RHI APR 2014

PROJECT ID: 1009-43-61
WITH: N/A

COUNTY: VARIOUS

ORDER OF SHEETS

TOTAL SHEETS = 126

23

N

DESIGN DESIGNATION

		STH 107	STH 47	STH 155
A.A.D.T.	2014	= 400	= 6,600	= 1,300
A.A.D.T.	2034	= 550	= 10,250	= 1,600
D.H.V.		= 94	= 1,415	= 288
D.D.		= 60/40	= 59/41	= 61/39
T.		= 4.4%	= 7.8%	= 6.4%
DESIGN SPEED		= 55 MPH	= 45 MPH	= 55 MPH
ESALS		= 43,800	= 1,116,900	= 197,100

CONVENTIONAL SYMBOLS

COUNTY LINE
CORPORATE LIMITS
PROPERTY LINE
LIMITED EASEMENT
EXISTING RIGHT OF WAY
PROPOSED OR NEW R/W LINE
FENCE
GUARD RAIL
SLOPE INTERCEPT
ORIGINAL GROUND
MARSH OR ROCK PROFILE (To be noted as such) — ROCK
WETLAND AREA
WOODED OR SHRUB AREA
STREAM OR WATER EDGE
BUSH
PINE TREE (SIZE)
TREE (SIZE)
TRAFFIC SIGNAL CONTROL CABINET
TRAFFIC SIGNAL
TRAFFIC SIGNAL MAST-ARM
TRAFFIC SIGNAL WITH LIGHT
EXISTING PULL BOX
BOLLARD

COMBUSTIBLE FLUIDS — CAUTION
UNDERGROUND UTILITIES GAS — (SIZE) G
SANITARY SEWER — (SIZE) SAN
STORM SEWER — (SIZE) SS
WATER — (SIZE) W
ELECTRIC — E
TELEPHONE — T
FIBER OPTIC — FO
CABLE TELEVISION — TV
FORCE MAIN — FM
MANHOLE — MH
UTILITY PEDESTAL
FIBER OPTIC HAND HOLE — HH
POWER POLE
TELEPHONE POLE
RAILROAD
HYDRANT
LIGHT POLE
RAILROAD SIGNAL
SIGN
TRANSMISSION TOWER
VALVE — (TYPE)
CURB STOP — CS
EXISTING CULVERT — [ ] (SIZE, TYPE)
PROPOSED CULVERT (Box or Pipe)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

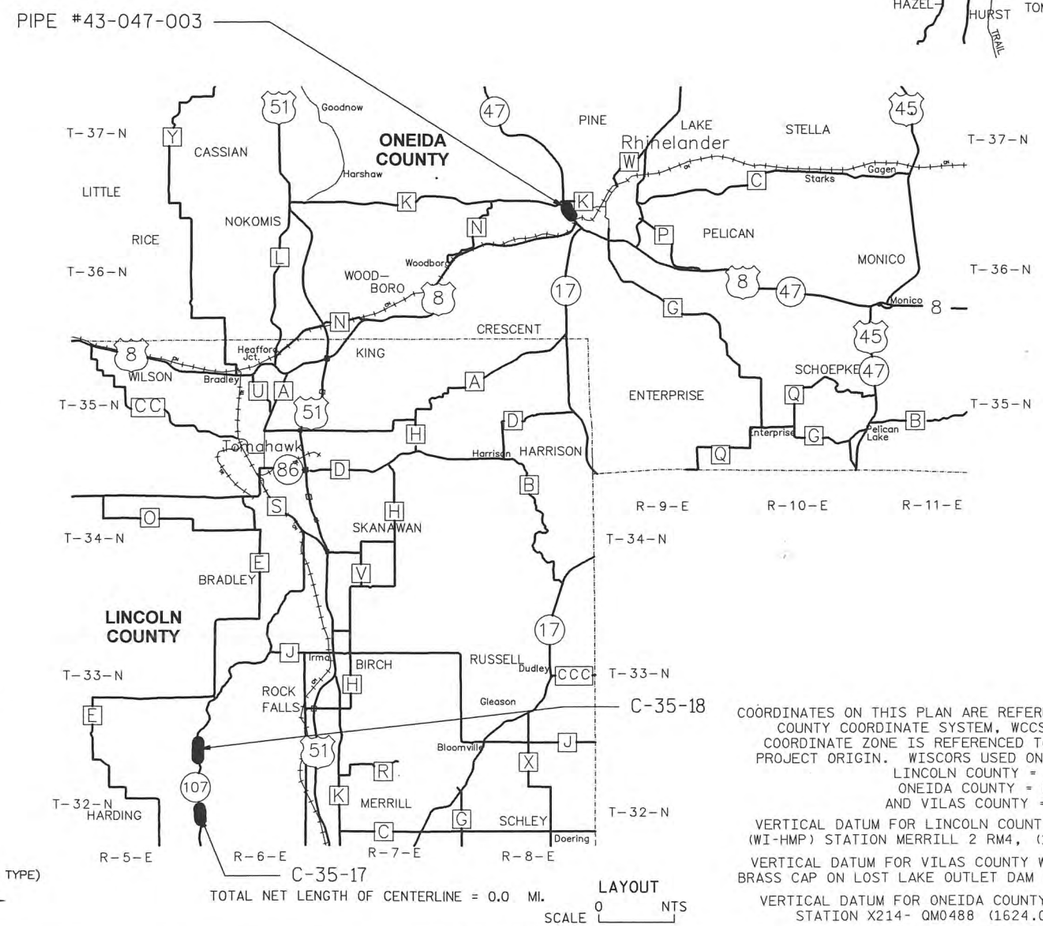
PLAN OF PROPOSED IMPROVEMENT

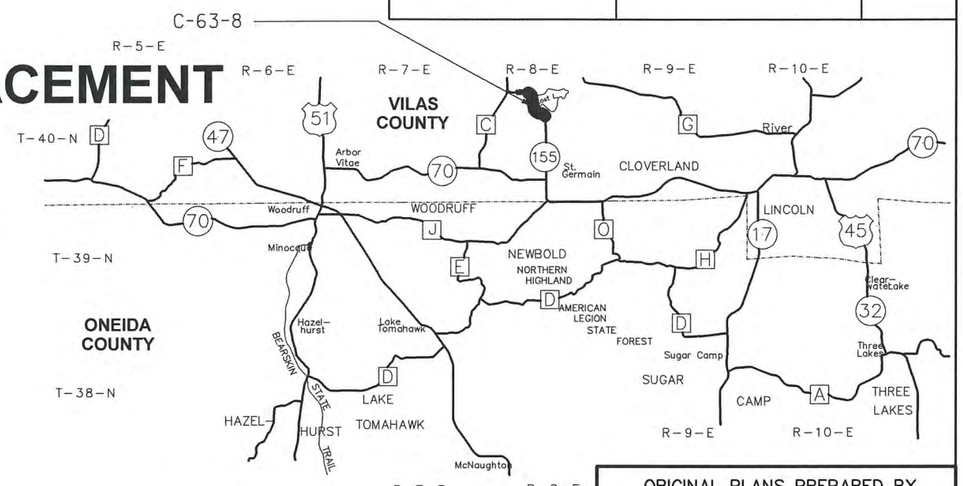
REGION WIDE CULVERT REPLACEMENT

VARIOUS HIGHWAYS
NORTH CENTRAL REGION WIDE

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1009-43-61	WISC 2014112	1

STATE PROJECT NUMBER
1009-43-61





ORIGINAL PLANS PREPARED BY

R.A. Smith National
Beyond Surveying and Engineering

16745 W. Bluemound Road, Brookfield WI 53005
262-781-1000 Fax 262-781-8466
www.rasmithnational.com

WISCONSIN
DOUGLAS M. SENSO
E-32746
KAUKAUNA
WI
PROFESSIONAL ENGINEER

10/16/13 (Date)

(Signature)

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, WCCS, NAD83(2007).THE COORDINATE ZONE IS REFERENCED TO THE COUNTY OF THE PROJECT ORIGIN. WISCORS USED ON PROJECT AS FOLLOWS:
LINCOLN COUNTY = IRMA
ONEIDA COUNTY = RHER
AND VILAS COUNTY = PHPS

VERTICAL DATUM FOR LINCOLN COUNTY WAS BASED ON A NGS (WI-HMP) STATION MERRILL 2 RM4, (1335.06 ELEV) NAVD 88

VERTICAL DATUM FOR VILAS COUNTY WAS BASED ON A COUNTY BRASS CAP ON LOST LAKE OUTLET DAM (1601.44 ELEV) NAVD 88

VERTICAL DATUM FOR ONEIDA COUNTY WAS BASED ON A NGS STATION X214- QM0488 (1624.04 ELEV) NAVD 88

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	R.A. SMITH NATIONAL
Designer	R.A. SMITH NATIONAL
Project Manager	RICHARD SIMON
Regional Examiner	CHERYL SIMON
Regional Supervisor	ROBIN STAFFORD

APPROVED FOR THE DEPARTMENT

DATE: 10/22/13 (Signature)

E

GENERAL NOTES

1 THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS IN THE AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK.

2 SEE SUBSURFACE EXPLORATION REPORTS FOR SOIL BORING INFORMATION. REPORTS ARE AVAILABLE FROM THE WISDOT NC REGION BY CONTACTING RICHARD SIMON, PROJECT MANAGER, PHONE (715) 365-5775.

3 HMA PAVEMENT E-3, SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS:

THICKNESS	LAYERS	NOM MAX SIZE GRADATION	ASPHALTIC MATERIAL
5-INCH	ONE 2" UPPER LAYER	12.5 mm	PG58-28
	ONE 3" LOWER LAYER	19.0 mm	PG58-28

4 WHEN THE QUANTITY OF ITEMS OF BASE OR SURFACE COURSE IS MEASURED FOR PAYMENT BY THE TON, THE THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

5 STATIONING, DISTANCES AND OFFSETS FOR SIGNS SHOWN ON THE PLANS ARE APPROXIMATE.

6 JOINT TIES FOR CONCRETE PIPE SHALL BE PROVIDED AT ALL REINFORCED CONCRETE APRON ENDWALL LOCATIONS. APRON ENDWALLS SHALL BE TIED FOR THE LAST THREE JOINTS AT PIPE ENDS. THE COST OF THESE TIES SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE REINFORCED CONCRETE PIPE.

ORDER OF SECTION 2 SHEETS

2

UTILITY CONTACTS

CAL KLADE
FRONTIER COMMUNICATIONS OF WI LLC - COMMUNICATION LINE
LINCOLN AND VILAS COUNTIES
1851 N 14TH AVE
WAUSAU, WI 54401
(715) 847-1525
calvin.klade@ftr.com

GLENN LEFEBVRE
FRONTIER COMMUNICATIONS OF WI LLC - COMMUNICATION LINE
ONEIDA COUNTY
53 NORTH STEVENS STREET
RHINELANDER, WI 54501
(715) 365-2237
glen.lefebvre@ftr.com

MIKE REHWINKEL
WISCONSIN PUBLIC SERVICE CORPORATION - ELECTRICITY
LINCOLN COUNTY
P.O. BOX 333
MERRILL, WI 54452
(715) 539-4021

RICH REITZ
WISCONSIN PUBLIC SERVICE CORPORATION - ELECTRICITY
VILAS AND ONEIDA COUNTIES
P.O. BOX 160
RHINELANDER, WI 54501-0160
(715) 369-7111
rareitz@wisconsinpublicservice.com

LORI BUTRY
WISCONSIN PUBLIC SERVICE CORPORTATION - GAS/PETROLEUM
700 N ADAMS ST
P.O. BOX 19001
GREEN BAY, WI 54307-9001
(920) 433-1360
LAButry@integrysgroup.com

JIM SCHOFIELD
WE ENERGIES - GAS/PETROLEUM
4222 COUNTY ROAD B
LAND O' LAKES, WI 54540
(906) 250-4044
schofield.james@we-energies.com

MARK OLEJNICZAK
CHARTER COMMUNICATIONS
821 LINCOLN STREET
RHINELANDER, WI 54501
(715) 420-0301 EXT 61162
markd.olejniczak@charter.com

DNR LIAISON (ALL COUNTIES)

WIS DNR
107 SUTLIFF AVENUE
RHINELANDER, WI 54501
JON SIMONSEN
(715) 365-8916
jonathan.simonsen@wisconsin.gov

TEMPORARY TRAFFIC SIGNAL TIMING

STH 107 TUG LAKE CREEK
LINCOLN COUNTY
STOP BAR SPACING = 775 FT

SEQUENCE 1 6:00 AM TO 8:00 PM

NORTH BOUND	SOUTH BOUND		YELLOW (SEC)	ALL RED (SEC)	GREEN (SEC)		
RED	RED		---	27	---		
GREEN	RED		---	---	14		
YELLOW	RED		4	---	---		
RED	RED		---	27	---		
RED	GREEN		---	---	14		
RED	YELLOW		4	---	---		
		TOTAL	8	54	28	=	90(SEC)

SEQUENCE 2 8:00 PM TO 6:00 AM

NORTH BOUND	SOUTH BOUND		YELLOW (SEC)	ALL RED (SEC)	GREEN (SEC)		
RED	RED		---	27	---		
GREEN	RED		---	---	9		
YELLOW	RED		4	---	---		
RED	RED		---	27	---		
RED	GREEN		---	---	9		
RED	YELLOW		4	---	---		
		TOTAL	8	54	18	=	80(SEC)

STH 107 RIPLEY CREEK
LINCOLN COUNTY
STOP BAR SPACING = 700 FT

SEQUENCE 1 6:00 AM TO 8:00 PM

NORTH BOUND	SOUTH BOUND		YELLOW (SEC)	ALL RED (SEC)	GREEN (SEC)		
RED	RED		---	25	---		
GREEN	RED		---	---	14		
YELLOW	RED		4	---	---		
RED	RED		---	25	---		
RED	GREEN		---	---	14		
RED	YELLOW		4	---	---		
		TOTAL	8	50	28	=	86(SEC)

SEQUENCE 2 8:00 PM TO 6:00 AM

NORTH BOUND	SOUTH BOUND		YELLOW (SEC)	ALL RED (SEC)	GREEN (SEC)		
RED	RED		---	25	---		
GREEN	RED		---	---	9		
YELLOW	RED		4	---	---		
RED	RED		---	25	---		
RED	GREEN		---	---	9		
RED	YELLOW		4	---	---		
		TOTAL	8	50	18	=	76(SEC)

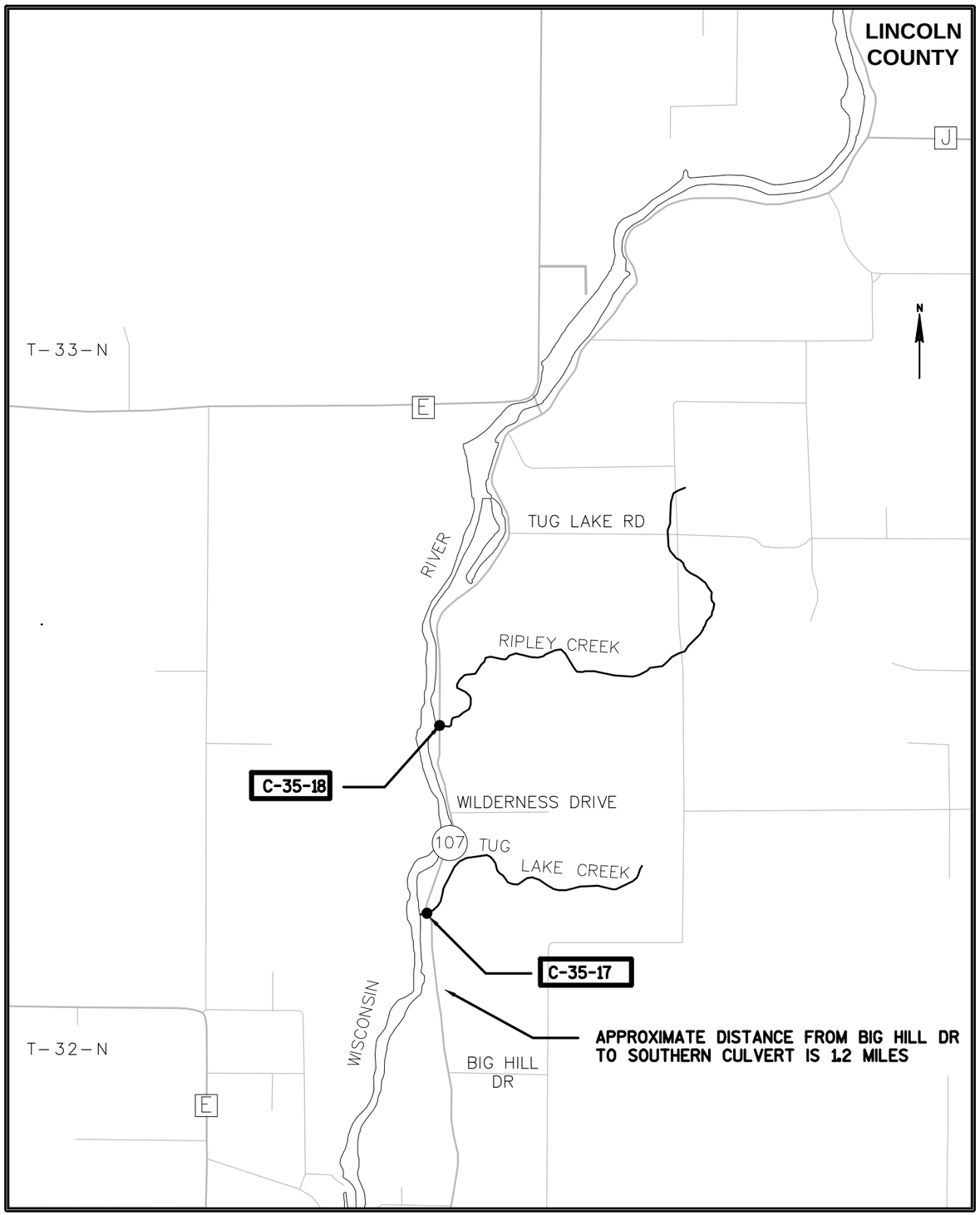
STH 155 LOST CREEK
VILAS COUNTY
STOP BAR SPACING = 680 FT

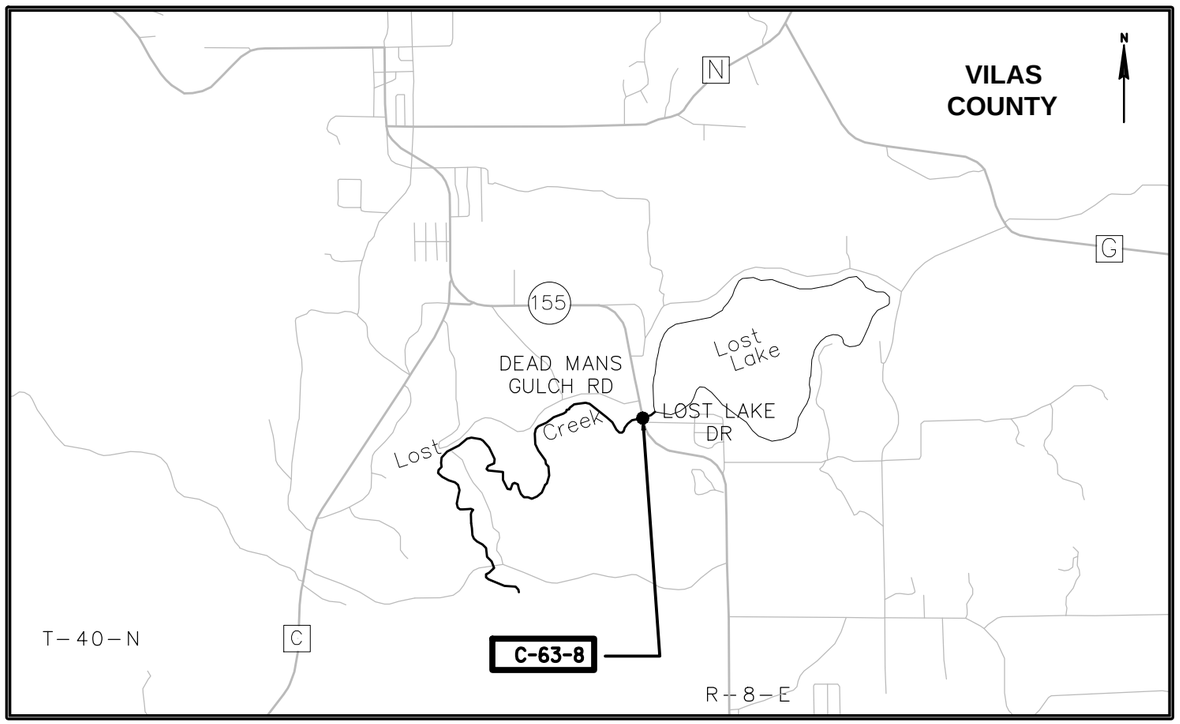
SEQUENCE 1 6:00 AM TO 8:00 PM

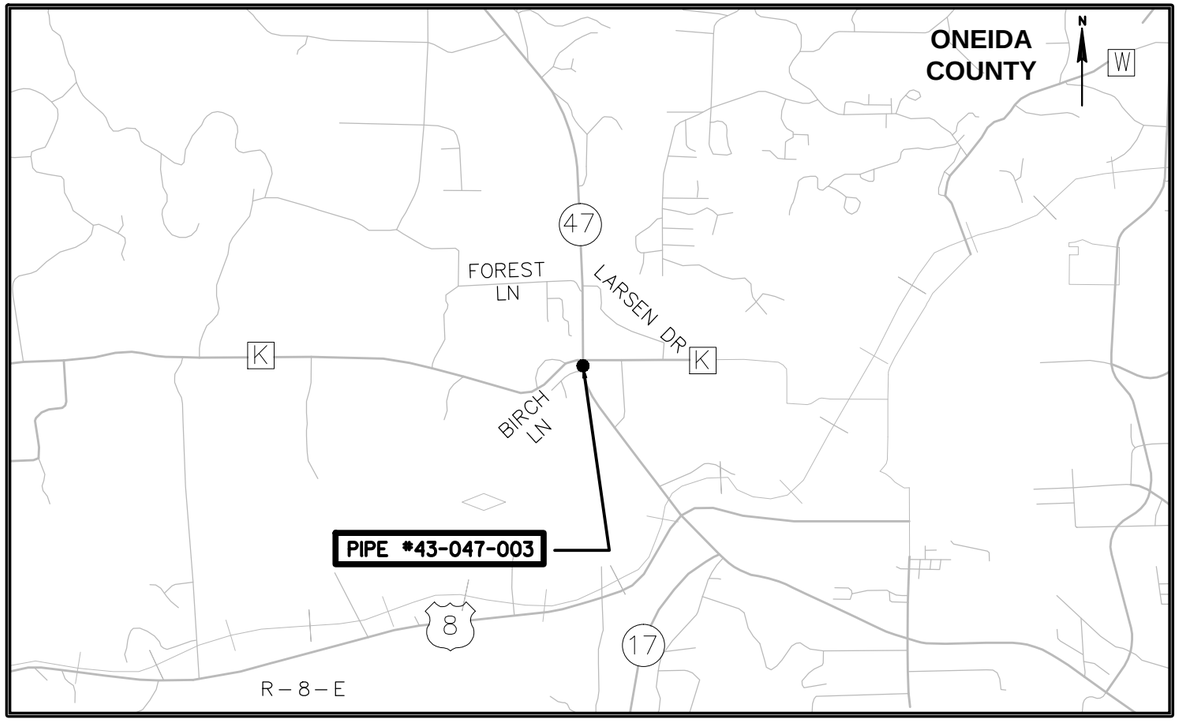
NORTH BOUND	SOUTH BOUND		YELLOW (SEC)	ALL RED (SEC)	GREEN (SEC)		
RED	RED		---	25	---		
GREEN	RED		---	---	18		
YELLOW	RED		4	---	---		
RED	RED		---	25	---		
RED	GREEN		---	---	18		
RED	YELLOW		4	---	---		
		TOTAL	8	50	36	=	94(SEC)

SEQUENCE 2 8:00 PM TO 6:00 AM

NORTH BOUND	SOUTH BOUND		YELLOW (SEC)	ALL RED (SEC)	GREEN (SEC)		
RED	RED		---	25	---		
GREEN	RED		---	---	13		
YELLOW	RED		4	---	---		
RED	RED		---	25	---		
RED	GREEN		---	---	13		
RED	YELLOW		4	---	---		
		TOTAL	8	50	26	=	84(SEC)

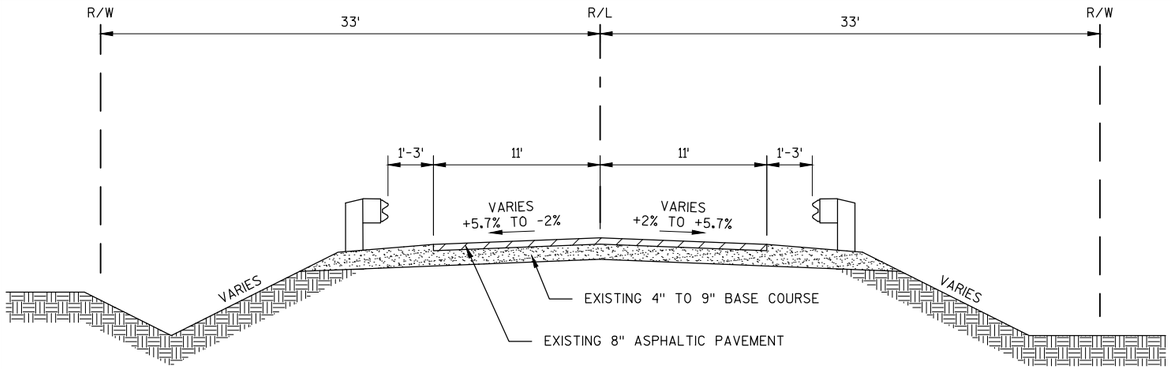




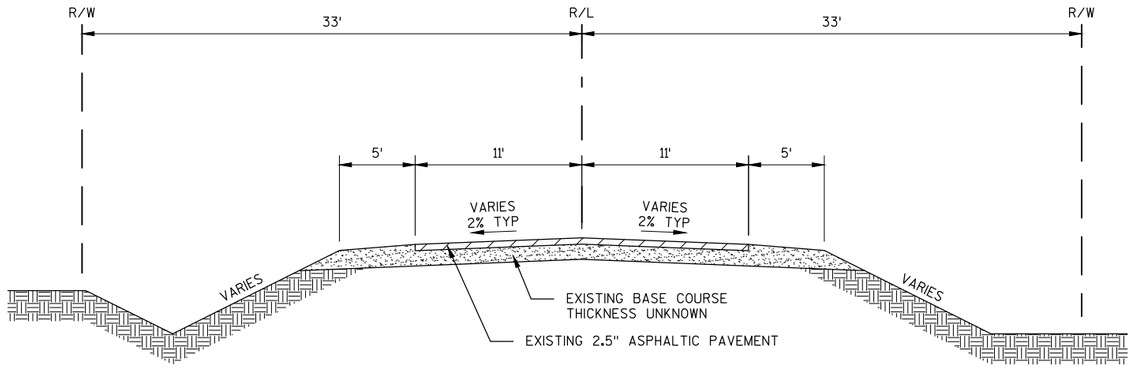


PROJECT NO: 1009-43-61	HWY: VARIOUS	COUNTY: VARIOUS	PROJECT OVERVIEW	SCALE, FEET 0 NTS	SHEET 4	E

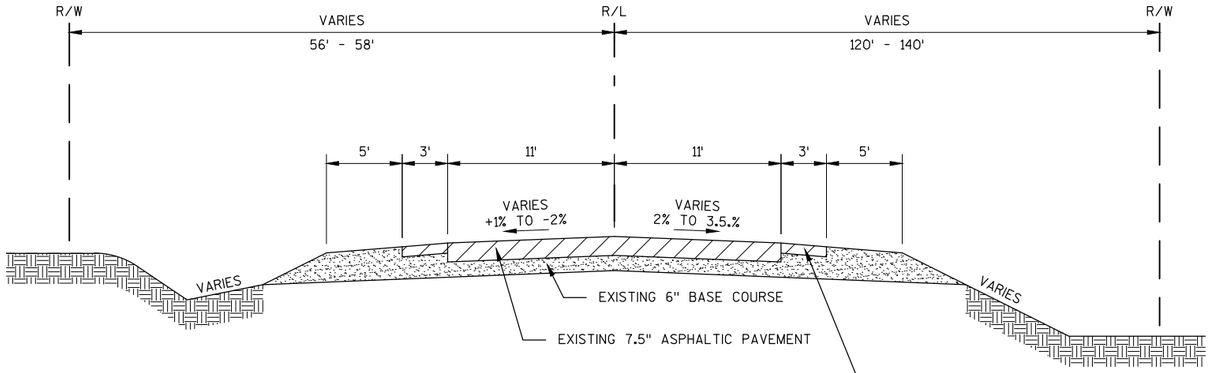
FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\020201_PO.DWG PLOT DATE : 10/15/2013 2:11 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :



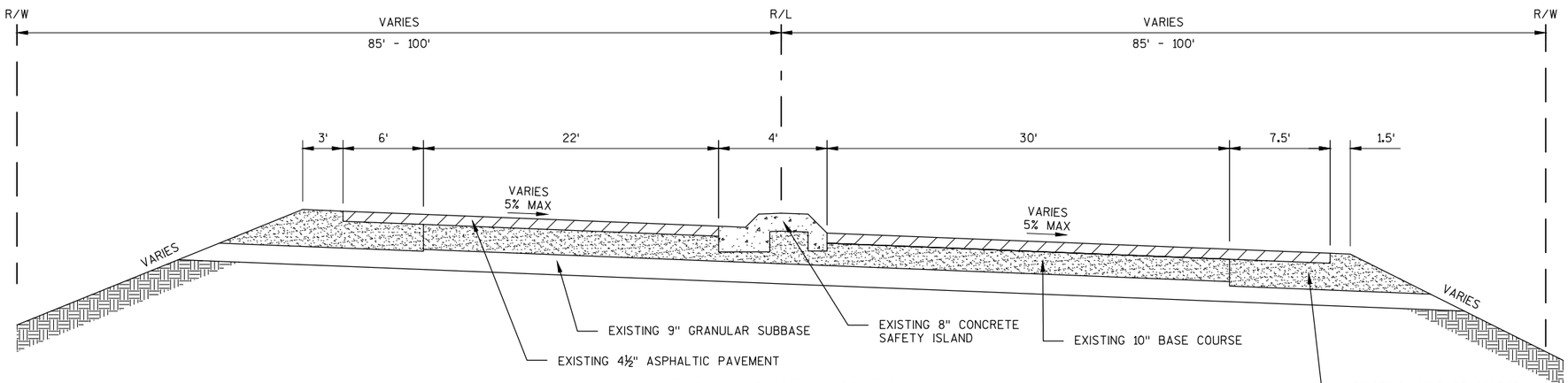
TYPICAL EXISTING SECTION
STH 107 AT TUG LAKE CREEK
LINCOLN COUNTY
STA 55+55 - STA 57+88



TYPICAL EXISTING SECTION
STH 107 AT RIPLEY CREEK
LINCOLN COUNTY
STA 14+10 - STA 15+26



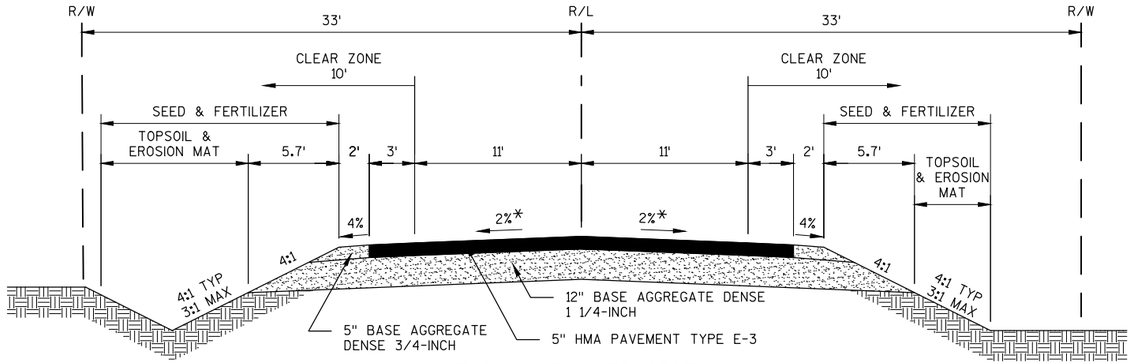
TYPICAL EXISTING SECTION
STH 155
VILAS COUNTY
STA 64+65 - STA 65+45



TYPICAL EXISTING SECTION
STH 47
ONEIDA COUNTY
STA 48+93

PROJECT NO: 1009-43-61	HWY: VARIOUS	COUNTY: VARIOUS	TYPICAL SECTIONS	SHEET 5	E

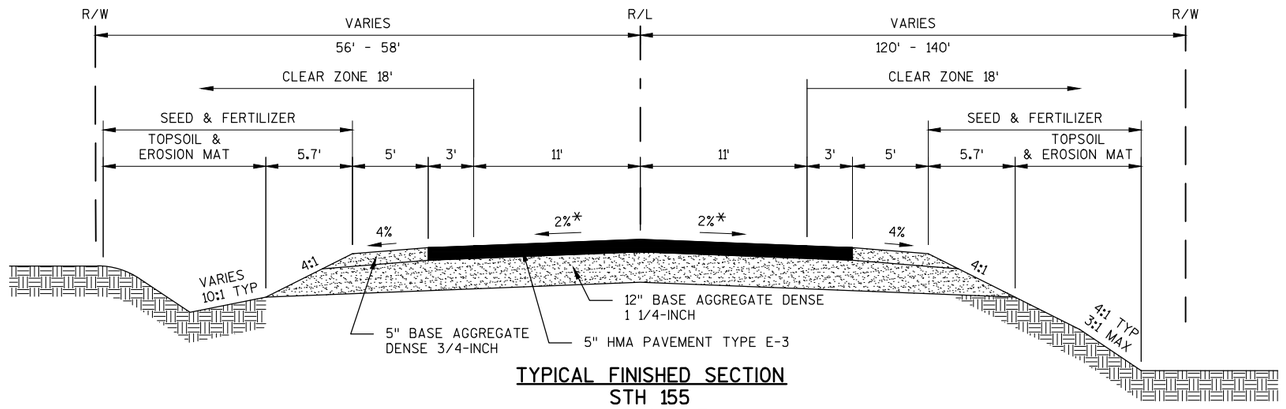
2



TYPICAL FINISHED SECTION
STH 107
LINCOLN COUNTY

STA 55+55 - STA 57+78 (TUG LAKE CREEK)
STA 14+10 - STA 15+26 (RIPLEY CREEK)

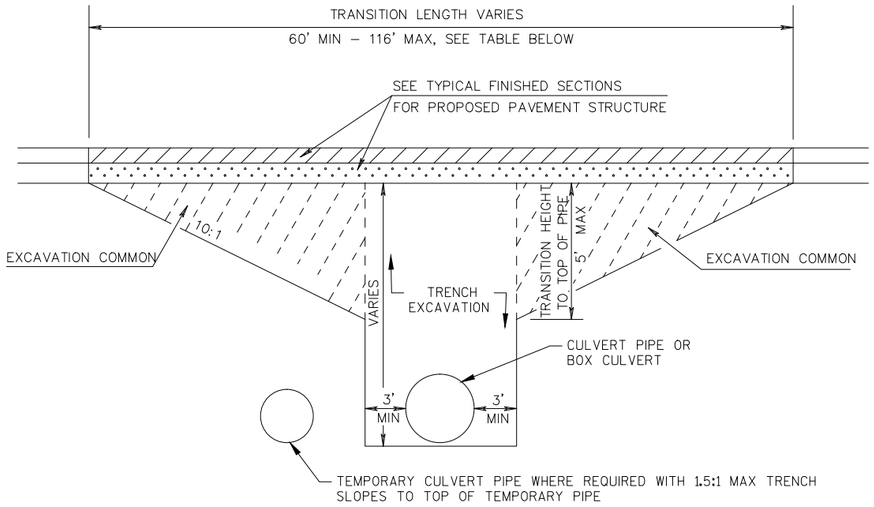
* SEE PLAN SHEETS FOR
SUPERELEVATION TRANSITIONS



TYPICAL FINISHED SECTION
STH 155
VILAS COUNTY

STA 64+65 - STA 65+45

PROJECT NO: 1009-43-61	HWY: VARIOUS	COUNTY: VARIOUS	TYPICAL SECTIONS	SHEET 6	E



CULVERT PIPE TRANSITION DETAIL

NOTES: MATERIAL REMOVED IN THE TRANSITION CUT AND PIPE TRENCH EXCAVATIONS TO BE REUSED AS BACKFILL UNLESS DETERMINED TO BE UNUSABLE BY THE ENGINEER, IN WHICH CASE STRUCTURE BACKFILL WILL BE USED.

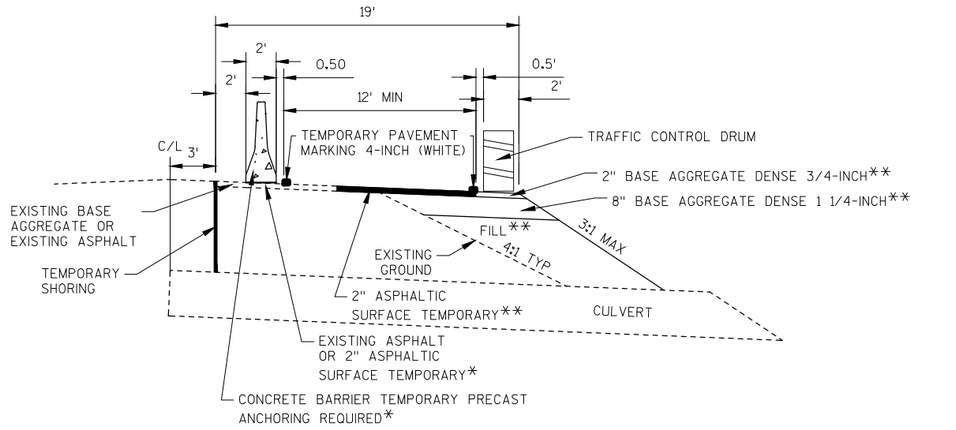
TRENCH EXCAVATION IS CONSIDERED INCIDENTAL TO THE INSTALLATION. TRANSITION CUT WILL BE PAID AS EXCAVATION COMMON.

RESTORE WITH TOPSOIL, TEMPORARY SEED, FERTILIZER AND MULCH.

LAYOUT OF TRANSITION LIMIT IS CONSIDERED INCIDENTAL TO SAWING ASPHALT.

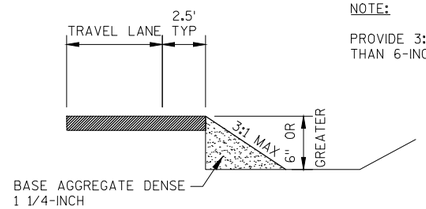
CULVERT NO	LOCATION	EXISTING SIZE	PROPOSED SIZE	ROAD CROWN TO TOP OF PIPE, FT	TRANSITION HEIGHT, FT	TRANSITION LENGTH, FT	TRANSITION WIDTH, FT
C-35-17	STH 107 LINCOLN CO AT TUG LAKE CREEK	7.5'H X 12'W BOX CULVERT	87" X 136"	3.1'	1.7'	72'	32'
C-35-18	STH 107 LINCOLN CO AT RIPLEY CREEK	1-96"	68 X 106"	8.5'	5'	116'	32'
C-63-8	STH 155 VILAS CO AT LOST CREEK	1-84" X 120"	87" X 136"	2.6'	1.2'	61'	32'

*INCIDENTAL TO CONCRETE BARRIER TEMPORARY ITEM
**INCIDENTAL TO LANE SHIFT BID ITEM



LANE SHIFT DETAIL

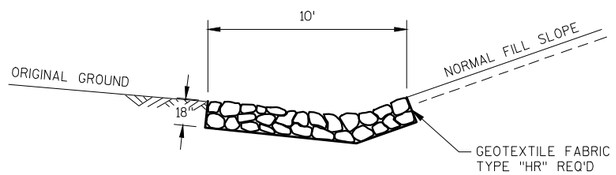
TO BE USED AT STH 107 & STH 155 CULVERT LOCATIONS. OPPOSITE SIDE OF ROADWAY IS MIRROR IMAGE.



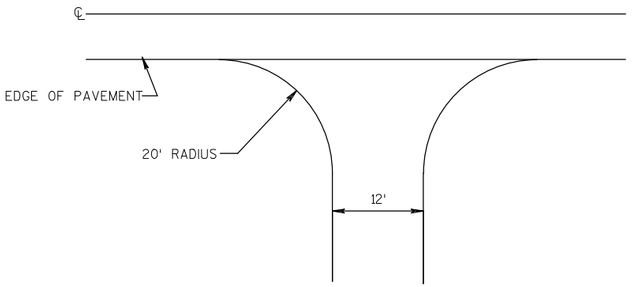
NOTE:

PROVIDE 3:1 OR FLATTER SLOPE FOR ALL DROP OFFS GREATER THAN 6-INCHES, 8 FEET OR LESS FROM A TRAVEL LANE.

DROP OFFS DURING CONSTRUCTION

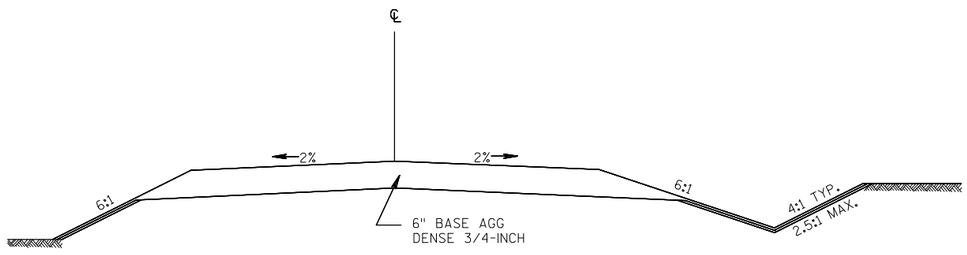


DETAIL FOR MEDIUM RIPRAP IN DITCHES

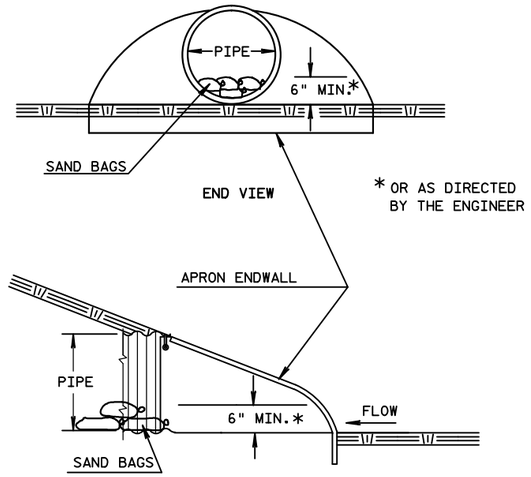


TYPICAL DRIVEWAY DETAIL
(NON-COMMERCIAL RURAL)

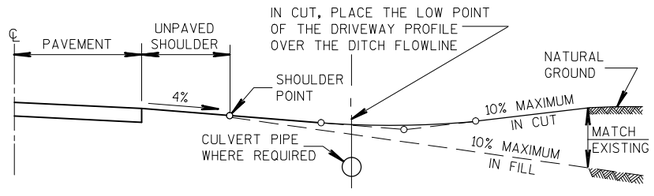
STH 155 LOST CREEK - STA 64+86 RT



TYPICAL SECTION
FOR PRIVATE ENTRANCES



CULVERT PIPE DITCH CHECK

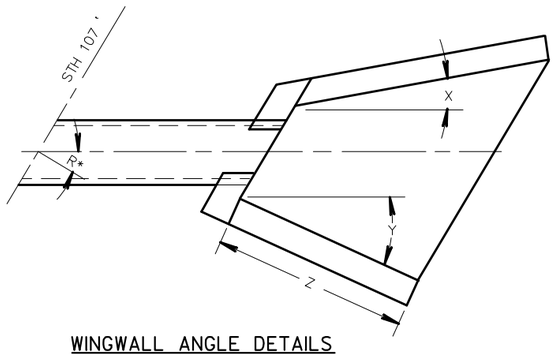


TYPICAL DRIVEWAY PROFILES

2

INLET				OUTLET		
R*	X	Y	Z	R*	X	Z
4^	30^	30^	6'-1"	4^	15^	5'-6"

*R = NUMBER OF DEGREES RIGHT HAND FORWARD

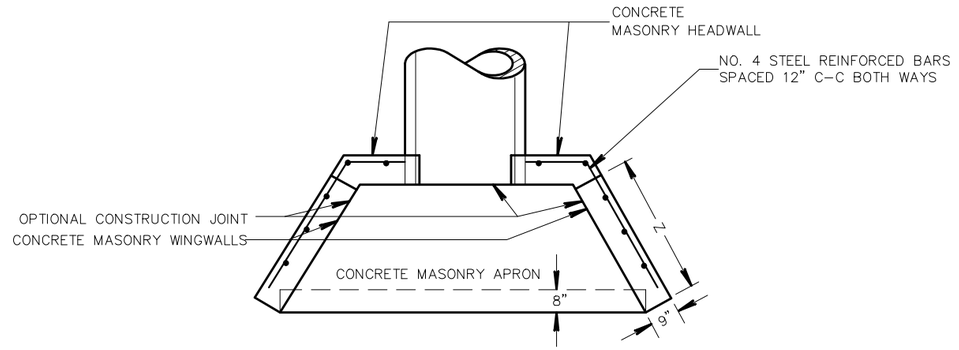


WINGWALL ANGLE DETAILS

NOTES:

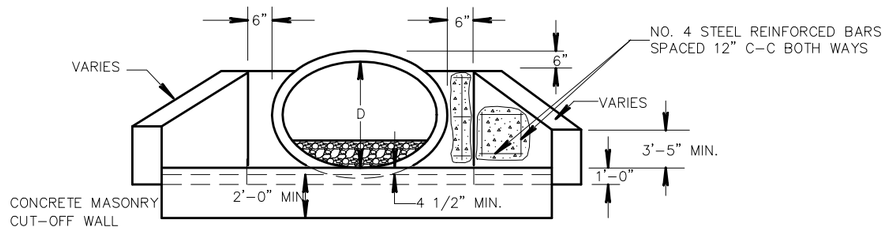
ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

(1) MINIMUM REINFORCEMENT SHALL BE 6" X 6" – W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.



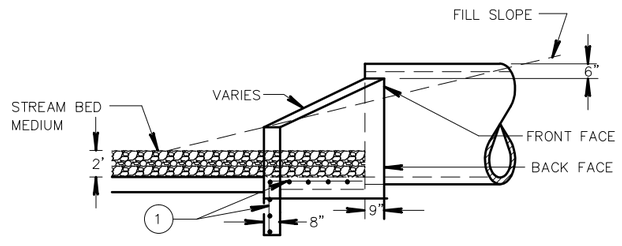
PLAN VIEW

CULVERT PIPE



END ELEVATION

CULVERT PIPE



SIDE ELEVATION

CULVERT PIPE

CONCRETE MASONRY ENDWALL DETAIL

STH 107 AT RIPLEY CREEK
C-35-18

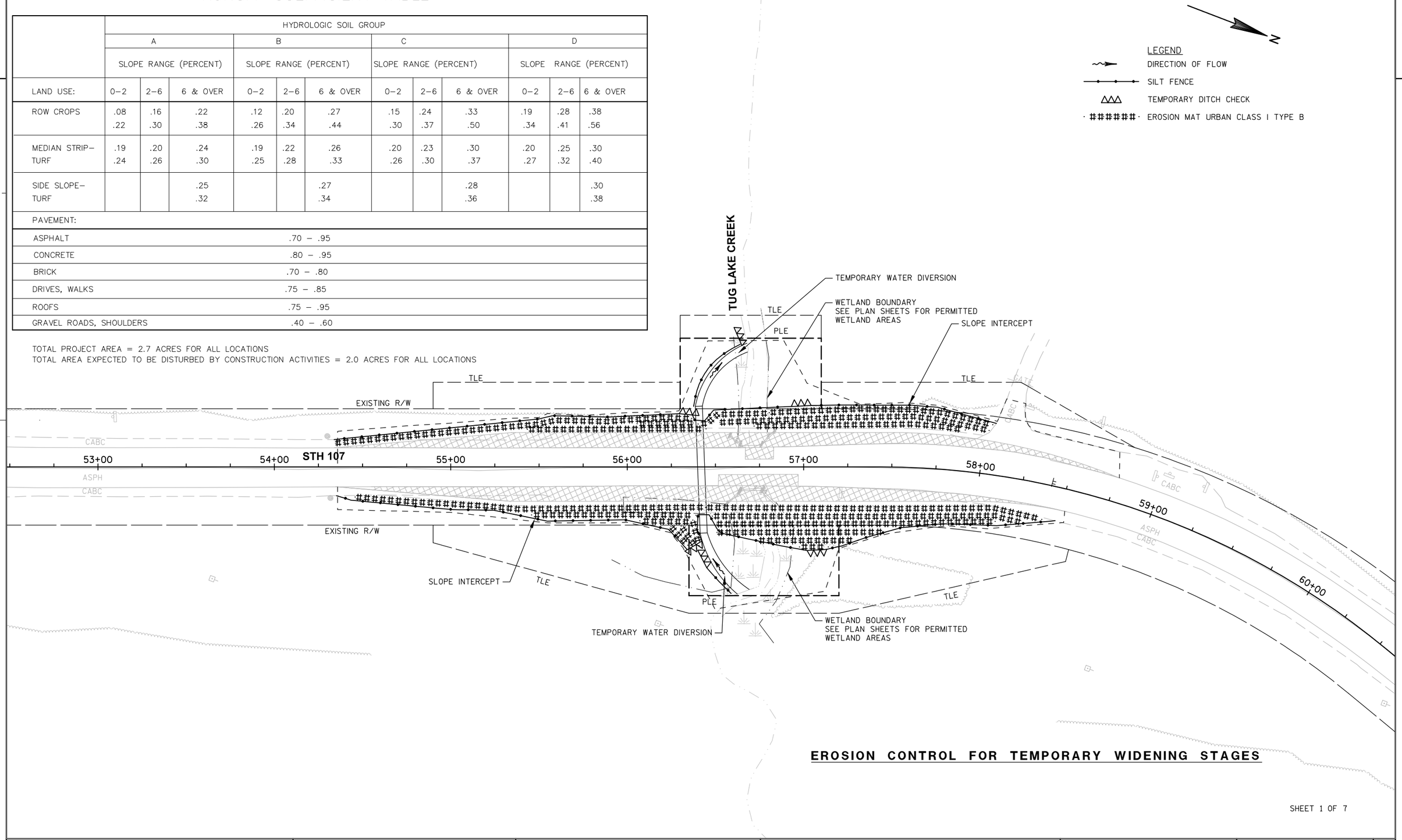
PROJECT NO: 1009-43-61	HWY: VARIOUS	COUNTY: VARIOUS	CONSTRUCTION DETAILS	SHEET 9	E

2

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0–2	2–6	6 & OVER	0–2	2–6	6 & OVER	0–2	2–6	6 & OVER	0–2	2–6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP–TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE–TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 – .95											
CONCRETE	.80 – .95											
BRICK	.70 – .80											
DRIVES, WALKS	.75 – .85											
ROOFS	.75 – .95											
GRAVEL ROADS, SHOULDERS	.40 – .60											

TOTAL PROJECT AREA = 2.7 ACRES FOR ALL LOCATIONS
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.0 ACRES FOR ALL LOCATIONS



EROSION CONTROL FOR TEMPORARY WIDENING STAGES

SHEET 1 OF 7

PROJECT NO: 1009-43-61	HWY: STH 107	COUNTY: LINCOLN	EROSION CONTROL - TUG LAKE CREEK	SCALE, FT 0 25 50	SHEET 10	E

2

2

LEGEND

DIRECTION OF FLOW

SILT FENCE

TEMPORARY DITCH CHECK

EROSION MAT URBAN CLASS I TYPE B

RIPRAP MEDIUM

STREAM BED MEDIUM

N

TUG LAKE CREEK

WETLAND BOUNDARY
SEE PLAN SHEETS FOR PERMITTED
WETLAND AREAS

TLE

PLE

EXISTING R/W

CABC

ASPH

STH 107

53+00

54+00

55+00

56+00

57+00

58+00

59+00

60+00

EROSION CONTROL FOR FINAL RESTORATION

SHEET 2 OF 7

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	EROSION CONTROL - TUG LAKE CREEK	SCALE, FT 0 25 50	SHEET 11	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\022002_EC.DWG PLOT DATE : 10/15/2013 2:14 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

WISDOT/CADDS SHEET 42

2

2

N

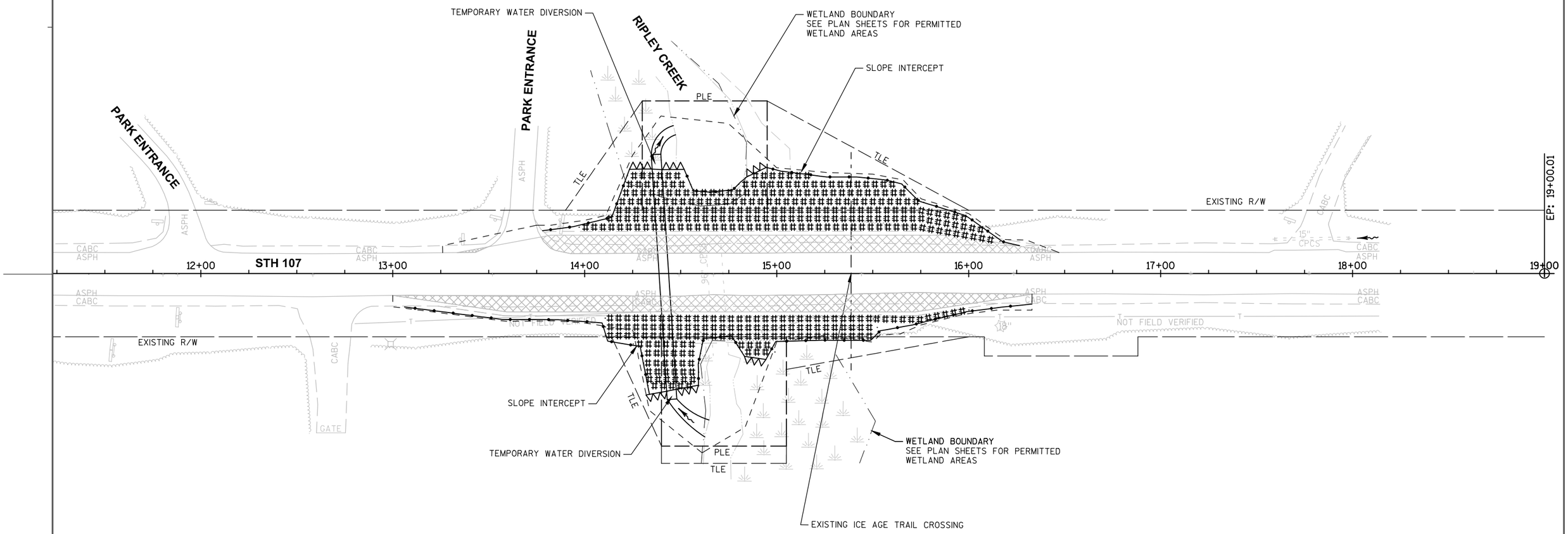
LEGEND

DIRECTION OF FLOW

SILT FENCE

TEMPORARY DITCH CHECK

EROSION MAT URBAN CLASS I TYPE B



EROSION CONTROL FOR TEMPORARY WIDENING STAGES

SHEET 3 OF 7

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	EROSION CONTROL- RIPLEY CREEK	SCALE, FT 0 25 50	SHEET 12	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\022003_EC.DWG PLOT DATE : 10/15/2013 2:14 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

WISDOT/CADDS SHEET 42

2

N

LEGEND
DIRECTION OF FLOW
SILT FENCE
TEMPORARY DITCH CHECK
EROSION MAT URBAN CLASS I TYPE B
STREAM BED MEDIUM

RIPLEY CREEK
PARK ENTRANCE
PARK ENTRANCE
WETLAND BOUNDARY
SEE PLAN SHEETS FOR PERMITTED
WETLAND AREAS
PLE
TLE
TLE
TLE
TLE
TLE
EXISTING R/W
EXISTING R/W
ASPH
CABC
ASPH
CABC
ASPH
CABC
ASPH
CABC
ASPH
CABC
ASPH
CABC
15" CPCS
12+00
STH 107
13+00
14+00
15+00
16+00
17+00
18+00
19+00
EP: 19+00.01
NOT FIELD VERIFIED
NOT FIELD VERIFIED
GATE
PLE
TLE
WETLAND BOUNDARY
SEE PLAN SHEETS FOR PERMITTED
WETLAND AREAS
EXISTING ICE AGE TRAIL CROSSING

EROSION CONTROL FOR FINAL RESTORATION

SHEET 4 OF 7

PROJECT NO: 1009-43-61	HWY: STH 107	COUNTY: LINCOLN	EROSION CONTROL- RIPLEY CREEK	SCALE, FT 0 25 50	SHEET 13	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\022004_EC.DWG PLOT DATE : 10/15/2013 2:14 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

2

LEGEND
- DIRECTION OF FLOW
- SILT FENCE
- TEMPORARY DITCH CHECK
- EROSION MAT URBAN CLASS I TYPE B
- TURBIDITY BARRIER
- CULVERT PIPE CHECKS

N

LOST CREEK

WETLAND BOUNDARY
SEE PLAN SHEETS
FOR PERMITTED
WETLAND AREAS

SLOPE INTERCEPT

EXISTING R/W

TEMPORARY WATER
DIVERSION

PT: 63+34.46

STH 155

62+00 63+00 64+00 65+00 66+00 67+00 68+00 69+00

LOST LAKE DRIVE

TEMPORARY WATER
DIVERSION

SLOPE INTERCEPT

EXISTING R/W

WETLAND BOUNDARY
SEE PLAN SHEETS FOR
PERMITTED WETLAND AREAS

EROSION CONTROL FOR TEMPORARY WIDENING STAGES

SHEET 5 OF 7

PROJECT NO: 1009-43-61	HWY: STH 155	COUNTY: VILAS	EROSION CONTROL - LOST CREEK	SCALE, FT 0 25 50	SHEET 14	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\022005_EC.DWG PLOT DATE : 10/15/2013 2:15 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

2

2

N

LEGEND
DIRECTION OF FLOW
SILT FENCE
TEMPORARY DITCH CHECK
EROSION MAT URBAN CLASS I TYPE B
CULVERT PIPE CHECKS
STREAM BED MEDIUM

WETLAND BOUNDARY
SEE PLAN SHEETS
FOR PERMITTED
WETLAND AREAS

LOST CREEK

EXISTING R/W

PT: 63+34.46

STH 155

62+00 63+00 64+00 65+00 66+00 67+00 68+00 69+00

LOST LAKE DRIVE

EXISTING R/W

WETLAND BOUNDARY
SEE PLAN SHEETS FOR
PERMITTED WETLAND AREAS

EROSION CONTROL FOR FINAL RESTORATION

SHEET 6 OF 7

PROJECT NO: 1009-43-61	HWY: STH 155	COUNTY: VILAS	EROSION CONTROL - LOST CREEK	SCALE, FT 0 25 50	SHEET 15	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\022006_EC.DWG PLOT DATE : 10/15/2013 2:15 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

WISDOT/CADDS SHEET 42

2

2

N

BIRCH LANE

CTH K

RIVER STREET

STONE RETAINING WALL

WETLAND BOUNDARY
SEE PLAN SHEETS
FOR PERMITTED
WETLAND AREAS

SLOPE INTERCEPT

SLOPE INTERCEPT

EXISTING R/W

EXISTING R/W

EXISTING R/W

EXISTING R/W

STH 47

46+00

47+00

48+00

49+00

50+00

51+00

52+00

PT: 51+17.01

SIGN

SIGN

POST

GUY

MP

WELL

24"

12"

LEGEND

DIRECTION OF FLOW

TEMPORARY DITCH CHECK

EROSION MAT URBAN CLASS I TYPE B

CULVERT PIPE CHECKS

INLET PROTECTION TYPE C

SCALE, FT 0 25 50

SHEET 7 OF 7

PROJECT NO:1009-43-61	HWY: STH 47	COUNTY: ONEIDA	EROSION CONTROL - STH 47 ONEIDA COUNTY	SHEET 16	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\022007_EC.DWG PLOT DATE : 10/15/2013 2:16 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

WISDOT/CADDS SHEET 44

2

SIGNING LEGEND

PROPOSED SIGN MOUNTED ON WOOD POST(S)

X-XX SIGN NUMBER

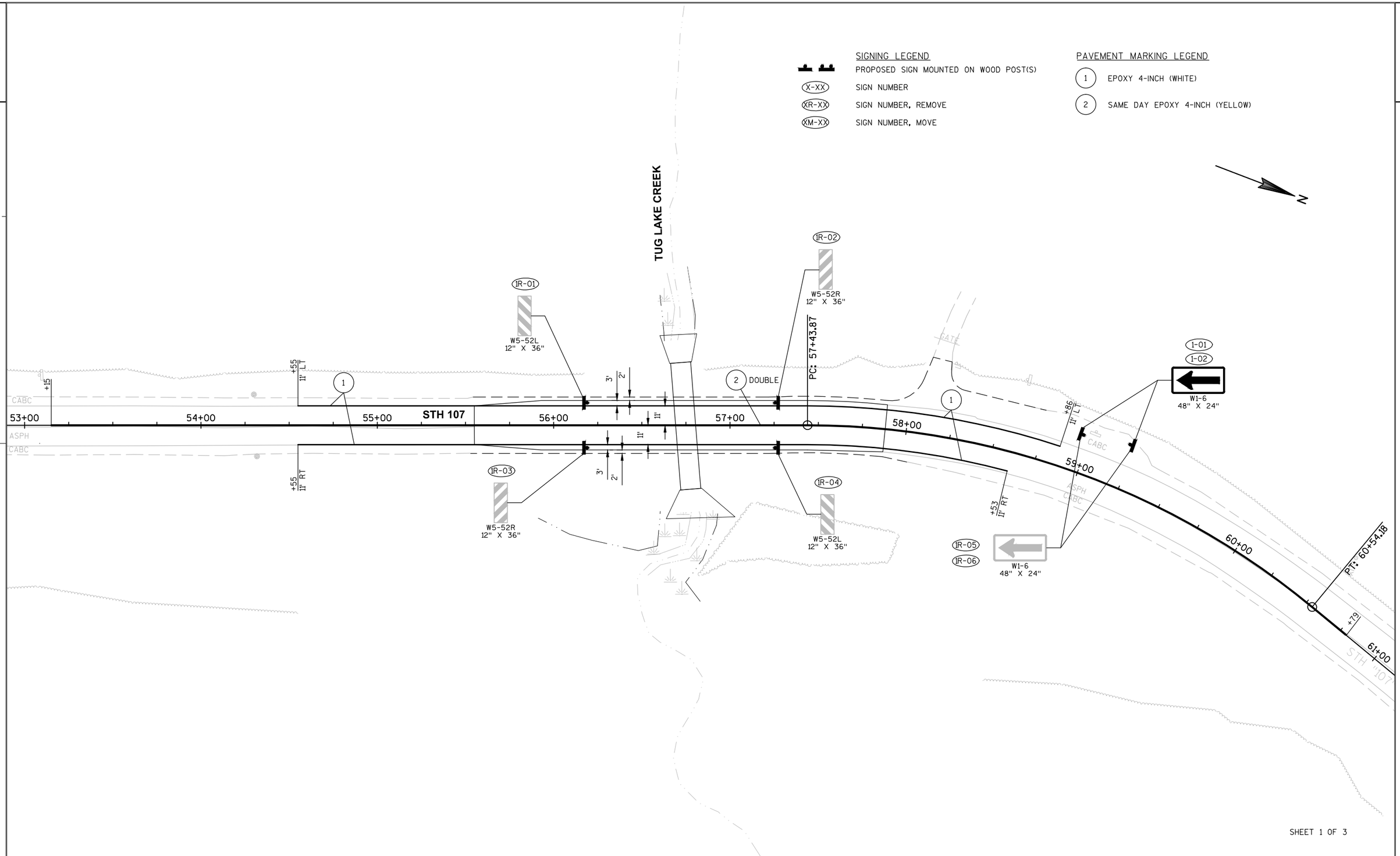
XR-XX SIGN NUMBER, REMOVE

XM-XX SIGN NUMBER, MOVE

PAVEMENT MARKING LEGEND

1 EPOXY 4-INCH (WHITE)

2 SAME DAY EPOXY 4-INCH (YELLOW)



SHEET 1 OF 3

PROJECT NO: 1009-43-61	HWY: STH 107	COUNTY: LINCOLN	PERMANENT SIGNING/PAVEMENT MARKING	SCALE, FT 0 25 50	SHEET 17	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\023201_PSPM.DWG PLOT DATE : 10/15/2013 2:17 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

2

SIGNING LEGEND

PROPOSED SIGN MOUNTED ON WOOD POST(S)

X-XX SIGN NUMBER

XR-XX SIGN NUMBER, REMOVE

XM-XX SIGN NUMBER, MOVE

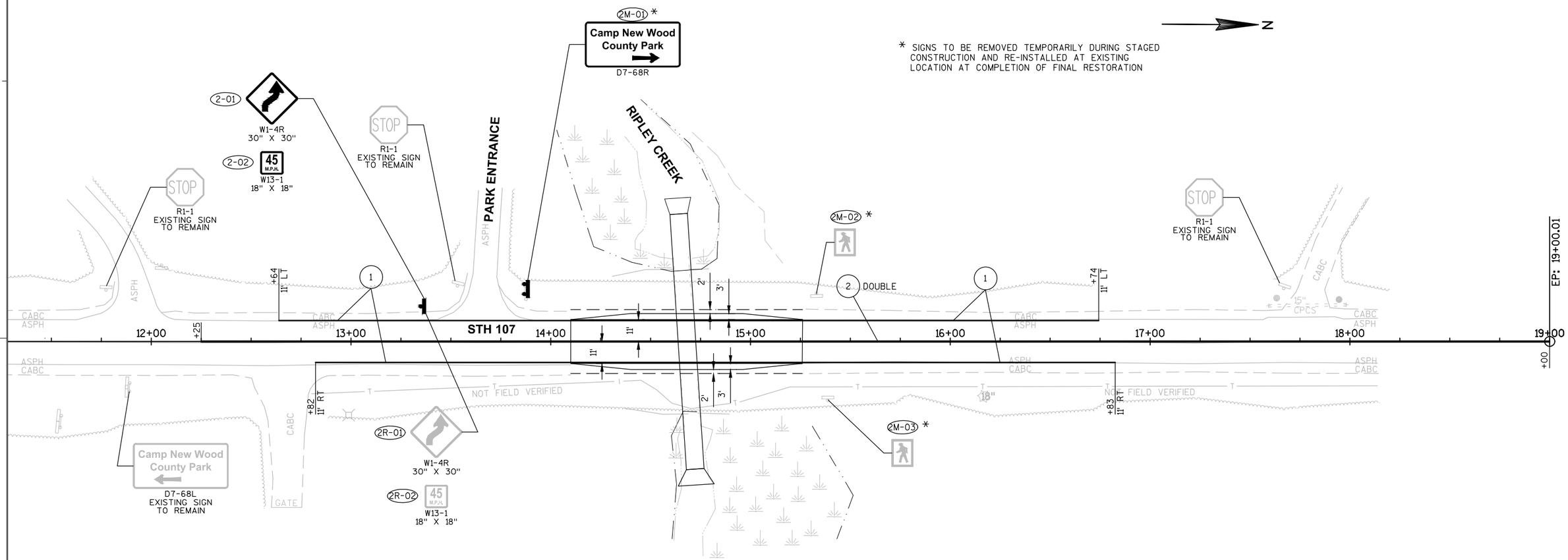
PAVEMENT MARKING LEGEND

1 EPOXY 4-INCH (WHITE)

2 SAME DAY EPOXY 4-INCH (YELLOW)

N

* SIGNS TO BE REMOVED TEMPORARILY DURING STAGED CONSTRUCTION AND RE-INSTALLED AT EXISTING LOCATION AT COMPLETION OF FINAL RESTORATION



SHEET 2 OF 3

PROJECT NO: 1009-43-61	HWY: STH 107	COUNTY: LINCOLN	PERMANENT SIGNING/PAVEMENT MARKING	SCALE, FT 0 25 50	SHEET 18	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\023202_PSPM.DWG PLOT DATE : 10/15/2013 2:17 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

2

SIGNING LEGEND

PROPOSED SIGN MOUNTED ON WOOD POST(S)

X-XX SIGN NUMBER

XR-XX SIGN NUMBER, REMOVE

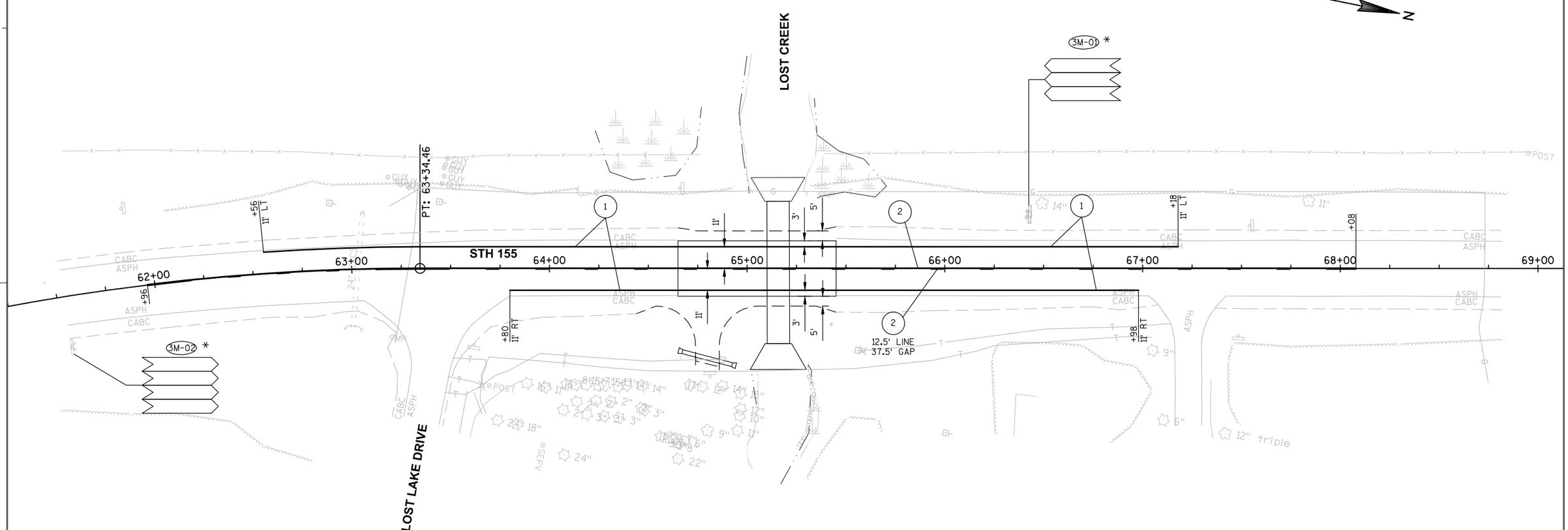
XM-XX SIGN NUMBER, MOVE

* SIGNS TO BE REMOVED TEMPORARILY DURING STAGED CONSTRUCTION AND RE-INSTALLED AT EXISTING LOCATION AT COMPLETION OF FINAL RESTORATION

PAVEMENT MARKING LEGEND

1 EPOXY 4-INCH (WHITE)

2 SAME DAY EPOXY 4-INCH (YELLOW)



SHEET 3 OF 3

PROJECT NO: 1009-43-61	HWY: STH 155	COUNTY: VILAS	PERMANENT SIGNING/PAVEMENT MARKING	SCALE, FT 0 25 50	SHEET 19	E

LEGEND

POST MOUNTED TRAFFIC CONTROL SIGN

TRAFFIC FLOW

16"x16" ORANGE FLAGS
(INCIDENTAL TO TRAFFIC CONTROL SIGNS)

STH 107

W12-52

6 MILES AHEAD

W057-52
36" X 24"

INSTALL AT STH 107 AND CTH J INTERSECTION

W12-52

9 MILES AHEAD

W057-52
36" X 24"

INSTALL AT STH 107 AND STH 64 INTERSECTION

STH 155

W12-52

2 MILES AHEAD

W057-52
36" X 24"

INSTALL AT STH 155 AND CTH C INTERSECTION

W12-52

3.5 MILES AHEAD

W057-52
36" X 24"

INSTALL AT STH 155 AND STH 70 INTERSECTION

W12-52

3 MILES AHEAD

W057-52
36" X 24"

INSTALL AT STH 107 AND CTH E INTERSECTION

W12-52

9 MILES AHEAD

W057-52
36" X 24"

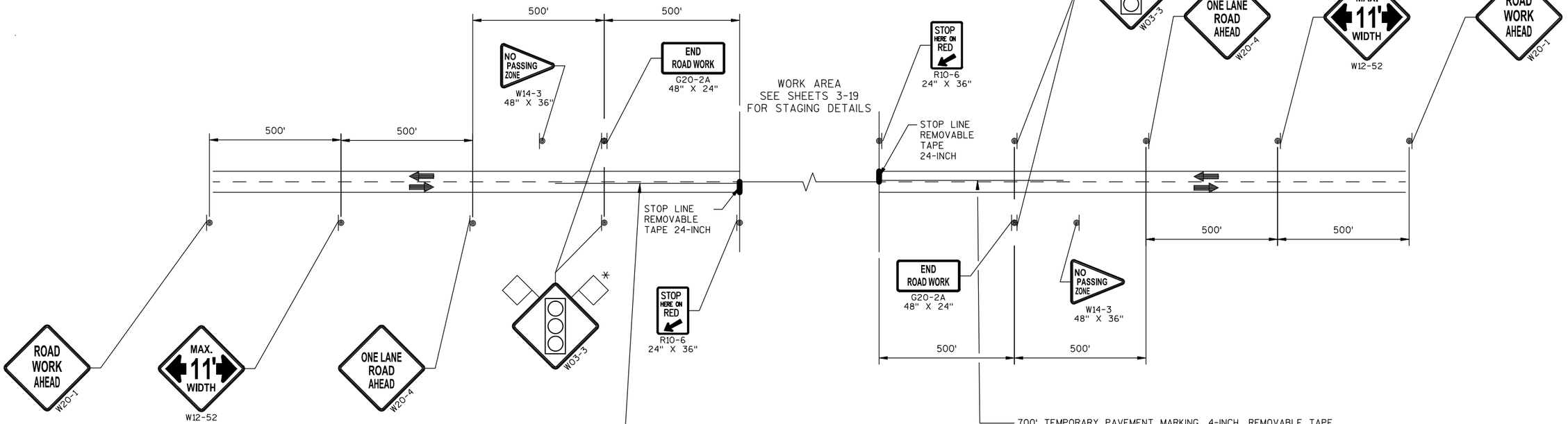
INSTALL ON EAST AND WEST LEGS OF STH 64/STH 107 INTERSECTION

W12-52

3.5 MILES AHEAD

W057-52
36" X 24"

INSTALL ON WEST AND SOUTH LEGS OF STH 70/STH 155 INTERSECTION



700' TEMPORARY PAVEMENT MARKING, 4-INCH, REMOVABLE TAPE YELLOW CENTERLINE (TYP). WHEN THE DISTANCE FROM THE PRECEDING NO-PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

* PLACE TWO SETS OF TWO W03-3 SIGNS ON NB STH 155, 500' APART. SHIFT ALL OTHER ADVANCE WARNING SIGNS 500' FURTHER FROM WORKZONE.

