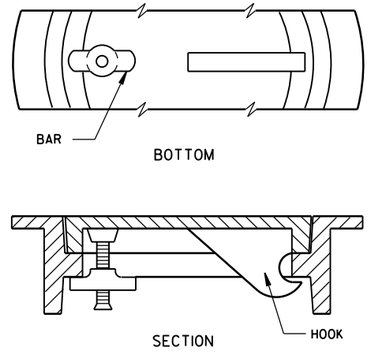
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

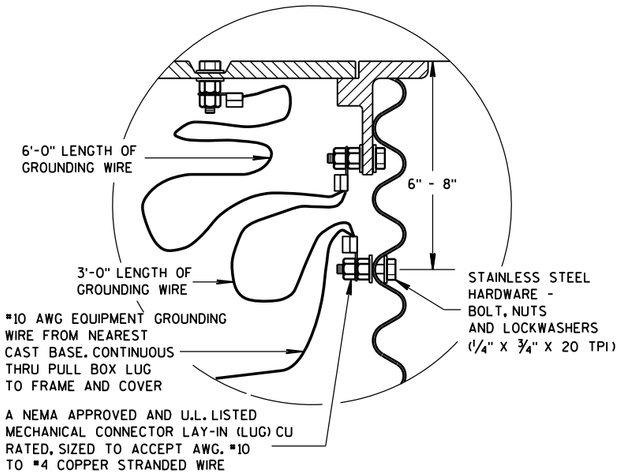


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

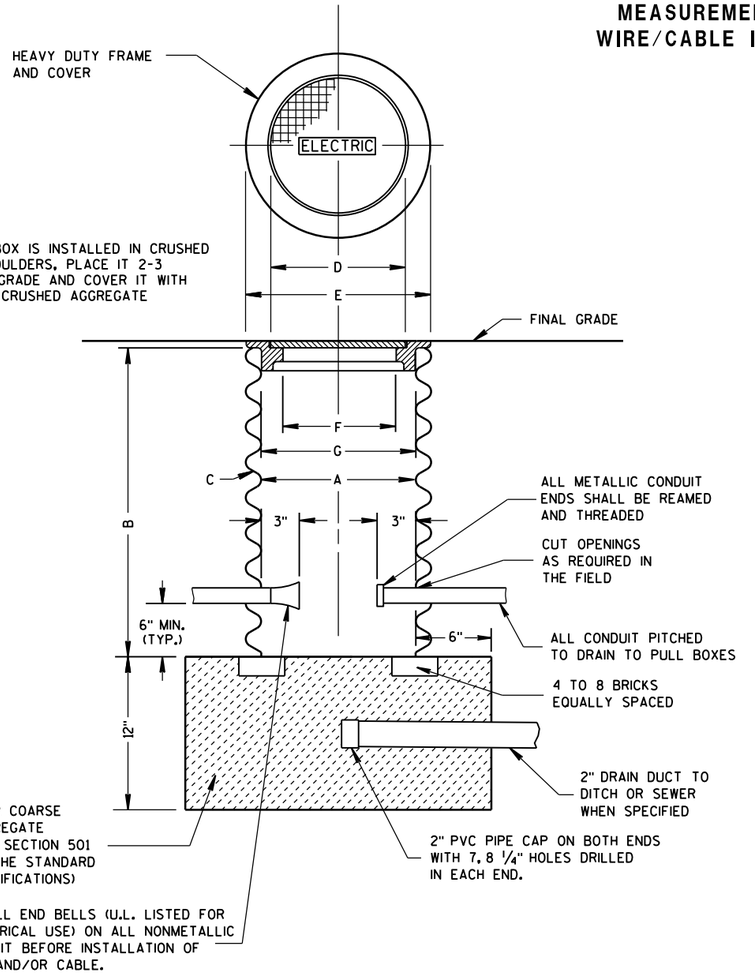


ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

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

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

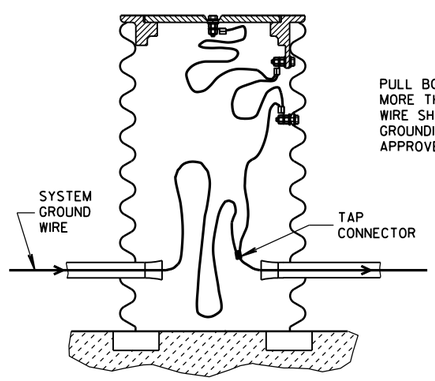
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

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

S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

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



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2-7-2013 — DATE

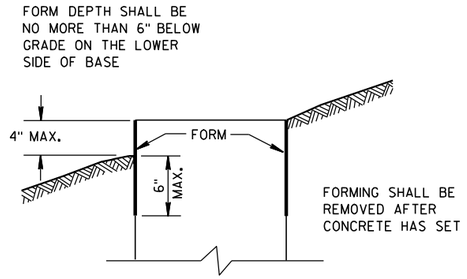
/S/ Ahmet Demirbilek — STATE ELECTRICAL ENGINEER

FHWA

6

S.D.D. 9 B 4-10

9C2: Concrete Bases Types 1, 2 and 5



FORMING DETAIL

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

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

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

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

GENERAL NOTES (CONTINUED)

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

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

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

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

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

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

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

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

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

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

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

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

(2) (4) I" DIA. X 3'-6" ANCHOR RODS.

(3) (4) I" DIA. X 5'-0" ANCHOR RODS.

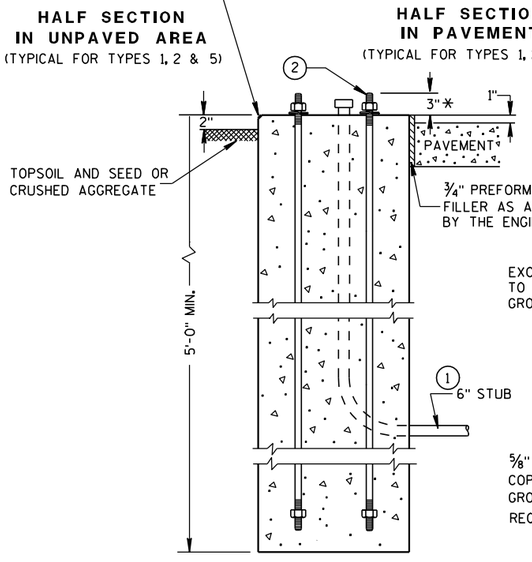
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

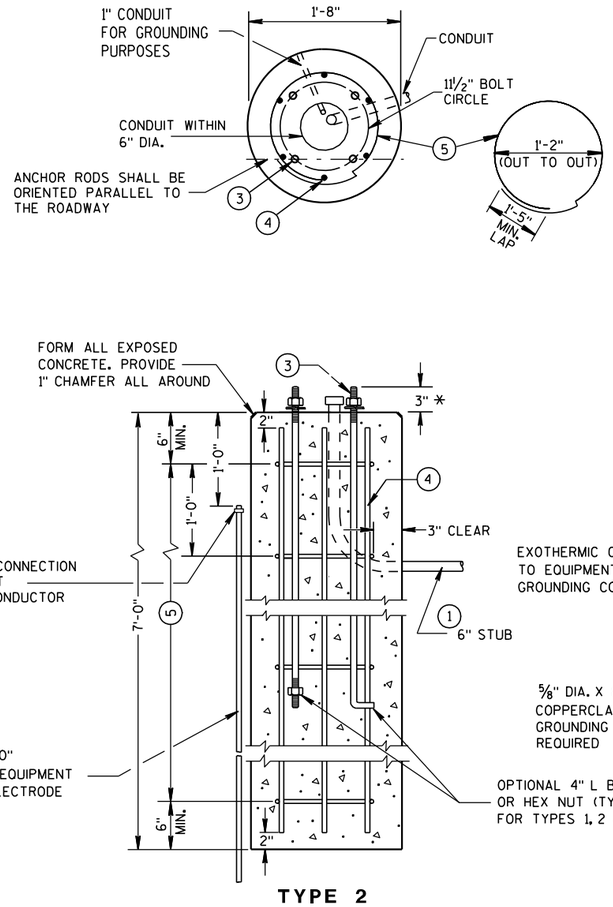
(6) (4) I" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

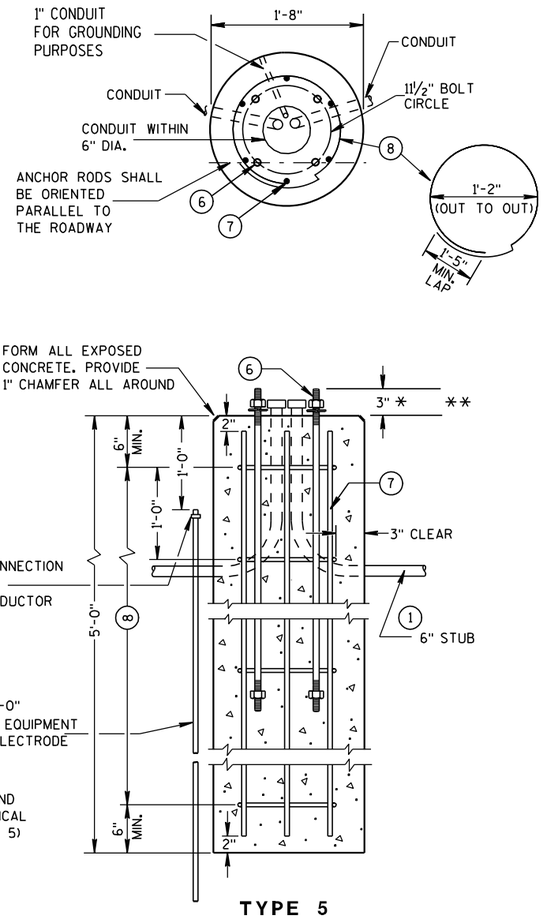
(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



