MAD FEBRUARY 2015

PROJECT ID: 5411-02-74/75

WITH: N/A

COUNTY: DANE

ORDER OF SHEETS

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

TOTAL SHEETS = 686

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5411-02-74	WISC 2014433	1
5411-02-75	———	—

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

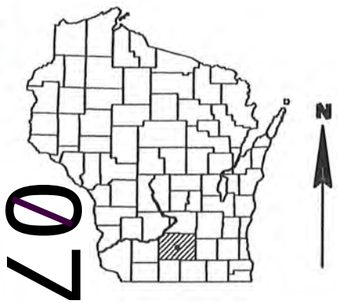
PLAN OF PROPOSED IMPROVEMENT

STOUGHTON - MADISON
COTTAGE GROVE ROAD SB BRIDGE B-13-632

USH 51

DANE COUNTY

STATE PROJECT NUMBER	STATE PROJECT NUMBER
5411-02-74	5411-02-75
ROADWAY & STRUCTURES	MUNICIPAL UTILITIES



07

DESIGN DESIGNATION

A.A.D.T. (2015)	=	55,400
A.A.D.T. (2035)	=	64,200
D.H.V. (2035)	=	6,420
D.D.	=	58/42
T.	=	5.1%
DESIGN SPEED	=	60 MPH
ESALS	=	9,499,110

STRUCTURE B-13-632

STRUCTURE B-13-660

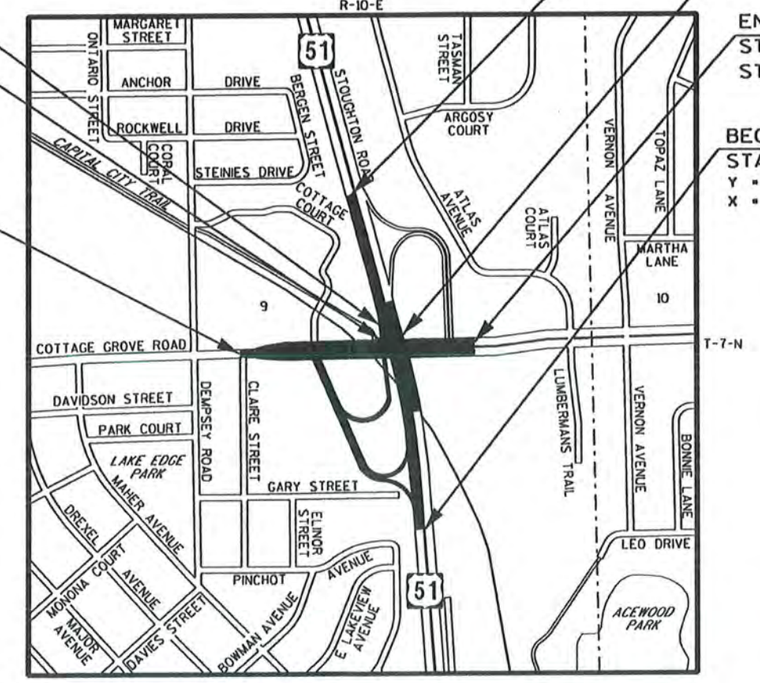
BEGIN CONSTRUCTION
STA. 8'CGW'+64.05
STA. 8'CGE'+64.96

END PROJECT
STA. 130+32.97
Y = 487,744.65
X = 840,225.60

STRUCTURE B-13-008

END CONSTRUCTION
STA. 24'CGW'+56.98
STA. 24'CGE'+58.52

BEGIN PROJECT
STA. 99+36.67
Y = 484,713.76
X = 840,832.58



SCALE 0 500 FT. 1000 FT.

TOTAL NET LENGTH OF CENTERLINE = 0.586 MI.

Coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), Dane County."

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (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 (955.36)
- 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

ORIGINAL PLANS PREPARED BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL • REMEDIATION
DEVELOPMENT • ENVIRONMENTAL

2901 International Lane, Suite 300 Madison, WI 53704
608-242-7779 1-800-446-0679 Fax: 608-242-5664

WISCONSIN
JASON T. DIPIAZZA
E-38341
MADISON
WI
PROFESSIONAL ENGINEER

DATE: 7-28-14 (Professional Engineer)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC.
Regional Examiner	ROBERT LEX
Regional Supervisor	KURT JOHNSON
C.O. Examiner	ROBERT REUKEMA

APPROVED FOR THE DEPARTMENT
DATE: 07/29/2014
(Signature)

E

GENERAL NOTES

TYPICAL FINISHED SECTIONS SHOW THE GENERAL ROADWAY FEATURES THROUGHOUT THE PROJECT. PAVEMENT SLOPES, BORDER SLOPES, ETC., MAY VARY WITHIN THE STATION LIMITS OF EACH SECTION.

ALL LENGTHS ARE IN FEET EXCEPT AS SHOWN.

OFFSETS FOR INLETS AND MANHOLES ARE GIVEN TO THE CENTER OF STRUCTURE.

REMOVING APRON ENDWALLS SHALL BE PAID FOR AS REMOVING STORM SEWER PIPE.

RADIUS DIMENSIONS FOR THE CURB AND GUTTER ARE TO THE FACE OF CURB.

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

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

PIPE ELEVATIONS AS SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS.

GRADES SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING OR PARKING LANE.

CONCRETE SIDEWALK, 5-INCH SHALL BE INSTALLED IN MEDIAN AREAS WITH A WIDTH OF 6 FEET OR LESS FROM BACK OF CURB TO BACK OF CURB.

ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEED, FERTILZER AND EROSION MAT/MULCH. PAYMENT FOR RESTORATION WILL ONLY BE FOR AREAS SHOWN ON THE PLANS WITHIN THE SLOPE INTERCEPTS.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS, BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON. THE LOCATION OF EBS WILL BE DETERMINED BY THE ENGINEER. AN UNDISTRIBUTED QUANTITY OF SELECT CRUSHED MATERIAL IS INCLUDED FOR EBS BACKFILL.

EROSION CONTROL DEVICES AS SHOWN ON THE EROSION CONTROL SHEETS ARE AT SUGGESTED LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE DEVICE IS NO LONGER NECESSARY.

CONCRETE PIPE SHALL HAVE JOINT TIES INSTALLED ON THE LAST TWO PIPE JOINTS AND THE ENDWALL JOINT AT THE DISCHARGE END OR AS SHOWN IN THE PLAN DETAILS.

6.5" OF HMA PAVEMENT TYPE E-10 SHALL BE CONSTRUCTED IN 3 LAYERS. 5.25" OF HMA PAVEMENT TYPE E-3 SHALL BE CONSTRUCTED IN 2 LAYERS (3.25" LOWER LAYER, 2" UPPER LAYER). 4.25" OF HMA PAVEMENT TYPE E-3 SHALL BE CONSTRUCTED IN 2 LAYERS (2.25" LOWER LAYER, 2" UPPER LAYER). 3.5" OF HMA PAVEMENT TYPE E-0.3 SHALL BE CONSTRUCTED IN ONE LIFT. 2" OF ASPHALTIC SURFACE SHALL BE CONSTRUCTED IN ONE LIFT. 5" OF ASPHALTIC SURFACE TEMPORARY SHALL BE CONSTRUCTED IN ONE LIFT. HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 115 LB/SY/INCH. THE 19mm GRADATION SHALL BE USED FOR THE LOWER LAYERS AND THE 12.5mm GRADATION SHALL BE USED FOR THE UPPER LAYERS.

INDEX OF TYPICAL SECTIONS & DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
CROSS SECTION MATCH LINES
PAVING DETAILS
EROSION CONTROL
STORM SEWER
SANITARY SEWER
PERMANENT SIGNING AND PAVEMENT MARKINGS
STREET LIGHTING
TRAFFIC SIGNALS
TEMPORARY TRAFFIC SIGNALS
TRAFFIC CONTROL
CONTROL POINT TIE SHEET
ALIGNMENT OVERVIEW

DNR LIAISON

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
ATTN: ERIC HEGGELUND
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PHONE: (608) 275-3301
EMAIL: eric.heggelund@wisconsin.gov

DESIGN CONTACTS

MSA PROFESSIONAL SERVICES
ATTN: JASON DIPIAZZA
2901 INTERNATIONAL LANE, SUITE 300
MADISON, WI 53704-3133
PHONE: (608) 242-7779
E-MAIL: jdipiazza@msa-ps.com

CITY OF MADISON
ATTN: STEVE SONNTAG
CITY-COUNTY BUILDING, ROOM 115
210 MARTIN LUTHER KING JR. BOULEVARD
MADISON, WI 53703
PHONE: (608) 267-1997
E-MAIL: ssonntag@cityofmadison.com

DEPARTMENT OF TRANSPORTATION
ATTN: ROBERT LEX
2101 WRIGHT STREET
MADISON, WI 53704
PHONE: (608) 246-5622
E-MAIL: robert.lex@dot.wi.gov

STANDARD ABBREVIATIONS

AC	ACRES
AEW	APRON ENDWALL
AH	AHEAD
ALUM.	ALUMINUM
A.P.	ACCESS POINT
ASPH	ASPHALT
BAD	BASE AGGREGATE DENSE
BK	BACK
BLK	BLOCK
BOC	BACK OF CURB
BOW	BACK OF SIDEWALK
BM	BENCHMARK
CL or C/L	CENTERLINE
Δ.	CENTRAL ANGLE or DELTA
CONC	CONCRETE
CSM	CERTIFIED SURVEY MAP
CTH	COUNTY TRUNK HIGHWAY
CY	CUBIC YARD
D	DEGREE OF CURVE
DIA	DIAMETER
E	EAST
EB	EASTBOUND
EBS	EXCAVATION BELOW SUBGRADE
EOP	EDGE OF PAVEMENT
ET AL	AND OTHERS
EXIST or EX.	EXISTING
EW	END WALL
FOC	FACE OF CURB
FT	FOOT
FT2	SQUARE FEET
GN	GRID NORTH
GV	GAS VALVE
HB	HOSE BIB
HERCP	HORIZONTAL ELLIPTICAL CONCRETE PIPE
IN	INCH
INV	INVERT
IP	IRON PIPE
L	LENGTH
L	LENGTH OF CURVE
LC	LONG CHORD
LCB	LONG CHORD BEARING
LF	LINEAR FEET
LS	LUMP SUM
LT	LEFT
MH	MANHOLE
MI	MILE
MON	MONUMENT
N	NORTH
NB	NORTHBOUND
NO	NUMBER
PT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PL	PROPERTY LINE
POB	POINT OF BEGINNING
R	RADIUS
RP	RADIUS POINT
R	RANGE
RL or R/L	REFERENCE LINE
REQ'D	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
RD	ROAD
S	SOUTH
SB	SOUTHBOUND
SQ	SQUARE
SAN	SANITARY SEWER
STD	STANDARD
STH	STATE TRUNK HIGHWAY
STM	STORM SEWER
SEC	SECTION
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
SSPRCHE	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
STA	STATION
STR	STRUCTURE
SY	SQUARE YARD
T	TANGENT
TAN	TANGENT
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
T or TN	TOWN
W	WEST
WB	WESTBOUND
WM	WATERMAIN
X	EAST GRID COORDINATE
Y	NORTH GRID COORDINATE

UTILITIES

WATERMAIN:
CITY OF MADISON WATER UTILITY
ATTN: DENNIS CAWLEY
119 E. OLIN AVENUE
MADISON, WI 53713
PHONE: (608) 261-9243
FAX: (608) 266-4426
E-MAIL: dcawley@madisonwater.org

TELEPHONE:
AT&T WISCONSIN
ATTN: CAROL ANASON
316 W. WASHINGTON AVE.
MADISON, WI 53703
PHONE: (608) 252-2385
E-MAIL: CA2624@att.com

ELECTRIC TRANSMISSION:
ATC
ATTN: CHRISTINE RAWSON
P.O. BOX 47
W234 N2000 RIDGEVIEW PARKWAY COURT
WAUKESHA, WI 53187
PHONE: (262) 832-8732
E-MAIL: crawson@atcllc.com

STORM SEWER:
CITY OF MADISON ENGINEERING DIVISION
ATTN: GREG FRIES
CITY-COUNTY BUILDING, ROOM 115
210 MARTIN LUTHER KING JR. BOULEVARD
MADISON, WI 53703
PHONE: (608) 267-1199
FAX: (608) 264-9275
E-MAIL: gfries@cityofmadison.com

**FIBER OPTIC:
LEVEL 3 COMMUNICATIONS
ATTN: THOMAS MIECZKOWSKI
1025 ELDORADO BOULEVARARD
BROOMFIELD, CO 80021
PHONE: (720) 888-2013
FAX: (720) 888-1138
E-MAIL: thomas.mieczkowski@level3.com

CABLE TV:
CHARTER COMMUNICATONS
ATTN: JON MARSCHKE
2701 DANIELS ST.
MADISON, WI 53718-6792
PHONE: (608) 274-3822
E-MAIL: jmarschke@chartercom.com

SANITARY SEWER:
CITY OF MADISON ENGINEERING DIVISION
ATTN: MARK MODER
CITY-COUNTY BUILDING, ROOM 115
210 MARTIN LUTHER KING JR. BOULEVARD
MADISON, WI 53703
PHONE: (608) 261-9250
FAX: (608) 264-9275
E-MAIL: mmoder@cityofmadison.com

FIBER OPTIC:
SPRINT
ATTN: GERRY CRAIN
5600 N. RIVER RD. SUITE 200
ROSEMONT, IL 60018
PHONE: (630) 660-9626
E-MAIL: gerry.a.crain@sprint.com
ATTN: JAMES BURTON
PHONE: (847) 737-1273
E-MAIL: james.m.burton@sprint.com

SANITARY SEWER:
MADISON METROPOLITAN SEWERAGE DISTRICT
ATTN: ERIC HJELLEN
1610 MOORLAND ROAD
MADISON, WI 53713
PHONE: (608) 222-1201 EXT. 348
FAX: (608) 222-2703
E-MAIL: erich@madsewer.org

GAS:
MG&E
ATTN: STEVE BEVERSDORF
133 S. BLAIR ST.
MADISON, WI 53701-1231
PHONE: (608) 252-1552
E-MAIL: sbeversdof@mge.com

ELECTRIC:
MG&E
ATTN: RICH PARKER
P.O. BOX 1231
MADISON, WI 53701-1231
PHONE: (608) 252-7379
E-MAIL: RParker@mge.com

TRAFFIC SIGNALS & STREET LIGHTING:
CITY OF MADISON TRAFFIC ENGINEERING DIVISION
ATTN: BRIAN SMITH
MADISON MUNICIPAL BUILDING, SUITE 100
215 MARTIN LUTHER KING JR. BOULEVARD
MADISON, WI 53703
PHONE: (608) 261-9625
E-MAIL: bsmith@cityofmadison.com

**UNION PACIFIC RAILWAY COMPANY:
ATTN: JOHN VENICE
101 N. WACKER DR.
CHICAGO, IL 60606
PHONE: (312) 777-2043

**WISCONSIN & SOUTHERN RAILROAD COMPANY:
ATTN: BEN MEIGHAN
1890 E. JOHNSON ST.
MADISON, WI 53704

MADISON GAS AND ELECTRIC (MG&E) 24-HOUR EMERGENCY NUMBER: 608-252-7111

**DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

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

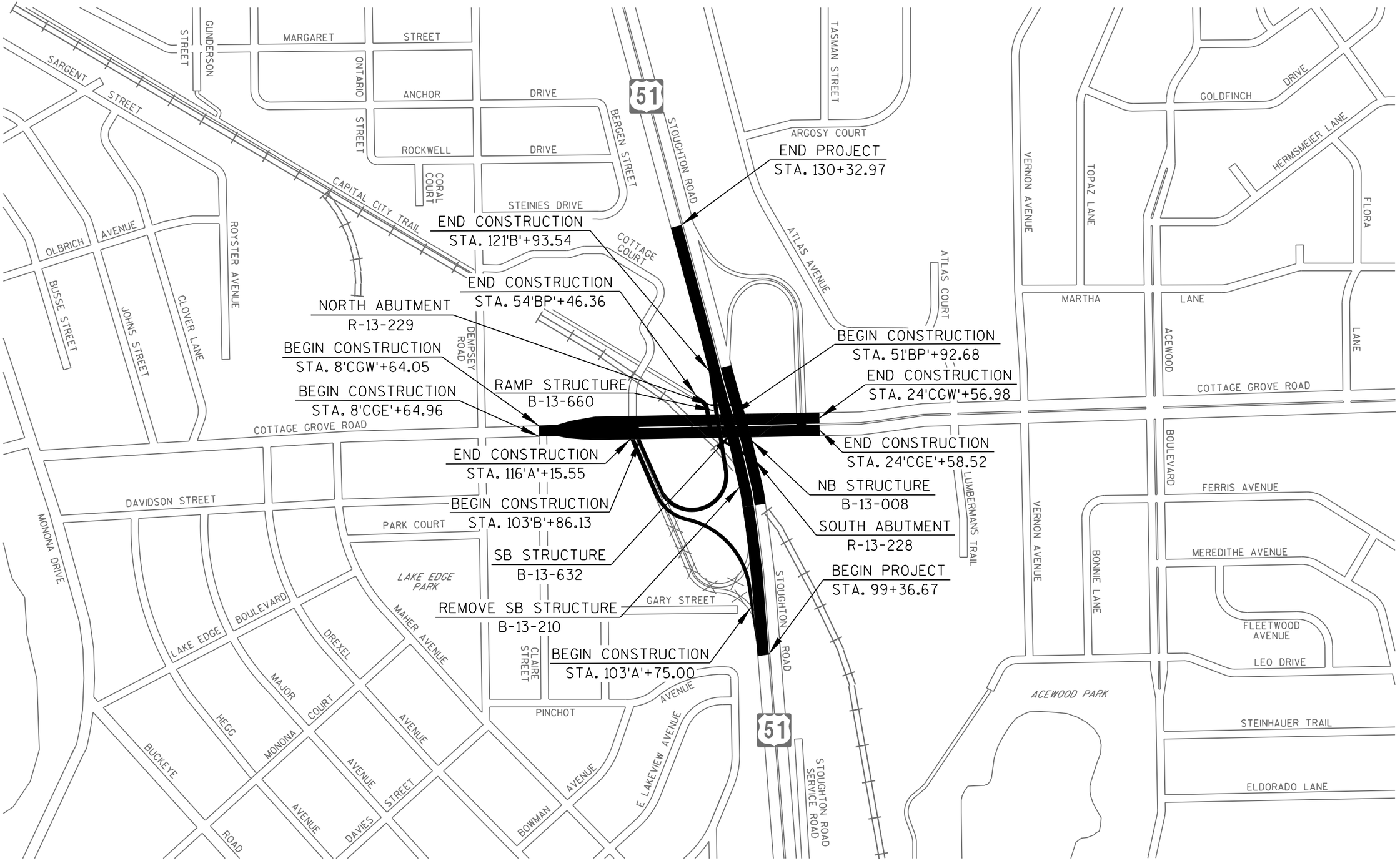
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	GENERAL NOTES	SHEET 2	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Title Sheet & Typical Sections\General Notes.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9839

WISDOT/CADDS SHEET 42

General Notes.dgn 8/14/2014 8:30:30 AM ckieler

2

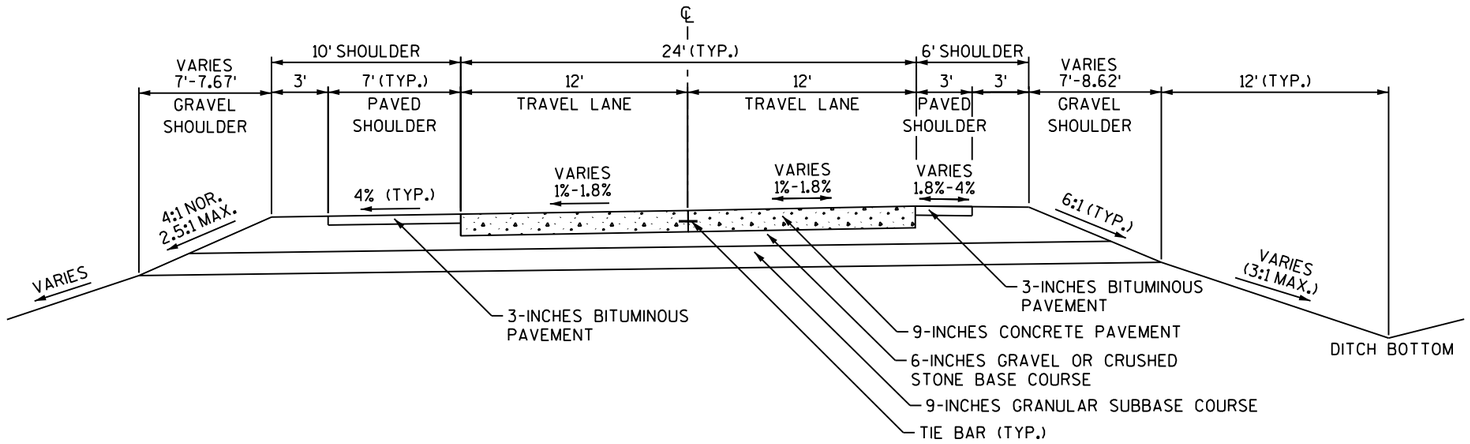


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PROJECT OVERVIEW	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Title Sheet & Typical Sections\Project Overview.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9839

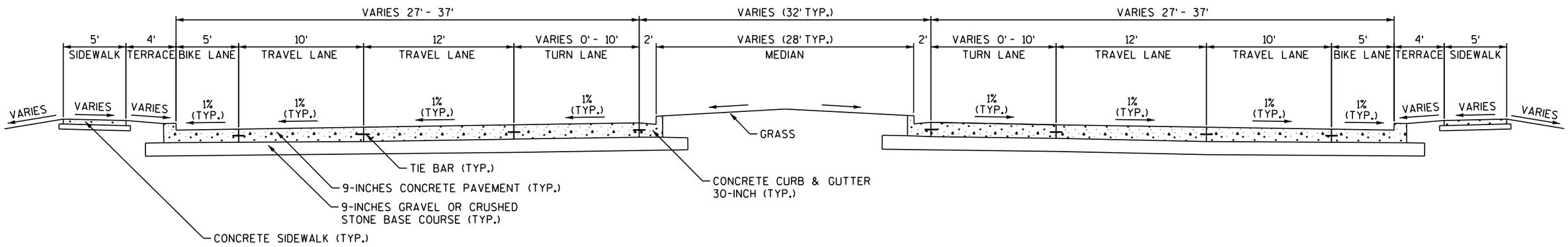
WISDOT/CADDS SHEET 42

Project Overview.dgn 8/14/2014 8:30:30 AM ckieler



EXISTING TYPICAL SECTION - USH 51 S.B.

STA. 105+50 - STA. 110+98
STA. 115+73 - STA. 130+33

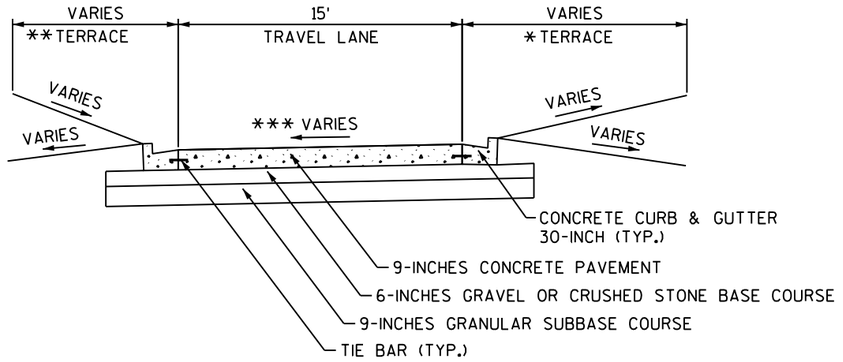


EXISTING TYPICAL SECTION - COTTAGE GROVE ROAD

(CLAIRE STREET - N.B. RAMPS INTERSECTION)
STA. 8'CGW'+64 - STA. 24'CGW'+57
STA. 8'CGE'+65 - STA. 24'CGE'+58.5

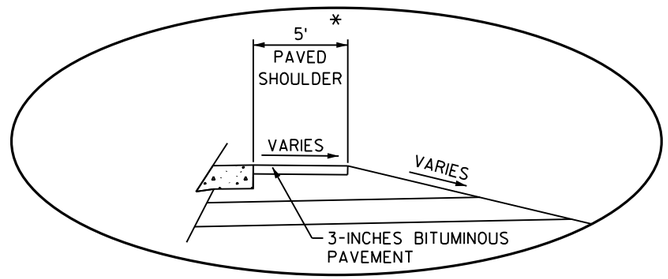
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EXISTING TYPICAL SECTIONS	SHEET 4	E

*** -CROSS SLOPE TRANSITIONS FROM 2% TO 8% TO -8% TO 2%
OVER THE TWO CURVES IN THE EXISTING ALIGNMENT
-NEAR THE ENTRANCE RAMP MERGING THE CROSS SLOPE IS
-2% (IN THIS DRAWING IT IS SHOWN AT 2%)

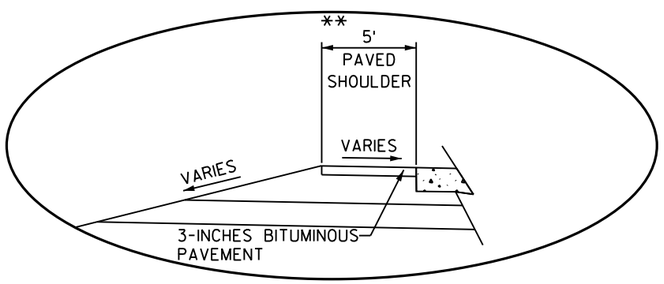


EXISTING TYPICAL SECTION - USH 51 S.B. ENTRANCE RAMP

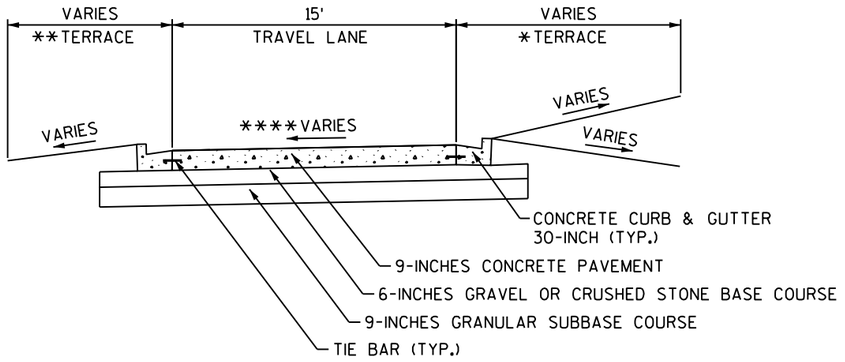
STA. 103'A'+75.00 - STA. 116'A'+15.79



* NEAR MERGING WITH USH 51 S.B. THERE IS
A 5' PAVED SHOULDER INSTEAD OF CURB
AND GUTTER (FOR THE INSIDE CURB ONLY)

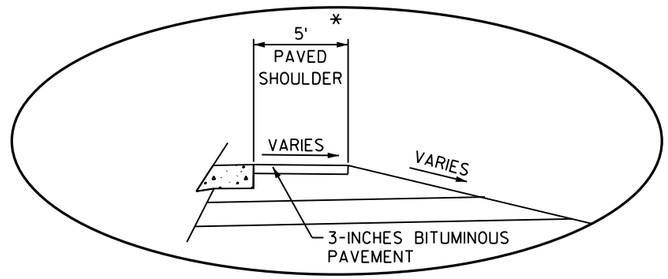


** AFTER THE CURVE WHERE THE EXIT RAMP PARALLELS
THE ENTRANCE RAMP BEFORE THE INTERSECTION, THERE
IS A 5' PAVED SHOULDER INSTEAD OF CURB AND GUTTER
(FOR THE OUTSIDE CURB ONLY)



EXISTING TYPICAL SECTION - USH 51 S.B. EXIT RAMP

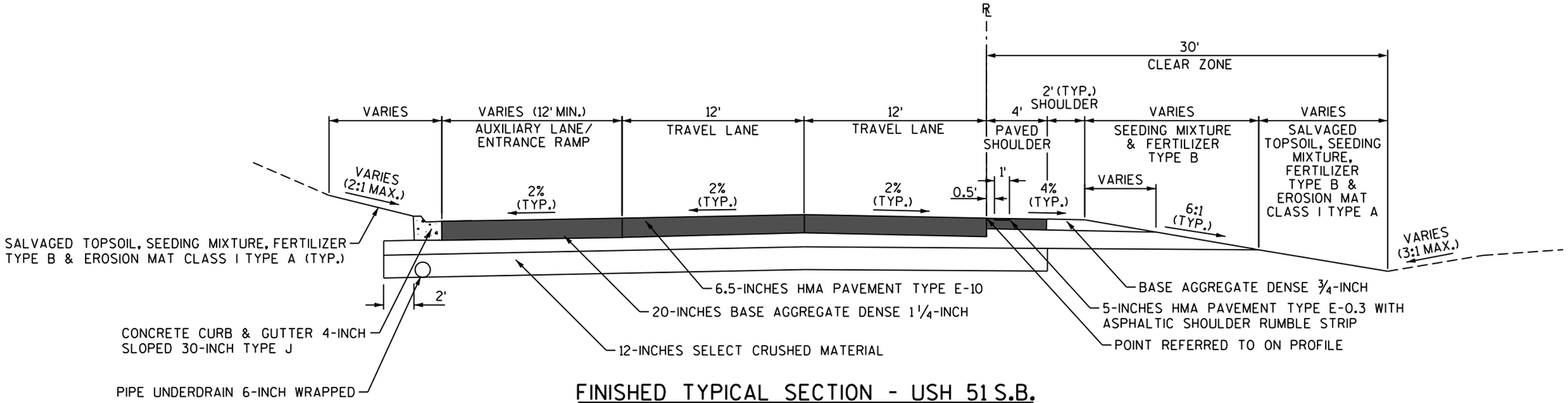
STA. 103'B'+86.13 - STA. 108+00



* NEAR MERGING WITH USH 51 S.B. THERE IS
A 5' PAVED SHOULDER INSTEAD OF CURB
AND GUTTER (FOR THE INSIDE CURB ONLY)

**** CROSS SLOPE TRANSITIONS FROM 2% TO 7% TO 2%
OVER THE CURVE IN THE EXISTING ALIGNMENT

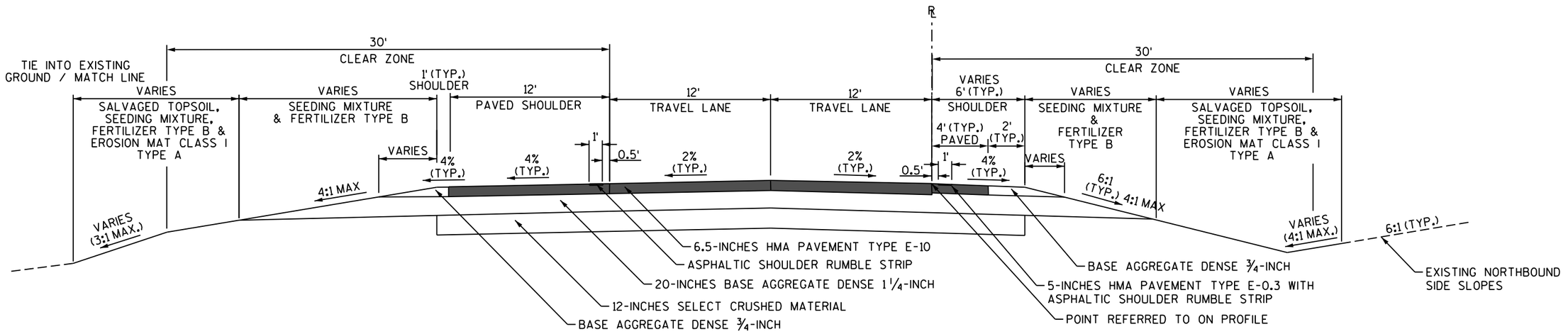
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EXISTING TYPICAL SECTIONS	SHEET 5	E



FINISHED TYPICAL SECTION - USH 51 S.B.

STA. 99+36.67 - STA. 100+36.67

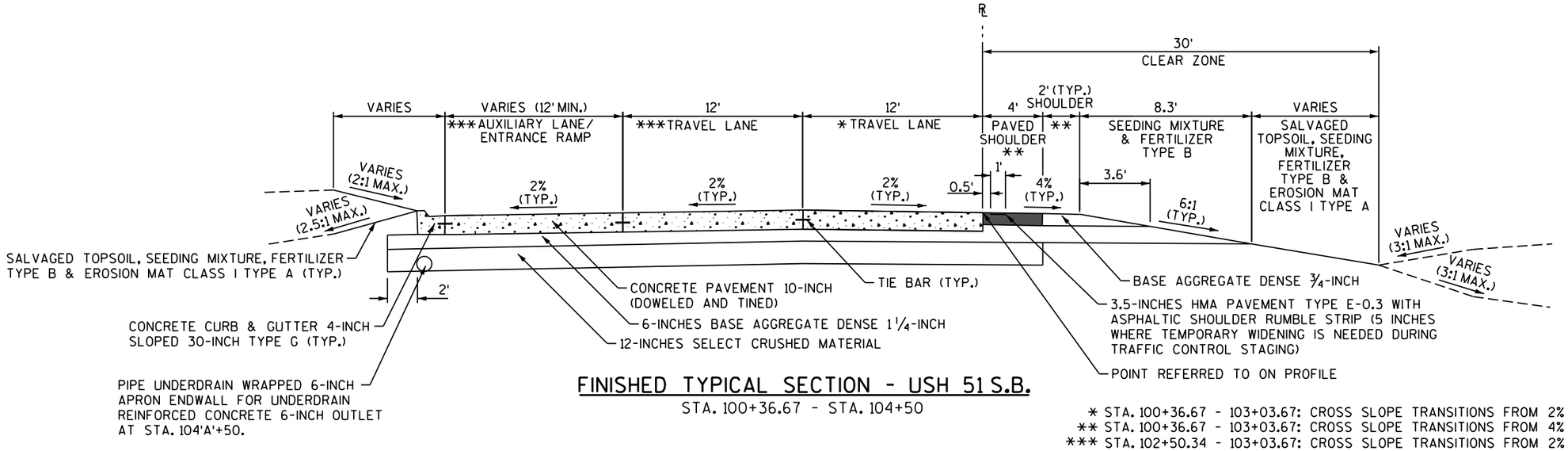
NOTE: SEE FRENCH DRAIN CONSTRUCTION DETAIL



FINISHED TYPICAL SECTION - USH 51 S.B.

STA. 128+50 - STA. 130+32.97

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	FINISHED TYPICAL SECTIONS	SHEET 6	E

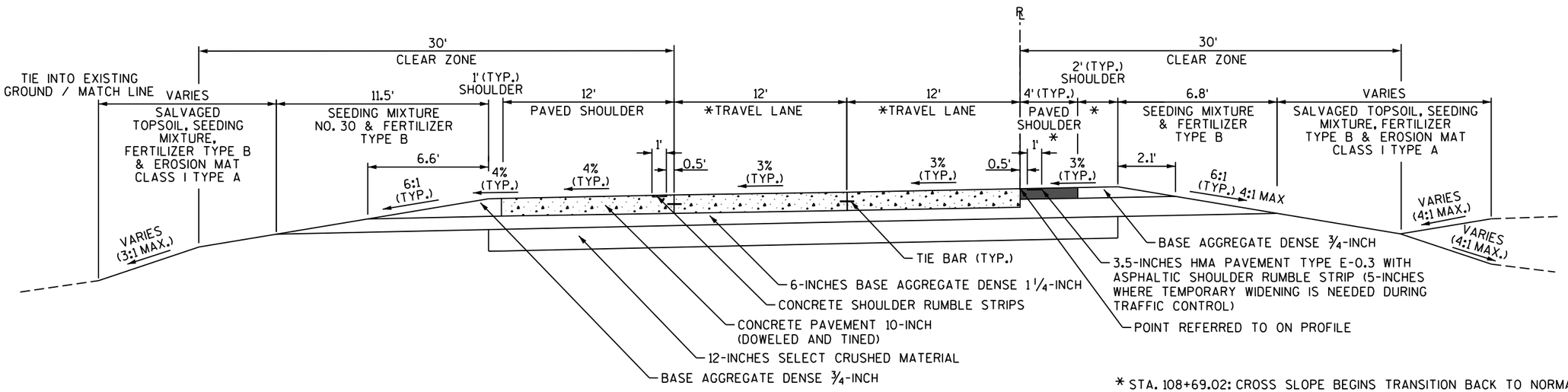


FINISHED TYPICAL SECTION - USH 51 S.B.

STA. 100+36.67 - STA. 104+50

NOTE: SEE FRENCH DRAIN CONSTRUCTION DETAIL

* STA. 100+36.67 - 103+03.67: CROSS SLOPE TRANSITIONS FROM 2% TO -3% (SHOWN AT 2%)
** STA. 100+36.67 - 103+03.67: CROSS SLOPE TRANSITIONS FROM 4% TO -3% (SHOWN AT 4%)
*** STA. 102+50.34 - 103+03.67: CROSS SLOPE TRANSITIONS FROM 2% TO 3% (SHOWN AT 2%)



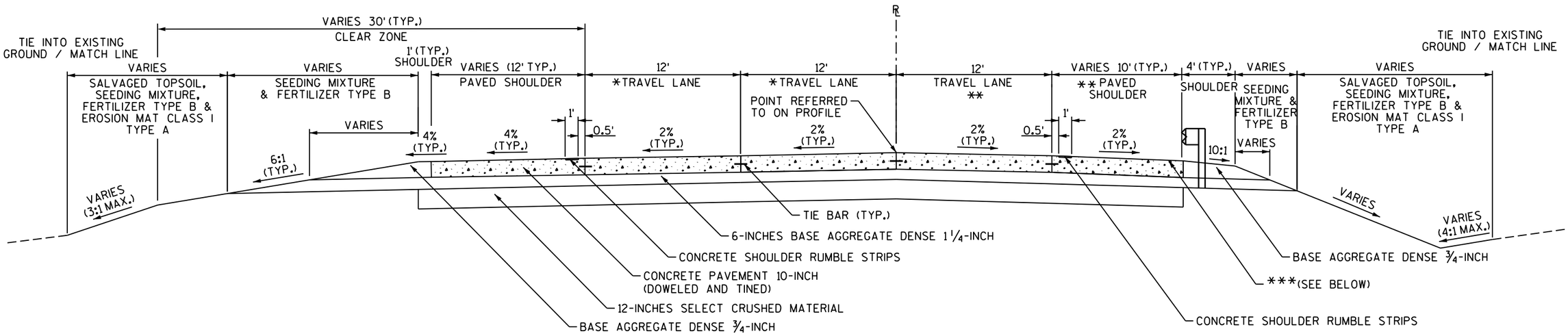
FINISHED TYPICAL SECTION - USH 51 S.B.

STA. 104+50 - STA. 108+85.20

* STA. 108+69.02: CROSS SLOPE BEGINS TRANSITION BACK TO NORMAL CROWN.

SEE PAVEMENT DETAILS AND CROSS SECTIONS FOR PAVEMENT AND SHOULDER WIDENING

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	FINISHED TYPICAL SECTIONS	SHEET 7	E



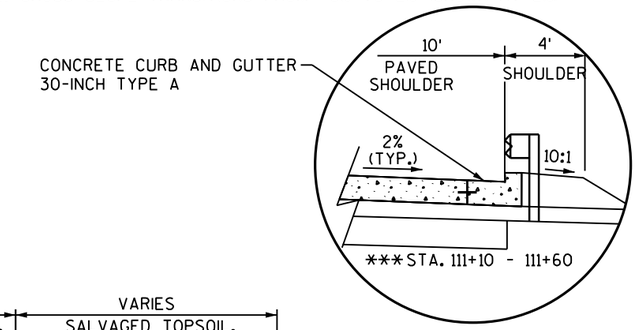
FINISHED TYPICAL SECTION - USH 51 S.B.

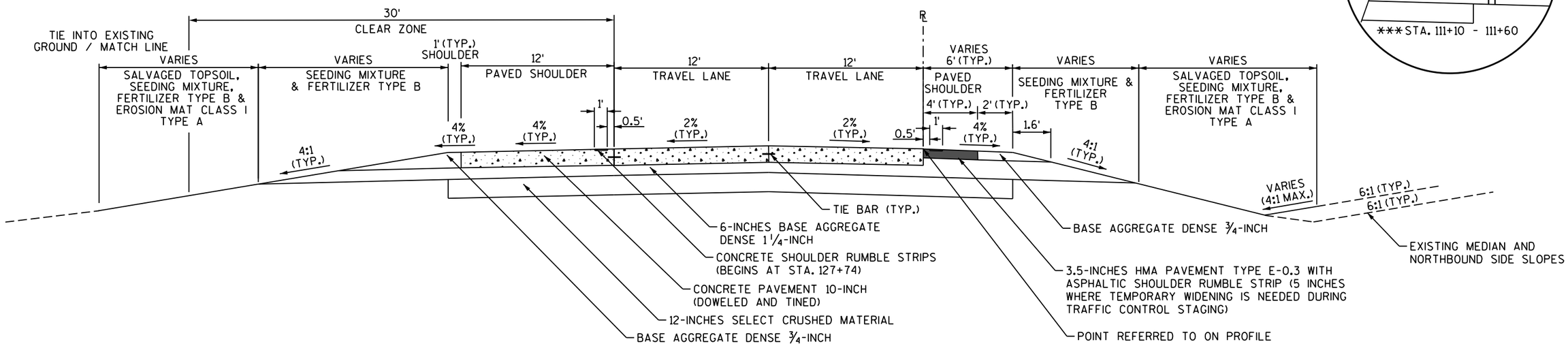
STA. 108+85.20 - STA. 111+62

* STA. 108+69.02 - 109+22.35: CROSS SLOPE TRANSITIONS FROM 3% TO 2% (SHOWN AT 2%)

** STA. 108+69.02 - 111+36.02: CROSS SLOPE TRANSITIONS FROM -3% TO 2% (SHOWN AT 2%)

NOTE: SEE FRENCH DRAIN CONSTRUCTION DETAIL

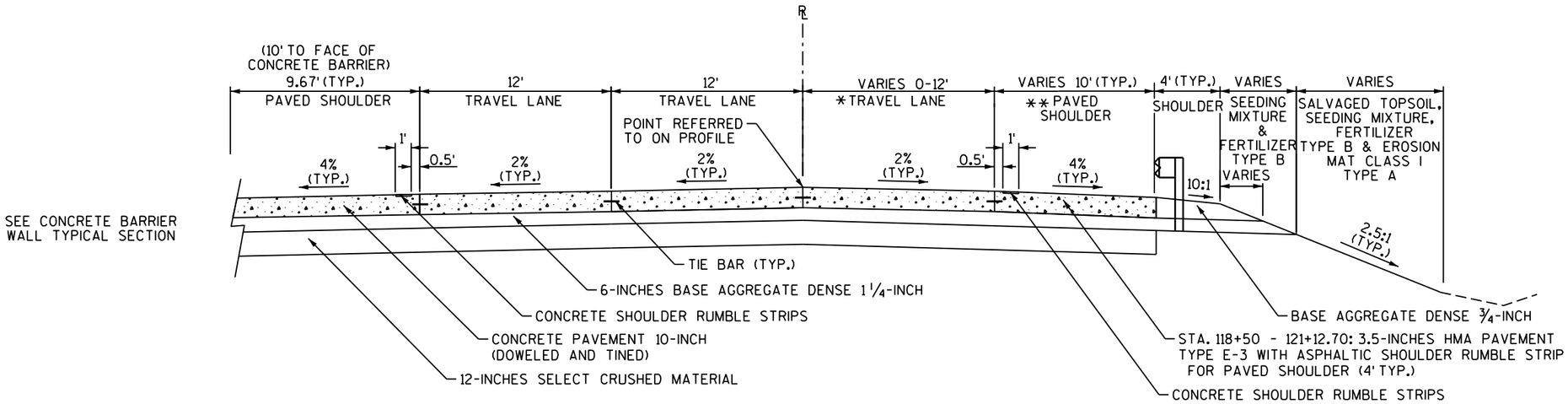




FINISHED TYPICAL SECTION - USH 51 S.B.

STA. 127+50 - STA. 128+50

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	FINISHED TYPICAL SECTIONS	SHEET 8	E

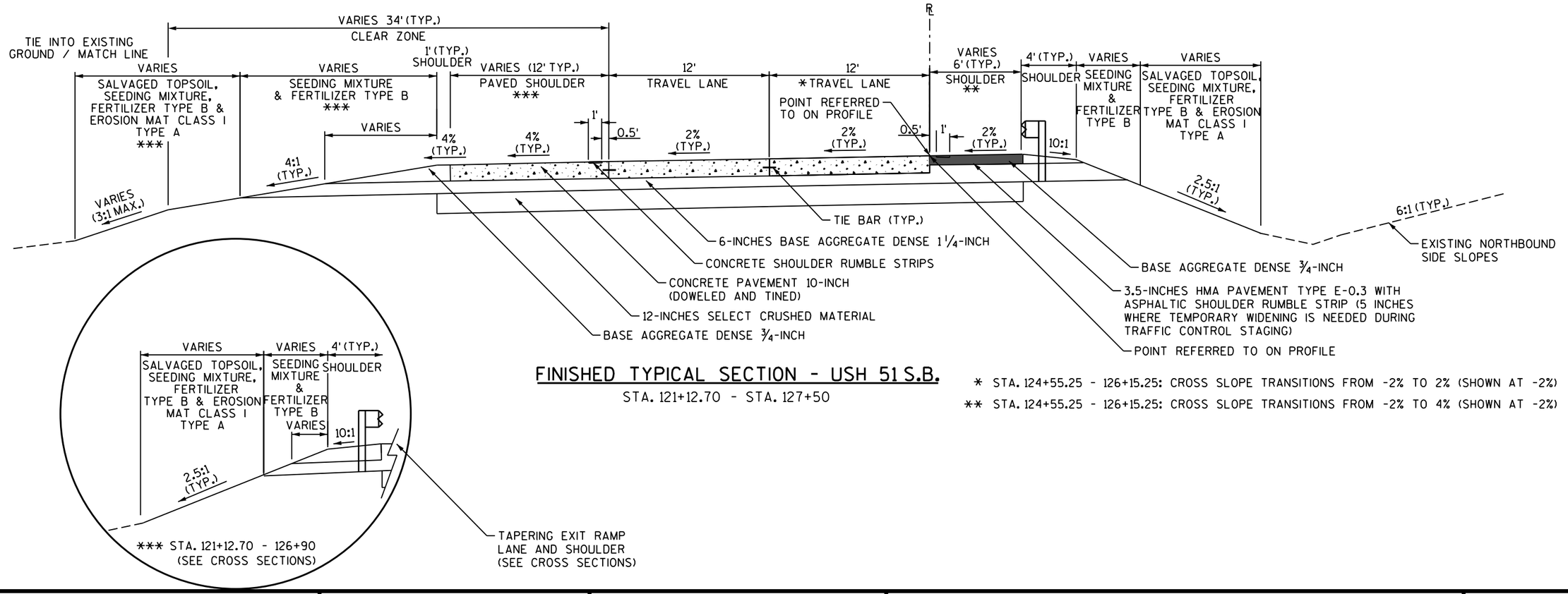


NOTE: SEE FRENCH DRAIN CONSTRUCTION DETAIL

FINISHED TYPICAL SECTION - USH 51 S.B.

STA. 116+41 - STA. 121+12.70

* STA. 119+52.70 - 121+12.70: CROSS SLOPE TRANSITIONS FROM 2% TO -2% (SHOWN AT 2%)
** STA. 118+00 - 121+12.70: CROSS SLOPE TRANSITIONS FROM 4% TO -2% (SHOWN AT 4%)



FINISHED TYPICAL SECTION - USH 51 S.B.

STA. 121+12.70 - STA. 127+50

* STA. 124+55.25 - 126+15.25: CROSS SLOPE TRANSITIONS FROM -2% TO 2% (SHOWN AT -2%)
** STA. 124+55.25 - 126+15.25: CROSS SLOPE TRANSITIONS FROM -2% TO 4% (SHOWN AT -2%)

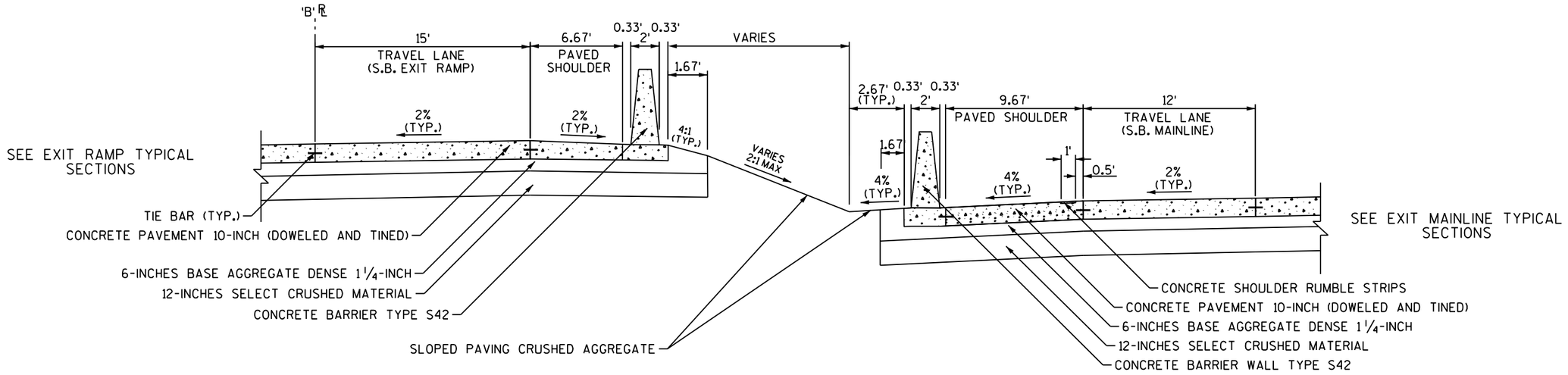
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	FINISHED TYPICAL SECTIONS	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Title Sheet & Typical Sections\Proposed Typical Section - MAINLINE 2B.dgn PLOT DATE : 12/2/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:8

WISDOT/CADDS SHEET 42

Proposed Typical Section - MAINLINE 2B.dgn 12/2/2014 10:08:16 AM ckieler

2



FINISHED TYPICAL SECTION - USH 51 S.B.

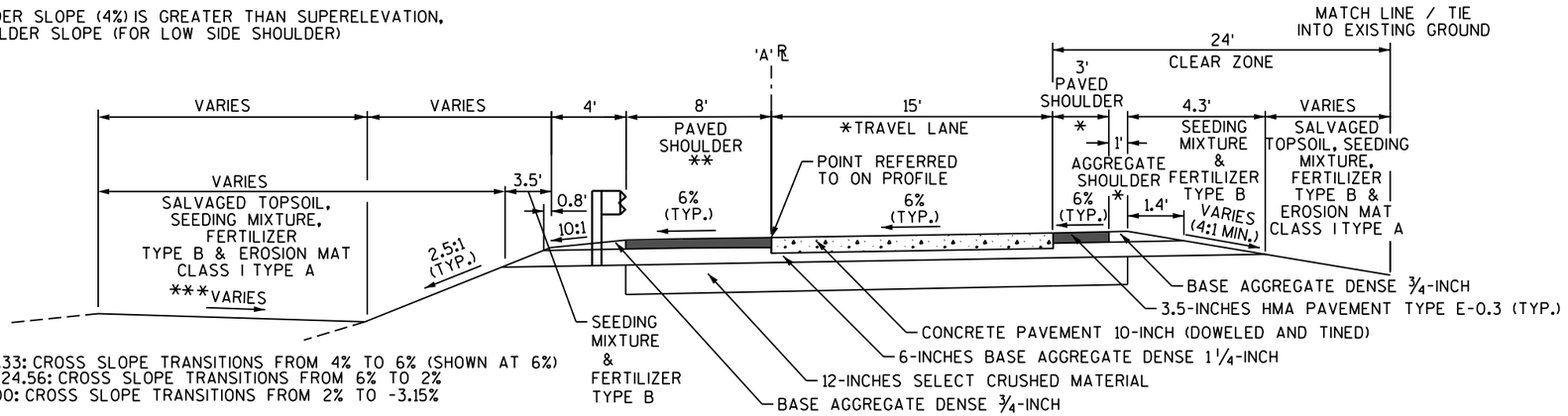
STA. 116+25 - STA. 120+83

SEE CROSS SECTION SHEETS AND SDD 14B32

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	FINISHED TYPICAL SECTIONS	SHEET 10	E

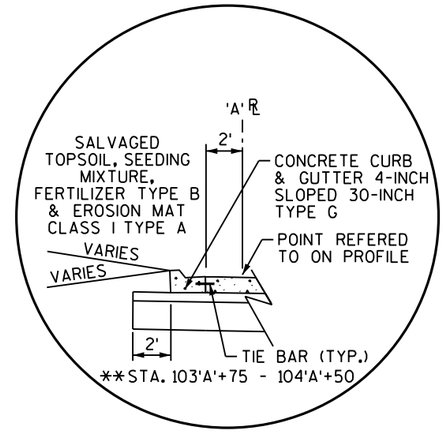
Proposed Typical Section - Barrier Wall.dgn 12/2/2014 10:08:17 AM ckieler

NOTE: WHEN NORMAL SHOULDER SLOPE (4%) IS GREATER THAN SUPERELEVATION, RETAIN NORMAL SHOULDER SLOPE (FOR LOW SIDE SHOULDER)



* STA. 103'A'+75 - 104'A'+19.33: CROSS SLOPE TRANSITIONS FROM 4% TO 6% (SHOWN AT 6%)
STA. 107'A'+91.56 - 109'A'+24.56: CROSS SLOPE TRANSITIONS FROM 6% TO 2%
STA. 110'A'+06.82 - 111'A'+00: CROSS SLOPE TRANSITIONS FROM 2% TO -3.15%

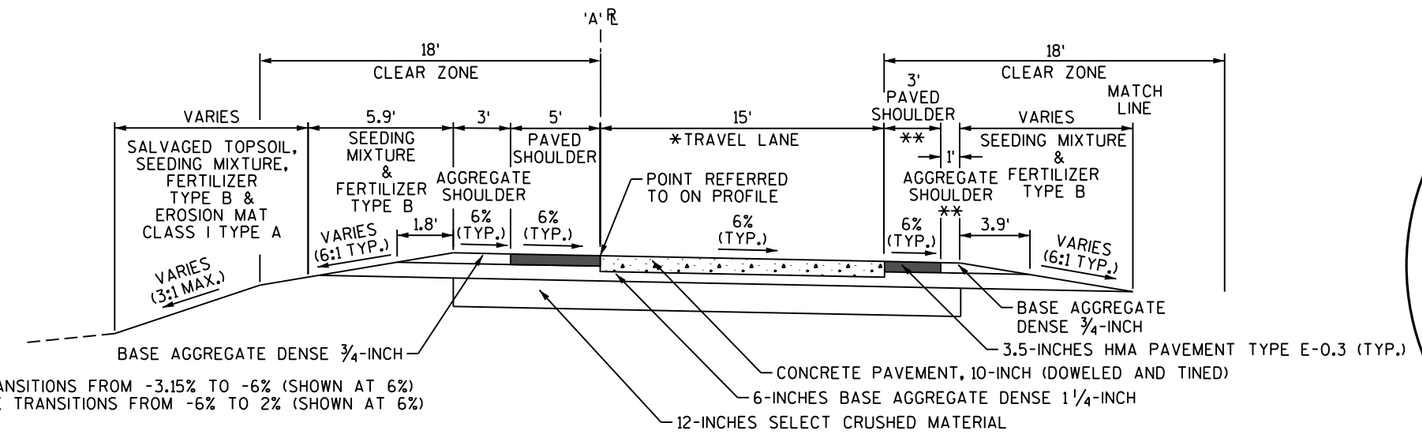
*** SEE CROSS SECTION SHEETS FOR SALVAGED HYDRIC SOILS PLACEMENT



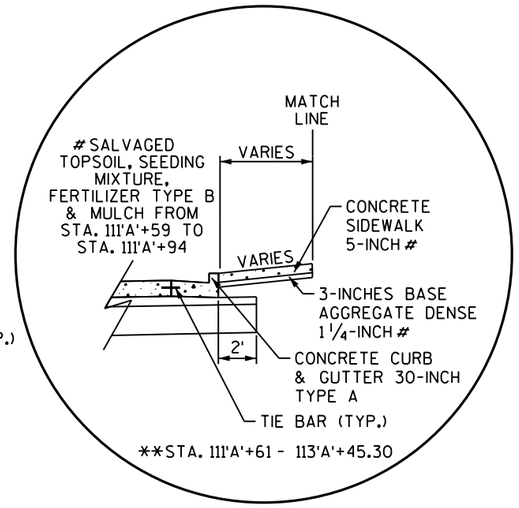
**STA. 103'A'+75 - 104'A'+50

FINISHED TYPICAL SECTION - USH 51 S.B. ENTRANCE RAMP

STA. 104'A'+50 - STA. 111'A'+00



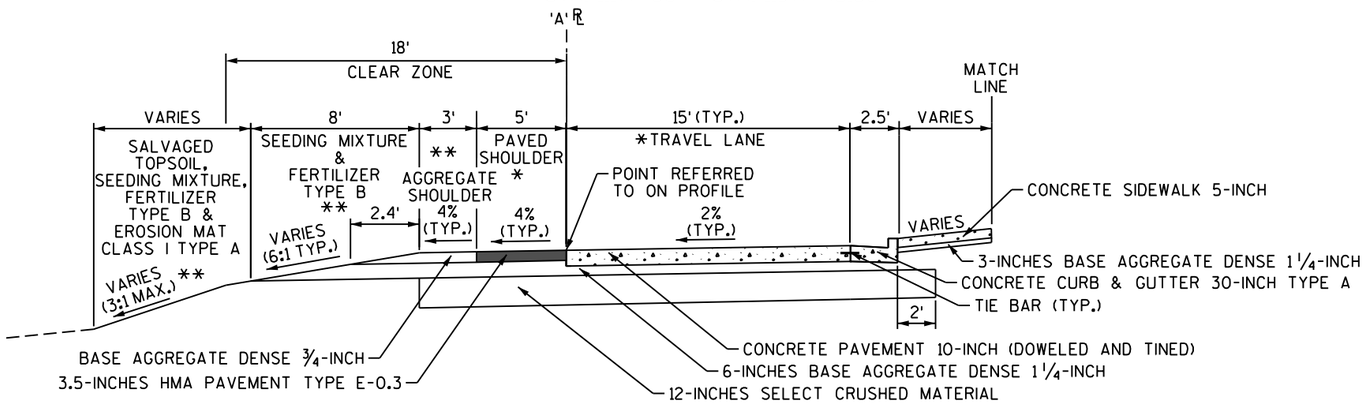
*STA. 111'A'+00 - 111'A'+51.82: CROSS SLOPE TRANSITIONS FROM -3.15% TO -6% (SHOWN AT 6%)
STA. 112'A'+00.30 - 113'A'+45.30: CROSS SLOPE TRANSITIONS FROM -6% TO 2% (SHOWN AT 6%)



**STA. 111'A'+61 - 113'A'+45.30

FINISHED TYPICAL SECTION - USH 51 S.B. ENTRANCE RAMP

STA. 111'A'+00 - STA. 113'A'+45.30



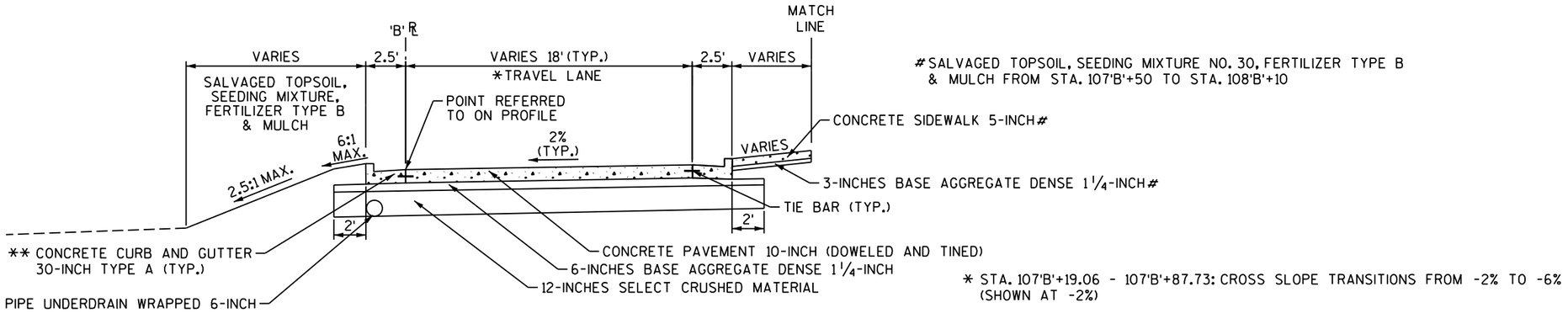
NOTE: SEE FRENCH DRAIN CONSTRUCTION DETAIL

* CONCRETE SHOULDER BEGINS AT STA. 114A+67
** CURB AND GUTTER SECTION (SEE CROSS SECTIONS)

FINISHED TYPICAL SECTION - USH 51 S.B. ENTRANCE RAMP

STA. 113'A'+45.30 - STA. 116'A'+15.55

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	FINISHED TYPICAL SECTIONS	SHEET 11	E



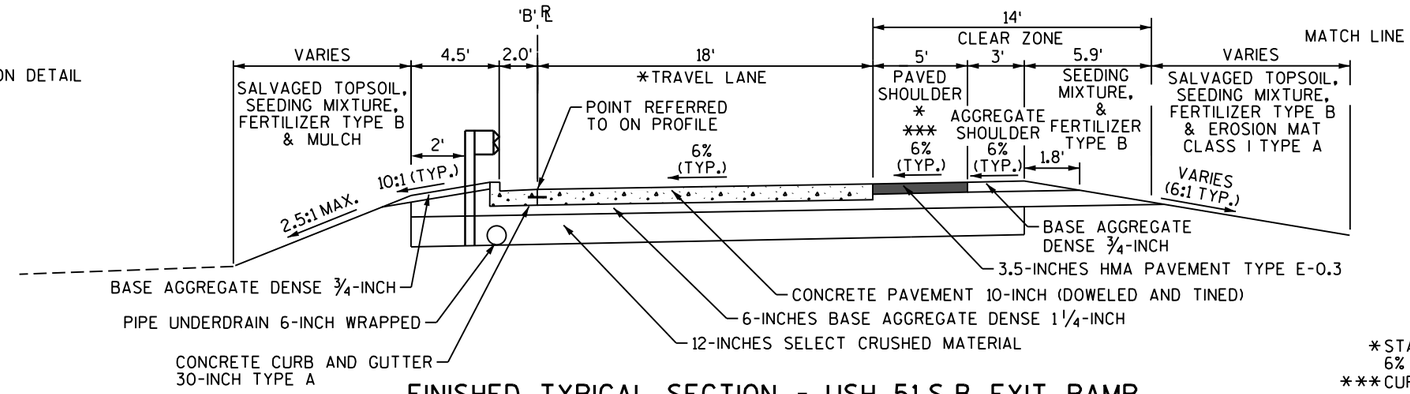
#SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, FERTILIZER TYPE B & MULCH FROM STA. 107'B'+50 TO STA. 108'B'+10

* STA. 107'B'+19.06 - 107'B'+87.73: CROSS SLOPE TRANSITIONS FROM -2% TO -6% (SHOWN AT -2%)

FINISHED TYPICAL SECTION - USH 51 S.B. EXIT RAMP

STA. 103'B'+86 - STA. 107'B'+53

NOTE: SEE FRENCH DRAIN CONSTRUCTION DETAIL

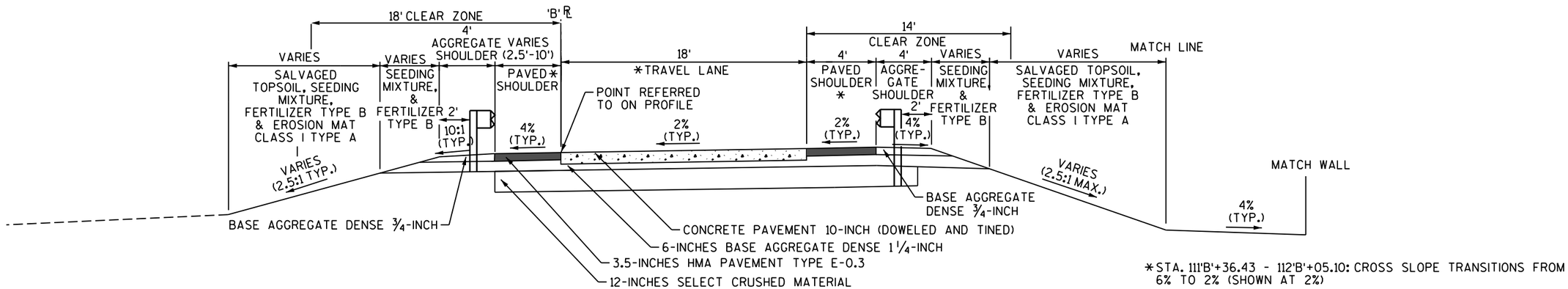


* STA. 111'B'+36.43 - 112'B'+05.10: CROSS SLOPE TRANSITIONS FROM 6% TO 2% (SHOWN AT 6%)

*** CURB AND GUTTER CONTINUES TO STATION 108'B'+10.

FINISHED TYPICAL SECTION - USH 51 S.B. EXIT RAMP

STA. 107'B'+53 - STA. 111'B'+71



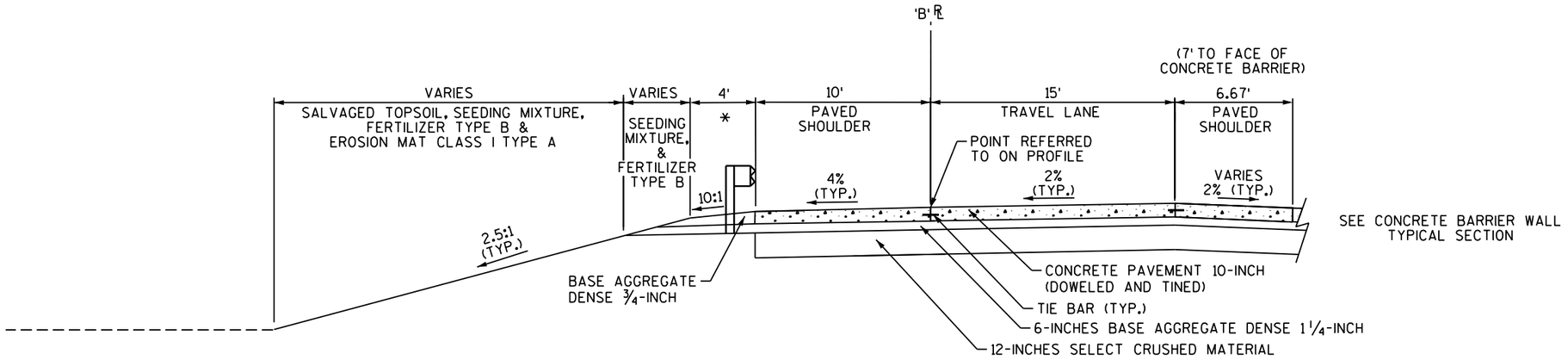
* STA. 111'B'+36.43 - 112'B'+05.10: CROSS SLOPE TRANSITIONS FROM 6% TO 2% (SHOWN AT 2%)

FINISHED TYPICAL SECTION - USH 51 S.B. EXIT RAMP

STA. 111'B'+71 - STA. 113'B'+12

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	FINISHED TYPICAL SECTIONS	SHEET 12	E

NOTE: SEE FRENCH DRAIN CONSTRUCTION DETAIL



FINISHED TYPICAL SECTION - USH 51 S.B. EXIT RAMP

STA. 116'B'+31 - STA. 121'B'+94

* MATCH MSE RETAINING WALL
(SEE NORTH MSE WALL CROSS SECTIONS
AND MULTIUSE PATH CROSS SECTIONS)

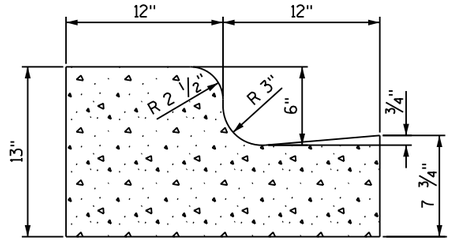
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	FINISHED TYPICAL SECTIONS	SHEET 13	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Title Sheet & Typical Sections\Proposed Typical Section - RAMPS3.dgn PLOT DATE : 12/2/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:8

WISDOT/CADDS SHEET 42

Proposed Typical Section - RAMPS3.dgn 12/2/2014 10:08:18 AM ckieler

2

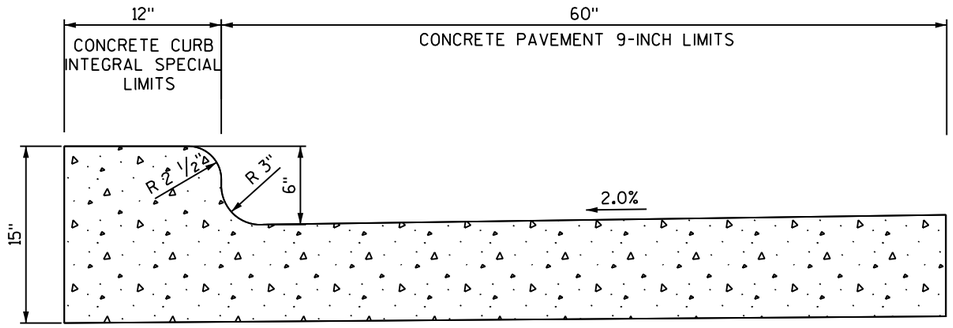


GENERAL NOTES:

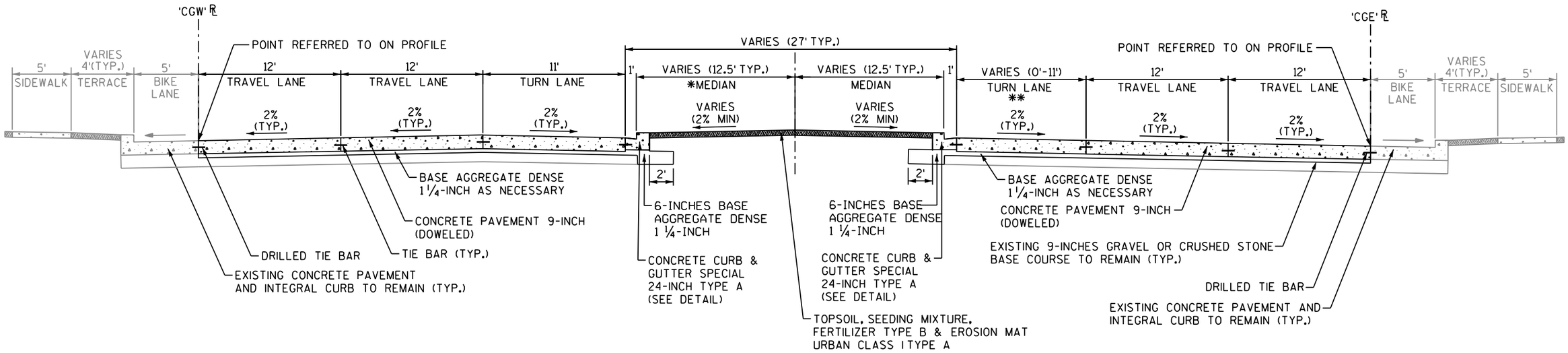
TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPE 'A'

TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 509.2.6.2 OF THE STANDARD SPECIFICATIONS.

CONCRETE CURB & GUTTER SPECIAL 24-INCH TYPE A & TYPE D DETAIL



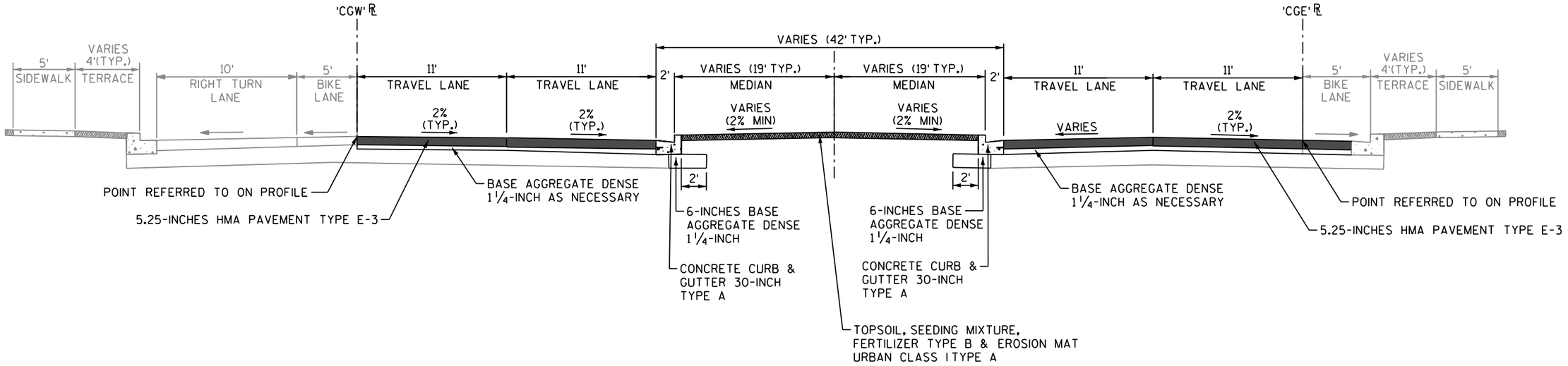
CONCRETE CURB INTEGRAL SPECIAL 12-INCH TYPE D



FINISHED TYPICAL SECTION - COTTAGE GROVE ROAD

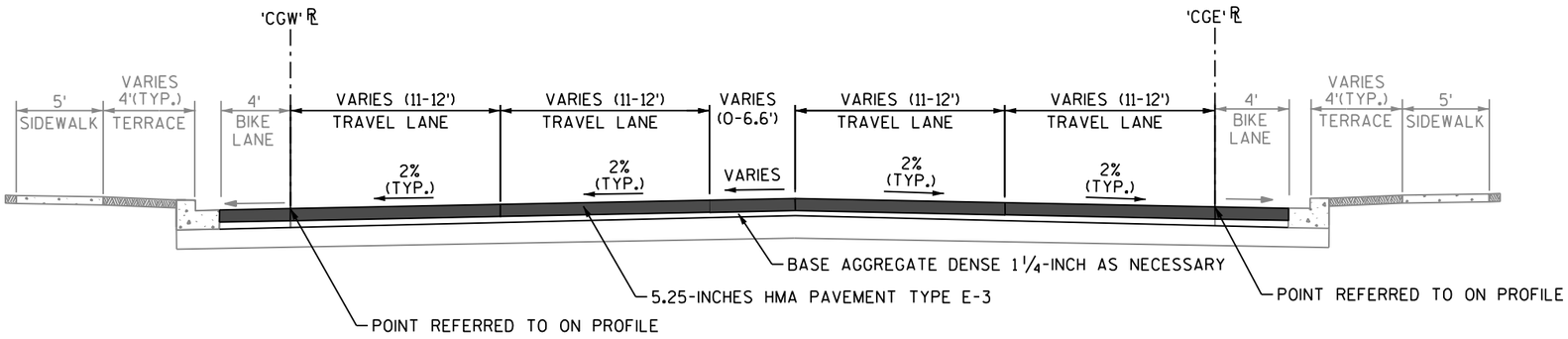
STA. 10'CGW'+22 - STA. 16'CGW'+59
STA. 17'CGW'+49 - STA. 24'CGW'+37
STA. 10'CGE'+21 - STA. 17'CGE'+23
STA. 18'CGE'+08 - STA. 24'CGE'+39

* STA. 11"CGE"+07 - 13"CGE"+27: MEDIAN SLOPE VARIES FROM -2% TO -5% (SHOWN AT 2%)
** STA. 17"CGE"+90 - 22"CGE"+00: LEFT TURN LANE SLOPE IS -2% (SHOWN AT 2%)



FINISHED TYPICAL SECTION - COTTAGE GROVE ROAD

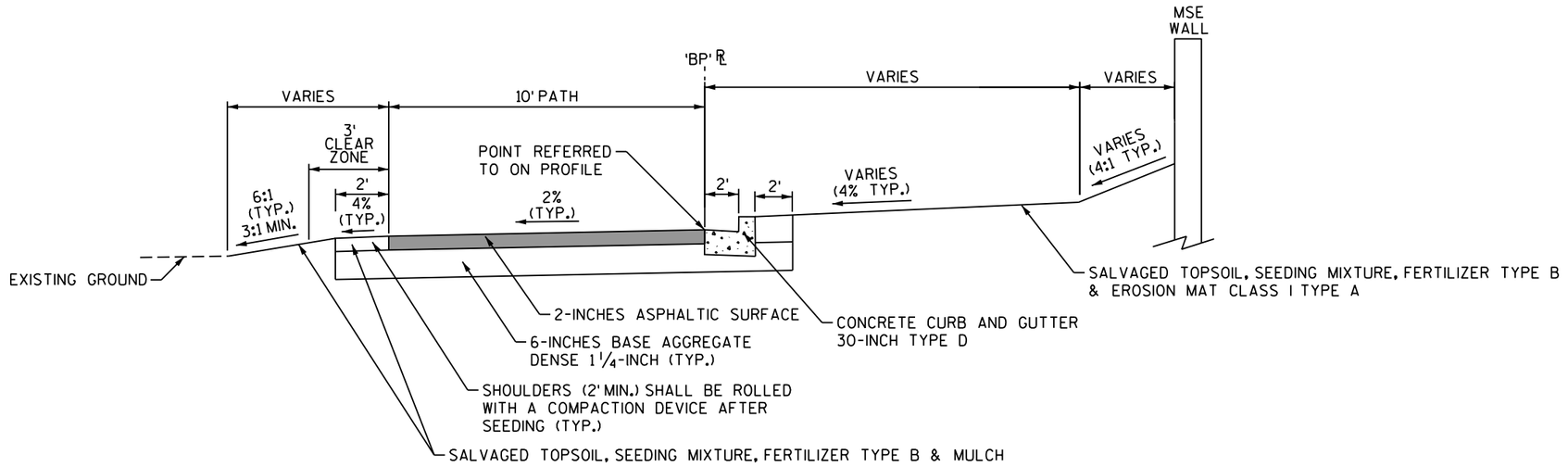
STA. 16'CGW'+59 - STA. 17'CGW'+49
STA. 17'CGE'+23 - STA. 18'CGE'+08
STA. 24'CGW'+37 - STA. 24'CGW'+56.98
STA. 24'CGE'+24 - STA. 24'CGE'+58.52



FINISHED TYPICAL SECTION - COTTAGE GROVE ROAD

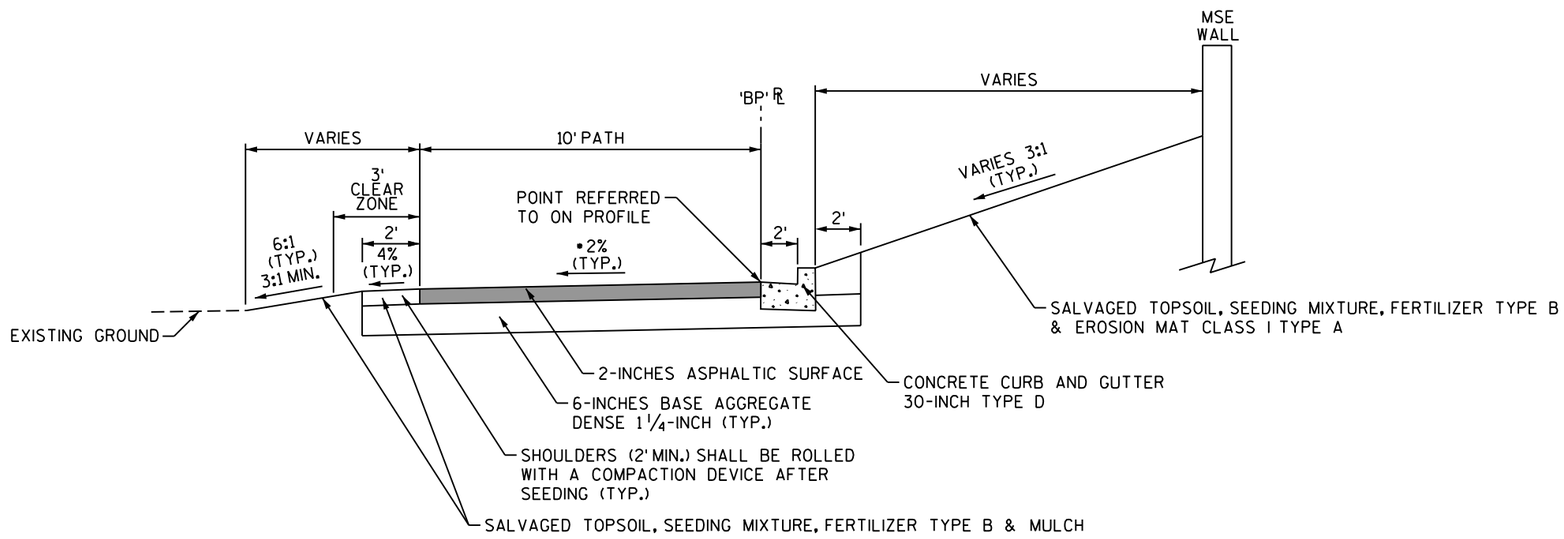
STA. 8'CGW'+64.05 - STA. 10'CGW'+22
STA. 8'CGE'+64.96 - STA. 10'CGE'+21

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	FINISHED TYPICAL SECTIONS	SHEET 15	E



FINISHED TYPICAL SECTION - MULTI-USE PATH

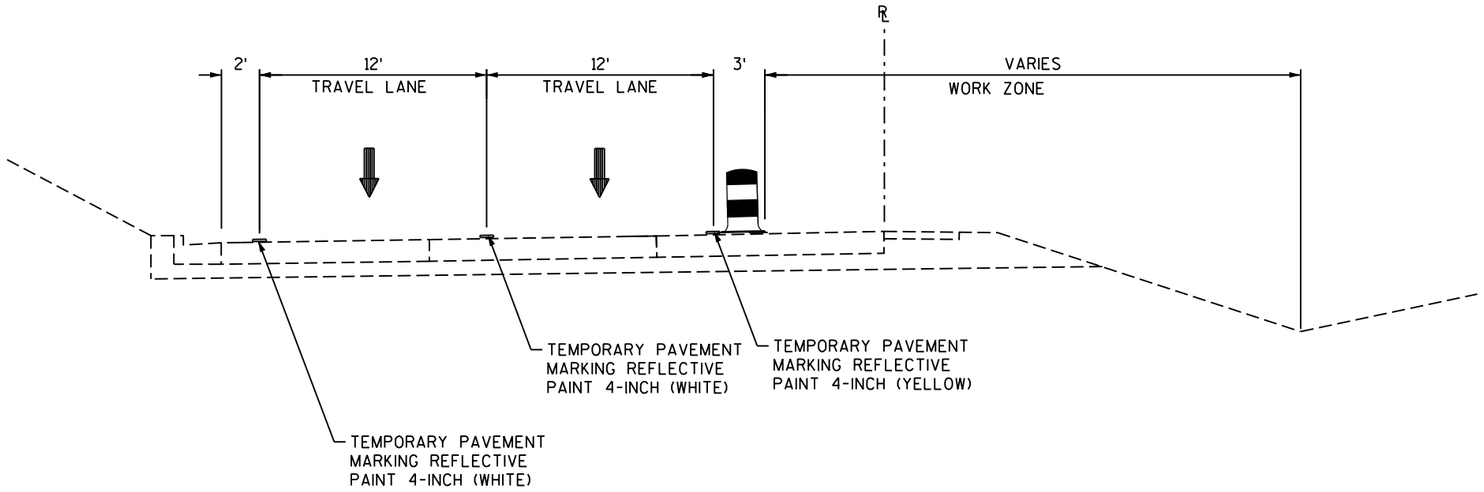
STA. 51'BP'+92.68 - STA. 53'BP'+07.40



FINISHED TYPICAL SECTION - MULTI-USE PATH

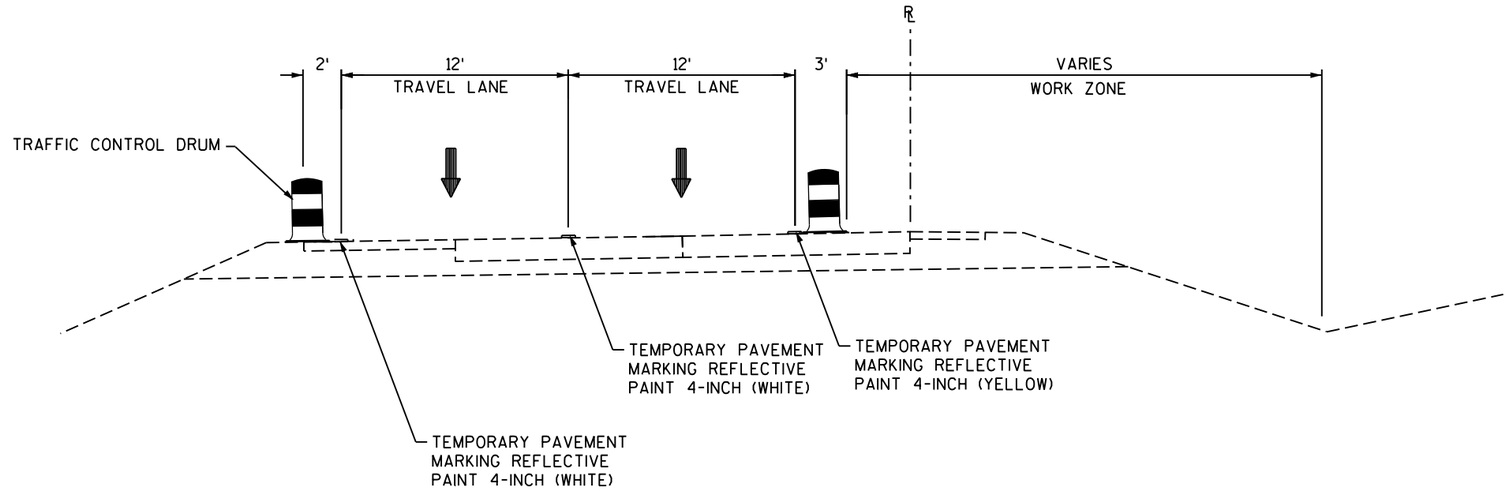
STA. 53'BP'+07.40 - STA. 54'BP'+46.36

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	FINISHED TYPICAL SECTIONS	SHEET 16	E



TRAFFIC CONTROL STAGE 1A TYPICAL SECTION - USH 51 S.B.

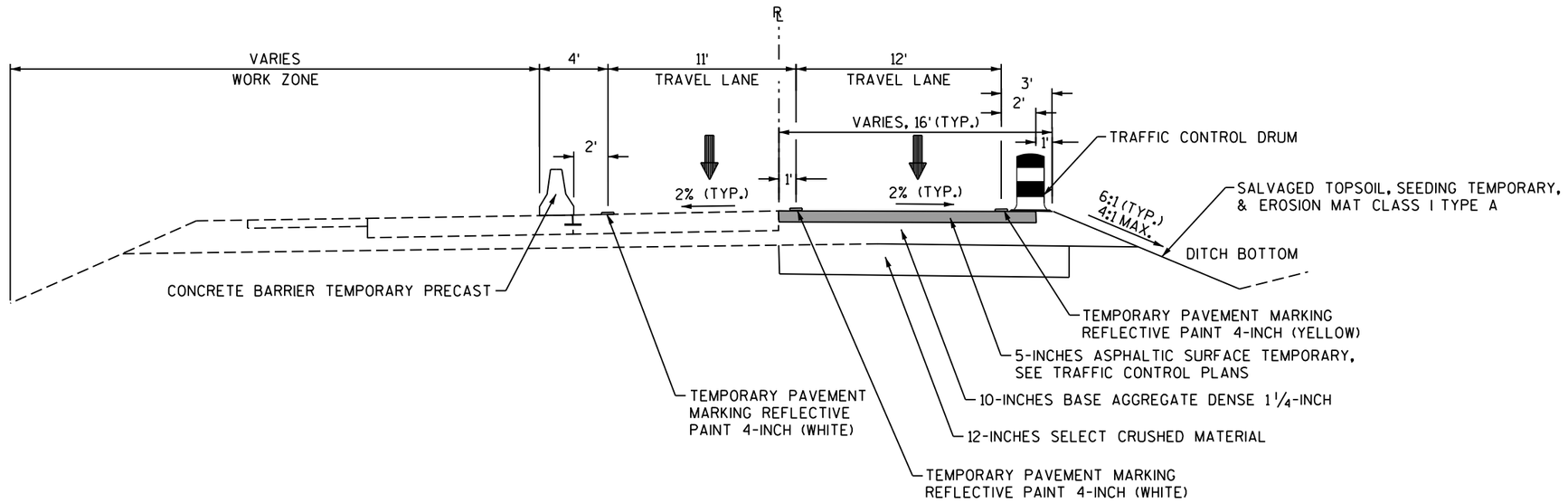
SOUTH STAGING LIMITS - STA. 107+25



TRAFFIC CONTROL STAGE 1A TYPICAL SECTION - USH 51 S.B.

STA. 120+50 - NORTH STAGING LIMITS

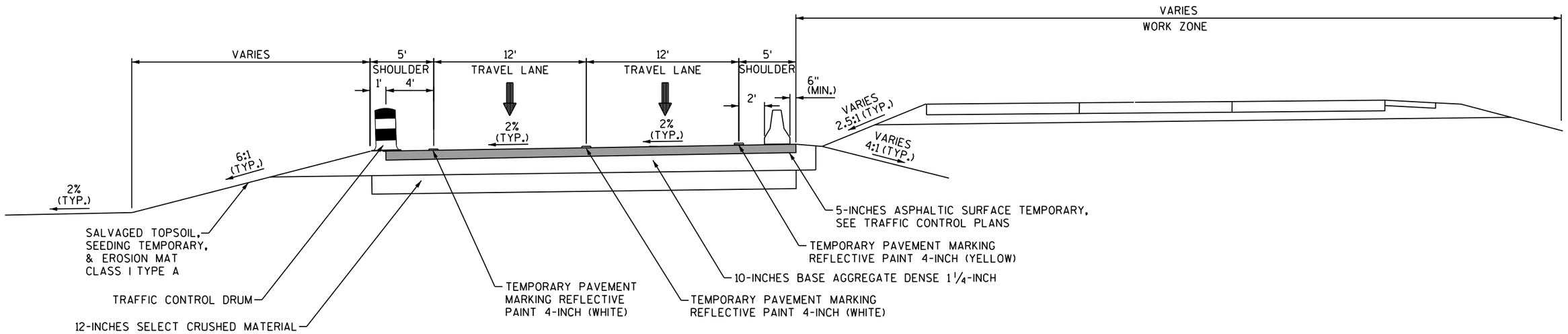
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TYPICAL SECTIONS - TRAFFIC CONTROL - STAGE 1A	SHEET 17	E



TRAFFIC CONTROL STAGE 1B TYPICAL SECTION - USH 51 S.B.

STA. 99+11 - STA. 103+42
STA. 122+77 - STAGING LIMITS

2

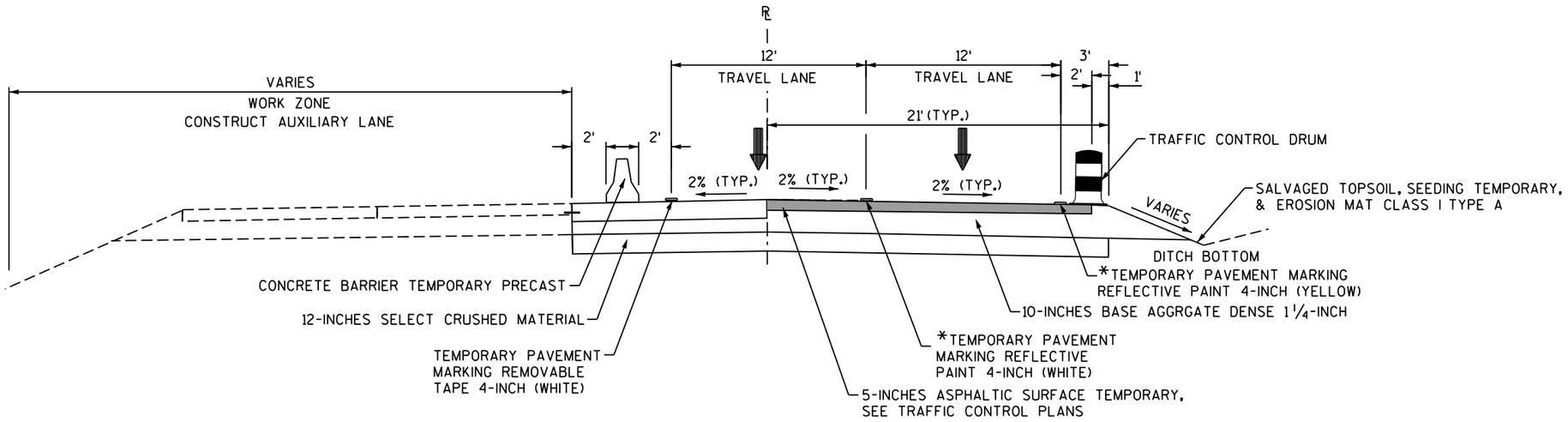


TRAFFIC CONTROL STAGE 2 TYPICAL SECTION - USH 51 S.B.

STA. 107'TC'+00 - STA. 110'TC'+50

NOTE: SEE TRAFFIC CONTROL STAGE 2 PLAN AND PROFILE AND CROSS SECTION SHEETS.

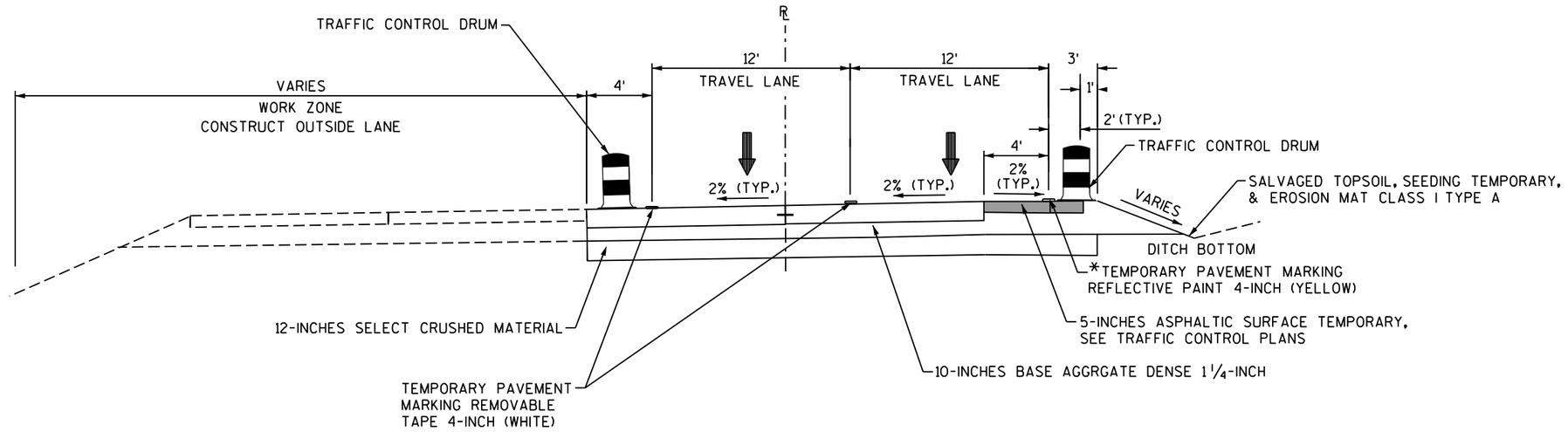
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TYPICAL SECTIONS - TRAFFIC CONTROL - STAGE 2	SHEET 19	E



TRAFFIC CONTROL STAGE 3 TYPICAL SECTION - USH 51 S.B.

STA. 99+11 - STA. 106+00

*USE PAVEMENT MARKING REMOVABLE TAPE
WHEN ON PERMANENT PAVEMENT SURFACE.



TRAFFIC CONTROL STAGE 3 TYPICAL SECTION - USH 51 S.B.

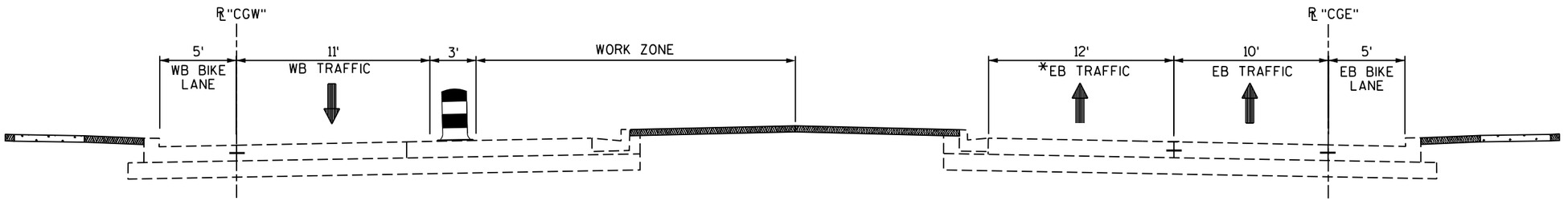
STA. 126+15 - 133+73

*USE PAVEMENT MARKING REMOVABLE TAPE
WHEN ON PERMANENT PAVEMENT SURFACE.

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TYPICAL SECTIONS - TRAFFIC CONTROL - STAGE 3	SHEET 20	E

2

*AN OFF PEAK HOUR CLOSURE WILL BE ALLOWED
IN ORDER TO REMOVE CURB AND GUTTER AND CONSTUCT
TEMPORARY PAVEMENT FOR THE STAGE 2 MEDIAN CROSSOVER.



TRAFFIC CONTROL STAGE CG1 TYPICAL SECTION - COTTAGE GROVE ROAD

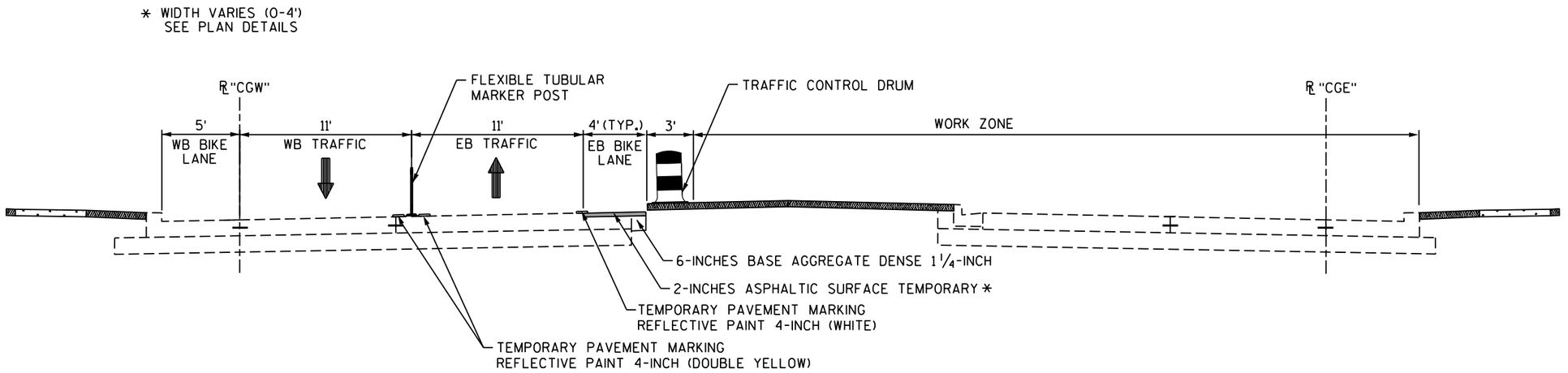
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TYPICAL SECTIONS - TRAFFIC CONTROL - STAGE CG1	SHEET 21	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage1\TC typical - CG Road Stage 1.dgn PLOT DATE : 8/15/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:7.87498

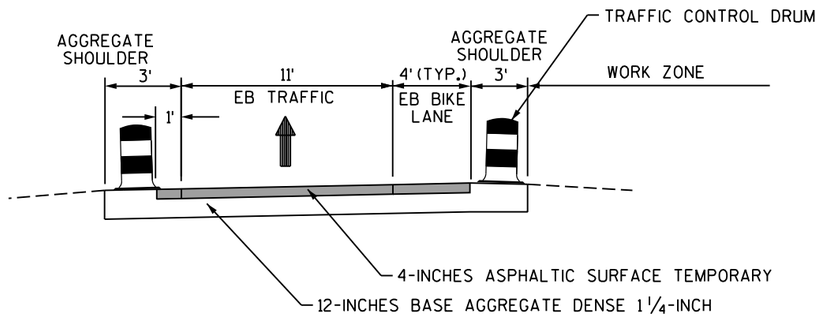
WISDOT/CADDS SHEET 42

TC typical - CG Road Stage 1.dgn 8/15/2014 9:57:09 AM ckieler

2



TRAFFIC CONTROL STAGE CG2 TYPICAL SECTION - COTTAGE GROVE ROAD



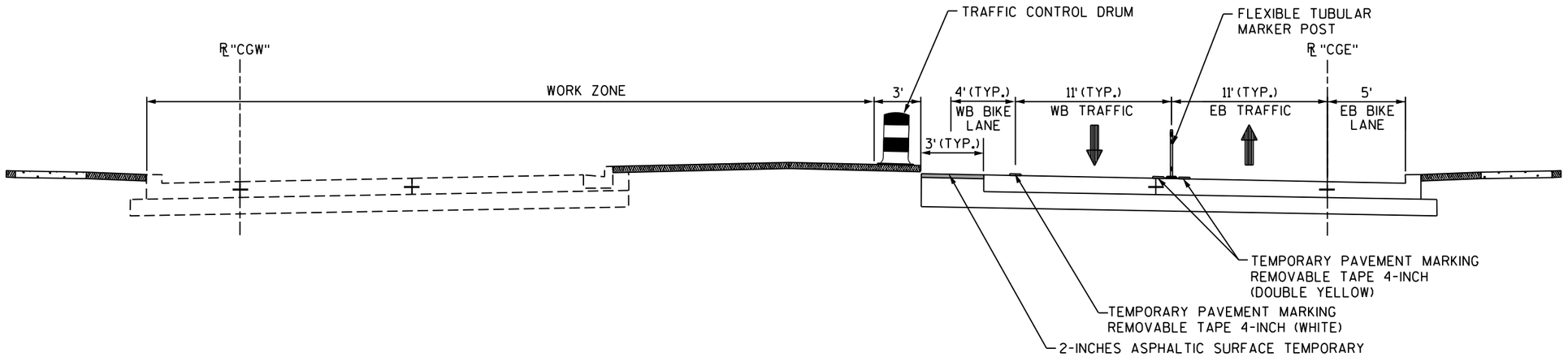
TRAFFIC CONTROL STAGE CG2 - CROSSOVER TYPICAL SECTION - COTTAGE GROVE ROAD

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TYPICAL SECTIONS - TRAFFIC CONTROL - STAGE CG2	SHEET 22	E

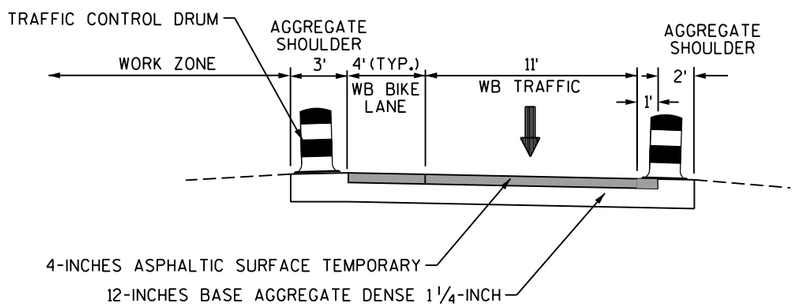
FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage2\TC typical - CG Road Stage 2.dgn PLOT DATE : 8/15/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:7.87498

WISDOT/CADDS SHEET 42

TC typical - CG Road Stage 2.dgn 8/15/2014 9:57:10 AM ckieler



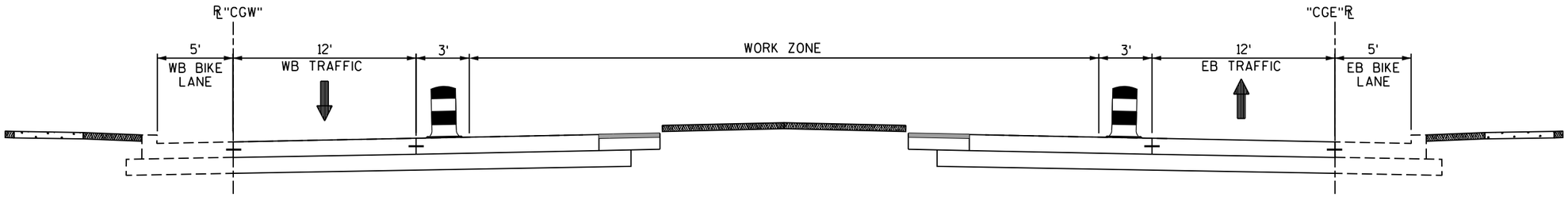
TRAFFIC CONTROL STAGE CG3 TYPICAL SECTION - COTTAGE GROVE ROAD



TRAFFIC CONTROL STAGE CG3 - CROSSOVER TYPICAL SECTION - COTTAGE GROVE ROAD

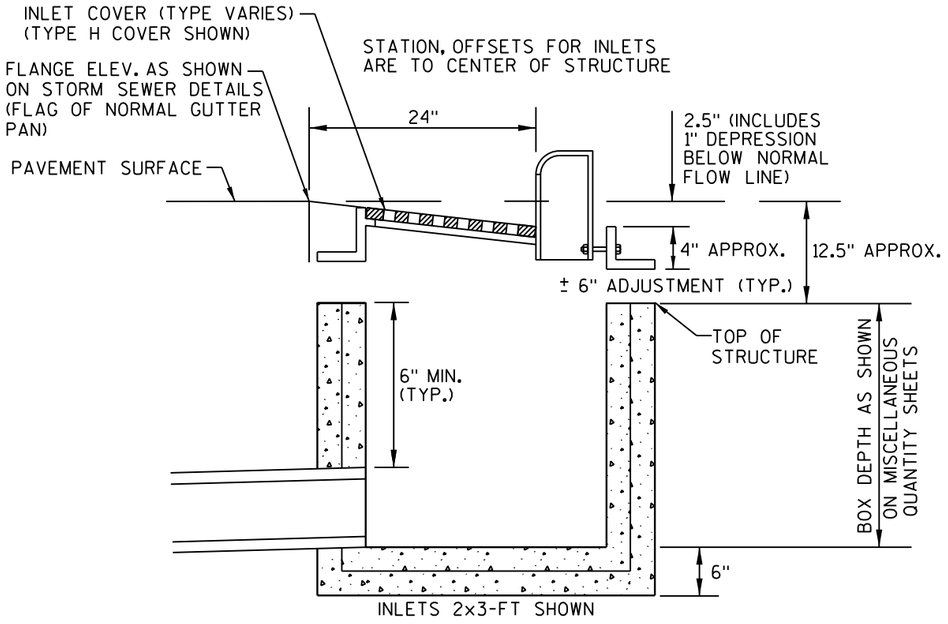
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TYPICAL SECTIONS - TRAFFIC CONTROL - STAGE CG3	SHEET 23	E

2

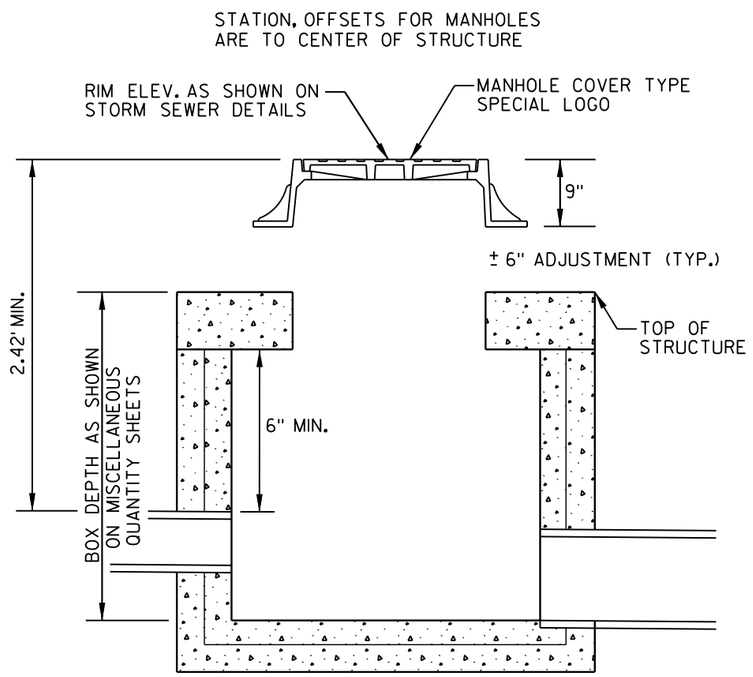


TRAFFIC CONTROL STAGE CG4 TYPICAL SECTION - COTTAGE GROVE ROAD

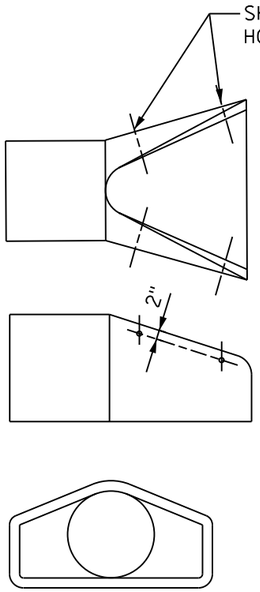
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TYPICAL SECTIONS - TRAFFIC CONTROL - STAGE CG4	SHEET 24	E

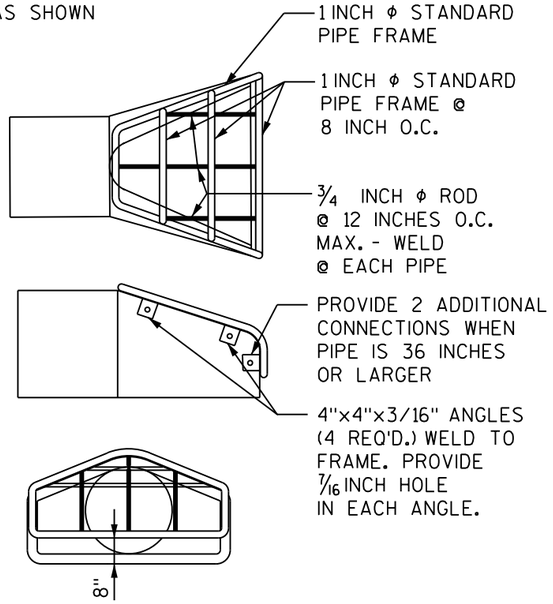


DETAIL FOR COMPUTING INLET ELEVATIONS
SCALE: NONE



DETAIL FOR COMPUTING MANHOLE ELEVATIONS
SCALE: NONE





REINFORCED CONCRETE APRON ENDWALL

PIPE GRATE

GENERAL NOTES:

1. THE CONTRACTOR SHALL BOLT THE PIPE GRATE TO THE ENDWALL WITH FOUR ⅜ INCH x 6 INCH STAINLESS STEEL ZINC COATED MACHINE BOLTS WITH NUTS ON INSIDE WALL.
2. PAINTING SPECIFICATIONS

   THE PIPE GRATE SHALL RECEIVE THE FOLLOWING PREPARATION AND PAINTING.

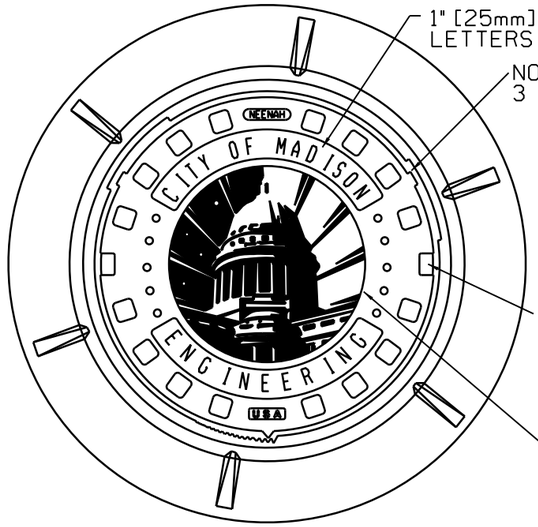
   PREPARATION:
   BARE SURFACES BY THOROUGH SCRAPING, WIRE BRUSHING AND CLEANING. APPLY THE THREE COAT SYSTEM LISTED.

   EACH COAT SHALL BE AN OVERALL COAT.

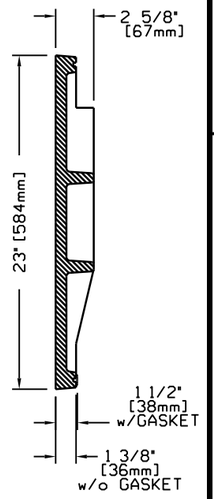
   FIRST COAT: RUST-OLEUM X-60 RED BARE METAL PRIMER OR EQUAL
   SECOND COAT: RUST-OLEUM 960 ZINC CHROMATE PRIMER OR EQUAL
   THIRD COAT: RUST-OLEUM 1282 HIGH GLOSS AND METALIC FINISH OR EQUAL

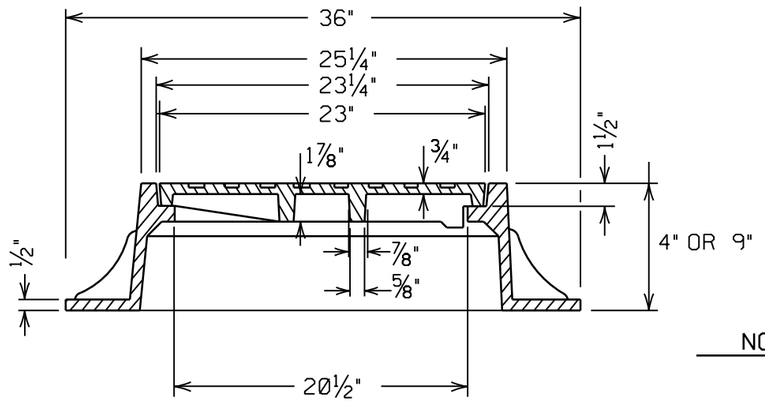
   ALLOW 24 - 48 HOURS DRYING TIME BETWEEN COATS.

PIPE GRATE DETAIL
SCALE: NONE



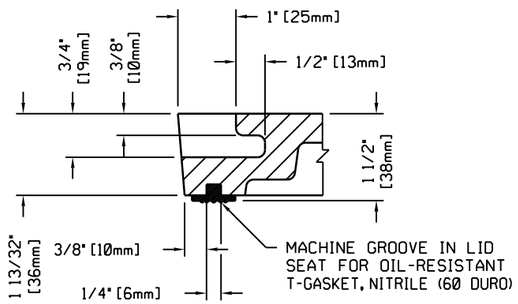
LOGO DETAIL





1. FRAME AND COVER SHALL BE MACHINED AND FITTED SO THAT ROCKING AND CHATTERING WILL BE ELIMINATED.
2. ALL LIDS SHALL BE SELF-SEALING EXCEPT FOR STORM SEWER.
3. ALL LIDS SHALL HAVE CITY OF MADISON LOGO AS SHOWN IN DETAIL (R-1550-0054 OR EQUIV.)

LID NOTES: ALL DIMENSIONS SHOWN ARE IN ENGLISH AND [METRIC]
MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B



T-SEAL GASKET / CONCEALED PICK DETAIL

NOTES:

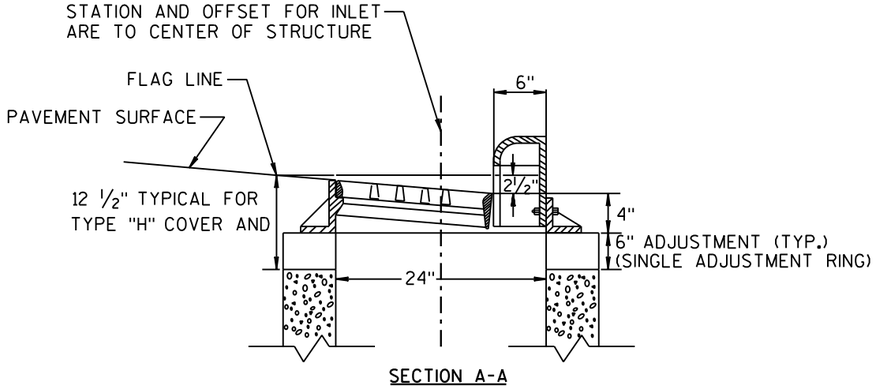
APPROXIMATE TOTAL WEIGHTS:
R-1550 w/ LOGO LID 1550-0054, 9" FRAME AND LID = 265 LBS.
R-1689 w/ LOGO LID 1550-0054, 4" FRAME AND LID = 279 LBS.

IF LOCKABLE LID IS NECESSARY, R-1920, 83/4" FRAME AND LID = 300 LBS THERE IS NO CITY OF MADISON LOGO LID AVAILABLE FOR THIS FRAME AND CASTING.

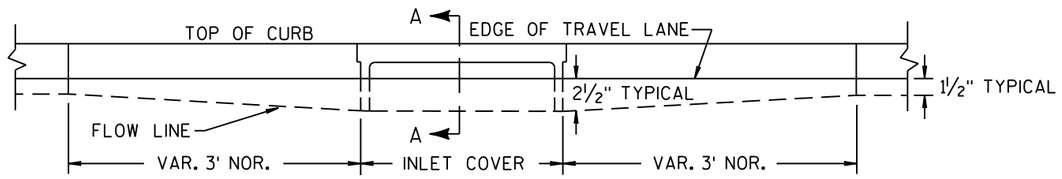
THE FOLLOWING NEENAH FOUNDRY CASTINGS (OR EQUAL CASTINGS) SHALL BE ACCEPTABLE:

1. R-1550, 9" NON-ROCKING ACCESS STRUCTURE FRAME.
2. R-1689, 4" NON-ROCKING ACCESS STRUCTURE FRAME (WHEN REQUESTED BY THE CITY CONSTRUCTION ENGINEER).
3. R-1920, 83/4" ACCESS STRUCTURE FRAME WITH LOCKING LID, TYPE 'F' LOCKS, AND CONCEALED PICK HOLES. TO BE USED IN GREENWAYS AND EASEMENTS.

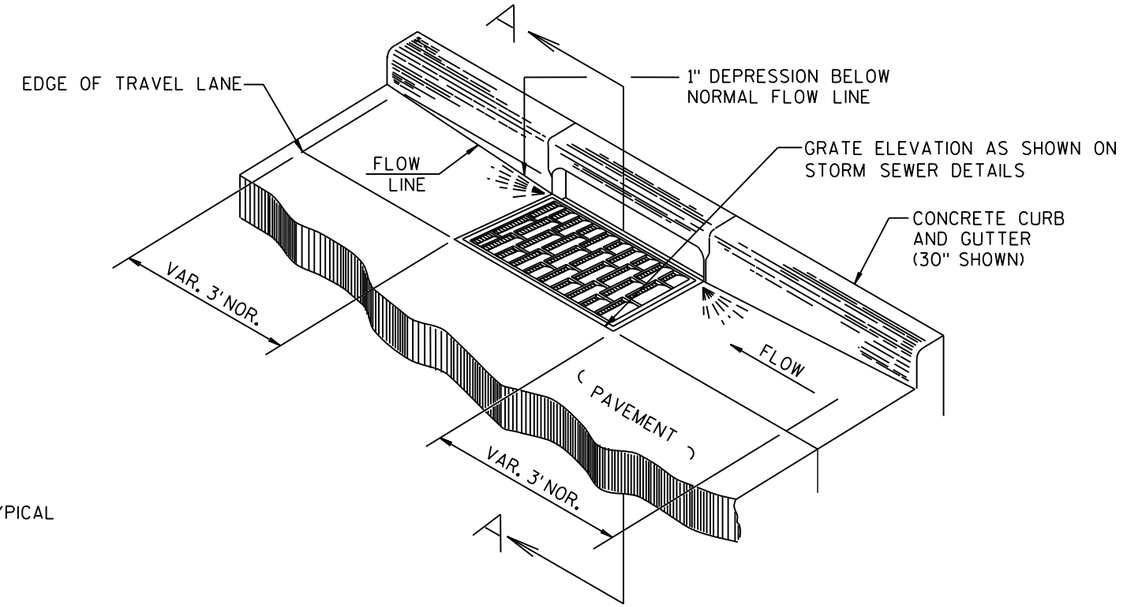
MANHOLE COVER TYPE SPECIAL LOGO DETAIL
SCALE: NONE



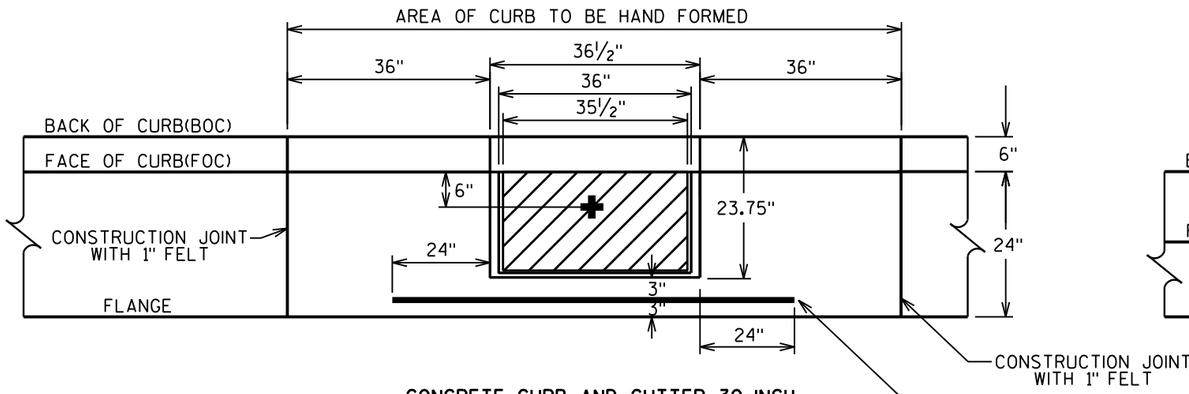
SECTION A-A



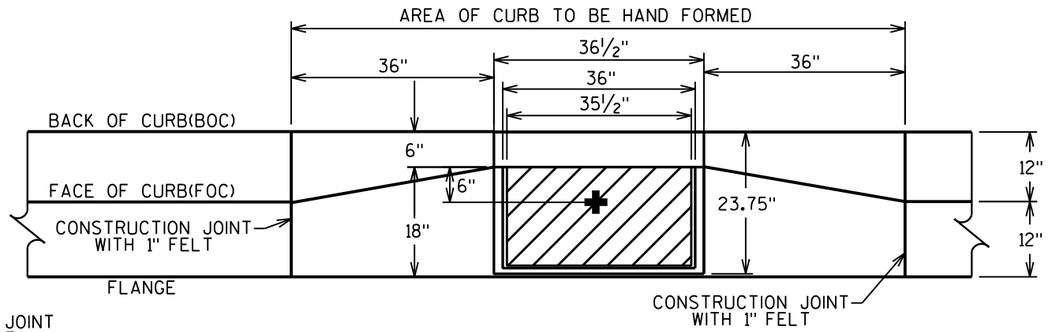
ELEVATION



CURB AND GUTTER AT INLET DETAIL
SCALE: NONE



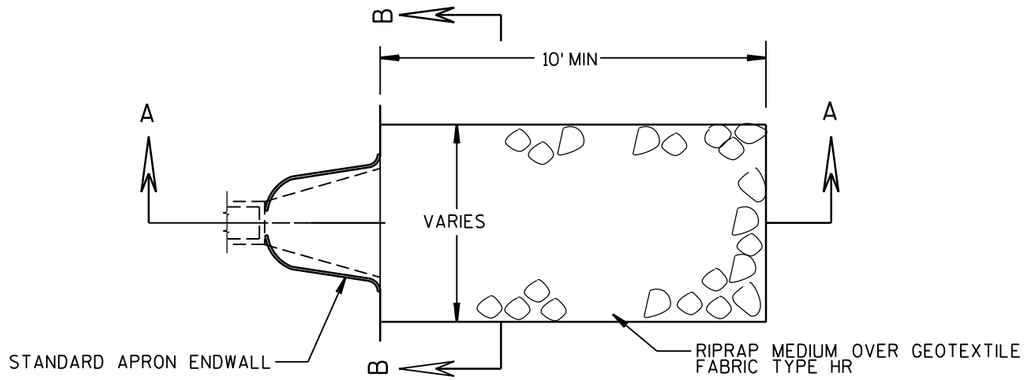
CONCRETE CURB AND GUTTER 30-INCH
PLAN VIEW



CONCRETE CURB AND GUTTER SPECIAL 24-INCH
PLAN VIEW

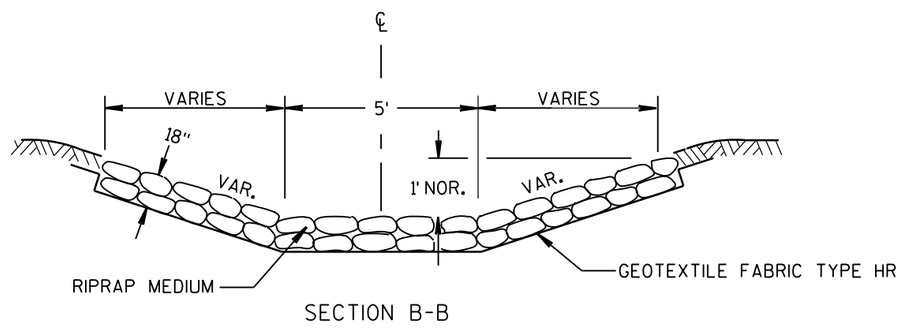
+ = CENTER OF STRUCTURE (STATION AND OFFSET AS INDICATED ON THE STORM SEWER PLANS)

CURB AND GUTTER AT INLET DETAIL
SCALE: NONE



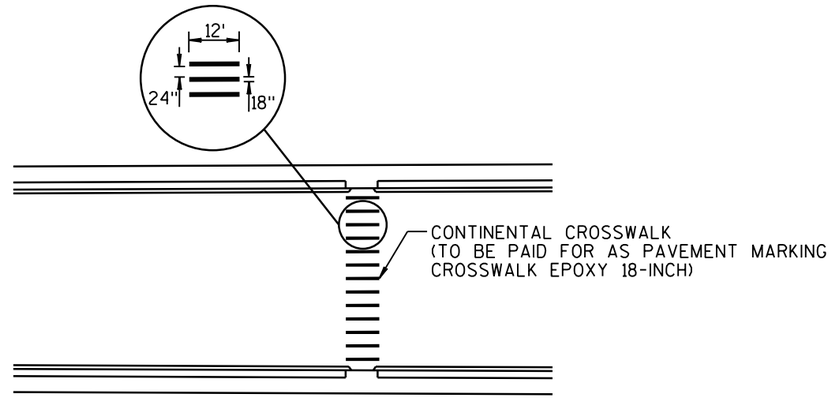
PLAN VIEW

SECTION A-A



SECTION B-B

RIPAP MEDIUM OVER GEOTEXTILE FABRIC TYPE HR DETAIL
SCALE: NONE



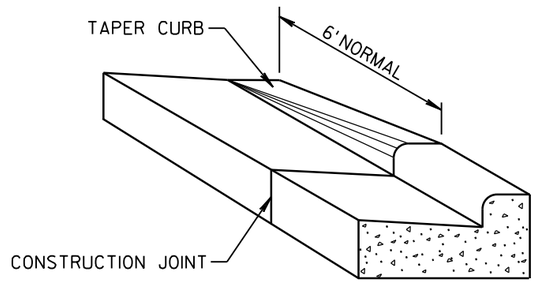
CONTINENTAL CROSSWALKS:

CONTINENTAL CROSSWALKS HAVE 18-INCH WIDE, 12-FOOT LONG CROSSBARS PLACED IN LINE WITH THE TRAFFIC FLOW.

THE SPACING OR GAP BETWEEN THE CROSSBARS IS 24-INCHES.

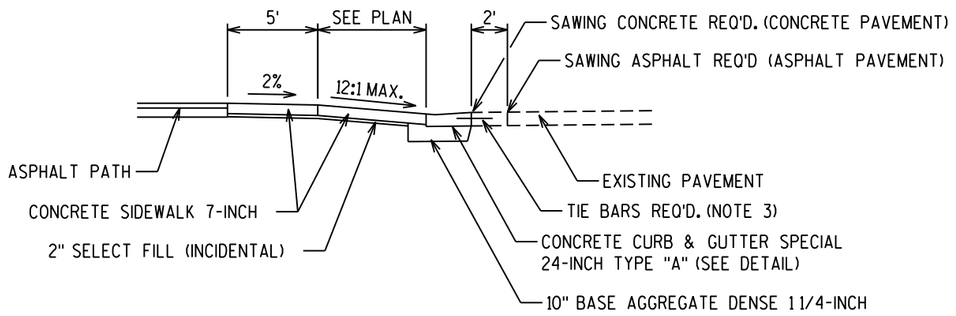
THE CROSSBARS SHOULD BE PLACED IN A MANNER THAT MINIMIZES CONTACT WITH VEHICLES TIRES.

CONTINENTAL CROSSWALK PAVEMENT MARKING DETAIL
SCALE: NONE (COTTAGE GROVE ROAD MULTI-USE PATH CROSSING)

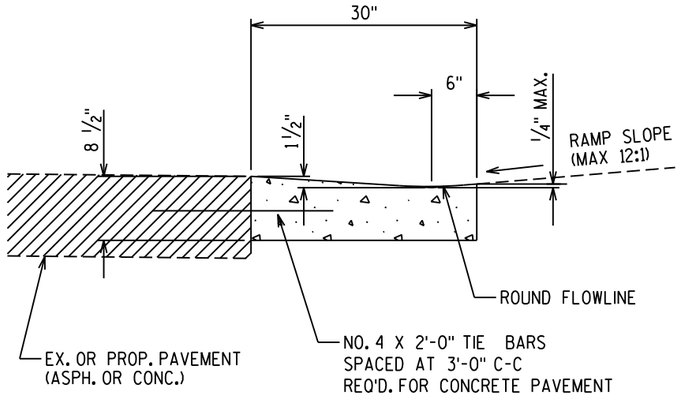


DETAIL OF CURB & GUTTER TERMINI
SCALE: NONE

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CONSTRUCTION DETAILS	SHEET 28	E

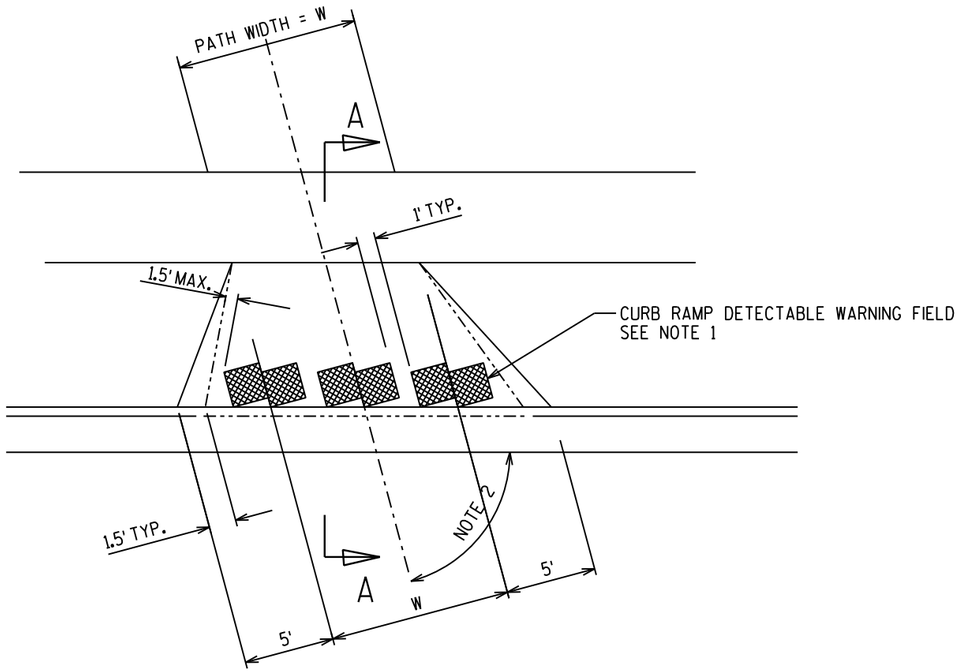


BIKE PATH RAMP SECTION A-A



CONCRETE CURB & GUTTER SPECIAL 24-INCH TYPE A

(SEE FINISHED TYPICAL SECTIONS - COTTAGE GROVE ROAD FOR ADDITIONAL INFORMATION ON CONCRETE CURB & GUTTER SPECIAL 24-INCH TYPE A)



PLAN VIEW

NOTES:

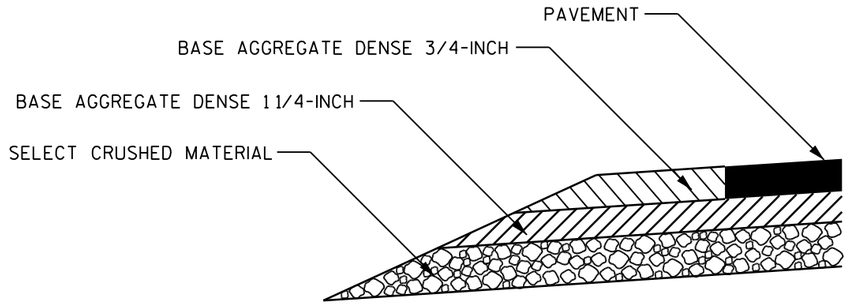
1. CURB RAMP DETECTABLE WARNING FIELDS REQUIRED WHERE PATH RAMP ENTERS A STREET.

2. FOR ANGLES LESS THAN 75° OR GREATER THAN 105° FLARE DIMENSIONS SHALL BE AS SHOWN ON THE PLANS OR SHALL BE REVIEWED BY THE CONSTRUCTION ENGINEER PRIOR TO CONSTRUCTION.

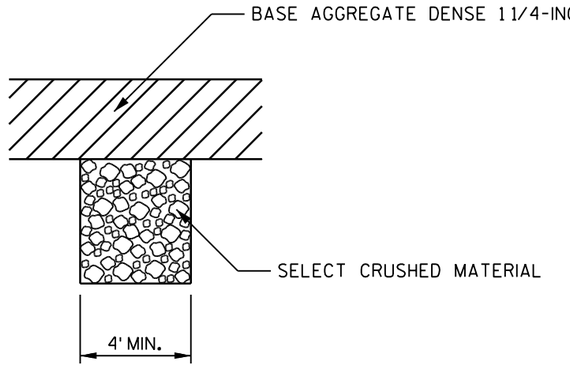
3. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE

BIKE PATH RAMP DETAIL
SCALE: NONE

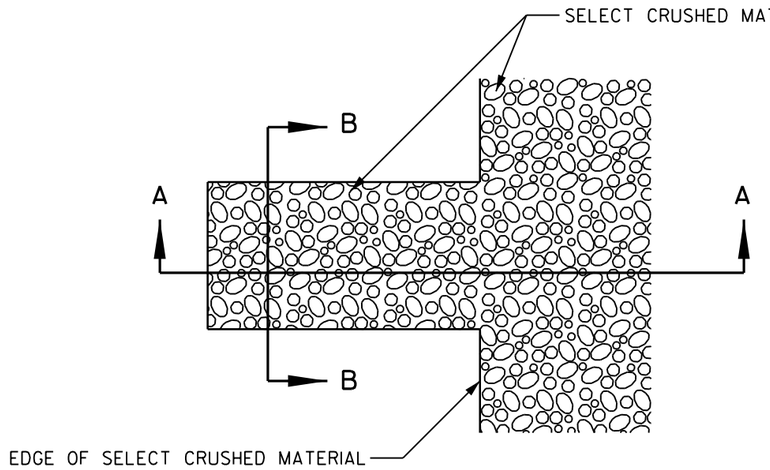
2



SECTION A-A



SECTION B-B



NOTES:

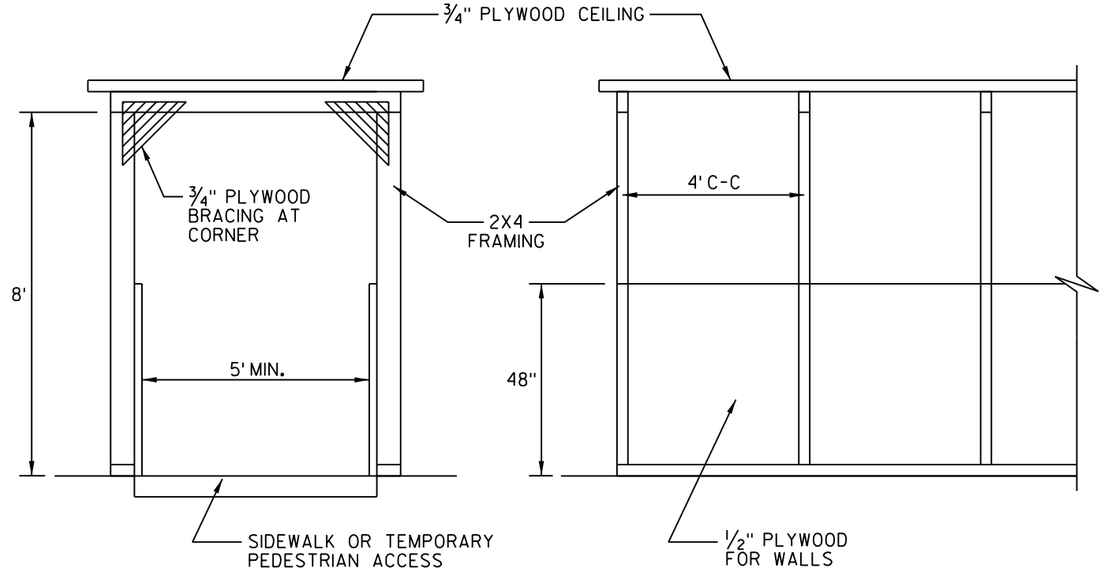
1. DRAINS ARE TO BE CONSTRUCTED AT LEAST EVERY 250' AND AT EACH SAG VERTICLE CURVE IN THE PROFILE.

2. LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

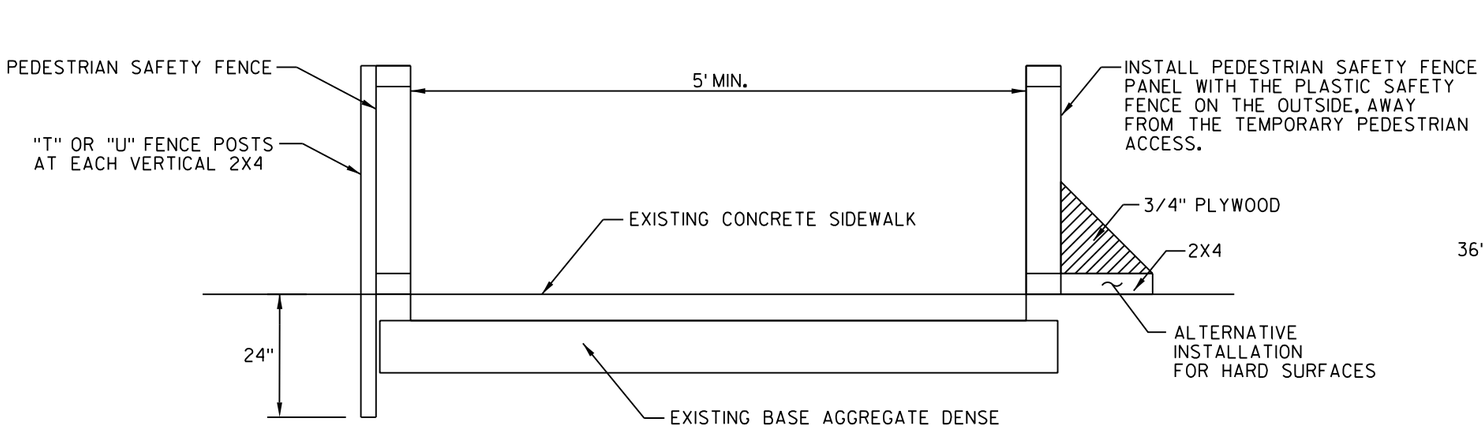
3. EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS SHALL BE CONSIDERED INCIDENTAL TO THE ITEM SELECT CRUSHED MATERIAL.

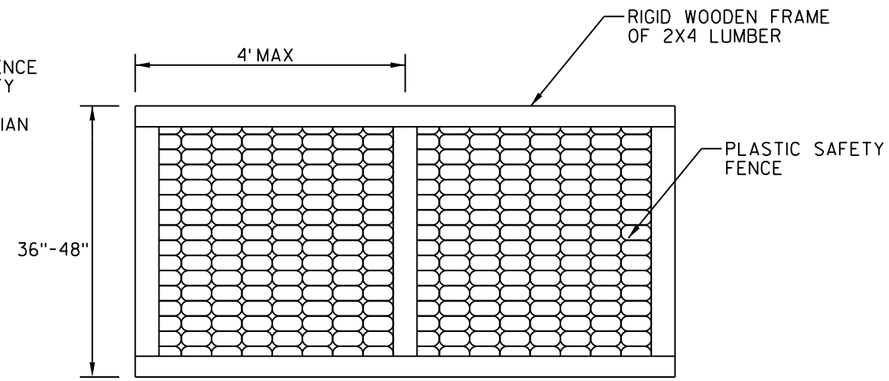
FRENCH DRAIN DETAIL
SCALE: NONE

2

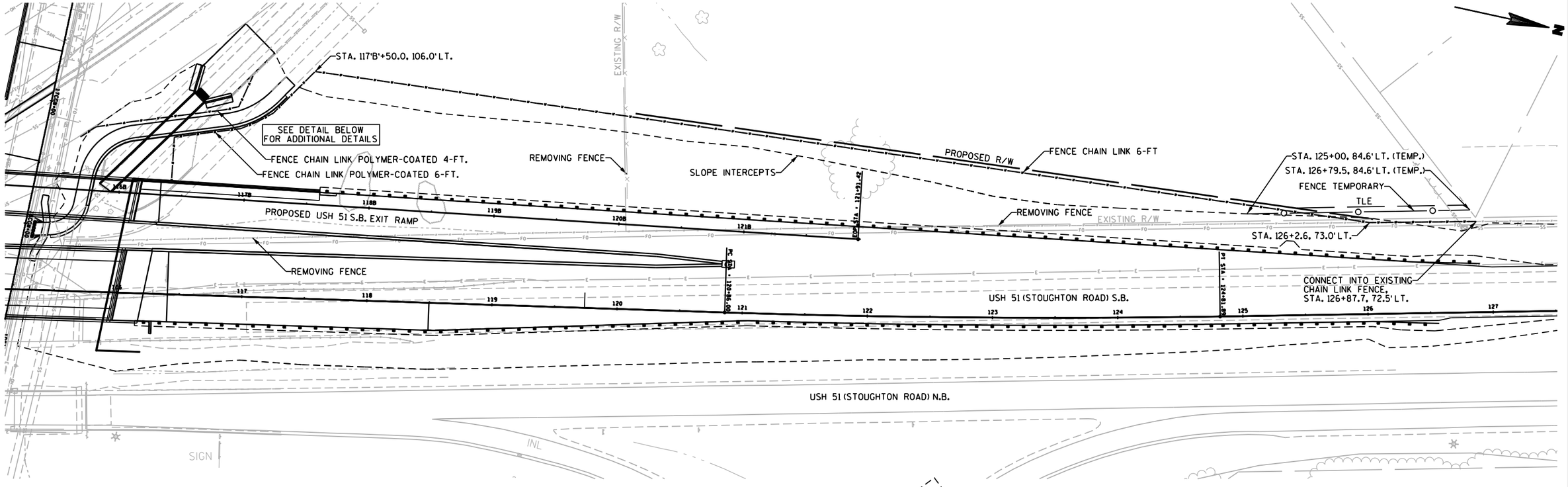


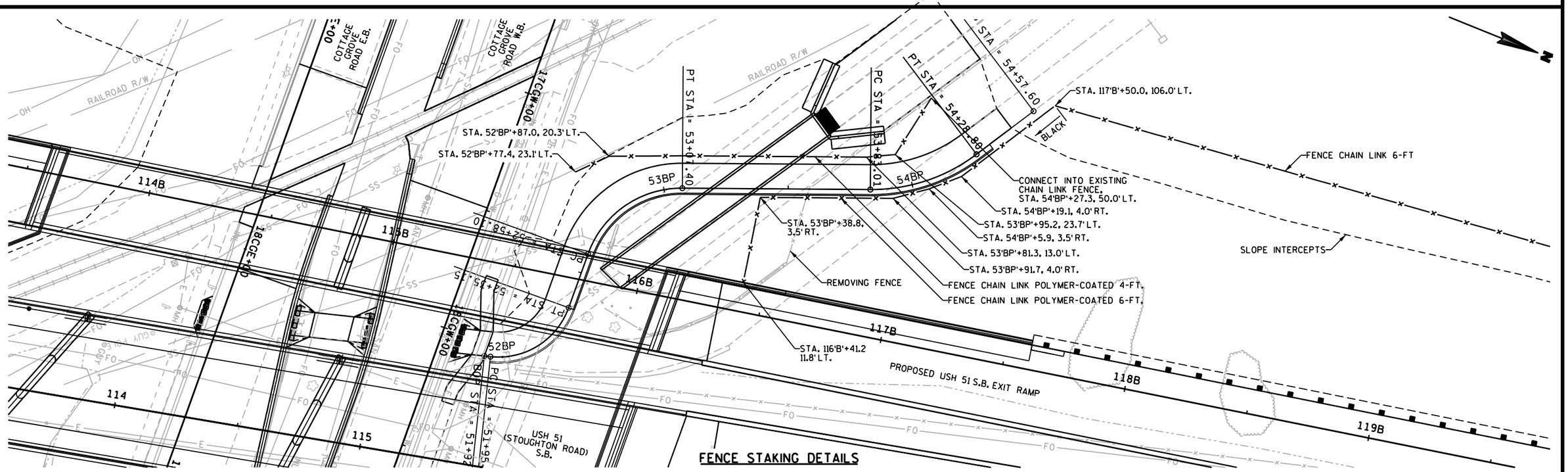
PEDESTRIAN OVERHEAD PROTECTION
SCALE: NONE





PEDESTRIAN SAFETY FENCE DETAIL
SCALE: NONE





FENCE STAKING DETAILS

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CONSTRUCTION DETAILS	SHEET 32	E

NOTES:

1. INSTALL WICK DRAINS TO APPROXIMATELY 1' BELOW EXISTING WETLAND ELEVATION.
2. EXISTING WETLAND ELEVATION = 855.00

LEGEND

PZ	PIEZOMETER
SG	SETTLEMENT GAUGE
SI	SLOPE INCLINOMETER (BY OTHERS)

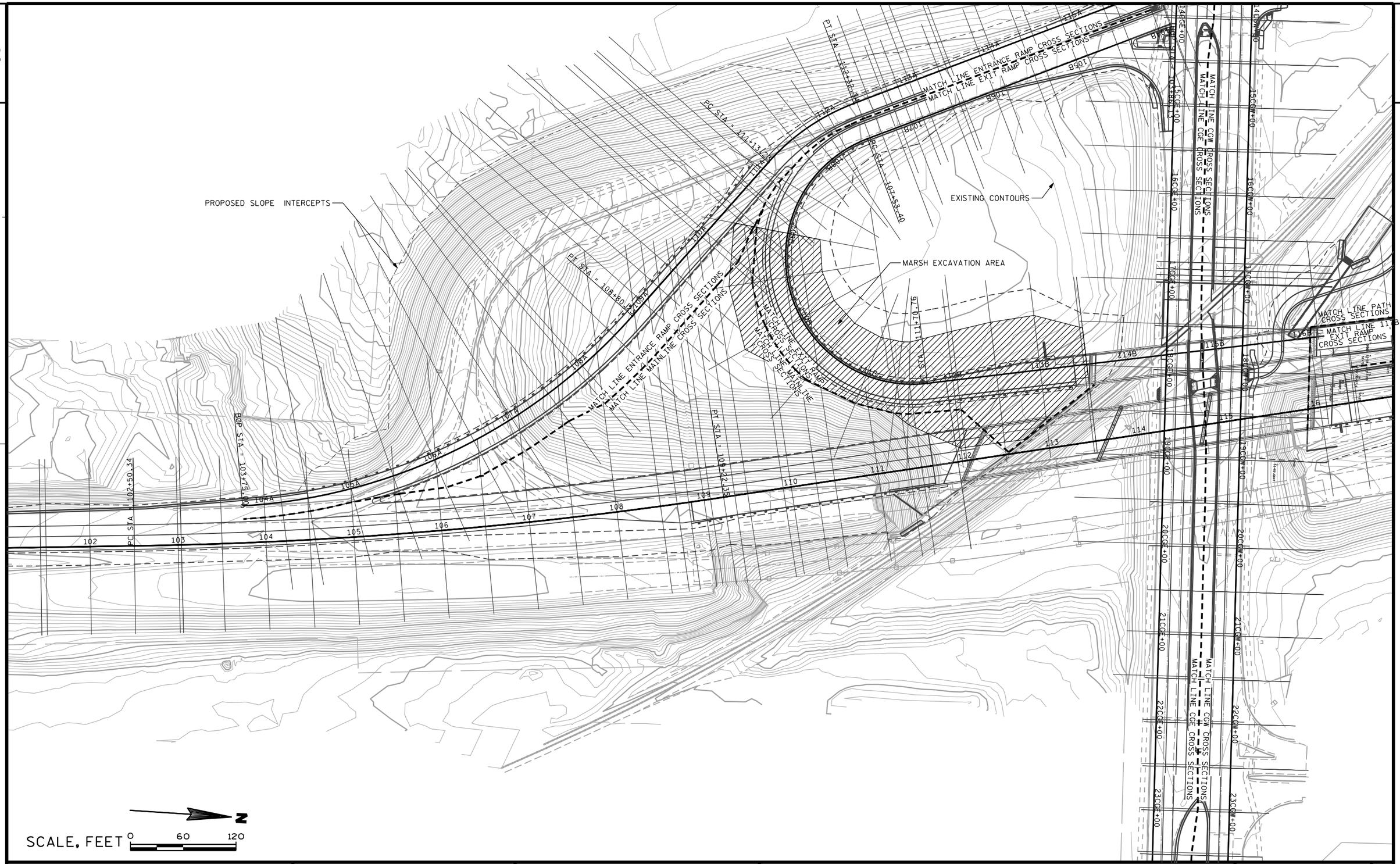
STA. 118'B'+00, 84'LT
STA. 117'B'+50, 90'LT
WICK DRAIN/DRAINAGE BLANKET AREA: APROXIMATELY 1440 WICK DRAINS. AVERAGE DEPTH IS ESTIMATED TO BE 15'. LIMITS EXTEND TO TOE OF PROPOSED SLOPE.
STA. 118'B'+50, 79'LT
STA. 119'B'+00, 78'LT
STA. 119'B'+50, 76'LT
STA. 120'B'+00, 74'LT
STA. 120'B'+50, 70'LT
STA. 121'B'+00, 68'LT
STA. 121'B'+50, 62'LT
STA. 122+2.5, 116'LT
SI2
SI3
5'
5'
WICK DRAIN (TYP.)
PZ2 SG2
PZ3 PZ4 SG3
PZ5 PZ6 SG4
SG5
116B
117B
118B
119B
120B
121B
PROPOSED USH 51 S.B. EXIT RAMP ALIGNMENT
EOP STA = 121+91.42
STA. 119'B'+50, 11'RT
STA. 120'B'+00, 7'RT
STA. 120'B'+50, 5'LT
STA. 121'B'+00, 11'LT
STA. 121'B'+50, 16'LT
STA. 122+00, 70'LT
STA. 119'B'+00, 22'RT
STA. 118'B'+50, 21'RT
STA. 118'B'+00, 20'RT
STA. 117'B'+50, 29'RT
PC STA = 120+86.00
SI1
PZ1 SG1
116
117
118
119
120
121
122
123
USH 51 (STOUGHTON ROAD) S.B.
SLOPE INTERCEPTS (TYP.)
USH 51 (STOUGHTON ROAD) N.B.
COTTAGE GROVE ROAD
16CGW+00
SPRINT
BILLBOARD
BIKE PATH
CITY OF MADISON
CONCRETE DRAINAGE DITCH
ASPHALT
CITY OF MADISON CHARTER
CITY OF MADISON
36" RCP
GUARD POST
RETAINING WALL
CHARTER
RETAINING WALL
CITY OF MADISON
SIGN
SIGN
EXISTING R/W
EXISTING R/W

WICK DRAIN DETAILS

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CONSTRUCTION DETAILS	SHEET 33	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Const Details 06.dgn 12/10/2014 11:21:47 AM jdolens



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTION MATCH LINES	SHEET 34 E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Construction Details\Const Details 07.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

Const Details 07.dgn 8/14/2014 8:30:51 AM ckieler

2

2

EXISTING CONTOURS

WICK DRAIN DRAINAGE BLANKET AREA

PROPOSED SLOPE INTERCEPTS

MATCH LINE ENTRANCE RAMP CROSS SECTIONS

MATCH LINE EXIT RAMP CROSS SECTIONS

MATCH LINE CGW CROSS SECTIONS

MATCH LINE CGE CROSS SECTIONS

MATCH LINE PATH CROSS SECTIONS

MATCH LINE EXIT RAMP CROSS SECTIONS

MATCH LINE MAINLINE CROSS SECTIONS

PC STA = 120+86.00

EOP STA = 121+91.42

PT STA = 124+68.98

SCALE, FEET 0 60 120

N

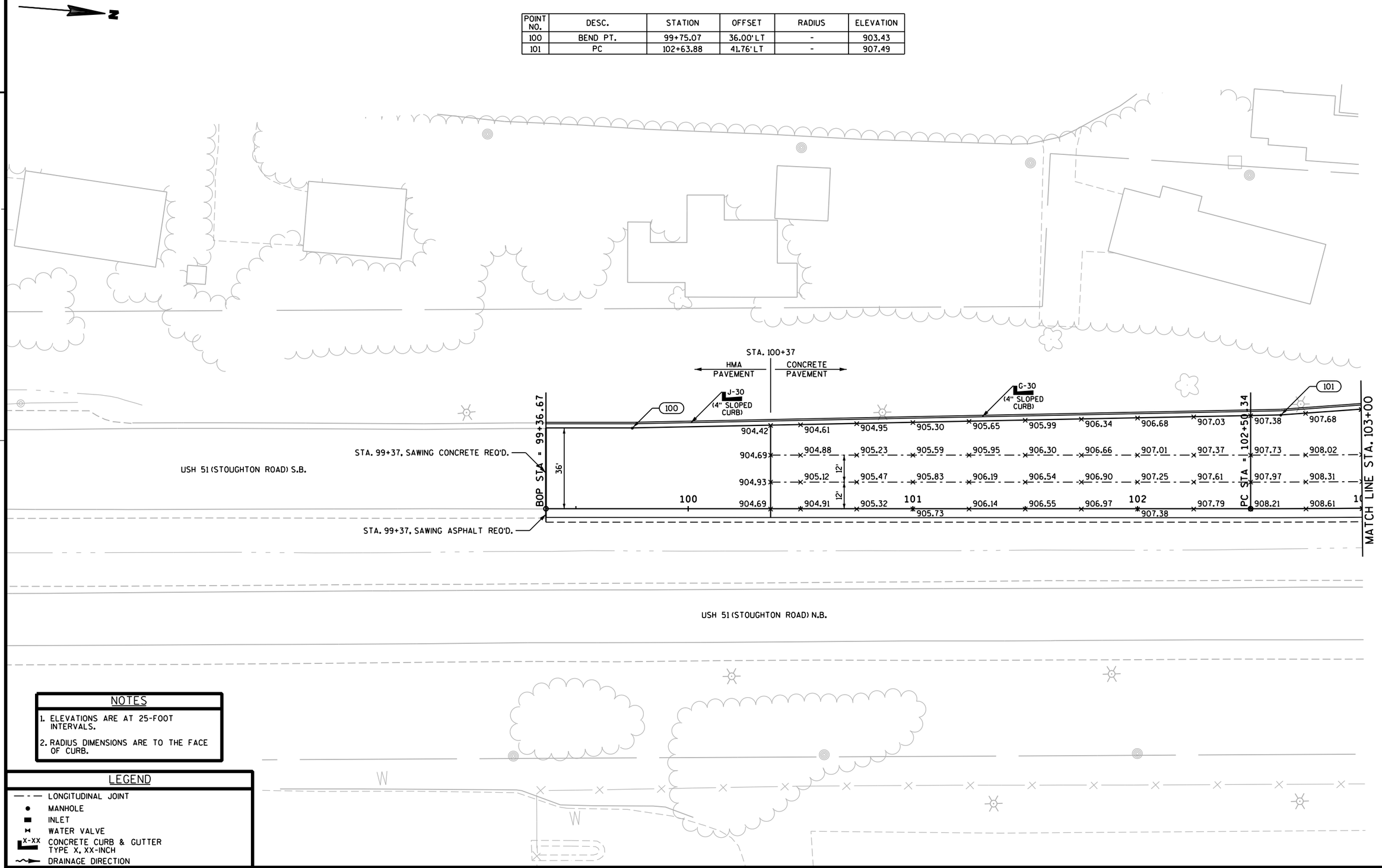
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTION MATCH LINES	SHEET 35	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Construction Details\Const Details 08.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

Const Details 08.dgn 8/14/2014 8:30:53 AM ckieler

POINT NO.	DESC.	STATION	OFFSET	RADIUS	ELEVATION
100	BEND PT.	99+75.07	36.00'LT	-	903.43
101	PC	102+63.88	41.76'LT	-	907.49



NOTES

1. ELEVATIONS ARE AT 25-FOOT INTERVALS.
2. RADIUS DIMENSIONS ARE TO THE FACE OF CURB.

LEGEND

- LONGITUDINAL JOINT
- MANHOLE
- INLET
- WATER VALVE
- X-XX CONCRETE CURB & GUTTER TYPE X, XX-INCH
- DRAINAGE DIRECTION

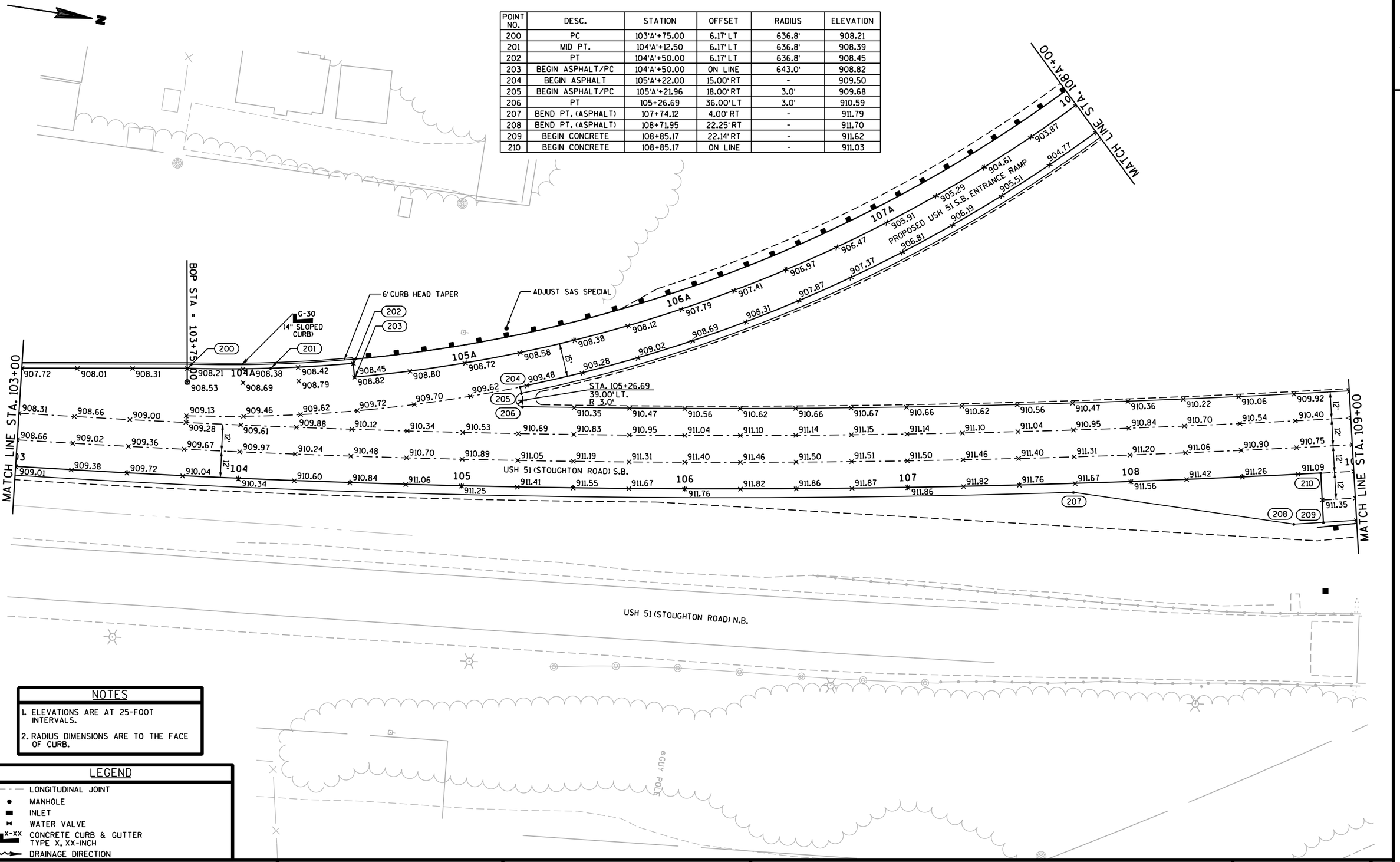
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PAVING DETAIL	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Paving_01.dgn 8/14/2014 8:30:54 AM ckieler

2

POINT NO.	DESC.	STATION	OFFSET	RADIUS	ELEVATION
200	PC	103'A'+75.00	6.17' LT	636.8'	908.21
201	MID PT.	104'A'+12.50	6.17' LT	636.8'	908.39
202	PT	104'A'+50.00	6.17' LT	636.8'	908.45
203	BEGIN ASPHALT/PC	104'A'+50.00	ON LINE	643.0'	908.82
204	BEGIN ASPHALT	105'A'+22.00	15.00' RT	-	909.50
205	BEGIN ASPHALT/PC	105'A'+21.96	18.00' RT	3.0'	909.68
206	PT	105+26.69	36.00' LT	3.0'	910.59
207	BEND PT. (ASPHALT)	107+74.12	4.00' RT	-	911.79
208	BEND PT. (ASPHALT)	108+71.95	22.25' RT	-	911.70
209	BEGIN CONCRETE	108+85.17	22.14' RT	-	911.62
210	BEGIN CONCRETE	108+85.17	ON LINE	-	911.03



NOTES

1. ELEVATIONS ARE AT 25-FOOT INTERVALS.
2. RADIUS DIMENSIONS ARE TO THE FACE OF CURB.

LEGEND

- LONGITUDINAL JOINT
- MANHOLE
- INLET
- WATER VALVE
- X-XX CONCRETE CURB & GUTTER TYPE X, XX-INCH
- DRAINAGE DIRECTION

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PAVING DETAIL	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

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POINT NO.	DESC.	STATION	OFFSET	RADIUS	ELEVATION
300	PT	111'B'+70.76	ON LINE	144.0'	900.50
301	END ASPHALT	111'B'+70.76	18.00' RT	-	901.20

MATCH LINE STA. 110'B'+00

894.51 895.59 895.68 896.76 896.56 897.64 897.49 898.57 898.37 899.45 899.17 900.25 899.92 900.86 900.61 901.27 901.23 901.64 901.80 902.10 902.30 902.66 902.74 903.04 903.11 903.41 903.43 903.73

A-30

STA = 111+70.76

6' CURB HEAD TAPER

300

301

CONCRETE PAVEMENT APPROACH SLAB

CONCRETE SURFACE DRAIN (SEE SDD 8D2)

PROPOSED USH 51 S.B. EXIT RAMP

112B 113B 114B

17CGE+00

18CGE+00

19CGE+00

PT STA = 109+22.35

MATCH LINE STA. 109+00

909.87 909.81 909.64 909.48 909.32 909.15 908.99 908.83 908.64 908.43 908.16
910.35 910.29 910.12 909.96 909.80 909.63 909.47 909.31 909.12 908.91 908.67
910.64 910.53 910.36 910.20 910.04 909.87 909.71 909.55 909.36 909.15 908.91
910.93 910.77 910.60 910.44 910.28 910.11 909.95 909.79 909.60 909.39 909.15
911.22 911.00 910.78 910.56 910.34 910.13 909.90 909.69 909.44 909.18 908.91
911.46 911.20 910.93 910.66 910.39 910.13 909.86 909.60 909.31 909.00 908.71

12' 12' 12' 12' 10'

110 111 112 113 114

USH 51 (STOUGHTON ROAD) S.B.

A-30

MATCH LINE STA. 115+00

CONCRETE SURFACE DRAIN

SAWING CONCRETE REQ'D.

USH 51 (STOUGHTON ROAD) N.B.

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

20CGE+00

20CGW+00

NOTES

1. ELEVATIONS ARE AT 25-FOOT INTERVALS.
2. RADIUS DIMENSIONS ARE TO THE FACE OF CURB.

LEGEND

- LONGITUDINAL JOINT
- MANHOLE
- INLET
- WATER VALVE
- X-XX CONCRETE CURB & GUTTER TYPE X, XX-INCH
- DRAINAGE DIRECTION

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PAVING DETAIL	SHEET 38	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

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2

COTTAGE GROVE ROAD W.B.

STA. 53'BP'+83.01
70.00' LT.
R 72.0'

PT STA = 54+51.60

STA. 54'BP'+47, SAWING ASPHALT REQ'D.

PT STA = 54+28.80

PC STA = 53+83.01

ASPHALTIC FLUME

412

6' CURB HEAD TAPER

411

54BP

410

SLOPE PAVING CONCRETE WATERWAY SPECIAL

PT STA = 53+07.40

53BP

409

10'

D-30

408

407

406

STA. 52'BP'+58.10
40.00' RT.
R 38.0'

PC STA = 52+58.10

CONCRETE SURFACE DRAIN

116B

117B

118B

119B

120B

901.72 885.17 900.56 899.89 899.16 898.36 897.51 896.59 895.61 894.57 893.47 892.35 891.24 890.15 889.09 888.06 887.04 886.05

901.92 901.37 900.76 900.09 899.36 898.56 897.71 896.79 895.81 894.77 893.67 892.55 891.44 890.35 889.29 888.26 887.24 886.25

PROPOSED USH 51 S.B. EXIT RAMP

SEE DETAIL BELOW

902.22 901.67 901.06 900.39 899.66 898.86 898.01 897.09 896.11 895.07 893.97 892.85 891.74 890.65 889.59 888.56 887.54 886.55

902.36 901.74 901.06 900.32 899.47 898.67 897.82 897.90 895.92 894.88 893.78 892.66 891.55 890.46 899.40 888.34 887.38 886.37

SEE DETAIL ABOVE

CC

405

PT STA = 52+35.15

404

6' CURB HEAD TAPER

52BP

403

CONCRETE PAVEMENT APPROACH SLAB

DRAINAGE PATH

CONCRETE BARRIER WALL TYPE S42

GRADES ARE TO THE FACE OF CONCRETE BARRIER WALL, NOT AT THE PAVMENT JOINT (SEE THE CONCRETE BARRIER WALL TYPICAL SECTION FOR DETAILS)

PC STA = 51+95.16

BOR STA = 51+92.88

MATCH LINE STA. 115+00

115

116B

117

118

119

120

898.22 897.48 896.73 895.98 895.24 894.49 893.75 893.00 892.25 891.51 890.76 890.01 889.19 888.62 887.97 887.23 886.47 885.69

898.62 897.88 897.13 896.38 895.64 894.89 894.15 893.40 892.65 891.91 891.16 890.41 889.59 888.92 888.17 887.43 886.68 885.93

USH 51 (STOUGHTON ROAD) S.B.

898.86 898.12 897.37 896.62 895.88 895.13 894.39 893.64 892.89 892.15 891.40 890.65 889.83 889.16 888.41 887.67 886.92 886.18

899.10 898.36 896.86 896.12 895.37 893.88 893.13 892.39 890.89 890.07 889.40 887.91 887.16 886.41

897.61 894.63 891.64 888.65

400

898.86 898.12 897.37 896.62 895.88 895.13 894.39 893.64 892.90

401

898.46 897.72 896.97 896.22 895.48 894.73 893.99 893.24

402

CONCRETE PAVEMENT APPROACH SLAB

CONCRETE SURFACE DRAIN
(SEE SDD 8D2)

GRADES ARE TO THE FACE OF CONCRETE BARRIER WALL, NOT AT THE PAVMENT JOINT (SEE THE CONCRETE BARRIER WALL TYPICAL SECTION FOR DETAILS)

MATCH LINE STA. 121+00

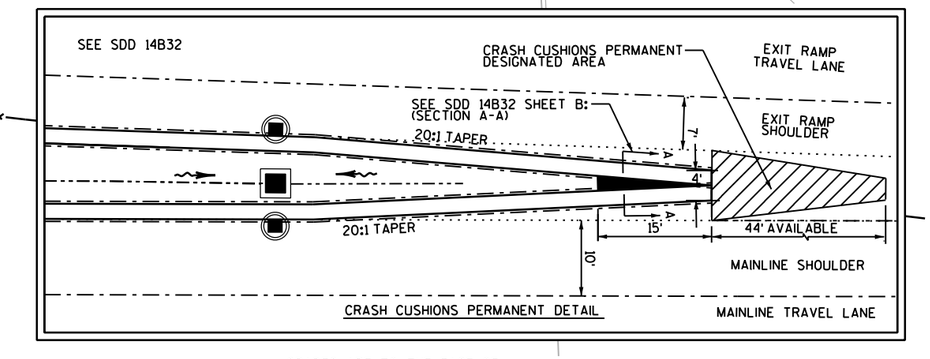
195GM+00

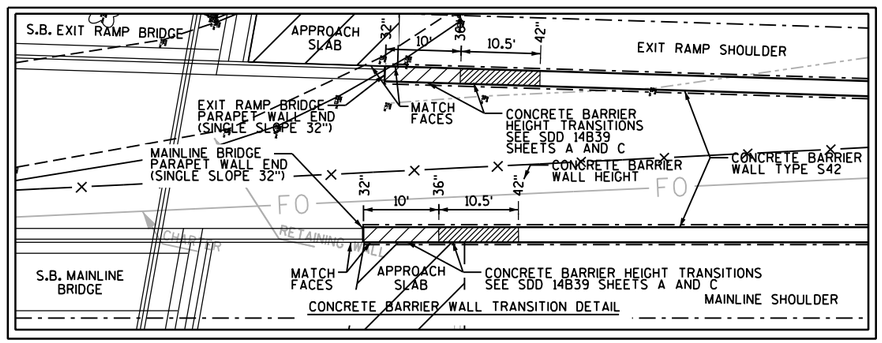
200GM+00

BRIDGE

USH 51 (STOUGHTON ROAD) N.B.

USH 51 N.B. EXIT RAMP





POINT NO.	DESC.	STATION	OFFSET	RADIUS	ELEVATION
400	END CONCRETE	118+49.61	ON LINE	-	893.13
401	END CONCRETE	118+49.61	22.00' RT	-	892.49
402	BEND PT. (ASPHALT)	120+89.62	6.00' RT	-	886.09
403	BEGIN C&G/PC	51'BP'+95.16	ON LINE	30.0'	876.05
404	MID PT.	52'BP'+15.16	ON LINE	30.0'	875.33
405	PT	52'BP'+35.15	ON LINE	30.0'	874.44
406	PC	52'BP'+58.10	ON LINE	40.0'	873.34
407	MID PT.	52'BP'+82.75	ON LINE	40.0'	872.20
408	PT	53'BP'+07.40	ON LINE	40.0'	871.48
409	PC	53'BP'+83.01	ON LINE	70.0'	869.33
410	MID PT.	54'BP'+5.90	ON LINE	70.0'	868.58
411	PT	54'BP'+28.80	ON LINE	70.0'	868.17
412	END C&G	54'BP'+35.38	ON LINE	-	868.11

NOTES

1. ELEVATIONS ARE AT 25-FOOT INTERVALS.
2. RADIUS DIMENSIONS ARE TO THE FACE OF CURB.

LEGEND

- LONGITUDINAL JOINT
- MANHOLE
- INLET
- WATER VALVE
- X-XX CONCRETE CURB & GUTTER TYPE X, XX-INCH
- DRAINAGE DIRECTION

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PAVING DETAIL	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

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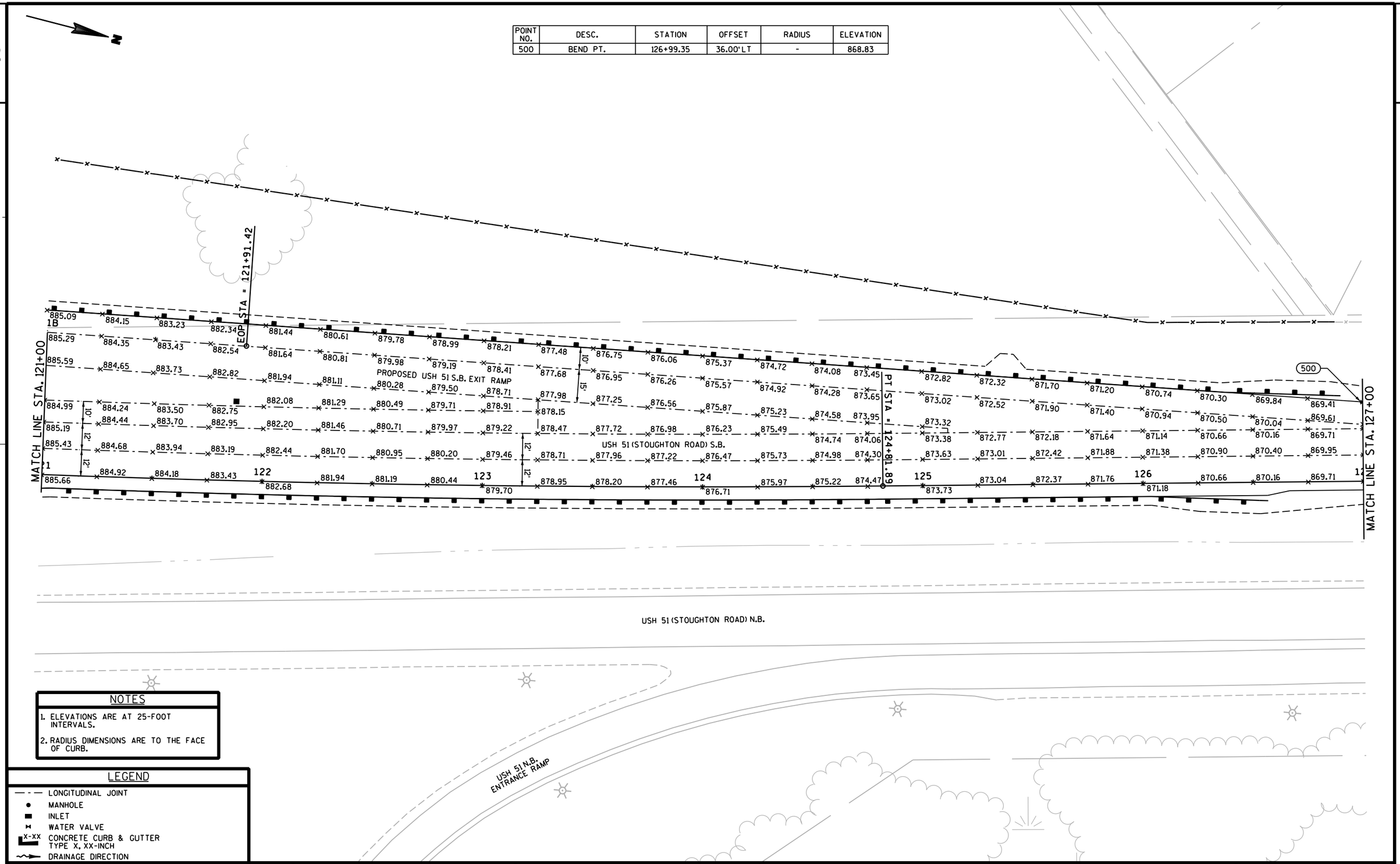
POINT NO.	DESC.	STATION	OFFSET	RADIUS	ELEVATION
500	BEND PT.	126+99.35	36.00'LT	-	868.83



NOTES

1. ELEVATIONS ARE AT 25-FOOT INTERVALS.
2. RADIUS DIMENSIONS ARE TO THE FACE OF CURB.

LEGEND

- LONGITUDINAL JOINT
- MANHOLE
- INLET
- WATER VALVE
- X-XX CONCRETE CURB & GUTTER TYPE X, XX-INCH
- DRAINAGE DIRECTION

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PAVING DETAIL	SHEET 40	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

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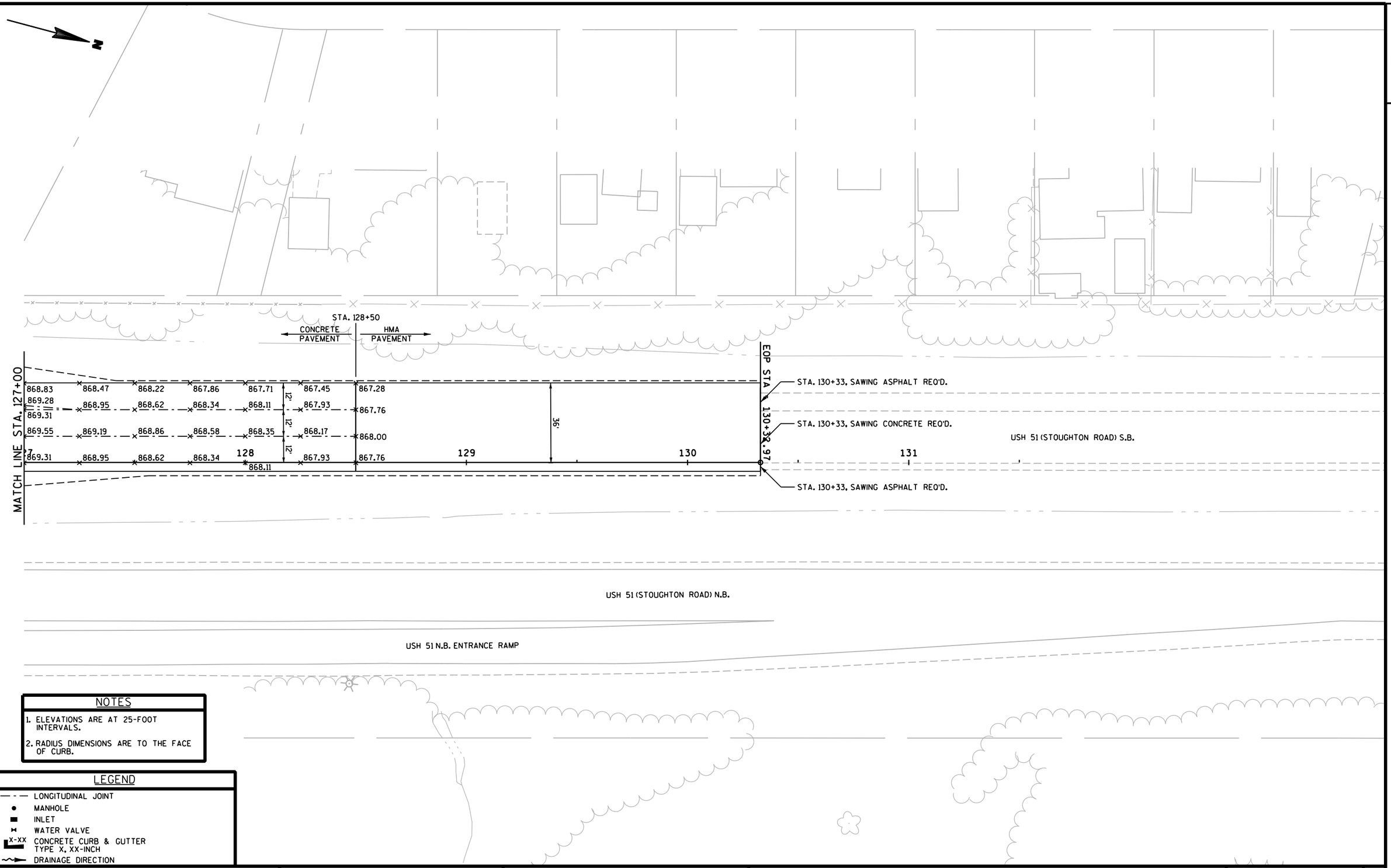
2



NOTES

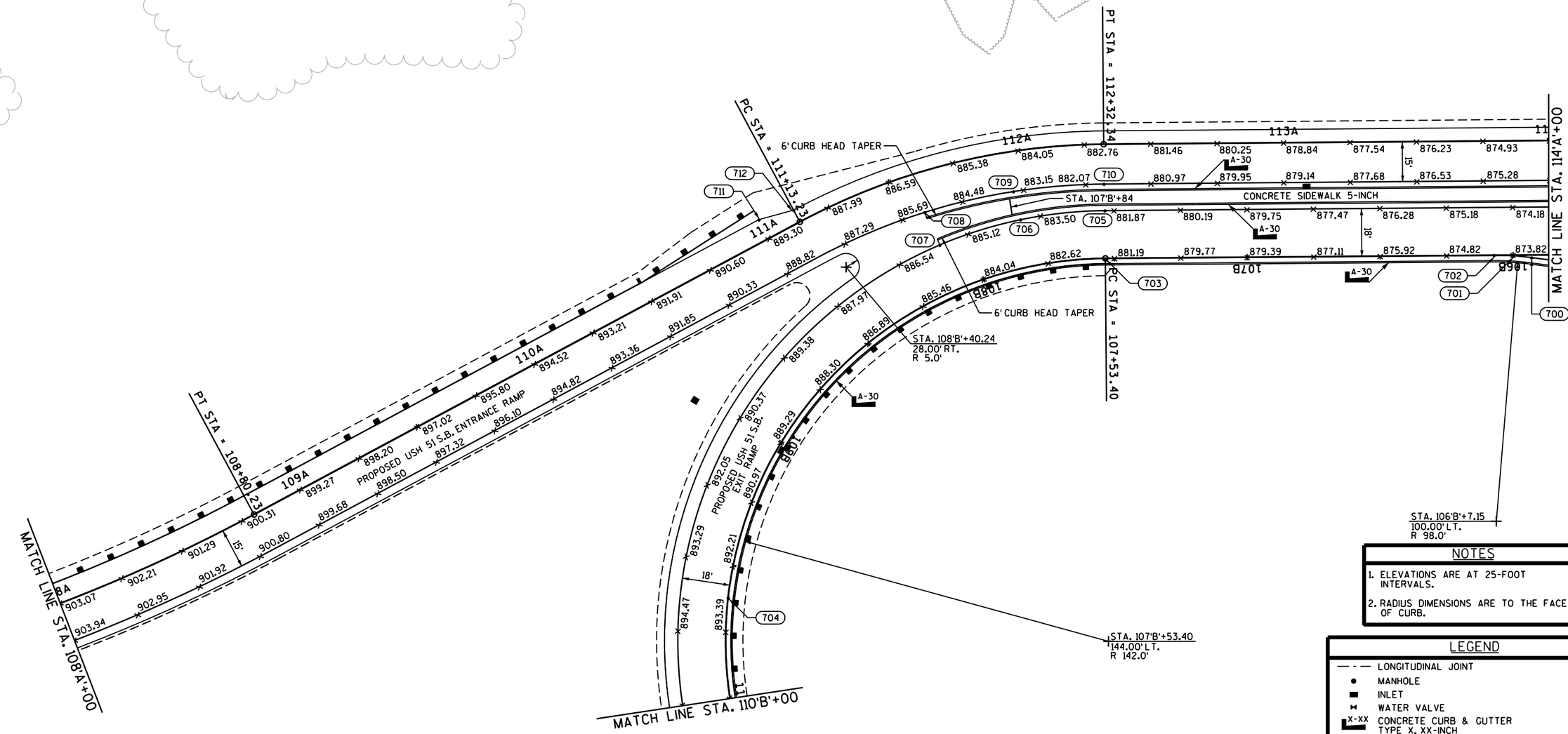
1. ELEVATIONS ARE AT 25-FOOT INTERVALS.
2. RADIUS DIMENSIONS ARE TO THE FACE OF CURB.

LEGEND

- LONGITUDINAL JOINT
- MANHOLE
- INLET
- WATER VALVE
- X-XX CONCRETE CURB & GUTTER TYPE X, XX-INCH
- DRAINAGE DIRECTION

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PAVING DETAIL	SHEET 41	E

POINT NO.	DESC.	STATION	OFFSET	RADIUS	ELEVATION
700	PC	105'B'+93.00	1.00' LT	100.0'	873.54
701	MID PT.	106'B'+00.06	0.25' LT	100.0'	873.81
702	PT	106'B'+07.15	ON LINE	100.0'	874.10
703	PT	107'B'+53.40	ON LINE	144.0'	881.39
704	MID PT.	109'B'+62.08	ON LINE	144.0'	892.79
705	PC	107'B'+53.40	18.00' RT	162.0'	882.11
706	MID PT.	107'B'+81.78	18.00' RT	162.0'	884.02
707	PT/END C&G	108'B'+10.16	18.00' RT	162.0'	885.70
708	PC/BEGIN C&G	111'A'+59.42	15.00' RT	231.0'	885.29
709	MID PT.	111'A'+95.88	15.00' RT	231.0'	883.38
710	PT	112'A'+32.34	15.00' RT	231.0'	882.38
711	BEND PT. (ASPHALT)	111'A'+00.00	8.00' LT	-	889.56
712	BEND PT. (ASPHALT)	111'A'+13.23	5.00' LT	-	888.80



NOTES

1. ELEVATIONS ARE AT 25-FOOT INTERVALS.
2. RADIUS DIMENSIONS ARE TO THE FACE OF CURB.

LEGEND

- LONGITUDINAL JOINT
- MANHOLE
- INLET
- WATER VALVE
- X-XX CONCRETE CURB & GUTTER TYPE X, XX-INCH
- DRAINAGE DIRECTION

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PAVING DETAIL	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

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2

POINT NO.	DESC.	STATION	OFFSET	RADIUS	ELEVATION
800	PC	104'B'+26.86	84.85' LT	52.0'	870.17
801	MID PT.	104'B'+32.99	42.03' LT	52.0'	869.57
802	PT	104'B'+69.38	18.67' LT	52.0'	869.73
803	BEGIN GUTTER	14'CGE'+39.20	ON LINE	-	869.51
804	END GUTTER	104'B'+35.51	11.33' LT	-	869.44
805	END GUTTER	104'B'+33.36	ON LINE	-	869.52
806	BEND PT.	14'CGE'+9.41	5.00' RT	-	868.99
807	BEGIN GUTTER	14'CGE'+9.41	ON LINE	-	869.13
808	END GUTTER	116'A'+00.78	25.00' RT	-	869.57
809	END GUTTER	116'A'+00.78	15.00' RT	-	868.91
810	END ASPHALT	114'A'+67.73	ON LINE	-	871.09
811	PC	115'A'+34.23	6.68' LT	602.0'	869.27
812	MID PT.	115'A'+66.17	11.10' LT	602.0'	868.69
813	PT/PC	115'A'+97.84	17.23' LT	602.0'/52.0'	868.29
814	MID PT.	116'A'+13.16	23.29' LT	52.0'	868.11
815	PT/PC	13'CGE'+30.65	14.90' RT	52.0'/202.0'	867.93
816	MID PT.	13'CGE'+14.51	11.99' RT	202.0'	867.83
817	PT	12'CGE'+98.08	10.43' RT	202.0'	867.70

ISLAND RADIUS INFORMATION

POINT NO.	STATION	OFFSET	RADIUS
A	104'B'+27.56	7.00' LT	5.0'
B	103'B'+90.18	5.50' LT	3.5'
C	103'B'+96.36	21.82' LT	3.0'

NOTES

1. ELEVATIONS ARE AT 25-FOOT INTERVALS.
2. RADIUS DIMENSIONS ARE TO THE FACE OF CURB.

LEGEND

- LONGITUDINAL JOINT
- MANHOLE
- INLET
- WATER VALVE
- X-XX CONCRETE CURB & GUTTER TYPE X, XX-INCH
- DRAINAGE DIRECTION

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PAVING DETAIL	SHEET 43	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 42

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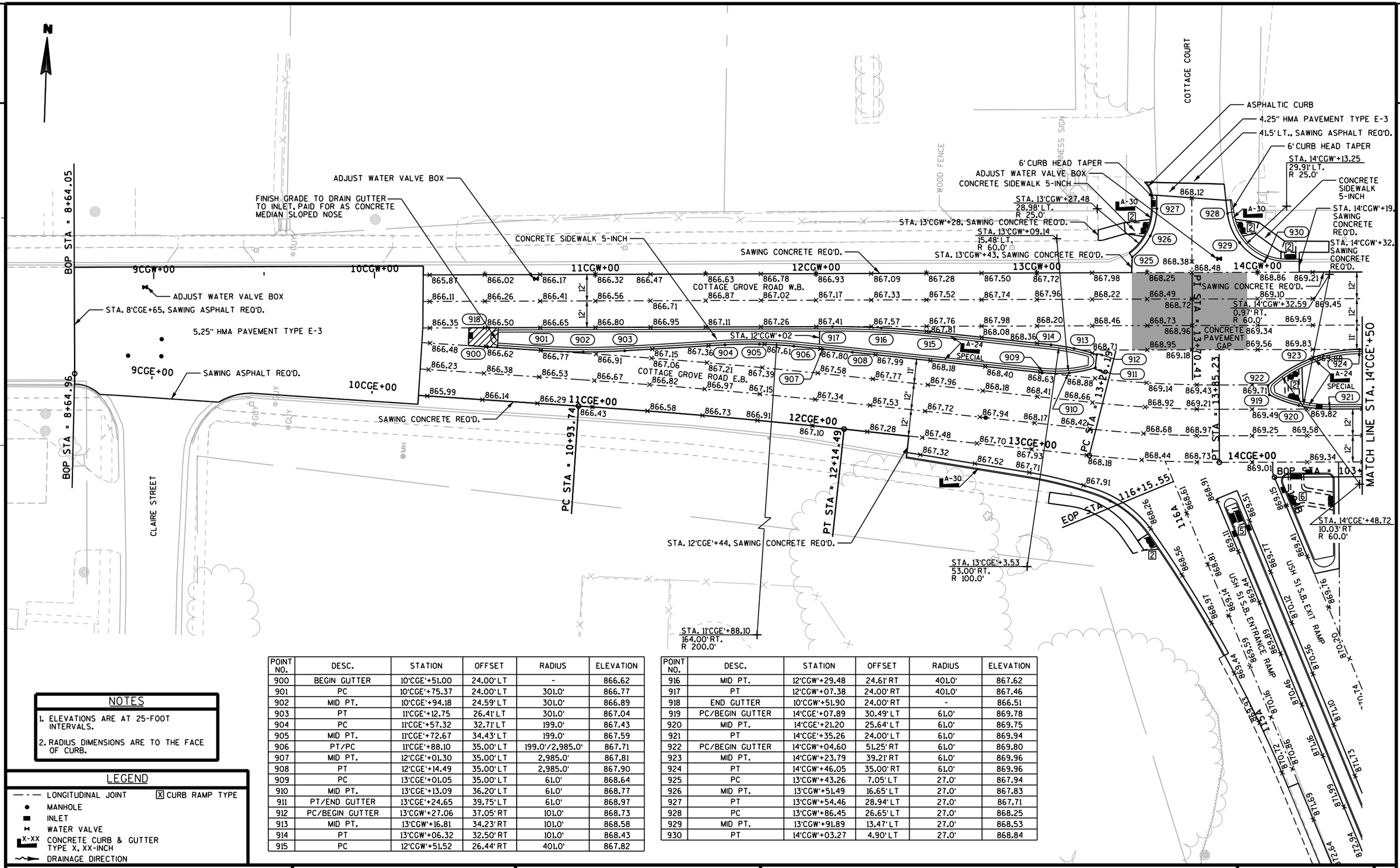

POINT NO.	DESC.	STATION	OFFSET	RADIUS	ELEVATION
900	BEGIN GUTTER	10'CGE'+51.00	24.00' LT	-	866.62
901	PC	10'CGE'+75.37	24.00' LT	301.0'	866.77
902	MID PT.	10'CGE'+94.18	24.59' LT	301.0'	866.89
903	PT	11'CGE'+12.75	26.41' LT	301.0'	867.04
904	PC	11'CGE'+57.32	32.71' LT	199.0'	867.43
905	MID PT.	11'CGE'+72.67	34.43' LT	199.0'	867.59
906	PT/PC	11'CGE'+88.10	35.00' LT	199.0'/2,985.0'	867.71
907	MID PT.	12'CGE'+01.30	35.00' LT	2,985.0'	867.81
908	PT	12'CGE'+14.49	35.00' LT	2,985.0'	867.90
909	PC	13'CGE'+01.05	35.00' LT	61.0'	868.64
910	MID PT.	13'CGE'+13.09	36.20' LT	61.0'	868.77
911	PT/END GUTTER	13'CGE'+24.65	39.75' LT	61.0'	868.97
912	PC/BEGIN GUTTER	13'CGW'+27.06	37.05' RT	101.0'	868.73
913	MID PT.	13'CGW'+16.81	34.23' RT	101.0'	868.58
914	PT	13'CGW'+06.32	32.50' RT	101.0'	868.43
915	PC	12'CGW'+51.52	26.44' RT	401.0'	867.82

POINT NO.	DESC.	STATION	OFFSET	RADIUS	ELEVATION
916	MID PT.	12'CGW'+29.48	24.61' RT	401.0'	867.62
917	PT	12'CGW'+07.38	24.00' RT	401.0'	867.46
918	END GUTTER	10'CGW'+51.90	24.00' RT	-	866.51
919	PC/BEGIN GUTTER	14'CGE'+07.89	30.49' LT	61.0'	869.78
920	MID PT.	14'CGE'+21.20	25.64' LT	61.0'	869.75
921	PT	14'CGE'+35.26	24.00' LT	61.0'	869.94
922	PC/BEGIN GUTTER	14'CGW'+04.60	51.25' RT	61.0'	869.80
923	MID PT.	14'CGW'+23.79	39.21' RT	61.0'	869.96
924	PT	14'CGW'+46.05	35.00' RT	61.0'	869.96
925	PC	13'CGW'+43.26	7.05' LT	27.0'	867.94
926	MID PT.	13'CGW'+51.49	16.65' LT	27.0'	867.83
927	PT	13'CGW'+54.46	28.94' LT	27.0'	867.71
928	PC	13'CGW'+86.45	26.65' LT	27.0'	868.25
929	MID PT.	13'CGW'+91.89	13.47' LT	27.0'	868.53
930	PT	14'CGW'+03.27	4.90' LT	27.0'	868.84

NOTES

1. ELEVATIONS ARE AT 25-FOOT INTERVALS.
2. RADIUS DIMENSIONS ARE TO THE FACE OF CURB.

LEGEND

- LONGITUDINAL JOINT
- X CURB RAMP TYPE
- MANHOLE
- INLET
- WATER VALVE
- X-XX CONCRETE CURB & GUTTER TYPE X, XX-INCH
- DRAINAGE DIRECTION

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PAVING DETAIL: COTTAGE GROVE ROAD	SHEET 44	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

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2

N

* PAVEMENT SLOPE MATCHES THE PLANE OF THE RAILROAD TRACKS SLOPE - NO TRANSITIONING OF HMA PAVEMENT SLOPE ALLOWED WITHIN THIS 14' AREA.

BEGIN TRANSITIONING PAVEMENT SLOPE AT STA. 16"CGW"+50.
RETURN TO NORMAL PAVEMENT SLOPE AT STA. 17"CGW"+50.

PT STA = 53+07.40

D-30

53BP

116B

CONCRETE SIDEWALK 7-INCH

5.25" HMA PAVEMENT TYPE E-3

STA. 17'CGW'+74.5, SAWING CONCRETE REQ'D.

SAWING CONCRETE REQ'D.

STA 16'CGW'+59

STA 17'CGW'+49

PC STA = 52+58.52

PT STA = 52+35.52

52BP

PC STA = 51+95.16

BOP STA = 51+92.68

STA. 18'CGW'+28, SAWING CONCRETE REQ'D.

SAWING CONCRETE REQ'D.

15CGW+00 16CGW+00 17CGW+00 18CGW+00 19CGW+00 20CGW+00

869.56 869.94 870.35 870.79 871.23 871.71 872.19 872.76 873.33 873.90 874.39 874.78 875.08 875.27 875.36 875.35 875.23 875.05 874.86 874.67 874.47 874.28 874.09 873.90

869.80 870.18 870.59 871.03 871.47 871.95 872.43 873.00 873.57 874.43 874.57 874.84 875.32 875.51 875.60 875.59 875.47 875.29 875.10 874.91 874.71 874.52 874.33 874.14

COTTAGE GROVE ROAD W.B.

870.04 870.42 870.83 871.27 871.71 872.19 872.67 873.24 873.81 874.65 874.49 874.72 874.80 875.56 875.70 875.84 875.84 875.71 875.53 875.34 875.15 874.95 874.76 874.57 874.38

869.98 870.28 870.61 871.05 871.49 871.97 872.45 873.02 873.59 873.43 874.27 874.64 875.38 875.58 875.65 875.43 875.21 875.06 874.88 874.71 874.55 874.38

MATCH LINE STA. 14'CGE'+50

A-24 SPECIAL

SAWING ASPHALT REQ'D.

6' CURB HEAD TAPER (TYPICAL ALL APPROACHES)

D-24 SPECIAL

1008 1009 1010 1011 1012 1003 1004 1005 1006 1007

CONCRETE SIDEWALK 7-INCH

STA 17'CGE'+23

STA 18'CGE'+08

870.14 870.49 870.85 871.23 871.62 872.04 872.46 872.89 873.32 873.84 874.36 874.73 875.00 875.11 875.21 875.48 875.86 875.76 875.59 875.43 875.26 875.10 874.93 874.77 874.60

1000 1001 1002

869.90 870.25 870.61 870.99 871.38 871.80 872.22 872.65 873.08 873.60 874.12 874.57 874.94 875.21 875.41 875.62 875.52 875.35 875.19 875.02 874.86 874.69 874.53 874.36

COTTAGE GROVE ROAD E.B.

869.66 870.01 15CGE+00 870.37 870.75 871.14 871.56 16CGE+00 871.98 872.41 872.84 873.36 17CGE+00 873.88 874.41 874.86 875.06 875.25 18CGE+00 875.34 875.38 875.28 875.11 19CGE+00 874.95 874.78 874.62 874.45 20CGE+00 874.29

86.13 869.56

MATCH LINE STA. 20'CGE'+50

870.12 870.89

D-12 (INT.) SPECIAL

SAWING ASPHALT REQ'D.

5.25" HMA PAVEMENT TYPE E-3

875.15 875.32

STA. 15'CGE'+32, SAWING CONCRETE REQ'D.

SAWING CONCRETE REQ'D.

STA. 17'CGE'+91, SAWING CONCRETE REQ'D.

CONCRETE SIDEWALK 7-INCH

SAWING CONCRETE REQ'D.

SAWING CONCRETE REQ'D.

A-30

114

114B

COUNTY TRUNK

PROPOSED USH 51 S.B. EXIT RAMP

US 51 (STOUGHTON ROAD) S.B.

US 51 (STOUGHTON ROAD) N.B.

113

113B

* PAVEMENT SLOPE MATCHES THE PLANE OF THE RAILROAD TRACKS SLOPE - NO TRANSITIONING OF HMA PAVEMENT SLOPE ALLOWED WITHIN THIS 14' AREA.

BEGIN TRANSITIONING PAVEMENT SLOPE AT STA. 17"CGE"+00.
RETURN TO NORMAL PAVEMENT SLOPE AT STA. 18"CGE"+25

NOTES

1. ELEVATIONS ARE AT 25-FOOT INTERVALS.
2. RADIUS DIMENSIONS ARE TO THE FACE OF CURB.

LEGEND

- LONGITUDINAL JOINT
- MANHOLE
- INLET
- WATER VALVE
- X-XX CONCRETE CURB & GUTTER TYPE X, XX-INCH
- DRAINAGE DIRECTION

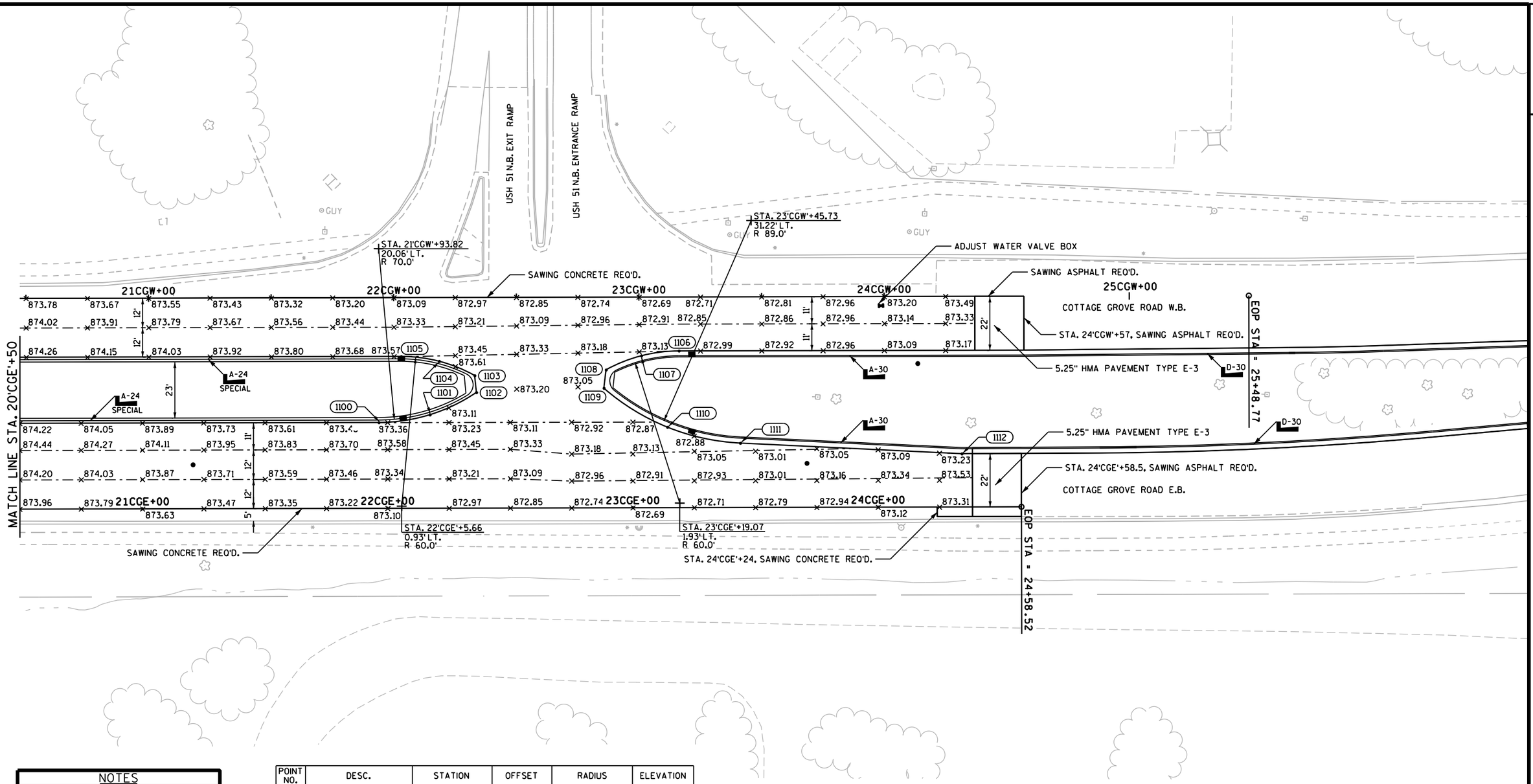
POINT NO.	DESC.	STATION	OFFSET	RADIUS	ELEVATION
1000	END C&G	17'CGE'+33.30	24.00'LT	-	874.78
1001	BEGIN C&G	17'CGE'+68.30	24.00'LT	-	874.93
1002	PC	17'CGE'+89.76	24.00'LT	301.0'	875.63
1003	MID PT.	18'CGE'+08.46	24.58'LT	301.0'	875.84
1004	PT	18'CGE'+27.09	26.32'LT	301.0'	875.81
1005	PC	18'CGE'+84.21	33.46'LT	199.0'	875.34
1006	MID PT.	18'CGE'+96.52	34.62'LT	199.0'	875.24
1007	PT	19'CGE'+08.89	35.00'LT	199.0'	875.15
1008	END C&G	17'CGW'+06.29	35.00'RT	-	874.43
1009	BEGIN C&G	17'CGW'+40.55	33.90'RT	-	875.00
1010	PC	18'CGW'+01.09	26.33'RT	301.0'	875.89
1011	MID PT.	18'CGW'+19.72	24.58'RT	301.0'	875.85
1012	PT	18'CGW'+38.44	24.00'RT	301.0'	875.78

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PAVING DETAIL: COTTAGE GROVE ROAD	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Paving_10.dgn 8/14/2014 8:31:04 AM ckieler

2



NOTES

1. ELEVATIONS ARE AT 25-FOOT INTERVALS.
2. RADIUS DIMENSIONS ARE TO THE FACE OF CURB.

LEGEND

- LONGITUDINAL JOINT
- MANHOLE
- INLET
- WATER VALVE
- X-XX CONCRETE CURB & GUTTER TYPE X, XX-INCH
- DRAINAGE DIRECTION

POINT NO.	DESC.	STATION	OFFSET	RADIUS	ELEVATION
1100	PC	21'CGE'+96.50	35.00' LT	71.0'	873.38
1101	MID PT.	22'CGE'+17.31	38.12' LT	71.0'	873.35
1102	PT/END GUTTER	22'CGE'+36.29	47.20' LT	71.0'	873.40
1103	PC/BEGIN GUTTER	22'CGW'+32.94	31.86' RT	61.0'	873.25
1104	MID PT.	22'CGW'+18.47	26.00' RT	61.0'	873.44
1105	PT	22'CGW'+02.99	24.00' RT	61.0'	873.54
1106	PC	23'CGW'+16.26	22.00' RT	62.0'	873.03
1107	MID PT.	23'CGW'+00.92	23.96' RT	62.0'	873.09
1108	PT/BEGIN GUTTER	22'CGW'+86.55	29.66' RT	62.0'	873.08
1109	PC/BEGIN GUTTER	22'CGE'+88.31	48.81' LT	91.0'	872.92
1110	MID PT.	23'CGE'+14.17	32.83' LT	91.0'	872.85
1111	PT	23'CGE'+43.86	26.26' LT	91.0'	872.90
1112	BEND PT.	24'CGE'+34.20	21.73' LT	-	873.27

N

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PAVING DETAIL: COTTAGE GROVE ROAD	SHEET 46	E

2

2

N

USH 51 (STOUGHTON ROAD) S.B.

SEEDING MIXTURE NO. 30

MATCH LINE "A"

INL

USH 51 (STOUGHTON ROAD) N.B.

NOTE: EROSION MAT IS SHOWN TO BOTTOM OF SLOPES

LEGEND

- SILT FENCE
- INLET PROTECTION
- INLET PROTECTION FOR EXISTING INLET (TYPE)
- INLET PROTECTION FOR PROPOSED INLET (TYPE)
- EROSION MAT CLASS I TYPE A
- EROSION MAT URBAN CLASS I TYPE A
- MULCHING

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EROSION CONTROL	SHEET 47	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Erosion Control\EC_00.dgn PLOT DATE : 8/18/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40.0001

WISDOT/CADDS SHEET 42

EC_00.dgn 8/18/2014 9:16:06 AM ckieler

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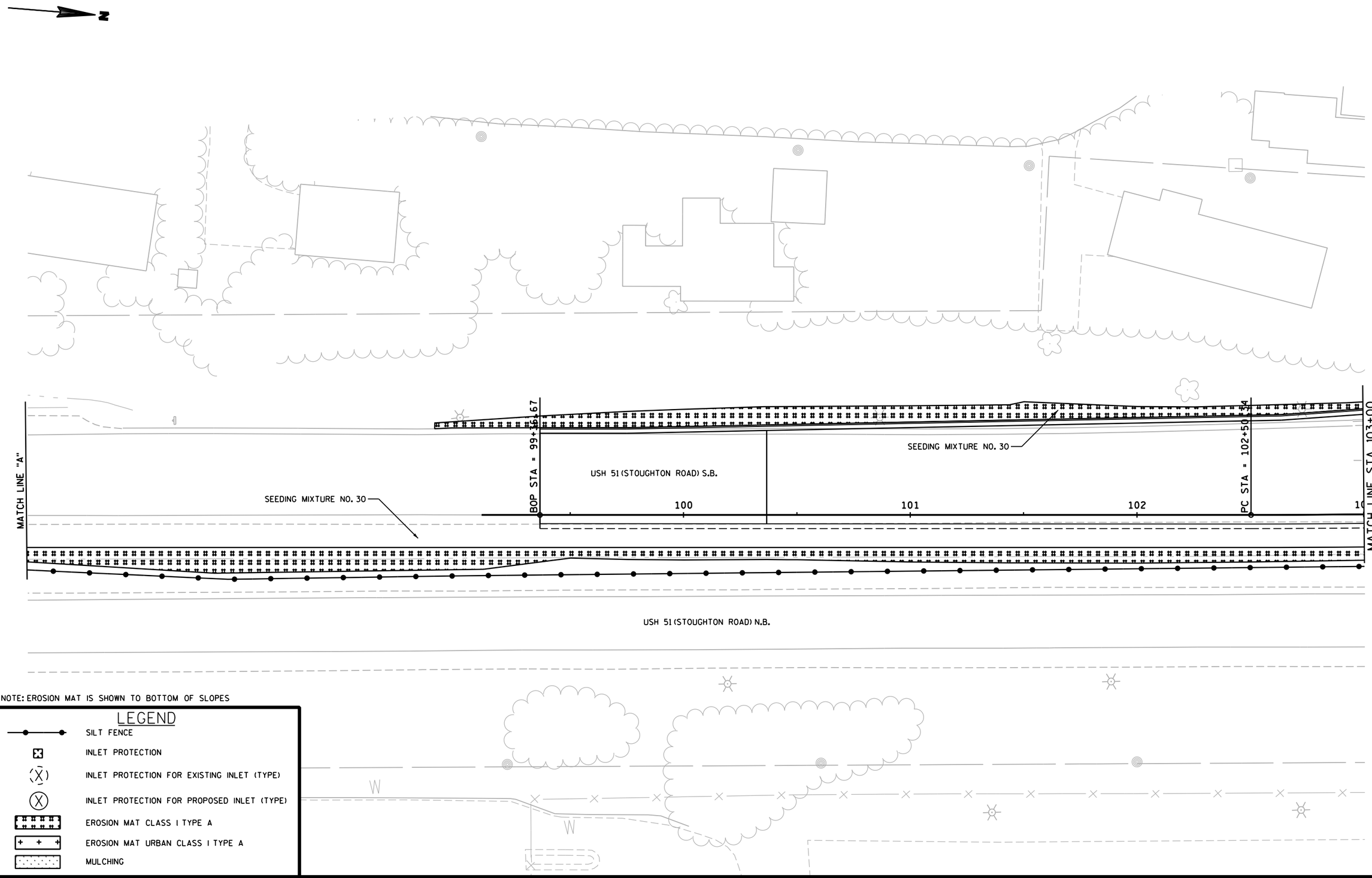


NOTE: EROSION MAT IS SHOWN TO BOTTOM OF SLOPES

LEGEND

- SILT FENCE
- INLET PROTECTION
- INLET PROTECTION FOR EXISTING INLET (TYPE)
- INLET PROTECTION FOR PROPOSED INLET (TYPE)
- EROSION MAT CLASS I TYPE A
- EROSION MAT URBAN CLASS I TYPE A
- MULCHING

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EROSION CONTROL	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Erosion Control\EC_01.dgn PLOT DATE : 8/18/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40.0001

WISDOT/CADDS SHEET 42

EC_01.dgn 8/18/2014 9:16:07 AM ckieler

2

N

SEEDING MIXTURE NO. 60 &
SEEDING MIXTURE NO. 70

MATCH LINE STA. 108A+00

10

PROPOSED USH 51 S.B. ENTRANCE RAMP

107A

106A

105A

104A

SEEDING MIXTURE NO. 75

SEEDING MIXTURE NO. 80

15'

BOP STA = 103+75.00

MATCH LINE STA. 103+00

MATCH LINE STA. 109+00

SEEDING MIXTURE NO. 30

103 104 105 106 107 108

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

GUY POLE

A A

D D

NOTE: EROSION MAT IS SHOWN TO BOTTOM OF SLOPES

LEGEND

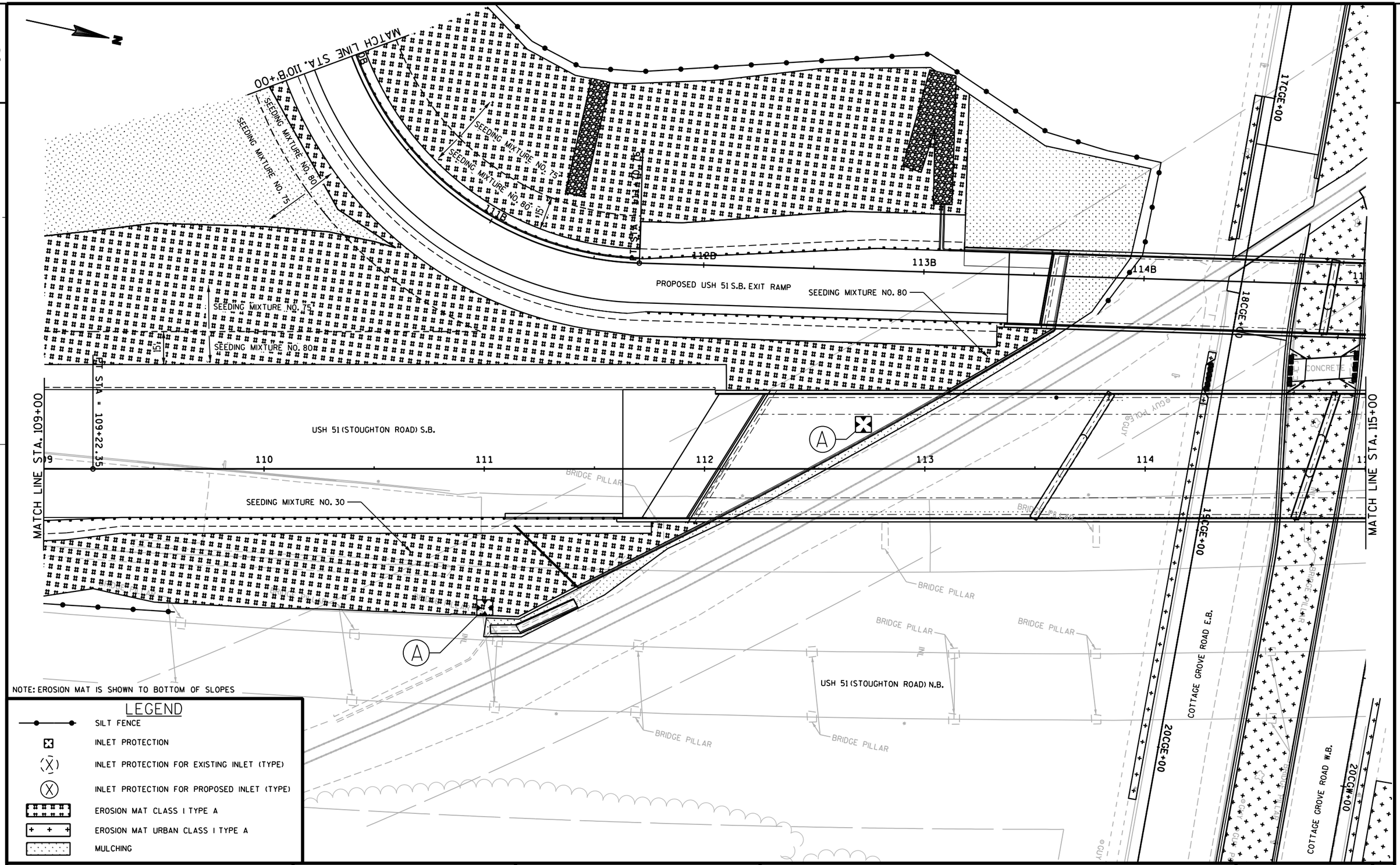
- SILT FENCE
- INLET PROTECTION
- INLET PROTECTION FOR EXISTING INLET (TYPE)
- INLET PROTECTION FOR PROPOSED INLET (TYPE)
- EROSION MAT CLASS I TYPE A
- EROSION MAT URBAN CLASS I TYPE A
- MULCHING

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EROSION CONTROL	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Erosion Control\EC_02.dgn PLOT DATE : 8/18/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

EC_02.dgn 8/18/2014 9:16:11 AM ckieler



NOTE: EROSION MAT IS SHOWN TO BOTTOM OF SLOPES

LEGEND

- SILT FENCE
- INLET PROTECTION
- INLET PROTECTION FOR EXISTING INLET (TYPE)
- INLET PROTECTION FOR PROPOSED INLET (TYPE)
- EROSION MAT CLASS I TYPE A
- EROSION MAT URBAN CLASS I TYPE A
- MULCHING

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EROSION CONTROL	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Erosion Control\EC_03.dgn | PLOT DATE : 8/18/2014 | PLOT BY : ckieler | PLOT NAME : | PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

EC_03.dgn 8/18/2014 9:16:15 AM ckieler

2

COTTAGE GROVE ROAD W.B.

PT STA = 53+01.40

PC STA = 53+83.01

PT STA = 54+28.80

STA = 54+57.60

53BP

54BP

52BP

PC STA = 52+38.10

PT STA = 52+15.15

PC STA = 51+65.19

PT STA = 51+92.68

116B

117B

118B

119B

120B

SEEDING MIXTURE NO. 75

SEEDING MIXTURE NO. 80

15'

PROPOSED USH 51 S.B. EXIT RAMP

USH 51 (STOUGHTON ROAD) S.B.

RETAINING WALL

MATCH LINE STA. 115+00

MATCH LINE STA. 121+00

PC STA = 120+86.00

115

116

117

118

119

120

SEEDING MIXTURE NO. 30

USH 51 (STOUGHTON ROAD) N.B.

USH 51 N.B. EXIT RAMP

INL

BRIDGE PILLAR

19CCM+00

20CCM+00

NOTE: EROSION MAT IS SHOWN TO BOTTOM OF SLOPES

LEGEND

- SILT FENCE
- INLET PROTECTION
- INLET PROTECTION FOR EXISTING INLET (TYPE)
- INLET PROTECTION FOR PROPOSED INLET (TYPE)
- EROSION MAT CLASS I TYPE A
- EROSION MAT URBAN CLASS I TYPE A
- MULCHING

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EROSION CONTROL	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Erosion Control\EC_04.dgn PLOT DATE : 8/18/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

EC_04.dgn 8/18/2014 9:16:18 AM ckieler

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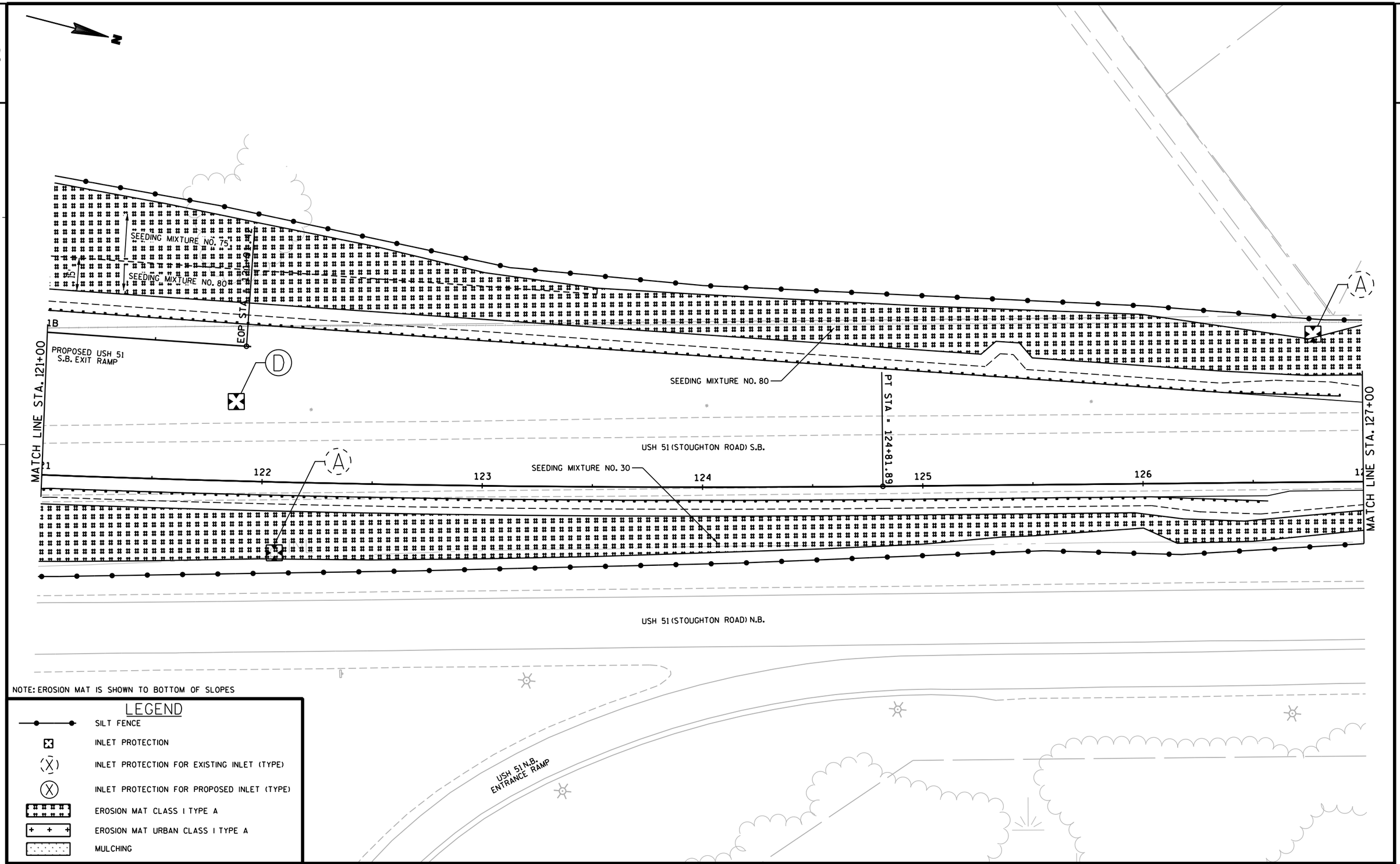


NOTE: EROSION MAT IS SHOWN TO BOTTOM OF SLOPES

LEGEND

- SILT FENCE
- INLET PROTECTION
- INLET PROTECTION FOR EXISTING INLET (TYPE)
- INLET PROTECTION FOR PROPOSED INLET (TYPE)
- EROSION MAT CLASS I TYPE A
- EROSION MAT URBAN CLASS I TYPE A
- MULCHING

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EROSION CONTROL	SHEET	E

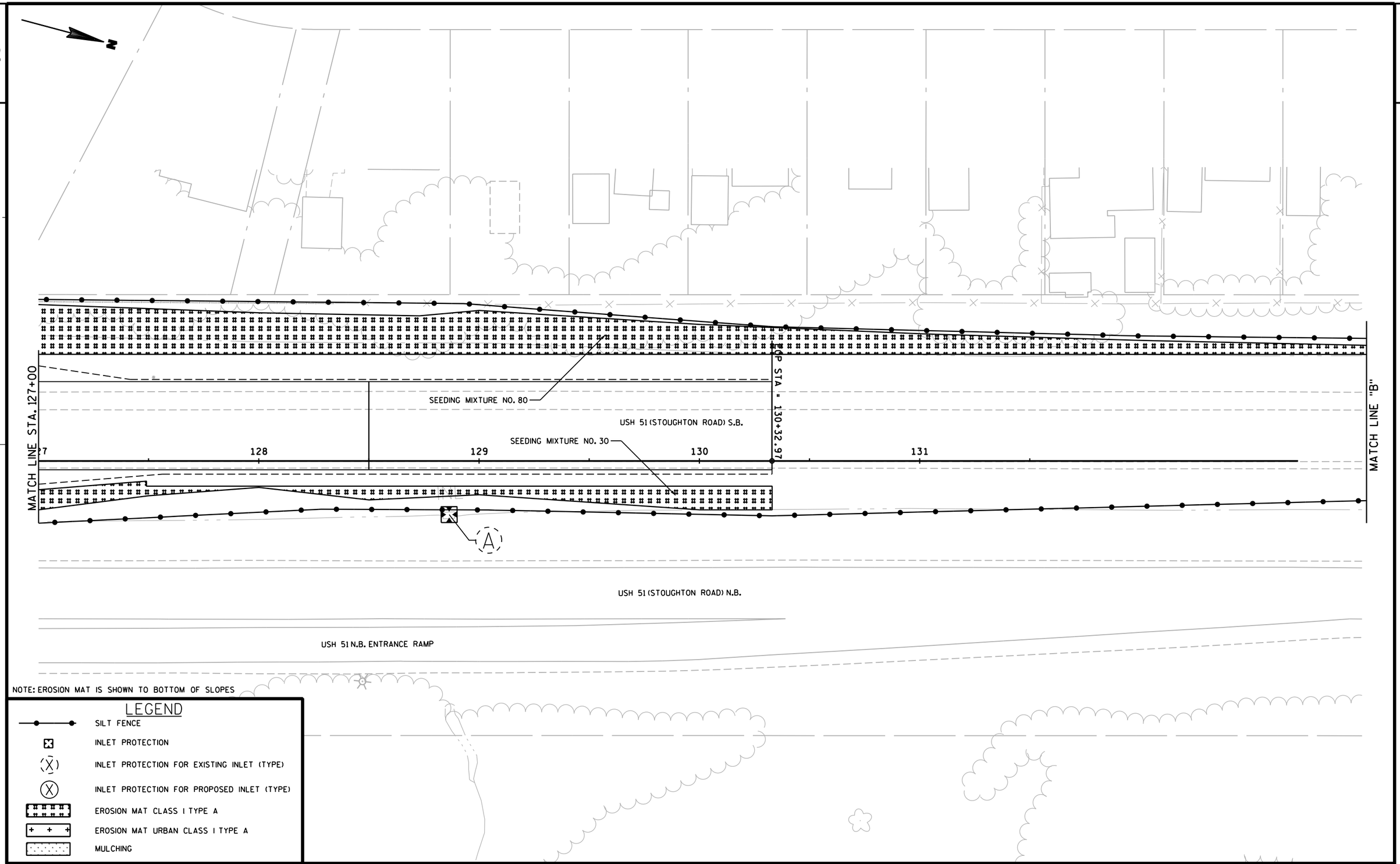
FILE NAME : P:\90s\93\00093080\CADD\Planshts\Erosion Control\EC_05.dgn PLOT DATE : 8/18/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 42

EC_05.dgn 8/18/2014 9:16:20 AM ckieler

2

2



NOTE: EROSION MAT IS SHOWN TO BOTTOM OF SLOPES

LEGEND

- SILT FENCE
- INLET PROTECTION
- INLET PROTECTION FOR EXISTING INLET (TYPE)
- INLET PROTECTION FOR PROPOSED INLET (TYPE)
- EROSION MAT CLASS I TYPE A
- EROSION MAT URBAN CLASS I TYPE A
- MULCHING

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EROSION CONTROL	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Erosion Control\EC_06.dgn PLOT DATE : 8/18/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

EC_06.dgn 8/18/2014 9:16:22 AM ckieler

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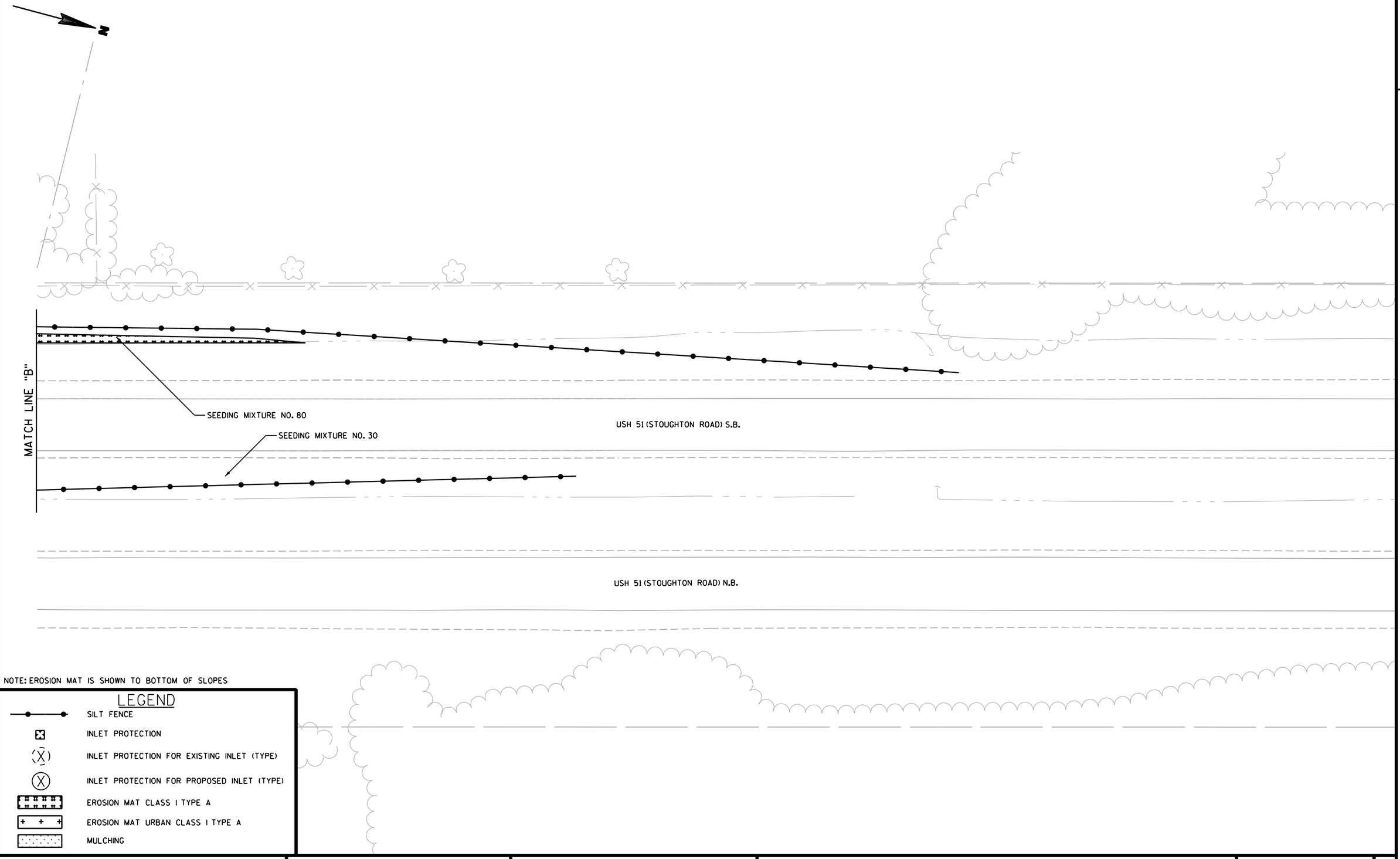

NOTE: EROSION MAT IS SHOWN TO BOTTOM OF SLOPES

LEGEND

- SILT FENCE
- INLET PROTECTION
- INLET PROTECTION FOR EXISTING INLET (TYPE)
- INLET PROTECTION FOR PROPOSED INLET (TYPE)
- EROSION MAT CLASS I TYPE A
- EROSION MAT URBAN CLASS I TYPE A
- MULCHING

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EROSION CONTROL	SHEET 54	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Erosion Control\EC_06B.dgn PLOT DATE : 8/18/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

EC_06B.dgn 8/18/2014 9:16:23 AM ckieler

2

2

SEEDING MIXTURE NO. 60 &
SEEDING MIXTURE NO. 70

PT STA. 112'A'+52.34

112A

113A

SEEDING MIXTURE NO. 80

11

D

SEEDING MIXTURE NO. 80

MATCH LINE STA. 114'A'+00

111A

SEEDING MIXTURE NO. 75

SEEDING MIXTURE NO. 80

110A

PROPOSED USH 51 S.B. ENTRANCE RAMP

109A

PROPOSED USH 51 S.B.
EXIT RAMP

108A

PT STA. 107+53.40

MATCH LINE STA. 108'A'+00

A

D

SEEDING MIXTURE NO. 75

SEEDING MIXTURE NO. 80

SEEDING MIXTURE NO. 75

MATCH LINE STA. 110'B'+00

NOTE: EROSION MAT IS SHOWN TO BOTTOM OF SLOPES

LEGEND

- SILT FENCE
- INLET PROTECTION
- INLET PROTECTION FOR EXISTING INLET (TYPE)
- INLET PROTECTION FOR PROPOSED INLET (TYPE)
- EROSION MAT CLASS I TYPE A
- EROSION MAT URBAN CLASS I TYPE A
- MULCHING

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EROSION CONTROL	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Erosion Control\EC_07.dgn PLOT DATE : 8/18/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 42

EC_07.dgn 8/18/2014 9:16:30 AM ckieler

2

N

PT STA = 12+14.49

12CGE+00

12CGM+00

13CGE+00

13CGM+00

PC STA = 13+26.19

EOR STA. 116+15.55

SEEDING MIXTURE NO. 80

4A

115A

116A

MATCH LINE STA. 114'A'+00

USH 51 S.B. ENTRANCE RAMP

USH 51 S.B. EXIT RAMP

105B

105A

BOP STA. 103+86.13

PI STA = 13+10.41

PT STA = 13+85.23

14CGE+00

14CGM+00

15CGE+00

15CGM+00

WOOD FENCE

BUSINESS SIGN

COTTAGE COURT

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

SEEDING MIXTURE NO. 80

NOTE: EROSION MAT IS SHOWN TO BOTTOM OF SLOPES

LEGEND

- SILT FENCE
- INLET PROTECTION
- INLET PROTECTION FOR EXISTING INLET (TYPE)
- INLET PROTECTION FOR PROPOSED INLET (TYPE)
- EROSION MAT CLASS I TYPE A
- EROSION MAT URBAN CLASS I TYPE A
- MULCHING

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EROSION CONTROL	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Erosion Control\EC_08.dgn PLOT DATE : 8/18/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

EC_08.dgn 8/18/2014 9:16:33 AM ckieler

2

BOP STA = 8+64.05

9CGW+00

10CGW+00

11CGW+00

12CGW+00

13CGW+00

14CGW+00

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

SEEDING MIXTURE NO. 40

PI STA = 13+70.41

PC STA = 13+26.19

PT STA = 13+85.23

MATCH LINE STA. 14'CGE+50

BOP STA = 8+64.96

9CGE+00

10CGE+00

11CGE+00

12CGE+00

13CGE+00

14CGE+00

PC STA = 10+93.74

PT STA = 12+14.49

BOP STA = 103+

EOR STA = 116+15.55

116+4

CLAIRE STREET

EXISTING R/W

USH 51 S.B. ENTRANCE RAMP

USH 51 S.B. EXIT RAMP

115A

116A

12" RCP

15" RCP

18" RCP

24" RCP

15" CMP

20"x28" CMPA

MH

INL

GUY

WOOD FENCE

BUSINESS SIGN

COTTAGE COURT

NOTE: EROSION MAT IS SHOWN TO BOTTOM OF SLOPES

LEGEND

- SILT FENCE
- INLET PROTECTION
- INLET PROTECTION FOR EXISTING INLET (TYPE)
- INLET PROTECTION FOR PROPOSED INLET (TYPE)
- EROSION MAT CLASS I TYPE A
- EROSION MAT URBAN CLASS I TYPE A
- MULCHING

N

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EROSION CONTROL: COTTAGE GROVE ROAD	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Erosion Control\EC_09.dgn PLOT DATE : 8/18/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

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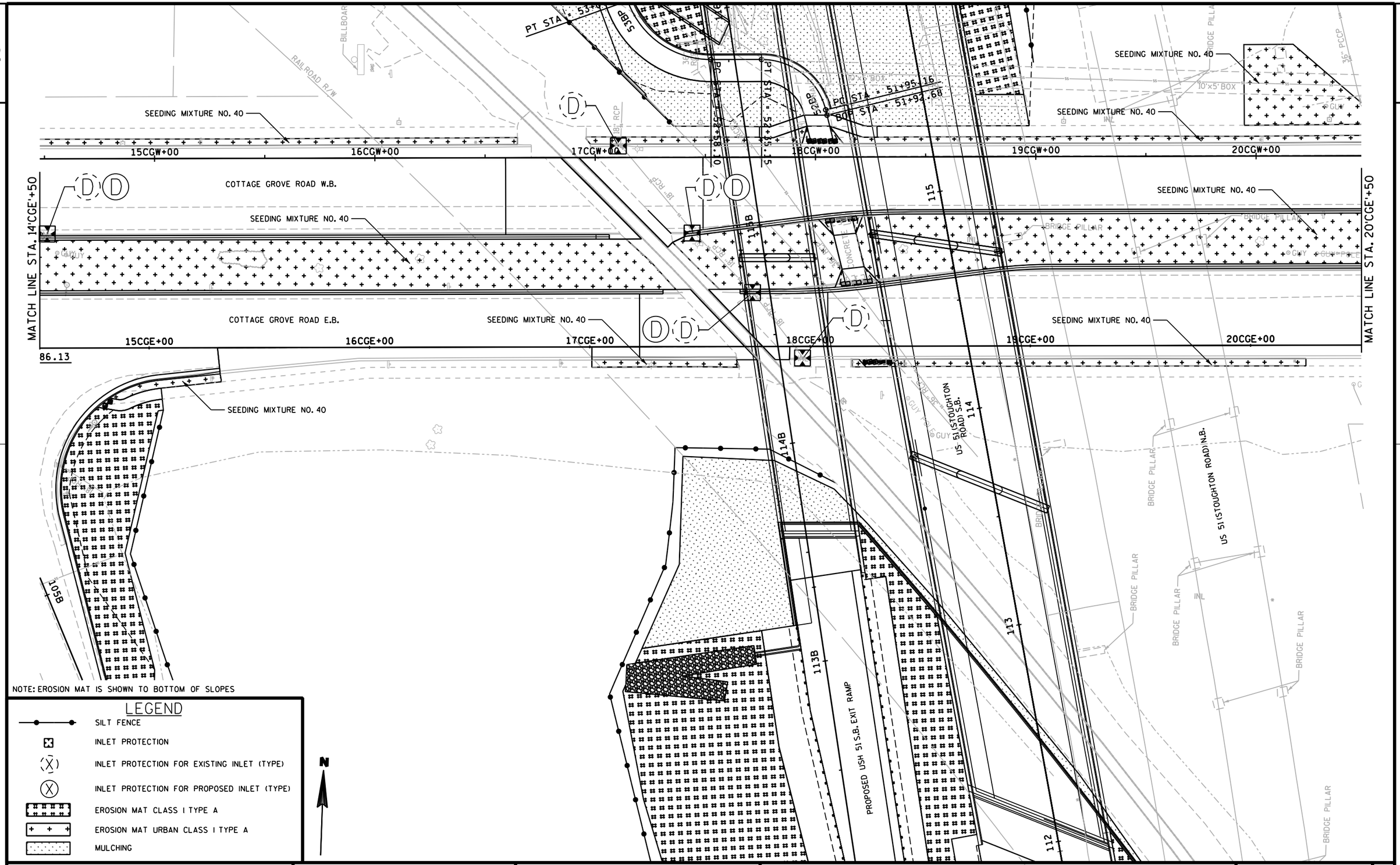

NOTE: EROSION MAT IS SHOWN TO BOTTOM OF SLOPES

LEGEND

- SILT FENCE
- INLET PROTECTION
- INLET PROTECTION FOR EXISTING INLET (TYPE)
- INLET PROTECTION FOR PROPOSED INLET (TYPE)
- EROSION MAT CLASS I TYPE A
- EROSION MAT URBAN CLASS I TYPE A
- MULCHING

N

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EROSION CONTROL: COTTAGE GROVE ROAD	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Erosion Control\EC_10.dgn PLOT DATE : 8/18/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

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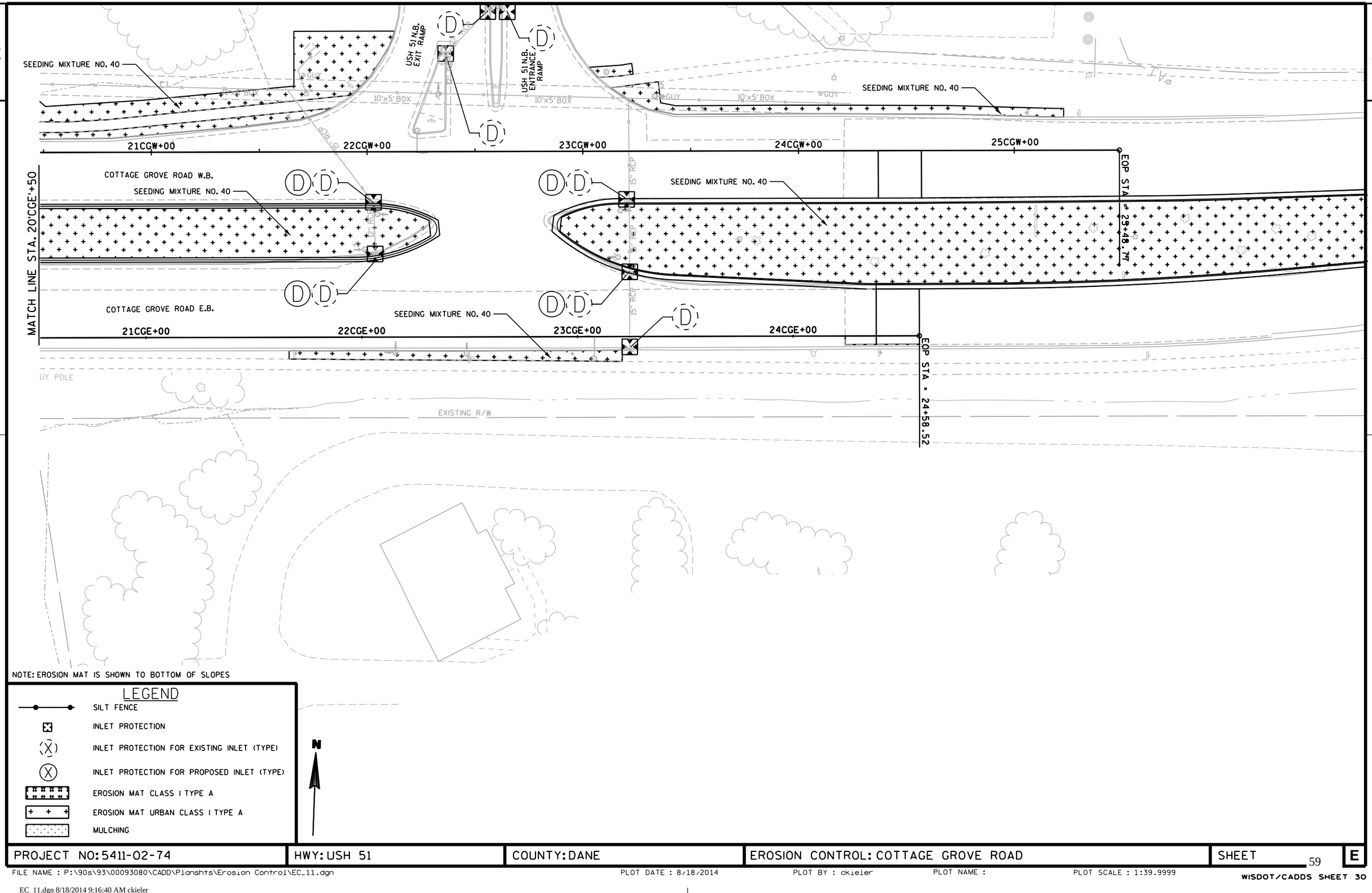


NOTE: EROSION MAT IS SHOWN TO BOTTOM OF SLOPES

LEGEND

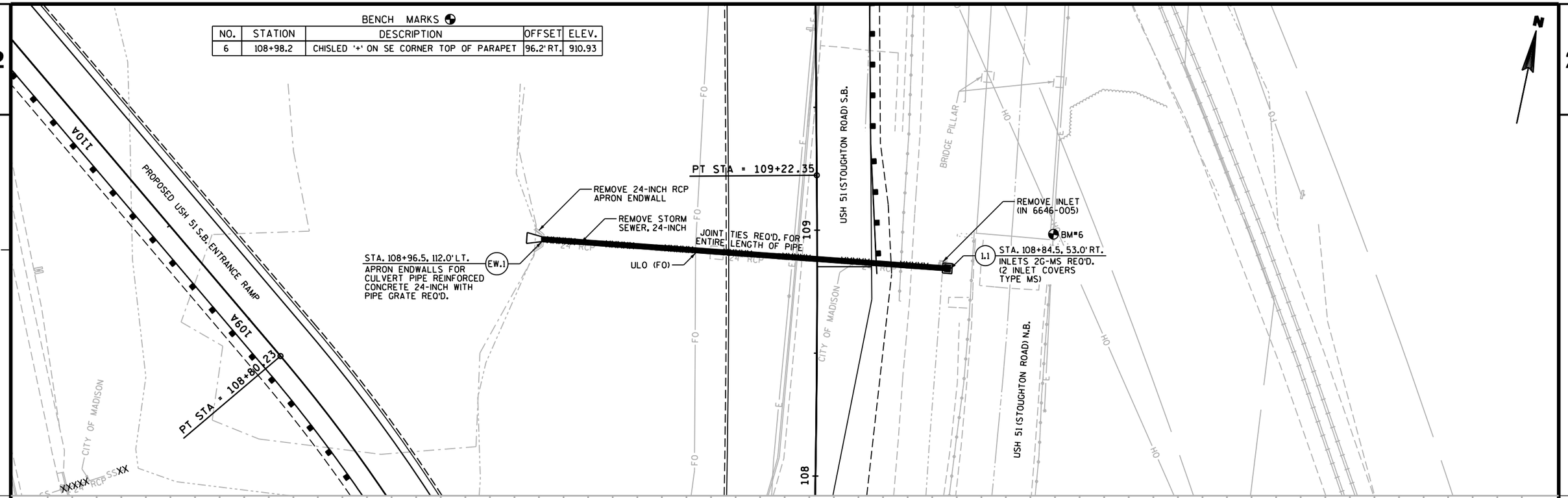
- SILT FENCE
- INLET PROTECTION
- INLET PROTECTION FOR EXISTING INLET (TYPE)
- INLET PROTECTION FOR PROPOSED INLET (TYPE)
- EROSION MAT CLASS I TYPE A
- EROSION MAT URBAN CLASS I TYPE A
- MULCHING

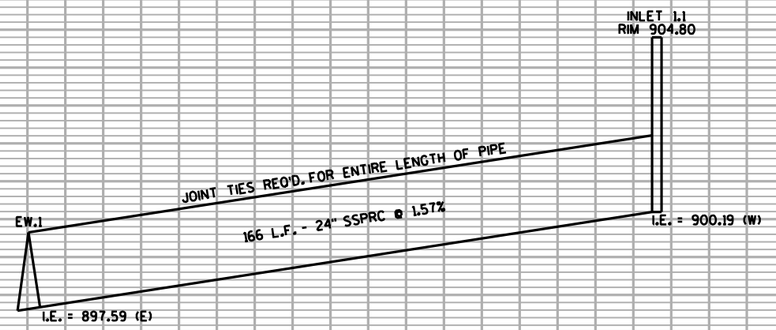
N

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	EROSION CONTROL: COTTAGE GROVE ROAD	SHEET 59	E

BENCH MARKS

NO.	STATION	DESCRIPTION	OFFSET	ELEV.
6	108+98.2	CHISLED '+' ON SE CORNER TOP OF PARAPET	96.2' RT.	910.93





NOTE: ALL STORM SEWER PIPE SHALL BE CLASS III UNLESS OTHERWISE NOTED.

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STORM SEWER: USH 51 SOUTHBOUND	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 41a

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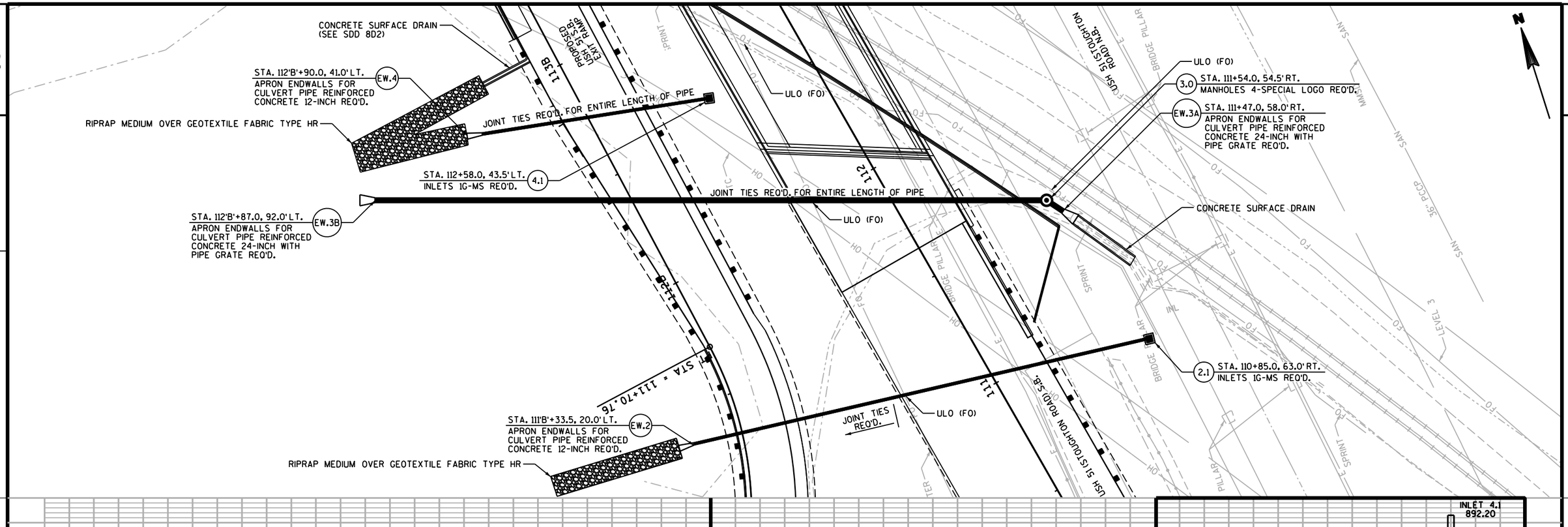

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STORM SEWER: USH 51 SOUTHBOUND	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 41a

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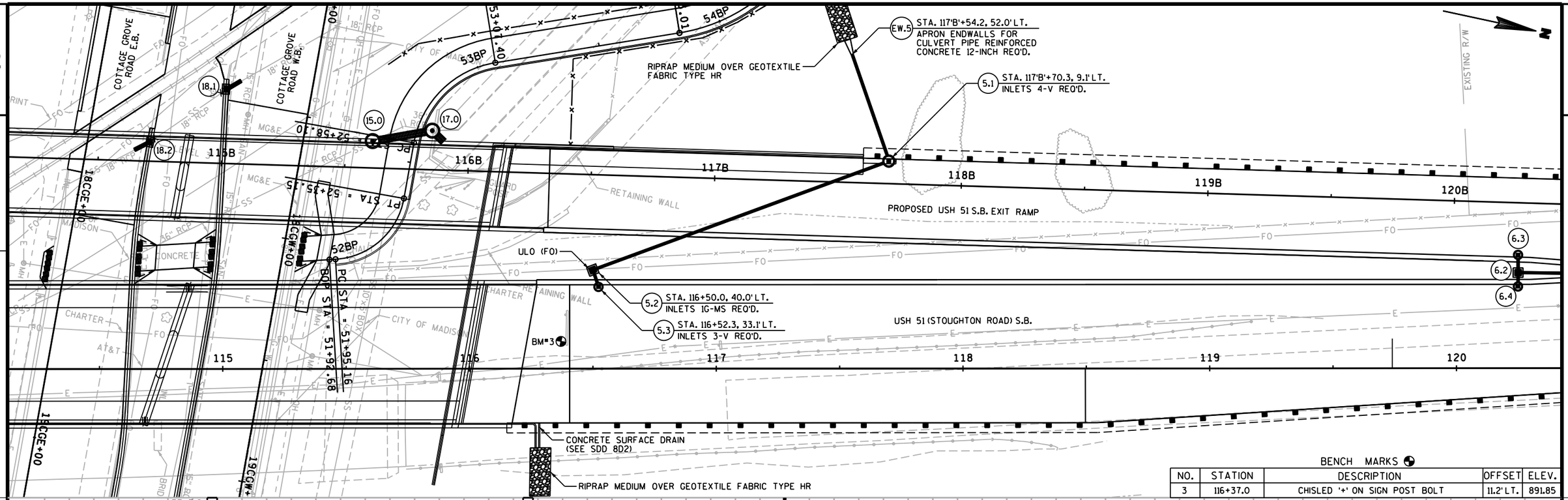


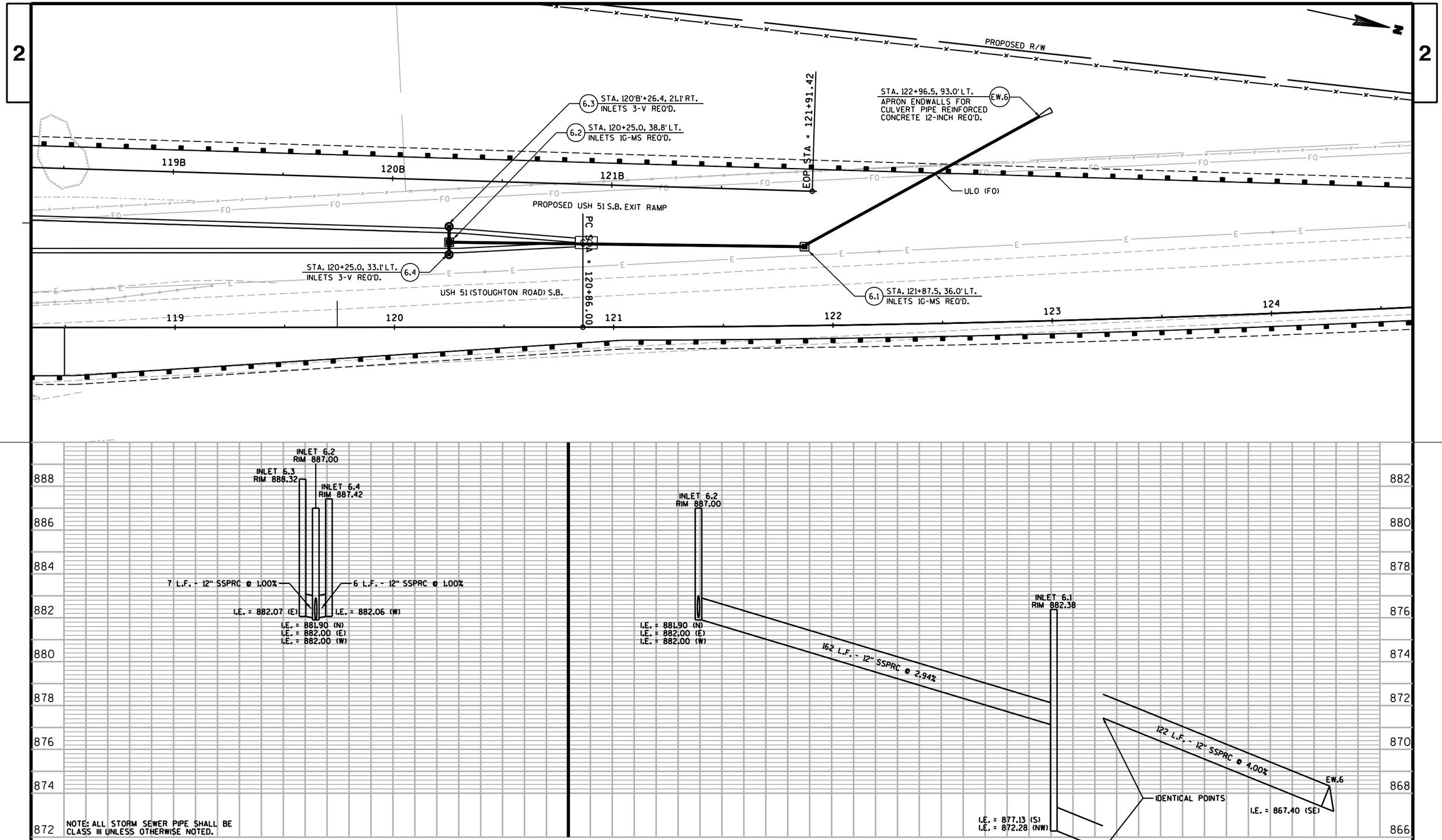
BENCH MARKS

NO.	STATION	DESCRIPTION	OFFSET	ELEV.
3	116+37.0	CHISLED '+' ON SIGN POST BOLT	11.2' LT.	891.85

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STORM SEWER: USH 51 SOUTHBOUND	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 41a

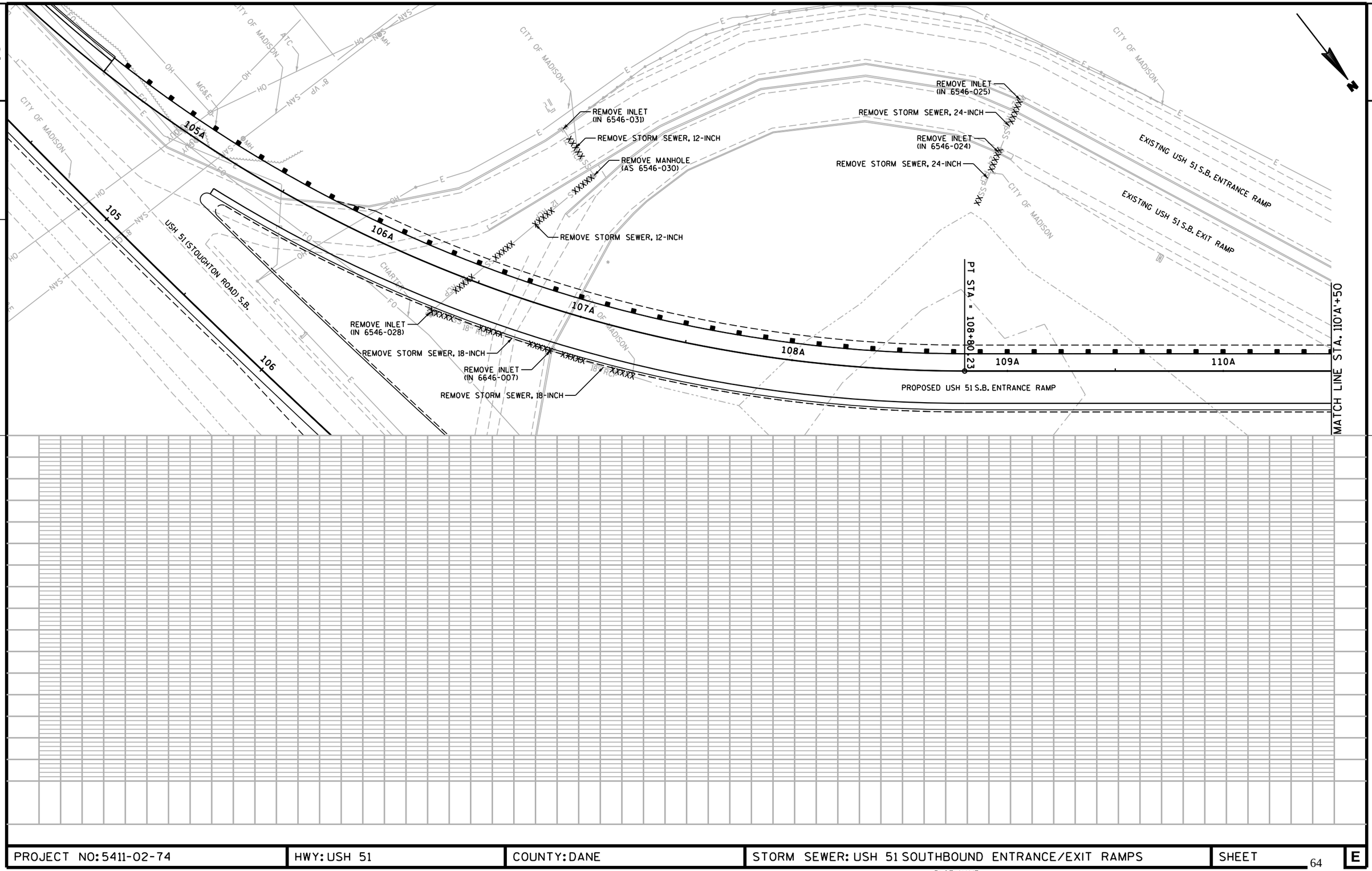
Storm_03.dgn 8/14/2014 8:31:39 AM ckieler



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STORM SEWER: USH 51 SOUTHBOUND	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 41a

Storm_03a.dgn 8/14/2014 8:31:40 AM ckieler

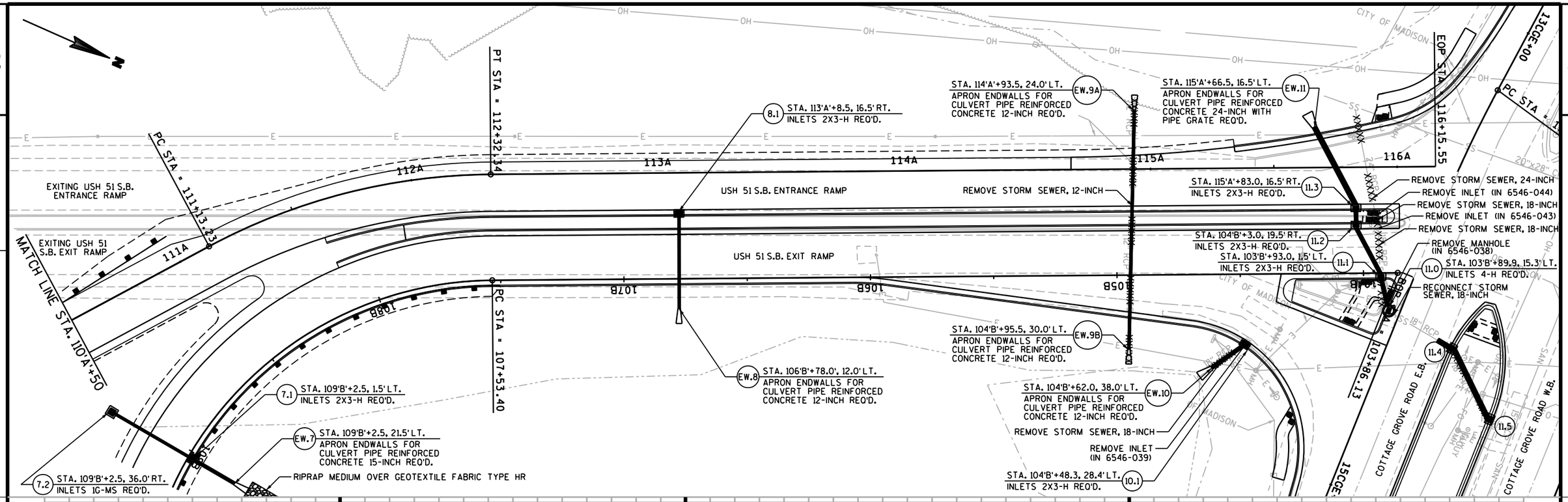


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STORM SEWER: USH 51 SOUTHBOUND ENTRANCE/EXIT RAMPS	SHEET	E

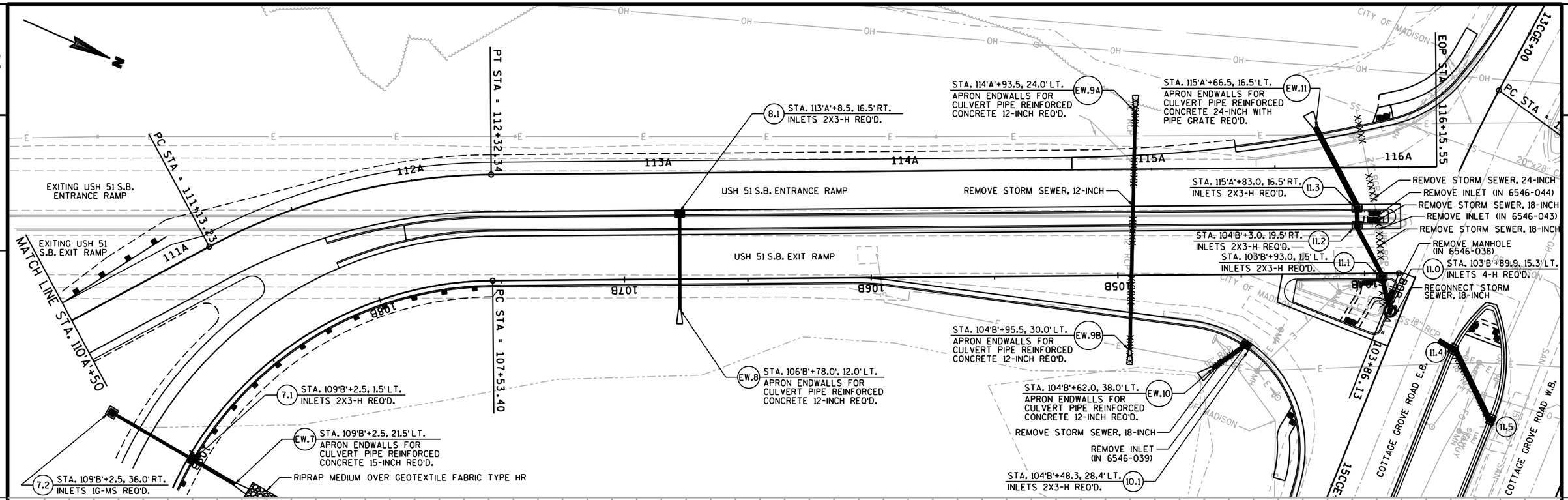
FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

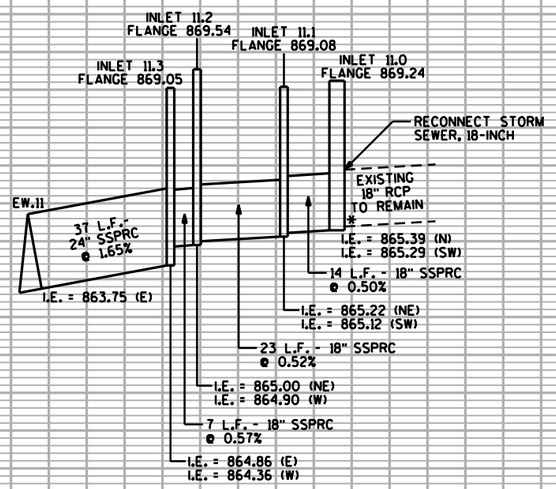
WISDOT/CADDS SHEET 41a

Storm_04.dgn 8/14/2014 8:31:40 AM ckieler



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STORM SEWER: USH 51 SOUTHBOUND ENTRANCE/EXIT RAMPS	SHEET 65	E





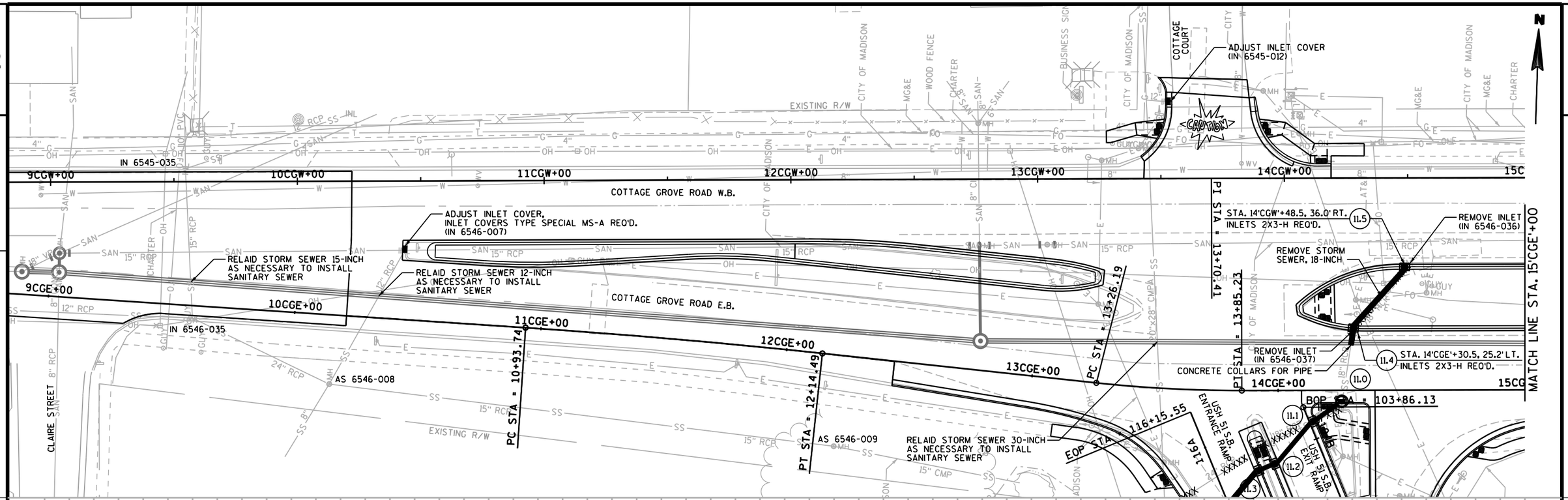
NOTE: ALL STORM SEWER PIPE SHALL BE CLASS III UNLESS OTHERWISE NOTED.

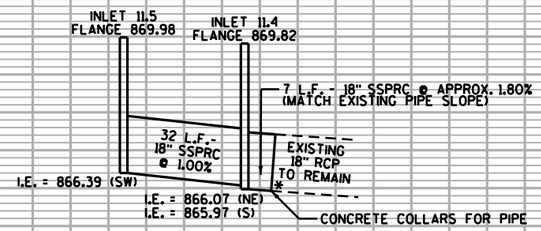
*NOTE: ALL EXISTING STORM SEWER INFORMATION IS APPROXIMATE. FIELD VERIFY ALL INFORMATION PRIOR TO CONSTRUCTION.

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STORM SEWER: USH 51 SOUTHBOUND ENTRANCE/EXIT RAMPS	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Storm Sewer\Storm_05a.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999 WISDOT/CADDS SHEET 41a

Storm_05a.dgn 8/14/2014 8:31:43 AM ckieler





NOTE: ALL STORM SEWER PIPE SHALL BE CLASS III UNLESS OTHERWISE NOTED.

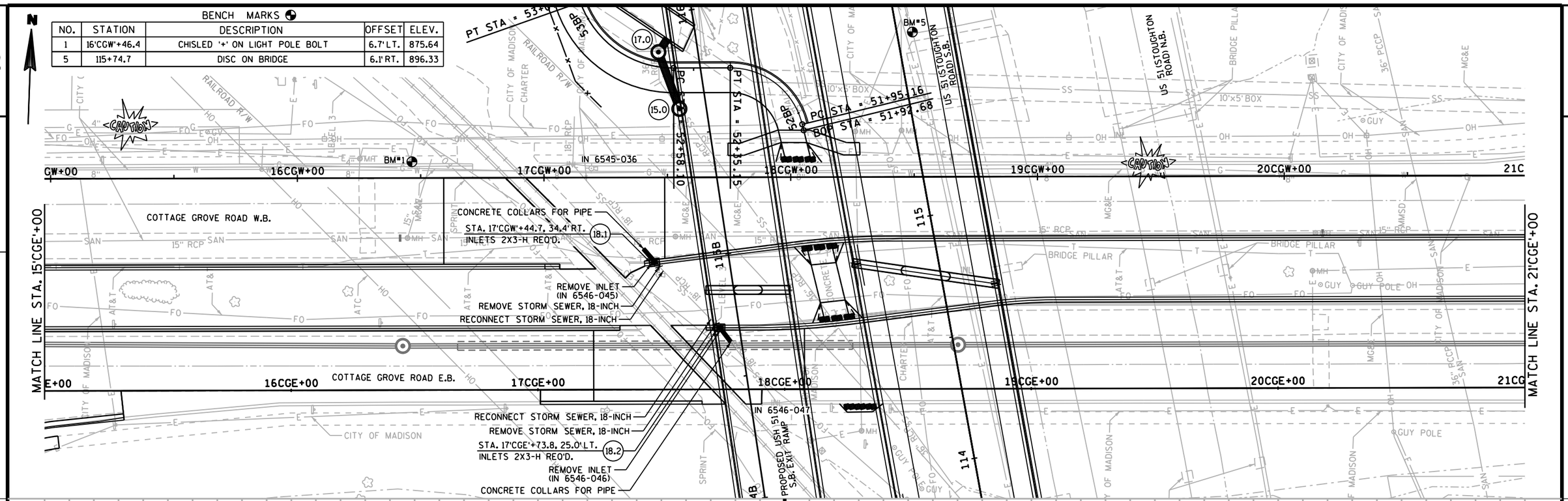
*NOTE: ALL EXISTING STORM SEWER INFORMATION IS APPROXIMATE. FIELD VERIFY ALL INFORMATION PRIOR TO CONSTRUCTION.

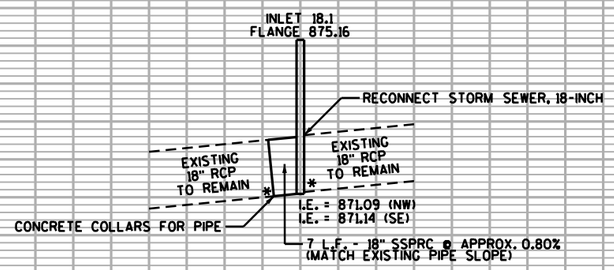
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STORM SEWER: COTTAGE GROVE ROAD	SHEET	E

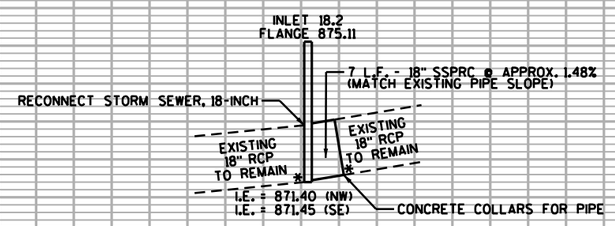
FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 41a

Storm_06.dgn 8/14/2014 8:31:43 AM ckieler

BENCH MARKS				
NO.	STATION	DESCRIPTION	OFFSET	ELEV.
1	16'CGW'+46.4	CHISLED '+' ON LIGHT POLE BOLT	6.7'LT.	875.64
5	115+74.7	DISC ON BRIDGE	6.1'RT.	896.33



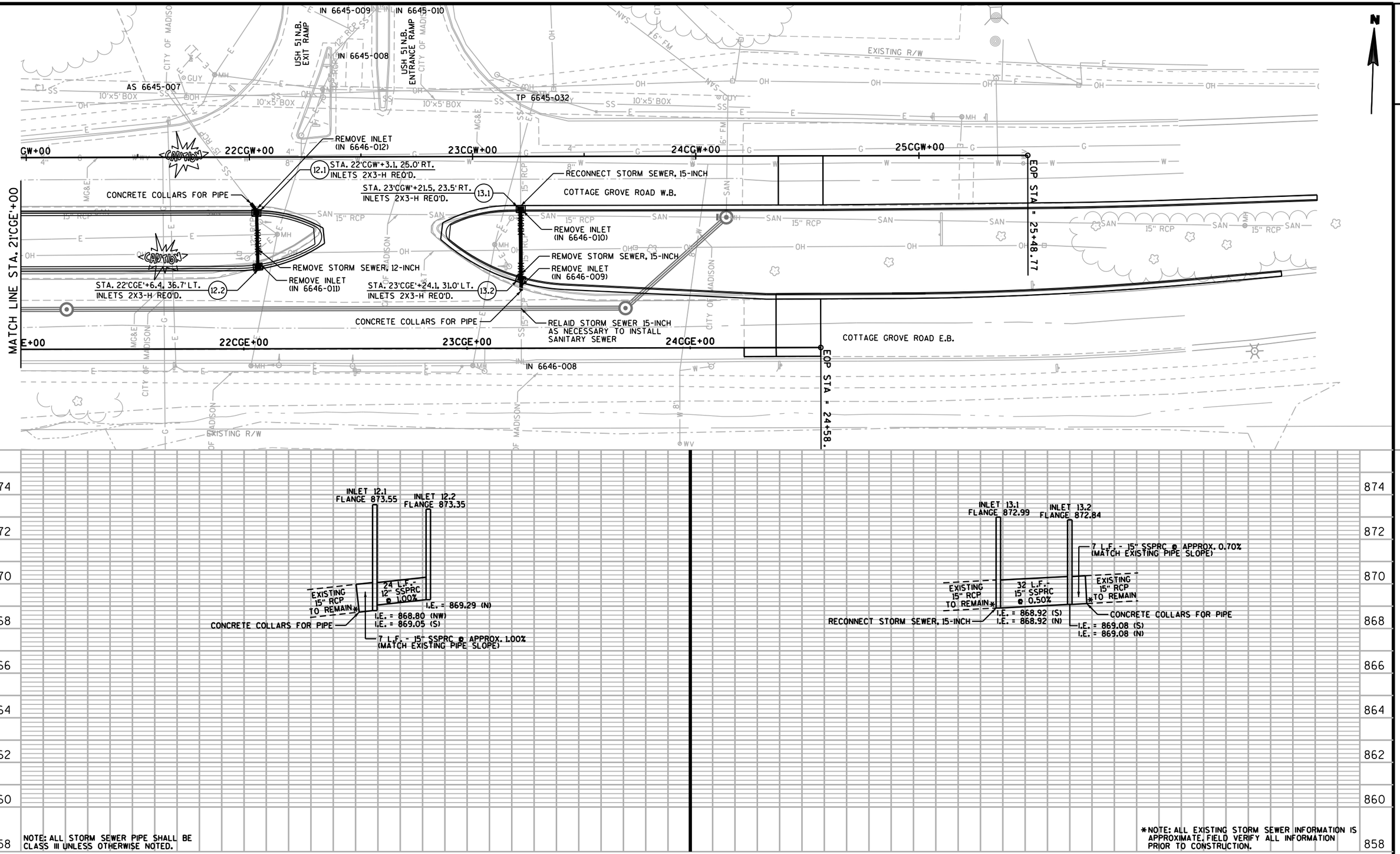




NOTE: ALL STORM SEWER PIPE SHALL BE CLASS III UNLESS OTHERWISE NOTED.

*NOTE: ALL EXISTING STORM SEWER INFORMATION IS APPROXIMATE. FIELD VERIFY ALL INFORMATION PRIOR TO CONSTRUCTION.

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STORM SEWER: COTTAGE GROVE ROAD	SHEET 68	E



874 872 870 868 866 864 862 860 858

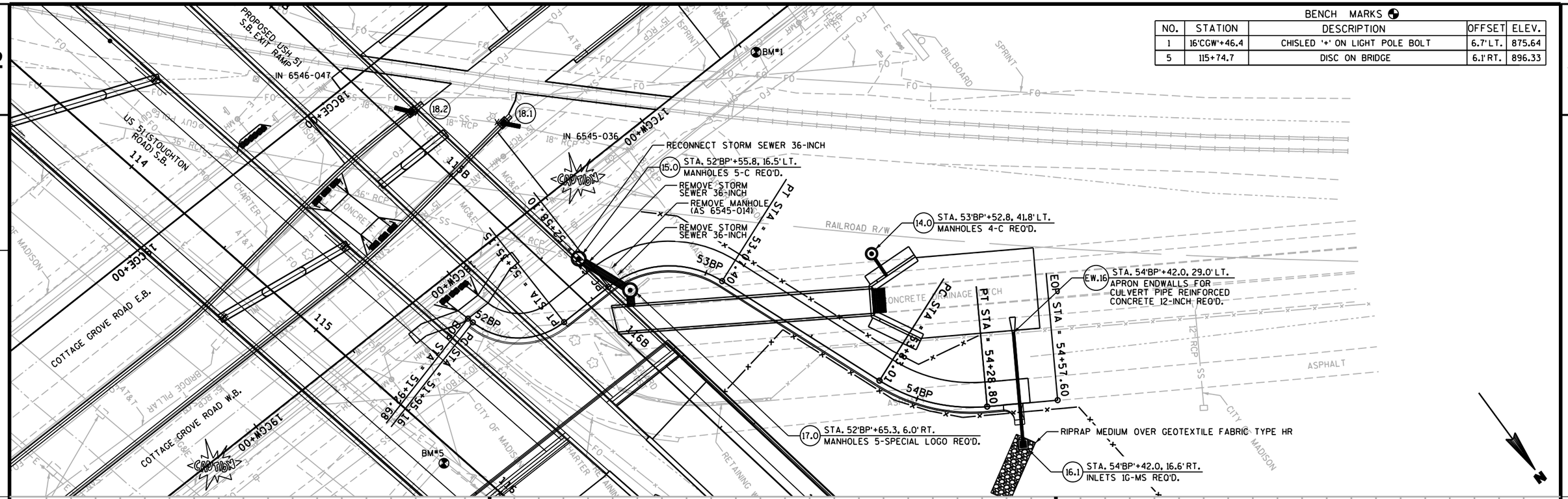
NOTE: ALL STORM SEWER PIPE SHALL BE CLASS III UNLESS OTHERWISE NOTED.

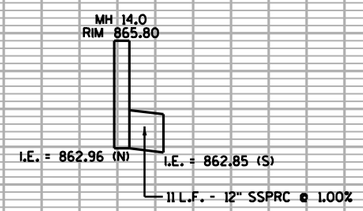
*NOTE: ALL EXISTING STORM SEWER INFORMATION IS APPROXIMATE. FIELD VERIFY ALL INFORMATION PRIOR TO CONSTRUCTION.

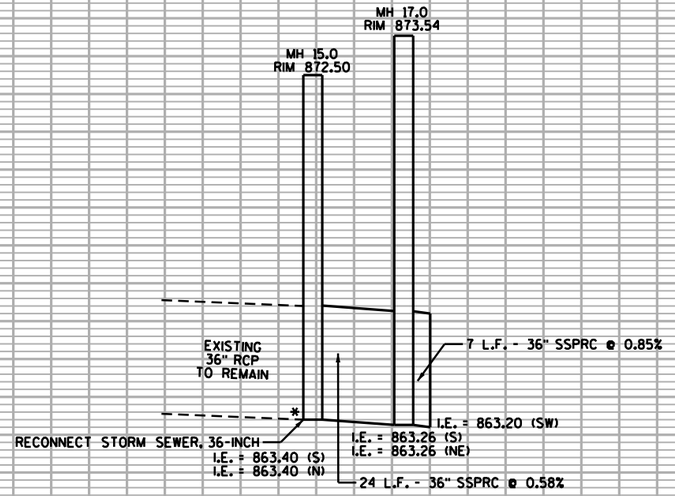
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STORM SEWER: COTTAGE GROVE ROAD	SHEET 69	E

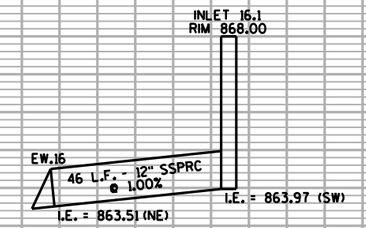
BENCH MARKS

NO.	STATION	DESCRIPTION	OFFSET	ELEV.
1	16'CGW'+46.4	CHISLED '+' ON LIGHT POLE BOLT	6.7' LT.	875.64
5	115+74.7	DISC ON BRIDGE	6.1' RT.	896.33









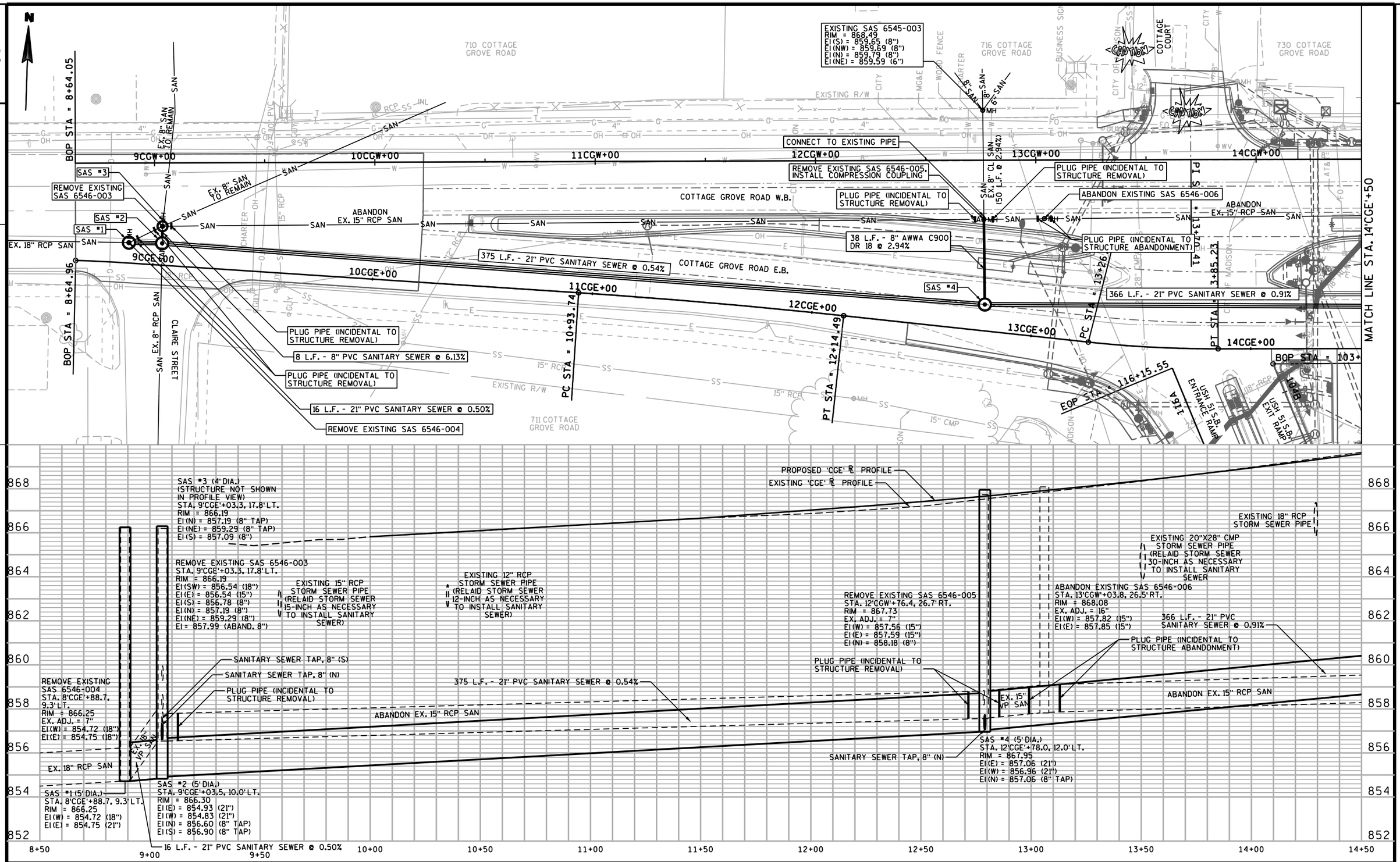
NOTE: ALL STORM SEWER PIPE SHALL BE CLASS III UNLESS OTHERWISE NOTED.

*NOTE: ALL EXISTING STORM SEWER INFORMATION IS APPROXIMATE. FIELD VERIFY ALL INFORMATION PRIOR TO CONSTRUCTION.

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STORM SEWER: MULTI-USE PATH	SHEET 70	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 41a

Storm_09.dgn 8/14/2014 8:31:46 AM ckieler



PROJECT NO: 5411-02-75	HWY: USH 51	COUNTY: DANE	SANITARY SEWER: COTTAGE GROVE ROAD	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 41a

San_01.dgn 12/8/2014 12:54:57 PM ckieler

BENCH MARKS

NO.	STATION	DESCRIPTION	OFFSET	ELEV.
1	16'CGW'+46.4	CHISLED '+' ON LIGHT POLE BOLT	6.7' LT.	875.64

CASING PIPE TO BE SIZED BY THE CONTRACTOR
MIN. CASING SIZE 38" DIAMETER

FILL VOIDS W/ BLOWN SAND

CARRIER PIPE

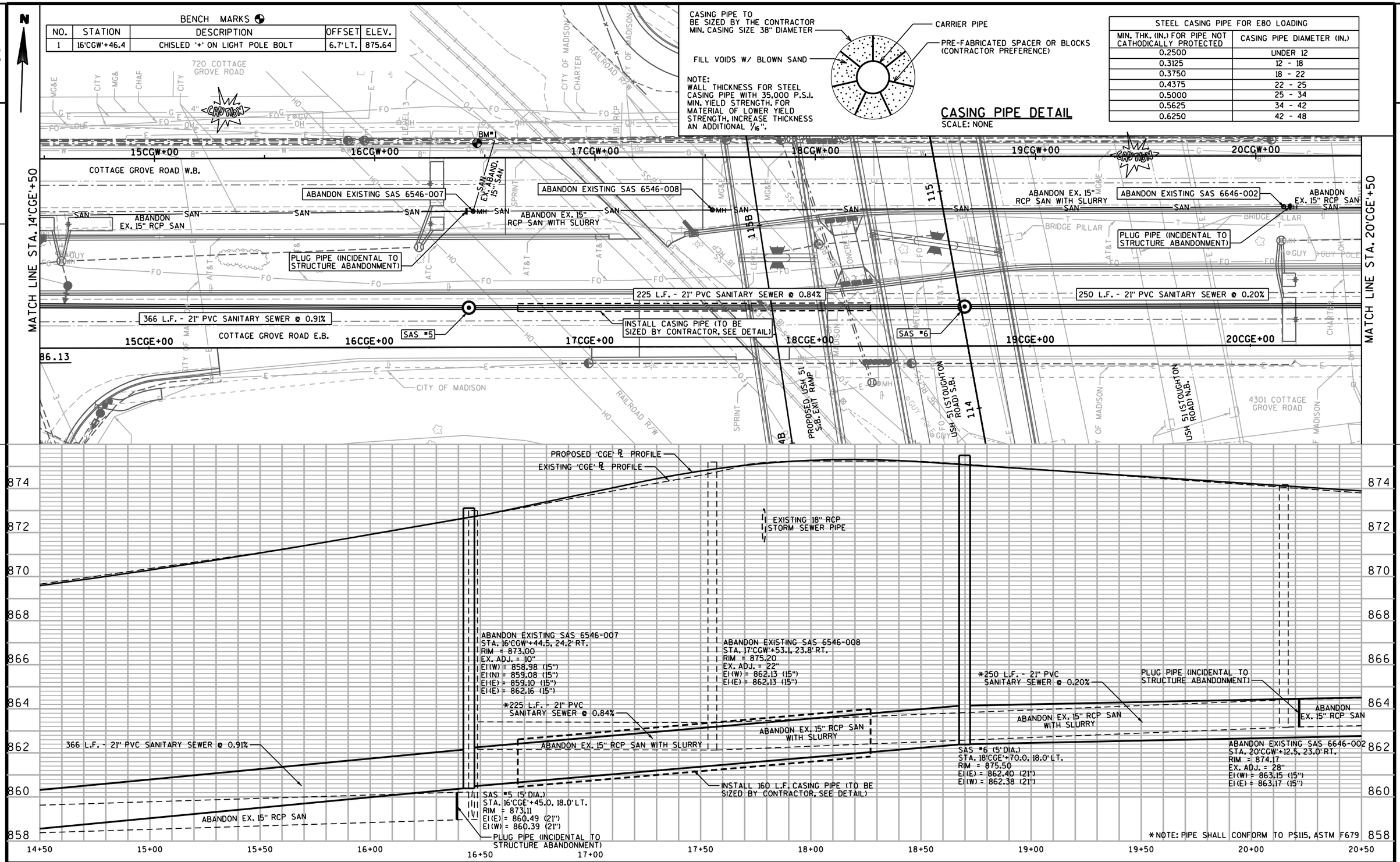
PRE-FABRICATED SPACER OR BLOCKS (CONTRACTOR PREFERENCE)

NOTE:
WALL THICKNESS FOR STEEL CASING PIPE WITH 35,000 P.S.I. MIN. YIELD STRENGTH. FOR MATERIAL OF LOWER YIELD STRENGTH, INCREASE THICKNESS AN ADDITIONAL 1/16".

CASING PIPE DETAIL

SCALE: NONE

STEEL CASING PIPE FOR E80 LOADING	
MIN. THK. (IN.) FOR PIPE NOT CATHODICALLY PROTECTED	CASING PIPE DIAMETER (IN.)
0.2500	UNDER 12
0.3125	12 - 18
0.3750	18 - 22
0.4375	22 - 25
0.5000	25 - 34
0.5625	34 - 42
0.6250	42 - 48



PROJECT NO: 5411-02-75	HWY: USH 51	COUNTY: DANE	SANITARY SEWER: COTTAGE GROVE ROAD	SHEET E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$
WISDOT/CADDS SHEET 41a
San_02.dgn 12/8/2014 12:54:59 PM ckieler

MATCH LINE STA. 20'CGE'+50

TO CITY OF MADISON ATLAS LIFT STATION 702 ATLAS AVENUE (920' NORTH)

USH 51 N.B. EXIT RAMP

USH 51 N.B. ENTRANCE RAMP

4300 COTTAGE GROVE ROAD

EXISTING R/W

21CGW+00 22CGW+00 23CGW+00 24CGW+00 25CGW+00

COTTAGE GROVE ROAD W.B.

ABANDON EX. 15" RCP SAN

INSTALL SANITARY SEWER FORCE MAIN CONNECTION

REMOVE EXISTING SAS 6646-001

EX. 6" FORCE MAIN

EXISTING SAS 6646-008

EOP STA = 25+48.77

PLUG PIPE (INCIDENTAL TO STRUCTURE REMOVAL)

SAS #9

61 L.F. - 21" PVC SANITARY SEWER @ 0.20%

ULO (MMSD)

250 L.F. - 21" PVC SANITARY SEWER @ 0.20%

SAS #7

SAS #8

21CGE+00 22CGE+00 23CGE+00 24CGE+00

COTTAGE GROVE ROAD E.B.

EOP STA = 24+58.

4301 COTTAGE GROVE ROAD

EXISTING 'CGE' ℄ PROFILE

PROPOSED 'CGE' ℄ PROFILE

EXISTING 15" RCP STORM SEWER PIPE (RELAID STORM SEWER 15-INCH AS NECESSARY TO INSTALL SANITARY SEWER)

61 L.F. - 21" PVC SANITARY SEWER @ 0.20%

250 L.F. - 21" PVC SANITARY SEWER @ 0.20%

*250 L.F. - 21" PVC SANITARY SEWER @ 0.20%

ABANDON EX. 15" RCP SAN

REMOVE EXISTING SAS 6646-001
STA. 24'CGW'+13.6, 27.3' RT.
RIM = 873.60
EX. ADJ. = 38"
EI(W) = 863.94 (15")
EI(E) = 863.96 (15")
EI(N) = 865.58 (6" FORCEMAIN)
EI = 864.33 (ABAND. 6" LATERAL)

EX. 15" RCP SAN

SAS #7 (5' DIA.)
STA. 21'CGE'+20.0, 18.0' LT.
RIM = 873.86
EI(E) = 862.92 (21")
EI(W) = 862.90 (21")

SAS #8 (5' DIA.)
STA. 23'CGE'+70.0, 18.0' LT.
RIM = 873.07
EI(NE) = 863.52 (21")
EI(W) = 863.42 (21")

SAS #9 (5' DIA.)
STA. 24'CGW'+13.6, 27.3' RT.
RIM = 873.60
EI(E) = 863.94 (15" TAP)
EI(W) = 863.64 (21", FULL INVERT)
EI(N) = 865.58 (6" FORCE MAIN)

EXISTING 36" PCCP FORCE MAIN (MMSD) (DO NOT DISTURB)

PLUG PIPE (INCIDENTAL TO STRUCTURE REMOVAL)

SANITARY SEWER TAP, 6" (N)

874 872 870 868 866 864 862 860 858

20+50 21+00 21+50 22+00 22+50 23+00 23+50 24+00 24+50 25+00 25+50 26+00 26+50

*NOTE: PIPE SHALL CONFORM TO PS115, ASTM F679

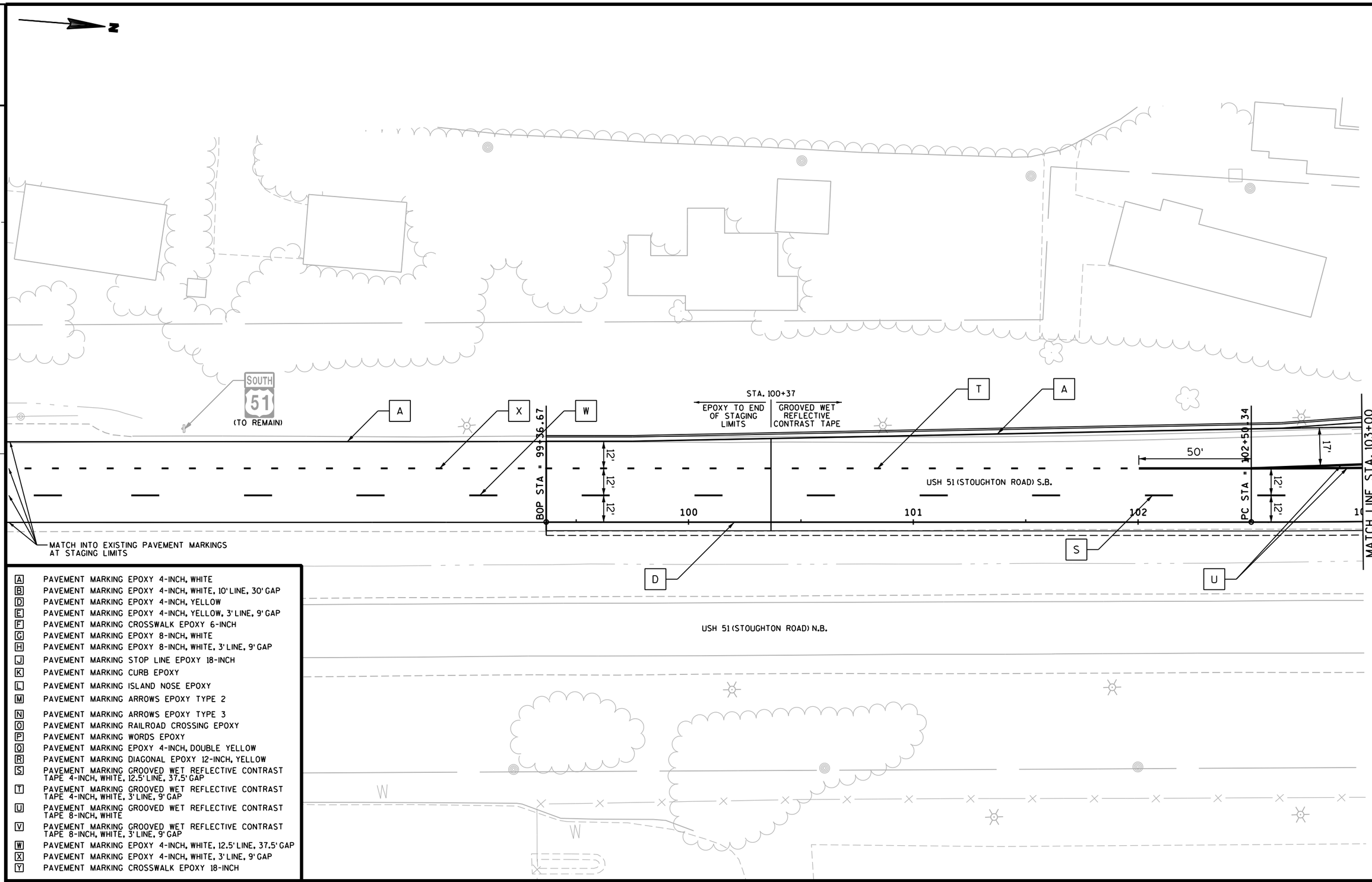
PROJECT NO: 5411-02-75	HWY: USH 51	COUNTY: DANE	SANITARY SEWER: COTTAGE GROVE ROAD	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 41a

San_03.dgn 12/8/2014 12:55:04 PM ckieler

2



A	PAVEMENT MARKING EPOXY 4-INCH, WHITE
B	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 10' LINE, 30' GAP
D	PAVEMENT MARKING EPOXY 4-INCH, YELLOW
E	PAVEMENT MARKING EPOXY 4-INCH, YELLOW, 3' LINE, 9' GAP
F	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH
G	PAVEMENT MARKING EPOXY 8-INCH, WHITE
H	PAVEMENT MARKING EPOXY 8-INCH, WHITE, 3' LINE, 9' GAP
J	PAVEMENT MARKING STOP LINE EPOXY 18-INCH
K	PAVEMENT MARKING CURB EPOXY
L	PAVEMENT MARKING ISLAND NOSE EPOXY
M	PAVEMENT MARKING ARROWS EPOXY TYPE 2
N	PAVEMENT MARKING ARROWS EPOXY TYPE 3
O	PAVEMENT MARKING RAILROAD CROSSING EPOXY
P	PAVEMENT MARKING WORDS EPOXY
Q	PAVEMENT MARKING EPOXY 4-INCH, DOUBLE YELLOW
R	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH, YELLOW
S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
T	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE, 3' LINE, 9' GAP
U	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE
V	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE, 3' LINE, 9' GAP
W	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
X	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 3' LINE, 9' GAP
Y	PAVEMENT MARKING CROSSWALK EPOXY 18-INCH

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKINGS	SHEET 74	E

2

N

EXISTING USH 51 S.B. ENTRANCE RAMP

EXISTING USH 51 S.B. EXIT RAMP

2.2 W4-6 36" X 36"

MATCH LINE STA. 108A+00

PROPOSED USH 51 S.B. ENTRANCE RAMP

107A

106A

105A

104A

BOP STA = 103+75.00

MATCH LINE STA. 103+00

MATCH LINE STA. 109+00

R2.1

EXIT R2.2

2.1 W4-3R 48" X 48"

50'

3'

8'

15'

12'

4'

104 105 106 107 108

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

GUY POLE

MATCH INTO EXISTING PAVEMENT MARKINGS AT OVERLAY LIMITS

A	PAVEMENT MARKING EPOXY 4-INCH, WHITE
B	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 10'LINE, 30'GAP
D	PAVEMENT MARKING EPOXY 4-INCH, YELLOW
E	PAVEMENT MARKING EPOXY 4-INCH, YELLOW, 3'LINE, 9'GAP
F	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH
G	PAVEMENT MARKING EPOXY 8-INCH, WHITE
H	PAVEMENT MARKING EPOXY 8-INCH, WHITE, 3'LINE, 9'GAP
J	PAVEMENT MARKING STOP LINE EPOXY 18-INCH
K	PAVEMENT MARKING CURB EPOXY
L	PAVEMENT MARKING ISLAND NOSE EPOXY
M	PAVEMENT MARKING ARROWS EPOXY TYPE 2
N	PAVEMENT MARKING ARROWS EPOXY TYPE 3
O	PAVEMENT MARKING RAILROAD CROSSING EPOXY
P	PAVEMENT MARKING WORDS EPOXY
Q	PAVEMENT MARKING EPOXY 4-INCH, DOUBLE YELLOW
R	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH, YELLOW
S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE, 12.5'LINE, 37.5'GAP
T	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE, 3'LINE, 9'GAP
U	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE
V	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE, 3'LINE, 9'GAP
W	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 12.5'LINE, 37.5'GAP
X	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 3'LINE, 9'GAP
Y	PAVEMENT MARKING CROSSWALK EPOXY 18-INCH

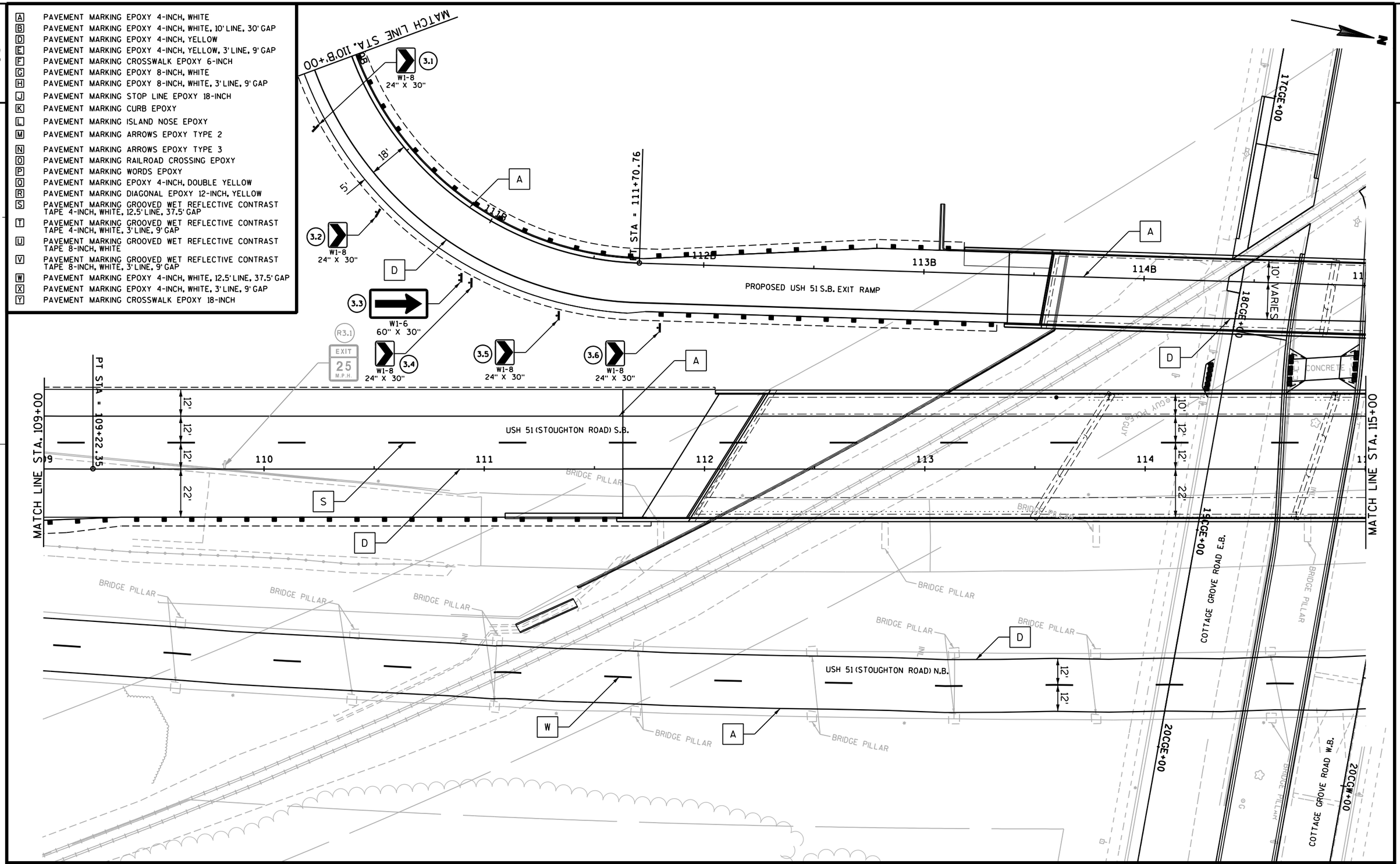
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKINGS	SHEET 75	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Signing and Pavement Markings\PM_02.dgn PLOT DATE : 12/2/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

PM_02.dgn 12/2/2014 1:17:05 PM ckieler

- A PAVEMENT MARKING EPOXY 4-INCH, WHITE
- B PAVEMENT MARKING EPOXY 4-INCH, WHITE, 10' LINE, 30' GAP
- D PAVEMENT MARKING EPOXY 4-INCH, YELLOW
- E PAVEMENT MARKING EPOXY 4-INCH, YELLOW, 3' LINE, 9' GAP
- F PAVEMENT MARKING CROSSWALK EPOXY 6-INCH
- G PAVEMENT MARKING EPOXY 8-INCH, WHITE
- H PAVEMENT MARKING EPOXY 8-INCH, WHITE, 3' LINE, 9' GAP
- J PAVEMENT MARKING STOP LINE EPOXY 18-INCH
- K PAVEMENT MARKING CURB EPOXY
- L PAVEMENT MARKING ISLAND NOSE EPOXY
- M PAVEMENT MARKING ARROWS EPOXY TYPE 2
- N PAVEMENT MARKING ARROWS EPOXY TYPE 3
- O PAVEMENT MARKING RAILROAD CROSSING EPOXY
- P PAVEMENT MARKING WORDS EPOXY
- Q PAVEMENT MARKING EPOXY 4-INCH, DOUBLE YELLOW
- R PAVEMENT MARKING DIAGONAL EPOXY 12-INCH, YELLOW
- S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- T PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE, 3' LINE, 9' GAP
- U PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE
- V PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE, 3' LINE, 9' GAP
- W PAVEMENT MARKING EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- X PAVEMENT MARKING EPOXY 4-INCH, WHITE, 3' LINE, 9' GAP
- Y PAVEMENT MARKING CROSSWALK EPOXY 18-INCH



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKINGS	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Signing and Pavement Markings\PM_03.dgn PLOT DATE : 12/2/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

PM_03.dgn 12/2/2014 1:17:06 PM ckieler

2

MATCH INTO EXISTING PAVEMENT MARKINGS

COUNTY BB
Cottage Grove Road
R4.3

EXIT
E5-1
72" X 60"
4.4

W1-11R
36" X 36"
4.1

25 M.P.H.
W13-1
24" X 24"
4.2

PROPOSED USH 51 S.B. EXIT RAMP

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

USH 51 N.B. EXIT RAMP

MOVING SIGNS TYPE II
4.3

MATCH INTO EXISTING PAVEMENT MARKINGS AT OVERLAY LIMITS

EXIT 25 M.P.H. (TO REMAIN)

COUNTY BB
Cottage Grove Road
(TO REMAIN)

COTTAGE GROVE ROAD W.B.

RETAINING WALL

BRIDGE PILLAR

MATCH LINE STA. 115+00

MATCH LINE STA. 121+00

A	PAVEMENT MARKING EPOXY 4-INCH, WHITE
B	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 10' LINE, 30' GAP
D	PAVEMENT MARKING EPOXY 4-INCH, YELLOW
E	PAVEMENT MARKING EPOXY 4-INCH, YELLOW, 3' LINE, 9' GAP
F	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH
G	PAVEMENT MARKING EPOXY 8-INCH, WHITE
H	PAVEMENT MARKING EPOXY 8-INCH, WHITE, 3' LINE, 9' GAP
J	PAVEMENT MARKING STOP LINE EPOXY 18-INCH
K	PAVEMENT MARKING CURB EPOXY
L	PAVEMENT MARKING ISLAND NOSE EPOXY
M	PAVEMENT MARKING ARROWS EPOXY TYPE 2
N	PAVEMENT MARKING ARROWS EPOXY TYPE 3
O	PAVEMENT MARKING RAILROAD CROSSING EPOXY
P	PAVEMENT MARKING WORDS EPOXY
Q	PAVEMENT MARKING EPOXY 4-INCH, DOUBLE YELLOW
R	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH, YELLOW
S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
T	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE, 3' LINE, 9' GAP
U	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE
V	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE, 3' LINE, 9' GAP
W	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
X	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 3' LINE, 9' GAP
Y	PAVEMENT MARKING CROSSWALK EPOXY 18-INCH

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKINGS	SHEET 77	E

2

2

5.1

COUNTY BB

Cottage Grove Road

E SERIES (MOD.)
252" X 120"

EOP STA = 121+91.42

A

U

V

1B

50'

50'

PROPOSED USH 51 S.B. EXIT RAMP

10'

15'

12'

12'

9'

MATCH LINE STA. 121+00

PT STA = 124+81.89

MATCH LINE STA. 127+00

121

122

123

124

125

126

USH 51 (STOUGHTON ROAD) S.B.

S

D

INL

USH 51 (STOUGHTON ROAD) N.B.