700' TEMPORARY PAVEMENT MARKING, 4-INCH, REMOVABLE TAPE YELLOW CENTERLINE (TYP). WHEN THE DISTANCE FROM THE PRECEDING NO-PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE STANDARD SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

GENERAL NOTES FOR CONSTRUCTION STAGING AND TRAFFIC CONTROL

1. TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", ONE WAY LIGHTS IN TAPERS ONLY, UNLESS OTHERWISE SHOWN.
2. SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATION AND SPACING MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS. SEE EXISTING AND PERMANENT SIGNING PLANS FOR MORE DETAIL.
3. SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED. THE COVERING OF WOOD POST MOUNTED SIGNS IS INCLUDED UNDER ITEM 643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II. IN LIEU OF COVERING WOOD POST MOUNTED SIGNS, THE CONTRACTOR MAY CHOOSE TO REMOVE AND REINSTALL THEM.
4. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.
5. ALL TRAFFIC CONTROL SIGNS SHALL BE 48"x48" UNLESS OTHERWISE NOTED IN THE PLANS.
6. A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE "WORK/CLOSED" AREAS IF WARRANTED BY CONDITIONS AND/OR AS DIRECTED BY THE ENGINEER.
7. CONTRACTOR SHALL INSTALL PERMANENT SIGNS AND PERMANENT PAVEMENT MARKING WHEN APPROPRIATE DURING CONSTRUCTION STAGING AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
8. ADEQUATE TURNING PROVISIONS SHALL BE MAINTAINED FOR ALL VEHICLES, INCLUDING TRUCKS, AS DIRECTED BY THE ENGINEER.
9. ALL EXISTING CONFLICTING PAVEMENT MARKING SHALL BE REMOVED.
10. BARRICADE STRIPES ARE TO SLOPE DOWNWARD IN THE DIRECTION OF TRAFFIC FLOW.
11. CONTRACTOR TO ENSURE DRAINAGE AND AVOID ANY PONDING OR STANDING WATER DURING THE STAGED CONSTRUCTION.
12. TEMPORARY PAVEMENT MARKINGS SHALL BE TEMPORARY TAPE WHEN PLACED ON NEW OR EXISTING PAVEMENT SURFACES THAT ARE TO REMAIN IN PLACE FOLLOWING CONSTRUCTION. PAINT MAY BE USED ON EXISTING PAVEMENT OR BINDER HMA LAYERS THAT ARE TO BE REMOVED OR OVERLAID IN SUBSEQUENT STAGES.

SHEET 1 OF 20

SCALE, FT 0 NTS

PROJECT NO:1009-43-61	HWY:STH 107 & STH 155	COUNTY:LINCOLN & VILAS	STAGING PLAN - ADVANCED WARNING SIGN DETAILS	SHEET 20	E

2

2

LEGEND

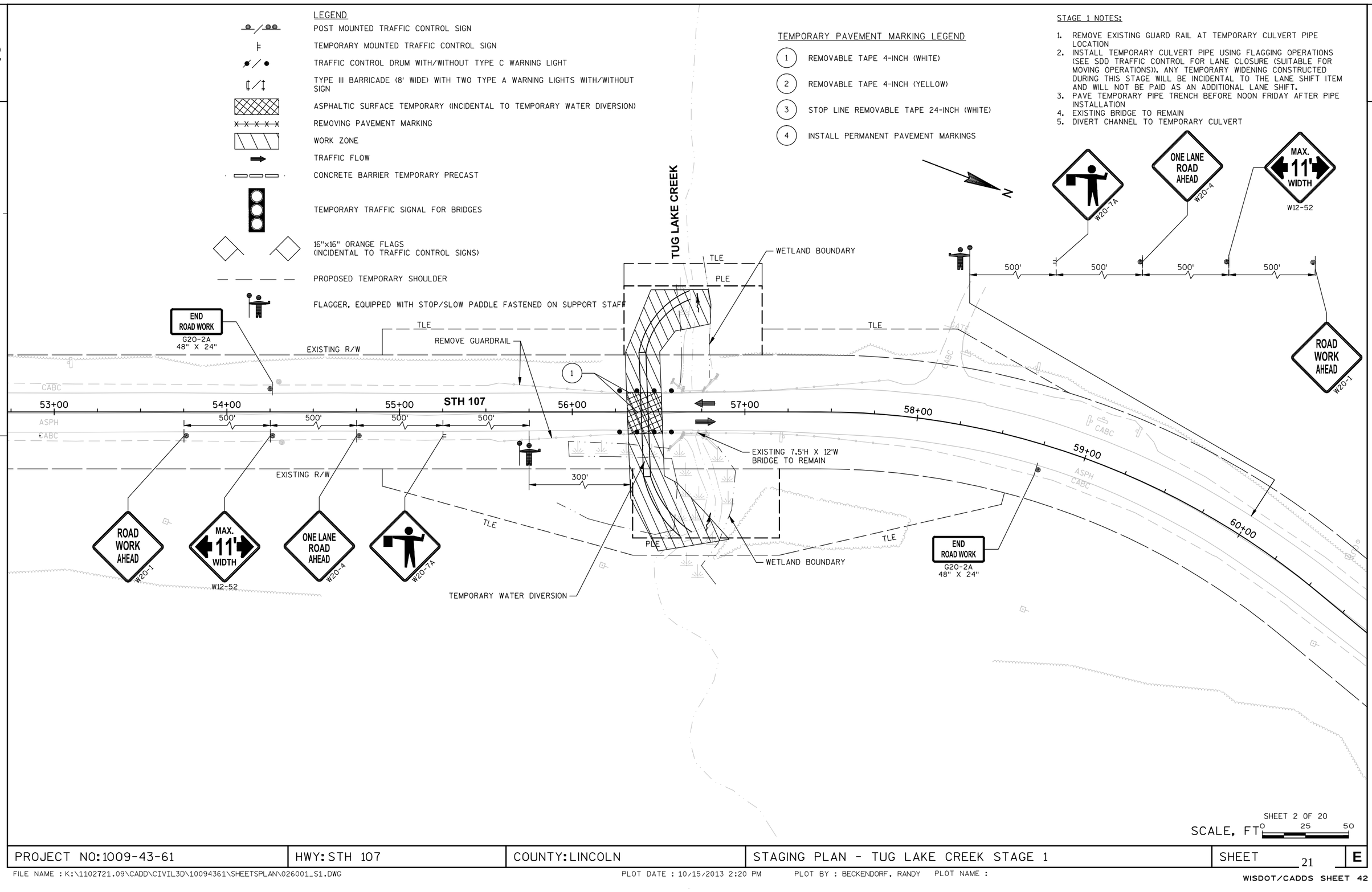
- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO TEMPORARY WATER DIVERSION)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- PROPOSED TEMPORARY SHOULDER
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
4. INSTALL PERMANENT PAVEMENT MARKINGS

STAGE 1 NOTES:

1. REMOVE EXISTING GUARD RAIL AT TEMPORARY CULVERT PIPE LOCATION
2. INSTALL TEMPORARY CULVERT PIPE USING FLAGGING OPERATIONS (SEE SDD TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)). ANY TEMPORARY WIDENING CONSTRUCTED DURING THIS STAGE WILL BE INCIDENTAL TO THE LANE SHIFT ITEM AND WILL NOT BE PAID AS AN ADDITIONAL LANE SHIFT.
3. PAVE TEMPORARY PIPE TRENCH BEFORE NOON FRIDAY AFTER PIPE INSTALLATION
4. EXISTING BRIDGE TO REMAIN
5. DIVERT CHANNEL TO TEMPORARY CULVERT



SHEET 2 OF 20

SCALE, FT 0 25 50

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	STAGING PLAN - TUG LAKE CREEK STAGE 1	SHEET 21	E

2

2

LEGEND

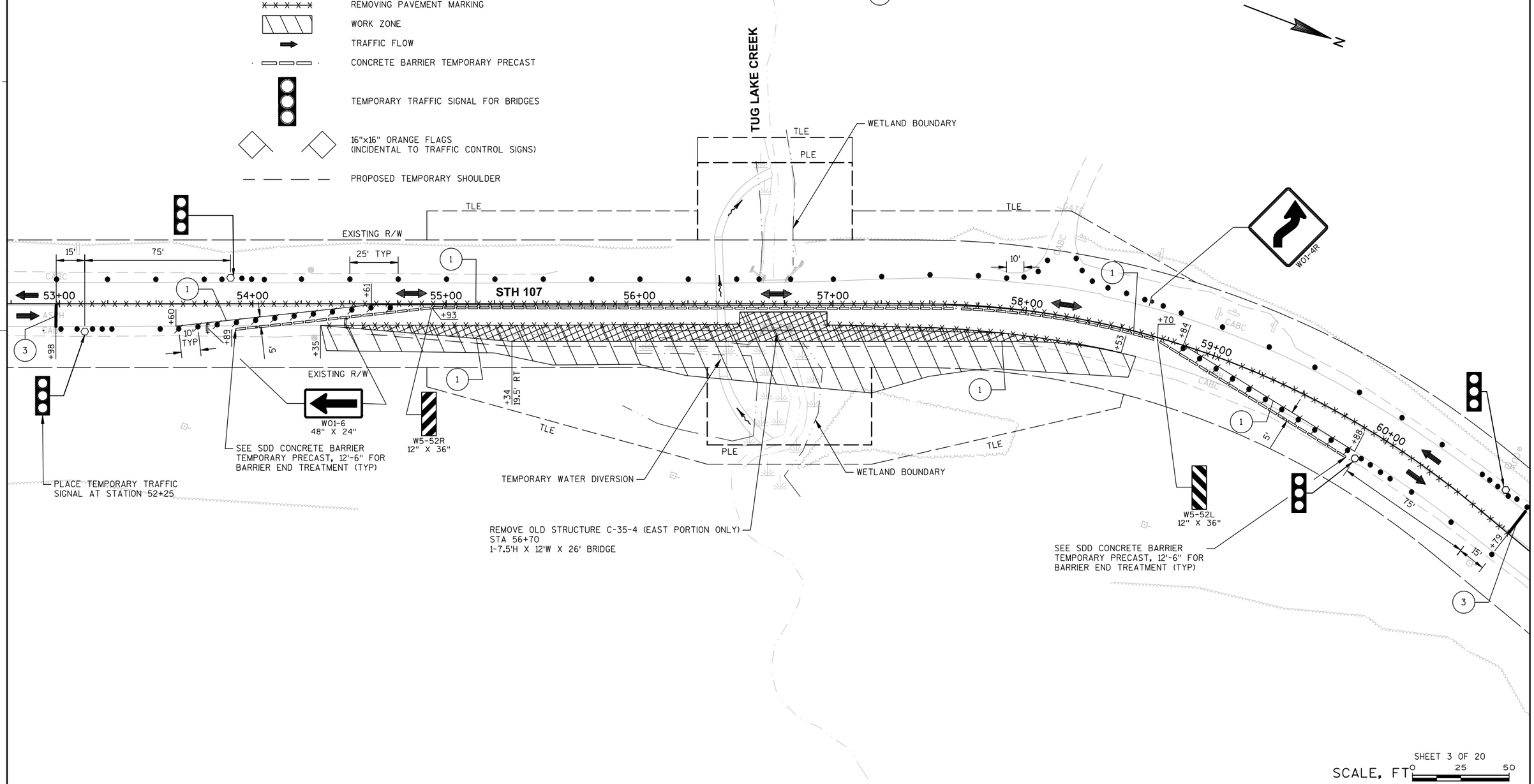
- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- PROPOSED TEMPORARY SHOULDER

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
4. INSTALL PERMANENT PAVEMENT MARKINGS

STAGE 2 NOTES:

1. INSTALL TEMPORARY SIGNALS
2. SHIFT TRAFFIC TO EXISTING SB LANE
3. REMOVE EAST HALF OF EXISTING BRIDGE
4. CONSTRUCT TEMPORARY WIDENING ON EAST SIDE OF STH 107
5. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
6. SEE SHEET 1 OF 20 FOR ADVANCED WARNING SIGN DETAILS



SHEET 3 OF 20

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	STAGING PLAN - TUG LAKE CREEK STAGE 2	SHEET 22	E

2

2

LEGEND

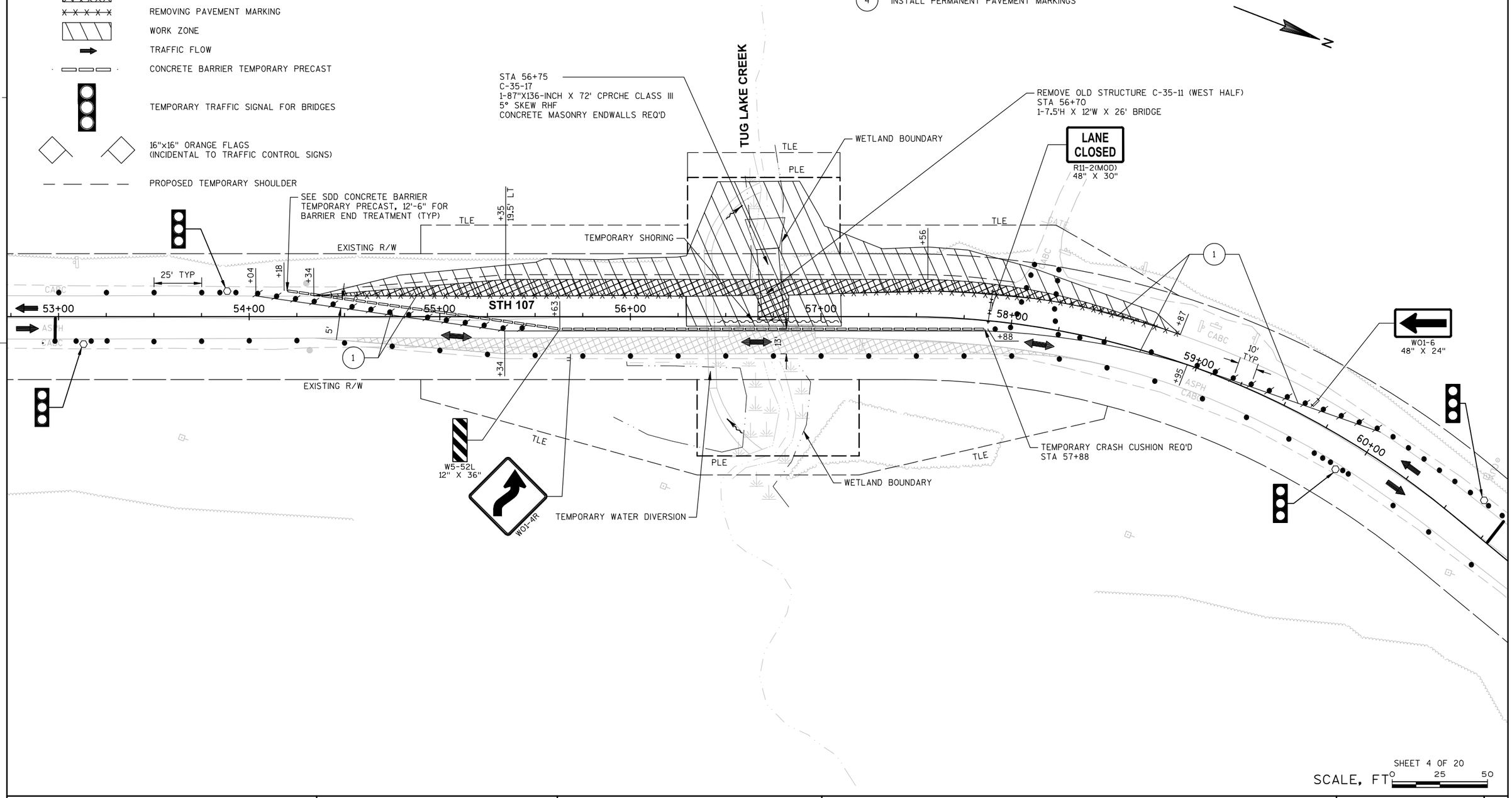
- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- PROPOSED TEMPORARY SHOULDER

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
4. INSTALL PERMANENT PAVEMENT MARKINGS

STAGE 3 NOTES:

1. SHIFT TRAFFIC TO WIDENED NB LANE
2. REMOVE WEST HALF OF EXISTING BRIDGE
3. INSTALL WESTERN HALF OF 87X136-INCH CPRCHE
4. CONSTRUCT TEMPORARY WIDENING ON WEST SIDE OF STH 107
5. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
6. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS



SHEET 4 OF 20

SCALE, FT 0 25 50

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	STAGING PLAN - TUG LAKE CREEK STAGE 3	SHEET 23	E

2

LEGEND

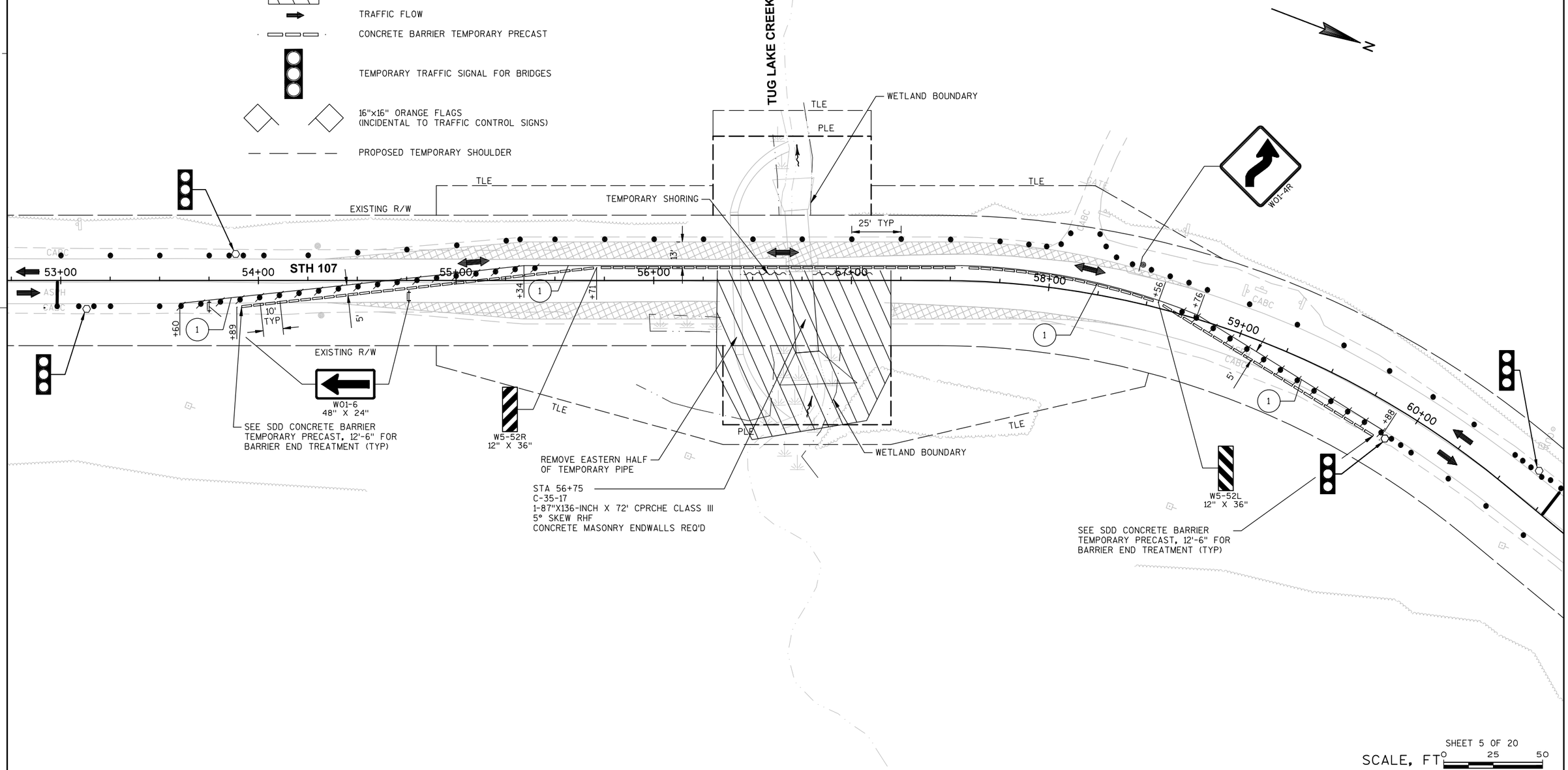
- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- PROPOSED TEMPORARY SHOULDER

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
4. INSTALL PERMANENT PAVEMENT MARKINGS

STAGE 4 NOTES:

1. SHIFT TRAFFIC TO WIDENED SB LANE
2. INSTALL EASTERN HALF OF 87X136-INCH CPRCHE
3. DIVERT CHANNEL TO COMPLETED 87X136-INCH CPRCHE
4. REMOVE EASTERN HALF OF TEMPORARY CULVERT PIPE
5. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
6. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS



SHEET 5 OF 20

SCALE, FT 0 25 50

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY: LINCOLN	STAGING PLAN - TUG LAKE CREEK STAGE 4	SHEET 24	E

2

LEGEND

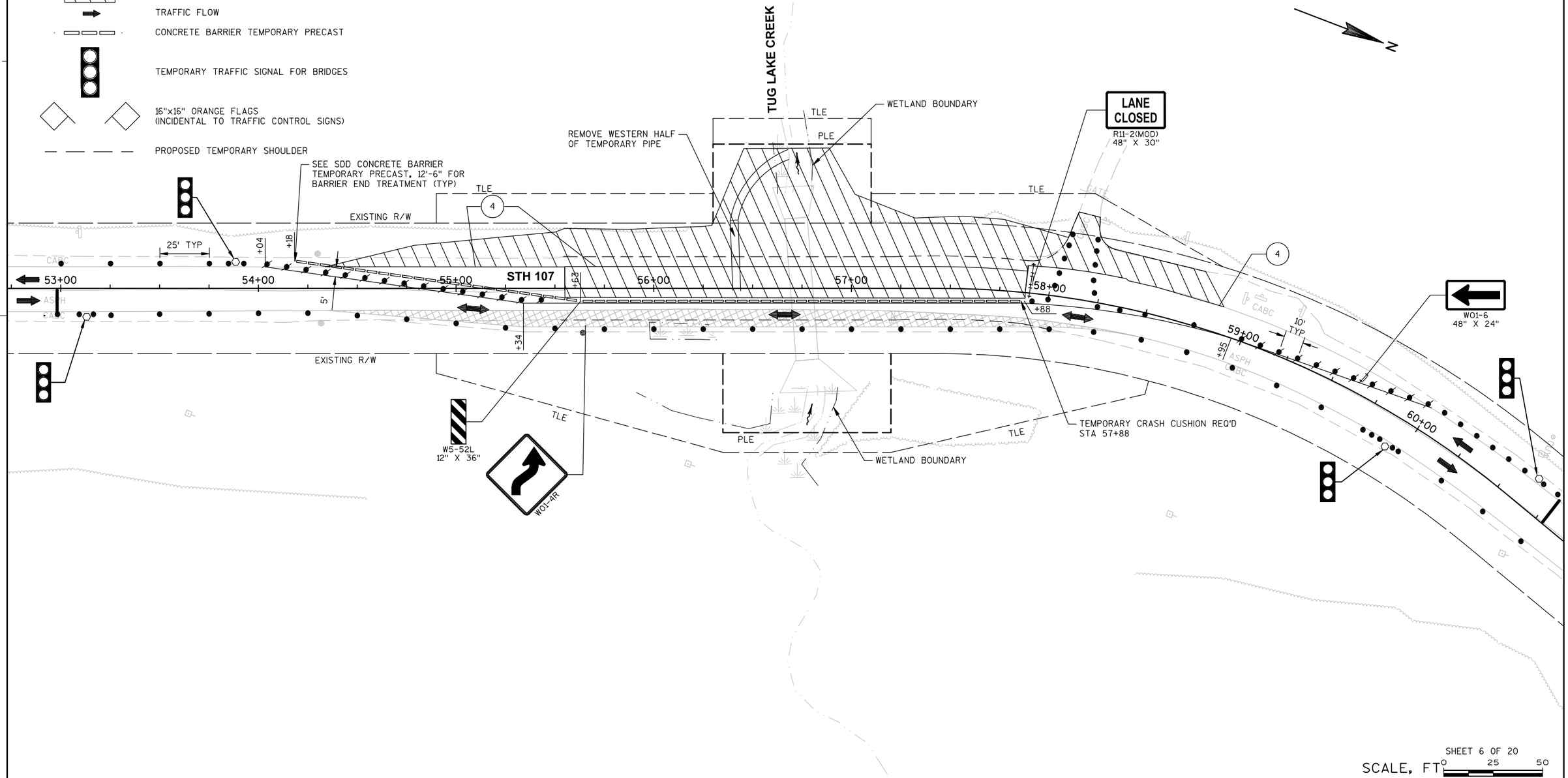
- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- PROPOSED TEMPORARY SHOULDER

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
4. INSTALL PERMANENT PAVEMENT MARKINGS

STAGE 5 NOTES:

1. SHIFT TRAFFIC TO WIDENED NB LANE
2. REMOVE TEMPORARY WIDENING ON WEST SIDE OF STH 107, REMOVE WESTERN HALF OF TEMPORARY CULVERT PIPE AND RESTORE FILL SLOPES TO FINAL CROSS SECTIONS
3. INSTALL BASE AGGREGATE AND HMA PAVEMENT TYPE E-3 FOR NORMAL TRAVEL LANE
4. PLACE PERMANENT PAVEMENT MARKING WHERE IT WILL NOT CONFLICT WITH TRAFFIC CONTROL "IN USE" PRIOR TO SHIFTING TRAFFIC FOR STAGE 6
5. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
6. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS



SHEET 6 OF 20

SCALE, FT 0 25 50

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY: LINCOLN	STAGING PLAN - TUG LAKE CREEK STAGE 5	SHEET 25	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\026005_S5.DWG PLOT DATE : 10/15/2013 2:21 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

WISDOT/CADDS SHEET 42

2

2

LEGEND

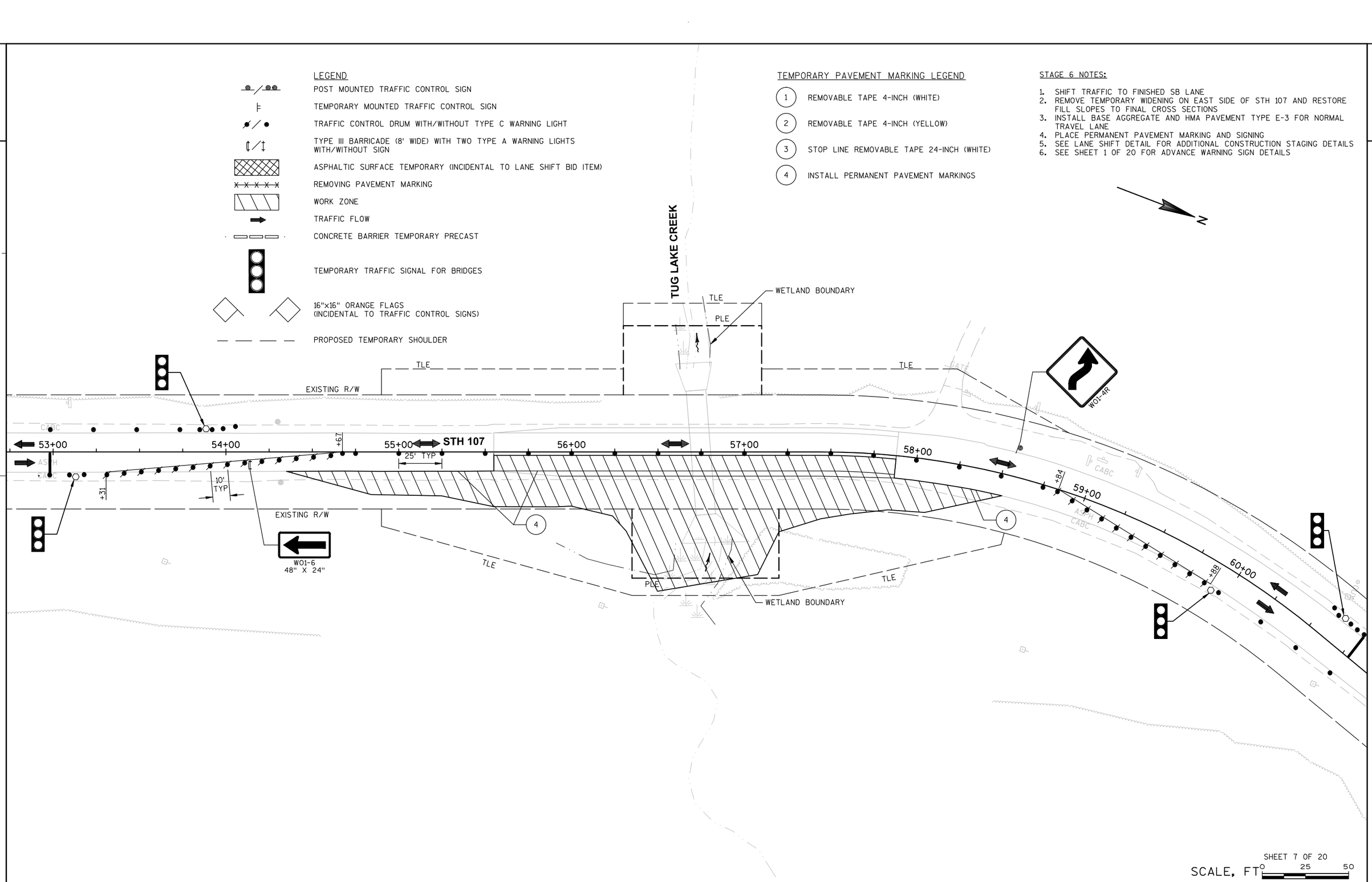
- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- PROPOSED TEMPORARY SHOULDER

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
4. INSTALL PERMANENT PAVEMENT MARKINGS

STAGE 6 NOTES:

1. SHIFT TRAFFIC TO FINISHED SB LANE
2. REMOVE TEMPORARY WIDENING ON EAST SIDE OF STH 107 AND RESTORE FILL SLOPES TO FINAL CROSS SECTIONS
3. INSTALL BASE AGGREGATE AND HMA PAVEMENT TYPE E-3 FOR NORMAL TRAVEL LANE
4. PLACE PERMANENT PAVEMENT MARKING AND SIGNING
5. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
6. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS

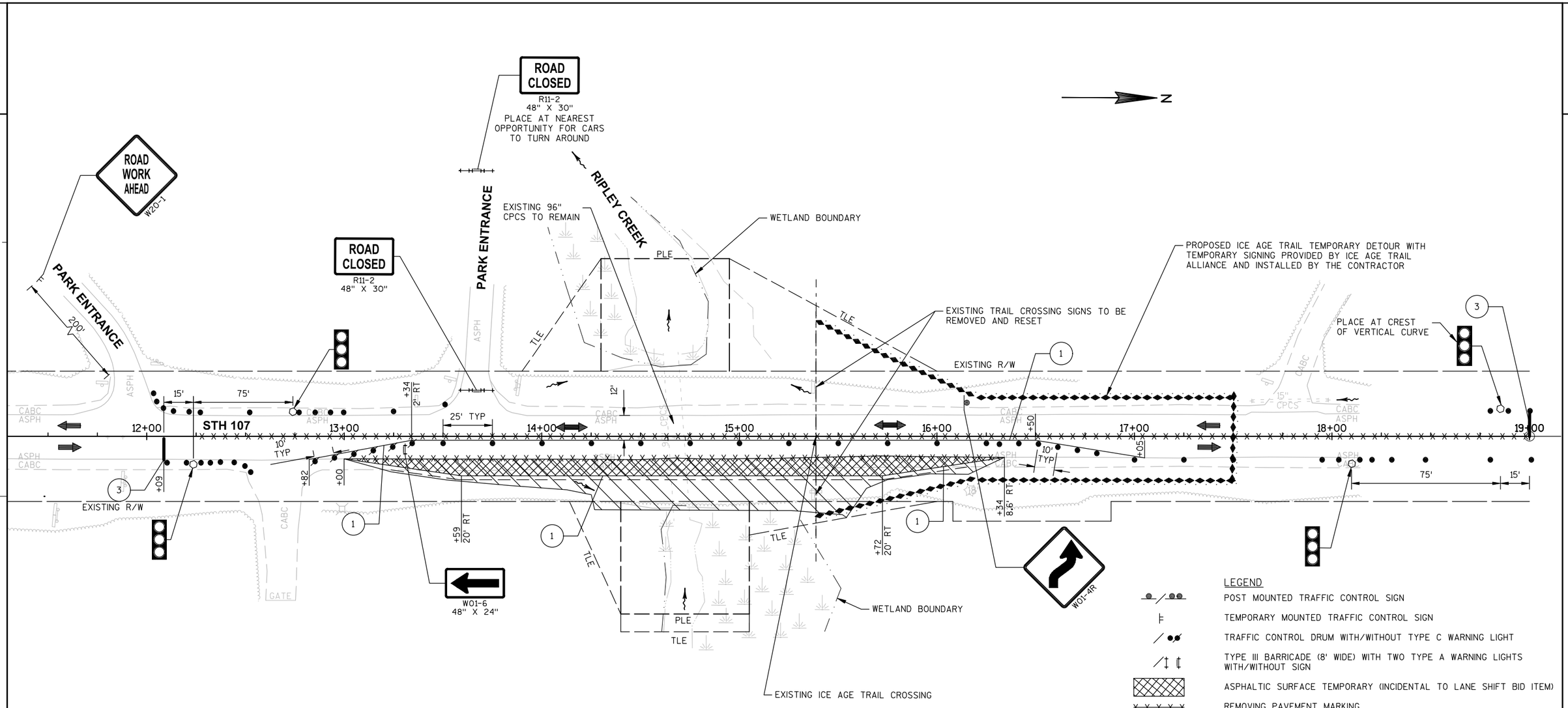


PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	STAGING PLAN - TUG LAKE CREEK STAGE 6	SHEET 26	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\026006_S6.DWG PLOT DATE : 10/15/2013 2:21 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

WISDOT/CADDS SHEET 42

2



STAGE 1 NOTES:

1. INSTALL TEMPORARY SIGNALS
2. SHIFT TRAFFIC TO EXISTING SB LANE
3. EXISTING CULVERT PIPE TO REMAIN
4. CONSTRUCT TEMPORARY WIDENING ON EAST SIDE OF STH 107
5. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
6. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS
7. INSTALL ICE AGE TRAIL DETOUR

TEMPORARY PAVEMENT MARKING LEGEND

(1) REMOVABLE TAPE 4-INCH (WHITE)

(2) REMOVABLE TAPE 4-INCH (YELLOW)

(3) STOP LINE REMOVABLE TAPE 24-INCH (WHITE)

(4) INSTALL PERMANENT PAVEMENT MARKINGS

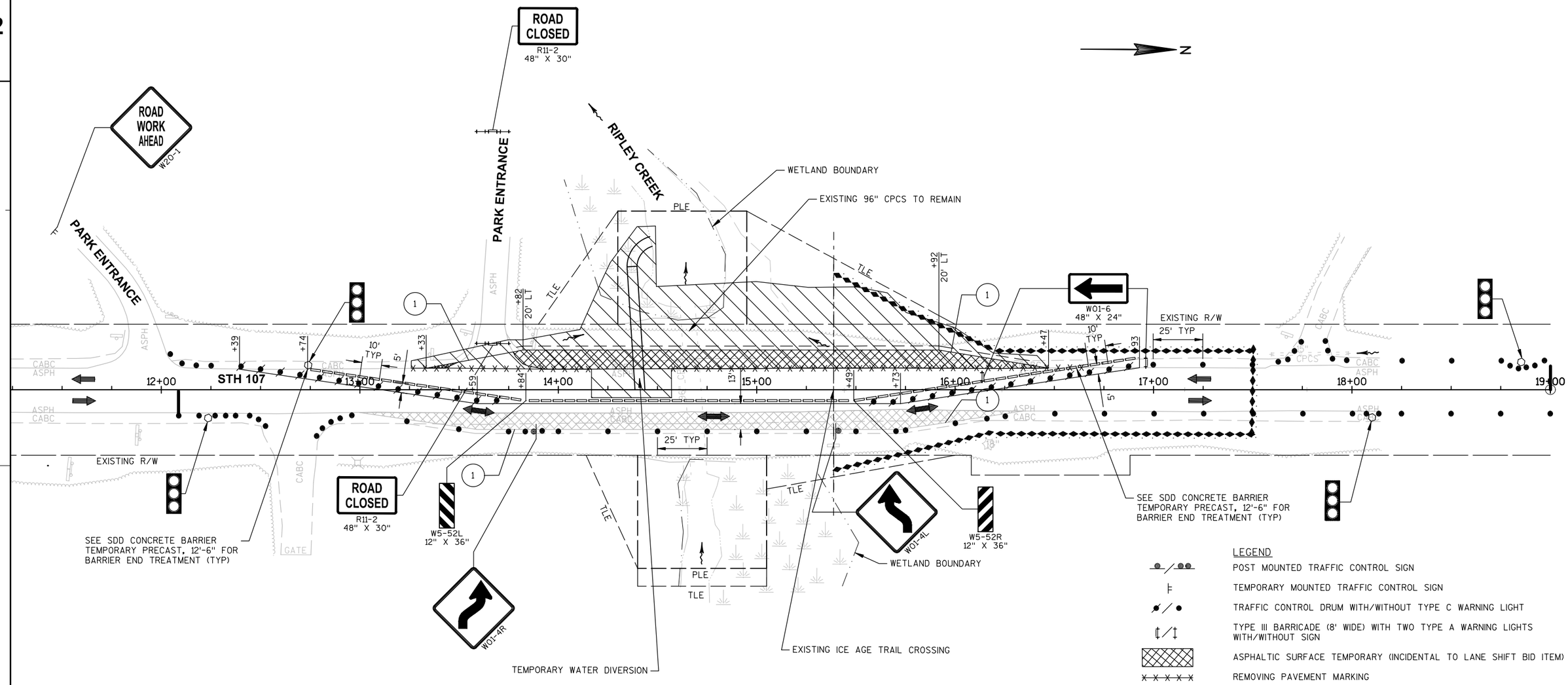
LEGEND

- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- TEMPORARY ICE AGE TRAIL DETOUR
- PROPOSED TEMPORARY SHOULDER

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	STAGING PLAN - RIPLEY CREEK STAGE 1	SCALE, FT 0 25 50	SHEET 27	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\026101_S1.DWG PLOT DATE : 10/15/2013 2:21 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

2



STAGE 2 NOTES:

1. SHIFT TRAFFIC TO WIDENED NB LANE
2. EXISTING CULVERT PIPE TO REMAIN
3. INSTALL WESTERN HALF OF TEMPORARY CULVERT PIPE
4. CONSTRUCT TEMPORARY WIDENING ON WEST SIDE OF STH 107
5. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
6. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS

TEMPORARY PAVEMENT MARKING LEGEND

(1) REMOVABLE TAPE 4-INCH (WHITE)
(2) REMOVABLE TAPE 4-INCH (YELLOW)
(3) STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
(4) INSTALL PERMANENT PAVEMENT MARKINGS

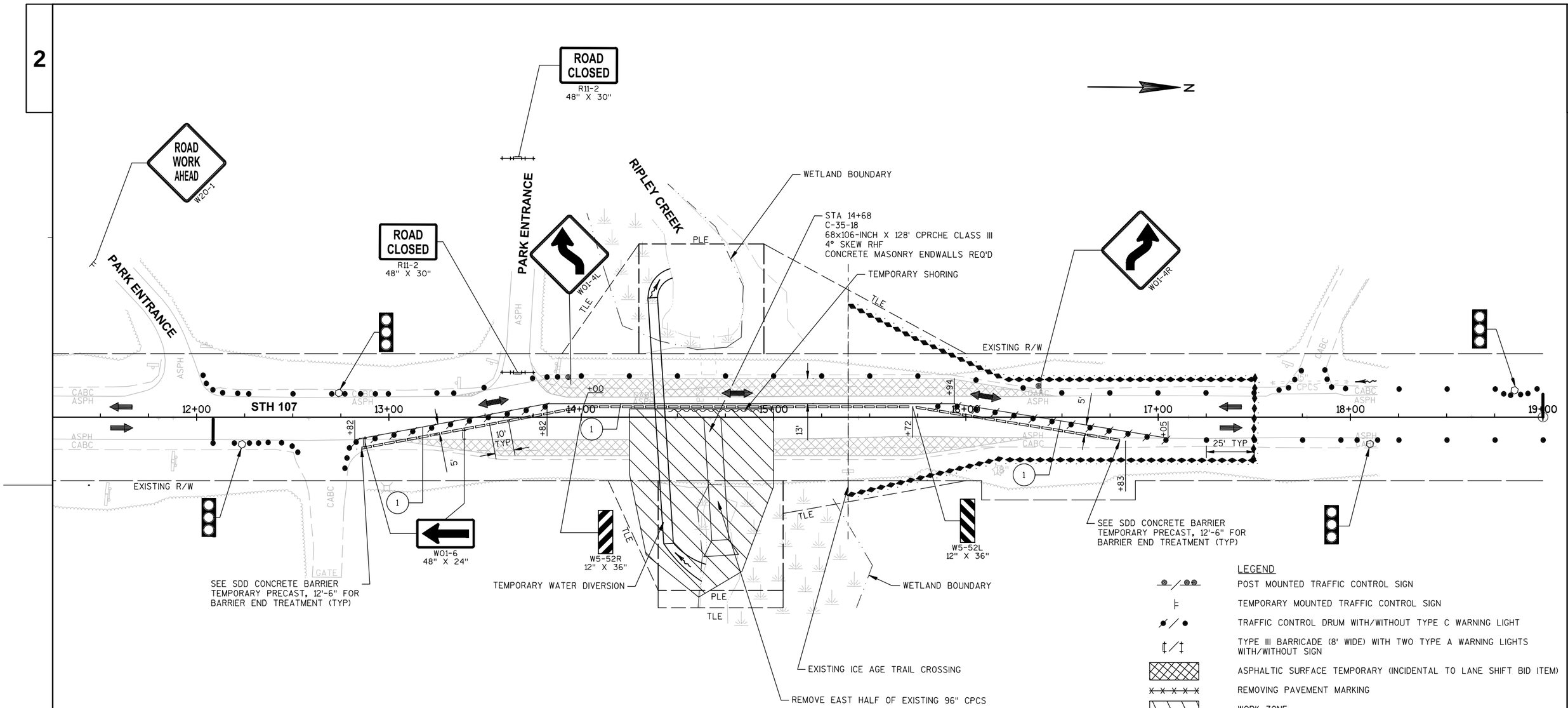
LEGEND

- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- TEMPORARY ICE AGE TRAIL DETOUR
- PROPOSED TEMPORARY SHOULDER

SHEET 9 OF 20

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY: LINCOLN	STAGING PLAN - RIPLEY CREEK STAGE 2	SCALE, FT 0 25 50	SHEET 28	E

2



STAGE 3 NOTES:

1. SHIFT TRAFFIC TO WIDENED SB LANE
2. INSTALL EASTERN HALF OF TEMPORARY CULVERT PIPE
3. DIVERT CHANNEL TO TEMPORARY CULVERT PIPE
4. REMOVE EAST HALF OF EXISTING 96" CULVERT PIPE
5. INSTALL EASTERN HALF OF 68X106-INCH CPRCHE
6. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
7. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS

TEMPORARY PAVEMENT MARKING LEGEND

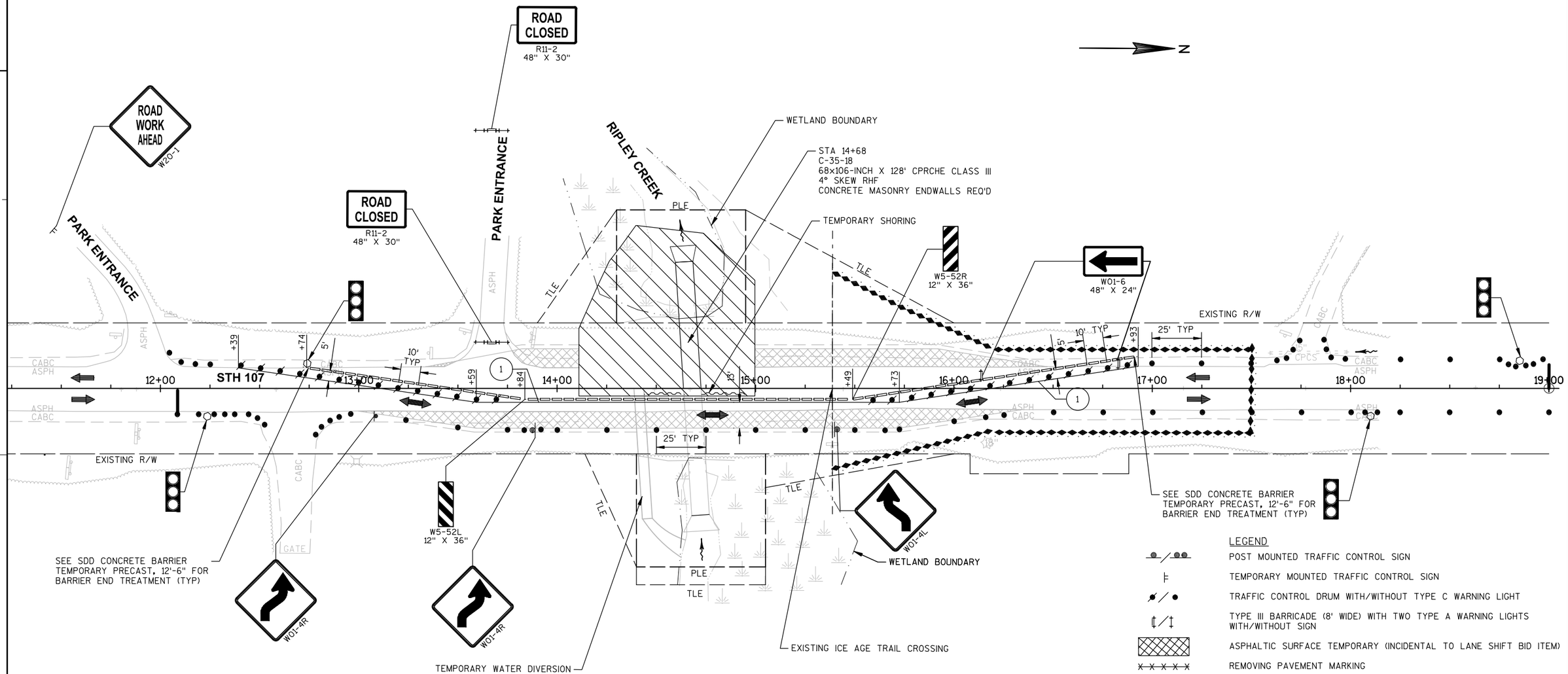
(1) REMOVABLE TAPE 4-INCH (WHITE)
(2) REMOVABLE TAPE 4-INCH (YELLOW)
(3) STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
(4) INSTALL PERMANENT PAVEMENT MARKINGS

LEGEND

- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- TEMPORARY ICE AGE TRAIL DETOUR
- PROPOSED TEMPORARY SHOULDER

SHEET 10 OF 20

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY: LINCOLN	STAGING PLAN - RIPLEY CREEK STAGE 3	SCALE, FT 0 25 50	SHEET 29	E



STAGE 4 NOTES:

1. SHIFT TRAFFIC TO WIDENED NB LANE
2. INSTALL WESTERN HALF OF 68X106-INCH CPRCHE
3. DIVERT CHANNEL TO COMPLETED 68X106-INCH CPRCHE
4. REMOVE WESTERN HALF OF TEMPORARY CULVERT PIPE
5. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
6. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS

TEMPORARY PAVEMENT MARKING LEGEND

(1) REMOVABLE TAPE 4-INCH (WHITE)

(2) REMOVABLE TAPE 4-INCH (YELLOW)

(3) STOP LINE REMOVABLE TAPE 24-INCH (WHITE)

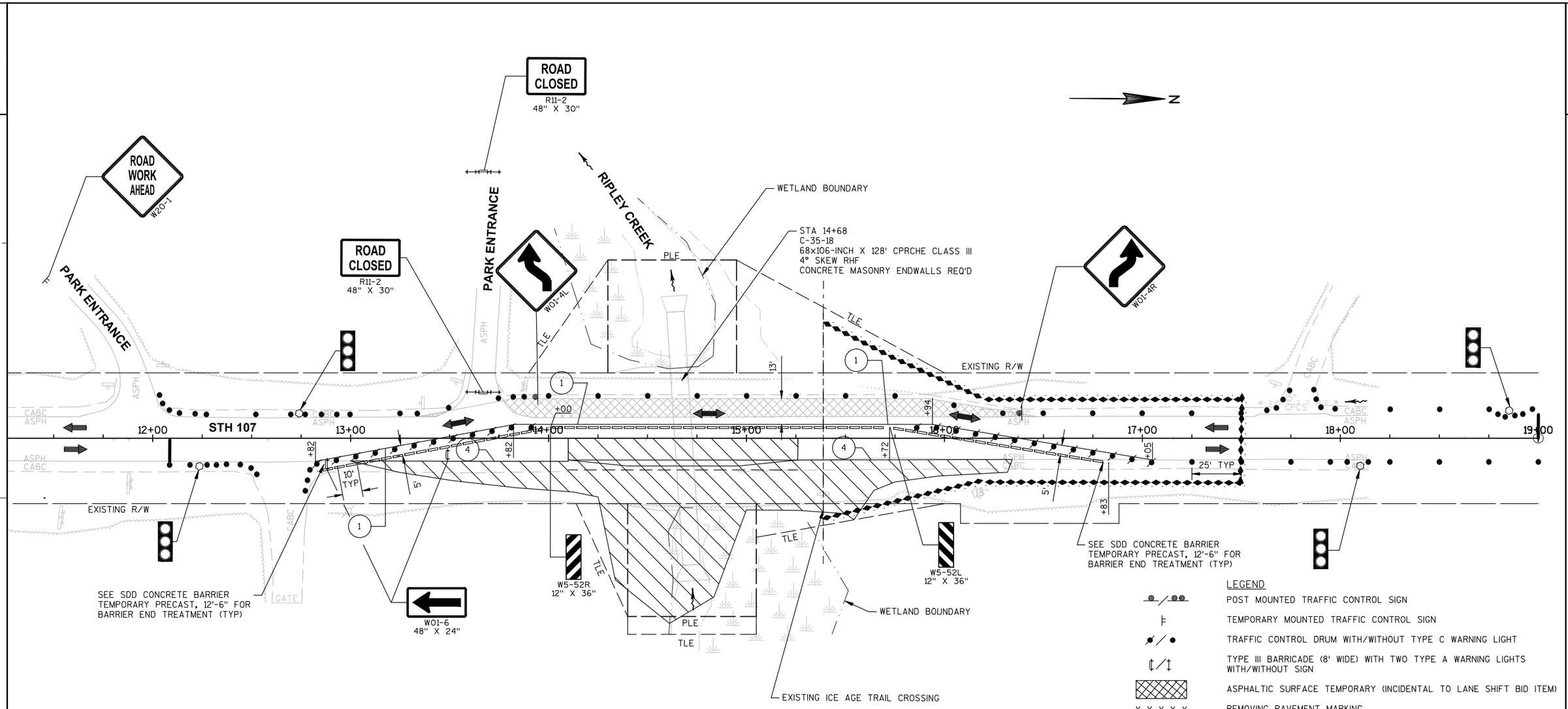
(4) INSTALL PERMANENT PAVEMENT MARKINGS

LEGEND

- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- TEMPORARY ICE AGE TRAIL DETOUR
- PROPOSED TEMPORARY SHOULDER

SHEET 11 OF 20

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	STAGING PLAN - RIPLEY CREEK STAGE 4	SCALE, FT 0 25 50	SHEET 30	E



STAGE 5 NOTES:

1. SHIFT TRAFFIC TO WIDENED SB LANE
2. REMOVE EASTERN HALF OF TEMPORARY CULVERT PIPE
3. REMOVE TEMPORARY WIDENING ON EAST SIDE OF STH 107 AND RESTORE FILL SLOPES TO FINAL CROSS SECTIONS
4. INSTALL BASE AGGREGATE AND HMA PAVEMENT TYPE E-3 FOR NORMAL TRAVEL LANES
5. PLACE PERMANENT PAVEMENT MARKING WHERE IT WILL NOT CONFLICT WITH TRAFFIC CONTROL "IN USE" PRIOR TO SHIFTING TRAFFIC FOR STAGE 6
6. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
7. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS

TEMPORARY PAVEMENT MARKING LEGEND

(1) REMOVABLE TAPE 4-INCH (WHITE)

(2) REMOVABLE TAPE 4-INCH (YELLOW)

(3) STOP LINE REMOVABLE TAPE 24-INCH (WHITE)

(4) INSTALL PERMANENT PAVEMENT MARKINGS

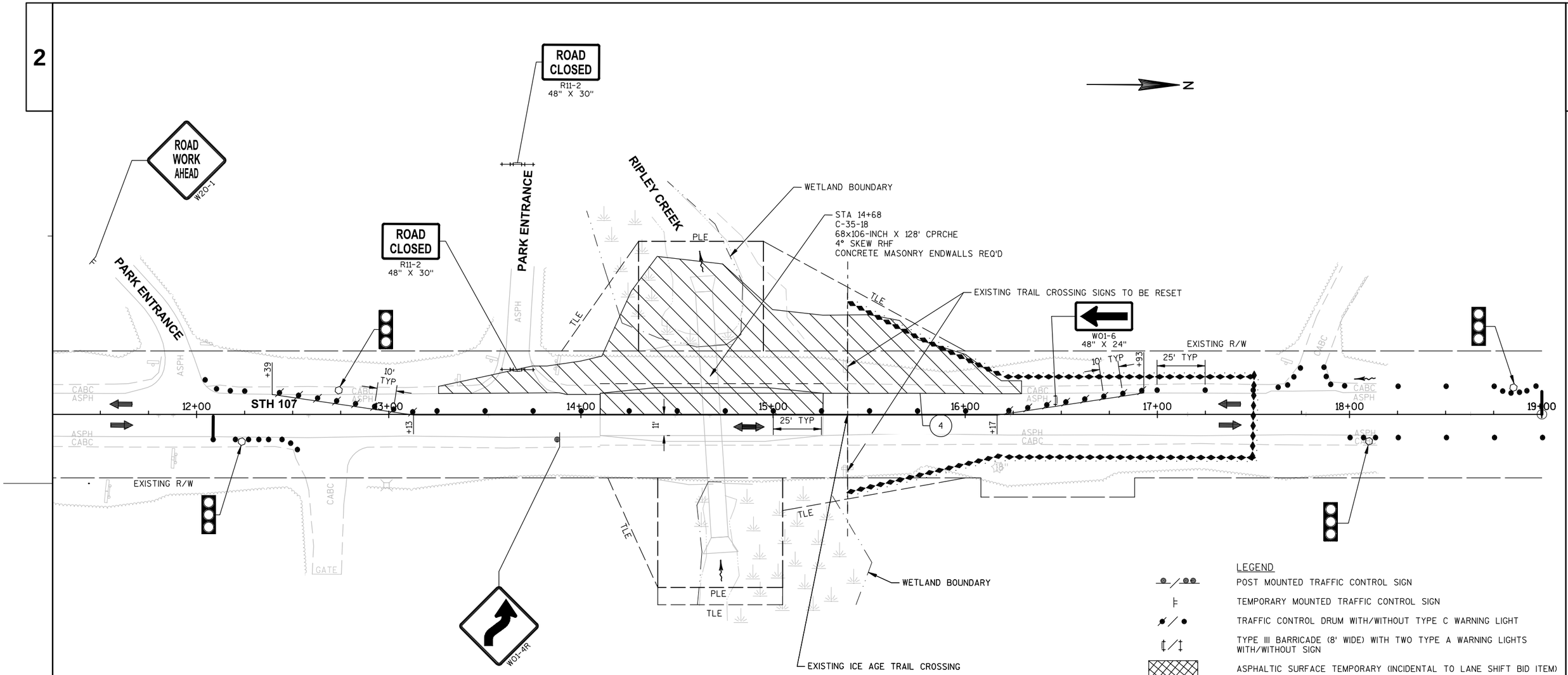
LEGEND

- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- TEMPORARY ICE AGE TRAIL DETOUR
- PROPOSED TEMPORARY SHOULDER

SHEET 12 OF 20

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	STAGING PLAN - RIPLEY CREEK STAGE 5	SCALE, FT 0 25 50	SHEET 31	E

2



STAGE 6 NOTES:

1. SHIFT TRAFFIC TO FINISHED NB LANE
2. REMOVE TEMPORARY WIDENING ON WEST SIDE OF STH 107 AND RESTORE FILL SLOPES TO FINAL CROSS SECTIONS
3. INSTALL BASE AGGREGATE AND HMA PAVEMENT TYPE E-3 FOR NORMAL TRAVEL LANES
4. PLACE PERMANENT PAVEMENT MARKING AND SIGNING
5. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
6. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS

TEMPORARY PAVEMENT MARKING LEGEND

(1) REMOVABLE TAPE 4-INCH (WHITE)

(2) REMOVABLE TAPE 4-INCH (YELLOW)

(3) STOP LINE REMOVABLE TAPE 24-INCH (WHITE)

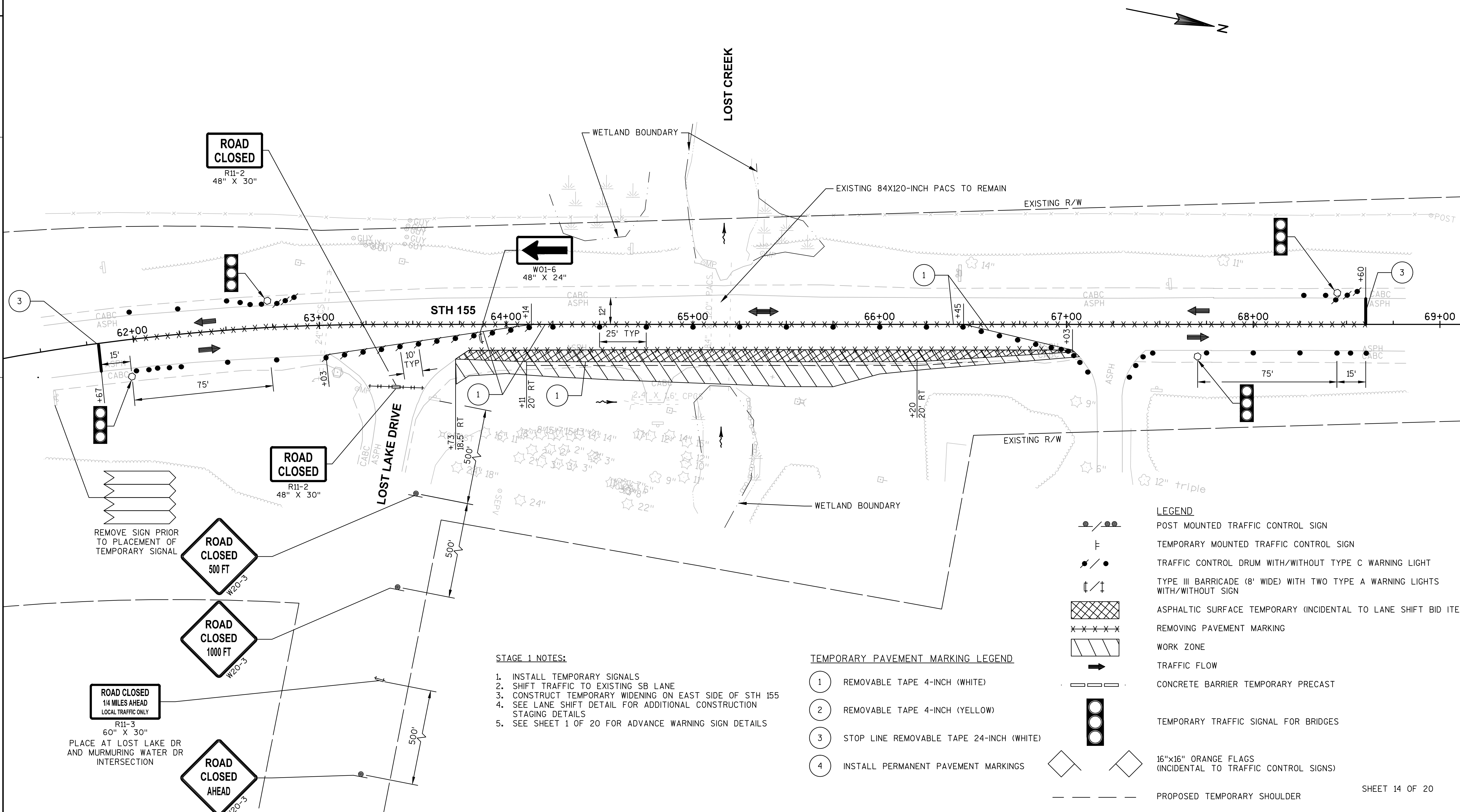
(4) INSTALL PERMANENT PAVEMENT MARKINGS

LEGEND

- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- TEMPORARY ICE AGE TRAIL DETOUR
- PROPOSED TEMPORARY SHOULDER

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	STAGING PLAN - RIPLEY CREEK STAGE 6	SCALE, FT 0 25 50	SHEET 32	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\026106_S6.DWG PLOT DATE : 10/15/2013 2:22 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :



STAGE 1 NOTES:

1. INSTALL TEMPORARY SIGNALS
2. SHIFT TRAFFIC TO EXISTING SB LANE
3. CONSTRUCT TEMPORARY WIDENING ON EAST SIDE OF STH 155
4. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
5. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
4. INSTALL PERMANENT PAVEMENT MARKINGS

LEGEND

- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- PROPOSED TEMPORARY SHOULDER

SHEET 14 OF 20

PROJECT NO:1009-43-61	HWY:STH 155	COUNTY:VILAS	STAGING PLAN - LOST CREEK STAGE 1	SCALE, FT 0 25 50	SHEET 33	E

2

N

LOST CREEK

ROAD CLOSED
R11-2
48" X 30"

WETLAND BOUNDARY

TEMPORARY WATER DIVERSION

EXISTING 84X120-INCH PACS TO REMAIN

EXISTING R/W

TEMPORARY SHORING

W01-6
48" X 24"

STH 155

62+00 63+00 64+00 65+00 66+00 67+00 68+00 69+00

+72 +97 +50 +36 20' LT +00 +30 7' RT 25' TYP +42 20' LT +91 7' RT +20 +34 5' +70 10' TYP

W5-52L
12" X 36"

W5-52R
12" X 36"

SEE SDD CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" FOR BARRIER END TREATMENT (TYP)

SEE SDD CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" FOR BARRIER END TREATMENT (TYP)

ROAD CLOSED
R11-2
48" X 30"

LOST LAKE DRIVE

500'

ROAD CLOSED 500 FT
W20-3

ROAD CLOSED 1000 FT
W20-3

ROAD CLOSED 1/4 MILES AHEAD LOCAL TRAFFIC ONLY
R11-3
60" X 30"
PLACE AT LOST LAKE DR AND MURMURING WATER DR INTERSECTION

ROAD CLOSED AHEAD
W20-3

WETLAND BOUNDARY

STAGE 2 NOTES:

1. SHIFT TRAFFIC TO WIDENED NB LANE
2. INSTALL WESTERN HALF OF TEMPORARY CULVERT PIPE
3. EXISTING 84X120-INCH PACS TO REMAIN
4. CONSTRUCT TEMPORARY WIDENING ON WEST SIDE OF STH 155
5. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
6. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
4. INSTALL PERMANENT PAVEMENT MARKINGS