TYPE 1



TYPE 2



TYPE 5

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2 & 5

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/3/10
DATE

/S/ Joanna L. Bush
STATE ELECTRICAL ENGINEER FOR HWYS

FHWA

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-325, (92,000 YIELD) HEAVY HEX NUT AND BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, CLASS C.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

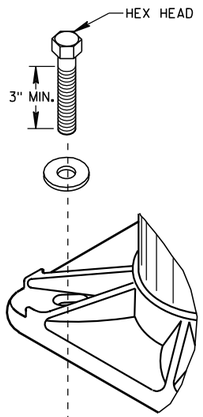
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

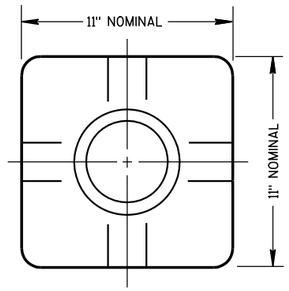
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

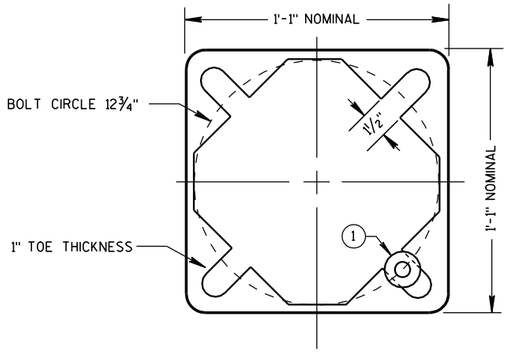
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

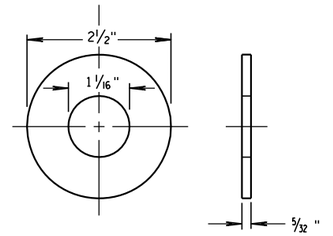




TOP VIEW
(PEDESTAL BASE)

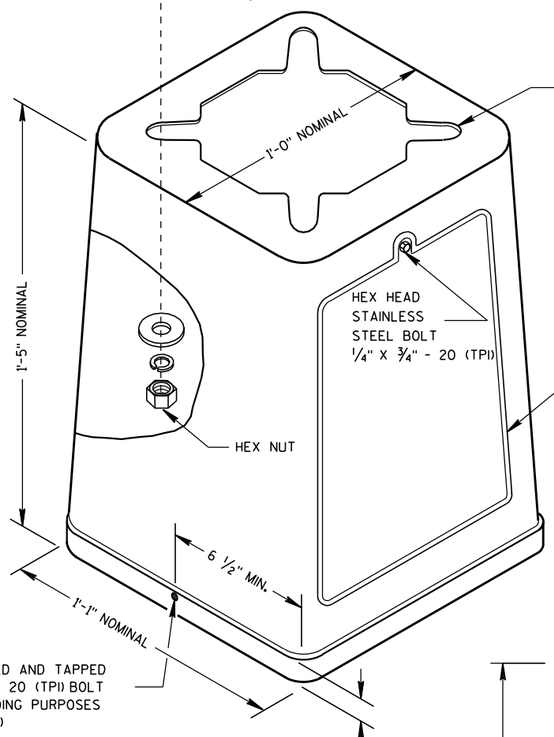


BOTTOM VIEW
(PEDESTAL BASE)

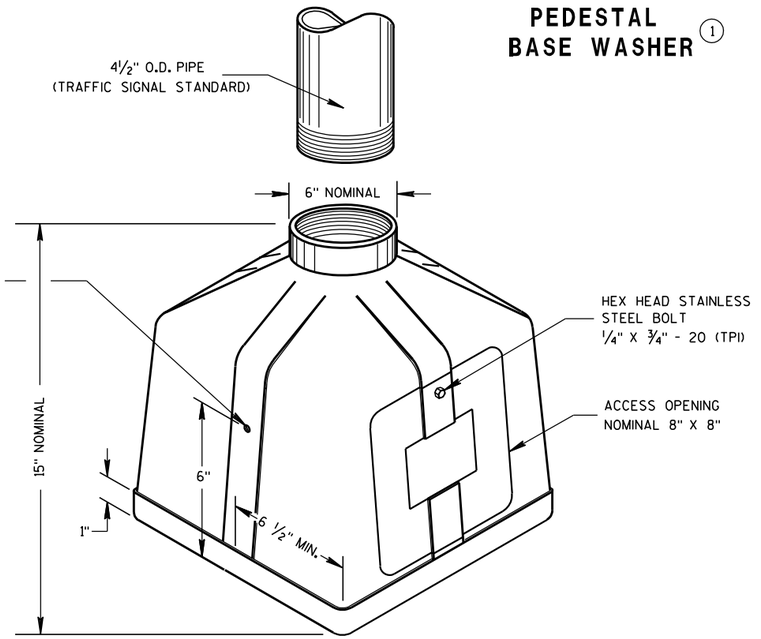


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

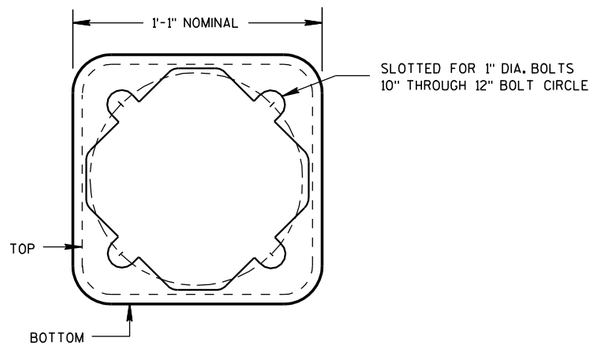


ISOMETRIC VIEW

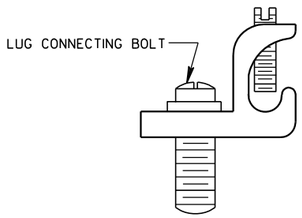


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

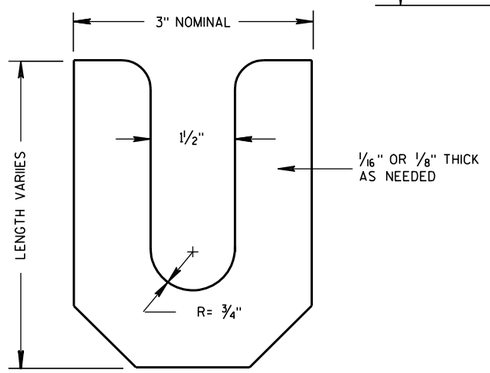


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

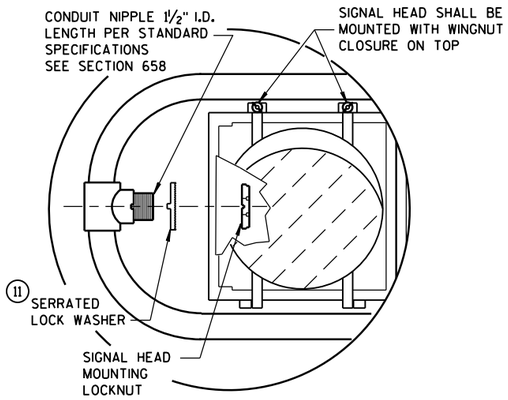
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/27/09
DATE

/S/ Joanna L. Bush
STATE ELECTRICAL ENGINEER FOR HWYS

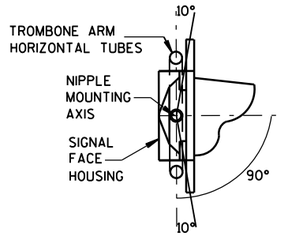
FHWA

9E1 sheet a: Pole Mountings for Traffic Signals Type 2



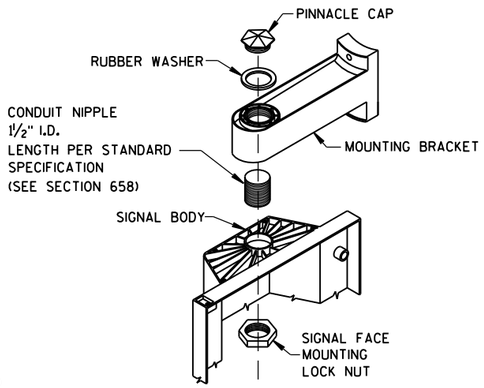
HORIZONTAL SIGNAL HEAD MOUNTING DETAIL *

* SIGNAL HEAD ATTACHMENT ALSO APPLYS TO MOUNTING AT CROSS BAR



SECTION A-A

(10 DEGREES TILT REQUIREMENT OF FACE(S) IN THE TROMBONE MOUNTING)



SIGNAL FACE MOUNTING DETAIL

(BANDED)

GENERAL NOTES

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

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

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE/ROPE IN ACCORDANCE WITH STANDARD SPECIFICATION 652 SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

TYPE 2 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

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

(1) 4" X 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658)

(3) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

(5) POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACES.

(6) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(7) MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1½ INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658).

