MAD

NOVEMBER 2018

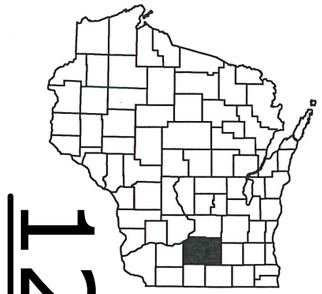
PROJECT ID: 5410-00-62

WITH:

COUNTY: DANE

ORDER OF SHEETS

TOTAL SHEETS = 42



12

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MADISON - DEFOREST

PIERSTORFF ST TO RIEDER RD

USH 51

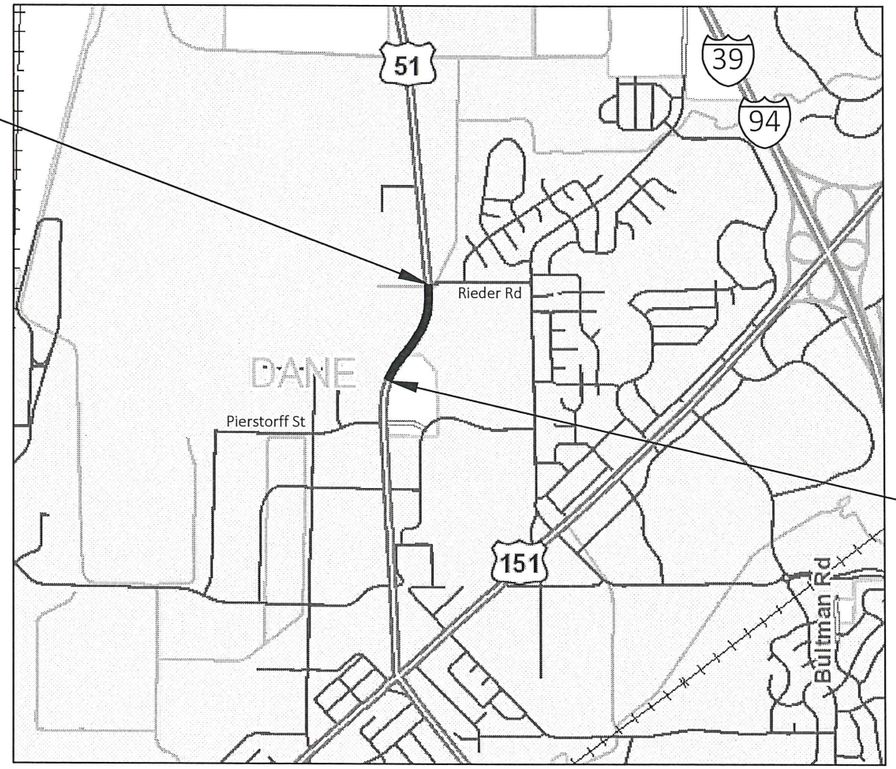
DANE COUNTY

STATE PROJECT NUMBER
5410-00-62

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5410-00-62	WISC 2018439	1

N

R-10-E



T-8-N

END PROJECT
STA 33+40 'NB'

BEGIN PROJECT
STA 17+00 'NB'
X: 837033.43
Y: 503489.96

DESIGN DESIGNATION 5410-00-32

A.A.D.T. (5 YEAR)	=	17450
A.A.D.T.	=	
D.H.V.	=	
D.D.	=	
T.	=	
DESIGN SPEED	=	60 MPH
ESALS	=	

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

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

LAYOUT

SCALE 0 0.5 MI

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, DANE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

VERTICAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY DOORDINATES, DANE COUNTY, NAD88 (2012).

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	RYAN BAILEY
Project Manager	JEREMY HALL
Regional Examiner	SW REGION
Regional Supervisor	JIM OETTINGER

APPROVED FOR THE DEPARTMENT

DATE: 12/18/17 (Signature)

E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\010101-TITLE SHEET\010101_TI.DWG

PLOT DATE : 12/4/2017 10:00 AM PLOT BY : BAILEY, RYAN R PLOT NAME :

2

GENERAL NOTES

TREES OR SHRUBS THAT ARE NOT MARKED ON THE PLAN TO BE REMOVED SHALL NOT BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER IN THE FIELD.

SURVEYED UTILITIES ARE ONLY SHOWN WITHIN THE MEDIAN OF USH 51 IN THE PROJECT AREA AND THEIR LOCATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

CONTRACTOR TO PROTECT 2V04 GPS AND KEEP CONSTRUCTION EQUIPMENT AT LEAST 10 FEET AWAY FROM 2V04 GPS LOCATED AT APPROXIMATELY STA 17+35 'NB', 58' LT. ENSURE THAT 2V04 GPS IS NOT DISTURBED DURING THE DURATION OF THE PROJECT. NOTIFY JACOB ROCKWEILER IMMEDIATELY IF 2V04 GPS IS DISTURBED DURING CONSTRUCTION OPERATIONS. JACOB ROCKWEILER, P.E., WISCONSIN HEIGHT MODERNIZATION PROGRAM MANAGER WITH THE WISCONSIN DEPARTMENT OF TRANSPORTATION WHOSE PHONE NUMBER IS (608) 516-6362 AND EMAIL IS JACOB.ROCKWEILER@DOT.WI.GOV

THE EROSION CONTROL DEVICES AS SHOWN ON THE EROSION CONTROL SHEETS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER. EROSION CONTROL DEVICES SHALL BE PLACED IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS DETERMINED BY THE ENGINEER.

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

LAYOUT/STAKING FOR CABLE BARRIER TYPE 1 AND CABLE BARRIER END TERMINAL TYPE 1 IS INCIDENTAL TO BID ITEM.

ADDITIONAL SOIL BORING INFORMATION IS AVAILABLE UPON REQUEST TO PROJECT ENGINEER.

(WISDOT) DESIGN PROJECT MANAGER
JEREMY HALL, P.E.
2101 WRIGHT ST.
MADISON, WI 53704
(608) 245-2655
jeremy/.hall@dot.wi.gov

(WISDOT) DESIGN PROJECT LEADER
RYAN BAILEY, P.E.
2101 WRIGHT ST.
MADISON, WI 53704
(608) 246-5625
ryan.bailey@dot.wi.gov

WI DNR LIASON
ERIC HEGGELUND
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
(608) 275-3301
eric.heggelund@wisconsin.gov

SECTION 2 ORDER OF SHEETS

UTILITY CONTACTS

CARL DONAHUE
AT&T LEGACY
COMMUNICATION LINE
866 ROCK CREEK RD
PLANO, IL 60545
(847) 420-9115
CD8729@ATT.COM

NATHAN BECKER
PAETEC COMMUNICATIONS, LLC
COMMUNICATION LINE
13935 BISHOPS DR
BROOKFIELD, WI 53005
(262) 792-7938
NATHAN.BECKER@WINDSTREAM.COM

BRADLEY LIVINGSTON
DANE COUNTY REGIONAL AIRPORT
AIRPORT FACILITY
4000 INTERNATIONAL LN
MADISON, WI 53704
(608) 246-3390
LIVINGSTON@MSNAIRPORT.COM

TIM STATZ
MADISON GAS AND ELECTRIC COMPANY
GAS/ PETROLEUM/ ELECTRICITY
P.O. BOX 1231
MADISON, WI 53701-1231
(608) 252-4727
TSTATZ@MGE.COM

CAROL ANASON
AT&T WISCONSIN
COMMUNICATION LINE
316 W WASHINGTON AVE
MADISON, WI 53701
(608) 252-2385
CA2624@ATT.COM

ADAM WIEDERHOEFT
MADISON WATER UTILITY
WATER
119 E OLIN AVE
MADISON, WI 53713-1431
(608) 266-9121
AWIEDERHOEFT@MADISONWATER.ORG

JEFF ERTL
KOCHS TELECOMMUNICATIONS SERVICE INC
COMMUNICATION LINE
918 WALSH RD.
MADISON, WI 53714
(608) 243-9702
JERTL@KOCHSTELECOM.COM

DICK HAMMETTER
WISCONSIN INDEPENDENT NETWORK, LLC
COMMUNICATION LINE
800 WISCONSIN AVE, SUITE 219
EAU CLAIRE, WI 54703
(715) 838-4406
HAMMETTER@WINS.NET

GREG FRIES
CITY OF MADISON ENGINEERING
SEWER
210 MARTIN LUTHER KING JR BLVD, RM 115
MADISON, WI 53703
(608) 266-4751
GFRIES@CITYOFMADISON.COM

TIM STATZ
MADISON GAS AND ELECTRIC COMPANY
ELECTRICITY
P.O. BOX 1231
MADISON, WI 53701-1231
(608) 252-4727
TSTATZ@MGE.COM

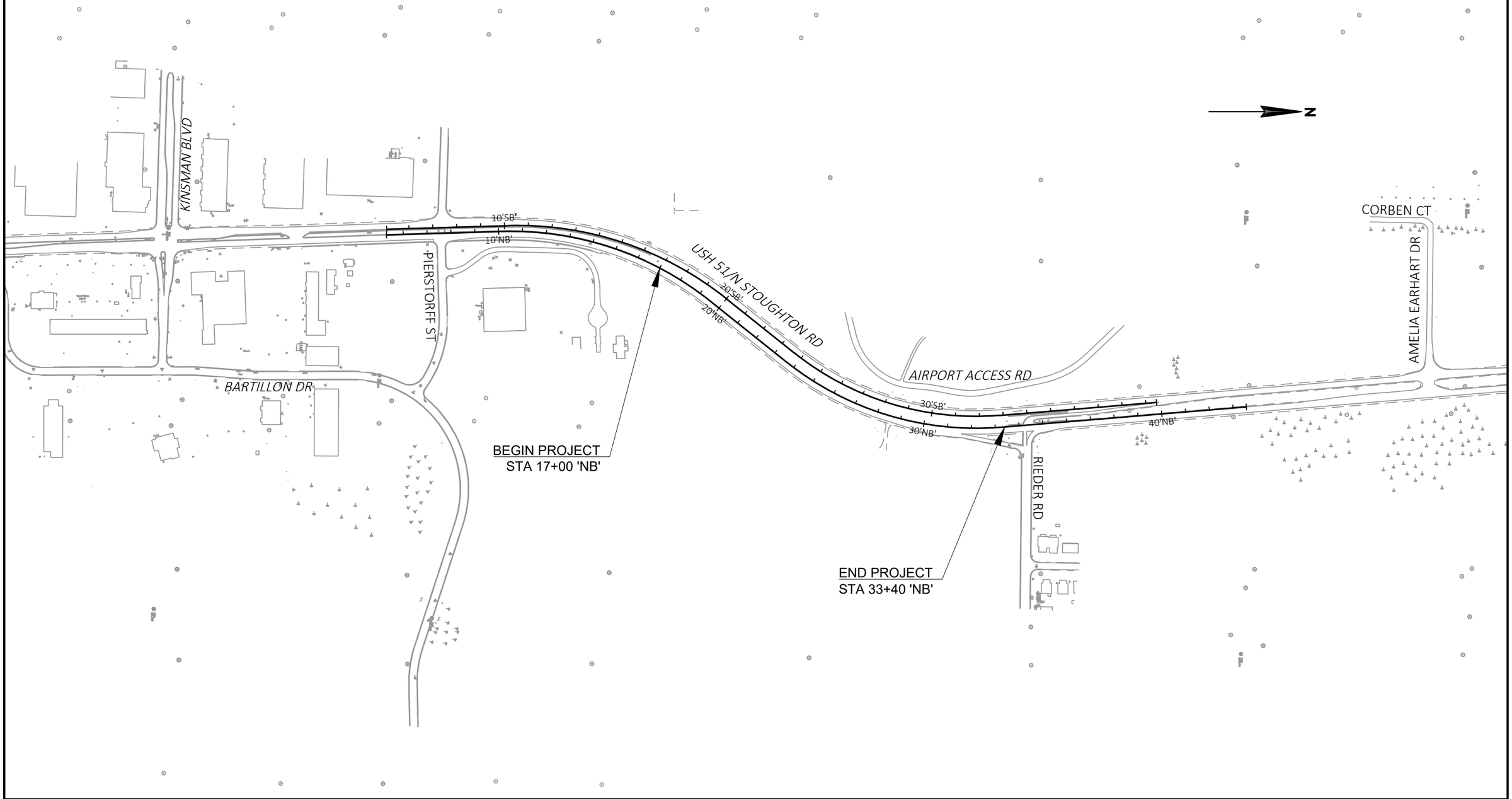
ERIC HJELLEN
MADISON METROPOLITAN SEWERAGE DISTRICT
SEWER
1610 MOORLAND RD
MADISON, WI 53713
(608) 222-1202
ERICH@MADSEWER.ORG

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

STANDARD ABBREVIATIONS

AC.	ACRE	MAX.	MAXIMUM
AGG.	AGGREGATE	MGAL	1000 GALLONS
AH	AHEAD	MIN.	MINIMUM
<	ANGLE	N.C.	NORMAL CROWN OR NO CHANGE
AE, AEW	APRON ENDWALL	N	NORTH
ASPH.	ASPHALTIC	NO.	NUMBER
A.D.T.	AVERAGE DAILY TRAFFIC	PAV'T	PAVEMENT
B.F.	BACK FACE	P.L.E.	PERMANENT LIMITED EASEMENT
BK.	BACK	P.C.	POINT OF CURVATURE
BEG.	BEGIN	P.I.	POINT OF INTERSECTION
B.M.	BENCH MARK	P.T.	POINT OF TANGENCY
C/L	CENTER LINE	V.P.C.	VERTICAL POINT OF CURVATURE
D	CENTRAL ANGLE OR DELTA	V.P.I.	VERTICAL POINT OF INTERSECTION
C.M.C.P.	CORRUGATED METAL CULVERT PIPE	V.P.T.	VERTICAL POINT OF TANGENCY
C.M.P.	CORRUGATED METAL PIPE	PCC	PORTLAND CEMENT CONCRETE
CO.	COUNTY	P.E.	PRIVATE ENTRANCE
CTH	COUNTY TRUNK HIGHWAY	P.L.	PROPERTY LINE
CR.	CREEK	R	RADIUS OR RANGE
C.A.B.C.	CRUSHED AGGREGATE BASE COURSE	R/L	REFERENCE LINE
C.Y.	CUBIC YARD	R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
C.P.	CULVERT PIPE	RT	RIGHT
C. & G.	CURB AND GUTTER	REQ'D	REQUIRED
D	DEGREE OF CURVE	R.H.F.	RIGHT HAND FORWARD
D.H.V.	DESIGN HOUR VOLUME	R/W	RIGHT OF WAY
DIA.	DIAMETER	R.	RIVER
DISCH.	DISCHARGE	RD.	ROAD
EA	EACH	SHLD.	SHOULDER(S)
E	EAST	SHR.	SHRINKAGE
ELEC.	ELECTRIC(AL), ELEC. CABLE	S	SOUTH
EL., ELEV.	ELEVATION	S.F.	SQUARE FOOT (FEET)
EXC.	EXCAVATION	SDD	STANDARD DETAIL DRAWING(S)
F.F.	FACE TO FACE	STH	STATE TRUNK HIGHWAY
FERT.	FERTILIZER	STA.	STATION
F.E.	FIELD ENTRANCE	S.E.	SUPERELEVATION
F/L, F.L.	FLOW LINE	S/L	SURVEY LINE
CWT.	HUNDRED WEIGHT	T	TANGENT
INL	INLET	TEL.	TELEPHONE
INTER.	INTERSECTION	TEMP.	TEMPORARY
JT.	JOINT	T.L.E.	TEMPORARY LIMITED EASEMENT
LT	LEFT	T.O.C.	TOP OF CURB
L.H.F.	LEFT HAND FORWARD	T.	(TRUCKS) PERCENT OF
L.	LENGTH OF CURVE	TYP.	TYPICAL
L.F.	LINEAR FOOT(FEET)	UNCL.	UNCLASSIFIED
LC.	LONG CHORD	U.G.	UNDERGROUND (CABLE)
LS	LUMP SUM	V.C.	VERTICAL CURVE
M.P.	MARKER POST	W	WEST

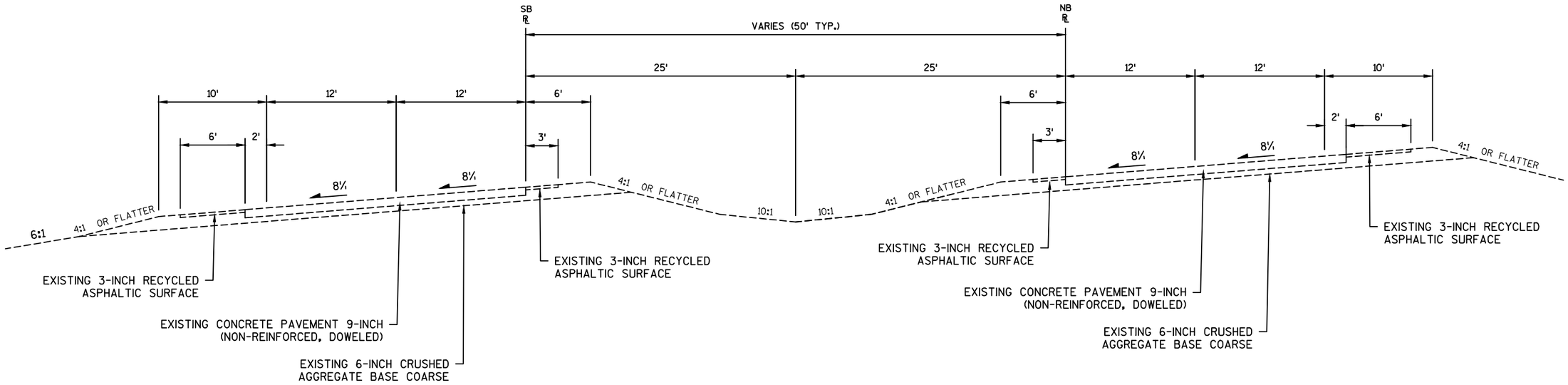
2



PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	PROJECT OVERVIEW	SHEET 4	E