(TO REMAIN)

USH 51 N.B. ENTRANCE RAMP

A	PAVEMENT MARKING EPOXY 4-INCH, WHITE
B	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 10'LINE, 30'GAP
D	PAVEMENT MARKING EPOXY 4-INCH, YELLOW
E	PAVEMENT MARKING EPOXY 4-INCH, YELLOW, 3'LINE, 9'GAP
F	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH
G	PAVEMENT MARKING EPOXY 8-INCH, WHITE
H	PAVEMENT MARKING EPOXY 8-INCH, WHITE, 3'LINE, 9'GAP
J	PAVEMENT MARKING STOP LINE EPOXY 18-INCH
K	PAVEMENT MARKING CURB EPOXY
L	PAVEMENT MARKING ISLAND NOSE EPOXY
M	PAVEMENT MARKING ARROWS EPOXY TYPE 2
N	PAVEMENT MARKING ARROWS EPOXY TYPE 3
O	PAVEMENT MARKING RAILROAD CROSSING EPOXY
P	PAVEMENT MARKING WORDS EPOXY
Q	PAVEMENT MARKING EPOXY 4-INCH, DOUBLE YELLOW
R	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH, YELLOW
S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE, 12.5'LINE, 37.5'GAP
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X	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 3'LINE, 9'GAP
Y	PAVEMENT MARKING CROSSWALK EPOXY 18-INCH

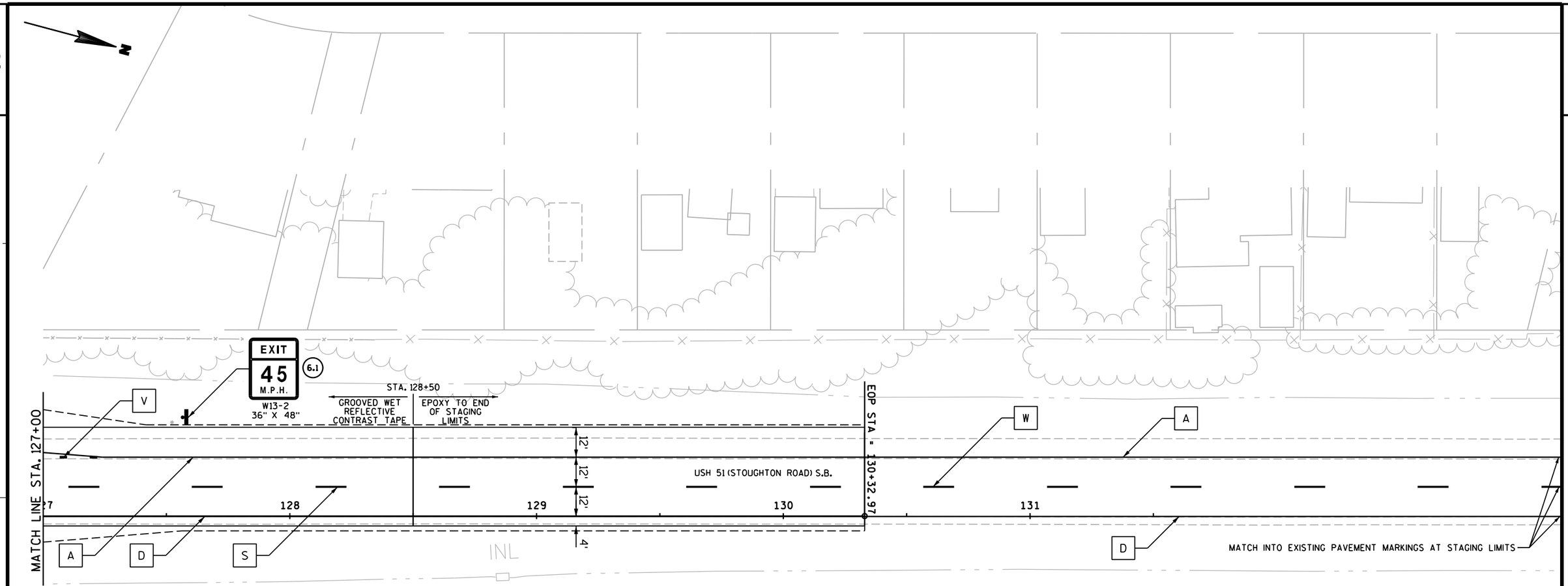
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKINGS	SHEET 78	E

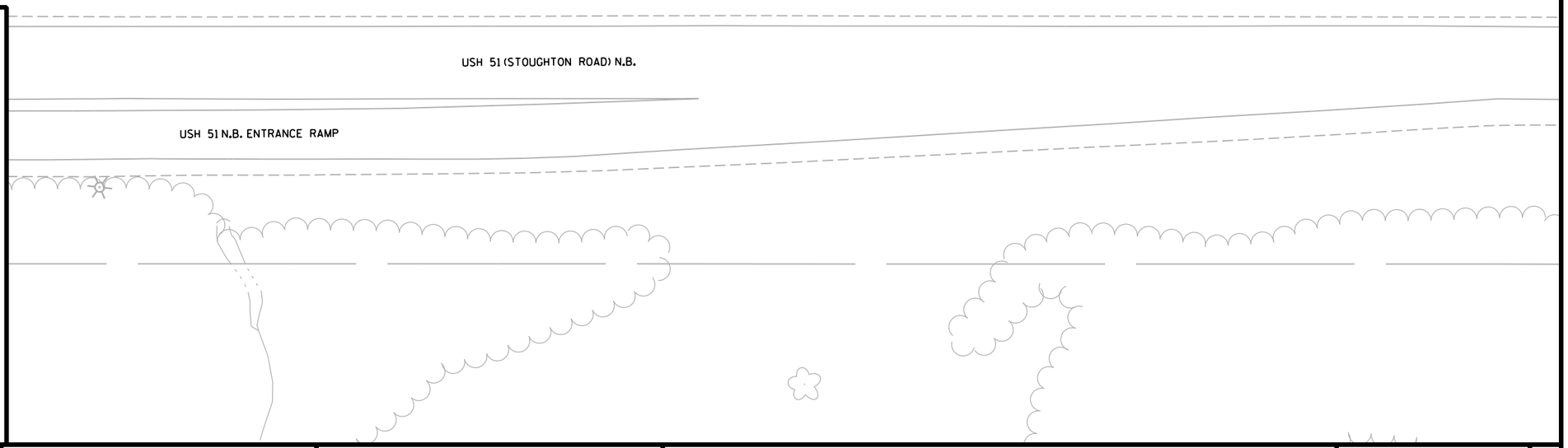
FILE NAME : P:\90s\93\00093080\CADD\Planshts\Signing and Pavement Markings\PM_05.dgn PLOT DATE : 12/2/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 42

PM_05.dgn 12/2/2014 1:17:08 PM ckieler

2





A	PAVEMENT MARKING EPOXY 4-INCH, WHITE
B	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 10'LINE, 30'GAP
D	PAVEMENT MARKING EPOXY 4-INCH, YELLOW
E	PAVEMENT MARKING EPOXY 4-INCH, YELLOW, 3'LINE, 9'GAP
F	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH
G	PAVEMENT MARKING EPOXY 8-INCH, WHITE
H	PAVEMENT MARKING EPOXY 8-INCH, WHITE, 3'LINE, 9'GAP
J	PAVEMENT MARKING STOP LINE EPOXY 18-INCH
K	PAVEMENT MARKING CURB EPOXY
L	PAVEMENT MARKING ISLAND NOSE EPOXY
M	PAVEMENT MARKING ARROWS EPOXY TYPE 2
N	PAVEMENT MARKING ARROWS EPOXY TYPE 3
O	PAVEMENT MARKING RAILROAD CROSSING EPOXY
P	PAVEMENT MARKING WORDS EPOXY
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R	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH, YELLOW
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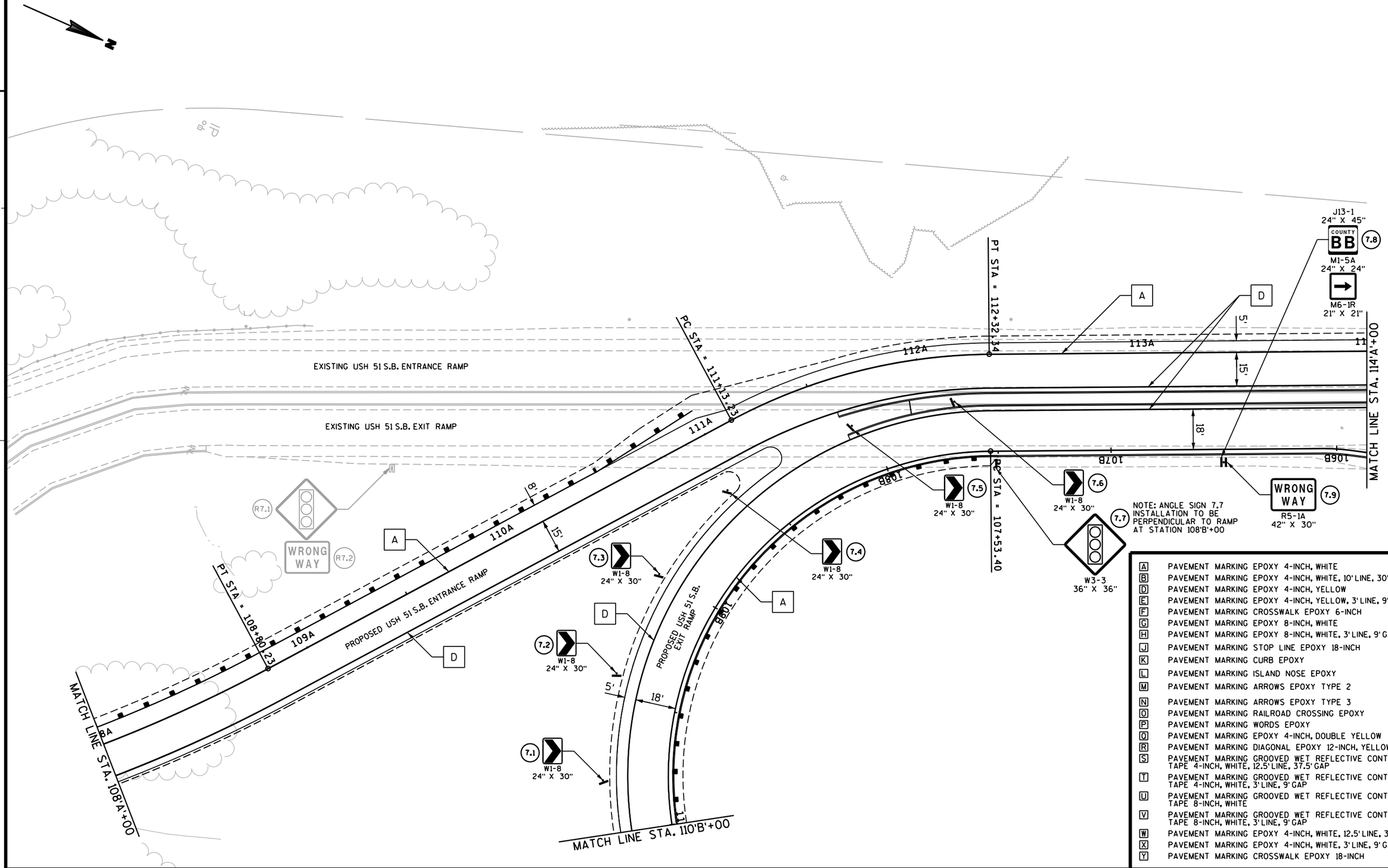
X	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 3'LINE, 9'GAP
Y	PAVEMENT MARKING CROSSWALK EPOXY 18-INCH

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKINGS	SHEET 79	E



A	PAVEMENT MARKING EPOXY 4-INCH, WHITE
B	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 10'LINE, 30'GAP
D	PAVEMENT MARKING EPOXY 4-INCH, YELLOW
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M	PAVEMENT MARKING ARROWS EPOXY TYPE 2
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O	PAVEMENT MARKING RAILROAD CROSSING EPOXY
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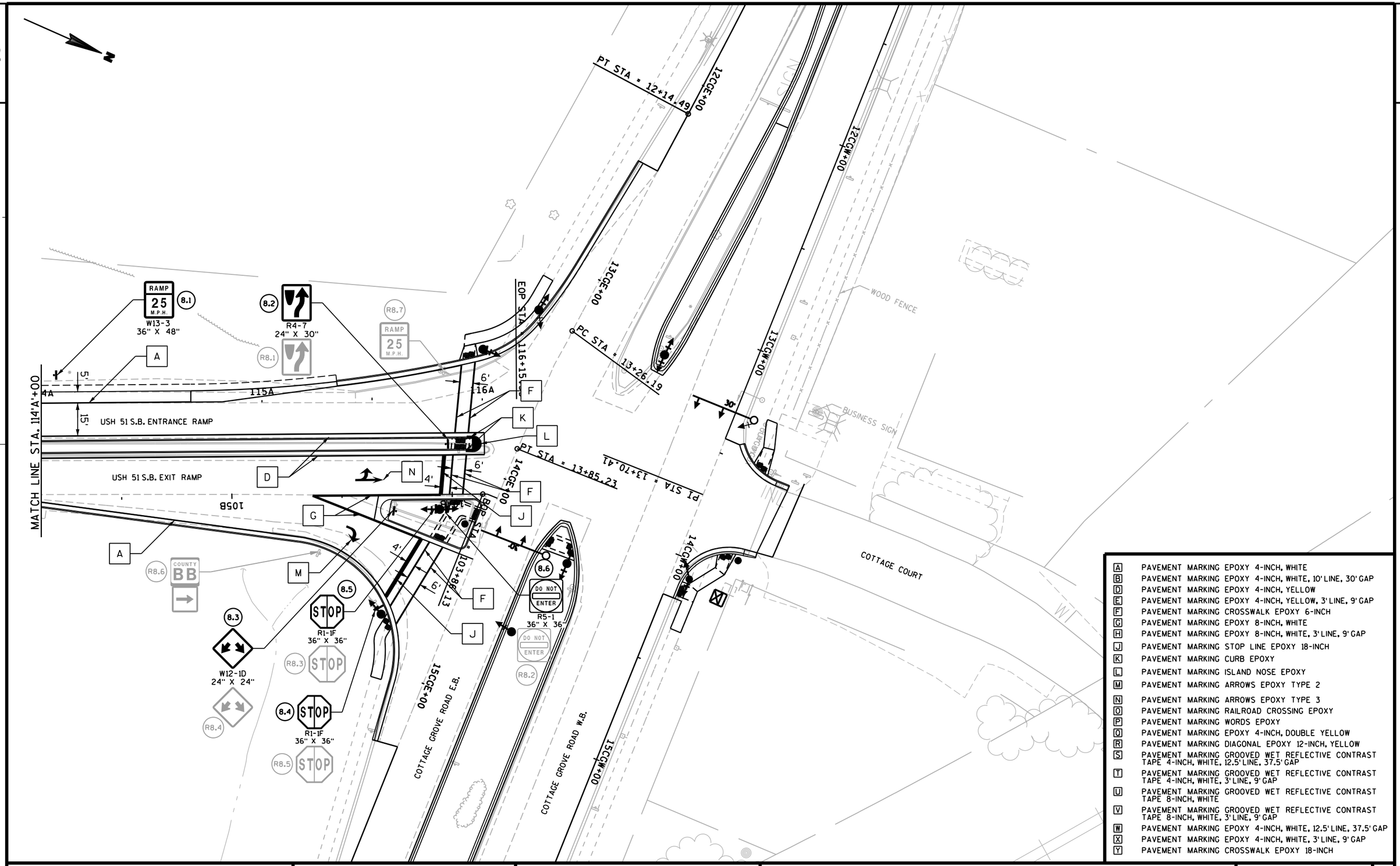
X	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 3'LINE, 9'GAP
Y	PAVEMENT MARKING CROSSWALK EPOXY 18-INCH

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKINGS	SHEET 80	E

2



A	PAVEMENT MARKING EPOXY 4-INCH, WHITE
B	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 10'LINE, 30'GAP
D	PAVEMENT MARKING EPOXY 4-INCH, YELLOW
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Y	PAVEMENT MARKING CROSSWALK EPOXY 18-INCH

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKINGS	SHEET 81 E

2

N

(9.1) R4-7 24" X 30"

(9.2) W6-2 36" X 36"

(9.3) ← Cottage Ct / NORTH Stoughton Rd SOUTH

(9.4) R4-7 24" X 30"

(9.5) J3-2 48" X 57" — NORTH M3-1 24" X 12" — SOUTH M3-3 24" X 12" — M1-4 24" X 24" — M6-1 21" X 21" — M6-1R 21" X 21"

R9.2 NORTH SOUTH 51 51

R9.4 SOUTH 51

R9.5

SPEED LIMIT 30 (TO REMAIN)

NO PARKING ANY TIME (TO REMAIN)

STOP (TO REMAIN)

Cottage Ct (TO REMAIN)

BIKE LANE (TO REMAIN)

WOOD FENCE (TO REMAIN)

BUSINESS SIGN

COTTAGE COURT

BOP STA = 8+64.05

MATCH INTO EXISTING PAVEMENT MARKINGS AT STAGING LIMITS

BOP STA = 8+64.96

9CGW+00 10CGW+00 11CGW+00 12CGW+00 13CGW+00 14CGW+00

9CGE+00 10CGE+00 11CGE+00 12CGE+00 13CGE+00 14CGE+00

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

25' (TYP.)

PC STA = 10+93.74

PT STA = 12+14.49

PC STA = 13+26.19

PT STA = 13+70.41

PT STA = 13+85.23

BOP STA = 103+

MATCH LINE STA. 14CGE+50

EOP STA 116+15.55

116+47.17

CLAIRE STREET

Claire St Cottage Grove Rd STOP (TO REMAIN)

USH 51 S.B. ENTRANCE RAMP

USH 51 S.B. EXIT RAMP

A	PAVEMENT MARKING EPOXY 4-INCH, WHITE
B	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 10'LINE, 30'GAP
D	PAVEMENT MARKING EPOXY 4-INCH, YELLOW
E	PAVEMENT MARKING EPOXY 4-INCH, YELLOW, 3'LINE, 9'GAP
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N	PAVEMENT MARKING ARROWS EPOXY TYPE 3
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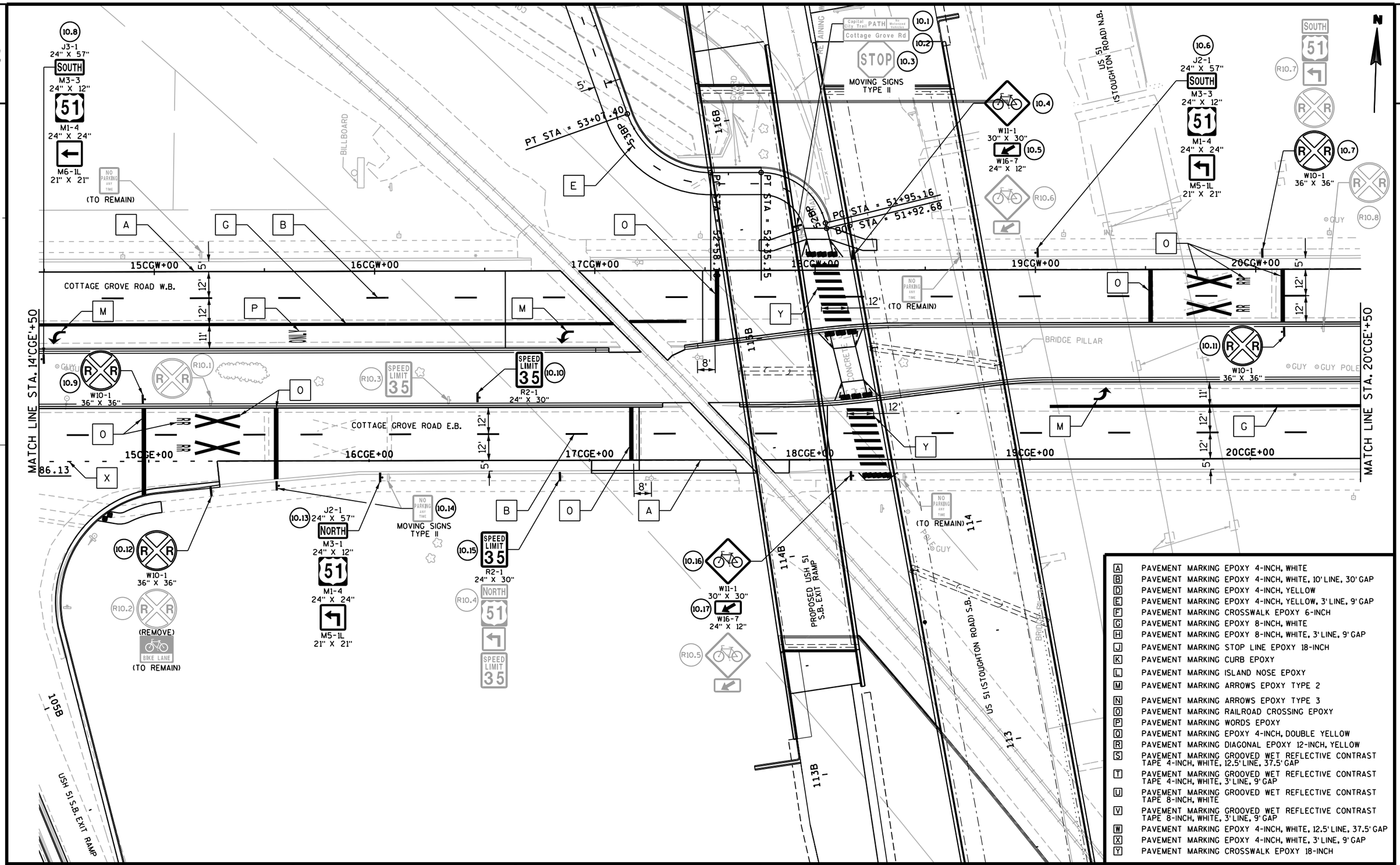
X	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 3'LINE, 9'GAP
Y	PAVEMENT MARKING CROSSWALK EPOXY 18-INCH

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKINGS: COTTAGE GROVE RD.	SHEET 82 E



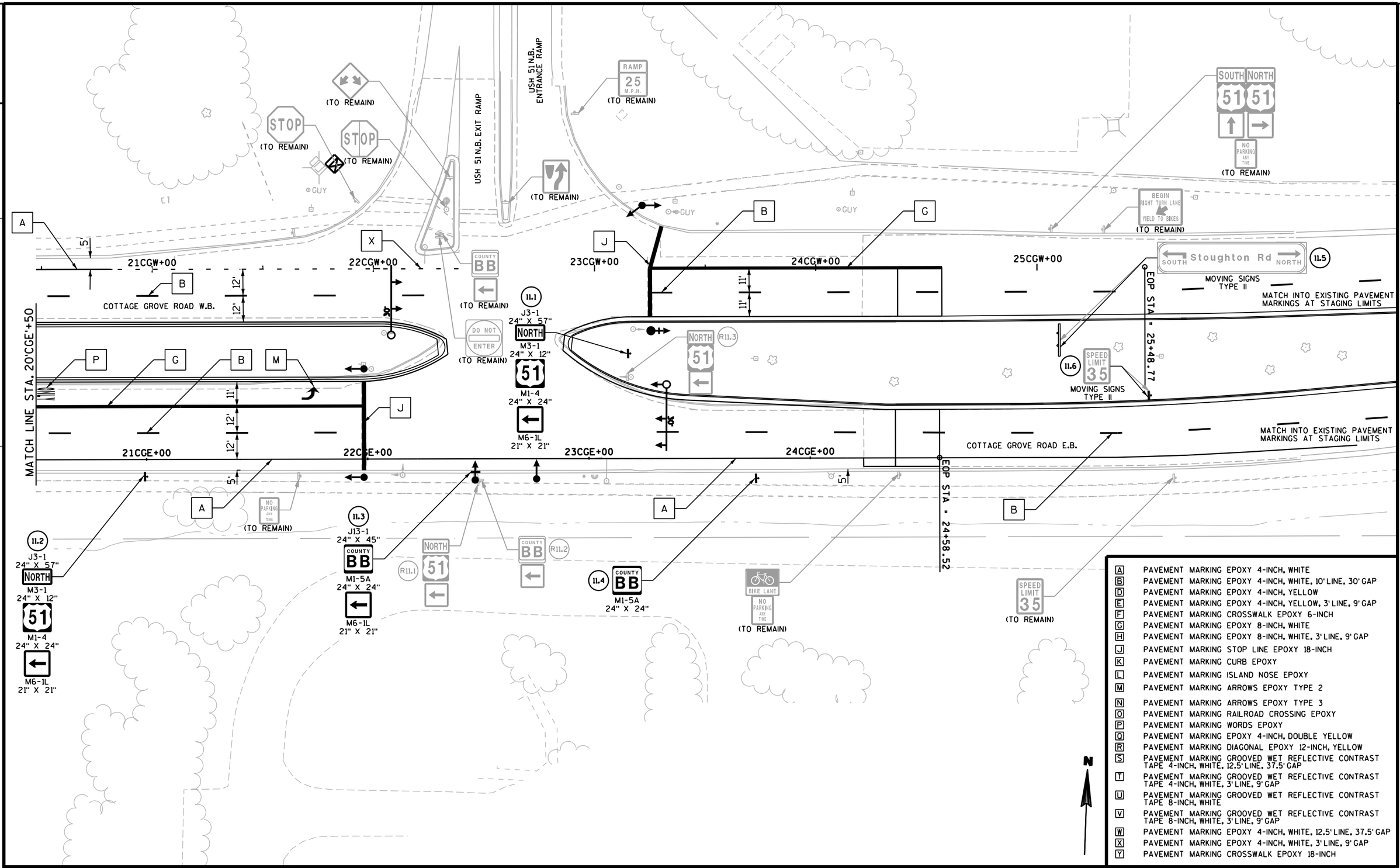
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKINGS: COTTAGE GROVE RD.	SHEET 83	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Signing and Pavement Markings\PM_10.dgn PLOT DATE : 12/2/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

PM_10.dgn 12/2/2014 1:17:14 PM ckieler

2



A	PAVEMENT MARKING EPOXY 4-INCH, WHITE
B	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 10'LINE, 30'GAP
D	PAVEMENT MARKING EPOXY 4-INCH, YELLOW
E	PAVEMENT MARKING EPOXY 4-INCH, YELLOW, 3'LINE, 9'GAP
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G	PAVEMENT MARKING EPOXY 8-INCH, WHITE
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J	PAVEMENT MARKING STOP LINE EPOXY 18-INCH
K	PAVEMENT MARKING CURB EPOXY
L	PAVEMENT MARKING ISLAND NOSE EPOXY
M	PAVEMENT MARKING ARROWS EPOXY TYPE 2
N	PAVEMENT MARKING ARROWS EPOXY TYPE 3
O	PAVEMENT MARKING RAILROAD CROSSING EPOXY
P	PAVEMENT MARKING WORDS EPOXY
Q	PAVEMENT MARKING EPOXY 4-INCH, DOUBLE YELLOW
R	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH, YELLOW
S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE, 12.5'LINE, 37.5'GAP
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X	PAVEMENT MARKING EPOXY 4-INCH, WHITE, 3'LINE, 9'GAP
Y	PAVEMENT MARKING CROSSWALK EPOXY 18-INCH

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKINGS: COTTAGE GROVE RD.	SHEET 84	E

2

2

N

MB1-2-(1,3)
STA. 103+00.0, 50.6'LT.
LED A-6-15

MB1-1-(1,3)
STA. 101+50.0, 46.0'LT.
LED A-6-15

EX4MB16
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX4MB18
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX4MB17
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

OH

E

USH 51 (STOUGHTON ROAD) S.B.

BOP STA = 99+36.67

PC STA = 102+50.34

MATCH LINE STA. 103+00

100

101

102

USH 51 (STOUGHTON ROAD) N.B.

EX1MB18
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX1MB17
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

W

LEGEND

- STREET LIGHTING UNIT
- PULL BOXES STEEL
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT RIGID NONMETALLIC SCHEDULE 40, 2-INCH UNLESS OTHERWISE NOTED (INSTALL SCHEDULE 80 BELOW ROADWAY)

MBX-X-(X,X)
STA. XXX+XX.XX, XX.X'LT. — LOCATION (TO CENTER OF POLE)
LED A-7-20

- CABINET NUMBER
- POLE NUMBER
- LIGHTING CIRCUIT(S)
- LUMINAIRE ARM LENGTH (FEET)
- POLE TYPE
- LUMINAIRE DESIGNATION

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STREET LIGHTING	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Lighting_01.dgn 12/8/2014 9:33:08 AM jdolens

2

N

MATCH LINE STA. 103+00

BOP STA = 103+75.00

MATCH LINE STA. 108A+00

MATCH LINE STA. 109+00

MB1-3-(1,3)
STA. 105'A'+50.0, 14.0'LT.
LED B-6-15

MB1-5-(1,3)
STA 107'A'+00.0, 32.0'RT.
LED A-6-15

MB1-6-(1,3)
STA. 107+50.0, 47.0'LT.
LED A-6-15

MB1-4-(1,3)
STA. 106+00.0, 47.0'LT.
LED B-6-15 (DUAL)

EX4MB19
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX3MB19
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX4MB15
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX4MB14
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX4MB13
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX4MB12
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX1MB16
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX1MB15
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX1MB14
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX1MB13
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

PROPOSED USH 51 S.B. ENTRANCE RAMP

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

CITY OF MADISON

CHARTER

MG&E

SAN

OH

FO

104

105

106

107

108

104A

105A

106A

107A

LEGEND

- STREET LIGHTING UNIT
- PULL BOXES STEEL
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT RIGID NONMETALLIC SCHEDULE 40, 2-INCH UNLESS OTHERWISE NOTED (INSTALL SCHEDULE 80 BELOW ROADWAY)

MBX-X-(X,X)
STA. XXX+XX.XX, XX.X'LT. — LOCATION (TO CENTER OF POLE)
LED A-7-20
- CABINET NUMBER
- POLE NUMBER
- LIGHTING CIRCUIT(S)
- LUMINAIRE ARM LENGTH (FEET)
- POLE TYPE
- LUMINAIRE DESIGNATION

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STREET LIGHTING	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Lighting_02.dgn 12/8/2014 9:33:12 AM jdolens

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MATCH LINE STA. 110+00

MB1-8-(1,3)
STA. 110'B'+50.0, 8.0'LT.
LED A-6-8

PB-3
STA. 111'B'+80.0, 7.5'LT.
24x42-INCH
(CABINET MB1)

MB1-7-(1,3)
STA. 112'B'+00.0, 11.0'LT.
LED A-6-8

PB-1
STA. 110+00.0, 47.0'LT.
24X42-INCH
(CABINET MB1)

PB-2
STA. 111'B'+80.0, 28.0'RT.
24x42-INCH
(CABINET MB1)

PT STA = 109+22.35

EX4MB11
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX4MB10
REMOVING LIGHTING UNIT

EX4MB9
REMOVING LIGHTING UNIT

EX1MB12
REMOVING LIGHTING UNIT

EX1MB11
REMOVING LIGHTING UNIT

EX1MB10
REMOVING LIGHTING UNIT

EX1MB9
REMOVING LIGHTING UNIT

PROPOSED USH 51
S.B. EXIT RAMP

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

17CGE+00

18CGE+00

19CGE+00

20CGE+00

MATCH LINE STA. 109+00

MATCH LINE STA. 115+00

LEGEND

- STREET LIGHTING UNIT
- PULL BOXES STEEL
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT RIGID NONMETALLIC SCHEDULE 40, 2-INCH UNLESS OTHERWISE NOTED (INSTALL SCHEDULE 80 BELOW ROADWAY)

MBX-X-(X,X) — CABINET NUMBER, POLE NUMBER, LIGHTING CIRCUIT(S)
STA. XXX+XX.XX, XX.X'LT. — LOCATION (TO CENTER OF POLE)
LED A-7-20 — LUMINAIRE ARM LENGTH (FEET), POLE TYPE, LUMINAIRE DESIGNATION

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STREET LIGHTING	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Lighting_03.dgn 12/8/2014 9:33:13 AM jdolens

2

LEGEND

- STREET LIGHTING UNIT
- PULL BOXES STEEL
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT RIGID NONMETALLIC SCHEDULE 40, 2-INCH UNLESS OTHERWISE NOTED (INSTALL SCHEDULE 80 BELOW ROADWAY)

CABINET NUMBER
POLE NUMBER
LIGHTING CIRCUIT(S)
MBX-X-(X,X)
STA. XXX+XX.XX, XX.X' LT. — LOCATION (TO CENTER OF POLE)
LED A-7-20
LUMINAIRE ARM LENGTH (FEET)
POLE TYPE
LUMINAIRE DESIGNATION

PT STA = 54+57.60
PC STA = 53+83.01
PT STA = 54+28.80
PT STA = 53+01.40
54BP
53BP
PC STA = 52+78.10
PT STA = 52+45.15
PB-B
52BP
176CM+00
116B
117B
118B
119B
120B
PB-10
STA. 118'B'+00.0, 17.0' LT.
24x42-INCH
(CABINET MB1)
PB-11
STA. 119'B'+90.0, 17.0' LT.
24x42-INCH
(CABINET MB1)
PROPOSED USH 51 S.B. EXIT RAMP
PB-12
STA. 119'B'+90.0, 27.0' RT.
24x42-INCH
(CABINET MB1)
MB1-11-(2,4)
STA. 120'B'+00.0, 28.0' RT.
LED A-6-8 (DUAL)
PC STA = 120+86.00
MATCH LINE STA. 121+00
BOP STA = 51+92.68
PC STA = 51+65.16
MATCH LINE STA. 115+00
180CM+00
200CM+00
EX4MB1
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE
USH 51 (STOUGHTON ROAD) S.B.
EX4MB2
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE
EX4MB3
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE
EX4MB8
REMOVING LIGHTING UNIT
EX1MB2
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED B
MB1-EX1MB2-(6,8)
EX1MB1
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED A
MB1-EX1MB1-(6,8)
EX1MB3
REMOVING LUMINAIRE (2)
LUMINAIRES UTILITY LED B
LUMINAIRES UTILITY LED A
MB1-EX1MB3-(6,8)
USH 51 (STOUGHTON ROAD) N.B.
LUMINAIRES UTILITY LED A
LUMINAIRES UTILITY LED B
USH 51 N.B.
EXIT RAMP
MATCH LINE 'A'
CITY OF MADISON
CHARTER
RETAINING WALL
BRIDGE PILLAR
COTTAGE GROVE ROAD W.B.
SPRINT
MG&E
18" RCP
10'x5' BOX
GUARD POST
CONCRETE SIDEWALK
INL
SIGN

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STREET LIGHTING	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Lighting_04.dgn 12/8/2014 9:33:14 AM jdolens

2

LEGEND

- STREET LIGHTING UNIT
- PULL BOXES STEEL
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT RIGID NONMETALLIC SCHEDULE 40, 2-INCH UNLESS OTHERWISE NOTED (INSTALL SCHEDULE 80 BELOW ROADWAY)

CABINET NUMBER
POLE NUMBER
LIGHTING CIRCUIT(S)
MBX-X-(X,X)
STA. XXX+XX.XX, XX.X' LT. — LOCATION (TO CENTER OF POLE)
LED A-7-20
LUMINAIRE ARM LENGTH (FEET)
POLE TYPE
LUMINAIRE DESIGNATION

+91.42

MB1-12-(2,4)
STA. 121'B'+50.0, 16.0' LT.
LED A-6-8

EOP STA

1B

PROPOSED USH 51
S.B. EXIT RAMP

MB1-13-(2,4)
STA. 123+00.0, 71.8' LT.
LED A-6-8

MB1-14-(2,4)
STA. 124+50.0, 61.9' LT.
LED A-6-8

MB1-15-(2,4)
STA. 126+00.0, 50.0' LT.
LED A-6-8

EX4MB4
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX4MB5
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

EX4MB6
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

MATCH LINE STA. 121+00

PT STA - 124+81.89

MATCH LINE STA. 127+00

USH 51 (STOUGHTON ROAD) S.B.

121 122 123 124 125 126

INL

USH 51 (STOUGHTON ROAD) N.B.

EX1MB4
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED A
MB1-EX1MB4-(6,8)

EX1MB5
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED A
MB1-EX1MB5-(6,8)

USH 51 N.B.
ENTRANCE RAMP

MATCH LINE 'B'

EX1MB23
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED A
MB1-EX1MB23-(6,8)

EX1MB6
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED B
MB1-EX1MB6-(6,8)

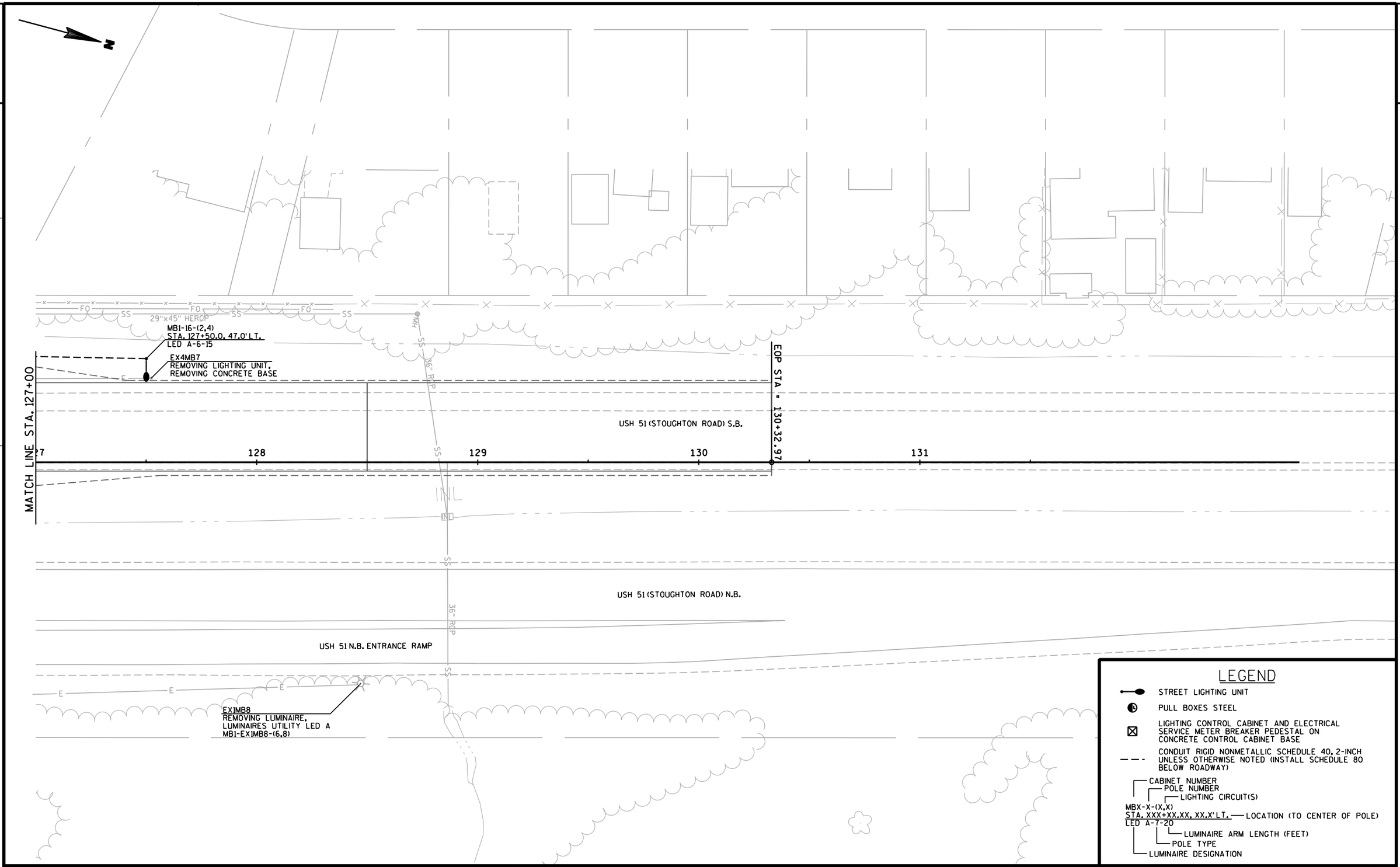
EX1MB7
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED B
MB1-EX1MB7-(6,8)

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STREET LIGHTING	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Lighting_05.dgn 12/8/2014 9:33:14 AM jdolens

2



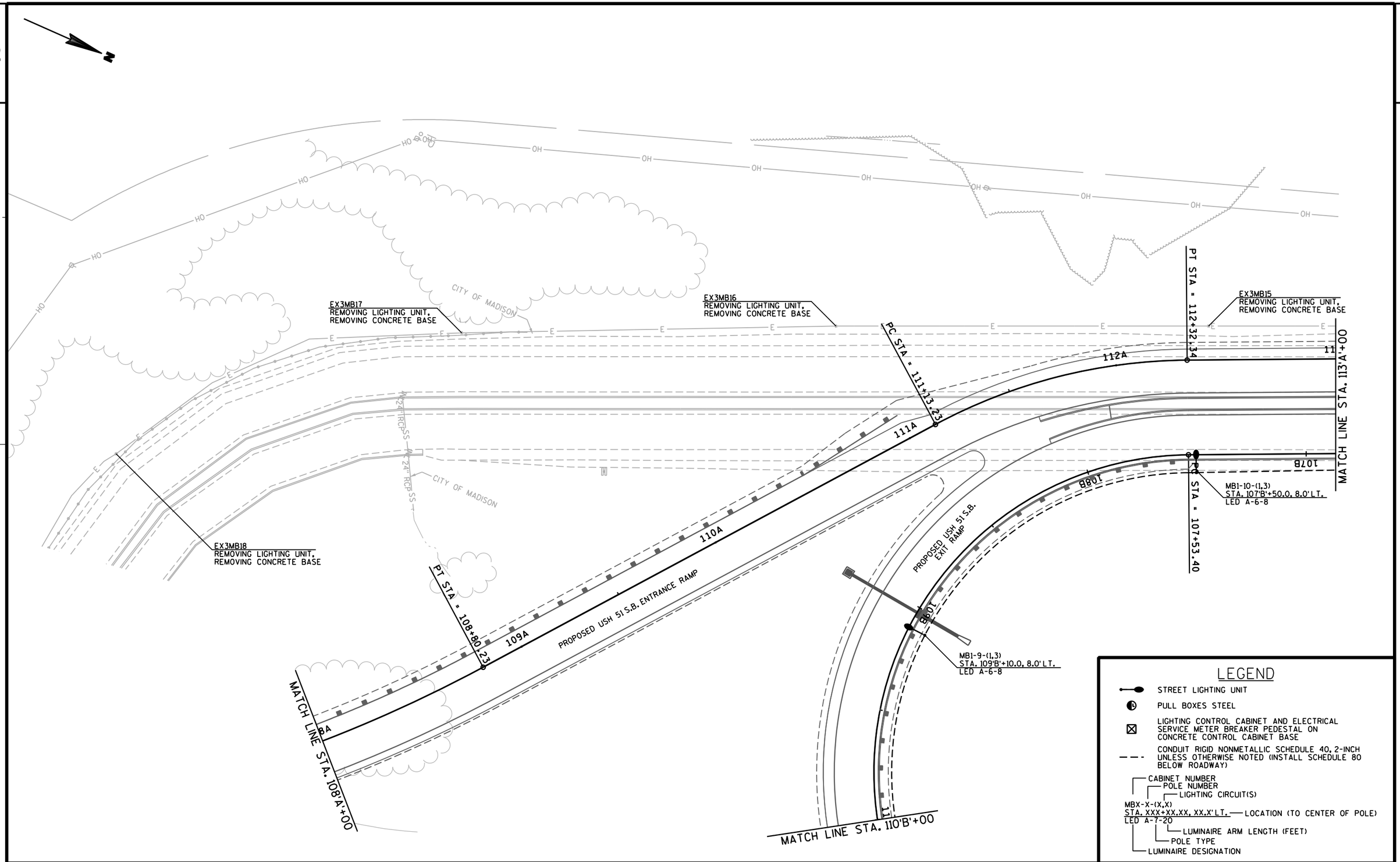
LEGEND

- STREET LIGHTING UNIT
- PULL BOXES STEEL
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT RIGID NONMETALLIC SCHEDULE 40, 2-INCH UNLESS OTHERWISE NOTED (INSTALL SCHEDULE 80 BELOW ROADWAY)

CABINET NUMBER
POLE NUMBER
LIGHTING CIRCUIT(S)
MBX-X-(X,X)
STA. XXX+XX.XX, XX.X' LT. — LOCATION (TO CENTER OF POLE)
LED A-7-20
LUMINAIRE ARM LENGTH (FEET)
POLE TYPE
LUMINAIRE DESIGNATION

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STREET LIGHTING	SHEET 90	E

2



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STREET LIGHTING	SHEET 91	E

2

EX3MB14
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

MATCH LINE STA. 113'A'+00

USH 51 S.B. ENTRANCE RAMP

USH 51 S.B. EXIT RAMP

PT STA = 12+14.49

PC STA = 13+26.19

PT STA = 13+85.23

PI STA = 13+10.41

PB-4
STA. 104'B'+65.0, 28.5'LT.
24x42-INCH
(CABINET MB1)

PB-5
STA. 14'CGE'+34.5, 35.5'LT.
24x42-INCH
(CABINET MB1)

PB-6
STA. 14'CGW'+30.0, 7.0'LT.
24X42-INCH
(CABINET MB1)

CONDUIT SPECIAL 2-INCH

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

COTTAGE COURT

LEGEND

- STREET LIGHTING UNIT
- PULL BOXES STEEL
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT RIGID NONMETALLIC SCHEDULE 40, 2-INCH UNLESS OTHERWISE NOTED (INSTALL SCHEDULE 80 BELOW ROADWAY)

MBX-X-(X,X)
STA. XXX+XX.XX, XX.X'LT. — LOCATION (TO CENTER OF POLE)
LED A-7-20
- CABINET NUMBER
- POLE NUMBER
- LIGHTING CIRCUIT(S)
- LUMINAIRE ARM LENGTH (FEET)
- POLE TYPE
- LUMINAIRE DESIGNATION

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STREET LIGHTING	SHEET 92	E

2

2

BOP STA = 8+64.05

BOP STA = 8+64.96

9CGW+00

10CGW+00

11CGW+00

12CGW+00

13CGW+00

14CGW+00

COTTAGE GROVE ROAD W.B.

9CGE+00

10CGE+00

11CGE+00

12CGE+00

13CGE+00

14CGE+00

COTTAGE GROVE ROAD E.B.

CLAIRE STREET

EXISTING R/W

PC STA = 10+93.74

PT STA = 12+14.49

PC STA = 13+26.19

PT STA = 14+00.00

BOP STA = 103+

MATCH LINE STA. 14'CGE'+50

W STA = 116+15.55

116A

116B

115A

114A

USH 51 S.B. ENTRANCE RAMP

USH 51 S.B. EXIT RAMP

MB2
STA. 14'CGW'+34.0, 24.0'LT.

CONDUIT BY OTHERS

PB-17
STA. 14'CGW'+25.0, 7.0'LT.
24x42-INCH
(CABINET MB2)

CONDUIT SPECIAL 3-INCH

UP-1
REMOVING LUMINAIRE,
REMOVING UTILITY POLE

MB2-17-(1,3)
STA. 12'CGW'+93.0, 37.0'RT.
LED B-5-8

UP-2
REMOVING LUMINAIRE,
REMOVING UTILITY POLE

PB-18
STA. 14'CGE'+28.5, 35.5'LT.
24x42-INCH
(CABINET MB2)

MB2-18-(1,3)
STA. 14'CGE'+25.5, 35.5'LT.
LED B-5-8

EX3MB13
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED A
MB2-EX3MB13-(1,3)

EX3MB12
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED A,
CONNECT INTO EXISTING BASE
MB2-EX3MB12-(1,3)

EX3MB11
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED B,
CONNECT INTO EXISTING BASE
MB2-EX3MB11-(1,3)

PB-21
STA. 13'CGE'+29.0, 19.0'RT.
24x42-INCH
(CABINET MB2)

EX3MB10
STA. 115'A'+86.5, 20.9'LT.
REMOVING LUMINAIRE,
REMOVING CONCRETE BASE,
SALVAGE & REINSTALL LIGHTING UNIT,
LUMINAIRES UTILITY LED B,
CONCRETE BASE TYPE 6
MB2-EX3MB10-(1,3)

PB-20
STA. 115'A'+79.0, 21.7'LT.
24x42-INCH
(CABINET MB2)

LEGEND

- STREET LIGHTING UNIT
- PULL BOXES STEEL
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT RIGID NONMETALLIC SCHEDULE 40, 2-INCH UNLESS OTHERWISE NOTED (INSTALL SCHEDULE 80 BELOW ROADWAY)

MBX-X-(X,X)
STA. XXX+XX.XX, XX.X'LT. — LOCATION (TO CENTER OF POLE)
LED A-7-20
- CABINET NUMBER
- POLE NUMBER
- LIGHTING CIRCUIT(S)
- LUMINAIRE ARM LENGTH (FEET)
- POLE TYPE
- LUMINAIRE DESIGNATION

N

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STREET LIGHTING: COTTAGE GROVE ROAD	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 30

Lighting_09.dgn 12/8/2014 9:33:17 AM jdolens

2

CONDUIT SPECIAL
2-INCH (3)

EX3MB3
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED A,
CONNECT INTO EXISTING BASE
MB2-EX3MB3-(2,4)

PB-8
STA. 17'CGW'+60.0, 7.0'LT.
24X42-INCH
(CABINET MB1)

PB-16
STA. 20'CGW'+08.0, 43.5'LT.
24X42-INCH
CONNECT INTO EXISTING CONDUIT

MB1
STA. 20'CGW'+15.0, 40.0'LT.

PB-9
STA. 20'CGW'+05.0, 7.0'LT.
24X42-INCH
(CABINET MB1)

EXISTING CABINET
REMOVING CONCRETE BASE,
REMOVING LIGHTING CABINET

EX3MB1
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED A,
CONNECT INTO EXISTING BASE
MB2-EX3MB1-(2,4)

15CGW+00 | 16CGW+00 | 17CGW+00 | 18CGW+00 | 19CGW+00 | 20CGW+00

EX3MB4
REMOVING CONCRETE BASE

PB-7
STA. 15'CGW'+95.0, 7.0'LT.
24X42-INCH
(CABINET MB1)

PB-22
STA. 15'CGW'+90.0, 7.0'LT.
24X42-INCH
(CABINET MB2)

PB-23
STA. 17'CGW'+85.0, 7.0'LT.
24X42-INCH
(CABINET MB2)

EX3MB2
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

PB-13
STA. 20'CGW'+40.5, 17.5'LT.
24X42-INCH
(CABINET MB1)

CONDUIT SPECIAL 2-INCH

MATCH LINE STA. 14'CGE'+50

MATCH LINE STA. 20'CGE'+50

COTTAGE GROVE ROAD E.B.

LUMINAIRES UNDERDECK LED A
MB2-(6,8)

PB-26
STA. 18'CGW'+02.0, 40.0'RT.
24X42-INCH
(CABINET MB2)

LUMINAIRES UNDERDECK LED A
MB2-(6,8)

CONDUIT SPECIAL 2-INCH

15CGE+00 | 16CGE+00 | 17CGE+00 | 18CGE+00 | 19CGE+00 | 20CGE+00

86.13

EX3MB7
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED B,
CONNECT INTO EXISTING BASE
MB2-EX3MB7-(5,7)

EX3MB8
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED A
CONNECT INTO EXISTING BASE
MB2-EX3MB8-(5,7)

PB-27
STA. 17'CGE'+0.0, 7.0'RT.
24X42-INCH
(CABINET MB2)

EX2MB12
REMOVING LIGHTING UNIT,
REMOVING CONCRETE BASE

PB-28
STA. 18'CGE'+46.0, 7.0'RT.
24X42-INCH
(CABINET MB2)

EX2MB11
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED A,
CONNECT INTO EXISTING BASE
MB2-EX2MB11-(5,7)

PB-19
STA. 104'B'+60.0, 27.0'LT.
24X42-INCH
(CABINET MB2)

EX3MB9
STA. 104'B'+70.5, 25.5'LT.
REMOVING LUMINAIRE,
REMOVING CONCRETE BASE,
SALVAGE & REINSTALL LIGHTING UNIT,
LUMINAIRES UTILITY LED B,
CONCRETE BASE TYPE 6
MB2-EX3MB9-(1,3)

PROPOSED USH 51 S.B. EXIT RAMP

US 51(STOUGHTON ROAD) S.B.

US 51(STOUGHTON ROAD) N.B.

LEGEND

- STREET LIGHTING UNIT
- PULL BOXES STEEL
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT RIGID NONMETALLIC SCHEDULE 40, 2-INCH UNLESS OTHERWISE NOTED (INSTALL SCHEDULE 80 BELOW ROADWAY)

CABINET NUMBER — POLE NUMBER — LIGHTING CIRCUIT(S)
MBX-X-(X,X)
STA. XXX+XX.XX, XX.X'LT. — LOCATION (TO CENTER OF POLE)
LED A-7-20
LUMINAIRE ARM LENGTH (FEET) — POLE TYPE — LUMINAIRE DESIGNATION

N

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STREET LIGHTING: COTTAGE GROVE ROAD	SHEET 94	E

MATCH LINE 'C'

N

LEGEND

- STREET LIGHTING UNIT
- PULL BOXES STEEL
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT RIGID NONMETALLIC SCHEDULE 40, 2-INCH UNLESS OTHERWISE NOTED (INSTALL SCHEDULE 80 BELOW ROADWAY)

CABINET NUMBER
POLE NUMBER
LIGHTING CIRCUIT(S)
MBX-X-(X,X)
STA. XXX+XX.XX, XX.X'LT. — LOCATION (TO CENTER OF POLE)
LED A-7-20
LUMINAIRE ARM LENGTH (FEET)
POLE TYPE
LUMINAIRE DESIGNATION

EX2MB5
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED A
MB1-EX2MB5-(5,7)

USH 51 N.B. EXIT RAMP

USH 51 N.B. ENTRANCE RAMP

CONDUIT SPECIAL 2-INCH (2)

PB-14
STA. 22'CGW'+09.0, 56.0'LT.
24X42-INCH
(CABINET MB1)

EX2MB4
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED B,
INSTALL NEW CONDUIT INTO EXISTING BASE
MB1-EX2MB4-(5,7)

PB-24
STA. 22'CGW'+07.0, 52.0'LT.
24X42-INCH
(CABINET MB2)

PB-15
STA. 22'CGW'+95.0, 56.0'LT.
24X42-INCH
(CABINET MB1)

PB-25
STA. 22'CGW'+97.0, 52.0'LT.
24X42-INCH
(CABINET MB2)

EX2MB1
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED B
CONNECT INTO EXISTING BASE
MB2-EX2MB1-(2,4)

EX2MB2
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED B,
INSTALL NEW CONDUIT INTO EXISTING BASE
MB1-EX2MB2-(2,4)

21CGW+00 22CGW+00 23CGW+00 24CGW+00 25CGW+00

EOP STA = 25+48.77

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

MATCH LINE STA. 20'CGE'+50

21CGE+00 22CGE+00 23CGE+00 24CGE+00

EOP STA = 24+5

EX2MB8
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED B,
MB2-EX2MB8-(5,7)

EX2MB9
REMOVING LUMINAIRE,
LUMINAIRES UTILITY LED B,
MB2-EX2MB9-(5,7)

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STREET LIGHTING: COTTAGE GROVE ROAD	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 30

Lighting_11.dgn 12/8/2014 9:33:19 AM jdolens

LEGEND

- STREET LIGHTING UNIT
- PULL BOXES STEEL
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT RIGID NONMETALLIC SCHEDULE 40, 2-INCH UNLESS OTHERWISE NOTED (INSTALL SCHEDULE 80 BELOW ROADWAY)

CABINET NUMBER
POLE NUMBER
LIGHTING CIRCUIT(S)
MBX-X-(X,X)
STA. XXX+XX.XX, XX.X'LT. — LOCATION (TO CENTER OF POLE)
LED A-7-20
LUMINAIRE ARM LENGTH (FEET)
POLE TYPE
LUMINAIRE DESIGNATION

MATCH LINE 'A'

EX1MB19
REMOVING LUMINAIRE, LUMINAIRES UTILITY LED A
MB1-EX1MB19-(6,8)

EX1MB24
REMOVING LUMINAIRE, LUMINAIRES UTILITY LED A
MB1-EX1MB24-(6,8)

EX1MB20
REMOVING LUMINAIRE, LUMINAIRES UTILITY LED A
MB1-EX1MB20-(6,8)

MATCH LINE 'B'

EX1MB21
REMOVING LUMINAIRE, LUMINAIRES UTILITY LED A
MB1-EX1MB21-(6,8)

EX1MB22
REMOVING LUMINAIRE, LUMINAIRES UTILITY LED A
MB1-EX1MB22-(6,8)

MATCH LINE 'C'

USH 51 N.B. EXIT RAMP

USH 51 N.B. ENTRANCE RAMP

EX2MB6
REMOVING LUMINAIRE, LUMINAIRES UTILITY LED A
MB1-EX2MB6-(5,7)

EX2MB7
REMOVING LUMINAIRE, LUMINAIRES UTILITY LED A
MB1-EX2MB7-(5,7)

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	STREET LIGHTING	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Lighting_12.dgn 12/8/2014 9:33:20 AM jdolens

EXISTING PULLBOX TO REMAIN

REMOVE TRAFFIC SIGNAL CABINET AND CONTROLLER AFTER NEW CABINET IS OPERATIONAL

REMOVE CONCRETE BASE, REMOVE AND SALVAGE 13-FT. POLE, REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

EXISTING CONCRETE BASE, POLE AND SIGNAL HEADS TO REMAIN

COTTAGE COURT

REMOVE PULLBOX

REMOVE PULLBOX

REMOVE PULLBOX

13CGW+00

14CGW+00

15CGW+00

REMOVE CONCRETE BASE, REMOVE AND SALVAGE 20-FT. POLE, REMOVE TROMBONE ARM, REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

COTTAGE GROVE ROAD W.B.

REMOVE CONCRETE BASE, REMOVE AND SALVAGE 13-FT. POLE, REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

PI STA = 13+70.41

= 13+85.23

REMOVE CONCRETE BASE, REMOVE AND SALVAGE 15-FT. POLE, REMOVE AND SALVAGE 5 FACE SIGNAL HEAD

REMOVE LUMINAIRE FROM UTILITY POLE (AT&T)

REMOVE PULLBOX

REMOVE CONCRETE BASE, REMOVE AND SALVAGE 13-FT. POLE, REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

REMOVE CONCRETE BASE, REMOVE AND SALVAGE 15-FT. POLE, REMOVE AND SALVAGE 5 FACE SIGNAL HEAD

REMOVE PULLBOX

REMOVE LUMINAIRE FROM UTILITY POLE (AT&T)

REMOVE CONCRETE BASE, REMOVE AND SALVAGE 13-FT. POLE, REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

REMOVE CONCRETE BASE, REMOVE AND SALVAGE 15-FT. POLE, REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

REMOVE CONCRETE BASE, REMOVE AND SALVAGE 20-FT. POLE, REMOVE TROMBONE ARM, REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

PC STA = 116+15.55

13CGE+00

14CGE+00

15CGE+00

COTTAGE GROVE ROAD E.B.

BOP STA = 103+86.13

REMOVE CONCRETE BASE, REMOVE AND SALVAGE 13-FT. POLE, REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

REMOVE CONCRETE BASE, REMOVE AND SALVAGE 13-FT. POLE, REMOVE AND SALVAGE 3 FACE SIGNAL HEAD (2)

REMOVE PULLBOX

REMOVE PULLBOX

REMOVE CONCRETE BASE, REMOVE AND SALVAGE LIGHT POLE, REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

REMOVE CONCRETE BASE, REMOVE AND SALVAGE 15-FT. POLE, REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

REMOVE PULLBOX

USH 51 S.B. ENTRANCE RAMP

USH 51 S.B. EXIT RAMP

NOTES:

UTILIZE EXISTING AND SALVAGED EQUIPMENT TO THE DEGREE POSSIBLE FOR TEMPORARY TRAFFIC SIGNAL. THE CABINET, CONTROLLER, OVERHEAD INTERCONNECT WIRE AND RAILROAD PREEMPTION SHALL BE USED FOR TEMPORARY SIGNALS.

SEE PERMANENT TRAFFIC SIGNAL PLAN AND MISCELLANEOUS QUANTITY SHEETS FOR ITEMS TO REMAIN OR BE SALVAGED AND REINSTALLED VERSUS INSTALLING NEW ITEMS.

COORDINATE WITH THE ENGINEER AND CITY TO VERIFY AND APPROVE THE CONDITION OF ALL EXISTING EQUIPMENT FOR USE AS EITHER TEMPORARY OR PERMANENT DEVICES PRIOR TO REMOVAL OF EXISTING EQUIPMENT.

LEGEND

(R) RED CIRCULAR INDICATOR	EXISTING CONTROL CABINET
(Y) YELLOW CIRCULAR INDICATOR	EXISTING SIGNAL HEAD, PEDESTAL BASE
(G) GREEN CIRCULAR INDICATOR	EXISTING SIGNAL HEAD, MAST-ARM
(Y) YELLOW ARROW CIRCULAR INDICATOR	MH EXISTING PULLBOX
(G) GREEN ARROW CIRCULAR INDICATOR	EXISTING STREET LIGHT
	EXISTING LOOP DETECTOR

N

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 97	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Signals\TS_01_Existing Conditions.dgn PLOT DATE : 7/31/2014 PLOT BY : cwagner PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 42

TS_01_Existing Conditions.dgn 7/31/2014 4:38:03 PM cwagner

NOTES:
UTILIZE EXISTING AND SALVAGED EQUIPMENT TO THE DEGREE POSSIBLE FOR TEMPORARY TRAFFIC SIGNAL INCLUDING CABINET, CONTROLLER, OVERHEAD INTERCONNECT WIRE AND RAILROAD PREEMPTION.

THE ENGINEER SHALL APPROVE SALVAGED EQUIPMENT FOR USE DURING CONSTRUCTION FOR TEMPORARY TRAFFIC SIGNAL.

SEE PERMANENT TRAFFIC SIGNAL PLAN AND MISCELLANEOUS QUANTITY SHEETS FOR ITEMS TO REMAIN VERSUS INSTALLING NEW ITEMS.

LEGEND

- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (Y) YELLOW ARROW CIRCULAR INDICATOR
- (G) GREEN ARROW CIRCULAR INDICATOR
- EXISTING CONTROL CABINET
- EXISTING SIGNAL HEAD, PEDESTAL BASE
- EXISTING SIGNAL HEAD, MAST-ARM
- MH EXISTING PULLBOX
- EXISTING STREET LIGHT
- EXISTING LOOP DETECTOR

EXISTING PULLBOX TO REMAIN

REMOVE TRAFFIC SIGNAL CABINET AND CONTROLLER AFTER NEW CABINET IS OPERATIONAL

EXISTING PULLBOX TO REMAIN

USH 51 N.B. EXIT RAMP

USH 51 N.B. ENTRANCE RAMP

EXISTING PULLBOX TO REMAIN

EXISTING CONCRETE BASE, POLE AND SIGNAL HEADS TO REMAIN

ABANDON CONCRETE BASE,
REMOVE AND SALVAGE 20-FT. POLE,
REMOVE TROMBONE ARM,
REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

REMOVE CONCRETE BASE,
REMOVE AND SALVAGE 5-FT. POLE

REMOVE PULLBOX

REMOVE CONCRETE BASE,
REMOVE AND SALVAGE 13-FT. POLE,
REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

REMOVE CONCRETE BASE,
REMOVE AND SALVAGE 13-FT. POLE,
REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

REMOVE PULLBOX

REMOVE CONCRETE BASE,
REMOVE AND SALVAGE 13-FT. POLE,
REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

REMOVE CONCRETE BASE,
REMOVE AND SALVAGE 13-FT. POLE,
REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

REMOVE PULLBOX

REMOVE CONCRETE BASE,
REMOVE AND SALVAGE 13-FT. POLE,
REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

REMOVE CONCRETE BASE,
REMOVE AND SALVAGE 13-FT. POLE,
REMOVE AND SALVAGE 3 FACE SIGNAL HEAD (2)

REMOVE PULLBOX

REMOVE CONCRETE BASE,
REMOVE AND SALVAGE 13-FT. POLE,
REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

REMOVE PULLBOX

REMOVE CONCRETE BASE,
REMOVE AND SALVAGE 20-FT. POLE,
REMOVE TROMBONE ARM,
REMOVE AND SALVAGE 3 FACE SIGNAL HEAD

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

22CGW+00

23CGW+00

24CGW+00

22CGE+00

23CGE+00

24CGE+00

N

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Signals\TS_02_Existing Conditions.dgn PLOT DATE : 7/31/2014 PLOT BY : cwagner PLOT NAME : PLOT SCALE : 1:20
WISDOT/CADDS SHEET 42
TS_02_Existing Conditions.dgn 7/31/2014 7:01:20 PM cwagner

S.B. STAGE CG2 TEMPORARY TRAFFIC SIGNAL INSTRUCTIONS	
SIGNAL HEAD	INSTRUCTIONS
T1	USE EXISTING SIGNAL POLE AND HEAD.
T2	USE EXISTING SIGNAL POLE AND HEAD.
T3	CONTRACTOR TO PROVIDE TEMPORARY SIGNAL EQUIPMENT.
T4	USE EXISTING SIGNAL POLE AND HEAD.
T5	CONTRACTOR TO PROVIDE TEMPORARY SIGNAL EQUIPMENT.
T6	CONTRACTOR TO PROVIDE TEMPORARY SIGNAL EQUIPMENT.
T7	CONTRACTOR TO PROVIDE TEMPORARY SIGNAL EQUIPMENT. USE SAME TEMPORARY POLE AS SIGNAL T3.
T8	USE EXISTING SIGNAL POLE. CONTRACTOR TO PROVIDE TEMPORARY 3 SECTION HEAD.
T9	USE EXISTING SIGNAL POLE. CONTRACTOR TO PROVIDE TEMPORARY 3 SECTION HEAD.

N.B. STAGE CG2 TEMPORARY TRAFFIC SIGNAL INSTRUCTIONS	
SIGNAL HEAD	INSTRUCTIONS
T10	CONTRACTOR TO PROVIDE TEMPORARY 15' POLE. USE EXISTING 3 SECTION HEAD .
T11	CONTRACTOR TO PROVIDE TEMPORARY SIGNAL EQUIPMENT.
T12	USE EXISTING SIGNAL POLE AND HEAD.
T13	USE EXISTING SIGNAL POLE AND HEAD.
T14	CONTRACTOR TO PROVIDE TEMPORARY SIGNAL EQUIPMENT.
T15	CONTRACTOR TO PROVIDE TEMPORARY SIGNAL EQUIPMENT.
T16	USE EXISTING SIGNAL POLE. CONTRACTOR TO PROVIDE TEMPORARY 3 SECTION HEAD.
T17	USE SALVAGED 20' POLE FROM STA. 22CGW'+23 10' RT. CONSTRUCT TEMPORARY TYPE 2 BASE. CONTRACTOR TO PROVIDE TEMPORARY 3 SECTION HEAD.
T18	USE SALVAGED 20' POLE AND TROMBONE ARM FROM STA. 22CGW'+23 10' RT. CONSTRUCT TEMPORARY TYPE 2 BASE. USE 5 SECTION HEAD FROM SB RAMP.
T19	USE SAME TEMPORARY POLE AS T10. CONTRACTOR TO PROVIDE TEMPORARY 5 SECTION HEAD.

S.B. STAGE CG3 TEMPORARY TRAFFIC SIGNAL INSTRUCTIONS	
SIGNAL HEAD	INSTRUCTIONS
T1	USE NEW MONOTUBE POLE. CONTRACTOR TO PROVIDE TEMPORARY 3 SECTION HEAD.
T2	CONTRACTOR TO PROVIDE TEMPORARY SIGNAL EQUIPMENT.
T3	USE NEW POLE. CONTRACTOR TO PROVIDE TEMPORARY 3 SECTION HEAD FACING WESTBOUND TRAFFIC. 4 SECTION HEAD WILL NEED TO BE INSTALLED IN SAME LOCATION UPON COMPLETION OF PROJECT.
T4	USE EXISTING SIGNAL POLE AND HEAD.
T5	USE NEW POLE AND SIGNAL HEAD.
T6	USE NEW POLE AND SIGNAL HEAD.
T7	USE NEW POLE AND SIGNAL HEAD.
T8	USE NEW MONOTUBE AND SIGNAL HEAD.
T9	USE NEW MONOTUBE POLE. CONTRACTOR TO PROVIDE TEMPORARY 3 SECTION HEAD.

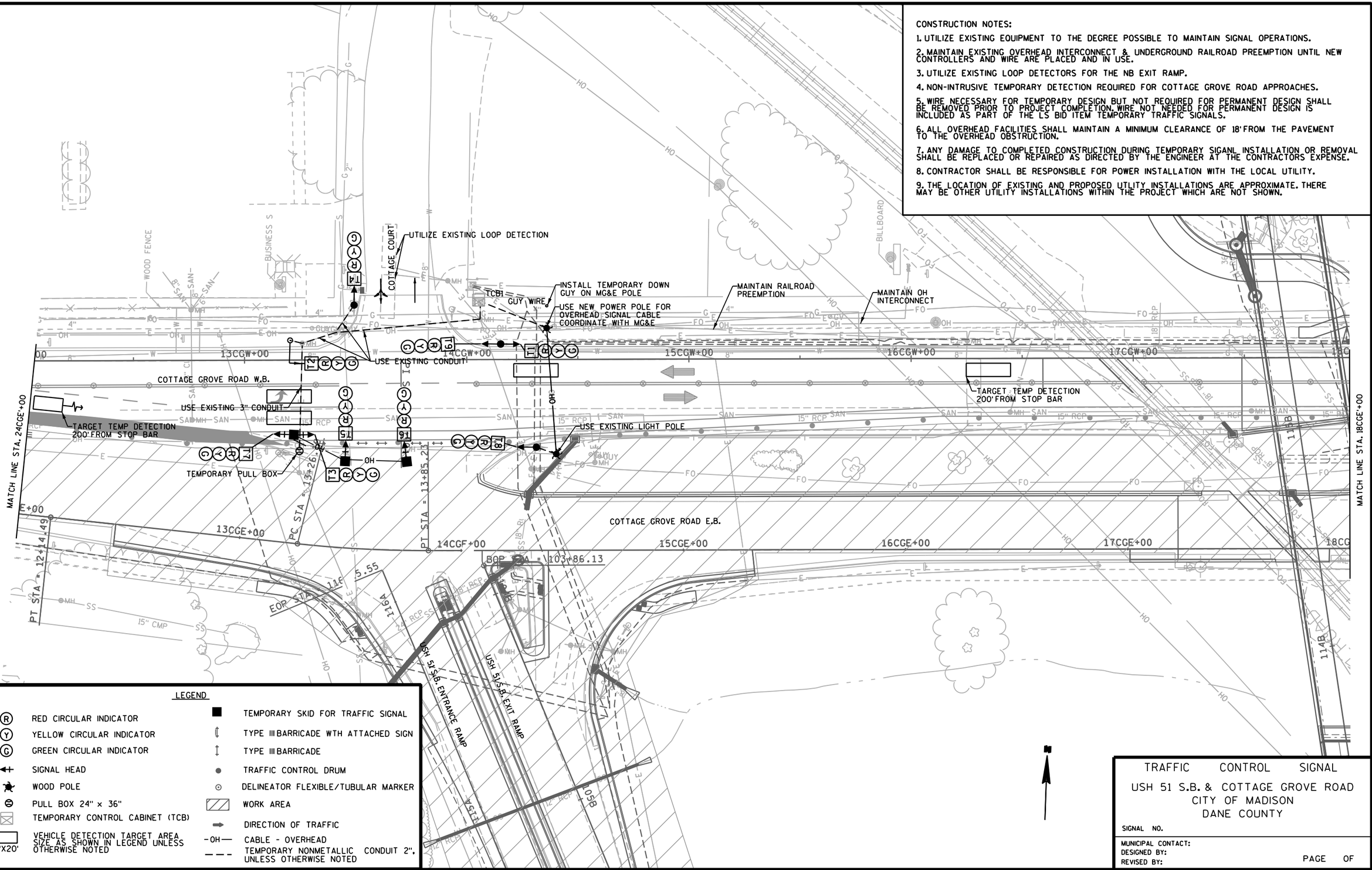
N.B. STAGE CG3 TEMPORARY TRAFFIC SIGNAL INSTRUCTIONS	
SIGNAL HEAD	INSTRUCTIONS
T10	USE NEW MONOTUBE POLE. CONTRACTOR TO PROVIDE TEMPORARY 3 SECTION HEAD FACING WESTBOUND.
T11	USE NEW POLE. CONTRACTOR TO PROVIDE TEMPORARY 3 SECTION SIGNAL HEAD FACING WESTBOUND TRAFFIC. 4 SECTION HEAD WILL NEED TO BE INSTALLED FACING EASTBOUND TRAFFIC UPON COMPLETION OF PROJECT.
T12	USE NEW POLE. CONTRACTOR TO PROVIDE TEMPORARY 3 SECTION HEAD FACING WESTBOUND.
T13	USE EXISTING SIGNAL POLE AND HEAD.
T14	USE NEW POLE AND SIGNAL HEAD.
T15	USE NEW POLE AND SIGNAL HEAD.
T16	USE NEW POLE AND SIGNAL HEAD.
T17	SIDE MOUNT CONTRACTOR PROVIDED TEMPORARY 3 SECTION HEAD TO NEW SIGNAL POLE. ANGLE SIGNAL HEAD SUCH THAT THE FACE CAN BE VIEWED BY THE EASTBOUND TRAFFIC.
T18	USE NEW MONOTUBE POLE. CONTRACTOR TO PROVIDE TEMPORARY 5 SECTION HEAD FACING EASTBOUND TRAFFIC. MAINTAIN 18' MINIMUM CLEARANCE TO ROADWAY.
T19	USE NEW MONOTUBE POLE. CONTRACTOR TO PROVIDE TEMPORARY 5 SECTION SIGNAL HEAD FACING EASTBOUND TRAFFIC. 4 SECTION HEAD WILL NEED TO BE INSTALLED FACING EASTBOUND TRAFFIC UPON COMPLETION OF PROJECT.

2

2

CONSTRUCTION NOTES:

1. UTILIZE EXISTING EQUIPMENT TO THE DEGREE POSSIBLE TO MAINTAIN SIGNAL OPERATIONS.
2. MAINTAIN EXISTING OVERHEAD INTERCONNECT & UNDERGROUND RAILROAD PREEMPTION UNTIL NEW CONTROLLERS AND WIRE ARE PLACED AND IN USE.
3. UTILIZE EXISTING LOOP DETECTORS FOR THE NB EXIT RAMP.
4. NON-INTRUSIVE TEMPORARY DETECTION REQUIRED FOR COTTAGE GROVE ROAD APPROACHES.
5. WIRE NECESSARY FOR TEMPORARY DESIGN BUT NOT REQUIRED FOR PERMANENT DESIGN SHALL BE REMOVED PRIOR TO PROJECT COMPLETION. WIRE NOT NEEDED FOR PERMANENT DESIGN IS INCLUDED AS PART OF THE LS BID ITEM TEMPORARY TRAFFIC SIGNALS.
6. ALL OVERHEAD FACILITIES SHALL MAINTAIN A MINIMUM CLEARANCE OF 18' FROM THE PAVEMENT TO THE OVERHEAD OBSTRUCTION.
7. ANY DAMAGE TO COMPLETED CONSTRUCTION DURING TEMPORARY SIGANL INSTALLATION OR REMOVAL SHALL BE REPLACED OR REPAIRED AS DIRECTED BY THE ENGINEER AT THE CONTRACTORS EXPENSE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR POWER INSTALLATION WITH THE LOCAL UTILITY.
9. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.



LEGEND

R RED CIRCULAR INDICATOR	TEMPORARY SKID FOR TRAFFIC SIGNAL
Y YELLOW CIRCULAR INDICATOR	TYPE III BARRICADE WTH ATTACHED SIGN
G GREEN CIRCULAR INDICATOR	TYPE III BARRICADE
SIGNAL HEAD	TRAFFIC CONTROL DRUM
WOOD POLE	DELINEATOR FLEXIBLE/TUBULAR MARKER
PULL BOX 24" x 36"	WORK AREA
TEMPORARY CONTROL CABINET (TCB)	DIRECTION OF TRAFFIC
VEHICLE DETECTION TARGET AREA SIZE AS SHOWN IN LEGEND UNLESS OTHERWISE NOTED (6'X20')	-OH— CABLE - OVERHEAD
	TEMPORARY NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED

TRAFFIC CONTROL SIGNAL

USH 51 S.B. & COTTAGE GROVE ROAD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

MUNICIPAL CONTACT:
DESIGNED BY:
REVISED BY:

PAGE OF

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	S.B. STAGE CG2 TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 100	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Signals\Temp CG2_TS_01.dgn PLOT DATE : 8/14/2014 PLOT BY : cwagner PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

Temp CG2_TS_01.dgn 8/14/2014 2:16:47 PM cwagner

2

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	01 R/W	01 CLEAR TO **	02 R/W	02 CLEAR TO **	03 R/W	03 CLEAR TO **	04 R/W	04 CLEAR TO **	FLASH
		NOT USED	⇐			NOT USED	⇓			
01										
02	T1, T2, T3			G Y R				R R R		
03										
04	T4, T5, T6			R R R				G Y R		
05										
06	T7, T8, T9			R R R				R R R		
07										
08										
OL"A"										
OL"B"										
OL"C"										
OL"D"										
02P										
04P										
06P										
08P										

RING 2

	HEAD NUMBERS	05 R/W	05 CLEAR TO **	06 R/W	06 CLEAR TO **	07 R/W	07 CLEAR TO **	08 R/W	08 CLEAR TO **
		NOT USED	⇒			NOT USED	NOT USED		
01									
02	T1, T2, T3			R R R					
03									
04	T4, T5, T6			R R R					
05									
06	T7, T8, T9			G Y R					
07									
08									
OL"A"									
OL"B"									
OL"C"									
OL"D"									
02P									
04P									
06P									
08P									

N

BARRIER

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

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

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

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

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

CHART 1

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

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1 ABOVE.)
3. WHEN OPPOSING THRU PHASES ARE TIMING CONCURRENTLY, THEY SHALL TERMINATE TOGETHER DUE TO PERMISSIVE LEFT TURN CONFLICTS
4. SIGNAL WILL DWELL ON PHASES 02 & 06
5. SETUP OF TEMPORARY DETECTION INCLUDED UNDER BID ITEM TEMPORARY VEHICLE DETECTION (LOCATION)

CONTROLLER LOGIC

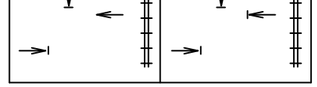
PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1				
2		6	MIN.	
3				
4				
5				
6		2	MIN.	
7				
8				

OVERLAPS

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

PRE-EMPT CYCLE

CLEAROUT PHASE | DWELL PHASE



STAGE CG2 TEMPORARY
SEQUENCE OF OPERATION
USH 51 S.B. & COTTAGE GROVE ROAD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

CONTROLLER TYPE:

DATE

PAGE NO. 1 OF 1

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	SEQUENCE OF OPERATIONS - SB STAGE CG2 TEMPORARY	SHEET E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : ----------PLOT SCALE : $$.....plotscale.....$$
WISDOT/CADDS SHEET 42

CONSTRUCTION NOTES:

1. UTILIZE EXISTING EQUIPMENT TO THE DEGREE POSSIBLE TO MAINTAIN SIGNAL OPERATIONS.
2. MAINTAIN EXISTING OVERHEAD INTERCONNECT & UNDERGROUND RAILROAD PREEMPTION UNTIL NEW CONTROLLERS AND WIRE ARE PLACED AND IN USE.
3. UTILIZE EXISTING LOOP DETECTORS FOR THE NB EXIT RAMP.
4. NON-INTRUSIVE TEMPORARY DETECTION REQUIRED FOR COTTAGE GROVE ROAD APPROACHES.
5. WIRE NECESSARY FOR TEMPORARY DESIGN BUT NOT REQUIRED FOR PERMANENT DESIGN SHALL BE REMOVED PRIOR TO PROJECT COMPLETION. WIRE NOT NEEDED FOR PERMANENT DESIGN IS INCLUDED AS PART OF THE LS BID ITEM TEMPORARY TRAFFIC SIGNALS.
6. ALL OVERHEAD FACILITIES SHALL MAINTAIN A MINIMUM CLEARANCE OF 18' FROM THE PAVEMENT TO THE OVERHEAD OBSTRUCTION.
7. ANY DAMAGE TO COMPLETED CONSTRUCTION DURING TEMPORARY SIGANL INSTALLATION OR REMOVAL SHALL BE REPLACED OR REPAIRED AS DIRECTED BY THE ENGINEER AT THE CONTRACTORS EXPENSE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR POWER INSTALLATION WITH THE LOCAL UTILITY.
9. THE LOCATION OF EXISTING AND PROPOSED UTLITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.

COTTAGE COURT
UTILIZE EXISTING LOOP DETECTION
MAINTAIN RAILROAD PREEMPTION
MAINTAIN OH INTERCONNECT
COTTAGE GROVE ROAD W.B.
MAINTAIN TEMPORARY CROSSWALK ACCESS HERE
UTILIZE EXISTING UNDERGROUND CONDUIT
USE FINAL CONDUIT FOR TEMP. SIGNALS
MATCH LINE STA. 24CGE+00
PT STA = 12+14.49
TARGET TEMP DETECTION 200' FROM STOP BAR
PC STA = 13+10.41
PT STA = 13+85.23
S-13-0535-01
COTTAGE GROVE ROAD E.B.
BOP STA = 103+86.13
EOP STA = 10+15.
USH/51 S.B. ENTRANCE RAMP
USH 51/S.B. EXIT RAMP
MATCH LINE STA. 18CGE+00
BILLBOARD
BUSINESS SIGN
WOOD FENCE

LEGEND

- R — RED CIRCULAR INDICATOR
- Y — YELLOW CIRCULAR INDICATOR
- G — GREEN CIRCULAR INDICATOR
- SIGNAL HEAD
- WOOD POLE
- PULL BOX 24" x 48"
- TEMPORARY CONTROL CABINET (TCB)
- VEHICLE DETECTION TARGET AREA 6'X20' SIZE AS SHOWN IN LEGEND UNLESS OTHERWISE NOTED
- TEMPORARY SKID FOR TRAFFIC SIGNAL
- TYPE III BARRICADE WTH ATTACHED SIGN
- TYPE III BARRICADE
- TRAFFIC CONTROL DRUM
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- -OH— CABLE - OVERHEAD
- TEMPORARY NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED

TRAFFIC CONTROL SIGNAL

USH 51 S.B. & COTTAGE GROVE ROAD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

MUNICIPAL CONTACT:
DESIGNED BY:
REVISED BY:

PAGE OF

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	S.B. STAGE CG3 TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 102	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Signals\Temp CG3_TS_01.dgn PLOT DATE : 7/31/2014 PLOT BY : cwagner PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

Temp CG3_TS_01.dgn 7/31/2014 11:45:21 PM cwagner

2

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	01 R/W	01 CLEAR TO **	02 R/W	02 CLEAR TO **	03 R/W	03 CLEAR TO **	04 R/W	04 CLEAR TO **	FLASH
		NOT USED	⇐	NOT USED	⇕					
01										
02	T1, T2, T3			G Y R				R R R		
03										
04	T4, T5, T6			R R R				G Y R		
05										
06	T7, T8, T9			R R R				R R R		
07										
08										
OL"A"										
OL"B"										
OL"C"										
OL"D"										
02P										
04P	TP1, TP2			DW DW DW				* DW DW		
06P										
08P										

RING 2

	HEAD NUMBERS	05 R/W	05 CLEAR TO **	06 R/W	06 CLEAR TO **	07 R/W	07 CLEAR TO **	08 R/W	08 CLEAR TO **
		NOT USED	⇒	NOT USED	NOT USED				
01									
02	T1, T2, T3			R R R					
03									
04	T4, T5, T6			R R R					
05									
06	T7, T8, T9			G Y R					
07									
08									
OL"A"									
OL"B"									
OL"C"									
OL"D"									
02P									
04P	TP1, TP2			DW DW DW					
06P									
08P									

N

BARRIER

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

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

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

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

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

CONTROLLER LOGIC

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

OVERLAPS

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

PRE-EMPT CYCLE

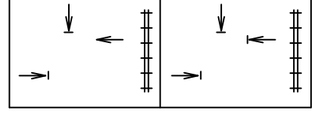
CLEAROUT PHASE	DWELL PHASE
	

CHART 1

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

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1 ABOVE.)
3. WHEN OPPOSING THRU PHASES ARE TIMING CONCURRENTLY, THEY SHALL TERMINATE TOGETHER DUE TO PERMISSIVE LEFT TURN CONFLICTS
4. SIGNAL WILL DWELL ON PHASES 02 & 06
5. SETUP OF TEMPORARY DETECTION INCLUDED UNDER BID ITEM TEMPORARY VEHICLE DETECTION (LOCATION)

STAGE CG3 TEMPORARY
SEQUENCE OF OPERATION
USH 51 S.B. & COTTAGE GROVE ROAD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

CONTROLLER TYPE:

DATE

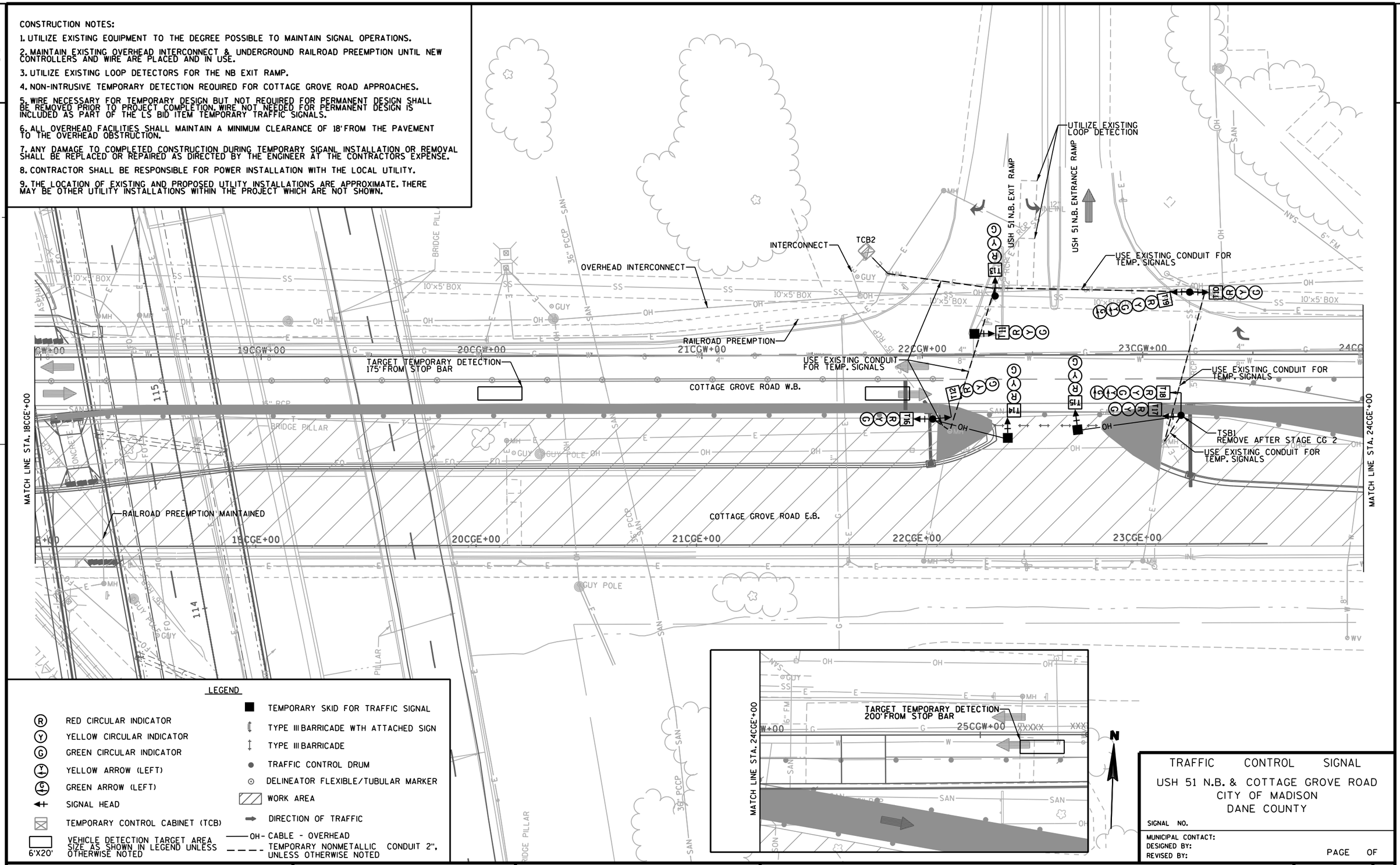
PAGE NO. 1 OF 1

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	SEQUENCE OF OPERATIONS - SB STAGE CG3 TEMPORARY	SHEET E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : ----------PLOT SCALE : $$.....plotscale.....$$
WISDOT/CADDS SHEET 42

CONSTRUCTION NOTES:

1. UTILIZE EXISTING EQUIPMENT TO THE DEGREE POSSIBLE TO MAINTAIN SIGNAL OPERATIONS.
2. MAINTAIN EXISTING OVERHEAD INTERCONNECT & UNDERGROUND RAILROAD PREEMPTION UNTIL NEW CONTROLLERS AND WIRE ARE PLACED AND IN USE.
3. UTILIZE EXISTING LOOP DETECTORS FOR THE NB EXIT RAMP.
4. NON-INTRUSIVE TEMPORARY DETECTION REQUIRED FOR COTTAGE GROVE ROAD APPROACHES.
5. WIRE NECESSARY FOR TEMPORARY DESIGN BUT NOT REQUIRED FOR PERMANENT DESIGN SHALL BE REMOVED PRIOR TO PROJECT COMPLETION. WIRE NOT NEEDED FOR PERMANENT DESIGN IS INCLUDED AS PART OF THE LS BID ITEM TEMPORARY TRAFFIC SIGNALS.
6. ALL OVERHEAD FACILITIES SHALL MAINTAIN A MINIMUM CLEARANCE OF 18' FROM THE PAVEMENT TO THE OVERHEAD OBSTRUCTION.
7. ANY DAMAGE TO COMPLETED CONSTRUCTION DURING TEMPORARY SIGANL INSTALLATION OR REMOVAL SHALL BE REPLACED OR REPAIRED AS DIRECTED BY THE ENGINEER AT THE CONTRACTORS EXPENSE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR POWER INSTALLATION WITH THE LOCAL UTILITY.
9. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.



LEGEND

- R — RED CIRCULAR INDICATOR
- Y — YELLOW CIRCULAR INDICATOR
- G — GREEN CIRCULAR INDICATOR
- Y — YELLOW ARROW (LEFT)
- G — GREEN ARROW (LEFT)
- SIGNAL HEAD
- TEMPORARY CONTROL CABINET (TCB)
- 6'X20' — VEHICLE DETECTION TARGET AREA SIZE AS SHOWN IN LEGEND UNLESS OTHERWISE NOTED
- TEMPORARY SKID FOR TRAFFIC SIGNAL
- TYPE III BARRICADE WTH ATTACHED SIGN
- TYPE III BARRICADE
- TRAFFIC CONTROL DRUM
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- OH — CABLE - OVERHEAD
- TEMPORARY NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED

TRAFFIC CONTROL SIGNAL

USH 51 N.B. & COTTAGE GROVE ROAD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

MUNICIPAL CONTACT:
DESIGNED BY:
REVISED BY:

PAGE OF

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	N.B. STAGE CG2 TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 104 E

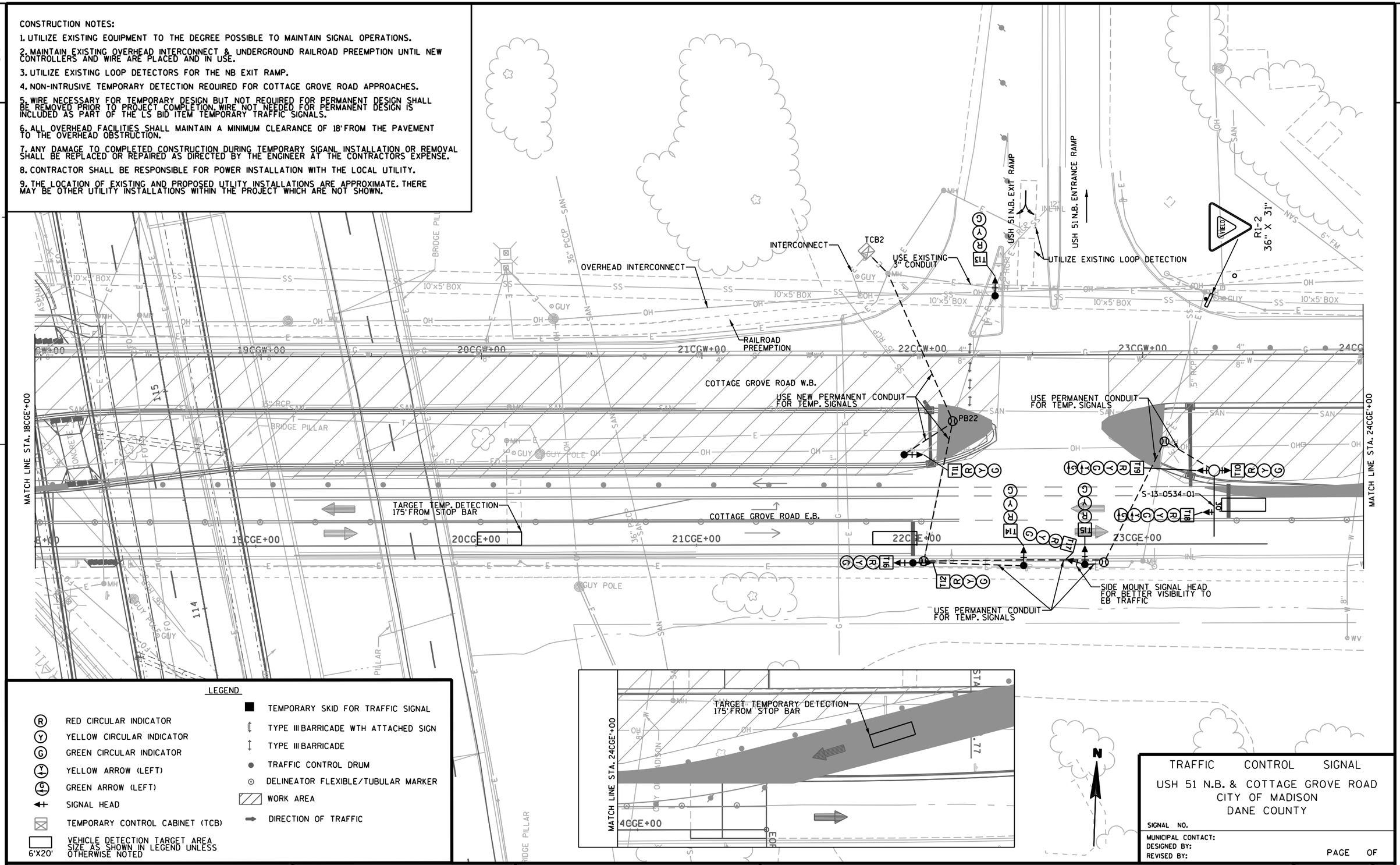
FILE NAME : P:\90s\93\00093080\CADD\Plansh ts\Traffic Signals\Temp CG2_TS_02.dgn PLOT DATE : 7/31/2014 PLOT BY : cwagner PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

Temp CG2_TS_02.dgn 7/31/2014 9:52:09 PM cwagner

CONSTRUCTION NOTES:

1. UTILIZE EXISTING EQUIPMENT TO THE DEGREE POSSIBLE TO MAINTAIN SIGNAL OPERATIONS.
2. MAINTAIN EXISTING OVERHEAD INTERCONNECT & UNDERGROUND RAILROAD PREEMPTION UNTIL NEW CONTROLLERS AND WIRE ARE PLACED AND IN USE.
3. UTILIZE EXISTING LOOP DETECTORS FOR THE NB EXIT RAMP.
4. NON-INTRUSIVE TEMPORARY DETECTION REQUIRED FOR COTTAGE GROVE ROAD APPROACHES.
5. WIRE NECESSARY FOR TEMPORARY DESIGN BUT NOT REQUIRED FOR PERMANENT DESIGN SHALL BE REMOVED PRIOR TO PROJECT COMPLETION. WIRE NOT NEEDED FOR PERMANENT DESIGN IS INCLUDED AS PART OF THE LS BID ITEM TEMPORARY TRAFFIC SIGNALS.
6. ALL OVERHEAD FACILITIES SHALL MAINTAIN A MINIMUM CLEARANCE OF 18' FROM THE PAVEMENT TO THE OVERHEAD OBSTRUCTION.
7. ANY DAMAGE TO COMPLETED CONSTRUCTION DURING TEMPORARY SIGANL INSTALLATION OR REMOVAL SHALL BE REPLACED OR REPAIRED AS DIRECTED BY THE ENGINEER AT THE CONTRACTORS EXPENSE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR POWER INSTALLATION WITH THE LOCAL UTILITY.
9. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.



LEGEND

- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (Y) YELLOW ARROW (LEFT)
- (G) GREEN ARROW (LEFT)
- SIGNAL HEAD
- TEMPORARY CONTROL CABINET (TCB)
- 6'X20' VEHICLE DETECTION TARGET AREA SIZE AS SHOWN IN LEGEND UNLESS OTHERWISE NOTED
- TEMPORARY SKID FOR TRAFFIC SIGNAL
- TYPE III BARRICADE WTH ATTACHED SIGN
- TYPE III BARRICADE
- TRAFFIC CONTROL DRUM
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL SIGNAL

USH 51 N.B. & COTTAGE GROVE ROAD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

MUNICIPAL CONTACT:
DESIGNED BY:
REVISED BY:

PAGE OF

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	N.B. STAGE CG3 TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 105	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Signals\Temp CG3_TS_02.dgn PLOT DATE : 7/31/2014 PLOT BY : cwagner PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

Temp CG3_TS_02.dgn 7/31/2014 11:25:07 PM cwagner

2

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	01 R/W	01 CLEAR TO **	02 R/W	02 CLEAR TO **	03 NOT USED R/W	03 CLEAR TO **	04 R/W	04 CLEAR TO **	FLASH
01	T10, T11	G	Y R	R	R R			R	R R	
02	T12, T13, T14	R	R R	G	Y R			R	R R	
03										
04	T15, T16, T17	R	R R	R	R R			G	Y R	
05										
06	T18, T19	R	R R	R	R R			R	R R	
07										
08										
OL"A"										
OL"B"										
OL"C"										
OL"D"										
02P										
04P										
06P										
08P										

RING 2

	HEAD NUMBERS	05 NOT USED R/W	05 CLEAR TO **	06 R/W	06 CLEAR TO **	07 NOT USED R/W	07 CLEAR TO **	08 NOT USED R/W	08 CLEAR TO **
01	T10, T11			R	R R				
02	T12, T13, T14			R	R R				
03									
04	T15, T16, T17			R	R R				
05									
06	T18, T19			G	Y R				
07									
08									
OL"A"									
OL"B"									
OL"C"									
OL"D"									
02P									
04P									
06P									
08P									

N

BARRIER

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

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

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

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

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

CONTROLLER LOGIC

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

OVERLAPS

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

PRE-EMPT CYCLE

CLEAROUT PHASE	DWELL PHASE
#	#

CHART 1

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

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1 ABOVE.)
3. WHEN OPPOSING THRU PHASES ARE TIMING CONCURRENTLY, THEY SHALL TERMINATE TOGETHER DUE TO PERMISSIVE LEFT TURN CONFLICTS
4. SIGNAL WILL DWELL ON PHASES 02 & 06
5. SETUP OF TEMPORARY DETECTION INCLUDED UNDER BID ITEM TEMPORARY VEHICLE DETECTION (LOCATION)

STAGE CG2 & CG3 TEMPORARY SEQUENCE OF OPERATION
USH 51 N.B. & COTTAGE GROVE ROAD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

CONTROLLER TYPE:

DATE

PAGE NO. 1 OF 1

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	SEQUENCE OF OPERATIONS - TEMPORARY (STAGE CG2 & CG3)	SHEET E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : ----------PLOT SCALE : $$.....plotscale.....$$
WISDOT/CADDS SHEET 42

2

CONSTRUCTION NOTES:

1. LOOPS ARE LOCATED/PLACED IN CENTER OF TRAVELED WAY. DISTANCE BETWEEN MULTIPLE LOOPS SHALL BE 10 FEET. LOOP ORIENTATION SHOWN ON PLAN.

2. THE CONTRACTOR WILL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED BEFORE PLACING SIGNAL CABLE INTO THE SYSTEM.

3. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.

4. THE ENGINEER SHALL ADJUST THE LOCATIONS OF THE ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES. RELOCATION OF ITEMS MAY IMPACT COMPLIANCE WITH MUTCD AND ADA STANDARDS. THE ENGINEER SHALL REVIEW IMPACTS BEFORE AUTHORIZING ANY RELOCATION.

5. INSTALL SIGNAL EQUIPMENT WITH A 2-FOOT MINIMUM, 3-FOOT DESIRABLE CLEARANCE TO THE FACE OF THE CURB UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

6. BOND ALL METAL PULL BOXES THAT CARRY 50 VOLTS OR MORE.

7. USE A SEPARATE LEAD-IN CABLE TO THE CONTROL CABINET FOR EACH LOOP DETECTOR.

8. USE LUG AND BOLT CONNECTION FOR TERMINATION OF BONDING JUMPERS IN PULL BOXES, AND CAULK (SILICONE) AFTER INSTALLATION.

LEGEND:

- SIGNAL HEAD (WITH BACKPLATE), TRAFFIC SIGNAL STANDARD, PEDESTAL BASE & TYPE 2 CONCRETE BASE
- XX' — SIGNAL HEAD (WITH BACKPLATE), TYPE 9 POLE WITH MONOTUBE ARM & TYPE 10 CONCRETE BASE
- PB — PEDESTRIAN HEAD WITH PUSH BUTTON
- LUMINAIRE
- PULL BOX, STEEL, 24 X 42-INCH
- EVP DETECTOR HEAD
- X — EVP DESIGNATOR
- 6'X 20' / 6'X 6' — LOOP DETECTOR IN 1" NONMETALLIC CONDUIT, SIZE AS SHOWN IN LEGEND UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED (SEE MISCELLANEOUS QUANTITY TABLES FOR CONDUIT SIZES)
- 3-INCH NONMETALLIC CONDUIT (FOR INTERCONNECT & RAILROAD PREEMPTION)
- CONTROL CABINET WITH CONCRETE BASE
- LANE DESIGNATION ARROW
- LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH
- XX — SIGNAL/PEDESTRIAN HEAD NUMBER
- R — LED MODULES 12-INCH RED BALL
- Y — LED MODULES 12-INCH YELLOW BALL
- G — LED MODULES 12-INCH GREEN BALL
- R — LED MODULES 12-INCH RED ARROW
- Y — LED MODULES 12-INCH YELLOW ARROW
- FY — LED MODULES 12-INCH FLASHING YELLOW ARROW
- G — LED MODULES 12-INCH GREEN ARROW
- EXISTING CONTROL CABINET
- EXISTING SIGNAL HEAD, PEDESTAL BASE
- EXISTING SIGNAL HEAD, MAST-ARM
- MH — EXISTING PULLBOX
- EXISTING STREET LIGHT
- EXISTING LOOP DETECTOR

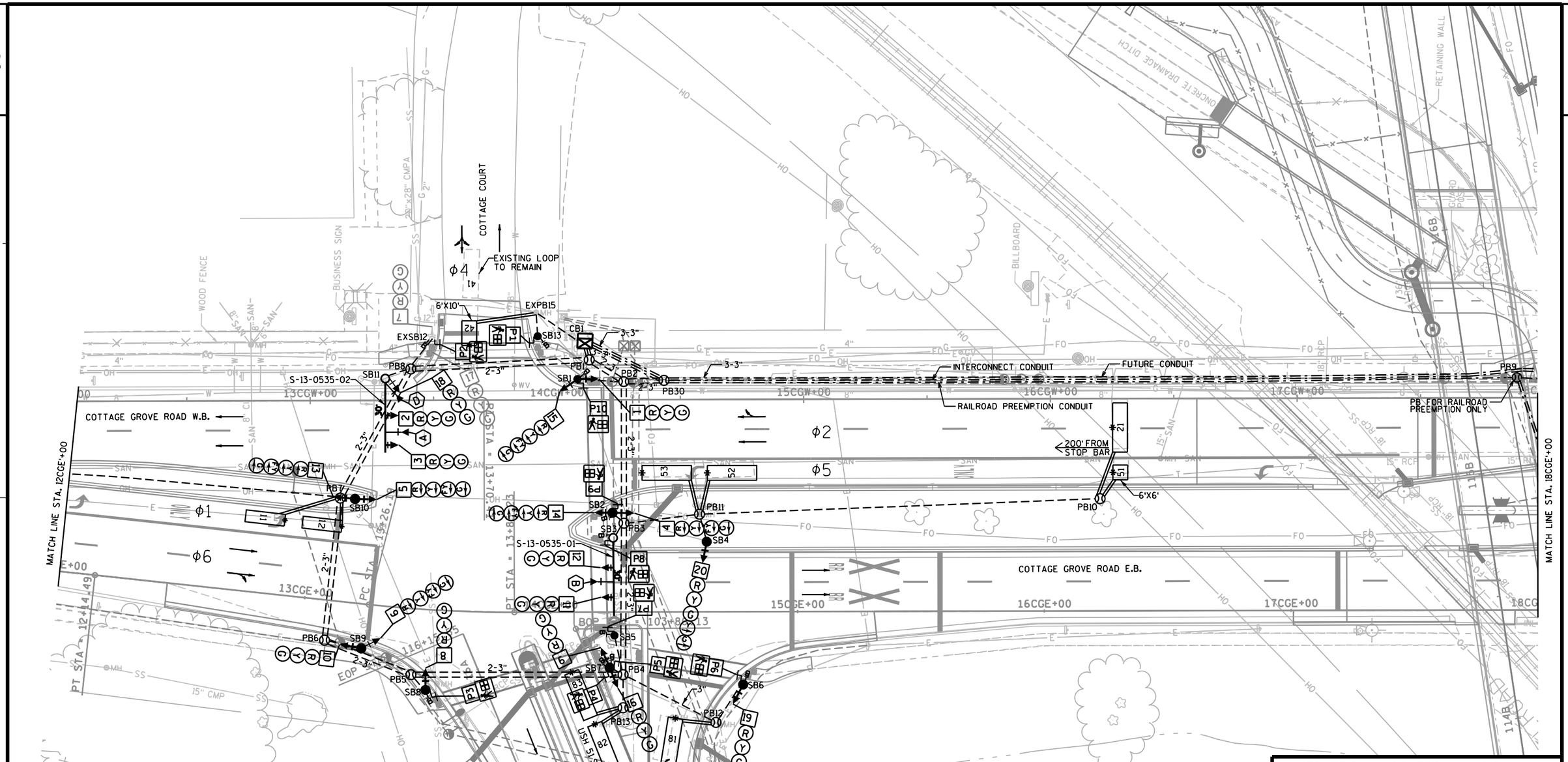
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC SIGNAL GENERAL NOTES AND LEGEND	SHEET 107	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Signals\Traffic Signal Notes and Legend.dgn PLOT DATE : 7/10/2014 PLOT BY : cwagner PLOT NAME : PLOT SCALE : 1:15

WISDOT/CADDS SHEET 42

Traffic Signal Notes and Legend.dgn 7/10/2014 2:47:58 PM cwagner

2



TRAFFIC CONTROL SIGNAL

USH 51 S.B. & COTTAGE GROVE ROAD
CITY OF MADISON
DANE COUNTY

SIGNAL NO. S13-0535

APPROVAL RECOMMENDED

Date_____ MUNICIPAL ENGINEER/REPRESENTATIVE

APPROVED

Date_____ STATE TRAFFIC ENGINEER

MUNICIPAL CONTACT:
DESIGNED BY:
REVISED BY:

PAGE OF

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC SIGNAL PLAN - SB RAMP	SHEET 108 E

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	01 R/W	01 CLEAR TO **	02 R/W	02 CLEAR TO **	03 R/W	03 CLEAR TO **	04 R/W	04 CLEAR TO **	FLASH
01	13, 14, 15	G	- -	-	- -			-	- -	
02	1, 2, 3	R	R R	G	Y R			R	R R	
03										
04	7, 8, 9	R	R R	R	R R			G	Y R	
05	4, 5, 6	-	- -	-	- -			-	- -	
06	10, 11, 12	R	R R	R	R R			R	R R	
07										
08	16, 17, 18, 19, 20	R	R R	R	R R			R	R R	
OL"A"	13, 14, 15	-	Y R	FY	Y R			R	R R	
OL"B"	19, 20	-	- -	-	- -			-	- -	
OL"C"	4, 5, 6	R	R R	R	R R			R	R R	
OL"D"										
02P	P1, P2	DW	DW DW	*	DW DW			DW	DW DW	
04P										
06P	P3, P4, P5, P6	DW	DW DW	DW	DW DW			DW	DW DW	
08P	P7, P8, P9, P10	DW	DW DW	DW	DW DW			DW	DW DW	

RING 2

	HEAD NUMBERS	05 R/W	05 CLEAR TO **	06 R/W	06 CLEAR TO **	07 R/W	07 CLEAR TO **	08 R/W	08 CLEAR TO **
01	13, 14, 15	-	- -	-	- -			-	- -
02	1, 2, 3	R	R R	R	R R			R	R R
03									
04	7, 8, 9	R	R R	R	R R			R	R R
05	4, 5, 6	G	- -	-	- -			-	- -
06	10, 11, 12	R	R R	G	Y R			R	R R
07									
08	16, 17, 18, 19, 20	R	R R	R	R R			G	Y R
OL"A"	13, 14, 15	R	R R	R	R R			R	R R
OL"B"	19, 20	G	Y -	-	- -			-	- -
OL"C"	4, 5, 6	-	Y R	FY	Y R			R	R R
OL"D"									
02P	P1, P2	DW	DW DW	DW	DW DW			DW	DW DW
04P									
06P	P3, P4, P5, P6	DW	DW DW	*	DW DW			DW	DW DW
08P	P7, P8, P9, P10	DW	DW DW	DW	DW DW			*	DW DW

BARRIER

N

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

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

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION: CALLS AND EXTENDS	DETECTOR OPERATION: CALLS ONLY	DETECTOR OPERATION: EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
11	1	X			1	1				6X20	2
12	2	X			1	1				6X20	3
21	3	X			2	2				6X20	3
41	4	X			4	4				6X20	3
42	5	X			4	4		X		6X10	2
51	6	X			5	5				6X6	2
52	7	X			5	5				6X20	3
53	8	X			5	5				6X20	2
61	9	X			6	4				6X20	3
81	10	X			8	8		X		6X20	3
82	11	X			8	8				6X20	2
83	12	X			8	8				6X20	3

CONTROLLER LOGIC

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

OVERLAPS

O.L. "A" =
O.L. "B" = 5
O.L. "C" =
O.L. "D" =

SPECIAL OVERLAPS

	PROTECTED	PERMISSIVE
"A"	1	2
"B"		
"C"	5	6
"D"		

RAILROAD PRE-EMPT CYCLE

CLEAROUT PHASE	DWELL PHASE

EVP PROGRAM

EMERGENCY VEHICLE DETECTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	6+1		8+OL"B"

1. AFTER PREEMPTION SEQUENCE 2+5, 6+1 OR 8+OL"B", CONTROLLER SHALL RETURN TO PHASES 2+6

TYPE OF PRE-EMPT

NONE	
RAILROAD	X
EMERGENCY VEHICLE	
3M - GTT	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

CHART 1

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

TYPE OF INTERCONNECT COMMUNICATION

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

TYPE OF LIGHTING

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

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1 ABOVE.)
3. WHEN OPPOSING THRU PHASES ARE TIMING CONCURRENTLY, THEY SHALL TERMINATE TOGETHER DUE TO PERMISSIVE LEFT TURN CONFLICTS
4. SIGNAL WILL DWELL ON PHASES 02 & 06
5. BATTERY BACKUP SHALL BE PROVIDED FOR THIS LOCATION

SEQUENCE OF OPERATION
USH 51 S.B. & COTTAGE GROVE ROAD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

CONTROLLER TYPE:

DATE

PAGE NO. 1 OF 1

PROJECT NO: 5411-02-74 | HWY: USH 51 | COUNTY: DANE | SEQUENCE OF OPERATIONS - SB RAMP | SHEET E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : ----------PLOT SCALE : $$.....plotscale.....$$

PROJECT ID:	5411-02-74
INTERSECTION	USH 51 S.B. & COTTAGE GROVE ROAD

SIGNAL WIRE COLOR CODING	BLK-BLACK	RED-RED	GRN-GREEN
	WHT-WHITE	BLU-BLUE	ORG-ORANGE

DATE: 7/31/2014

CB1 TO	JUMPER	# OF COND.	HEAD NO.	PHASE	SIGNAL INDICATION WIRE COLOR									PED BUTTON	OTHER
					RED	YELLOW	GREEN	<RED	<YELLOW>	<FLASHING YELLOW>	<GREEN>	DWALK	WALK		
SB1		15	1	2	RED	ORG	GRN								
			15	1				RED-BLK	ORG-BLK	BLU-BLK	GRN-BLK				
			P10	8								BLU	BLK		
			B	8										WHT-BLK	
SB2		15	4	5				RED	ORG	BLU-WHT	GRN				
			14	1				RED-BLK	ORG-BLK	BLU-BLK	GRN-BLK				
			P9	8								BLU	BLK		
			B	8										WHT-BLK	
SB3		15	11	6	RED	ORG	GRN								
			12	6	RED-BLK	ORG-BLK	GRN-BLK								
			P8	8								BLU	BLK		
			B	8										WHT-BLK	
SB4		15	20	8	RED	ORG	GRN		ORG-BLK		GRN-BLK				
SB5		15	P7	8								BLU	BLK		
			B	8										WHT-BLK	
SB6		15	19	8	RED	ORG	GRN		ORG-BLK		GRN-BLK				
			P6	6								BLU	BLK		
			B	6										WHT-BLK	
SB7		19	9	4	RED	ORG	GRN								
			16	8	RED-BLK	ORG-BLK	GRN-BLK								
			P4	6								BLU	BLK		
			B	6										WHT-BLK	
			P5	6								BLU-WHT	BLU-BLK		
			B	6										BLK-WHT	
SB8		15	8	4	RED	ORG	GRN								
			P3	6								BLU	BLK		
			B	6										WHT-BLK	
SB9		15	6	5				RED-BLK	ORG-BLK	BLU-BLK	GRN-BLK				
			10	6	RED	ORG	GRN								
SB10		15	5	5				RED	ORG	BLU-WHT	GRN				
			13	1				RED-BLK	ORG-BLK	BLU-BLK	GRN-BLK				
SB11		15	2	2	RED	ORG	GRN								
			3	2	RED-BLK	ORG-BLK	GRN-BLK								
			18	8	RED-WTH	BLU-WHT	GRN-WHT								
EXSB12		15	7	4	RED	ORG	GRN								
			17	8	RED-BLK	ORG-BLK	GRN-BLK								
			P2	2								BLU	BLK		
			B	2										WHT-BLK	
SB13		15	P1	2								BLU	BLK		
			B	2										WHT-BLK	

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	SB9
SB9	SB10
SB10	SB11
SB11	EXSB12
EXSB12	SB13
SB13	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
CB1	PB1
SB1	PB2
SB3	PB3
SB7	PB4
SB8	PB5
SB9	PB6
SB10	PB7
SB11	PB8
SB4	PB11
SB6	PB12
SB13	EXP15

EMERGENCY VEHICLE PREEMPTION (EVP)	
FROM	TO
CB1	SB3 / B
CB1	SB11 / D
CB1	SB11 / A

* USE THE WHITE CONDUCTOR IN THE CABLE ASSEMBLY AS THE GROUNDED CONDUCT FOR ALL TRAFFIC SIGNAL INDICATIONS.
* ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
* AT THE SIGNAL BASE, CONNECT ONE TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.

2

2

MATCH LINE STA. 18CGE+00

MATCH LINE STA. 24CGE+00

RETAINING WALL

BRIDGE PILLAR

36" PCCP SAN

10'x5' BOX

PB FOR INTERCONNECT ONLY

PB29

INTERCONNECT CONDUIT

FUTURE CONDUIT

RAILROAD PREEMPTION CONDUIT

19CGW+00

20CGW+00

21CGW+00

22CGW+00

24CG

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

15" RCP

PB27

PB26

PB25

PB28

CB2

EXPB16

EXPB17

EXPB23

EXPB24

EXSB14

S-13-0534-02

S-13-0534-01

SB22

SB21

SB20

SB19

SB18

SB17

SB16

PB22

PB21

PB20

PB19

PB18

USH 51 N.B. EXIT RAMP

USH 51 N.B. ENTRANCE RAMP

EXISTING LOOP TO REMAIN

CONNECT TO EXISTING 3" CONDUIT

6'X6'

175' FROM STOP BAR

φ1 / O.L.'A'

φ2

φ4

φ6

18CGE+00

19CGE+00

20CGE+00

21CGE+00

22CGE+00

24CGE+00

25CGW+00

MATCH LINE STA. 24CGE+00

EOP STA. = 25+48.77

6" FM

15" RCP

GUY POLE

BRIDGE PILLAR

N

TRAFFIC CONTROL SIGNAL

USH 51 N.B. & COTTAGE GROVE ROAD
CITY OF MADISON
DANE COUNTY

SIGNAL NO. S13-0534

APPROVAL RECOMMENDED

Date_____ MUNICIPAL ENGINEER/REPRESENTATIVE

APPROVED

Date_____ STATE TRAFFIC ENGINEER

MUNICIPAL CONTACT:
DESIGNED BY:
REVISED BY:

PAGE OF

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC SIGNAL PLAN - NB RAMP	SHEET E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

TS_02.dgn 8/15/2014 8:49:41 AM ckieler

2

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	01 R/W	01 CLEAR TO **	02 R/W	02 CLEAR TO **	03 R/W	03 CLEAR TO **	04 R/W	04 CLEAR TO **	FLASH
01	31, 32, 33	G	- -	-	- -			-	- -	
02	21, 22, 23, 24	R	R R	G	Y R			R	R R	
03										
04	25, 26, 27	R	R R	R	R R			G	Y R	
05										
06	28, 29, 30	R	R R	R	R R			R	R R	
07										
08										
OL"A"	31, 32, 33	-	Y R	FY	Y R			R	R R	
OL"B"										
OL"C"										
OL"D"										
02P	P11, P12	DW	DW DW	*	DW DW			DW	DW DW	
04P										
06P										
08P										

RING 2

	HEAD NUMBERS	05 R/W	05 CLEAR TO **	06 R/W	06 CLEAR TO **	07 R/W	07 CLEAR TO **	08 R/W	08 CLEAR TO **
01	31, 32, 33			-	- -				
02	21, 22, 23, 24			R	R R				
03									
04	25, 26, 27			R	R R				
05									
06	28, 29, 30			G	Y R				
07									
08									
OL"A"	31, 32, 33			R	R R				
OL"B"									
OL"C"									
OL"D"									
02P	P11, P12			DW	DW DW				
04P									
06P									
08P									

NOT USED

OL "A"

NOT USED

NOT USED

NOT USED

N

BARRIER

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

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

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION: CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
11	1	X			1	1				6X6	3
12	2	X			1	1				6X20	3
13	3	X			1	1				6X20	2
21	4	X			2	2				6X20	3
41	5	X			4	4				6X20	2
42	6	X			4	4				6X20	3
61	7	X			6	6				6X20	4

CONTROLLER LOGIC

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

OVERLAPS

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

EVP PROGRAM				
EMERGENCY VEHICLE DETECTOR	A	B	C	D
MOVEMENT	←	↱	↘	
PHASE	2	6+1	4	

1. AFTER PREEMPTION SEQUENCE 2, 4 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6

SPECIAL OVERLAPS

	PROTECTED	PERMISSIVE
"A"	1	2
"B"		
"C"		
"D"		

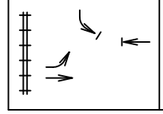
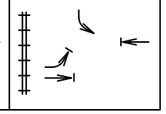
RAILROAD PRE-EMPT CYCLE	
CLEAROUT PHASE	DWELL PHASE
	

CHART 1

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

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

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

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

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1 ABOVE.)
3. WHEN OPPOSING THRU PHASES ARE TIMING CONCURRENTLY, THEY SHALL TERMINATE TOGETHER DUE TO PERMISSIVE LEFT TURN CONFLICTS
4. SIGNAL WILL DWELL ON PHASES 02 & 06
5. BATTERY BACKUP SHALL BE PROVIDED FOR THIS LOCATION

SEQUENCE OF OPERATION
USH 51 N.B. & COTTAGE GROVE ROAD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

CONTROLLER TYPE:

DATE

PAGE NO. 1 OF 1

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	SEQUENCE OF OPERATIONS - NB RAMPS	SHEET - 112 E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : ---------- PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 42

PROJECT ID:	5411-02-74
INTERSECTION	USH 51 N.B. & COTTAGE GROVE ROAD

SIGNAL WIRE COLOR CODING	BLK-BLACK	RED-RED	GRN-GREEN
	WHT-WHITE	BLU-BLUE	ORG-ORANGE

DATE: 7/31/2014

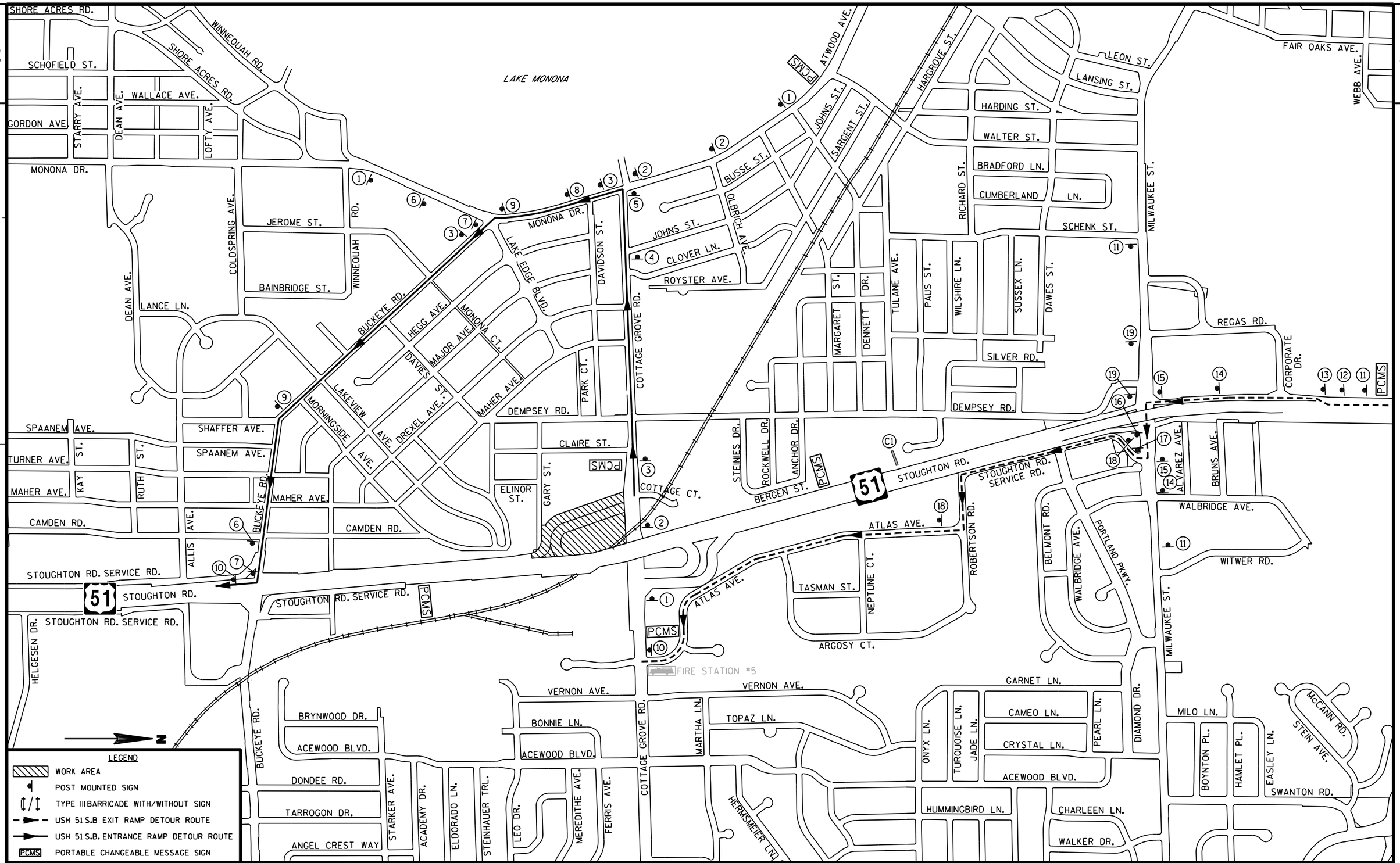
CB1 TO	JUMPER	# OF COND.	HEAD NO.	PHASE	SIGNAL INDICATION WIRE COLOR									PED BUTTON	OTHER
					RED	YELLOW	GREEN	<RED	<YELLOW>	<FLASHING YELLOW>	<GREEN>	DWALK	WALK		
EXSB14		15	25	4	RED	ORG	GRN								
			P12	2								BLU	BLK		
			B	2										WHT-BLK	
SB15		15	21	2	RED	ORG	GRN								
			33	1				RED-WHT	BLK-WHT	BLU-WHT	GRN-WHT				
			P11	2								BLU	BLK		
			B	2										WHT-BLK	
SB16		15	24	2	RED	ORG	GRN								
SB17		15	29	6	RED	ORG	GRN								
			30	6	RED-BLK	ORG-BLK	GRN-BLK								
			32	1				RED-WHT	BLK-WHT	BLU-WHT	GRN-WHT				
SB18		15	27	4	RED	ORG	GRN								
SB19		15	26	4	RED	ORG	GRN								
SB20		15	28	6	RED	ORG	GRN								
SB21		15	31	1				RED-WHT	BLK-WHT	BLU-WHT	GRN-WHT				
SB22		15	22	2	RED	ORG	GRN								
			23	2	RED-BLK	ORG-BLK	GRN-BLK								

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB2	EXSB14
EXSB14	SB15
SB15	SB16
SB16	SB17
SB17	SB18
SB18	SB19
SB19	SB20
SB20	SB21
SB21	SB22
SB22	CB2

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
CB2	EXPB16
EXSB14	EXPB17
SB15	PB18
SB16	PB19
SB18	PB20
SB20	PB21
SB22	PB22

EMERGENCY VEHICLE PREEMPTION (EVP)	
FROM	TO
CB2	SB22 / A
CB2	SB17 / B
CB2	SB19 / C

* USE THE WHITE CONDUCTOR IN THE CABLE ASSEMBLY AS THE GROUNDED CONDUCT FOR ALL TRAFFIC SIGNAL INDICATIONS.
* ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
* AT THE SIGNAL BASE, CONNECT ONE TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.



FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

SB Ramp Closure Detour.dgn 8/14/2014 8:32:29 AM ckieler

2

1 TO
M4-5
24" X 12"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"
DETOUR AHEAD
W20-2
36" X 36"

2 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"
M06-1
21" X 21"

3 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"

4 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"
M05-1L
21" X 21"

5 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"
M06-1
21" X 21"

6 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"
M05-1R
21" X 21"

7 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"
M06-1
21" X 21"

8 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"
M5-2L
21" X 21"

9 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"
M6-2
21" X 21"

10 END DETOUR
M4-8A
24" X 18"

11 TO
M4-5
24" X 12"
COUNTY BB
M1-5A
24" X 24"
COTTAGE GROVE RD
TRAFFIC CONTROL SIGNS FIXED MESSAGE
40" X 24" (6.67 S.F.)
DETOUR AHEAD
W20-2
36" X 36"

12 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
COUNTY BB
M1-5A
24" X 24"
COTTAGE GROVE RD
TRAFFIC CONTROL SIGNS FIXED MESSAGE
40" X 24" (6.67 S.F.)
M5-2R
21" X 21"

13 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
COUNTY BB
M1-5A
24" X 24"
COTTAGE GROVE RD
TRAFFIC CONTROL SIGNS FIXED MESSAGE
40" X 24" (6.67 S.F.)
M6-2
21" X 21"

14 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
COUNTY BB
M1-5A
24" X 24"
COTTAGE GROVE RD
TRAFFIC CONTROL SIGNS FIXED MESSAGE
40" X 24" (6.67 S.F.)
M05-1L
21" X 21"

15 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
COUNTY BB
M1-5A
24" X 24"
COTTAGE GROVE RD
TRAFFIC CONTROL SIGNS FIXED MESSAGE
40" X 24" (6.67 S.F.)
M06-1
21" X 21"

16 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
COUNTY BB
M1-5A
24" X 24"
COTTAGE GROVE RD
TRAFFIC CONTROL SIGNS FIXED MESSAGE
40" X 24" (6.67 S.F.)
M05-1R
21" X 21"

17 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
COUNTY BB
M1-5A
24" X 24"
COTTAGE GROVE RD
TRAFFIC CONTROL SIGNS FIXED MESSAGE
40" X 24" (6.67 S.F.)
M06-1
21" X 21"

18 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
COUNTY BB
M1-5A
24" X 24"
COTTAGE GROVE RD
TRAFFIC CONTROL SIGNS FIXED MESSAGE
40" X 24" (6.67 S.F.)

19 DETOUR
M4-8
24" X 12"
TO
M4-5
24" X 12"
COUNTY BB
M1-5A
24" X 24"
COTTAGE GROVE RD
TRAFFIC CONTROL SIGNS FIXED MESSAGE
40" X 24" (6.67 S.F.)
M06-1
21" X 21"

C1
COUNTY BB
Cottage Grove Road
EXIT 1/2 MILE

TRAFFIC CONTROL COVERING SIGNS TYPE I

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	DETOUR ROUTE SIGNING	SHEET 115	E

2

ROCKWELL DRIVE

CORAL COURT

BERGEN STREET

STEINIES DRIVE

CAPITAL CITY TRAIL

COTTAGE COURT

DEMPSEY ROAD

51

ATLAS AVENUE

ATLAS COURT

VERNON AVENUE

R9-9 (MOD.)
30" X 18"
BIKE PATH CLOSED
TYPE III BARRICADE

DETOUR
M04-9aR (MOD.)
30" X 24"

DETOUR
M04-9aR (MOD.)
30" X 24"

DETOUR
M04-9aR (MOD.)
30" X 24"

DETOUR
M04-9aL (MOD.)
30" X 24"

DETOUR
M04-9aL
30" X 24"

DETOUR
M04-9aR (MOD.)
30" X 24"

DETOUR
M04-9aR (MOD.)
30" X 24"

COTTAGE GROVE ROAD

MAHER AVENUE

DAVIDSON STREET

PARK COURT

LAKE EDGE BOULEVARD

LAKE EDGE PARK

CLAIRE STREET

DETOUR
M04-9aL (MOD.)
30" X 24"

DETOUR
M04-9a (MOD.)
30" X 24"

M05-1R
21" X 21"

DETOUR
M04-9aR (MOD.)
30" X 24"

DETOUR
M04-9aR (MOD.)
30" X 24"

M6-1
21" X 21"

R9-9 (MOD.)
30" X 18"
BIKE PATH CLOSED
TYPE III BARRICADE

LUMBERMANS TRAIL

STOUGHTON ROAD

LEGEND
- WORK AREA
- POST MOUNTED DETOUR SIGN
- TYPE III BARRICADE WITH DETOUR SIGN
- DETOUR ROUTE

N

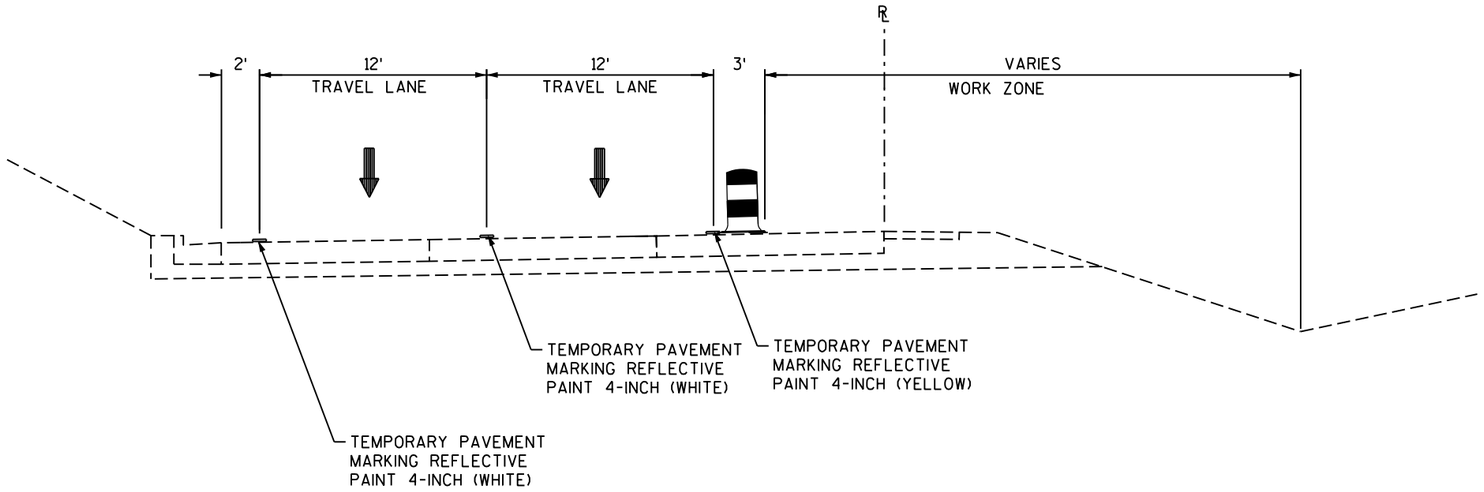
* MOVE TO SOUTH SIDEWALK IF THE NORTH SIDEWALK IS CLOSED.

** LOCATE ALONG THE WESTBOUND BIKE LANE DURING STAGE CG3.

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CAPITAL CITY TRAIL DETOUR ROUTE	SHEET E

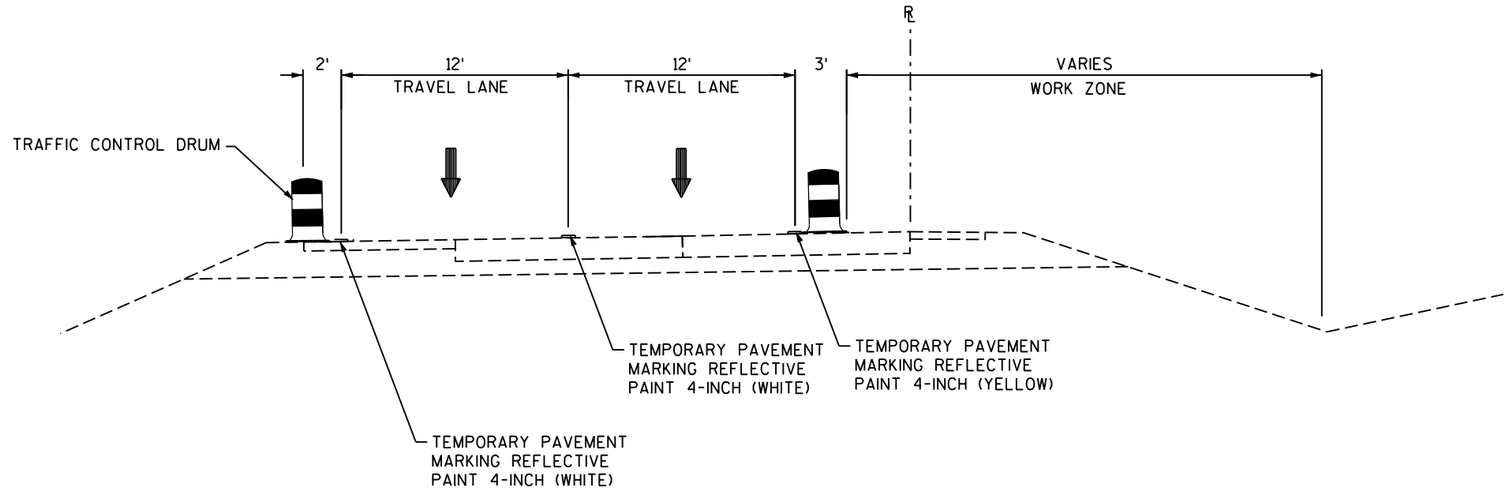
FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Bike Route Detour.dgn 8/14/2014 8:32:30 AM ckieler



TRAFFIC CONTROL STAGE 1A TYPICAL SECTION - USH 51 S.B.

SOUTH STAGING LIMITS - STA. 107+25



TRAFFIC CONTROL STAGE 1A TYPICAL SECTION - USH 51 S.B.

STA. 120+50 - NORTH STAGING LIMITS

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TYPICAL SECTIONS - TRAFFIC CONTROL - STAGE 1A	SHEET 117	E

2

N

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

500'

W01-6

USH 51 (STOUGHTON ROAD) S.B.

1600' 1000' 500' 200' 500'

50' TYP.

100' TYP.

USH 51 (STOUGHTON ROAD) N.B.

ROAD
WORK
AHEAD
W020-1
48" X 48"

LEFT
SHOULDER
CLOSED
AHEAD
W021-5B
48" X 48"

LEFT
SHOULDER
CLOSED
W021-5A
48" X 48"

NOTE: NORTHBOUND SHOULDER CLOSURES ARE ONLY REQUIRED DURING SOUTHBOUND MEDIAN AND MEDIAN SHOULDER WORK.

MATCH LINE "A"

2

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1A	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1A\tc00.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

tc00.dgn 8/14/2014 8:32:33 AM ckieler

2

N

STA. 99+37

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE (USE REFLECTIVE PAINT ON TEMPORARY PAVEMENT)

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT

W01-4BL 48" X 48"

R1-2 36"X31"

BOP STA = 103+75.00

EOP STA = 102+50.34

MATCH LINE "A"

MATCH LINE STA. 105+00

USH 51 (STOUGHTON ROAD) S.B.

50' TYP.

USH 51 (STOUGHTON ROAD) N.B.

CITY OF MADISON

CHARTER

MG&E

OH

FO

SAN

8" VP

MH

104A

100 101 102 103 104

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- xxxxx EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1A	SHEET 119	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1A\tc01.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

tc01.dgn 8/14/2014 8:32:34 AM ckieler

2

2

N

CITY OF MADISON

USH 51 (STOUGHTON ROAD) S.B. ENTRANCE RAMP

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

106A

107A

108A

110B

CHARTER

MH

SAN

8" VP

12" RCP

18" RCP

24" RCP

SS

FO

E

HO

TEMPORARY PAVEMENT MARKING 8-INCH

TEMPORARY PAVEMENT MARKING 8-INCH

W04-1
48" X 48"

MATCH LINE STA. 105+00

MATCH LINE STA. 111+00

PT STA = 109+22.35

105

106

107

108

109

110

50' TYP.

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

W01-6
60" X 30"

BRIDGE PILLAR

BRIDGE PILLAR

BRIDGE PILLAR

SPRINT

LEVEL 3

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1A	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1A\tc02.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

tc02.dgn 8/14/2014 8:32:36 AM ckieler

2

MATCH LINE STA. 111+00

MATCH LINE STA. 117+00

2

PT STA = 111+70.76

111B

112B

113B

114B

115B

116B

18CGE+00

18CGW+00

19CGE+00

19CGW+00

20CGE+00

20CGW+00

21CGE+00

FENCE SAFETY

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

100' TYP.

W01-4BR
48" X 48"

100' TYP.

SPRINT

AT&T

MG&E

CITY OF MADISON

BRIDGE PILLAR

RETAINING WALL

CONCRETE

ASPHALT

CHARTER

MMSD

LEVEL 3

18" RCP

16" RCP

36" RCP

10'x5' BOX

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1A	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1A\tc03.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc03.dgn 8/14/2014 8:32:37 AM ckieler

2

MATCH LINE STA. 117+00

MATCH LINE STA. 123+00

118B

119B

120B

121B

EOP STA = 121+91.42

PC STA = 120+96.09

W01-6
60" X 30"

118

119

120

121

50' TYP.

100' TYP.

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1A	SHEET 122	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1A\tc04.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc04.dgn 8/14/2014 8:32:39 AM ckieler

2

W01-4BL
48" X 48"

PT STA = 127+89.39

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

50' TYP.

100' TYP.

29"x45" HERCP

36" RCP

MATCH LINE STA. 123+00

MATCH LINE STA. 129+00

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1A	SHEET 123	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1A\tc05.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

tc05.dgn 8/14/2014 8:32:40 AM ckieler

2

2

STA. 130+33

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE (USE REFLECTIVE PAINT ON TEMPORARY PAVEMENT)

EOP STA. 130+36.97

50' TYP.

USH 51 (STOUGHTON ROAD) S.B.

130

100' TYP.

USH 51 (STOUGHTON ROAD) N.B.

SIGN

MATCH LINE STA. 129+00

MATCH LINE STA. 135+00

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1A	SHEET 124	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1A\tc06.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc06.dgn 8/14/2014 8:32:41 AM ckieler

2

2

MATCH LINE STA. 135+00

50' (TYP.)

50' (TYP.)

500'

500'

W01-6
60" X 30"

USH 51 (STOUGHTON ROAD) N.B.

500'

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

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- xxxxx EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1A	SHEET 125	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1A\tc07.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc07.dgn 8/14/2014 8:32:43 AM ckieler

2

2

MATCH LINE "B"

W01-4BR
48" X 48"

RIGHT SHOULDER CLOSED
W021-5A
48" X 48"

RIGHT SHOULDER CLOSED AHEAD
W021-5B
48" X 48"

SPEED LIMIT 45
R2-1
36" X 48"

SPEED LIMIT 45
W03-5
48" X 48"

ROAD WORK 1 MILE
W020-1
48" X 48"

500' 500' 200' 500' 1000' 1500' 500' 500'

50' TYP.

50' TYP.

500' 500' 200' 500' 1000'

LEFT SHOULDER CLOSED
W021-5A
48" X 48"

LEFT SHOULDER CLOSED AHEAD
W021-5A
48" X 48"

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

SIGN

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- xxxxx EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1A	SHEET 126	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1A\tc07b.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc07b.dgn 8/14/2014 8:32:44 AM ckieler

2

2

MATCH LINE STA. 113+00

PT STA = 112+32.34

PC STA = 111+13.23

PC STA = 107+53.40

PT STA = 108+90.23

50' TYP.

W03-2
30" x 30"

USH 51(STOUGHTON ROAD) S.B.
ENTRANCE RAMP

USH 51(STOUGHTON ROAD) S.B.
EXIT RAMP

CITY OF MADISON

INL

24" RCP SS

18" RCP SS

12" RCP SS

15" RCP SS

CHARTER

MADISON

112A

111A

110A

109A

108A

107A

108B

109B

110B

107B

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1A	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1A\tc08.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc08.dgn 8/14/2014 8:32:46 AM ckieler

2

2

ROAD WORK AHEAD
W020-1
48" X 48"

ROAD WORK AHEAD
W020-1
36" X 36"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"

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

ROAD WORK AHEAD
W020-1
36" X 36"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"

MATCH LINE STA. 113+00

USH 51 (STOUGHTON ROAD) S.B. ENTRANCE RAMP

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

COTTAGE COURT

PI STA = 12+14.49

PC STA = 15+26.19

PI STA = 13+85.23

PI STA = 13+10.41

EOP STA = 116+15.55

BOP STA = 103+86.13

12CGE+00

12CGW+00

13CGE+00

13CGW+00

14CGE+00

14CGW+00

15CGE+00

15CGW+00

114A

115A

116A

103A

105A

105B

104B

106B

CITY OF MADISON

MG&E

CHARTER

AT&T

WOOD FENCE

BUSINESS SIGN

20"x28" CMPA

12" RCP

15" RCP

18" RCP

8" SAN

6" SAN

LEGEND

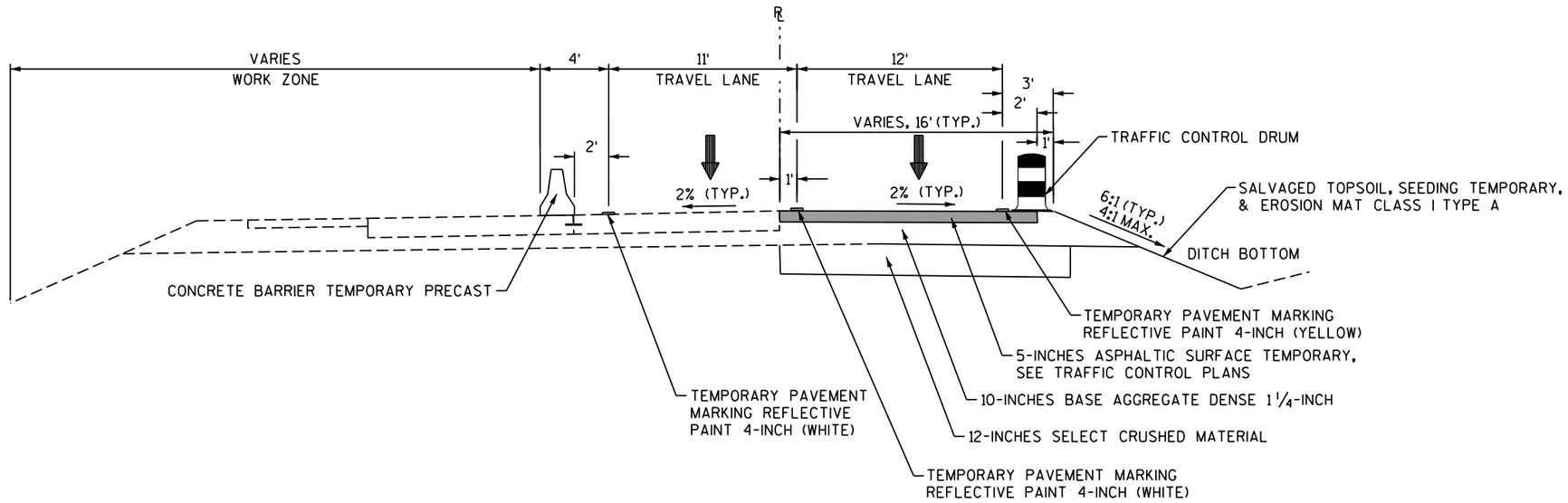
- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- C TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1A	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1A\tc09.dgn | PLOT DATE : 8/14/2014 | PLOT BY : ckieler | PLOT NAME : | PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc09.dgn 8/14/2014 8:32:47 AM ckieler



TRAFFIC CONTROL STAGE 1B TYPICAL SECTION - USH 51 S.B.

STA. 99+11 - STA. 103+42
STA. 122+77 - STAGING LIMITS

2

N

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

USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE ON EXISTING PAVEMENT THAT WILL NOT BE REMOVED. USE TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT ON ALL TEMPORARY PAVEMENT.

500'

USH 51 (STOUGHTON ROAD) S.B.

BEGIN TAPER STATION 96+09.15

USH 51 (STOUGHTON ROAD) N.B.

W01-6
60" X 30"

MATCH LINE "A"

W

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1B	SHEET 130	E

2

N

STA. 99+37

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT

(USE REFLECTIVE PAINT ON TEMPORARY PAVEMENT)

BOP STA = 99+06.14

BOP STA = 99+36.67

PI STA = 100+43.15

PC STA = 102+31.67

PC STA = 102+50.54

BOP STA = 103+75.00

MATCH LINE "A"

MATCH LINE STA. 105+00

100TC

101TC

102TC

103TC

104A

104TC

105T

100

101

102

103

104

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

END TAPER STATION 99+10.30

TRUCKS ENTERING & LEAVING

W08-6A
48" X 48"

CITY OF MADISON

CHARTER

OH

MG&E

FO

MH

SAN

8" VP

W

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1B	SHEET 131	E

2

MATCH LINE STA. 105+00

MATCH LINE STA. 111+00

USH 51 (STOUGHTON ROAD) S.B. ENTRANCE RAMP

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

PC STA = 108+65.58

PT STA = 106+76.58

PT STA = 109+22.35

106A

107A

106TC

107TC

108TC

109TC

110TC

106

107

108

109

110

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

CITY OF MADISON

CHARTER

SPRINT

LEVEL 3

BRIDGE PILLAR

W01-6
60" X 30"

W024-1AL
48" X 48"

REMOVE CURB AND GUTTER FROM STA 110+64. PARAPET WALL. PLACE TEMPORARY CONCRETE BARRIER IN LINE WITH EXISTING BRIDGE PARAPET WALL.

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1B	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1B\tc02.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc02.dgn 8/14/2014 8:32:53 AM ckieler

2

MATCH LINE STA. 111+00

MATCH LINE STA. 117+00

2

PI STA = 111+70.76

PI STA = 115+09.57

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

USH 51 (STOUGHTON ROAD) N.B.

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

18CGE+00

18CGW+00

19CGE+00

19CGW+00

20CGE+00

20CGW+00

21CGE+

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1B	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1B\tc03.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc03.dgn 8/14/2014 8:32:54 AM ckieler

2

2

MATCH LINE STA. 117+00

MATCH LINE STA. 123+00

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

118B

119B

120B

121B

118TC

119TC

120TC

121TC

122TC

118

119

120

121

EOP STA = 121+91.42

PC STA = 122+07.48

PC STA = 120+86.00

100' TYP.

50' TYP.

RAMP CLOSED 1000 FT

W020-3(MOD) 48" X 48"

W01-6 60" X 30"

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1B	SHEET 134	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1B\tc04.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc04.dgn 8/14/2014 8:32:56 AM ckieler

2

MATCH LINE STA. 123+00

PT STA = 124+81.89

PT STA = 126+64.44

124TC

125TC

126TC

127TC

128TC

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

50' TYP.

29"x45" HERCP

36" RCP

TEMPORARY CRASH CUSHION

W01-4BR
48" X 48"

MATCH LINE STA. 129+00

2

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX — EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1B	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1B\tc05.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc05.dgn 8/14/2014 8:32:57 AM ckieler

2

2

STA. 130+33

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

(USE REFLECTIVE PAINT ON TEMPORARY PAVEMENT)

PI STA = EXP STA 130+32.97

MATCH LINE STA. 129+00

MATCH LINE "B"

TC 130TC 131TC 132TC 133TC 134TC 135

130 131

50' TYP.

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

SIGN

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1B	SHEET 136	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1B\tc06.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc06.dgn 8/14/2014 8:32:58 AM ckieler

2

N

W01-6
60" X 30"

W01-4BL
48" X 48"

W021-5A
48" X 48"

RIGHT
SHOULDER
CLOSED

500'

500'

200'

500'

100'

50' TYP.

MATCH LINE "B"

TC

50' TYP.

136TC

137TC

EOP STA = 137+17.95

USH 51 (STOUGHTON ROAD) S.B.

RAMP
CLOSED
AHEAD

W020-3(MOD)
48" X 48"

USH 51 (STOUGHTON ROAD) N.B.

MATCH LINE "C"

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1B	SHEET 137	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1B\tc07.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc07.dgn 8/14/2014 8:32:59 AM ckieler

2

2

MATCH LINE "C"

RIGHT SHOULDER CLOSED AHEAD
W021-5B
48" X 48"

SPEED LIMIT 45
R2-1
36" X 48"

SPEED LIMIT 45
W03-5
48" X 48"

ROAD WORK 1 MILE
W020-1
48" X 48"

SIGN

1000'

2000'

500'

500'

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1B	SHEET 138	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1B\tc07b.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc07b.dgn 8/14/2014 8:33:01 AM ckieler

2

2

MATCH LINE STA. 113+00

PT STA = 112+32.44

PC STA = 111+13.23

USH 51 (STOUGHTON ROAD) S.B. ENTRANCE RAMP

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

PC STA = 107+53.40

PT STA = 108+80.23

111A

112A

110A

109A

108A

107A

107B

106B

105B

104B

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

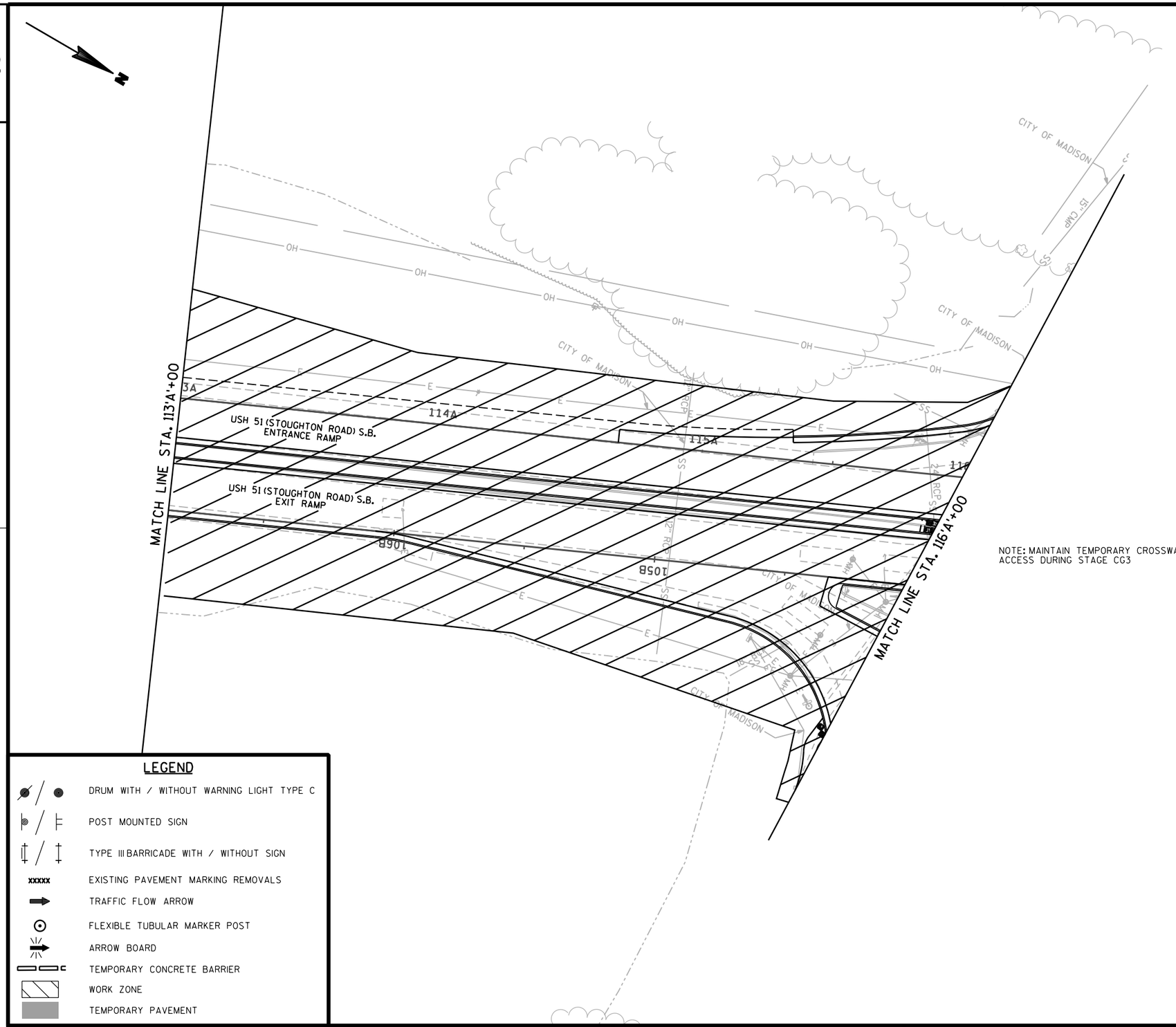
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1B	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1B\tc08.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc08.dgn 8/14/2014 8:33:03 AM ckieler

2



NOTE: MAINTAIN TEMPORARY CROSSWALK ACCESS DURING STAGE CG3

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

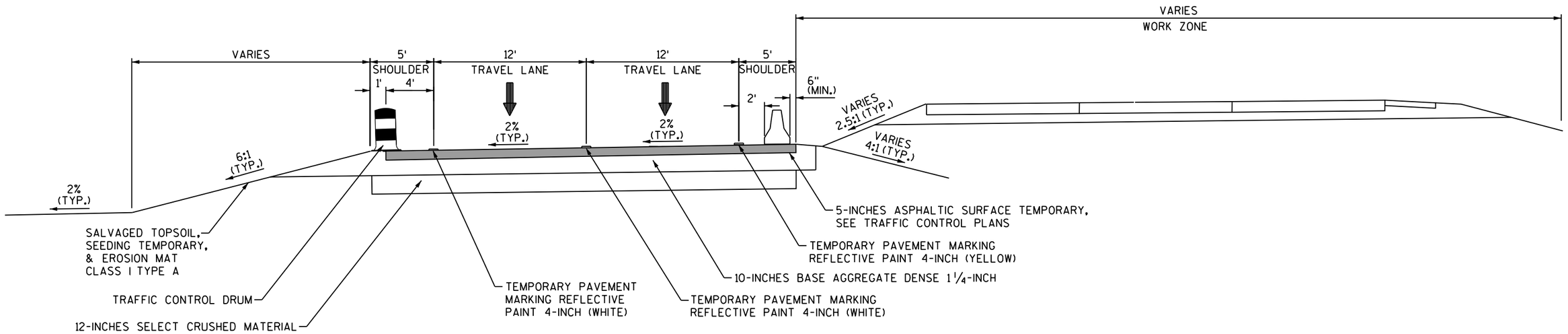
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1B	SHEET 140	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 1B\tc09.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc09.dgn 8/14/2014 8:33:04 AM ckieler

2



TRAFFIC CONTROL STAGE 2 TYPICAL SECTION - USH 51 S.B.

STA. 107'TC'+00 - STA. 110'TC'+50

NOTE: SEE TRAFFIC CONTROL STAGE 2 PLAN AND PROFILE AND CROSS SECTION SHEETS.

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TYPICAL SECTIONS - TRAFFIC CONTROL - STAGE 2	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$
WISDOT/CADDS SHEET 42

Typical TC 2.dgn 8/14/2014 8:33:04 AM ckieler

2

N

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

500'

W01-6
60" X 30"

50'

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

MATCH LINE "A"

NOTE: NORTHBOUND SHOULDER CLOSURES ARE ONLY REQUIRED DURING SOUTHBOUND MEDIAN AND MEDIAN SHOULDER WORK.

W

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 2\tc00.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc00.dgn 8/14/2014 8:33:07 AM ckieler

2

NOTE: SEE TRAFFIC CONTROL STAGE 2 PLAN AND PROFILE AND CROSS SECTION SHEETS.

STA. 99+37

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT

BOP STA = 99+06.14

PI STA = 100+41.15

PC STA = 102+31.67

PC STA = 105+20.34

BOP STA = 103+75.00

TEMPORARY SHORING (EXACT LIMITS TO BE VERIFIED BY FIELD ENGINEER)

ASPHALTIC CURB (TEMPORARY)

W01-4BL
48" X 48"

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

100TC 101TC 102TC 103TC 104TC 105T

100 101 102 103 104

50'

MATCH LINE "A"

MATCH LINE STA. 105+00

TRUCKS ENTERING & LEAVING

W08-6A
48" X 48"

CITY OF MADISON

CHARTER

MG&E

OH

FO

MH

SAN

8" VP

MI

W

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- xxxxx EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2	SHEET 143	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 2\tc01.dgn PLOT DATE : 12/2/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc01.dgn 12/2/2014 4:27:30 PM ckieler

NOTE: SEE TRAFFIC CONTROL STAGE 2 PLAN AND PROFILE AND CROSS SECTION SHEETS.

W04-1
48" X 48"

EXIT
E5-1
72" X 60"
TEMPORARY PAVEMENT MARKING 8-INCH

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

TEMPORARY PAVEMENT MARKING 8-INCH

TEMPORARY CRASH CUSHION

YIELD
R1-2
36"X31"

MATCH LINE STA. 107+00

USH 51 (STOUGHTON ROAD) S.B. ENTRANCE RAMP

PC STA = 106+76.52

50'

USH 51 (STOUGHTON ROAD) S.B.

PC STA = 108+65.65

PT STA = 109+22.35

24" RCP

106TC
107TC
108TC
109TC
110TC
111TC

106
107
108
109
110

CHARTER
FO
BRIDGE PILLAR
SPRINT
LEVEL 3

MATCH LINE STA. 105+00

MATCH LINE STA. 111+00

USH 51 (STOUGHTON ROAD) N.B.

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2	SHEET 144	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 2\tc02.dgn | PLOT DATE : 8/14/2014 | PLOT BY : ckieler | PLOT NAME : | PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc02.dgn 8/14/2014 8:33:10 AM ckieler

2

MATCH LINE STA. 111+00

STA. 112'TC'+50

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

USE TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT ON TEMPORARY PAVEMENT

PT STA = 111+70.76

W01-4BL
48" X 48"

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

FENCE SAFETY

PT STA = 115+09.57

STA. 116'TC'+32

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT

RETAINING WALL

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

NOTE: SEE TRAFFIC CONTROL STAGE 2 PLAN AND PROFILE AND CROSS SECTION SHEETS.

NOTE: SEE PERMENANT SIGNING PLANS FOR EXIT RAMP SIGNS

MATCH LINE STA. 117+00

2

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 2\tc03.dgn | PLOT DATE : 8/14/2014 | PLOT BY : ckieler | PLOT NAME : | PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc03.dgn 8/14/2014 8:33:11 AM ckieler

2

2

MATCH LINE STA. 117+00

MATCH LINE STA. 123+00

118B

119B

120B

121B

118TC

119TC

120TC

121TC

122TC

118

119

120

121

122

EOP STA = 121+91.42

PC STA = 122+07.49

PT STA = 120+86.00

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

INL

INL

INL

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2	SHEET 146	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 2\tc04.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc04.dgn 8/14/2014 8:33:13 AM ckieler

NOTE: SEE TRAFFIC CONTROL STAGE 2
CROSS SECTION SHEETS.

TEMPORARY SHORING
(EXACT LIMITS TO BE VERIFIED
BY FIELD ENGINEER)

PT STA 126+64.44

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

PT STA 124+81.89

MATCH LINE STA. 123+00

MATCH LINE STA. 129+00

29"x45" HERCP

36" RCP

36" RCP

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

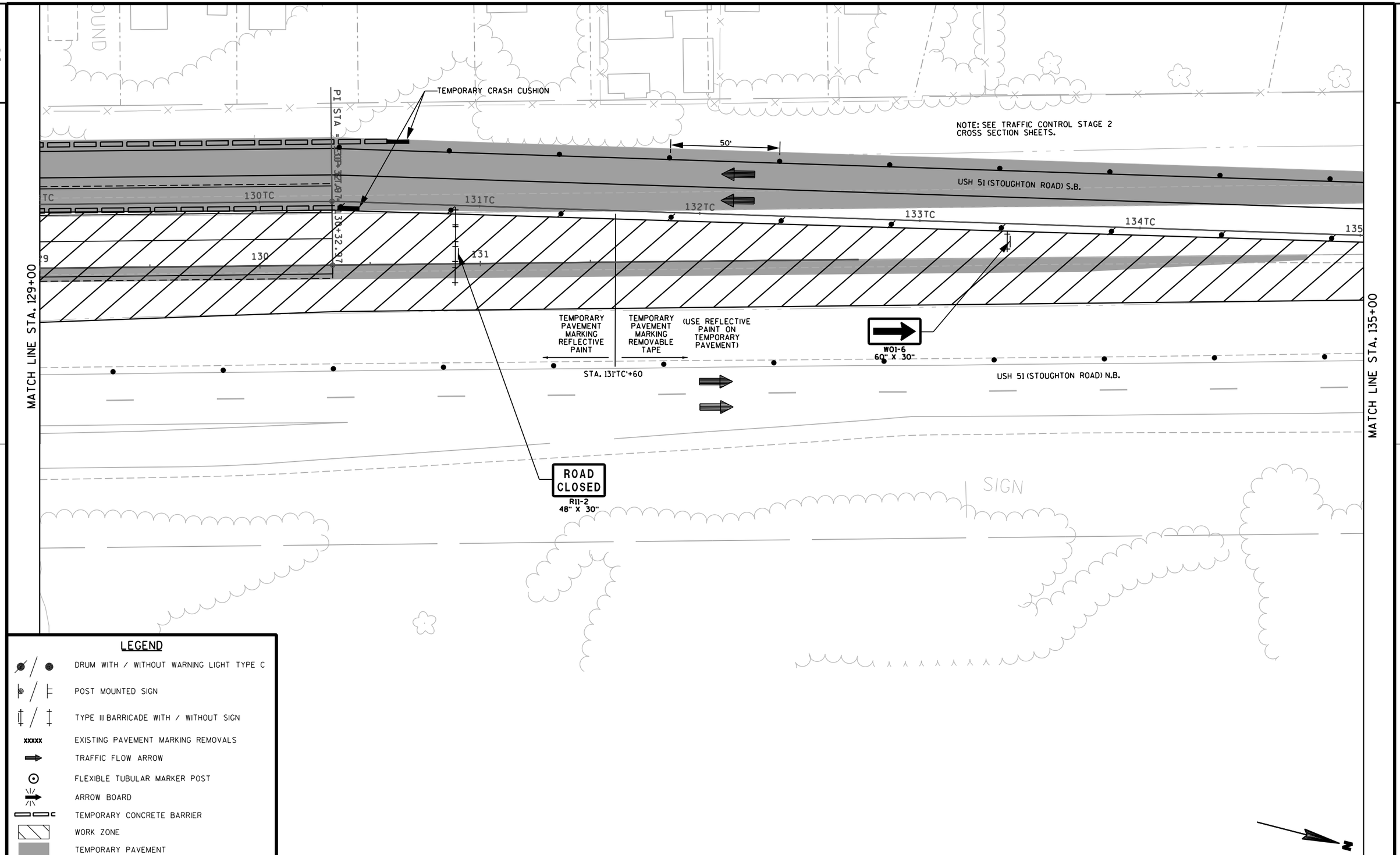
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2	SHEET 147	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 2\tc05.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc05.dgn 8/14/2014 8:33:14 AM ckieler

2



LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2	SHEET 148	E

2

NOTE: SEE TRAFFIC CONTROL STAGE 2
CROSS SECTION SHEETS.

W01-4BR
48" X 48"

RIGHT
SHOULDER
CLOSED
W021-5A

500'
500'
200'
500'
1700'

50'

50' TYP.

EOP STA. = 137+17.95

136TC
137TC

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

MATCH LINE STA. 135+00

MATCH LINE "B"

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- xxxxx EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2	SHEET 149	E

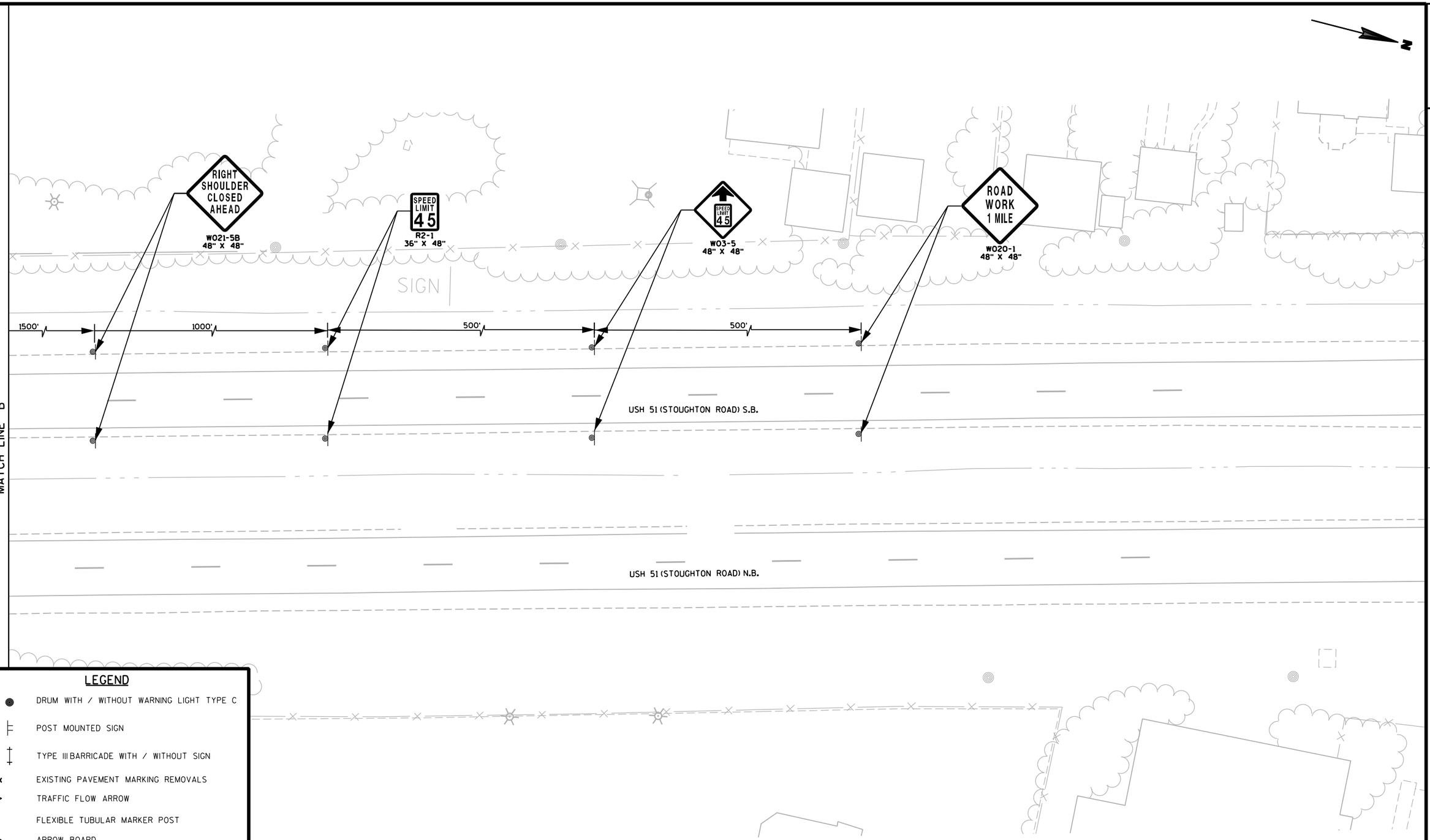
FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 2\tc07.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc07.dgn 8/14/2014 8:33:17 AM ckieler

2

2



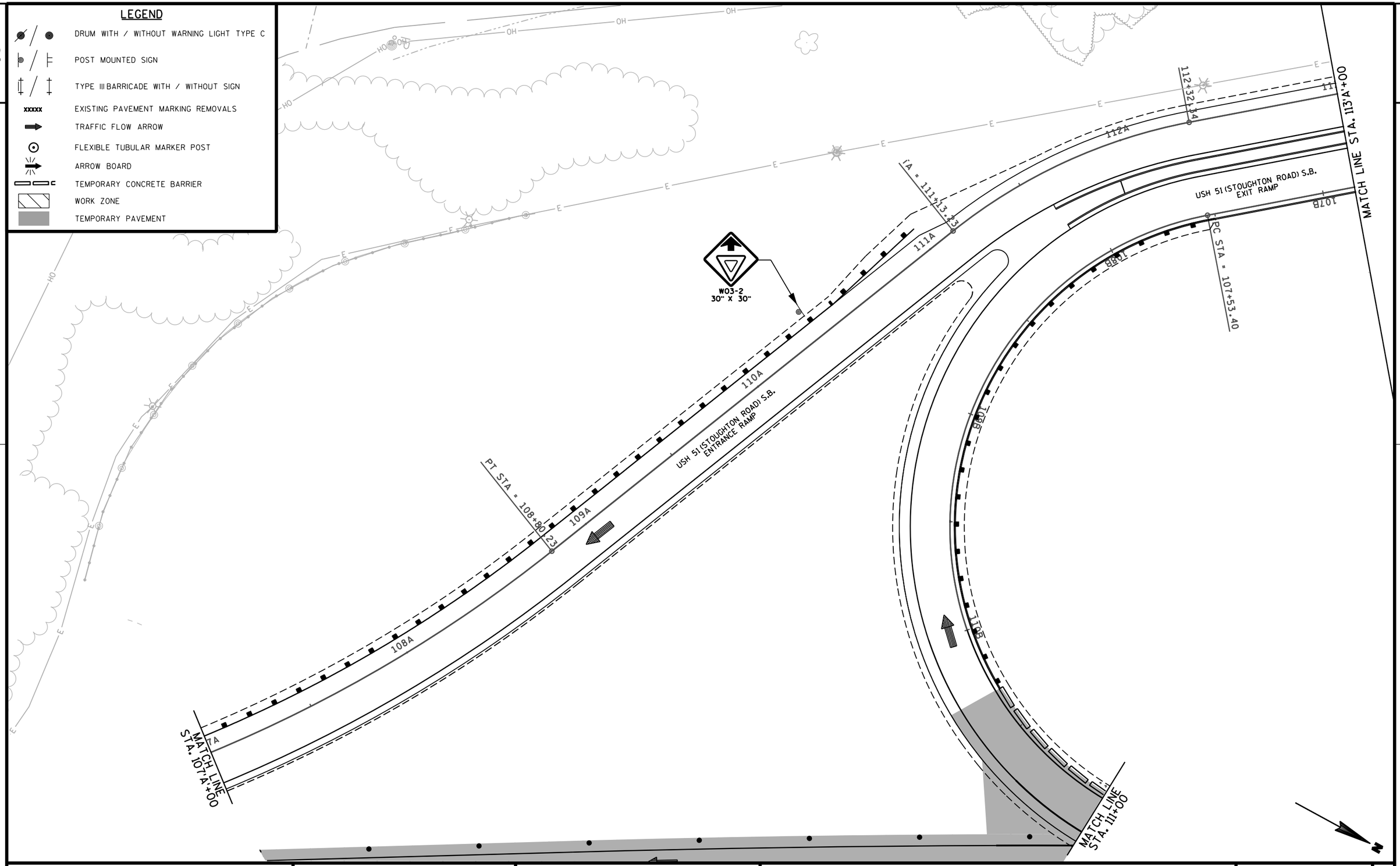
LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2	SHEET 150	E

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 2\tc08.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc08.dgn 8/14/2014 8:33:19 AM ckieler

2

2

MATCH LINE STA. 113+00

ROAD WORK AHEAD
W020-1
48" X 48"

ROAD WORK AHEAD
W020-1
36" X 36"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"

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

ROAD WORK AHEAD
W020-1
36" X 36"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"

USH 51 (STOUGHTON ROAD) S.B. ENTRANCE RAMP

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

COTTAGE COURT

EOP STA = 116+15.55

PC STA = 15+26.19

PT STA = 12+14.49

PI STA = 13+10.41

PI STA = 13+85.23

PI STA = 103+86.13

114A 115A 116A 105A 105B 106B

12CGE+00 12CGM+00 13CGE+00 13CGM+00 14CGE+00 14CGM+00 15CGE+00 15CGM+00

CITY OF MADISON
MG&E
WOOD FENCE
CHARTER
AT&T
BUSINESS SIGN
20"x28" CMPA
18" RCP
12" RCP
8" SAN
6" SAN

LEGEND

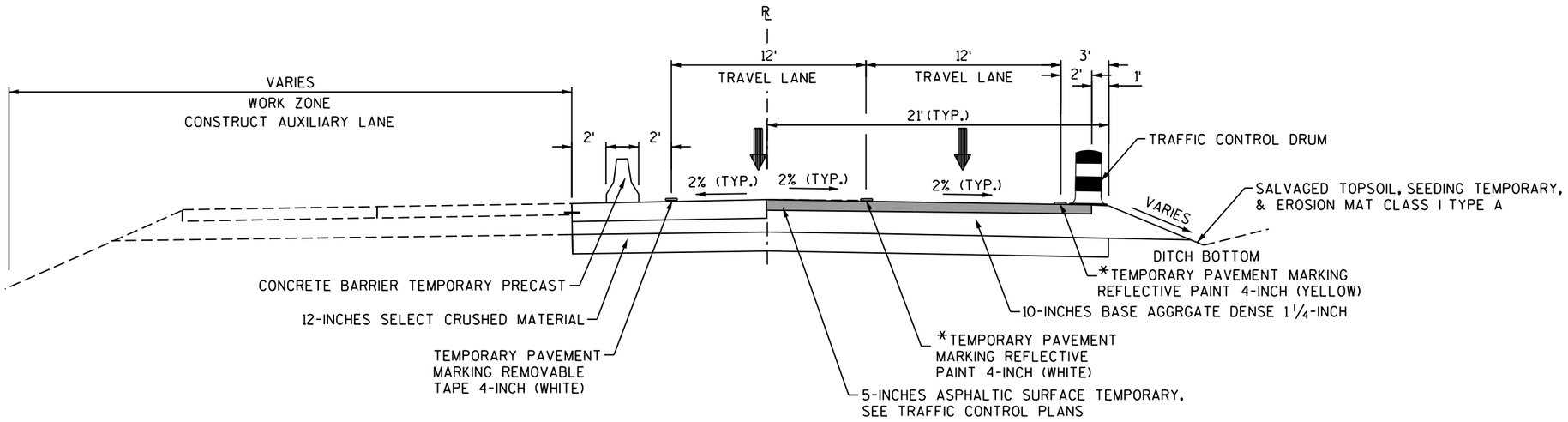
- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2	SHEET 152	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 2\tc09.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

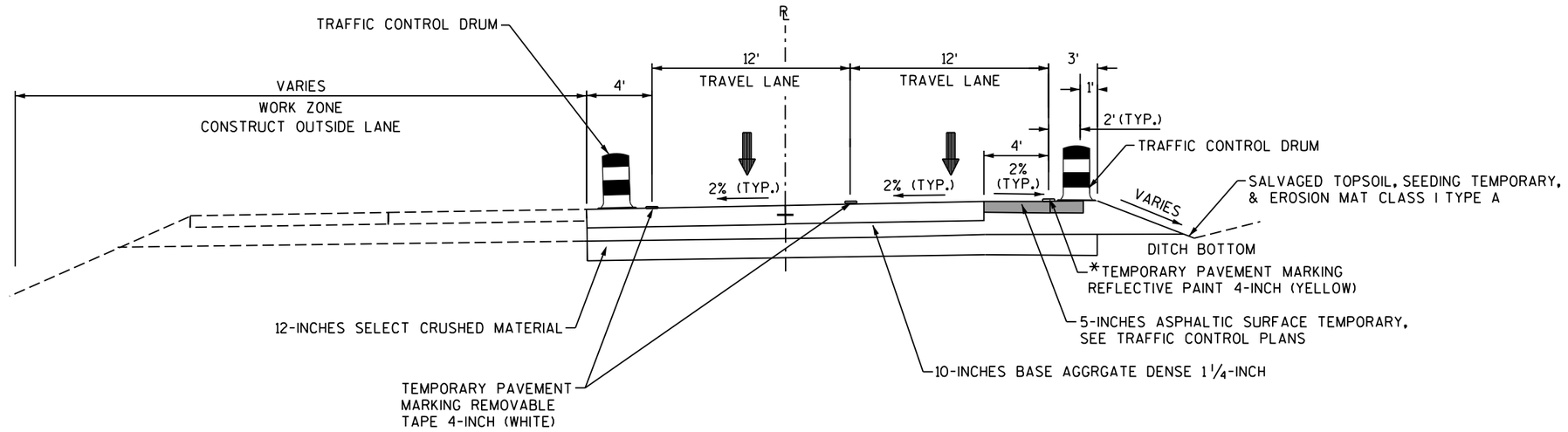
tc09.dgn 8/14/2014 8:33:21 AM ckieler



TRAFFIC CONTROL STAGE 3 TYPICAL SECTION - USH 51 S.B.

STA. 99+11 - STA. 106+00

*USE PAVEMENT MARKING REMOVABLE TAPE
WHEN ON PERMANENT PAVEMENT SURFACE.



TRAFFIC CONTROL STAGE 3 TYPICAL SECTION - USH 51 S.B.

STA. 126+15 - 133+73

*USE PAVEMENT MARKING REMOVABLE TAPE
WHEN ON PERMANENT PAVEMENT SURFACE.

2

2

N

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

500'

50'

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

MATCH LINE "A"

W

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- xxxxx EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 3	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 3\tc00.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc00.dgn 8/14/2014 8:33:23 AM ckieler

2

N

TRUCKS ENTERING & LEAVING

W08-6A 48" X 48"

BOP STA = 99+36.67

PC STA = 102+50.34

BOP STA = 103+75.00

MATCH LINE "A"

MATCH LINE STA. 105'+00

100 101 102 103 104

USH 51 (STOUGHTON ROAD) S.B.

50'

USH 51 (STOUGHTON ROAD) N.B.

OH MG&E CITY OF MADISON 8" VP SAN MH W

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 3	SHEET 155	E

2

2

MATCH LINE STA. 105+00

MATCH LINE STA. 107A+00

MATCH LINE STA. 111+00

USH 51 (STOUGHTON ROAD) S.B. ENTRANCE RAMP

USH 51 (STOUGHTON ROAD) N.B.

PI STA = 109+22.35

50'

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

USE TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT ON TEMPORARY PAVEMENT ONLY

TEMPORARY CRASH CUSHION

BRIDGE PILLAR

BRIDGE PILLAR

BRIDGE PILLAR

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 3	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 3\tc02.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc02.dgn 8/14/2014 8:33:26 AM ckieler

2

2

MATCH LINE STA. 111+00

MATCH LINE STA. 117+00

STA = 111+70.76

USH 51 (STOUGHTON ROAD) S.B.
EXIT RAMP

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

18CGE+00

18CGW+00

20CGE+00

20CGW+00

21CGE+00

50'

W024-1AL
48" X 48"

LANE
CLOSED
R11-2(MOD)
48" X 30"

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 3	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 3\tc03.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc03.dgn 8/14/2014 8:33:28 AM ckieler

2

2

MATCH LINE STA. 117+00

MATCH LINE STA. 123+00

WO1-6
60" X 30"

USH 51 (STOUGHTON ROAD) S.B.
EXIT RAMP

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

PC STA = 120+86.00

EOR STA = 121+91.42

50'

25'

50'

118B 119B 120B 121B

118 119 120 121 122

FO

E

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- xxxxx EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- C TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 3	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 3\tc04.dgn
PLOT DATE : 8/14/2014
PLOT BY : ckieler
PLOT NAME :
PLOT SCALE : 1:39.9999
WISDOT/CADDS SHEET 30

tc04.dgn 8/14/2014 8:33:29 AM ckieler

2

RAMP CLOSED
R11-2(MOD)
48" X 30"

RAMP CLOSED
R11-2(MOD)
48" X 30"

USH 51 (STOUGHTON ROAD) S.B.
EXIT RAMP

25'

50'

RT STA = 124+81.89

123

124

125

126

127

128

USH 51 (STOUGHTON ROAD) S.B.

W01-4BL
48" X 48"

USH 51 (STOUGHTON ROAD) N.B.

MATCH LINE STA. 123+00

MATCH LINE STA. 129+00

2

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX — EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 3	SHEET 159	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 3\tc05.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc05.dgn 8/14/2014 8:33:30 AM ckieler

2

MATCH LINE STA. 129+00

EOR STA. 130+32.97

129 130 131

50'

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

W01-4BR
48" X 48"

MATCH LINE "B"

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 3	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 3\tc06.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc06.dgn 8/14/2014 8:33:31 AM ckieler

2

N

MATCH LINE "B"

W01-4B
48" X 48"

ROAD WORK 1000 FT
W020-1
48" X 48"

RAMP CLOSED AHEAD
W020-3(MOD)
48" X 48"

SPEED LIMIT 45
R2-1
36" X 48"

SPEED LIMIT 45
W03-5
48" X 48"

ROAD WORK 1 MILE
W020-1
48" X 48"

500' 500' 500' 2700' 500' 500'

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 3	SHEET 161	E

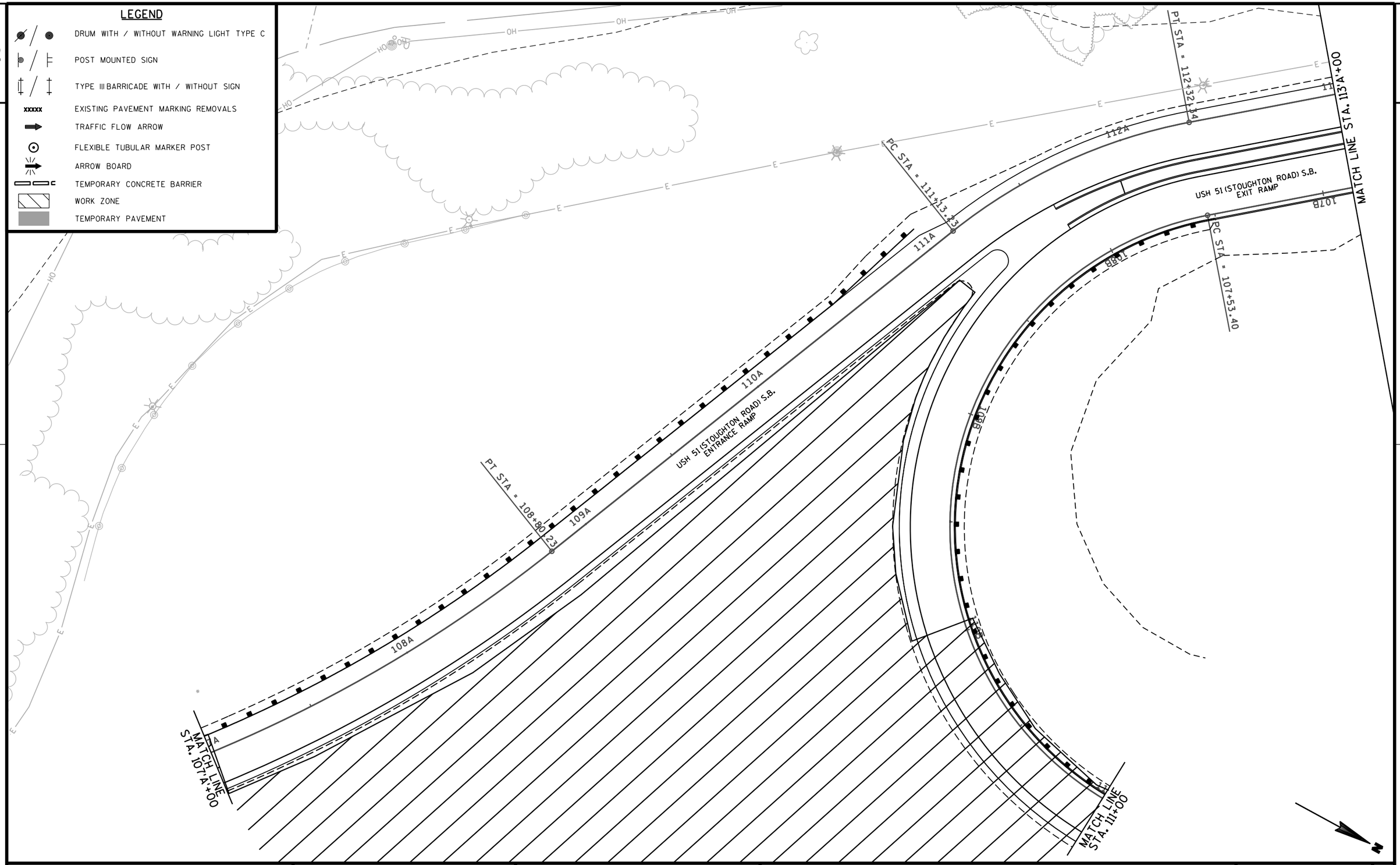
FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 3\tc07.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc07.dgn 8/14/2014 8:33:32 AM ckieler

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 3	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 3\tc08.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc08.dgn 8/14/2014 8:33:33 AM ckieler

2

MATCH LINE STA. 113+00

RAMP CLOSED
R11-2(MOD)
48" X 30"

RAMP CLOSED
R11-2(MOD)
48" X 30"

USH 51 (STOUGHTON ROAD) S.B. ENTRANCE RAMP

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

EOP STA. 116+15.55

BOP STA. 103+86.13

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

COTTAGE COURT

CITY OF MADISON

MG&E

WOOD FENCE

CHARTER

BUSINESS SIGN

AT&T

ATC

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- xxxxx EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 3	SHEET 163	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 3\tc09.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

tc09.dgn 8/14/2014 8:33:35 AM ckieler

2

2

NOTE: INSIDE LANE CLOSURE ALLOWED ONLY
DURING OFF-PEAK HOURS FOR PAVING MEDIAN
ASPHALT SHOULDERS

500'

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

USH 51 (STOUGHTON ROAD) S.B.

50'

50'

USH 51 (STOUGHTON ROAD) N.B.

MATCH LINE "A"

W

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- xxxxx EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 4	SHEET 164	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 4\tc00.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc00.dgn 8/14/2014 8:33:36 AM ckieler

2

2

NOTE: INSIDE LANE CLOSURE ALLOWED ONLY DURING OFF-PEAK HOURS FOR PAVING MEDIAN ASPHALT SHOULDERS

MATCH LINE "A"

MATCH LINE STA. 105+00

BOP STA = 99+36.67

PC STA = 102+50.34

BOP STA = 103+75.00

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

50' TYP.

50'

100 101 102 103 104 104A

CITY OF MADISON

CHARTER

8" VP SAN SAN 8" VP SAN

MG&E

OH

MH

FO

E

W

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 4	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 4\tc01.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc01.dgn 8/14/2014 8:33:37 AM ckieler

2

2

MATCH LINE STA. 107+00

USH 51 (STOUGHTON ROAD) S.B. ENTRANCE RAMP

106A

105A

USH 51 (STOUGHTON ROAD) S.B.

PT STA = 109+22.35

50' TYP.

MATCH LINE STA. 111+00

MATCH LINE STA. 105+00

105

106

107

108

109

110

50'

USH 51 (STOUGHTON ROAD) N.B.

NOTE: INSIDE LANE CLOSURE ALLOWED ONLY DURING OFF-PEAK HOURS FOR PAVING MEDIAN ASPHALT SHOULDERS

N

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 4	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 4\tc02.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc02.dgn 8/14/2014 8:33:38 AM ckieler

2

NOTE: INSIDE LANE CLOSURE ALLOWED ONLY
DURING OFF-PEAK HOURS FOR PAVING MEDIAN
ASPHALT SHOULDERS

T STA = 111+70.76

USH 51 (STOUGHTON ROAD) S.B.
EXIT RAMP

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

50' TYP.

MATCH LINE STA. 111+00

MATCH LINE STA. 117+00

18CGE+00

18CGW+00

19CGE+00

19CGW+00

20CGE+00

20CGW+00

21CGE+

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

RETAINING WALL

CONCRETE

ASPHALT

BRIDGE PILLAR

GUY POLE

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 4	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 4\tc03.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc03.dgn 8/14/2014 8:33:40 AM ckieler

2

NOTE: INSIDE LANE CLOSURE ALLOWED ONLY
DURING OFF-PEAK HOURS FOR PAVING MEDIAN
ASPHALT SHOULDERS

MATCH LINE STA. 117+00

118B 119B 120B 121B

USH 51 (STOUGHTON ROAD) S.B.
EXIT RAMP

EOP STA = 121+91.42

PC STA = 120+86.00

50' TYP.

118 119 120 121 122

USH 51 (STOUGHTON ROAD) S.B.

MATCH LINE STA. 123+00

USH 51 (STOUGHTON ROAD) N.B.

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 4	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 4\tc04.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc04.dgn 8/14/2014 8:33:41 AM ckieler

NOTE: INSIDE LANE CLOSURE ALLOWED ONLY
DURING OFF-PEAK HOURS FOR PAVING MEDIAN
ASPHALT SHOULDERS

USH 51 (STOUGHTON ROAD) S.B.
EXIT RAMP

PT STA = 124+81.89

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

29"x45" HERCP

36" RCP

50'

123 124 125 126 127 128

MATCH LINE STA. 123+00

MATCH LINE STA. 129+00

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 4	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 4\tc05.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc05.dgn 8/14/2014 8:33:43 AM ckieler

2

2

MATCH LINE STA. 129+00

MATCH LINE "B"

EOP STA = 130+32.97

130

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

50'

500'

500'

SIGN

NOTE: INSIDE LANE CLOSURE ALLOWED ONLY
DURING OFF-PEAK HOURS FOR PAVING MEDIAN
ASPHALT SHOULDERS

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 4	SHEET 170	E

2

2

NOTE: INSIDE LANE CLOSURE ALLOWED ONLY DURING OFF-PEAK HOURS FOR PAVING MEDIAN ASPHALT SHOULDERS

MATCH LINE "B"

RIGHT SHOULDER CLOSED
W021-5A 48" X 48"

RIGHT SHOULDER CLOSED AHEAD
W021-5B 48" X 48"

W04-2L 48" X 48"

LEFT LANE CLOSED 1500 FT
W020-5 48" X 48"

LEFT LANE CLOSED 1/2 MILE
W020-5 48" X 48"

ROAD WORK 1 MILE
W020-1 48" X 48"

500' 200' 500' 500' 500' 575' 1025' 2600' 500' MIN. 500' MIN.

100' TYP.

50' TYP. 50' TYP. 50' TYP.

USH 51 (STOUGHTON ROAD) S.B.

500' 660' 500' 25' 1000'

5 DRUMS SPACED AT 10' INTERVALS IN FRONT OF ARROW BOARD

SPEED LIMIT 45
R2-1 36" X 48"

SPEED LIMIT 45
W03-5 48" X 48"

USH 51 (STOUGHTON ROAD) N.B.

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- xxxxx EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 4	SHEET 171	E

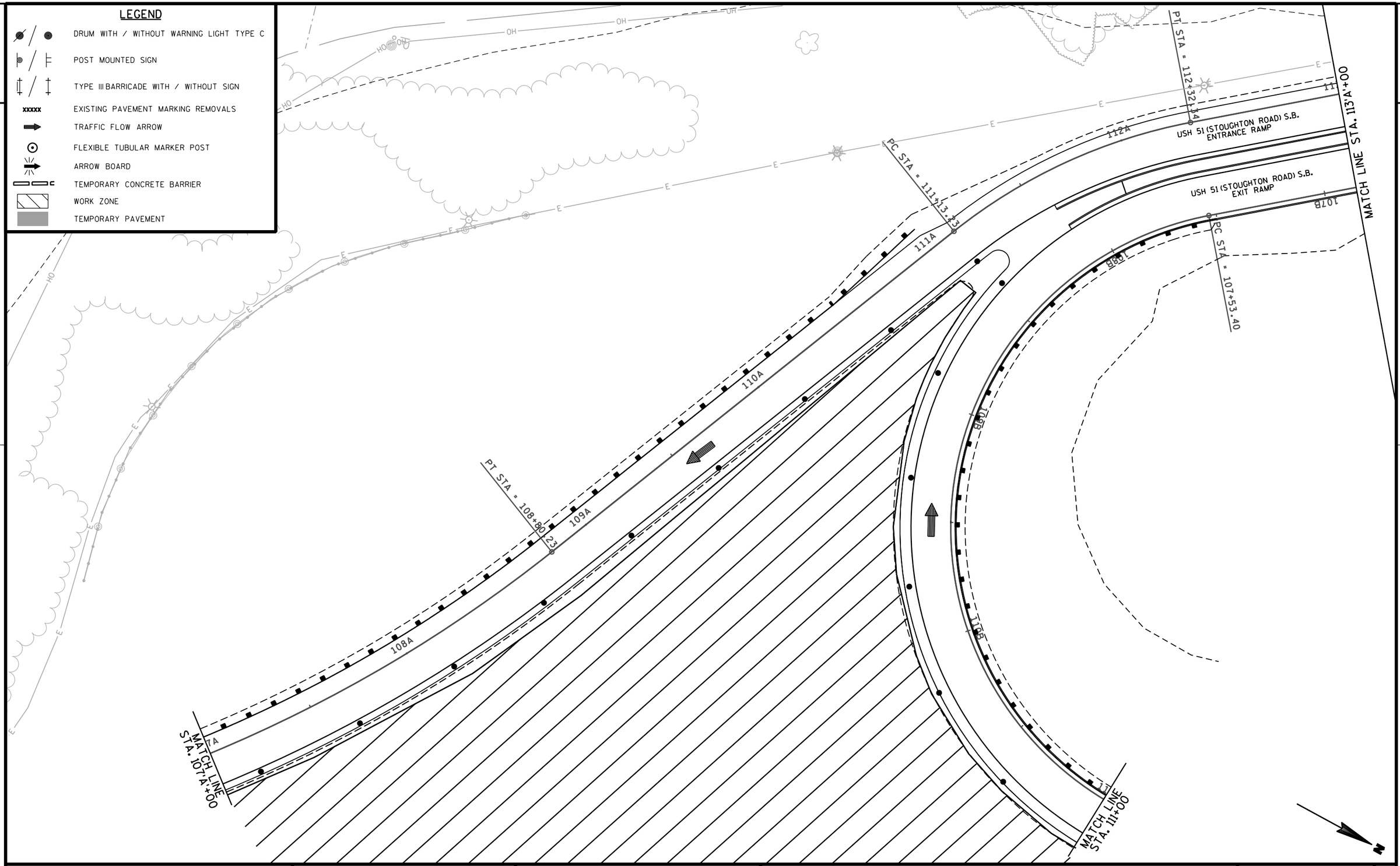
FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 4\tc07.dgn PLOT DATE : 12/2/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc07.dgn 12/2/2014 1:39:34 PM ckieler

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT



2

ROAD WORK AHEAD
W020-1
48" X 48"

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

MATCH LINE STA. 113+00

USH 51 (STOUGHTON ROAD) S.B. ENTRANCE RAMP

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

COTTAGE COURT

EOP STA = 116+15.55

PC STA = 15+26.19

PI STA = 12+14.49

PI STA = 13+10.41

PI STA = 13+85.23

PI STA = 103+86.13

12CGE+00

12CGW+00

13CGE+00

13CGW+00

14CGE+00

14CGW+00

15CGE+00

15CGW+00

114A

115A

116A

105A

105B

106B

20"x28" CMPA

18" RCP

15" RCP

12" RCP

8" SAN

6" SAN

CITY OF MADISON

MG&E

CHARTER

AT&T

WOOD FENCE

BUSINESS SIGN

ATC

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

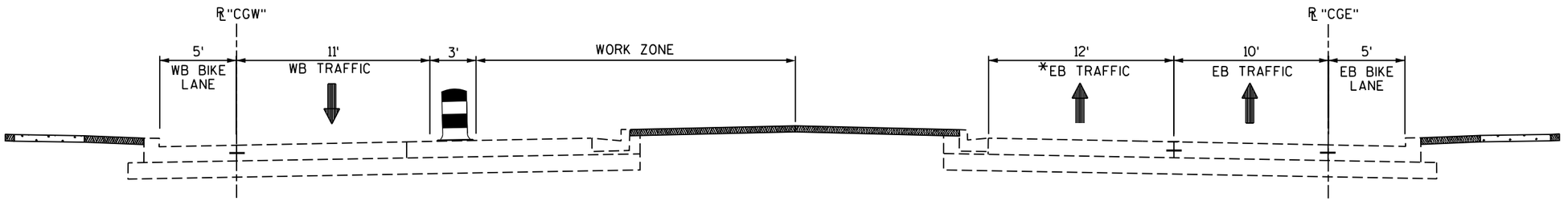
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE 4	SHEET 173	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage 4\tc09.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

tc09.dgn 8/14/2014 8:33:48 AM ckieler

2

*AN OFF PEAK HOUR CLOSURE WILL BE ALLOWED
IN ORDER TO REMOVE CURB AND GUTTER AND CONSTUCT
TEMPORARY PAVEMENT FOR THE STAGE 2 MEDIAN CROSSOVER.



TRAFFIC CONTROL STAGE CG1 TYPICAL SECTION - COTTAGE GROVE ROAD

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TYPICAL SECTIONS - TRAFFIC CONTROL - STAGE CG1	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage1\TC typical - CG Road Stage 1.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:7.87498

WISDOT/CADDS SHEET 42

TC typical - CG Road Stage 1.dgn 8/14/2014 8:33:48 AM ckieler

2

MATCH LINE "B"

MATCH LINE STA. 14+50

N

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

R3-2
24" X 24"

LANE CLOSED
R11-2(MOD)
48" X 30"

BOP STA = 8+64.05

BOP STA = 8+64.96

9CGW+00 10CGW+00 11CGW+00 12CGW+00 13CGW+00 14CGW+00

9CGE+00 10CGE+00 11CGE+00 12CGE+00 13CGE+00 14CGE+00

25'

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

PC STA = 10+93.74

700'

PT STA = 12+14.49

700'

PC STA = 13+26.19

PT STA = 13+85.23

EOP STA = 116+15.55

BOP STA = 103+

RAMP CLOSED AHEAD
W020-3(MOD)
36" X 36"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"

ROAD WORK AHEAD
W020-1
36" X 36"

R3-1
24" X 24"

LEFT LANE CLOSED AHEAD
W20-5
W020-5
36" X 36"

W04-2L
W04-2L
36" X 36"

RAMP CLOSED
R11-2(MOD)
48" X 30"

COTTAGE COURT

CLAIRE STREET

USH 51/STOUGHTON ENTRANCE RAMP

USH 51/STOUGHTON ROAD S.B. EXIT RAMP

CITY OF MADISON

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG1	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage1\tc01.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc01.dgn 8/14/2014 8:33:51 AM ckieler

2

MATCH LINE STA. 14+50

MATCH LINE STA. 20+50

LANE CLOSED
R11-2(MOD)
48" X 30"

SIDEWALK CLOSED
R9-9
24" X 12"

RAMP CLOSED AHEAD
W020-3(MOD)
36" X 36"

SOUTH
M3-3
24" X 12"

51
M1-4
24" X 24"

BEGIN LEFT TURN LANE
R3-20L
24" X 36"

15CGW+00 16CGW+00 17CGW+00 18CGW+00 19CGW+00 20CGW+00

25'

COTTAGE GROVE ROAD W.B.

15CGE+00 16CGE+00 17CGE+00 18CGE+00 19CGE+00 20CGE+00

COTTAGE GROVE ROAD E.B.

TEMPORARY PAVEMENT MARKING ARROWS

TEMPORARY PAVEMENT MARKING
REFLECTIVE PAINT 4-INCH (YELLOW)

LANE CLOSED
R11-2(MOD)
48" X 30"

SIDEWALK CLOSED
R9-9
24" X 12"

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

USH 51 (STOUGHTON ROAD) N.B.

CITY OF MADISON

BRIDGE PILLAR

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- xxxxx EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG1	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Plansht s\Traffic Control\Stage CG stage1\tc02.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc02.dgn 8/14/2014 8:33:53 AM ckieler

2

N

MATCH LINE STA. 20+50

TEMPORARY PAVEMENT MARKING WORDS

TEMPORARY PAVEMENT MARKING ARROWS

USH 51 (STOUGHTON ROAD) N.B. EXIT RAMP

USH 51 (STOUGHTON ROAD) N.B. EXTRANCE RAMP

LANE CLOSED
R11-2(MOD)
48" X 30"

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (WHITE)

LANE CLOSED
R11-2(MOD)
48" X 30"

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (YELLOW)

21CGW+00 22CGW+00 23CGW+00 24CGW+00 25CGW+00

COTTAGE GROVE ROAD W.B.

25'

MATCH LINE "C"

21CGE+00 22CGE+00 23CGE+00 24CGE+00

COTTAGE GROVE ROAD E.B.

EOP STA = 24+58.52

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 8-INCH (WHITE)

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (WHITE)

LANE CLOSED
R11-2(MOD)
48" X 30"

CITY OF MADISON

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG1	SHEET 177	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage1\tc03.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc03.dgn 8/14/2014 8:33:55 AM ckieler

2

2

N

ATLAS ROAD

ROAD WORK AHEAD
W020-1
36" X 36"

RIGHT LANE MUST TURN RIGHT
R3-7R
30" X 30"

NORTH
M 3-1
24" X 12"

51
M1-4
36" X 36"

TEMPORARY PAVEMENT MARKING
ARROWS REMOVABLE TAPE (TYP.)

TEMPORARY PAVEMENT MARKING
WORDS REMOVABLE TAPE (TYP.)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
5'DASH 5'SKIP

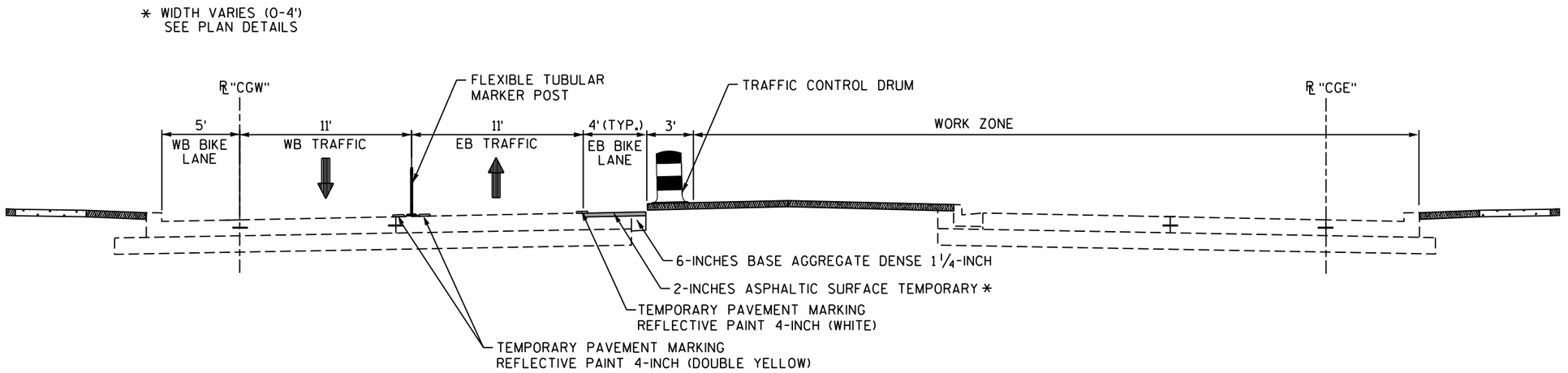
OH

XXXXX

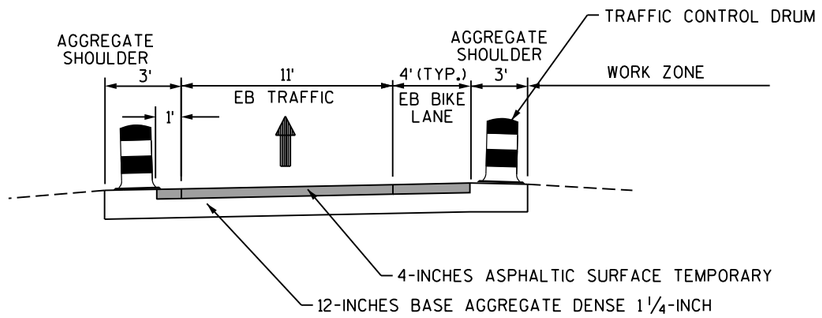
XXXXX

XXXXX

2



TRAFFIC CONTROL STAGE CG2 TYPICAL SECTION - COTTAGE GROVE ROAD



TRAFFIC CONTROL STAGE CG2 - CROSSOVER TYPICAL SECTION - COTTAGE GROVE ROAD

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TYPICAL SECTIONS - TRAFFIC CONTROL - STAGE CG2	SHEET 179	E

2

N

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH
(YELLOW)

END
ROAD WORK
G20-2A
36" X 18"

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

XXXXX 25' XXXXX XXXXX

400' 400' 200' 165'

MATCH LINE "A"

ROAD
WORK
AHEAD
W020-1
36" X 36"

LEFT LANE
CLOSED
AHEAD
W020-5
36" X 36"

W04-2L
36" X 36"

LANE
CLOSED
R11-2(MOD)
48" X 30"

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

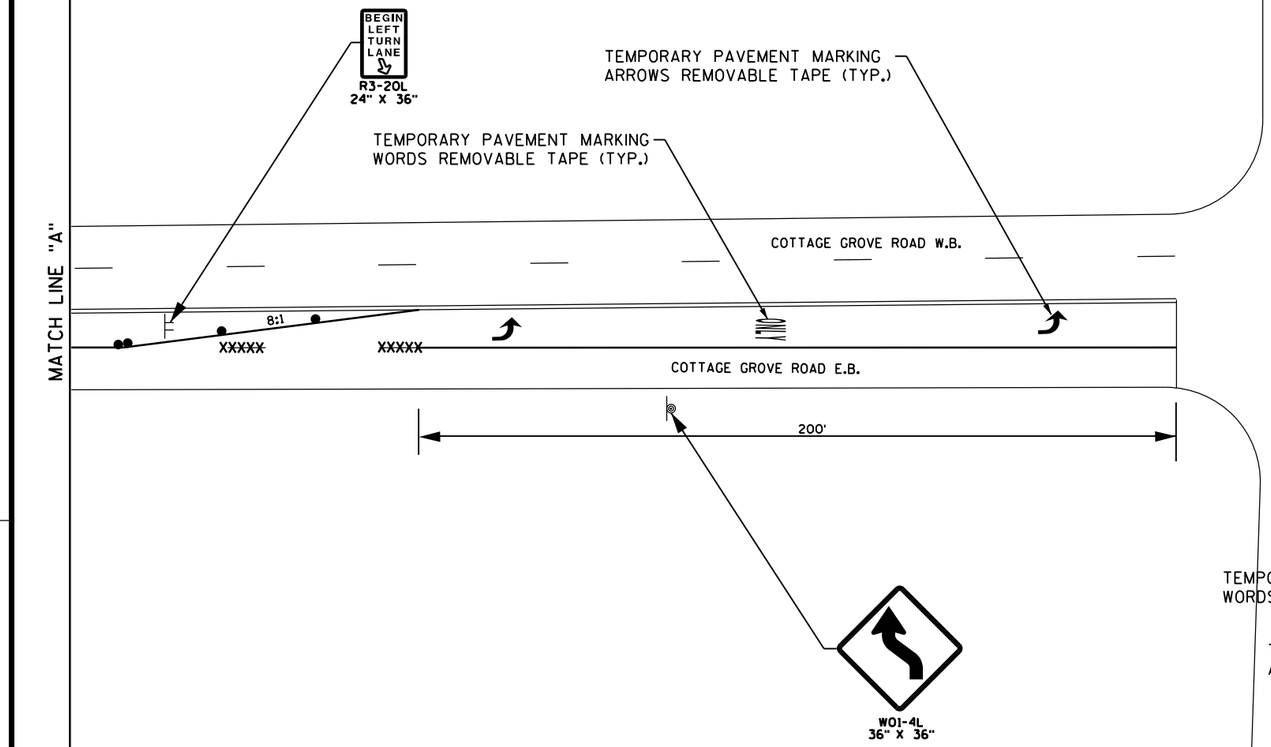
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG2	SHEET 180	E

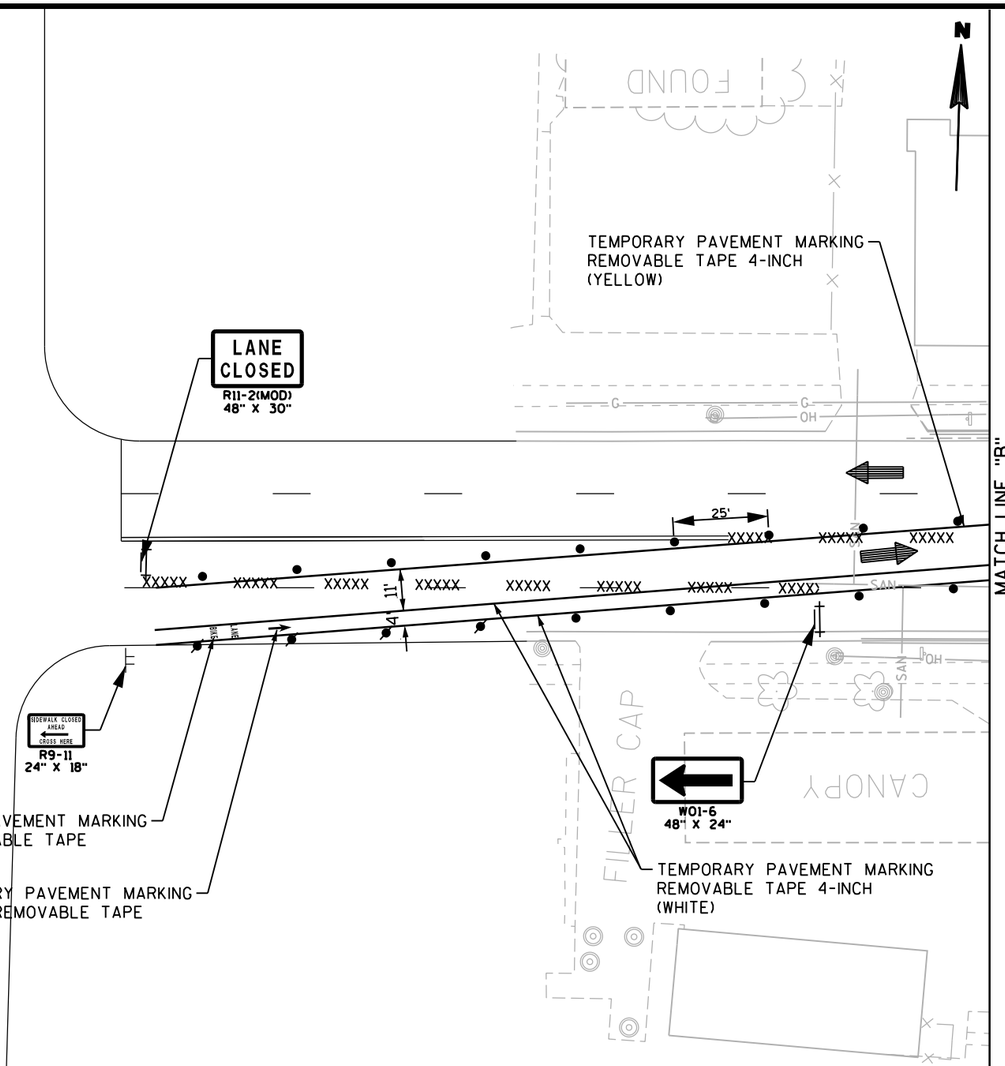
FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage2\tc00A.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc00A.dgn 8/14/2014 8:34:00 AM ckieler

2





LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG2	SHEET 181	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage2\tc00B.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc00B.dgn 8/14/2014 8:34:01 AM ckieler

USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE WHERE OUTSIDE THE PAVEMENT REPLACEMENT LIMITS

MATCH LINE "B"

MATCH LINE STA. 14+50

BOP STA = 8+64.05

BOP STA = 8+64.95

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (WHITE)

W01-4R
36" X 36"

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (DOUBLE YELLOW)

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (WHITE) 5'DASH 5'SKIP

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (YELLOW) 5'DASH 5'SKIP

RAMP CLOSED
R11-2(MOD)
48" X 30"

END ROAD WORK
G20-2A
36" X 18"

R3-2
24" X 24"

R3-1
24" X 24"

TEMPORARY PAVEMENT MARKING ARROWS

TEMPORARY PAVEMENT MARKING WORDS

SIDEWALK CLOSED
R9-9
24" X 12"

9CGW+00 10CGW+00 11CGW+00 12CGW+00 13CGW+00 14CGW+00

25' 80' 10' 65' 11' 4'

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX X:

9CGE+00 10CGE+00 11CGE+00 12CGE+00 13CGE+00 14CGE+00

PC STA = 10+93.74

PT STA = 12+14.49

PC STA = 13+26.79

PT STA = 13+

BOP STA = 103+

116+15.55

116A

115A

SIDEWALK CLOSED AHEAD CROSS AT DEMPSEY RD.

TRAFFIC CONTROL SIGNS FIXED MESSAGE 40" X 36" (10 S.F.)

ROAD CLOSED
R11-2
48" X 30"

ROAD CLOSED AHEAD
W020-3
36" X 36"

RAMP CLOSED AHEAD
W020-3(MOD)
36" X 36"

SOUTH
M3-3
24" X 12"

51
M1-4
24" X 24"

TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)

TEMPORARY PAVEMENT MARKING ARROWS

CLAIRE STREET

COTTAGE COURT

CITY OF MADISON

USH 51 (STOUGHTON ROAD) S.B. ENTRANCE RAMP

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG2	SHEET 182 E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage2\tc01.dgn PLOT DATE : 12/2/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc01.dgn 12/2/2014 1:56:07 PM ckieler

2

MATCH LINE STA. 14+50

MATCH LINE STA. 20+50

TEMPORARY PAVEMENT MARKING
REFLECTIVE PAINT 4-INCH
(DOUBLE YELLOW)

TEMPORARY PAVEMENT MARKING
REFLECTIVE PAINT 4-INCH (WHITE)

SIDEWALK CLOSED
R9-9
24" X 12"

RAMP CLOSED AHEAD
W020-3(MOD)
36" X 36"

SOUTH
M3-3
24" X 12"

51
M1-4
24" X 24"

N

15CGW+00 16CGW+00 17CGW+00 18CGW+00 19CGW+00 20CGW+00

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

25' 25' 10' 4'3"

15CGE+00 16CGE+00 17CGE+00 18CGE+00 19CGE+00 20CGE+00

SIDEWALK CLOSED
R9-9
24" X 12"

TEMPORARY RAILROAD
SIGNAL WORK DONE
BY OTHERS. 28.8'
GATE ARM REQ'D.

SIDEWALK CLOSED
R9-9
24" X 12"

114B

114

113B USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

113 USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

CITY OF MADISON

BRIDGE PILLAR

LEVEL 3

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG2	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage2\tc02.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc02.dgn 8/14/2014 8:34:05 AM ckieler

2

P.I. = STA. 23'TCE'+06.11
Y = 486,276.17
X = 841,035.82
Δ. = 10°3'35"
T. = 31.86'
L. = 63.56'
R. = 362.0'
P.C. = STA. 23'TCE'+06.11
P.T. = STA. 23'TCE'+69.67

P.I. = STA. 26'TCE'+16.97
Y = 486,238.53
X = 841,344.12
Δ. = 16°13'21"
T. = 49.88'
L. = 99.10'
R. = 350.0'
P.C. = STA. 25'TCE'+67.09
P.T. = STA. 26'TCE'+66.19

N

USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE WHERE OUTSIDE THE PAVEMENT REPLACEMENT LIMITS

BEGIN CROSSOVER "TCE"
STA. 23+06.11
Y = 486,276.17
X = 841,035.82

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (DOUBLE YELLOW) 5'DASH 5'SKIP

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (WHITE) 5'DASH 5'SKIP

COVER PLATES TEMPORARY

W01-4R
36" X 36"

W01-6
48" X 24"

COVER PLATES TEMPORARY

W01-6
48" X 24"

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (WHITE)

LANE CLOSED
R11-2(MOD)
48" X 30"

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (YELLOW)

MATCH LINE STA. 20+50

MATCH LINE "C"

21CGW+00 22CGW+00 23CGW+00 24CGW+00 25CGW+00

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

S82°0'44"E

24TCE 25TCE 26TCE

BOP STA = 23+06.11

EOP STA = 23+69.67

PC STA = 25+67.09

EOP STA = 24+58.52

USH 51 (STOUGHTON ROAD) N.B. EXIT RAMP

USH 51 (STOUGHTON ROAD) N.B. EXTRANCE RAMP

CITY OF MADISON

21CGE+00 22CGE+00 23CGE+00 24CGE+00

TEMPORARY PAVEMENT MARKING WORDS

TEMPORARY PAVEMENT MARKING ARROWS

ROAD CLOSED
R11-2
48" X 30"

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG2	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage2\tc03.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc03.dgn 8/14/2014 8:34:07 AM ckieler

2

2

N

ATLAS ROAD

END CROSSOVER "TCE"
STA. 26+66.19
Y = 486,245.67
X = 841,393.49

TEMPORARY PAVEMENT MARKING
ARROWS REMOVABLE TAPE (TYP.)

RIGHT LANE MUST TURN RIGHT
R3-7R
30" X 30"

NORTH
M 3-1
24" X 12"

51
M1-4
24" X 24"

ROAD WORK AHEAD
W020-1
36" X 36"

TEMPORARY PAVEMENT MARKING
WORDS REMOVABLE TAPE (TYP.)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
5' DASH 5' SKIP

MATCH LINE "C"

OH

OH

COTTAGE GROVE ROAD W.B.

25'

SAN

COTTAGE GROVE ROAD E.B.

EOP STA = 26+66.19

SIDEWALK CLOSED
R9-9
24" X 12"

TEMPORARY PAVEMENT MARKING,
REMOVABLE TAPE 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING,
REMOVABLE TAPE 4-INCH (YELLOW)

SIDEWALK CLOSED
R9-9
24" X 12"

SIDEWALK CLOSED AHEAD CROSS HERE
R9-11
24" X 18"

END
ROAD WORK
G20-2A
36" X 18"

LEGEND

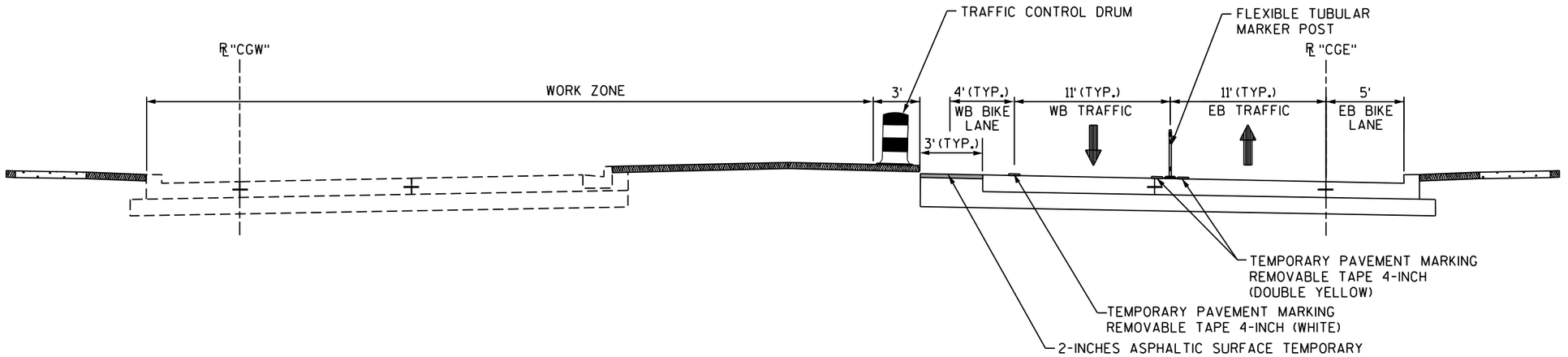
- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX — EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG2	SHEET	E

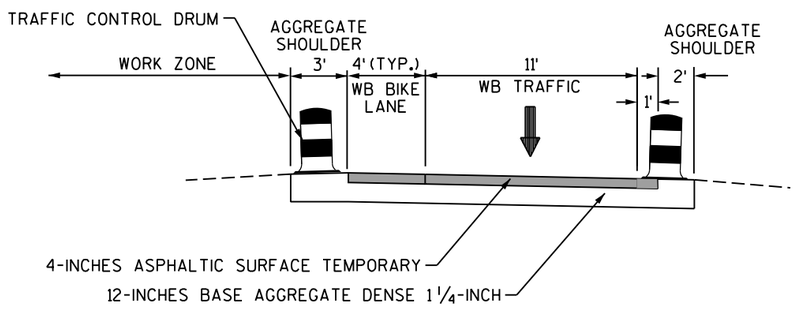
FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage2\tc04.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc04.dgn 8/14/2014 8:34:08 AM ckieler



TRAFFIC CONTROL STAGE CG3 TYPICAL SECTION - COTTAGE GROVE ROAD



TRAFFIC CONTROL STAGE CG3 - CROSSOVER TYPICAL SECTION - COTTAGE GROVE ROAD

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TYPICAL SECTIONS - TRAFFIC CONTROL - STAGE CG3	SHEET 186	E

2

N

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH
(YELLOW)

END
ROAD WORK
C20-2A
36" X 18"

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

XXXXX 25' XXXXX XXXXX

400' 400' 200' 165'

MATCH LINE "A"

ROAD
WORK
AHEAD
W020-1
36" X 36"

LEFT LANE
CLOSED
AHEAD
W020-5
36" X 36"

W04-2L
36" X 36"

LANE
CLOSED
R11-2(MOD)
48" X 30"

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

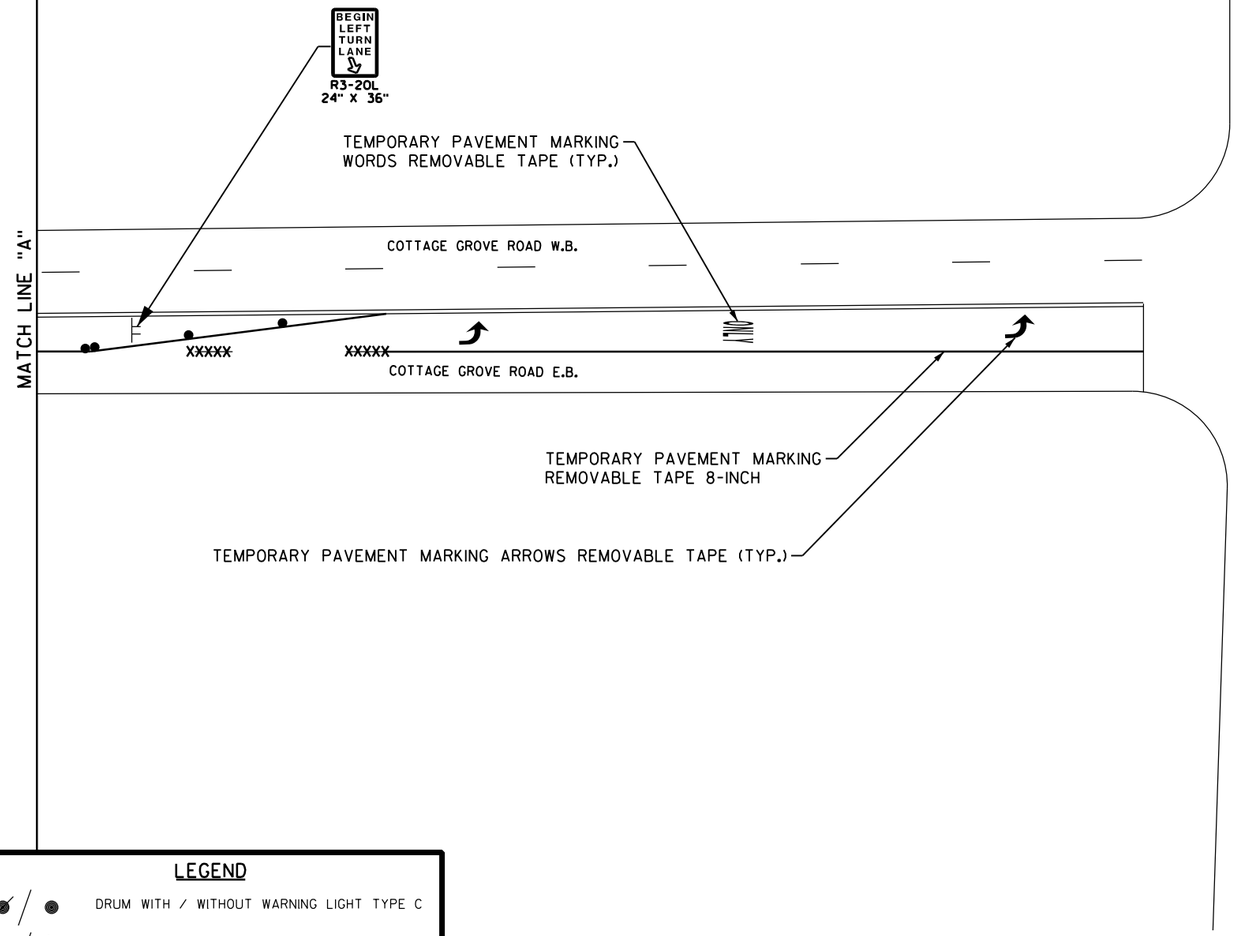
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG3	SHEET 187	E

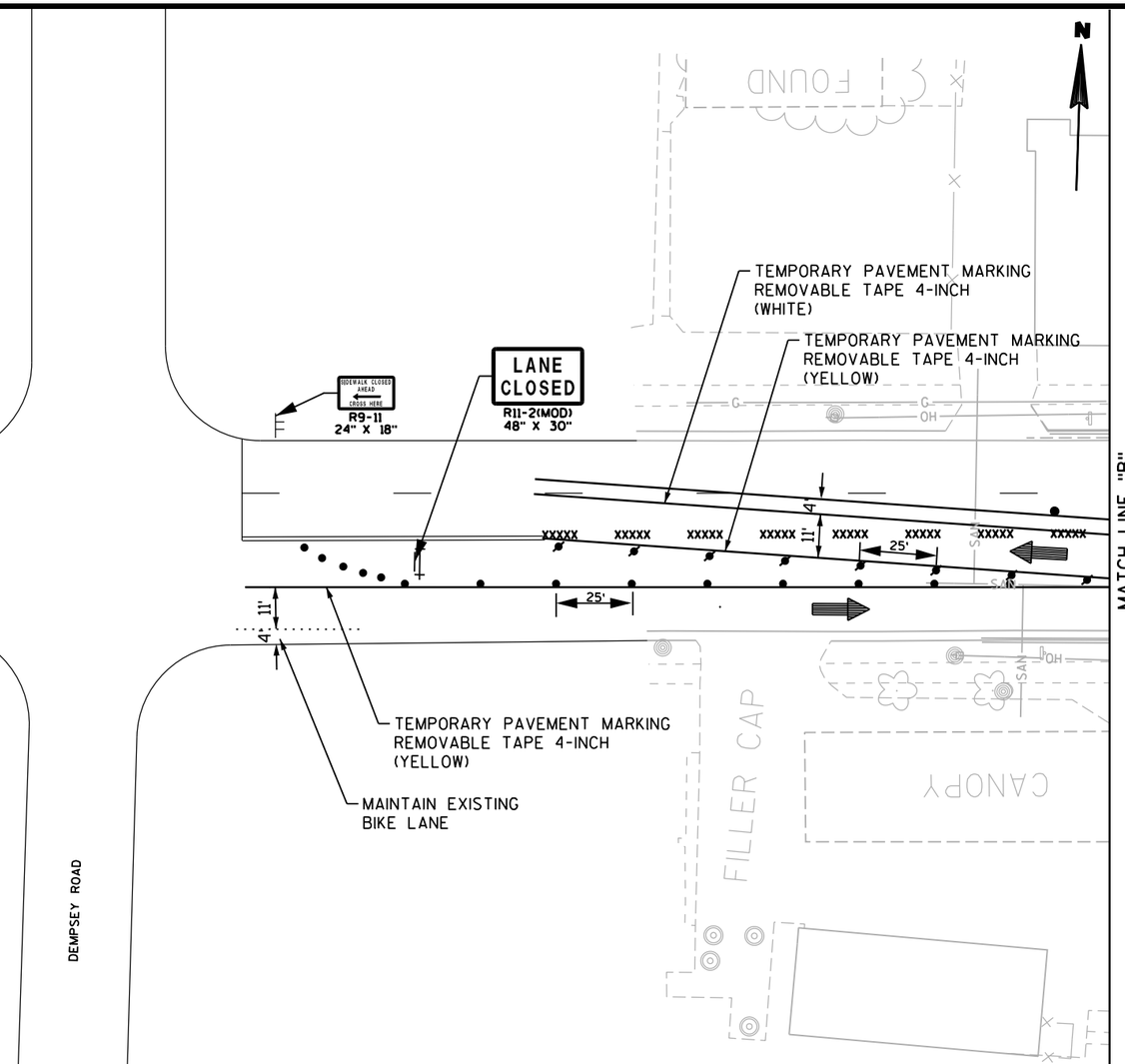
FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage 3\tc00A.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc00A.dgn 8/14/2014 8:34:11 AM ckieler

2





LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG3	SHEET 188	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage 3\tc00B.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc00B.dgn 8/14/2014 8:34:12 AM ckieler

2

MATCH LINE "B"

TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE

TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE

SIDEWALK CLOSED
R9-9
24" X 12"

9CGW+00 10CGW+00 11CGW+00 12CGW+00 13CGW+00 14CGW+00

9CGE+00 10CGE+00 11CGE+00 12CGE+00 13CGE+00 14CGE+00

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

25' 25'

BOP STA = 8+64.96

PC STA = 10+93.74

PT STA = 12+14.48

EOP STA = 13+26.19

BOP STA = 103+15.55

EOP STA = 14+50

RAMP CLOSED AHEAD
W020-3(MOD)
36" X 36"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"

END ROAD WORK
G20-2A
36" X 18"

ROAD WORK AHEAD
W020-1
36" X 36"

CLAIRE STREET

WO1-4R
36" X 36"

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING WORDS

TEMPORARY PAVEMENT MARKING ARROWS

ROAD WORK AHEAD
W020-1
36" X 36"

SIDEWALK CLOSED
R9-9
24" X 12"

R3-1
24" X 24"

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) 5'DASH 5'SKIP

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)

TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE

MAINTAIN TEMPORARY CROSSWALK ACCESS

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) 5'DASH 5'SKIP

RAMP CLOSED
R11-2(MOD)
48" X 30"

COTTAGE COURT

END ROAD WORK
G20-2A
36" X 18"

STOP HERE ON RED
R10-6
24" X 36"

ROAD CLOSED
R11-2
48" X 30"

SIDEWALK CLOSED
R9-9
24" X 12"

R3-2
24" X 24"

ROAD CLOSED
R11-2
48" X 30"

COVER PLATES TEMPORARY

USH 51 (STOUGHTON ROAD) S.B. ENTRANCE RAMP

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

MATCH LINE STA. 14+50

N

2

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG3	SHEET 189	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage 3\tc01.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc01.dgn 8/14/2014 8:34:14 AM ckieler

2

2

MATCH LINE STA. 14+50

MATCH LINE STA. 20+50

15CGW+00 16CGW+00 17CGW+00 18CGW+00 19CGW+00 20CGW+00

15CGE+00 16CGE+00 17CGE+00 18CGE+00 19CGE+00 20CGE+00

36.13

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

25'

25'

4'3"

10'

SIDEWALK CLOSED
R9-9
24" X 12"

SIDEWALK CLOSED
R9-9
24" X 12"

SIDEWALK CLOSED
R9-9
24" X 12"

RAMP CLOSED AHEAD
W020-3(MOD)
36" X 36"

SOUTH
M3-3
24" X 12"

51
M1-4
24" X 24"

USH 51 (STOUGHTON ROAD) N.B.

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

113B

113

114

115

116

TEMPORARY RAILROAD SIGNAL WORK DONE BY OTHERS. 18.9' GATE ARM REQ'D.

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

COVER PLATES TEMPORARY

CITY OF MADISON

SPRINT

BILLBOARD

CHARTER

MG&E

AT&T

BRIDGE PILLAR

LEVEL 3

15" RCP

18" RCP

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG3	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage 3\tc02.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc02.dgn 8/14/2014 8:34:16 AM ckieler

2

SEE WISDOT STANDARD DETAIL DRAWING S.D.D. 15D 20-2 FOR ADVANCED WARNING SIGNS AND TAPER DETAILS

P.I. = STA. 24'TCW'+21.28
Y = 486,216.85
X = 841,150.54
Δ. = 14°23'7"
T. = 45.56'
L. = 90.64'
R. = 361'
P.C. = STA. 23'TCW'+75.72
P.T. = STA. 24'TCW'+66.36

P.I. = STA. 26'TCW'+42.46
Y = 486,279.66
X = 841,363.11
Δ. = 11°32'30"
T. = 35.37'
L. = 70.50'
R. = 350'
P.C. = STA. 26'TCW'+07.09
P.T. = STA. 26'TCW'+77.59

N

MATCH LINE STA. 20+50

MATCH LINE "C"

LANE CLOSED
R11-2(MOD)
48" X 30"

ROAD CLOSED
R11-2
48" X 30"

ROAD CLOSED
R11-2
48" X 30"

ROAD CLOSED
R11-2
48" X 30"

W01-6
48" X 24"

USH 51 (STOUGHTON ROAD) N.B. EXIT RAMP

USH 51 (STOUGHTON ROAD) N.B. EXTRANCE RAMP

CITY OF MADISON

MG&E

SAN

OH

SS

E

W

G

T&T

MMSD

10'x5' BOX

25'

11'

N73°32'24"E

21CGW+00

22CGW+00

23CGW+00

24CGW+00

25CGW+00

21CGE+00

22CGE+00

23CGE+00

24CGE+00

21TCW

22TCW

23TCW

24TCW

25TCW

26TCW

EOP STA = 25+40.77

EOP STA = 24+58.52

BOP STA = 23+75.72

EOP STA = 24+66.36

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE

TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW) 5'DASH 5'SKIP

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) 5'DASH 5'SKIP

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE

TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE

BEGIN CROSSOVER "TCW"
STA. 23+75.72
Y = 486,215.20
X = 841,105.01

END ROAD WORK
G20-2A
36" X 18"

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG3	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage 3\tc03.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc03.dgn 8/14/2014 8:34:18 AM ckieler

2

2

N

ATLAS ROAD

ROAD WORK AHEAD
W020-1
36" X 36"

W01-4L
36" X 36"

RIGHT LANE MUST TURN RIGHT
R3-7R
30" X 30"

NORTH
M3-1
24" X 12"

51
M1-4
24" X 24"

SIDEWALK CLOSED
R9-9
24" X 12"

SIDEWALK CLOSED AHEAD CROSS HERE
R9-11
24" X 18"

TEMPORARY PAVEMENT MARKING TYPE 2
ARROWS REMOVABLE TAPE (TYP.)

TEMPORARY PAVEMENT MARKING
WORDS REMOVABLE TAPE (TYP.)

OH

OH

MATCH LINE "C"

XXXXX

XXXXX

XXXXX

XXXXX

25'

XXXXX

XXXXX

COTTAGE GROVE ROAD W.B.

SAN

STA = 26+77.59

COTTAGE GROVE ROAD E.B.

TEMPORARY PAVEMENT MARKING TYPE 1
ARROWS REMOVABLE TAPE (TYP.)

TEMPORARY PAVEMENT MARKING,
REMOVABLE TAPE 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING,
REMOVABLE TAPE 4-INCH (YELLOW)

END CROSSOVER "TCW"
STA. 26+77.59
Y = 486,282.69
X = 841,398.35

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

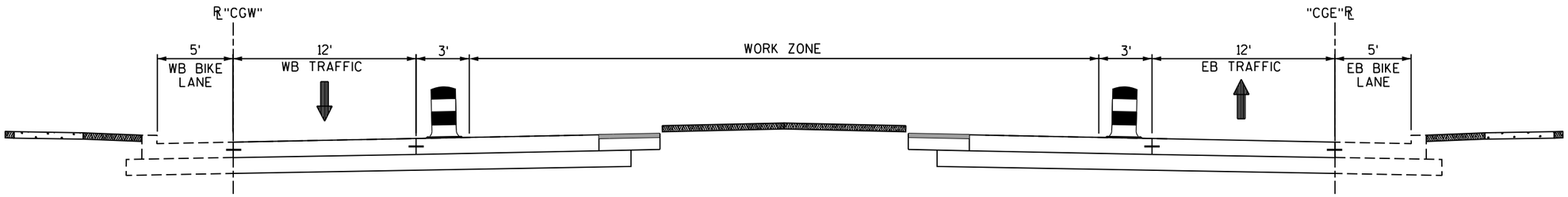
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG3	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage 3\tc04.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc04.dgn 8/14/2014 8:34:19 AM ckieler

2



TRAFFIC CONTROL STAGE CG4 TYPICAL SECTION - COTTAGE GROVE ROAD

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TYPICAL SECTIONS - TRAFFIC CONTROL - STAGE CG4	SHEET 193	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage 4\TC Typical - CG road stage 4.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:7.87498

WISDOT/CADDS SHEET 42

TC Typical - CG road stage 4.dgn 8/14/2014 8:34:20 AM ckieler

2

2

N

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH
(YELLOW)

END
ROAD WORK
G20-2A
36" X 18"

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

XXXXX 25' XXXXX XXXXX

400' 400' 200' 165'

MATCH LINE "A"

ROAD
WORK
AHEAD
W020-1
36" X 36"

LEFT LANE
CLOSED
AHEAD
W020-5
36" X 36"

W04-2L
36" X 36"

LANE
CLOSED
R11-2(MOD)
48" X 30"

LEGEND

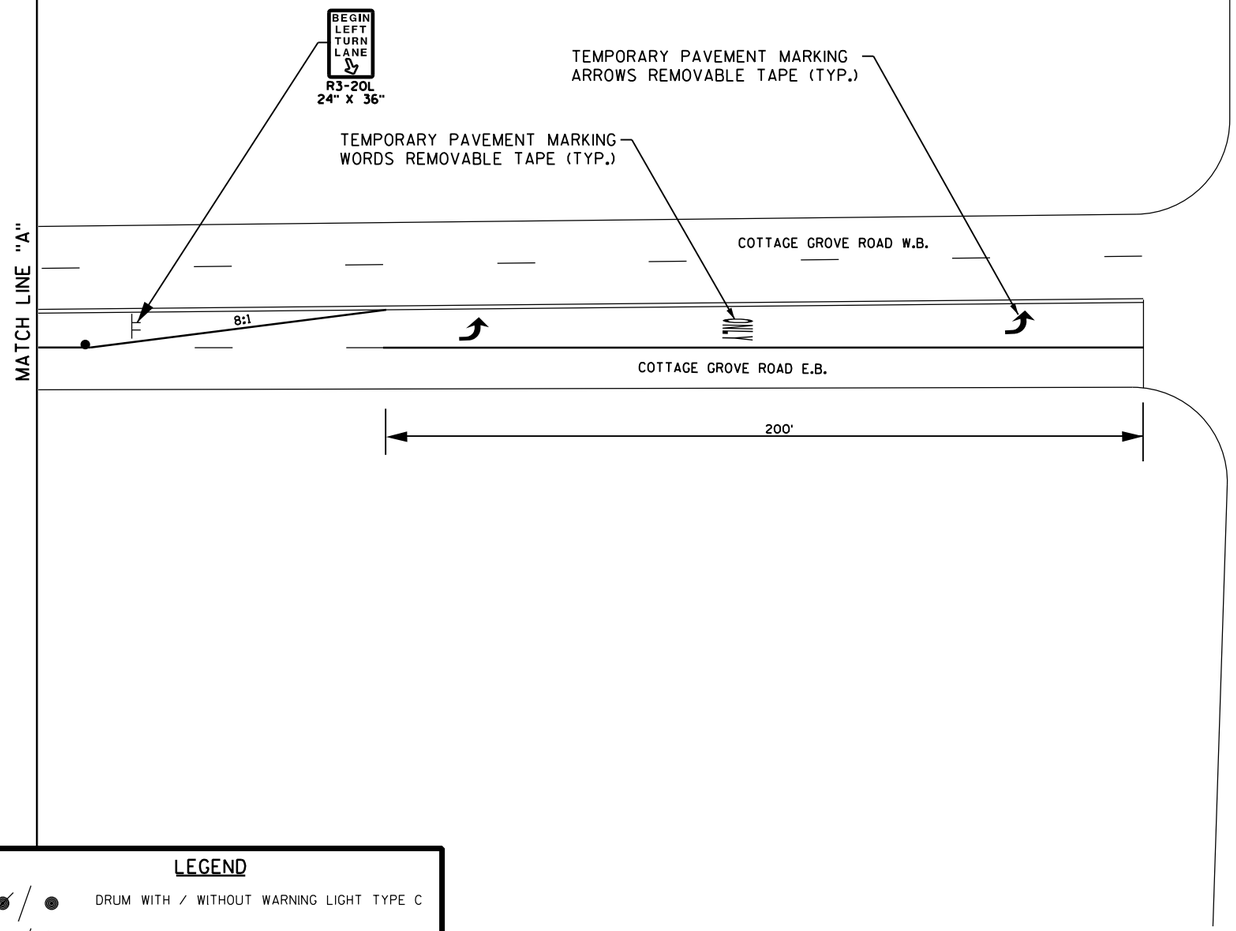
- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

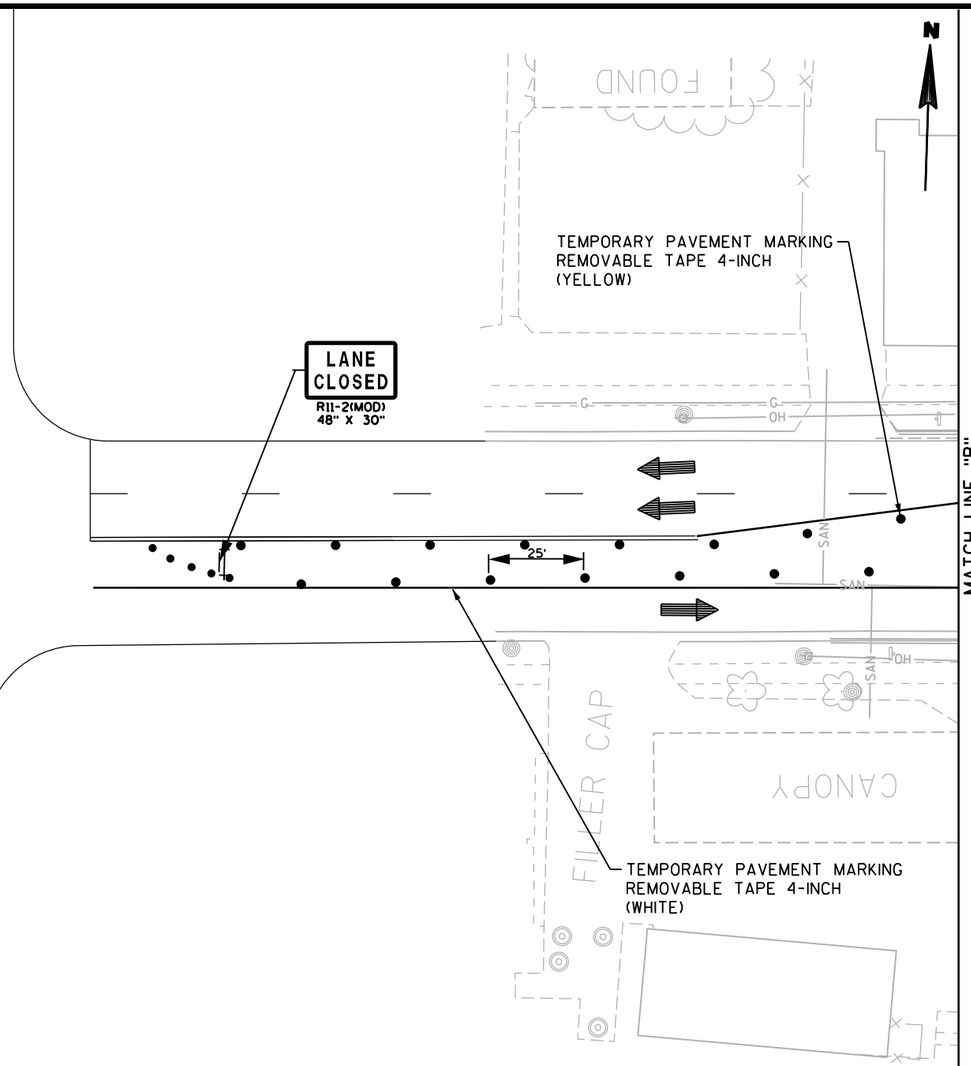
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG4	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage 4\tc00A.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc00A.dgn 8/14/2014 8:34:23 AM ckieler





LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- xxxxx EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG4	SHEET 195	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage 4\tc00B.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc00B.dgn 8/14/2014 8:34:24 AM ckieler

2

2

MATCH LINE "B"

MATCH LINE STA. 14+50

N

BOP STA = 8+64.05

BOP STA = 8+64.96

9CGW+00

10CGW+00

11CGW+00

12CGW+00

13CGW+00

14CGW+00

9CGE+00

10CGE+00

11CGE+00

12CGE+00

13CGE+00

14CGE+00

25'

25'

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

PC STA = 10+93.74

PT STA = 12+14.49

PC STA = 13+26.19

PT STA = 13+70.41

PT STA = 13+85.23

EOT STA

BOP STA = 103+

70'

80'

R3-2
24" X 24"

R3-20L
24" X 36"

ROAD WORK AHEAD
W020-1
36" X 36"

BUSINESS SIGN

LANE CLOSED
R11-2(MOD)
48" X 30"

R3-2
24" X 24"

R3-2
24" X 24"

RAMP CLOSED AHEAD
W020-3(MOD)
36" X 36"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"

ROAD WORK AHEAD
W020-1
36" X 36"

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 8-INCH
(WHITE)

R3-1
24" X 24"

TEMPORARY PAVEMENT MARKING
ARROWS REMOVABLE TAPE

RAMP CLOSED
R11-2(MOD)
48" X 30"

CLAIRE STREET

COTTAGE COURT

CITY OF MADISON

USH 51/STOUGHTON ROAD S.B. ENTRANCE RAMP

USH 51/STOUGHTON ROAD S.B. EXIT RAMP

USH 51

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG4	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage 4\tc01.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc01.dgn 8/14/2014 8:34:26 AM ckieler

2

MATCH LINE STA. 14+50

MATCH LINE STA. 20+50

RAMP CLOSED AHEAD
W020-3(MOD)
36" X 36"
SOUTH
M3-3
24" X 12"
51
M1-4
24" X 24"

N

LANE CLOSED
R11-2(MOD)
48" X 30"

15CGW+00 16CGW+00 17CGW+00 18CGW+00 19CGW+00 20CGW+00

COTTAGE GROVE ROAD W.B.

25'

COTTAGE GROVE ROAD E.B.

15CGE+00 16CGE+00 17CGE+00 18CGE+00 19CGE+00 20CGE+00

BEGIN LEFT TURN LANE
R3-20L
24" X 36"

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH
(WHITE)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 8-INCH
(WHITE)

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

USH 51 (STOUGHTON ROAD) S.B. EXIT RAMP

CITY OF MADISON

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG4	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage 4\tc02.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc02.dgn 8/14/2014 8:34:27 AM ckieler

2

N

MATCH LINE STA. 20+50

MATCH LINE "C"

USH 51 (STOUGHTON ROAD) N.B. EXIT RAMP

USH 51 (STOUGHTON ROAD) N.B. EXTRANCE RAMP

LANE CLOSED
R11-2(MOD)
48" X 30"

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)

LANE CLOSED
R11-2(MOD)
48" X 30"

21CGW+00 22CGW+00 23CGW+00 24CGW+00 25CGW+00

COTTAGE GROVE ROAD W.B.

25'

21CGE+00 22CGE+00 23CGE+00 24CGE+00

COTTAGE GROVE ROAD E.B.

EOP STA = 24+58.52

LANE CLOSED
R11-2(MOD)
48" X 30"

CITY OF MADISON

MG&E

AT&T

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG4	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Plansht\Traffic Control\Stage CG stage 4\tc03.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc03.dgn 8/14/2014 8:34:29 AM ckieler

2

2

N

ATLAS ROAD

TEMPORARY PAVEMENT MARKING
ARROWS REMOVABLE TAPE (TYP.)

TEMPORARY PAVEMENT MARKING
WORDS REMOVABLE TAPE (TYP.)

RIGHT LANE
MUST
TURN RIGHT
R3-7R
30" X 30"

NORTH
M 3-1
24" X 12"

51
M1-4
36" X 36"

ROAD
WORK
AHEAD
W020-1
36" X 36"

MATCH LINE "C"

OH

OH

SAN

25'

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

TEMPORARY PAVEMENT MARKING,
REMOVABLE TAPE 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING,
REMOVABLE TAPE 4-INCH (YELLOW)

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - STAGE CG4	SHEET 199	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage CG stage 4\tc04.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

tc04.dgn 8/14/2014 8:34:31 AM ckieler

2

2

MATCH LINE STA. 107+00

106A

USH 51 (STOUGHTON ROAD) S.B. ENTRANCE RAMP

105A

PT STA = 109+22.35

USH 51 (STOUGHTON ROAD) S.B.

MATCH LINE STA. 111+00

105 106 107 108 109 110

BRIDGE PILLAR

5 DRUMS SPACED AT 10' INTERVALS IN FRONT OF ARROW BOARD

USH 51 (STOUGHTON ROAD) N.B.

50' 25' 50' 500' 660' 350' BUFFER SPACE = 800'

SEE STANDARD DETAIL SHEET S.D.D 15D12-4 FOR ADVANCED WARNING SIGN PLACEMENT AND ADDITIONAL SIGNING REQUIREMENTS

NOTE: THE TRAFFIC CONTROL STAGING LAYOUT FOR CLOSURE OF THE INSIDE LANE WILL MIRROR THE LAYOUT SHOWN ON THIS PLANSHEET.

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - NORTHBOUND BRIDGE EPOXY OVERLAY	SHEET 200	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage - NB epoxy overlay\NB Epoxy Overlay staging00.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

NB Epoxy Overlay staging00.dgn 8/14/2014 8:34:32 AM ckieler

2

2

MATCH LINE STA. 111+00

N

STA = 111+70.76

USH 51 (STOUGHTON ROAD) S.B.
EXIT RAMP

USH 51 (STOUGHTON ROAD) N.B.

50'

500'

NOTE: THE TRAFFIC CONTROL STAGING LAYOUT
FOR CLOSURE OF THE INSIDE LANE WILL
MIRROR THE LAYOUT SHOWN ON THIS PLANSHEET.

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

17CGW+00

18CGE+00

18CGW+00

19CGE+00

19CGW+00

20CGE+00

20CGW+00

21CGE+

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

RETAINING WALL

ASPHALT

CONCRETE

BRIDGE PILLAR

LEGEND

- DRUM WITH / WITHOUT WARNING LIGHT TYPE C
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- XXXXX EXISTING PAVEMENT MARKING REMOVALS
- TRAFFIC FLOW ARROW
- FLEXIBLE TUBULAR MARKER POST
- ARROW BOARD
- TEMPORARY CONCRETE BARRIER
- WORK ZONE
- TEMPORARY PAVEMENT

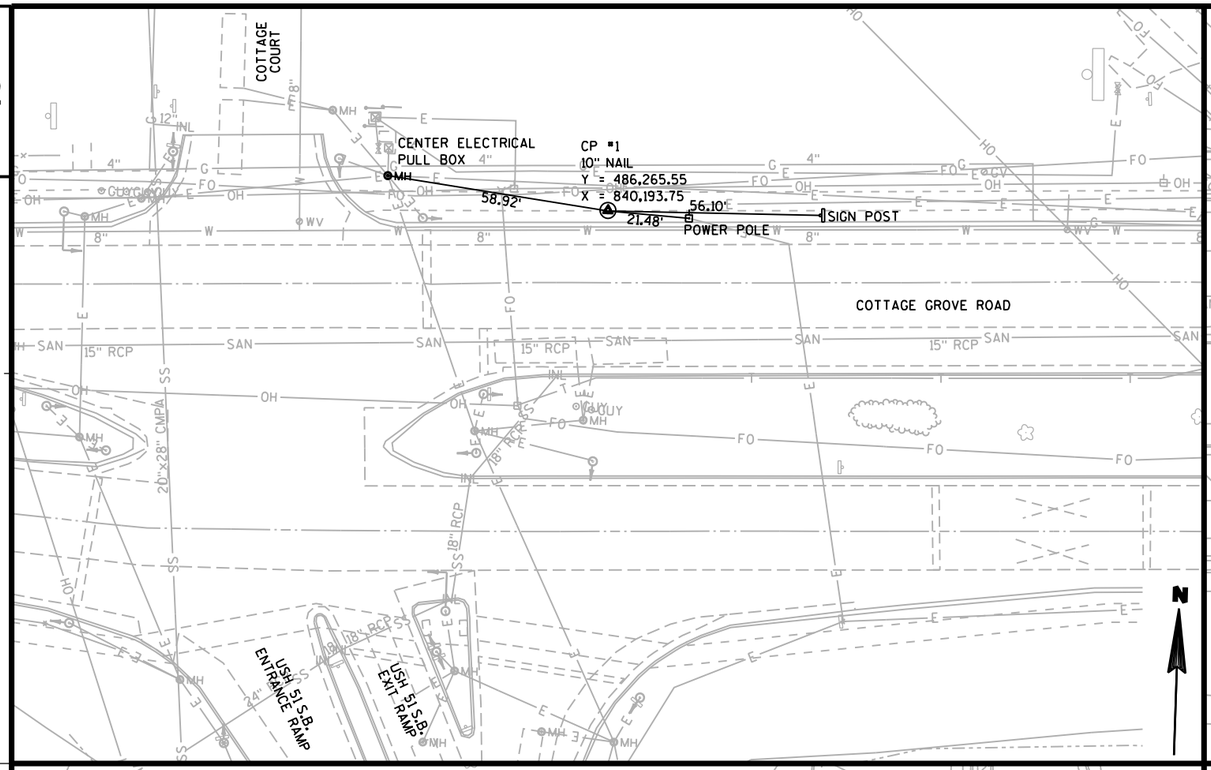
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL - NORTHBOUND BRIDGE EPOXY OVERLAY	SHEET 201	E

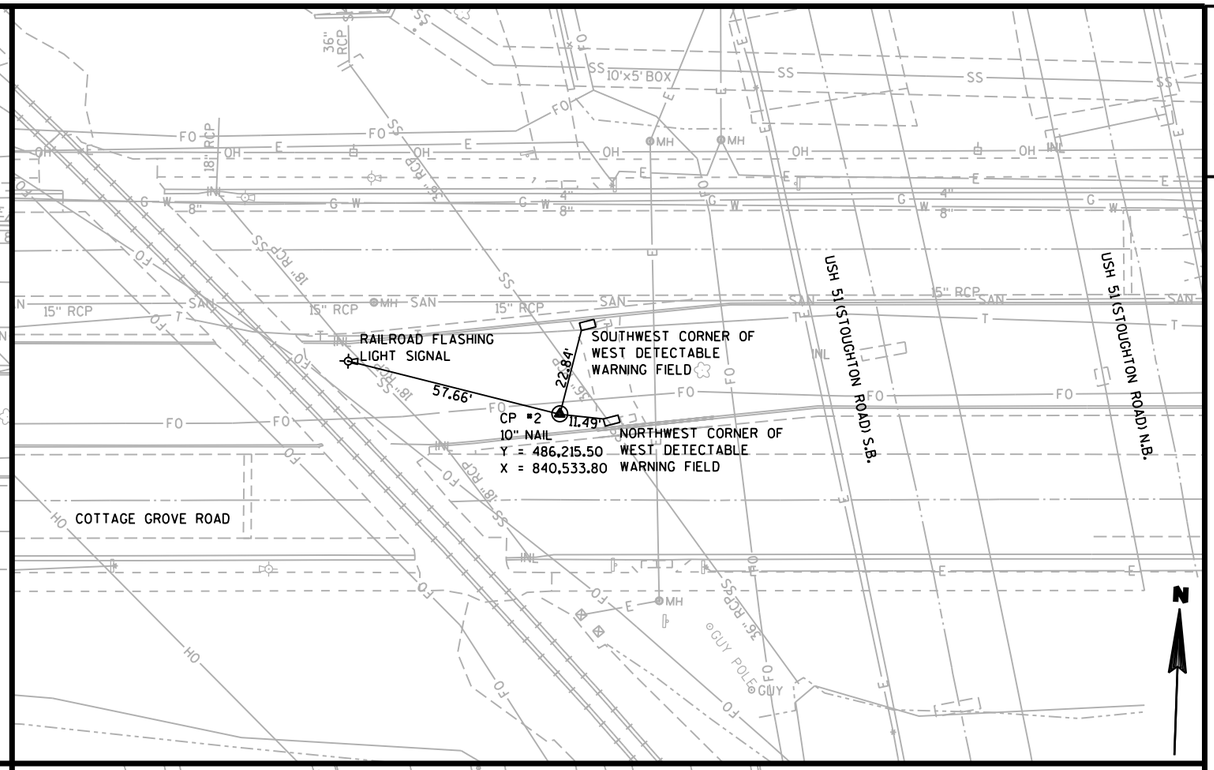
FILE NAME : P:\90s\93\00093080\CADD\Planshts\Traffic Control\Stage - NB epoxy overlay\NB Epoxy Overlay staging.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

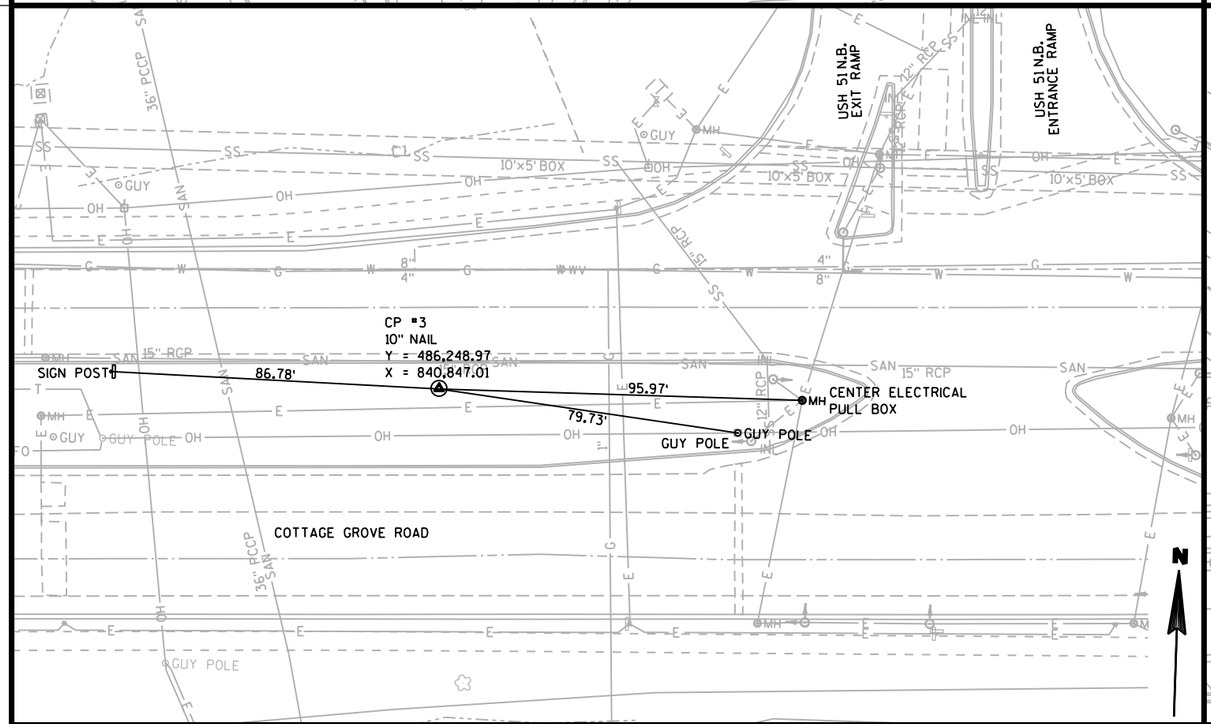
WISDOT/CADDS SHEET 30

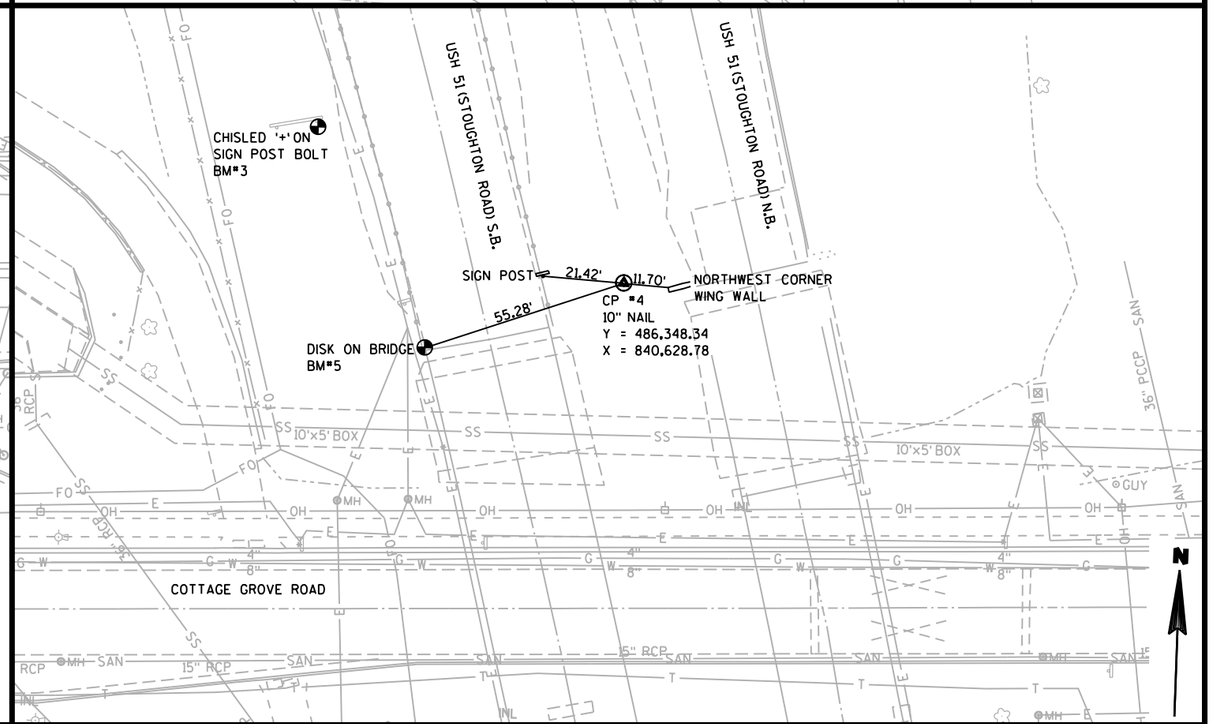
NB Epoxy Overlay staging.dgn 8/14/2014 8:34:34 AM ckieler

2









PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CONTROL POINT TIES	SHEET 202	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Control Point Ties\CP Ties 01.dgn | PLOT DATE : 8/14/2014 | PLOT BY : ckieler | PLOT NAME : | PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 42

CP Ties 01.dgn 8/14/2014 8:34:35 AM ckieler

2

SOUTHWEST CORNER BRIDGE PILLAR

49.40'

CP #7
10" NAIL
Y = 485,898.80
X = 840,743.48

10.98'

30.45'

NORTHWEST CORNER BRIDGE PILLAR

NORTHEAST CORNER BRIDGE PILLAR

DISC ON BRIDGE BM#7

27.14'

GUARD POST

12.63'

CP #5
10" NAIL
Y = 485,843.83
X = 840,722.31

45.62'

CHILSED '+' SOUTHEAST CORNER LIGHT POLE BOLT BM#4

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

SOUTHEAST CORNER BRIDGE PILLAR

61.26'

CP #8
10" NAIL
Y = 485,771.88
X = 840,829.55

63.41'

35.97'

NORTHEAST CORNER BRIDGE PILLAR

NORTHEAST CORNER BRIDGE PILLAR

CHISLED '+' TOP OF PARAPET BM#6

36" PCCP

24" RCP

USH 51 S.B. EXIT RAMP

USH 51 S.B. ENTRANCE RAMP

18" RCP

12" RCP

CENTER INLET STRUCTURE

83.26'

WEST SIGN POST

39.45'

3.99'

POWER POLE

CP #9
10" NAIL
Y = 485,332.97
X = 840,738.05

8" VP

8" CI

N

2

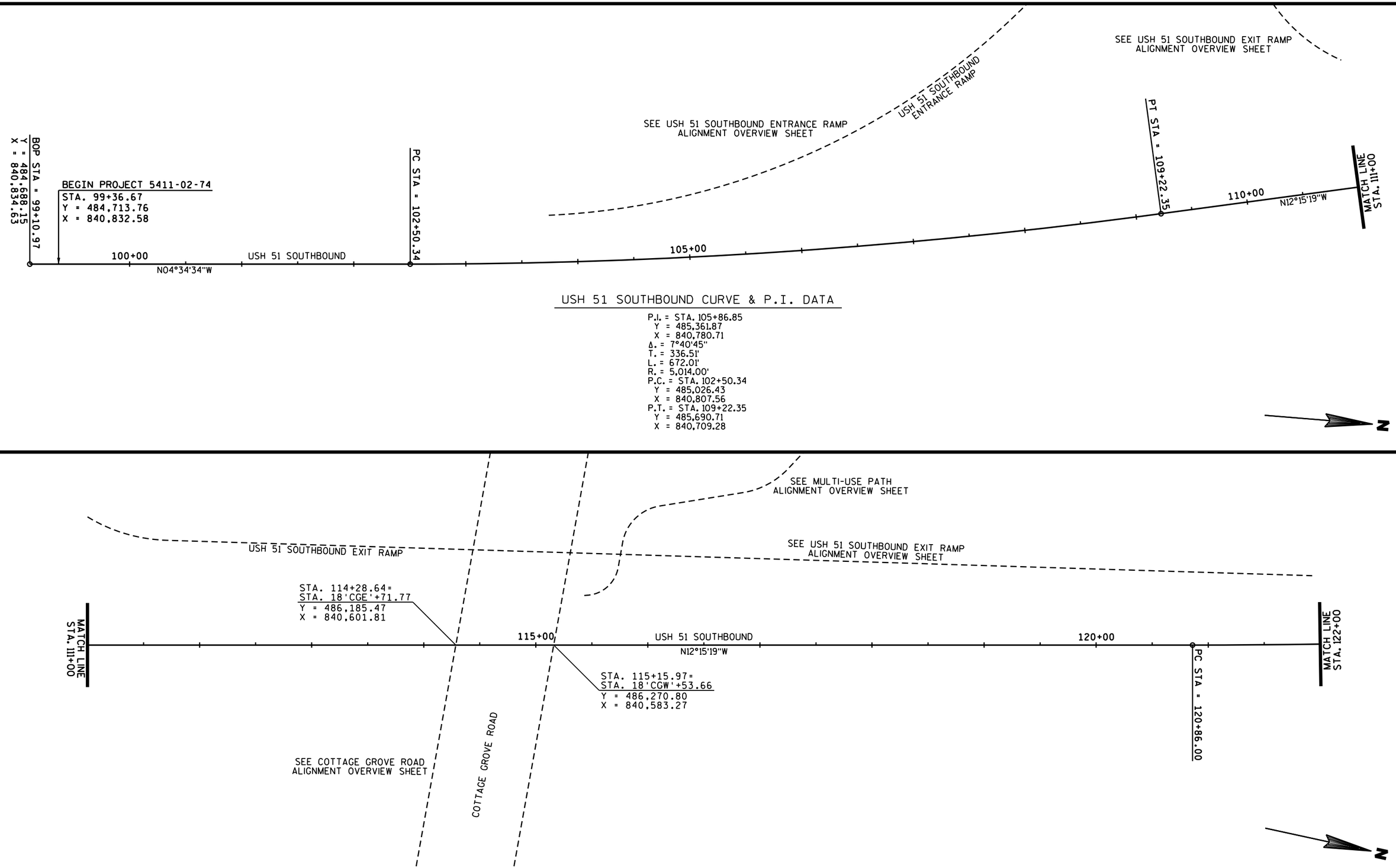
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CONTROL POINT TIES	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Control Point Ties\CP Ties 02.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 42

CP Ties 02.dgn 8/14/2014 8:34:36 AM ckieler

2



USH 51 SOUTHBOUND CURVE & P.I. DATA

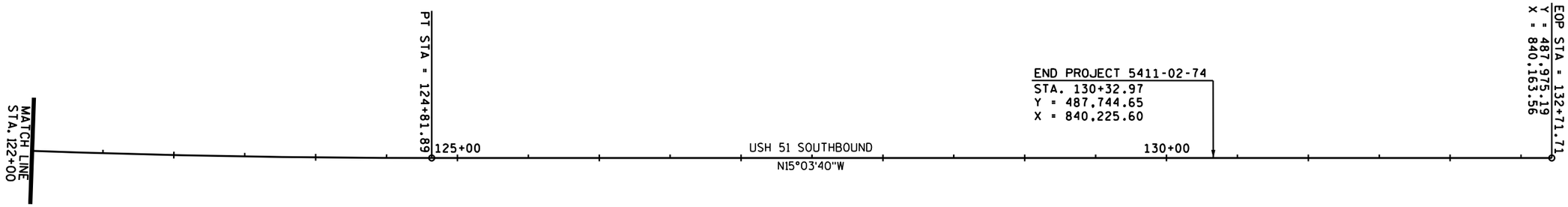
P.I. = STA. 105+86.85
Y = 485,361.87
X = 840,780.71
Δ. = 7°40'45"
T. = 336.51'
L. = 672.01'
R. = 5,014.00'
P.C. = STA. 102+50.34
Y = 485,026.43
X = 840,807.56
P.T. = STA. 109+22.35
Y = 485,690.71
X = 840,709.28

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	ALIGNMENT OVERVIEW: USH 51 SOUTHBOUND	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

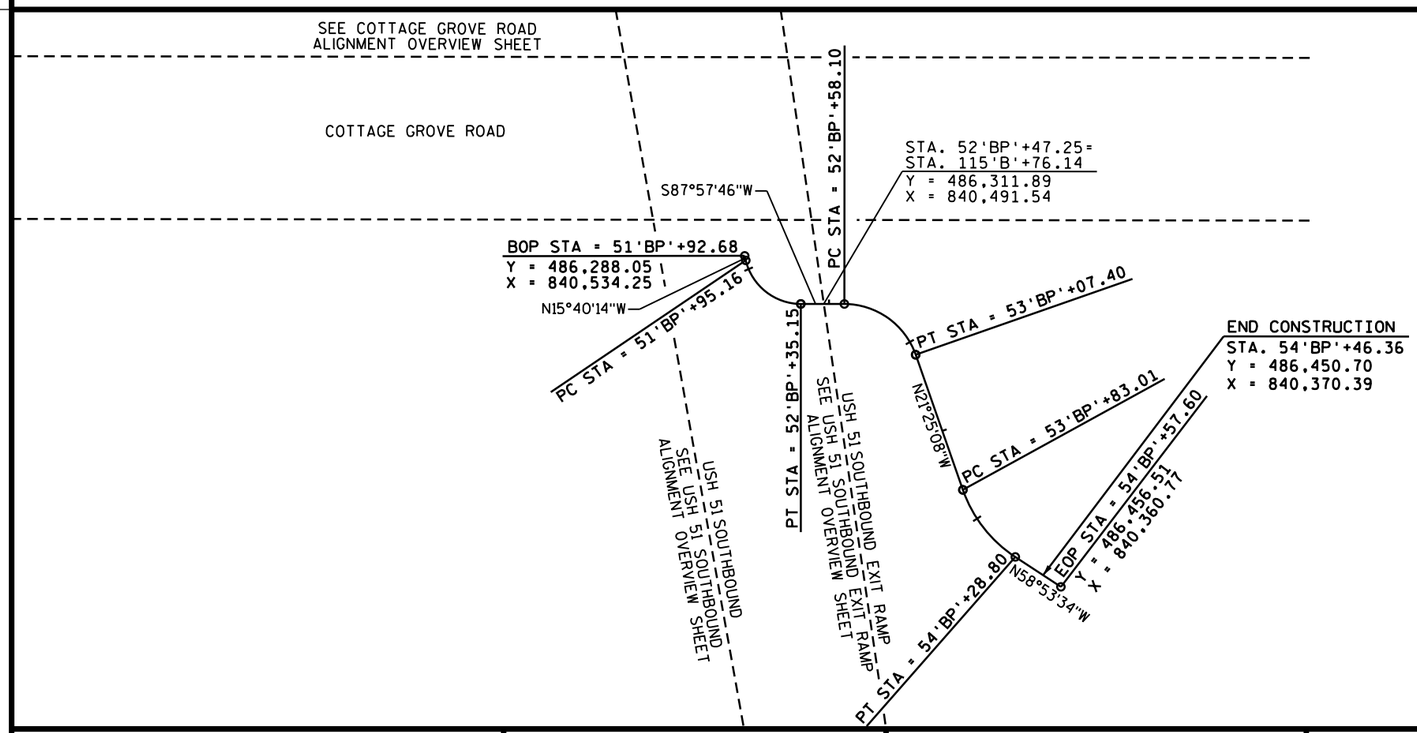
Alignment_01.dgn 8/14/2014 8:34:38 AM ckieler

2



USH 51 SOUTHBOUND CURVE & P.I. DATA

P.I. = STA. 122+83.98
Y = 487,021.31
X = 840,420.25
Δ. = 2°48'21"
T. = 197.99'
L. = 395.89'
R. = 8,084.0'
P.C. = STA. 120+86.00
Y = 486,827.84
X = 840,462.27
P.T. = STA. 124+81.89
Y = 487,212.50
X = 840,368.80



MULTI-USE PATH CURVE & P.I. DATA

P.I. = STA. 52'BP'+18.76
Y = 486,313.15
X = 840,527.21
Δ. = 72°17'32"
T. = 23.59'
L. = 39.99'
R. = 30.0'
P.C. = STA. 51'BP'+95.16
Y = 486,290.44
X = 840,533.58
P.T. = STA. 52'BP'+35.15
Y = 486,312.32
X = 840,503.63

P.I. = STA. 52'BP'+86.43
Y = 486,310.49
X = 840,452.39
Δ. = 66°32'38"
T. = 28.33'
L. = 49.30'
R. = 40.0'
P.C. = STA. 52'BP'+58.10
Y = 486,311.50
X = 840,480.70
P.T. = STA. 53'BP'+07.40
Y = 486,336.87
X = 840,442.04

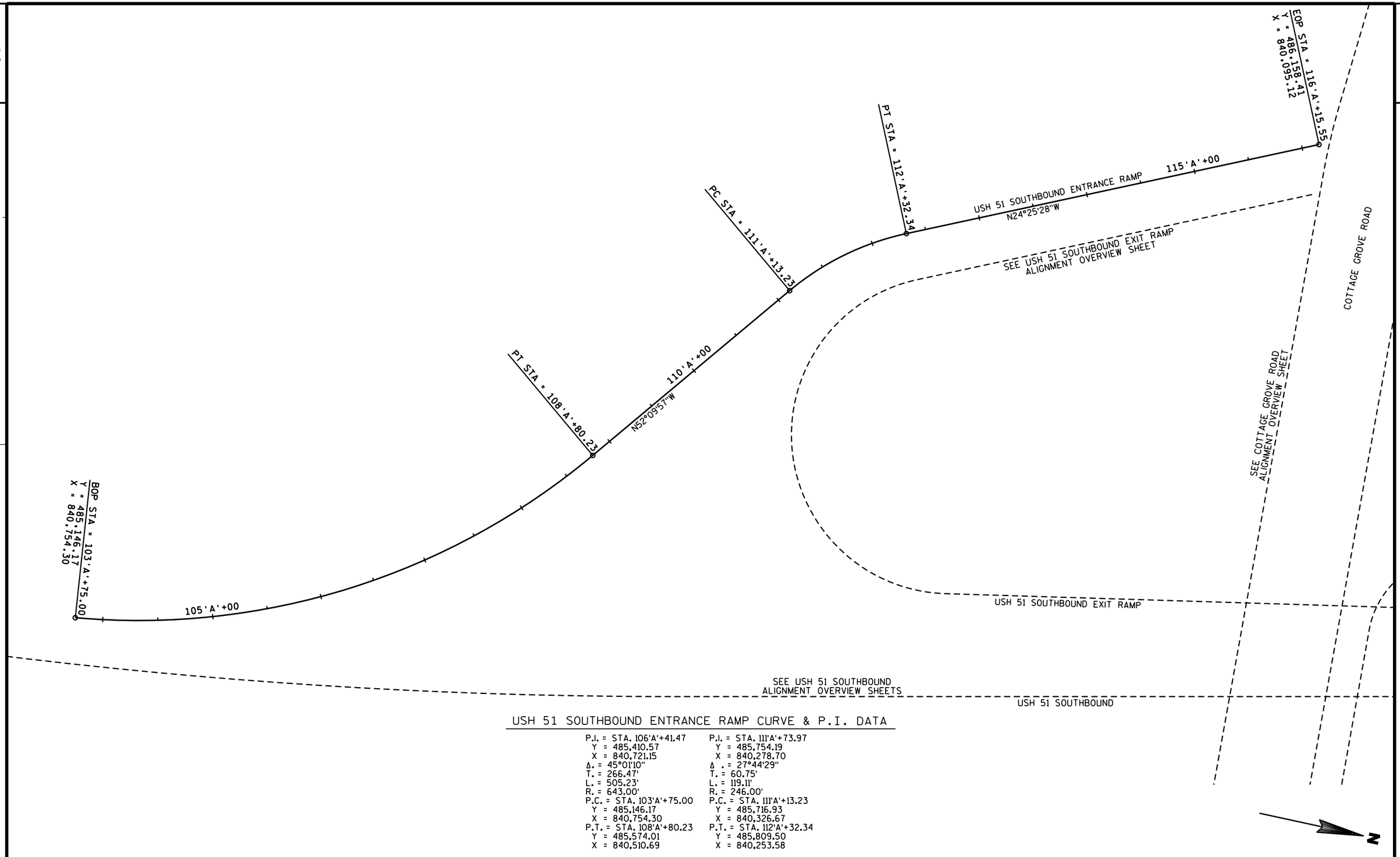
P.I. = STA. 54'BP'+06.76
Y = 486,429.37
X = 840,405.75
Δ. = 37°28'26"
T. = 23.74'
L. = 45.78'
R. = 70.0'
P.C. = STA. 53'BP'+83.01
Y = 486,407.26
X = 840,414.43
P.T. = STA. 54'BP'+28.80
Y = 486,441.63
X = 840,385.43

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	ALIGNMENT OVERVIEW: USH 51 SOUTHBOUND & MULTI-USE PATH	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Alignment_02.dgn 8/14/2014 8:34:38 AM ckieler

2



USH 51 SOUTHBOUND ENTRANCE RAMP CURVE & P.I. DATA

P.I. = STA. 106'A'+41.47	P.I. = STA. 111'A'+73.97
Y = 485,410.57	Y = 485,754.19
X = 840,721.15	X = 840,278.70
Δ. = 45°01'10"	Δ . = 27°44'29"
T. = 266.47'	T. = 60.75'
L. = 505.23'	L. = 119.11'
R. = 643.00'	R. = 246.00'
P.C. = STA. 103'A'+75.00	P.C. = STA. 111'A'+13.23
Y = 485,146.17	Y = 485,716.93
X = 840,754.30	X = 840,326.67
P.T. = STA. 108'A'+80.23	P.T. = STA. 112'A'+32.34
Y = 485,574.01	Y = 485,809.50
X = 840,510.69	X = 840,253.58

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	ALIGNMENT OVERVIEW: USH 51 SOUTHBOUND ENTRANCE RAMP	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Alignment_03.dgn 8/14/2014 8:34:39 AM ckieler

2

2

BOP STA = 103'B'+86.13
Y = 486,161.92
X = 840,140.76

SEE USH 51 SOUTHBOUND ENTRANCE RAMP
ALIGNMENT OVERVIEW SHEET

USH 51 SOUTHBOUND EXIT RAMP

105'B'+00

S24°25'28"E

PC STA = 107'B'+53.40

110'B'+00

PT STA = 111'B'+70.76

COTTAGE GROVE ROAD

COTTAGE COURT

SEE COTTAGE GROVE ROAD
ALIGNMENT OVERVIEW SHEET

STA. 114'B'+44.40=
STA. 17'CGE'+85.42
Y = 486,182.34
X = 840,515.52

STA. 115'B'+31.29=
STA. 17'CGW'+70.04
Y = 486,267.78
X = 840,499.71

SEE MULTI-USE PATH
ALIGNMENT OVERVIEW SHEET

115'B'+00

USH 51 SOUTHBOUND EXIT RAMP
N10°29'14"W

120'B'+00

EOP STA = 121'B'+93.54
Y = 486,918.97
X = 840,379.16

STA. 115'B'+76.14=
STA. 52'BP'+47.25
Y = 486,311.89
X = 840,491.54

SEE USH 51 SOUTHBOUND
ALIGNMENT OVERVIEW SHEETS

USH 51 SOUTHBOUND

USH 51 SOUTHBOUND EXIT RAMP CURVE & P.I. DATA

P.I. = STA. 109'B'+62.08
Y = 484,754.83
X = 840,779.77
Δ. = 166°03'46"
T. = 1,178.12'
L. = 417.36'
R. = 144.00'
P.C. = STA. 107'B'+53.40
Y = 485,827.52
X = 840,292.62
P.T. = STA. 111'B'+70.76
Y = 485,913.27
X = 840,565.33

N

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	ALIGNMENT OVERVIEW: USH 51 SOUTHBOUND EXIT RAMP	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Alignment_04.dgn 8/14/2014 8:34:39 AM ckieler

COTTAGE GROVE ROAD WESTBOUND CURVE & P.I. DATA

P.I. = STA. 13'CGW'+70.41
Y = 486,253.33
X = 840,100.35
Δ. = 00°03'29"

BOP STA = 8'CGW'+64.05
Y = 486,234.51
X = 839,594.34

10'CGW'+00
N87°52'12"E

PI STA = 13'CGW'+70.41

COTTAGE COURT

15'CGW'+00
N87°55'41"E

SEE MULTI-USE PATH ALIGNMENT OVERVIEW SHEET

STA. 18'CGW'+53.66 =
STA. 115+15.97
Y = 486,270.80
X = 840,583.27

MATCH LINE
STA. 20'CGW'+00

STA. 17'CGW'+70.04 =
STA. 115'B'+31.29
Y = 486,267.78
X = 840,499.71

COTTAGE GROVE ROAD

BOP STA = 8'CGE'+64.96
Y = 486,190.38
X = 839,595.94

CLAIRE STREET

PT STA = 8'CGE'+87.84

10'CGE'+00
S88°09'20"E

PC STA = 10'CGE'+93.74

PT STA = 12'CGE'+14.49

S85°48'37"E

PC STA = 13'CGE'+26.19

USH 51 SOUTHBOUND ENTRANCE RAMP

SEE USH 51 SOUTHBOUND ENTRANCE RAMP ALIGNMENT OVERVIEW SHEET

PT STA = 13'CGE'+85.23

USH 51 SOUTHBOUND EXIT RAMP

15'CGE'+00
N87°55'31"E

STA. 17'CGE'+85.42 =
STA. 114'B'+44.40
Y = 486,182.34
X = 840,515.52

SEE USH 51 SOUTHBOUND EXIT RAMP ALIGNMENT OVERVIEW SHEET

USH 51 SOUTHBOUND EXIT RAMP

USH 51 SOUTHBOUND

STA. 18'CGE'+71.77 =
STA. 114+28.64
Y = 486,185.47
X = 840,601.81

SEE USH 51 SOUTHBOUND ALIGNMENT OVERVIEW SHEET

MATCH LINE
STA. 20'CGE'+00

N

COTTAGE GROVE ROAD EASTBOUND CURVE & P.I. DATA

P.I. = STA. 8'CGE'+76.40	P.I. = STA. 11'CGE'+54.13	P.I. = STA. 13'CGE'+55.74
Y = 486,190.45	Y = 486,181.51	Y = 486,166.78
X = 839,607.39	X = 839,884.97	X = 840,086.06
Δ. = 02°20'43"	Δ. = 02°20'43"	Δ. = 06°15'52"
T. = 11.44'	T. = 60.38'	T. = 29.55'
L. = 22.88'	L. = 120.75'	L. = 59.04'
R. = 593.00'	R. = 2,950.00'	R. = 540.00'
P.C. = STA. 8'CGE'+64.96	P.C. = STA. 10'CGE'+93.74	P.C. = STA. 13'CGE'+26.19
Y = 486,190.38	Y = 486,183.46	Y = 486,168.94
X = 839,595.94	X = 839,824.62	X = 840,056.59
P.T. = STA. 8'CGE'+87.84	P.T. = STA. 12'CGE'+14.49	P.T. = STA. 13'CGE'+85.23
Y = 486,190.08	Y = 486,177.10	Y = 486,167.85
X = 839,618.82	X = 839,945.20	X = 840,115.59

USH 51 NORTHBOUND EXIT RAMP

USH 51 NORTHBOUND ENTRANCE RAMP

EOP STA = 25'CGW'+48.77
Y = 486,295.94
X = 841,277.93

MATCH LINE
STA. 20'CGW'+00

25'CGW'+00
N87°55'41"E

END CONSTRUCTION
STA. 24'CGW'+56.98
Y = 486,292.62
X = 841,186.20

COTTAGE GROVE ROAD

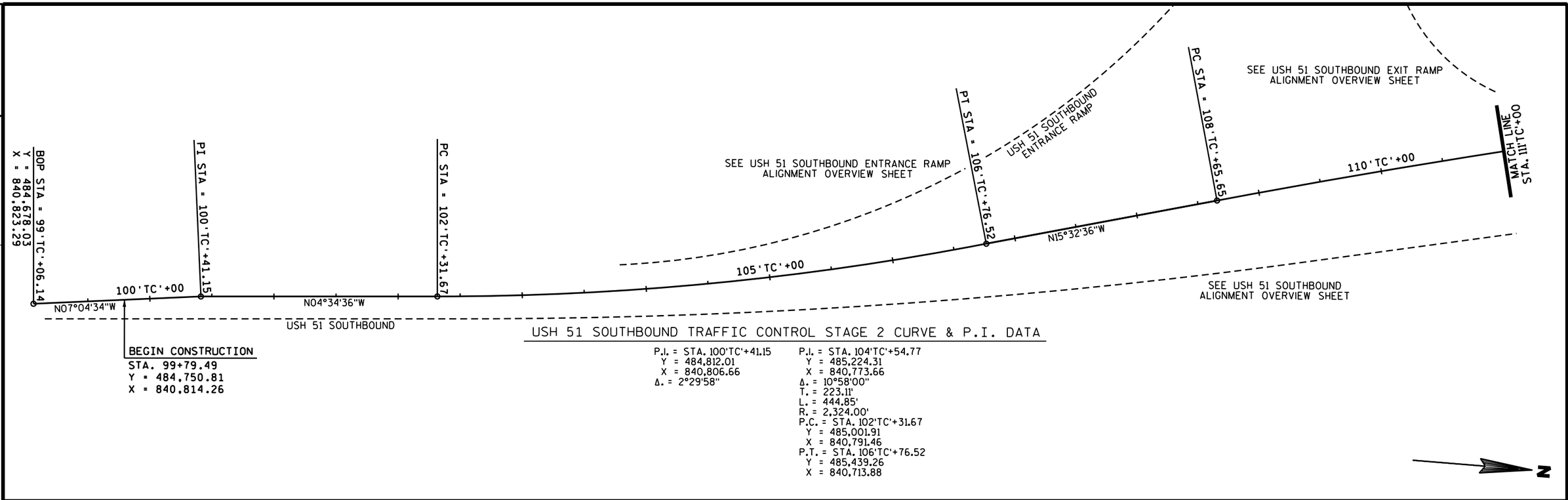
MATCH LINE
STA. 20'CGE'+00

N87°55'31"E

EOP STA = 24'CGE'+58.52
Y = 486,206.71
X = 841,188.18

N

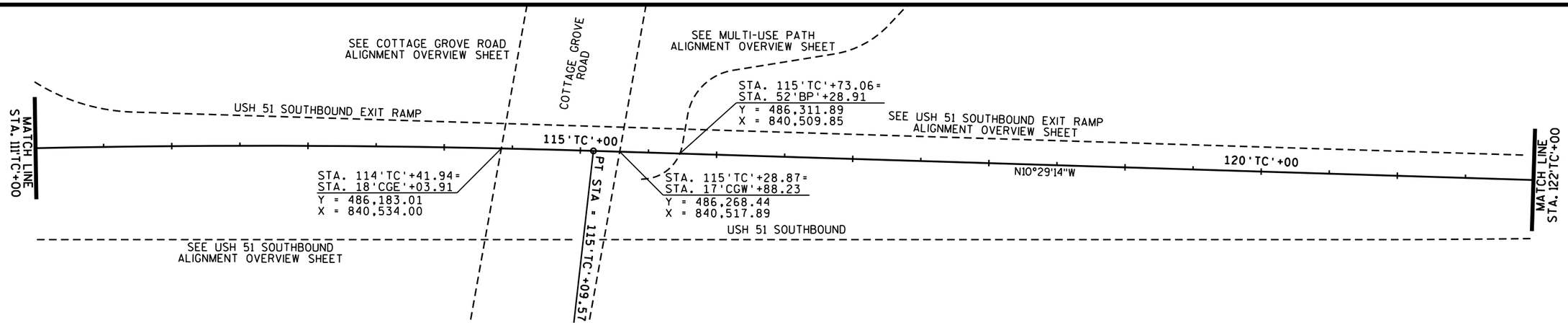
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	ALIGNMENT OVERVIEW: COTTAGE GROVE ROAD	SHEET 208	E



USH 51 SOUTHBOUND TRAFFIC CONTROL STAGE 2 CURVE & P.I. DATA

P.I. = STA. 100'TC'+41.15
Y = 484,812.01
X = 840,806.66
Δ. = 2°29'58"

P.I. = STA. 104'TC'+54.77
Y = 485,224.31
X = 840,773.66
Δ. = 10°58'00"
T. = 223.11'
L. = 444.85'
R. = 2,324.00'
P.C. = STA. 102'TC'+31.67
Y = 485,001.91
X = 840,791.46
P.T. = STA. 106'TC'+76.52
Y = 485,439.26
X = 840,713.88



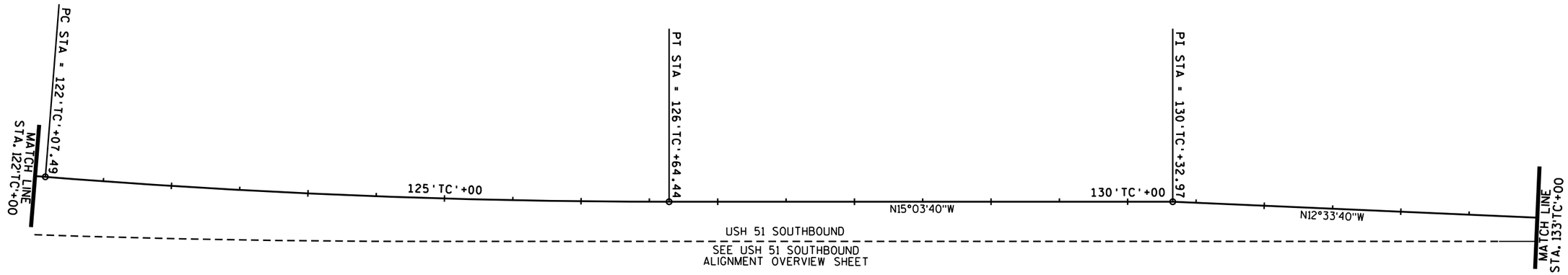
USH 51 SOUTHBOUND TRAFFIC CONTROL STAGE 2 CURVE & P.I. DATA

P.I. = STA. 111'TC'+87.79
Y = 485,932.70
X = 840,580.04
Δ. = 5°03'22"
T. = 322.14'
L. = 643.92'
R. = 7,870.00'
P.C. = STA. 108'TC'+65.65
Y = 485,621.80
X = 840,664.37
P.T. = STA. 115'TC'+09.57
Y = 486,249.46
X = 840,521.40

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	ALIGNMENT OVERVIEW: USH 51 S.B. TRAFFIC CONTROL STAGE 2	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

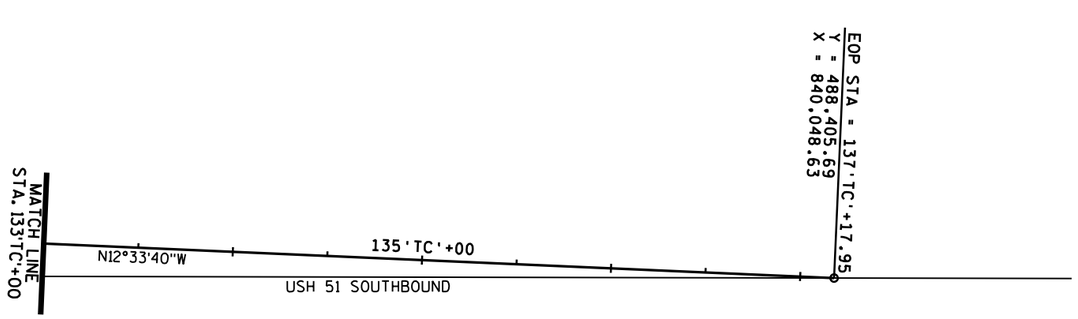
Alignment_06.dgn 8/14/2014 8:34:40 AM ckieler



USH 51 SOUTHBOUND TRAFFIC CONTROL STAGE 2 CURVE & P.I. DATA

P.I. = STA. 124'TC'+36.09
Y = 487,160.50
X = 840,352.76
Δ. = 4°34'26"
T. = 228.59'
L. = 456.95'
R. = 5,724.00'
P.C. = STA. 122'TC'+07.49
Y = 486,935.72
X = 840,394.37
P.T. = STA. 126'TC'+64.44
Y = 487,381.24
X = 840,293.36

P.I. = STA. 130'TC'+32.97
Y = 487,737.11
X = 840,197.60
Δ. = 2°30'00"



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	ALIGNMENT OVERVIEW: USH 51 S.B. TRAFFIC CONTROL STAGE 2	SHEET 210	E

DATE 15DEC14 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	5411-02-74 QUANTITY	5411-02-75 QUANTITY
0010	201.0105	CLEARING	STA	18.000	18.000	
0020	201.0120	CLEARING	ID	128.000	128.000	
0030	201.0205	GRUBBING	STA	18.000	18.000	
0040	201.0220	GRUBBING	ID	128.000	128.000	
0050	203.0200	REMOVING OLD STRUCTURE (STATION) 01. STA. 114+76.20	LS	1.000	1.000	
0060	203.0200	REMOVING OLD STRUCTURE (STATION) 02. STA. 52'BP'+89.11	LS	1.000	1.000	
0070	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 01. B-13-210	LS	1.000	1.000	
0080	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 01. B-13-210	LS	1.000	1.000	
0090	204.0100	REMOVING PAVEMENT	SY	23,265.000	23,265.000	
0100	204.0110	REMOVING ASPHALTIC SURFACE	SY	310.000	310.000	
0110	204.0150	REMOVING CURB & GUTTER	LF	1,550.000	1,550.000	
0120	204.0155	REMOVING CONCRETE SIDEWALK	SY	670.000	670.000	
0130	204.0165	REMOVING GUARDRAIL	LF	1,115.000	1,115.000	
0140	204.0170	REMOVING FENCE	LF	1,345.000	1,345.000	
0150	204.0175	REMOVING CONCRETE SLOPE PAVING	SY	170.000	170.000	
0160	204.0185	REMOVING MASONRY	CY	3.300	3.300	
0170	204.0195	REMOVING CONCRETE BASES	EACH	59.000	59.000	
0180	204.0205	REMOVING UTILITY POLES	EACH	2.000	2.000	
0190	204.0210	REMOVING MANHOLES	EACH	3.000	3.000	
0200	204.0220	REMOVING INLETS	EACH	17.000	17.000	
0210	204.0245	REMOVING STORM SEWER (SIZE) 01. 12-INCH TO 15-INCH	LF	290.000	290.000	
0220	204.0245	REMOVING STORM SEWER (SIZE) 02. 18-INCH	LF	470.000	470.000	
0230	204.0245	REMOVING STORM SEWER (SIZE) 03. 36-INCH	LF	30.000	30.000	
0240	204.9060.S	REMOVING (ITEM DESCRIPTION) 01. WOOD GUARD POSTS	EACH	5.000	5.000	
0250	204.9060.S	REMOVING (ITEM DESCRIPTION) 02. LIGHTING UNIT	EACH	37.000	37.000	
0260	204.9060.S	REMOVING (ITEM DESCRIPTION) 03. LUMINAIRE	EACH	35.000	35.000	
0270	204.9060.S	REMOVING (ITEM DESCRIPTION) 04. LIGHTING CABINET	EACH	1.000	1.000	
0280	204.9090.S	REMOVING (ITEM DESCRIPTION) 01. TUBULAR RAILING	LF	65.000	65.000	
0290	204.9105.S	REMOVING (ITEM DESCRIPTION) 01. TRAFFIC SIGNAL EQUIPMENT (USH 51 SB & COTTAGE GROVE ROAD)	LS	1.000	1.000	
0300	204.9105.S	REMOVING (ITEM DESCRIPTION) 02. TRAFFIC SIGNAL EQUIPMENT (USH 51 NB & COTTAGE GROVE ROAD)	LS	1.000	1.000	
0310	204.9165.S	REMOVING (ITEM DESCRIPTION) 01. MODULAR BLOCK RETAINING WALL	SF	440.000	440.000	
0320	204.9165.S	REMOVING (ITEM DESCRIPTION) 02. CONCRETE MASONRY WALL	SF	320.000	320.000	
0330	204.9180.S	REMOVING (ITEM DESCRIPTION) 01. CONCRETE SLOPE PAVING WATERWAY	SY	615.000	615.000	
0340	205.0100	EXCAVATION COMMON	CY	87,512.000	87,512.000	
0350	205.0400	EXCAVATION MARSH	CY	30,096.000	30,096.000	
0360	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-13-632	LS	1.000	1.000	
0370	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 02. B-13-660	LS	1.000	1.000	

3

DATE 15DEC14 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	5411-02-74 QUANTITY	5411-02-75 QUANTITY
0380	206.2000	EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 01. C-13-2075	LS	1.000	1.000	
0390	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 01. R-13-228	LS	1.000	1.000	
0400	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 02. R-13-229	LS	1.000	1.000	
0410	208.0100	BORROW	CY	87,471.000	87,471.000	
0420	208.1100	SELECT BORROW	CY	45,143.000	45,143.000	
0430	210.0100	BACKFILL STRUCTURE	CY	1,100.000	1,100.000	
0440	213.0100	FINISHING ROADWAY (PROJECT) 01. 5411-02-74	EACH	1.000	1.000	
0450	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	1,850.000	1,850.000	
0460	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	30,377.000	30,377.000	
0470	311.0115	BREAKER RUN	CY	86.000	86.000	
0480	312.0110	SELECT CRUSHED MATERIAL	TON	21,110.000	21,110.000	
0490	415.0090	CONCRETE PAVEMENT 9-INCH	SY	8,715.000	8,715.000	
0500	415.0100	CONCRETE PAVEMENT 10-INCH	SY	19,095.000	19,095.000	
0510	415.0210	CONCRETE PAVEMENT GAPS	EACH	2.000	2.000	
0520	415.0410	CONCRETE PAVEMENT APPROACH SLAB	SY	411.000	411.000	
0530	415.1090	CONCRETE PAVEMENT HES 9-INCH	SY	335.000	335.000	
0540	416.0610	DRILLED TIE BARS	EACH	766.000	766.000	
0550	416.0620	DRILLED DOWEL BARS	EACH	8.000	8.000	
0560	416.1010	CONCRETE SURFACE DRAINS	CY	6.300	6.300	
0570	416.1110	CONCRETE SHOULDER RUMBLE STRIPS	LF	1,775.000	1,775.000	
0580	440.4410.S	INCENTIVE IRI RIDE	DOL	6,000.000	6,000.000	
0590	455.0105	ASPHALTIC MATERIAL PG58-28	TON	55.000	55.000	
0600	455.0120	ASPHALTIC MATERIAL PG64-28	TON	31.000	31.000	
0610	455.0605	TACK COAT	GAL	201.000	201.000	
0620	460.1100	HMA PAVEMENT TYPE E-0.3	TON	550.000	550.000	
0630	460.1103	HMA PAVEMENT TYPE E-3	TON	525.000	525.000	
0640	460.1110	HMA PAVEMENT TYPE E-10	TON	425.000	425.000	
0650	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	960.000	960.000	
0660	465.0105	ASPHALTIC SURFACE	TON	35.000	35.000	
0670	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	4,615.000	4,615.000	
0680	465.0310	ASPHALTIC CURB	LF	515.000	515.000	
0690	465.0315	ASPHALTIC FLUMES	SY	5.000	5.000	
0700	465.0400	ASPHALTIC SHOULDER RUMBLE STRIPS	LF	2,315.000	2,315.000	
0710	502.0100	CONCRETE MASONRY BRIDGES	CY	2,315.000	2,315.000	
0720	502.3110.S	EXPANSION DEVICE MODULAR (STRUCTURE) 01. B-13-632	LS	1.000	1.000	
0730	502.3200	PROTECTIVE SURFACE TREATMENT	SY	4,307.000	4,307.000	
0740	502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	EACH	34.000	34.000	
0750	503.0155	PRESTRESSED GIRDER TYPE I 54W-INCH	LF	1,282.000	1,282.000	
0760	503.0172	PRESTRESSED GIRDER TYPE I 72W-INCH	LF	3,107.000	3,107.000	
0770	504.0100	CONCRETE MASONRY CULVERTS	CY	155.000	155.000	
0780	504.0500	CONCRETE MASONRY RETAINING WALLS	CY	89.000	89.000	
0790	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	32,635.000	32,635.000	
0800	505.0410	BAR STEEL REINFORCEMENT HS CULVERTS	LB	15,670.000	15,670.000	
0810	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	415,540.000	415,540.000	
0820	505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	LB	240.000	240.000	
0830	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	9,550.000	9,550.000	
0840	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	52.000	52.000	

3

DATE 15DEC14 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	5411-02-74 QUANTITY	5411-02-75 QUANTITY
0850	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	16.000	16.000	
0860	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 01. B-13-632	EACH	42.000	42.000	
0870	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 02. B-13-660	EACH	16.000	16.000	
0880	509.1500	CONCRETE SURFACE REPAIR	SF	730.000	730.000	
0890	509.5100.S	POLYMER OVERLAY	SY	2,390.000	2,390.000	
0900	511.1100	TEMPORARY SHORING	SF	1,700.000	1,700.000	
0910	511.1200	TEMPORARY SHORING (STRUCTURE) 01. B-13-632	SF	850.000	850.000	
0920	511.1200	TEMPORARY SHORING (STRUCTURE) 02. B-13-660	SF	500.000	500.000	
0930	511.1200	TEMPORARY SHORING (STRUCTURE) 03. R-13-228	SF	338.000	338.000	
0940	511.1200	TEMPORARY SHORING (STRUCTURE) 04. R-13-229	SF	400.000	400.000	
0950	513.2000	RAILING PIPE (STRUCTURE) 01. R-13-228	LS	1.000	1.000	
0960	513.2000	RAILING PIPE (STRUCTURE) 02. R-13-229	LS	1.000	1.000	
0970	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	88.000	88.000	
0980	517.1010.S	CONCRETE STAINING (STRUCTURE) 01. B-13-632	SF	17,200.000	17,200.000	
0990	517.1010.S	CONCRETE STAINING (STRUCTURE) 02. B-13-660	SF	7,510.000	7,510.000	
1000	517.1010.S	CONCRETE STAINING (STRUCTURE) 03. R-13-228	SF	7,509.000	7,509.000	
1010	517.1010.S	CONCRETE STAINING (STRUCTURE) 04. R-13-229	SF	5,182.000	5,182.000	
1020	517.1050.S	ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 01. B-13-632	SF	8,005.000	8,005.000	
1030	517.1050.S	ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 02. B-13-660	SF	2,870.000	2,870.000	
1040	517.1050.S	ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 03. R-13-228	SF	7,159.000	7,159.000	
1050	517.1050.S	ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 04. R-13-229	SF	4,484.000	4,484.000	
1060	520.8000	CONCRETE COLLARS FOR PIPE	EACH	5.000	5.000	
1070	522.1012	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	EACH	9.000	9.000	
1080	522.1015	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH	EACH	1.000	1.000	
1090	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	4.000	4.000	
1100	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	3,960.000	3,960.000	
1110	550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	3,355.000	3,355.000	
1120	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	2,395.000	2,395.000	
1130	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D	LF	720.000	720.000	
1140	601.0574	CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G	LF	415.000	415.000	
1150	601.0576	CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J	LF	100.000	100.000	
1160	602.0410	CONCRETE SIDEWALK 5-INCH	SF	4,620.000	4,620.000	
1170	602.0420	CONCRETE SIDEWALK 7-INCH	SF	620.000	620.000	
1180	602.0515	CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA	SF	192.000	192.000	
1190	603.1142	CONCRETE BARRIER TYPE S42	LF	915.000	915.000	
1200	603.2142	CONCRETE BARRIER FIXED OBJECT PROTECTION TYPE S42	LF	15.000	15.000	

3

DATE 15DEC14 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	5411-02-74 QUANTITY	5411-02-75 QUANTITY
1210	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	3,325.000	3,325.000	
1220	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	6,150.000	6,150.000	
1230	604.0400	SLOPE PAVING CONCRETE	SY	330.000	330.000	
1240	604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	665.000	665.000	
1250	606.0200	RIPRAP MEDIUM	CY	105.000	105.000	
1260	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	1,032.000	1,032.000	
1270	608.0315	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	LF	66.000	66.000	
1280	608.0318	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	97.000	97.000	
1290	608.0324	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	484.000	484.000	
1300	608.0336	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	LF	31.000	31.000	
1310	609.0112	RELAID STORM SEWER 12-INCH	LF	8.000	8.000	
1320	609.0115	RELAID STORM SEWER 15-INCH	LF	16.000	16.000	
1330	609.0130	RELAID STORM SEWER 30-INCH	LF	8.000	8.000	
1340	611.0612	INLET COVERS TYPE C	EACH	2.000	2.000	
1350	611.0624	INLET COVERS TYPE H	EACH	15.000	15.000	
1360	611.0642	INLET COVERS TYPE MS	EACH	9.000	9.000	
1370	611.0654	INLET COVERS TYPE V	EACH	4.000	4.000	
1380	611.2004	MANHOLES 4-FT DIAMETER	EACH	2.000	2.000	
1390	611.2005	MANHOLES 5-FT DIAMETER	EACH	2.000	2.000	
1400	611.3003	INLETS 3-FT DIAMETER	EACH	3.000	3.000	
1410	611.3004	INLETS 4-FT DIAMETER	EACH	2.000	2.000	
1420	611.3230	INLETS 2X3-FT	EACH	14.000	14.000	
1430	611.3901	INLETS MEDIAN 1 GRATE	EACH	7.000	7.000	
1440	611.3902	INLETS MEDIAN 2 GRATE	EACH	1.000	1.000	
1450	611.8115	ADJUSTING INLET COVERS	EACH	2.000	2.000	
1460	611.8120.S	COVER PLATES TEMPORARY	EACH	4.000	4.000	
1470	611.9800.S	PIPE GRATES	EACH	4.000	4.000	
1480	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	1,535.000	1,535.000	
1490	612.0806	APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH	EACH	1.000	1.000	
1500	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	6.000	6.000	
1510	614.0800	CRASH CUSHIONS PERMANENT	EACH	1.000	1.000	
1520	614.0905	CRASH CUSHIONS TEMPORARY	EACH	4.000	4.000	
1530	614.2300	MGS GUARDRAIL 3	LF	3,062.500	3,062.500	
1540	614.2330	MGS GUARDRAIL 3 K	LF	150.000	150.000	
1550	614.2500	MGS THRIE BEAM TRANSITION	LF	197.000	197.000	
1560	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	4.000	4.000	
1570	614.2620	MGS GUARDRAIL TERMINAL TYPE 2	EACH	3.000	3.000	
1580	616.0206	FENCE CHAIN LINK 6-FT	LF	940.000	940.000	
1590	616.0600.S	FENCE TEMPORARY	LF	180.000	180.000	
1600	616.0800.S	FENCE TRACK CLEARANCE	LF	410.000	410.000	
1610	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 5411-02-74	EACH	1.000	1.000	
1620	619.1000	MOBILIZATION	EACH	1.000	0.963	0.037
1630	620.0300	CONCRETE MEDIAN SLOPED NOSE	SF	165.000	165.000	
1640	624.0100	WATER	MGAL	500.000	500.000	
1650	625.0100	TOPSOIL	SY	5,900.000	5,900.000	

3

DATE 15DEC14 — 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	5411-02-74 QUANTITY	5411-02-75 QUANTITY
1660	625.0500	SALVAGED TOPSOIL	SY	54,500.000	54,500.000	
1670	627.0200	MULCHING	SY	13,800.000	13,800.000	
1680	628.1504	SILT FENCE	LF	7,500.000	7,500.000	
1690	628.1520	SILT FENCE MAINTENANCE	LF	15,000.000	15,000.000	
1700	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	30.000	30.000	
1710	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	15.000	15.000	
1720	628.2002	EROSION MAT CLASS I TYPE A	SY	40,000.000	40,000.000	
1730	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	5,900.000	5,900.000	
1740	628.7005	INLET PROTECTION TYPE A	EACH	14.000	14.000	
1750	628.7020	INLET PROTECTION TYPE D	EACH	47.000	47.000	
1760	628.7560	TRACKING PADS	EACH	3.000	3.000	
1770	629.0210	FERTILIZER TYPE B	CWT	37.000	37.000	
1780	630.0130	SEEDING MIXTURE NO. 30	LB	180.000	180.000	
1790	630.0140	SEEDING MIXTURE NO. 40	LB	135.000	135.000	
1800	630.0160	SEEDING MIXTURE NO. 60	LB	110.000	110.000	
1810	630.0170	SEEDING MIXTURE NO. 70	LB	30.000	30.000	
1820	630.0175	SEEDING MIXTURE NO. 75	LB	110.000	110.000	
1830	630.0180	SEEDING MIXTURE NO. 80	LB	115.000	115.000	
1840	630.0200	SEEDING TEMPORARY	LB	290.000	290.000	
1850	633.0500	DELINEATOR REFLECTORS	EACH	8.000	8.000	
1860	633.1000	DELINEATOR BRACKETS	EACH	8.000	8.000	
1870	633.5100	MARKERS ROW	EACH	2.000	2.000	
1880	633.5200	MARKERS CULVERT END	EACH	14.000	14.000	
1890	634.0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	10.000	10.000	
1900	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	5.000	5.000	
1910	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	16.000	16.000	
1920	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	2.000	2.000	
1930	636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	8.000	8.000	
1940	636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	980.000	980.000	
1950	637.1220	SIGNS TYPE I REFLECTIVE SH	SF	210.000	210.000	
1960	637.2210	SIGNS TYPE II REFLECTIVE H	SF	163.250	163.250	
1970	637.2215	SIGNS TYPE II REFLECTIVE H FOLDING	SF	14.920	14.920	
1980	637.2230	SIGNS TYPE II REFLECTIVE F	SF	196.280	196.280	
1990	638.2102	MOVING SIGNS TYPE II	EACH	7.000	7.000	
2000	638.2601	REMOVING SIGNS TYPE I	EACH	1.000	1.000	
2010	638.2602	REMOVING SIGNS TYPE II	EACH	41.000	41.000	
2020	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	13.000	13.000	
2030	638.3100	REMOVING STRUCTURAL STEEL SIGN SUPPORTS	EACH	1.000	1.000	
2040	638.4000	MOVING SMALL SIGN SUPPORTS	EACH	10.000	10.000	
2050	641.1200	SIGN BRIDGE CANTILEVERED (STRUCTURE) 01. S-13-440	LS	1.000	1.000	
2060	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000	
2070	643.0100	TRAFFIC CONTROL (PROJECT) 01. 5411-02-74	EACH	1.000	1.000	
2080	643.0300	TRAFFIC CONTROL DRUMS	DAY	96,227.000	96,227.000	
2090	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	6,495.000	6,495.000	
2100	643.0500	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	EACH	100.000	100.000	
2110	643.0600	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	EACH	100.000	100.000	
2120	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	9,918.000	9,918.000	
2130	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	14,620.000	14,620.000	
2140	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	210.000	210.000	
2150	643.0900	TRAFFIC CONTROL SIGNS	DAY	20,713.000	20,713.000	

3

DATE 15DEC14 — 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	5411-02-74 QUANTITY	5411-02-75 QUANTITY
2160	643.0910	TRAFFIC CONTROL COVERING SIGNS TYPE I	EACH	1.000	1.000	
2170	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	115.500	115.500	
2180	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	390.000	390.000	
2190	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 5411-02-74	EACH	1.000	1.000	
2200	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	27,115.000	27,115.000	
2210	645.0105	GEOTEXTILE FABRIC TYPE C	SY	295.000	295.000	
2220	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	290.000	290.000	
2230	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	20,805.000	20,805.000	
2240	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	995.000	995.000	
2250	646.0600	REMOVING PAVEMENT MARKINGS	LF	5,225.000	5,225.000	
2260	646.0841.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH	LF	750.000	750.000	
2270	646.0843.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH	LF	1,665.000	1,665.000	
2280	647.0110	PAVEMENT MARKING RAILROAD CROSSINGS EPOXY	EACH	4.000	4.000	
2290	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	7.000	7.000	
2300	647.0176	PAVEMENT MARKING ARROWS EPOXY TYPE 3	EACH	1.000	1.000	
2310	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	3.000	3.000	
2320	647.0456	PAVEMENT MARKING CURB EPOXY	LF	20.000	20.000	
2330	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	245.000	245.000	
2340	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	2.000	2.000	
2350	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	LF	50.000	50.000	
2360	647.0766	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	LF	415.000	415.000	
2370	647.0786	PAVEMENT MARKING CROSSWALK EPOXY 18-INCH	LF	200.000	200.000	
2380	649.0200	TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH	LF	33,595.000	33,595.000	
2390	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	28,860.000	28,860.000	
2400	649.0701	TEMPORARY PAVEMENT MARKING 8-INCH	LF	655.000	655.000	
2410	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	LF	300.000	300.000	
2420	649.1700	TEMPORARY PAVEMENT MARKING ARROWS	EACH	3.000	3.000	
2430	649.1800	TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE	EACH	4.000	4.000	
2440	649.1900	TEMPORARY PAVEMENT MARKING WORDS	EACH	1.000	1.000	
2450	649.2000	TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE	EACH	1.000	1.000	
2460	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	25.000	25.000	
2470	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	7,893.000	7,893.000	
2480	650.5000	CONSTRUCTION STAKING BASE	LF	3,313.000	3,313.000	
2490	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	5,855.000	5,855.000	
2500	650.6000	CONSTRUCTION STAKING PIPE CULVERTS	EACH	9.000	9.000	
2510	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-13-632	LS	1.000	1.000	
2520	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 02. B-13-660	LS	1.000	1.000	
2530	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 03. R-13-228	LS	1.000	1.000	
2540	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 04. R-13-229	LS	1.000	1.000	
2550	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 05. C-13-2075	LS	1.000	1.000	
2560	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	7,931.000	7,931.000	

3

DATE 15DEC14 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	5411-02-74 QUANTITY	5411-02-75 QUANTITY
2570	650.7500	CONSTRUCTION STAKING CONCRETE BARRIER	LF	915.000	915.000	
2580	650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 5411-02-74	LS	1.000	1.000	
2590	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 5411-02-74	LS	1.000	1.000	
2600	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	5,556.000	5,556.000	
2610	652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	44.000	44.000	
2620	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	5,214.000	5,214.000	
2630	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	2,785.000	2,785.000	
2640	652.0310	CONDUIT RIGID NONMETALLIC SCHEDULE 80 1-INCH	LF	8.000	8.000	
2650	652.0325	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	LF	1,086.000	1,086.000	
2660	652.0335	CONDUIT RIGID NONMETALLIC SCHEDULE 80 3-INCH	LF	1,048.000	1,048.000	
2670	652.0605	CONDUIT SPECIAL 2-INCH	LF	925.000	925.000	
2680	652.0615	CONDUIT SPECIAL 3-INCH	LF	1,085.000	1,085.000	
2690	652.0700.S	INSTALL CONDUIT INTO EXISTING ITEM	EACH	15.000	15.000	
2700	652.0800	CONDUIT LOOP DETECTOR	LF	1,110.000	1,110.000	
2710	653.0140	PULL BOXES STEEL 24X42-INCH	EACH	53.000	53.000	
2720	653.0208	JUNCTION BOXES 8X8X8-INCH	EACH	2.000	2.000	
2730	653.0905	REMOVING PULL BOXES	EACH	14.000	14.000	
2740	654.0101	CONCRETE BASES TYPE 1	EACH	16.000	16.000	
2750	654.0102	CONCRETE BASES TYPE 2	EACH	1.000	1.000	
2760	654.0105	CONCRETE BASES TYPE 5	EACH	2.000	2.000	
2770	654.0106	CONCRETE BASES TYPE 6	EACH	18.000	18.000	
2780	654.0110	CONCRETE BASES TYPE 10	EACH	4.000	4.000	
2790	654.0217	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	EACH	2.000	2.000	
2800	654.0224	CONCRETE CONTROL CABINET BASES TYPE L24	EACH	2.000	2.000	
2810	655.0210	CABLE TRAFFIC SIGNAL 3-14 AWG	LF	288.000	288.000	
2820	655.0230	CABLE TRAFFIC SIGNAL 5-14 AWG	LF	897.000	897.000	
2830	655.0250	CABLE TRAFFIC SIGNAL 9-14 AWG	LF	1,070.000	1,070.000	
2840	655.0270	CABLE TRAFFIC SIGNAL 15-14 AWG	LF	3,740.000	3,740.000	
2850	655.0410	COMMUNICATION CABLE INSTALLED IN CONDUIT	LF	830.000	830.000	
2860	655.0515	ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	LF	4,240.000	4,240.000	
2870	655.0615	ELECTRICAL WIRE LIGHTING 10 AWG	LF	8,850.000	8,850.000	
2880	655.0620	ELECTRICAL WIRE LIGHTING 8 AWG	LF	30,045.000	30,045.000	
2890	655.0700	LOOP DETECTOR LEAD IN CABLE	LF	3,038.000	3,038.000	
2900	655.0800	LOOP DETECTOR WIRE	LF	3,002.000	3,002.000	
2910	655.0900	TRAFFIC SIGNAL EVP DETECTOR CABLE	LF	1,160.000	1,160.000	
2920	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 01. STA. 20'CGW'+15.0, 40.0' LT.	LS	1.000	1.000	
2930	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 02. STA. 14'CGW'+34.0, 24.0' LT.	LS	1.000	1.000	
2940	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 03. STA. 14'CGW'+11.0, 23.0' LT.	LS	1.000	1.000	
2950	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 04. STA. 21'CGW'+83.0, 47.0' LT.	LS	1.000	1.000	
2960	657.0100	PEDESTAL BASES	EACH	16.000	16.000	

DATE 15DEC14 — 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	5411-02-74 QUANTITY	5411-02-75 QUANTITY
2970	657.0255	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	EACH	20.000	20.000	
2980	657.0322	POLES TYPE 5-ALUMINUM	EACH	2.000	2.000	
2990	657.0327	POLES TYPE 6-ALUMINUM	EACH	16.000	16.000	
3000	657.0420	TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	EACH	1.000	1.000	
3010	657.0425	TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	EACH	5.000	5.000	
3020	657.0430	TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT	EACH	2.000	2.000	
3030	657.0615	LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 8-FT	EACH	12.000	12.000	
3040	657.0715	LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 15-FT	EACH	8.000	8.000	
3050	657.1345	INSTALL POLES TYPE 9	EACH	4.000	4.000	
3060	657.1530	INSTALL MONOTUBE ARMS 30-FT	EACH	4.000	4.000	
3070	658.0110	TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	EACH	9.000	9.000	
3080	658.0115	TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	EACH	9.000	9.000	
3090	658.0120	TRAFFIC SIGNAL FACE 5-12 INCH VERTICAL	EACH	2.000	2.000	
3100	658.0215	BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	EACH	9.000	9.000	
3110	658.0220	BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	EACH	9.000	9.000	
3120	658.0225	BACKPLATES SIGNAL FACE 5 SECTION 12-INCH	EACH	2.000	2.000	
3130	658.0416	PEDESTRIAN SIGNAL FACE 16-INCH	EACH	12.000	12.000	
3140	658.0500	PEDESTRIAN PUSH BUTTONS	EACH	12.000	12.000	
3150	658.0600	LED MODULES 12-INCH RED BALL	EACH	24.000	24.000	
3160	658.0605	LED MODULES 12-INCH YELLOW BALL	EACH	24.000	24.000	
3170	658.0610	LED MODULES 12-INCH GREEN BALL	EACH	24.000	24.000	
3180	658.0615	LED MODULES 12-INCH RED ARROW	EACH	9.000	9.000	
3190	658.0620	LED MODULES 12-INCH YELLOW ARROW	EACH	20.000	20.000	
3200	658.0625	LED MODULES 12-INCH GREEN ARROW	EACH	11.000	11.000	
3210	658.0635	LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	EACH	12.000	12.000	
3220	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 01. USH 51 SB & COTTAGE GROVE ROAD	LS	1.000	1.000	
3230	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 02. USH 51 NB & COTTAGE GROVE ROAD	LS	1.000	1.000	
3240	659.1115	LUMINAIRES UTILITY LED A	EACH	36.000	36.000	
3250	659.1120	LUMINAIRES UTILITY LED B	EACH	17.000	17.000	
3260	659.1205	LUMINAIRES UNDERDECK LED A	EACH	4.000	4.000	
3270	659.2124	LIGHTING CONTROL CABINETS 120/240 24-INCH	EACH	2.000	2.000	
3280	661.0200	TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 01. USH 51 SB & COTTAGE GROVE ROAD	LS	1.000	1.000	
3290	661.0200	TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 02. USH 51 NB & COTTAGE GROVE ROAD	LS	1.000	1.000	
3300	670.0100	FIELD SYSTEM INTEGRATOR	LS	1.000	1.000	
3310	678.0500	COMMUNICATION SYSTEM TESTING	LS	1.000	1.000	
3320	690.0150	SAWING ASPHALT	LF	540.000	540.000	
3330	690.0250	SAWING CONCRETE	LF	2,621.000	2,621.000	
3340	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	8,550.000	8,550.000	
3350	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	930.000	930.000	
3360	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5.00/HR	HRS	1,000.000	1,000.000	
3370	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	550.000	550.000	
3380	SPV.0035	SPECIAL 01. DRAINAGE BLANKET	CY	2,677.000	2,677.000	
3390	SPV.0035	SPECIAL 02. ABANDON SANITARY SEWER WITH SLURRY	CY	16.720		16.720

3

DATE 15DEC14 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	5411-02-74 QUANTITY	5411-02-75 QUANTITY
3400	SPV.0045	SPECIAL 01. TEMPORARY CROSSWALK	DAY	45.000	45.000	
3410	SPV.0060	SPECIAL 01. UTILITY LINE OPENING (ULO)	EACH	10.000	6.000	4.000
3420	SPV.0060	SPECIAL 02. MANHOLE COVER TYPE SPECIAL LOGO	EACH	11.000	2.000	9.000
3430	SPV.0060	SPECIAL 03. INLET COVERS TYPE SPECIAL MS-A	EACH	1.000	1.000	
3440	SPV.0060	SPECIAL 04. SALVAGE AND REINSTALL LIGHTING UNIT	EACH	2.000	2.000	
3450	SPV.0060	SPECIAL 05. SALVAGE & REINSTALL TRAFFIC EQUIPMENT	EACH	8.000	8.000	
3460	SPV.0060	SPECIAL 06. ABANDON CONCRETE BASE	EACH	1.000	1.000	
3470	SPV.0060	SPECIAL 07. CLEANING AND PAINTING BEARINGS	EACH	40.000	40.000	
3480	SPV.0060	SPECIAL 08. ADJUST WATER VALVE BOX	EACH	4.000		4.000
3490	SPV.0060	SPECIAL 09. SANITARY SEWER ACCESS STRUCTURE, 4-FOOT DIAMETER	EACH	1.000		1.000
3500	SPV.0060	SPECIAL 10. SANITARY SEWER ACCESS STRUCTURE, 5-FOOT DIAMETER	EACH	8.000		8.000
3510	SPV.0060	SPECIAL 11. ADJUST SAS SPECIAL	EACH	1.000		1.000
3520	SPV.0060	SPECIAL 12. SANITARY SEWER TAP	EACH	4.000		4.000
3530	SPV.0060	SPECIAL 13. SEWER ELECTRONIC MARKERS	EACH	1.000		1.000
3540	SPV.0060	SPECIAL 14. SANITARY LATERAL RECONNECT	EACH	1.000		1.000
3550	SPV.0060	SPECIAL 15. REMOVE SANITARY SEWER STRUCTURE	EACH	4.000		4.000
3560	SPV.0060	SPECIAL 16. ABANDON SEWER ACCESS STRUCTURES	EACH	4.000		4.000
3570	SPV.0060	SPECIAL 17. ABANDON SANITARY SEWER - PIPE PLUG	EACH	4.000		4.000
3580	SPV.0060	SPECIAL 18. TEMPORARY SANITARY SEWER CONNECTION	EACH	2.000		2.000
3590	SPV.0060	SPECIAL 19. INSTALL COMPRESSION COUPLING	EACH	1.000		1.000
3600	SPV.0060	SPECIAL 20. PIPE SUPPORTS	EACH	1.000		1.000
3610	SPV.0060	SPECIAL 21. SANITARY FORCE MAIN CONNECTION	EACH	2.000		2.000
3620	SPV.0060	SPECIAL 22. 4X4X4-INCH FLUSH MOUNTED JUNCTION BOX	EACH	4.000	4.000	
3630	SPV.0060	SPECIAL 23. SETTLEMENT GAUGES	EACH	5.000	5.000	
3640	SPV.0060	SPECIAL 24. VIBRATING WIRE PIEZOMETER INSTRUMENTATION SYSTEM	EACH	6.000	6.000	
3650	SPV.0085	SPECIAL 01. BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	2,040.000	2,040.000	
3660	SPV.0090	SPECIAL 01. CONCRETE CURB & GUTTER SPECIAL 24-INCH TYPE A	LF	2,045.000	2,045.000	
3670	SPV.0090	SPECIAL 02. CONCRETE CURB & GUTTER SPECIAL 24-INCH TYPE D	LF	110.000	110.000	
3680	SPV.0090	SPECIAL 03. CONCRETE CURB INTEGRAL SPECIAL 12-INCH TYPE D	LF	70.000	70.000	
3690	SPV.0090	SPECIAL 04. FENCE CHAIN LINK POLYMER-COATED 4-FT	LF	408.000	408.000	
3700	SPV.0090	SPECIAL 05. FENCE CHAIN LINK POLYMER-COATED 6-FT	LF	165.000	165.000	
3710	SPV.0090	SPECIAL 06. WICK DRAINS	LF	23,040.000	23,040.000	
3720	SPV.0090	SPECIAL 07. PEDESTRIAN SAFETY FENCE	LF	300.000	300.000	
3730	SPV.0090	SPECIAL 08. PEDESTRIAN OVERHEAD PROTECTION	LF	150.000	150.000	
3740	SPV.0090	SPECIAL 09. SANITARY SEWER PIPE PVC, 8-INCH	LF	46.000		46.000

DATE 15DEC14 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	5411-02-74 QUANTITY	5411-02-75 QUANTITY
3750	SPV.0090	SPECIAL 10. SANITARY SEWER PIPE PVC, 21-INCH	LF	1,318.000		1,318.000
3760	SPV.0090	SPECIAL 11. SANITARY SEWER LATERAL	LF	35.000		35.000
3770	SPV.0090	SPECIAL 12. SELECT FILL FOR SANITARY SEWER	LF	1,624.000		1,624.000
3780	SPV.0090	SPECIAL 13. REMOVE SANITARY SEWER PIPE	LF	17.000		17.000
3790	SPV.0090	SPECIAL 14. BORE AND JACK SANITARY SEWER 21-INCH	LF	225.000		225.000
3800	SPV.0090	SPECIAL 15. FENCE CHAIN LINK POLYMER-COATED 8-FT	LF	114.000	114.000	
3810	SPV.0105	SPECIAL 01. CHAIN DRAGGING DECK	LS	1.000	1.000	
3820	SPV.0105	SPECIAL 02. DEWATERING FOR SANITARY SEWER CONSTRUCTION	LS	1.000		1.000
3830	SPV.0105	SPECIAL 03. HEAVY WASTEWATER CONTROL 2000 GPM	LS	1.000		1.000
3840	SPV.0105	SPECIAL 04. CONSTRUCTION STAKING SANITARY SEWER	LS	1.000		1.000
3850	SPV.0105	SPECIAL 05. CONCRETE PAVEMENT JOINT LAYOUT	LS	1.000	1.000	
3860	SPV.0105	SPECIAL 06. OUTLET GATE C-13-2075	LS	1.000	1.000	
3870	SPV.0105	SPECIAL 07. TEMPORARY VEHICLE DETECTION (USH 51 SB & COTTAGE GROVE ROAD)	LS	1.000	1.000	
3880	SPV.0105	SPECIAL 08. TEMPORARY VEHICLE DETECTION (USH 51 NB & COTTAGE GROVE ROAD)	LS	1.000	1.000	
3890	SPV.0105	SPECIAL 09. INSTALL VENDOR SUPPLIED TRAFFIC SIGN AL CABINET(USH 51 SB & COTTAGE GROVE RD)	LS	1.000	1.000	
3900	SPV.0105	SPECIAL 10. INSTALL VENDOR SUPPLIED TRAFFIC SIGN AL CABINET(USH 51 NB & COTTAGE GROVE RD)	LS	1.000	1.000	
3910	SPV.0105	SPECIAL 11. INSTALL STATE FURNISHED EVP EQUIPMEN T (USH 51 SB & COTTAGE GROVE ROAD)	LS	1.000	1.000	
3920	SPV.0105	SPECIAL 12. INSTALL STATE FURNISHED EVP EQUIPMEN T (USH 51 NB & COTTAGE GROVE ROAD)	LS	1.000	1.000	
3930	SPV.0105	SPECIAL 13. GEOTECHNICAL INSTRUMENTATION	LS	1.000	1.000	
3940	SPV.0165	SPECIAL 01. DECK SURFACE PATCHING	SF	250.000	250.000	
3950	SPV.0165	SPECIAL 02. CONCRETE SURFACE REPAIR SPECIAL	SF	900.000	900.000	
3960	SPV.0165	SPECIAL 03. FIBER WRAP PIER REINFORCING	SF	1,050.000	1,050.000	
3970	SPV.0165	SPECIAL 04. UNDER DECK SPALL REPAIR	SF	15.000	15.000	
3980	SPV.0165	SPECIAL 05. WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP	SF	11,643.000	11,643.000	
3990	SPV.0165	SPECIAL 06. WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP	SF	1,572.000	1,572.000	
4000	SPV.0180	SPECIAL 01. SLOPE PAVING CONCRETE WATERWAY SPECIAL	SY	220.000	220.000	

3

CLEARING & GRUBBING

CATEGORY	STATION	TO STATION	LOCATION	(201.0105) CLEARING STA.	(201.0120) CLEARING I.D.	(201.0205) GRUBBING STA.	(201.0220) GRUBBING I.D.
0010	**USH 51 S.B. MAINLINE**						
	121+00	122+00	LT	1	-	1	-
	126+00	130+00	LT	4	-	4	-
	USH 51 S.B. ENTRANCE RAMP						
	104'A'+00	112'A'+00	LT	8	-	8	-
	107'A'+00	110'A'+00	LT & RT	3	-	3	-
	USH 51 S.B. EXIT RAMP						
	117'B'+00	119'B'+00	LT & RT	2	-	2	-
	COTTAGE GROVE ROAD						
	12'CGE'+57	-	37' LT	-	8	-	8
	15'CGE'+77	-	36' LT	-	8	-	8
	16'CGE'+23	-	40' LT	-	8	-	8
	18'CGE'+43	-	44' LT	-	10	-	10
	20'CGE'+05	-	47' LT	-	12	-	12
	23'CGE'+83	-	44' LT	-	10	-	10
	24'CGE'+38	-	35' LT	-	16	-	16
	24'CGW'+86	-	48' RT	-	18	-	18
	25'CGW'+37	-	36' RT	-	18	-	18
	25'CGW'+80	-	32' RT	-	10	-	10
	MULTI-USE PATH						
	52'BP'+32	-	8' RT	-	5	-	5
	52'BP'+32	-	20' RT	-	5	-	5
	PROJECT TOTALS			**18**	**128**	**18**	**128**

REMOVING PAVEMENT

CATEGORY	STATION	TO STATION	LOCATION	(204.0100) SY	STAGE COMPLETED
0010	**USH 51 S.B. MAINLINE**				
	99+36	111+00	LT & RT	4,273	2 & 3
	115+74	130+33	LT & RT	3,827	2 & 3
	USH 51 S.B. ENTRANCE RAMP				
	103'A'+75	116'A'+15	LT & RT	2,835	1B
	USH 51 S.B. EXIT RAMP				
	103'B'+86	108+00	LT & RT	2,882	1B
	COTTAGE GROVE ROAD E.B.				
	10'CGE'+21	17'CGE'+63	LT & RT	2,409	CG2
	17'CGE'+67	24'CGE'+24	LT	2,466	CG2
	COTTAGE GROVE ROAD W.B.				
	10'CGW'+22	17'CGW'+11	LT & RT	2,646	CG3
	17'CGW'+00	24'CGW'+21	RT	1,927	CG3
	PROJECT TOTAL			**23,265**	

REMOVING CURB & GUTTER

CATEGORY	STATION	TO STATION	LOCATION	(204.0150) LF
0010	**USH 51 S.B. MAINLINE**			
	110+64	110+98	RT	35
	COTTAGE GROVE ROAD E.B.			
	22'CGE'+86	STAGING LIMITS	LT (MEDIAN)	390
	COTTAGE GROVE ROAD W.B.			
	10'CGW'+44	13'CGW'+09	RT (MEDIAN)	270
	18'CGW'+07	22'CGW'+30	RT (MEDIAN)	455
	22'CGW'+84	STAGING LIMITS	RT (MEDIAN)	400
	PROJECT TOTAL			**1,550**

REMOVING ASPHALTIC SURFACE

CATEGORY	STATION	TO STATION	LOCATION	(204.0110) SY	NOTES
0010	**MULTI-USE PATH**				
	51'BP'+92	54'BP'+47	RT & LT	310	EXISTING MULTI-USE PATH
	PROJECT TOTAL			**310**	

REMOVING CONCRETE SIDEWALK

CATEGORY	STATION	TO STATION	LOCATION	(204.0155) SY
0010	**USH 51 S.B. ENTRANCE RAMP**			
	106'A'+90	116'A'+03	MEDIAN	495
	USH 51 S.B. EXIT RAMP			
	103'B'+95	104'B'+28	ISLAND	34
	COTTAGE GROVE ROAD E.B.			
	13'CGE'+10	13'CGE'+53	RT	21
	14'CGE'+77	15'CGE'+06	RT	13
	18'CGE'+22	18'CGE'+40	RT	5
	COTTAGE GROVE ROAD W.B.			
	13'CGW'+28	13'CGW'+51	LT	12
	13'CGW'+97	14'CGW'+32	LT	20
	17'CGW'+75	18'CGW'+28	LT	35
	18'CGW'+05	18'CGW'+25	RT (MEDIAN)	35
	PROJECT TOTAL			**670**

REMOVING GUARDRAIL

CATEGORY	STATION	TO STATION	LOCATION	(204.0165) LF
0010	**USH 51 S.B. MAINLINE**			
	108+72	110+87	RT	218
	115+75	118+38	RT	267
	115+75	119+18	RT & LT	345
	USH 51 S.B. ENTRANCE RAMP			
	106'A'+72	109'A'+70	LT	285
	PROJECT TOTAL			**1,115**

REMOVING FENCE

CATEGORY	STATION	TO STATION	LOCATION	(204.0170) LF
0010	**USH 51 S.B. MAINLINE**			
	115+58	126+88	LT	1,130
	120+02	120+07	LT	95
	MULTI-USE PATH			
	52'BP'+40	52'BP'+35	RT	25
	53'BP+50	54'BP'+29	RT & LT	95
	PROJECT TOTAL			**1,345**

REMOVING CONCRETE SLOPE PAVING

CATEGORY	STATION	TO STATION	LOCATION	(204.0175) SY
0010	**UNDER USH 51 S.B. MAINLINE BRIDGE**			
	18'CGW'+47	18'CGW'+97	LT	170
	PROJECT TOTAL			**170**

3

REMOVING MASONRY

CATEGORY	STATION	TO STATION	LOCATION	(204.0185) CY
0010	**USH 51 S.B. MAINLINE**			
	111+14	111+40	RT	3.3
	PROJECT TOTAL			**3.3**

REMOVING WOOD GUARD POSTS

CATEGORY	STATION	LOCATION	(204.9060.S.01) EACH
0010	**MULTI-USE PATH**		
	52'BP'+42	12' RT	1
	52'BP'+42	16' RT	1
	52'BP'+44	23' RT	1
	52'BP+45	5' RT	1
	52'BP'+47	4' RT	1
	PROJECT TOTAL		**5**

REMOVING TUBULAR RAILING

CATEGORY	STATION	TO STATION	LOCATION	(204.9090.S.01) LF
0010	**MULTI-USE PATH**			
	52'BP'+35	53'BP'+50	RT	65
	PROJECT TOTAL			**65**

REMOVING MODULAR BLOCK RETAINING WALL

CATEGORY	STATION	TO STATION	LOCATION	(204.9165.S.01) SF
0010	**MULTI-USE PATH**			
	52'BP'+04	53'BP'+25	RT	440
	PROJECT TOTAL			**440**

REMOVING CONCRETE MASONRY WALL

CATEGORY	STATION	TO STATION	LOCATION	(204.9165.S.02) SF
0010	**MULTI-USE PATH**			
	52'BP'+35	53'BP'+50	RT	320
	PROJECT TOTAL			**320**

REMOVING CONCRETE SLOPE PAVING WATERWAY

CATEGORY	STATION	TO STATION	LOCATION	(204.9180.S.01) SY
0010	**MULTI-USE PATH**			
	52'BP'+50	54'BP'+53	RT & LT	615
	PROJECT TOTAL			**615**

REMOVING STORM SEWER STRUCTURES

CATEGORY	STRUCTURE I.D.	STATION	LOCATION	(204.0210) REMOVING MANHOLES EACH	(204.0220) REMOVING INLETS EACH
0010	**USH 51 S.B. MAINLINE**				
	IN 6646-005	108+86	51.0' RT	-	1
	USH 51 S.B. ENTRANCE & EXIT RAMPS				
	IN 6546-028	106'A'+35	20.5' RT	-	1
	IN 6546-031	106'A'+64	80.5' LT	-	1
	AS 6546-030	106'A'+87	64.5' LT	1	-
	IN 6646-007	106'A'+91	19.0' RT	-	1
	IN 6546-024	108'A'+96	101.5' LT	-	1
	IN 6546-025	109'A'+06	125.5' LT	-	1
	IN 6546-039	104'B'+48	28.0' LT	-	1
	IN 6546-044	115'A'+92	18.0' RT	-	1
	IN 6546-043	103'B'+94	18.0' RT	-	1
	IN 6546-038	103'B'+92	14.0' LT	1	-
	COTTAGE GROVE ROAD				
	IN 6546-037	14'CGE'+30	24.0' LT	-	1
	IN 6546-036	14'CGW'+51	34.0' RT	-	1
	IN 6546-045	17'CGW'+45	34.0' RT	-	1
	AS 6545-014	17'CGW'+47	39.5' LT	1	-
	IN 6546-046	17'CGE'+74	24.0' LT	-	1
	IN 6646-011	22'CGE'+07	38.5' LT	-	1
	IN 6646-012	22'CGW'+03	24.0' RT	-	1
	IN 6646-009	23'CGE'+24	29.5' LT	-	1
	IN 6646-010	23'CGW'+22	23.0' RT	-	1
	PROJECT TOTALS			**3**	**17**

REMOVING STORM SEWER

CATEGORY	STRUCTURE I.D. FROM	STRUCTURE I.D. TO	SIZE 01. (204.0245.01) 12-INCH TO 15-INCH LF	SIZE 02. (204.0245.02) 18-INCH TO 24-INCH LF	SIZE 03. (204.0245.03) 36-INCH LF
0010	**USH 51 S.B. MAINLINE**				
	IN 6646-006	ENDWALL, STA. 108+96.0, LT.	-	163	-
	USH 51 S.B. ENTRANCE & EXIT RAMPS				
	IN 6546-031	AS 6546-030	26	-	-
	AS 6546-030	IN 6546-028	99	-	-
	IN 6546-028	IN 6646-007	-	59	-
	IN 6646-007	ENDWALL, STA. 107'A'+38.5, RT.	-	49	-
	IN 6546-025	IN 6546-024	-	26	-
	IN 6546-024	ENDWALL, STA. 108'A'+86.0, LT.	-	26	-
	ENDWALL, STA. 114'A'+94.0, LT	ENDWALL, STA. 104'B'+95.5, RT.	108	-	-
	IN 6546-039	ENDWALL, STA. 104'B'+67.0, LT.	-	24	-
	ENDWALL, STA. 115'A'+83.0, LT	IN 6546-044	-	44	-
	IN 6546-044	IN 6546-043	-	5	-
	IN 6546-043	IN 6546-038	-	32	-
	COTTAGE GROVE ROAD				
	IN 6546-036	IN 6546-037	-	36	-
	IN 6546-045	IN 6546-046	-	6	-
	IN 6646-011	IN 6646-012	24	-	-
	IN 6646-010	IN 6646-009	33	-	-
	MULTI-USE PATH				
	STA. 52'BP'+52.0, LT	AS 6545-014	-	-	16
	AS 6545-014	EXISTING ENDWALL STRUCTURE	-	-	14
	PROJECT TOTALS		**290**	**470**	**30**

NOTE: REMOVING APRON ENDWALLS SHALL BE PAID FOR AS REMOVING STORM SEWER PIPE.