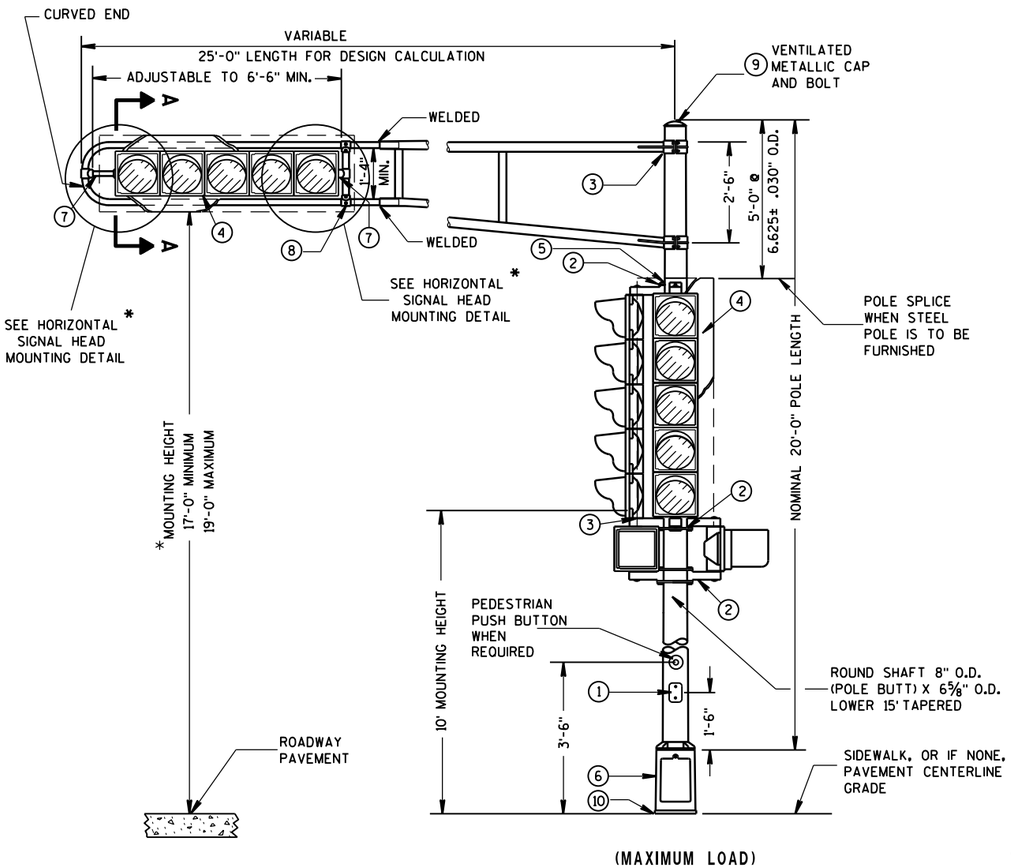
(8) VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (¼" X ¾" LONG - 20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.

(9) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

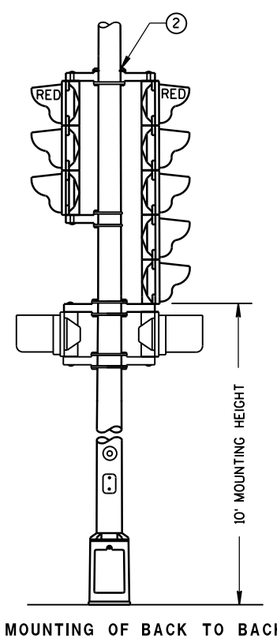
(10) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

(11) USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.

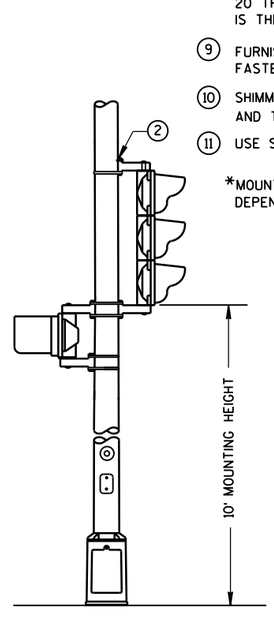
*MOUNTING HEIGHT LIMITATION DIMENSIONS OF THE TROMBONE MAST ARM WILL BE DEPENDENT UPON THE USE/NON-USE OF A TRANSFORMER BASE.



(MAXIMUM LOAD)



TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES

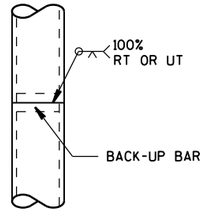


TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE

TYPE 2 POLE MOUNTING CONFIGURATION

FOR MANUFACTURERS USE ONLY

WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.



POLE SPLICE DETAIL

POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

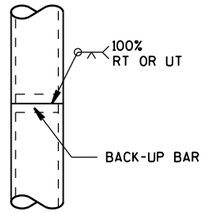
6
S.D.D. 9 E 1-12a

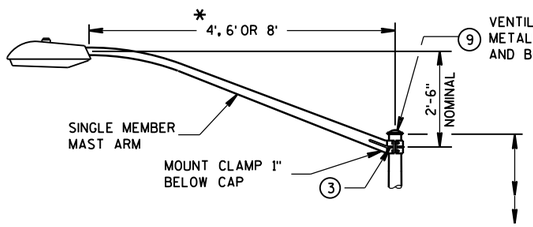
9E1 sheet b: Pole Mountings for Traffic Signals and Lighting Units Type 3 (Heavy Duty)

FOR MANUFACTURERS USE ONLY

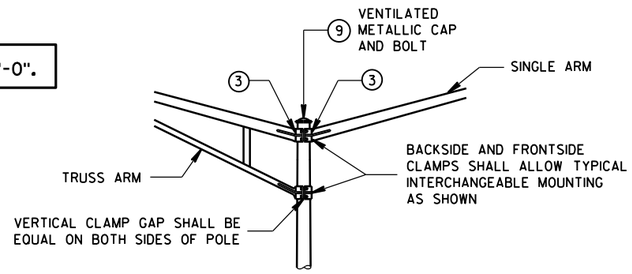
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.

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





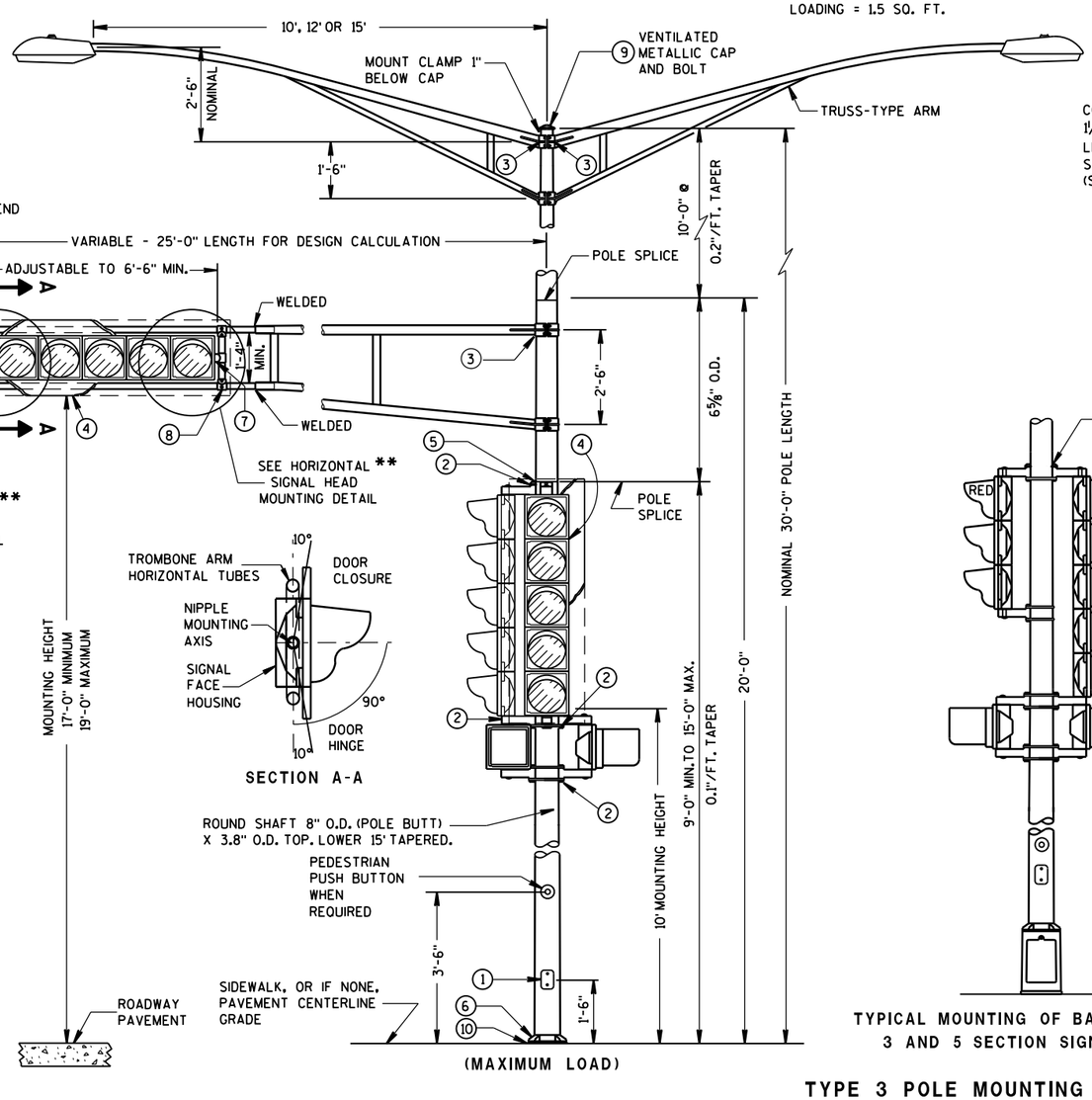
POLE SPLICE DETAIL



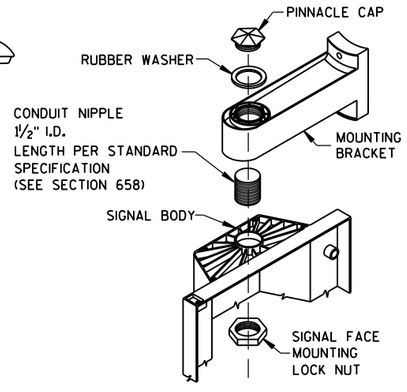
INTERCHANGEABLE MOUNTING DETAIL

LUMINAIRE

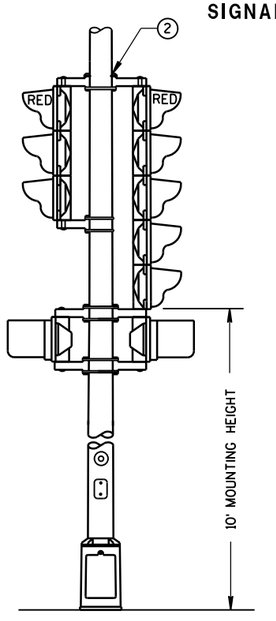
WT. - 50 LBS.
EFFECTIVE PROJECTED AREA FOR WIND LOADING = 1.5 SQ. FT.