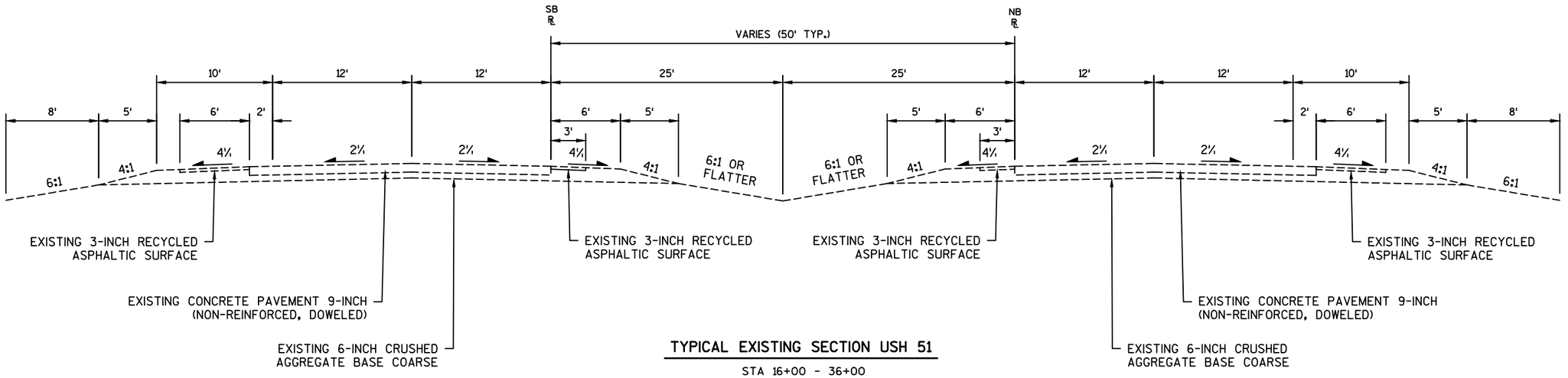
FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\020201-PROJECT OVERVIEW\020201_PO.DWG
LAYOUT NAME - 020201_po

PLOT DATE : 6/7/2017 12:18 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:400 FT



TYPICAL EXISTING SUPERELEVATED SECTION USH 51

STA 16+00 - 36+00

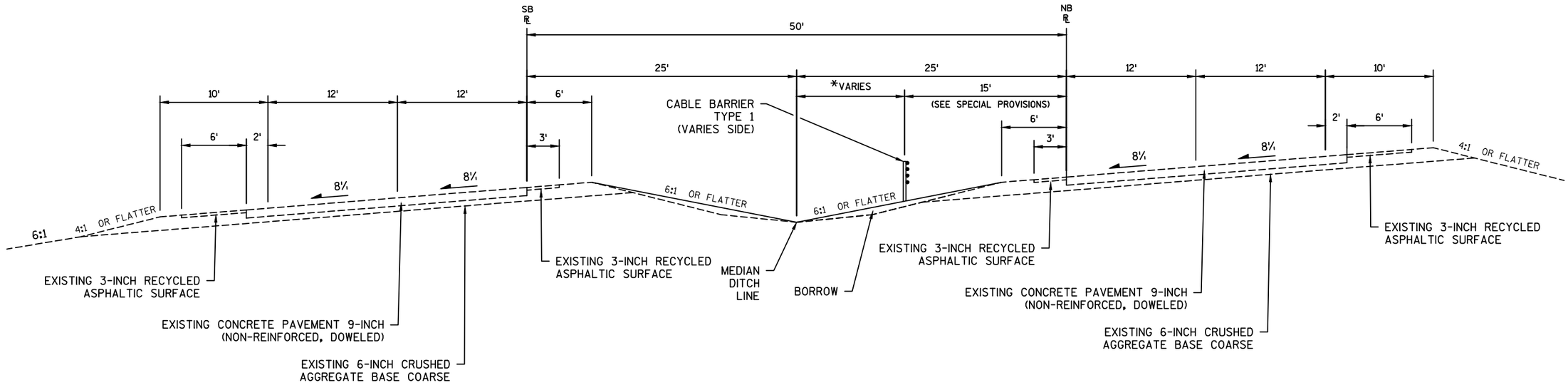


TYPICAL EXISTING SECTION USH 51

STA 16+00 - 36+00

PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	EXISTING TYPICAL SECTIONS	SHEET 5	E

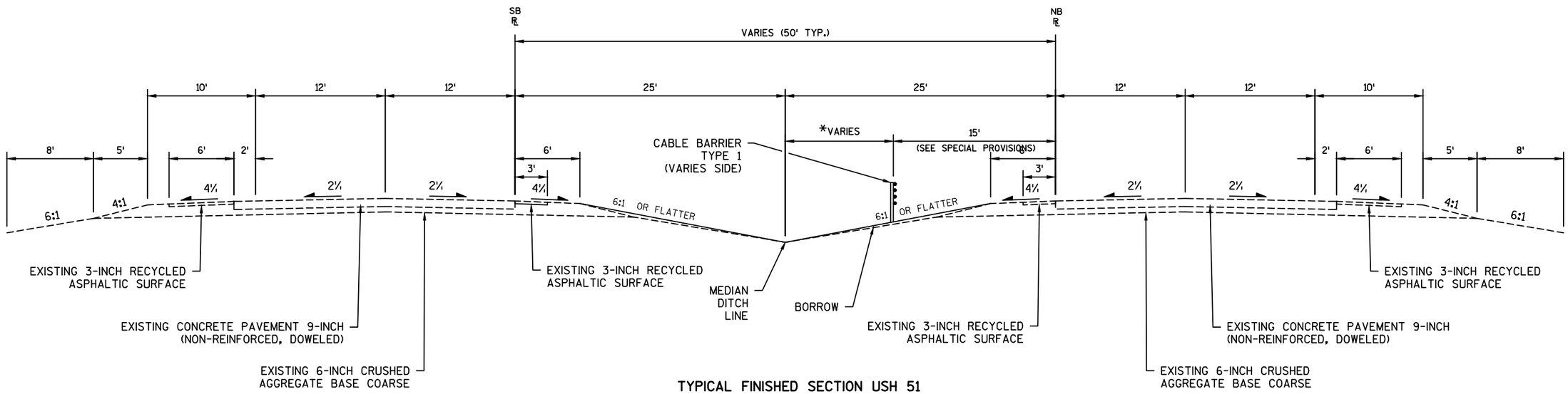
2



TYPICAL FINISHED SUPERELEVATED SECTION USH 51

17+00 - 33+40

*CABLE BARRIER OFFSET FROM MEDIAN DITCH LINE IS 10' DESIRABLE (8' MINIMUM)

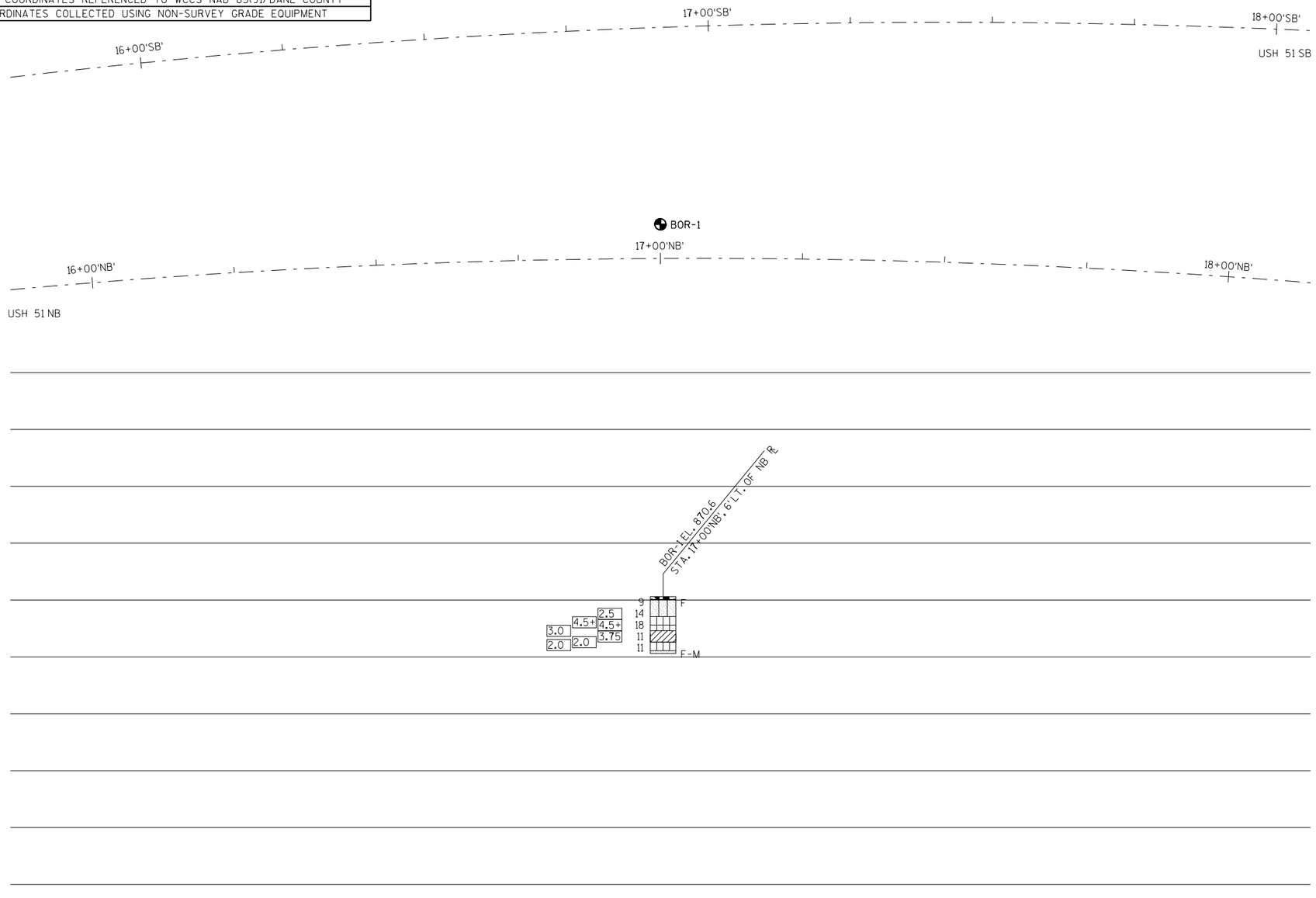


TYPICAL FINISHED SECTION USH 51

17+00 - 33+40

PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	TYPICAL FINISHED SECTIONS	SHEET 6	E

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	4/13/2017	503493.8	837029.8
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DANE COUNTY			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			



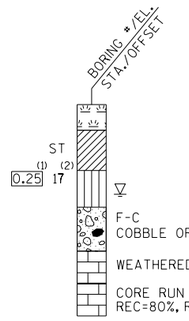
STATE PROJECT NUMBER

5410-00-32

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

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

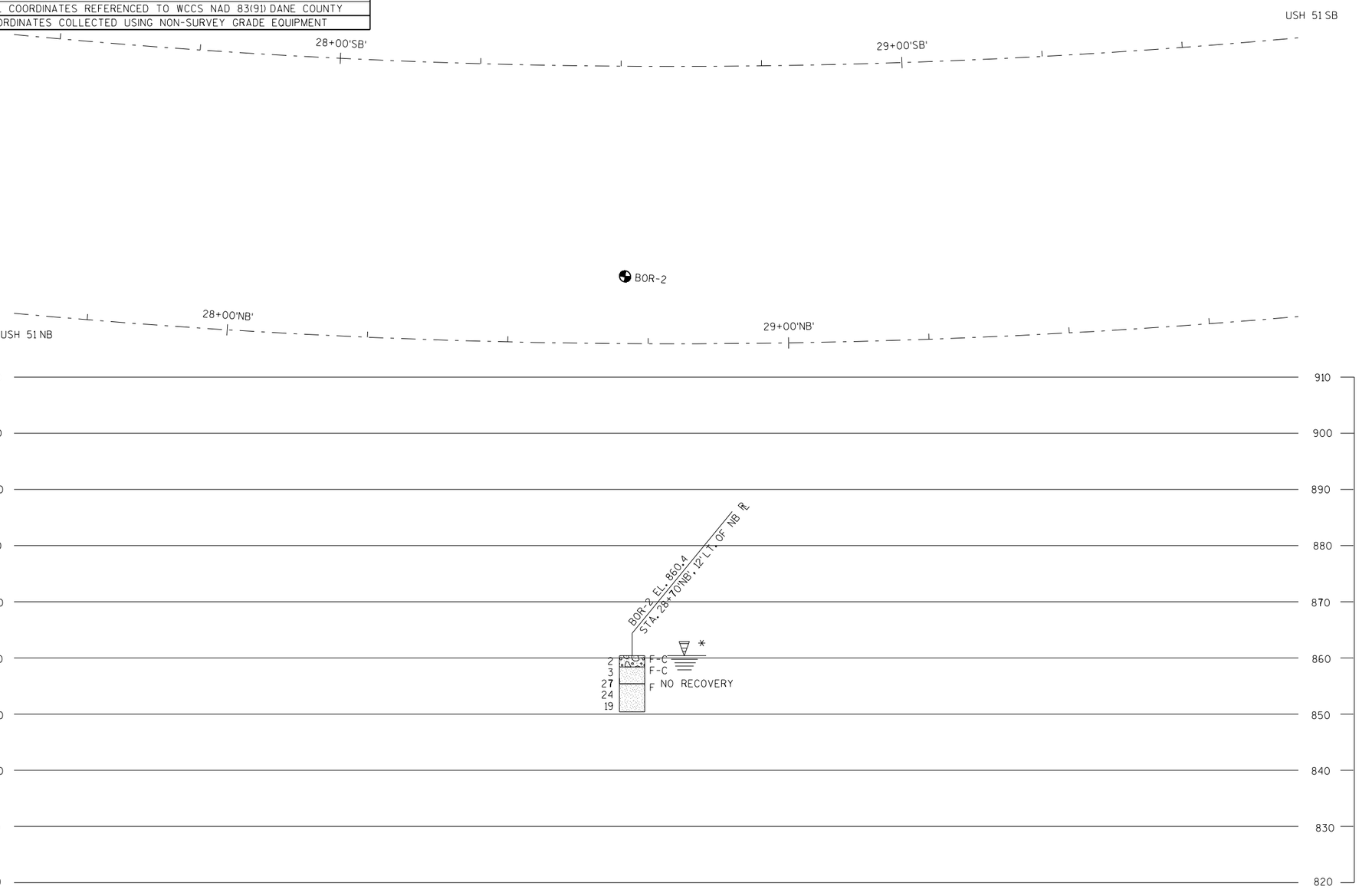
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

PROJECT NO:5410-00-32	HWY: USH 51	COUNTY:Dane	SOIL BORINGS FOR CABLE GUARD	SHEET	E

SCALE =

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
2	4/13/2017	504475.2	837647.3
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DANE COUNTY			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			