EARTHWORK SUMMARY

Division 1 TC - STAGE 1	From/To Station	Location	Common Excavation (1) (item # 205.0100) Cut (2)	 EBS Excavation (3)	Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6) (item #205.0400)	Reduced Marsh in Fill (8) Factor 0.60	Expanded Marsh Backfill (10) Factor 1.50	Unexpanded Fill	Expanded Fill (13) Factor 1.25	Mass Ordinate +/- (14)	Waste	Borrow (item #208.0100)	Select Borrow (item #208.1100)	Comment:
CATEGORY 0010	99+75.07 to 111+91.68	US 51 SB Mainline (south end)	17	0	0	17	0	0	0	33,758	42,197	-42,180	-42,180			
	103A+75 to 116A+00	SB Entrance Ramp	66,936	4,757	0	71,693	0	2,854	0	11,575	10,901	60,792	60,792			
	104B+00 to 113B+53+20	SB Exit Ramp (south end)	801	0	455	346	30,096	18,057	45,143	44,837	33,475	-33,129	-33,129		45,143	Marsh Excavation
	5RR+00 to 7RR+50	Railroad	1	0	0	1	0	0	0	40	50	-50	-50			
	100TC+00 to 112TC+00	Temporary Pavement Stage 2 (south end)	1,310	0	36	1,274	0	0	0	*34,638*	*43,297*	-	-			
	UNDISTRIBUTED		0	500	0	0	0	0	0	500	625	-625	-625			Temporary widening
PROJECT SUBTOTAL			**74,322**		**491**	**73,331**	**30,096**	**20,912**	**45,143**	**90,710**	**87,248**	**-15,191**	**-15,191**	**15,191**	**45,143**	

Temporary Pavement Stage 2 fills are accounted for in the US 51 SB Mainline quantity. They are accounted for in those cross sections and are shown again on this line for reference only.

Division 1 TC - STAGE 2	From/To Station	Location	Common Excavation (1) (item # 205.0100) Cut (2)	 EBS Excavation (3)	Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6) (item #205.0400)	Reduced Marsh in Fill (8) Factor 0.60	Expanded Marsh Backfill (10) Factor 1.50	Unexpanded Fill	Expanded Fill (13) Factor 1.25	Mass Ordinate +/- (14)	Waste	Borrow (item #208.0100)	Select Borrow (item #208.1100)	Comment:
CATEGORY 0010	99+75.07 to 111+91.68	US 51 SB Mainline (south end)	4,324	0	1,097	3,227	0	0	0	10,159	12,699	-9,471	-9,471			
	100TC+00 to 112TC+00	Temporary Pavement Stage 2	784	0	784	0	0	0	0	0	0	0	0			Temporary Pavement Removals
	124TC+00 to 137TC+00	Temporary Pavement Stage 2	1,657	0	1,209	448	0	0	0	0	0	448	448			Temporary Pavement Removals
PROJECT SUBTOTAL			**6,765**		**3,090**	**3,675**	**0**	**0**	**0**	**10,159**	**12,699**	**-9,471**	**-9,471**	**9,471**	**0**	

Division 2 TC - STAGE 1	From/To Station	Location	Common Excavation (1) (item # 205.0100) Cut (2)	 EBS Excavation (3)	Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6) (item #205.0400)	Reduced Marsh in Fill (8) Factor 0.60	Expanded Marsh Backfill (10) Factor 1.50	Unexpanded Fill	Expanded Fill (13) Factor 1.25	Mass Ordinate +/- (14)	Waste	Borrow (item #208.0100)	Select Borrow (item #208.1100)	Comment:
CATEGORY 0010	116B+18 to 121B+91.42	SB Exit Ramp (north end)	0	0	0	0	0	0	0	30,586	38,232	-38,232	-38,232			
	50BP+50 to 54BP+50	Multi-Use Path	1	0	0	1	0	0	0	2,376	2,970	-2,969	-2,969			
	126TC+00 to 137TC+00	Temporary Pavement Stage 2 (north end)	1,338	0	1,338	0	0	0	0	5,758	7,197	-7,197	-7,197			
PROJECT SUBTOTAL			**1,339**		**1,338**	**1**	**0**	**0**	**0**	**38,719**	**48,399**	**-48,398**	**-48,398**	**48,398**	**0**	

3

EARTHWORK SUMMARY CONT.

Division 2 TC - STAGE 2	From/To Station	Location	Common Excavation (1) (item # 205.0100) Cut (2)	 EBS Excavation (3)	Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6) (item #205.0400)	Reduced Marsh in Fill (8) Factor 0.60	Expanded Marsh Backfill (10) Factor 1.50	Unexpanded Fill	Expanded Fill (13) Factor 1.25	Mass Ordinate +/- (14)	Waste	Borrow (item #208.0100)	Select Borrow (item #208.1100)	Comment:
CATEGORY 0010	116+07.38 to 130+32.97	US 51 SB Mainline (north end)	1,306	0	1,212	93	0	0	0	11,604	14,505	-14,411	-14,411			
	UNDISTRIBUTED		0	50	0	0	0	0	0	0	0	0	0			
PROJECT SUBTOTAL			**1,356**		**1,212**	**93**	**0**	**0**	**0**	**11,604**	**14,505**	**-14,411**	**-14,411**	**14,411**	**0**	

Division 3 TC - STAGE 1 (CG1-CG3)	From/To Station	Location	Common Excavation (1) (item # 205.0100) Cut (2)	 EBS Excavation (3)	Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6) (item #205.0400)	Reduced Marsh in Fill (8) Factor 0.60	Expanded Marsh Backfill (10) Factor 1.50	Unexpanded Fill	Expanded Fill (13) Factor 1.25	Mass Ordinate +/- (14)	Waste	Borrow (item #208.0100)	Select Borrow (item #208.1100)	Comment:
CATEGORY 0010	10CGE+00 to 24CGE+38	Cottage Grove Road (EB)	1,752	0	1,224	528	0	0	0	172	216	312	312			
	10CGW+00 to 24CGW+36.98	Cottage Grove Road (WB)	1,601	0	1,400	201	0	0	0	140	175	26	26			
	23TCW+56.77 to 26TCW+77.59	Cottage Grove Road (WB Crossover)	150	0	0	150	0	0	0	0	0	150	150			Includes removal of temporary pavement structure.
	23TCE+06.11 to 26TCE+66.19	Cottage Grove Road (EB Crossover)	127	0	0	127	0	0	0	0	0	127	127			Includes removal of temporary pavement structure.
	UNDISTRIBUTED		0	100	0	0	0	0	0	0	0	0	0			
PROJECT SUBTOTAL			**3,730**		**2,624**	**1,006**	**0**	**0**	**0**	**313**	**391**	**615**	**615**	**0**	**0**	

GRAND TOTAL 5411-02-74			**87,512**				**30,096**							**87,471**	**45,143**	

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.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) Marsh Excavation - to be backfilled with Granular Backfill Material: 209.0100
8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6
10) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item number 208.11
13) Expanded Fill. Factor = 1.25
Depending on selections:

Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor

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.

BASE AGGREGATE DENSE

CATEGORY	STATION	TO STATION	(305.0110) 3/4-INCH TON	* (305.0120) 1 1/4-INCH TON	STAGE COMPLETED
0010	**USH 51 S.B. MAINLINE**				
	99+37	112+26	380	3,830	1B & 2
	115+97	130+33	800	5,010	1B & 2
	USH 51 S.B. ENTRANCE RAMP				
	103'A'+75	116'A'+16	170	2,430	1B & 3
	USH 51 S.B. EXIT RAMP				
	103'B'+86	113'B'+58	180	1,870	1B & 3
	116'B'+32	121'B'+91	230	960	1B & 3
	COTTAGE GROVE ROAD E.B.				
	8'CGE'+65	17'CGE'+76	0	900	CG2
	17'CGE'+54	STAGING LIMITS	0	600	CG2
	COTTAGE GROVE ROAD W.B.				
	8'CGW'+64	17'CGW'+21	0	940	CG3
	16'CGW'+93	STAGING LIMITS	0	530	CG3
	MULTI-USE PATH				
	51'BP'+93	54'BP'+47	0	160	1A
	CONCRETE DRAINAGE DITCH		0	70	1A
	USH 51 S.B. TEMPORARY PAVEMENT (STAGE 1B)				
	STAGING LIMITS	107+00	0	1,110	1A
	120+86	135'TC'+50	0	980	1A
	USH 51 S.B. TEMPORARY PAVEMENT (STAGE 2)				
	99'TC'+06	113'TC'+35	0	3,280	1B
	123'TC'+50	137'TC'+18	0	2,390	1B
	USH 51 S.B. TEMPORARY PAVEMENT (STAGE 3)				
	STAGING LIMITS	108+50	0	1,710	2
	120+86	135'TC'+50	0	980	2
	COTTAGE GROVE ROAD W.B. TEMPORARY PAVEMENT (STAGE CG2)				
	10'CGW'+45	13'CGW'+07	0	20	CG1
	18'CGW'+07	22'CGW'+32	0	30	CG1
	23'CGW'+17	STAGING LIMITS	0	440	CG1
	COTTAGE GROVE ROAD E.B. TEMPORARY PAVEMENT (STAGE CG3)				
	22'CGE'+88	STAGING LIMITS	0	260	CG2
	UNDISTRIBUTED		90	1,430	
	PROJECT TOTALS		**1,850**	**29,930**	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

SELECT CRUSHED MATERIAL

CATEGORY	STATION	TO STATION	(312.0110) TON	STAGE COMPLETED
0010	**USH 51 S.B. MAINLINE**			
	99+37	112+26	4,610	1B & 2
	115+97	130+33	5,300	1B & 2
	USH 51 S.B. ENTRANCE RAMP			
	103'A'+75	116'A'+16	2,600	1B & 3
	USH 51 S.B. EXIT RAMP			
	103'B'+86	113'B'+58	2,340	1B & 3
	116'B'+32	121'B'+91	1,340	1B & 3
	USH 51 S.B. TEMPORARY PAVEMENT (STAGE 2)			
	99'TC'+36	113'TC'+35	1,450	1B
	123'TC'+50	136'TC'+22	1,290	1B
	USH 51 S.B. TEMPORARY PAVEMENT (STAGE 3)			
	STAGING LIMITS	108+31	1,070	2
	130+32	STAGING LIMITS	70	2
	FRENCH DRAINS		40	-
	UNDISTRIBUTED (FOR EBS)		1,000	-
	PROJECT TOTAL		**21,110**	

CONCRETE PAVEMENT

CATEGORY	STATION	TO STATION	(415.0090) 9-INCH SY	(415.1090) HES 9-INCH SY	(415.0100) 10-INCH SY	STAGE COMPLETED
0010	**USH 51 S.B. MAINLINE**					
	100+37	111+62	0	0	5,381	2 & 3
	116+40	128+50	0	0	6,530	2 & 3
	USH 51 S.B. ENTRANCE RAMP					
	103'A'+75	116'A'+16	0	0	2,430	1B
	USH 51 S.B. EXIT RAMP					
	103'B'+86	113'B'+39	0	0	2,686	1B
	116'B'+53	121'B'+94	0	0	2,069	1B
	COTTAGE GROVE ROAD E.B.					
	10'CGE'+21	17'CGE'+23	2,385	0	0	CG2
	18'CGE'+08	24'CGE'+39	2,145	335	0	CG2
	COTTAGE GROVE ROAD W.B.					
	10'CGW'+22	16'CGW'+59	2,350	0	0	CG3
	17'CGW'+49	24'CGW'+37	1,835	0	0	CG3
	PROJECT TOTALS		**8,715**	**335**	**19,095**	

CONCRETE PAVEMENT GAPS

CATEGORY	LOCATION	(415.0210) EACH
0010	COTTAGE GROVE ROAD W.B. AND COTTAGE COURT INTERSECTION	1
	UNDISTRIBUTED	1
	PROJECT TOTAL	**2**

CONCRETE MEDIAN SLOPED NOSE

CATEGORY	STATION	LOCATION	(620.0300) SF
0010	**USH 51 S.B. EXIT RAMP**		
	103'B'+90	RT	50
	COTTAGE GROVE ROAD		
	10'CGE'+55	LT	115
	PROJECT TOTAL		**165**

CONCRETE PAVEMENT APPROACH SLAB

CATEGORY	STATION	TO STATION	(415.0410) SY	STAGE COMPLETED
0010	**USH 51 S.B. MAINLINE**			
	111+62	112+06	174	2
	116+17	116+41	118	2
	USH 51 S.B. EXIT RAMP			
	113'B'+39	113'B'+58	61	1B
	116'B'+13	116'B'+32	59	1B
	PROJECT TOTAL		**411**	

DRILLED TIE BARS

CATEGORY	STATION	TO STATION	LOCATION	(416.0610) EACH
0010	**COTTAGE GROVE ROAD E.B.**			
	10'CGE'+21	12'CGE'+44	ON LINE	75
	15'CGE'+32	17'CGE'+23	ON LINE	64
	18'CGE'+08	24'CGE'+39	ON LINE	210
	COTTAGE GROVE ROAD W.B.			
	10'CGW'+22	13'CGW'+43	ON LINE	107
	14'CGW'+19	16'CGW'+59	ON LINE	80
	17'CGW'+49	24'CGW'+37	ON LINE	230
	PROJECT TOTAL			**766**

DRILLED DOWEL BARS

CATEGORY	STATION	LOCATION	(416.0620) EACH
0010	**COTTAGE GROVE ROAD E.B.**		
	12'CGE'+44	RT	2
	15'CGE'+32	RT	2
	COTTAGE GROVE ROAD W.B.		
	13'CGW'+43	LT	2
	14'CGW'+19	LT	2
	PROJECT TOTAL		**8**

HMA PAVEMENT

CATEGORY	STATION	TO STATION	STAGE COMPLETED	(455.0105) ASPHALTIC MATERIAL PG58-28 TON	(455.0120) ASPHALTIC MATERIAL PG64-28 TON	(455.0605) TACK COAT GAL	(460.1100) HMA PAVEMENT TYPE E-0.3 TON	(460.1103) HMA PAVEMENT TYPE E-3 TON	(460.1110) HMA PAVEMENT TYPE E-10 TON	(465.0105) ASPHALTIC SURFACE TON	(465.0125) ASPHALTIC SURFACE TEMPORARY TON	NOTES
0010	**USH 51 S.B. MAINLINE**											
	99+37	100+37	2 & 3	9.0	0.0	28.3	0	0	151	0	0	
	99+37	108+85	2	6.0	0.0	0.0	110	0	0	0	0	SHOULDER
	118+50	130+33	2	10.2	0.0	0.0	185	0	0	0	0	SHOULDER
	128+50	130+33	3	15.0	0.0	51.2	0	0	274	0	0	
	USH 51 S.B. ENTRANCE RAMP											
	104'A'+50	114'A'+68	1B & 3	8.7	0.0	0.0	158	0	0	0	0	SHOULDER
	105'A'+22	111'A'+59	1B & 3	3.0	0.0	0.0	50	0	0	0	0	SHOULDER
	USH 51 S.B. EXIT RAMP											
	108'B'+10	111'B'+71	1B & 3	3.0	0.0	0.0	48	0	0	0	0	SHOULDER
	COTTAGE GROVE ROAD E.B.											
	8'CGE'+65	10'CGE'+21	CG2	0.0	17.2	72.5	0	312	0	0	0	
	17'CGE'+23	17'CGE'+76	CG2	0.0	2.1	8.9	0	38	0	0	0	
	17'CGE'+54	18'CGE'+08	CG2	0.0	2.1	8.3	0	38	0	0	0	
	24'CGE'+39	24'CGE'+59	CG2	0.0	1.0	4.0	0	17	0	0	0	
	COTTAGE GROVE ROAD W.B.											
	16'CGW'+59	17'CGW'+21	CG3	0.0	2.8	11.7	0	51	0	0	0	
	16'CGW'+93	17'CGW'+49	CG3	0.0	2.6	10.8	0	47	0	0	0	
	24'CGW'+37	24'CGW'+57	CG3	0.0	0.9	3.4	0	16	0	0	0	
	COTTAGE COURT											
	13'CGW'+49	13'CGW'+86	CG3	0.0	0.3	1.7	0	6	0	0	0	
	MULTI-USE PATH											
	51'BP'+93	54'BP'+47	1A	0.0	1.9	0.0	0	0	0	35	0	
	USH 51 S.B. TEMPORARY PAVEMENT (STAGE 1B)											
	STAGING LIMITS	108+50	1A	0.0	0.0	0.0	0	0	0	0	418	
	120+86	STAGING LIMITS	1A	0.0	0.0	0.0	0	0	0	0	543	
	USH 51 S.B. TEMPORARY PAVEMENT (STAGE 2)											
	STAGING LIMITS	113'TC'+35	1B	0.0	0.0	0.0	0	0	0	0	1,719	
	123'TC'+50	STAGING LIMITS	1B	0.0	0.0	0.0	0	0	0	0	1,001	
	USH 51 S.B. TEMPORARY PAVEMENT (STAGE 3)											
	STAGING LIMITS	108+50	2	0.0	0.0	0.0	0	0	0	0	437	
	125+30	134'TC'+75	2	0.0	0.0	0.0	0	0	0	0	175	
	COTTAGE GROVE ROAD W.B. TEMPORARY PAVEMENT (STAGE CG2)											
	10'CGW'+41	13'CGW'+17	CG1	0.0	0.0	0.0	0	0	0	0	18	
	18'CGW'+07	22'CGW'+32	CG1	0.0	0.0	0.0	0	0	0	0	26	
	21'CGW'+81	STAGING LIMITS	CG1	0.0	0.0	0.0	0	0	0	0	113	
	COTTAGE GROVE ROAD E.B. TEMPORARY PAVEMENT (STAGE CG3)											
	10'CGE'+43	13'CGE'+39	CG2	0.0	0.0	0.0	0	0	0	0	20	
	14'CGE'+18	18'CGE'+15	CG2	0.0	0.0	0.0	0	0	0	0	19	
	22'CGE'+09	STAGING LIMITS	CG2	0.0	0.0	0.0	0	0	0	0	128	
	PROJECT TOTALS			**55**	**31**	**201**	**550**	**525**	**425**	**35**	**4,615**	

RUMBLE STRIPS

CATEGORY	STATION	TO STATION	LOCATION	(416.1110) CONCRETE SHOULDER RUMBLE STRIPS LF	(465.0400) ASPHALTIC SHOULDER RUMBLE STRIP LF
0010	**USH 51 S.B. MAINLINE**				
	99+37	108+85	RT	-	948
	105+24	111+82	LT	658	-
	108+85	111+82	RT	297	-
	116+21	118+50	RT	229	-
	116+21	121+35	LT	514	-
	118+50	130+33	RT	-	1,183
	127+74	128+50	LT	77	-
	128+50	130+33	LT	-	184
	PROJECT TOTALS			**1,775**	**2,315**

ASPHALTIC CURB

CATEGORY	STATION	TO STATION	LOCATION	* (465.0310) LF
0010	**COTTAGE COURT**			
	13'CGW'+49	13'CGW'+52	LT	10
	USH 51 S.B. TEMPORARY PAVEMENT (STAGE 2)			
	99'TC'+05	103'TC'+91	LT	490
	PROJECT TOTAL			**500**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

ASPHALTIC FLUMES

CATEGORY	STATION	LOCATION	(465.0315) SY	* (465.0310) ASPHALTIC CURB LF
0010	**MULTI-USE PATH**			
	54'BP'+41	RT	5	15
	PROJECT TOTAL		**5**	**15**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

CONCRETE SURFACE DRAINS

CATEGORY	STATION	TO STATION	LOCATION	(416.1010) CY
0010	**USH 51 S.B. EXIT RAMP**			
	113'B'+07	113'B'+18	LT	1.5
	117'B'+60	117'B'+73	LT	0.6
	USH 51 S.B. MAINLINE			
	111+14	111+41	RT	3.3
	116+17	116+29	RT	0.9
	PROJECT TOTAL			**6.3**

SLOPE PAVING CONCRETE WATERWAY SPECIAL

CATEGORY	STATION	TO STATION	LOCATION	(SPV.0180.01) SY
0010	**MULTI-USE PATH**			
	53'BP'+60	54'BP'+53	LT	220
	PROJECT TOTAL			**220**

TEMPORARY SHORING

CATEGORY	STATION	TO STATION	LOCATION	(511.1100) SF
0010	**USH 51 S.B. MAINLINE (STAGE 2)**			
	100'TC'+00	101'TC'+50	LT	1,500
	126'TC'+64	126'TC'+88	LT	200
	PROJECT TOTAL			**1,700**

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	DESCRIPTION	LOCATION	(618.0100) EACH
0010	PROJECT 5411-02-74	COTTAGE COURT	1
	PROJECT TOTAL		**1**

SLOPE PAVING CRUSHED AGGREGATE

CATEGORY	STATION	TO STATION	LOCATION	(604.0500) SY
0010	**USH 51 S.B. MAINLINE**			
	116+00	120+83	LT	665
	PROJECT TOTAL			**665**

FENCE TEMPORARY

CATEGORY	STATION	TO STATION	LOCATION	(616.0600.S) LF
0010	**USH 51 S.B. MAINLINE**			
	125+00	126+80	LT	180
	PROJECT TOTAL			**180**

FENCE TRACK CLEARANCE

CATEGORY	STATION	TO STATION	LOCATION	(616.0800.S) LF
0010	**COTTAGE GROVE ROAD W.B.**			
	16'CGW'+05	17'CGW'+35	LT	180
	COTTAGE GROVE ROAD E.B.			
	18'CGE'+45	19'CGE'+90	RT	230
	PROJECT TOTAL			**410**

PEDESTRIAN SAFETY FENCE AND OVERHEAD PROTECTION

CATEGORY	STATION	TO STATION	(SPV.0090.07) PEDESTRIAN SAFETY FENCE LF	(SPV.0090.08) PEDESTRIAN OVERHEAD PROTECTION LF
0010	**COTTAGE GROVE ROAD**			
	17'CGW'+40	18'CGW'+90	300	150
	PROJECT TOTALS		**300**	**150**

FENCE CHAIN LINK 6-FT

CATEGORY	STATION	TO STATION	LOCATION	(616.0206) LF
0010	**USH 51 S.B. MAINLINE**			
	117'B'+50	126+88	LT	940
	PROJECT TOTAL			**940**

FENCE CHAIN LINK POLYMER-COATED

CATEGORY	STATION	TO STATION	LOCATION	* (SPV.0090.04) FENCE CHAIN LINK POLYMER-COATED 4-FT LF	(SPV.0090.05) FENCE CHAIN LINK POLYMER-COATED 6-FT LF
0010	**USH 51 S.B. MAINLINE**				
	111+14	111+42	RT	40	-
	115+85	116+20	RT	35	-
	MULTI-USE PATH				
	52'BP'+77	54'BP'+27	LT	160	-
	117'B'+41	117'B'+50	LT	-	165
	PROJECT TOTALS			**235**	**165**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

UTILITY LINE OPENING (ULO)

CATEGORY	STATION	LOCATION	* (SPV.0060.01) EACH	DESCRIPTION
0010	**USH 51 S.B. MAINLINE**			
	108+92.0	49.5' LT	1	FIBER OPTIC
	111+21.0	34.0' LT	1	FIBER OPTIC
	112+1.0	28.0' LT	1	FIBER OPTIC
	112+72.0	20.0' LT	1	FIBER OPTIC
	116+50.0	40.0' LT	1	FIBER OPTIC
	122+47.0	68.0' LT	1	FIBER OPTIC
	PROJECT TOTAL		**6**	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

CONCRETE PAVEMENT JOINT LAYOUT

CATEGORY	DESCRIPTION	(SPV.0105.05) LS
0010	PROJECT 5411-02-74	1
	PROJECT TOTAL	**1**

WICK DRAIN ITEMS

CATEGORY	STATION	TO STATION	(SPV.0035.01) DRAINAGE BLANKET CY	(SPV.0090.06) WICK DRAINS LF
0010	**USH 51 S.B. EXIT RAMP**			
	117'B'+50	122+2.5	2,677	23,040
	PROJECT TOTALS		**2,677**	**23,040**

WICK DRAINS ADDITIONAL ITEMS

CATEGORY	STATION	TO STATION	LOCATION	(SPV.0060.23) SETTLEMENT GAUGES EACH	(SPV.0060.24) VIBRATING WIRE PIEZEOMETER INSTRUMENTATION SYSTEM EACH	ESTIMATED TIP ELEVATION	(SPV.0105.13) GEOTECHNICAL INSTRUMENTATION LS
0010	**USH 51 S.B. EXIT RAMP**					-	
	116'B'+20	-	60' RT	1	-	-	-
	116'B'+40	-	30' LT	1	-	-	-
	119'B'+00	-	30' LT	1	-	-	-
	121'B'+00	-	30' LT	1	-	-	-
	123'B'+00	-	30' LT	1	-	-	-
	116'B'+10	-	60' RT	-	1	858.0	-
	116'B'+40	-	30' LT	-	1	853.0	-
	119'B"+00	-	30' LT		1	847.0	-
	119'B'+00	-	30' LT		1	862.0	-
	121'B'+00	-	30' LT		1	850.0	-
	121'B'+00	-	30' LT		1	860.0	-
	116'B'+00	126'B'+00	-	-	-	-	1
	PROJECT TOTAL			**5**	**6**		**1**

CONCRETE CURB & GUTTER

CATEGORY	STATION	TO STATION	LOCATION	(SPV.0090.01) SPECIAL 24-INCH TYPE A LF	(SPV.0090.02) SPECIAL 24-INCH TYPE D LF	(SPV.0090.03) CONCRETE CURB INTEGRAL SPECIAL 12-INCH TYPE D LF	(601.0409) 30-INCH TYPE A LF	(601.0411) 30-INCH TYPE D LF	(601.0574) 4-INCH SLOPED 30-INCH TYPE G LF	(601.0576) 4-INCH SLOPED 30-INCH TYPE J LF	(650.5500) CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF
0010	**USH 51 S.B. MAINLINE**										
	99+37	104'A'+50	LT	-	-	-	-	-	415	100	515
	111+10	111+60	RT	-	-	-	50	-	-	-	50
	USH 51 S.B. ENTRANCE RAMP										
	111'A'+49	115'A'+96	RT	-	-	-	430	-	-	-	430
	USH 51 S.B. EXIT RAMP										
	103'B'+86	104'B'+33	LT	-	-	-	115	-	-	-	115
	103'B'+90	108'B'+10	RT	-	-	-	430	-	-	-	430
	115'CGE'+32	111'B'+71	RT/ONLINE	-	-	-	810	-	-	-	810
	COTTAGE GROVE ROAD E.B.										
	10'CGE'+55	13'CGE'+24	LT	275	-	-	-	-	-	-	275
	12'CGE'+44	115'A'+34	RT/LT	-	-	-	185	-	-	-	185
	14'CGE'+08	17'CGE'+33	LT	320	10	-	-	-	-	-	330
	17'CGE'+01	17'CGE'+67	RT	-	-	70	-	-	-	-	70
	17'CGE'+68	22'CGE'+36	LT	440	40	-	-	-	-	-	480
	22'CGE'+88	STAGING LIMITS	LT	-	-	-	160	230	-	-	390
	COTTAGE GROVE ROAD W.B.										
	10'CGW'+56	13'CGW'+24	RT	270	-	-	-	-	-	-	270
	13'CGW'+43	13'CGW'+54	LT	-	-	-	30	-	-	-	30
	13'CGW'+86	14'CGW'+03	LT	-	-	-	35	-	-	-	35
	14'CGW'+04	17'CGW'+06	RT	255	50	-	-	-	-	-	305
	17'CGW'+40	22'CGW'+33	RT	485	10	-	-	-	-	-	495
	22'CGW'+87	STAGING LIMITS	RT	-	-	-	150	245	-	-	395
	MULTI-USE PATH										
	51'BP'+95	54'BP'+35	ON LINE	-	-	-	-	245	-	-	245
	PROJECT TOTALS			**2,045**	**110**	**70**	**2,395**	**720**	**415**	**100**	**5,855**

NOTE: TIE BARS INCIDENTAL TO CONCRETE CURB & GUTTER TYPES 'A' AND 'G'

CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA

CATEGORY	STATION	LOCATION	(602.0515) SF
0010	**USH 51 S.B. ENTRANCE RAMP**		
	115'A'+94	LT	8
	115'A'+90	RT (MEDIAN)	8
	USH 51 S.B. EXIT RAMP		
	103'B'+96	RT (MEDIAN)	8
	103'B'+99	LT (ISLAND)	8
	104'B'+06	LT (ISLAND)	8
	104'B'+29	LT	8
	COTTAGE GROVE ROAD E.B.		
	14'CGE'+19	LT (MEDIAN)	8
	14'CGE'+20	RT (ISLAND)	8
	18'CGE'+21	LT (MEDIAN)	24
	18'CGE'+30	RT	24
	COTTAGE GROVE ROAD W.B.		
	13'CGW'+50	LT	8
	13'CGW'+91	LT	8
	14'CGW'+15	LT	8
	14'CGW'+16	RT (MEDIAN)	8
	18'CGW'+03	LT	24
	18'CGW'+11	RT (MEDIAN)	24
	PROJECT TOTAL		**192**

CONCRETE SIDEWALK

CATEGORY	STATION	TO STATION	LOCATION	(602.0410) 5-INCH SF	(602.0420) 7-INCH SF
0010	**USH 51 S.B. EXIT RAMP**				
	107'B'+84	103'B'+90	RT (MEDIAN)	2,010	-
	103'B'+86	104'B'+29	LT (ISLAND)	630	-
	COTTAGE GROVE ROAD E.B.				
	10'CGE'+55	12'CGE'+00	LT (MEDIAN)	805	-
	13'CGE'+10	13'CGE'+59	RT	290	-
	14'CGE'+10	14'CGE'+23	LT (MEDIAN)	130	-
	14'CGE'+77	15'CGE'+05	RT	135	-
	18'CGE'+22	18'CGE'+40	RT	-	50
	COTTAGE GROVE ROAD W.B.				
	13'CGW'+28	13'CGW'+51	LT	130	-
	13'CGW'+90	14'CGW'+32	LT	260	-
	17'CGW'+75	18'CGW'+28	LT	230	170
	18'CGW'+01	18'CGW'+29	RT (MEDIAN)	-	400
	PROJECT TOTALS			**4,620**	**620**

CRASH CUSHIONS

CATEGORY	STATION	LOCATION	(614.0800) CRASH CUSHIONS PERMANENT EACH	(614.0905) CRASH CUSHIONS TEMPORARY EACH	BACK WIDTH	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
0010	**USH 51 S.B. MAINLINE/S.B. EXIT RAMP**									
	120+83	LT	1	-	4	OM-3C	TL-3	UNIDIRECTIONAL	L AND R	PERMANENT CONCRETE BARRIER IN RAMP GORE
	USH 51 S.B. STAGE 1B									
	128+53	LT	-	1	4	OM-3R	TL-3	UNIDIRECTIONAL	L	TEMPORARY CONCRETE BARRIER
	USH 51 S.B. STAGE 2									
	130+41	LT	-	1	4	OM-3L	TL-3	UNIDIRECTIONAL	R	TEMPORARY CONCRETE BARRIER
	130+63	LT	-	1	4	OM-3R	TL-3	UNIDIRECTIONAL	L	TEMPORARY CONCRETE BARRIER
	USH 51 S.B. STAGE 3									
	109+13	LT	-	1	4	OM-3R	TL-3	UNIDIRECTIONAL	L	TEMPORARY CONCRETE BARRIER
	PROJECT TOTALS		**1**	**4**						

CONCRETE BARRIER WALL TYPE S42

CATEGORY	STATION	TO STATION	LOCATION	(603.1142) LF	(603.2142) CONCRETE BARRIER FIXED OBJECT PROTECTION TYPE S42 LF	(633.0500) DELINEATOR REFLECTORS EACH	(633.1000) DELINEATOR BRACKETS EACH	(650.7500) CONSTRUCTION STAKING CONCRETE BARRIER LF
0010	**USH 51 S.B. MAINLINE**							
	116+25	120+83	LT	460	-	4	4	460
	120+68	120+83	LT	-	15	-	-	-
	USH 51 S.B. EXIT RAMP							
	116'B'+30	120'B'+84	RT	455	-	4	4	455
	PROJECT TOTALS			**915**	**15**	**8**	**8**	**915**

MGS GUARDRAIL

CATEGORY	STATION	TO STATION	LOCATION	(614.2300) MGS GUARDRAIL 3 LF	(614.2330) MGS GUARDRAIL 3 K LF	(614.2500) MGS THRIE BEAM TRANSITION LF	(614.2610) MGS GUARDRAIL TERMINAL EAT EACH	(614.2620) MGS GUARDRAIL TERMINAL TYPE 2 EACH
0010	**USH 51 S.B. MAINLINE**							
	108+82	111+62	RT	187.5	-	39.4	1	-
	116+15	126+57	RT	950.0	-	39.4	1	-
	USH 51 S.B. ENTRANCE RAMP							
	106'A'+00	111'A'+03	LT	450.0	-	-	1	-
	104'A'+50	106'A'+00	LT	-	150.0	-	-	1
	USH 51 S.B. EXIT RAMP							
	107'B'+50	113'B'+18	LT	512.5	-	39.4	-	1
	111'B'+74	113'B'+39	RT	125.0	-	39.4	-	1
	117'B'+60	126+90	LT	837.5	-	39.4	1	-
	PROJECT TOTALS			**3,062.5**	**150.0**	**197.0**	**4**	**3**

STORM SEWER STRUCTURES

CATEGORY	STRUCTURE I.D.	STATION	LOCATION	(522.1012) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH	(522.1015) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH EACH	(522.1024) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	(633.5200) MARKERS CULVERT END EACH	(611.9800.S) PIPE GRATES EACH	(611.3901) INLETS MEDIAN 1 GRATE EACH	(611.3902) INLETS MEDIAN 2 GRATE EACH	(611.2004) MANHOLES 4-FT DIAMETER EACH	(611.2005) MANHOLES 5-FT DIAMETER EACH	(611.3003) INLETS 3-FT DIAMETER EACH	(611.3004) INLETS 4-FT DIAMETER EACH	(611.3230) INLETS 2x3-FT EACH	(SPV.0060.02)* MANHOLE COVER TYPE SPECIAL LOGO EACH	(611.0612) INLET COVERS TYPE C EACH	(611.0624) INLET COVERS TYPE H EACH	(611.0642) INLET COVERS TYPE MS EACH	(611.0654) INLET COVERS TYPE V EACH	(650.4000) CONSTRUCTION STAKING STORM SEWER EACH	(650.6000) CONSTRUCTION STAKING PIPE CULVERTS EACH	TOP OF STRUCTURE ELEVATION	BOX DEPTH FEET	FLANGE OR RIM ELEVATION	INVERT
0010	EW.1	108+96.5	112.0' LT	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	897.59
	1.1	108+84.5	53.0' RT	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	2	-	-	-	4.61	904.80	900.19
	EW.2	111'B'+33.5	20.0' LT	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	892.87
	2.1	110+85.0	63.0' RT	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	897.98	3.25	897.98	894.73
	EW.3A	111+47.0	58.0' RT	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	872.75
	EW.3B	112'B'+87.0	92.0' LT	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	870.16
	3.0	111+54.0	54.5' RT	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	874.25	1.64	875.50	872.61
	EW.4	112'B'+90.0	41.0' LT	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	888.77
	4.1	112+58.0	43.5' LT	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	892.20	2.50	892.20	889.70
	EW.5	117'B'+54.2	52.0' LT	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	879.46
	5.1	117'B'+70.3	9.1' LT	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	1	-	897.28	13.75	898.53	883.53
	5.2	116+50.0	40.0' LT	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	898.10	4.12	898.10	893.98
	5.3	116+52.3	33.1' LT	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	897.00	2.85	898.25	894.15
	EW.6	122+96.5	93.0' LT	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	867.40
	6.1	121+87.5	36.0' LT	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	882.38	10.10	882.38	872.28
	6.2	120+25.0	38.8' LT	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	887.00	5.10	887.00	881.90
	6.3	120'B'+26.4	21.1' RT	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	887.07	5.01	888.32	882.06
	6.4	120+25.0	33.1' LT	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	886.17	4.11	887.42	882.06
	EW.7	109'B'+2.5	21.5' LT	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	882.20
	7.1	109'B'+2.5	1.5' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	888.54	5.94	889.54	882.60
	7.2	109'B'+2.5	36.0' RT	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	889.00	5.29	889.00	883.71
	EW.8	106'B'+78.0	12.0' LT	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	874.15
	8.1	113'A'+8.5	16.5' RT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	877.64	3.10	878.64	874.54
	EW.9A	114'A'+93.5	24.0' LT	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	862.03
	EW.9B	104'B'+95.5	30.0' LT	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	862.43
	EW.10	104'B'+62.0	38.0' LT	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	864.95
	10.1	104'B'+48.3	28.4' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	868.25	3.02	869.25	865.23
	EW.11	115'A'+66.5	16.5' LT	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	863.75
	11.0	103'B'+89.9	15.3' LT	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1	868.24	2.95	869.24	865.29
	11.1	103'B'+93.0	1.5' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	868.08	2.96	869.08	865.12
	11.2	104'B'+3.0	19.5' RT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	868.54	3.64	869.54	864.90
	11.3	115'A'+83.0	16.5' RT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	868.05	3.69	869.05	864.36
	11.4	14'CGE'+30.5	25.2' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	868.82	2.85	869.82	865.97
	11.5	14'CGW'+48.5	36.0' RT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	868.98	2.59	869.98	866.39
	12.1	22'CGW'+3.1	25.0' RT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	872.55	3.75	873.55	868.80
	12.2	22'CGE'+6.4	36.7' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	872.35	3.06	873.35	869.29
	13.1	23'CGW'+21.5	23.5' RT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	871.99	3.07	872.99	868.92
	13.2	23'CGE'+24.1	31.0' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	871.87	2.79	872.87	869.08
	14.0	53'BP'+52.8	41.8' LT	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	1	864.55	1.67	865.80	862.88
	15.0	52'BP'+55.8	16.5' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	1	871.25	7.85	872.50	863.40
	EW.16	54'BP'+42.0	29.0' LT	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	863.51
	16.1	54'BP'+42.0	16.6' RT	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	868.00	4.03	868.00	863.97
	17.0	52'BP'+65.3	6.0' RT	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	-	872.29	9.03	873.54	863.26
	18.1	17'CGW'+44.7	34.4' RT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	874.16	3.07	875.16	871.09
	18.2	17'CGE'+73.8	25.0' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1	874.11	2.71	875.11	871.40
	PROJECT TOTALS			**9**	**1**	**4**	**14**	**4**	**7**	**1**	**2**	**2**	**3**	**2**	**14**	**2**	**2**	**15**	**9**	**4**	**25**	**9**				

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

CONCRETE COLLARS FOR PIPE

CATEGORY	TO STATION	LOCATION	(520.8000) EACH
0010	**COTTAGE GROVE ROAD**		
	14'CGE'+30	18' LT	1
	17'CGW'+40	29' RT	1
	17'CGE'+78	19' LT	1
	22'CGW'+01	21' RT	1
	23'CGE'+24	26' LT	1
	PROJECT TOTAL		**5**

ADJUSTING INLET COVERS

CATEGORY	STRUCTURE I.D.	STATION	LOCATION	(611.8115) EACH	(SPV.0060.03) INLET COVERS TYPE SPECIAL MS-A EACH
0010	**COTTAGE GROVE ROAD E.B.**				
	IN 6546-007	10'CGE'+43.0	28.5' LT	1	1
	COTTAGE GROVE ROAD W.B.				
	IN 6545-012	13'CGW'+53.0	31.5' LT	1	-
	PROJECT TOTALS			**2**	**1**

RIPRAP MEDIUM

CATEGORY	STATION	LOCATION	(606.0200) RIPRAP MEDIUM CY	(645.0120) GEOTEXTILE FABRIC TYPE HR SY
0010	**USH 51 S.B. MAINLINE**			
	116+27	RT	9	35
	USH 51 S.B. EXIT RAMP			
	109'B'+03	LT	11	35
	111'B'+34	LT	26	75
	113'B'+03	LT	48	105
	117'B'+54	LT	11	40
	PROJECT TOTALS		**105**	**290**

STORM SEWER PIPE REINFORCED CONCRETE

CATEGORY	STRUCTURE I.D. FROM	STRUCTURE I.D. TO	(608.0312) CLASS III 12-INCH LF	(608.0315) CLASS III 15-INCH LF	(608.0318) CLASS III 18-INCH LF	(608.0324) CLASS III 24-INCH LF	(608.0336) CLASS III 36-INCH LF	# JOINT TIES EACH
0010	EW.1	1.1	-	-	-	166	-	42
	EW.2	2.1	189	-	-	-	-	22
	EW.3B	3.0	-	-	-	273	-	68
	3.0	EW.3A	-	-	-	8	-	-
	EW.4	4.1	93	-	-	-	-	34
	EW.5	5.1	46	-	-	-	-	6
	5.1	5.2	128	-	-	-	-	-
	5.2	5.3	7	-	-	-	-	-
	EW.6	6.1	122	-	-	-	-	6
	6.1	6.2	162	-	-	-	-	-
	6.2	6.3	7	-	-	-	-	-
	6.2	6.4	6	-	-	-	-	-
	EW.7	7.1	-	20	-	-	-	6
	7.1	7.2	38	-	-	-	-	-
	EW.8	8.1	39	-	-	-	-	6
	EW.9A	EW.9B	97	-	-	-	-	12
	EW.10	10.1	17	-	-	-	-	6
	11.0	11.1	-	-	14	-	-	-
	11.0	11.4	-	-	7	-	-	-
	11.1	11.2	-	-	23	-	-	-
	11.2	11.3	-	-	7	-	-	-
	11.3	EW.11	-	-	-	37	-	6
	11.4	11.5	-	-	32	-	-	-
	12.1	12.2	24	-	-	-	-	-
	12.1	AS 6645-007	-	7	-	-	-	-
	13.1	13.2	-	32	-	-	-	-
	13.2	IN 6646-008	-	7	-	-	-	-
	14.0	OUTFALL	11	-	-	-	-	-
	15.0	17.0	-	-	-	-	24	-
	EW.16	16.1	46	-	-	-	-	6
	17.0	OUTFALL	-	-	-	-	7	-
	18.1	IN 6545-036	-	-	7	-	-	-
	18.2	IN 6546-047	-	-	7	-	-	-
	PROJECT TOTALS		**1,032**	**66**	**97**	**484**	**31**	**220**

JOINT TIES ARE INCIDENTAL TO STORM SEWER PIPE INSTALLATION AND QUANTITY IS PROVIDED FOR INFORMATION ONLY.

RELAID STORM SEWER

CATEGORY	STATION	LOCATION	(609.0112) 12-INCH LF	(609.0115) 15-INCH LF	(609.0130) 30-INCH LF
0010	**COTTAGE GROVE ROAD E.B.**				
	9'CGE'+57	LT	-	8	-
	10'CGE'+34	LT	8	-	-
	13'CGE'+50	LT	-	-	8
	23'CGE'+24	LT	-	8	-
	PROJECT TOTALS		**8**	**16**	**8**

PIPE UNDERDRAIN WRAPPED 6-INCH

CATEGORY	STATION	TO STATION	LOCATION	(612.0406)* LF	(612.0806) APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH EACH
0010	**USH 51 S.B. MAINLINE**				
	99+36	104'A'+50	LT	475	1
	USH 51 S.B. EXIT RAMP				
	104'B'+50	107'B'+53	LT	305	-
	PROJECT TOTALS			**780**	**1**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

SILT FENCE

CATEGORY	STATION	TO STATION	LOCATION	(628.1504) LF	(628.1520) MAINTENANCE LF
0010	**USH 51 S.B. MAINLINE**				
	STAGING LIMITS	106+60	RT	1,220	2,440
	108+85	109+60	RT	75	150
	115+50	135'TC'+50	RT	2,000	4,000
	127+00	137'TC'+15	LT	1,020	2,040
	USH 51 S.B. ENTRANCE RAMP			0	0
	104'A'+00	106'A'+50	LT	320	640
	111'A'+60	115'A'+50	LT	435	870
	USH 51 S.B. EXIT RAMP			0	0
	104'B'+45	114'B'+05	LT	900	1,800
	117'B'+45	127+00	LT	960	1,920
	MULTI-USE PATH				
	52'BP'+65	54'BP'+35	LT	200	400
		UNDISTRIBUTED		370	740
		PROJECT TOTALS		**7,500**	**15,000**

WATER

CATEGORY	DESCRIPTION	(624.0100) MGAL
0010	COMPACTION	318
	DUST CONTROL	127
	UNDISTRIBUTED	55
	PROJECT TOTAL	**500**

TRACKING PADS

CATEGORY	DESCRIPTION	(628.7560) EACH
0010	USH 51 S.B. RAMPS	2
	COTTAGE COURT	1
	PROJECT TOTAL	**3**

MOBILIZATIONS EROSION CONTROL

CATEGORY	DESCRIPTION	(628.1905) EACH	(628.1910) EMERGENCY EROSION CONTROL EACH
0010	PROJECT 5411-02-74	30	15
	PROJECT TOTALS	**30**	**15**

MARKERS ROW

CATEGORY	POINT NO.	STATION	LOCATION	(633.5100) EACH
0010	**USH 51 S.B. MAINLINE**			
	100	120+00.52	157.32' LT	1
	101	126+05.11	75.65' LT	1
	PROJECT TOTAL			**2**

FINISHING ITEMS

CATEGORY	STATION	TO STATION	LOCATION	(625.0100) TOPSOIL SY	(625.0500) SALVAGED TOPSOIL SY	(627.0200) MULCHING SY	(629.0210) FERTILIZER TYPE B CWT	(630.0130) SEEDING MIXTURE NO. 30 LB	(630.0140) SEEDING MIXTURE NO. 40 LB	(630.0160) SEEDING MIXTURE NO. 60 LB	(630.0170) SEEDING MIXTURE NO. 70 LB	(630.0175) SEEDING MIXTURE NO. 75 LB	(630.0180) SEEDING MIXTURE NO. 80 LB	(630.0200) SEEDING TEMPORARY LB	(628.2002) EROSION MAT CLASS 1 TYPE A SY	(628.2006) EROSION MAT URBAN CLASS 1 TYPE A SY
0010	**USH 51 S.B. MAINLINE**															
	STAGING LIMITS	112+00	RT	-	2,405	-	2.28	65	-	-	-	-	-	-	2,405	-
	STAGING LIMITS	103'A'+75	LT	-	294	-	0.18	5	-	-	-	-	-	-	294	-
	105+25	113+50	LT	-	6,579	2,615	5.09	-	-	-	-	25	29	-	3,964	-
	115+40	STAGING LIMITS	RT	-	2,800	-	2.60	74	-	-	-	-	-	-	2,800	-
	121'B'+91	STAGING LIMITS	LT	-	2,146	-	2.43	-	-	-	-	1	26	-	2,146	-
	USH 51 S.B. ENTRANCE RAMP															
	103'A'+75	116'A'+15	LT	-	12,287	6,552	8.11	-	1	87	23	25	17	-	5,735	-
	USH 51 S.B. EXIT RAMP															
	104'B'+30	114'B'+00	LT	-	4,064	661	2.69	-	-	-	-	17	11	-	3,403	-
	117'B'+60	121'B'+91	LT	-	2,575	-	1.79	-	-	-	-	12	7	-	2,575	-
	COTTAGE GROVE ROAD E.B.															
	12'CGE'+00	13'CGE'+21	LT	113	-	-	0.07	-	2	-	-	-	-	-	-	113
	11'CGE'+75	13'CGE'+55	RT	85	-	-	0.05	-	2	-	-	-	-	-	-	85
	14'CGE'+23	17'CGE'+40	LT	773	-	-	0.49	-	14	-	-	-	-	-	-	773
	14'CGE'+82	23'CGE'+21	RT	191	-	-	0.12	-	3	-	-	-	-	-	-	191
	17'CGE'+38	22'CGE'+32	LT	1,224	-	-	0.77	-	22	-	-	-	-	-	-	1,224
	22'CGE'+92	STAGING LIMITS	LT	1,455	-	-	0.92	-	26	-	-	-	-	-	-	1,455
	COTTAGE GROVE ROAD W.B.															
	13'CGW'+13	13'CGW'+52	LT	52	-	-	0.03	-	1	-	-	-	-	-	-	52
	13'CGW'+88	16'CGW'+65	LT	167	-	-	0.11	-	3	-	-	-	-	-	-	167
	16'CGW'+95	22'CGW'+13	LT	574	-	-	0.36	-	10	-	-	-	-	-	-	574
	23'CGW'+03	25'CGW'+25	LT	113	-	-	0.07	-	2	-	-	-	-	-	-	113
	MULT-USE PATH															
	51'BP'+93	54'BP'+47	LT	-	543	543	0.34	-	10	-	-	-	-	-	-	-
	51'BP'+93	54'BP'+47	RT	-	1,578	679	0.99	-	12	-	-	5	-	-	899	-
	USH 51 S.B. STAGE 1B															
	STAGING LIMITS	107+00	RT	-	824	-	-	-	-	-	-	-	-	22	824	-
	120+80	STAGING LIMITS	RT	-	1,837	-	-	-	-	-	-	-	-	50	1,837	-
	USH 51 S.B. STAGE 2															
	STAGING LIMITS	106'TC'+00	LT	-	703	-	-	-	-	-	-	-	-	19	703	-
	106'TC'+60	110'TC'+50	LT	-	1,284	-	-	-	-	-	-	-	-	35	1,284	-
	108'TC'+65	112'TC'+00	RT	-	753	-	-	-	-	-	-	-	-	20	753	-
	123'TC'+50	130'TC'+00	LT	-	727	-	-	-	-	-	-	-	-	20	727	-
	USH 51 S.B. STAGE 3															
	STAGING LIMITS	108+50	RT	-	932	-	-	-	-	-	-	-	-	25	932	-
	125+25	STAGING LIMITS	RT	-	1,320	-	-	-	-	-	-	-	-	36	1,320	-
	UNDISTRIBUTED			1,151	10,849	2,750	7.49	36	27	23	7	25	25	63	7,399	1,151
	PROJECT TOTALS			**5,900**	**54,500**	**13,800**	**37.00**	**180**	**135**	**110**	**30**	**110**	**115**	**290**	**40,000**	**5,900**

INLET PROTECTION

CATEGORY	STRUCTURE I.D.	STATION	LOCATION	(628.7005) TYPE A EACH	(628.7020) TYPE D EACH
0010	**USH 51 S.B. MAINLINE**				
	1.1	108+85	53.0' RT	1	-
	IN 6646-005	108+86	51.0' RT	1	-
	2.1	111+00	63.0' RT	1	-
	4.1	112+72	20.0' LT	1	-
	5.2	116+50	40.0' LT	1	-
	5.3	116+52	33.1' LT	-	1
	6.2	120+25	40.0' LT	1	-
	6.4	120+25	34.2' LT	-	1
	6.1	121+88	36.0' LT	-	1
	-	122+06	32.0' RT	1	-
	AS 6544-003	126+78	67.0' LT	1	-
	-	128+86	24.5' RT	1	-
	USH 51 S.B. ENTRANCE & EXIT RAMPS				
	IN 6546-028	106'A'+35	20.5' RT	1	-
	IN 6546-031	106'A'+64	80.5' LT	-	1
	IN 6646-007	106'A'+91	19.0' RT	-	1
	5.1	117'B'+70	9.1' LT	-	1
	6.3	120'B'+26	21.1' RT	-	1
	IN 6546-024	108'A'+96	101.5' LT	-	1
	IN 6546-025	109'A'+06	125.5' LT	-	1
	7.1	109'B'+03	1.5' LT	-	1
	7.2	109'B'+03	36.0' RT	1	-
	8.1	113'A'+8.5	16.5' RT	-	1
	IN 6546-039	104'B'+48	28.0' LT	-	1
	10.1	104'B'+48	28.4' LT	-	1
	11.2	104'B'+03	19.5' RT	-	1
	11.3	115'A'+83	16.5' RT	-	1
	IN 6546-044	115'A'+92	18.0' RT	-	1
	IN 6546-043	103'B'+94	18.0' RT	-	1
	11.1	103'B'+93	1.5' LT	-	1
	COTTAGE GROVE ROAD E.B.				
	IN 6546-006	8'CGE'+73	6.5' RT	-	1
	IN 6546-035	9'CGE'+60	5.0' RT	-	1
	IN 6546-007	10'CGE'+43	28.5' LT	-	1
	IN 6546-038	14'CGE'+25	7.5' RT	-	1
	11.0	14'CGE'+25	4.5' RT	-	1
	IN 6546-037	14'CGE'+30	24.0' LT	-	1
	11.4	14'CGE'+30	25.2' LT	-	1
	IN 6546-046	17'CGE'+74	25.0' LT	-	1
	18.2	17'CGE'+74	25.0' LT	-	1
	IN 6546-047	17'CGE'+97	5.5' RT	-	1
	12.2	22'CGE'+06	36.7' LT	-	1
	IN 6646-011	22'CGE'+07	38.5' LT	-	1
	IN 6646-009	23'CGE'+24	29.5' LT	-	1
	13.2	23'CGE'+24	31.0' LT	-	1
	IN 6646-008	23'CGW'+24	5.5' RT	-	1
	COTTAGE GROVE ROAD W.B.				
	IN 6545-035	9'CGW'+55	5.5' LT	-	1
	IN 6545-012	13'CGW'+53	31.5' LT	-	1
	11.5	14'CGW'+49	36.0' RT	-	1
	IN 6546-036	14'CGW'+51	34.0' RT	-	1
	IN 6545-036	17'CGW'+12	5.5' LT	-	1
	IN 6546-045	17'CGW'+45	34.5' RT	-	1
	18.1	17'CGW'+45	34.4' RT	-	1
	IN 6646-012	22'CGW'+03	24.0' RT	-	1
	12.1	22'CGW'+03	25.0' RT	-	1
	IN 6645-008	22'CGW'+37	45.0' LT	-	1
	IN 6645-009	22'CGW'+57	66.5' LT	-	1
	IN 6645-010	22'CGW'+63	66.5' LT	-	1
	IN 6646-010	23'CGW'+22	23.0' RT	-	1
	13.1	23'CGW'+22	23.5' RT	-	1
	MULTI-USE PATH				
	14.0	52'BP'+56	16.5' LT	1	-
	15.0	53'BP'+53	41.8' LT	1	-
	16.1	54'BP'+42	16.6' RT	1	-
	PROJECT TOTALS			**14**	**47**

REMOVING SIGNS

CATEGORY	SIGN NO.	STATION	LOCATION	(638.2601) REMOVING SIGNS TYPE I EACH	(638.3100) REMOVING STRUCTURAL STEEL SIGN SUPPORTS EACH	(638.2602) REMOVING SIGNS TYPE II EACH	(638.3000) REMOVING SMALL SIGN SUPPORTS EACH	NOTES
0010		**USH 51 S.B. MAINLINE**						
	R2.1	106+03	LT	-	-	1	2	
	R2.2	107+08	LT	-	-	1	2	
	R3.1	109+81	LT	-	-	1	1	
	R4.1	115+87	LT	-	-	1	1	
	R4.2	115+87	RT	-	-	1	1	
	R4.3	116+39	LT	1	1	-	-	
		EXISTING USH 51 S.B. EXIT RAMP						
	R8.1	103'B'+98	RT	-	-	1	1	
	R8.2	104'B'+04	LT	-	-	1	-	TRAFFIC SIGNAL POLE
	R8.3	104'B'+04	LT	-	-	1	-	TRAFFIC SIGNAL POLE
	R8.4	104'B'+25	LT	-	-	1	1	
	R8.5	104'B'+36	LT	-	-	1	-	TRAFFIC SIGNAL POLE
	R8.6	104'B'+60	LT	-	-	1	-	STREET LIGHT POLE
	R7.1	109'A'+70	LT	-	-	1	1	
	R7.2	109'A'+70	LT	-	-	1	-	
		USH 51 S.B. ENTRANCE RAMP						
	R8.7	115'A'+81	LT	-	-	1	-	STREET LIGHT/TRAFFIC SIGNAL POLE
		COTTAGE GROVE ROAD E.B.						
	R9.1	10'CGE'+48	LT	-	-	1	-	MOVING SIGN SUPPORT
	R9.2	11'CGE'+81	RT	-	-	1	-	STREET LIGHT POLE
	R9.3	11'CGE'+93	LT	-	-	1	2	
	R10.1	15'CGE'+29	LT	-	-	1	-	MOVING SIGN SUPPORT
	R10.2	15'CGE'+29	RT	-	-	1	-	STREET LIGHT POLE
	R10.3	16'CGE'+37	LT	-	-	1	-	MOVING SIGN SUPPORT
	R10.4	16'CGE'+87	RT	-	-	4	-	STREET LIGHT POLE
	R10.5	18'CGE'+20	RT	-	-	2	-	MOVING SIGN SUPPORT
	R11.1	22'CGE'+50	RT	-	-	3	1	
	R11.2	22'CGE'+50	RT	-	-	2	-	SAME POST AS R11.1
	R11.3	23'CGE'+19	LT	-	-	1	-	TRAFFIC SIGNAL POLE
		COTTAGE GROVE ROAD W.B.						
	R9.4	13'CGW'+09	RT	-	-	1	-	MOVING SIGN SUPPORT
	R9.5	14'CGW'+31	RT	-	-	1	-	TRAFFIC SIGNAL POLE
	R10.6	18'CGW'+16	LT	-	-	2	-	STREET LIGHT POLE
	R10.7	20'CGW'+02	LT	-	-	4	-	STREET LIGHT POLE
	R10.8	20'CGW'+30	RT	-	-	1	-	MOVING SIGN SUPPORT
		PROJECT TOTALS		**1**	**1**	**41**	**13**	

MOVING SIGNS TYPE II

CATEGORY	SIGN NO.	FROM STATION	TO STATION	LOCATION	(638.2102) EACH	(634.0616)* POSTS WOOD 4X6-INCH X 16-FT EACH	NOTES
0010	**USH 51 S.B. MAINLINE**						
	4.3	117+01	117+15	LT	1	1	
	COTTAGE GROVE ROAD E.B.						
	10.14	16'CGE'+09	15'CGE'+60	RT	1	-	USE EXISTING SIGN SUPPORT
	11.6	25'CGW'+50	25'CGW'+50	RT	1	-	USE EXISTING SIGN SUPPORT, REMOVE FOR TEMPORARY CROSSOVER
	COTTAGE GROVE ROAD W.B.						
	11.5	25'CGW'+10	25'CGW'+10	RT	1	-	USE EXISTING SIGN SUPPORT, REMOVE FOR TEMPORARY CROSSOVER
	MULTI-USE PATH						
	10.1	51'BP'+93	51'BP'+96	LT	1	-	USE EXISTING SIGN SUPPORT
	10.2	51'BP'+93	51'BP'+96	LT	1	-	USE EXISTING SIGN SUPPORT
	10.3	51'BP'+93	51'BP'+96	LT	1	-	USE EXISTING SIGN SUPPORT
		PROJECT TOTALS			**7**	**1**	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

PERMANENT SIGNING

CATEGORY	SIGN NO.	STATION	LOCATION	CODE	SIZE IN X IN	(637.1220) SIGNS TYPE I REFLECTIVE SH SF	(637.2210) SIGNS TYPE II REFLECTIVE H SF	(637.2230) SIGNS TYPE II REFLECTIVE F SF	(637.2215) SIGNS TYPE II REFLECTIVE H FOLDING SF	(634.0612) POSTS WOOD 4X6-INCH X 12-FT EACH	(634.0614) POSTS WOOD 4X6-INCH X 14-FT EACH	* (634.0616) POSTS WOOD 4X6-INCH X 16-FT EACH	(634.0618) POSTS WOOD 4X6-INCH X 18-FT EACH	NOTE
0010	**USH 51 S.B. MAINLINE**													
	2.1	108+00	LT	W4-3R	48 X 48	-	-	16.00	-	-	-	2	-	
	4.4	120+25	LT	E5-1	72 X 60	-	30.00	-	-	-	-	-	2	
	5.1	125+40	LT	E SERIES (MOD.)	252 X 120	210.00	-	-	-	-	-	-	-	OVERHEAD SIGN SUPPORT
	6.1	127+60	LT	W13-2	36 X 48	-	-	12.00	-	-	-	1	-	45 M.P.H.
	USH 51 S.B. ENTRANCE RAMP													
	2.2	107'A'+90	LT	W4-6	36 X 36	-	-	9.00	-	-	-	1	-	
	8.1	114'A'+05	LT	W13-3	36 X 48	-	-	12.00	-	-	-	1	-	25 M.P.H.
	8.2	115'A'+83	RT	R4-7	24 X 30	-	5.00	-	-	-	1	-	-	
	USH 51 S.B. EXIT RAMP													
	3.1	110'B'+20	RT	W1-8	24 X 30	-	-	5.00	-	1	-	-	-	4' MOUNTING HEIGHT
	3.2	110'B'+60	RT	W1-8	24 X 30	-	-	5.00	-	1	-	-	-	4' MOUNTING HEIGHT
	3.3	111'B'+00	RT	W1-6	60 X 30	-	-	12.50	-	-	-	2	-	
	3.4	111'B'+05	RT	W1-8	24 X 30	-	-	5.00	-	1	-	-	-	4' MOUNTING HEIGHT
	3.5	111'B'+40	RT	W1-8	24 X 30	-	-	5.00	-	-	1	-	-	
	3.6	111'B'+80	RT	W1-8	24 X 30	-	-	5.00	-	-	1	-	-	
	4.1	117'B'+70	LT	W1-11R	36 X 36	-	-	9.00	-	-	-	1	-	
	4.2	117'B'+70	LT	W13-1	24 X 24	-	-	4.00	-	-	-	-	-	WITH SIGN 4.1
	7.1	109'B'+80	RT	W1-8	24 X 30	-	-	5.00	-	1	-	-	-	4' MOUNTING HEIGHT
	7.2	109'B'+40	RT	W1-8	24 X 30	-	-	5.00	-	1	-	-	-	4' MOUNTING HEIGHT
	7.3	109'B'+00	RT	W1-8	24 X 30	-	-	5.00	-	1	-	-	-	4' MOUNTING HEIGHT
	7.4	108'B'+60	RT	W1-8	24 X 30	-	-	5.00	-	1	-	-	-	4' MOUNTING HEIGHT
	7.5	108'B'+05	RT	W1-8	24 X 30	-	-	5.00	-	1	-	-	-	4' MOUNTING HEIGHT
	7.6	107'B'+65	RT	W1-8	24 X 30	-	-	5.00	-	1	-	-	-	4' MOUNTING HEIGHT
	7.7	107'B'+50	LT	W3-3	36 X 36	-	-	9.00	-	-	1	-	-	
	7.8	106'B'+50	LT	J13-1	24 X 45	-	7.50	-	-	-	-	1	-	M1-5A, M6-1R
	7.9	106'B'+50	LT	R5-1A	42 X 30	-	8.75	-	-	-	-	-	-	WITH SIGN 7.8
	8.3	104'B'+25	LT	W12-1D	24 X 24	-	-	4.00	-	1	-	-	-	2' MOUNTING HEIGHT, CUT WOOD POST TO 8'
	8.4	104'B'+33	LT	R1-1F	36 X 36	-	-	-	7.46	-	-	-	-	TRAFFIC SIGNAL POLE
	8.5	104'B'+05	LT	R1-1F	36 x 36	-	-	-	7.46	-	-	-	-	TRAFFIC SIGNAL POLE
	8.6	104'B'+05	LT	5R-1	36 X 36	-	9.00	-	-	-	-	-	-	TRAFFIC SIGNAL POLE
	COTTAGE GROVE ROAD E.B.													
	9.1	10'CGE'+58	LT	R4-7	24 X 30	-	5.00	-	-	-	-	-	-	USE EXISTING SIGN SUPPORT
	9.4	14'CGE'+25	LT	R4-7	24 X 30	-	5.00	-	-	-	-	-	-	TRAFFIC SIGNAL POLE
	9.5	11'CGE'+75	RT	J3-2	48 X 57	-	19.00	-	-	-	-	1	-	M1-4, M3-1, M3-3, M6-1, M6-1R
	10.9	14'CGE'+98	LT	W10-1	36 X 36	-	-	7.07	-	-	-	-	-	USE EXISTING SIGN SUPPORT
	10.10	16'CGE'+50	LT	R2-1	24 X 30	-	5.00	-	-	-	-	-	-	35 M.P.H., USE EXISTING SIGN SUPPORT
	10.12	15'CGE'+29	RT	W10-1	36 X 36	-	-	7.07	-	-	-	-	-	STREET LIGHT POLE
	10.13	16'CGE'+05	RT	J2-1	24 X 57	-	9.50	-	-	-	-	1	-	M1-4, M3-1, M5-1L
	10.15	16'CGE'+87	RT	R2-1	24 X 30	-	5.00	-	-	-	-	-	-	35 M.P.H., STREET LIGHT POLE
	10.16	18'CGE'+20	RT	W11-1	30 X 30	-	-	6.25	-	-	-	-	-	USE EXISTING SIGN SUPPORT
	10.17	18'CGE'+20	RT	W16-7	24 X 12	-	-	2.00	-	-	-	-	-	USE EXISTING SIGN SUPPORT, WITH SIGN 10.16
	11.1	23'CGE'+20	LT	J3-1	24 X 57	-	9.50	-	-	-	-	1	-	M1-4, M3-1, M6-1L
	11.2	21'CGE'+00	RT	J3-1	24 X 57	-	9.50	-	-	-	-	1	-	M1-4, M3-1, M6-1L
	11.3	22'CGE'+49	RT	J13-1	24 X 45	-	7.50	-	-	-	-	-	-	TRAFFIC SIGNAL POLE, M1-5A, M6-1L
	11.4	23'CGE'+75	RT	M1-5A	24 X 24	-	4.00	-	-	-	1	-	-	
	COTTAGE GROVE ROAD W.B.					-			-	-	-			
	9.2	12'CGW'+20	RT	W6-2	36 X 36	-	-	9.00	-	-	-	-	-	USE EXISTING SIGN SUPPORT
	9.3	13'CGW'+18	RT	R4-7	24 X 30	-	5.00	-	-	-	-	-	-	TRAFFIC SIGNAL POLE
	10.4	18'CGW'+16	LT	W11-1	30 X 30	-	-	6.25	-	-	-	-	-	STREET LIGHT POLE
	10.5	18'CGW'+16	LT	W16-7	24 X 12	-	-	2.00	-	-	-	-	-	STREET LIGHT POLE, WITH SIGN 10.4
	10.6	19'CGW'+00	LT	J2-1	24 X 57	-	9.50	-	-	-	-	1	-	M1-4, M3-3, M5-1L
	10.7	20'CGW'+02	LT	W10-1	36 X 36	-	-	7.07	-	-	-	-	-	STREET LIGHT POLE
	10.8	14'CGW'+50	RT	J3-1	24 X 57	-	9.50	-	-	-	-	1	-	M1-4, M3-3, M6-1L
	10.11	20'CGW'+15	RT	W10-1	36 X 36	-	-	7.07	-	-	-	-	-	USE EXISTING SIGN SUPPORT
		PROJECT TOTALS				**210.00**	**163.25**	**196.28**	**14.92**	**10**	**5**	**15**	**2**	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

MOVING SMALL SIGN SUPPORTS

CATEGORY	FROM STATION	TO STATION	LOCATION	(638.4000) EACH	NOTES
0010	**COTTAGE GROVE ROAD E.B.**				
	10'CGE'+48	10'CGE'+58	LT	1	USE FOR SIGN 9.1
	15'CGE'+29	14'CGE'+98	LT	1	USE FOR SIGN 10.9
	16'CGE'+09	15'CGE'+60	RT	1	USE FOR SIGN 10.14
	16'CGE'+37	16'CGE'+50	LT	1	USE FOR SIGN 10.10
	18'CGE'+20	18'CGE'+20	RT	1	USE FOR SIGNS 10.16 & 10.17
	25'CGW'+50	25'CGW'+50	RT	1	USE FOR SIGN 11.6
	COTTAGE GROVE ROAD W.B.				
	13'CGW'+09	12'CGW'+20	RT	1	USE FOR SIGN 9.2
	20'CGW'+30	20'CGW'+15	RT	1	USE FOR SIGN 10.11
	25'CGW'+10	25'CGW'+10	RT	1	USE FOR SIGN 11.5
	MULTI-USE PATH				
	51'BP'+93	51'BP'+96	LT	1	USE FOR SIGNS 10.1, 10.2 & 10.3
	PROJECT TOTAL			**10**	

CONCRETE BARRIER TEMPORARY PRECAST

CATEGORY	STAGE	STATION	TO STATION	LOCATION	(603.8000) DELIVERED LF	(603.8125) INSTALLED LF
0010	**USH 51 S.B. MAINLINE**					
	1B	99+97	110+97	LT	1,100	1,100
		121+25	128+50	LT	725	725
	2	100'TC'+40	113'TC'+40	RT	200	1,300
		104'TC'+75	105'TC'+50	LT	75	75
		120'TC'+85	130'TC'+35	RT	225	950
		123'TC'+50	130'TC'+50	LT	700	700
	3	99+35	109+35	LT	0	1,000
	USH 51 S.B. EXIT RAMP					
	2	110'B'+18	113'B'+18	LT	300	300
	PROJECT TOTALS				**3,325**	**6,150**

COVER PLATES TEMPORARY

CATEGORY	STAGE	STATION	LOCATION	(611.8120.S) EACH
0010	**COTTAGE GROVE ROAD**			
	CG2	22'CGW'+03	RT	1
	CG2	23'CGW'+22	RT	1
	CG3	14'CGE'+30	LT	1
	CG3	17'CGE'+74	LT	1
	PROJECT TOTAL			**4**

TEMPORARY CROSSWALK

CATEGORY	LOCATION	(SPV.0045.01) DAYS
0010	**COTTAGE GROVE ROAD**	
	USH 51 S.B. RAMPS TERMINAL	45
	PROJECT TOTAL	**45**

TRAFFIC CONTROL DETOUR SIGNS

CATEGORY	LOCATION	# OF SIGNS	(643.3000) DAYS
0010	**USH 51 S.B. RAMP CLOSURE**		
	USH 51 S.B.	20	3,400
	MILWAUKEE STREET	30	5,100
	STOUGHTON ROAD SERVICE ROAD / ATLAS AVENUE	7	1,190
	COTTAGE GROVE ROAD W.B.	23	3,910
	ATWOOD AVENUE / MONONA DRIVE	42	7,140
	BUCKEYE ROAD	19	3,230
	CAPITAL CITY TRAIL CLOSURE		
	COTTAGE GROVE ROAD W.B.	6	1,110
	COTTAGE COURT	2	370
	DEMPSEY ROAD	2	370
	CAPITAL CITY TRAIL	7	1,295
	PROJECT TOTAL		**27,115**

TEMPORARY PAVEMENT MARKING

CATEGORY	DESCRIPTION	(649.0200) REFLECTIVE PAINT 4-INCH YELLOW LF	(649.0200) REFLECTIVE PAINT 4-INCH WHITE LF	(649.0400) REMOVABLE TAPE 4-INCH YELLOW LF	(649.0400) REMOVABLE TAPE 4-INCH WHITE LF	(649.0701) 8-INCH (WHITE) LF	(649.0801) REMOVABLE TAPE 8-INCH (WHITE) LF	(649.1700) ARROWS EACH	(649.1800) ARROWS REMOVABLE TAPE EACH	(649.1900) WORDS EACH	(649.2000) WORDS REMOVABLE TAPE EACH
0010	**USH 51 S.B. MAINLINE**										
	STAGE 1A	2300	4330	1560	3120	180	-	-	-	-	-
	STAGE 1B	2,460	3,330	-	1,550	-	-	-	-	-	-
	STAGE 2	3,000	6,720	1,170	1,500	200	-	-	-	-	-
	STAGE 3	2,310	1,080	1,680	6,860	-	-	-	-	-	-
	COTTAGE GROVE ROAD										
	CG1	600	-	360	565	210	-	2	-	1	-
	CG2	3,135	3,440	910	1,335	65	200	1	2	-	1
	CG3	195	695	3,350	4,170	-	-	-	1	-	-
	CG4	-	-	445	285	-	100	-	1	-	-
	PROJECT TOTALS	**14,000**	**19,595**	**9,475**	**19,385**	**655**	**300**	**3**	**4**	**1**	**1**
		33,595		**28,860**							

REMOVING PAVEMENT MARKINGS

CATEGORY	STAGE	STATION	TO STATION	LOCATION	(646.0600) LF	NOTES
0010	**USH 51 S.B. MAINLINE**					
	1A	STAGE 1A LIMITS	111+00	LT	420	LANE LINE
		STAGE 1A LIMITS	102+45	LT	210	AUX LANE LINE
		102+45	105+00	LT	510	GORE
		105+00	107+80	LT	320	WHITE EDGE LINE AND GORE
		118+70	STAGE 1A LIMITS	LT	2200	WHITE EDGE LINE
		118+70	STAGE 1A LIMITS	LT	550	LANE LINE
	COTTAGE GROVE ROAD					
	CG1	25'CGW'+15	STAGE CG1 LIMITS	LT	305	WHITE EDGE LINE
		25'CGW'+15	STAGE CG1 LIMITS	LT	80	LANE LINE
	CG2	STAGE CG2 LIMITS	DEMPSEY ROAD	-	70	EB LANE LINE
		DEMPSEY ROAD	8'CGE'+65	LT	60	EB LANE LINE
		7'CGW'+75	10'CGW+45	RT	275	DOUBLE YELLOW LINE
	CG3	DEMPSEY ROAD	8'CGE'+65	LT	170	DOUBLE YELLOW LINE
		25'CGW'+00	27'CGW'+21	LT	55	SKIP DASH, BIKE CROSSOVER
		PROJECT TOTAL			**5,225**	

TRAFFIC CONTROL SIGNS PCMS

CATEGORY	LOCATION	PORTABLE CHANGEABLE MESSAGE # OF DEVICES	DURATION DAYS	(643.1050) DAYS
0010	USH 51 S.B., NORTH OF MILWAUKEE STREET	1	20	20
	COTTAGE GROVE ROAD W.B. AT ATLAS AVENUE	1	50	50
	COTTAGE GROVE ROAD E.B. AT CLAIRE STREET	1	50	50
	ATWOOD AVENUE AT WALTER STREET	1	20	20
	USH 51 N.B., NORTH OF BUCKEYE ROAD	1	10	10
	USH 51 S.B., NORTH OF COTTAGE GROVE ROAD	1	40	40
	UNDISTRIBUTED	2	100	200
	PROJECT TOTAL			**390**

TRAFFIC CONTROL SIGNS FIXED MESSAGE

CATEGORY	SIGN DESCRIPTION	DESCRIPTION	NUMBER OF SIGNS	(643.1000) SF
0010	COTTAGE GROVE RD	FOR DETOUR ROUTE	15	105.00
	SIDEWALK CLOSED AHEAD	STAGE CG2	1	10.50
		PROJECT TOTAL		**115.50**

TRAFFIC CONTROL COVERING SIGNS TYPE I

CATEGORY	DESCRIPTION	(643.0910) EACH
0010	**USH 51 S.B.**	
	COTTAGE GROVE ROAD EXIT 1/2 MILE	1
	PROJECT TOTAL	**1**

TRAFFIC CONTROL

CATEGORY	STAGE	DRUMS NO. DEVICES	(643.0300) DRUMS DAYS	BARRICADES TYPE III NO. DEVICES	(643.0420) BARRICADES TYPE III DAYS	(643.0500) FLEXIBLE TUBULAR MARKER POSTS EACH	(643.0600) FLEXIBLE TUBULAR MARKER BASES EACH	WARNING LIGHTS TYPE A NO. DEVICES	(643.0705) WARNING LIGHTS TYPE A DAYS	WARNING LIGHTS TYPE C NO. DEVICES	(643.0715) WARNING LIGHTS TYPE C DAYS	SIGNS NO. DEVICES	(643.0900) SIGNS DAYS	ARROW BOARDS NO. DEVICES	(643.0800) ARROW BOARDS DAYS	DURATION DAYS
0010	**USH 51 S.B.**															
	STAGE 1A	180	8,100	4	180	0	0	8	360	16	720	40	1,800	2	20	45
	STAGE 1B	105	14,700	4	560	0	0	8	1,120	15	2,100	23	3,220	1	10	140
	STAGE 2	145	44,225	6	1,830	0	0	9	2,745	23	7,015	31	9,455	1	10	305
	STAGE 3	180	5,580	19	589	0	0	26	806	21	651	22	682	1	20	31
	STAGE 4	160	4,800	0	0	0	0	0	0	0	0	13	390	1	20	30
	USH 51 N.B.															
	OVERLAY	62	372	1	6	0	0	2	12	14	84	16	96	1	10	6
	COTTAGE GROVE ROAD															
	STAGE CG1	120	1,800	8	120	0	0	14	210	22	330	24	360	0	0	15
	STAGE CG2	130	7,800	29	1,740	50	50	43	2,580	26	1,560	40	2,400	1	10	60
	STAGE CG3	130	5,850	30	1,350	50	50	41	1,845	40	1,800	41	1,845	1	10	45
	STAGE CG4	200	3,000	8	120	0	0	16	240	24	360	31	465	0	0	15
	UNDISTRIBUTED	0	0	0	0	0	0	0	0	0	0	0	0	1	100	0
	PROJECT TOTALS		**96,227**		**6,495**	**100**	**100**		**9,918**		**14,620**		**20,713**		**210**	

PAVEMENT MARKINGS

CATEGORY	STATION	TO STATION	(646.0106) PAVEMENT MARKING EPOXY 4-INCH (YELLOW) LF	(646.0106) PAVEMENT MARKING EPOXY 4-INCH (WHITE) LF	(646.0126) PAVEMENT MARKING EPOXY 8-INCH (WHITE) LF	(646.0841.S) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) LF	(646.0843.S) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE) LF	(647.0456) PAVEMENT MARKING CURB EPOXY LF	(647.0566) PAVEMENT MARKING STOP LINE EPOXY 18-INCH LF	(647.0606) PAVEMENT MARKING ISLAND NOSE EPOXY EACH	(647.0726) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW) LF	(647.0766) PAVEMENT MARKING CROSSWALK EPOXY 6-INCH LF	(647.0786) PAVEMENT MARKING CROSSWALK EPOXY 18-INCH LF
0010	**USH 51 S.B. MAINLINE**												
	STAGING LIMITS	100+37	540	810	-	-	-	-	-	-	-	-	-
	100+37	112+00	1,165	965	-	335	700	-	-	-	-	-	-
	112+00	116+00	400	400	-	100	-	-	-	-	-	-	-
	116+00	128+50	1,250	1,250	-	315	965	-	-	-	-	-	-
	128+50	STAGING LIMITS	915	1,145	-	-	-	-	-	-	-	-	-
	USH 51 N.B. MAINLINE												
	109+00	115+80	685	860	-	-	-	-	-	-	-	-	-
	USH 51 S.B. ENTRANCE RAMP												
	103'A'+75	116'A'+15	1,030	1,220	-	-	-	-	-	-	-	65	-
	USH 51 S.B. EXIT RAMP												
	103'B'+86	113'B'+39	1,005	920	115	-	-	10	50	1	-	115	-
	113'B'+39	116'B'+50	310	310	-	-	-	-	-	-	-	-	-
	116'B'+50	120'B'+82	435	435	-	-	-	-	-	-	-	-	-
	COTTAGE GROVE ROAD E.B.												
	STAGING LIMITS	8'CGE'+65	340	60	-	-	-	-	-	-	-	-	-
	8'CGE'+65	14'CGE'+00	380	500	140	-	-	10	50	1	50	-	-
	14'CGE'+00	17'CGE'+70	-	300	-	-	-	-	-	-	-	65	-
	17'CGE'+70	STAGING LIMITS	-	1,070	290	-	-	-	40	-	-	-	100
	COTTAGE GROVE ROAD W.B.												
	STAGING LIMITS	14'CGW'+00	380	625	-	-	-	-	15	-	-	75	-
	14'CGW'+00	17'CGW'+08	-	335	285	-	-	-	45	-	-	95	-
	17'CGW'+08	22'CGW'+50	-	560	25	-	-	-	-	-	-	-	100
	22'CGW'+50	STAGING LIMITS	-	140	140	-	-	-	45	-	-	-	-
	MULTI-USE PATH												
	51'BP'+93	54'BP'+47	65	-	-	-	-	-	-	-	-	-	-
	PROJECT TOTALS		**8,900**	**11,905**	**995**	**750**	**1,665**	**20**	**245**	**2**	**50**	**415**	**200**
			20,805										

PAVEMENT MARKING WORDS, ARROWS AND SYMBOLS

CATEGORY	DESCRIPTION	(647.0110) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY EACH	(647.0166) PAVEMENT MARKING ARROWS EPOXY TYPE 2 EACH	(647.0176) PAVEMENT MARKING ARROWS EPOXY TYPE 3 EACH	(647.0356) PAVEMENT MARKING WORDS EPOXY EACH	NOTES
0010	**USH 51 S.B. EXIT RAMP**					
	STRAIGHT/LEFT TURN LANE TO COTTAGE COURT/COTTAGE GROVE ROAD W.B.	-	-	1	-	
	RIGHT TURN LANE TO COTTAGE GROVE ROAD E.B.	-	1	-	-	
	COTTAGE GROVE ROAD E.B.					
	LEFT TURN LANE TO COTTAGE COURT	-	2	-	1	ONLY
	LEFT TURN LANE TO USH 51 N.B. ENTRANCE RAMP	-	2	-	1	ONLY
	WEST APPROACH OF RAILROAD CROSSING	2	-	-	-	
	COTTAGE GROVE ROAD W.B.					
	LEFT TURN LANE TO USH 51 S.B. ENTRANCE RAMP	-	2	-	1	ONLY
	EAST APPROACH OF RAILROAD CROSSING	2	-	-	-	
	PROJECT TOTALS	**4**	**7**	**1**	**3**	

CONSTRUCTION STAKING

CATEGORY	STATION	TO STATION	LOCATION	(650.4500) SUBGRADE LF	(650.5000) BASE LF	(650.7000) CONCRETE PAVEMENT LF	(650.8500) ELECTRICAL INSTALLATIONS LS	(650.9910) SUPPLEMENTAL CONTROL LS	(650.9920) SLOPE STAKES LF
0010	**USH 51 S.B. MAINLINE**								
	99+37	112+26	LT & RT	1,189	100	1,189	-	-	1,289
	115+97	130+33	LT & RT	1,253	183	1,253	-	-	1,436
	USH 51 S.B. ENTRANCE RAMP								
	103'A'+75	116'A'+56	LT & RT	1,281	-	1,281	-	-	1,281
	USH 51 S.B. EXIT RAMP								
	103'B'+86	113'B'+58	LT & RT	972	-	972	-	-	972
	116'B'+13	121'B'+91	LT & RT	578	-	578	-	-	578
	COTTAGE GROVE ROAD E.B.								
	8'CGE'+65	17'CGE'+23	LT & RT	-	156	702	-	-	-
	18'CGE'+08	24'CGE'+39	LT & RT	-	-	631	-	-	-
	COTTAGE GROVE ROAD W.B.								
	10'CGW'+22	16'CGW'+59	LT & RT	-	-	637	-	-	-
	17'CGW'+49	24'CGW'+37	LT & RT	-	-	688	-	-	-
	MULTI-USE PATH								
	51'BP'+93	54'BP'+47	LT	-	254	-	-	-	-
	USH 51 S.B. TEMPORARY PAVEMENT (STAGE 2)								
	99'TC'+80	112'TC'+50	LT & RT	1,270	1,270	-	-	-	-
	123'TC'+50	137'TC'+00	LT & RT	1,350	1,350	-	-	-	-
		PROJECT 5411-02-74		-	-	-	1	1	-
		PROJECT TOTALS		**7,893**	**3,313**	**7,931**	**1**	**1**	**5,556**

SAWING CONCRETE

CATEGORY	STATION	TO STATION	LOCATION	(690.0250) LF	NOTES
0010	**USH 51 S.B. MAINLINE**				
	99+37	99+37	LT	39	PAVEMENT AND CURB & GUTTER
	111+14	111+17	RT	5	DRAINAGE DITCH
	130+33	130+33	LT	24	PAVEMENT
	COTTAGE GROVE ROAD E.B.				
	10'CGE'+21	12'CGE'+44	ONLINE	223	PAVEMENT
	12'CGE'+44	12'CGE'+44	RT	10	PAVEMENT AND CURB & GUTTER
	13'CGE'+10	13'CGE'+10	RT	5	SIDEWALK
	15'CGE'+05	15'CGE'+05	RT	5	SIDEWALK
	15'CGE'+32	15'CGE'+32	RT	12	PAVEMENT AND CURB & GUTTER
	15'CGE'+32	17'CGE'+64	ONLINE	232	PAVEMENT
	17'CGE'+01	17'CGE'+01	RT	6	PAVEMENT AND CURB & GUTTER
	17'CGE'+91	17'CGE'+91	RT	6	PAVEMENT
	17'CGE'+91	24'CGE'+24	ONLINE	635	PAVEMENT
	18'CGE'+25	18'CGE'+35	RT	10	SIDEWALK
	24'CGE'+24	24'CGE'+24	RT	4	PAVEMENT
	STAGING LIMITS		RT	2.5	CURB & GUTTER
	COTTAGE GROVE ROAD W.B.				
	10'CGW'+22	13'CGW'+43	ONLINE	321	PAVEMENT
	13'CGW'+28	13'CGW'+28	LT	5	SIDEWALK
	13'CGW'+43	13'CGW'+43	LT	10	PAVEMENT AND CURB & GUTTER
	14'CGW'+19	14'CGW'+19	LT	6	PAVEMENT AND CURB & GUTTER
	14'CGW'+32	14'CGW'+32	LT	5	SIDEWALK
	14'CGW'+32	16'CGW'+74	LT	252	PAVEMENT
	17'CGW'+00	24'CGW'+21	ONLINE	721	PAVEMENT
	17'CGW'+75	17'CGW'+75	LT	5	SIDEWALK
	18'CGW'+28	18'CGW'+28	LT	5	SIDEWALK
	STAGING LIMITS		LT	2.5	CURB & GUTTER
	MULTI-USE PATH				
	54'BP'+53	54'BP'+53	LT	35	DRAINAGE DITCH (PARTIAL DEPTH)
	54'BP'+51	54'BP'+51	LT	35	DRAINAGE DITCH (FULL DEPTH)
		PROJECT TOTAL		**2,621**	

SAWING ASPHALT

CATEGORY	STATION	TO STATION	LOCATION	(690.0150) LF	NOTES
0010	**USH 51 S.B. MAINLINE**				
	99+37	99+37	RT	3	ASPHALT SHOULDER
	130+33	130+33	LT & RT	10	ASPHALT SHOULDERS
	COTTAGE GROVE ROAD E.B.				
	8'CGE'+65	8'CGE'+65	LT & RT	52	PAVEMENT
	8'CGE'+65	9'CGE'+46	RT	82	PAVEMENT
	17'CGE'+40	17'CGE'+66	LT & RT	60	RAILROAD APPROACH
	17'CGE'+54	17'CGE'+90	LT & RT	57	RAILROAD APPROACH
	24'CGE'+59	24'CGE'+59	LT & RT	26	PAVEMENT
	COTTAGE GROVE ROAD W.B.				
	13'CGW'+46	13'CGW'+86	LT	44	PAVEMENT (COTTAGE COURT)
	16'CGW'+77	17'CGE'+21	RT	68	RAILROAD APPROACH
	16'CGW'+93	17'CGW'+35	RT	70	RAILROAD APPROACH
	24'CGW'+21	24'CGW'+57	ONLINE	36	PAVEMENT
	24'CGW'+57	24'CGW'+57	RT	22	PAVEMENT
	MULTI-USE PATH				
	54'BP'+47	54'BP'+47	LT & RT	10	MULTI-USE PATH
		PROJECT TOTAL		**540**	

EXISTING STREET LIGHTING

CATEGORY	POLE NO.	STATION	LOCATION	* (204.0195) REMOVING CONCRETE BASES EACH	(204.0205) REMOVING UTILITY POLES EACH	(204.9060.S.02) REMOVING LIGHTING UNIT EACH	(204.9060.S.03) REMOVING LUMINAIRE EACH	* (659.1115) LUMINAIRES UTILITY LED A EACH	* (659.1120) LUMINAIRES UTILITY LED B EACH	(SPV.0060.04) SALVAGE AND REINSTALL LIGHTING UNIT EACH	* (654.0106) CONCRETE BASES TYPE 6 EACH	* (657.0255) TRANSFORMER BASES BREAKAWAY 11 1/2 INCH BOLT CIRCLE EACH	* (652.0700.S) INSTALL CONDUIT INTO EXISTING ITEM EACH	NOTES (NEW CABINET #-CIRCUIT)
0010	**USH 51 S.B. MAINLINE**												-	
	EX4MB18	99+01.5	43.0' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB17	100+86.5	43.0' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB16	102+73.0	46.5' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB15	104+64.5	47.5' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB14	105+70.0	28.5' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB13	107+16.0	19.5' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB12	108+73.0	11.5' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB11	110+52.0	5.5' RT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB10	112+17.0	12.0' RT	-	-	1	-	-	-	-	-	-	-	ON B-13-210
	EX4MB9	113+74.0	12.0' RT	-	-	1	-	-	-	-	-	-	-	ON B-13-210
	EX4MB8	115+48.0	6.0' RT	-	-	1	-	-	-	-	-	-	-	ON B-13-210
	EX4MB1	116+83.5	9.0' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB2	118+62.5	17.5' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB3	120+41.0	25.5' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB4	122+21.5	33.5' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB5	124+02.0	37.0' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB6	125+77.0	37.5' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB7	127+52.0	38.0' LT	1	-	1	-	-	-	-	-	-	-	-
	USH 51 N.B. MAINLINE												-	
	EX1MB18	100+19.5	73.5' RT	1	-	1	-	-	-	-	-	-	-	-
	EX1MB17	101+88.5	73.5' RT	1	-	1	-	-	-	-	-	-	-	-
	EX1MB16	103+47.5	73.5' RT	1	-	1	-	-	-	-	-	-	-	-
	EX1MB15	105+5.0	78.5' RT	1	-	1	-	-	-	-	-	-	-	-
	EX1MB14	106+64.5	88.0' RT	1	-	1	-	-	-	-	-	-	-	-
	EX1MB13	108+28.0	93.0' RT	1	-	1	-	-	-	-	-	-	-	-
	EX1MB12	109+86.0	102.5' RT	-	-	1	-	-	-	-	-	-	-	ON B-13-008
	EX1MB11	111+32.5	111.0' RT	-	-	1	-	-	-	-	-	-	-	ON B-13-008
	EX1MB10	112+90.5	115.5' RT	-	-	1	-	-	-	-	-	-	-	ON B-13-008
	EX1MB9	114+53.5	115.0' RT	-	-	1	-	-	-	-	-	-	-	ON B-13-008
	EX1MB1	116+3.0	115.0' RT	-	-	-	1	1	-	-	-	-	-	(MB1-6,8)
	EX1MB2	117+83.5	115.0' RT	-	-	-	1	-	1	-	-	-	-	(MB1-6,8)
	EX1MB3	119+84.0	101.5' RT	-	-	-	2	1	1	-	-	-	-	(MB1-6,8)
	EX1MB4	121+52.5	93.0' RT	-	-	-	1	1	-	-	-	-	-	(MB1-6,8)
	EX1MB5	123+21.0	88.0' RT	-	-	-	1	1	-	-	-	-	-	(MB1-6,8)
	EX1MB6	124+87.5	101.0' RT	-	-	-	1	-	1	-	-	-	-	(MB1-6,8)
	EX1MB7	126+67.0	105.0' RT	-	-	-	1	-	1	-	-	-	-	(MB1-6,8)
	EX1MB8	128+47.0	100.0' RT	-	-	-	1	1	-	-	-	-	-	(MB1-6,8)
	USH 51 S.B. ENTRANCE AND EXIT RAMPS												-	
	EX3MB19	106'A'+5.0	30.0' LT	1	-	1	-	-	-	-	-	-	-	-
	EX4MB19	107'A'+5.0	28.0' LT	1	-	1	-	-	-	-	-	-	-	-
	EX3MB18	107'A'+46.5	153.5' LT	1	-	1	-	-	-	-	-	-	-	-
	EX3MB17	109'A'+43.5	138.5' LT	1	-	1	-	-	-	-	-	-	-	-
	EX3MB16	110'A'+94.5	61.0' LT	1	-	1	-	-	-	-	-	-	-	-
	EX3MB15	112'A'+42.5	15.5' LT	1	-	1	-	-	-	-	-	-	-	-
	EX3MB14	114'A'+12.5	14.0' LT	1	-	1	-	-	-	-	-	-	-	-
	EX3MB11	13'CGE'+20.0	18.0' RT	-	-	-	1	-	1	-	-	-	1	(MB2-1,3)
	EX3MB10	115'A'+86.5	20.9' LT	1	-	-	1	-	1	1	1	1	-	(MB2-1,3)
	EX3MB9	104'B'+70.5	25.5' LT	1	-	-	1	-	1	1	1	1	-	(MB2-1,3)
	USH 51 N.B. ENTRANCE AND EXIT RAMPS												-	
	EX1MB19	120+89.5	198.5' RT	-	-	-	1	1	-	-	-	-	-	(MB1-6,8)
	EX1MB20	121+53.5	288.0' RT	-	-	-	1	1	-	-	-	-	-	(MB1-6,8)
	EX1MB21	121+48.0	384.0' RT	-	-	-	1	1	-	-	-	-	-	(MB1-6,8)
	EX1MB22	120+81.0	457.5' RT	-	-	-	1	1	-	-	-	-	-	(MB1-6,8)
	EX2MB1	21'CGW'+63.0	16.5' LT	-	-	-	1	-	1	-	-	-	1	(MB2-2,4)
	EX2MB2	23'CGW'+55.0	20.0' LT	-	-	-	1	-	1	-	-	-	1	(MB2-2,4)
	EX2MB4	22'CGW'+91.0	71.0' LT	-	-	-	1	1	-	-	-	-	1	(MB1-5,7)
	EX2MB5	22'CGW'+93.0	209.0' LT	-	-	-	1	1	-	-	-	-	-	(MB1-5,7)
	EX2MB6	117+98.0	499.0' RT	-	-	-	1	1	-	-	-	-	-	(MB1-5,7)
	EX2MB7	119+56.5	527.0' RT	-	-	-	1	1	-	-	-	-	-	(MB1-5,7)
	EX2MB8	21'CGE'+69.0	7.0' RT	-	-	-	1	-	1	-	-	-	-	(MB2-5,7)
	EX2MB9	22'CGE'+98.0	7.0' RT	-	-	-	1	-	1	-	-	-	-	(MB2-5,7)
	EX1MB24	122+39.0	240.0' RT	-	-	-	1	1	-	-	-	-	-	(MB1-6,8)
	EX1MB23	123+37.5	138.0' RT	-	-	-	1	1	-	-	-	-	-	(MB1-6,8)

*ADDITIONAL QUANTITES FOUND ELSEWHERE

CONT.

EXISTING STREET LIGHTING CONT.

CATEGORY	POLE NO.	STATION	LOCATION	(204.0195)* REMOVING CONCRETE BASES EACH	(204.0205)* REMOVING UTILITY POLES EACH	(204.9060.S.02)* REMOVING LIGHTING UNIT EACH	(204.9060.S.03)* REMOVING LUMINAIRE EACH	(659.1115)* LUMINAIRES UTILITY LED A EACH	(659.1120)* LUMINAIRES UTILITY LED B EACH	(SPV.0060.04) SALVAGE AND REINSTALL LIGHTING UNIT EACH	(654.0106)* CONCRETE BASES TYPE 6 EACH	(657.0255)* TRANSFORMER BASES BREAKAWAY 11 1/2 INCH BOLT CIRCLE EACH	(652.0700.S)* INSTALL CONDUIT INTO EXISTING ITEM EACH	NOTES (NEW CABINET #-CIRCUIT)
0010	**COTTAGE GROVE ROAD E.B.**													
	EX3MB13	10'CGE'+34.0	9.0' RT	-	-	-	1	1	-	-	-	-	-	(MB2-1,3)
	EX3MB12	11'CGE'+81.0	7.5' RT	-	-	-	1	1	-	-	-	-	1	(MB2-1,3)
	EX3MB7	15'CGE'+29.0	14.0' RT	-	-	-	1	-	1	-	-	-	1	(MB2-5,7)
	EX3MB8	16'CGE'+87.0	7.0' RT	-	-	-	1	1	-	-	-	-	1	(MB2-5,7)
	EX2MB12	18'CGE'+43.0	7.0' RT	1	-	1	-	-	-	-	-	-	-	-
	EX2MB11	20'CGE'+20.0	7.0' RT	-	-	-	1	1	-	-	-	-	1	(MB2-5,7)
	COTTAGE GROVE ROAD W.B.												-	
	UP-1	12'CGW'+93.0	37.0' RT	-	1	-	1	-	-	-	-	-	-	-
	UP-2	14'CGW'+40.0	42.5' RT	-	1	-	1	-	-	-	-	-	-	-
	EX3MB4	14'CGW'+85.0	7.0' LT	1	-	-	-	-	-	-	-	-	-	-
	EX3MB3	16'CGW'+46.0	7.0' LT	-	-	-	1	1	-	-	-	-	1	(MB2-2,4)
	EX3MB2	18'CGW'+16.0	7.0' LT	1	-	1	-	-	-	-	-	-	-	-
	EX3MB1	20'CGW'+2.0	7.0' LT	-	-	-	1	1	-	-	-	-	1	(MB2-2,4)
		PROJECT TOTALS		**33**	**2**	**37**	**35**	**21**	**12**	**2**	**2**	**2**	**10**	

*ADDITIONAL QUANTITES FOUND ELSEWHERE

PULL BOXES STEEL 24x42-INCH

CATEGORY	PULL BOX NO.	STATION	LOCATION	(653.0140)* EACH
0010	**USH 51 S.B. MAINLINE AND RAMPS (CABINET MB1)**			
	PB-1	110+00.0	47.0' LT	1
	PB-2	111'B'+80.0	28.0' RT	1
	PB-3	111'B'+80.0	7.5' LT	1
	PB-4	104'B'+65.0	28.5 LT	1
	PB-5	14'CGE'+34.5	35.5' LT	1
	PB-6	14'CGW'+30.0	7.0' LT	1
	PB-7	15'CGW'+95.0	7.0' LT	1
	PB-8	17'CGW'+60.0	7.0' LT	1
	PB-9	20'CGW'+05.0	7.0' LT	1
	PB-10	118'B'+00.0	17.0' LT	1
	PB-11	119'B'+90.0	17.0' LT	1
	PB-12	119'B'+90.0	27.0' RT	1
	PB-13	20'CGW'+40.5	17.5' LT	1
	PB-14	22'CGW'+09.0	56.0' LT	1
	PB-15	22'CGW'+95.0	56.0' LT	1
	PB-16	20'CGW'+08.0	43.5' LT	1
	COTTAGE GROVE ROAD (CABINET MB2)			
	PB-17	14'CGW'+25.0	7.0' LT	1
	PB-18	14'CGE'+28.5	35.5' LT	1
	PB-19	104'B'+60.0	27.0' LT	1
	PB-20	115'A'+79.0	21.7' LT	1
	PB-21	13'CGE'+29.0	19.0' RT	1
	PB-22	15'CGW'+90.0	7.0' LT	1
	PB-23	17'CGW'+85.0	7.0' LT	1
	PB-24	22'CGW'+07.0	52.0' LT	1
	PB-25	22'CGW'+97.0	52'.0 LT	1
	PB-26	18'CGW'+02.0	40.0' RT	1
	PB-27	17'CGE'+00.0	7.0' RT	1
	PB-28	18'CGE'+46.0	7.0' RT	1
		PROJECT TOTAL		**28**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

CONDUIT RIGID NONMETALLIC

CATEGORY	FROM	TO	* (652.0225) SCHEDULE 40 2-INCH LF	(652.0325) SCHEDULE 80 2-INCH LF	(652.0605) CONDUIT SPECIAL 2-INCH LF	* (652.0235) SCHEDULE 40 3-INCH LF	* (652.0335) SCHEDULE 80 3-INCH LF	* (652.0615) CONDUIT SPECIAL 3-INCH LF	NOTES
0010	**USH 51 MAINLINE & RAMPS (CABINET MB1)**								
	LP-1	LP-2	155	-	-	-	-	-	
	LP-2	LP-3	150	-	-	-	-	-	
	LP-3	LP-4	-	155	-	-	-	-	
	LP-4	LP-5	-	115	-	-	-	-	
	LP-5	LP-6	-	65	-	-	-	-	
	LP-6	PB-1	-	250	-	-	-	-	
	PB-1	PB-2	185	-	-	-	-	-	
	PB-2	PB-3	-	35	-	-	-	-	
	LP-7	PB-3	20	-	-	-	-	-	
	PB-3	LP-8	125	-	-	-	-	-	
	LP-8	LP-9	135	-	-	-	-	-	
	LP-9	LP-10	155	-	-	-	-	-	
	LP-10	PB-4	290	-	-	-	-	-	
	PB-4	PB-5	-	115	-	-	-	-	
	PB-5	PB-6	-	45	15	-	-	-	
	PB-6	PB-7	170	-	-	-	-	-	
	PB-7	PB-8	-	-	165	-	-	-	UNDER RAILROAD
	PB-8	PB-9	-	-	-	250	-	-	
	PB-8	PB-10	265	-	-	-	-	-	
	PB-9	MB1	-	-	-	35	-	-	
	PB-10	PB-11	190	-	-	-	-	-	
	PB-11	PB-12	-	45	-	-	-	-	
	PB-12	LP-11	10	-	-	-	-	-	
	PB-11	LP-12	160	-	-	-	-	-	
	LP-12	LP-13	150	-	-	-	-	-	
	LP-13	LP-14	150	-	-	-	-	-	
	LP-14	LP-15	155	-	-	-	-	-	
	LP-15	LP-16	150	-	-	-	-	-	
	MB1	PB-13	35	-	-	-	-	-	
	PB-13	PB-14	180	-	-	-	-	-	
	PB-14	PB-15	-	-	90	-	-	-	UNDER NB EXIT RAMP
	PB-15	EX2MB4	20	-	-	-	-	-	
	MB1	PB-16	10	-	-	-	-	-	
	COTTAGE GROVE ROAD LIGHTING (CABINET MB2)								
	MB2	PB-17	-	-	-	40	-	-	(2) 3-INCH
	PB-17	PB-18	-	-	-	-	45	15	
	PB-17	PB-22	165	-	-	-	-	-	
	PB-17	EX3MB3	225	-	-	-	-	-	
	PB-18	PB-19	-	-	-	-	110	-	
	PB-18	LP-18	5	-	-	-	-	-	
	PB-19	EX3MB9	10	-	-	-	-	-	
	PB-19	EX3MB7	95	-	-	-	-	-	
	PB-19	PB-20	-	110	-	-	-	-	
	PB-20	PB-21	50	-	-	-	-	-	
	PB-20	EX3MB10	10	-	-	-	-	-	
	PB-21	LP-17	-	75	-	-	-	-	
	PB-21	EX3MB11	10	-	-	-	-	-	
	PB-22	PB-23	-	-	200	-	-	-	UNDER RAILROAD
	PB-23	PB-26	-	35	15	-	-	-	
	PB-26	UD LIGHT	20	-	-		-	-	B-13-660
	PB-26	UD LIGHT	55	-	-	-	-	-	B-13-632
	EX3MB3	EX3MB1	160	-	200	-	-	-	UNDER RAILROAD
	EX3MB1	EX2MB1	165	-	-	-	-	-	
	EX2MB1	PB-24	60	-	-	-	-	-	
	PB-24	PB-25	-	-	90	-	-	-	UNDER NB EXIT RAMP
	PB-25	EX2MB2	70	-	-	-	-	-	
	EX3MB8	PB-27	15	-	-	-	-	-	
	PB-27	PB-28	-	-	150	-	-	-	UNDER RAILROAD
	PB-28	EX2MB11	175	-	-	-	-	-	
	PROJECT TOTALS		**4,150**	**1,045**	**925**	**325**	**155**	**15**	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

ELECTRICAL WIRE LIGHTING

CATEGORY	FROM	TO	(655.0615) 10 AWG LF	(655.0620) 8 AWG LF	CIRCUIT NOTES
0010	**USH 51 MAINLINE & RAMPS (CABINET MB1)**				
	LP-1	LP-2	215	645	1,3
	LP-2	LP-3	210	630	1,3
	LP-3	LP-4	215	645	1,3
	LP-4	LP-5	175	525	1,3
	LP-5	LP-6	125	375	1,3
	LP-6	PB-1	310	930	1,3
	PB-1	PB-2	195	585	1,3
	PB-2	PB-3	45	135	1,3
	LP-7	PB-3	85	510	1,3
	PB-3	LP-8	130	390	1,3
	LP-8	LP-9	195	585	1,3
	LP-9	LP-10	215	645	1,3
	LP-10	PB-4	350	1,050	1,3
	PB-4	PB-5	125	375	1,3
	PB-5	PB-6	70	210	1,3
	PB-6	PB-7	180	540	1,3
	PB-7	PB-8	175	525	1,3
	PB-8	PB-9	260	1,560	1,3,2,4
	PB-8	PB-10	275	825	2,4
	PB-9	MB1	50	300	1,3,2,4
	PB-10	PB-11	200	600	2,4
	PB-11	PB-12	55	165	2,4
	PB-12	LP-11	80	480	2,4
	PB-11	LP-12	225	675	2,4
	LP-12	LP-13	210	630	2,4
	LP-13	LP-14	210	630	2,4
	LP-14	LP-15	215	645	2,4
	LP-15	LP-16	210	630	2,4
	MB1	PB-13	50	150	5,7
	PB-13	PB-14	190	570	5,7
	PB-14	PB-15	100	300	5,7
	PB-15	EX2MB4	85	255	5,7
	MB1	PB-16	25	75	6,8
	COTTAGE GROVE ROAD LIGHTING (CABINET MB2)				
	MB2	PB-17	30	540	1,3,2,4,5,7,6,8
	PB-17	PB-18	70	420	1,3,5,7
	PB-17	PB-22	175	525	6,8
	PB-17	EX3MB3	230	690	2,4
	PB-18	PB-19	120	720	1,3,5,7
	PB-18	LP-18	120	360	1,3
	PB-19	EX3MB9	75	450	1,3
	PB-19	EX3MB7	160	480	5,7
	PB-19	PB-20	120	360	1,3
	PB-20	PB-21	60	360	1,3
	PB-20	EX3MB10	75	450	1,3
	PB-21	LP-17	140	840	1,3
	PB-21	EX3MB11	75	225	1,3
	PB-22	PB-23	210	630	6,8
	PB-23	PB-26	60	180	6,8
	PB-26	UD LIGHT	80	240	6,8
	PB-26	UD LIGHT	115	345	6,8
	EX3MB3	EX3MB1	420	1,260	2,4
	EX3MB1	EX2MB1	225	675	2,4
	EX2MB1	PB-24	120	360	2,4
	PB-24	PB-25	100	300	2,4
	PB-25	EX2MB2	135	405	2,4
	EX3MB8	PB-27	80	240	5,7
	PB-27	PB-28	160	480	5,7
	PB-28	EX2MB11	240	720	5,7
	PROJECT TOTALS		**8,850**	**30,045**	

STREET LIGHTING

CATEGORY	POLE NO.	STATION	LOCATION	(654.0105) CONCRETE BASES TYPE 5 EACH	* (654.0106) CONCRETE BASES TYPE 6 EACH	* (657.0255) TRANSFORMER BASES BREAKAWAY 11 1/2 INCH BOLT CIRCLE EACH	(657.0322) POLES TYPE 5 ALUMINUM EACH	(657.0327) POLES TYPE 6 ALUMINUM EACH	(657.0615) LUMINAIRE ARMS SINGLE MEMBER 4.5-INCH CLAMP 8-FT EACH	(657.0715) LUMINAIRE ARMS TRUSS TYPE 4.5-INCH CLAMP 15-FT EACH	* (659.1115) LUMINAIRES UTILITY LED A EACH	* (659.1120) LUMINAIRES UTILITY LED B EACH	(659.1205) LUMINAIRES UNDERDECK LED A EACH
0010	**USH 51 S.B. MAINLINE & RAMPS**												
	1	101+50.0	46.0' LT	-	1	1	-	1	-	1	1	-	-
	2	103+00.0	50.6' LT	-	1	1	-	1	-	1	1	-	-
	3	105'A'+50.0	14.0' LT	-	1	1	-	1	-	1	-	1	-
	4	106+00.0	47.0' LT	-	1	1	-	1	-	2	-	2	-
	5	107'A'+00.0	32.0' RT	-	1	1	-	1	-	1	1	-	-
	6	107+50.0	47.0' LT	-	1	1	-	1	-	1	1	-	-
	7	112'B'+00.0	11.0' LT	-	1	1	-	1	1	-	1	-	-
	8	110'B'+50.0	8.0' LT	-	1	1	-	1	1	-	1	-	-
	9	109'B'+10.0	8.0' LT	-	1	1	-	1	1	-	1	-	-
	10	107'B'+50.0	8.0' LT	-	1	1	-	1	1	-	1	-	-
	11	120'B'+00.0	28.0' RT	-	1	1	-	1	2	-	2	-	-
	12	121'B'+50.0	16.0' LT	-	1	1	-	1	1	-	1	-	-
	13	123+00.0	71.8' LT	-	1	1	-	1	1	-	1	-	-
	14	124+50.0	61.9' LT	-	1	1	-	1	1	-	1	-	-
	15	126+00.0	50.0' LT	-	1	1	-	1	1	-	1	-	-
	16	127+50.0	47.0' LT	-	1	1	-	1	-	1	1	-	-
	COTTAGE GROVE ROAD											-	
	17	12'CGW'+93.0	37.0' RT	1	-	1	1	-	1	-	-	1	-
	18	14'CGE'+25.5	35.5' LT	1	-	1	1	-	1	-	-	1	-
	UNDERSIDE OF STRUCTURE B-13-0632			-	-	-	-	-	-	-	-	-	2
	UNDERSIDE OF STRUCTURE B-13-0660			-	-	-	-	-	-	-	-	-	2
	PROJECT TOTALS			**2**	**16**	**18**	**2**	**16**	**12**	**8**	**15**	**5**	**4**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

LIGHTING CONTROL CABINET

CATEGORY	NO.	STATION	LOCATION	(659.2124) LIGHTING CONTROL CABINETS 120/240 24-INCH EACH	(654.0224) CONCRETE CONTROL CABINET BASES TYPE L24 EACH	* (656.0200.01) ELECTRICAL SERVICE METER BREAKER PEDESTAL LS	* (656.0200.02) ELECTRICAL SERVICE METER BREAKER PEDESTAL LS	* (204.0195) REMOVING CONCRETE BASES EACH	(204.9060.04) REMOVING LIGHTING CABINET EACH
0010	**COTTAGE GROVE ROAD W.B.**								
	EXISTING CABINET	20'CGW'+11.0	40.0' LT	-	-	-	-	1	1
	MB1	20'CGW'+15.0	40.0' LT	1	1	1	-	-	-
	MB2	14'CGW'+34.0	24.0' LT	1	1	-	1	-	-
	PROJECT TOTALS			**2**	**2**	**1**	**1**	**1**	**1**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

REMOVING

CATEGORY	STATION	LOCATION	* (204.0195) CONCRETE BASES EACH	(653.0905) PULL BOXES EACH
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**			
	13'CGE'+14	39' LT	1	-
	13'CGE'+43	17' RT	1	-
	13'CGE'+30	29' LT	1	-
	13'CGW'+20	9' LT	1	-
	13'CGE'+67	46' RT	1	-
	13'CGW'+93	23' LT	1	-
	14'CGW'+15	7' LT	1	-
	14'CGE'+21	22' RT	1	-
	14'CGE'+24	11' RT	1	-
	14'CGE'+32	31' LT	1	-
	14'CGW'+31	40' RT	1	-
	14'CGE'+62	29' LT	1	-
	14'CGE'+75	34' RT	1	-
	14'CGW'+06	27' LT	1	-
	13'CGE'+23	32' LT	-	1
	13'CGE'+56	30' RT	-	1
	13'CGW'+26	8' LT	-	1
	13'CGW'+41	13' LT	-	1
	14'CGW'+06	18' LT	-	1
	14'CGE'+27	26' RT	-	1
	14'CGE'+30	36' LT	-	1
	14'CGW'+58	47' RT	-	1
	14'CGE'+68	46' RT	-	1
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS		**14**	**9**
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**			
	22'CGE'+02	41' LT	1	-
	22'CGW'+05	29' RT	1	-
	22'CGE'+16	7' RT	1	-
	22'CGE'+49	8' LT	1	-
	23'CGE'+07	10' RT	1	-
	23'CGW'+11	36' LT	1	-
	23'CGE'+19	37' LT	1	-
	23'CGW'+17	27' RT	1	-
**	**23'CGW'+17**	**28' RT**	**1**	-
	23'CGW'+33	26' LT	1	-
	21'CGW'+74	48' LT	1	-
	22'CGE'+03	8' RT	-	1
	22'CGE'+15	51' LT	-	1
	23'CGE'+03	8' RT	-	1
	23'CGE'+13	46' LT	-	1
	23'CGW'+29	28' LT	-	1
	USH 51 N.B. & COTTAGE GROVE ROAD TOTALS		**11**	**5**
	TOTALS CATEGORY 0010		**25**	**14**

* ADDITIONAL QUANITITIES FOUND ELSEWHERE
** TSB1 TO BE REMOVED AFTER STAGE CG2

ABANDON CONCRETE BASE

CATEGORY	STATION	LOCATION	(SPV.0060.06) EACH
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**		
	22'CGW'+23	10' LT	1
	TOTALS CATEGORY 0010		**1**

PULL BOXES STEEL 24x42-INCH

CATEGORY	NUMBER	STATION	LOCATION	* (653.0140) EACH
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**			
	PB1	14'CGE'+16	102' LT	1
	PB2	14'CGE'+30	93' LT	1
	PB3	14'CGE'+30	36' LT	1
	PB4	14'CGE'+29	25' RT	1
	PB5	13'CGE'+45	27' RT	1
	PB6	13'CGE'+10	16' RT	1
	PB7	13'CGE'+10	42' LT	1
	PB8	13'CGE'+34	97' LT	1
	PB9	17'CGE'+92	94' LT	1
	PB10	16'CGE'+23	45' LT	1
	PB11	14'CGE'+60	40' LT	1
	PB12	14'CGE'+67	45' RT	1
	PB13	14'CGE'+29	39' RT	1
	PB14	11'CGE'+23	33' RT	1
	PB30	14'CGW'+43	8' LT	1
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS			**15**
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**			
	PB18	23'CGE'+31	114' LT	1
	PB19	23'CGE'+12	47' LT	1
	PB20	22'CGE'+85	8' RT	1
	PB21	22'CGE'+03	7' RT	1
	PB22	22'CGE'+16	56' LT	1
	PB25	18'CGE'+15	20' RT	1
	PB26	21'CGE'+80	50' LT	1
	PB27	20'CGE'+14	48' LT	1
	PB28	14'CGW'+80	23'LT	1
	PB29	18'CGE'+16	96' LT	1
	USH 51 N.B. & COTTAGE GROVE ROAD TOTALS			**10**
	TOTALS CATEGORY 0010			**25**

* ADDITIONAL QUANITITIES FOUND ELSEWHERE

REMOVING TRAFFIC SIGNAL EQUIPMENT

CATEGORY	DESCRIPTION	(204.9105.S.01) LS	(204.9105.S.02) LS
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**	1	-
	USH 51 N.B. & COTTAGE GROVE ROAD	-	1
	TOTALS CATEGORY 0010	**1**	**1**

CONCRETE BASES TYPE 1

CATEGORY	NUMBER	STATION	LOCATION	(654.0101) EACH
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**			
	SB1	14'CGE'+11	94' LT	1
	SB2	14'CGE'+25	40' LT	1
	SB4	14'CGE'+63	28' LT	1
	SB5	14'CGE'+26	10' RT	1
	SB6	14'CGE'+78	29' RT	1
	SB7	14'CGE'+24	23' RT	1
	SB8	13'CGE'+51	33' RT	1
	SB9	13'CGE'+25	18' RT	1
	SB10	13'CGE'+16	42' LT	1
	SB13	13'CGE'+95	112' LT	1
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS			**10**
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**			
	SB15	23'CGE'+24	115' LT	1
	SB16	23'CGE'+29	57' LT	1
	SB18	22'CGE'+76	9' RT	1
	SB19	22'CGE'+49	9' RT	1
	SB20	21'CGE'+98	8' RT	1
	SB21	21'CGE'+94	41' LT	1
	USH 51 N.B. & COTTAGE GROVE ROAD			**6**
	TOTALS CATEGORY 0010			**16**

CONCRETE BASES TYPE 2

CATEGORY	NUMBER	STATION	LOCATION	(654.0102) EACH
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**			
	TSB1	23'CGW+17	28' RT	1
	TOTALS CATEGORY 0010			**1**

CONCRETE BASES TYPE 10

CATEGORY	NUMBER	STATION	LOCATION	(654.0110) EACH
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**			
	SB3	14'CGE'+25	30' LT	1
	SB11	13'CGE'+23	92' LT	1
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS			**2**
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**			
	SB17	22'CGE'+36	33' LT	1
	SB22	22'CGE'+08	56' LT	1
	USH 51 N.B. & COTTAGE GROVE ROAD TOTALS			**2**
	TOTALS CATEGORY 0010			**4**

CONDUIT RIGID NONMETALLIC

CATEGORY	FROM	TO	* (652.0225) SCHEDULE 40 2-INCH LF	* (652.0335) SCHEDULE 80 3-INCH LF	* (652.0615) CONDUIT SPECIAL 3-INCH LF	* (652.0700.S) INSTALL CONDUIT INTO EXISTING ITEM EACH	NOTES
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**						
	CB1	PB1	-	9	-	-	3-3"
	PB1	PB2	-	34	-	-	2-3"
	PB2	SB1	16	-	-	-	-
	PB2	PB3	-	-	114	-	2-3"
	PB3	SB2	6	-	-	-	-
	PB3	SB3	6	-	-	-	-
	PB3	PB11	30	-	-	-	-
	PB11	PB10	162	-	-	-	-
	PB11	SB4	12	-	-	-	-
	PB3	PB4	-	122	-	-	2-3"
	PB4	SB5	15	-	-	-	-
	PB4	SB7	6	-	-	-	-
	PB4	PB12	-	42	-	-	-
	PB12	SB6	19	-	-	-	-
	PB4	PB13	13	-	-	-	-
	PB4	PB5	-	172	-	-	2-3"
	PB5	SB8	8	-	-	-	-
	PB5	PB6	-	76	-	-	2-3"
	PB6	SB9	15	-	-	-	-
	PB6	PB7	-	116	-	-	2-3"
	PB7	SB10	6	-	-	-	-
	PB7	PB14	189	-	-	-	-
	PB7	PB8	-	-	118	-	2-3"
	PB8	SB11	10	-	-	-	-
	PB8	EXSB12	14	-	-	1	-
	PB8	PB1	-	144	-	-	2-3"
	CB1	EXPB15	20	-	-	1	-
	EXPB15	SB13	9	-	-	1	-
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS		**556**	**715**	**232**	**3**	
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**						
	CB2	EXPB16	-	18	-	1	3-3"
	PB18	SB15	6	-	-	-	-
	PB18	EXPB24	184	-	-	-	-
	PB18	PB19	-	-	140	-	2-3"
	PB19	SB16	19	-	-	-	-
	PB19	SB17	26	-	-	-	-
	PB19	PB20		-	122	-	2-3"
	PB20	SB18	8	-	-	-	-
	PB20	PB21	-	160	-	-	2-3"
	PB21	PB19	45	-	-	-	-
	PB21	SB20	4	-	-	-	-
	PB21	PB22	-	-	130	-	2-3"
	PB22	SB21	22	-	-	-	-
	PB22	SB22	6	-	-	-	-
	PB22	PB26	23	-	-	-	-
	PB26	PB27	165	-	-	-	-
	PB22	EXPB16	-	-	146	1	2-3"
	USH 51 N.B. & COTTAGE GROVE ROAD TOTALS		**508**	**178**	**538**	**2**	
	TOTALS CATEGORY 0010		**1,064**	**893**	**770**	**5**	

* ADDITIONAL QUANITITIES FOUND ELSEWHERE

LOOP DETECTORS

CATEGORY	LOOP NUMBER	STATION	OFFSET	SIZE	NUMBER OF TURNS	(652.0800) CONDUIT LOOP DETECTOR LF	(655.0700) LOOP DETECTOR LEAD IN CABLE LF	(655.0800) LOOP DETECTOR WIRE LF
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**							
	11	12'CGE'+88	30' LT	6'x20'	2	98	131	196
	12	13'CGE'+12	30' LT	6'x20'	3	70	134	210
	21	16'CGE'+28	74' LT	6'x20'	3	88	269	264
	41	13'CGW'+68	41' LT	6'x20'	-	-	20	-
	42	13'CGE'+64	108' LT	6'x10'	2	82	20	164
	51	16'CGE'+28	56' LT	6'x6'	4	44	269	176
	52	14'CGE'+63	56' LT	6'x20'	3	80	107	240
	53	14'CGE'+37	56' LT	6'x20'	2	86	107	172
	61	11'CGE'+26	10' LT	6'x20'	-	-	323	-
	81	14'CGE'+50	43' RT	6'x20'	3	84	180	252
	82	14'CGE'+16	45' RT	6'x20'	2	72	151	144
	83	14'CGE'+08	24'RT	6'x20'	3	72	151	216
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS					**776**	**1,862**	**2,034**
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**							
	11	20'CGE'+20	30' LT	6'x6'	4	54	267	216
	12	21'CGE'+73	29' LT	6'x20'	3	88	102	264
	13	22'CGE'+00	29' LT	6'x20'	2	88	102	176
	21	25'CGW'+18	11' RT	6'x20'	-	-	333	-
	41	22'CGE'+51	144' LT	6'x20'	-	-	51	-
	42	22'CGE'+50	118' LT	6'x20'	-	-	54	-
	61	20'CGE'+20	12' LT	6'x20'	3	104	267	312
	USH 51 N.B. & COTTAGE GROVE ROAD TOTALS					**334**	**1,176**	**968**
	TOTALS CATEGORY 0010					**1,110**	**3,038**	**3,002**

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS

CATEGORY	DESCRIPTION	(661.0200.01) LS	(661.0200.02) LS
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**	1	**-**
	USH 51 N.B. & COTTAGE GROVE ROAD	-	**1**
	TOTALS CATEGORY 0010	**1**	**1**

TEMPORARY VEHICLE DETECTION

CATEGORY	DESCRIPTION	(SPV.0105.07) LS	(SPV.0105.08) LS
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**	1	**-**
	USH 51 N.B. & COTTAGE GROVE ROAD	-	**1**
	TOTALS CATEGORY 0010	**1**	**1**

TRAFFIC SIGNAL ITEMS

CATEGORY	SIGNAL BASE NUMBER	HEAD NUMBER	(657.0100) PEDESTAL BASES EACH	(657.0430) TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT EACH	(657.0420) TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	(657.0425) TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	(657.1345) INSTALL POLES TYPE 9 EACH	(657.1530) INSTALL MONOTUBE ARMS 30-FT EACH	(SPV.0060.05) SALVAGE & REINSTALL TRAFFIC EQUIPMENT ## EACH	NOTES
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**									
	SB1	1, 15, P10	1	-	-	-	-	-	1	15-FT SIGNAL
	SB2	4, 14, P9	1	-	-	-	-	-	1	15-FT SIGNAL
	SB3	11, 12, P8	-	-	-	-	1	1		-
	SB4	20	1	-	-	-	-	-	1	15-FT SIGNAL
	SB5	P7	1	1	-	-	-	-	-	-
	SB6	19, P6	1	-	-	-	-	-	1	15-FT SIGNAL
	SB7	9, 16, P4, P5	1	-	1	-	-	-	-	-
	SB8	8, P3	1	-	-	-	-	-	1	13-FT SIGNAL
	SB9	6, 10	1	-	-	1	-	-	-	-
	SB10	5, 13	1	-	-	1	-	-	-	-
	SB11	2, 3, 18	-	-	-	-	1	1	-	-
	EXSB12	7, 17, P2	NOT REMOVED	-	NOT REMOVED	-	-	-	-	-
	SB13	P1	1	1	-	-	-	-	-	-
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS		**10**	**2**	**1**	**2**	**2**	**2**	**5**	
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**									
	EXSB14	25, P12	NOT REMOVED	-	NOT REMOVED	-	-	-	-	-
	SB15	21, 33, P11	1	-	-	1	-	-	-	-
	SB16	24	1	-	-	-	-	-	1	13-FT SIGNAL
	SB17	29, 30, 32	-	-	-	-	1	1	-	-
	SB18	27	1	-	-	-	-	-	1	13-FT SIGNAL
	SB19	26	1	-	-	1	-	-	-	
	SB20	28	1	-	-	-	-	-	1	13-FT SIGNAL
	SB21	31	1	-	-	1	-	-	-	-
	SB22	22, 23	-	-	-	-	1	1	-	-
	USH 51 N.B. & COTTAGE GROVE ROAD TOTALS		**6**	**0**	**0**	**3**	**2**	**2**	**3**	
	TOTALS CATEGORY 0010		**16**	**2**	**1**	**5**	**4**	**4**	**8**	

CONFIRM CONDITION OF SALVAGED EQUIPMENT WITH ENGINEER AND CITY BEFORE ORDERING OR REINSTALLING.

INTERSECTION ITEMS

CATEGORY	DESCRIPTION	(SPV.0105.11) INSTALL STATE FURNISHED EVP EQUIPMENT LS	(SPV.0105.12) INSTALL STATE FURNISHED EVP EQUIPMENT LS	* (658.5069.01) SIGNAL MOUNTING HARDWARE LS	* (658.5069.02) SIGNAL MOUNTING HARDWARE LS
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**	1	-	1	-
	USH 51 N.B. & COTTAGE GROVE ROAD	-	1	-	1
	TRAFFIC SIGNAL SYSTEM				
	TOTALS CATEGORY 0010	**1**	**1**	**1**	**1**

INTERSECTION ITEMS

CATEGORY	DESCRIPTION	LOCATION	(SPV.0105.09) INSTALL VENDOR SUPPLIED TRAFFIC SIGNAL CABINET LS	(SPV.0105.10) INSTALL VENDOR SUPPLIED TRAFFIC SIGNAL CABINET LS	(654.0217) CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH	* (656.0200.03) ELECTRICAL SERVICE, METER BREAKER PEDESTAL LS	* (656.0200.04) ELECTRICAL SERVICE, METER BREAKER PEDESTAL LS
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**	(STA. 14CGW'+11.0, 23.0' LT)	1	-	1	1	-
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**	(STA. 21CGW'+83.0, 47.0' LT)	-	1	1	-	1
	TRAFFIC SIGNAL SYSTEM						
	TOTALS CATEGORY 0010		**1**	**1**	**2**	**1**	**1**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

TRAFFIC SIGNAL FACE

CATEGORY	SIGNAL BASE NUMBER	HEAD NUMBER	(658.0215) BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	(658.0220) BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	(658.0225) BACKPLATES SIGNAL FACE 5 SECTION 12-INCH EACH	(658.0110) 3-12 INCH VERTICAL EACH	(658.0115) 4-12 INCH VERTICAL EACH	(658.0120) 5-12 INCH VERTICAL EACH	(658.0416) PEDESTRIAN SIGNAL FACE 16-INCH EACH
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**								
	SB1	1	#	-	-	#	-	-	-
		15	-	1	-	-	1	-	-
		P10	-	-	-	-	-	-	1
	SB2	4	-	1	-	-	1	-	-
		14	-	1	-	-	1	-	-
		P9	-	-	-	-	-	-	1
	SB3	11	1	-	-	1	-	-	-
		12	1	-	-	1	-	-	-
		P8	-	-	-	-	-	-	1
	SB4	20	-	-	1	-	-	1	-
	SB5	P7	-	-	-	-	-	-	1
	SB6	19	-	-	1	-	-	1	-
		P9	-	-	-	-	-	-	1
	SB7	9	#	-	-	#	-	-	-
		16	#	-	-	#	-	-	-
		P4	-	-	-	-	-	-	1
		P5	-	-	-	-	-	-	1
	SB8	8	#	-	-	#	-	-	-
		P3	-	-	-	-	-	-	1
	SB9	6	-	1	-	-	1	-	-
		10	#	-	-	#	-	-	-
	SB10	5	-	1	-	-	1	-	-
		13	-	1	-	-	1	-	-
	SB11	2	1	-	-	1	-	-	-
		3	1	-	-	1	-	-	-
		18	1	-	-	1	-	-	-
	EXSB12	7	NOT REMOVED	-	-	NOT REMOVED	-	-	-
		17	NOT REMOVED	-	-	NOT REMOVED	-	-	-
		P2	-	-	-	-	-	-	1
	SB13	P1	-	-	-	-	-	-	1
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS		**5**	**6**	**2**	**5**	**6**	**2**	**10**
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**								
	EXSB14	25	NOT REMOVED	-	-	NOT REMOVED	-	-	-
		P12	-	-	-	-	-	-	1
	SB15	21	#	-	-	#	-	-	-
		33	-	1	-	-	1	-	-
		P11	-	-	-	-	-	-	1
	SB16	24	#	-	-	#	-	-	-
	SB17	29	1	-	-	1	-	-	-
		30	1	-	-	1	-	-	-
	.	32	-	1	-	-	1	-	-
	SB18	27	#	-	-	#	-	-	-
	SB19	26	#	-	-	#	-	-	-
	SB20	28	#	-	-	#	-	-	-
	SB21	31	-	1	-	-	1	-	-
	SB22	22	1	-	-	1	-	-	-
		23	1	-	-	1	-	-	-
	USH 51 N.B. & COTTAGE GROVE ROAD TOTALS		**4**	**3**	**0**	**4**	**3**	**0**	**2**
	TOTALS CATEGORY 0010		**9**	**9**	**2**	**9**	**9**	**2**	**12**

REUSE SALVAGED EQUIPMENT. COST IS INCLUDED IN SPV.0060.05 'SALVAGE & REINSTALL TRAFFIC EQUIPMENT'.

TRAFFIC SIGNAL MODULES

CATEGORY	SIGNAL BASE NUMBER	HEAD NUMBER	(658.0600) LED MODULES 12-INCH RED BALL EACH	(658.0605) LED MODULES 12-INCH YELLOW BALL EACH	(658.0610) LED MODULES 12-INCH GREEN BALL EACH	(658.0615) LED MODULES 12-INCH RED ARROW EACH	(658.0620) LED MODULES 12-INCH YELLOW ARROW EACH	(658.0625) LED MODULES 12-INCH GREEN ARROW EACH	(658.0635) LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH	(658.0500) PEDESTRIAN PUSH BUTTONS EACH
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**									
	SB1	1	1	1	1	-	-	-	-	-
		15	-	-	-	1	2	1	-	-
		P10	-	-	-	-	-	-	1	1
	SB2	4	-	-	-	1	2	1	-	-
		14	-	-	-	1	2	1	-	-
		P9	-	-	-	-	-	-	1	1
	SB3	11	1	1	1	-	-	-	-	-
		12	1	1	1	-	-	-	-	-
		P8	-	-	-	-	-	-	1	1
	SB4	20	1	1	1	-	1	1	-	-
	SB5	P7	-	-	-	-	-	-	1	1
	SB6	19	1	1	1	-	1	1	-	-
		P6	-	-	-	-	-	-	1	1
	SB7	9	1	1	1	-	-	-	-	-
		16	1	1	1	-	-	-	-	-
		P4	-	-	-	-	-	-	1	1
		P5	-	-	-	-	-	-	1	1
	SB8	8	1	1	1	-	-	-	-	-
		P3	-	-	-	-	-	-	1	1
	SB9	6	-	-	-	1	2	1	-	-
		10	1	1	1	-	-	-	-	-
	SB10	5	-	-	-	1	2	1	-	-
		13	-	-	-	1	2	1	-	-
	SB11	2	1	1	1	-	-	-	-	-
		3	1	1	1	-	-	-	-	-
		18	1	1	1	-	-	-	-	-
	EXSB12	7	1	1	1	-	-	-	-	-
		17	1	1	1	-	-	-	-	-
		P2	-	-	-	-	-	-	1	1
	SB13	P1	-	-	-	-	-	-	1	1
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS		**14**	**14**	**14**	**6**	**14**	**8**	**10**	**10**
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**									
	EXSB14	25	1	1	1	-	-	-	-	-
		P12	-	-	-	-	-	-	1	1
	SB15	21	1	1	1	-	-	-	-	-
		33	-	-	-	1	2	1	-	-
		P11	-	-	-	-	-	-	1	1
	SB16	24	1	1	1	-	-	-	-	-
	SB17	29	1	1	1	-	-	-	-	-
		30	1	1	1	-	-	-	-	-
	.	32	-	-	-	1	2	1	-	-
	SB18	27	1	1	1	-	-	-	-	-
	SB19	26	1	1	1	-	-	-	-	-
	SB20	28	1	1	1	-	-	-	-	-
	SB21	31	-	-	-	1	2	1	-	-
	SB22	22	1	1	1	-	-	-	-	-
		23	1	1	1	-	-	-	-	-
	USH 51 N.B. & COTTAGE GROVE ROAD TOTALS		**10**	**10**	**10**	**3**	**6**	**3**	**2**	**2**
	TOTALS CATEGORY 0010		**24**	**24**	**24**	**9**	**20**	**11**	**12**	**12**

CABLE TRAFFIC SIGNAL

CATEGORY	FROM	TO	(655.0210) 3-14 AWG LF	(655.0230) 5-14 AWG LF	(655.0270) 15-14 AWG LF
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**				
	CB1	SB1	-	-	54
	SB1	HEAD 1	-	22	-
	SB2	HEAD 15	-	22	-
	SB1	PED HEAD P10	18	-	-
	SB1	PED BUTTON	6	-	-
	CB1	SB2	-	-	107
	SB2	HEAD 4	-	22	-
	SB2	HEAD 14	-	22	-
	SB2	PED HEAD P9	18	-	-
	SB2	PED BUTTON	6	-	-
	CB1	SB3	-	-	107
	SB3	HEAD 11	-	50	-
	SB3	HEAD 12	-	38	-
	SB3	PED HEAD P8	18	-	-
	SB3	PED BUTTON	6	-	-
	CB1	SB4	-	-	149
	SB4	HEAD 20	-	23	-
	CB1	SB5	-	-	183
	SB5	PED HEAD P7	18	-	-
	SB5	PED BUTTON	6	-	-
	CB1	SB6	-	-	235
	SB6	HEAD 19	-	23	-
	SB6	PED HEAB P6	18	-	-
	SB6	PED BUTTON	6	-	-
	CB1	SB7	-	-	174
	SB7	HEAD 9	-	19	-
	SB7	HEAD 16	-	19	-
	SB7	PED HEAD P4	18	-	-
	SB7	PED BUTTON	6	-	-
	SB7	PED HEAD P5	18	-	-
	SB7	PED BUTTON	6	-	-
	CB1	SB8	-	-	268
	SB8	HEAD 8	-	19	-
	SB8	PED HEAD P3	18	-	-
	SB8	PED BUTTON	6	-	-
	CB1	SB9	-	-	237
	SB9	HEAD 6	-	22	-
	SB9	HEAD 10	-	22	-
	CB1	SB10	-	-	164
	SB10	HEAD 5	-	22	-
	SB10	HEAD 13	-	22	-
	CB1	SB11	-	-	103
	SB11	HEAD 2	-	40	-
	SB11	HEAD 3	-	52	-
	SB11	HEAD 18	-	23	-
	CB1	EXSB12	-	-	107
	EXSB12	HEAD 7	-	19	-
	EXSB12	HEAD 17	-	19	-
	EXSB12	PED HEAD P2	18	-	-
	EXSB12	PED BUTTON	6	-	-
	CB1	SB13	-	-	41
	SB13	PED HEAD P10	18	-	-
	SB13	PED BUTTON	6	-	-
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS		**240**	**520**	**1,929**

CABLE TRAFFIC SIGNAL

CATEGORY	FROM	TO	(655.0210) 3-14 AWG LF	(655.0230) 5-14 AWG LF	(655.0270) 15-14 AWG LF
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**				
	CB2	EXSB14	-	-	76
	EXSB14	HEAD 25	-	19	-
	EXSB14	PED HEAD P12	18	-	-
	EXSB14	PED BUTTON	6	-	-
	CB2	SB15	-	-	179
	SB15	HEAD 21	-	22	-
	SB15	HEAD 33	-	22	-
	SB15	PED HEAD P11	18	-	-
	SB15	PED BUTTON	6	-	-
	CB2	SB16	-	-	340
	SB16	HEAD 24	-	19	-
	CB2	SB17	-	-	347
	SB17	HEAD 29	-	58	-
	SB17	HEAD 30	-	46	-
	SB17	HEAD 32	-	24	-
	CB2	SB18	-	-	262
	SB18	HEAD 27	-	19	-
	CB2	SB19	-	-	213
	SB19	HEAD 26	-	19	-
	CB2	SB20	-	-	172
	SB20	HEAD 28	-	19	-
	CB2	SB21	-	-	119
	SB21	HEAD 31	-	22	-
	CB2	SB22	-	-	103
	SB22	HEAD 22	-	50	-
	SB22	HEAD 23	-	38	-
	USH 51 N.B. & COTTAGE GROVE ROAD TOTALS		**48**	**377**	**1,811**
	TOTALS CATEGORY 0010		**288**	**897**	**3,740**

TRAFFIC SIGNAL EVP DETECTOR CABLE

CATEGORY	FROM	TO	(655.0900) LF
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**		
	CB1	DETECTOR A	150
	CB1	DETECTOR B	150
	CB1	DETECTOR D	120
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS		**420**
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**		
	CB2	DETECTOR A	145
	CB2	DETECTOR B	385
	CB2	DETECTOR C	210
	USH 51 N.B. & COTTAGE GROVE ROAD TOTALS		**740**
	TOTALS CATEGORY 0010		**1,160**

INTERCONNECT CONDUIT

CATEGORY	FROM	TO	* (652.0235) CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	* (652.0615) CONDUIT SPECIAL 3-INCH LF	NOTES
0010	**INTERCONNECT**				
	CB1	PB30	70	-	2-3"
	PB30	PB29	560	200	2-3"
	PB29	PB28	760	-	2-3"
	PB28	CB2	70	-	2-3"
	PB30	PB2	30	-	2-3"
	TOTALS CATEGORY 0010		**1,490**	**200**	

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

CATEGORY	FROM	TO	* (655.0515) GROUNDING CONDUCTOR (WHITE) L.F.	* (655.0515) EQUIPMENT GROUNDING CONDUCTOR (GREEN) L.F.
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**			
	CB1	SB1	48	48
	SB1	SB2	91	91
	SB2	SB3	18	18
	SB3	SB4	60	60
	SB4	SB5	136	136
	SB5	SB6	88	88
	SB6	SB7	79	79
	SB7	SB8	112	112
	SB8	SB9	73	73
	SB9	SB10	91	91
	SB10	SB11	87	87
	SB11	EXSB12	30	30
	EXSB12	CB1	101	101
	CB1	SB13	35	35
	CB1	PB1	-	10
	SB1	PB2	-	21
	SB2	PB3	-	11
	SB4	PB11	-	17
	SB7	PB4	-	11
	SB8	PB5	-	13
	SB9	PB6	-	20
	SB10	PB7	-	11
	SB11	PB8	-	15
	SB6	PB12	-	25
	SB13	EXPB15	-	14
	USH 51 S.B. & COTTAGE GROVE ROAD SUBTOTAL		**1,049**	**1,217**
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS		**2,266**	
0010	**USH 51 N.B. & COTTAGE GROVE ROAD**			
	CB1	EXSB14	77	77
	EXSB14	SB15	122	122
	SB15	SB16	112	112
	SB16	SB17	53	53
	SB17	SB18	112	112
	SB18	SB19	150	150
	SB19	SB20	60	60
	SB20	SB21	108	108
	SB21	SB22	39	39
	SB22	CB2	110	110
	CB1	EXPB16	-	11
	EXSB14	EXPB17	-	9
	SB15	PB18	-	11
	SB16	PB19	-	24
	SB18	PB20	-	13
	SB20	PB21	-	9
	SB22	PB22	-	11
	USH 51 N.B. & COTTAGE GROVE ROAD SUBTOTAL		**943**	**1,031**
	USH 51 N.B. & COTTAGE GROVE ROAD TOTALS		**1,974**	
	TOTALS CATEGORY 0010		**4,240**	

* ADDITIONAL QUANITITIES FOUND ELSEWHERE

INTERCONNECT ITEMS

CATEGORY	FROM	TO	(655.0410) COMMUNICATION CABLE INSTALLED IN CONDUIT LF	(678.0500) COMMUNICATION SYSTEM TESTING LS	(670.0100) FIELD SYSTEM INTEGRATOR LS
0010	**INTERCONNECT**				
	CB1	PB30	35	-	-
	PB30	PB29	380		
	PB29	PB28	380		
	PB28	CB2	35	-	-
	INTERCONNECT SYSTEM		-	1	1
	TOTALS CATEGORY 0010		**830**	**1**	**1**

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

RAILROAD CONDUIT

CATEGORY	FROM	TO	* (652.0235) CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	* (652.0615) CONDUIT SPECIAL 3-INCH LF
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**			
	CB1	PB30	35	-
	PB30	PB9	260	100
	PB9	PB25	120	-
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS		**415**	**100**
	USH 51 N.B. & COTTAGE GROVE ROAD			
	PB25	PB9	120	-
	PB9	PB28	400	-
	PB28	CB2	35	-
	USH 51 N.B. & COTTAGE GROVE ROAD TOTALS		**555**	**0**
	TOTALS CATEGORY 0010		**970**	**100**

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

RAILROAD PREEMPTION CABLE

CATEGORY	FROM	TO	(655.0250) CABLE TRAFFIC SIGNAL 9-14 AWG LF
0010	**USH 51 S.B. & COTTAGE GROVE ROAD**		
	CB1	PB30	35
	PB30	PB9	360
	PB9	PB25	120
	USH 51 S.B. & COTTAGE GROVE ROAD TOTALS		**515**
	USH 51 N.B. & COTTAGE GROVE ROAD		
	PB25	PB9	120
	PB9	PB28	400
	PB28	CB2	35
	USH 51 N.B. & COTTAGE GROVE ROAD TOTALS		**555**
	TOTALS CATEGORY 0010		**1,070**

SANITARY SEWER STRUCTURES

CATEGORY	STRUCTURE NUMBER	STATION	LOCATION (OFFSET)	FINAL RIM	TEMP RIM ELEV.	EXISTING TOP OF	EXISTING ADJUST	NET ADJUST	IE	DEPTH	(SPV.0060.10) SANITARY SEWER ACCESS STRUCTURE, 5-FOOT DIAMETER EACH	(SPV.0060.09) SANITARY SEWER ACCESS STRUCTURE, 4-FOOT DIAMETER EACH	(SPV.0060.02)* MANHOLE COVER TYPE SPECIAL LOGO EACH	(SPV.0060.12) SANITARY SEWER TAP EACH	(SPV.0060.21) SANITARY FORCE MAIN CONNECTION EACH
0010	**COTTAGE GROVE ROAD**														
	SAS#1	8'CGE'+88.70	LT-9.30	866.25	-	-	-	-	854.72	11.53	1	-	1	-	
	SAS#2	9'CGE'+03.50	LT-10.00	866.30	-	-	-	-	854.83	11.47	1	-	1	2	-
	SAS#3	9'CGE'+03.30	LT-17.80	866.19	-	-	-	-	857.09	9.10	-	1	1	-	1
	SAS#4	12'CGE'+78.00	LT-12.00	867.95	-	-	-	-	856.96	10.99	1	-	1	-	
	SAS#5	16'CGE'+45.00	LT-18.00	873.11	-	-	-	-	860.39	12.72	1	-	1	-	-
	SAS#6	18'CGE'+70.00	LT-18.00	875.50	-	-	-	-	862.38	13.12	1	-	1	-	
	SAS#7	21'CGE'+20.00	LT-18.00	873.86	-	-	-	-	862.90	10.96	1	-	1	1	-
	SAS#8	23'CGE'+70.00	LT-18.00	873.07	-	-	-	-	863.42	9.65	1	-	1	-	-
	SAS#9	24'CGE'+13.60	RT-27.30	873.60	-	-	-	-	863.64	9.96	1	-	1	1	1
									PROJECT TOTALS		**8**	**1**	**9**	**4**	**2**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

SANITARY SEWER PIPES (SEWER MAIN)

CATEGORY	LOCATION (DOWNSTREAM)	LOCATION (UPSTREAM)	EI (DOWNSTREAM)	EI (UPSTREAM)	SLOPE (%)	(SPV.0090.12) SELECT FILL FOR SANITARY SEWER LF	(SPV.0090.09) SANITARY SEWER PIPE PVC, 8-INCH LF	(SPV.0090.10) SANITARY SEWER PIPE PVC, 21-INCH LF	(SPV.0090.14) BORE AND JACK SANITARY SEWER 21-INCH LF	(SPV.0060.19) INSTALL COMPRESSION COUPLING EACH	(SPV.0060.13) SEWER ELECTRONIC MARKERS EACH	(SPV.0090.11) SANITARY SEWER LATERAL LF	NOTES
0010	**COTTAGE GROVE ROAD**												
	SAS#1	SAS#2	854.75	854.83	0.50%	16	-	16	-	-	-	-	
	SAS#2	SAS#3	856.60	857.09	6.13%	8	8	-	-	-	-	-	
	SAS#2	SAS#4	854.93	856.96	0.54%	375	-	375	-	-	-	-	
	SAS#4	SAS#5	857.06	860.39	0.91%	366	-	366	-	-	-	-	
	SAS#5	SAS#6	860.49	862.38	0.84%	225	-	-	225	-	-	-	BORE AND JACK CASING BELOW TRACKS
	SAS#6	SAS#7	862.40	862.90	0.20%	250	-	250	-	-	-	-	
	SAS#7	SAS#8	862.92	863.42	0.20%	250	-	250	-	-	-	-	
	SAS#8	SAS#9	863.52	863.64	0.20%	61	-	61	-	-	-	-	
	SAS#4	EX. SAS 6546-005	857.06	858.18	2.95%	38	38	-	-	1	1	-	INSTALL COMPRESSION TO PIPE NORTH OF SAS 6546-005
	LATERAL- UNDISTRIBUTED					35	-	-	-	-	-	35	UNDISTRIBUTED NO LATERALS EXPECTED
			PROJECT TOTALS			**1,624**	**46**	**1,318**	**225**	**1**	**1**	**35**	

REMOVE SEWER ACCESS STRUCTURES

CATEGORY	EXIST. STRUCTURE NUMBER	STATION	LOCATION (OFFSET)	RIM	EI	DEPTH	(SPV.0060.15) REMOVE SANITARY SEWER STRUCTURE EACH	(SPV.0060.16) ABANDON SEWER ACCESS STRUCTURES EACH	NOTES
0010	**COTTAGE GROVE ROAD**								
	6546-004	8'CGE'+88.70	LT-9.30	866.25	854.72	11.53	1	-	
	6546-003	9'CGE'+03.30	LT-17.80	866.19	856.54	9.65	1	-	BLOCK MANHOLE STRUCTURE
	6546-005	12'CGW'+76.40	RT-26.70	867.73	857.56	10.17	1	-	
	6546-006	13'CGW'+03.38	RT-26.50	868.08	857.82	10.26	-	1	BLOCK MANHOLE STRUCTURE
	6546-007	126'CGW'+44.50	RT-24.20	873.00	858.98	14.02	-	1	
	6546-008	17'CGW'+53.10	RT-23.80	875.20	862.13	13.07	-	1	
	6646-002	20'CGW'+12.50	RT-23.00	874.17	863.15	11.02	-	1	BLOCK MANHOLE STRUCTURE
	6646-001	24'CGW'+13.60	RT-27.30	873.60	863.94	9.66	1	-	
					PROJECT TOTALS		**4**	**4**	

REMOVE SANITARY SEWER PIPE

CATEGORY	FROM STRUCTURE # DOWNSTREAM	TO STRUCTURE # UPSTREAM	PAID (Y/N)	SIZE	PIPE MATERIAL	(SPV.0090.13) LF	NOTES
0010	**COTTAGE GROVE ROAD**						
	6546-004	6546-003	Y	18"	RCP	17	
					PROJECT TOTAL	**17**	

ALL SANITARY SEWER PIPE REMOVALS CALLED OUT ABOVE THAT ARE NOT CALLED OUT FOR PAYMENT LOCATED WITHIN 3' OF THE PROPOSED SEWER ARE ARE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE NEW SANITARY SEWER PIPE IN ACCORDANCE WITH ARTICLE 203.2 THE CITY OF MADISON STANDARD SPECIFICATIONS.

SANITARY SEWER MAIN ABANDONMENT

CATEGORY	FROM STRUCTURE # (OR STA. LOCATION) DOWNSTREAM	TO STRUCTURE # (OR STA. LOCATION) UPSTREAM	LENGTH	PAID (Y/N)	SIZE	PIPE MATERIAL	(SPV.0035.02) ABANDON SANITARY SEWER WITH SLURRY CY	NOTES
0010	**COTTAGE GROVE ROAD**							
	EX.SAS 6546-003	EX.SAS 6546-005	372	N	15"	RCP	0	PIPE PLUGS ONLY INCIDENTAL TO SEWER ACCESS STRUCTURE REMOVAL
	EX.SAS 6546-005	EX.SAS 6546-006	27	N	15"	RCP	0	PIPE PLUGS ONLY INCIDENTAL TO SEWER ACCESS STRUCTURE REMOVAL AND/OR ABANDONMENT
	EX.SAS 6546-006	EX.SAS 6546-007	341	N	15"	RCP	0	PIPE PLUGS ONLY INCIDENTAL TO SEWER ACCESS STRUCTURE REMOVAL AND/OR ABANDONMENT
	EX.SAS 6546-007	EX.SAS 6546-008	109	Y	15"	RCP	4.95	
	EX.SAS 6546-008	EX.SAS 6646-002	259	Y	15"	RCP	11.77	
	EX.SAS 6546-002	EX.SAS 6646-001	401	N	15"	RCP	0	PIPE PLUGS ONLY INCIDENTAL TO SEWER ACCESS STRUCTURE REMOVAL AND/OR ABANDONMENT
					PROJECT TOTAL		**16.72**	

MISC. SANITARY ITEMS

CATEGORY	STATION	LOCATION (OFFSET)	(SPV.0060.18) TEMPORARY SANITARY SEWER CONNECTION EACH	(SPV.0060.14) SANITARY LATERAL RECONNECT EACH	(SPV.0105.03) HEAVY WASTEWATER CONTROL 2000 GPM LS	(SPV.0105.02) DEWATERING FOR SANITARY SEWER CONSTRUCTION LS	(SPV.0060.01) UTILITY LINE OPENING (ULO) EACH	(SPV.0105.04) CONSTRUCTION STAKING SANITARY SEWER LS	(SPV.0060.17) ABANDON SANITARY SEWER - PIPE PLUG EACH	(SPV.0060.20) PIPE SUPPORTS EACH
0010	**COTTAGE GROVE ROAD**									
	20'CGE'+60.00	LT-18.00	-	-	-	-	-	-	-	1
	UNDISTRIBUTED		2	1	1	1	4	1	4	-
	PROJECT TOTALS		**2**	**1**	**1**	**1**	**4**	**1**	**4**	**1**

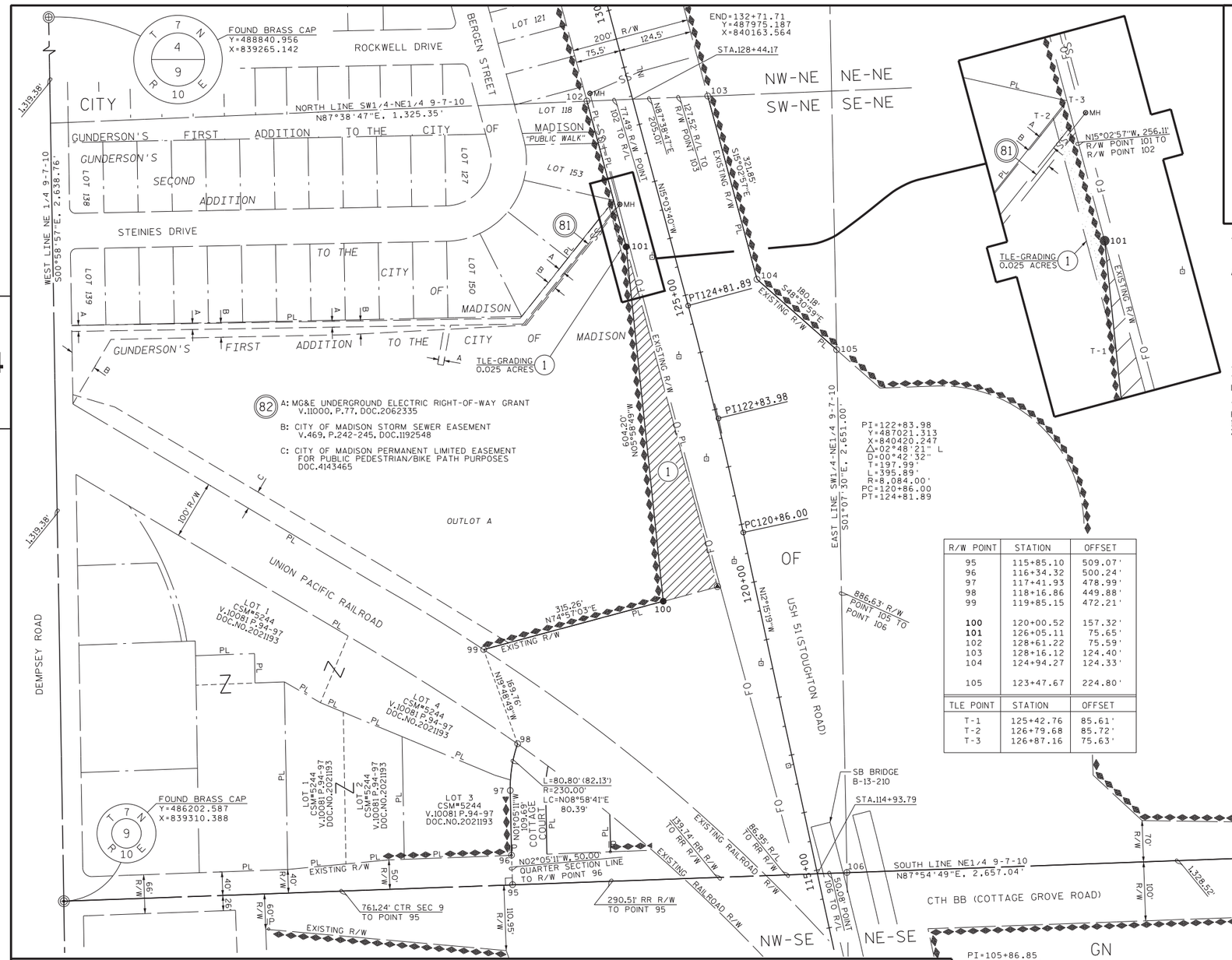
*ADDITIONAL QUANTITIES FOUND ELSEWHERE

ADJUST WATER VALVE BOX

CATEGORY	STATION	LOCATION (OFFSET)	(SPV.0060.08) EACH
0010	**COTTAGE GROVE ROAD**		
	8'CGW'+96.00	RT-5.00	1
	10'CGW'+73.00	RT-2.00	1
	12'CGW'+83.00	LT-6.00	1
	23'CGW'+98.00	RT-4.00	1
	PROJECT TOTAL		**4**

ADJUST SAS SPECIAL

CATEGORY	STATION	LOCATION (OFFSET)	(SPV.0060.11) EACH
0010	**USH 51 S.B. ENTRANCE RAMP**		
	105'A'+21	LT-12.00	1
	PROJECT TOTAL		**1**



R/W POINT	STATION	OFFSET
95	115+85.10	509.07'
96	116+34.32	500.24'
97	117+41.93	478.99'
98	118+16.86	449.88'
99	119+85.15	472.21'
100	120+00.52	157.32'
101	126+05.11	75.65'
102	128+61.22	75.59'
103	128+16.12	124.40'
104	124+94.27	124.33'
105	123+47.67	224.80'

TLE POINT	STATION	OFFSET
T-1	125+42.76	85.61'
T-2	126+79.68	85.72'
T-3	126+87.16	75.63'

PI=105+86.85
Y=485361.871
X=840780.708
Δ=07°40'45" L
D=01°08'34"
T=336.51'
L=672.01'
R=5,014.00'
PC=102+50.34
PT=109+22.35

BEGIN=99+10.97
Y=484688.145
X=840834.632

GN

SCALE, FEET
0 100 200

CONVENTIONAL ABBREVIATIONS

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

CURVE DATA

POINT OF INTERSECTION	PI
NORTHING	Y
EASTING	X
CENTRAL ANGLE/DELTA	Δ
DEGREE OF CURVE	D
TANGENT	T
LENGTH OF CURVE	L
RADIUS	R
POINT OF CURVATURE	PC
POINT OF TANGENCY	PT

CONVENTIONAL SYMBOLS

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

CONVENTIONAL UTILITY SYMBOLS

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

MSA PROFESSIONAL SERVICES
TRANSPORTATION • BUILDING DEVELOPMENT • ENVIRONMENTAL
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608-242-7779 Fax 608-242-5664

I, KEVIN C. LORD, PROFESSIONAL LAND SURVEYOR, IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, HEREBY CERTIFY THAT I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 5411-02-24 - 4.01 AMENDMENT #1 AND THAT SAID PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

(DATE) 6/23/14

(PRINTED NAME) KEVIN C. LORD

(REGISTRATION NO.) S-2645

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

(SIGNATURE) _____ (DATE) _____

(PRINTED NAME) _____

SIGNATURE

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 5411-02-24 - 4.01
AMENDMENT NO: 1

TRANSPORTATION PROJECT PLAT NO: 5411-02-24 - 4.01 AMENDMENT #1

ADDS EXISTING PROPERTY LINES AND ADDS AND AMENDS EXISTING ACCESS CONTROL IN THE NORTHWEST QUADRANT OF USH 51 AND CTH BB.

THAT PART OF OUTLOT "A" OF GUNDERSON'S FIRST ADDITION IN THE CITY OF MADISON, BEING PART OF SECTION 9, T-7-N, R-10-E, CITY OF MADISON, DANE COUNTY, WISCONSIN.

RELOCATION ORDER STOUGHTON - MADISON, COTTAGE GROVE ROAD SB BRIDGE B-13-210

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

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, AND 84.30 WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE 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, DANE COUNTY ZONE, NAD 83 (2007) ADJUSTMENT IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES. GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY ¾" x 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

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 AND ACCESS CONTROL FOR USH 51, CTH BB, COTTAGE COURT AND UNION PACIFIC RAILROAD ESTABLISHED FROM PREVIOUS PROJECTS TO5-1(1), TO5-1(24), TO5-1(25), AIDED BY CSM=5244, V. 24, P. 12-15, DOC. NO. 2021193, AND CONTROLLED ACCESS PLAN CA05-1(1).

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS REQUIRED.

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

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

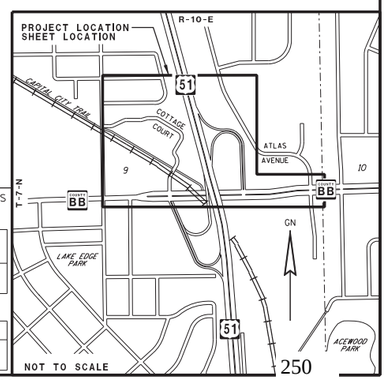
SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL	TLE ACRES
1	AMERICAN FAMILY MUTUAL INSURANCE COMPANY	FEE/TLE	0.652	--	0.652	0.025

UTILITY SCHEDULE & INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
81	CITY OF MADISON	RELEASE OF RIGHTS
82	MG&E	RELEASE OF RIGHTS



FILE NAME : P:\90s\93\00093080\CADD\Plansht s\TPP\Amendment 1\D1_54110224040101 rp.dgn
APPRAISAL PLAT DATE : JANUARY 21, 2014
PLOT DATE : 6/23/2014
PLOT BY : klord
PLOT NAME : _____
PLOT SCALE : 1:100

5411-02-24 4.01

D1_54110224040101 rp.dgn 6/23/2014 4:50:04 PM klord

EXISTING R/W

SLOPE INTERCEPTS (TYP.)

BOP STA = 99+36.67

SAWING CONCRETE REQ'D.

SAWING ASPHALT REQ'D.

HMA PAVEMENT

CONCRETE PAVEMENT

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

N04°34'34"W

PC STA = 102+50.54

BOP STA = 103+75.00

CLEARING & GRUBBING

MGS GUARDRAIL TERMINAL TYPE 2

104A

CHARTER

CITY OF MADISON

MATCH LINE STA. 105+00

BEGIN PROJECT 5411-02-74
STA. 99+36.67
Y = 484,713.76
X = 840,832.58

5

5

EXISTING GROUND (FLOWN)

PROPOSED ℄ PROFILE

EXISTING ℄ PROFILE

BOP STA = 99+36.67
BOP EL = 903.04

1.65%

VPC STA = 102+70.61
VPC EL = 908.54

903.26 904.08 904.91 905.73 906.55 907.38 908.20 909.01 909.72 910.33 910.84 911.25

914 912 910 908 906 904 902 900 898

99+00 99+50 100+00 100+50 101+00 101+50 102+00 102+50 103+00 103+50 104+00 104+50 105+00

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: USH 51 SOUTHBOUND	SHEET 251	E

BENCH MARKS

NO.	STATION	DESCRIPTION	OFFSET	ELEV.
4	110+54.6	CHISLED '+' ON SE LIGHT POLE BOLT	2.0'RT.	910.30
6	108+98.2	CHISLED '+' ON SE CORNER TOP OF PARAPET	96.2'RT.	910.93

CLEARING & GRUBBING

CLEARING & GRUBBING
MGS GUARDRAIL 3 K
STA. 104'A'+50 - 106'A'+00

MGS GUARDRAIL 3
STA. 106'A'+00 - 111'A'+03

EXISTING USH 51 S.B. ENTRANCE RAMP

PROPOSED USH 51 S.B. ENTRANCE RAMP

EXISTING USH 51 S.B. EXIT RAMP

ADJUST SAS SPECIAL
SAS 6647-002

MATCH LINE STA. 105+00

MATCH LINE STA. 111+00

PT STA = 109+22.35

USH 51 (STOUGHTON ROAD) S.B.

MGS GUARDRAIL 3
STA. 108+82 - 111+62

MGS GUARDRAIL TERMINAL EAT

N12°15'19"W

BM#4

REMOVING GUARDRAIL

BRIDGE PILLAR

RAILROAD R/W

CITY OF MADISON

P.I. = STA. 105+86.85
Y = 485,361.87
X = 840,780.71
Δ = 7°40'45"
T. = 336.51'
L. = 672.01'
R. = 5,014.00'
P.C. = STA. 102+50.34
P.T. = STA. 109+22.35

SLOPE INTERCEPTS (TYP.)

USH 51 (STOUGHTON ROAD) N.B.

BM#6

VPI STA = 105+53.11
VPI EL = 913.20
CURVE LEN = 565.00
K = 245.62

1.65%

-0.65%

PROPOSED ℄ PROFILE

EXISTING ℄ PROFILE

EXISTING GROUND (FLOWN)

VPT STA = 108+35.61
VPT EL = 911.35

VPC STA = 110+65.50
VPC EL = 909.85

24" SSPRC

911.25 911.12 | 911.55 911.26 | 911.76 910.78 | 911.86 911.64 | 911.86 910.79 | 911.76 910.88 | 911.56 910.43 | 911.26 910.01 | 910.93 909.49 | 910.60 908.89 | 910.28 908.73 | 909.95 908.00 | 909.60 900.43

105+00 105+50 106+00 106+50 107+00 107+50 108+00 108+50 109+00 109+50 110+00 110+50 111+00

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: USH 51 SOUTHBOUND	SHEET	E

252

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp02.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp02.dgn 8/14/2014 3:30:30 PM ckieler

MATCH LINE STA. 111+00

MATCH LINE STA. 117+00

PROPOSED USH 51 S.B. EXIT RAMP

MGS THRIE BEAM TRANSITION

N10°29'14"W

DELINEATED WETLAND BOUNDARY

*CRITICAL POINT

MGS THRIE BEAM TRANSITION

BE AWARE OF MSE WIRE FENCE WALL TIEBACKS WHEN PLACING BEAM GUARD POSTS

***POINT "B"

**POINT "A"

N12°15'19"W

DELINEATED WETLAND BOUNDARY

FENCE CHAIN LINK POLYMER -COATED 4-FT.

CONCRETE SURFACE DRAIN

REMOVING MASONRY

USH 51 (STOUGHTON ROAD) N.B.

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

BENCH MARKS

NO.	STATION	DESCRIPTION	OFFSET	ELEV.
3	116+37.0	CHISLED '+' ON SIGN POST BOLT	11.2' LT.	891.85
5	115+74.7	DISC ON BRIDGE	6.1' RT.	896.33

PT STA = 52+58.10

PT STA = 52+35.15

BOP STA = 51+95.16

PC STA = 51+52.68

REMOVING FENCE

CONCRETE BARRIER WALL TYPE S42

USH 51 (STOUGHTON ROAD) S.B.

BM*3

BM*5

REMOVING GUARDRAIL

MGS THRIE BEAM TRANSITION

CONCRETE SURFACE DRAIN (SEE SDD 8D2)

REMOVING GUARDRAIL

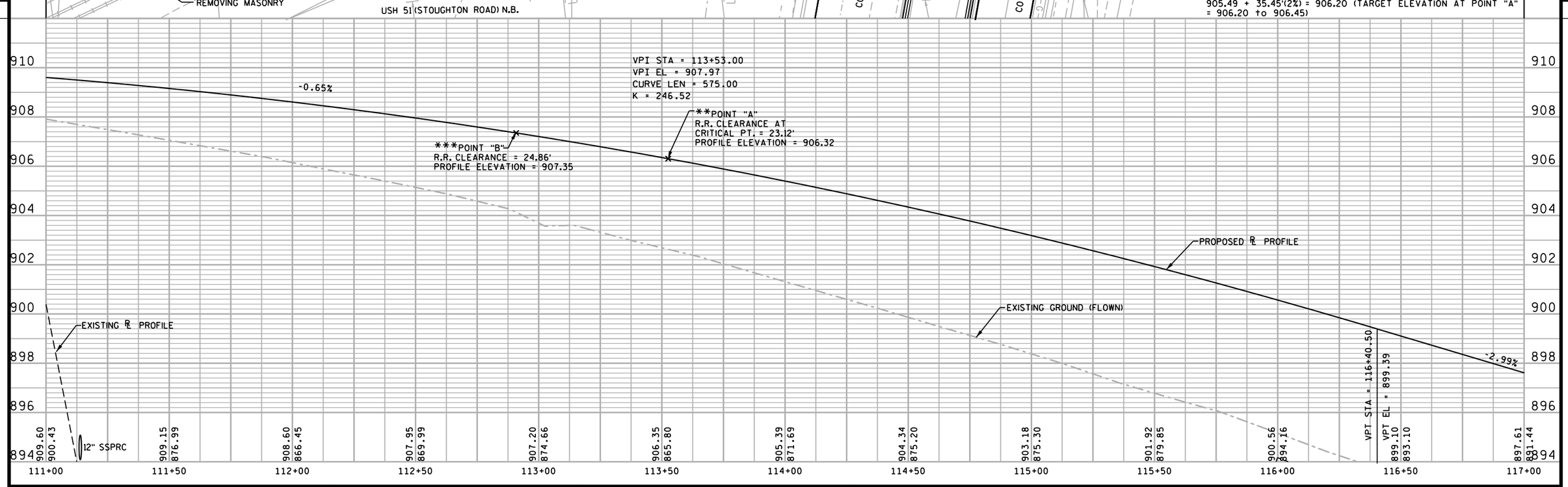
FENCE CHAIN LINK POLYMER-COATED 4-FT.

SLOPE INTERCEPTS (TYP.)

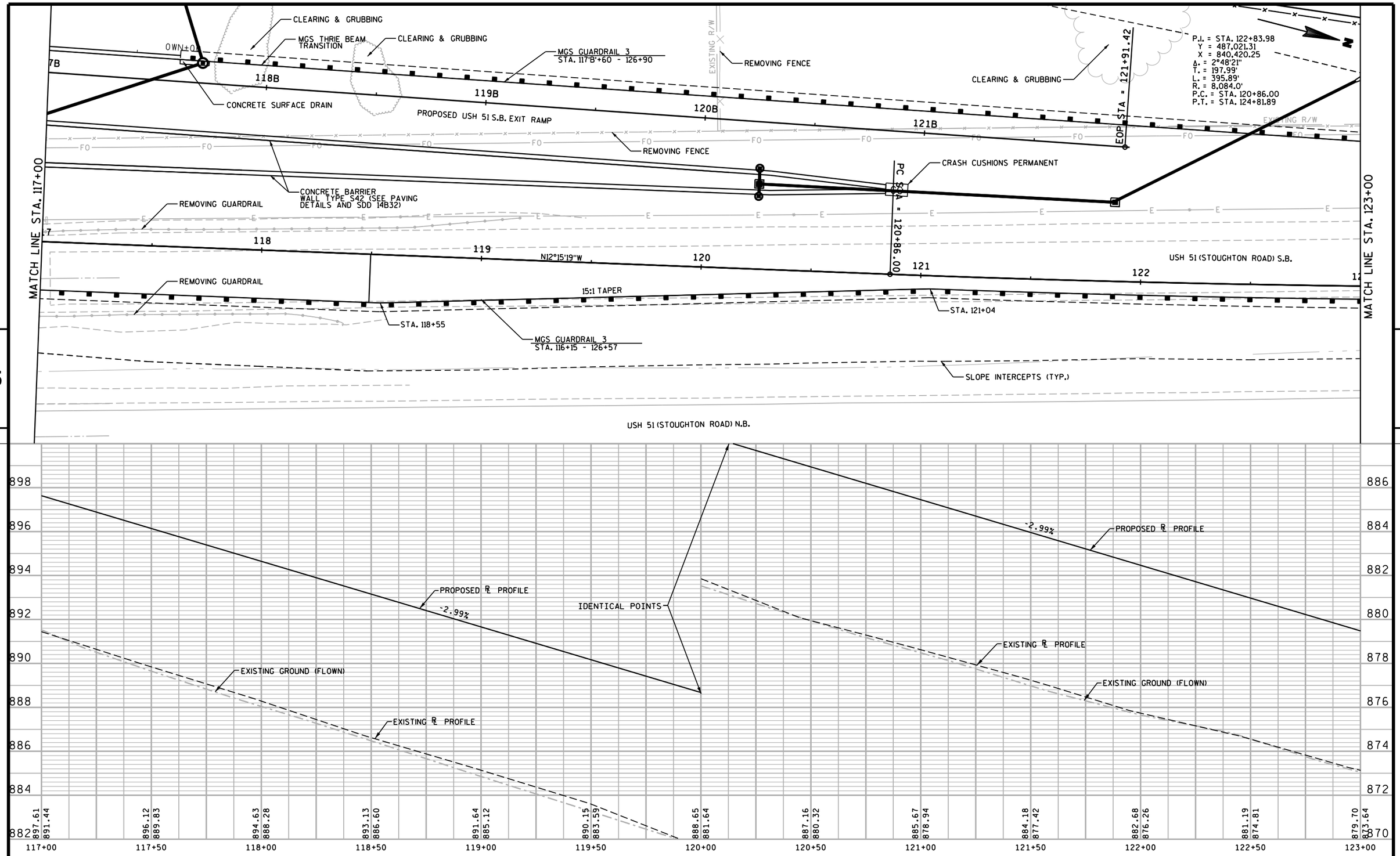
*CRITICAL POINT:
STA. 113+52.57 = STA. 7"RR"+33.43
RR ELEVATION = 875.57

*CRITICAL POINT ELEVATION CALCULATION (TOP OF DECK):
875.57 + 23.0' (CLEARANCE) + 6.0' (GIRDER) + 0.25' (HAUNCH) + 0.67' (DECK) = 905.49

**POINT "A" ELEVATION CALCULATION:
905.49 + 35.45'(2%) = 906.20 (TARGET ELEVATION AT POINT "A" = 906.20 to 906.45)



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: USH 51 SOUTHBOUND	SHEET 253	E

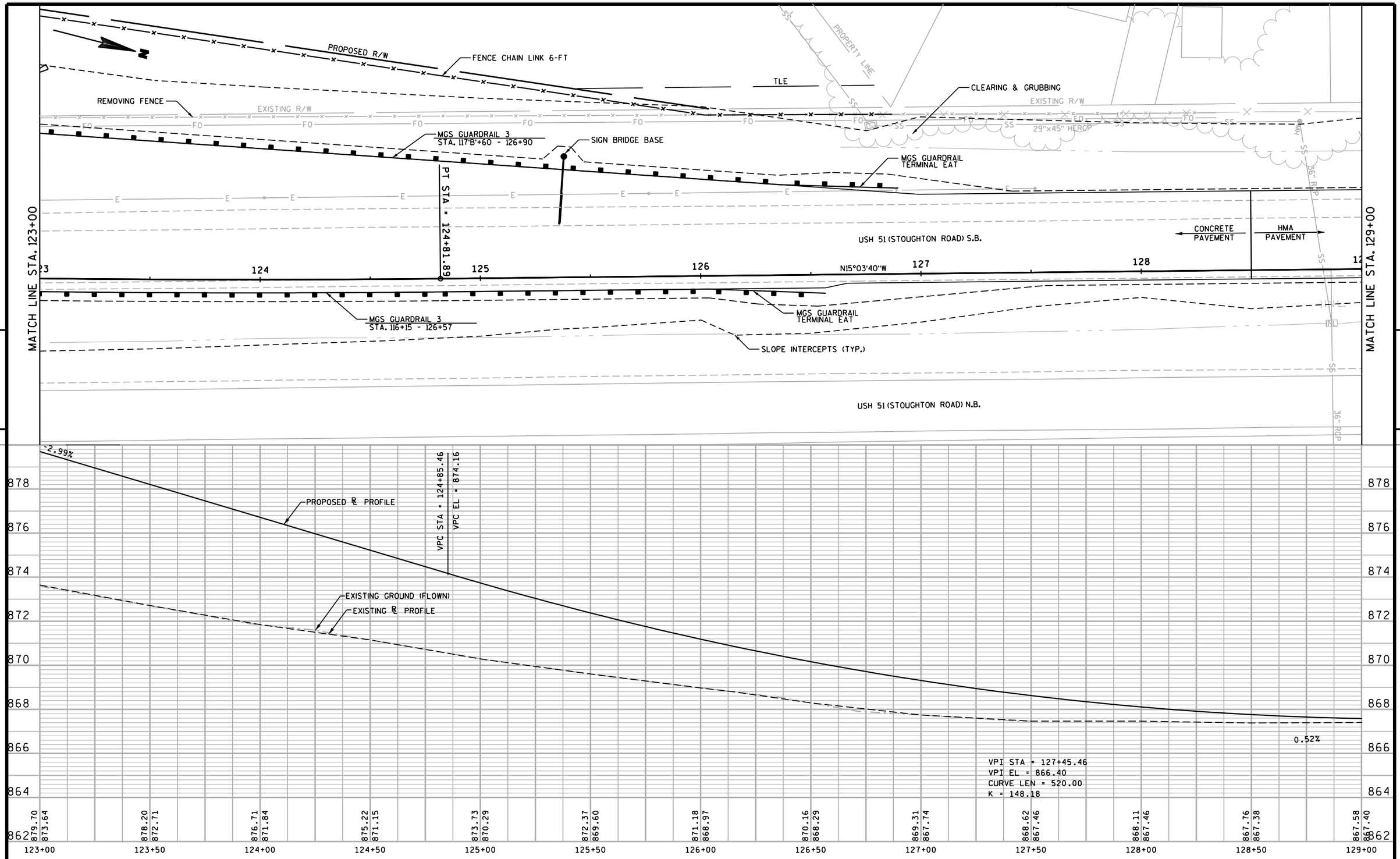


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: USH 51 SOUTHBOUND	SHEET 254	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp04.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp04.dgn 8/14/2014 8:34:57 AM ckieler



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: USH 51 SOUTHBOUND	SHEET 255	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp05.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp05.dgn 8/14/2014 8:34:58 AM ckieler

CLEARING & GRUBBING

EXISTING R/W

SLOPE INTERCEPTS (TYP.)

SAWING ASPHALT REQ'D.

SAWING CONCRETE REQ'D.

SAWING ASPHALT REQ'D.

EOP STA = 130+32.97

MATCH LINE STA. 129+00

N15°03'40"W

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

END PROJECT 5411-02-74
STA. 130+32.97
Y = 487,744.65
X = 840,225.60

VPT STA = 130+05.46
VPT EL = 867.76

EXISTING ℄ PROFILE

PROPOSED ℄ PROFILE

0.52%

EOP STA = 130+32.97
EOP EL = 867.90

867.58 867.40 | 867.57 867.54 | 867.73 867.76 | 867.98 | 868.21 | 868.92 | 869.34 | 869.78

874 872 870 868 866 864 862 860 858

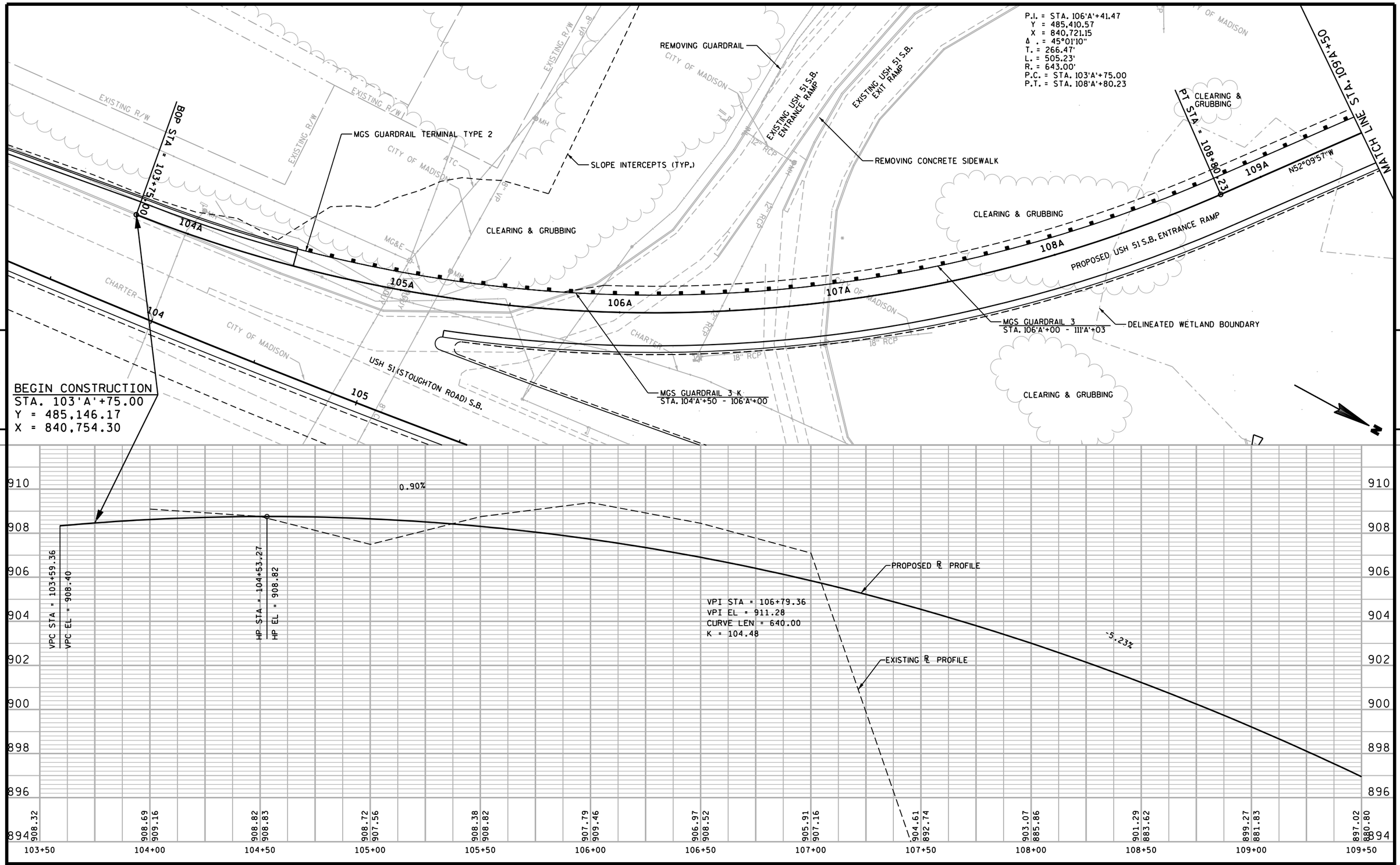
129+00 129+50 130+00 130+50 131+00 131+50 132+00 132+50 133+00 133+50 134+00 134+50 135+00

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: USH 51 SOUTHBOUND	SHEET 256	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp05b.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp05b.dgn 8/14/2014 8:34:59 AM ckieler

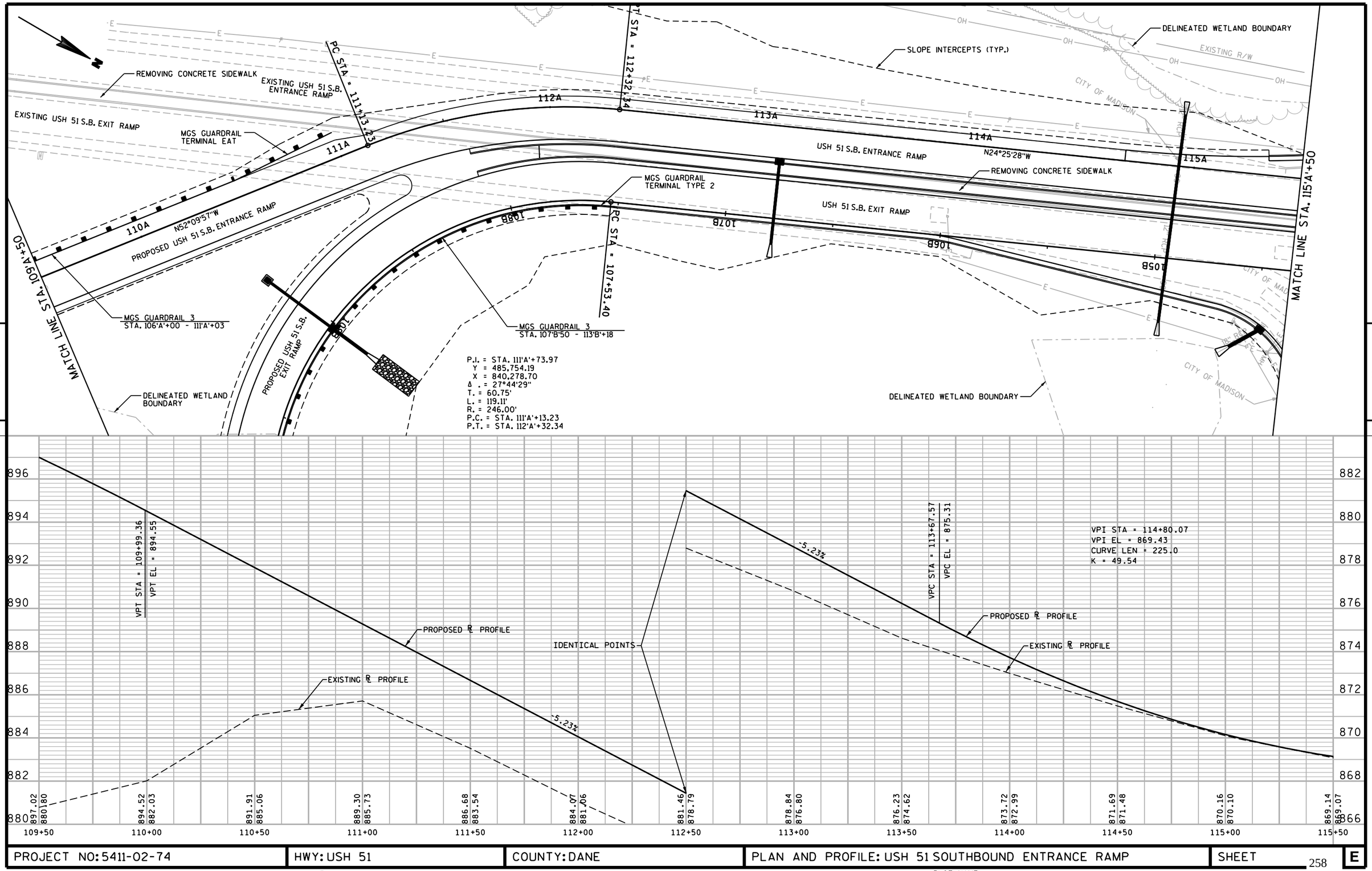


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: USH 51 SOUTHBOUND ENTRANCE RAMP	SHEET 257	E

FILE NAME : P:\90s\93\00093080\CADD\Plansht\Plan and Profile\panp06.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp06.dgn 8/14/2014 8:35:01 AM ckieler

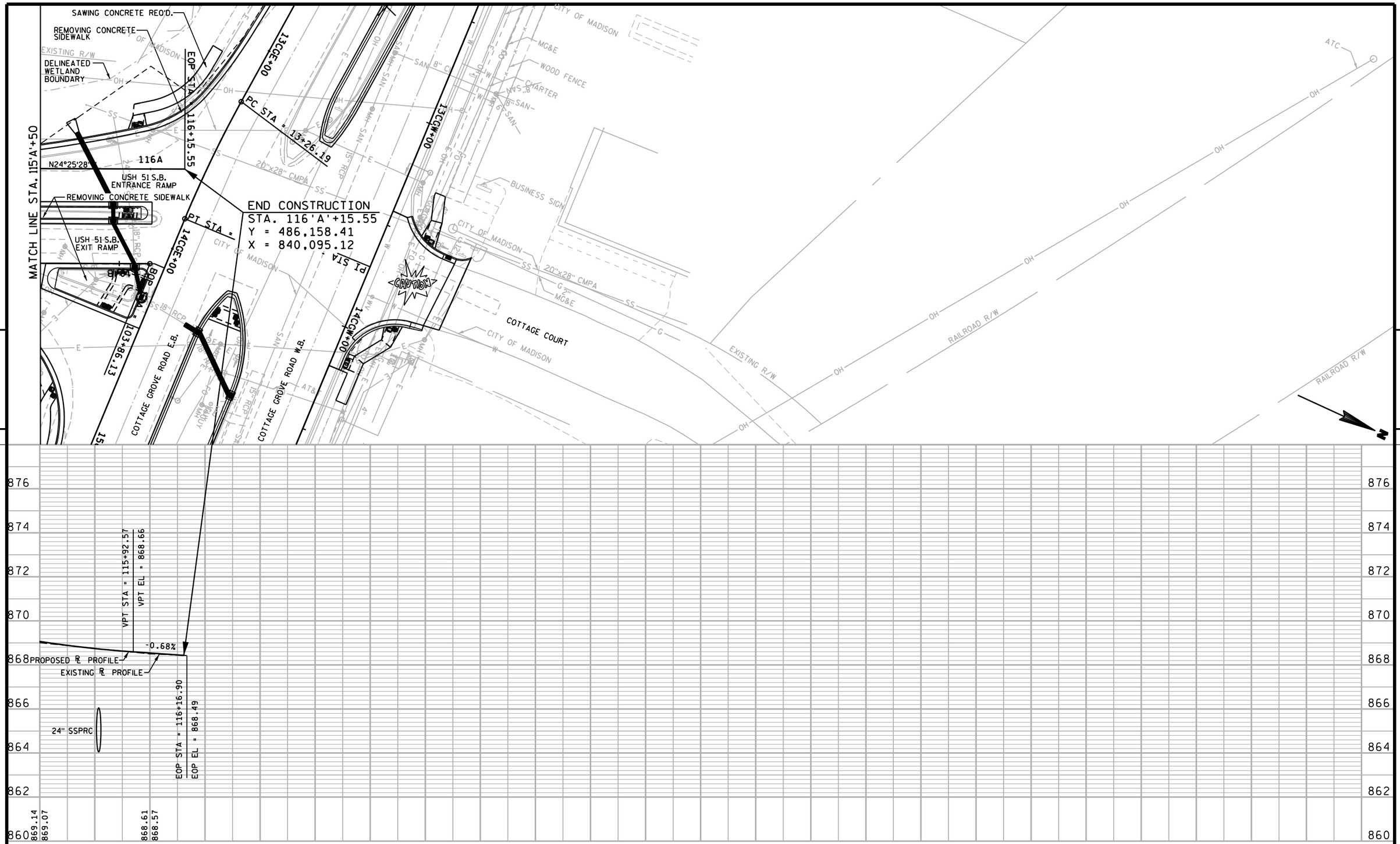


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: USH 51 SOUTHBOUND ENTRANCE RAMP	SHEET 258 E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp07.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp07.dgn 8/14/2014 8:35:03 AM ckieler



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: USH 51 SOUTHBOUND ENTRANCE RAMP	SHEET 259	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp08.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp08.dgn 8/14/2014 8:35:04 AM ckieler

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

15CGW+00

14CGW+00

15CGE+00

14CGE+00

103+86.13

BOP STA = 103+86.13

PI STA = 13+70.41

PI STA = 13+85.23

BEGIN CONSTRUCTION
STA. 103'B'+86.13
Y = 486,161.92
X = 840,140.76

SAWING CONCRETE REQ'D.

DELINEATED WETLAND BOUNDARY

REMOVING CONCRETE SIDEWALK

SLOPE INTERCEPTS (TYP.)

MGS GUARDRAIL 3
STA. 107'B'+50 - 113'B'+18

MGS GUARDRAIL TERMINAL EAT

MGS GUARDRAIL TERMINAL TYPE 2

MATCH LINE STA. 109'B'+00

PC STA = 107+53.40

S24°25'28"E

USH 51 S.B. EXIT RAMP

USH 51 S.B. ENTRANCE RAMP

EXISTING USH 51 S.B. EXIT RAMP

EXISTING USH 51 S.B. ENTRANCE RAMP

VPI STA = 105+64.02
VPI EL = 870.60
CURVE LEN = 322.0
K = 66.93

VPC STA = 104+03.02
VPC EL = 869.18

0.88%

PROPOSED ℄ PROFILE

EXISTING ℄ PROFILE

IDENTICAL POINTS

VPT STA = 107+25.02
VPT EL = 879.77

5.69%

VPC STA = 108+63.62
VPC EL = 887.66

18" SSPRC

12" SSPRC

103+00	103+50	104+00	104+50	105+00	105+50	106+00	106+50	107+00	107+50	108+00	108+50	109+00
		869.15	869.76	870.74	872.09	873.82	875.92	878.39	881.19	884.04	886.89	889.67
		869.10	869.59	870.35	871.75	873.33	875.11	877.24	879.40	880.97	877.96	873.74

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: USH 51 SOUTHBOUND EXIT RAMP	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp09.dgn
PLOT DATE : 8/14/2014
PLOT BY : ckieler
PLOT NAME :
PLOT SCALE : 1:39.9999
WISDOT/CADDS SHEET 30
panp09.dgn 8/14/2014 8:35:06 AM ckieler

MATCH LINE STA. 109'B'+00

PROPOSED USH 51 S.B. ENTRANCE RAMP

SLOPE INTERCEPTS (TYP.)

DELINEATED WETLAND BOUNDARY

P.I. = STA. 109'B'+62.08
Y = 484,754.83
X = 840,779.77
Δ. = 166°03'46"
T. = 1,178.12'
L. = 417.36'
R. = 144.00'
P.C. = STA. 107'B'+53.40
P.T. = STA. 111'B'+70.76

MGS GUARDRAIL 3
STA. 107'B'+50 - 113'B'+18

110B

111B

STA. 111+70.76

STA. 111'B'+79

112B

END OF THRIE BEAM

18:1 TAPER

N10°29'14"W

113B

CONCRETE SURFACE DRAIN (SEE SDD 8D2)

MGS THRIE BEAM TRANSITION

*CRITICAL POINT

***POINT "B"

114B

**POINT "A"

DELINEATED WETLAND BOUNDARY

CITY OF MADISON

COTTAGE GROVE ROAD E.B.

17CGE+00

RAILROAD R/W

MATCH LINE STA. 115'B'+00

PROPOSED USH 51 S.B. EXIT RAMP

MGS GUARDRAIL TERMINAL TYPE 2

MGS GUARDRAIL 3
STA. 111'B'+74 - 113'B'+39

*CRITICAL POINT:
STA. 114+51.30 = STA. 8"RR"+45.58
RR ELEVATION = 875.21

*CRITICAL POINT ELEVATION CALCULATION (TOP OF DECK):
875.21 + 23.0' (CLEARANCE) + 4.5' (GIRDER) + 0.25' (HAUNCH) + 0.67' (DECK) = 903.63

**POINT "A" ELEVATION CALCULATION:
903.63 + 11.45'(2%) = 903.86 (TARGET ELEVATION AT POINT "A" = 903.86 to 904.11)

PROPOSED ℄ PROFILE

***POINT "B"
R.R. CLEARANCE = 23.22'
PROFILE ELEVATION = 904.08

VPI STA = 113+78.62
VPI EL = 916.99
CURVE LEN = 1030.00
K = 101.31

**POINT "A"
R.R. CLEARANCE AT
CRITICAL PT. = 23.22'
PROFILE ELEVATION = 904.08

5.69%

12" SSPRC

889.67	892.21	894.51	896.56	898.37	899.92	901.23	902.30	903.11	903.68	904.01	904.08	903.91
873.74	873.09	871.81	871.61	870.55	868.21	867.51	866.11	864.01	863.74	869.95	875.33	875.22

904 902 900 898 896 894 892 890

109+00 109+50 110+00 110+50 111+00 111+50 112+00 112+50 113+00 113+50 114+00 114+50 115+00

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: USH 51 SOUTHBOUND EXIT RAMP	SHEET 261	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp10.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp10.dgn 8/14/2014 8:35:07 AM ckieler

BENCH MARKS

NO.	STATION	DESCRIPTION	OFFSET	ELEV.
T-121	54'BP'+23.3	PK NAIL WHITE CROSS IN ASPHALT PATH	5.3'LT.	867.86
3	116+37.0	CHISLED '+' ON SIGN POST BOLT	11.2'LT.	891.85
5	115+74.7	DISC ON BRIDGE	6.1'RT.	896.33

MATCH LINE STA. 115'B'+00

MATCH LINE STA. 121'B'+00

CITY OF MADISON CHARTER

RAILROAD R/W

18" RCP

12"CGW+00

STA = 53+01.40

53BP

53+81.01

54BP

BM=T-121

FENCE CHAIN LINK POLYMER-COATED 6-FT.

FENCE CHAIN LINK POLYMER-COATED 4-FT.

FENCE CHAIN LINK 6-FT

SLOPE INTERCEPTS (TYP.)

CLEARING & GRUBBING

MGS THRIE BEAM TRANSITION

CLEARING & GRUBBING

MGS GUARDRAIL 3
STA. 117'B'+60 - 126+90

EXISTING R/W

REMOVING FENCE

52+58.30

MG&E

SS

RCP

116B

117B

N10°29'14"W

118B

119B

120B

RETAINING WALL

PROPOSED USH 51 S.B. EXIT RAMP

REMOVING FENCE

CRASH CUSHIONS PERMANENT

PC STA = 120+86.00

PT STA = 52+35.35

COTTAGE GROVE ROAD W.B.

12"CGW+00

52BP

BOP STA = 51+93.68

PC STA = 51+95.16

CONCRETE BARRIER WALL TYPE S42

RETAINING WALL

CITY OF MADISON

REMOVING GUARDRAIL

USH 51 (STOUGHTON ROAD) S.B.

BM=3

115

116

117

118

119

120

BM=5

15:1 TAPER

REMOVING GUARDRAIL

STA. 118+55

PROPOSED ℄ PROFILE

IDENTICAL POINTS

VPT STA = 118+93.62
VPT EL = 893.95

VPC STA = 119+27.47
VPC EL = 892.44

PROPOSED ℄ PROFILE

12" SSPRC

| | | |

MATCH LINE STA. 121'B'+00

CLEARING & GRUBBING

EOP STA = 121+91.42

MGS GUARDRAIL 3
STA. 117'B'+60 - 126+90

SLOPE INTERCEPTS (TYP.)

FENCE CHAIN LINK 6-FT

PROPOSED R/W

TLE

EXISTING R/W

PROPERTY LINE

REMOVING FENCE

SIGN BRIDGE BASE

CLEARING & GRUBBING

1B

N10°29'14"W

PROPOSED USH 51 S.B. EXIT RAMP

PT STA = 124+81.89

MGS GUARDRAIL
TERMINAL EAT

USH 51 (STOUGHTON ROAD) S.B.

121 122 123 124 125 126 127

END CONSTRUCTION
STA. 121'B'+93.54
Y = 486,918.97
X = 840,379.16

MGS GUARDRAIL 3
STA. 116+15 - 126+49

USH 51 (STOUGHTON ROAD) N.B.

-4.47%

PROPOSED ℄ PROFILE

VPI STA = 123+17.47
VPI EL = 874.99
CURVE LEN = 780.00
K = 261.78

-1.49%

12" SSPRC

121+00	121+50	122+00	122+50	123+00	123+50	124+00	124+50	125+00	125+50	126+00	126+50	127+00
885.29 / 868.38	883.43 / 868.67	881.67	880.00	878.42	876.95	875.57	874.28	873.09	871.99	870.99	870.09	869.28

884 882 880 878 876 874 872 870 868

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: USH 51 SOUTHBOUND EXIT RAMP	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp12.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp12.dgn 8/14/2014 8:35:11 AM ckieler

BENCH MARKS

NO.	STATION	DESCRIPTION	OFFSET	ELEV.
3	116+37.0	CHISLED '+' ON SIGN POST BOLT	11.2' LT.	891.85
T-121	54'BP'+23.3	PK NAIL WHITE CROSS IN ASPHALT PATH	5.3' LT.	867.86

P.I. = STA. 52'BP'+18.76
Y = 486,313.15
X = 840,527.21
Δ. = 72°17'32"
T. = 23.59'
L. = 39.99'
R. = 30.0'
P.C. = STA. 51'BP'+95.16
P.T. = STA. 52'BP'+35.15

P.I. = STA. 52'BP'+86.43
Y = 486,310.49
X = 840,452.39
Δ. = 66°32'38"
T. = 28.33'
L. = 49.30'
R. = 40.0'
P.C. = STA. 52'BP'+58.10
P.T. = STA. 53'BP'+07.40

P.I. = STA. 54'BP'+06.76
Y = 486,429.37
X = 840,405.75
Δ. = 37°28'26"
T. = 23.74'
L. = 45.78'
R. = 70.0'
P.C. = STA. 53'BP'+83.01
P.T. = STA. 54'BP'+28.80

SLOPE PAVING CONCRETE WATERWAY SPECIAL
REMOVE WOOD GUARD POSTS
PT STA = 53+01.40
PC STA = 53+69.01
PT STA = 54+28.80
EOP STA = 54+57.60
SAWING ASPHALT REQ'D.
BM=T-121
ASPHALTIC FLUME
FENCE CHAIN LINK 6-FT
SLOPE INTERCEPTS (TYP.)
PROPOSED R/W
EXITING R/W
N21°25'08"W
N58°53'34"W
53BP
54BP
REMOVING CONCRETE SLOPE PAVING WATERWAY
FENCE CHAIN LINK POLYMER-COATED 4-FT.
REMOVING ASPHALTIC SURFACE
REMOVING FENCE
FENCE CHAIN LINK POLYMER-COATED 6-FT
REMOVING CONCRETE MASONRY WALL
CLEARING & GRUBBING 5-INCH DIA.
COTTAGE GROVE ROAD E.B.
COTTAGE GROVE ROAD W.B.
CAUTION
116+00
116B
117B
118B
119B
120B
PT STA = 52+58.10
PT STA = 52+15.15
S81°57'46"W
REMOVING CONCRETE SIDEWALK
REMOVING METAL TUBULAR RAILING
REMOVING MODULAR BLOCK RETAINING WALL
REMOVING FENCE
PROPOSED USH 51 S.B. EXIT RAMP
52BP
PC STA = 51+92.16
PT STA = 51+95.16
SAWING CONCRETE REQ'D.
N15°40'14"W
115
116
BM=3
USH 51 (STOUGHTON ROAD) S.B.
RETAINING WALL
RAILROAD R/W
CONCRETE DRAINAGE PITCH
RCP
SS
FO
18" RCP
15" RCP

END CONSTRUCTION
STA. 54'BP'+46.36
Y = 486,450.70
X = 840,370.39

BEGIN CONSTRUCTION
STA. 51'BP'+92.68
Y = 486,288.05
X = 840,534.25

VPI STA = 52+13.96
VPI EL = 875.45
CURVE LEN = 35.00
-3.19% = 21.94
PROPOSED ℄ PROFILE
EXISTING ℄ PROFILE
-4.78%
-0.98%
-4.62%
-0.79%
VPC STA = 51+96.46
VPC EL = 876.01
VPT STA = 52+31.46
VPT EL = 874.62
VPC STA = 52+73.27
VPC EL = 872.62
VPT STA = 53+18.27
VPT EL = 871.32
VPI STA = 52+95.77
VPI EL = 871.54
CURVE LEN = 45.00
K = 11.84
VPC STA = 53+24.78
VPC EL = 871.26
VPI STA = 53+44.78
VPI EL = 871.06
CURVE LEN = 40.00
K = 11.01
VPC STA = 53+64.78
VPC EL = 870.14
VPT STA = 53+73.08
VPT EL = 869.75
VPI STA = 54+03.08
VPI EL = 868.37
CURVE LEN = 60.00
K = 15.67
VPT STA = 54+33.08
VPT EL = 868.13
VPC STA = 54+35.38
VPC EL = 868.11
EOP STA = 54+35.38
EOP EL = 868.11
36" SSPRC
12" SSPRC

875.89 875.74 | 873.73 871.36 | 871.64 866.02 | 870.72 864.09 | 868.74 868.15 | EOP STA = 54+35.38 EOP EL = 868.11 | 868.03 | 0.00 | 0.00

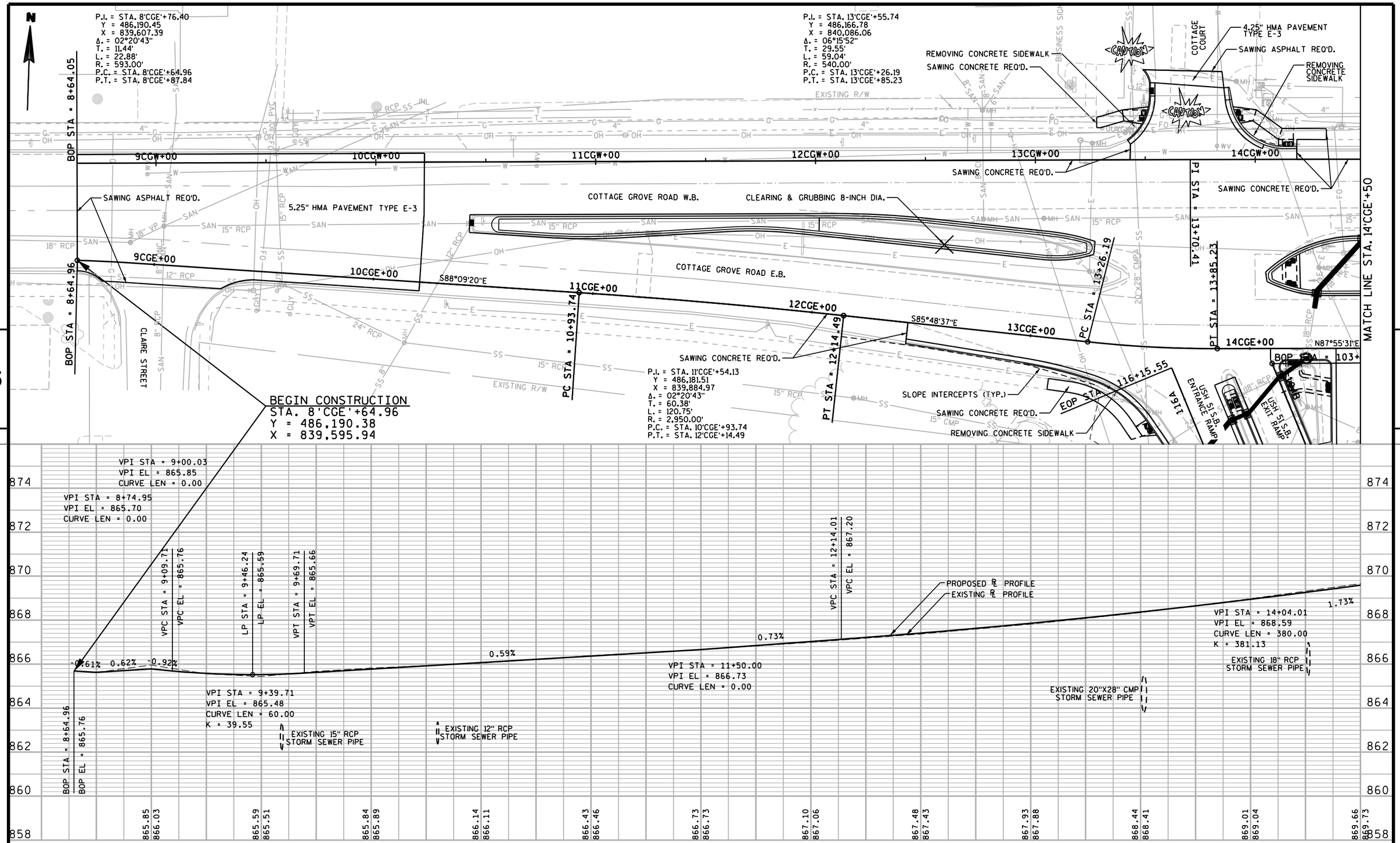
876 874 872 870 868 866 864 862

51+50 52+00 52+50 53+00 53+50 54+00 54+50 55+00 55+50 56+00 56+50 57+00 57+50

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: MULTI-USE PATH	SHEET 264	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 30

panp13.dgn 8/14/2014 8:35:11 AM ckieler



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: COTTAGE GROVE ROAD (EASTBOUND)	SHEET 265	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp16.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp16.dgn 8/14/2014 8:35:13 AM ckieler

BENCH MARKS				
NO.	STATION	DESCRIPTION	OFFSET	ELEV.
1	16'CGW'+46.4	CHISLED '+' ON LIGHT POLE BOLT	6.7' LT.	875.64
5	115+74.7	DISC ON BRIDGE	6.1' RT.	896.33

N

MATCH LINE STA. 14'CGE'+50

MATCH LINE STA. 20'CGE'+50

5

5

15CGW+00 16CGW+00 17CGW+00 18CGW+00 19CGW+00 20CGW+00

15CGE+00 16CGE+00 17CGE+00 18CGE+00 19CGE+00 20CGE+00

BM#1

BM#5

SLOPE INTERCEPTS (TYP.)

RAILROAD R/W

CAUTION

SAWING CONCRETE REQ'D.

SAWING ASPHALT REQ'D.

5.25" HMA PAVEMENT TYPE E-3

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

CLEARING & GRUBBING 8-INCH DIA.

CLEARING & GRUBBING 12-INCH DIA.

CLEARING & GRUBBING 10-INCH DIA.

REMOVING CONCRETE SIDEWALK

N87°55'31"E

86.13

DELINEATED WETLAND BOUNDARY

PROPOSED USH 51 S.B. EXIT RAMP

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

BRIDGE PILLAR

10'x8' BOX

10'x5' BOX

36" PCCP

15" RCP

18" RCP

115B

115

114

VPI STA = 17+86.36
VPI EL = 875.70
CURVE LEN = 125.00
K = 45.24

PROPOSED ℄ PROFILE
EXISTING ℄ PROFILE

VPT STA = 15+94.01
VPT EL = 871.88

1.73%

2.10%

-0.66%

VPI STA = 16+53.53
VPI EL = 872.90
CURVE LEN = 0.00

VPC STA = 17+23.86
VPC EL = 874.38

EXISTING 18" RCP STORM SEWER PIPE

HP STA = 18+19.00
HP EL = 875.38

VPT STA = 18+48.86
VPT EL = 875.28

EXISTING 36" RCP STORM SEWER PIPE

878 876 874 872 870 868 866 864 862

869.66 869.73 | 870.37 870.44 | 871.14 871.15 | 871.98 871.96 | 872.84 872.83 | 873.88 873.77 | 874.86 874.66 | 875.34 875.31 | 875.28 875.31 | 874.95 874.96 | 874.62 874.58 | 874.29 874.25 | 873.96 873.91

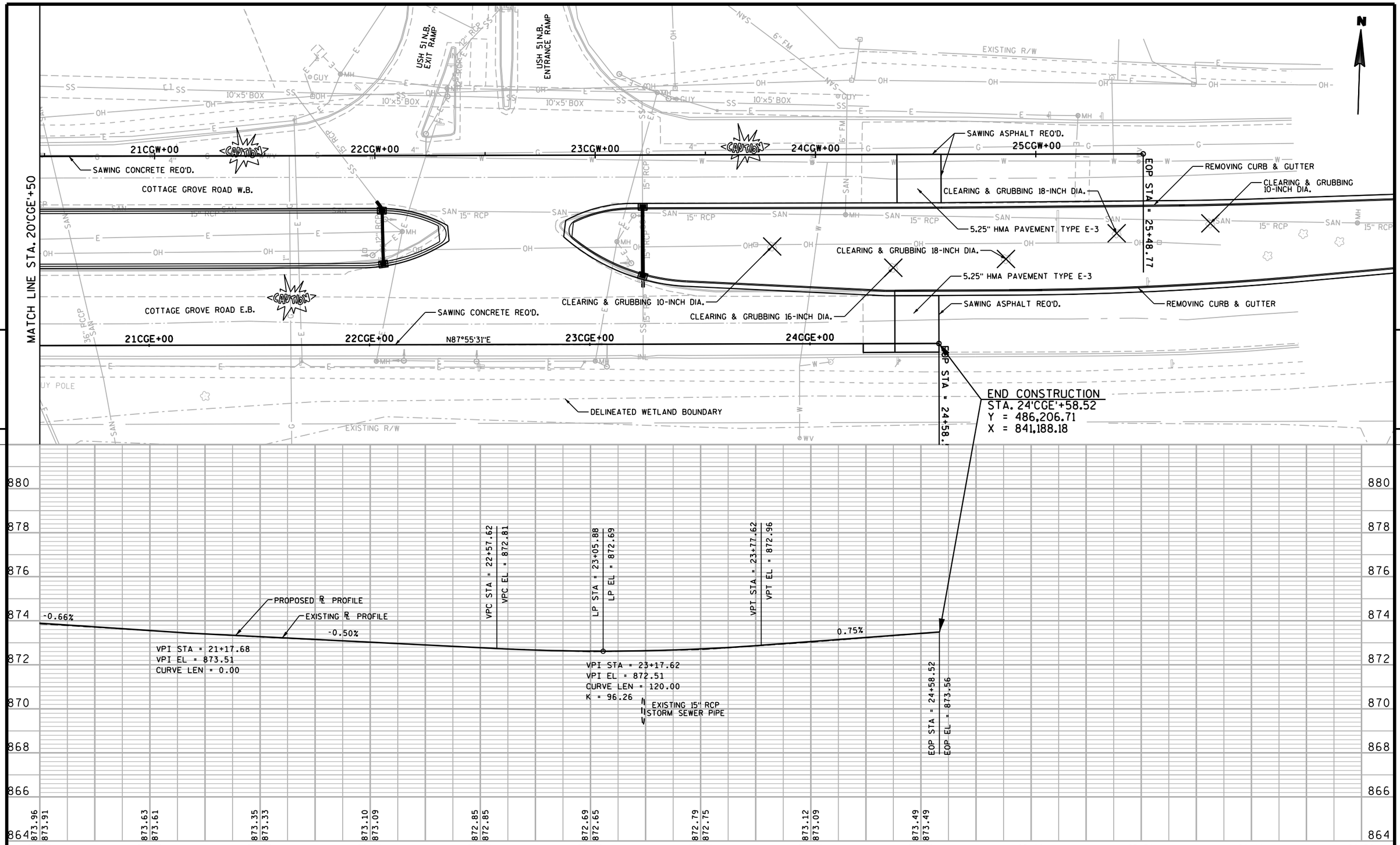
14+50 15+00 15+50 16+00 16+50 17+00 17+50 18+00 18+50 19+00 19+50 20+00 20+50

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: COTTAGE GROVE ROAD (EASTBOUND)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp17.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp17.dgn 8/14/2014 8:35:14 AM ckieler



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: COTTAGE GROVE ROAD (EASTBOUND)	SHEET 267	E

N

BOP STA = 8+64.05

BOP STA = 8+64.96

BEGIN CONSTRUCTION
STA. 8'CGW'+64.05
Y = 486,234.51
X = 839,594.34

9CGW+00 10CGW+00 11CGW+00 12CGW+00 13CGW+00 14CGW+00

N87°52'12"W

N87°55'41"W

P.I. = STA. 13'CGW'+70.41
Y = 486,253.33
X = 840,100.35
Δ. = 00°03'29"

REMOVING CONCRETE SIDEWALK
SAWING CONCRETE REQ'D.
SAWING ASPHALT REQ'D.
4.25" HMA PAVEMENT TYPE E-3
5.25" HMA PAVEMENT TYPE E-3
REMOVING CONCRETE SIDEWALK
SAWING CONCRETE REQ'D.
SAWING CONCRETE REQ'D.
SAWING ASPHALT REQ'D.

EXISTING R/W

COTTAGE GROVE ROAD W.B.
CLEARING & GROUBBING 8-INCH DIA.
COTTAGE GROVE ROAD E.B.

9CGE+00 10CGE+00 11CGE+00 12CGE+00 13CGE+00 14CGE+00

PC STA = 10+93.74
PT STA = 12+14.49
PC STA = 13+26.19
PT STA = 13+70.41
PT STA = 13+85.23

SAWING CONCRETE REQ'D.
SLOPE INTERCEPTS (TYP.)
SAWING CONCRETE REQ'D.
REMOVING CONCRETE SIDEWALK
EOP STA 116+15.55
116A
USH 51 S.B. ENTRANCE RAMP
USH 51 S.B. EXIT RAMP

BOP STA = 103+

MATCH LINE STA. 14'CCW'+50

CLARE STREET

12" RCP SS
24" RCP
8" RCP
18" RCP
15" RCP
15" CMP
20"x28" CMP
18" VP
12" RCP
8" SAN
6" SAN

BOP STA = 8+64.05
BOP EL = 865.87

VPC STA = 8+88.43
VPC EL = 865.74

LP STA = 9+45.93
LP EL = 865.58

VPT STA = 10+08.43
VPT EL = 865.77

VPC STA = 11+97.98
VPC EL = 866.92

-0.56%
0.61%
2.01%

VPI STA = 9+48.43
VPI EL = 865.40
CURVE LEN = 120.00
K = 102.91

EXISTING 15" RCP STORM SEWER PIPE

EXISTING 20"X28" CMP STORM SEWER PIPE

PROPOSED ℄ PROFILE
EXISTING ℄ PROFILE

VPI STA = 13+97.98
VPI EL = 868.13
CURVE LEN = 400.00
K = 285.30

865.68 865.70 | 865.58 865.53 | 865.72 865.71 | 866.02 866.12 | 866.32 866.34 | 866.63 866.64 | 866.93 866.93 | 867.28 867.29 | 867.72 867.72 | 868.25 868.28 | 868.86 868.92 | 869.56 869.61

8+50 9+00 9+50 10+00 10+50 11+00 11+50 12+00 12+50 13+00 13+50 14+00 14+50

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: COTTAGE GROVE ROAD (WESTBOUND)	SHEET 268	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp19.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp19.dgn 8/14/2014 8:35:17 AM ckieler

BENCH MARKS

NO.	STATION	DESCRIPTION	OFFSET	ELEV.
1	16'CGW'+46.4	CHISLED '+' ON LIGHT POLE BOLT	6.7' LT.	875.64
5	115+74.7	DISC ON BRIDGE	6.1' RT.	896.33

N

MATCH LINE STA. 14'CGW'+50

MATCH LINE STA. 20'CGW'+50

5

5

15CGW+00 16CGW+00 17CGW+00 18CGW+00 19CGW+00 20CGW+00

15CGE+00 16CGE+00 17CGE+00 18CGE+00 19CGE+00 20CGE+00

BM#1

BM#5

SLOPE INTERCEPTS (TYP.)

SAWING CONCRETE REQ'D.

SAWING ASPHALT REQ'D.

5.25" HMA PAVEMENT TYPE E-3

N87°55'41"W

REMOVING CONCRETE SIDEWALK

115

114

CAUTION

BRIDGE PILLAR

10'x5' BOX

36" PCCP

18" RCP

15" RCP

CLEARING & GRUBBING 12-INCH DIA.

CLEARING & GRUBBING 10-INCH DIA.

CLEARING & GRUBBING 8-INCH DIA.

COTTAGE GROVE ROAD W.B.

COTTAGE GROVE ROAD E.B.

86.13

SAWING CONCRETE REQ'D.

REMOVING CONCRETE SIDEWALK

DELINEATED WETLAND BOUNDARY

PROPOSED USH 51 S.B. EXIT RAMP

USH 51 (STOUGHTON ROAD) S.B.

USH 51 (STOUGHTON ROAD) N.B.

VPT STA = 15+97.98
VPT EL = 872.15

2.01%

2.29%

VPI STA = 16+01.33
VPI EL = 872.22
CURVE LEN = 0.00

EXISTING ℄ PROFILE

PROPOSED ℄ PROFILE

VPC STA = 16+67.36
VPC EL = 873.73

EXISTING 18" RCP STORM SEWER PIPE

VPI STA = 17+62.36
VPI EL = 875.91
CURVE LEN = 190.00
K = 62.16

HP STA = 18+09.83
HP EL = 875.36

VPT STA = 18+57.36
VPT EL = 875.18

-0.76%

-0.47%

VPI STA = 20+25.00
VPI EL = 873.90
CURVE LEN = 0.00

EXISTING 36" RCP STORM SEWER PIPE

878 876 874 872 870 868 866 864 862

869.56 869.61 | 870.35 870.36 | 871.23 871.18 | 872.19 872.14 | 873.33 873.26 | 874.39 874.42 | 875.08 875.18 | 875.36 875.31 | 875.23 875.17 | 874.86 874.79 | 874.47 874.43 | 874.09 874.06 | 873.78 873.75

14+50 15+00 15+50 16+00 16+50 17+00 17+50 18+00 18+50 19+00 19+50 20+00 20+50

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: COTTAGE GROVE ROAD (WESTBOUND)	SHEET 269	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp20.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp20.dgn 8/14/2014 8:35:18 AM ckieler

MATCH LINE STA. 20'CGW'+50

21CGW+00 | 22CGW+00 | 23CGW+00 | 24CGW+00 | 25CGW+00

N87°55'41"W

SAWING CONCRETE REQ'D.

COTTAGE GROVE ROAD W.B.

USH 51 N.B. EXIT RAMP

USH 51 N.B. ENTRANCE RAMP

SAWING ASPHALT REQ'D.

5.25" HMA PAVEMENT TYPE E-3

REMOVING CURB & GUTTER

CLEARING & GRUBBING 18-INCH DIA.

CLEARING & GRUBBING 10-INCH DIA.

EOP STA = 25+48.77

COTTAGE GROVE ROAD E.B.

SAWING CONCRETE REQ'D.

CLEARING & GRUBBING 10-INCH DIA.

CLEARING & GRUBBING 16-INCH DIA.

REMOVING CURB & GUTTER

CLEARING & GRUBBING 18-INCH DIA.

21CGE+00 | 22CGE+00 | 23CGE+00 | 24CGE+00

5.25" HMA PAVEMENT TYPE E-3

SAWING ASPHALT REQ'D.

DELINEATED WETLAND BOUNDARY

EOP STA = 24+58.

END CONSTRUCTION
STA. 24'CGW'+56.98
Y = 486,292.62
X = 841,186.20

EXISTING R/W

PROPOSED ℄ PROFILE

EXISTING ℄ PROFILE

-0.47%

VPC STA = 22+63.34
VPC EL = 872.79

LP STA = 23+05.22
LP EL = 872.69

VPT STA = 24+33.34
VPT EL = 873.61

EOP STA = 24+56.98
EOP EL = 873.88

1.43%

0.78%

VPI STA = 24+46.71
VPI EL = 873.80
CURVE LEN = 0.00

VPI STA = 23+48.34
VPI EL = 872.39
CURVE LEN = 170.00
K = 89.89

EXISTING 15" RCP STORM SEWER PIPE

EXISTING 15" RCP STORM SEWER PIPE

880 878 876 874 872 870 868 866 864

873.78 873.75 | 873.55 873.51 | 873.32 873.25 | 873.09 873.01 | 872.85 872.80 | 872.69 872.64 | 872.80 872.74 | 873.19 873.16 | 873.82 873.84

20+50 | 21+00 | 21+50 | 22+00 | 22+50 | 23+00 | 23+50 | 24+00 | 24+50 | 25+00 | 25+50 | 26+00 | 26+50

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: COTTAGE GROVE ROAD (WESTBOUND)	SHEET 270	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panp21.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:39.9999

WISDOT/CADDS SHEET 30

panp21.dgn 8/14/2014 8:35:20 AM ckieler

P.I. = STA. 100'TC'+41.15
Y = 484,812.01
X = 840,806.66
Δ. = 2°29'58"

P.I. = STA. 104'TC'+54.77
Y = 485,224.31
X = 840,773.66
Δ. = 10°58'00"
T. = 223.11'
L. = 444.85'
R. = 2,324.00'
P.C. = STA. 102'TC'+31.67
P.T. = STA. 106'TC'+76.52

N

EXISTING R/W

SEE TRAFFIC CONTROL STAGE 2 PLANSHEETS

BOP STA = 99+06.14

PI STA = 100+41.15

PC STA = 102+31.67

MATCH LINE STA. 105'TC'+00

USH 51 (STOUGHTON ROAD) S.B.

100TC

101TC

N04°34'36"W

102TC

103TC

104TC

105

N07°04'34"W

CHARTER

CITY OF MADISON

MG&E

OH

FO

MH

5

BEGIN CONSTRUCTION
STA. 99+79.49
Y = 484,750.81
X = 840,814.26

USH 51 (STOUGHTON ROAD) N.B.

VPI STATION = 104+90.48
VPI ELEVATION = 914.00
L = 630.0
K = 141.40

PROPOSED ℄ PROFILE
STAGE 2 TEMPORARY
PAVEMENT

EXISTING GROUND (FLOWN)

BOP STA = 99+79.49
BOP EL = 903.43

2.07%

VPC STA = 101+75.48
VPC EL = 907.49

HP STA = 104+67.79
HP EL = 910.51

914 912 910 908 906 904 902 900 898

902.98
903.86 903.79
904.89 904.62
905.92 905.45
906.96 906.26
907.97 907.06
908.83 907.59
909.51 908.31
910.02 908.91
910.34 909.51
910.50 909.78
910.47 910.06

99+00 99+50 100+00 100+50 101+00 101+50 102+00 102+50 103+00 103+50 104+00 104+50 105+00

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: TRAFFIC CONTROL STAGE 2	SHEET 271	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panpTC1.dgn
PLOT DATE : 8/14/2014
PLOT BY : ckieler
PLOT NAME :
PLOT SCALE : 1:40
WISDOT/CADDS SHEET 30

panpTC1.dgn 8/14/2014 8:35:22 AM ckieler

SEE TRAFFIC CONTROL STAGE 2 PLANSHEETS

SLOPE INTERCEPTS (TYP.)

PROPOSED USH 51 S.B. ENTRANCE RAMP

PROPOSED USH 51 S.B. EXIT RAMP

USH 51 (STOUGHTON ROAD) S.B.

MATCH LINE STA. 105+00

MATCH LINE STA. 111+00

PC STA = 106+76.52

PC STA = 108+66.65

106TC

107TC

108TC

109TC

110TC

N15°32'36"W

EXISTING USH 51 (STOUGHTON ROAD) S.B.

RAILROAD R/W

BRIDGE PILLAR

EXISTING R/W

EXISTING GROUND (FLOWN)

PROPOSED ℄ PROFILE
STAGE 2 TEMPORARY PAVEMENT

VPT STA = 108+05.48
VPT EL = 906.47

VPC STA = 108+82.71
VPC EL = 904.63

-2.39%

VPI STA = 110+72.71
VPI EL = 900.09
CURVE LEN = 380.00
K=98.24

914 912 910 908 906 904 902 900 898

910.47 910.06 | 910.27 909.77 | 909.89 909.48 | 909.33 910.08 | 908.60 910.68 | 907.69 907.21 | 906.60 903.74 | 905.41 900.17 | 904.23 896.60 | 903.25 893.64 | 902.53 890.67 | 902.06 884.26 | 901.84 877.86

105+00 105+50 106+00 106+50 107+00 107+50 108+00 108+50 109+00 109+50 110+00 110+50 111+00

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: TRAFFIC CONTROL STAGE 2	SHEET 272	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panpTC2.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30

panpTC2.dgn 8/14/2014 8:35:23 AM ckieler

BENCH MARKS

NO.	STATION	DESCRIPTION	OFFSET	ELEV.
3	116+37.0	CHISLED '+' ON SIGN POST BOLT	11.2' LT.	891.85
5	115+74.7	DISC ON BRIDGE	6.1' RT.	896.33

P.I. = STA. 111'TC'+87.79
Y = 485,932.70
X = 840,580.04
Δ. = 5°03'22"
T. = 322.14'
L. = 643.92'
R. = 7,870.00'
P.C. = STA. 108'TC'+65.65
P.T. = STA. 115'TC'+09.57

SEE TRAFFIC CONTROL STAGE 2 PLANSHEETS

MATCH LINE STA. 111'TC'+00

PROPOSED USH 51 S.B. EXIT RAMP

SLOPE INTERCEPTS (TYP.)

PT STA = 115+69.57

VPT STA = 112+62.71
VPT ELL = 902.90

PROPOSED ℄ PROFILE
STAGE 2 TEMPORARY PAVEMENT

1.48%

N10°29'14"W

COTTAGE GROVE ROAD E.B.

COTTAGE GROVE ROAD W.B.

BM#5

BM#3

908	906	904	902	900	898	896	894	892
								901.84 877.86
								901.88 872.11
								902.18 866.36
								902.72 865.09
								903.46 863.82
								904.04 869.59
								904.37 875.37
								904.44 875.38
								904.27 875.48
								903.85 874.52
								903.19 873.92
								902.28 873.52
								901.12 873.35

111+00 111+50 112+00 112+50 113+00 113+50 114+00 114+50 115+00 115+50 116+00 116+50 117+00

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: TRAFFIC CONTROL STAGE 2	SHEET 273	E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Plan and Profile\panpTC3.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30

panpTC3.dgn 8/14/2014 8:35:25 AM ckieler

P.I. = STA. 124'TC'+36.09
Y = 487,160.50
X = 840,352.76
Δ = 4°34'26"
T. = 228.59'
L. = 456.95'
R. = 5,724.00'
P.C. = STA. 122'TC'+07.49
P.T. = STA. 126'TC'+64.44

SEE TRAFFIC CONTROL STAGE 2 PLANSHEETS

SLOPE INTERCEPTS (TYP.)

EXISTING R/W

29"x45" HERCP

USH 51 (STOUGHTON ROAD) S.B.

PT STA = 126+64.44

123TC 124TC 125TC 126TC 127TC 128TC

N15°03'40"W

MATCH LINE STA. 129'TC'+00

5

5

880 878 876 874 872 870 868 866 864

PROPOSED ℄ PROFILE
STAGE 2 TEMPORARY PAVEMENT

EXISTING GROUND (FLOWN)

123+00	123+50	124+00	124+50	125+00	125+50	126+00	126+50	127+00	127+50	128+00	128+50	129+00
878.79 / 872.12	877.33 / 871.02	875.87 / 871.27	874.57 / 870.23	873.26 / 869.75	872.17 / 869.15	871.08 / 868.83	870.10 / 868.19	869.11 / 867.69	868.50 / 867.55	867.89 / 867.41	867.63 / 867.38	867.36 / 867.36

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: TRAFFIC CONTROL STAGE 2	SHEET 274	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 30

panpTC4.dgn 8/14/2014 8:35:26 AM ckieler

P.I. = STA. 130'TC'+32.97
Y = 487,737.11
X = 840,197.60
Δ = 2°30'00"

SEE TRAFFIC CONTROL STAGE 2 PLANSHEETS

N

EXISTING R/W

P.I. STA. 130+32.97

MATCH LINE STA. 129'TC'+00

SLOPE INTERCEPTS (TYP.)

USH 51 (STOUGHTON ROAD) S.B.

N15°03'40"W

129TC

130TC

131TC

132TC

N12°33'40"W

133TC

134TC

135TC

5

5

PROPOSED R PROFILE
STAGE 2 TEMPORARY PAVEMENT

	129+00	129+50	130+00	130+50	131+00	131+50	132+00	132+50	133+00	133+50	134+00	134+50	135+00
	867.36	867.51	867.66	868.01	868.36	868.89	869.42	869.92	870.42	870.92	871.42	871.91	872.41
	867.36	867.51	867.66	868.01	868.36	868.89	869.42	869.89	870.37	870.90	871.42	871.94	872.46

876 874 872 870 868 866 864 862 860

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	PLAN AND PROFILE: TRAFFIC CONTROL STAGE 2	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 30

panpTC5.dgn 8/14/2014 8:35:27 AM ckieler

Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
09B02-07	CONDUIT
09B04-10	PULL BOX
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09C03-03	TRANSFORMER/PEDESTAL BASES
09C06-06	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C07-04	CONCRETE BASE, TYPE 6
09C10-02	TRANSFORMER BASE FOR 15" BOLT CIRCLE
09C11-04	CONCRETE BASE TYPE 10
09C13-02	CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09C14-01	CONCRETE CONTROL CABINET BASE, TYPE L
09D01-04	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-02	SIGNAL OR LIGHTING CONTROL CABINET
09D04-01	LIGHTING CONTROL CABINET
09E01-12D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-12G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E02-03	FREEWAY LIGHTING UNIT POLE WIRING
09E03-04	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-05	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-05A	TYPE 9 POLE 15'-30' MONOTUBE ARM
09E08-05E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F15-03B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
09G01-03A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
10A01-02	ELECTRICAL HANDHOLE WIRING
10A05-02	ELECTRICAL DETAILS GROUND MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
10A15-04A	ELECTRICAL DETAILS UNDERDECK LIGHTING
10A15-04B	ELECTRICAL DETAILS UNDERDECK LIGHTING
10A17-03A	POLES, TYPES 7 & 7BR ALUMINUM - 35'-10" SHAFT
10A18-04A	LUMINAIRE ARMS, SINGLE MEMBER 6-INCH CLAMP
10A18-04B	LUMINAIRE ARMS, TRUSS TYPE 6-INCH CLAMP
11B02-02	CONCRETE MEDIAN NOSE
12A03-10	NAME PLATE (STRUCTURES)
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13A03-05	CONCRETE PAVEMENT SHOULDERS
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B01-10	PAVEMENT DETAILS FOR RAILROAD APPROACH
13B02-07A	CONCRETE BRIDGE APPROACH
13B02-07B	STRUCTURAL APPROACH SLAB AND CONCRETE BRIDGE APPROACH

6

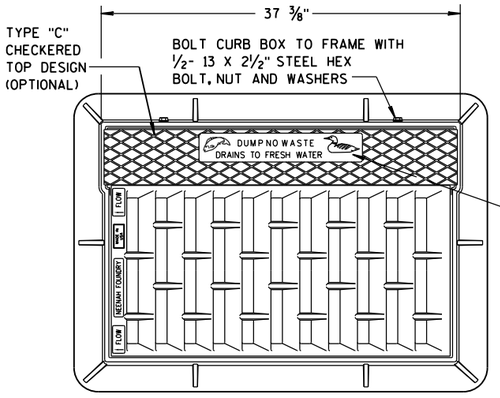
Standard Detail Drawing List

13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C17-01A	CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	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
14B32-03A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03E	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B39-01A	32-INCH SSCB TO 36-INCH SSCB HEIGHT TRANSITION
14B39-01C	36-INCH SSCB TO 42-INCH SSCB HEIGHT TRANSITION
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A01-11	MARKER POST FOR RIGHT-OF-WAY
15A02-08	DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B03-13A	FENCE CHAIN LINK
15B03-13B	FENCE CHAIN LINK
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C09-09A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C18-03	MEDIAN ISLAND MARKING

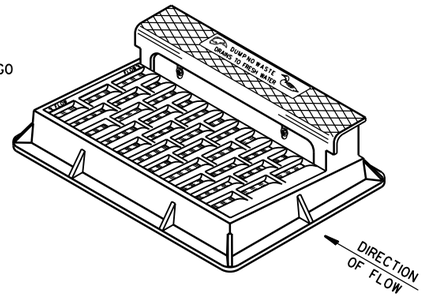
6

Standard Detail Drawing List

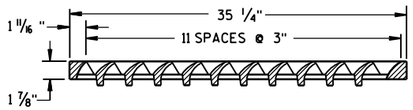
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT
15C29-03E	PAVEMENT MARKING FOR BIKE LANES
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-04	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-02	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-02	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-02	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE

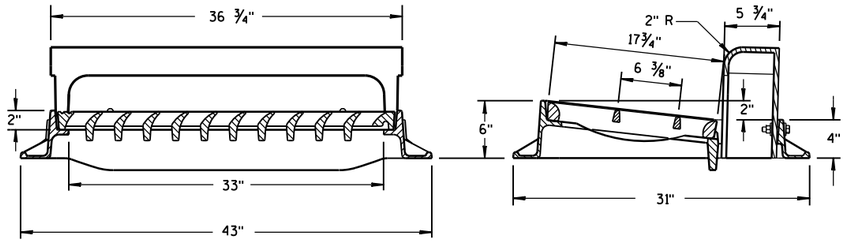


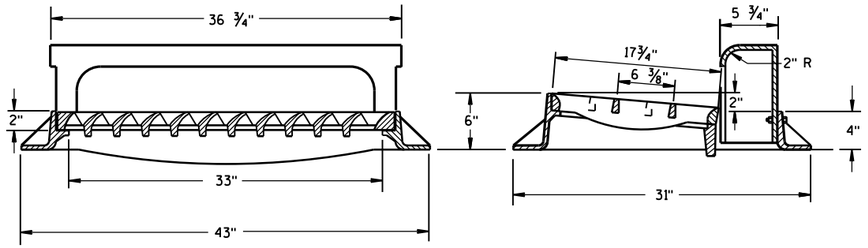
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

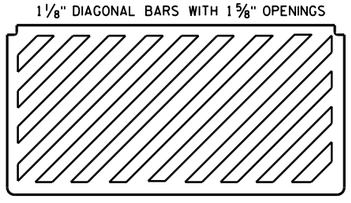






TYPE "H"

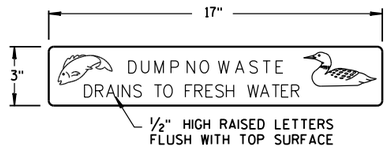
NOTE: EITHER CASTING IS ACCEPTABLE



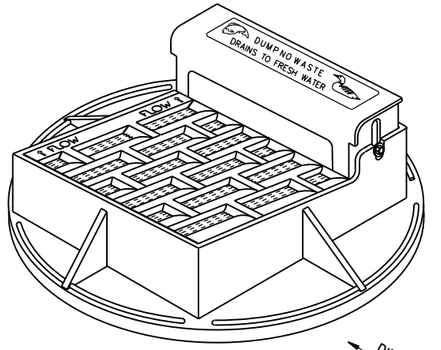
SPECIAL GRATE FOR TYPE "H" COVER

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

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

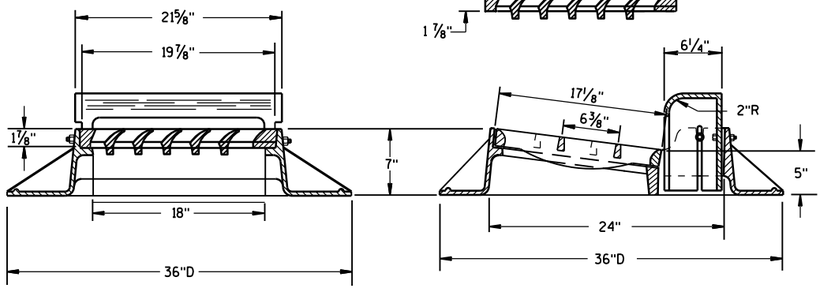


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



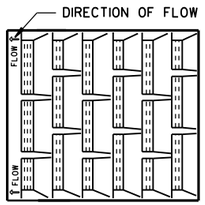
TYPE "A"

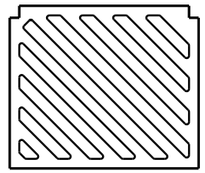
GENERAL NOTES

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

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

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

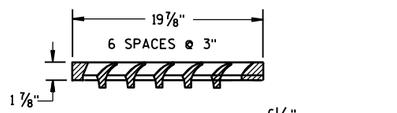


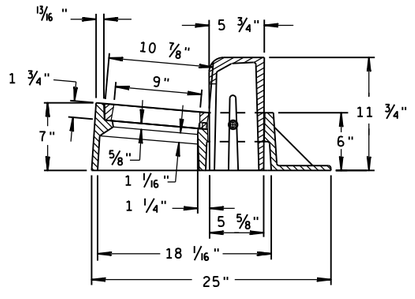


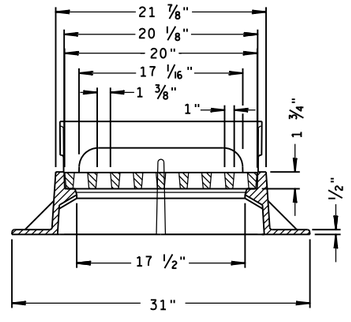
SPECIAL GRATE FOR TYPE "A" COVER

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

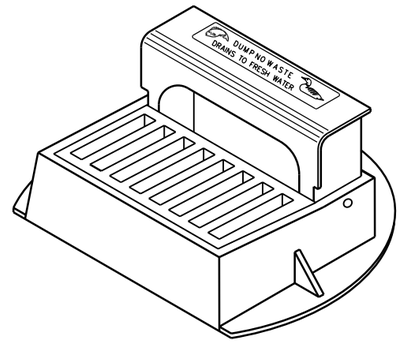
(NOTED AS TYPE A-S ON DRAINAGE TABLE)







TYPE "Z"



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

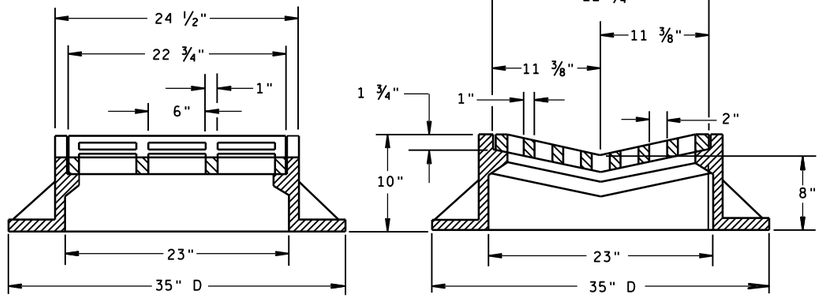
APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

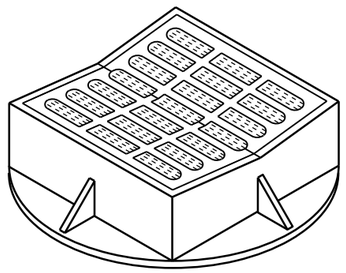
6

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

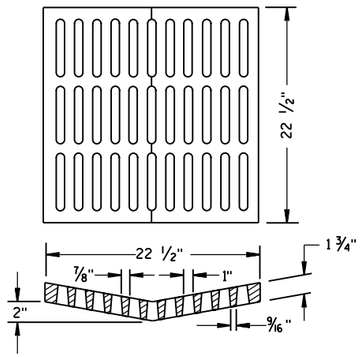
6

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



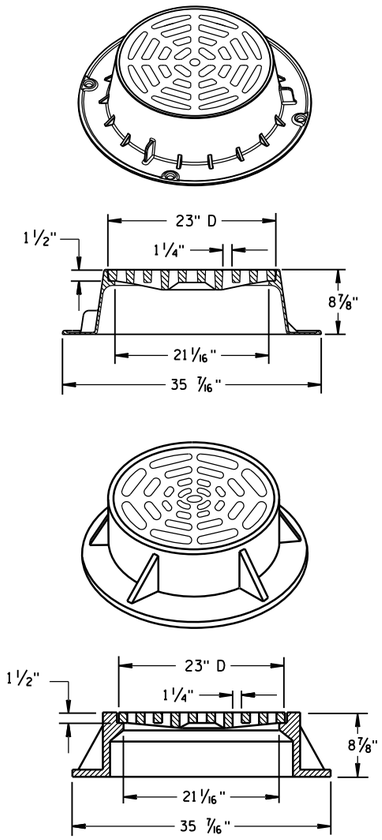


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

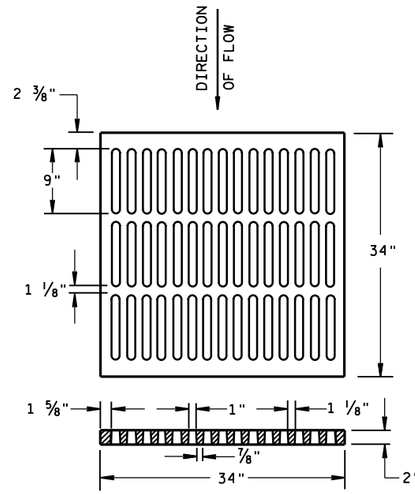
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

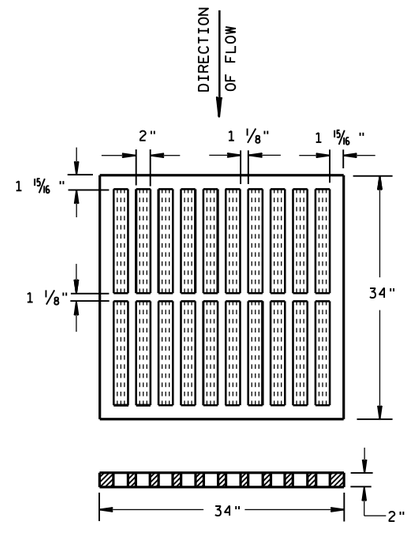
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



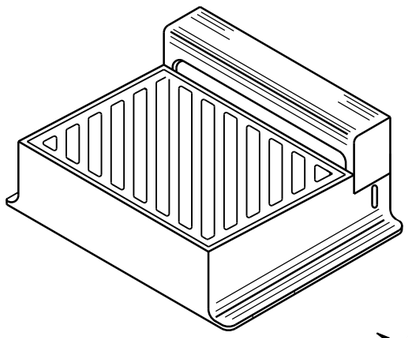
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

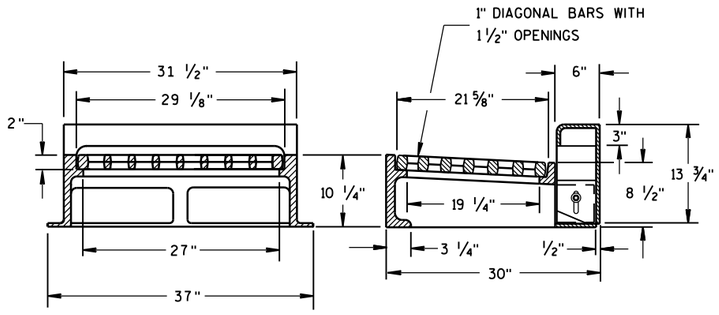


TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

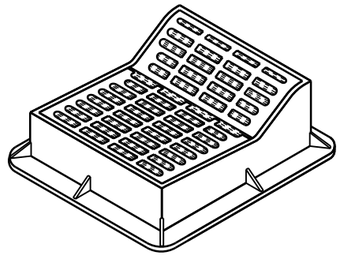
INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

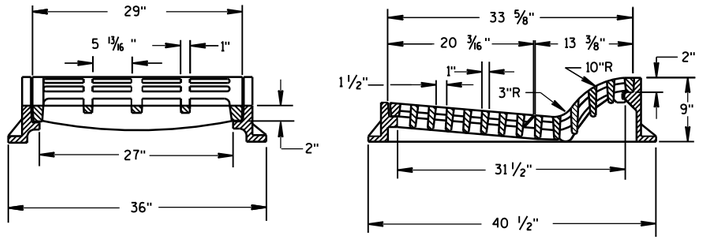
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

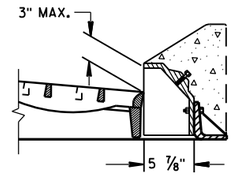
S.D.D. 8 A 5-19b





TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

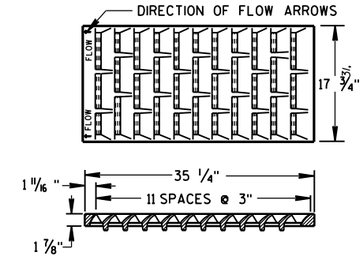
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

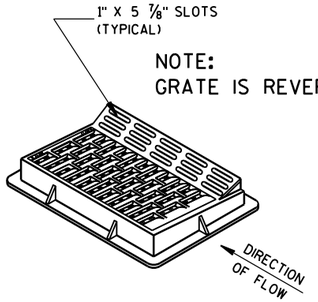
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

GENERAL NOTES

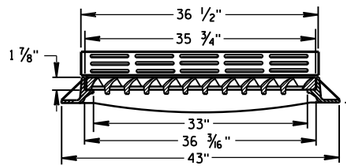
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

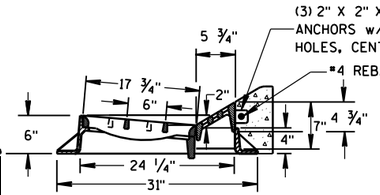
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.





NOTE:
GRATE IS REVERSIBLE.

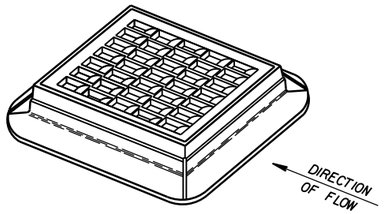


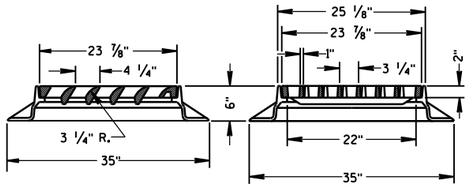


TYPE "HM"

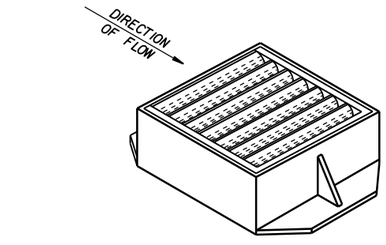
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

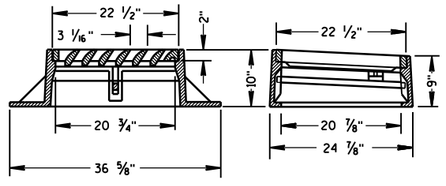
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



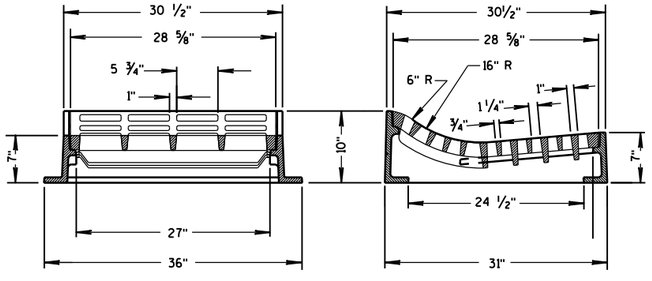


TYPE "S"



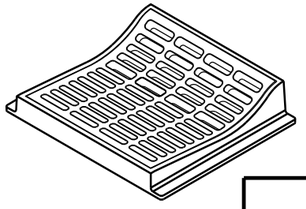


TYPE "V"



TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.



INLET COVERS
TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

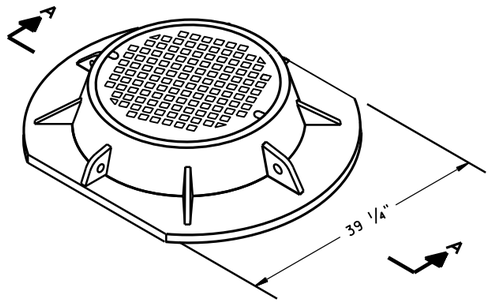
FHWA

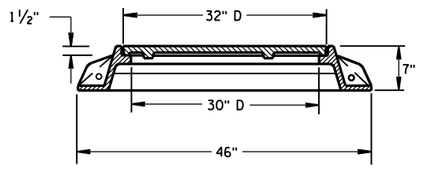
6

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

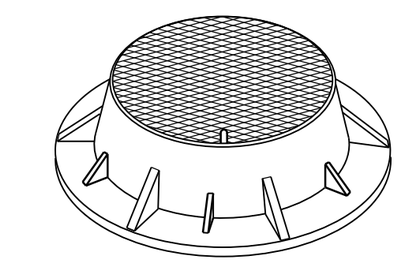
6

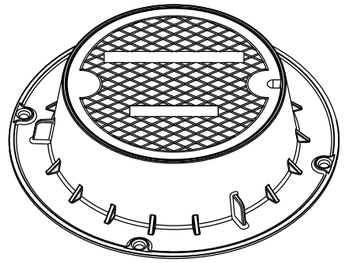
S.D.D. 8 A 5-19c

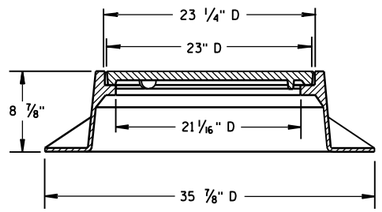


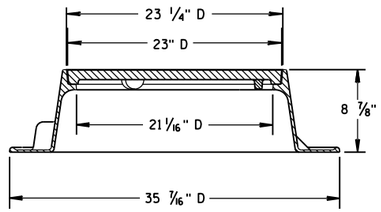


SECTION A-A
TYPE "K"









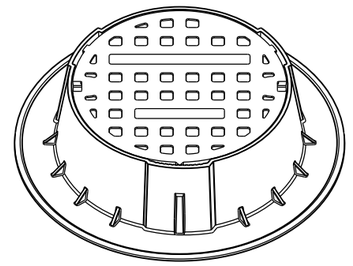
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

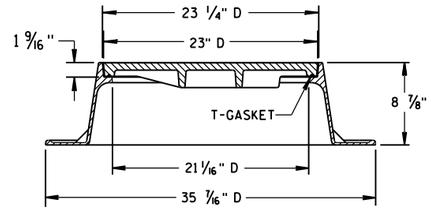
GENERAL NOTES

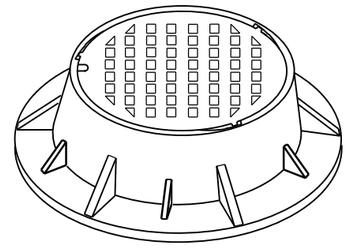
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

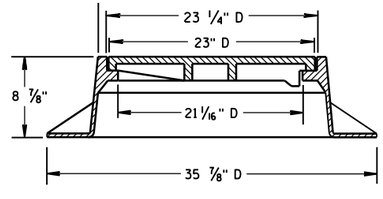
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

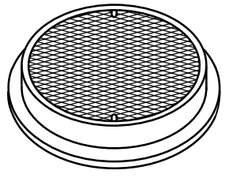


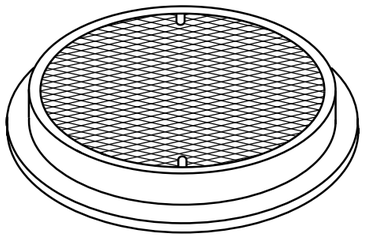


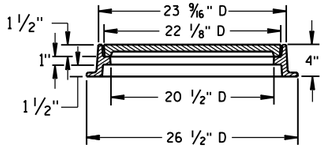




TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE







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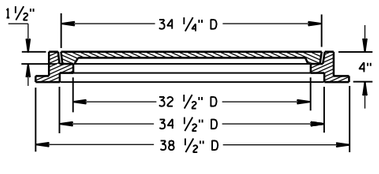

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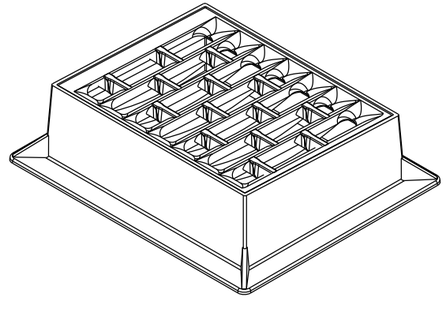

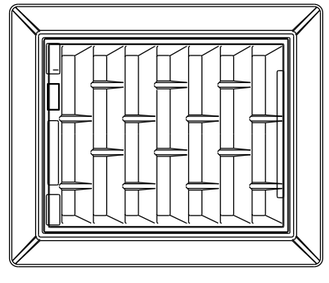

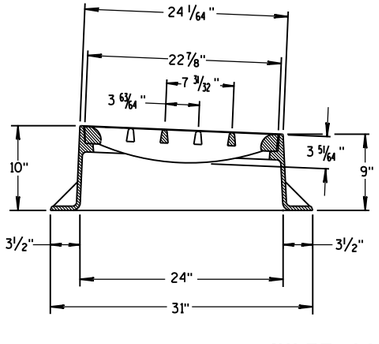

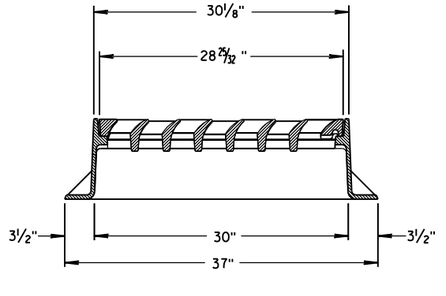

INLET COVER TYPE "BW"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

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

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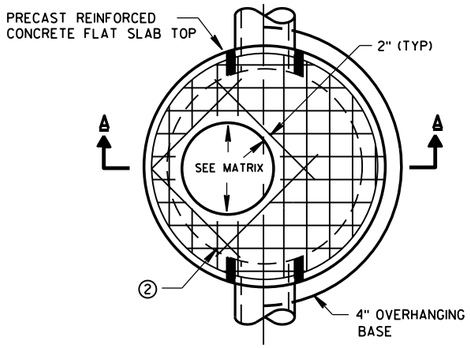
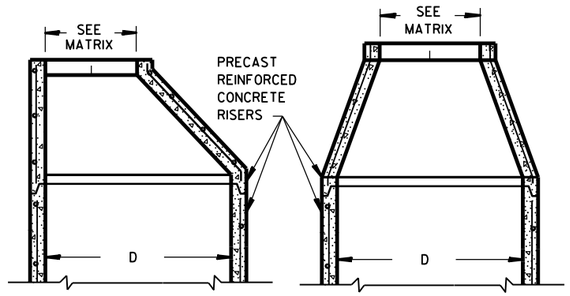
S.D.D. 8 A 5-19d

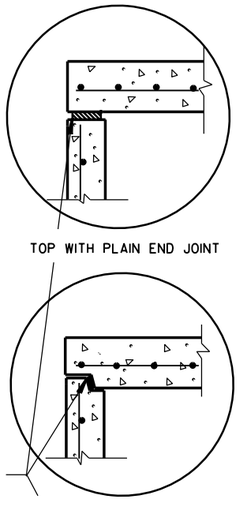


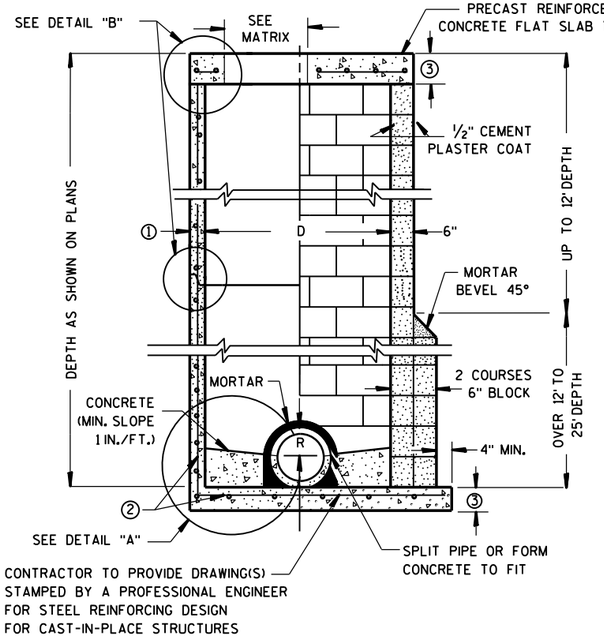
PLAN VIEW CIRCULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

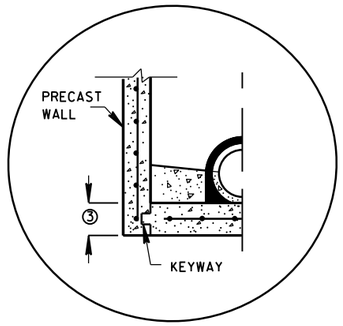
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



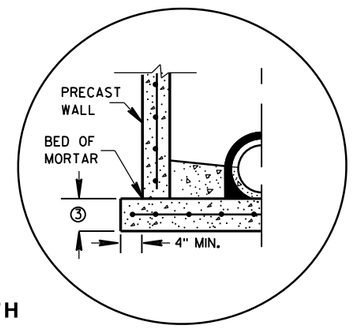


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

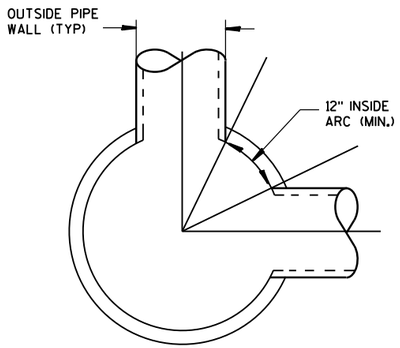


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

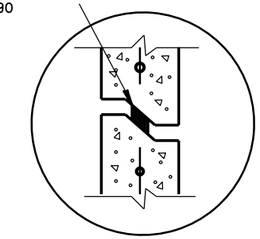


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



DETAIL "B"

GENERAL NOTES

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

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

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

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

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

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

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

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

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

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

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

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

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

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

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

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

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

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

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

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

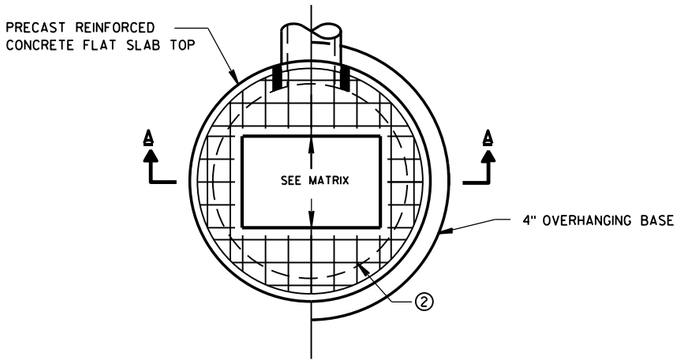
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

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

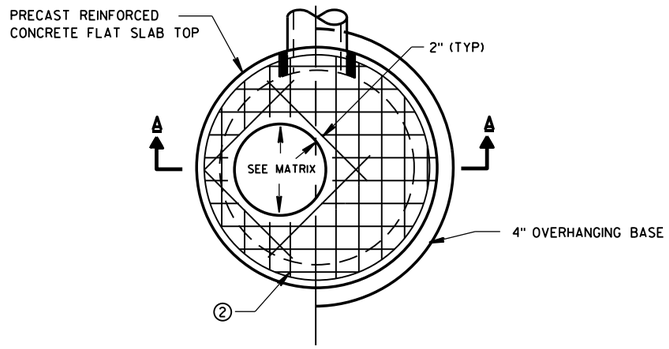
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

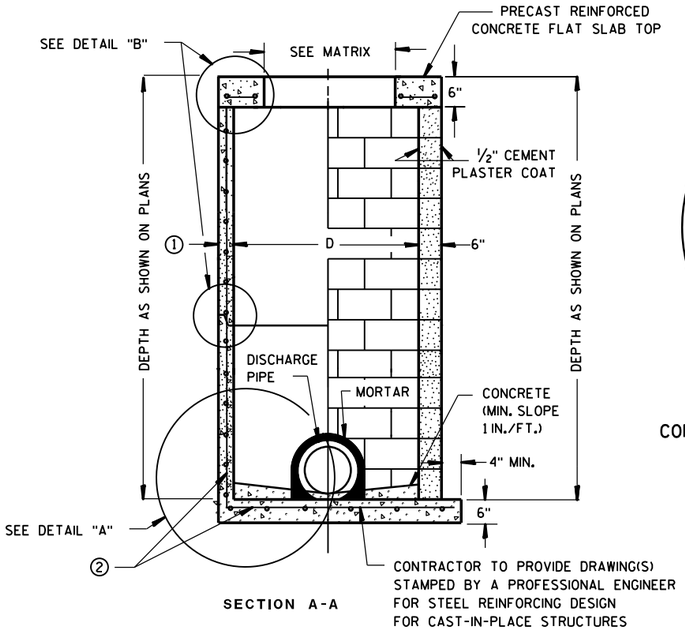
6
S.D.D. 8 B 9-1



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

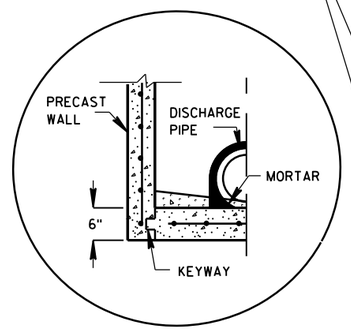


SECTION A-A

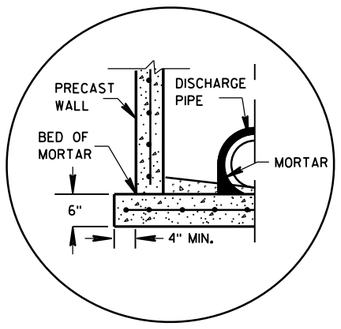
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

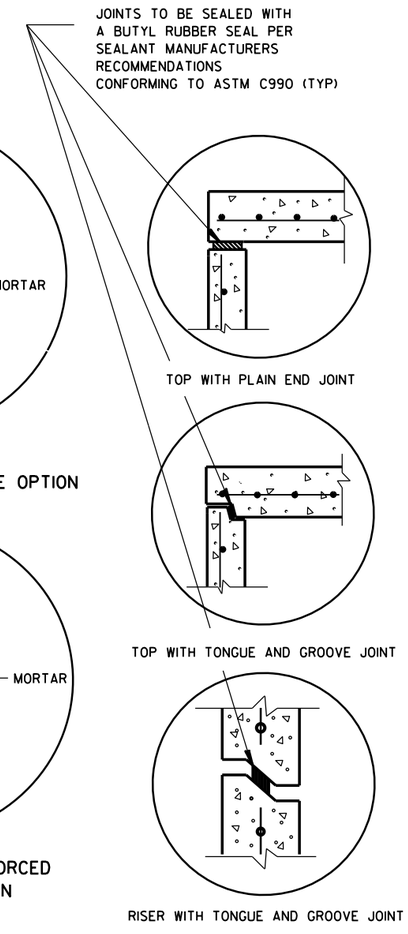


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "B"

GENERAL NOTES

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

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

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

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

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

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

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

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

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

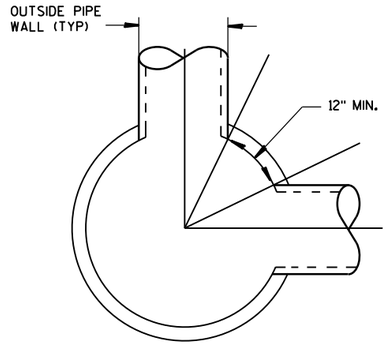
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

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

INLET COVER OPENING MATRIX

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



DETAIL "C"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

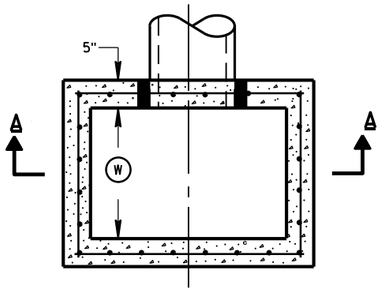
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

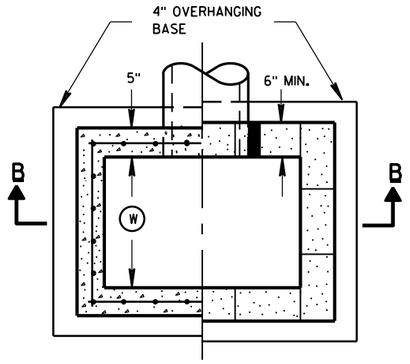
S.D.D. 8 C 6-1

6

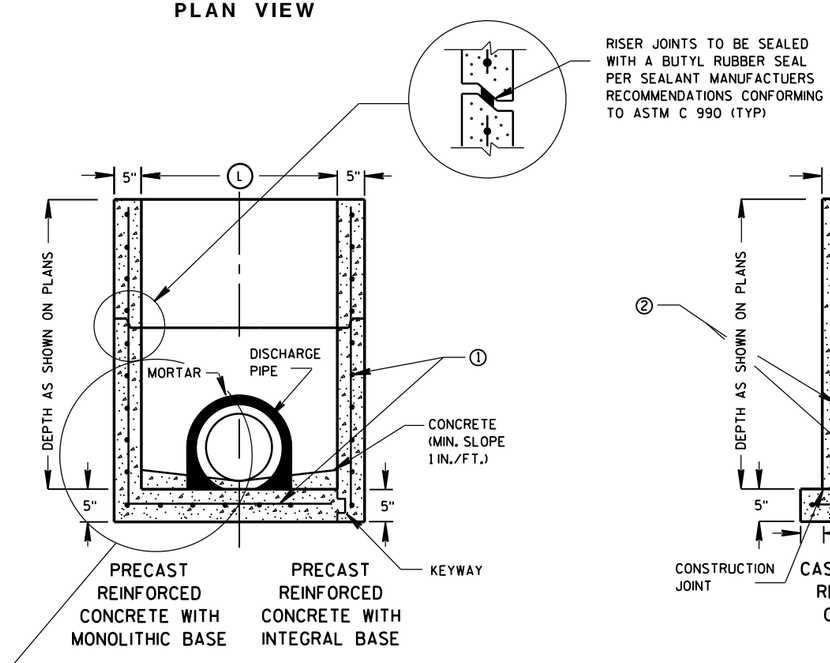
S.D.D. 8 C 6-1



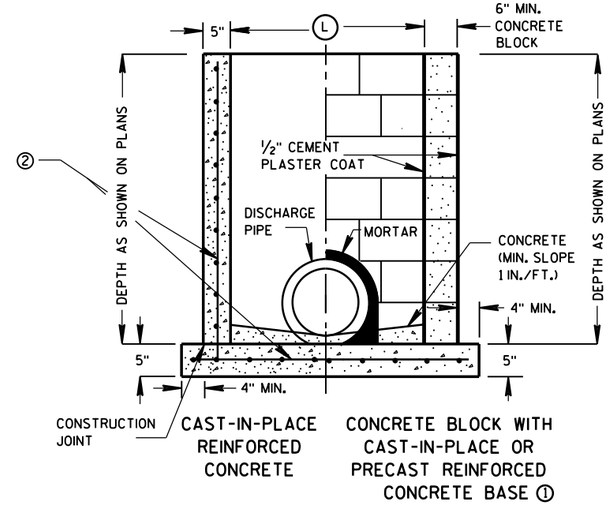
PLAN VIEW



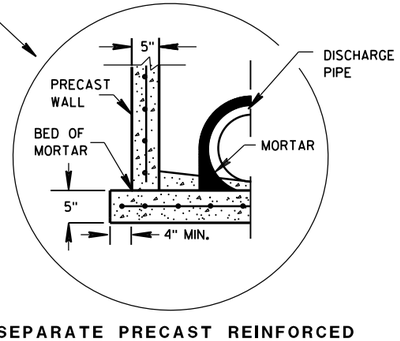
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

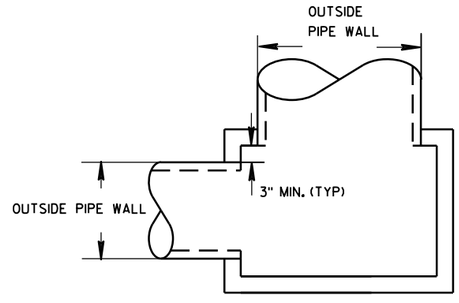
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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



DETAIL "A"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
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DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER
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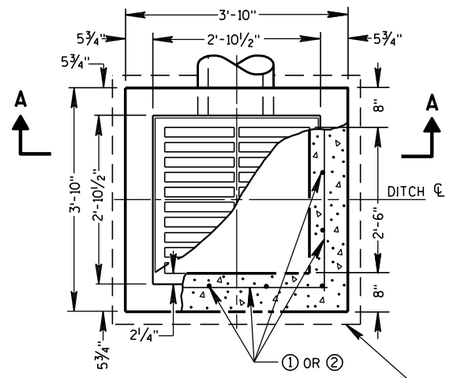
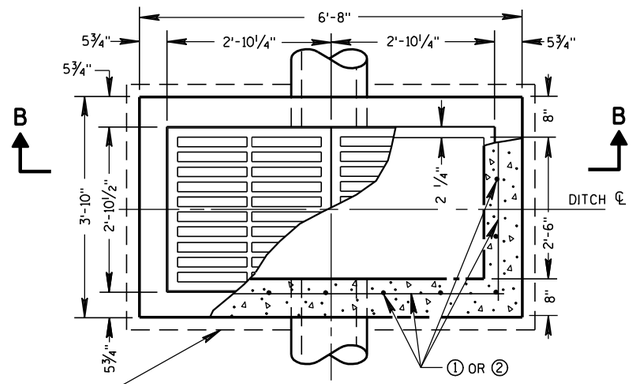
6

S.D.D. 8 C 7-1

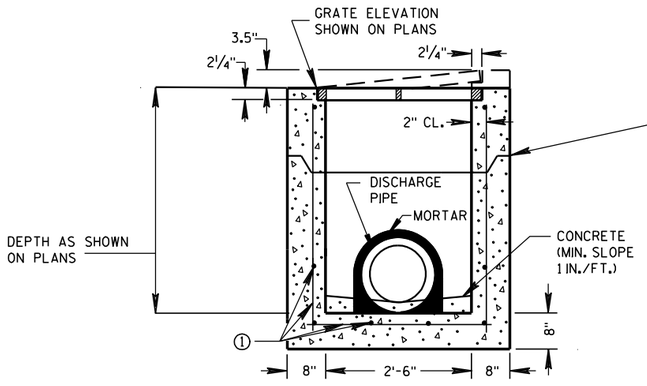


PLAN VIEW

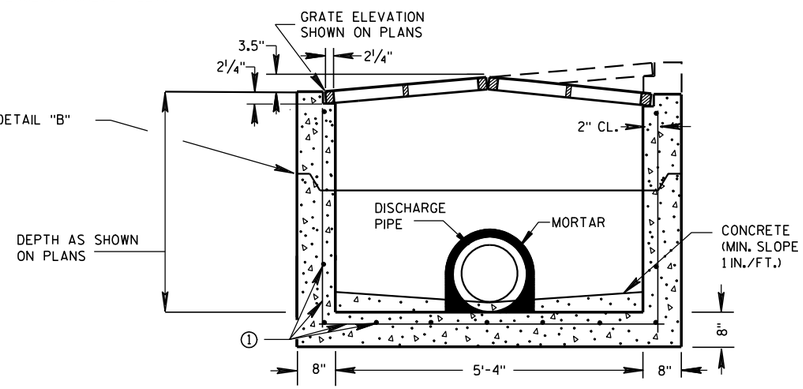


PLAN VIEW

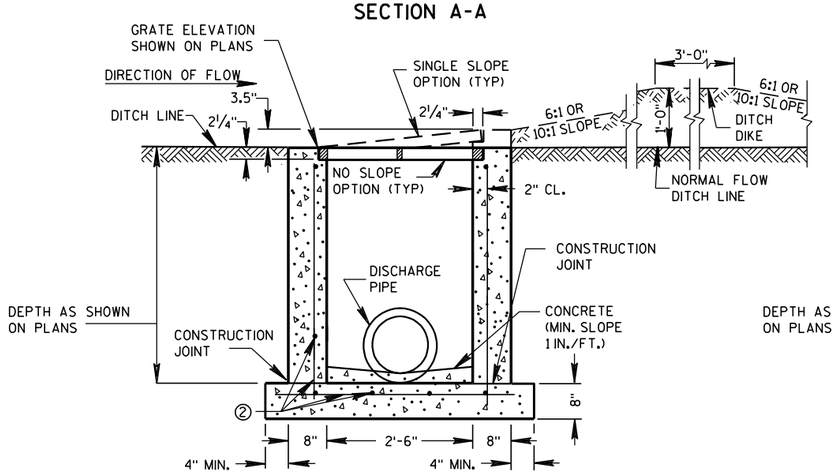
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



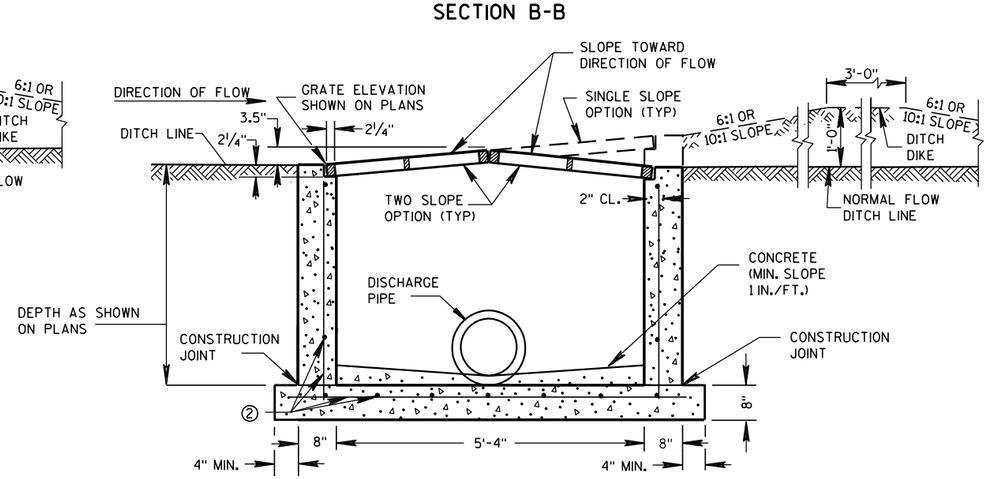
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

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

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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

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

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

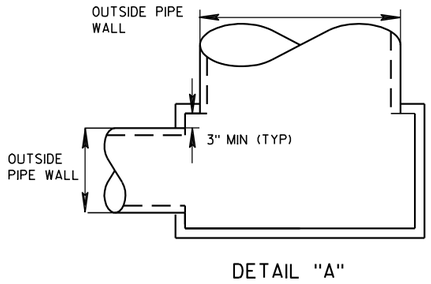
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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

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

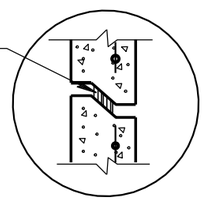
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

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



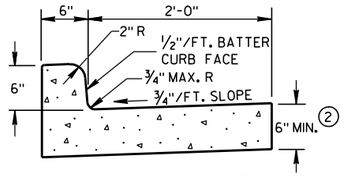
DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

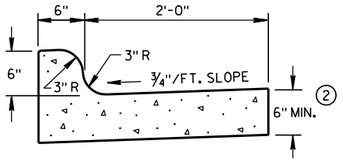
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

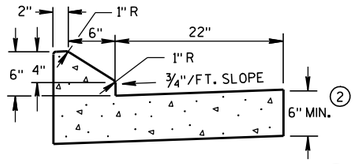
6
S.D.D. 8 C 8-1



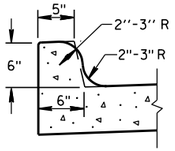
TYPES A & D (1)



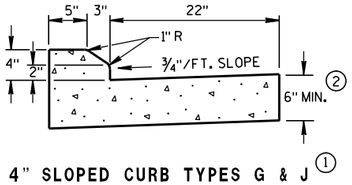
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

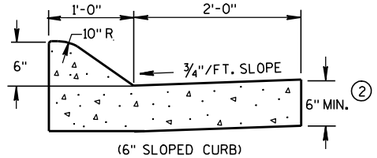


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

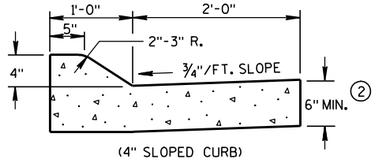


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

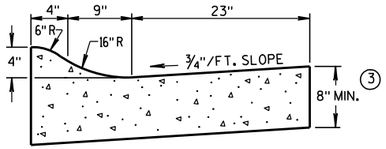


(6" SLOPED CURB)



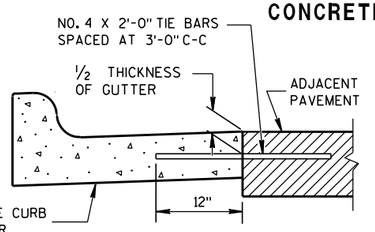
(4" SLOPED CURB)

TYPES A & D (1)

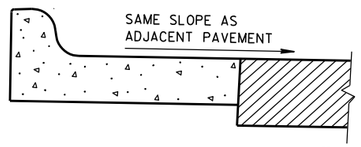


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)



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

GENERAL NOTES

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

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

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

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

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

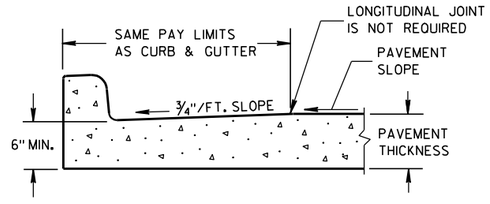
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

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

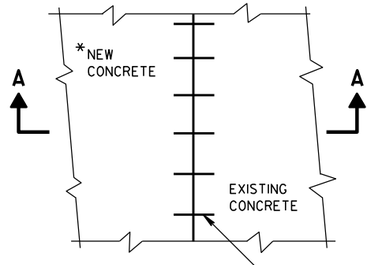
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

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

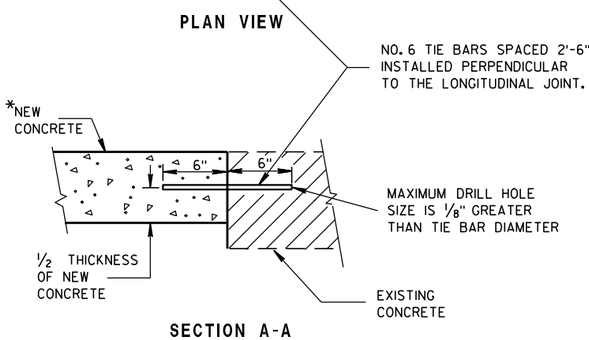


PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



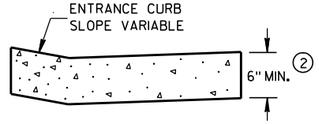
PLAN VIEW

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

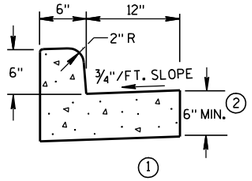


SECTION A-A

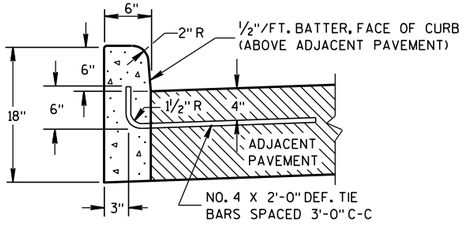
TIE BARS DRILLED INTO EXISTING PAVEMENT



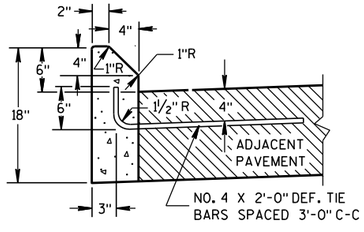
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



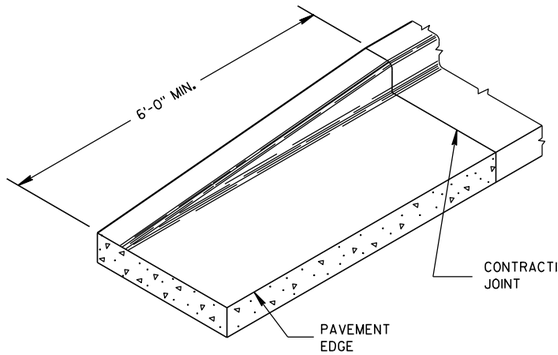
(1)
TYPES A & D
CONCRETE CURB & GUTTER 18"



(1)
TYPES A & D



(1)
TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

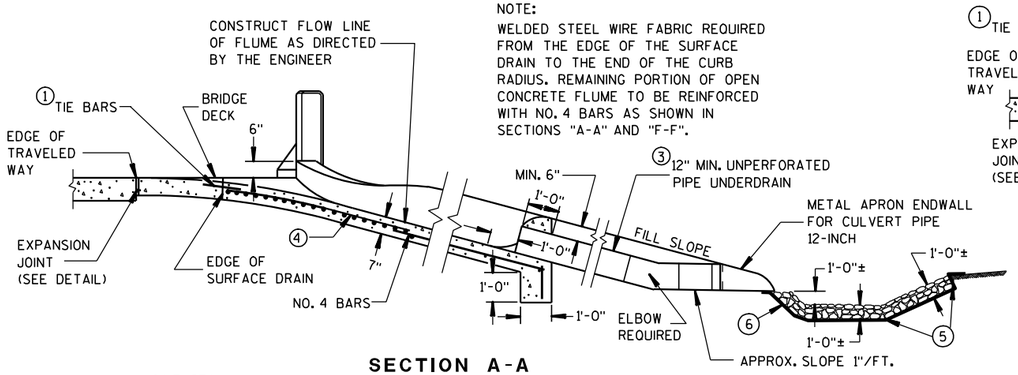
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

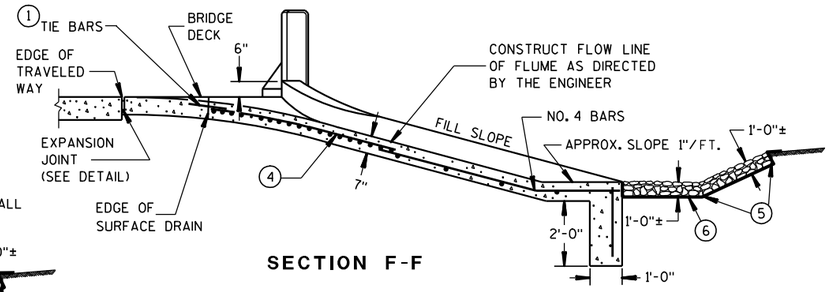
APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
287
ENT
FHWA

6

S.D.D. 8 D 1-17



SECTION A-A



SECTION F-F

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.

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

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.

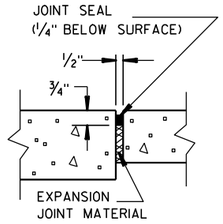
(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

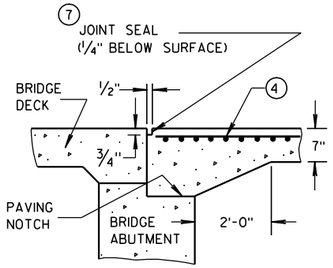
(6) GEOTEXTILE FABRIC, TYPE 'R"

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

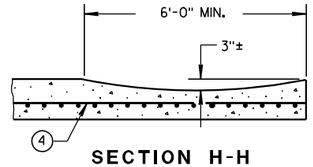
(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



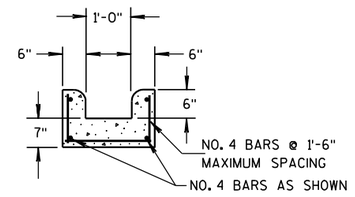
EXPANSION JOINT DETAIL



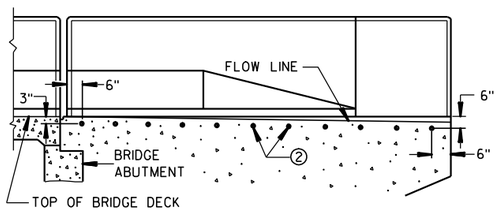
SECTION D-D



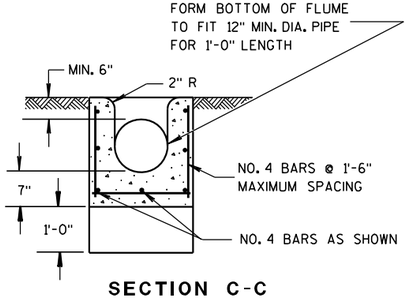
SECTION H-H



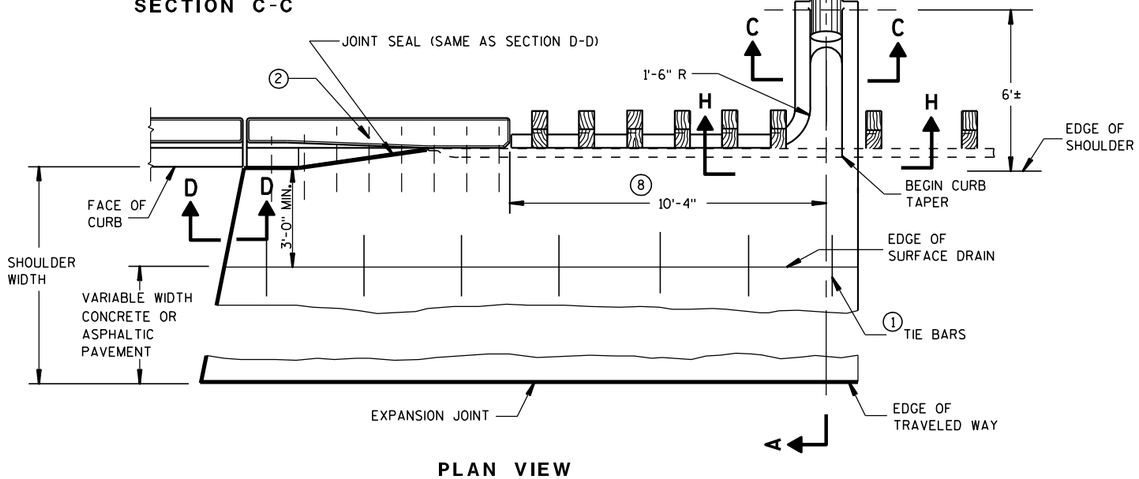
SECTION E-E



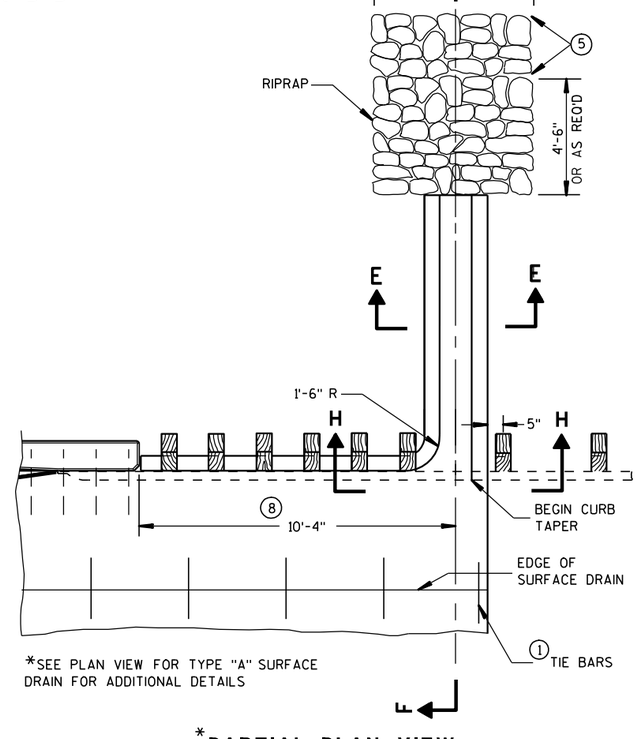
LOCATION OF TIE BARS IN WINGWALL



SECTION C-C



PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



*SEE PLAN VIEW FOR TYPE "A" SURFACE DRAIN FOR ADDITIONAL DETAILS

***PARTIAL PLAN VIEW**
SURFACE DRAIN WITHOUT PIPE
TYPE "B"

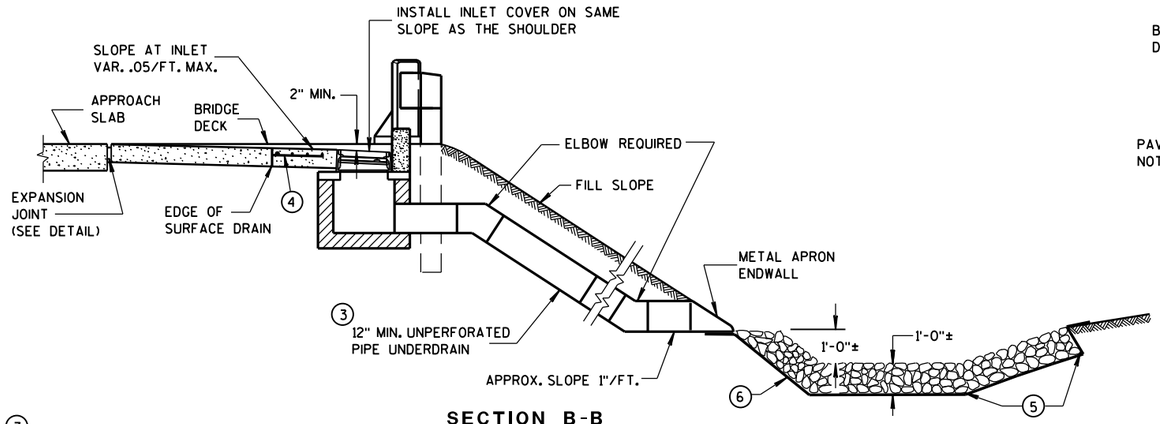
CONCRETE SURFACE DRAINS
FLUME TYPE
AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

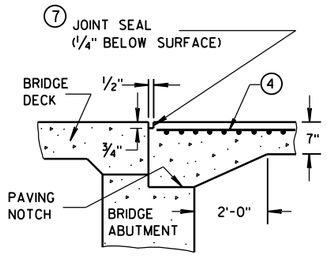
APPROVED
9/4/08 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

S.D.D. 8 D 2-6

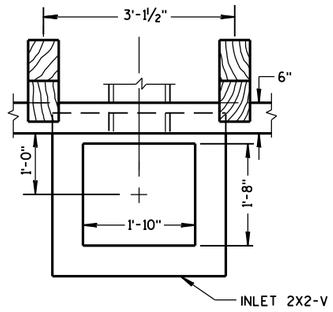
6



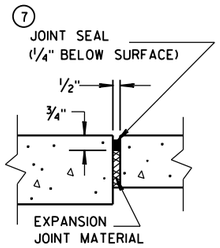
SECTION B-B



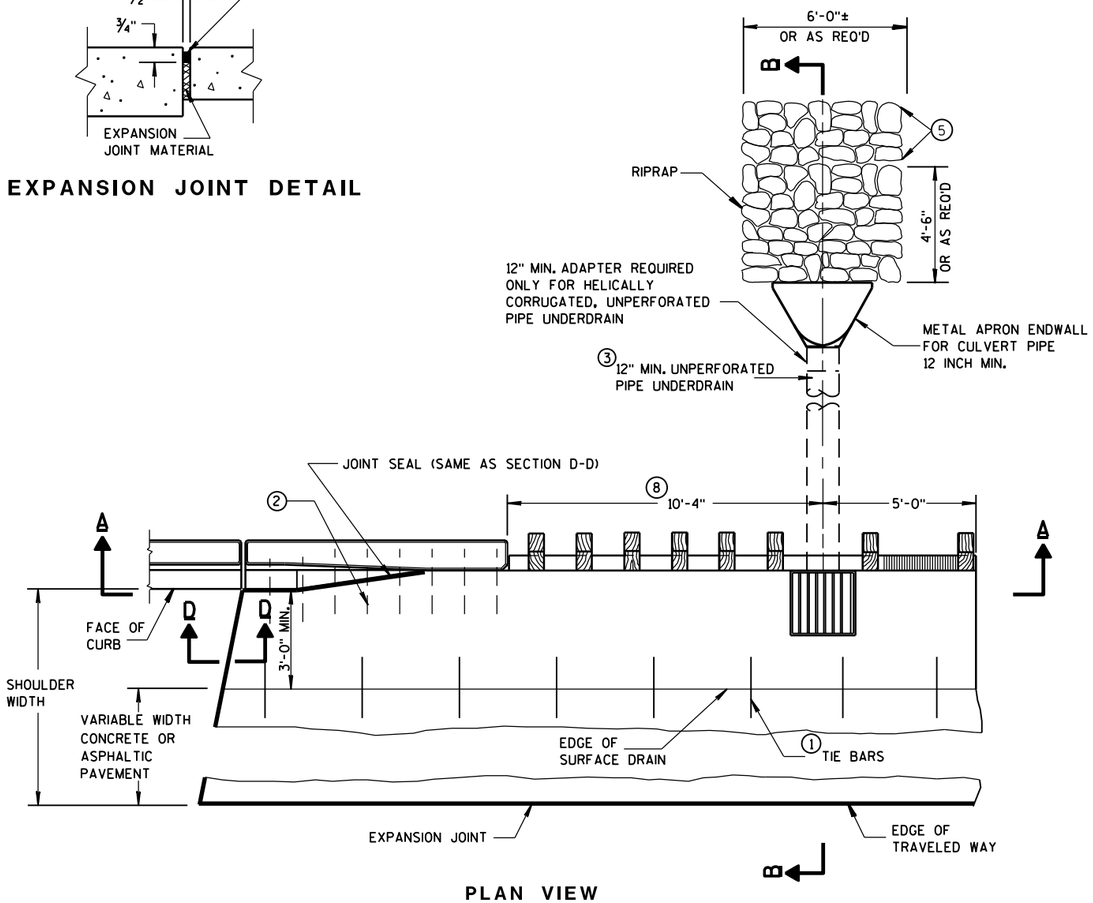
SECTION D-D



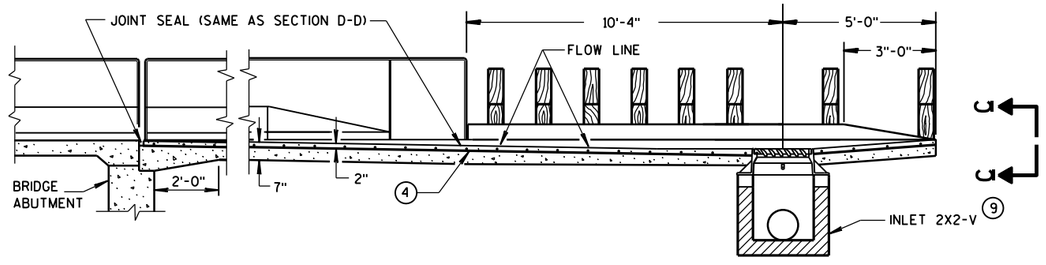
PLAN VIEW



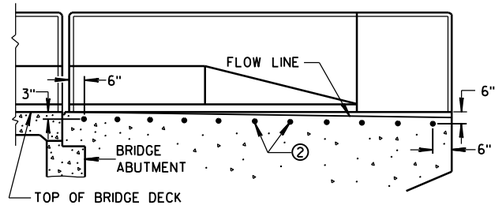
EXPANSION JOINT DETAIL



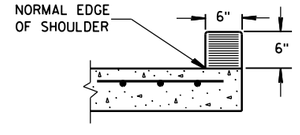
PLAN VIEW



SECTION A-A



LOCATION OF TIE BARS IN WINGWALL



SECTION C-C

GENERAL NOTES

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

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

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.

(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(6) GEOTEXTILE FABRIC, TYPE 'R'

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".