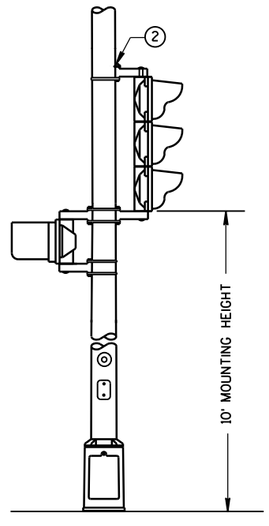
TYPE 3 POLE MOUNTING CONFIGURATION



SIGNAL FACE MOUNTING DETAIL
(BANDED)



TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE

GENERAL NOTES

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

ALL TYPE 3 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL.

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE/ROPE IN ACCORDANCE WITH STANDARD SPECIFICATION 652, SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

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

(1) 4" X 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) SIGNAL FACE MOUNTING BRACKETS, MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658)

(3) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

(5) POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.

(6) TYPE 3 POLE CONFIGURATIONS SHALL BE MOUNTED DIRECTLY TO THEIR CONCRETE BASES.

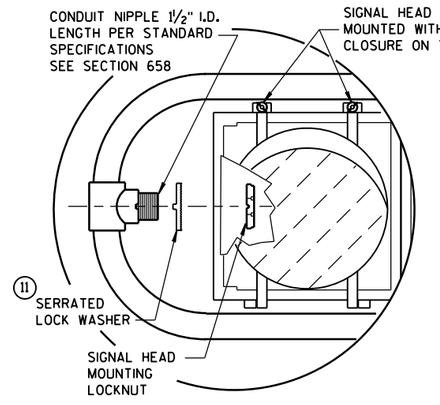
(7) MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1½ INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658)

(8) VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (1/4 " X ¾" -20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.

(9) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(10) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.

(11) USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.



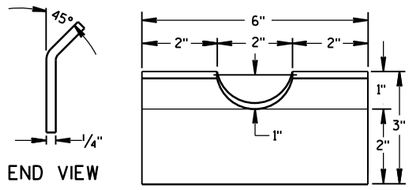
HORIZONTAL SIGNAL HEAD MOUNTING DETAIL**

** SIGNAL HEAD ATTACHMENT ALSO APPLYS TO MOUNTING AT CROSS BAR

POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

9E1 sheet g: Hardware Details for Pole Mountings

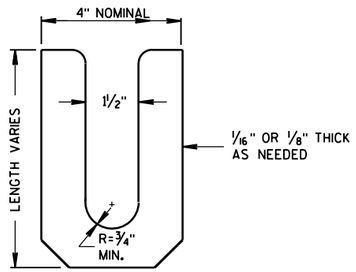


END VIEW

FRONT VIEW

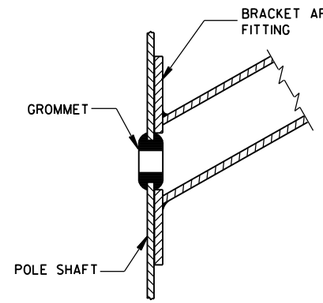
RECTANGULAR CLAMP SHIM

(4 TO A SET)

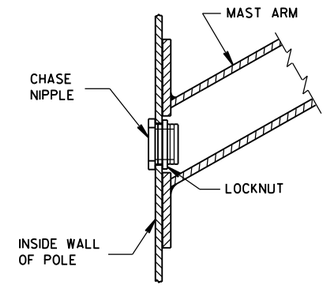


LEVELING SHIM (15)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(13) OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)

(14) VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")

SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35", 0.53" OR 0.70".

SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".

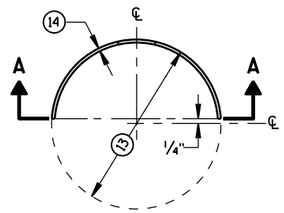
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.

SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.

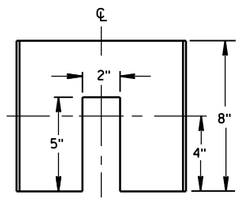
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

(15) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



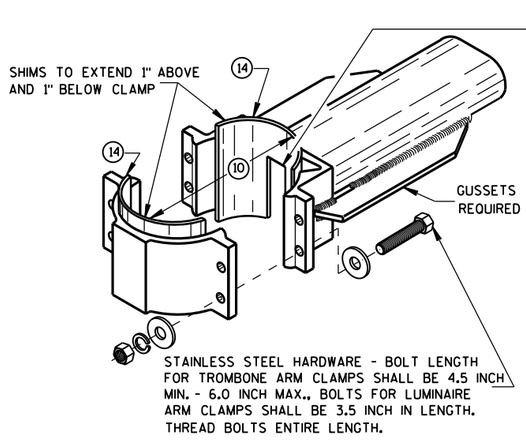
PLAN VIEW



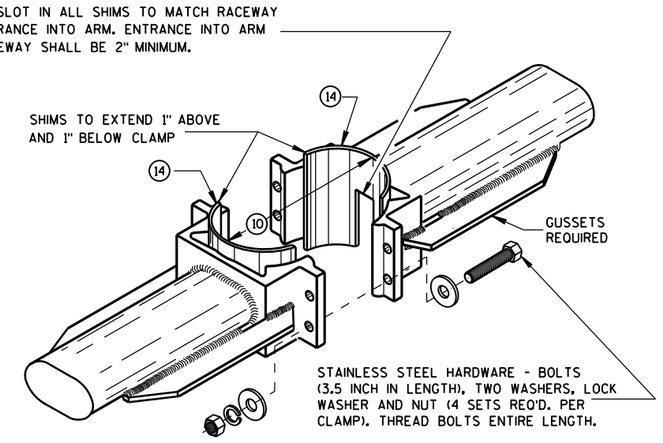
SECTION A-A

CIRCULAR CLAMP SHIM

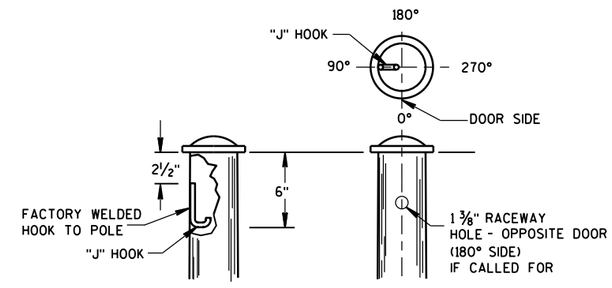
(2 TO A SET)



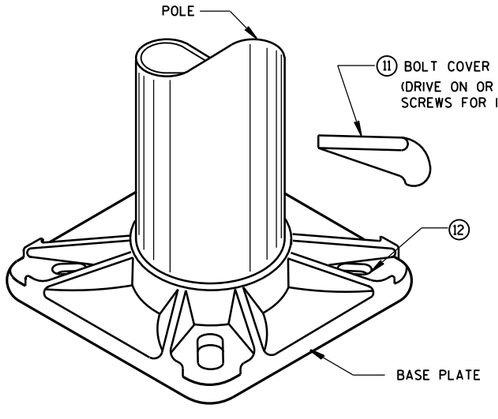
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



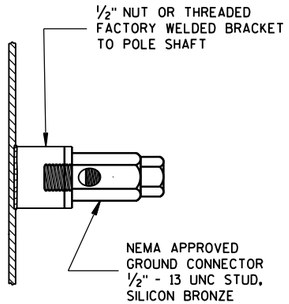
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

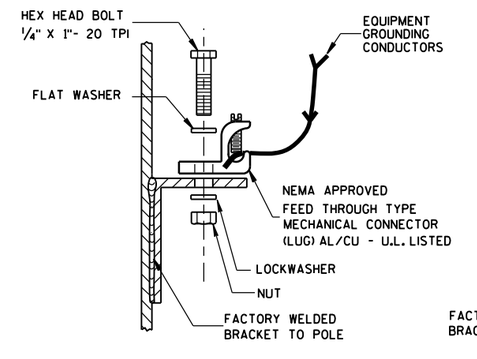


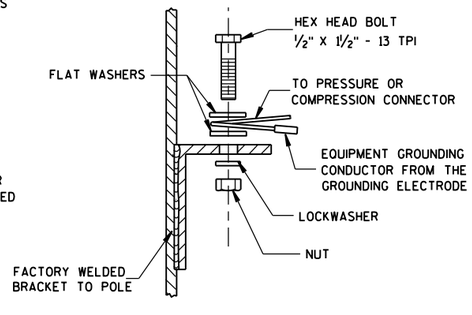
TYPICAL "J" HOOK LOCATION



BASE PLATE







TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

HARDWARE DETAILS FOR POLE MOUNTINGS

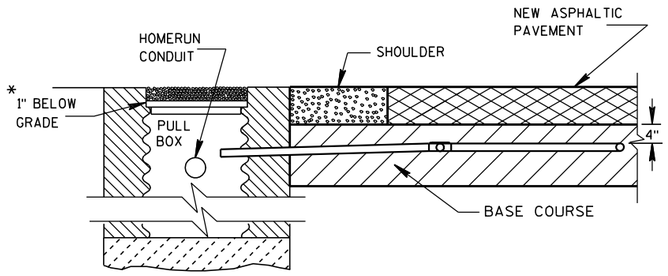
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/7/2013 DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