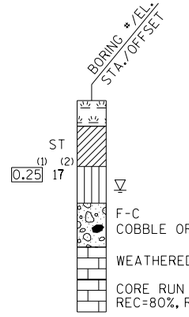
STATE PROJECT NUMBER

5410-00-32

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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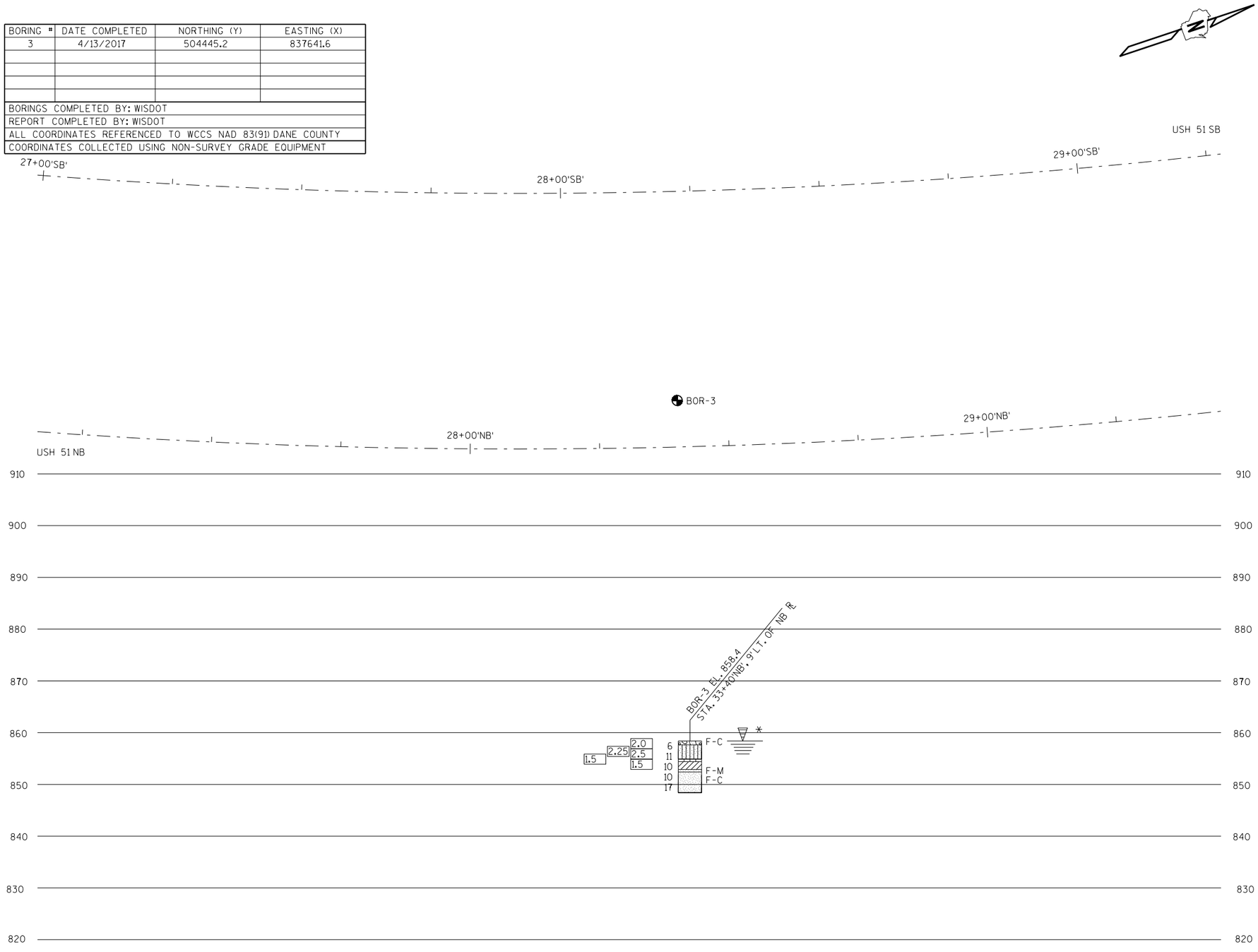
* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

PROJECT NO:5410-00-32	HWY: USH 51	COUNTY:DANE	SOIL BORINGS FOR CABLE GUARD	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET

SCALE =

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
3	4/13/2017	504445.2	837641.6
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DANE COUNTY			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			



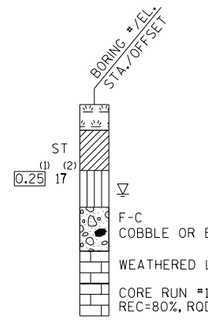
STATE PROJECT NUMBER

5410-00-32

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

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- END OF DRILLING
- AFTER DRILLING

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* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

PROJECT NO:5410-00-32	HWY: USH 51	COUNTY:DANE	SOIL BORINGS FOR CABLE GUARD	SHEET	E

SCALE =

2

PI STA = 15+28.17'SB'
DELTA = 40°14'54"
D = 4°04'50"
T = 514.50'
L = 986.33'
R = 1404.09'
PC STA = 10+13.67'SB'
PT STA = 20+00.00'SB'

MH

USH 51 SB

CABLE BARRIER END TERMINAL TYPE 1
17+00.0 'NB', -15.0' LT

15+00'SB'
16+00'SB'
17+00'SB'
18+00'SB'
19+00'SB'
20+00'SB'
21+00'SB'

PT: 20+00.00'SB'

PT: 19+53.65'NB'

INL

15+00'NB'
16+00'NB'
17+00'NB'
18+00'NB'
19+00'NB'
20+00'NB'
21+00'NB'

USH 51 NB

CABLE BARRIER TYPE 1

PI STA = 15+02.93'NB'
DELTA = 40°20'38"
D = 4°16'51"
T = 491.69'
L = 942.41'
R = 1338.40'
PC STA = 10+11.24'NB'
PT STA = 19+53.65'NB'

N

PC: 23+63.68'SB'

21+00'SB'
22+00'SB'
23+00'SB'
24+00'SB'
25+00'SB'
26+00'SB'

USH 51 SB

CABLE BARRIER TYPE 1

PC: 23+60.63'NB'

21+00'NB'
22+00'NB'
23+00'NB'
24+00'NB'
25+00'NB'
26+00'NB'

USH 51 NB

SIGN

N

2

PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	PLAN DETAILS	SHEET 10	E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\020201-PLAN DETAILS\020201_PD.DWG
LAYOUT NAME - 020201_pd

PLOT DATE : 12/13/2017 9:46 AM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : ##########

2

2

26+00'SB'
27+00'SB'
28+00'SB'
29+00'SB'
30+00'SB'
31+00'SB'
32+00'NB'
USH 51 SB
CABLE BARRIER END TERMINAL TYPE 1
28+25.0 'NB', -15.0' LT
CABLE BARRIER END TERMINAL TYPE 1
28+70.0 'NB', -15.0' LT
CABLE BARRIER TYPE 1
CABLE BARRIER TYPE 1
26+00'NB'
27+00'NB'
28+00'NB'
29+00'NB'
30+00'NB'
31+00'NB'
USH 51 NB

PI STA = 28+47.12'SB'
DELTA = 43°18'41"
D = 4°42'21"
T = 483.44'
L = 920.39'
R = 1217.56'
PC STA = 23+63.68'SB'
PT STA = 32+84.07'SB'

PI STA = 28+67.07'NB'
DELTA = 43°21'27"
D = 4°29'50"
T = 506.44'
L = 964.08'
R = 1274.01'
PC STA = 23+60.63'NB'
PT STA = 33+24.71'NB'

N

PT: 32+84.07'SB

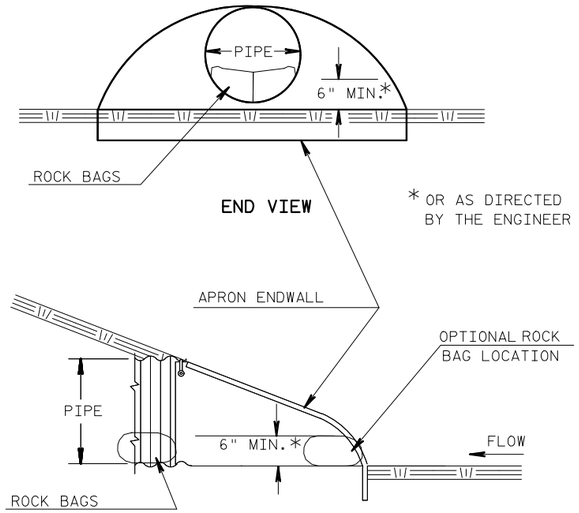
31+00'SB'
32+00'SB'
33+00'SB'
34+00'SB'
35+00'SB'
36+00'SB'
USH 51 SB
AT&T UG FIBER
MADISON WATER UTILITY UG WATER
CABLE BARRIER TYPE 1
CABLE BARRIER END TERMINAL TYPE 1
33+35.0 'NB', -15.0' LT
PT: 33+24.71'NB
31+00'NB'
32+00'NB'
33+00'NB'
34+00'NB'
35+00'NB'
36+00'NB'
37+00'NB'
MMSD UG SEWER
UTILITY LINE OPENING (ULO)
USH 51 NB
INL
MH
FD
19" × 30" RCHEP × 70'
19" × 30" RCHEP × 35'
24" RCCP × 170'
19" × 30" RCA

N

PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	PLAN DETAILS	SHEET	E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\020201-PLAN DETAILS\020201_PD.DWG
LAYOUT NAME - 020202_pd
PLOT DATE : 12/13/2017 9:47 AM
PLOT BY : BAILEY, RYAN R
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

2



SIDE VIEW

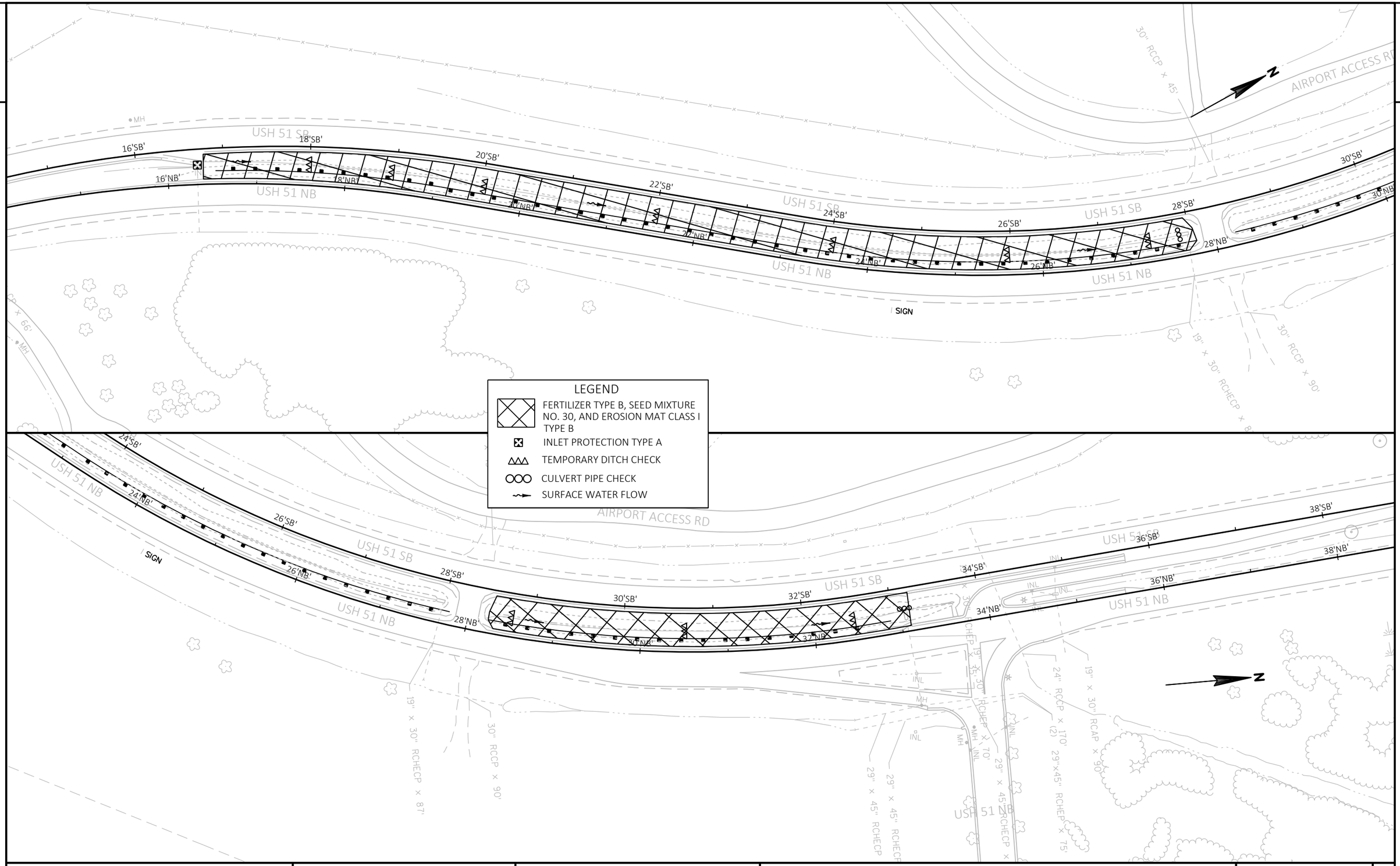
ESTIMATED BAG SIZE = 18" X 12" X 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
12"	1
15"	2
18"	2
21"	3
14" X 23"	3
24"	3
27"	4
30"	5
19" X 30"	5
36"	7
24" X 38"	8
42"	8
29" X 45"	10
48"	10
34" X 53"	10
38" X 60"	13
60"	13
66"	15
53" X 83"	19

DETAIL FOR CULVERT PIPE CHECKS

(INSTALL ON INLET END ONLY)

2

2

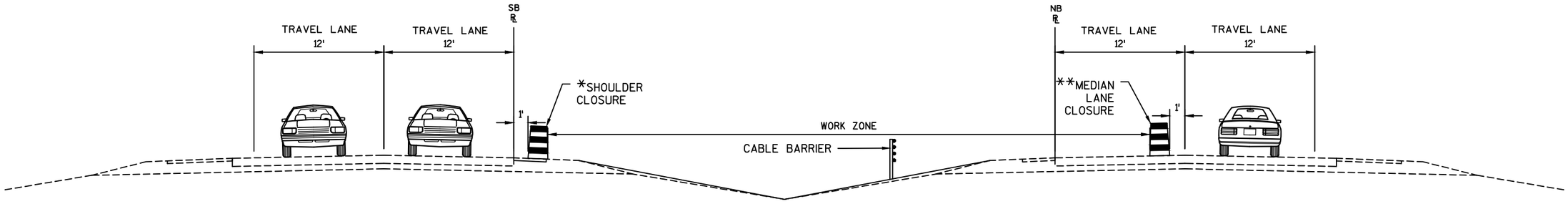


PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	EROSION CONTROL PLAN	SHEET 13	E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\022001-EROSION CONTROL\022001_EC - EROSION CONTROL.DWG
LAYOUT NAME - 02201_ec

PLOT DATE : 9/14/2017 10:10 AM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 44



TRAFFIC CONTROL TYPICAL SECTION

NB MEDIAN LANE CLOSURE AND SB SHOULDER CLOSURE

* SEE S.S.S 15D27-03 "TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH" FOR ADDITIONAL LAYOUT DETAILS.

** SEE S.D.D. 15D12-06A "TRAFFIC CONTROL, LANE CLOSURE" FOR ADDITIONAL LAYOUT DETAILS.

PCMS MESSAGES

SEQUENCE 1	SEQUENCE 2
ROADWORK BEGINS XX/XX/XX	EXPECT LANE CLOSURE

2

LEFT LANE CLOSED 500 FT
W20-5SD

BEGIN 575' TAPER FOR LANE CLOSURE

USH 51/N STOUGHTON RD

KINSMAN BLVD

PIERSTORFF ST

SIGN

SLAB

FLAG

6'SB' 8'SB' 10'SB'

6'NB' 8'NB' 10'NB'

25'

575'

FOR USH 51 NB LANE CLOSURE, SEE S.D.D. 15D12-06A "TRAFFIC CONTROL, LANE CLOSURE" FOR ADDITIONAL LAYOUT DETAILS.

FOR USH 51 SB SHOULDER CLOSURE, SEE S.D.D 15D27-03 "TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH" FOR ADDITIONAL LAYOUT DETAILS.

LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC

END ROAD WORK
G20-2A
48"X24"

12'SB' 14'SB' 16'SB' 18'SB' 20'SB' 22'SB'

12'NB' 14'NB' 16'NB' 18'NB' 20'NB' 22'NB'

50'

100'

BEGIN 50' SPACING FOR 600'

BEGIN 100' Spacing

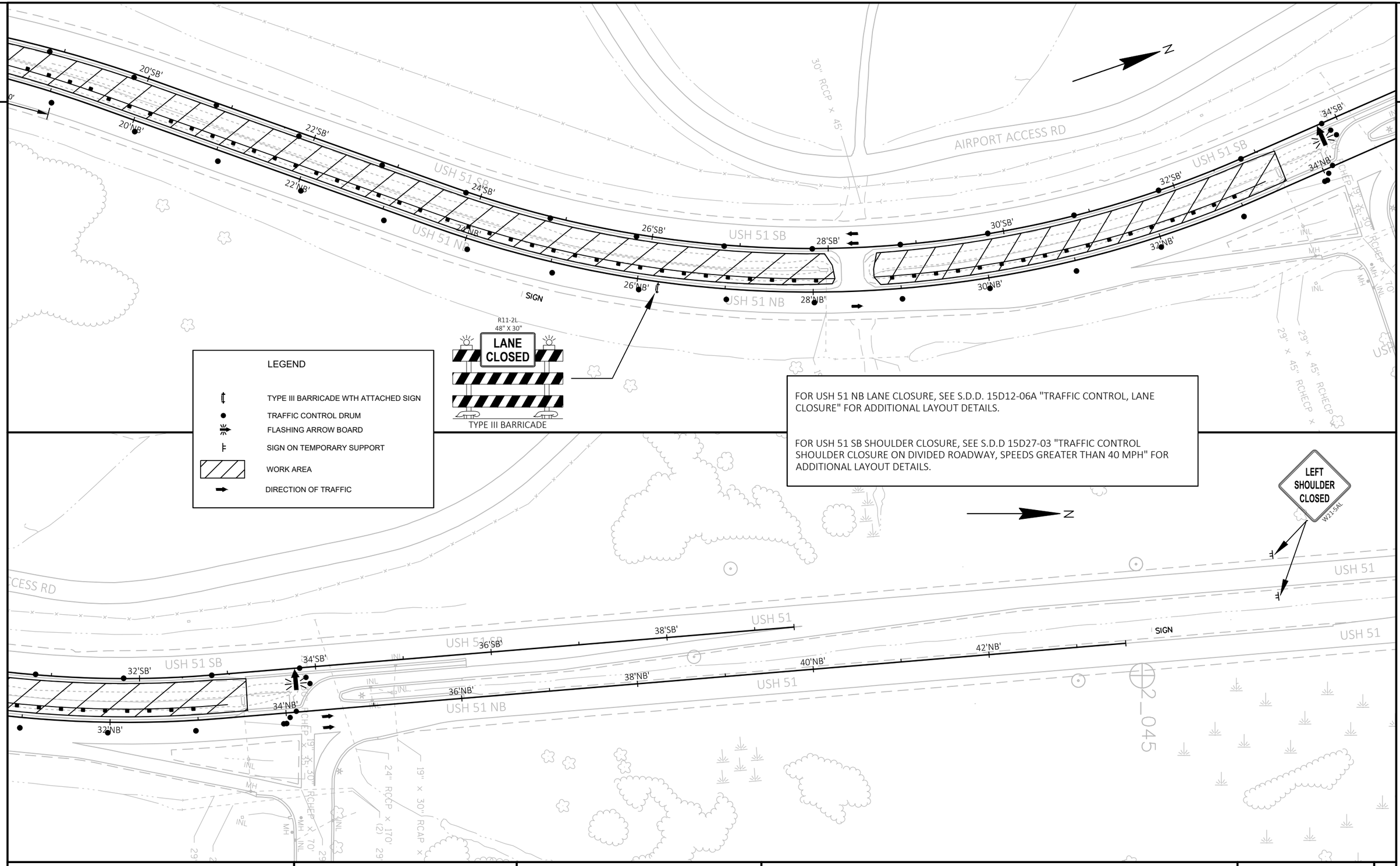
R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL	SHEET 15	E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\025001-TRAFFIC CONTROL\025001_TC.DWG
LAYOUT NAME - Detail 1 and 2

PLOT DATE : 11/13/2017 1:11 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC

TYPE III BARRICADE

FOR USH 51 NB LANE CLOSURE, SEE S.D.D. 15D12-06A "TRAFFIC CONTROL, LANE CLOSURE" FOR ADDITIONAL LAYOUT DETAILS.

FOR USH 51 SB SHOULDER CLOSURE, SEE S.D.D 15D27-03 "TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH" FOR ADDITIONAL LAYOUT DETAILS.

PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL	SHEET 16	E

5410-00-62

Line	Item	Item Description	Unit	Total	Qty
0002	205.0100	Excavation Common	CY	43.000	43.000
0004	208.0100	Borrow	CY	782.000	782.000
0006	213.0100	Finishing Roadway (project) 01. 5410-00-62	EACH	1.000	1.000
0008	305.0110	Base Aggregate Dense 3/4-Inch	TON	243.000	243.000
0010	613.1100.S	Cable Barrier Type 1	LF	1,590.000	1,590.000
0012	613.1200.S	Cable Barrier End Terminal Type 1	EACH	4.000	4.000
0014	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5410-00-62	EACH	1.000	1.000
0016	619.1000	Mobilization	EACH	1.000	1.000
0018	624.0100	Water	MGAL	75.000	75.000
0020	625.0500	Salvaged Topsoil	SY	6,565.000	6,565.000
0022	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0024	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0026	628.2004	Erosion Mat Class I Type B	SY	6,565.000	6,565.000
0028	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0030	628.7504	Temporary Ditch Checks	LF	76.000	76.000
0032	628.7555	Culvert Pipe Checks	EACH	8.000	8.000
0034	629.0210	Fertilizer Type B	CWT	3.700	3.700
0036	630.0130	Seeding Mixture No. 30	LB	119.000	119.000
0038	643.0300	Traffic Control Drums	DAY	1,900.000	1,900.000
0040	643.0420	Traffic Control Barricades Type III	DAY	40.000	40.000
0042	643.0800	Traffic Control Arrow Boards	DAY	60.000	60.000
0044	643.0900	Traffic Control Signs	DAY	240.000	240.000
0046	643.1050	Traffic Control Signs PCMS	DAY	7.000	7.000
0048	643.5000	Traffic Control	EACH	1.000	1.000
0050	650.9910	Construction Staking Supplemental Control (project) 01. 5410-00-62	LS	1.000	1.000
0052	650.9920	Construction Staking Slope Stakes	LF	1,590.000	1,590.000
0054	SPV.0060	Special 01. Utility Line Opening (ULO)	EACH	1.000	1.000

EARTHWORK

CATEGORY	STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON CY	208.0100 BORROW CY	625.0500 SALVAGED TOPSOIL SY	REMARKS
0010	16+86	-	28+25	USH 51 - NB	36	444	4576	SEGMENT 1
0010	28+70	-	33+57	USH 51 - NB	7	338	1989	SEGMENT 2
				TOTAL 0010	43	782	6565	

BASE AGGREGATE ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	REMARKS
0010	17+00	-	28+25	USH 51 - NB	88	SEGMENT 1
0010	17+00	-	28+25	USH 51 - SB	84	SEGMENT 1
0010	28+70	-	33+35	USH 51 - NB	36	SEGMENT 2
0010	28+70	-	33+35	USH 51 - SB	35	SEGMENT 2
				TOTAL 0010	243	

3

CABLE BARRIER ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	613.1100.S CABLE BARRIER TYPE 1 LF	613.1200.S CABLE BARRIER END TERMINAL TYPE 1 EACH	REMARKS
0010	17+00	-	28+25	USH 51 - NB	1125	2	SEGMENT 1
0010	28+70	-	33+35	USH 51 - NB	465	2	SEGMENT 2
				TOTAL 0010	1590	4	

MOBILIZATIONS

CATEGORY	STATION	TO	STATION	LOCATION	619.1000 MOBILIZATION EACH	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	17+00	-	33+35	PROJECT LIMITS	1	1	1
				TOTAL 0010	1	1	1

WATER

CATEGORY	LOCATION	624.0100 WATER MGAL	REMARKS
0010	UNDISTRIBUTED	73.0	SEEDING
0010	UNDISTRIBUTED	2.0	DUST CONTROL
	TOTAL 0010	75.0	

EROSION CONTROL/RESTORATION ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	628.2004 EROSION MAT CLASS I TYPE B SY	628.7005 INLET PROTECTION TYPE A EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EA	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	REMARKS
0010	16+86	-	28+25	USH 51 - NB	4576	1	53	5	2.58	83	SEGMENT 1
0010	28+70	-	33+57	USH 51 - NB	1989	0	23	3	1.12	36	SEGMENT 2
				TOTAL 0010	6565	1	76	8	3.70	119	

3

TRAFFIC CONTROL

CATEGORY	LOCATION	SEGMENT	DAYS	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	REMARKS
0010	USH 51 - NB	1	20	1500	40	40	120	LANE CLOSURE
0010	USH 51 - SB	1	20	400	-	20	120	SHOULDER CLOSURE
	TOTAL 0010			1900	40	60	240	

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	REMARKS
0010	17+00	-	28+25	USH 12 - NB	1125	SEGMENT 1
0010	28+70	-	33+35	USH 12 - NB	465	SEGMENT 2
				TOTAL 0010	1590	

643.1050 TRAFFIC CONTROL SIGNS PCMS

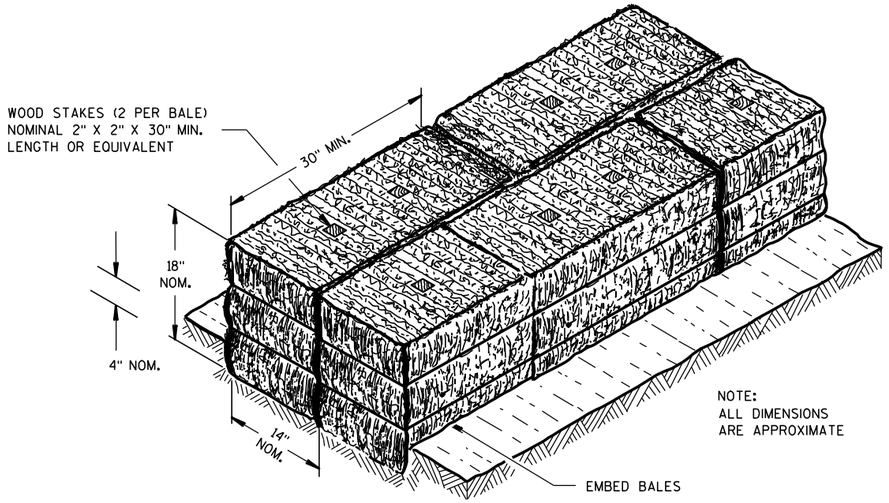
CATEGORY	LOCATION	DAY	REMARKS
0010	USH 51 - NB	7	LANE CLOSURE
	TOTAL 0010	7	

SPV.0060.01 UTILITY LINE OPENIING

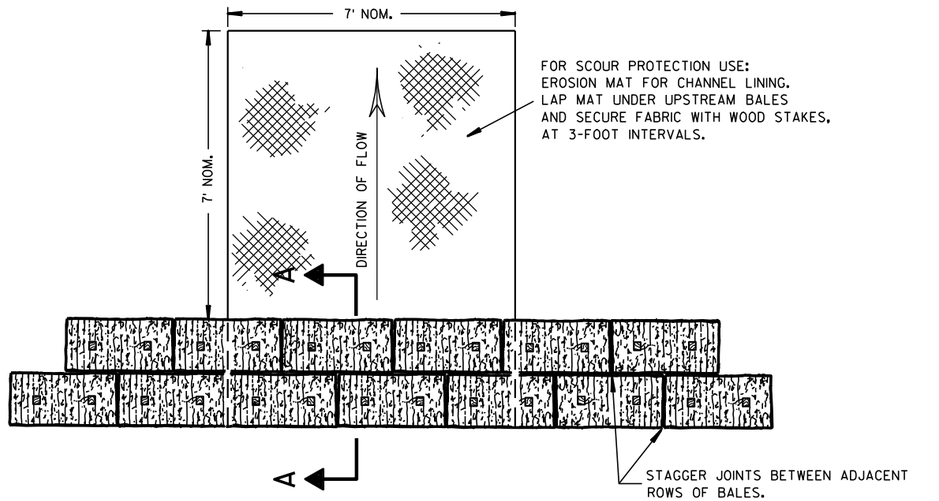
CATEGORY	STATION	LOCATION	EA	REMARKS
0010	32+47	USH 12 - NB - LT	1	SEGMENT 2
		TOTAL 0010	1	

Standard Detail Drawing List

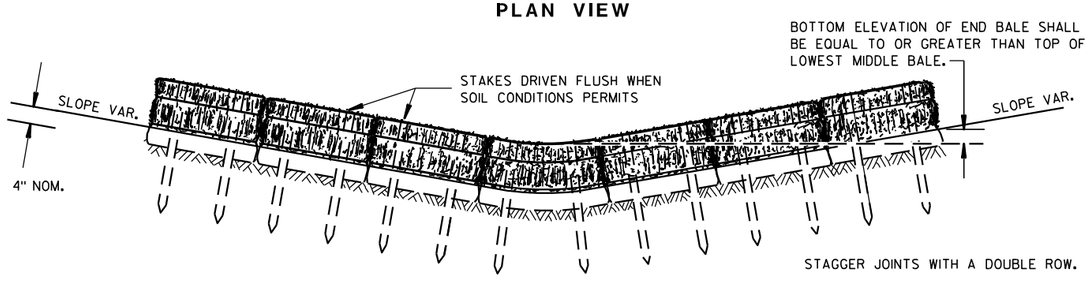
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E10-02	INLET PROTECTION TYPE A, B, C AND D
14B52-01A	CABLE BARRIER TYPE 1 LAYOUT
14B52-01B	CABLE BARRIER TYPE 1 LAYOUT
15D12-06A	TRAFFIC CONTROL, LANE CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



SECTION A-A



PLAN VIEW



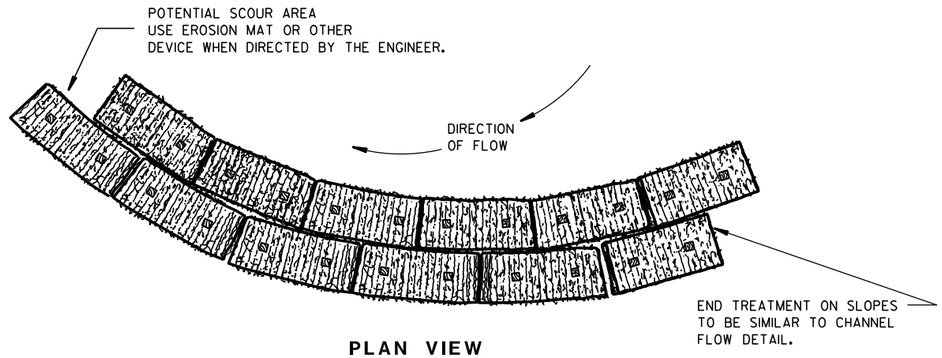
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

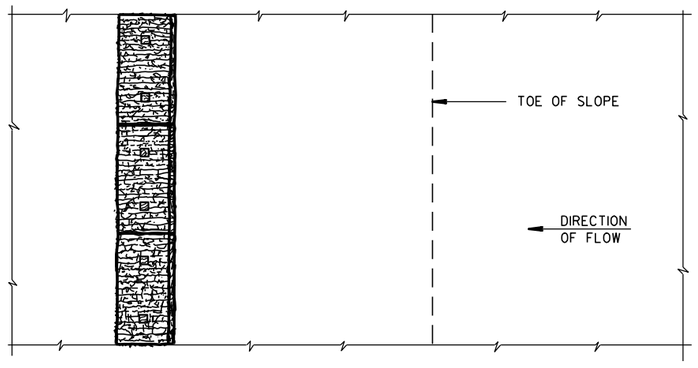
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

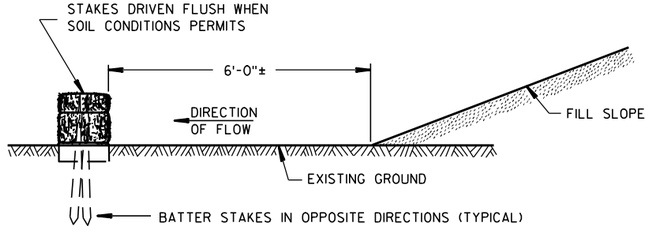


PLAN VIEW

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

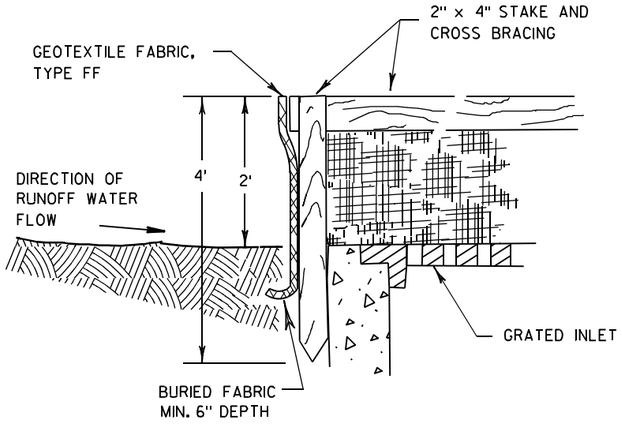
6/04/02 — DATE

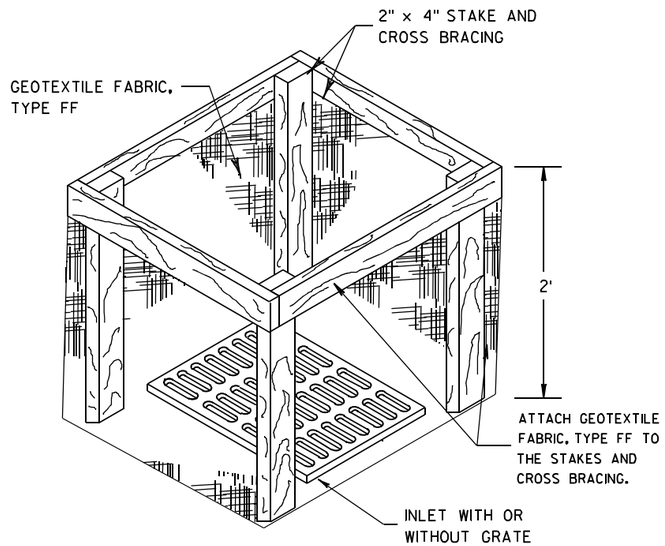
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