(9) SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

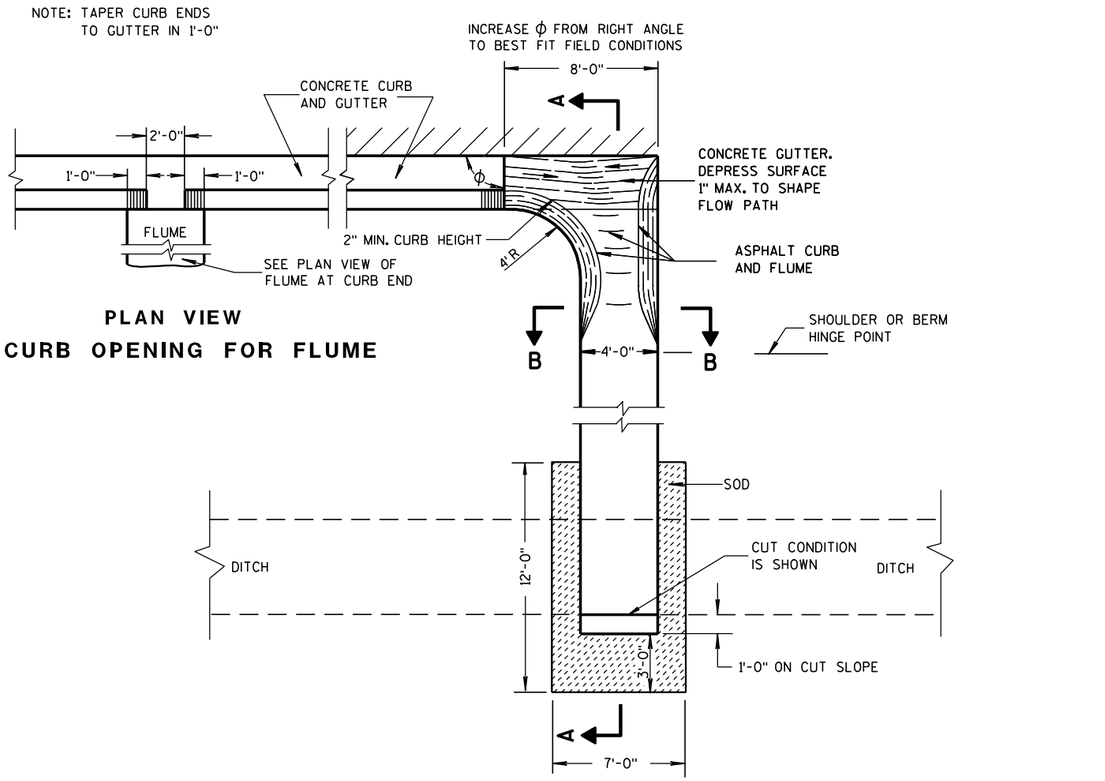
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

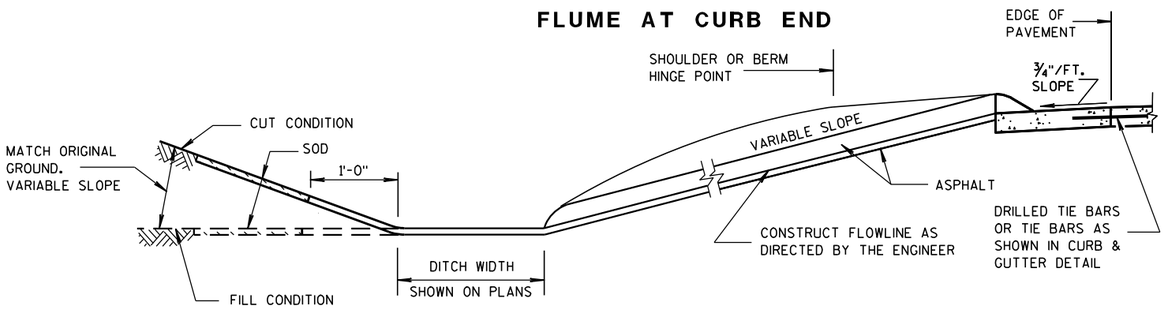
S.D.D. 8 D 3-6

ASPHALTIC FLUME

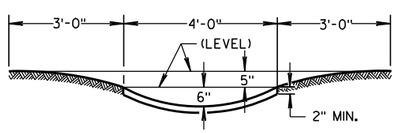


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

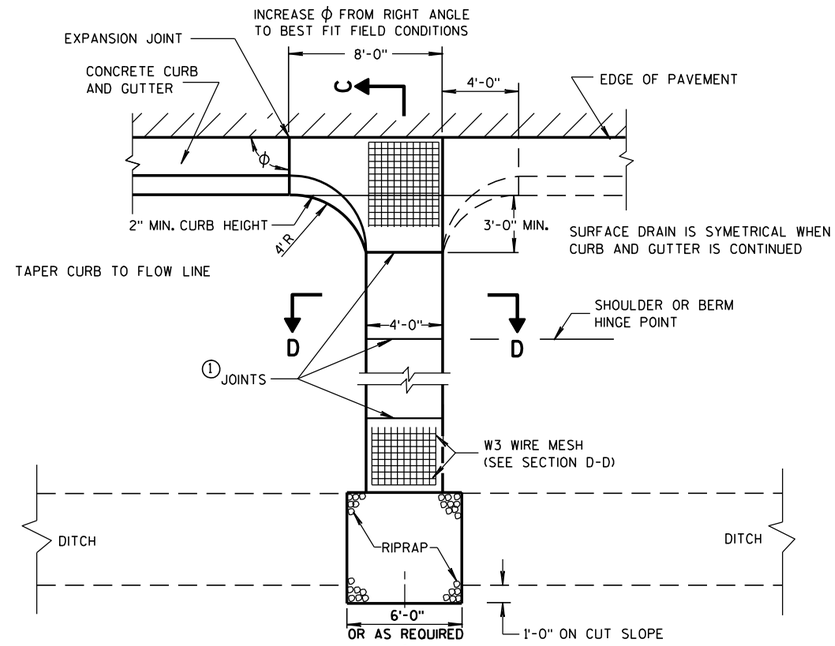
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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

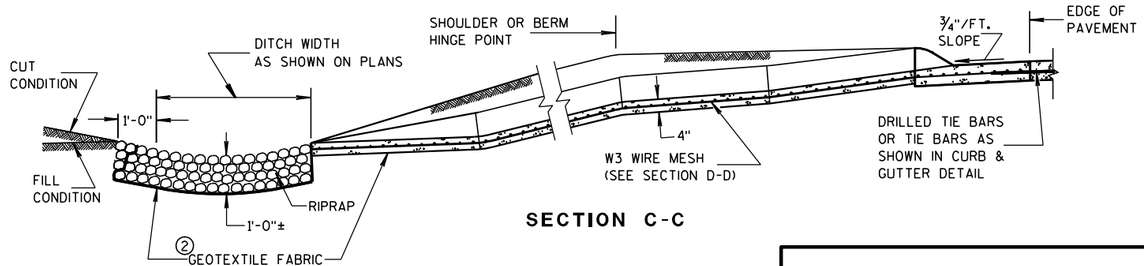
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

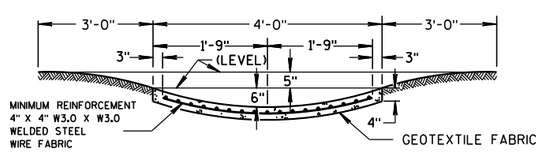
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

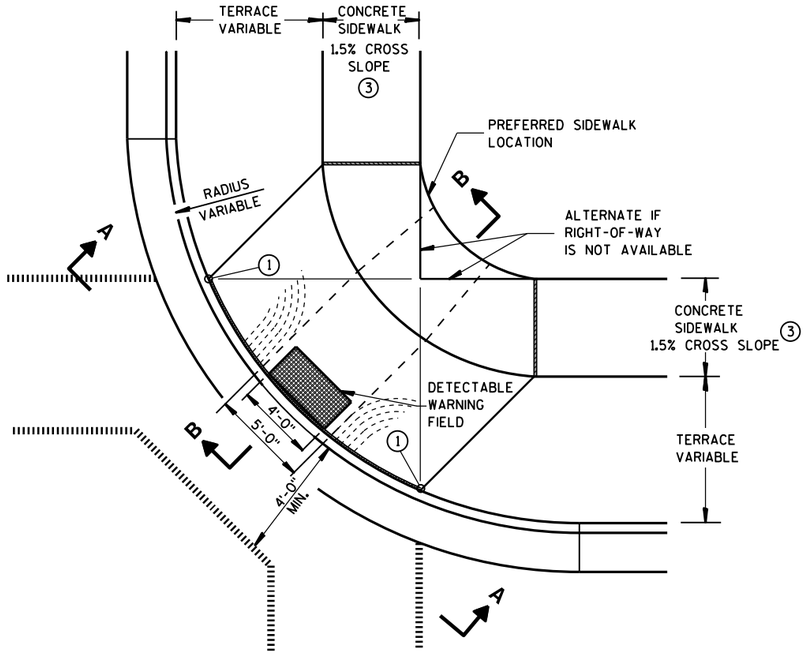
FHWA

6

S.D.D. 8 D 4-5

6

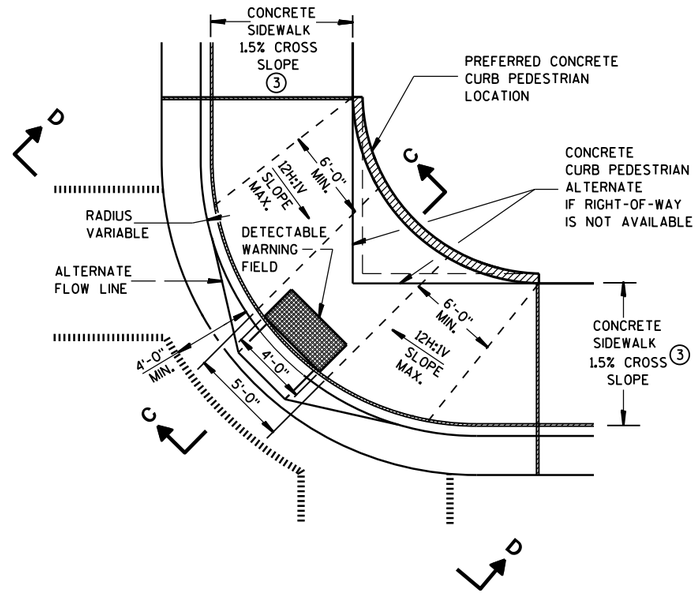
S.D.D. 8 D 4-5



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

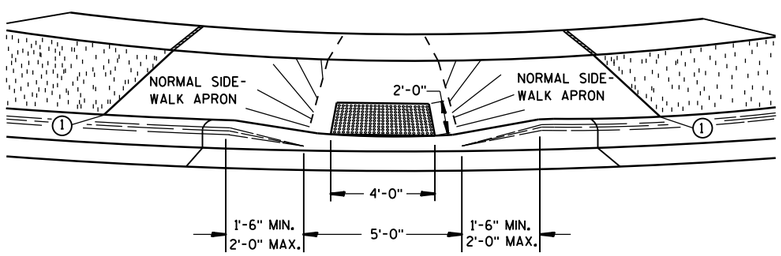
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

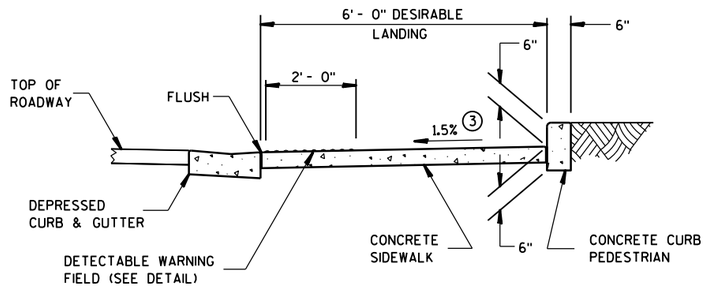
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

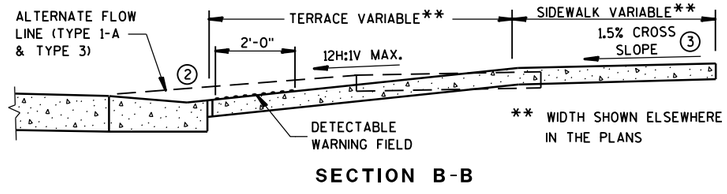
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



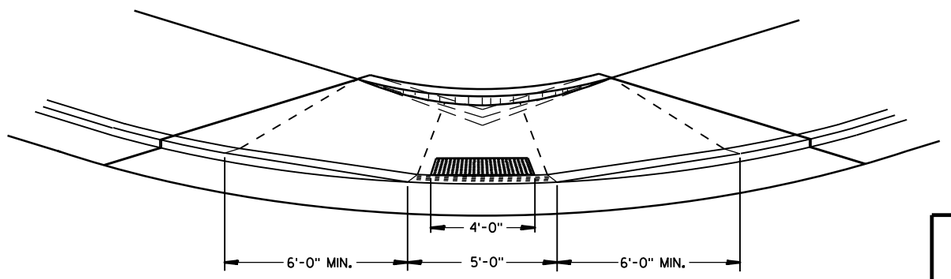
VIEW A-A



SECTION C-C



SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

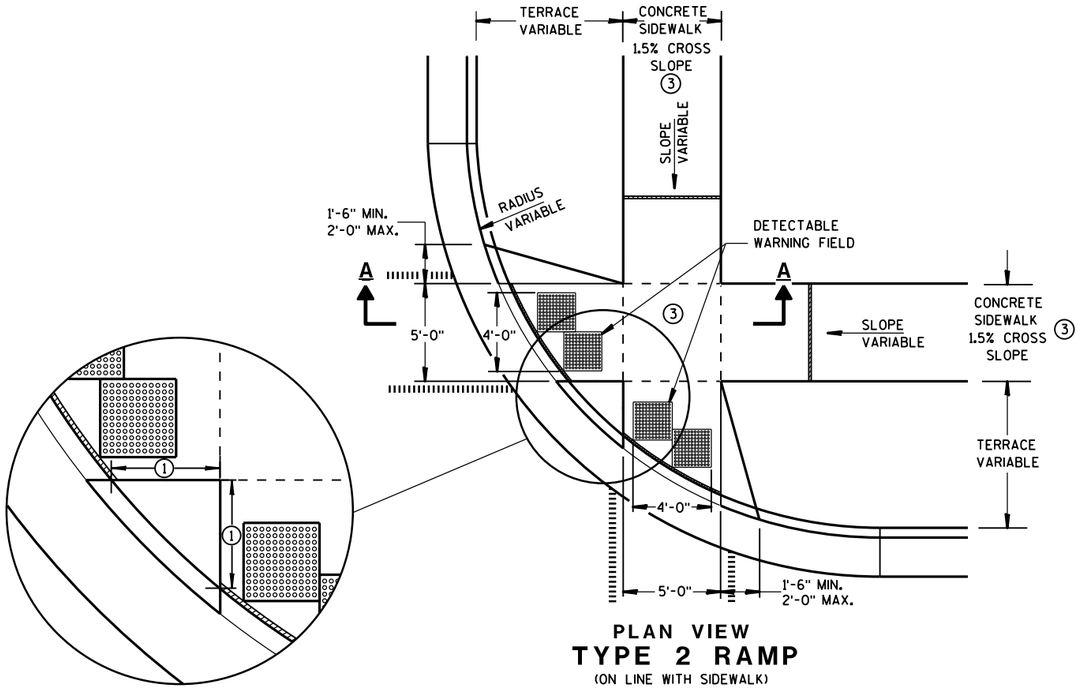
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15a

6

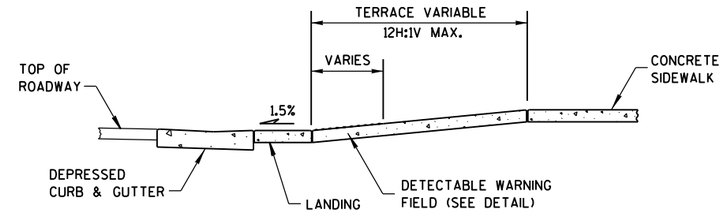
S.D.D. 8 D 5-15a



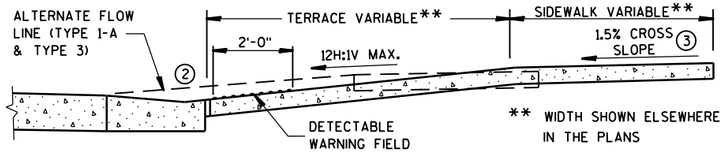
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

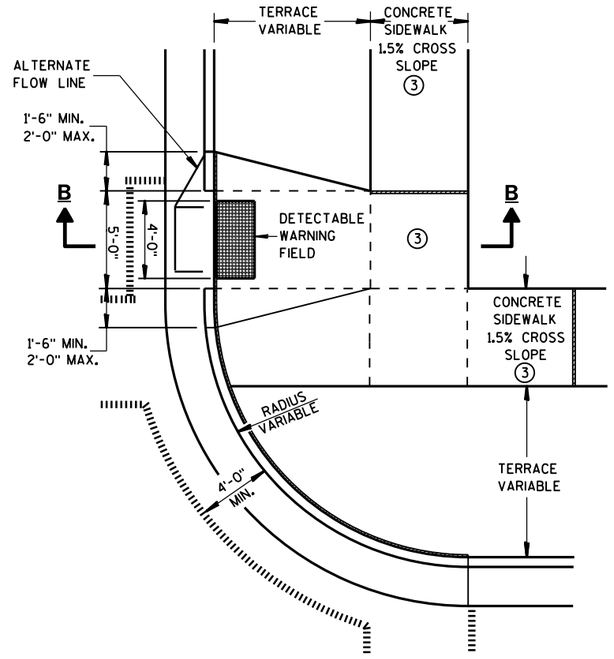
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



PLAN VIEW

TYPE 3 RAMP

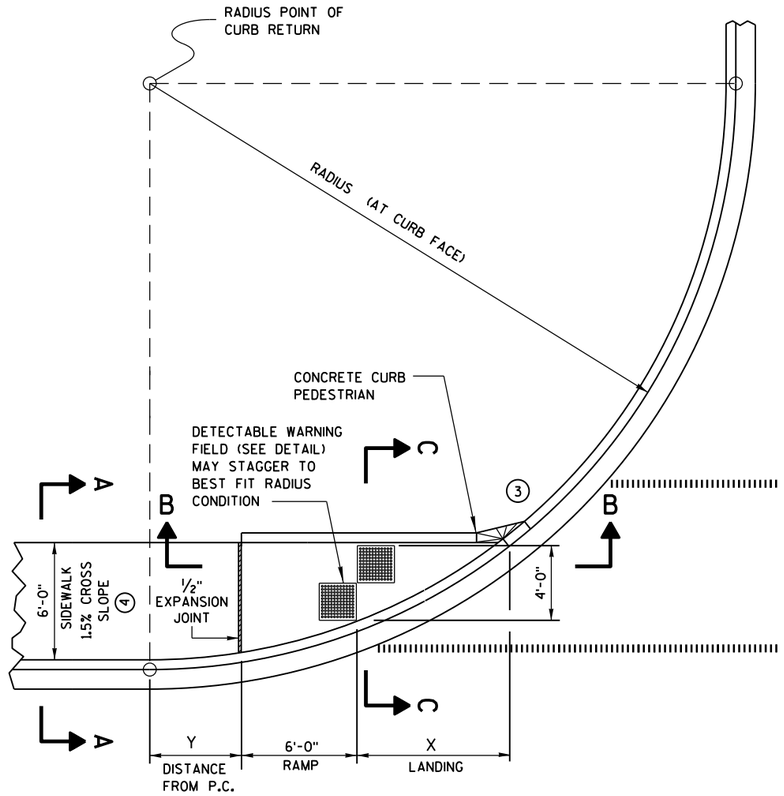
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

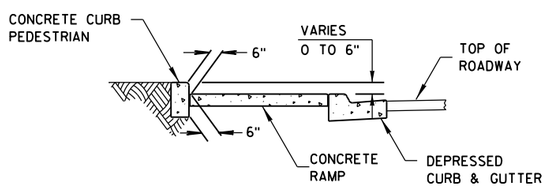
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

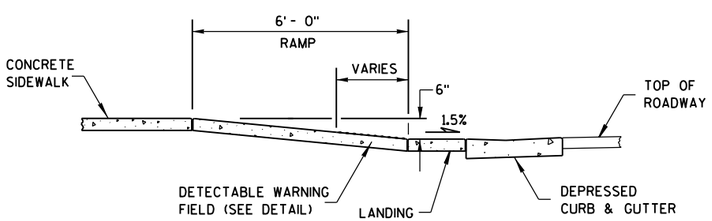
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



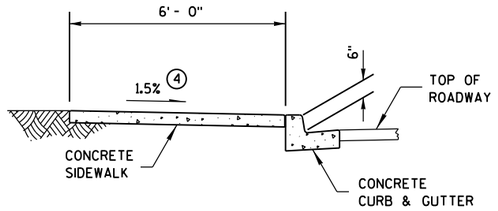
SECTION C-C FOR TYPE 4A



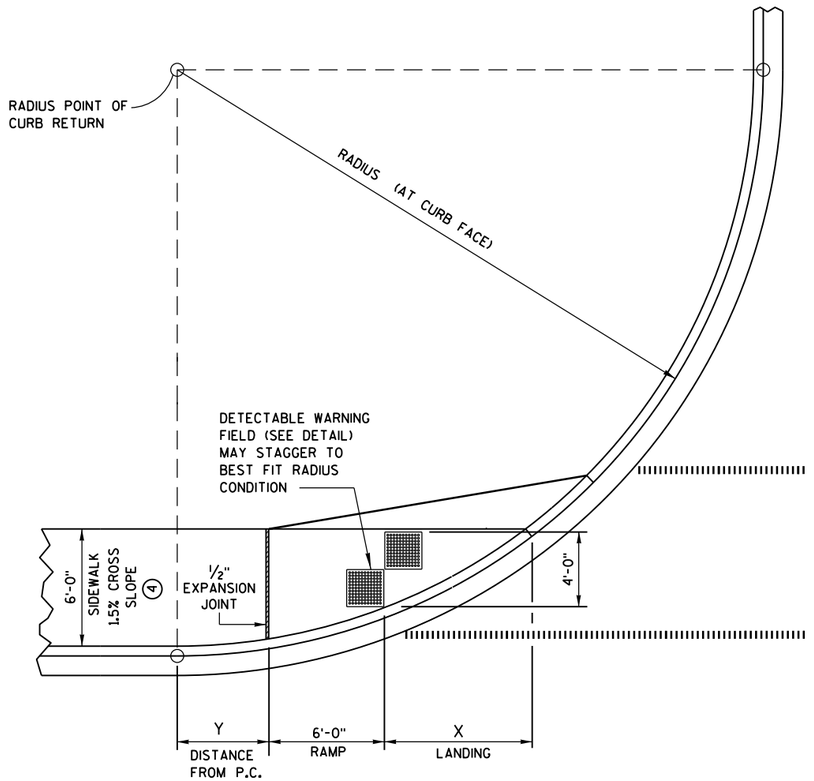
SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW

GENERAL NOTES

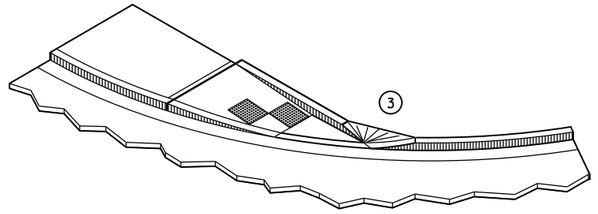
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

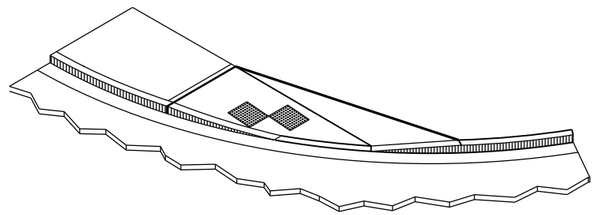
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

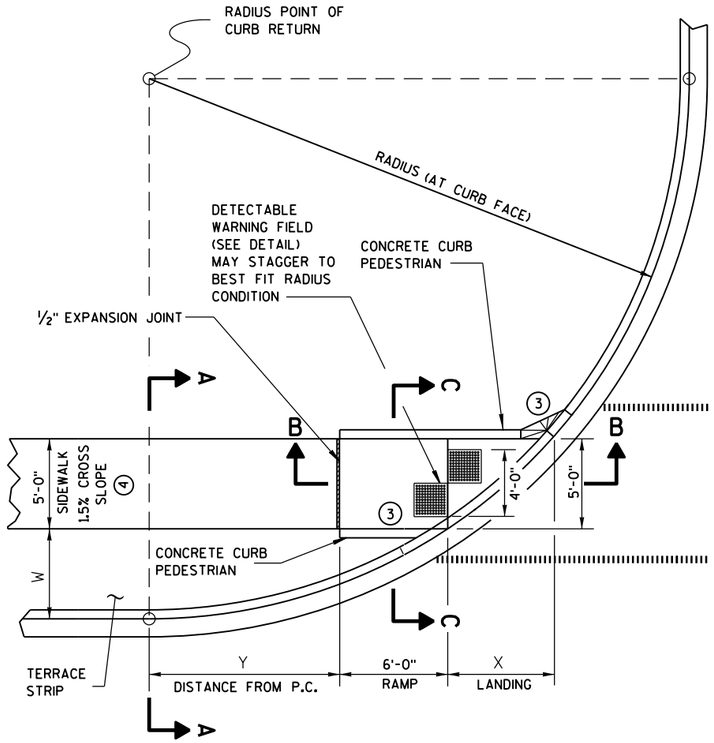
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPES 4A AND 4A1

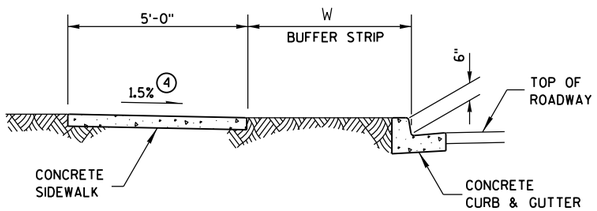
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

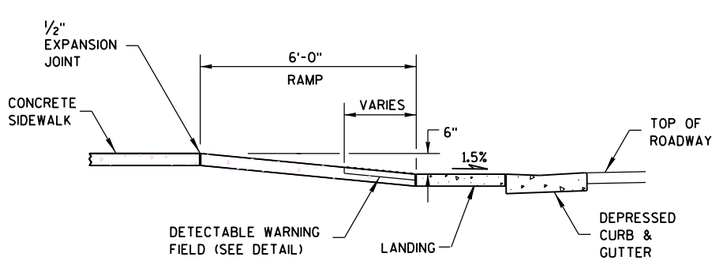
S.D.D. 8 D 5-15c



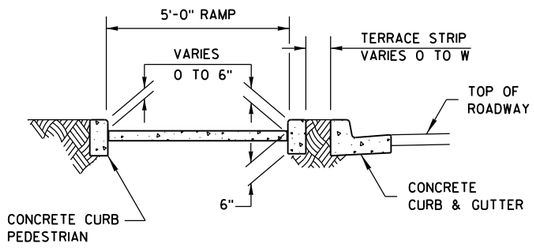
CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



SECTION B-B FOR TYPE 4B



SECTION C-C FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

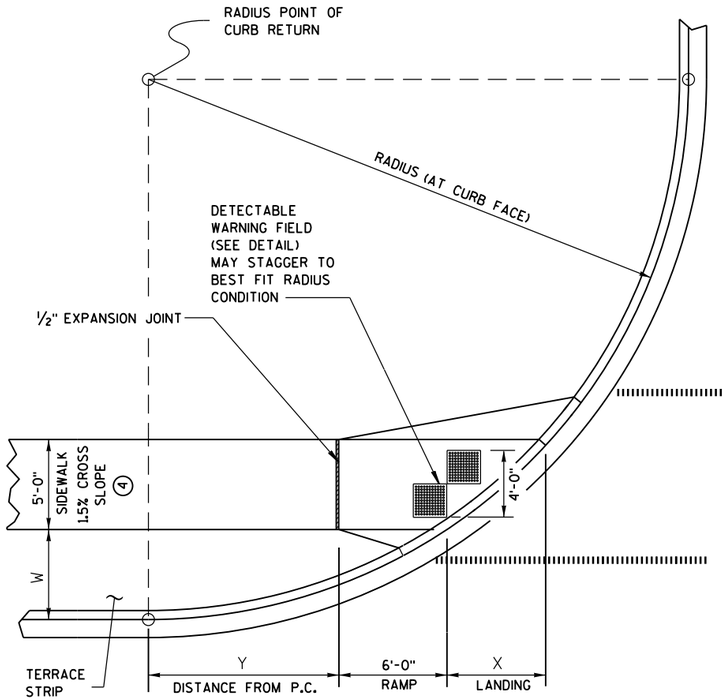
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

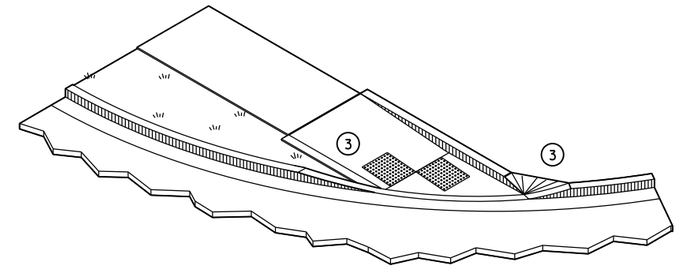
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

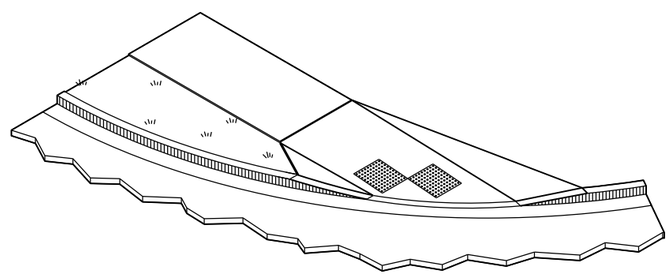
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



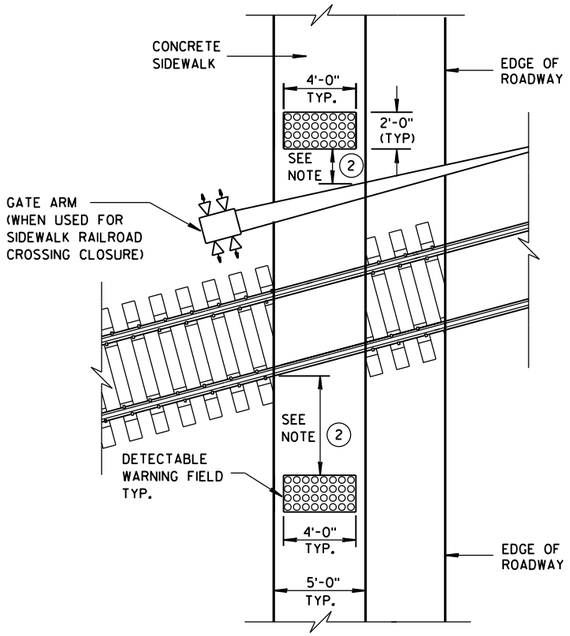
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS
TYPE 4B AND 4B1

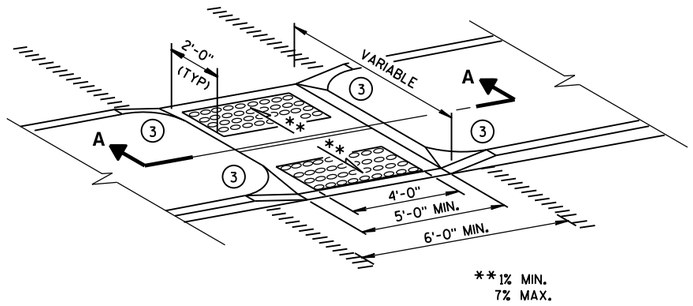
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

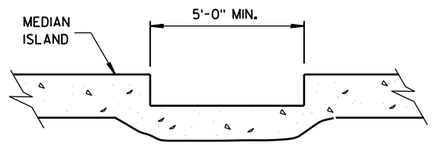
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

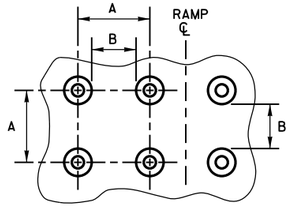
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



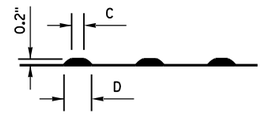
SECTION A-A



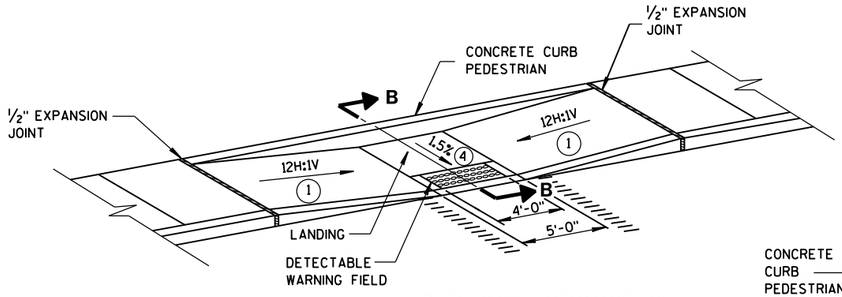
PLAN VIEW

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

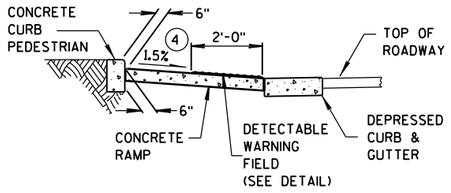
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

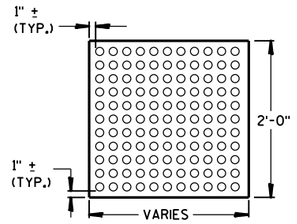


MID-BLOCK CROSSING
TYPE 7A



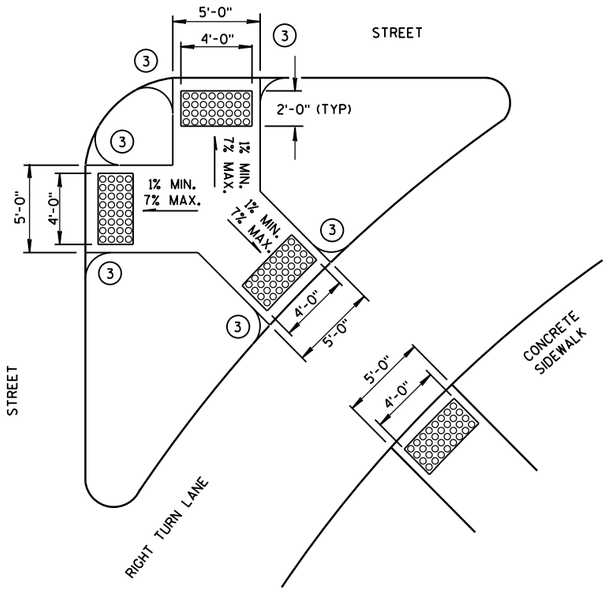
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

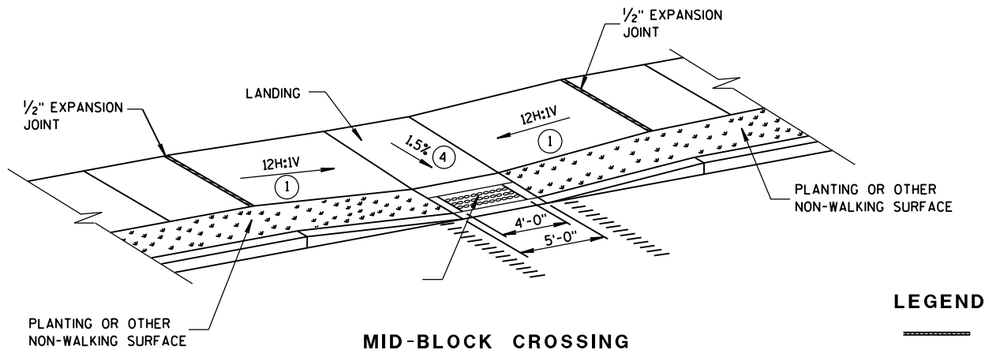


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

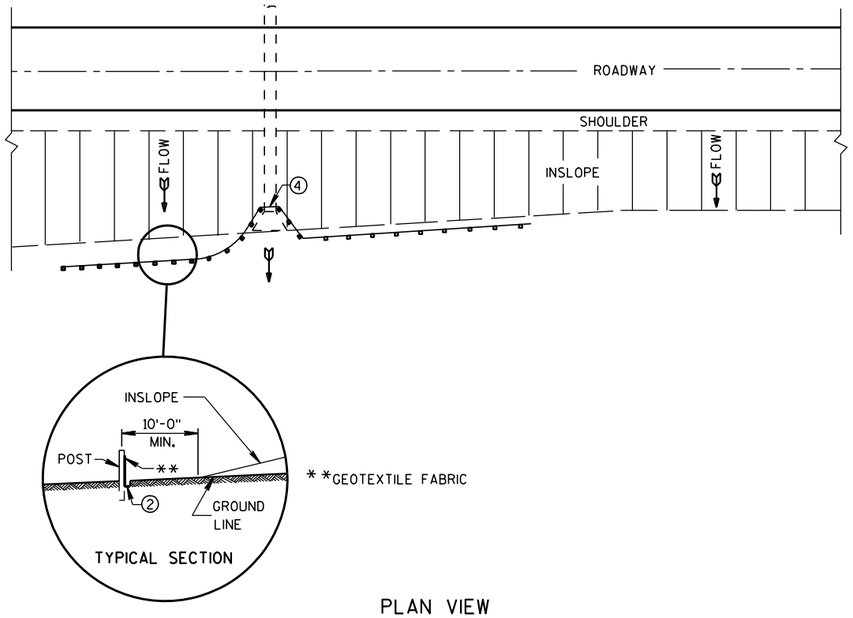
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

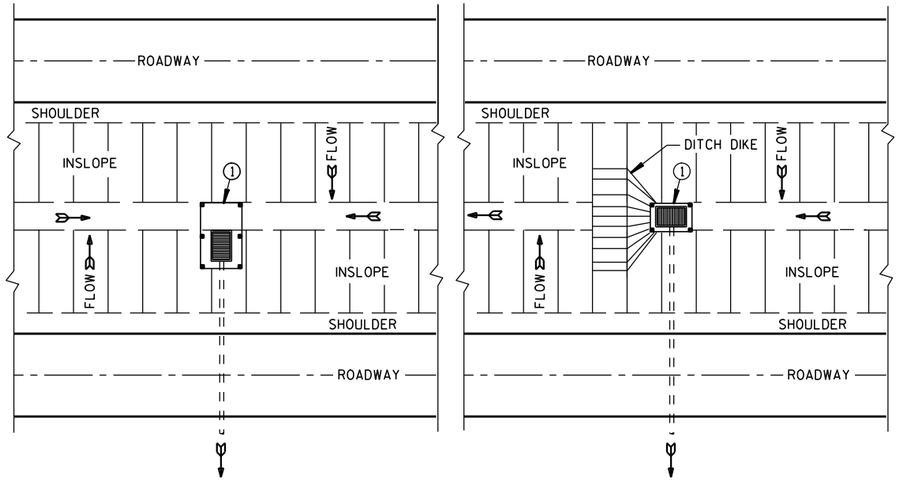
6

S.D.D. 8 D 5-15e



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



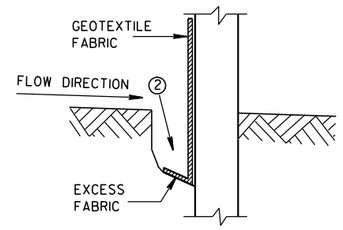
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

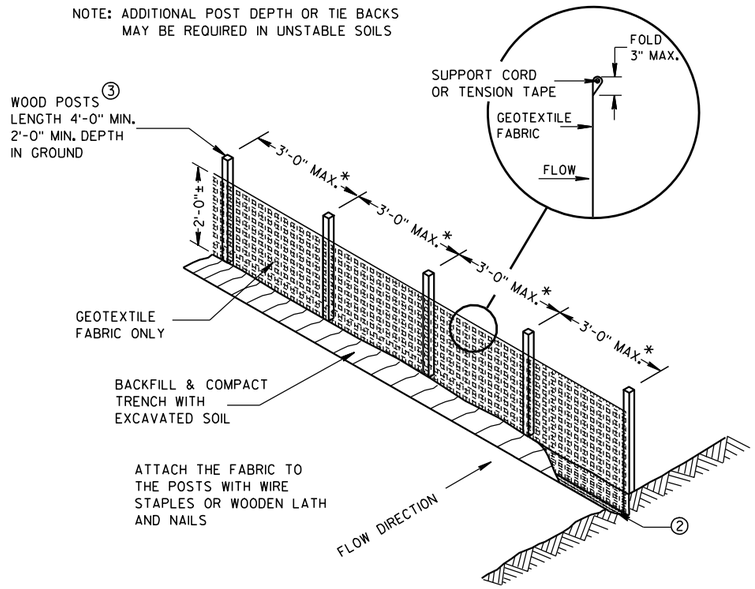
GENERAL NOTES

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

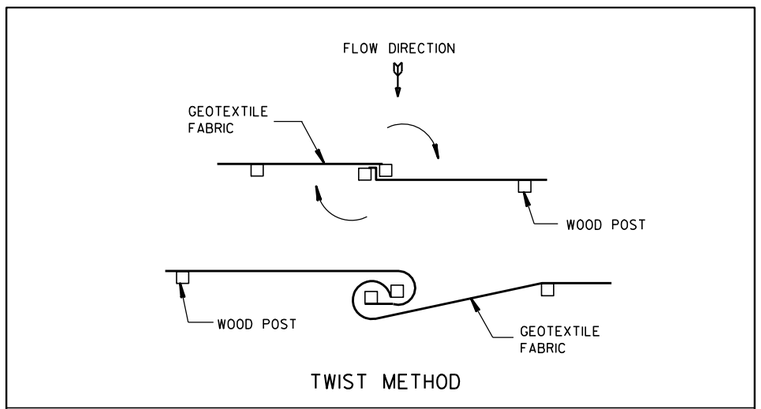
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



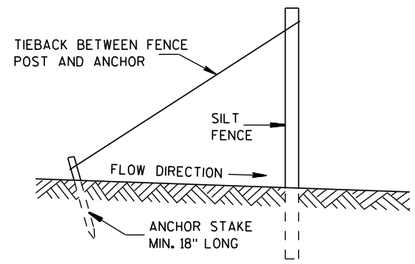
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

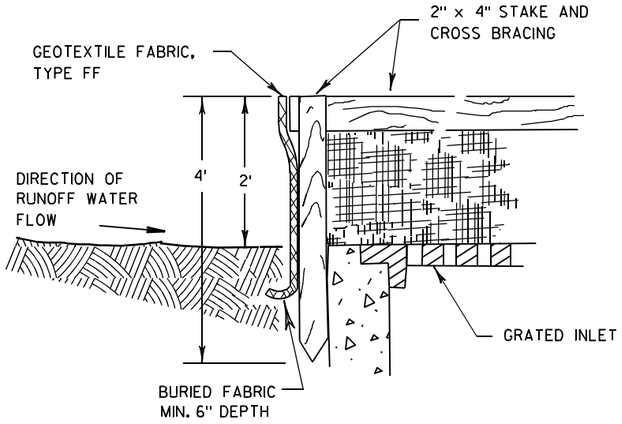
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

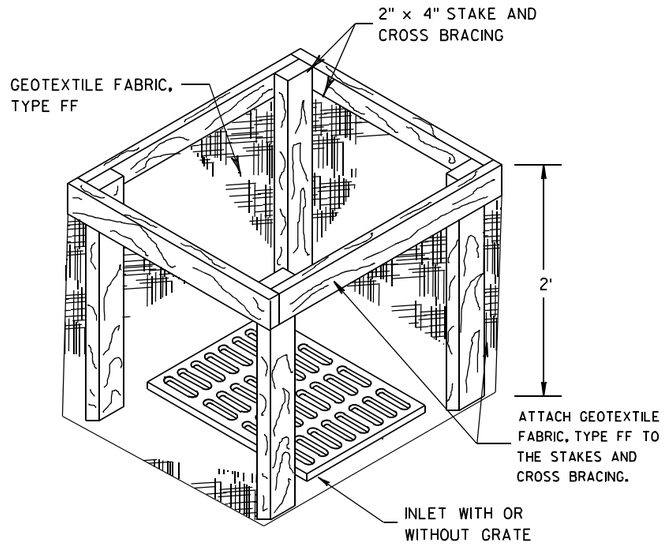
6

S.D.D. 8 E 9-6

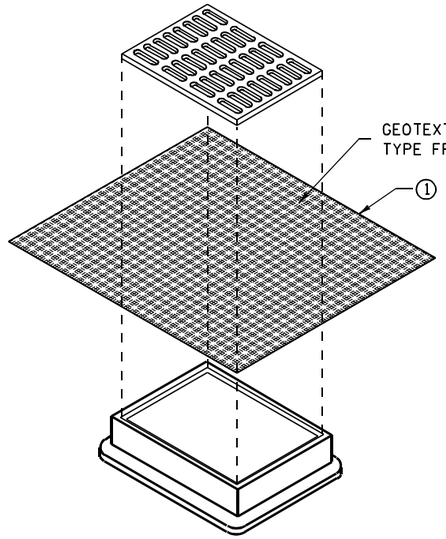
6

S.D.D. 8 E 9-6



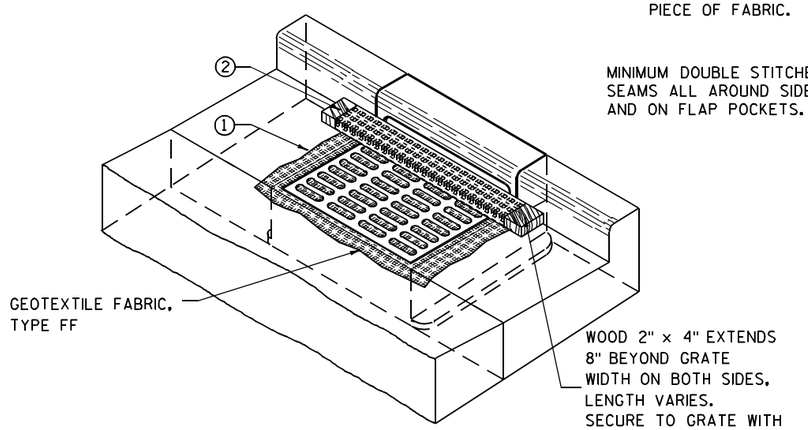


INLET PROTECTION, TYPE A

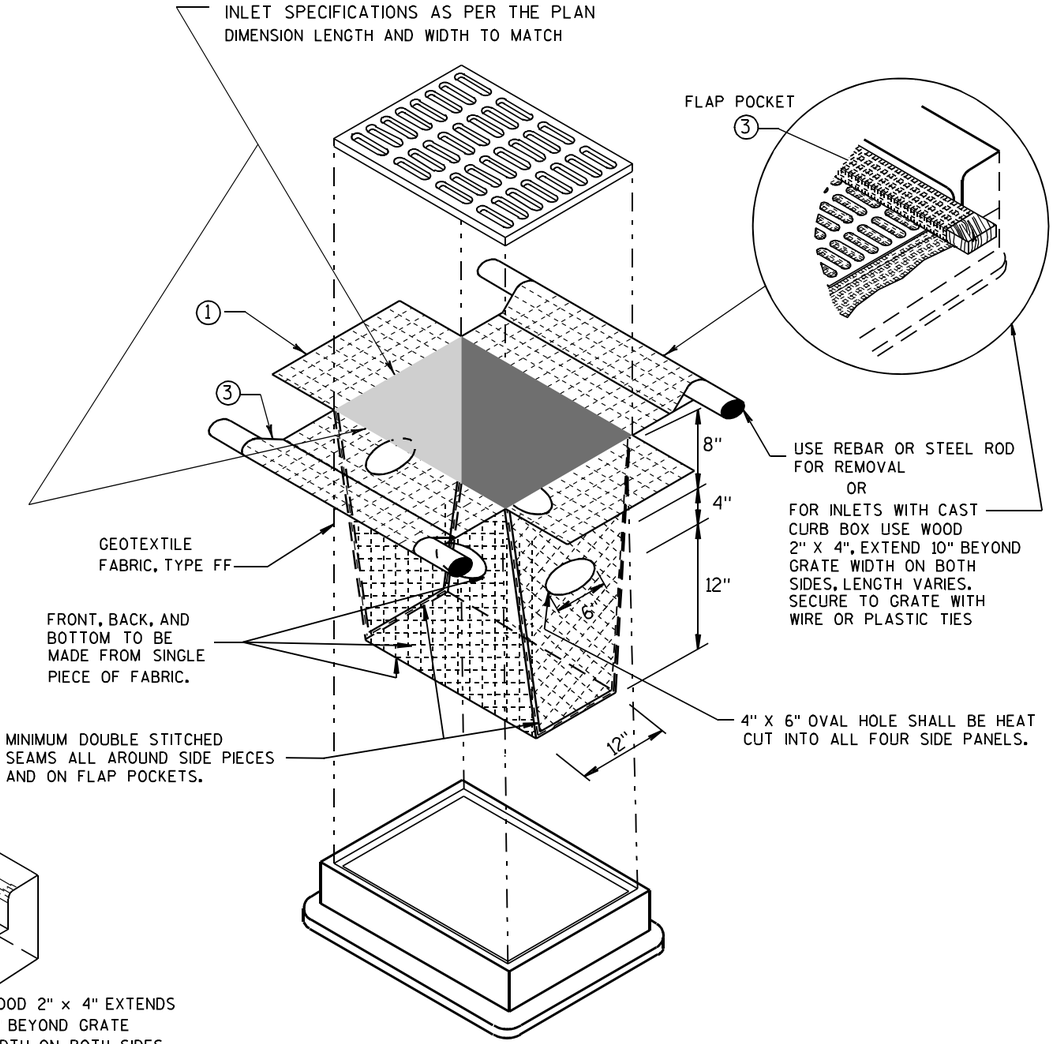


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

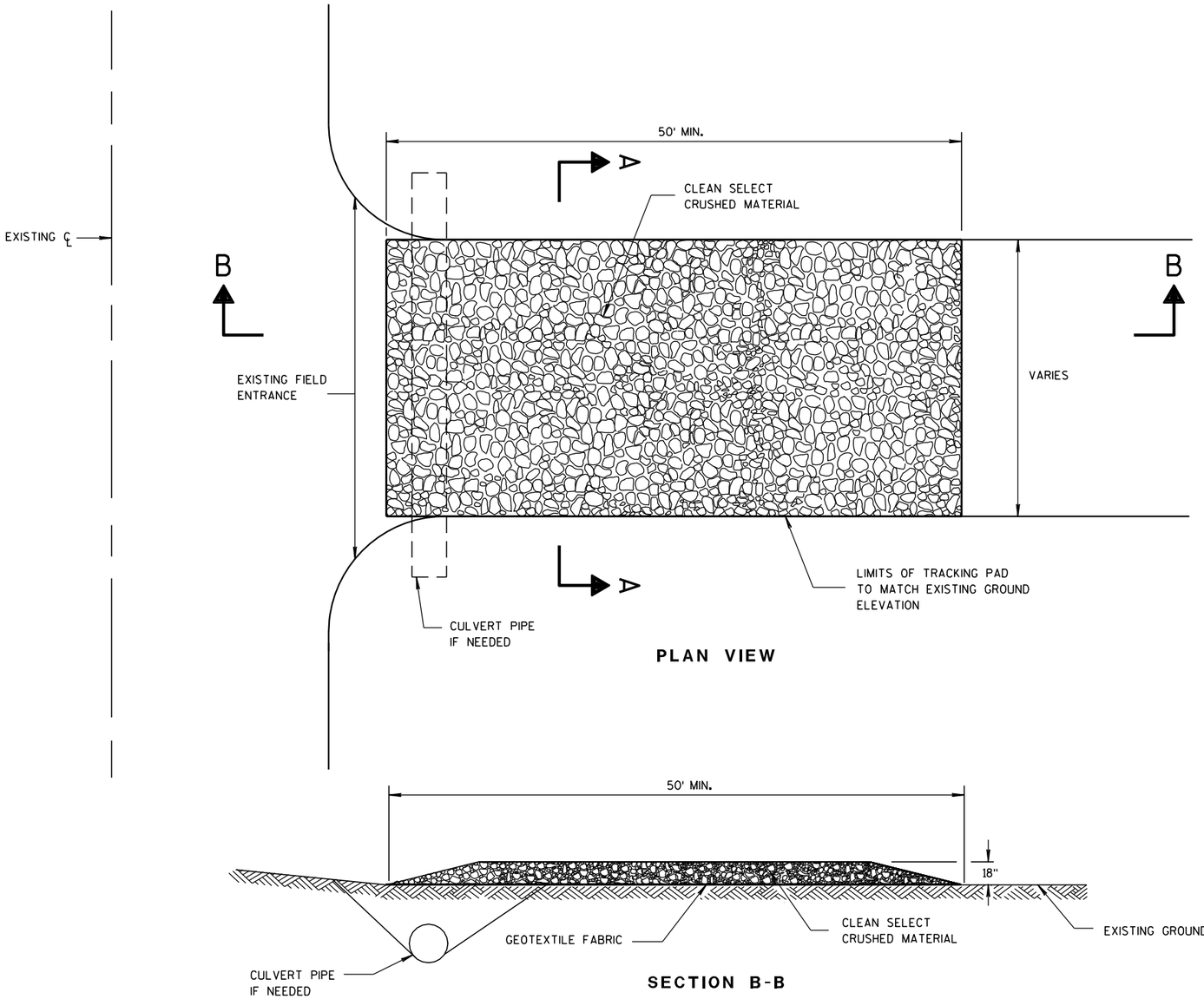
FHWA

6

S.D.D. 8 E 10-2

6

S.D.D. 8 E 10-2



PLAN VIEW

SECTION B-B

GENERAL NOTES

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

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

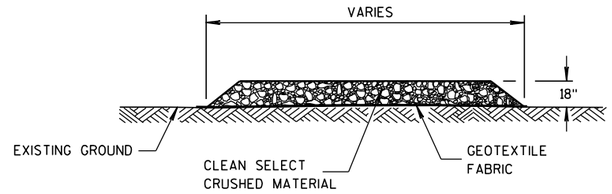
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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



SECTION A-A

TRACKING PAD

6

S.D.D. 8 E 14-1

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011	/S/ Jerry H. Zoda	
DATE	ROADWAY STANDARDS ENGINEER	ENT

FHWA

6

S.D.D. 8 E 14-1

METAL APRON ENDWALLS

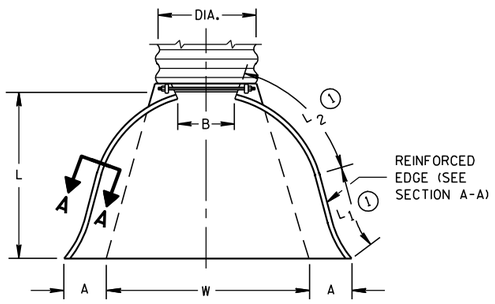
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

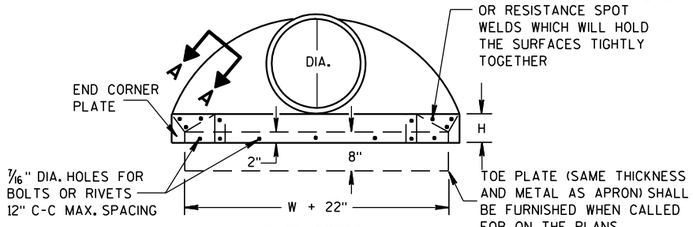
REINFORCED CONCRETE APRON ENDWALLS

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

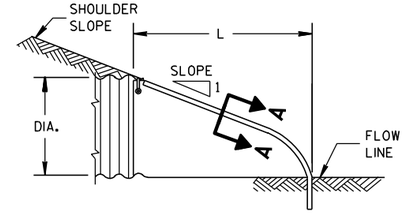
* MINIMUM
** MAXIMUM



PLAN VIEW

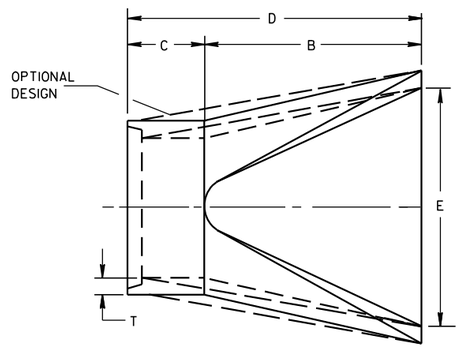


END VIEW

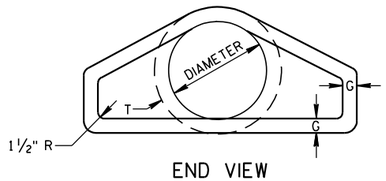


SIDE ELEVATION

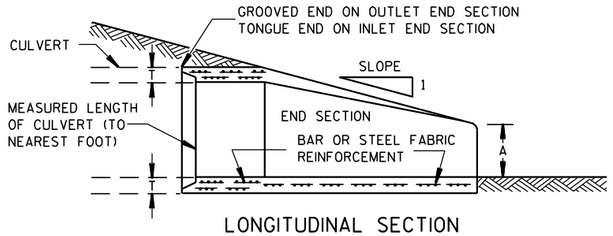
METAL ENDWALLS



PLAN

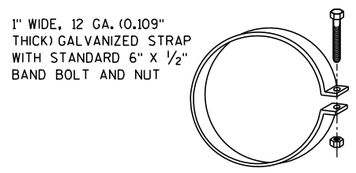


END VIEW



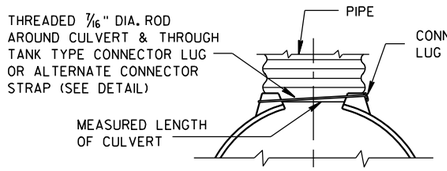
LONGITUDINAL SECTION

CONCRETE ENDWALLS

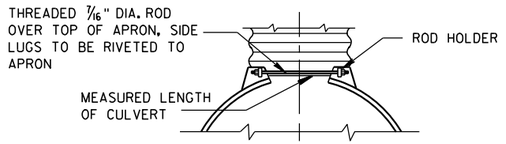


ALTERNATE FOR TYPE 1 CONNECTION

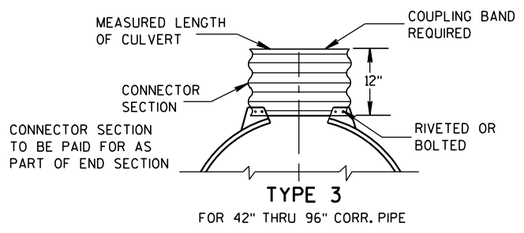
END SECTION CONNECTOR STRAP



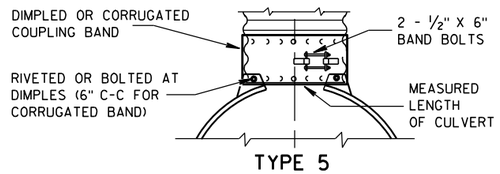
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

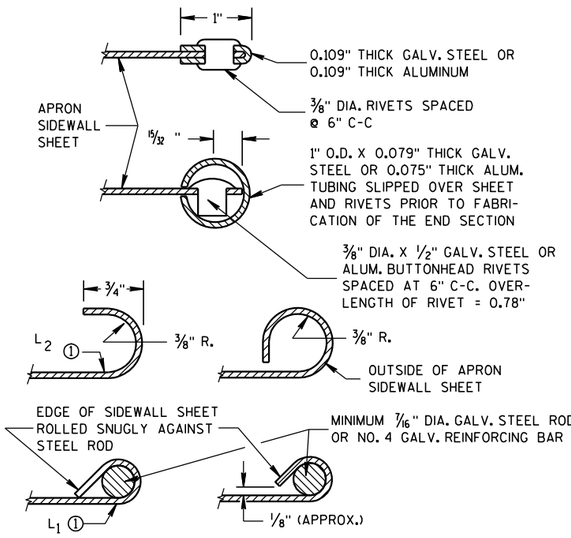
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

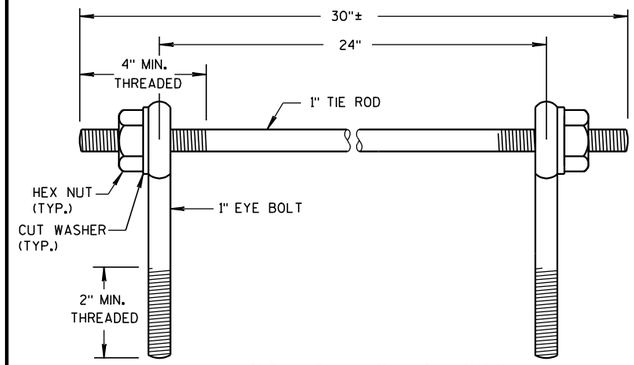
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

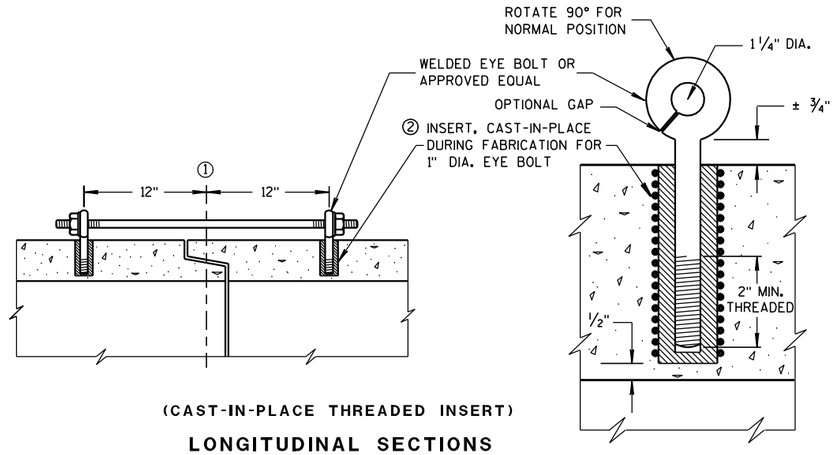
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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.

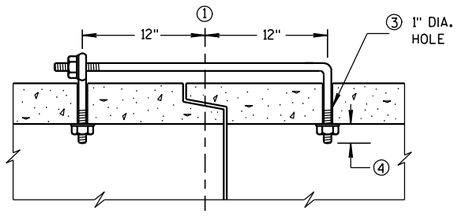
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

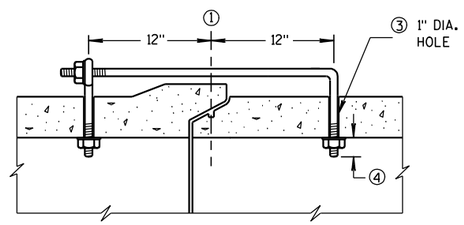
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

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)

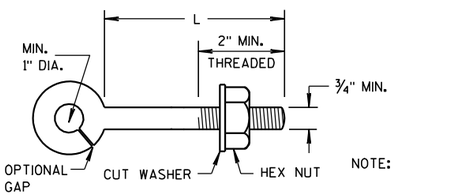


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

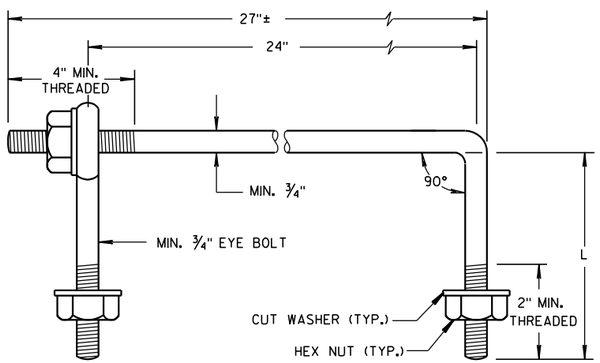
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



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

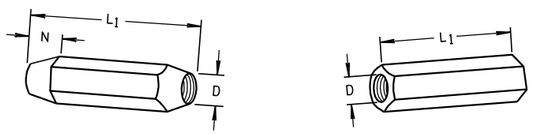
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

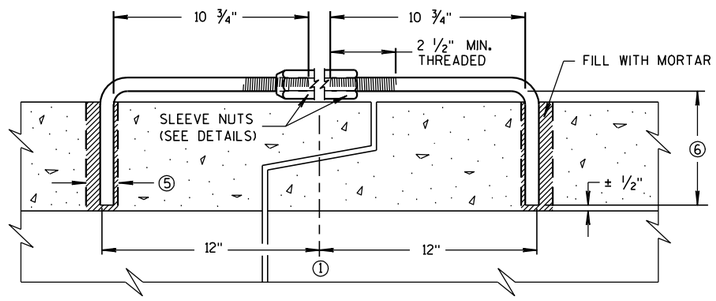
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

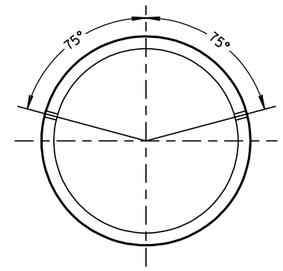
SLEEVE NUTS



LONGITUDINAL SECTION

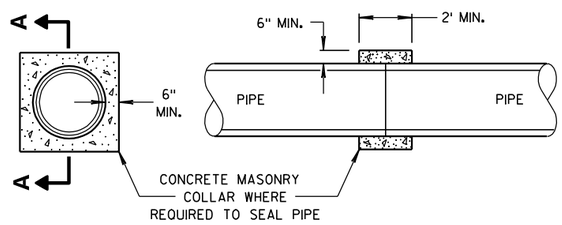
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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
300 — 'MENT
FHWA

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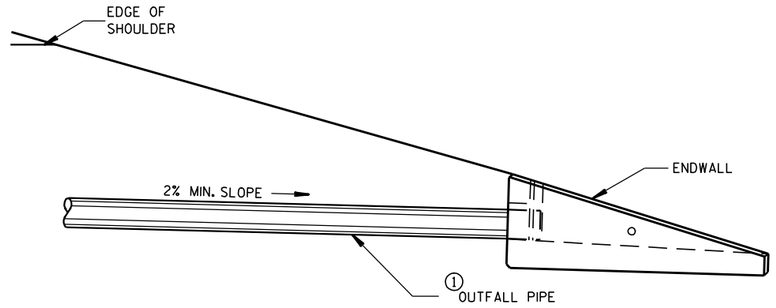
S.D.D. 8 F 4-7

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

**APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



INSTALLATION DETAIL

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.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

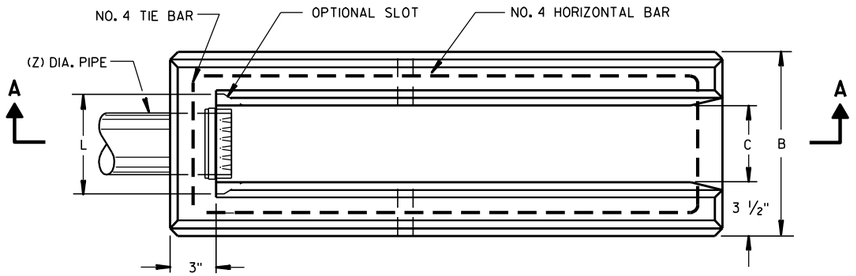
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

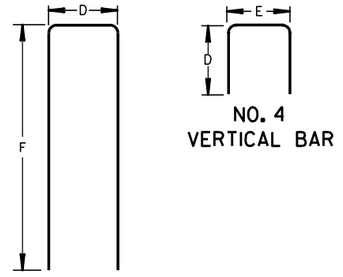
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

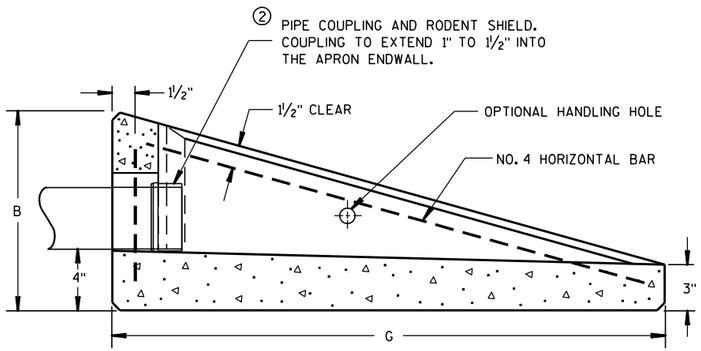
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



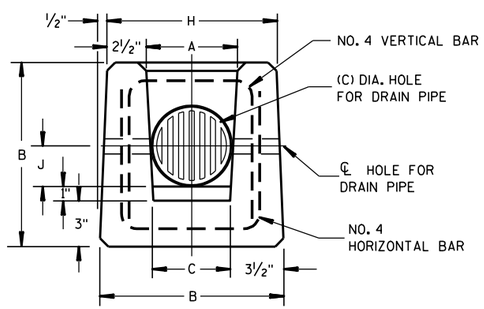
PLAN VIEW



BAR STEEL REINFORCEMENT DETAILS

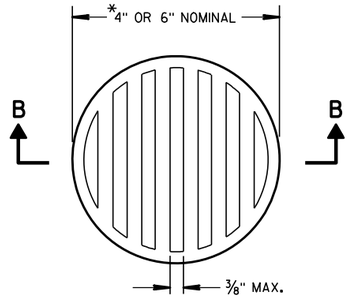


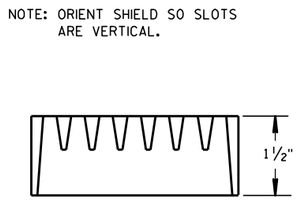
SECTION A-A



END VIEW

CONCRETE APRON ENDWALL FOR UNDERDRAIN





SECTION B-B

② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

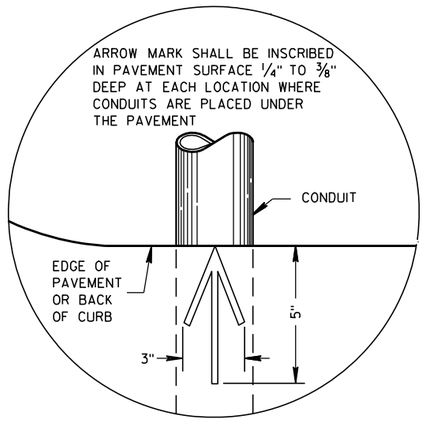
REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/10/98 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

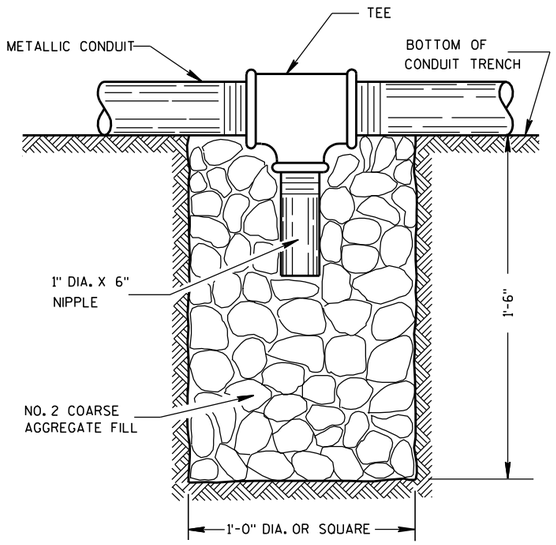
6

S.D.D. 8 F 6-4



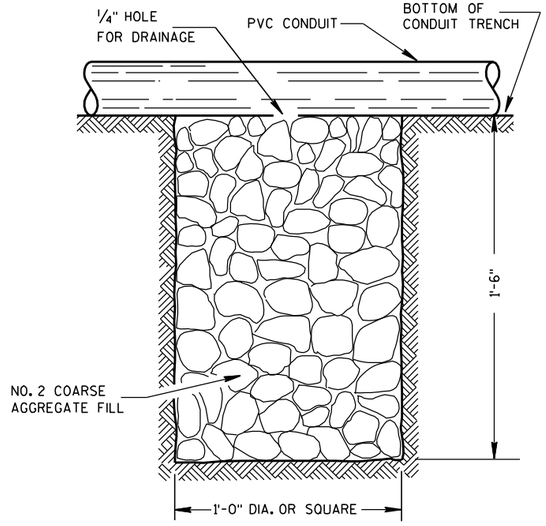
PLAN VIEW

ARROW MARK



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

DRAIN SUMP FOR METALLIC CONDUIT



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

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

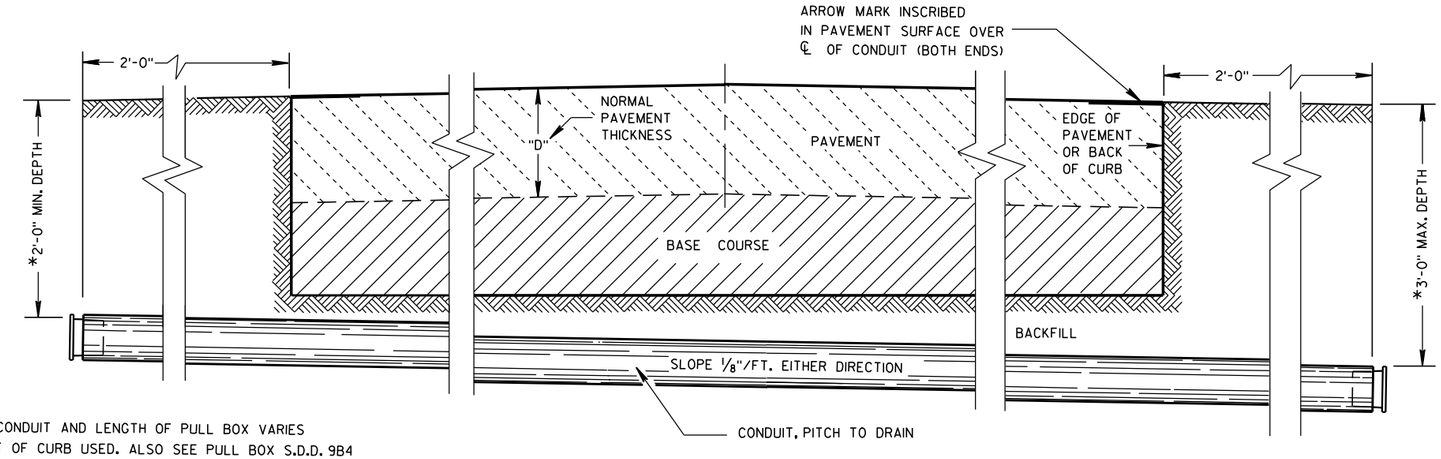
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

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

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



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI

FHWA

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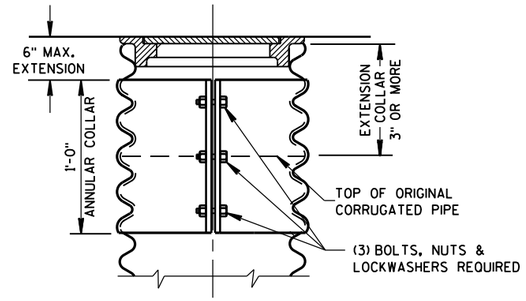
S.D.D. 9 B 2-7

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

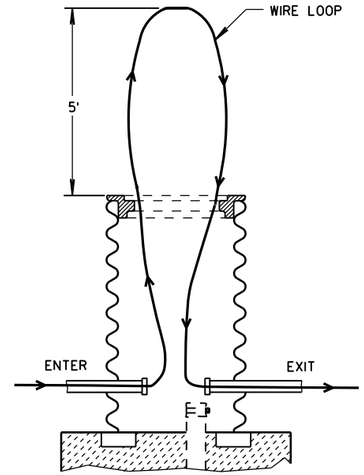
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2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

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

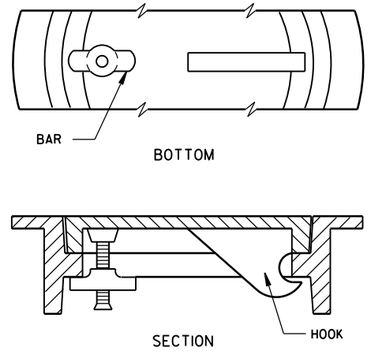
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

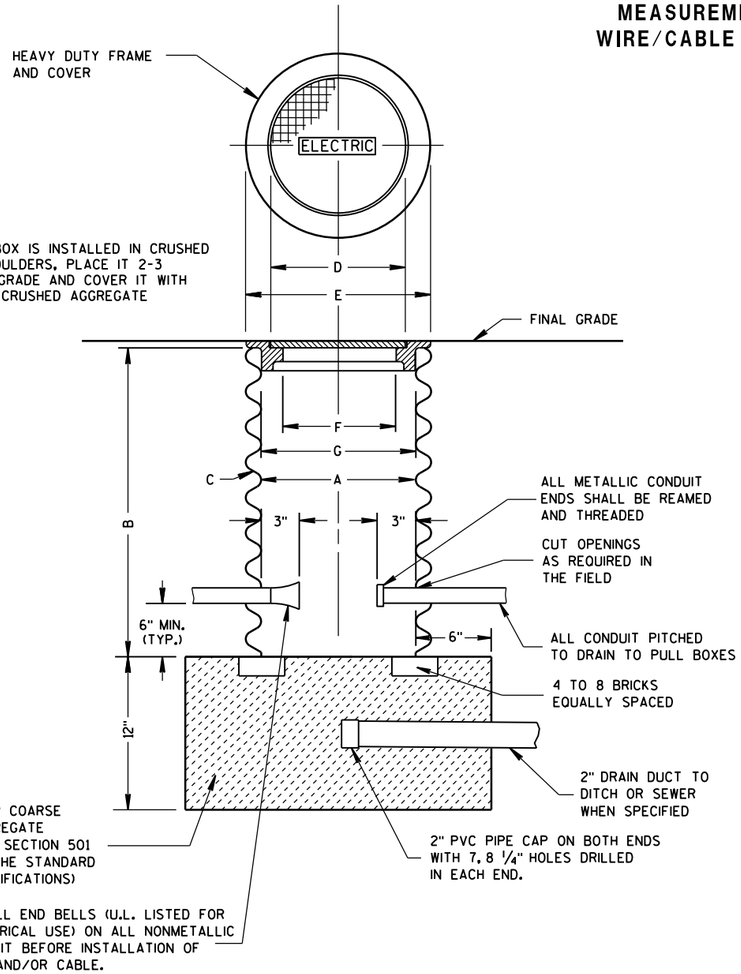


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



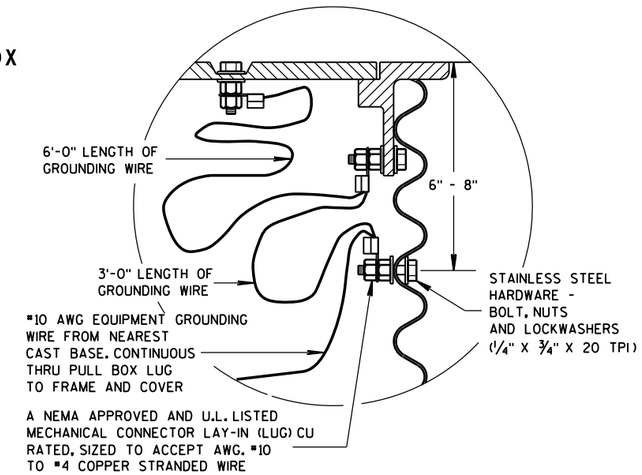
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

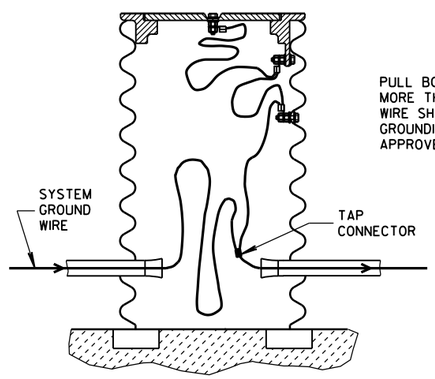


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



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

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

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

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

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

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

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

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

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

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2-7-2013 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

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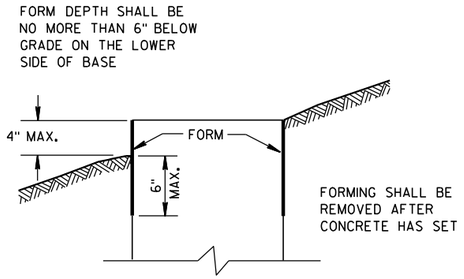
S.D.D. 9 B 4-10



FORMING DETAIL

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

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

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

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

GENERAL NOTES (CONTINUED)

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

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

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

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

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

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

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

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

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

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

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

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

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

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

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

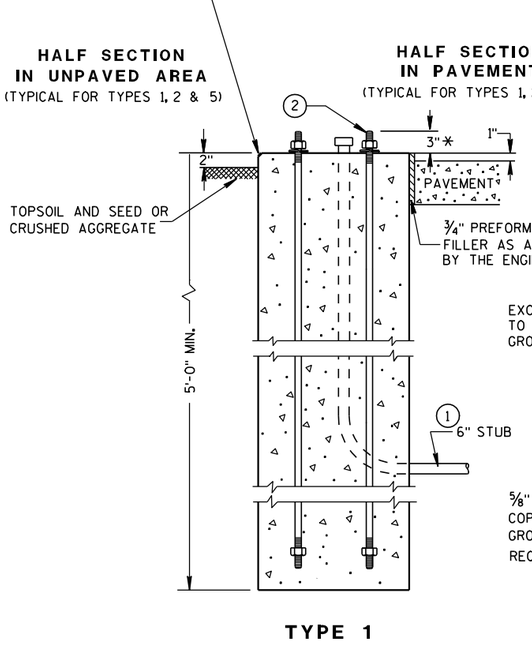
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

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

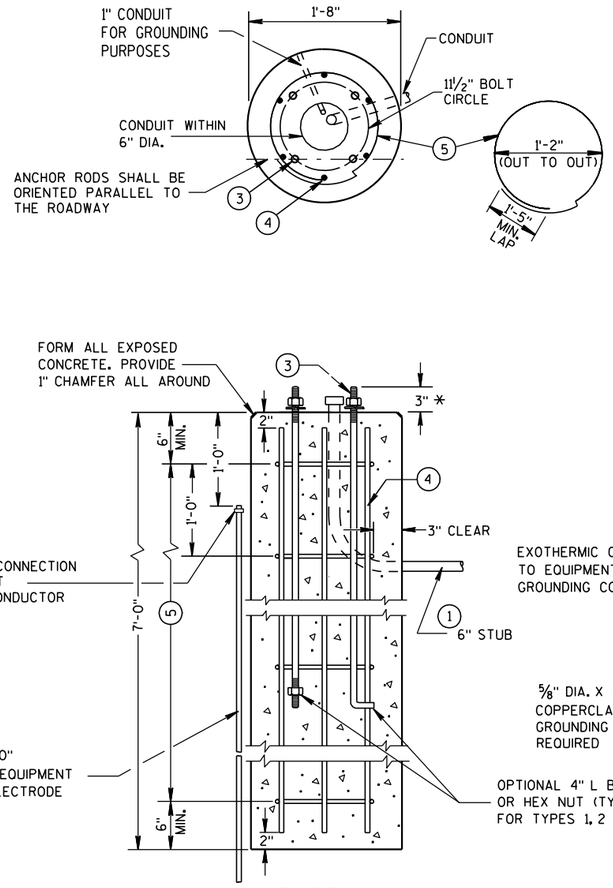
(6) (4) I" DIA. X 3'-6" ANCHOR RODS.

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

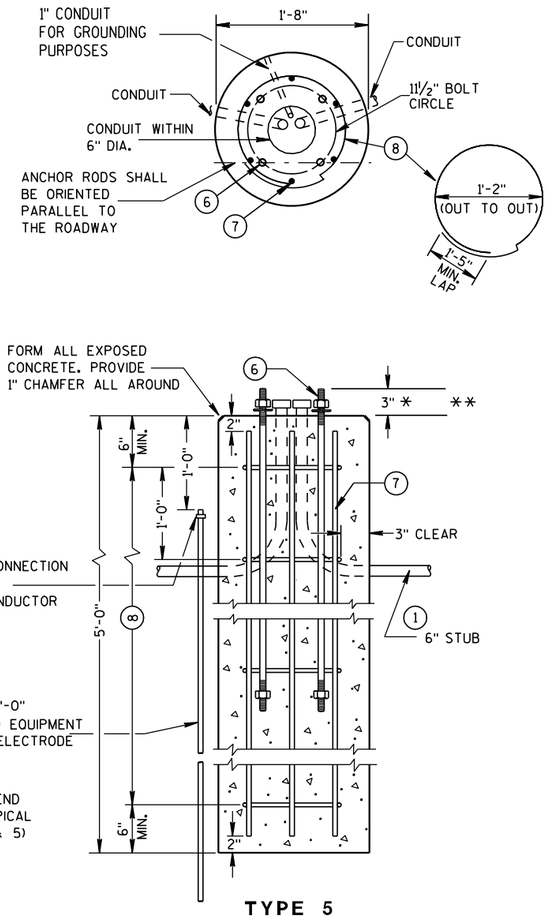
(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



TYPE 1



TYPE 2



TYPE 5

CONCRETE BASES

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

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

CONCRETE BASES, TYPES 1, 2 & 5

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/3/10 — DATE

/S/ Joanna L. Rush — STATE ELECTRICAL ENGI

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GENERAL NOTES

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

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

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

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

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

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

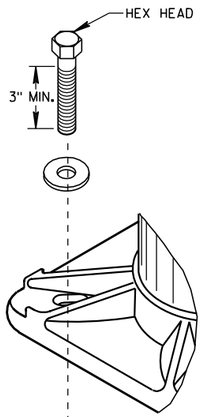
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

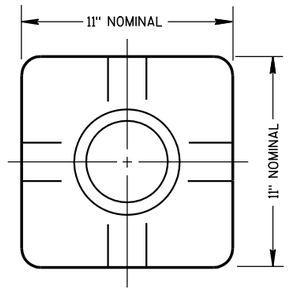
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

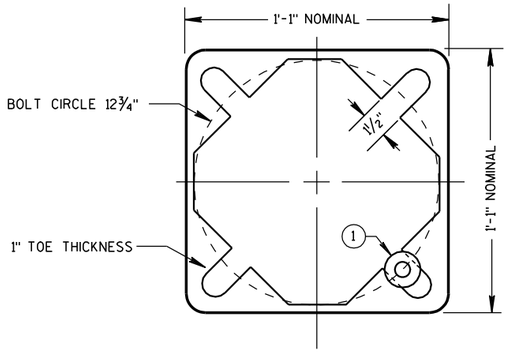
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1½", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

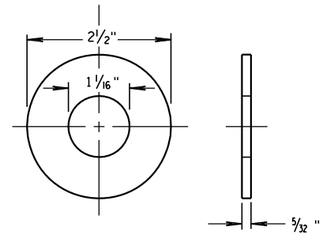




TOP VIEW
(PEDESTAL BASE)

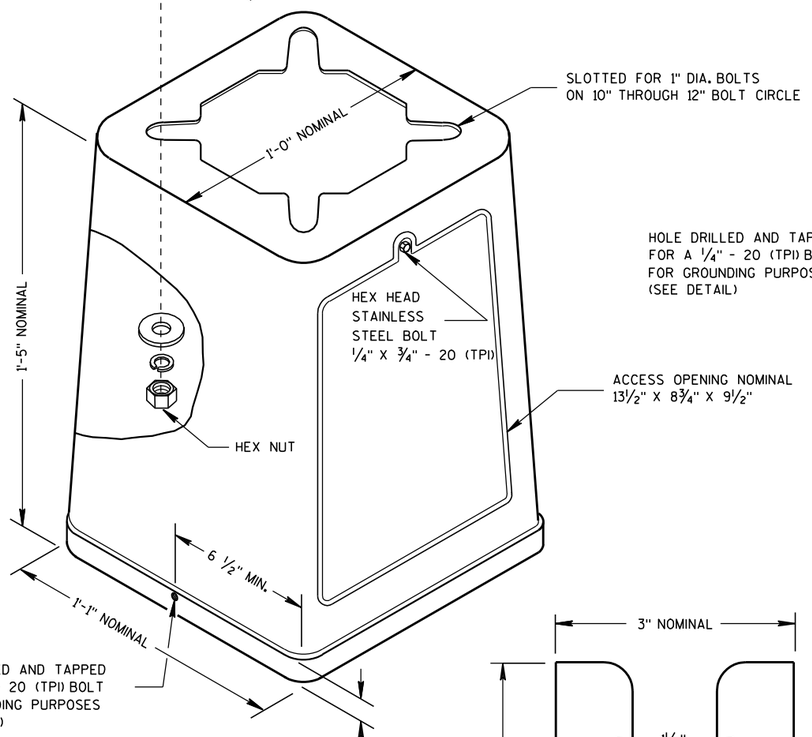


BOTTOM VIEW
(PEDESTAL BASE)

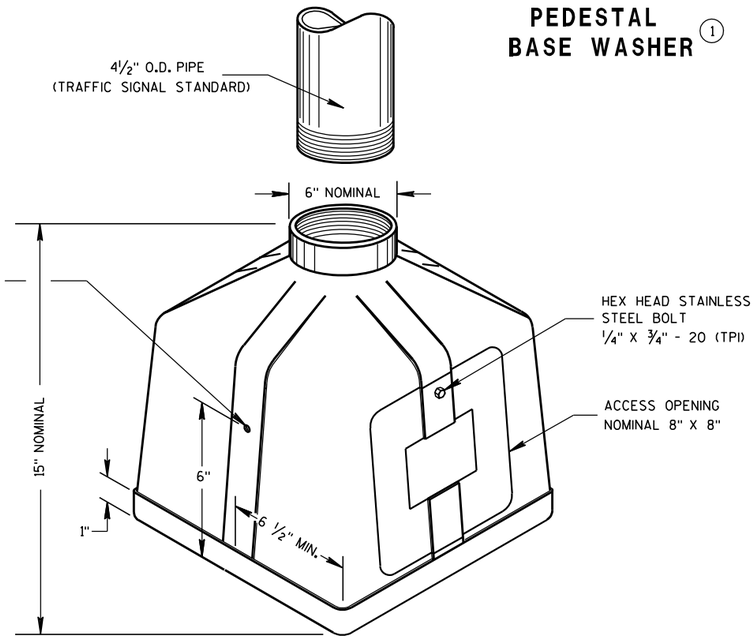


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

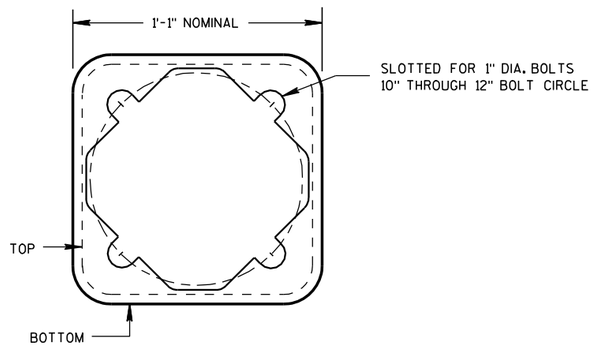


ISOMETRIC VIEW

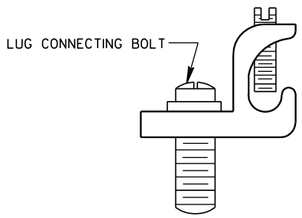


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

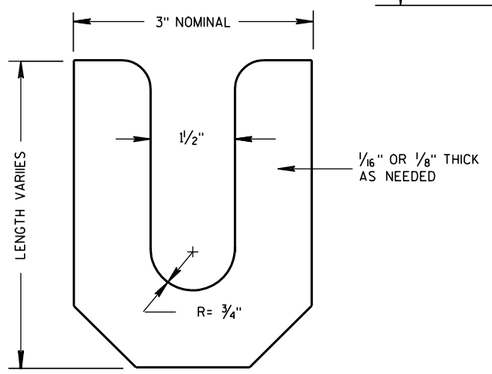


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

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



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/27/09 — DATE
/S/ Joanna L. Rich — STATE ELECTRICAL ENGI
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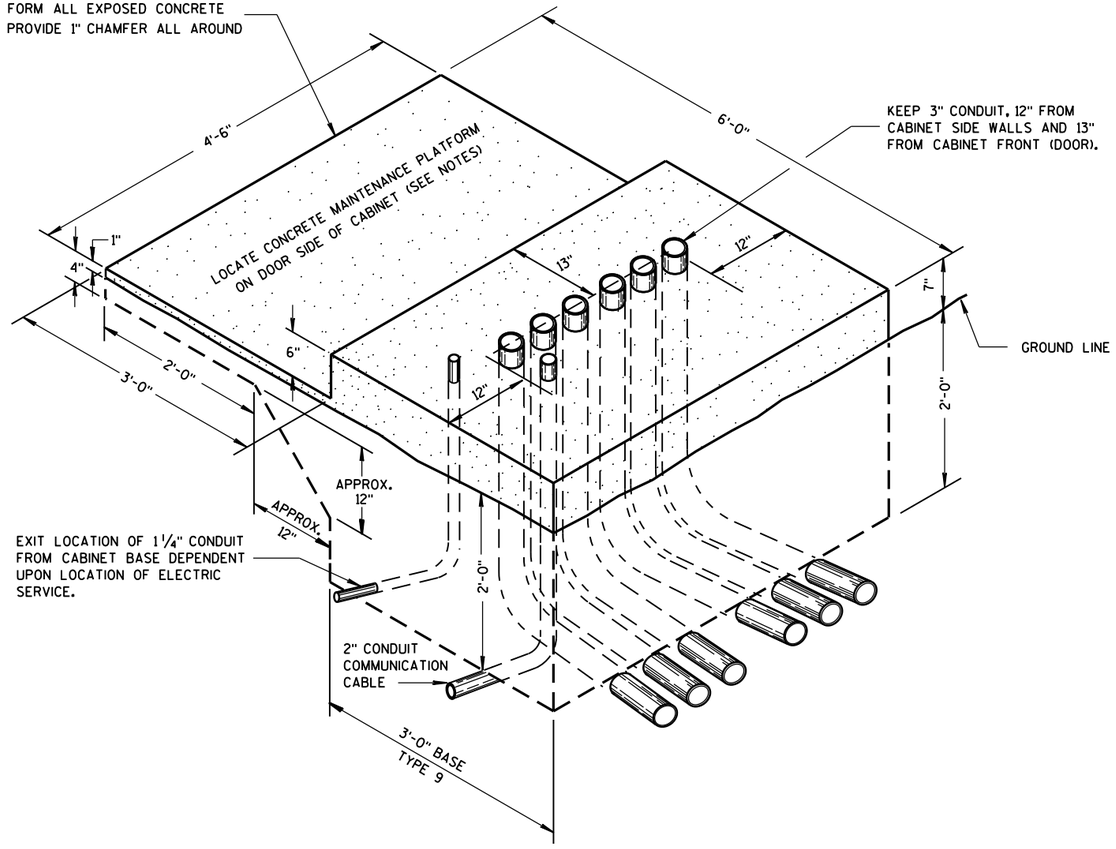
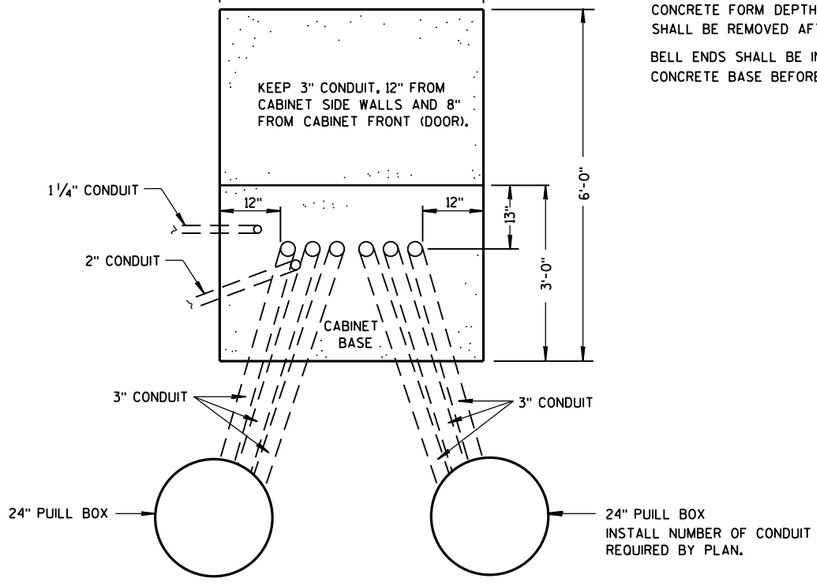


ISOMETRIC VIEW

TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

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

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

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

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/26/2013
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

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

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

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

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

ANCHOR RODS SHALL BE 1" X 3'-6".

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS.

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

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

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

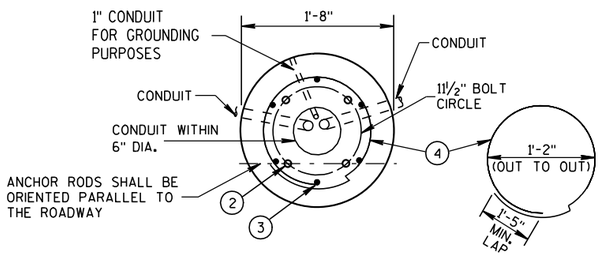
BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

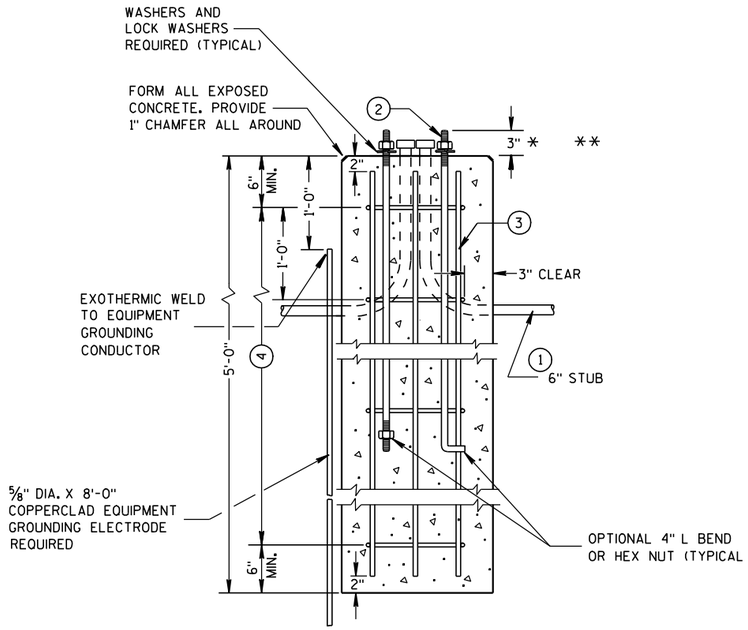
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN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

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS

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

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



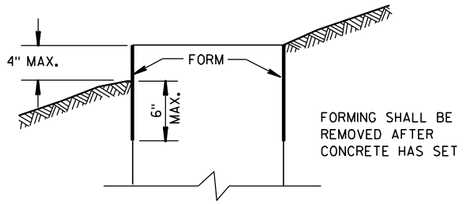


CONCRETE BASE, TYPE 6 (FOR 35' LIGHT POLES)

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

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

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



FORMING DETAIL

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	0.4
LBS. OF HOOP BAR STEEL	16
LBS. OF VERTICAL BAR STEEL	18

CONCRETE BASE, TYPE 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/3/10 DATE — /S/ Joanna L. Pugh STATE ELECTRICAL ENGI — HWYS

FHWA

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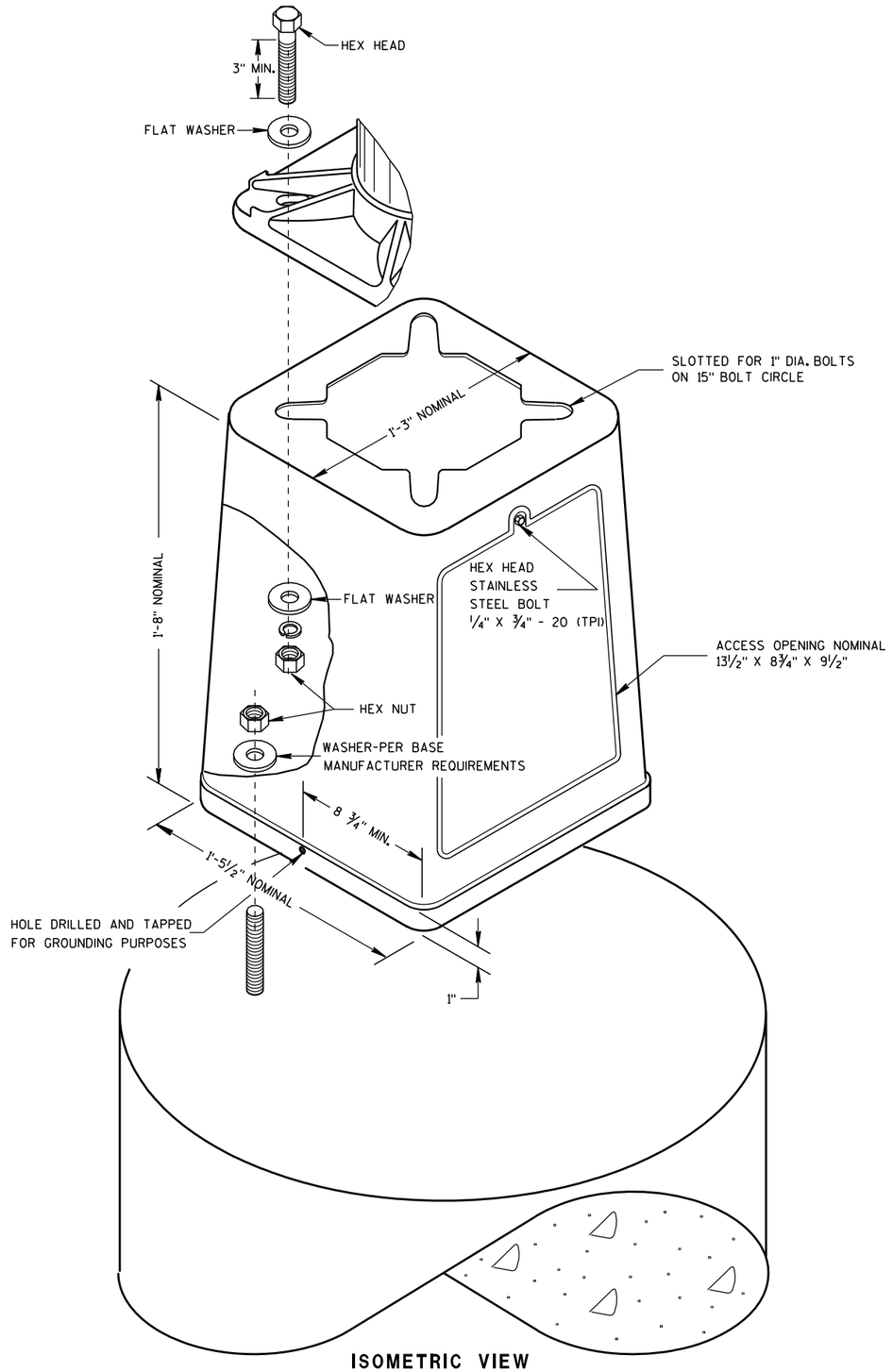
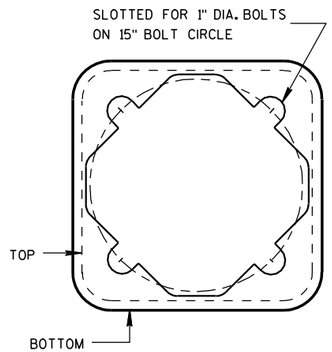
S.D.D. 9 C 7-4

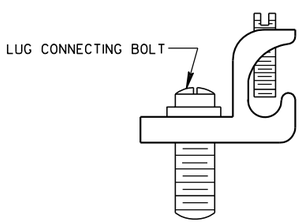


ISOMETRIC VIEW

TRANSFORMER BASE



BOTTOM VIEW



TYPICAL MECHANICAL
CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

GENERAL NOTES

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

BREAKAWAY BASES (WHERE REQUIRED) WILL BE MEASURED AND PAID AS SEPARATE ITEMS OF WORK IN ADDITION TO THE LIGHT POLE.

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

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

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

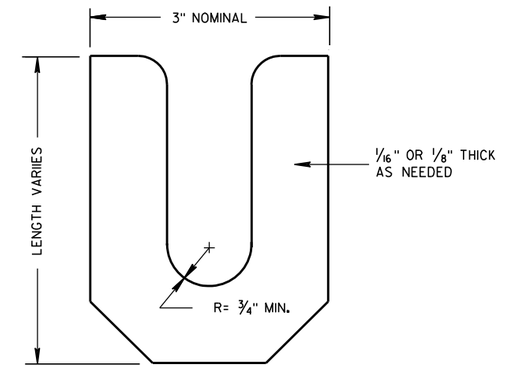
A NEMA APPROVED AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE TRANSFORMER BASES.

THE MECHANICAL CONNECTOR (GROUNDING LUG) SHALL BE INSTALLED USING THE TAPPED HOLE PROVIDED BY THE MANUFACTURER. THE MOUNTING BOLT HEXHEAD), NUT, WASHER AND LOCK WASHER SHALL BE STAINLESS STEEL, SIZED TO FIT THE THREADING AND HOLE SIZE, AND BE OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD A GROUNDING LUG MOUNTING HOLE NOT BE PROVIDED, THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" X 3/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE. IT SHALL BE MOUNTED IN THE SAME LOCATION AS IS SHOWN ON THE DRAWING.

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

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



LEVELING SHIM

TRANSFORMER BASE FOR 15" BOLT CIRCLE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/2/07 DATE	/S/ Balu Ananthanarayanan STATE ELECTRICAL ENGI
FHWA	308 HWYS

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4 INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL END INSTALLED. ALL CONDUIT SHALL BE SLOPED TO PULL BOX.

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

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

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

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

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

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

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

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

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

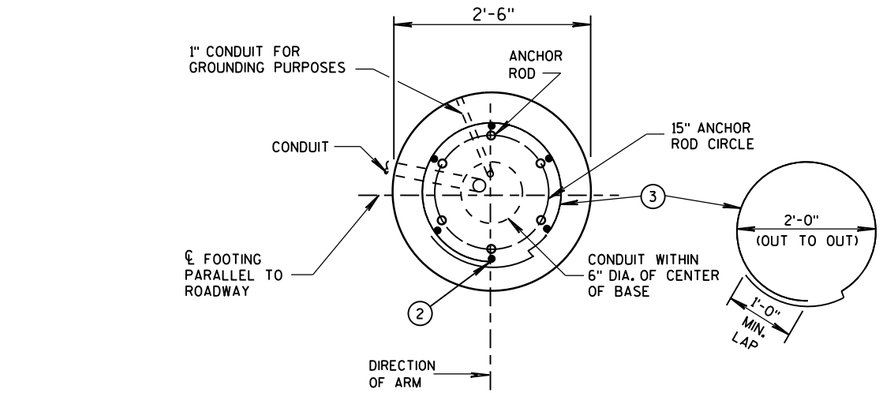
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

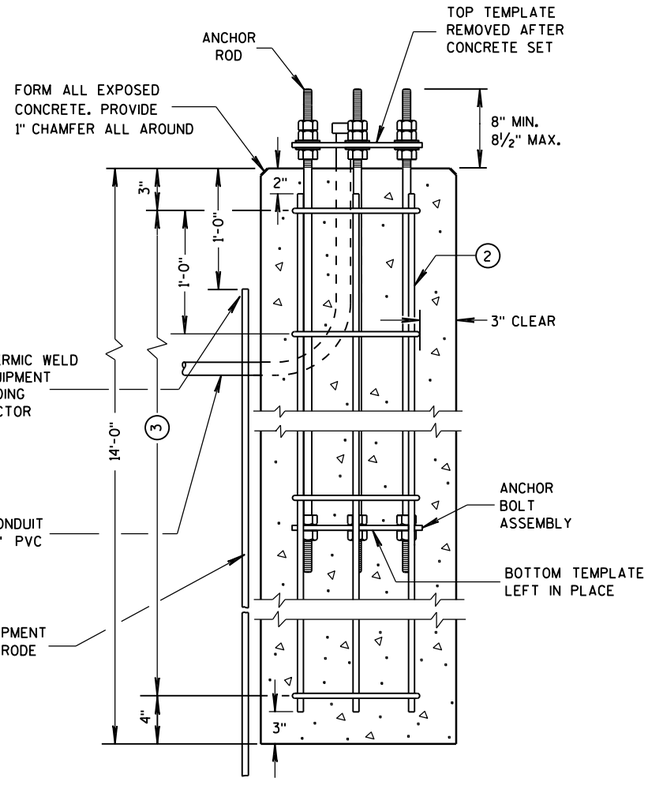
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES, (GREATER THAN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

(2) (6) NO. 6 X 13'-7" BAR STEEL REINFORCEMENT.

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

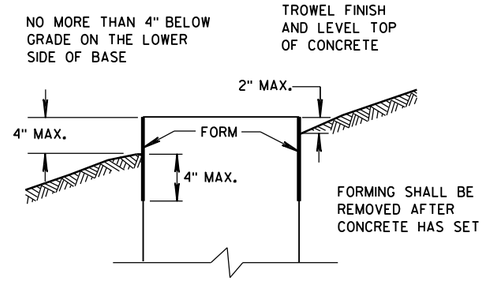
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.



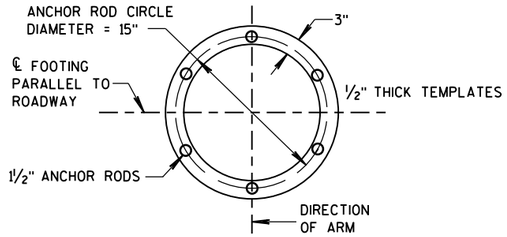


CONCRETE BASE TYPE 10
(FOR TYPE 9 & 10 POLES)

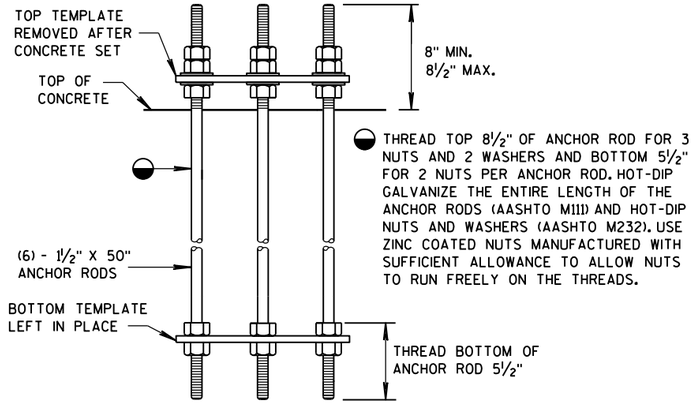
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



FORMING DETAIL



TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 10 ANCHOR ASSEMBLY

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	2.5
LBS. OF HOOP BAR STEEL	69
LBS. OF VERTICAL BAR STEEL	122

CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-26-2013
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

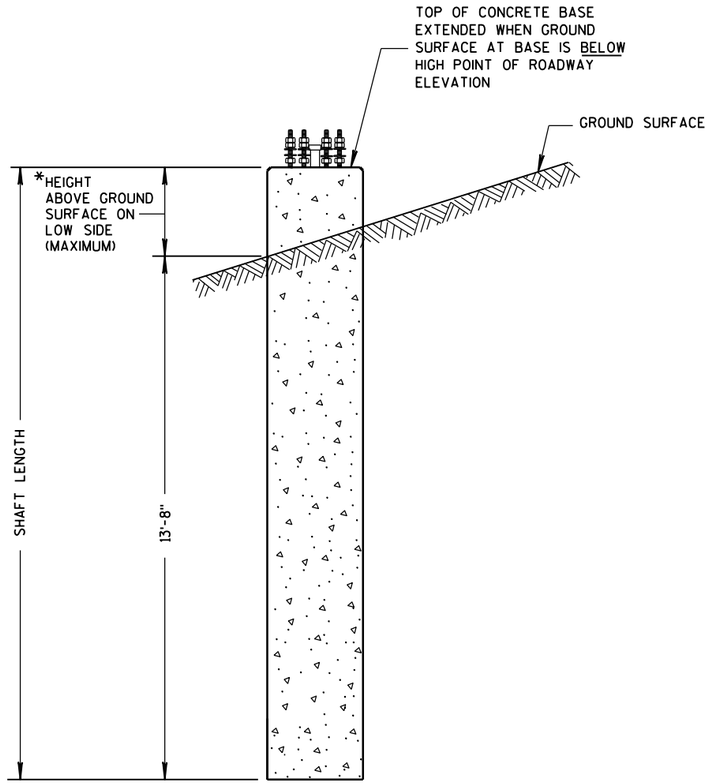
FHWA

6

S.D.D. 9 C 11-4

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE

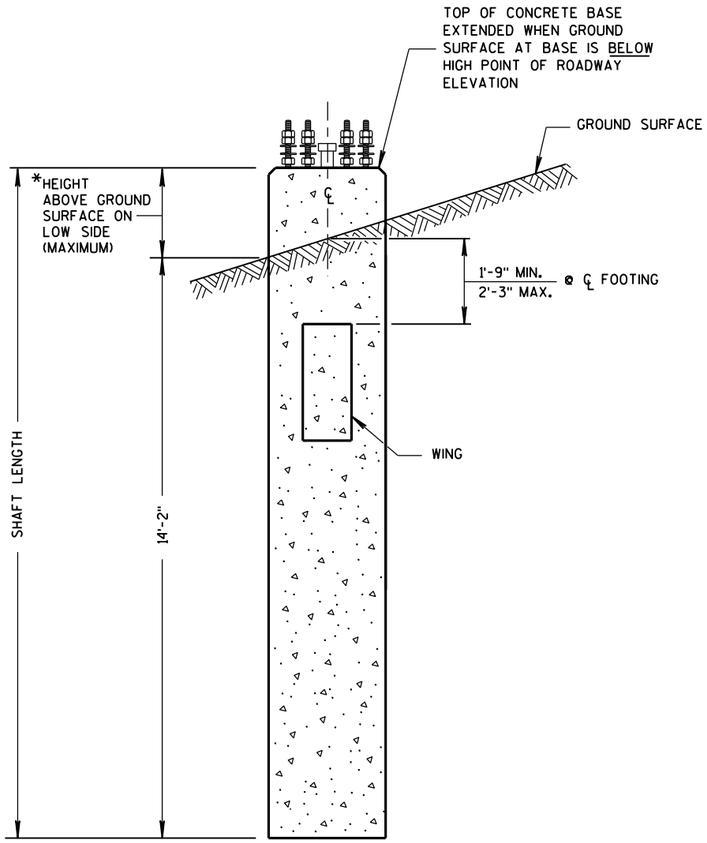
HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO 1'-6"	1'-10"	15'-6"	15'-1"	17	2.8	83	136
>1'-6" TO 2'-0"	2'-4"	16'-0"	15'-7"	17	2.9	83	141



CONCRETE BASE TYPE 10 (EXTENDED)

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 13 CONCRETE BASE

HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF H.S. BAR STEEL
>0" TO 6"	10"	15'-0"	14'-7"	16	6.5	447
>6" TO 1'-0"	1'-4"	15'-6"	15'-1"	16	6.6	454
>1'-0" TO 1'-6"	1'-10"	16'-0"	15'-7"	17	6.8	469
>1'-6" TO 2'-0"	2'-4"	16'-6"	16'-1"	17	7.0	476



CONCRETE BASE TYPE 13 (EXTENDED)

CONCRETE BASE
TYPE 10 & TYPE 13 EXTENSION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-26-2013 DATE
/S/ Ahmet Demirbilek STATE ELECTRICAL
FHWA

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S.D.D. 9 C 13-2

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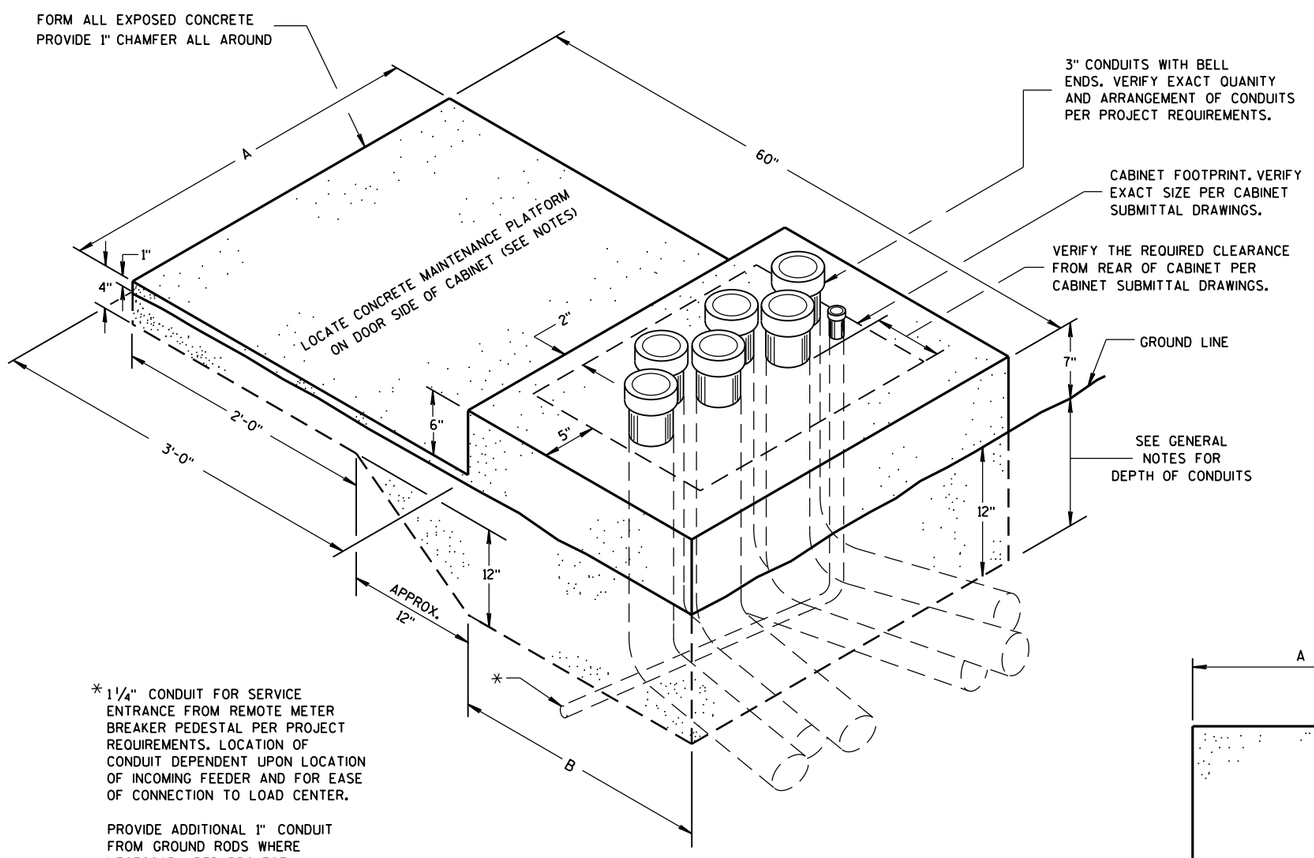
S.D.D. 9 C 13-2



* 1¼" CONDUIT FOR SERVICE ENTRANCE FROM REMOTE METER BREAKER PEDESTAL PER PROJECT REQUIREMENTS. LOCATION OF CONDUIT DEPENDENT UPON LOCATION OF INCOMING FEEDER AND FOR EASE OF CONNECTION TO LOAD CENTER.

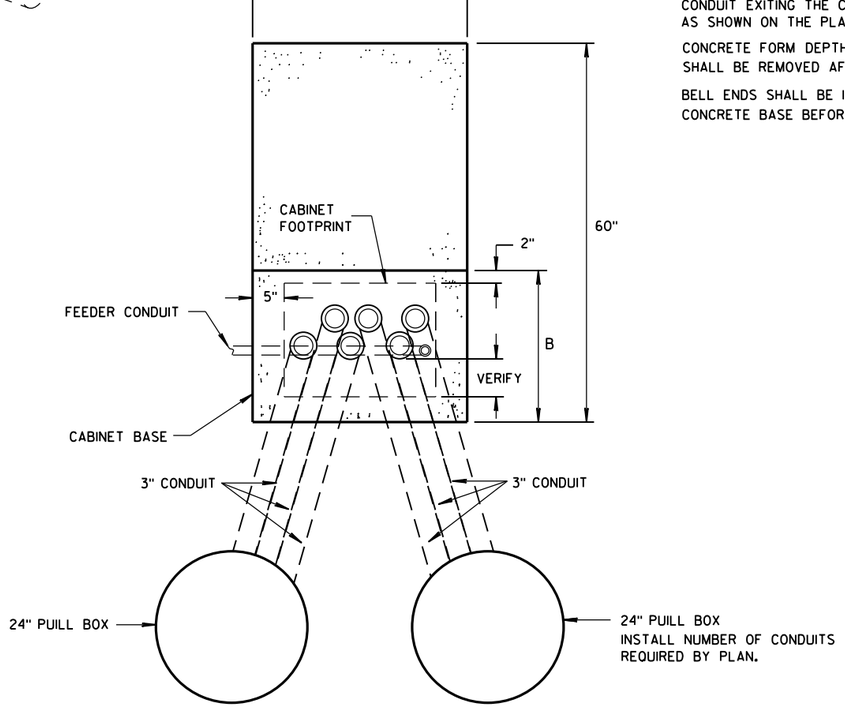
PROVIDE ADDITIONAL 1" CONDUIT FROM GROUND RODS WHERE NECESSARY PER PROJECT REQUIREMENTS.

ISOMETRIC VIEW

CONCRETE CONTROL CABINET BASE, TYPE L

(C.Y. CONCRETE = APPROX. 0.4)

CONCRETE BASE TYPE	CABINET WIDTH	DIMENSIONS	
		A	B
L24	24"	34"	24"
L30	30"	40"	24"



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE L

GENERAL NOTES

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

INSTALL FOUR STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET BASES. THE ANCHORS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

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

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

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

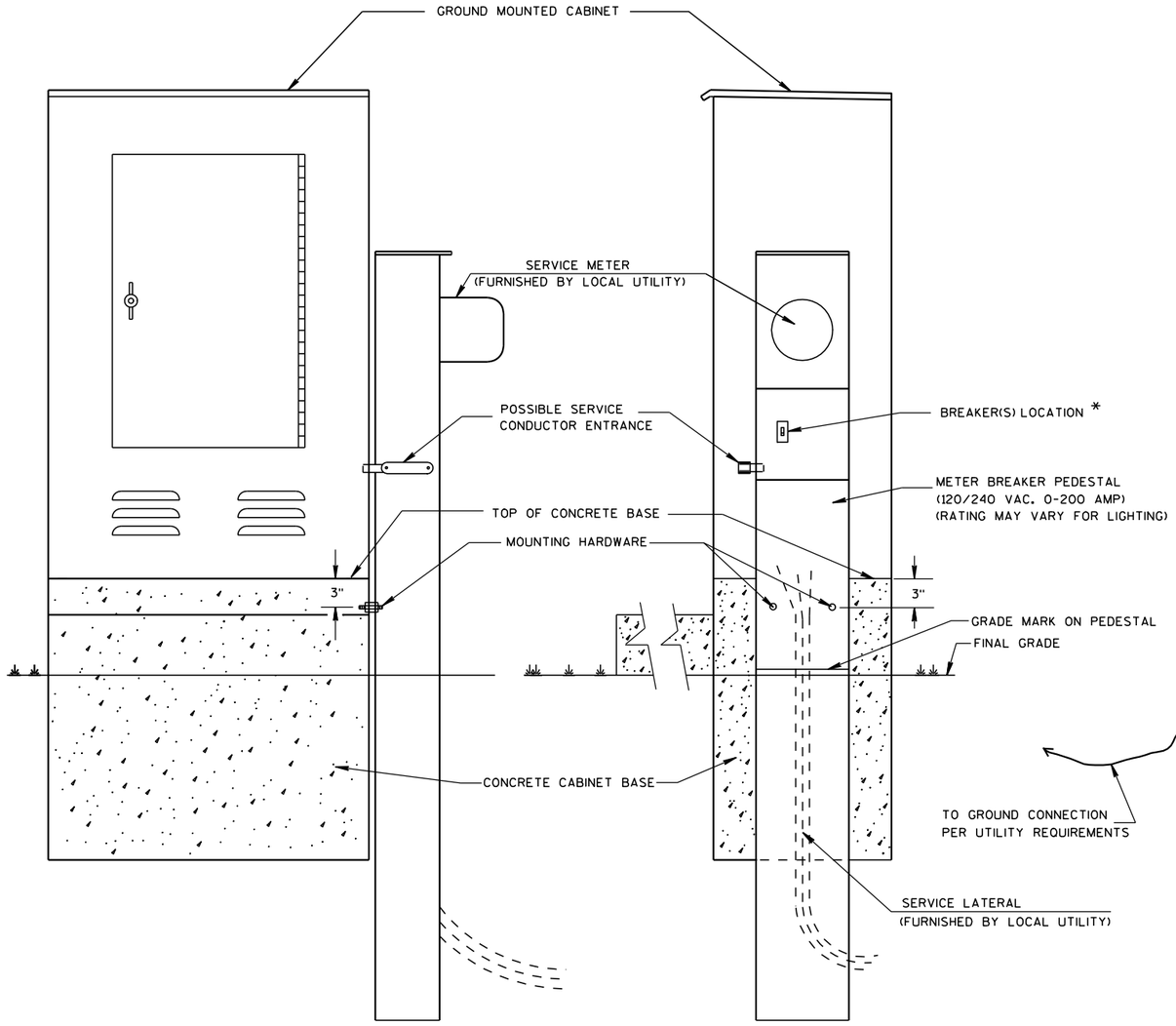
CONCRETE CONTROL CABINET BASE, TYPE L

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Thomas Gonring — STATE LIGHTING ENGINE — WYS
FHWA

6

S.D.D. 9 C 14-1



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

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

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

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

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

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

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

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

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

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S.D.D. 9 D 1-4

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S.D.D. 9 D 1-4

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

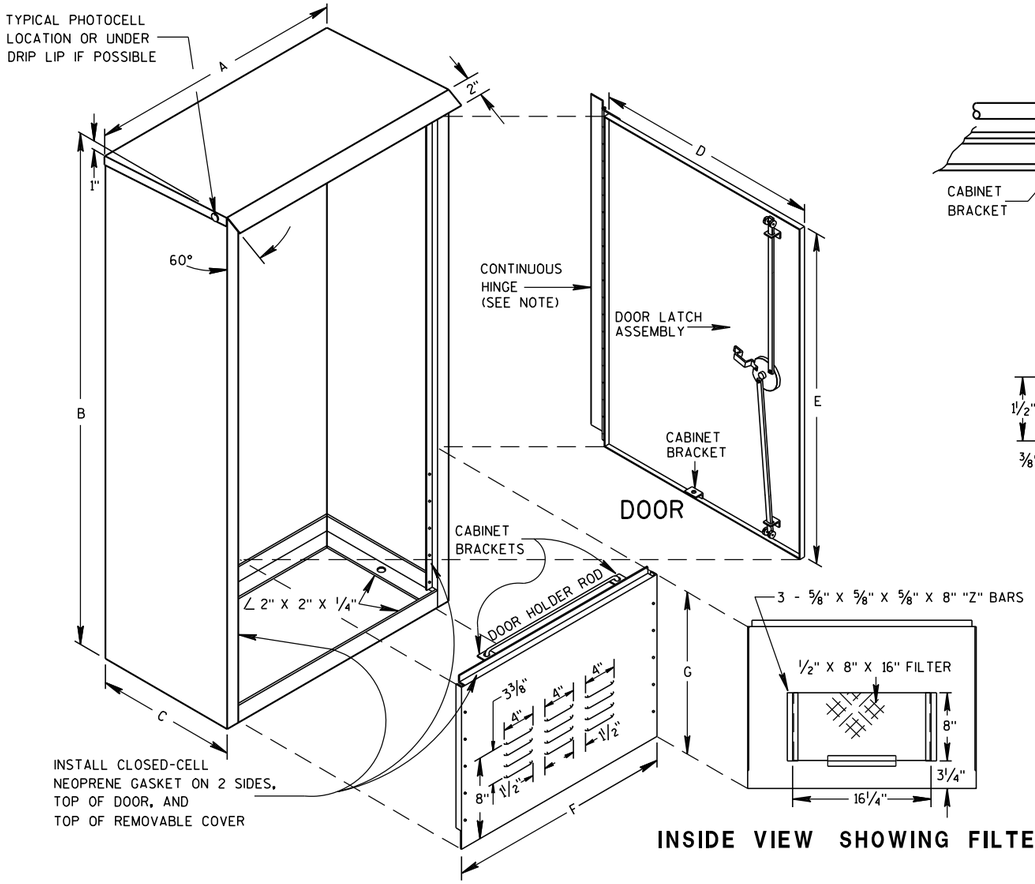
10/27/09 — DATE

/S/ Joanna L. Bush — STATE ELECTRICAL ENGI

312

HWYS

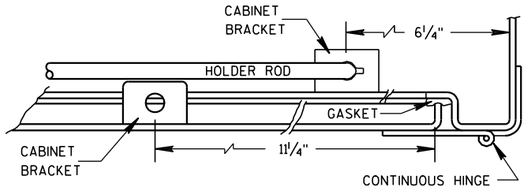
FHWA



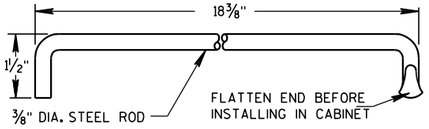
DOOR

REMOVABLE COVER

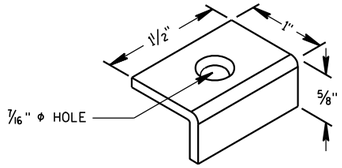
INSIDE VIEW SHOWING FILTER



HINGE & DOOR HOLDER



HOLDER ROD

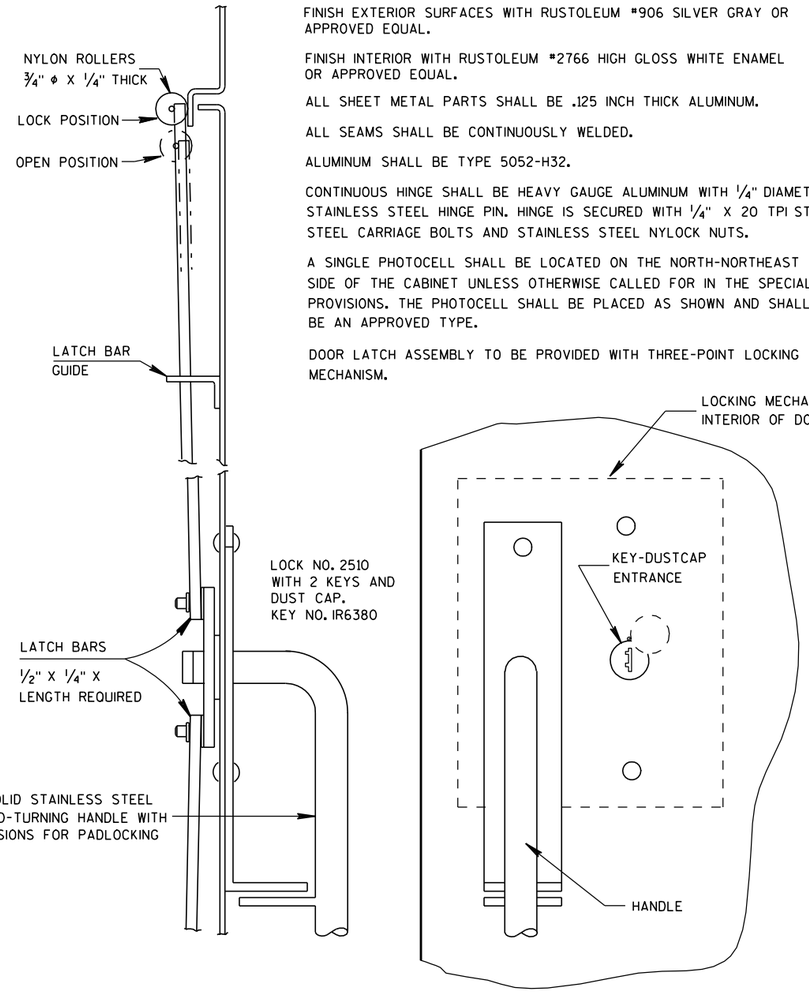


CABINET BRACKET

MOUNTING BASE

TABLE OF DIMENSIONS (INCHES)

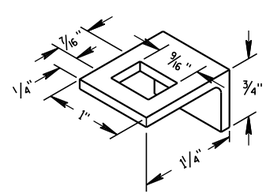
MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2



SIDE VIEW

FRONT VIEW

LATCH ASSEMBLY



LATCH BAR GUIDE

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.

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4" DIAMETER STAINLESS STEEL HINGE PIN. HINGE IS SECURED WITH 1/4" X 20 TPI STAINLESS STEEL CARRIAGE BOLTS AND STAINLESS STEEL NYLOCK NUTS.

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE AN APPROVED TYPE.

DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.

SIGNAL OR LIGHTING CONTROL CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/21/96 — DATE
/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI — HWYS
FHWA

6
S.D.D. 9 D 2-2

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.

ALL INTERNAL ELECTRICAL COMPONENTS WILL BE PRE-WIRED BY THE CABINET FABRICATOR.

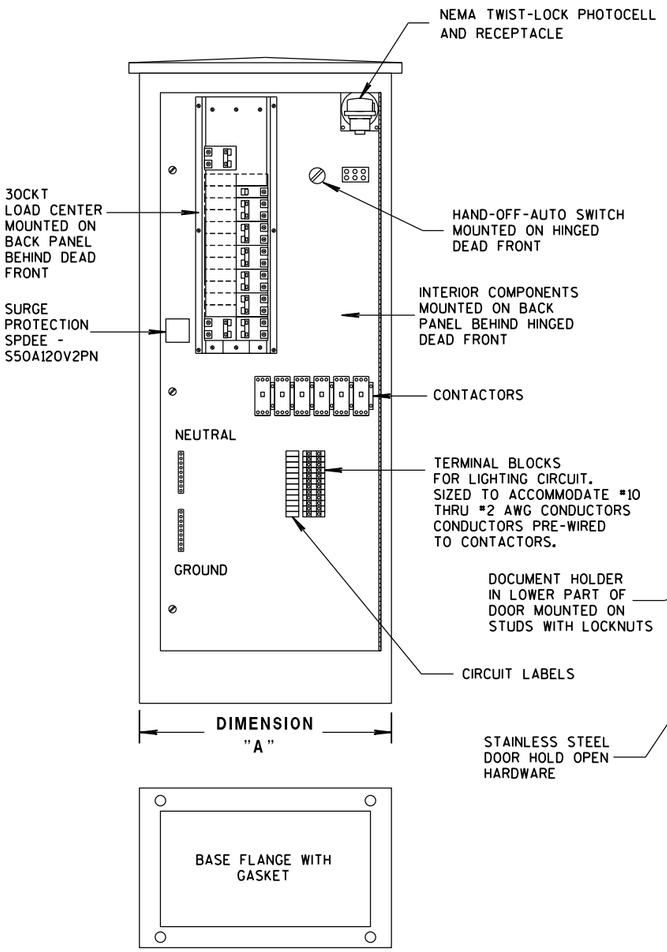
ALL CONDUIT ENTRIES SHALL BE SEALED WITH AN APPROPRIATE DUCT SEALING COMPOUND.

ORIENT PHOTOCELL AWAY FROM AMBIENT LIGHT SOURCES AND ONCOMING TRAFFIC HEADLIGHTS.

THE CONTRACTOR SHALL TOUCH UP ANY DAMAGE TO THE ANODIZED FINISH CAUSED BY THE INSTALLATION PROCESS. COLOR MATCH PAINT SHALL BE USED.

A COMPLETE LIGHTING OR ELECTRICAL PLAN SHALL BE SECURELY PLACED IN THE DOCUMENT HOLDER ATTACHED TO THE DOOR.

FRONT INTERIOR ELEVATION



SIDE VIEW

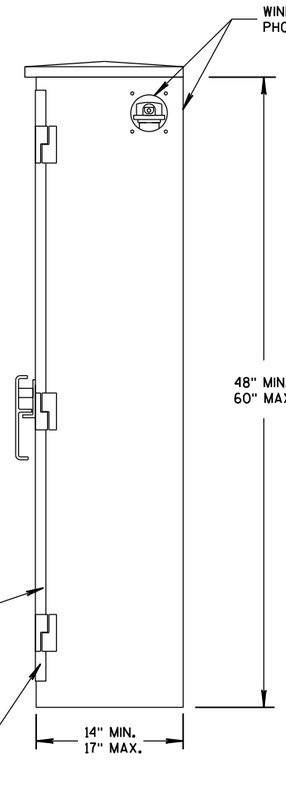
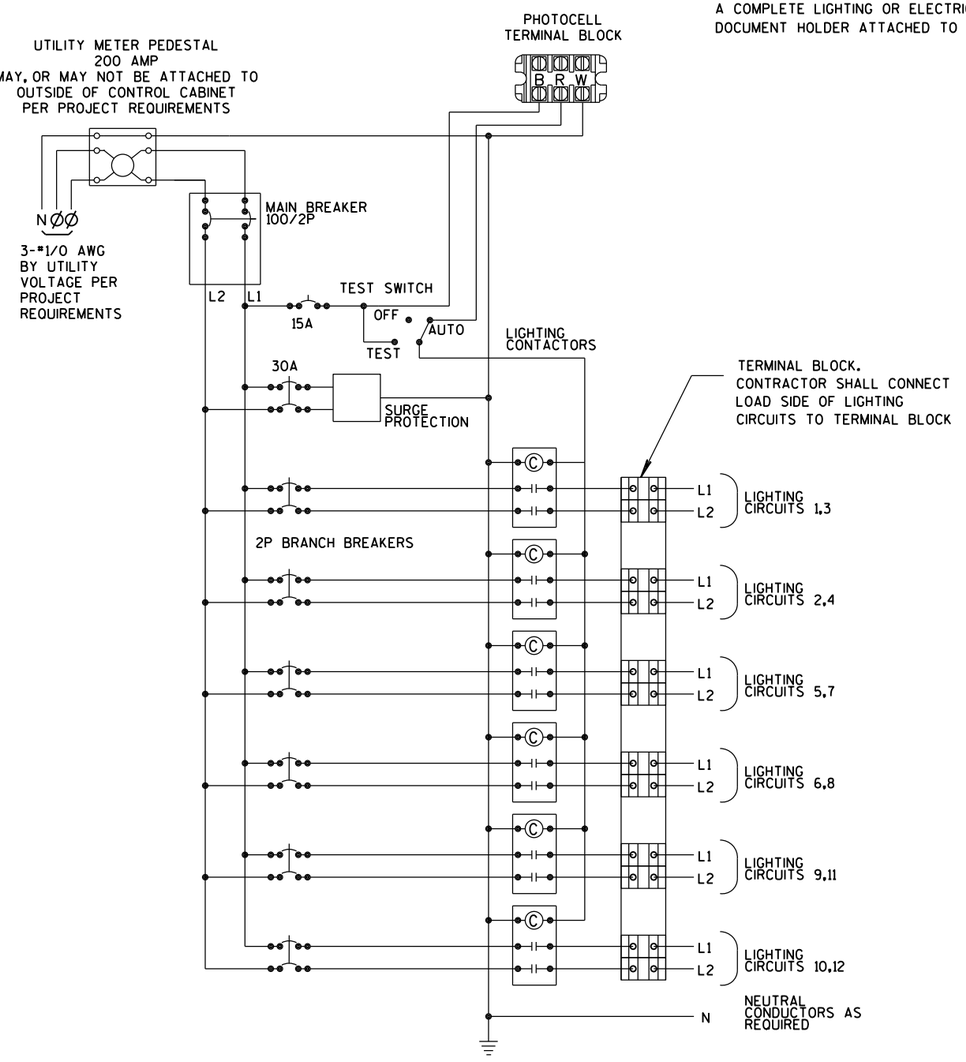


TABLE OF DIMENSIONS (INCHES)

CONCRETE BASE TYPE	CABINET WIDTH	DIMENSION "A"
L24	24"	24"
L30	30"	30"



CONTROL CABINET SCHEMATIC

LIGHTING CONTROL CABINET

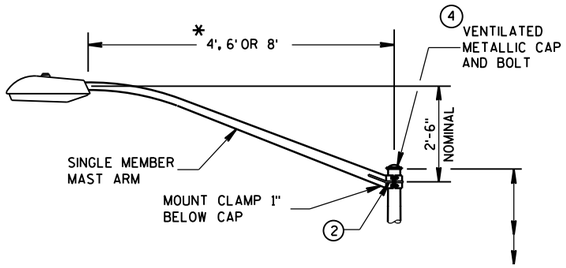
LIGHTING CONTROL CABINET

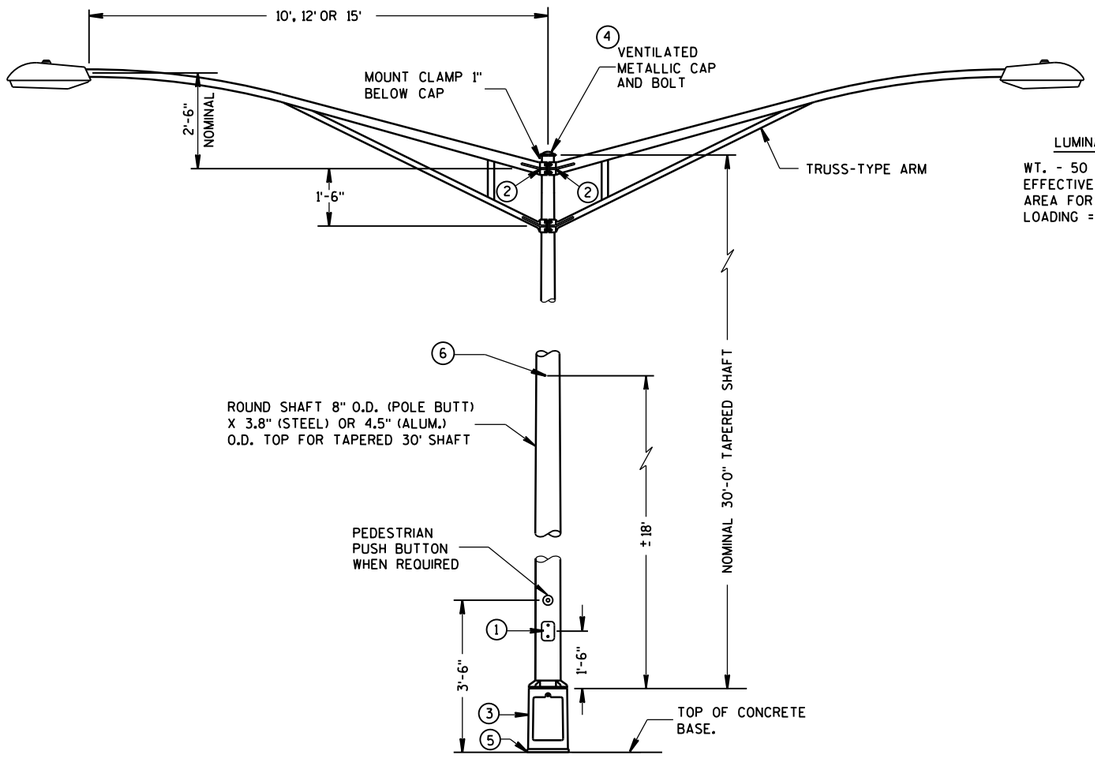
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Thomas Gonring — STATE LIGHTING ENGINEER
FHWA

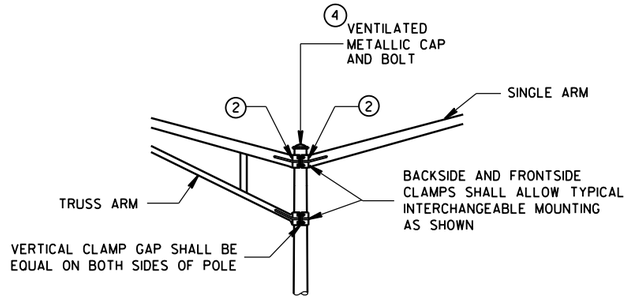
6
S.D.D. 9 D 4-1

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





TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

LUMINAIRE

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

GENERAL NOTES

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

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

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

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

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

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

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

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

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

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

(3) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

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

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

(6) INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

6

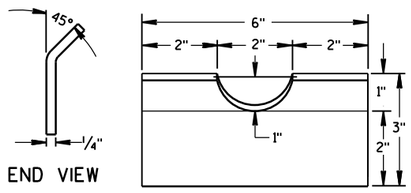
S.D.D. 9 E 1-12d

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 9 E 1-12d

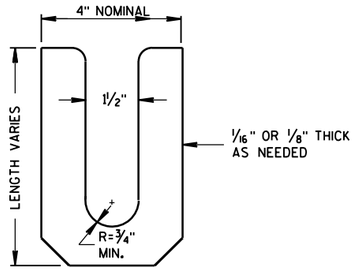


END VIEW

FRONT VIEW

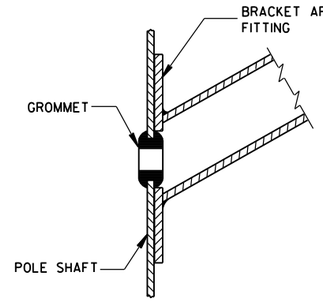
RECTANGULAR CLAMP SHIM

(4 TO A SET)

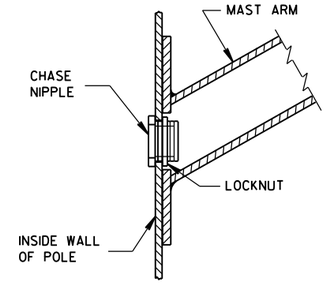


LEVELING SHIM (15)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

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

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

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

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

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

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

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

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

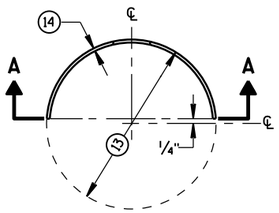
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.

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

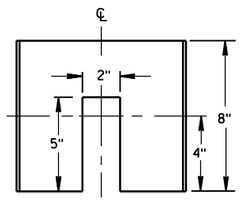
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

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

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



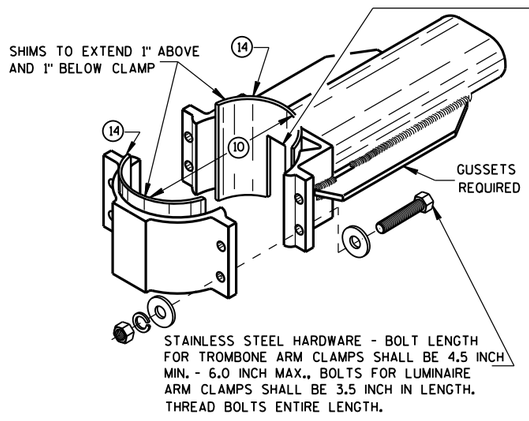
PLAN VIEW



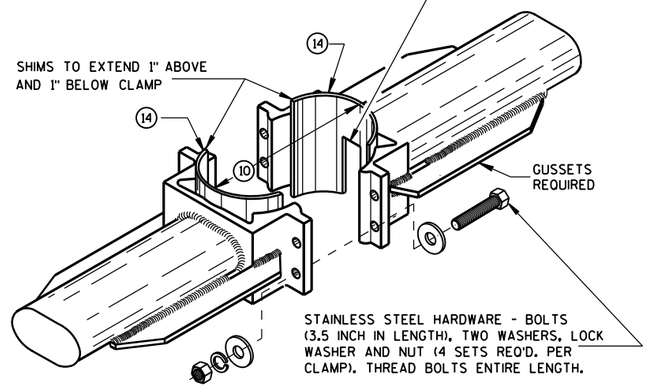
SECTION A-A

CIRCULAR CLAMP SHIM

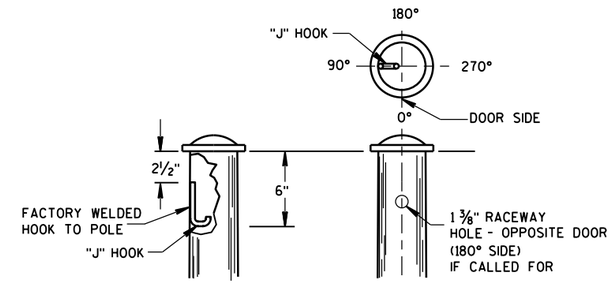
(2 TO A SET)



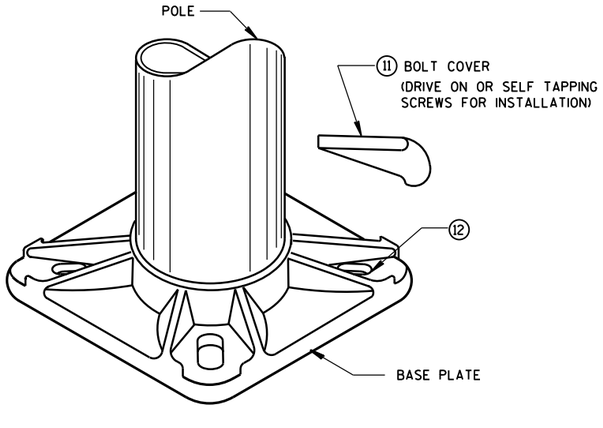
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



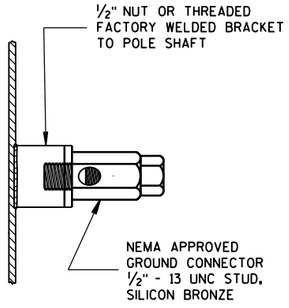
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

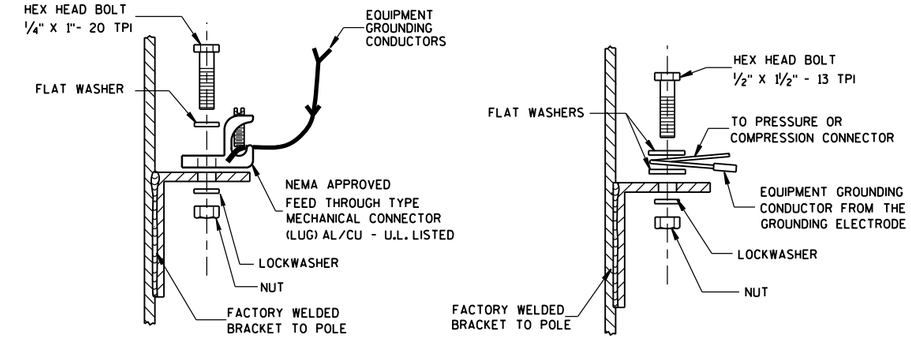


TYPICAL "J" HOOK LOCATION



BASE PLATE





TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

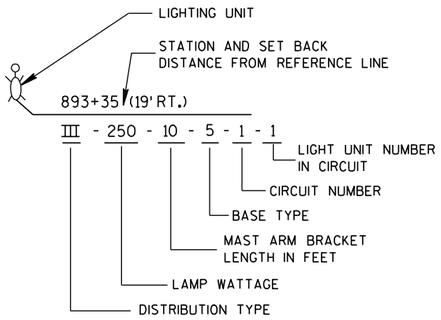
HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

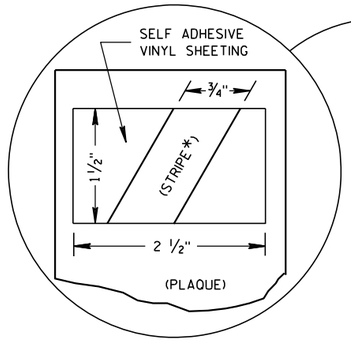
APPROVED
2/7/2013 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

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



LIGHTING UNIT CODE
(TYPICAL)



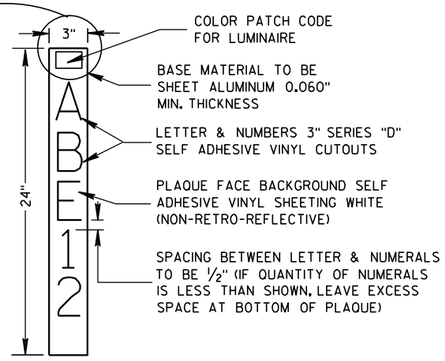
COLOR PATCH CODE FOR LUMINAIRES

(HIGH PRESSURE SODIUM)

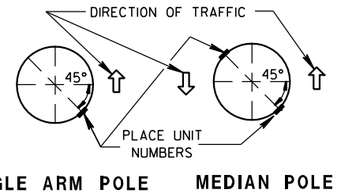
1000 WATT - NO PATCH
400 WATT - ORANGE
310 WATT - BLUE
250 WATT - ORANGE W/WHITE STRIPE*
200 WATT - RED
150 WATT - GREEN
100 WATT - BROWN

(MERCURY VAPOR)

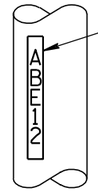
400 WATT - (NO PATCH)
250 WATT - YELLOW



IDENTIFICATION PLAQUE



SINGLE ARM POLE MEDIAN POLE



FASTEN TOP, CENTER AND BOTTOM OF PLAQUE WITH 3 ALUMINUM POP RIVETS (ALUM. POLES) OR STAINLESS STEEL POP RIVETS (STEEL POLES)

NOTES:

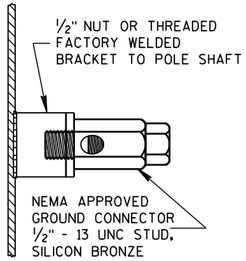
1) PLACE BOTTOM OF UNIT NUMBER PLAQUE 5'-0" ABOVE ELEVATION OF ADJACENT CURB OR SHOULDER.

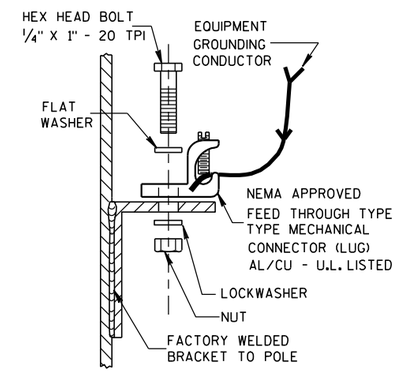
2) UNIT NUMBERS: ONE REQUIRED FOR SINGLE ARM POLES TWO REQUIRED FOR MEDIAN MOUNT POLES.

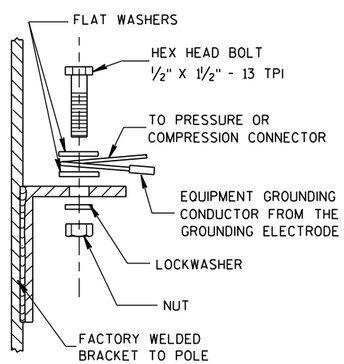
LIGHTING UNIT IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENT

(TYPICAL ALL LIGHTING UNITS)

FURNISH PLAQUE WHEN CALLED FOR BY SPECIAL PROVISIONS

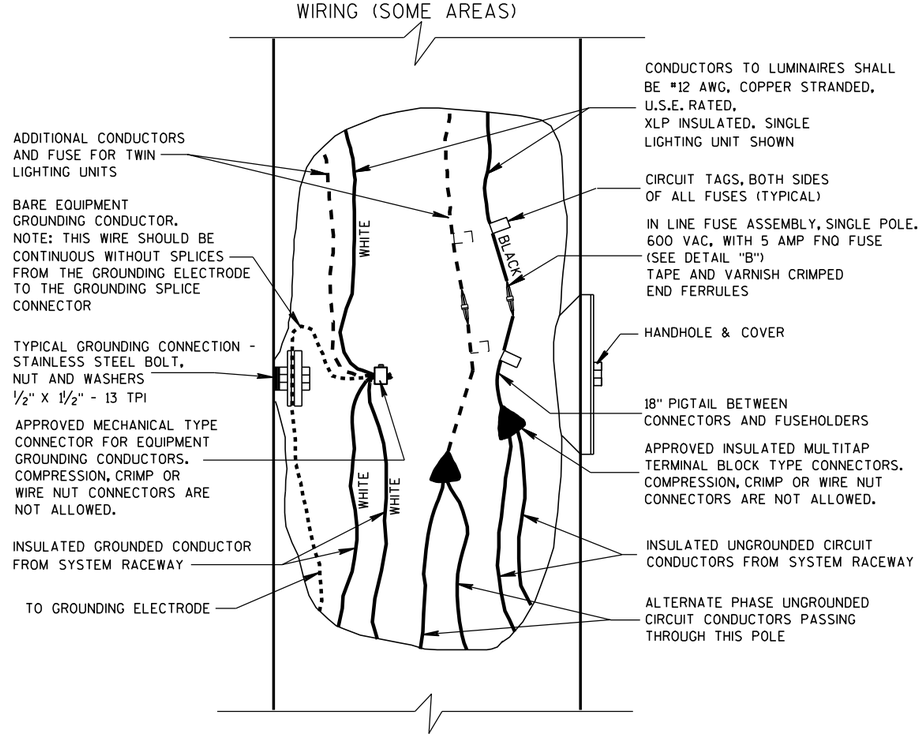




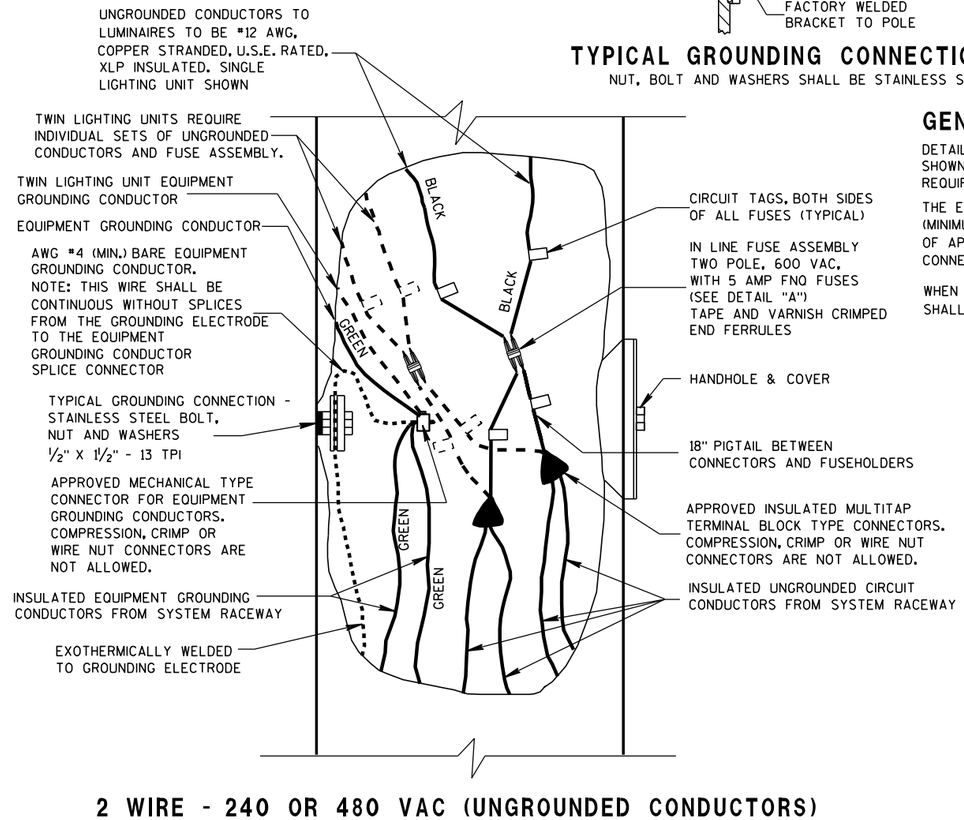


TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



2 WIRE - 120, 240 OR 480 VAC TO GROUND



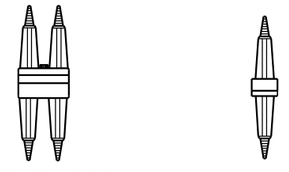
2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.



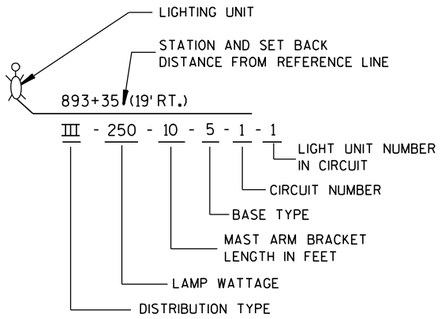
DETAIL "A"
BREAKAWAY DOUBLE POLE WITH WATERPROOF INSULATING BOOT

DETAIL "B"
BREAKAWAY SINGLE POLE WITH WATERPROOF INSULATING BOOT

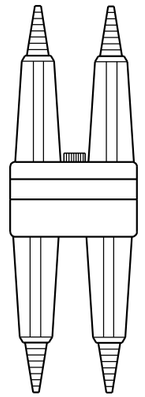
FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

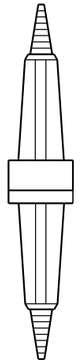
APPROVED
3/2/2011 DATE
/S/ Thomas J. Gordon
STATE ELECTRICAL ENGI
317 HWYS
FHWA



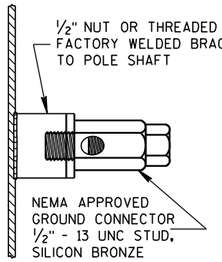
LIGHTING UNIT CODE
(TYPICAL)

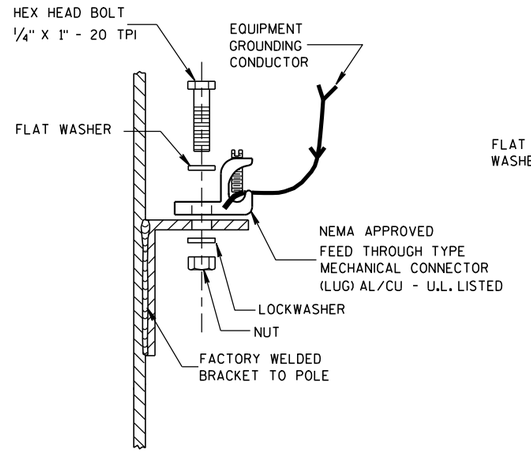


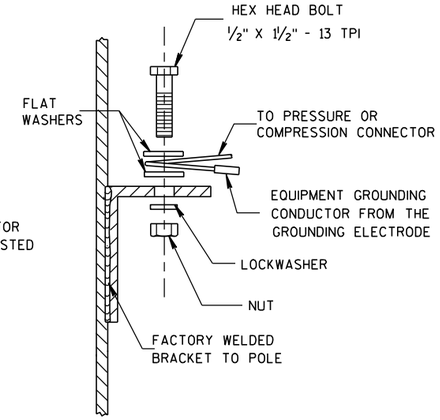
DETAIL "A"
BREAKAWY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT



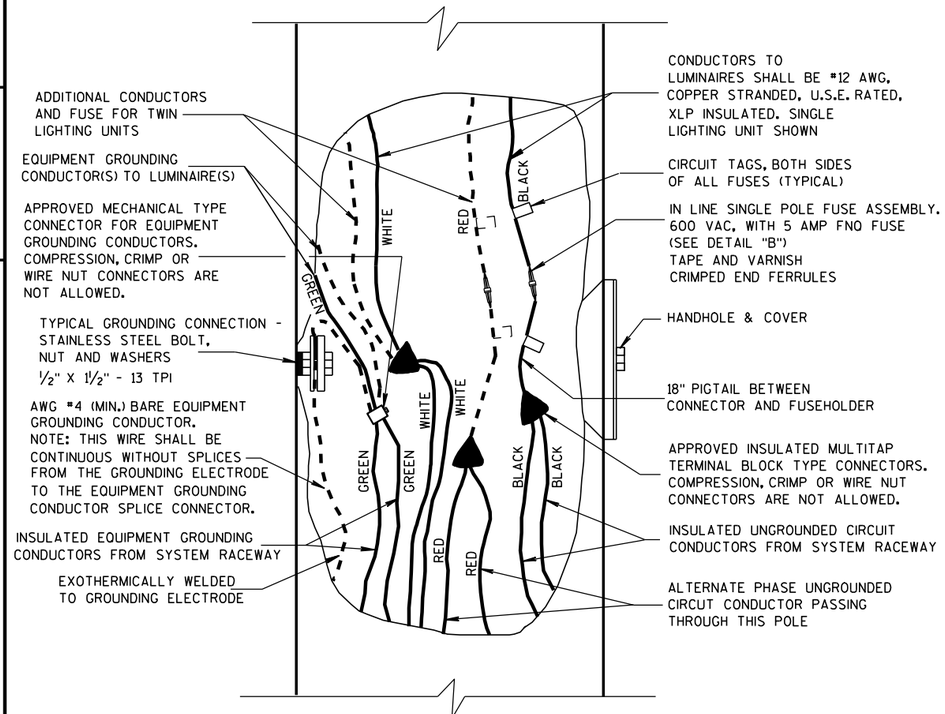
DETAIL "B"
BREAKAWY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



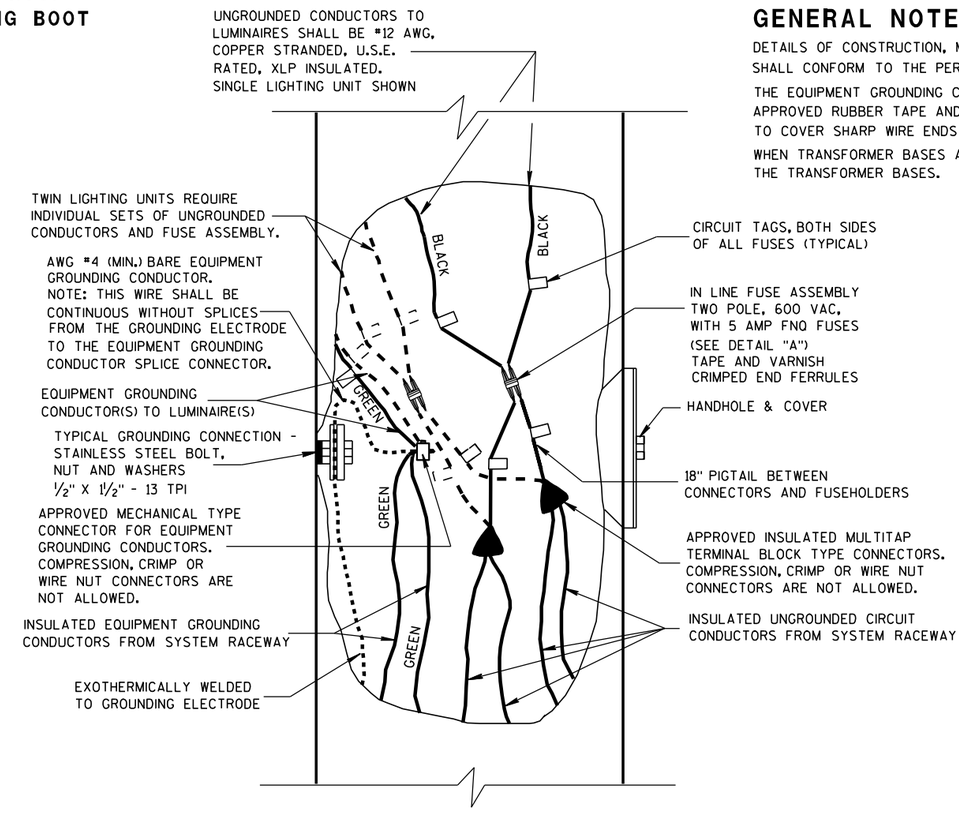




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTOR) WITH GROUNDED CONDUCTOR AND WITH EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

NON-FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 — DATE

/S/ Thomas J. Gosnell — STATE ELECTRICAL ENGI

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HWYS

FHWA

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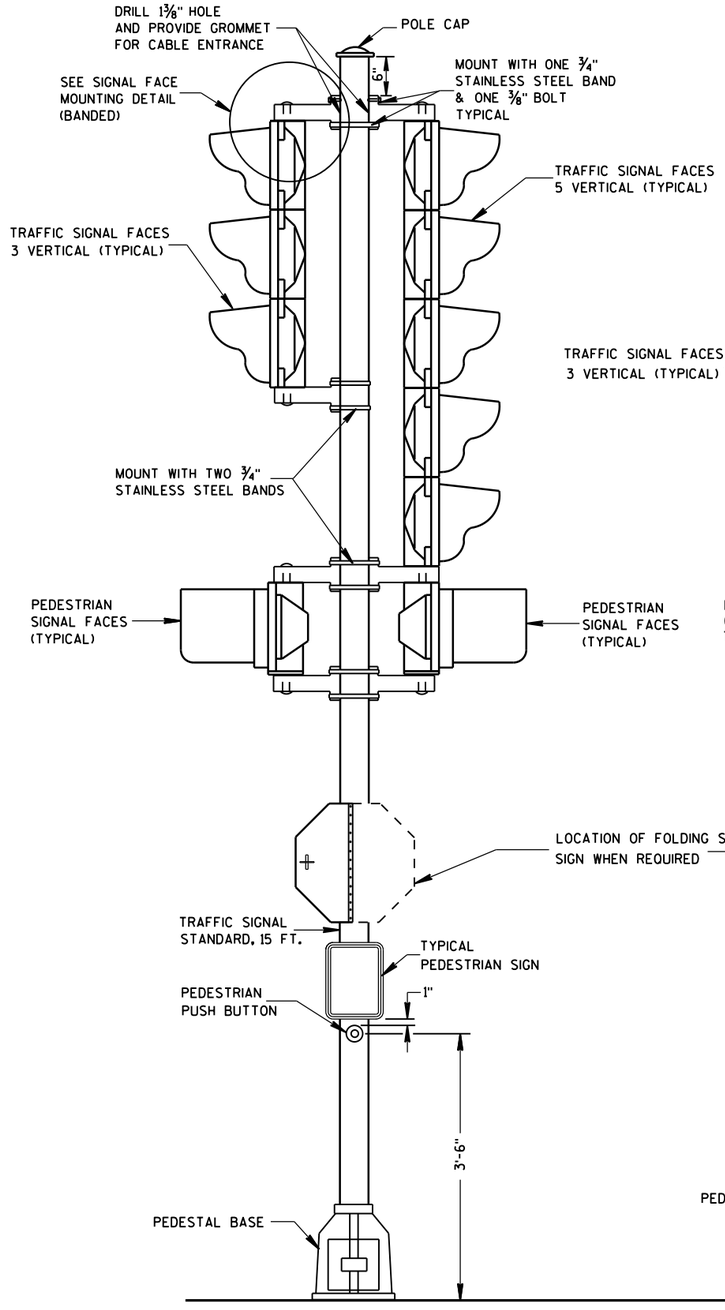
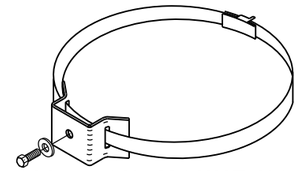
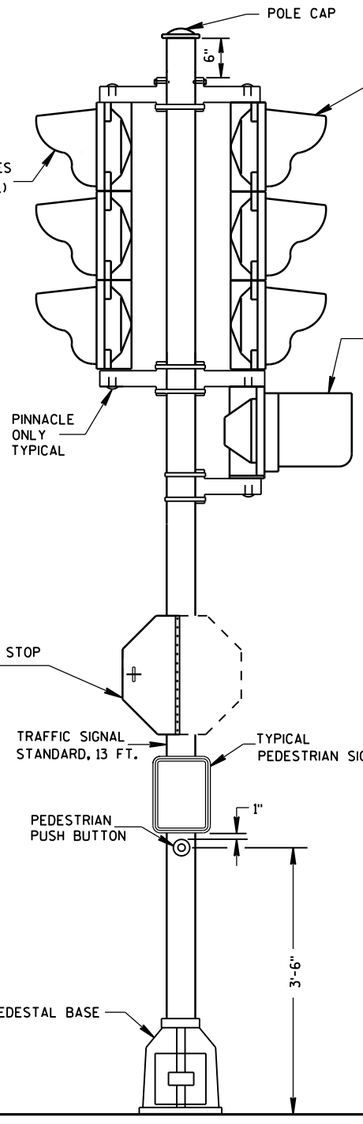


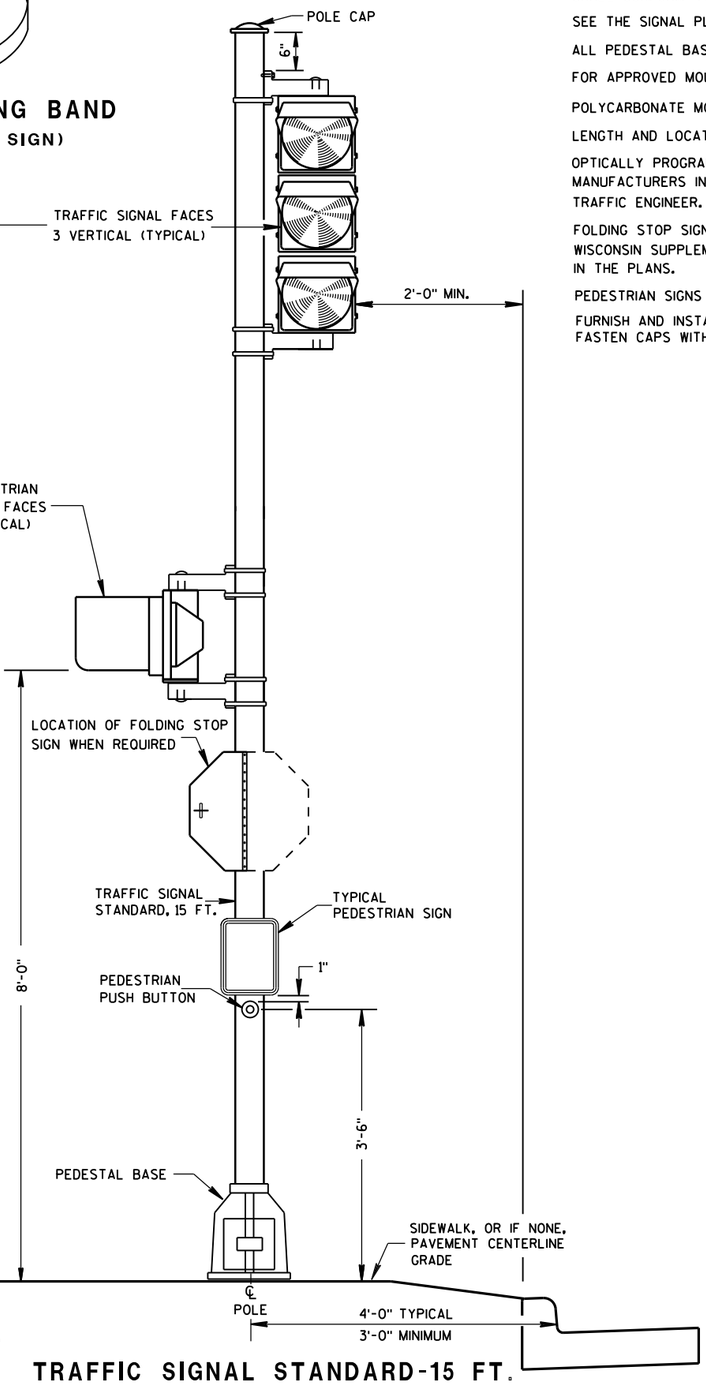
TRAFFIC SIGNAL STANDARD-15 FT.



TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



TRAFFIC SIGNAL STANDARD-13 FT.



TRAFFIC SIGNAL STANDARD-15 FT.
3M MOUNTING (TYPICAL)

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

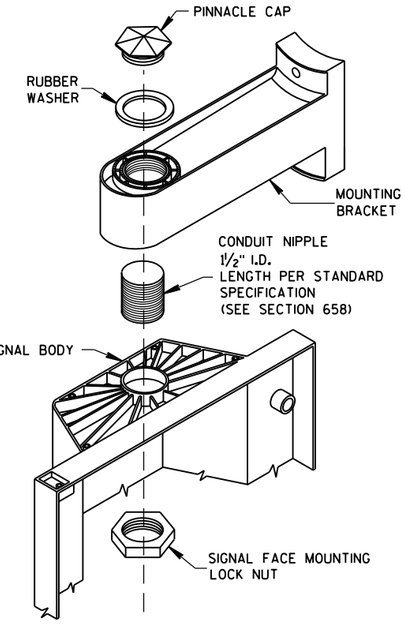
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

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



SIGNAL FACE MOUNTING DETAIL
(BANDED)

TRAFFIC SIGNAL STANDARD
POLY BRACKET MOUNTINGS
(TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/28/2013
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA

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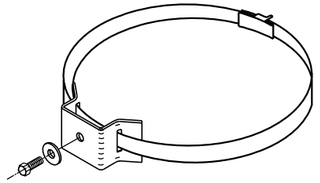
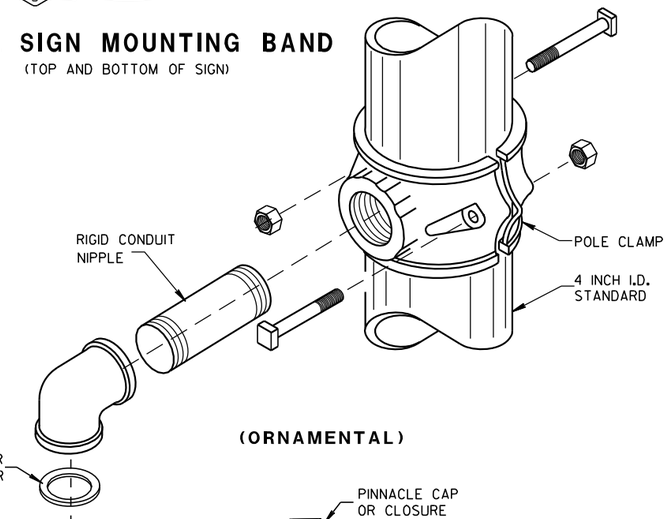
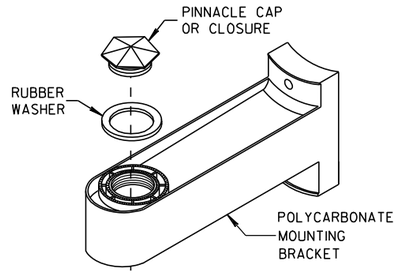


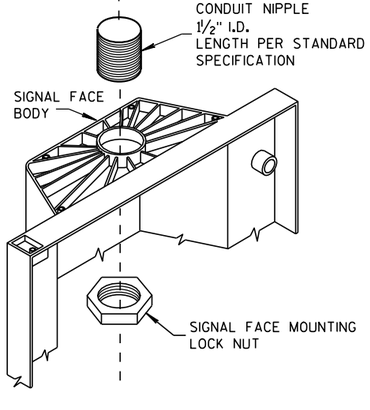
TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



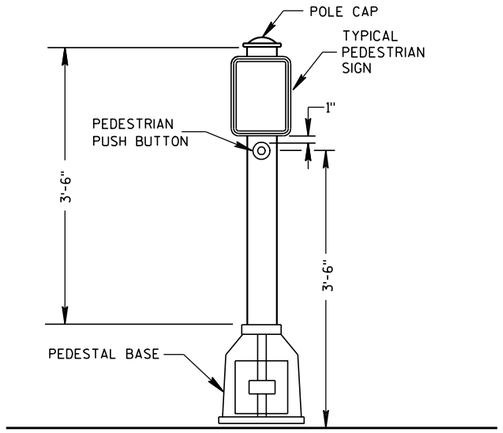
(ORNAMENTAL)



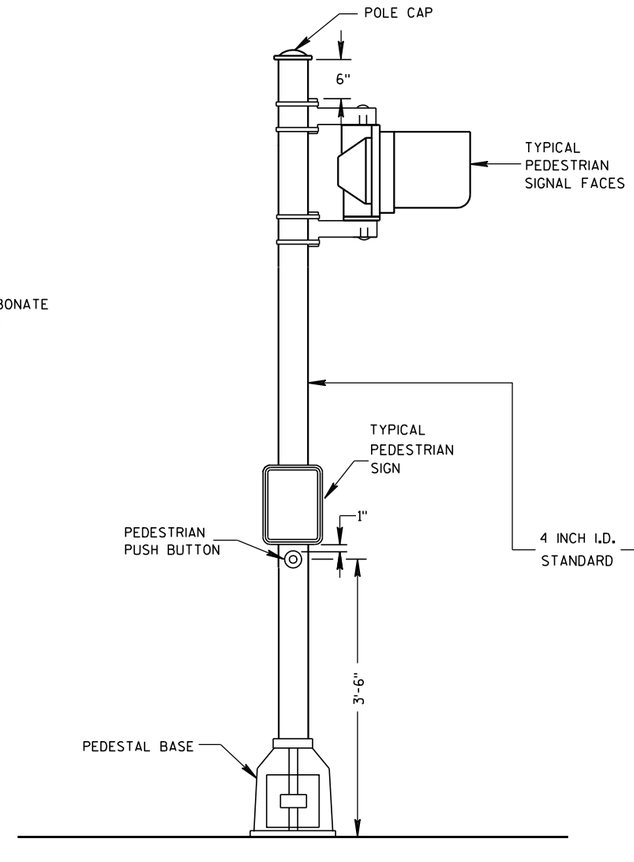
(BANDED)



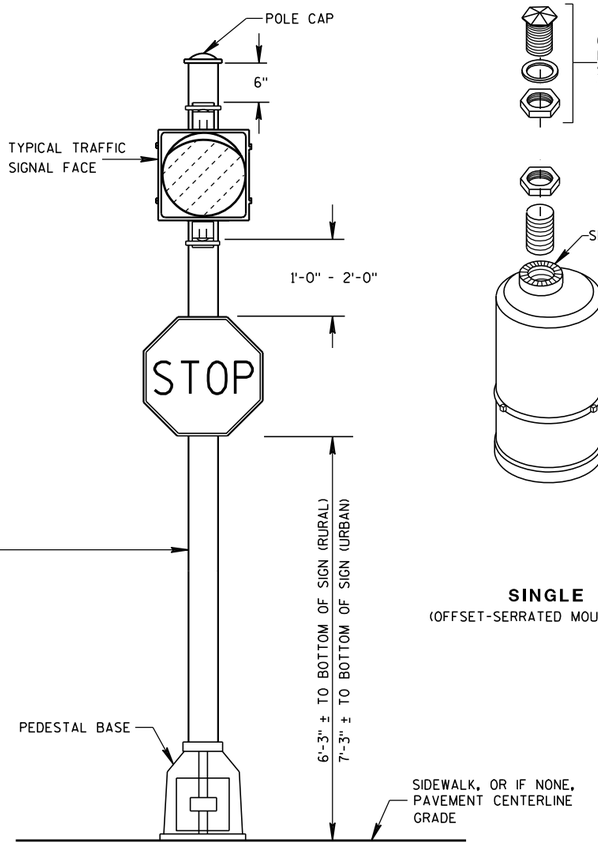
SIGNAL FACE MOUNTING DETAILS



PEDESTRIAN PUSH BUTTON TYPICAL MOUNTING



PEDESTRIAN FACE STANDARD-10 FT.
(WALK-DON'T WALK)



STANDARD FLASHER.
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

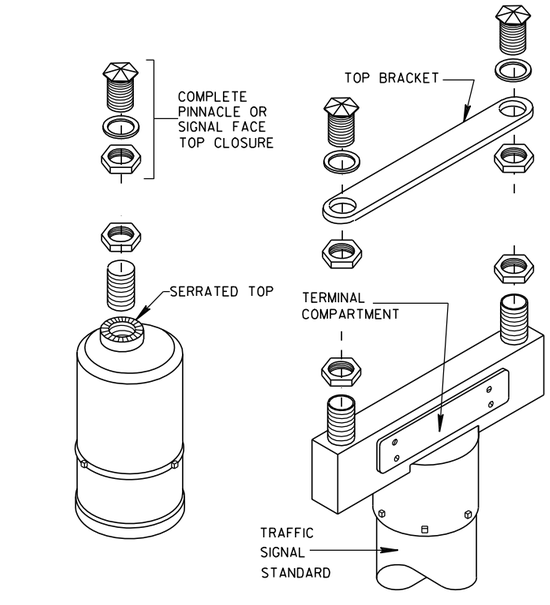
POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE DISTRICT TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

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



SINGLE
(OFFSET-SERRATED MOUNTING)

DOUBLE
(SERRATED MOUNTING)

SLIPFITTERS

TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/11/10
DATE

/S/ John Corbin
STATE ELECTRICAL ENGI 320

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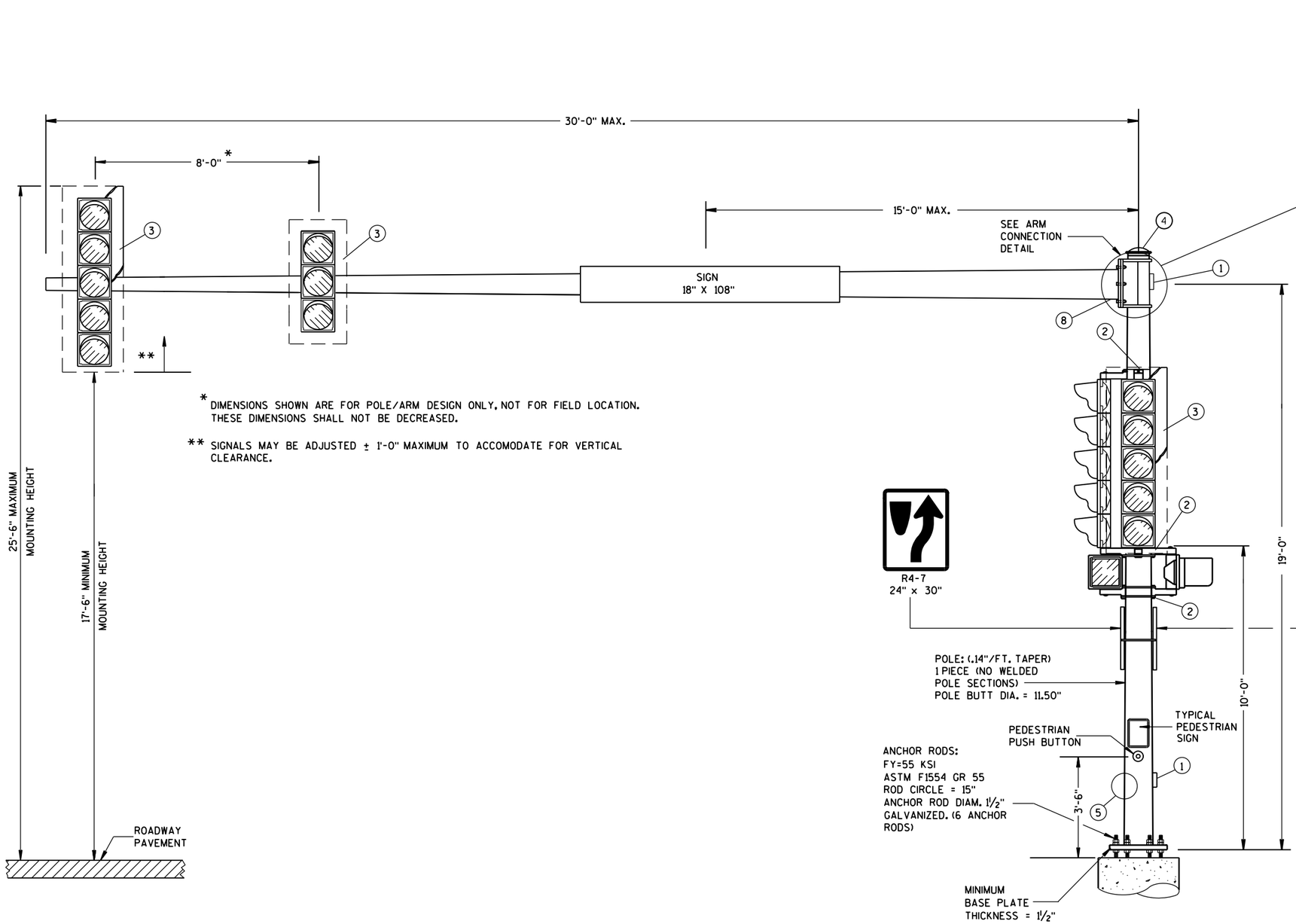
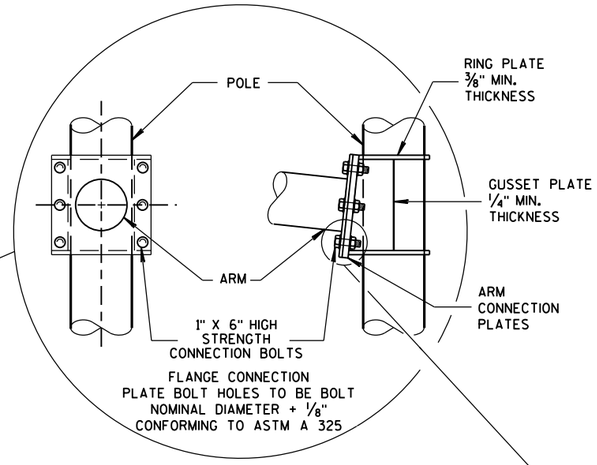
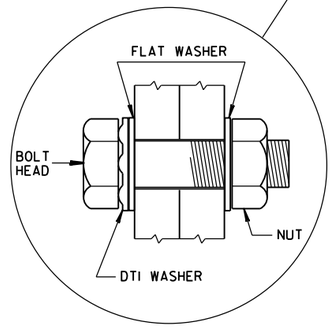


* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

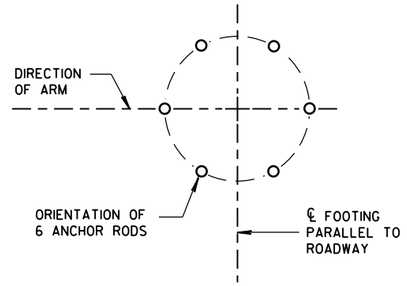
** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



6 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 9 POLE 15'- 30' MONOTUBE ARM

TYPE 9 POLE 15' - 30' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
June 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL
FHWA	

S.D.D. 9 E 8-5a

GENERAL NOTES

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35-FOOT TO 55-FOOT.

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

RING-STIFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

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

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO 2013 6TH EDITION AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" S.S. BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

(1) DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

(2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).

(3) SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

(5) FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

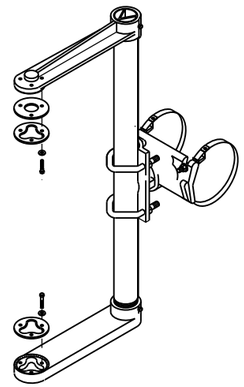
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

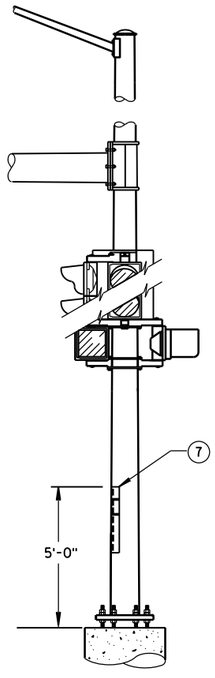
MOUNTING HEIGHT SHALL BE 5'-0" ABOVE THE CURB OR SHOULDER . ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

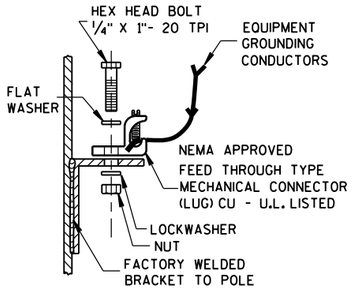


SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

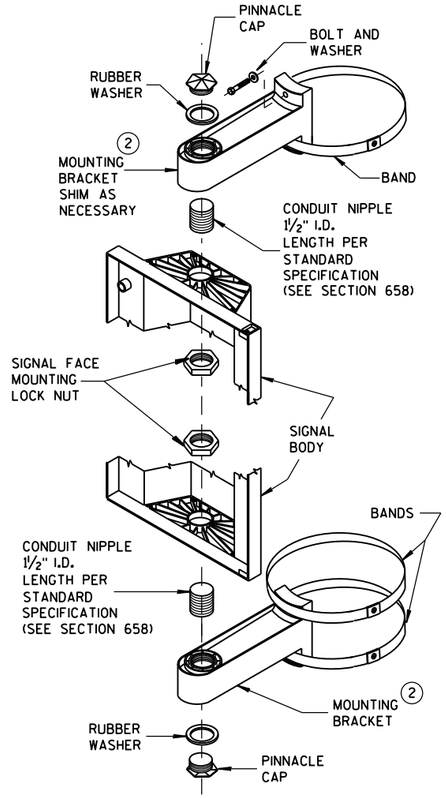


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT

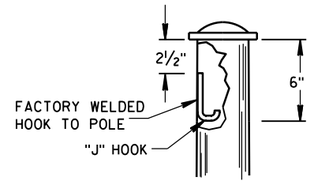


TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



SIGNAL FACE VERTICAL MOUNTING DETAIL



"J" HOOK WIRE SUPPORT (6)

GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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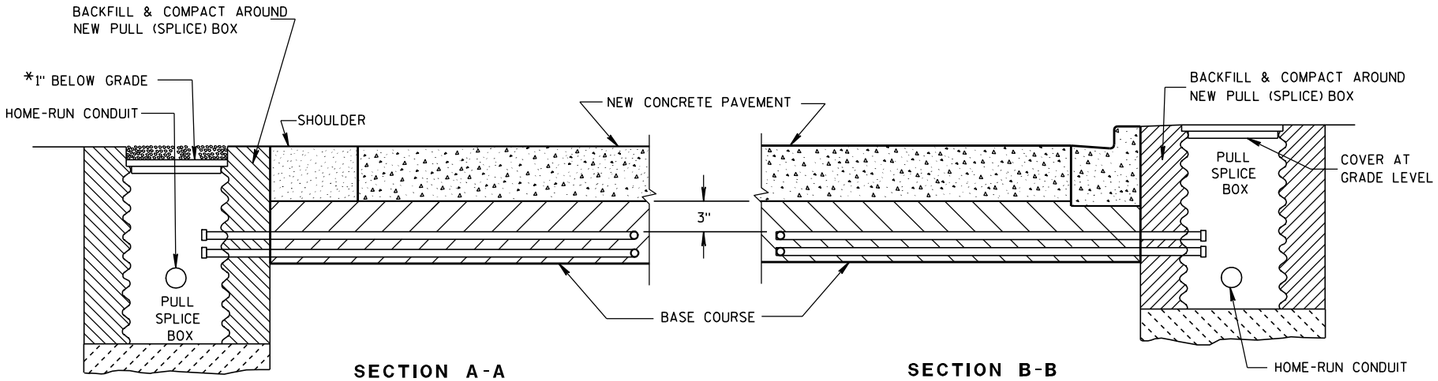


SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

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

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

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

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

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

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

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

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

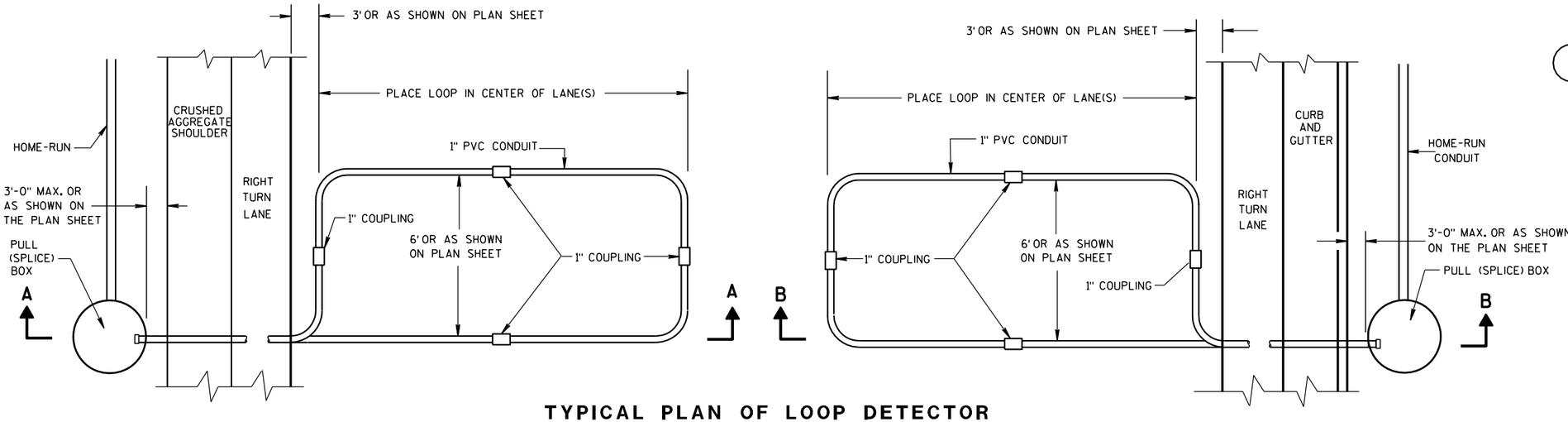
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

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

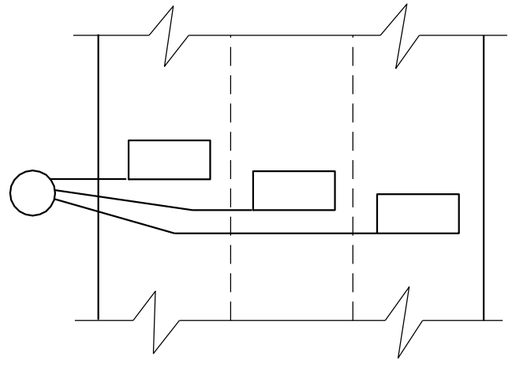
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX



MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/7/06 DATE
/S/ Balu Anantharaman
STATE ELECTRICAL ENGI 323 HWYS
FHWA

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S.D.D. 9 F 15-3b

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S.D.D. 9 F 15-3b

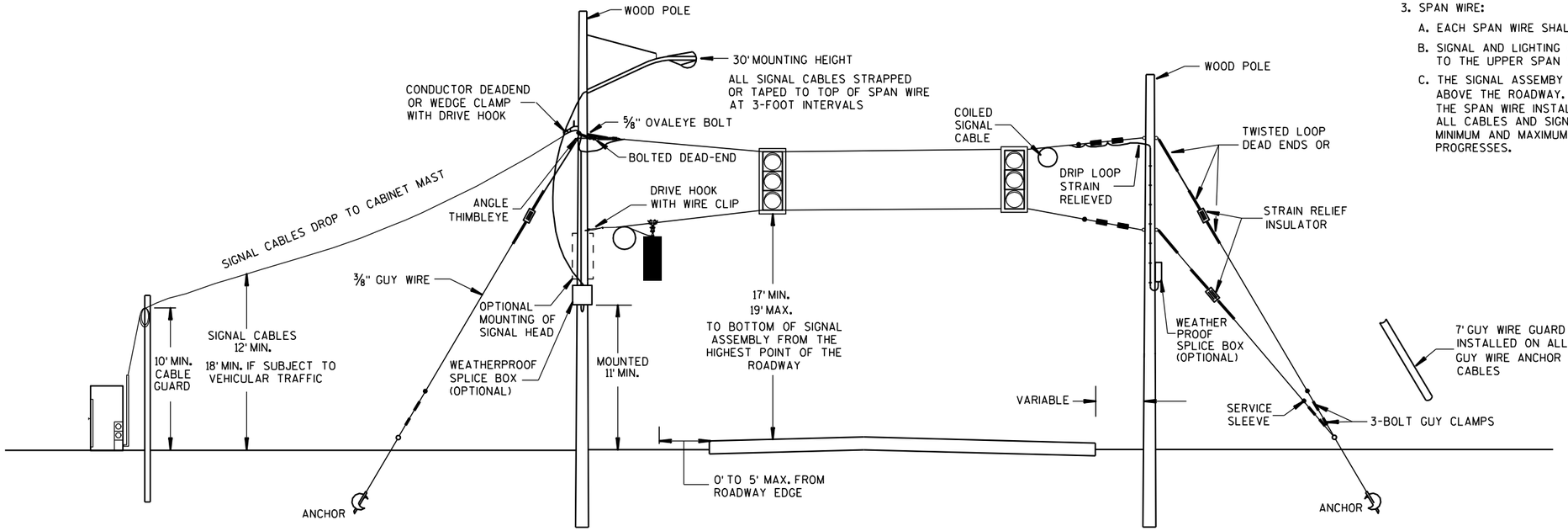
GENERAL NOTES

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 324 HWYS
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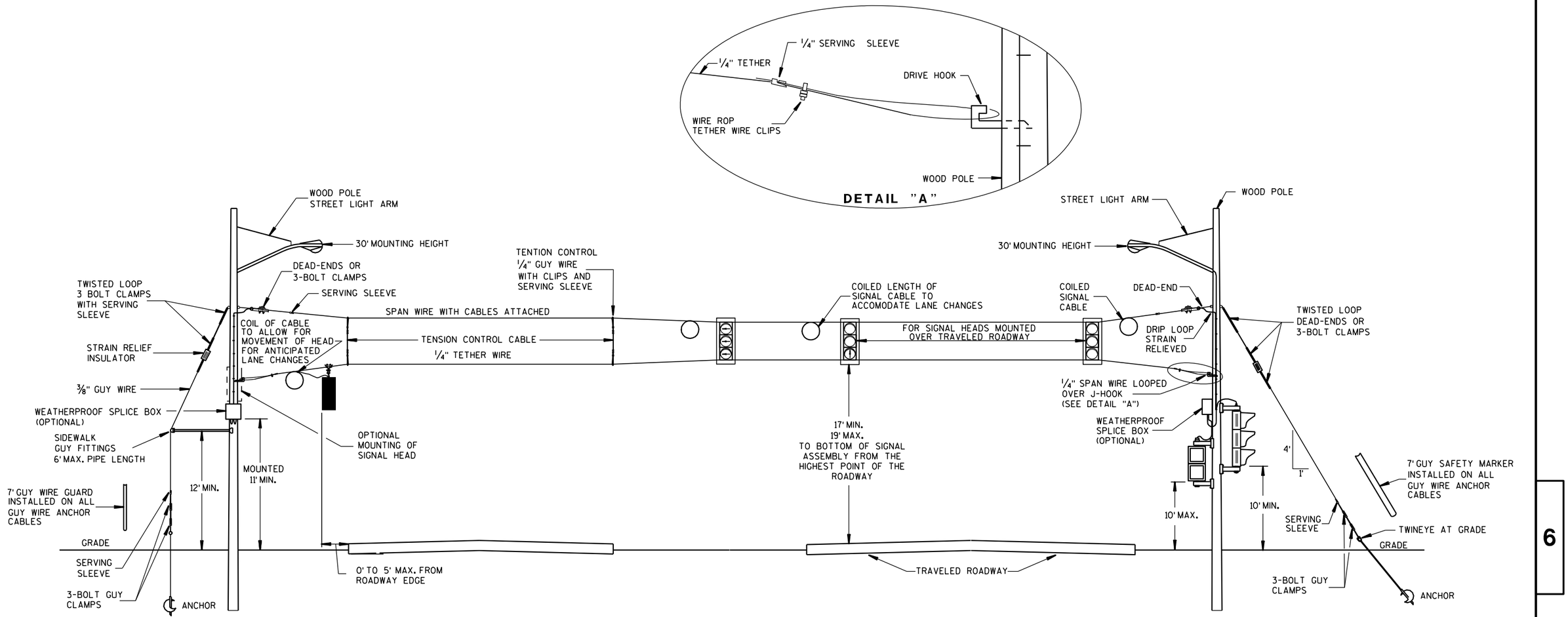

GENERAL NOTES

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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.
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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 325 HWYS

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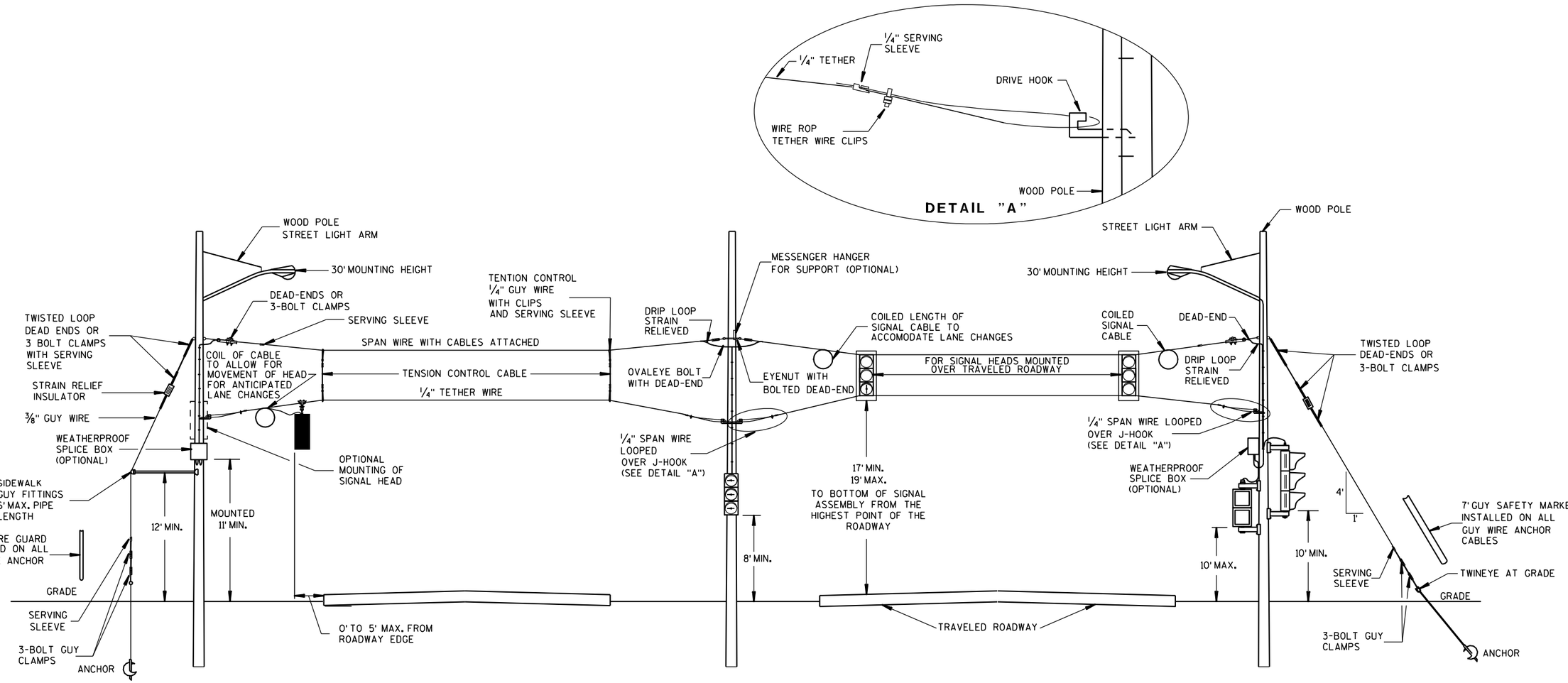

SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

GENERAL NOTES

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

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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 Aganthangarayanan
STATE ELECTRICAL ENGI

326 HWYS

FHWA

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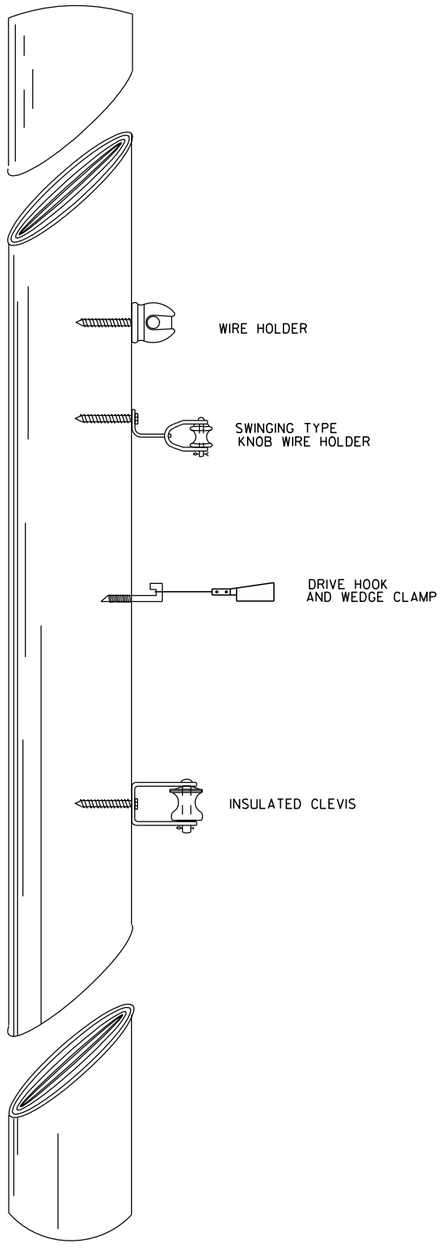
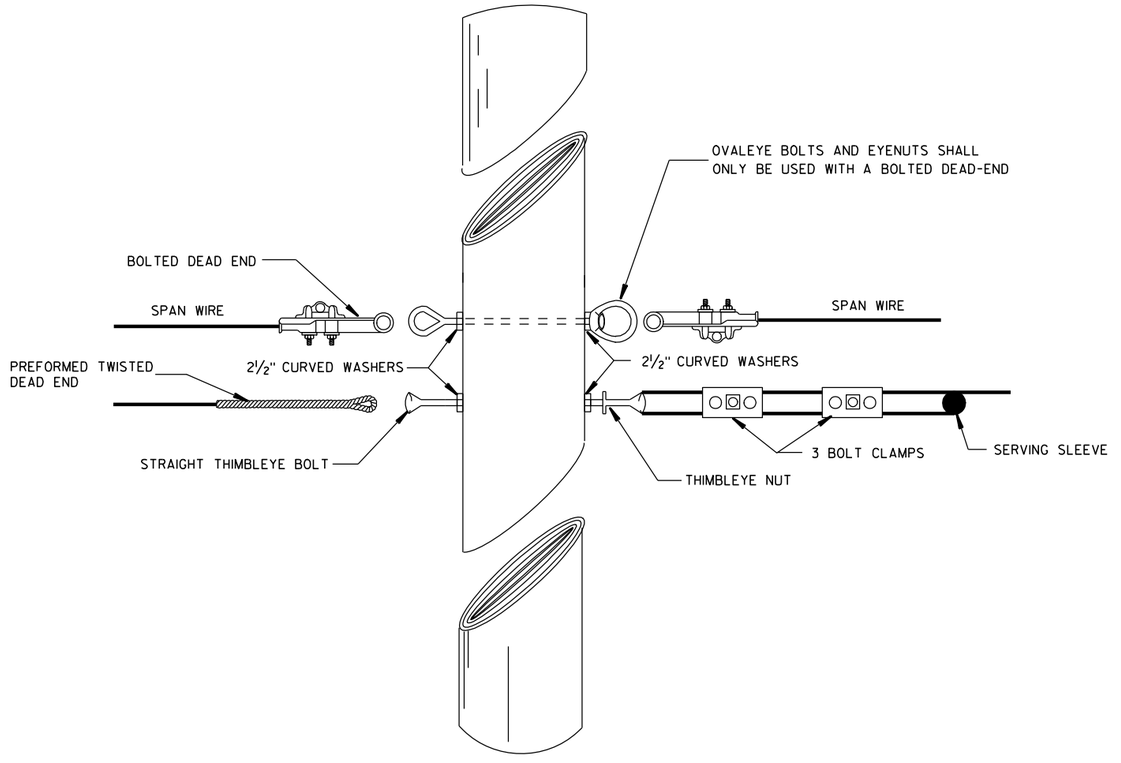


TYPICAL CABLE HANGERS



TYPICAL DEAD-ENDING

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S.D.D. 9 G 1-3d

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08
DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 327 HWYS

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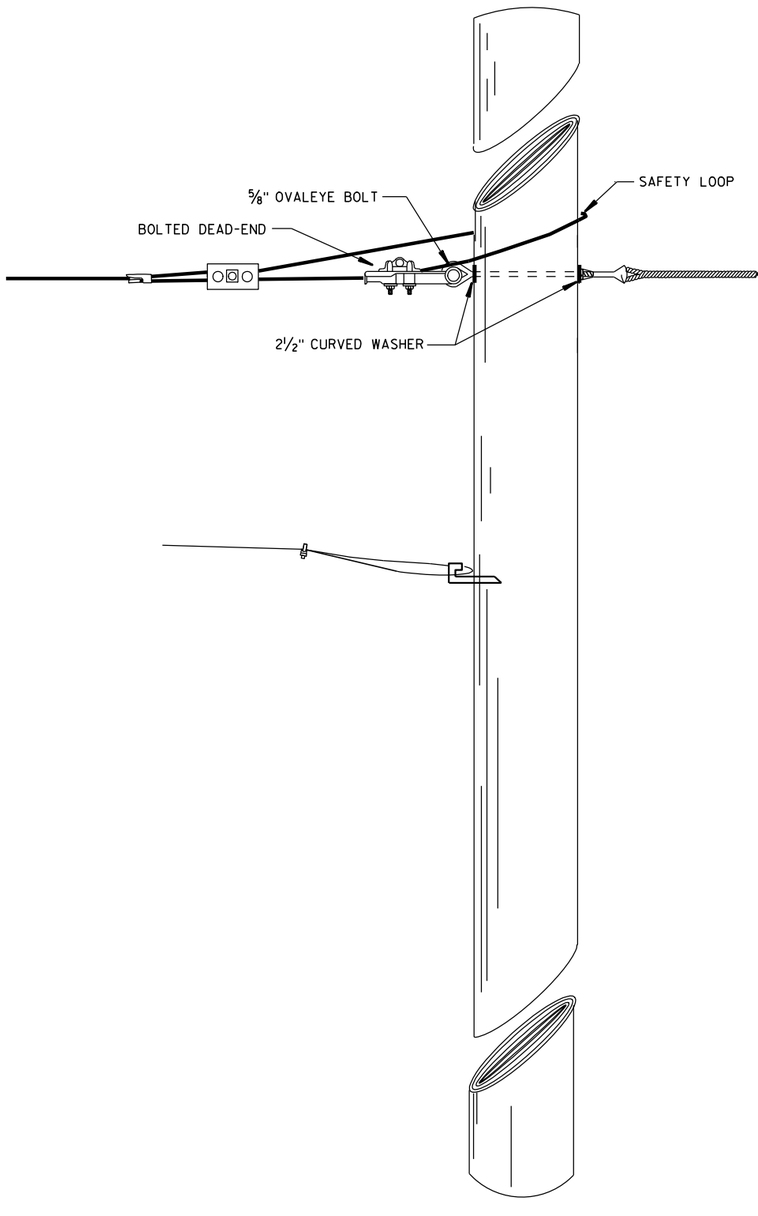
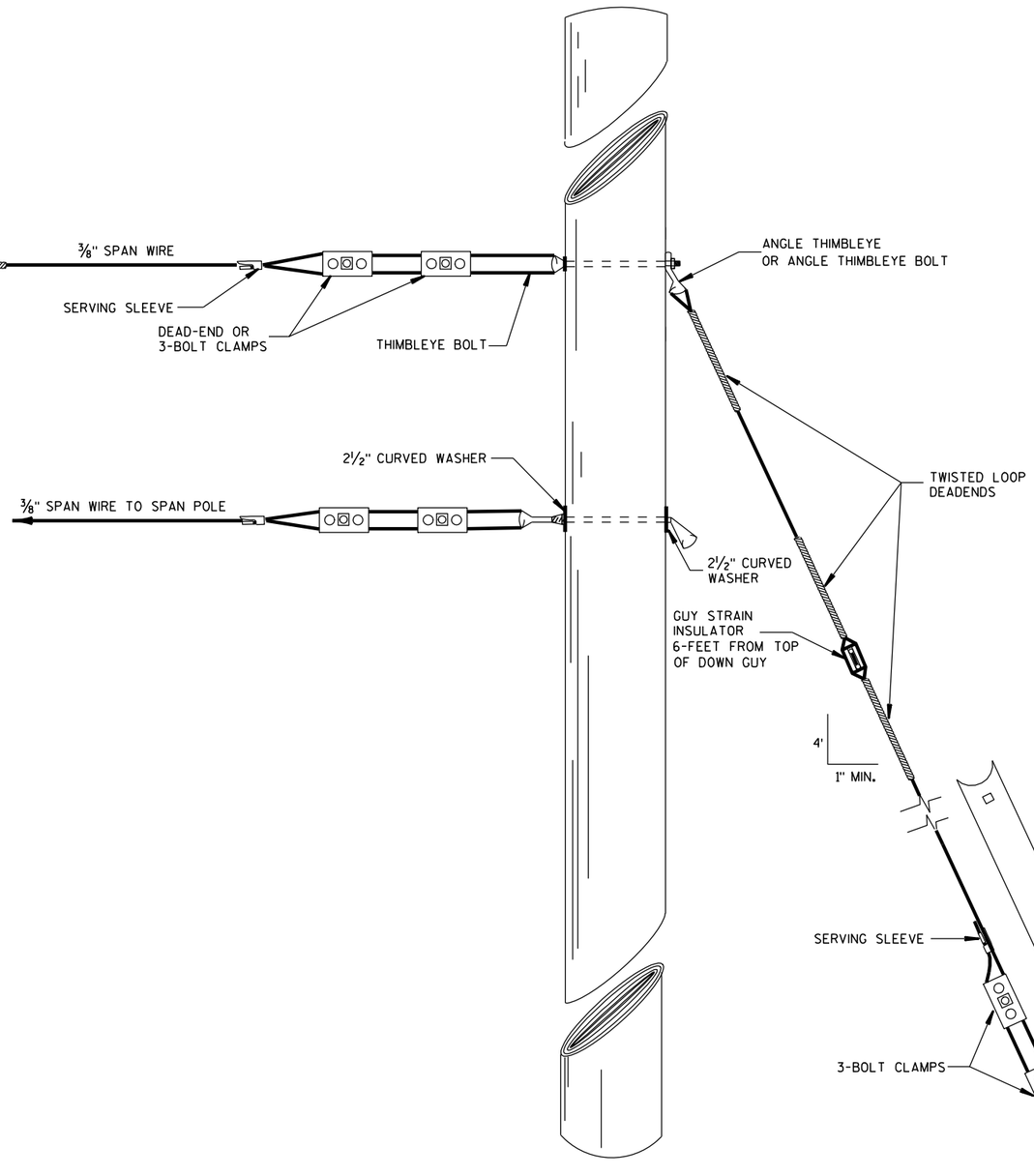
GENERAL NOTES

1. USE ¾" DRILL IN WOOD POLE TO PROVIDE HOLE FOR ⅝" BOLTS.
2. SAFTY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.



SPAN WIRE POLE



GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7-14-08 DATE
/S/ Balu Aganthanarayanan
STATE ELECTRICAL ENGI 328 HWYS
FHWA

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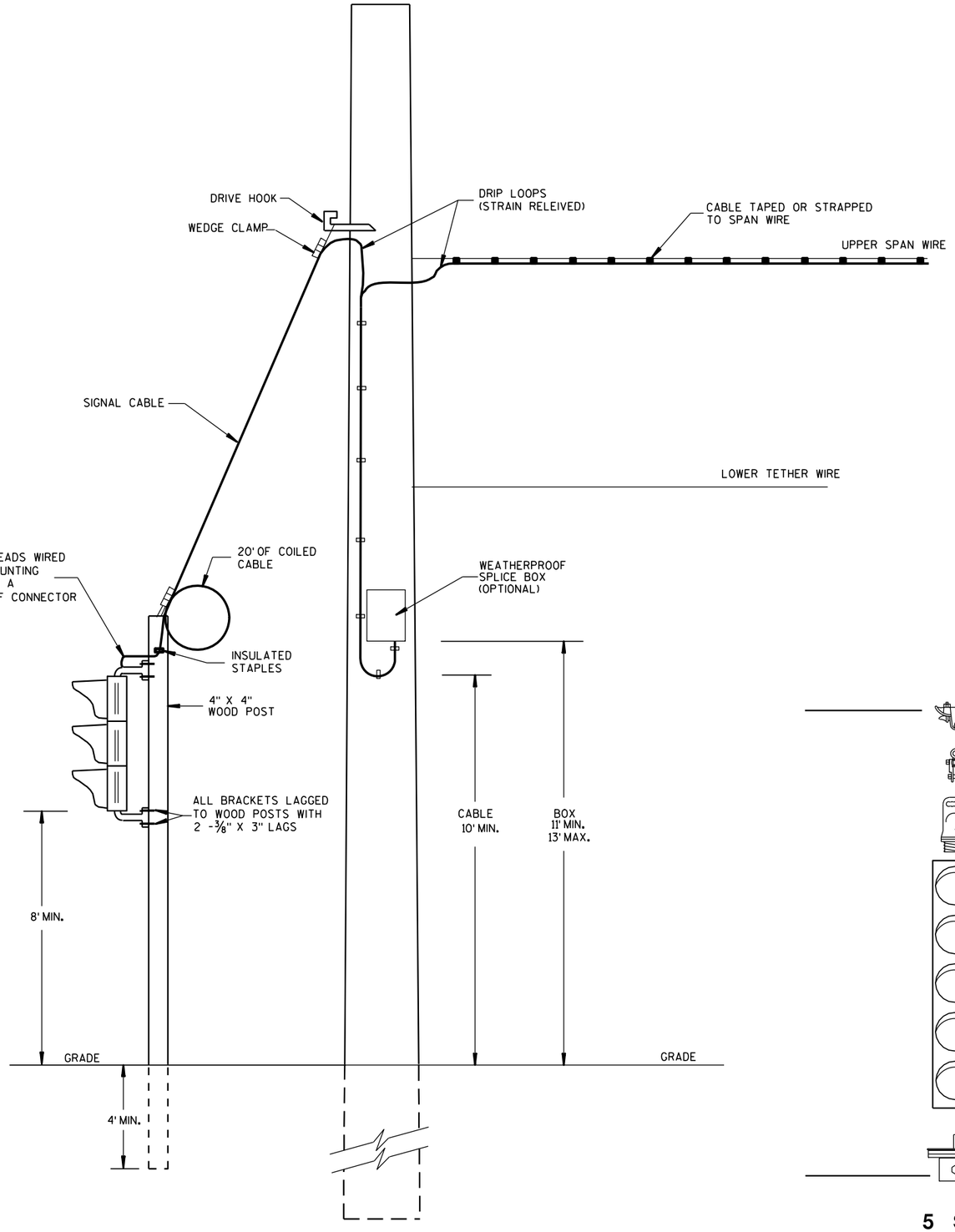
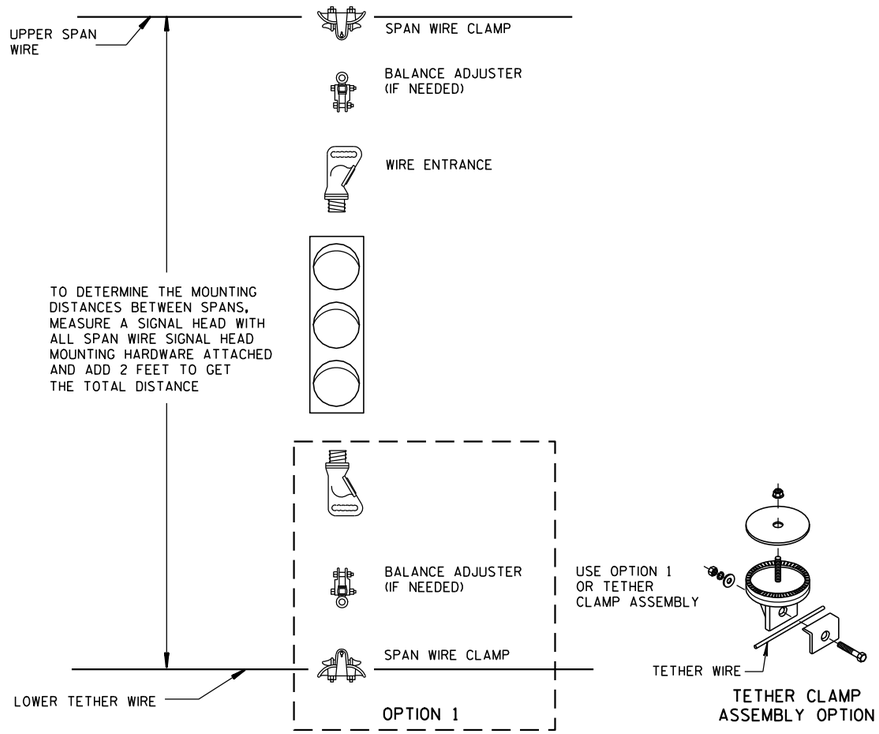
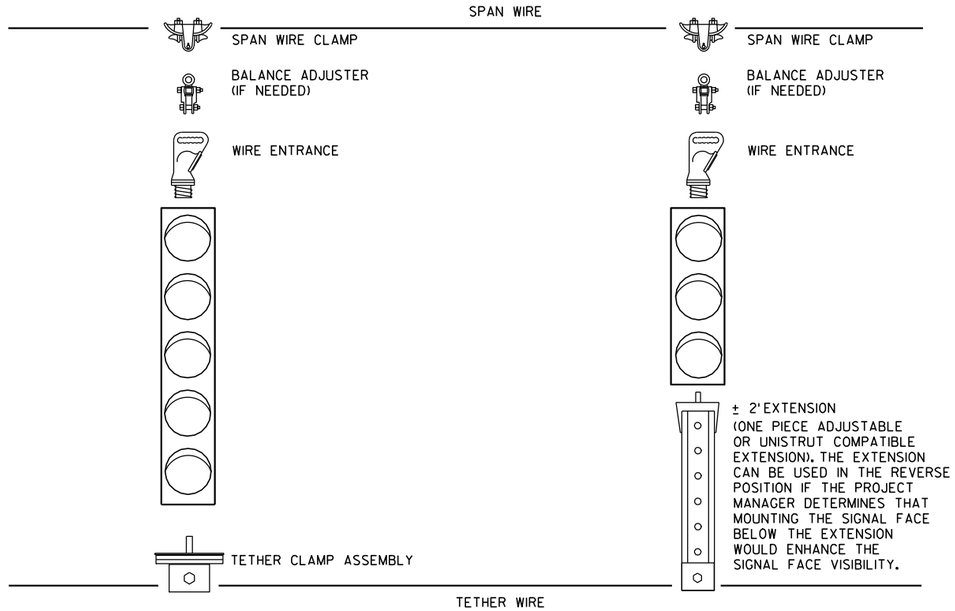
S.D.D. 9 G 1-3e



TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL



TYPICAL SPAN WIRE MOUNTING HARDWARE



5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7-14-08 DATE
/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 329 HWYS
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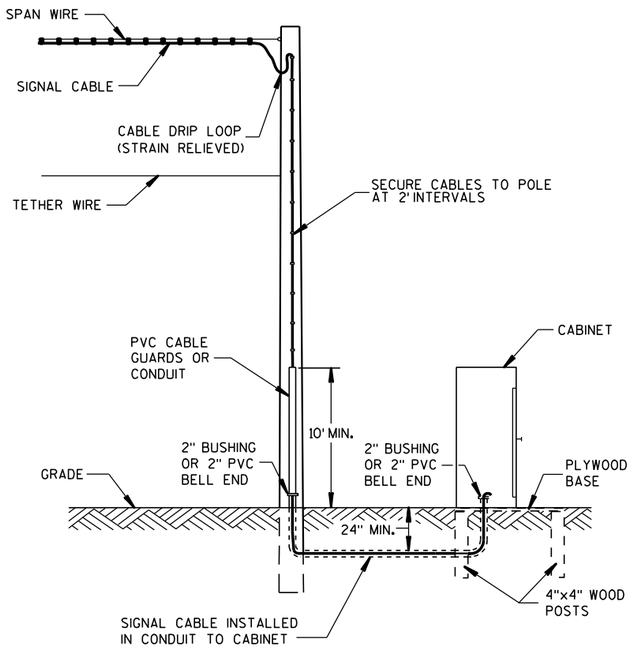
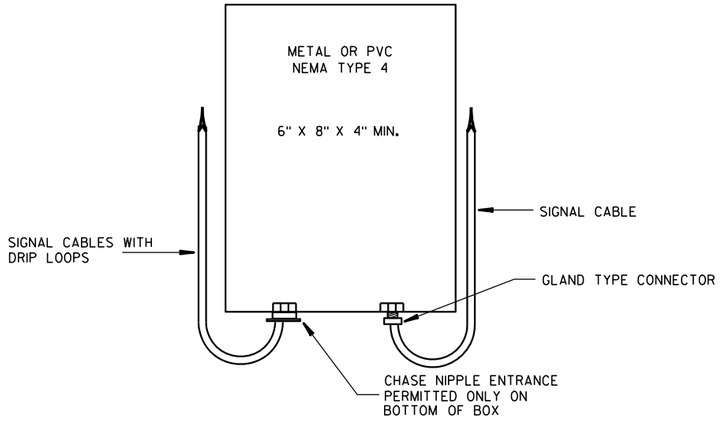
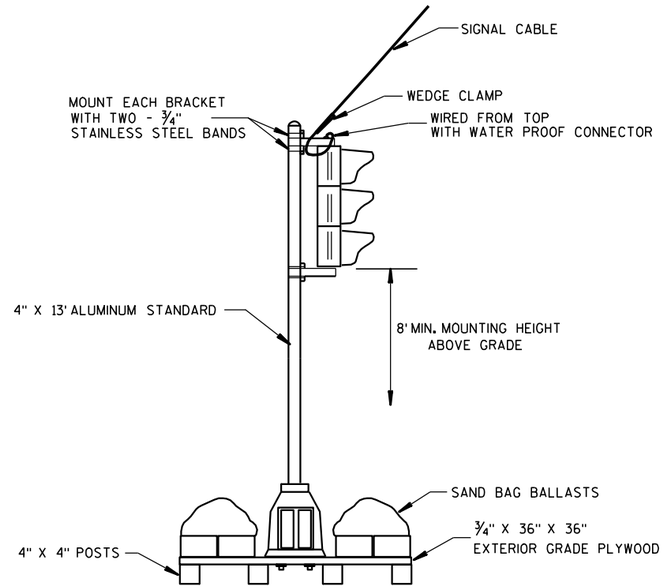
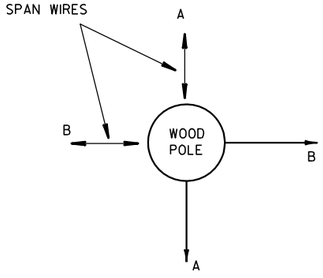




SPLICE BOX

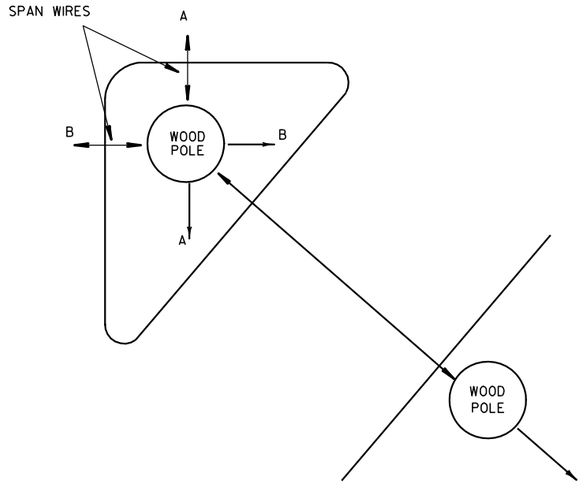


TYPICAL SKID TYPE TEMPORARY

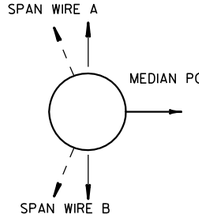


ALL DOWN OR SIDEWALK GUYS
SHALL BE INSTALLED IN THE
OPPOSITE DIRECTION OF THE
STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



GUY AWAY FROM
INTERSECTION OR IN
OPPOSITE DIRECTION OF THE
SPAN LOADING

MEDIAN POLES

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08
DATE

/S/ Balu Aganthangayanan
STATE ELECTRICAL ENGI

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HWYS

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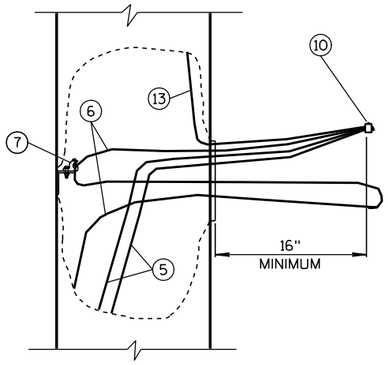
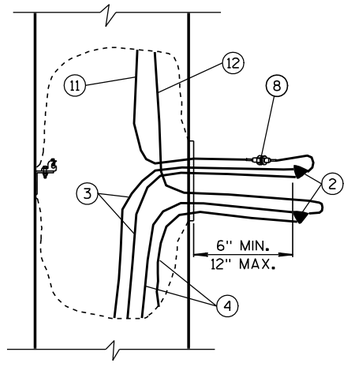
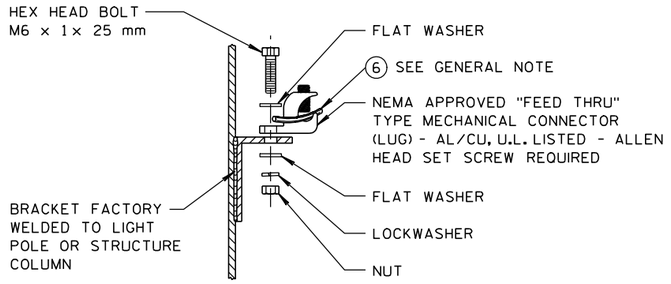


EQUIPMENT GROUNDING CONDUCTOR SLACK



UNGROUNDED CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

TYPICAL CONDUCTOR SLACK AT HANDHOLES



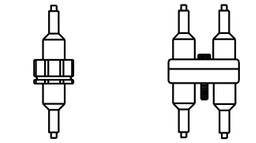
HANDHOLE GROUNDING LUG

(NUT, BOLT, WASHERS, AND LOCK WASHERS SHALL BE STAINLESS STEEL)

CONDUCTOR COLOR CODES

KEY	CONDUCTOR	COLOR
3	UNGROUNDED LINE WIRE	*
4	GROUNDED LINE WIRE	WHITE
5	SYSTEM GROUNDING LINE WIRE	GREEN
6	GROUNDING ELECTRODE CONDUCTOR	BARE
11	UNGROUNDED POLE WIRE	*
12	GROUNDED POLE WIRE	WHITE
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS. WHERE THE PLANS DO NOT SHOW COLOR CODING, USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK AND RED FOR TWIN LUMINAIRE POLES.



FUSE ASSEMBLIES

GENERAL NOTES

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

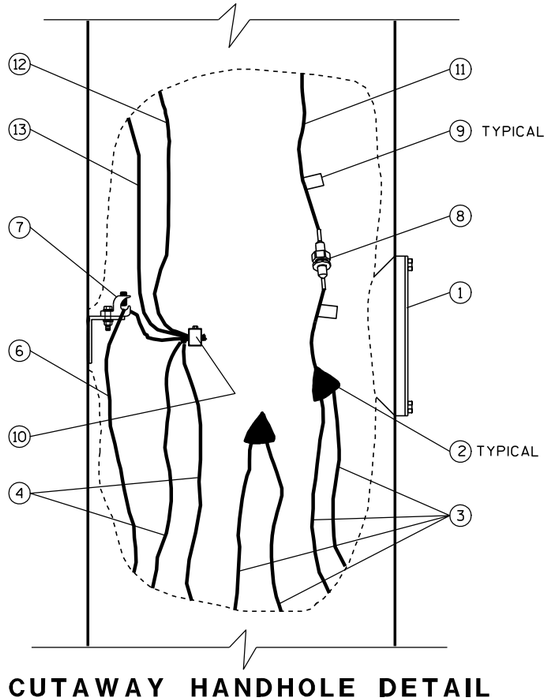
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE. THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE, BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

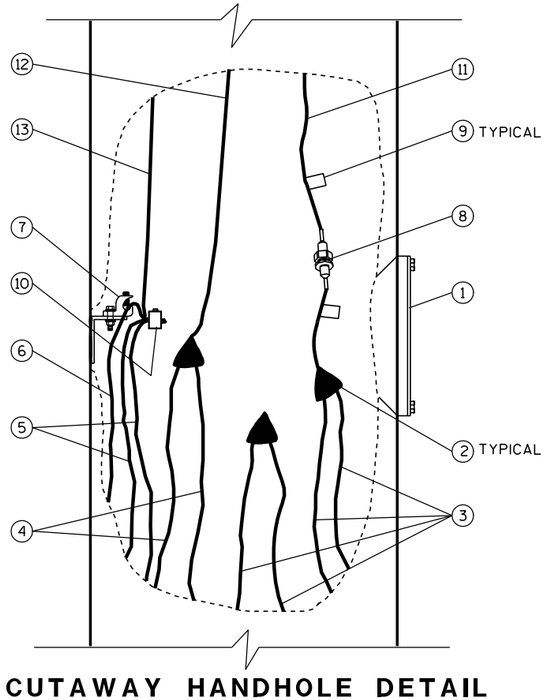
IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL PROVISIONS.



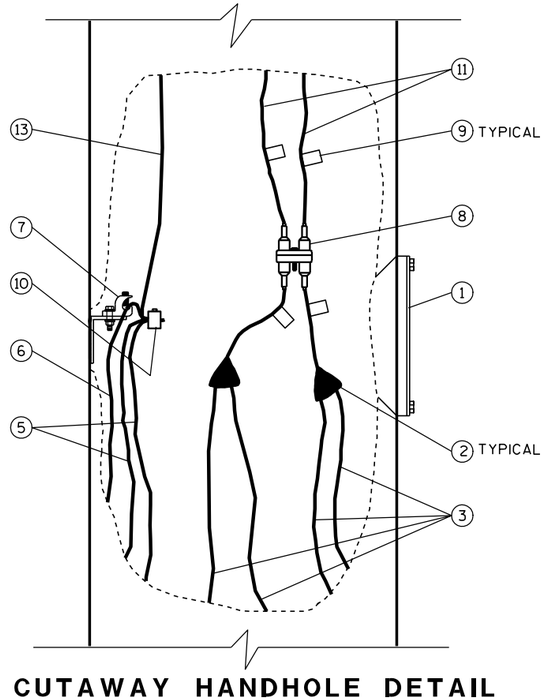
CUTAWAY HANDHOLE DETAIL

GROUNDED NEUTRAL SYSTEMS
1-φ



CUTAWAY HANDHOLE DETAIL

ISOLATED NEUTRAL SYSTEMS
1-φ SHOWN; 3-φ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL

PHASE-TO-PHASE SYSTEMS
1-φ SHOWN; 3-φ DELTA SIMILAR
(SEE GENERAL NOTE)

NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.

(1) HANDHOLE AND COVER
(2) INSULATED SPLICE
(3) UNGROUNDED LINE WIRE
(4) GROUNDED LINE WIRE
(5) SYSTEM GROUNDING LINE WIRE
(6) GROUNDING ELECTRODE CONDUCTOR
(7) HANDHOLE GROUNDING LUG
(8) FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
(9) CIRCUIT TAG (SEE GENERAL NOTE)
(10) REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (NOT INSULATED)
(11) UNGROUNDED POLE WIRE
(12) GROUNDED POLE WIRE
(13) EQUIPMENT GROUNDING POLE WIRE

ELECTRICAL HANDHOLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 DATE
/S/ John Corbin STATE ELECTRICAL ENGI
331 HWYS
FHWA

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S.D.D. 10 A 1-2

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

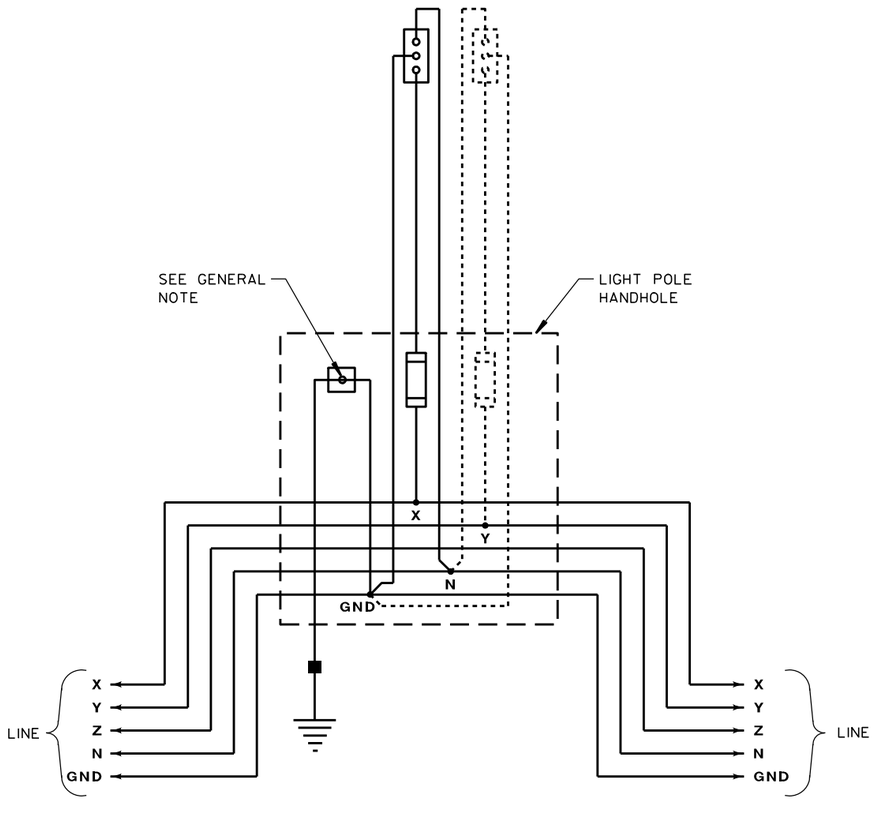
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

HANDHOLE FUSE SCHEDULES

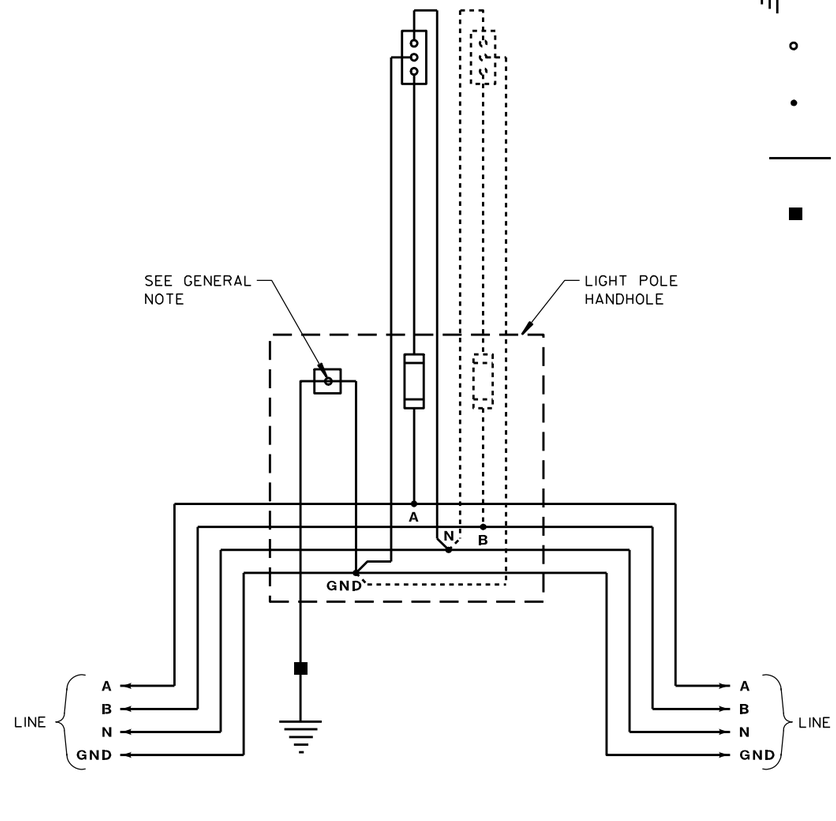
LINE VOLTAGE	BALLAST WATTAGE	
φ-GROUND	70-200 W	250-400 W
120 VAC	5 A	10 A
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
φ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	TWO-POLE (2P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
3-φ 208Y/120VAC OR 480Y/277VAC 4 WIRE



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
1-φ 120/240VAC OR 240/480VAC 3 WIRE

ELECTRICAL DETAILS
GROUND MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 DATE
/S/ John Corbin STATE ELECTRICAL ENGI
FHWA

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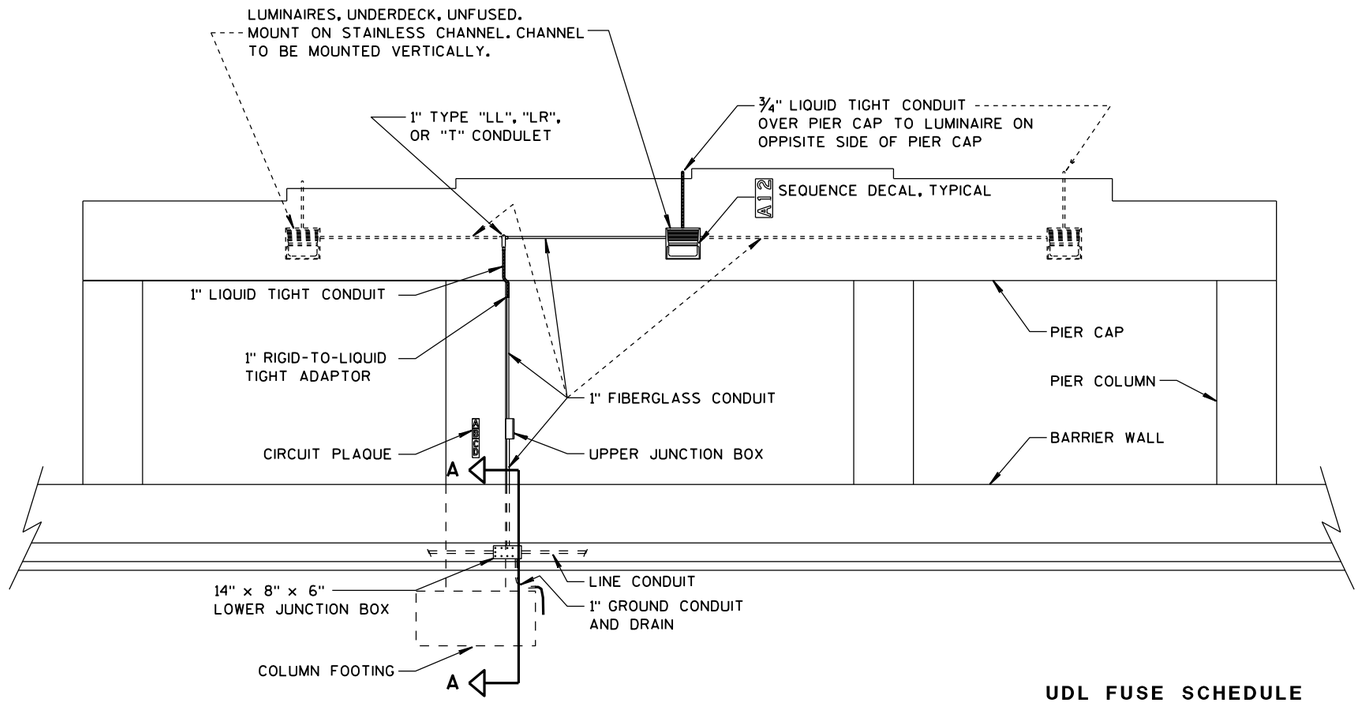
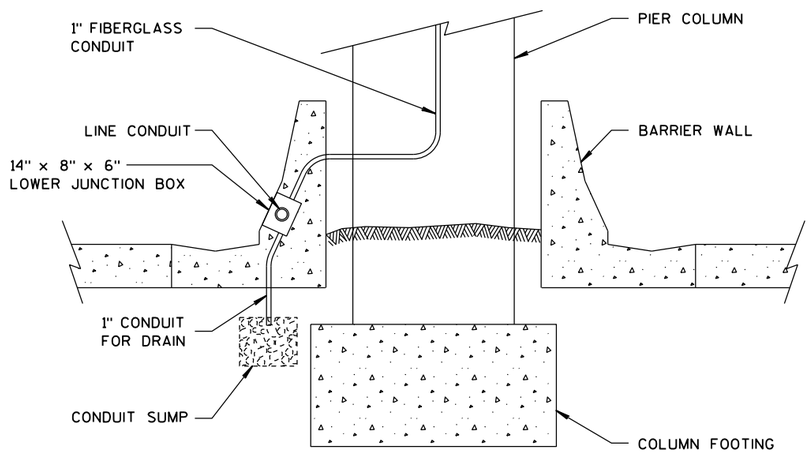
S.D.D. 10 A 5-2



TYPICAL UNDERDECK LIGHTING INSTALLATION



SECTION "A-A"

UDL FUSE SCHEDULE

LINE VOLTAGE ϕ-GROUND	TOP JUNCTION BOX FUSES
120VAC	5 A
208VAC	5 A
240VAC	5 A
480VAC	3 A

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING, SUBSTITUTING THE LOWER JUNCTION BOX FOR THE HANDHOLE SHOWN IN THAT DETAIL.

THE PLANS WILL SHOW WHICH CIRCUIT LEGS(S) ARE CONNECTED TO EACH INSTALLATION AND THE REQUIRED NUMBER OF LUMINAIRES.

THE UPPER JUNCTION BOX (FOR FUSE ASSEMBLIES) SHALL CONFORM TO THE APPLICABLE PROVISIONS OF SECTION 653.2.2 OF THE STANDARD SPECIFICATIONS; SHALL BE SUITABLE FOR SURFACE MOUNTING WITH EXTERNAL MOUNTING LUGS; AND SHALL HAVE A HINGED COVER, WING-NUT FASTENERS, AND PADLOCK HASP. ALL HARDWARE SHALL BE STAINLESS STEEL. FURNISH O-Z/GEDNEY YW-120603, SPRING CITY HC-12-06-04, CROUSE-HINDS WTB-120604, OR APPROVED EQUAL.

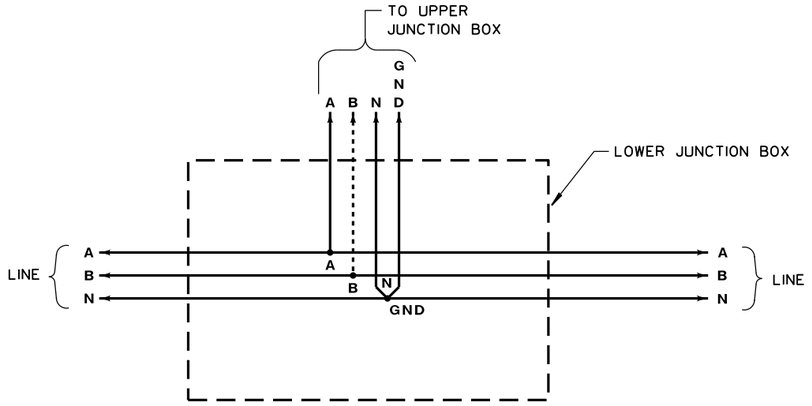
MEDIAN CONFIGURATIONS VARY; NOT ALL CASES CAN BE SHOWN IN THIS DETAIL.

WIRING FOR THE FIRST LUMINAIRE PAIR IS SHOWN IN SOLID LINES. WIRING FOR ADDITIONAL LUMINAIRE PAIRS, WHERE REQUIRED, IS SHOWN IN DOTTED LINES.

LEGEND

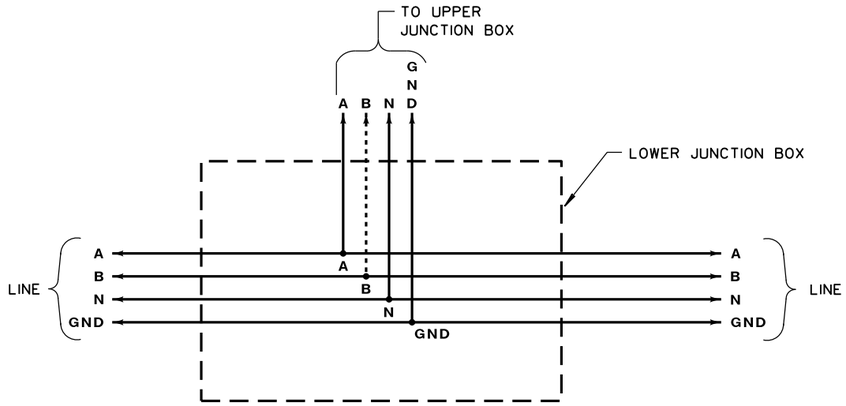
A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
ϕ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	UNFUSED LUMINAIRE
	SINGLE POLE (1P) FUSE ASSEMBLY
	TERMINAL
	SPLICE
	CONDUCTOR

ELECTRICAL DETAILS
UNDERDECK LIGHTING



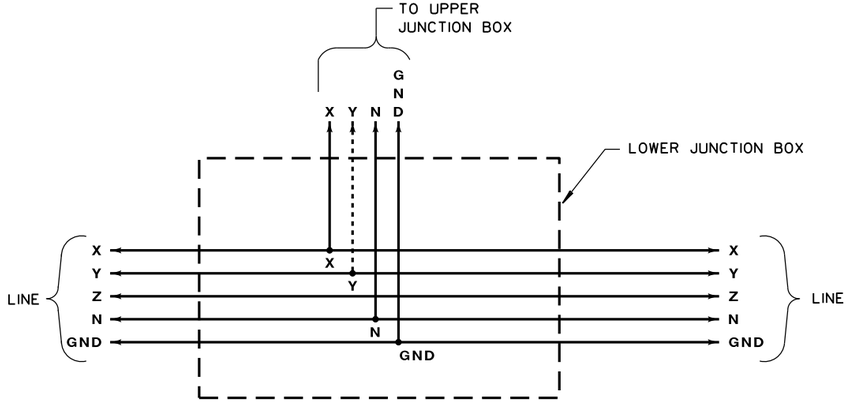
TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

GROUNDED NEUTRAL SYSTEM
1-ϕ 240/480VAC OR 3 WIRE OR 480VAC 2 WIRE



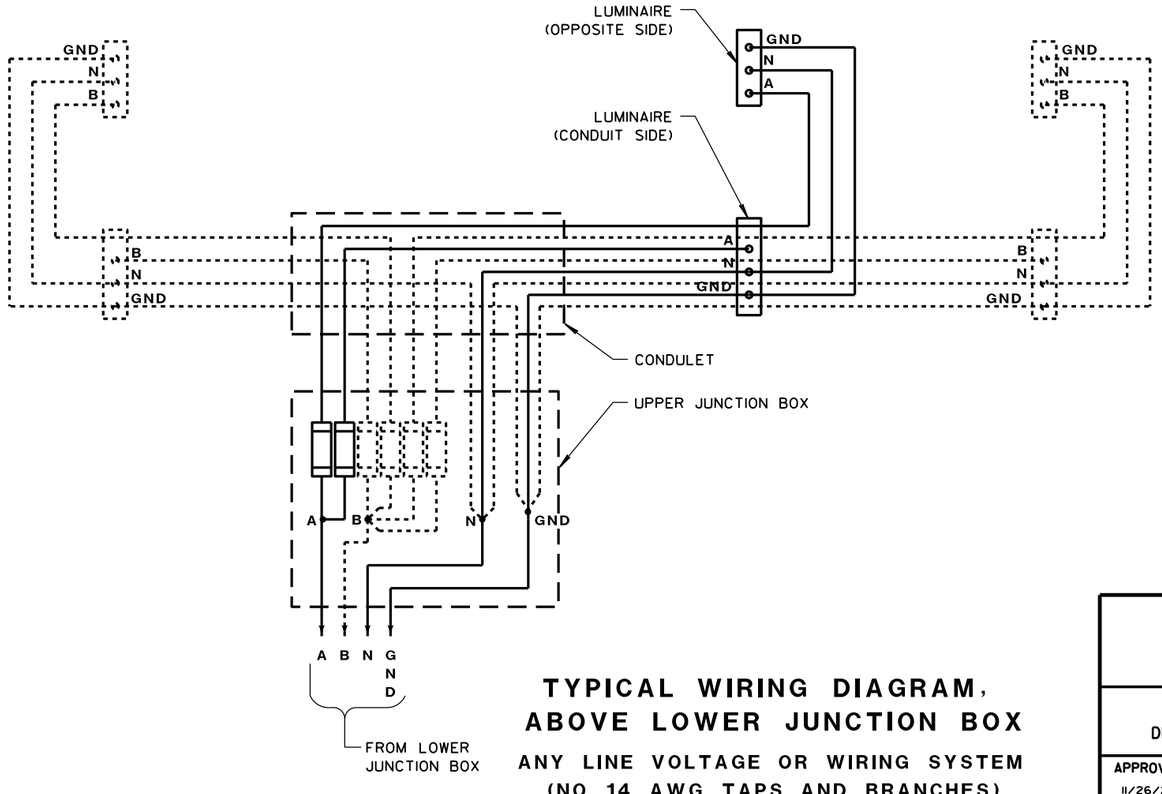
TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

ISOLATED NEUTRAL SYSTEM
1-ϕ 120/240VAC OR 240/480VAC 3 WIRE



TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

ISOLATED NEUTRAL SYSTEM
3-ϕ 208Y/120VAC OR 480Y/277VAC 4 WIRE



TYPICAL WIRING DIAGRAM, ABOVE LOWER JUNCTION BOX

ANY LINE VOLTAGE OR WIRING SYSTEM
(NO. 14 AWG TAPS AND BRANCHES)

ELECTRICAL DETAILS
UNDERDECK LIGHTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/26/2013
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

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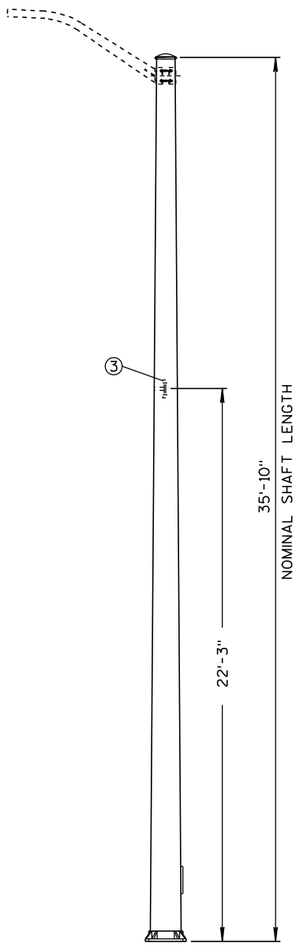
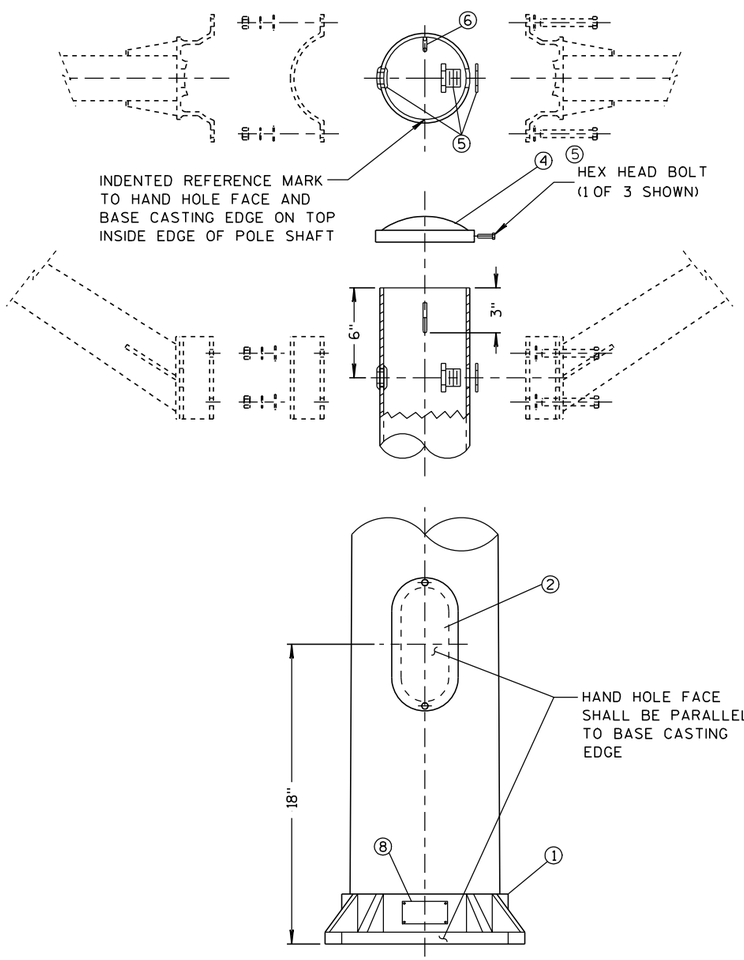
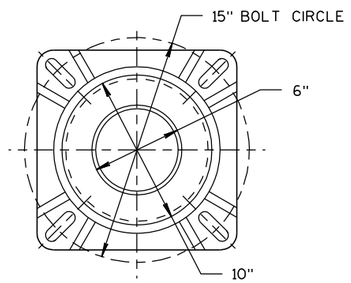
S.D.D. 10 A 15-4b

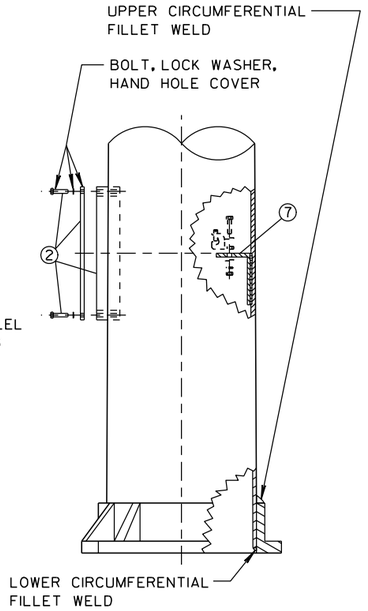


POLE, TYPE 7





(TOP VIEW)



POLES COVERED BY THIS DRAWING	
TYPE 7	NATURAL FINISH, SLOTTED FOR 1" ANCHOR RODS
TYPE 7BR	DARK BROWN ANODIZED, SLOTTED FOR 1" ANCHOR RODS

GENERAL NOTES

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

SLOTTED ANCHOR ROD HOLES FOR 1"-8 UNC ANCHOR RODS (4 EACH, 15" BOLT CIRCLE), SHALL BE PROVIDED IN BASE CASTING.

POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM. EXCEPT THAT BASE CASTINGS SHALL BE CONSTRUCTED OF 356-T6 ALUMINUM. THE SHAFT SHALL BE ROUND AND UNIFORMLY TAPERED FROM A 10" O.D. BUTT TO A 6" O.D. TOP.

HEAT TREATMENT OF WELDMENTS IN STRUCTURAL AREAS (e.g. BASE CASTING, HAND HOLE, BRACKET FOR GROUNDING LUG) REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE ARMS AND CLAMP ASSEMBLIES SHOWN FOR INFORMATION ONLY (PAID SEPARATELY).

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A.

① SHOE BASE.

② 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY SECURED BY TWO (2) 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

HANDHOLE SHALL BE 90 DEGREES FROM LUMINAIRE ARMS OF TWIN LUMINAIRE POLES; 180 DEGREES FROM LUMINAIRE ARM OF SINGLE LUMINAIRE POLES; 0 DEGREES FROM LUMINAIRE ARM FOR STRUCTURE MOUNTED POLES.

③ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

④ FURNISH AND INSTALL CAST OR METALLIC (ALUMINUM ALLOY) POLE CAP. FASTEN CAP WITH THREE 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

⑤ 1 3/8" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET), PER EACH REQUIRED LUMINAIRE ARM.

⑥ FACTORY-WELDED "J" HOOK FOR POLE WIRE STRAIN RELIEF.

⑦ FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE. (LUG AND HARDWARE PAID UNDER SEPARATE ITEMS; SHOWN FOR INFORMATION ONLY). PROVIDE HOLE IN BRACKET FOR 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

⑧ MANUFACTURER'S PLATE SHOWING WisDOT POLE TYPE, MANUFACTURER, AND DATE.

POLE TYPE (NOM. SHAFT LENGTH)	TYPICAL APPLICATION	ARM & LUMINAIRE LOADS (MAX.)	ADDITIONAL (MAX.) LOADS
TYPE 7 & 7BR (35'-10")	ARTERIALS	TWIN ARMS UP TO 10 FT. (SINGLE MEMBER)	UP TO 20 SQ. FT. ON TRAFFIC SIGNS, MOUNTED AS HIGH AS 15 FT. TO TOP OF SIGN, PLUS 1-3 SECTION, 1-5 SECTION, AND 2-PED. TRAFFIC HEAD
	FREEWAY	SINGLE ARM, UP TO 20 FT. TRUSS TYPE	UP TO 20 SQ. FT. OF TRAFFIC SIGNS, MOUNTED AS HIGH AS 15 FT. TO TOP OF SIGN

POLES, TYPES 7 & 7BR
ALUMINUM - 35'-10" SHAFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 DATE
/S/ John Corbin
STATE ELECTRICAL ENGI 335 HWYS
FHWA

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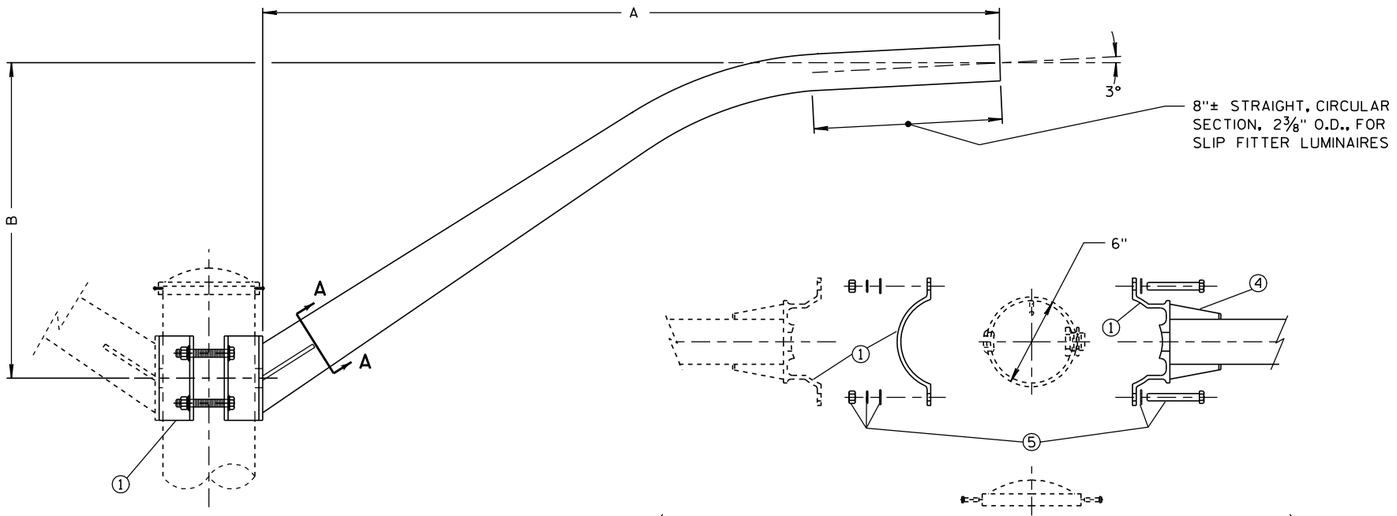
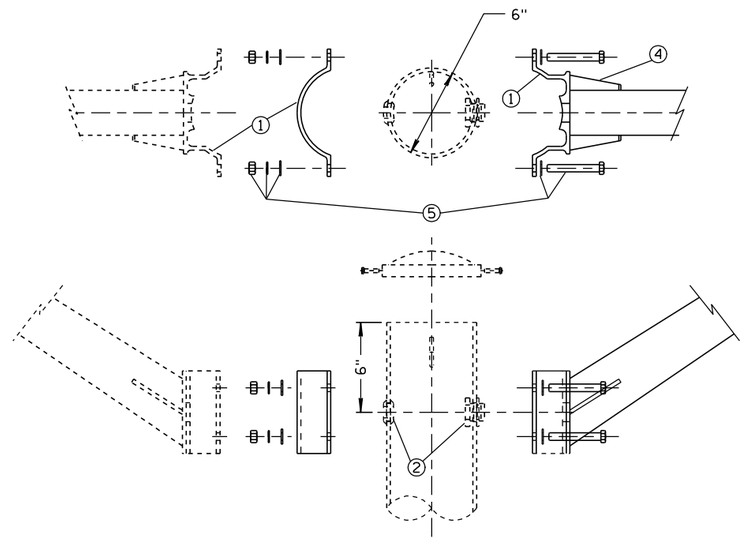
S.D.D. 10 A 17-3a



LUMINAIRE ARMS, SINGLE MEMBER, 6-INCH CLAMP - FOR POLES, TYPE 7, A OR E

VARIOUS LENGTHS (SEE TABLE)



CLAMP ASSEMBLY

SINGLE MEMBER CLAMP SHOWN

TYPE	DIM. A NOMINAL ARM LENGTH (FT)	DIM. B APPROX. RISE (FT)
SINGLE MEMBER	4.0	2.0
SINGLE MEMBER	8.0	3.0
SINGLE MEMBER	10.0	3.0
SINGLE MEMBER	15.0	3.0

GENERAL NOTES

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

ARMS AND CLAMP EXTRUSIONS SHALL BE CONSTRUCTED OF NATURAL FINISH 6063-T6 ALUMINUM (OR DARK BRONZE ANODIZED IF SO STATED IN THE CONTRACT).

HEAT TREATMENT OF WELDS IN STRUCTURAL AREAS IS REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A..

① CLAMPS SHALL BE EXTRUDED ALUMINUM.

② RACE WAY: 1⅜" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET) PER EACH REQUIRED LUMINAIRE ARM. PROVIDE 1½" HOLE IN CLAMP EXTRUSION TO CONTINUE RACEWAY.

③ STIFFENER

④ GUSSETS REQUIRED.

⑤ CLAMP BOLT ASSEMBLY (BOLT - ½"-13 UNC, 2 EACH - FLAT WASHER, LOCK WASHER, NUT) - 4 EACH PER CLAMP.

LUMINAIRE ARMS, SINGLE MEMBER 6-INCH CLAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/25/2010 DATE — /S/ John Corbin STATE ELECTRICAL ENGI — HWYS

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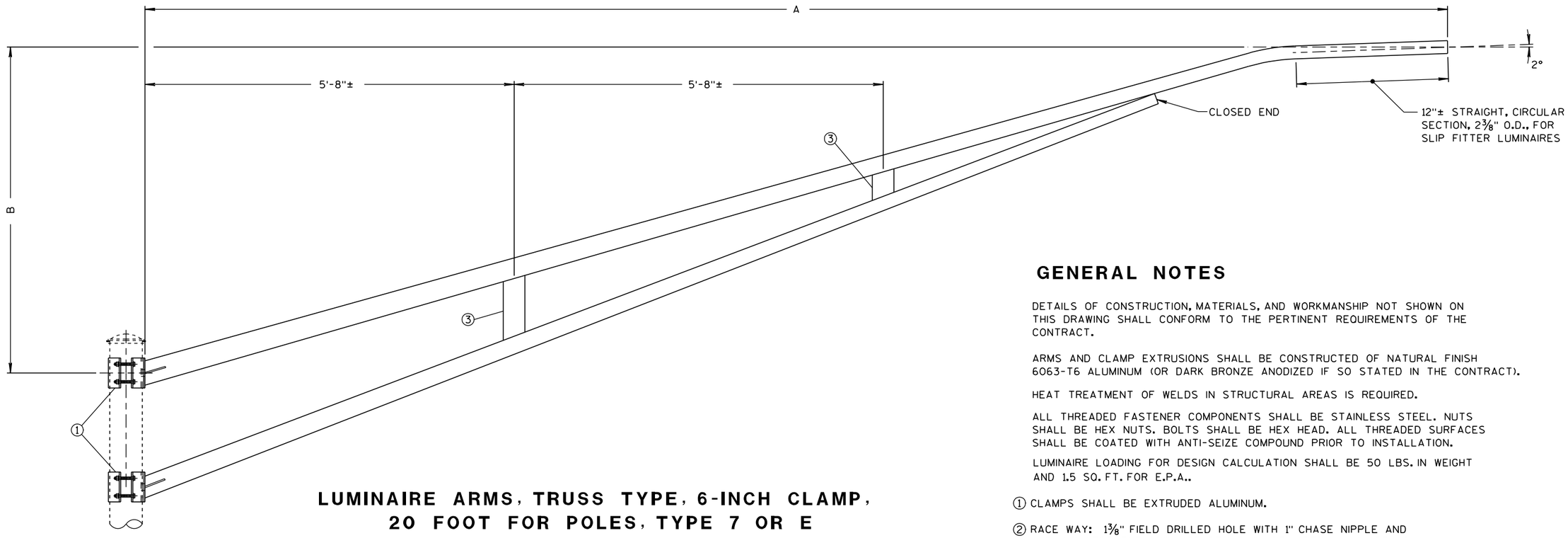
S.D.D. 10 A 18-4a



LUMINAIRE ARMS, TRUSS TYPE, 6-INCH CLAMP, 20 FOOT FOR POLES, TYPE 7 OR E

UPPER AND LOWER TRUSS CHORD CLAMPS SIMILIAR

TYPE	DIM. A NOMINAL ARM LENGTH (FT)	DIM. B APPROX. RISE (FT)
TRUSS TYPE	20.0	5.0

GENERAL NOTES

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

ARMS AND CLAMP EXTRUSIONS SHALL BE CONSTRUCTED OF NATURAL FINISH 6063-T6 ALUMINUM (OR DARK BRONZE ANODIZED IF SO STATED IN THE CONTRACT).

HEAT TREATMENT OF WELDS IN STRUCTURAL AREAS IS REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A..

① CLAMPS SHALL BE EXTRUDED ALUMINUM.

② RACE WAY: 1⅜" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET) PER EACH REQUIRED LUMINAIRE ARM. PROVIDE 1½" HOLE IN CLAMP EXTRUSION TO CONTINUE RACEWAY. NOTE: NO RACEWAY ON LOWER TRUSS CORD CLAMP. FOR INFORMATION ONLY.

③ STIFFENER.

④ GUSSETS REQUIRED.

⑤ CLAMP BOLT ASSEMBLY (BOLT - ½"-13 UNC, 2 EACH - FLAT WASHER, LOCK WASHER, NUT) - 4 EACH PER CLAMP.

LUMINAIRE ARMS, TRUSS TYPE 6-INCH CLAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/25/2010 DATE

/S/ John Corbin
STATE ELECTRICAL ENGI

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FHWA

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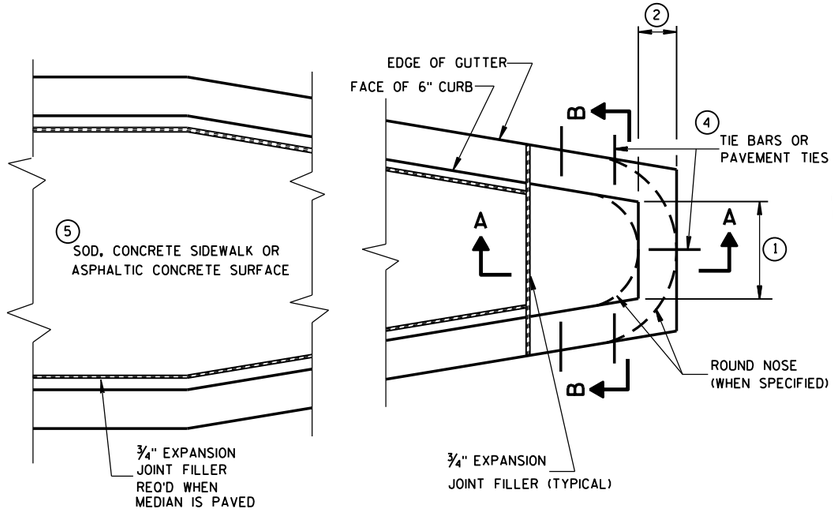
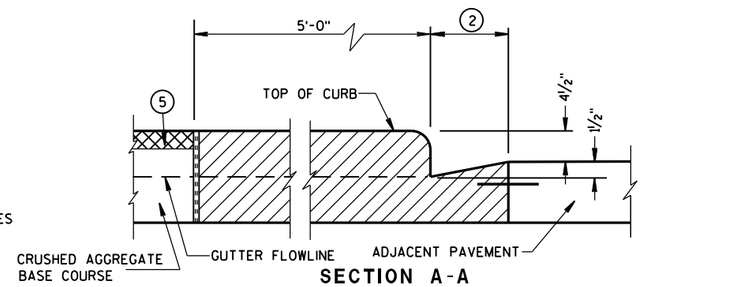
S.D.D. 10 A 18-4b





CONCRETE MEDIAN BLUNT NOSE DETAIL

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) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

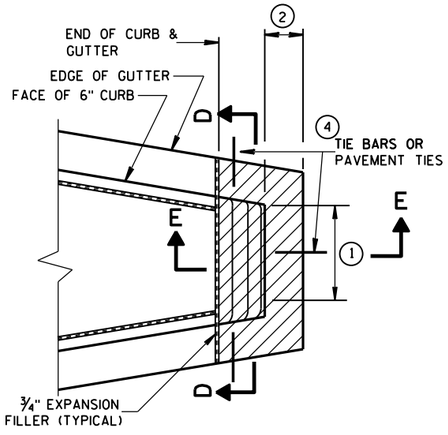
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

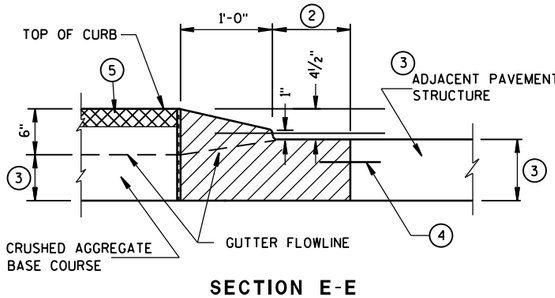
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

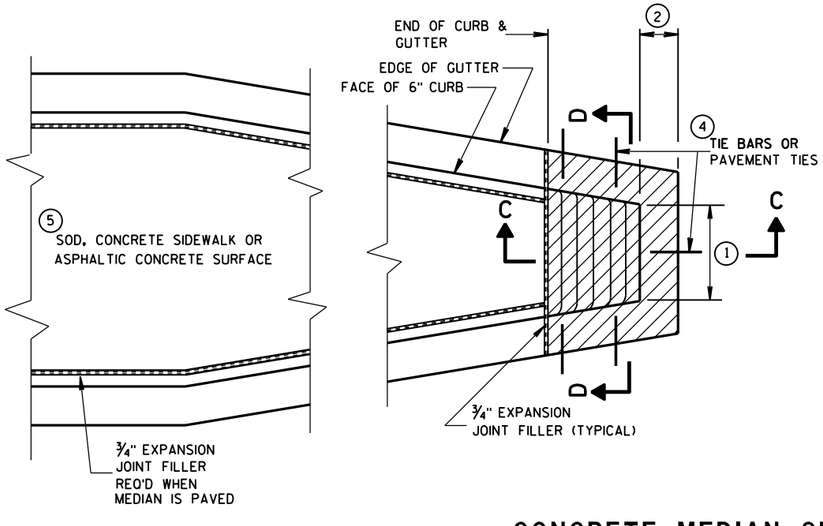
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

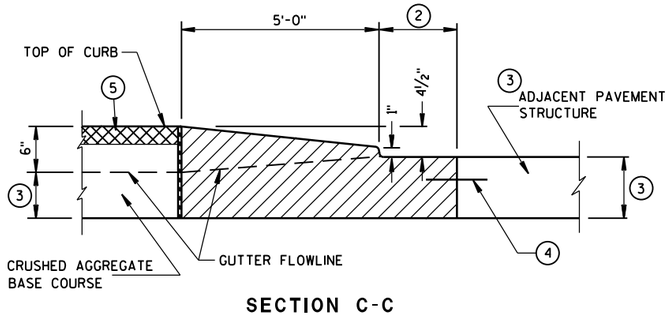




SECTION E-E

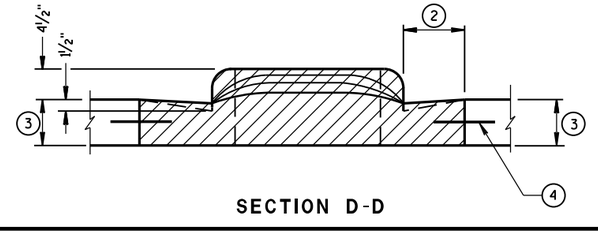
CONCRETE MEDIAN SLOPED NOSE TYPE 2





SECTION C-C

CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/8/2006
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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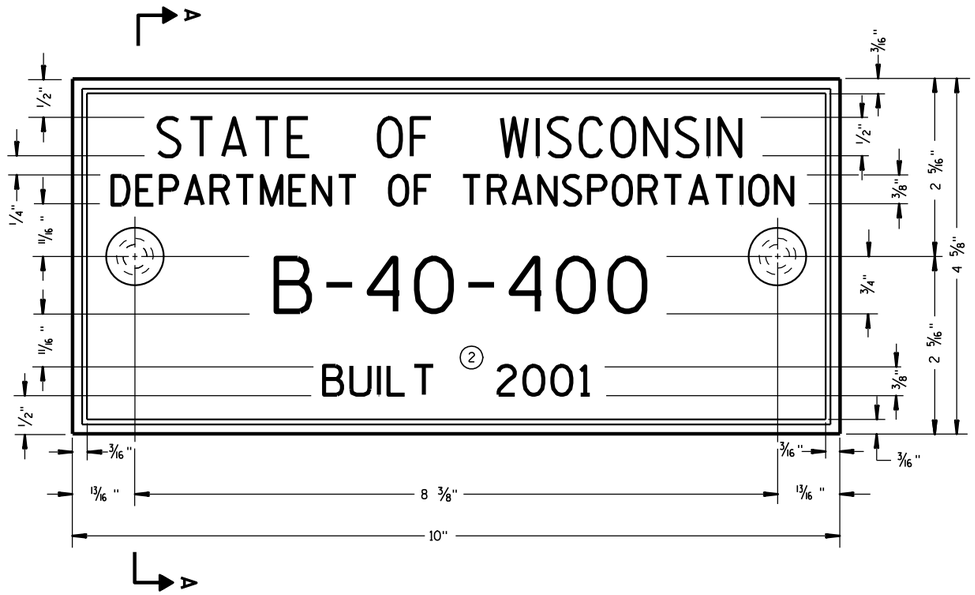
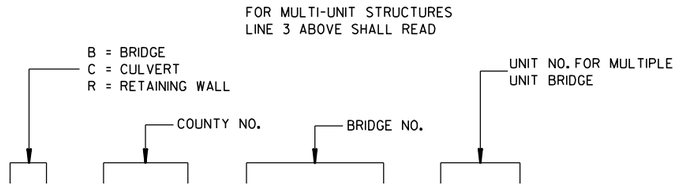
S.D.D. 11 B 2-2



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



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

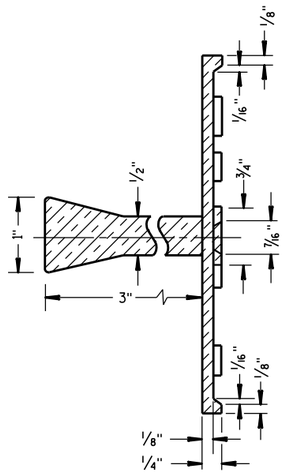
GENERAL NOTES

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.

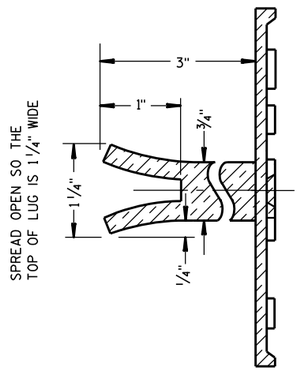
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

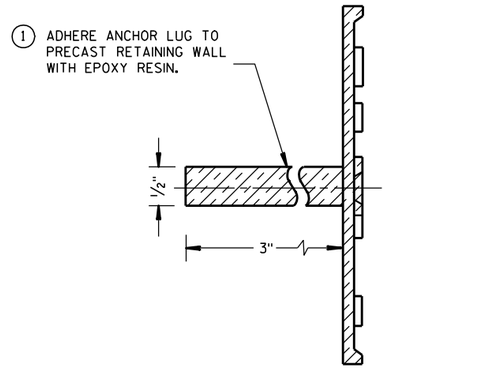
② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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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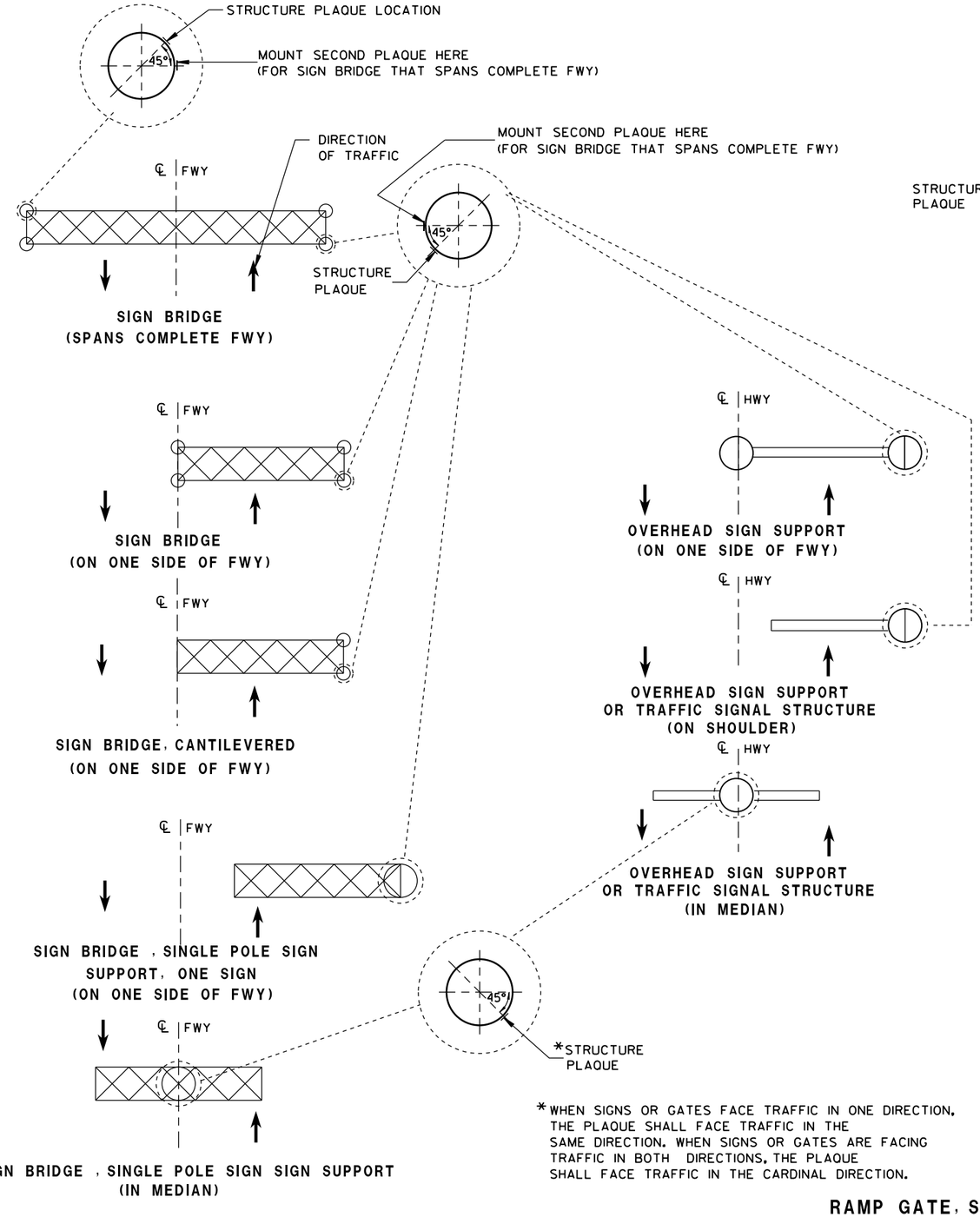
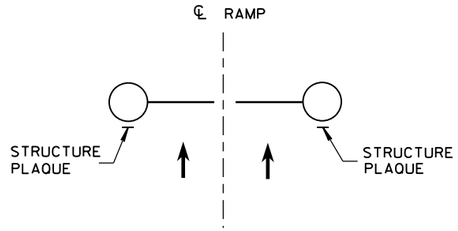
S.D.D. 12 A 3-10

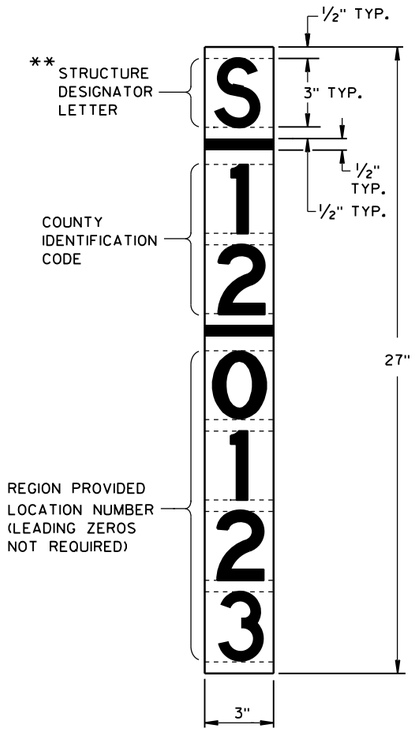


*WHEN SIGNS OR GATES FACE TRAFFIC IN ONE DIRECTION, THE PLAQUE SHALL FACE TRAFFIC IN THE SAME DIRECTION. WHEN SIGNS OR GATES ARE FACING TRAFFIC IN BOTH DIRECTIONS, THE PLAQUE SHALL FACE TRAFFIC IN THE CARDINAL DIRECTION.

LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES



RAMP GATE
(ACROSS FWY ON-RAMP)



** LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

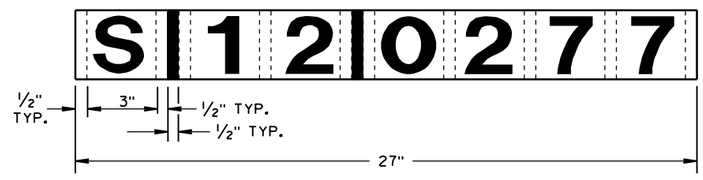
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, ½" WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.



IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

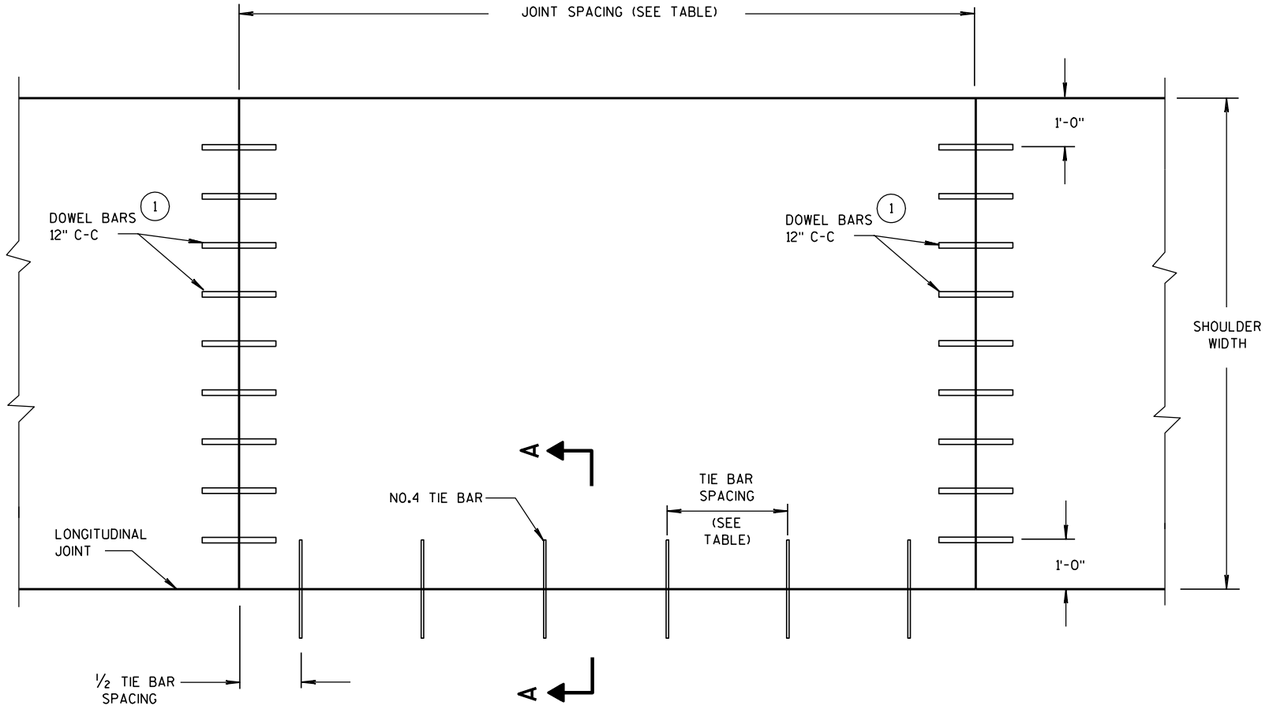
STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/4/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 12 A 4-3



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

PAVEMENT TYPE OF TRAFFIC LANES	TIE BAR SPACING	SHOULDER JOINT SPACING
NON-REINFORCED	30"	MATCH JOINT SPACING OF ADJACENT TRAFFIC LANE
CONTINUOUSLY REINFORCED	30"	15' FOR 6' TO 10' WIDE SHOULDERS
CONTINUOUSLY REINFORCED	36"	12' FOR 3' WIDE SHOULDERS

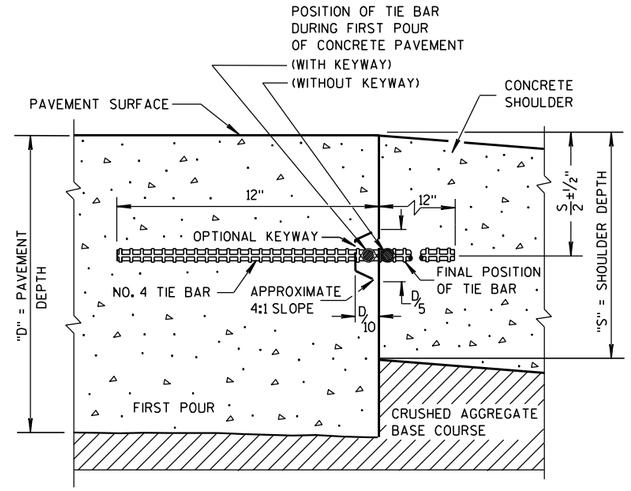
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

(1) **PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE**

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/15/2011 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & D — INEER
FHWA

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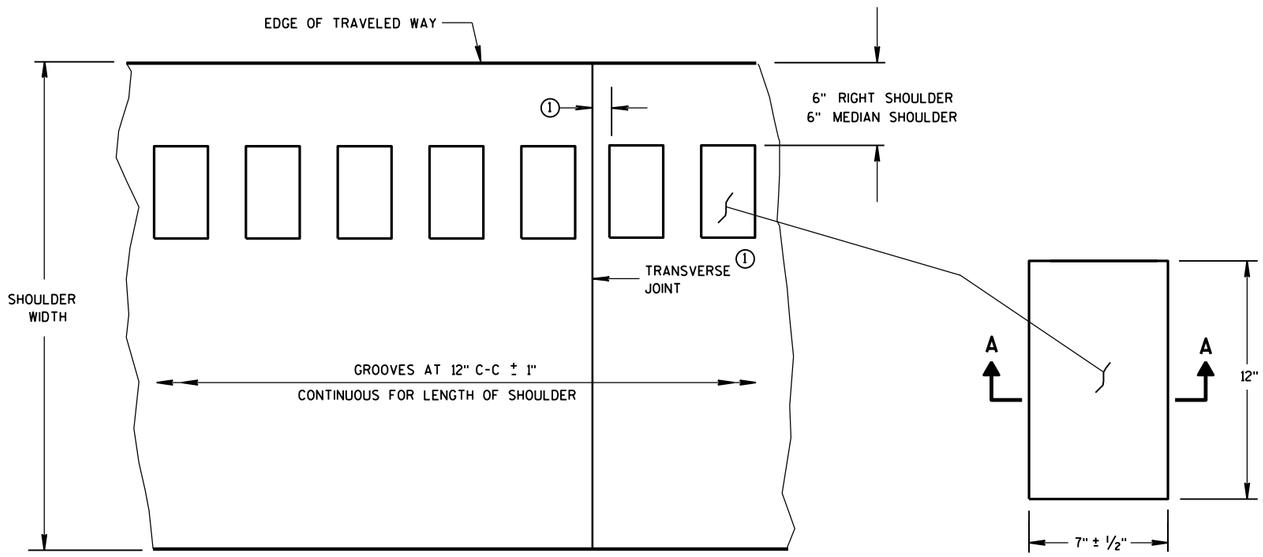
S.D.D. 13 A 3-5



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

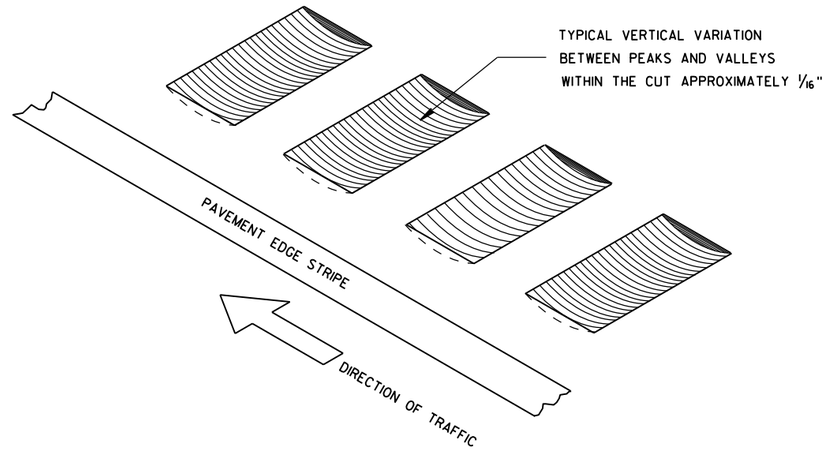
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



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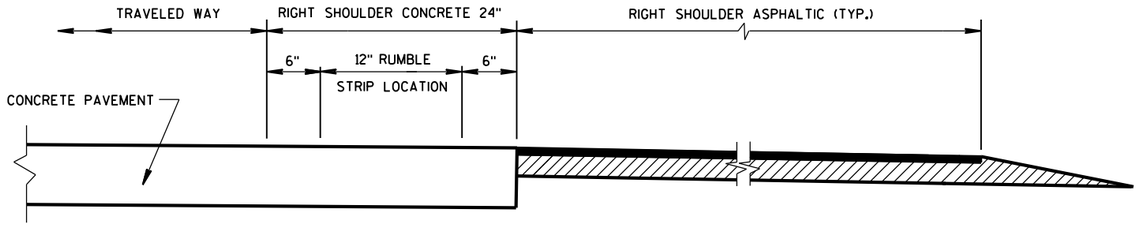
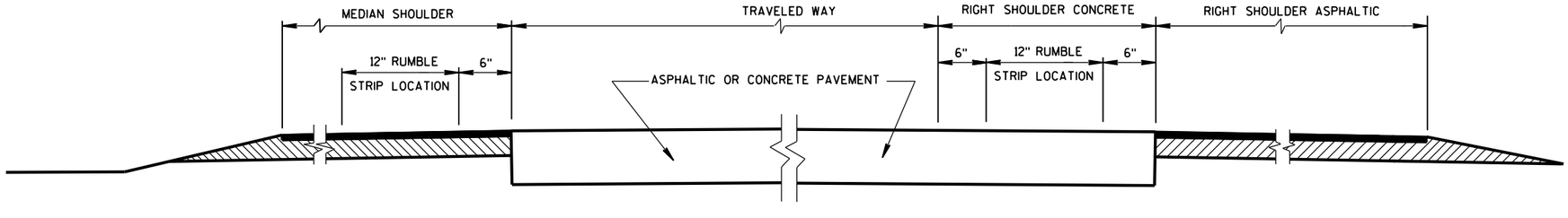


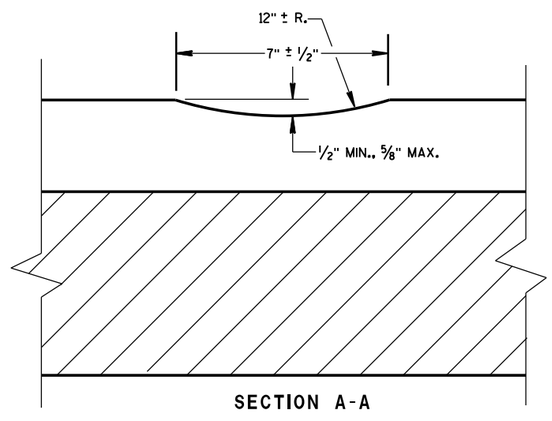
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 13 A 5-5a

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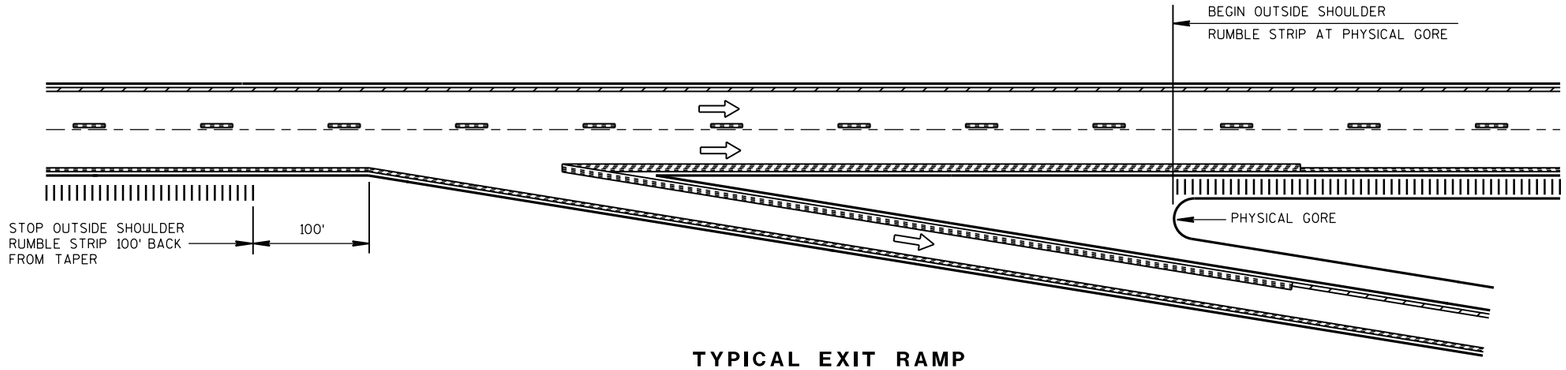
S.D.D. 13 A 5-5a



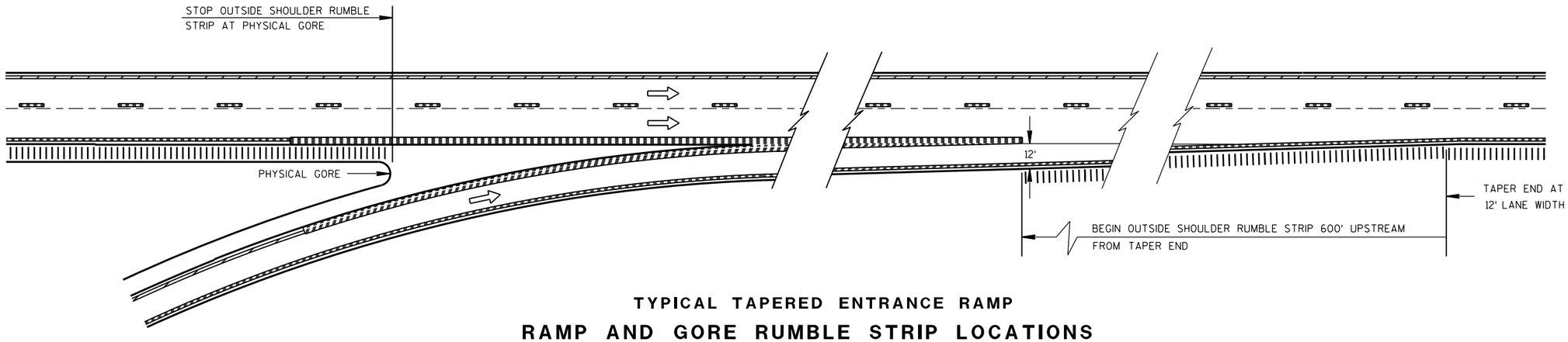
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

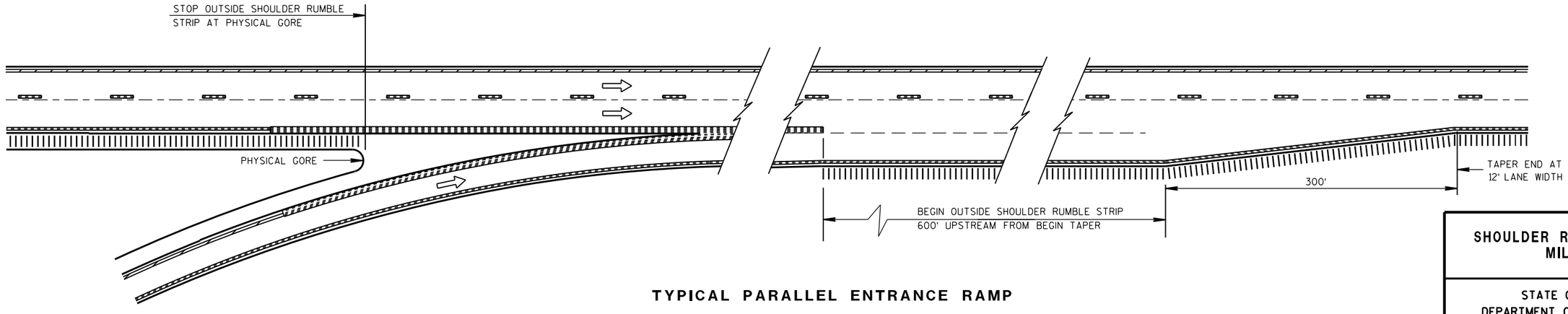
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/17/2012 DATE
/S/ Jerry H. Zoga
ROADWAY STANDARDS ENGINEER
FHWA

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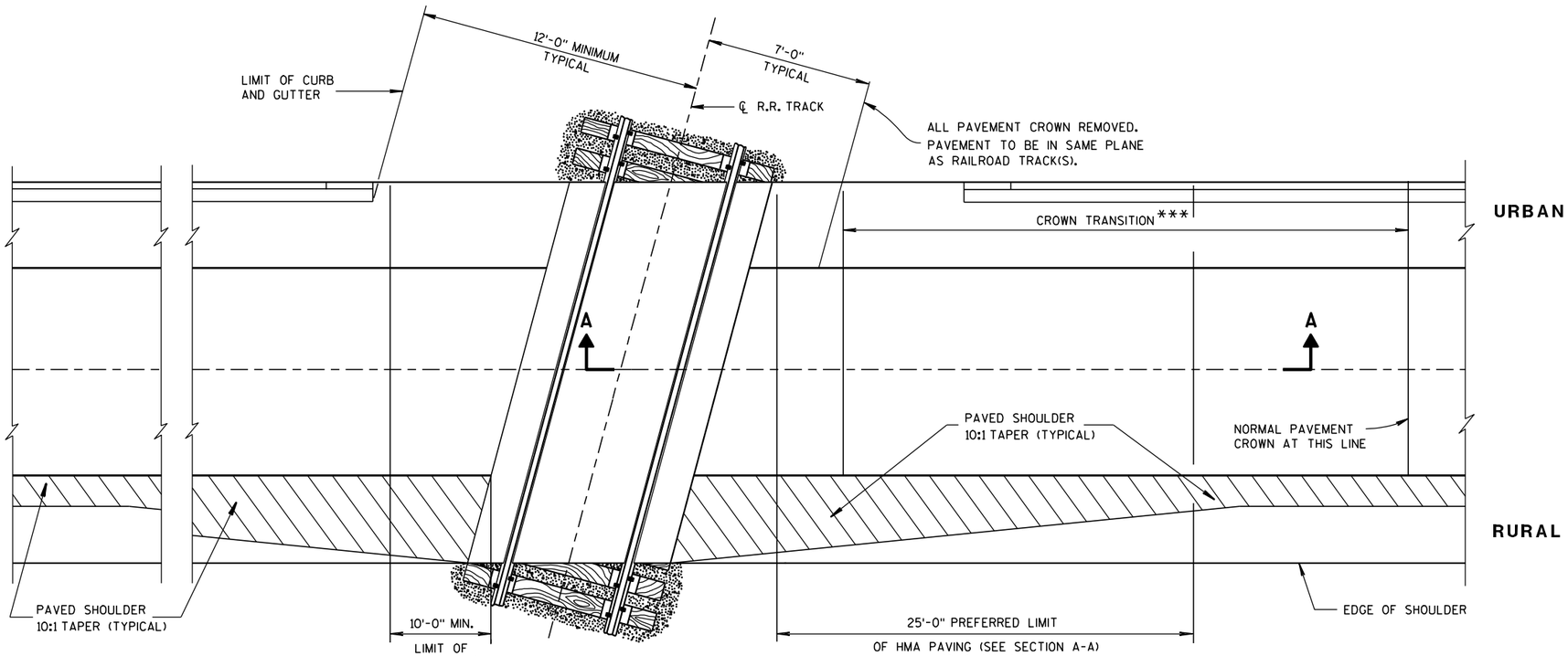
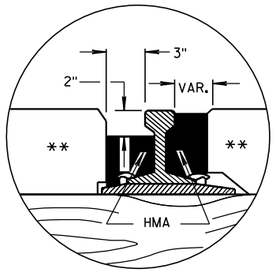
S.D.D. 13 A 5-5b





DETAIL B

HMA FLANGEWAY AND FIELD FILLERS

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.

TIMBER, CONCRETE OR RUBBER CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, GEOTEXTILE FABRIC AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS OTHERWISE PROVIDED.

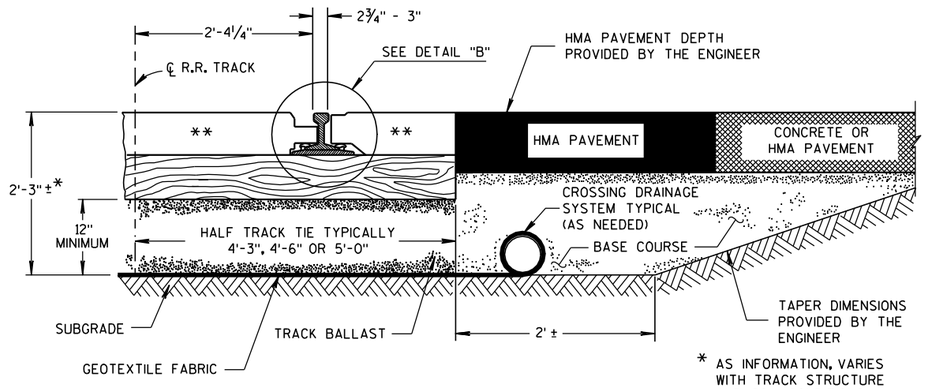
HMA PAVEMENT APPROACHES AND HMA PAVEMET CROSSING SURFACES TO BE PLACED BY CONTRACTOR UNLESS OTHERWISE PROVIDED.

HMA FLANGEWAY AND FIELD FILLERS TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR WHEN NOT PROVIDED BY OTHERS. SEE DETAIL B. HMA FILLERS NOT REQUIRED WHEN RUBBER FILLERS ARE PROVIDED.

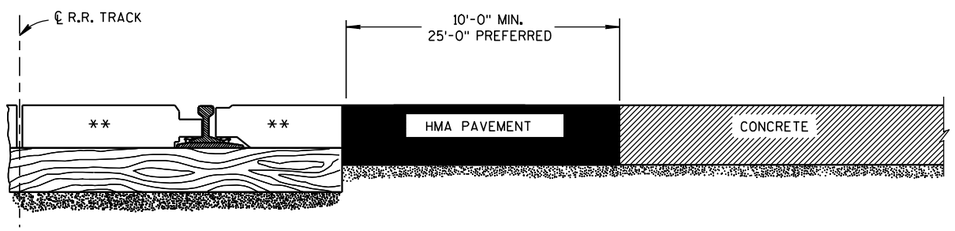
HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

** CROSSING SURFACE MAY BE TIMBER, RUBBER, CONCRETE, HMA PAVEMENT OR A COMBINATION OF SUCH MATERIALS.

*** CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.



TYPICAL HALF SECTION



SECTION A-A

CONCRETE PAVEMENT APPROACH

SECTION A-A

HMA PAVEMENT APPROACH

EXAMPLES OF PAVEMENT APPROACHES

PAVEMENT DETAILS FOR RAILROAD APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-28-09 DATE
/S/ Ronald E. Adams
CHIEF, RAILROADS & HAI 344 CTION
FHWA

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S.D.D. 13 B 1-10

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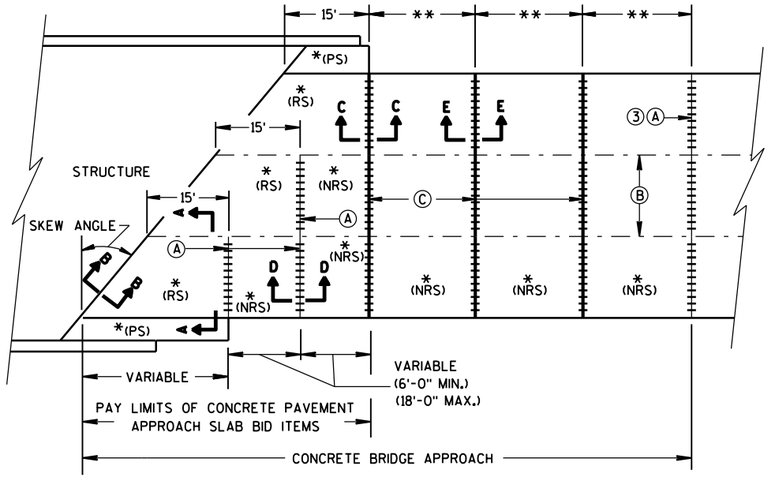
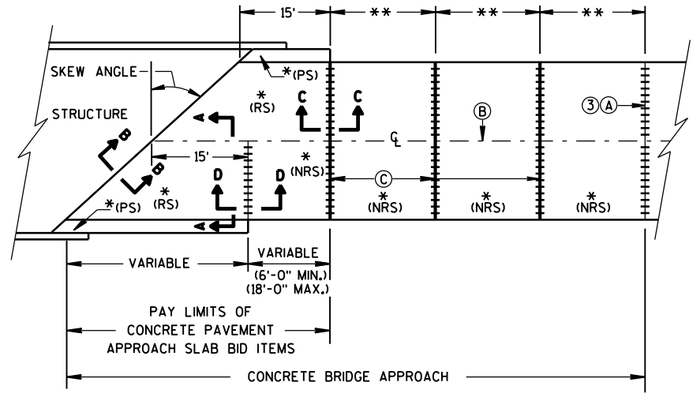
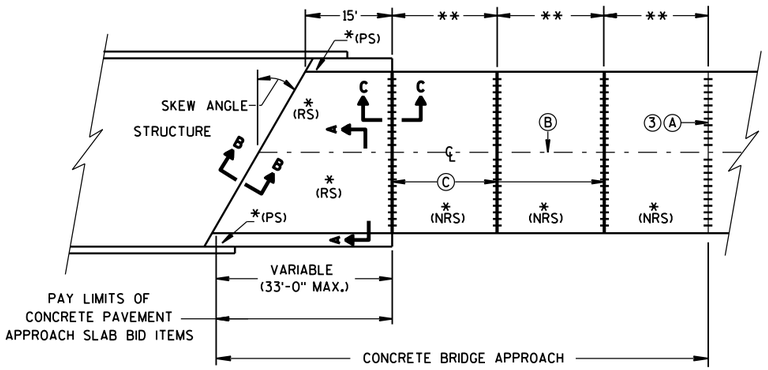
S.D.D. 13 B 1-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



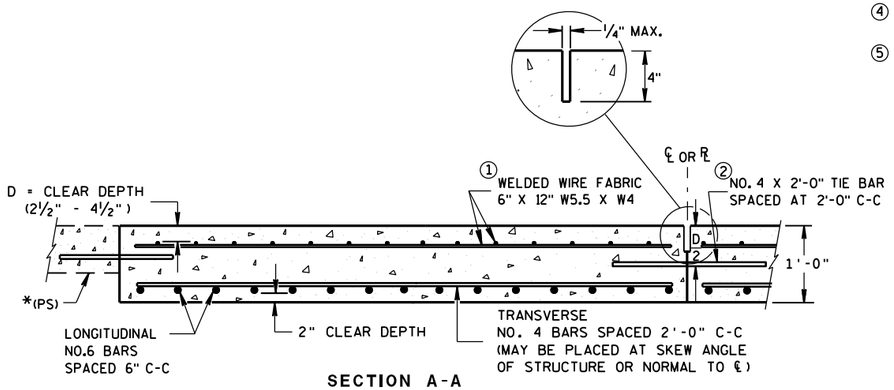
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

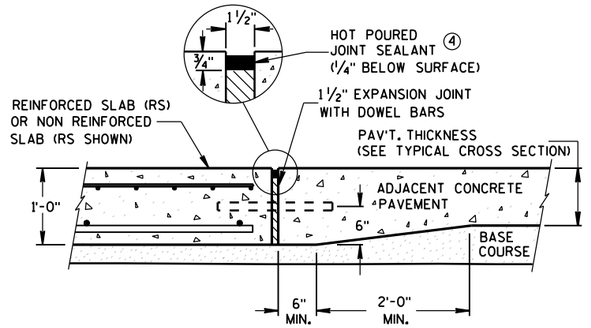
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN (SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
***STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11, & SDD 13C13)

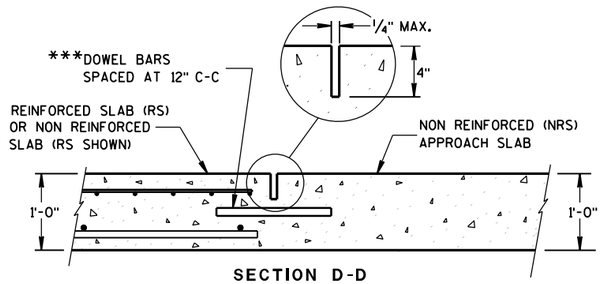
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



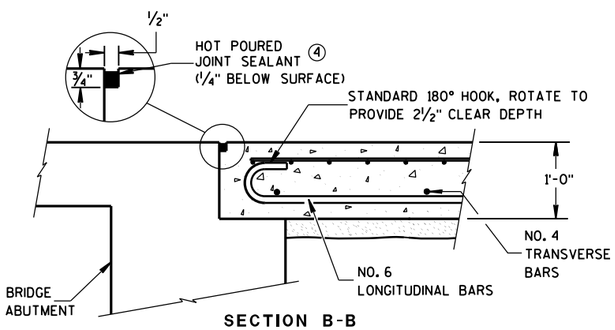
SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

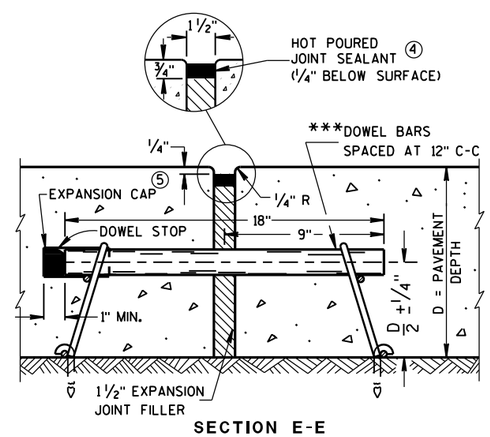
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

1. THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
2. THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
3. DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.
4. USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
5. PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION E-E
EXPANSION JOINT

CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2014 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE
EER
FHWA

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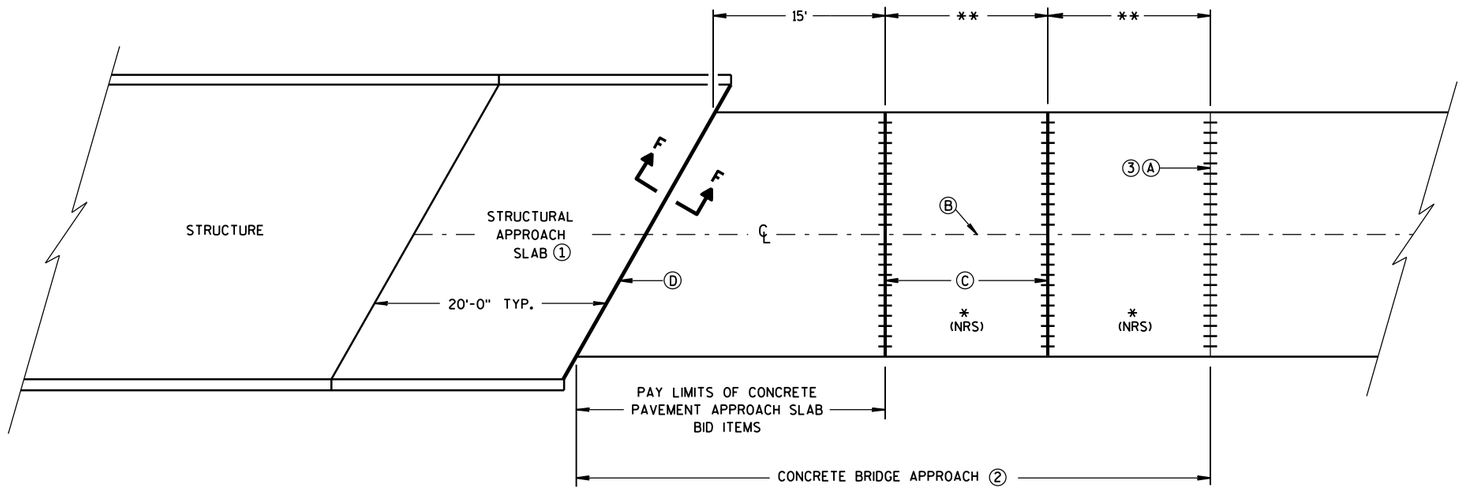
S.D.D. 13 B 2-7a



BRIDGE APPROACHES

GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE BRIDGE APPROACH.