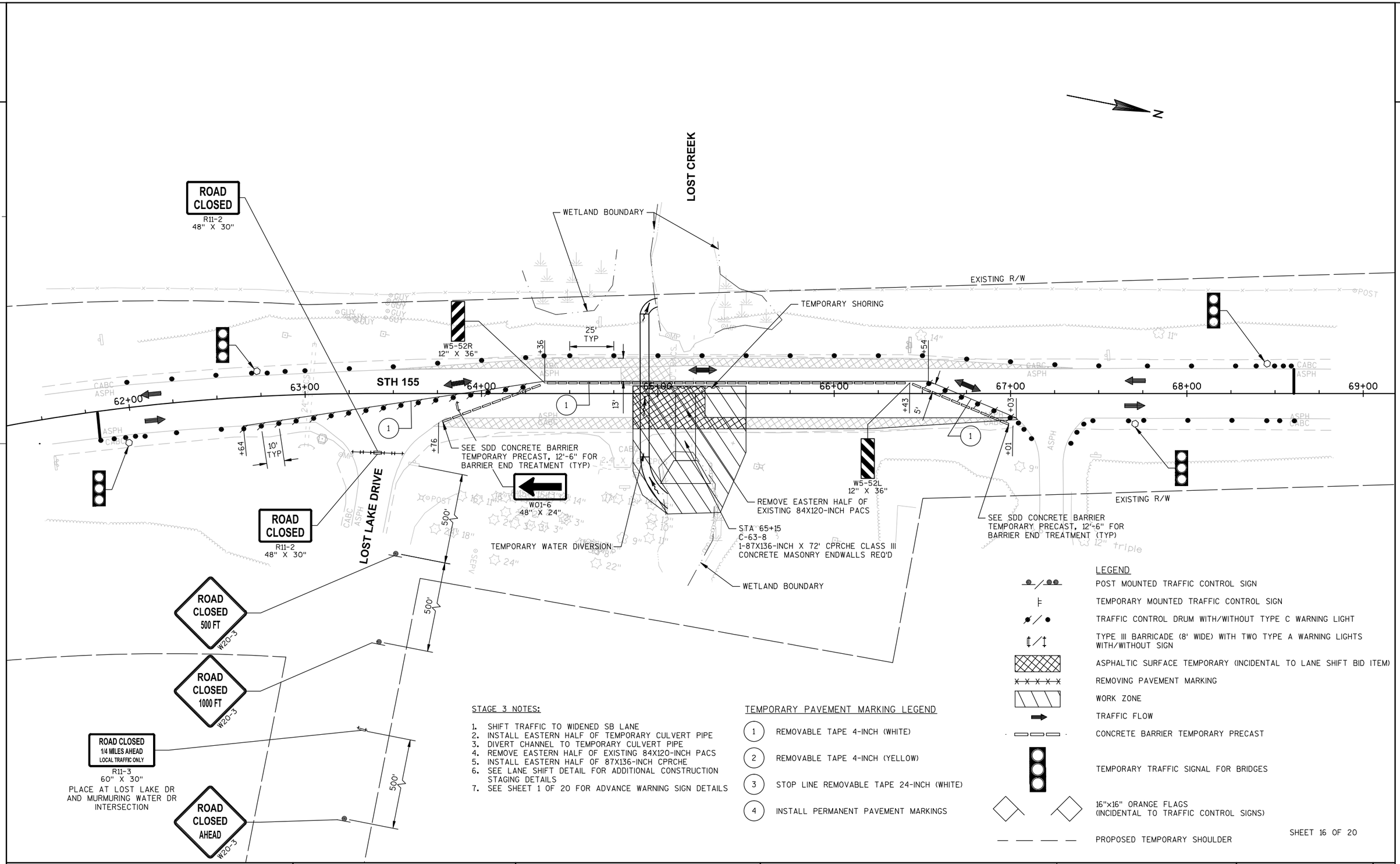
LEGEND

- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- PROPOSED TEMPORARY SHOULDER

SHEET 15 OF 20

PROJECT NO: 1009-43-61	HWY: STH 155	COUNTY: VILAS	STAGING PLAN - LOST CREEK STAGE 2	SCALE, FT 0 25 50	SHEET 34	E

2



STAGE 3 NOTES:

1. SHIFT TRAFFIC TO WIDENED SB LANE
2. INSTALL EASTERN HALF OF TEMPORARY CULVERT PIPE
3. DIVERT CHANNEL TO TEMPORARY CULVERT PIPE
4. REMOVE EASTERN HALF OF EXISTING 84X120-INCH PACS
5. INSTALL EASTERN HALF OF 87X136-INCH CPRCHE
6. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
7. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS

TEMPORARY PAVEMENT MARKING LEGEND

1	REMOVABLE TAPE 4-INCH (WHITE)
2	REMOVABLE TAPE 4-INCH (YELLOW)
3	STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
4	INSTALL PERMANENT PAVEMENT MARKINGS

LEGEND

- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- PROPOSED TEMPORARY SHOULDER

PROJECT NO: 1009-43-61	HWY: STH 155	COUNTY: VILAS	STAGING PLAN - LOST CREEK STAGE 3	SCALE, FT 0 25 50	SHEET 35	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\026203_S3.DWG PLOT DATE : 10/15/2013 2:22 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

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N

LOST CREEK

ROAD CLOSED
R11-2
48" X 30"

WETLAND BOUNDARY

STA 65+15
C-63-8
1-87X136-INCH X 72' CPRCHE CLASS III
CONCRETE MASONRY ENDWALLS REQ'D

W01-6
48" X 24"

SEE SDD CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6" FOR
BARRIER END TREATMENT (TYP)

EXISTING R/W

TEMPORARY SHORING

REMOVE WESTERN HALF OF
EXISTING 84X120-INCH PACS

STH 155

62+00 63+00 64+00 65+00 66+00 67+00 68+00 69+00

+72 +97 +00 +20 +70

5' 10' TYP

+30 7' RT

+91 7' RT

25' TYP

13'

W5-52R
12" X 36"

W5-52L
12" X 36"

SEE SDD CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6" FOR
BARRIER END TREATMENT (TYP)

ROAD CLOSED
R11-2
48" X 30"

LOST LAKE DRIVE

TEMPORARY WATER DIVERSION

EXISTING R/W

WETLAND BOUNDARY

500'

ROAD CLOSED 500 FT
W20-3

ROAD CLOSED 1000 FT
W20-3

ROAD CLOSED 1/4 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3
60" X 30"
PLACE AT LOST LAKE DR
AND MURMURING WATER DR
INTERSECTION

ROAD CLOSED AHEAD
W20-3

STAGE 4 NOTES:

1. SHIFT TRAFFIC TO WIDENED NB LANE
2. REMOVE WESTERN HALF OF EXISTING 84X120-INCH PACS
3. INSTALL WESTERN HALF OF 87X136-INCH CPRCHE
4. DIVERT CHANNEL TO COMPLETED 87X136-INCH CPRCHE
5. REMOVE WESTERN HALF OF TEMPORARY CULVERT PIPE
6. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
7. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
4. INSTALL PERMANENT PAVEMENT MARKINGS

LEGEND

- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- PROPOSED TEMPORARY SHOULDER

SHEET 17 OF 20

PROJECT NO: 1009-43-61	HWY: STH 155	COUNTY: VILAS	STAGING PLAN - LOST CREEK STAGE 4	SCALE, FT 0 25 50	SHEET 36	E

2

N

LOST CREEK

WETLAND BOUNDARY

EXISTING R/W

ROAD CLOSED
R11-2
48" X 30"

W01-6
48" X 24"

W5-52R
12" X 36"

STH 155

62+00 63+00 64+00 65+00 66+00 67+00 68+00 69+00

25' TYP

13'

+36

+54

+43

5'

+03

+01

+64

10' TYP

+16

BAD

12' PRIVATE ENTRANCE

12'

STA 64+80, 41' RT
1-24-INCH CPCS REQ'D

W5-52L
12" X 36"

STA 65+15
C-63-8
1-87X136-INCH X 72' CPRCHE CLASS III
CONCRETE MASONRY ENDWALLS REQ'D

SEE SDD CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" FOR BARRIER END TREATMENT (TYP)

SEE SDD CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" FOR BARRIER END TREATMENT (TYP)

EXISTING R/W

WETLAND BOUNDARY

LOST LAKE DRIVE

ROAD CLOSED
R11-2
48" X 30"

500'

ROAD CLOSED 500 FT
W20-3

ROAD CLOSED 1000 FT
W20-3

ROAD CLOSED 1/4 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3
60" X 30"
PLACE AT LOST LAKE DR AND MURMURING WATER DR INTERSECTION

ROAD CLOSED AHEAD
W20-3

STAGE 5 NOTES:

1. SHIFT TRAFFIC TO WIDENED SB LANE
2. REMOVE EASTERN HALF OF TEMPORARY CULVERT PIPE
3. REMOVE TEMPORARY WIDENING ON EAST SIDE OF STH 155 AND RESTORE FILL SLOPES TO FINAL CROSS SECTIONS
4. INSTALL BASE AGGREGATE AND HMA PAVEMENT TYPE E-3 FOR NORMAL TRAVEL LANE
5. PLACE PERMANENT SIGNING AND PAVEMENT MARKING WHERE IT WILL NOT CONFLICT WITH TRAFFIC CONTROL "IN USE" PRIOR TO SHIFTING TRAFFIC FOR STAGE 6
6. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
7. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS

TEMPORARY PAVEMENT MARKING LEGEND

(1) REMOVABLE TAPE 4-INCH (WHITE)

(2) REMOVABLE TAPE 4-INCH (YELLOW)

(3) STOP LINE REMOVABLE TAPE 24-INCH (WHITE)

(4) INSTALL PERMANENT PAVEMENT MARKINGS

LEGEND

- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- PROPOSED TEMPORARY SHOULDER

SHEET 18 OF 20

PROJECT NO: 1009-43-61	HWY: STH 155	COUNTY: VILAS	STAGING PLAN - LOST CREEK STAGE 5	SCALE, FT 0 25 50	SHEET 37	E

2

N

LOST CREEK

WETLAND BOUNDARY

STA 65+15
C-63-8
1-87X136-INCH X 72' CPRCHE CLASS III
CONCRETE MASONRY ENDWALLS REQ'D

EXISTING R/W

ROAD CLOSED
R11-2
48" X 30"

W01-6
48" X 24"

62+00 63+00 64+00 65+00 66+00 67+00 68+00 69+00

+72 +47 +70 +70

25' TYP

10' TYP

14'

1 4

STH 155

ASPH CABC

LOST LAKE DRIVE

500'

ROAD CLOSED
R11-2
48" X 30"

ROAD CLOSED
500 FT
W20-3

ROAD CLOSED
1000 FT
W20-3

ROAD CLOSED
1/4 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3
60" X 30"
PLACE AT LOST LAKE DR
AND MURMURING WATER DR
INTERSECTION

ROAD CLOSED
AHEAD
W20-3

STAGE 6 NOTES:

1. SHIFT TRAFFIC TO FINISHED NB LANE
2. REMOVE TEMPORARY WIDENING ON WEST SIDE OF STH 155 AND RESTORE FILL SLOPES TO FINAL CROSS SECTIONS
3. INSTALL BASE AGGREGATE AND HMA PAVEMENT TYPE E-3 FOR NORMAL TRAVEL LANES
4. PLACE PERMANENT SIGNING AND PAVEMENT MARKING
5. SEE LANE SHIFT DETAIL FOR ADDITIONAL CONSTRUCTION STAGING DETAILS
6. SEE SHEET 1 OF 20 FOR ADVANCE WARNING SIGN DETAILS

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. STOP LINE REMOVABLE TAPE 24-INCH (WHITE)
4. INSTALL PERMANENT PAVEMENT MARKINGS

LEGEND

- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS WITH/WITHOUT SIGN
- ASPHALTIC SURFACE TEMPORARY (INCIDENTAL TO LANE SHIFT BID ITEM)
- REMOVING PAVEMENT MARKING
- WORK ZONE
- TRAFFIC FLOW
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY TRAFFIC SIGNAL FOR BRIDGES
- 16"x16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- PROPOSED TEMPORARY SHOULDER

SHEET 19 OF 20

PROJECT NO: 1009-43-61	HWY: STH 155	COUNTY: VILAS	STAGING PLAN - LOST CREEK STAGE 6	SCALE, FT 0 25 50	SHEET 38	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\026206_S6.DWG PLOT DATE : 10/15/2013 2:23 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

2

2

BIRCH LANE

STH 47

CTH K

RIVER STREET

ROAD WORK AHEAD
W20-1

SHOULDER WORK
W21-5A

1500'

500'

STONE RETAINING WALL

WETLAND BOUNDARY

CAUTION

EXISTING R/W

1-24-INCH X 47' CPCS
EXISTING PIPE TO BE LINED

END ROAD WORK
G20-2A
48" X 24"

EXISTING ENDWALL TO REMAIN

STOP LINER AT EACH
END OF INLET

INSTALL DRUMS AS
NEEDED DURING WORK
IN MEDIAN

25' TYP

10'
TYP

1-24-INCH X 53' CPCS
EXISTING PIPE TO BE LINED

1 - 24-INCH APRON ENDWALL REQ'D

46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00

N

LEGEND

POST MOUNTED TRAFFIC CONTROL SIGN

TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT

SHEET 20 OF 20

PROJECT NO: 1009-43-61	HWY: STH 47	COUNTY: ONEIDA	STAGING PLAN - STH 47 ONEIDA COUNTY	SCALE, FT 0 25 50	SHEET 39	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\026301_S1.DWG PLOT DATE : 10/15/2013 2:23 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

DATE 04FEB14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1009-43-61 QUANTITY
0010	201.0105	CLEARING	STA	11.000	11.000
0020	201.0120	CLEARING	ID	60.000	60.000
0030	201.0205	GRUBBING	STA	11.000	11.000
0040	201.0220	GRUBBING	ID	60.000	60.000
0050	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	1.000	1.000
0060	203.0200	REMOVING OLD STRUCTURE (STATION) 01. 56+70	LS	1.000	1.000
0070	203.0200	REMOVING OLD STRUCTURE (STATION) 02. 14+68	LS	1.000	1.000
0080	203.0200	REMOVING OLD STRUCTURE (STATION) 03. 65+15	LS	1.000	1.000
0090	204.0165	REMOVING GUARDRAIL	LF	455.000	455.000
0100	204.0180	REMOVING DELINEATORS AND MARKERS	EACH	4.000	4.000
0110	205.0100	EXCAVATION COMMON	CY	1,344.000	1,344.000
0120	206.2000	EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 01. C-35-17	LS	1.000	1.000
0130	206.2000	EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 02. C-63-8	LS	1.000	1.000
0140	206.6000.S	TEMPORARY SHORING	SF	3,150.000	3,150.000
0150	208.0100	BORROW	CY	606.000	606.000
0160	210.0100	BACKFILL STRUCTURE	CY	1,057.000	1,057.000
0170	213.0100	FINISHING ROADWAY (PROJECT) 01. 1009-43-61	EACH	1.000	1.000
0180	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	230.000	230.000
0190	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	1,700.000	1,700.000
0200	311.0115	BREAKER RUN	CY	156.000	156.000
0210	455.0105	ASPHALTIC MATERIAL PG58-28	TON	22.000	22.000
0220	455.0605	TACK COAT	GAL	38.000	38.000
0230	460.1103	HMA PAVEMENT TYPE E-3	TON	390.000	390.000
0240	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	255.000	255.000
0250	465.0315	ASPHALTIC FLUMES	SY	18.000	18.000
0260	504.0100	CONCRETE MASONRY CULVERTS	CY	90.000	90.000
0270	504.0900	CONCRETE MASONRY ENDWALLS	CY	13.000	13.000
0280	505.0410	BAR STEEL REINFORCEMENT HS CULVERTS	LB	7,510.000	7,510.000
0290	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	57.000	57.000
0300	520.9700.S	CULVERT PIPE LINERS (SIZE) 01. 24-INCH	LF	100.000	100.000
0310	520.9750.S	CLEANING CULVERT PIPES FOR LINER VERIFICATION	EACH	2.000	2.000
0320	521.0124	CULVERT PIPE CORRUGATED STEEL 24-INCH	LF	26.000	26.000
0330	521.1024	APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH	EACH	4.000	4.000
0340	523.0168	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 68X106-INCH	LF	128.000	128.000
0350	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	1,495.000	1,495.000
0360	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	5,200.000	5,200.000
0370	606.0200	RIPRAP MEDIUM	CY	25.000	25.000
0380	614.0905	CRASH CUSHIONS TEMPORARY	EACH	2.000	2.000
0390	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1009-43-61	EACH	1.000	1.000
0400	619.1000	MOBILIZATION	EACH	1.000	1.000
0410	624.0100	WATER	MGAL	7.000	7.000
0420	625.0100	TOPSOIL	SY	3,480.000	3,480.000
0430	627.0200	MULCHING	SY	1,400.000	1,400.000

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DATE 04FEB14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1009-43-61 QUANTITY
0440	628.1104	EROSION BALES	EACH	100.000	100.000
0450	628.1504	SILT FENCE	LF	5,330.000	5,330.000
0460	628.1520	SILT FENCE MAINTENANCE	LF	2,665.000	2,665.000
0470	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	10.000	10.000
0480	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	5.000	5.000
0490	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	6,970.000	6,970.000
0500	628.6005	TURBIDITY BARRIERS	SY	85.000	85.000
0510	628.7015	INLET PROTECTION TYPE C	EACH	1.000	1.000
0520	628.7504	TEMPORARY DITCH CHECKS	LF	1,205.000	1,205.000
0530	628.7555	CULVERT PIPE CHECKS	EACH	20.000	20.000
0540	628.7570	ROCK BAGS	EACH	100.000	100.000
0550	629.0210	FERTILIZER TYPE B	CWT	5.000	5.000
0560	630.0120	SEEDING MIXTURE NO. 20	LB	120.000	120.000
0570	630.0200	SEEDING TEMPORARY	LB	120.000	120.000
0580	630.0300	SEEDING BORROW PIT	LB	100.000	100.000
0590	633.5200	MARKERS CULVERT END	EACH	8.000	8.000
0600	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	2.000	2.000
0610	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	1.000	1.000
0620	637.2230	SIGNS TYPE II REFLECTIVE F	SF	24.500	24.500
0630	638.2102	MOVING SIGNS TYPE II	EACH	5.000	5.000
0640	638.2602	REMOVING SIGNS TYPE II	EACH	8.000	8.000
0650	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	7.000	7.000
0660	638.4000	MOVING SMALL SIGN SUPPORTS	EACH	8.000	8.000
0670	642.5001	FIELD OFFICE TYPE B 01. STH 107	EACH	1.000	1.000
0680	642.5001	FIELD OFFICE TYPE B 02. STH 155	EACH	1.000	1.000
0690	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1009-43-61	EACH	1.000	1.000
0700	643.0300	TRAFFIC CONTROL DRUMS	DAY	25,970.000	25,970.000
0710	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	2,375.000	2,375.000
0720	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	4,650.000	4,650.000
0730	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	8,605.000	8,605.000
0740	643.0900	TRAFFIC CONTROL SIGNS	DAY	9,433.000	9,433.000
0750	645.0105	GEOTEXTILE FABRIC TYPE C	SY	462.000	462.000
0760	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	45.000	45.000
0770	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	2,450.000	2,450.000
0780	646.0406	PAVEMENT MARKING SAME DAY EPOXY 4-INCH	LF	3,690.000	3,690.000
0790	646.0600	REMOVING PAVEMENT MARKINGS	LF	5,790.000	5,790.000
0800	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	12,810.000	12,810.000
0810	649.1400	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH	LF	72.000	72.000
0820	650.6000	CONSTRUCTION STAKING PIPE CULVERTS	EACH	3.000	3.000
0830	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1009-43-61	LS	1.000	1.000
0840	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	429.000	429.000
0850	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 01. C-35-17	LS	1.000	1.000
0860	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 02. C-35-18	LS	1.000	1.000
0870	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 03. C-63-8	LS	1.000	1.000
0880	690.0150	SAWING ASPHALT	LF	165.000	165.000
0890	690.0250	SAWING CONCRETE	LF	90.000	90.000
0900	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	90.000	90.000

3

DATE 04FEB14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1009-43-61 QUANTITY
0910	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5.00/HR	HRS	1,200.000	1,200.000
0920	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	1,200.000	1,200.000
0930	SPV.0035	SPECIAL 01. STREAM BED MEDIUM	CY	265.000	265.000
0940	SPV.0060	SPECIAL 01. LANE SHIFT - TUG LAKE CREEK	EACH	2.000	2.000
0950	SPV.0060	SPECIAL 02. LANE SHIFT - RIPLEY CREEK	EACH	2.000	2.000
0960	SPV.0060	SPECIAL 03. LANE SHIFT - LOST CREEK	EACH	2.000	2.000
0970	SPV.0090	SPECIAL 01. CULVERT PIPE RCHE CLASS HE-III 87X136-IN	LF	144.000	144.000
0980	SPV.0105	SPECIAL 01. TEMPORARY WATER DIVERSION - TUG LAKE CREEK	LS	1.000	1.000
0990	SPV.0105	SPECIAL 02. TEMPORARY WATER DIVERSION - RIPLEY CREEK	LS	1.000	1.000
1000	SPV.0105	SPECIAL 03. TEMPORARY WATER DIVERSION - LOST CREEK	LS	1.000	1.000
1010	SPV.0120	SPECIAL 01. WATER FOR SEEDED AREAS	MGAL	88.000	88.000

3

CLEARING AND GRUBBING

LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
STH 107 TUG LAKE CREEK		
55+00 - 58+00 LT	3	3
56+00 - 57+00 RT	1	1
STH 107 RIPLEY CREEK		
14+00 - 17+00 LT	3	3
14+00 - 16+00 RT	2	2
STH 155 LOST CREEK		
64+00 - 66+00 LT	2	2
TOTALS	11	11

REMOVING SMALL PIPE CULVERTS

LOCATION	DESCRIPTION	203.0100 EACH
STH 155 LOST CREEK		
64+80 RT	2.4' X 1.6' X 25' CPCS	1
TOTAL		1

REMOVING OLD STRUCTURE*

LOCATION	203.0200.02 LS
STH 107 RIPLEY CREEK	
14+68	1
TOTALS	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE.
SEE STRUCTURE PLANS

REMOVING DELINEATORS AND MARKERS

LOCATION	204.0180 EACH
STH 107 TUG LAKE CREEK	4
TOTAL	4

3

CLEARING AND GRUBBING

LOCATION	201.0120 CLEARING ID	201.0220 GRUBBING ID
UNDISTRIBUTED	60	60
TOTALS	60	60

REMOVING GUARD RAIL

LOCATION	204.0165 LF
STH 107 TUG LAKE CREEK	
55+57 - 57+80 RT	225
55+58 - 57+82 LT	230
TOTAL	455

TEMPORARY SHORING

LOCATION	206.6000.S SF
STH 107 TUG LAKE CREEK	1,100
STH 107 RIPLEY CREEK	1,350
STH 155 LOST CREEK	700
TOTAL	3,150

ALL ITEMS CATEGORY 0010 UNLESS NOTED

EARTHWORK SUMMARY			A	B	C	D	E	F		
			Item # 205.0100	*	*	*	*	*	Item # 208.0100	
Division	From/To Station	Location	Excavation Common Cut (1) (CY)	Salvaged/ Unusable Pavement Material (1) (CY)	Available Material (2) (CY)	Unexpanded Fill (CY)	Expanded Fill (3) (CY) Factor 1.20	Mass Ordinate +/- (6) (CY)	Borrow (CY)	Comment:
STH 107 Tug Lake Creek	55+55 - 58+50	Roadway	529	130	399	483	579	-180	180	
		Culvert Pipe Transition	50	0	50	50	50	0	0	See Construction Detail
Division 1 Subtotal			579	130	449	533	629	-180	180	
STH 107 Ripley Creek	14+10 - 15+26	Roadway	240	20	220	470	564	-344	344	
		Culvert Pipe Transition	300	0	300	300	300	0	0	See Construction Detail
Division 2 Subtotal			540	20	520	770	864	-344	344	
STH 155 Lost Creek	64+65 - 65+45	Roadway	174	60	114	164	197	-82	82	
		Culvert Pipe Transition	50	0	50	50	50	0	0	See Construction Detail
Division 3 Subtotal			224	60	164	214	247	-82	82	
Grand Total (CY)			1,344	210	1,134	1,517	1,740	-606	606	
		Total Excavation Common	1,344	CY						

1) Salvaged/Unsuable Pavement Material (B) is included in Cut. This assumes the existing pavement is salvaged or wasted by the contractor. The existing pavement structure is not shown in the cross sections.
2) Available Material (C) is Cut (A) minus Salvaged/Unusable Pavement Material (B).
3) Expanded Fill (E) = (Unexpanded Fill (D)) * Expanded Fill Factor.
4) The Mass Ordinate (F=C-E) + or - Qty calculated for the Division. Plus quantity indicates a waste volume of material within the Division. Minus indicates a borrow volume of material within the Division.

* NOT A BID ITEM. FOR INFORMATION ONLY.

BASE COURSE ITEMS

LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
STH 107 TUG LAKE CREEK	90	850
STH 107 RIPLEY CREEK	45	450
STH 155 LOST CREEK	95	400
TOTALS	230	1,700

HMA PAVEMENT ITEMS

LOCATION	455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1103 HMA PAVEMENT TYPE E-3 TON
STH 107 TUG LAKE CREEK			
55+55 - 57+88	12	20	210
STH 107 RIPLEY CREEK			
14+10 - 15+26	6	10	105
STH 155 LOST CREEK			
64+65 - 65+45	4	8	75
TOTALS	22	38	390

ASPHALTIC FLUMES

LOCATION	465.0315 SY
STH 47 ONEIDA COUNTY	
49+25 RT	18
TOTAL	18

CULVERT PIPE LINERS

LOCATION	520.9700.S CULVERT PIPE LINERS 24-INCH LF	520.9750.S CLEANING CULVERT PIPES FOR LINER VERIFICATION EACH
STH 47 ONEIDA COUNTY		
48+93 RT	53	1
48+93 LT	47	1
TOTAL	100	2

ALL ITEMS CATEGORY 0010 UNLESS NOTED

3

CROSS CULVERTS

INLET STATION	INLET OFFSET	INLET ELEV	DISCH STATION	DISCH OFFSET	DISCH ELEV	SLOPE %	504.0900 CONCRETE MASONRY ENDWALLS CY	523.0168 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 68X106-INCH LF	** 650.6000 CONST STAKING PIPE CULVERTS EACH	* JOINT TIES REQ'D EACH
STH 107 TUG LAKE CREEK***										
56+79	34' RT	1289.70	56+71	38' LT	1288.90	1.11%	0.0	---	1	12
STH 107 RIPLEY CREEK										
14+72	64' RT	1295.50	14+64	64' LT	1294.70	0.63%	13.0	128	1	12
STH 155 LOST CREEK***										
65+15	36' RT	1593.75	65+15	36' LT	1593.25	0.69%	0.0	---	1	12
TOTALS							13.0	128	3	36

NOTE: JOINT TIES FOR CONCRETE PIPE SHALL BE PROVIDED AT ALL CONCETE APRON ENDWALL. APRON ENDWALLS SHALL BE TIED FOR THE LAST THREE JOINTS AT BOTH CULVERT ENDS. THE COST OF THESE TIES SHALL BE INCIDENTAL TO THE COST OF THE PIPE. STATIONS AND OFFSETS ARE TO THE END OF PIPE FOR CROSS CULVERS, AND TO THE CENTER OF THE PIPE FOR DRIVEWAYS. BACKFILL GRANULAR IS INCIDENTAL TO THE COST OF CULVERT PIPE.

*NON-BID ITEM (FOR INFORMATION ONLY).

** ADDITIONAL STAKING QUANTITIES SHOWN ELSEWHERE.

*** PIPE QUANTITY SHOWN ELSEWHERE. SEE STRUCTURE PLANS.

CONCRETE BARRIER TEMPORARY PRECAST

LOCATION	603.8000 CONCRETE BARRIER TEPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEPORARY PRECAST INSTALLED LF
STH 107 TUG LAKE CREEK		
STAGE 2	600	600
STAGE 3	---	370
STAGE 4	---	600
STAGE 5	---	370
SUBTOTALS	600	1,940
STH 107 RIPLEY CREEK		
STAGE 2	420	420
STAGE 3	---	400
STAGE 4	---	420
STAGE 5	---	400
SUBTOTALS	420	1,640
STH 155 LOST CREEK		
STAGE 2	475	475
STAGE 3	---	335
STAGE 4	---	475
STAGE 5	---	335
SUBTOTALS	475	1,620
TOTALS	1,495	5,200

PRIVATE ENTRANCE CULVERTS

INLET STATION	521.0124 CULVERT PIPE CORRUGATED STEEL 24-INCH LF	* MINIMUM THICKNESS FOR STEEL PIPE INCHES
STH 155 LOST CREEK		
64+80 RT	26	0.064
TOTALS	26	---

*NON-BID ITEM (FOR INFORMATION ONLY)

RIPRAP MEDIUM

LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE FABRIC TYPE HR SY
STH 107 TUG LAKE CREEK		
56+75 RT	25	45
TOTALS	25	45

ALL ITEMS CATEGORY 0010 UNLESS NOTED

WATER

LOCATION	624.0100 MGAL
BASE AGGREGATE PLACEMENT	4
UNDISTRIBUTED / DUST CONTROL	3
TOTAL	7

CULVERT PIPE ENDWALLS

INLET STATION	521.1024 APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH EACH
STH 155 LOST CREEK	
64+80 RT	2
STH 47 ONEIDA CONTY	
48+93 RT	1
48+93LT	1
TOTAL	4

CRASH CUSHIONS TEMPORARY

LOCATION	614.0905 EACH	* BACK WIDTH	* OBJECT MARKING PATTERN	* CRASH TEST LEVEL	* TRAFFIC DIRECTION	* TRAFFIC LOCATION	* CRASH CUSHION SHIELDS
STH 107 TUG LAKE CREEK							
STAGE 3, STA 57+88, 5' RT	1	4	OM-3R	TL-3	BIDIRECTIONAL	RT**	TEMPORARY BARRIER END
STAGE 5, STA 57+88, 5' RT	1	4	OM-3R	TL-3	BIDIRECTIONAL	RT**	TEMPORARY BARRIER END
TOTAL	2						

*NON-BID ITEM (FOR INFORMATION ONLY)

**RT SIDE PER STATIONING; LT SIDE WHEN APPROACHING SOUTHBOUND

RESTORATION ITEMS

LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0300 SEEDING BORROW PIT LB	SPV.0120.01 WATER FOR SEEDED AREAS MGAL
STH 107 TUG LAKE CREEK	1,070	600	1.1	30	30	---	27
STH 107 RIPLEY CREEK	1,100	0*	1.1	30	30	---	28
STH 155 LOST CREEK	880	500	0.9	25	25	---	22
STH 47 ONEIDA COUNTY	110	100	0.2	5	3	---	3
UNDISTRIBUTED	320	200	1.7	30	32	100	8
TOTALS	3,480	1,400	5.0	120	120	100	88

*NO MULCH TO BE USED AT RIPLEY CREEK SITE.

EROSION CONTROL ITEMS

LOCATION	628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EACH	628.1910 MOBILIZATIONS EMERGENCY EACH	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.6005 TURBIDITY BARRIERS SY	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH
STH 107 TUG LAKE CREEK											
EAST SIDE WIDENING	---	450	225	---	---	500	---	---	100	---	---
WEST SIDE WIDENING	---	420	210	---	---	320	---	---	100	---	---
FINAL RESTORATION	---	790	395	---	---	1,080	---	---	130	---	---
SUBTOTALS	---	1,660	830	---	---	1,900	---	---	330	---	---
STH 107 RIPLEY CREEK											
EAST SIDE WIDENING	---	370	185	---	---	340	---	---	100	---	---
WEST SIDE WIDENING	---	260	130	---	---	560	---	---	100	---	---
FINAL RESTORATION	---	620	310	---	---	1,150	---	---	130	---	---
SUBTOTALS	---	1,250	625	---	---	2,050	---	---	330	---	---
STH 155 LOST CREEK											
EAST SIDE WIDENING	---	270	135	---	---	220	50	---	65	5	---
WEST SIDE WIDENING	---	380	190	---	---	490	35	---	100	---	---
FINAL RESTORATION	---	700	350	---	---	890	---	---	130	5	---
SUBTOTALS	---	1,350	675	---	---	1,600	85	----	295	10	---
STH 47 ONEIDA COUNTY	---	---	---			110		1	35	5	
SUBTOTALS	---	---	---	---	---	110	---	1	35	5	---
UNDISTRIBUTED	100	1,070	535	10	5	1,420	---	---	250	5	100
TOTALS	100	5,330	2,665	10	5	6,970	85	1	1,205	20	100

MARKERS CULVERT END

LOCATION	633.5200 EACH
STH 107 TUG LAKE CREEK	2
STH 107 RIPLEY CREEK	2
STH 155 LOST CREEK	2
STH 47	2
TOTAL	8

PERMANENT SIGNING

SIGN #	SIGN CODE	SIGN SIZE	SIGN SIZE (IN)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	634.0614 POSTS WOOD 4X6-INCH X 14 FT (EACH)	634.0616 POSTS WOOD 4X6-INCH X 16 FT (EACH)	SIGN MOUNTED ON SAME POST AS #	REMARKS
1-01	W1-6	(2S)	48x24	8.00	1	---	---	NIGHT ARROW (SINGLE)
1-02	W1-6	(2S)	48x24	8.00	1	---	---	NIGHT ARROW (SINGLE)
2-01	W1-4R	(2S)	30X30	6.25	---	1	2-02	RIGHT REVERSE CURVE ARROW
2-02	W13-1	(2S)	18X18	2.25	---	---	2-01	ADVISORY SPEED (YELLOW BACK)
TOTALS				24.50	2	1		

ALL ITEMS CATEGORY 0010 UNLESS NOTED

3

REMOVING AND MOVING SIGNS

SIGN #	SIGN CODE	SIGN MOUNTED ON SAME POST AS #	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	638.2102 MOVING SIGNS TYPE II (EACH)	638.4000 MOVING SMALL SIGN SUPPORTS (EACH)	REMARKS
1R-01	W5-52L	---	1	1	---	---	CLEARANCE STRIPER DOWN RIGHT
1R-02	W5-52R	---	1	1	---	---	CLEARANCE STRIPER DOWN LEFT
1R-03	W5-52R	---	1	1	---	---	CLEARANCE STRIPER DOWN LEFT
1R-04	W5-52L	---	1	1	---	---	CLEARANCE STRIPER DOWN RIGHT
1R-05	W1-6	---	1	1	---	---	NIGHT ARROW (SINGLE)
1R-06	W1-6	---	1	1	---	---	NIGHT ARROW (SINGLE)
2R-01	W1-4R	2R-02	1	1	---	---	RIGHT REVERSE CURVE ARROW
2R-02	W13-1	2R-01	1	---	---	---	ADVISORY SPEED (YELLOW BACK)
2M-01	D7-68R	---	---	---	1	2	CAMP NEW WOOD PARK SIGN
2M-02	---	---	---	---	1	1	ICE AGE TRAIL SIGN
2M-03	---	---	---	---	1	1	ICE AGE TRAIL SIGN
3M-01	---	---	---	---	1	2	LANDOWNER PLAQUE
3M-02	---	---	---	---	1	2	LANDOWNER PLAQUE
TOTALS			8	7	5	8	

TRAFFIC CONTROL ITEMS

LOCATION	* DAYS PER STAGE	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.0715 WARNING LIGHTS TYPE C DAYS	643.0900 ** SIGNS DAYS
STH 107 TUG LAKE CREEK	75	6,980	375	750	2,400	2,250
STH 107 RIPLEY CREEK	110	10,340	1,100	2,200	3,080	3,520
STH 155 LOST CREEK	75	6,000	600	1,200	2,325	2,700
STH 47 ONEIDA COUNTY	7	250	---	---	---	63
UNDISTRIBUTED	---	2,400	300	500	800	900
TOTALS	---	25,970	2,375	4,650	8,605	9,433

* NON-BID ITEM (FOR INFORMATION ONLY)
** QUANTITY FOR STH 107 RIPLEY CREEK INCLUDES 4 SIGNS FOR ICE AGE TRAIL DETOUR (PROVIDED BY ICE AGE TRAIL ALLIANCE)

FIELD OFFICE TYPE B

LOCATION	642.5001 EACH
01. STH 107 TUG LAKE CREEK & RIPLEY CREEK	1
02. STH 155 LOST CREEK	1
TOTAL	2

REMOVING PAVEMENT MARKINGS

LOCATION	646.0600 LF
STH 107 TUG LAKE CREEK	
STAGE 1	---
STAGE 2	1,900
STAGE 3	370
STAGE 4	---
STAGE 5	---
STAGE 6	---
SUBTOTALS	2,270
STH 107 RIPLEY CREEK	
STAGE 1	1,700
STAGE 2	300
STAGE 3	---
STAGE 4	---
STAGE 5	---
STAGE 6	---
SUBTOTALS	2,000
STH 155 LOST CREEK	
STAGE 1	1,150
STAGE 2	370
STAGE 3	---
STAGE 4	---
STAGE 5	---
STAGE 6	---
SUBTOTALS	1,520
TOTALS	5,790

PAVEMENT MARKING

LOCATION	646.0106 EPOXY 4-INCH (WHITE) LF	646.0406 SAME DAY EPOXY 4-INCH (YELLOW) LF
STH 107 TUG LAKE CREEK	840	1550
STH 107 RIPLEY CREEK	820	1,360
STH 155 LOST CREEK	790	780
TOTALS	2,450	3,690

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

LOCATION	649.0400 4-INCH (WHITE) LF	* 649.0400 4-INCH (YELLOW) LF	649.1400 STOP LINE 24-INCH (WHITE) LF
STH 107 TUG LAKE CREEK			
STAGE 1	40	1,400	24
STAGE 2	1,050	---	---
STAGE 3	1,070	---	---
STAGE 4	640	---	---
STAGE 5	---	---	---
STAGE 6	---	---	---
SUBTOTALS	2,800	1,400	24
STH 107 RIPLEY CREEK			
STAGE 1	770	1,400	24
STAGE 2	660	---	---
STAGE 3	430	---	---
STAGE 4	460	---	---
STAGE 5	430	---	---
STAGE 6	---	---	---
SUBTOTALS	2,750	1,400	24
STH 155 LOST CREEK			
STAGE 1	740	1,400	24
STAGE 2	400	---	---
STAGE 3	450	---	---
STAGE 4	510	---	---
STAGE 5	450	---	---
STAGE 6	510	---	---
SUBTOTALS	3,060	1,400	24
TOTALS	12,810		72

* ASSUMED PLACED ONCE PRIOR TO STAGE 1 WORK

ALL ITEMS CATEGORY 0010 UNLESS NOTED

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL*

PROJECT	650.9910 LS
1009-43-61	1
TOTAL	1

*ADDITIONAL STAKING ITEMS SHOWN ELSEWHERE

CONSTRUCTION STAKING*

LOCATION	650.9920 SLOPE STAKES LF
STH 107 TUG LAKE CREEK	
55+55 - 57+88	233
STH 107 RIPLEY CREEK	
14+10 - 15+26	116
STH 155 LOST CREEK	
64+65 - 65+45	80
TOTALS	429

* ADDITIONAL STAKING ITEMS SHOWN ELSEWHERE

TEMPORARY TRAFFIC SIGNALS FOR BRIDGES

LOCATION	661.0100.01 LS	661.0100.02 LS	661.0100.03 LS
STH 107 TUG LAKE CREEK			
C-35-17	1	---	---
STH 107 RIPLEY CREEK			
C-35-18	---	1	---
STH 155 LOST CREEK			
C-63-8	---	---	1
TOTALS	1	1	1

SAWING ASPHALT

LOCATION	690.0150 LF
STH 107 TUG LAKE CREEK	
55+55	25
57+88	30
STH 107 RIPLEY CREEK	
14+10	25
15+26	25
STH 155 LOST CREEK	
64+65	30
65+45	30
TOTAL	165

SAWING CONCRETE

LOCATION	* 690.0250 LF
STH 107 TUG LAKE CREEK	
56+70 LT	30
56+70	30
56+70 RT	30
TOTAL	90

*USED FOR SAWING TUG LAKE CREEK BRIDGE

STREAM BED MEDIUM

LOCATION	* SPV.0035.01 CY
STH 107 RIPLEY CREEK	115
TOTALS	115

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
GRAND TOTAL = 265 CY

LANE SHIFT

LOCATION	EACH	SPV.0060.01 TUG LAKE CREEK	SPV.0060.02 RIPLEY CREEK	SPV.0060.03 LOST CREEK
EAST SIDE WIDENING	1		1	1
WEST SIDE WIDENING	1		1	1
TOTAL	2		2	2

TEMPORARY WATER DIVERSION

LOCATION	SPV.0105.01 LS	SPV.0105.02 LS	SPV.0105.03 LS
STH 107 TUG LAKE CREEK	1	---	---
STH 107 RIPLEY CREEK	---	1	---
STH 155 LOST CREEK	---	---	1
TOTAL	1	1	1

ALL ITEMS CATEGORY 0010 UNLESS NOTED

TRANSPORTATION PROJECT PLAT NO: 1009-43-21 - 4.01

THAT PART OF GOVERNMENT LOT 2 IN THE NORTHWEST 1/4, SECTION 6, TOWNSHIP 32 NORTH, RANGE 6 EAST, TOWN OF ROCK FALLS, LINCOLN COUNTY, WISCONSIN.

RELOCATION ORDER STH 107, APPROXIMATELY 3300 FEET NORTH OF THE INTERSECTION OF STH 107 AND WILDERNESS DRIVE.

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION.

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 DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, LINCOLN COUNTY, NAD83 (2007) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARING, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY WISDOT NC REGION.

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

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 107 ESTABLISHED FROM PREVIOUS STATE PROJECT 7705 04/01/1927

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION CONTACT THE PLANNING DEPARTMENT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN NORTH CENTRAL REGION.

R.A. Smith National
Beyond Surveying and Engineering
16745 W. Bluemound Road, Brookfield WI 53005
262-781-1000 Fax 262-781-8466
www.rasmithnational.com

I, GREGORY A. KUNZ, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1009-43-21 - 4.01 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN GREGORY A. KUNZ S-1346 WAUKESHA WI LAND SURVEYOR

Gregory A Kunz 05/23/2013
GREGORY A. KUNZ DATE
AGENT FOR R.A. SMITH NATIONAL
R.L.S. NUMBER 1346

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

Brent L Stella 5-28-13
SIGNATURE DATE:
Brent L Stella
PRINTER NAME

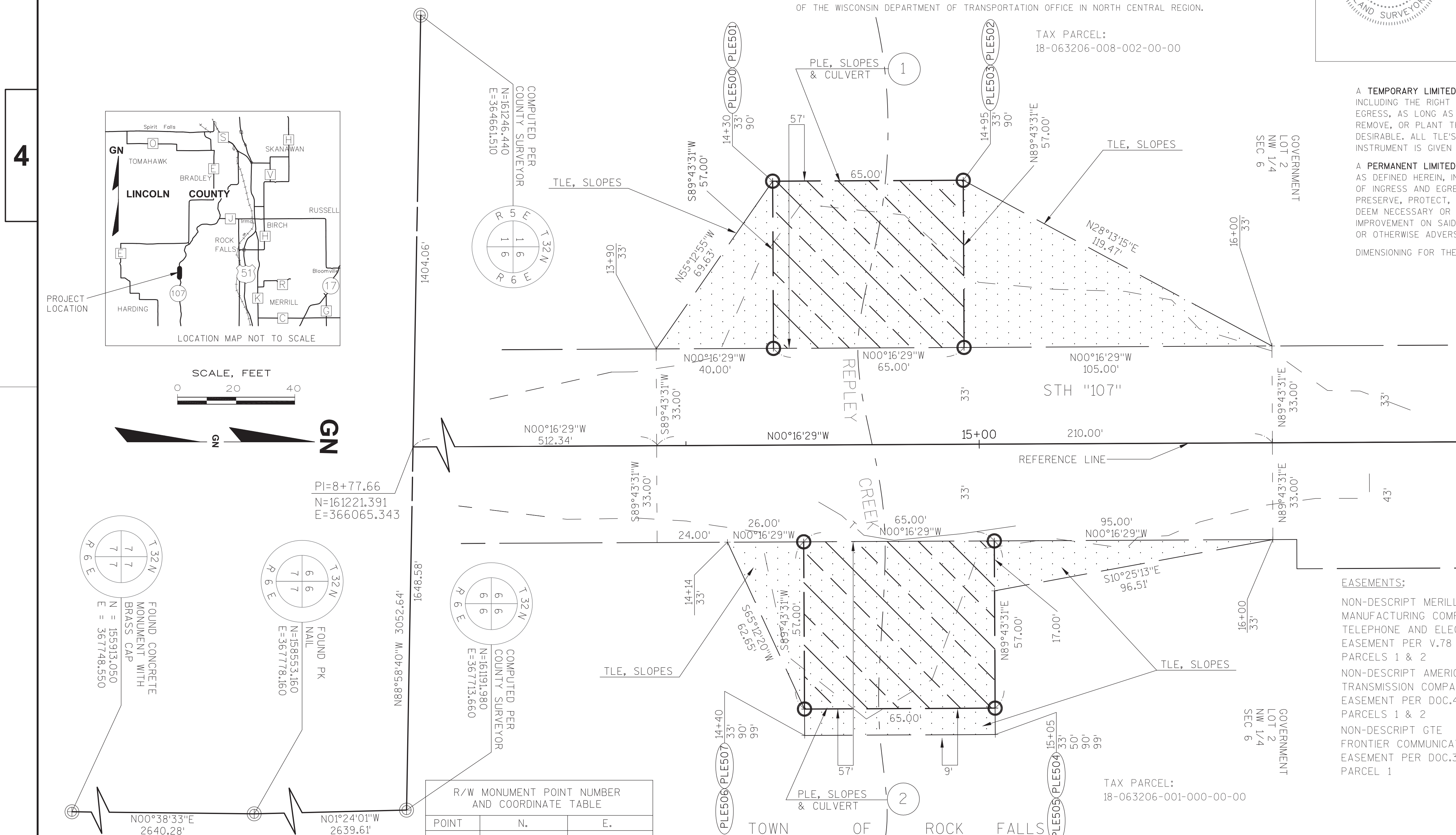
RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1009-43-21 - 4.01
AMENDMENT NO: ____

RECEIVED
LINCOLN COUNTY, WIS
1:16 P.M.
MAY 31 2013
V-1 P-14
REGISTER OF DEEDS

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 ARE TO EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN

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

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



EASEMENTS:

NON-DESCRIPT MERILL PAPER MANUFACTURING COMPANY TELEPHONE AND ELECTRIC EASEMENT PER V.78 P.172 PARCELS 1 & 2

NON-DESCRIPT AMERICAN TRANSMISSION COMPANY EASEMENT PER DOC.437307 PARCELS 1 & 2

NON-DESCRIPT GTE FRONTIER COMMUNICATIONS EASEMENT PER DOC.322386 PARCEL 1

R/W MONUMENT POINT NUMBER AND COORDINATE TABLE		
POINT	N.	E.
PLE500	161773.5715	366029.6942
PLE501	161773.2982	365972.6948
PLE502	161838.2974	365972.3831
PLE503	161838.5708	366029.3825
PLE504	161848.8872	366095.3337
PLE505	161849.1605	366152.3331
PLE506	161784.1613	336152.6448
PLE507	161783.8879	336095.6455

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND AND INTERESTS TO DOT.

PARCEL NUMBER	OWNER	INTEREST REQUIRED	AREAS ACRES REQUIRED			TLE ACRES	PLE ACRES
			NEW	EXISTING	TOTAL		
1	CAMP NEW WOOD COUNTY PARK - LINCOLN COUNTY	PLE, TLE	-	-	-	0.095	0.085
2	MERRILL SCHOOL DISTRICT - BOARD OF EDUCATION	PLE, TLE	-	-	-	0.049	0.085

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	RECORDED AS	(100')
ACCESS RIGHTS	AR	REFERENCE LINE	R/L
ACRES	AC.	RELEASE OF RIGHTS	ROR
AND OTHERS	ET.AL.	REMAINING	REM.
BUILDING	BLD.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	COR.	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.		
GARAGE	G.		
HIGHWAY EASEMENT	H.E.		
HOUSE	H.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		
PROPERTY LINE	PL		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	DELTA
LENGTH OF CURVE	L
TANGENT	TAN

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN (1" UNLESS NOTED)
R/W MONUMENT (SET)
R/W STANDARD (SET)
SIGN
SECTION CORNER MONUMENT
SECTION CORNER SYMBOL
FEE (HATCH VARIES)
TEMPORARY LIMITED EASEMENT
PERMANENT LIMITED EASEMENT
R/W BOUNDARY POINT
PARCEL NUMBER
UTILITY PARCEL NUMBER
SIGN NUMBER (OFF PREMISE)
BUILDING
PROPOSED R/W LINE
EXISTING H.E. LINE
PROPERTY LINE
LOT & TIE LINES
SLOPE INTERCEPTS
CORPORATE LIMITS
RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL)
RESTRICTED ACCESS (BY ACQUISITION)
NO ACCESS (BY STATUTORY AUTHORITY)
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
EXISTING CENTERLINE
PROPOSED REFERENCE LINE
PARALLEL OFFSET

CONVENTIONAL UTILITY SYMBOLS

WATER
GAS
TELEPHONE
OVERHEAD TRANSMISSION LINES
ELECTRIC
CABLE TELEVISION
FIBER OPTIC
SANITARY SEWER
STORM SEWER

NON COMPENSABLE COMPENSABLE
POWER POLE
TELEPHONE POLE
TELEPHONE PEDESTAL
ELECTRIC TOWER

TRANSPORTATION PROJECT PLAT NO: 1009-43-21 - 4.02

THAT PART OF GOVERNMENT LOT 3 AND GOVERNMENT LOT 4 IN THE SOUTHWEST 1/4, SECTION 7, TOWNSHIP 32 NORTH, RANGE 6 EAST, TOWN OF ROCK FALLS, LINCOLN COUNTY, WISCONSIN.

RELOCATION ORDER STH 107, APPROXIMATELY 4300 FEET SOUTH OF THE INTERSECTION OF STH 107 AND WILDERNESS DRIVE.

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION.

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 DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

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 ARE TO EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN

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

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

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	RECORDED AS	(100')
ACCESS RIGHTS	AR	REFERENCE LINE	R/L
ACRES	AC.	RELEASE OF RIGHTS	ROR
AND OTHERS	ET.AL.	REMAINING	REM.
BUILDING	BLD.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	COR.	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.	**CURVE DATA**	
GARAGE	G.	LONG CHORD	LCH
HIGHWAY EASEMENT	H.E.	LONG CHORD BEARING	LCB
HOUSE	H.	RADIUS	R
LAND CONTRACT	LC	DEGREE OF CURVE	D
MONUMENT	MON.	CENTRAL ANGLE OR DELTA	DELTA
PAGE	P.	LENGTH OF CURVE	L
PERMANENT LIMITED EASEMENT	PLE	TANGENT	TAN
PROPERTY LINE	PL		

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	LIP (1" UNLESS NOTED)	PROPOSED R/W LINE	
R/W MONUMENT	○ ●(SET)	EXISTING H.E. LINE	
R/W STANDARD	△ ▲(SET)	PROPERTY LINE	
SIGN	ISIGN	LOT & TIE LINES	
SECTION CORNER MONUMENT		SLOPE INTERCEPTS	
SECTION CORNER SYMBOL		CORPORATE LIMITS	
		RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
FEE (HATCH VARIES)		RESTRICTED ACCESS (BY ACQUISITION)	
TEMPORARY LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	
PERMANENT LIMITED EASEMENT		SECTION LINE	
R/W BOUNDARY POINT	RWB20	QUARTER LINE	
PARCEL NUMBER	102	SIXTEENTH LINE	
UTILITY PARCEL NUMBER	92	EXISTING CENTERLINE	
SIGN NUMBER (OFF PREMISE)	21-1	PROPOSED REFERENCE LINE	
BUILDING		PARALLEL OFFSET	

CONVENTIONAL UTILITY SYMBOLS

		NON COMPENSABLE	COMPENSABLE
WATER	W		
GAS	G		
TELEPHONE	T		
OVERHEAD	OH		
TRANSMISSION LINES ELECTRIC	E		
CABLE TELEVISION	TV		
FIBER OPTIC	FO		
SANITARY SEWER	SAN		
STORM SEWER	SS		
POWER POLE		■	
TELEPHONE POLE		●	
TELEPHONE PEDESTAL		▪	
ELECTRIC TOWER		⊠	

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATE SYSTEM, LINCOLN COUNTY, NAD83 (2007) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

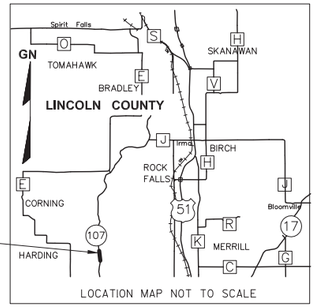
RIGHT-OF-WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY WISDOT NC REGION.

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

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: STH 107 ESTABLISHED FROM: STATE STATUTES (66') AND C/L OF PAVEMENT

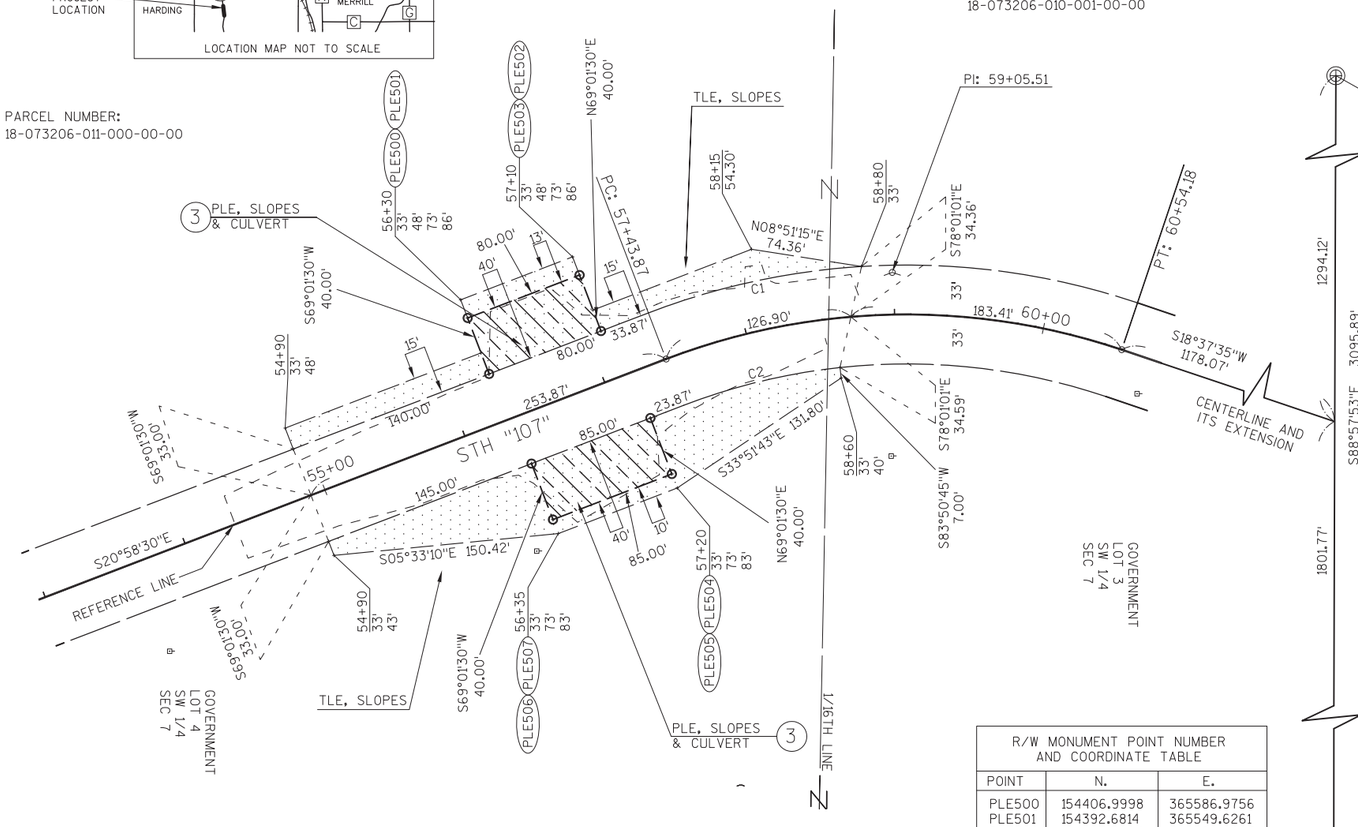
FOR THE LATEST ACCESS/DRIVEWAY INFORMATION CONTACT THE PLANNING DEPARTMENT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN NORTH CENTRAL REGION.



R/L STH 107
CURVE DATA
PI = 59+05.51
Y = 154676.065
X = 365519.168
DELTA = 39°36'05"
BACK = S20°58'30"E
AHEAD = N18°37'35"E
D = 12°45'43"
T = 161.64
L = 310.31'
R = 448.96'

PARCEL NUMBER:
18-073206-011-000-00-00

PARCEL NUMBER:
18-073206-010-001-00-00



CURVE	ARC	RADIUS	BEARING	CHORD
C1	146.14'	481.96'	N12°17'18"W	145.58'
C2	107.60'	415.96'	S13°33'52"E	107.30'

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND AND INTERESTS TO DOT.

PARCEL NUMBER	OWNER	INTEREST REQUIRED	AREAS ACRES REQUIRED NEW	EXISTING	TOTAL	TLE ACRES	PLE ACRES
3	STATE OF WISCONSIN (DEPARTMENT OF NATURAL RESOURCES)	PLE, TLE	-	-	-	0.342	0.151

R/W MONUMENT POINT NUMBER AND COORDINATE TABLE

POINT	N.	E.
PLE500	154406.9998	365586.9756
PLE501	154392.6814	365549.6261
PLE502	154467.3804	365520.9893
PLE503	154481.6987	365558.3388
PLE504	154514.6614	365616.3859
PLE505	154528.9798	365653.7354
PLE506	154449.6122	365684.1619
PLE507	154435.2938	365646.8124

R.A. Smith National
Beyond Surveying and Engineering
16745 W. Bluemound Road, Brookfield WI 53005
262-781-1000 Fax 262-781-8466
www.rasmithnational.com

I, GREGORY A. KUNZ, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1009-43-21 – 4.02 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN GREGORY A. KUNZ S-1346 WAUKESHA WI LAND SURVEYOR

05/23/2013
GREGORY A. KUNZ — DATE
AGENT FOR R.A. SMITH NATIONAL
R.L.S. NUMBER 1346

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

5-28-13
SIGNATURE — DATE:

Brent L Stella
PRINTER NAME

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1009-43-21 – 4.02
AMENDMENT NO:

RECEIVED
LINCOLN COUNTY, WIS
1:20 P.M.
MAY 31 2013
V. 1 P. 15
REGISTER OF DEEDS

SCALE, FEET
0 50 100

4

BENCHMARKS

NO.	LOCATION	DESCRIPTION	ELEV
1	STA 60+73, 88' RT	RAILROAD SPIKE IN W SIDE OF POLE 3206-767	1300.44
2	STA 56+17, 89' RT	RAILROAD SPIKE IN W SIDE OF POLE 3206-715	1300.68

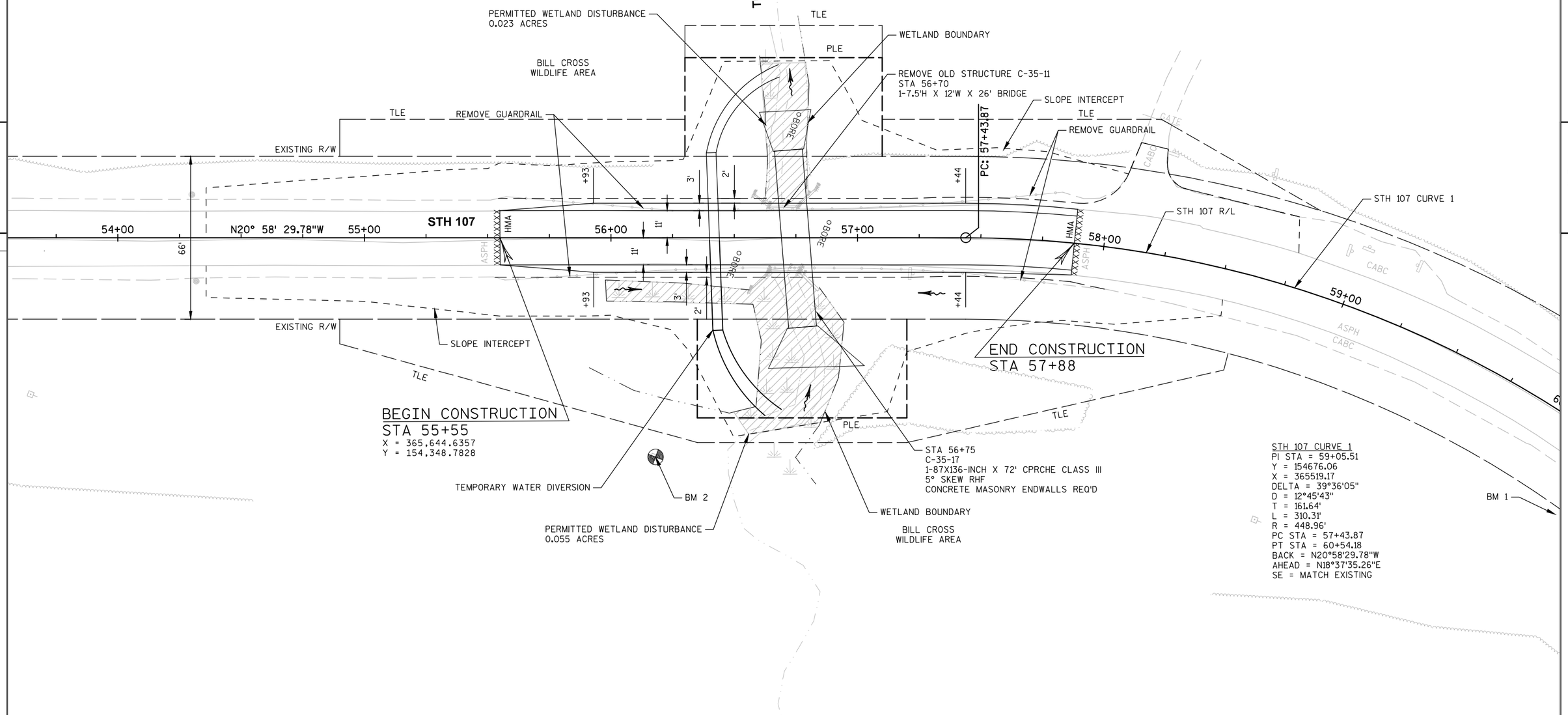
SUPERELEVATION DATA	STATION	LEFT	RIGHT
END NORMAL CROWN	55+91	-2.0%	+2.0%
REMOVE CROWN (LT ONLY)	56+42	0.0%	+2.0%
REVERSE CROWN	56+93	+2.0%	+2.0%
MATCH EXISTING SUPER	57+88	+5.7%	+5.7%

N

LEGEND
XXXXXXX SAWCUT
DIRECTION OF FLOW
PERMITTED WETLAND DISTURBANCE

NOTES
SLOPE INTERCEPTS SHOWN FOR TEMPORARY LANE SHIFT DURING CONSTRUCTION

UTILITIES MAY BE RELOCATED FROM THE LOCATIONS SHOWN ON THIS SHEET. REFER TO UTILITIES SECTION OF SPECIAL PROVISIONS FOR EXPECTED RELOCATIONS.



PROJECT NO:1009-43-61	HWY: STH 107	COUNTY: LINCOLN	PLAN SHEET - TUG LAKE CREEK	SCALE, FT 0 20 40	SHEET 51	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\050201_PN.DWG PLOT DATE : 10/15/2013 2:25 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

WISDOT/CADDS SHEET 44

BENCHMARKS

NO.	LOCATION	DESCRIPTION	ELEV
1	STA 11+55, 37' RT	SET MAG NAIL IN WEST POST ON WEST SIDE OF NELS EVJUE SIGN	1316.75

N

LEGEND

XXXXXXX SAWCUT

DIRECTION OF FLOW

PERMITTED WETLAND DISTURBANCE

NOTES

SLOPE INTERCEPTS SHOWN FOR TEMPORARY LANE SHIFT DURING CONSTRUCTION

UTILITIES MAY BE RELOCATED FROM THE LOCATIONS SHOWN ON THIS SHEET. REFER TO UTILITIES SECTION OF SPECIAL PROVISIONS FOR EXPECTED RELOCATIONS.

PERMITTED WETLAND DISTURBANCE
0.050 ACRES

RIPLEY CREEK

WETLAND BOUNDARY

PLE

CAMP NEW WOOD
COUNTY PARK

SAVE HEMLOCK TREE

REMOVE OLD STRUCTURE C-35-9715
STA 14+68
1-96" X 85' CPCS

TLE

SLOPE INTERCEPT

PARK ENTRANCE

EXISTING R/W

STH 107 R/L

STH 107 N0° 16' 29.16"W

12+00 13+00 14+00 15+00 16+00 17+00

ASPH CABC HMA CPCP 11' 2' 3' 66' 15' 18"

NOT FIELD VERIFIED

BM 1

BEGIN CONSTRUCTION
STA 14+10
X = 366,062.7897
Y = 161,753.7367

END CONSTRUCTION
STA 15+26

MERRILL SCHOOL DISTRICT

TEMPORARY WATER DIVERSION

PERMITTED WETLAND DISTURBANCE
0.040 ACRES

STA 14+68
C-35-18
1-68x106-INCH X 128' CPRCHE CLASS III
4° SKEW RHF
CONCRETE MASONRY ENDWALLS REQ'D

PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	PLAN SHEET - RIPLEY CREEK	SCALE, FT 0 20 40	SHEET 52	E

BENCHMARKS

NO.	LOCATION	DESCRIPTION	ELEV
1	STA 55+15, 114' RT	CAP IN NE CORNER OF DAM ON EAST SIDE OF ROAD	1601.45

N

LEGEND

XXXXXXX SAWCUT

DIRECTION OF FLOW

PERMITTED WETLAND DISTURBANCE

NOTES

SLOPE INTERCEPTS SHOWN FOR TEMPORARY LANE SHIFT DURING CONSTRUCTION

UTILITIES MAY BE RELOCATED FROM THE LOCATIONS SHOWN ON THIS SHEET. REFER TO UTILITIES SECTION OF SPECIAL PROVISIONS FOR EXPECTED RELOCATIONS.

VANDERTIE

BEGIN CONSTRUCTION
STA 64+65
X = 438,537.4121
Y = 121,957.3990

WETLAND BOUNDARY

LOST CREEK

PERMITTED WETLAND DISTURBANCE
0.030 ACRES

REMOVE OLD STRUCTURE C-63-9708
STA 65+15
1-84" X 120" x70' PACS

LYNN REID TRUST

EXISTING R/W

SLOPE INTERCEPT

END CONSTRUCTION
STA 65+45

PT: 63+34.46

STH 155

63+00 64+00 65+00 66+00 67+00 68+00

STH 155 R/L
N11° 20' 03.42"W

120'

STH 155 CURVE 1

LOST LAKE DRIVE

STA 64+80
1-24"X26' CPCS REQ'D
2-24" APRON
ENDWALLS REQ'D

REMOVE SMALL PIPE CULVERT

12' PRIVATE ENTRANCE

EXISTING FIRE DEPARTMENT SPIGOT TO BE REMOVED BY OTHERS

STA 65+15
C-63-8
1-87 X 136-INCH X 72' CPRCHE CLASS III
CONCRETE MASONRY ENDWALLS REQ'D

PERMITTED WETLAND DISTURBANCE
0.021 ACRES

WETLAND BOUNDARY

TEMPORARY WATER DIVERSION

BM 1

SLOPE INTERCEPT

EXISTING R/W

ELIASON

LYNN REID TRUST

HEGEWALD

ULETT

STH 155 CURVE 1
PI STA = 61+68.43
Y = 121664.26
X = 438596.17
DELTA = 16°43'18"
D = 4°59'59"
T = 168.43'
L = 334.46'
R = 1146.00'
PC STA = 60+00.00
PT STA = 63+34.46
BACK = S28°03'21.77"E
AHEAD = N11°20'03.42"W
SE = VARIES

PROJECT NO: 1009-43-61	HWY: STH 155	COUNTY: VILAS	PLAN SHEET - LOST CREEK	SCALE, FT 0 20 40	SHEET 53	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\050203_PN.DWG PLOT DATE : 10/15/2013 2:25 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

WISDOT/CADDS SHEET 44

LEGEND

DIRECTION OF FLOW

NOTES

SLOPE INTERCEPTS SHOWN FOR POSSIBLE DISRUPTION DURING PIPE LINING OPERATIONS
NO GRADING IS ANTICIPATED

UTILITIES MAY BE RELOCATED FROM THE LOCATIONS SHOWN ON THIS SHEET. REFER TO UTILITIES SECTION OF SPECIAL PROVISIONS FOR EXPECTED RELOCATIONS.