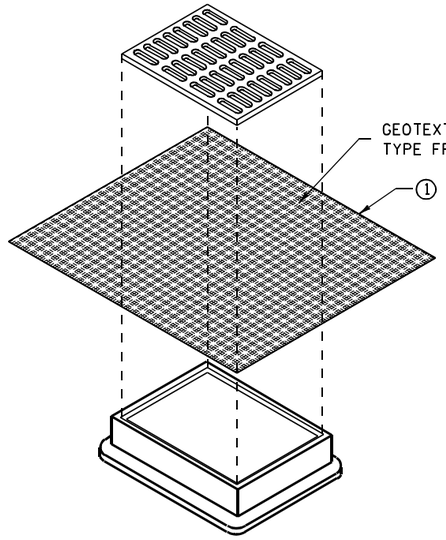
6

S.D.D. 8 E 8-3



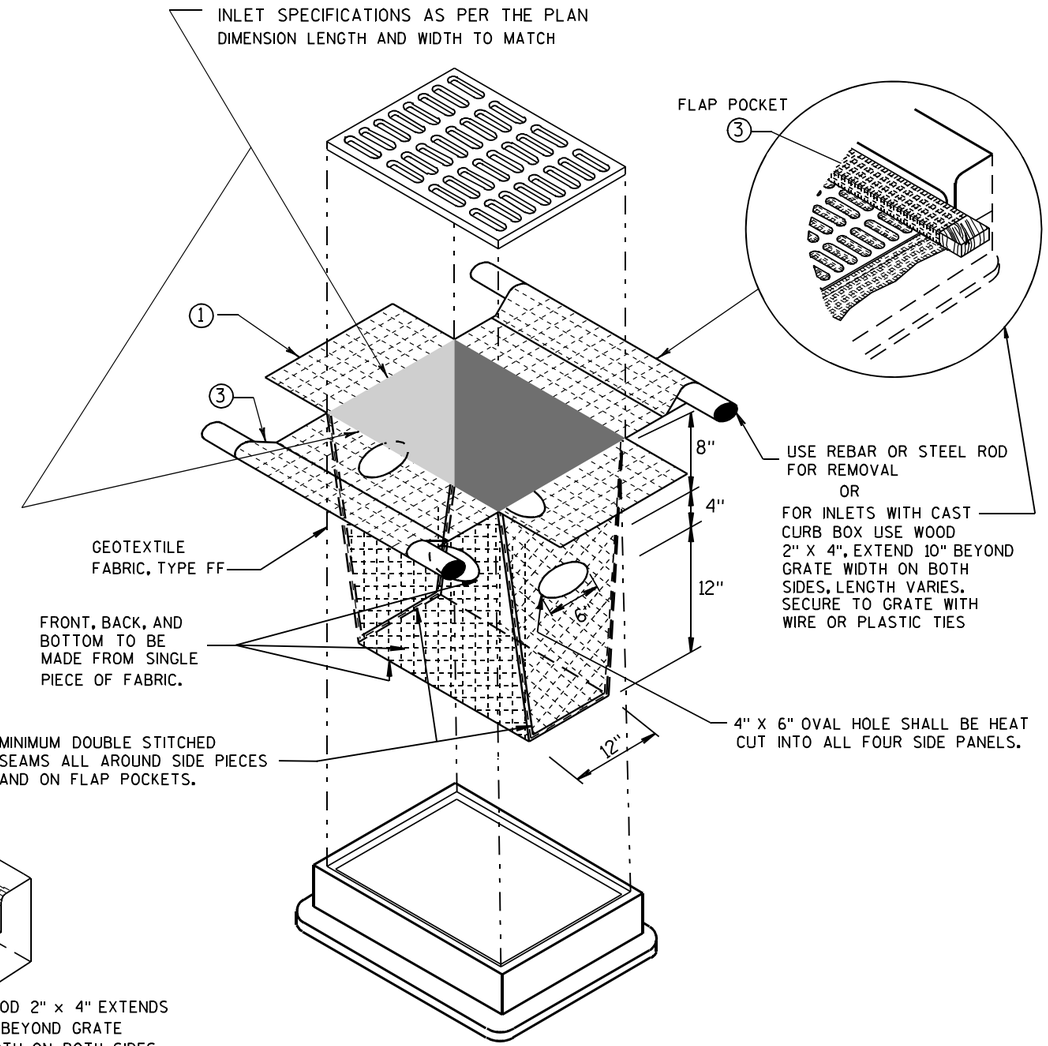


INLET PROTECTION, TYPE A



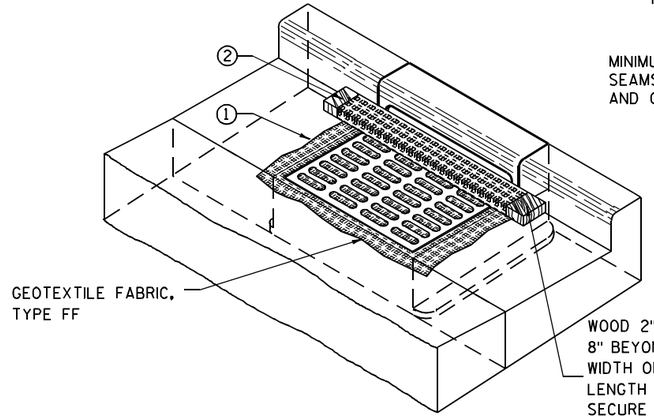
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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.

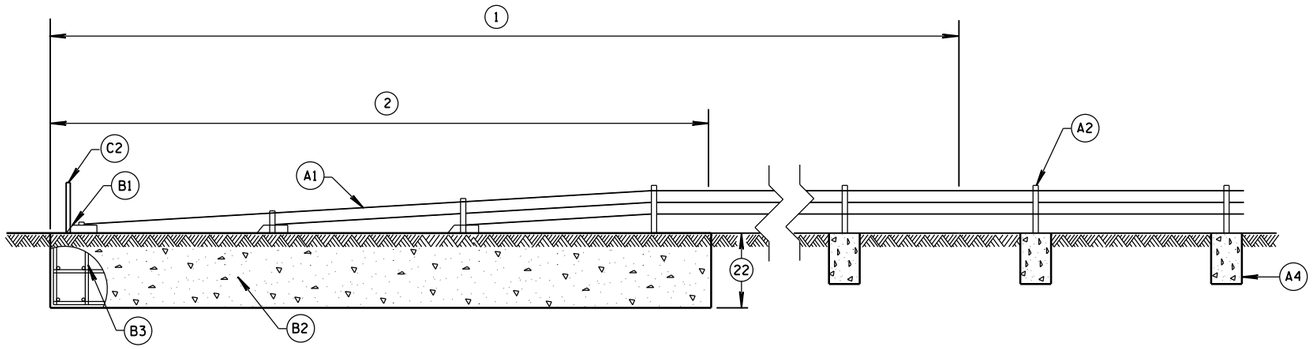
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

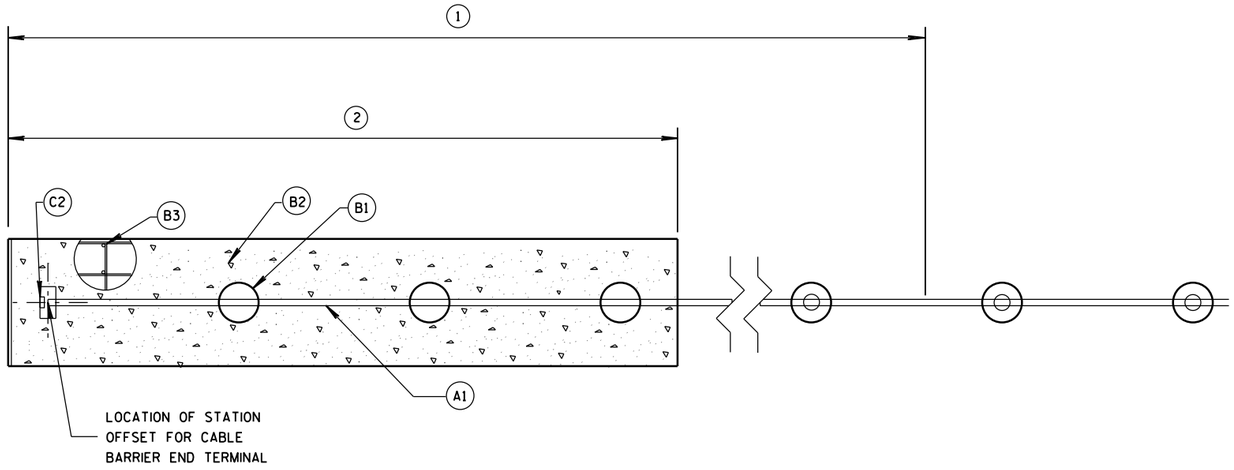
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

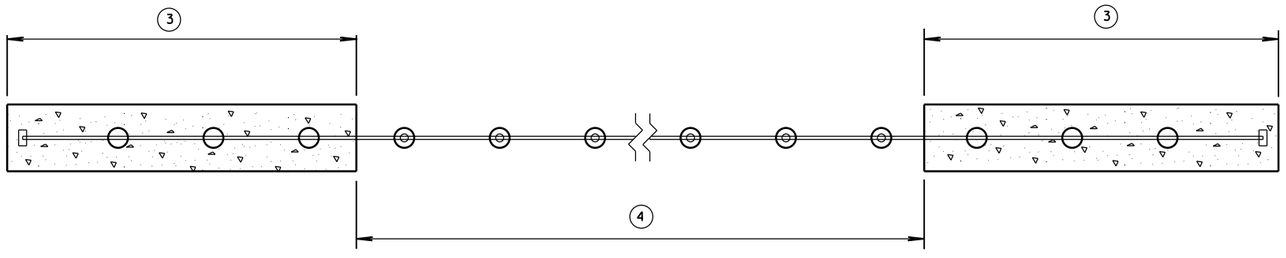


PROFILE VIEW



PLAN VIEW

TRANSITION FROM CABLE BARRIER TERMINAL TO CABLE BARRIER LINE POSTS



TYPICAL PLAN VIEW

GENERAL NOTES

DRAWINGS ARE GENERAL IN NATURE. SEE MANUFACTURER'S INFORMATION FOR MORE DETAIL.

PROVIDE 2 INCH CLEAR COVER FROM OUTER EDGE OF CONCRETE FOOTINGS TO REINFORCEMENT.

INSTALL LINE POST PLUMB. LINE POSTS ARE TO BE EASILY REMOVED BY HAND AND HOLD CABLES AT THE PROPER ELEVATION.

PROVIDE CABLE BARRIER SYSTEM FROM APPROVED PRODUCT LIST.

PROVIDE A SYSTEM TO HAVE THE WORKING WIDTH INDICTED IN PLAN.

PROVIDE DOCUMENTATION HOW POST SPACING, RADIUS OF CURVE AND ANCHOR SPACING INFLUENCES WORKING WIDTH TO CONSTRUCTION STAFF.

PROVIDE A WISCONSIN PROFESSIONAL ENGINEERS STAMPED ANALYSIS THAT THE LINE POST AND CABLE BARRIER END TERMINAL FOOTINGS ARE DESIGNED FOR THE SOIL CONDITIONS PRESENT. THE WISCONSIN P.E. STAMP ANALYSIS IS TO INCLUDE, BUT IS NOT LIMITED TO: DESIGN IMPACT LOADS, FOUNDATION DEISGN METHODOLOGY USED, FACTORS OF SAFETY, SOIL TYPE, SOIL CONDITIONS, AND TEMPERATURE RANGES.

DESIGN LINE POST FOOTINGS SO THAT LINE POST FOOTING MOVE LESS THAN 1 INCH WHEN LINE POST IS IMPACTED BY A TL-3 SMALL CAR.

BILL OF MATERIALS

PART NUMBER	QTY.	DESCRIPTION	MATERIALS SPECIFICATIONS
(A1)	3 OR 4	3/4" 3x7 PRESTRECHED GALVANIZED STEEL WIRE ROPE	ASTM A741 MIN. BREAKING STRENGTH 39,000 LBS.
			AASHTO M30 TYPE 1 CLASS A (GALVANIATION).
			MINIMUM WIRE ROPE MODULUS OF ELASTICITY OF 19,000 PSI ACCORDING TO ISO 12067-202 WIRE ROPE MODULUS OF ELASTICITY "INITIAL" (AS MANUFACTURED), WITH NO BEDDING OR PRESTRECHING OF THE ROPE PERMITTED DURING TESTING.
(A2)	1 PER LINE POST	GALVANIZED REMOVABLE STEEL LINE POST	SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS.
			ASTM A123 (GALVANIZATION).
(A3)	1 PER LINE POST	GALVANIZED METAL SLEEVE	SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS.
			ASTM A123 (GALVANIZATION).
(A4)	VARIES	CONCRETE FOR LINE POST FOOTING	A, A-FA.A-T, OR A-IP OF STANDARD SPECIFICATION 501.2 OR AS MANUFACTURER SPECIFIES.
			STANDARD SPECIFICATION 716 OMP FOR CLASS II ANCILLARY CONCRETE.
			SEE MANUFACTURER'S INFORMATION ON DIMENSIONS.
(A5)	VARIES	EPOXY COATED STEEL REINFORCEMENT	STANDARD SPECIFICATION 505.
(A6)	VARIES	TURNBUCKLES AND OTHER CABLE CONNECTING HARDWARE	SEE MANUFACTURER'S INFORMATION ON DIMENSIONS.
			MINIMUM BREAKING STRENGTH OF TURNBUCKLES AND CONNECTION HARDWARE IS EQUAL TO CABLE.
			TURNBUCKLES AND OTHER CABLE CONNECTION HARDWARE IS FIELD SWAGED PER MANUFACTURER'S RECOMMENDATIONS AND DETAILS.
(B1)	VARIES	CABLE CONNECTION TO CABLE BARRIER END TERMINAL	SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS.
(B2)	VARIES	CONCRETE FOR CABLE BARRIER END TERMINAL	A, A-FA.A-T, OR A-IP OF STANDARD SPECIFICATION 501.2.
			STANDARD SPECIFICATION 716 OMP FOR CLASS II ANCILLARY CONCRETE.
(B3)	VARIES	EPOXY COATED STEEL REINFORCEMENT	STANDARD SPECIFICATION 505.
(C1)	VARIES	LINE POST DELINEATOR	REFLECTIVE SHEETING TYPE SH. SEE APPROVE PRODUCT LIST YELLOW.
(C2)	VARIES	CABLE BARRIER END TERMINAL DELINEATOR	REFLECTIVE SHEETING TYPE SH. SEE APPROVE PRODUCT LIST OBJECT MARKER TYPE 3 PATTERN.

(1) LOCATION OF LENGTH OF NEED POINT FOR CABLE BARRIER END TERMINAL VARIES. (SEE MANUFACTURER'S INFORMATION)

(2) PAY LIMIT FOR CABLE BARRIER END TERMINAL. LENGTH OF CABLE BARRIER END TERMINAL VARIES. (SEE MANUFACTURER'S INFORMATION)

(3) CABLE BARRIER END TERMINAL

(4) CABLE BARRIER AND LINE POSTS

CABLE BARRIER TYPE 1 LAYOUT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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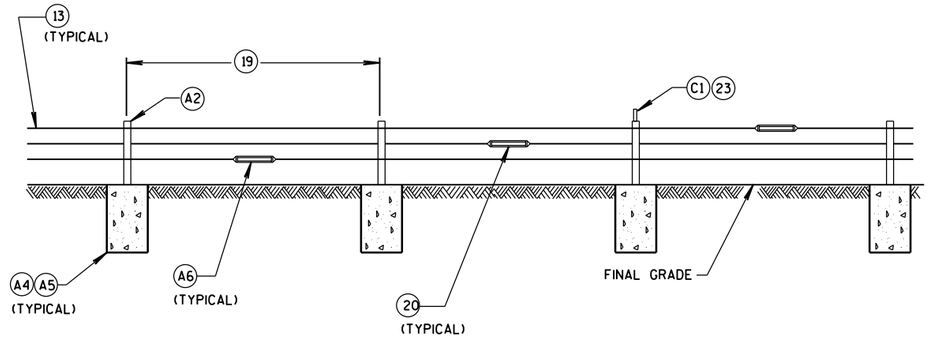
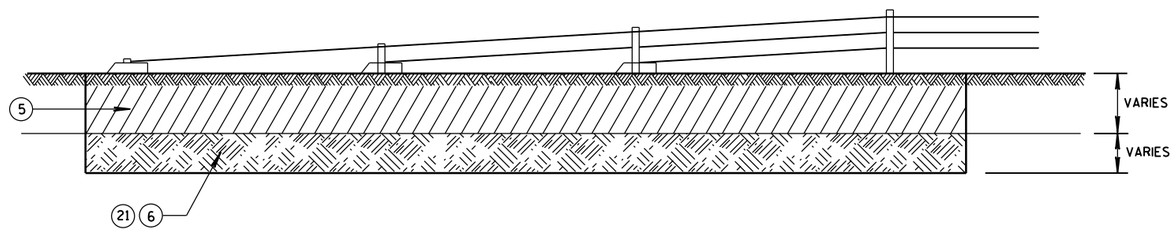
S.D.D. 14 B 52-1a



PROFILE VIEW

LINE POST INSTALLATION



CABLE BARRIER END TERMINAL ROCK EXCAVATION DETAIL

(5) SOIL TO BE EXCAVATED FOR CABLE BARRIER END TERMINAL (VARIES).