① CONFORM TO APPLICABLE BRIDGE MANUAL STANDARD DRAWINGS FOR *STRUCTURAL APPROACH SLABS* (SEE CHAPTER 12 - ABUTMENTS).

② CONFORM TO SHEET (a) OF THIS SET FOR *CONCRETE BRIDGE APPROACH* DETAILS, WITH ONE EXCEPTION — WHEN CONSTRUCTING A *CONCRETE BRIDGE APPROACH* NEXT TO A *STRUCTURAL APPROACH SLAB*, AS SHOWN IN THE DETAIL DRAWING, THE *CONCRETE BRIDGE APPROACH* WILL ONLY HAVE TWO EXPANSION JOINTS; THE THIRD EXPANSION JOINT IS AT THE END OF THE *STRUCTURAL APPROACH SLAB*.

③ DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.

*(NRS) = NON-REINFORCED CONCRETE SLAB

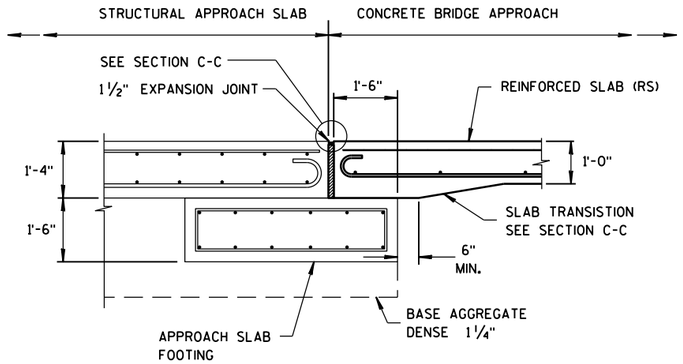
**STANDARD TRANSVERSE JOINT SPACING (SEE SDD 13C4, SDD 13C11, & SDD 13C13)

Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT AND TIE BARS.

Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)



SECTION F-F

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2014 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE — EER
FHWA

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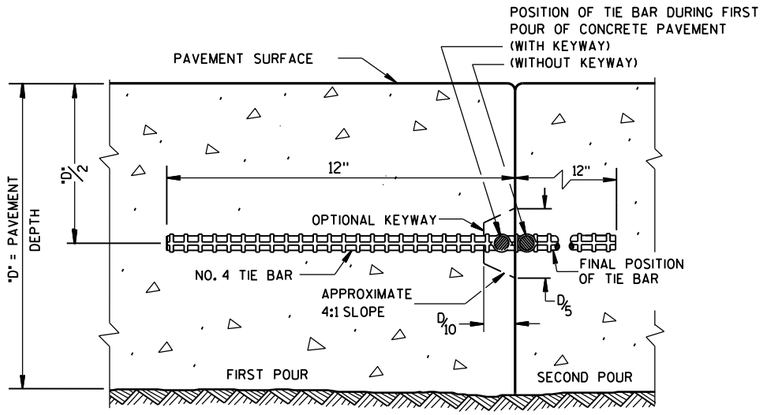
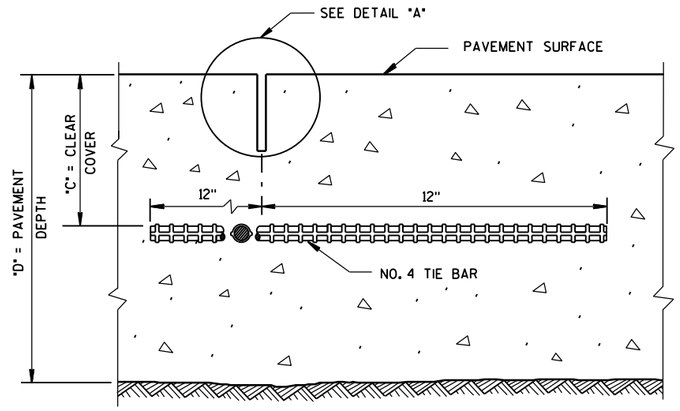
S.D.D. 13 B 2-7b



CONSTRUCTION JOINT



SAWED JOINT

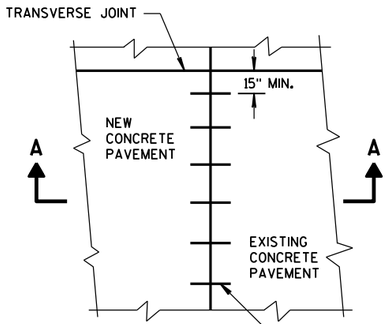
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

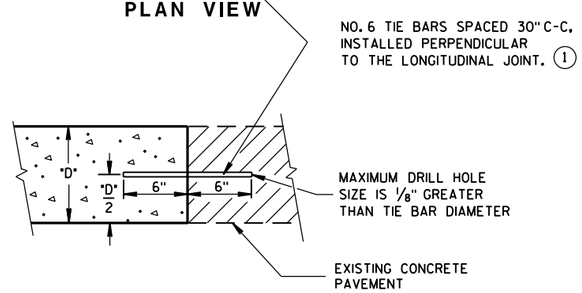
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

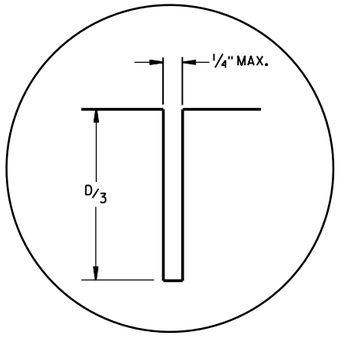


PLAN VIEW



SECTION A-A

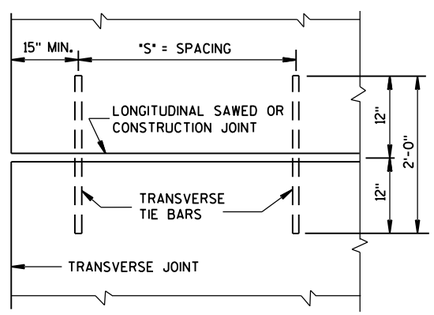
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

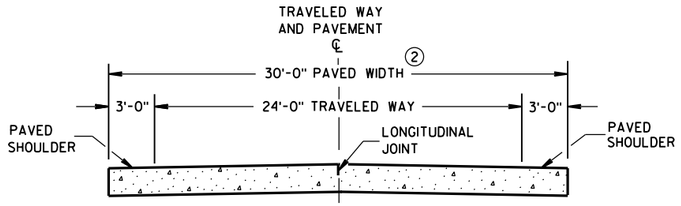
5-3-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER

FHWA

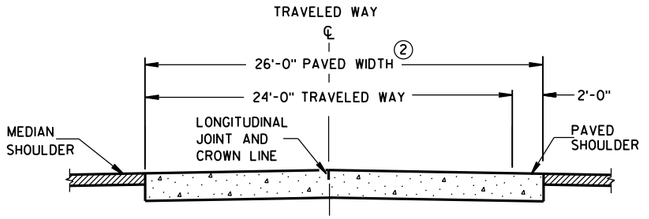
6

S.D.D. 13 C 1-16
S.D.D. 13 C 1-16

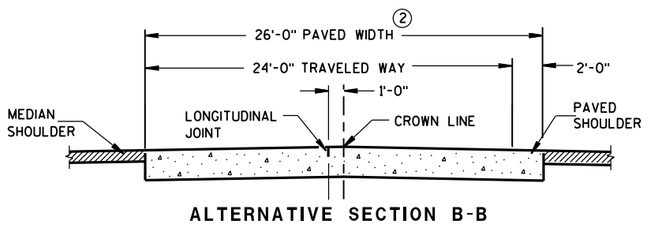


SECTION A-A ①

TWO-LANE TWO-WAY HIGHWAY



SECTION B-B



ALTERNATIVE SECTION B-B ①

DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

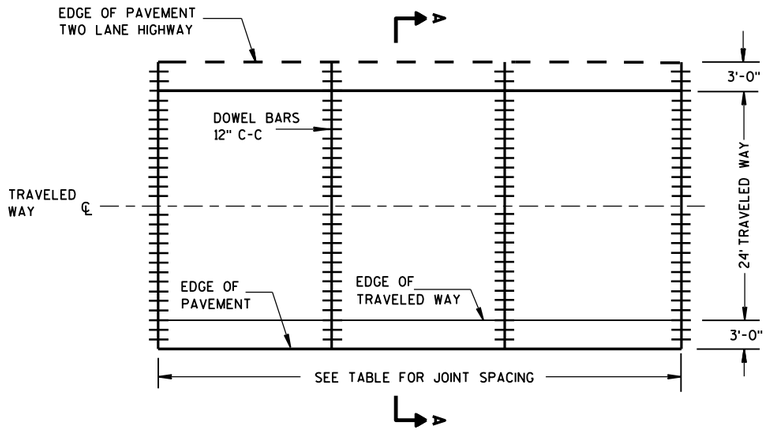
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

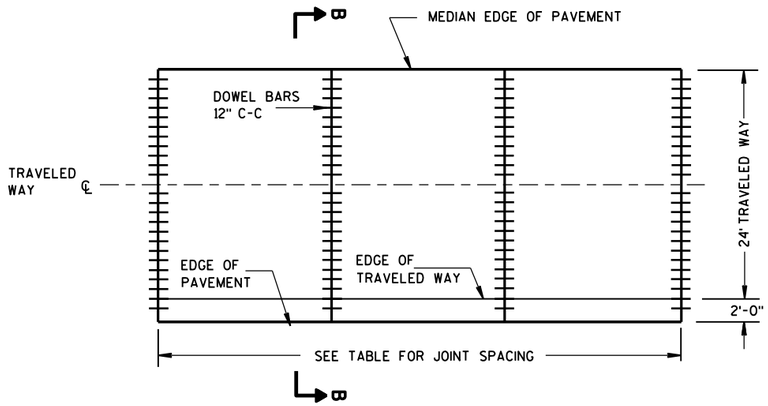
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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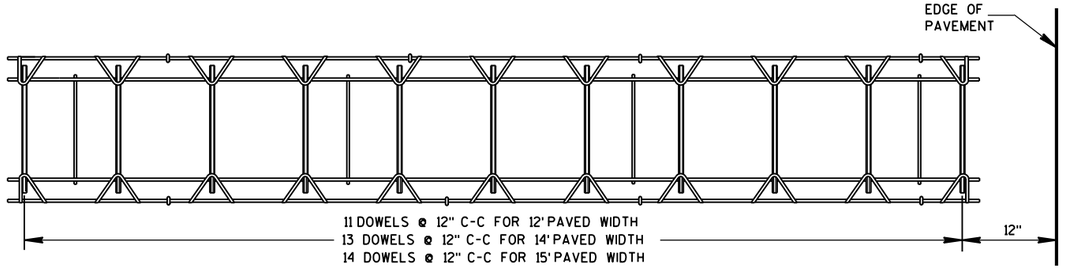
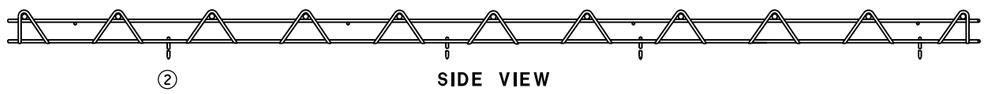
S.D.D. 13 C 11-11a



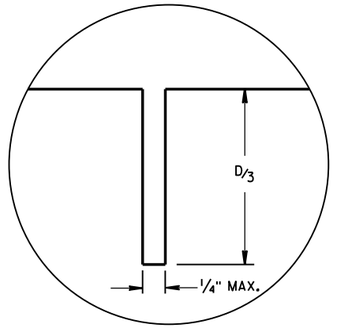
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

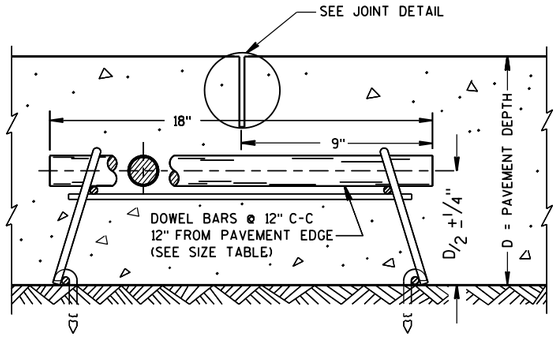
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

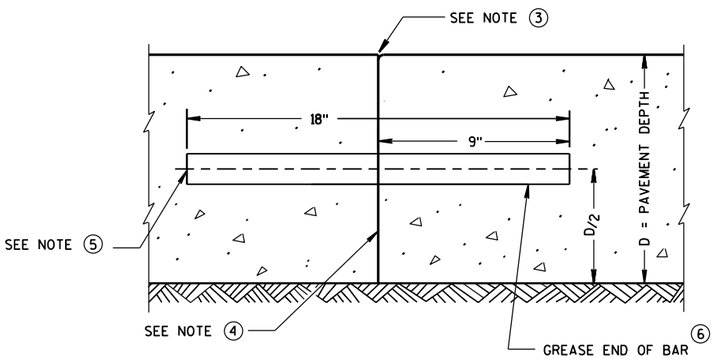
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

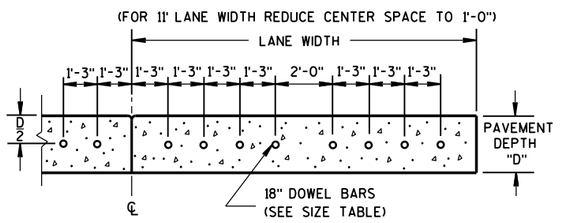
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DE ENGINEER
FHWA

6

S.D.D. 13 C 11-11b

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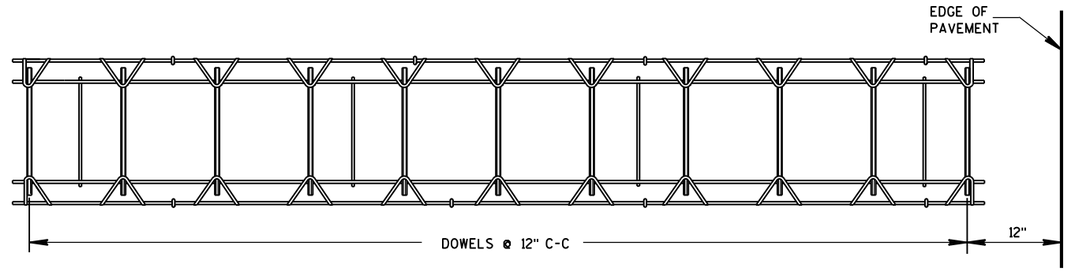
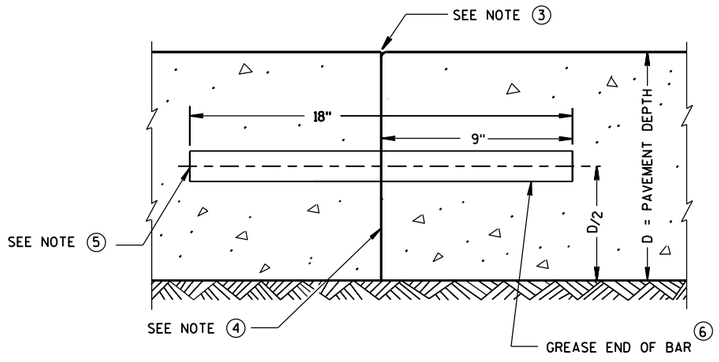
S.D.D. 13 C 11-11b



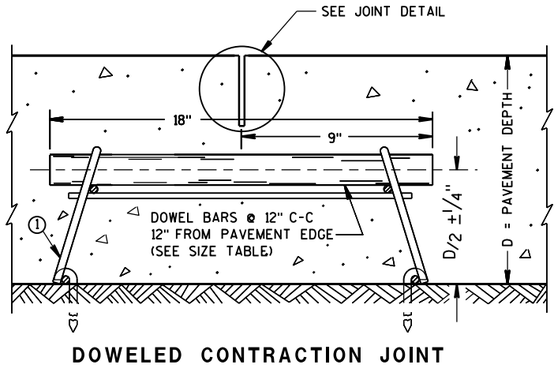
PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



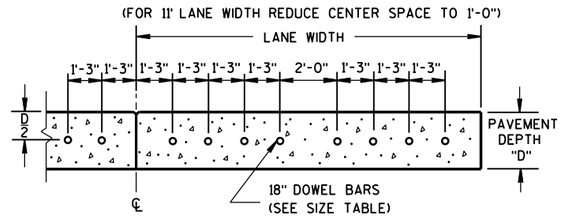
TRANSVERSE CONSTRUCTION JOINT



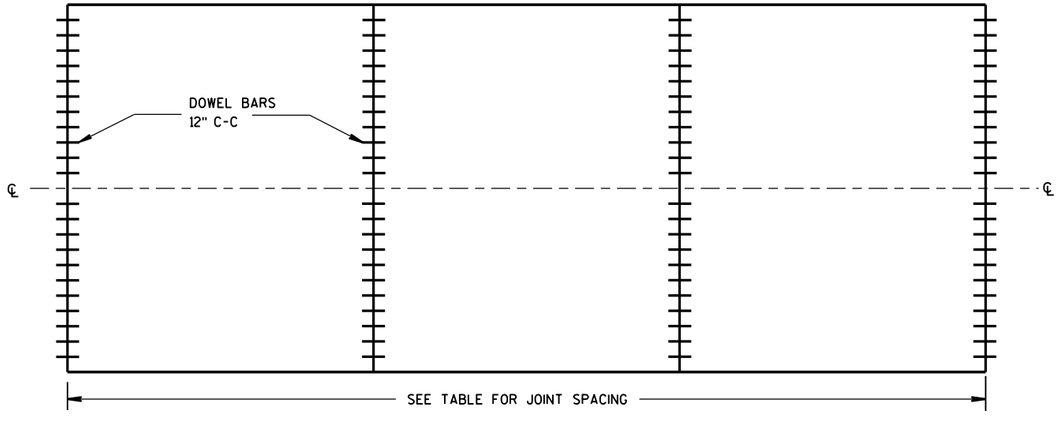
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① **OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.**

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

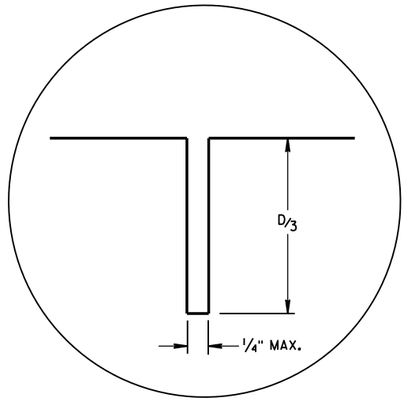
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 DATE
/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER
FHWA

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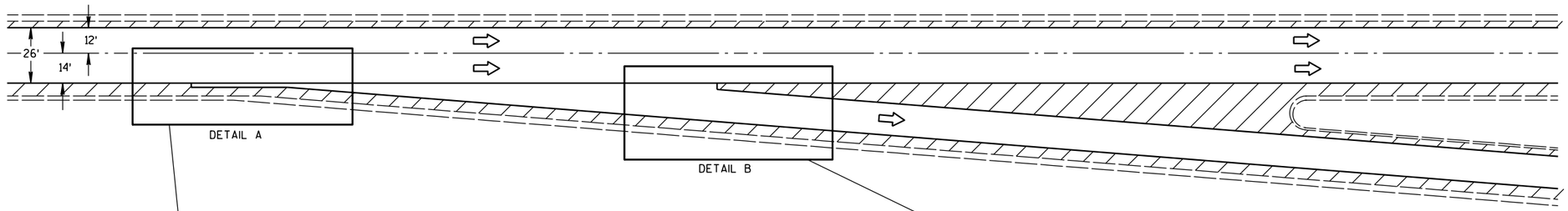
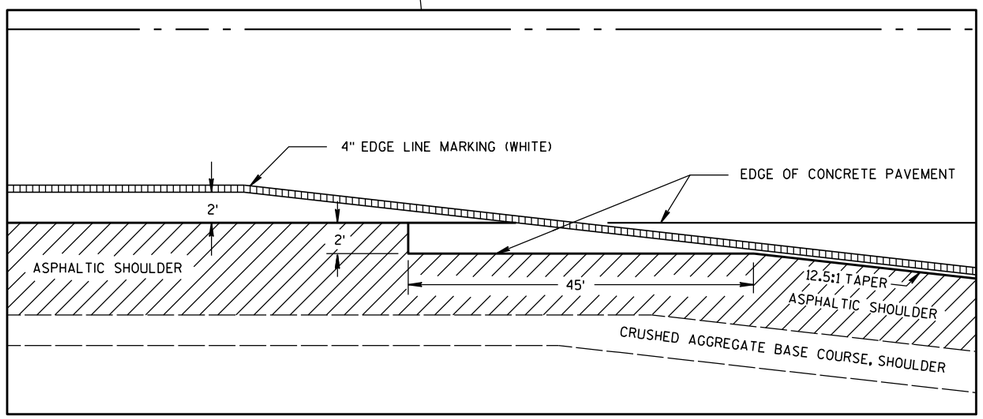
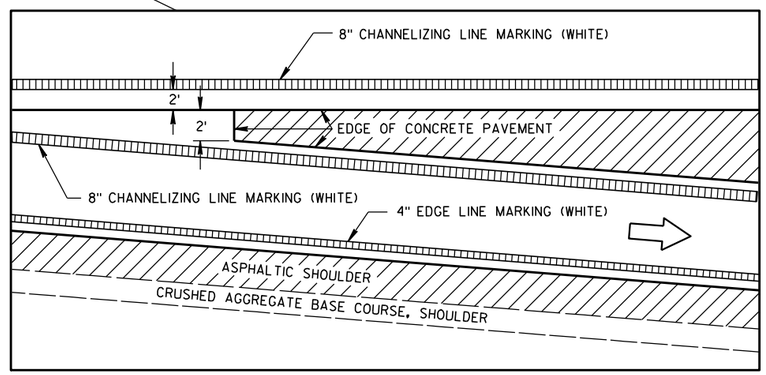
S.D.D. 13 C 13-8



EXIT RAMP DETAIL



DETAIL A



DETAIL B

CONCRETE JOINT PAVING DETAILS

GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 13 C 17-1a

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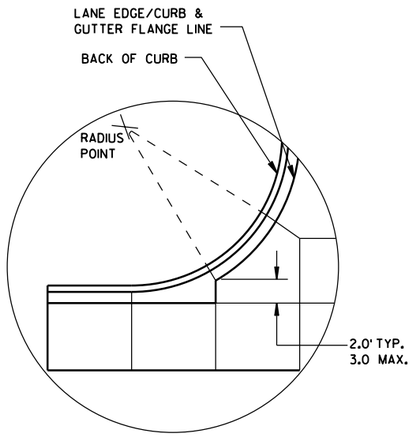
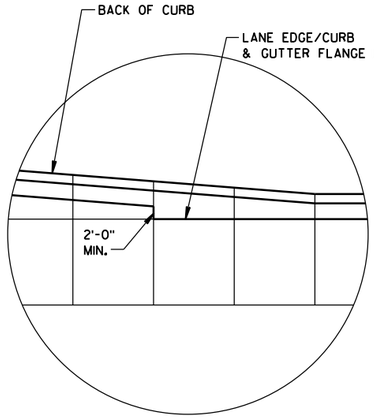
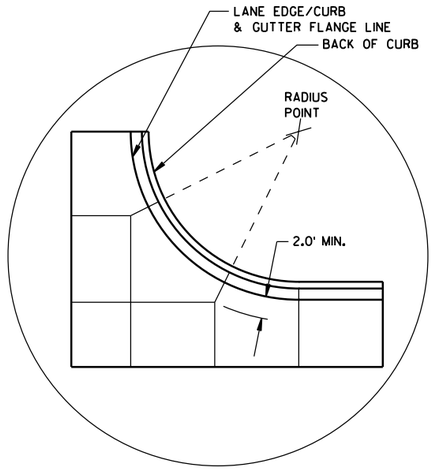
S.D.D. 13 C 17-1a



DETAIL "A"



DETAIL "B"



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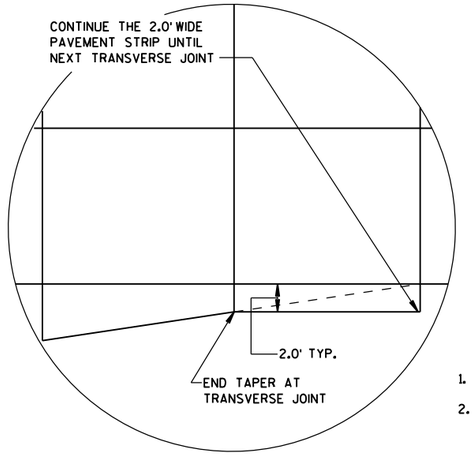


DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

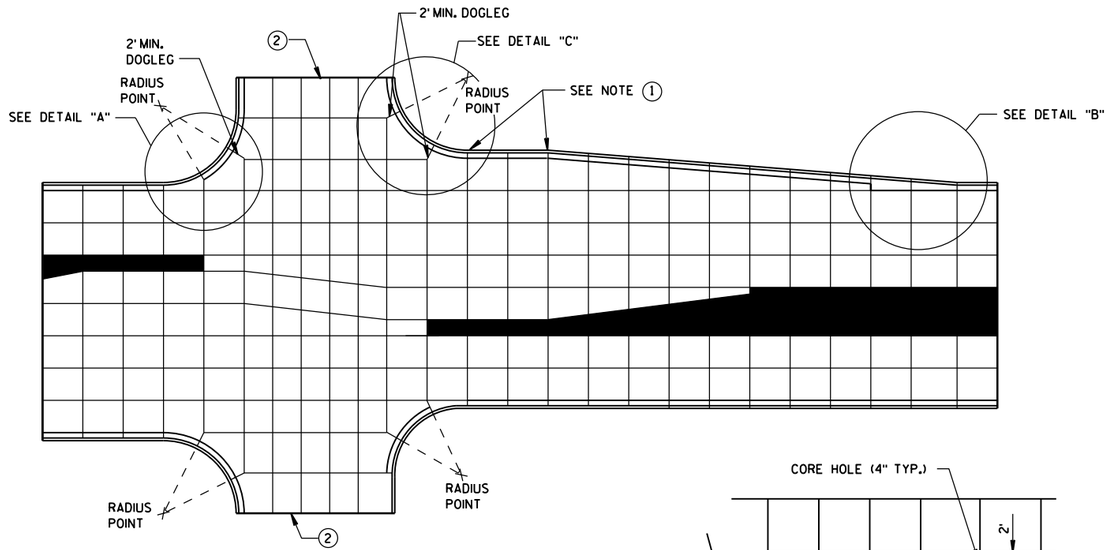
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

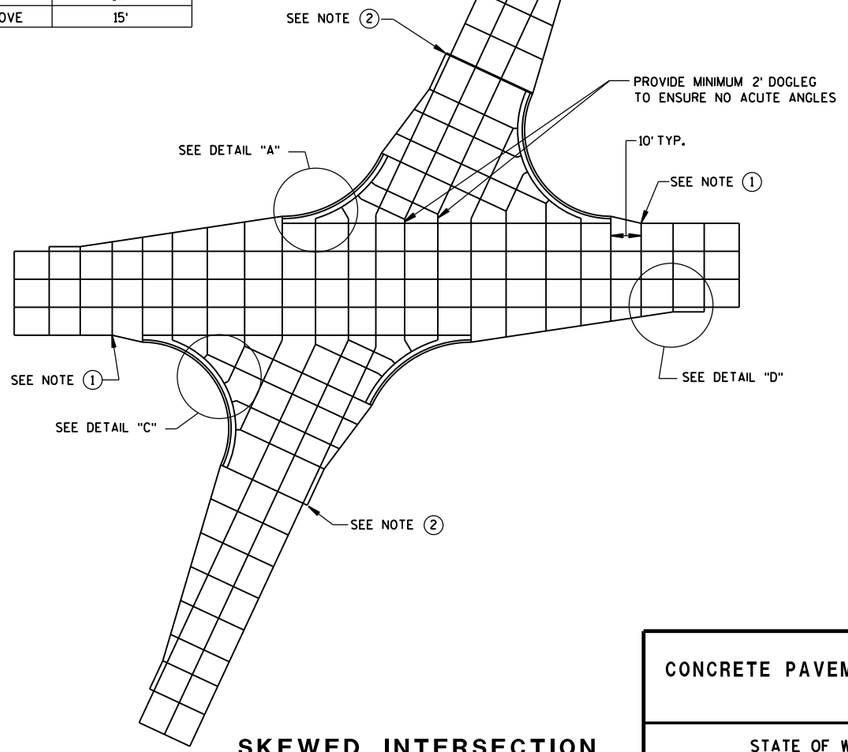
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



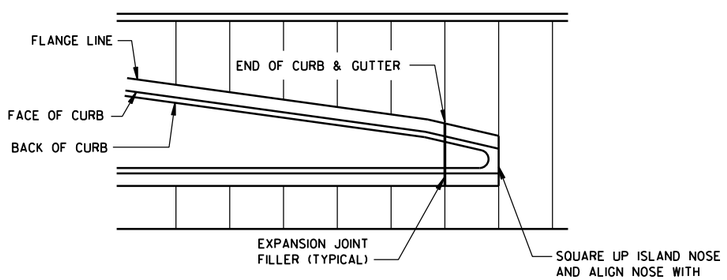
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

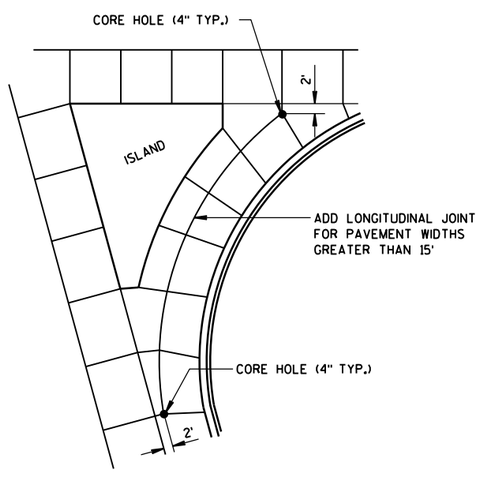
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 352

6

S.D.D. 13 C 18-2a

6

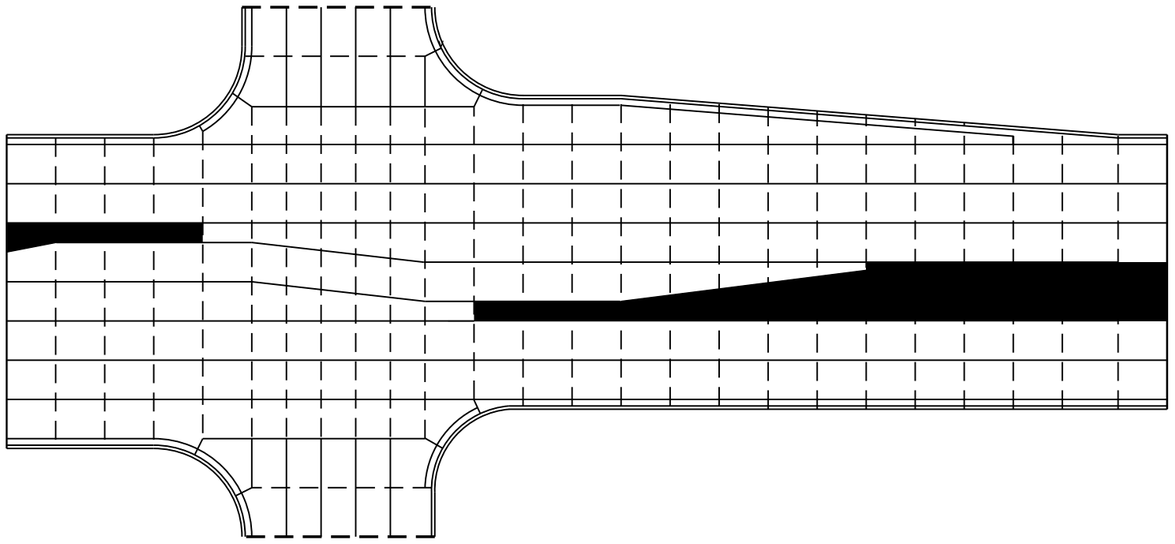
S.D.D. 13 C 18-2a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

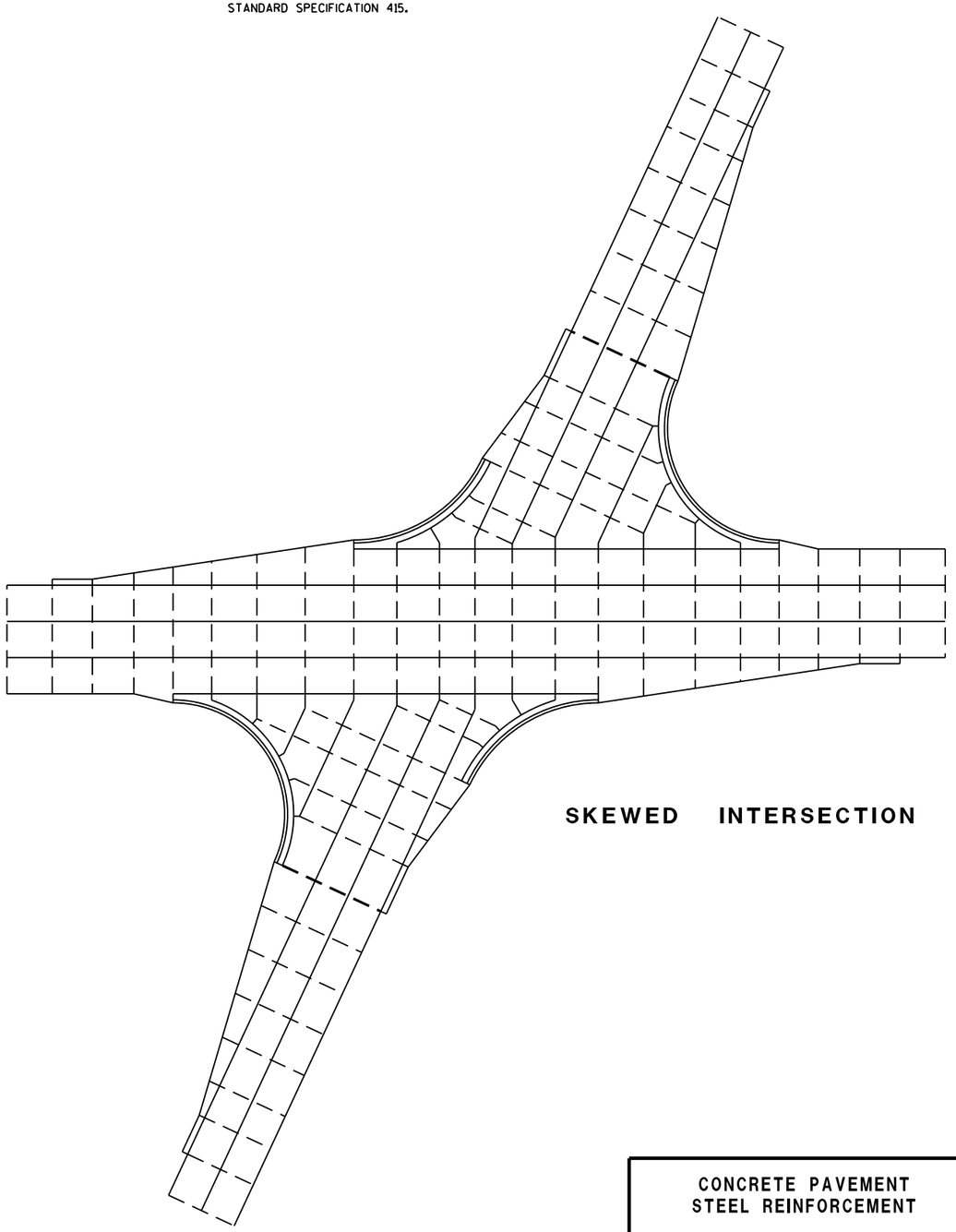
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

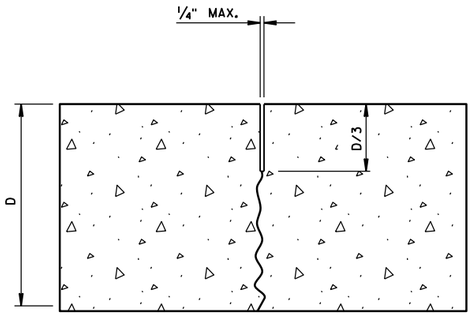
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

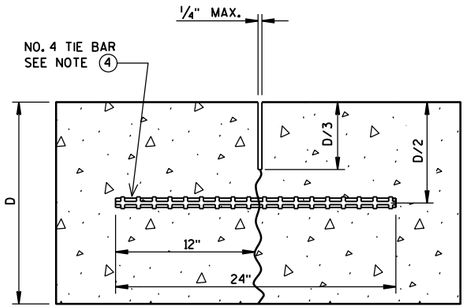
S.D.D. 13 C 18-2b

6

S.D.D. 13 C 18-2b



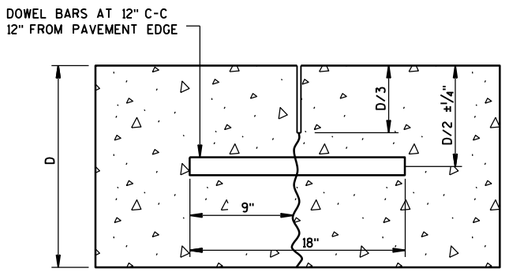
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

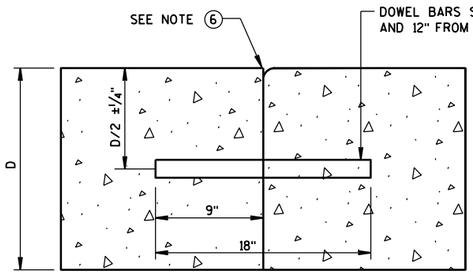
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.



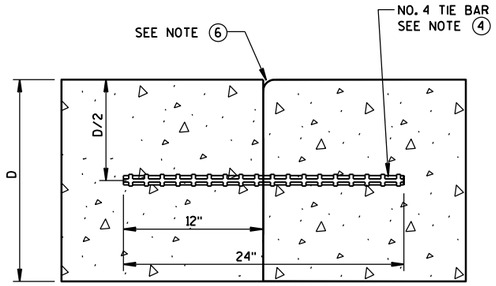
DOWELED-TRANSVERSE

CONTRACTION JOINTS

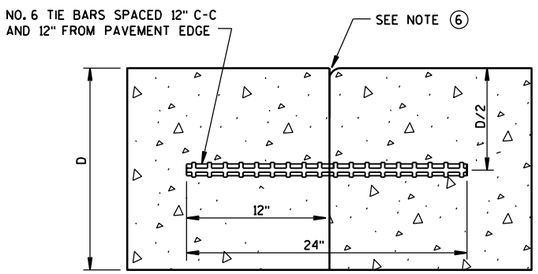
SEE NOTE (2)



DOWELED TRANSVERSE

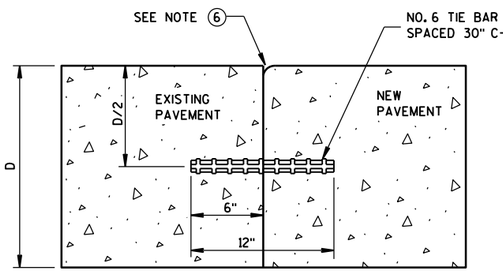


TIED LONGITUDINAL



TIED TRANSVERSE

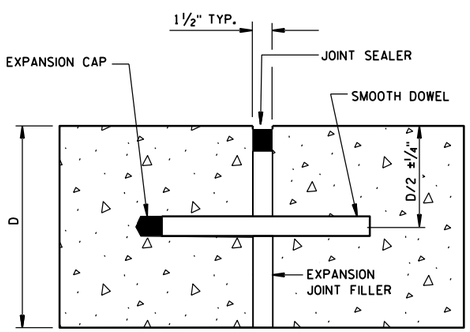
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

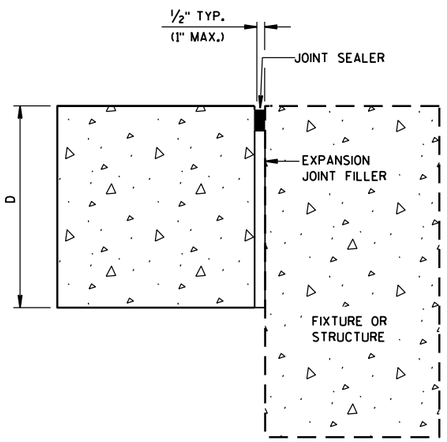
CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

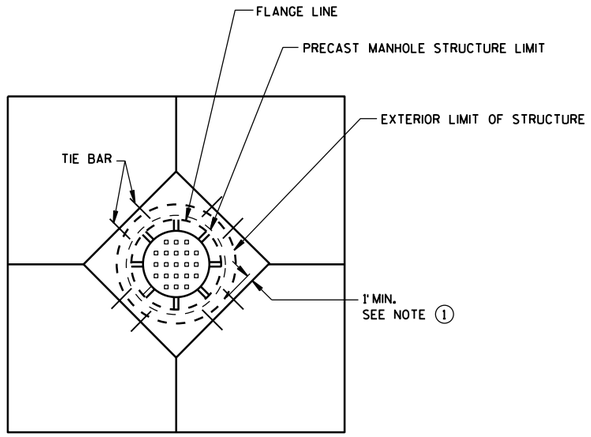
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

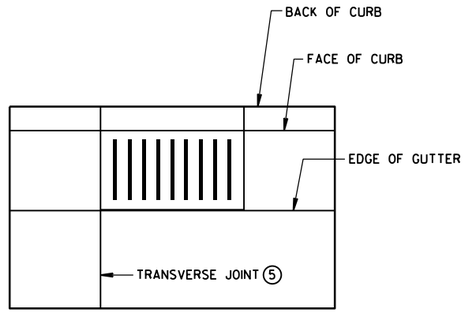
S.D.D. 13 C 18-2c

6

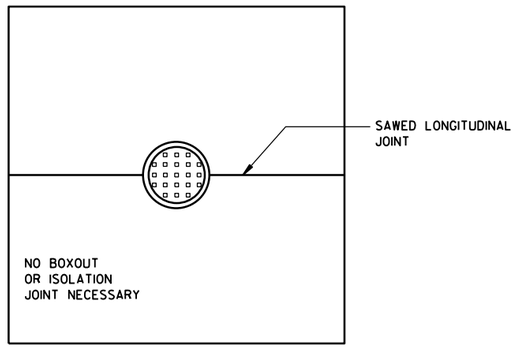
S.D.D. 13 C 18-2c



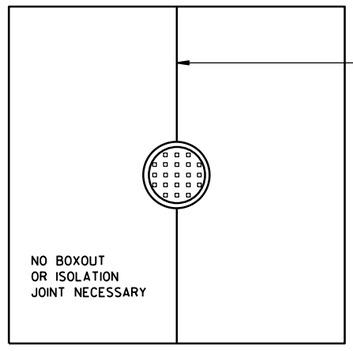
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



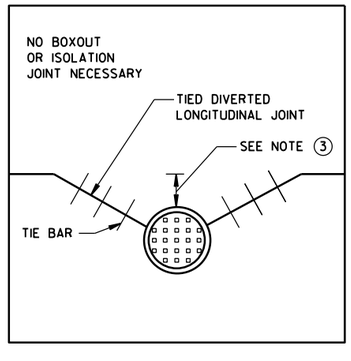
INLET WITH TRANSVERSE JOINT



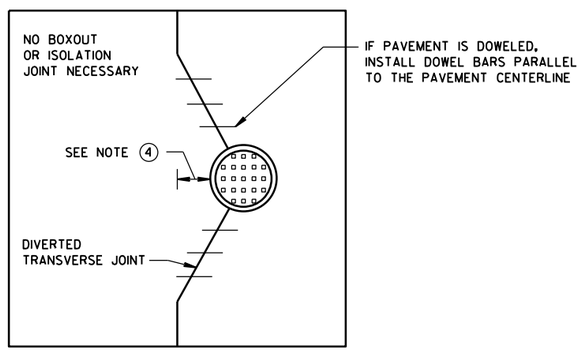
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-3-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE

NEER

FHWA

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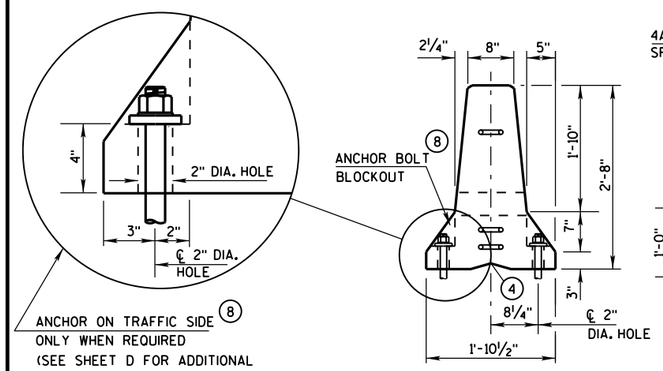
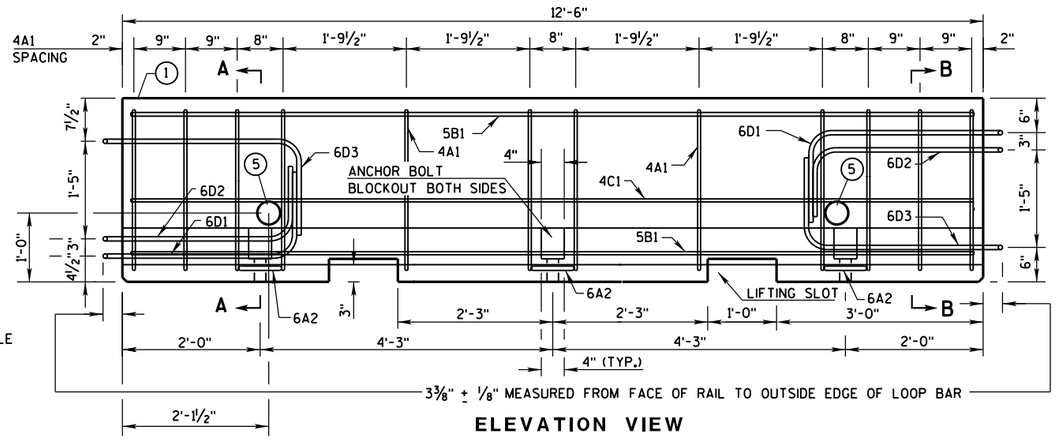
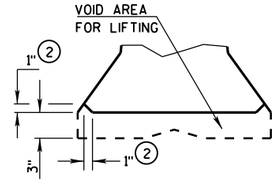
S.D.D. 13 C 18-2d



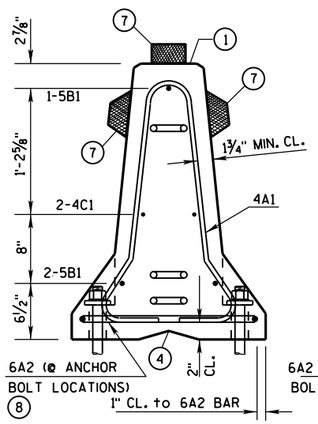
END VIEW



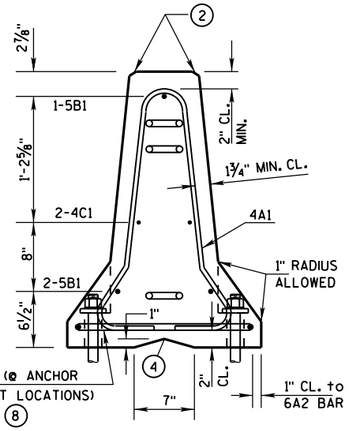
ELEVATION VIEW



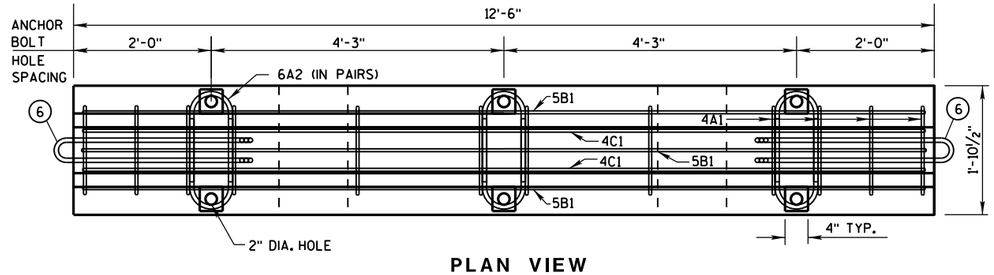
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

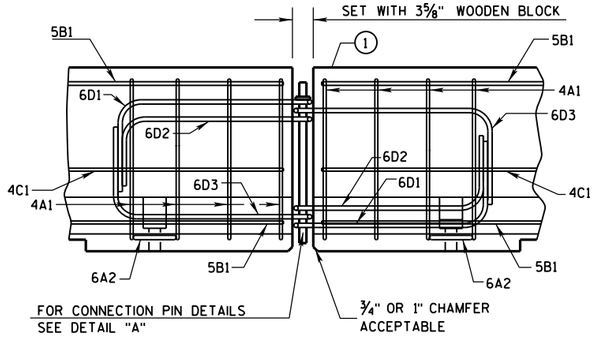


SECTION B-B
(STIRRUP PLACEMENT)

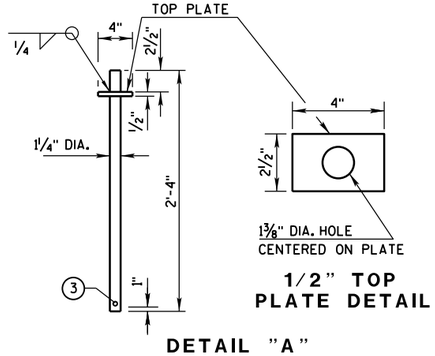


PLAN VIEW

DETAILS OF BARRIER SECTION

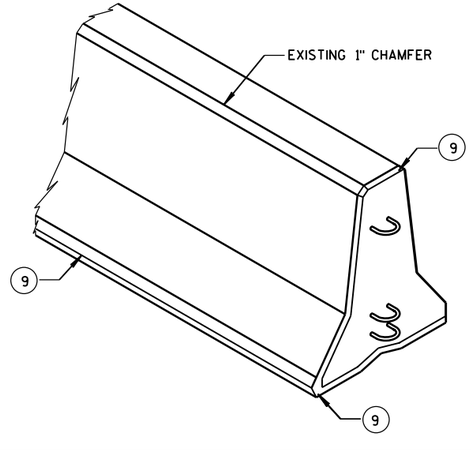


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

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



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) THRU 14B7-14(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: WI CBTP
- 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.

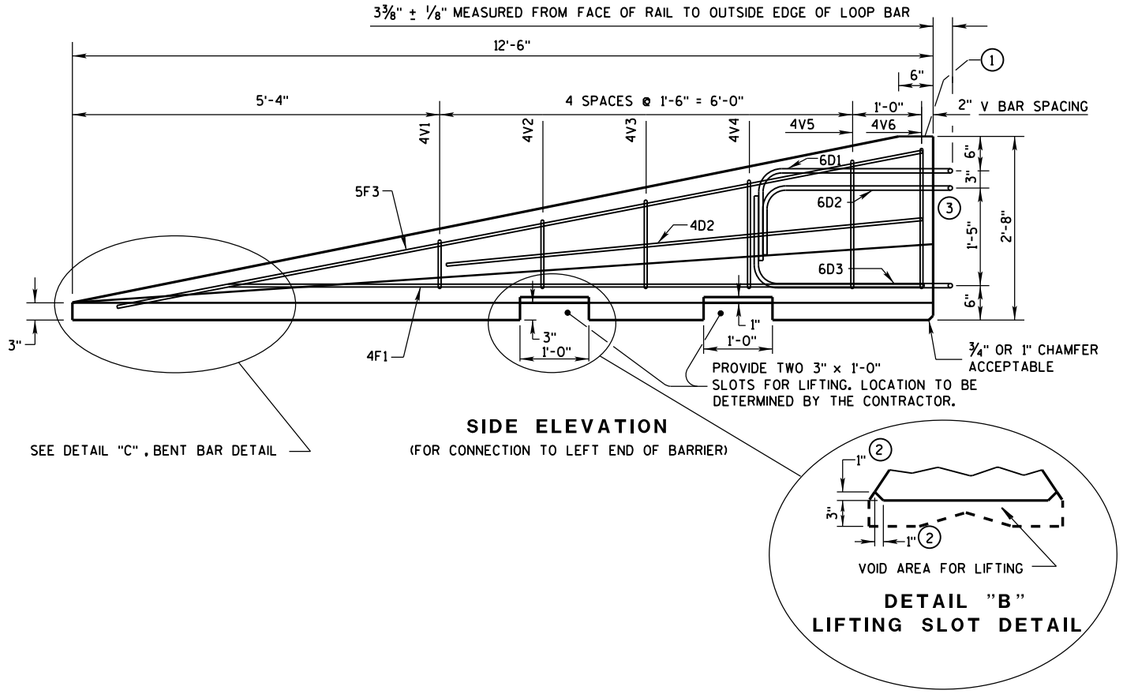
(8) SEE SHEET D FOR ANCHORING CRITERIA.

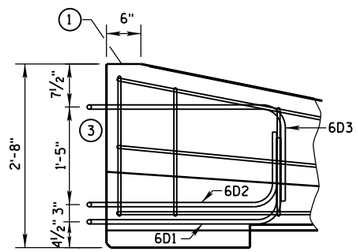
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

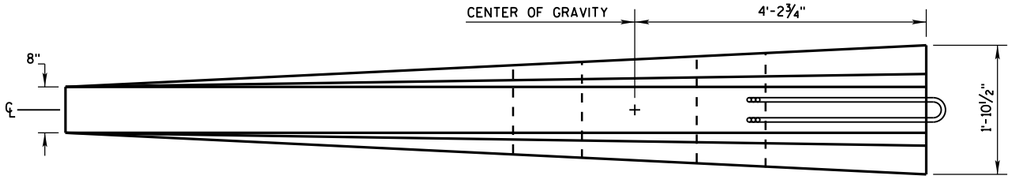
6
S.D.D. 14 B 7-14a

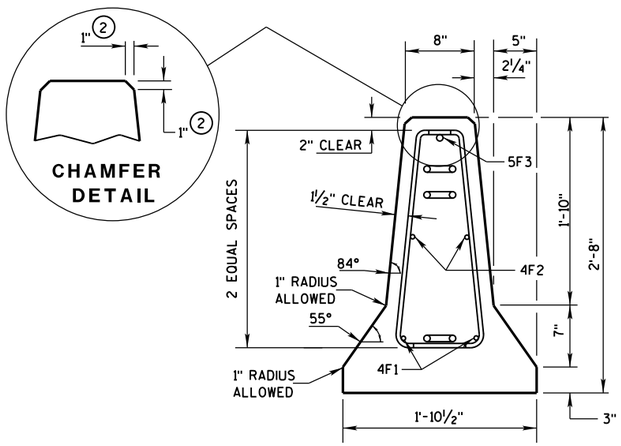


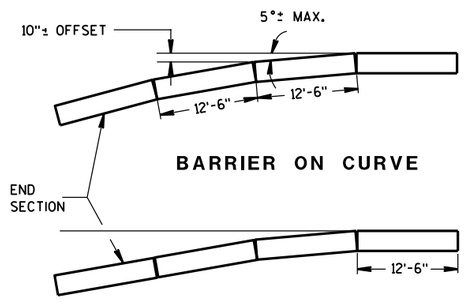


GENERAL NOTES

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.







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"

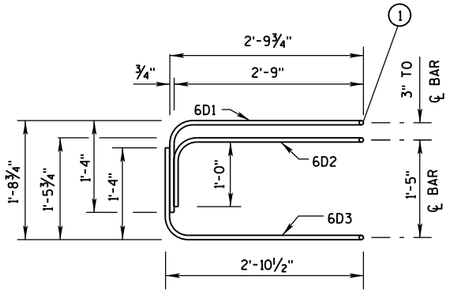
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14b

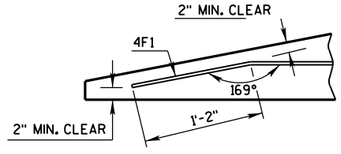
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

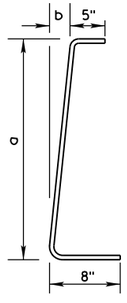
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



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

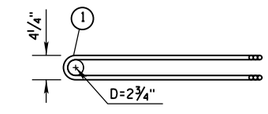
GENERAL NOTES

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

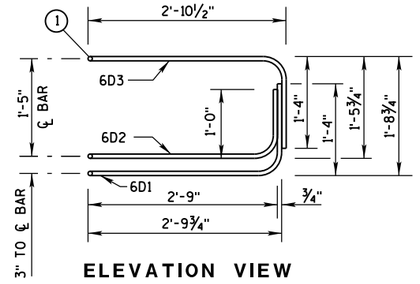
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

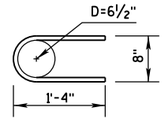
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



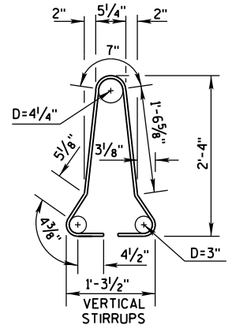
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2



4A1

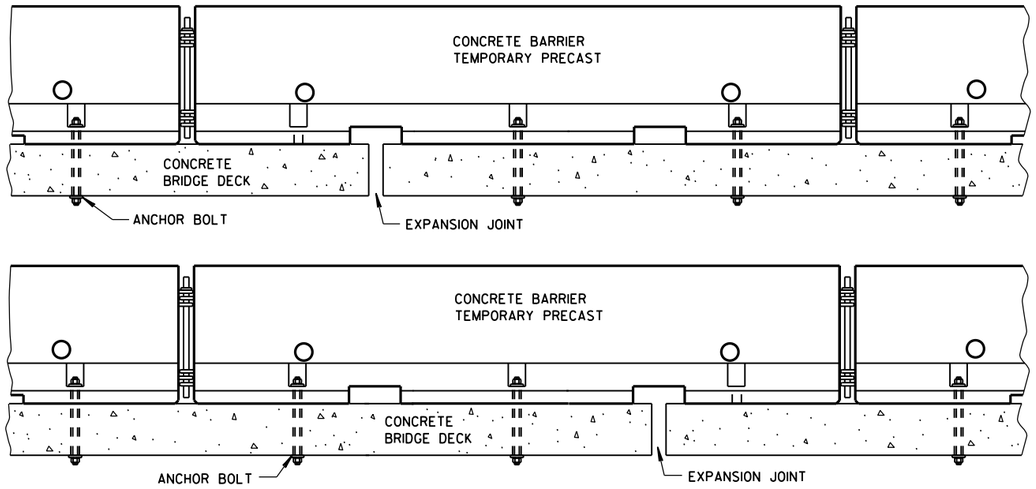
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

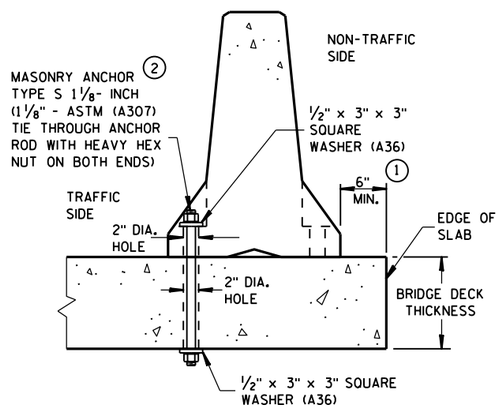
6

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



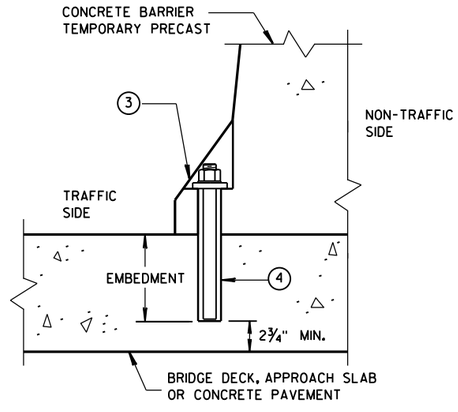
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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.)



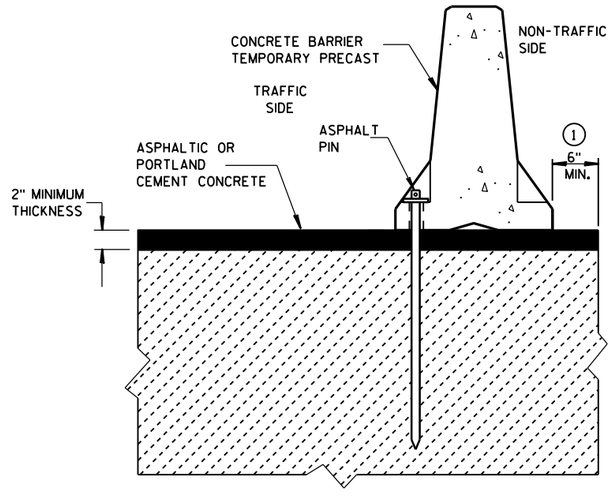
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



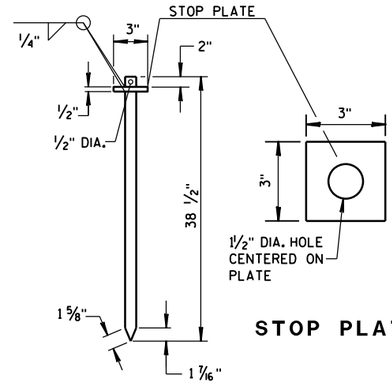
REMOVABLE ADHESIVE BONDED ANCHOR ② INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

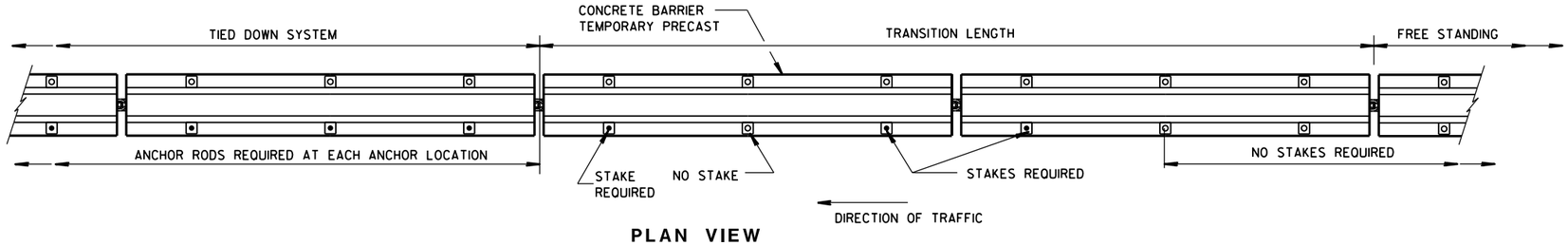
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

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.)

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.

③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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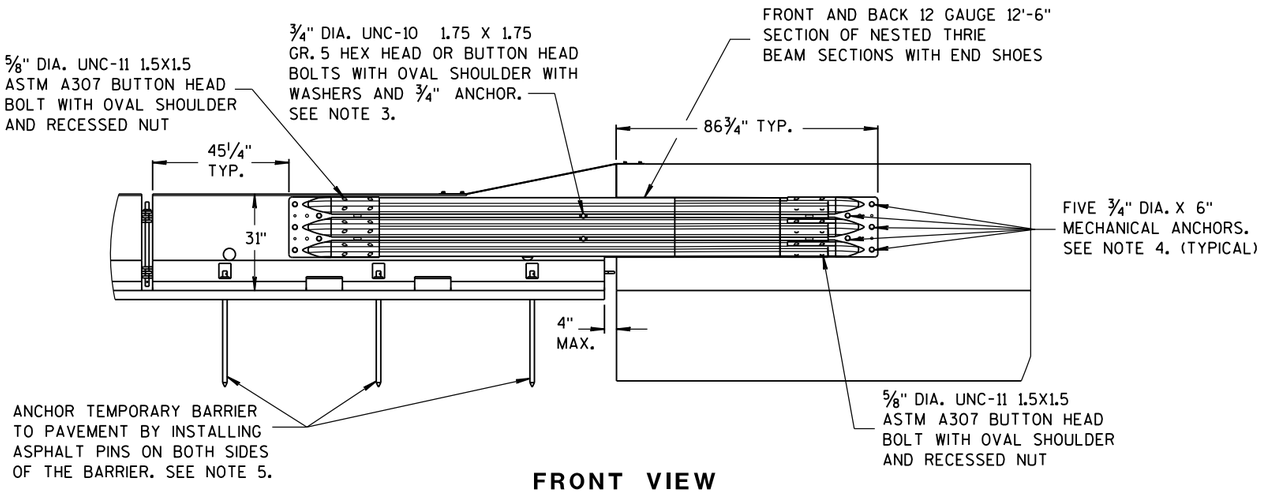
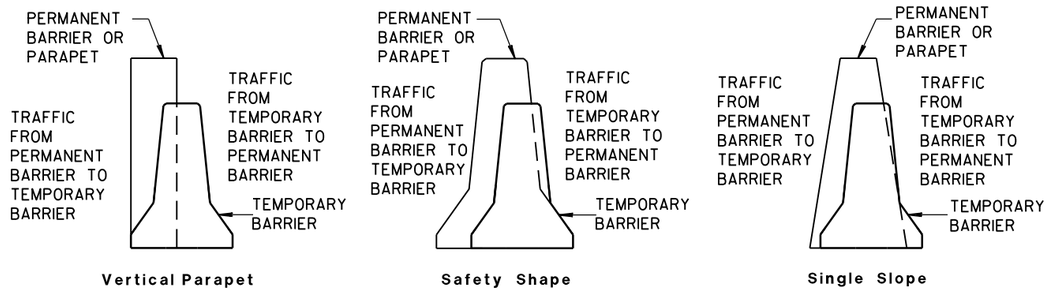


FRONT VIEW

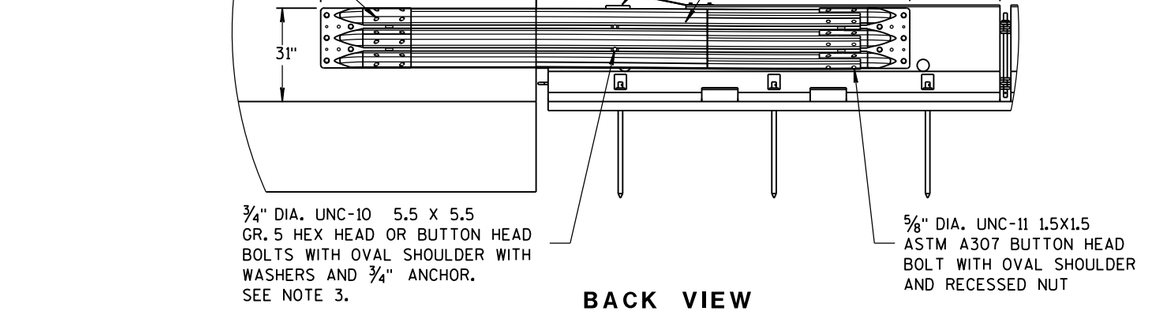


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

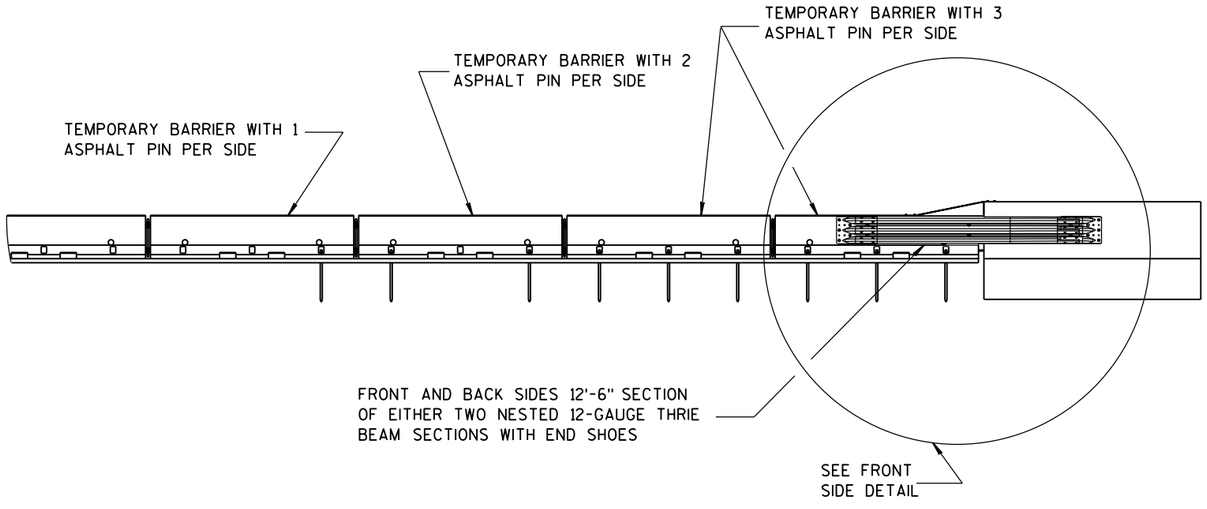
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

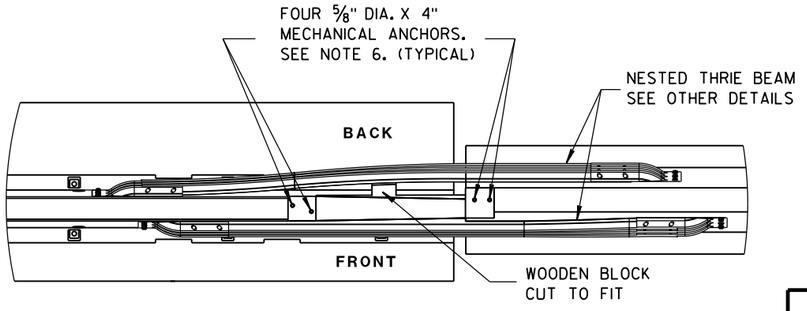
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 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.



BACK VIEW



FRONT VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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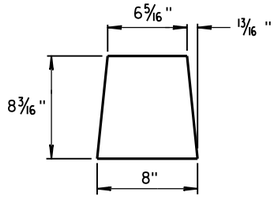
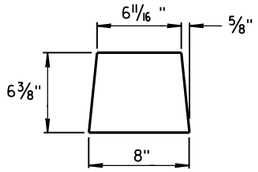
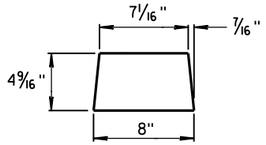
S.D.D. 14 B 7-14e



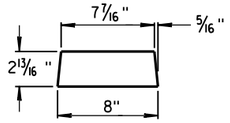
GUSSET 1



GUSSET 2

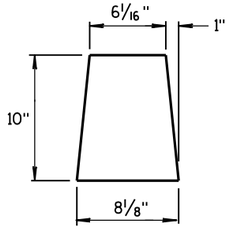


GUSSET 3

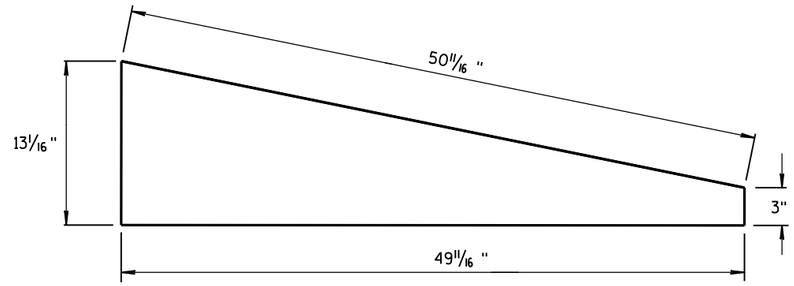


GUSSET 4

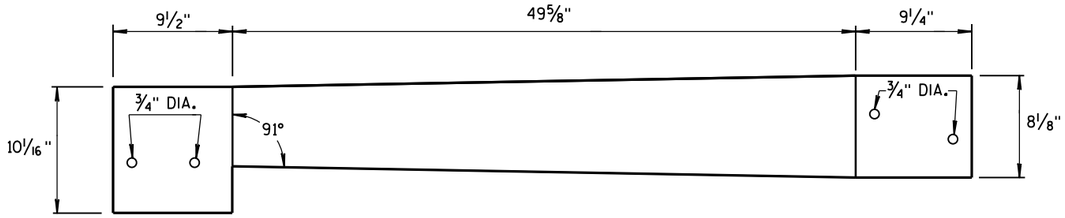
GUSSETS

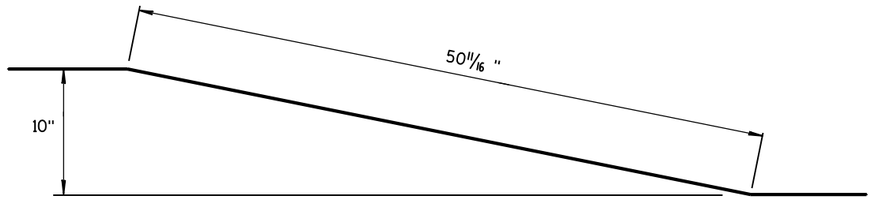


END PLATE



SIDE PLATE

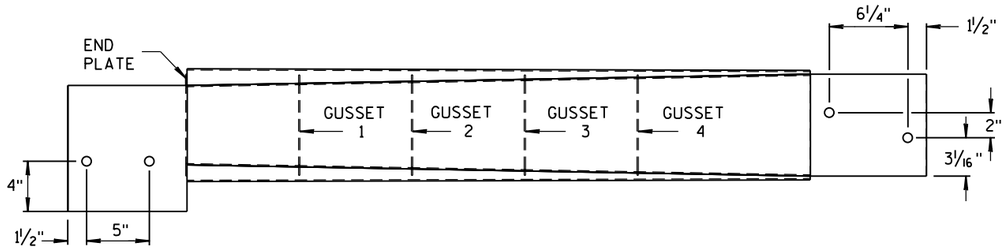


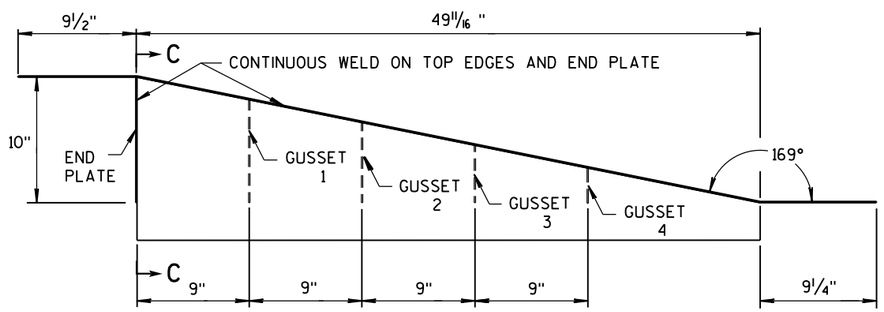


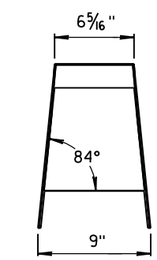
TOP PLATE

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.







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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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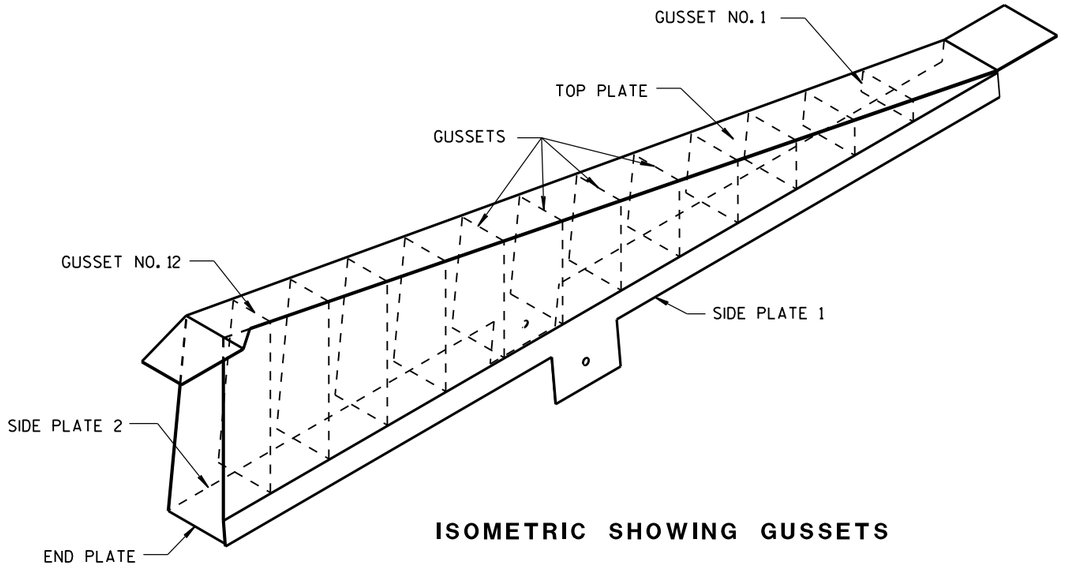
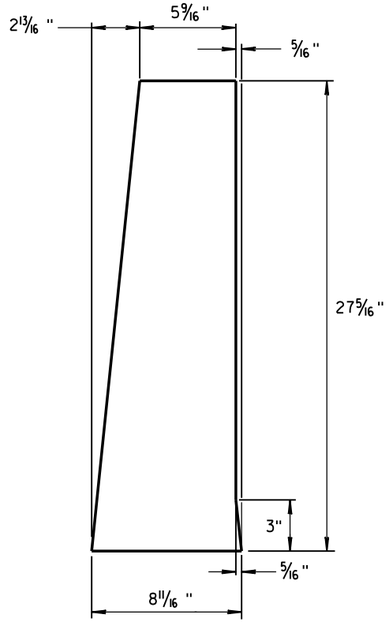
S.D.D. 14 B 7-14f

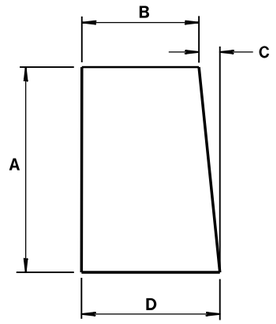


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



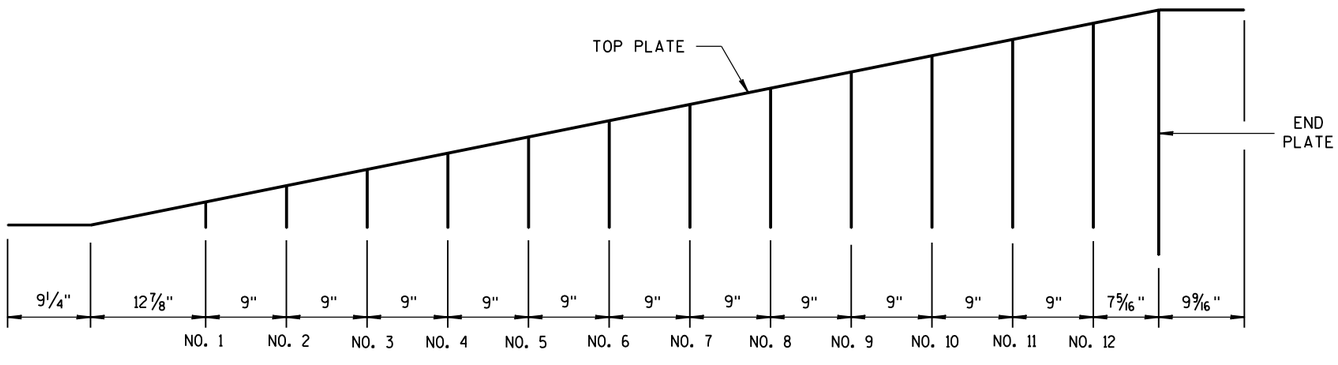
GUSSETS 1 - 12

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 TRANSPOR

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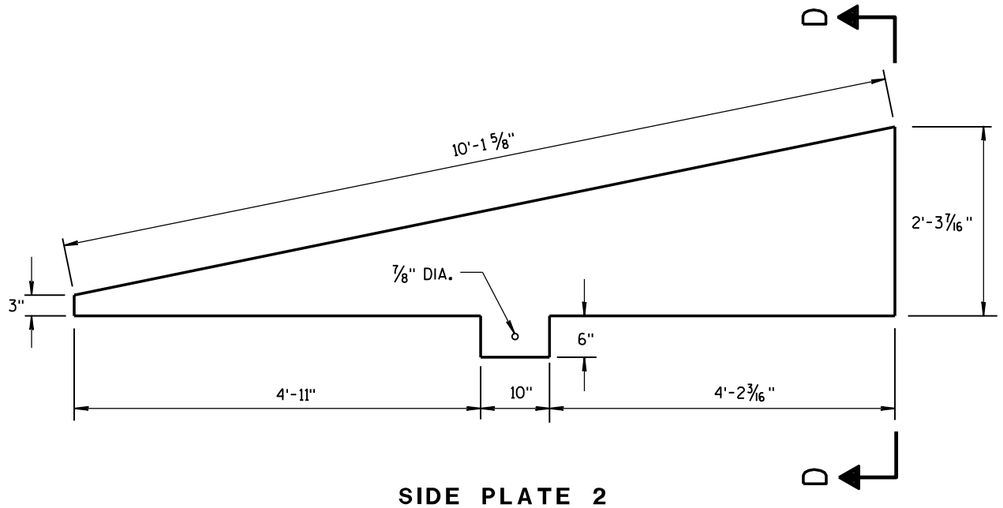
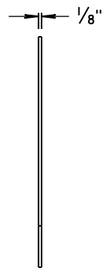
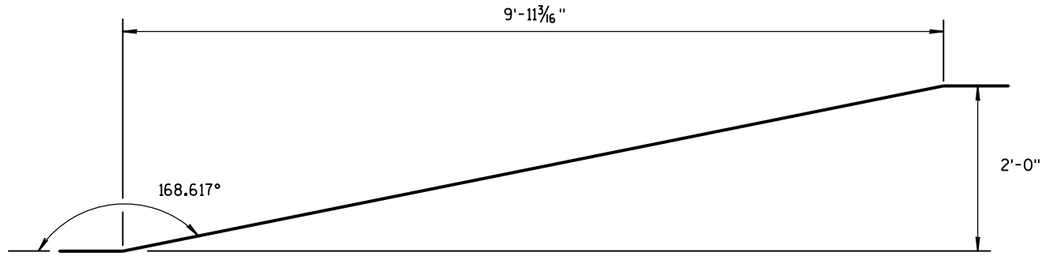
S.D.D. 14 B 7-14g



SIDE PLATE 2

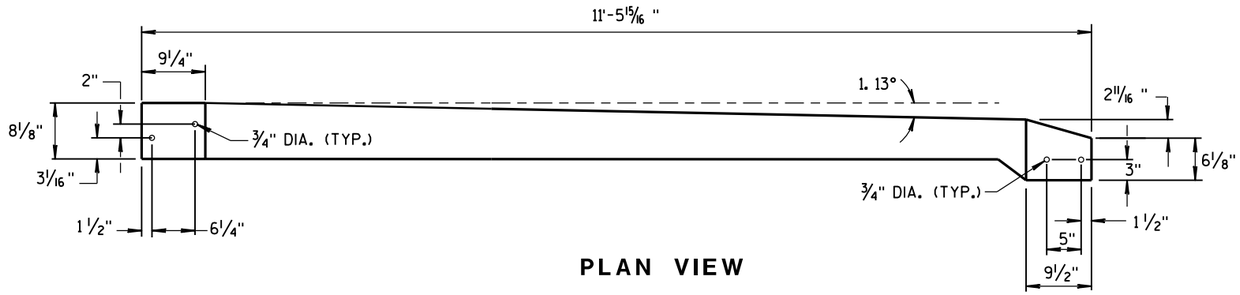


END VIEW



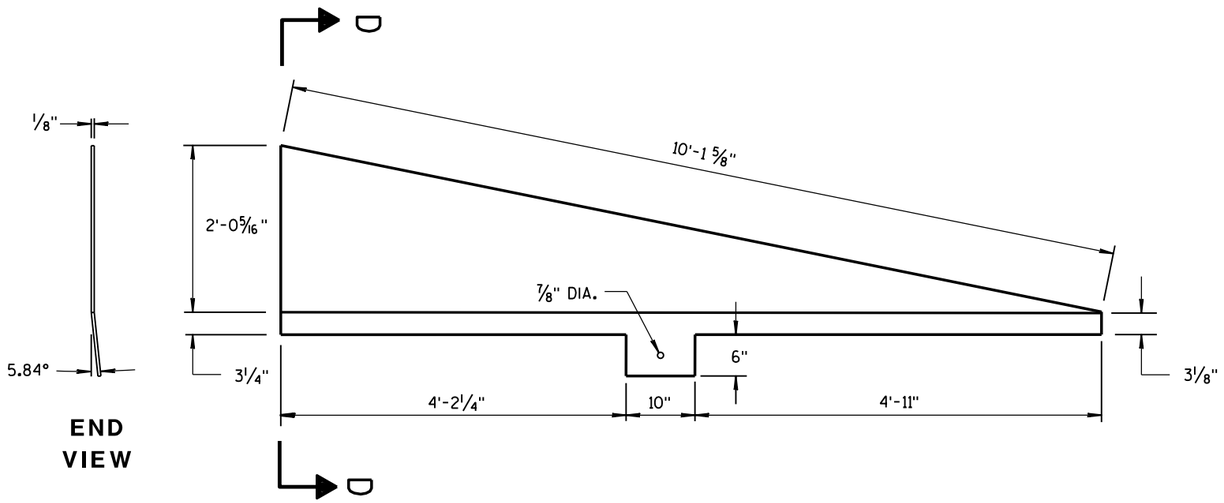
SIDE VIEW

TOP PLATE



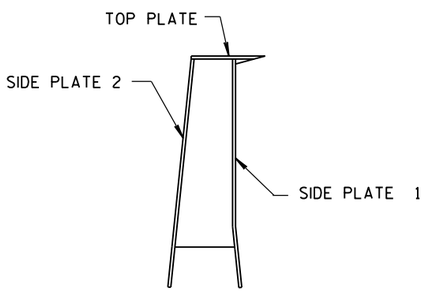
PLAN VIEW

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
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

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

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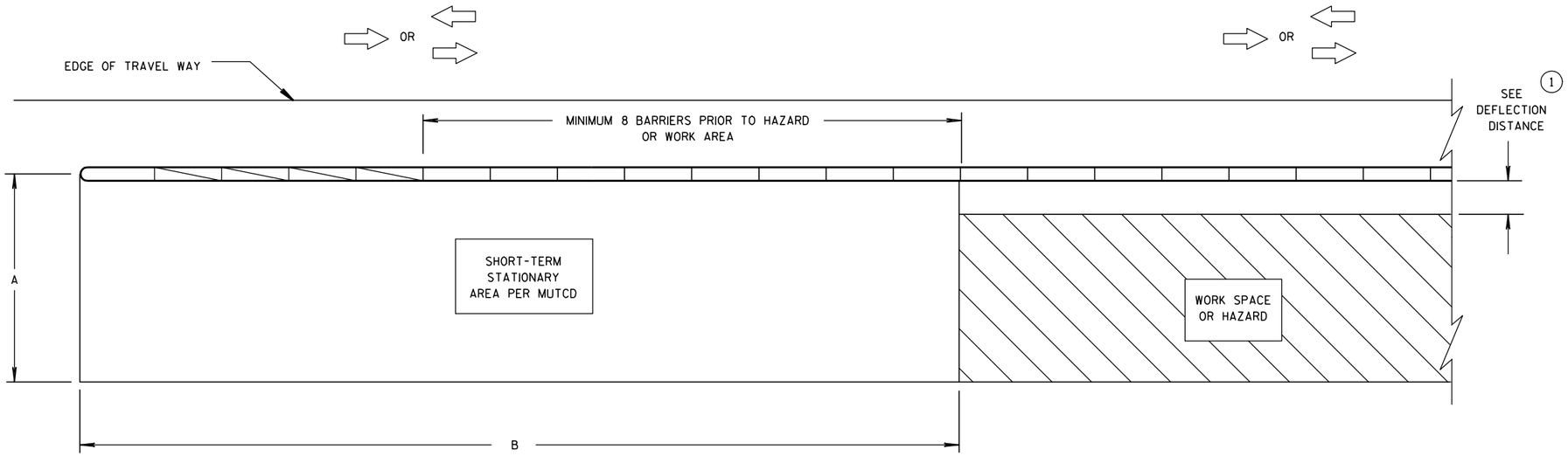
S.D.D. 14 B 7-14h



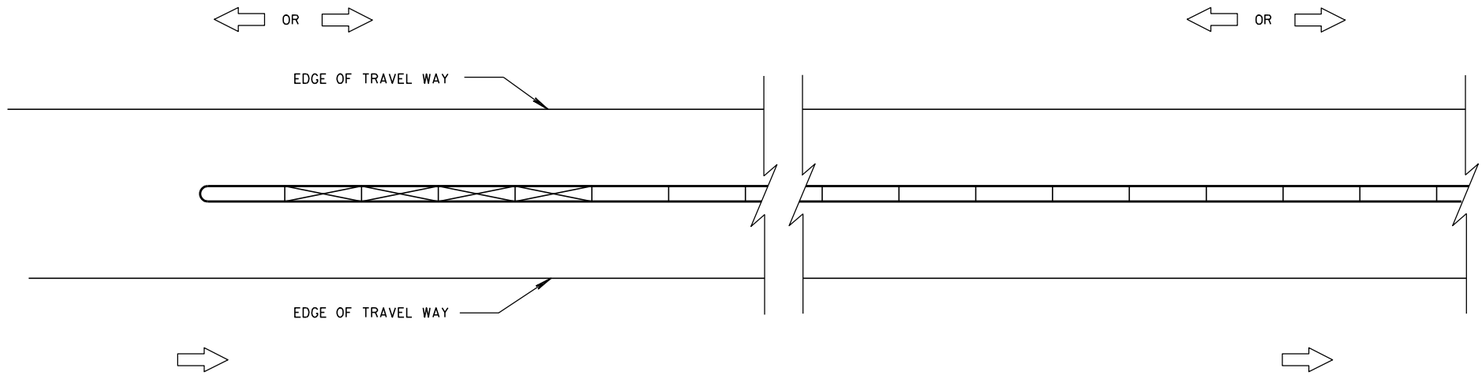
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

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



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

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

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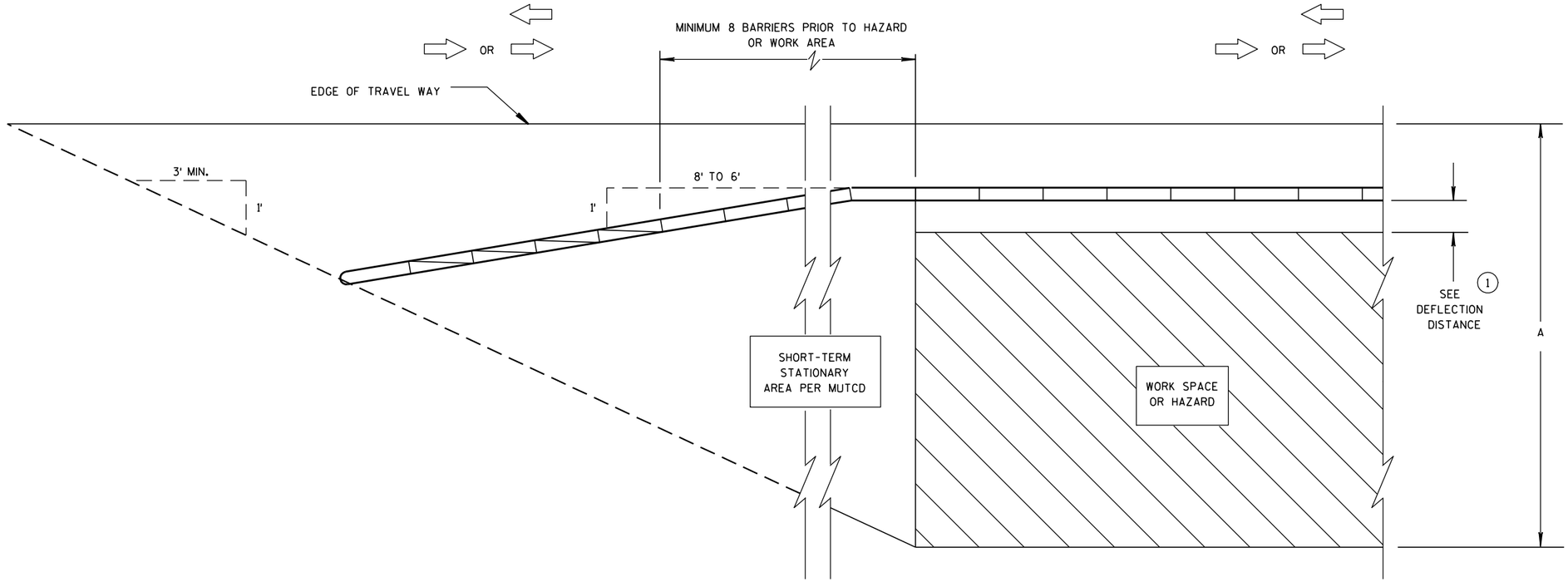
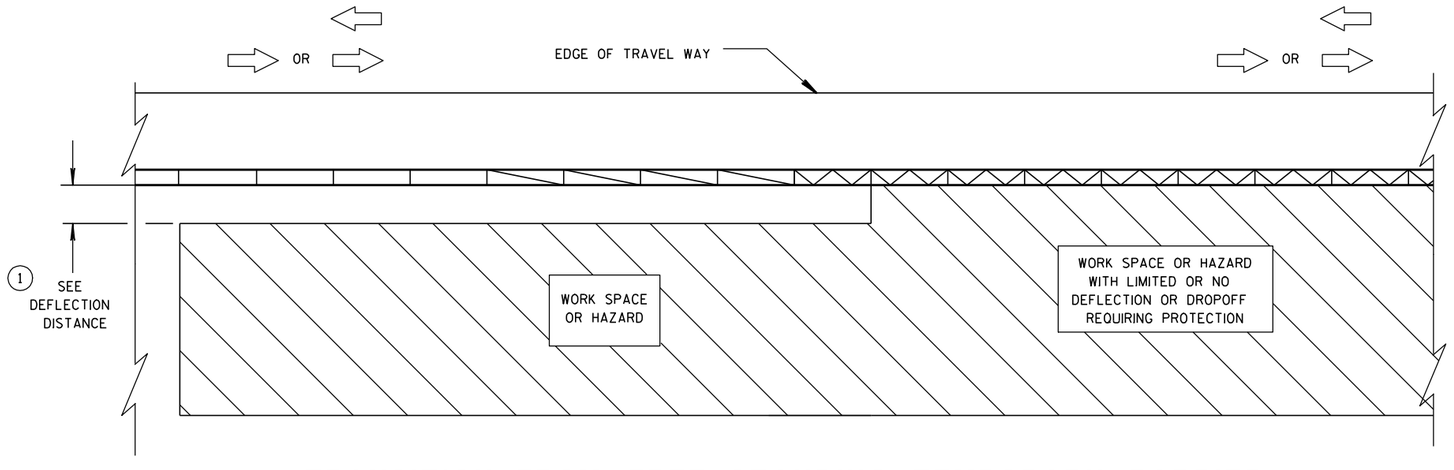
S.D.D. 14 B 8-1a



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

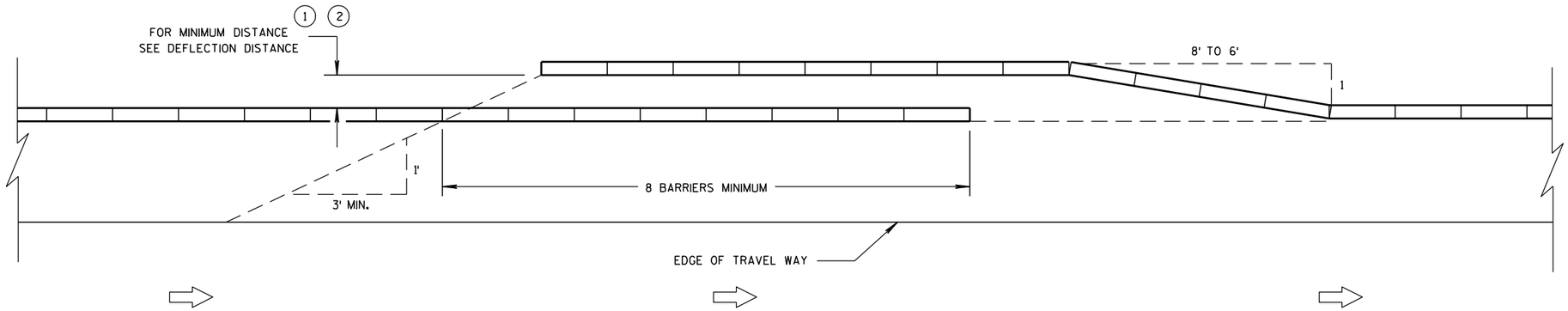
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

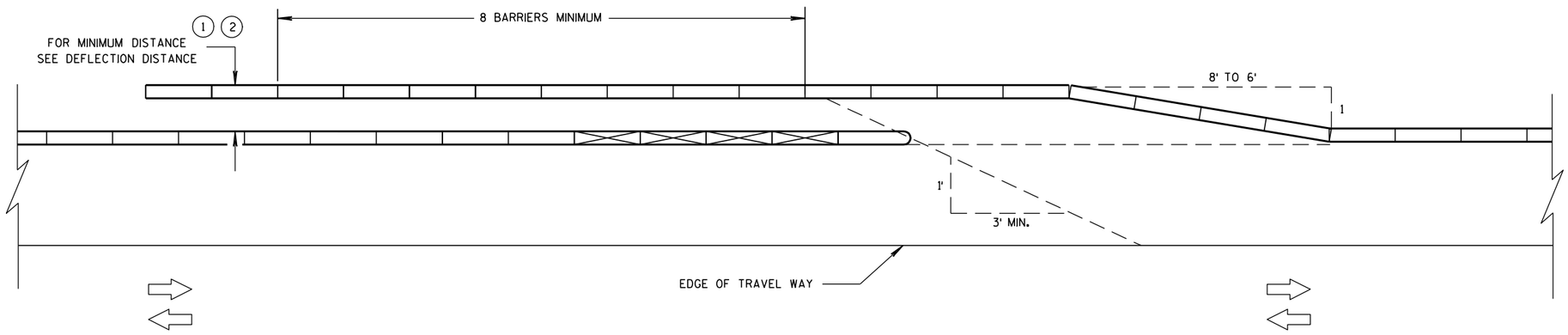
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

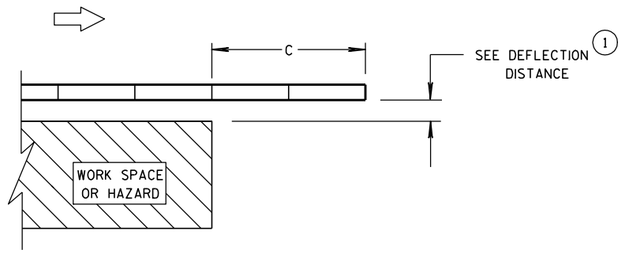
S.D.D. 14 B 8-1b



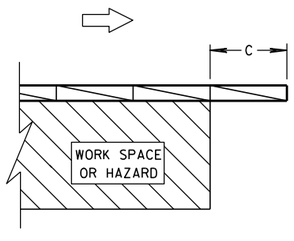
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

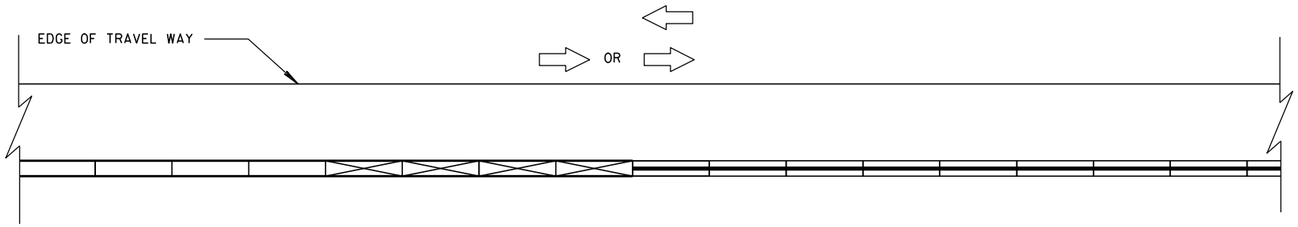
LEGEND

- 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

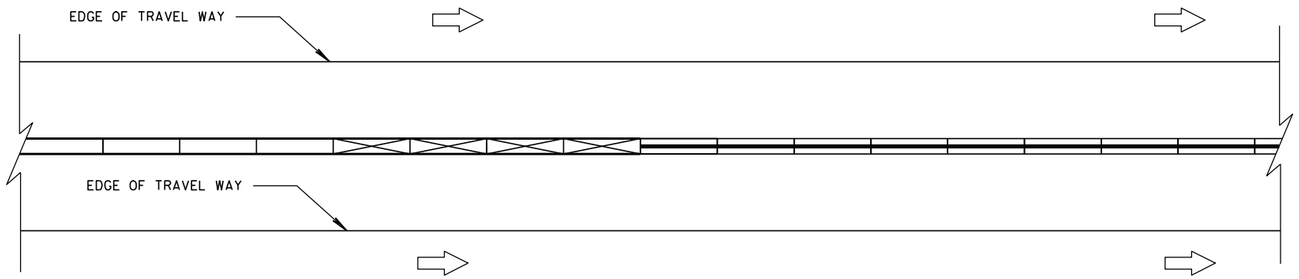
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

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

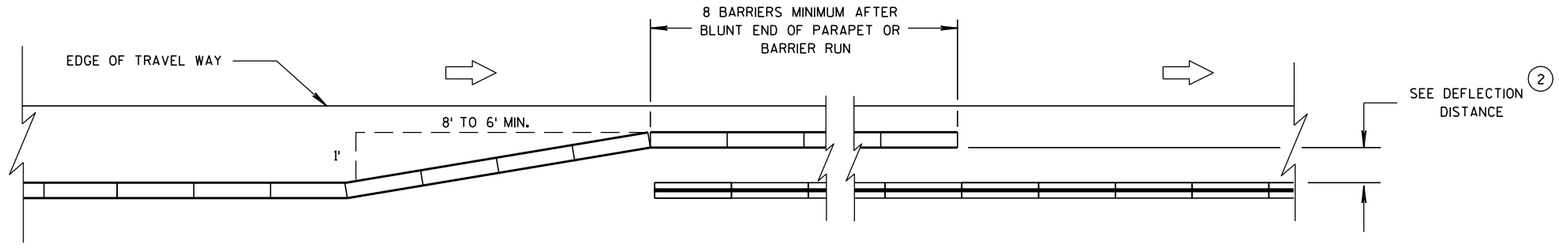
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

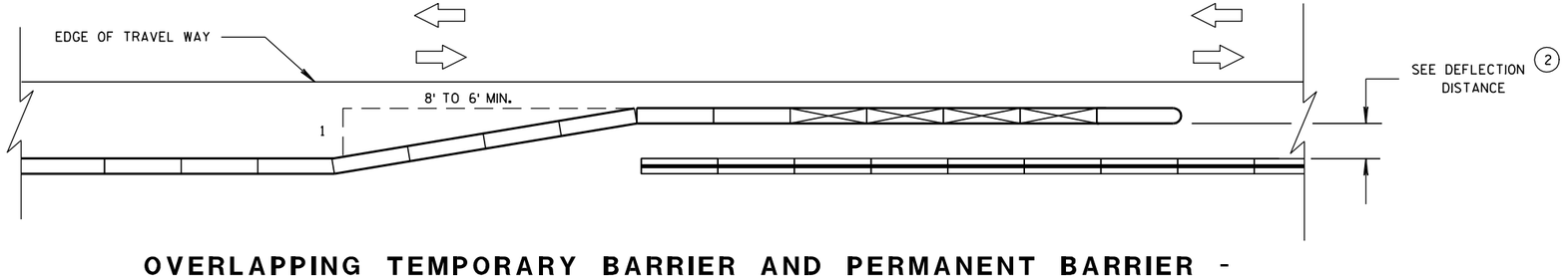
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

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 TRANSPO...

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

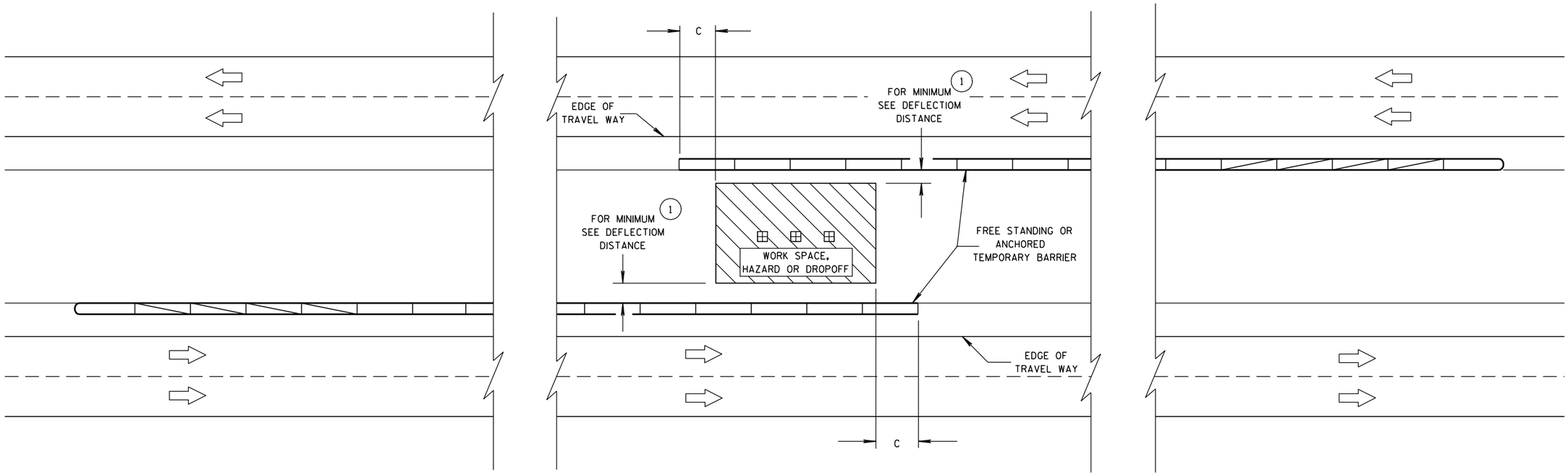
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

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



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

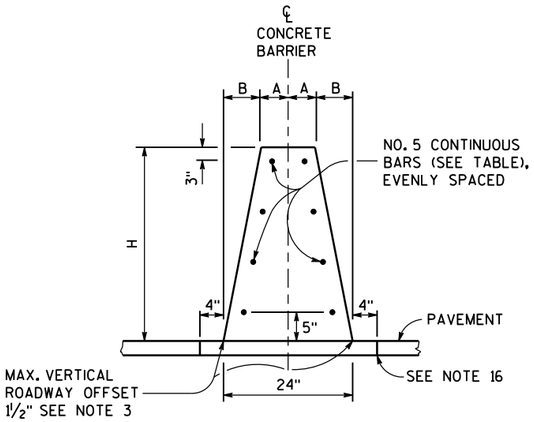
FHWA

6

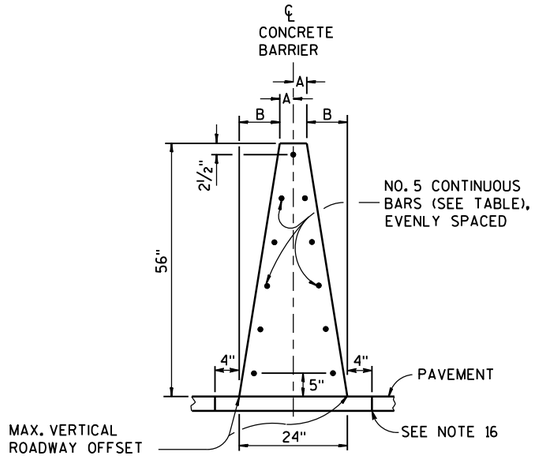
S.D.D. 14 B 8-1e

6

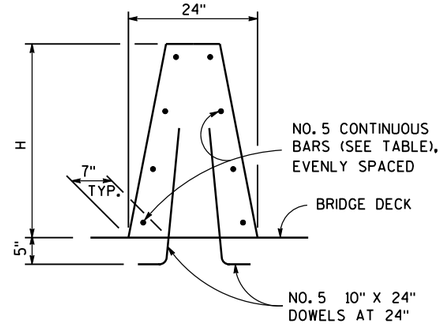
S.D.D. 14 B 8-1e



32-INCH, 36-INCH OR 42-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S32, TYPE S36, AND TYPE S42)



56-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S56)



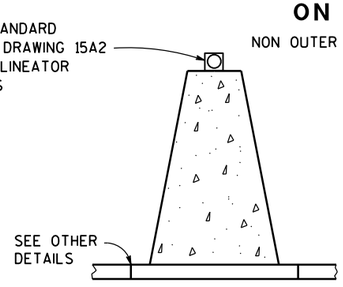
SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

NON OUTER PARAPET APPLICATION

GENERAL NOTES

1. WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
2. EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK, AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OR ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1½", USE TYPE A
4. PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
5. EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".
6. FOR TYPE S32, TYPE S36, TYPE S42, AND S56 MONOLITHIC FOOTING OR DOWELED FOOTING WITH 2-#8 x 8" @ 2'-0".
7. STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
8. 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
9. WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
10. USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
11. 2" CLEAR COVER TYPICAL.
12. COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED.
13. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL.
14. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
15. FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.
16. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10
56	3	9	11



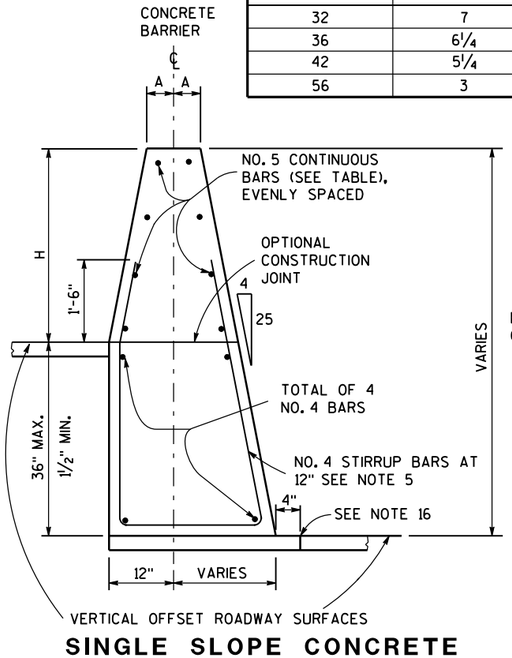
DELINEATION

DELINEATOR SPACING ON HORIZONTAL CURVES

RADIUS OF CURVE	APPROXIMATE SPACING ON CURVE
50 FEET	20 FEET
115 FEET	25 FEET
180 FEET	35 FEET
250 FEET	40 FEET
300 FEET	50 FEET
400 FEET	55 FEET
500 FEET	65 FEET
600 FEET	70 FEET
700 FEET	75 FEET
800 FEET	80 FEET
900 FEET	85 FEET
1000 FEET	90 FEET

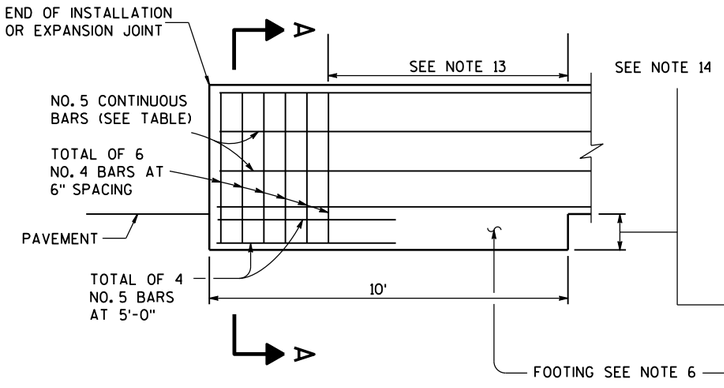
DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

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



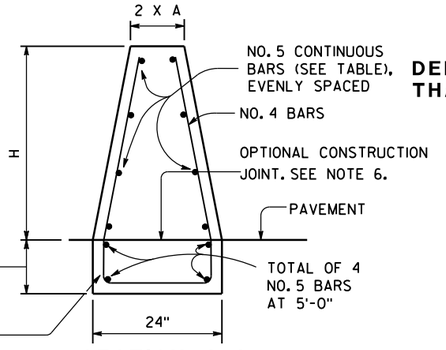
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

(BETWEEN ADJACENT ROADWAYS)



END ANCHOR SINGLE SLOPE CONCRETE BARRIER

AT CONSTRUCTION JOINT



SECTION A-A

CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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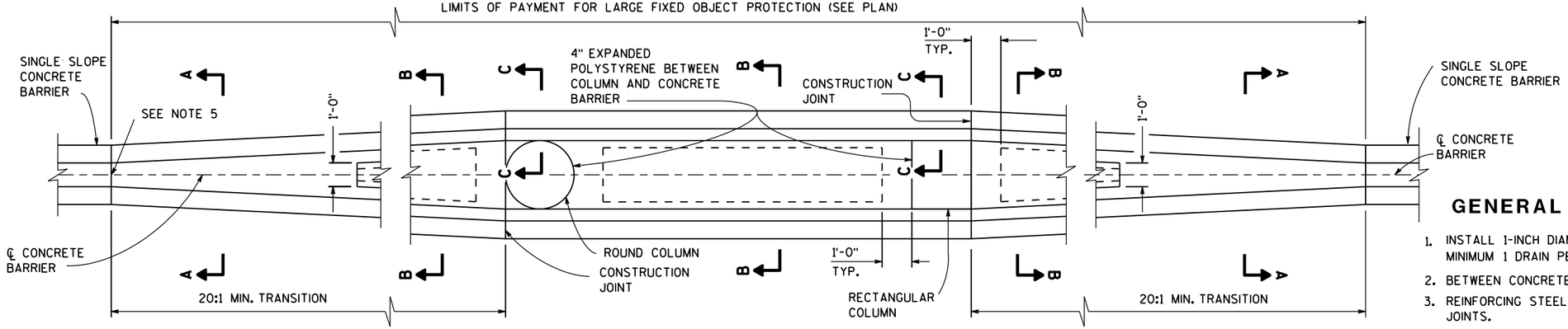
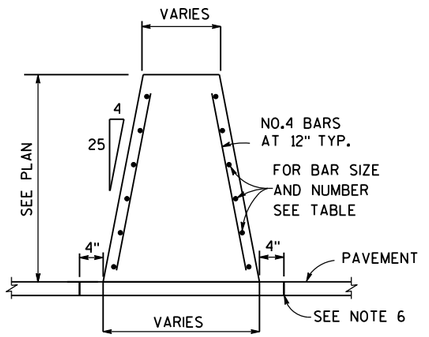
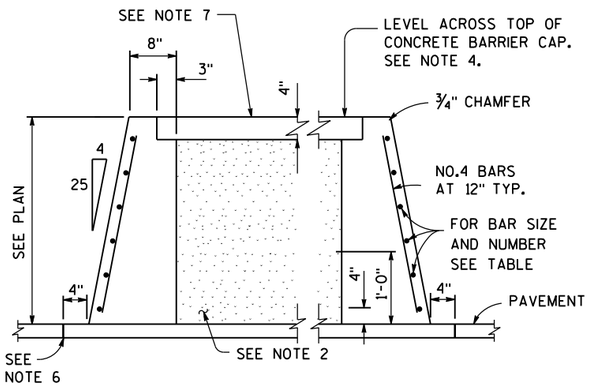
S.D.D. 14 B 32-3a



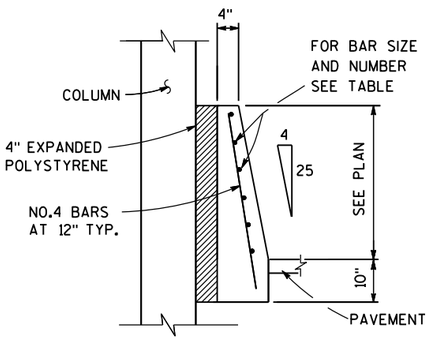
LARGE FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56



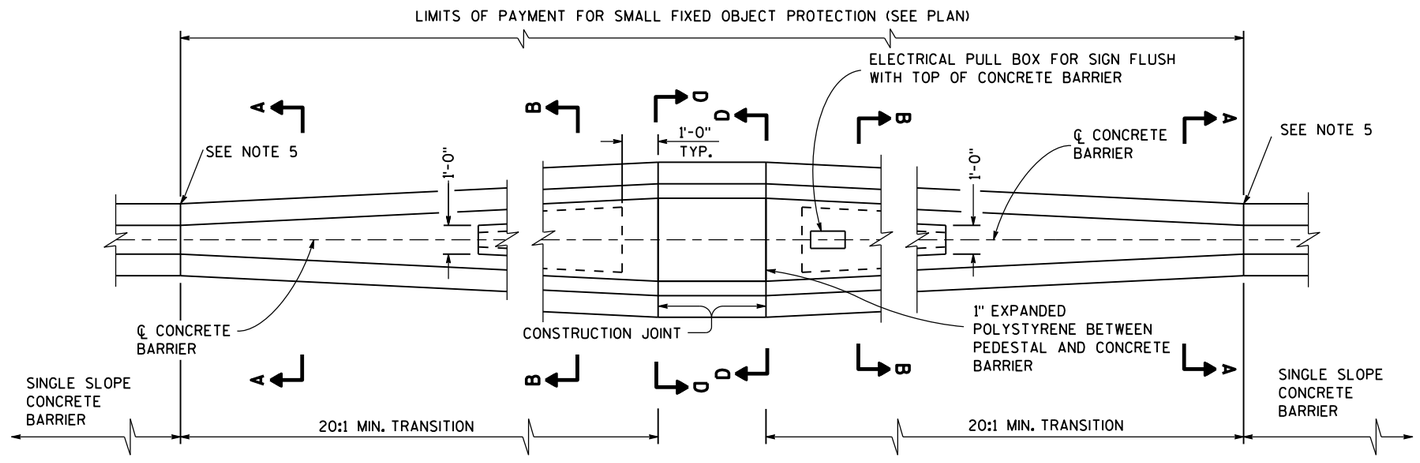
SECTION A-A



SECTION B-B



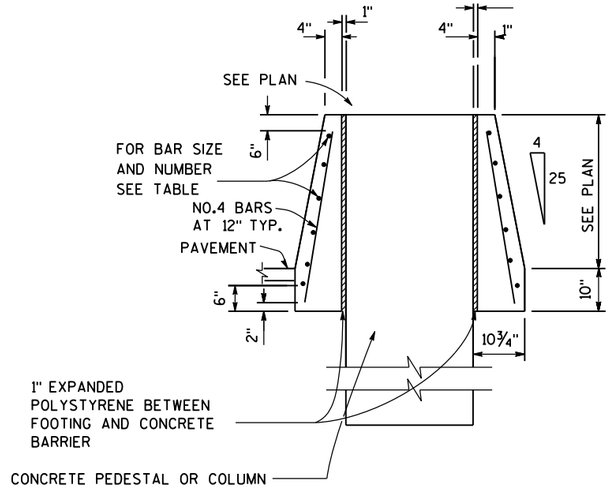
SECTION C-C



SMALL FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56

GENERAL NOTES

1. INSTALL 1-INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B-B. MINIMUM 1 DRAIN PER CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH GRANULAR BACKFILL GRADE 2
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.
6. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
7. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.



SECTION D-D

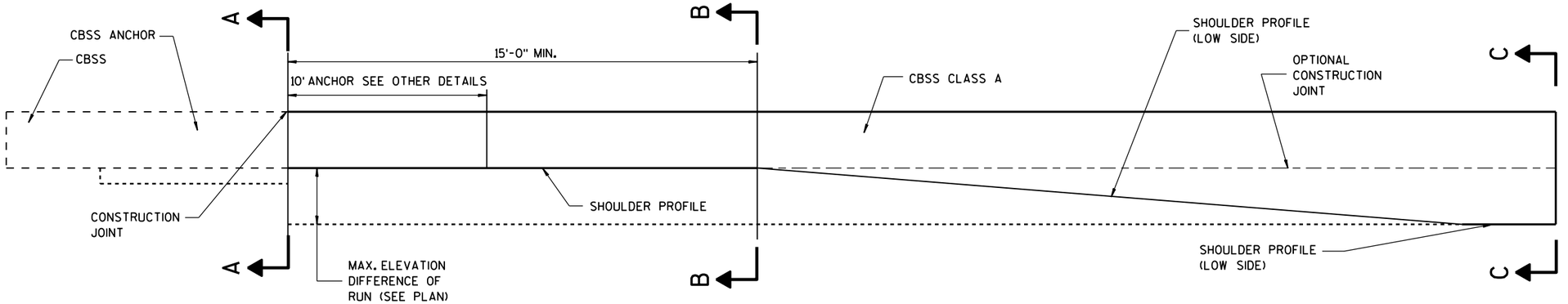
BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	9

CONCRETE BARRIER SINGLE SLOPE (CBSS)

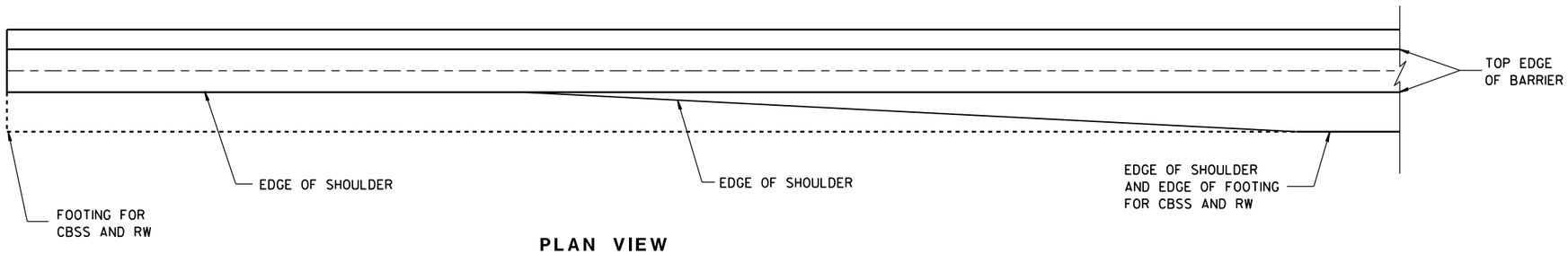
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

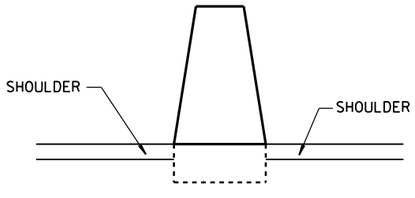
S.D.D. 14 B 32-3b



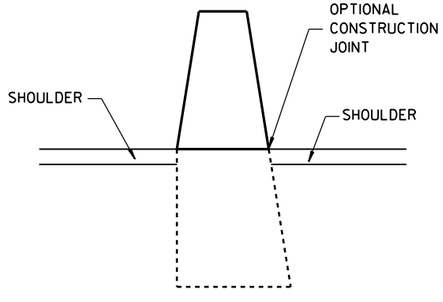
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



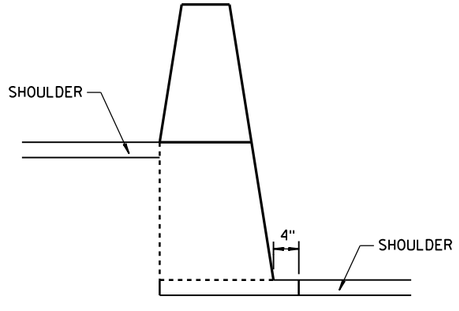
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



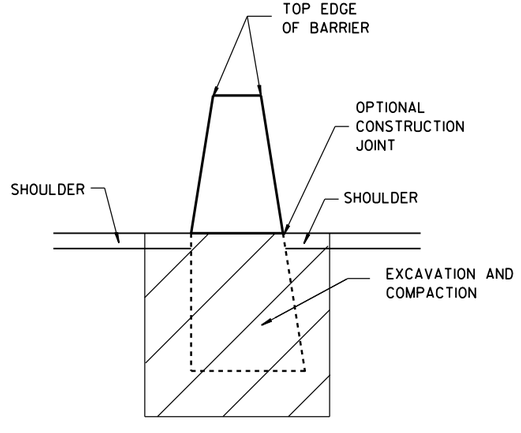
SECTION A-A



SECTION B-B



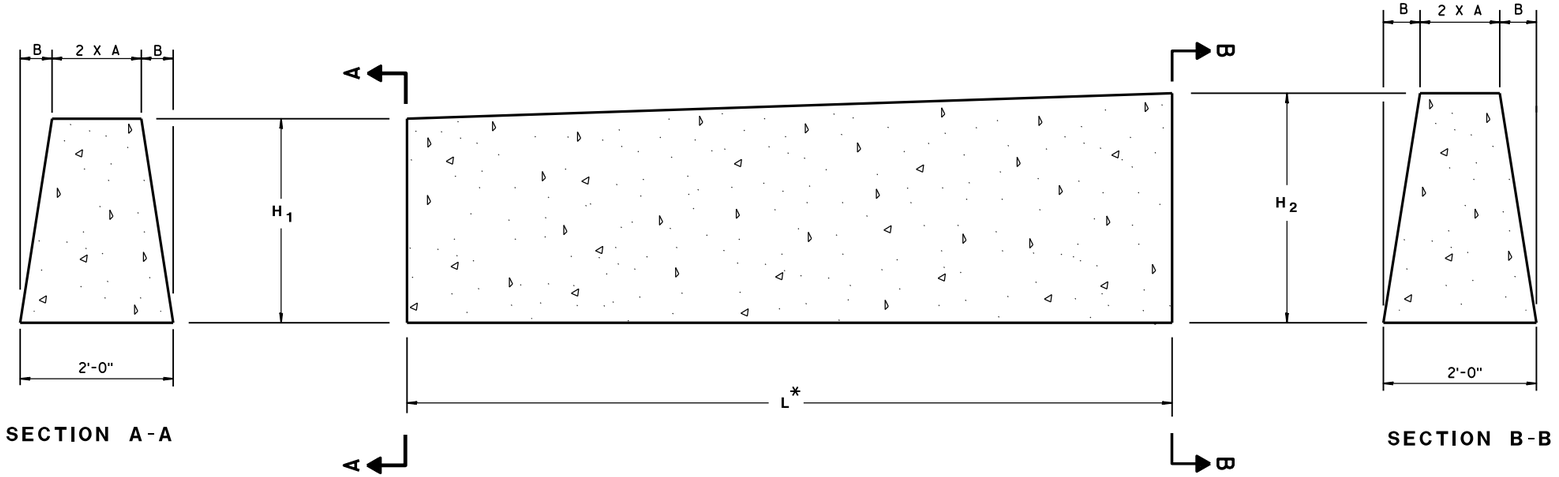
SECTION C-C



CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 32-3c



SECTION A-A

SECTION B-B

DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 1/4	5 3/4
42	5 1/4	6 3/4
56	3	9

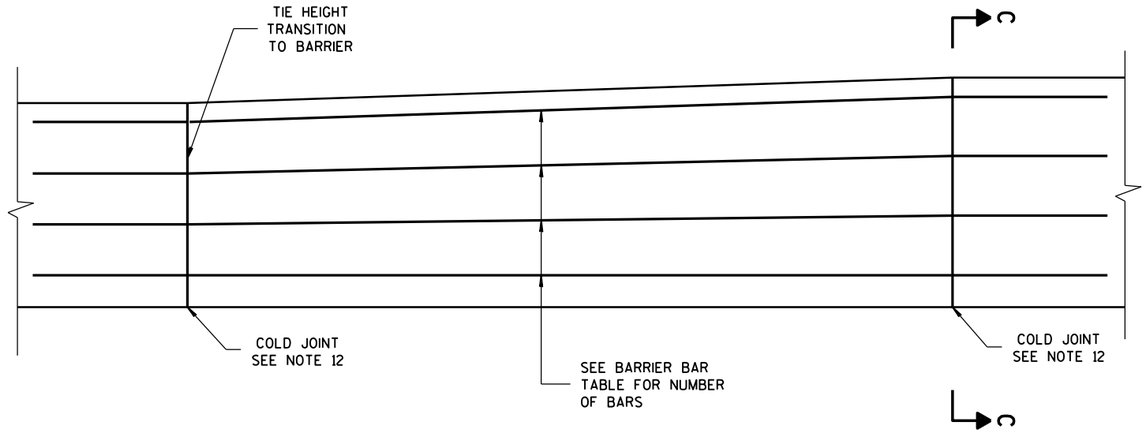
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

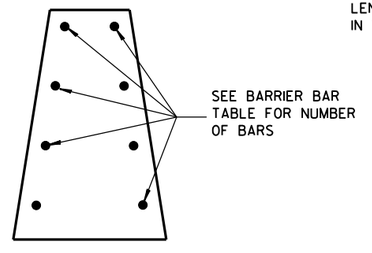
USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

BARRIER BARS

H_1	H_2	L*	NUMBER OF NO. 5 BARS
32"	36"	10'-0"	8
36"	42"	10'-6"	10
42"	56"	24'-6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.





SECTION C-C

STEEL REINFORCEMENT DETAIL

CONCRETE BARRIER SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2014 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

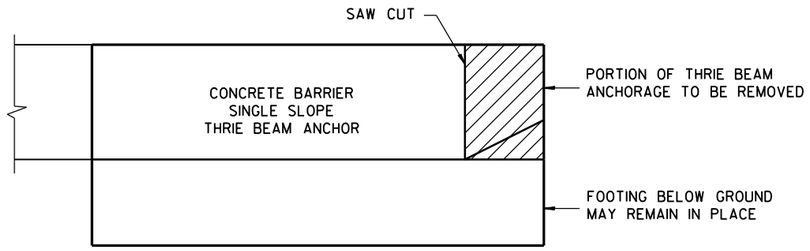
FHWA

6

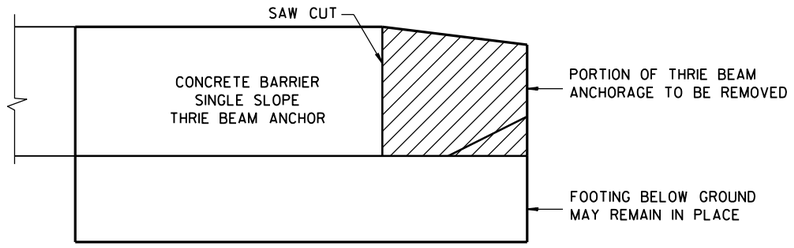
S.D.D. 14 B 32-3d

6

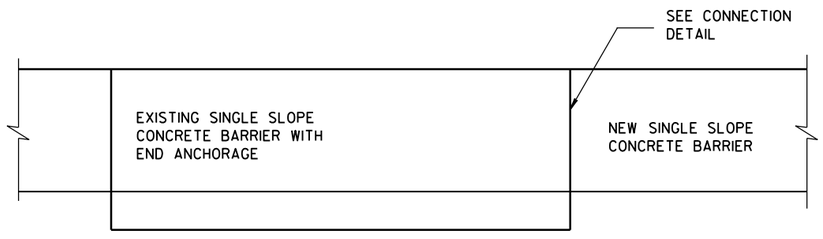
S.D.D. 14 B 32-3d



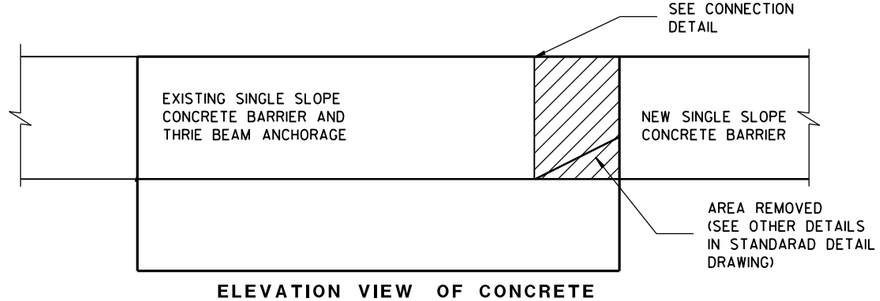
REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE



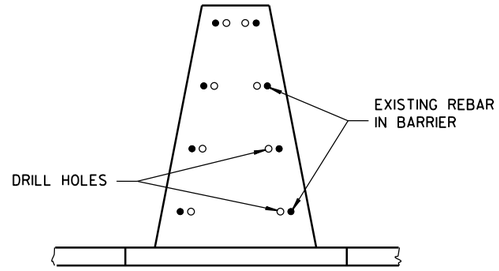
REMOVAL AREA OF CONCRETE THRIE BEAM
ANCHORAGE WITH HEIGHT GREATER THAN 32"



ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR END ANCHORAGE



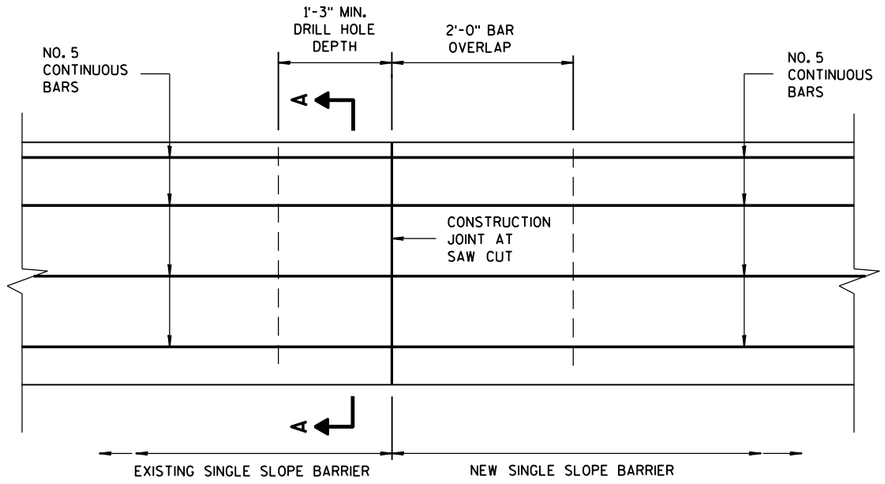
ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR THRIE BEAM TERMINAL



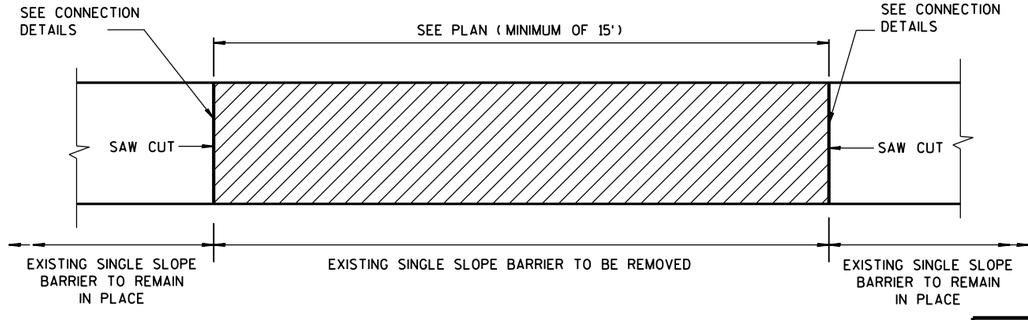
SECTION A-A

GENERAL NOTES

1. THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF REBAR IN BARRIER (SEE OTHER DETAILS).
2. MINIMUM DEPTH OF DRILL HOLES IS 1'-3".
3. DRILL HOLES TO BE A MINIMUM OF 4 INCHES FROM THE EDGE OF CONCRETE.
4. INSTALL EPOXY COATED NO. 5 BARS IN DRILL HOLES.
5. END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIER.
6. REMOVE THRIE BEAM ANCHORAGE AS SHOWN.



CONNECTION OF EXISTING SINGLE SLOPE CONCRETE BARRIER TO
NEW SINGLE SLOPE CONCRETE BARRIER



ELEVATION FILE
BARRIER REMOVAL AND REPLACEMENT

CONCRETE BARRIER
SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER

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S.D.D. 14 B 32-3e

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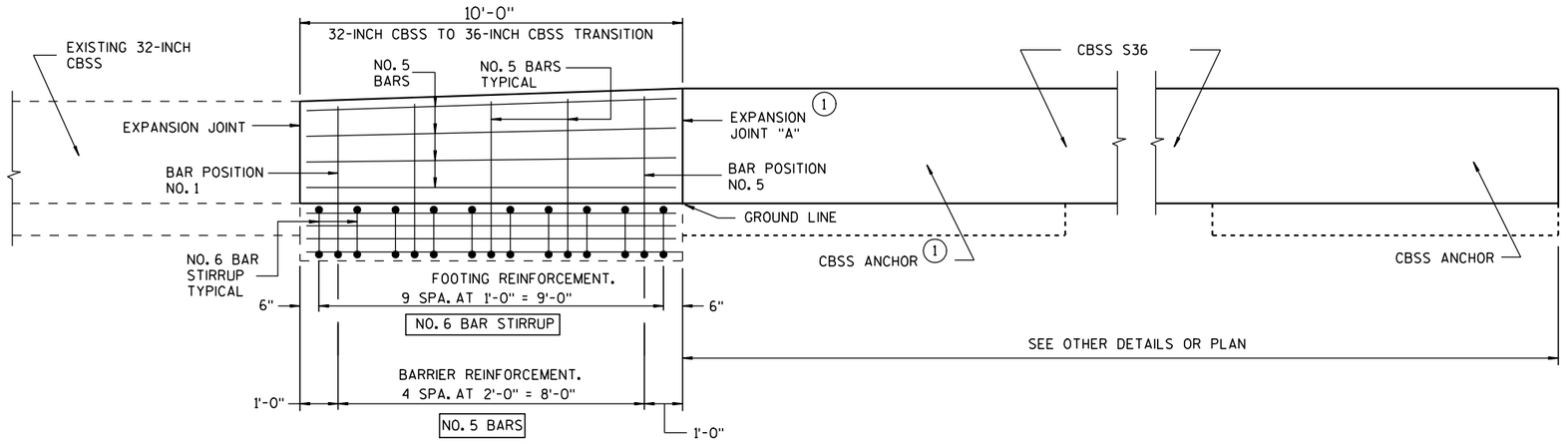
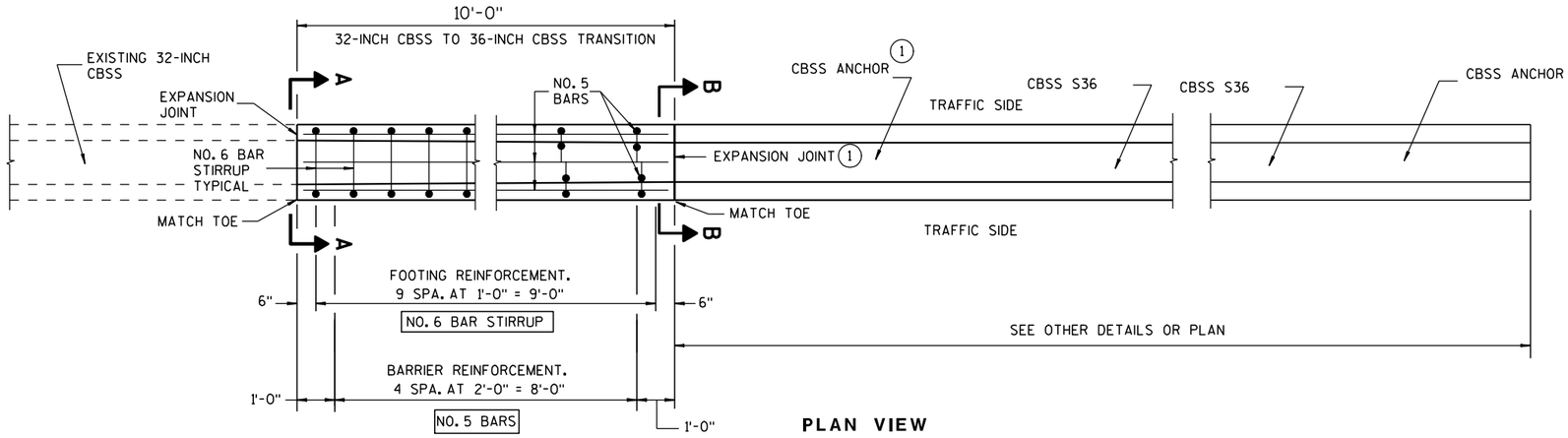
S.D.D. 14 B 32-3e



ELEVATION VIEW



PLAN VIEW

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

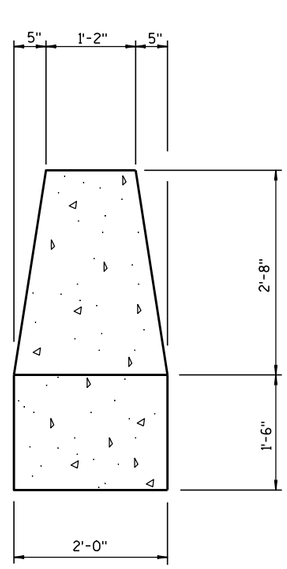
4000 PSICONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

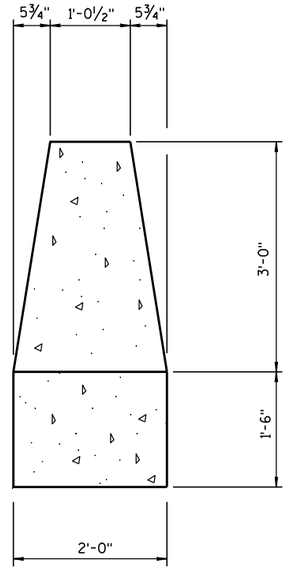
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

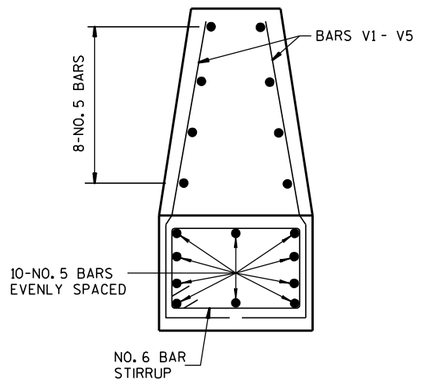
(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



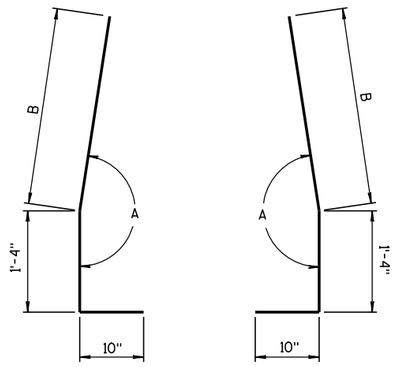
SECTION A-A



SECTION B-B



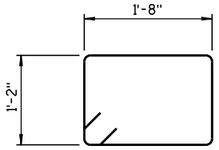
BAR DETAIL
BAR POSITION NO. 1 - NO. 5



BAR BENDING DETAIL
FOR BARS V1 - V5

BAR CHART
SECTIONS V1 - V5

BAR	A	B
V1	171°-10'	2'-6½"
V2	171°-05'	2'-8"
V3	170°-55'	2'-9"
V4	170°-40'	2'-9½"
V5	171°	2'-10"



STIRRUP BAR
BENDING DETAIL

32-INCH SINGLE SLOPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS I 374 ENT
ENGINEER
FHWA

6

S.D.D. 14 B 39-1a

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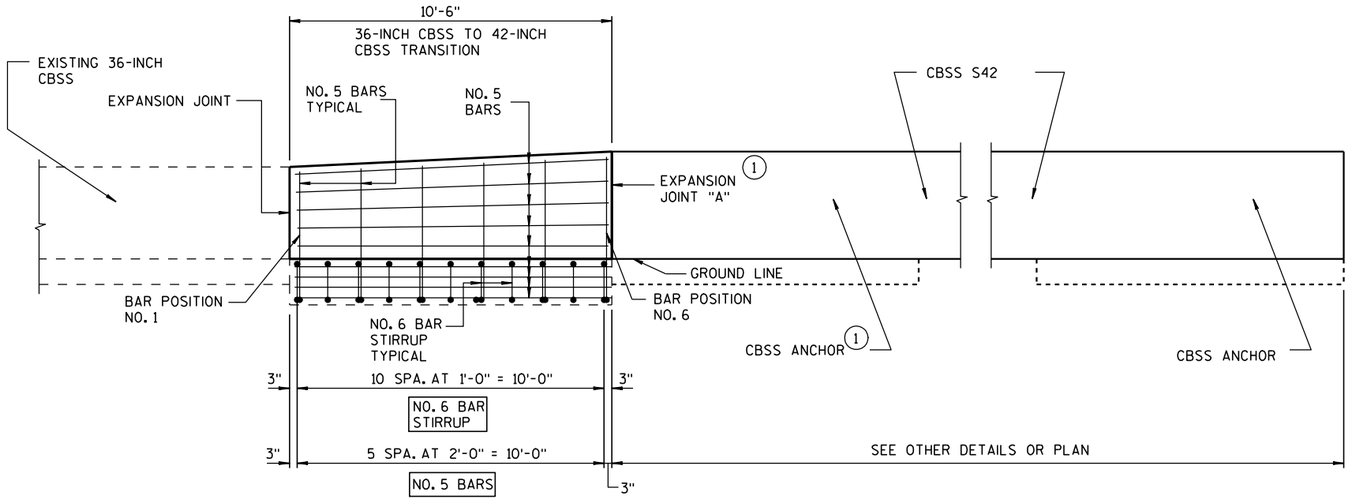
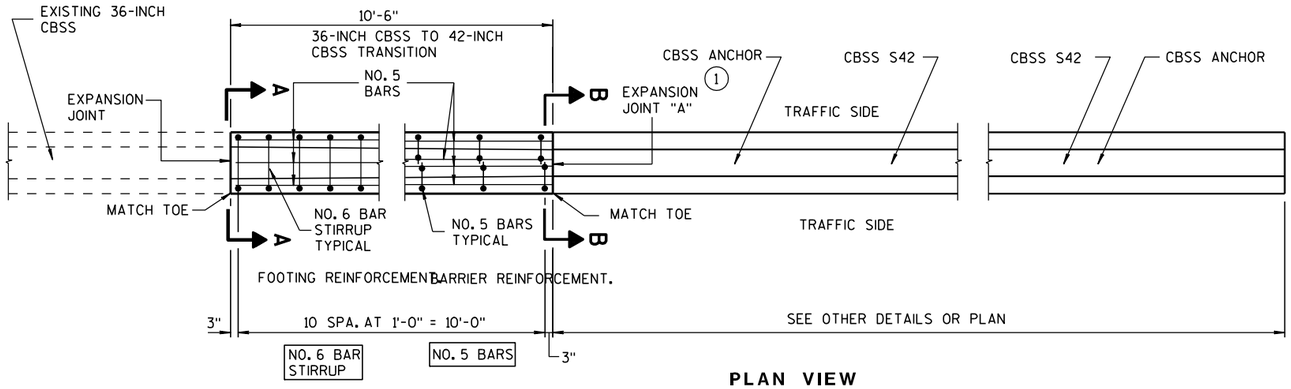
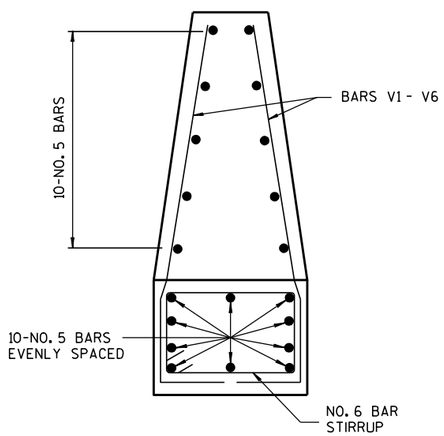
S.D.D. 14 B 39-1a



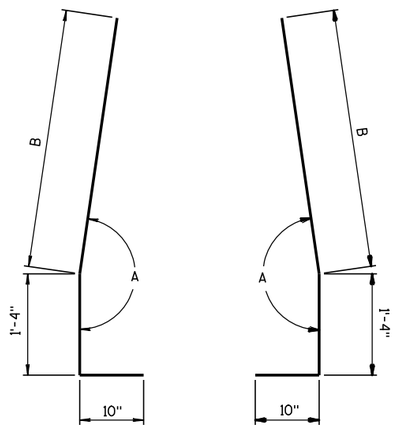
ELEVATION VIEW



PLAN VIEW



BAR DETAIL
BAR POSITION NO. 1 - NO. 6



BAR BENDING DETAIL
FOR BARS V1 - V6

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

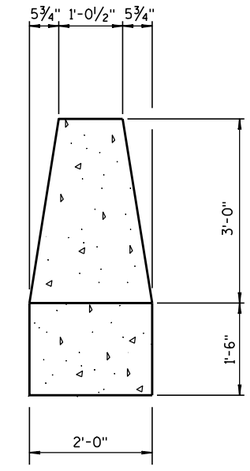
4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

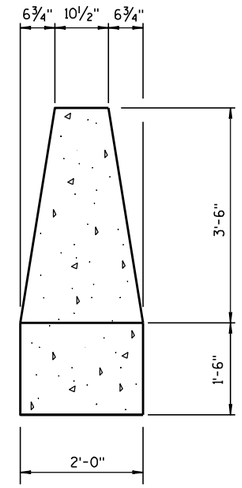
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



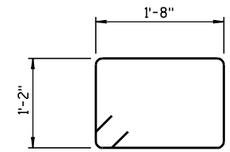
SECTION A-A



SECTION B-B

BAR CHART
SECTIONS V1 - V6

BAR	A	B
V1	170°-55'	2'-10½"
V2	171°-05'	3'-0"
V3	171°-20'	3'-1"
V4	171°-20'	3'-2"
V5	171°-35'	3'-3"
V6	171°-40'	3'-4½"



STIRRUP BAR
BENDING DETAIL

36-INCH SINGLE SLOPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010
DATE
/S/ Jerry H. Zoo
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

GENERAL NOTES

1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

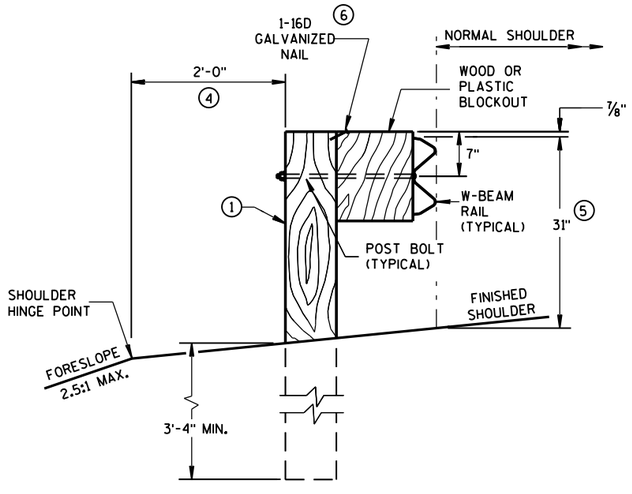
2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

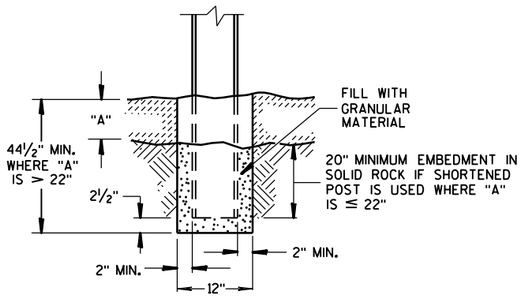
5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

6. WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



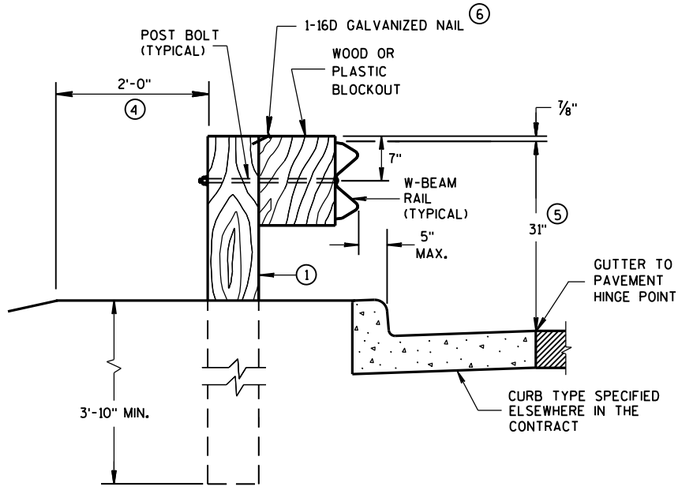
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



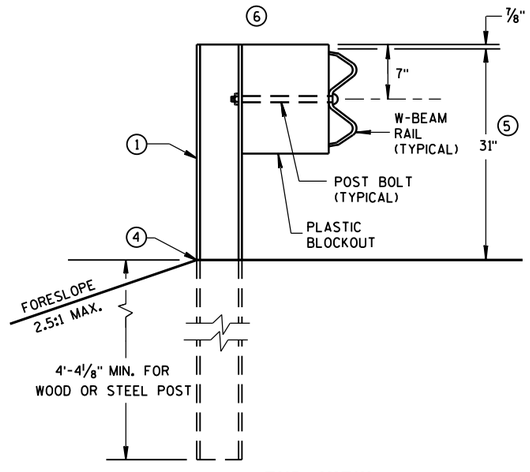
END VIEW

SETTING STEEL OR WOOD POST IN ROCK 3



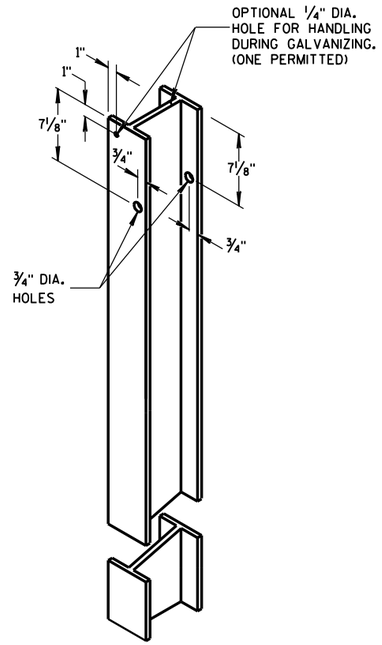
END VIEW

LOCATED ALONG A CURBED ROADWAY

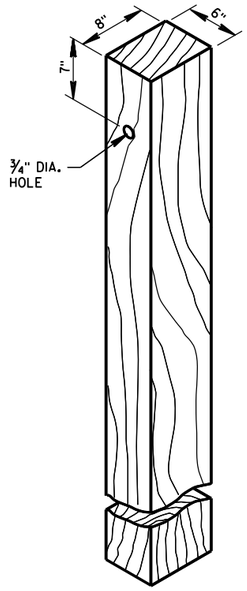


END VIEW

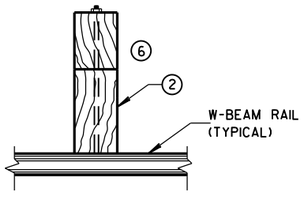
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



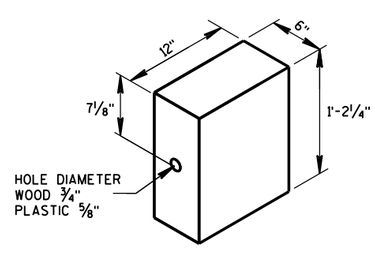
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) 1



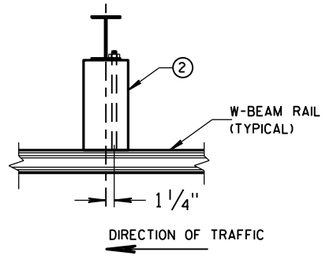
WOOD POST
(6" X 8") NOMINAL 1



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT 2

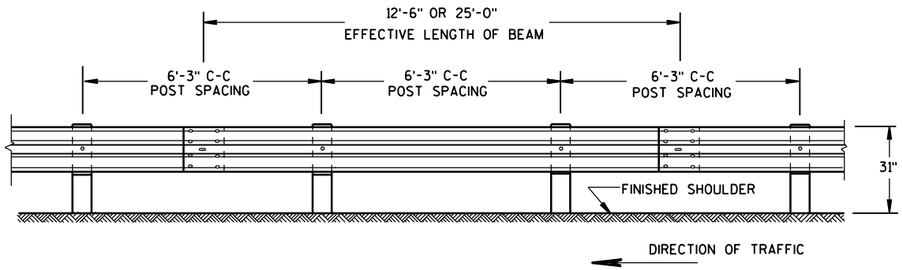


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

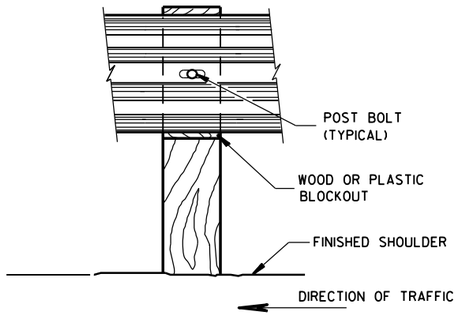
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 42-3a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

GENERAL NOTES

(7) PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

(8) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

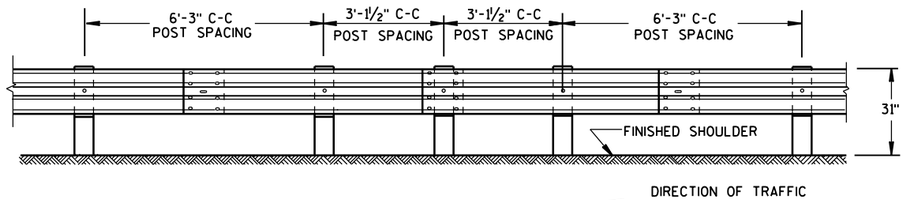
(9) REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

(10) PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

(11) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

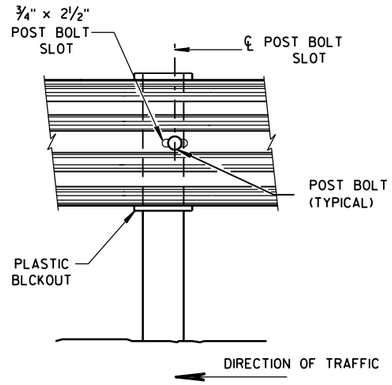
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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

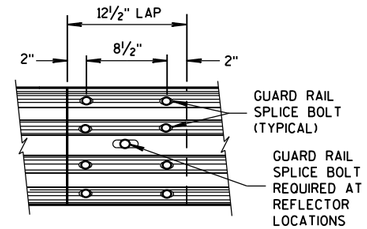


FRONT VIEW

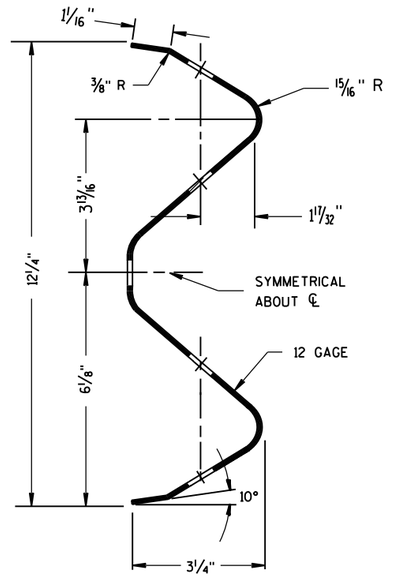
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



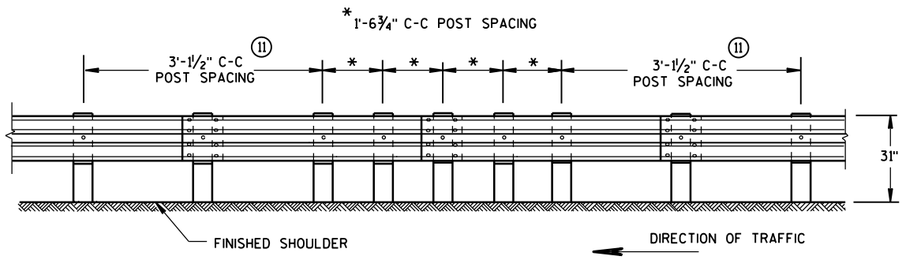
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

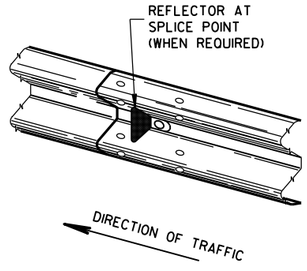


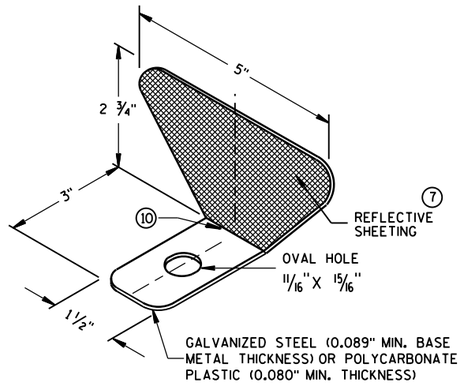
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

REFLECTOR SPACING (8)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (9)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (10)	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

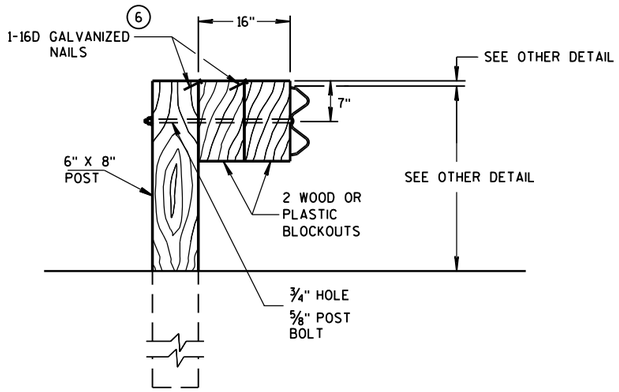
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO 377

6

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

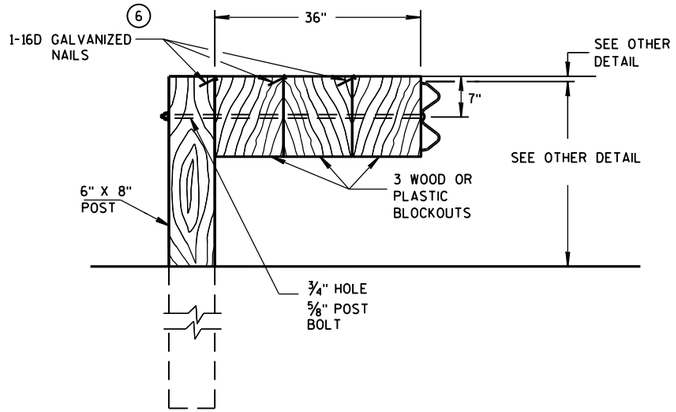
6

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



DETAIL FOR 16" BLOCKOUT DEPTH

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

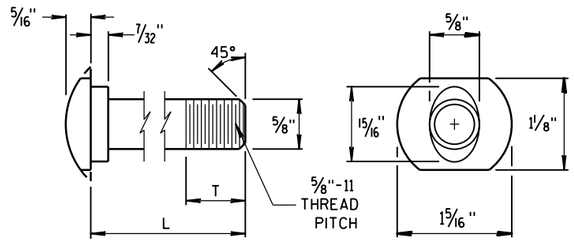


DETAIL FOR 36" BLOCKOUT DEPTH

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

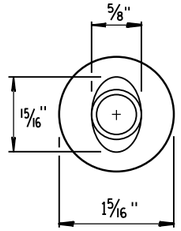
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

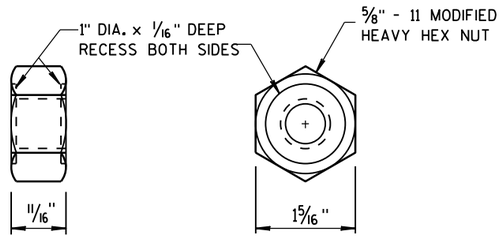


POST BOLT TABLE

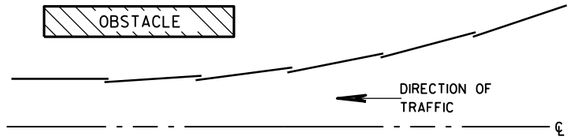
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

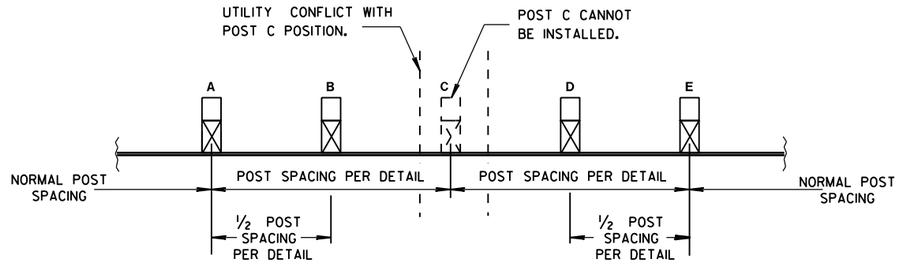


POST BOLT AND RECESS NUT

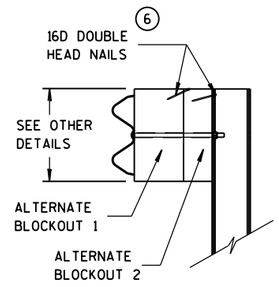


PLAN VIEW

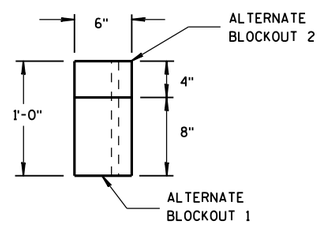
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

6

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

GENERAL NOTES

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

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

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

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

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

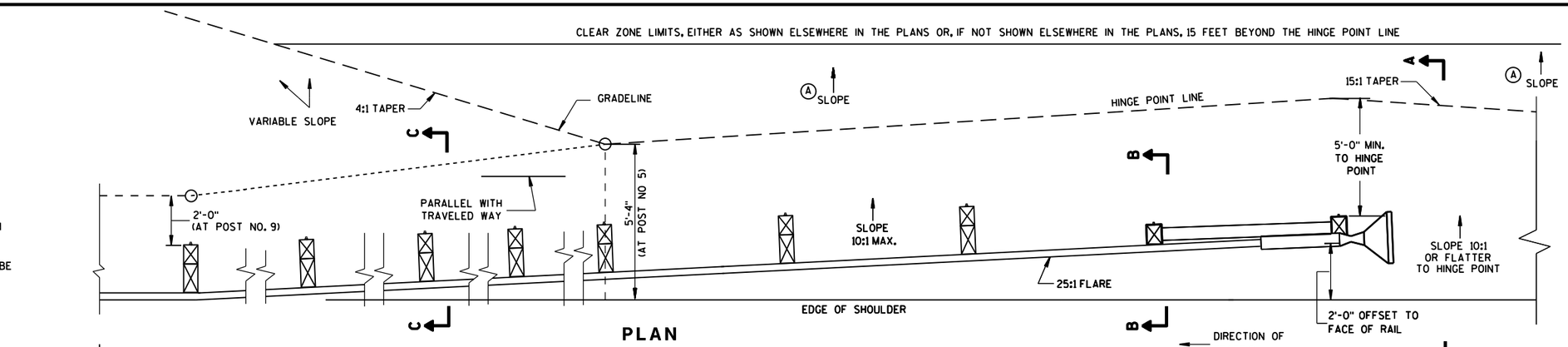
SEE SDD 14B42 FOR MORE INFORMATION.

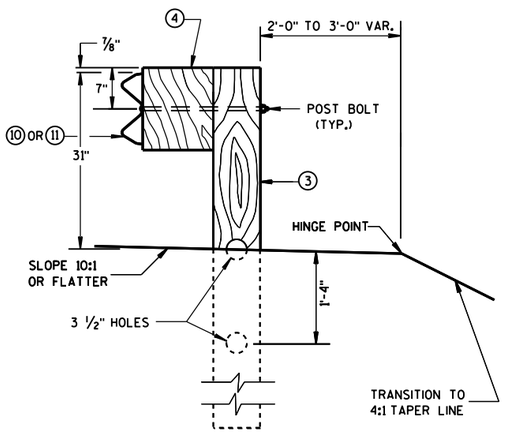
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

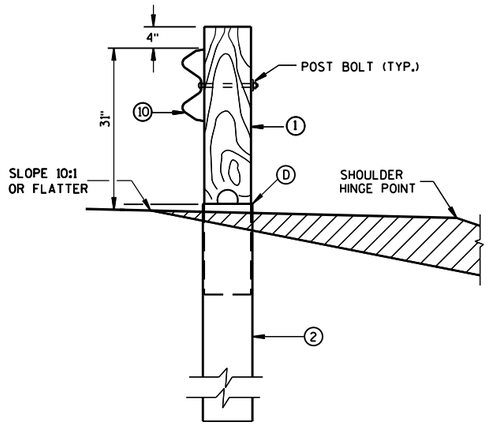
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

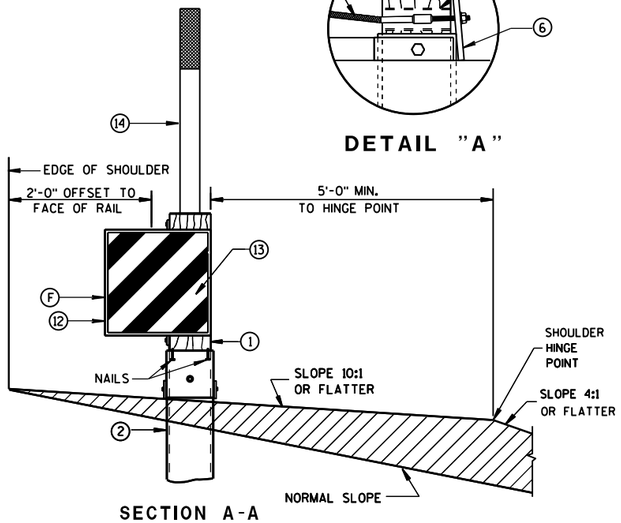




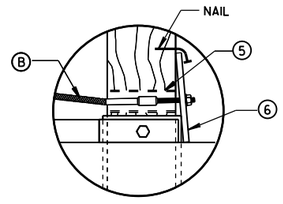
SECTION C-C
TYPICAL AT POST NOS. 3-9



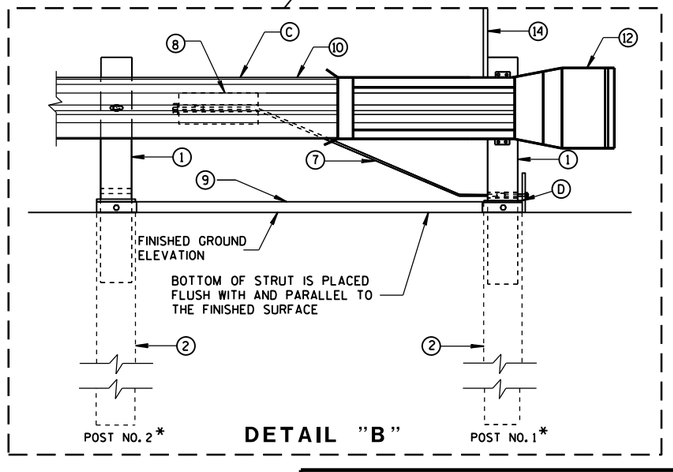
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



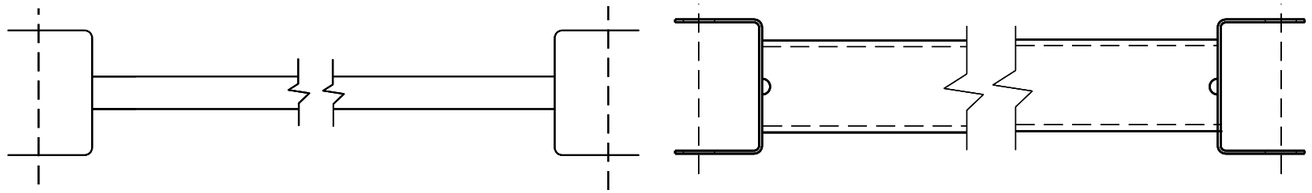
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO 379

S.D.D. 14 B 44-2a

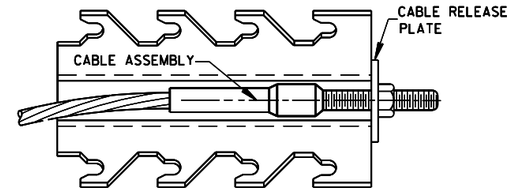
S.D.D. 14 B 44-2a



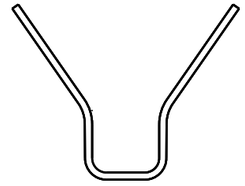
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

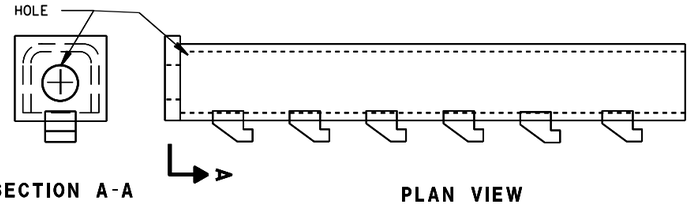
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



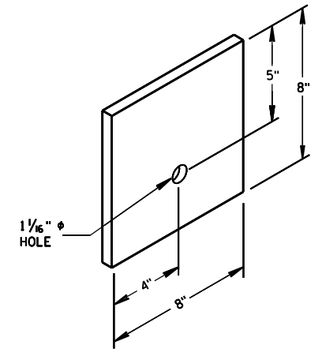
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



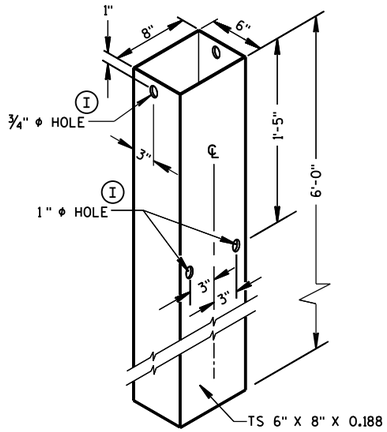
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

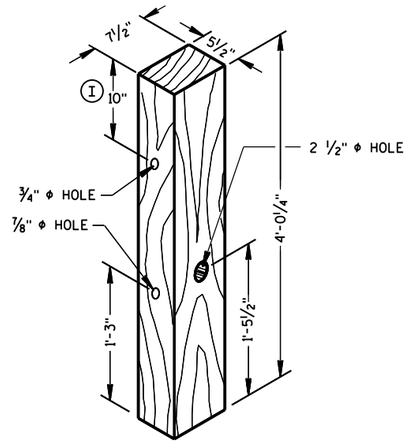
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 44-2b

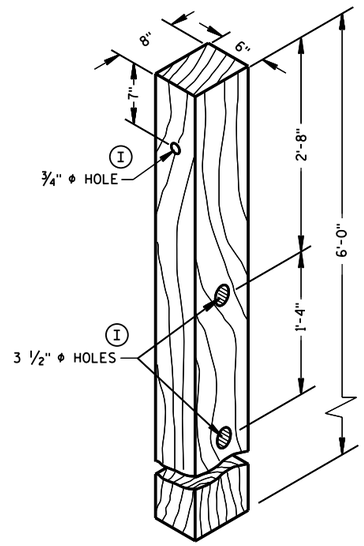


FOUNDATION TUBE (2)



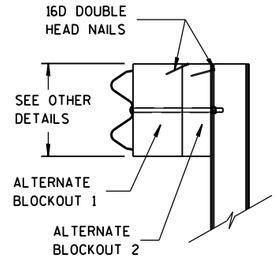
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

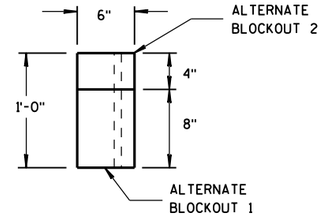


POSTS NUMBER 3-9

WOOD CRT POST (3)

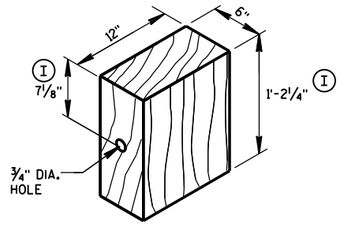


SIDE VIEW



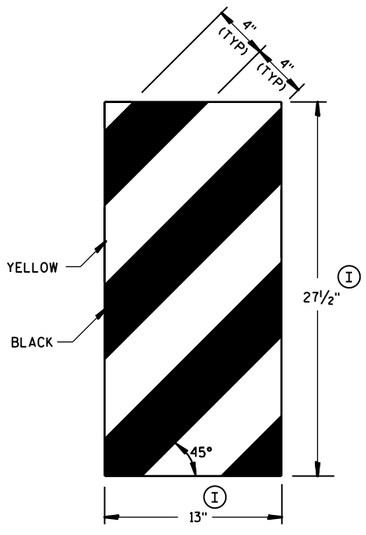
TOP VIEW

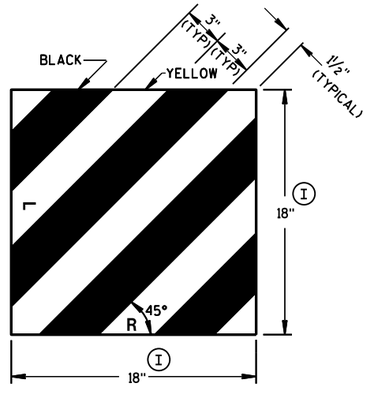
ALTERNATE WOOD BLOCKOUT DETAIL



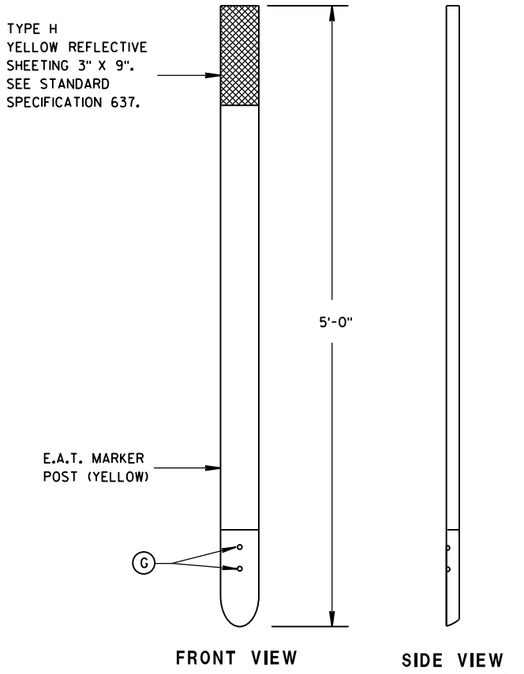
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





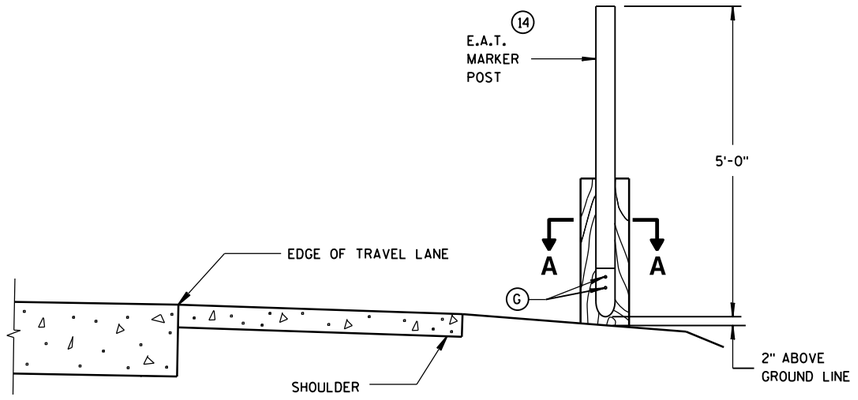
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

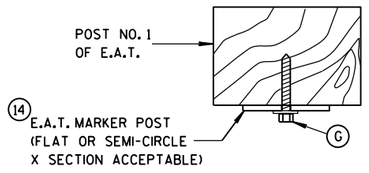
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

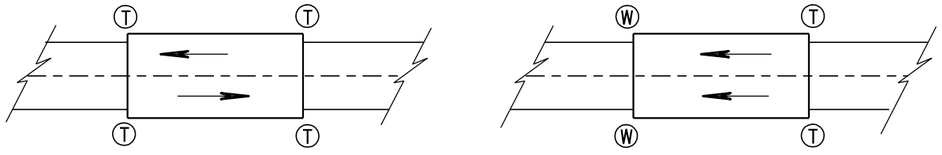
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-2c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

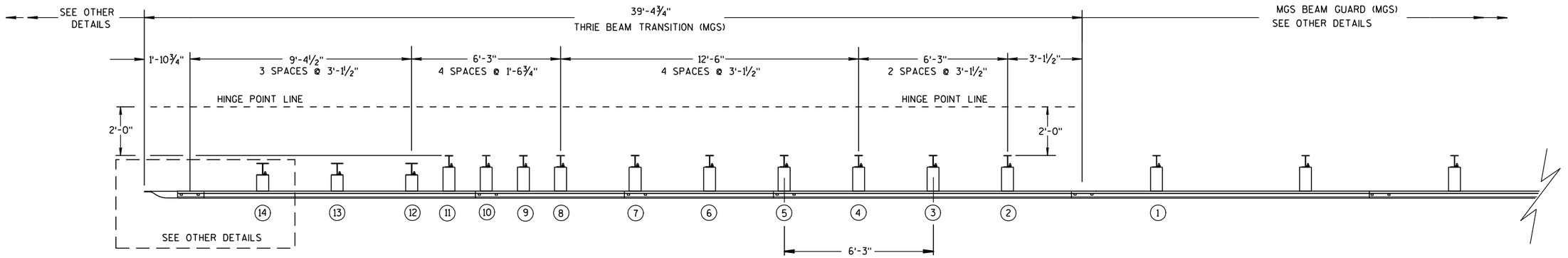
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

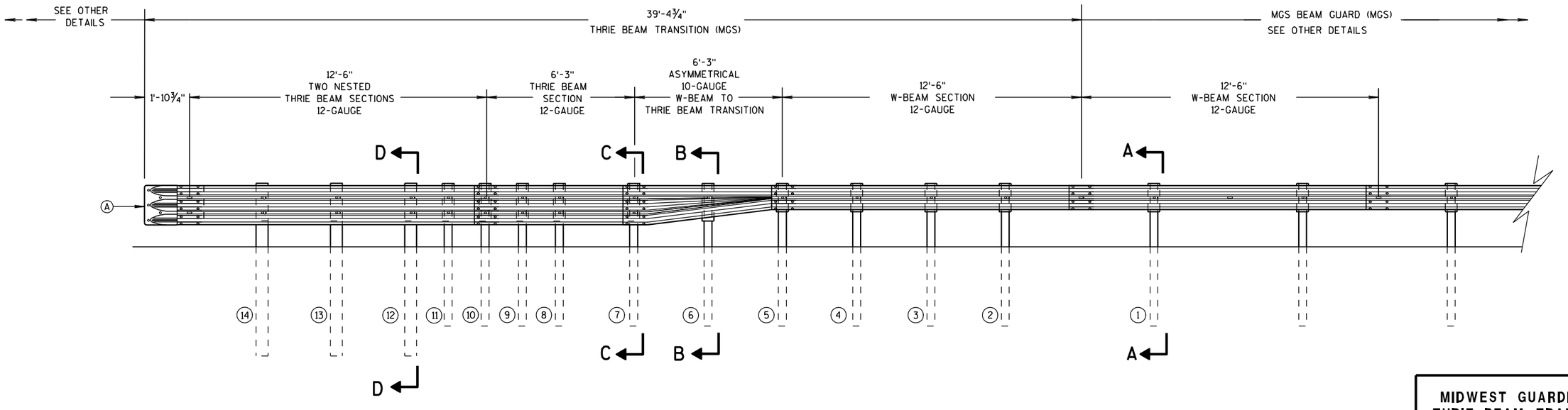
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

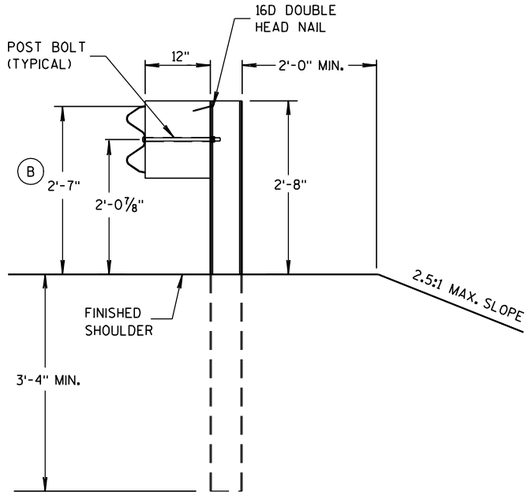
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

S.D.D. 14 B 45-3a

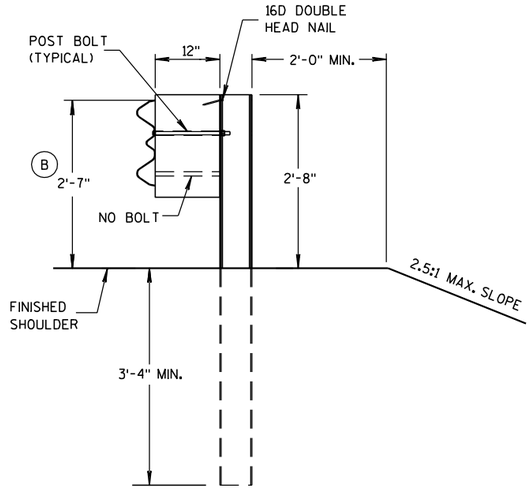
GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



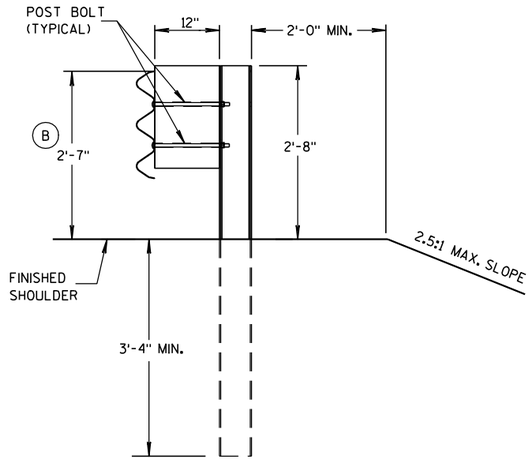
SECTION A-A

POSTS 1-5



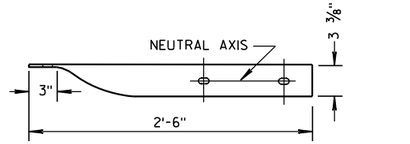
SECTION B-B

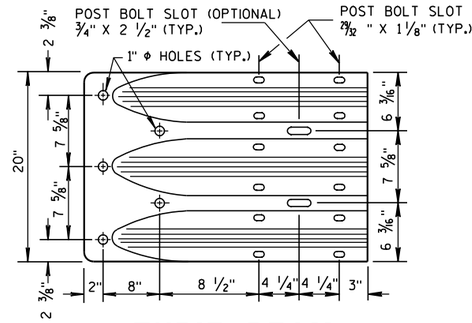
POST 6



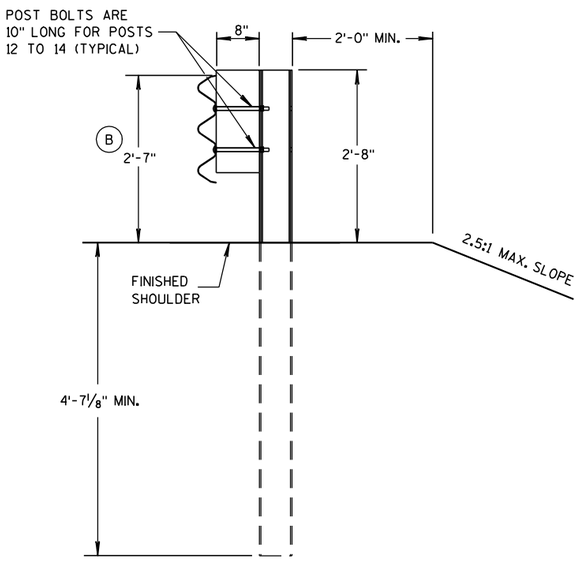
SECTION C-C

POSTS 7-11





THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-14

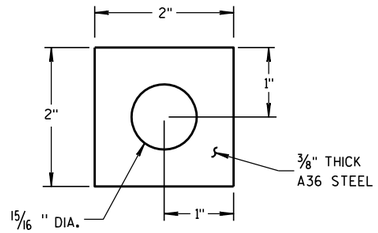
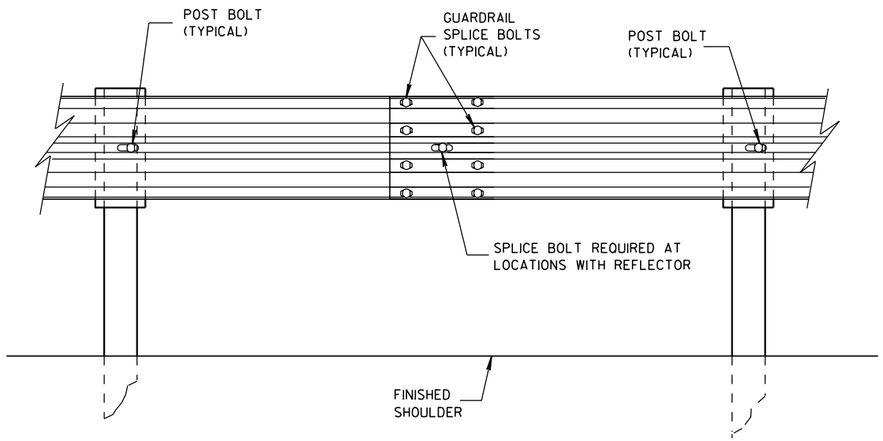
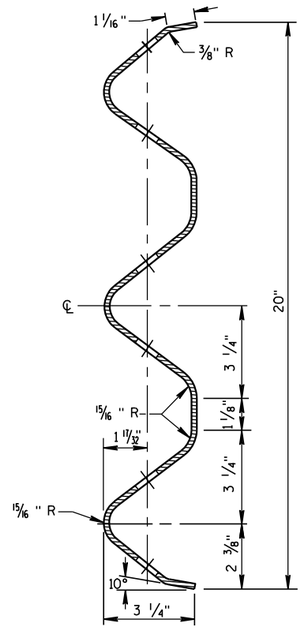


PLATE WASHER DETAIL



SPLICE DETAIL



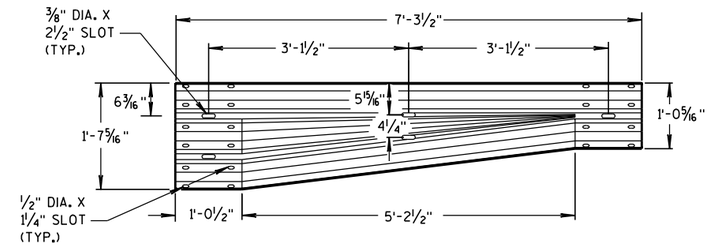
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

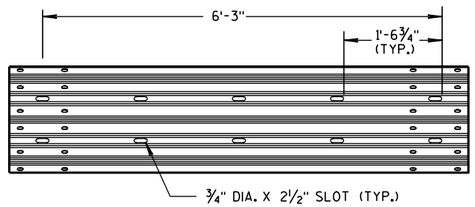
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

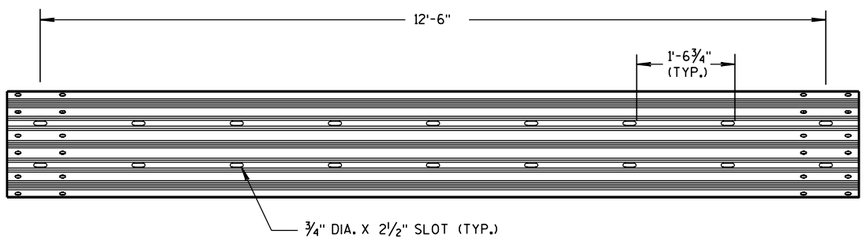
S.D.D. 14 B 45-3b



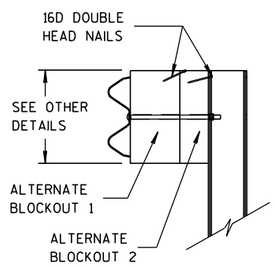
W-BEAM TO THRIE BEAM TRANSITION SECTION



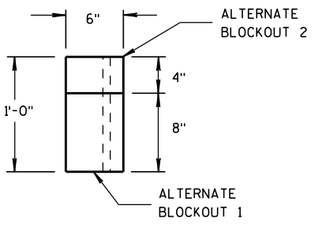
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

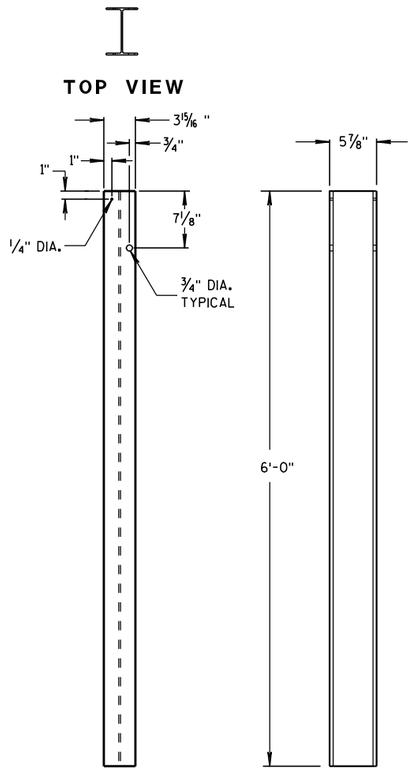


SIDE VIEW



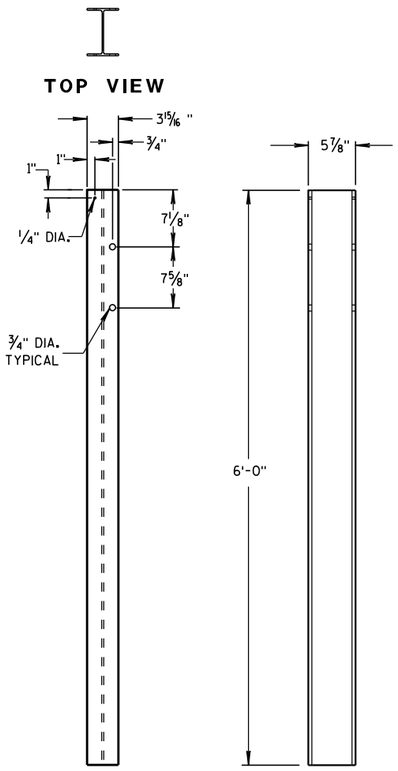
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



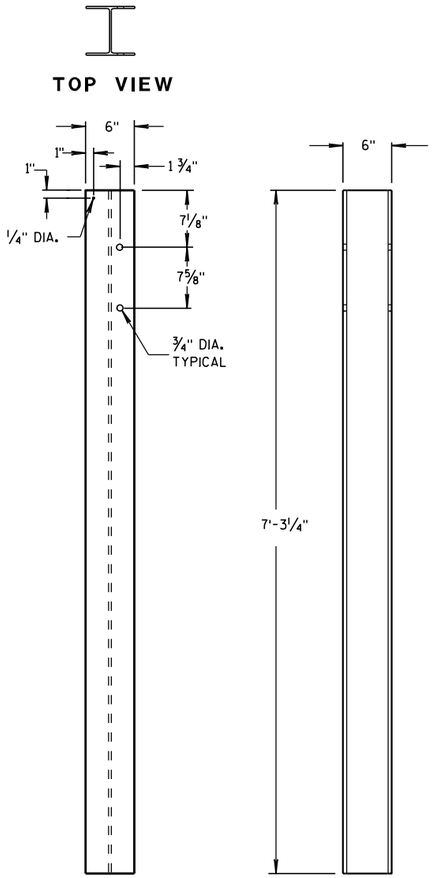
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5



FRONT VIEW SIDE VIEW

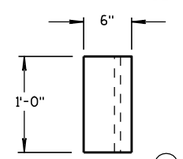
STEEL POSTS 6-11



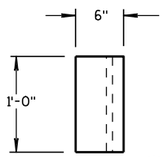
FRONT VIEW SIDE VIEW

STEEL POSTS 12-14

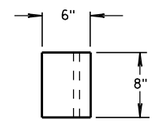
(1) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



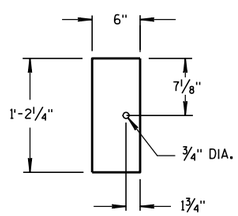
TOP VIEW (1)



TOP VIEW (1)

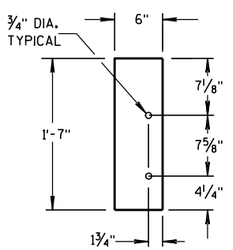


TOP VIEW



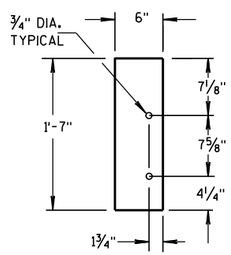
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

STEEL POST SIZES

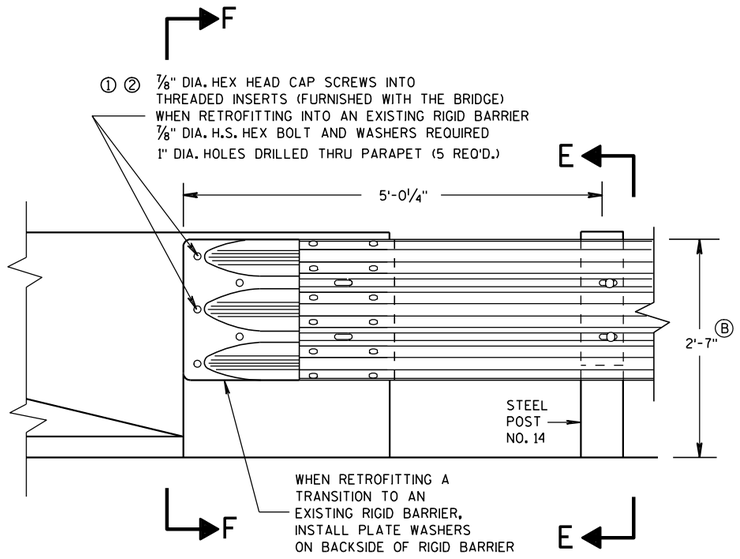
POST NUMBER	SECTION TYPE	LENGTH
1	W6x9	72"
2	W6x9	72"
3	W6x9	72"
4	W6x9	72"
5	W6x9	72"
6	W6x9	72"
7	W6x9	72"
8	W6x9	72"
9	W6x9	72"
10	W6x9	72"
11	W6x9	72"
12	W6x15	87 1/8"
13	W6x15	87 1/8"
14	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

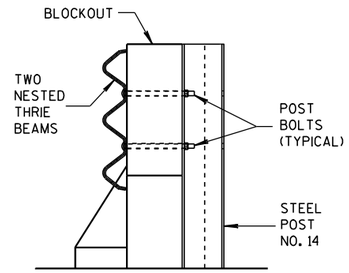
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 45-3c



FRONT VIEW



SECTION E-E

GENERAL NOTES

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

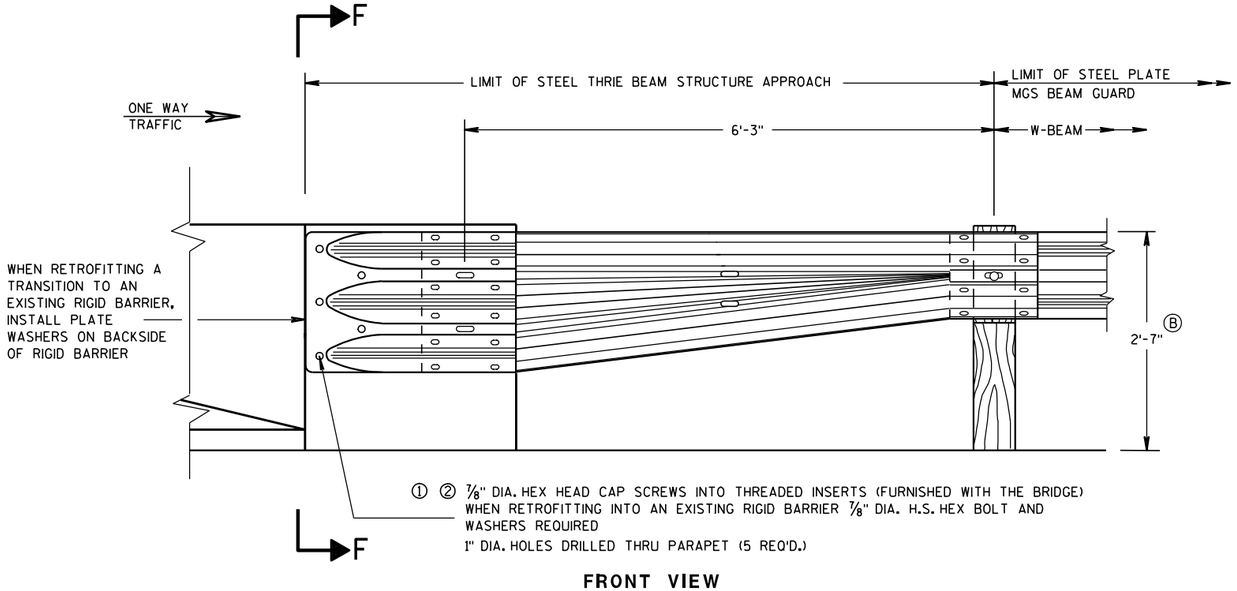
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

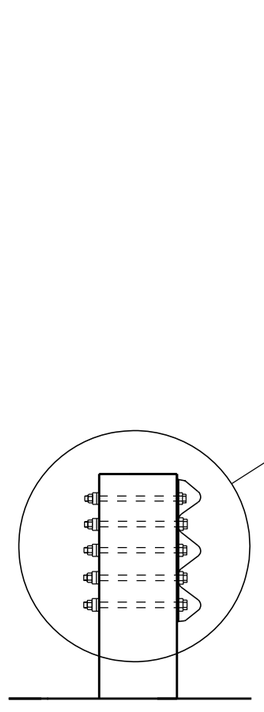
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

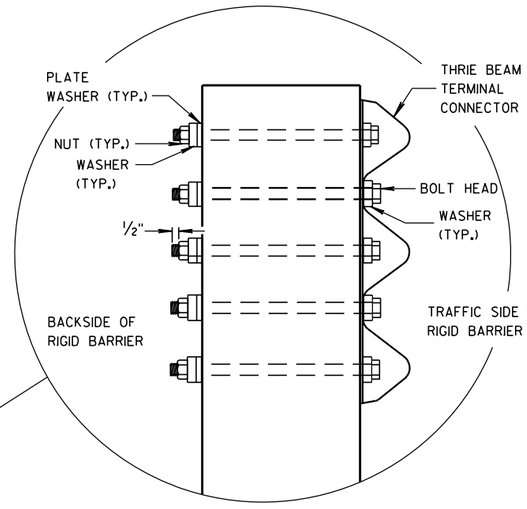
THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



FRONT VIEW



SECTION F-F



W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. [illegible] — ROADWAY STANDARDS [illegible] ENGINEER

FHWA

6

S.D.D. 14 B 45-3d

6

S.D.D. 14 B 45-3d

GENERAL NOTES

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

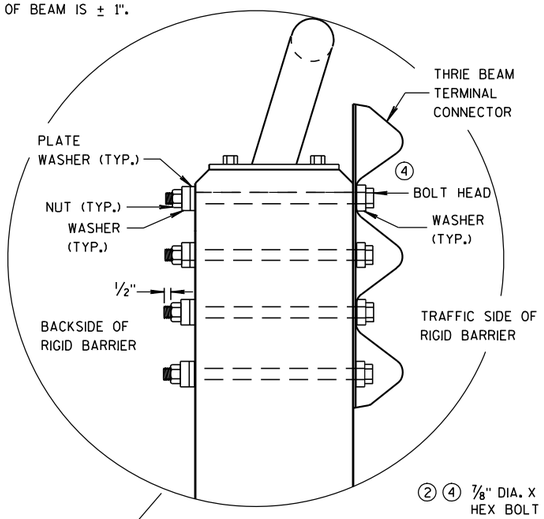
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

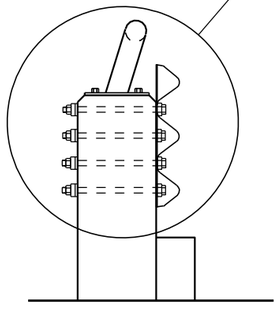
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2". BLOCK IS INCIDENTAL TO THE CONTRACT.

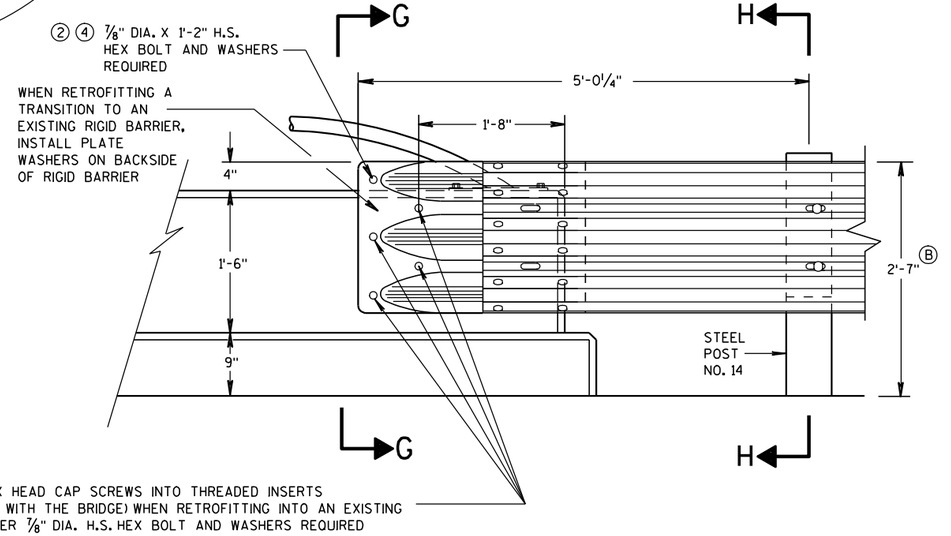
④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

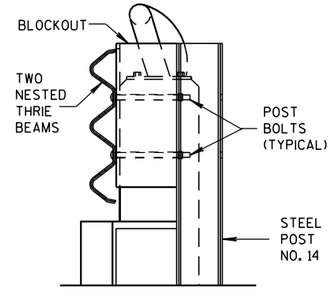




SECTION G-G

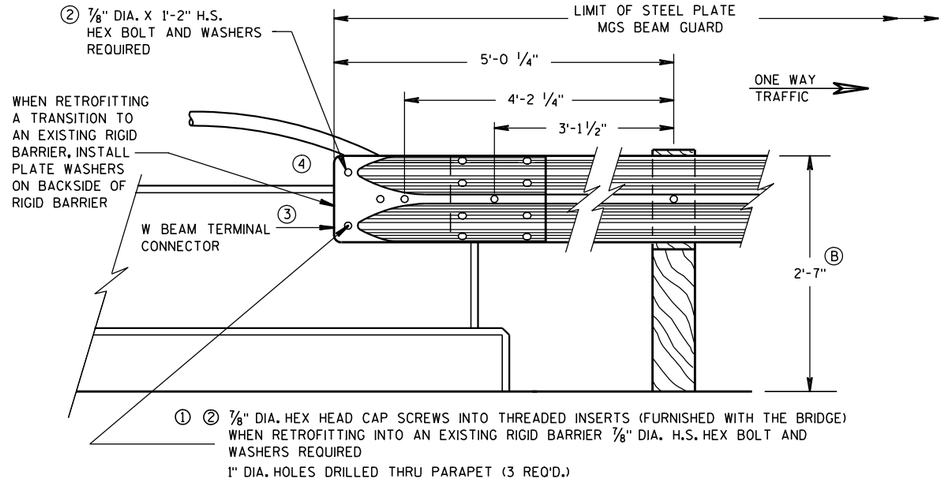


FRONT VIEW



SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
8-31-2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

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S.D.D. 14 B 45-3e

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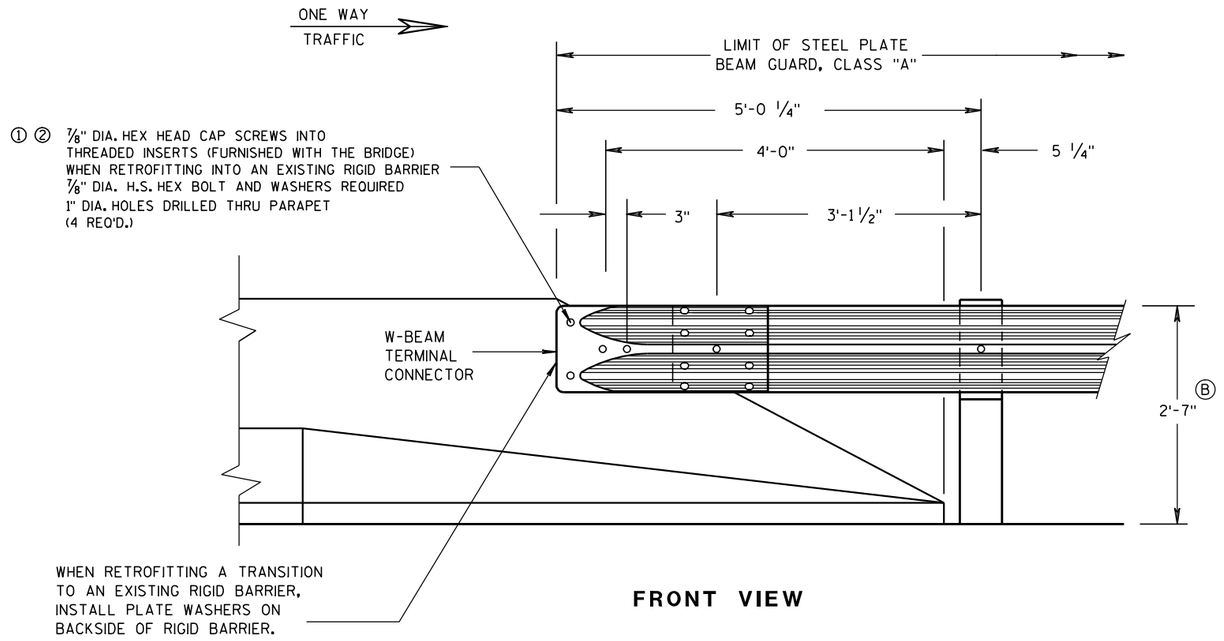
S.D.D. 14 B 45-3e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

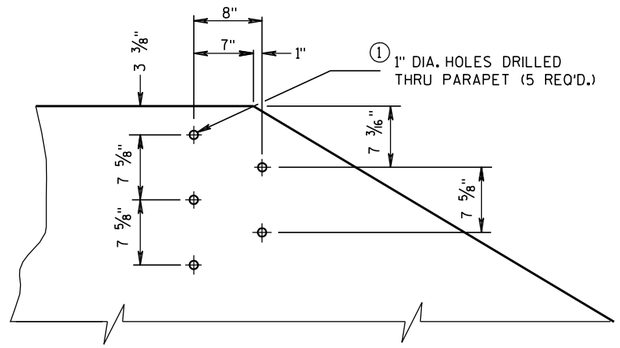
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

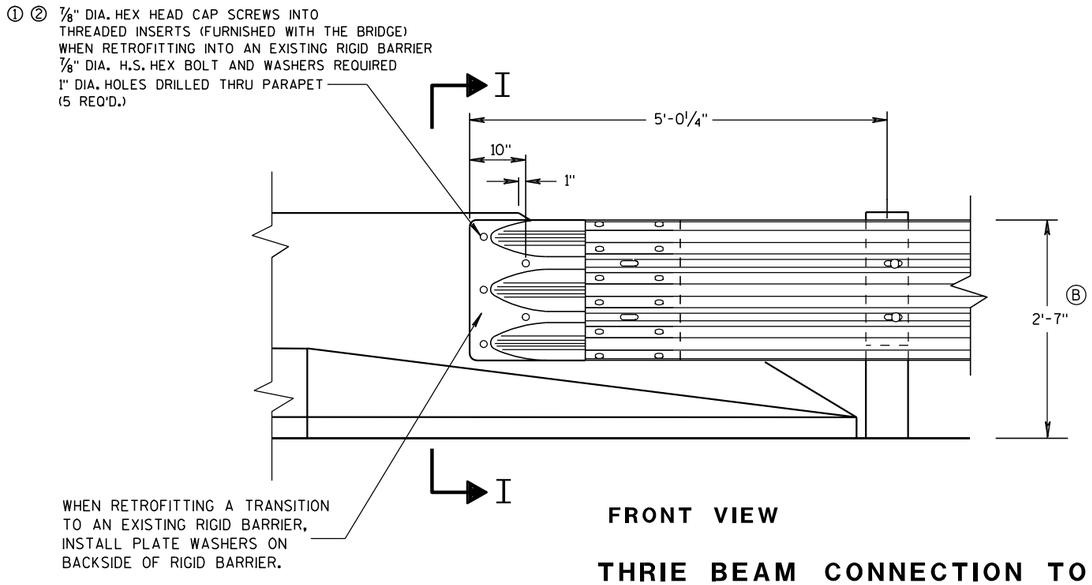
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

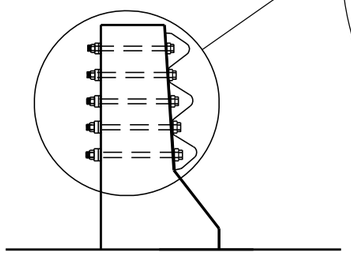
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



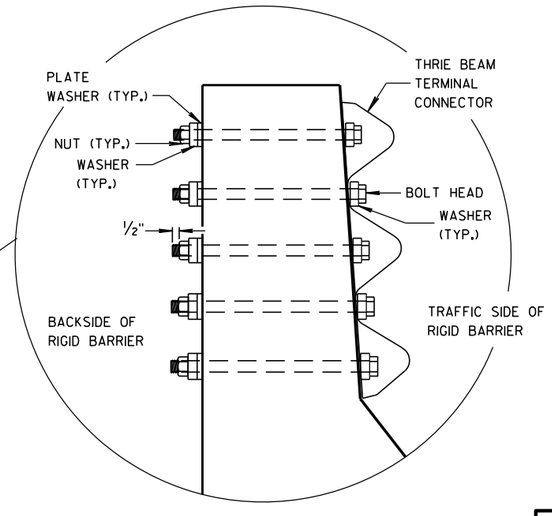
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

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FHWA

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S.D.D. 14 B 45-3f

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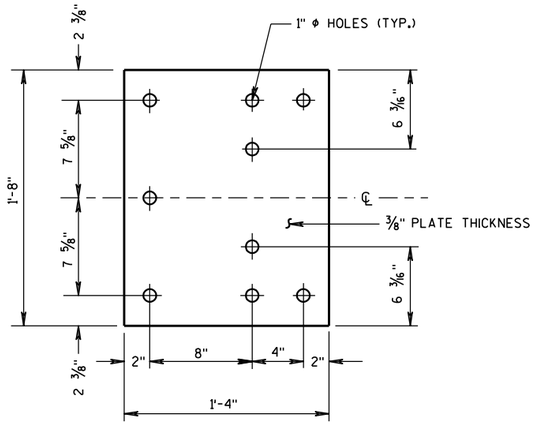
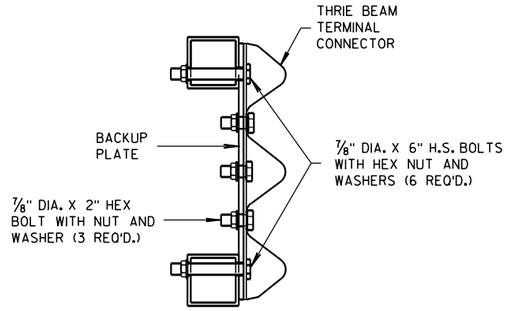
S.D.D. 14 B 45-3f



BACK-UP PLATE DETAIL

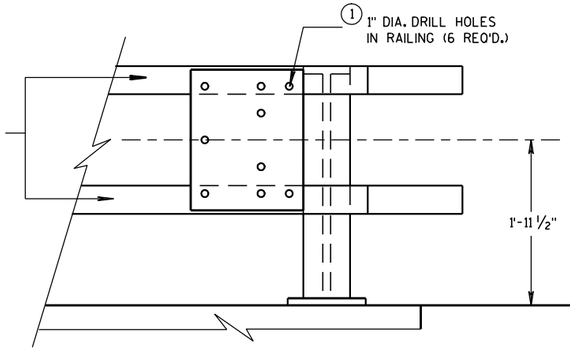


SECTION J-J

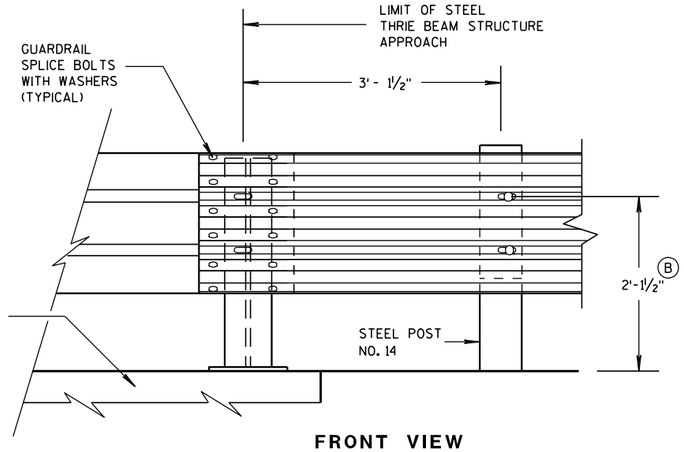
GENERAL NOTES

(1) DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(B) TOLERANCE FOR TOP OF BEAM IS ± 1".

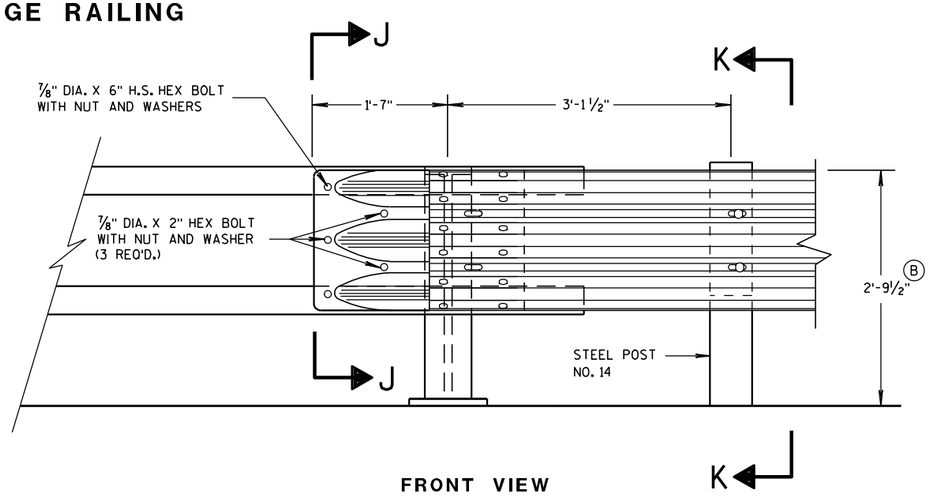


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

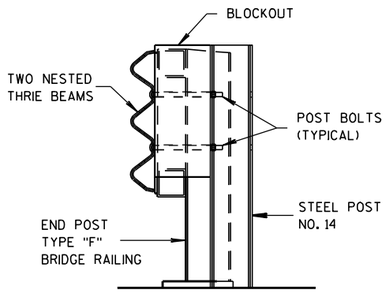


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 14 B 45-3g

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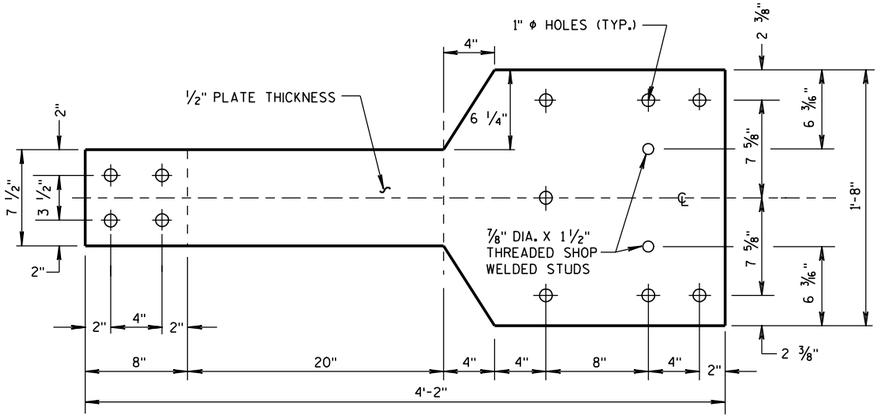
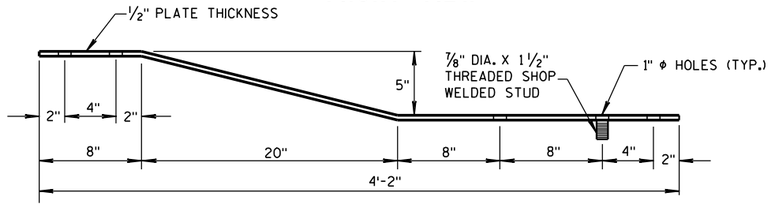
S.D.D. 14 B 45-3g

GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

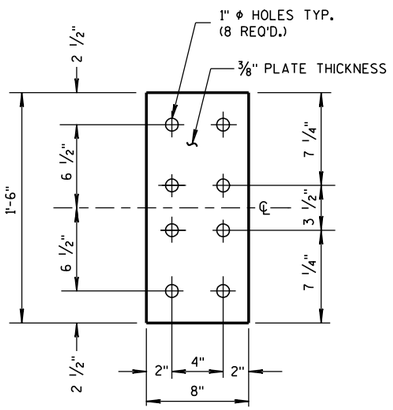


FRONT VIEW



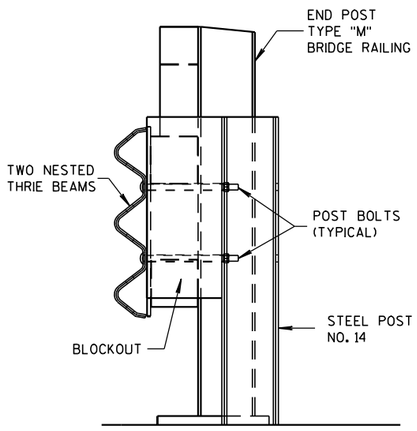
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

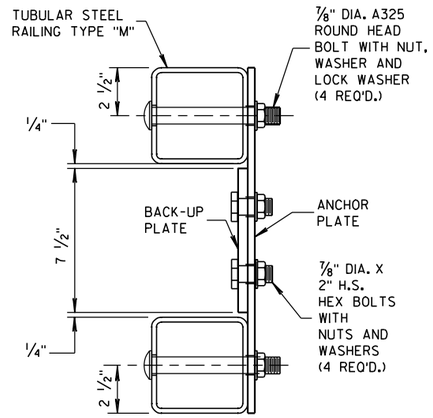


FRONT VIEW

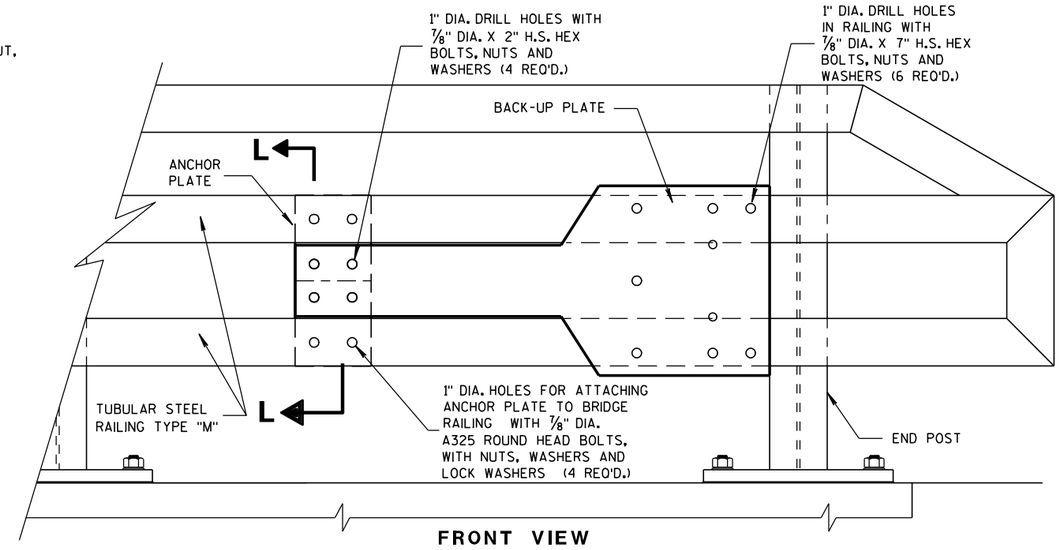
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

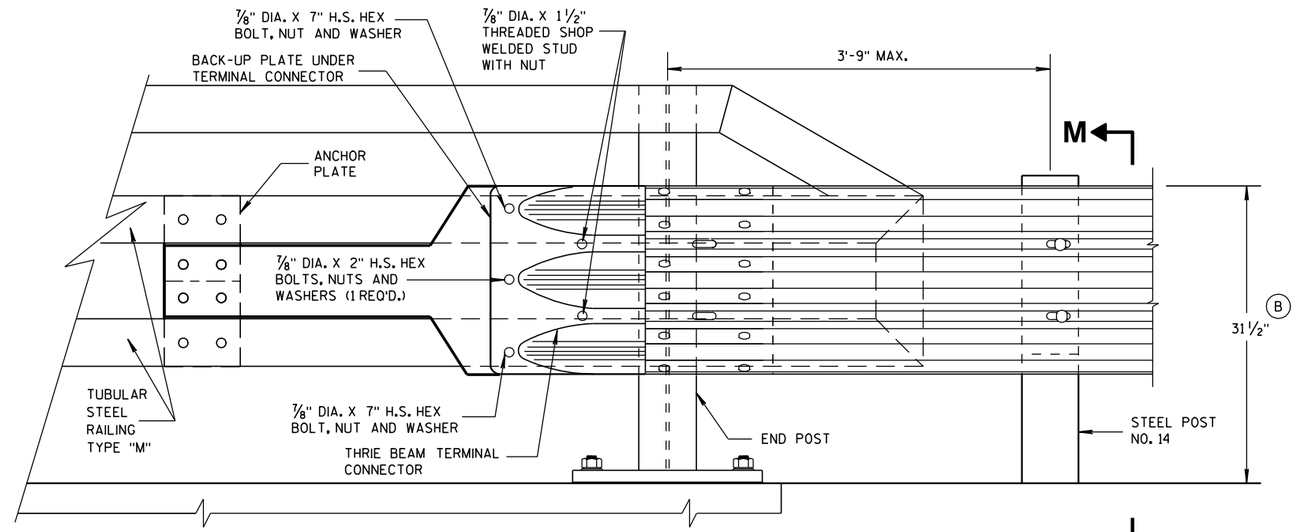


SECTION L-L

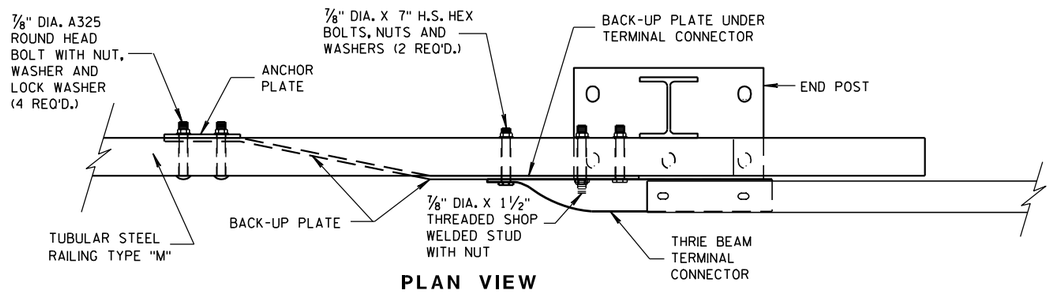


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA ENT

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S.D.D. 14 B 45-3h

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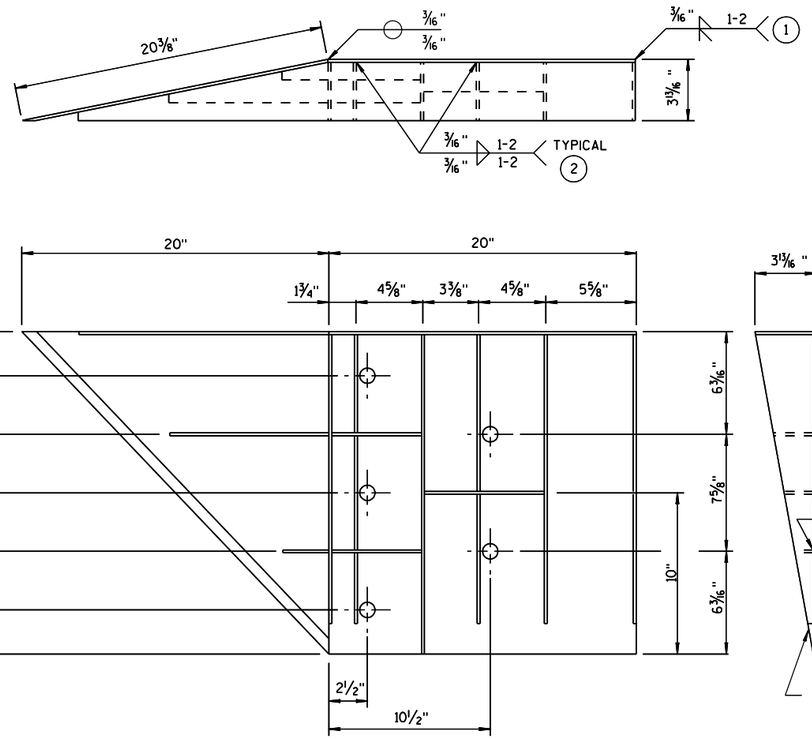
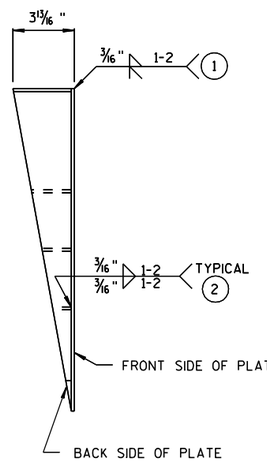
S.D.D. 14 B 45-3h





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

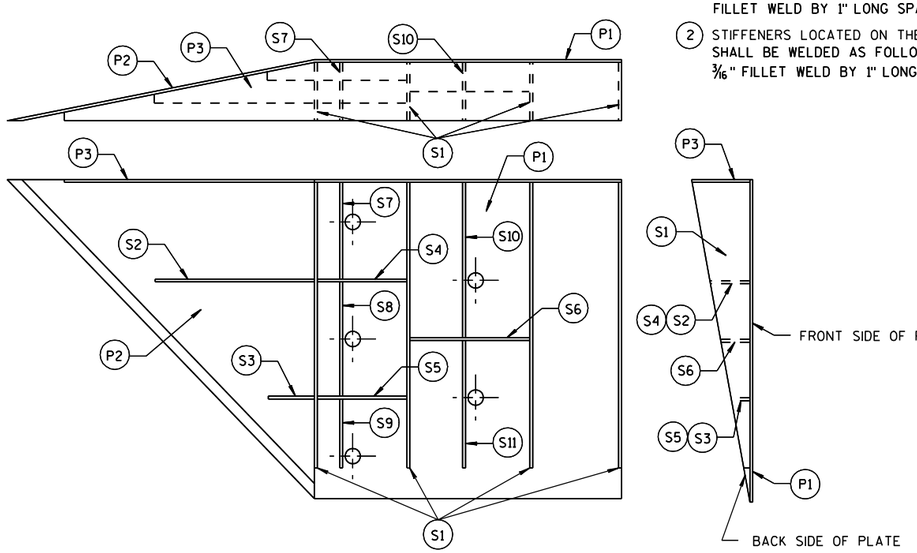


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H ...
ROADWAY STANDARDS 390
ENGINEER
...MENT
FHWA

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S.D.D. 14 B 45-3i

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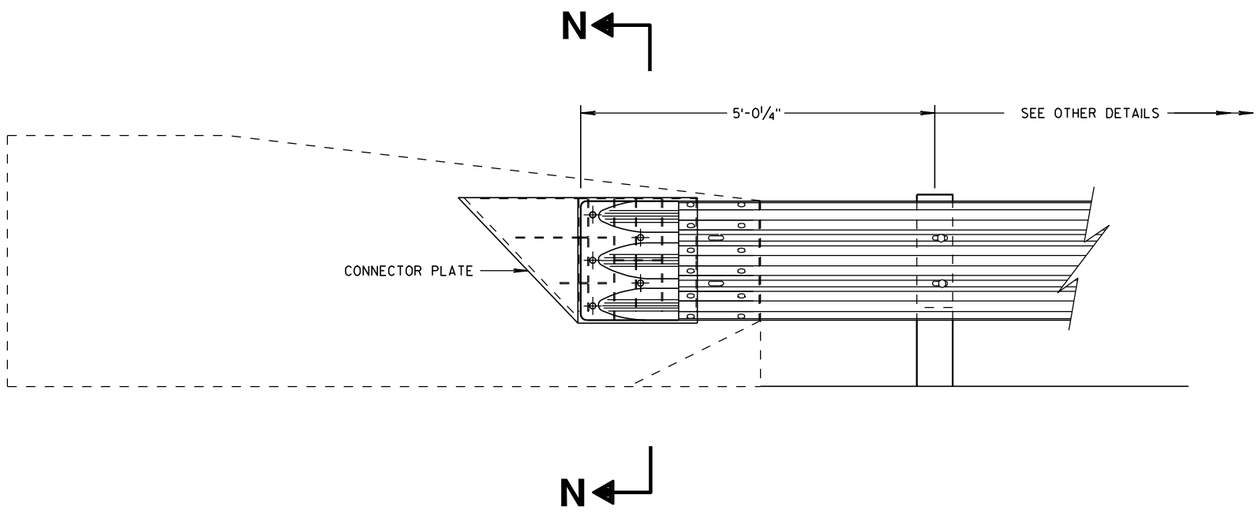
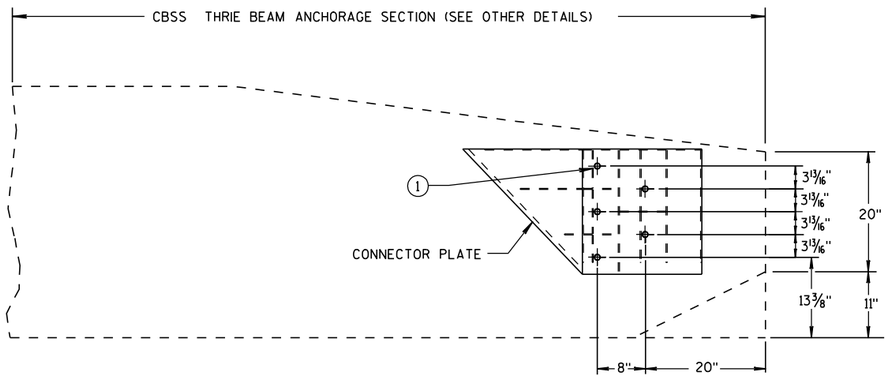
S.D.D. 14 B 45-3i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

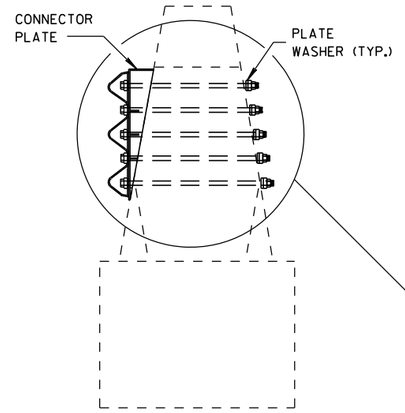


SINGLE SLOPE CONNECTION PLATE PLACEMENT

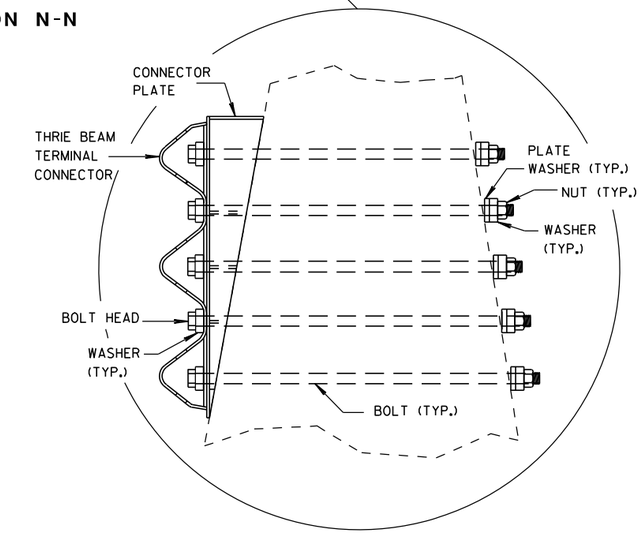
GENERAL NOTES

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

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



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

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S.D.D. 14 B 45-3j

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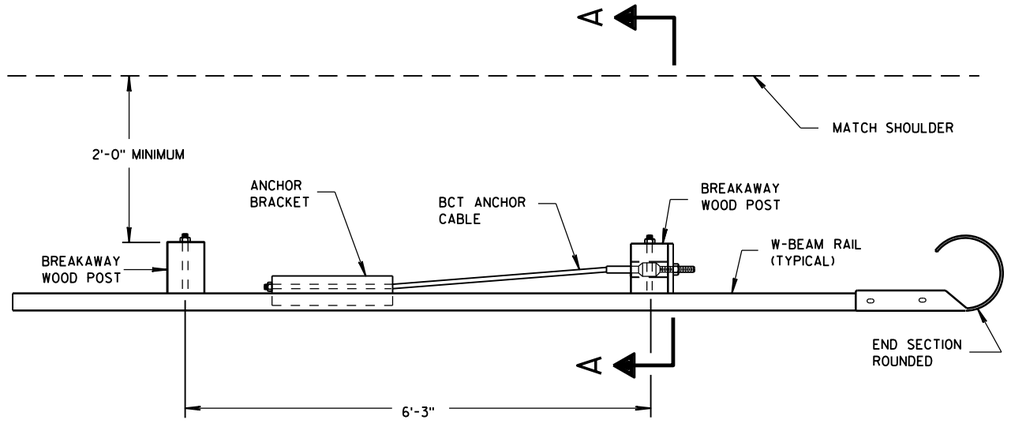
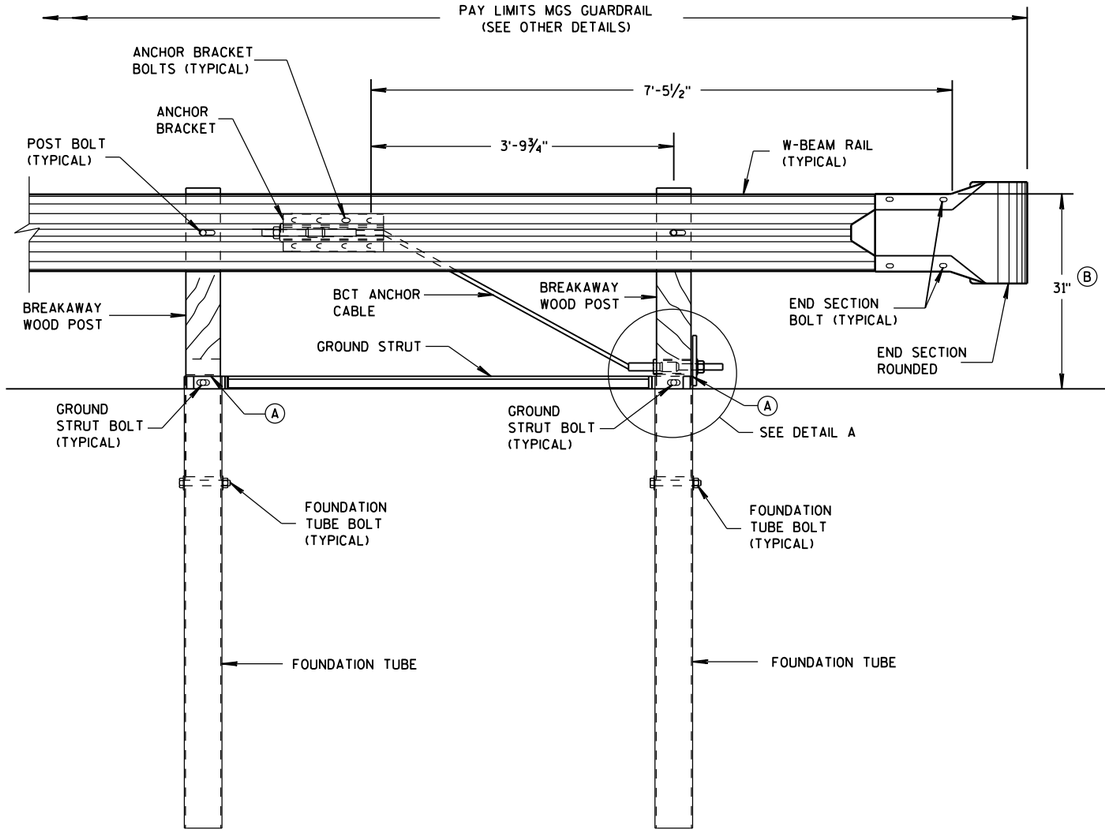
S.D.D. 14 B 45-3j

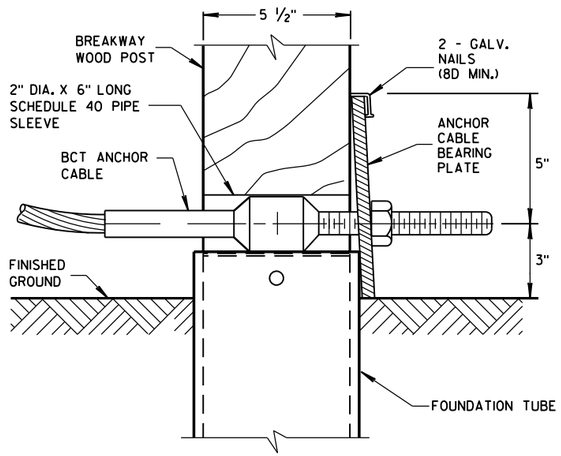


PLAN VIEW



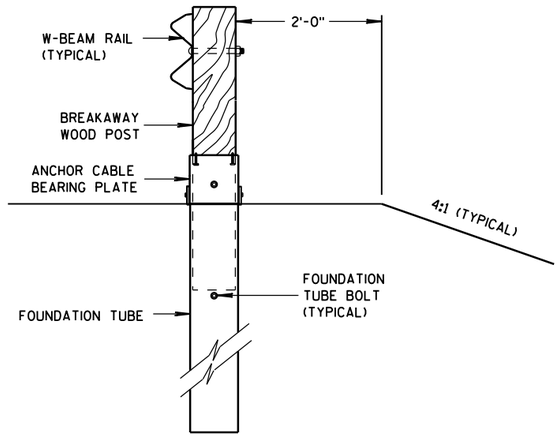
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

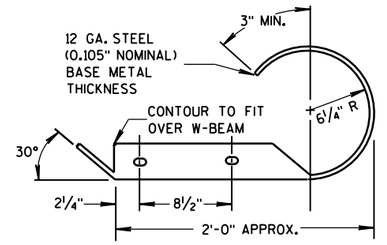
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A ⅝" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

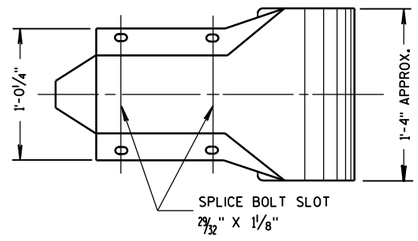
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



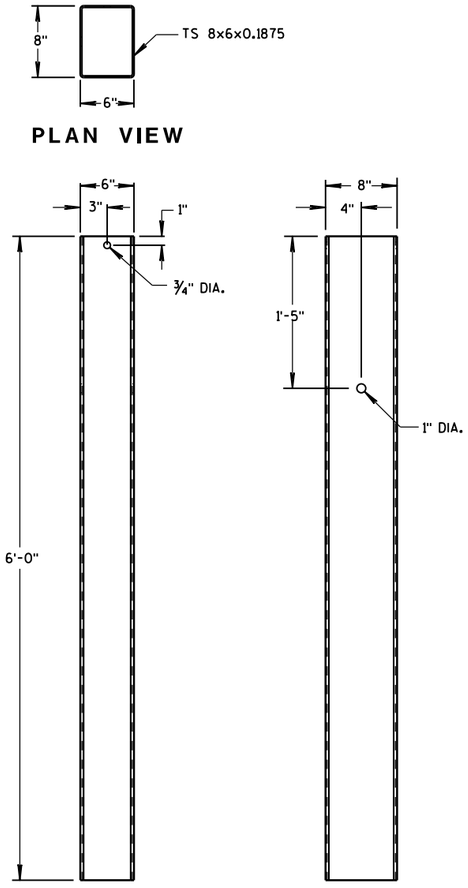
FRONT VIEW

W BEAM END SECTION ROUNDED

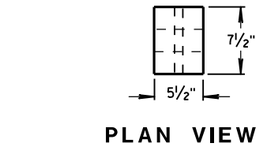
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

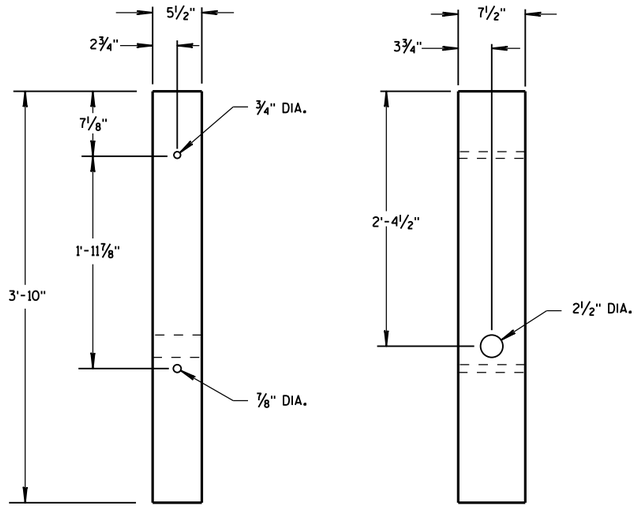
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 47-2a



FOUNDATION TUBE



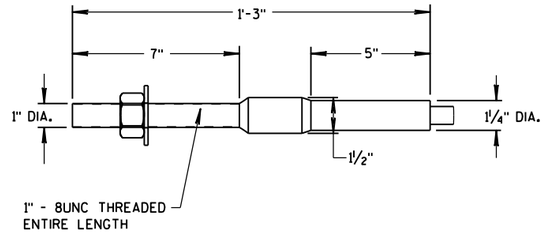


BREAKAWAY WOOD POST

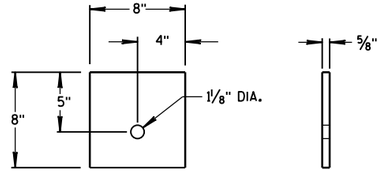
GENERAL NOTES

BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.

BCT ANCHOR CABLE



DETAIL B



ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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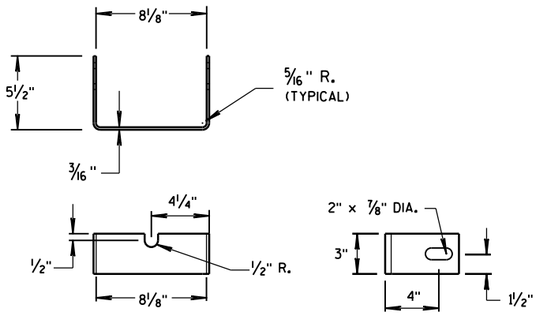
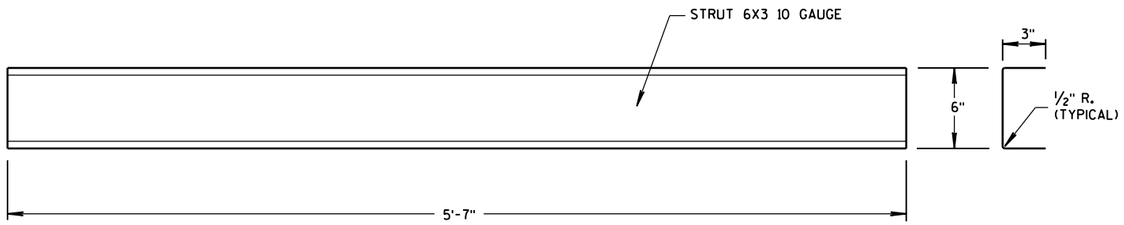
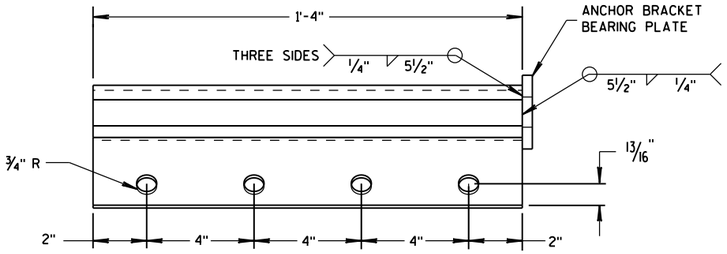
S.D.D. 14 B 47-2b

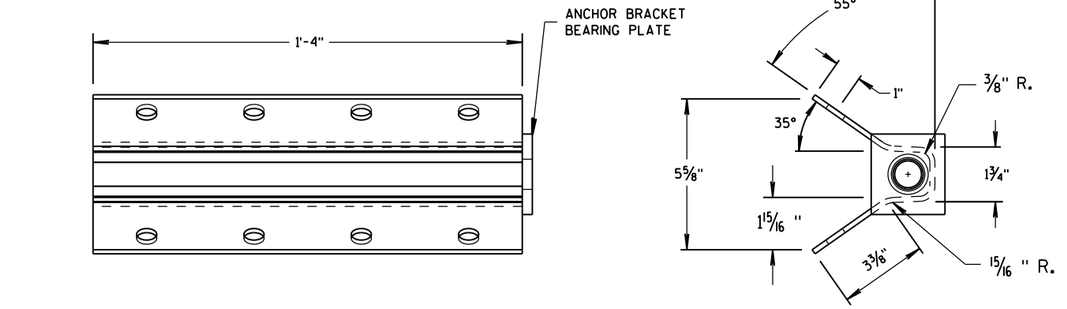


YOKE DETAIL

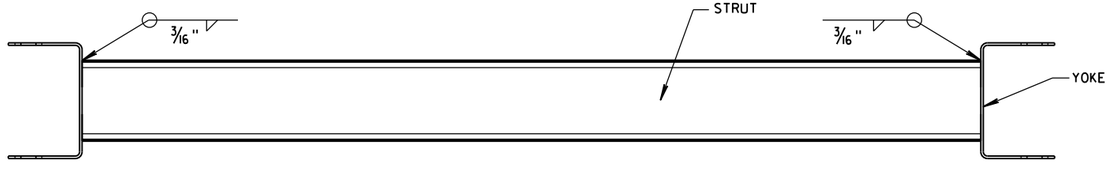


STRUT DETAIL

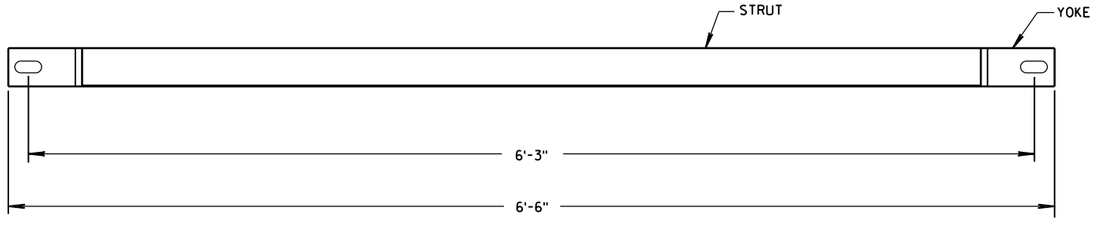




ANCHOR BRACKET

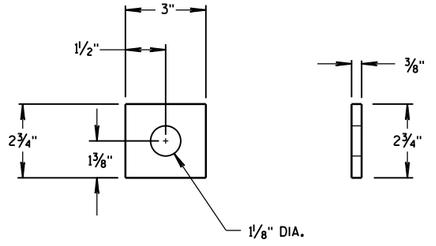


PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

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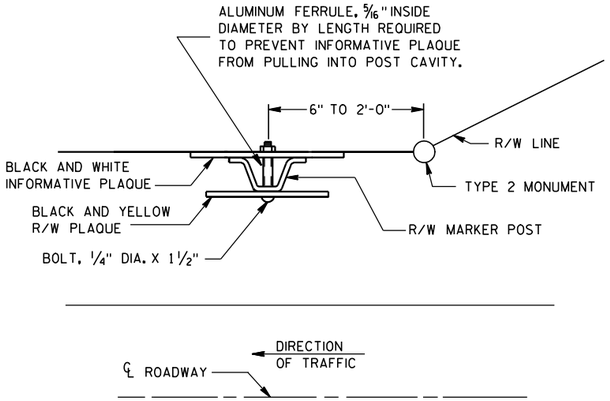
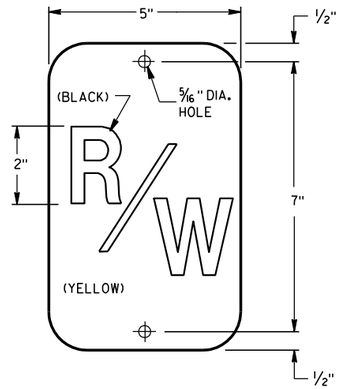
S.D.D. 14 B 47-2c

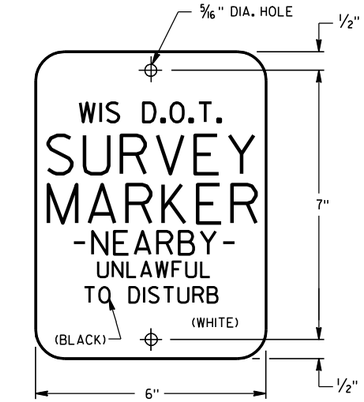


PLAN VIEW



R/W PLAQUE

THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



INFORMATIVE PLAQUE

GENERAL NOTES

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

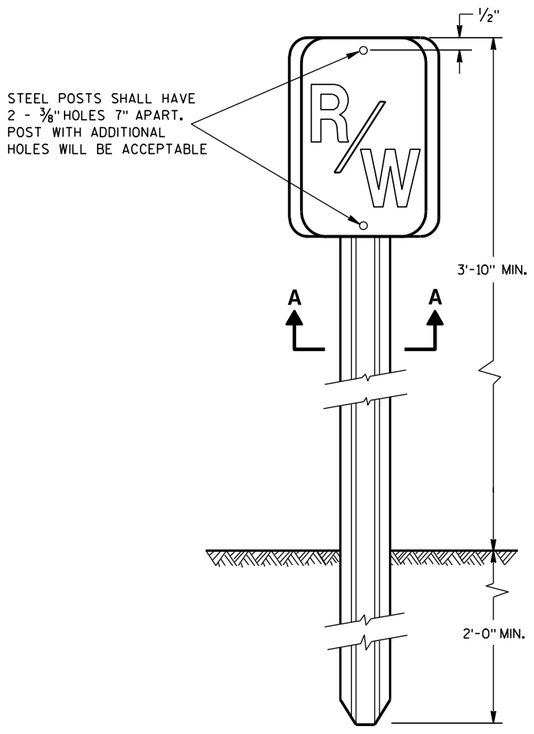
A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. R/W AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

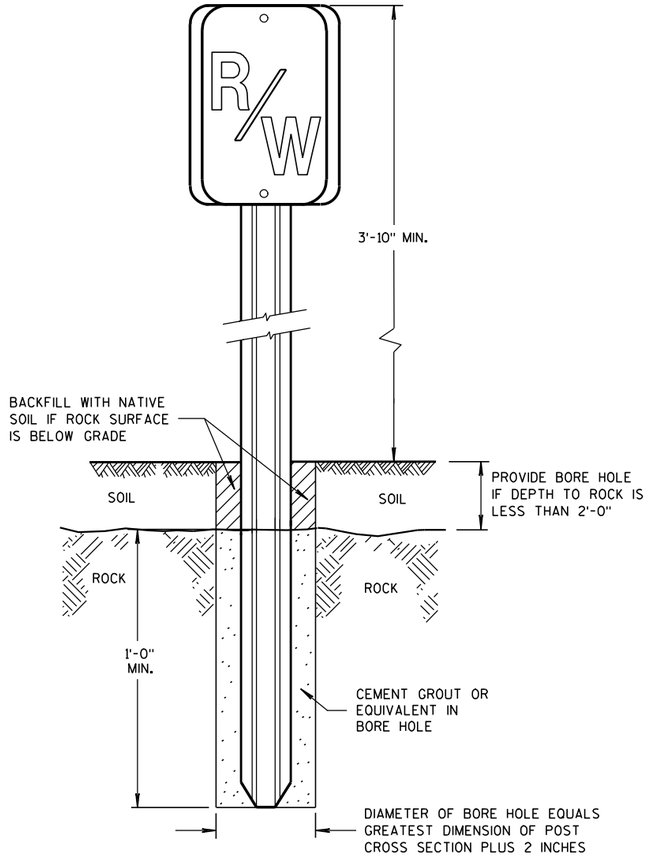
STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

(1) IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR.

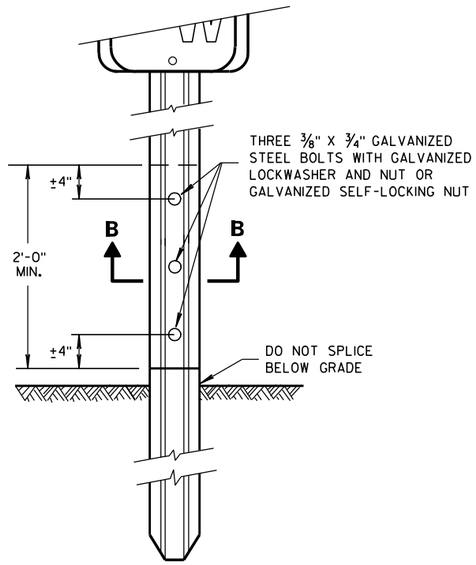
FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



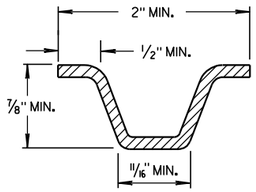
FRONT VIEW
STEEL MARKER POST



FRONT VIEW
ROCK INSTALLATION (1)

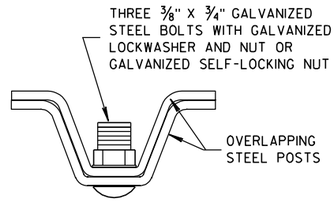


FRONT VIEW
SPLICE DETAIL



MIN. WEIGHT 1.12 LB./FT.

SECTION A-A



SECTION B-B

MARKER POST FOR RIGHT-OF-WAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/27/09 — DATE
/S/ Ray Kumapayi — CHIEF SURVEYING AND MAPPING ENGINEER

FHWA

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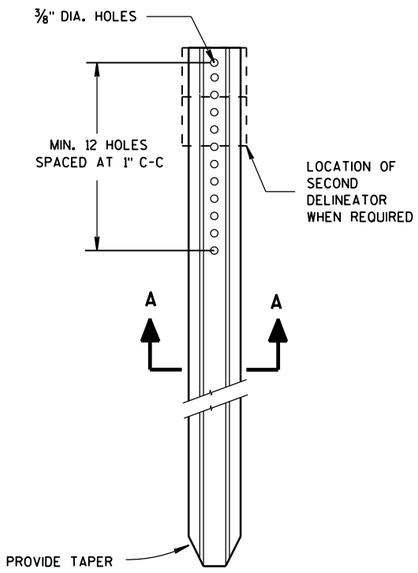
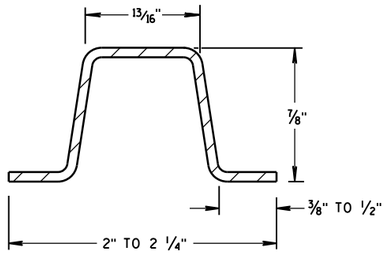
S.D.D. 15 A 1-11

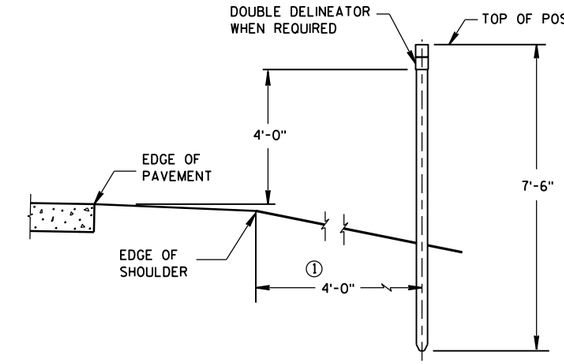


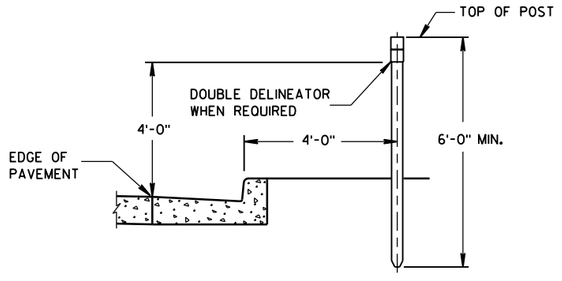
DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.



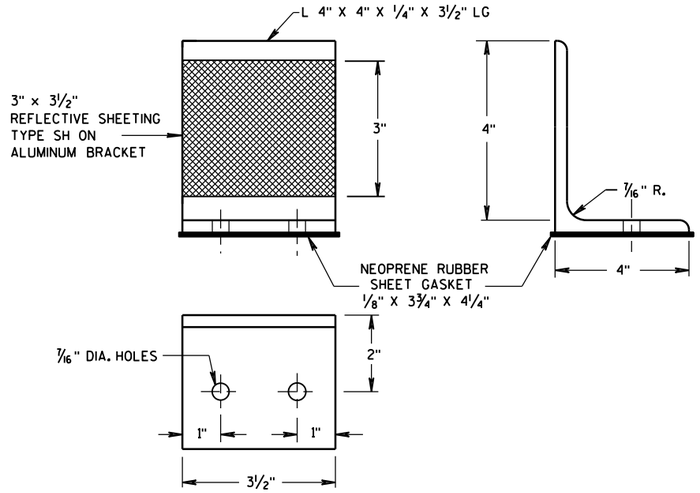


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

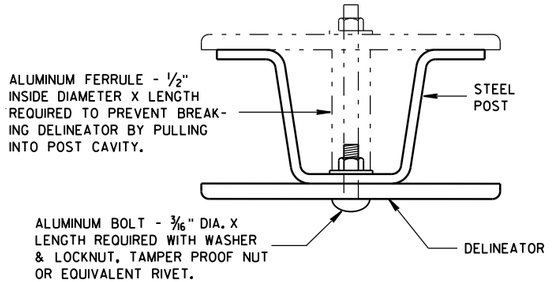
GENERAL NOTES

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

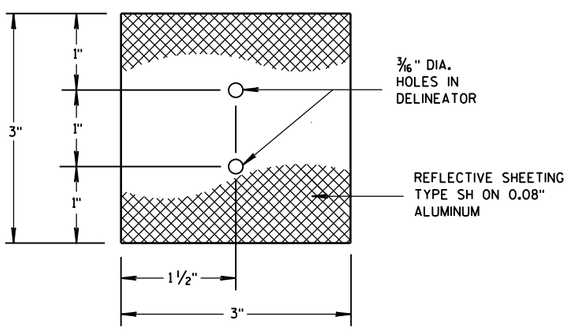
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



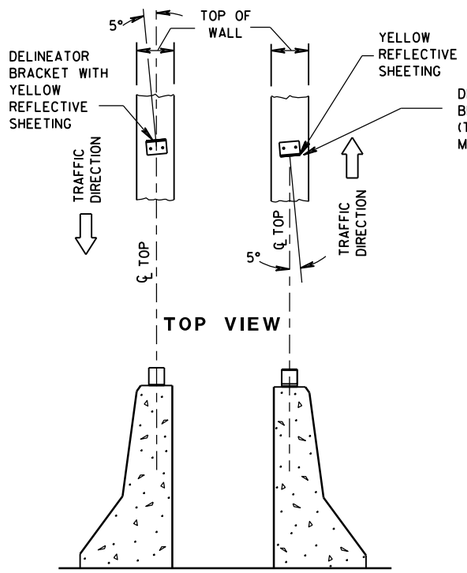
DELINEATOR BRACKET



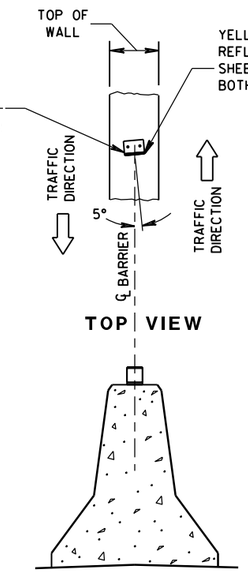
MOUNTING DETAIL FOR DELINEATOR



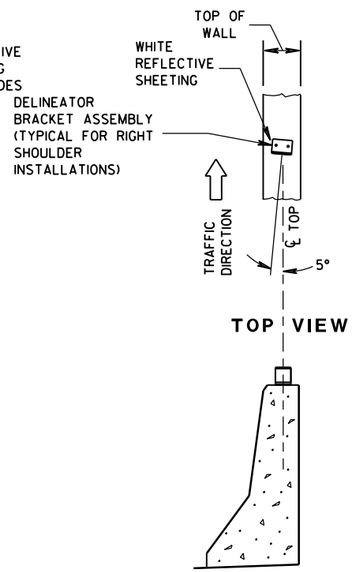
3"x 3" DELINEATOR



DOUBLE BARRIERS IN MEDIAN

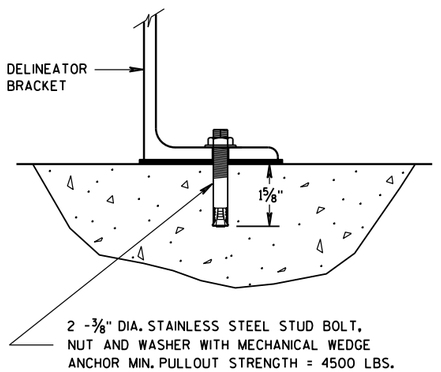


MEDIAN BARRIER



BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC E
FHWA

6

S.D.D. 15 A 2-8

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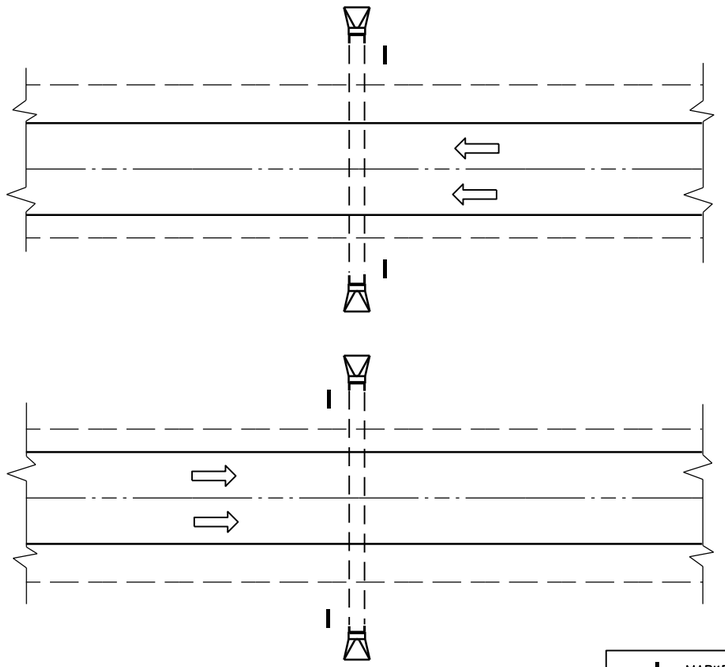
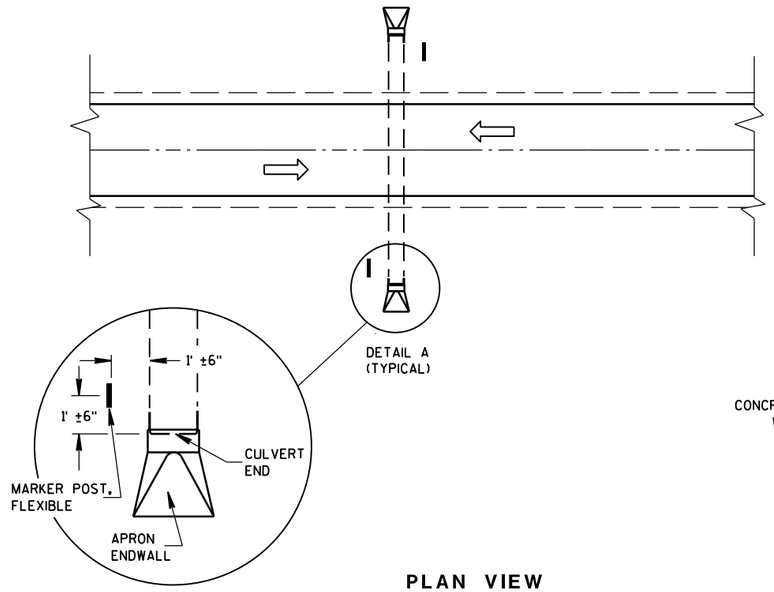
S.D.D. 15 A 2-8



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

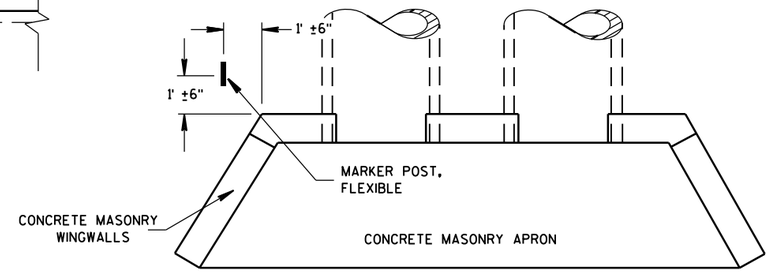
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

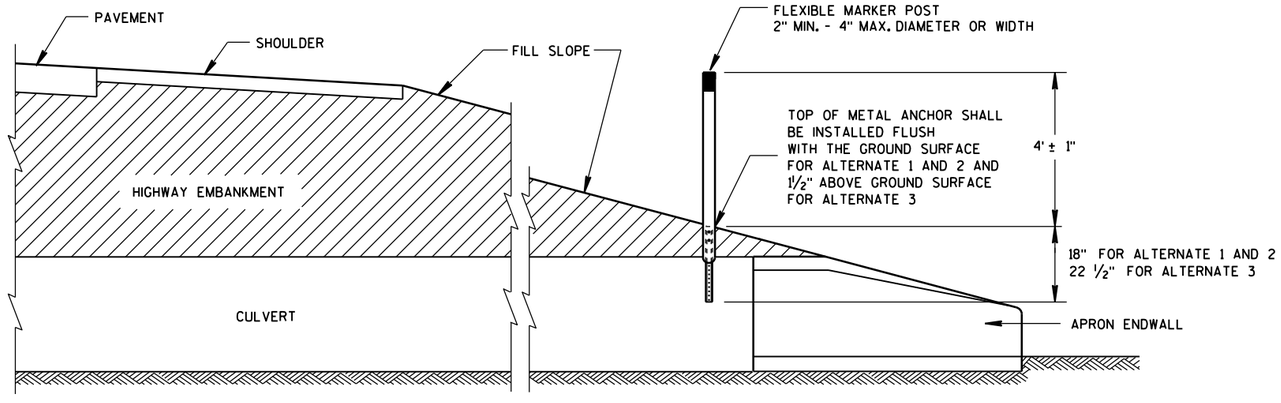
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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 TRANSPOI

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

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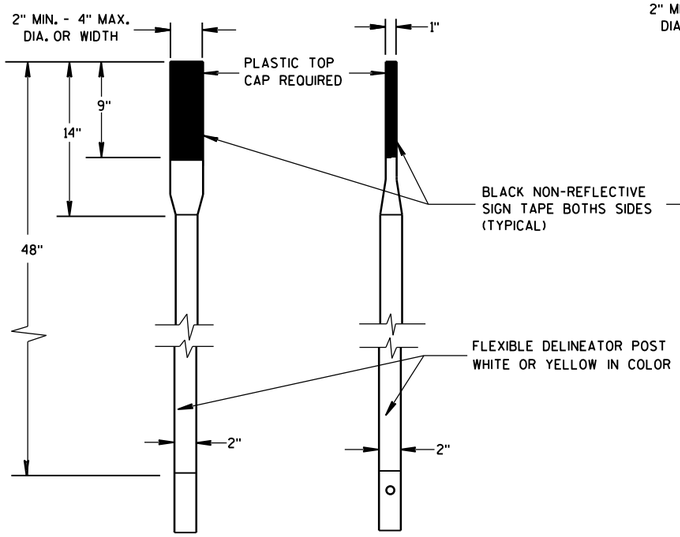
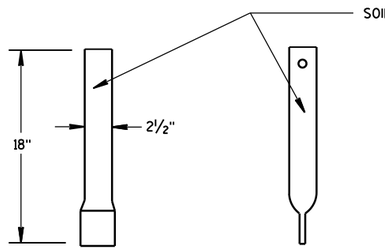
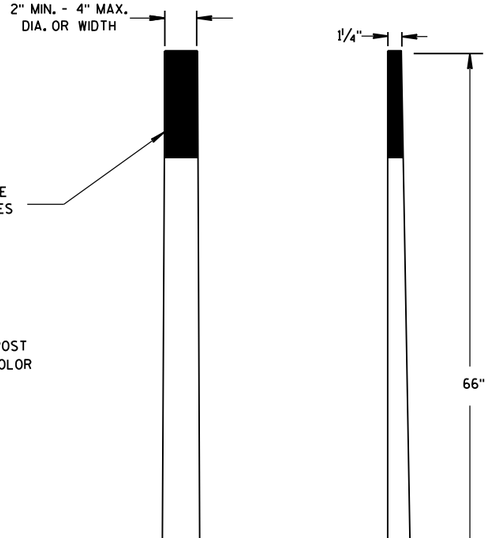
S.D.D. 15 A 3-2a





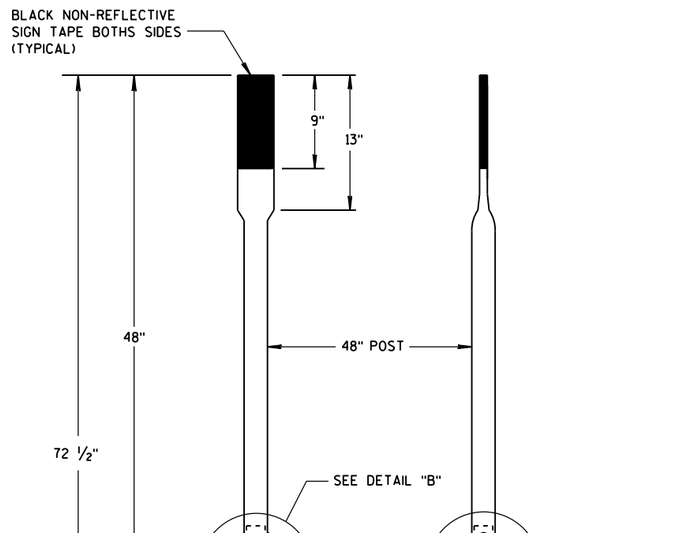
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

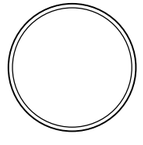
ALTERNATE 2



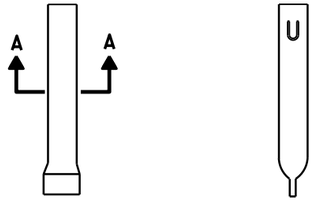
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

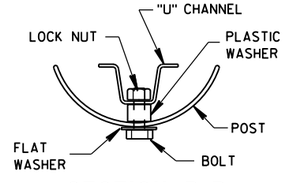


SECTION A-A

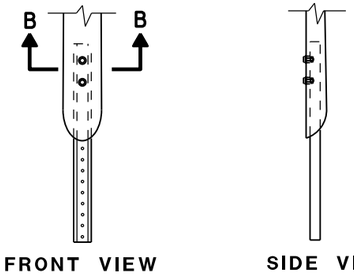


FRONT VIEW SIDE VIEW

ALTERNATE 1

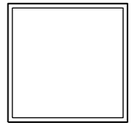


SECTION B-B

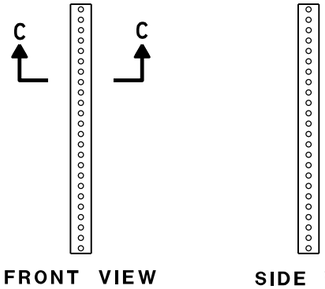


FRONT VIEW SIDE VIEW

ALTERNATE 2



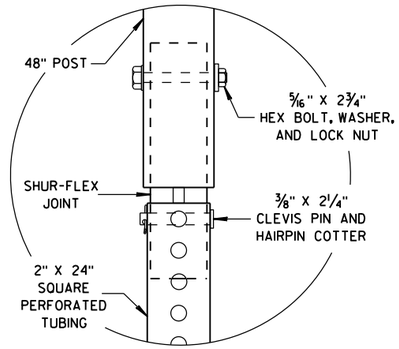
SECTION C-C



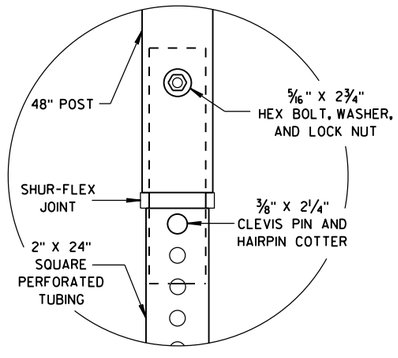
FRONT VIEW SIDE VIEW

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
FHWA

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

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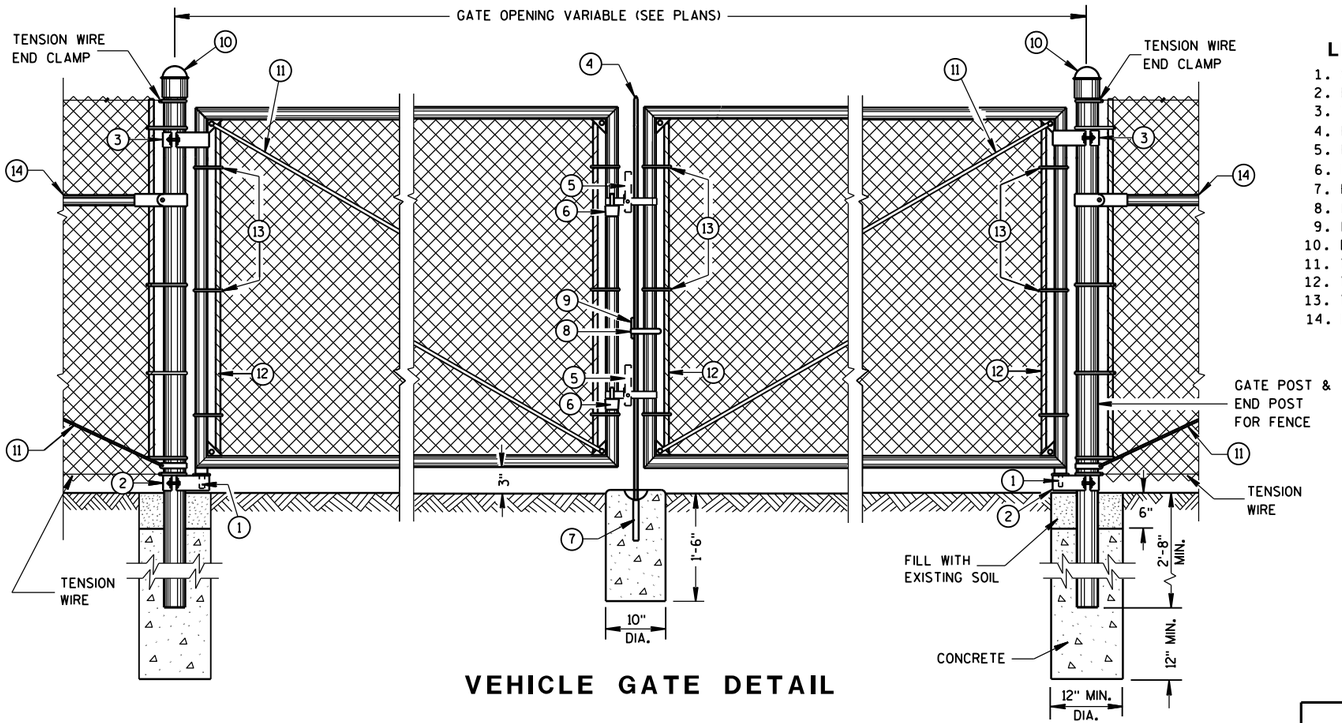
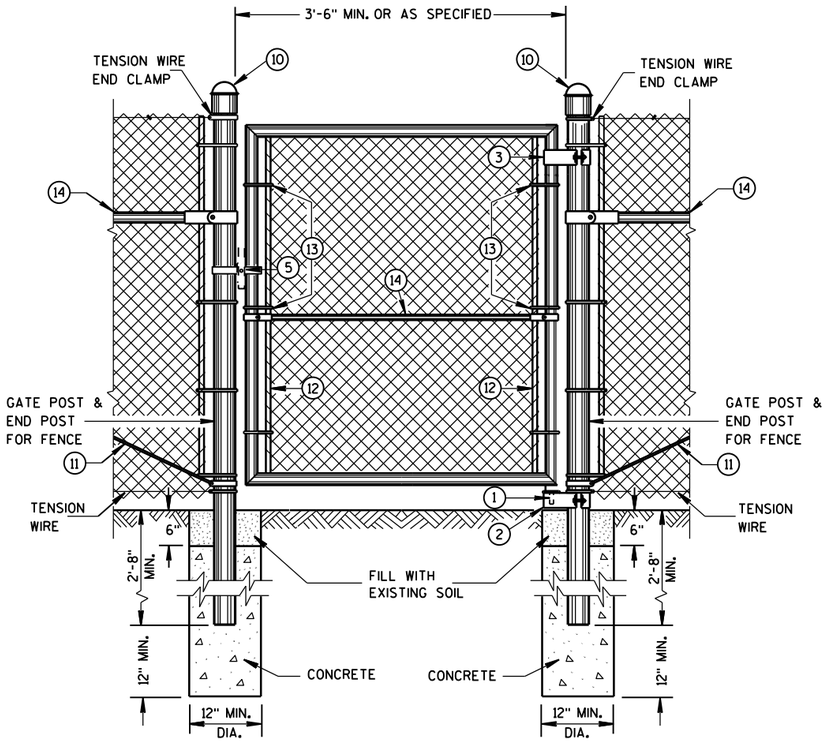
S.D.D. 15 A 3-2b



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

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

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

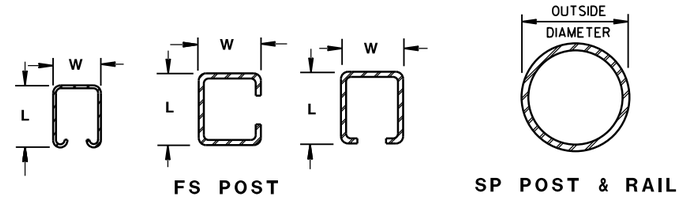
FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

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

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

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



FS POST

SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

REQUIRED FENCE POST SIZES

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

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

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

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR FORMED STEEL FENCE POST

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

REQUIRED POST SIZE FOR GATES

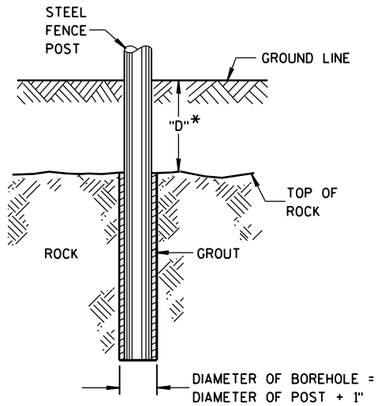
USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR ROUND STEEL FENCE POST

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

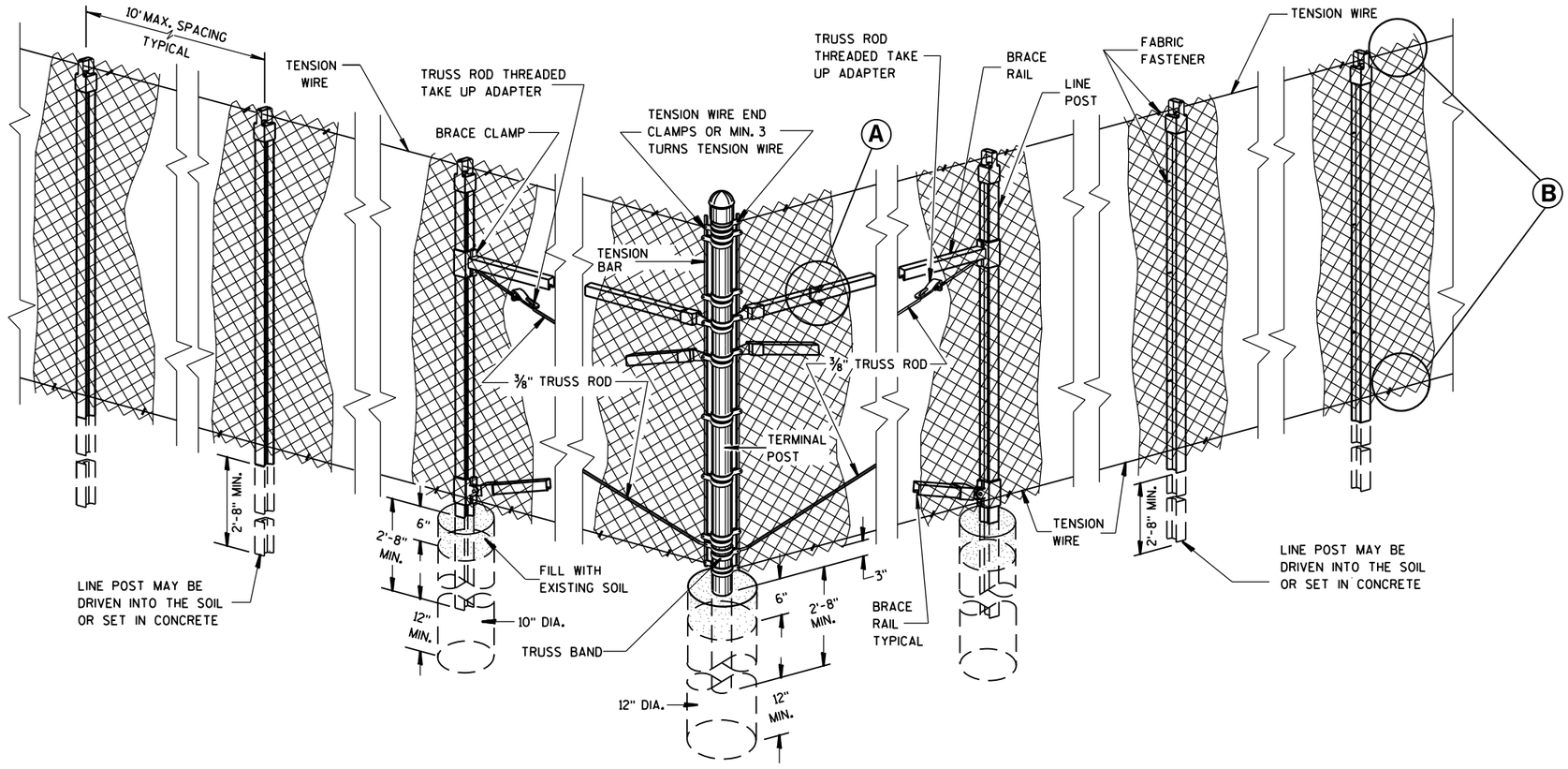
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

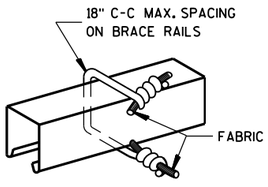


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



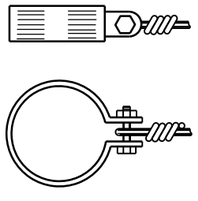
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



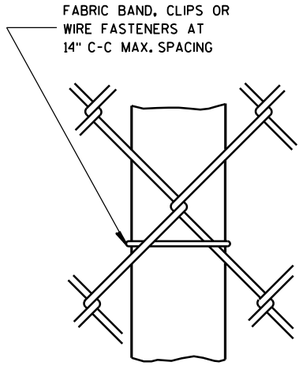
BRACE RAIL

FABRIC FASTENER

Ⓐ



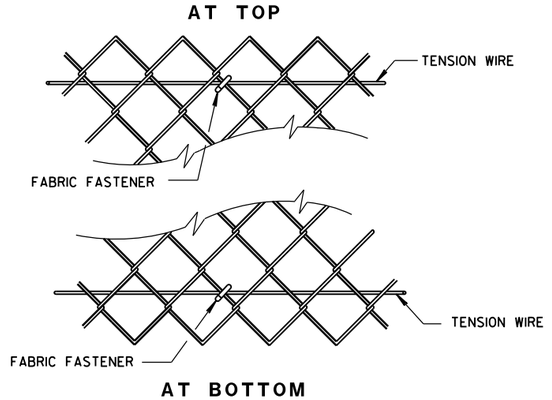
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

Ⓑ

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/16/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS D400 ENGINEER
FHWA

6

S.D.D. 15 B 3-13b

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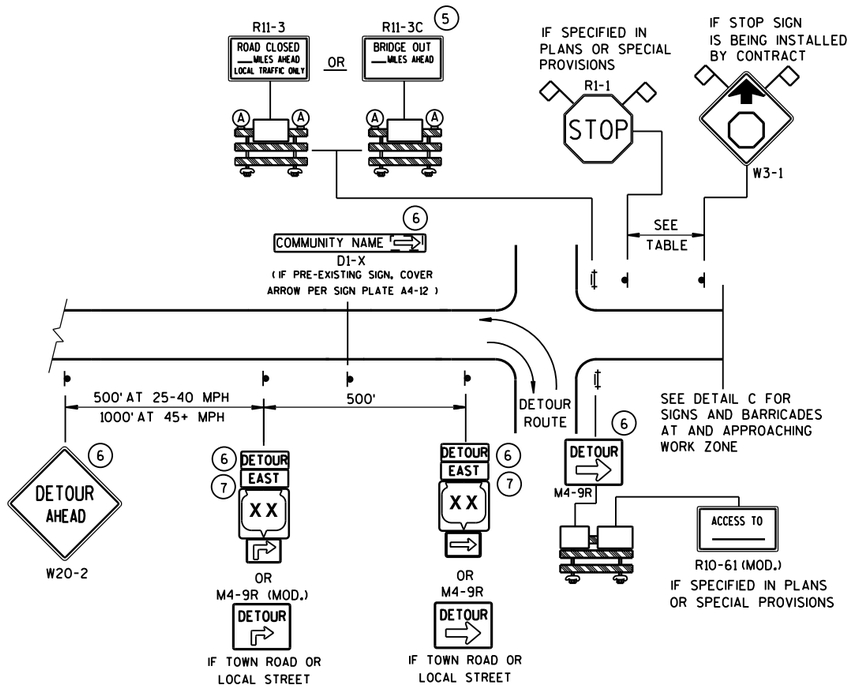
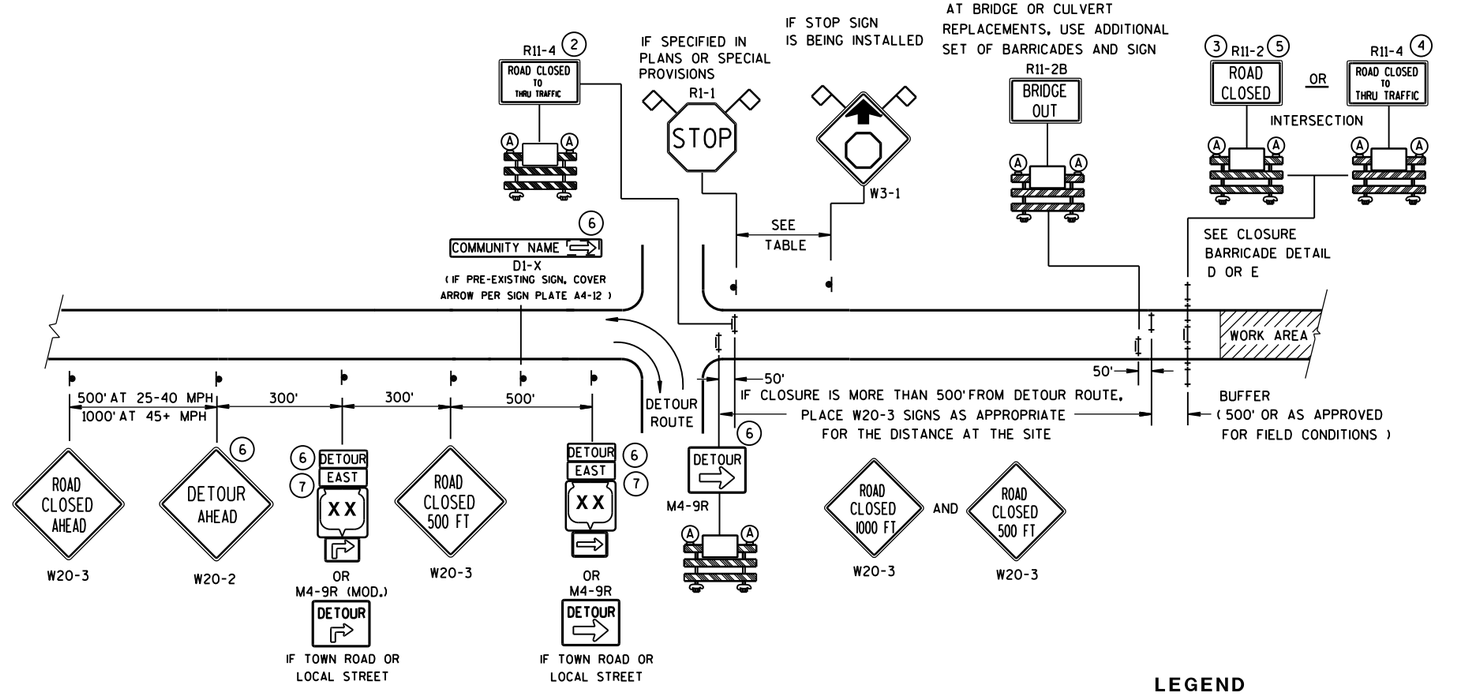
S.D.D. 15 B 3-13b



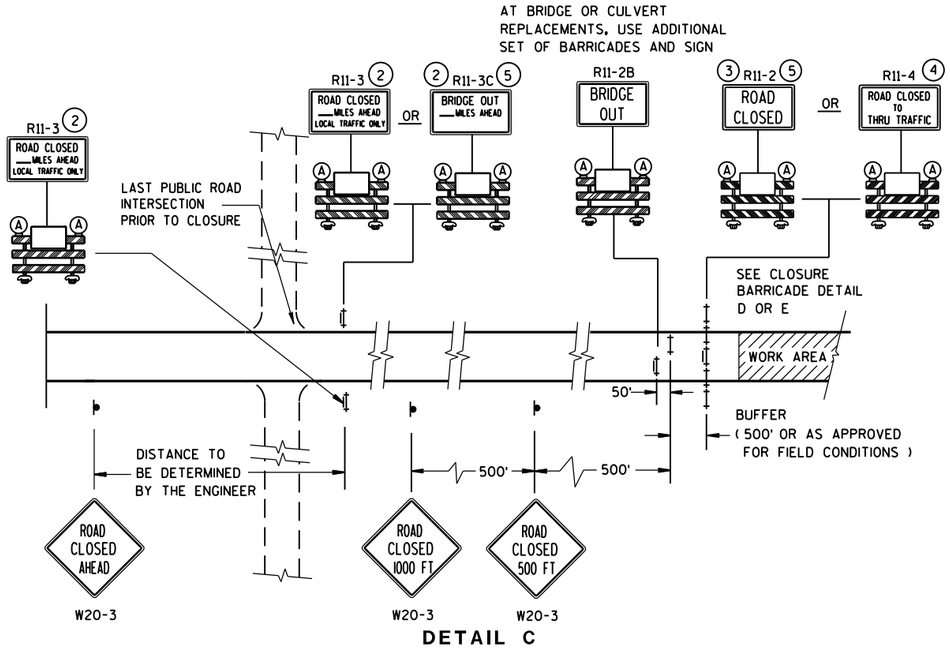
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE

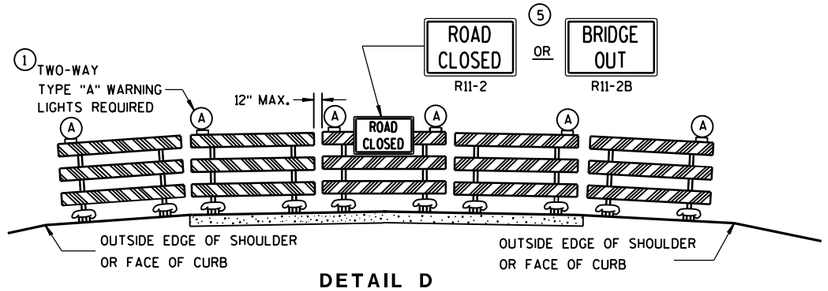
/S/ Travis Feltes
STATE TRAFFIC ENGINEER

401

FHWA

6

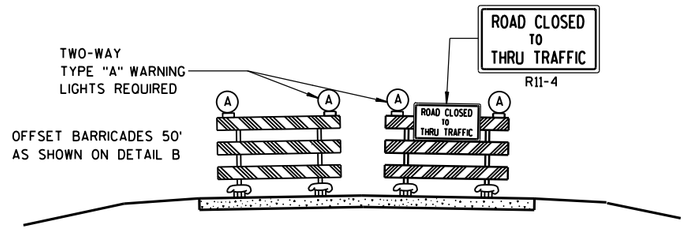
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 C 2-5b

6

S.D.D. 15 C 2-5b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

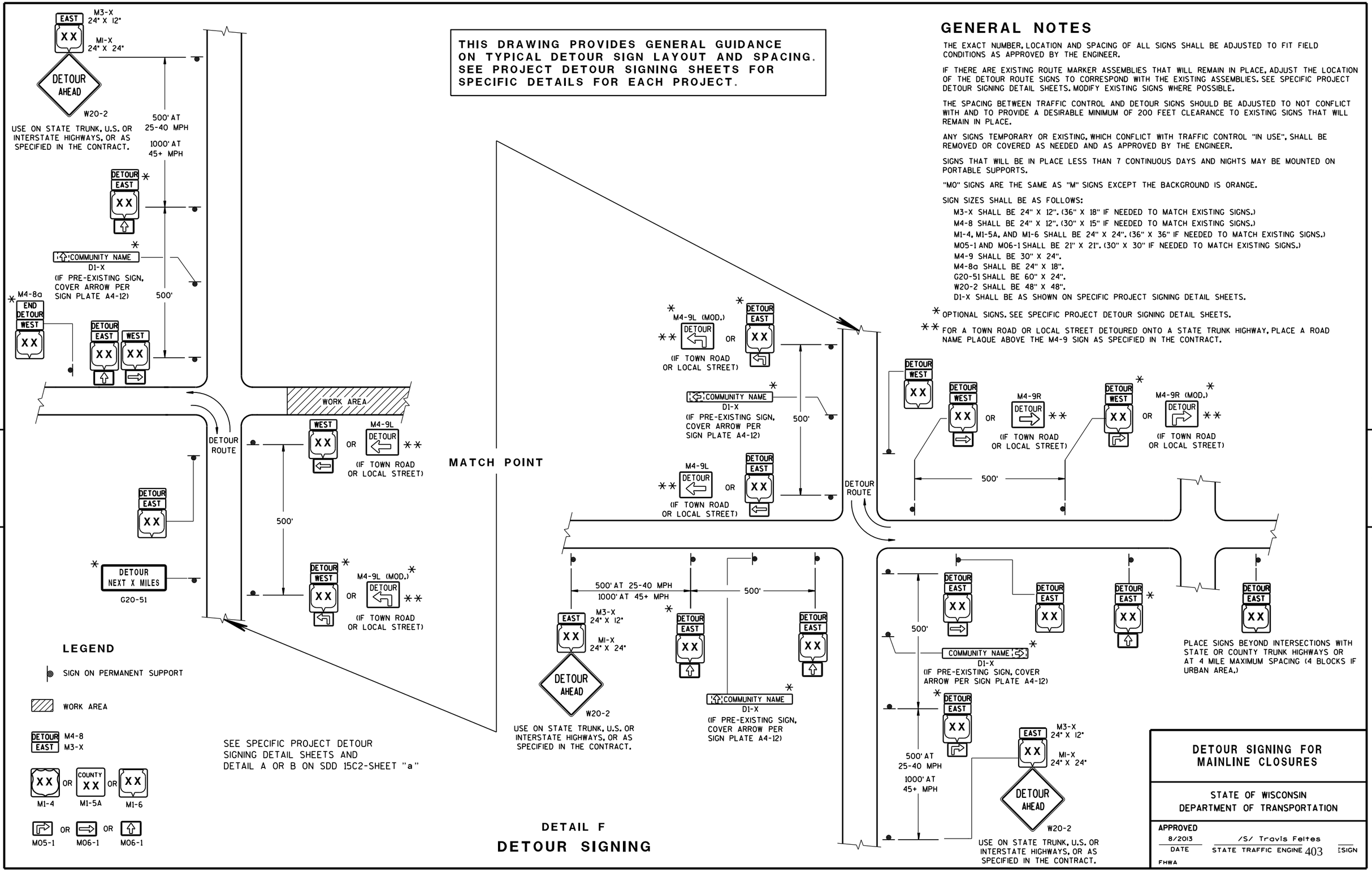
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



DETAIL F

DETOUR SIGNING

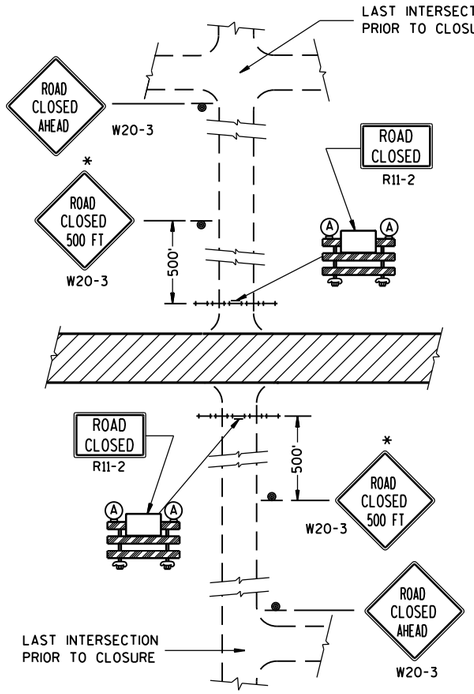
DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

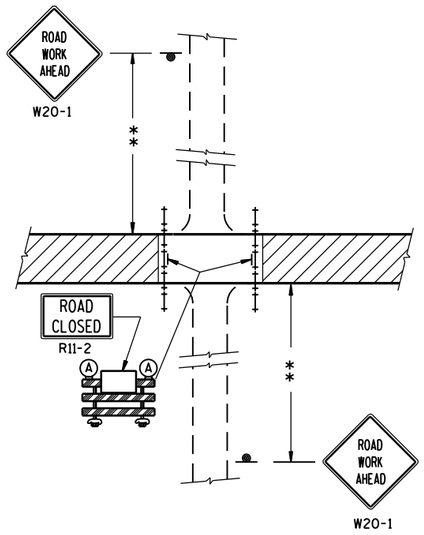
FHWA

6 S.D.D. 15 C 2-5c



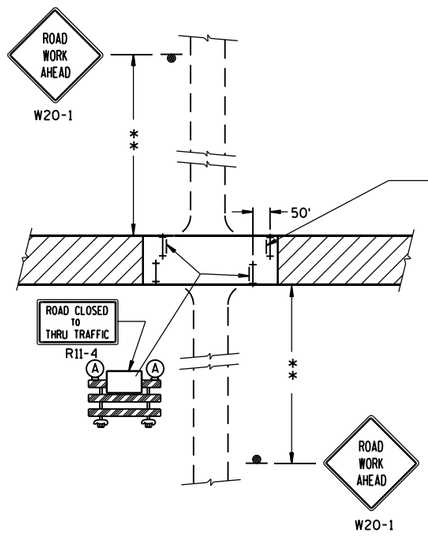
DETAIL 1

(NO ACCESS TO PROJECT)



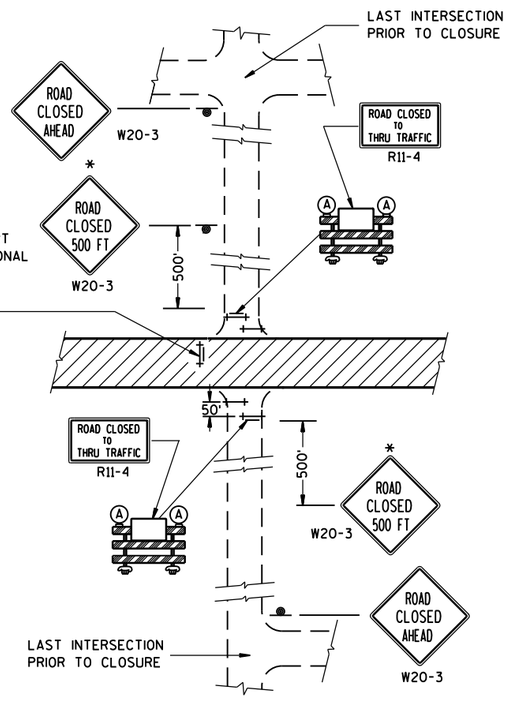
DETAIL 2

(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

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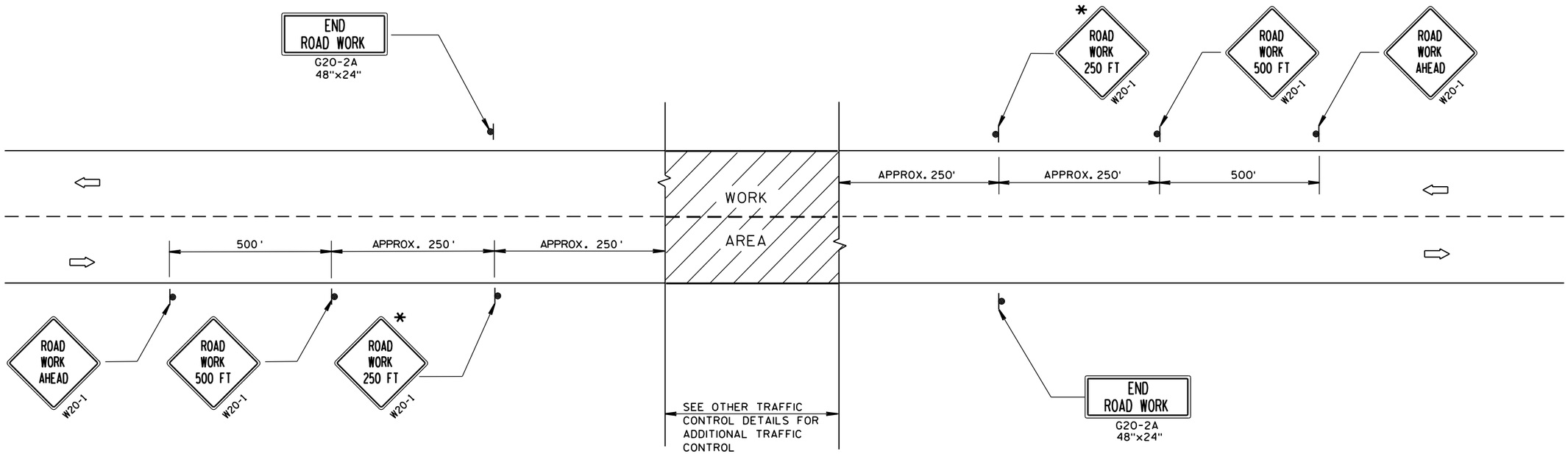
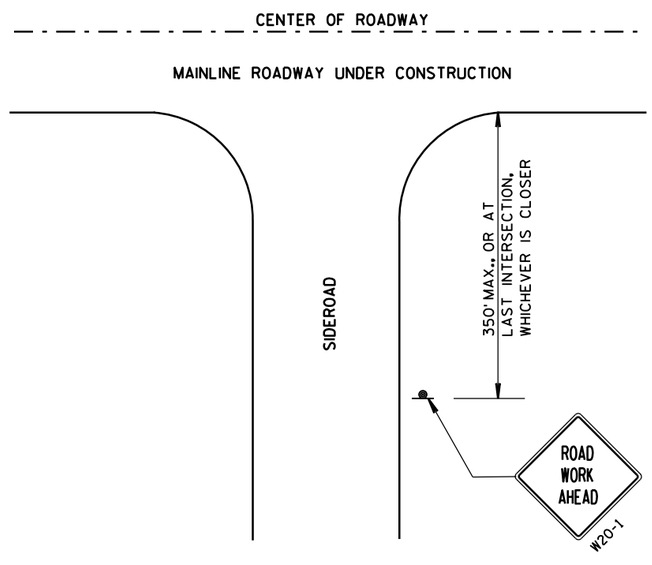
S.D.D. 15 C 3-2



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 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

405

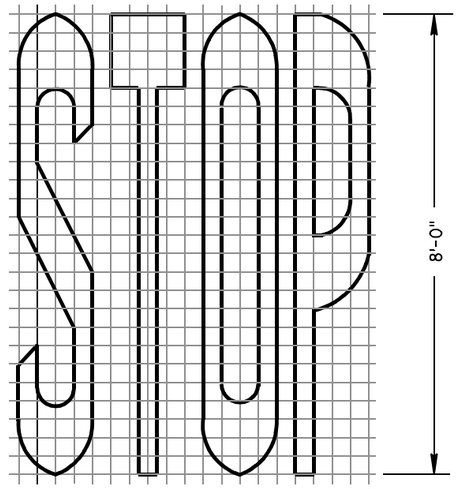
SIGN

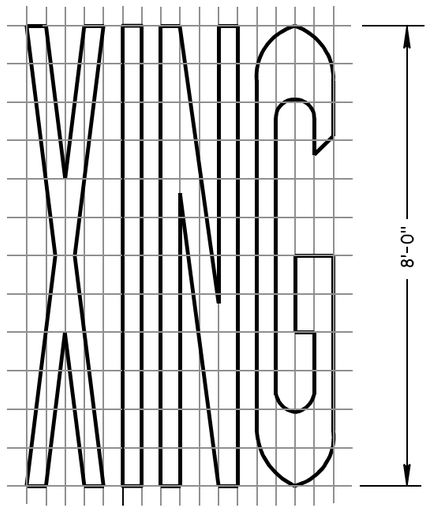
FHWA

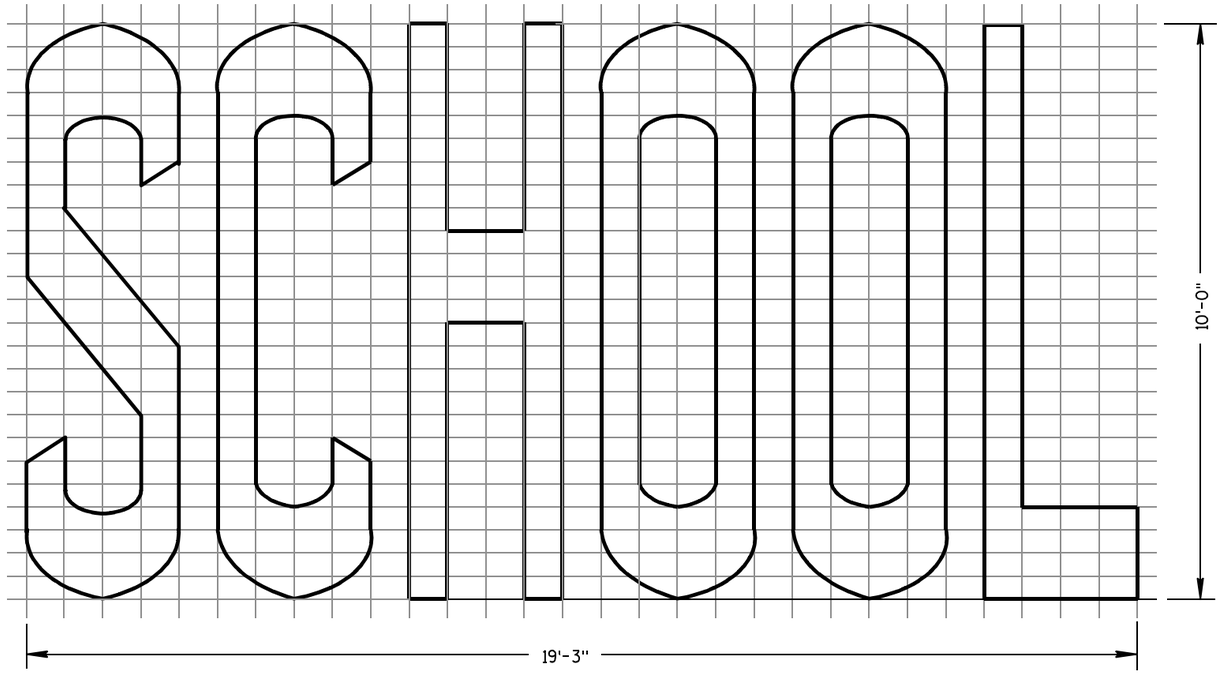
GENERAL NOTES

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

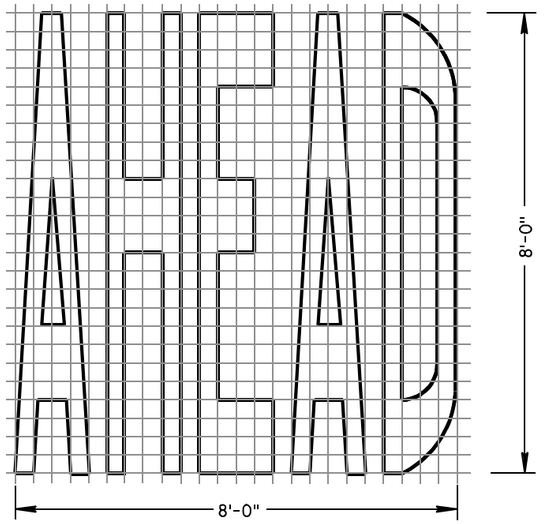
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

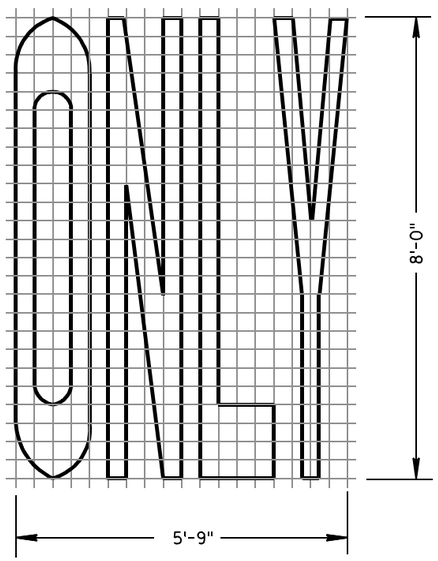


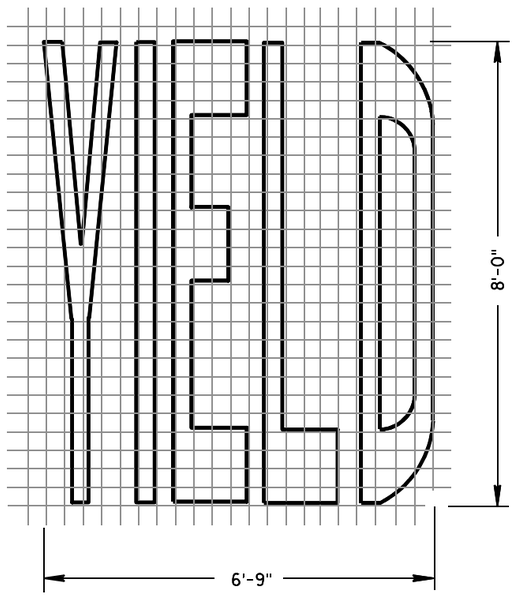


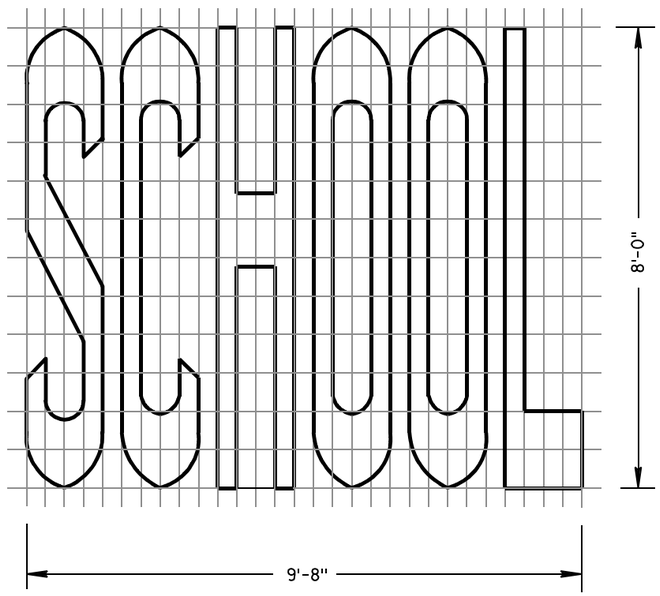


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 — DATE

/S/ Thomas N. Nottbohm — STATE TRAFFIC ENGINEER

FHWA

IGN

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S.D.D. 15 C 7-12b

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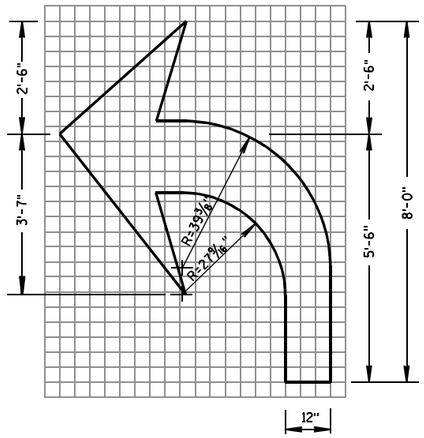
S.D.D. 15 C 7-12b

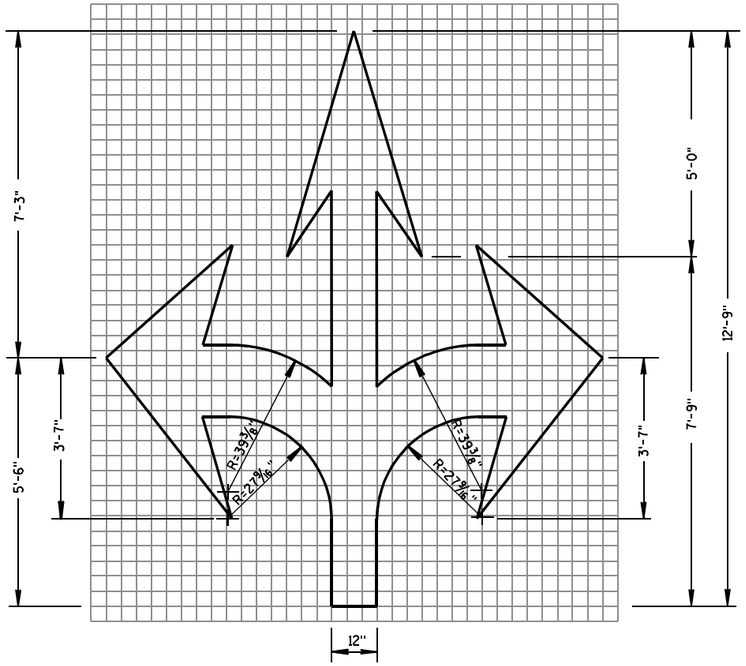
GENERAL NOTES

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

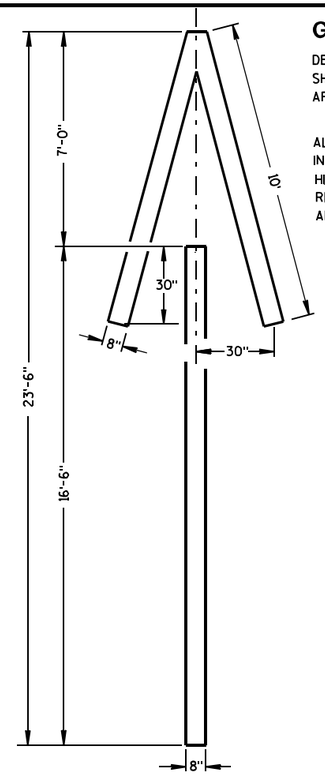
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TYPE 2



TYPE 6



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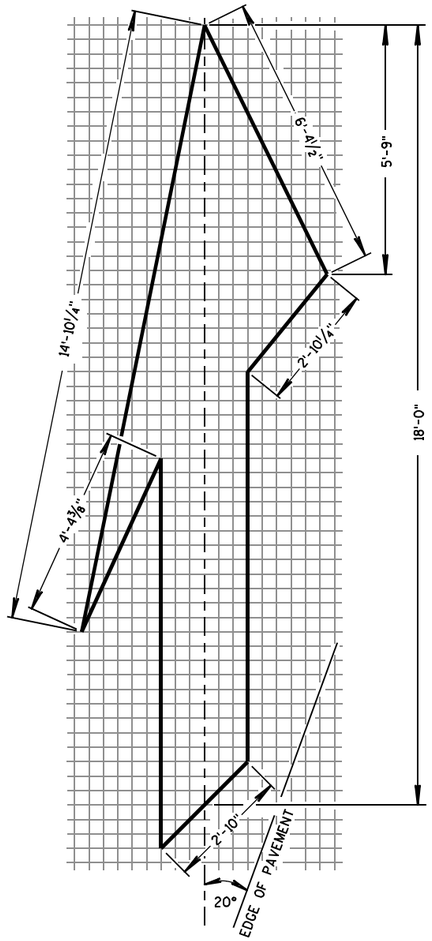
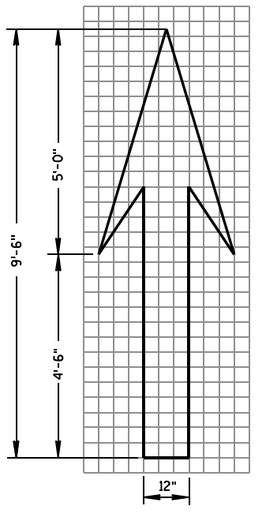
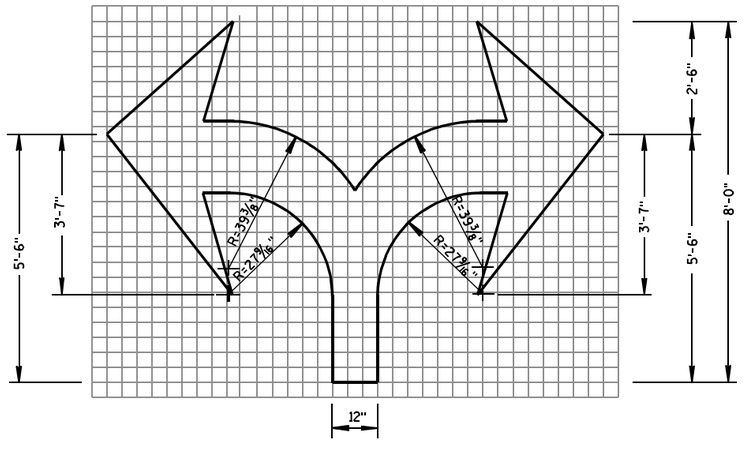


TYPE 5 LANE DROP ARROW



TYPE 1



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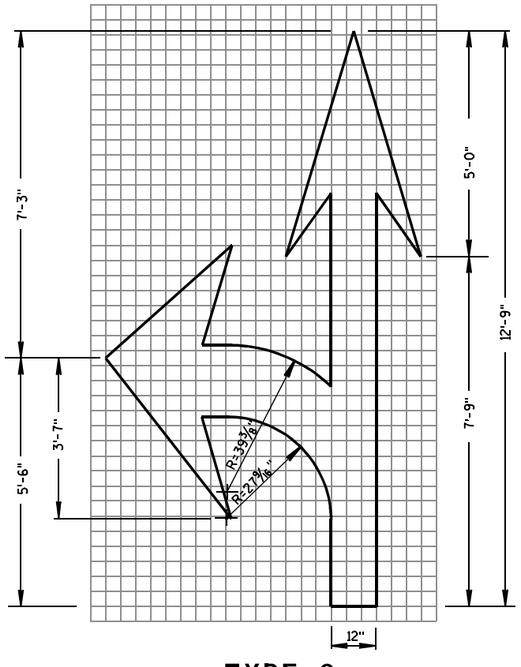

TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

FHWA

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S.D.D. 15 C 7-12c

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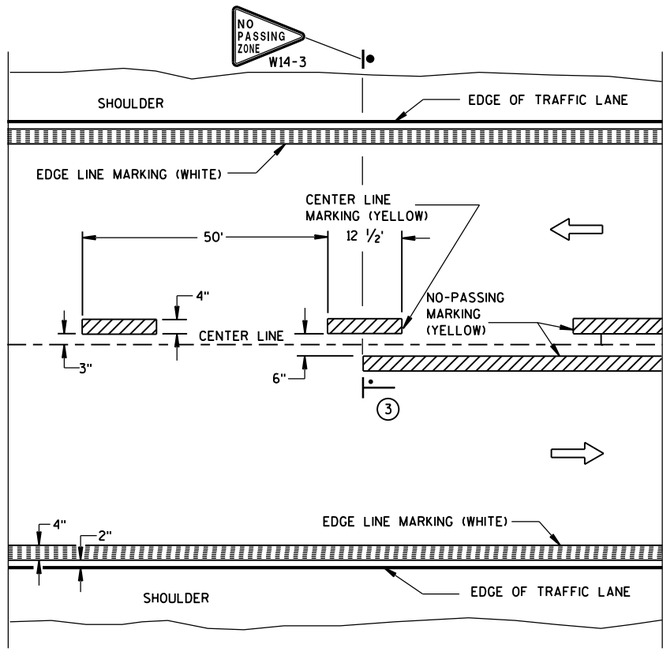
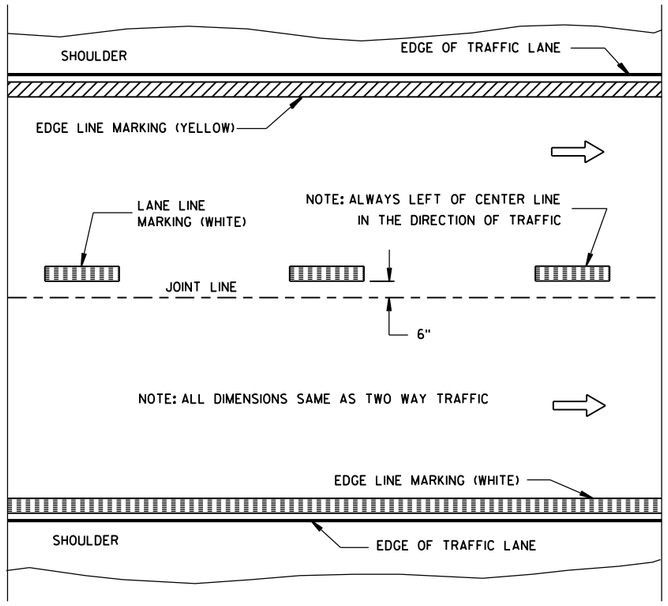
S.D.D. 15 C 7-12c

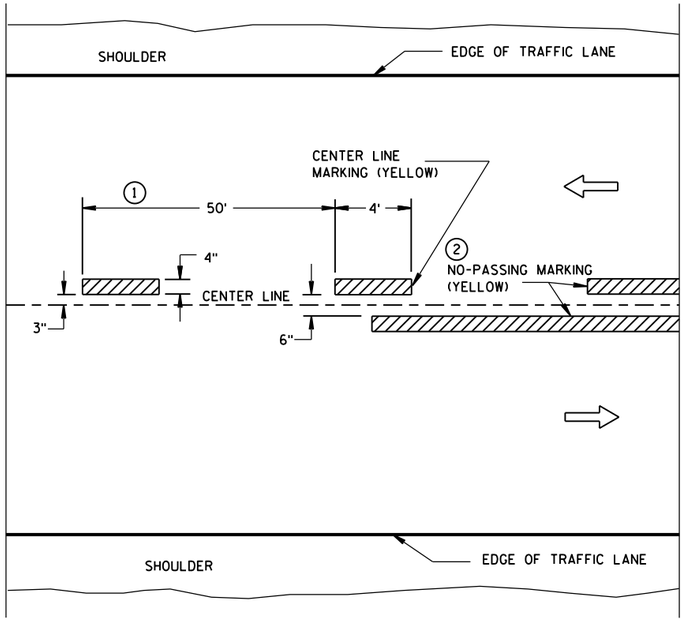


TWO WAY TRAFFIC

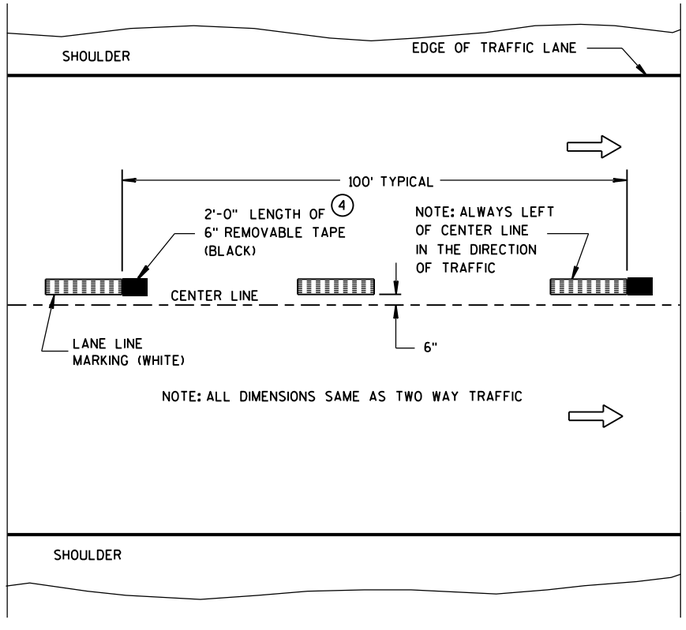


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

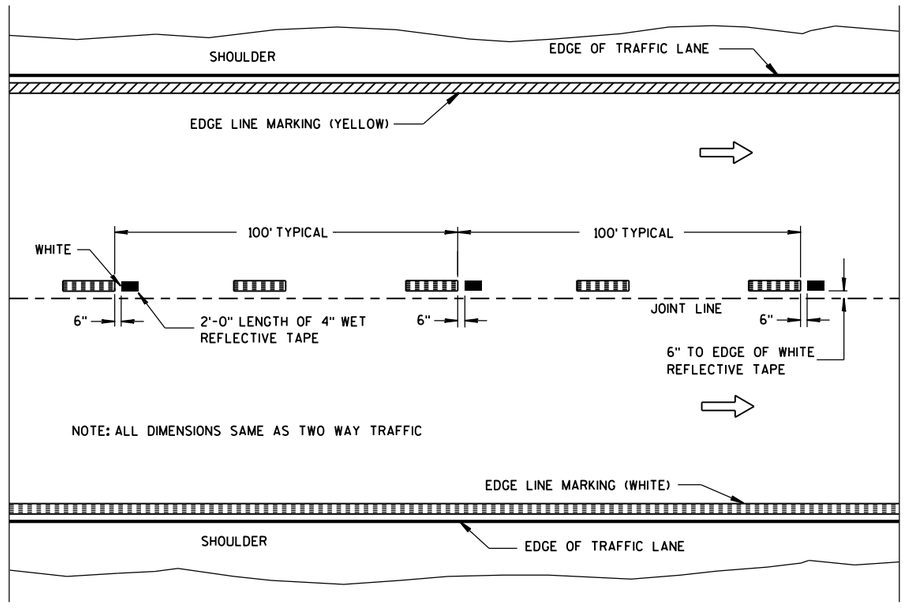
GENERAL NOTES

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

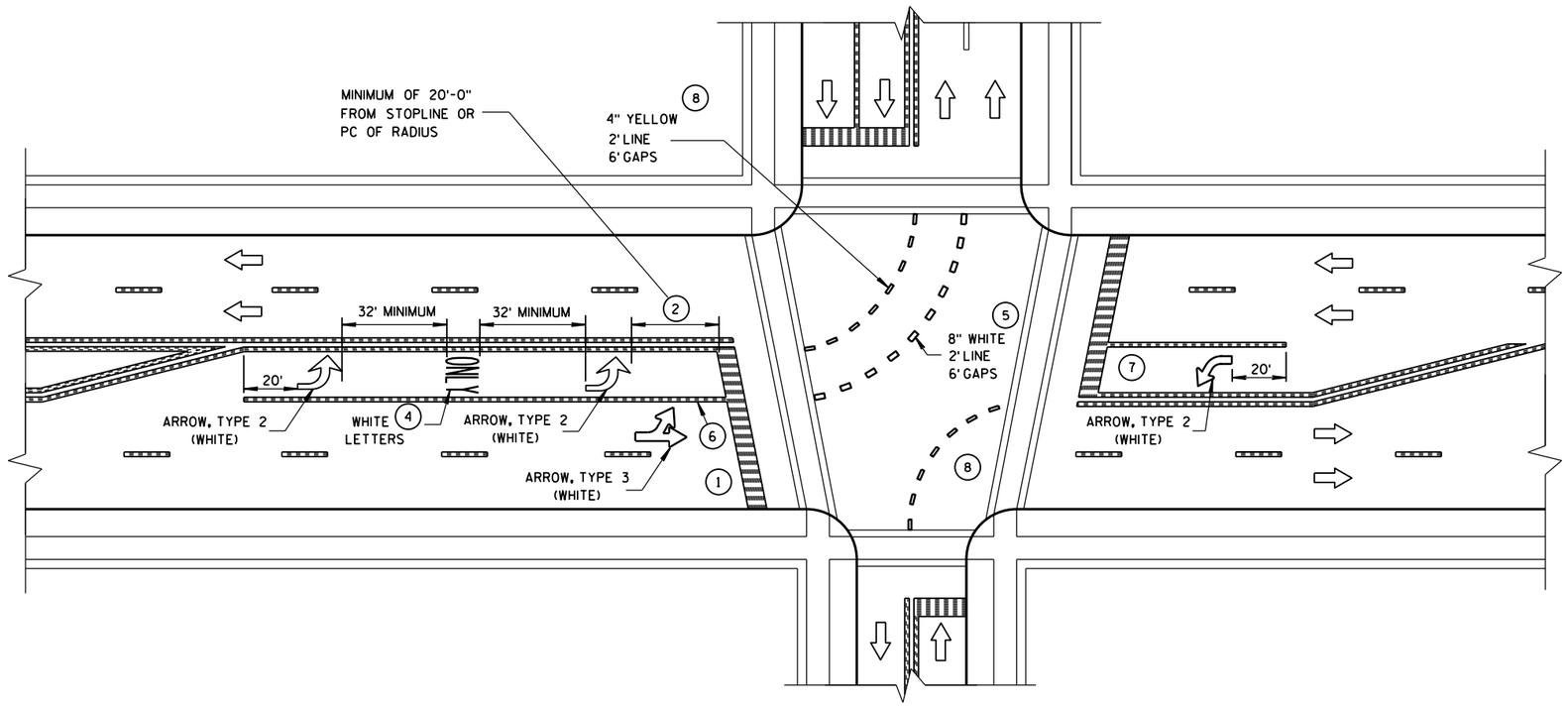
FHWA

6

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

6

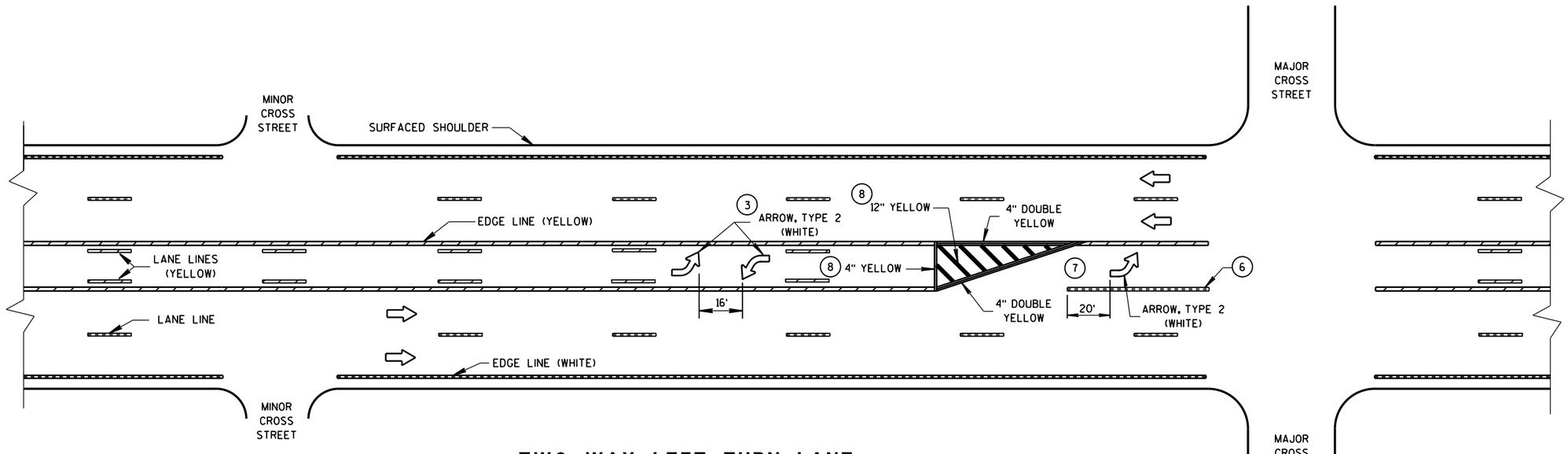
S.D.D. 15 C 8-16a



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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

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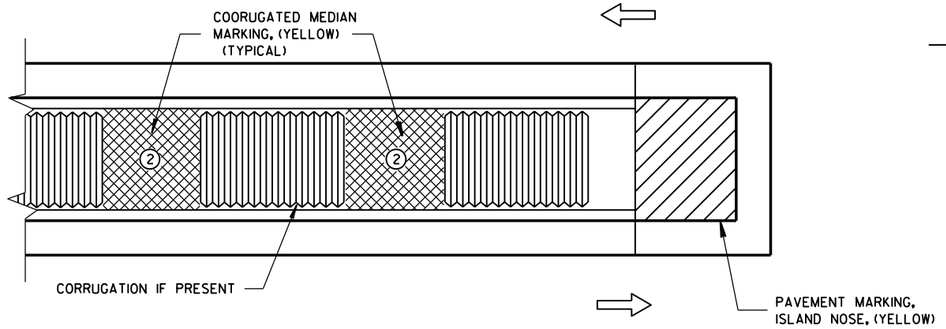
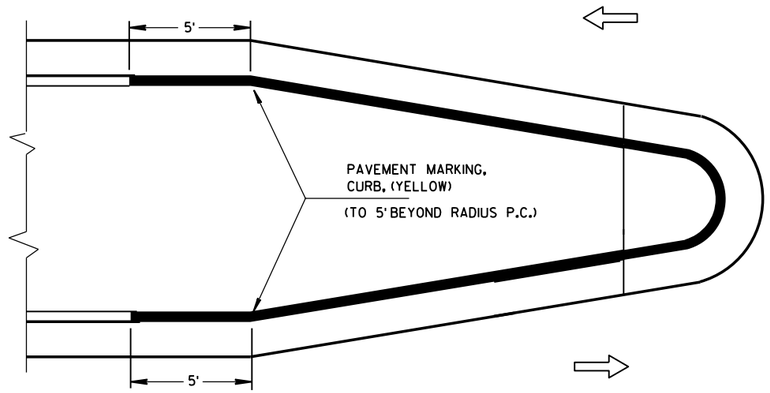
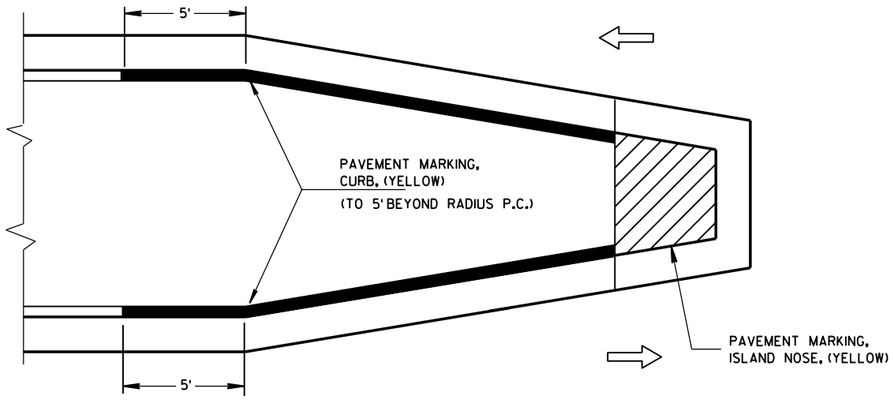
S.D.D. 15 C 8-16e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

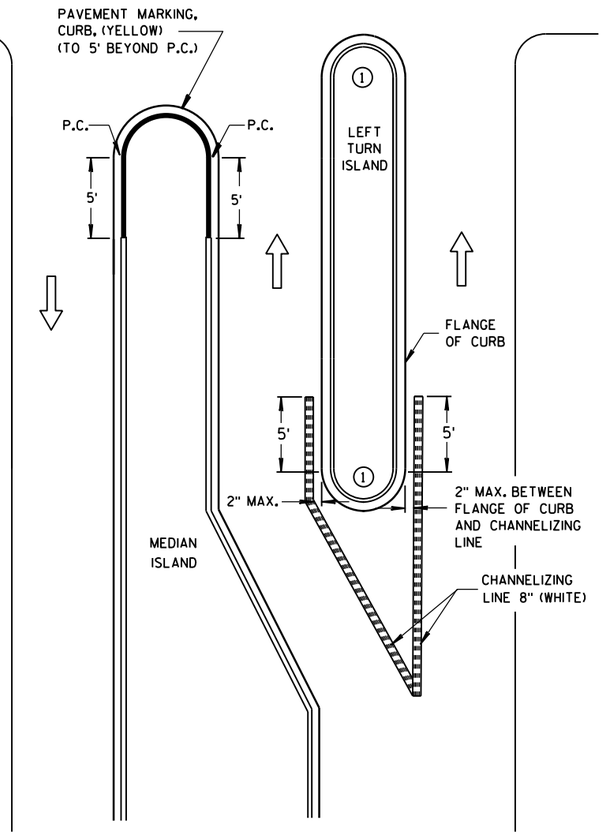


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

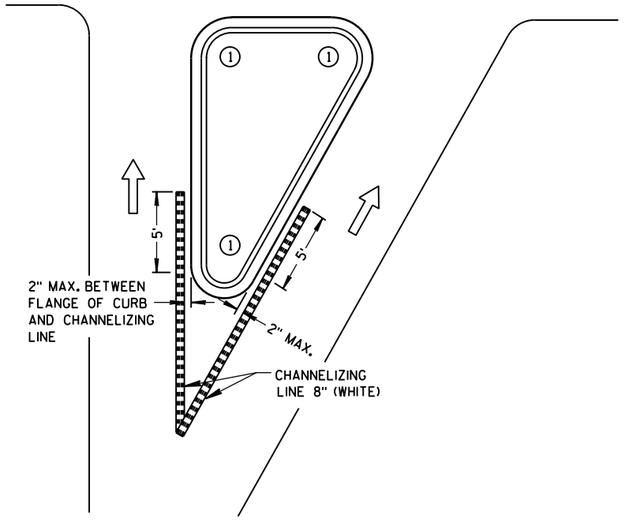


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

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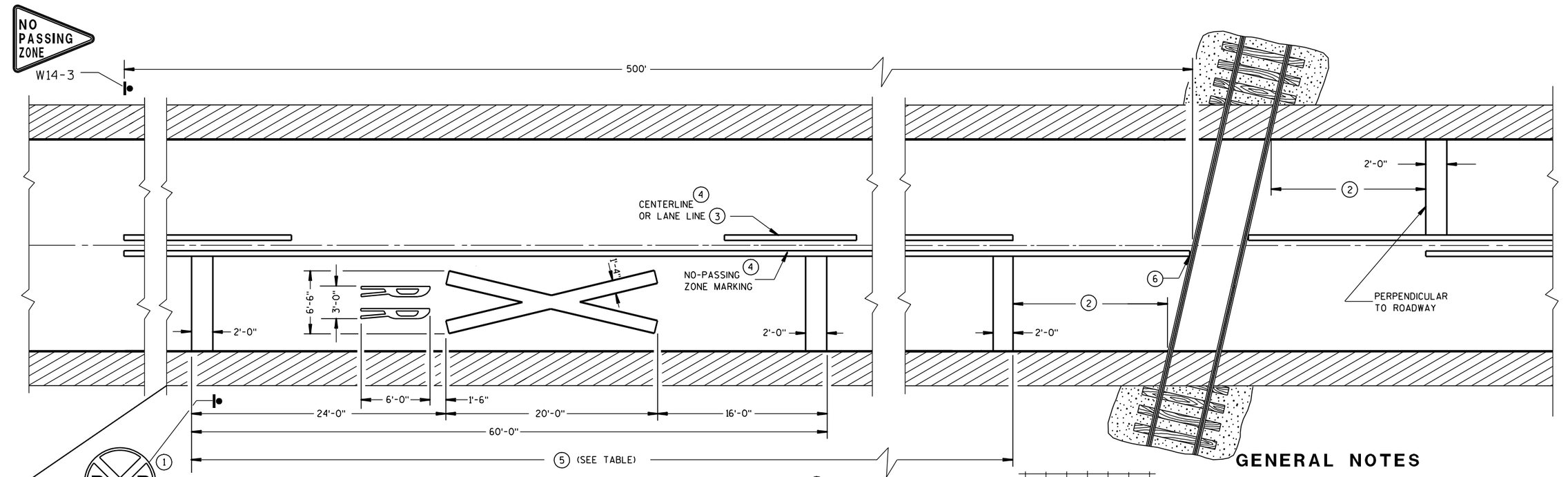
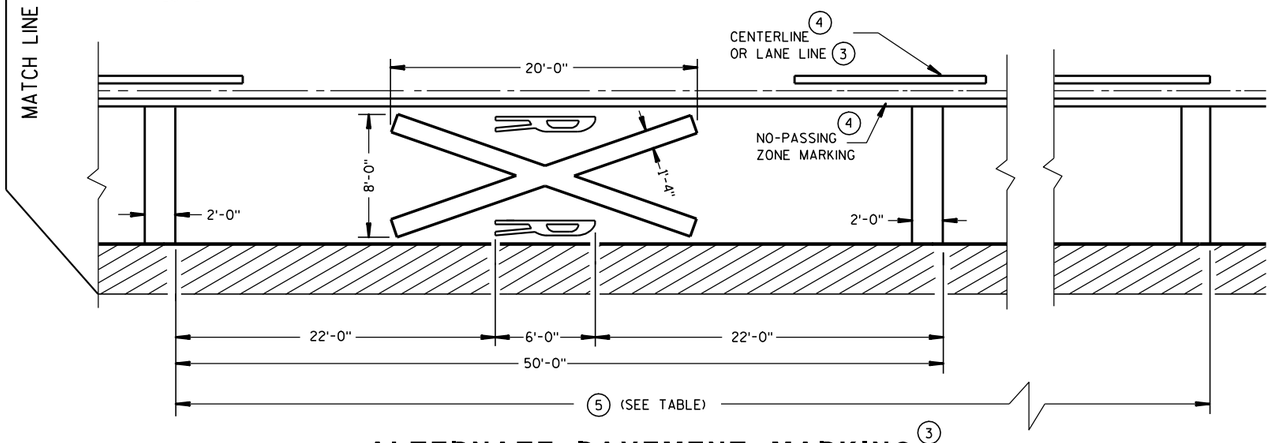
S.D.D. 15 C 8-16f



PREFERRED PAVEMENT MARKING 3

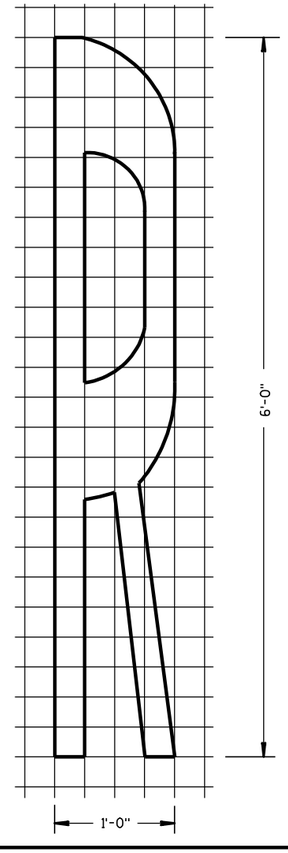


ALTERNATE PAVEMENT MARKING 3

5

Posted Speed (M.P.H.)	Dimension Range (Feet)
25	150*- 250
30	200*- 300
35	250*- 450
40	300*- 500
45	400*- 650
50	550*- 800
55	750*- 1000
60	1000*- 1250
65	1000*- 1250

* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSE PROXIMITY OF DRIVEWAYS, BRIDGES, SIDEROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.