N

WOODLAND RETREAT LLC

BIRCH LANE

GPS II INC

STONE RETAINING WALL

DO NOT DISTURB WITNESS MONUMENT (APPROXIMATE LOCATION)

1 - 24-INCH APRON ENDWALL REQ'D

SLOPE INTERCEPT

WETLAND BOUNDARY

CAUTION

EXISTING R/W

1-24-INCH X 47' CPCS AT 1.1% EXISTING PIPE TO BE LINED

STH 47

STH 47 R/L

STH 47 CURVE 1

STOP LINER AT EACH END OF INLET

1-24-INCH X 53' CPCS AT 1.1% EXISTING PIPE TO BE LINED

1 - 24-INCH APRON ENDWALL REQ'D

SLOPE INTERCEPT

REPLACE ASPHALTIC FLUME IN KIND

CTH K

PR MEDIA INC

EXISTING R/W

PT: 51+17.01

NO° 53' 22.84"E

BM 1

EXISTING R/W

RIVER STREET

BERGSTROM OF RHINELANDER

GILLESPIE

STH 47 CURVE 1
PI STA = 45+65.69
Y = 166945.14
X = 253958.93
DELTA = 22°20'19"
D = 1°59'59"
T = 565.69
L = 1117.01
R = 2865.00
PC STA = 40+00.00
PT STA = 51+17.01
BACK = N21°26'55.80"W
AHEAD = N0°53'22.84"E
SE = VARIES

BENCHMARKS

NO.	LOCATION	DESCRIPTION	ELEV
1	STA 50+50, 66' RT	CHISELED "T" ON TRANSFORMER PAD	1603.75

PROJECT NO: 1009-43-61	HWY: STH 47	COUNTY: ONEIDA	PLAN SHEET - STH 47 ONEIDA COUNTY	SCALE, FT 0 20 40	SHEET 54	E

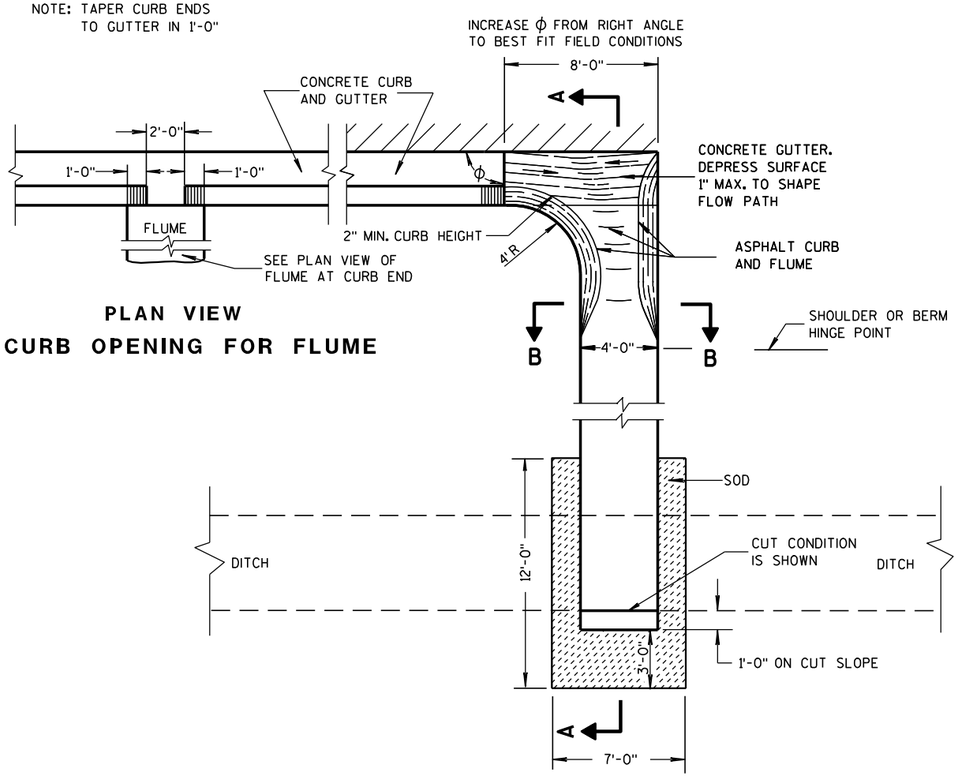
FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\050204_PN.DWG PLOT DATE : 10/15/2013 2:25 PM PLOT BY : BECKENDORF, RANDY PLOT NAME :

WISDOT/CADDS SHEET 44

Standard Detail Drawing List

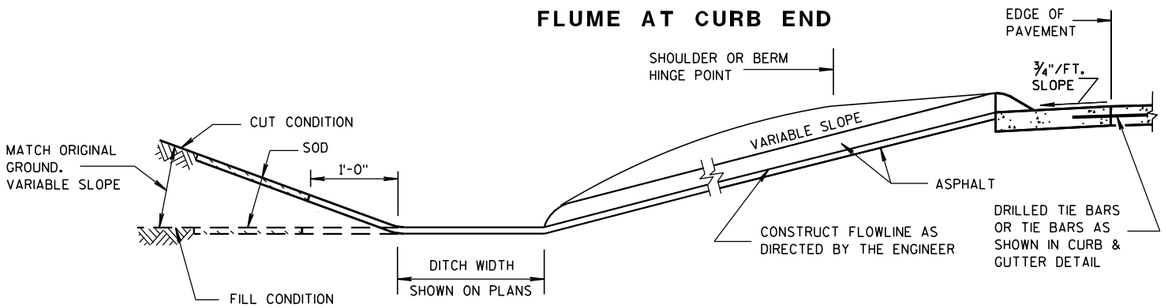
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F10-01	CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
09G01-03A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
12A03-10	NAME PLATE (STRUCTURES)
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15D28-02	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D29-03	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD
15D33-03	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

ASPHALTIC FLUME

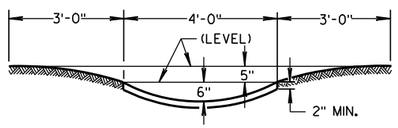


PLAN VIEW
CURB OPENING FOR FLUME

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.

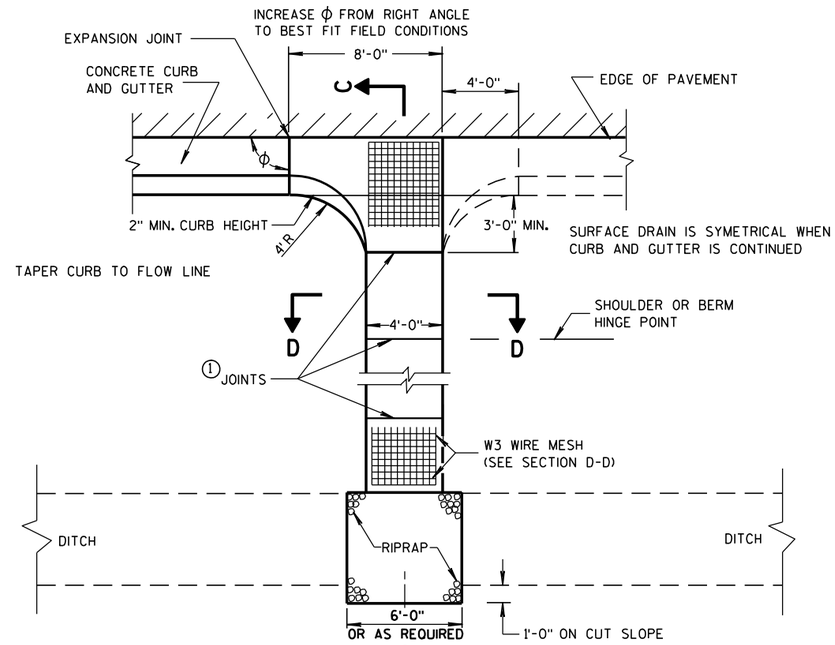
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

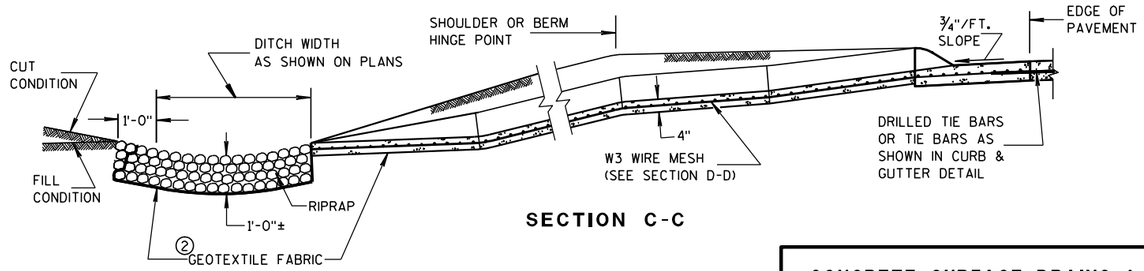
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

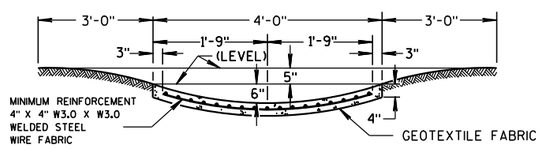
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

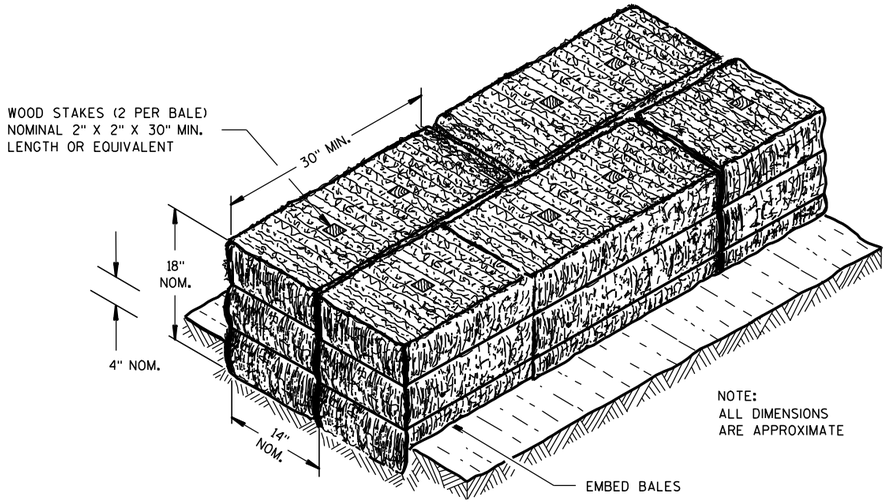
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

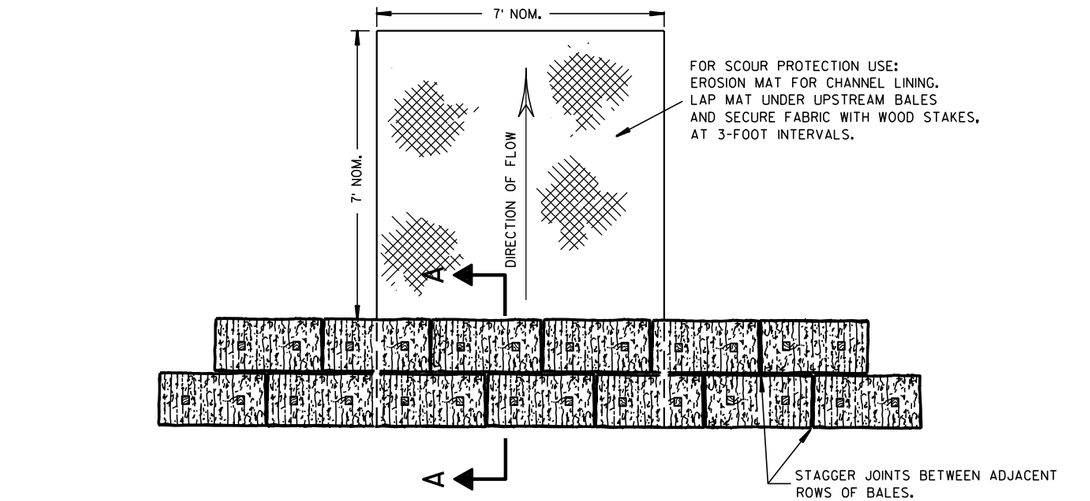
FHWA

6

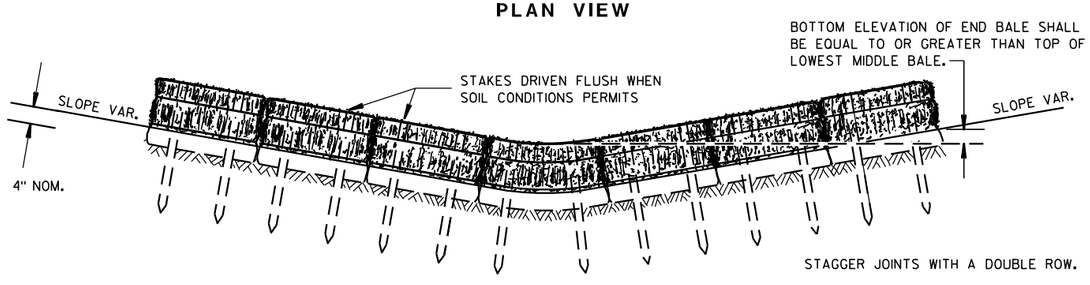
S.D.D. 8 D 4-5



SECTION A-A



PLAN VIEW



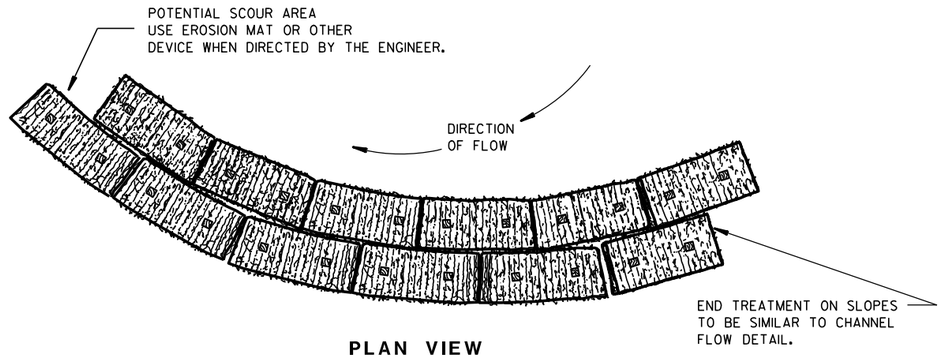
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

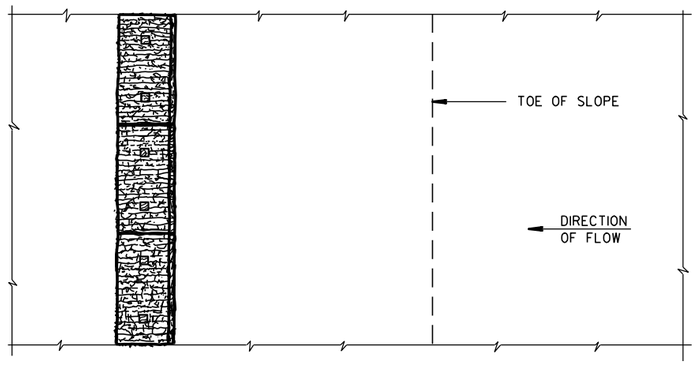
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

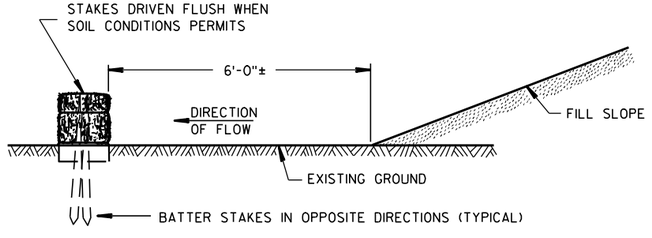


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

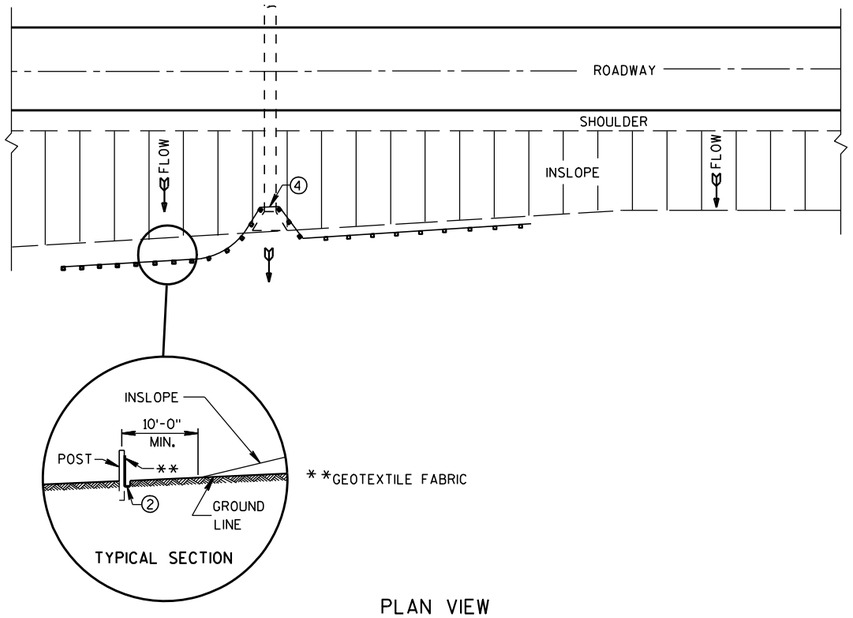
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

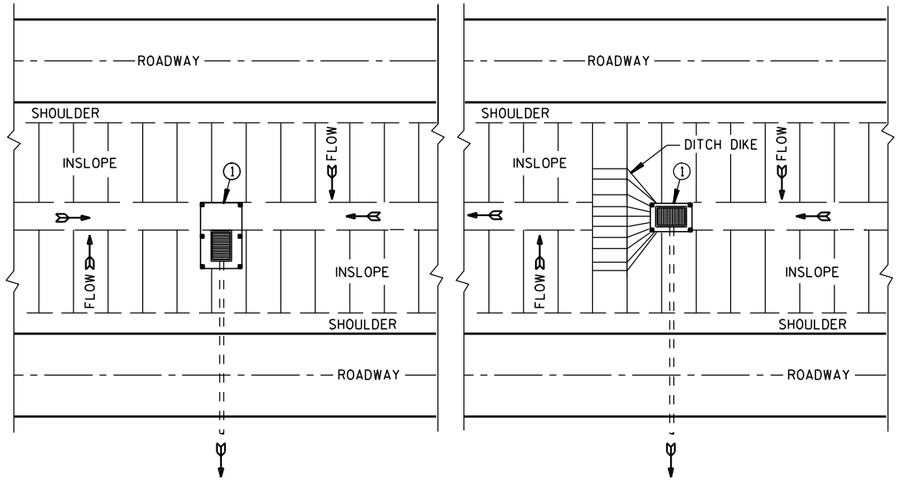
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



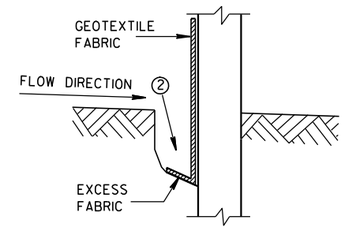
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

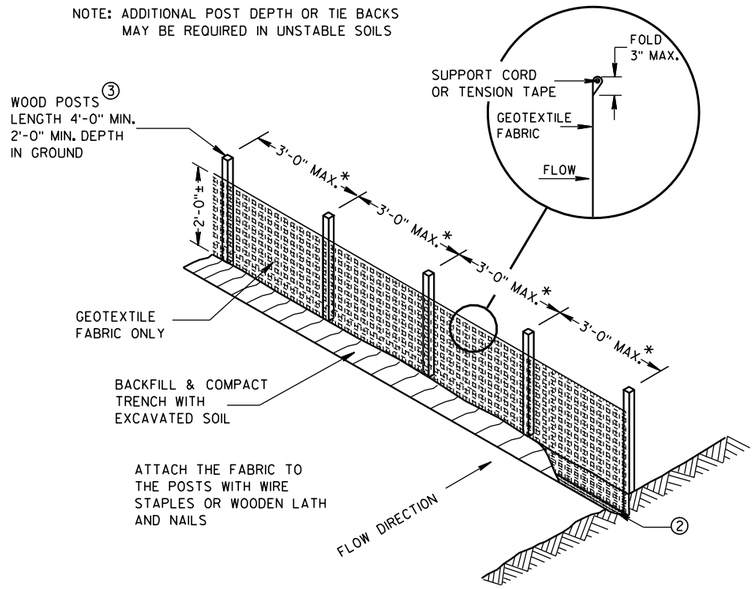
GENERAL NOTES

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

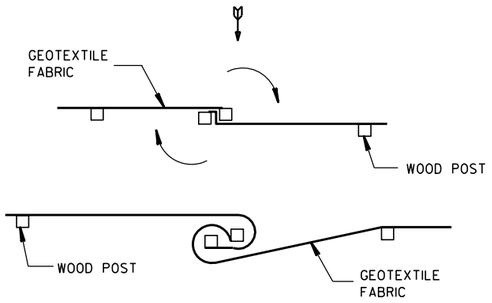
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



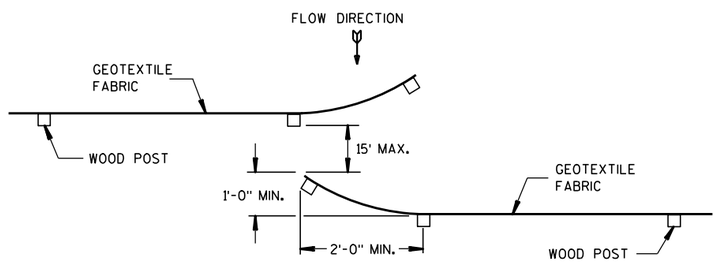
TRENCH DETAIL



SILT FENCE

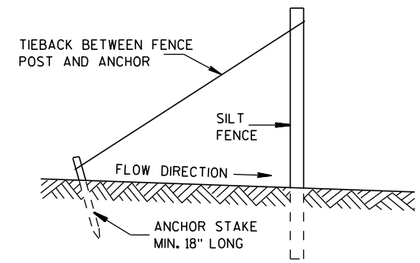


TWIST METHOD



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

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S.D.D. 8 E 9-6

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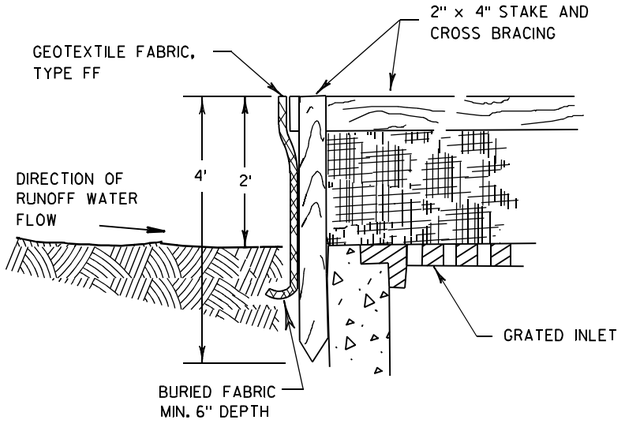
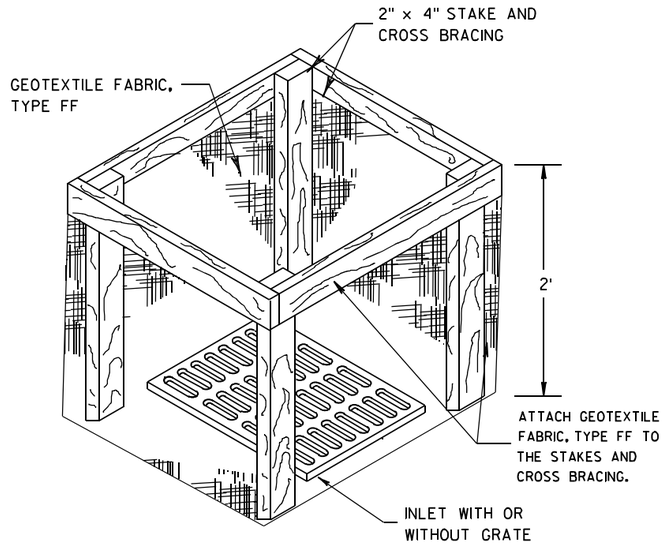
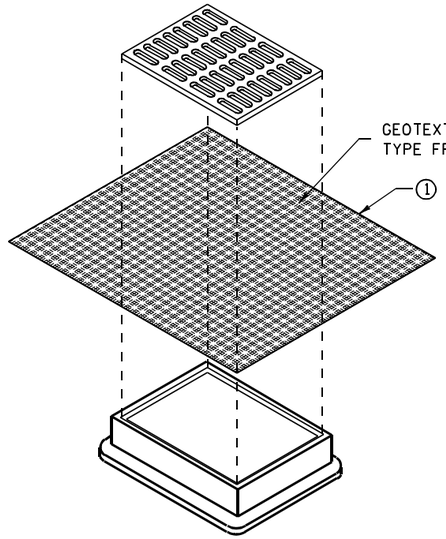
S.D.D. 8 E 9-6



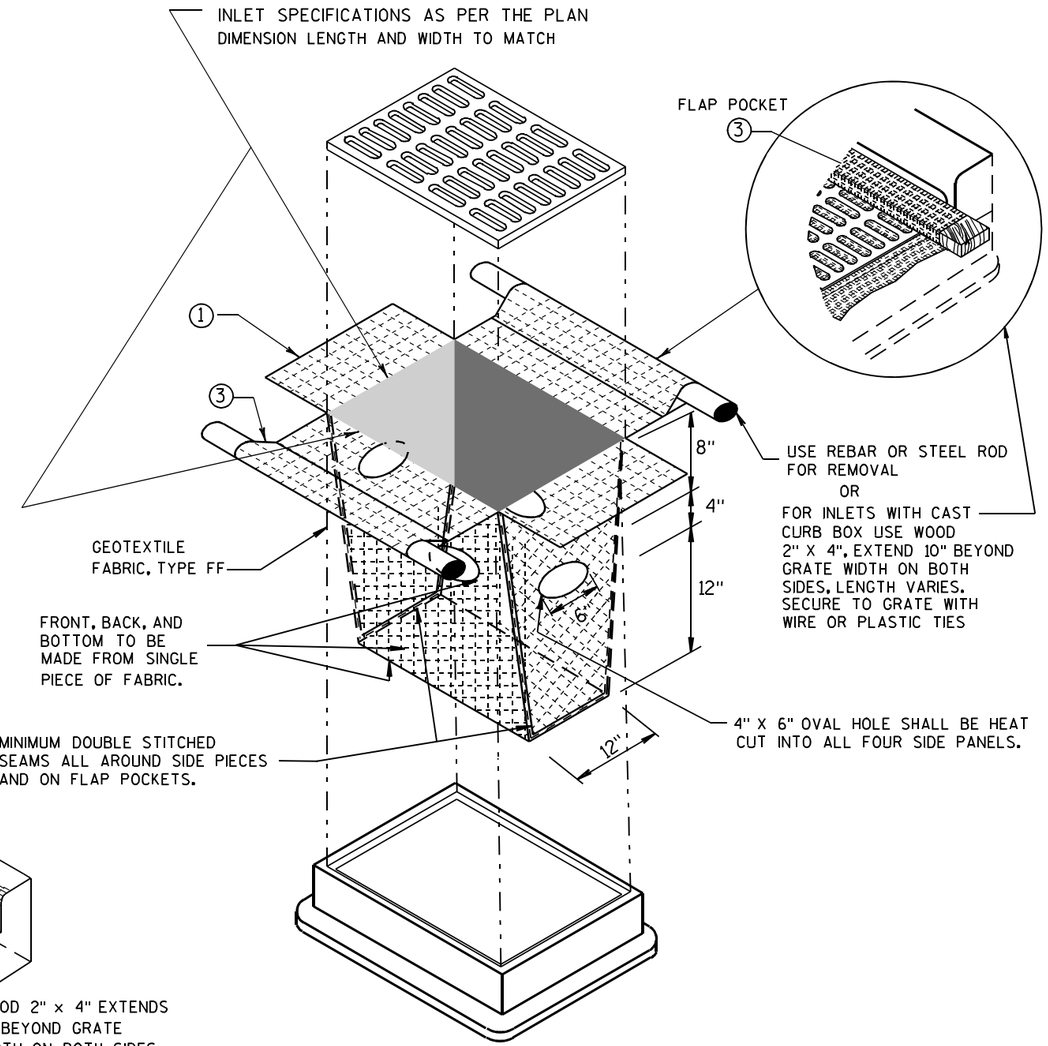


INLET PROTECTION, TYPE A



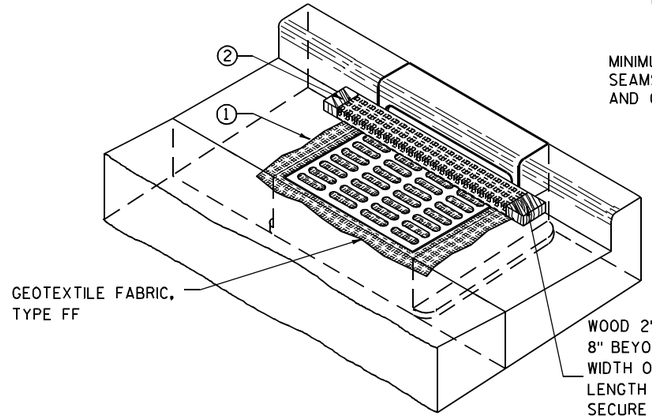
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

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.

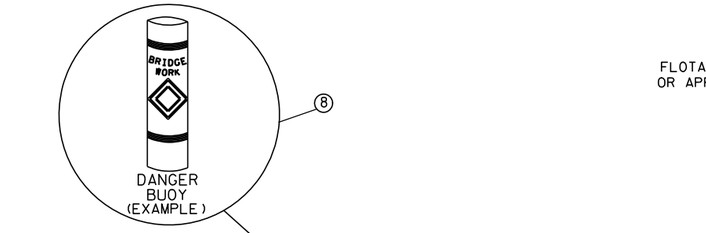
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

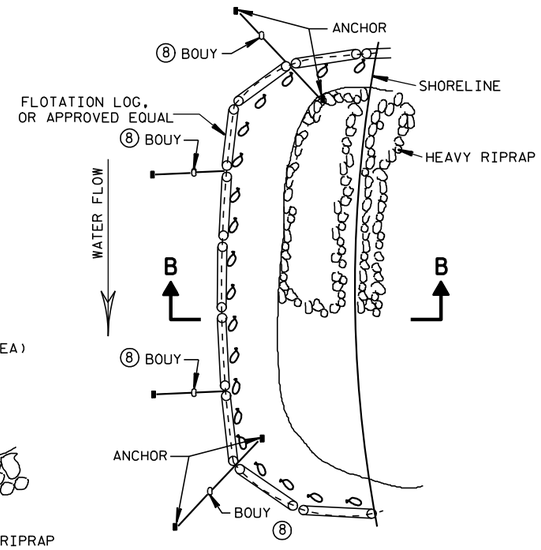
INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

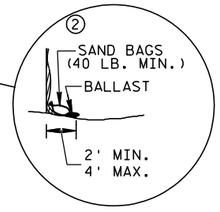
6
S.D.D. 8 E 10-2

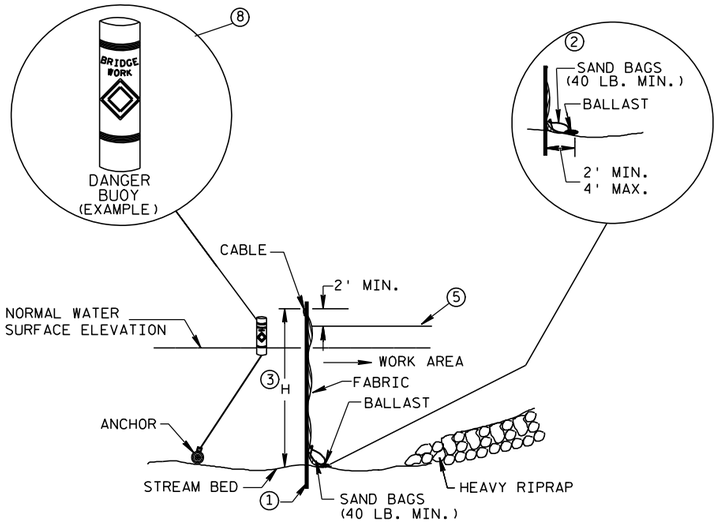




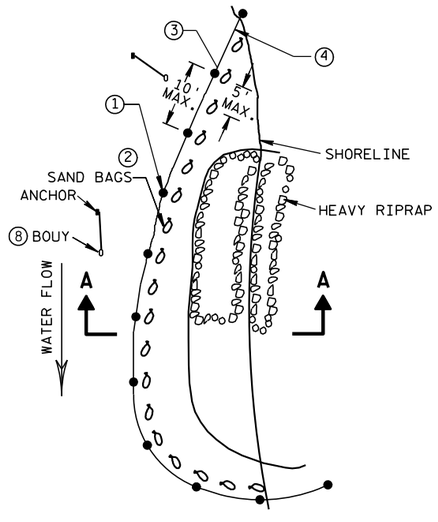
SECTION B-B

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.

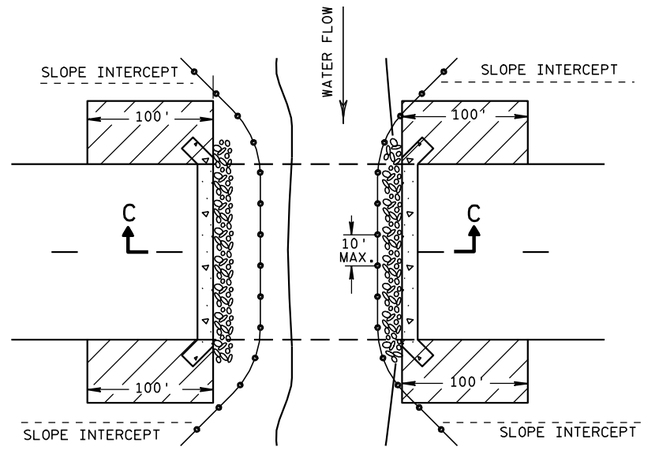
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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.

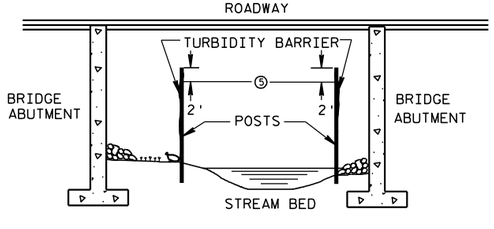
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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	

6

S.D.D. 8 E 11-2

METAL APRON ENDWALLS

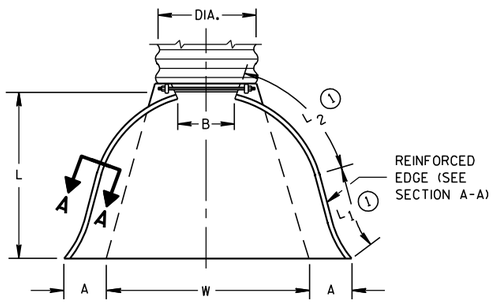
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

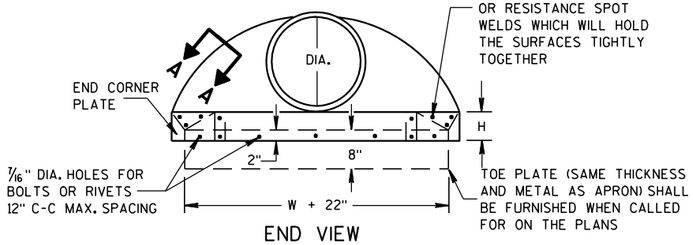
REINFORCED CONCRETE APRON ENDWALLS

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

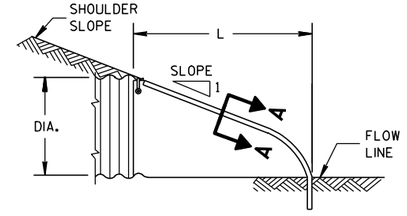
*MINIMUM
**MAXIMUM



PLAN VIEW

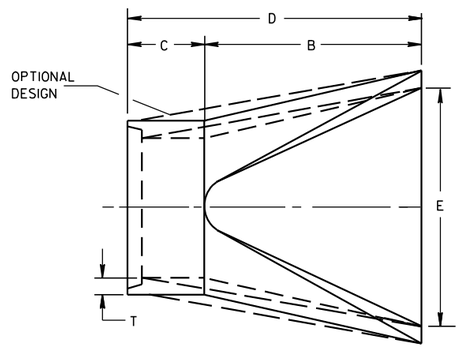


END VIEW

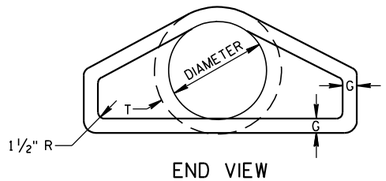


SIDE ELEVATION

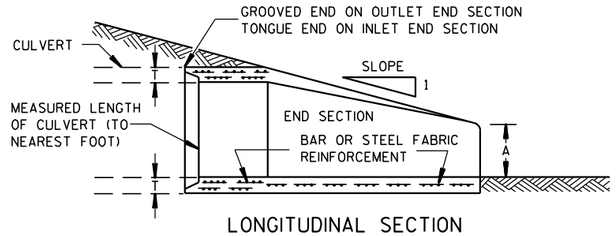
METAL ENDWALLS



PLAN

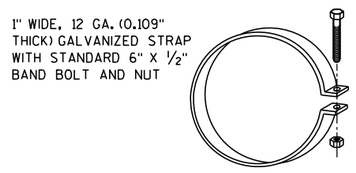


END VIEW



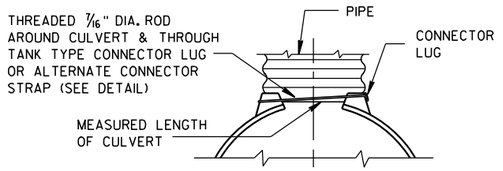
LONGITUDINAL SECTION

CONCRETE ENDWALLS

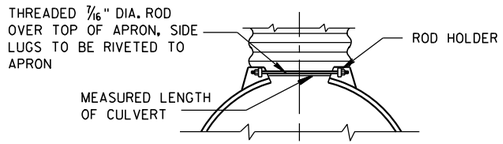


ALTERNATE FOR TYPE 1 CONNECTION

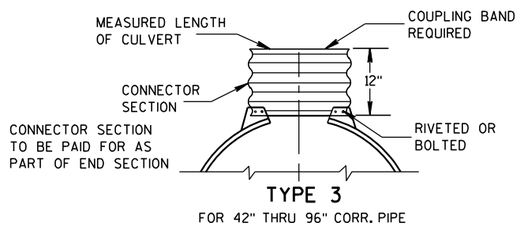
END SECTION CONNECTOR STRAP



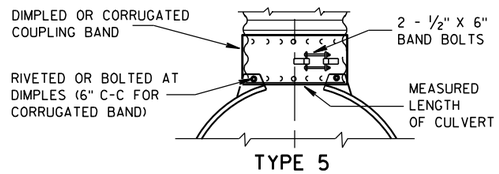
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

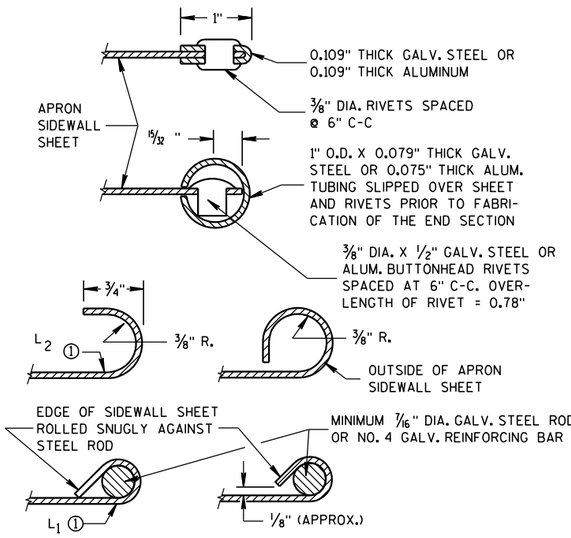
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

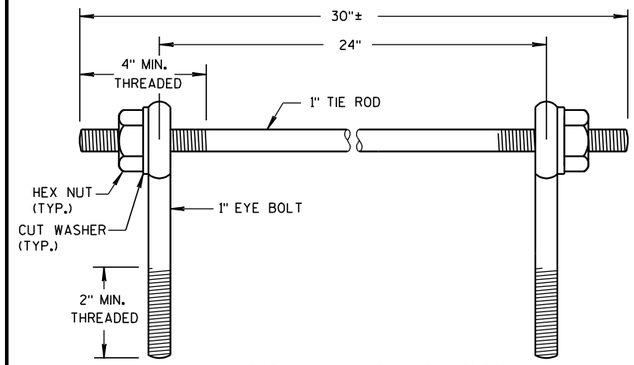
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

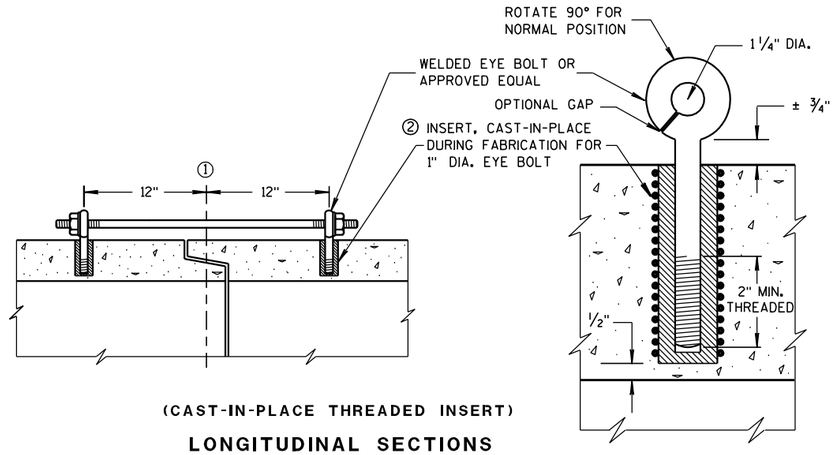
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

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.

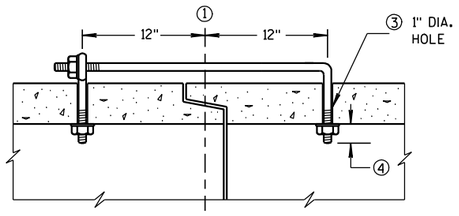
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

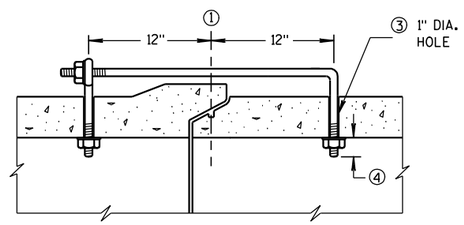
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

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)

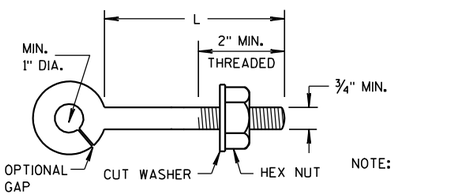


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

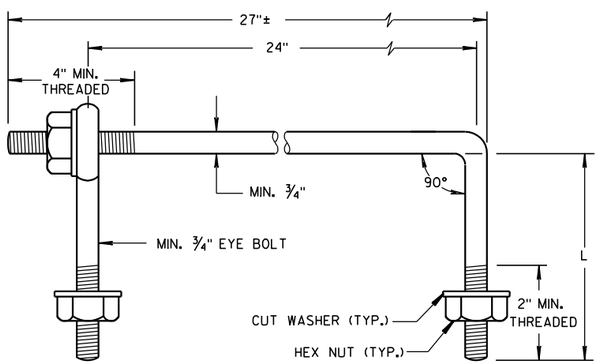
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



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

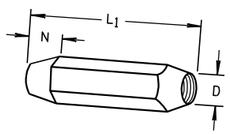
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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 1/16

DIMENSIONS SHOWN ARE IN INCHES



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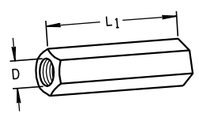
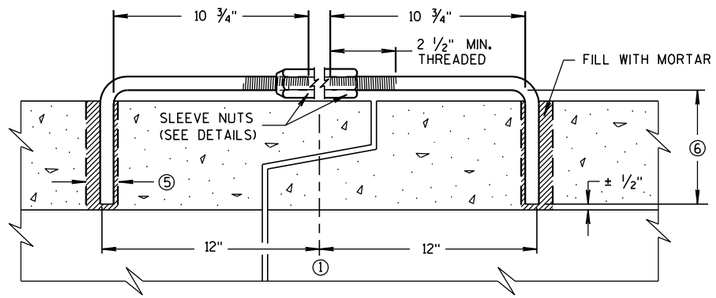


PLAIN

RIGHT AND LEFT THREADS

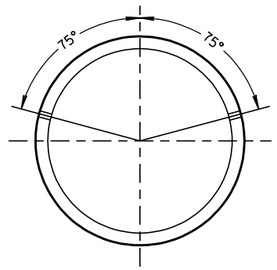
SLEEVE NUTS



LONGITUDINAL SECTION

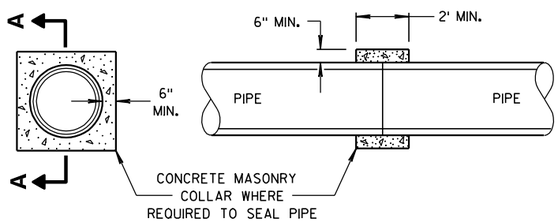
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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
62
FHWA

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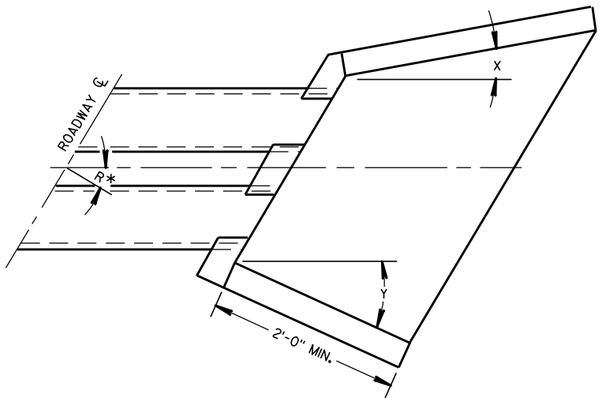


WINGWALL ANGLE DETAILS

INLET			OUTLET		
R*	X	Y	R*	X	Y
0 - 7°	30°	30°	0 - 15°	15°	15°
8 - 22°	25°	"	16 - 45°	10°	"
23 - 37°	20°	"	46 - 75°	5°	"
38 - 52°	15°	"	OVER 75°	0°	"
53 - 67°	10°	"			
68 - 82°	5°	"			
OVER 82°	0°	"			

*R = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD

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.

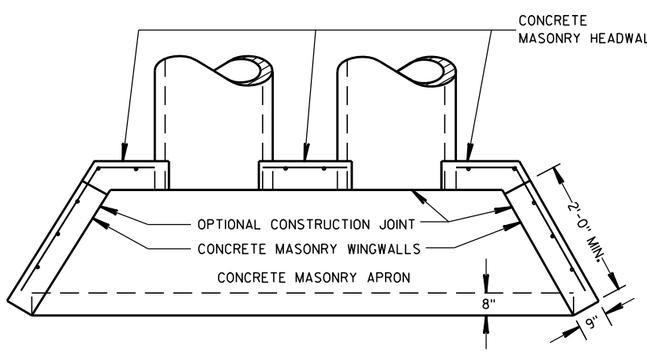
FILL SLOPES FLATTER THAN 2 ½:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

(1) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.

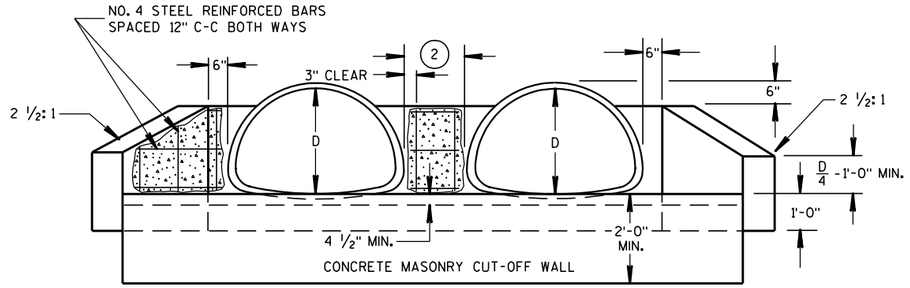
(2) THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

DIAMETER OR SPAN	SPACE
UP TO AND INCLUDING 48"	2'-0"
OVER 48" TO 72"	½ DIA. OR SPAN
OVER 72"	3'-0"



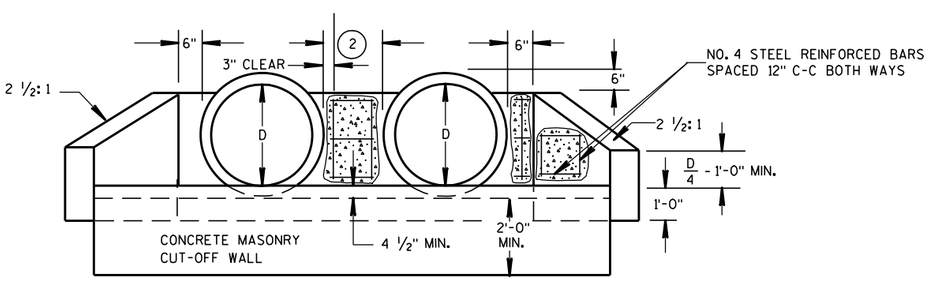
PLAN VIEW

CULVERT PIPE AND PIPE ARCH



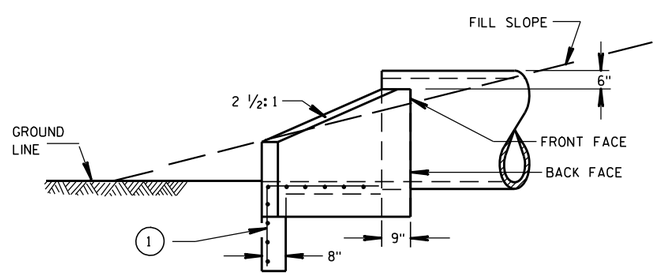
END ELEVATION

PIPE ARCH



END ELEVATION

CULVERT PIPE



SIDE ELEVATION

CULVERT PIPE AND PIPE ARCH

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/14/98 DATE

/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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S.D.D. 8 F 10-1

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S.D.D. 8 F 10-1

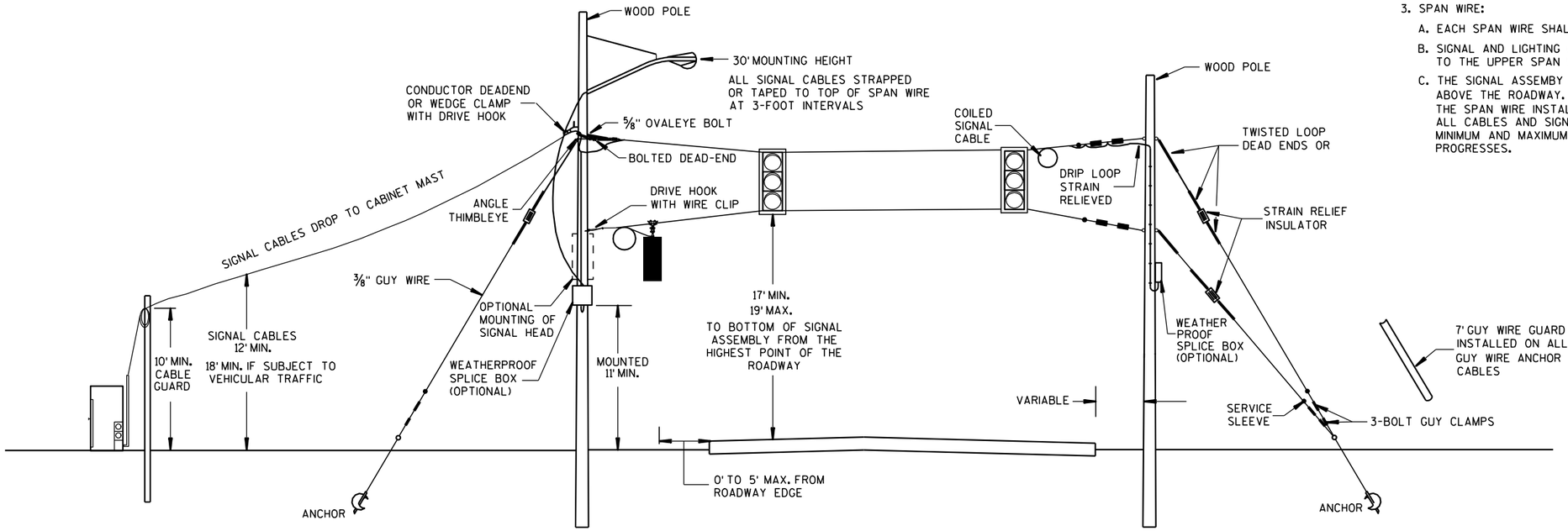
GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.

2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.

3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.



SPAN WIRE
TEMPORARY SIGNALS

MINIMUM POLE LENGTHS	POLE BURIEL DEPTHS
25'	5'
30'	6'
35'	7'
40'	8'
45'	9'

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE

/S/ Balu Ananthar [illegible] n
STATE ELECTRICAL ENGI 64 HWYS

FHWA

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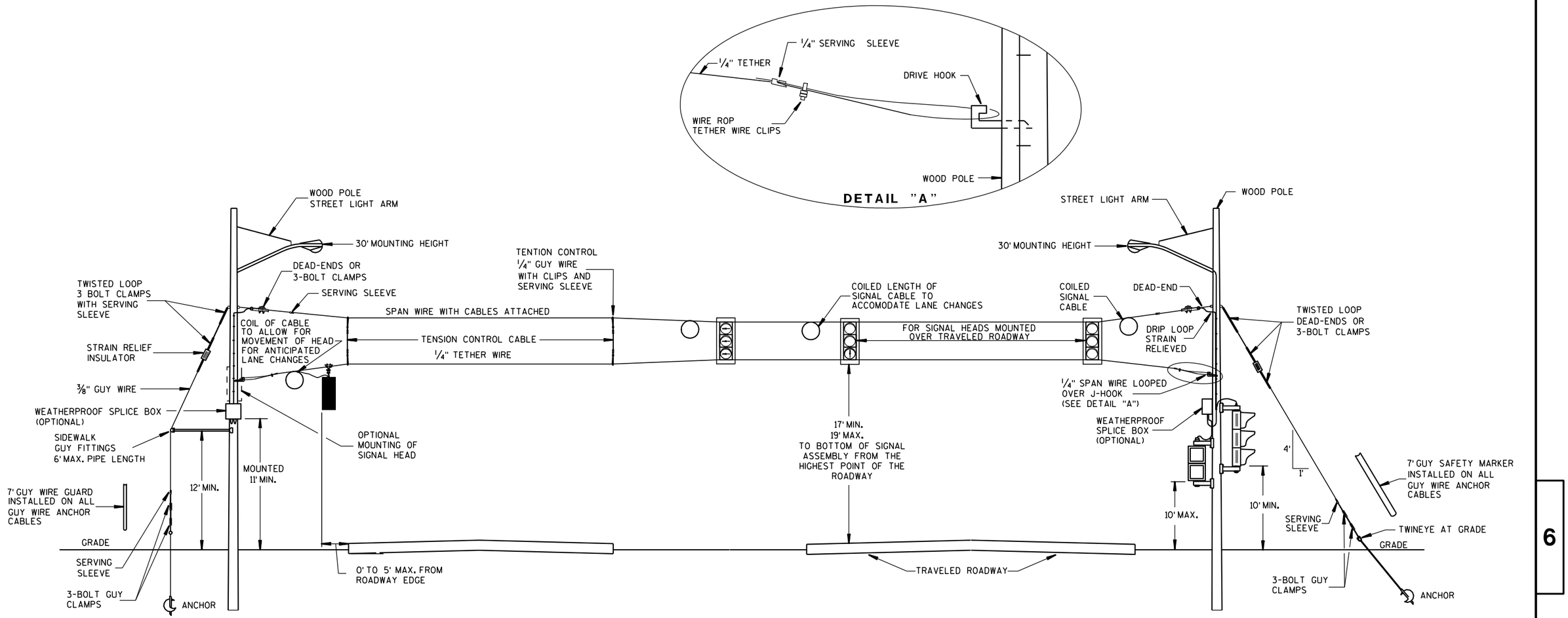

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   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.

SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

MINIMUM POLE LENGTHS	CLASS	MIN. BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE — /S/ Balu Ananthanarayanan STATE ELECTRICAL ENGI

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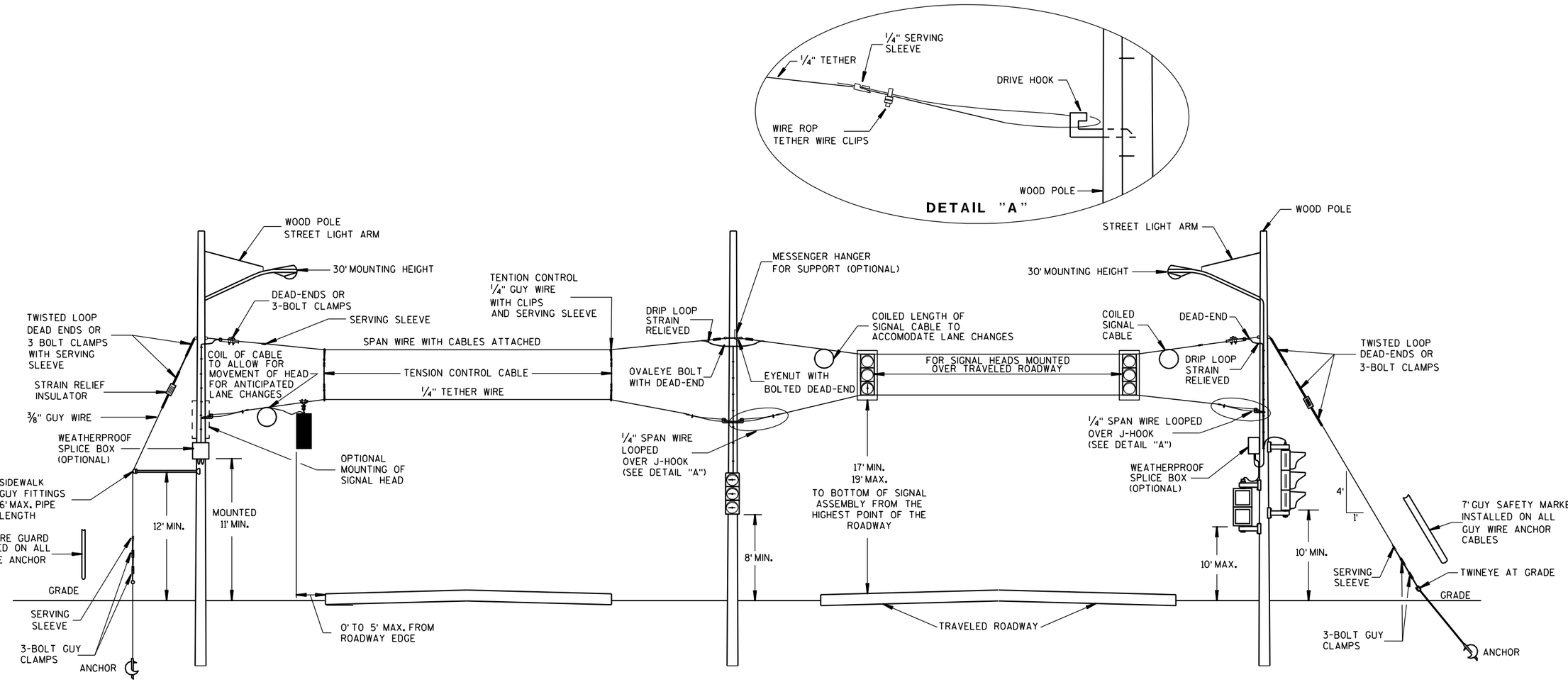

SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

GENERAL NOTES

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   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.

3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.

MINIMUM POLE LENGTHS	CLASS	MIN. BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI

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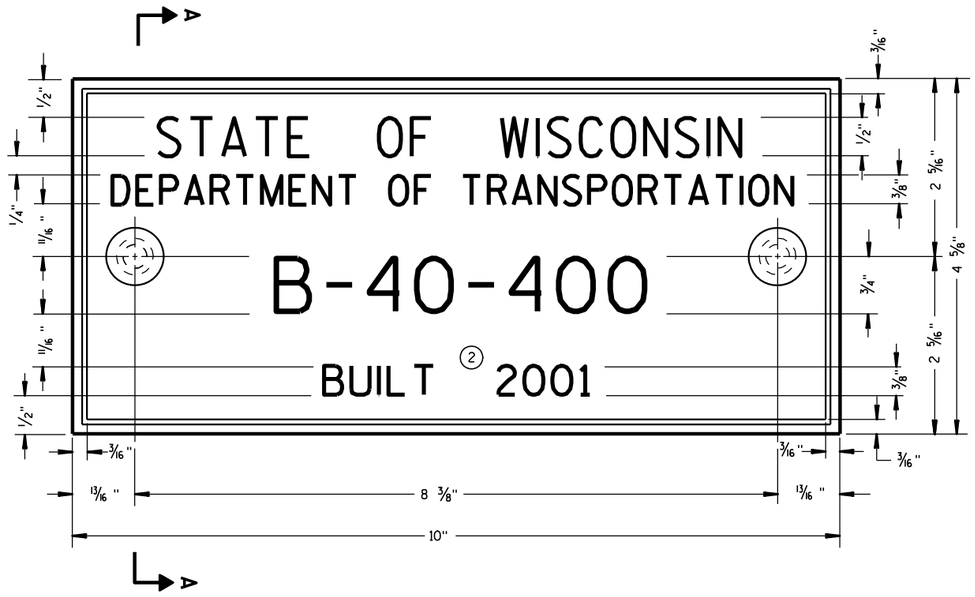


TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

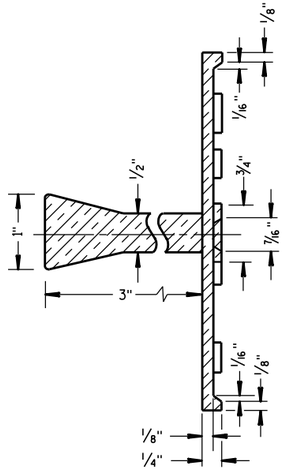
GENERAL NOTES

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.

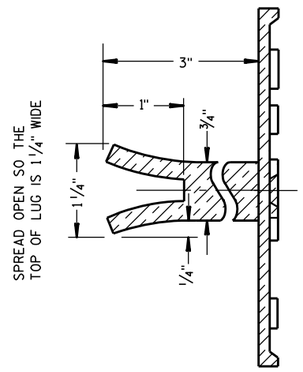
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

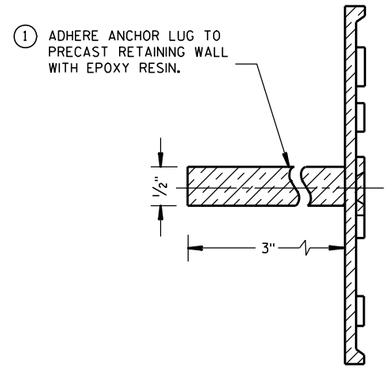
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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

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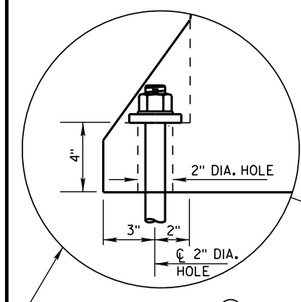
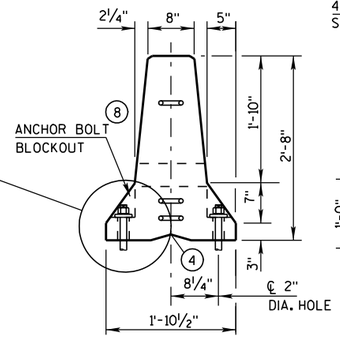
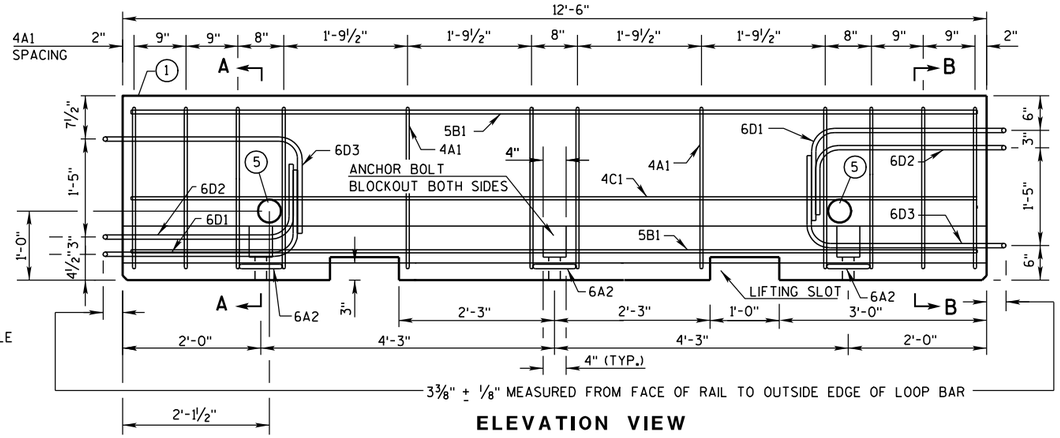
S.D.D. 12 A 3-10

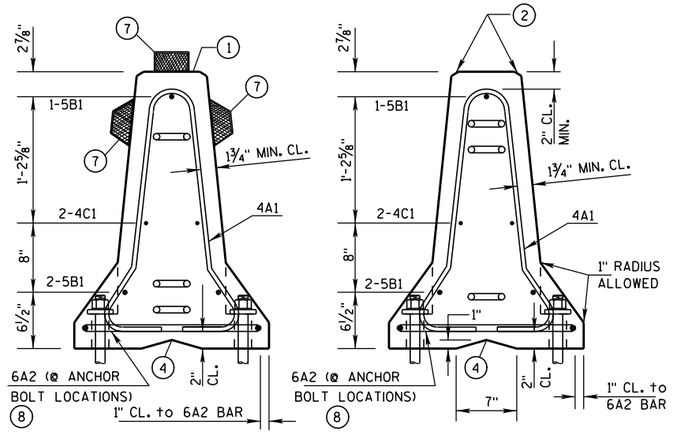




END VIEW

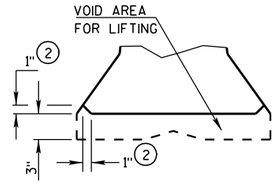


ELEVATION VIEW



SECTION A-A
(STIRRUP PLACEMENT)

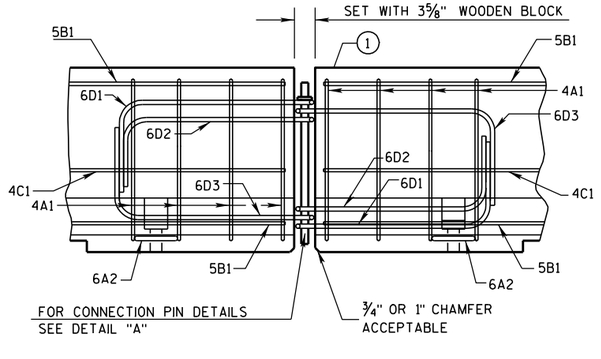
SECTION B-B
(STIRRUP PLACEMENT)



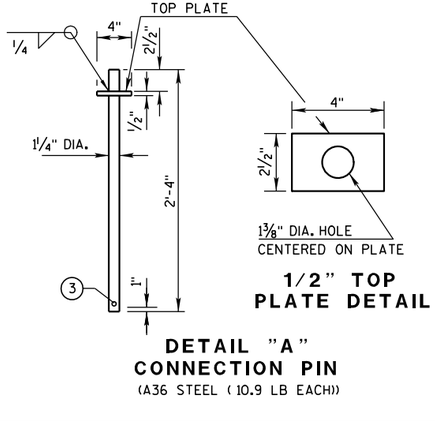
DETAIL "B"
LIFTING SLOT DETAIL

PLAN VIEW

DETAILS OF BARRIER SECTION

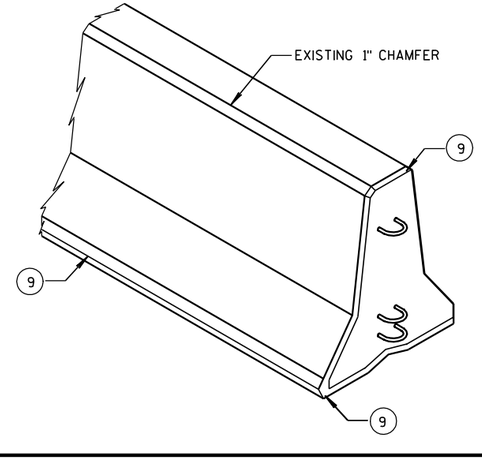


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(a) THRU 14B7-13(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WICBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

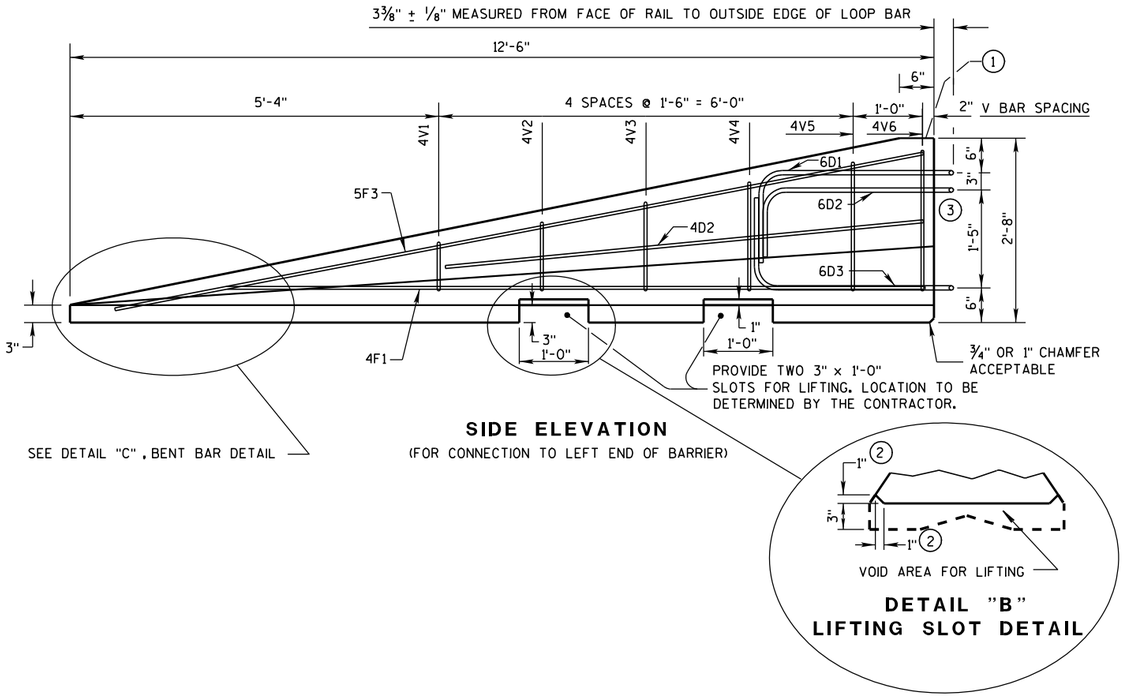
(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

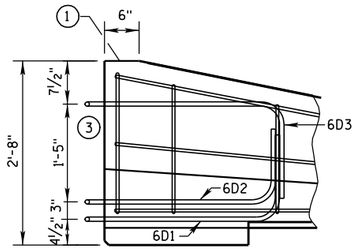
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)

DETAIL "B"
LIFTING SLOT DETAIL



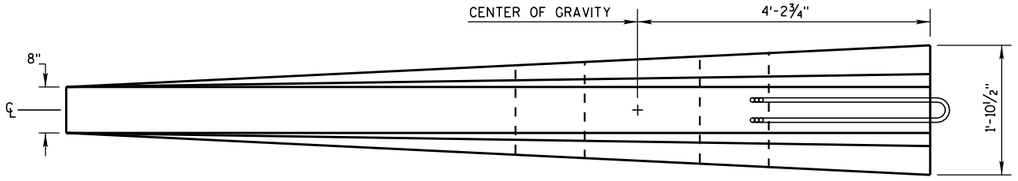
SIDE ELEVATION

LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END.