(6) ROCK TO BE EXCAVATED FOR CABLE BARRIER END TERMINAL (VARIES).

(7) SOIL TO BE EXCAVATED FOR LINE POST (VARIES).

(8) ROCK TO BE EXCAVATED FOR LINE POST (VARIES).

(9) EXCAVATE AND GRADE LINE FOR LINE POST FOOTINGS. INSTALL LINE POST FOOTING TO MINIMIZE 4 INCH TALL OBJECT ON 5 FOOT CHORD.

(10) 2 INCHES OF CLEAR COVER FROM EDGE OF CONCRETE TO REINFORCEMENT.

(11) DIAMETER OF LINE POST FOOTING VARIES. SEE MANUFACTURER'S INFORMATION.

(12) MINIMUM DEPTH OF LINE POST FOOTING IS 48 INCHES IN SOIL. DEEPER FOOTINGS PER MANUFACTURER'S RECOMMENDATION ARE ACCEPTABLE.

(13) NUMBER AND LOCATION OF CABLES VARY. SEE MANUFACTURER'S INFORMATION.

(14) LINE POST DIMENSIONS AND CONNECTION HARDWARE VARY. SEE MANUFACTURER'S INFORMATION.

(15) LANE OF ROADWAY (VARIES). SEE PLAN FOR MORE INFORMATION.

(16) PAVED SHOULDER (VARIES). SEE PLAN FOR MORE INFORMATION.

(17) GRAVEL SHOULDER (VARIES). SEE PLAN FOR MORE INFORMATION.

(18) CABLE BARRIER OFFSET FROM CENTERLINE OF MEDIAN DITCH (8 FOOT MINIMUM). SEE PLAN FOR MORE INFORMATION.

(19) MAXIMUM POST SPACING IS 15 FEET.

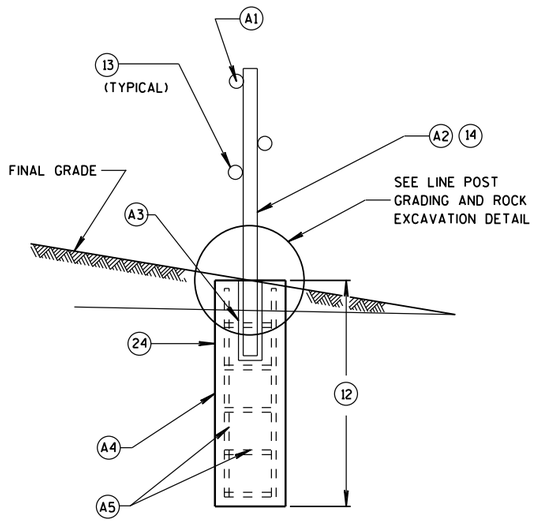
(20) STAGGER TURNBUCKLES (TYPICAL).

(21) SEE MANUFACTURER'S DESIGN WHEN ROCK IS ENCOUNTERED.

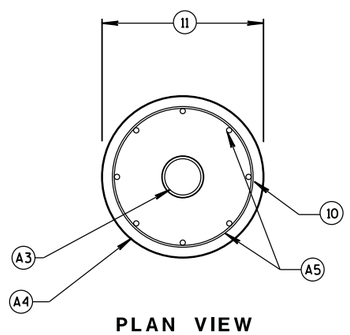
(22) IN SOIL MINIMUM DEPTH OF CABLE BARRIER END TERMINAL FOOTING IS 60 INCHES. DEEPER FOOTINGS PER MANUFACTURER'S RECOMMENATION ARE ACCEPTABLE.

(23) LINE POST DELINEATOR SPACING IS 100 FEET.

(24) LINE POST FOOTINGS ARE REQUIRED TO HAVE LESS THAN 1 INCH OF MOVEMENT WHEN LINE POST IS IMPACTED BY A NCHRP 350 SMALL CAR UNDER TL-3 TEST CONDITIONS.

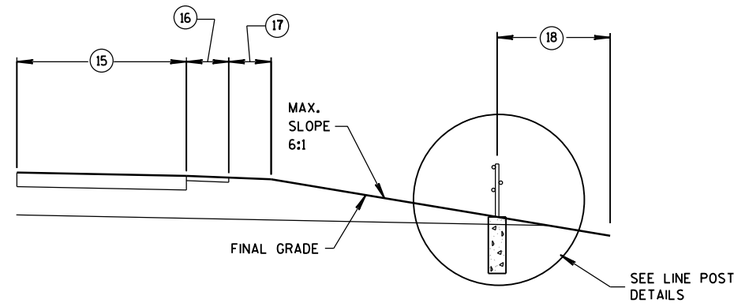


CROSS SECTION

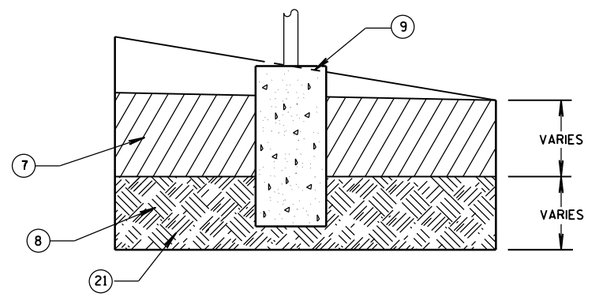


PLAN VIEW
(LINE POST AND CABLES NOT SHOWN)

LINE POST DETAILS



CABLE BARRIER OFFSET FROM DITCH LINE



LINE POST GRADING AND ROCK EXCAVATION DETAIL

CABLE BARRIER TYPE 1
LAYOUT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June. 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 52-1b

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S.D.D. 14 B 52-1b

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

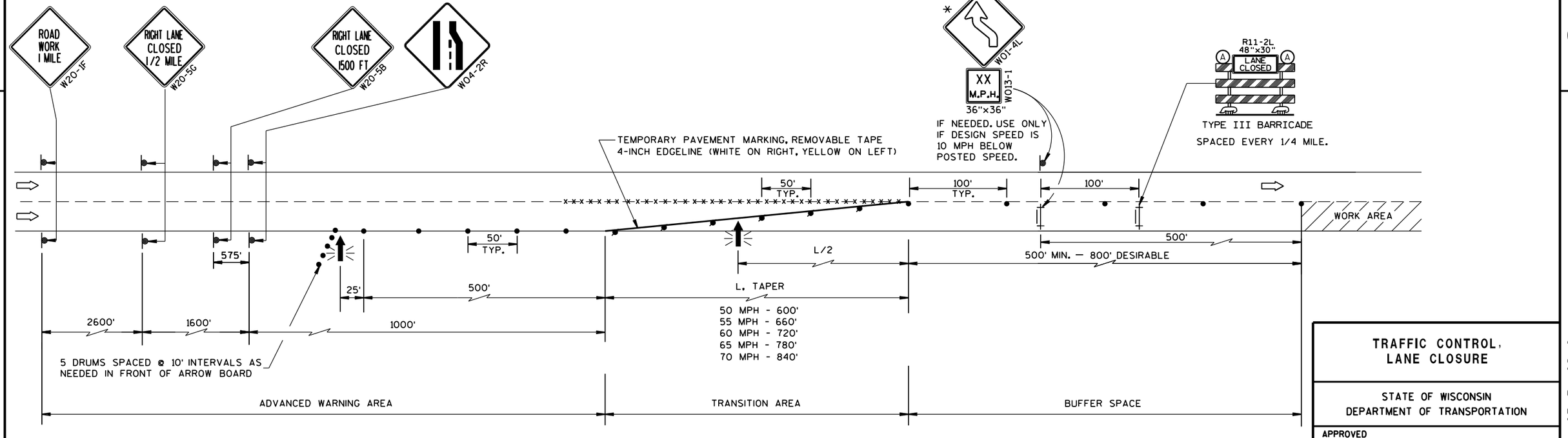
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

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S.D.D. 15 D 12-6a

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S.D.D. 15 D 12-6a

LEGEND

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

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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.

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

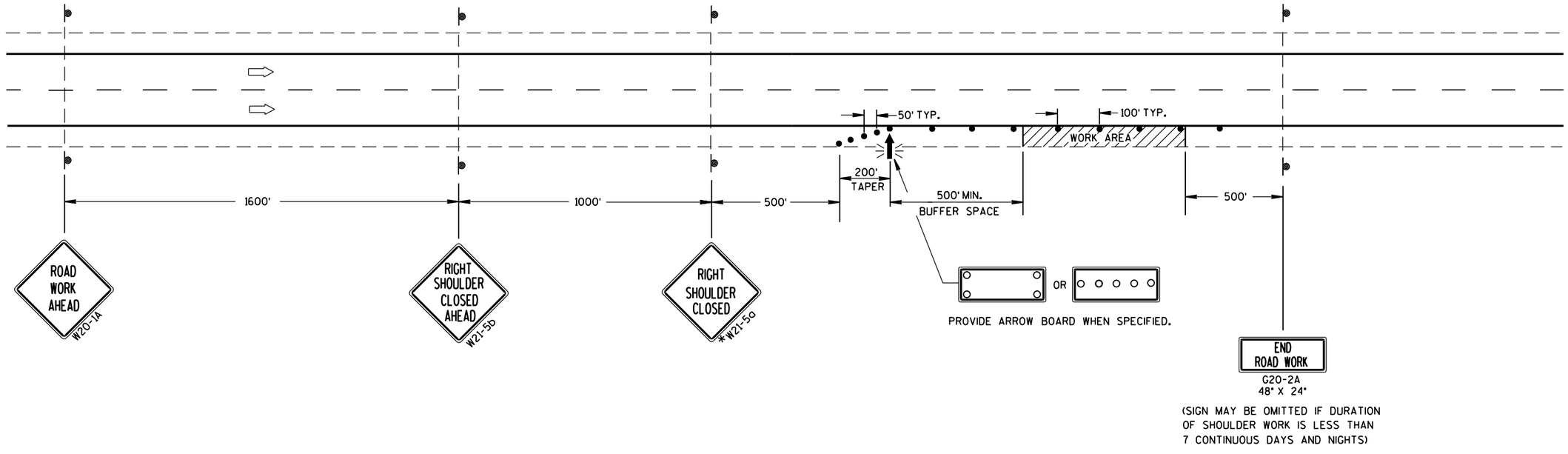
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

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

WHEN A 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.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

FHWA

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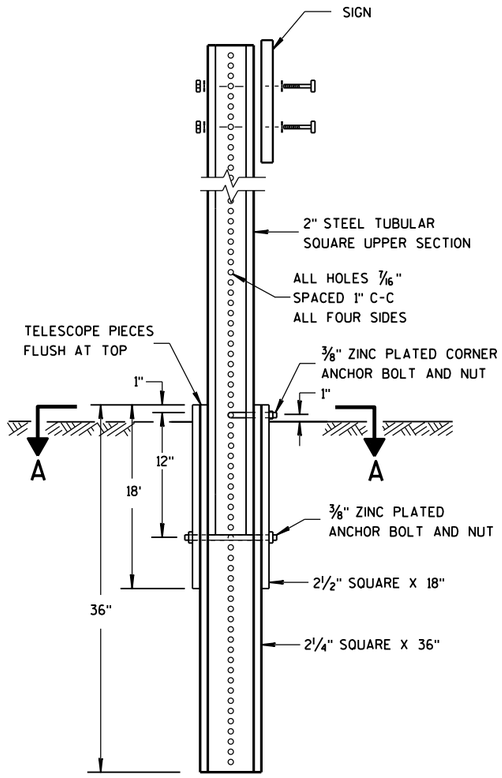
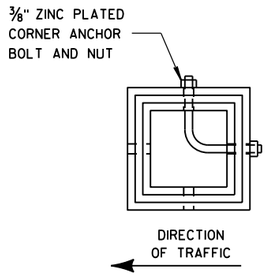
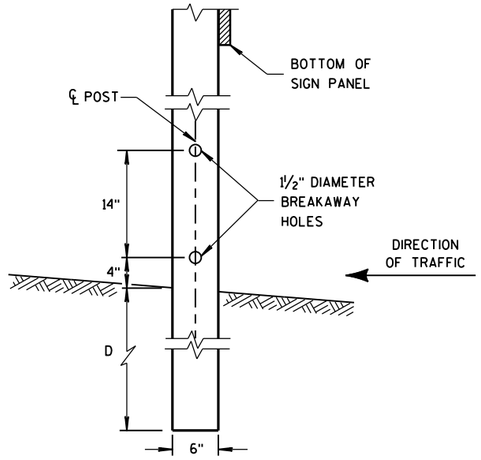
S.D.D. 15 D 27-3



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



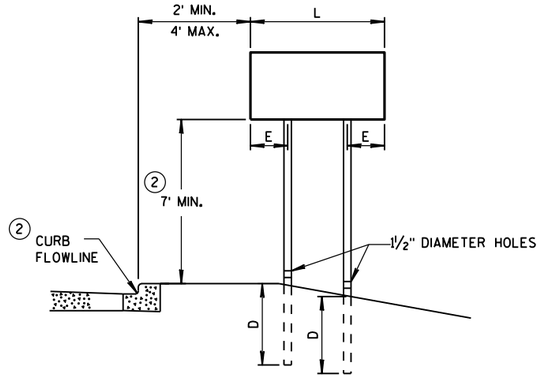
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

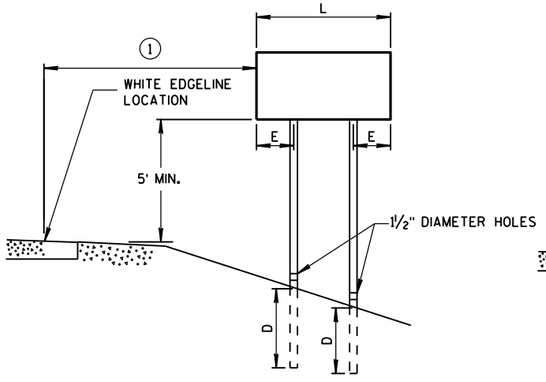
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

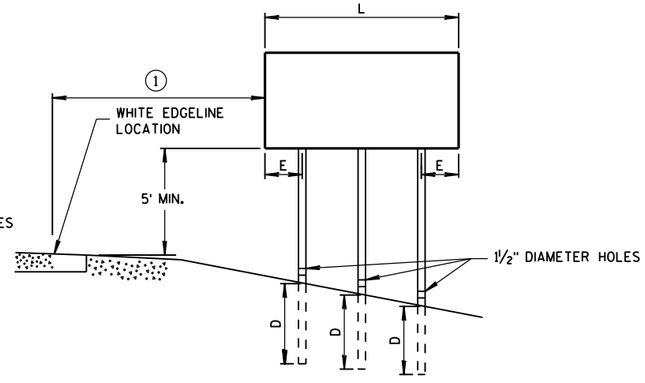
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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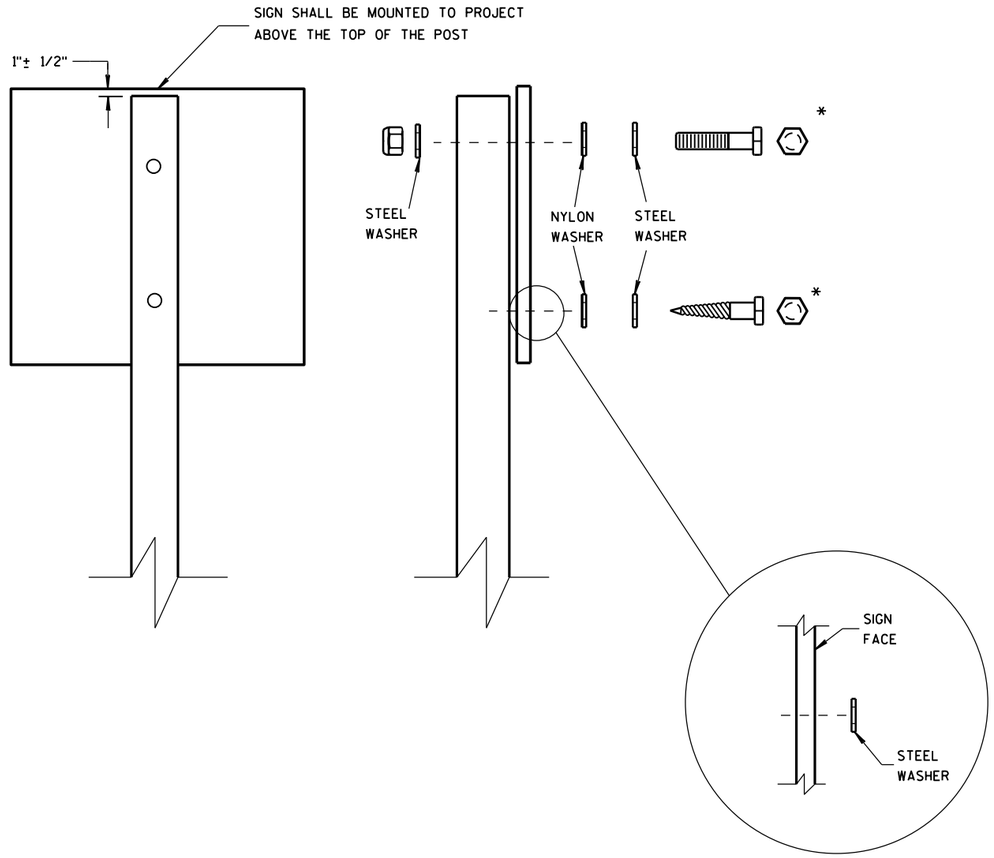
S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

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

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S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA

From/To Station	Location	205.0100 Common Excavation (1)		Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	208.0100 Borrow	Comment:
		Cut (2)	EBS Excavation (3)			Factor 1.25				
17+00 - 28+25	USH 51 NB	36	0	36	384	480	-444	0	444	
28+70 - 33+51	USH 51 NB	7	0	7	276	344	-338	0	338	
GRAND TOTAL		43	0	43	660	825	-782	0	782	
Total Common Exc		43								

Notes:

(1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

(2) Salvaged/Unsuable Pavement Material is included in Cut.