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.

A THREE-LANE ROADWAY SHOULD BE MARKED WITH A CENTERLINE FOR TWO-LANE APPROACH OPERATION ON THE APPROACH TO A CROSSING.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE. ALL LETTERS AND SYMBOLS SHALL BE IN CONFORMANCE WITH THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" (ADOPTED BY THE FEDERAL HIGHWAY ADMINISTRATION).

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

1. A PORTION OF THE PAVEMENT MARKING SYMBOL SHOULD BE DIRECTLY OPPOSITE THE ADVANCE WARNING SIGN (W10-1).
2. MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.
3. REFLECTIVE WHITE.
4. REFLECTIVE YELLOW 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
5. TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

1-9-2012
DATE

/S/ Thomas N. [illegible]
STATE TRAFFIC ENGINEER

411

DESIGN

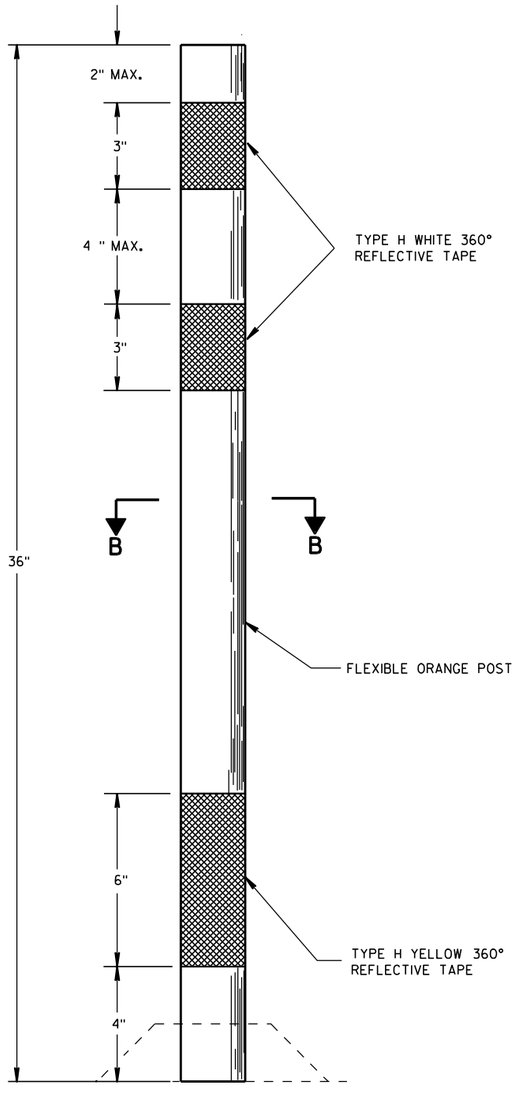
FHWA

6

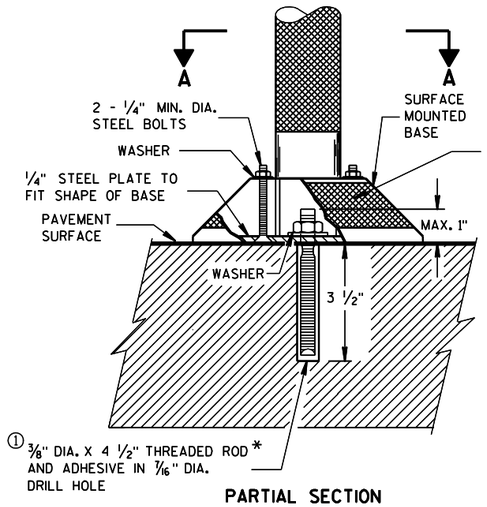
S.D.D. 15 C 9-9a

6

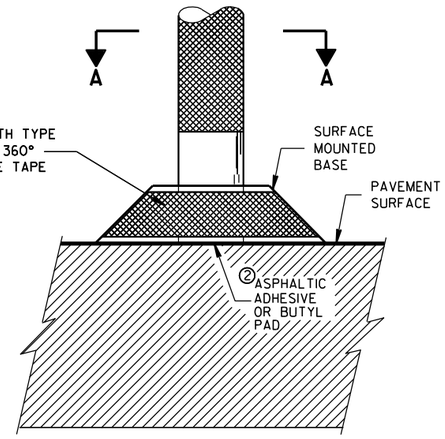
S.D.D. 15 C 9-9a



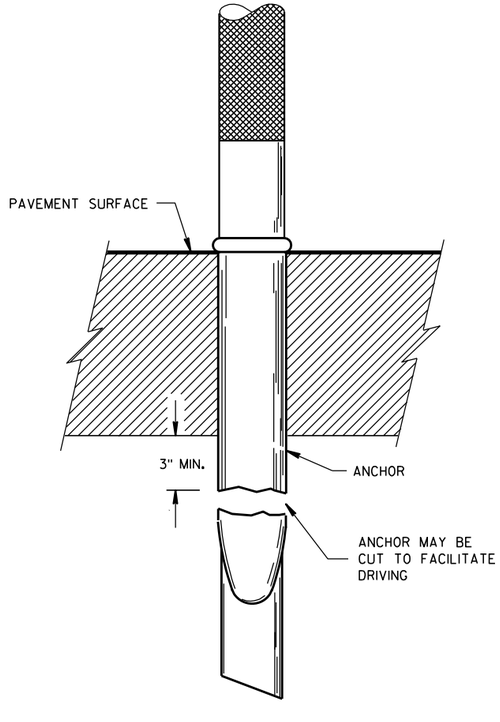
FLEXIBLE TUBULAR MARKER POST



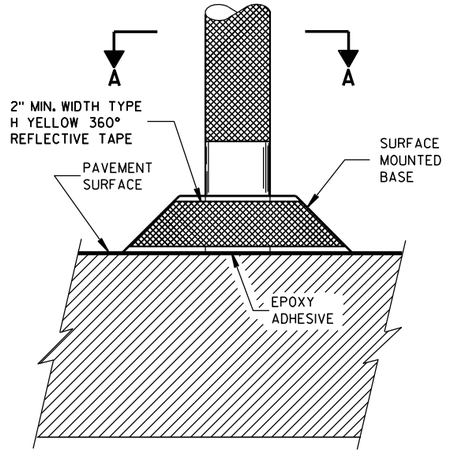
PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT



POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED



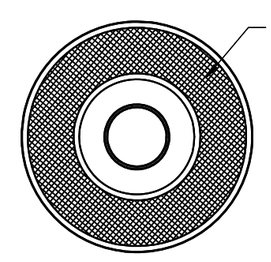
GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

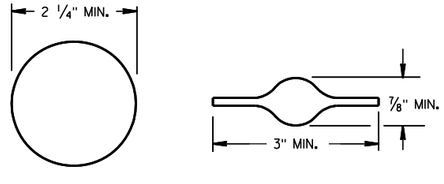
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



SECTION A-A

SURFACE MOUNTED BASE



SECTION B-B

ALTERNATIVE SHAPES

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 2/17/94 DATE /S/ Chester J. [illegible] DIRECTOR, OFFICE O 412 FHWA

6

S.D.D. 15 C 11-5

6

S.D.D. 15 C 11-5

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

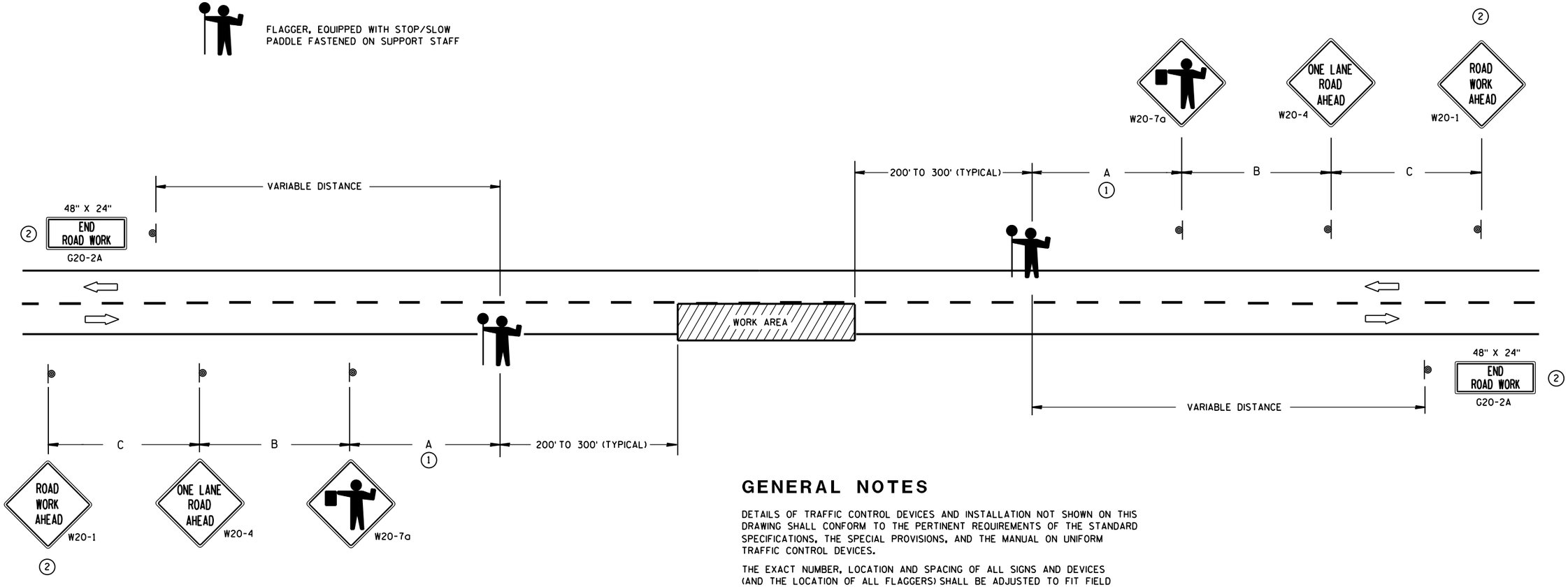
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

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

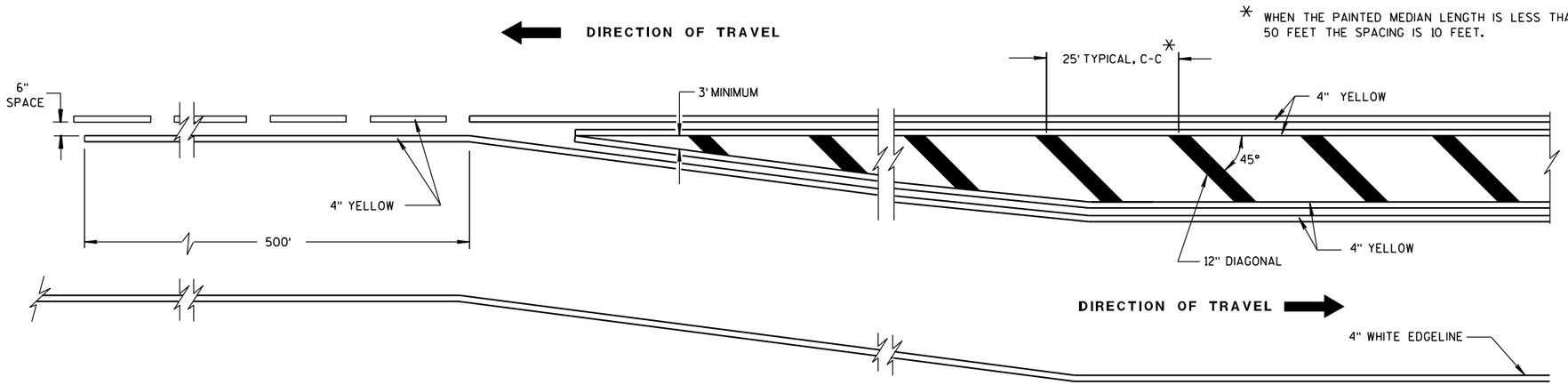
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 C 12-4

6

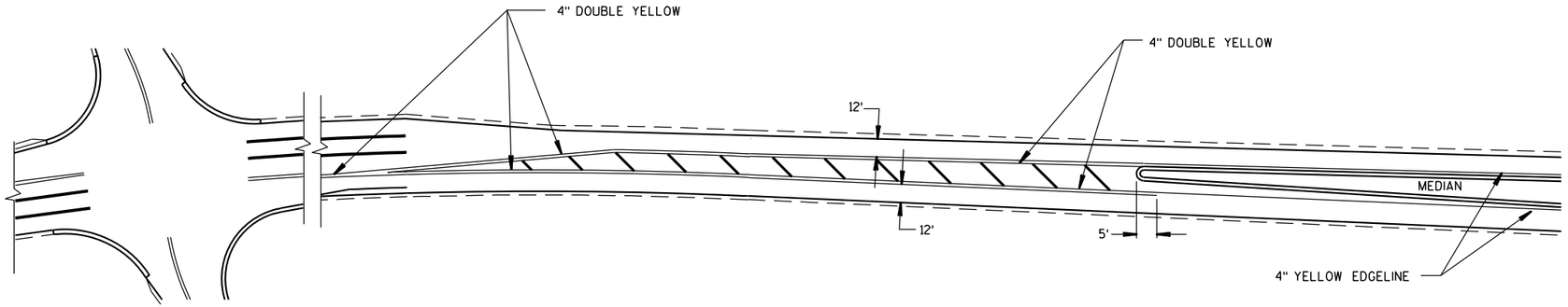
S.D.D. 15 C 12-4



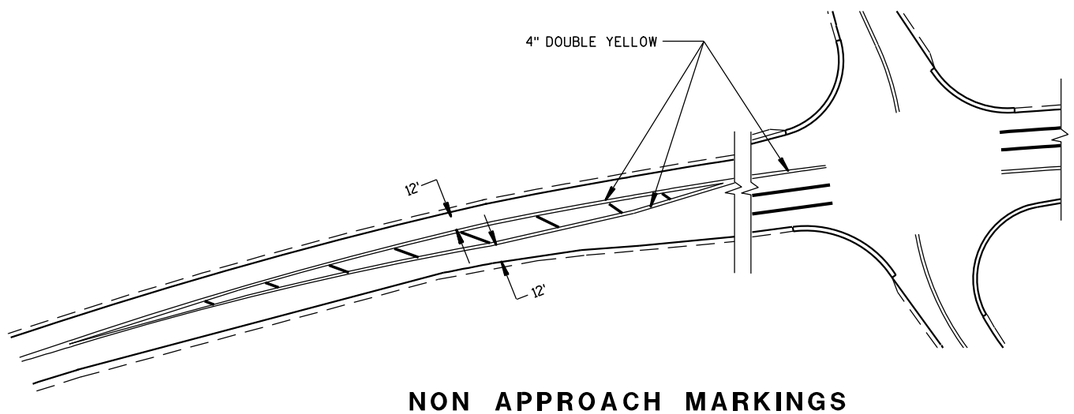
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-5-09 DATE	/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER
FHWA	414 IGN

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S.D.D. 15 C 18-3

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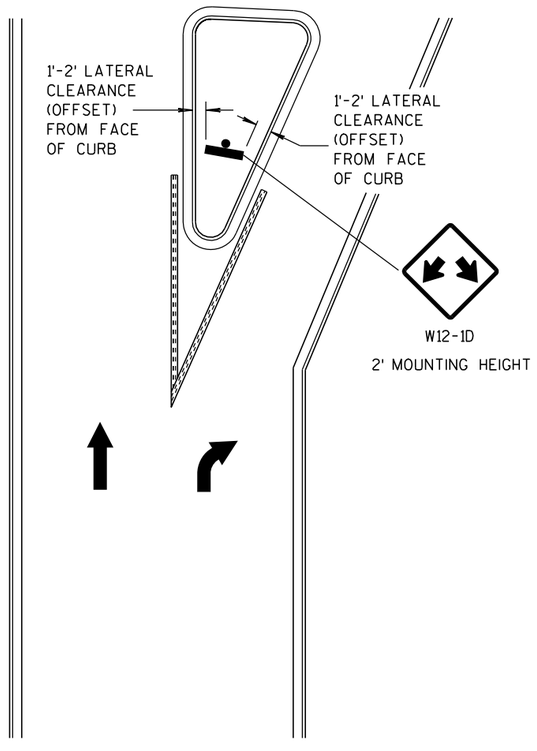
S.D.D. 15 C 18-3

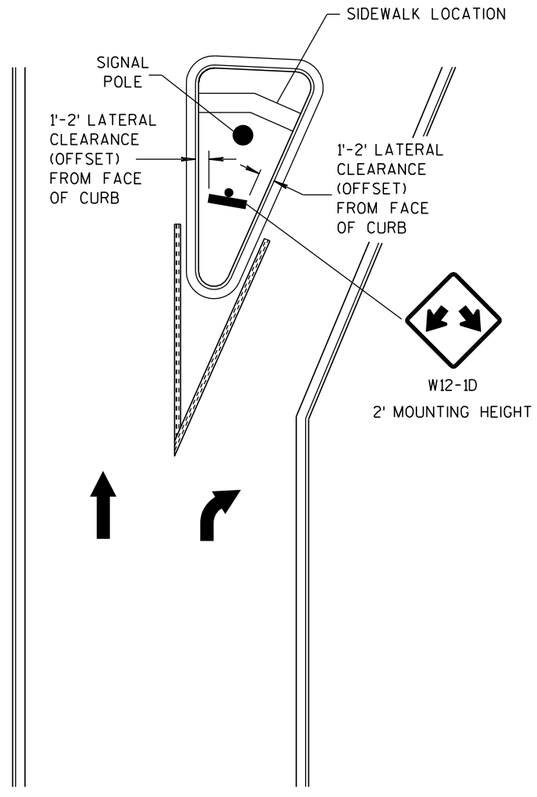
GENERAL NOTE

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

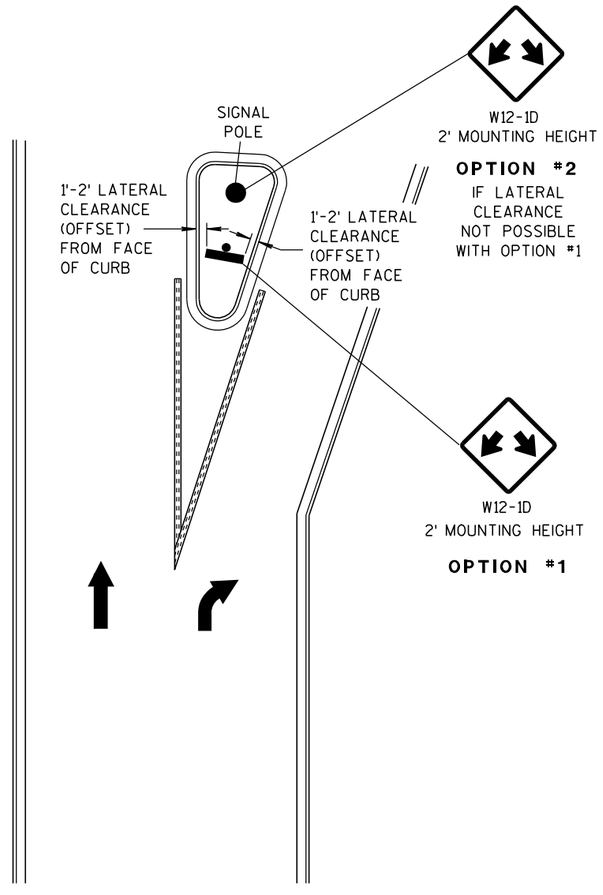
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.



LARGE RIGHT TURN ISLAND



LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE



SMALL RIGHT TURN ISLAND

DOUBLE ARROW WARNING SIGN PLACEMENT

DOUBLE ARROW WARNING SIGN PLACEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
10-22-08 DATE	/S/ Thomas N. Nothdurft STATE TRAFFIC ENGINEER
FHWA	415 IGN

6

S.D.D. 15 C 27-1

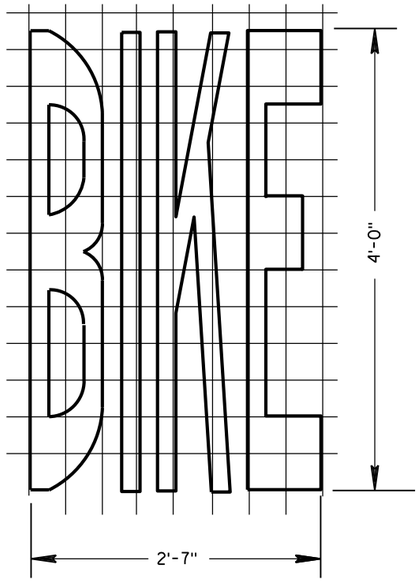
6

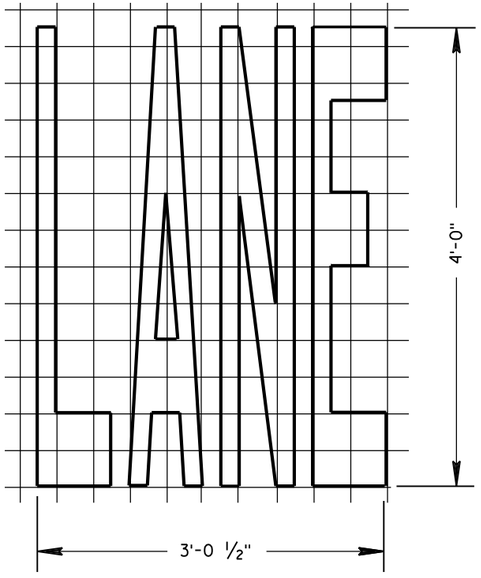
S.D.D. 15 C 27-1

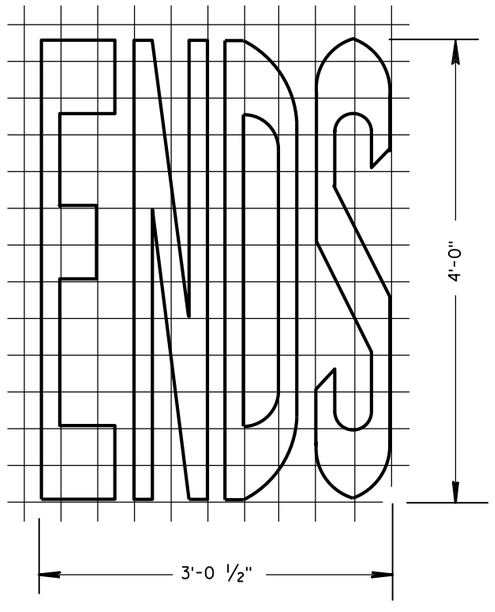
GENERAL NOTES

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

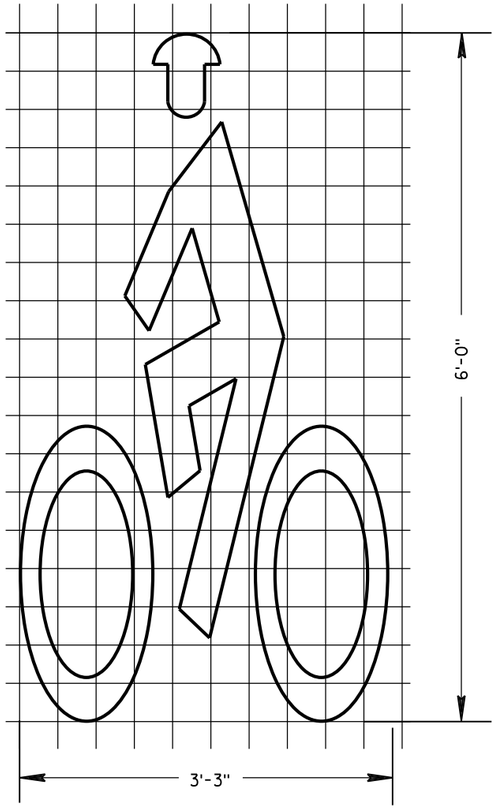
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



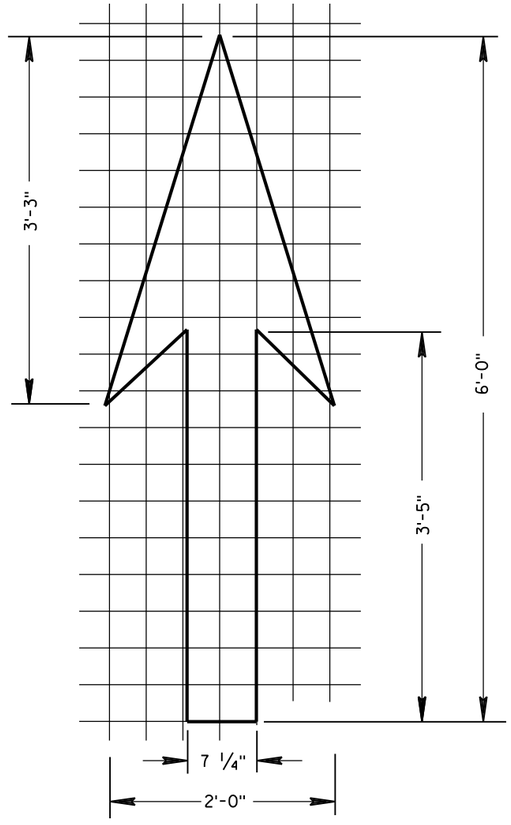




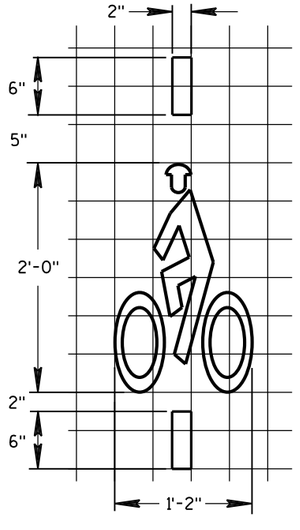
BIKE LANE WORDS



BIKE LANE SYMBOL



BIKE LANE ARROW



BICYCLE DETECTOR PAVEMENT MARKING

PAVEMENT MARKING FOR BIKE LANES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-30-2013
DATE

/S/ Travis Feltes
STATE TRAFFIC EN

FHWA

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S.D.D. 15 C 29-3e

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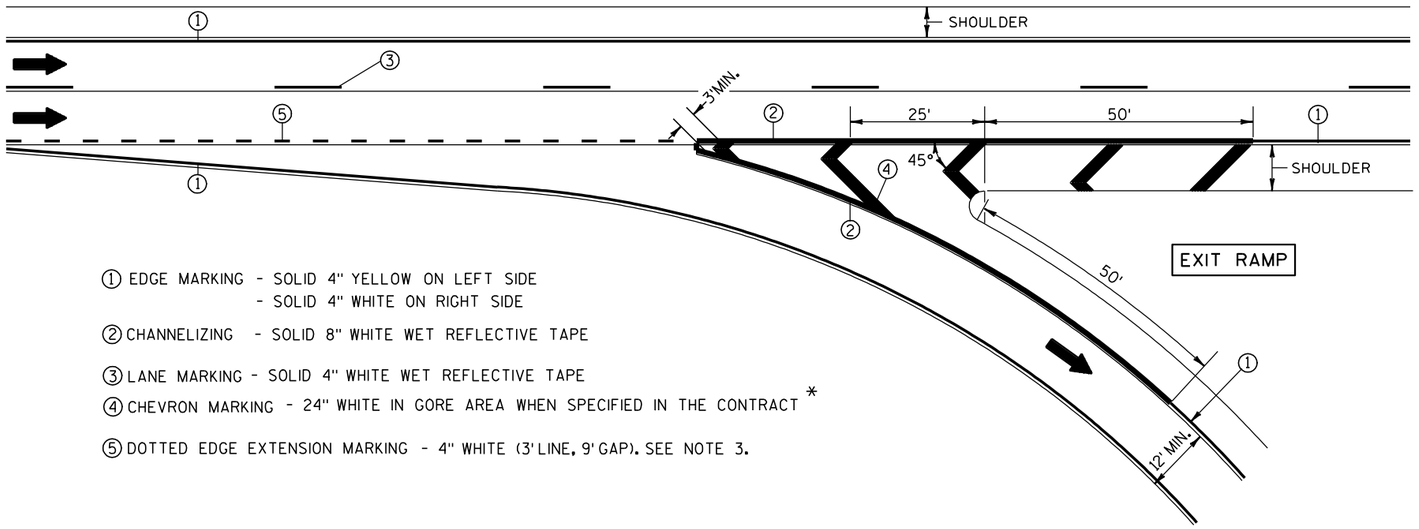
S.D.D. 15 C 29-3e



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

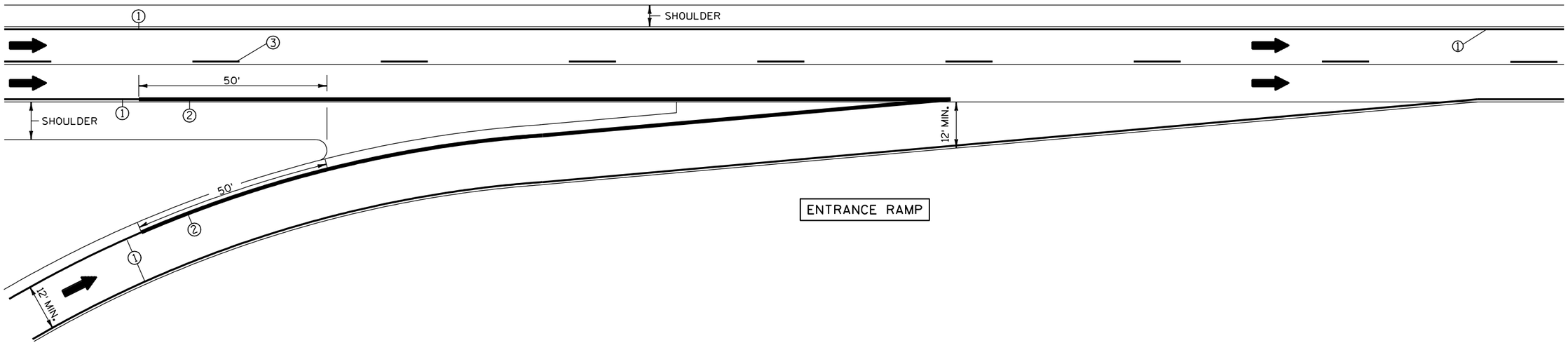
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



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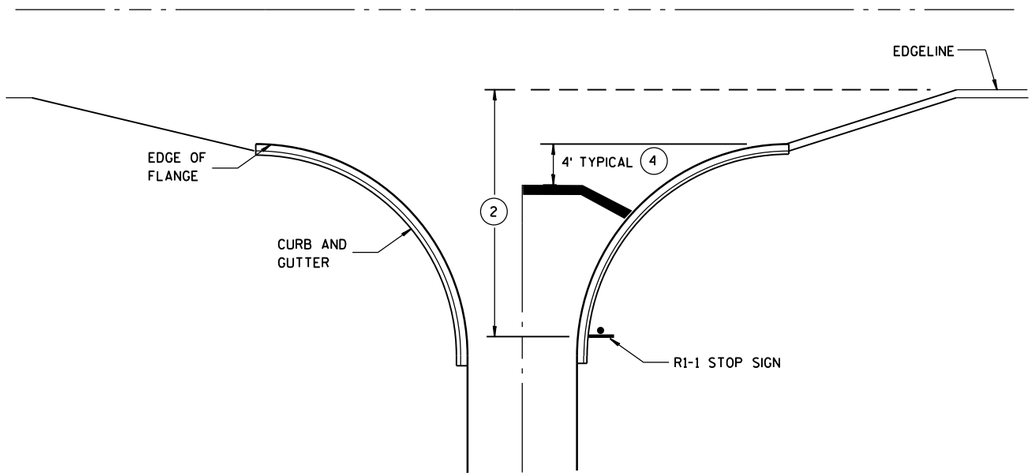
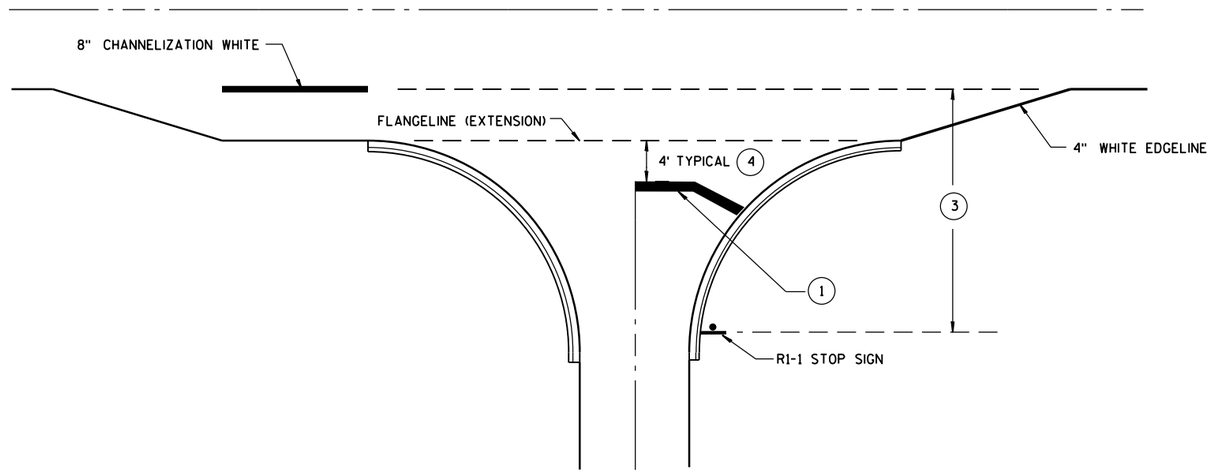
PAVEMENT MARKING
(RAMPS AND GORES)

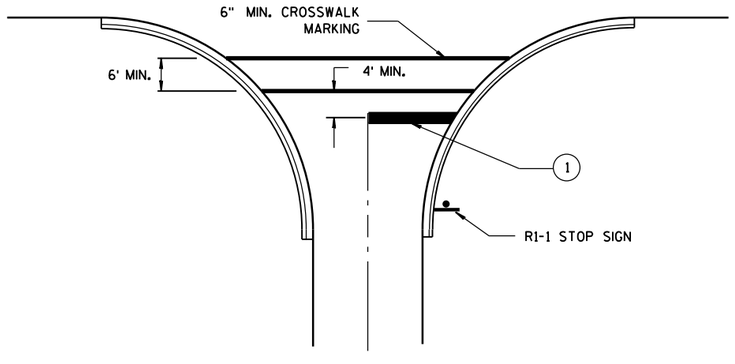
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



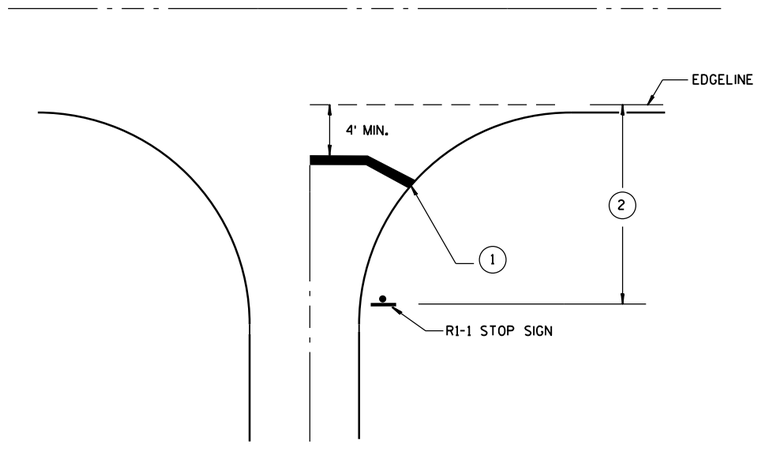
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

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S.D.D. 15 C 33-1

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"×48" 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.

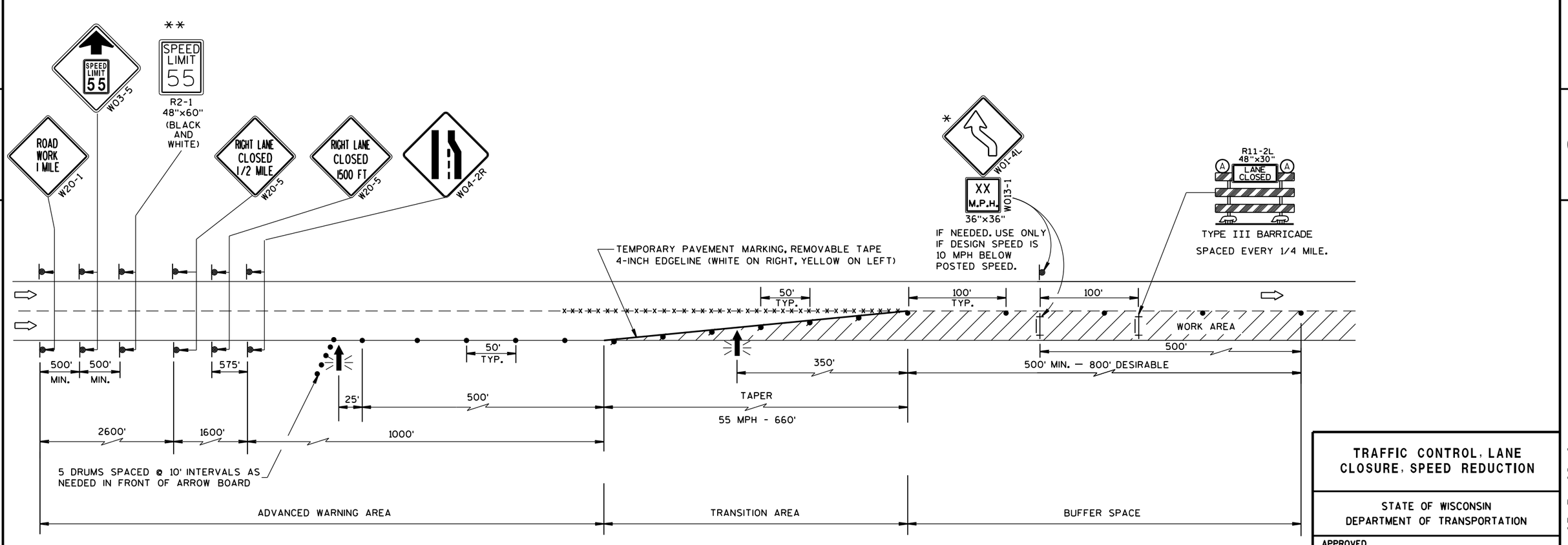
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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.

** A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES. INCLUDE A 65 MPH RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3-2014 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

S.D.D. 15 D 12-4

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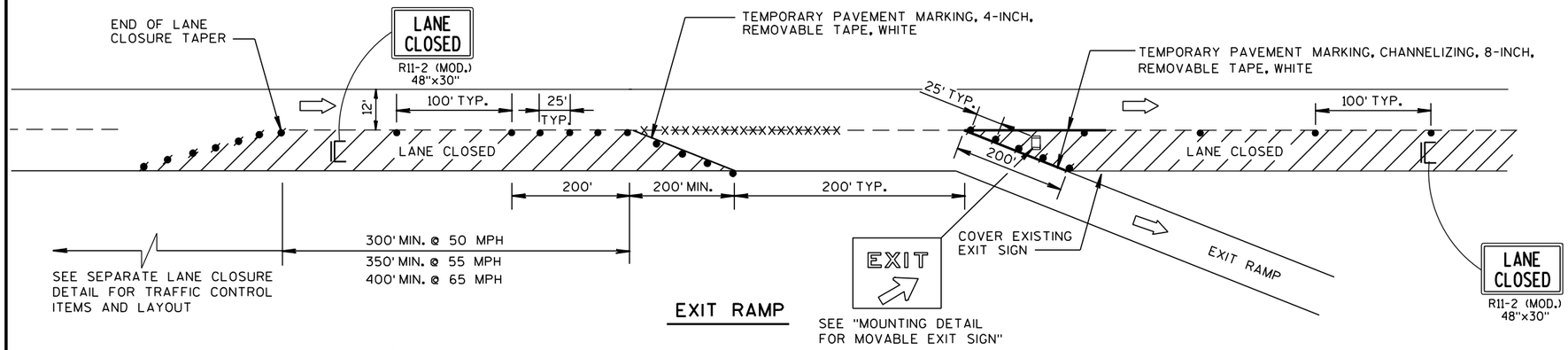
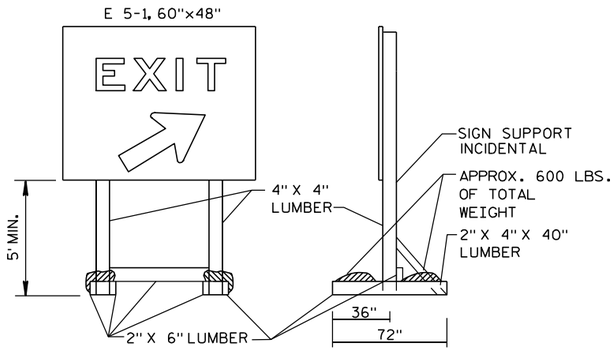
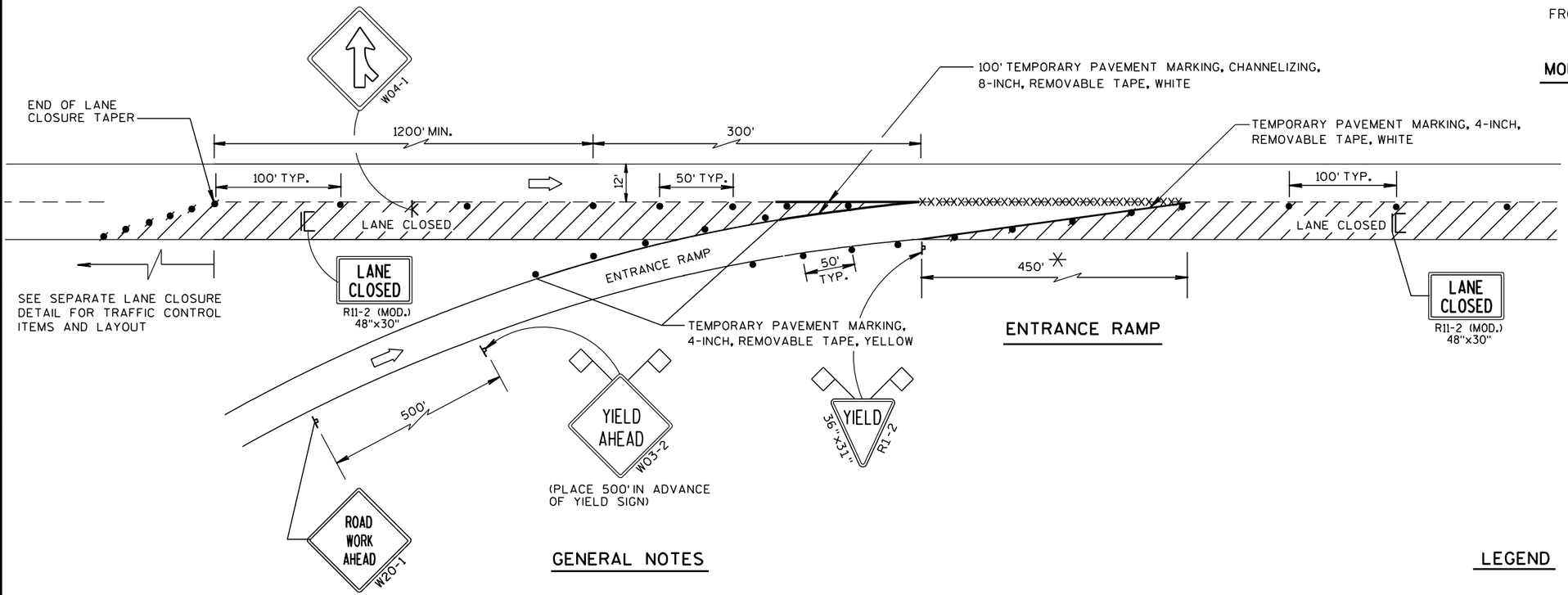


EXIT RAMP



NOTE: ALL LUMBER DIMENSIONS ARE NOMINAL

MOUNTING DETAIL FOR MOVABLE EXIT SIGN



ENTRANCE RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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 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.

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2 (MOD.) "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

✳ LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

LEGEND

- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL, DRUM
- TRAFFIC CONTROL, DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE (8' EQUIVALENT) WITH SIGN
- FLAGS, 16"x16" MIN., ORANGE
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/24/2000 DATE
/S/ Chester J. [illegible] 420
CHIEF SIGNS AND MARKINGS ENGINEER
FHWA

6

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LEGEND

TYPE III BARRICADE

TYPE III BARRICADE WITH ATTACHED SIGN

TRAFFIC CONTROL DRUM

SIGN ON PERMANENT SUPPORT

TYPE "A" WARNING LIGHT (FLASHING)

DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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 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" X 48" UNLESS OTHERWISE NOTED.

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.

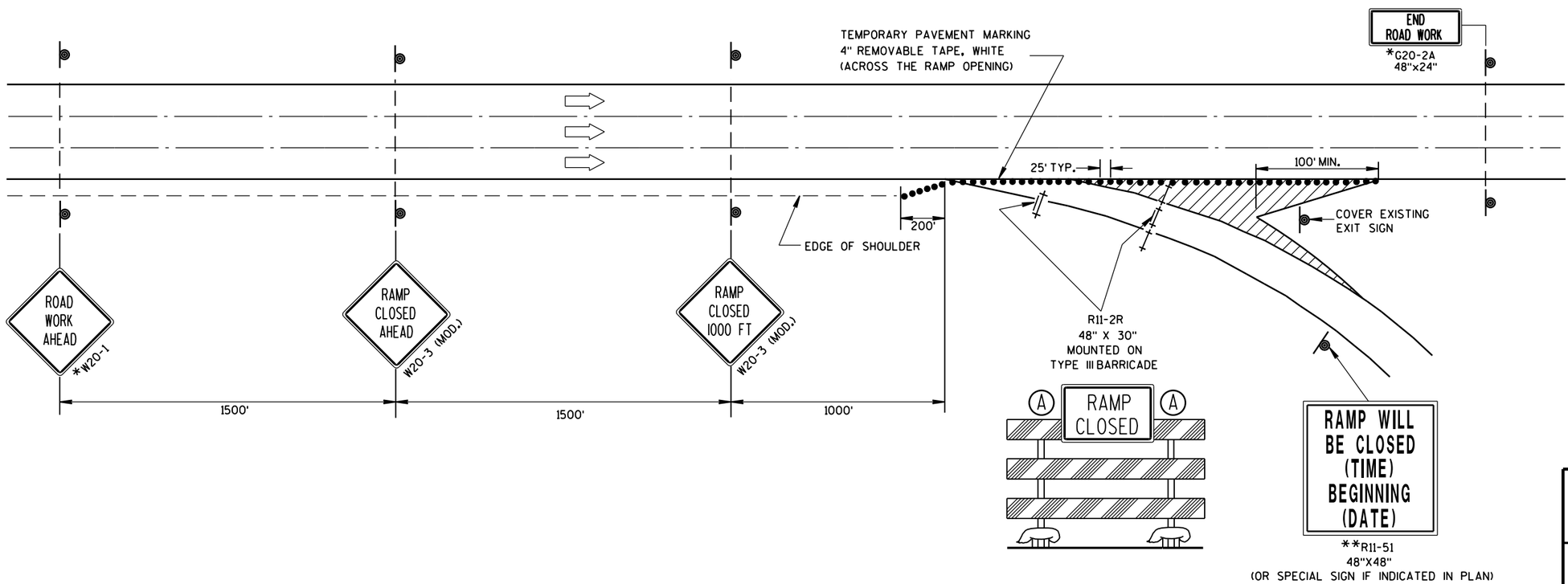
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

*W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP WILL BE CLOSED" SIGN 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



TRAFFIC CONTROL,
EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

DESIGN

FHWA

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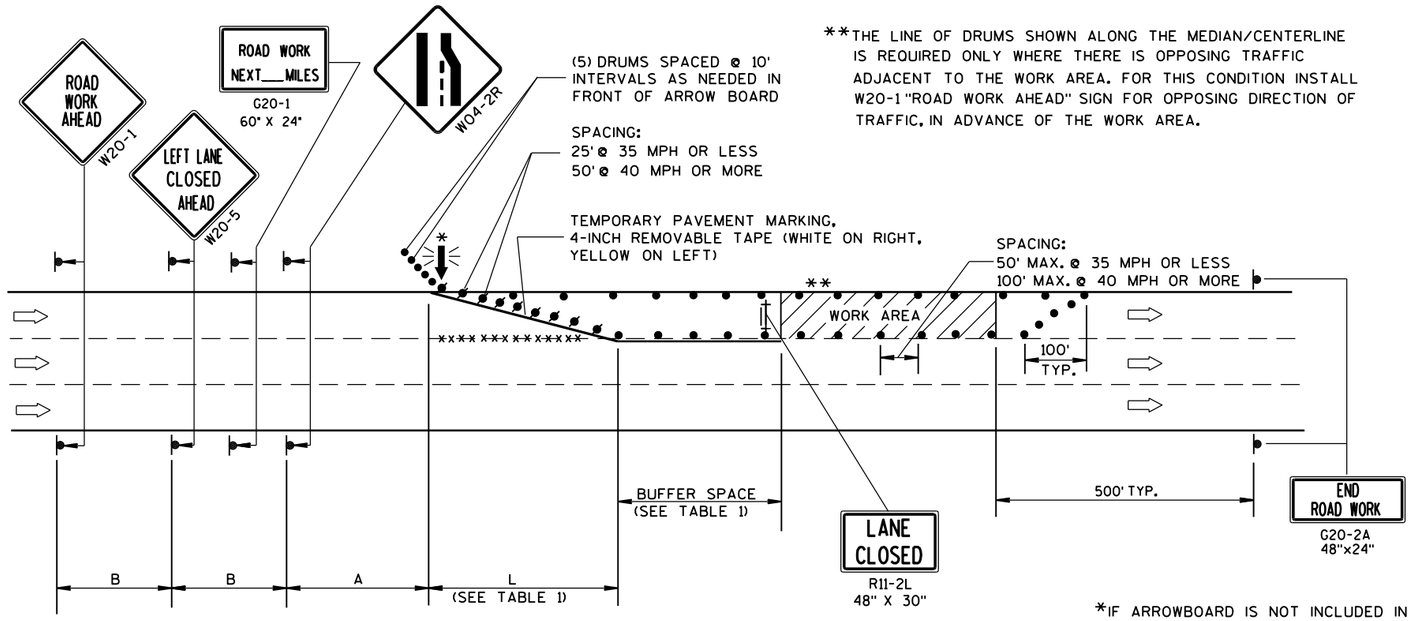
S.D.D. 15 D 16-2



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

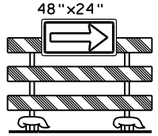


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

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

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 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 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, OR THAT WILL BE PLACED IN A CLOSED LANE, 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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

BARRICADES IN A CLOSED LANE 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.

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

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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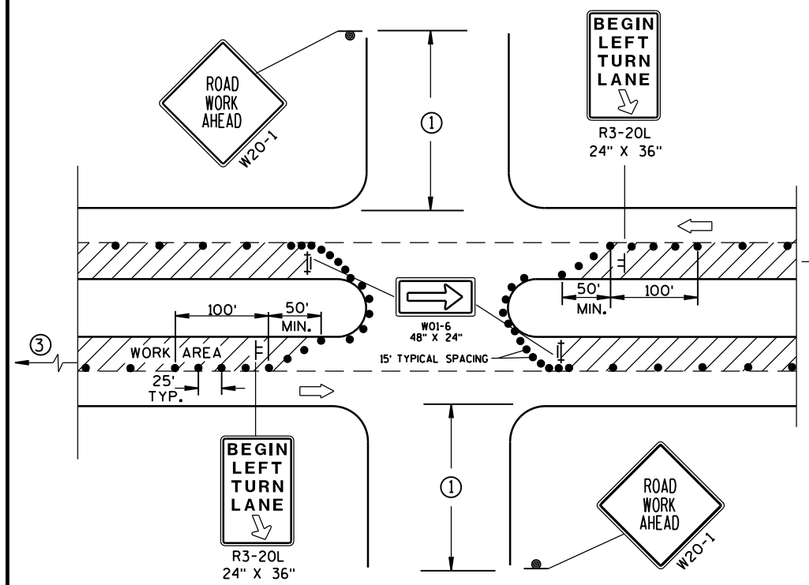
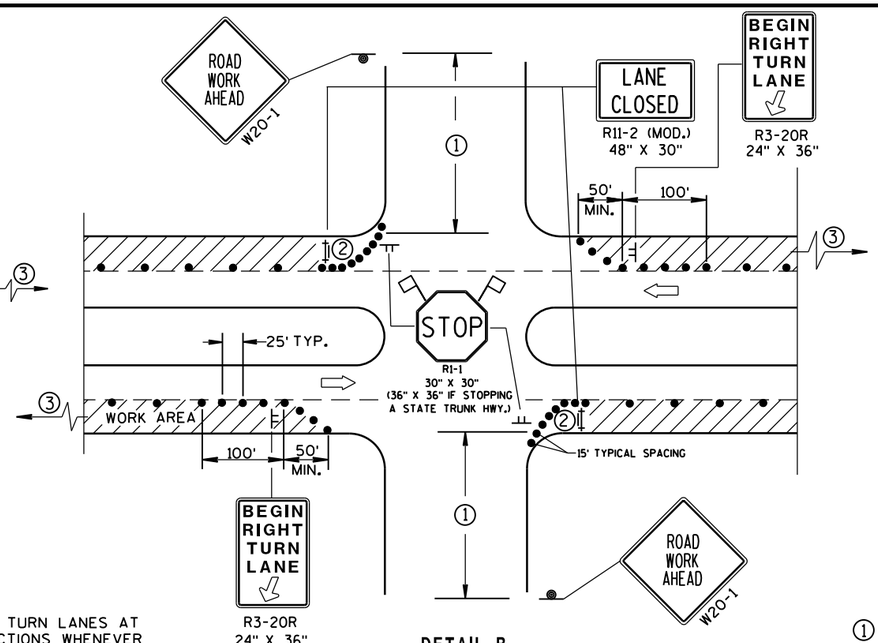


DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

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 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 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.

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, OR THAT WILL BE PLACED IN A CLOSED LANE, 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.

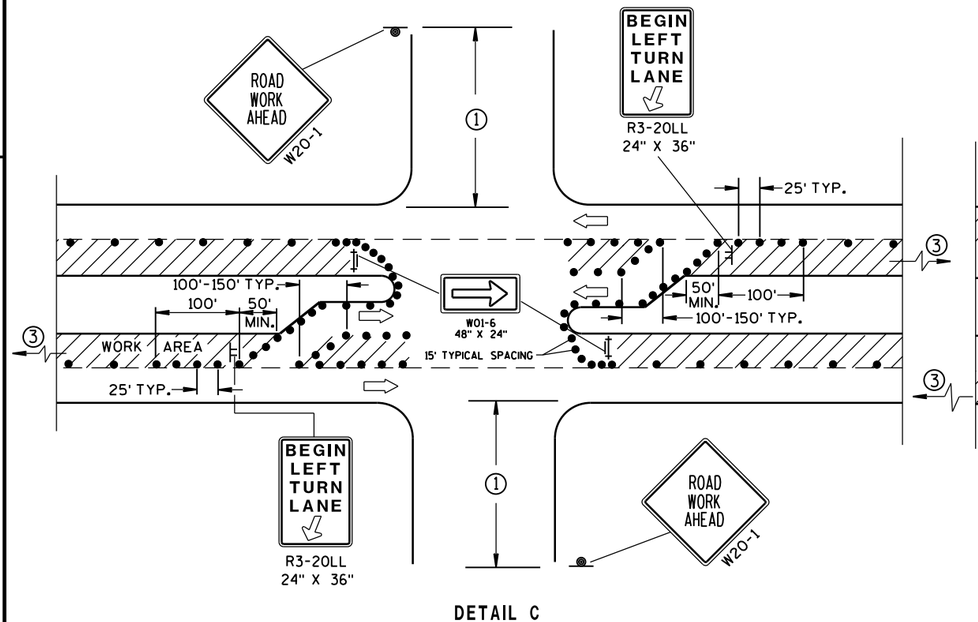
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE 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.

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

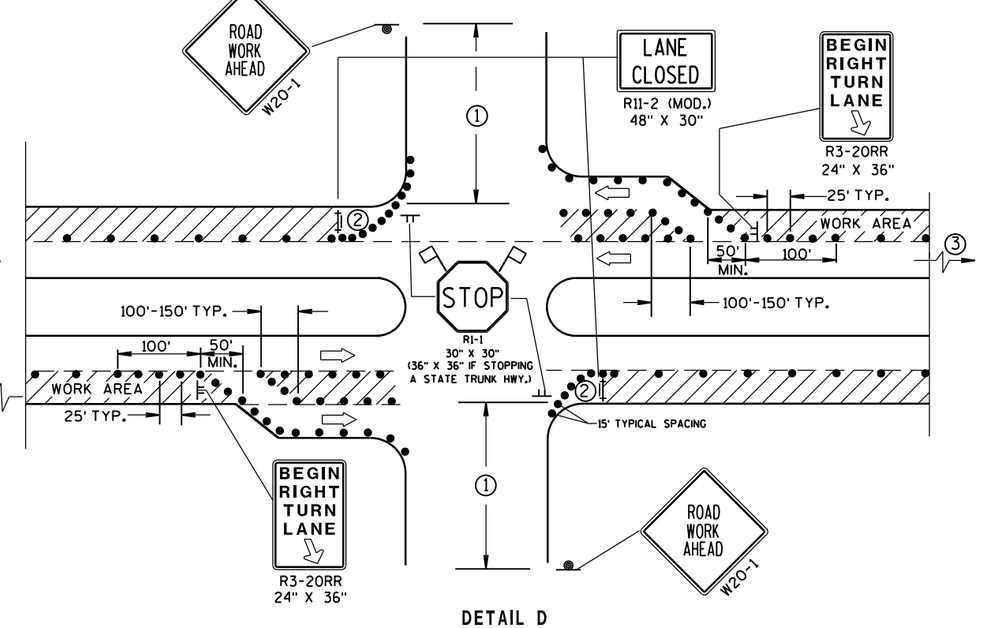
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

DESIGN

FHWA

6

S.D.D. 15 D 21-2

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.

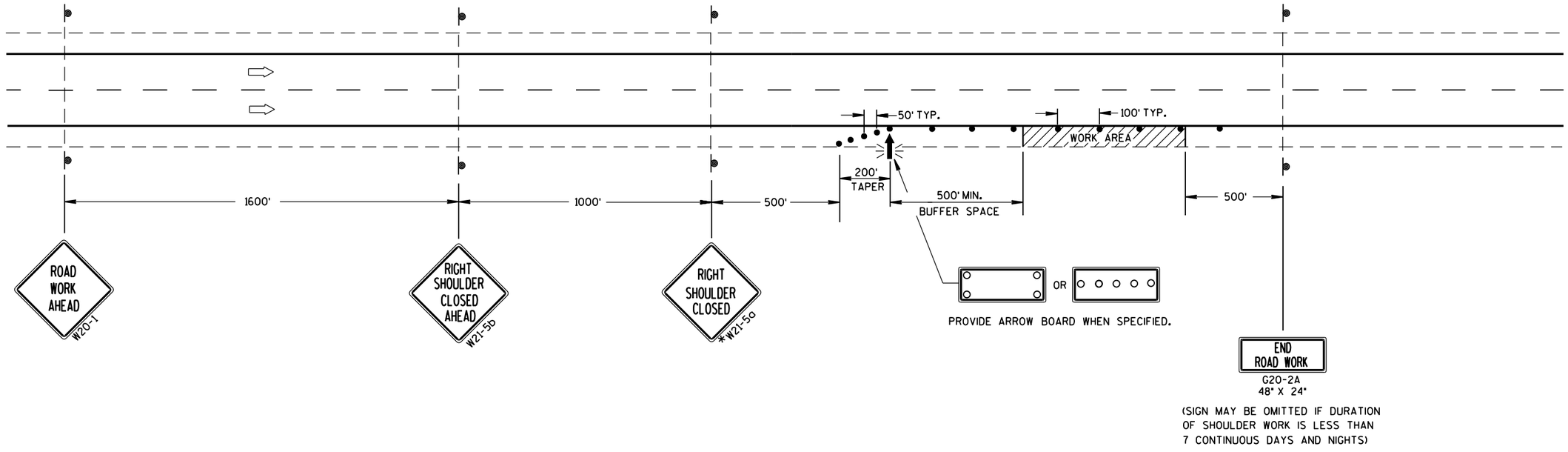
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 D 27-2

6

S.D.D. 15 D 27-2

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.

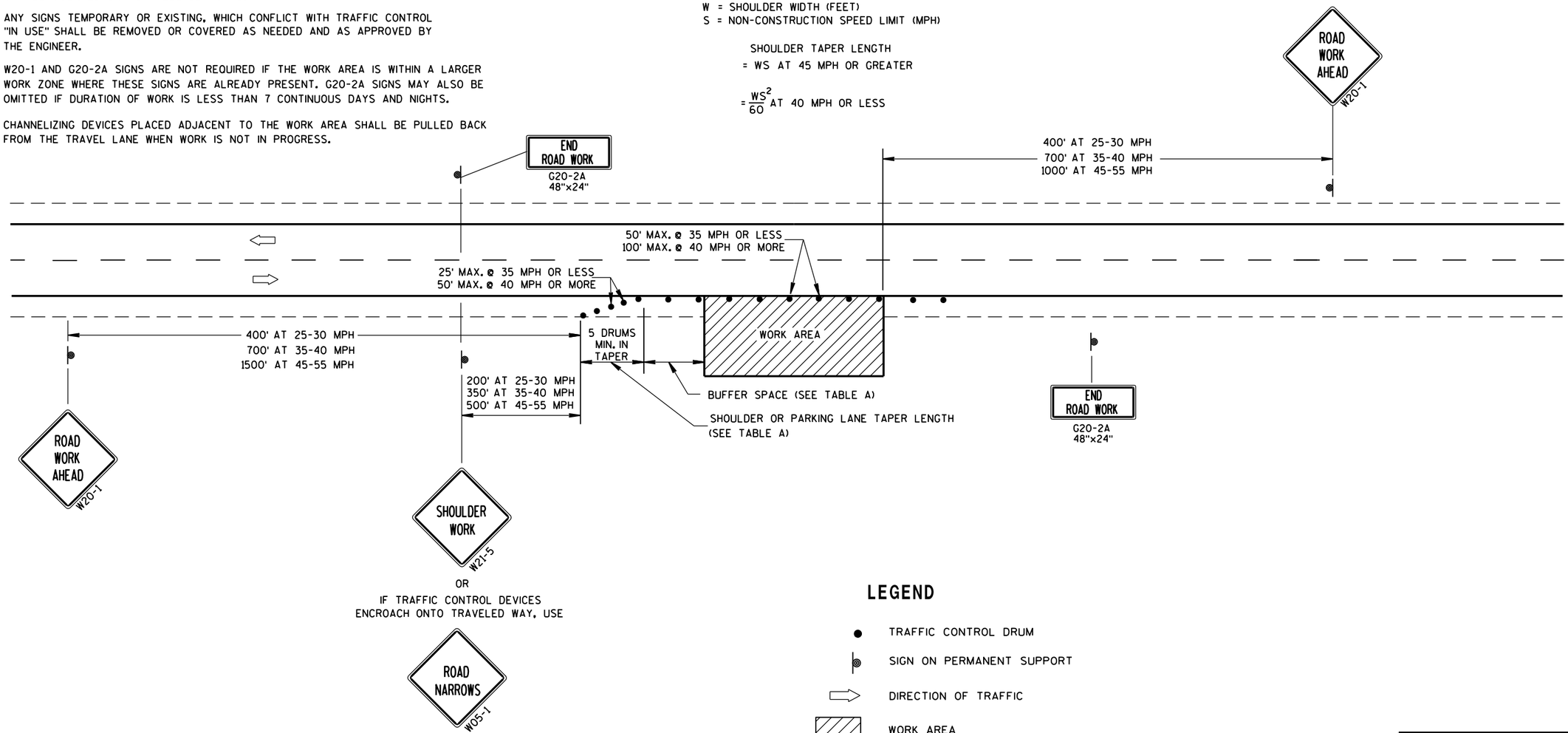
TABLE A

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

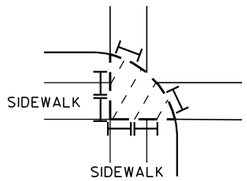
6

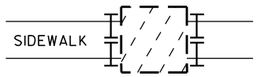
S.D.D. 15 D 28-2

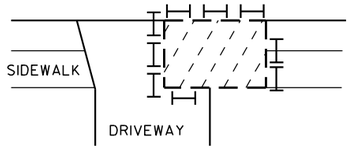
6

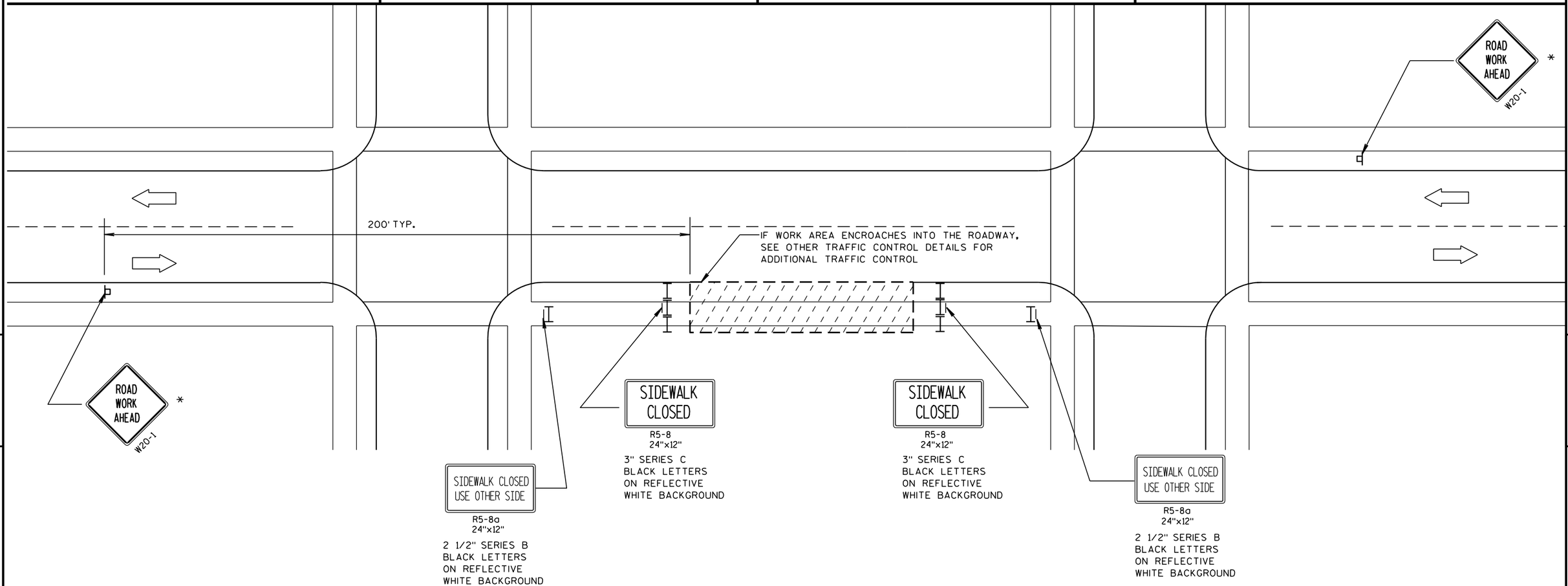
S.D.D. 15 D 28-2

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

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, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

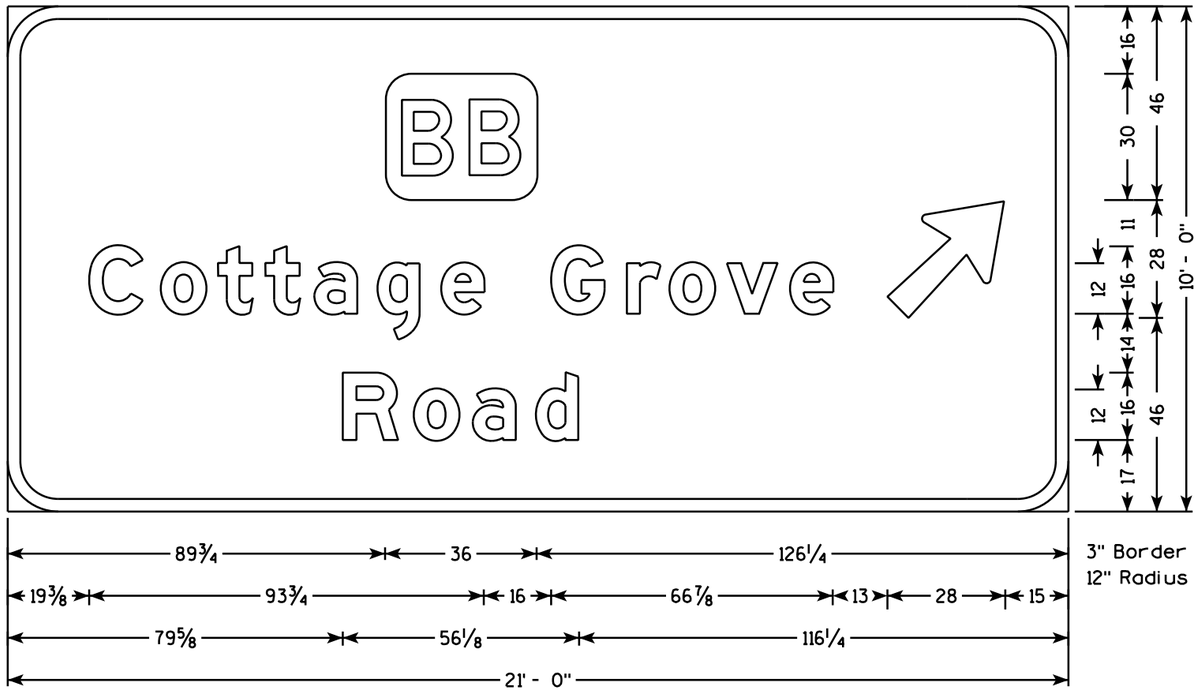
TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK[illegible]NEER
FHWA

6

S.D.D. 15 D 30-1



NOTES

1. All Signs are Type I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified

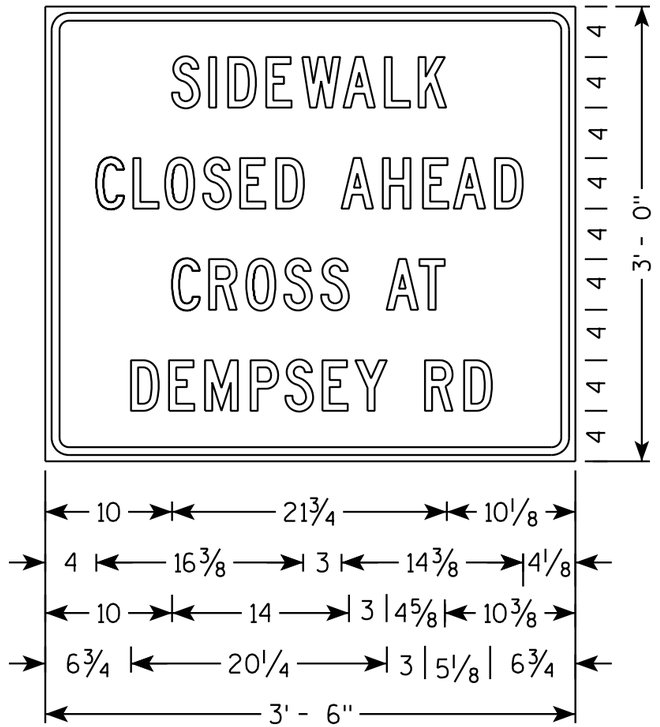
7

7

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	SPECIAL SIGNS	SHEET NO:	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

COTTAGEGROVERD.DGN 8/14/2014 8:35:27 AM ckieler

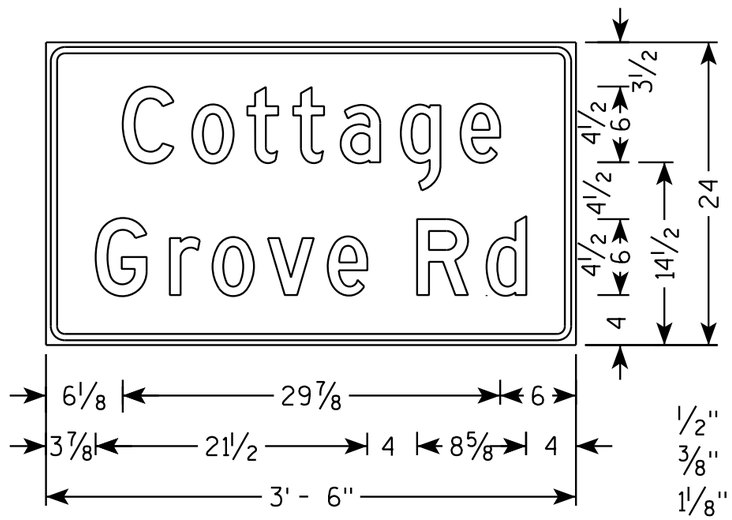


NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - WHITE
   Message - BLACK
3. Message Series - C

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - ORANGE
   Message - BLACK
3. Message Series - D



½" Border
⅜" Margin
1⅛" Radius

7

7

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SHEET NO: 428	E

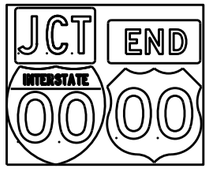
FILE NAME : P:\90s\93\00093080\CADD\Planshts\Signing and Pavement Markings\SIDEWALKCLOSEDAHEAD.DGN PLOT DATE : 12/2/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:35.9775

WISDOT/CADDS SHEET 42

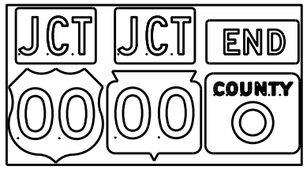
SIDEWALKCLOSEDAHEAD.DGN 12/2/2014 4:47:20 PM ckieler

TYPICAL ASSEMBLIES

J1-1

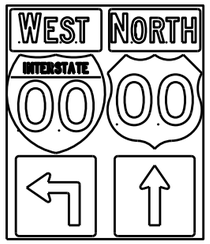


J1-2

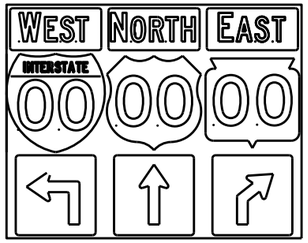


J1-3

J2-1



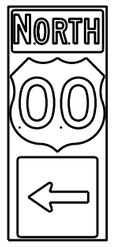
J2-2



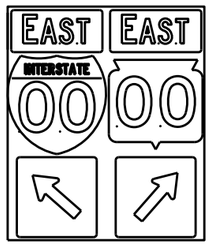
J2-3

JV

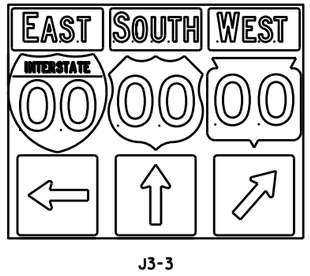
(Typical Vertical J-Assembly
See Note 10 and 11)



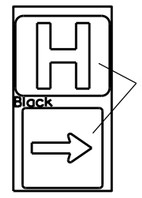
J3-1



J3-2



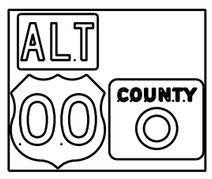
J3-3



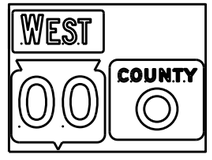
Blue Background

JH-1

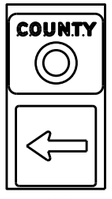
J4-1



J4-2



J4-2



J13-1

J12-1

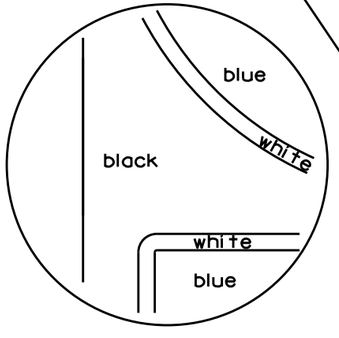
J32-1

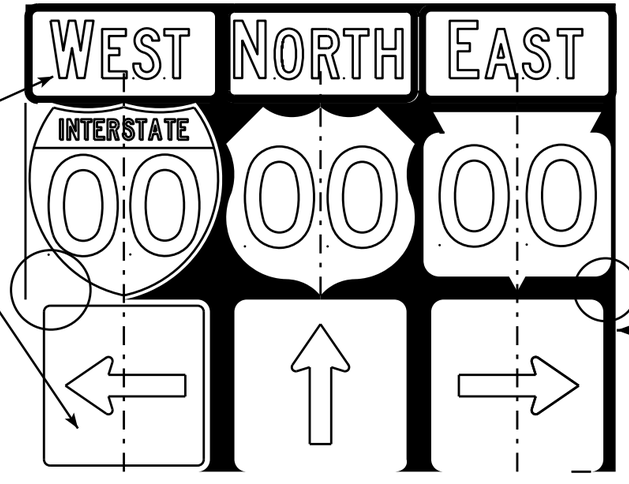
J33-1

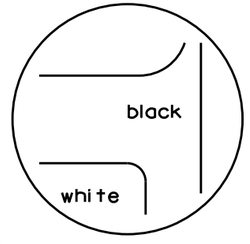
J23-1

J22-1

blue background
with interstate







black background

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

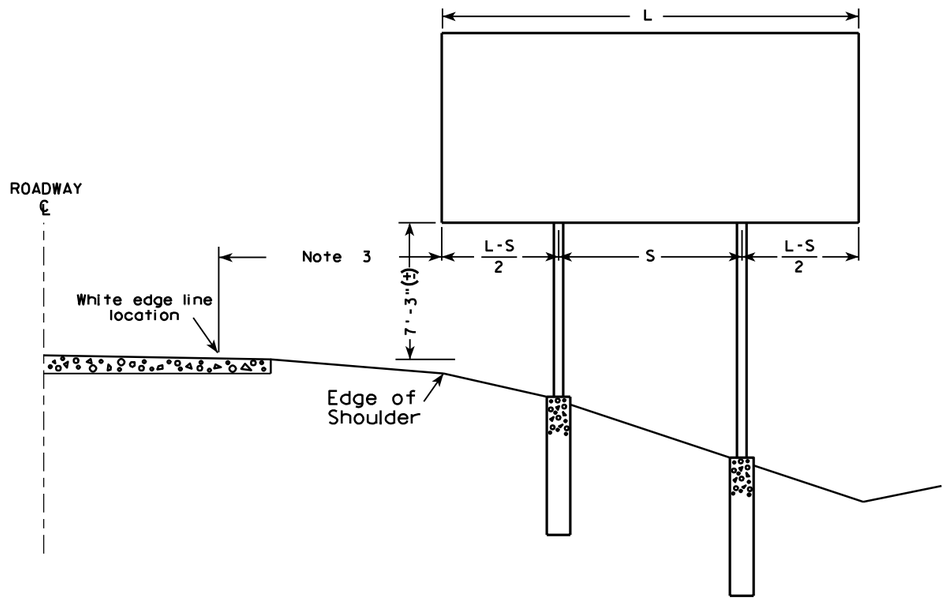
APPROVED Matthew R Rauch
for State Traffic Engineer

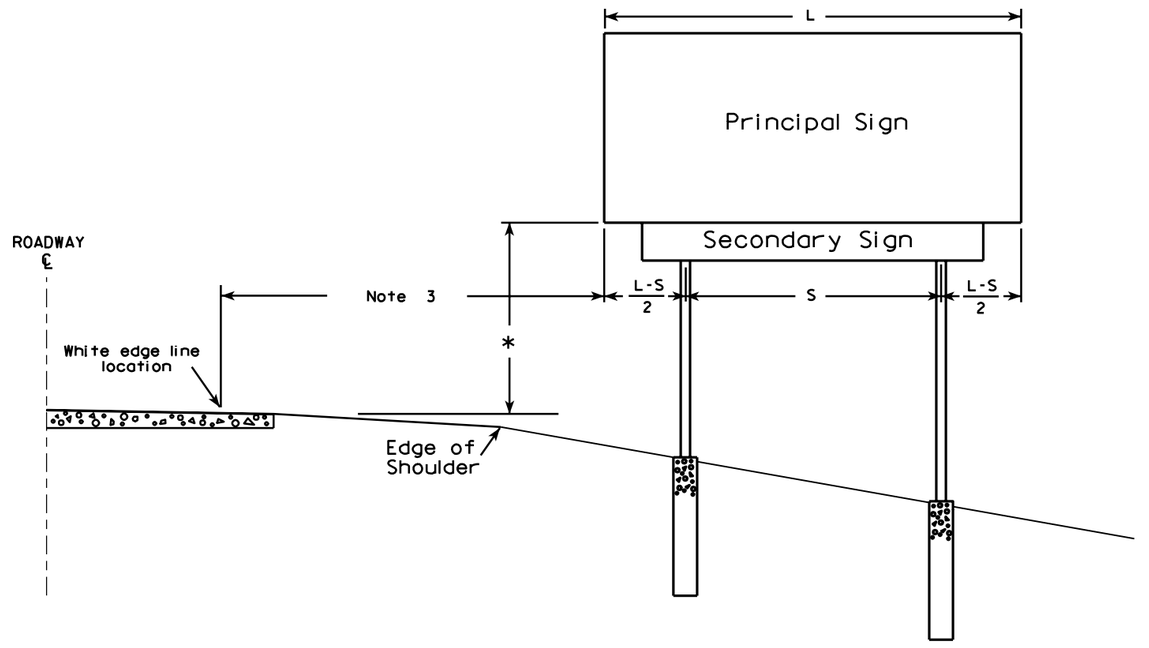
DATE 2/06/14 PL... A2-1S.8

PROJECT NO: | SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

WISDOT/CADDS SHEET 42





GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

7

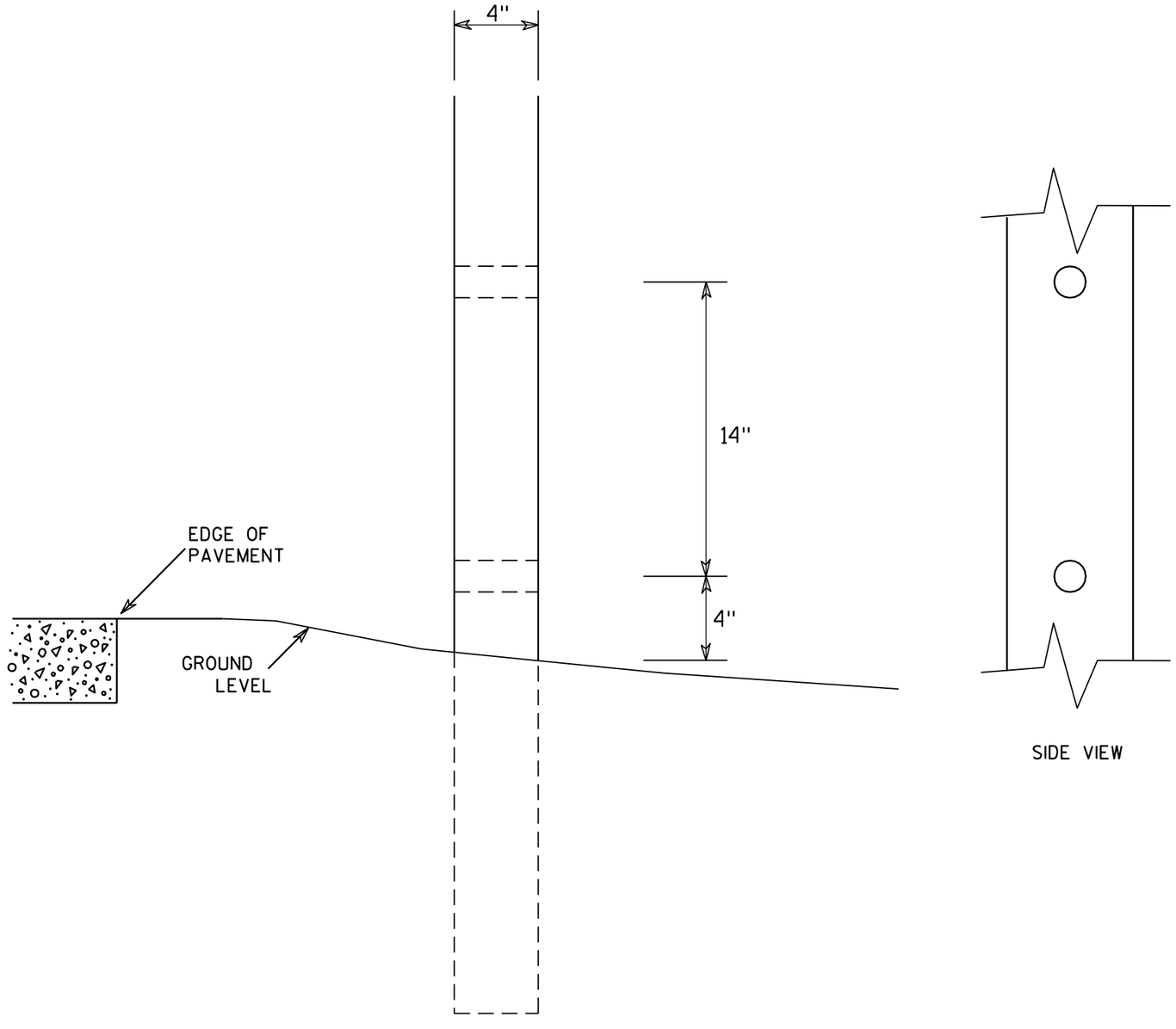
TYPICAL INSTALLATION OF TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/02/08 PLATE NO. A4-1.9

PROJECT NO:				SHEET NO: 430	E



SIDE VIEW

GENERAL NOTES

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

7

7

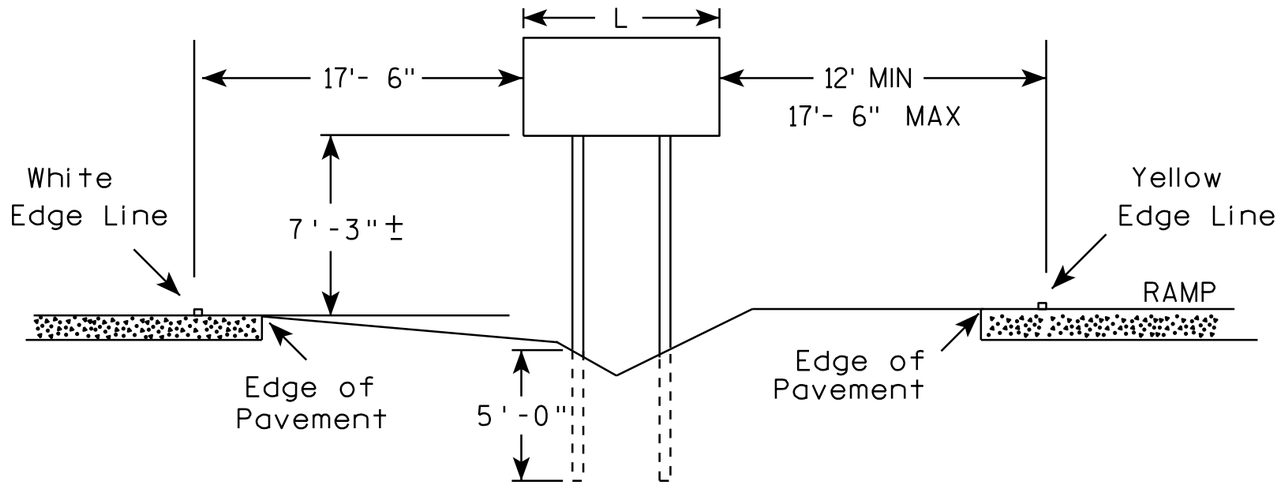
4 X 6 WOOD POST MODIFICATIONS

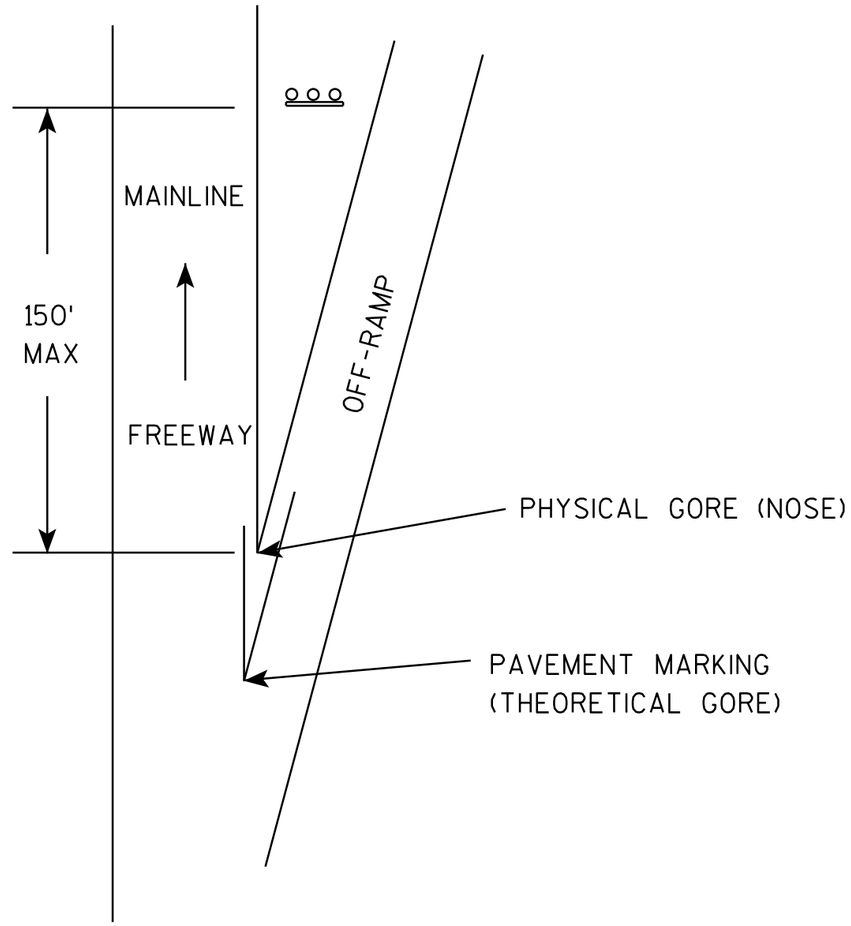
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 431	E





GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 10 feet, use 3 posts as per A4-4.
6. The (∓) tolerance for the mounting height is 3 inches.

7

7

TYPICAL INSTALLATION
OF TYPE II SIGNS ON
WOOD POSTS IN GORE

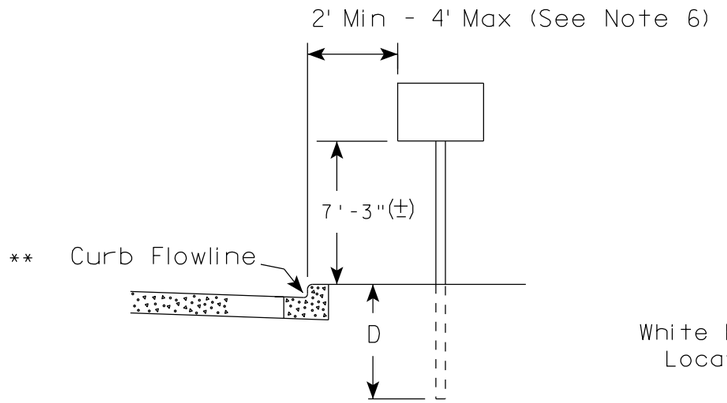
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

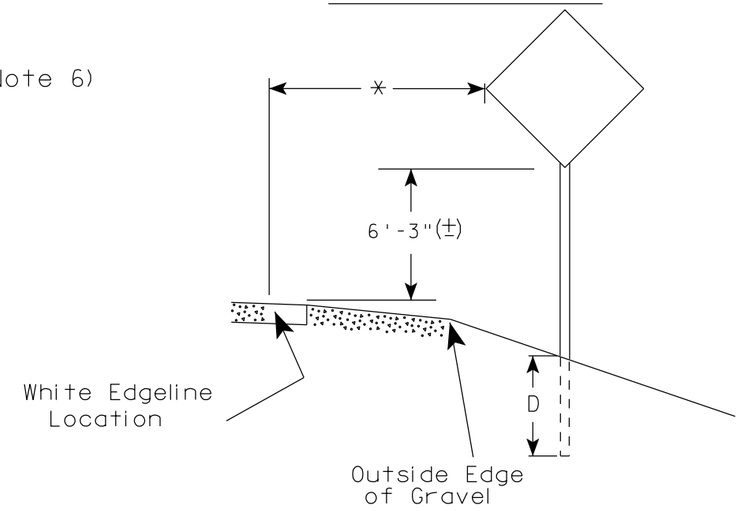
DATE 2/06/14 PLA 432 A4-2.3

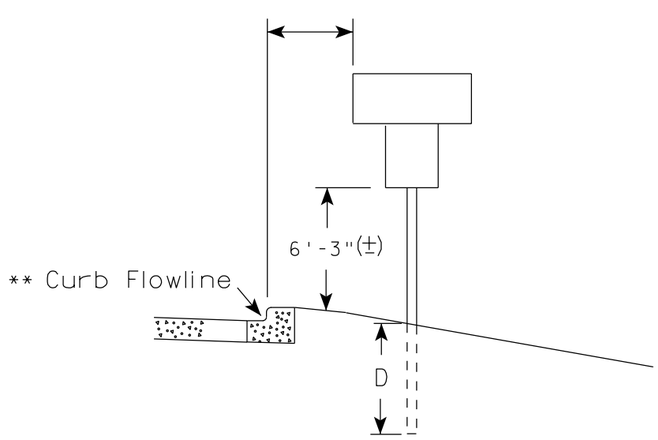
PROJECT NO: | SHEET NO: E

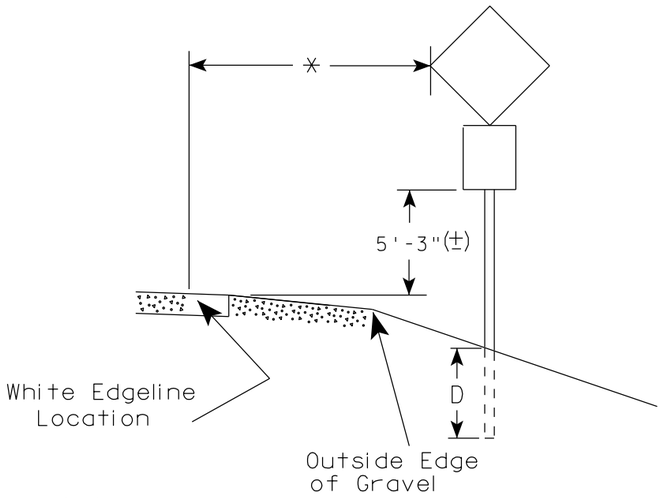
URBAN AREA



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'

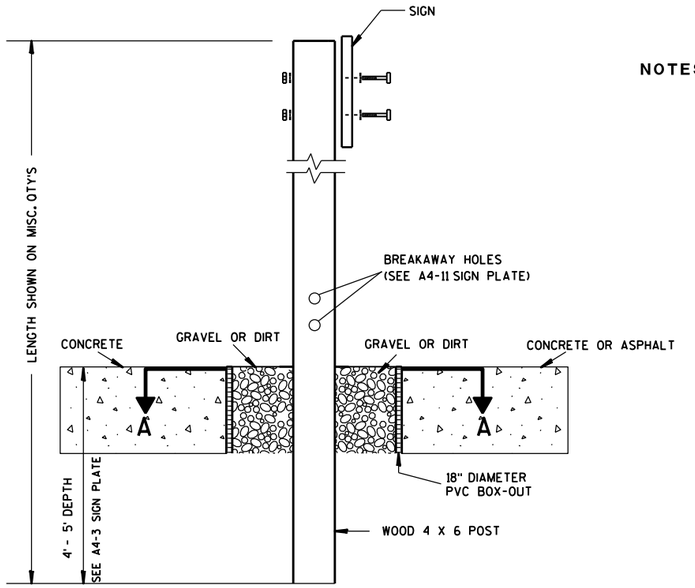
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

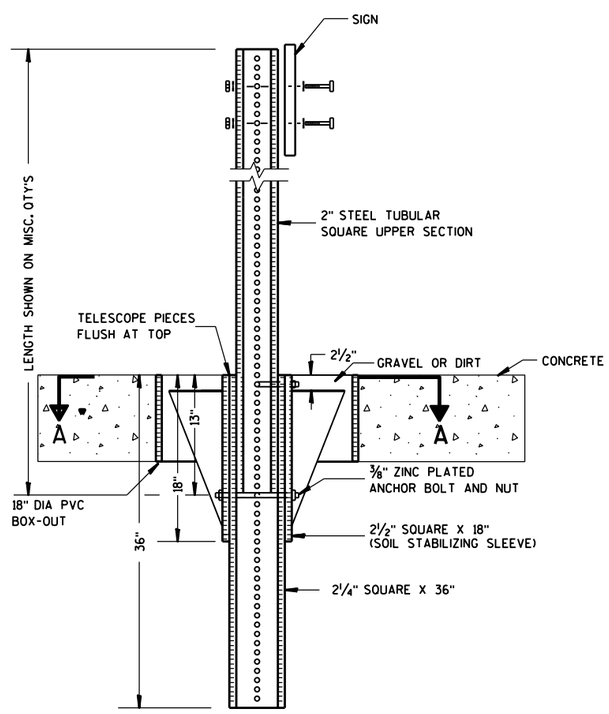
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

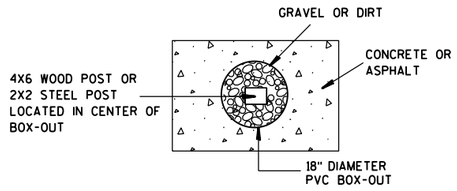
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

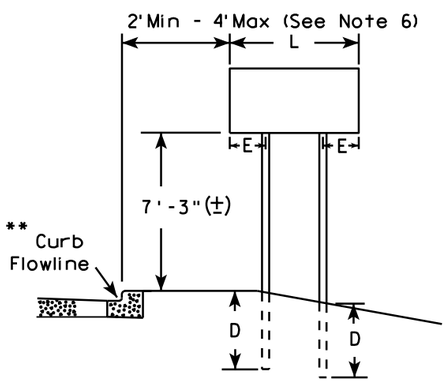
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

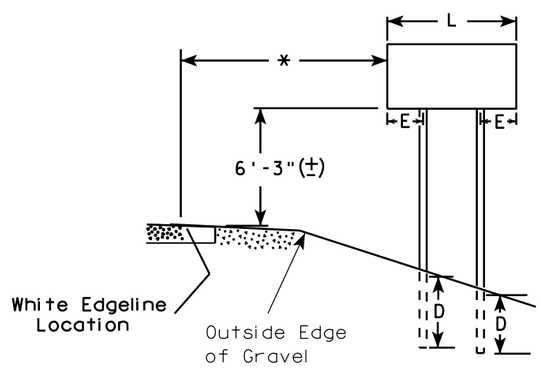
DATE 1/27/14 PLATE NO. A4-3B.1

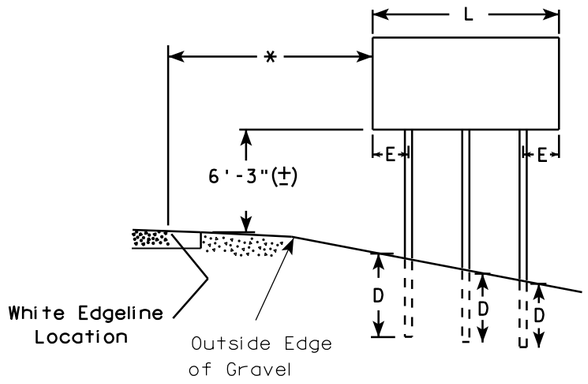
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

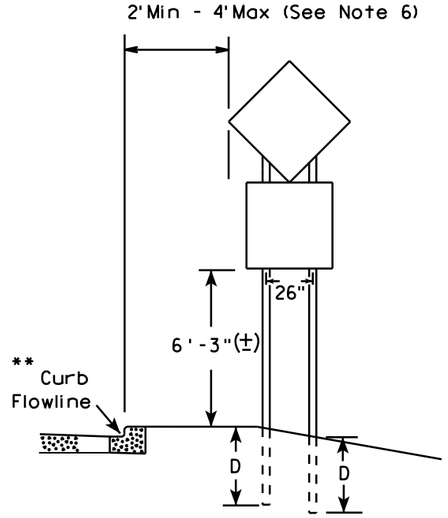
URBAN AREA



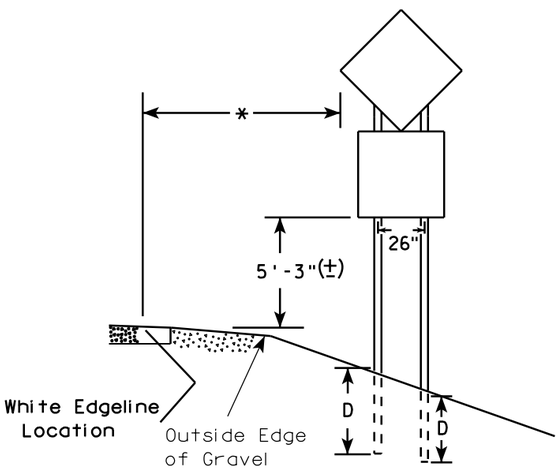
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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 less than 20 S.F. 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

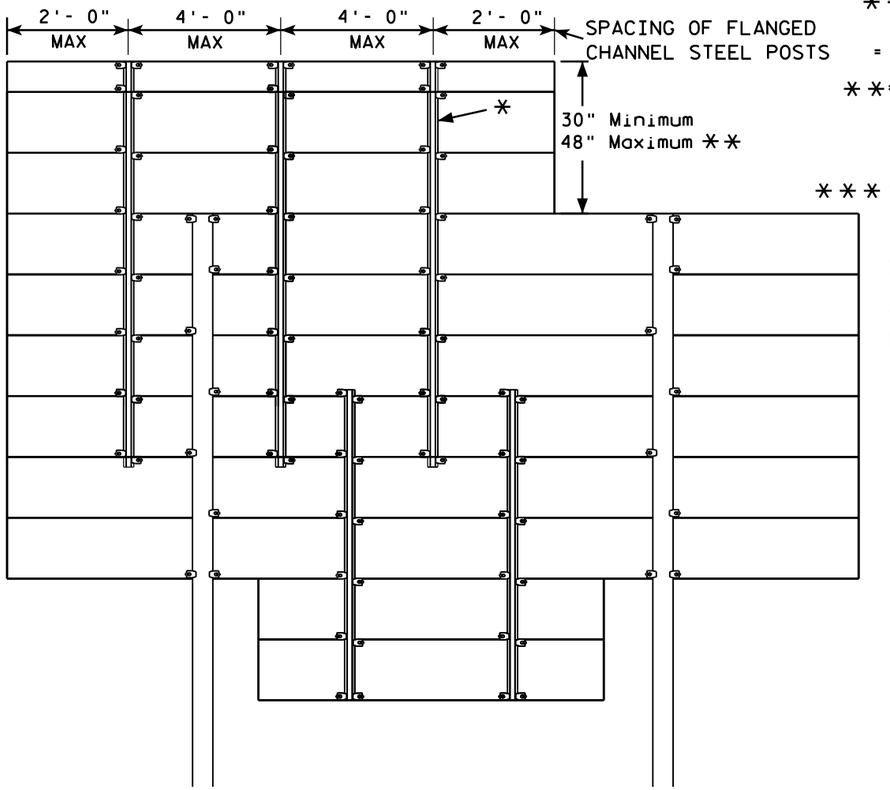
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/29/14 PLATE NO. A4-4 13
435

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 30-APR-2014 13:10 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 107.021305:1.000000

GROUND MOUNTED SIGN

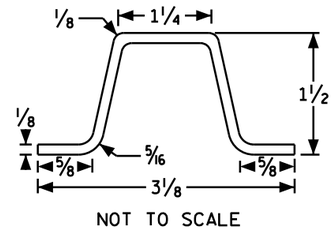


*=2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

**=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

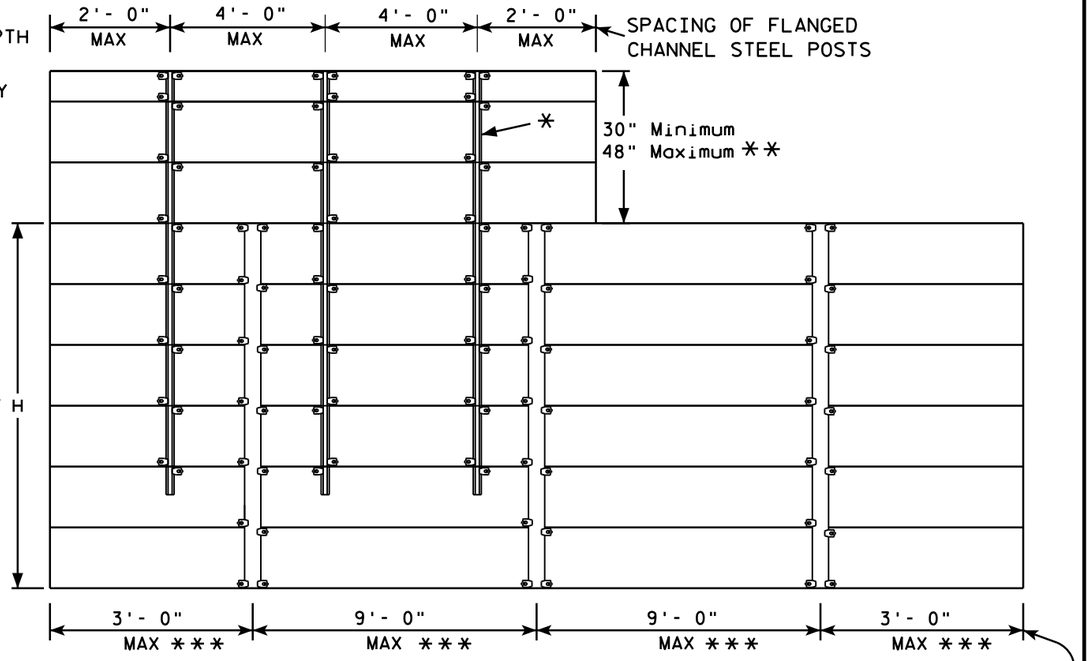
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



NOT TO SCALE

SIGN BRIDGE MOUNTED SIGN



SPACING OF ALUMINUM SIGN SUPPORTS
5" X 3.5" X 3.7 LBS./ft.

GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

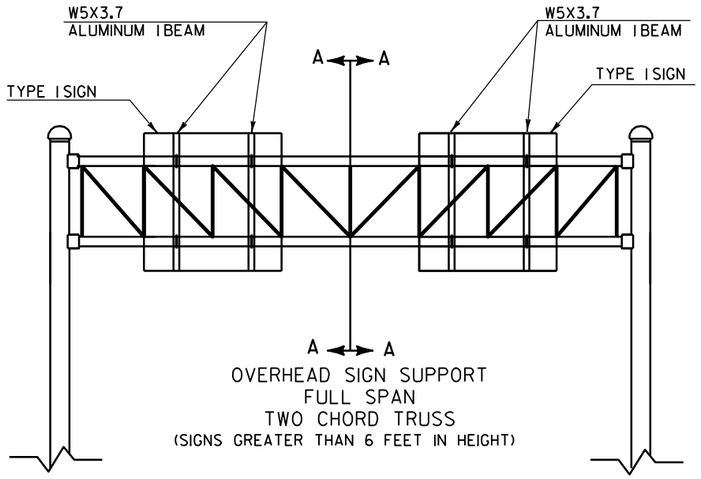
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

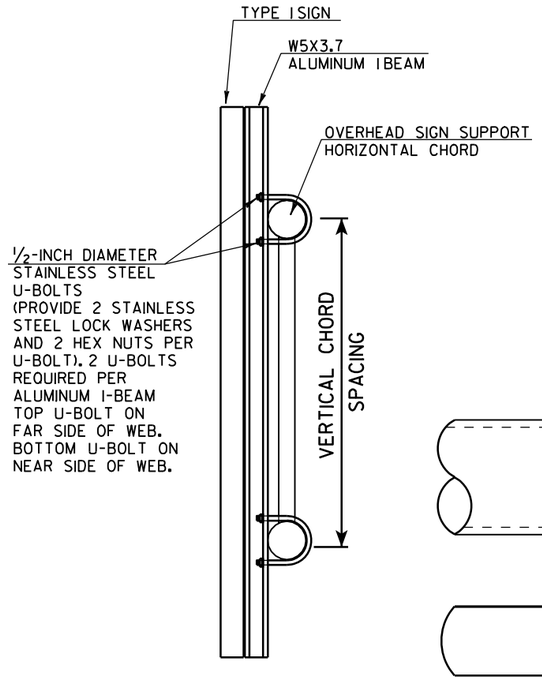
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT 436 A4-6.12

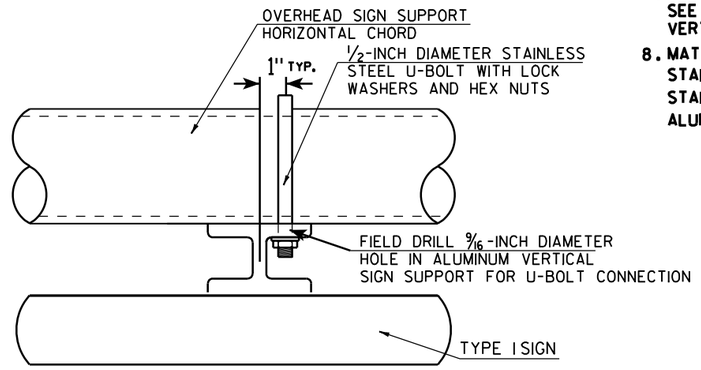
PROJECT NO: | SHEET NO: E



OVERHEAD SIGN SUPPORT
FULL SPAN
TWO CHORD TRUSS
(SIGNS GREATER THAN 6 FEET IN HEIGHT)



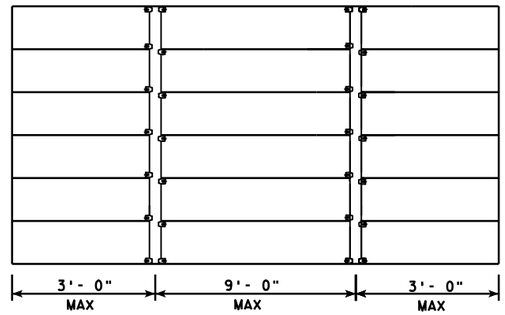
CUT SECTION A-A



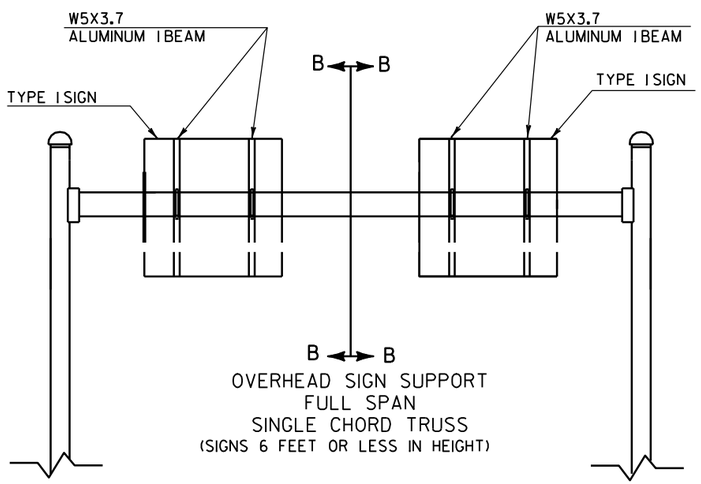
TYPICAL SIGN CONNECTION FOR
TWO CHORD TRUSS
PLAN VIEW

GENERAL NOTES

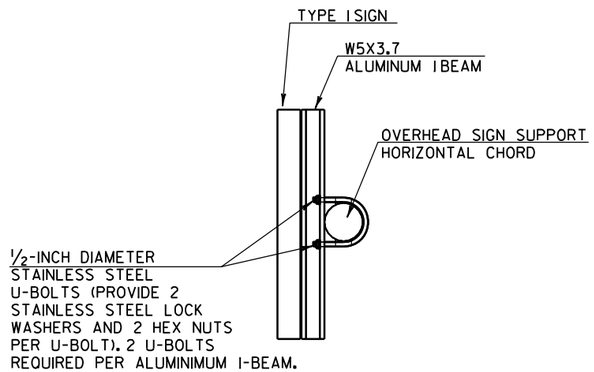
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
   STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
   STAINLESS STEEL HEX NUTS ASTM A276.
   ALUMINUM I-BEAMS ARE 6061-T6.



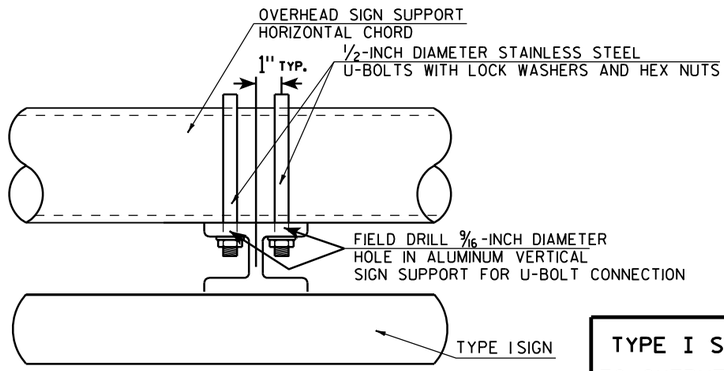
SPACING OF W5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT



OVERHEAD SIGN SUPPORT
FULL SPAN
SINGLE CHORD TRUSS
(SIGNS 6 FEET OR LESS IN HEIGHT)



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR
SINGLE CHORD TRUSS
PLAN VIEW

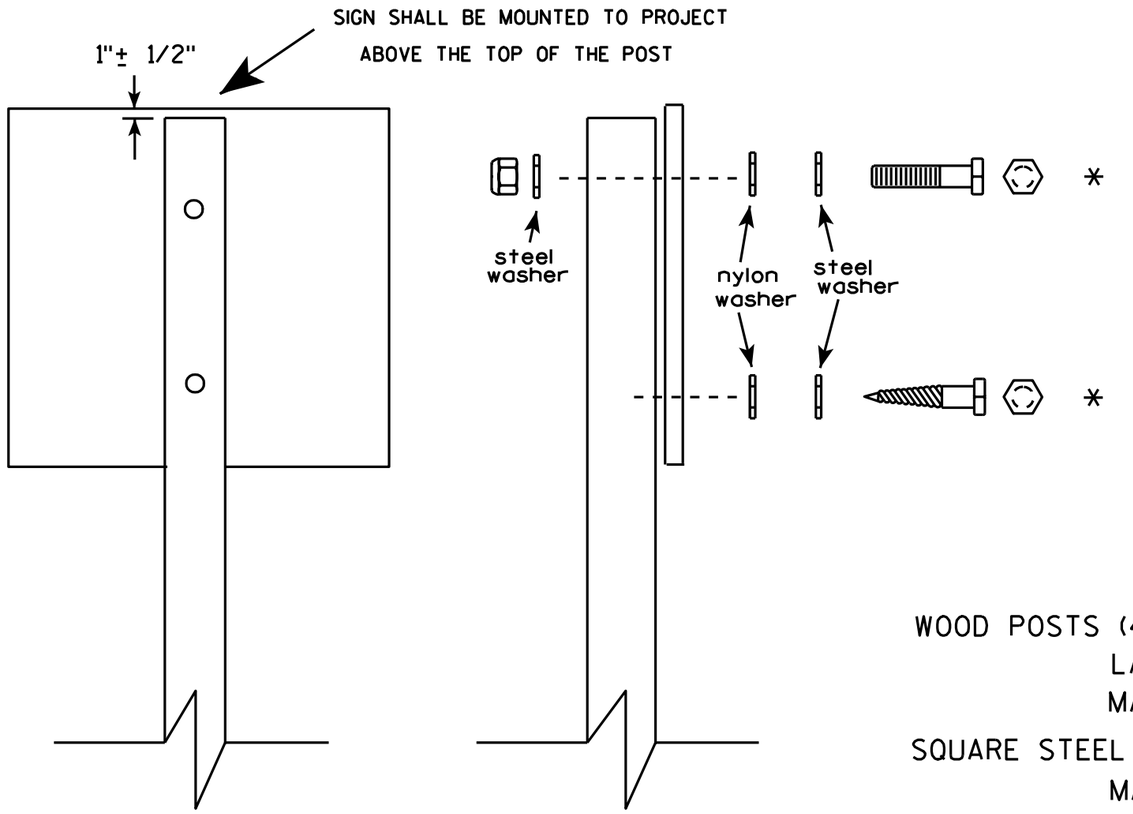
TYPE I SIGN CONNECTION TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/12/12 PLATE NO. A4-7.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 437	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

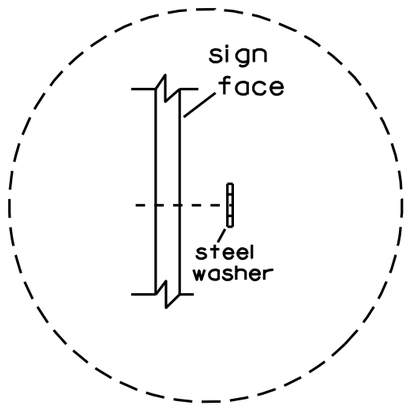
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

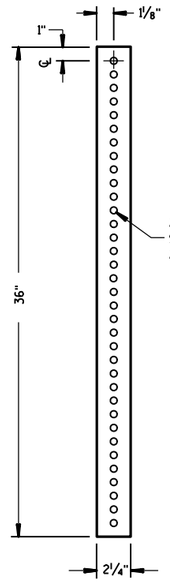
7

PROJECT NO:

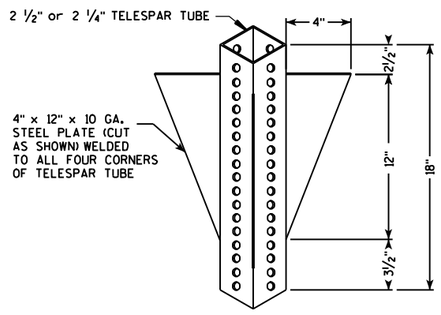
SHEET NO: 438 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

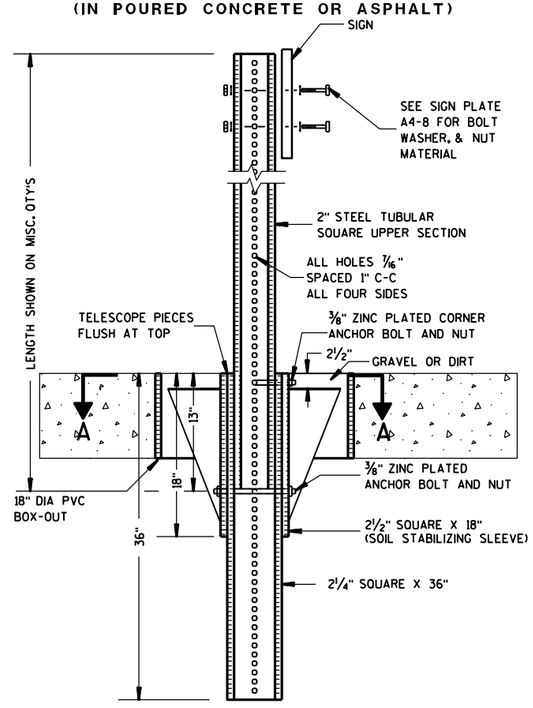
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



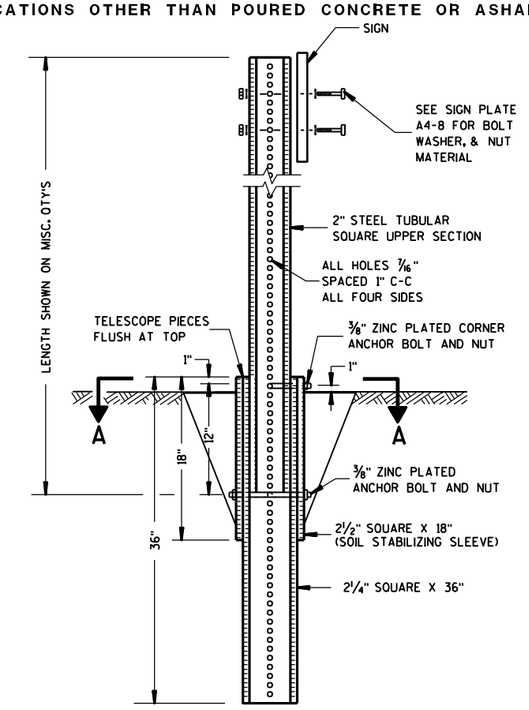
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

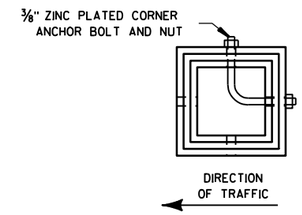


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL SIGN POST A4-9

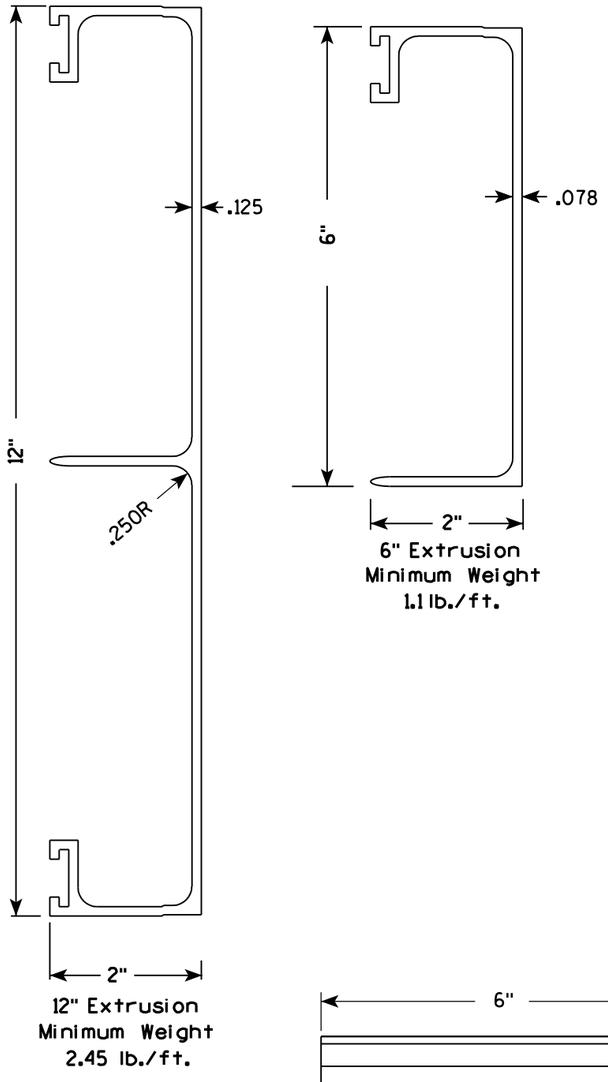
WISCONSIN DEPT OF TRANSPORTATION

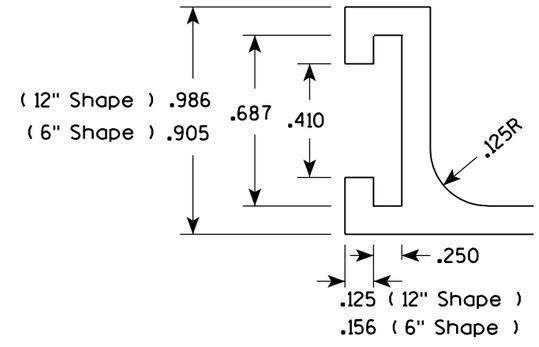
APPROVED Matthew R Rauch
for State Traffic Engineer

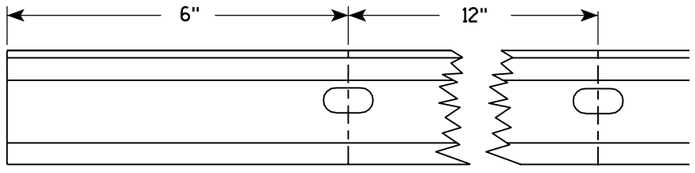
DATE 5/30/12 PLATE NO. A4-9.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 439	E

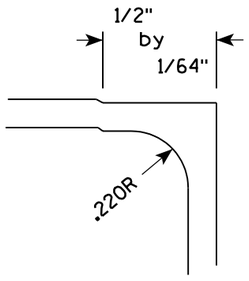
Extruded Shape







Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

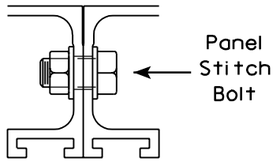


Hardware

STITCH BOLT, WASHER & NUT

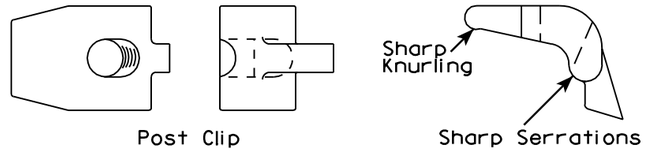
The hardware includes:

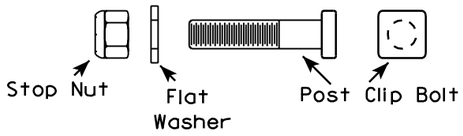
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

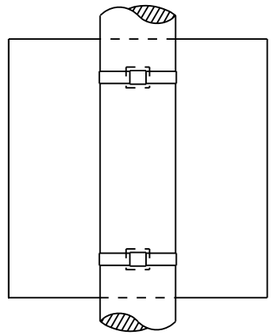
DATE 11/18/99 PLATE NO. A5-2.9

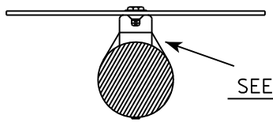
PROJECT NO:

SHEET NO: 440 E

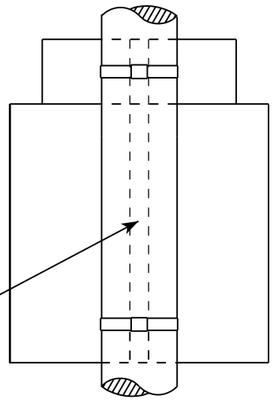
BANDING

SINGLE SIGN

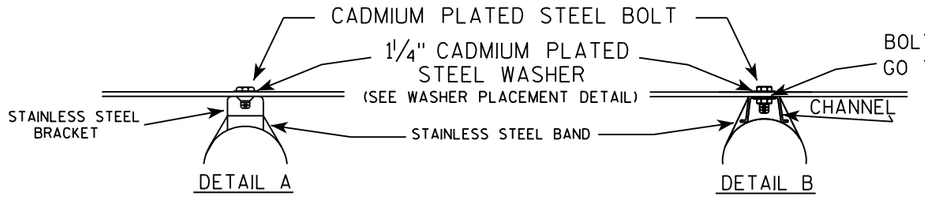




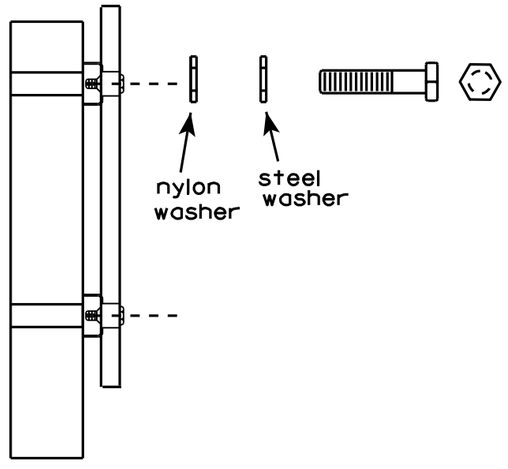
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL INSTALLATION SHEET



WASHER PLACEMENT



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

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.

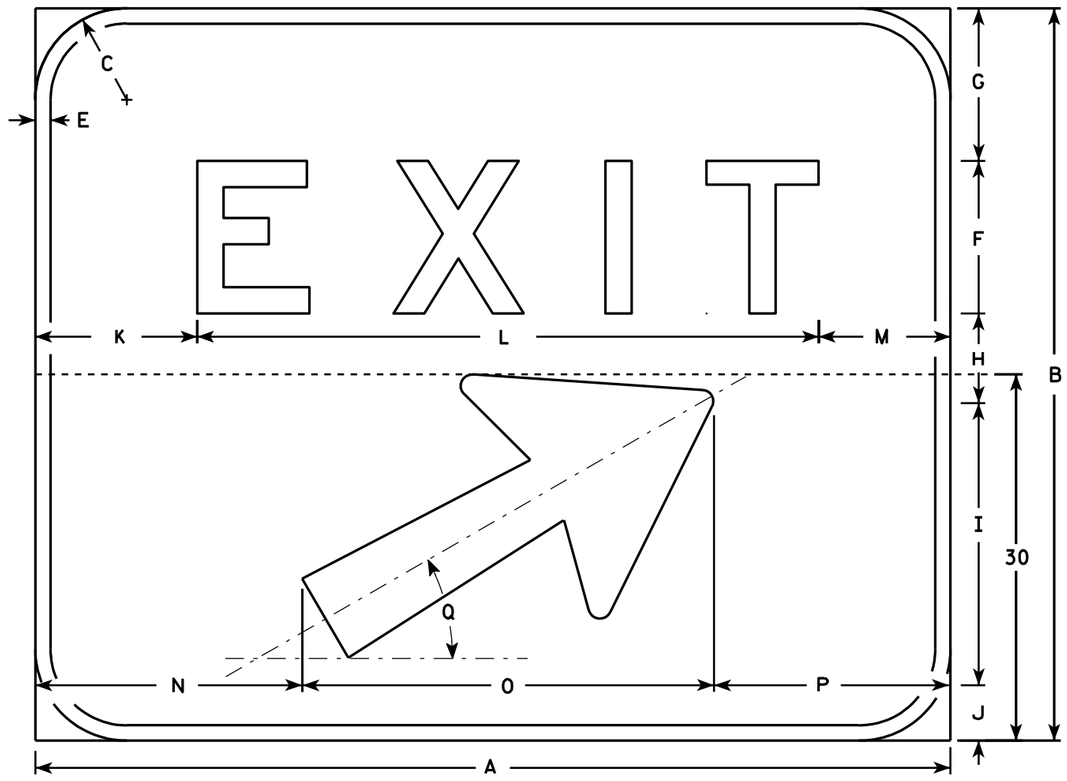
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 441	E



E5-1

NOTES

1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White (Type H reflective)
3. Message Series - E
4. Corners may be square or rounded but borders shall be rounded as shown.
5. Base material for this sign shall be plywood and shall be split into two seperate pieces for the 72 x 60 size as shown on the detail by the dashed line (----------).
6. Arrow is Type "A" from sign plate A1-1.
7. As per the Standard Spec's, this sign shall not have a vertical joint.

Metric equivalent for this sign is:

SIZE	
1	
2	
3	
4	1500 mm X 1200 mm
5	1800 mm X 1500 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2																												
3																												
4	60	48	6		1	10	10	5 7/8	18 1/2	3 5/8	10 5/8	40 3/4	8 5/8	17 1/2	27	15 1/2	30°										20.0	1.80
5	72	60	6		1	12	12	10	18 1/2	7 1/2	13 1/4	48 1/2	10 1/4	23 1/2	27	21 1/2	30°										30.0	2.70

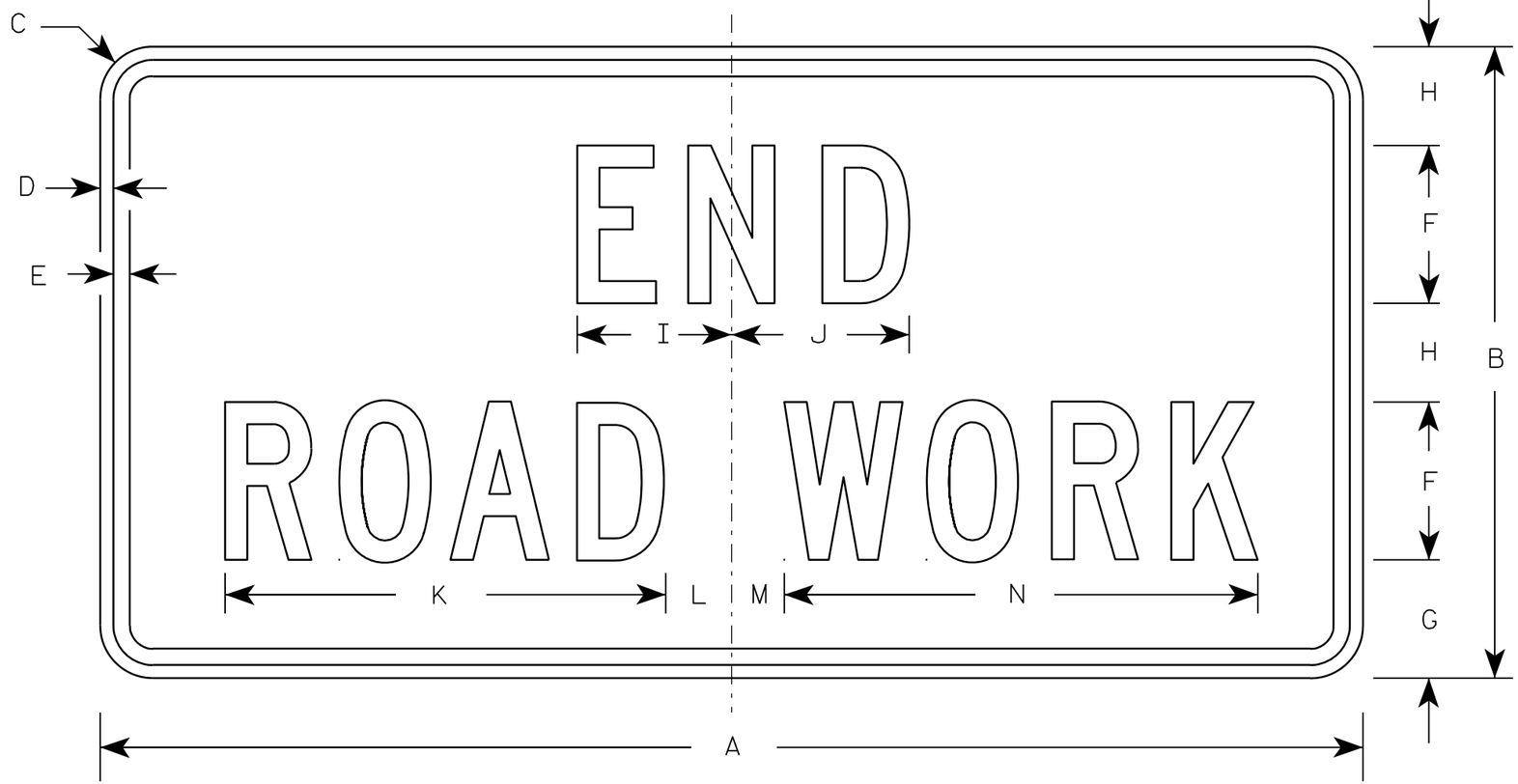
STANDARD SIGN
E5 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 6/22/00 PLATE NO. E5-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 442	E



G20-2A

NOTES

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

Metric equivalent for this sign is:

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

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

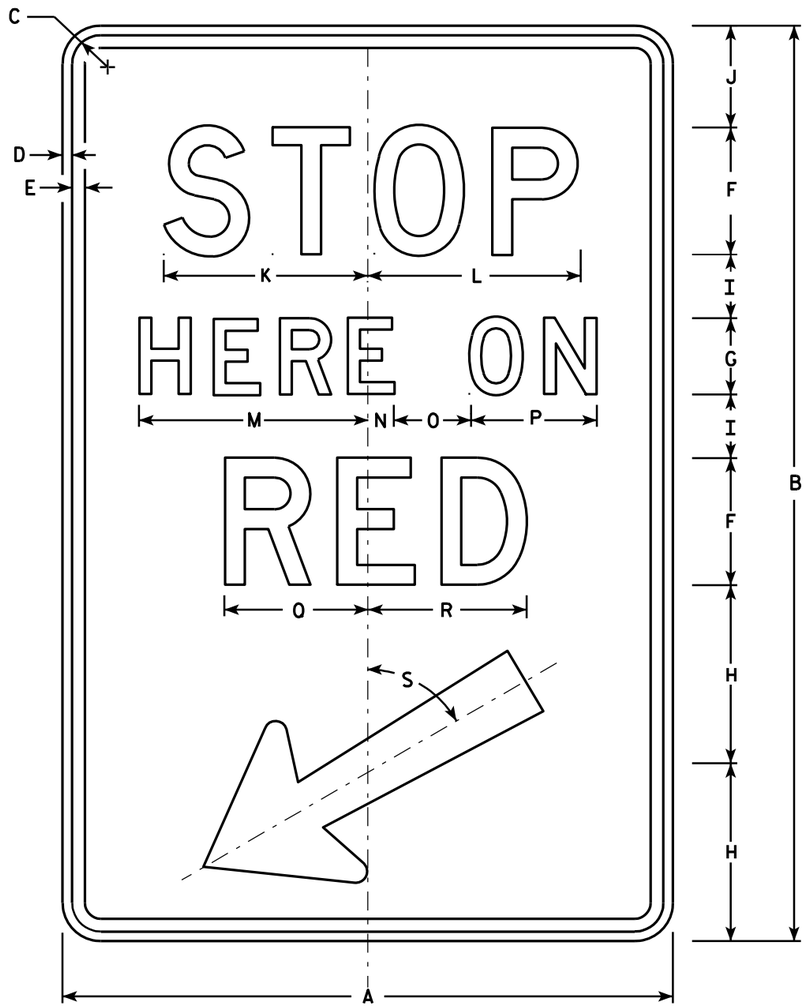
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

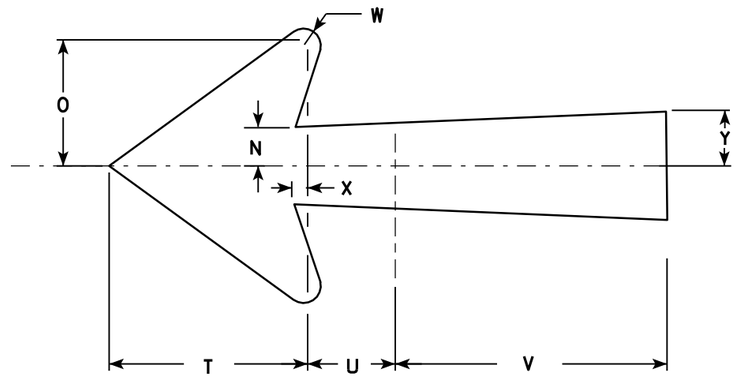
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 443	E



R10-6

NOTES

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



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
2M	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
3																											
4																											
5																											

STANDARD SIGN
R10-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-6.6

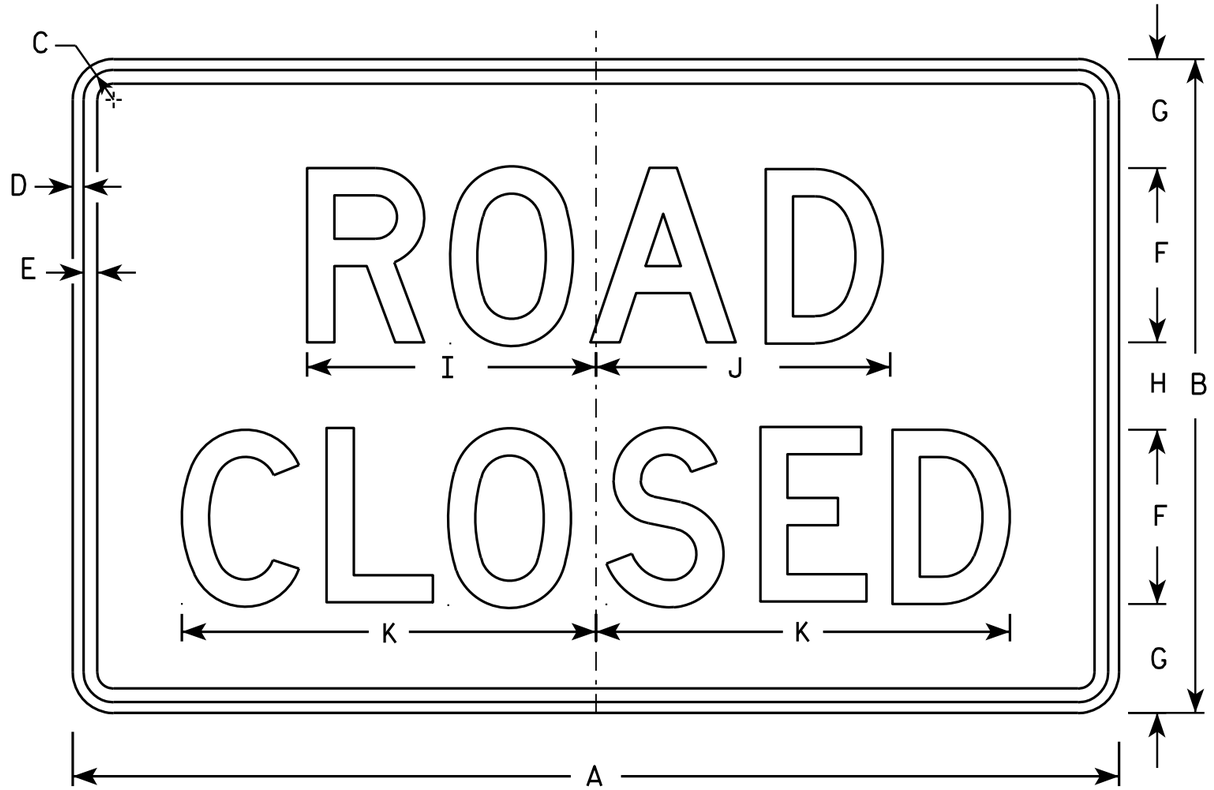
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 444	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R106.DGN PLOT DATE : 05-APR-2011 09:50 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.959043:1.000000

WISDOT/CADDS SHEET 42

7

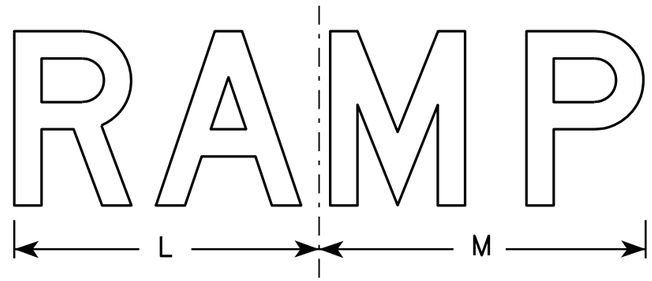
7



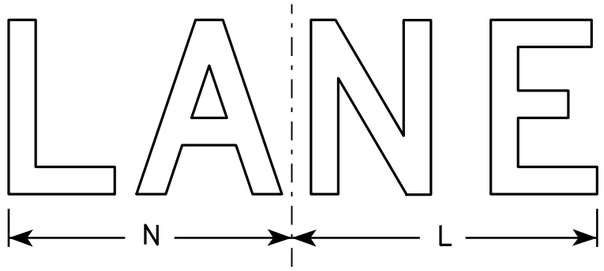
R11-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
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. Modify the message as required.



R11-2R



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

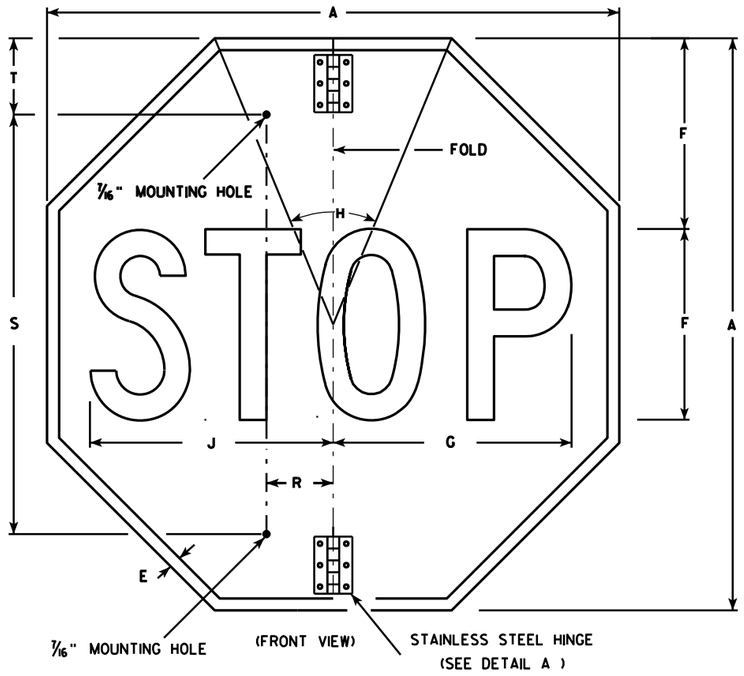
STANDARD SIGN
R11-2

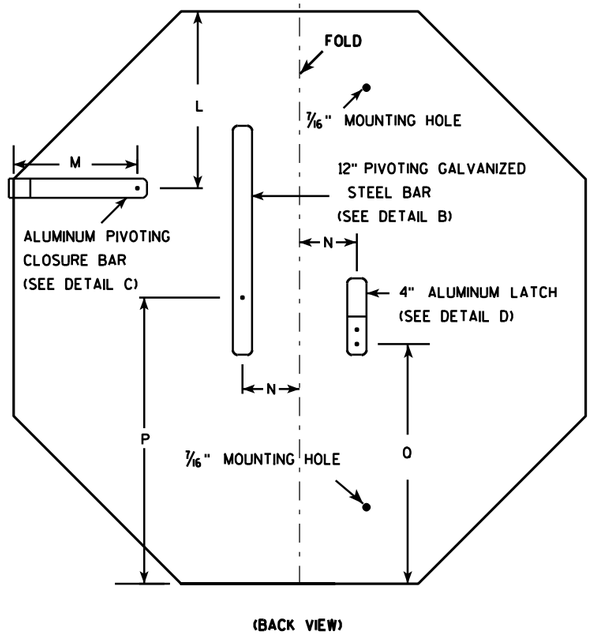
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

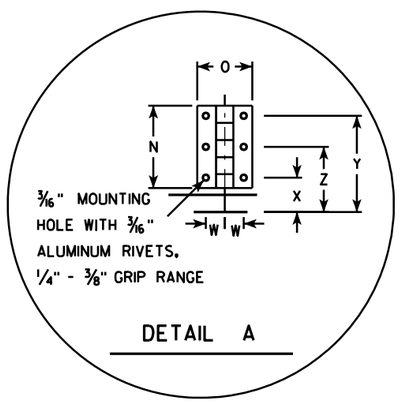
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 445	E



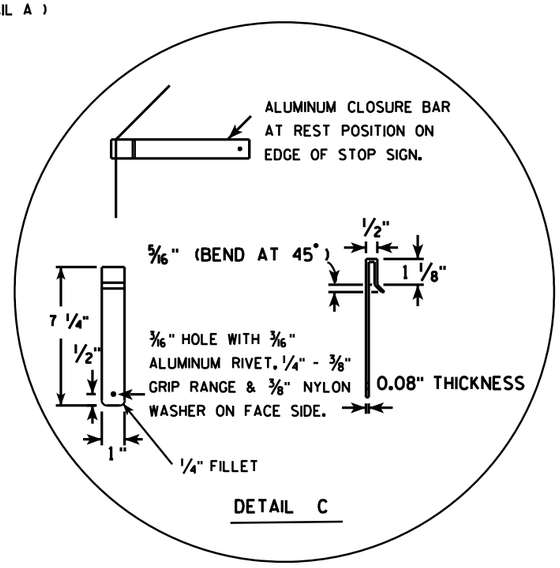


NOTES

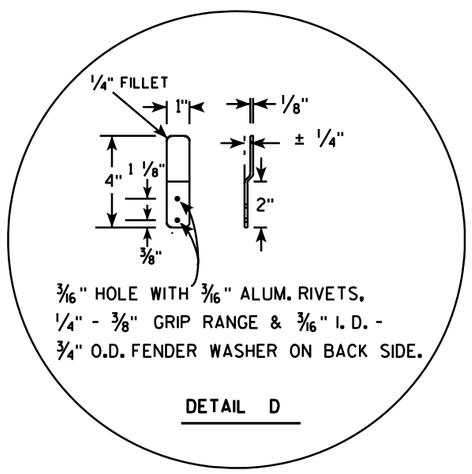
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



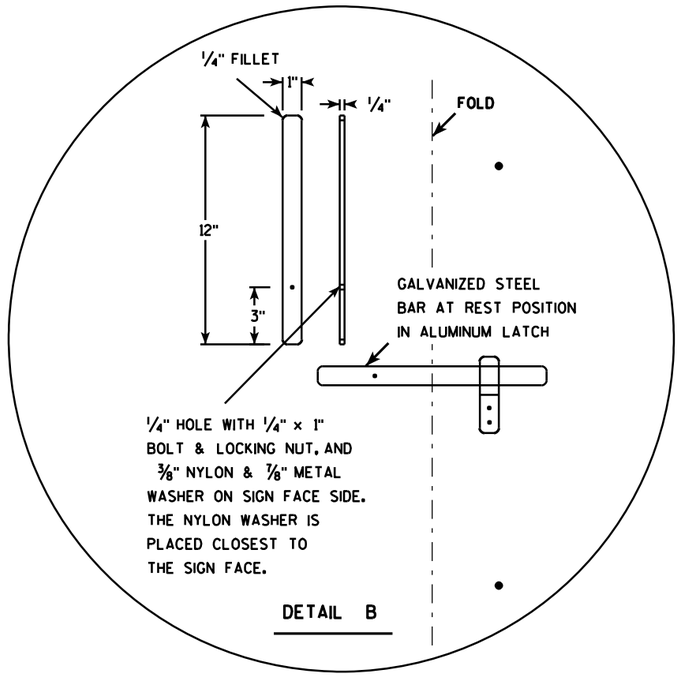
DETAIL A



DETAIL C



DETAIL D



DETAIL B

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

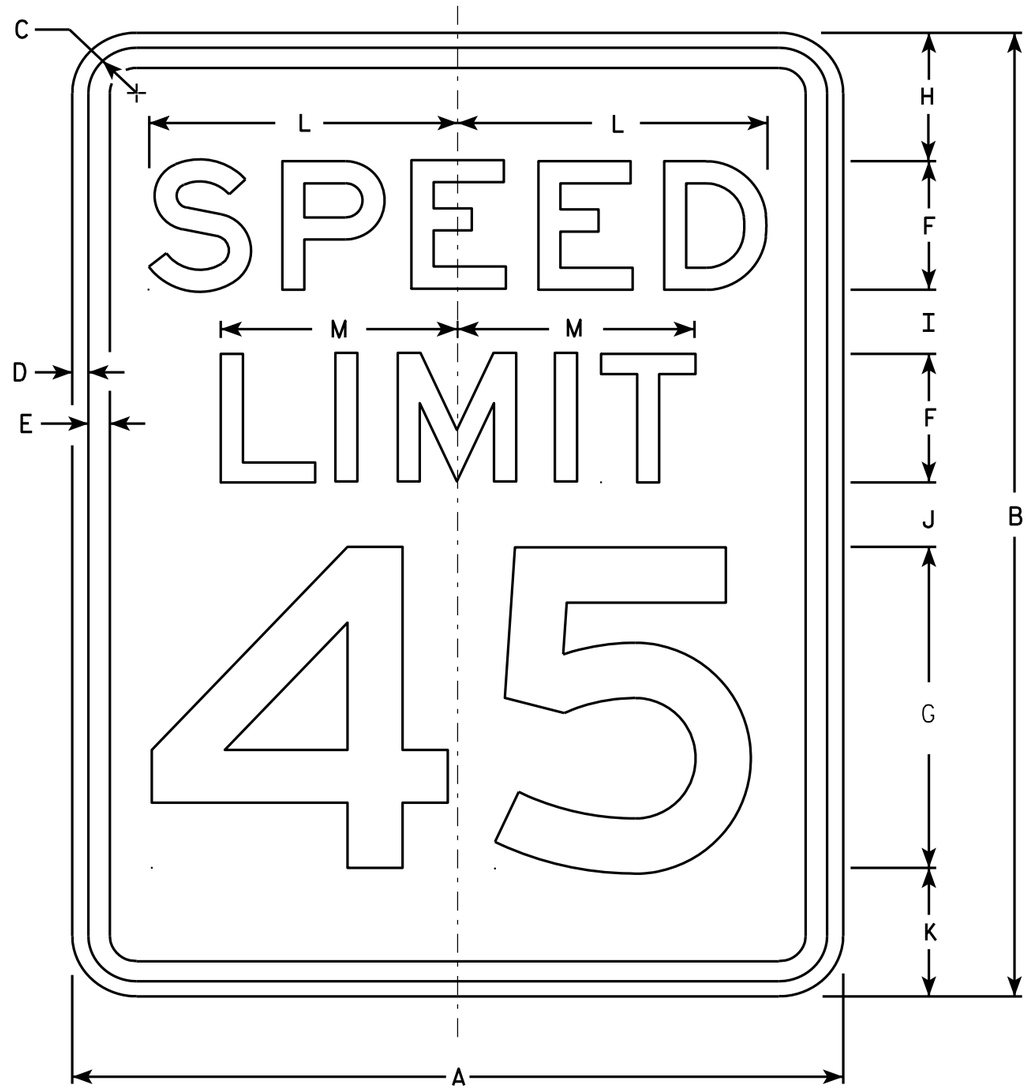
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 446	E



R2-1

NOTES

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

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

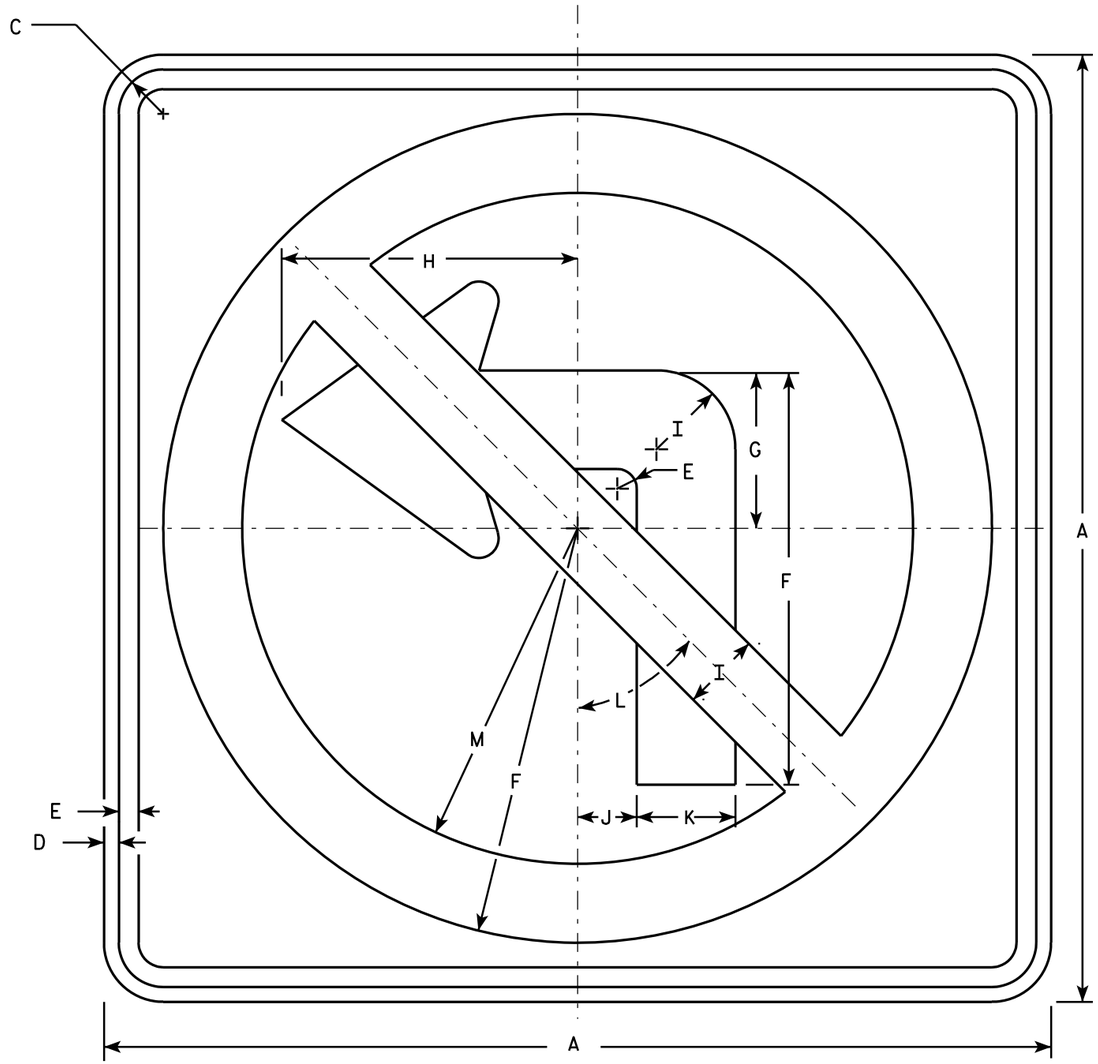
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

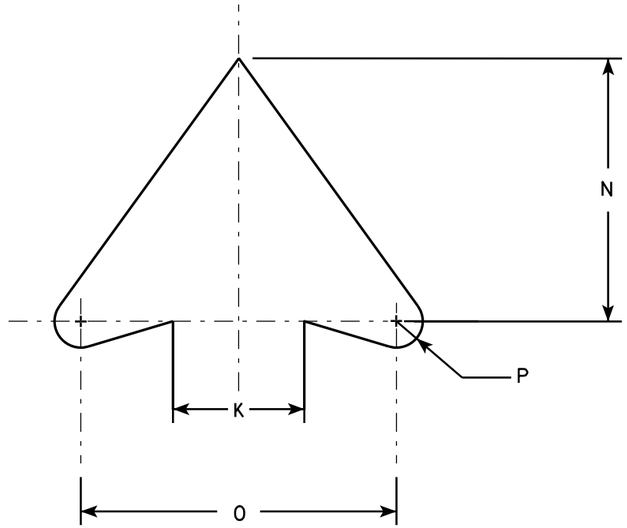
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 447	E



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
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. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

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	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

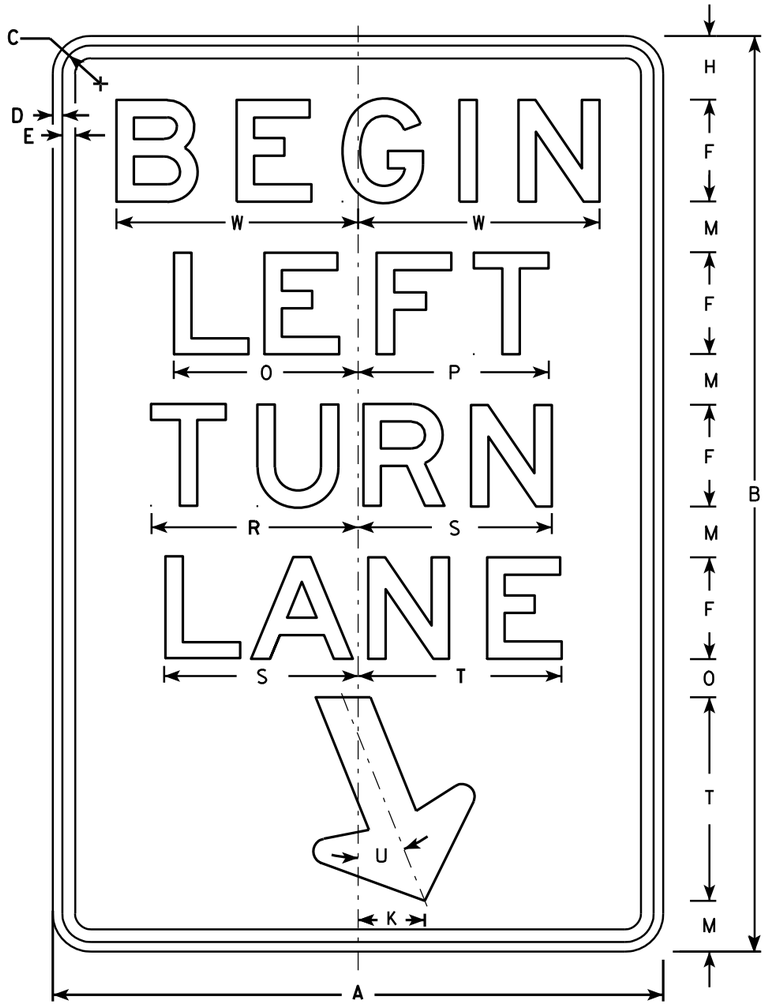
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

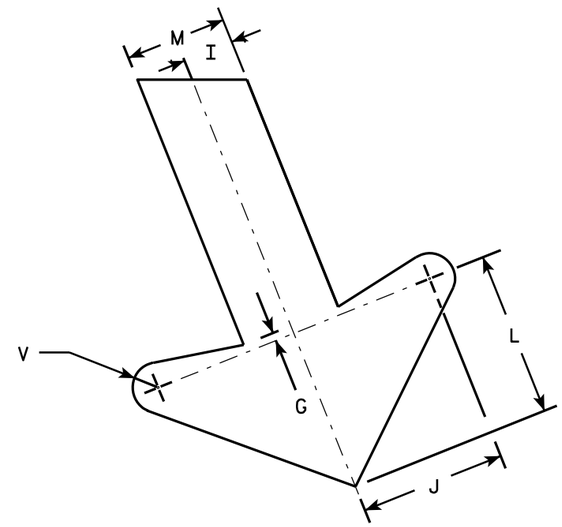
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 448	E



R3-20L

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

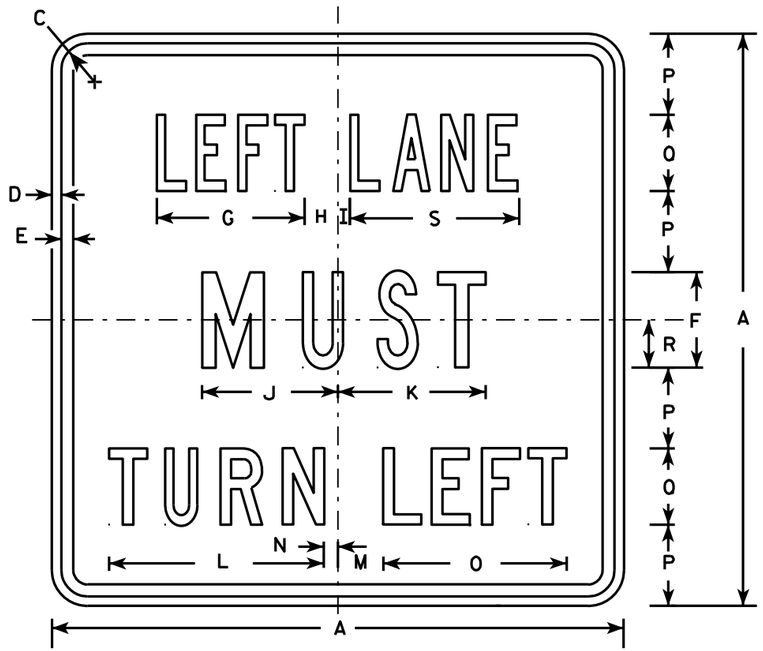
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

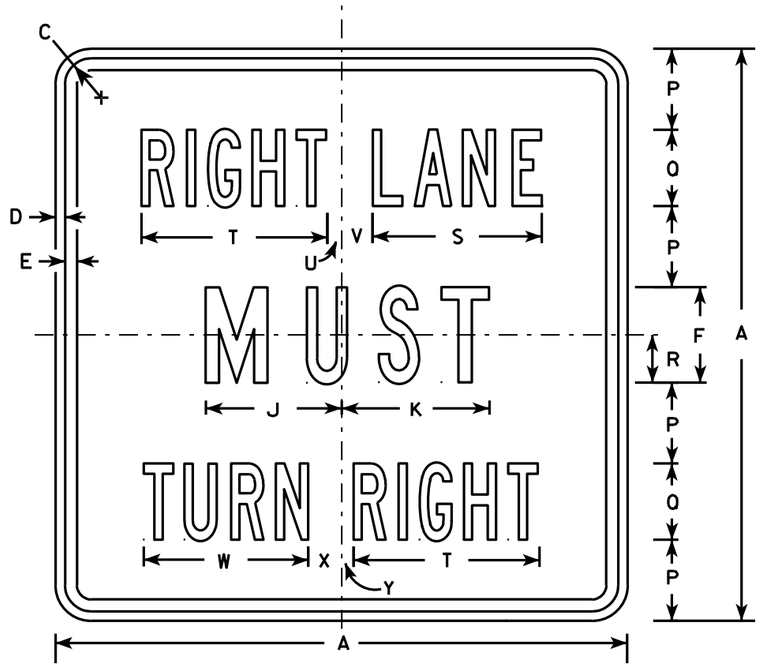
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 449	E



R3-7L



R3-7R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - Line 1 is Series B.
   Line 2 is Series C.
   Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

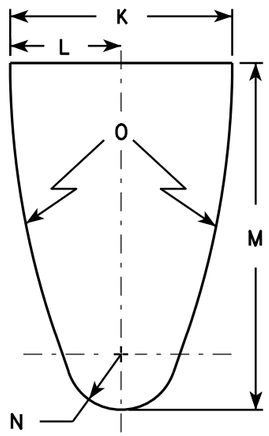
STANDARD SIGN
R3-7L & R3-7R

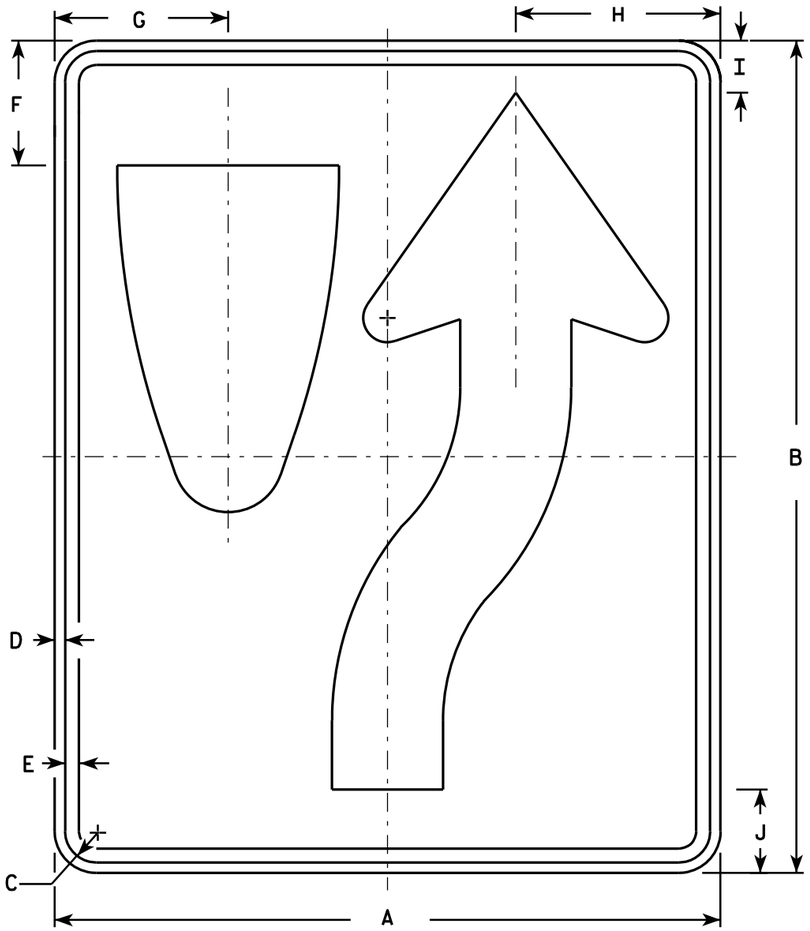
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-7.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 450 | E

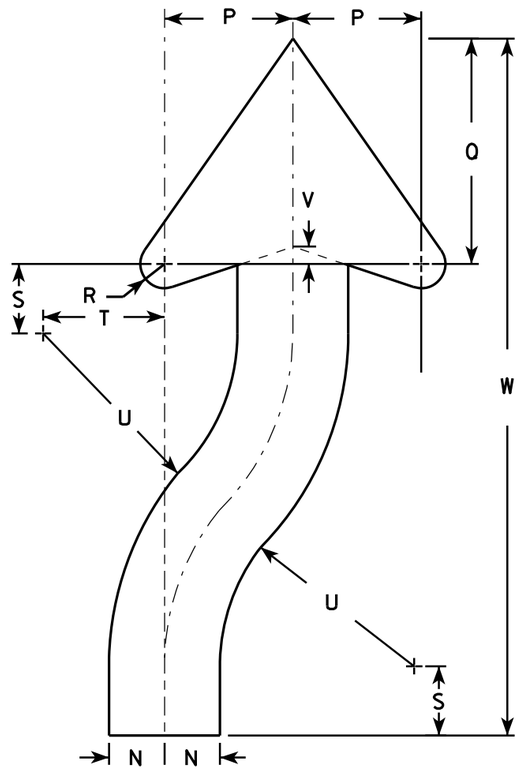




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

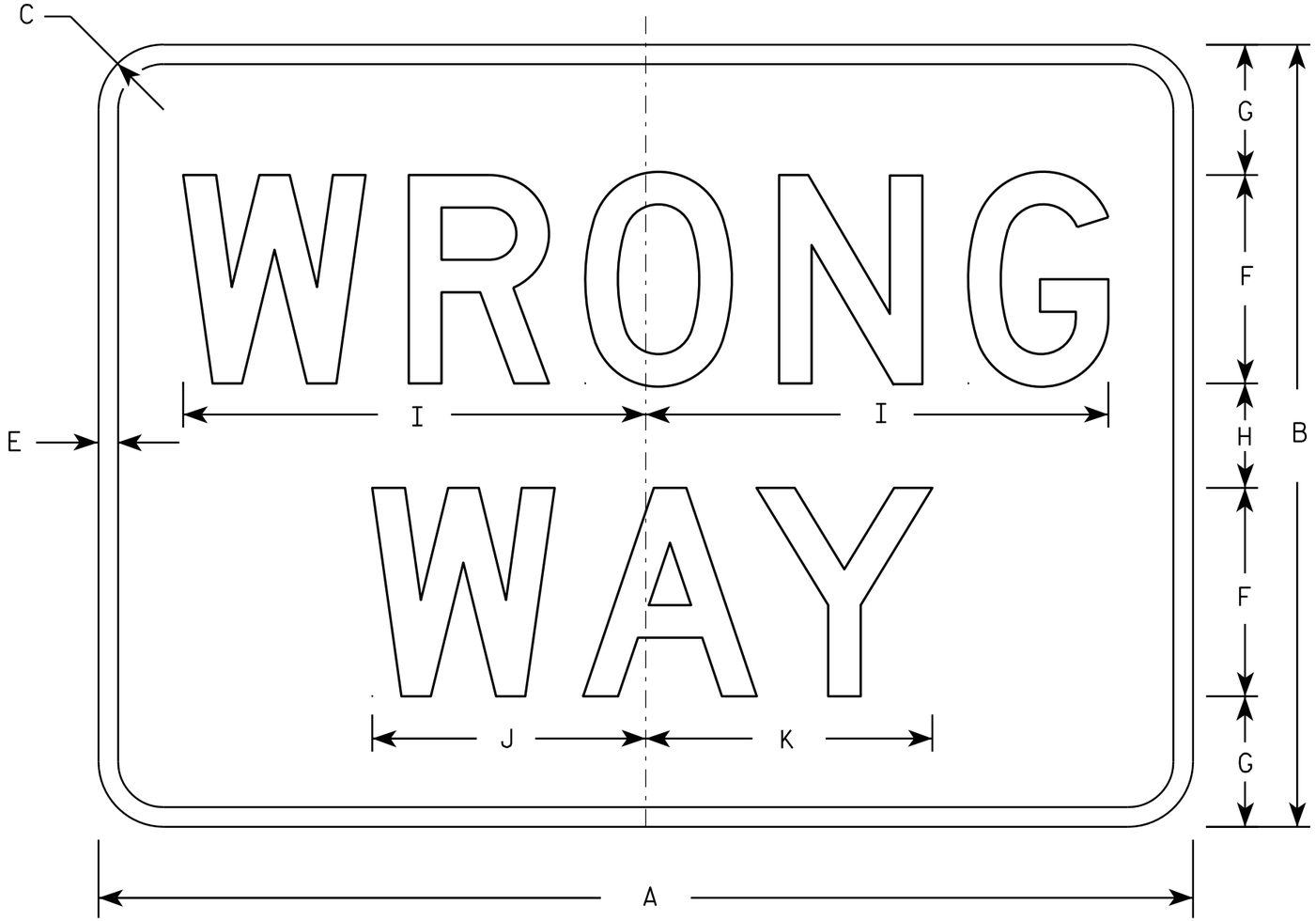
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 451	E



R5-1A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

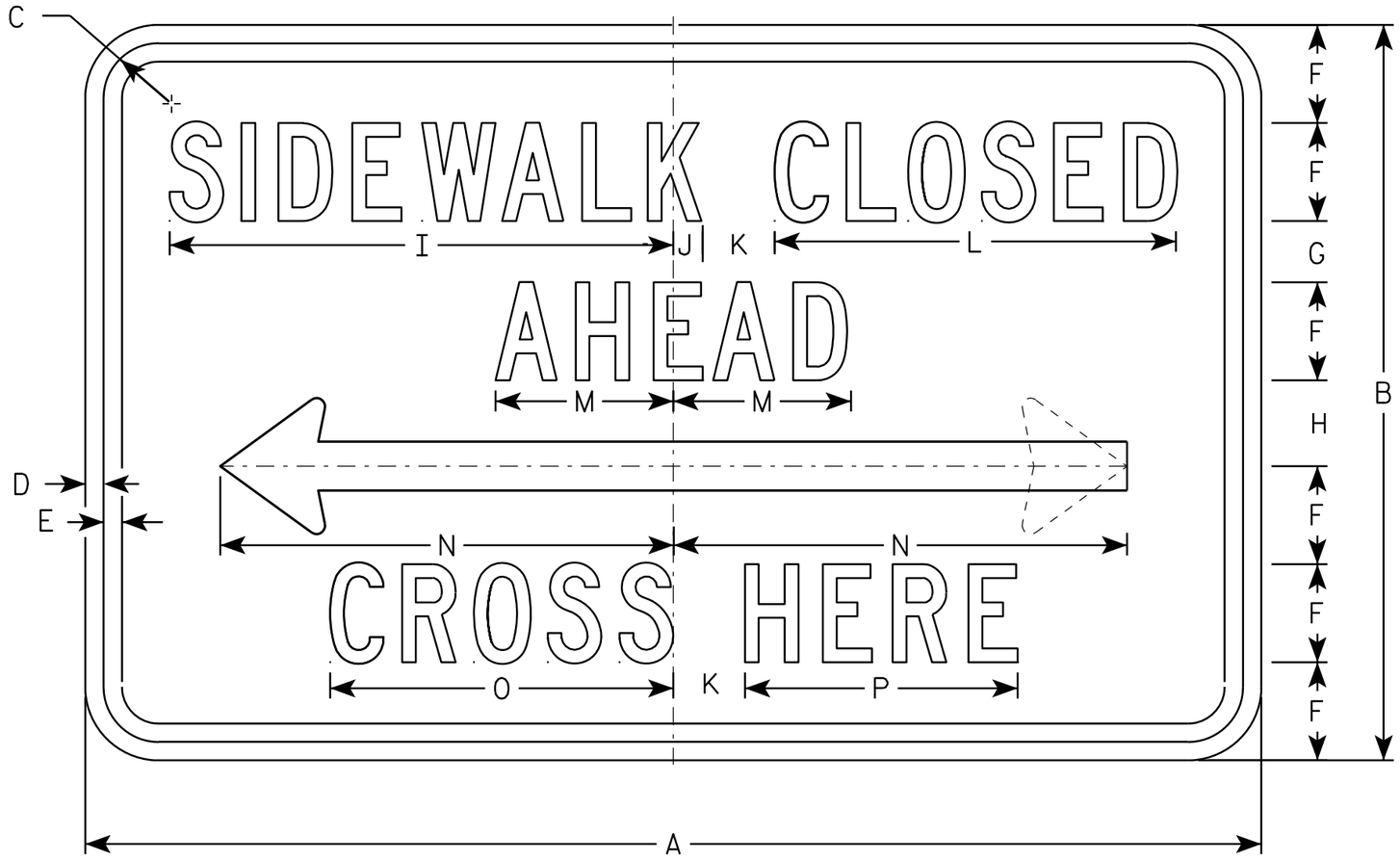
STANDARD SIGN
R5-1A

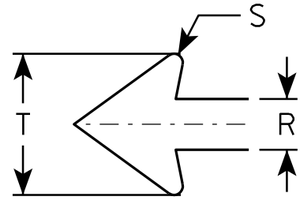
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 452 | E





R9-11

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
2S	48	30	2 3/4	3/4	3/4	4	2 1/2	3 1/2	20 1/2	1 1/4	3	16 3/8	7 1/4	18 1/2	14	11 1/8		2	3/8	5 1/2							10.0
2M	48	30	2 3/4	3/4	3/4	4	2 1/2	3 1/2	20 1/2	1 1/4	3	16 3/8	7 1/4	18 1/2	14	11 1/8		2	3/8	5 1/2							10.0
3																											
4																											
5																											

STANDARD SIGN
R9-11

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/17/2012 PLATE NO. R9-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 453	E

R9-9

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/4	1/2	1/2	4	3 1/2	3	10 3/4	8 1/8																	3.75
2M	30	18	1 3/4	1/2	1/2	4	3 1/2	3	10 3/4	8 1/8																	3.75
3																											
4																											
5																											

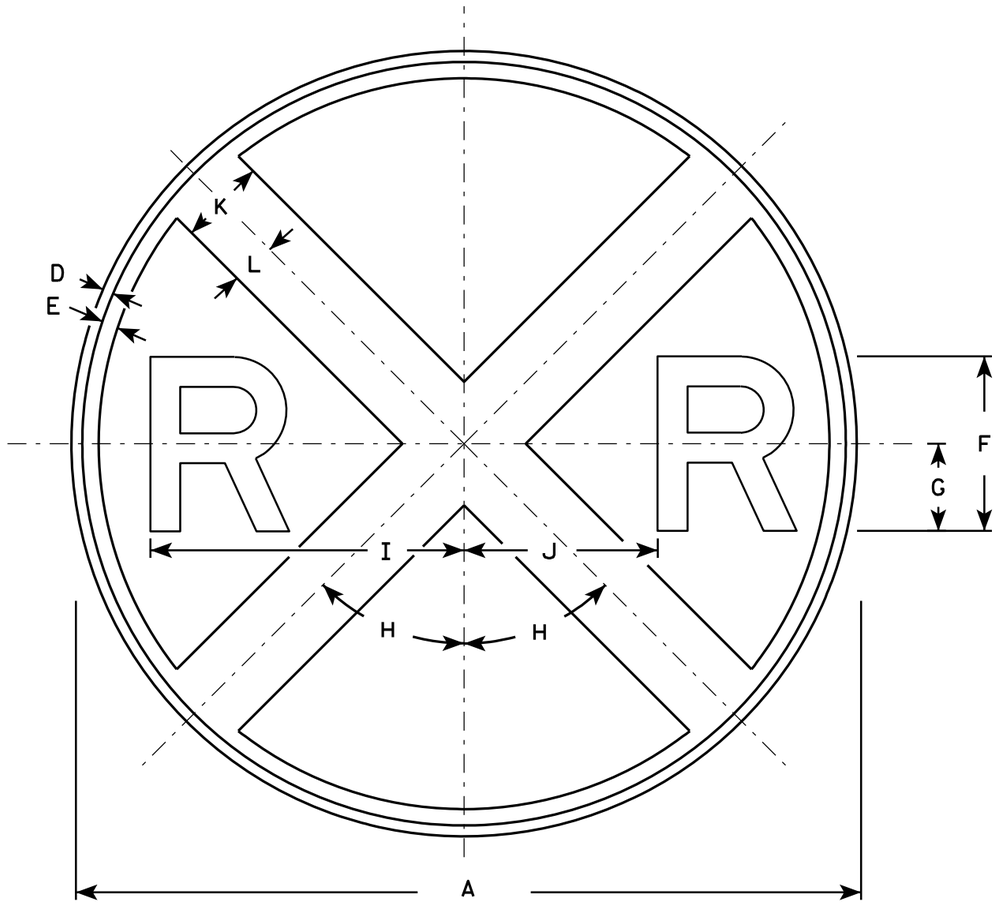
STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/2011 PLATE NO. R9-9.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 454	E



W10-1

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 - 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	30			3/8	5/8	7	3 1/2	45°	12 3/8	7 1/8	3	1 1/2															4.91
2S	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
2M	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
3																											
4	48			3/4	1 1/4	10	5	45°	18 3/8	11 5/8	5	2 1/2															12.57
5																											

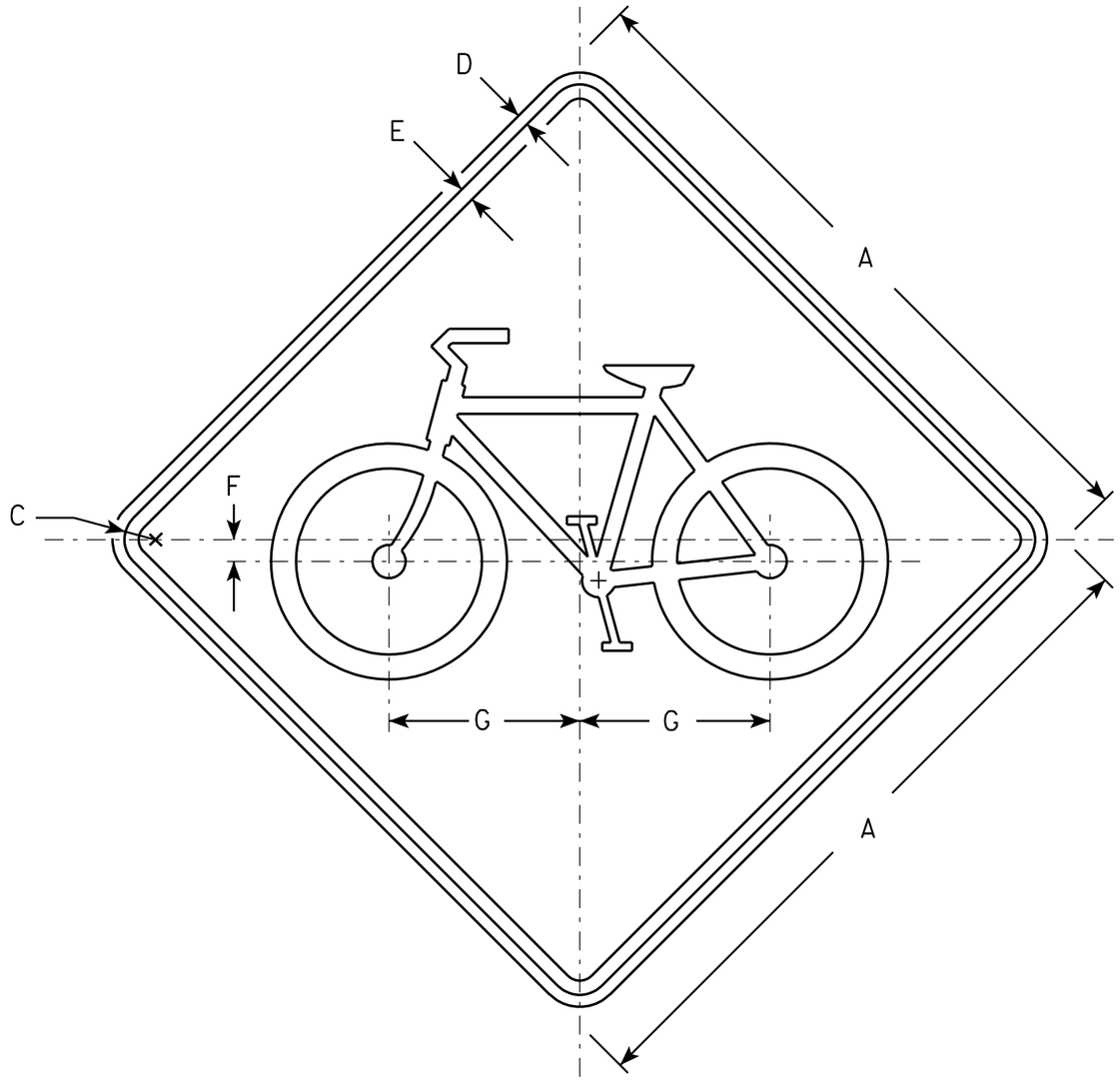
STANDARD SIGN
W10-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/13/13 PLATE NO. W10-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 455	E



W11-1

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.

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	3/4	1/2	3/4	6 5/8																				4.0
2S	30		1 3/8	1/2	5/8	1	8 1/2																				6.25
2M	36		1 5/8	5/8	3/4	1 1/4	10																				9.0
3	36		1 5/8	5/8	3/4	1 1/4	10																				9.0
4	48		2 1/4	3/4	1	1 5/8	13 3/8																				16.0
5																											16.0

STANDARD SIGN
W11-1

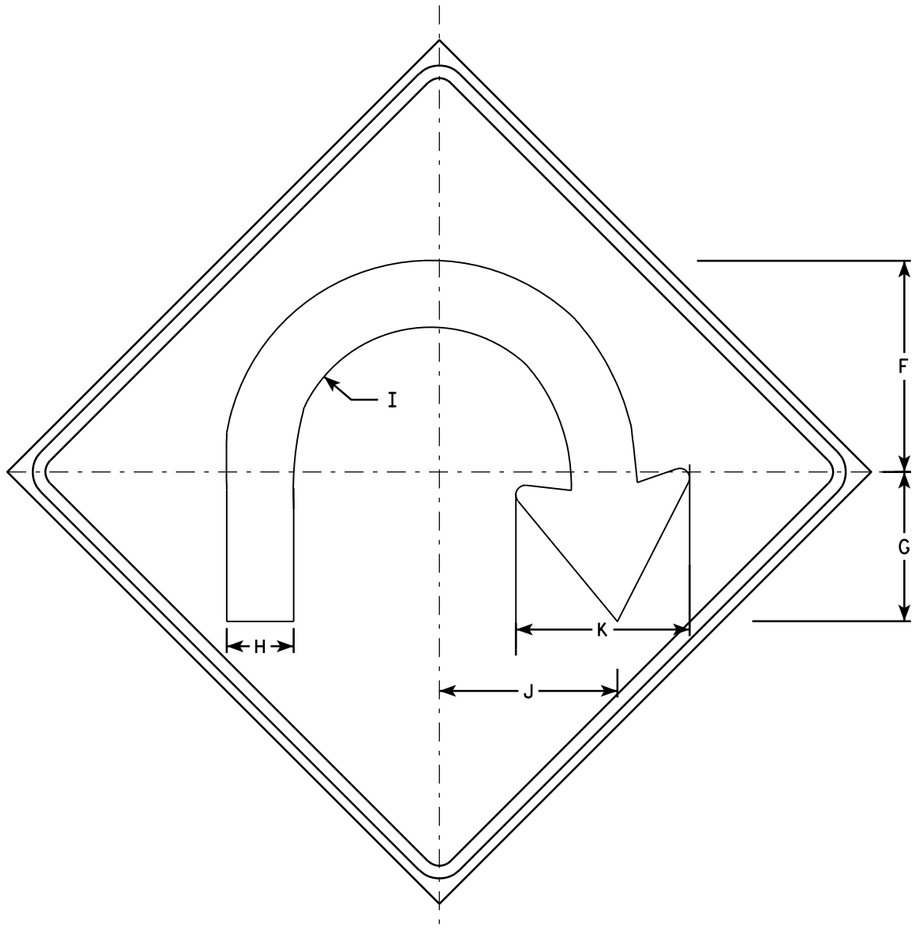
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/21/10 PLATE NO. W11-1.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 456 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W111.DGN PLOT DATE : 21-DEC-2010 10:08 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 7.945391:1.000000
WISDOT/CADDS SHEET 42



W1-11R

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. W1-11L is the same as W1-11R except 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																											
2S	30		1 3/8	1/2	5/8	10 3/8	7 3/8	3 3/8	6 7/8	8 3/4	8 1/2																6.25
2M	36		1 5/8	5/8	3/4	12 1/2	8 3/4	4	8 1/4	10 1/2	10 1/4																9.0
3	36		1 5/8	5/8	3/4	12 1/2	8 3/4	4	8 1/4	10 1/2	10 1/4																9.0
4	36		1 5/8	5/8	3/4	12 1/2	8 3/4	4	8 1/4	10 1/2	10 1/4																9.0
5	48		2 1/4	3/4	1	16 5/8	11 3/4	5 1/4	11	14	13 5/8																16.0

STANDARD SIGN
W1-11L & R

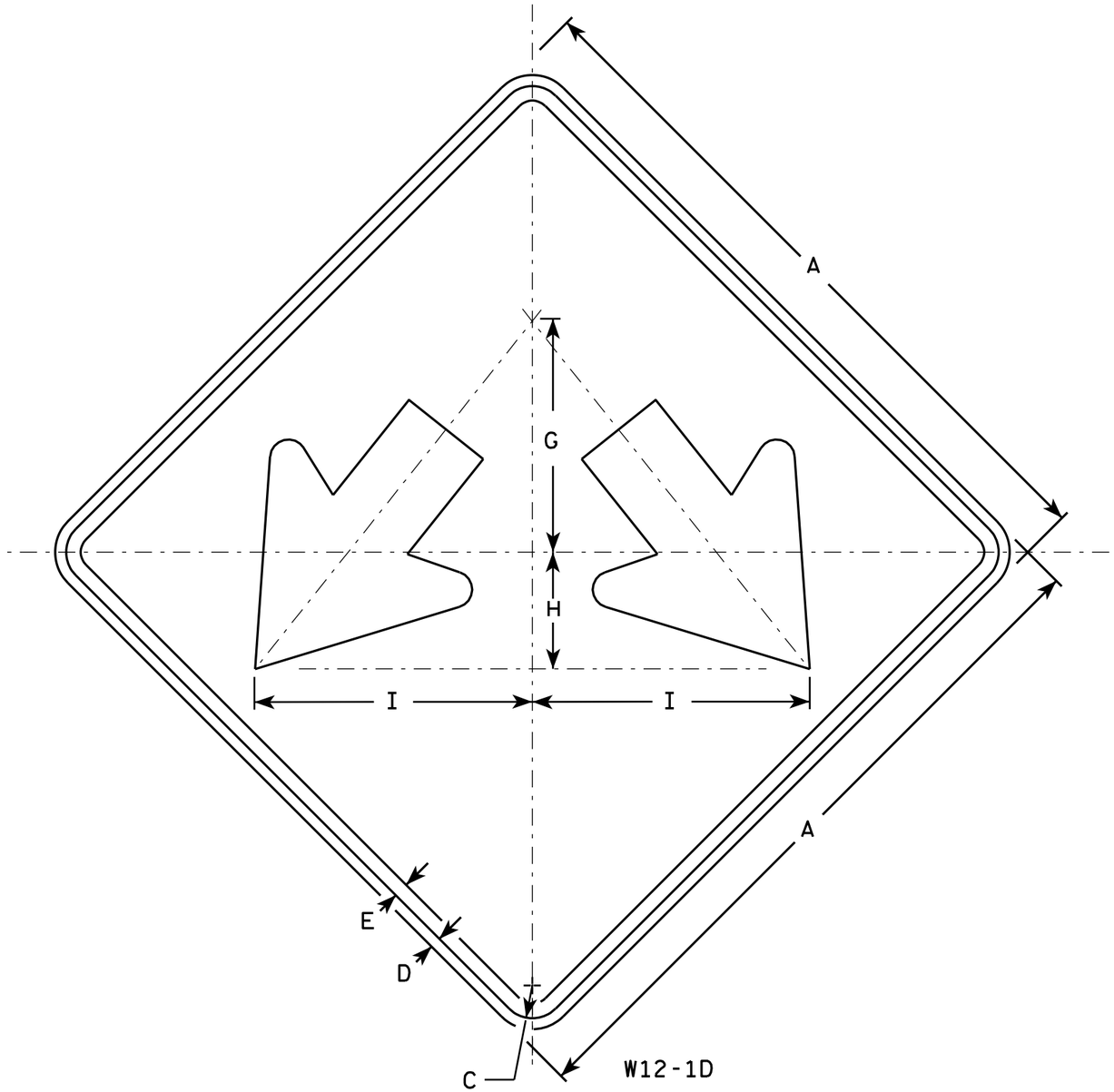
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/21/13 PLATE NO. W1-11.1

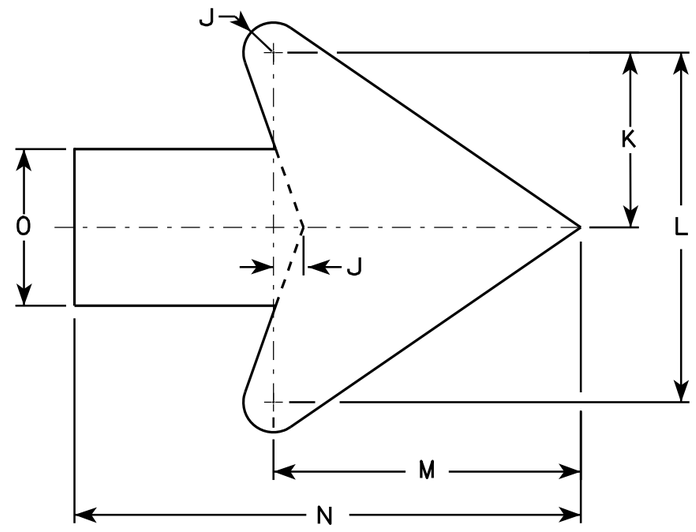
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 457 | E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W111A.DGN PLOT DATE : 21-MAR-2013 12:56 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.908552:1.000000
WISDOT/CADDS SHEET 42



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.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

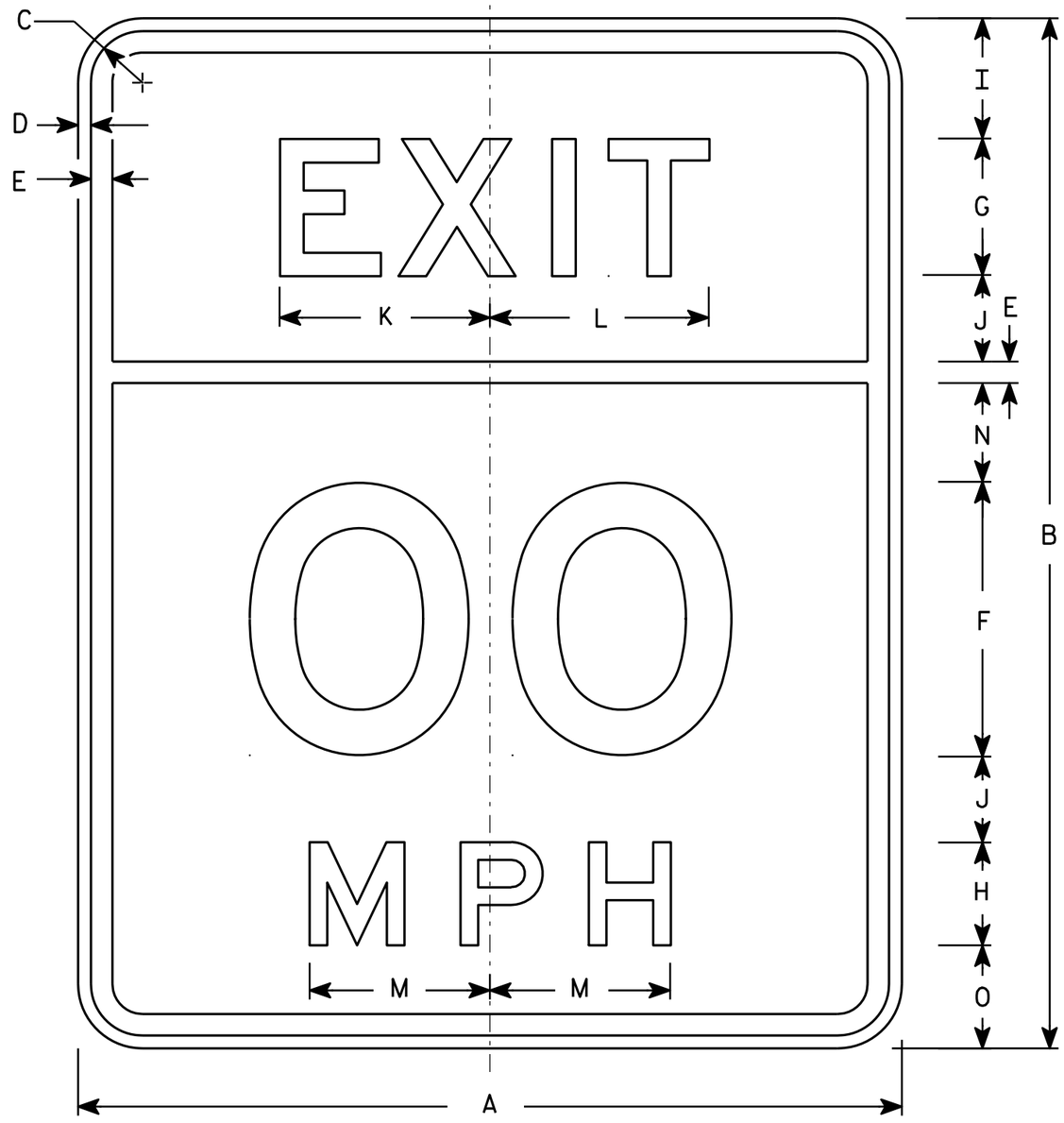
STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-1D.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 458	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. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	30	1 1/2	3/8	5/8	8	4	3	3 1/2	2 1/2	6 1/8	6 3/8	5 1/4	2 7/8	3												5.0
2M	24	30	1 1/2	3/8	5/8	8	4	3	3 1/2	2 1/2	6 1/8	6 3/8	5 1/4	2 7/8	3												5.0
3	36	48	2 1/4	5/8	7/8	12	6	4	6	4	9 1/4	9 1/2	7 1/8	5 1/8	6												12.0
4	36	48	2 1/4	5/8	7/8	12	6	4	6	4	9 1/4	9 1/2	7 1/8	5 1/8	6												12.0
5	48	60	2 1/4	3/4	1	16	8	6	7	5	12 1/4	12 3/4	10 5/8	5 3/4	6												20.0

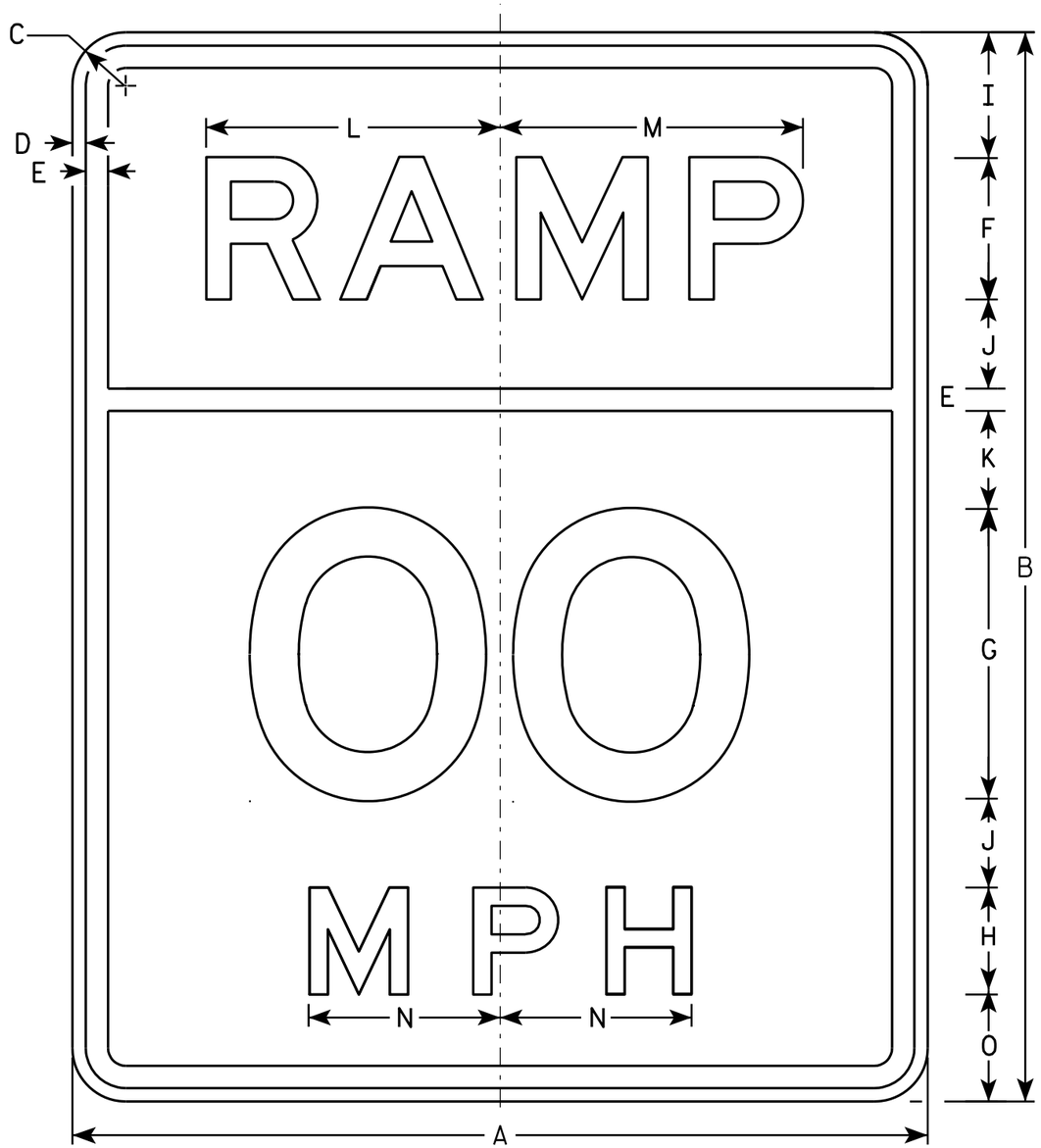
STANDARD SIGN
W13-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-2.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 459 | E



W13-3

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 - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
2S	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
2M	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
3																											
4	36	48	1 5/8	5/8	7/8	6	12	4	6	4 1/8	5 1/8	13 1/2	13 5/8	7 1/8	6												12.0
5	48	60	2 1/4	3/4	1 1/4	8	16	6	7	5	5 3/4	16 1/2	17	10 5/8	6												20.0

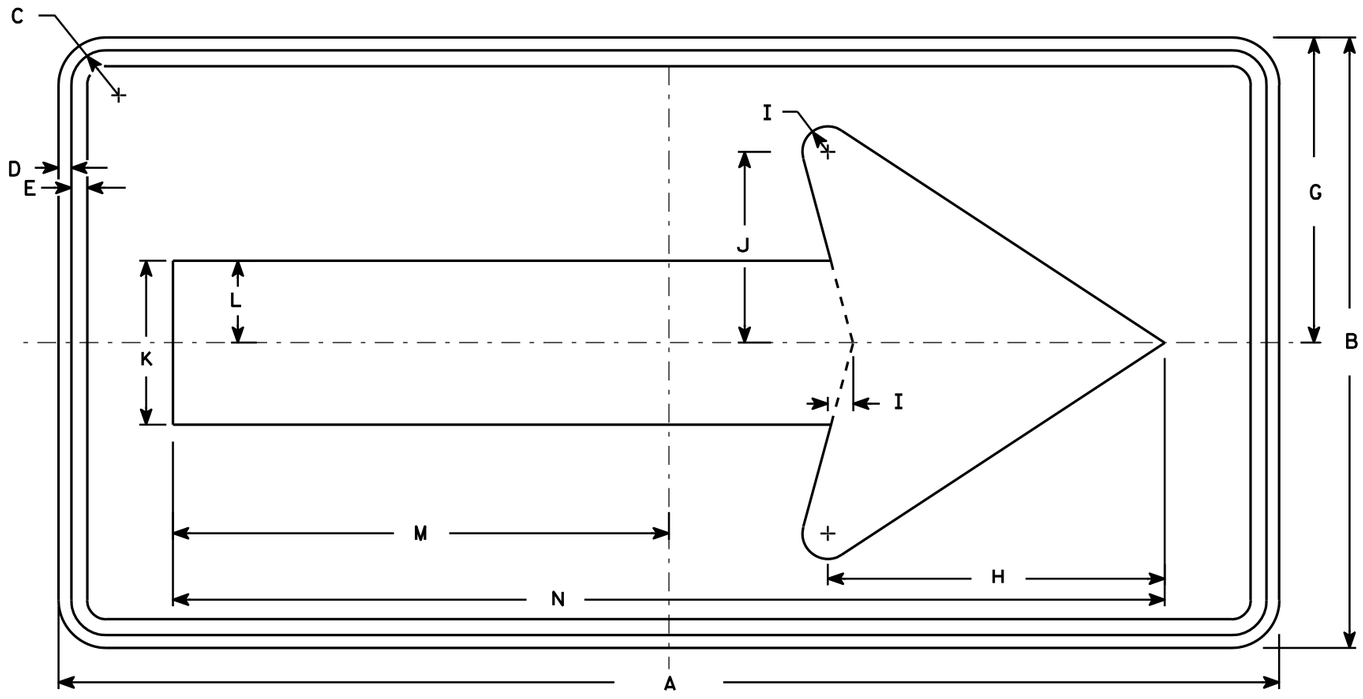
STANDARD SIGN
W13-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/13/13 PLATE NO. W13-3.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 460 | E



W1-6

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.

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

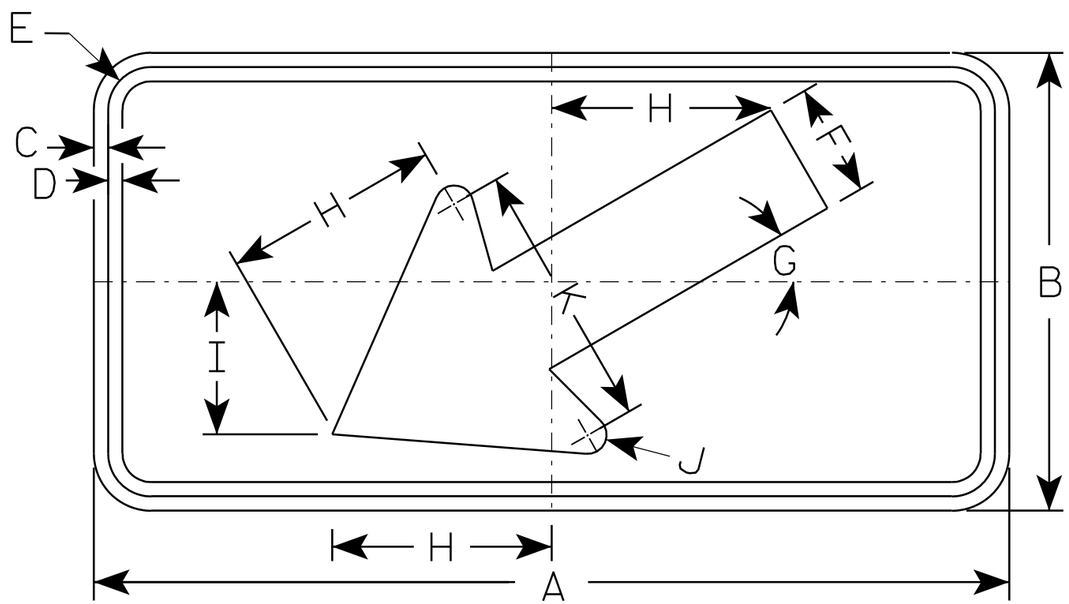
STANDARD SIGN
W1-6

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: 461



W16-7L

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. W16-7R is the same as W16-L 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																											
2S	24	12	3/8	3/8	1 1/8	3	30°	5 3/4	4	1/2	7																2.0
2M	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
3	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
4																											8
5																											8

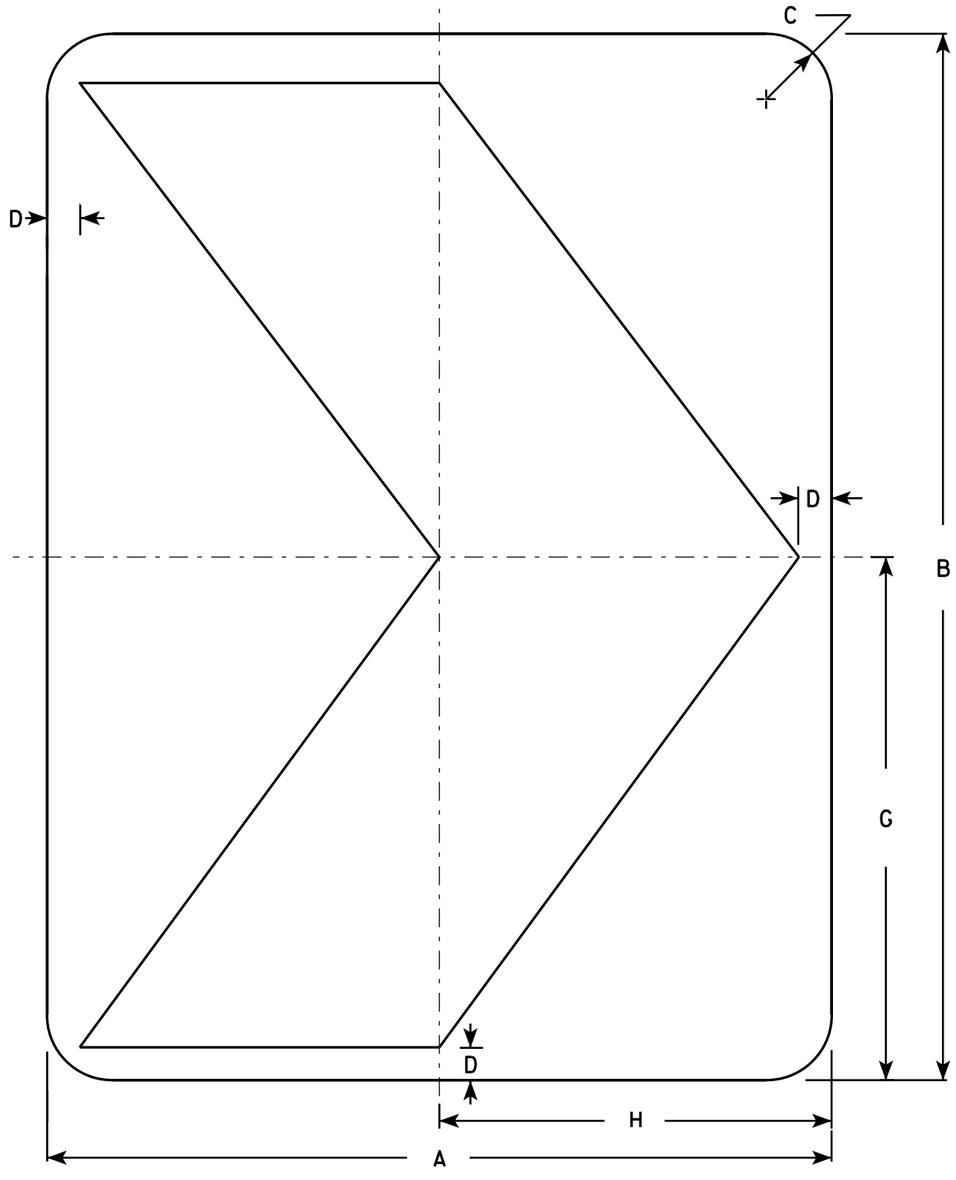
STANDARD SIGN
W16-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. W16-7.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 462	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.

W1-8

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	12	18	1 ½	½			9	6																			1.5
2S	18	24	1 ½	¾			12	9																			3.0
2M	18	24	1 ½	¾			12	9																			3.0
3	24	30	1 ½	1			15	12																			5.0
4	30	36	1 ⅞	1 ¼			18	15																			7.5
5	36	48	2 ¼	1 ½			24	18																			12.0

STANDARD SIGN
W1-8

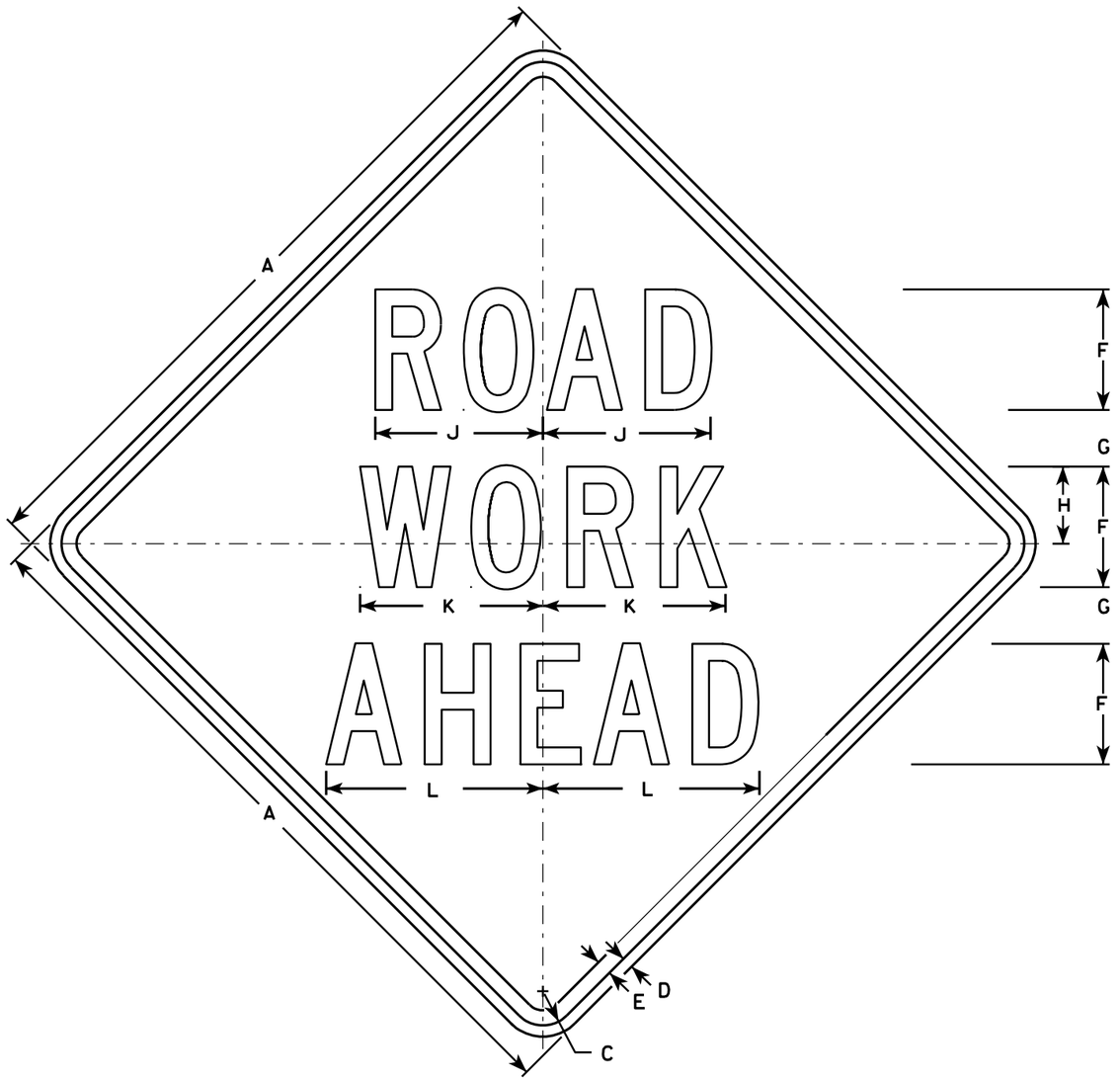
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

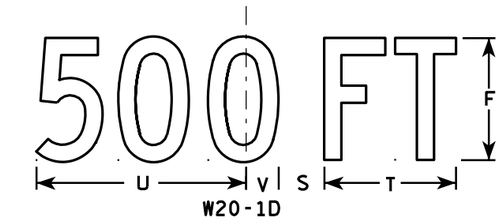
DATE 6/7/10 PLATE NO. W1-8.6

PROJECT NO:

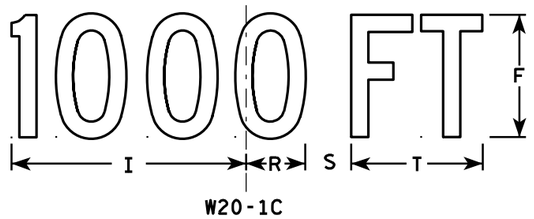
SHEET NO: 463 E



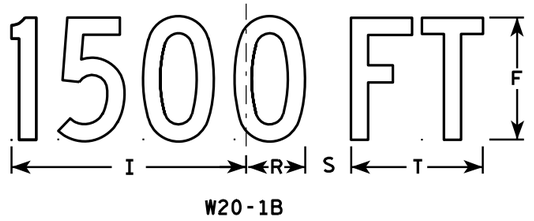
W20-1A



W20-1D

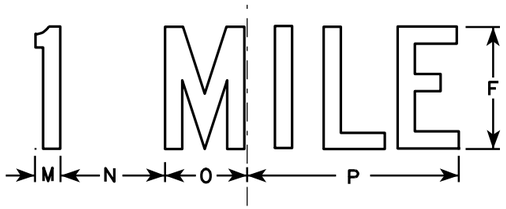


W20-1C



W20-1B

W20-1G



W20-1F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	1 7/8	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-1.9

PROJECT NO:

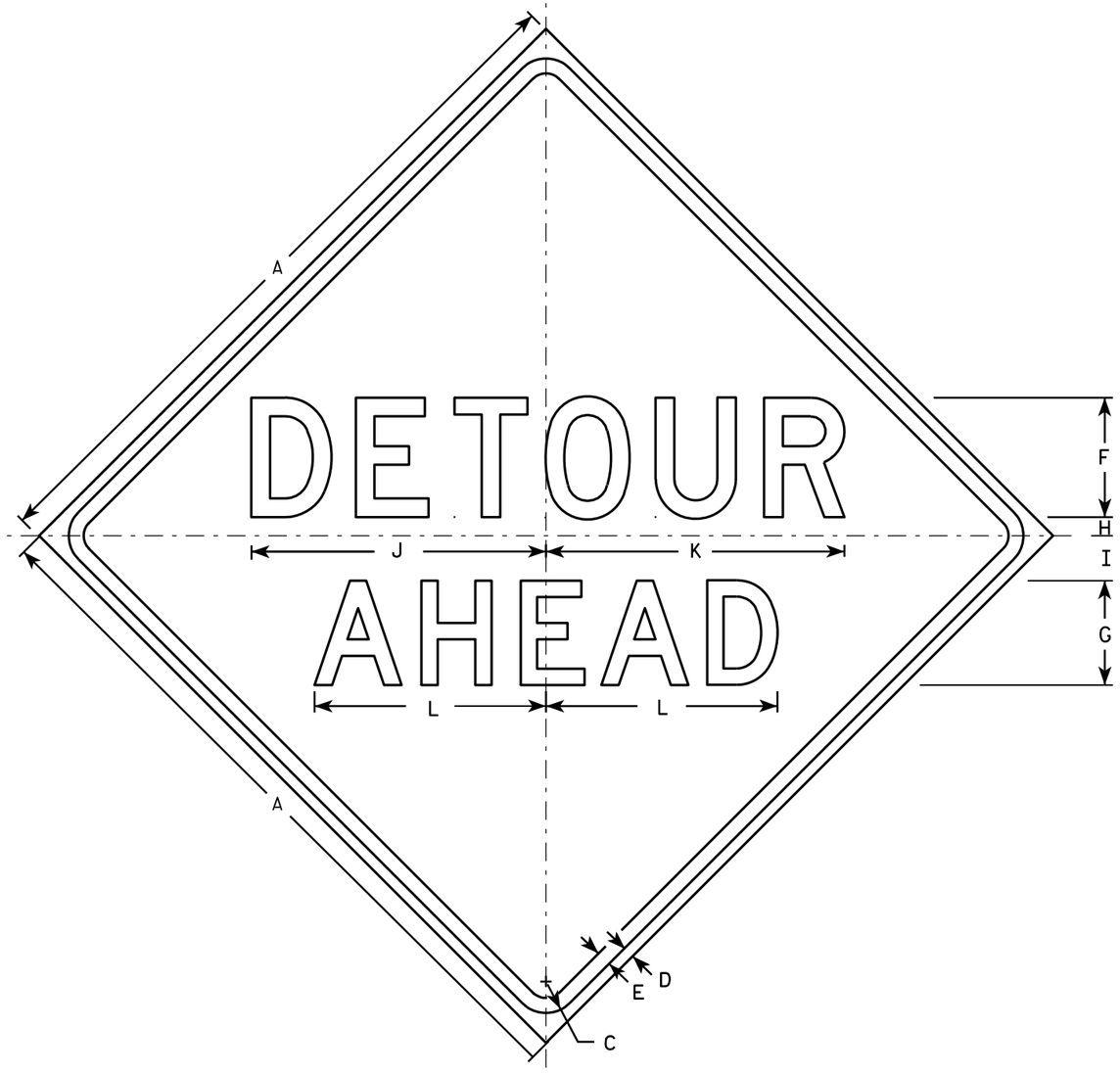
SHEET NO: 464 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W201.DGN PLOT DATE : 18-MAR-2011 09:56 PLOT BY : mscj9h

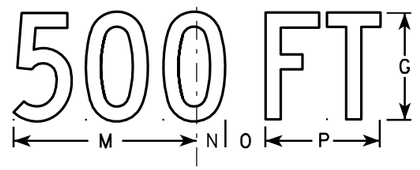
WISDOT/CADDS SHEET 42

7

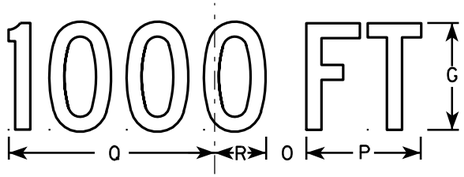
7



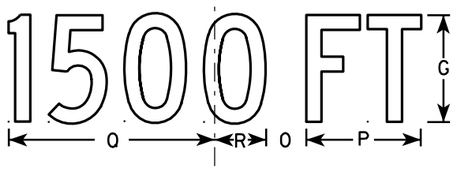
W20-2A



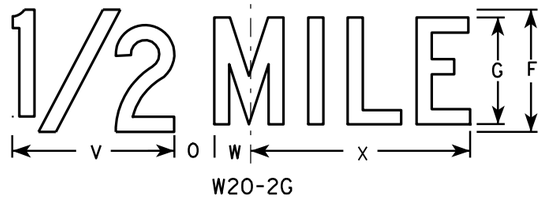
W20-2D



W20-2C



W20-2B



W20-2G

W20-2F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

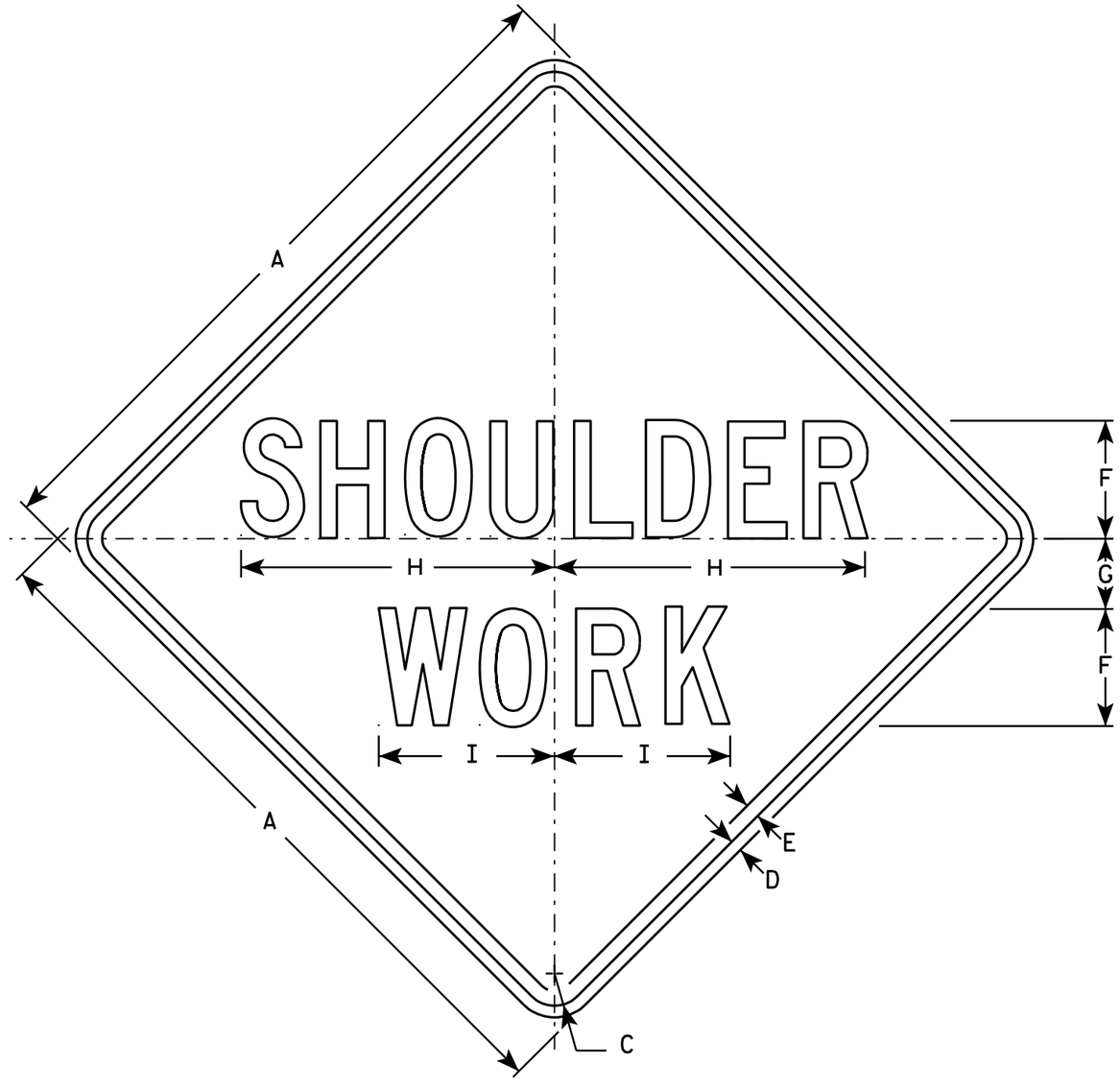
STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 465	E



W21-5

NOTES

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

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	4	2 1/2	10 3/4	6																		4.0
2S	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3 1/2	16	9																		9.0
4	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0

STANDARD SIGN
W21-5

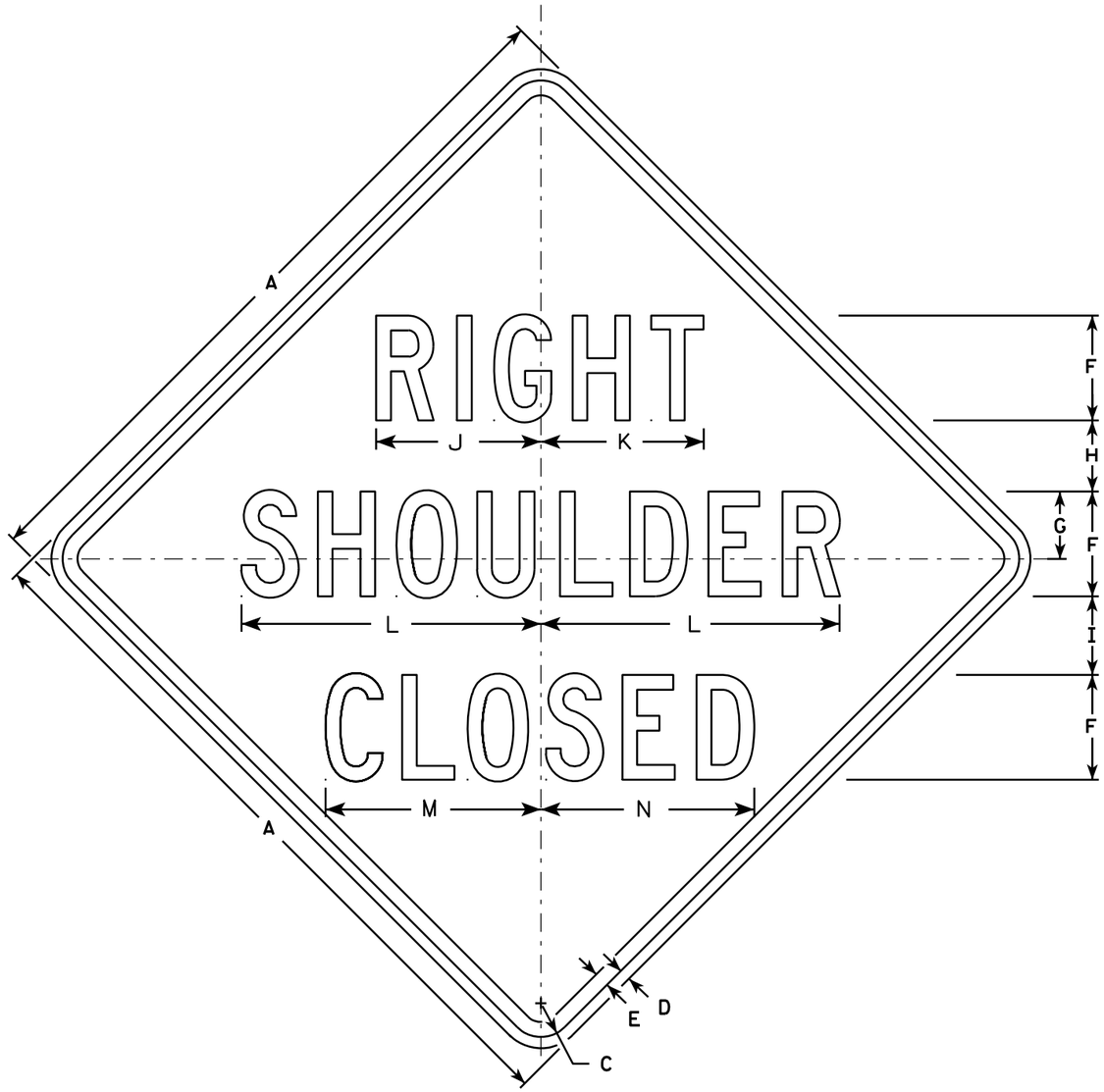
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 466 | E

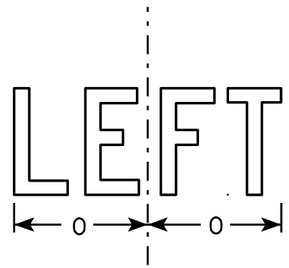
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W215.DGN PLOT DATE : 21-MAR-2011 08:01 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.207338:1.000000
WISDOT/CADDS SHEET 42



W21-5A

NOTES

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



W21-5AL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	4	7 7/8	7 3/4	14 1/4	10 1/4	10 1/8	6 1/4												9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0

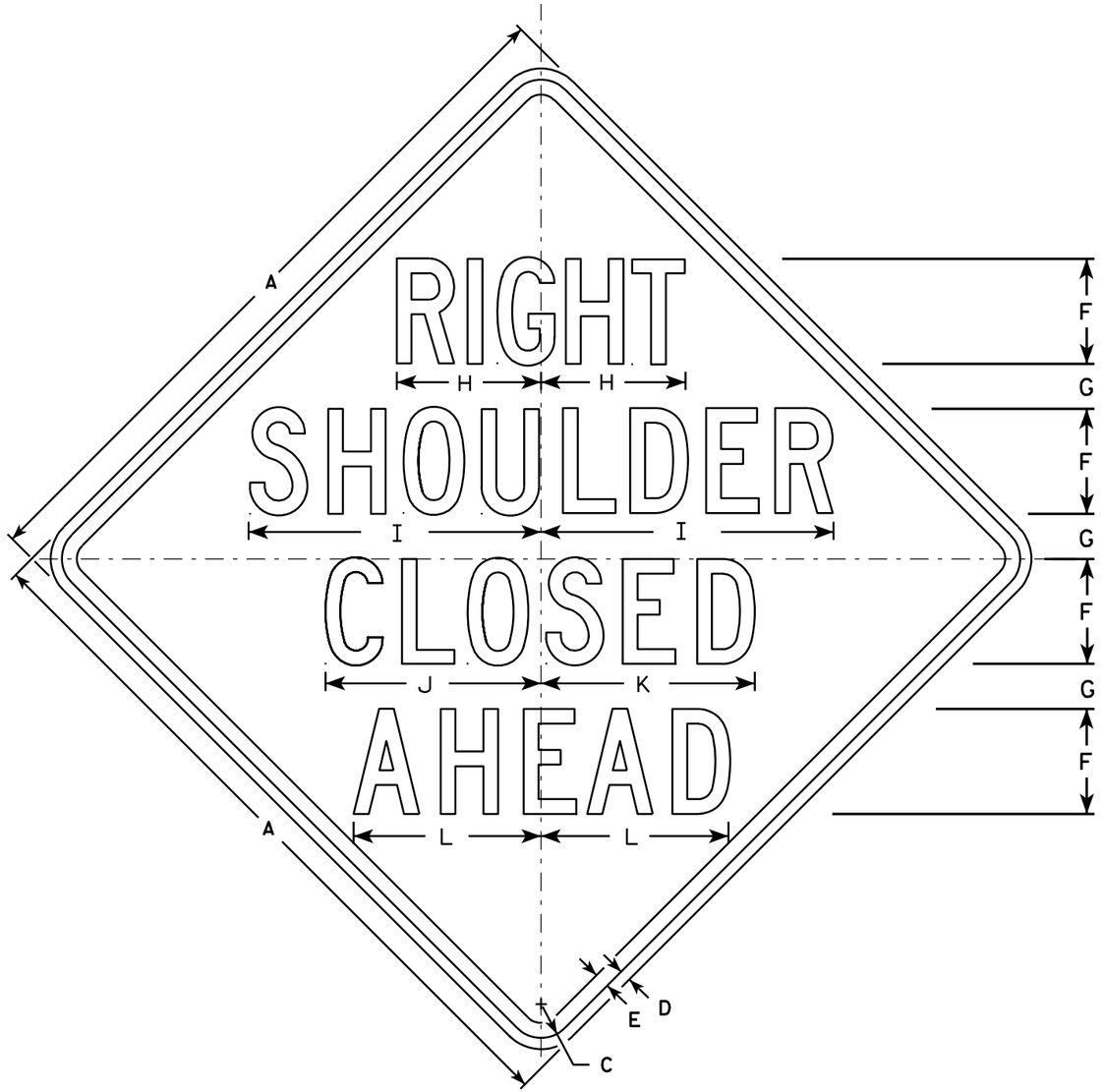
STANDARD SIGN
W21-5A

WISCONSIN DEPT OF TRANSPORTATION

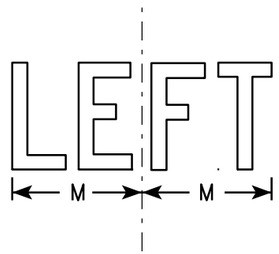
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5A.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 467	E



W21-5B



W21-5BL

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 1/4	7 3/8	14 1/4	10 1/4	10 1/8	8 7/8	6 1/4														9.0
2S	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
2M	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
3	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
4	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
5	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0

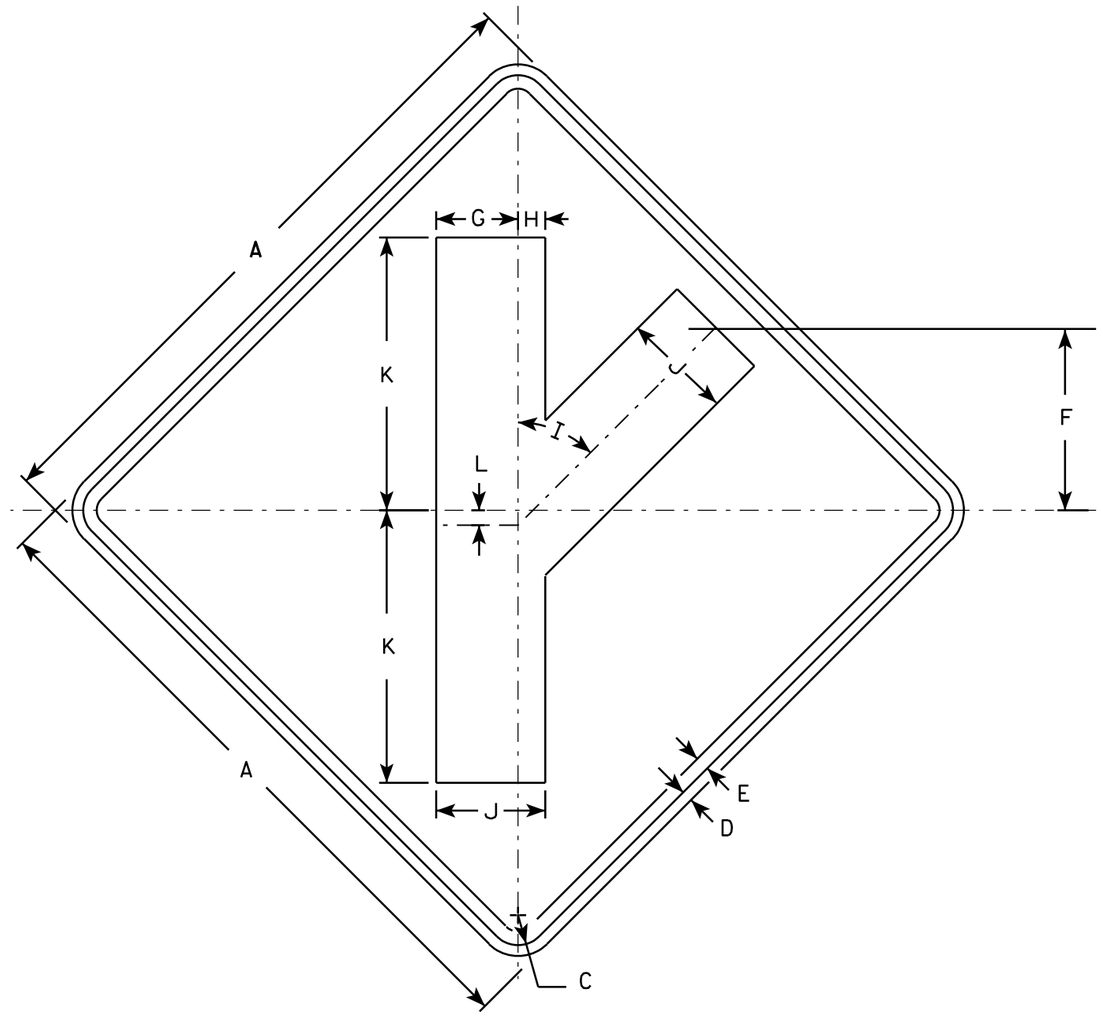
STANDARD SIGN
W21-5B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5B.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 468	E



W2-3R

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. W2-3L is the same as W2-3R except the message 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	6 5/8	3	1	45°	4	10	1/2															4.0
2S	30		1 3/8	1/2	5/8	8 1/4	3 3/4	1 1/4	45°	5	12 1/2	3/4															6.25
2M	30		1 3/8	1/2	5/8	8 1/4	3 3/4	1 1/4	45°	5	12 1/2	3/4															6.25
3	36		1 5/8	5/8	3/4	10	4 1/2	1 1/2	45°	6	15	7/8															9.0
4	48		2 1/4	3/4	1	13 3/8	6	2	45°	8	20	1 1/4															16.0
5																											

STANDARD SIGN
W2-3

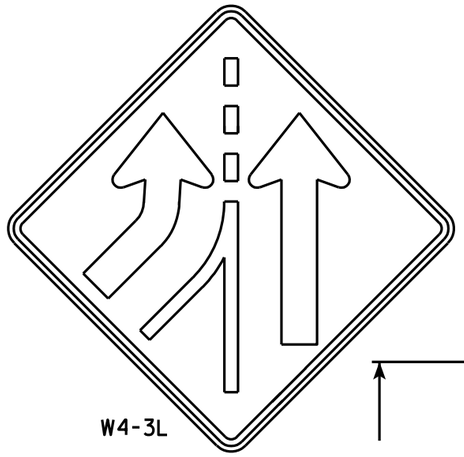
WISCONSIN DEPT OF TRANSPORTATION

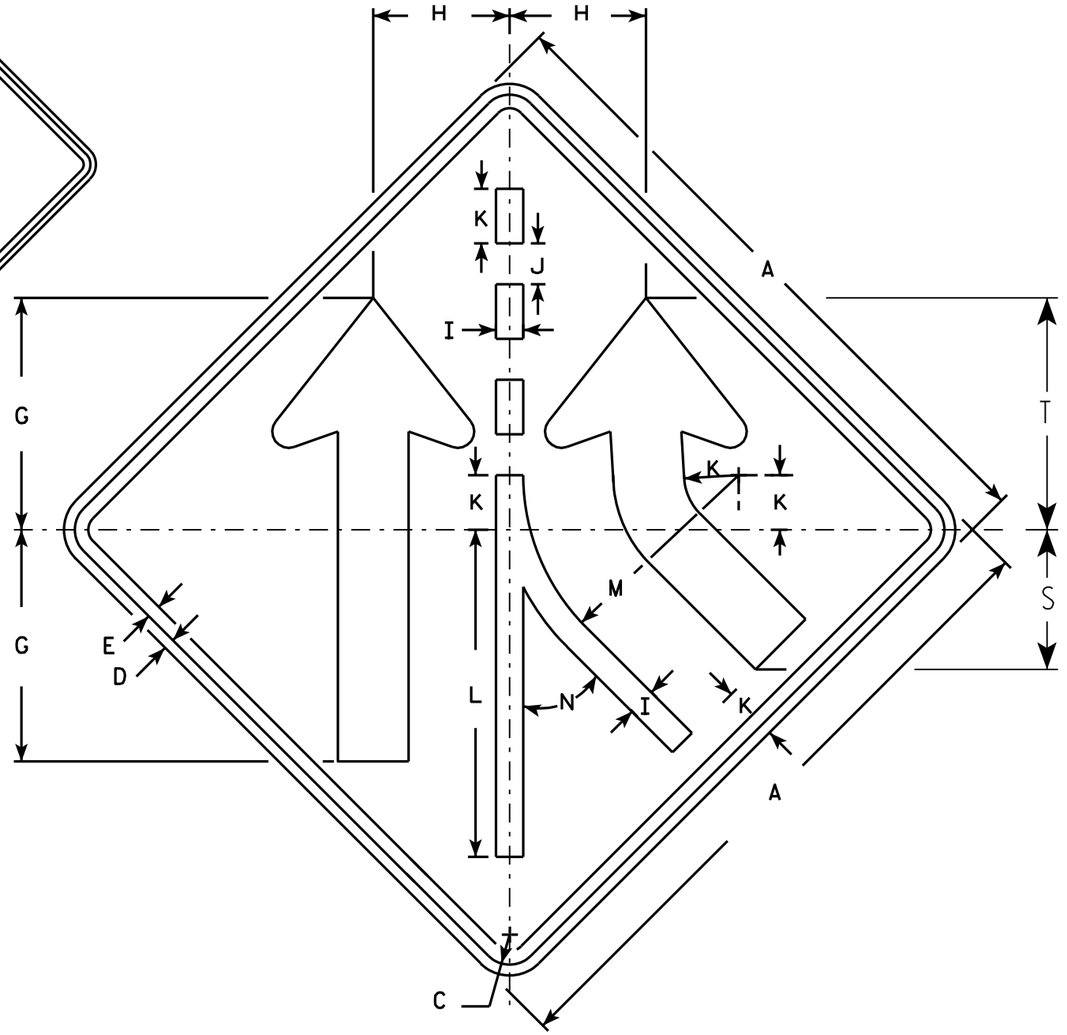
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W2-3.3

PROJECT NO:

SHEET NO: 469 E

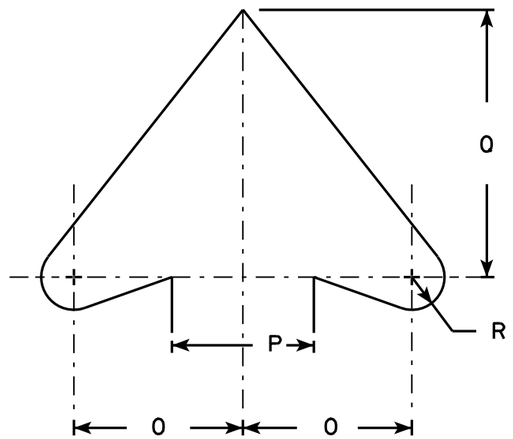




W4-3R

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. W4-3 L is the same as W4-3 R except the arrow is reversed along the vertical centerline.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		10 5/8	6 1/4	1 1/4	1 7/8	2 1/2	15	9 7/8	45°	3 7/8	3 1/4	6 1/8	3/4	6 3/8	10 5/8							6.25
2S	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
2M	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
3																											
4	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
5	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0

STANDARD SIGN
W4-3

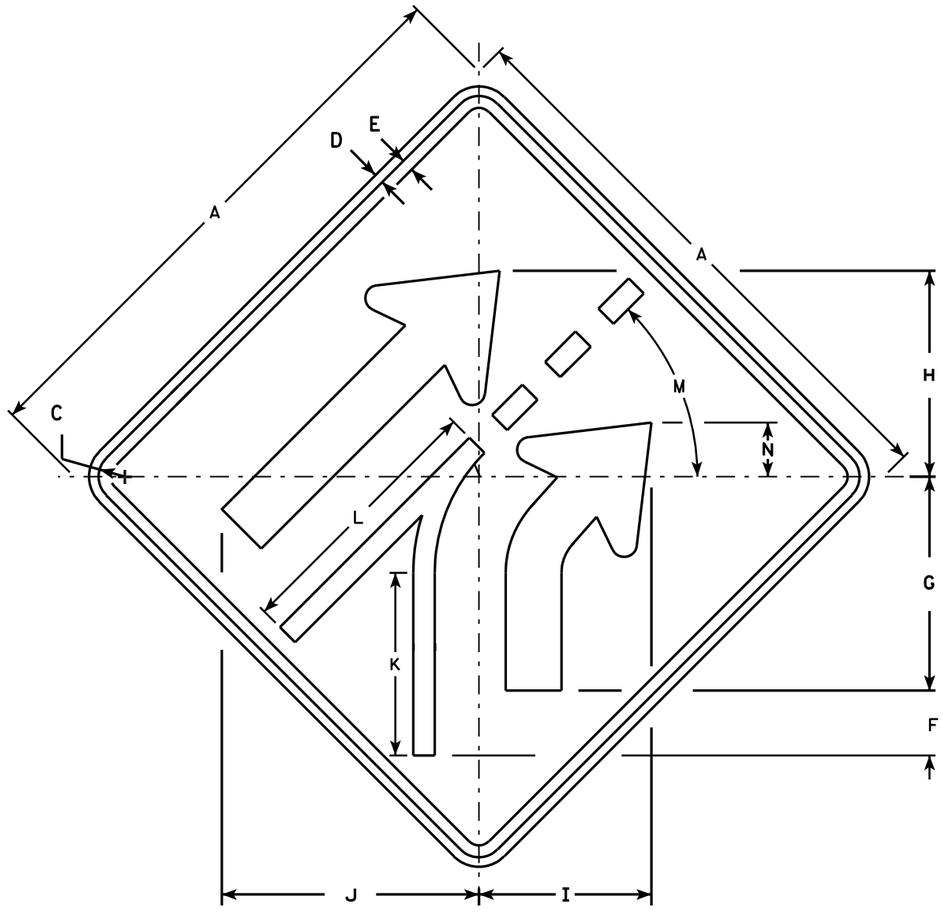
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-3.8

PROJECT NO:

SHEET NO: 470 E



W4-6

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.

* Scale and Rotate W4-3 and make modifications.

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	30		1 3/8	1/2	5/8	3 3/8	11 1/4	10 3/4	9	13 1/2	9 1/2	14	45°	2 7/8													6.25
2S	36		1 5/8	5/8	3/4	4	13 1/2	13	10 7/8	16 1/4	11 1/2	16 7/8	45°	3 3/8													9.0
2M	36		1 5/8	5/8	3/4	4	13 1/2	13	10 7/8	16 1/4	11 1/2	16 7/8	45°	3 3/8													9.0
3																											
4	48		2 1/4	3/4	1	5 3/8	18	17 1/4	14 1/2	21 5/8	15 1/4	22 1/2	45°	4 1/2													16.0
5	48		2 1/4	3/4	1	5 3/8	18	17 1/4	14 1/2	21 5/8	15 1/4	22 1/2	45°	4 1/2													16.0

STANDARD SIGN
W4-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

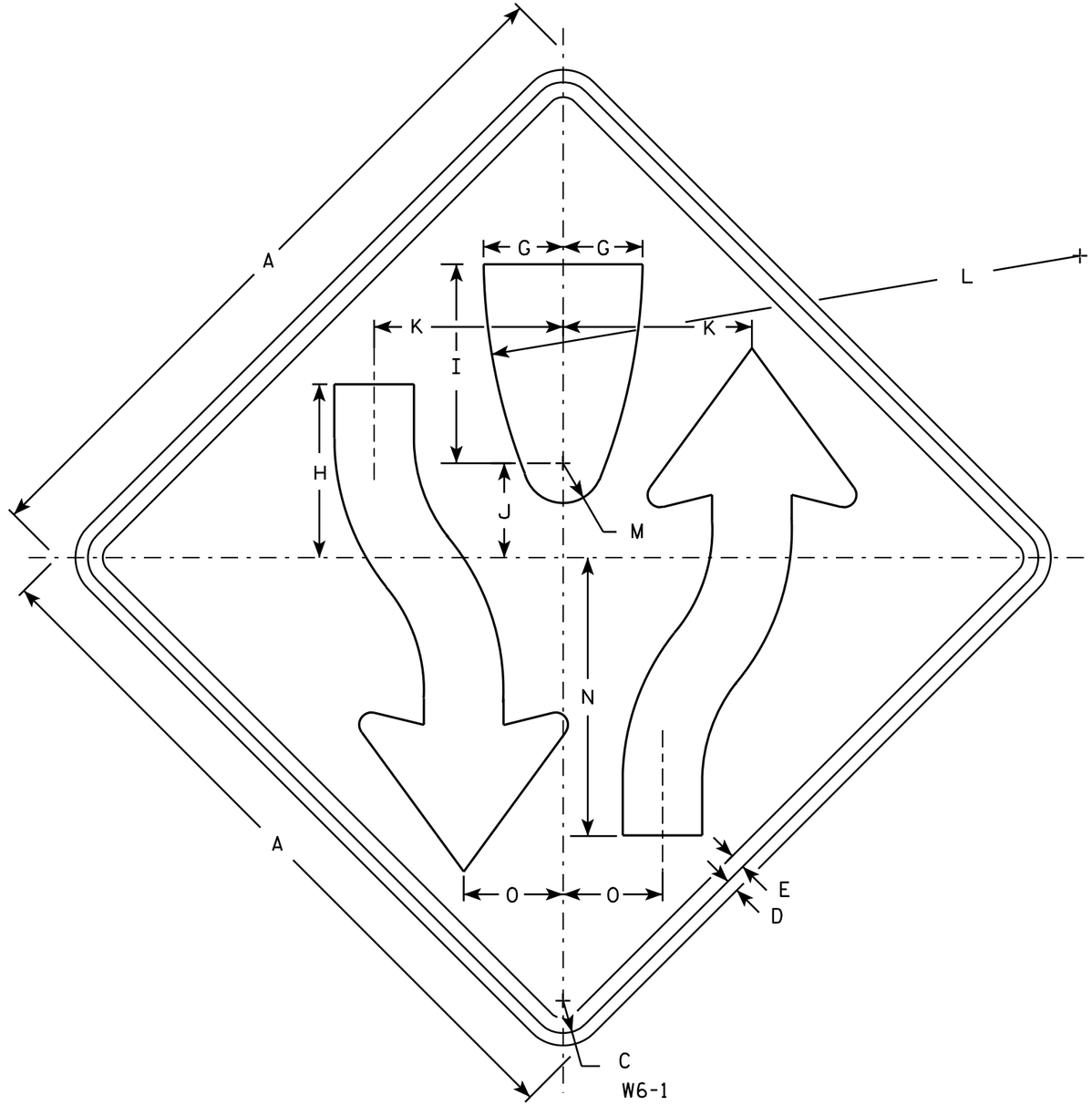
DATE 3/12/13 PLATE NO. W4-6.3

PROJECT NO:

SHEET NO: 471 E

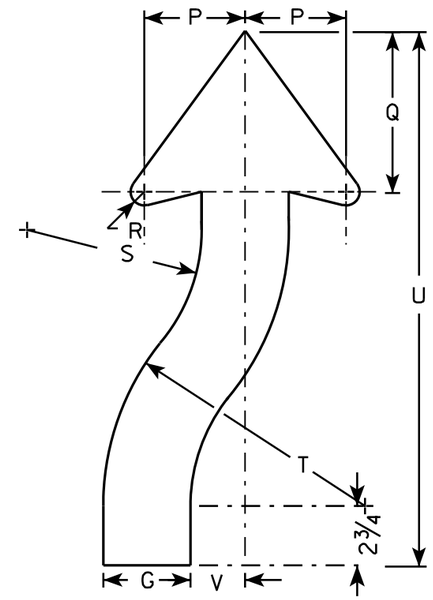
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W46.DGN PLOT DATE : 12-MAR-2013 11:57 PLOT BY : mscsja

WISDOT/CADDS SHEET 42



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. W6-2 same as W6-1 but is rotated 180° when mounted.



ARROW DETAIL

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	30		1 3/8	1/2	5/8		3 1/4	8	8 1/4	4 1/8	7 7/8	25	1 3/4	11 5/8	4 1/8	3 7/8	6 3/4	5/8	6 5/8	9 7/8	21 5/8	2					6.25
2S	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2M	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
3																											
4	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W6-1 & W6-2

WISCONSIN DEPT OF TRANSPORTATION

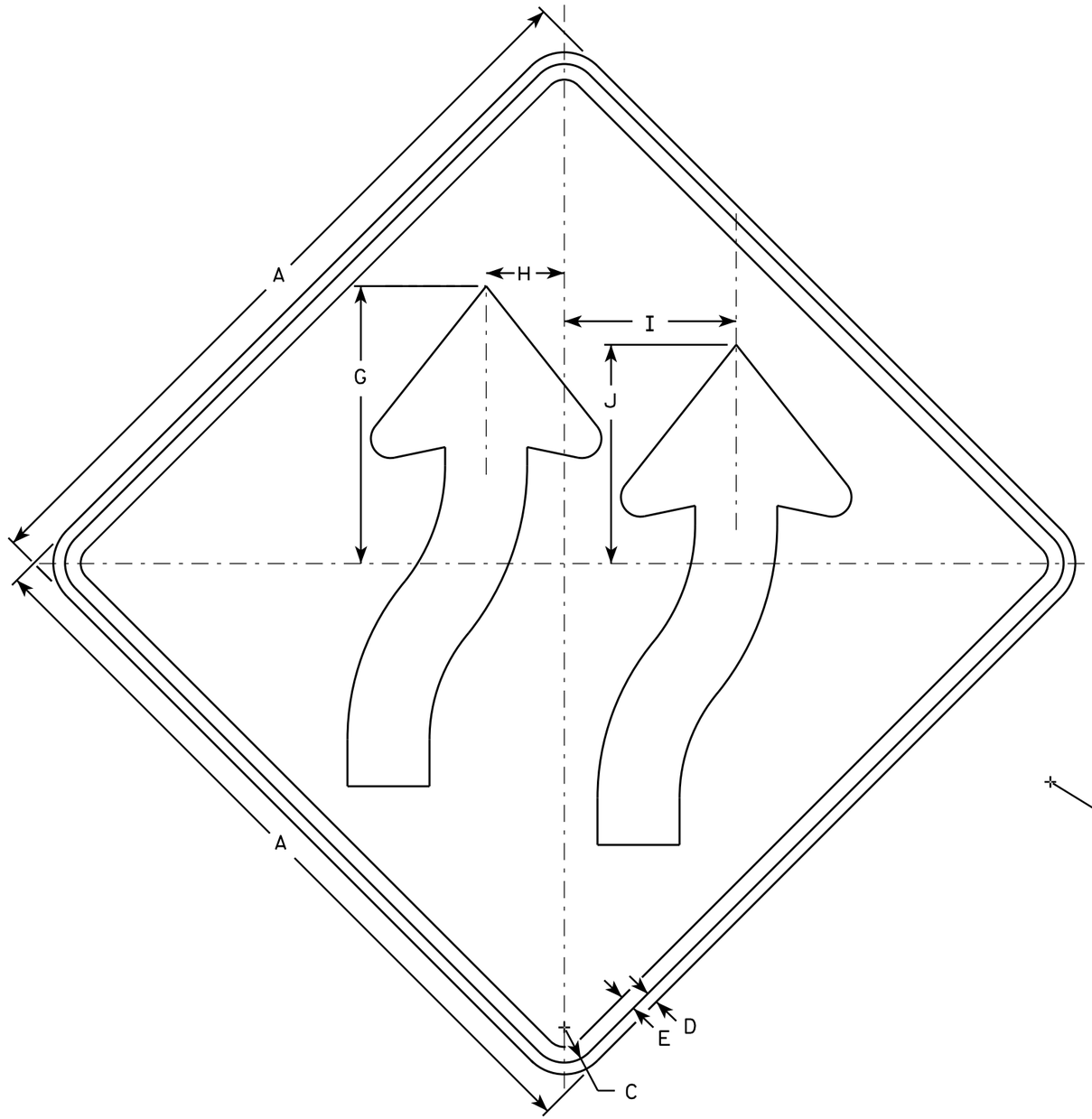
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W6-1.14

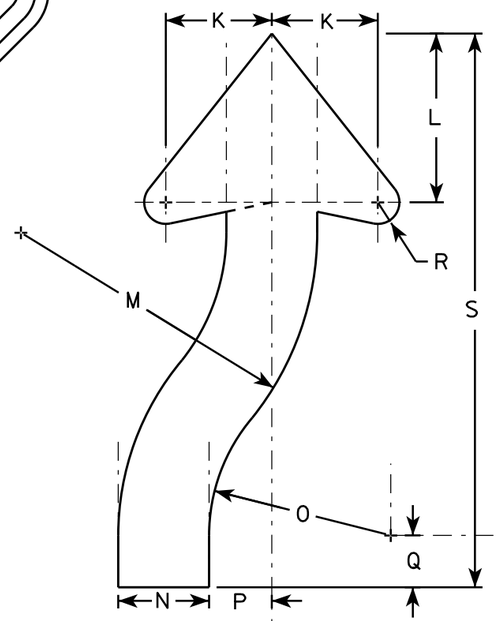
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 472	E

7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W61.DGN PLOT DATE : 12-MAR-2013 14:02 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.946657:1.000000
WISDOT/CADDS SHEET 42



W01-4bR



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. 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. W01-4bL is the same as W014-bR exept arrows are 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	36		1 5/8	5/8	3/4		13 3/8	3 3/4	8 1/4	10 1/2	4 5/8	7 3/8	12 7/8	3 7/8	7 7/8	2 3/4	2 1/4	7/8	24								9.0
2S	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
2M	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
3	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
4	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
5	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0

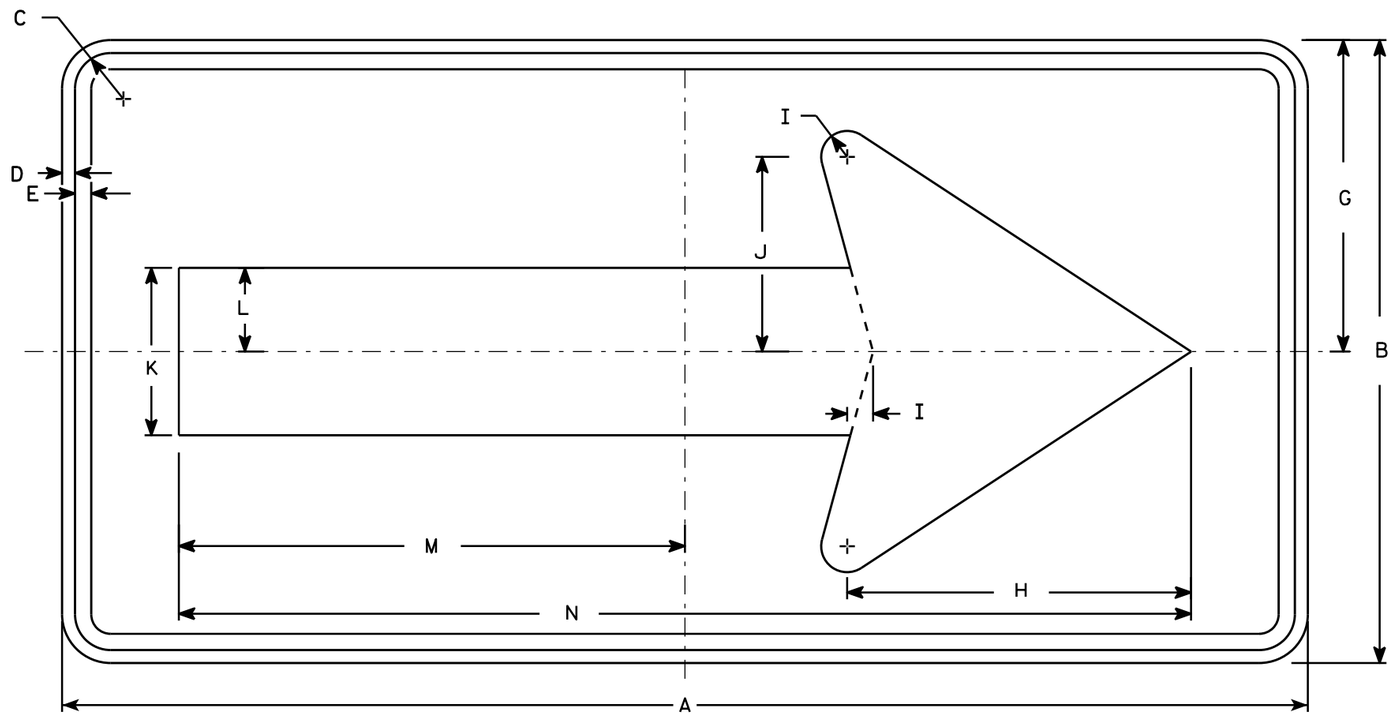
STANDARD SIGN
W01-4b

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4b.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W01-6

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	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	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

STANDARD SIGN
W01-6

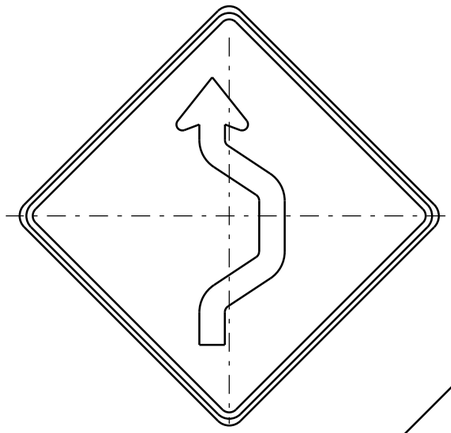
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

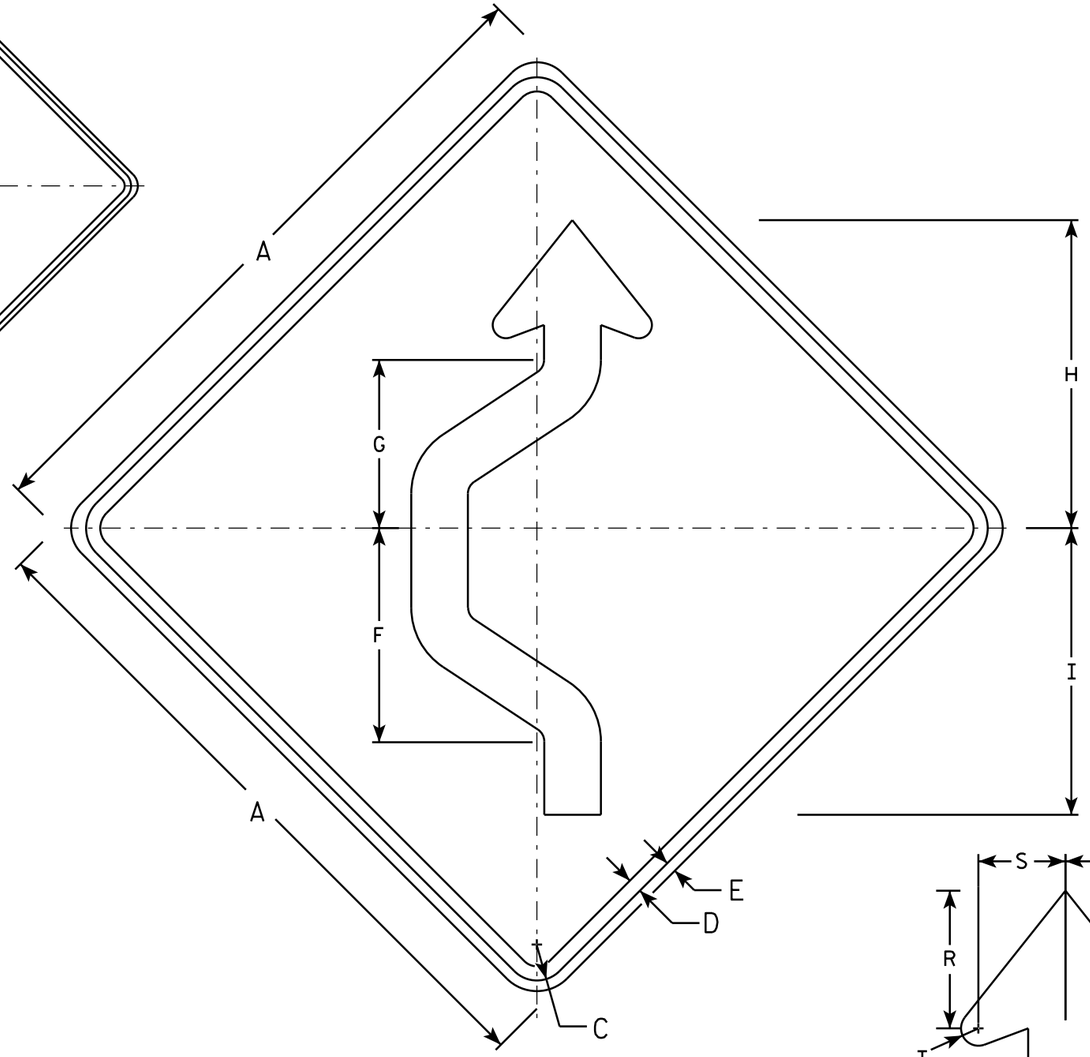
DATE 11/18/13 PLATE W01-6.1

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

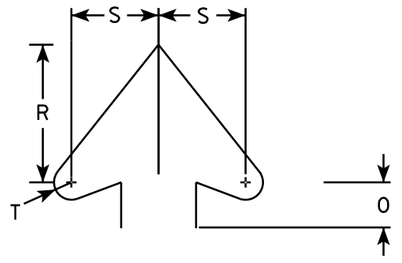
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



W024-1R



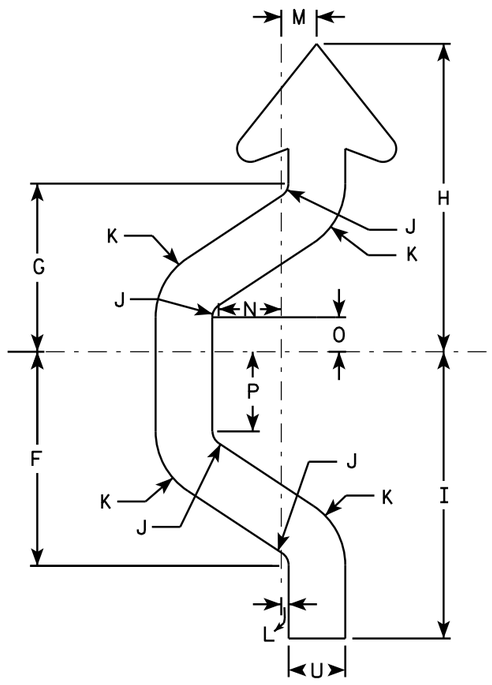
W024-1L



Arrowhead Detail

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. 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. W024-1R is the same as W024-1L except reversed along the vertical centerline.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	5/8	1/2	11 3/8	8 7/8	16 3/8	15 1/4	3/4	3 3/4	3/8	2	3 3/8	1 7/8	4 1/4		5 1/2	3 1/2	5/8	3						9
2S	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
2M	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
3	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
4	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
5	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16

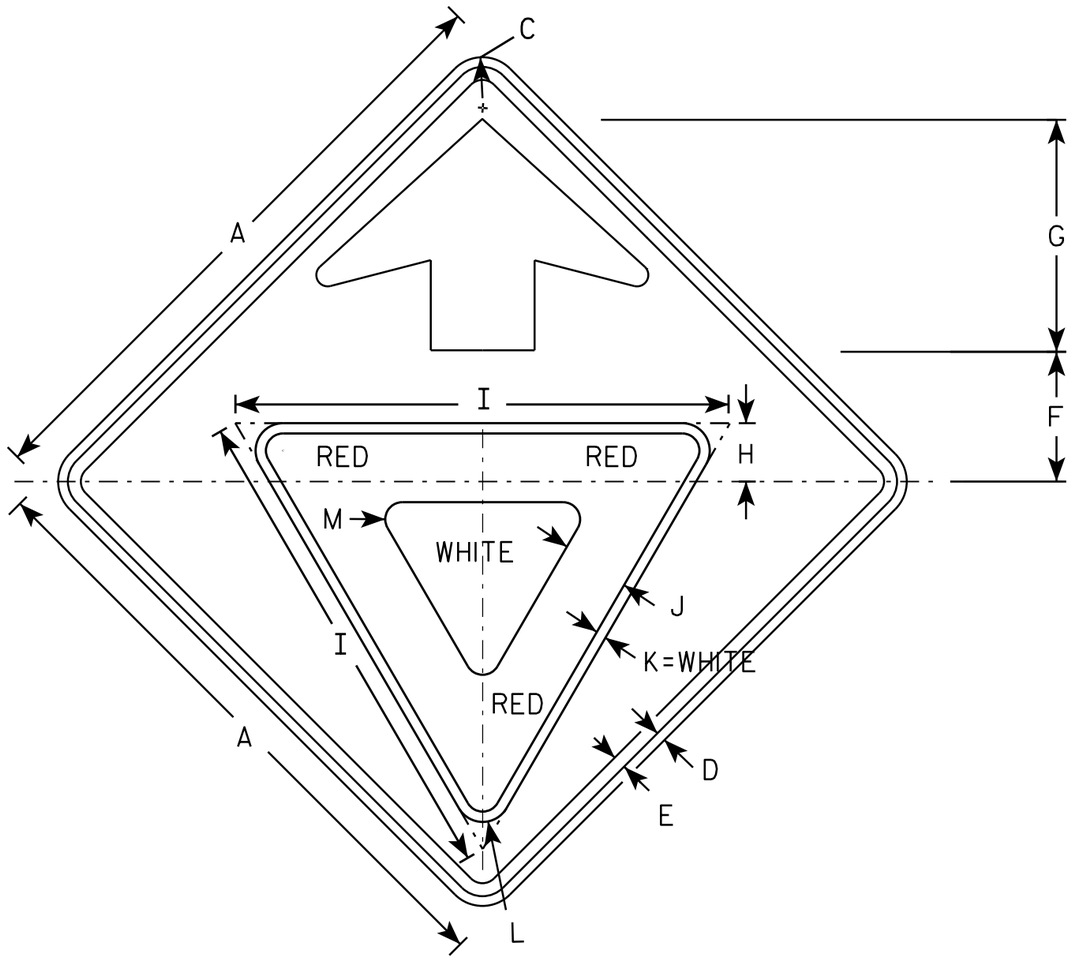
STANDARD SIGN
W024-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/25/2013 PLATE NO. W024-1.1

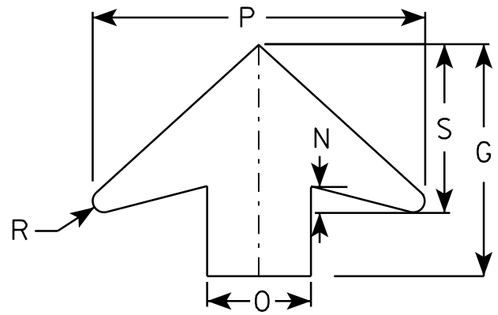
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W03-2

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - ORANGE
   Arrow & Border - BLACK
   Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

STANDARD SIGN
W03-2

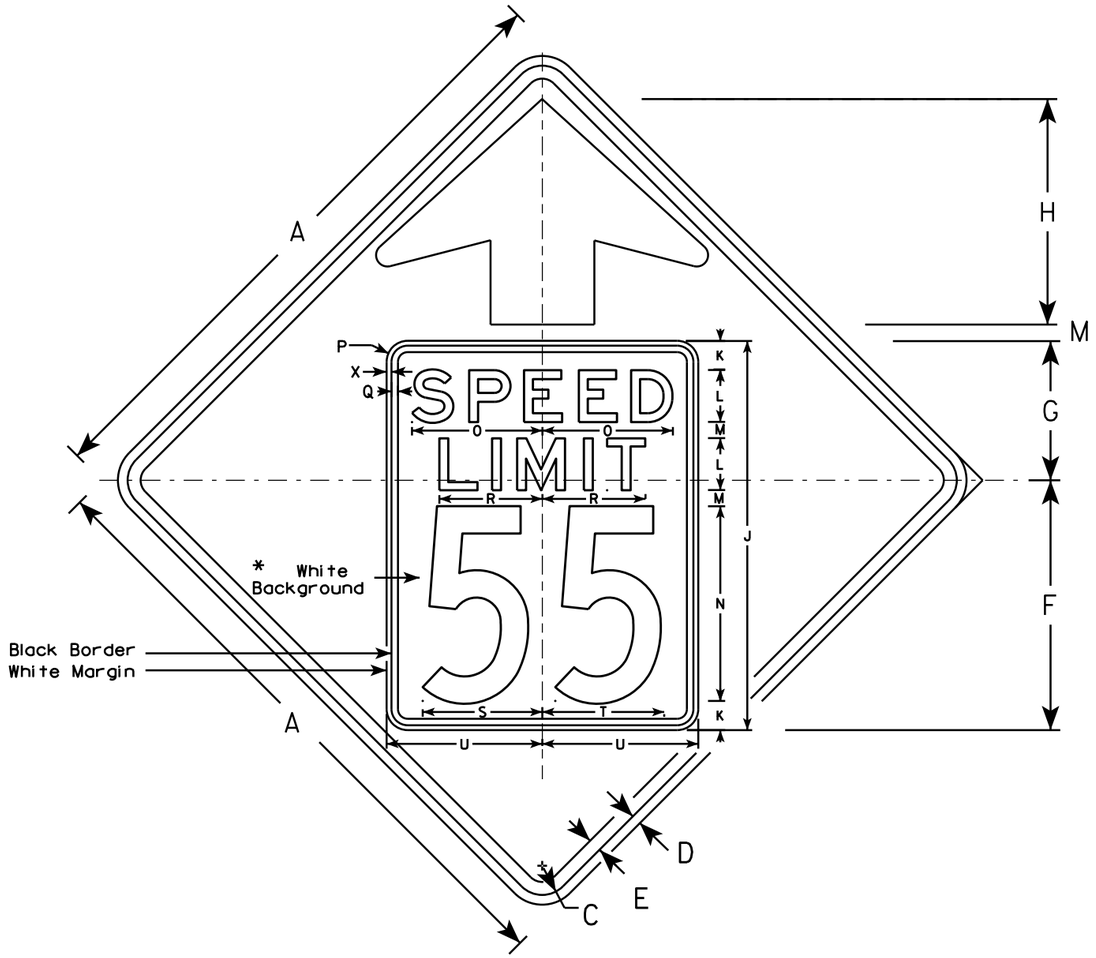
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W03-2.1

PROJECT NO:

SHEET NO: E

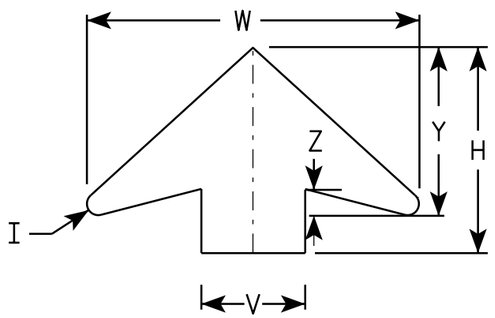


W03-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - ORANGE*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2S	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
2M	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
3	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

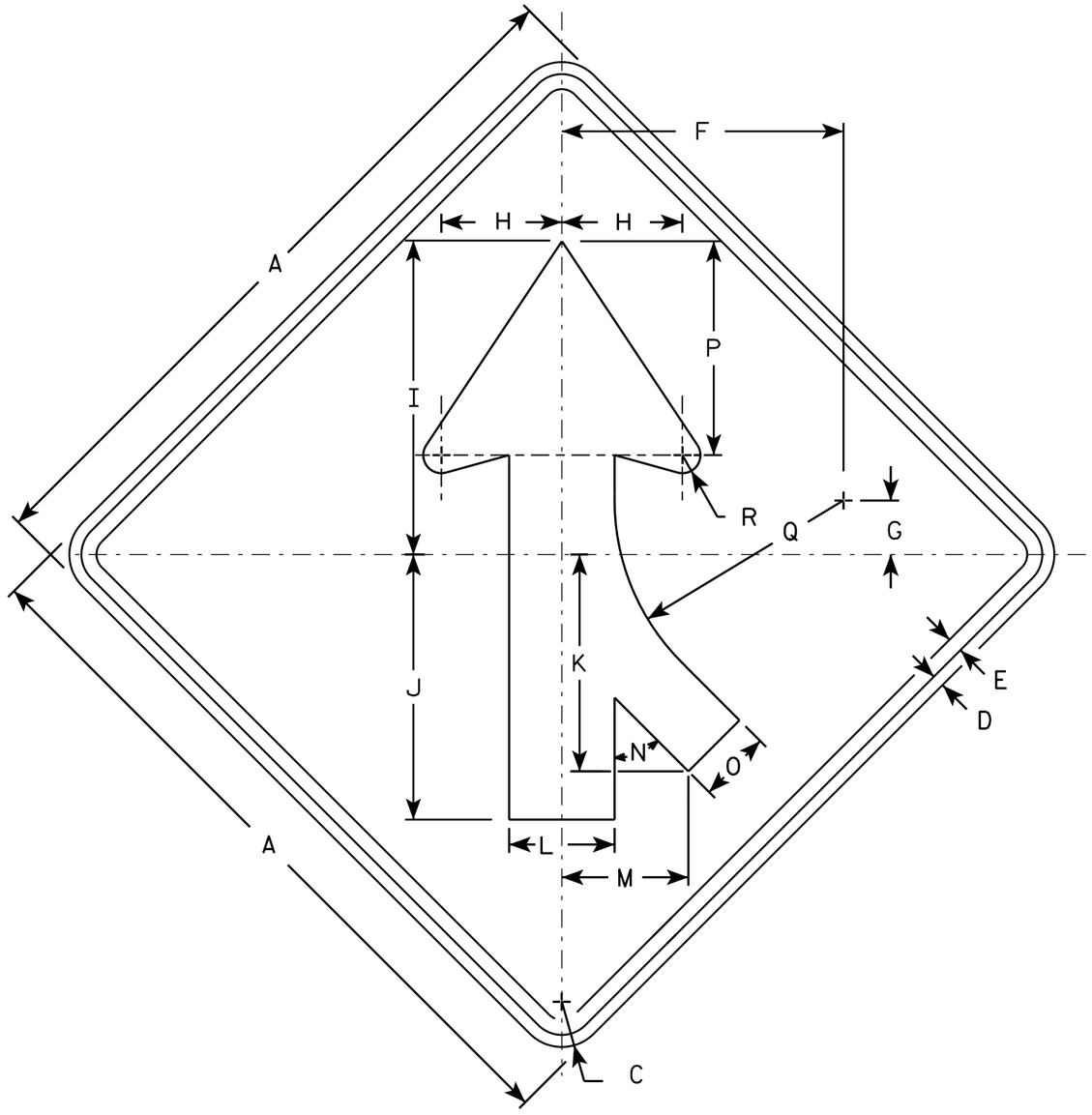
STANDARD SIGN
W03-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 477 W03-5.1

PROJECT NO: SHEET NO: E



W04-1R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. 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. W4-1L is the same as W4-1R 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	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2S	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
2M	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
3	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

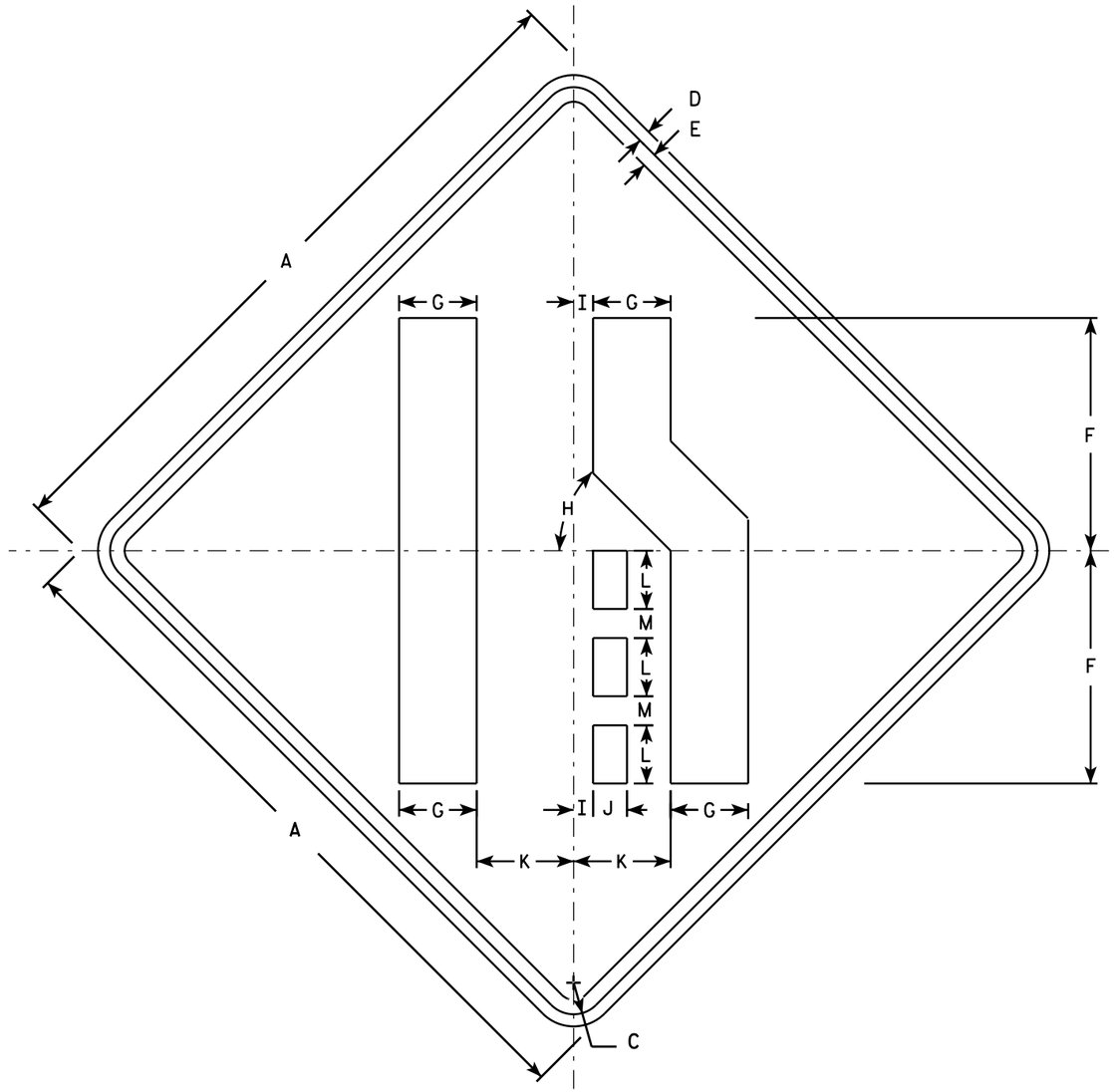
STANDARD SIGN
W04-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew L Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W04-1.1

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



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. 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. W04-2L is the same as W04-2R except the symbol 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	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

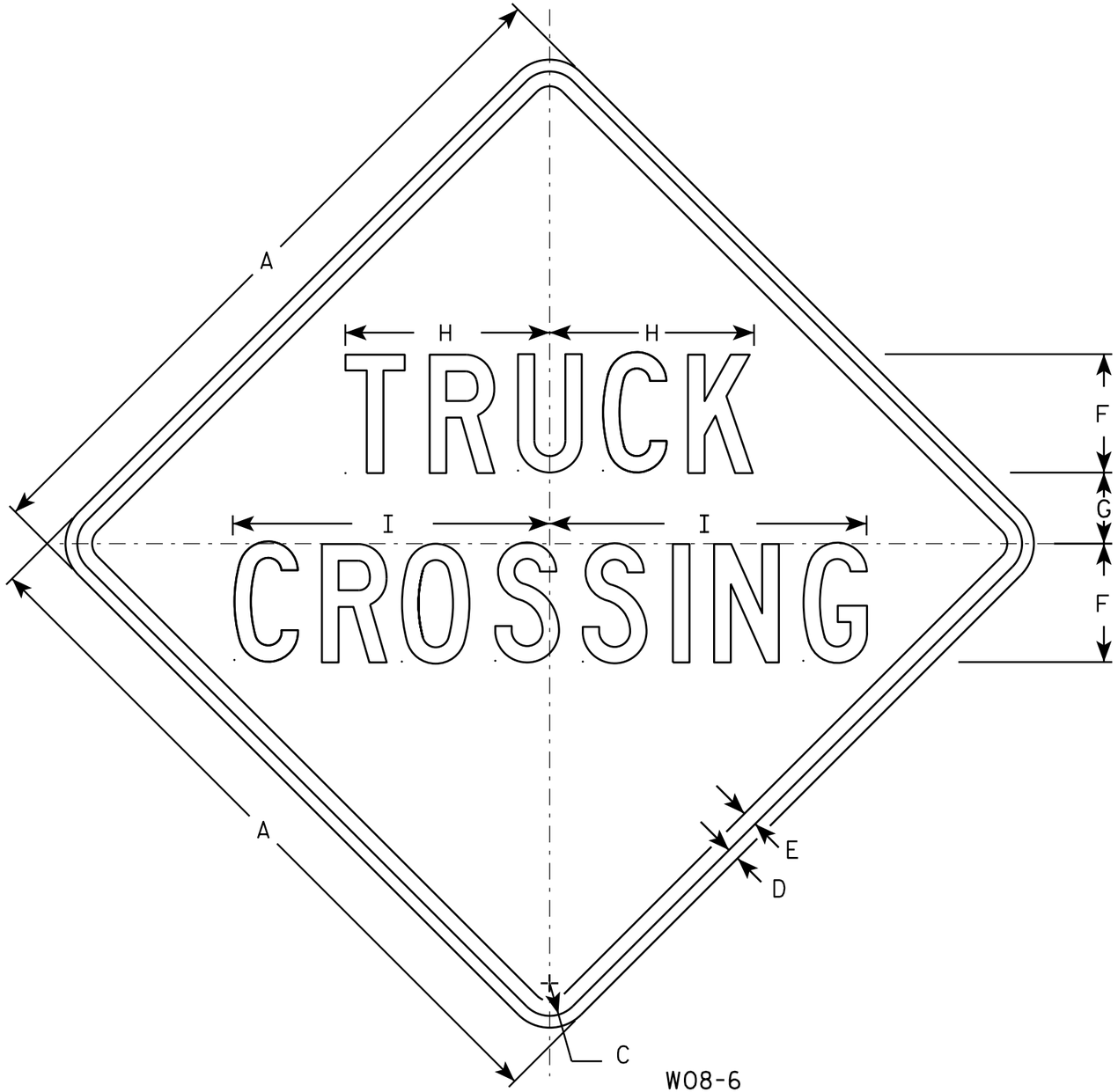
STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 479 W04-2.1

PROJECT NO: | SHEET NO: E



W08-6

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	3 1/2	10 3/8	16																		9.0
2S	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
2M	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
3	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
4	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0

STANDARD SIGN
W08-6

WISCONSIN DEPT OF TRANSPORTATION

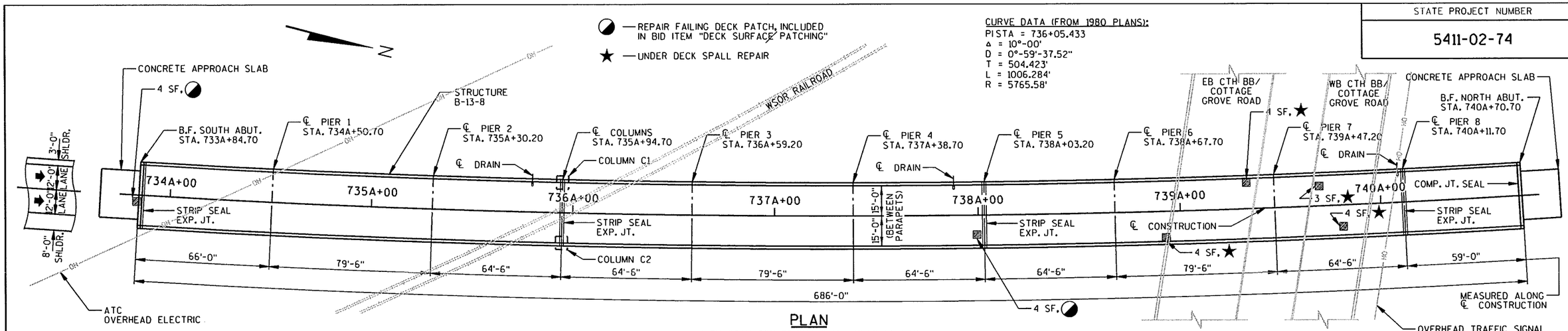
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 480 "W08-6.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

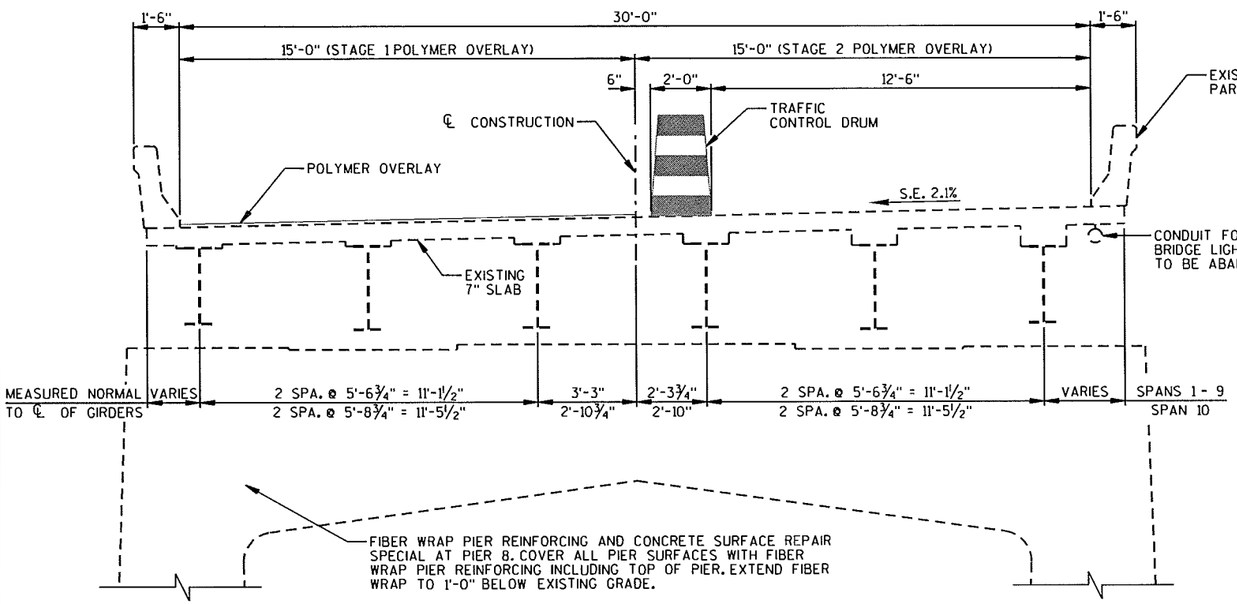
STATE PROJECT NUMBER

5411-02-74



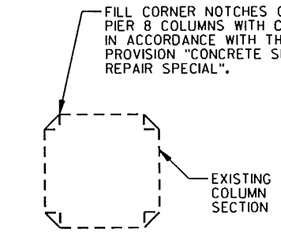
PLAN

(TEN SPAN CONTINUOUS STEEL DECK GIRDER)



CROSS SECTION THRU BRIDGE

(LOOKING NORTH - STAGE 1 SHOWN, STAGE 2 OPPOSITE)



SECTION THRU PIER 8 COLUMNS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS OF EXISTING BRIDGE MEMBERS SHOWN ARE BASED ON EXISTING PLANS. ORIGINAL 1949 PLANS AND 1980 DECK REPLACEMENT PLANS ARE AVAILABLE FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

THIS STRUCTURE WILL REHABILITATE THE EXISTING STRUCTURE B-13-8, A TEN SPAN, 686' LONG CONTINUOUS STEEL DECK GIRDER BRIDGE SET ON SILL ABUTMENTS AND RECTANGULAR COLUMN BENT PIERS.