FHWA

6
S.D.D. 9 E 1-12g

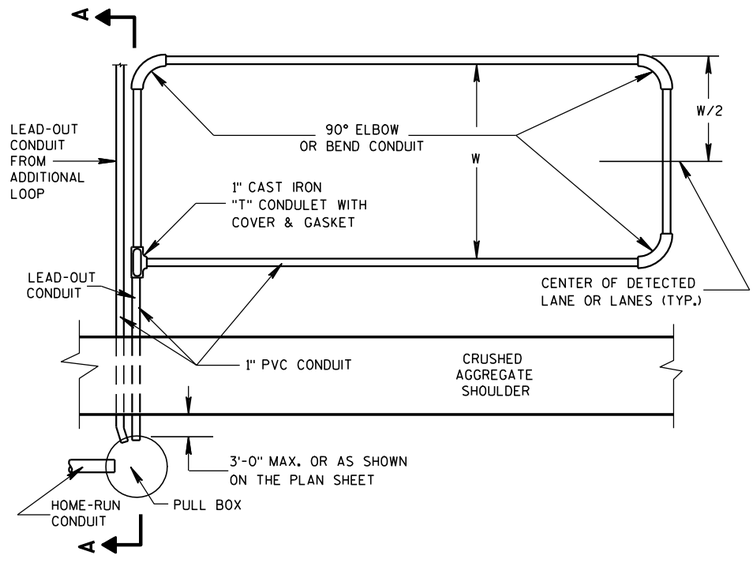
9F8: Loop Detector Placed in Crushed Aggregate Base (New Asphaltic Pavement)



SECTION A-A
NO CURB & GUTTER

DETECTOR LOOP INSTALLATION DETAIL

*RECESS PULL BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.



TYPICAL PLAN OF LOOP DETECTOR

GENERAL NOTES

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

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD-OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

ANTI-SIEZE LUBRICATING MATERIAL SHALL BE USED ON ALL THREADS OF THREADED ASSEMBLIES BEFORE INSTALLATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

THE #12 AWG LOOP WIRE FROM THE LOOP TO THE ROADSIDE PULL BOX, SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE INSTALLATION.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL BOXES AT THE SIDE OF THE ROAD.

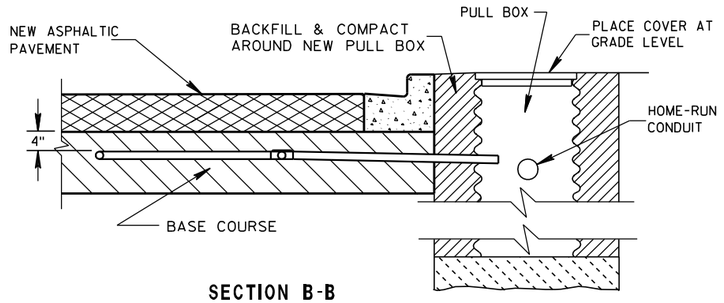
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP DUCT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT AND CONDULET SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE THE ASPHALTIC PAVEMENT IS PLACED.

WHEN MULTIPLE LAYERS OF ASPHALTIC PAVEMENT ARE TO BE PLACED, LOOPS MAY BE INSTALLED BY SAWING A TWO INCH WIDE SLOT IN THE FIRST LAYER, DIG OUT THE ASPHALTIC MATERIAL AND BASE COURSE. PLACE THE LOOP, FILL THE SLOT WITH BASE COURSE MATERIAL AND NEW ASPHALTIC MATERIAL AND TAMP THE ASPHALTIC MATERIAL IN PLACE.

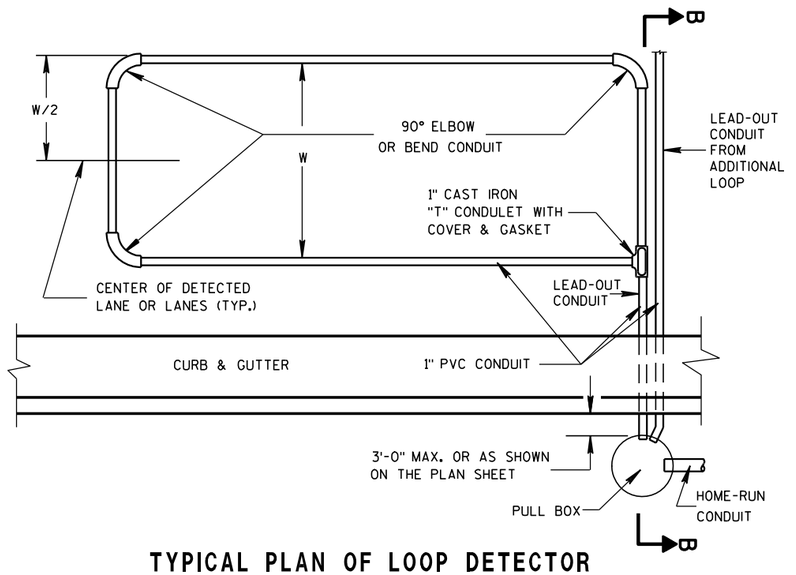
SHOULD TRAFFIC BE ALLOWED TO USE THE AREA OF ROADWAY WITH THE NEWLY INSTALLED LOOP BEFORE THE PLACEMENT OF THE NEXT LAYER OF ASPHALTIC PAVEMENT, THE SLOT/PAVEMENT OPENING SHALL BE SEALED WITH HOT POURED ELASTIC TYPE MATERIAL CONFORMING TO THE REQUIREMENTS OF THE "SPECIFICATION FOR JOINT SEALANTS, HOT POURED, FOR CONCRETE AND ASPHALT PAVEMENTS, ASTM DESIGNATION: D3405".

DRIVE A 1½" MAX. PK NAIL INTO THE NEW ASPHALTIC PAVEMENT AND DIRECTLY ABOVE THE CONDULET AFTER THE FINAL LAYER OF NEW ASPHALTIC PAVEMENT IS COMPLETELY INSTALLED, IF REQUIRED BY THE DISTRICT TRAFFIC SECTION.



SECTION B-B
CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAIL



TYPICAL PLAN OF LOOP DETECTOR

LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW ASPHALTIC PAVEMENT)

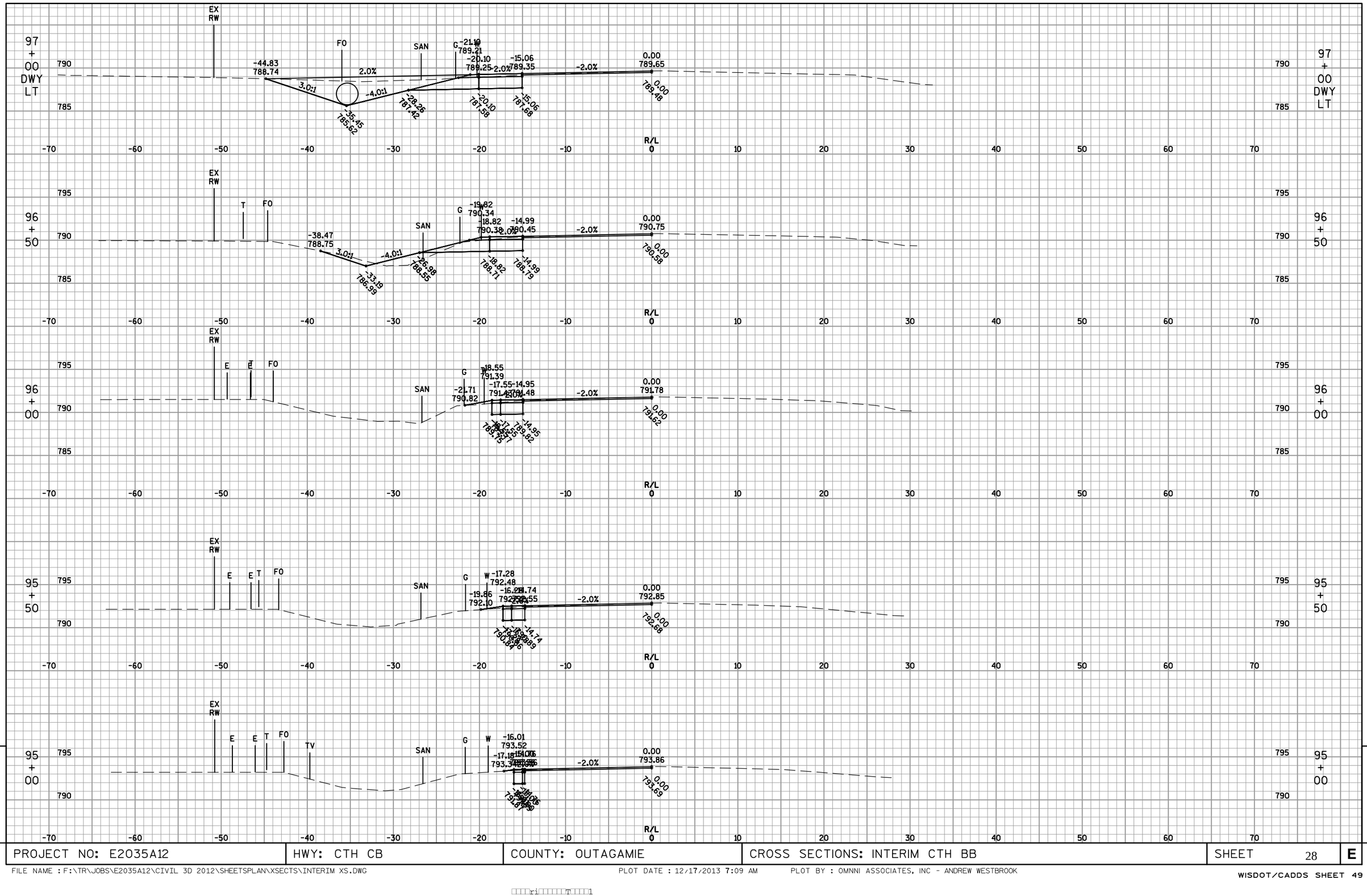
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/7/06 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGINEER FOR HWYS