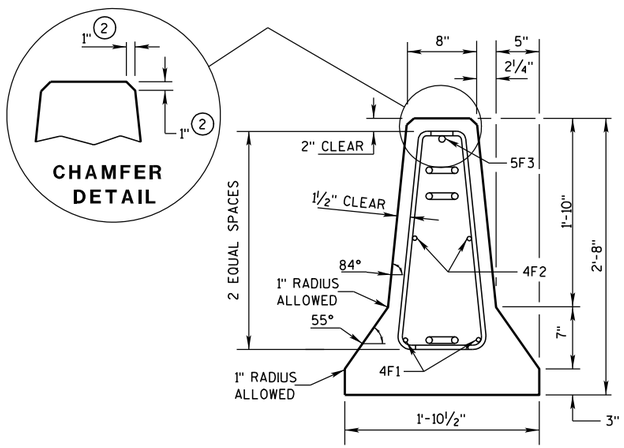
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

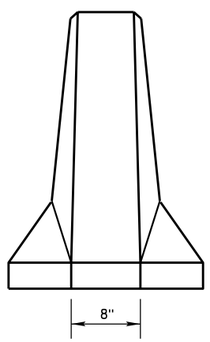
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



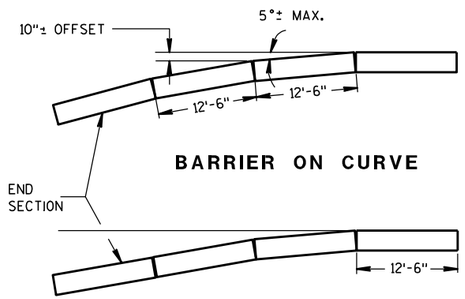
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 7-13b

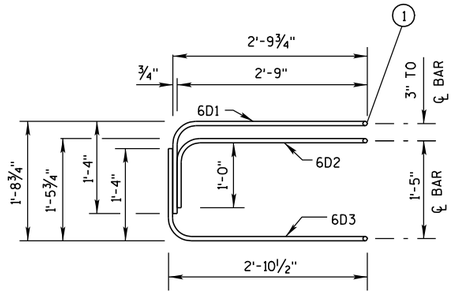
6

S.D.D. 14 B 7-13b

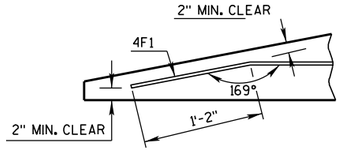
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

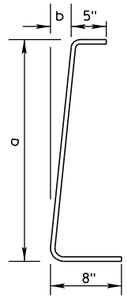
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

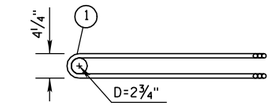
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

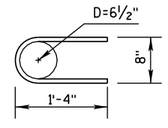
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

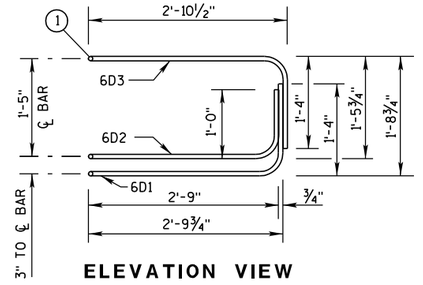
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



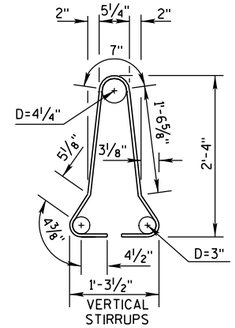
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



ELEVATION VIEW



4A1

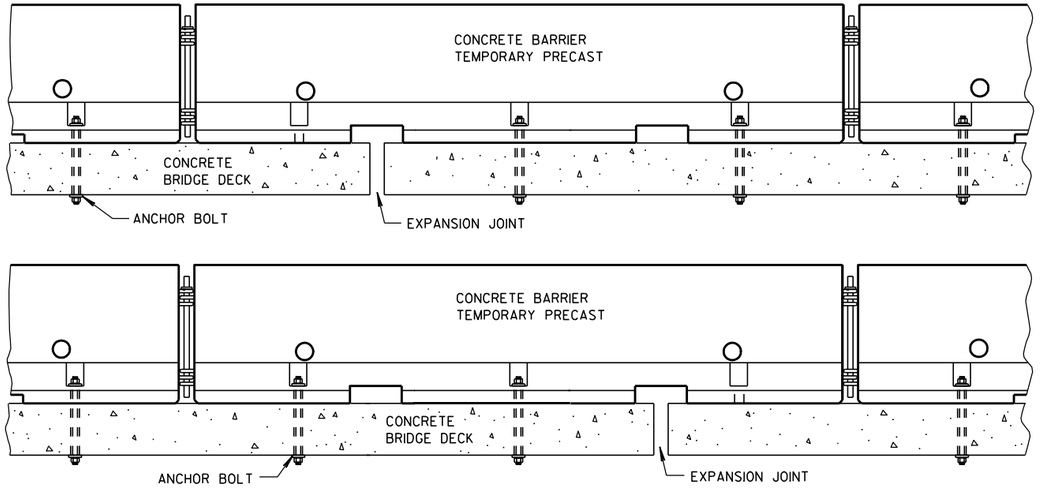
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

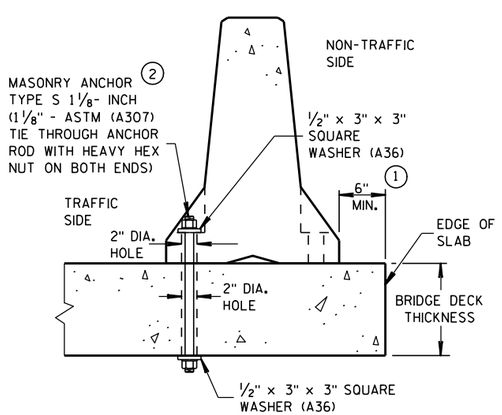
6

S.D.D. 14 B 7-13c



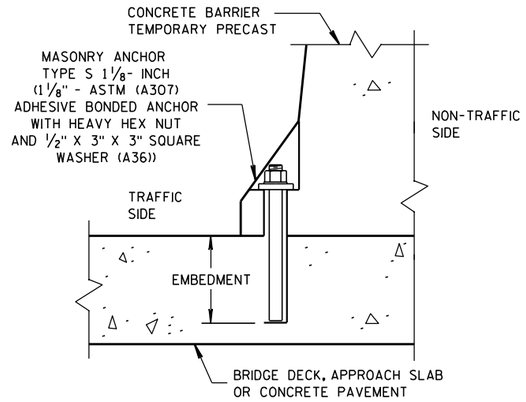
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT ②

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

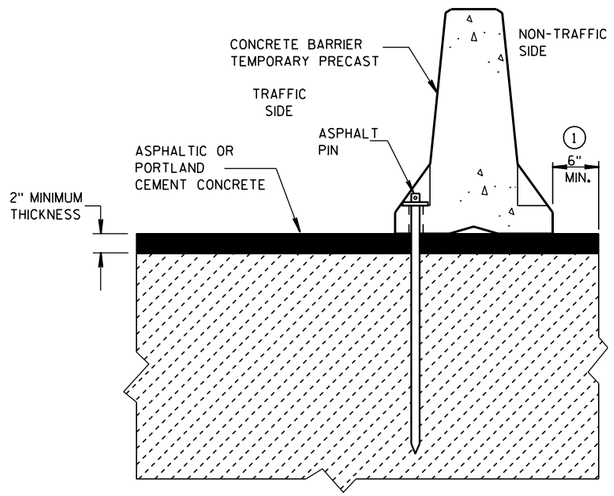
① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

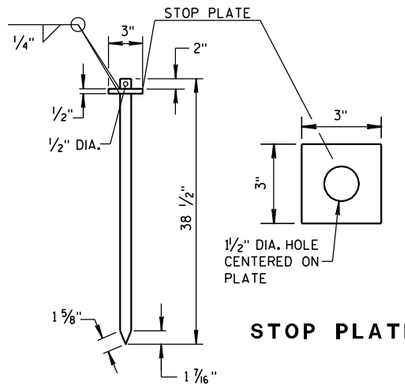
WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALLANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.



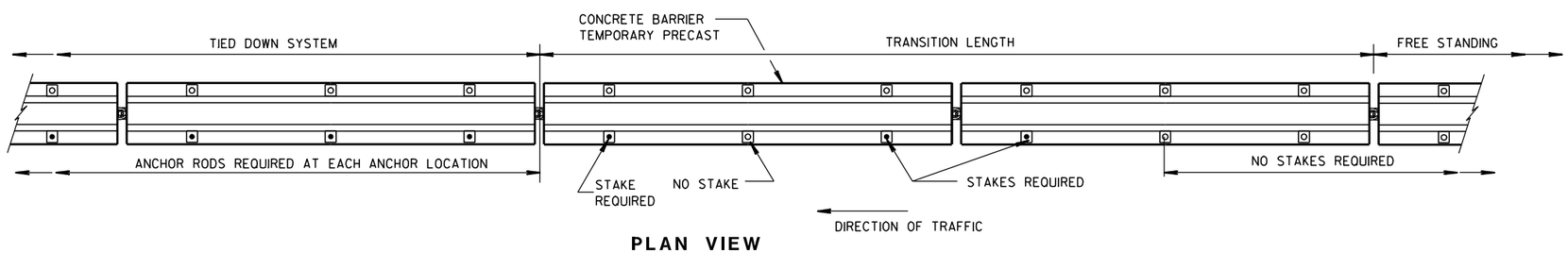
STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



ASPHALT PIN

(ASTM A36 STEEL)



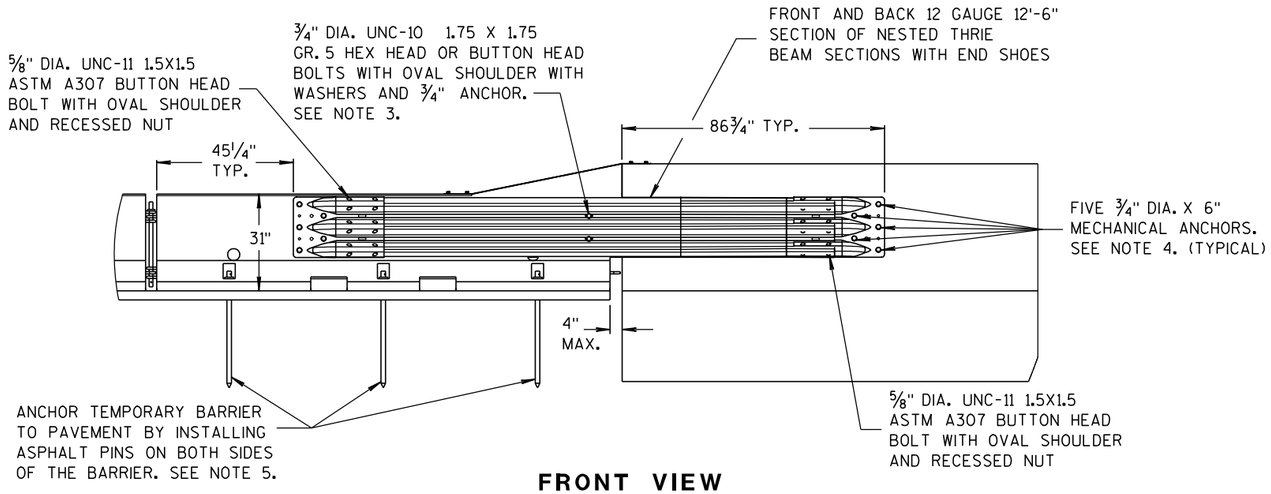
PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

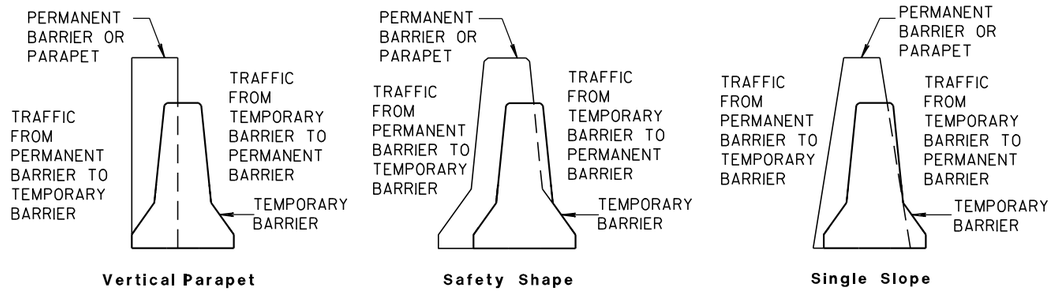
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...



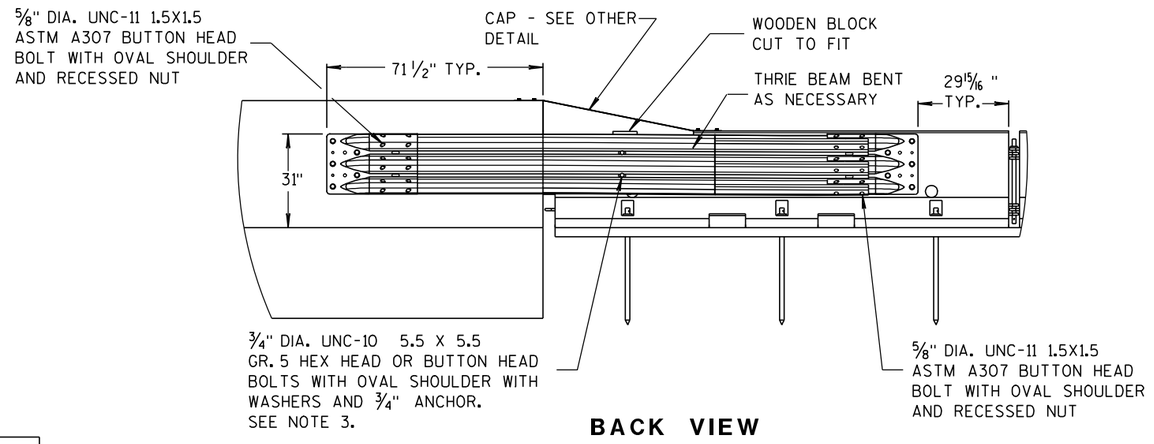
FRONT VIEW

NOTES

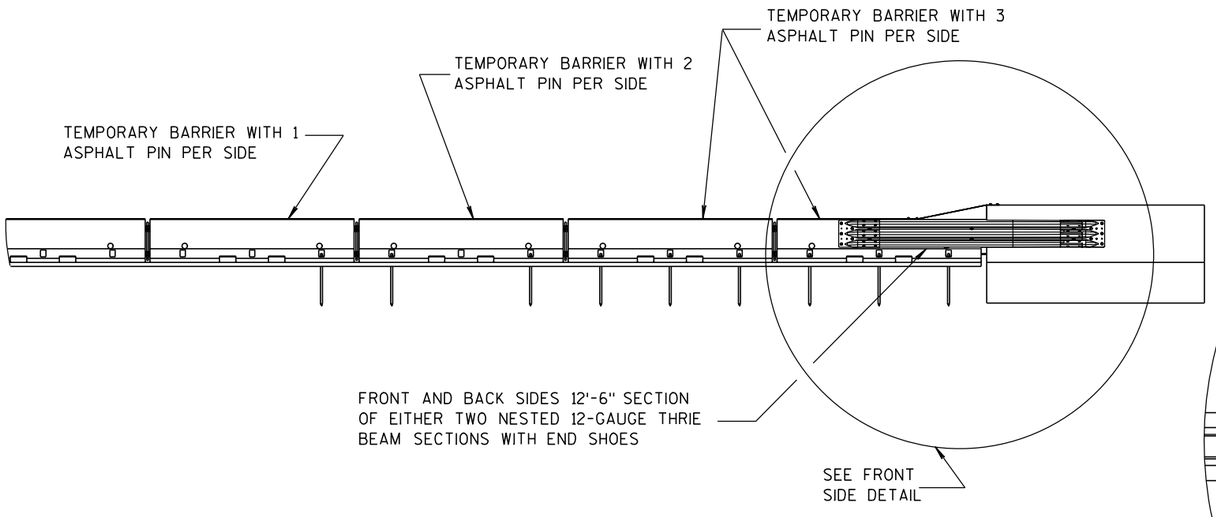
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



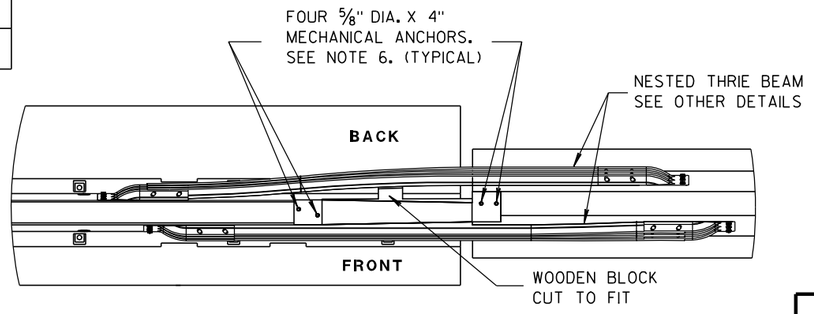
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



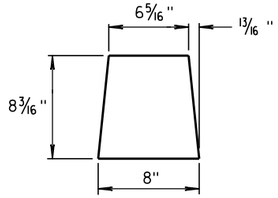
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

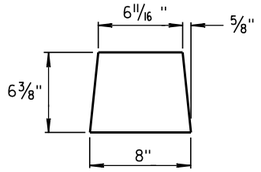
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

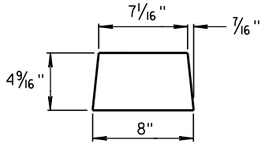
6
S.D.D. 14 B 7-13e



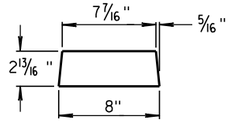
GUSSET 1



GUSSET 2

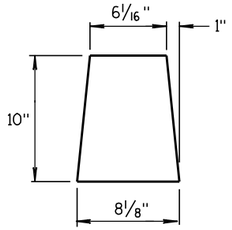


GUSSET 3

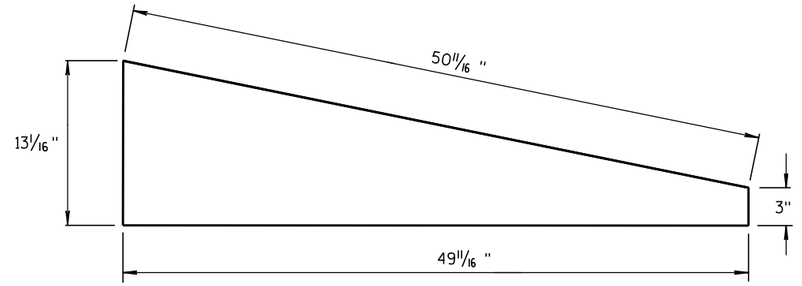


GUSSET 4

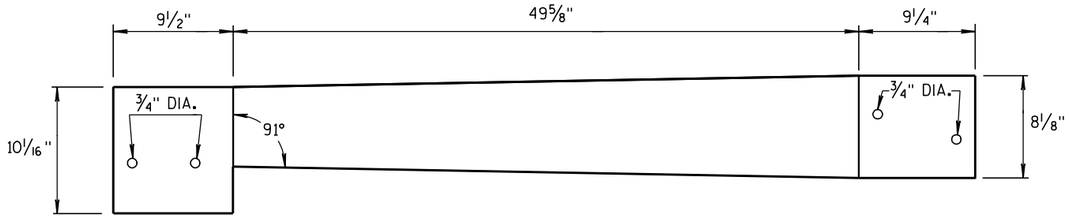
GUSSETS

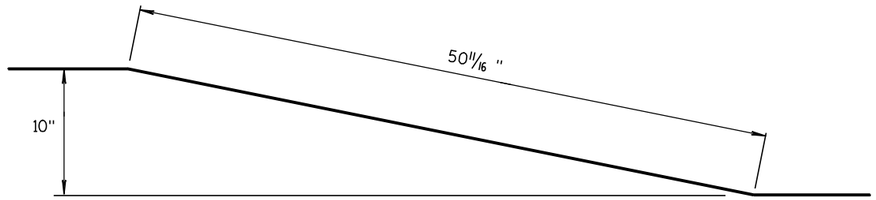


END PLATE

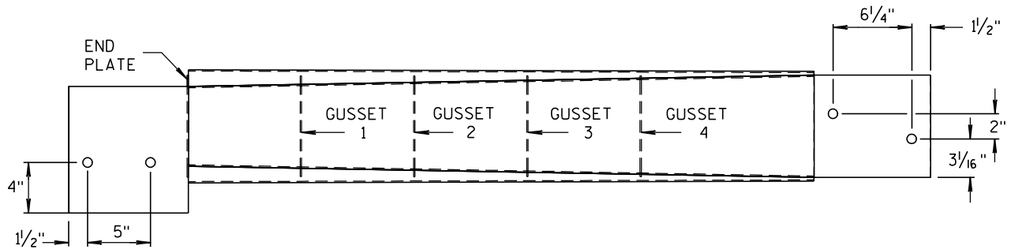


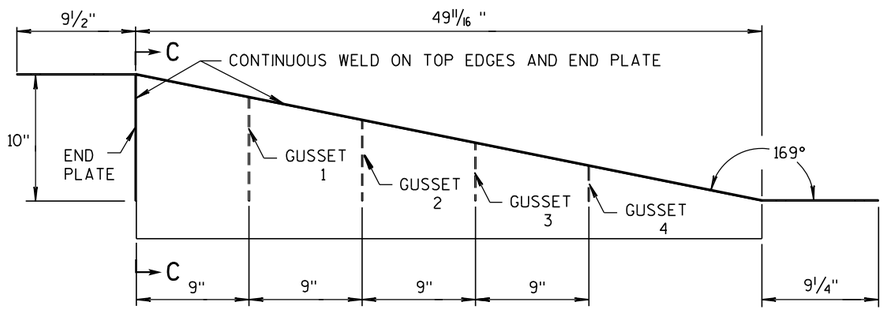
SIDE PLATE

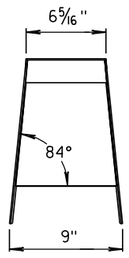




TOP PLATE







SECTION C-C

NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

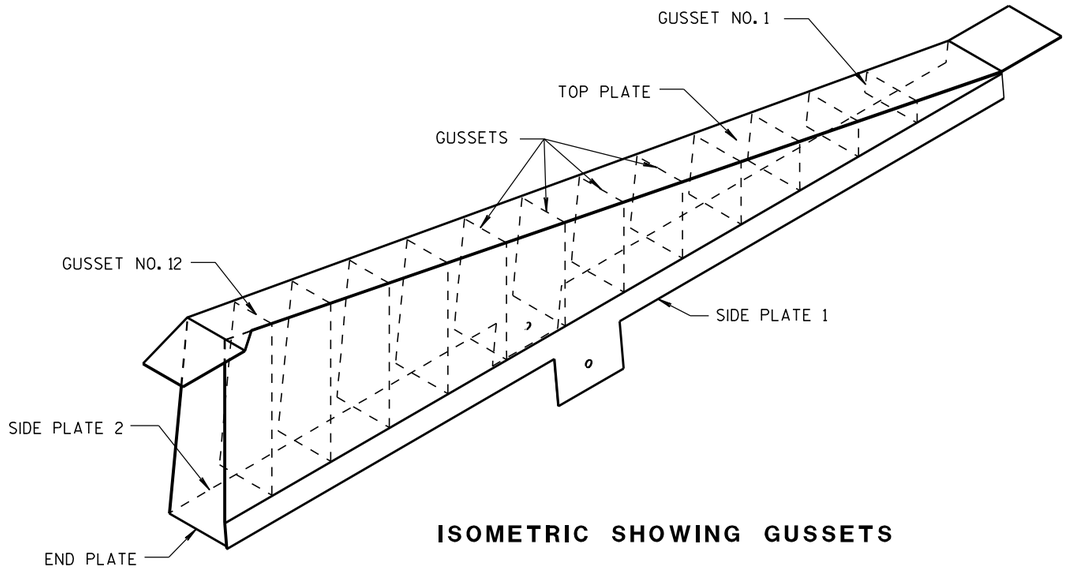
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

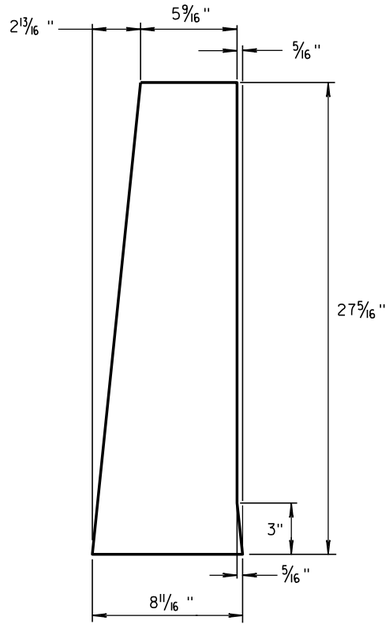
SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

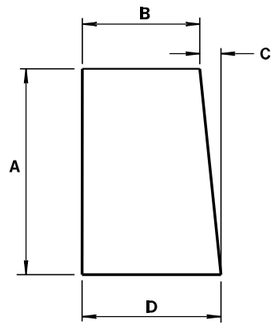


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



GUSSETS 1 - 12

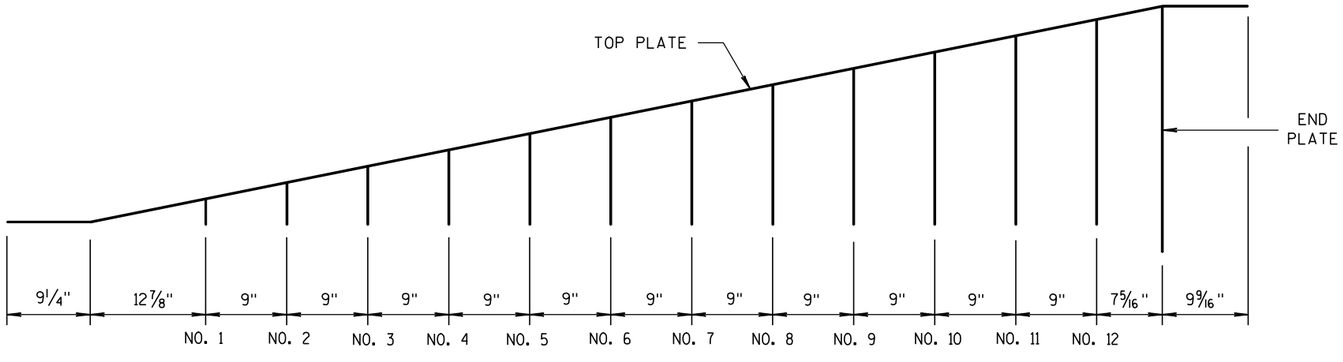
ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS

GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

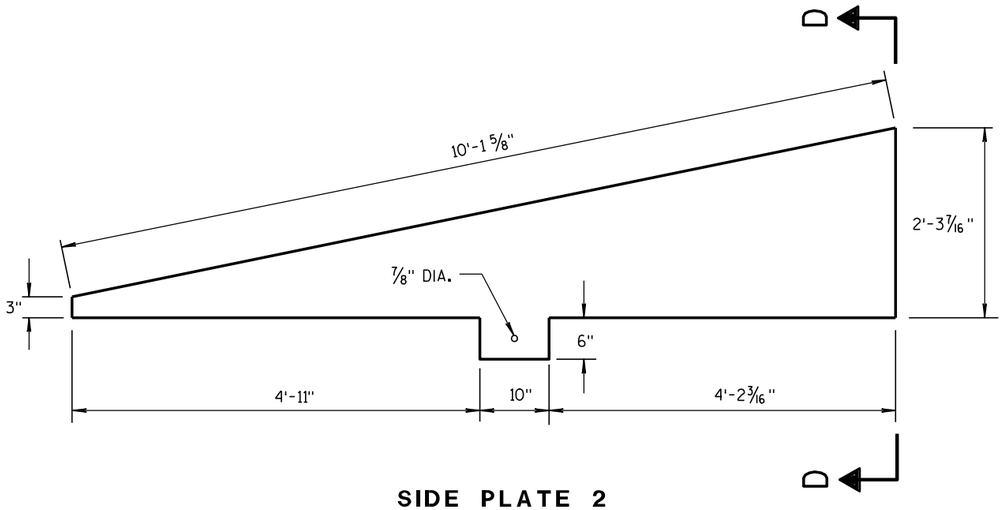
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

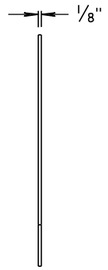
S.D.D. 14 B 7-13g

6

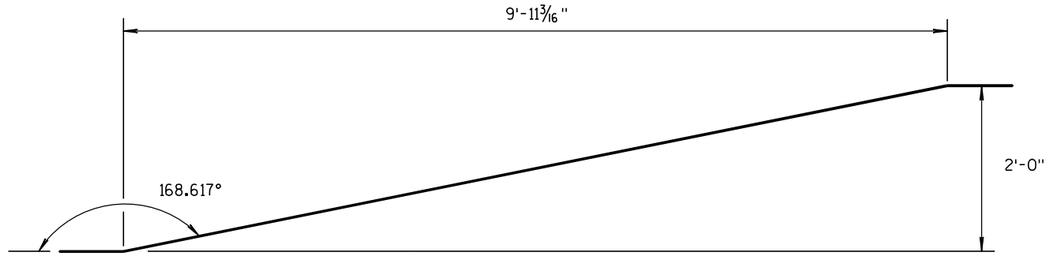
S.D.D. 14 B 7-13g



SIDE PLATE 2

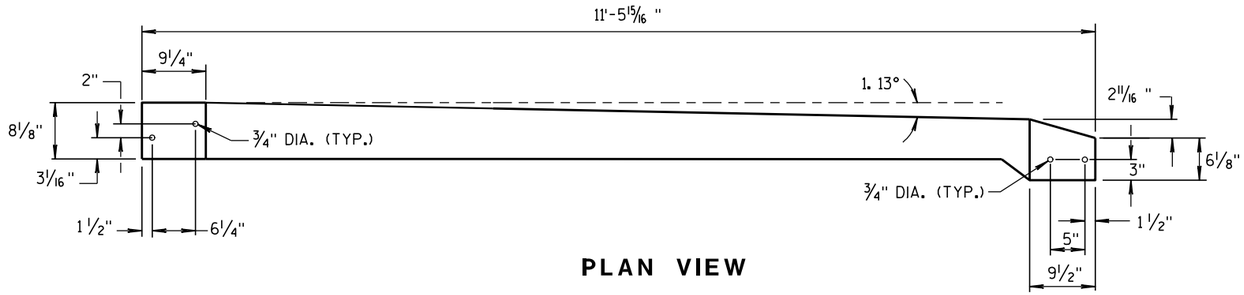


END VIEW



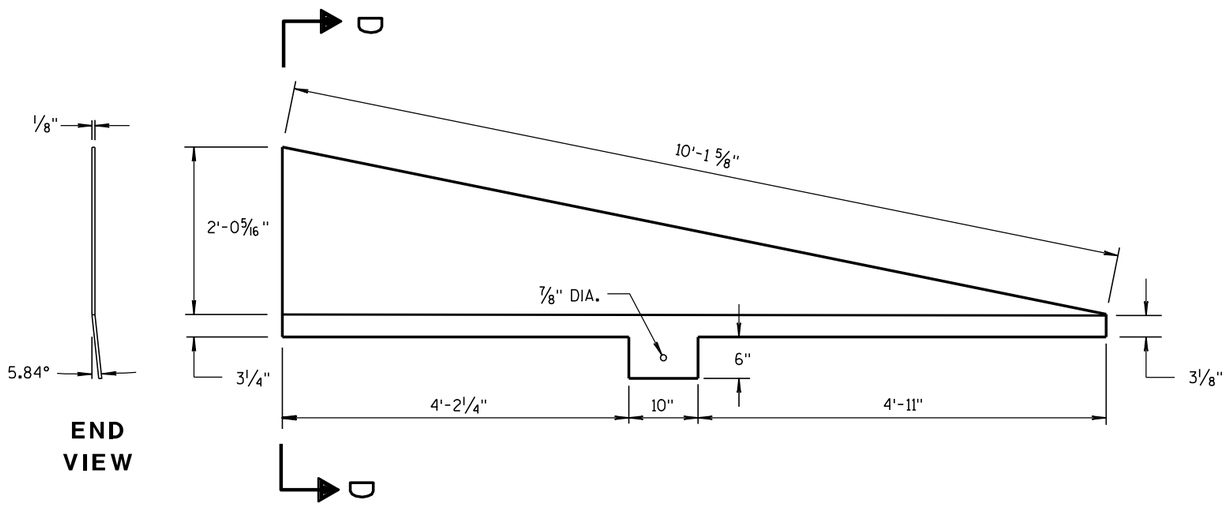
SIDE VIEW

TOP PLATE



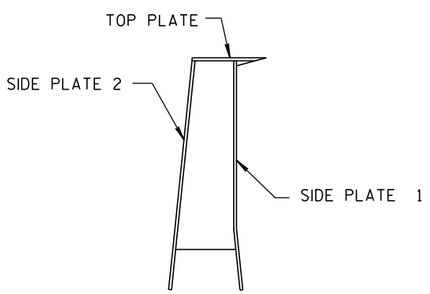
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

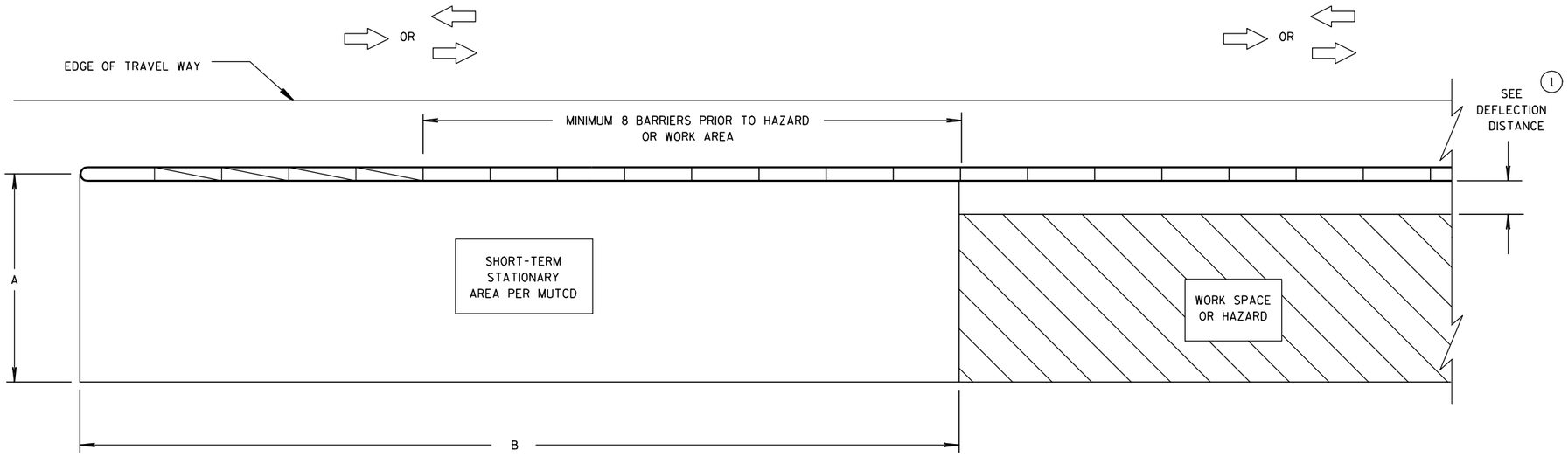
APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
75
ENT
FHWA

6

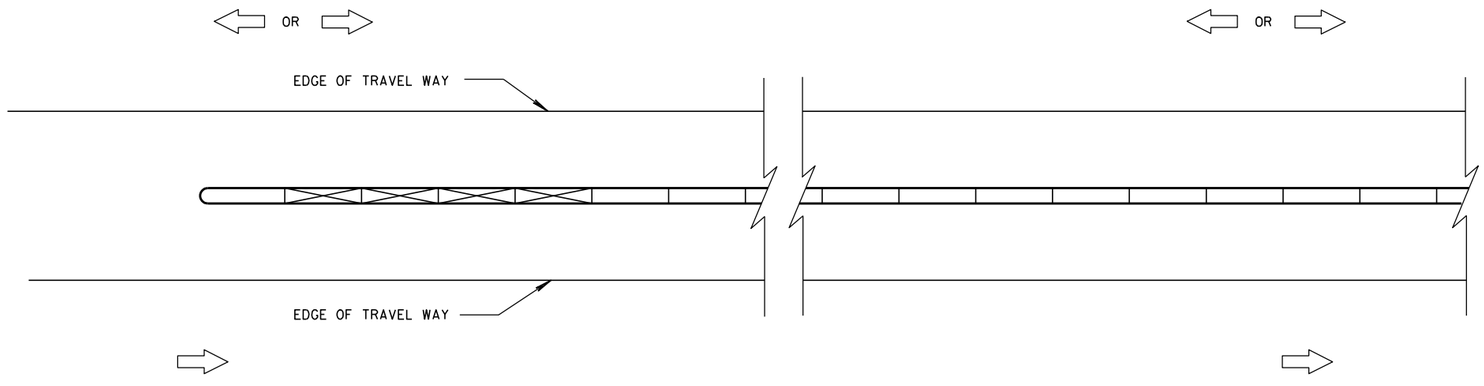
S.D.D. 14 B 7-13h

6

S.D.D. 14 B 7-13h



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

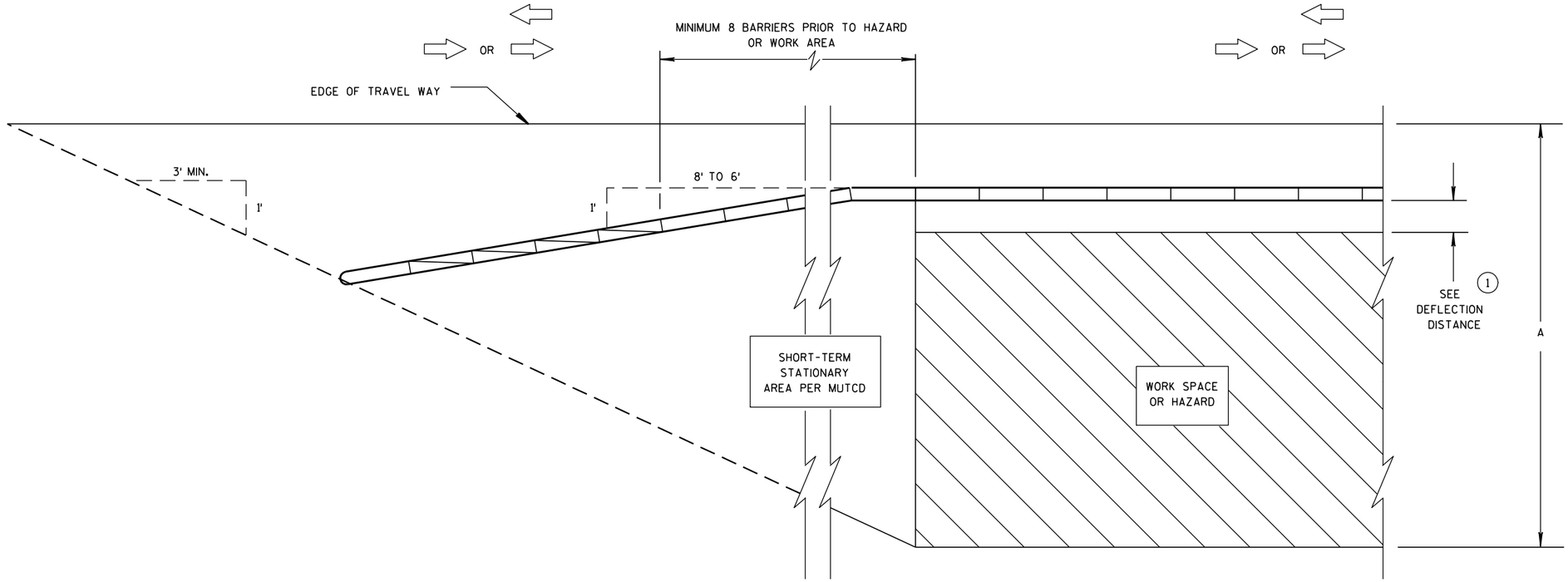
(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

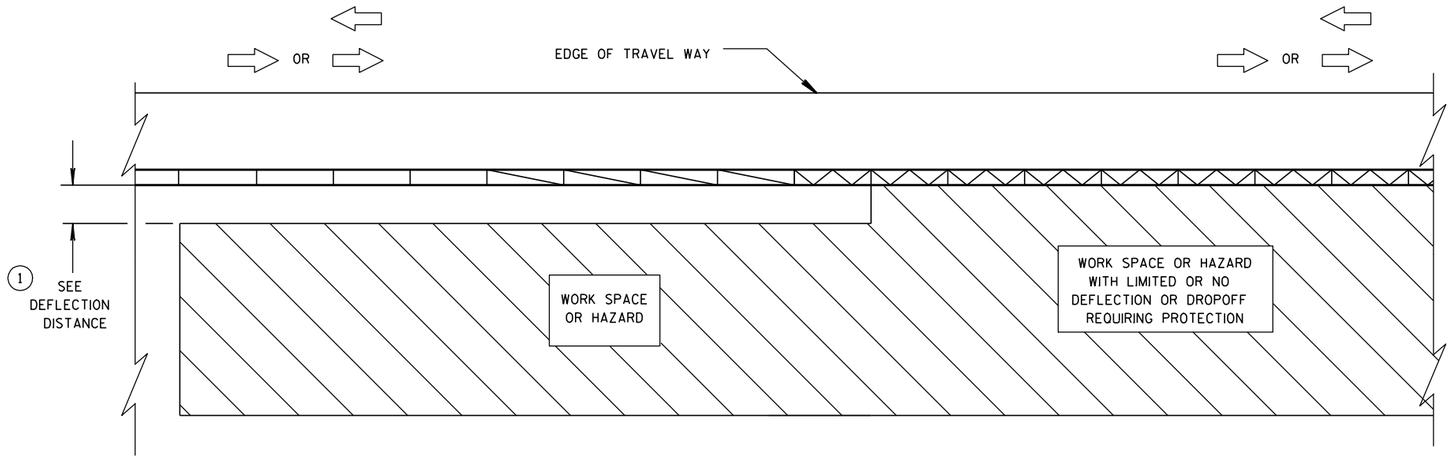
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 8-1a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

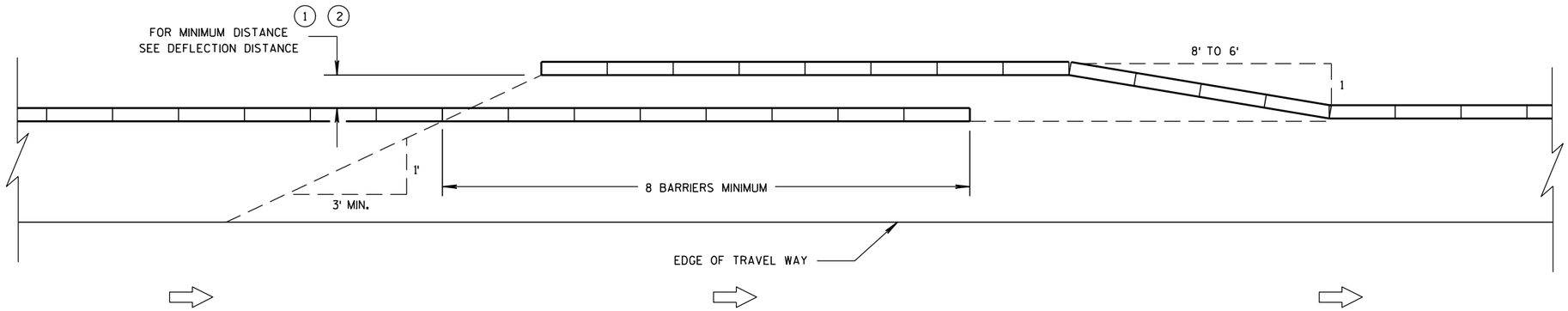
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

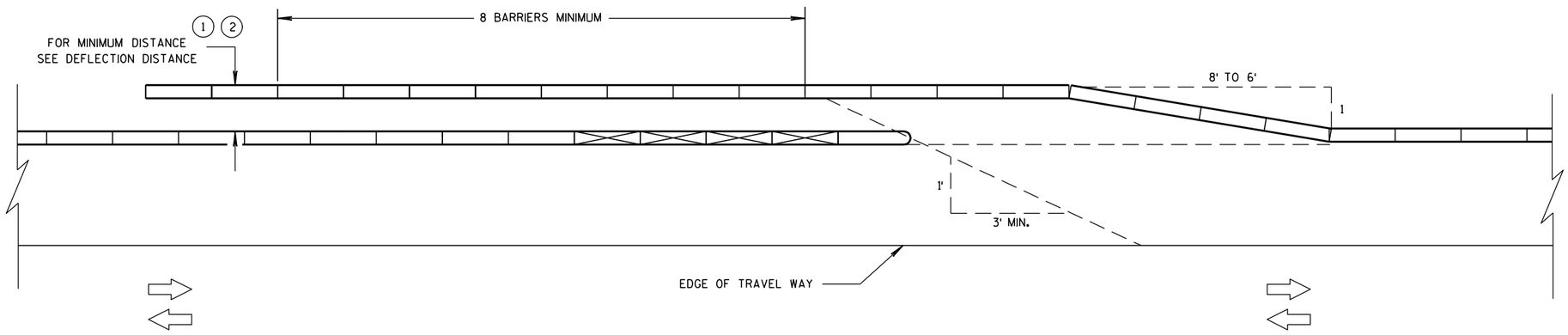
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

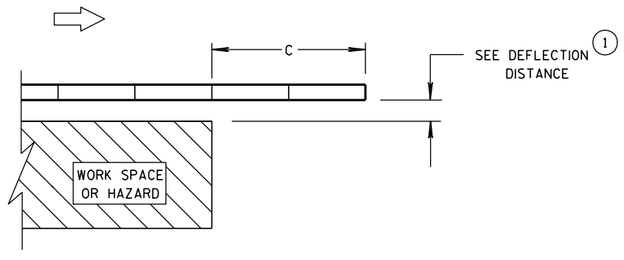
S.D.D. 14 B 8-1b



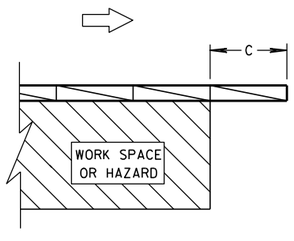
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

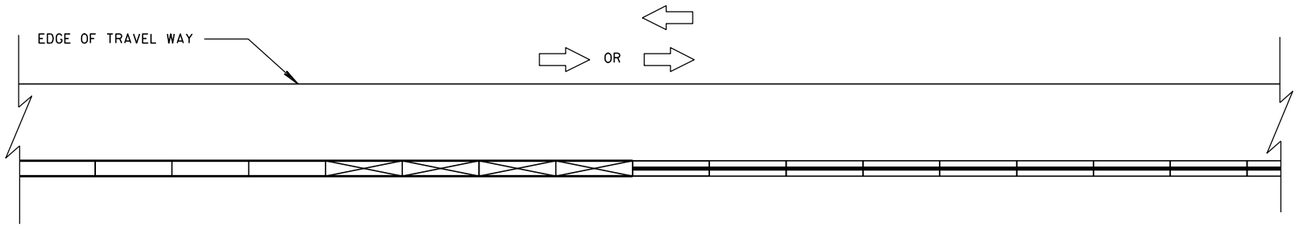
LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

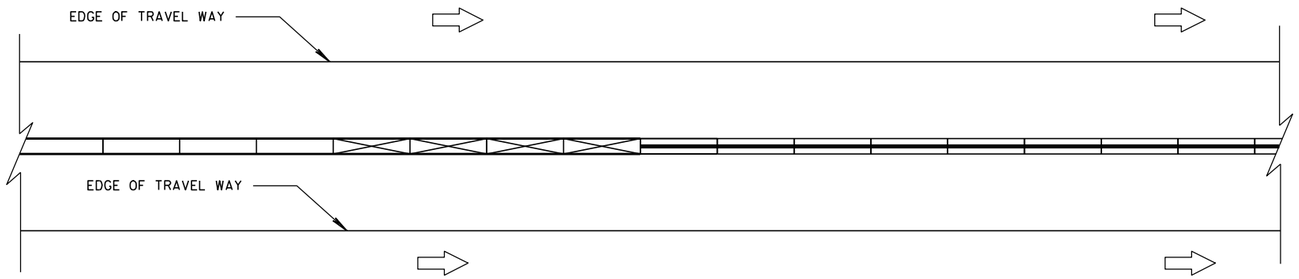
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 8-1c



CONNECTING TEMPORARY BARRIER TO PERMANENT CONCRETE BARRIER-TRAFFIC ON ONE SIDE



CONNECTING TEMPORARY BARRIER TO PERMANENT CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

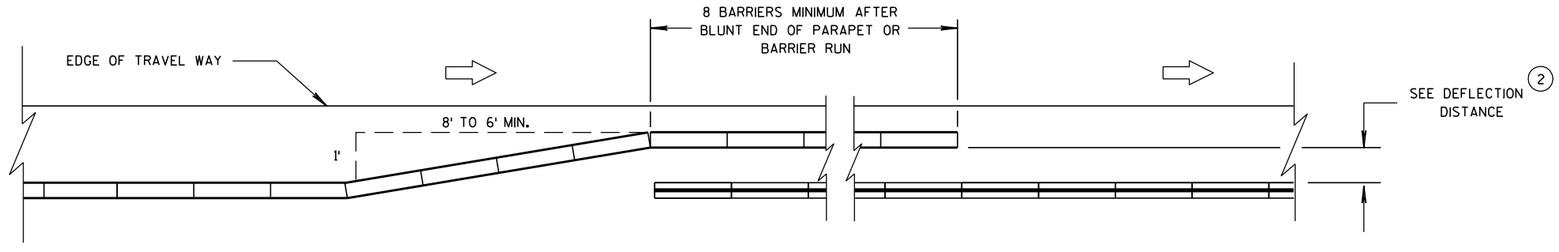
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

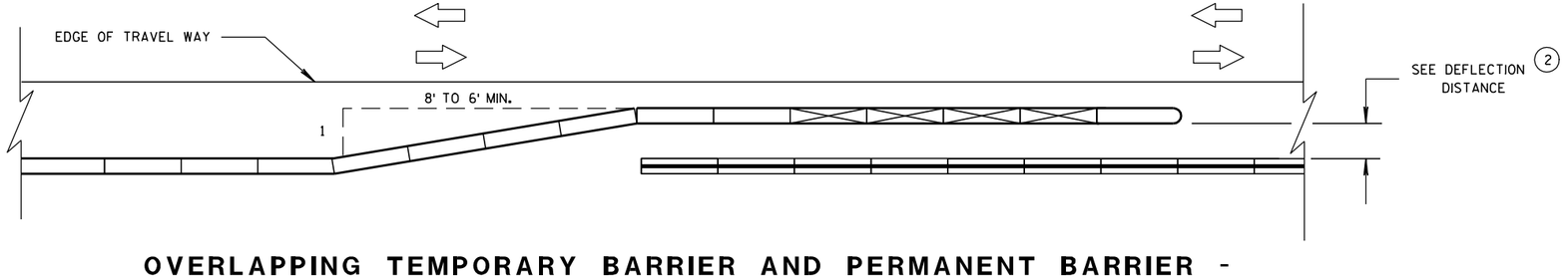
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER - ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER - TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 8-1d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

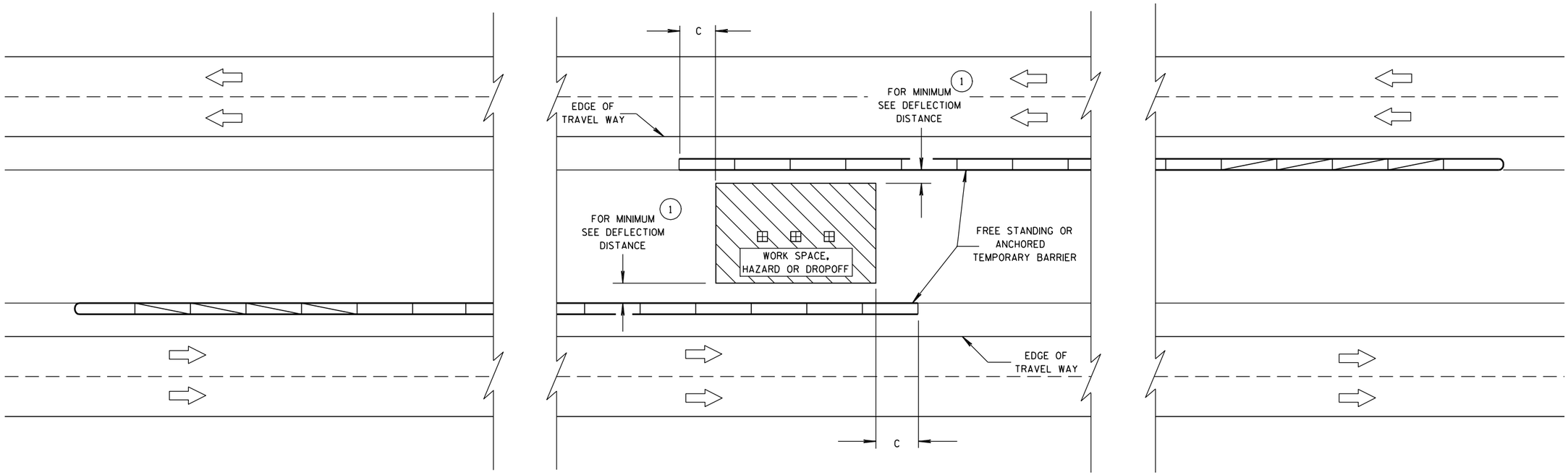
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



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S.D.D. 14 B 8-1e

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S.D.D. 14 B 8-1e

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

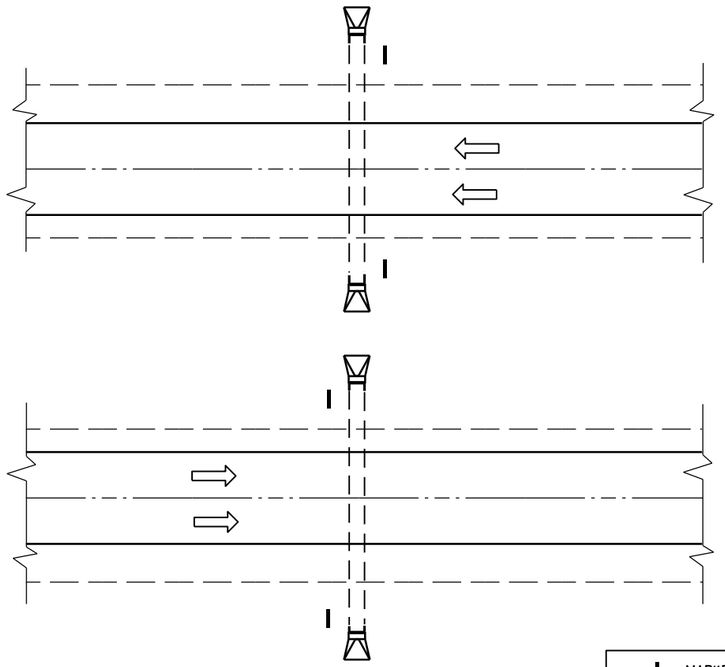
APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER

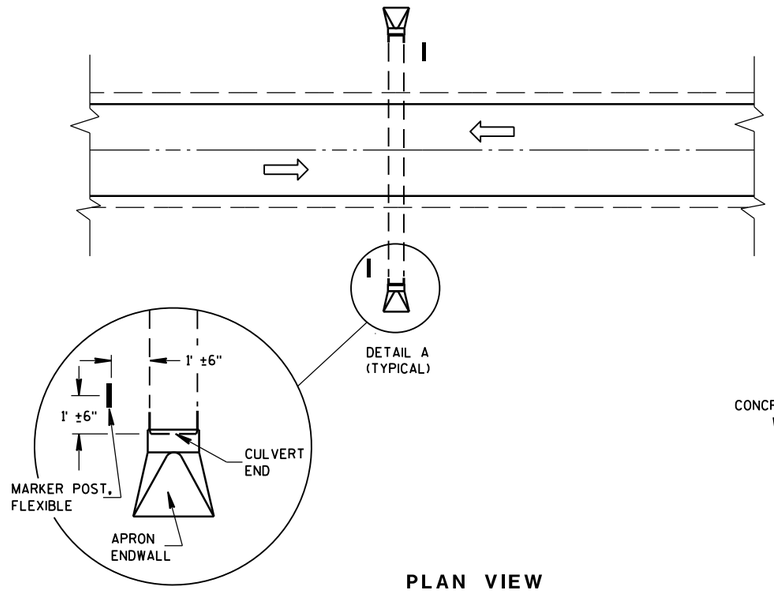
80

FHWA



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

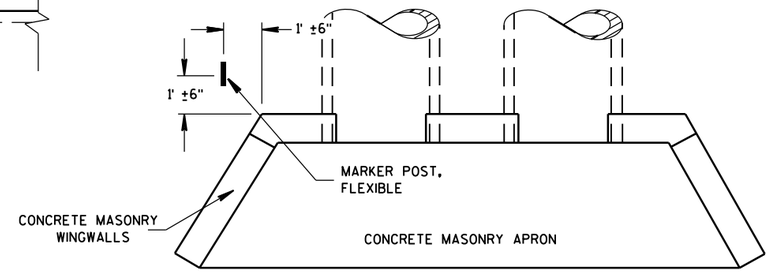
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

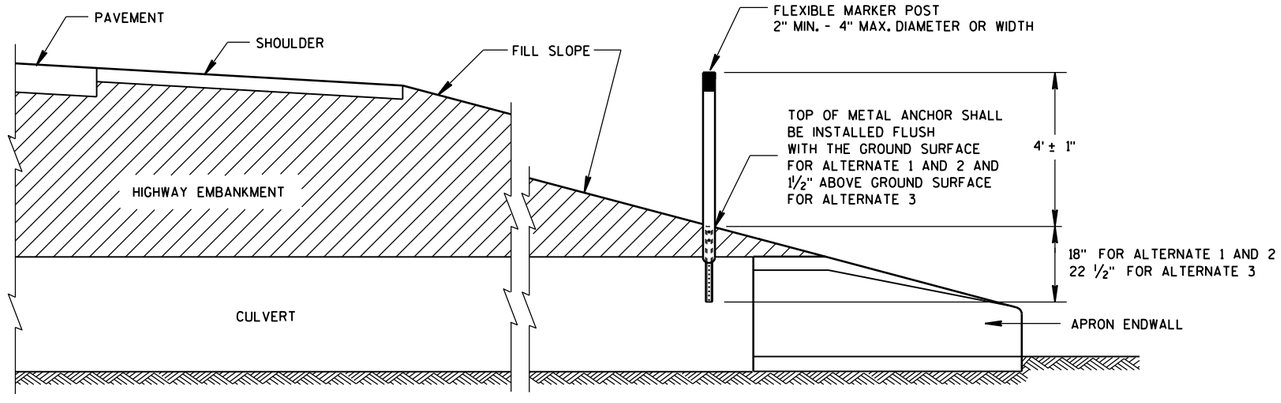
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

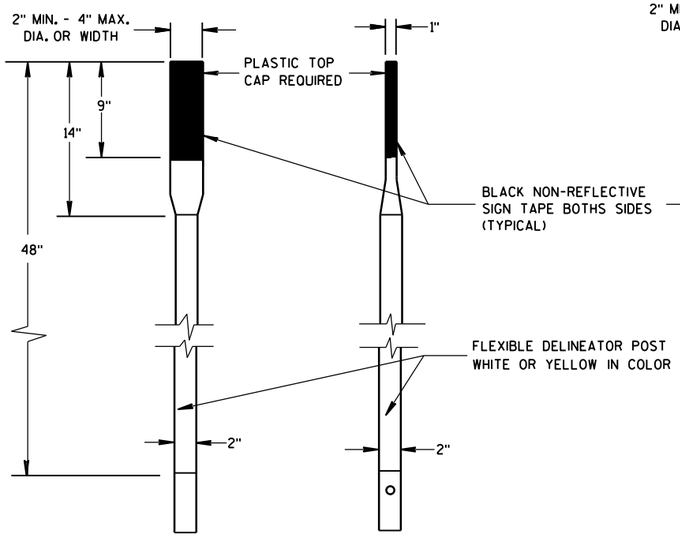
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

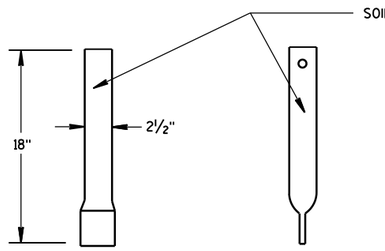
6

S.D.D. 15 A 3-2a

6

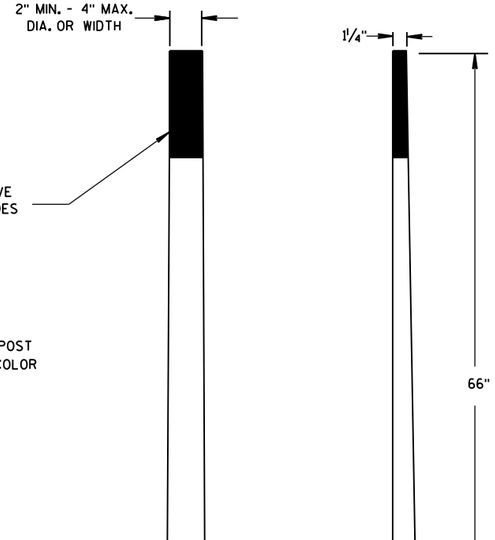
S.D.D. 15 A 3-2a





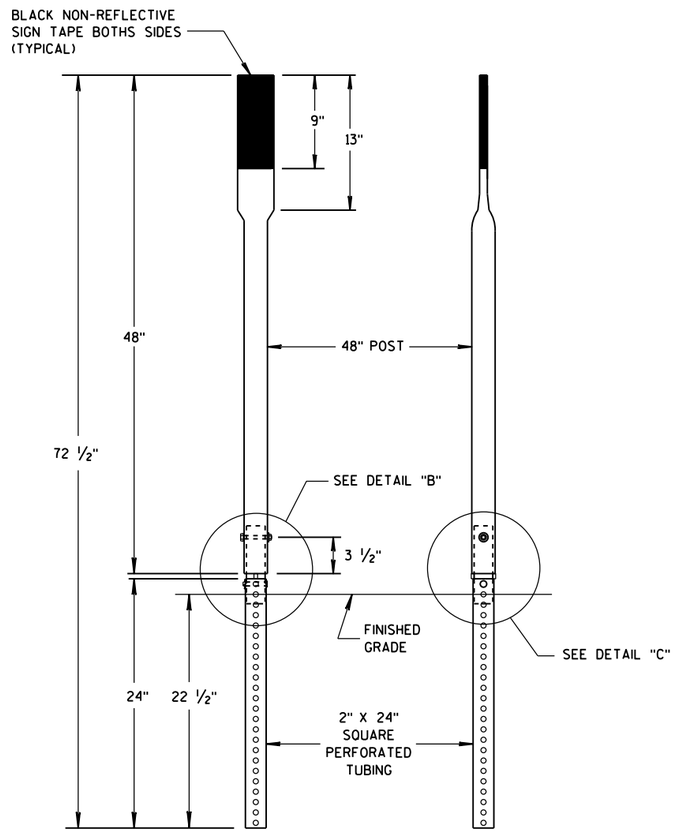
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

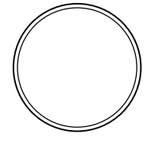
ALTERNATE 2



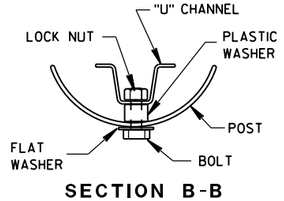
FRONT VIEW SIDE VIEW

ALTERNATE 3

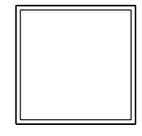
FLEXIBLE MARKER POSTS



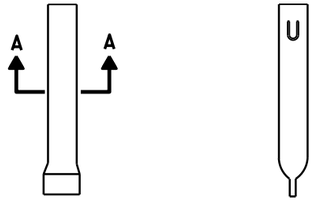
SECTION A-A



SECTION B-B

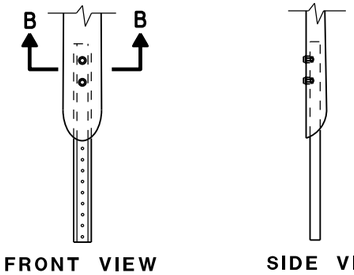


SECTION C-C



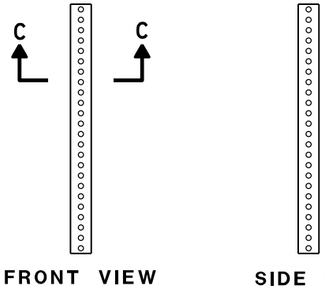
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

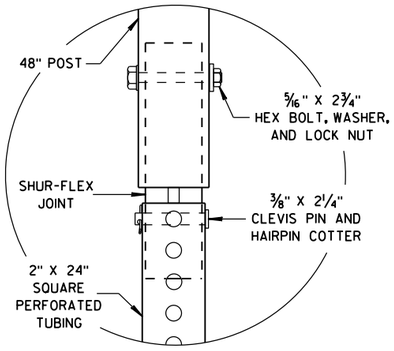
ALTERNATE 2



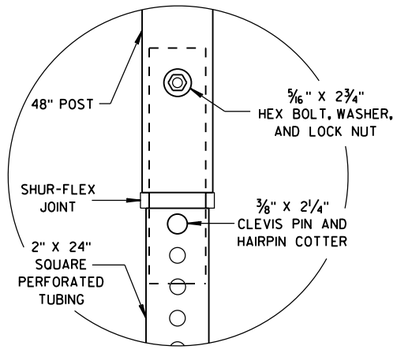
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

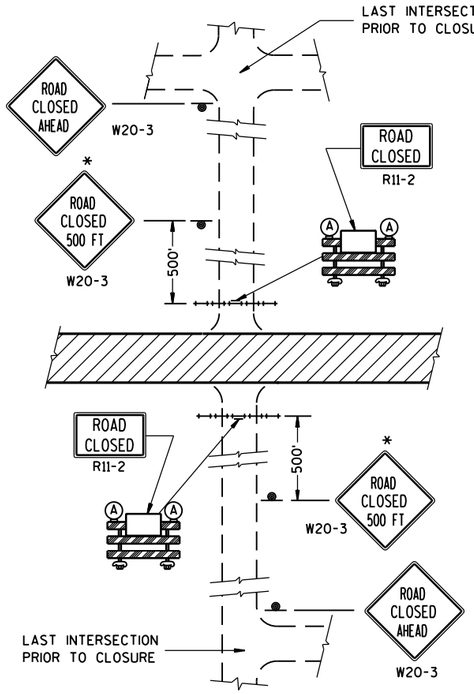
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
IGN
FHWA

6

S.D.D. 15 A 3-2b

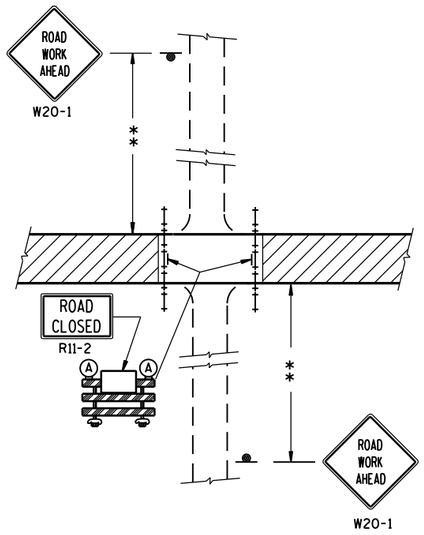
6

S.D.D. 15 A 3-2b



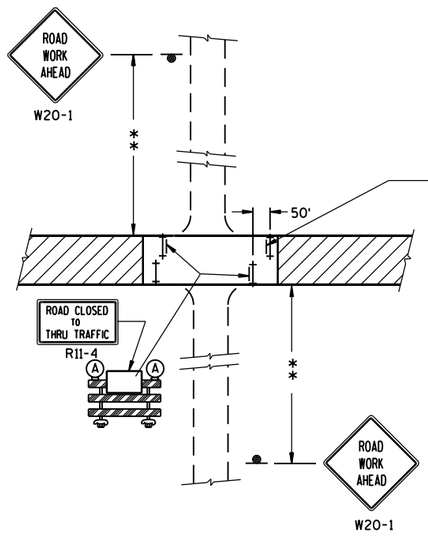
DETAIL 1

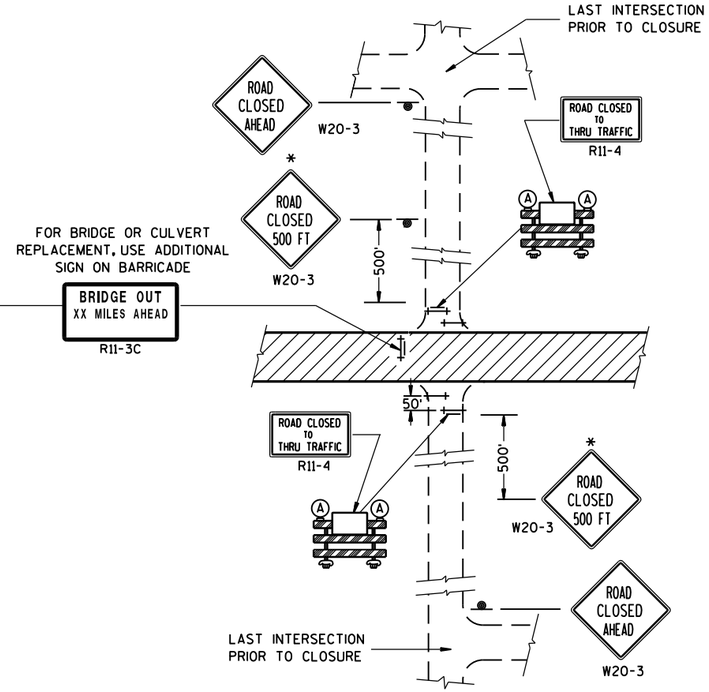
(NO ACCESS TO PROJECT)



DETAIL 2

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





DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).

DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT 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 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 RE-ESTABLISHED.

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 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 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

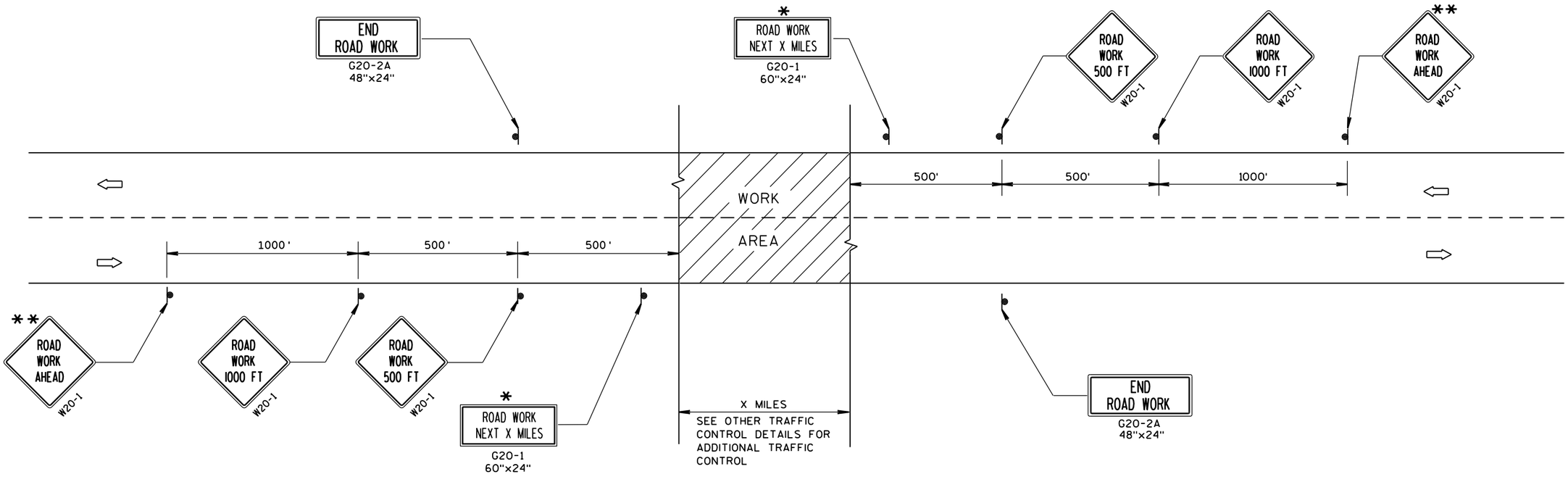
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 C 3-2

6

S.D.D. 15 C 3-2



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

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

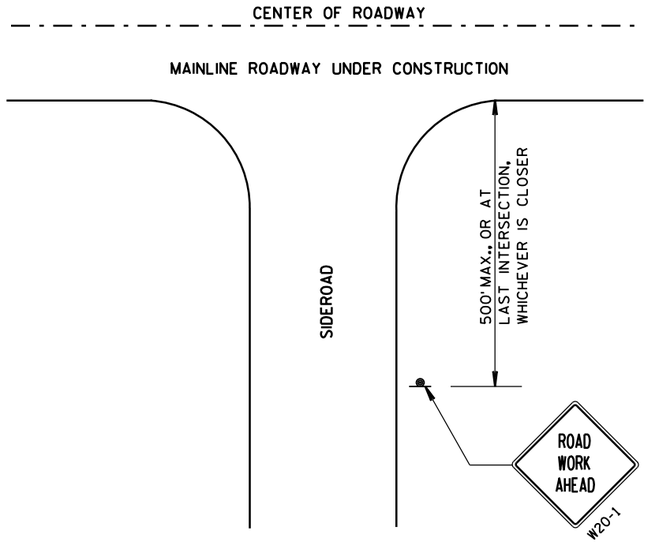
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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 RE-ESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013	/S/ Travis Feltes	
DATE	STATE TRAFFIC ENGINEER	SIGN

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6

S.D.D. 15 C 4-2

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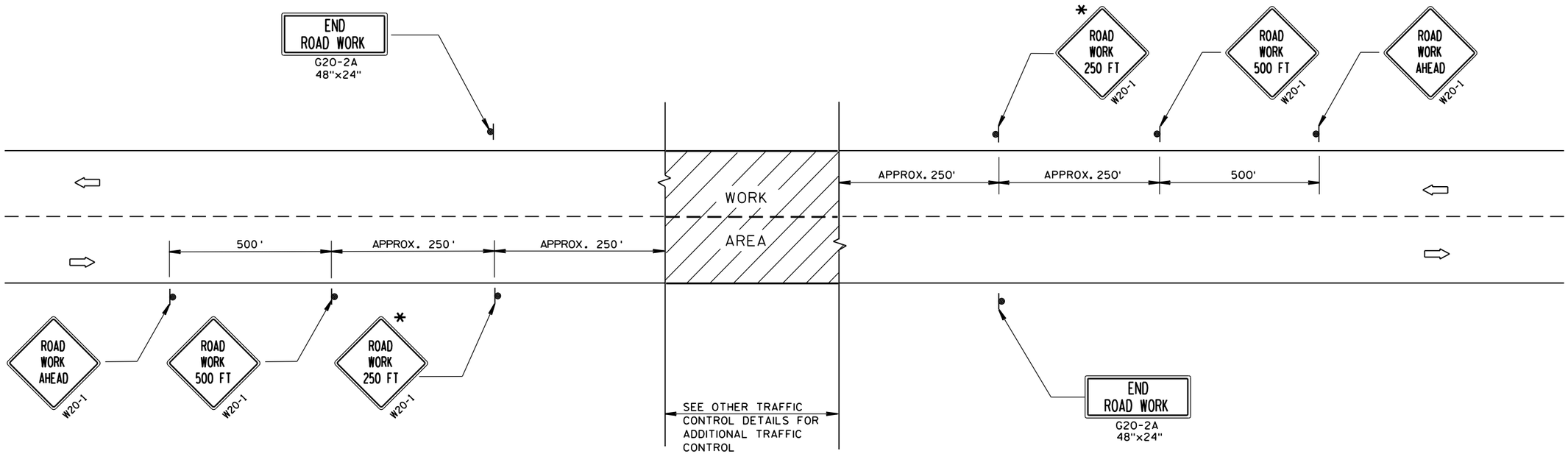
S.D.D. 15 C 4-2



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

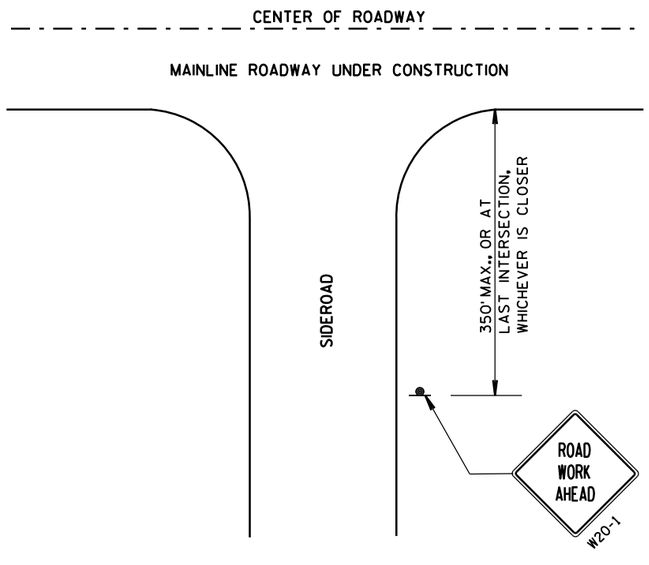
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

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 RE-ESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

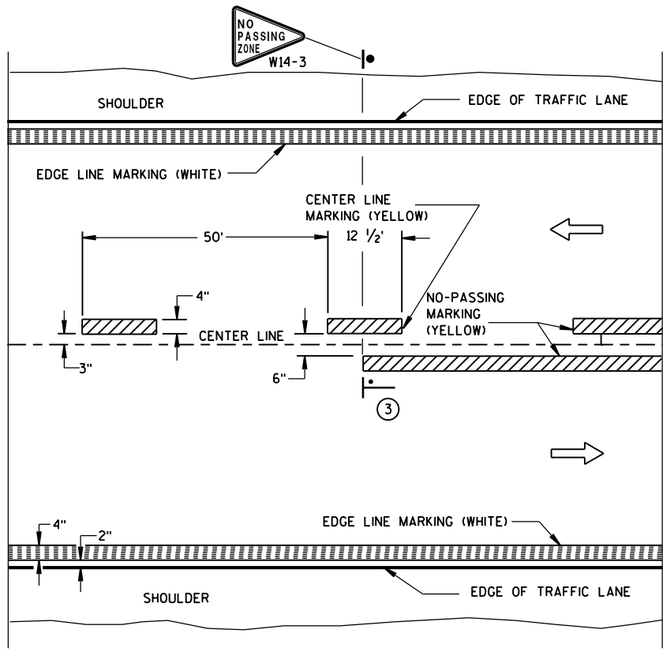
/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

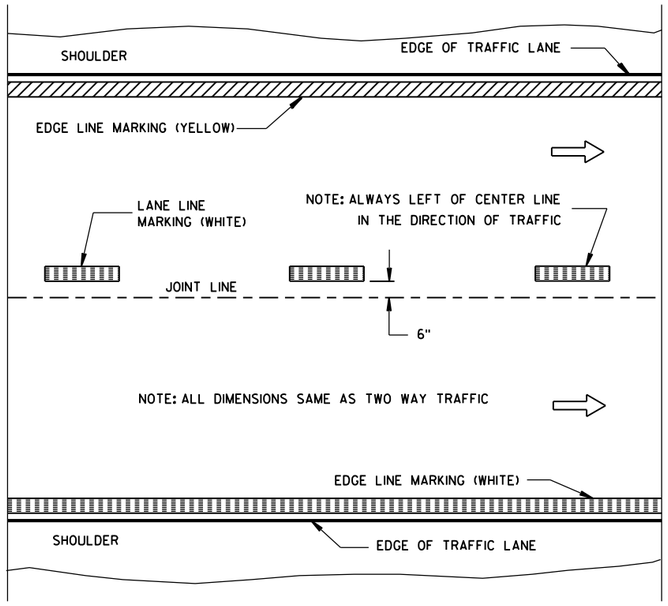
SIGN

6

S.D.D. 15 C 5-2

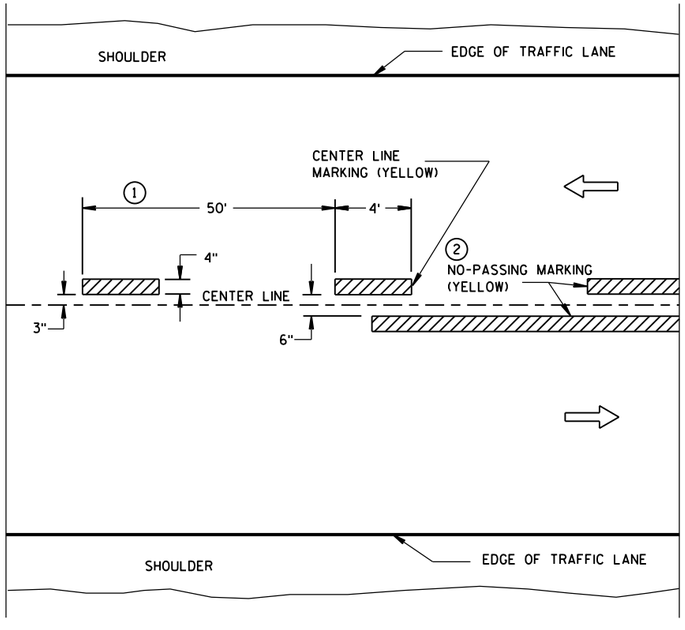


TWO WAY TRAFFIC

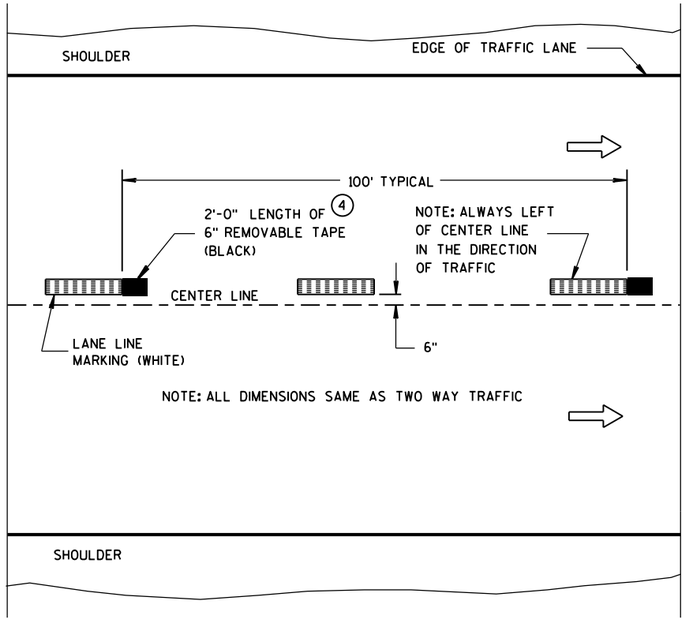


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

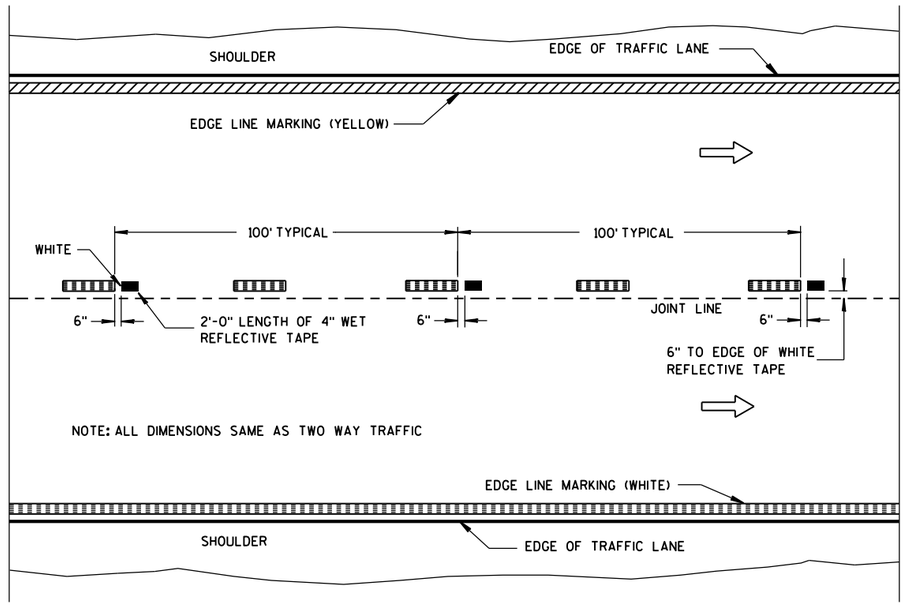
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

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S.D.D. 15 C 8-16a

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

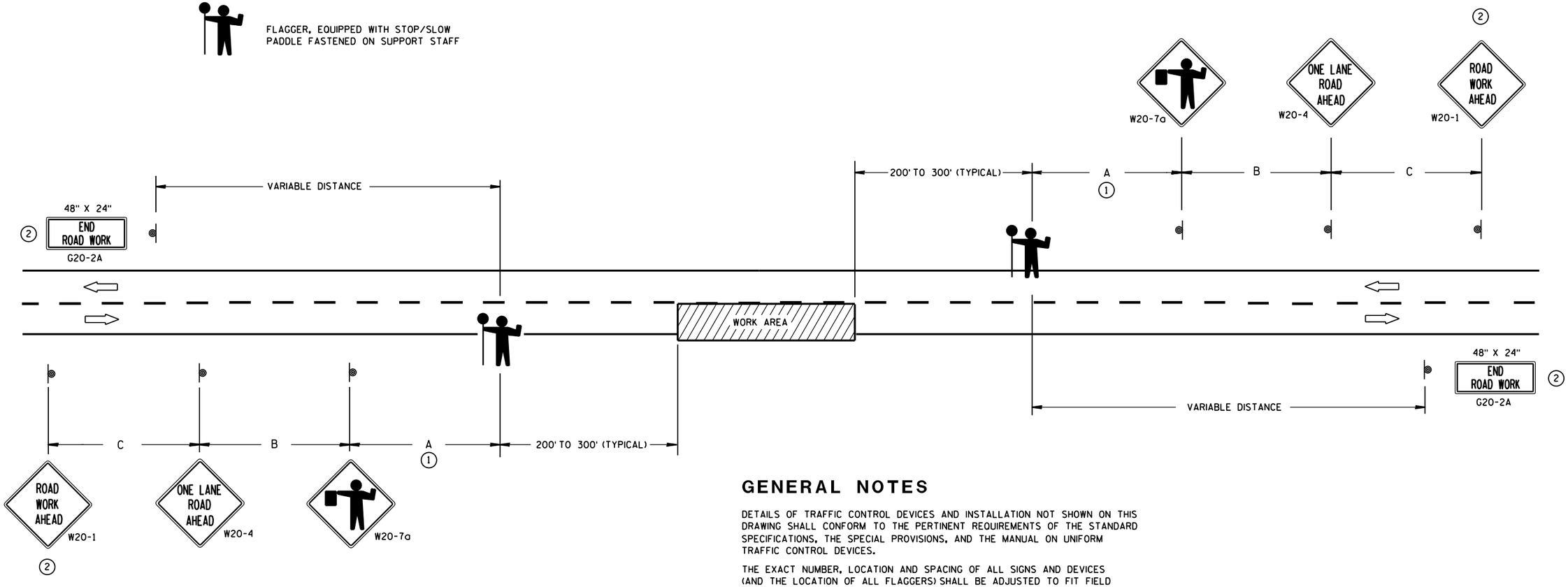
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
DESIGN
FHWA

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S.D.D. 15 C 12-4

6

S.D.D. 15 C 12-4

GENERAL NOTES

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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.

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

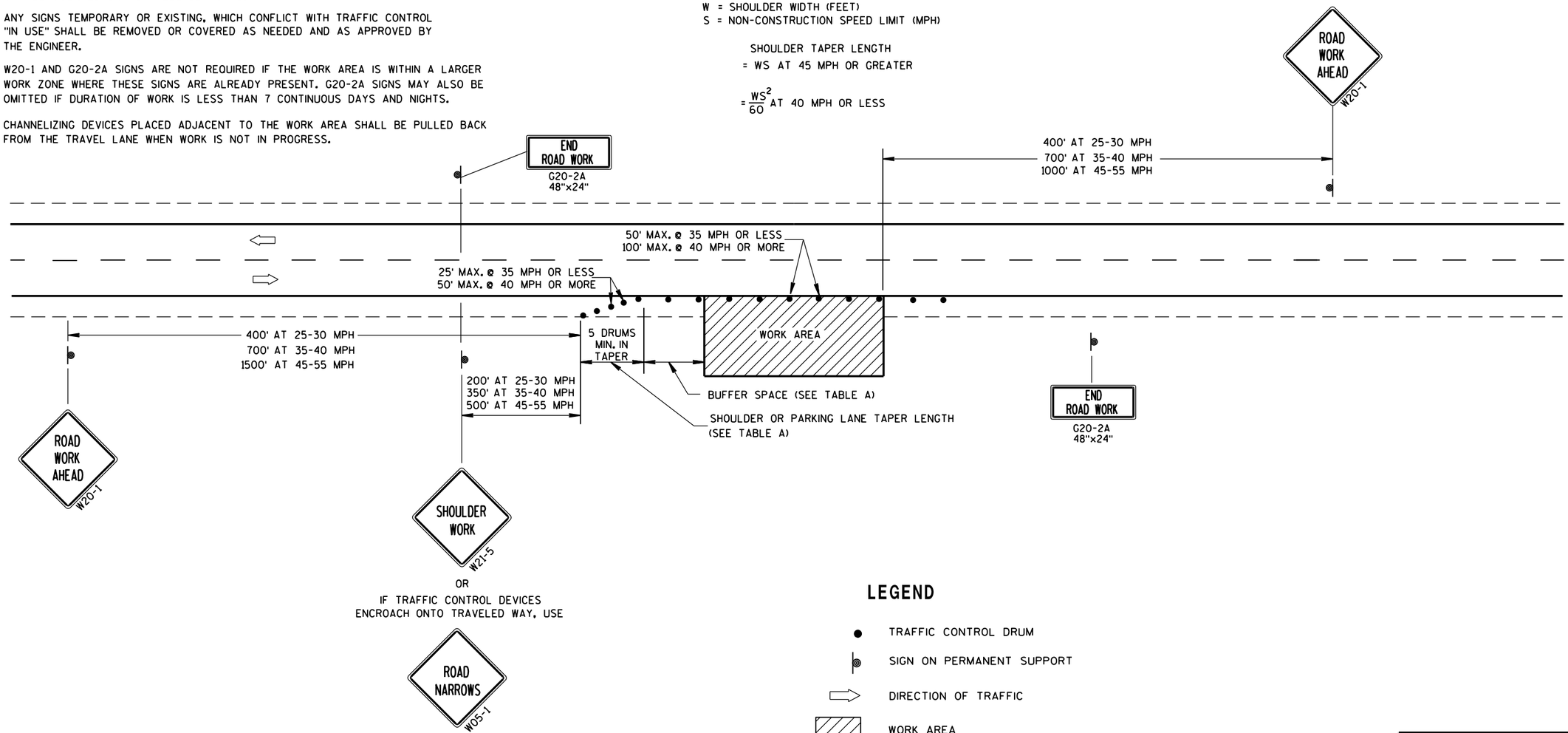
TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

SHOULDER TAPER LENGTH
= WS AT 45 MPH OR GREATER

$= \frac{WS^2}{60}$ AT 40 MPH OR LESS



LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

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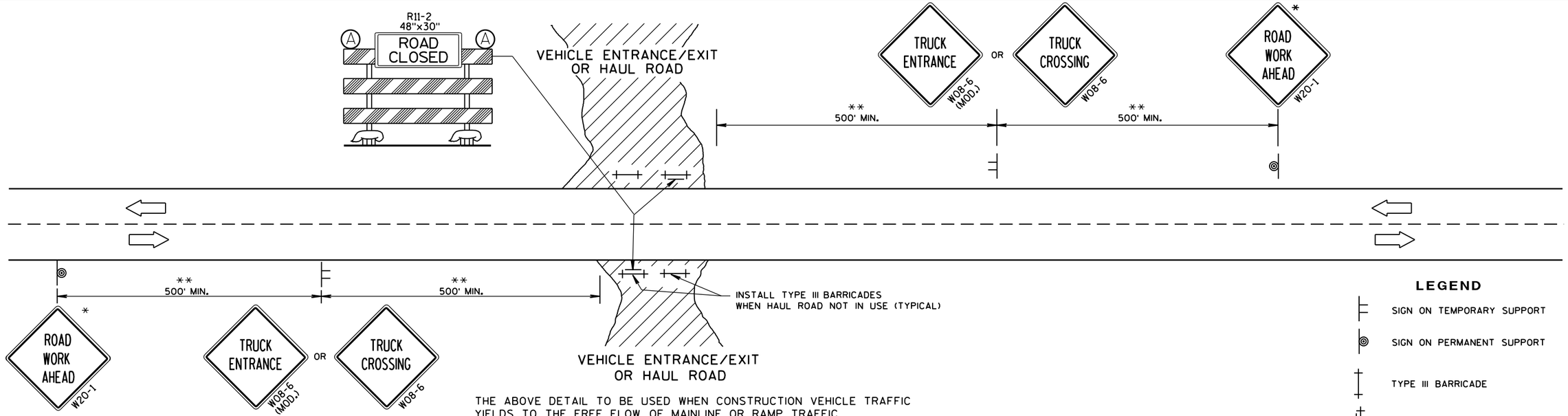
S.D.D. 15 D 28-2



THE ABOVE DETAIL TO BE USED WHEN CONSTRUCTION VEHICLE TRAFFIC YIELDS TO THE FREE FLOW OF MAINLINE OR RAMP TRAFFIC

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

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

WHEN ACTIVITY REFLECTED BY THE SIGN IS NOT CURRENTLY TAKING PLACE, THE HIGHWAY SHALL BE RESTORED TO NORMAL CONDITION AND THE SIGNS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC.

WHEN A SIDE ROAD OR RAMP INTERSECTS WITHIN THE ADVANCE SIGNING AREA, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

* THESE SIGNS ARE TO BE USED ONLY WHEN VEHICLE **ENTRANCE/EXIT CONDITIONS ARE SEPARATED BY MORE THAN 2 MILES** FROM PREVIOUS WORK AREA OR SIGNING OR AS DIRECTED BY THE ENGINEER.

** 500 FEET SHOWN IS FOR ROADWAYS WITH A NON-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FEET. FOR 25-30 MPH, USE 200 FEET. USE 1000 FEET/1500 FEET FOR EXPRESSWAY/FREEWAY.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

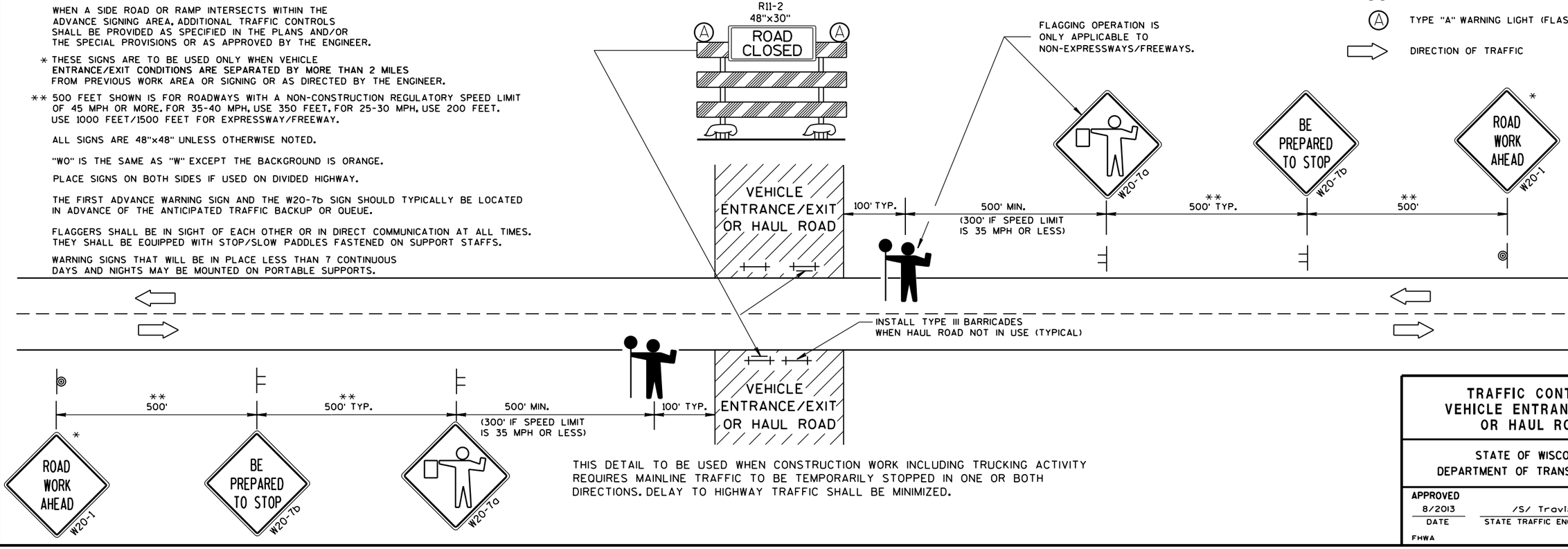
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.

THE FIRST ADVANCE WARNING SIGN AND THE W20-7b SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS.

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



THIS DETAIL TO BE USED WHEN CONSTRUCTION WORK INCLUDING TRUCKING ACTIVITY REQUIRES MAINLINE TRAFFIC TO BE TEMPORARILY STOPPED IN ONE OR BOTH DIRECTIONS. DELAY TO HIGHWAY TRAFFIC SHALL BE MINIMIZED.

TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013	/S/ Travis Feltes	
DATE	STATE TRAFFIC ENGINEER	IGN

FHWA

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S.D.D. 15 D 29-3

LEGEND

- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS, 16" x 16" MIN., (ORANGE)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC
- 4" X 6" WOOD POST
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE

W057-52
36"x24"

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET.)

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

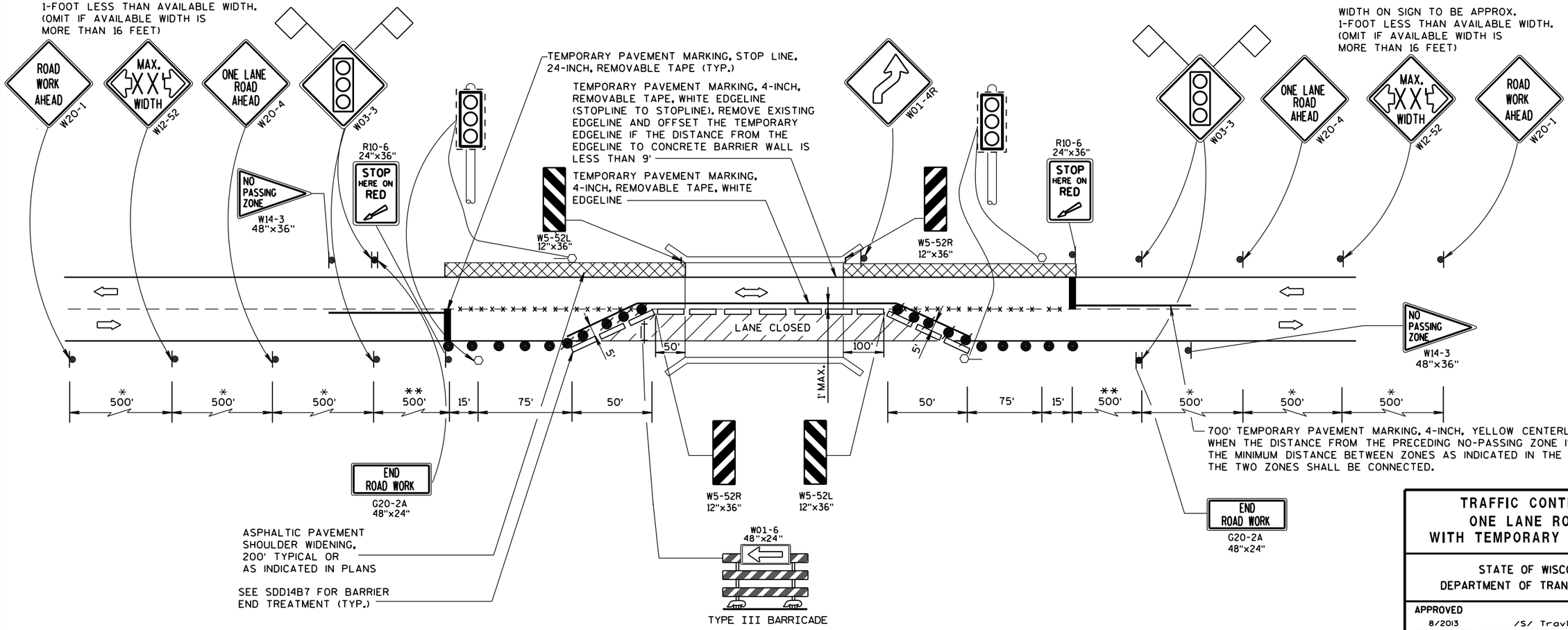
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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.

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

* 500-FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350-FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200-FOOT TYPICAL SPACING.

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.

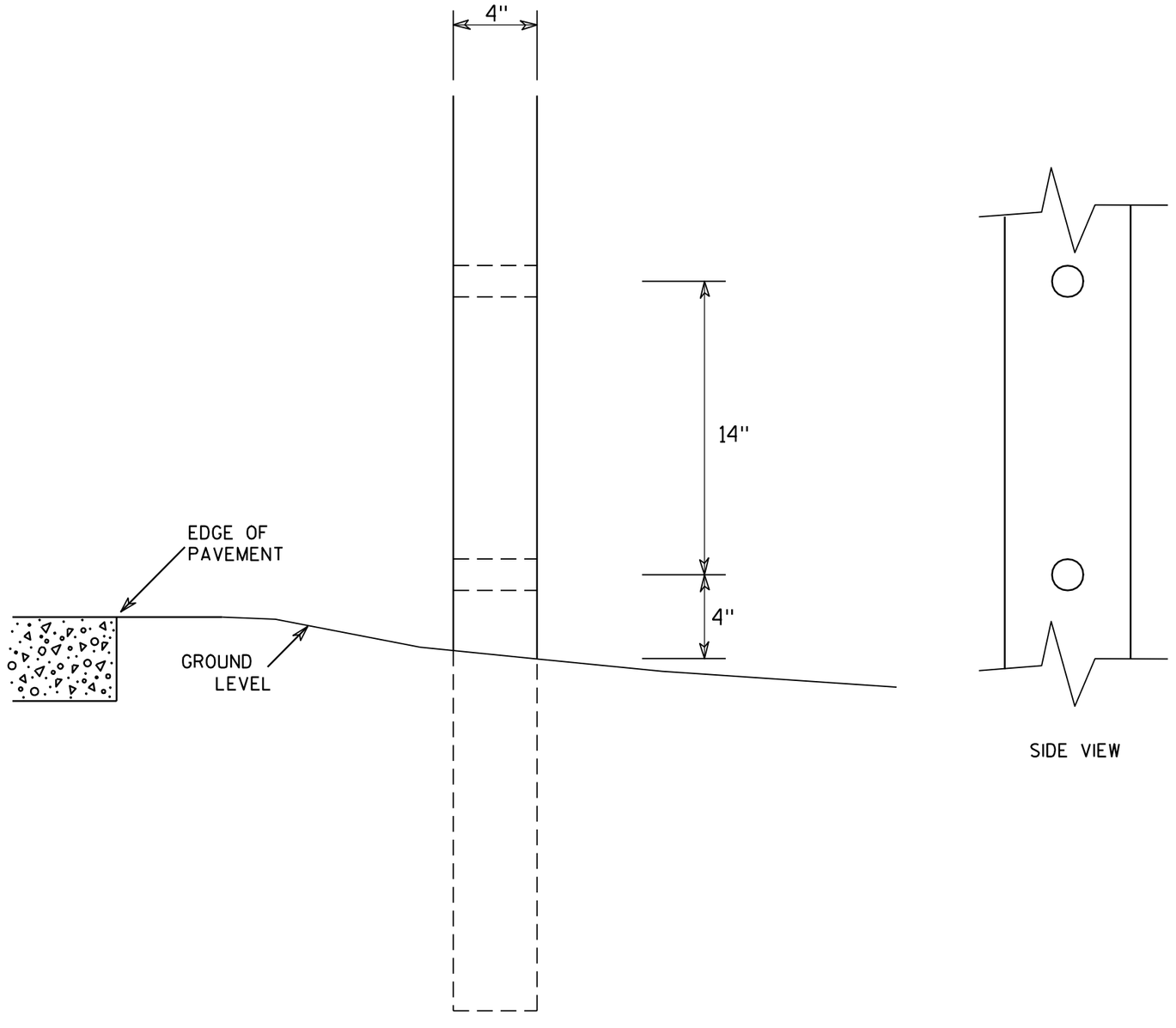


TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 DATE
/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA

6
S.D.D. 15 D 33-3



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.

4 X 6 WOOD POST MODIFICATIONS

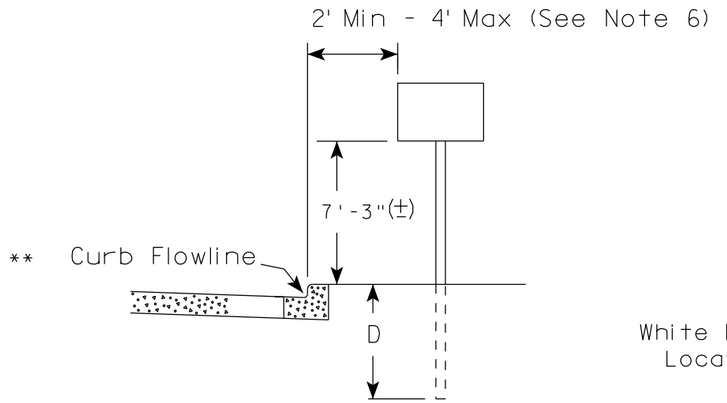
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

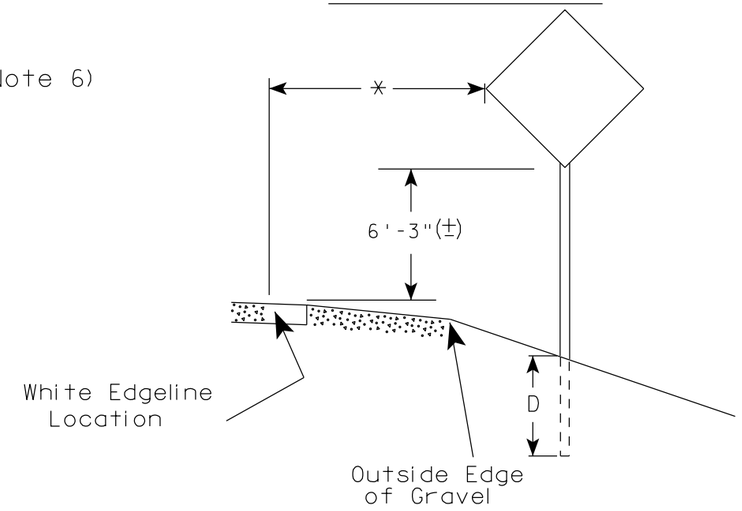
DATE 3/27/97 PLATE NO. A4-11.2

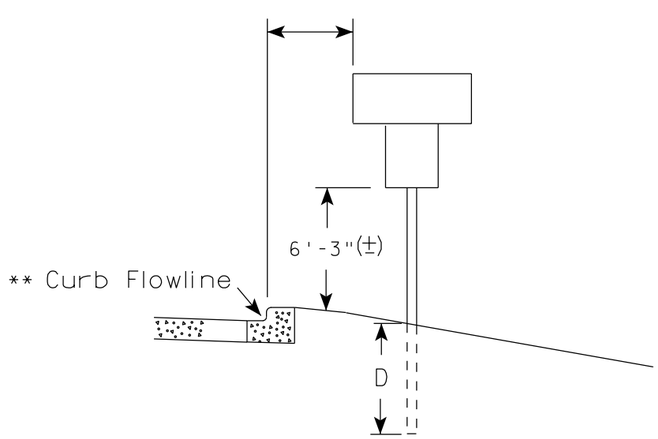
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 91	E

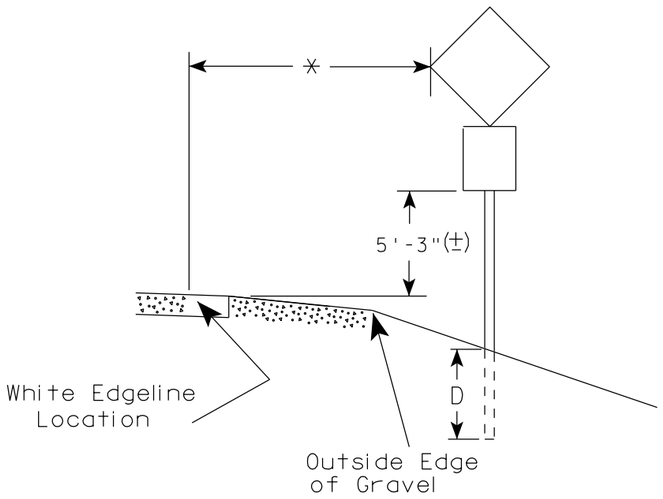
URBAN AREA



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.

GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
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 J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. 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), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

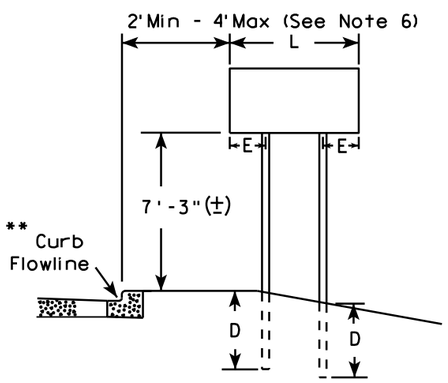
APPROVED Matthew R Rauch
for State Traffic Engineer

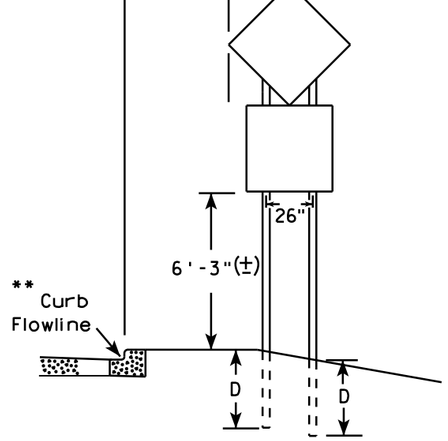
DATE 9/30/13 PLATE NO. A4-3.18

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A43.DGN PLOT DATE : 30-SEP-2013 13:25 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 99.237937:1.000000 WISDOT/CADDS SHEET 42

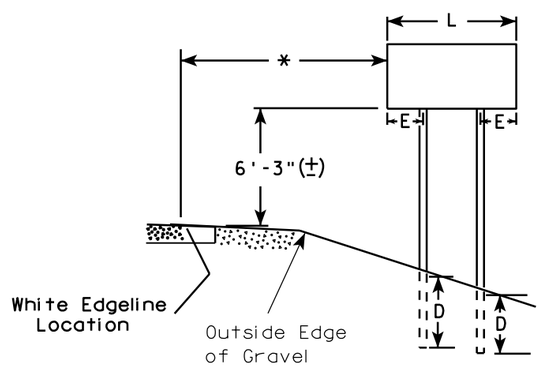
URBAN AREA

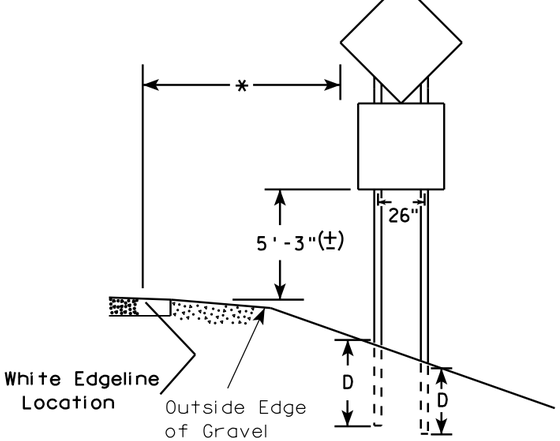




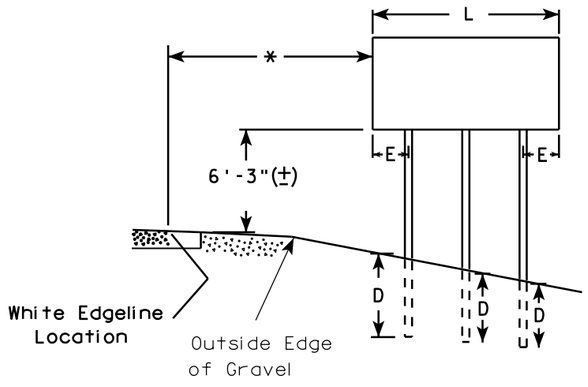
48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)





48" DIAMOND WARNING SIGN



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. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding stop signs (R1-1F) 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) & End of Road Markers (W5-56 & W5-56A) 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 or 20 S.F. or less in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

***

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

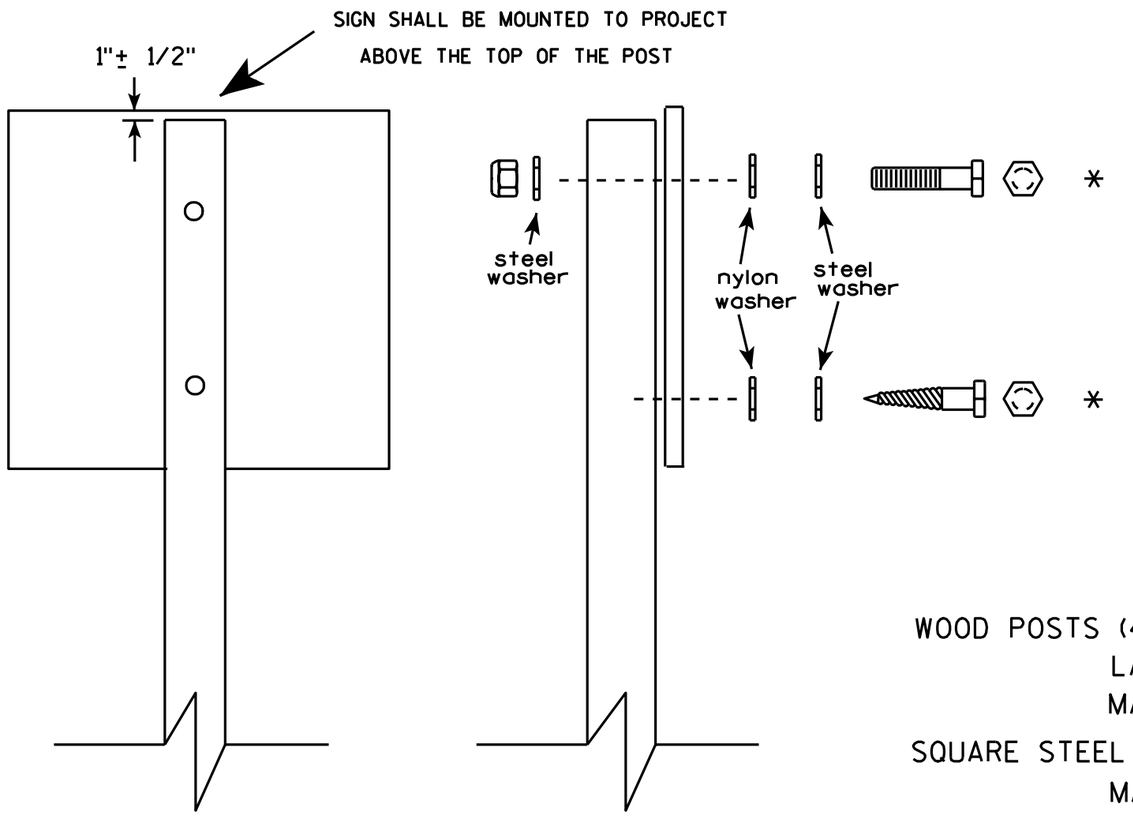
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-4 12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	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

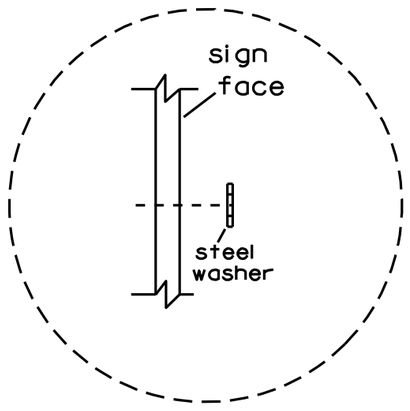
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
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 for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* 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

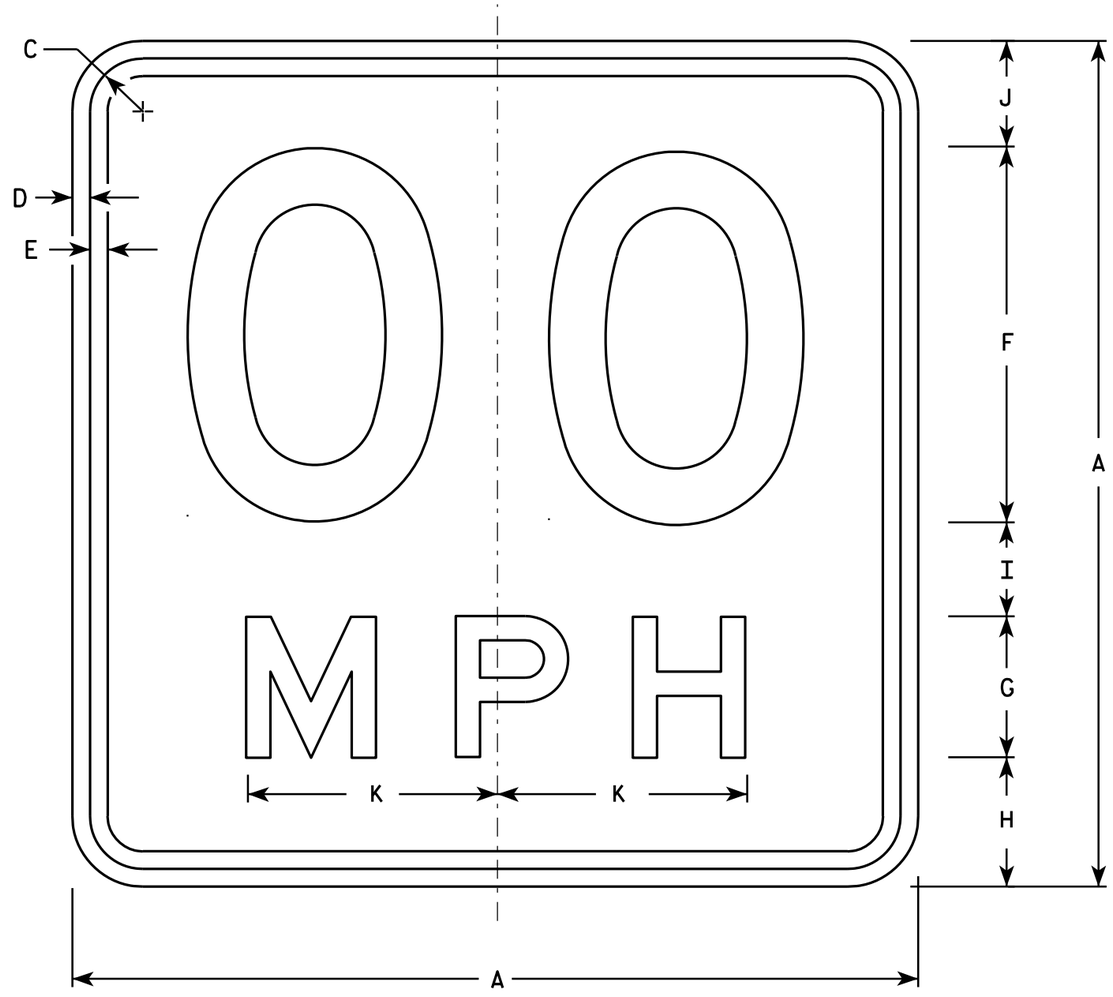
DATE 3/23/10 PLATE NO. A4-8.7

7

7

PROJECT NO:

SHEET NO: 94 E



W13-1

* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See Note 6
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 space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

	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		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
	3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
	4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
	5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

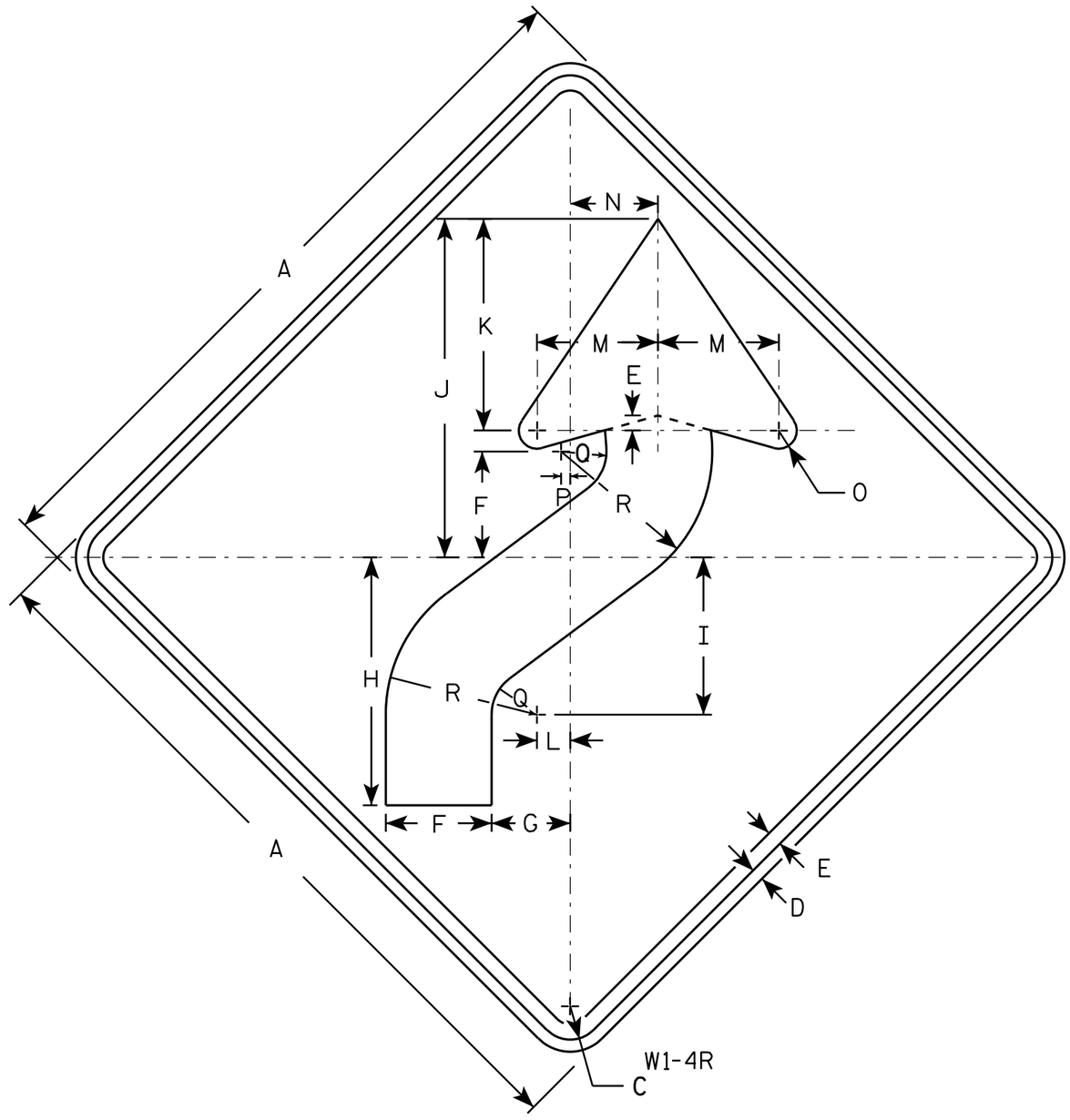
STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 95 | E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. 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.
4. W1-4L is the same as W1-4R except the arrow is reversed along the vertical centerline.

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	24		1 1/8	3/8	1/2	3 1/2	2 5/8	8 1/4	5 1/4	11 1/4	7	1 1/8	4	3	5/8	1/4	1 1/2	5									4.0
2S	30		1 3/8	1/2	5/8	4 3/8	3 1/4	10 1/4	6 1/2	14	8 3/4	1 3/8	5	3 5/8	3/4	3/8	1 7/8	6 1/4									6.25
2M	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
3	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
4	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN
W1-4

WISCONSIN DEPT OF TRANSPORTATION

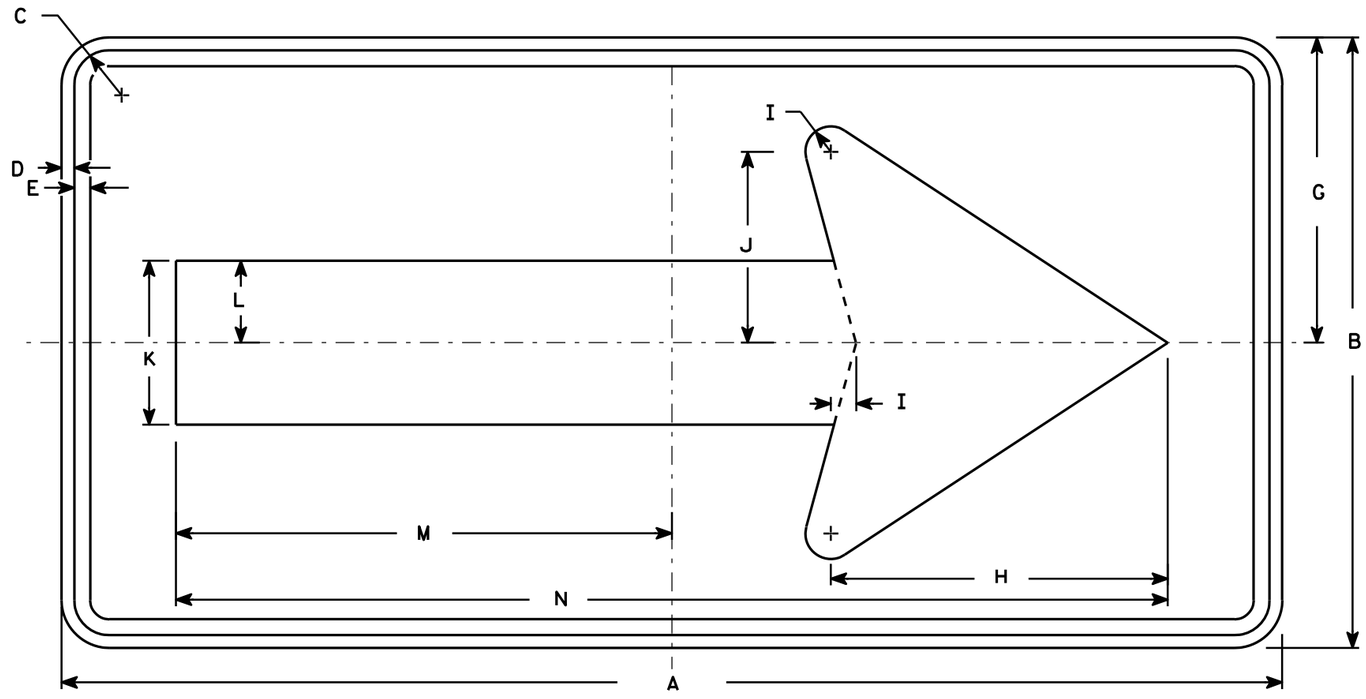
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/17/12 PLATE NO. W1-4.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 96 | E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. 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.



W1-6

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 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

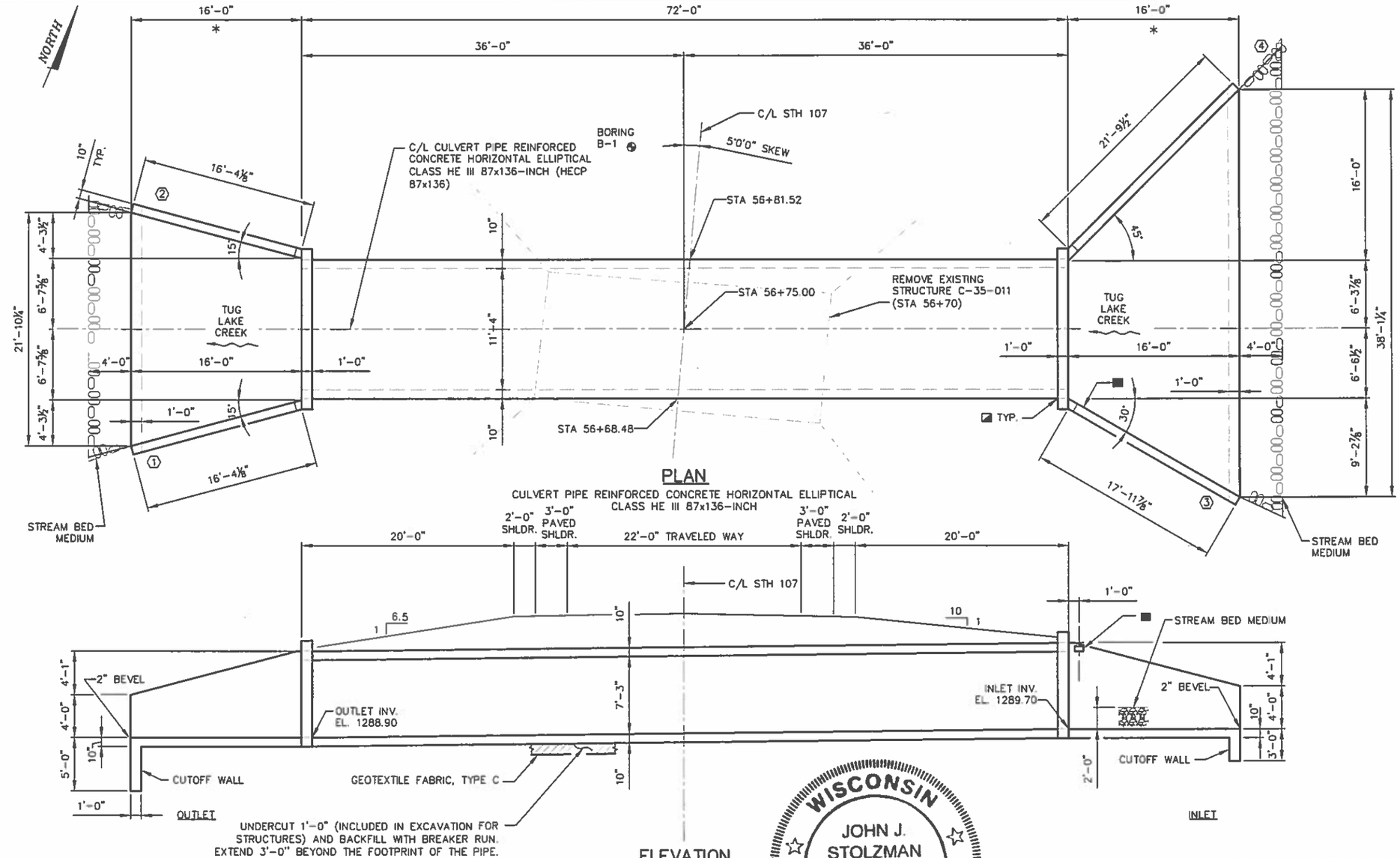
STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-6.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 97



STATE PROJECT NUMBER

1009-43-61

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-35-17" SHALL BE THE EXISTING GROUND LINE

ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TO THE TOP OF THE CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE III 87x136-INCH WITHIN THE LENGTH OF THE PIPE.

THE CONCRETE IN THE CUT OFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE ALTERNATE CUTOFF WALL MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONCRETE CUTOFF WALLS. PAYMENT SHALL BE BASED ON CONCRETE CUTOFF WALLS.

ALL PRECAST ELEMENTS SHALL BE INCLUDED UNDER THE BID ITEM "CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE III 87x136-INCH". ALSO INCLUDED IN THIS PRICE IS ALL HARDWARE AND INCIDENTALS NECESSARY TO INSTALL THE PRECAST ELEMENTS INCLUDING JOINT TIES AND JOINT WRAP.

EXISTING STRUCTURE C-35-011 IS A SINGLE SPAN CONCRETE SLAB STRUCTURE WITH A SPAN LENGTH OF 12.0', A CLEAR HEIGHT OF 7.5', AND A WIDTH OF 26.0' TO BE REMOVED.

"STREAM BED MEDIUM" IS TO BE A NATURAL FILL MATERIAL THAT MIMICS THE EXISTING STREAM BED. SEE SPECIAL PROVISIONS. PLACE INSIDE THE CULVERT AND AT ENDS OF APRONS AS SHOWN.

IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.25
OPERATING RATING FACTOR: RF = 1.62
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 195 kips

EARTH LOAD:

DESIGNED FOR 4.5 FEET OF FILL

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY — $f'c$ = 5,000 p.s.i.
HIGH-STRENGTH BAR STEEL REINFORCEMENT — fy = 60,000 p.s.i.

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
1	60+73	SET RAILROAD SPIKE IN WEST SIDE OF POWER POLE 3206-767, RT. 88'	1300.44'
2	56+17	SET RAILROAD SPIKE IN WEST SIDE OF POWER POLE 3206-715, RT. 89'	1300.68'

NOTES:

⬡ - INDICATES WING NUMBER
◪ - 18" RUBBERIZED MEMBRANE WATERPROOFING
* - BUILD APRON & END OF BOX LEVEL
■ - NAME PLATE REQUIRED, SEE DETAILS SHEET

HYDRAULIC DATA

Q_{100}	120 c.f.s.
Q_{100} (THRU STRUCTURE)	120 c.f.s.
DRAINAGE AREA	1.72 sq. mi.
WATERWAY AREA @ Q_{100}	23.0 sq. ft.
VELOCITY	5.2 f.p.s.
OVERTOPPING FREQUENCY	n/a
HIGH $WATER_{100}$ ELEVATION	1294.09 ft.

TRAFFIC VOLUME

STH 107:

A.A.D.T.	550 (2034)
R.D.S.	55 m.p.h.