ALL DIMENSIONS ARE RADIAL UNLESS OTHERWISE NOTED.

CHAIN DRAG SURFACE OF DECK PRIOR TO APPLICATION OF POLYMER OVERLAY AND MARK ALL AREAS OF UNSOUND CONCRETE. SAW CUT AND REMOVE UNSOUND CONCRETE AND PATCH ACCORDING TO THE SPECIAL PROVISION FOR "DECK SURFACE PATCHING". QUANTITY SHOWN IS AN ESTIMATE AND MAY VARY ACROSS THE DECK.

APPLY POLYMER OVERLAY TO DECK SURFACE AND CONCRETE APPROACH SLABS.

CLEAN AND PAINT THE BEARINGS AT THE SOUTH ABUTMENT, NORTH ABUTMENT, COLUMN C1, COLUMN C2, PIER 5, AND PIER 8.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. UNDERGROUND UTILITIES ARE NOT SHOWN.

DESIGN DATA:

LIVE LOAD:

DESIGN LOADING: HS20 (TAKE FROM HSI, 05/24/2013)
INVENTORY RATING: HS16.7 (TAKEN FROM HSI, 05/24/2013)
OPERATING RATING: HS27.8 (TAKEN FROM HSI, 05/24/2013)
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 227 KIPS (TAKEN FROM HSI, 05/24/2013)

TRAFFIC DATA:

A.A.D.T. (2015) = 55,400
A.A.D.T. (2035) = 64,200
D. = 58/42
RDS = 60 MPH

TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEM	UNIT	S. ABUT.	PIER 1	PIER 2	COLUMN 1	COLUMN 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7	PIER 8	N. ABUT.	SUPER.	TOTAL
✳	509.1500	CONCRETE SURFACE REPAIR	SF	65	20	15	25	170	50	10	180	30	100	-	65	-	730
	509.5100.S	POLYMER OVERLAY	SY	-	-	-	-	-	-	-	-	-	-	-	-	2390	2390
	SPV.0060.07	CLEANING AND PAINTING BEARINGS	EACH	6	-	-	2	2	-	-	12	-	-	12	6	-	40
	SPV.0105.01	CHAIN DRAGGING DECK	LS	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	SPV.0165.01	DECK SURFACE PATCHING	SF	-	-	-	-	-	-	-	-	-	-	-	-	250	250
	SPV.0165.02	CONCRETE SURFACE REPAIR SPECIAL	SF	-	-	-	-	-	-	-	-	-	-	900	-	-	900
	SPV.0165.03	FIBER WRAP PIER REINFORCING	SF	-	-	-	-	-	-	-	-	-	-	1050	-	-	1050
	SPV.0165.04	UNDER DECK SPALL REPAIR	SF	-	-	-	-	-	-	-	-	-	-	-	-	15	15

✳ - CONCRETE SURFACE REPAIR ON SUBSTRUCTURE UNITS AS DIRECTED BY THE FIELD ENGINEER.

LIST OF DRAWINGS

1. GENERAL PLAN

CONSULTANT DESIGN

CONTACT: LEAH RHODES (608) 355-8945

BRIDGE OFFICE CONTACT: WILLIAM DREHER (608) 266-8489

NO.	DATE	REVISION	BY

MSA PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL

1230 South Boulevard Baraboo, WI 53913

608-356-2771 1-800-362-4305 Fax: 608-356-2770

WISCONSIN LEAH J. RHODES E-41726 BARABOO WI PROFESSIONAL ENGINEER

Leah J. Rhodes 8/1/14

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 09/17/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-13-8

USH 51 NB OVER WSOR RAILROAD & CTH BB

COUNTY DANE — ~~TOWN~~/CITY/~~VILLAGE~~ MADISON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
		LJR	JRS

GENERAL PLAN

SHEET 1 OF 1

481

FILE= 00093080_01.DGN
DATE= 8-1-2014

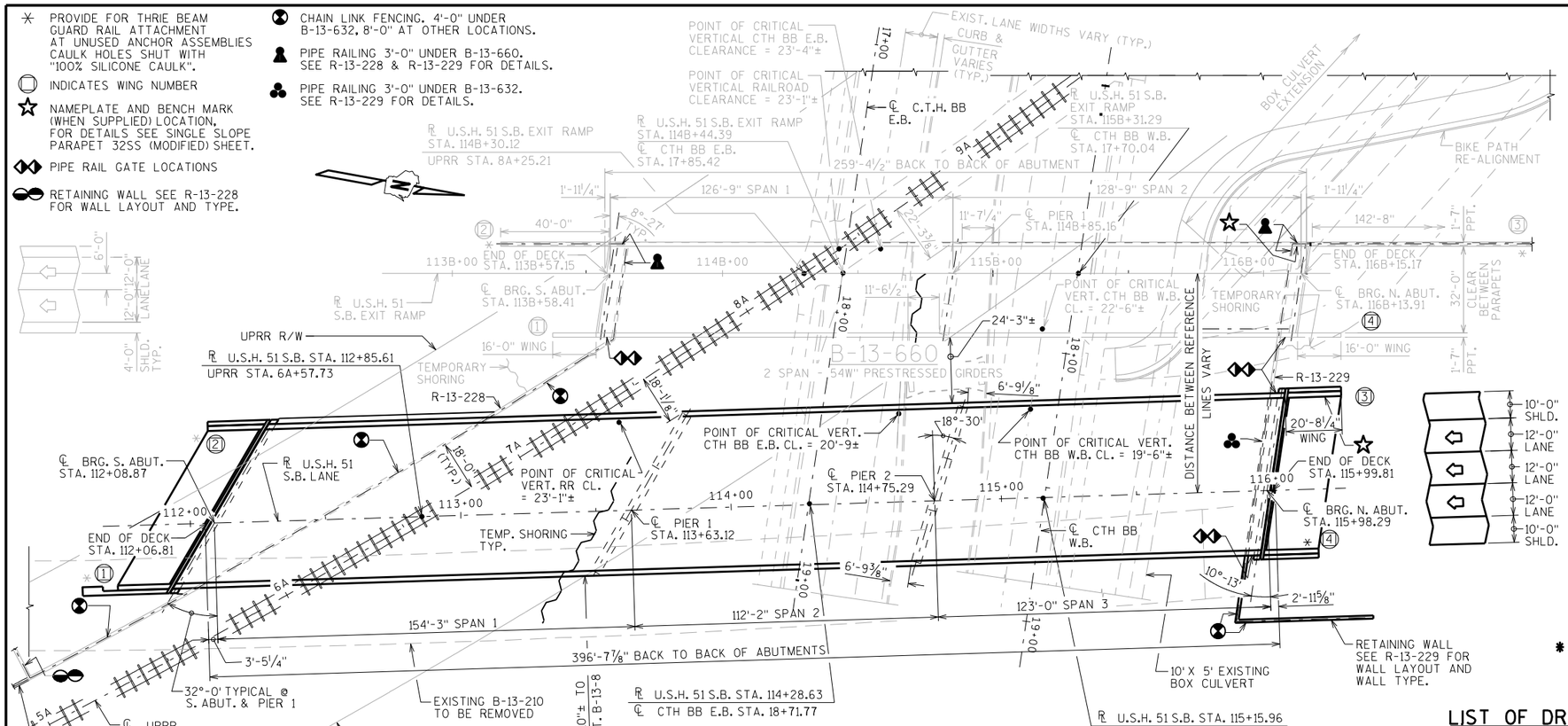
8

8

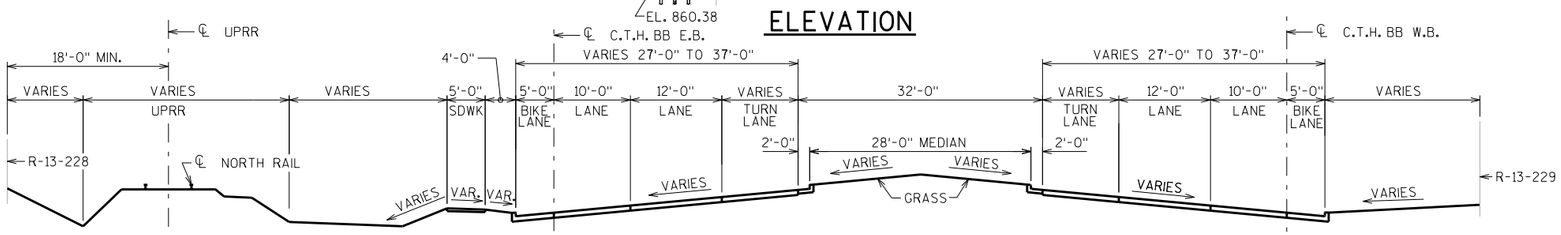
STATE PROJECT NUMBER

5411-02-74

- PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".
- INDICATES WING NUMBER
- NAMEPLATE AND BENCH MARK (WHEN SUPPLIED) LOCATION, FOR DETAILS SEE SINGLE SLOPE PARAPET 32SS (MODIFIED) SHEET.
- PIPE RAIL GATE LOCATIONS
- RETAINING WALL SEE R-13-228 FOR WALL LAYOUT AND TYPE.
- CHAIN LINK FENCING. 4'-0" UNDER B-13-632, 8'-0" AT OTHER LOCATIONS.
- PIPE RAILING 3'-0" UNDER B-13-660. SEE R-13-228 & R-13-229 FOR DETAILS.
- PIPE RAILING 3'-0" UNDER B-13-632. SEE R-13-229 FOR DETAILS.



ELEVATION



EXISTING TYPICAL SECTION C.T.H. BB AND UPRR

DESIGN DATA

LIVE LOAD:

DESIGN LOADING; HL-93
INVENTORY RATING FACTOR: RF=1.13
OPERATING RATING FACTOR: RF=1.47
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 240 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY - SLAB ——— f'c = 4,000 P.S.I.
CONCRETE MASONRY - ALL OTHERS ——— f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT, GRADE 60 ——— fy = 60,000 P.S.I.

72W" PRESTRESSED GIRDERS, CONCRETE MASONRY- f'c = 8,000 P.S.I.
STRANDS- 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10X42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ✱✱PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 70'-0" LONG (SOUTH ABUTMENT)
ESTIMATED 45'-0" LONG (NORTH ABUTMENT).

PIER TO BE SUPPORTED ON HP 12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ✱✱ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 25'-0" LONG (PIER 1)
ESTIMATED 35'-0" LONG (PIER 2).

✱✱ THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. PROFILE GRADE LINES
4. SUBSURFACE EXPLORATION
5. SUBSURFACE EXPLORATION 1
6. SOUTH ABUTMENT
7. SOUTH ABUTMENT DETAILS
8. NORTH ABUTMENT
9. NORTH ABUTMENT DETAILS
10. PIER 1
11. PIER 1 DETAILS
12. PIER 2
13. PIER 2 DETAILS
14. 72W" PRESTRESSED GIRDER DETAILS
15. 72W" PRESTRESSED GIRDER DETAILS 2
16. 72W" PRESTRESSED GIRDER DETAILS 3
17. 72W" PRESTRESSED GIRDER DETAILS 4
18. STEEL DIAPHRAGM
19. EXPANSION DEVICE
20. COVER PLATE DETAILS
21. PRESTRESSED SOUTH ABUTMENT GIRDER BEARINGS
22. PRESTRESSED NORTH ABUTMENT GIRDER BEARINGS
23. SUPERSTRUCTURE CROSS SECTION
24. SUPERSTRUCTURE PLAN VIEWS
25. SUPERSTRUCTURE DETAILS
26. SOUTH STRUCTURAL APPROACH SLAB DETAILS
27. NORTH STRUCTURAL APPROACH SLAB DETAILS
28. SINGLE SLOPE PARAPET 32SS WITH STRUCTURAL APPROACH SLAB (MODIFIED)
29. SINGLE SLOPE PARAPET 32SS WITH STRUCTURAL APPROACH SLAB (MODIFIED)
30. AESTHETICS DETAILS
31. ALTERNATE CONSTRUCTION JOINT
32. SOUTH ABUT. CONC. (CAST-IN-PLACE) SLOPE PAVING

TRAFFIC VOLUME

U.S.H. 51 S.B.
A.D.T.=64,200 (2035)
R.D.S.=60 M.P.H.

STRUCTURE DESIGN CONTACTS:
VU THAO (608) 267-2869
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher AMB 12/5/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-13-632

U.S.H. 51 S.B. OVER UPRR AND C.T.H. BB

COUNTY	DANE	~~TOWN~~/CITY/~~VILLAGE~~	MADISON
DESIGN SPEC.	AASHTO LRFD DESIGN SPECIFICATIONS		
DESIGNED BY	VT	DESIGN CK'D. SDR	DRAWN BY DDS / PLANS CK'D. SAD

GENERAL PLAN

SHEET 1 OF 31

482

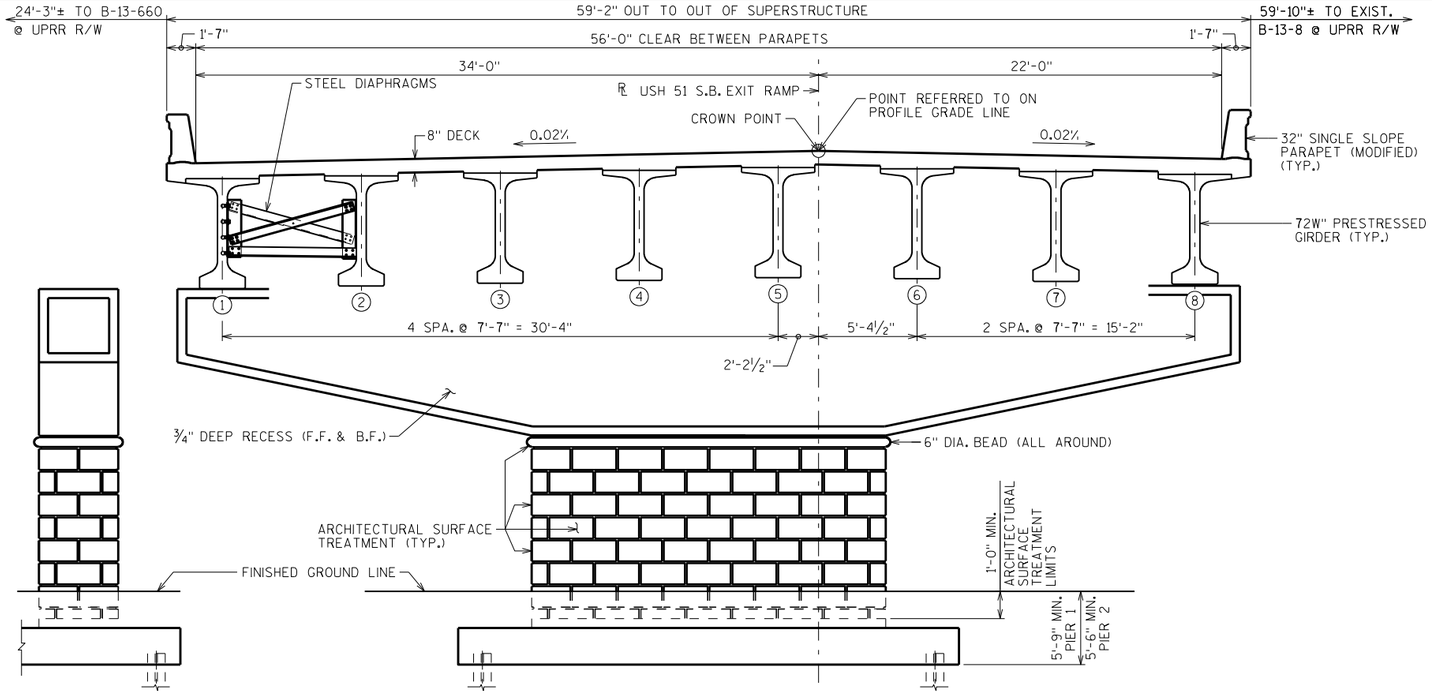
I.D. 5411-02-04

DATE: **DEC. 2014**

SCALE = 24.00

8

8



END VIEW

CROSS SECTION THRU ROADWAY - LOOKING NORTH

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	SOUTH APPROACH SLAB	SOUTH ABUT.	PIER 1	PIER 2	NORTH ABUT.	NORTH APPROACH SLAB	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 114+76.20	LS	———	———	———	———	———	———	———	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-13-632	LS	———	———	———	———	———	———	———	1
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	———	240	———	———	———	———	207	447
502.0100	CONCRETE MASONRY BRIDGES	CY	849	90	197	261	159	130	80	1,766
502.3100	EXPANSION DEVICE B-13-632	LS	———	———	———	———	———	———	———	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	2,770	155	———	———	———	———	145	3,070
503.0172	PRESTRESSED GIRDER TYPE I 72W-INCH	LF	3,107	———	———	———	———	———	———	3,107
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	———	———	8,545	6,390	3,380	5,475	———	23,790
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	193,735	14,930	11,730	45,715	29,080	7,760	13,600	316,550
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	———	———	———	16	16	———	———	32
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	———	———	8	———	———	8	———	16
506.4000	STEEL DIAPHRAGMS B-13-632	EACH	42	———	———	———	———	———	———	42
511.1200	TEMPORARY SHORING B-13-632	SF	———	———	———	320	530	———	———	850
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	———	———	22	———	———	17	———	39
517.1010.S	CONCRETE STAINING B-13-632	SF	11,275	150	815	2,550	1,710	580	120	17,200
517.1050.S	ARCHITECTURAL SURFACE TREATMENT B-13-632	SF	2,080	150	815	2,550	1,710	580	120	8,005
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	———	———	1,610	———	———	900	———	2,510
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	———	———	———	1,050	1,225	———	———	2,275
604.0400	SLOPE PAVING CONCRETE	SY	———	———	290	———	———	16	———	306
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	———	———	2	———	———	1	———	3
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	———	———	———	———	23	———	———	23
652.0310	CONDUIT RIGID NONMETALLIC SCHEDULE 80 1-INCH	LF	———	———	———	———	4	———	———	4
652.0325	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	LF	———	———	———	———	19	———	———	19
653.0208	JUNCTION BOXES 8X8X8-INCH	EACH	———	———	———	———	1	———	———	1
SPV.0060	4X4X4-INCH FLUSH MOUNTED JUNCTION BOX B-13-632	EACH	———	———	———	———	2	———	———	2
SPV.0085	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	———	1,020	———	———	———	———	1,020	2040
	NON-BID ITEMS									
	BRIDGE SEAT PROTECTION	L.S.	———	———	———	———	———	———	———	1
	FILLER	SIZE	———	———	———	———	———	———	———	½" & ¾"

STATE PROJECT NUMBER

5411-02-74

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF ALL ABUTMENTS AND PIERS BELOW EXPANSION DEVICES.

THE FINISHED CONCRETE STAIN BASE COLOR SHALL BE PEARL GRAY (FEDERAL COLOR NO. 26622). THIS SHALL BE PAID FOR UNDER BID ITEM "CONCRETE STAINING B-13-632".

THE FINISHED CONCRETE STAIN ACCENT COLOR SHALL BE MEDIUM GRAY (FEDERAL COLOR NO. 36373). THIS SHALL BE PAID FOR UNDER BID ITEM "CONCRETE STAINING B-13-632".

ALL "ARCHITECTURAL SURFACE TREATMENT B-13-632" AND "CONCRETE STAINING B-13-632" SHALL EXTEND A MINIMUM OF 1'-0" BELOW FINISHED GRADE LINE.

THE ARCHITECTURAL SURFACE TREATMENT PATTERN SHALL BE LEVEL AND WRAP AROUND/MATCH PATTERN(S) AT THE CORNERS.

AT ABUTMENTS HP 12 X 53 STEEL PILING MAY BE USED IN LIEU OF HP 10 X 42 STEEL PILING. PAYMENT SHALL BE BASED ON BID PRICE FOR HP 10 X 42 STEEL PILING.

UPRR NOTES

THE ELEVATION OF THE EXISTING TOP-OF-RAIL PROFILE SHALL BE VERIFIED BEFORE BEGINNING CONSTRUCTION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.

THE CONTRACTOR MUST SUBMIT A PROPOSED METHOD OF EROSION AND SEDIMENT CONTROL AND HAVE THE METHOD APPROVED BY THE RAILROAD.

ALL SHORING SYSTEMS THAT IMPACT THE RAILROAD'S OPERATIONS AND/OR SUPPORTS THE RAILROAD'S EMBANKMENT SHALL BE DESIGNED AND CONSTRUCTED PER CURRENT RAILROAD GUIDELINES FOR TEMPORARY SHORING.

ERECTION OVER THE RAILROAD'S RIGHT-OF-WAY SHALL BE DESIGNED TO CAUSE NO INTERRUPTION TO RAILROAD'S OPERATION, ENABLING THE TRACK(S) TO REMAIN OPEN TO TRAFFIC PER THE RAILROAD'S REQUIREMENTS.

RAILROAD REQUIREMENTS DO NOT ALLOW WORK WITHIN 50 FEET OF TRACK CENTERLINE WHEN A TRAIN PASSES THE WORK SITE AND ALL PERSONNEL MUST CLEAR THE AREA WITHIN 25 FEET OF THE TRACK CENTERLINE AND SECURE ALL EQUIPMENT.

FLASE-WORK CLEARANCES SHALL COMPLY WITH MINIMUM CONSTRUCTION CLEARANCES.

ALL PERMANENT CLEARANCES SHALL BE VERIFIED BEFORE PROJECT CLOSING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

CROSS SECTION & QUANTITIES

SHEET 2

483

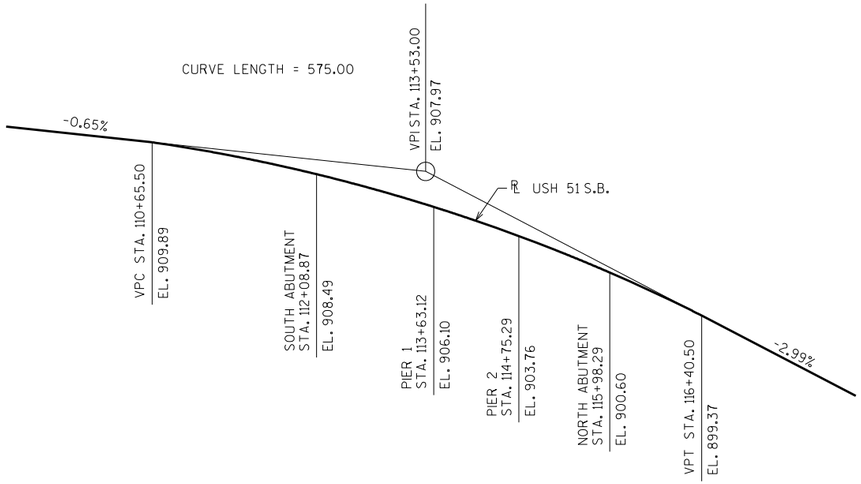
8

8

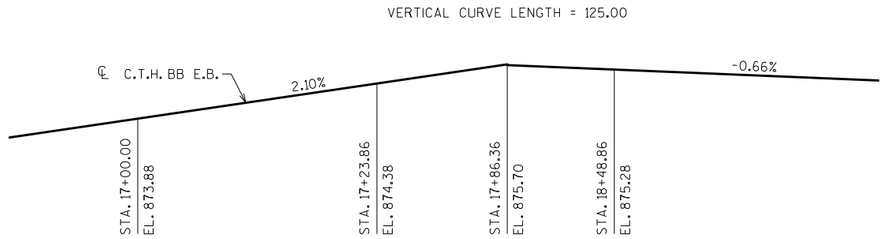
SCALE = 4.0

STATE PROJECT NUMBER

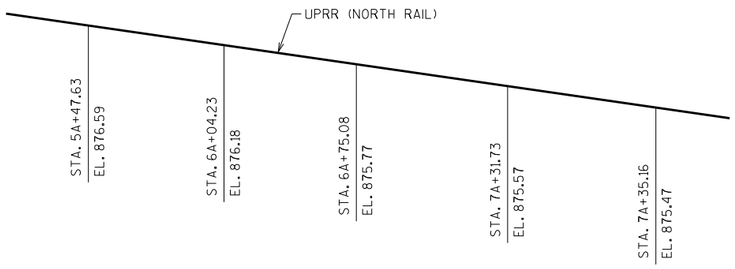
5411-02-74



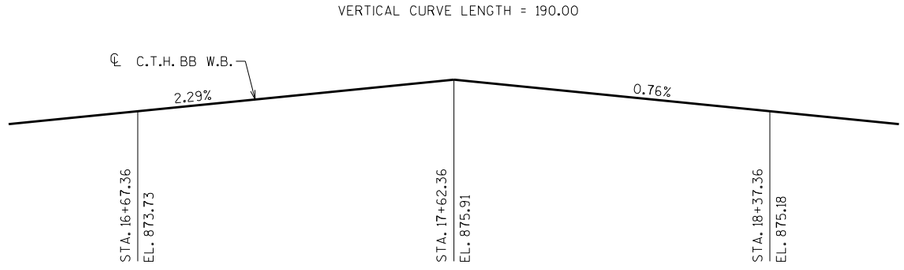
PROPOSED PROFILE GRADE LINE - U.S.H. 51 S.B.



EXISTING PROFILE GRADE LINE - C.T.H. BB E.B.



EXISTING PROFILE GRADE LINE - UPRR (NORTH RAIL)



EXISTING PROFILE GRADE LINE - C.T.H. BB W.B.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

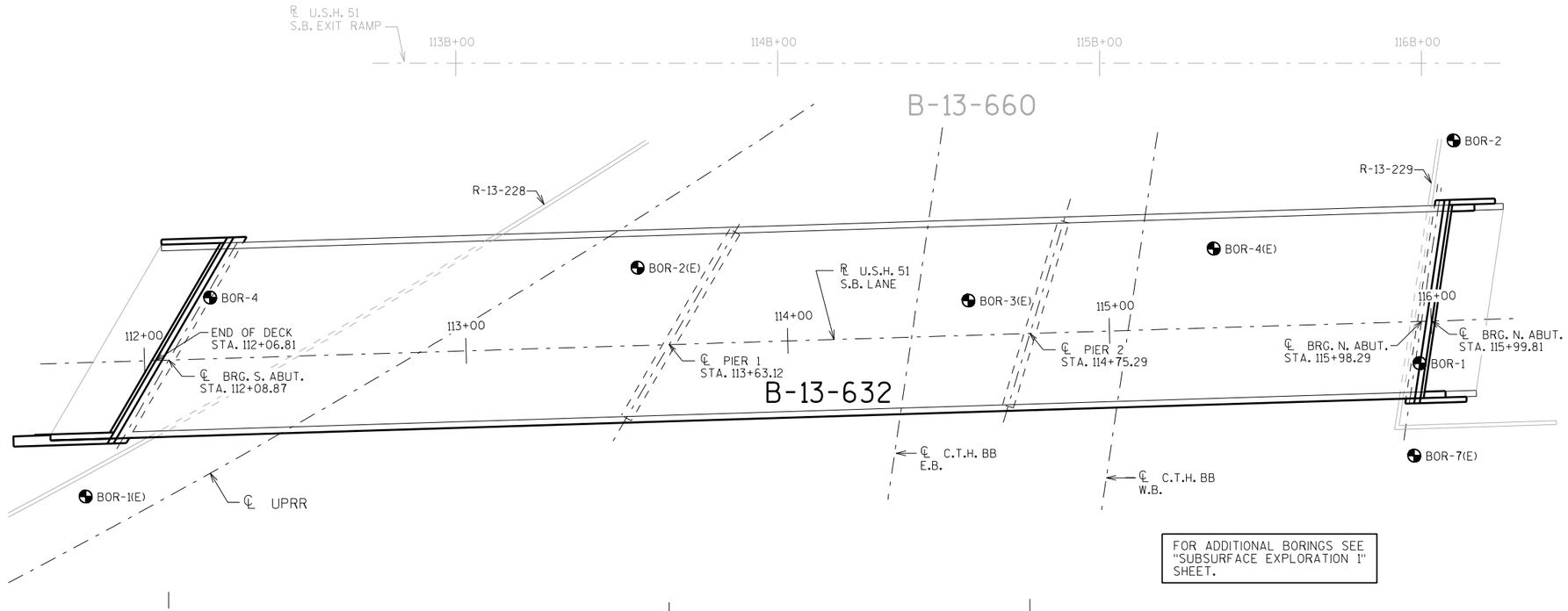
PROFILE GRADE LINES

SHEET 3

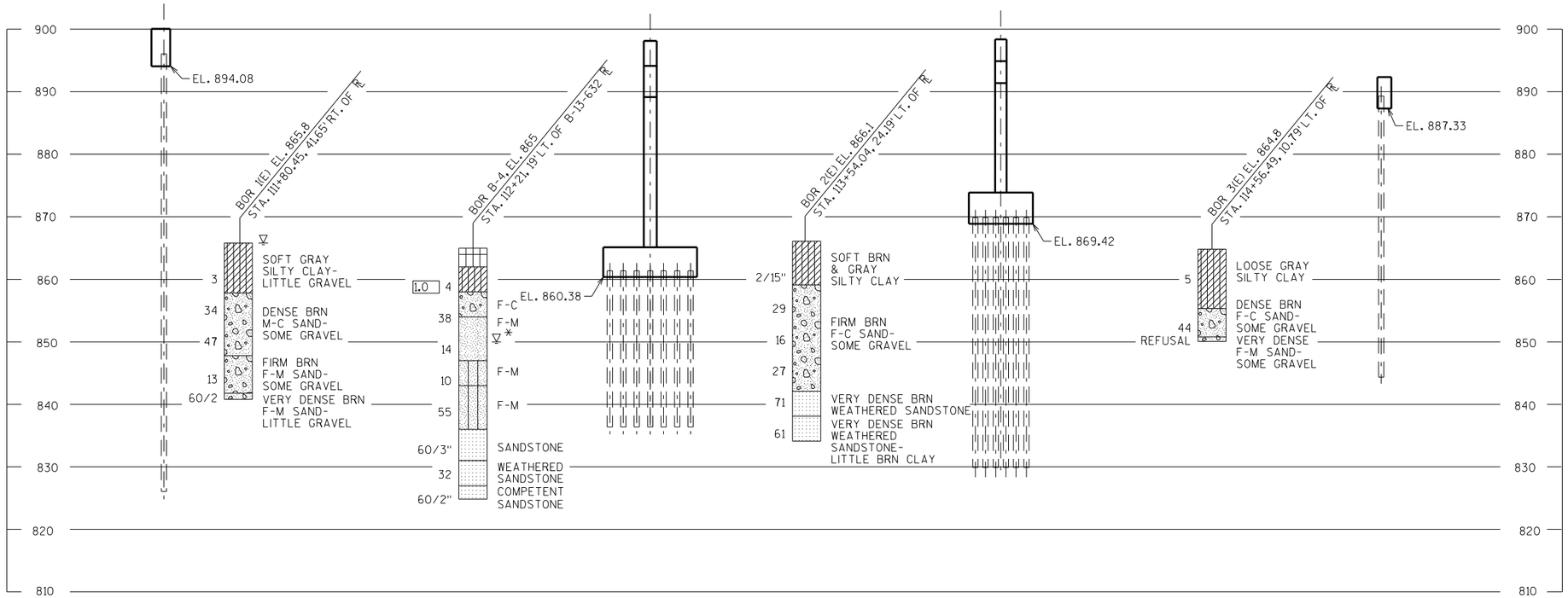
484

SCALE = 4.0

STOUGHTON - MADISON



FOR ADDITIONAL BORINGS SEE "SUBSURFACE EXPLORATION 1" SHEET.



BORINGS DESIGNATED AS "(E)" WERE DERIVED FROM EXISTING STRUCTURE B-13-210, 1967 PLANS

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

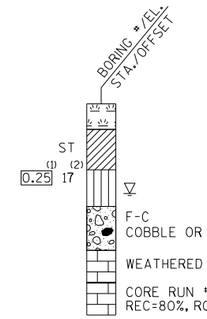
STATE PROJECT NUMBER

5411-02-74

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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY PR/DDS | PLANS CK'D. SAD

SUBSURFACE EXPLORATION

SHEET 4

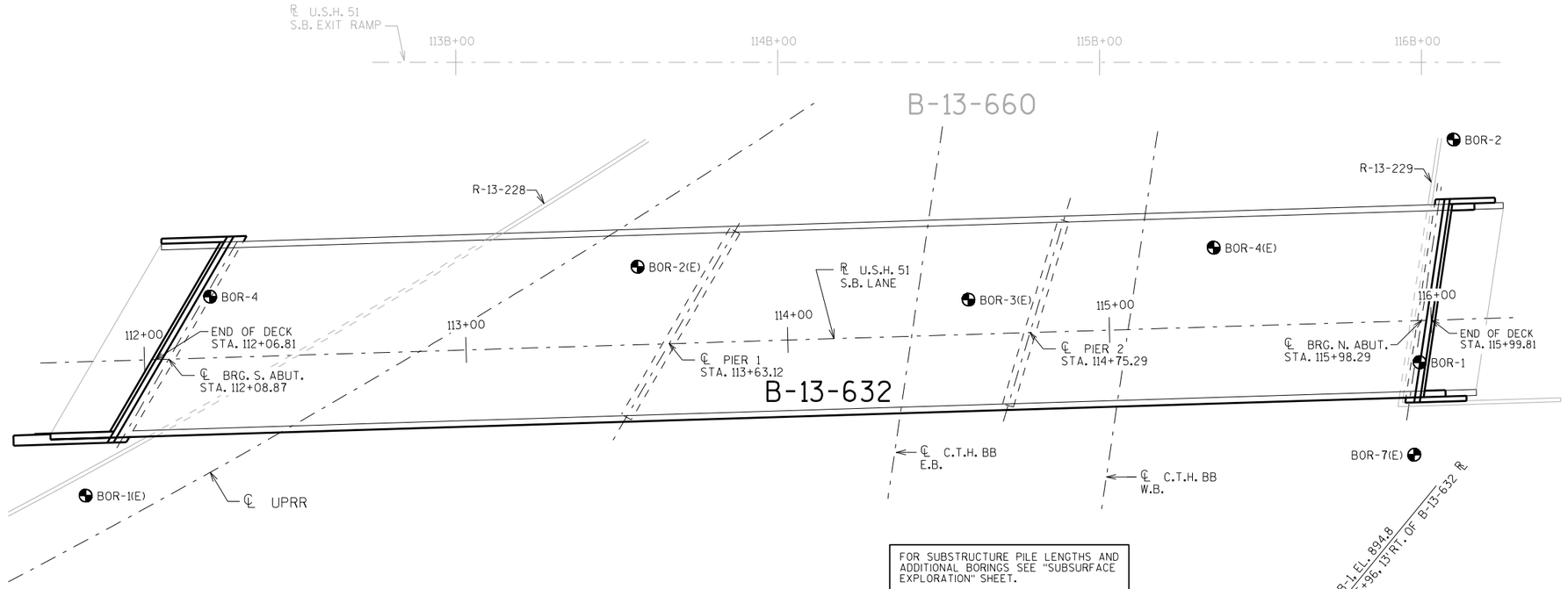
485

8

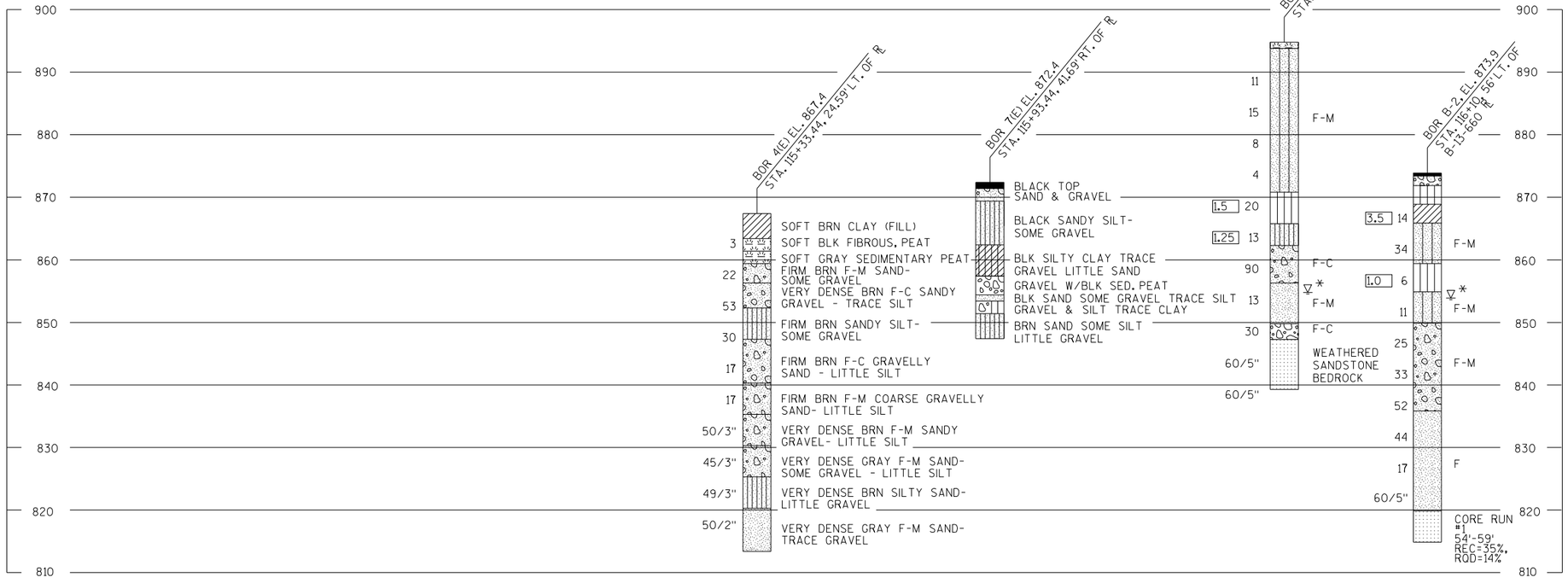
8

SCALE = 20

STOUGHTON - MADISON



FOR SUBSTRUCTURE PILE LENGTHS AND ADDITIONAL BORINGS SEE "SUBSURFACE EXPLORATION" SHEET.



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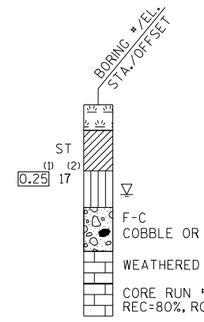
STATE PROJECT NUMBER

5411-02-74

MATERIAL SYMBOLS

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

LEGEND OF BORING



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GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ END OF DRILLING

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY PR/DDS PLANS CK'D. SAD

SUBSURFACE EXPLORATION 1

SHEET 5

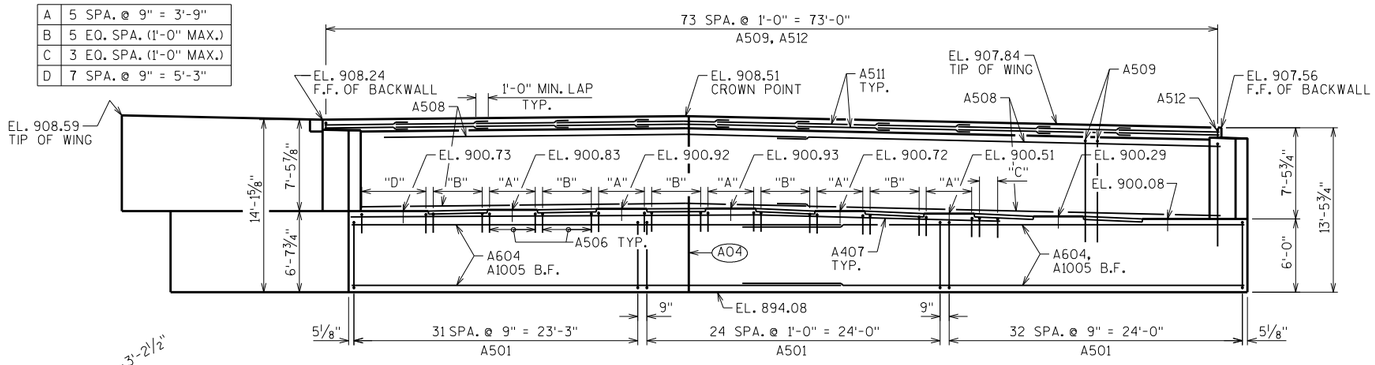
486

SCALE = 20

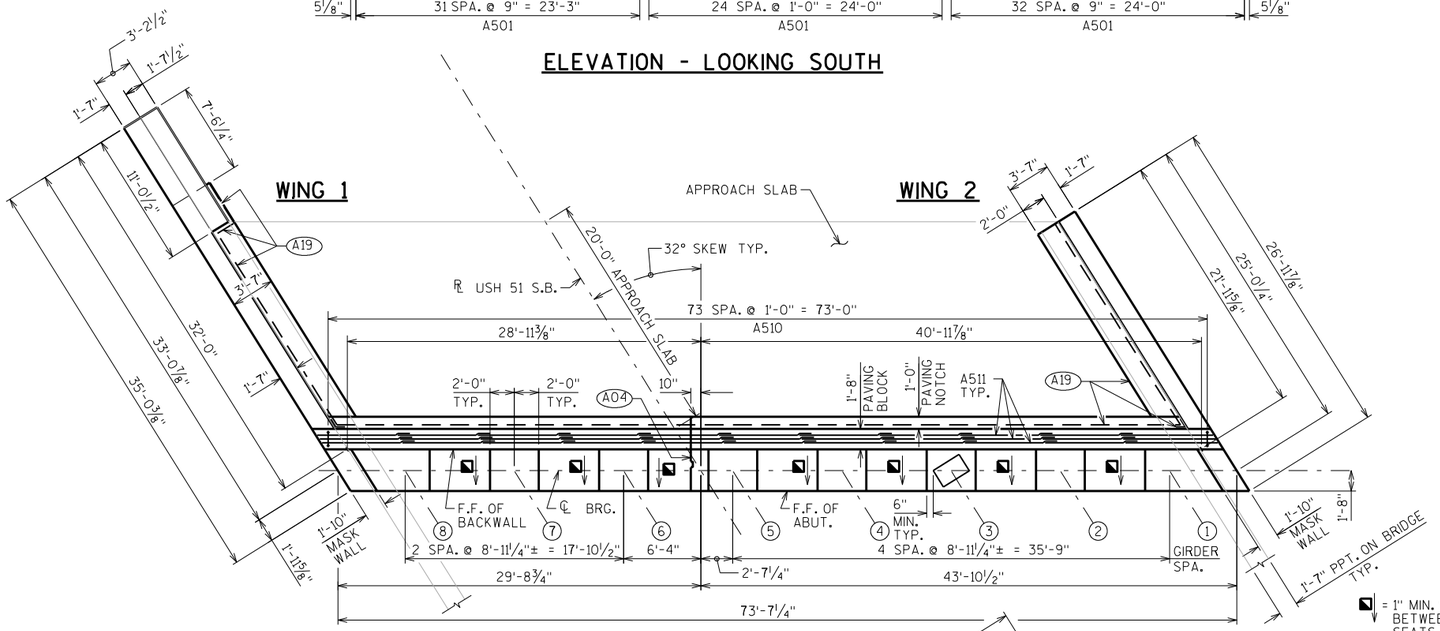
8

8

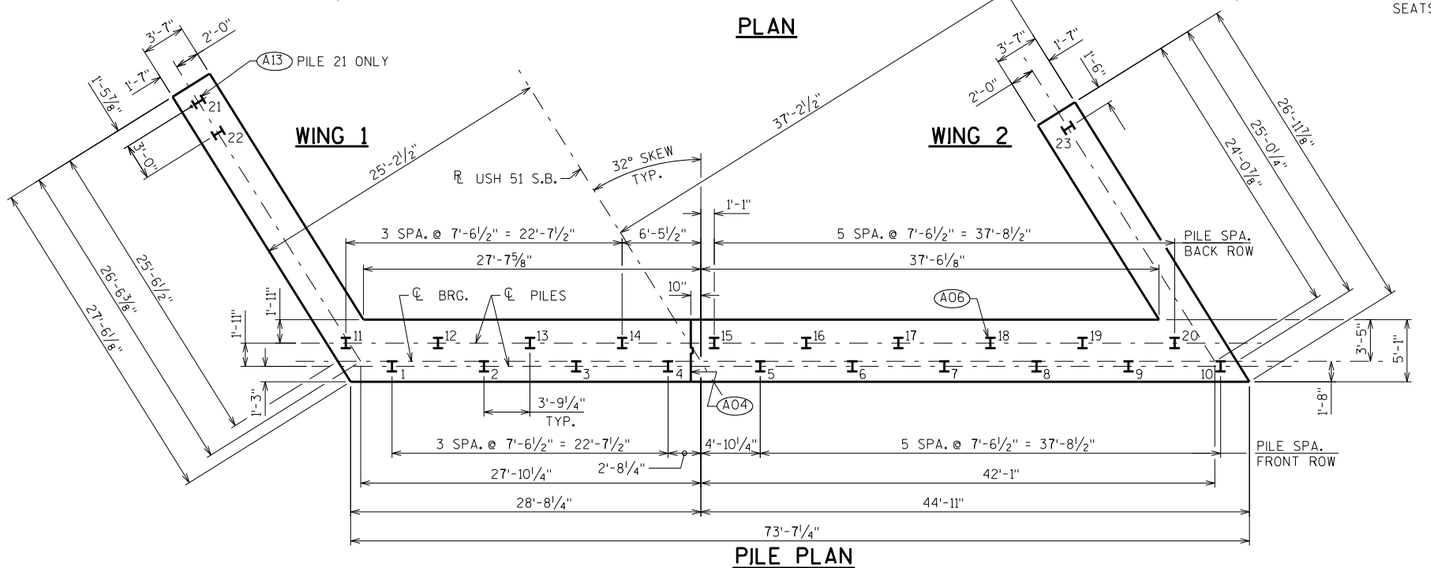
A	5 SPA. @ 9" = 3'-9"
B	5 EQ. SPA. (1'-0" MAX.)
C	3 EQ. SPA. (1'-0" MAX.)
D	7 SPA. @ 9" = 5'-3"



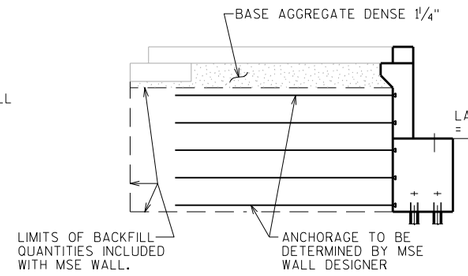
ELEVATION - LOOKING SOUTH



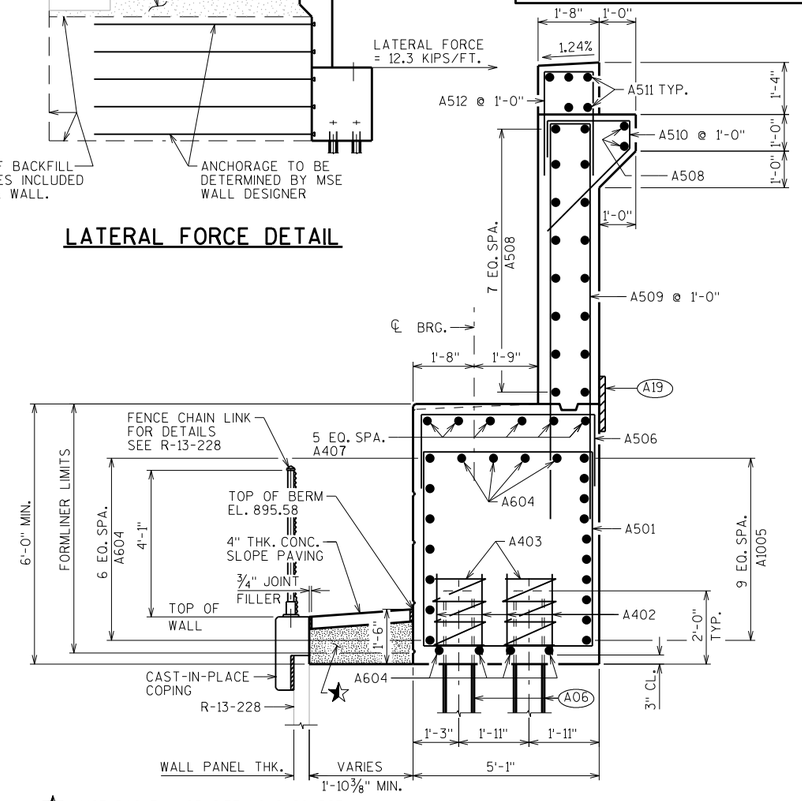
PLAN



PILE PLAN



LATERAL FORCE DETAIL



= MSE BACKFILL OR SIZE NO. 2 COURSE AGGREGATE. COST INCIDENTAL TO BID ITEM "SLOPE PAVING CONCRETE".

SECTION THRU BODY

(A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 X 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

(A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 70'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(A13) INDICATES PILE BATTERED 4" PER FT. IN DIRECTION OF ARROW.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

SOUTH ABUTMENT

SHEET 6

487

STATE PROJECT NUMBER

5411-02-74

8

8

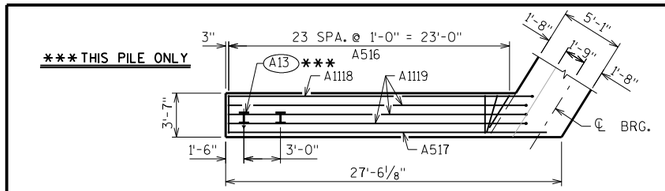
SCALE = 6

STATE PROJECT NUMBER
5411-02-74

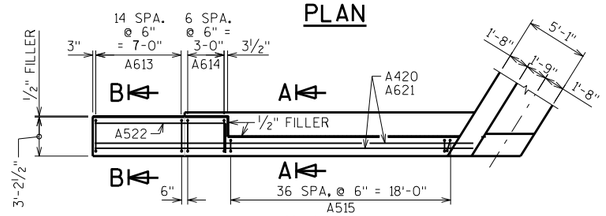
BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		90	20'-11"	X		BODY - STIRRUP
A402		40	2'-3"			PILE - 2 PER BODY PILE
A403		20	28'-0"	X		PILE - 1 PER BODY PILE
A604		30	38'-4"			BODY - HORIZ.
A1005		20	41'-7"			BODY - HORIZ. - B.F.
A506		74	8'-0"	X		BODY - VERT.
A407		12	27'-10"			BODY - HORIZ.
A508	X	36	38'-1"			BACKWALL - HORIZ.
A509	X	74	17'-11"	X		BACKWALL - VERT.
A510	X	74	6'-9"	X		CORBEL - VERT.
A511	X	55	7'-8"			PAVING BLOCK - HORIZ.
A512	X	74	5'-5"	X		PAVING BLOCK - VERT.
A513	X	15	17'-1"	X		WING 1 - VERT.
A514	X	7	21'-8"	X		WING 1 - VERT.
A515	X	37	20'-0"	X		WING 1 - VERT.
A516	X	24	19'-4"	X		WING 1 - STIRRUP
A517	X	7	26'-2"			WING 1 - HORIZ. - F.F.
A1118	X	10	26'-10"	X		WING 1 - HORIZ. - B.F.
A1119	X	3	26'-0"			WING 1 - HORIZ.
A420	X	19	31'-0"			WING 1 - HORIZ.
A621	X	2	31'-0"			WING 1 - HORIZ. - TOP
A522	X	13	13'-3"	X		WING 1 - HORIZ. - B.F.
A523	X	41	20'-4"	X		WING 2 - VERT.
A524	X	21	18'-1"	X		WING 2 - STIRRUP
A525	X	7	25'-3"			WING 2 - HORIZ. - F.F.
A1026	X	8	25'-5"	X		WING 2 - HORIZ. - B.F.
A1027	X	3	25'-11"	X		WING 2 - HORIZ.
A428	X	19	21'-9"			WING 2 - HORIZ.
A629	X	2	21'-9"			WING 2 - HORIZ. - TOP
A530	X	7	5'-2"			WING 1/MASK WALL - HORIZ.
A531	X	5	7'-9"			WING 1/MASK WALL - VERT.
A532	X	7	5'-2"			WING 2/MASK WALL - HORIZ.
A533	X	5	7'-8"			WING 2/MASK WALL - VERT.



PLAN



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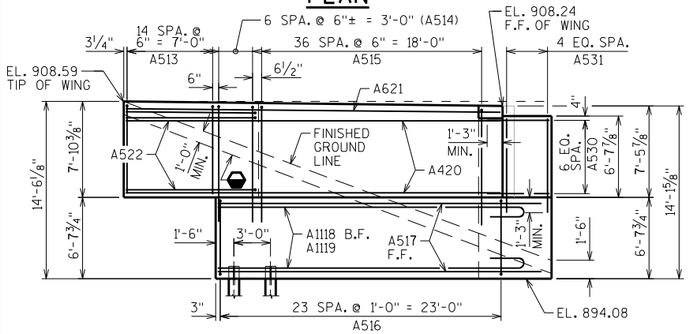
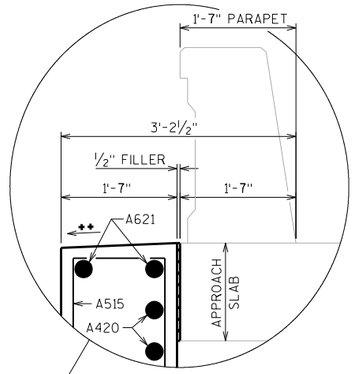
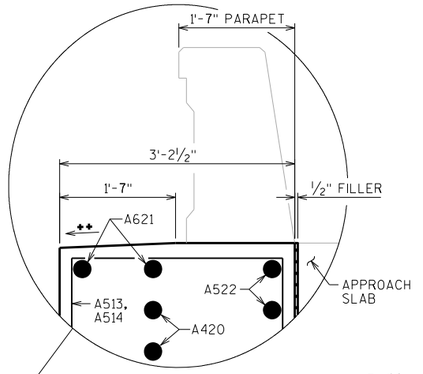


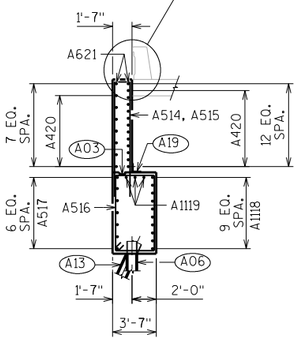
= CONCRETE STAINING & FORMLINER LIMITS

ELEVATION - WING 1

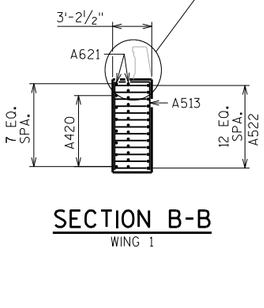
++ = SLOPE 1/8" PER FOOT



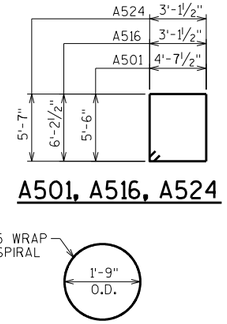




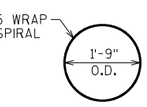
SECTION A-A
WING 1



SECTION B-B
WING 1



A501, A516, A524



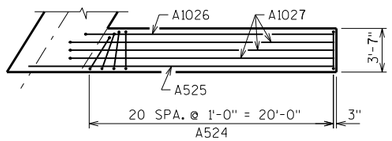
A403

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 70'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

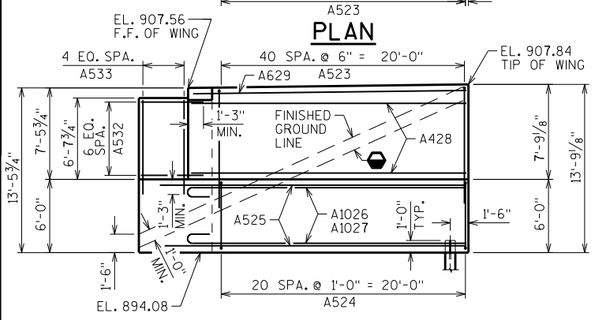
(A13) INDICATES PILE BATTERED 4" PER FT. IN DIRECTION OF ARROW.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

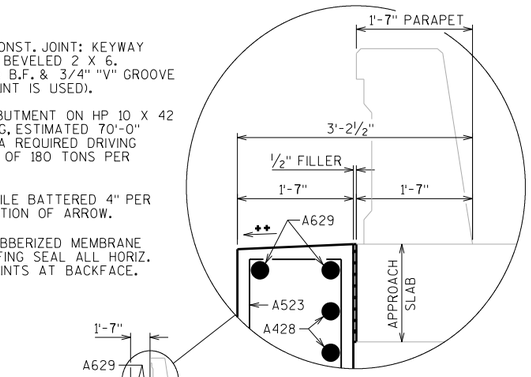


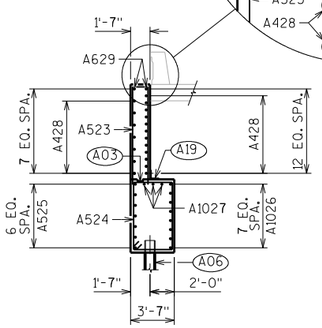
PLAN

PLAN

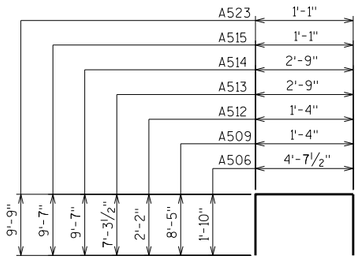


ELEVATION - WING 2

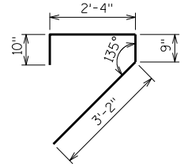




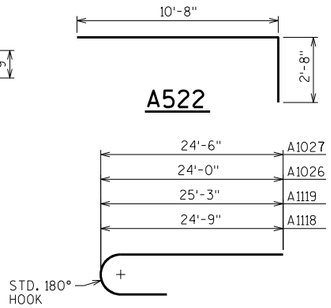
SECTION THRU WING 2



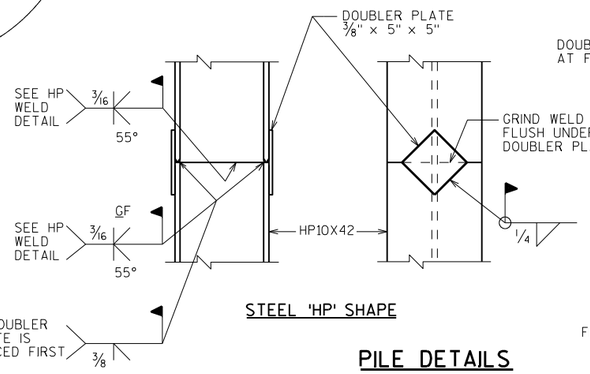
A506, A509, A512, A513, A514, A515, A523



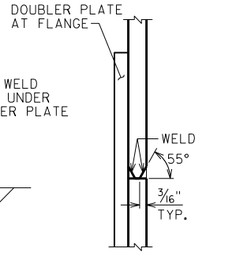
A510



A1118, A1119, A1026, A1027



STEEL 'HP' SHAPE



HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

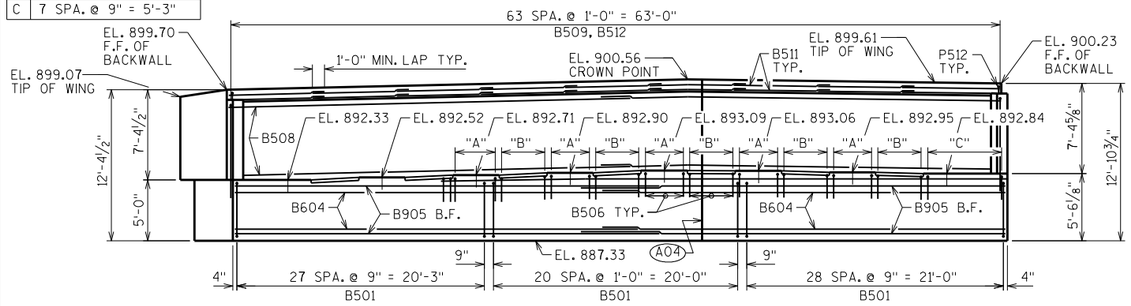
SOUTH ABUTMENT DETAILS

SHEET 7

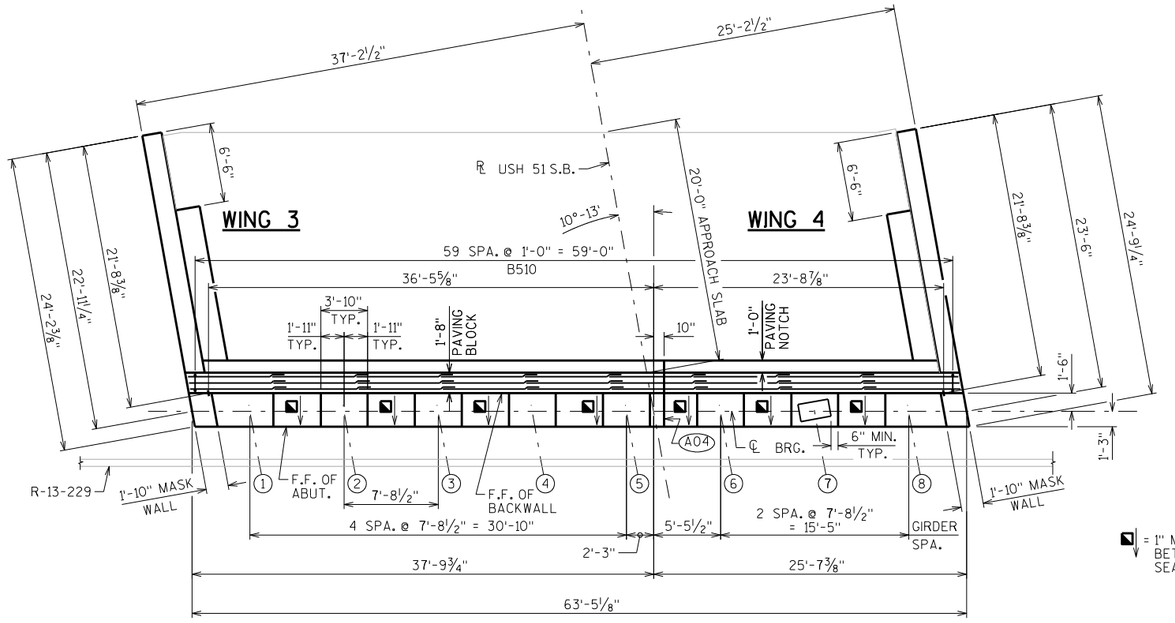
488

SCALE = 6

A	5 SPA. @ 9"± = 3'-8"
B	4 EQ. SPA. (1'-0" MAX.)
C	7 SPA. @ 9" = 5'-3"

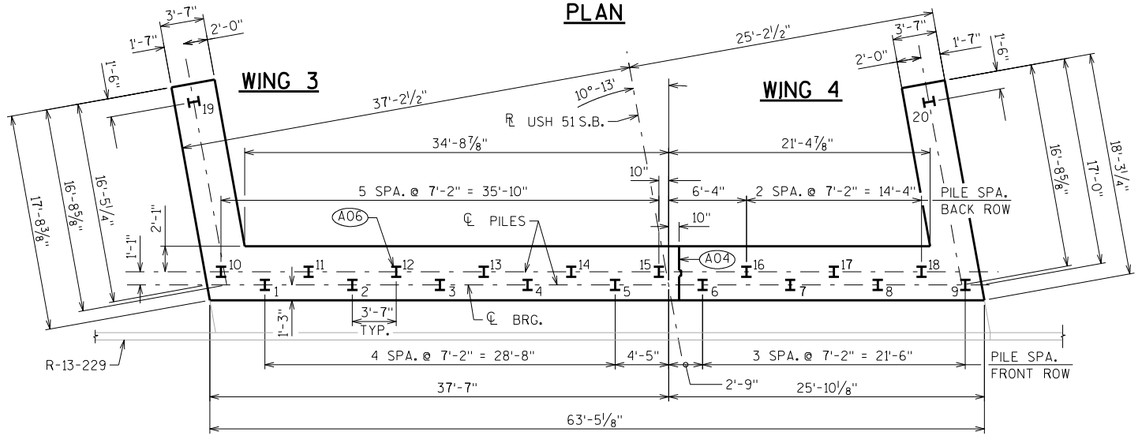


ELEVATION - LOOKING NORTH

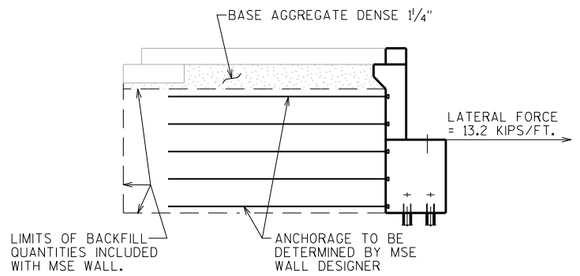


PLAN

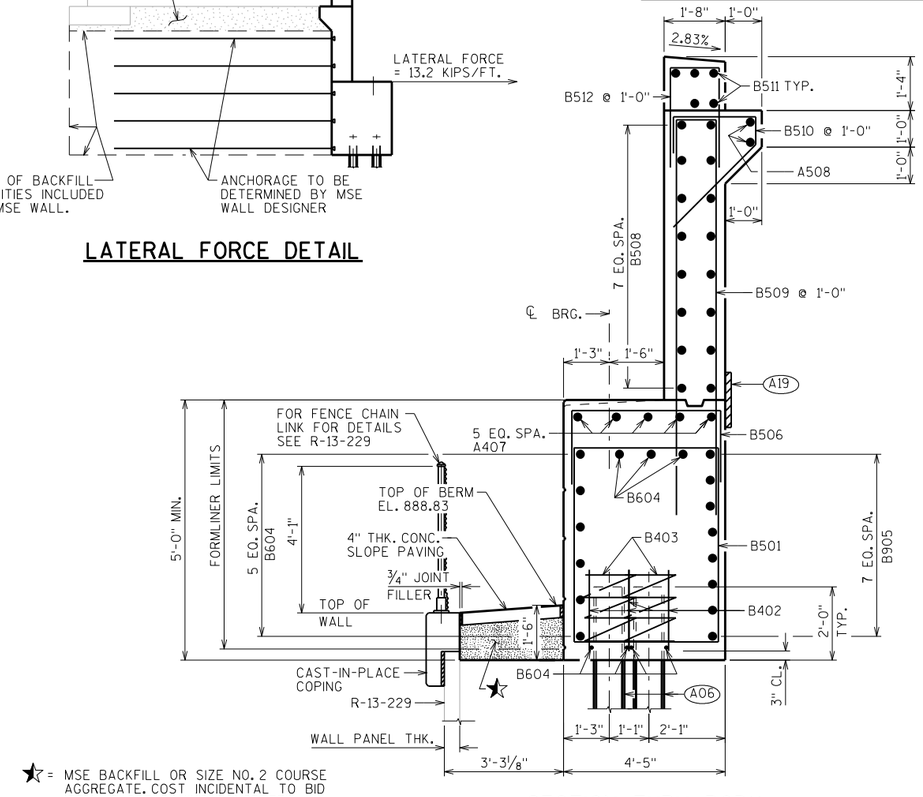
▼ = 1" MIN. SLOPE BETWEEN BEAM SEATS



PILE PLAN



LATERAL FORCE DETAIL



★ = MSE BACKFILL OR SIZE NO. 2 COURSE AGGREGATE. COST INCIDENTAL TO BID ITEM "SLOPE PAVING CONCRETE".

SECTION THRU BODY

(A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 X 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

(A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 45'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

STATE PROJECT NUMBER

5411-02-74

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

NORTH ABUTMENT

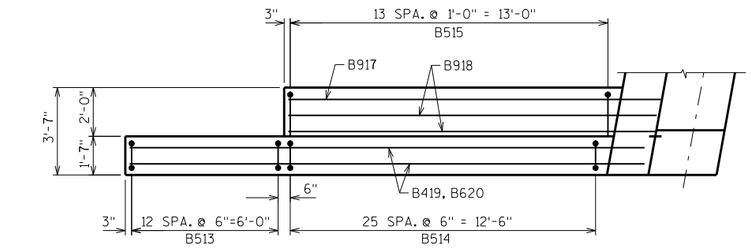
SHEET 8

489

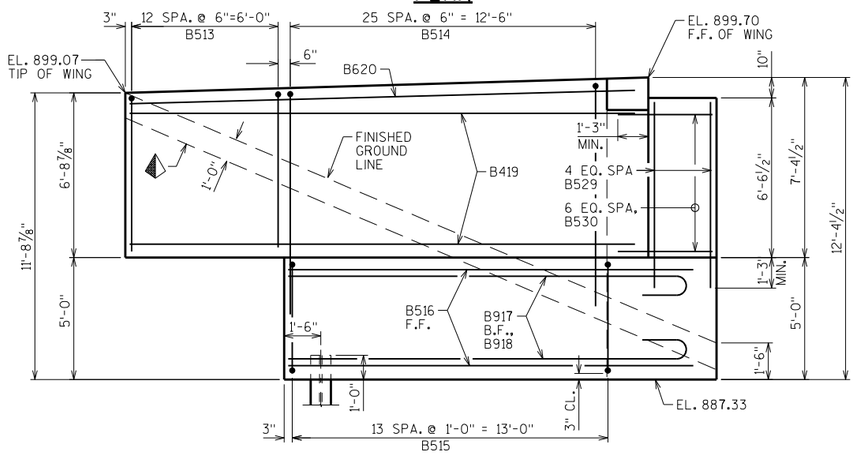
SCALE = 6

8

8



PLAN



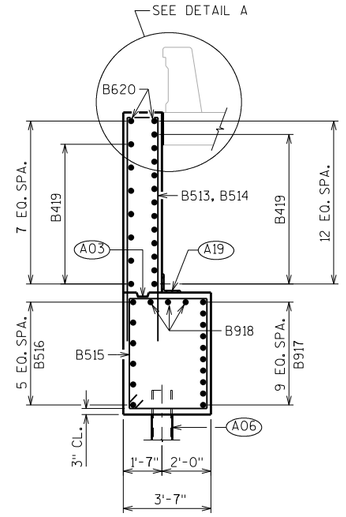
ELEVATION - WING 3

A03 OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

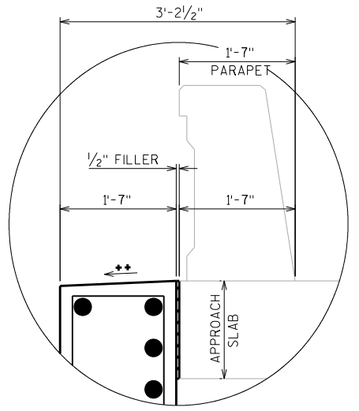
A06 SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 45'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

= CONCRETE STAINING AND FORLIMER LIMITS

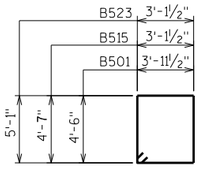


SECTION THRU WING 3

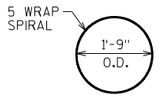


DETAIL A

= SLOPE ⅛" PER FOOT



B501, B515, B523



B403

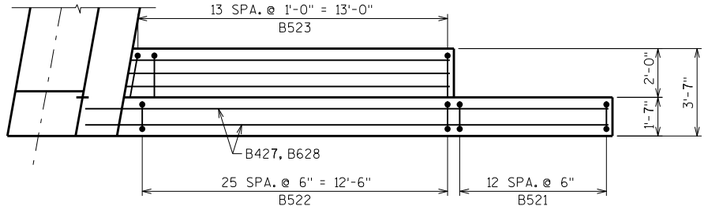
STATE PROJECT NUMBER

5411-02-74

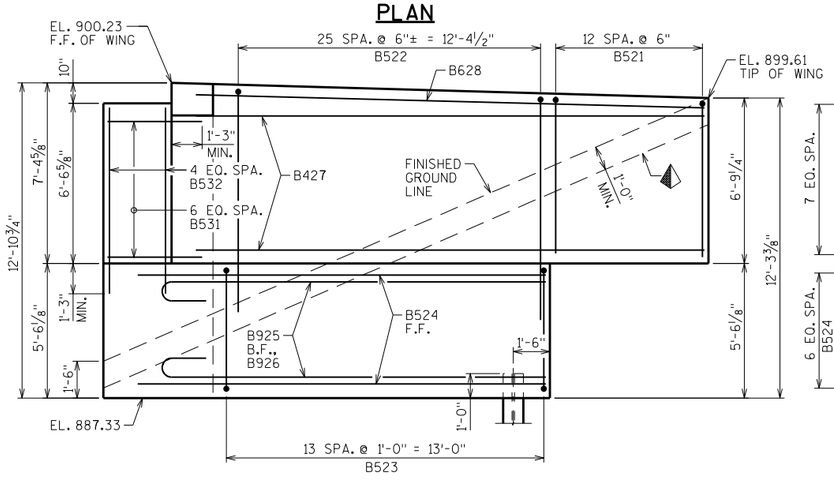
BILL OF BARS

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

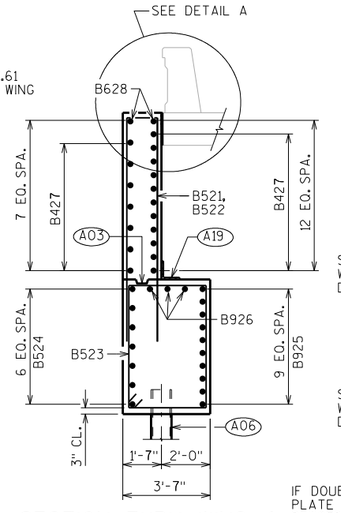
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		78	17'-7"	X		BODY - STIRRUP
B402		36	2'-3"			PILE - 2 PER BODY PILE
B403		18	28'-0"	X		PILE - 1 PER BODY PILE
B604		24	33'-2"			BODY - HORIZ.
B905		16	35'-6"			BODY - HORIZ. - B.F.
B506		47	7'-5"	X		BODY - VERT.
B407		10	24'-1"			BODY - HORIZ.
B508	X	36	33'-3"			BACKWALL - HORIZ.
B509	X	60	16'-7"	X		BACKWALL - VERT.
B510	X	63	6'-10"	X		CORBEL - VERT.
B511	X	45	8'-0"			PAVING BLOCK - HORIZ.
B512	X	63	4'-9"	X		PAVING BLOCK - VERT.
B513	X	13	13'-8"	X		WING 3 VERT.
B514	X	26	19'-2"	X		WING 3 - VERT.
B515	X	14	16'-1"	X		WING 3 - STIRRUP
B516	X	6	16'-10			WING 3 - HORIZ. - F.F.
B917	X	10	16'-4"	X		WIING 3 - HORIZ. - B.F.
B918	X	3	16'-3"	X		WING 3 - HORIZ.
B419	X	19	21'-1"			WING 3 - HORIZ.
B620	X	2	21'-1"			WING 3 - HORIZ. - TOP
B521	X	13	13'-8"	X		WING 4 - VERT.
B522	X	26	19'-2"	X		WING 4 - VERT.
B523	X	13	17'-1"	X		WING 4 - STIRRUP
B524	X	7	17'-4"			WING 4 - HORIZ. - F.F.
B925	X	10	15'-9"	X		WING 4 - HORIZ. - B.F.
B926	X	3	16'-2"	X		WING 4 - HORIZ.
B427	X	19	21'-5"			WING 4 - HORIZ.
B628	X	2	21'-5"			WING 4 - HORIZ. - TOP
B529	X	7	3'-11"			WING 3 MASK WALL - HORIZ.
B530	X	5	7'-9"			WING 3 MASK WALL - VERT.
B531	X	7	3'-11"			WING 4 MASK WALL - HORIZ.
B532	X	5	7'-9"			WING 4 MASK WALL - VERT.



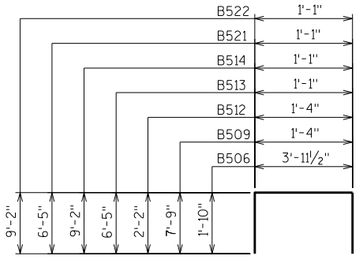
PLAN



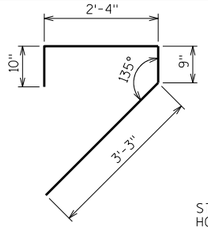
ELEVATION - WING 4



SECTION THRU WING 4



B506, B509, B512, B513, B514, B521, B522



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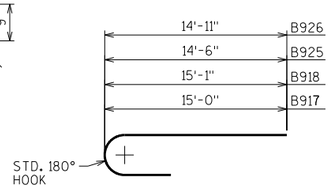
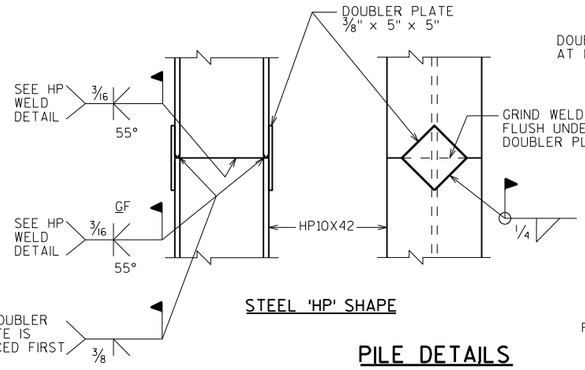
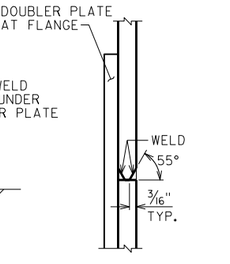


B917, B918, B925, B926



STEEL 'HP' SHAPE

PILE DETAILS



HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

NORTH ABUTMENT DETAILS

SHEET 9

490

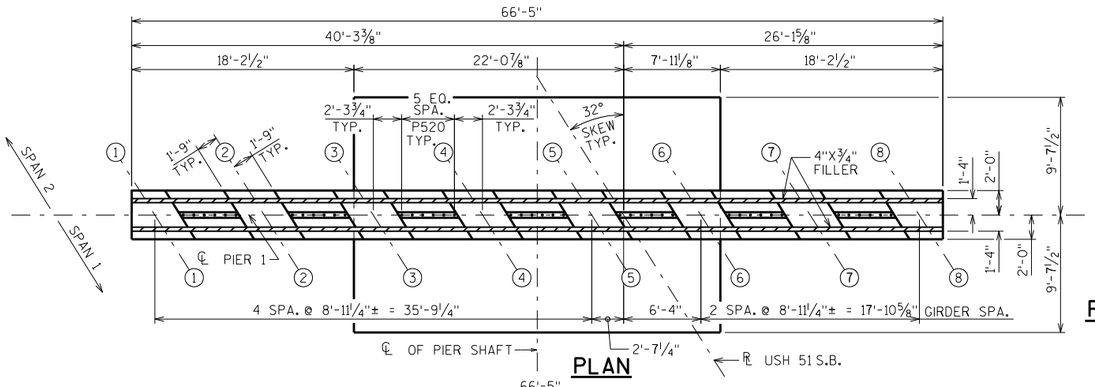
SCALE = 3

8

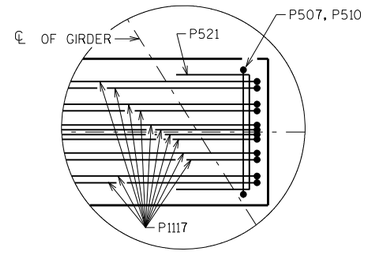
8

STATE PROJECT NUMBER

5411-02-74



PLAN



PLAN - END OF CAP REINF. LAYOUT

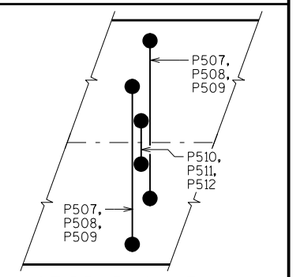
◆ = CAP REINFORCEMENT SHALL BE SYMETRICAL ABOUT THE ℄ OF CAP.

(P01) 18'-6" X 1'-3" X 4" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P03) SUPPORT PIER ON HP 12 X 53 STEEL PILING, ESTIMATED 25'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.

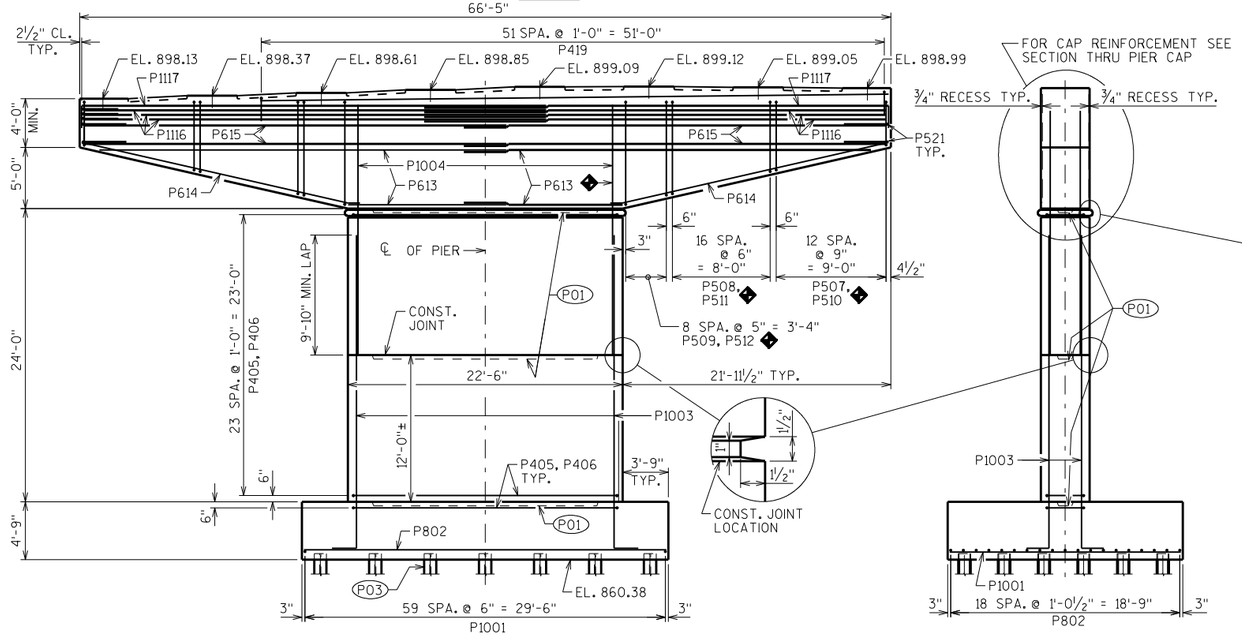
(P08) P520 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 X 6 BETWEEN BEAM SEATS.



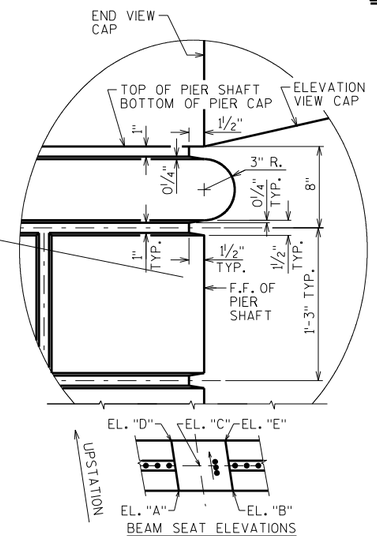
STIRRUP CONFIG.

BUNDLING DETAIL



ELEVATION - LOOKING NORTH

END VIEW

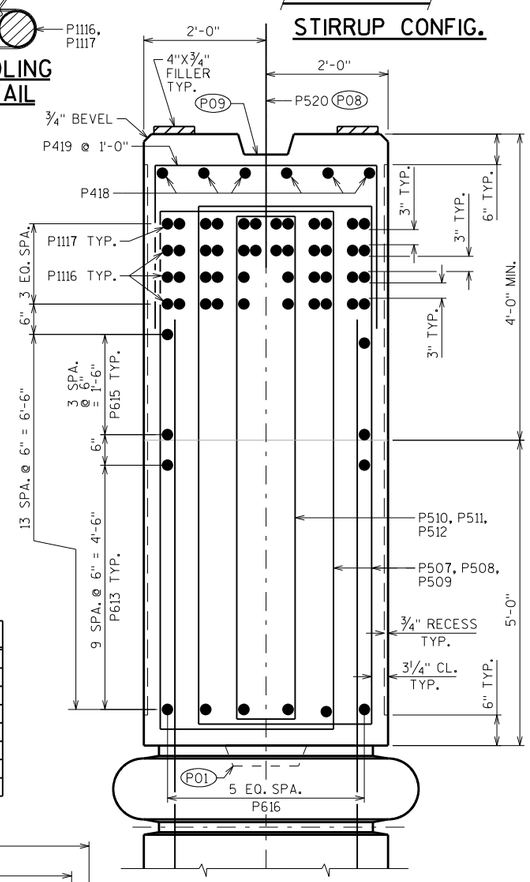


BEAM SEAT ELEVATIONS

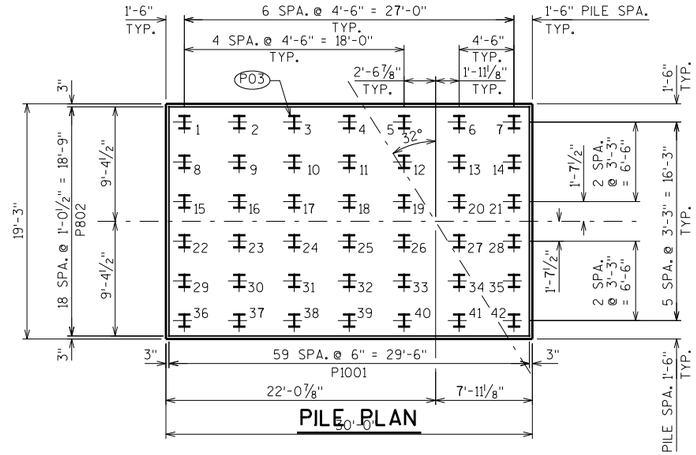
GIRDER	EL. "A"	EL. "B"	EL. "C"	EL. "D"	EL. "E"
1	898.15	898.19	898.13	898.08 **	898.10
2	898.39	898.43	898.37	898.31	898.35
3	898.64	898.68	898.61	898.55	898.59
4	898.88	898.92	898.85	898.79	898.83
5	899.12	899.16	899.09	899.03	899.07
6	899.14	899.18	899.12	899.06	899.10
7	899.08	899.12	899.05	898.99	899.03
8	899.01	899.04 **	898.99	898.93	898.97

** ELEVATION TAKEN AT END OF CAP

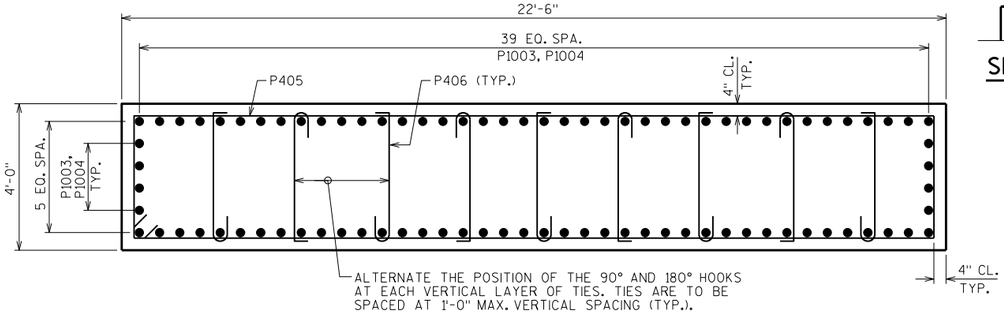
SLOPED BEAM SEAT DETAILS



SECTION THRU PIER CAP



PILE PLAN



SECTION THRU SHAFT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

PIER 1

SHEET 10

491

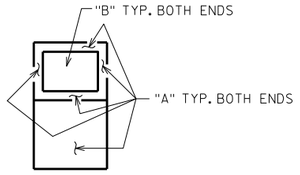
SCALE = 6

8

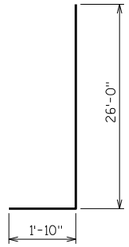
8

STATE PROJECT NUMBER

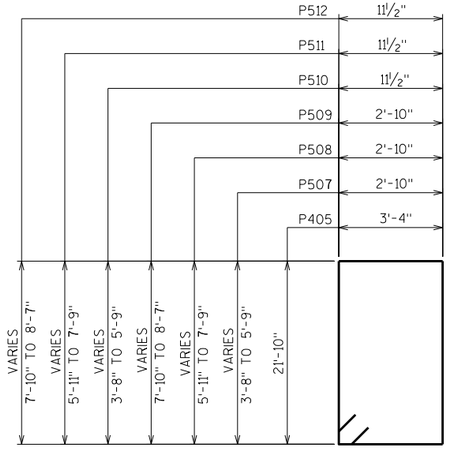
5411-02-74



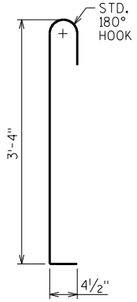
END OF CAP STAINING



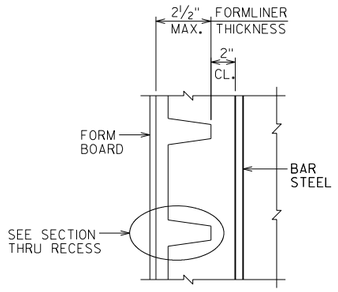
P1003



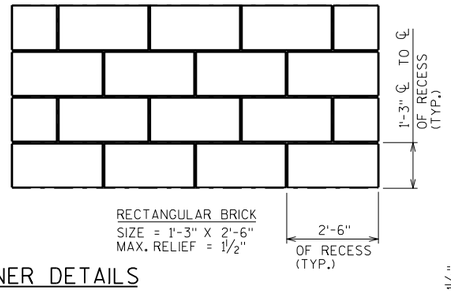
P405, P507, P508, P509, P510, B511, P512



P406



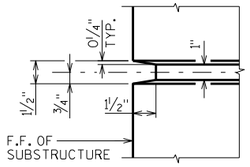
SECTION THRU FORMLINER



RECTANGULAR BRICK
SIZE = 1'-3" X 2'-6"
MAX. RELIEF = 1½"

FORMLINER DETAILS

NOTE:
WRAP AROUND/MATCH FORMLINER PATTERN AT CORNERS.



SECTION THRU RECESS
TYP. (VERT. & HORIZ.)

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
P507	4 SERIES OF 13	13'-8" TO 17'-10"
P508	4 SERIES OF 17	18'-2" TO 21'-10"
P509	4 SERIES OF 9	22'-0" TO 23'-6"
P510	2 SERIES OF 13	9'-11" TO 14'-1"
P511	2 SERIES OF 17	14'-5" TO 18'-1"
P512	2 SERIES OF 9	18'-3" TO 19'-9"
P613	4 SERIES OF 13	13'-0" TO 33'-4"

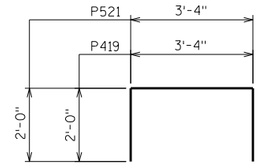
BUNDLE AND TAG EACH SERIES SEPARATELY.

BILL OF BARS

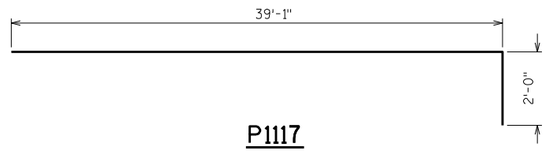
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
P1001		60	18'-11"			FOOTING - HORIZ.
P802		19	29'-8"			FOOTING - HORIZ.
P1003	X	88	27'-7"	X		FOOTING/SHAFT - VERT.
P1004	X	88	20'-0"			SHAFT/CAP - VERT.
P405	X	25	50'-10"	X		PIER SHAFT - STIRRUP
P406	X	225	4'-2"	X		PIER SHAFT - HORIZ. - TIE BAR
P507	X	52	15'-9"	X	⚠	PIER CAP - STIRRUP
P508	X	68	20'-0"	X	⚠	PIER CAP - STIRRUP
P509	X	36	22'-9"	X	⚠	PIER CAP - STIRRUP
P510	X	26	12'-0"	X	⚠	PIER CAP - STIRRUP
P511	X	34	16'-3"	X	⚠	PIER CAP - STIRRUP
P512	X	18	19'-0"	X	⚠	PIER CAP - STIRRUP
P613	X	40	23'-1"		⚠	PIER CAP - HORIZ.
P614	X	12	32'-4"	X		PIER CAP - HORIZ.
P615	X	16	34'-5"			PIER CAP - HORIZ.
P1116	X	64	38'-11"			PIER CAP - HORIZ.
P1117	X	24	40'-9"	X		PIER CAP - HORIZ.
P418	X	12	26'-7"			PIER CAP - HORIZ.
P419	X	52	7'-2"	X		PIER CAP - VERT
P520	X	42	2'-0"			DOWEL BAR
P521	X	8	7'-1"	X		PIER CAP - HORIZ. - ENDS

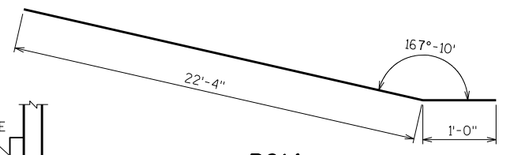
⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



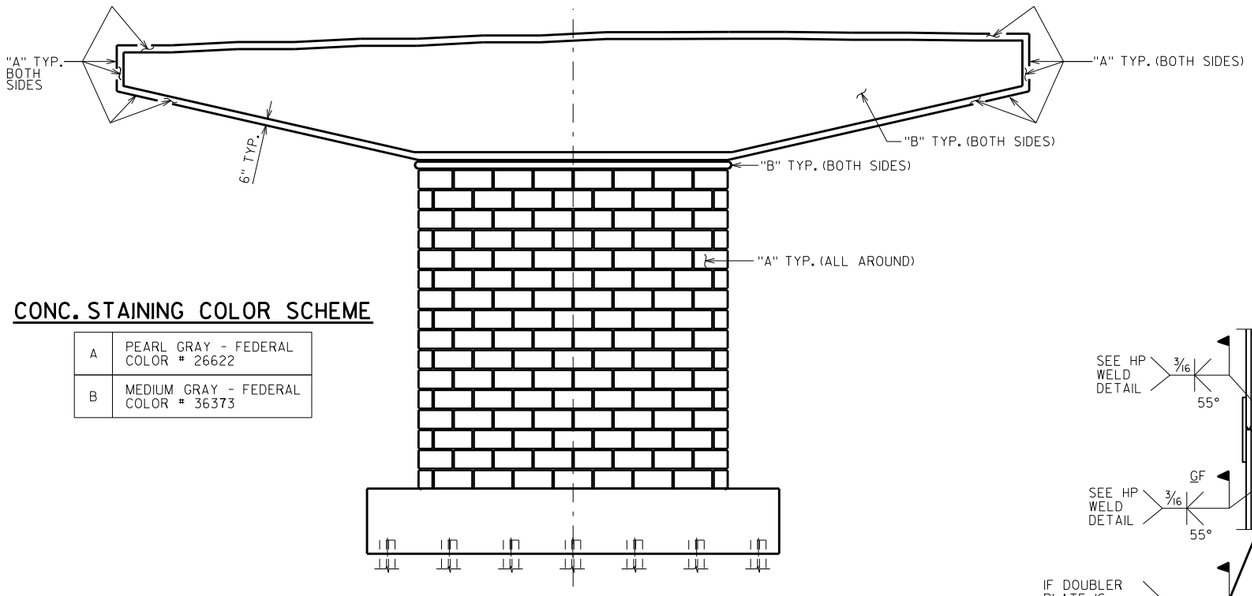
P419, P521



P1117



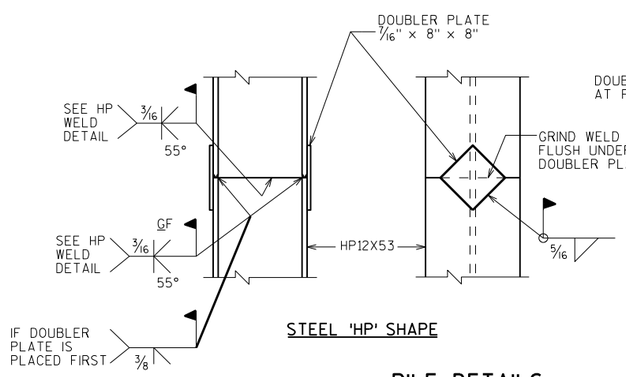
P614



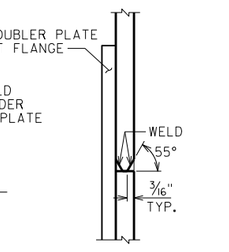
CONC. STAINING COLOR SCHEME

A	PEARL GRAY - FEDERAL COLOR # 26622
B	MEDIUM GRAY - FEDERAL COLOR # 36373

PIER 1 ASETHETICS



STEEL 'HP' SHAPE



HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

PIER 1 DETAILS

SHEET 11

492

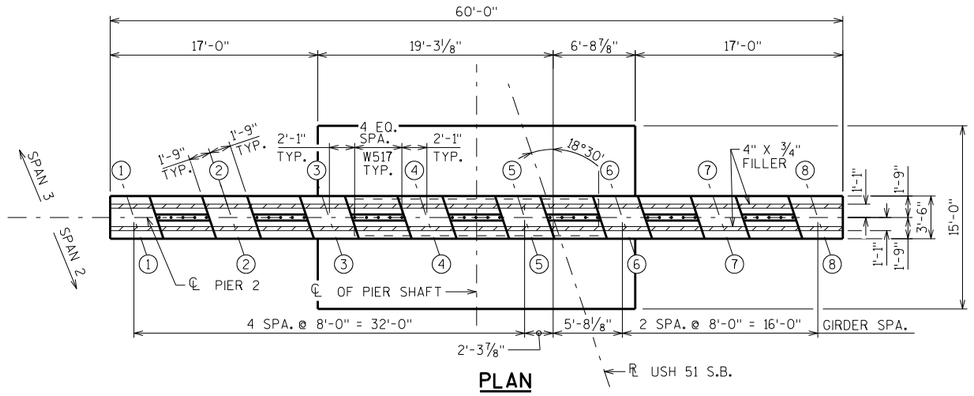
8

8

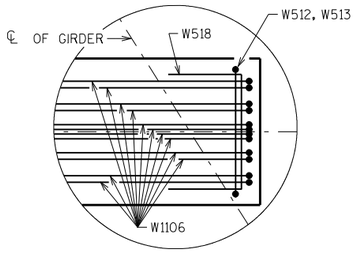
SCALE = 1

STATE PROJECT NUMBER

5411-02-74



PLAN



PLAN - END OF CAP REINF. LAYOUT

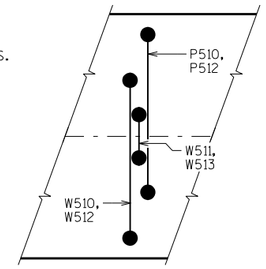
◆ = CAP REINFORCEMENT SHALL BE SYMETRICAL ABOUT THE ℄ OF PIER SHAFT.

(P01) 18'-6" X 1'-3" X 4" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P03) SUPPORT PIER ON HP 12 X 53 STEEL PILING, ESTIMATED 35'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.

(P08) W517 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 X 6 BETWEEN BEAM SEATS.

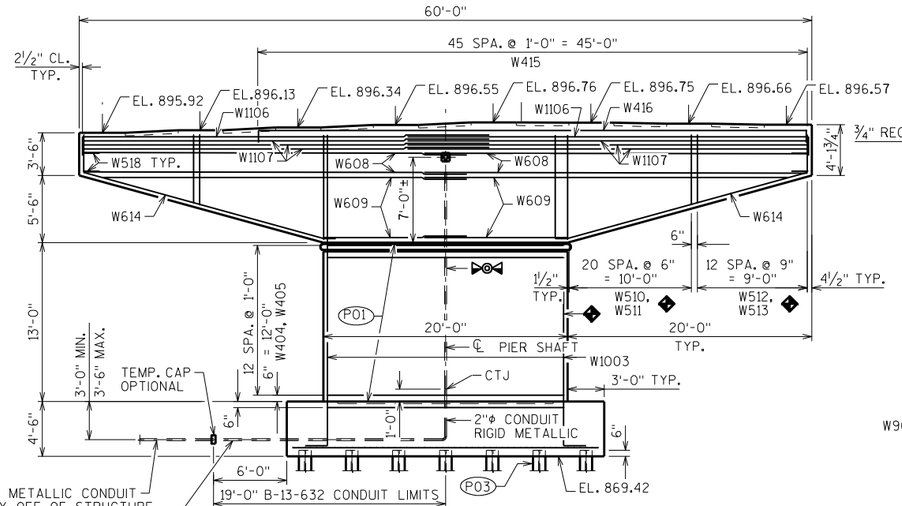


STIRRUP CONFIG.

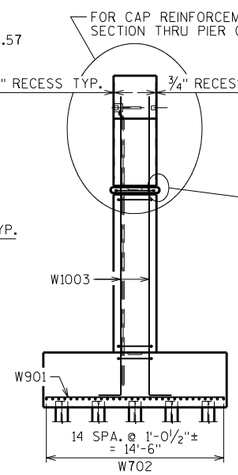
NOTE:

FOR NOTES CONCERNING THE ELECTRICAL WORK SEE "PIER 2 DETAILS" SHEET.

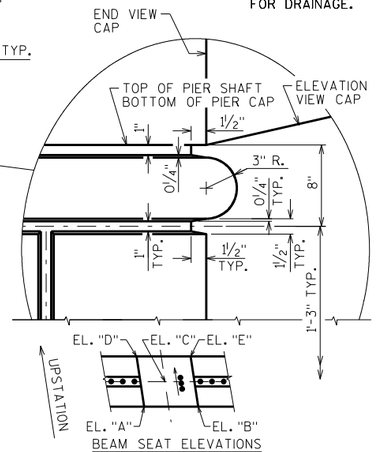
45° BEND IN 2"ϕ CONDUIT. USE MIN. BENDING RADIUS PER WISCONSINSIN ELECTRIC CODE TYP.



ELEVATION - LOOKING NORTH



END VIEW



BEAM SEAT ELEVATIONS

GIRDER	EL. "A"	EL. "B"	EL. "C"	EL. "D"	EL. "E"
1	898.95	895.97	895.92	895.86 **	895.89
2	896.16	896.18	896.13	896.07	896.10
3	896.37	896.40	896.34	896.28	896.31
4	896.58	896.61	896.55	896.49	896.52
5	896.79	896.82	896.76	896.70	896.73
6	896.78	896.81	896.75	896.70	896.73
7	896.69	896.72	896.66	896.61	896.63
8	896.60	896.62 **	896.57	896.51	896.54

** ELEVATION TAKEN AT END OF CAP

SLOPED BEAM SEAT DETAILS

▲ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.

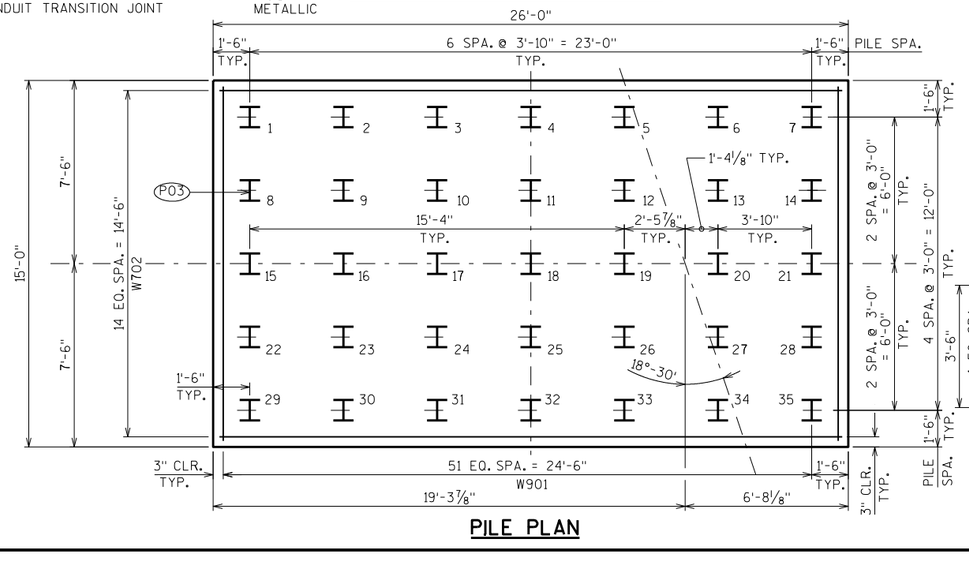
SECTION THRU PIER CAP

◆◆ = 1"ϕ CONDUIT RIGID NONMETALLIC SCHEDULE 80

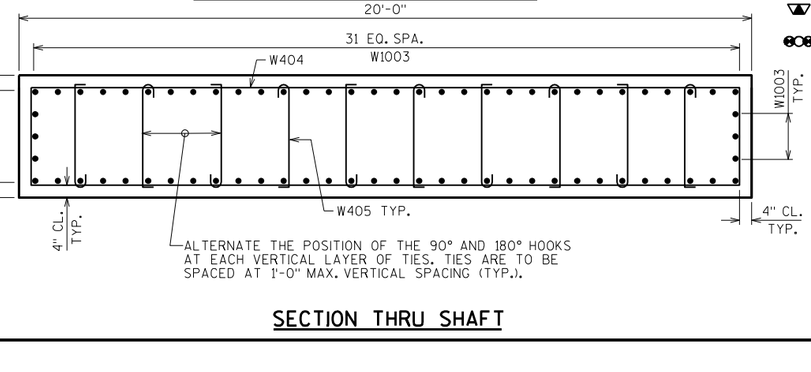
◆◆ = 2"ϕ CONDUIT RIGID NONMETALLIC SCHEDULE 80

▲▼ = 8"X8"X8" DEEP JUNCTION BOX (ONE SIDE ONLY) PLACE TO MISS STIRRUPS

●●● = 4"X4"X4" DEEP FLUSH MOUNTED JUNCTION BOX. (F.F. & B.F.) PLACE TO MISS STIRRUPS



PILE PLAN



ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES. TIES ARE TO BE SPACED AT 1'-0" MAX. VERTICAL SPACING (TYP.).

SECTION THRU SHAFT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY SAD | PLANS CK'D. SAD

PIER 2

SHEET 12

493

SCALE = 6

8

8

STATE PROJECT NUMBER
5411-02-74

ELECTRICAL NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 8X8X8-INCH", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 80 1-INCH"
"CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"
"4X4X4-INCH FLUSH MOUNTED JUNCTION BOX B-13-632"

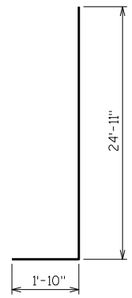
APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:

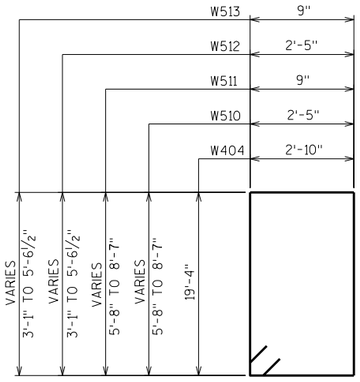
O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO BID ITEMS "CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH" OR "CONDUIT RIGID METALLIC 2-INCH".

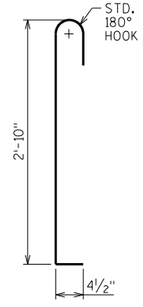
WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.



W1003



W404, W510, W511, W512, W513



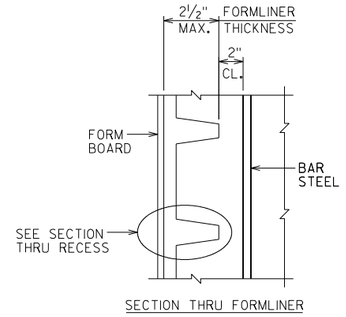
W405

BILL OF BARS

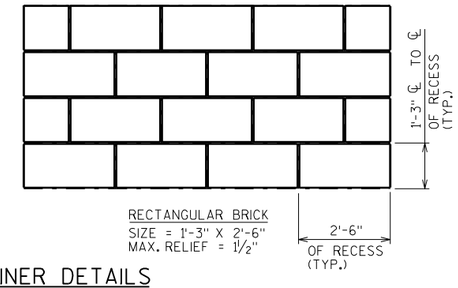
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
W901		52	14'-8"			FOOTING - HORIZ.
W702		15	25'-8"			FOOTING - HORIZ.
W1003	X	70	26'-6"	X		FOOTING/SHAFT - VERT.
W404	X	14	44'-10"	X		PIER SHAFT - STIRRUP
W405	X	140	3'-8"	X		FOOTING/SHAFT - TIE BARS
W1106	X	20	37'-6"	X		PIER CAP - HORIZ. - TOP
W1107	X	52	35'-11"			PIER CAP - HORIZ.
W608	X	16	31'-7"			PIER CAP - HORIZ.
W609	X	40	20'-10		⚠	PIER CAP - HORIZ.
W510	X	84	19'-9"	X	⚠	PIER CAP - STIRRUP
W511	X	42	16'-5"	X	⚠	PIER CAP - STIRRUP
W512	X	52	14'-2"	X	⚠	PIER CAP - STIRRUP
W513	X	26	10'-10"	X	⚠	PIER CAP - STIRRUP
W614	X	12	21'-5"	X		PIER CAP - HORIZ.
W415	X	46	6'-10"	X		PIER CAP - VERT.
W416	X	6	45'-6"			PIER CAP - HORIZ.
W517	X	35	2'-0"			DOWEL BAR
W518	X	8	6'-7"	X		PIER CAP - HORIZ. - ENDS

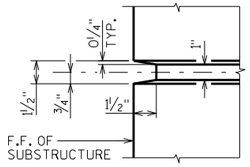
⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



SECTION THRU FORMLINER



RECTANGULAR BRICK
SIZE = 1'-3" X 2'-6"
MAX. RELIEF = 1½"

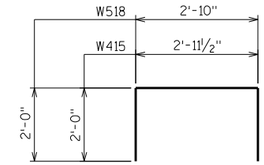


SECTION THRU RECESS
TYP. (VERT. & HORIZ.)

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
P609	4 SERIES OF 11	11'-8" TO 29'-11"
W510	4 SERIES OF 21	16'-10" TO 22'-11"
W511	2 SERIES OF 21	13'-6" TO 19'-4"
W512	4 SERIES OF 13	11'-8" TO 16'-7"
W513	2 SERIES OF 13	8'-4" TO 13'-3"

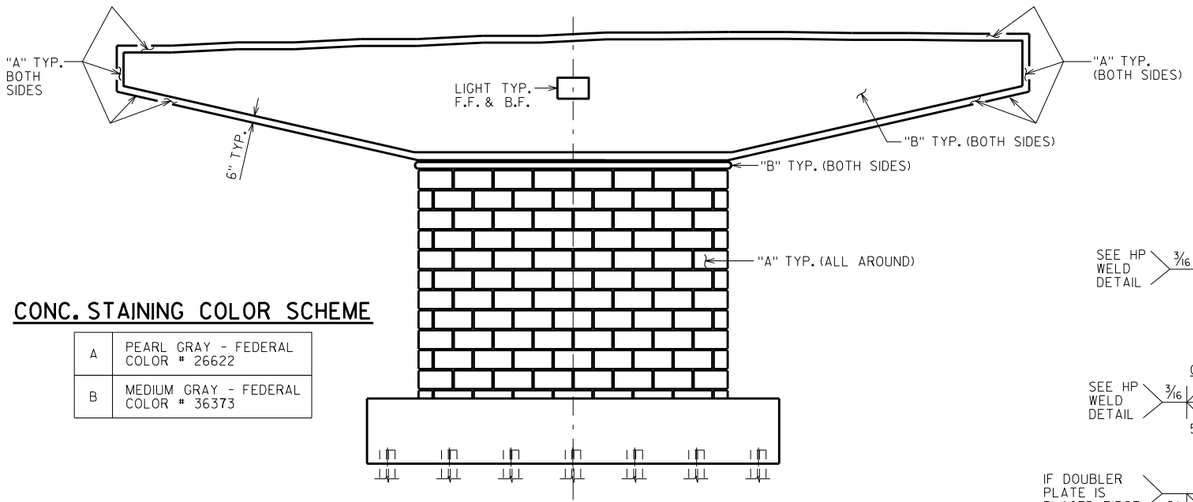
BUNDLE AND TAG EACH SERIES SEPARATELY.



W415, W518

FORMLINER DETAILS

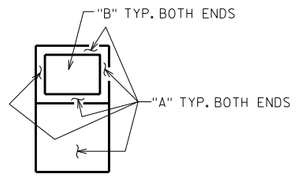
NOTE:
WRAP AROUND/MATCH FORMLINER PATTERN AT CORNERS.



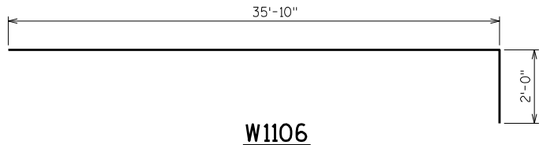
PIER 2 ASETHETICS

CONC. STAINING COLOR SCHEME

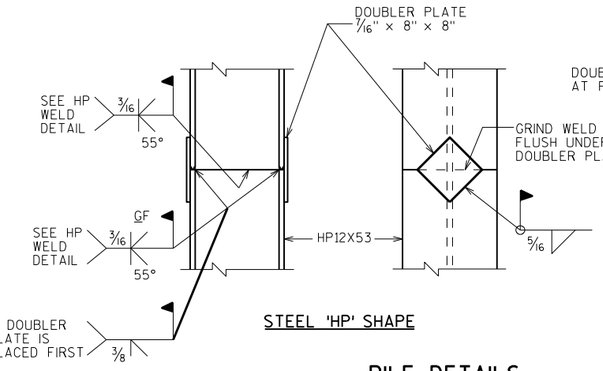
A	PEARL GRAY - FEDERAL COLOR # 26622
B	MEDIUM GRAY - FEDERAL COLOR # 36373



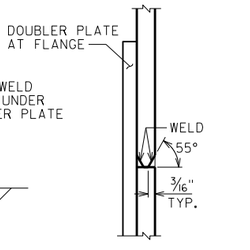
END OF CAP STAINING



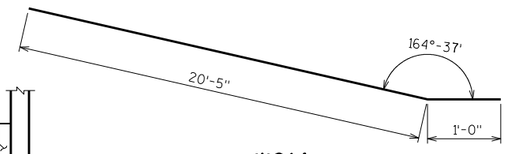
W1106



STEEL 'HP' SHAPE



HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR



W614

PILE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

PIER 2 DETAILS

SHEET 13

494

SCALE = 1

8

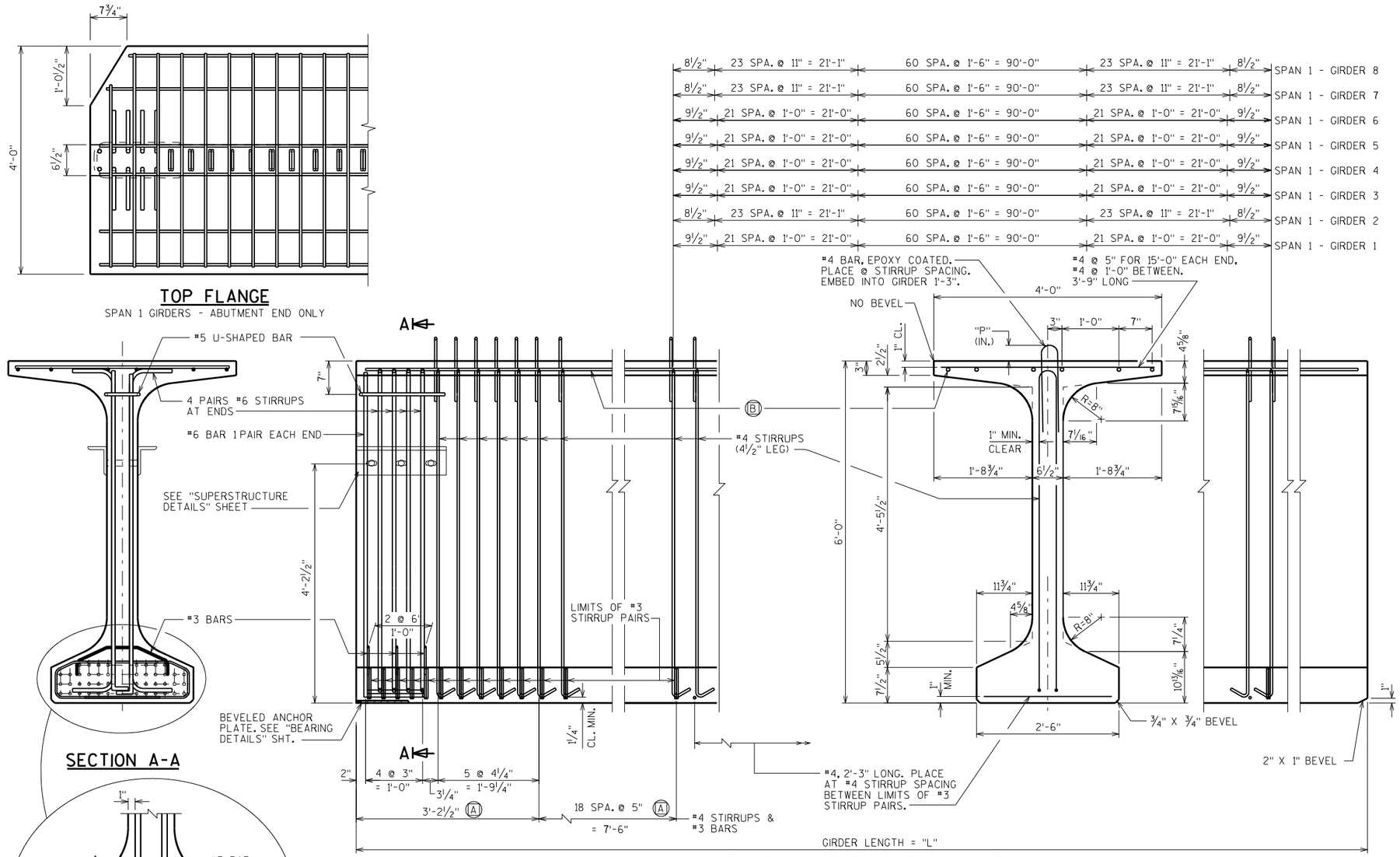
8

STATE PROJECT NUMBER

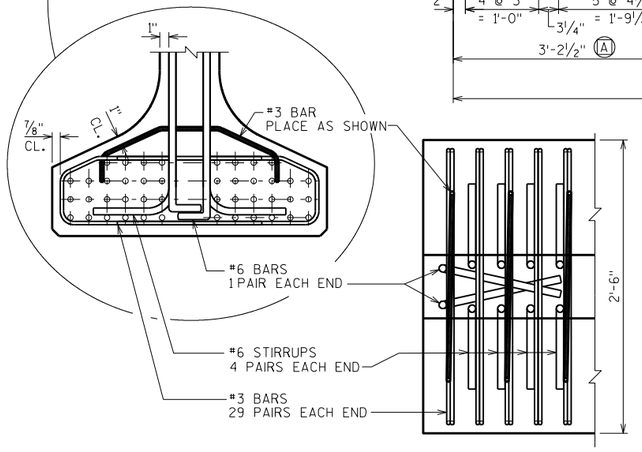
5411-02-74

TOP FLANGE

SPAN 1 GIRDERS - ABUTMENT END ONLY



SECTION A-A



BOTTOM FLANGE

SIDE VIEW & TYP. SECTION IN SPAN

(A) DETAIL TYP. AT EACH END

(B) 6 #7 BARS, FULL LENGTH, MIN. LAP = 3'-7" LAP

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

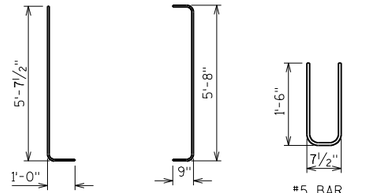
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

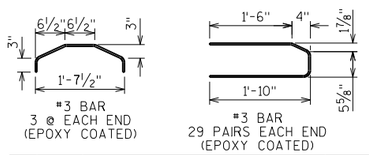
AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

SPAN 1 GIRDERS WERE ANALYZED FOR POTENTIAL LIFT AT 1/10 POINT.





✳ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳
1	ALL	155.00	0.8	1.6	2.2	2.6	2.7	2.6	2.2	1.6	0.8	8,000	7"	7"	7"	0.6	46	6465	67	20.5	23.5	5		

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS PLANS CK'D. SAD

72W" PRESTRESSED GIRDER DETAILS

SHEET 14

495

SCALE = 1

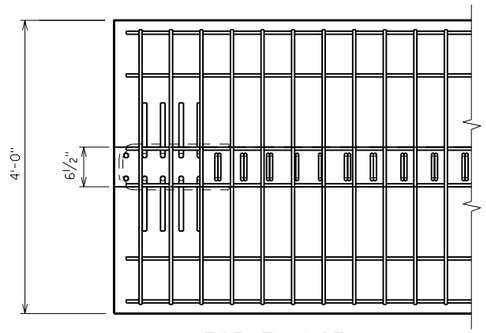
7-13
G72W

8

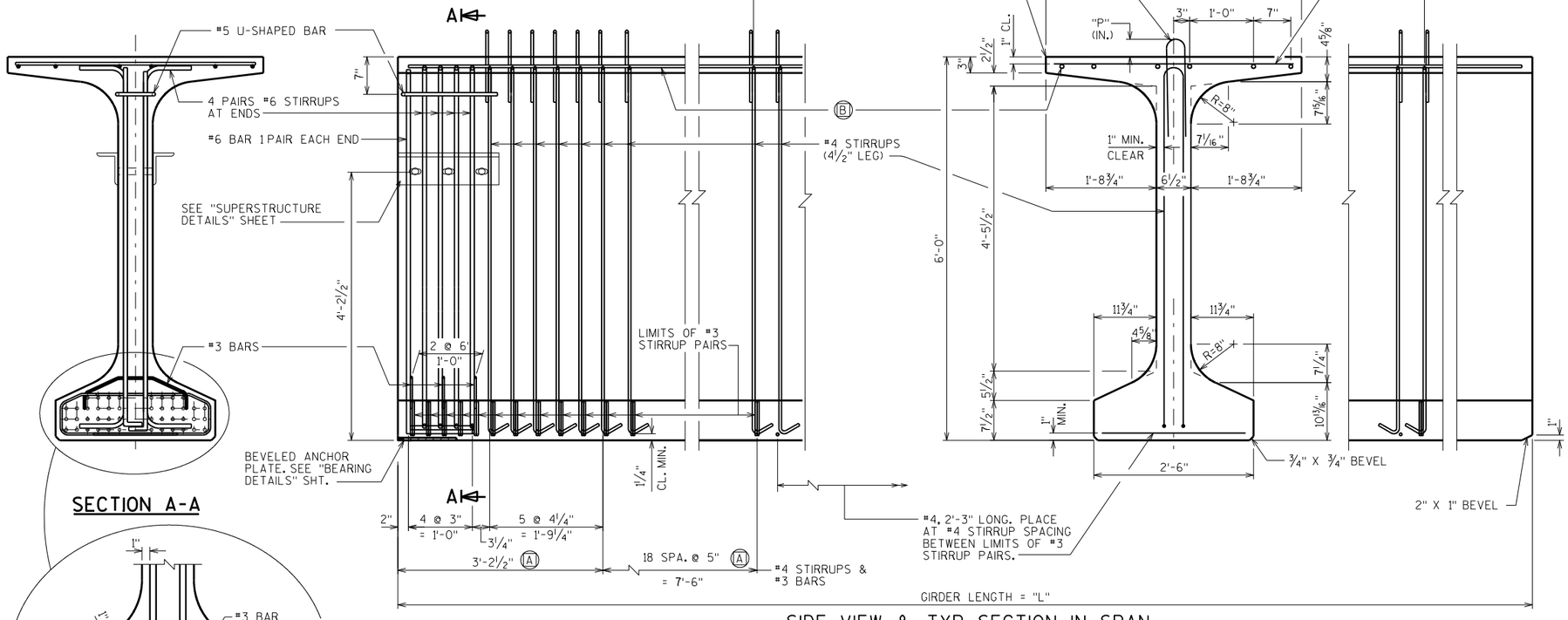
8

STATE PROJECT NUMBER

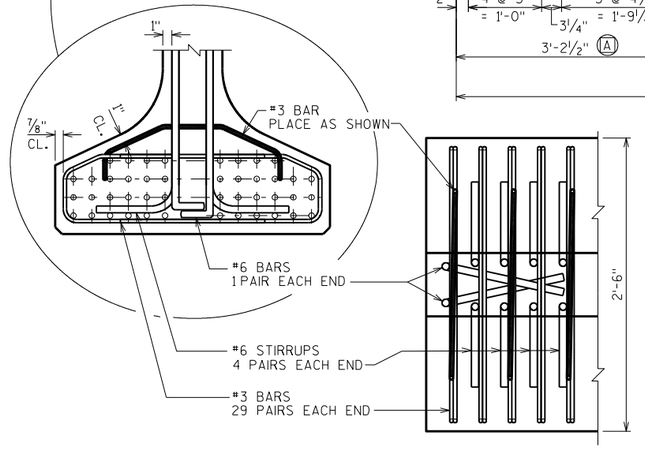
5411-02-74



TOP FLANGE



SECTION A-A

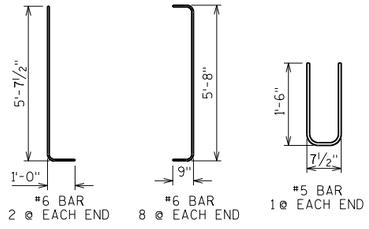


BOTTOM FLANGE

SIDE VIEW & TYP. SECTION IN SPAN

(A) DETAIL TYP. AT EACH END

(B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"



NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

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AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

✳ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳
2	1	102.458	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	8,000	7"	7"	7"	0.6	24	6400	55	16.75	19.75	4		
2	2	104.667	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	8,000	7"	7"	7"	0.6	24	6400	55	16.75	19.75	4		
2	3	106.875	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	8,000	7"	7"	7"	0.6	24	6400	55	16.75	19.75	4		
2	4	109.083	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	8,000	7"	7"	7"	0.6	24	6400	55	16.75	19.75	4		
2	5	111.292	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	8,000	7"	7"	7"	0.6	24	6400	55	16.75	19.75	4		
2	6	113.458	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	8,000	7"	7"	7"	0.6	24	6400	55	16.75	19.75	4		
2	7	115.667	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	8,000	7"	7"	7"	0.6	24	6400	55	16.75	19.75	4		
2	8	117.875	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	8,000	7"	7"	7"	0.6	24	6400	55	16.75	19.75	4		

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

72W" PRESTRESSED GIRDER DETAILS 2

SHEET 15

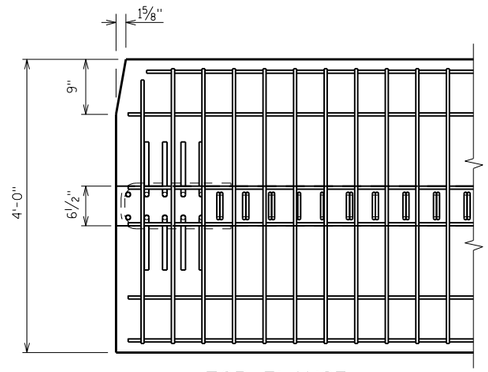
496

SCALE = 1

7-13
G72W

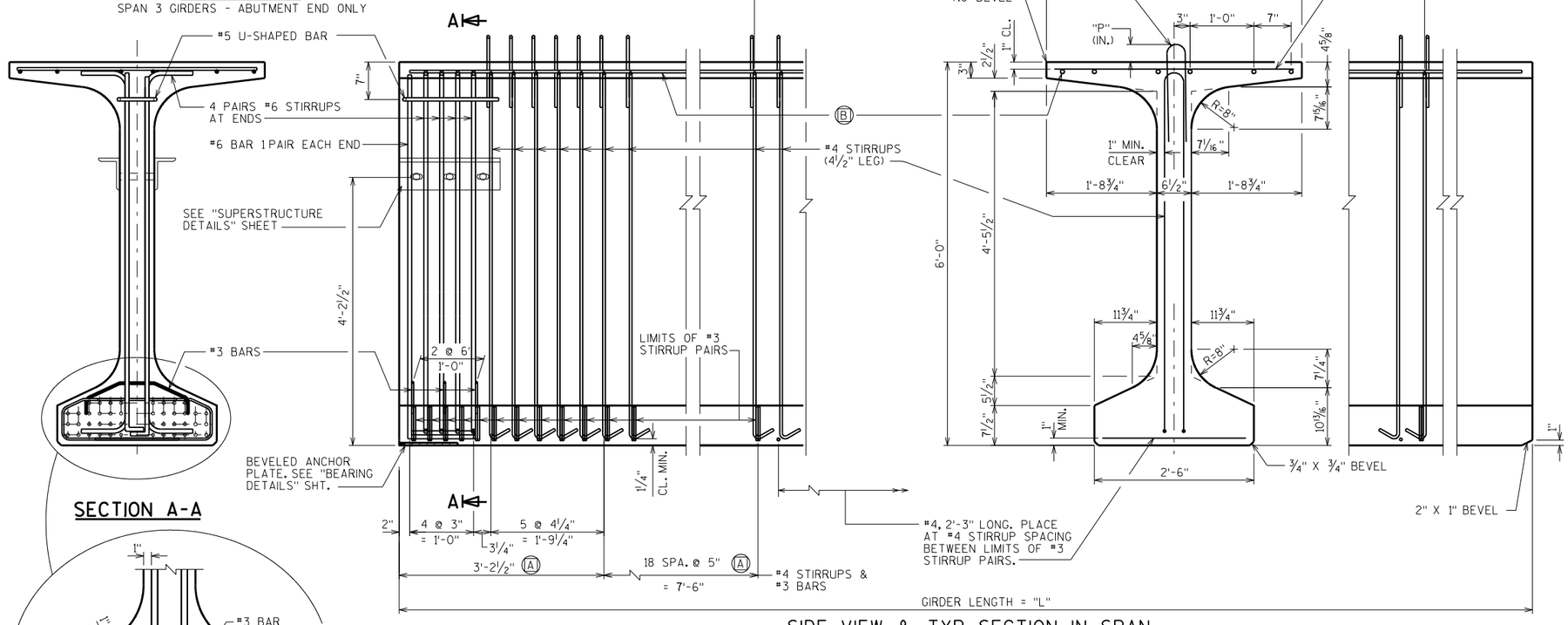
STATE PROJECT NUMBER

5411-02-74

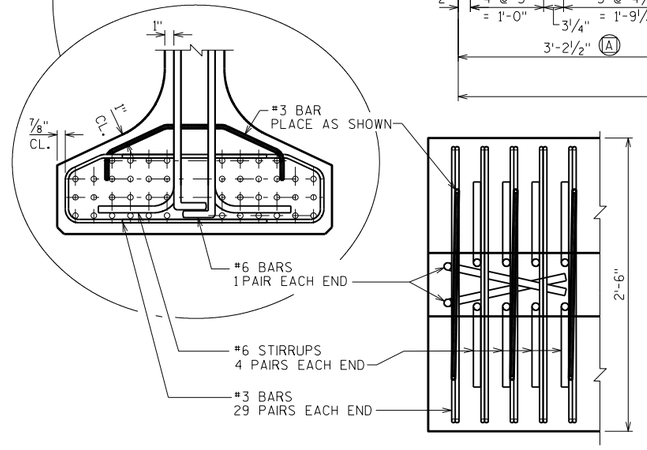


TOP FLANGE

SPAN 3 GIRDERS - ABUTMENT END ONLY



SECTION A-A

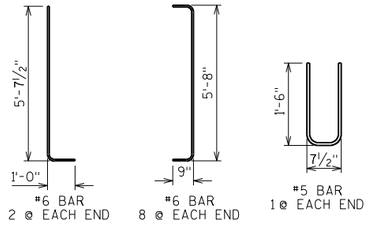


BOTTOM FLANGE

SIDE VIEW & TYP. SECTION IN SPAN

(A) DETAIL TYP. AT EACH END

(B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"



✳ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳
3	1	118.625	0.3	0.6	0.9	1.0	1.1	1.0	0.9	0.6	0.3	8,000	7"	7"	7"	0.6	30	6400	60	18.00	21.00	4		
3	2	119.833	0.3	0.6	0.9	1.0	1.1	1.0	0.9	0.6	0.3	8,000	7"	7"	7"	0.6	30	6400	60	18.00	21.00	4		
3	3	121.000	0.3	0.6	0.9	1.0	1.1	1.0	0.9	0.6	0.3	8,000	7"	7"	7"	0.6	30	6400	60	18.00	21.00	4		
3	4	122.167	0.3	0.6	0.9	1.0	1.1	1.0	0.9	0.6	0.3	8,000	7"	7"	7"	0.6	30	6400	60	18.00	21.00	4		
3	5	123.333	0.3	0.6	0.9	1.0	1.1	1.0	0.9	0.6	0.3	8,000	7"	7"	7"	0.6	30	6400	60	18.00	21.00	4		
3	6	124.500	0.3	0.6	0.9	1.0	1.1	1.0	0.9	0.6	0.3	8,000	7"	7"	7"	0.6	30	6400	60	18.00	21.00	4		
3	7	125.667	0.3	0.6	0.9	1.0	1.1	1.0	0.9	0.6	0.3	8,000	7"	7"	7"	0.6	30	6400	60	18.00	21.00	4		
3	8	126.833	0.3	0.6	0.9	1.0	1.1	1.0	0.9	0.6	0.3	8,000	7"	7"	7"	0.6	30	6400	60	18.00	21.00	4		

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

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FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

72W" PRESTRESSED GIRDER DETAILS 3

SHEET 16

497

7-13
G72W

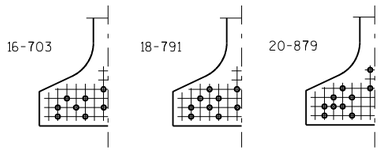
SCALE = 1

8 2009 6 9 123

8

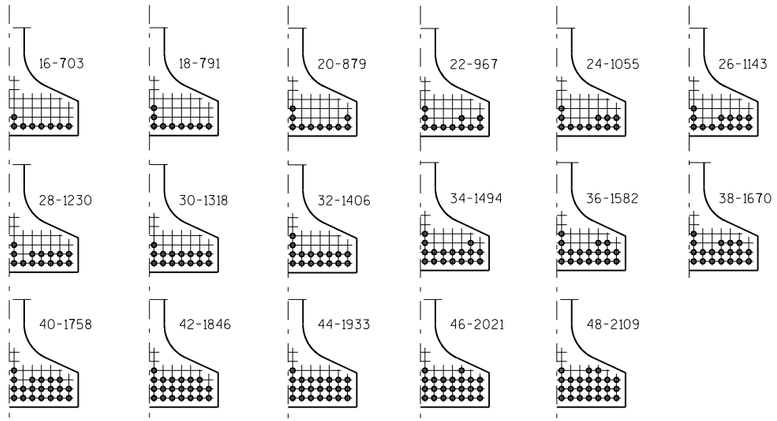
STATE PROJECT NUMBER

5411-02-74



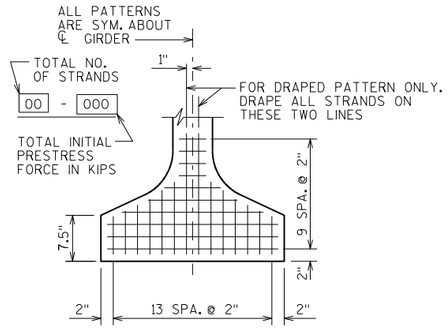
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"Φ STRANDS

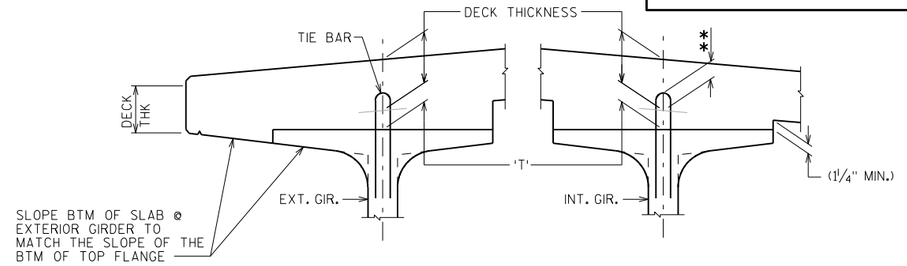


ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"Φ STRANDS



TYP. STRAND PATTERN



DECK HAUNCH DETAIL

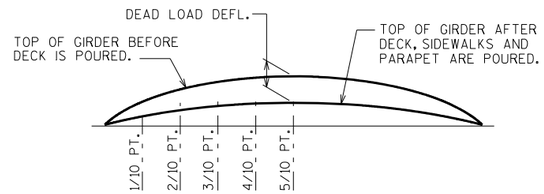
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

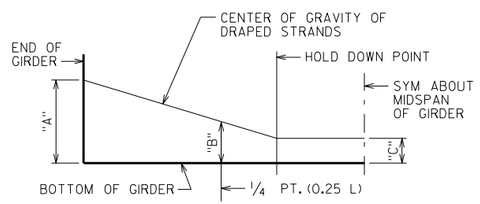
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2½" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	4.578
2	1.425
3	2.118

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

72W" PRESTRESSED GIRDER DETAILS 4

SHEET 17

498

G72W
7-13

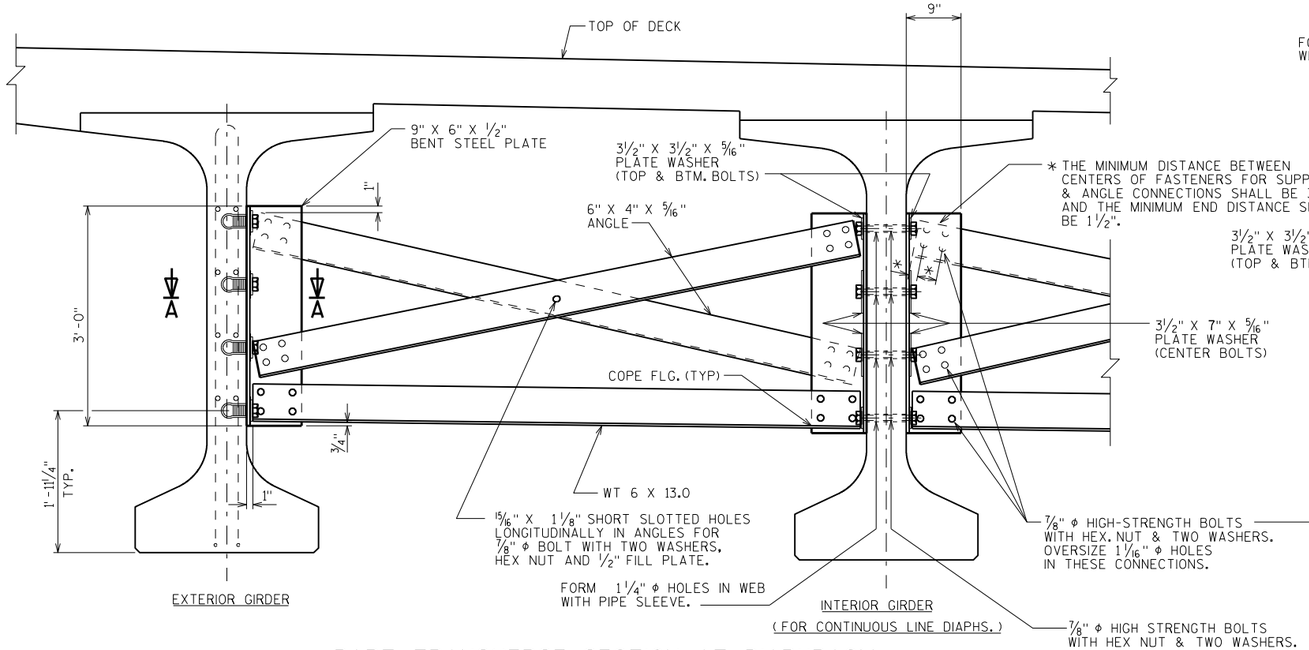
SCALE = 1

8

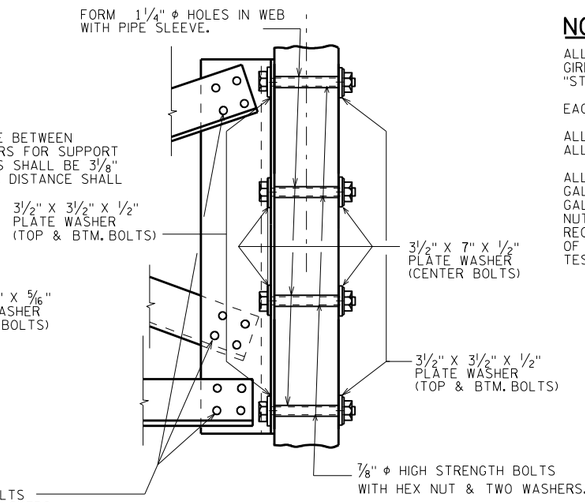
8

STATE PROJECT NUMBER

5411-02-74



PART TRANSVERSE SECTION AT DIAPHRAGM



SECTION AT INTERIOR GIRDERS (FOR STAGGERED DIAPHRAGMS)

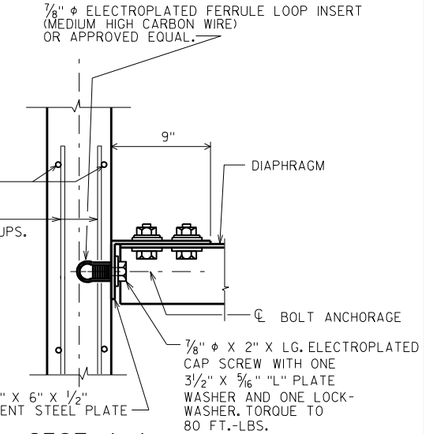
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-13-632", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

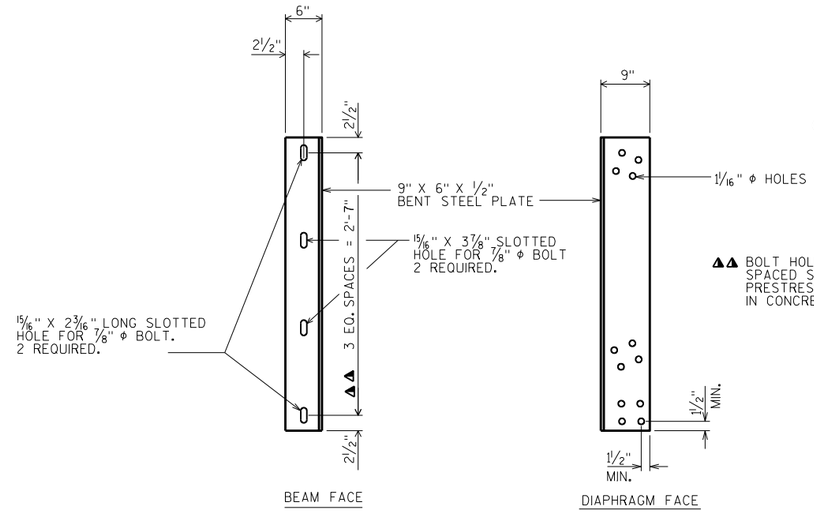
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.



SECT. A-A

(FOR EXTERIOR ATTACHMENT)

"L" = 3 1/2"; TOP AND BOTTOM BOLTS
"L" = 7"; CENTER BOLTS



DIAPHRAGM SUPPORT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

STEEL DIAPHRAGM

SHEET 18

499

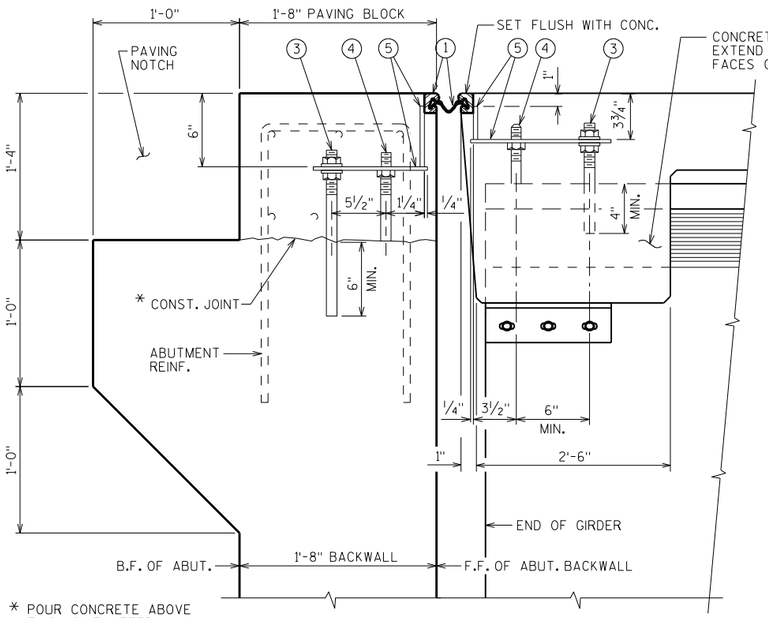
7-13
GSTDIA70

8

1 2 4

SCALE =

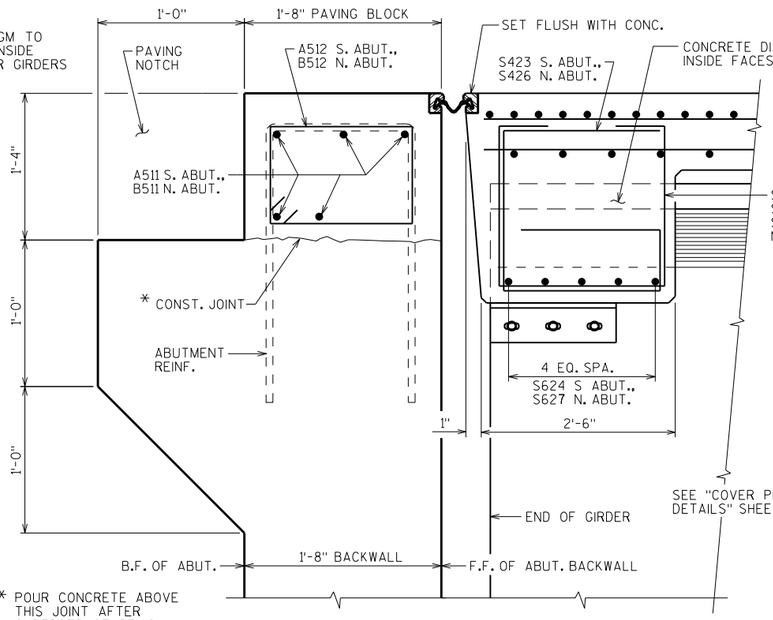
STATE PROJECT NUMBER
5411-02-74



* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



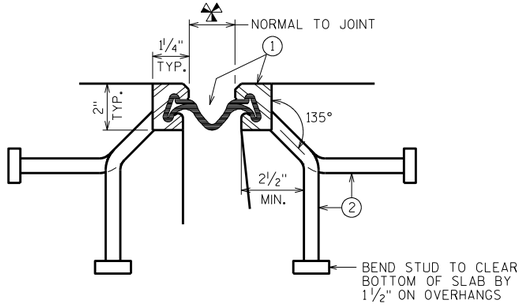
* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

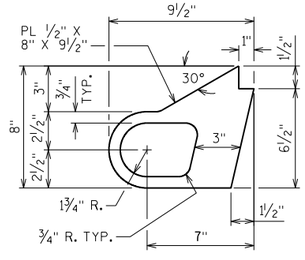
LEGEND

1. NEOPRENE STRIP SEAL (4" - INCH) AND STEEL EXTRUSIONS.
2. STUDS $\frac{5}{8}$"Φ X 6$\frac{3}{8}$" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. $\frac{1}{2}$" THICK ANCHOR PLATE WITH $\frac{5}{8}$"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. $\frac{3}{4}$" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. $\frac{3}{4}$"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X $\frac{1}{2}$" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1$\frac{1}{2}$" Φ HOLE FOR NO. 3 AND 1" Φ HOLE FOR NO. 4.
6. GALVANIZED PLATE $\frac{3}{8}$" X 10" X 2'-2" LONG WITH HOLES FOR NO. 7.
7. $\frac{3}{4}$"Φ X 1$\frac{1}{2}$" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS $\frac{1}{16}$" BELOW PLATE SURFACE.
8. $\frac{3}{4}$"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. $\frac{3}{4}$"Φ X 2$\frac{1}{4}$" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

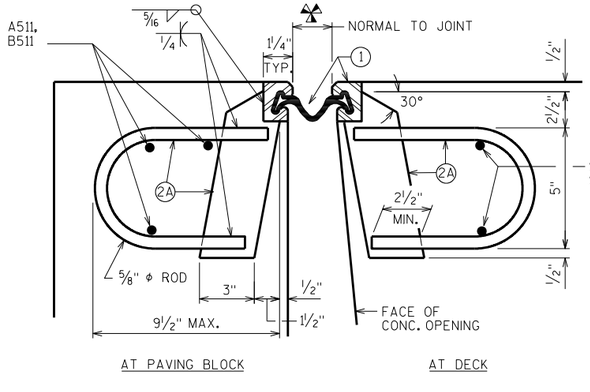


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS

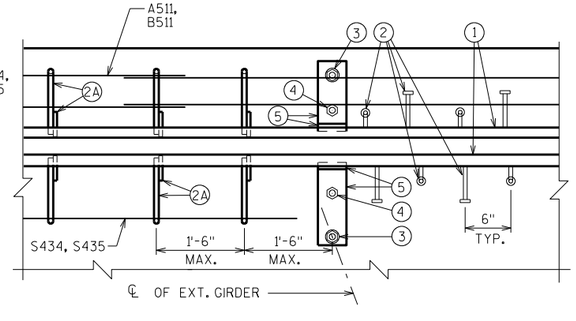


ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

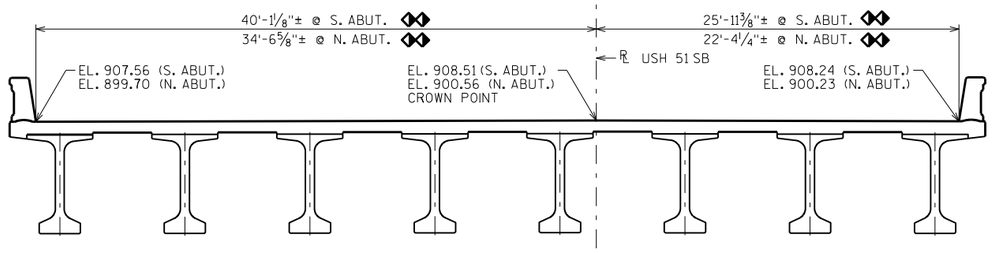


PART PLAN

⧫ SET N. ABUT. STRIP SEAL AT A 1$\frac{3}{4}$" JOINT OPENING. FOR SOUTH ABUT JOINT OPENING SEE THE TEMPERATURE SETTING TABLE.

SOUTH ABUTMENT TEMPERATURE SETTING TABLE	
DEGREES F	⧫ JOINT OPENING (INCHES) W/SHRINKAGE
85	1.56
75	1.70
65	1.85
55	2.00
45	2.14
35	2.29
25	2.44
15	2.58
5	2.73

◆◆ = MEASURED ALONG F.F. OF BACKWALL



SECTION THRU ROADWAY - LOOKING NORTH

SHOWING ELEVATIONS FOR EXPANSION DEVICES

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-13-632".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

EXPANSION DEVICE

SHEET 19

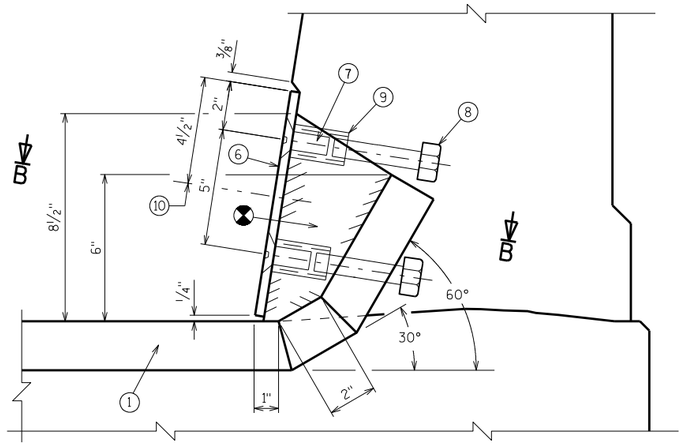
500

SCALE = 1

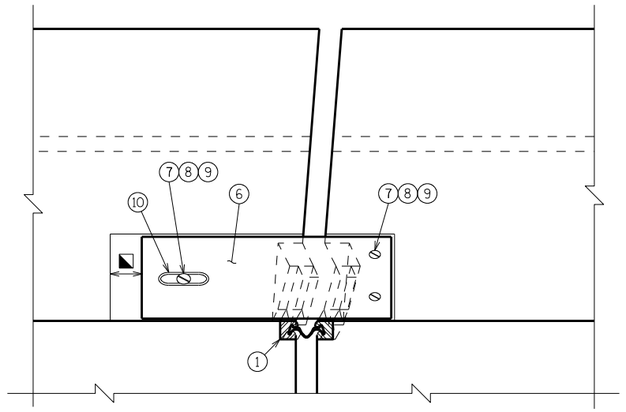
JTSS_A_SS
1-14

STATE PROJECT NUMBER

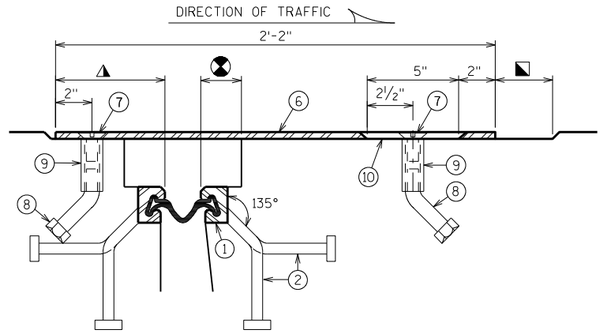
5411-02-74



SECTION A-A

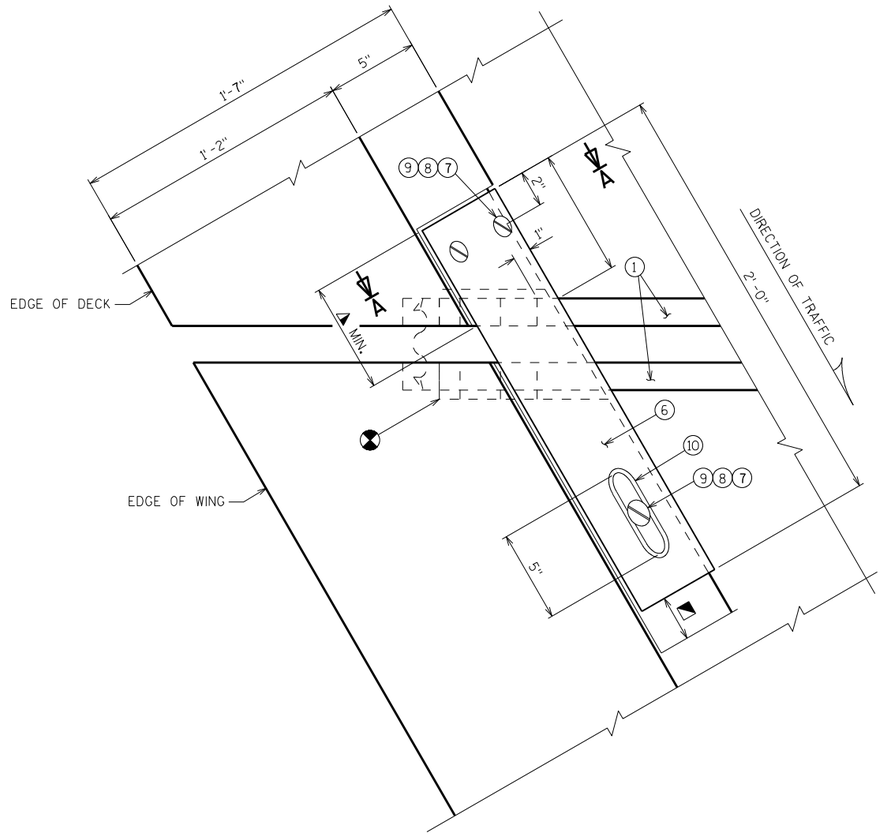


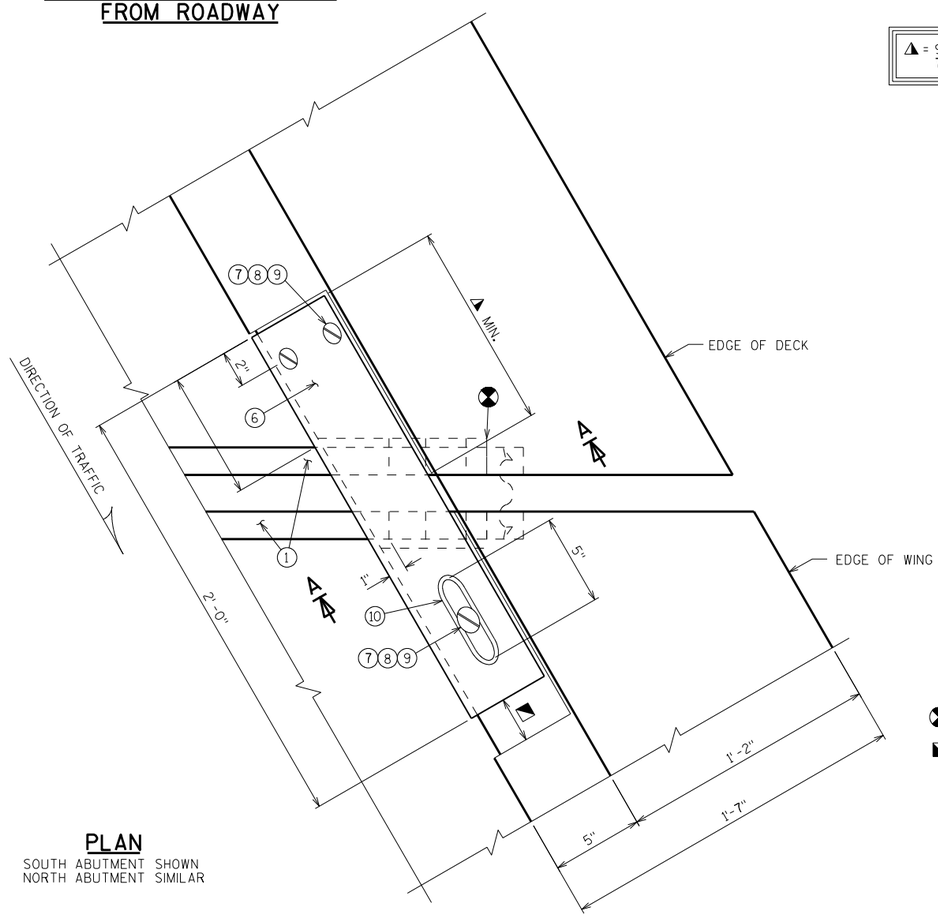
VIEW OF PARAPET PLATE FROM ROADWAY



SECTION B-B

△ = 9½" @ SOUTH ABUT.
7½" @ NORTH ABUT.





PLAN
SOUTH ABUTMENT SHOWN
NORTH ABUTMENT SIMILAR

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIMENSION ALONG SKEW PLUS ½".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

COVER PLATE DETAILS

SHEET 20

501

JTSS_A_SS
1-14

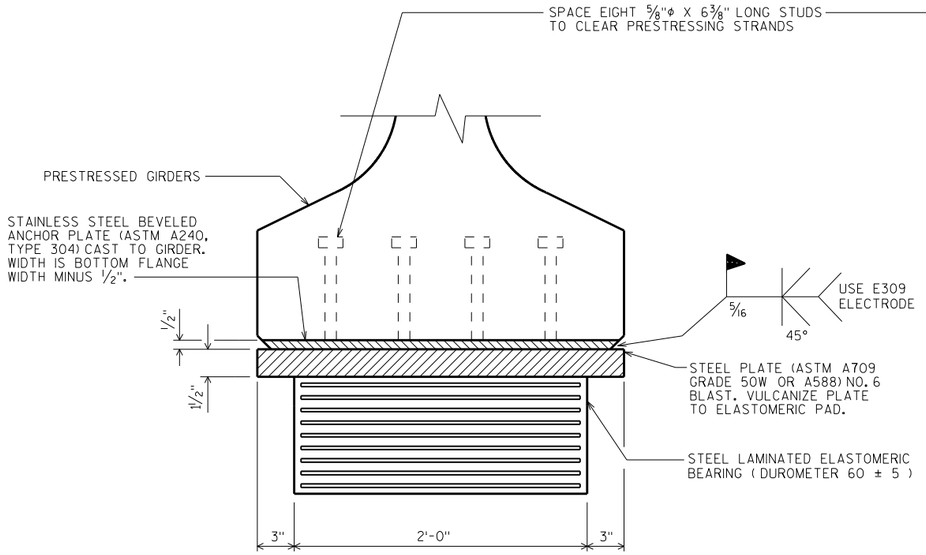
SCALE = 1

32 18 12

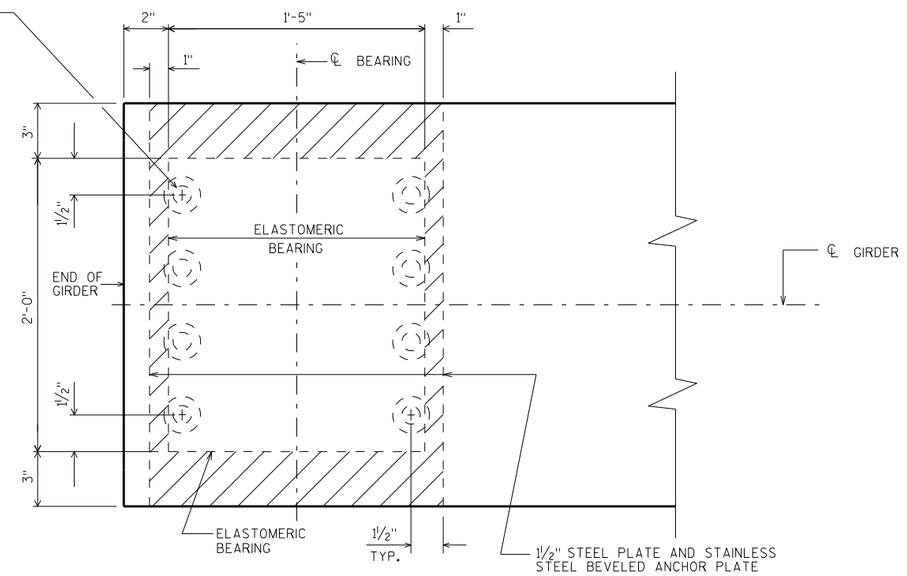
8 8

STATE PROJECT NUMBER

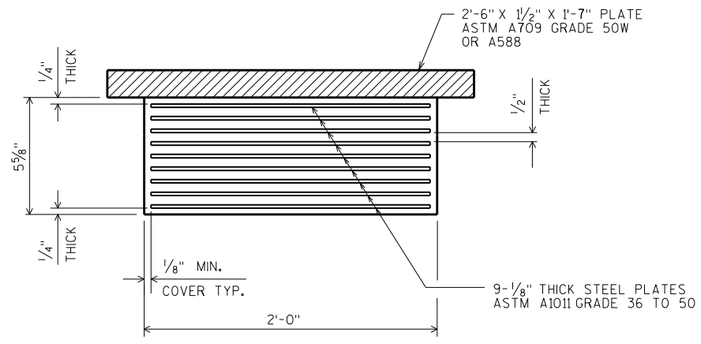
5411-02-74



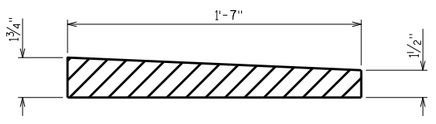
END VIEW



PLAN VIEW



SECTION THRU ELASTOMERIC BEARING



TAPERED STEEL PLATE

BEARING NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85° F.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

PRESTRESSED SOUTH ABUTMENT GIRDER BEARINGS

SHEET 21

502

15 14 8 2 1

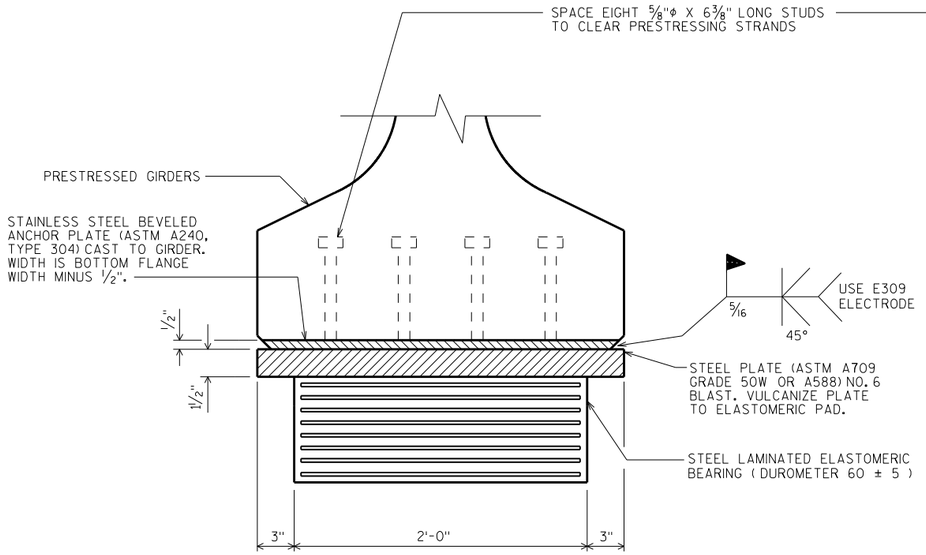
8

SCALE = .3333

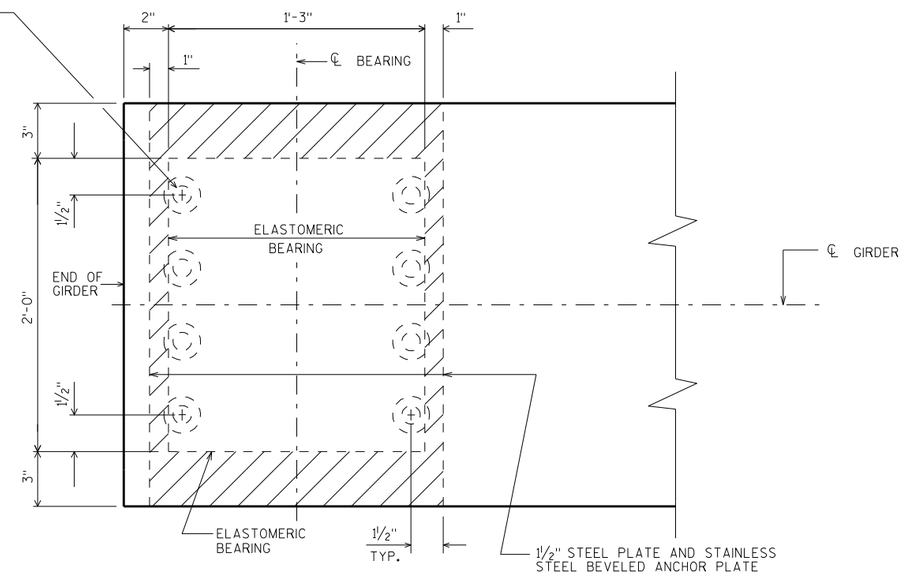
BRELASPG
7.11

STATE PROJECT NUMBER

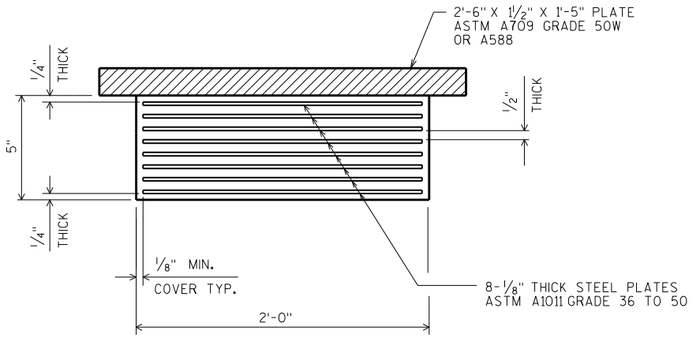
5411-02-74



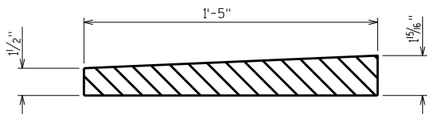
END VIEW



PLAN VIEW



SECTION THRU ELASTOMERIC BEARING



TAPERED STEEL PLATE

BEARING NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85° F.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

PRESTRESSED NORTH ABUTMENT GIRDER BEARINGS

SHEET 22

503

15 8 13

2 1

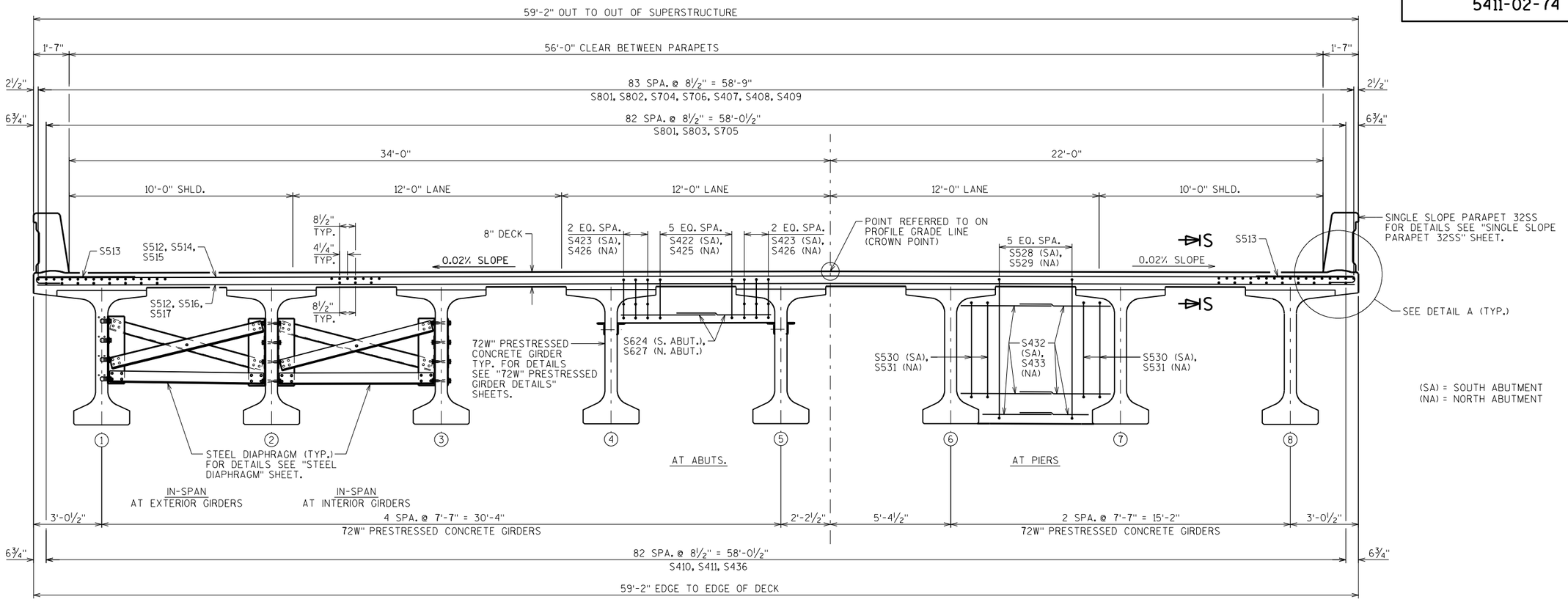
8

SCALE = .3333

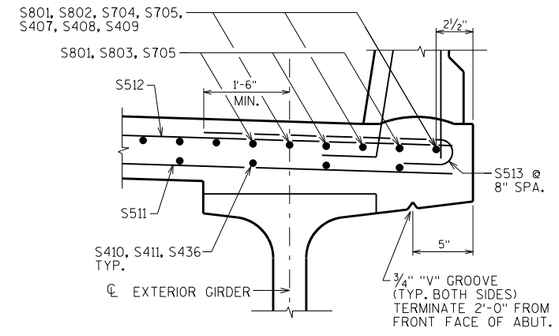
BRELASPG
7-11

STATE PROJECT NUMBER

5411-02-74

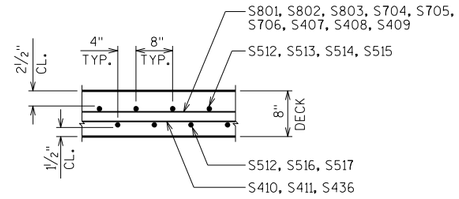


CROSS SECTION THRU ROADWAY - LOOKING NORTH



DETAIL A

BUNDLING DETAIL



SECTION S

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

SUPERSTRUCTURE CROSS SECTION

SHEET 23

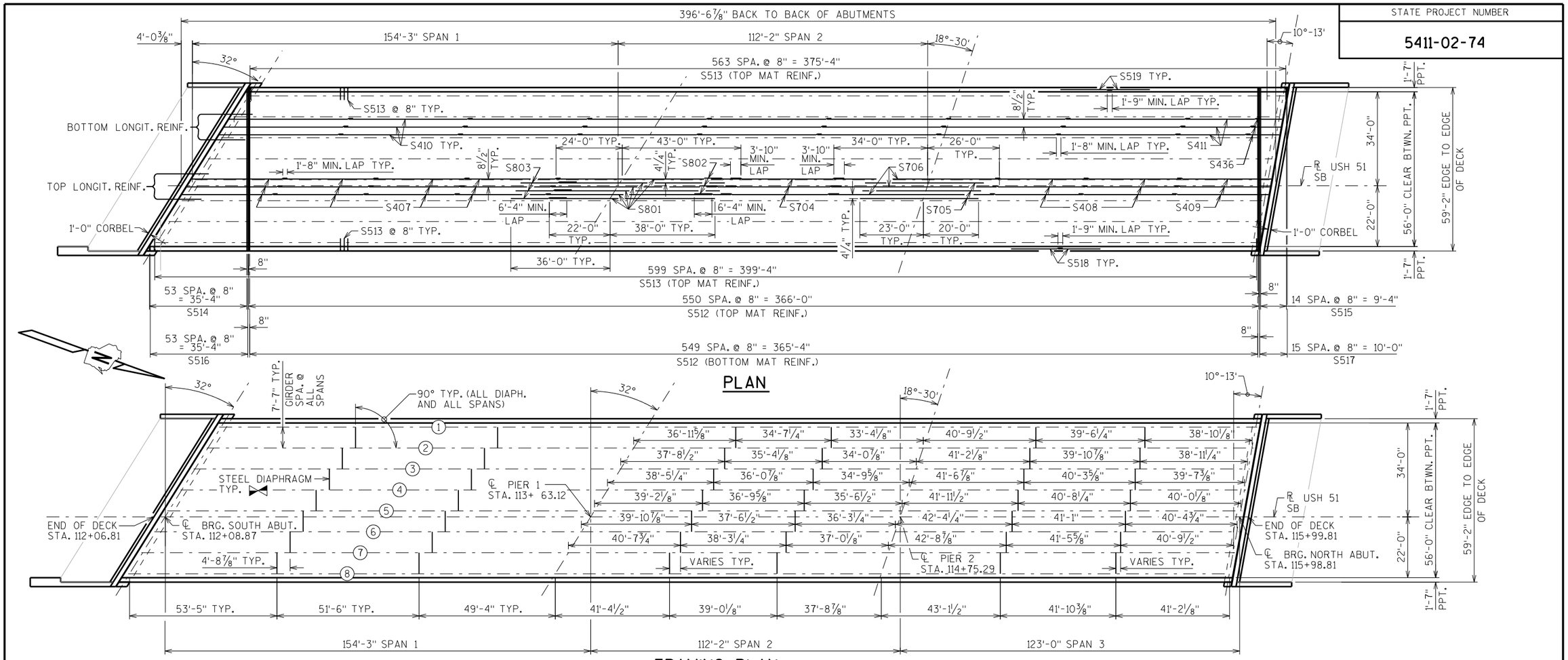
504

SCALE = 12

8

8

STATE PROJECT NUMBER
5411-02-74



PLAN

= FOR MORE DETAILS SEE "STEEL DIAPHRAGM" SHEET.

FRAMING PLAN

TOP OF DECK ELEVATIONS

	S. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 2
LT. EOD	907.52	907.32	907.10	906.87	906.63	906.38	906.13	905.86	905.58	905.29	905.00	904.80	904.59	904.38	904.17	903.95	903.73	903.50	903.27	903.04	902.80
GIR. 1	907.58	907.37	907.15	906.93	906.69	906.44	906.19	905.92	905.64	905.36	905.06	904.86	904.66	904.45	904.23	904.01	903.79	903.56	903.33	903.09	902.85
GIR. 2	907.79	907.59	907.37	907.15	906.91	906.67	906.42	906.16	905.88	905.60	905.31	905.10	904.90	904.68	904.46	904.24	904.02	903.78	903.55	903.31	903.06
GIR. 3	908.01	907.80	907.59	907.37	907.14	906.90	906.65	906.39	906.12	905.84	905.55	905.34	905.13	904.92	904.70	904.47	904.24	904.01	903.77	903.52	903.28
GIR. 4	908.22	908.02	907.81	907.59	907.36	907.13	906.88	906.62	906.35	906.08	905.79	905.58	905.37	905.15	904.93	904.70	904.47	904.23	903.99	903.74	903.49
GIR. 5	908.43	908.23	908.03	907.81	907.59	907.35	907.11	906.85	906.59	906.32	906.03	906.82	905.61	905.39	905.16	904.93	904.69	904.45	904.20	903.95	903.70
℄	908.49	908.29	908.09	907.87	907.65	907.42	907.17	906.92	906.66	906.38	906.10	906.89	905.67	905.45	905.23	904.99	904.76	904.52	904.27	904.02	903.76
GIR. 6	908.42	908.23	908.03	907.81	907.59	907.36	907.12	906.87	906.61	906.34	906.06	906.84	905.63	905.40	905.17	904.94	904.70	904.46	904.21	903.95	903.69
GIR. 7	908.33	908.14	907.94	907.73	907.51	907.28	907.04	906.80	906.54	906.27	905.99	906.78	905.56	905.33	905.10	904.86	904.62	904.37	904.12	903.86	903.60
GIR. 8	908.23	908.05	907.85	907.64	907.43	907.20	906.97	906.72	906.47	906.20	905.93	905.71	905.49	905.26	905.03	904.79	904.54	904.29	904.04	903.77	903.51
RT. EOD	908.23	908.04	907.85	907.64	907.42	907.20	906.97	906.72	906.47	906.21	905.93	905.71	905.49	905.26	905.03	904.79	904.54	904.29	904.03	903.77	903.50

	PIER 2	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N. ABUT.
LT. EOD	902.80	902.52	902.23	901.94	901.64	901.34	901.03	900.72	900.40	900.07	899.74
GIR. 1	902.85	902.57	902.28	901.99	901.69	901.39	901.08	900.76	900.44	900.12	899.78
GIR. 2	903.06	902.78	902.49	902.20	901.90	901.59	901.28	900.96	900.64	900.31	899.97
GIR. 3	903.28	902.99	902.70	902.40	902.10	901.79	901.48	901.16	900.83	900.50	900.16
GIR. 4	903.49	903.20	902.91	902.61	902.31	902.00	901.68	901.36	901.03	900.69	900.35
GIR. 5	903.70	903.41	903.12	902.82	902.51	902.20	901.88	901.55	901.22	900.89	900.54
GIR. 6	903.76	903.47	903.18	902.88	902.57	902.26	901.94	901.61	901.28	900.94	900.60
℄	902.69	903.40	903.11	902.81	902.50	902.18	901.86	901.54	901.20	900.87	900.52
GIR. 7	903.60	903.31	903.01	902.71	902.40	902.08	901.76	901.43	901.10	900.75	900.41
GIR. 8	903.51	903.21	902.92	902.61	902.30	901.98	901.66	901.33	900.99	900.64	900.29
RT. EOD	903.50	903.21	902.91	902.60	902.29	901.97	901.65	901.31	900.98	900.63	900.28

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

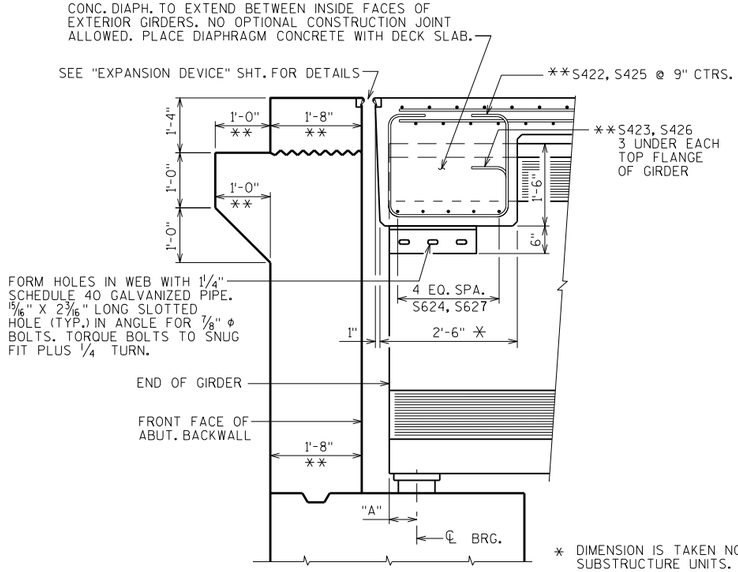
SUPERSTRUCTURE PLAN VIEWS

SHEET 24

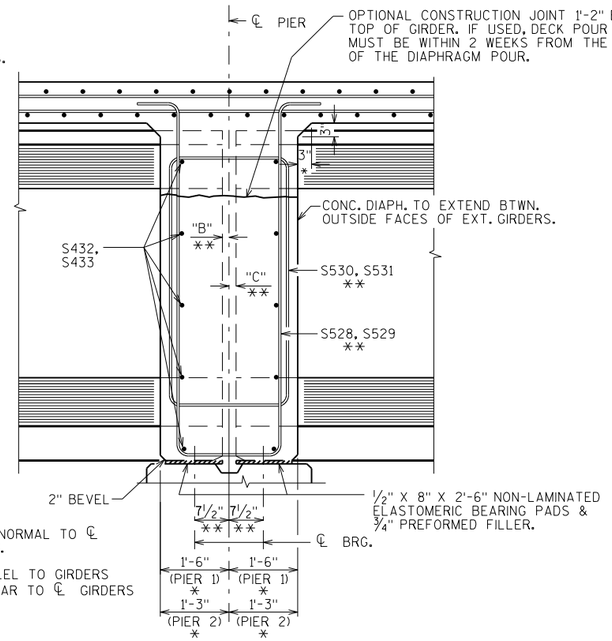
505

SCALE = 20

STATE PROJECT NUMBER
5411-02-74



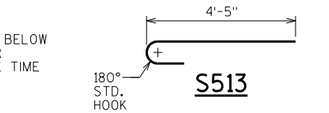
PART LONGIT. SECTION



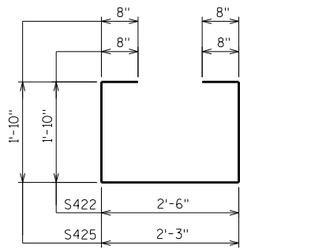
* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS

AT PIER DIAPHRAGM



S513



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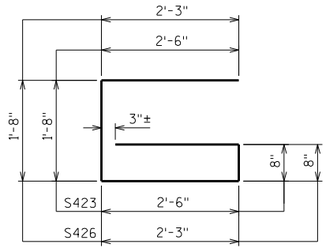

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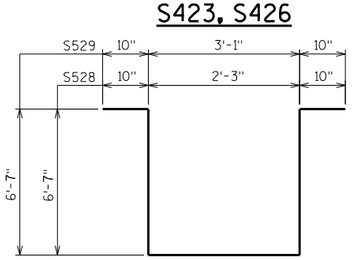
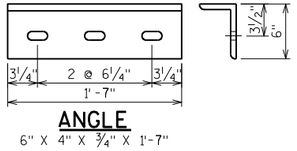


S528, S529

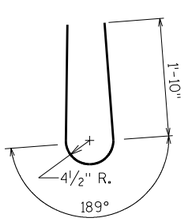


ANGLE

6" X 4" X ¾" X 1'-7"

PROVIDE 3½" x 3½" x 5/16" PLATE WASHERS AT ALL LOCATIONS EXCEPT AT EXTERIOR FACES OF EXTERIOR GIRDERS WHERE 3½" x 3½" x ½" PLATE WASHERS SHALL BE PROVIDED.

GIRDER	S. ABUT.	PIER 1		PIER 2		N. ABUT.
	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "B"	DIM. "C"	DIM. "A"
1	10.500"	1.500"	1.574"	1.574"	1.719"	9.500"
2	10.500"	1.500"	1.531"	1.531"	1.268"	9.500"
3	10.500"	1.500"	1.489"	1.489"	1.315"	9.500"
4	10.500"	1.500"	1.446"	1.446"	1.362"	9.500"
5	10.500"	1.500"	1.404"	1.404"	1.409"	9.500"
6	10.500"	1.500"	1.611"	1.611"	1.456"	9.500"
7	10.500"	1.500"	1.569"	1.569"	1.504"	9.500"
8	10.500"	1.500"	1.526"	1.526"	1.551"	9.500"



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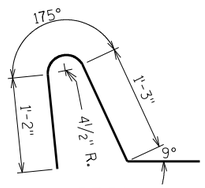

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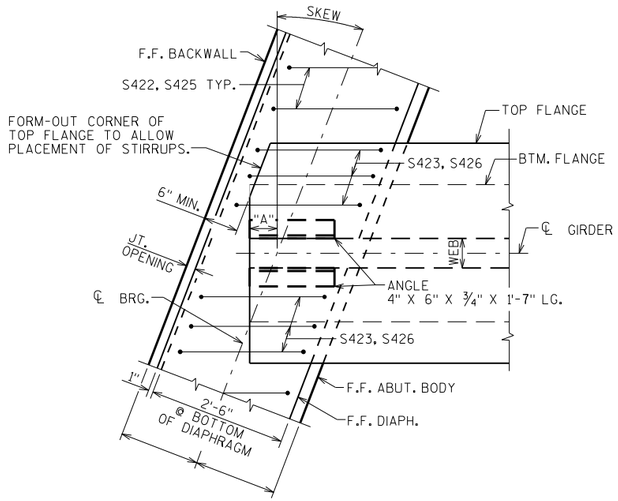
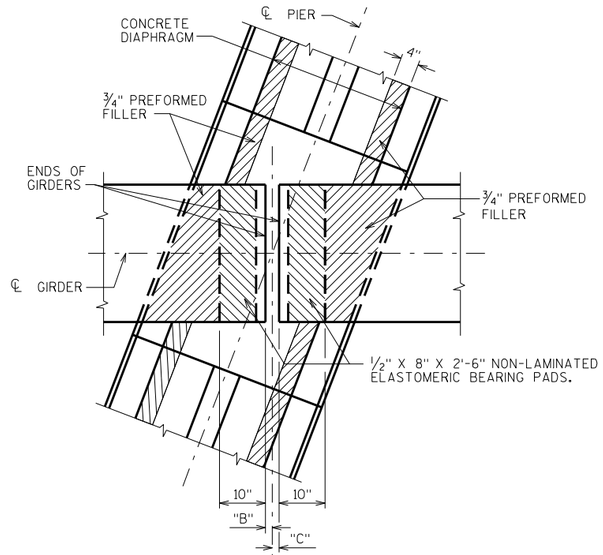


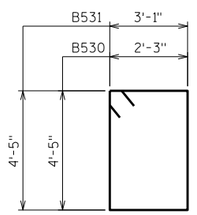
TOP VIEW OF DIAPHRAGM



BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
S704	1 SERIES OF 84	32'-9" TO 49'-0"
S409	1 SERIES OF 84	17'-8" TO 26'-8"
S514	1 SERIES OF 54	1'-10" TO 57'-10"
S515	1 SERIES OF 15	1'-6" TO 55'-1"
S516	1 SERIES OF 54	1'-4" TO 58'-5"
S517	1 SERIES OF 16	3'-4" TO 56'-11"
S436	1 SERIES OF 83	3'-4" TO 28'-3"

BUNDLE AND TAG EACH SERIES SEPARATELY.



S530, S531

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S801	X	167	60'-0"			CONTINUITY BAR OVER PIER 1
S802	X	84	13'-4"			LONGITUDINAL - TOP (SPAN 2)
S803	X	83	20'-4"			LONGITUDINAL - TOP (SPAN 1)
S704	X	84	37'-9"		▲	LONGITUDINAL - TOP (SPAN 2)
S705	X	83	43'-0"			CONTINUITY BAR OVER PIER 2
S706	X	84	60'-0"			CONTINUITY BAR OVER PIER 2
S407	X	336	34'-9"			LONGITUDINAL - TOP (SPAN 1)
S408	X	168	40'-0"			LONGITUDINAL - TOP (SPAN 3)
S409	X	84	21'-10"		▲	LONGITUDINAL - TOP (SPAN 3)
S410	X	664	45'-0"			LONGITUDINAL - BOTTOM
S411	X	83	43'-3"			LONGITUDINAL - BOTTOM (SPAN 3)
S512	X	1099	58'-10"			TRANSVERSE - TOP & BOTTOM
S513	X	1164	5'-0"	X		TRANSVERSE - TOP (BOTH EDGES)
S514	X	54	29'-10"		▲	TRANSVERSE - TOP
S515	X	15	28'-4"		▲	TRANSVERSE - TOP
S516	X	54	29'-11"		▲	TRANSVERSE - BOTTOM
S517	X	16	30'-2"		▲	TRANSVERSE - BOTTOM
S518	X	42	58'-5"			EAST PARAPET - HORIZ.
S519	X	42	54'-8"			WEST PARAPET - HORIZ.
S520	X	1064	5'-0"	X		PARAPET - VERT.
S521	X	1064	4'-5"	X		PARAPET - VERT.
S422	X	42	7'-2"	X		SOUTH ABUT. DIAPH. - STIRRUP
S423	X	42	9'-3"	X		SOUTH ABUT. DIAPH. - VERT.
S624	X	70	5'-9"			SOUTH ABUT. DIAPH. - HORIZ.
S425	X	42	6'-9"	X		NORTH ABUT. DIAPH. - STIRRUP
S426	X	42	8'-6"	X		NORTH ABUT. DIAPH. - VERT.
S627	X	70	5'-2"			NORTH ABUT. DIAPH. - HORIZ.
S528	X	42	16'-7"	X		PIER 1 DIAPH. - VERT.
S529	X	42	17'-5"	X		PIER 2 DIAPH. - VERT.
S530	X	28	14'-0"	X		PIER 1 DIAPH. - STIRRUP @ GIRDERS
S531	X	28	15'-8"	X		PIER 2 DIAPH. - STIRRUP @ GIRDERS
S432	X	120	5'-7"			PIER 1 DIAPH. - HORIZ.
S433	X	120	4'-7"			PIER 2 DIAPH. - HORIZ.
S534	X	14	8'-5"			S. ABUT. EXPANSION DEVICE - HORIZ.
S535	X	14	7'-2"			N. ABUT. EXPANSION DEVICE - HORIZ.
S436	X	83	15'-9"		▲	LOGITUDINAL - BOTTOM - SPAN 3

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

NOTES

DIAPHRAGM SUPPORT ANGLES SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUT AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL SUPPORT ANGLES SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

ALL DIAPHRAGM SUPPORT HARDWARE SHALL BE INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

SUPERSTRUCTURE DETAILS

SHEET 25

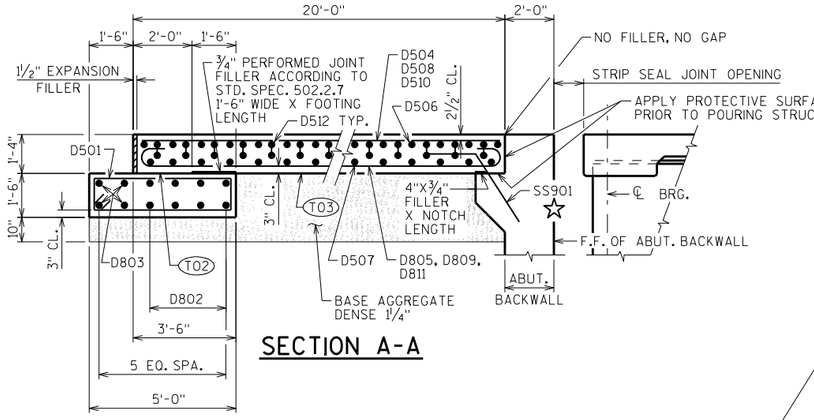
506

G72WDET
1-13

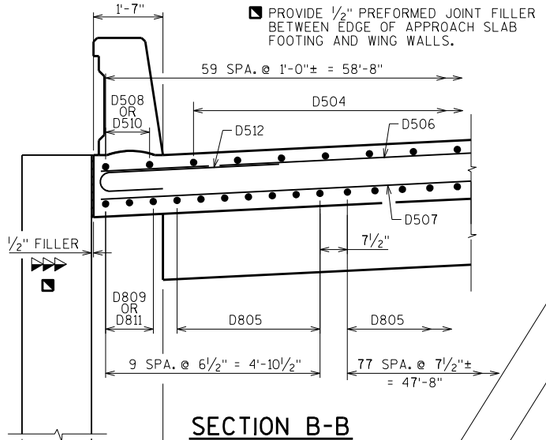
SCALE = 1.3333

STATE PROJECT NUMBER

5411-02-74



SECTION A-A

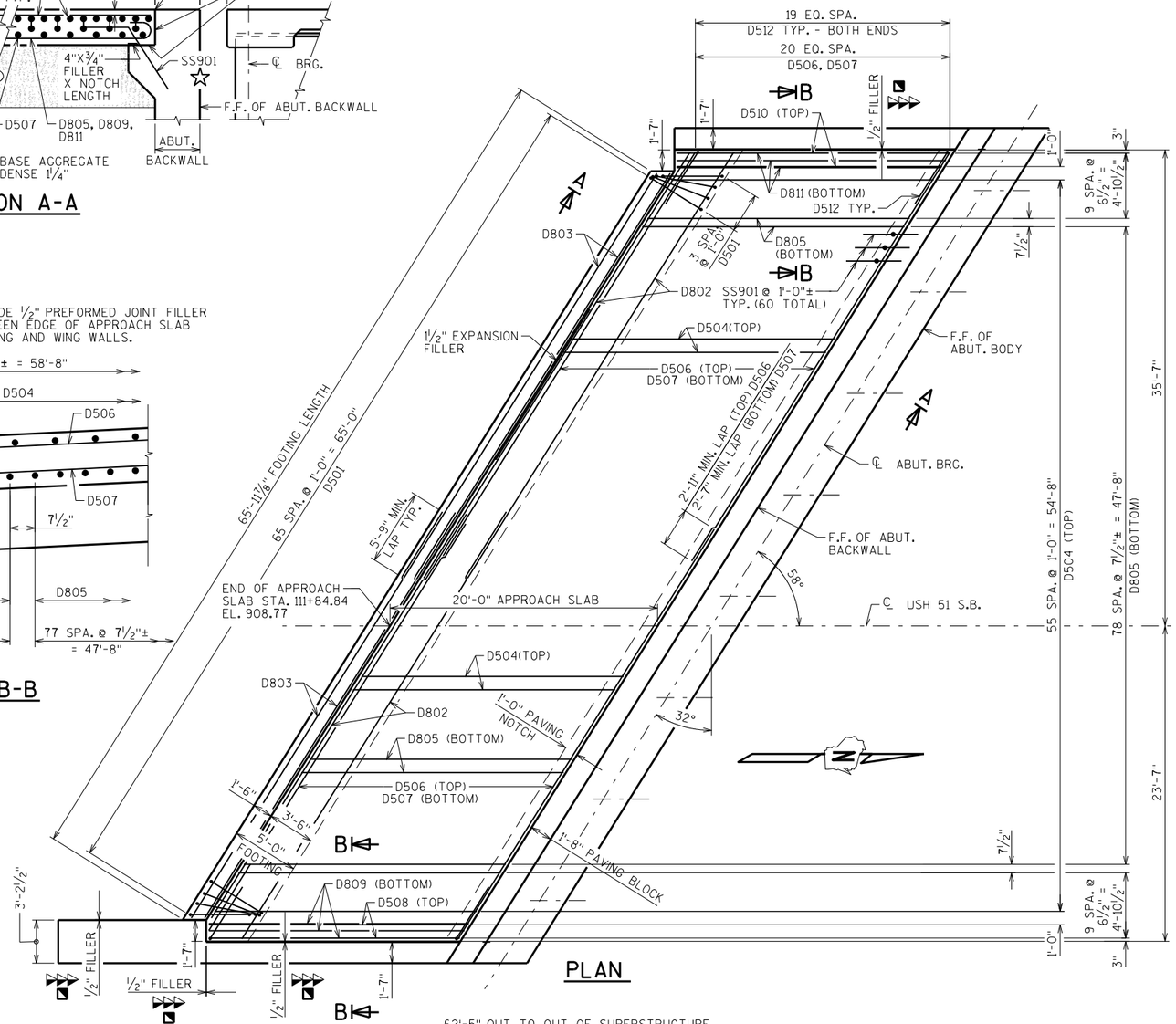


SECTION B-B

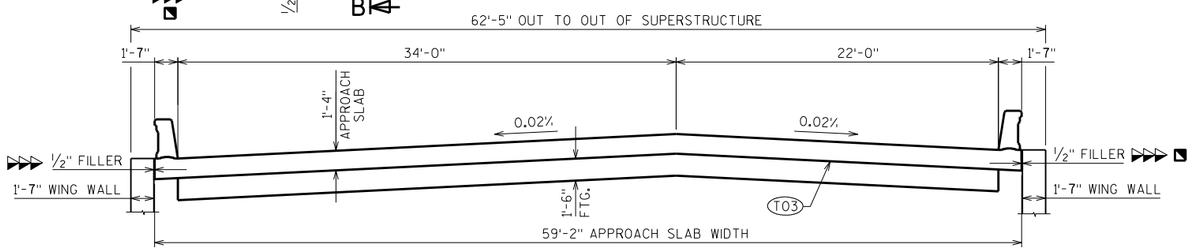
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

T02 STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN.) TOTAL THK. OF POLYETHELENE SHEETS OVER THE ENTIRE TOP OF FOOTING.

T03 PLACE MULTIPLE LAYERS (0.03" MIN.) TOTAL THK. OF POLYETHELENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE.



PLAN



CROSS SECTION THRU ROADWAY - LOOKING NORTH

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
D501	X	69	12'-2"	X		FOOTING - STIRRUP
D802	X	16	37'-7"			FOOTING - TRANSVERSE - TOP & BOTTOM
D803	X	8	35'-9"			FOOTING - TRANSVERSE - TOP & BOTTOM
D504	X	56	19'-7"			LONGITUDINAL - TOP
D805	X	98	21'-5"	X		LONGITUDINAL - BOTTOM
D506	X	42	36'-2"			TRANSVERSE - TOP
D507	X	42	36'-2"			TRANSVERSE - BOTTOM
D508	X	2	19'-7"		⚠	WING 1 - UNDER PPT. - LONGITUDINAL - TOP
D809	X	2	21'-5"	X		WING 1 - UNDER PPT. - LONGITUDINAL - BMT.
D510	X	2	20'-2"		⚠	WING 2 - UNDER PPT. - LONGITUDINAL - TOP
D811	X	2	22'-0"	X		WING 2 - UNDER PPT. - LONGITUDINAL - BMT.
D512	X	40	4'-1"	X		APPROACH SLAB - TOP - BOTH ENDS
SS901		60	5'-0"	X		CONCRETE BACKWALL TO APPROACH SLAB

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

STAINLESS STEEL ☆

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
D508	1 SERIES OF 2	18'-9" TO 20'-5"
D510	1 SERIES OF 2	19'-10" TO 20'-5 1/2"

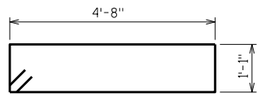
BUNDLE AND TAG EACH SERIES SEPARATELY.

DESIGN DATA

CONCRETE STRENGTH ——— 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 —— fy = 60,000 P.S.I.
ALLOWABLE SOIL BEARING PRESSURE ——— 2,000 P.S.F.

WING TIP AND END OF SLAB APPROACH STATIONS AND ELEVATIONS

DESCRIPTION	STA.	OFFSET DISTANCE	TOP OF SLAB EL.	TOP OF FTG. EL.	BTM. OF FTG. EL.
WING 1 - TIP OF WING	111+61.06	22'-0" RT.	908.59	———	———
WING 1 - END OF SLAB	111+71.10	22'-0" RT.	908.49	907.15	905.65
℄	111+84.84	0'-0" RT.	908.77	907.44	905.94
WING 2 - TIP OF WING	112+06.09	34'-0" LT.	907.84	906.51	905.01
WING 2 - END OF SLAB	112+06.09	34'-0" LT.	907.84	906.51	905.01



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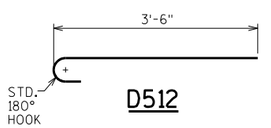

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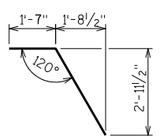

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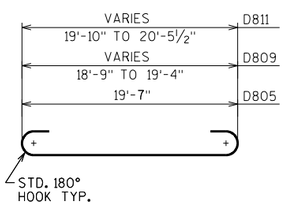


D805, D809, D811

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

SOUTH STRUCTURAL APPROACH SLAB DETAILS

SHEET 26

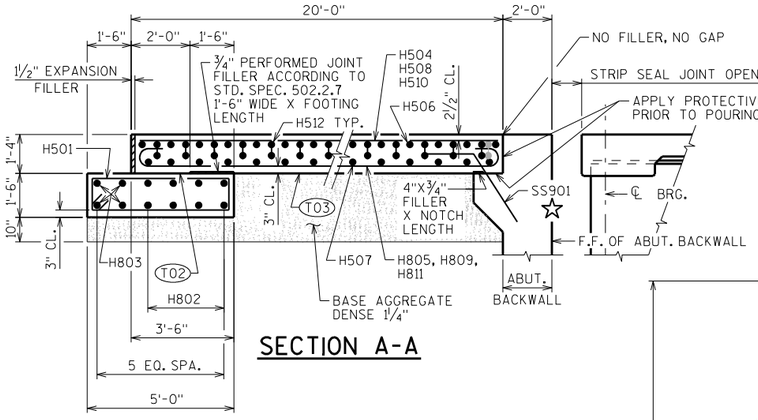
507

SCALE = 5

8

8

STATE PROJECT NUMBER
5411-02-74



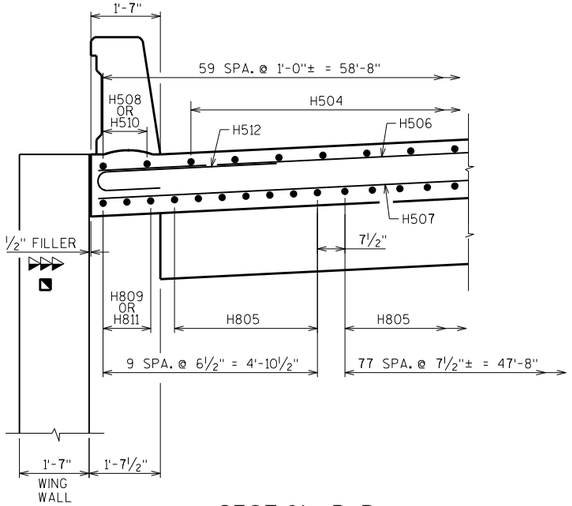
SECTION A-A

PROVIDE ½" PREFORMED JOINT FILLER BETWEEN EDGE OF APPROACH SLAB FOOTING AND WING WALLS.

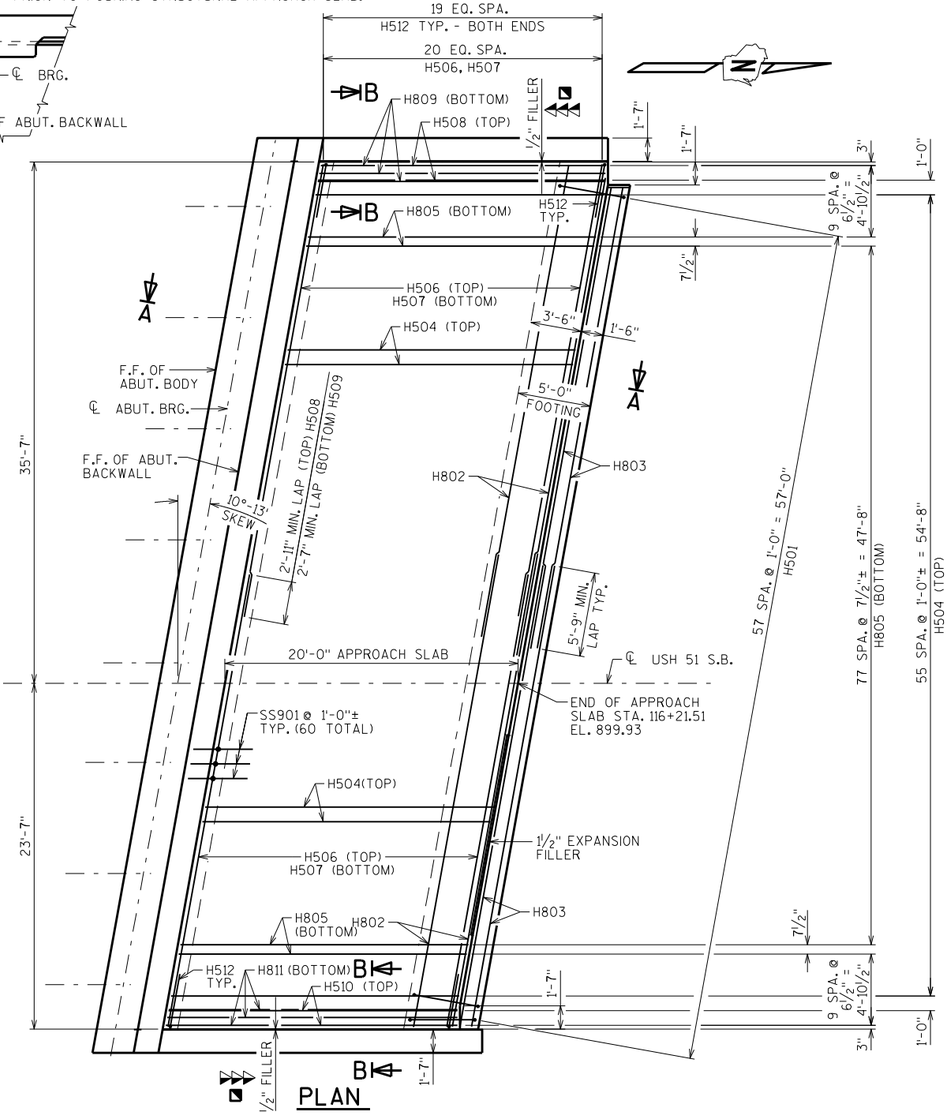
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

T02 STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN.) TOTAL THK. OF POLYETHELENE SHEETS OVER THE ENTIRE TOP OF FOOTING.

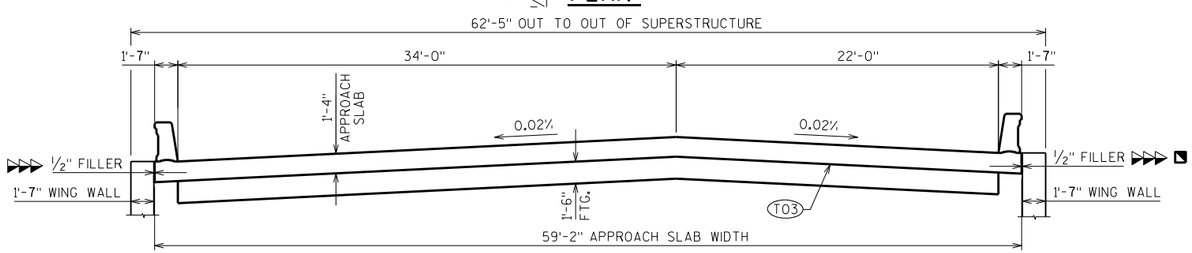
T03 PLACE MULTIPLE LAYERS (0.03" MIN.) TOTAL THK. OF POLYETHELENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE.



SECTION B-B



PLAN



CROSS SECTION THRU ROADWAY - LOOKING NORTH

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
H501	X	58	12'-2"	X		FOOTING - STIRRUP
H802	X	16	32'-9"			FOOTING - TRANSVERSE - TOP & BOTTOM
H803	X	8	32'-0"			FOOTING - TRANSVERSE - TOP & BOTTOM
H504	X	56	19'-7"			LONGITUDINAL - TOP
H805	X	98	20'-5"	X		LONGITUDINAL - BOTTOM
H506	X	42	31'-4"			TRANSVERSE - TOP
H507	X	42	31'-2"			TRANSVERSE - BOTTOM
H508	X	2	19'-6"		⚠	WING 3 - UNDER PPT. - LONGITUDINAL - TOP
H809	X	3	21'-4"	X		WING 3 - UNDER PPT. - LONGITUDINAL - BMT.
H510	X	2	19'-10"		⚠	WING 4 - UNDER PPT. - LONGITUDINAL - TOP
H811	X	3	21'-8"	X		WING 4 - UNDER PPT. - LONGITUDINAL - BMT.
H512	X	40	4'-1"	X		APPPROACH SLAB - TOP - BOTH ENDS
SS901		60	5'-0"	X		CONCRETE BACKWALL TO APPROACH SLAB

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

STAINLESS STEEL ☆

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
H508	1 SERIES OF 2	19'-5" TO 19'-7"
H510	1 SERIES OF 2	19'-8" TO 19'-11"

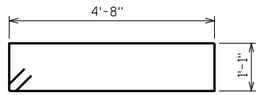
BUNDLE AND TAG EACH SERIES SEPARATELY.

DESIGN DATA

CONCRETE STRENGTH ——— 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ——— fy = 60,000 P.S.I.
ALLOWABLE SOIL BEARING PRESSURE ——— 2,000 P.S.F.

WING TIP AND END OF SLAB APPROACH STATIONS AND ELEVATIONS

DESCRIPTION	STA.	OFFSET DISTANCE	TOP OF SLAB EL.	TOP OF FTG. EL.	BTM. OF FTG. EL.
WING 3 - TIP OF WING	116+27.64	34'-0" LT.	899.07	897.74	896.24
WING 3 - END OF SLAB	116+27.64	34'-0" LT.	899.07	897.74	896.24
℄	116+21.51	0'-0" RT.	899.93	898.60	897.10
WING 4 - TIP OF WING	116+17.54	22'-0" RT.	899.61	898.28	896.78
WING 4 - END OF SLAB	116+17.54	22'-0" RT.	899.61	898.28	896.78



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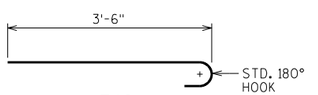

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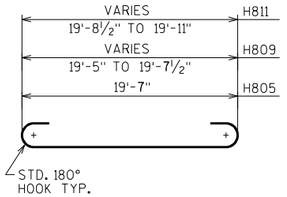
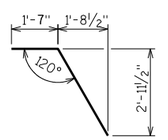


H805, H809, H811



SS901

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

NORTH STRUCTURAL APPROACH SLAB DETAILS

SHEET 27

508

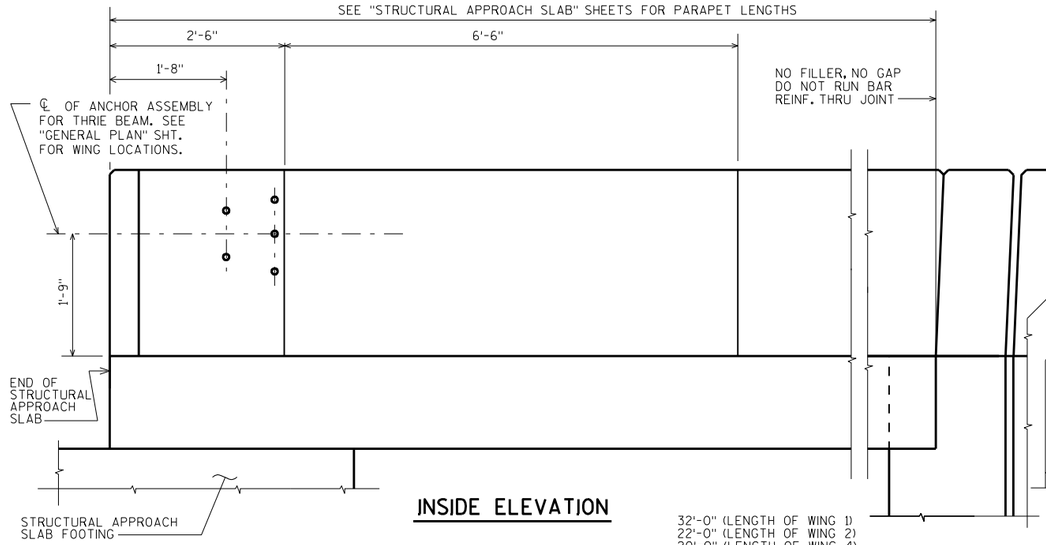
SCALE = 5

8

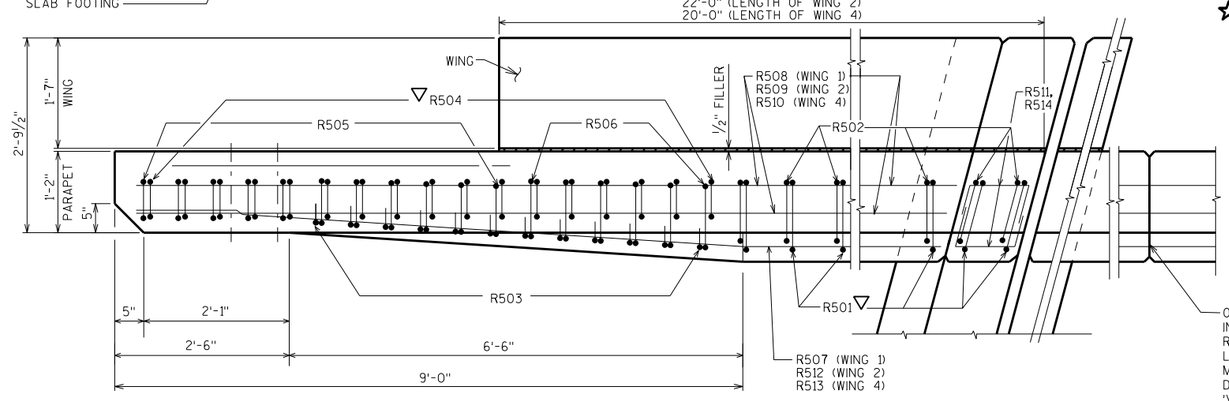
8

STATE PROJECT NUMBER

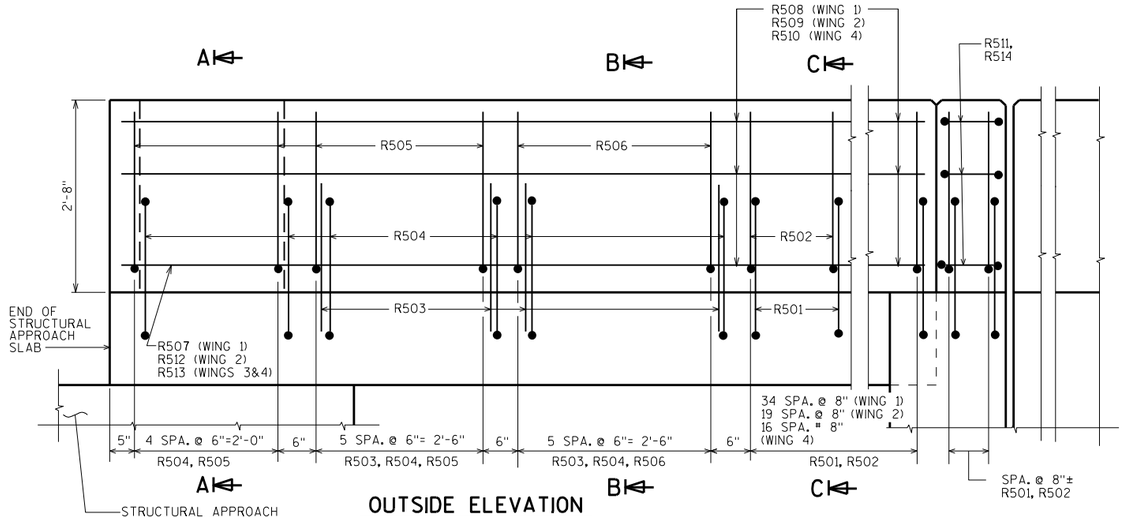
5411-02-74



INSIDE ELEVATION

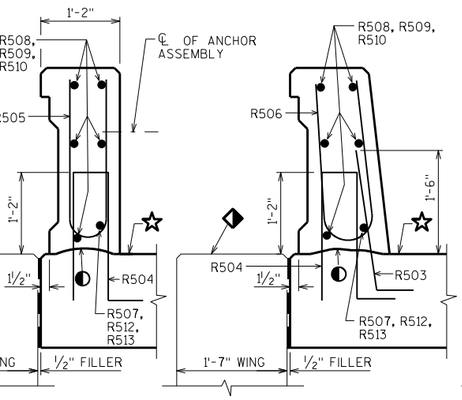


PLAN

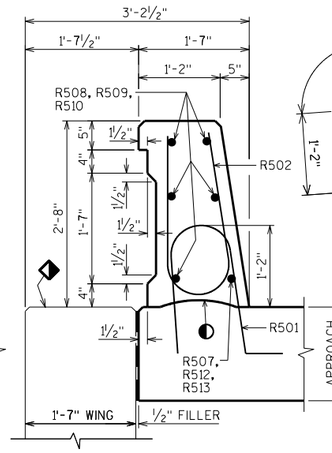


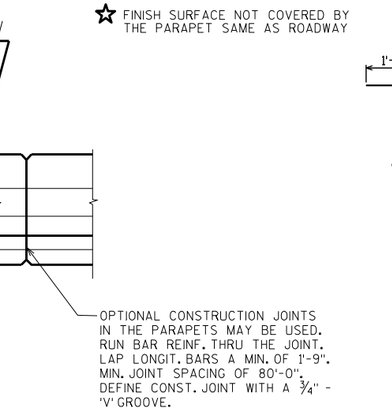
OUTSIDE ELEVATION

(WING NOT SHOWN FOR CLARITY)

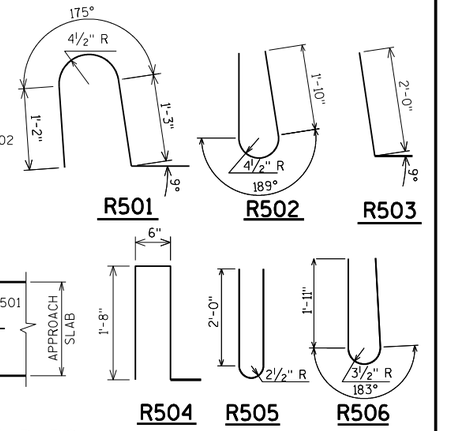


☆ FINISH SURFACE NOT COVERED BY THE PARAPET SAME AS ROADWAY





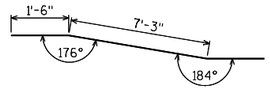
SECTION ON BRIDGE



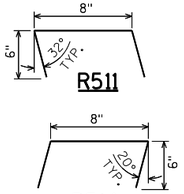
BILL OF BARS

FOR STRUCTURAL APPROACH SLAB PARAPETS

BAR MARK	COAT	S. ABUT.	N. ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	55	17	4-5	X		PARAPET VERT.
R502	X	55	17	5-0	X		PARAPET VERT.
R503	X	24	12	2-9	X		PARAPET VERT.
R504	X	34	17	4-4	X		PARAPET VERT.
R505	X	22	11	4-9	X		PARAPET VERT.
R506	X	12	6	4-10	X		PARAPET VERT.
R507	X	1	——	29-6	X		WING 1 - PARAPET HORIZ.
R508	X	10	——	15-3			WING 1 - PARAPET HORIZ.
R509	X	10	——	11-3			WING 2 - PARAPET HORIZ.
R510	X	——	10	10-4			WING 4 - PARAPET HORIZ.
R511	X	12	——	1-5	X		WINGS 1&2 - PARAPET HORIZ.
R512	X	1	——	22-6	X		WING 2 - PARAPET HORIZ.
R513	X	——	1	21-0	X		WING 4 - PARAPET HORIZ.
R514	X	——	6	1-5	X		WING 4 - PARAPET HORIZ.

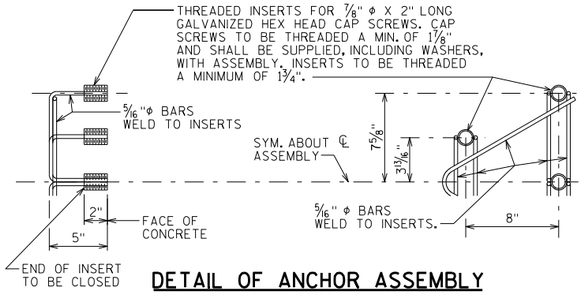


R507, R512, R513



R511

R514



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

◆ SLOPE FOR DRAINAGE

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▽ R501 AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS' | PLANS CK'D. SAD

SINGLE SLOPE PARAPET 32SS WITH STRUCTURAL APPROACH SLAB (MODIFIED)

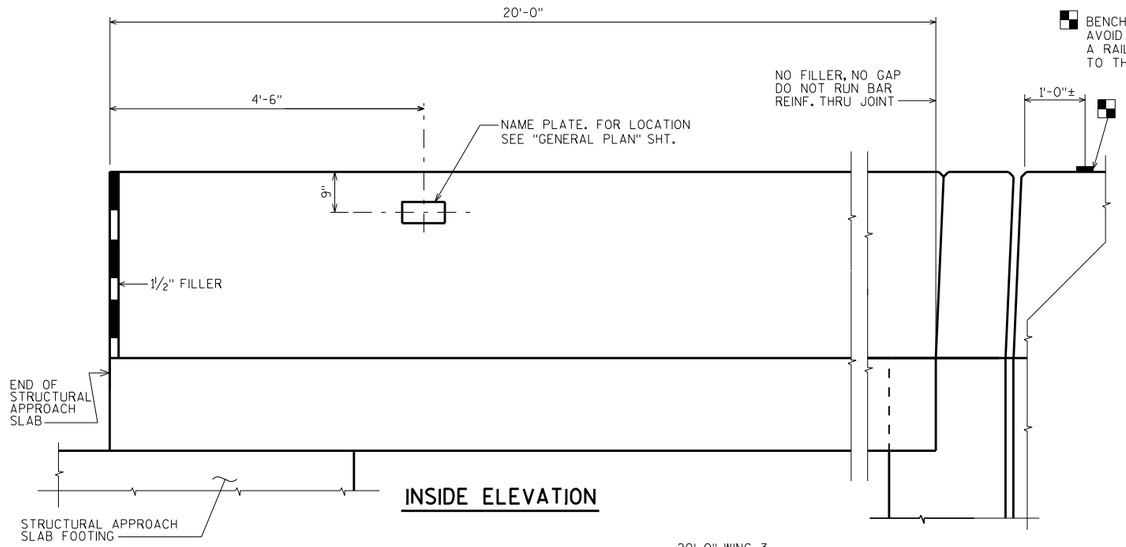
SHEET 28

509

SS32APP
1-14

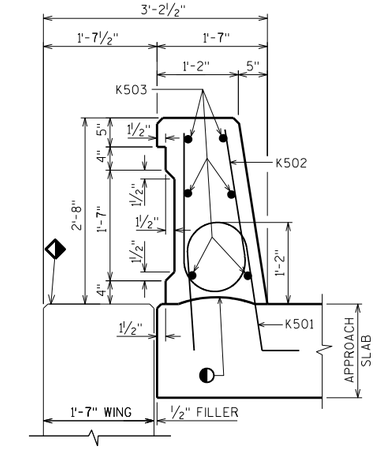
SCALE = 1:1

STATE PROJECT NUMBER
5411-02-74



INSIDE ELEVATION

BENCH MARCK CAP (WHEN SUPPLIED).
AVOID PLACING A BENCH MARK CAP BELOW
A RAIL OR FENCE SYSTEM THAT IS ATTACHED
TO THE TOP OF THE PARAPET.

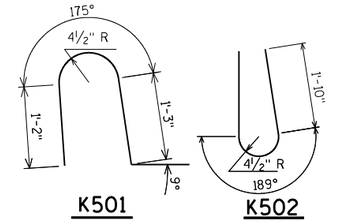


SECTION C-C

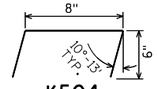
BILL OF BARS

FOR STRUCTURAL APPROACH SLAB PARAPET

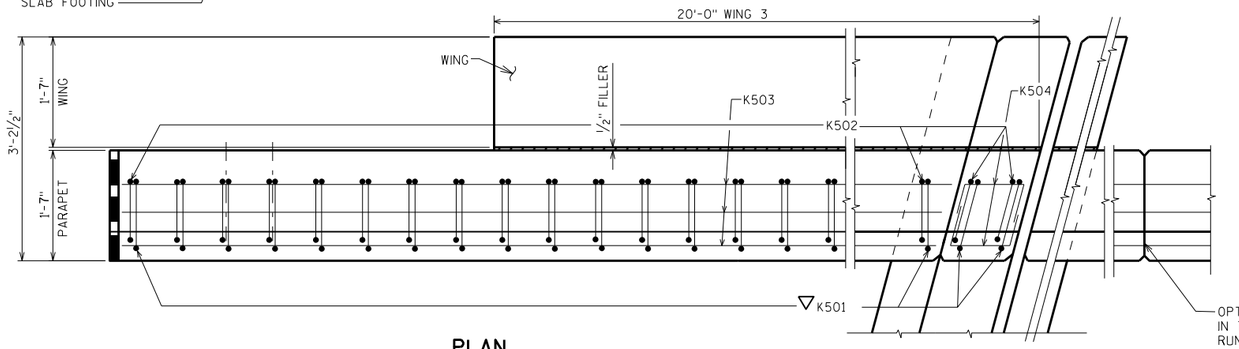
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
K501	X	31	4-5	X		PARAPET - VERT.
K502	X	31	5-0	X		PARAPET - VERT.
K503	X	12	10-9			PARAPET - HORIZ.
K504	X	12	1-5	X		PARAPET - HORIZ.



K501 K502

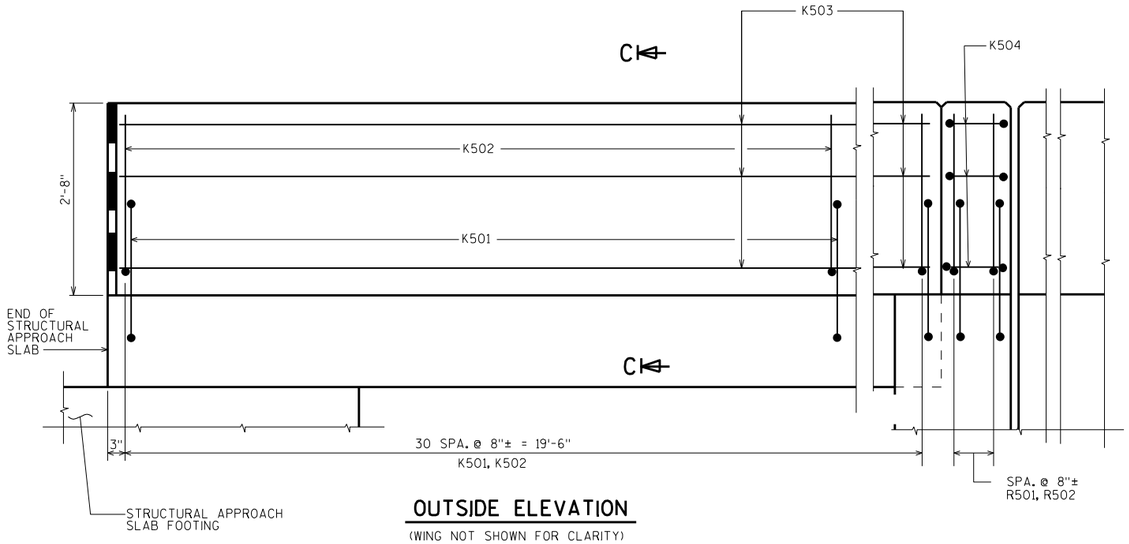


K504



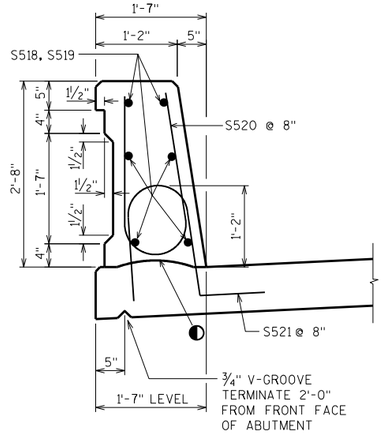
PLAN

OPTIONAL CONSTRUCTION JOINTS
IN THE PARAPETS MAY BE USED.
RUN BAR REINF. THRU THE JOINT.
LAP LONGIT. BARS A MIN. OF 1'-9".
MIN. JOINT SPACING OF 80'-0".
DEFINE CONST. JOINT WITH A ¾" -
'V' GROOVE.



OUTSIDE ELEVATION

(WING NOT SHOWN FOR CLARITY)



SECTION ON BRIDGE

◆ SLOPE FOR DRAINAGE

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▽ K501 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS' | PLANS CK'D. SAD

SINGLE SLOPE PARAPET 32SS WITH STRUCTURAL APPROACH SLAB (MODIFIED)

SHEET 29

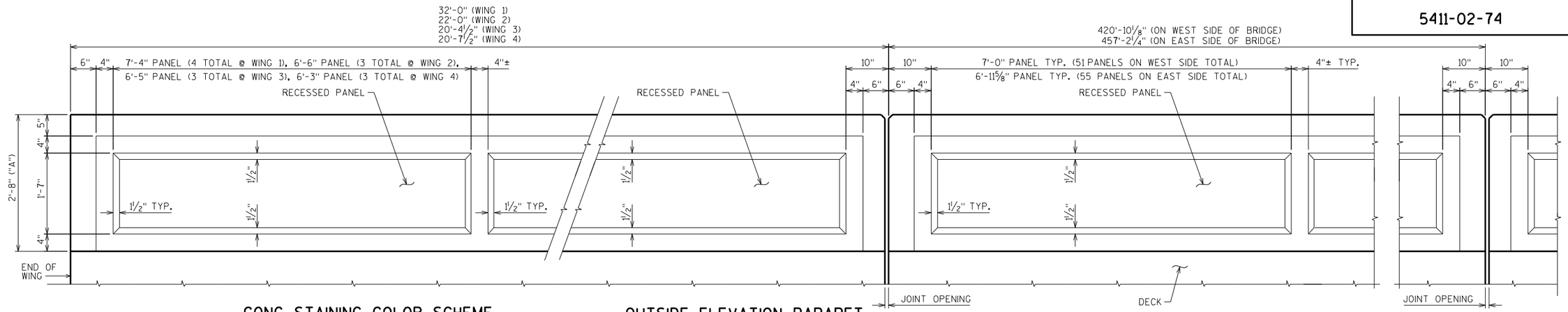
510

SS32APP
1-14

SCALE = 1:1

STATE PROJECT NUMBER

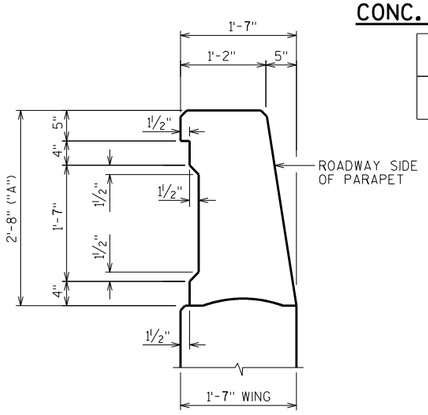
5411-02-74



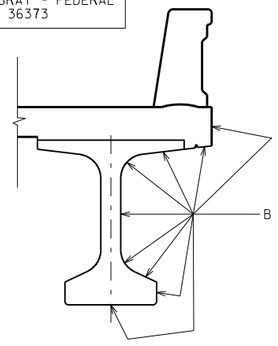
OUTSIDE ELEVATION PARAPET

CONC. STAINING COLOR SCHEME

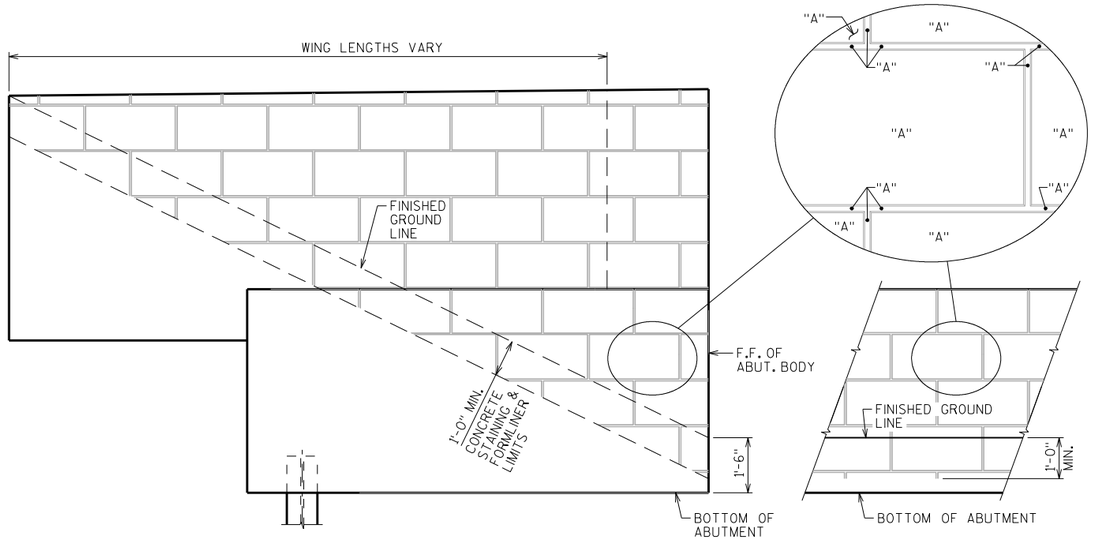
A	PEARL GRAY - FEDERAL COLOR # 26622
B	MEDIUM GRAY - FEDERAL COLOR # 36373



SECTION THRU PARAPET

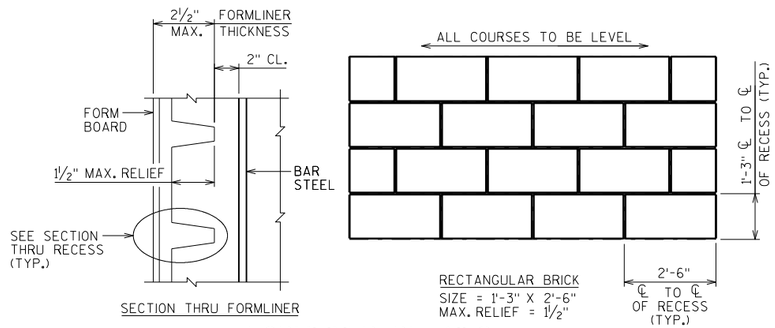


SECTION THRU EXTERIOR GIRDER



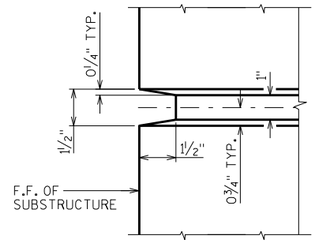
ELEVATION FRONT FACE OF WING
TYP.

ELEVATION
FRONT FACE OF ABUTMENT BODY



FORMLINER DETAILS

NOTE:
ALL ABUTMENT BODY/WING COARSES SHALL BE LEVEL AND MATCH/LINE UP WITH RETAINING WALL COARSES/ ASETHETICS. COARSES SHALL NOT EXCEED A 1/16" VARIATION IN EITHER THE HORIZONTAL OR VERTICAL DIRECTIONS. WRAP AROUND/MATCH FORMLINER PATTERN AT CORNERS.



SECTION THRU RECESS
TYP. (VERT. & HORIZ.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

AESTHETICS DETAILS

SHEET 30

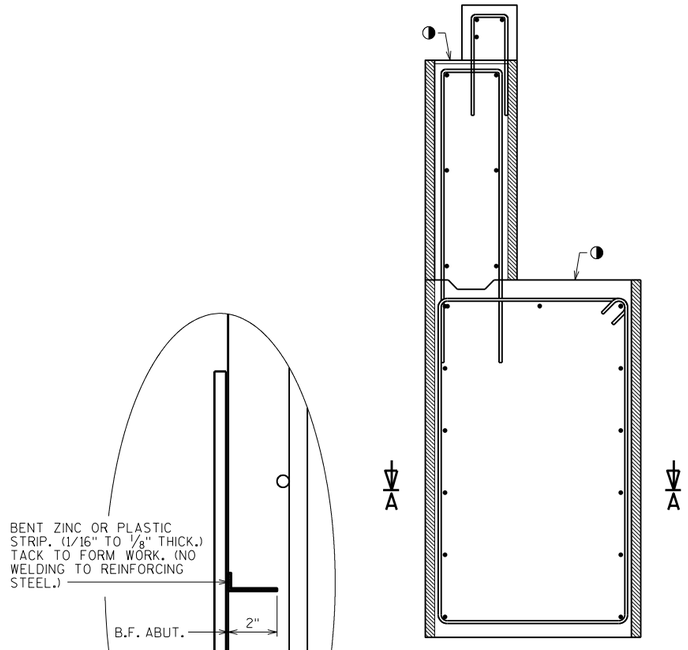
511

8

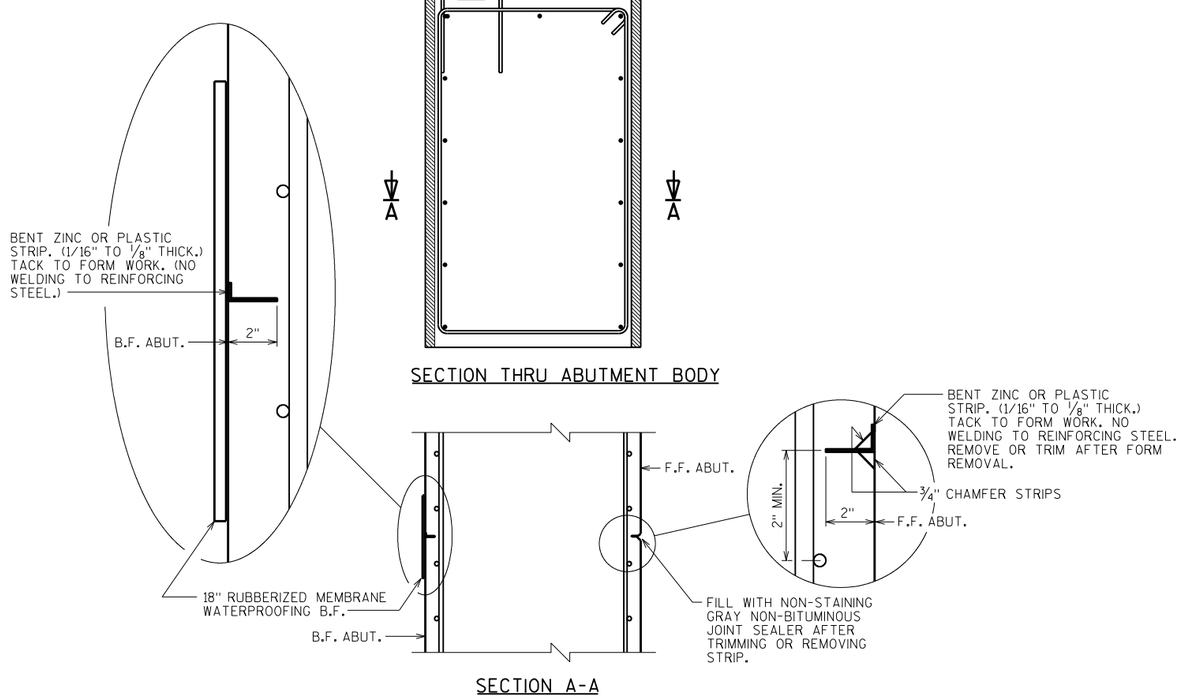
8

SCALE = 1

STATE PROJECT NUMBER
5411-02-74



SECTION THRU ABUTMENT BODY



SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY DDS | PLANS CK'D. SAD

ALTERNATE CONSTRUCTION JOINT

SHEET 31

512

8

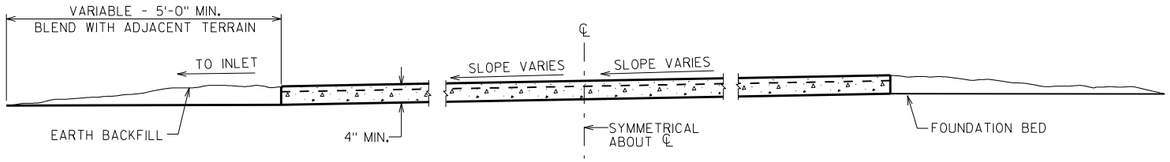
8

1 2 4 6

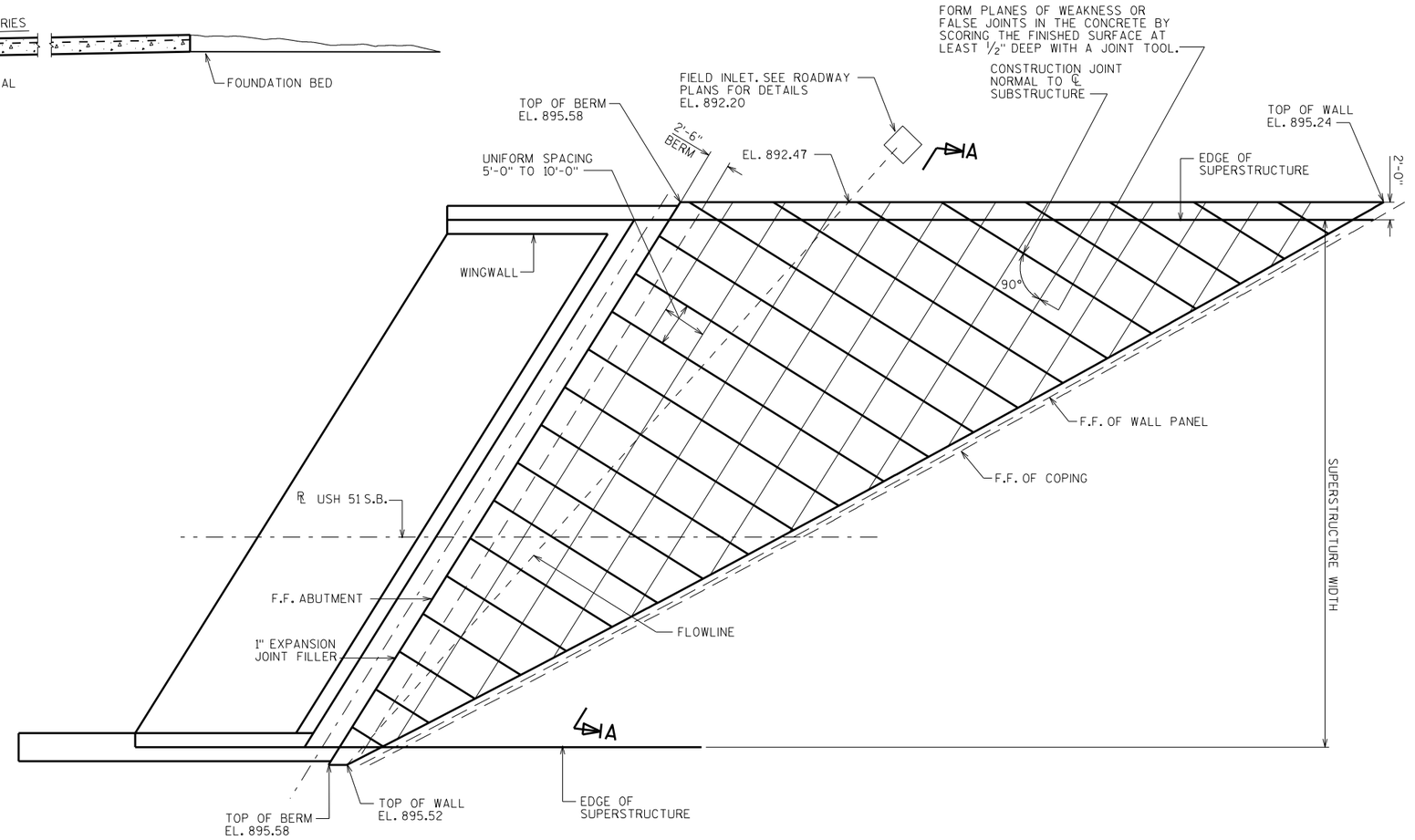
SCALE =

ALTJOINT
10-08

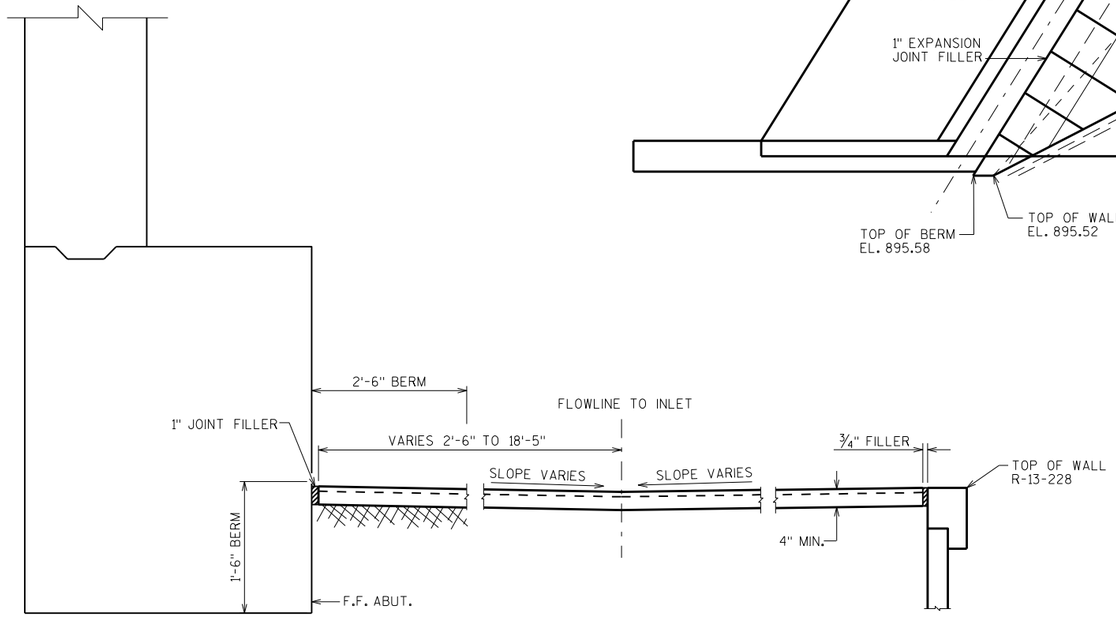
STATE PROJECT NUMBER
5411-04-74



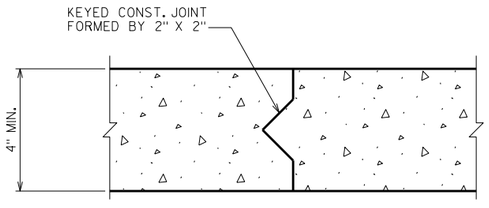
SECTION A-A



CONSTRUCTION JOINT DESIGN



TYPICAL SECTION



CONSTRUCTION JOINT

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN HEREON SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-632

DRAWN BY	PLANS CK'D.
SAD	DDS

SOUTH ABUT. CONC. (CAST-IN-PLACE) SLOPE PAVING

SHEET 32

513

SCALE = 7.5

SLPPAVCIP
7-11

STATE PROJECT NUMBER

5411-02-74

PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

INDICATES WING NUMBER

NAMEPLATE AND BENCH MARK (WHEN SUPPLIED) LOCATION, FOR DETAILS SEE SINGLE SLOPE PARAPET 32SS (MODIFIED) SHEET.

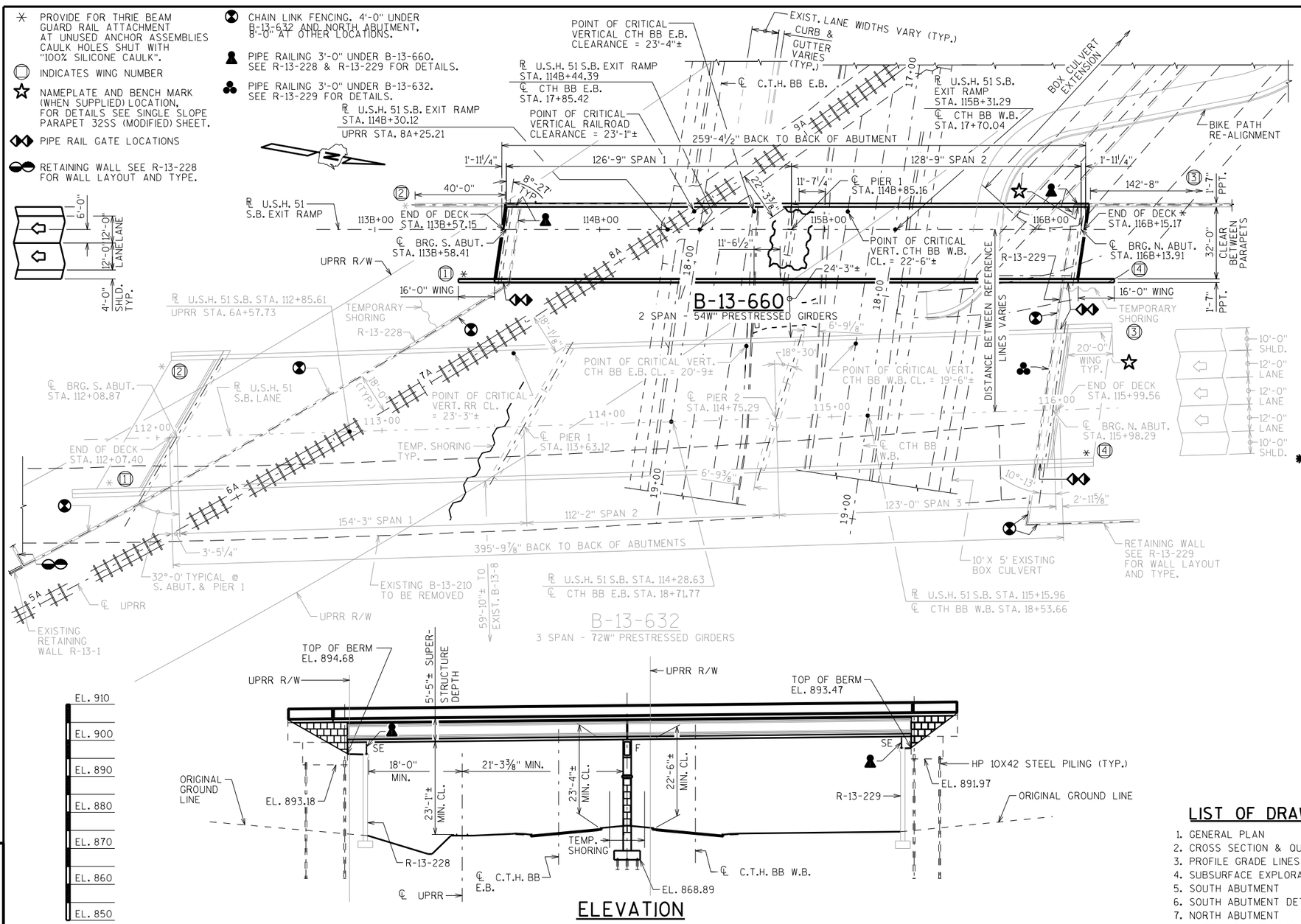
PIPE RAIL GATE LOCATIONS

RETAINING WALL SEE R-13-228 FOR WALL LAYOUT AND TYPE.

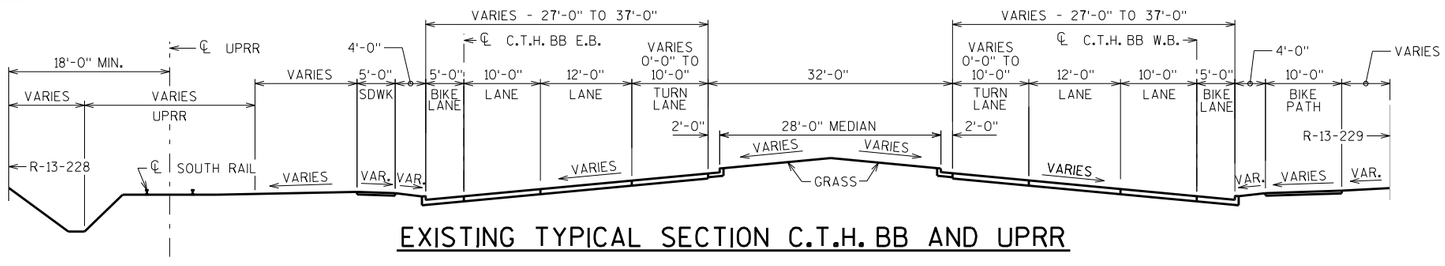
CHAIN LINK FENCING. 4'-0" UNDER B-13-632 AND NORTH ABUTMENT. 8'-0" AT OTHER LOCATIONS.

PIPE RAILING 3'-0" UNDER B-13-660. SEE R-13-228 & R-13-229 FOR DETAILS.

PIPE RAILING 3'-0" UNDER B-13-632. SEE R-13-229 FOR DETAILS.



ELEVATION



EXISTING TYPICAL SECTION C.T.H. BB AND UPRR

DESIGN DATA

LIVE LOAD:

DESIGN LOADING; HL-93
INVENTORY RATING FACTOR: RF=1.10
OPERATING RATING FACTOR: RF=1.54
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY - SLAB ——— f'c = 4,000 P.S.I.
CONCRETE MASONRY - ALL OTHERS ——— f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT, GRADE 60 ——— fy = 60,000 P.S.I.

54W" PRESTRESSED GIRDERS, CONCRETE MASONRY- f'c = 8,000 P.S.I.
STRANDS- 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10X42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 70'-0" LONG (SOUTH ABUT.)
ESTIMATED 75'-0" LONG (NORTH ABUT.).

PIER TO BE SUPPORTED ON HP 12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 40'-0"LONG.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC VOLUME

US 51 S.B. EXIT RAMP
A.D.T.= (2035)
R.D.S.=25 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. PROFILE GRADE LINES
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT DETAILS
7. NORTH ABUTMENT
8. NORTH ABUTMENT DETAILS
9. PIER
10. PIER DETAILS
11. 54W" PRESTRESSED GIRDER DETAILS
12. 54W" PRESTRESSED GIRDER DETAILS 2
13. STEEL DIAPHRAGM
14. SUPERSTRUCTURE
15. SUPERSTRUCTURE END DIAPHRAGM DETAILS
16. SUPERSTRUCTURE DETAILS
17. SINGLE SLOPE PARAPET 32SS (S. ABUT. MODIFIED)
18. SINGLE SLOPE PARAPET 32SS (N. ABUT. MODIFIED)
19. AESTHETICS

STRUCTURE DESIGN CONTACTS:
VU THAO (608) 267-2869
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Ducheine KAR 08/14/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-13-660

USH 51 S.B. EXIT RAMP OVER UPRR AND CTH BB

COUNTY	DANE	~~TOWN~~/CITY/~~VILLAGE~~	MADISON
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS		
DESIGNED BY	VT	DESIGN CK'D.	SDR
DRAWN BY	DDS	PLANS CK'D.	SAD

GENERAL PLAN

SHEET 1 OF 19

514

I.D. 5411-02-04

DATE: **AUG. 2014**

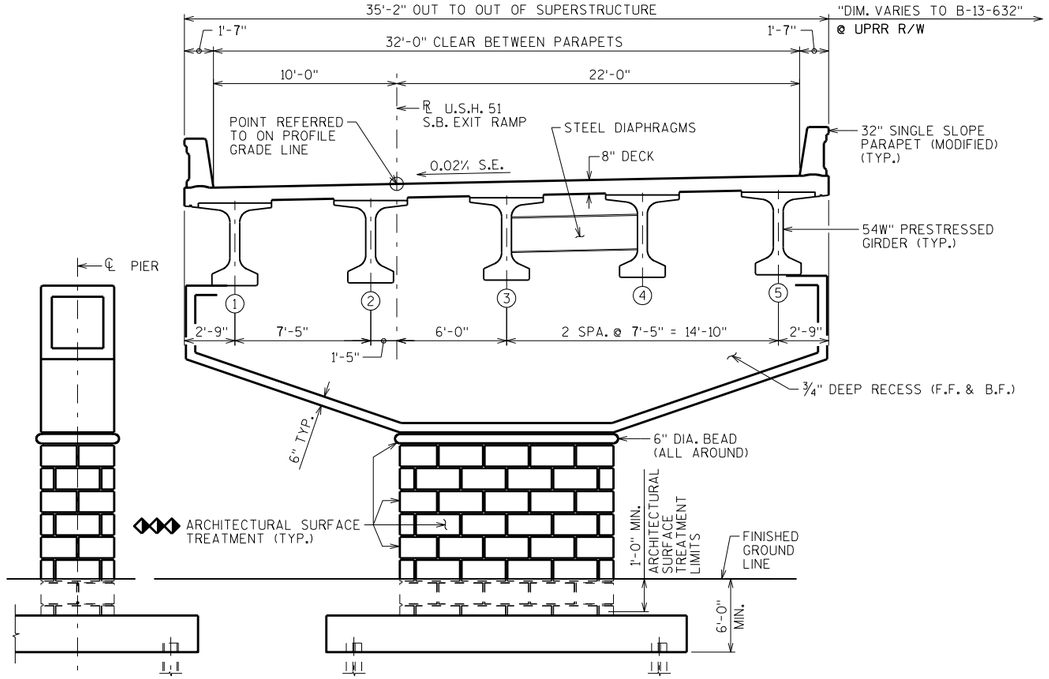
SCALE = 24.00

8

8

STATE PROJECT NUMBER

5411-02-74



END VIEW

CROSS SECTION THRU ROADWAY

LOOKING NORTH

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	PIER	NORTH ABUT.	TOTALS
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-13-660	LS	———	———	———	———	1
210.0100	BACKFILL STRUCTURE	CY	———	175	———	175	350
502.0100	CONCRETE MASONRY BRIDGES	CY	358	42	106	43	549
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,129	9	———	9	1,147
503.0155	PRESTRESSED GIRDER TYPE I 54W-INCH	LF	1,282	———	———	———	1,282
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	———	2,510	3,825	2,510	8,845
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	83,655	1,470	12,480	1,385	98,990
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	———	5	10	5	20
506.4000	STEEL DIAPHRAGMS B-13-660	EACH	16	———	———	———	16
511.1200	TEMPORARY SHORING B-13-660	SF	———	———	500	———	500
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	———	9	———	9	18
517.1010.S	CONCRETE STAINING B-13-660	SF	6,025	300	880	305	7,510
517.1050.S	ARCHITECTURAL SURFACE TREATMENT B-13-660	SF	1,385	300	880	305	2,870
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	———	700	———	750	1,450
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	———	———	1,080	———	1,080
604.0400	SLOPE PAVING CONCRETE	SY	———	12	———	12	24
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	———	1	———	———	1
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	———	———	21	———	21
652.0310	CONDUIT RIGID NONMETALLIC SCHEDULE 80 1-INCH	LF	———	———	4	———	4
652.0325	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	LF	———	———	22	———	22
653.0208	JUNCTION BOXES 8X8X8-INCH	EACH	———	———	1	———	1
SPV.0060	4X4X4-INCH FLUSH MOUNTED JUNCTION BOX B-13-660	EACH	———	———	2	———	2
	NON-BID ITEMS						
	FILLER	SIZE	———	———	———	———	½" & ¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

THE FINISHED CONCRETE STAIN BASE COLOR SHALL BE PEARL GRAY (FEDERAL COLOR NO. 26622). THIS SHALL BE PAID FOR UNDER BID ITEM "CONCRETE STAINING B-13-660".

THE FINISHED CONCRETE STAIN ACCENT COLOR SHALL BE MEDIUM GRAY (FEDERAL COLOR NO. 36373). THIS SHALL BE PAID FOR UNDER BID ITEM "CONCRETE STAINING B-13-660".

ALL "ARCHITECTURAL SURFACE TREATMENT B-13-660" AND "CONCRETE STAINING B-13-660" SHALL EXTEND A MINIMUM OF 1'-0" BELOW FINISHED GRADE LINE.

THE ARCHITECTURAL SURFACE TREATMENT PATTERN SHALL BE LEVEL AND WRAP AROUND/MATCH PATTERN(S) AT THE CORNERS.

AT ABUTMENTS, HP 12X53 STEEL PILING MAY BE USED IN LIEU OF HP 10X42 STEEL PILING. PAYMENT SHALL BE BASED ON BID PRICE FOR HP 10X42 STEEL PILING.

UPRR NOTES

THE ELEVATION OF THE EXISTING TOP-OF-RAIL PROFILE SHALL BE VERIFIED BEFORE BEGINNING CONSTRUCTION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.

THE CONTRACTOR MUST SUBMIT A PROPOSED METHOD OF EROSION AND SEDIMENT CONTROL AND HAVE THE METHOD APPROVED BY THE RAILROAD.

ALL SHORING SYSTEMS THAT IMPACT THE RAILROAD'S OPERATIONS AND/OR SUPPORTS THE RAILROAD'S EMBANKMENT SHALL BE DESIGNED AND CONSTRUCTED PER CURRENT RAILROAD GUIDELINES FOR TEMPORARY SHORING.

ERECTION OVER THE RAILROAD'S RIGHT-OF-WAY SHALL BE DESIGNED TO CAUSE NO INTERRUPTION TO RAILROAD'S OPERATION, ENABLING THE TRACK(S) TO REMAIN OPEN TO TRAFFIC PER THE RAILROAD'S REQUIREMENTS.

RAILROAD REQUIREMENTS DO NOT ALLOW WORK WITHIN 50 FEET OF TRACK CENTERLINE WHEN A TRAIN PASSES THE WORK SITE AND ALL PERSONNEL MUST CLEAR THE AREA WITHIN 25 FEET OF THE TRACK CENTERLINE AND SECURE ALL EQUIPMENT.

FLASE-WORK CLEARANCES SHALL COMPLY WITH MINIMUM CONSTRUCTION CLEARANCES.

ALL PERMANENT CLEARANCES SHALL BE VERIFIED BEFORE PROJECT CLOSING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

CROSS SECTION & QUANTITIES

SHEET 2

515

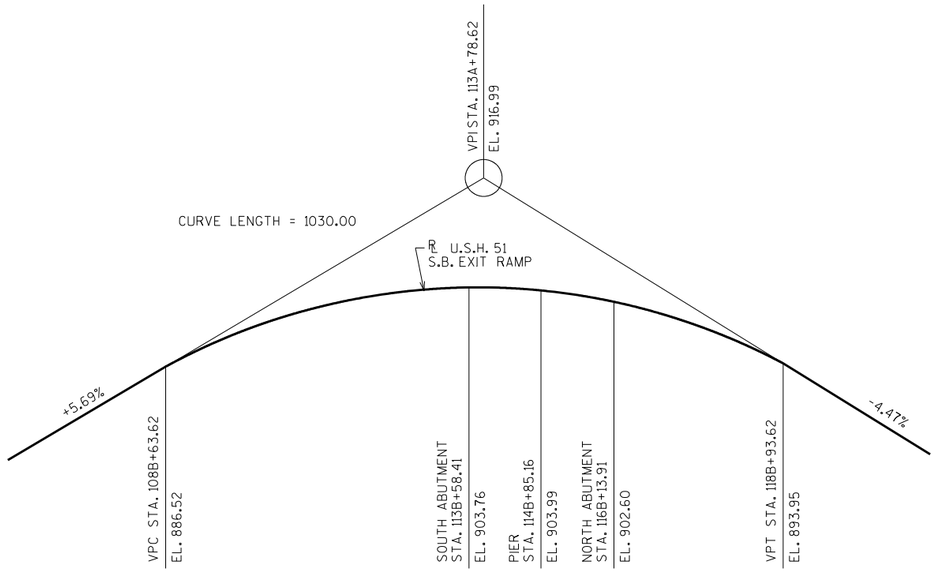
8

8

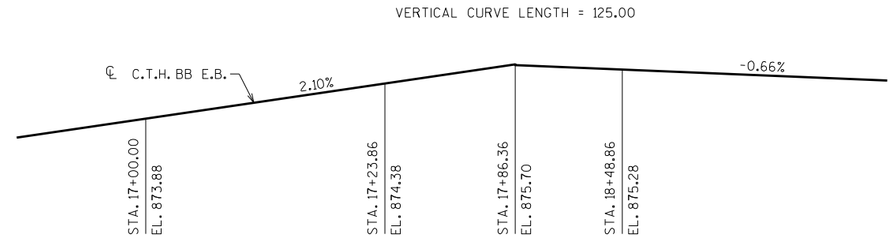
SCALE = 4.0

STATE PROJECT NUMBER

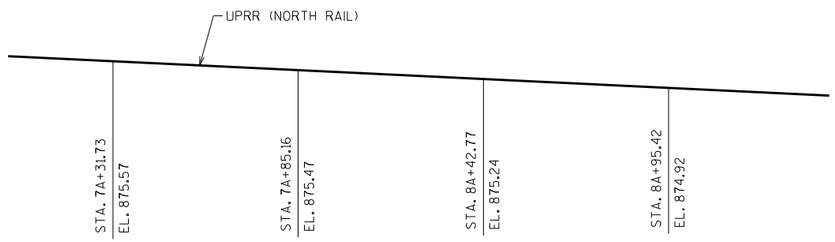
5411-02-74



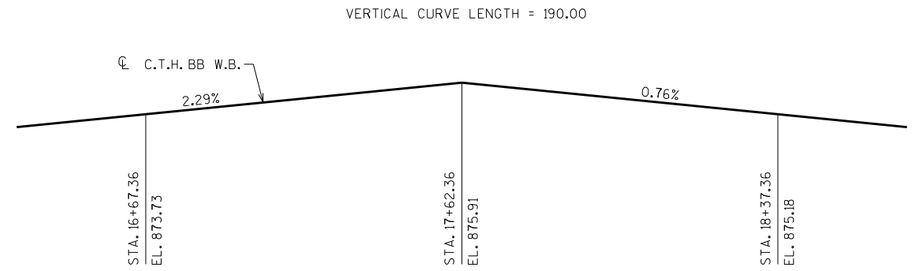
PROPOSED PROFILE GRADE LINE - U.S.H. 51 S.B. EXIT RAMP



EXISTING PROFILE GRADE LINE - C.T.H. BB E.B.



EXISTING PROFILE GRADE LINE - UPRR (NORTH RAIL)



EXISTING PROFILE GRADE LINE - C.T.H. BB W.B.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS SAD

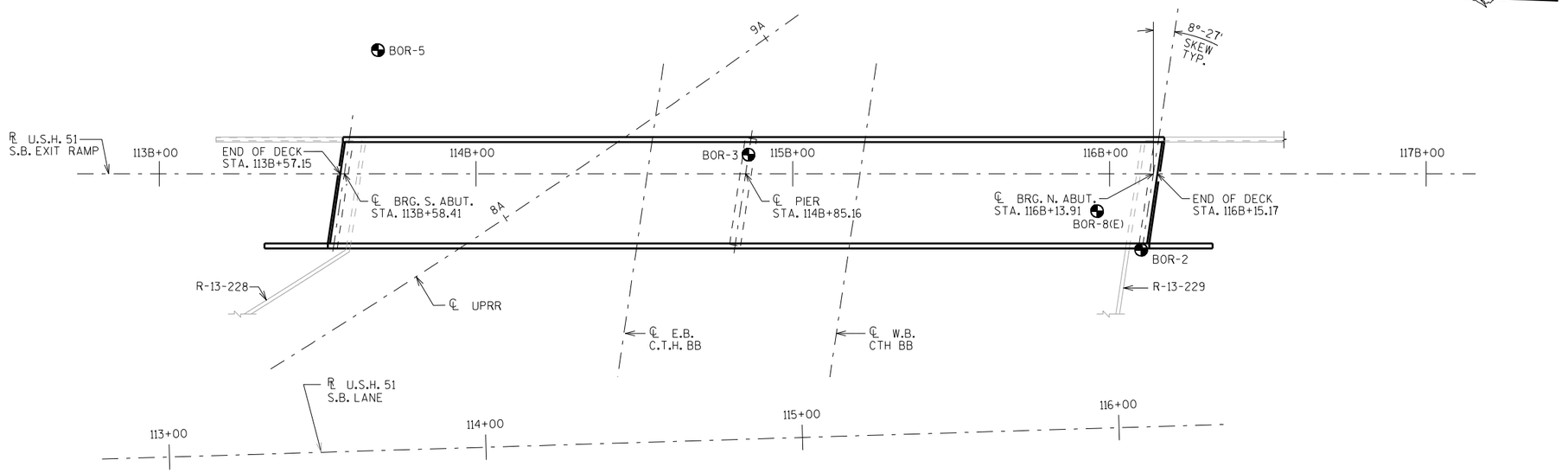
PROFILE GRADE LINES

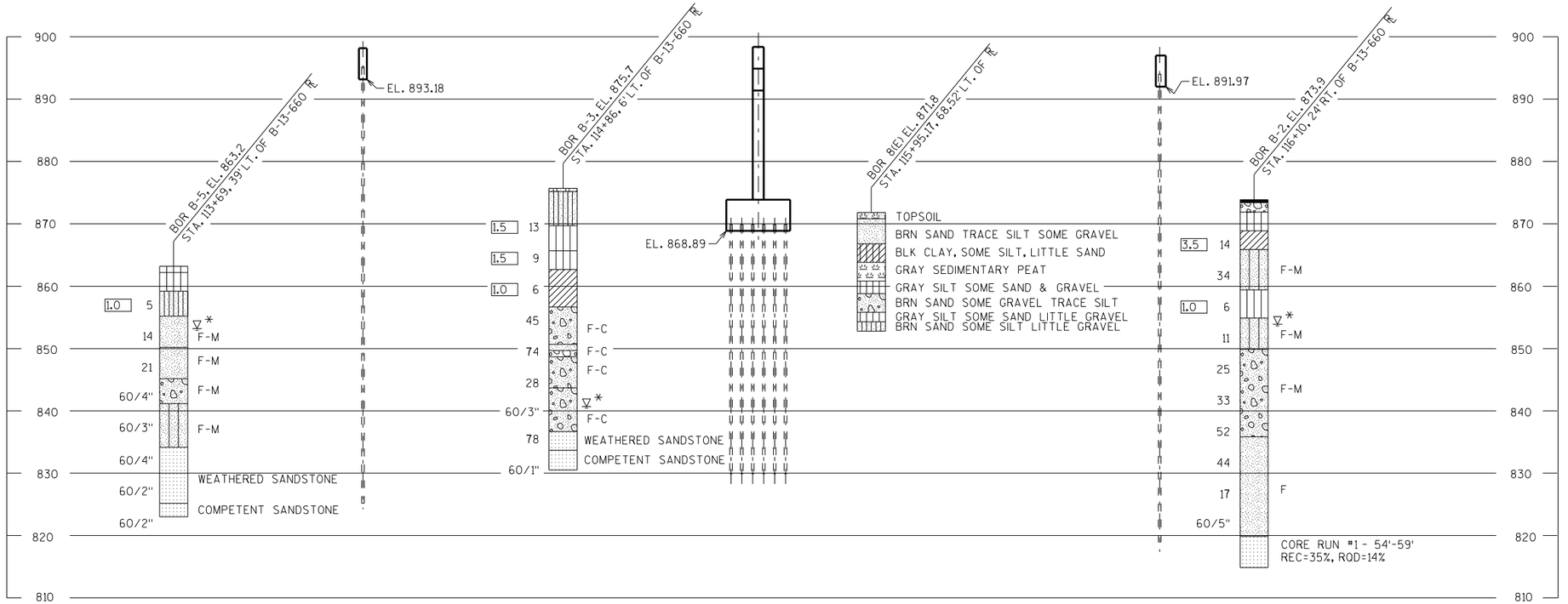
SHEET 3

516

SCALE = 4.0

STOUGHTON - MADISON





BORING 8(E) WAS DERIVED FROM EXISTING STRUCTURE B-13-210, 1967 PLANS

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

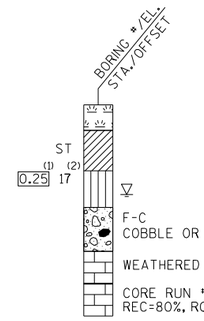
STATE PROJECT NUMBER

5411-02-74

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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY PR/DDS | PLANS CK'D. SAD

SUBSURFACE EXPLORATION

SHEET 4

517

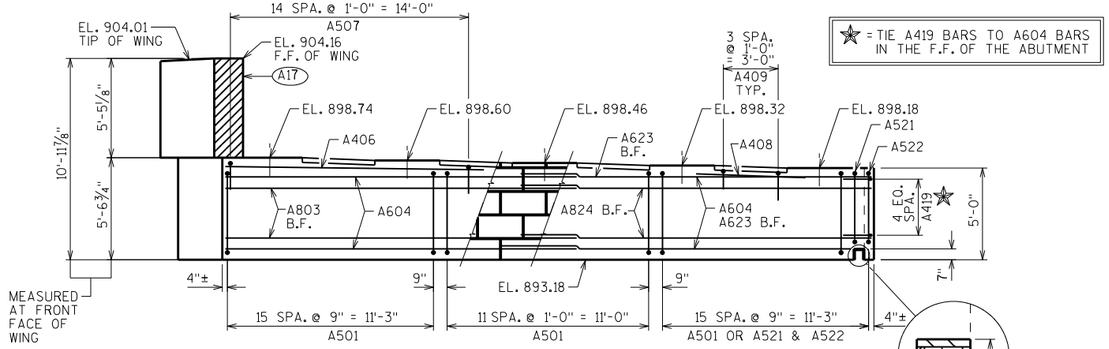
8

8

SCALE = 20

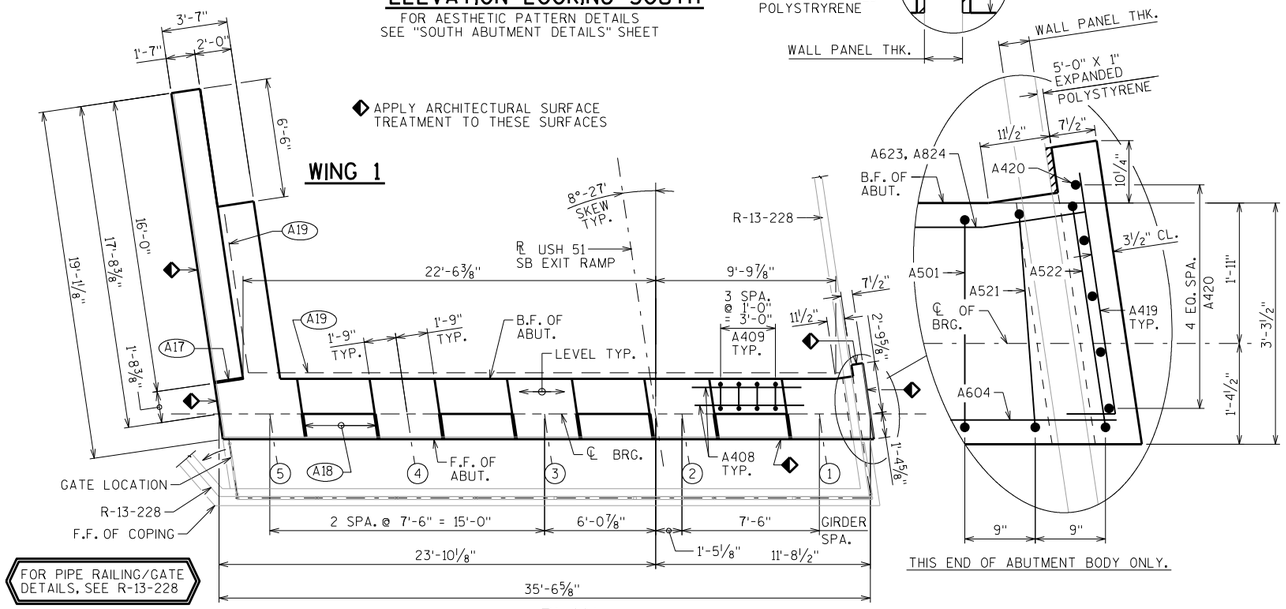
STATE PROJECT NUMBER

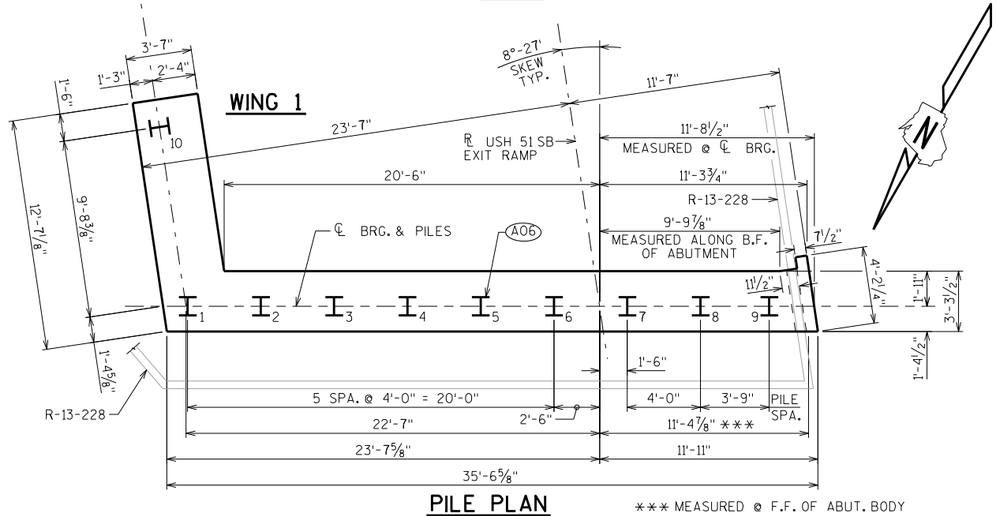
5411-02-74

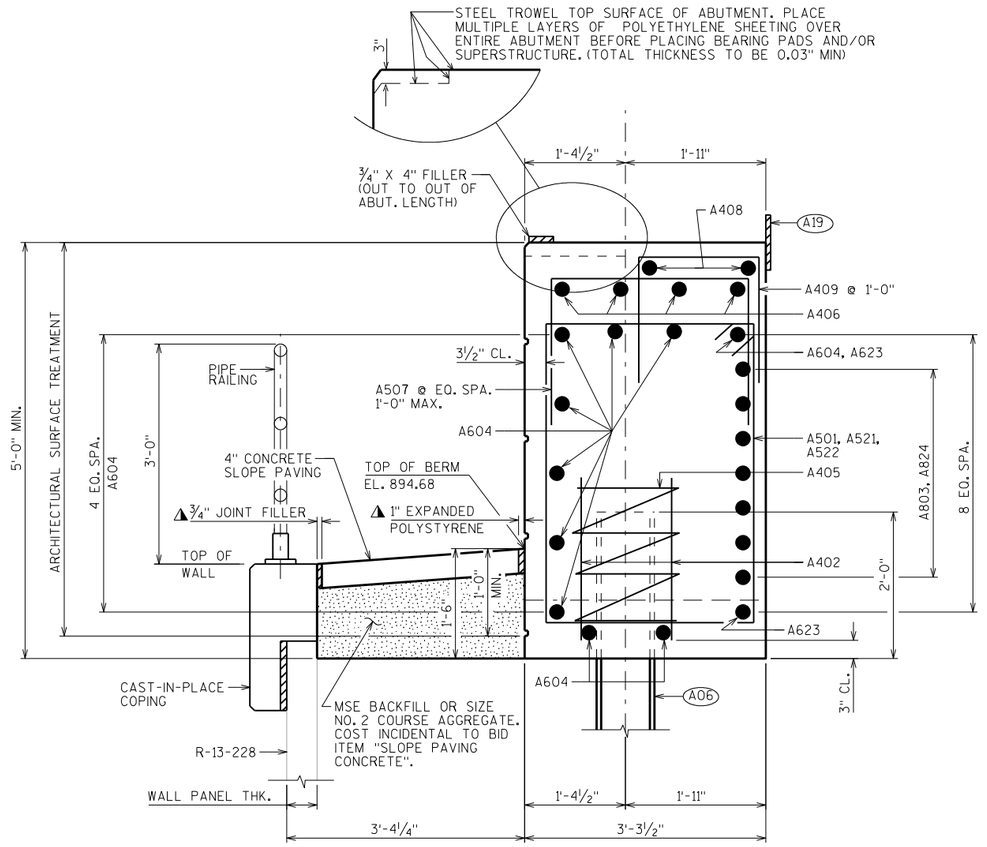


ELEVATION LOOKING SOUTH

FOR AESTHETIC PATTERN DETAILS
SEE "SOUTH ABUTMENT DETAILS" SHEET







SECTION THRU BODY

⚠ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

(A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING. ESTIMATED 70'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

SOUTH ABUTMENT

SHEET 5

518

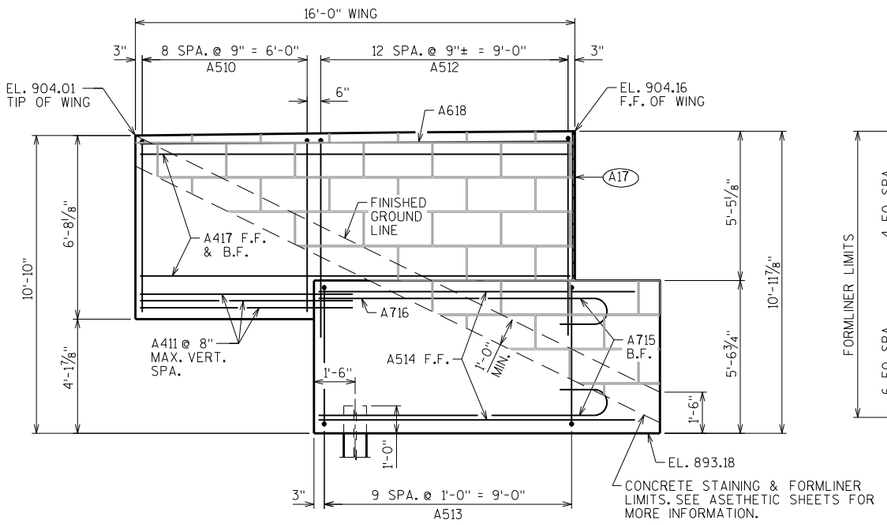
SCALE = 4

8

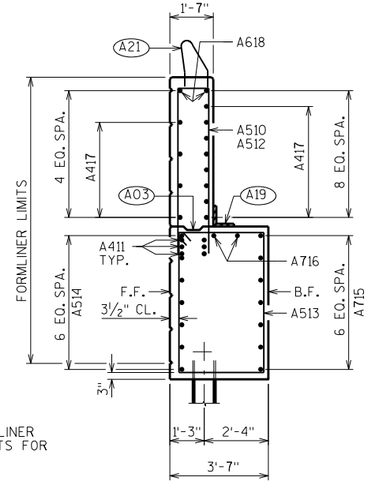
8

STATE PROJECT NUMBER

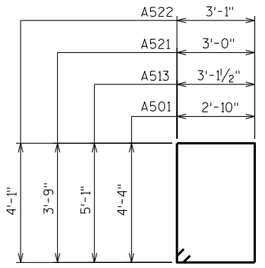
5411-02-74



ELEVATION - WING 1



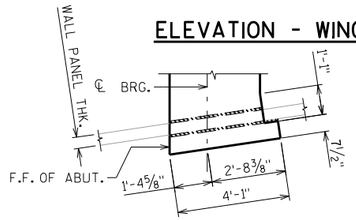
SECTION THRU WING 1



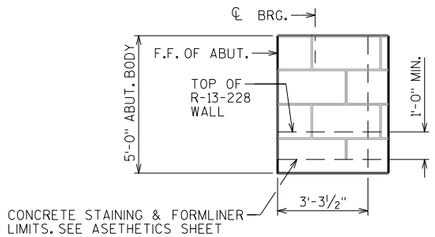
A501, A513, A521, A522

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		42	15'-0"	X		BODY - STIRRUPS
A402		18	2'-3"			PILES - 2 BODY PER PILE
A803		7	20'-3"			BODY - HORIZONTAL
A604		20	19'-2"			BODY - HORIZONTAL
A405		9	28'-0"	X		PILES - 1 PER BODY PILE
A406		4	14'-6"			BODY - HORZ. OVER GIRS. 4-5
A507		15	5'-11"	X		BODY - TOP OVER GIRS. 4-5
A408		8	6'-0"			BODY - HORZONTAL TOP
A409		16	3'-11"	X		BODY - VERTICAL - BETWEEN BEAM SEATS
A510	X	9	13'-8"	X		WING 1 - VERTICAL
A411	X	6	7'-9"			WING 1 - HORIZONTAL
A512	X	13	15'-4"	X		WING 1 - VERTICAL
A513	X	10	17'-1"	X		WING 1 - STIRRUP
A514	X	7	12'-0"			WING 1 - HORIZONTAL
A715	X	7	11'-3"	X		WING 1 - HORIZONTAL
A716	X	2	11'-2"	X		WING 1 - HORIZONTAL
A417	X	12	15'-8"			WING 1 - HORIZONTAL
A618	X	2	15'-8"			WING 1 - HORIZONTAL
A419		5	4'-1"	X		BODY - HORIZONTAL
A420		5	4'-7"			BODY - VERTICAL
A521		1	14'-2"	X		BODY - STIRRUP
A522		1	15'-0"	X		BODY - STIRRUP
A623		2	19'-2"	X		BODY - HORIZONTAL
A824		7	20'-3"	X		BODY - HORIZONTAL

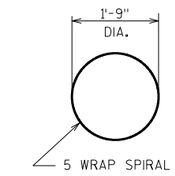


PLAN - WING 2

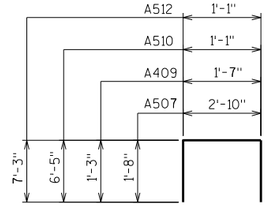


ELEVATION - WING 2

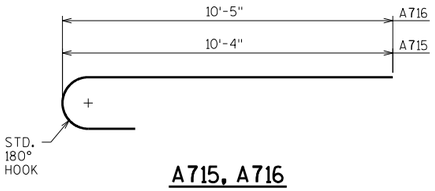
REINFORCEMENT NOT
SHOWN FOR CLARITY



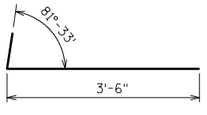
A405



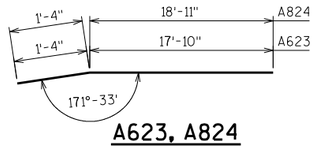
A507, A409, A510, A512



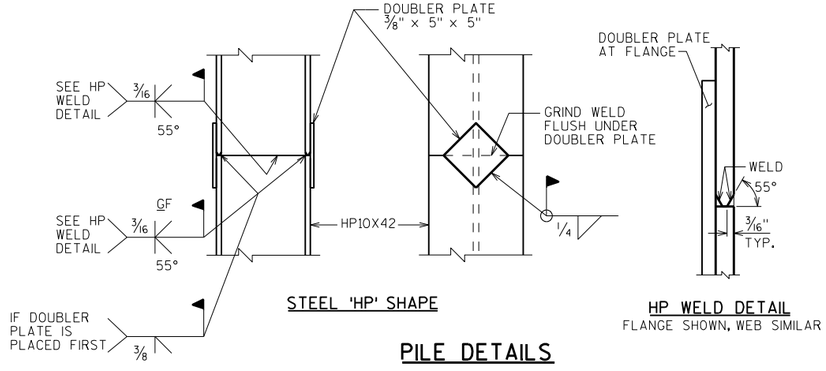
A715, A716



A419



A623, A824



STEEL 'HP' SHAPE

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A21) FOR PPT. BARS & DIMENSION SEE PARAPET SHT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

SOUTH ABUTMENT DETAILS

SHEET 6

519

SCALE = 2.667

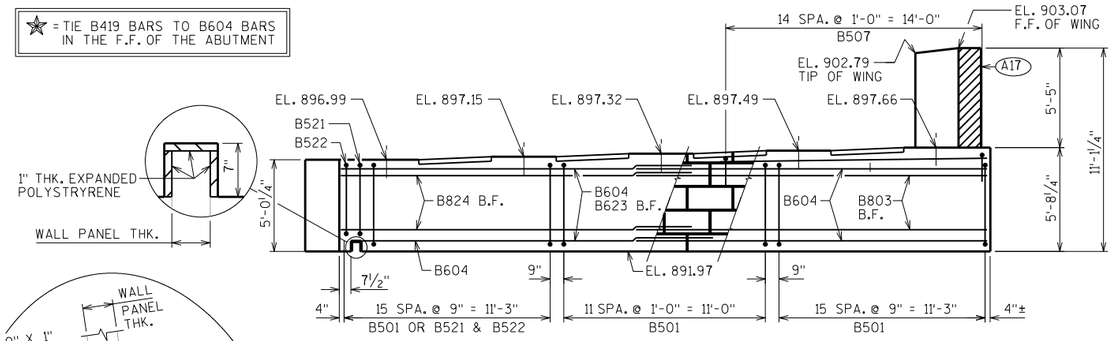
8

8

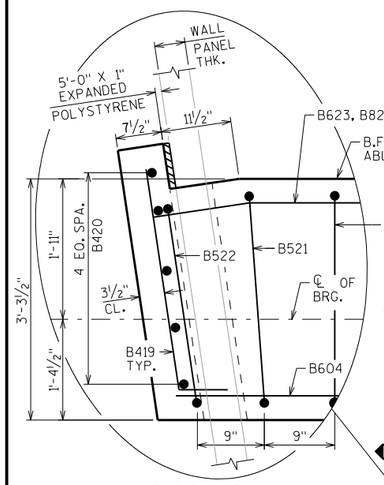
STATE PROJECT NUMBER

5411-02-74

★ = TIE B419 BARS TO B604 BARS IN THE F.F. OF THE ABUTMENT



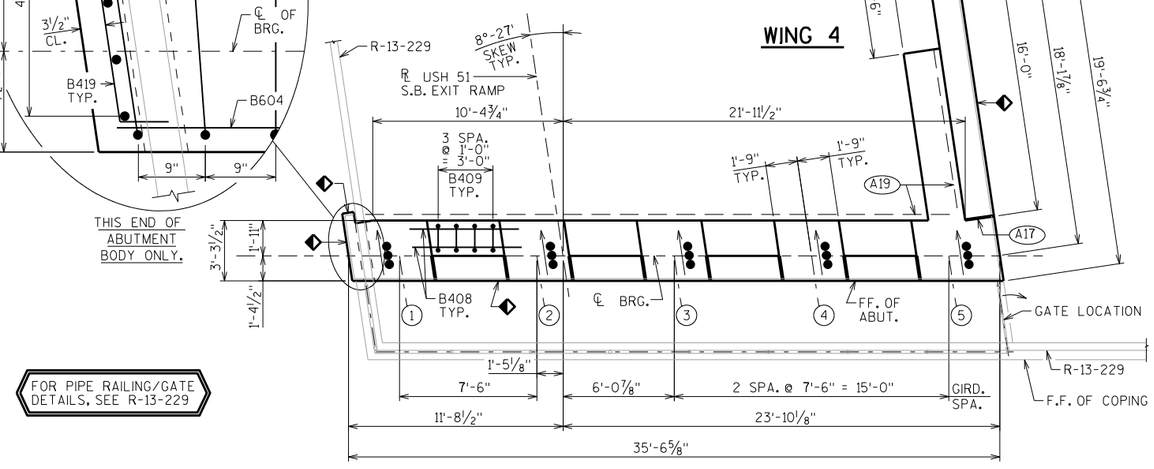
ELEVATION LOOKING NORTH



◆ = APPLY ARCHITECTURAL SURFACE TREATMENT TO THESE SURFACES

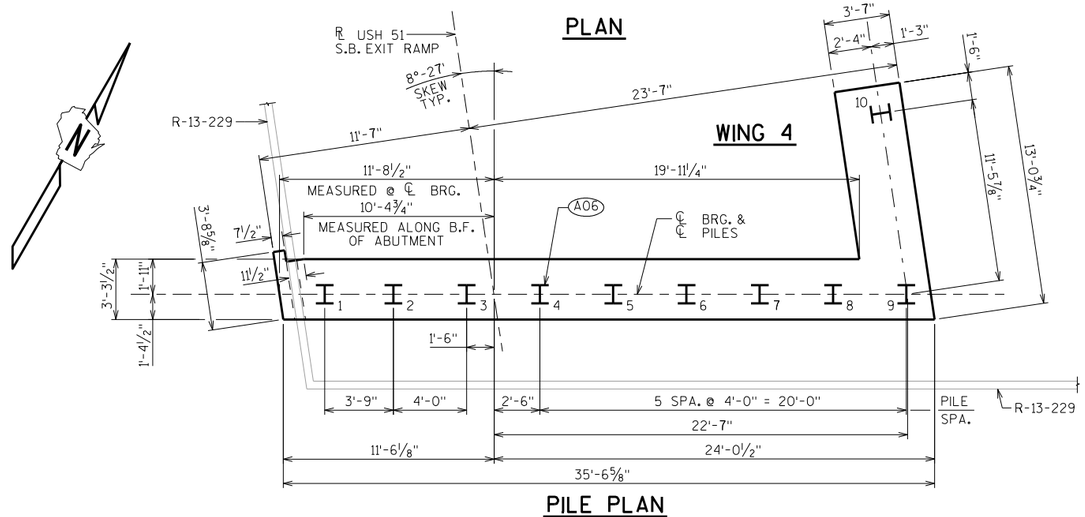
◆● = SLOPED BEAM SEATS FOR DETAILS SEE SLOPED BEAM SEAT DETAILS

WING 4

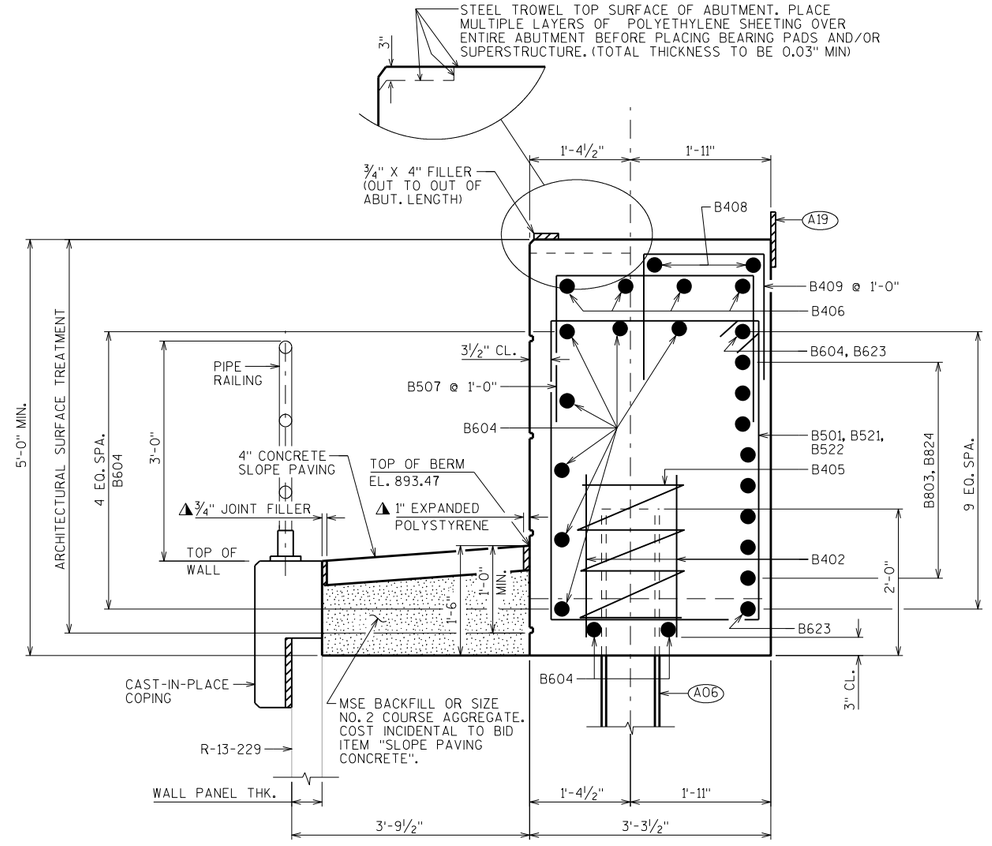


FOR PIPE RAILING/GATE DETAILS, SEE R-13-229

PLAN

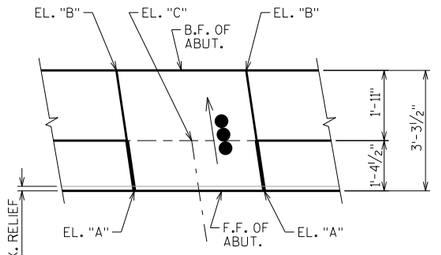


PILE PLAN



SECTION THRU BODY

◭ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).



BEAM SEAT ELEVATIONS

GIRDER	EL. "A"	EL. "B"	EL. "C"
1	897.00	896.97	896.99
2	897.17	897.13	897.15
3	897.34	897.30	897.32
4	897.50	897.47	897.49
5	897.67	897.64	897.66

SLOPED BEAM SEAT DETAILS

(A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING. ESTIMATED 75'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

NORTH ABUTMENT

SHEET 7

520

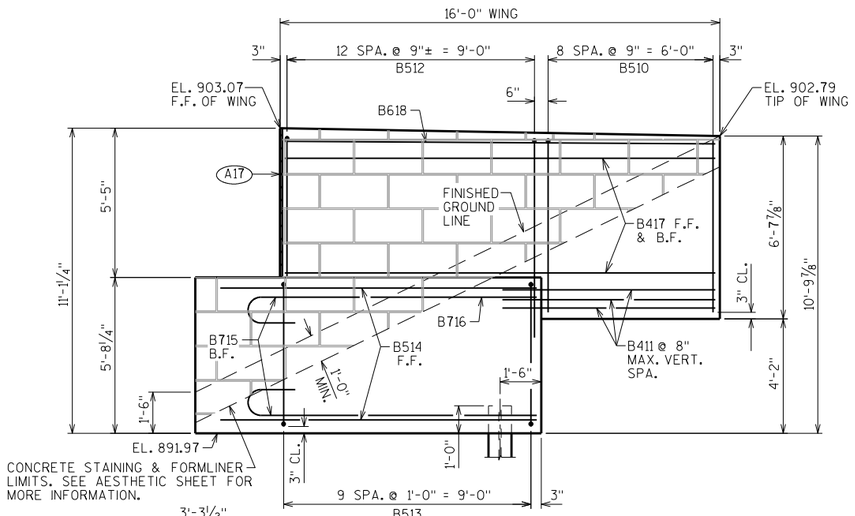
8

8

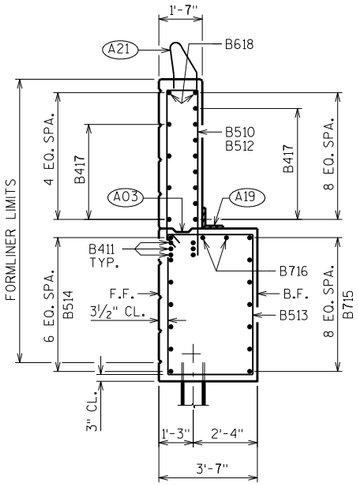
SCALE = 4

STATE PROJECT NUMBER

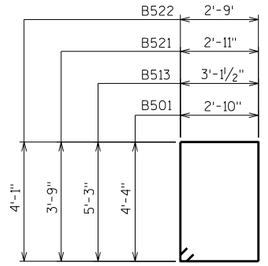
5411-02-74



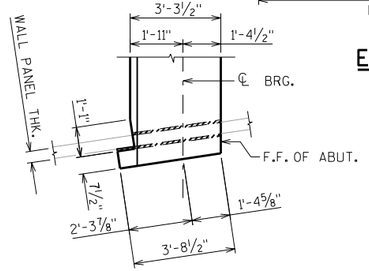
ELEVATION - WING 4



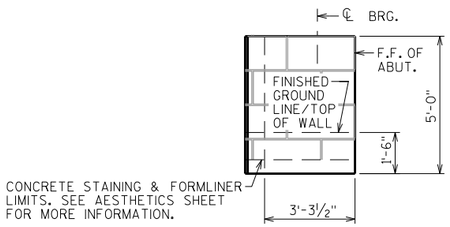
SECTION THRU WING 4



B501, B513, B521, B522

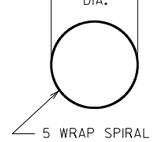


PLAN - WING 3

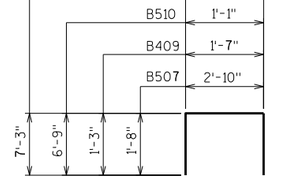


ELEVATION - WING 3

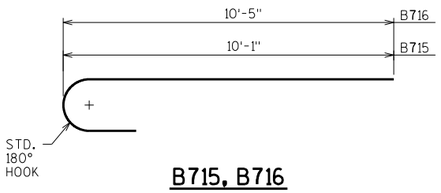
REINFORCEMENT NOT
SHOWN FOR CLARITY



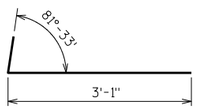
B405



B507, B409, B510, B512



B715, B716



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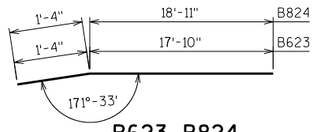
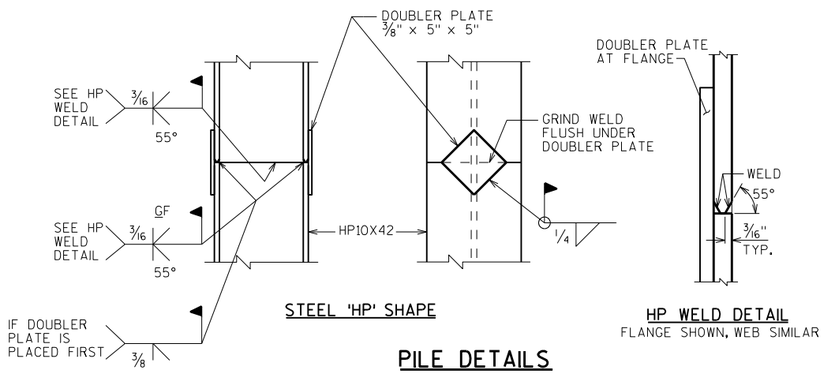


B623, B824



STEEL 'HP' SHAPE

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		42	15'-0"	X		BODY - STIRRUPS
B402		18	2'-3"			PILES - 2 BODY PER PILE
B803		7	20'-3"			BODY - HORIZONTAL
B604		20	19'-2"			BODY - HORIZONTAL
B405		9	28'-0"	X		PILES - 1 PER BODY PILE
B406		4	14'-6"			BODY - HORZ. OVER GIRS. 4-5
B507		15	5'-11"	X		BODY - TOP OVER GIRS. 4-5
B408		8	6'-0"			BODY - HORZONTAL TOP
B409		16	3'-11"	X		BODY - VERTICAL - BETWEEN BEAM SEATS
B510	X	9	13'-8"	X		WING 4 - VERTICAL
B411	X	6	7'-9"			WING 4 - HORIZONTAL
B512	X	13	15'-4"	X		WING 4 - VERTICAL
B513	X	10	17'-5"	X		WING 4 - STIRRUP
B514	X	7	12'-0"			WING 4 - HORIZONTAL
B715	X	7	10'-11"	X		WING 4 - HORIZONTAL
B716	X	2	11'-3"	X		WING 4 - HORIZONTAL
B417	X	12	15'-8"			WING 4 - HORIZONTAL
B618	X	2	15'-8"			WING 4 - HORIZONTAL
B419		5	3'-11"	X		BODY - HORIZONTAL
B420		5	5'-1"			BODY - VERTICAL
B521		1	14'-0"	X		BODY - STIRRUP
B522		1	14'-4"	X		BODY - STIRRUP
B623		2	19'-2"	X		BODY - HORIZONTAL
B824		7	20'-3"	X		BODY - HORIZONTAL

A03 OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

A17 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

A21 FOR PPT. BARS & DIMENSION SEE PARAPET SHT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

NORTH ABUTMENT DETAILS

SHEET 8

521

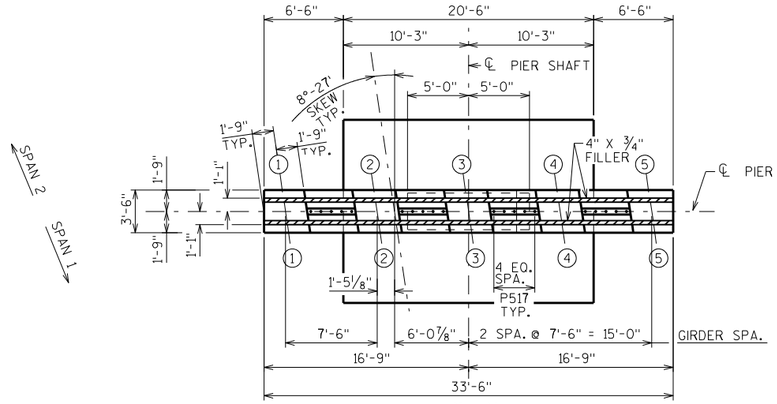
SCALE = 2.6667

8

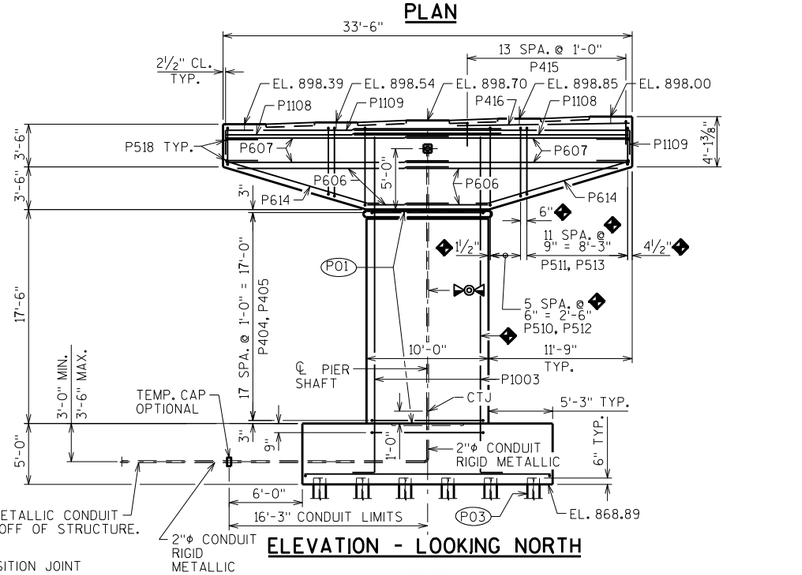
8

STATE PROJECT NUMBER

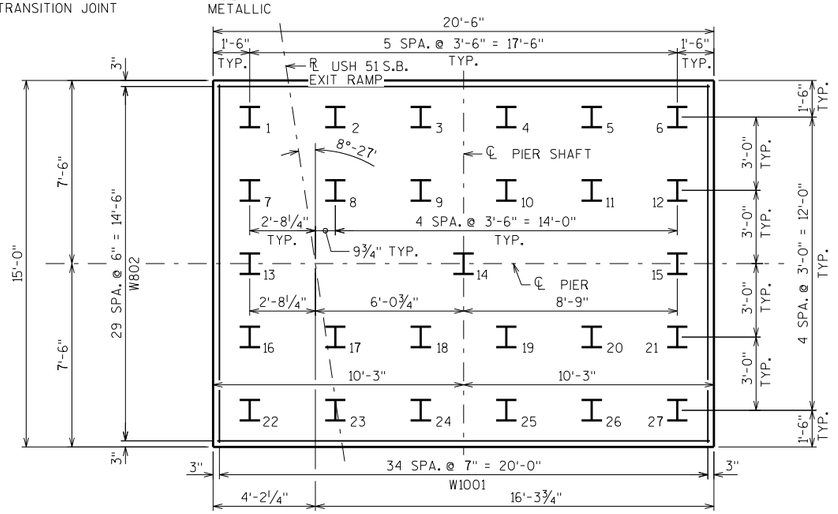
5411-02-74



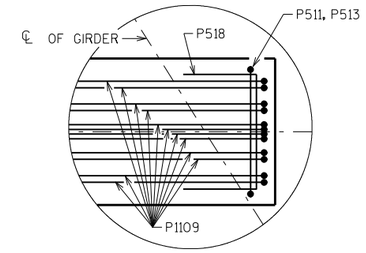
PLAN



ELEVATION - LOOKING NORTH



PILE PLAN



PLAN - END OF CAP REINF. LAYOUT

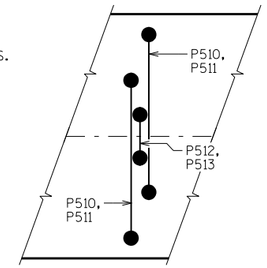
◆ = CAP REINFORCEMENT SHALL BE SYMETRICAL ABOUT THE ℄ OF PIER SHAFT.

(P01) 18'-6" X 1'-3" X 4" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P03) SUPPORT PIER ON HP 12 X 53 STEEL PILING, ESTIMATED 40'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.

(P08) P517 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 X 6 BETWEEN BEAM SEATS.

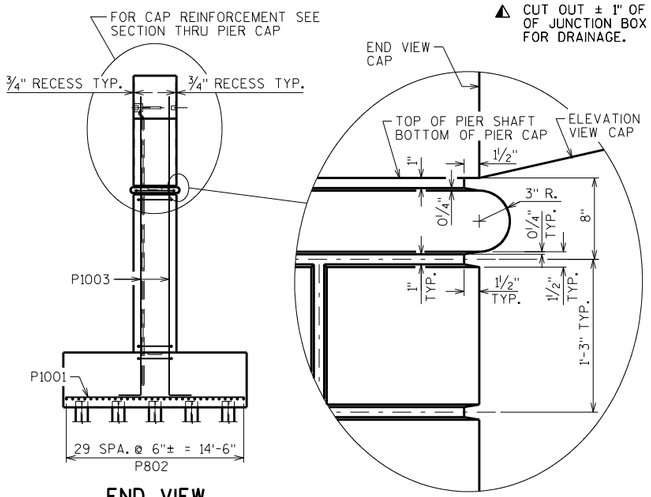


STIRRUP CONFIG.

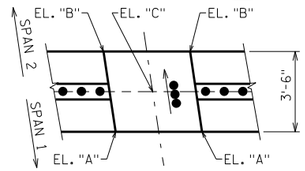
NOTE:

FOR NOTES CONCERNING THE ELECTRICAL WORK SEE "PIER DETAILS" SHEET.

45° BEND IN 2"Φ CONDUIT. USE MIN. BENDING RADIUS PER WISCONSINSIN ELECTRIC CODE TYP.