FHWA



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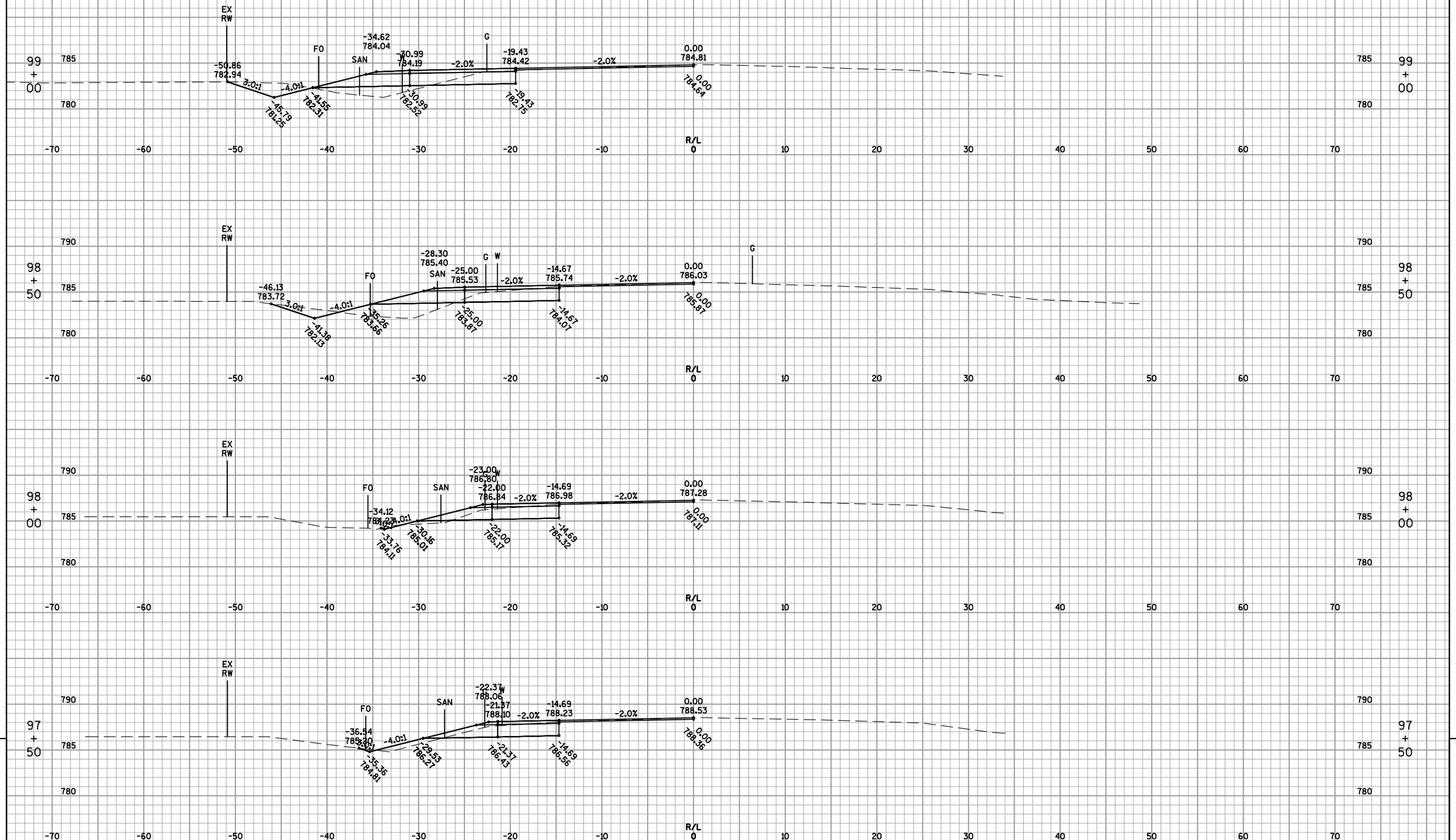
PLOT DATE : 12/17/2013 7:09 AM

PLOT BY : OMNNI ASSOCIATES, INC - ANDREW WESTBROOK

WISDOT/CADDS SHEET 49



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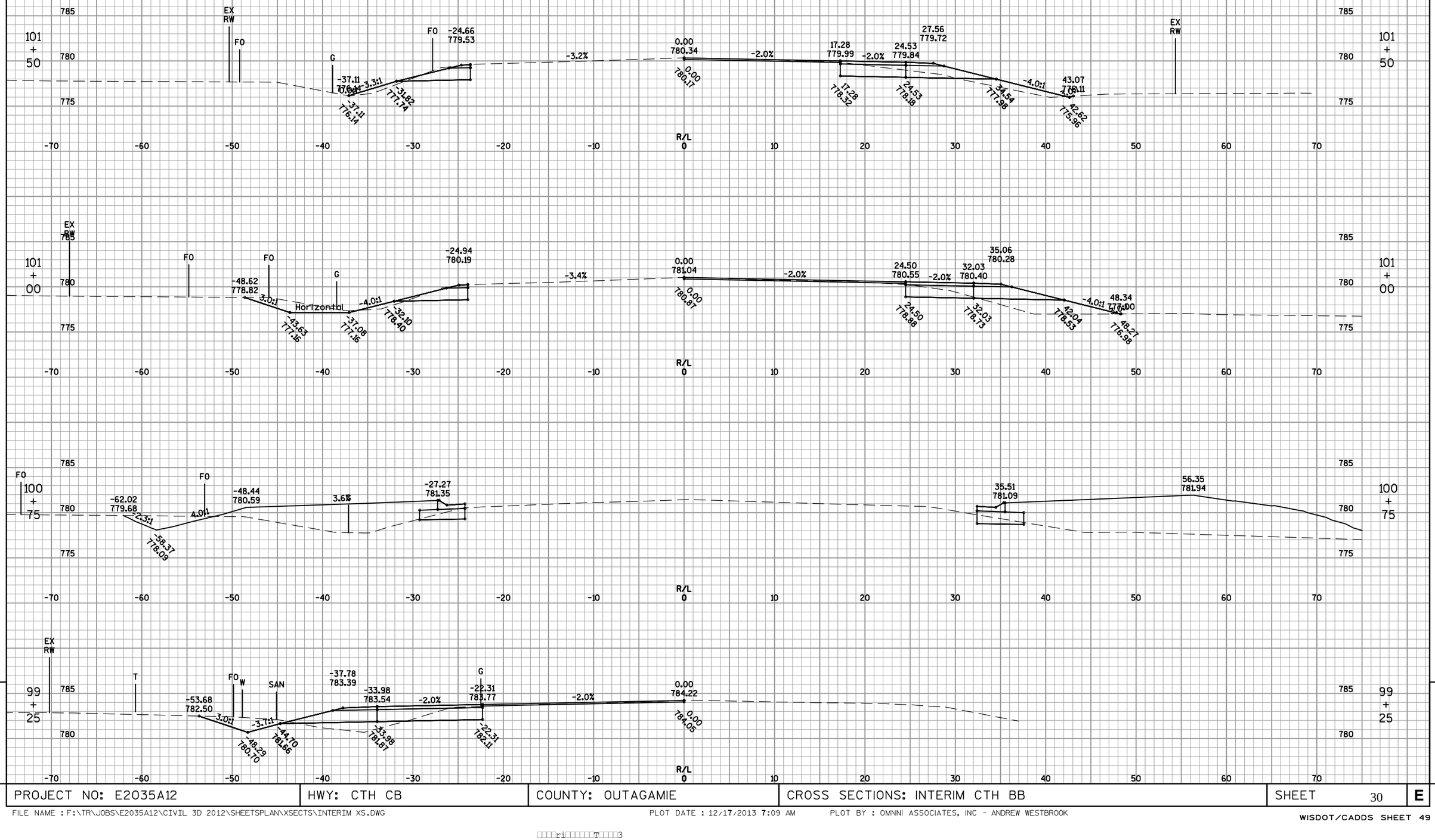

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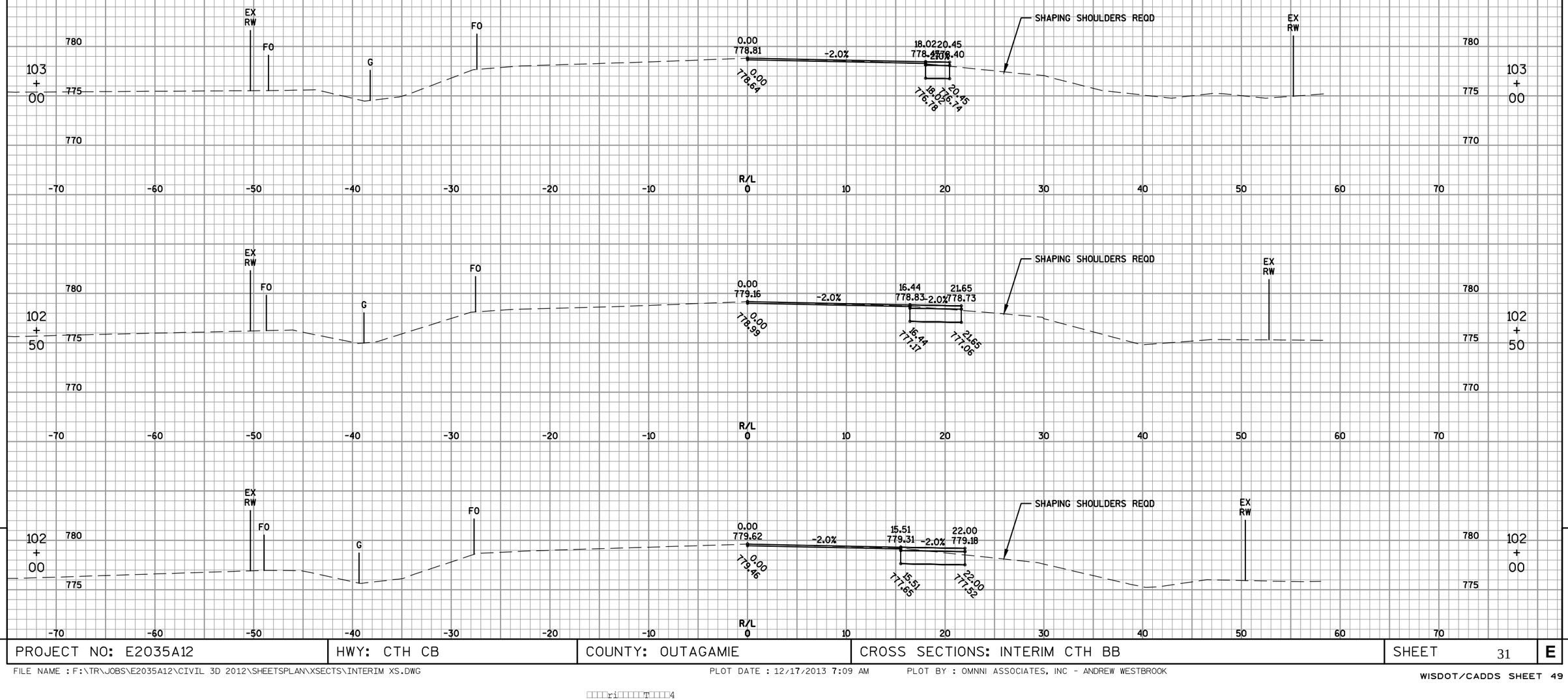