WISCONSIN
JOHN J. STOLZMAN
E-36988
RICHLAND CENTER, WI
PROFESSIONAL ENGINEER
6-10-2013

LIST OF DRAWINGS

TOTAL ESTIMATED QUANTITIES

203.0200	REMOVING OLD STRUCTURE STA. 56+70	1	LS
206.2000	EXCAVATION FOR STRUCTURES CULVERTS C-35-17	1	LS
210.0100	BACKFILL STRUCTURE	540	CY
311.0115	BREAKER RUN	80	CY
504.0100	CONCRETE MASONRY CULVERTS	48	CY
505.0410	BAR STEEL REINFORCEMENT HS CULVERTS	4060	LB
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	29	SY
645.0105	GEOTEXTILE FABRIC TYPE C	237	SY
SPV.0035.01	STREAM BED MEDIUM	114	CY
SPV.0090.01	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE III 87x136-INCH	72	LF

NON-BID ITEMS

FILLER	1"

BRIDGE OFFICE CONTACT
BILL DREHER, P.E.
(608) 266-8489

CONSULTANT CONTACT
JOHN STOLZMAN, P.E.
(608) 588-7866

NO.	DATE	REVISION	BY

WESTBROOK Associated Engineers, Inc.
619 EAST HOXIE STREET
P.O. BOX 429
SPRING GREEN, WI 53588
PHONE (608) 588-7866
FAX (608) 588-7954

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Drehen KAR 08/19/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE C-35-17

STH 107 OVER TUG LAKE CREEK

COUNTY	TOWN/~~CITY~~/VILLAGE
LINCOLN	ROCK FALLS

DESIGN SPEC.: AASHTO LRFD DESIGN SPEC. 6th EDITION

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JAP	JJM	AJM	JJS

LAYOUT

SHEET 1 OF 8

98

I.D. 1009-43-61

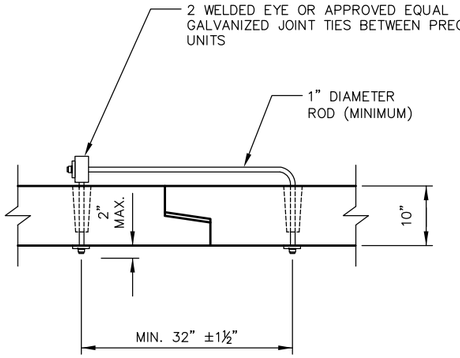
PLOT DATE: Jun 10, 2013

FILE: 01 layout.dwg
PLOT SCALE: 3/32" = 1'-0"

8

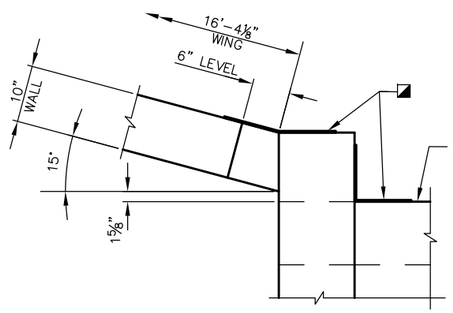
8

STATE PROJECT NUMBER
1009-43-61

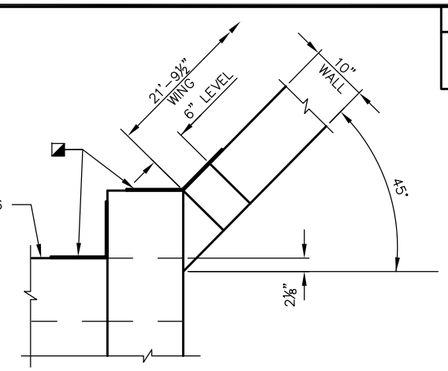


JOINT TIES

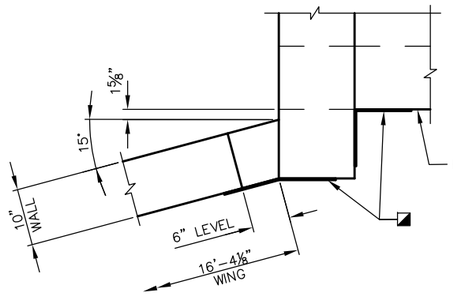
COST INCIDENTAL TO CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE III 87x136-INCH BID ITEM
(2) REQUIRED PER JOINT



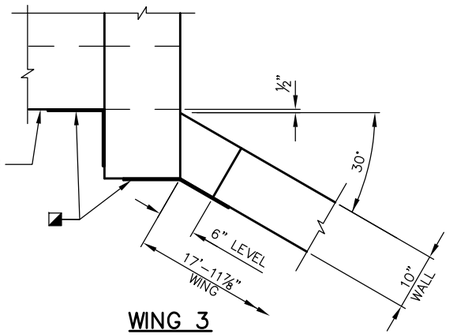
WING 2



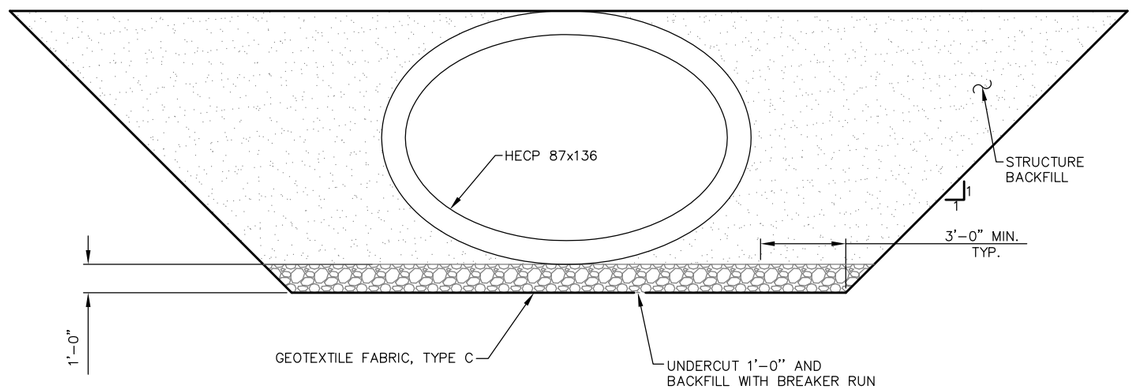
WING 4



WING 1



WING 3



CROSS SECTION THRU PIPE

NOTES:

1. 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM HORIZ. CONST. JOINT TO TOP OF WALL.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-35-17

DRAWN BY JAP | PLANS CK'D JJS

DETAILS

SHEET 2 OF 8

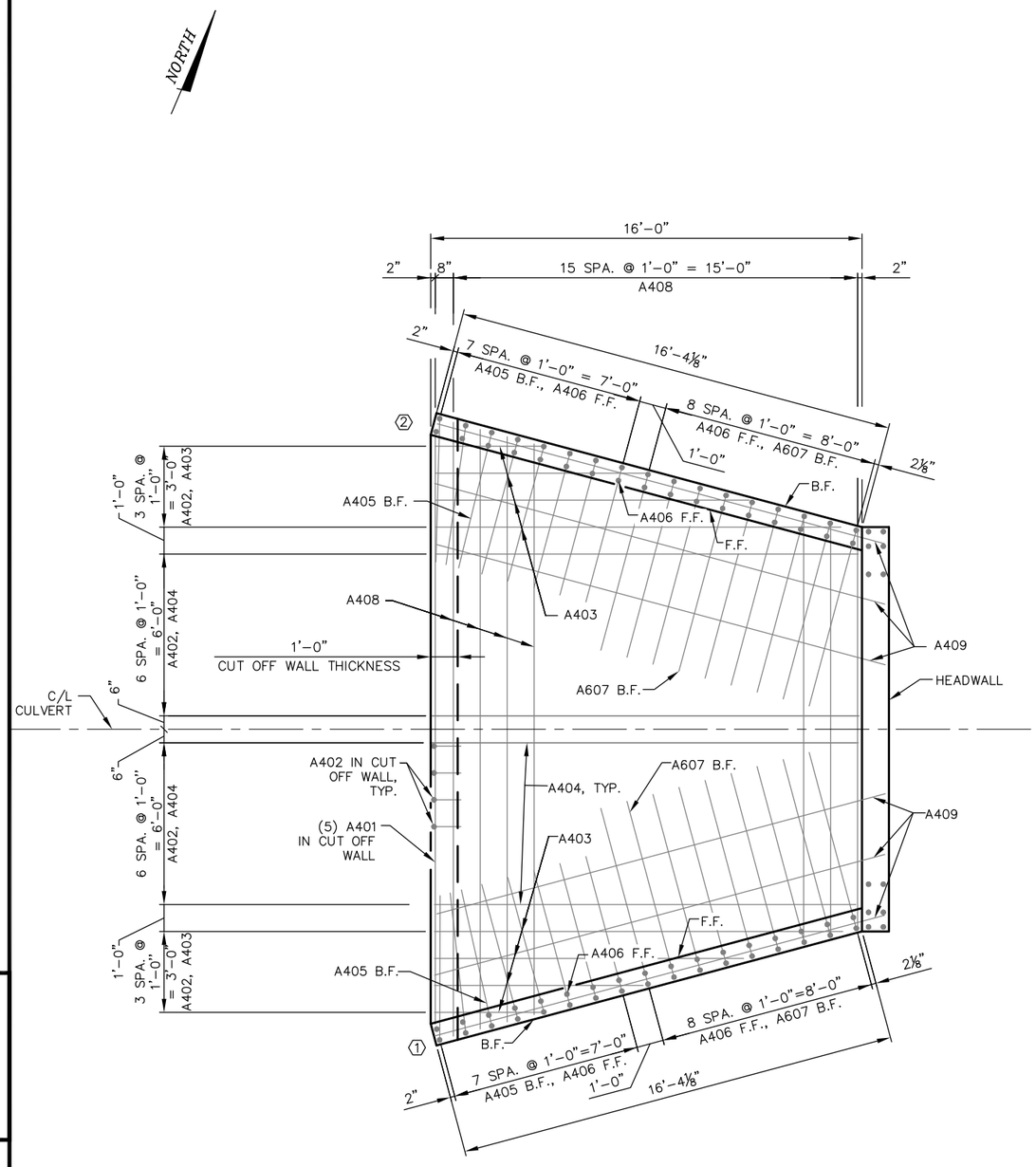
99

I.D. 1009-43-61

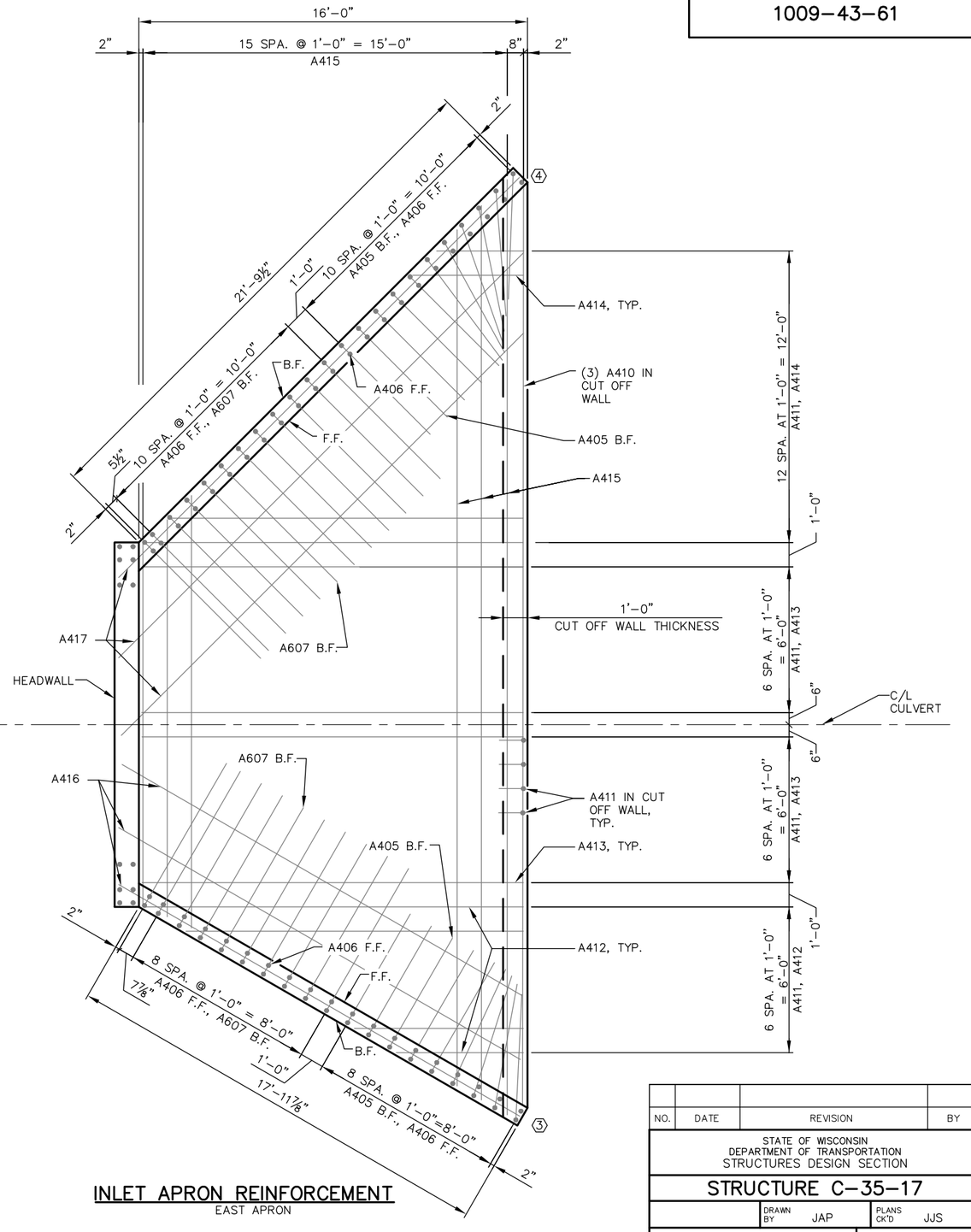
PLOT DATE: Jun 10, 2013

FILE: 02 details.dwg
PLOT SCALE: 3/32" = 1'-0"

STATE PROJECT NUMBER
1009-43-61



OUTLET APRON REINFORCEMENT
WEST APRON



INLET APRON REINFORCEMENT
EAST APRON

⬡ INDICATES WING NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-35-17

DRAWN BY JAP | PLANS CK'D JJS

APRON DETAILS

SHEET 3 OF 8
100

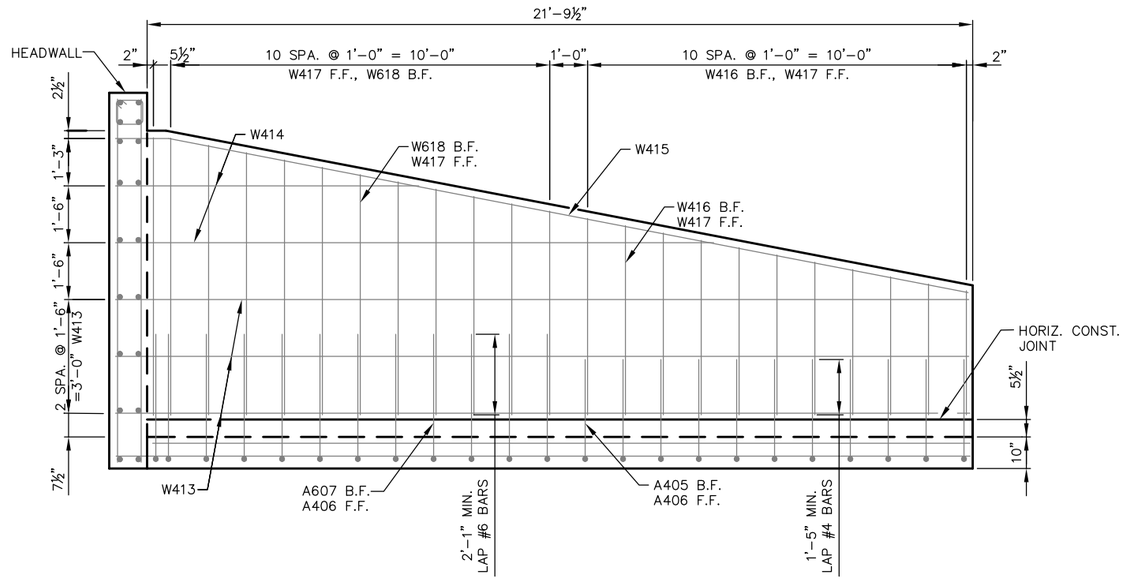
8

8

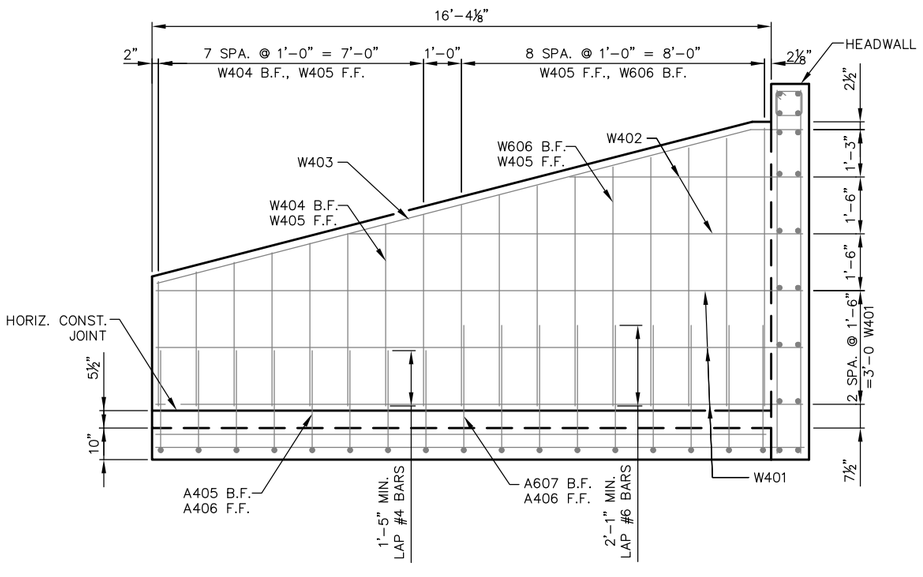
I.D. 1009-43-61 PLOT DATE: Jun 10, 2013

FILE: 03 apron.dwg
PLOT SCALE: 3/32" = 1'-0"

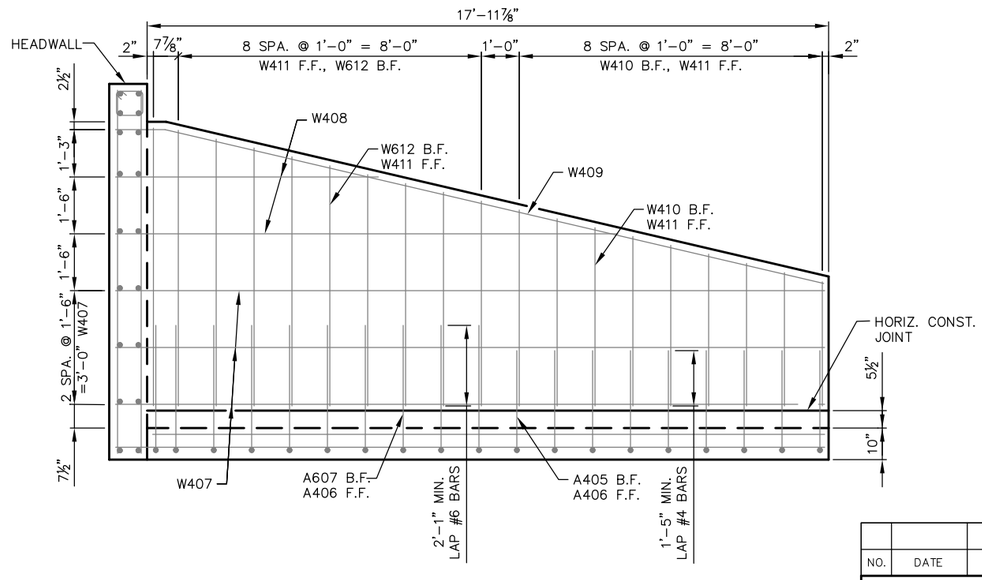
STATE PROJECT NUMBER
1009-43-61



REINFORCEMENT WING 4



REINFORCEMENT WING 1 & 2



REINFORCEMENT WING 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-35-17

DRAWN BY JAP | PLANS CK'D JJS

WING DETAILS

SHEET 4 OF 8

101

I.D. 1009-43-61

PLOT DATE: Jun 10, 2013

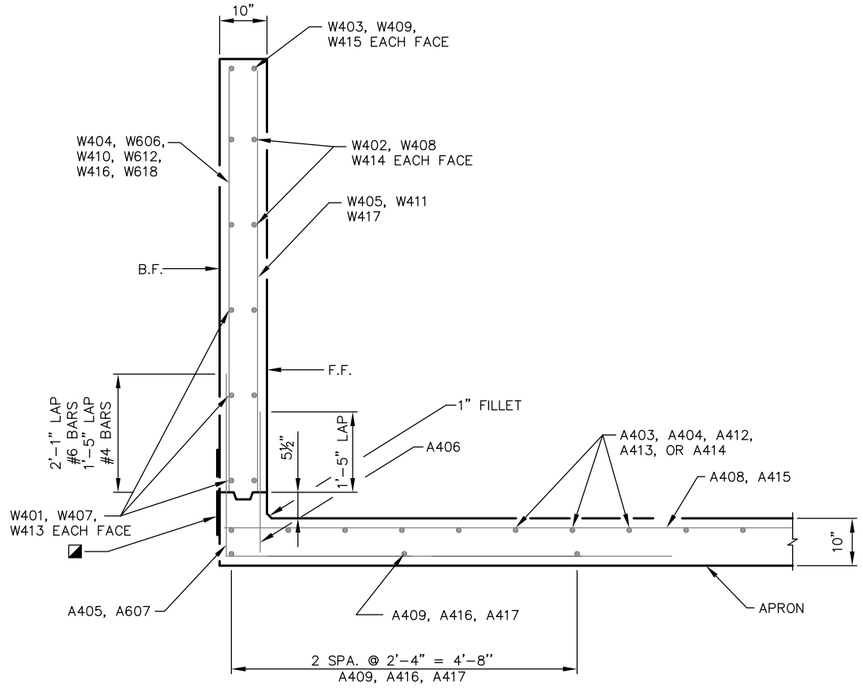
FILE: 04 wings.dwg
PLOT SCALE: 3/32" = 1'-0"

8

8

STATE PROJECT NUMBER

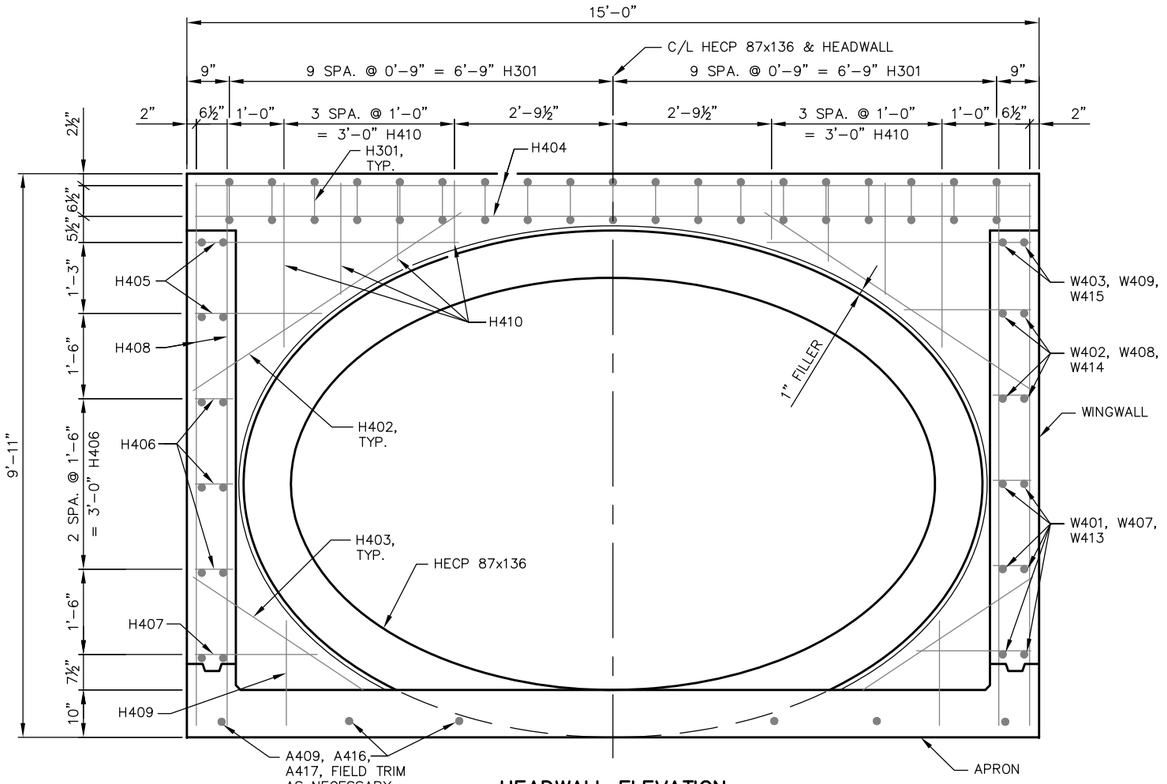
1009-43-61



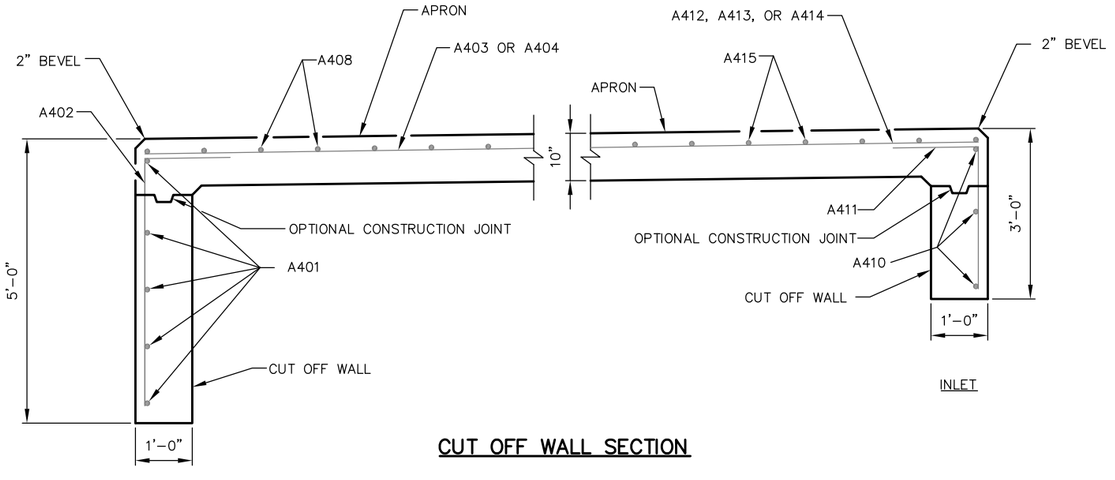
TYPICAL WINGWALL SECTION

NOTES:

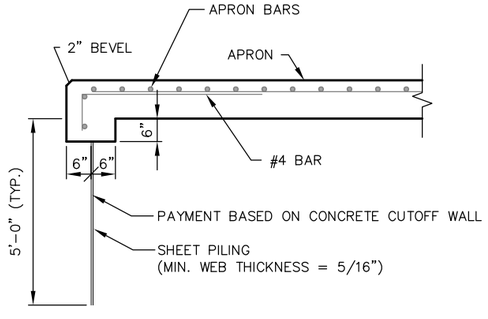
◪ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING



HEADWALL ELEVATION

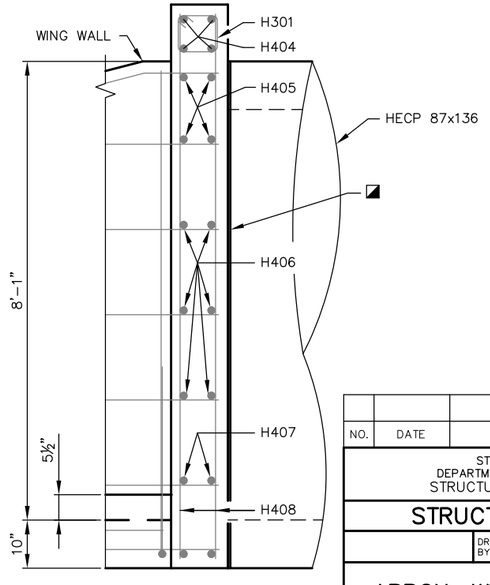


CUT OFF WALL SECTION



ALTERNATE CUT OFF WALL

THE ABOVE ALTERNATE MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONCRETE CUT OFF WALLS.



HEADWALL SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-35-17

DRAWN BY JAP | PLANS CK'D JJS

APRON, WING & HEADWALL DETAILS

SHEET 5 OF 8

102

8

8

FILE: 05 details.dwg
PLOT SCALE: 3/32" = 1'-0"

I.D. 1009-43-61

PLOT DATE: Jun 10, 2013

STATE PROJECT NUMBER
1009-43-61

BILL OF BARS
APRON — UNCOATED = 2350 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION	
A401		5	21-10			OUTLET CUTOFF WALL	HORIZ.
A402		22	5-11	X		OUTLET CUTOFF WALL	VERT.
⚠ A403		8	9-7		X	OUTLET APRON FLOOR	HORIZ.
A404		14	15-8			OUTLET APRON FLOOR	HORIZ.
A405		36	7-7	X		WING CORNER B.F.	VERT.
A406		76	2-6			WING CORNER F.F.	VERT.
A607		40	9-10	X		WING CORNER B.F.	VERT.
⚠ A408		16	18-9		X	OUTLET APRON FLOOR	HORIZ.
A409		6	17-3			OUTLET APRON FLOOR	HORIZ.
A410		3	37-10			INLET CUTOFF WALL	HORIZ.
A411		34	3-11	X		INLET CUTOFF WALL	VERT.
⚠ A412		7	10-5		X	INLET APRON FLOOR	HORIZ.
A413		14	15-8			INLET APRON FLOOR	HORIZ.
⚠ A414		13	9-7		X	INLET APRON FLOOR	HORIZ.
⚠ A415		16	26-8		X	INLET APRON FLOOR	HORIZ.
A416		3	19-1			INLET APRON FLOOR	HORIZ.
A417		3	23-6			INLET APRON FLOOR	HORIZ.

BILL OF BARS
WINGS — UNCOATED = 1310 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION	
W401		12	17-0			WING 1 & 2	HORIZ.
⚠ W402		8	9-0		X	WING 1 & 2	HORIZ.
W403		4	17-6	X		WING 1 & 2	TOP
⚠ W404		16	4-2		X	WING 1 & 2 B.F.	VERT.
⚠ W405		34	5-4		X	WING 1 & 2 F.F.	VERT.
⚠ W606		18	6-4		X	WING 1 & 2 B.F.	VERT.
W407		6	18-8			WING 3	HORIZ.
⚠ W408		4	10-1		X	WING 3	HORIZ.
W409		2	19-1	X		WING 3	TOP
⚠ W410		9	4-3		X	WING 3 B.F.	VERT.
⚠ W411		19	5-4		X	WING 3 F.F.	VERT.
⚠ W612		10	6-4		X	WING 3 B.F.	VERT.
W413		6	22-6			WING 4	HORIZ.
⚠ W414		4	11-11		X	WING 4	HORIZ.
W415		2	22-9	X		WING 4	TOP
⚠ W416		11	4-3		X	WING 4 B.F.	VERT.
⚠ W417		23	5-4		X	WING 4 F.F.	VERT.
⚠ W618		12	6-4		X	WING 4 B.F.	VERT.

BILL OF BARS
HEAD WALL — UNCOATED = 400 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION	
H301		38	3-1	X		HEADWALL	STIRRUP
H402		8	5-8			HEADWALL	DIAG.
H403		8	3-7			HEADWALL	DIAG.
H404		8	14-8			HEADWALL	HORIZ.
⚠ H405		16	3-5		X	HEADWALL	HORIZ.
H406		24	0-8			HEADWALL	HORIZ.
H407		8	2-1			HEADWALL	HORIZ.
H408		16	9-6			HEADWALL	VERT.
H409		8	1-10			HEADWALL	VERT.
⚠ H410		32	2-0		X	HEADWALL	VERT.

BAR SERIES TABLE

MARK	NUMBER	LENGTH
A403	2 SERIES OF 4	3-11 TO 15-1
A408	1 SERIES OF 16	14-8 TO 22-9
A412	1 SERIES OF 7	5-2 TO 15-7
A414	1 SERIES OF 13	3-7 TO 15-7
A415	1 SERIES OF 16	14-10 TO 38-6
W402	4 SERIES OF 2	6-1 TO 11-11
W404	2 SERIES OF 8	3-3 TO 5-0
W405	2 SERIES OF 17	3-3 TO 7-4
W606	2 SERIES OF 9	5-3 TO 7-4
W408	2 SERIES OF 2	6-11 TO 13-3
W410	1 SERIES OF 9	3-3 TO 5-2
W411	1 SERIES OF 19	3-3 TO 7-4
W612	1 SERIES OF 10	5-4 TO 7-4
W414	2 SERIES OF 2	8-0 TO 15-9
W416	1 SERIES OF 11	3-3 TO 5-2
W417	1 SERIES OF 23	3-3 TO 7-4
W618	1 SERIES OF 12	5-4 TO 7-4
H405	8 SERIES OF 2	2-2 TO 4-7
H410	8 SERIES OF 4	1-1 TO 2-10

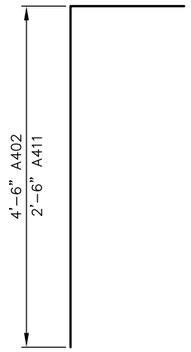
BUNDLE AND TAG EACH SERIES SEPERATELY.

NOTES

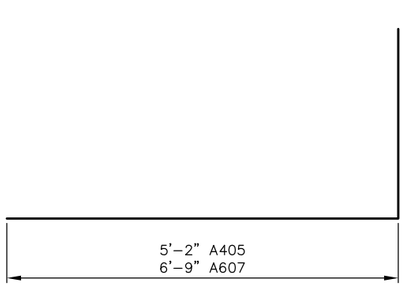
THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

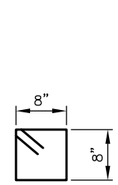
⚠ LENGTH SHOWN IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



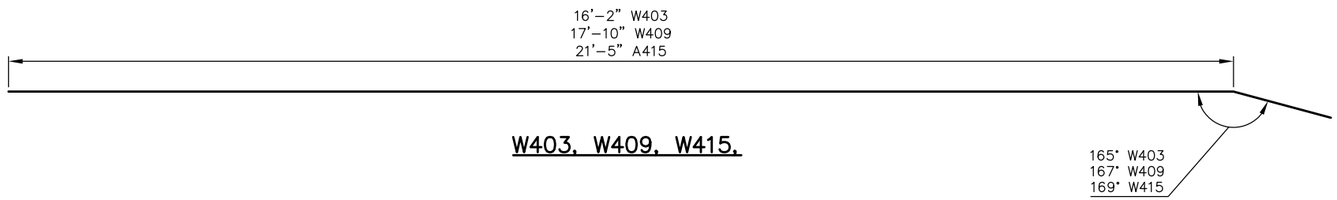
A402, A411



A405, A607



H301



W403, W409, W415,

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-35-17

DRAWN BY JAP | PLANS CK'D JJS

BILL OF BARS

SHEET 6 OF 8
103

8

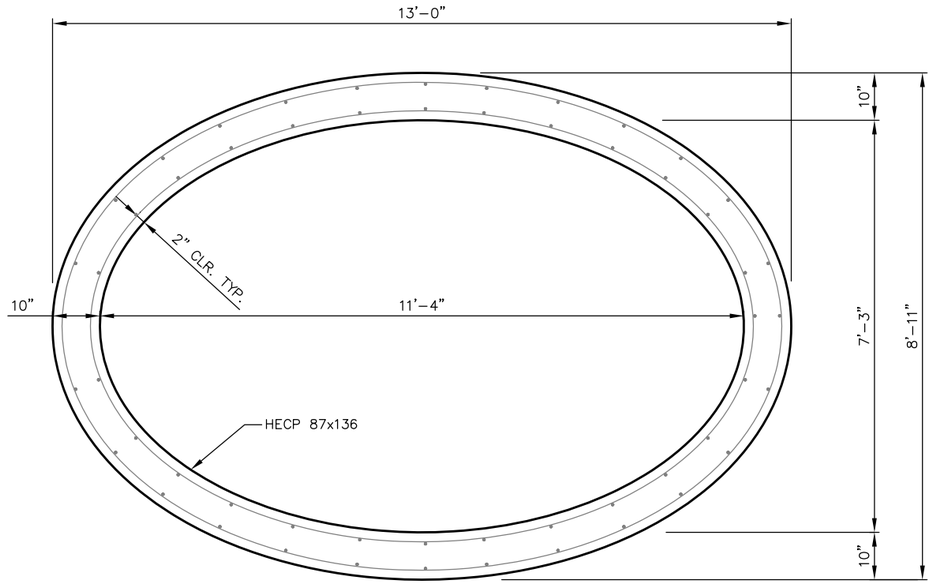
8

FILE: 06 bill of bars.dwg
PLOT SCALE: 3/32" = 1'-0"

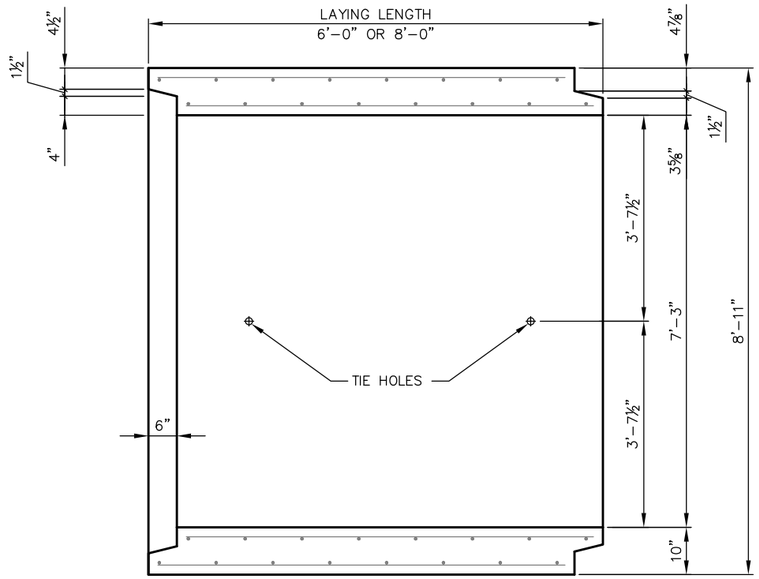
I.D. 1009-43-61 PLOT DATE: Jun 10, 2013

STATE PROJECT NUMBER

1009-43-61



SECTION THROUGH PIPE



PIPE ELEVATION

CIRCUMFERENTIAL REINFORCEMENT REQUIREMENTS

CONTINUOUS REINFORCEMENT	
INNER CAGE	OUTER CAGE
0.61	0.61

NOTES:

VALUE GIVEN IS THE CIRCUMFERENTIAL STEEL AREA IN SQUARE INCHES PER LINEAL FOOT OF PIPE BARREL IN EACH CONTINUOUS CAGE.

STEEL MESH REINFORCEMENT SHALL CONFORM TO REQUIREMENTS OF ASTM A 185, Fy = 65 KSI.

IF REINFORCEMENT BARS ARE TO BE USED, INCREASE TABLE VALUES FOR REINFORCEMENT AREAS BY 8%. REINFORCEMENT BARS SHALL CONFORM TO REQUIREMENTS OF ASTM A 615, GRADE 60, Fy = 60 KSI.

MINIMUM COVER OF REINFORCEMENT SHALL BE 2".

THE SPACING CENTER TO CENTER OF ADJACENT RINGS OF CIRCUMFERENTIAL REINFORCEMENT IN A CAGE SHALL NOT EXCEED 6 INCHES. THE CONTINUITY OF THE CIRCUMFERENTIAL REINFORCING STEEL SHALL NOT BE DESTROYED DURING THE MANUFACTURE OF THE PIPE.

LONGITUDINAL REINFORCING PARALLEL TO THE AXIS OF THE PIPE SHALL BE A MINIMUM OF 0.20 SQUARE INCHES PER CIRCUMFERENTIAL FOOT. THIS LONGITUDINAL REINFORCING SHALL BE UNIFORMLY SPACED AT NOT MORE THAN 1'-0" O.C. AROUND THE CIRCUMFERENCE OF THE PIPE.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-35-17

DRAWN BY JAP | PLANS CK'D JJK

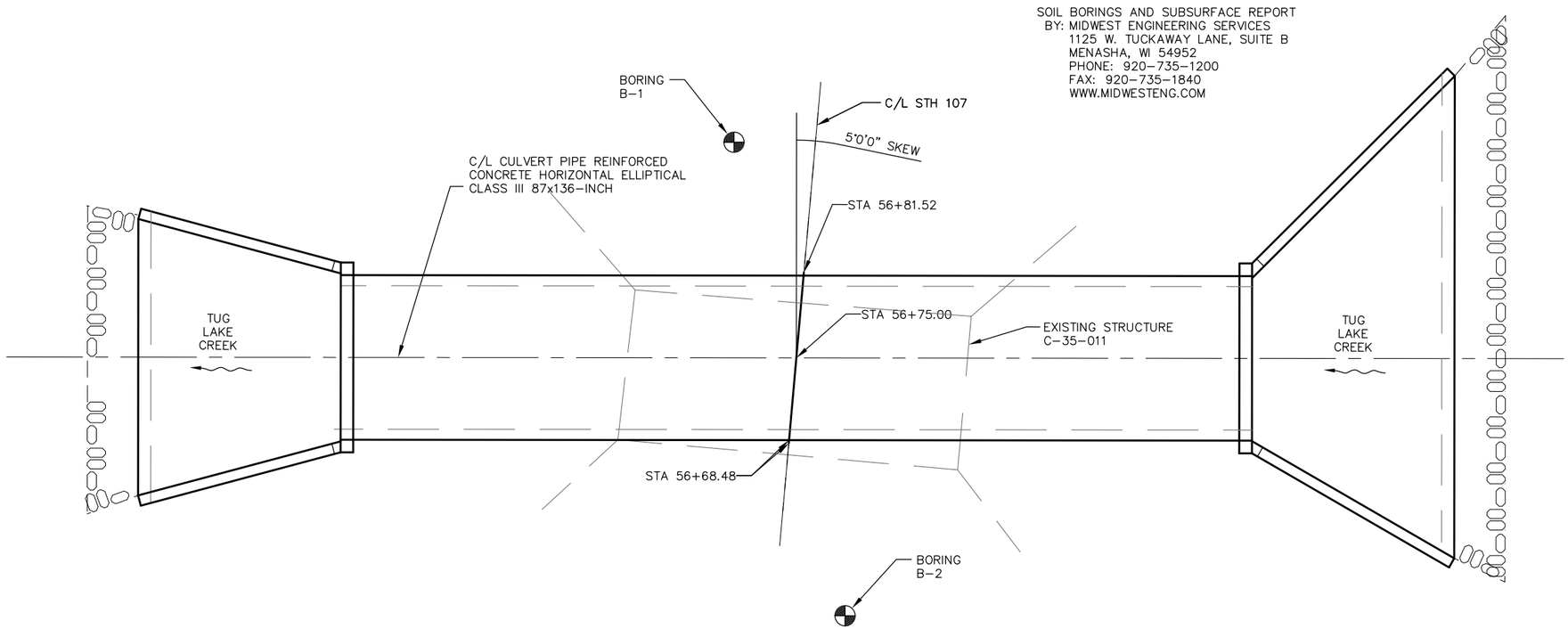
PRECAST CONCRETE PIPE DETAILS

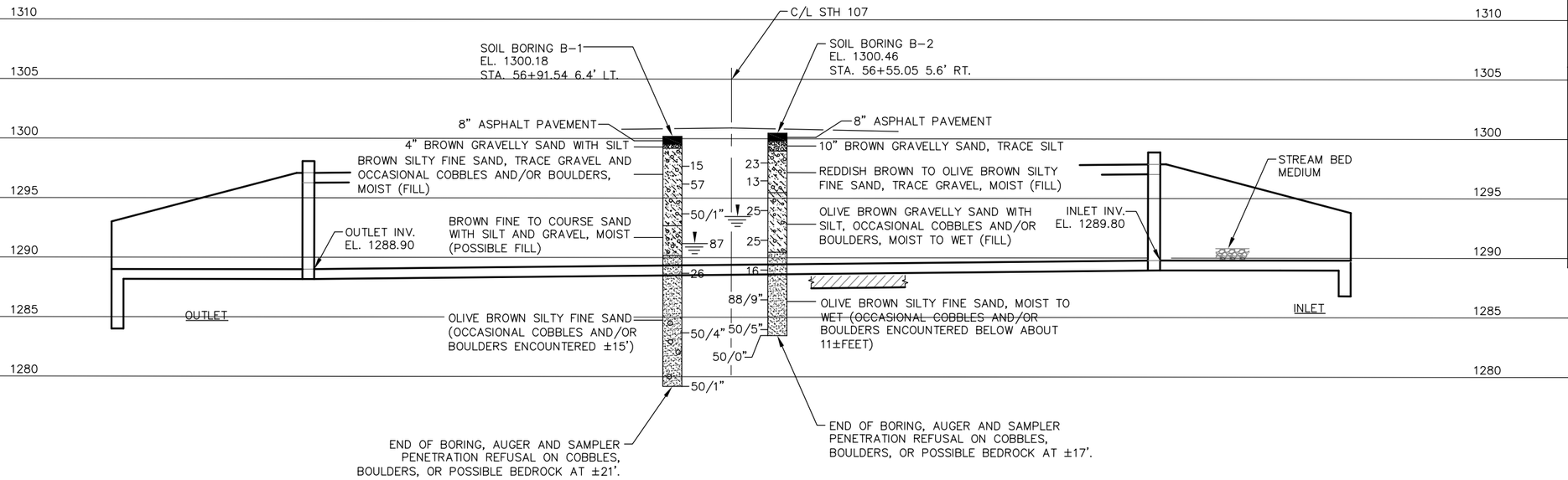
SHEET 7 OF 8
104

FILE: 07 pipe.dwg
PLOT SCALE: 3/32" = 1'-0"

I.D. 1009-43-61

PLOT DATE: Jun 10, 2013





STATE PROJECT NUMBER

1009-43-61

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE
WS - WEATHERED SO-SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

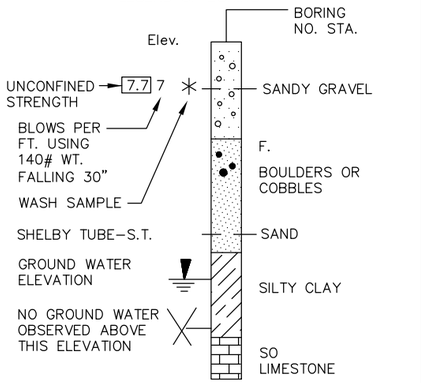
PROBING NO.
STA.
ELEVATION

95/6= BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

7 AVERAGE BLOWS PER FOOT

REFUSAL 95/6

LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-35-17

Drawn By NJB | Plans Checked JJS

SUBSURFACE EXPLORATION

SHEET 8 OF 8
105

8

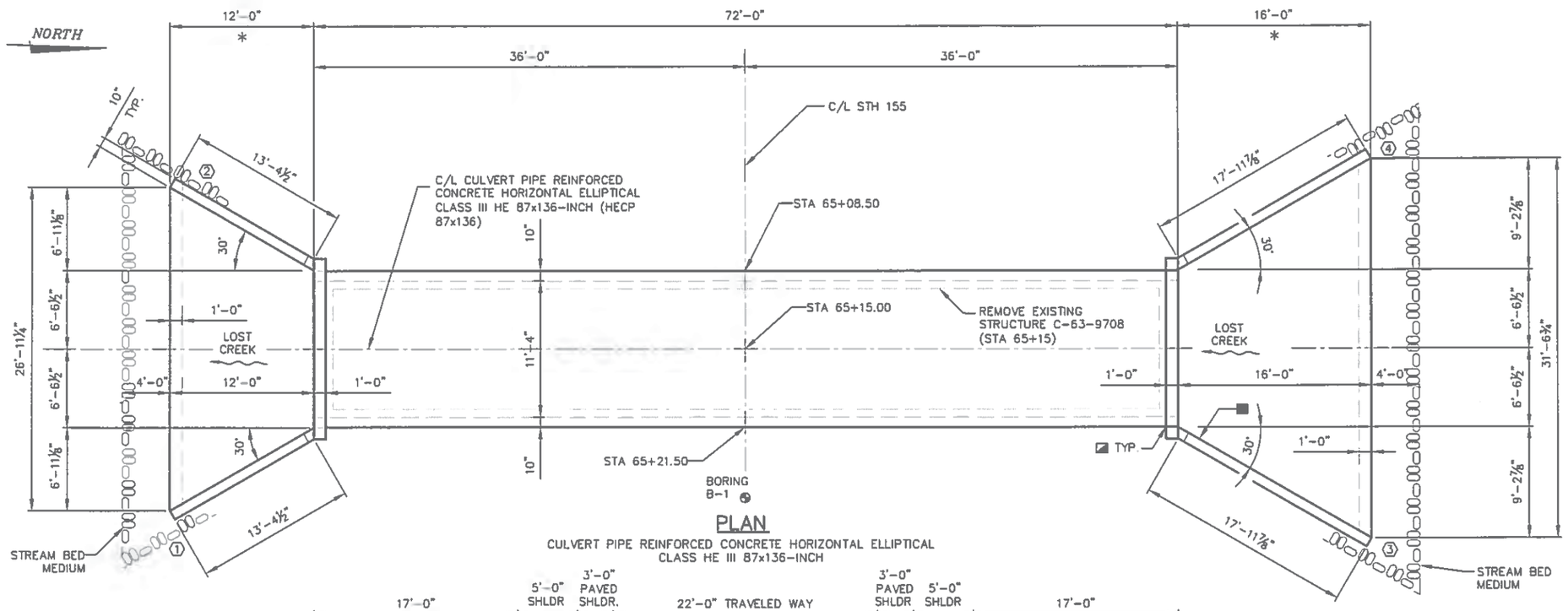
8

I.D. 1009-34-61

PLOT DATE: Jun 10, 2013

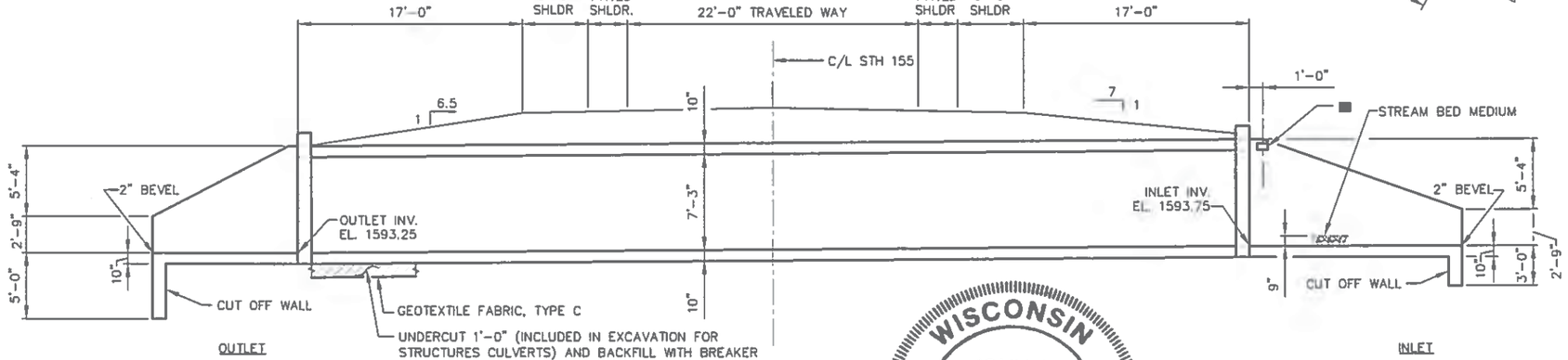
FILE: 08 soil borings.dwg
PLOT SCALE: 1/8" = 1'-0"

STATE PROJECT NUMBER
1009-43-61



PLAN

CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE III 87x136-INCH



ELEVATION

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-63-8" SHALL BE THE EXISTING GROUND LINE.

ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TO THE TOP OF THE CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE III 87x136-INCH WITHIN THE LENGTH OF THE PIPE.

THE CONCRETE IN THE CUT OFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE ALTERNATE CUT OFF WALL MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONCRETE CUT OFF WALLS. PAYMENT SHALL BE BASED ON CONCRETE CUT OFF WALLS.

ALL PRECAST ELEMENTS SHALL BE INCLUDED UNDER THE BID ITEM "CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE III 87x136-INCH" ALSO INCLUDED IN THIS PRICE IS ALL HARDWARE AND INCIDENTALS NECESSARY TO INSTALL THE PRECAST ELEMENTS INCLUDING JOINT TIES AND JOINT WRAP.

EXISTING STRUCTURE C-63-9708 IS A 84-INCH HIGH by 120-INCH CORRUGATED METAL PIPE ARCH WITH A LENGTH OF 68', TO BE REMOVED.

"STREAM BED MEDIUM" IS TO BE A NATURAL FILL MATERIAL THAT MIMICS THE EXISTING STREAM BED. SEE SPECIAL PROVISIONS. PLACE INSIDE THE CULVERT AND AT ENDS OF APRONS AS SHOWN.

IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.42
OPERATING RATING FACTOR: RF = 1.84
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 195 kips

EARTH LOAD:

DESIGNED FOR 5.5 FEET OF FILL

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY — $f'c$ = 5,000 p.s.i.
HIGH-STRENGTH BAR STEEL REINFORCEMENT — fy = 60,000 p.s.i.

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
1	65+15	CAP IN NE CORNER OF DAM ON EAST SIDE OF STH 155, RT. 98'	1601.45'

NOTES:

⬡ - INDICATES WING NUMBER
◪ - 18" RUBBERIZED MEMBRANE WATERPROOFING
* - BUILD APRON & END OF BOX LEVEL
■ - NAME PLATE REQUIRED, SEE DETAILS SHEET

HYDRAULIC DATA

Q_{100}	410 c.f.s.
Q_{100} (THRU STRUCTURE)	410 c.f.s.
DRAINAGE AREA	0.85 sq. mi.
WATERWAY AREA @ Q_{100}	61.2 sq. ft.
VELOCITY	6.7 f.p.s.
OVERTOPPING FREQUENCY	n/a
HIGH WATER$_{100}$ ELEVATION	1602.12 ft

TRAFFIC VOLUME

STH 155:

A.A.D.T.	1600 (2034)
R.D.S.	55 m.p.h.

WISCONSIN
JOHN J. STOLZMAN
E-36988
RICHLAND CENTER, WI
PROFESSIONAL ENGINEER
6-10-2013

LIST OF DRAWINGS

1. LAYOUT
2. DETAILS
3. APRON DETAILS
4. WING DETAILS
5. APRON, WING, HEADWALL DETAILS
6. BILL OF BARS
7. PRECAST CONCRETE PIPE DETAILS
8. SUBSURFACE EXPLORATION

TOTAL ESTIMATED QUANTITIES

203.0200	REMOVING OLD STRUCTURE STA. 65+15	1 LS
206.2000	EXCAVATION FOR STRUCTURES CULVERTS C-63-8	1 LS
210.0100	BACKFILL STRUCTURE	517 CY
311.0115	BREAKER RUN	76 CY
504.0100	CONCRETE MASONRY CULVERTS	42 CY
505.0410	BAR STEEL REINFORCEMENT HS CULVERTS	3450 LB
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	28 SY
645.0105	GEOTEXTILE FABRIC TYPE C	225 SY
SPV.0035.01	STREAM BED MEDIUM	36 CY
SPV.0090.01	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE III 87x136-INCH	72 LF

NON-BID ITEMS

FILLER	1"

BRIDGE OFFICE CONTACT
BILL DREHER, P.E.
(608) 266-8489

CONSULTANT CONTACT
JOHN STOLZMAN, P.E.
(608) 588-7866

NO.	DATE	REVISION	BY

WESTBROOK Associated Engineers, Inc.
619 EAST HOXIE STREET
P.O. BOX 429
SPRING GREEN, WI 53588
PHONE (608) 588-7866
FAX (608) 588-7954

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 09/09/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE C-63-8

STH 155 OVER LOST CREEK

COUNTY	TOWN/CITY/VILLAGE
VILAS	ST GERMAN

DESIGN SPEC.: AASHTO LRFD DESIGN SPEC. 6th EDITION

DESIGNED BY	DESIGN CK'D	DRAWN BY	PLANS CK'D
JAP	JJM	AJM	JJS

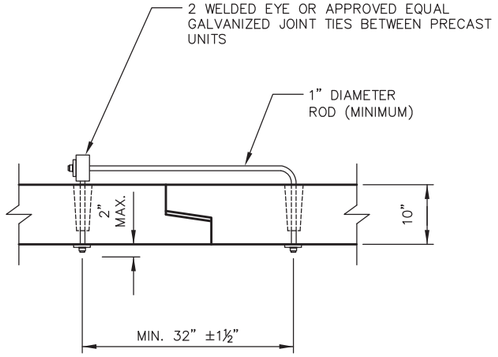
LAYOUT

SHEET 1 OF 8

106

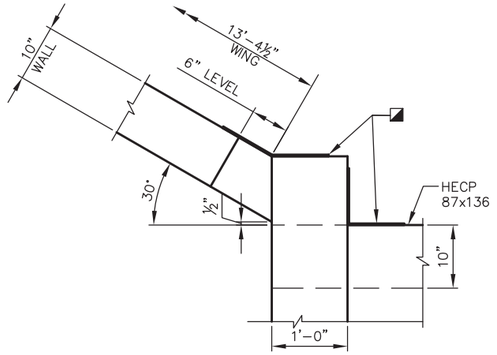
I.D. 1009-43-61 PLOT DATE: Jun 10, 2013

FILE: C-63-8.dwg
PLOT SCALE: 3/32" = 1'-0"

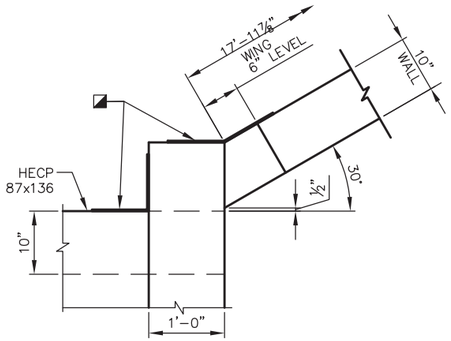


JOINT TIES

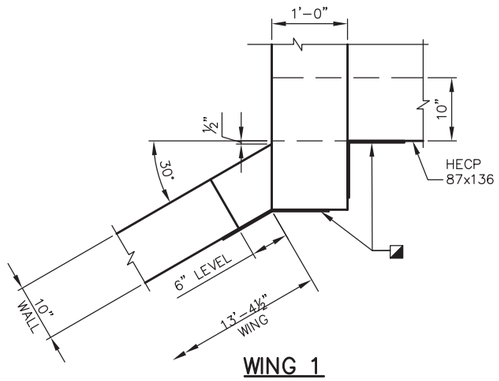
COST INCIDENTAL TO CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE III 87x136-INCH BID ITEM
(2) REQUIRED PER JOINT



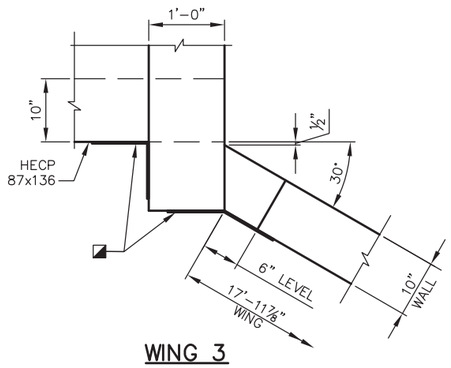
WING 2



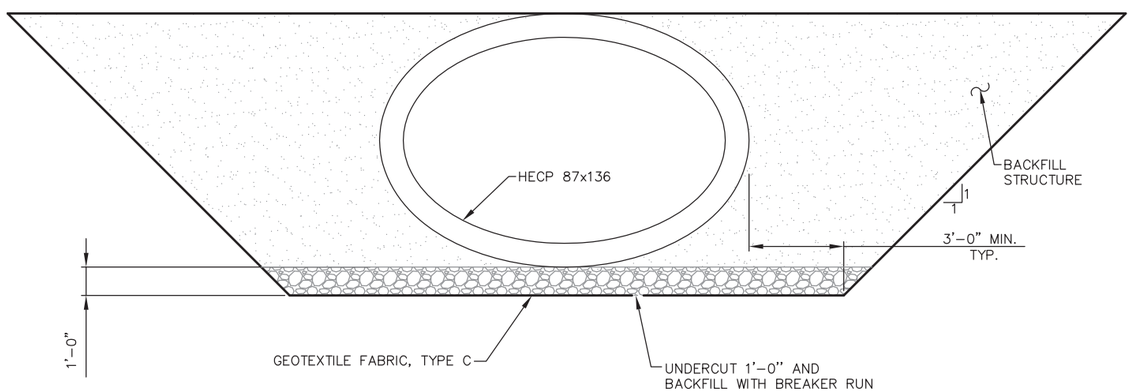
WING 4



WING 1



WING 3



CROSS SECTION THRU PIPE

NOTES:

◪ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM HORIZ. CONST. JOINT TO TOP OF WALL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-63-8

DRAWN BY JAP | PLANS CK'D JJS

DETAILS

SHEET 2 OF 8
107

8

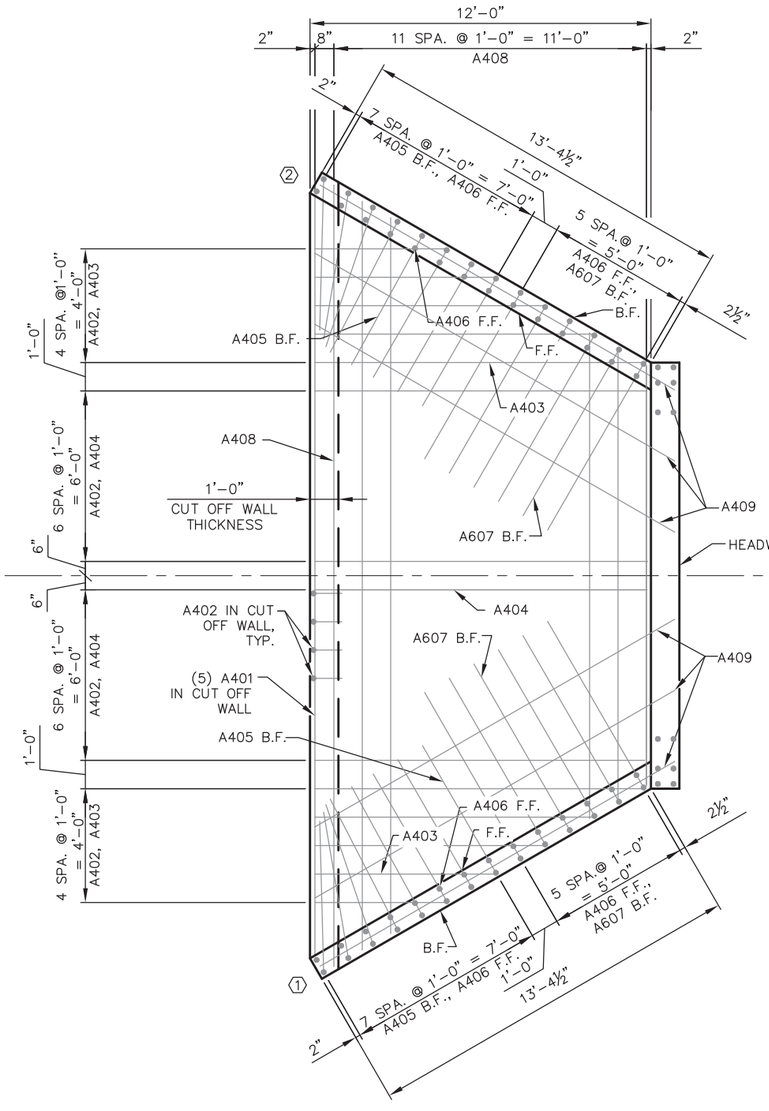
8

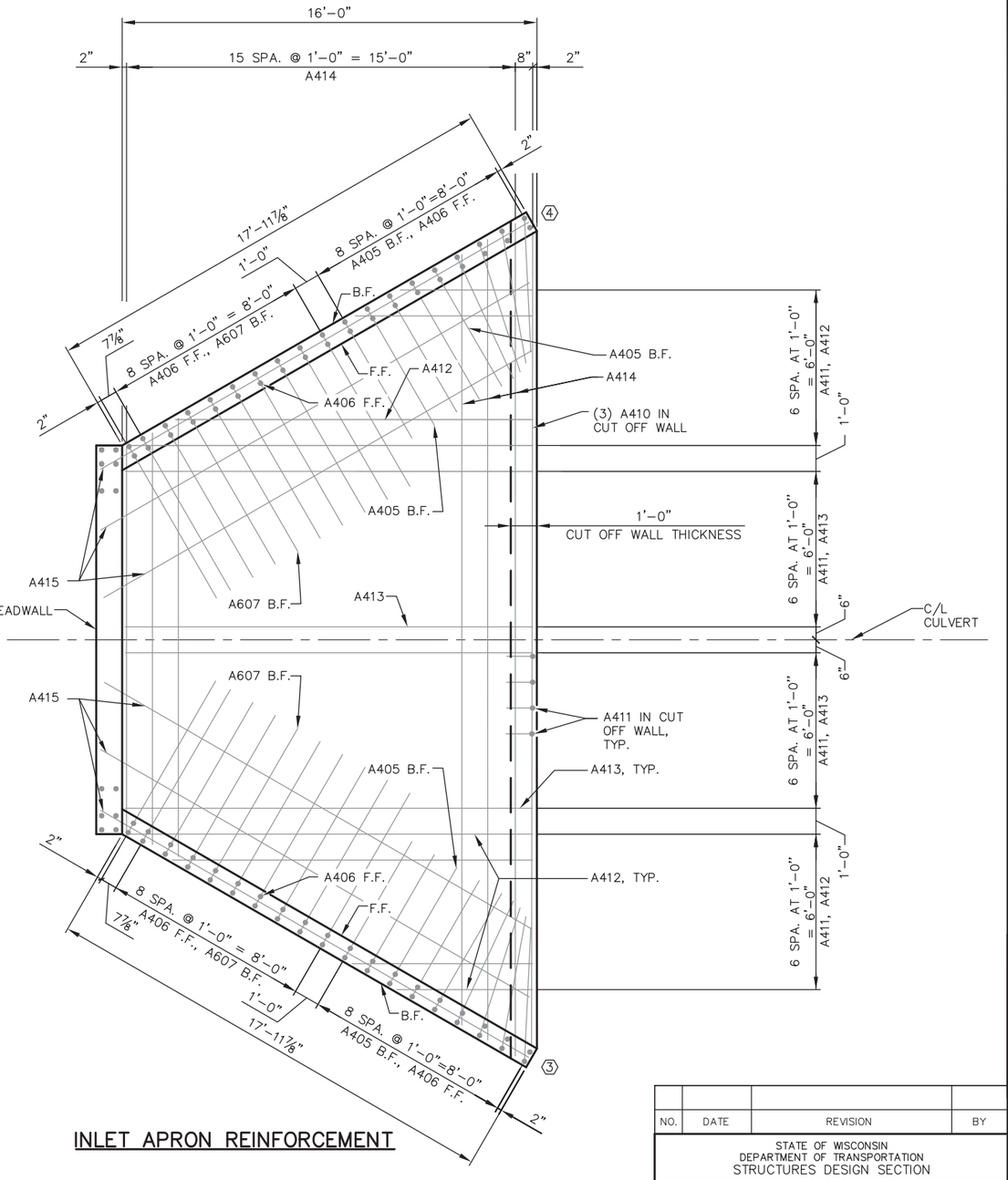
FILE: C-63-8.dwg
PLOT SCALE: 3/32" = 1'-0"

I.D. 1009-43-61 PLOT DATE: Jun 10, 2013

STATE PROJECT NUMBER
1009–43–61

NORTH





⬡ INDICATES WING NUMBER

OUTLET APRON REINFORCEMENT

INLET APRON REINFORCEMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C–63–8

DRAWN BY JAP | PLANS CK'D JJS

APRON DETAILS

SHEET 3 OF 8
108

8

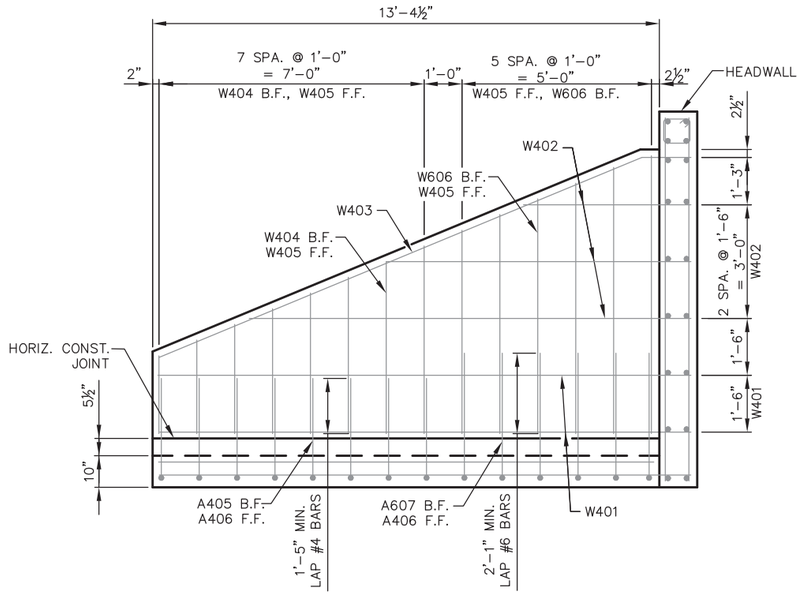
8

FILE: C–63–8.dwg
PLOT SCALE: 3/32" = 1'–0"

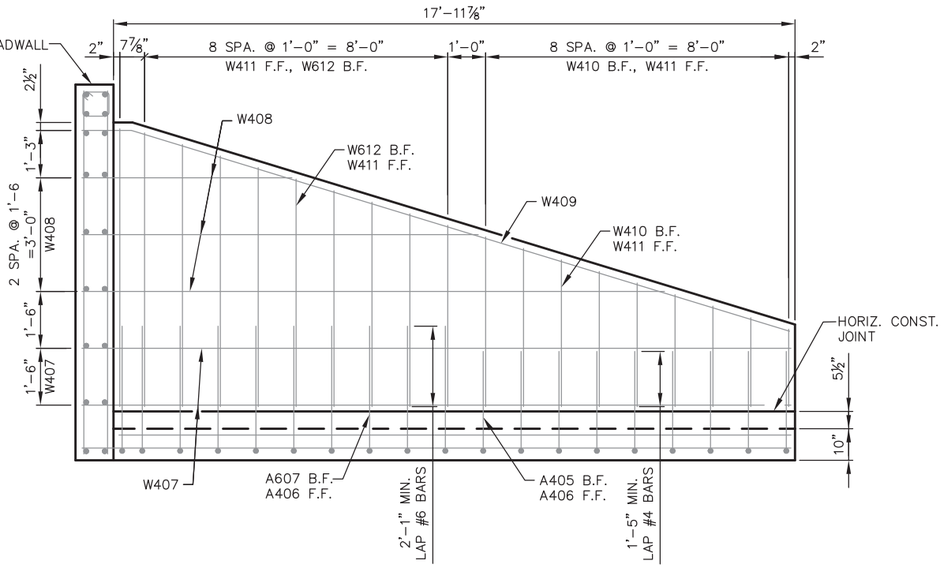
I.D. 1009–43–61

PLOT DATE: Jun 10, 2013

STATE PROJECT NUMBER
1009–43–61



REINFORCEMENT WING 1 & 2



REINFORCEMENT WING 3 & 4

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C–63–8

DRAWN BY JAP | PLANS CK'D JJS

WING DETAILS

SHEET 4 OF 8
109

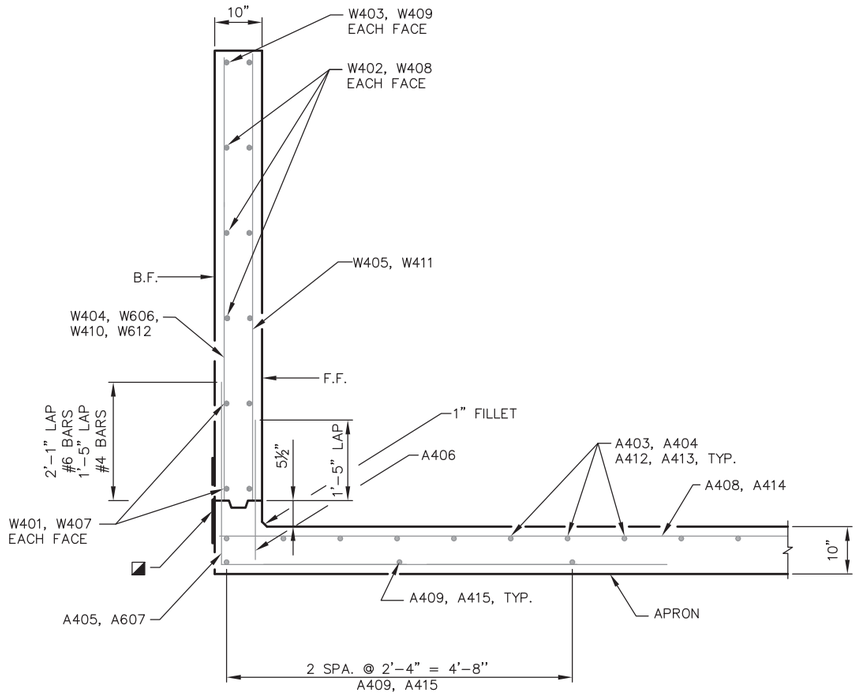
FILE: C–63–8.dwg
PLOT SCALE: 3/32" = 1'–0"

I.D. 1009–43–61

PLOT DATE: Jun 10, 2013

STATE PROJECT NUMBER

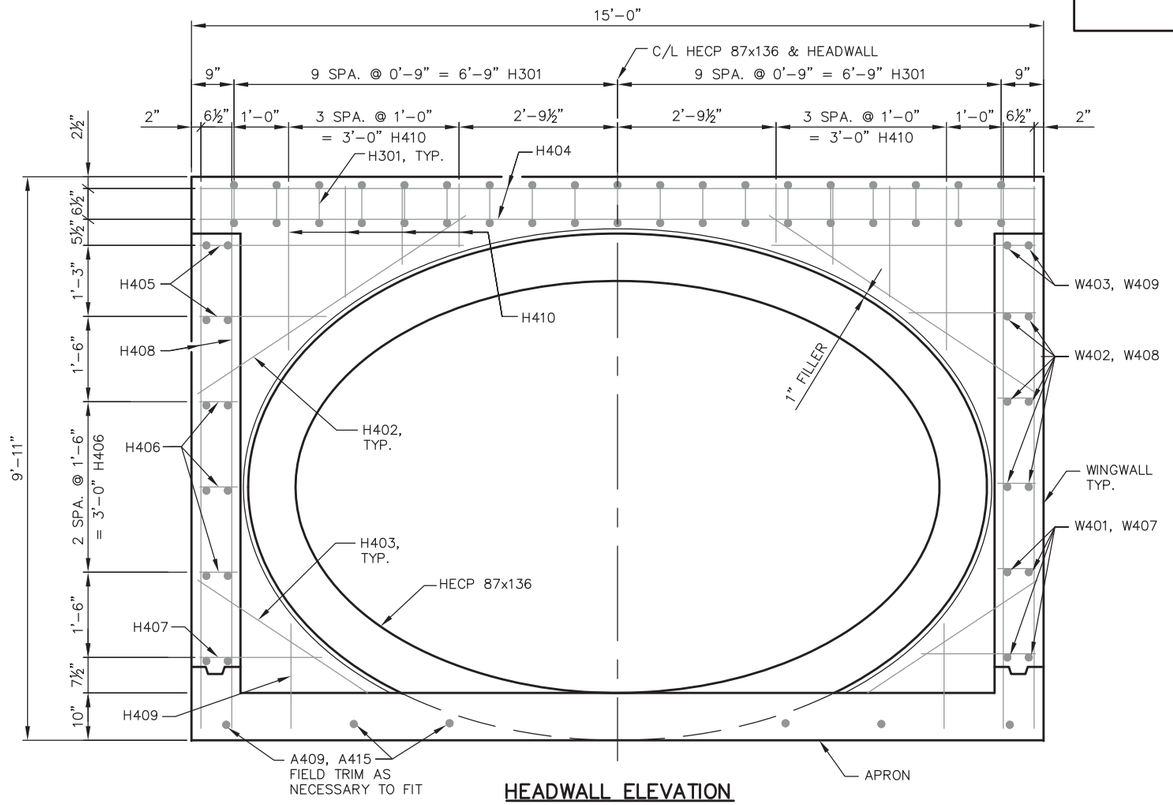
1009-43-61



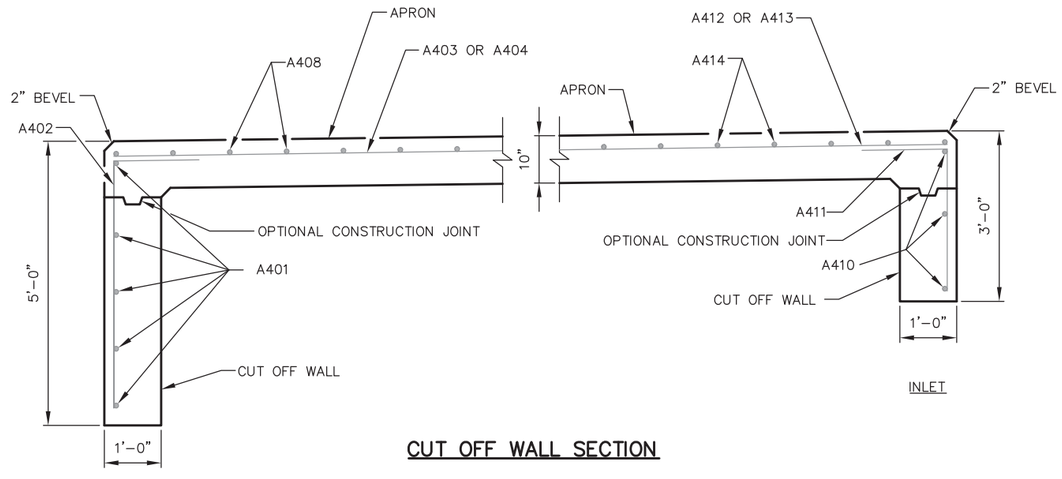
TYPICAL WINGWALL SECTION

NOTES:

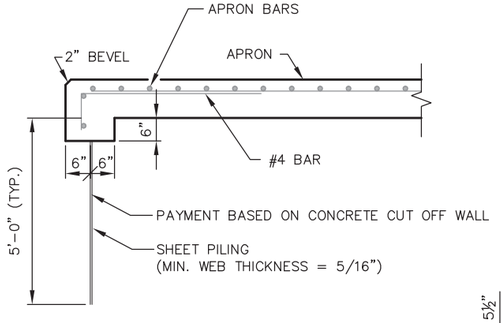
◪ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING



HEADWALL ELEVATION

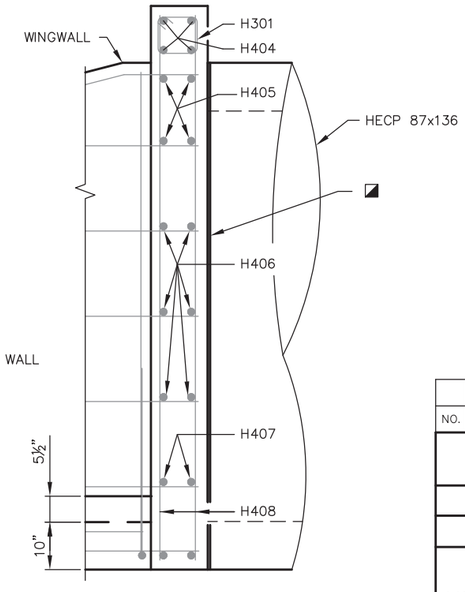


CUT OFF WALL SECTION



ALTERNATE CUT OFF WALL

THE ABOVE ALTERNATE MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONCRETE CUT OFF WALLS.