(3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.

5) Available Material = Cut - Salvaged/Unusuable Pavement Material

(13) Expanded Fill Factor = 1.25

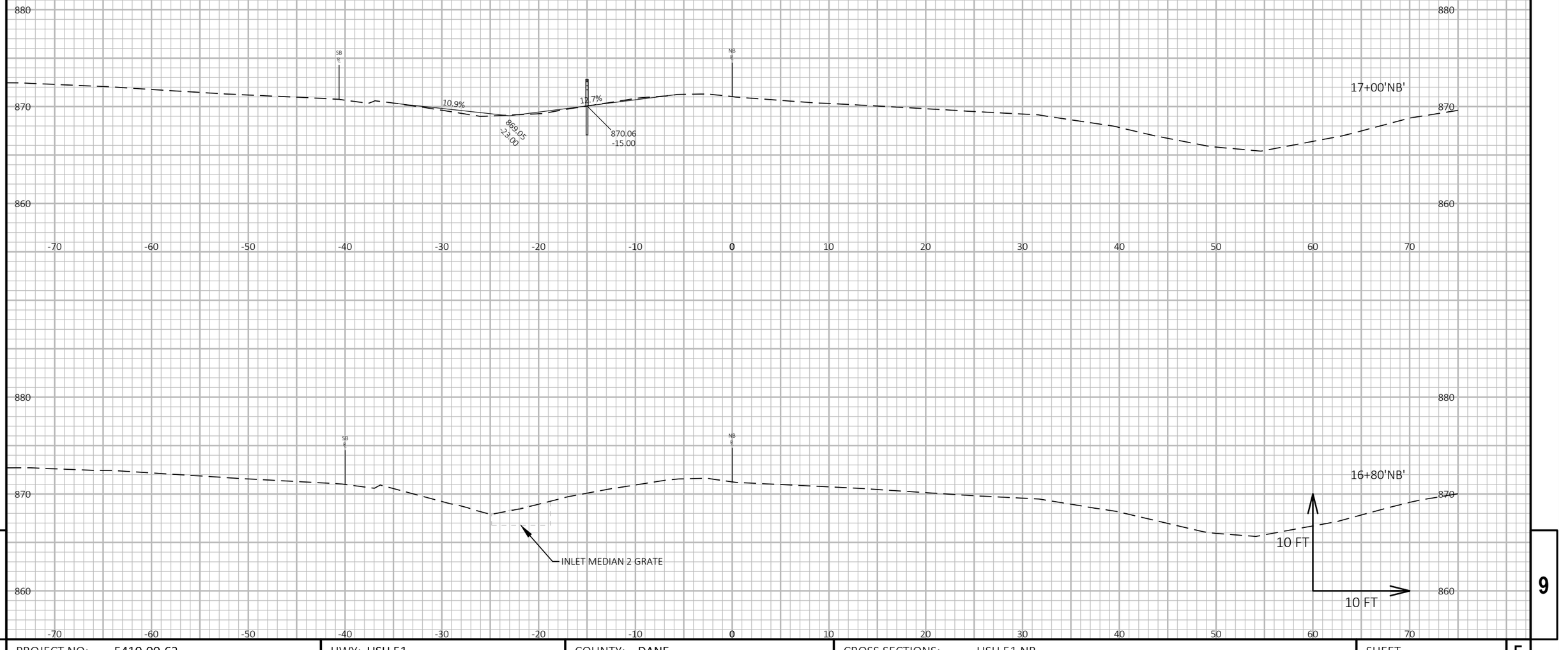
(14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

Division -- USH 51 NB

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Mass Ordinate Note 8
17+00	1700.00	0.00	0.00	6.01	0	0	0	0	0
18+00	1800.00	100.00	1.28	5.20	2	21	2	26	-24
19+00	1900.00	100.00	0.10	8.85	3	26	5	58	-54
20+00	2000.00	100.00	0.08	10.96	0	37	5	104	-99
21+00	2100.00	100.00	0.00	14.78	0	48	5	164	-158
22+00	2200.00	100.00	0.00	15.55	0	56	5	234	-229
23+00	2300.00	100.00	0.00	14.19	0	55	5	303	-298
24+00	2400.00	100.00	1.20	7.91	2	41	8	354	-346
25+00	2500.00	100.00	3.60	6.55	9	27	17	388	-371
26+00	2600.00	100.00	1.90	4.60	10	21	27	413	-387
27+00	2700.00	100.00	1.36	6.05	6	20	33	438	-405
28+00	2800.00	100.00	0.09	10.08	3	30	35	475	-440
28+08	2808.00	8.00	0.41	3.74	0	2	36	478	-442
28+25	2825.00	17.00	0.10	1.60	0	2	36	480	-444
					36	384			

Division -- USH 51 NB

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Mass Ordinate Note 8
28+70	2870.00	0.00	9.47	0.75	0	0	0	0	0
29+00	2900.00	30.00	0.02	15.92	5	9	5	12	-6
30+00	3000.00	100.00	0.00	16.22	0	60	5	86	-81
31+00	3100.00	100.00	0.00	19.12	0	65	5	168	-162
32+00	3200.00	100.00	0.02	15.93	0	65	5	249	-244
33+00	3300.00	100.00	0.00	15.62	0	58	5	322	-317
33+35	3335.00	35.00	1.54	8.05	1	15	6	341	-335
33+51	3351.00	16.00	0.11	0.92	0	3	7	344	-338
					7	276			



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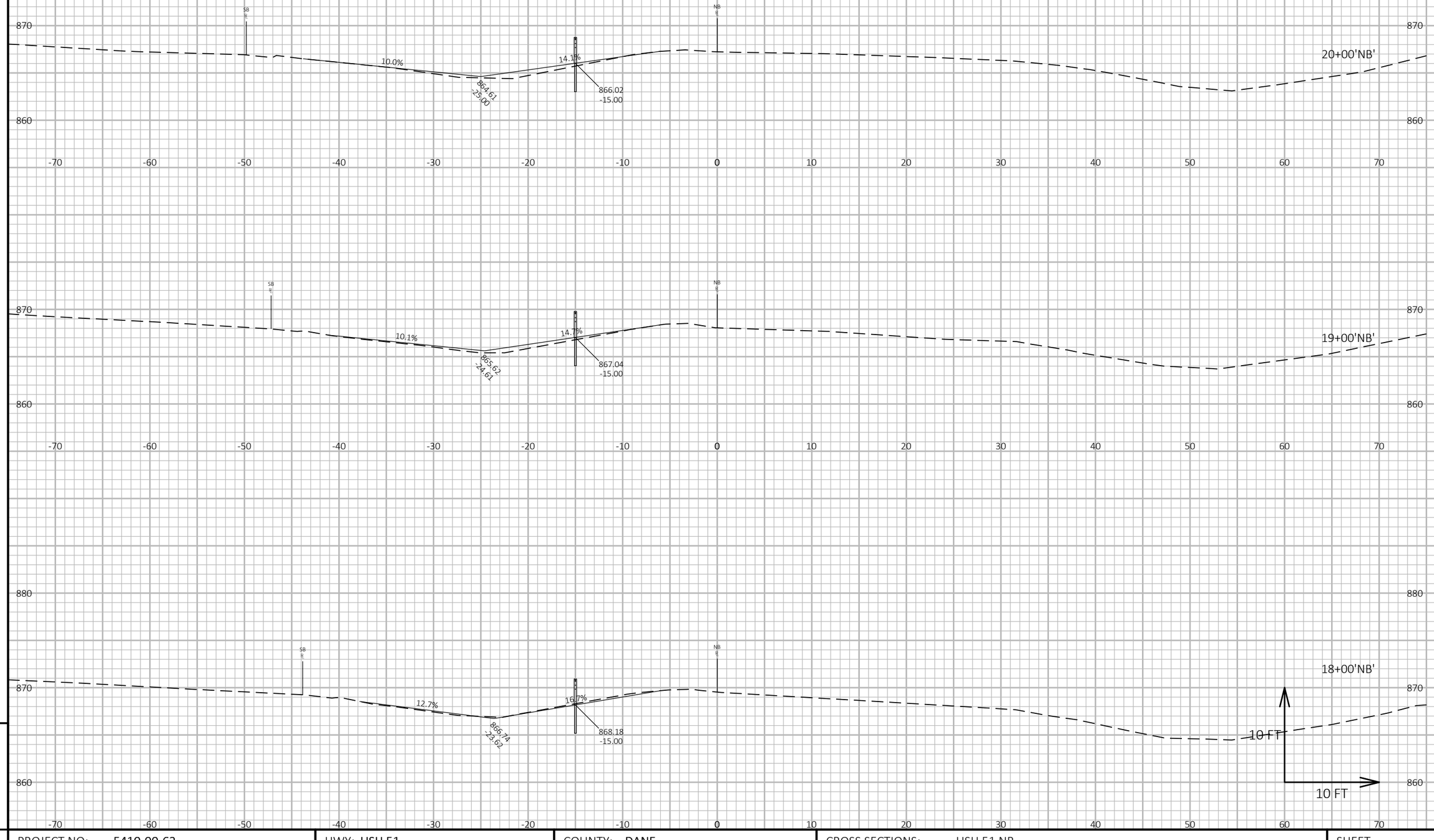
PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: USH 51 NB	SHEET 31	E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\090201-CROSS SECTIONS\090201_XS.DWG
LAYOUT NAME - 090201_xs_Sept2017

PLOT DATE : 9/14/2017 12:37 PM PLOT BY : BAILEY, RYAN R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: USH 51 NB	SHEET	E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\090201-CROSS SECTIONS\090201_XS.DWG
LAYOUT NAME - 090202_xs_Sept2017

PLOT DATE : 9/14/2017 12:38 PM

PLOT BY : BAILEY, RYAN R

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

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PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: USH 51 NB	SHEET 33	E

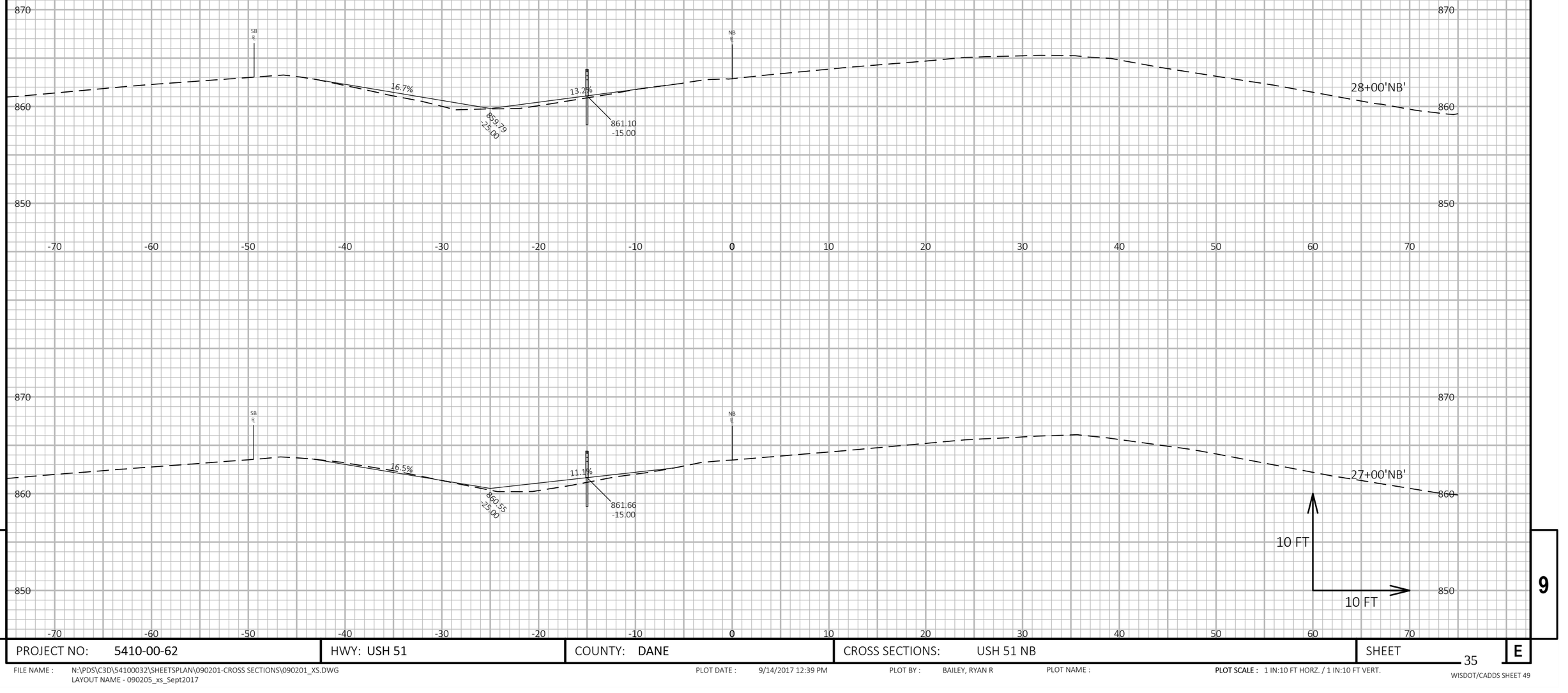
FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\090201-CROSS SECTIONS\090201_XS.DWG
LAYOUT NAME - 090203_xs_Sept2017

PLOT DATE : 9/14/2017 12:38 PM PLOT BY : BAILEY, RYAN R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: USH 51 NB	SHEET 34 E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\090201-CROSS SECTIONS\090201_XS.DWG
LAYOUT NAME - 090204_xs_Sept2017

PLOT DATE : 9/14/2017 12:38 PM PLOT BY : BAILEY, RYAN R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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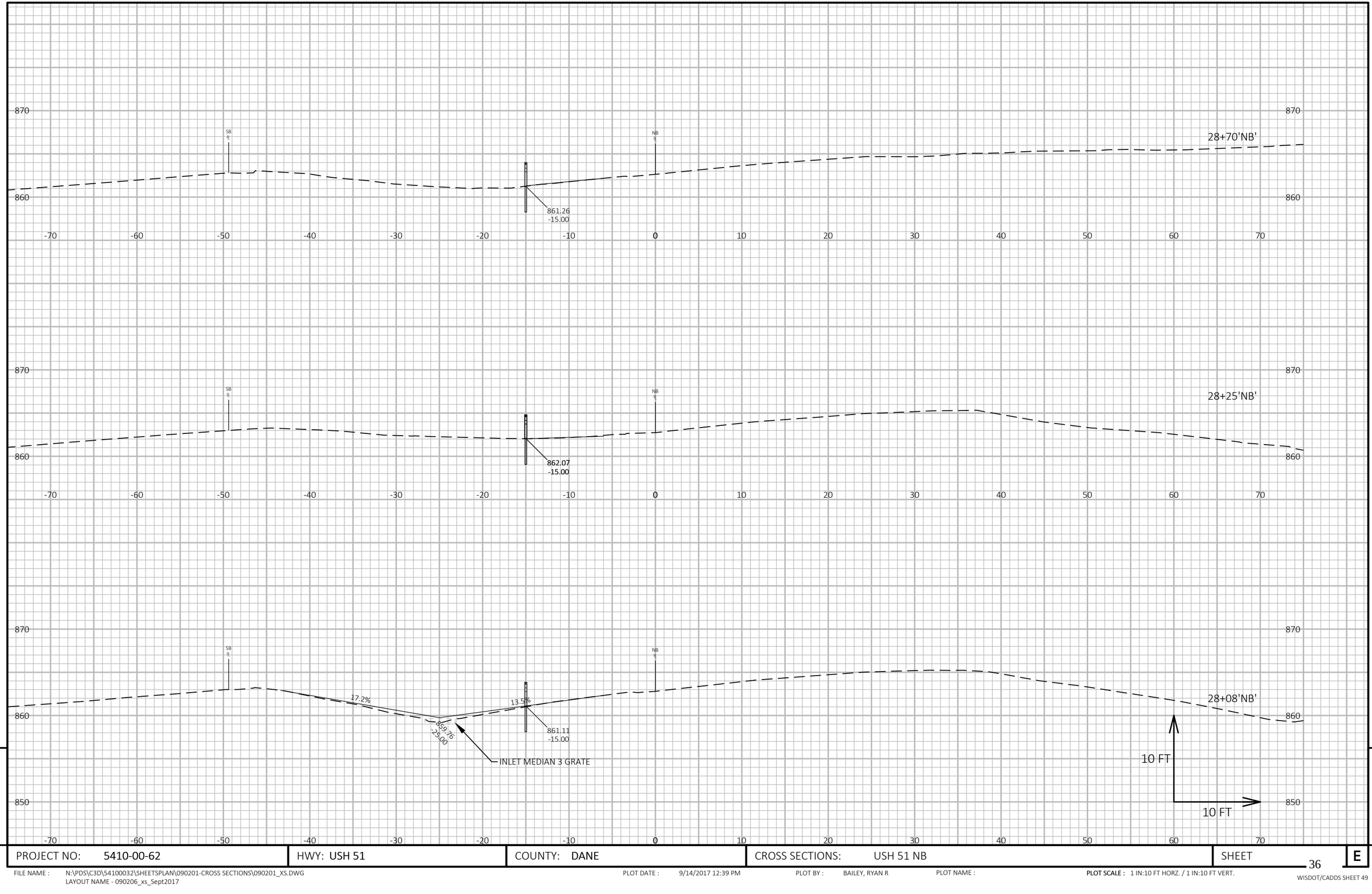
PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: USH 51 NB	SHEET 35	E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\090201-CROSS SECTIONS\090201_XS.DWG
LAYOUT NAME - 090205_xs_Sept2017