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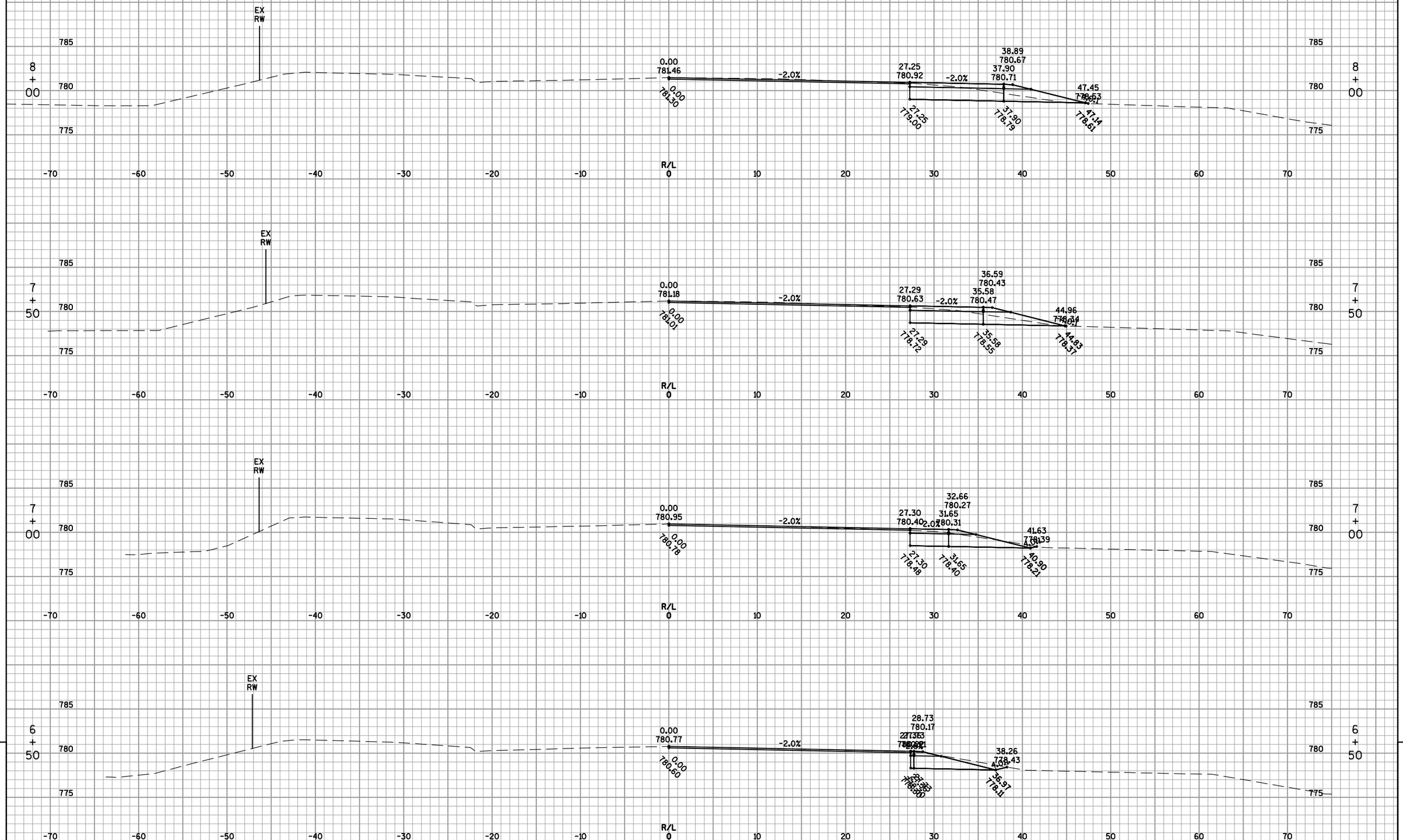
WISDOT/CADDS SHEET 49



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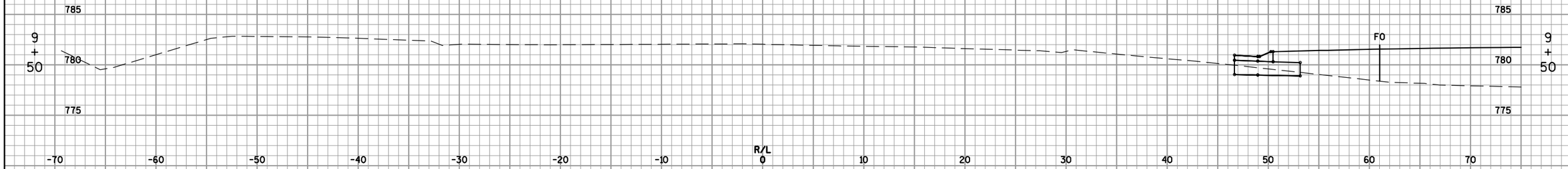