HEADWALL SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-63-8

DRAWN BY JAP | PLANS CK'D JJS

APRON, WING, HEADWALL DETAILS

SHEET 5 OF 8

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8

8

FILE: C-63-8.dwg
PLOT SCALE: 3/32" = 1'-0"

I.D. 1009-43-61

PLOT DATE: Jun 10, 2013

STATE PROJECT NUMBER

1009-43-61

BILL OF BARS
APRON — UNCOATED = 2050 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION	
A401		5	26-8			OUTLET CUTOFF WALL	HORIZ.
A402		24	5-11	X		OUTLET CUTOFF WALL	VERT.
⚠ A403		10	8-0		X	OUTLET APRON FLOOR	HORIZ.
A404		14	11-8			OUTLET APRON FLOOR	HORIZ.
A405		34	7-8	X		WING CORNER B.F.	VERT.
A406		66	2-6			WING CORNER F.F.	VERT.
A607		32	9-11	X		WING CORNER B.F.	VERT.
⚠ A408		12	21-2		X	OUTLET APRON FLOOR	HORIZ.
A409		6	14-7			OUTLET APRON FLOOR	HORIZ.
A410		3	31-4			INLET CUTOFF WALL	HORIZ.
A411		28	3-11	X		INLET CUTOFF WALL	VERT.
⚠ A412		14	10-5		X	INLET APRON FLOOR	HORIZ.
A413		14	15-8			INLET APRON FLOOR	HORIZ.
⚠ A414		16	23-6		X	INLET APRON FLOOR	HORIZ.
A415		6	19-1			INLET APRON FLOOR	HORIZ.

BAR SERIES TABLE

MARK	NUMBER	LENGTH
A403	2 SERIES OF 5	4-6 TO 11-6
A408	1 SERIES OF 12	14-9 TO 27-6
A412	2 SERIES OF 7	5-2 TO 15-7
A414	1 SERIES OF 16	14-10 TO 32-1
W402	4 SERIES OF 3	4-5 TO 11-7
W404	2 SERIES OF 8	2-0 TO 4-11
W405	2 SERIES OF 14	2-0 TO 7-4
W606	2 SERIES OF 6	5-4 TO 7-4
W408	4 SERIES OF 3	5-6 TO 15-4
W410	2 SERIES OF 9	2-0 TO 4-5
W411	2 SERIES OF 19	2-0 TO 7-4
W612	2 SERIES OF 10	4-9 TO 7-4
H405	8 SERIES OF 2	2-2 TO 4-7
H410	8 SERIES OF 4	1-1 TO 2-10

BUNDLE AND TAG EACH SERIES SEPERATELY.

NOTES

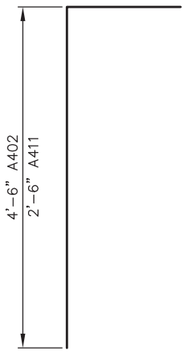
THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

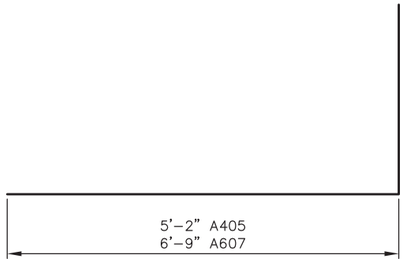
⚠ LENGTH SHOWN IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BILL OF BARS
WINGS — UNCOATED = 1000 LBS.

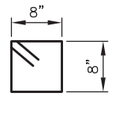
MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION	
W401		8	14-0			WING 1 & 2	HORIZ.
⚠ W402		12	8-0		X	WING 1 & 2	HORIZ.
W403		4	15-0	X		WING 1 & 2	TOP
⚠ W404		16	3-6		X	WING 1 & 2 B.F.	VERT.
⚠ W405		28	4-8		X	WING 1 & 2 F.F.	VERT.
⚠ W606		12	6-4		X	WING 1 & 2 B.F.	VERT.
W407		8	18-8			WING 3 & 4	HORIZ.
⚠ W408		12	10-5		X	WING 3 & 4	HORIZ.
W409		4	19-5	X		WING 3 & 4	TOP
⚠ W410		18	3-3		X	WING 3 & 4 B.F.	VERT.
⚠ W411		38	4-8		X	WING 3 & 4 F.F.	VERT.
⚠ W612		20	6-1		X	WING 3 & 4 B.F.	VERT.



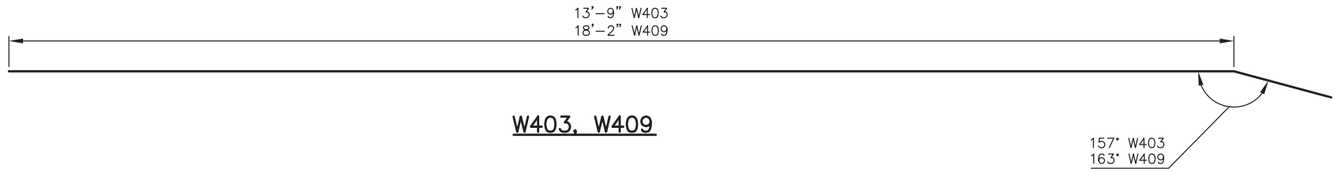
A402, A411



A405, A607



H301



W403, W409

BILL OF BARS
HEAD WALL — UNCOATED = 400 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION	
H301		38	3-1	X		HEADWALL	STIRRUP
H402		8	5-8			HEADWALL	DIAG.
H403		8	3-7			HEADWALL	DIAG.
H404		8	14-8			HEADWALL	HORIZ.
⚠ H405		16	3-5		X	HEADWALL	HORIZ.
H406		24	0-8			HEADWALL	HORIZ.
H407		8	2-1			HEADWALL	HORIZ.
H408		16	9-6			HEADWALL	VERT.
H409		8	1-10			HEADWALL	VERT.
⚠ H410		32	2-0		X	HEADWALL	VERT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-63-8

DRAWN BY JAP | PLANS CK'D JJS

BILL OF BARS

SHEET 6 OF 8
111

FILE: C-63-8.dwg
PLOT SCALE: 3/32" = 1'-0"

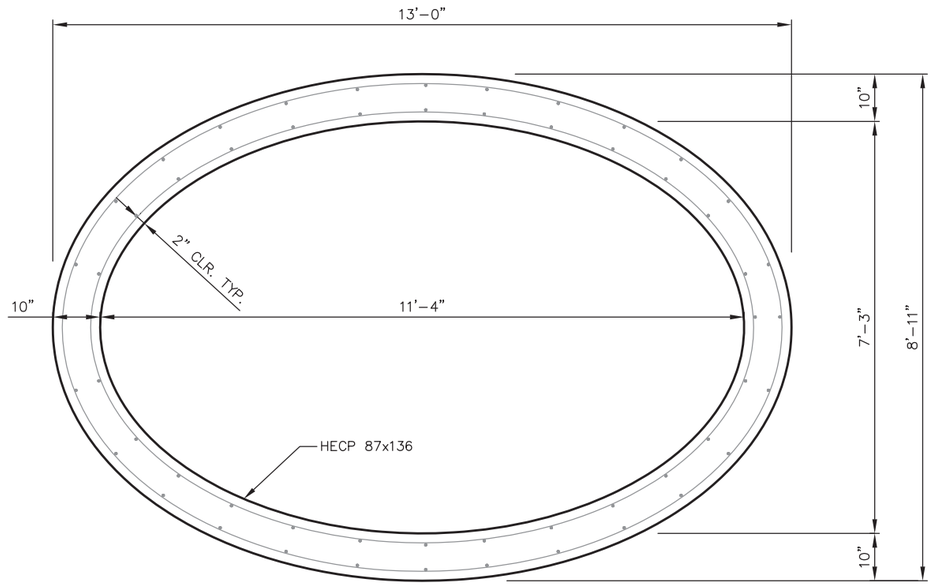
I.D. 1009-43-61 PLOT DATE: Jun 10, 2013

8

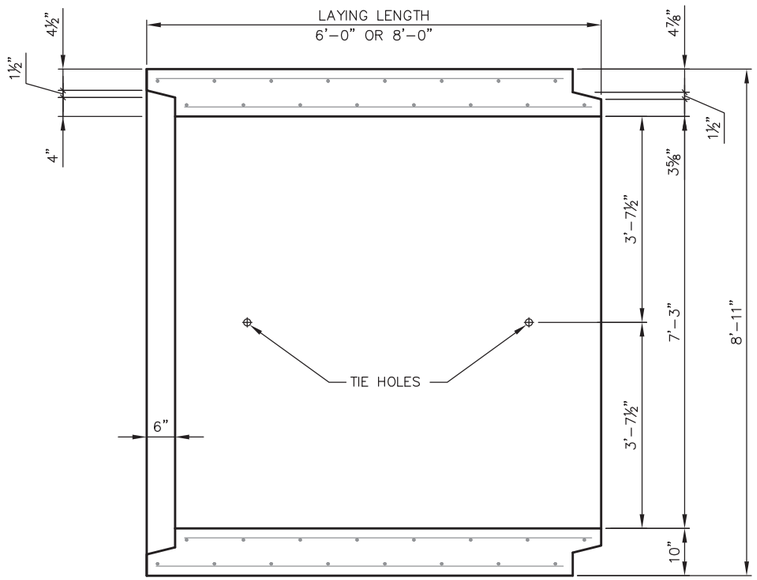
8

STATE PROJECT NUMBER

1009-43-61



SECTION THROUGH PIPE



PIPE ELEVATION

CIRCUMFERENTIAL REINFORCEMENT REQUIREMENTS

CONTINUOUS REINFORCEMENT	
INNER CAGE	OUTER CAGE
0.65	0.65

NOTES:

VALUE GIVEN IS THE CIRCUMFERENTIAL STEEL AREA IN SQUARE INCHES PER LINEAL FOOT OF PIPE BARREL IN EACH CONTINUOUS CAGE.

STEEL MESH REINFORCEMENT SHALL CONFORM TO REQUIREMENTS OF ASTM A 185, Fy = 65 KSI.

IF REINFORCEMENT BARS ARE TO BE USED, INCREASE TABLE VALUES FOR REINFORCEMENT AREAS BY 8%. REINFORCEMENT BARS SHALL CONFORM TO REQUIREMENTS OF ASTM A 615, GRADE 60, Fy = 60 KSI.

MINIMUM COVER OF REINFORCEMENT SHALL BE 2".

THE SPACING CENTER TO CENTER OF ADJACENT RINGS OF CIRCUMFERENTIAL REINFORCEMENT IN A CAGE SHALL NOT EXCEED 6 INCHES. THE CONTINUITY OF THE CIRCUMFERENTIAL REINFORCING STEEL SHALL NOT BE DESTROYED DURING THE MANUFACTURE OF THE PIPE.

LONGITUDINAL REINFORCING PARALLEL TO THE AXIS OF THE PIPE SHALL BE A MINIMUM OF 0.20 SQUARE INCHES PER CIRCUMFERENTIAL FOOT. THIS LONGITUDINAL REINFORCING SHALL BE UNIFORMLY SPACED AT NOT MORE THAN 1'-0" O.C. AROUND THE CIRCUMFERENCE OF THE PIPE.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-63-8

DRAWN BY JAP | PLANS CK'D JJS

PRECAST CONCRETE PIPE DETAILS

SHEET 7 OF 8

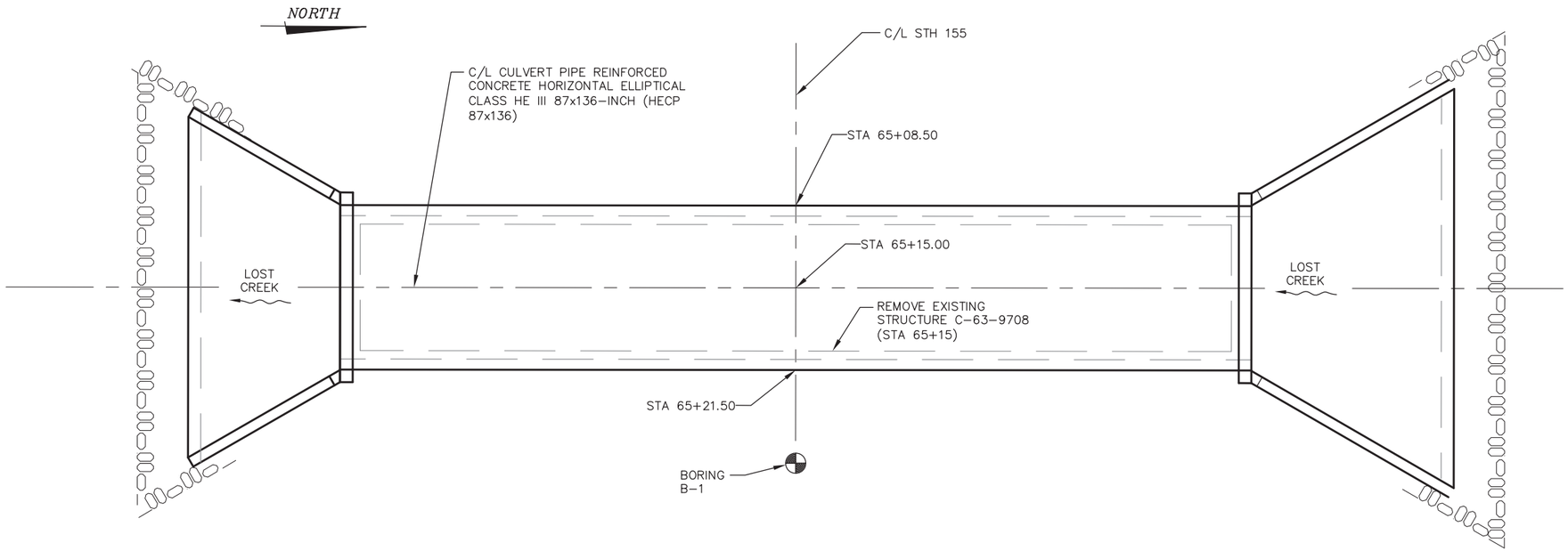
112

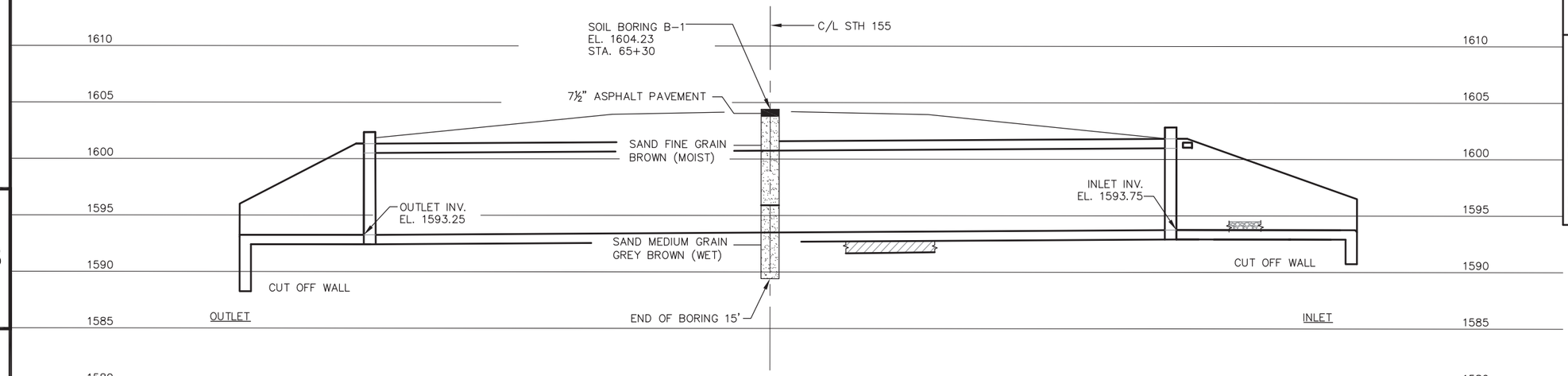
FILE: C-63-8.dwg
PLOT SCALE: 3/32" = 1'-0"

I.D. 1009-43-61

PLOT DATE: Jun 10, 2013

SOIL BORINGS AND SUBSURFACE REPORT
BY: WiDOT





STATE PROJECT NUMBER

1009-43-61

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE
WS - WEATHERED SO-SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

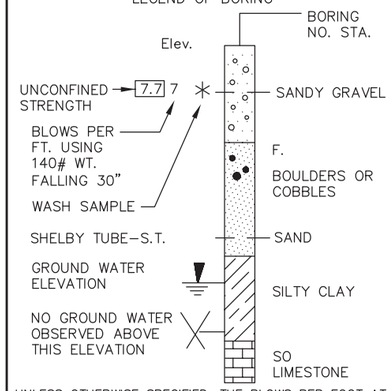
PROBING NO.
STA.
ELEVATION

95/6= BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

7 AVERAGE BLOWS PER FOOT

REFUSAL 95/6

LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

8

8

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-63-8

Drawn By NJB | Plans Checked JJS

SUBSURFACE EXPLORATION

SHEET 8 OF 8
113

I.D. 1009-34-61

PLOT DATE: Jun 10, 2013

FILE: 08-SOIL BORINGS.dwg
PLOT SCALE: 1/8" = 1'-0"

STH 107 Tug Lake Creek								
		AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
STATION	Distance	Cut	Fill	Cut	Fill	Cut	Expanded Fill 1.20	Mass Ordinate
				Note 1		Note 2	Note 3	Note 4
55+55		64.08	2.47					
56+00	45	44.29	20.93	90	20	90	23	67
56+50	50	53.88	42.98	91	59	181	94	87
56+71	21	53.29	350.92	42	153	223	278	-55
56+79	8	47.67	216.05	15	84	238	379	-141
57+00	21	94.15	34.68	55	98	293	496	-203
57+50	50	62.99	19.53	146	50	438	556	-118
57+88	38	49.97	5.86	79	18	518	578	-60
58+00	12	0.00	0.00	11	1	529	579	-50

STH 107 Ripley Creek								
		AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
STATION	Distance	Cut	Fill	Cut	Fill	Cut	Expanded Fill 1.20	Mass Ordinate
				Note 1		Note 2	Note 3	Note 4
14+10		54.27	2.71					
14+50	40	51.86	69.36	79	53	79	64	15
14+64	14	74.45	255.79	33	84	111	165	-54
14+72	8	58.95	348.89	20	90	131	273	-142
15+00	28	54.79	44.46	59	204	190	517	-327
15+26	26	49.50	36.09	50	39	240	564	-324

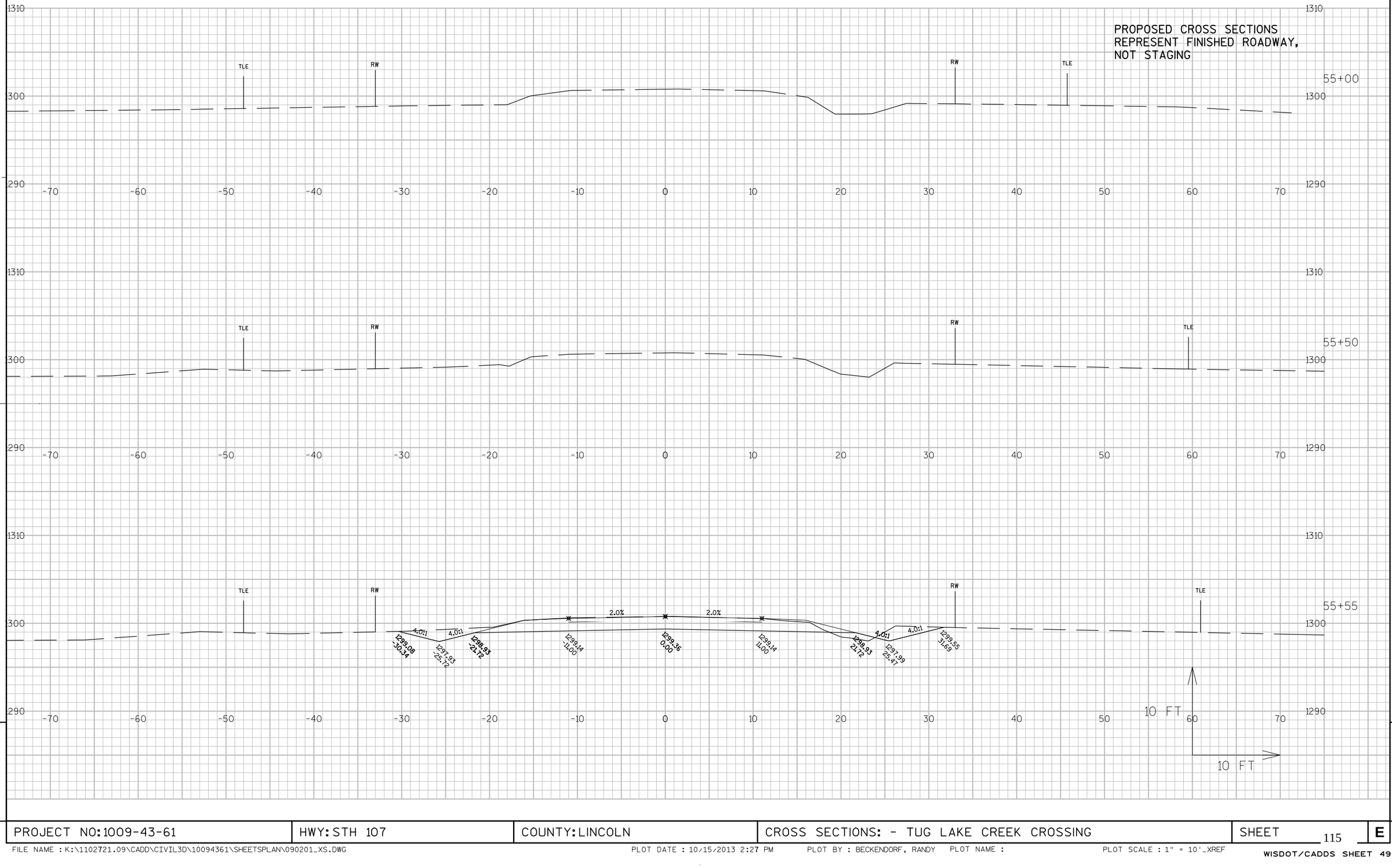
STH 155 Lost Creek								
		AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
STATION	Distance	Cut	Fill	Cut	Fill	Cut	Expanded Fill 1.20	Mass Ordinate
				Note 1		Note 2	Note 3	Note 4
64+65		57.74	8.43					
64+86	21	47.32	15.21	41	9	41	11	30
65+00	14	68.03	31.94	30	12	71	26	45
65+15	15	64.33	152.60	37	51	108	87	20
65+45	30	56.19	11.85	67	91	174	197	-22

1) Cut Volume includes Salvaged/Unusable Pavement Material.
2) This assumes the existing pavement is salvaged or wasted by the contractor.
   The existing pavement structure is not shown in the cross sections.
3) Expanded Fill = Unexpanded Fill * Expanded Fill Factor.
4) Mass Ordinate = Cut - Expanded Fill. Mass Ordinate is a + or - Qty calculated for the Division
   Plus quantity indicates a waste volume of material within the Division.
   Minus indicates a shortage of material within the Division.

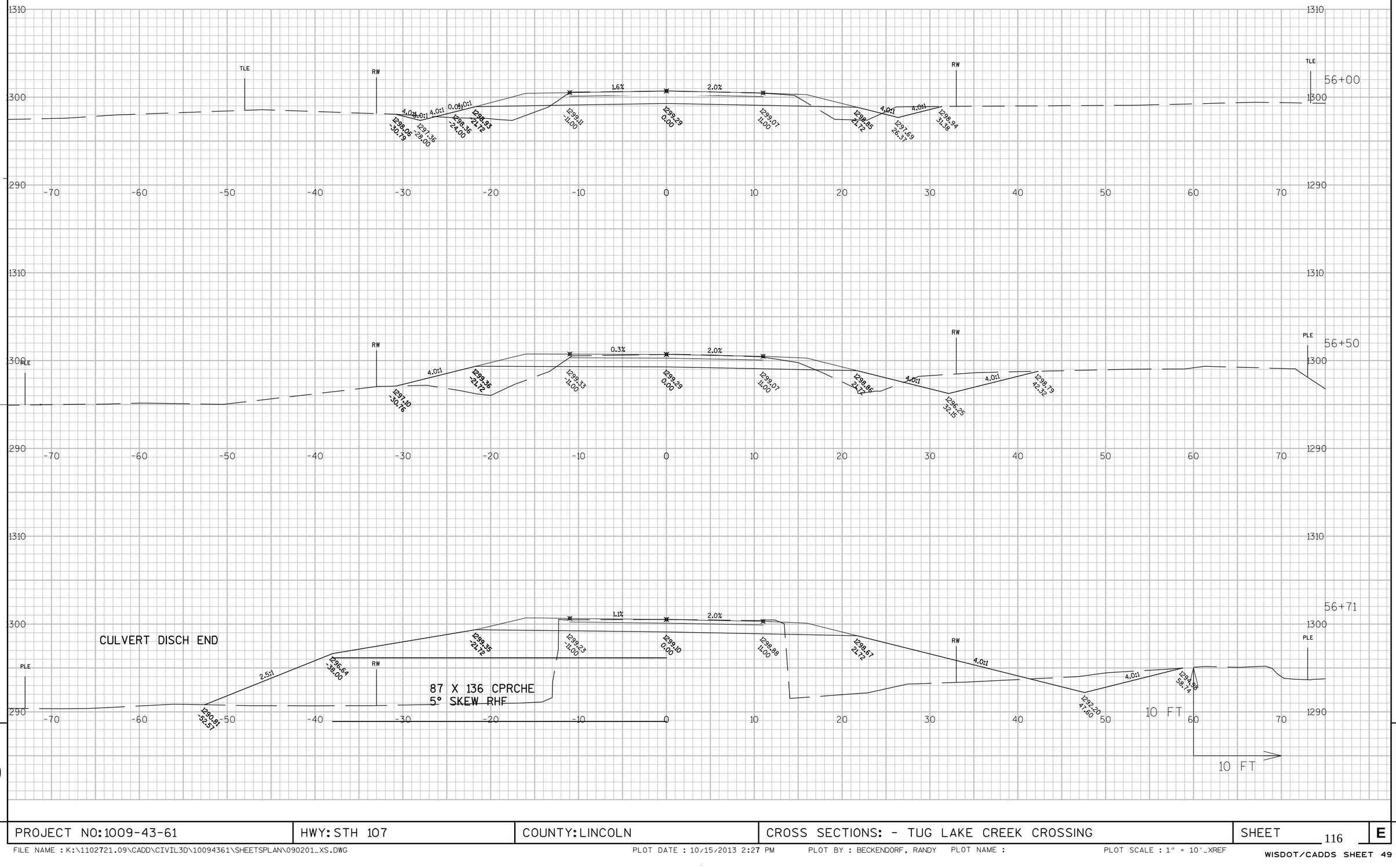
9

9

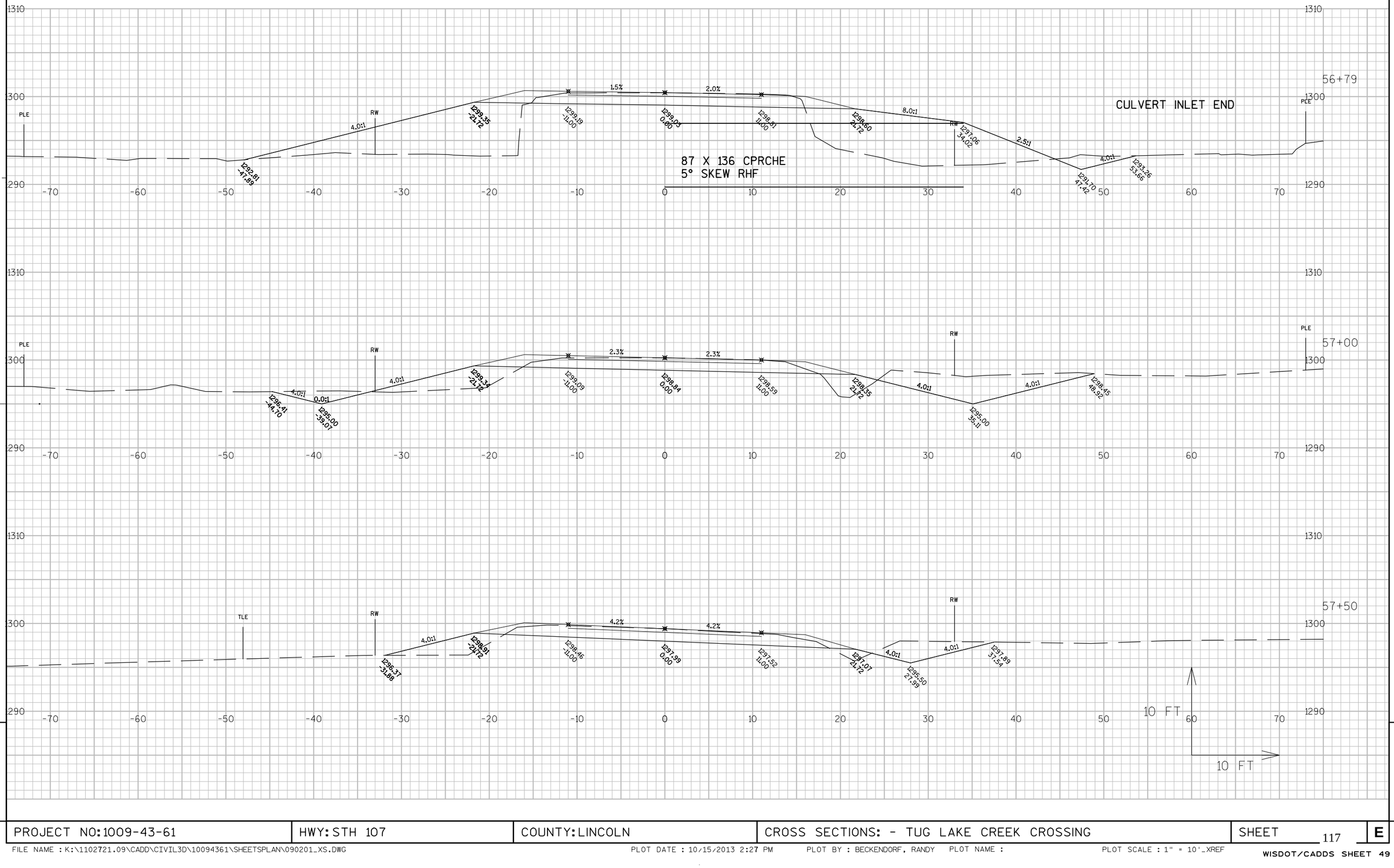
PROPOSED CROSS SECTIONS
REPRESENT FINISHED ROADWAY,
NOT STAGING



PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	CROSS SECTIONS: - TUG LAKE CREEK CROSSING	SHEET 115	E



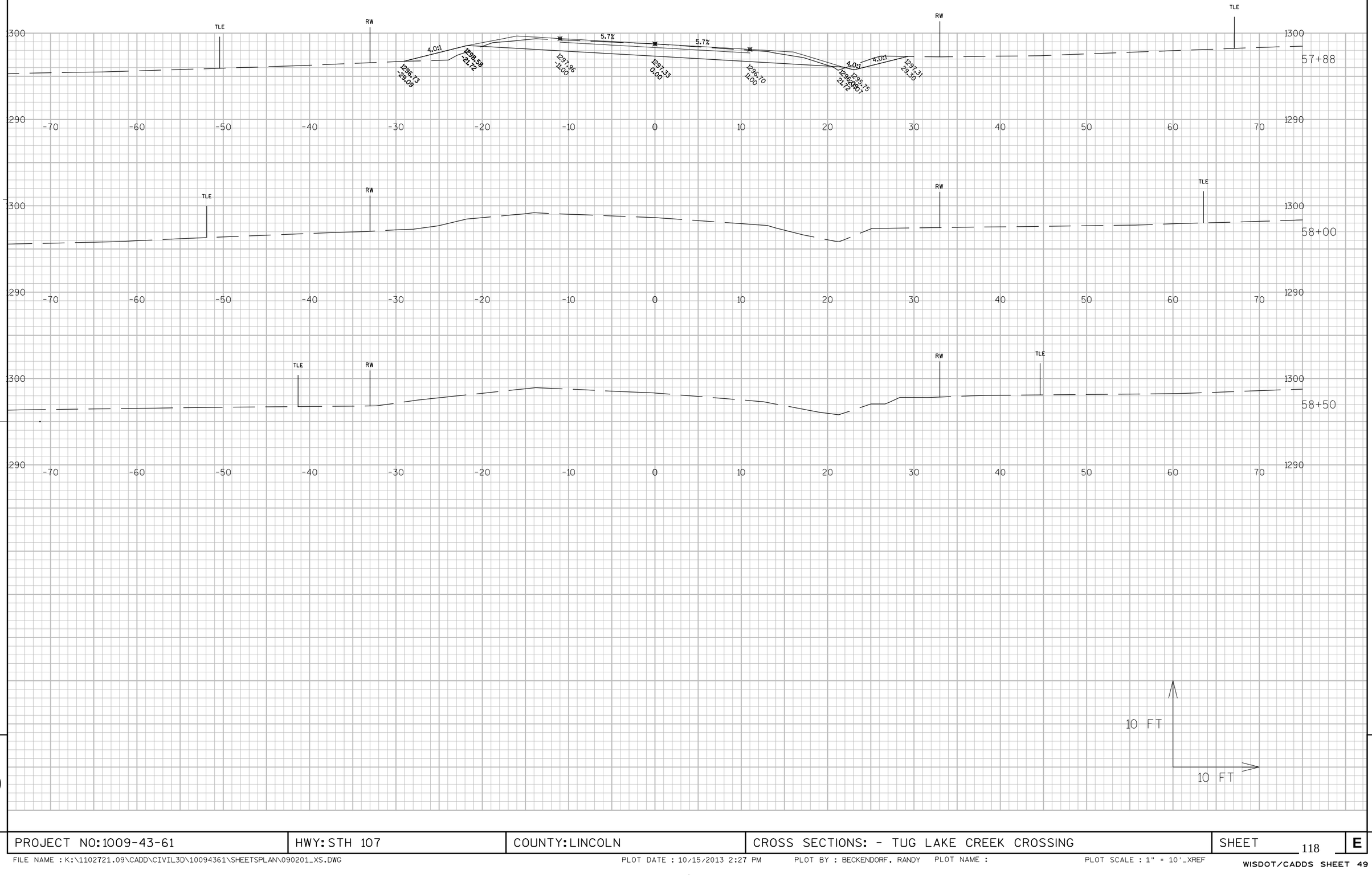
PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	CROSS SECTIONS: - TUG LAKE CREEK CROSSING	SHEET 116	E



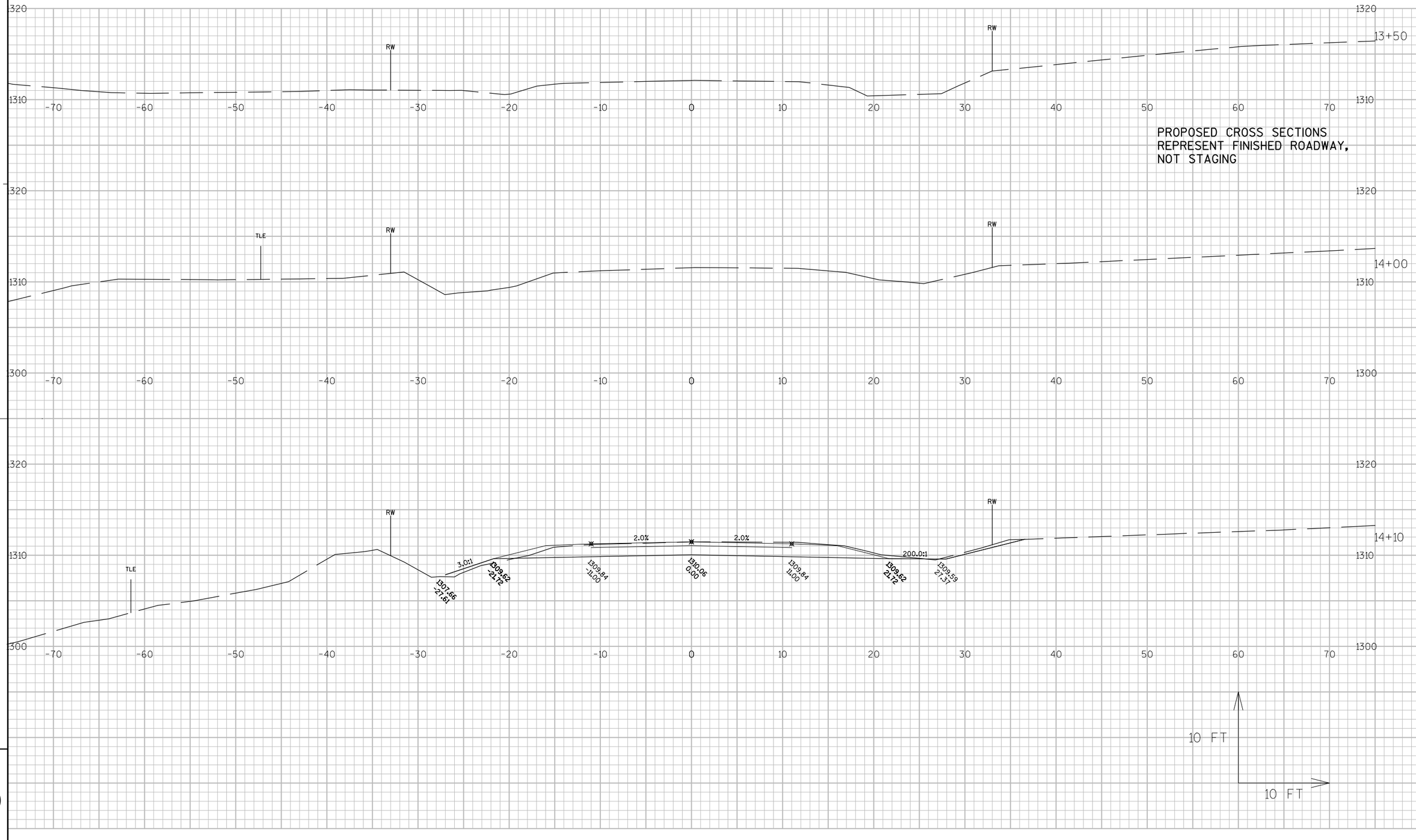
PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	CROSS SECTIONS: - TUG LAKE CREEK CROSSING	SHEET 117	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\090201_XS.DWG PLOT DATE : 10/15/2013 2:27 PM PLOT BY : BECKENDORF, RANDY PLOT NAME : PLOT SCALE : 1" = 10'_XREF

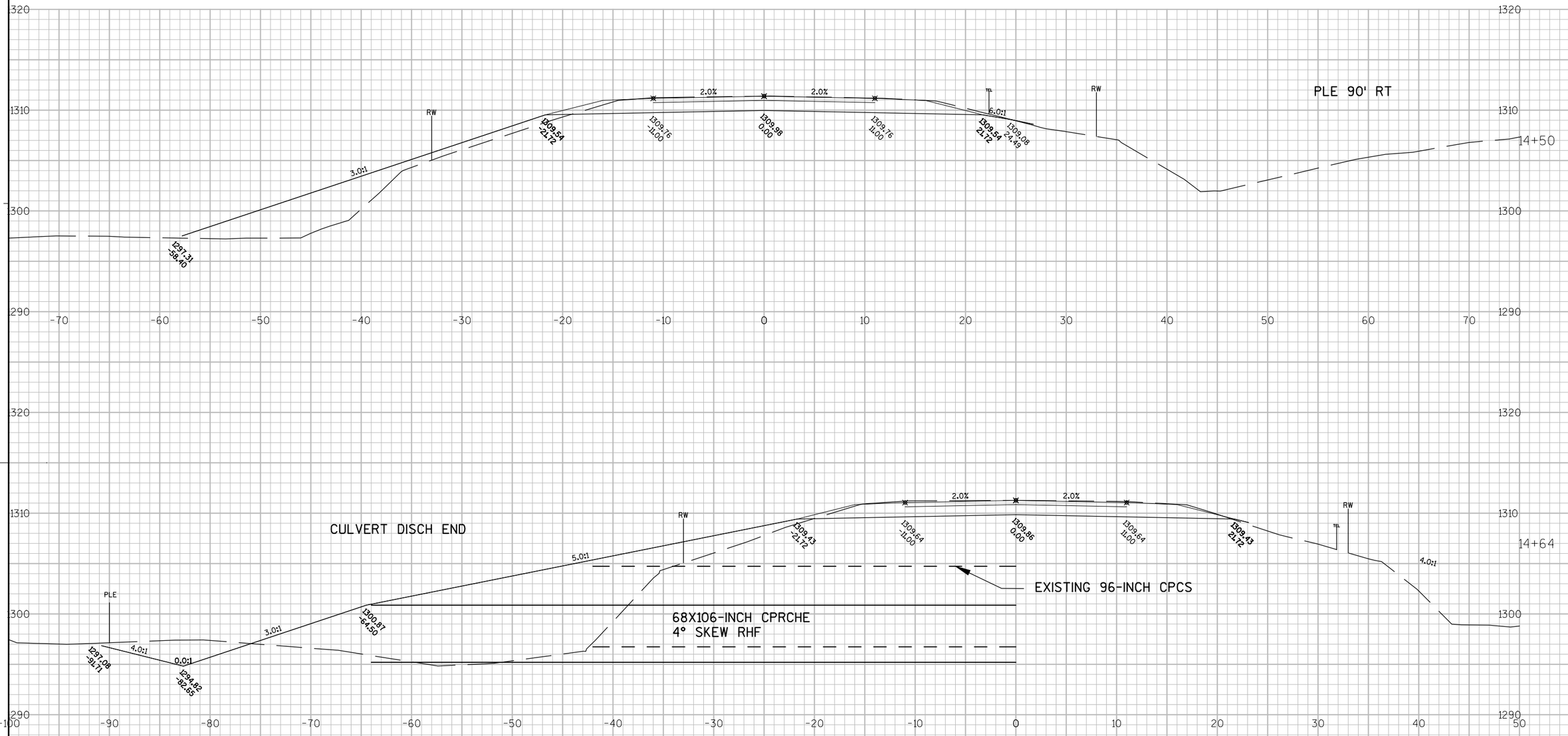
WISDOT/CADDS SHEET 49



PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	CROSS SECTIONS: - TUG LAKE CREEK CROSSING	SHEET 118	E

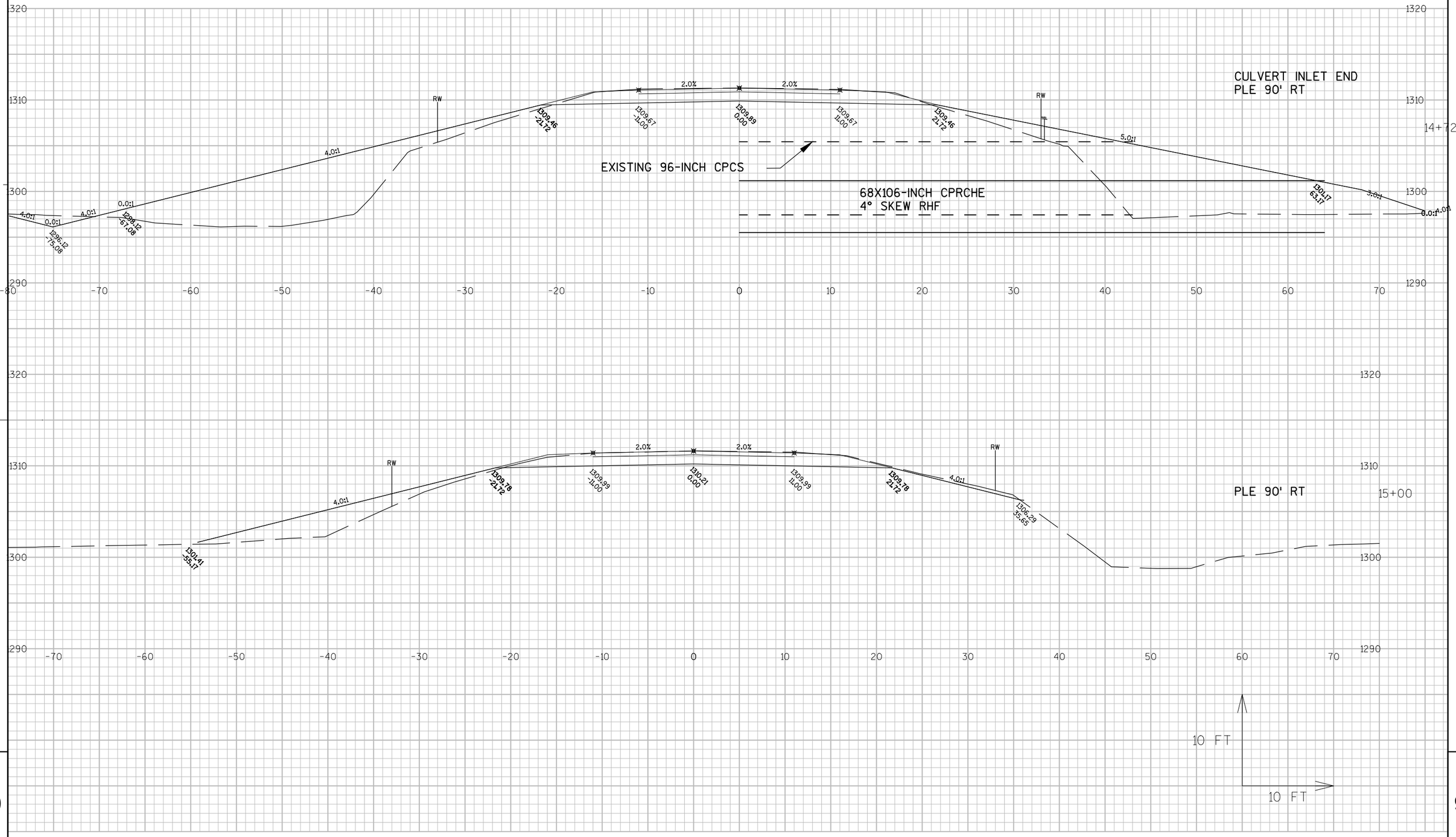


PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	CROSS SECTIONS - RIPLEY CREEK CROSSING	SHEET 119	E



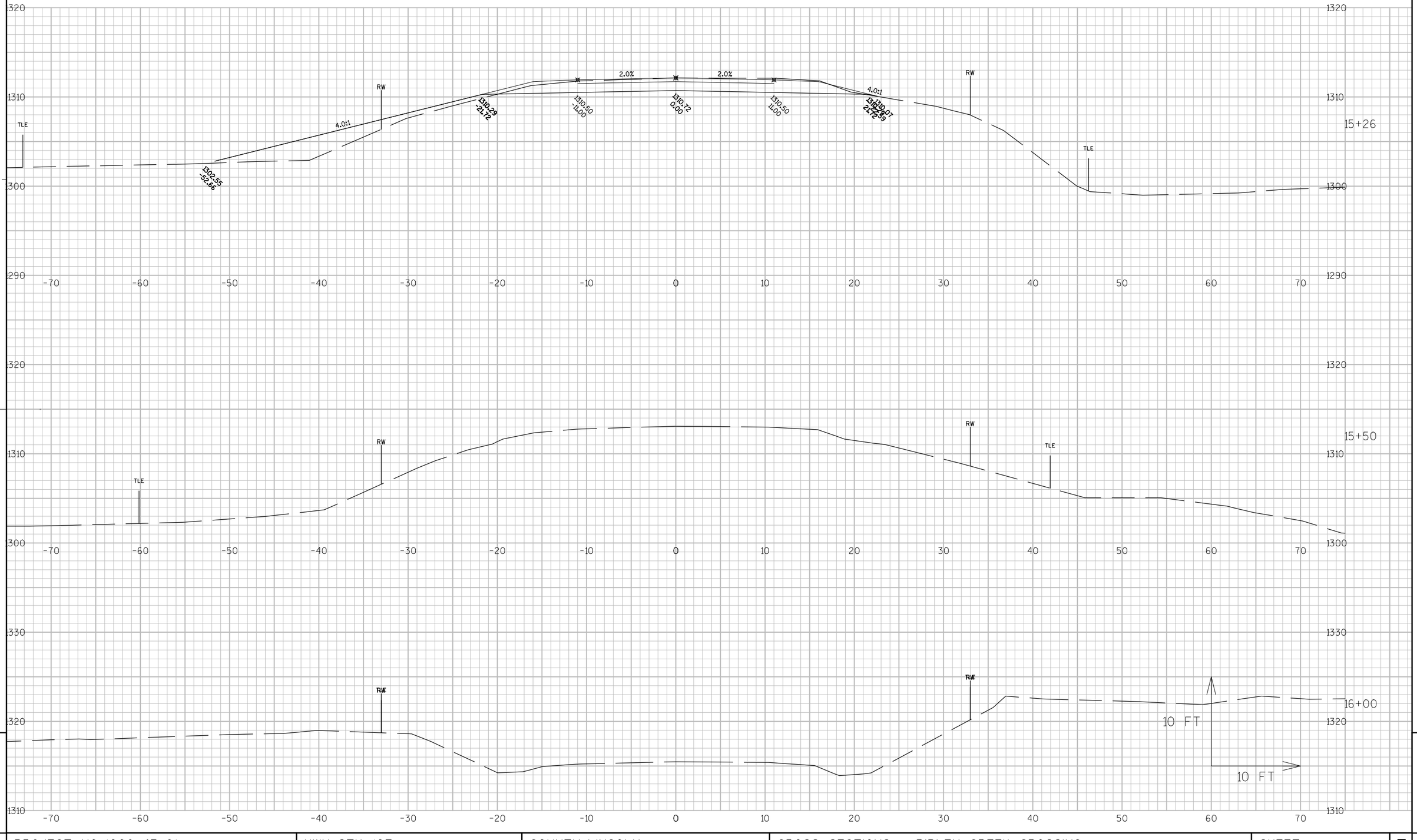
PROJECT NO:1009-43-61	HWY: STH 107	COUNTY: LINCOLN	CROSS SECTIONS - RIPLEY CREEK CROSSING	SHEET 120	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\090202_XS.DWG PLOT DATE : 10/15/2013 2:29 PM PLOT BY : BECKENDORF, RANDY PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1009-43-61	HWY: STH 107	COUNTY:LINCOLN	CROSS SECTIONS - RIPLEY CREEK CROSSING	SHEET 121	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\090202_XS.DWG PLOT DATE : 10/15/2013 2:29 PM PLOT BY : BECKENDORF, RANDY PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1009-43-61	HWY: STH 107	COUNTY: LINCOLN	CROSS SECTIONS - RIPLEY CREEK CROSSING	SHEET 122	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\090202_XS.DWG PLOT DATE : 10/15/2013 2:29 PM PLOT BY : BECKENDORF, RANDY PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49

PROPOSED CROSS SECTIONS
REPRESENT FINISHED ROADWAY,
NOT STAGING

64+00

64+50

64+65

64+86

DRIVEWAY RIGHT
NOT FOR YARDAGE

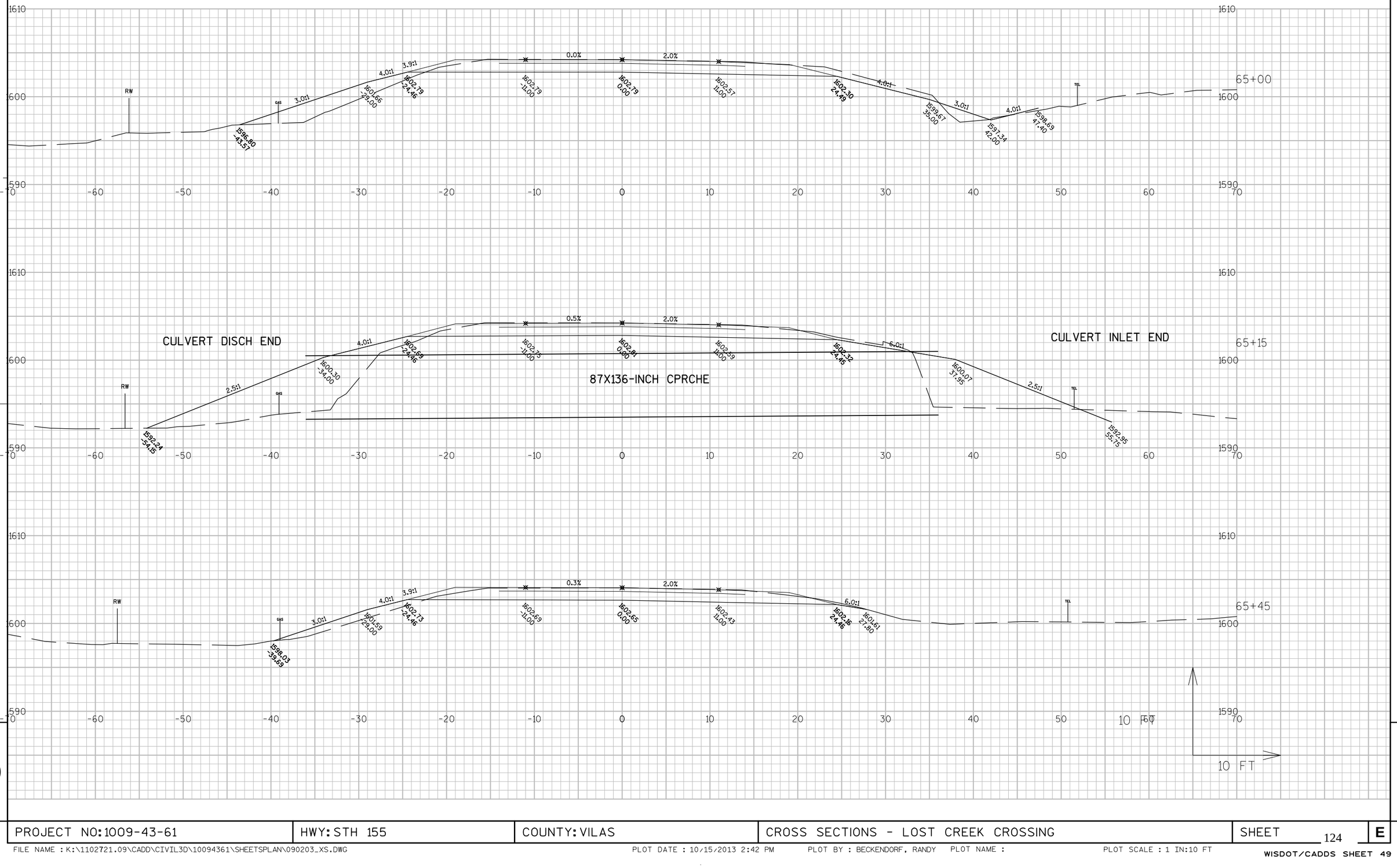
24" CPCS

10 FT

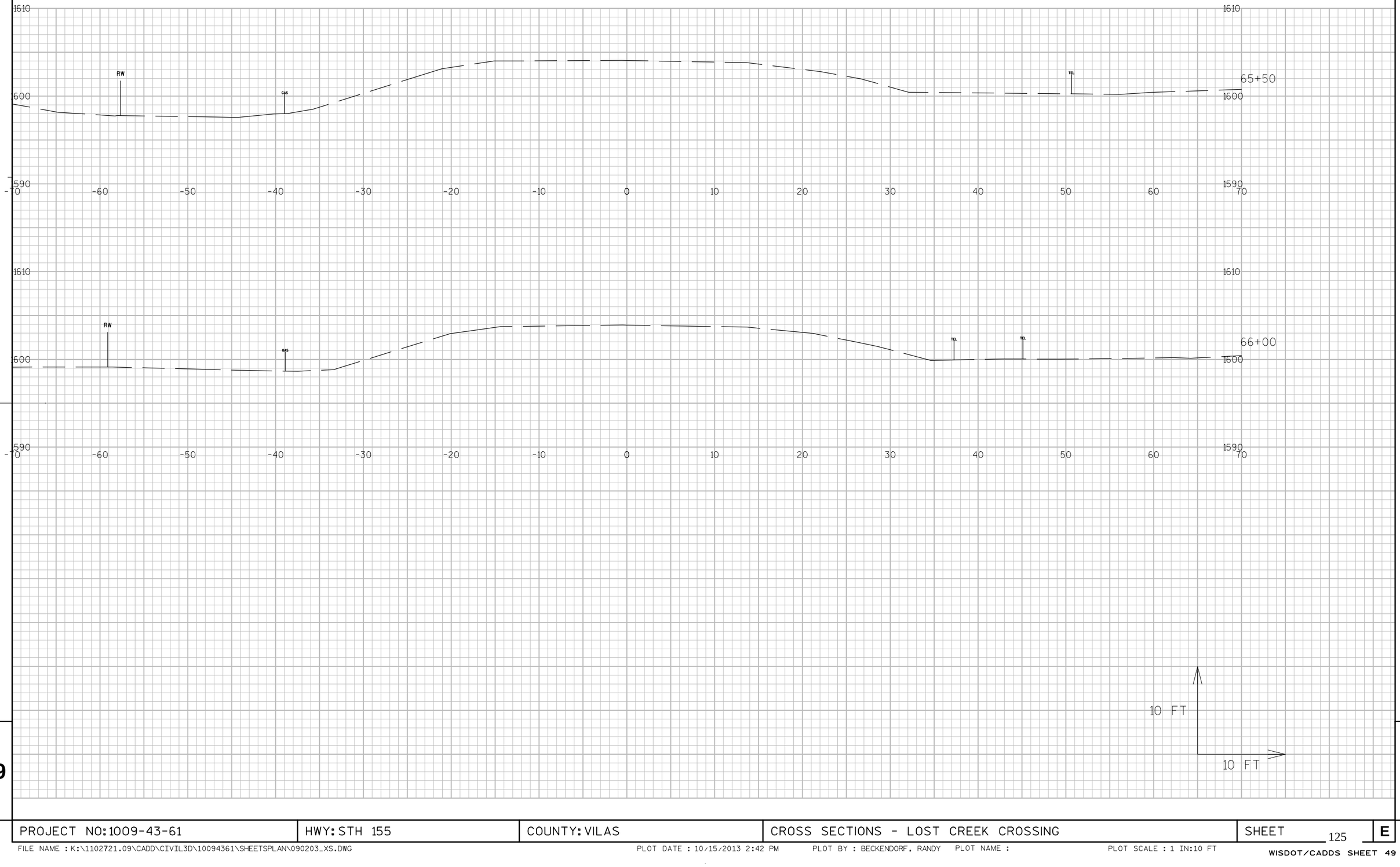
10 FT

PROJECT NO:1009-43-61	HWY: STH 155	COUNTY: VILAS	CROSS SECTIONS - LOST CREEK CROSSING	SHEET 123	E

FILE NAME : K:\1102721.09\CADD\CIVIL3D\10094361\SHEETSPLAN\090203_XS.DWG PLOT DATE : 10/15/2013 2:42 PM PLOT BY : BECKENDORF, RANDY PLOT NAME : PLOT SCALE : 1 IN:10 FT



PROJECT NO: 1009-43-61	HWY: STH 155	COUNTY: VILAS	CROSS SECTIONS - LOST CREEK CROSSING	SHEET 124	E



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PROJECT NO:1009-43-61	HWY: STH 155	COUNTY: VILAS	CROSS SECTIONS - LOST CREEK CROSSING	SHEET 125	E

Wisconsin Department of Transportation

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