PLOT DATE : 9/14/2017 12:39 PM PLOT BY : BAILEY, RYAN R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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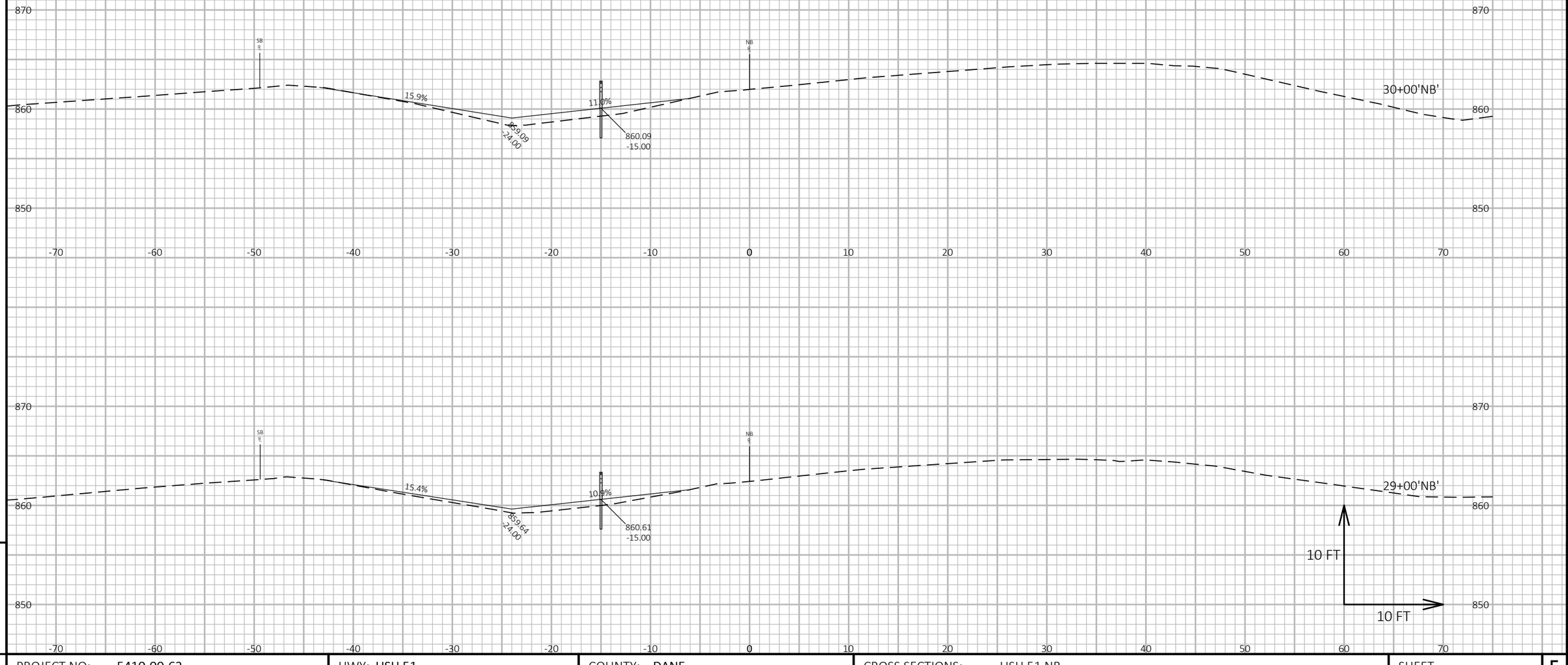
PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: USH 51 NB	SHEET 36	E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\090201-CROSS SECTIONS\090201_XS.DWG
LAYOUT NAME - 090206_xs_Sept2017

PLOT DATE : 9/14/2017 12:39 PM PLOT BY : BAILEY, RYAN R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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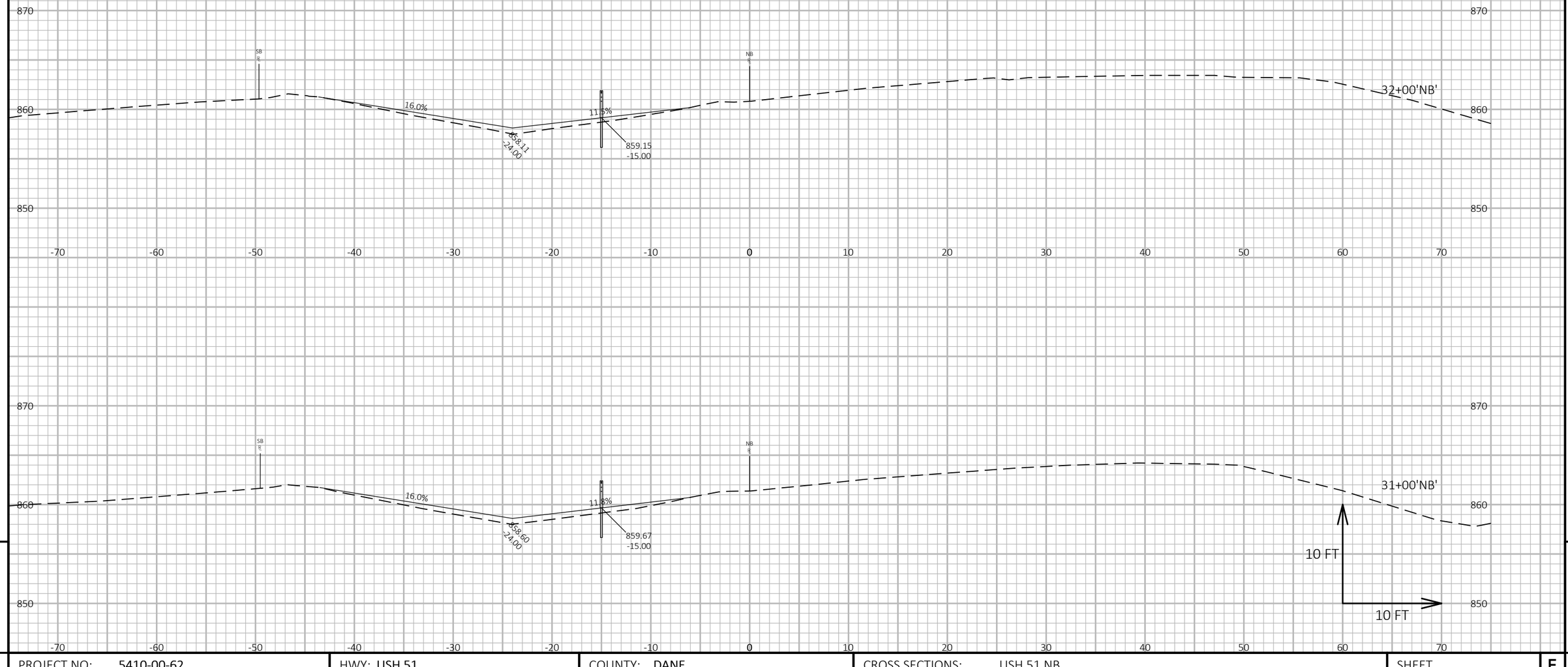
PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: USH 51 NB	SHEET 37	E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\090201-CROSS SECTIONS\090201_XS.DWG
LAYOUT NAME - 090207_xs_Sept2017

PLOT DATE : 9/14/2017 12:39 PM PLOT BY : BAILEY, RYAN R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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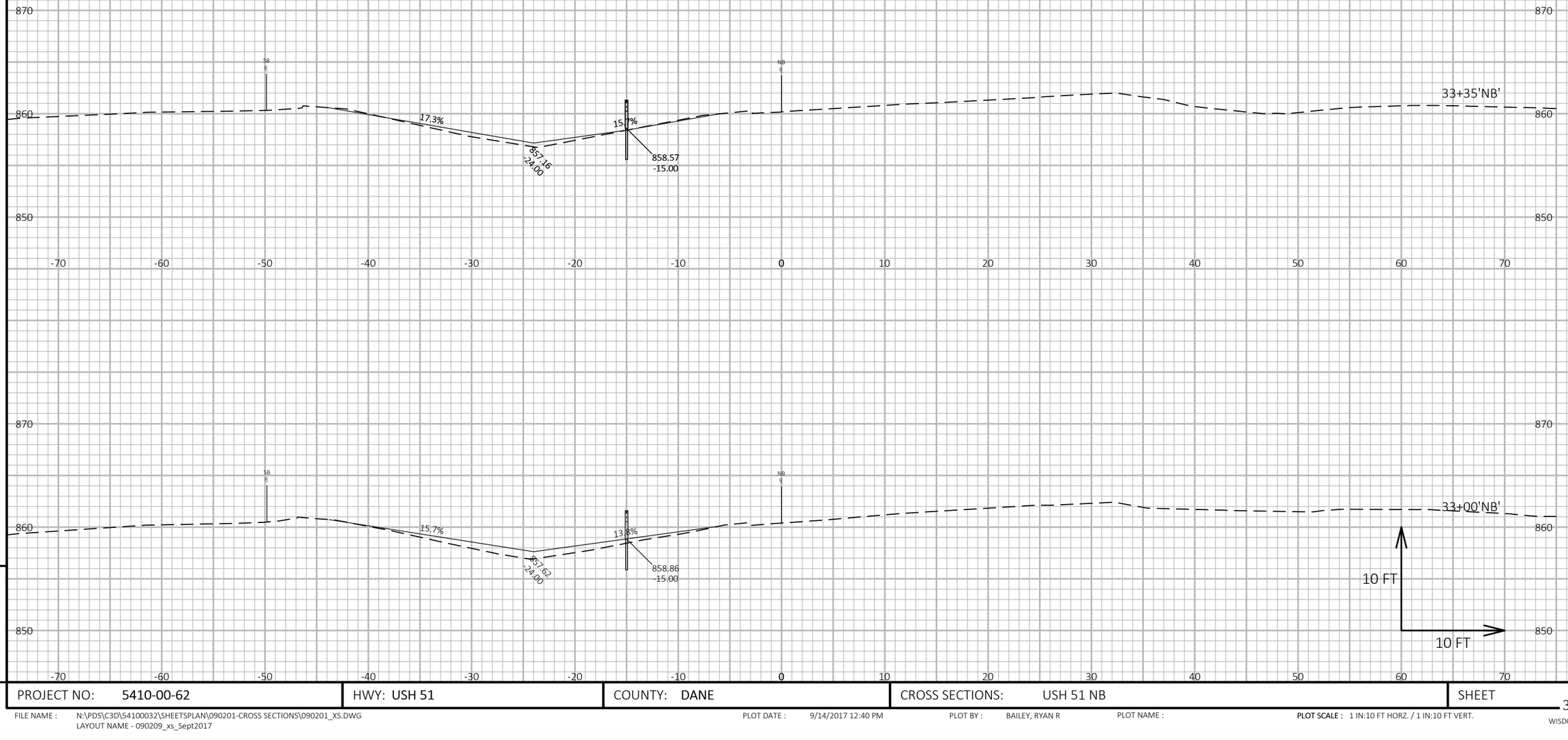
PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: USH 51 NB	SHEET 38	E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\090201-CROSS SECTIONS\090201_XS.DWG
LAYOUT NAME - 090208_xs_Sept2017

PLOT DATE : 9/14/2017 12:39 PM PLOT BY : BAILEY, RYAN R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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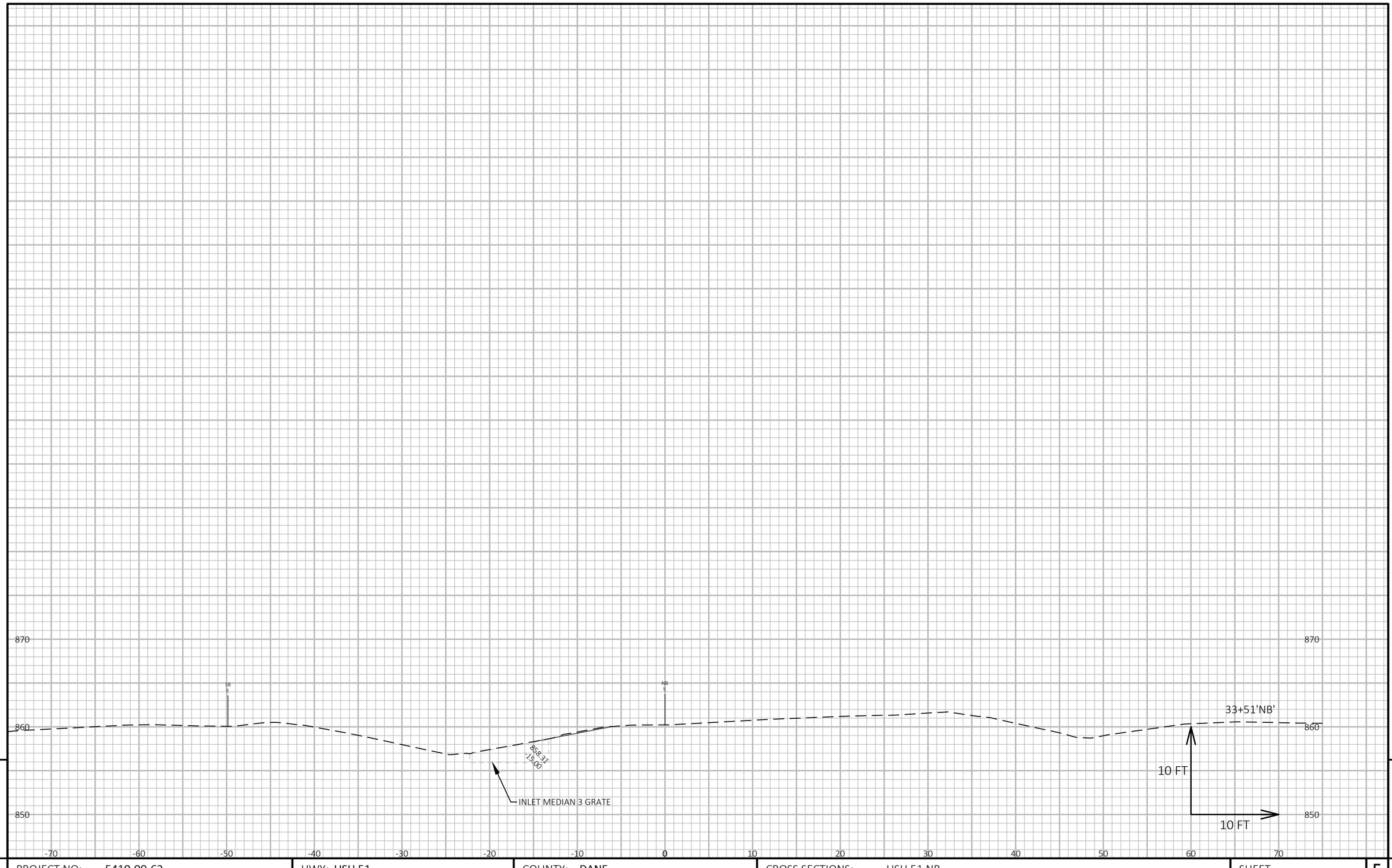
PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: USH 51 NB	SHEET 39	E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\090201-CROSS SECTIONS\090201_XS.DWG
LAYOUT NAME - 090209_xs_Sept2017

PLOT DATE : 9/14/2017 12:40 PM PLOT BY : BAILEY, RYAN R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 5410-00-62	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: USH 51 NB	SHEET 40	E

FILE NAME : N:\PDS\C3D\54100032\SHEETSPLAN\090201-CROSS SECTIONS\090201_XS.DWG
LAYOUT NAME - 0902010_xs_Sept2017

PLOT DATE : 9/14/2017 12:40 PM PLOT BY : BAILEY, RYAN R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

Notes

Wisconsin Department of Transportation

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