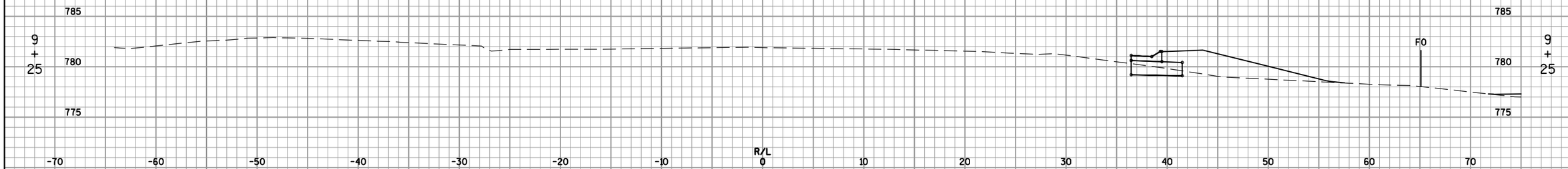

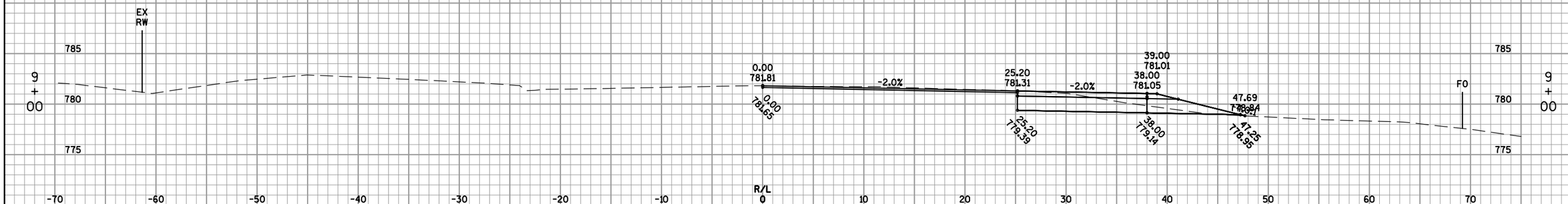

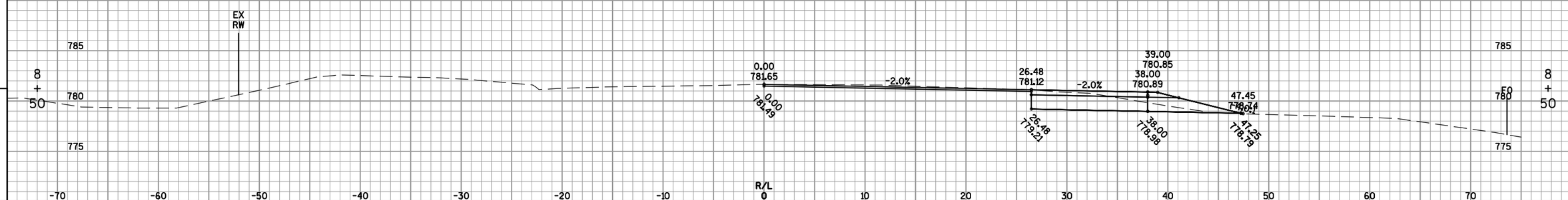

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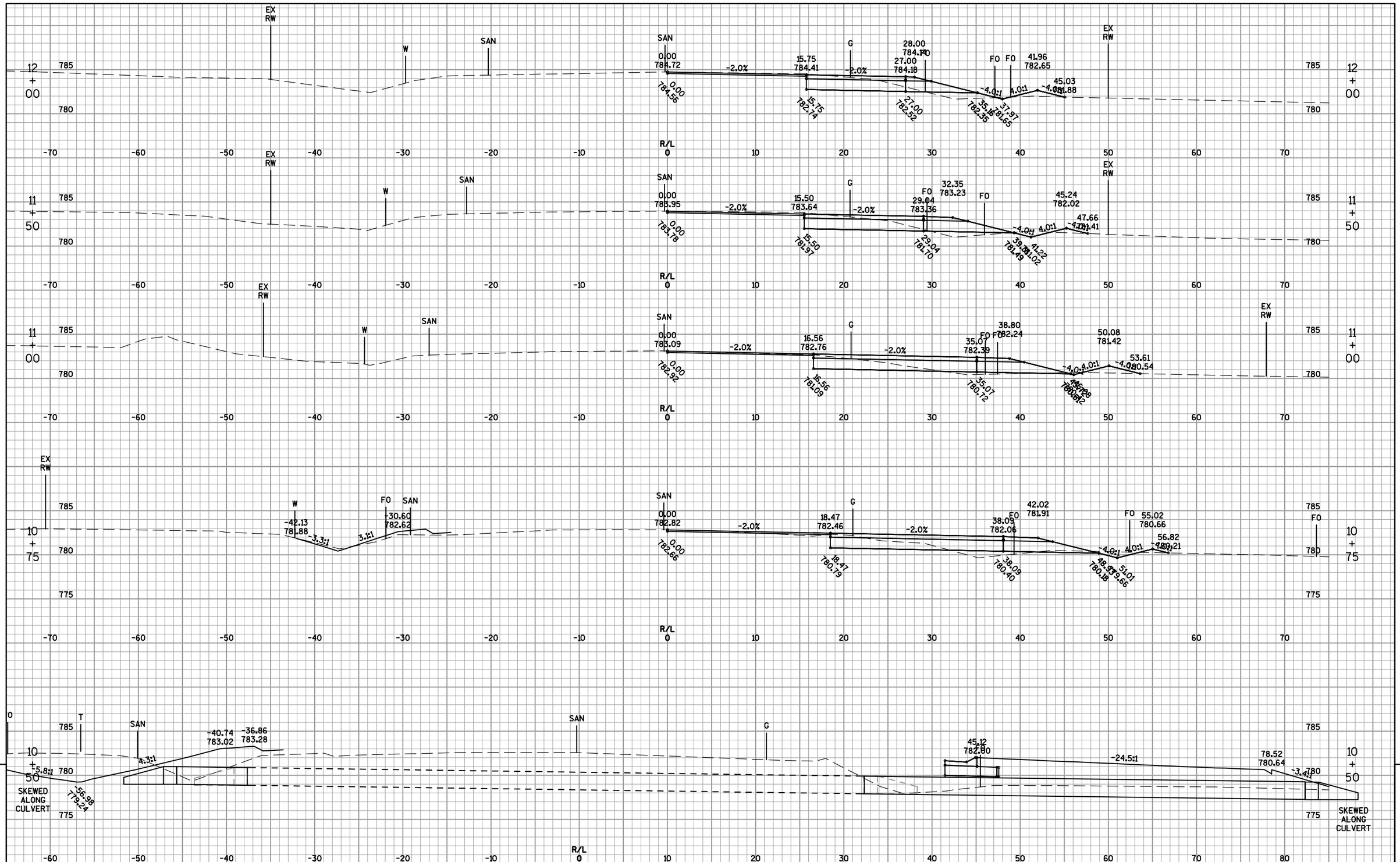

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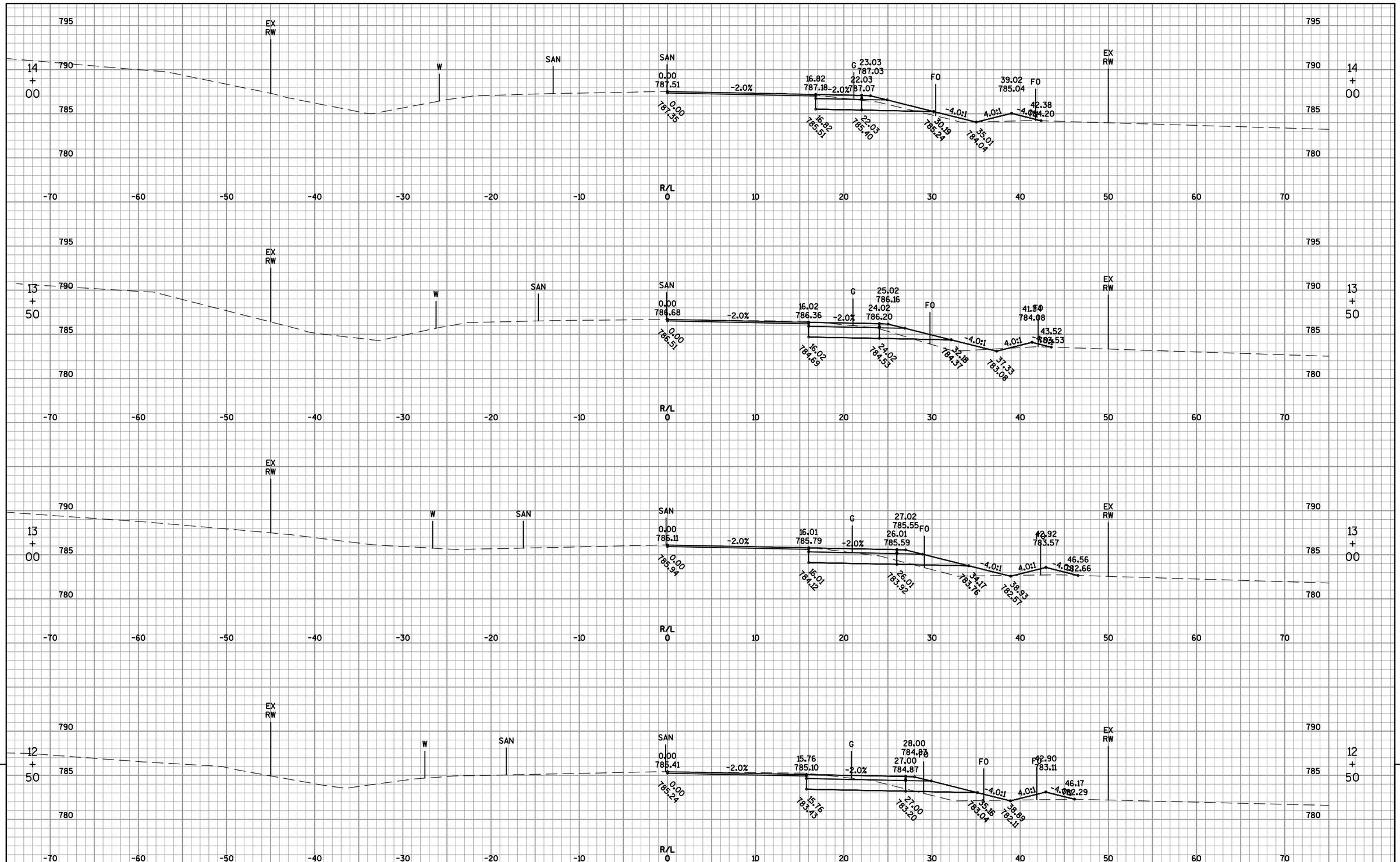

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WISDOT/CADDS SHEET 49

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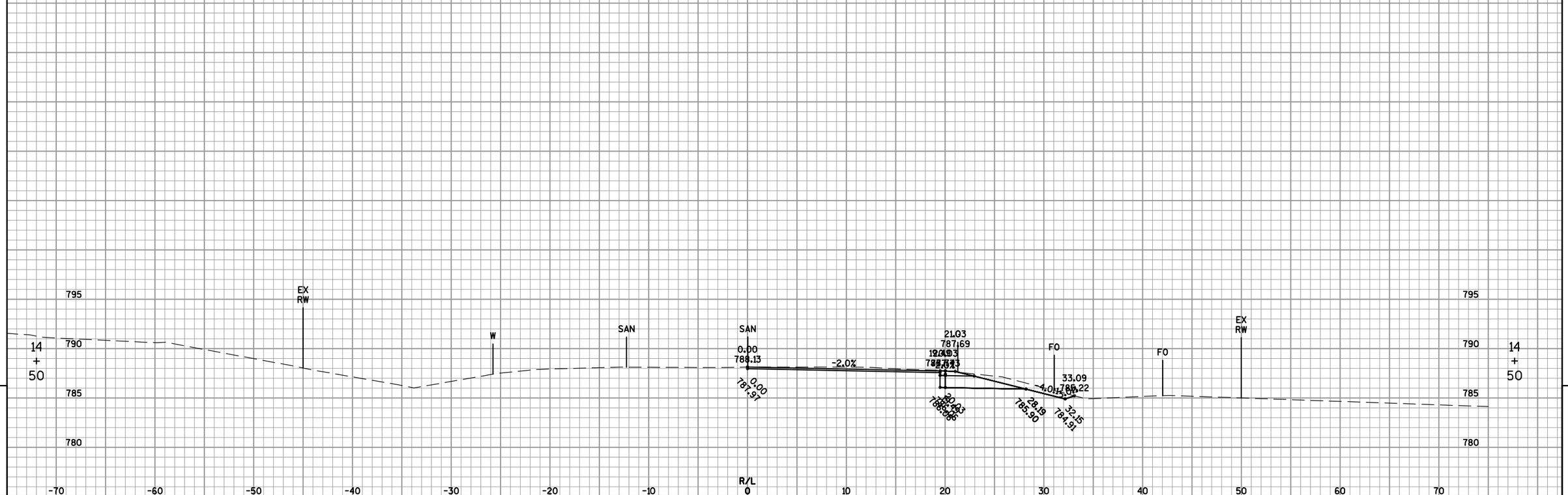

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