END VIEW

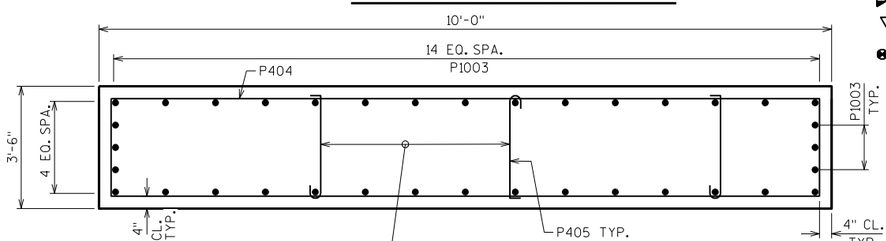


BEAM SEAT ELEVATIONS

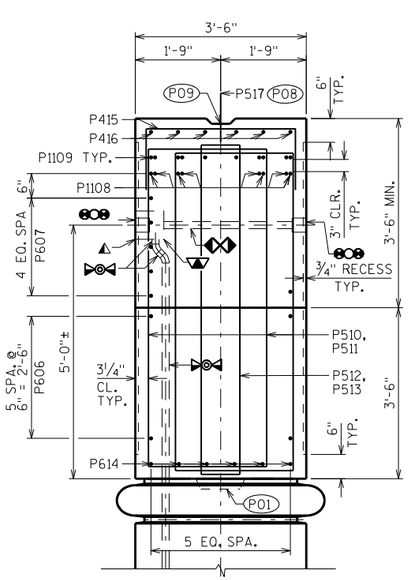
GIRDER	EL. "A"	EL. "B"	EL. "C"
1	898.39	898.38	898.39
2	898.54	898.53	898.54
3	898.70	898.69	898.70
4	898.85	898.84	898.85
5	899.00	898.99	899.00

SLOPED BEAM SEAT DETAILS

⚠ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.



SECTION THRU SHAFT



SECTION THRU PIER CAP

◆◆ = 1"Φ CONDUIT RIGID NONMETALLIC SCHEDULE 80

◆◆ = 2"Φ CONDUIT RIGID NONMETALLIC SCHEDULE 80

▼ = 8"X8"X8" DEEP JUNCTION BOX (ONE SIDE ONLY) PLACE TO MISS STIRRUPS

■ = 4"X4"X4" DEEP FLUSH MOUNTED JUNCTION BOX. (F.F. & B.F.) PLACE TO MISS STIRRUPS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

PIER

SHEET 9

522

SCALE = 6

8

8

STATE PROJECT NUMBER
5411-02-74

ELECTRICAL NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 8X8X8-INCH", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 80 1-INCH"
"CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"
"4X4X4-INCH FLUSH MOUNTED JUNCTION BOX B-13-632"

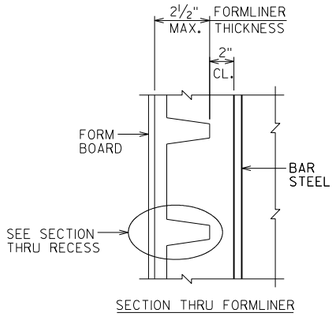
APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:

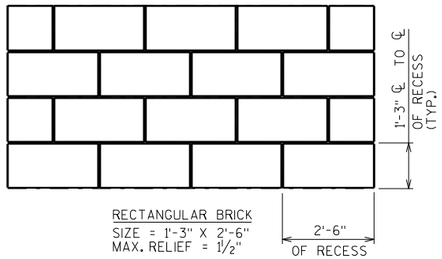
O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO BID ITEMS "CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH" OR "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.



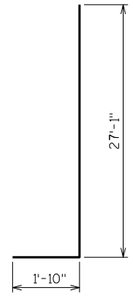
SECTION THRU FORMLINER



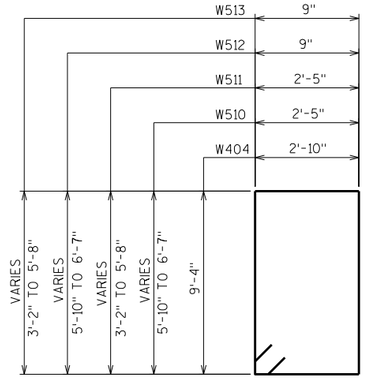
RECTANGULAR BRICK
SIZE = 1'-3" X 2'-6"
MAX. RELIEF = 1½"

FORMLINER DETAILS

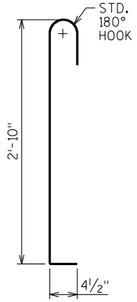
NOTE:
WRAP AROUND/MATCH FORMLINER PATTERN AT CORNERS.



W1003



W404, W510, W511, W512, W513



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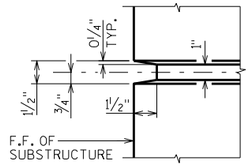


SECTION THRU RECESS
TYP. (VERT. & HORIZ.)

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
P606	4 SERIES OF 6	6'-9" TO 17'-4"
P510	4 SERIES OF 6	17'-1" TO 18'-8"
P511	4 SERIES OF 12	11'-10" TO 16'-10"
P512	2 SERIES OF 6	13'-10" TO 15'-2"
P513	2 SERIES OF 12	8'-6" TO 13'-6"

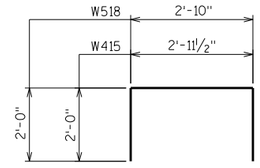
BUNDLE AND TAG EACH SERIES SEPARATELY.

BILL OF BARS

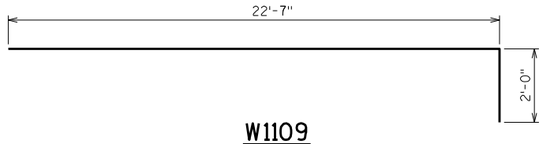
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
W1001		35	14'-8"			FOOTING - HORIZ.
W802		30	20'-2"			FOOTING - HORIZ.
W1003	X	36	28'-8"	X		FOOTING/SHAFT - VERT.
W404	X	19	24'-10"			PIER SHAFT - STIRRUP
W405	X	57	3'-8"	X		FOOTING/SHAFT - TIE BARS
W606	X	24	12'-1"	X	⚠	PIER CAP - HORIZ.
W607	X	20	18'-4"			PIER CAP - HORIZ.
W1108	X	16	22'-7"			PIER CAP - HORIZ.
W1109	X	20	24'-3"	X		PIER CAP - HORIZ. - TOP
W510	X	24	17'-11"	X	⚠	PIER CAP - STIRRUP
W511	X	48	14'-4"	X	⚠	PIER CAP - STIRRUP
W512	X	12	14'-6"	X	⚠	PIER CAP - STIRRUP
W513	X	24	11'-0"	X	⚠	PIER CAP - STIRRUP
W614	X	12	13'-5"	X		PIER CAP - HORIZ.
W415	X	14	6'-10"	X		PIER CAP - VERT.
W416	X	6	14'-6"			PIER CAP - HORIZ.
W517	X	20	2'-0"			DOWEL BAR
W518	X	10	6'-7"	X		PIER CAP - HORIZ. - ENDS

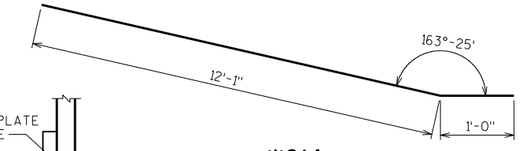
⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



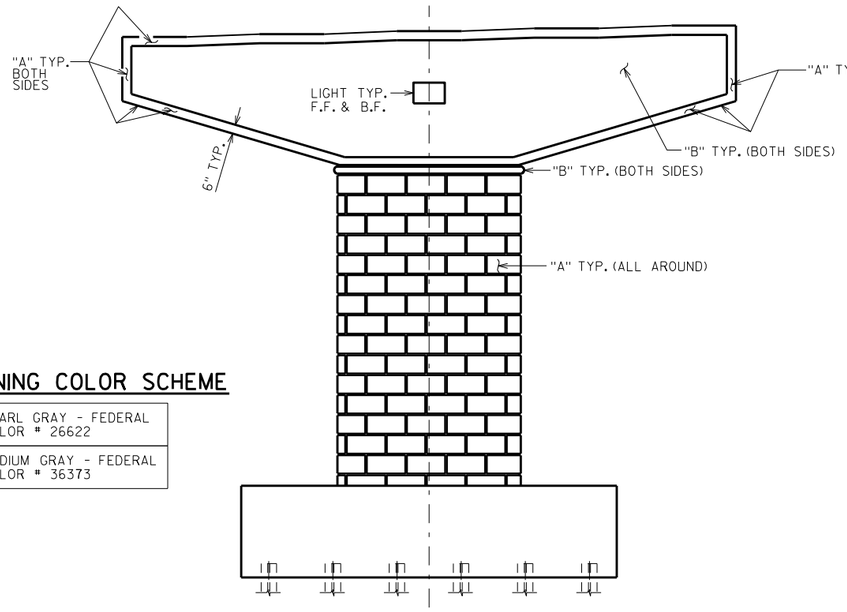
W415, W518



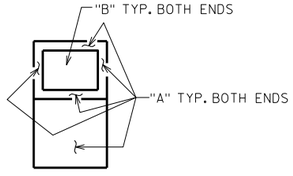
W1109



W614



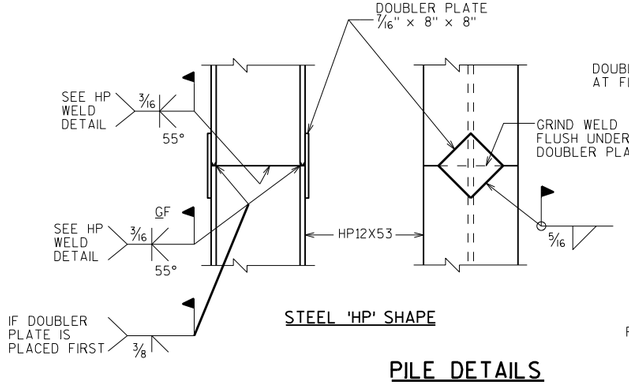
PIER ASETHETICS



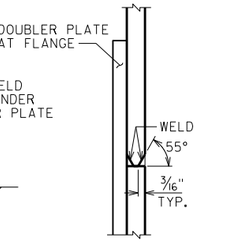
END OF CAP STAINING

CONC. STAINING COLOR SCHEME

A	PEARL GRAY - FEDERAL COLOR # 26622
B	MEDIUM GRAY - FEDERAL COLOR # 36373



STEEL 'HP' SHAPE



HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

PIER DETAILS

SHEET 10
523

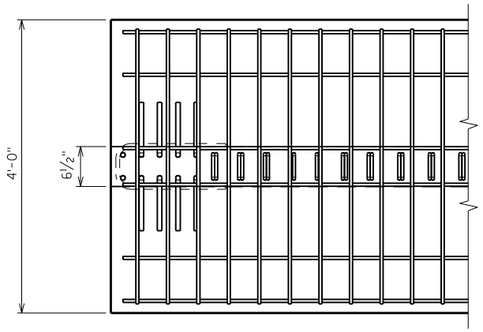
SCALE = 1

8

8

STATE PROJECT NUMBER

5411-02-74



TOP FLANGE

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

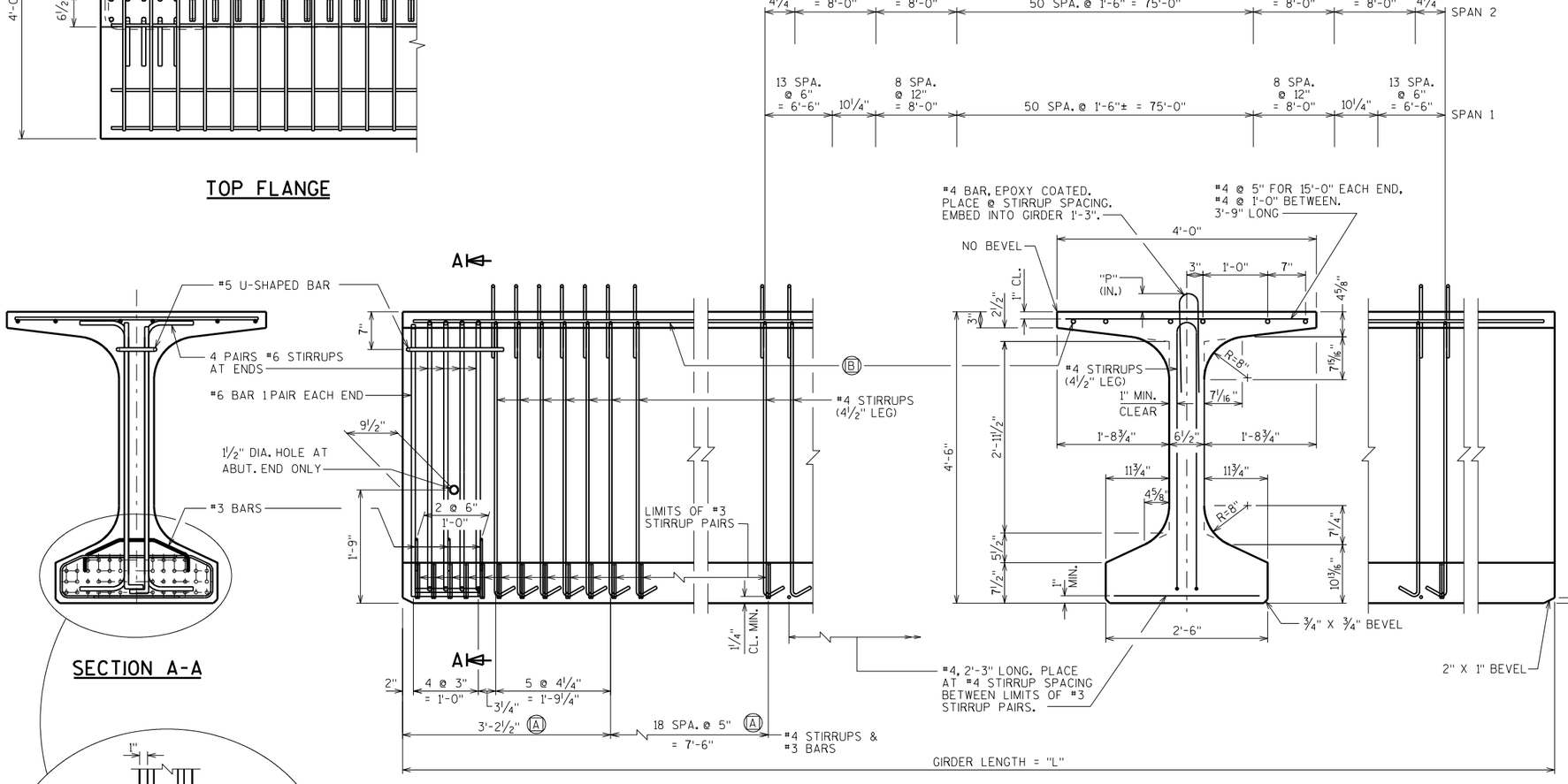
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

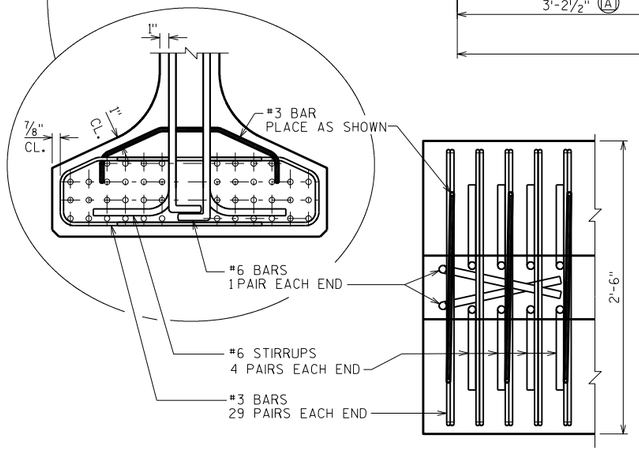
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.



SIDE VIEW & TYP. SECTION IN SPAN

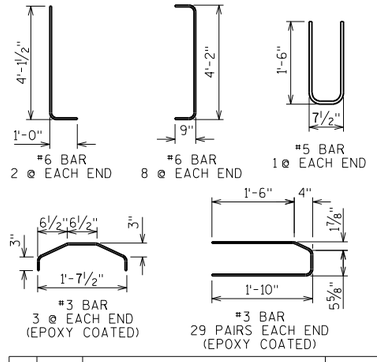
(A) DETAIL TYP. AT EACH END

(B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11" (TYP.)



SECTION A-A

BOTTOM FLANGE



✳ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳
1	ALL	127.13	0.8	1.6	2.2	2.5	2.6	2.5	2.1	1.5	0.8	8000	7"	7"	7"	0.60	40	6400	49.0	16.0	19.0	5.0	0	0
2	ALL	129.13	0.9	1.6	2.3	2.7	2.8	2.7	2.3	1.7	0.9	8000	7"	7"	7"	0.60	40	6400	49.0	16.0	19.0	5.0	0	0

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

54W" PRESTRESSED GIRDER DETAILS

SHEET 11

524

7-13
G54W

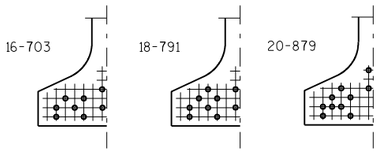
SCALE = 1

8 18 9 5 1 2 3

8

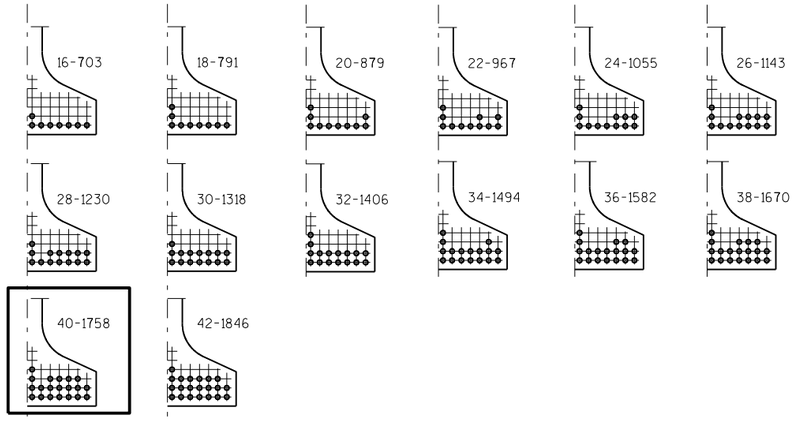
STATE PROJECT NUMBER

5411-02-74



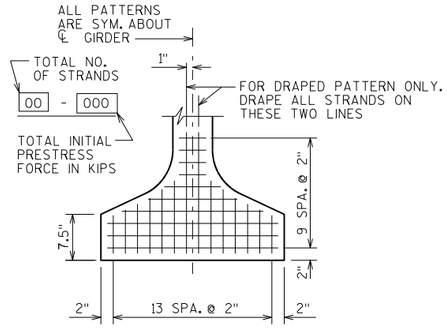
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"Φ STRANDS

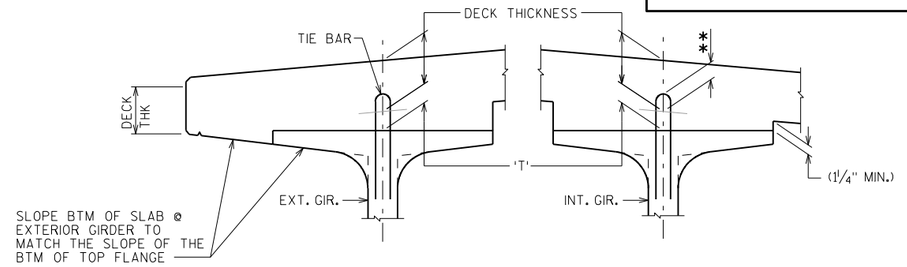


ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"Φ STRANDS



TYP. STRAND PATTERN



DECK HAUNCH DETAIL

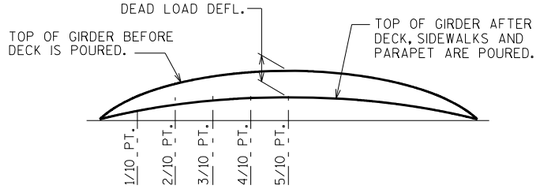
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

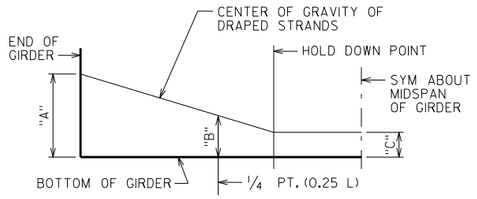
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2¾" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	4.33
2	4.33

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

54W" PRESTRESSED GIRDER DETAILS 2

SHEET 12

525

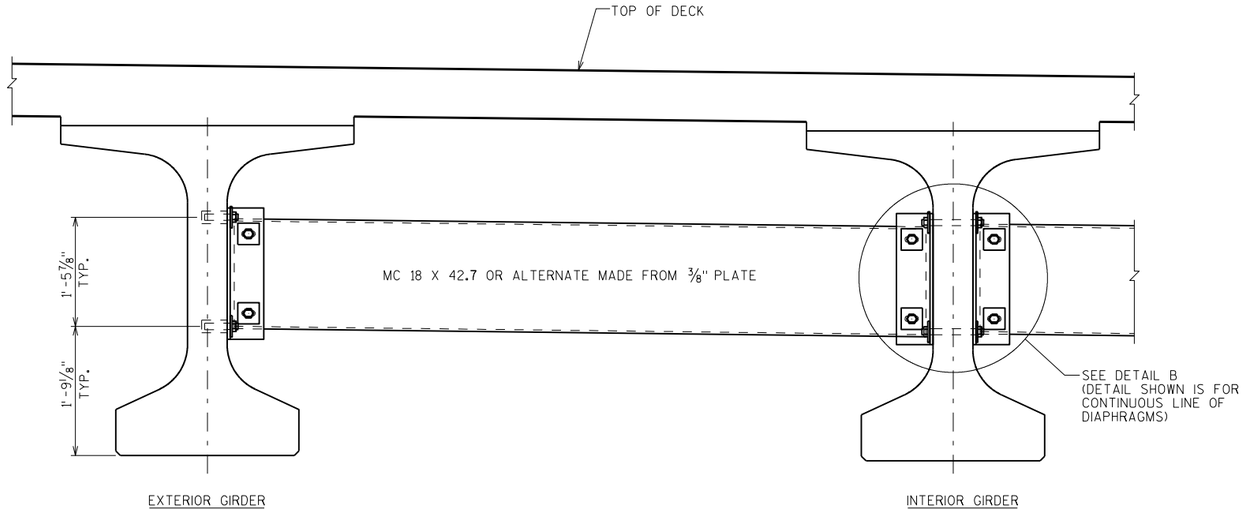
G54W
7-13

SCALE = 1

8 18 9 5 1 2 3

8

STATE PROJECT NUMBER
5411-02-74



PART TRANSVERSE SECTION AT DIAPHRAGM

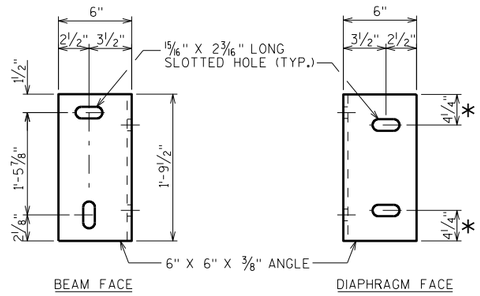
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-13-660", EACH.

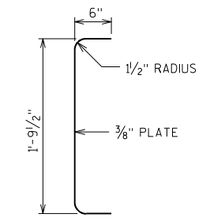
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

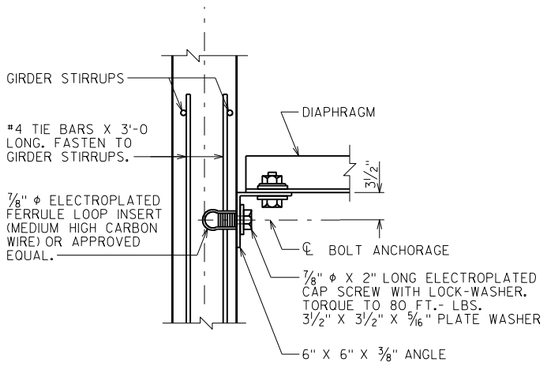
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.



DIAPHRAGM SUPPORT

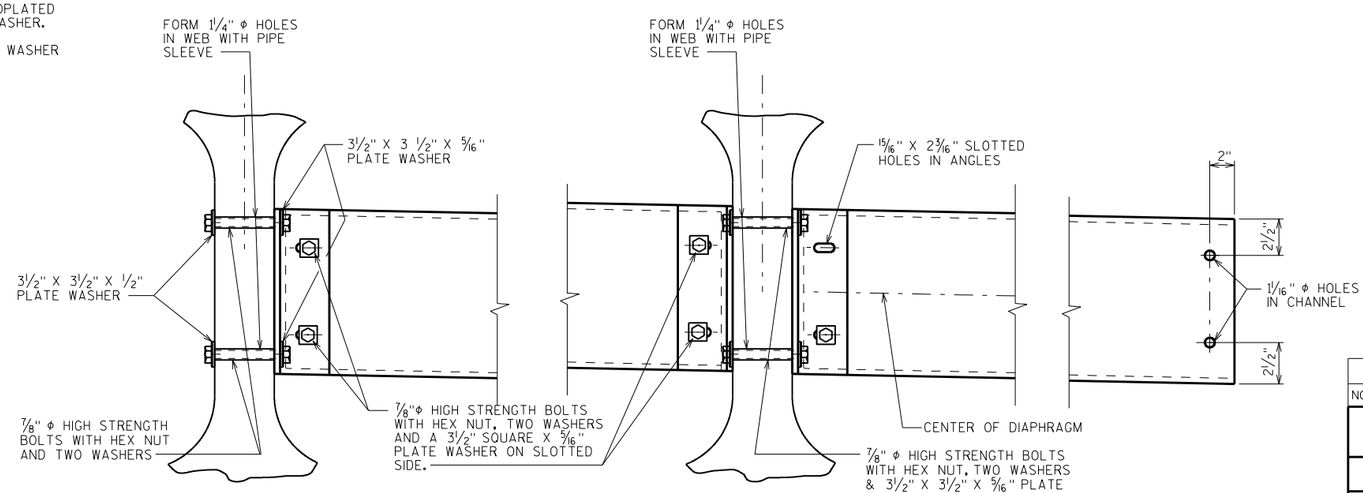


SECTION THRU ALTERNATE DIAPHRAGM



SECTION A-A

(FOR EXTERIOR ATTACHMENT)



(FOR STAGGERED DIAPHRAGM)

DETAIL B

(FOR CONTINUOUS LINE OF DIAPHRAGMS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

STEEL DIAPHRAGM

SHEET 13

526

GSTDIA
7-13

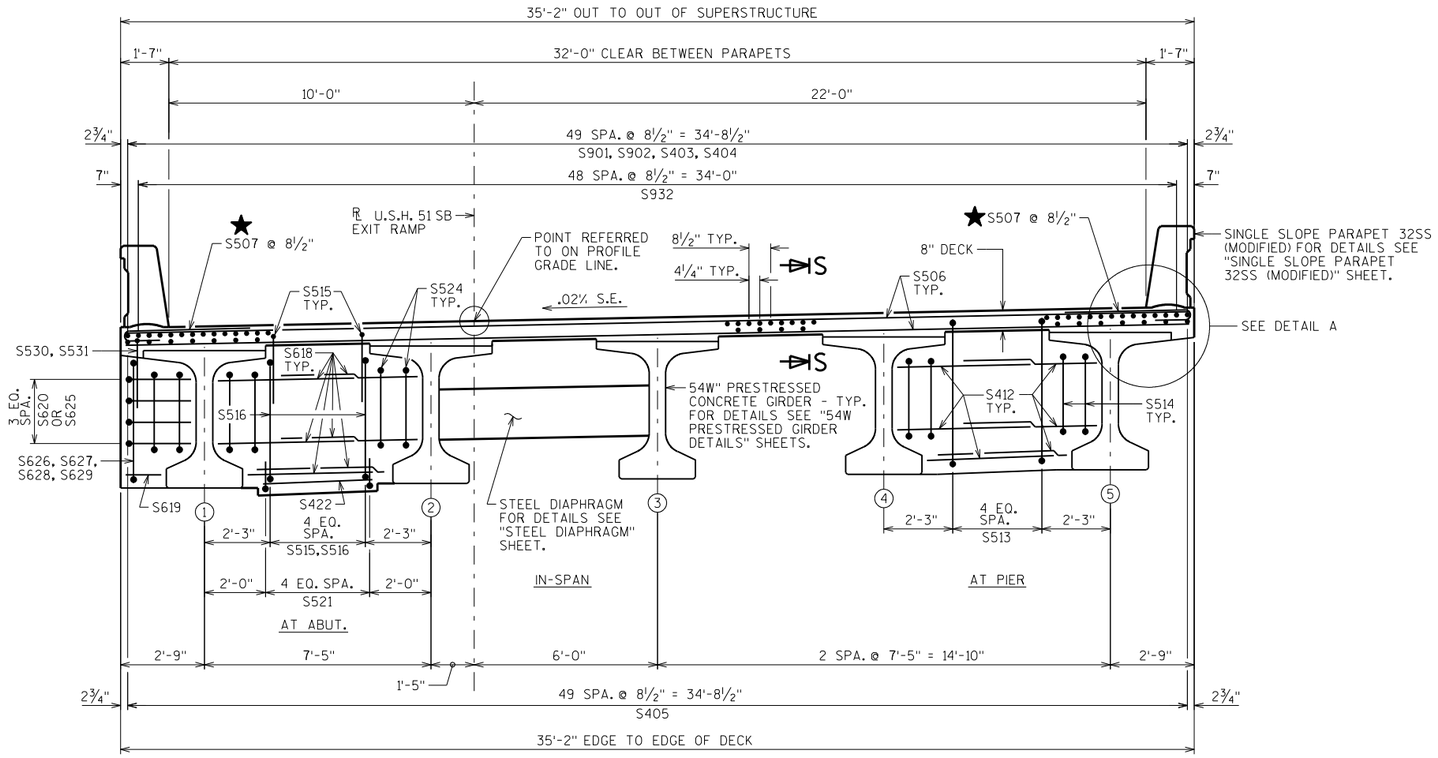
SCALE = 1

8

8

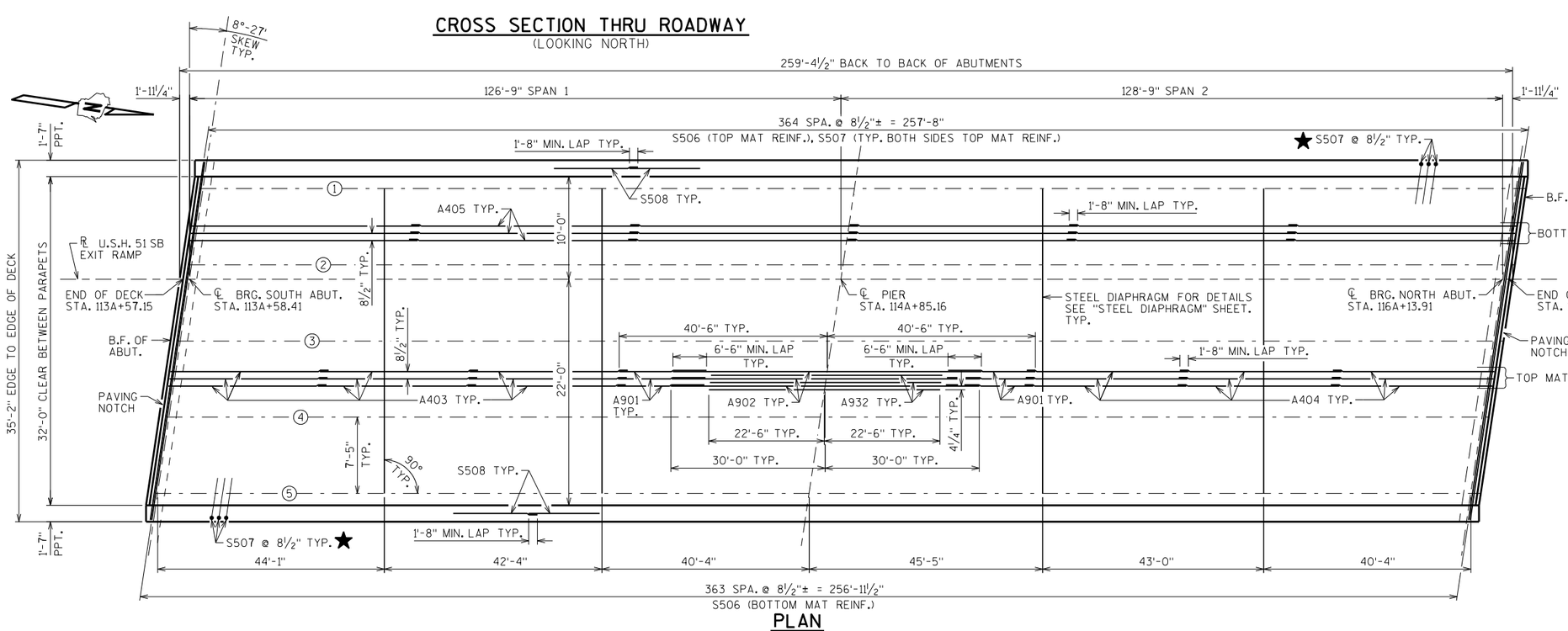
STATE PROJECT NUMBER

5411-02-74

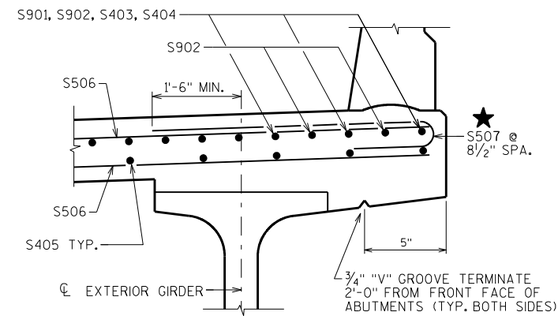


CROSS SECTION THRU ROADWAY

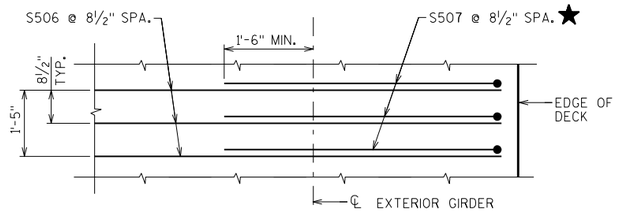
(LOOKING NORTH)



PLAN

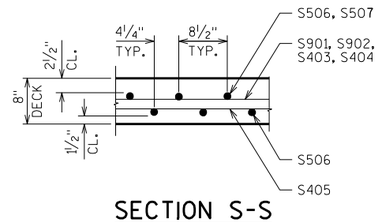


SECTION



PLAN

DETAIL A



SECTION S-S

BUNDLING DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

SUPERSTRUCTURE | SHEET 14 | 527

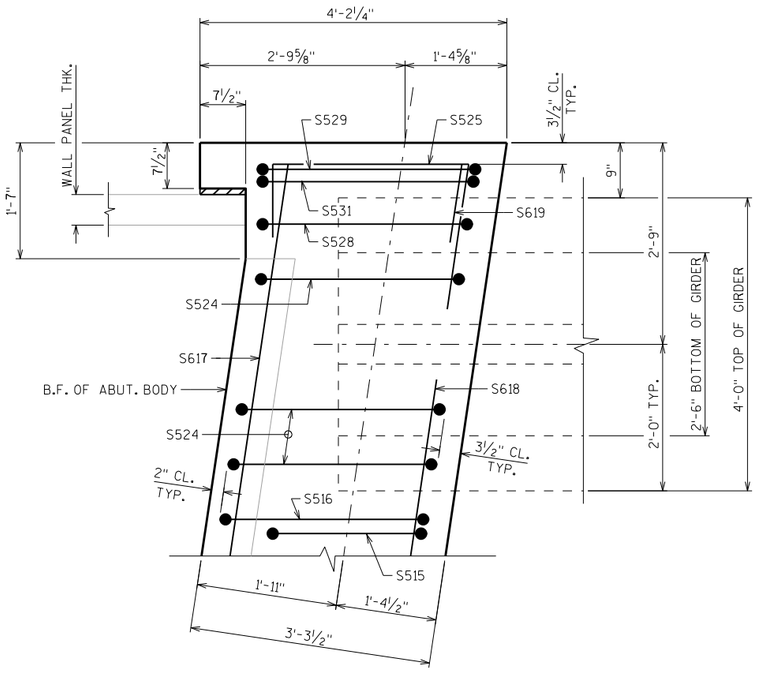
SCALE = 12

8

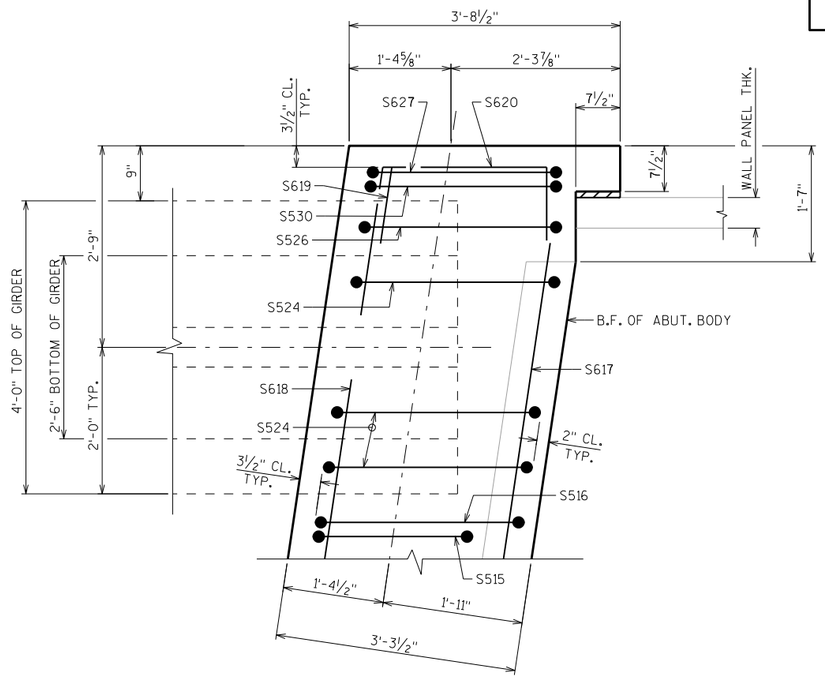
8

STATE PROJECT NUMBER

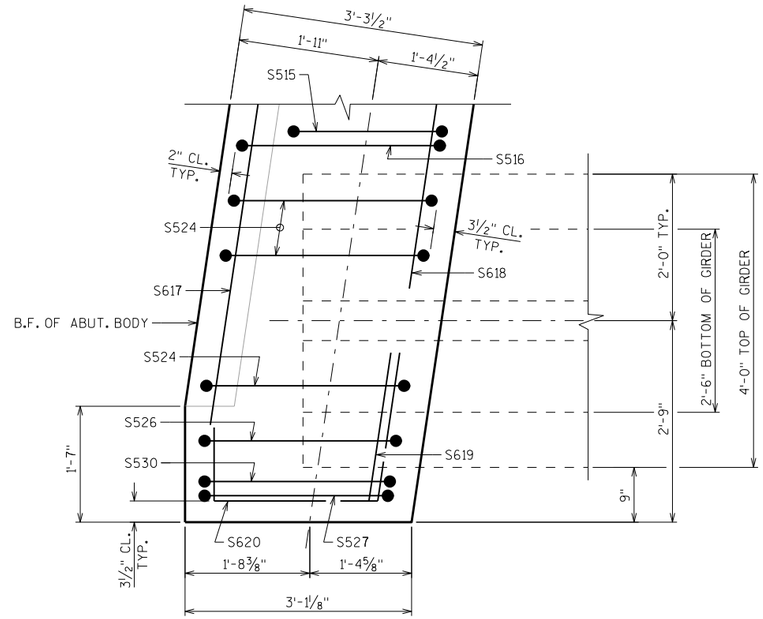
5411-02-74



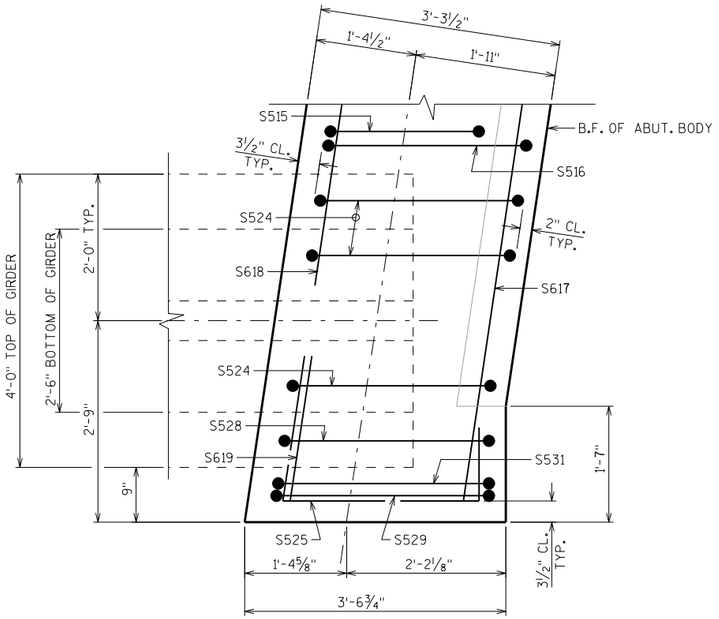
WING 2



WING 3



WING 1



WING 4

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

SUPERSTRUCTURE END DIAPHRAGM DETAILS

SHEET 15

528

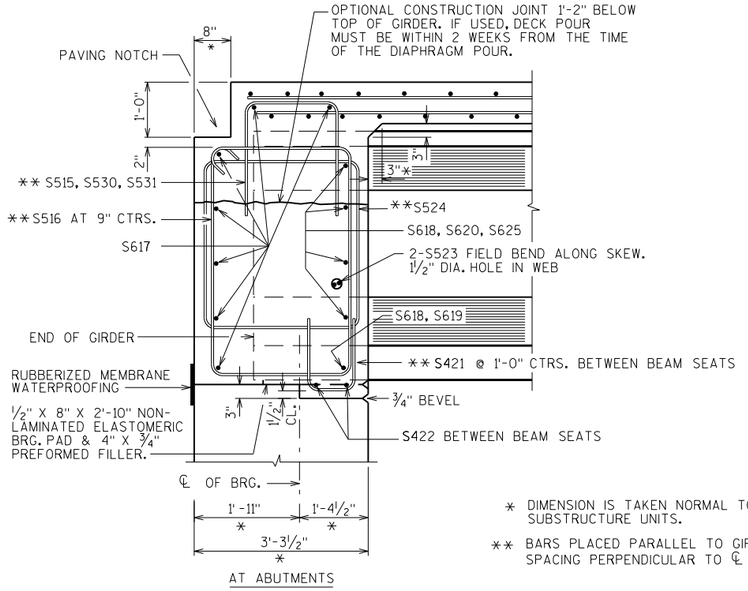
8

8

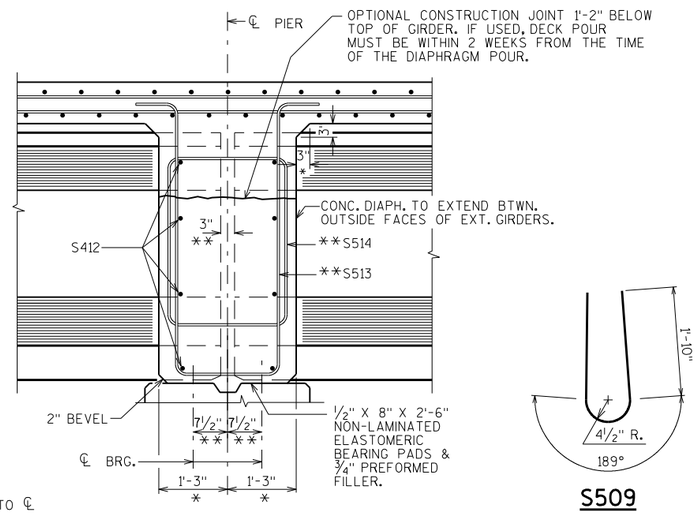
SCALE = 1

STATE PROJECT NUMBER

5411-02-74



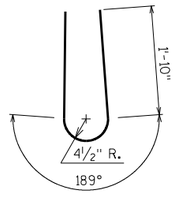
PART LONGIT. SECTION



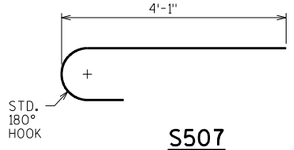
AT PIER DIAPHRAGM

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS



S509



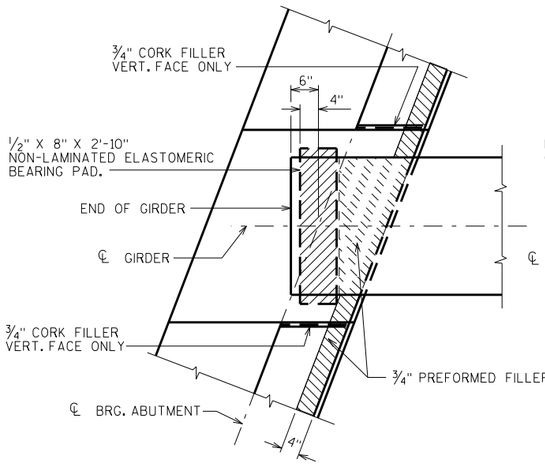
S507

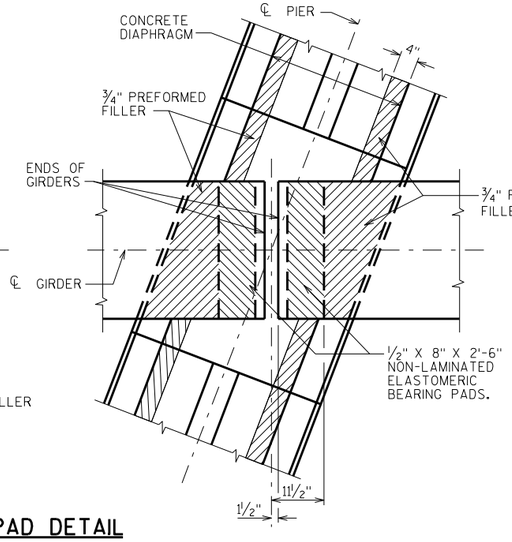
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S901	X	100	17'-0"			LONGITUDINAL CONTINUITY
S902	X	50	60'-0"			LONGITUDINAL CONTINUITY
S403	X	150	30'-10"			LONGITUDINAL TOP
S404	X	150	31'-6"			LONGITUDINAL TOP
S405	X	300	44'-7"			LONGITUDINAL BOTTOM
S506	X	729	35'-3"			TRANSVERSE TOP AND BOTTOM
S507	X	730	4'-8"	X		TRANSVERSE TOP
S508	X	72	44'-8"			PARAPET - HORIZ.
S509	X	776	5'-0"	X		PARAPET - VERT.
S510	X	772	4'-5"	X		PARAPET - VERT.
S511	X	4	5'-10"	X		PARAPET - VERT. - @ PAVING NOTCHES
S412	X	64	4'-0"			PIER DIAPHRAGM - HORIZ.
S513	X	20	12'-6"	X		PIER DIAPHRAGM - VERT.
S514	X	16	9'-6"	X		PIER DIAPHRAGM - STIRRUPS (@ GIRDERS)
S515	X	40	5'-9"	X		ABUT. DIAPHRAGM - VERT.
S516	X	40	14'-8"	X		ABUT. DIAPHRAGM - STIRRUPS
S617	X	14	35'-2"			ABUT. DIAPHRAGM - HORIZ. - B.F.
S618	X	80	4'-4"			ABUT. DIAPH. - HORIZ. - (BTWN. GIRDERS)
S619	X	4	1'-0"			ABUT. DIAPHRAGM - HORIZ. -ENDS ALL WINGS
S620	X	8	5'-2"	X		ABUT. DIAPHRAGM - HORIZ. -ENDS WINGS 1&3
S421	X	40	3'-3"	X		ABUT. DIAPH. - VERT. - (BTWN. GIRDERS)
S422	X	16	3'-1"			ABUT. DIAPH. - HORIZ. - (BTWN. GIRDERS)
S523	X	20	6'-0"			ABUT. DIAPH. - HORIZ. - (THRU GIRDERS)
S524	X	36	11'-8"	X		ABUT. DIAPHRAGM - STIRRUPS (@ GIRDERS)
S625	X	8	5'-7"	X		ABUT. DIAPHRAGM - HORIZ. -ENDS WINGS 2&4
S526	X	2	11'-7"	X		ABUT. DIAPHRAGM - STIRRUP - END WING 1&3
S527	X	2	14'-4"	X		ABUT. DIAPHRAGM - STIRRUP - END WING 1&3
S528	X	2	11'-11"	X		ABUT. DIAPHRAGM - STIRRUP - END WING 2&4
S529	X	2	15'-2"	X		ABUT. DIAPHRAGM - STIRRUP - END WING 2&4
S530	X	2	6'-4"	X		ABUT. DIAPHRAGM - VERT. - END WINGS 1&3
S531	X	2	6'-9"	X		ABUT. DIAPHRAGM - VERT. - END WINGS 2&4
S932	X	49	45'-0"			LONGITUDINAL CONTINUITY

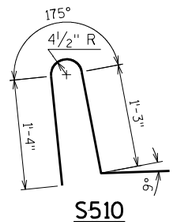
TOP OF DECK ELEVATIONS

	S. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N. ABUT.
EOD	903.57	903.67	903.74	903.80	903.85	903.88	903.89	903.89	903.87	903.83	903.78	903.72	903.63	903.53	903.42	903.28	903.13	902.97	902.79	902.59	902.37
GIR. 1	903.59	903.69	903.76	903.83	903.87	903.90	903.91	903.91	903.89	903.86	903.81	903.74	903.66	903.56	903.44	903.31	903.16	903.00	902.82	902.62	902.40
GIR. 2	903.73	903.83	903.91	903.97	904.02	904.05	904.06	904.06	904.04	904.01	903.96	903.90	903.81	903.72	903.60	903.47	903.32	903.16	902.98	902.78	902.57
GIR. 3	903.87	903.97	904.05	904.11	904.16	904.19	904.21	904.21	904.19	904.16	904.12	904.05	903.97	903.87	903.76	903.63	903.49	903.32	903.14	902.95	902.74
GIR. 4	904.01	904.11	904.19	904.26	904.31	904.34	904.36	904.36	904.34	904.31	904.27	904.21	904.13	904.03	903.92	903.79	903.65	903.49	903.31	903.12	902.91
GIR. 5	904.15	904.25	904.33	904.40	904.45	904.48	904.50	904.51	904.49	904.47	904.42	904.36	904.28	904.19	904.08	903.95	903.81	903.65	903.47	903.28	903.07
EOD	904.17	904.27	904.35	904.42	904.47	904.51	904.53	904.53	904.52	904.49	904.45	904.39	904.31	904.21	904.11	903.98	903.84	903.68	903.50	903.31	903.10

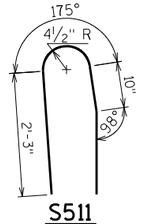




BEARING PAD DETAIL



S510



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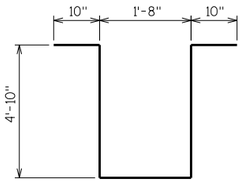

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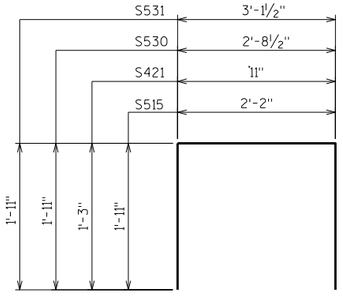
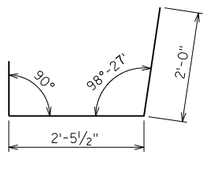


S515, S421, S530, S531



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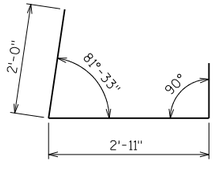

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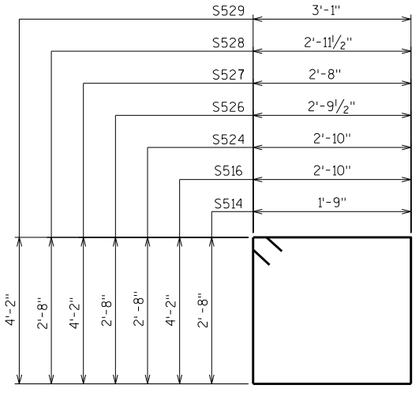


S514,S516,S524,S526,S527,S528,S529

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

SUPERSTRUCTURE DETAILS

SHEET 16

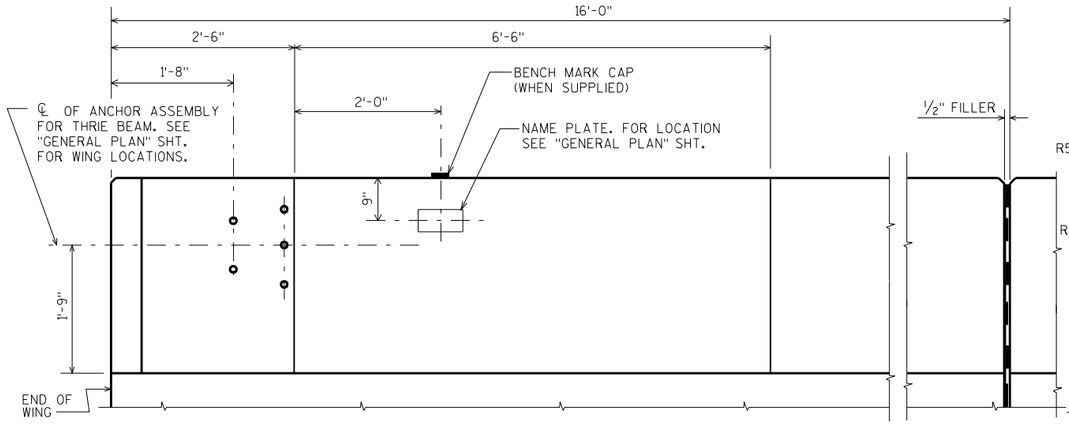
529

SCALE = 1.3333

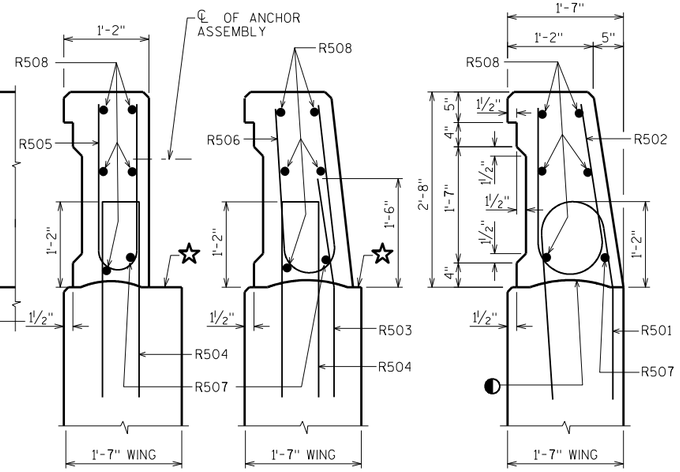
8

8

STATE PROJECT NUMBER
5411-02-74

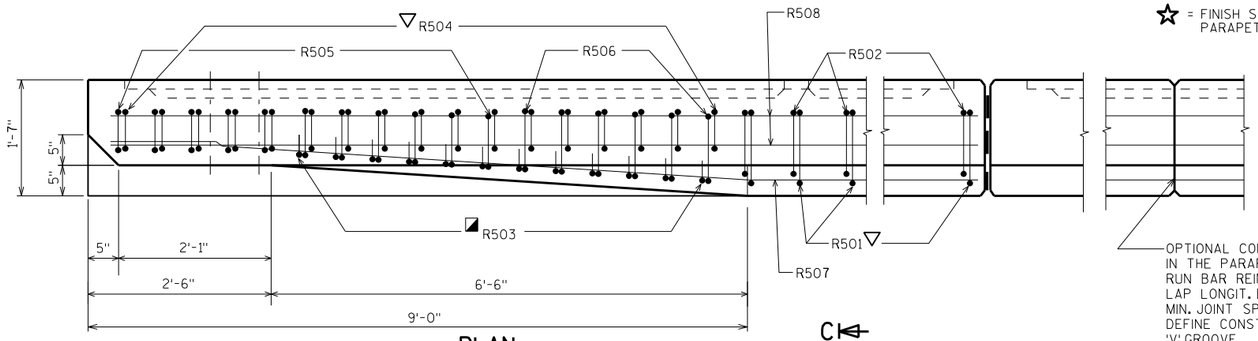


INSIDE ELEVATION



SECTION A-A SECTION B-B SECTION C-C

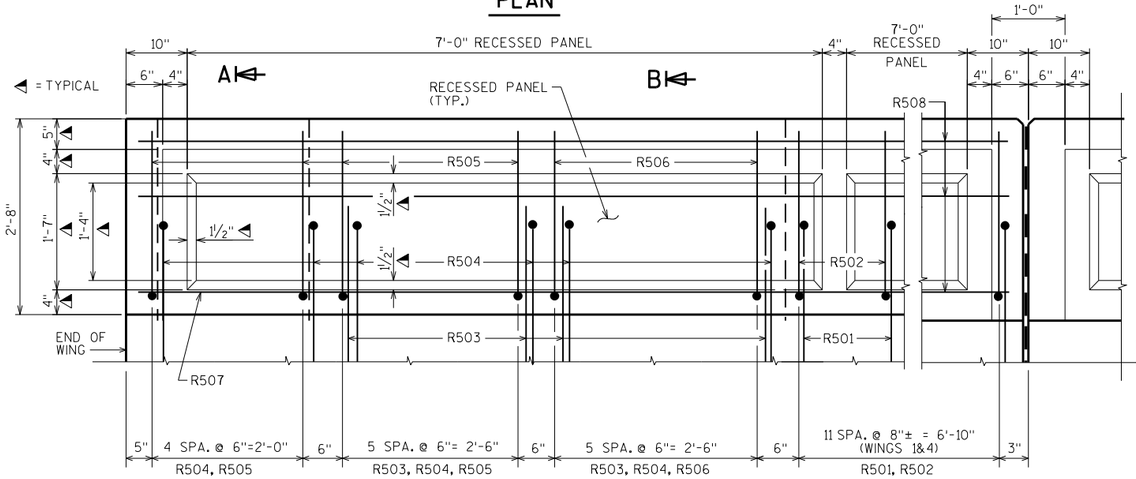
☆ = FINISH SURFACE NOT COVERED BY PARAPET SAME AS ROADWAY



PLAN

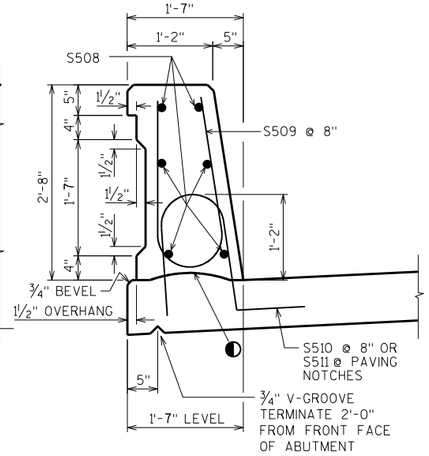
C℄

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



◢ = TYPICAL

OUTSIDE ELEVATION



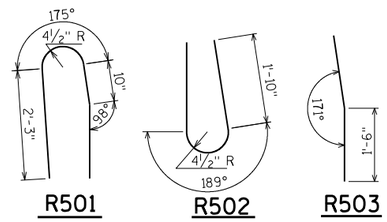
SECTION THRU PARAPET ON BRIDGE

BILL OF BARS

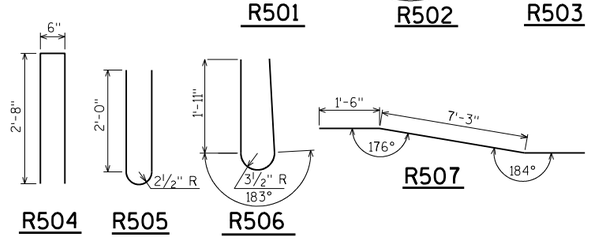
FOR ABUTMENT PARAPETS

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

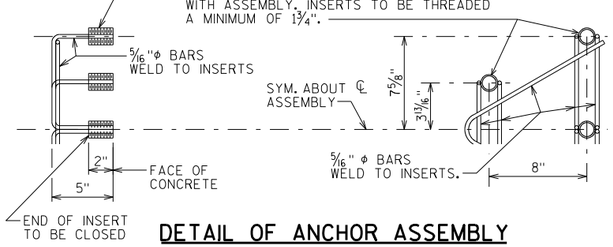
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	12	5-10	X		PARAPET VERT.
R502	X	12	5-0	X		PARAPET VERT.
R503	X	12	3-0	X		PARAPET VERT.
R504	X	17	5-7	X		PARAPET VERT.
R505	X	11	4-9	X		PARAPET VERT.
R506	X	6	4-10	X		PARAPET VERT.
R507	X	1	15-8	X		PARAPET HORIZ. - WING 1
R508	X	5	15-8			PARAPET HORIZ. - WING 1



R501 R502 R503



R504 R505 R506 R507



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 OR S503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS PLANS CK'D. SAD

SINGLE SLOPE PARAPET 32SS (S. ABUT. MODIFIED)

SHEET 17

530

32SSWIN 1-14

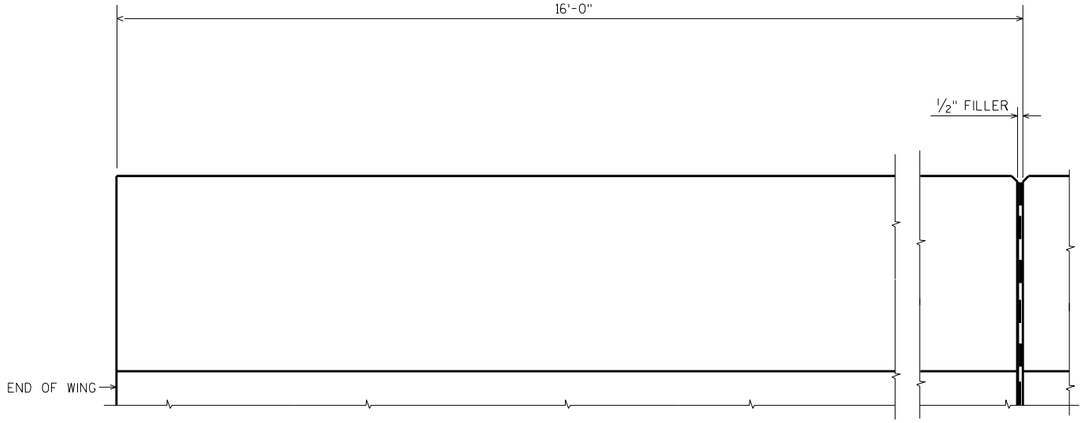
SCALE = 1

8 8

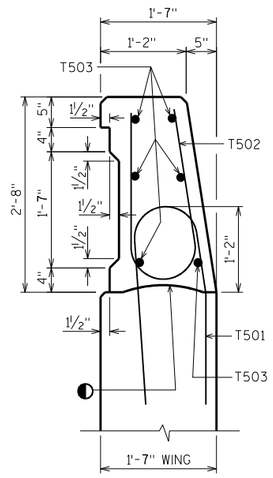
1 2 3 4 7 9 12

STATE PROJECT NUMBER

5411-02-74



INSIDE ELEVATION



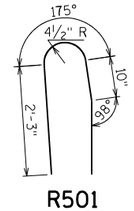
SECTION C-C

BILL OF BARS

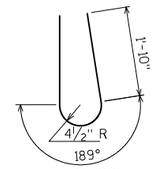
FOR ABUTMENT PARAPETS

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

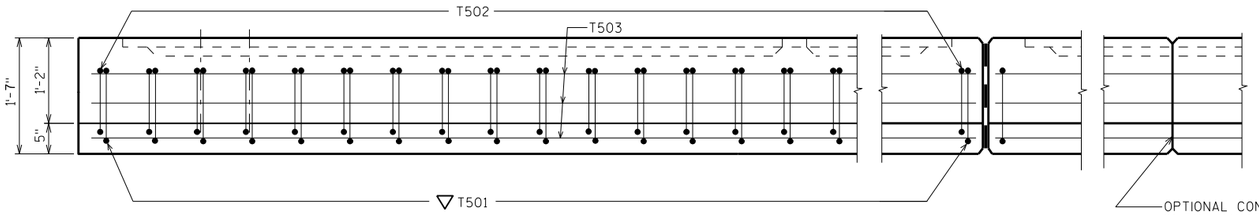
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
T501	X	24	5-10	X		PARAPET VERT.
T502	X	24	5-0	X		PARAPET VERT.
T503	X	6	15-8			PARAPET HORIZ.



R501

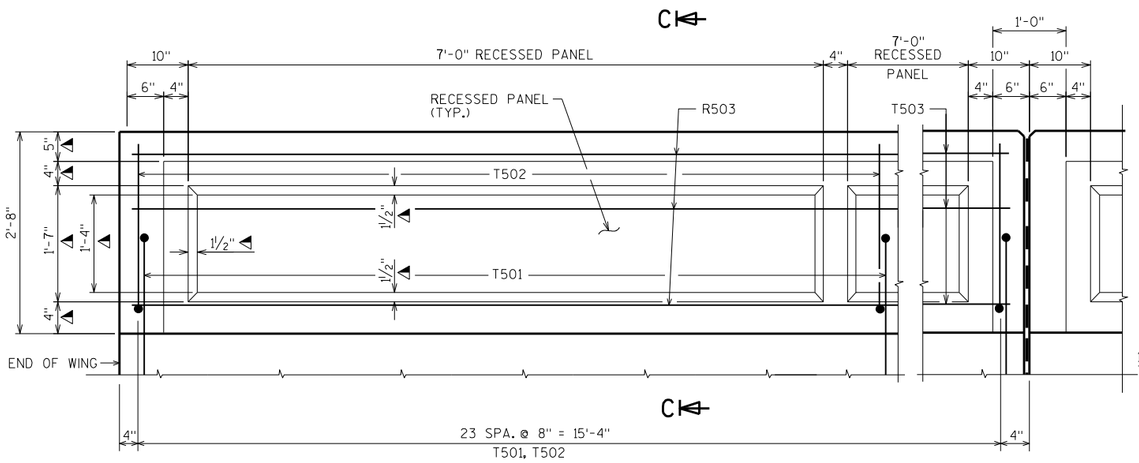


R502

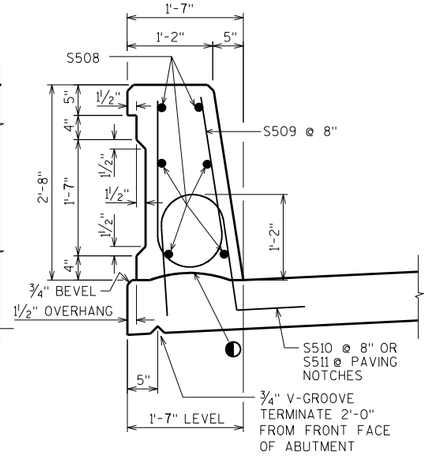


PLAN

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▽R501 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

SINGLE SLOPE PARAPET 32SS (N. ABUT. MODIFIED)

SHEET 18

531

SCALE = 1

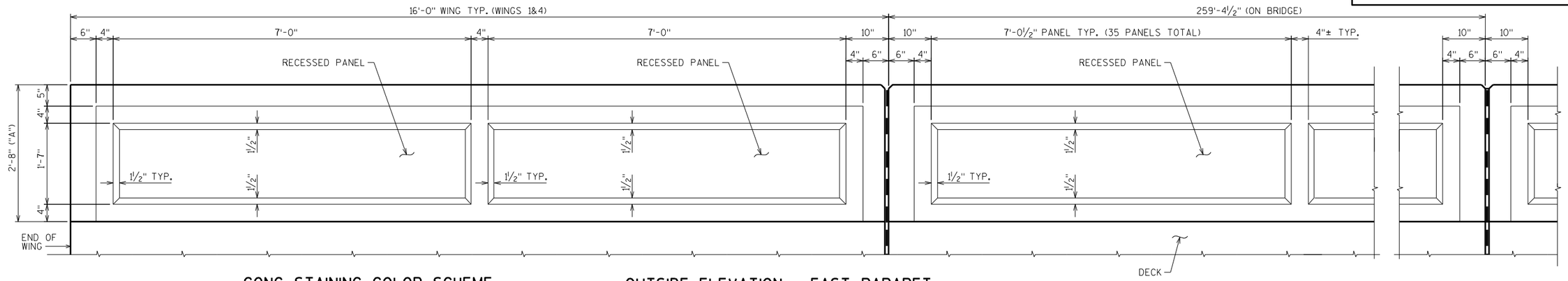
32SSWIN
1-14

8

8

1 2 3 5 7 9 12

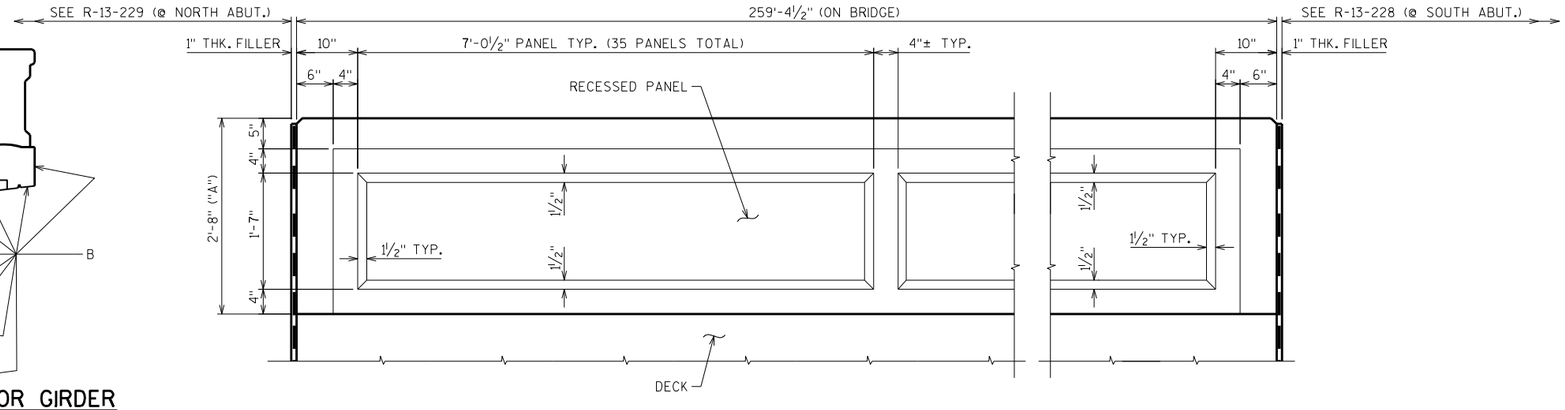
STATE PROJECT NUMBER
5411-02-74

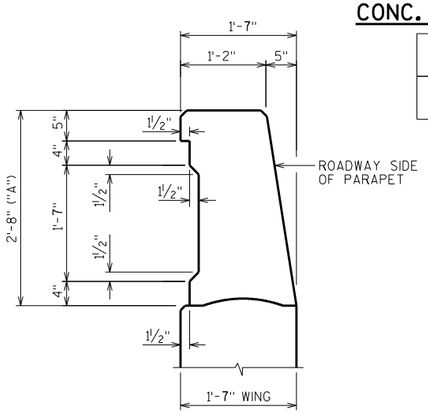


CONC. STAINING COLOR SCHEME

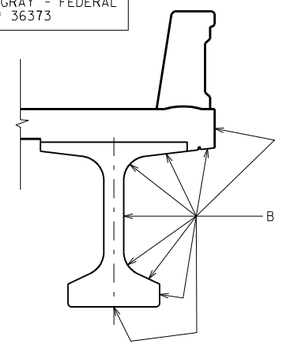
A	PEARL GRAY - FEDERAL COLOR # 26622
B	MEDIUM GRAY - FEDERAL COLOR # 36373

OUTSIDE ELEVATION - EAST PARAPET



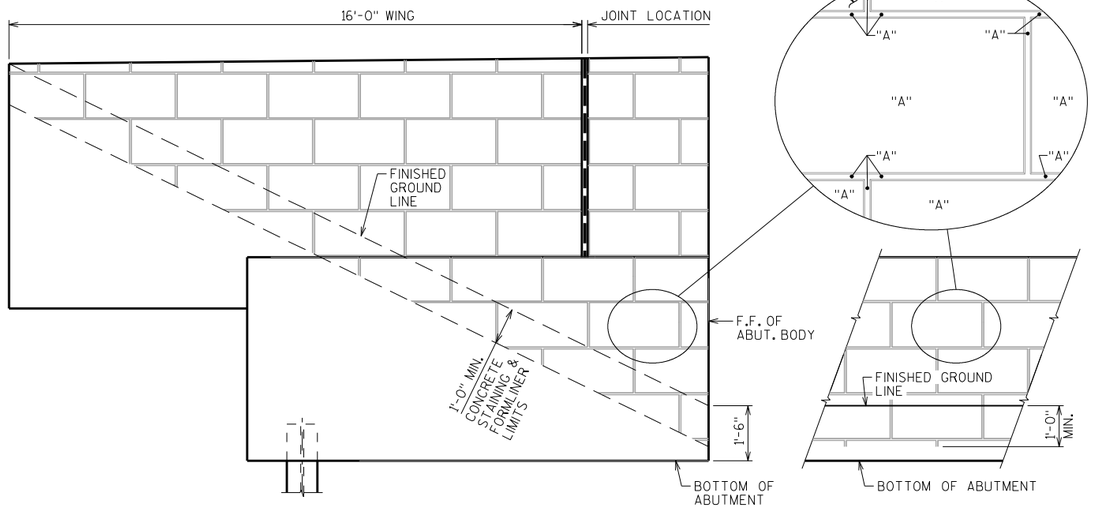


SECTION THRU PARAPET



SECTION THRU EXTERIOR GIRDER

OUTSIDE ELEVATION - WEST PARAPET

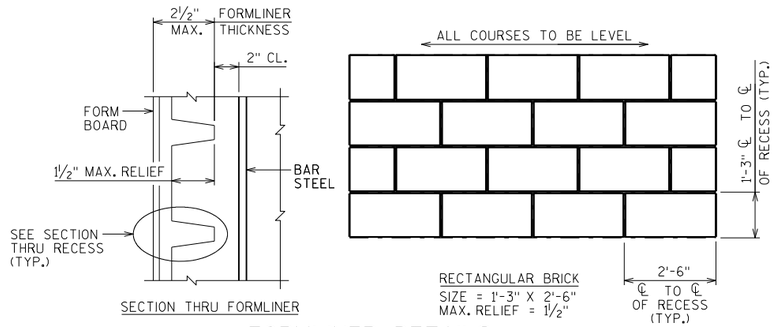


ELEVATION FRONT FACE OF WING

TYP.

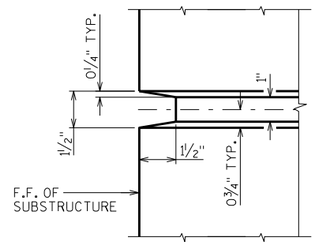
ELEVATION

FRONT FACE OF ABUTMENT BODY



FORMLINER DETAILS

NOTE:
ALL ABUTMENT BODY/WING COARSES SHALL BE LEVEL AND MATCH/LINE UP WITH RETAINING WALL COARSES/ ASETHETICS. COARSES SHALL NOT EXCEED A 1/16" VARIATION IN EITHER THE HORIZONTAL OR VERTICAL DIRECTIONS. WRAP AROUND/MATCH FORMLINER PATTERNS AT CORNERS.



SECTION THRU RECESS
TYP. (VERT. & HORIZ.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-660

DRAWN BY DDS | PLANS CK'D. SAD

AESTHETICS

SHEET 19

532

8

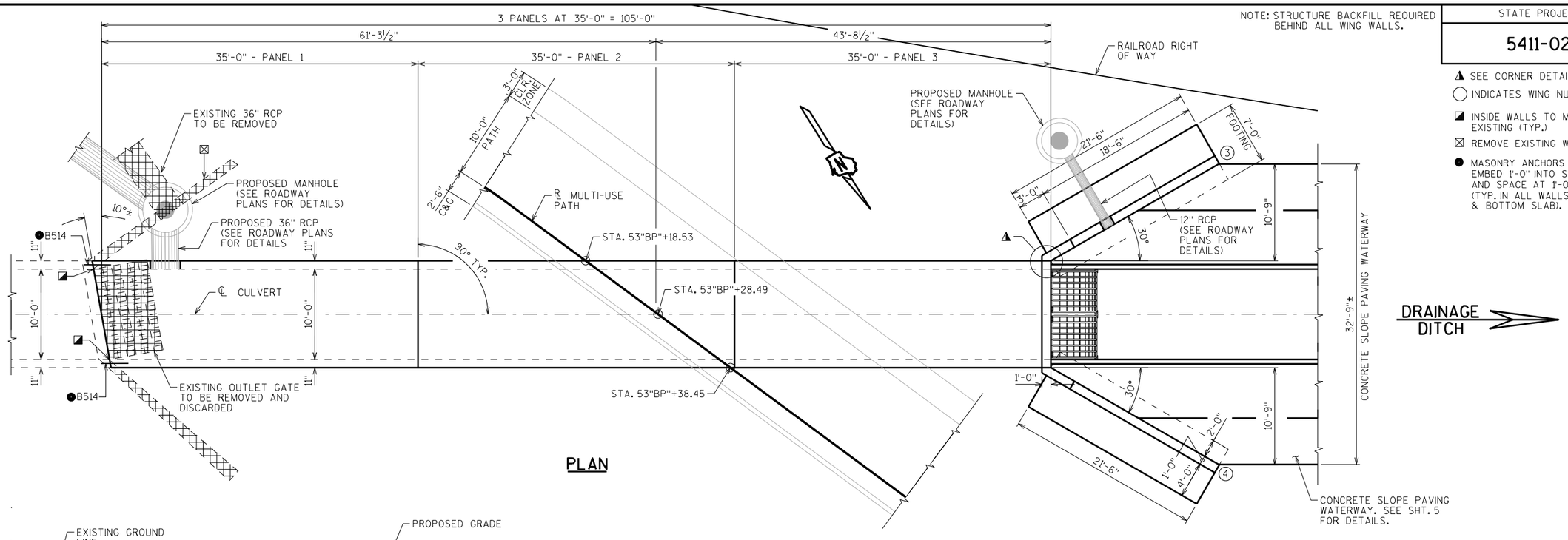
8

SCALE = 1

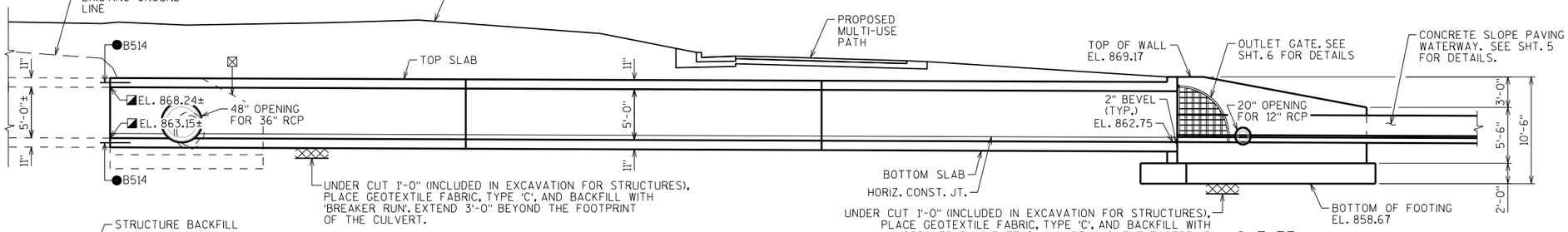
NOTE: STRUCTURE BACKFILL REQUIRED BEHIND ALL WING WALLS.

STATE PROJECT NUMBER
5411-02-74

- ◭ SEE CORNER DETAILS
- ◯ INDICATES WING NUMBER
- ◪ INSIDE WALLS TO MATCH EXISTING (TYP.)
- ⊠ REMOVE EXISTING WING WALLS
- ● MASONRY ANCHORS TYPE S 5/8-INCH. EMBED 1'-0" INTO SOUND CONCRETE AND SPACE AT 1'-0" CENTERS. (TYP. IN ALL WALLS, TOP SLAB, & BOTTOM SLAB).

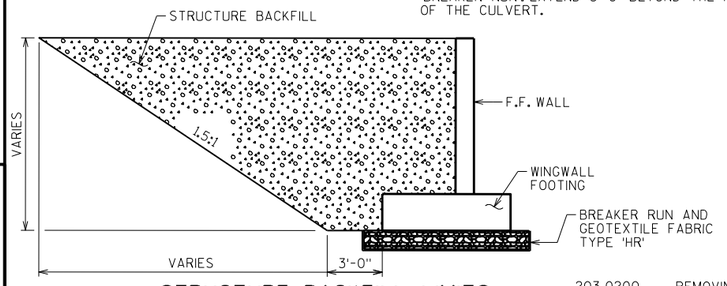


PLAN



ELEVATION

OUTLET



STRUCTURE BACKFILL LIMITS
(AT WINGWALLS)

DESIGN DATA

DESIGN LOADS:
- VEHICLE LOAD: H-10 (20,000 LBS)
- EARTH LOAD: DESIGNED FOR 11 FT. OF FILL.

ULTIMATE DESIGN STRESSES:
- CONCRETE MASONRY, GRADE A-FA ——— f'_c = 3500 P.S.I.
- HIGH STRENGTH BAR STEEL REINFORCEMENT — f_y = 60000 P.S.I.

TRAFFIC VOLUME

USH 51
A.D.T. = 32,800 (2035)
R.D.S. = 40 M.P.H.

TOTAL ESTIMATED QUANTITIES

BID ITEMS

203.0200	REMOVING OLD STRUCTURE STA. 52"BP"+89.11	1	LS
206.2000	EXCAVATION FOR STRUCTURES CULVERTS C-13-2075	1	LS
210.0100	BACKFILL STRUCTURE	750	CY
311.0115	BREAKER RUN	86	CY
502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	34	EACH
504.0100	CONCRETE MASONRY CULVERTS	155	CY
505.0410	BAR STEEL REINFORCEMENT HS CULVERTS	15670	LB
505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	240	LB
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	23	SY
645.0105	GEOTEXTILE FABRIC TYPE C	295	SY
SPV.0105	OUTLET GATE C-13-2075	1	LS

NON-BID ITEMS

FILLER	3/4"	SIZE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES SHALL BE THE EXISTING GROUNDLINE.

ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TO THE TOP OF THE BOX WITHIN THE LENGTH OF THE CULVERT.

PLACE A 18" (MIN.) WIDE SHEET OF 'RUBBERIZED MEMBRANE WATERPROOFING' ON TOP SLAB OVER ALL CONSTRUCTION JOINTS AND EXTEND DOWN TO BOTTOM OF OUTSIDE WALLS.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH THE ACCEPTANCE OF THE SHOP DRAWINGS BY THE STRUCTURES DESIGN SECTION. THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO PRECAST DETAILS ON CHAPTER 36 STANDARDS OF THE CURRENT WISC. DOT BRIDGE MANUAL. PAYMENT FOR THE PRECAST CULVERT SHALL BE BASED ON THE QUANTITIES AND PRICES BID FOR THE ITEMS LISTED IN THE "TOTAL ESTIMATED QUANTITIES".

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

REMOVAL AND REPLACEMENT OF CONCRETE SLOPE PAVING WATERWAY SHALL BE BID UNDER THE BID-ITEMS "REMOVING CONCRETE SLOPE PAVING WATERWAY" AND "SLOPE PAVING CONCRETE WATERWAY SPECIAL". SEE THE ROADWAY PLAN MISCELLANEOUS QUANTITY TABLES FOR THESE BID-ITEMS.

LIST OF DRAWINGS

1. LAYOUT
2. PANEL 1 DETAILS
3. PANEL 2 & 3 DETAILS
4. WING WALL DETAILS
5. CONCRETE SLOPE PAVING WATERWAY
6. OUTLET GATE DETAILS
7. SUBSURFACE EXPLORATION

STRUCTURE DESIGN CONTACTS:
NICK RICE (608) 266-5092
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/31/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE C-13-2075

USH 51 OVER URBAN DRAINAGE DITCH

COUNTY: DANE — ~~TOWN/CITY/VILLAGE~~: MADISON

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	NAR	DESIGN CK'D.	DFD	DRAWN BY	NAR	PLANS CK'D.	DFD

LAYOUT

SHEET 1 OF 7

533

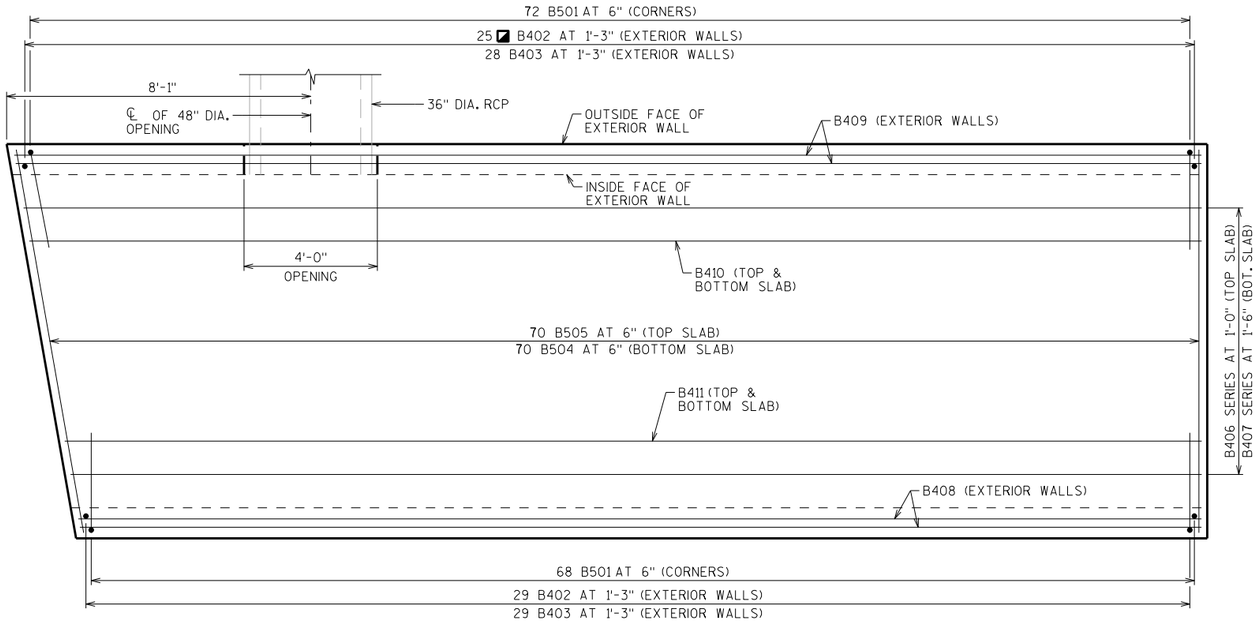
I.D. 5411-02-04D

DATE: JULY 2014

SCALE = 6

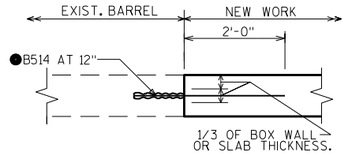
8

8



PLAN VIEW OF PANEL 1

◪ 27 SPACES AT 1'-3". OMIT (3) B402 BARS AT PIPE OPENING AS SHOWN AND NOTED IN THE "EXTERIOR WALL ELEVATION AT PIPE OPENING" DETAIL



VERTICAL CONSTRUCTION JOINT

BILL OF BARS

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

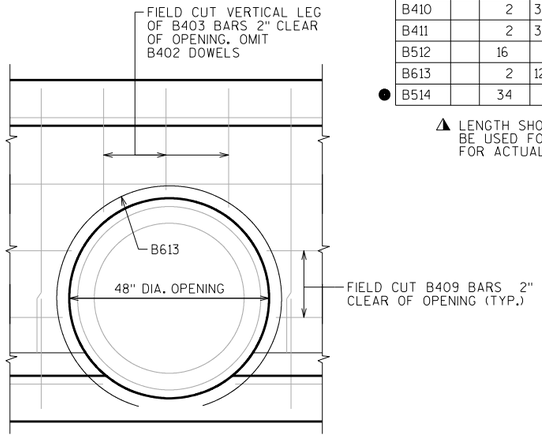
	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
	B501		280	7'-0"	X		CORNERS
	B402		54	2'-3"			WALLS-DOWELS-VERT.
	B403		57	5'-3"			WALLS-VERT.
	B504		70	11'-6"			BOTTOM SLAB-TRANS.
	B505		70	11'-6"			TOP SLAB-TRANS.
⚠	B406		7	34'-8"		X	TOP SLAB-LONGIT.
⚠	B407		6	34'-8"		X	BOTTOM SLAB-LONGIT.
	B408		8	33'-8"			BOT. SLAB, TOP SLAB, & WALLS-LONGIT.
	B409		8	35'-7"			BOT. SLAB, TOP SLAB, & WALLS-LONGIT.
	B410		2	35'-1"			TOP & BOTTOM SLAB-LONGIT.
	B411		2	34'-2"			TOP & BOTTOM SLAB-LONGIT.
	B512		16	7'-0"	X		CORNERS AT OPENING
	B613		2	12'-11"	X		PIPE OPENING - I.F. & O.F.
●	B514		34	3'-0"			VERT.CONST.JOINT.

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

BAR SERIES TABLE

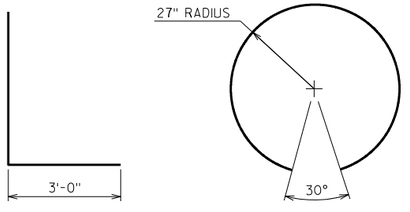
MARK	NO. REQD.	LENGTH
B406	1 SERIES OF 7	33'-11" TO 35'-4"
B407	1 SERIES OF 6	34'-0" TO 35'-3"

BUNDLE AND TAG EACH SERIES SEPARATELY.

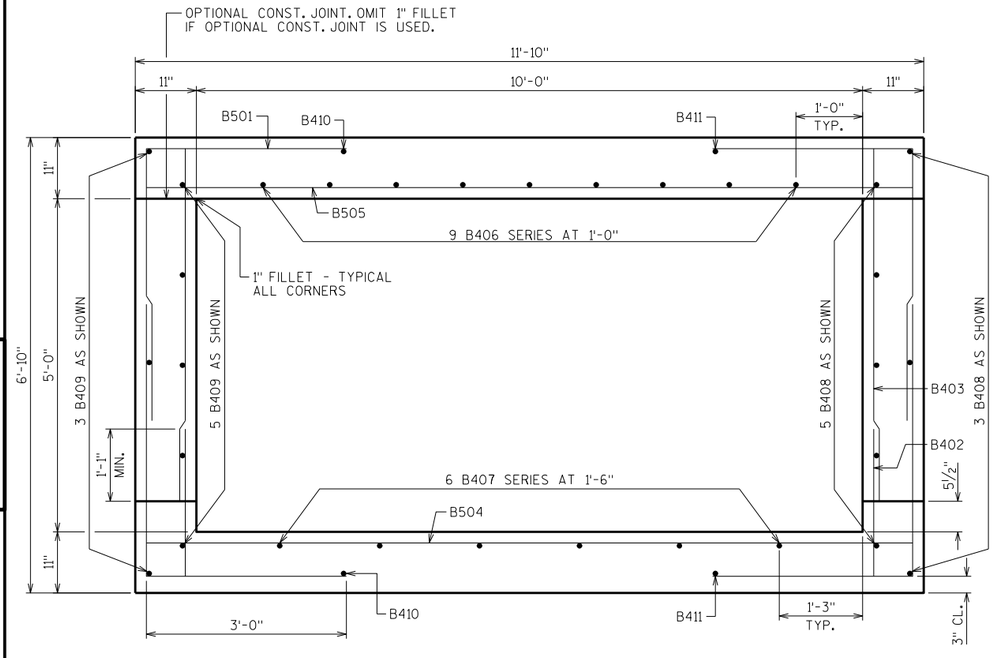


EXTERIOR WALL ELEVATION AT PIPE OPENING

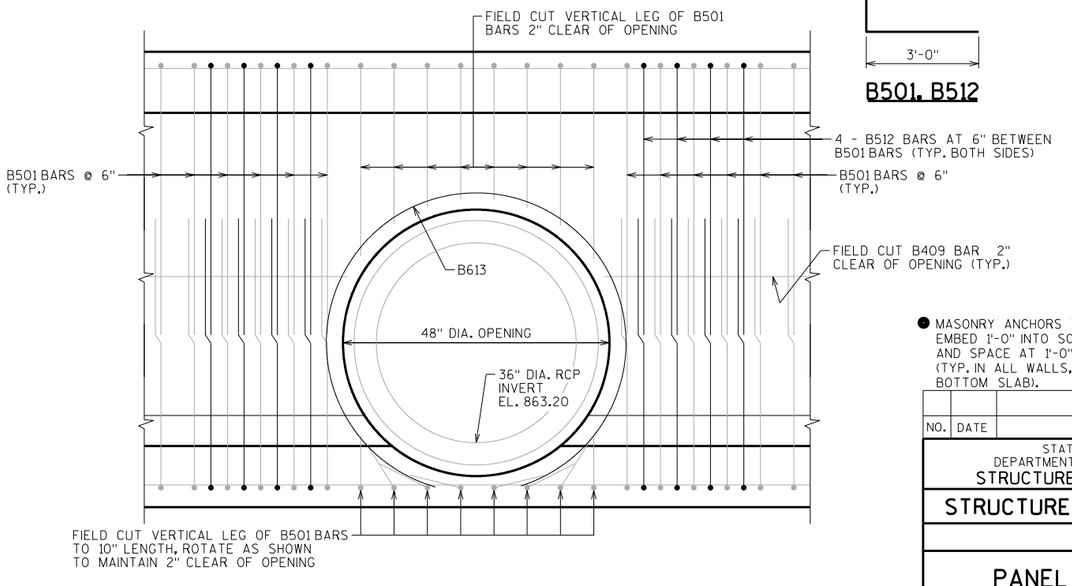
SHOWING INSIDE FACE WALL REINFORCEMENT



B501, B512 B613



TYPICAL SECTION THRU BOX



EXTERIOR WALL ELEVATION AT PIPE OPENING

SHOWING OUTSIDE FACE WALL REINFORCEMENT

● MASONRY ANCHORS TYPE S ⅝-INCH. EMBED 1'-0" INTO SOUND CONCRETE AND SPACE AT 1'-0" CENTERS. (TYP. IN ALL WALLS, TOP SLAB, & BOTTOM SLAB).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-13-2075

DRAWN BY NAR | PLANS CK'D. DFD

PANEL 1 DETAILS

SHEET 2

534

STATE PROJECT NUMBER

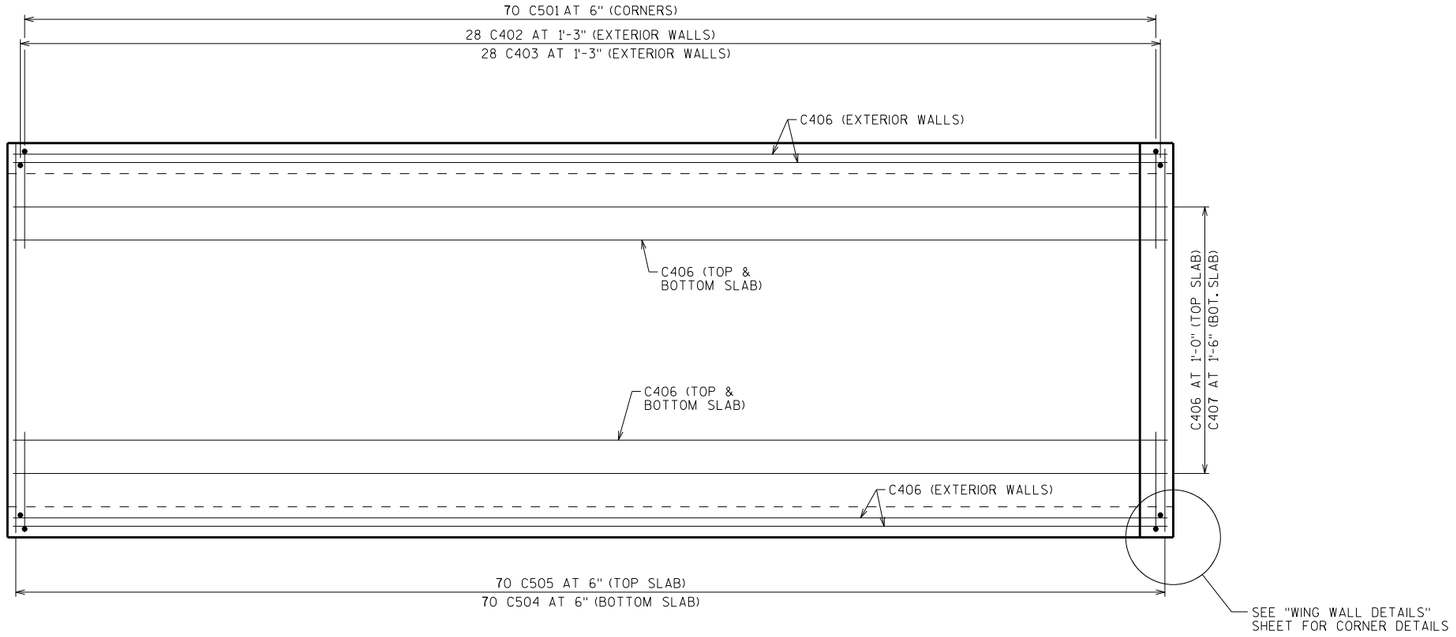
5411-02-74

8

8

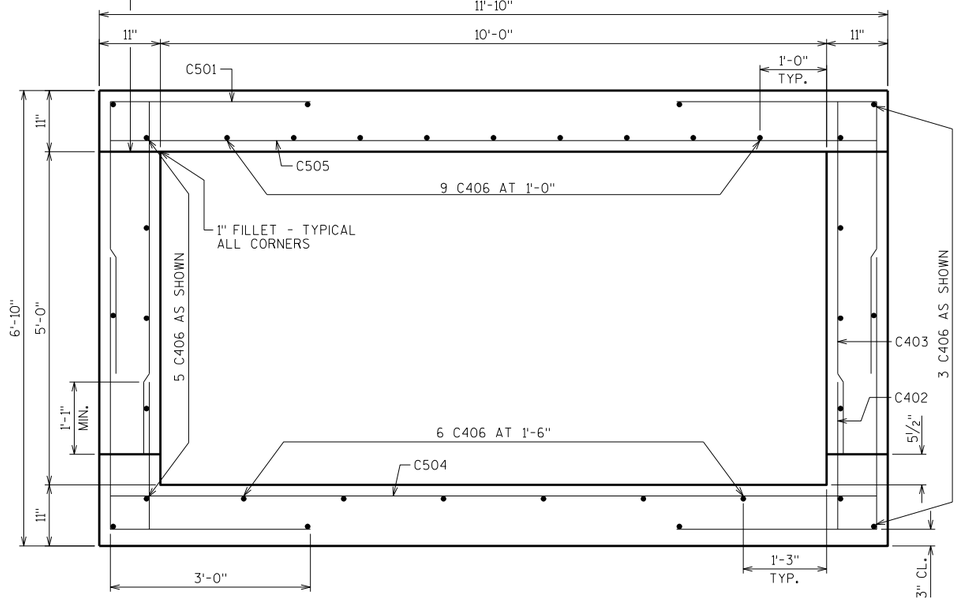
SCALE = 1:1

STATE PROJECT NUMBER
5411-02-74



PLAN VIEW OF OUTLET EXTENSION PANEL 3

(OUTLET EXTENSION PANEL 2 IS SIMILAR)



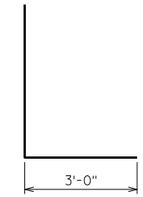
TYPICAL SECTION THRU BOX

ALL LONGITUDINAL BARS NOT IDENTIFIED ARE C406 AS SHOWN

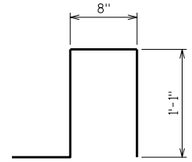
BILL OF BARS

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

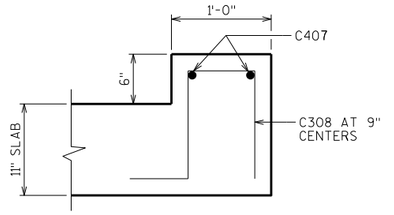
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
C501		560	7'-0"	X		CORNERS
C402		112	2'-3"			WALLS-DOWELS-VERT.
C403		112	5'-3"			WALLS-VERT.
C504		140	11'-6"			BOTTOM SLAB-TRANS.
C505		140	11'-6"			TOP SLAB-TRANS.
C406		35	34'-8"			BOT. SLAB, TOP SLAB, & WALLS-LONGIT.
C407		2	34'-8"			HEADERS-HORIZ.
C308		16	3'-2"	X		HEADERS-STIRRUPS



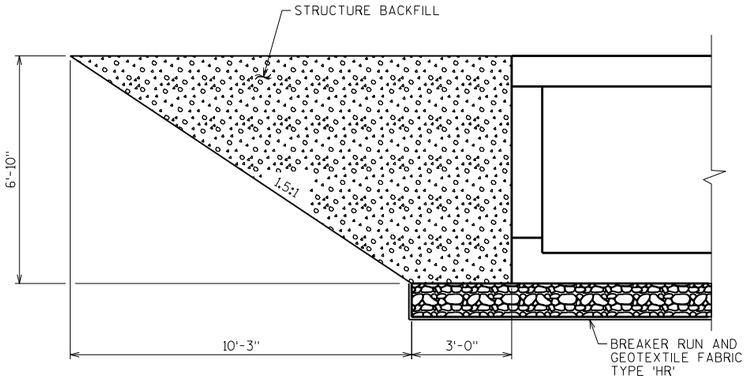
C501



C308



SECTION THRU HEADER



STRUCTURE BACKFILL LIMITS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-13-2075

DRAWN BY NAR | PLANS CK'D. DFD

PANEL 2 & 3 DETAILS

SHEET 3

535

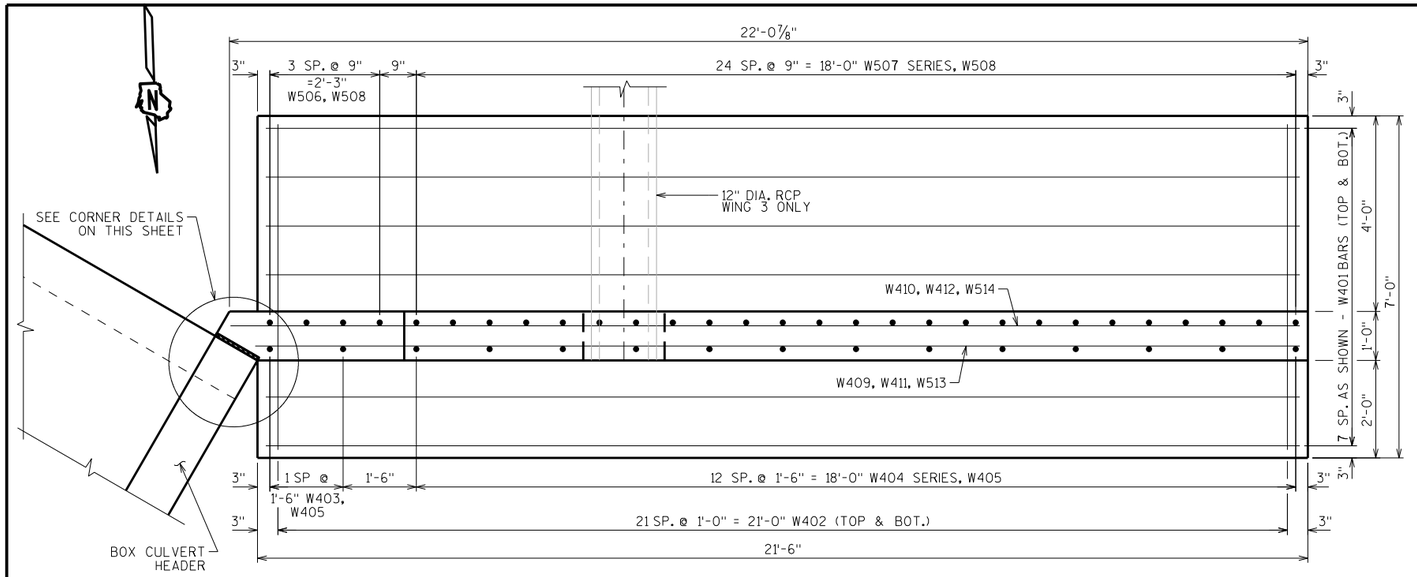
SCALE = 1:1

8

8

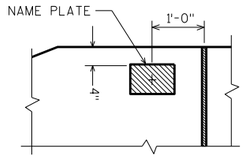
STATE PROJECT NUMBER

5411-02-74



FOOTING PLAN

(WING 3 SHOWN - WING 4 SIMILAR)



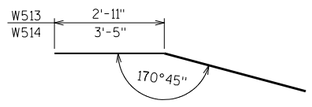
NAME PLATE LOCATION WING 4

BILL OF BARS

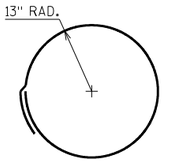
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
	W401		32	21'-0"			FOOTING - LONGIT. - TOP & BOT
	W402		88	6'-6"			FOOTING - TRANS. - TOP & BOT.
	W403		4	8'-4"			WALL - VERT. - F.F.
◭	W404		26	6'-10"		X	WALL - VERT. - F.F.
	W405	X	30	2'-1"			WALL - DOWEL - F.F.
	W506		8	8'-4"			WALL - VERT. - B.F.
◭	W507		50	6'-10"		X	WALL - VERT. - B.F.
	W508	X	58	3'-3"			WALL - DOWEL - B.F.
	W409		8	21'-3"			WALL - HORIZ. - F.F.
	W410		8	21'-9"			WALL - HORIZ. - B.F.
	W411		2	14'-3"			WALL - HORIZ. - F.F.
	W412		2	14'-9"			WALL - HORIZ. - B.F.
	W513		2	21'-6"	X		WALL - HORIZ. - F.F.
	W514		2	22'-0"	X		WALL - HORIZ. - B.F.
	W515		2	7'-10"	X		PIPE OPENING - WING 3 - F.F. & B.F

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



W513, W514

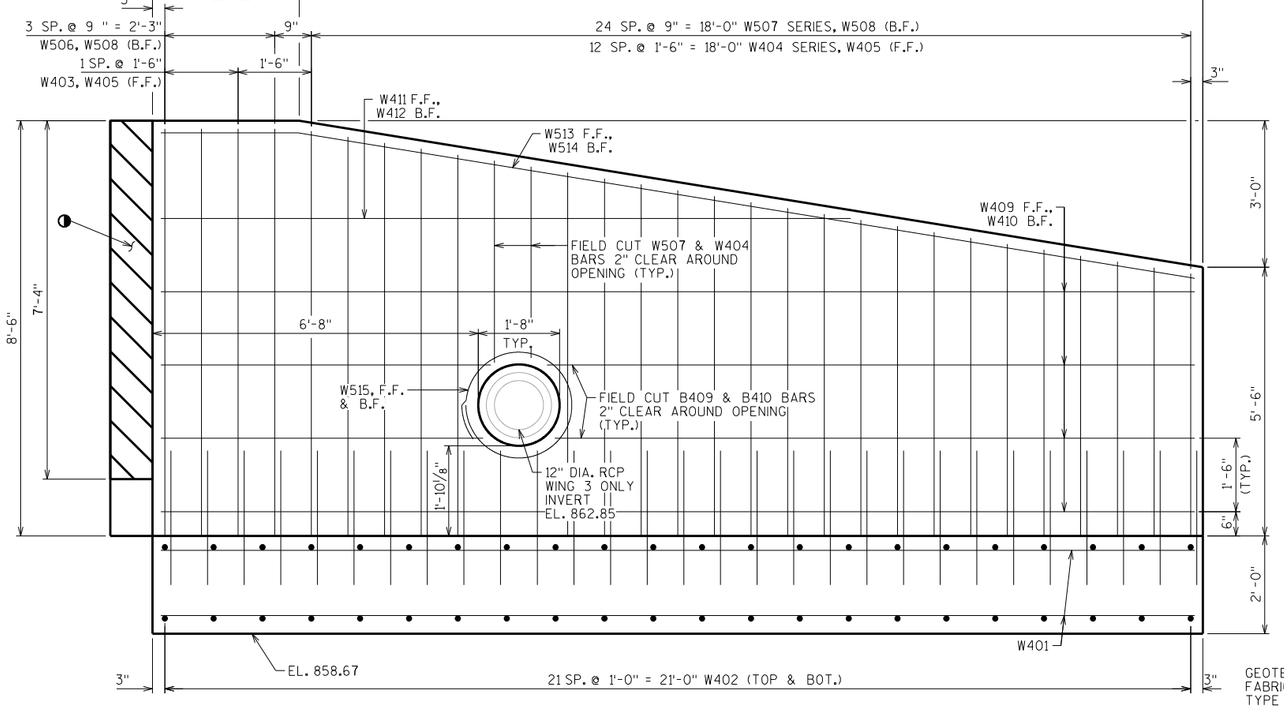


W515

BAR SERIES TABLE

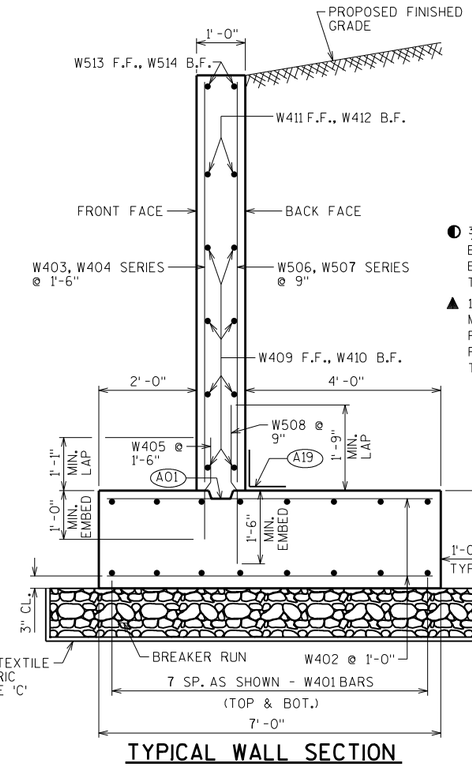
MARK	NO. REQD.	LENGTH
W404	2 SERIES OF 13	5'-4" TO 8'-3"
W507	2 SERIES OF 25	5'-4" TO 8'-3"

BUNDLE AND TAG EACH SERIES SEPARATELY.

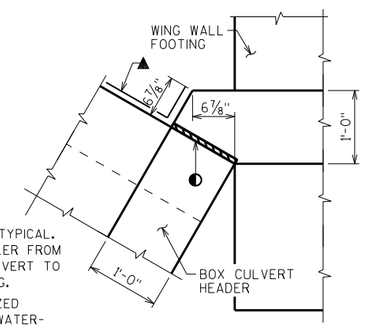


TYPICAL ELEVATION

(WING 3 SHOWN - WING 4 SIMILAR)
(LOOKING AT F.F. OF WALL, SHOWING B.F. REINFORCEMENT)



TYPICAL WALL SECTION



◐ 3/4" FILLER TYPICAL. EXTEND FILLER FROM BOT. OF CULVERT TO TOP OF WING.

▲ 18" RUBBERIZED MEMBRANE WATER-PROOFING. EXTEND FROM TOP OF FOOTING TO TOP OF WALL.

CORNER DETAIL

(TYP. BOTH WINGS)

(A01) CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-13-2075

DRAWN BY NAR | PLANS CK'D. DFD

WING WALL DETAILS

SHEET 4

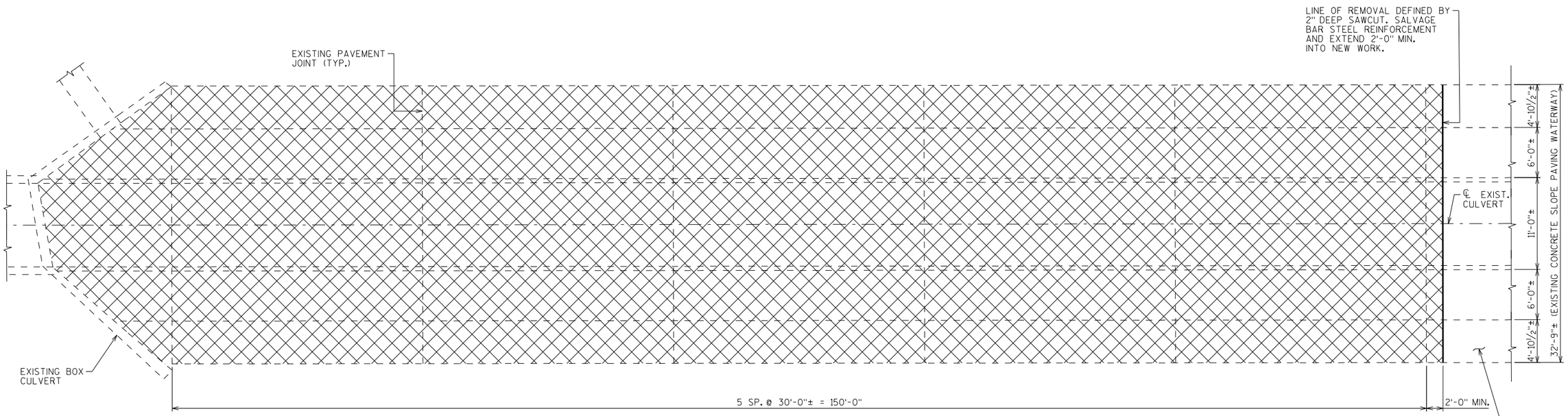
536

SCALE = 1.5

8

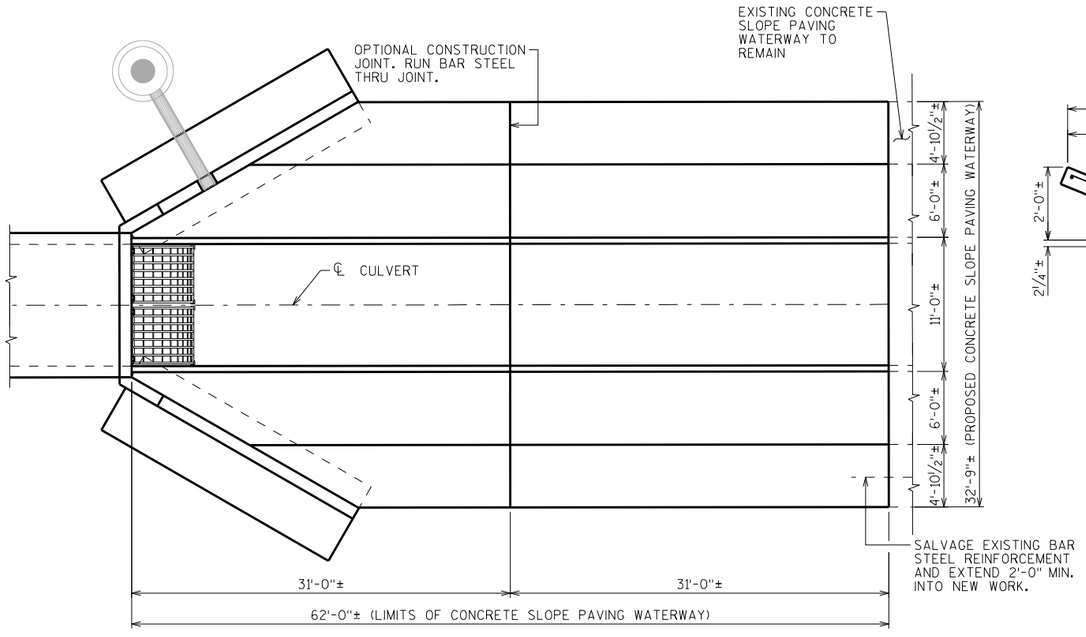
8

STATE PROJECT NUMBER
5411-02-74



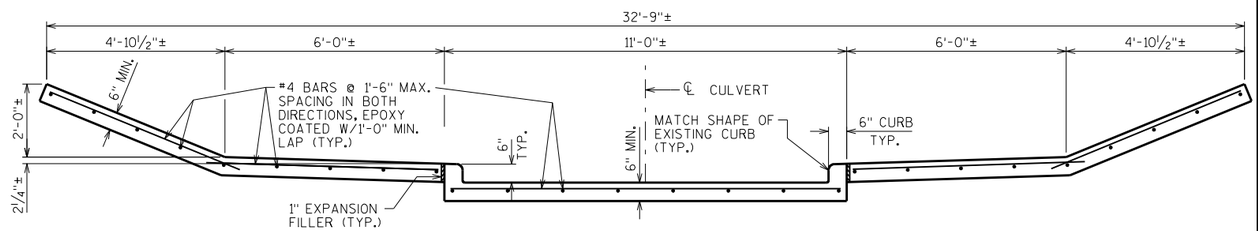
PLAN

SHOWING CONCRETE SLOPE PAVING WATERWAY REMOVAL



PLAN

SHOWING CONCRETE SLOPE PAVING WATERWAY RECONSTRUCTION LIMITS



CROSS SECTION THRU CONCRETE SLOPE PAVING WATERWAY

CONCRETE SLOPE PAVING WATERWAY NOTES

ALL DIMENSIONS SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL MATCH EXISTING CONCRETE SLOPE PAVING DIMENSIONS & ELEVATIONS.

BAR STEEL SHALL BE 2" CLEAR FROM TOP OF SLOPE PAVING.

PLACE 1" EXPANSION FILLER WHERE CONCRETE SLOPE PAVING ABUTS THE CULVERT BARREL AND WING WALLS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-13-2075

DRAWN BY NAR | PLANS CK'D. DFD

CONCRETE SLOPE PAVING WATERWAY

SHEET 5

537

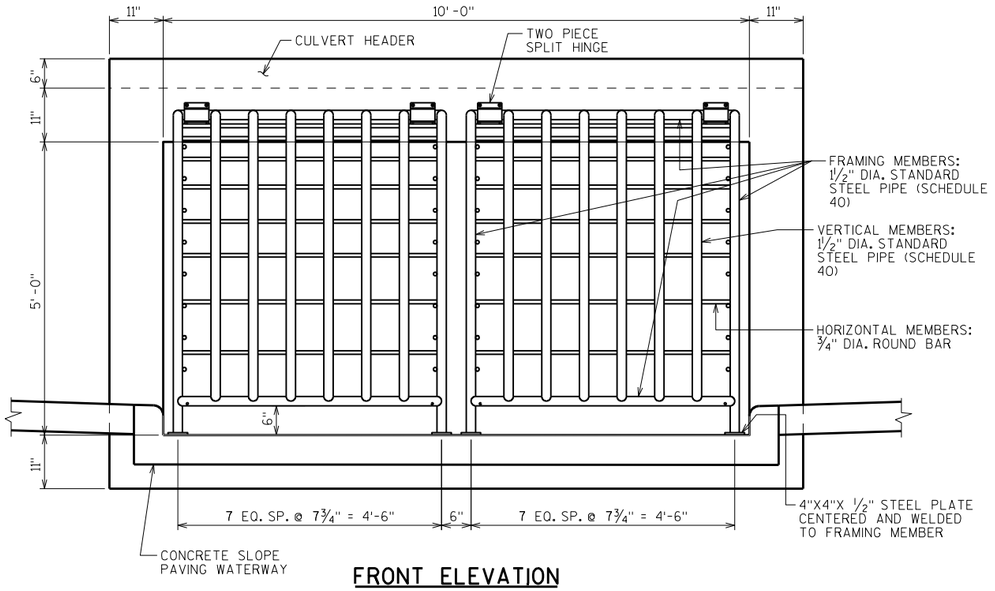
8

8

SCALE = 6

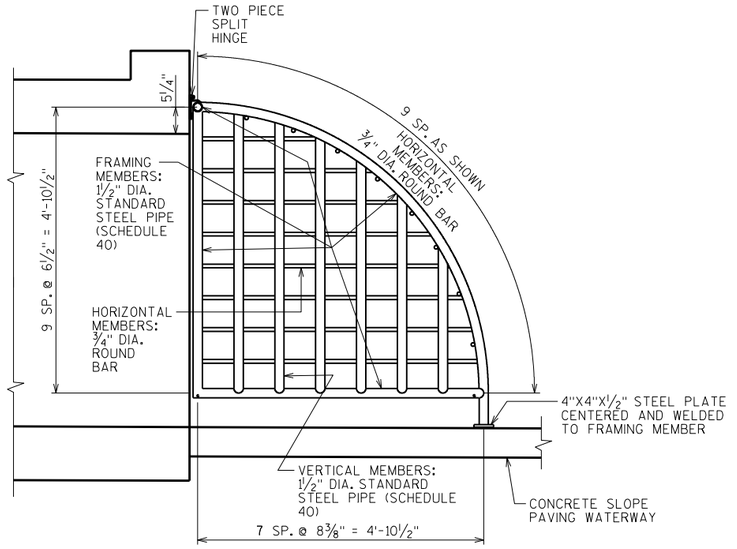
STATE PROJECT NUMBER

5411-02-74



FRONT ELEVATION

WINGS NOT SHOWN FOR CLARITY



SIDE ELEVATION

NOTES

BID ITEM SHALL BE "OUTLET GATE C-13-2075", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN, CONCRETE MASONRY ANCHORS, AND PAINTING.

STEEL PLATES SHALL BE FLAT WITH ALL SURFACED SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

STEEL PIPE (SCHEDULE 40) SHALL CONFORM TO ASTM A53 GR. B. STEEL PLATES, ANGLE IRONS, AND ROUND BARS SHALL CONFORM TO ASTM A709 GR. B.

ANCHOR BOLTS, NUTS AND WASHERS FOR CONCRETE MASONRY ANCHORS SHALL BE ASTM A307 AND SHALL BE GALVANIZED.

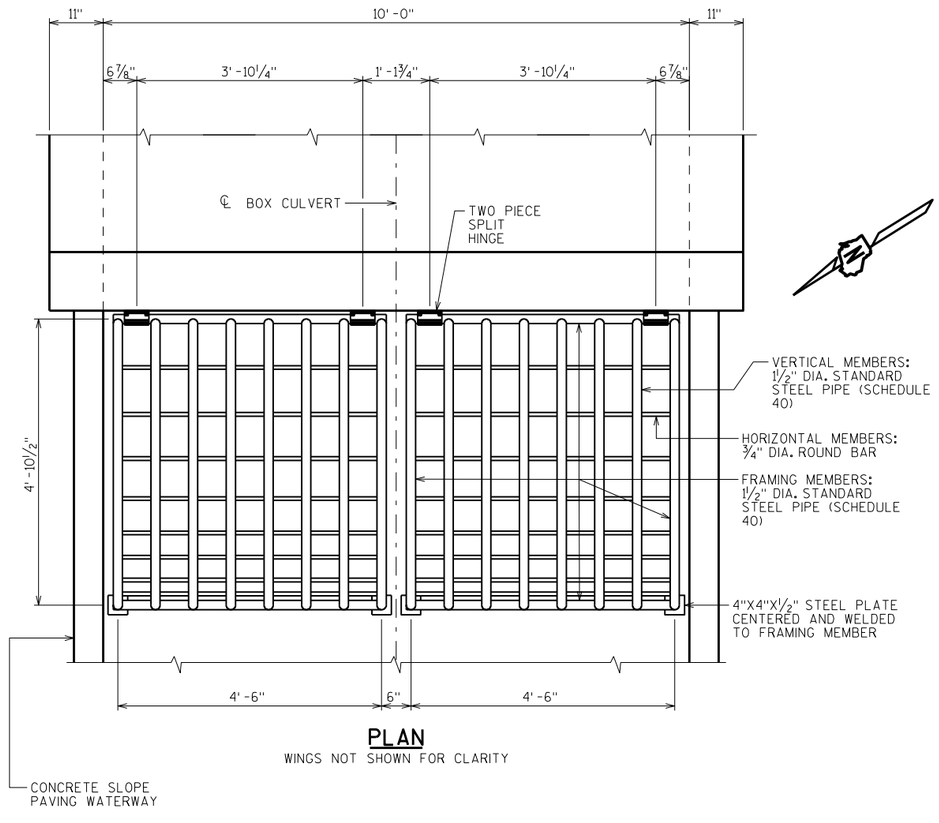
VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

CAULK AROUND PERIMETER OF TWO PIECE SPLIT HINGE STEEL PLATE AND FILL PORTION OF HOLES AROUND MASONRY ANCHORS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE-STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELD IS ⅛". AT MINIMUM, PROVIDE 1" LONG FILLET WELDS AT EACH SIDE OF EACH VERTICAL & HORIZONTAL MEMBER INTERSECTION.

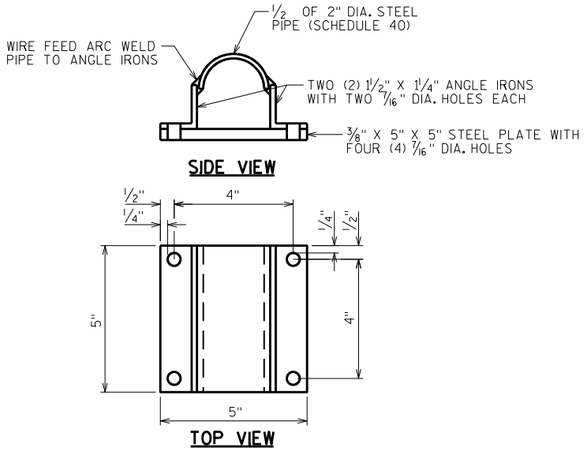
AFTER FABRICATION, OUTLET GATE COMPONENTS SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A123. PAINT GALVANIZED GATE ASSEMBLIES WITH A TWO COAT SYSTEM SPECIFICALLY INTENDED FOR PAINTING OF GALVANIZED SURFACES PER THE SPECIAL PROVISIONS. FINISH COLOR SHALL BE FEDERAL COLOR NO. 27038 BLACK.

PAINT TOUCH-UP TO BE DONE AT COMPLETION OF OUTLET GATE INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST.

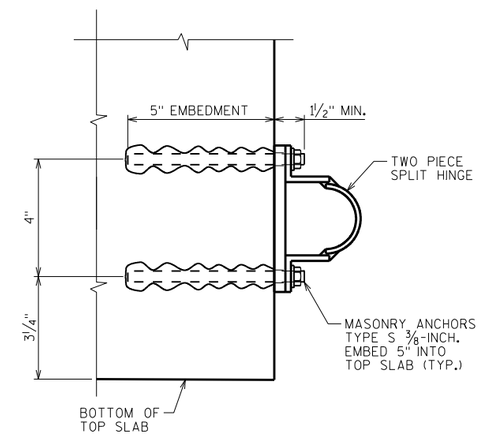


PLAN

WINGS NOT SHOWN FOR CLARITY



TWO PIECE SPLIT HINGE DETAIL



ANCHOR BOLTS FOR TWO PIECE SPLIT HINGE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-13-2075

DRAWN BY NAR | PLANS CK'D. DFD

OUTLET GATE DETAILS

SHEET 6

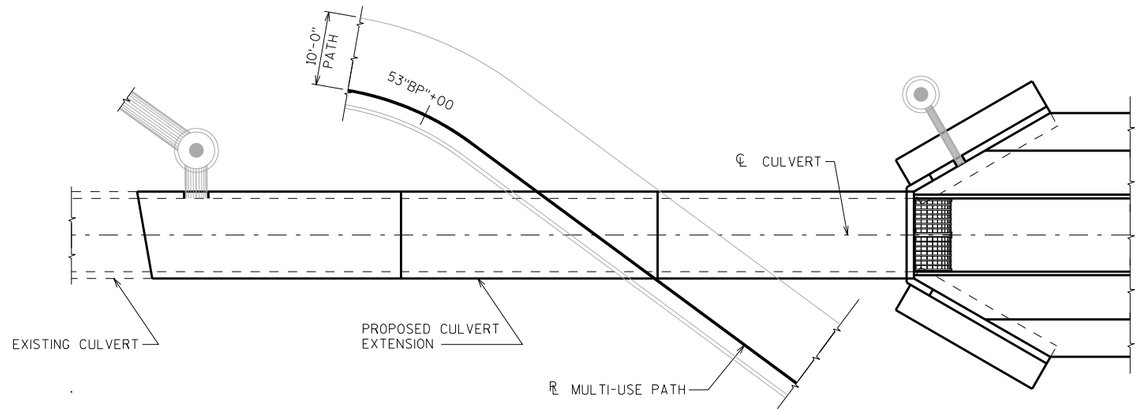
538

SCALE = 1.25

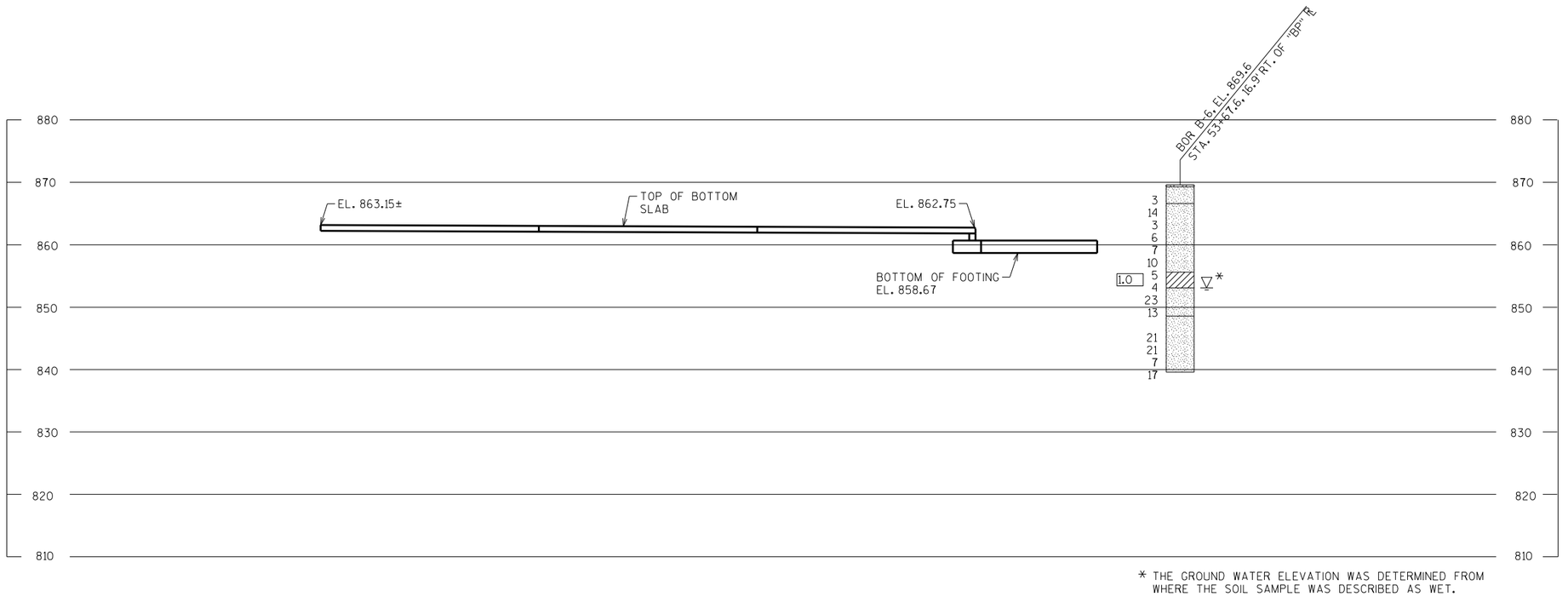
8

8

STOUGHTON - MADISON



BOR-6



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

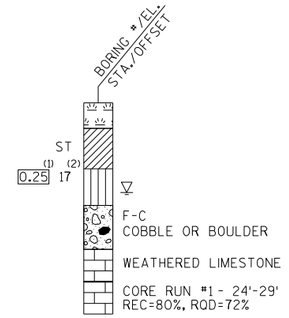
STATE PROJECT NUMBER

5411-02-74

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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-13-2075

DRAWN BY PR/NAR | PLANS CK'D. DFD

SUBSURFACE EXPLORATION

SHEET 7

539

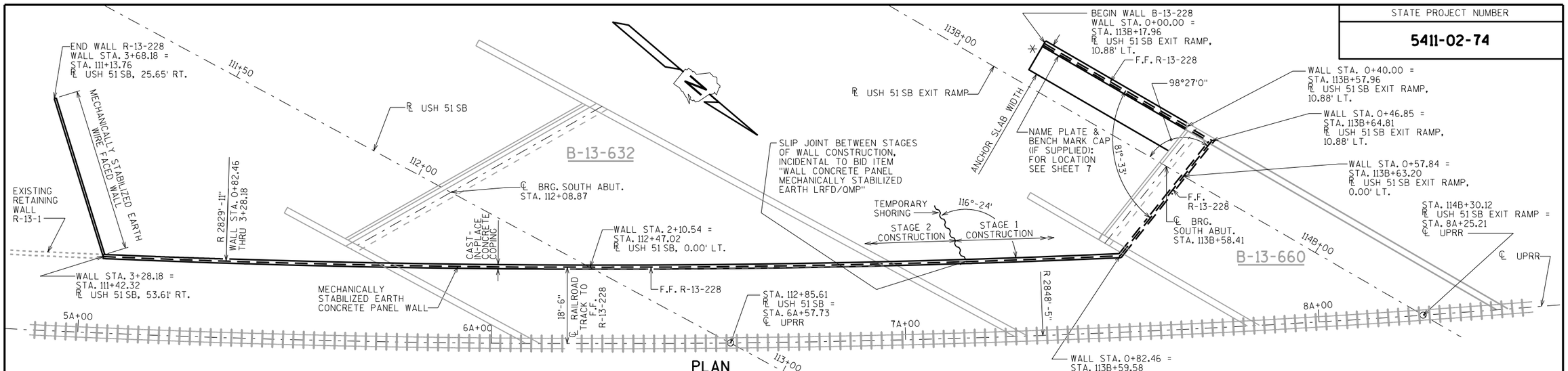
8

8

SCALE = 10

STATE PROJECT NUMBER

5411-02-74



PLAN

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATIONS
2. GENERAL NOTES, QUANTITIES, GEOMETRY, & DESIGN DATA
3. TYPICAL WALL SECTIONS
4. TYPICAL WALL SECTIONS
5. COPING DETAILS
6. ANCHOR SLAB DETAILS
7. SINGLE SLOPE PARAPET 32SS (MODIFIED) DETAILS
8. PIPE RAILING DETAILS
9. 4'-0" CHAIN LINK FENCE DETAILS
10. 8'-0" CHAIN LINK FENCE DETAILS
11. GEOTECHNICAL INFORMATION
12. SUBSURFACE EXPLORATION

ALLOWABLE WALL SYSTEMS

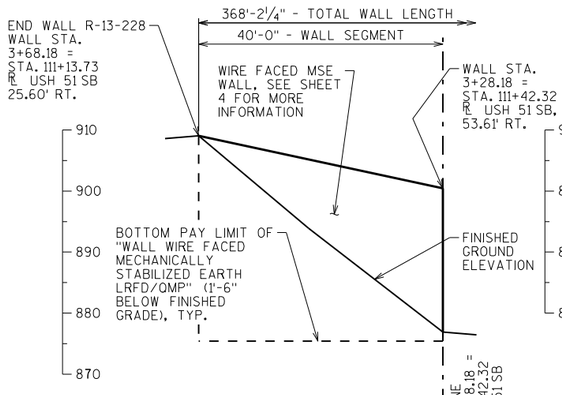
WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD

ULTIMATE DESIGN STRESSES

CONCRETE MASONRY, CAST-IN-PLACE CONCRETE TRAFFIC BARRIER & COPING: —— f'c = 3,500 P.S.I.

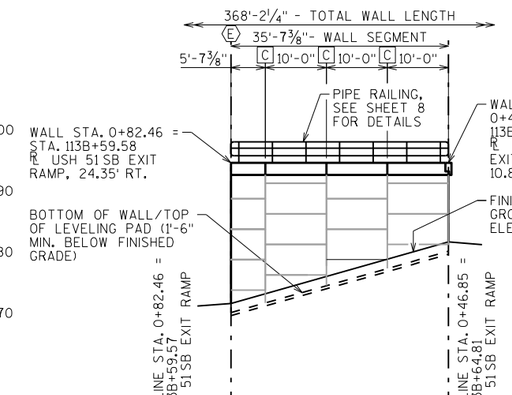
PRECAST CONCRETE WALL PANELS: —— f'c = 4,000 P.S.I.

BAR STEEL REINFORCEMENT, GRADE 60: —— fy = 60,000 P.S.I.



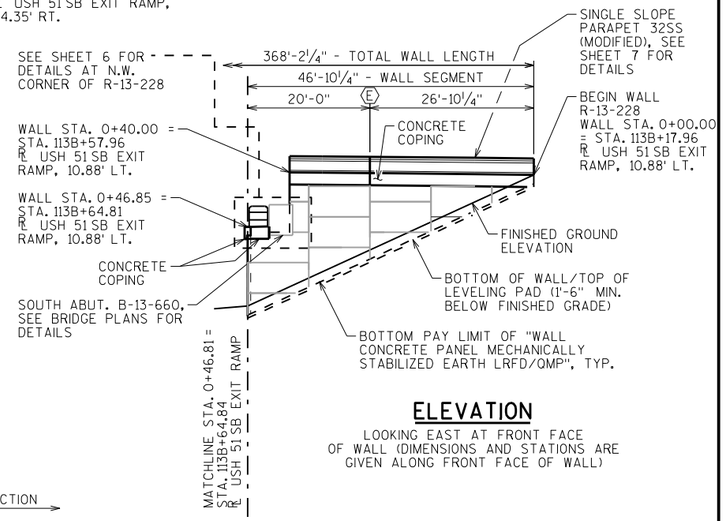
ELEVATION

LOOKING WEST AT FRONT FACE OF WALL (DIMENSIONS AND STATIONS ARE GIVEN ALONG FRONT FACE OF WALL)



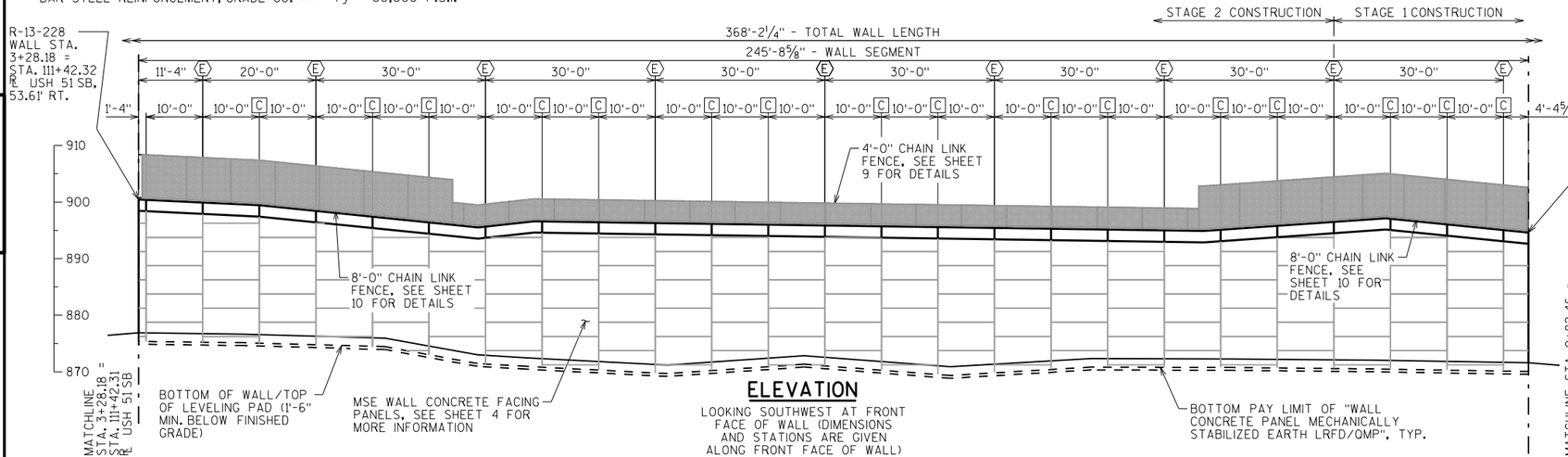
ELEVATION

LOOKING SOUTH AT FRONT FACE OF WALL (DIMENSIONS AND STATIONS ARE GIVEN ALONG FRONT FACE OF WALL)



ELEVATION

LOOKING EAST AT FRONT FACE OF WALL (DIMENSIONS AND STATIONS ARE GIVEN ALONG FRONT FACE OF WALL)



ELEVATION

LOOKING SOUTHWEST AT FRONT FACE OF WALL (DIMENSIONS AND STATIONS ARE GIVEN ALONG FRONT FACE OF WALL)

LEGEND

- (E) EXPANSION JOINT
- C CONTRACTION JOINT
- ✳ PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT - AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK"

STRUCTURE DESIGN CONTACTS:
VU THAO (608) 267-2869
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher KAR 08/18/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-13-228

WALL BTWN. B-13-632/660 S. ABUTS. & UNION PACIFIC RR/UNDER USH 51 SB & SB EXIT RAMP

COUNTY	CITY
DANE	MADISON

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
VT	AMB	DDS/AMB	VT

GENERAL PLAN & ELEVATIONS

SHEET 1 OF 12

540

I.D. 5411-02-04A

DATE: AUG 2014

SCALE = 12

8

8

STATE PROJECT NUMBER
5411-02-74

GEOMETRY TABLE

WALL STATION	℄ USH 51 SB EXIT RAMP STA.	℄ USH 51 SB STA.	℄ OFFSET TO F.F. OF WALL	TOP OF WALL ELEVATION	FINISHED GRADE ELEVATION
0+00.00	113B+17.96	--	10.88' LT.	903.15	903.15
0+09.65	113B+27.60	--	10.88' LT.	903.26	898.72
0+34.65	113B+52.60	--	10.88' LT.	903.50	887.26
0+40.00	113B+57.96	--	10.88' LT.	903.54	884.80
0+40.00	113B+57.96	--	10.88' LT.	893.68	884.80
0+43.46	113B+61.42	--	10.88' LT.	893.68	883.22
0+43.46	113B+61.42	--	10.88' LT.	894.68	883.22
0+46.85	113B+64.81	--	10.88' LT.	894.62	881.66
0+57.84	113B+63.20	--	0.00' LT.	894.62	878.56
0+82.46	113B+59.58	--	24.35' RT.	894.62	871.60
1+07.75	113B+38.23	--	37.91' RT.	897.13	872.02
1+09.65	113B+36.62	--	38.93' RT.	897.00	872.05
1+34.65	--	113+13.35	36.88' LT.	895.24	872.28
1+39.87	--	113+08.82	34.29' LT.	894.88	872.29
1+59.65	--	112+91.61	24.53' LT.	895.17	872.36
1+84.65	--	112+69.76	12.38' LT.	895.53	870.90
2+10.54	--	112+47.02	0.00' LT.	895.91	872.86
2+34.65	--	112+25.75	11.34' RT.	896.26	871.20
2+58.32	--	112+04.77	22.38' RT.	896.60	872.43
2+59.65	--	112+03.58	22.91' RT.	896.46	872.50
2+68.26	--	111+95.93	26.84' RT.	895.52	873.00
2+84.65	--	111+81.32	34.28' RT.	897.18	875.96
2+92.56	--	111+74.26	37.84' RT.	897.98	876.19
3+06.88	--	111+61.44	44.23' RT.	899.34	876.60
3+09.65	--	111+58.96	45.45' RT.	899.56	876.68
⬗ 3+28.18	--	111+42.32	53.61' RT.	900.45	876.91
⬗ 3+34.65	--	111+37.70	49.08' RT.	901.84	881.91
⬗ 3+59.65	--	111+19.83	31.59' RT.	907.21	901.86
⬗ 3+68.18	--	111+13.76	25.65' RT.	909.04	909.04

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER UNLESS OTHERWISE SHOWN OR NOTED.

ALL BAR STEEL REINFORCEMENT IS TO BE EPOXY COATED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

THE COST OF FURNISHING AND PLACING MSE BACKFILL WITHIN THE REINFORCED SOIL ZONE IS TO BE INCLUDED IN THE BID ITEMS "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP" AND "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP".

ALL OF THE RETAINING WALL STATIONING, OFFSETS, AND DIMENSIONS ARE GIVEN AT THE FRONT FACE OF WALL.

THESE PLANS ARE FOR A PRECAST CONCRETE PANEL MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL WITH A WIRE FACED MECHANICALLY STABILIZED EARTH RETAINING WALL SECTION.

THE QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON AN ASSUMED CONCRETE WALL PANEL THICKNESS OF 6 INCHES. FOR PANEL THICKNESSES DIFFERENT THAN 6 INCHES, THE CONTRACTOR SHALL VERIFY REINFORCEMENT BAR DETAILS AND QUANTITIES, AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF THIS WALL WITH THE CONSTRUCTION OF THE SOUTH ABUTMENTS OF BRIDGES B-13-660 AND B-13-632.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

THE COST OF FURNISHING AND PLACING THE UNREINFORCED CONCRETE LEVELING PAD UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

THE VOLUME OF EARTHWORK REQUIRED TO INSTALL THE UNREINFORCED CONCRETE LEVELING PAD, MSE PRECAST WALL PANELS, MSE BACKFILL, AND REINFORCING STRIPS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

THE QUANTITIES OF CONCRETE MASONRY AND BAR STEEL REINFORCEMENT FOR THE CAST-IN-PLACE COPING ARE PAID FOR UNDER THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

THE QUANTITIES OF CONCRETE MASONRY AND BAR STEEL REINFORCEMENT FOR THE CAST-IN-PLACE ANCHOR SLAB AND PARAPET ARE PAID FOR UNDER THE BID ITEMS "CONCRETE MASONRY RETAINING WALLS" AND "BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS" RESPECTIVELY.

THE PLAN QUANTITY FOR THE ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE UNREINFORCED LEVELING PAD TO THE TOP OF WALL AS SHOWN IN THE PLANS. THE TOP OF LEVELING PAD IS SET 1'-6" BELOW FINISHED GRADE. WALL AREAS CONSTRUCTED OUTSIDE THESE LIMITS WILL NOT BE MEASURED FOR PAYMENT.

GENERAL NOTES CONT'D

THE PLAN QUANTITY FOR THE ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP" IS BASED ON A WALL HEIGHT MEASURED FROM 1'-6" BELOW THE FINISHED GRADE ELEVATION AT STA. 3+28.18 TO THE TOP OF WALL AS SHOWN IN THE PLANS. WALL AREAS CONSTRUCTED OUTSIDE THESE LIMITS WILL NOT BE MEASURED FOR PAYMENT.

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE EXPOSED TOP OF ANCHOR SLAB SURFACE AND TO THE FRONT FACE AND TOP OF THE PARAPET.

THE UPPER LIMITS OF EXCAVATION FOR THIS STRUCTURE SHALL BE THE EXISTING GROUND LINE.

OVER EXCAVATE BELOW THE LEVELING PAD AS DIRECTED BY THE FIELD ENGINEER TO REMOVE ANY UNSUITABLE MATERIAL. WORK SHALL BE COVERED UNDER THE BID ITEM "EXCAVATION FOR STRUCTURES RETAINING WALLS R-13-229". BACKFILL REMOVAL AREAS WITH GRANULAR BACKFILL.

DESIGN DATA

THE RETAINING WALL SHALL BE DESIGNED USING THE ELEVATIONS GIVEN ON THESE SHEETS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL, AS SHOWN.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS AND A LIVE LOAD VERTICAL SURCHARGE OF 240 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFED TEST VALUES.

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	QUANTITY	UNIT
	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS R-13-228	1	LS
	502.3200	PROTECTIVE SURFACE TREATMENT	20	SY
#	504.0500	CONCRETE MASONRY RETAINING WALLS	20	CY
#	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	2140	LB
	511.1200	TEMPORARY SHORING R-13-228	338	SF
	513.2000	RAILING PIPE R-13-228	1	LS
◔	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	2	SY
◭	517.1010.S	CONCRETE STAINING R-13-228	7509	SF
☆	517.1050.S	ARCHITECTURAL SURFACE TREATMENT R-13-228	7159	SF
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	375	LF
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	1	EACH
	SPV.0090	FENCE CHAIN LINK POLYMER COATED 4-FT.	132	LF
	SPV.0090	FENCE CHAIN LINK POLYMER COATED 8-FT.	114	LF
	SPV.0165	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP	7159	SF
	SPV.0165	WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP	1174	SF
		NON-BID ITEMS		
		EXPANDED POLYSTYRENE	1"	SIZE
		PREFORMED FILLER	3/4" & 1"	SIZE
		CORK FILLER	1"	SIZE
		JOINT SEALER	1"	SIZE

⬗ WIRE FACED WALL (MSE) SHOULD BE PLACED AS SHOWN ON GENERAL PLAN & ELEVATIONS SHEET

\# QUANTITY INCLUDES ANCHOR SLAB AND SINGLE SLOPE PARAPET 32SS

◔ QUANTITY INCLUDES RUBBERIZED MEMBRANE WATERPROOFING PLACED ALONG THE ANCHOR SLAB (AND NOT AT THE TYPICAL COPING JOINTS)

◭ CONCRETE STAINING SHALL BE APPLIED TO THE EXTERIOR FACE OF PARAPETS, ALL EXPOSED FACES OF TYPICAL COPINGS, EXTERIOR FACE OF ANCHOR SLAB AND COPING, AND MSE WALL CONCRETE FACING PANELS DOWN TO A MIN. OF 1'-6" BELOW FINISHED GRADE

☆ SEE SHEET 4 FOR ARCHITECTURAL SURFACE TREATMENT INFORMATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-228

DRAWN BY AMB | PLANS CK'D. VT

GENERAL NOTES, QUANTITIES, GEOMETRY, & DESIGN DATA

SHEET 2

541

SCALE = 24.0

8

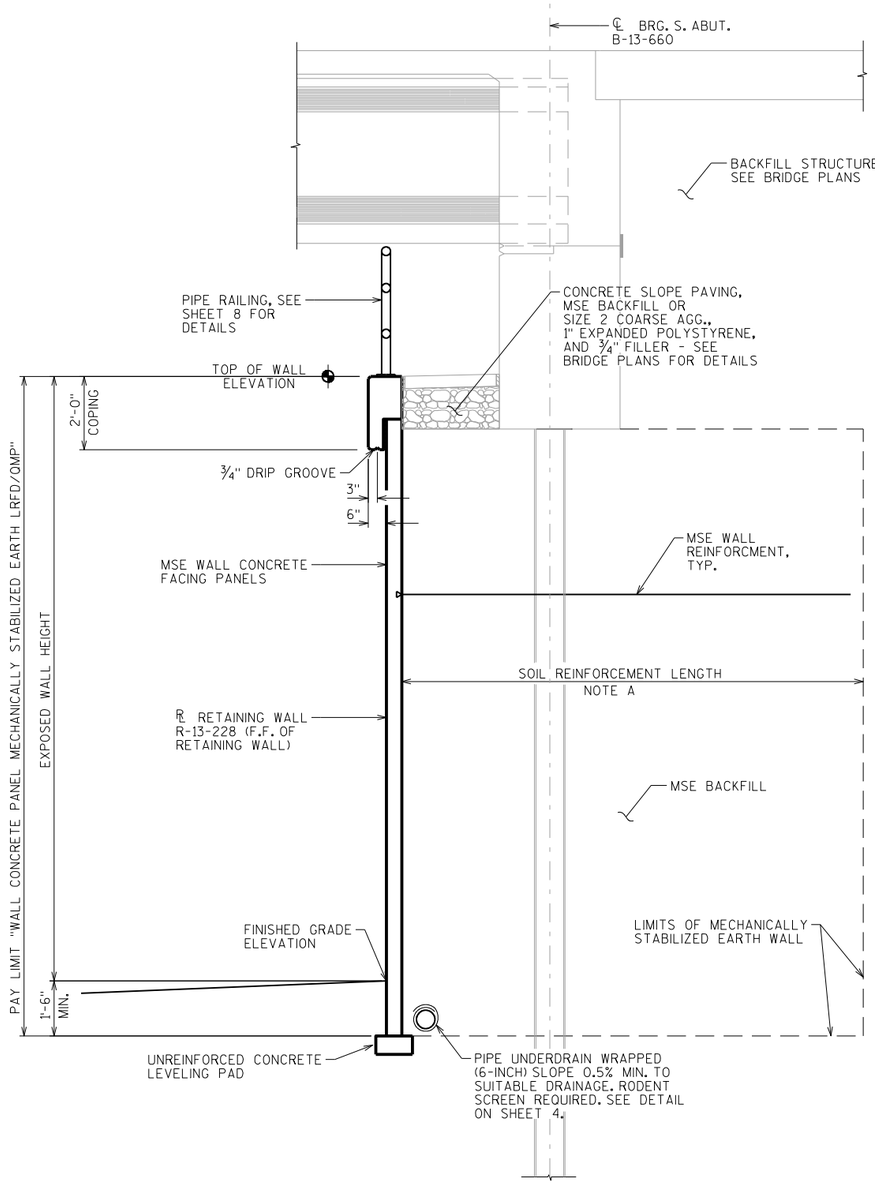
8

STATE PROJECT NUMBER

5411-02-74

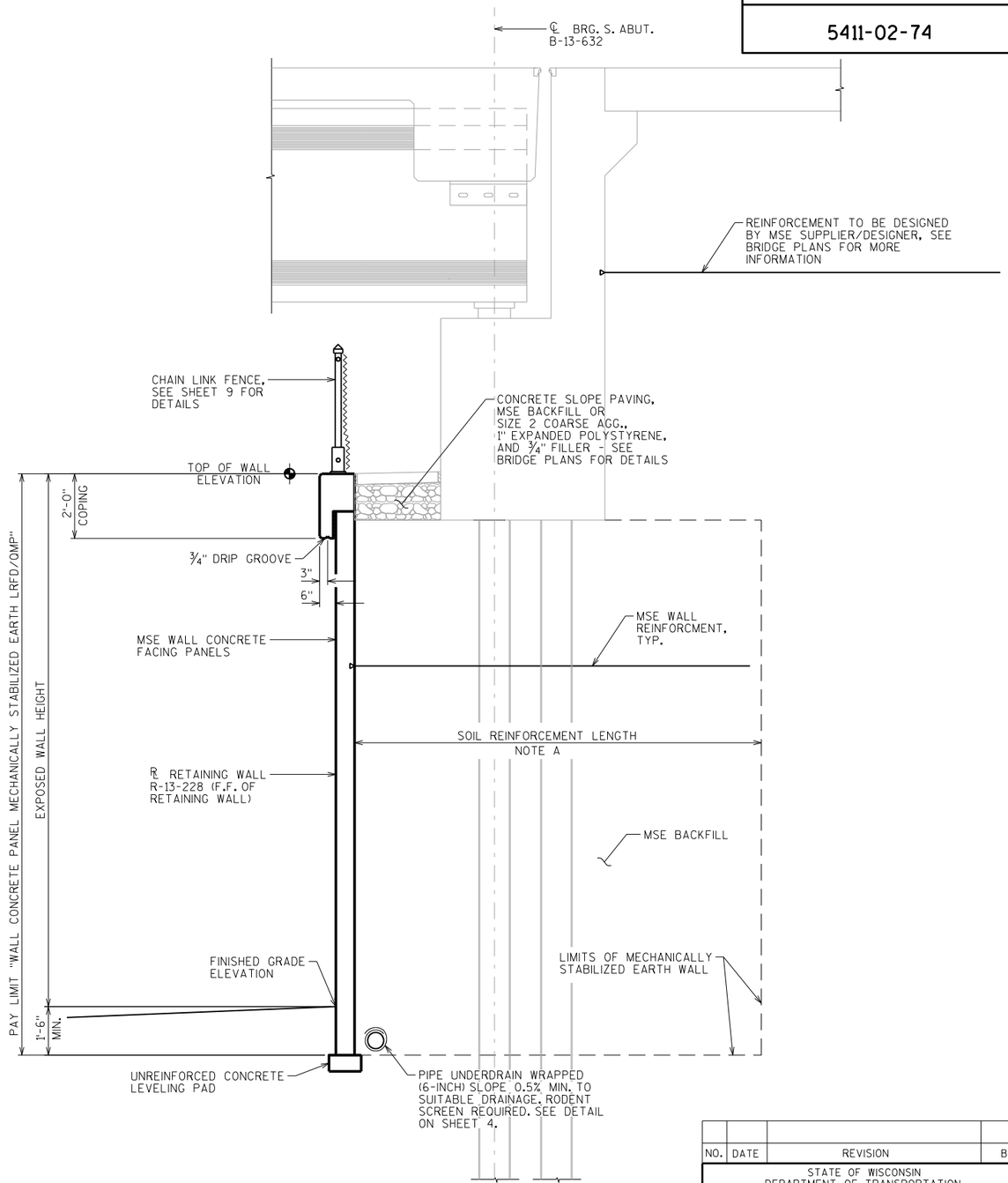
NOTE A:

SEE "WALL EXTERNAL STABILITY EVALUATION" TABLE ON SHEET 11 FOR MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS, SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.



TYPICAL SECTION AT B-13-660

(LOOKING EAST)



TYPICAL SECTION AT B-13-632

(LOOKING EAST)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-228

DRAWN BY AMB | PLANS CK'D. VT

TYPICAL WALL SECTIONS

SHEET 3

542

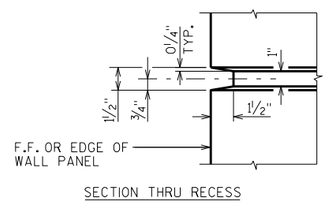
SCALE = 2

STATE PROJECT NUMBER

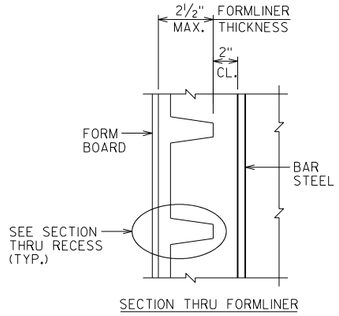
5411-02-74

CONC. STAINING COLOR SCHEME

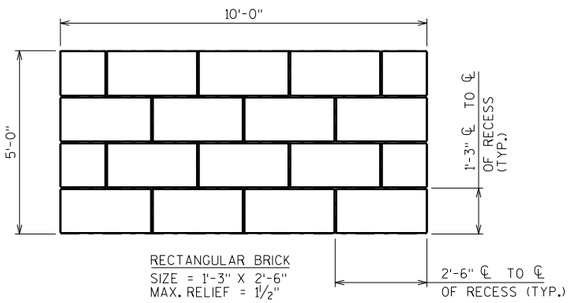
A	PEARL GRAY - FEDERAL COLOR # 26622



SECTION THRU RECESS



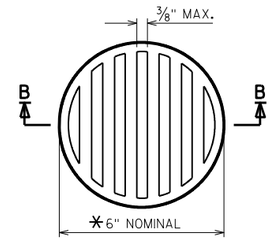
SECTION THRU FORMLINER

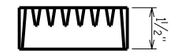


RECTANGULAR BRICK
SIZE = 1'-3" X 2'-6"
MAX. RELIEF = 1½"

FORMLINER DETAILS

ARCHITECTURAL SURFACE TREATMENT TO BE APPLIED TO ALL FRONT FACES OF WALL PANELS, TYP. (WRAP AROUND/MATCH FORMLINER PATTERN AT CORNERS)





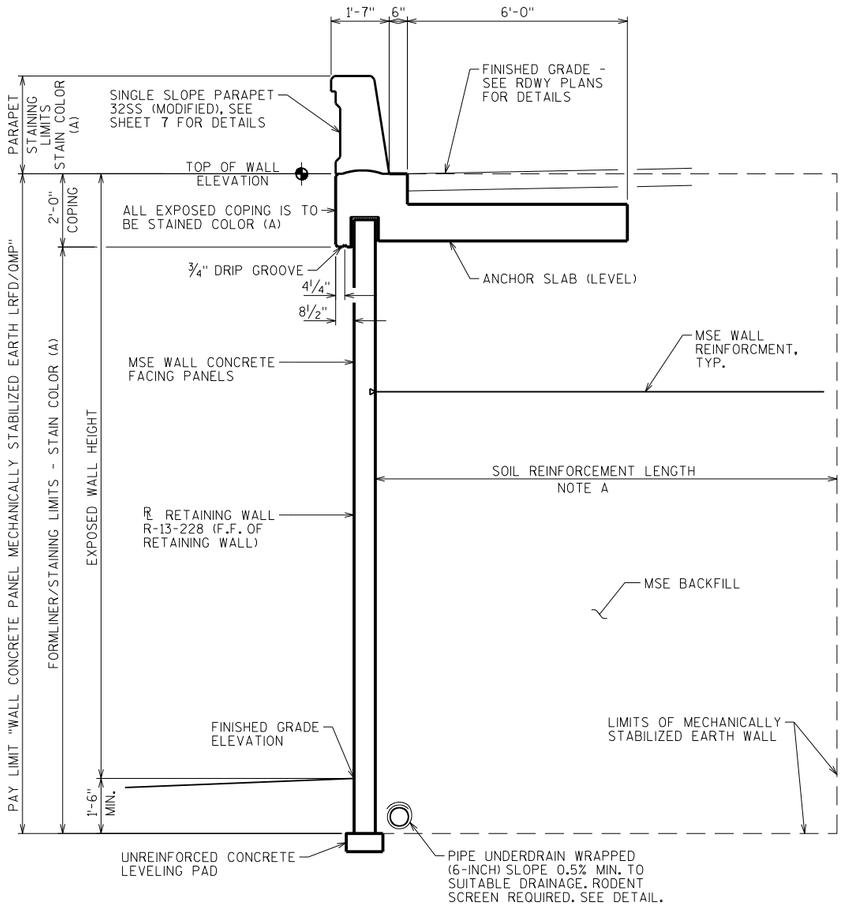
SECTION B-B

RODENT SCREEN DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

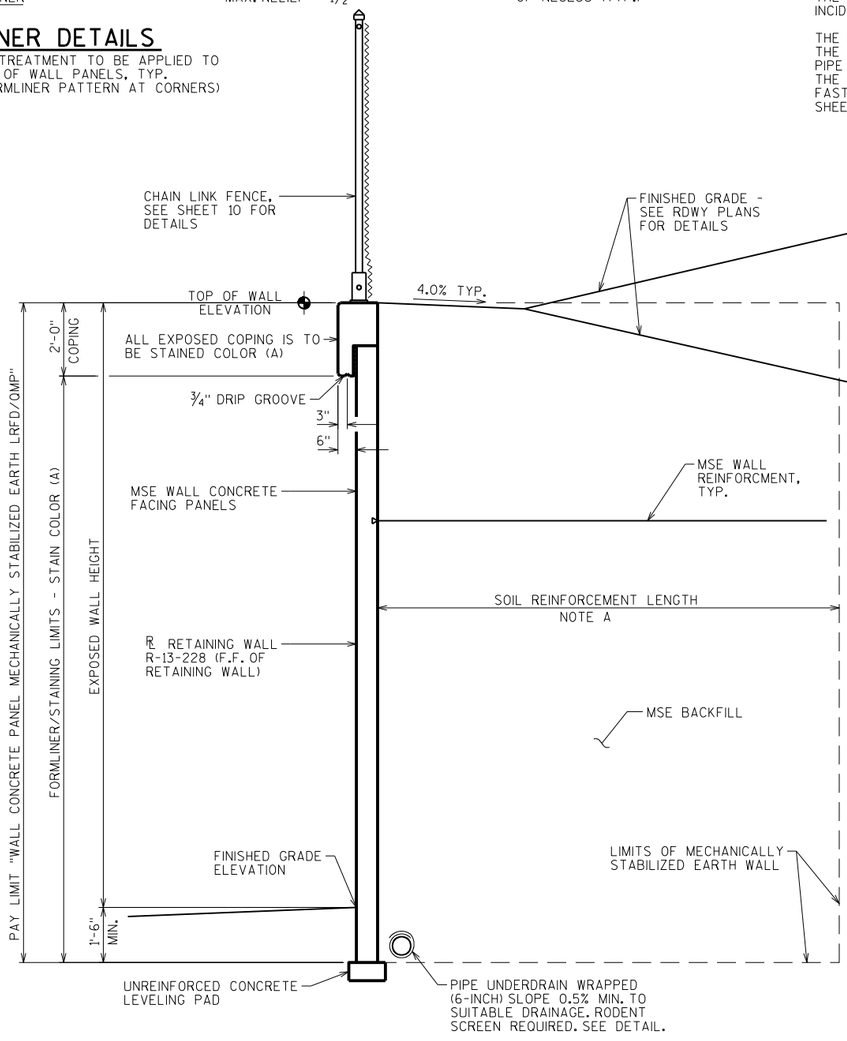
THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH SHEET METAL SCREWS.



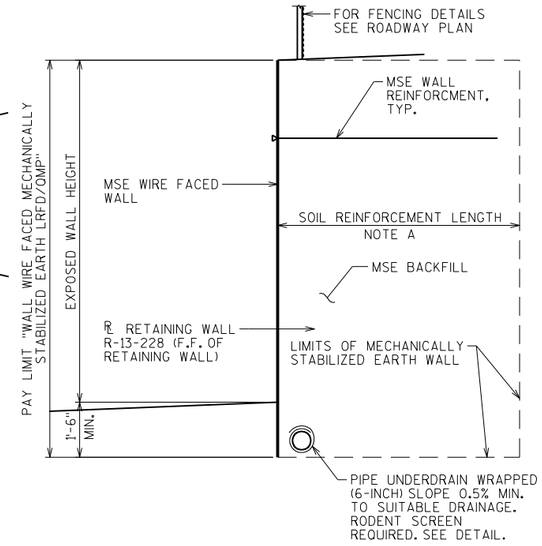
TYPICAL SECTION ALONG USH 51 SB EXIT RAMP

(LOOKING NORTH)



TYPICAL SECTION BETWEEN B-13-632 & B-13-660

(LOOKING EAST)



TYPICAL SECTION @ MSE WIRE FACED WALL

(LOOKING SOUTH)

NOTE A:

SEE "WALL EXTERNAL STABILITY EVALUATION" TABLE ON SHEET 11 FOR MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-228

DRAWN BY AMB | PLANS CK'D. VT

TYPICAL WALL SECTIONS

SHEET 4

543

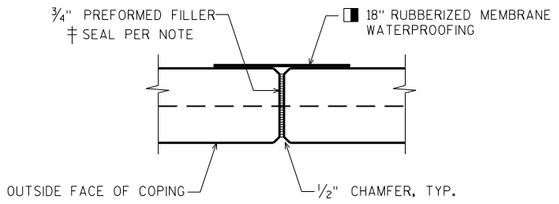
SCALE = 2

8

8

STATE PROJECT NUMBER

5411-02-74

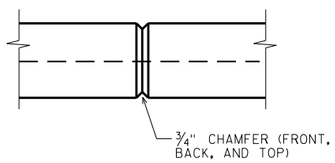


CAST-IN-PLACE COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 50'

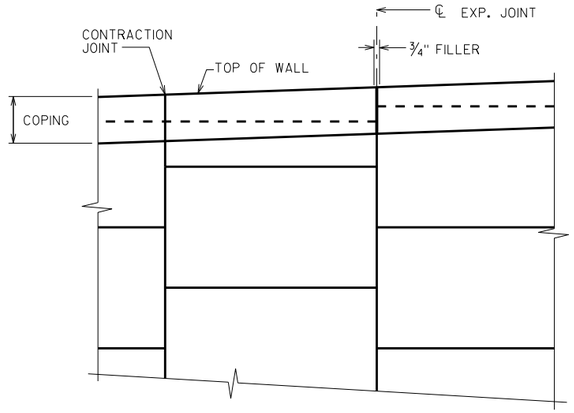
◨ MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)



CAST-IN-PLACE COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 12'



NOTES:

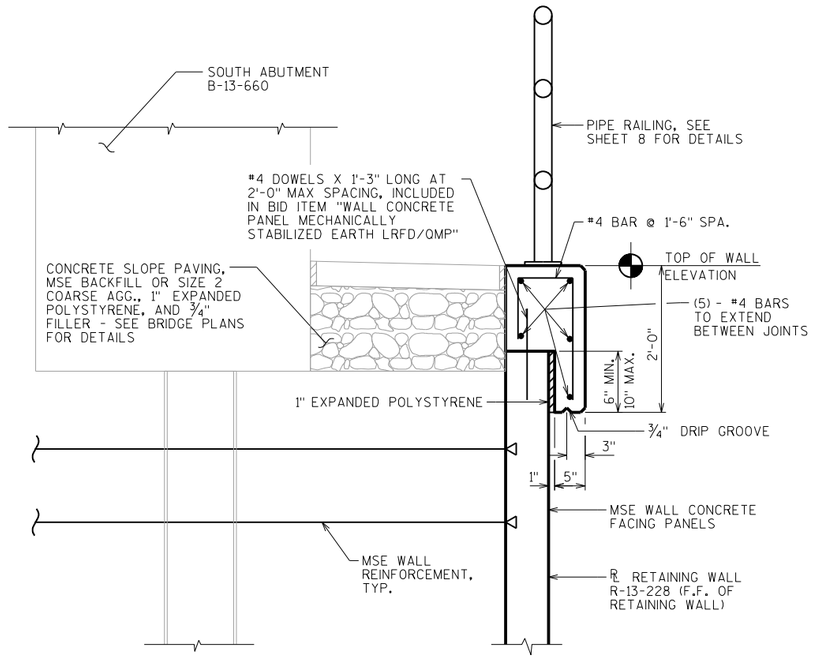
1) ALL JOINTS MUST COINCIDE WITH WALL PANEL JOINT ON FRONT FACE WHERE BOTTOM OF LIP INTERSECTS WITH WALL PANEL JOINT.

2) PIPE RAILING AND CHAIN LINK FENCING NOT SHOWN FOR CLARITY.

3) PANELS SHALL BE NOMINAL 5'-0" (H) X 10'-0" (W) OR SIM. BASED ON SUPPLIER NOMINAL PANEL DIMS.

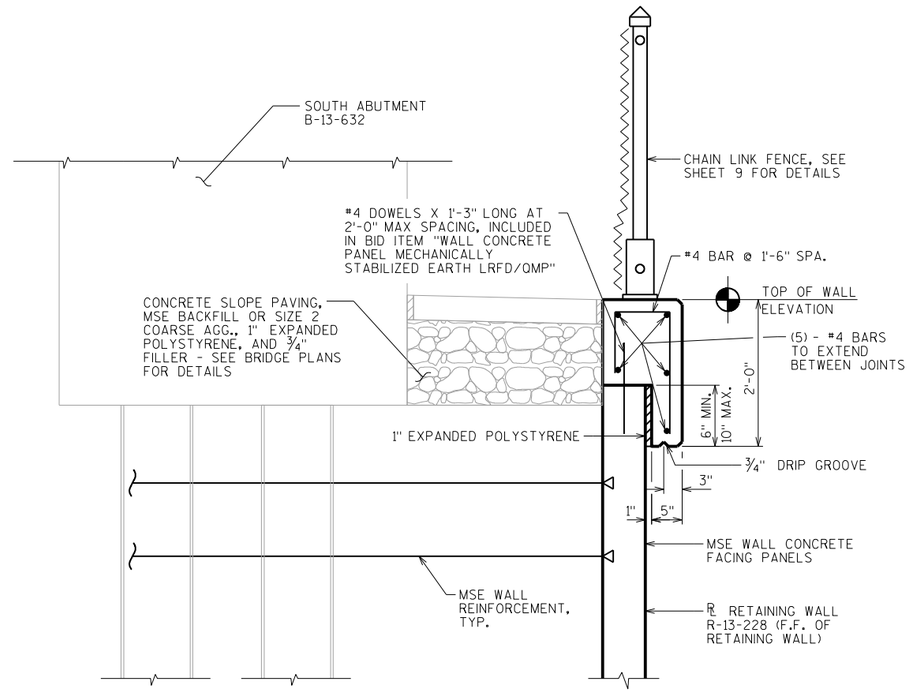
4) SEE GENERAL PLAN & ELEVATIONS SHEET FOR LOCATION OF CONTRACTION AND EXPANSION JOINTS. JOINTS SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY.

CAST-IN-PLACE COPING & WALL PARTIAL ELEVATION



TYPICAL SECTION CAST-IN-PLACE COPING DETAIL

(SECTION @ B-13-660)



TYPICAL SECTION CAST-IN-PLACE COPING DETAIL

(SECTION @ B-13-632)

NOTE:
SEE GENERAL PLAN SHEET FOR LOCATION OF CONTRACTION/ EXPANSION JOINTS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-228

DRAWN BY AMB | PLANS CK'D. VT

COPING DETAILS

SHEET 5

544

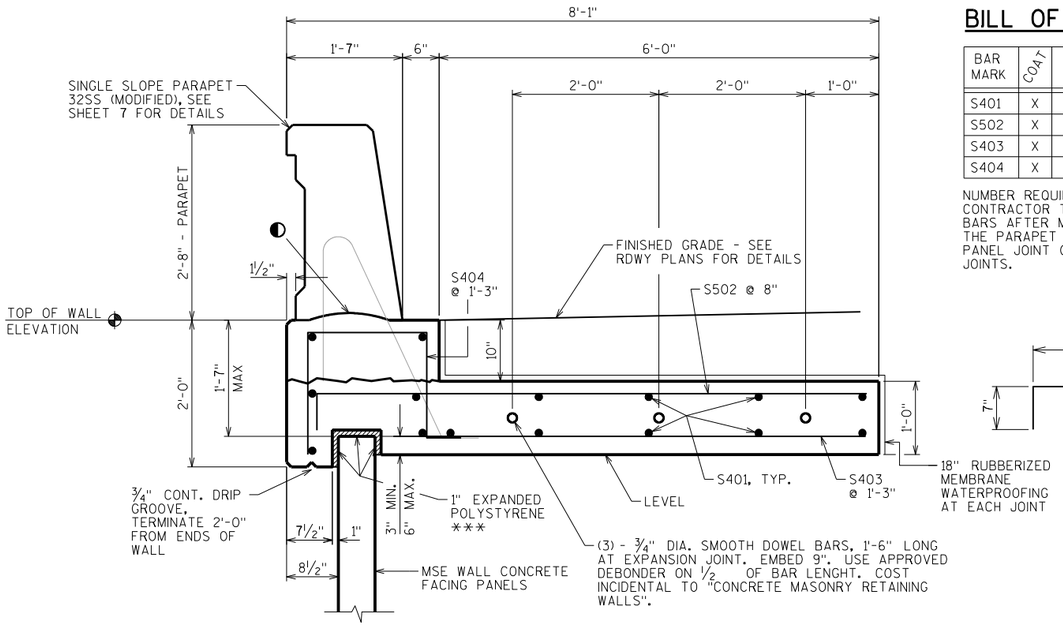
8

8

SCALE =

STATE PROJECT NUMBER

5411-02-74



TYPICAL SECTION OF ANCHOR SLAB

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPET AND ANCHOR SLAB BETWEEN EXPANSION JOINTS MAY BE USED. RUN BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS IN PARAPET A MINIMUM OF 1'-9". DEFINE CONSTRUCTION JOINT WITH A ¾" "V" GROOVE.

LAP LONGITUDINAL #4 BARS A MINIMUM OF 1'-0"

ALL BAR STEEL SHALL BE EPOXY COATED

CONCRETE QUANTITY BASED ON 3" PANEL EMBEDMENT & 6" PANEL THICKNESS.

*** INCIDENTAL TO THE BID ITEM CONCRETE MASONRY RETAINING WALLS

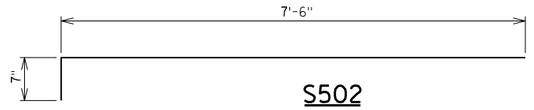
BILL OF BARS

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

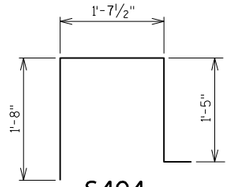
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	15	39'-8"			CONC. BARRIER - LONGITUDINAL
S502	X	59	8'-0"	X		CONC. BARRIER - TRANSVERSE
S403	X	32	6'-5"			CONC. BARRIER - TRANSVERSE
S404	X	32	4'-11"	X		CONC. BARRIER - VERTICAL

NUMBER REQUIRED AND LENGTH SHOWN FOR QUANTITY PURPOSES ONLY. CONTRACTOR TO DETERMINE ACTUAL LENGTHS AND NUMBER OF S401 BARS AFTER M.S.E. PANELS HAVE BEEN LAID OUT BY THE WALL SUPPLIER. THE PARAPET AND ANCHOR SLAB EXPANSION JOINTS MUST COINCIDE WITH PANEL JOINT ON FRONT FACE. PROVIDE 2" CLEAR COVER AT EXPANSION JOINTS.

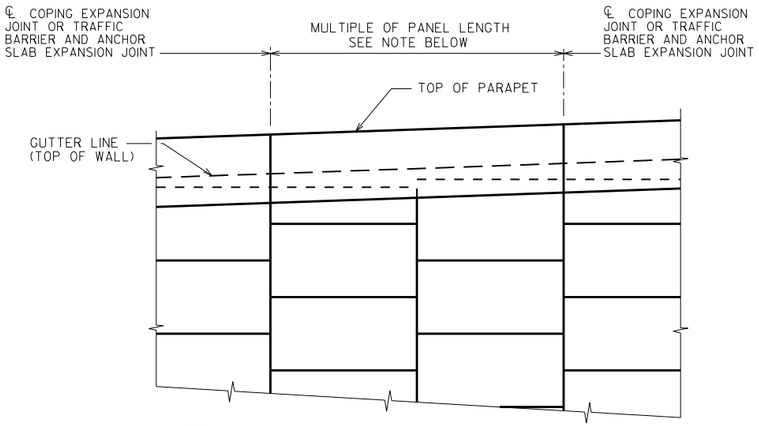
NOTE: ASSUMED PANEL THICKNESS OF 6" USED WHEN DETERMINING BAR DIMENSIONS



S502

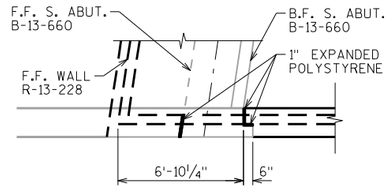


S404

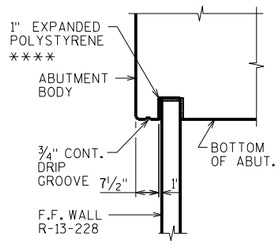


NOTE:
ALL JOINTS SHALL BE LOCATED AS SHOWN ON THE WALL ELEVATIONS AND MUST COINCIDE WITH PANEL JOINT ON FRONT FACE.

CAST-IN-PLACE TRAFFIC BARRIER & WALL PARTIAL ELEVATION

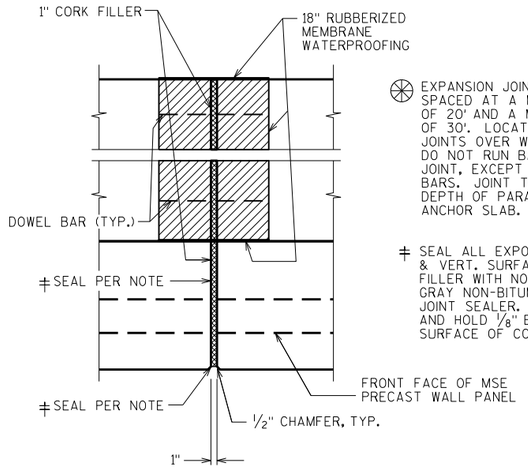


SECTION B-B



SECTION A-A

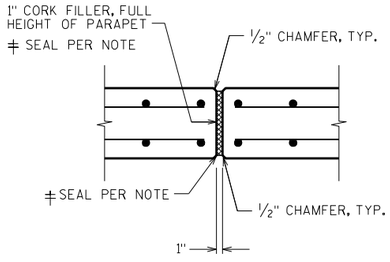
**** INCIDENTAL TO THE BID ITEM CONCRETE MASONRY BRIDGES (B-13-660)



⊛ EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 20' AND A MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.

ǂ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

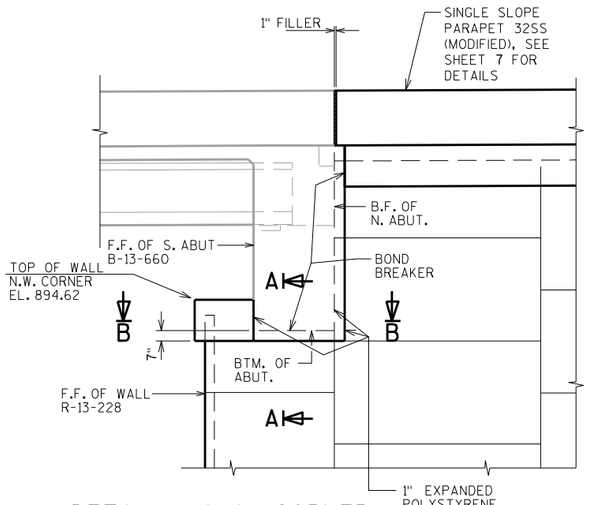
⊛ ANCHOR SLAB EXPANSION JOINT DETAIL



⊛ TRAFFIC BARRIER EXPANSION JOINT DETAIL

⊛ EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 20' AND A MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT. EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.

ǂ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)



DETAIL @ N.W. CORNER OF R-13-228

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-228

DRAWN BY AMB | PLANS CK'D. VT

ANCHOR SLAB DETAILS

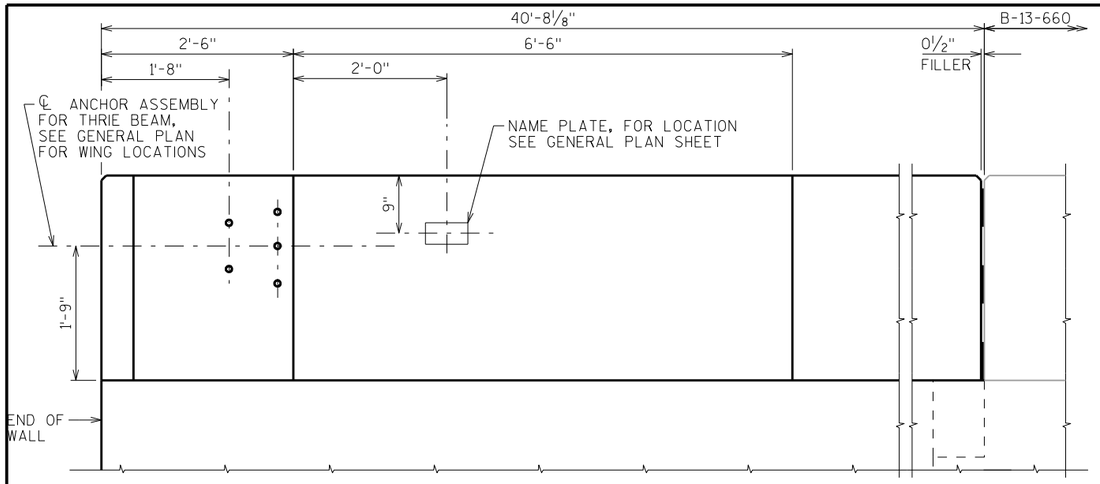
SHEET 6

545

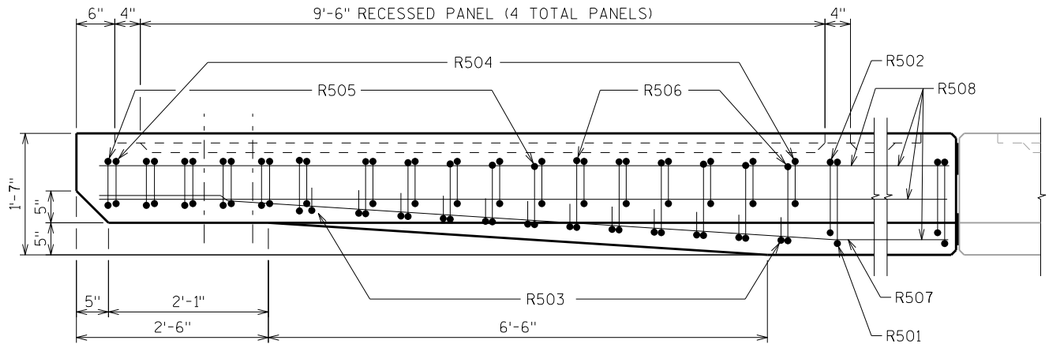
SCALE =1

8

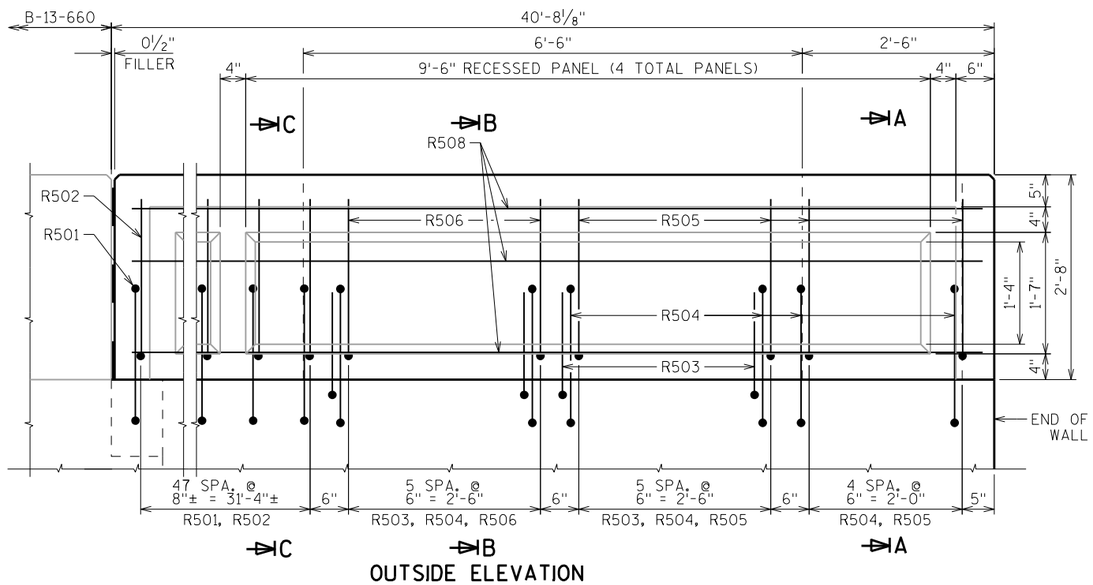
8



INSIDE ELEVATION



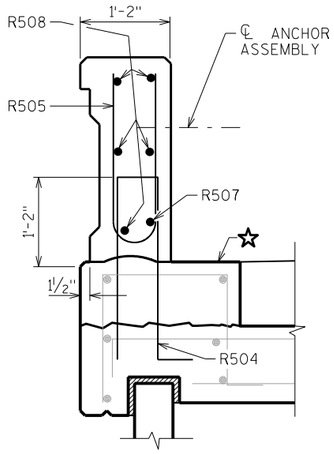
PLAN



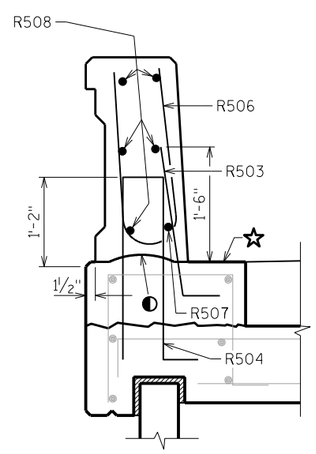
OUTSIDE ELEVATION

◐ CONST. JOINT - STRIKE OFF AS SHOWN

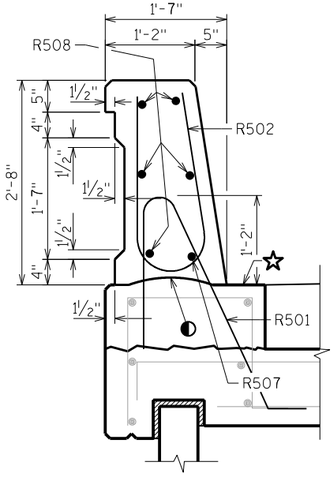
☆ FINISH SURFACE NOT COVERED BY PARAPET TO BE SAME AS ROADWAY



SECTION A-A



SECTION B-B

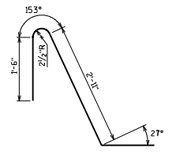


SECTION C-C

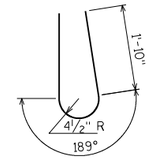
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
R501	X	48	5-7	X	PARAPET VERT.
R502	X	48	5-0	X	PARAPET VERT.
R503	X	12	3-7	X	PARAPET VERT.
R504	X	17	5-6	X	PARAPET VERT.
R505	X	11	4-9	X	PARAPET VERT.
R506	X	6	4-10	X	PARAPET VERT.
R507	X	1	40-4	X	PARAPET HORIZ.
R508	X	5	40-4		PARAPET HORIZ.

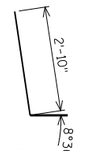
NUMBER REQUIRED AND LENGTH SHOWN ARE FOR QUANTITY PURPOSES ONLY. CONTRACTOR TO DETERMINE ACTUAL LENGTHS AND NUMBER OF R507 AND R508 BARS AFTER M.S.E. PANELS HAVE BEEN LAID OUT BY THE WALL SUPPLIER. THE PARAPET, ANCHOR SLAB, AND COPING EXPANSION JOINTS MUST COINCIDE WITH PANEL JOINT ON FRONT FACE. PROVIDE 2" CLEAR COVER AT EXPANSION JOINTS.



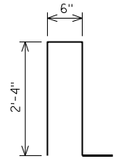
R501



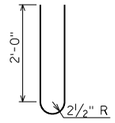
R502



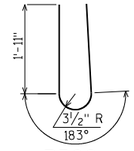
R503



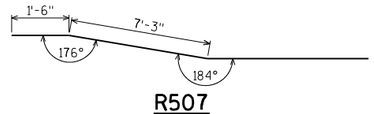
R504



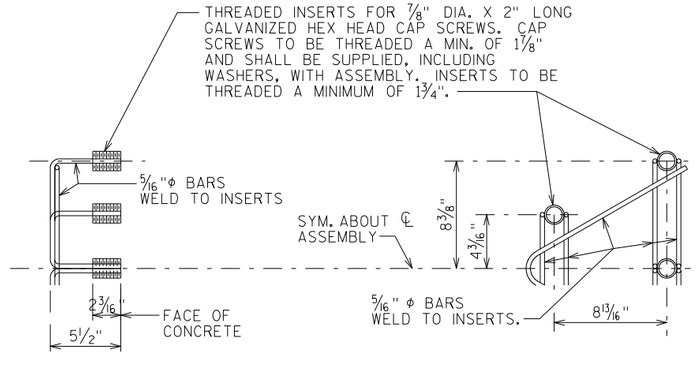
R505



R506



R507



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

STATE PROJECT NUMBER

5411-02-74

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-228

DRAWN BY AMB | PLANS CK'D. VT

SINGLE SLOPE PARAPET 32SS (MODIFIED) DETAILS

SHEET 7

546

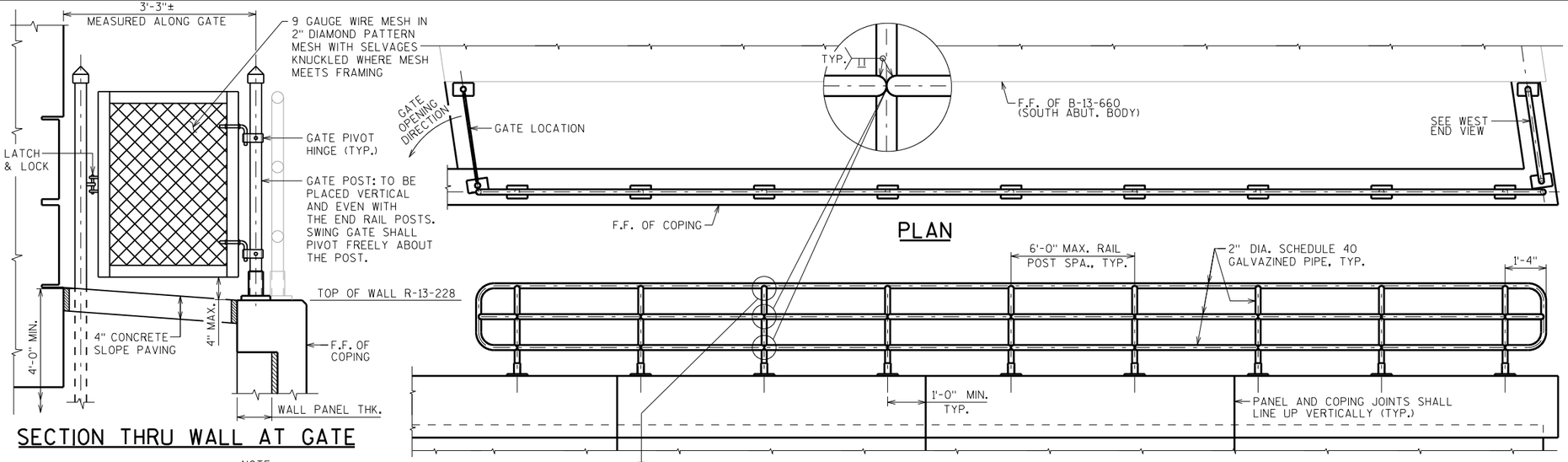
SCALE = 1:1

8

8

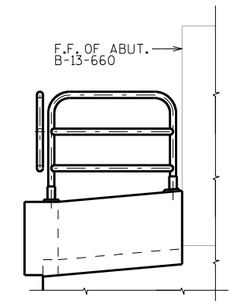
STATE PROJECT NUMBER

5411-02-74

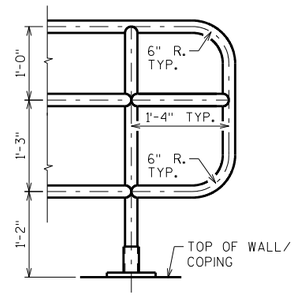


SECTION THRU WALL AT GATE

ELEVATION - LOOKING SOUTH

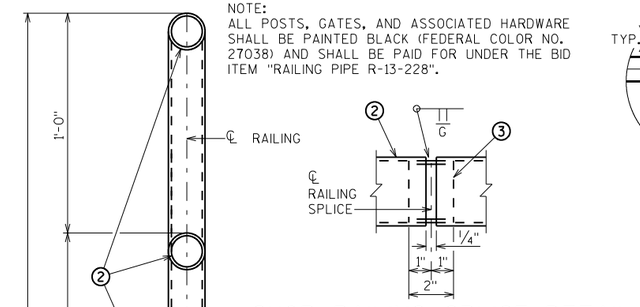


WEST END VIEW



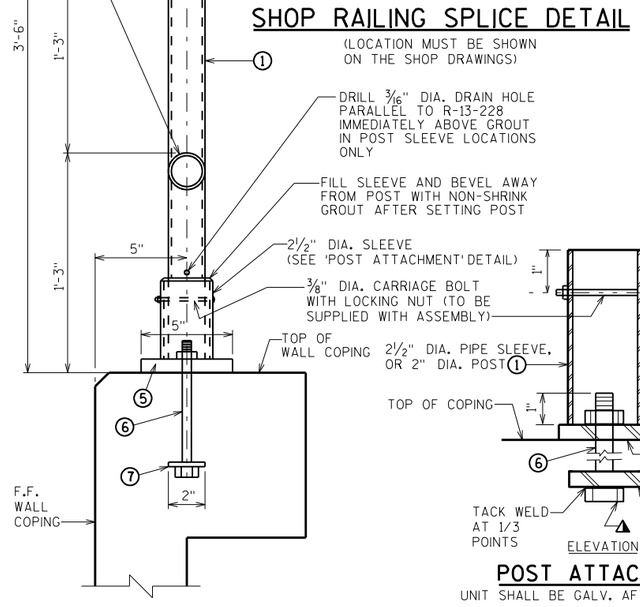
TYPICAL END DETAIL

NOTE:
ALL POSTS, GATES, AND ASSOCIATED HARDWARE SHALL BE PAINTED BLACK (FEDERAL COLOR NO. 27038) AND SHALL BE PAID FOR UNDER THE BID ITEM "RAILING PIPE R-13-228".

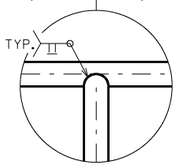


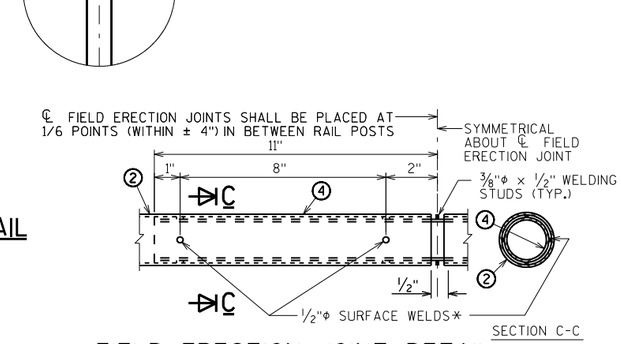
SHOP RAILING SPLICE DETAIL

(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



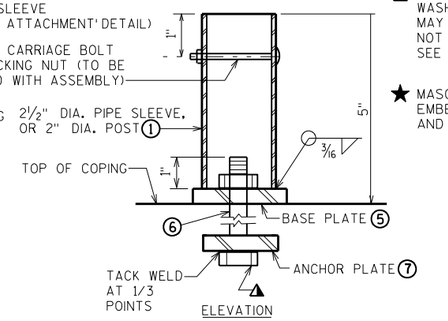
SECTION THRU RAILING





FIELD ERECTION JOINT DETAIL

* MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE



ELEVATION

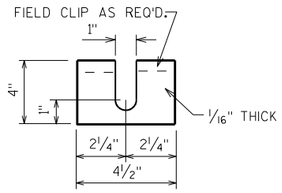
POST ATTACHMENT

UNIT SHALL BE GALV. AFTER FABRICATION

NOTE:
IN LIEU OF USING THE 2 1/2" DIA. SLEEVE, THE 2" DIA. RAIL POST MAY BE WELDED TO THE BASE PLATE

▲ 1/2" DIA. X 6 7/8" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. TYPE S. 1/2" DIA. CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR 1/2" DIA. BOLTS. ANCHOR PLATE NOT REQUIRED WHEN TYPE S ANCHORS ARE USED. SEE NOTE ★.

★ MASONRY ANCHOR TYPE S, 1/2". 6" MIN. EMBEDMENT (LENGTH OF ANCHOR, WASHER, AND NUT SHALL BE GALVANIZED)



POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST.

GENERAL NOTES

BID ITEM SHALL BE "RAILING PIPE R-13-228", WHICH INCLUDES ALL ITEMS SHOWN.

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

FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS ALSO A CONCRETE COPING EXPANSION JOINT IN BETWEEN RAIL POSTS.

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

ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 7) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

DRILL DRAIN HOLES PRIOR TO GALVANIZING.

ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.

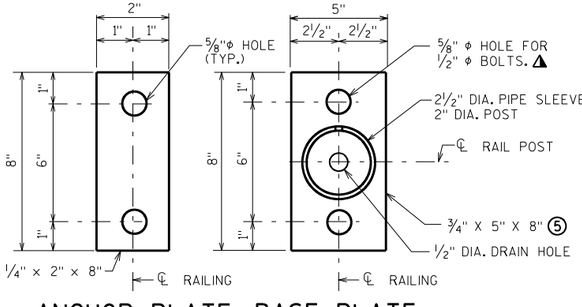
ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.

PLACE ALL NUTS ON OUTSIDE OF POSTS.

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

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS IN POST SHIMS AND BASE PLATES WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.

ALL RAILINGS, POSTS AND ASSOCIATED HARDWARE SHALL BE PAINTED BLACK (FEDERAL COLOR NO. 27038).



ANCHOR PLATE BASE PLATE

LEGEND

(1) 2" DIA. NOMINAL STEEL PIPE FOR POSTS: CUT BOTTOM OF POST TO MATCH TOP OF CONCRETE. POSTS ARE TO BE SET VERTICAL.

(2) 2" DIA. NOMINAL STEEL PIPE FOR RAILS: WELD TO NO. 1

(3) 1 1/2" DIA. PIPE SLEEVE FOR NO. 2. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 2 1/16".

(4) 1 1/2" DIA. PIPE SLEEVE x 1'-10" LONG FOR NO. 2. PROVIDE 1/2" DIA. SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE 3/8" DIA. x 1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.

(5) PLATE 3/4" x 5" x 8", WITH 5/8" DIA. HOLE FOR ANCHOR BOLTS NO. 6. WELD TO NO. 1 OR PIPE SLEEVE AS SHOWN.

(6) A325 - 1/2" DIA. x 6 7/8" LONG HEX BOLTS (GALVANIZED) WITH A325 NUT AND WASHER. 2 REQ'D PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 5. CHAMFER TOP OF BOLTS BEFORE THREADING.

(7) 1/4" x 2" x 8" FLAT BAR, WITH 5/8" DIA. HOLES FOR ANCHOR BOLTS NO. 6.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-228

DRAWN BY AMB | PLANS CK'D. VT

PIPE RAILING DETAILS

SHEET 8

547

SCALE = 2.0

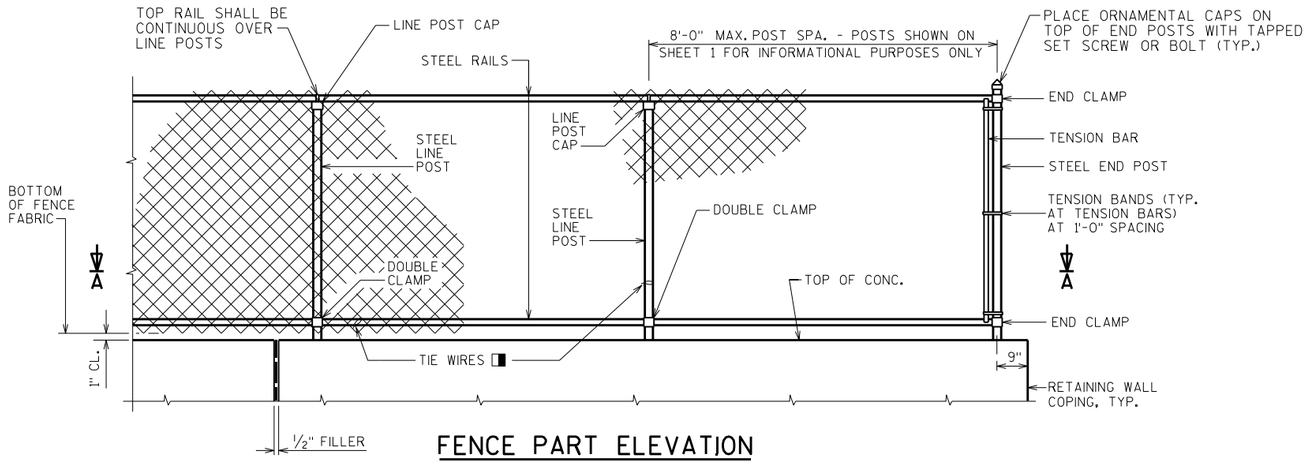
8

8

STATE PROJECT NUMBER

5411-02-74

NOTE:
4' CHAIN LINK FENCE TO EXTEND BETWEEN WALL STA. 1+39.87 AND 2+58.32

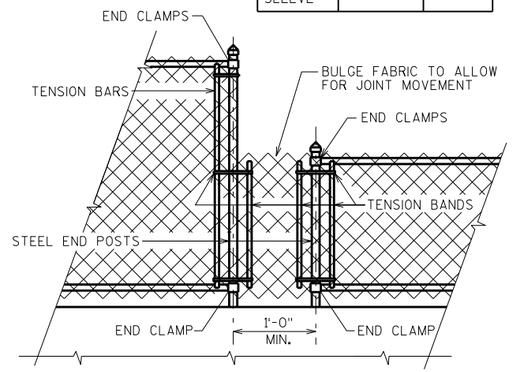


FENCE PART ELEVATION

VIEWING FABRIC SIDE

FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12



FENCING TRANSITIONS

TYP.

GENERAL NOTES

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL WITH A COLORED POLYMER-COATING ON THE OUTSIDE.

FABRIC SHALL CONFORM TO ASTM F668, CLASS 2B. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626. SEE THE "BRIDGE SPECIAL PROVISIONS" FOR ADDITIONAL DETAILS.

THE COLOR OF POLYMER-COATING FOR THIS STRUCTURE SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

THE BID ITEM SHALL BE "FENCE CHAIN LINK POLYMER-COATED 4- FT.", LF.

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

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

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

◪ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

✳ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

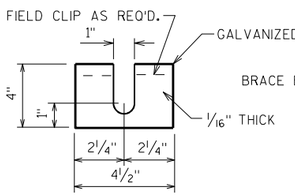
◭ ½" DIA. X 6⅞" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. TYPE "S" ½" DIA. CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR ½" DIA. BOLTS. ANCHOR PLATE NOT REQUIRED WHEN TYPE "S" ANCHORS ARE USED. SEE ✩

✩ MASONRY ANCHOR TYPE S ½-INCH. EMBED 6" IN CONCRETE. ANCHOR, WASHER, AND NUT SHALL BE GALVANIZED.

◨ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

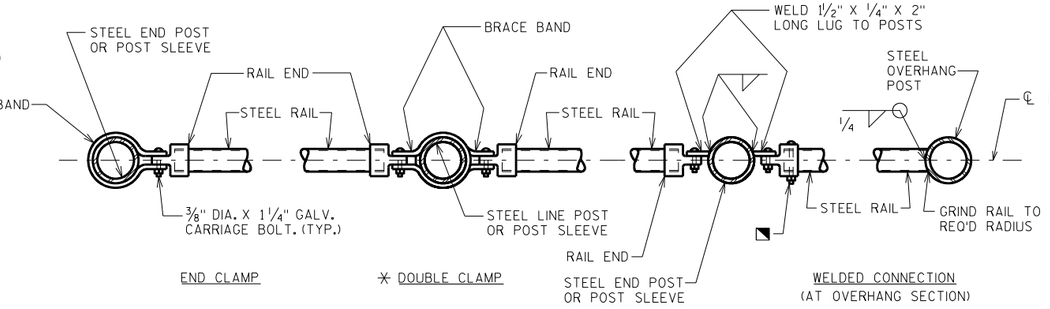
◹ BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR ¼ POINT OF POST SPACING.



POST SHIM DETAILS

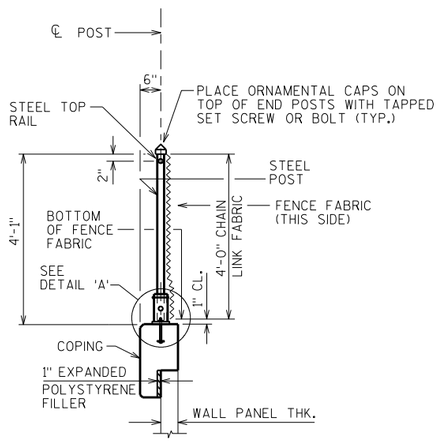
SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



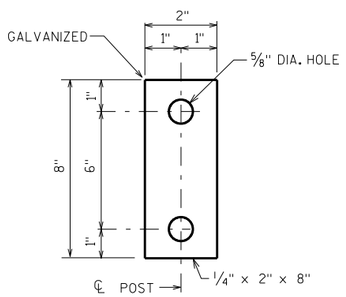
END CLAMP ✳ DOUBLE CLAMP WELDED CONNECTION (AT OVERHANG SECTION)

SECTION A-A

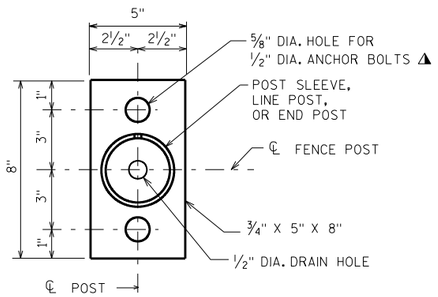
NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS



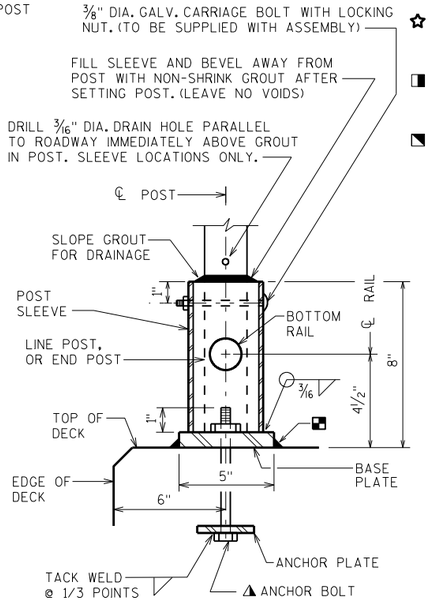
SECTION THRU FENCE



ANCHOR PLATE



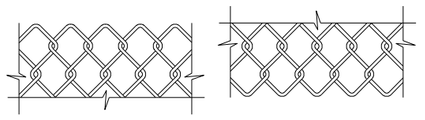
BASE PLATE



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.



TOP DETAIL BOTTOM DETAIL

FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-228

DRAWN BY AMB | PLANS CK'D. VT

4'-0" CHAIN LINK FENCE DETAILS

SHEET 9

548

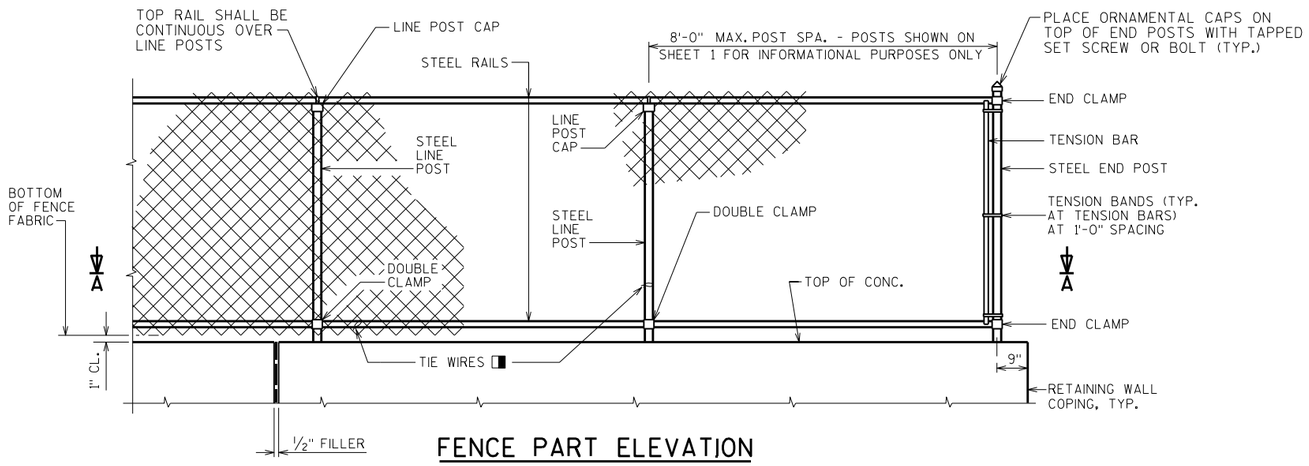
SCALE = 5.33333

8

8

STATE PROJECT NUMBER
5411-02-74

NOTE:
8' CHAIN LINK FENCE TO EXTEND BETWEEN WALL STA. 0+82.46 AND 1+39.87, & STA. 2+58.32 AND 3+28.18



FENCE PART ELEVATION

VIEWING FABRIC SIDE

FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
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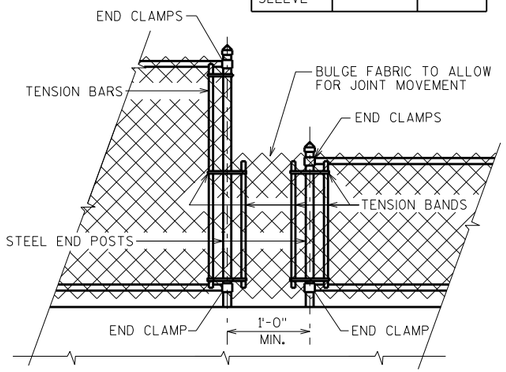

FENCING TRANSITIONS

TYP.

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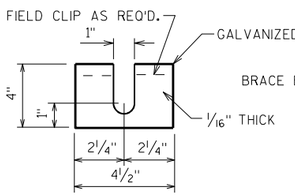

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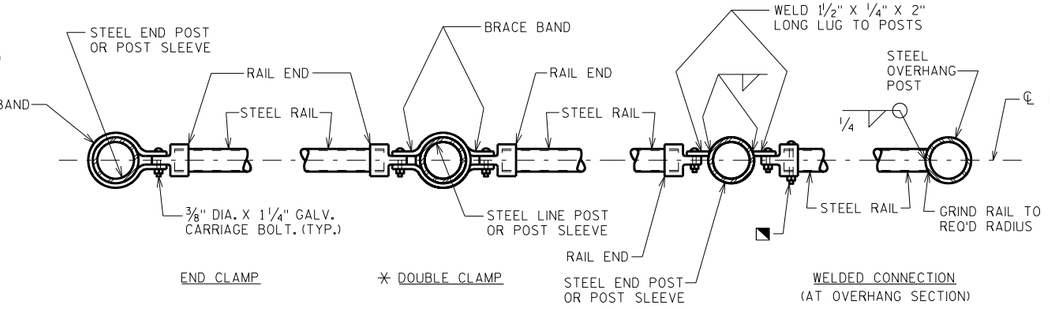
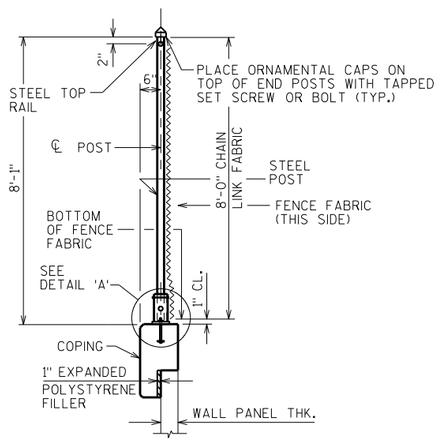
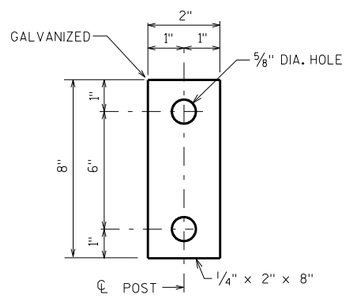


SECTION A-A

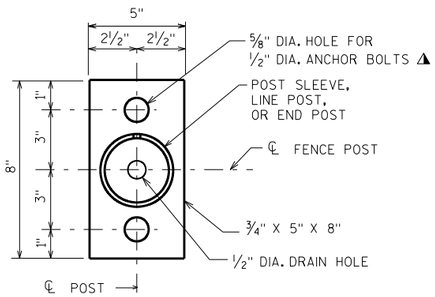
NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS



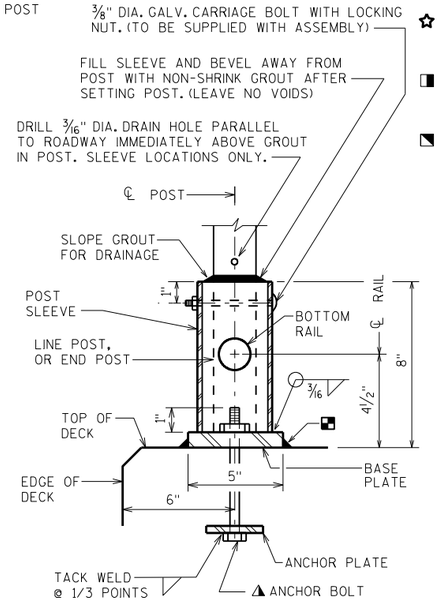
SECTION THRU FENCE



ANCHOR PLATE



BASE PLATE



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

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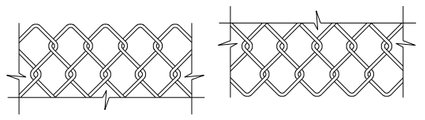


TOP DETAIL BOTTOM DETAIL

FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-228

DRAWN BY AMB | PLANS CK'D. VT

8'-0" CHAIN LINK FENCE DETAILS

SHEET 10

549

SCALE = 5.33333

8

8

STATE PROJECT NUMBER
5411-02-74

WALL EXTERNAL STABILITY EVALUATION

DIMENSIONS					
WALL HEIGHT (FEET)[1]	25.8	34.0	25.4	16.4	19.6
EXPOSED WALL HEIGHT (FEET)	24.3	32.5	23.9	14.9	18.1
LENGTH OF REINFORCEMENT (FEET)[3]	18.1	23.8	17.8	17.3[2]	13.6
LENGTH OF REINF. / WALL HEIGHT	0.70	0.70	0.70	1.06	0.70
WALL STATION (WS)	10+00	10+67	11+50	13+00	13+20
BORING USED	B-1(E)	B-1(E)	B-4	B-5	B-5
CAPACITY TO DEMAND RATIO (CDR)[4]					
SLIDING ($CDR_{REQ'D}$ > 1.0)	1.2	1.7	1.5	1.0	1.4
ECCENTRICITY ($CDR_{REQ'D}$ > 1.0)	1.3	3.4	1.3	1.1	1.3
GLOBAL STABILITY ($CDR_{REQ'D}$ > 1.0)	NA	1.2	NA	NA	1.0
BEARING RESISTANCE ($CDR_{REQ'D}$ > 1.0)	1.1[5]	1.1[5]	1.3[5]	1.0[5]	1.0[5, 6]
REQUIRED BEARING RESISTANCE (PSF)	7,500[5]	10,000[5]	7,500[5]	6,000[5]	4,700[5, 6]

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET.
2. THE WALL STABILITY EVALUATINO INCLUDED A SURCHARGE LOAD THAT WAS EQUAL TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT.
3. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH AT THAT LOCATION.
4. CDR REQUIREMENTS AND LOAD AND RESISTANCE FACTORSE ARE PRESENTED IN CH. 14 OF THE BRIDGE MANUAL.
5. REQUIRES THE EXCAVATION OF THE SILTS AND CLAYS BELOW THE WALL.
6. REQUIRES A 4-FOOT BERM AT THE TOE OF THE WALL.
7. NA NOT APPLICABLE, GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION.

SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND/BELOW THE REINFORCING ZONE (INCL. EBS)	32	0	120
B-5			
SILT, BROWN TO BLACK, SOME CLAY (ELEVATION 863.2 FT - 859.2 FT)	0	1,000	115
SILT, GRAY, SOME SAND, LITTLE GRAVEL (ELEVATION 859.2 FT - 855.2 FT)	0	1,000	115
SAND, BROWN, FINE TO MEDIUM, LITTLE GRAVEL (ELEVATION 855.2 FT - 845.2 FT)	32	0	120
SAND, BROWN, FINE TO MEDIUM, LITTLE GRAVEL (ELEVATION 845.2 FT - 834.2 FT)	36	0	135
WEATHERED SANDSTONE (ELEVATION 834.2 FT - 825.2 FT)	36	0	135
SANDSTONE (ELEVATION 825.2 FT AND BELOW)	0	25,000	140
B-4			
SILT, BROWN TO BLACK, SOME CLAY (ELEVATION 865.0 FT - 862.0 FT)	0	1,000	115
SILT, GRAY, SOME SILT (ELEVATION 862.0 FT - 858.0 FT)	0	1,000	115
SAND/GRAVEL, BROWN, FINE TO COARSE (ELEVATION 858.0 FT - 850.0 FT)	36	0	135
SAND/GRAVEL, BROWN, FINE TO COARSE, SOME SILT (ELEVATION 850.0 FT - 843.0 FT)	32	0	120
SAND/GRAVEL, BROWN, FINE TO COARSE, SOME SILT (ELEVATION 843.0 FT - 836.0 FT)	36	0	135
WEATHERED SANDSTONE (ELEVATION 836.0 FT - 827.0 FT)	36	0	135
SANDSTONE (ELEVATION 827.0 FT AND 824.5 FT)	0	25,000	140
B-1(E)			
CLAY, GRAY, SOME SILT, LITTLE GRAVEL (ELEVATION 865.8 FT - 857.8 FT)	0	1,000	115
SAND, BROWN, MEDIUM TO COARSE, SOME GRAVEL (ELEVATION 857.8 FT - 847.8 FT)	34	0	130
SAND, BROWN, FINE TO MEDIUM, SOME GRAVEL (ELEVATION 847.8 FT - 841.8 FT)	32	0	120
SAND, BROWN, FINE TO MEDIUM, LITTLE GRAVEL (ELEVATION 841.8 FT - 840.8 FT)	36	0	135

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-228

DRAWN BY AMB | PLANS CK'D. VT

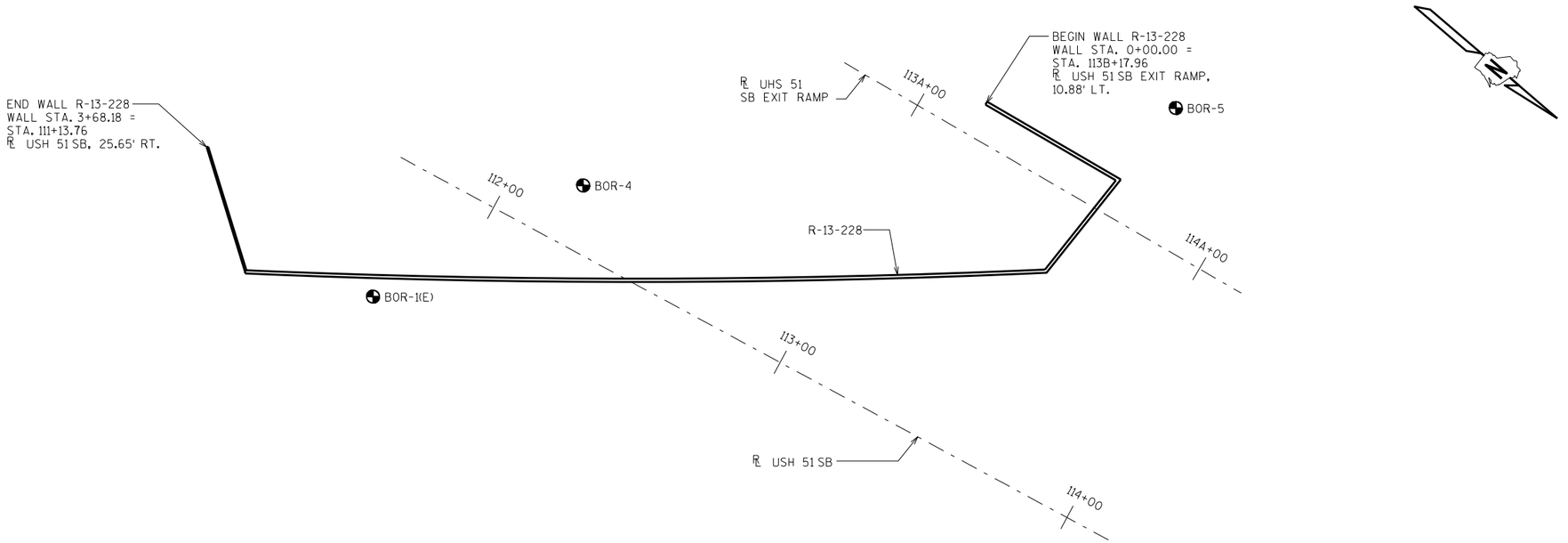
GEOTECHNICAL INFORMATION

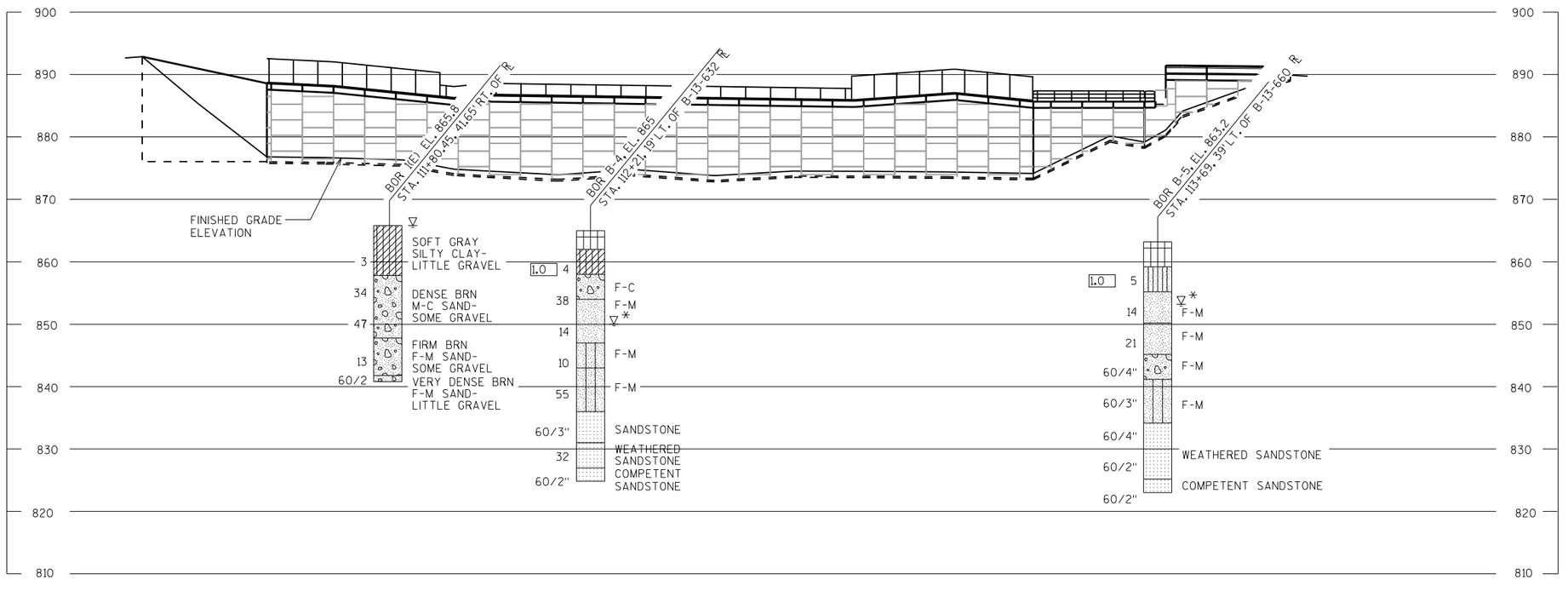
SHEET 11

550

SCALE = 24.0

STOUGHTON - MADISON





BORINGS ON THIS SHEET WERE DERIVED FROM EXISTING STRUCTURE B-13-210, 1967 PLANS

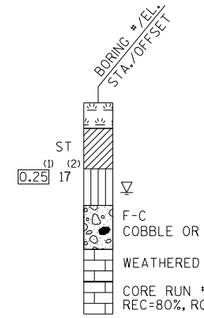
STATE PROJECT NUMBER

5411-02-74

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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-228

DRAWN BY PR/AMB | PLANS CK'D. VT

SUBSURFACE EXPLORATION

SHEET 12

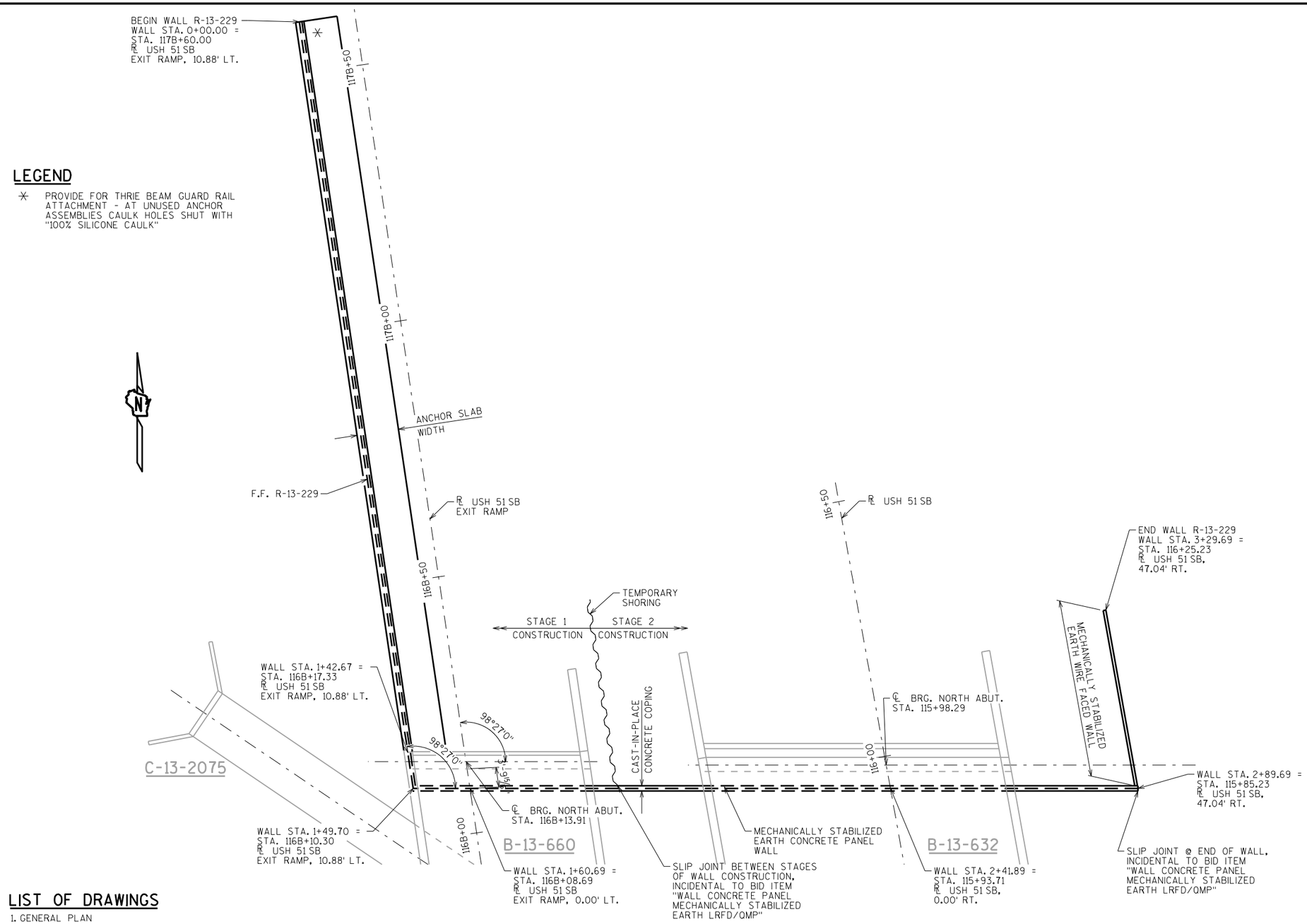
551

8

8

SCALE = 20

STATE PROJECT NUMBER
5411-02-74



LIST OF DRAWINGS

1. GENERAL PLAN
2. WALL ELEVATIONS
3. GENERAL NOTES, QUANTITIES, & GEOMETRY
4. TYPICAL WALL SECTIONS
5. TYPICAL WALL SECTIONS
6. COPING DETAILS
7. ANCHOR SLAB DETAILS
8. SINGLE SLOPE PARAPET 32SS (MODIFIED) DETAILS
9. PIPE RAILING DETAILS
10. 4'-0" CHAIN LINK FENCE DETAILS
11. GEOTECHNICAL INFORMATION
12. SUBSURFACE EXPLORATION

DESIGN DATA

THE RETAINING WALL SHALL BE DESIGNED USING THE ELEVATIONS GIVEN ON THESE SHEETS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL, AS SHOWN.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS AND A LIVE LOAD VERTICAL SURCHARGE OF 240 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFED TEST VALUES.

ALLOWABLE WALL SYSTEMS

WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD

ULTIMATE DESIGN STRESSES

CONCRETE MASONRY, CAST-IN-PLACE CONCRETE TRAFFIC BARRIER & COPING: —— f'c = 3,500 P.S.I.

PRECAST CONCRETE WALL PANELS: —— f'c = 4,000 P.S.I.

BAR STEEL REINFORCEMENT, GRADE 60: —— fy = 60,000 P.S.I.

STRUCTURE DESIGN CONTACTS:
VU THAO (608) 267-2869
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher KAR 08/18/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-13-229

WALL BTWN. B-13-632/660 N. ABUTS. AND UNDER USH 51 SB & ALONG SB EXIT RAMP

COUNTY	CITY
DANE	MADISON

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
VT	AMB	DDS/AMB	VT

GENERAL PLAN

SHEET 1 OF 12

552

SCALE = 10

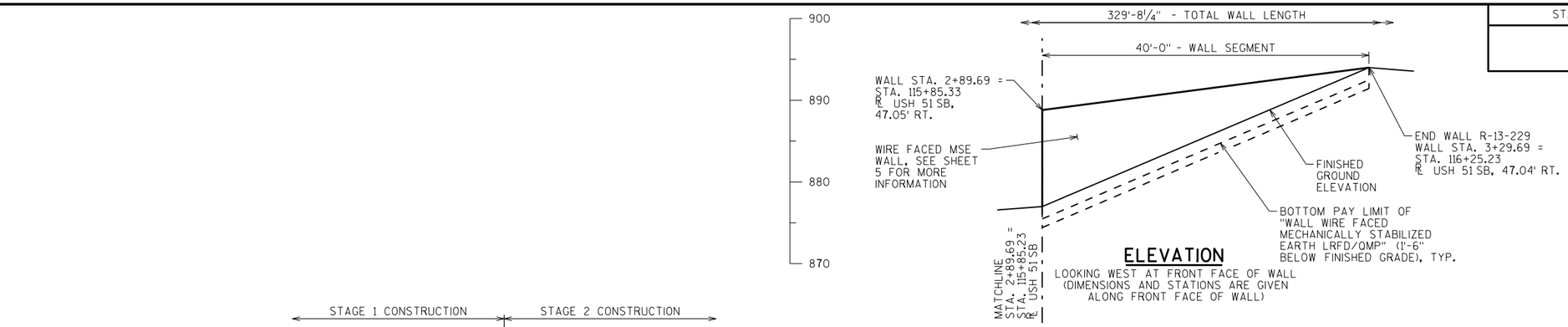
I.D. 5411-02-04B

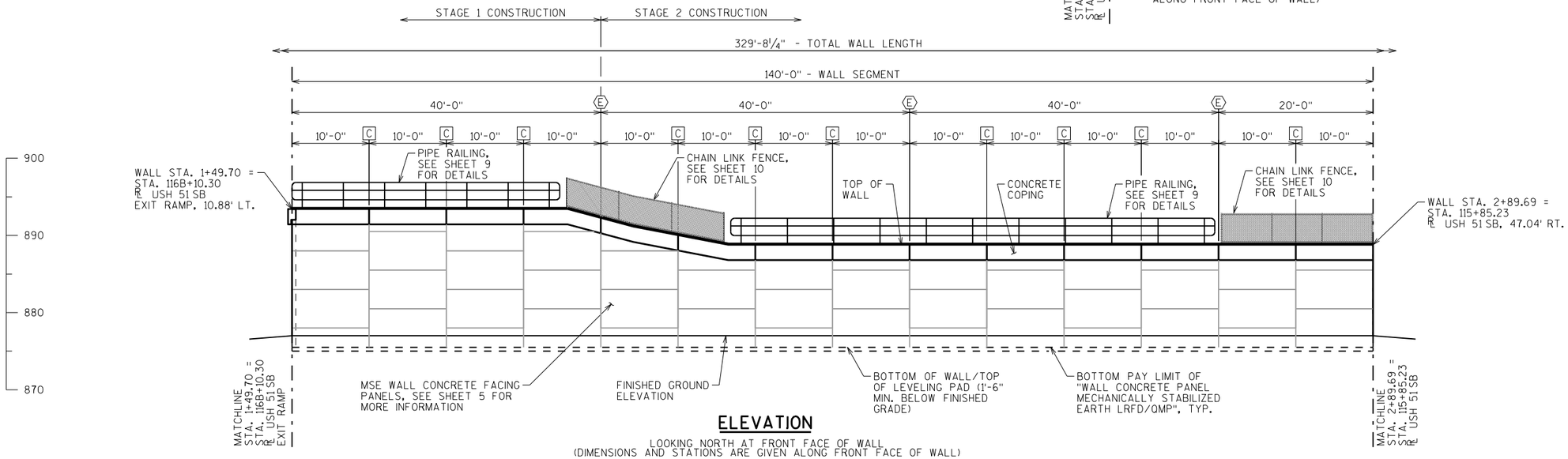
DATE: AUG 2014

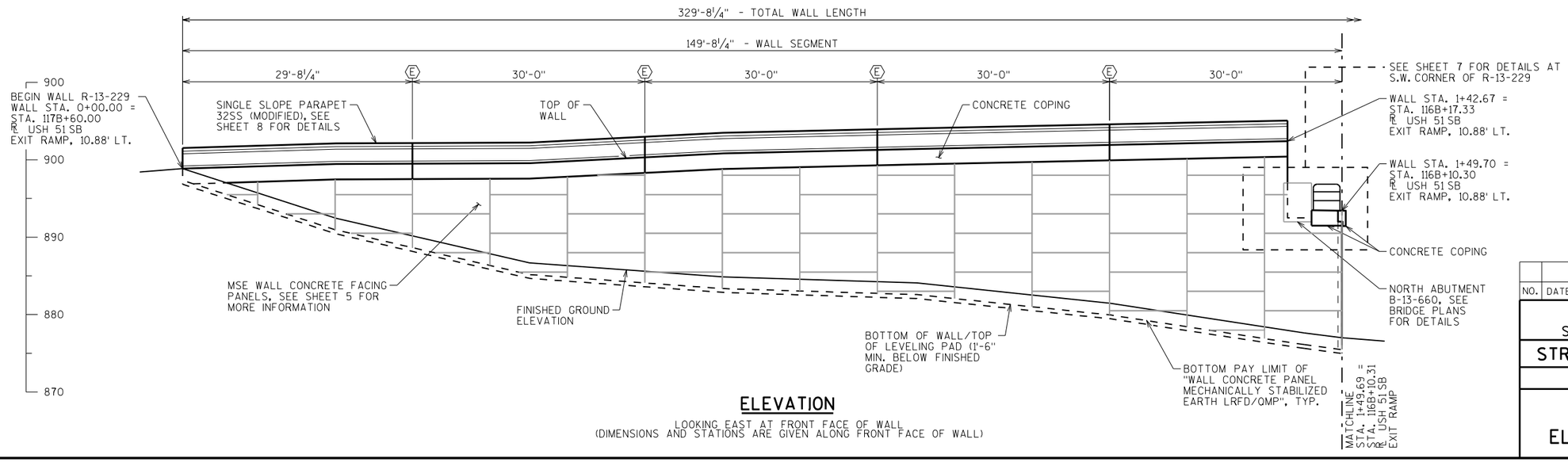
8

8

STATE PROJECT NUMBER
5411-02-74







LEGEND

(E) EXPANSION JOINT

[C] CONTRACTION JOINT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-229

DRAWN BY AMB | PLANS CK'D. VT

WALL ELEVATIONS

SHEET 2

553

SCALE = 7.5

8

8

STATE PROJECT NUMBER

5411-02-74

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER UNLESS OTHERWISE SHOWN OR NOTED.

ALL BAR STEEL REINFORCEMENT IS TO BE EPOXY COATED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

THE COST OF FURNISHING AND PLACING MSE BACKFILL WITHIN THE REINFORCED SOIL ZONE IS TO BE INCLUDED IN THE BID ITEMS "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP" AND "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP".

ALL OF THE RETAINING WALL STATIONING, OFFSETS, AND DIMENSIONS ARE GIVEN AT THE FRONT FACE OF WALL.

THESE PLANS ARE FOR A PRECAST CONCRETE PANEL MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL WITH A WIRE FACED MECHANICALLY STABILIZED EARTH RETAINING WALL SECTION.

THE QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON AN ASSUMED CONCRETE WALL PANEL THICKNESS OF 6 INCHES. FOR PANEL THICKNESSES DIFFERENT THAN 6 INCHES, THE CONTRACTOR SHALL VERIFY REINFORCEMENT BAR DETAILS AND QUANTITIES, AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF THIS WALL WITH THE CONSTRUCTION OF THE NORTH ABUTMENTS OF BRIDGES B-13-660 AND B-13-632.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

THE COST OF FURNISHING AND PLACING THE UNREINFORCED CONCRETE LEVELING PAD UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

THE VOLUME OF EARTHWORK REQUIRED TO INSTALL THE UNREINFORCED CONCRETE LEVELING PAD, MSE PRECAST WALL PANELS, MSE BACKFILL, AND REINFORCING STRIPS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

THE QUANTITIES OF CONCRETE MASONRY AND BAR STEEL REINFORCEMENT FOR THE CAST-IN-PLACE COPING ARE PAID FOR UNDER THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

THE QUANTITIES OF CONCRETE MASONRY AND BAR STEEL REINFORCEMENT FOR THE CAST-IN-PLACE ANCHOR SLAB AND PARAPET ARE PAID FOR UNDER THE BID ITEMS "CONCRETE MASONRY RETAINING WALLS" AND "BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS" RESPECTIVELY.

THE PLAN QUANTITY FOR THE ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE UNREINFORCED LEVELING PAD TO THE TOP OF WALL AS SHOWN IN THE PLANS. THE TOP OF LEVELING PAD IS SET 1'-6" BELOW FINISHED GRADE. WALL AREAS CONSTRUCTED OUTSIDE THESE LIMITS WILL NOT BE MEASURED FOR PAYMENT.

THE PLAN QUANTITY FOR THE ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP" IS BASED ON A WALL HEIGHT MEASURED FROM 1'-6" BELOW THE FINISHED GRADE ELEVATION TO THE TOP OF WALL AS SHOWN IN THE PLANS. WALL AREAS CONSTRUCTED OUTSIDE THESE LIMITS WILL NOT BE MEASURED FOR PAYMENT.

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE EXPOSED TOP OF ANCHOR SLAB SURFACE AND TO THE FRONT FACE AND TOP OF THE PARAPET.

THE UPPER LIMITS OF EXCAVATION FOR THIS STRUCTURE SHALL BE THE EXISTING GROUND LINE.

OVER EXCAVATE BELOW THE LEVELING PAD AS DIRECTED BY THE FIELD ENGINEER TO REMOVE ANY UNSUITABLE MATERIAL. WORK SHALL BE COVERED UNDER THE BID ITEM "EXCAVATION FOR STRUCTURES RETAINING WALLS R-13-229". BACKFILL REMOVAL AREAS WITH GRANULAR BACKFILL.

GEOMETRY TABLE

	WALL STATION	℄ USH 51 SB EXIT RAMP STA.	℄ USH 51 SB STA.	℄ OFFSET TO F.F. OF WALL	TOP OF WALL ELEVATION	FINISHED GRADE ELEVATION
	0+00.00	117B+60.00	--	10.88' LT.	898.85	898.85
	0+19.81	117B+40.19	--	10.88' LT.	899.45	892.45
	0+44.81	117B+15.19	--	10.88' LT.	899.56	886.68
	0+69.81	116B+90.19	--	10.88' LT.	900.81	884.88
	0+94.81	116B+65.19	--	10.88' LT.	901.39	884.09
	1+19.81	116B+40.19	--	10.88' LT.	901.92	881.47
	1+42.67	116B+17.33	--	10.88' LT.	902.41	877.96
	1+42.67	116B+17.33	--	10.88' LT.	892.47	877.96
	1+45.86	116B+14.14	--	10.88' LT.	892.47	877.51
	1+45.86	116B+14.14	--	10.88' LT.	893.47	877.51
	1+49.70	116B+10.30	--	10.88' LT.	893.41	877.00
	1+69.81	116B+07.35	--	9.02' RT.	893.41	877.00
	1+86.31	116B+04.92	--	25.34' RT.	893.41	877.00
	1+94.81	--	116+02.06	46.34' LT.	891.15	877.00
	2+07.08	--	115+99.89	34.26' LT.	888.77	877.00
	2+19.81	--	115+97.63	21.73' LT.	888.77	877.00
	2+44.81	--	115+93.19	2.87' RT.	888.77	877.00
	2+69.81	--	115+88.76	27.47' RT.	888.77	877.00
◈	2+89.69	--	115+85.23	47.04' RT.	888.77	877.00
◈	2+94.81	--	115+90.35	47.04' RT.	889.46	879.18
◈	3+19.81	--	116+15.35	47.04' RT.	892.71	889.80
◈	3+29.69	--	116+25.23	47.04' RT.	894.00	894.00

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	QUANTITY	UNIT
	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS R-13-229	1	LS
	502.3200	PROTECTIVE SURFACE TREATMENT	70	SY
#	504.0500	CONCRETE MASONRY RETAINING WALLS	69	CY
#	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	7410	LB
	511.1200	TEMPORARY SHORING R-13-229	400	SF
	513.2000	RAILING PIPE R-13-229	1	LS
◓	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	6	SY
◭	517.1010.S	CONCRETE STAINING R-13-229	5182	SF
☆	517.1050.S	ARCHITECTURAL SURFACE TREATMENT R-13-229	4484	SF
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	380	LF
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	1	EACH
	SPV.0090	FENCE CHAIN LINK POLYMER COATED 4-FT.	41	LF
	SPV.0165	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP	4484	SF
	SPV.0165	WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP	398	SF
		NON-BID ITEMS		
		EXPANDED POLYSTYRENE	1"	SIZE
		PREFORMED FILLER	3/4" & 1"	SIZE
		CORK FILLER	1"	SIZE
		JOINT SEALER	1"	SIZE

◈ WIRE FACED WALL (MSE) SHOULD BE PLACED AS SHOWN ON GENERAL PLAN & WALL ELEVATIONS SHEETS

\# QUANTITY INCLUDES ANCHOR SLAB AND SINGLE SLOPE PARAPET 32SS

◓ QUANTITY INCLUDES RUBBERIZED MEMBRANE WATERPROOFING PLACED ALONG THE ANCHOR SLAB (AND NOT AT THE TYPICAL COPING JOINTS)

◭ CONCRETE STAINING SHALL BE APPLIED TO THE EXTERIOR FACE OF PARAPETS, ALL EXPOSED FACES OF TYPICAL COPINGS, EXTERIOR FACE OF ANCHOR SLAB AND COPING, AND MSE WALL CONCRETE FACING PANELS DOWN TO A MIN. OF 1'-6" BELOW FINISHED GRADE

☆ SEE SHEET 5 FOR ARCHITECTURAL SURFACE TREATMENT INFORMATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-229

DRAWN BY AMB | PLANS CK'D. VT

GENERAL NOTES, QUANTITIES, & GEOMETRY

SHEET 3

554

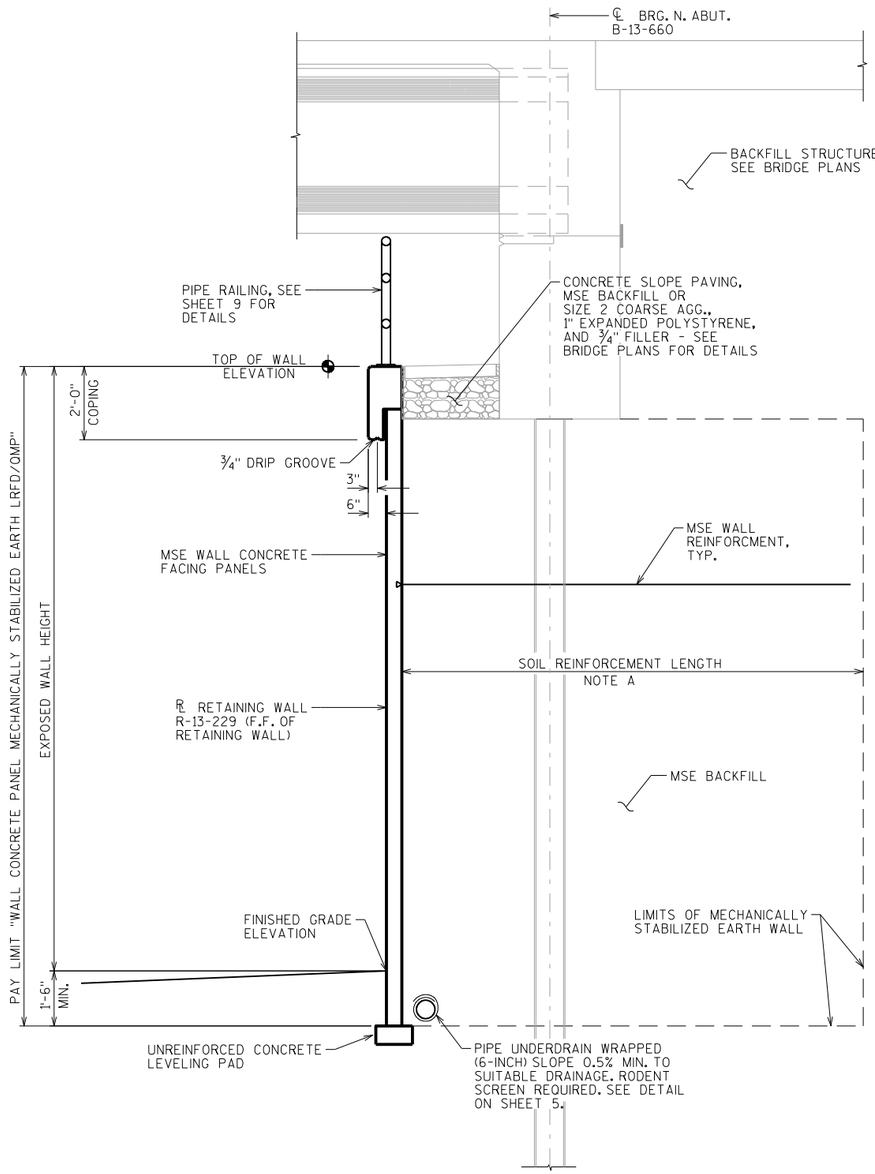
8

8

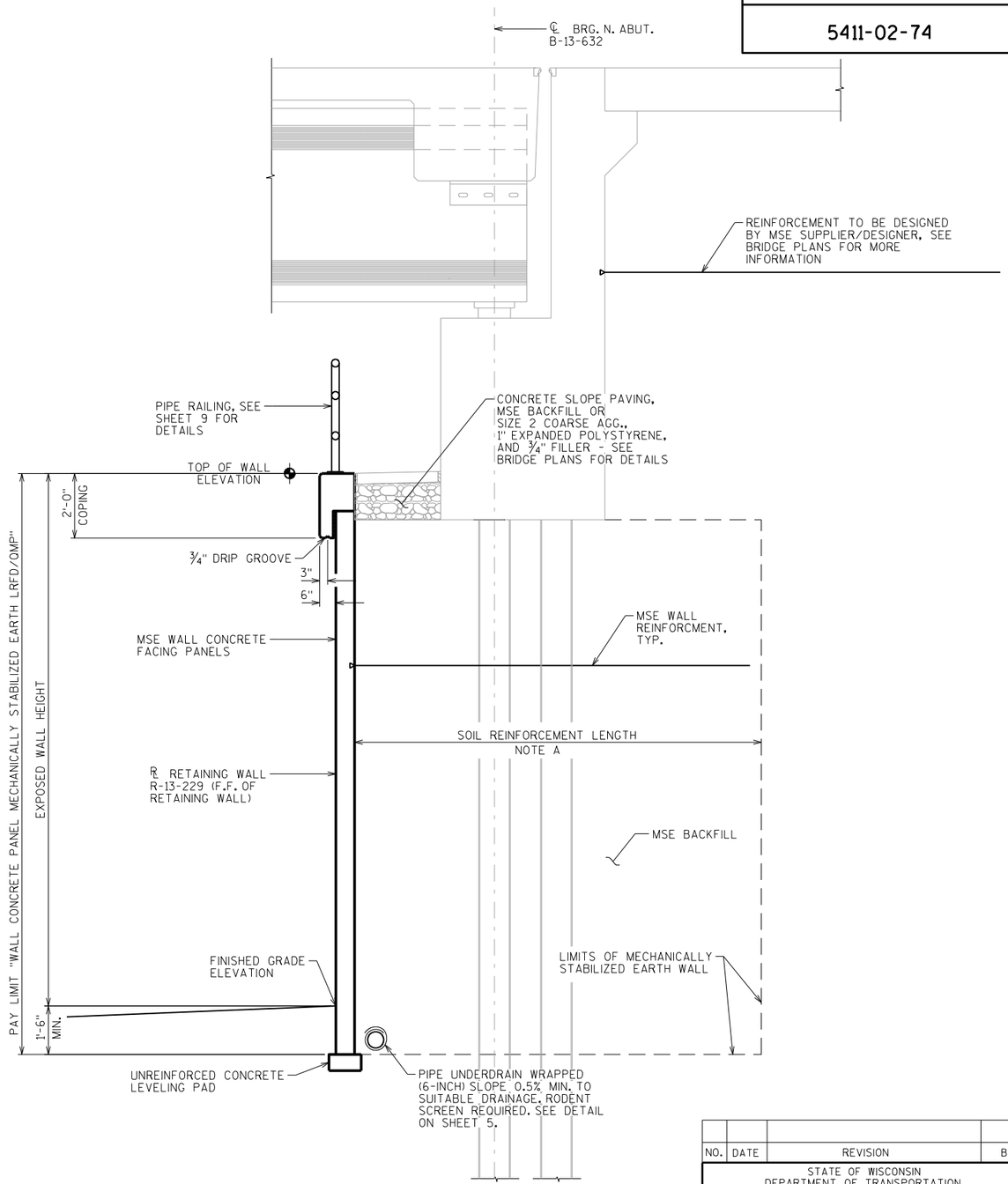
SCALE = 24.0

STATE PROJECT NUMBER
5411-02-74

NOTE A:
SEE "WALL EXTERNAL STABILITY EVALUATION" TABLE ON SHEET 11 FOR MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS, SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.



TYPICAL SECTION AT B-13-660
(LOOKING WEST)



TYPICAL SECTION AT B-13-632
(LOOKING WEST)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-229

DRAWN BY AMB | PLANS CK'D. VT

TYPICAL WALL SECTIONS

SHEET 4

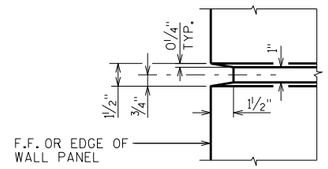
555

SCALE = 2

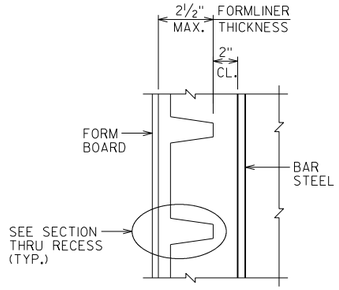
STATE PROJECT NUMBER
5411-02-74

CONC. STAINING COLOR SCHEME

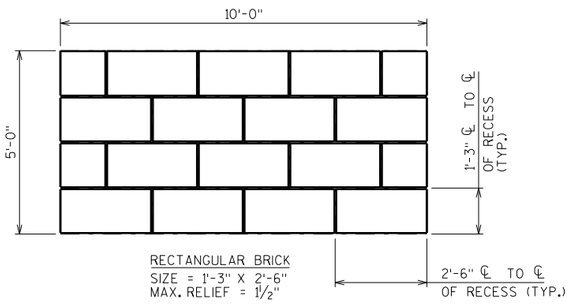
A	PEARL GRAY - FEDERAL COLOR # 26622



SECTION THRU RECESS
TYP. (VERT. & HORIZ.)



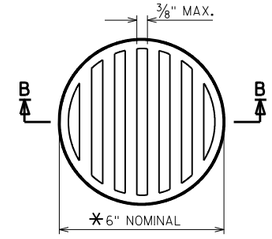
SECTION THRU FORMLINER

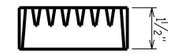


RECTANGULAR BRICK
SIZE = 1'-3" X 2'-6"
MAX. RELIEF = 1½"

FORMLINER DETAILS

ARCHITECTURAL SURFACE TREATMENT TO BE APPLIED TO ALL FRONT FACES OF WALL PANELS, TYP.
(WRAP AROUND/MATCH FORMLINER PATTERN AT CORNERS)





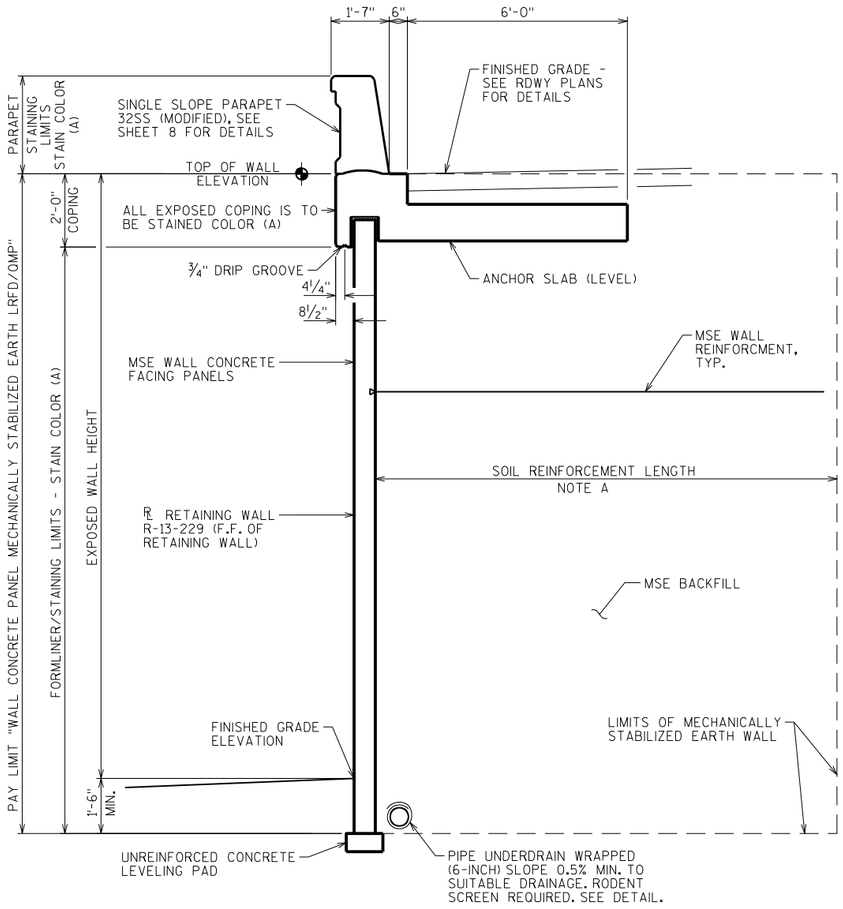
SECTION B-B

RODENT SCREEN DETAIL

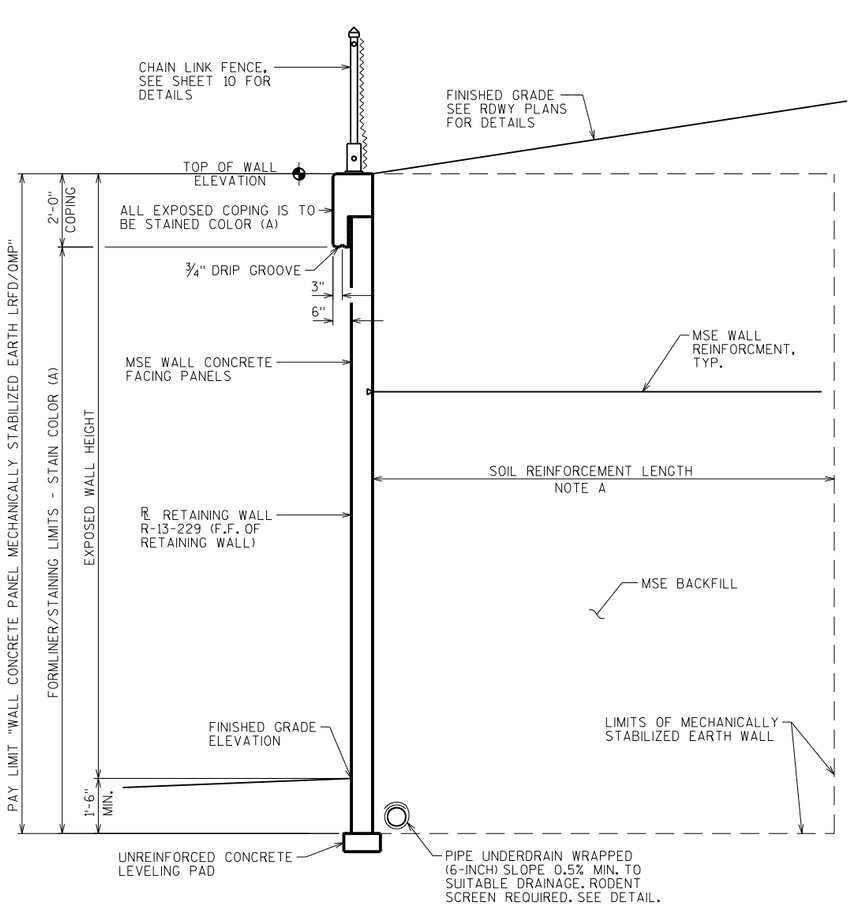
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

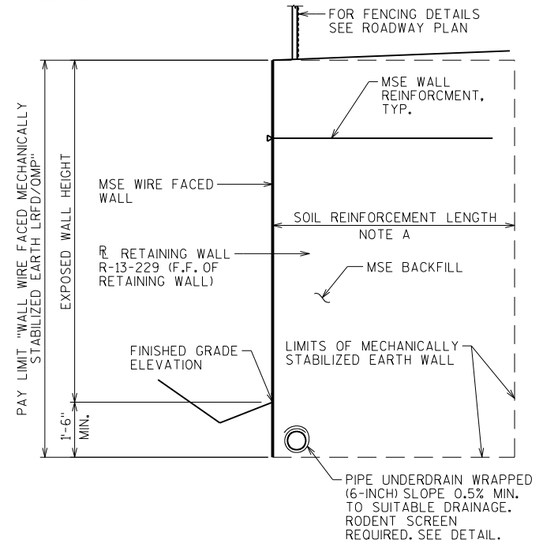
THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH SHEET METAL SCREWS.



TYPICAL SECTION ALONG USH 51 SB EXIT RAMP
(LOOKING NORTH)



TYPICAL SECTION BETWEEN B-13-632 & B-13-660
(LOOKING WEST)



TYPICAL SECTION @ MSE WIRE FACED WALL
(LOOKING SOUTH)

NOTE A:

SEE "WALL EXTERNAL STABILITY EVALUATION" TABLE ON SHEET 11 FOR MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-229

DRAWN BY AMB | PLANS CK'D. VT

TYPICAL WALL SECTIONS

SHEET 5

556

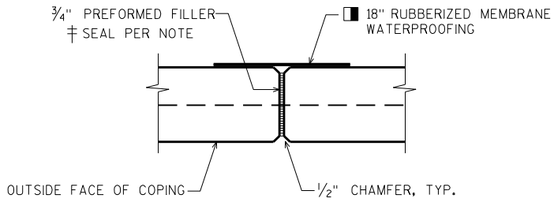
8

8

SCALE = 2

STATE PROJECT NUMBER

5411-02-74

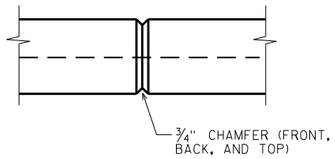


CAST-IN-PLACE COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 50'

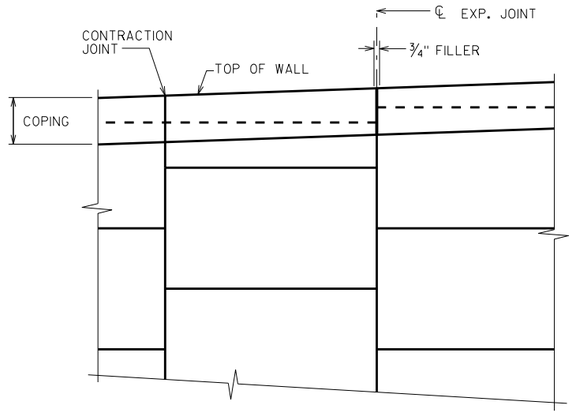
◨ MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)



CAST-IN-PLACE COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 12'



NOTES:

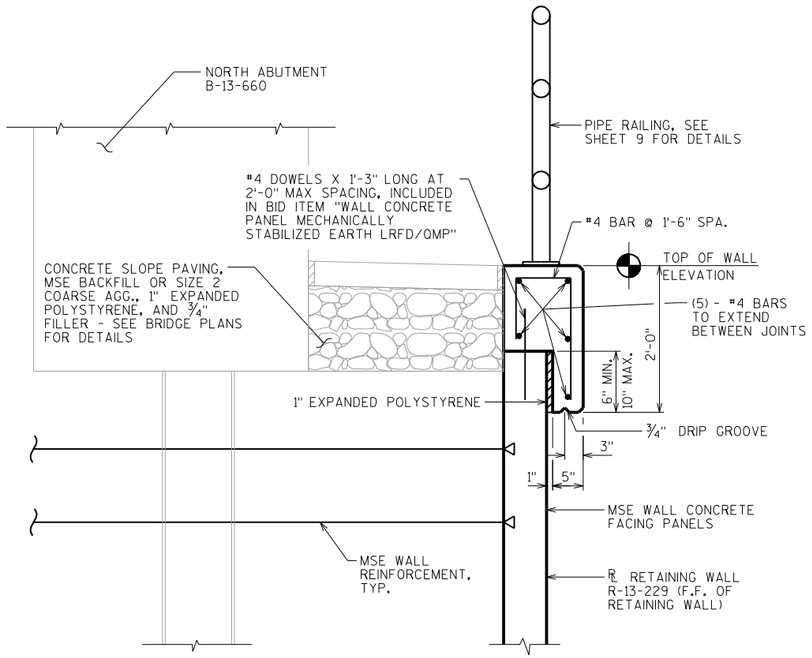
1) ALL JOINTS MUST COINCIDE WITH WALL PANEL JOINT ON FRONT FACE WHERE BOTTOM OF LIP INTERSECTS WITH WALL PANEL JOINT.

2) PIPE RAILING AND CHAIN LINK FENCING NOT SHOWN FOR CLARITY.

3) PANELS SHALL BE NOMINAL 5'-0" (H) X 10'-0" (W) OR SIM. BASED ON SUPPLIER NOMINAL PANEL DIMS.

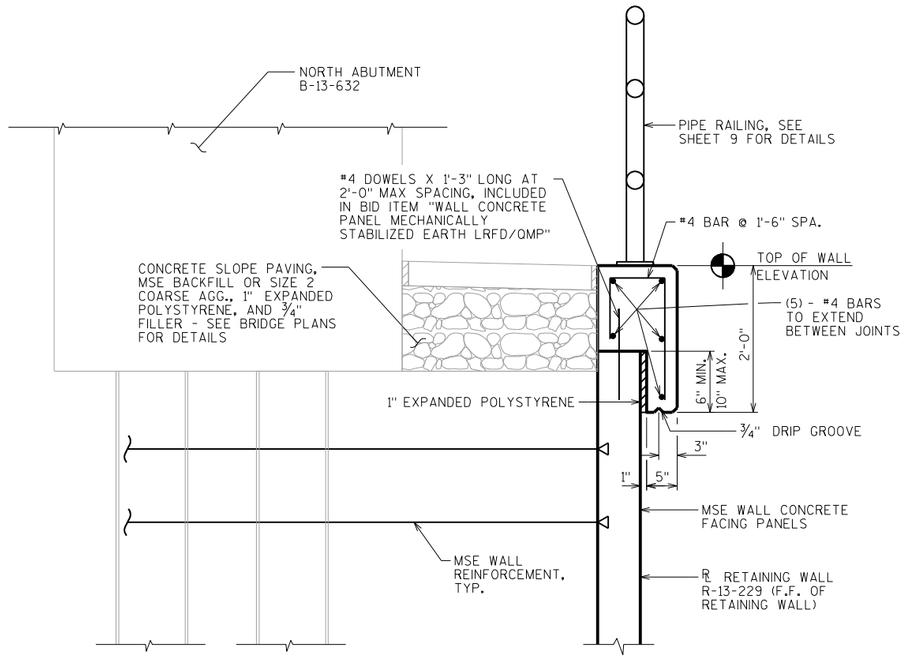
4) SEE WALL ELEVATIONS SHEET FOR LOCATION OF CONTRACTION AND EXPANSION JOINTS. JOINTS SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY.

CAST-IN-PLACE COPING & WALL PARTIAL ELEVATION



TYPICAL SECTION CAST-IN-PLACE COPING DETAIL

(SECTION @ B-13-660)



TYPICAL SECTION CAST-IN-PLACE COPING DETAIL

(SECTION @ B-13-632)

NOTE:
SEE GENERAL PLAN SHEET FOR LOCATION OF CONTRACTION/ EXPANSION JOINTS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-229

DRAWN BY AMB | PLANS CK'D. VT

COPING DETAILS

SHEET 6

557

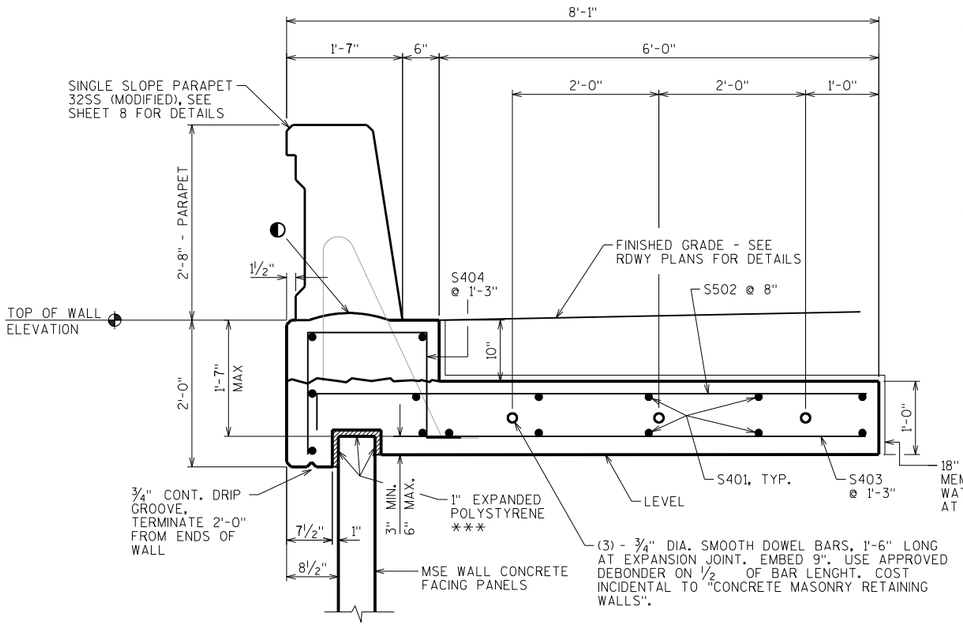
SCALE = 2

8

8

STATE PROJECT NUMBER

5411-02-74



TYPICAL SECTION OF ANCHOR SLAB

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPET AND ANCHOR SLAB BETWEEN EXPANSION JOINTS MAY BE USED. RUN BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS IN PARAPET A MINIMUM OF 1'-9". DEFINE CONSTRUCTION JOINT WITH A ¾" "V" GROOVE.

LAP LONGITUDINAL #4 BARS A MINIMUM OF 1'-0"

ALL BAR STEEL SHALL BE EPOXY COATED

CONCRETE QUANTITY BASED ON 3" PANEL EMBEDMENT & 6" PANEL THICKNESS.

*** INCIDENTAL TO THE BID ITEM CONCRETE MASONRY RETAINING WALLS

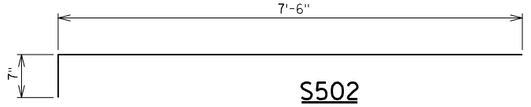
BILL OF BARS

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

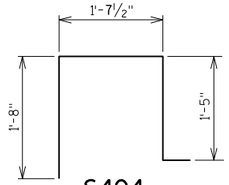
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	15	142'-4"			CONC. BARRIER - LONGITUDINAL
S502	X	212	8'-0"	X		CONC. BARRIER - TRANSVERSE
S403	X	114	6'-5"			CONC. BARRIER - TRANSVERSE
S404	X	114	4'-11"	X		CONC. BARRIER - VERTICAL

NUMBER REQUIRED AND LENGTH SHOWN FOR QUANTITY PURPOSES ONLY. CONTRACTOR TO DETERMINE ACTUAL LENGTHS AND NUMBER OF S401 BARS AFTER M.S.E. PANELS HAVE BEEN LAID OUT BY THE WALL SUPPLIER. THE PARAPET AND ANCHOR SLAB EXPANSION JOINTS MUST COINCIDE WITH PANEL JOINT ON FRONT FACE. PROVIDE 2" CLEAR COVER AT EXPANSION JOINTS.

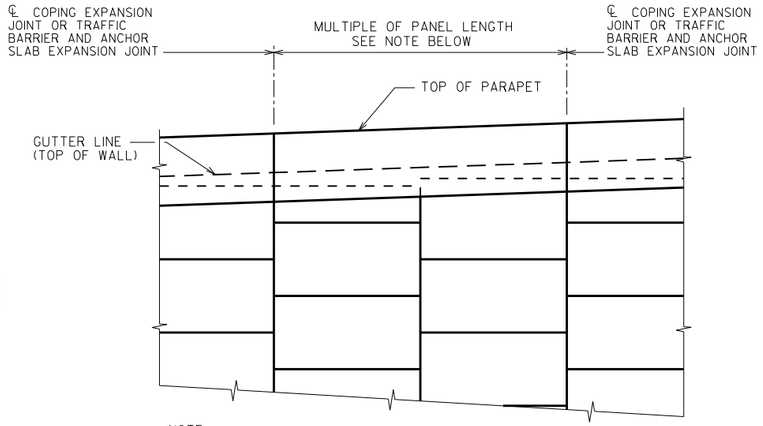
NOTE: ASSUMED PANEL THICKNESS OF 6" USED WHEN DETERMINING BAR DIMENSIONS



S502

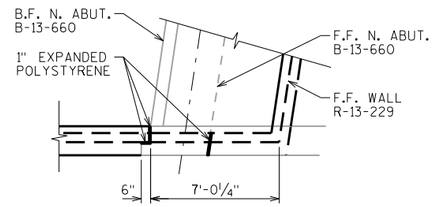


S404

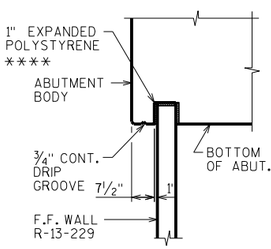


NOTE:
ALL JOINTS SHALL BE LOCATED AS SHOWN ON THE WALL ELEVATIONS AND MUST COINCIDE WITH PANEL JOINT ON FRONT FACE.

CAST-IN-PLACE TRAFFIC BARRIER & WALL PARTIAL ELEVATION

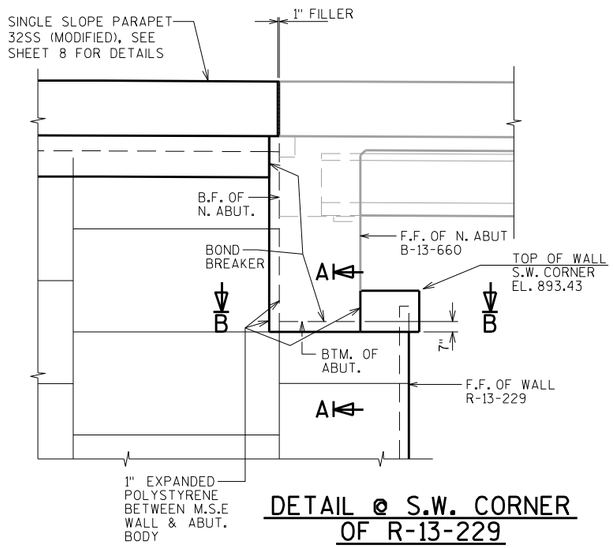


SECTION B-B

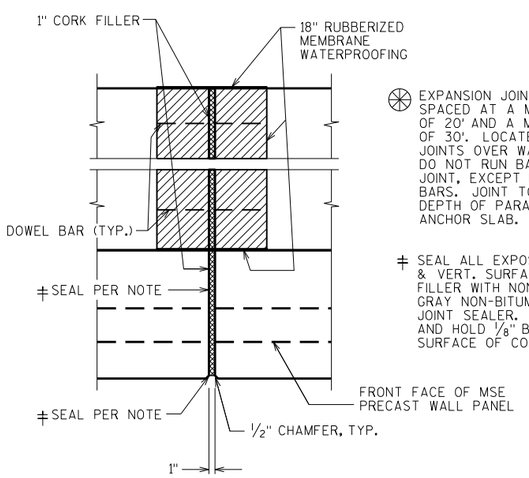


SECTION A-A

**** INCIDENTAL TO THE BID ITEM CONCRETE MASONRY BRIDGES (B-13-660)



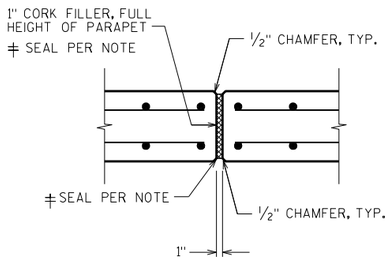
DETAIL @ S.W. CORNER OF R-13-229



⊛ EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 20' AND A MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.

⧺ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

⊛ ANCHOR SLAB EXPANSION JOINT DETAIL



⊛ TRAFFIC BARRIER EXPANSION JOINT DETAIL

⊛ EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 20' AND A MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT. EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.

⧺ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-229

DRAWN BY AMB | PLANS CK'D. VT

ANCHOR SLAB DETAILS

SHEET 7

558

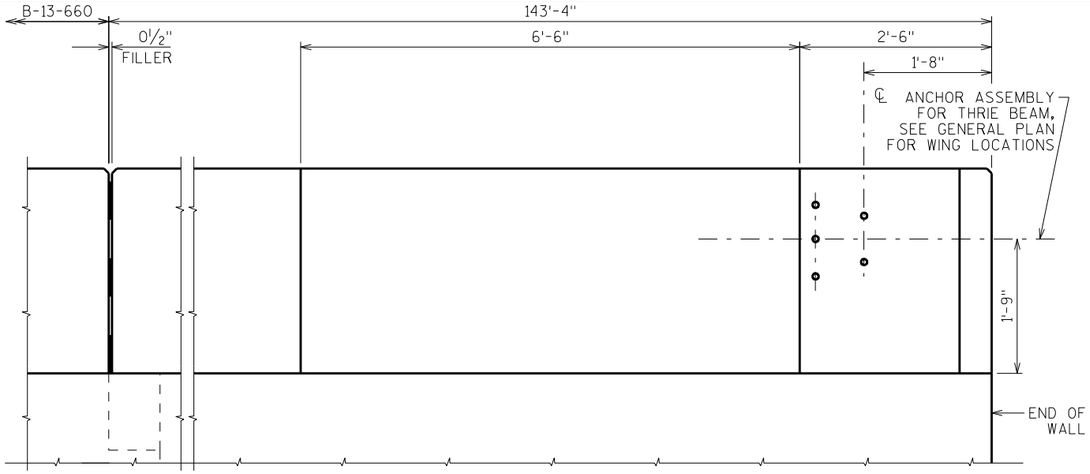
8

8

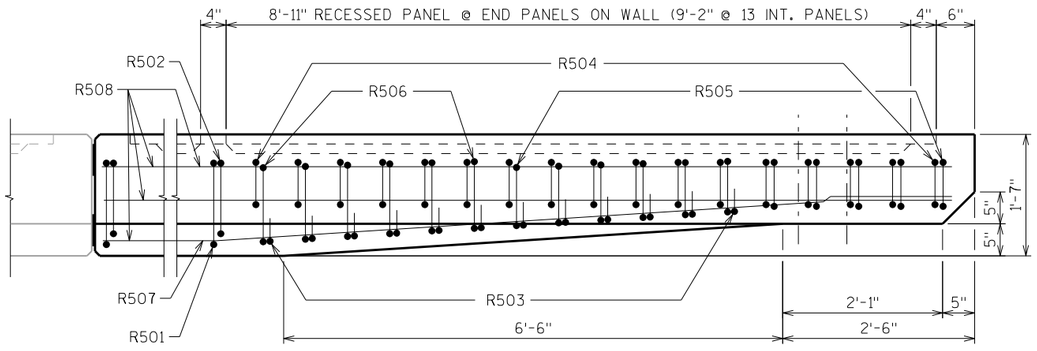
SCALE =1

STATE PROJECT NUMBER

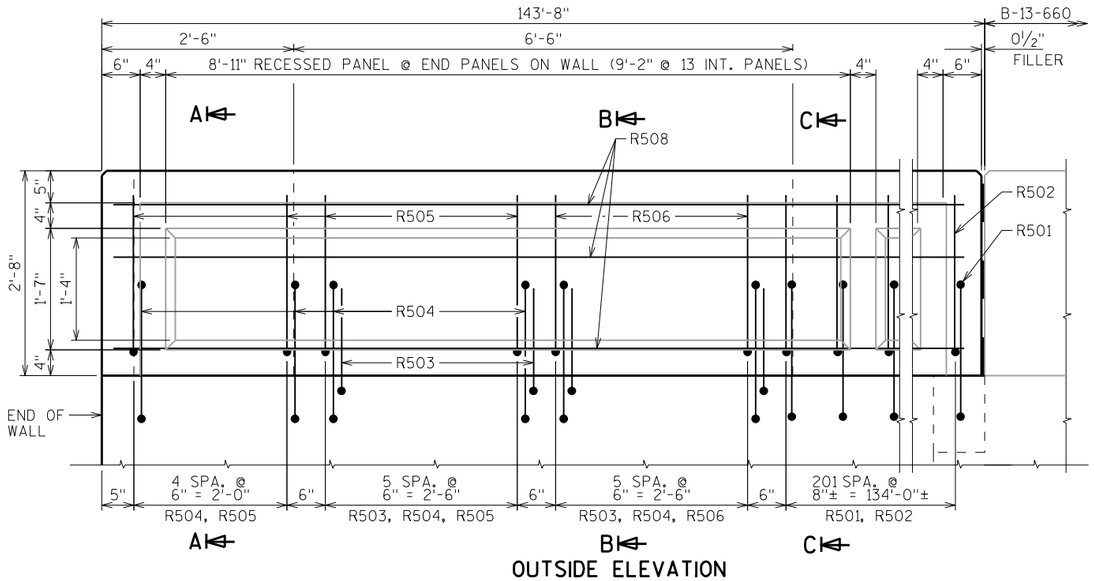
5411-02-74



INSIDE ELEVATION



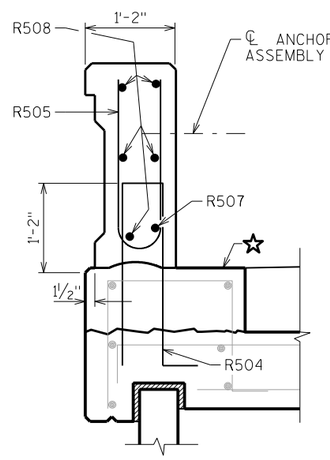
PLAN



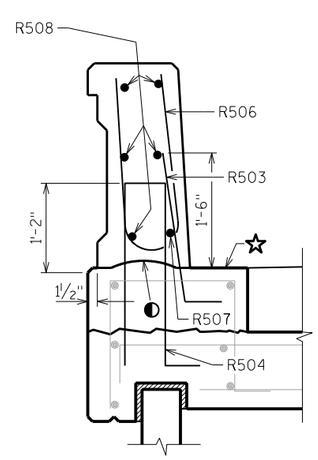
OUTSIDE ELEVATION

◐ CONST. JOINT - STRIKE OFF AS SHOWN

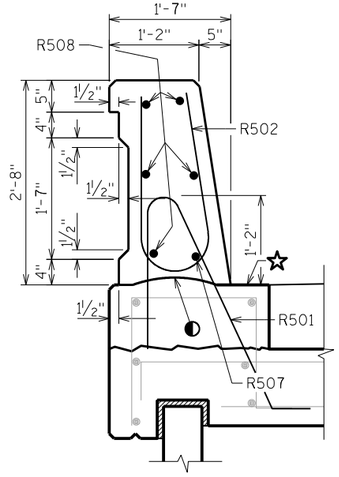
☆ FINISH SURFACE NOT COVERED BY PARAPET TO BE SAME AS ROADWAY



SECTION A-A



SECTION B-B

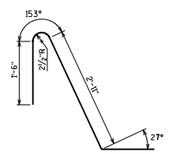


SECTION C-C

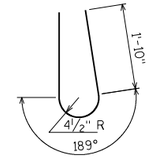
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
R501	X	202	5-7	X	PARAPET VERT.
R502	X	202	5-0	X	PARAPET VERT.
R503	X	12	3-7	X	PARAPET VERT.
R504	X	17	5-6	X	PARAPET VERT.
R505	X	11	4-9	X	PARAPET VERT.
R506	X	6	4-10	X	PARAPET VERT.
R507	X	1	143-0	X	PARAPET HORIZ.
R508	X	5	143-0		PARAPET HORIZ.

NUMBER REQUIRED AND LENGTH SHOWN ARE FOR QUANTITY PURPOSES ONLY. CONTRACTOR TO DETERMINE ACTUAL LENGTHS AND NUMBER OF R507 AND R508 BARS AFTER M.S.E. PANELS HAVE BEEN LAID OUT BY THE WALL SUPPLIER. THE PARAPET, ANCHOR SLAB, AND COPING EXPANSION JOINTS MUST COINCIDE WITH PANEL JOINT ON FRONT FACE. PROVIDE 2" CLEAR COVER AT EXPANSION JOINTS.

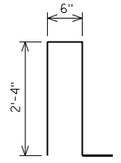


R501

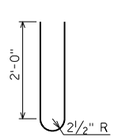


R502

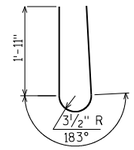
R503



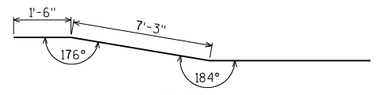
R504



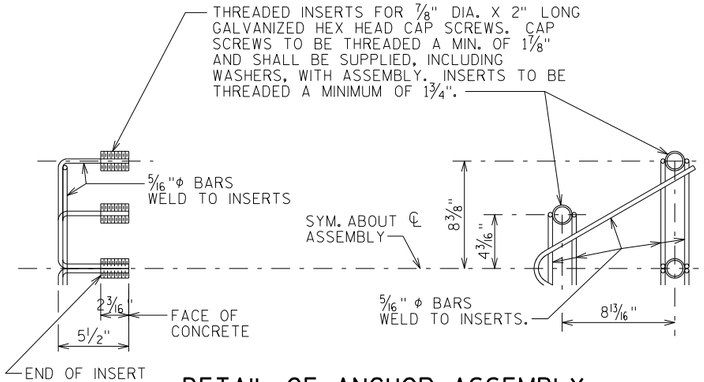
R505



R506



R507



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-229

DRAWN BY AMB | PLANS CK'D. VT

SINGLE SLOPE PARAPET 32SS (MODIFIED) DETAILS

SHEET 8

559

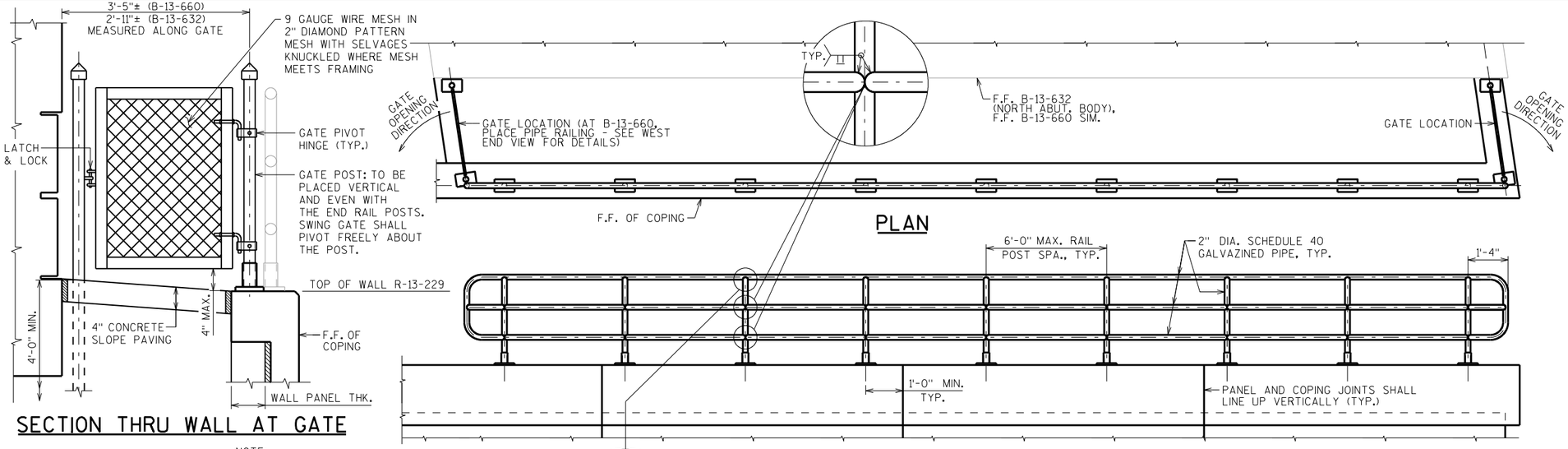
SCALE = 1:1

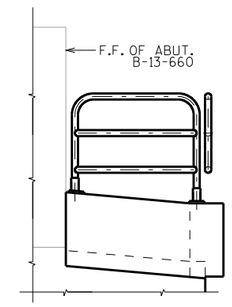
8

8

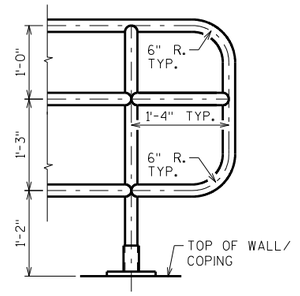
STATE PROJECT NUMBER

5411-02-74



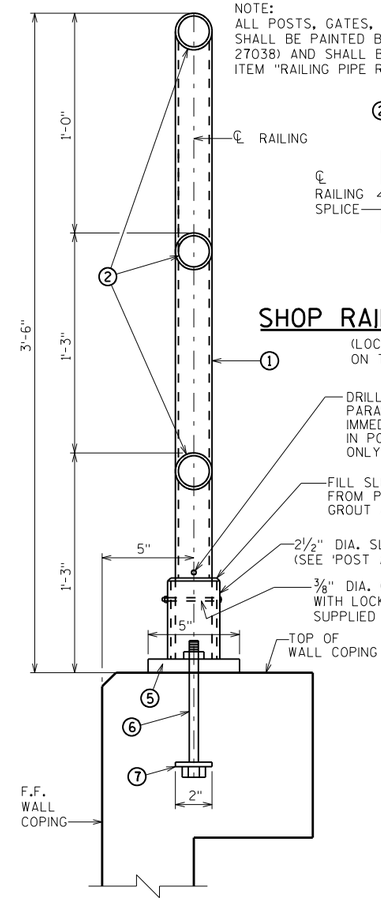


WEST END VIEW

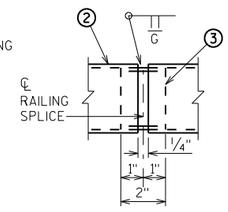


TYPICAL END DETAIL

NOTE:
ALL POSTS, GATES, AND ASSOCIATED HARDWARE SHALL BE PAINTED BLACK (FEDERAL COLOR NO. 27038) AND SHALL BE PAID FOR UNDER THE BID ITEM "RAILING PIPE R-13-229".

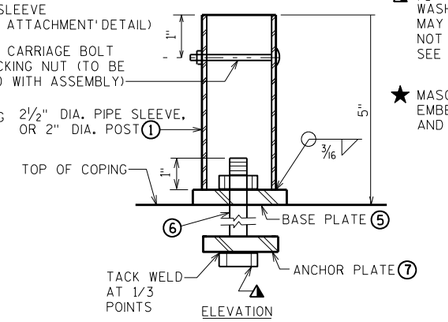


SECTION THRU RAILING



SHOP RAILING SPLICE DETAIL

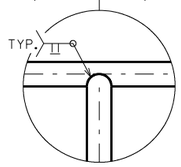
(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



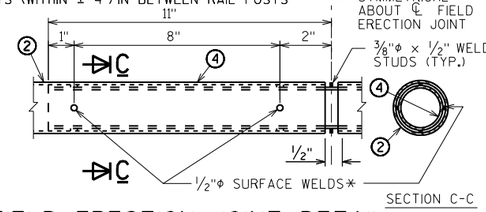
POST ATTACHMENT

UNIT SHALL BE GALV. AFTER FABRICATION

NOTE:
IN LIEU OF USING THE 2½" DIA. SLEEVE, THE 2" DIA. RAIL POST MAY BE WELDED TO THE BASE PLATE



℄ FIELD ERECTION JOINTS SHALL BE PLACED AT 1/6 POINTS (WITHIN ± 4") IN BETWEEN RAIL POSTS

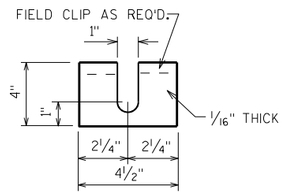


FIELD ERECTION JOINT DETAIL

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

▲ ½" DIA. X 6⅞" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. TYPE S, ½" DIA. CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR ½" DIA. BOLTS. ANCHOR PLATE NOT REQUIRED WHEN TYPE S ANCHORS ARE USED. SEE NOTE ★.

★ MASONRY ANCHOR TYPE S, ½". 6" MIN. EMBEDMENT (LENGTH OF ANCHOR, WASHER, AND NUT SHALL BE GALVANIZED)



POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST.

GENERAL NOTES

BID ITEM SHALL BE "RAILING PIPE R-13-229", WHICH INCLUDES ALL ITEMS SHOWN.

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

FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS ALSO A CONCRETE COPING EXPANSION JOINT IN BETWEEN RAIL POSTS.

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

ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 7) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

DRILL DRAIN HOLES PRIOR TO GALVANIZING.

ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.

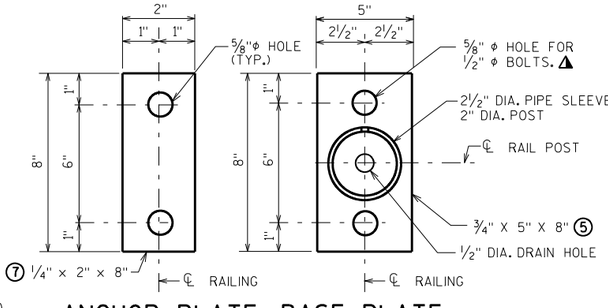
ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.

PLACE ALL NUTS ON OUTSIDE OF POSTS.

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

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS IN POST SHIMS AND BASE PLATES WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.

ALL RAILINGS, POSTS AND ASSOCIATED HARDWARE SHALL BE PAINTED BLACK (FEDERAL COLOR NO. 27038).



ANCHOR PLATE BASE PLATE

LEGEND

① 2" DIA. NOMINAL STEEL PIPE FOR POSTS: CUT BOTTOM OF POST TO MATCH TOP OF CONCRETE. POSTS ARE TO BE SET VERTICAL.

② 2" DIA. NOMINAL STEEL PIPE FOR RAILS: WELD TO NO. 1

③ 1½" DIA. PIPE SLEEVE FOR NO. 2. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 2 1/16".

④ 1½" DIA. PIPE SLEEVE x 1'-10" LONG FOR NO. 2. PROVIDE ½" DIA. SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE ⅜" DIA. x ½" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.

⑤ PLATE ¾" x 5" x 8", WITH ⅝" DIA. HOLE FOR ANCHOR BOLTS NO. 6. WELD TO NO. 1 OR PIPE SLEEVE AS SHOWN.

⑥ A325 - ½" DIA. x 6⅞" LONG HEX BOLTS (GALVANIZED) WITH A325 NUT AND WASHER. 2 REQ'D PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 5. CHAMFER TOP OF BOLTS BEFORE THREADING.

⑦ ¼" x 2" x 8" FLAT BAR, WITH ⅝" DIA. HOLES FOR ANCHOR BOLTS NO. 6.

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STRUCTURES DESIGN SECTION

STRUCTURE R-13-229

DRAWN BY AMB | PLANS CK'D. VT

PIPE RAILING DETAILS

SHEET 9

560

SCALE = 2.0

8

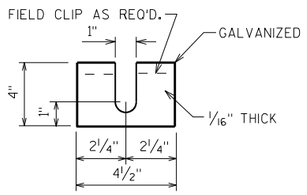
8

STATE PROJECT NUMBER

5411-02-74

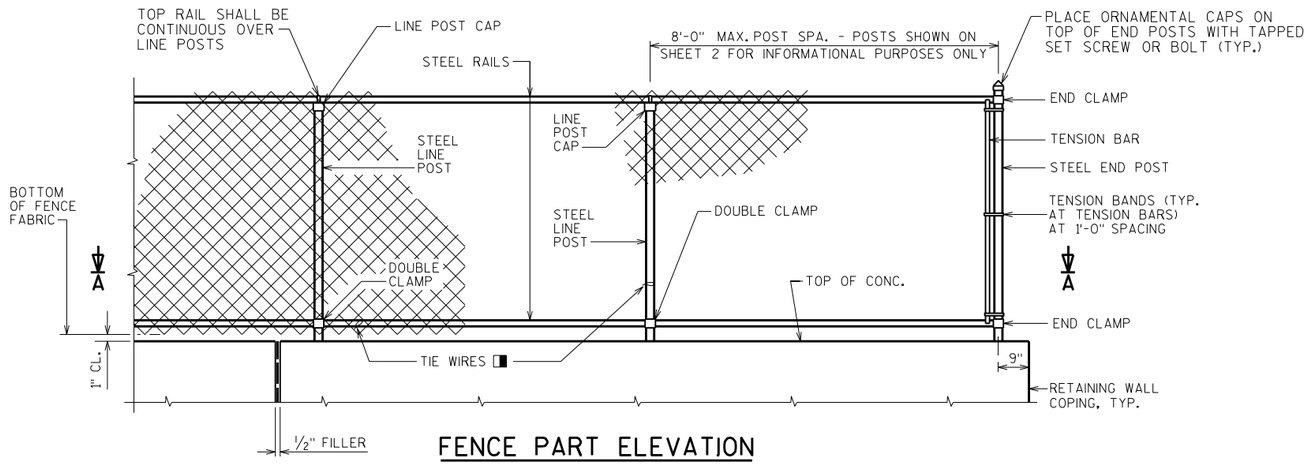
FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12



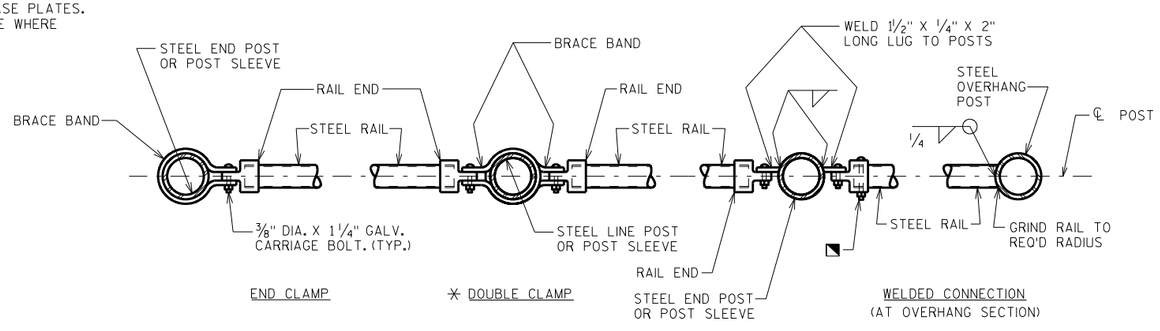
POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



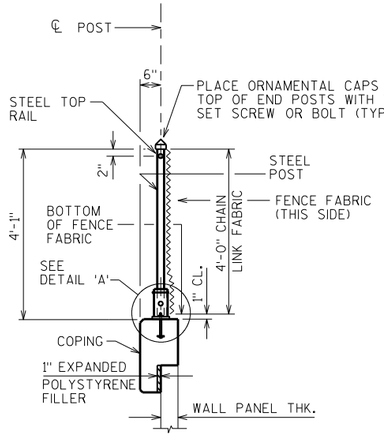
FENCE PART ELEVATION

VIEWING FABRIC SIDE

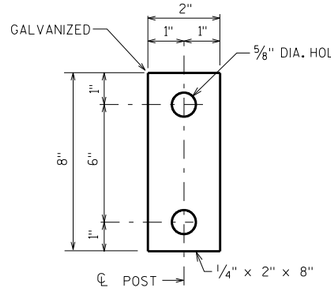


SECTION A-A

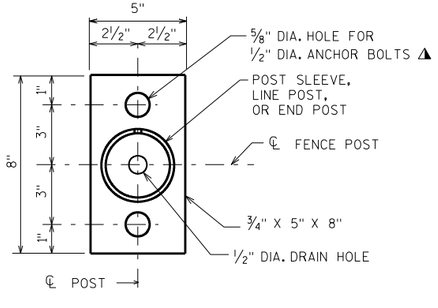
NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS



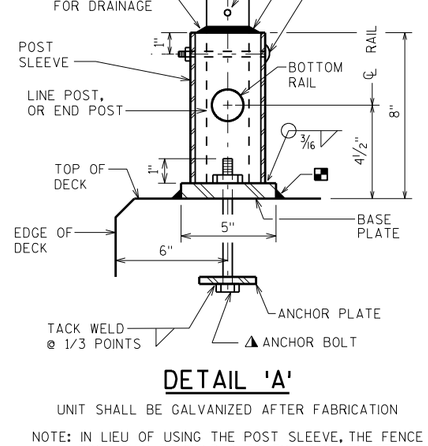
SECTION THRU FENCE



ANCHOR PLATE



BASE PLATE



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

GENERAL NOTES

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL WITH A COLORED POLYMER-COATING ON THE OUTSIDE.

FABRIC SHALL CONFORM TO ASTM F668, CLASS 2B. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626. SEE THE "BRIDGE SPECIAL PROVISIONS" FOR ADDITIONAL DETAILS.

THE COLOR OF POLYMER-COATING FOR THIS STRUCTURE SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

THE BID ITEM SHALL BE "FENCE CHAIN LINK POLYMER-COATED 4- FT.", LF.

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

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

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

◪ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

✳ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

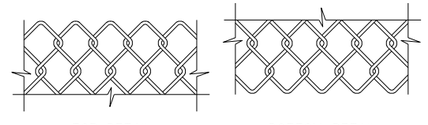
◭ 1/2" DIA. X 6 7/8" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. TYPE "S", 1/2" DIA. CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR 1/2" DIA. BOLTS. ANCHOR PLATE NOT REQUIRED WHEN TYPE "S" ANCHORS ARE USED. SEE ☆

☆ MASONRY ANCHOR TYPE S 1/2-INCH. EMBED 6" IN CONCRETE. ANCHOR, WASHER, AND NUT SHALL BE GALVANIZED.

◨ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

◥ BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4 POINT OF POST SPACING.



TOP DETAIL BOTTOM DETAIL

FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-229

DRAWN BY AMB | PLANS CK'D. VT

4'-0" CHAIN LINK FENCE DETAILS

SHEET 10

561

SCALE = 5.33333

railchan 7-13

8 15 11 6 12

8

STATE PROJECT NUMBER
5411-02-74

WALL EXTERNAL STABILITY EVALUATION

DIMENSIONS				
WALL HEIGHT (FEET)[1]	17.4	26.0	17.9	13.3
EXPOSED WALL HEIGHT (FEET)	15.9	24.5	16.4	11.8
LENGTH OF REINFORCEMENT (FEET)[3]	12.2	18.2	17.6[2]	18.4[2]
LENGTH OF REINF. / WALL HEIGHT	0.70	0.70	0.99	1.38
WALL STATION (WS)	0+69.8	1+42.7	1+69.8	2+44.8
BORING USED	B-6	B-2	B-2	B-1
CAPACITY TO DEMAND RATIO (CDR)[4]				
SLIDING ($CDR_{REQ'D}$ > 1.0)	1.4	1.5	1.0	1.0
ECCENTRICITY ($CDR_{REQ'D}$ > 1.0)	1.3	1.3	1.1	1.5
GLOBAL STABILITY ($CDR_{REQ'D}$ > 1.0)	NA	NA	1.0	1.0
BEARING RESISTANCE ($CDR_{REQ'D}$ > 1.0)	1.0[4]	1.1[4]	1.0	1.2
REQUIRED BEARING RESISTANCE (PSF)	4,500[4]	6,500[4]	6,500	6,500

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET.
2. THE WALL STABILITY EVALUATINO INCLUDED A SURCHARGE LOAD THAT WAS EQUAL TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT.
3. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH AT THAT LOCATION.
4. CDR REQUIREMENTS AND LOAD AND RESISTANCE FACTORSE ARE PRESENTED IN CH. 14 OF THE BRIDGE MANUAL.
5. REQUIRES A 4-FOOT BERM AT THE TOE OF THE WALL.
6. NA NOT APPLICABLE, GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION.

SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND/BELOW THE REINFORCING ZONE (INCL. EBS)	32	0	120
B-6			
SAND, BROWN (ELEVATION 869.3 FT - 855.6 FT)	30	0	115
CLAY, GRAY (ELEVATION 855.6 FT - 853.1 FT)	0	1,000	115
SAND, BROWN, SOME GRAVEL (ELEVATION 853.1 FT - 839.6 FT)	33	0	125
B-2			
SAND AND GRAVEL (ELEVATION 873.9 FT - 871.9 FT)	34	0	130
SILT AND CLAY, BROWN, SOME SAND (ELEVATION 871.9 FT - 865.9 FT)	0	2,000	120
SAND, BROWN, FINE TO MEDIUM, SOME SILT/GRAVEL (ELEVATION 865.9 FT - 859.4 FT)	34	0	130
SILT, GRAY (ELEVATION 859.4 FT - 854.9 FT)	0	1,000	115
SAND, BROWN, FINE TO MEDIUM, SOME SILT/GRAVEL (ELEVATION 854.9 FT - 849.9 FT)	30	0	115
SAND AND GRAVEL, BROWN, FINE TO COARSE (ELEVATION 849.9 FT - 838.9 FT)	33	0	125
SAND, GRAY/GREEN, FINE, TRACE SILT (ELEVATION 838.9 FT - 830.9 FT)	35	0	130
SAND, GRAY/GREEN, FINE, TRACE SILT (ELEVATION 830.9 FT - 825.9 FT)	31	0	115
SAND, GRAY/GREEN, FINE, TRACE SILT (ELEVATION 825.9 FT - 819.9 FT)	36	0	135
SANDSTONE (ELEVATION (819.9 FT AND BELOW)	0	25,000	140
B-1			
SAND, BROWN, SOME SILT, LITTLE GRAVEL (FILL) (ELEVATION 893.8 FT - 870.8 FT)	31	0	115
SILT, GRAY, SOME CLAY, LITTLE GRAVEL, SOME SAND (ELEVATION 870.8 FT - 862.3 FT)	0	1,000	115
SAND AND GRAVEL, BROWN, FINE TO COARSE, LITTLE SILT (ELEVATION 862.3 FT - 856.3 FT)	36	0	135
SAND, BROWN, FINE TO MEDIUM, SOME SILT/GRAVEL (ELEVATION 856.3 FT - 849.8 FT)	30	0	115
GRAVEL, BROWN, FINE TO COARSE, LITTLE SILT/SAND (ELEVATION 849.8 FT - 847.3 FT)	33	0	123
WEATHERED SANDSTONE (ELEVATION 847.3 FT AND BELOW)	0	25,000	140

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-229

DRAWN BY AMB | PLANS CK'D. VT

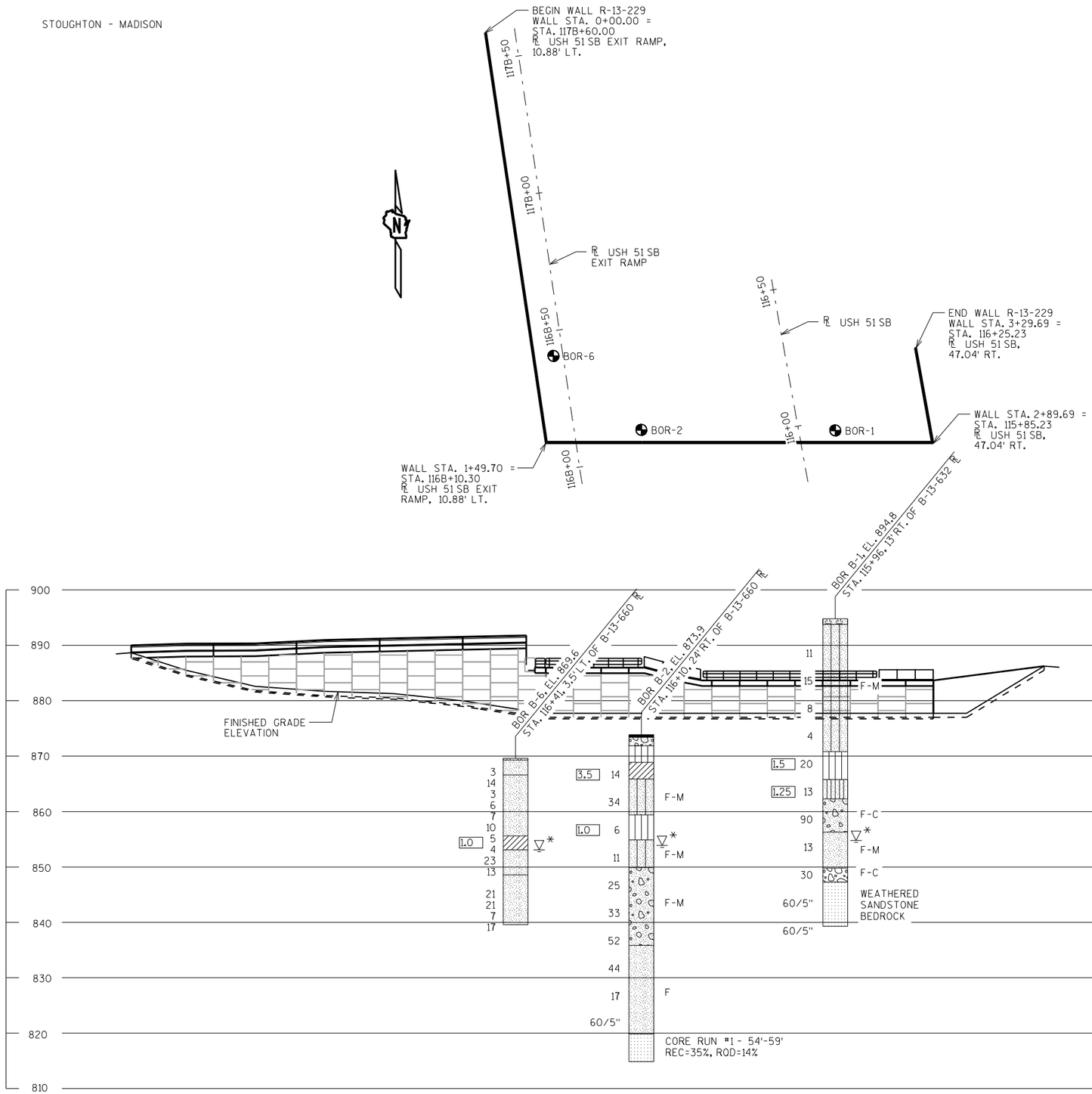
GEOTECHNICAL INFORMATION

SHEET 11

562

SCALE = 24.0

STOUGHTON - MADISON



BORINGS ON THIS SHEET WERE DERIVED FROM EXISTING STRUCTURE B-13-210, 1967 PLANS

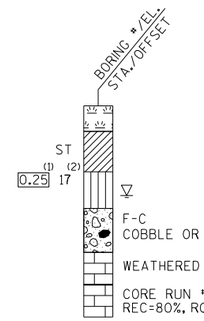
STATE PROJECT NUMBER

5411-02-74

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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-229

DRAWN BY PR/AMB | PLANS CK'D. VT

SUBSURFACE EXPLORATION

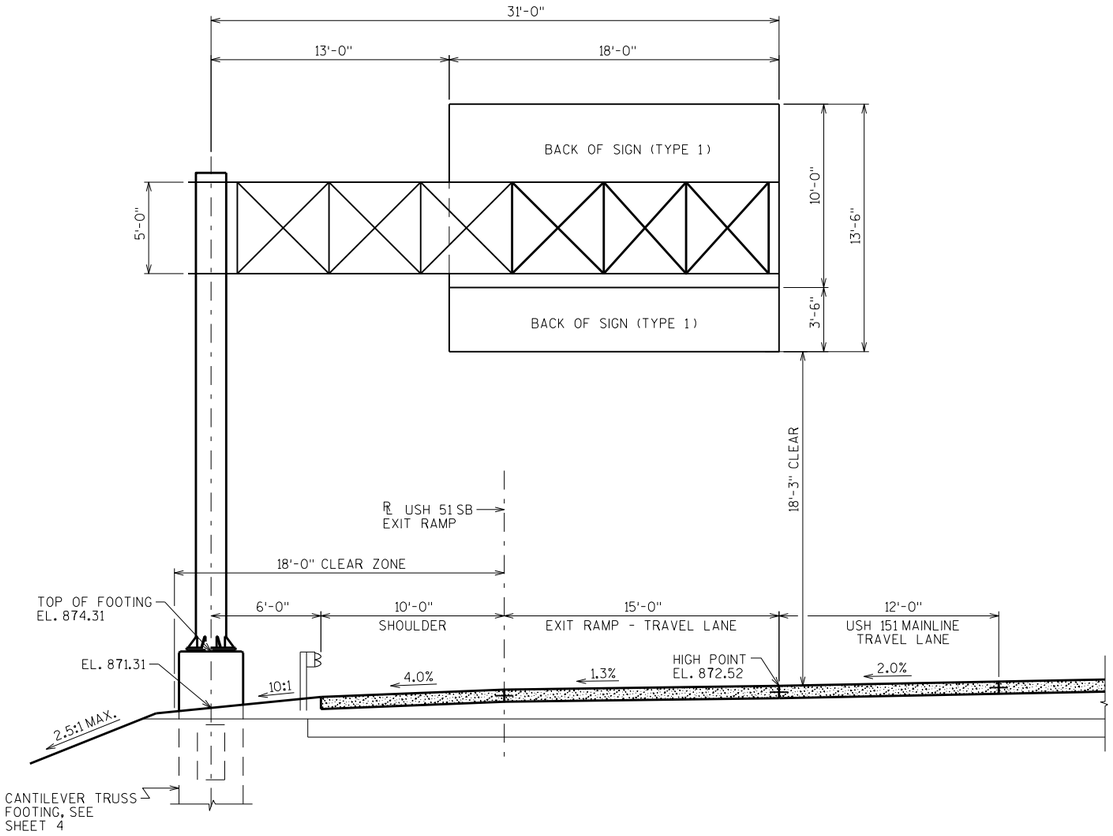
SHEET 12

563

SCALE = 20

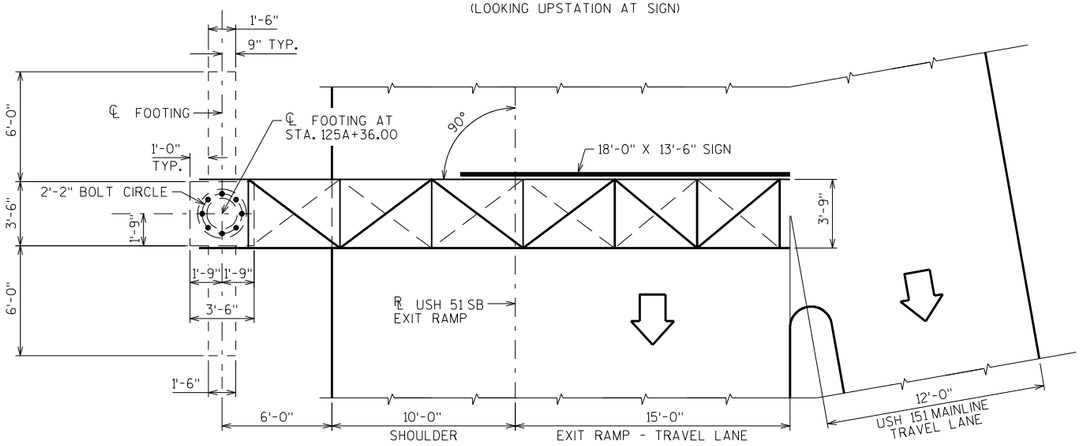
8

8



S-13-440

STA. 125A+36.00
℄ USH 51 SB EXIT RAMP
(LOOKING UPSTATION AT SIGN)



PLAN VIEW

TRAFFIC VOLUME

USH 51 SB
A.D.T. = 64,200 (2035)
R.D.S. = 60 M.P.H.

LIST OF DRAWINGS

1. SIGN BRIDGE LAYOUT
2. GALVANIZED STEEL CANTILEVER SIGN TRUSS
3. GALVANIZED STEEL CANTILEVER SIGN TRUSS DETAILS
4. CANTILEVER TRUSS FOOTING

STATE PROJECT NUMBER

5411-02-74

DESIGN DATA

SIGN BRIDGE	DESIGN SIGN AREA (SQ. FT.)	MAX. SIGN DEPTH
S-13-440	264	13'-6"

DEAD LOAD OF SIGNS IS 3 P.S.F.
DEAD LOAD - WEIGHT OF SIGN AND SUPPORTING SIGN STRUCTURE, NO PROVISIONS HAVE BEEN MADE TO ALLOW FOR LIGHTS AND CATWALKS.

ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN AND SURFACE OF MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
DEAD	100
DEAD + WIND	133
DEAD + ICE + 1/2 (WIND *)	133

* MIN. VALUE OF 25 PSF FOR GR. 3

GENERAL NOTES

EXACT LOCATION OF SIGN BRIDGE SHALL BE DETERMINED BY THE REGION TRAFFIC ENGINEER.

DRAWINGS SHALL NOT BE SCALED.

ALTERNATE DESIGNS ARE NOT ALLOWED.

HANDHOLES ARE NOT REQUIRED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVAVIZED IN ACCORDANCE WITH THE AASHTO SPECIFICATION AS STATED IN SECTION 641 OF THE WISCONSIN DOT STANDARD SPECIFICATIONS.

CENTER SIGN VERTICALLY IN THE TRUSS.

THE NEW SIGN BRIDGE WAS DESIGNED ACCORDING TO 2001 4TH EDITION OF THE AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS".

VERIFY UTILITY INTERFERENCES PRIOR TO CONSTRUCTION.

PROVIDE A 3/4" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

TOTAL ESTIMATED QUANTITIES

636.0100	SIGN SUPPORTS CONCRETE MASONRY	8	CY
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	980	LB
641.1200	SIGN BRIDGE CANTILEVERED S-13-440	1	LS

STRUCTURE DESIGN CONTACTS:
VU THAO (608) 267-2869
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/22/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE S-13-440

USH 51 SB EXIT RAMP

COUNTY DANE — ~~TOWN~~/CITY/~~VILLAGE~~ MADISON

DESIGN SPEC. AASHTO STD. SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
VT	ARC	DDS	VT

SIGN BRIDGE LAYOUT

SHEET 1 OF 4

564

I.D. 5411-02-04F

DATE: JULY 2014

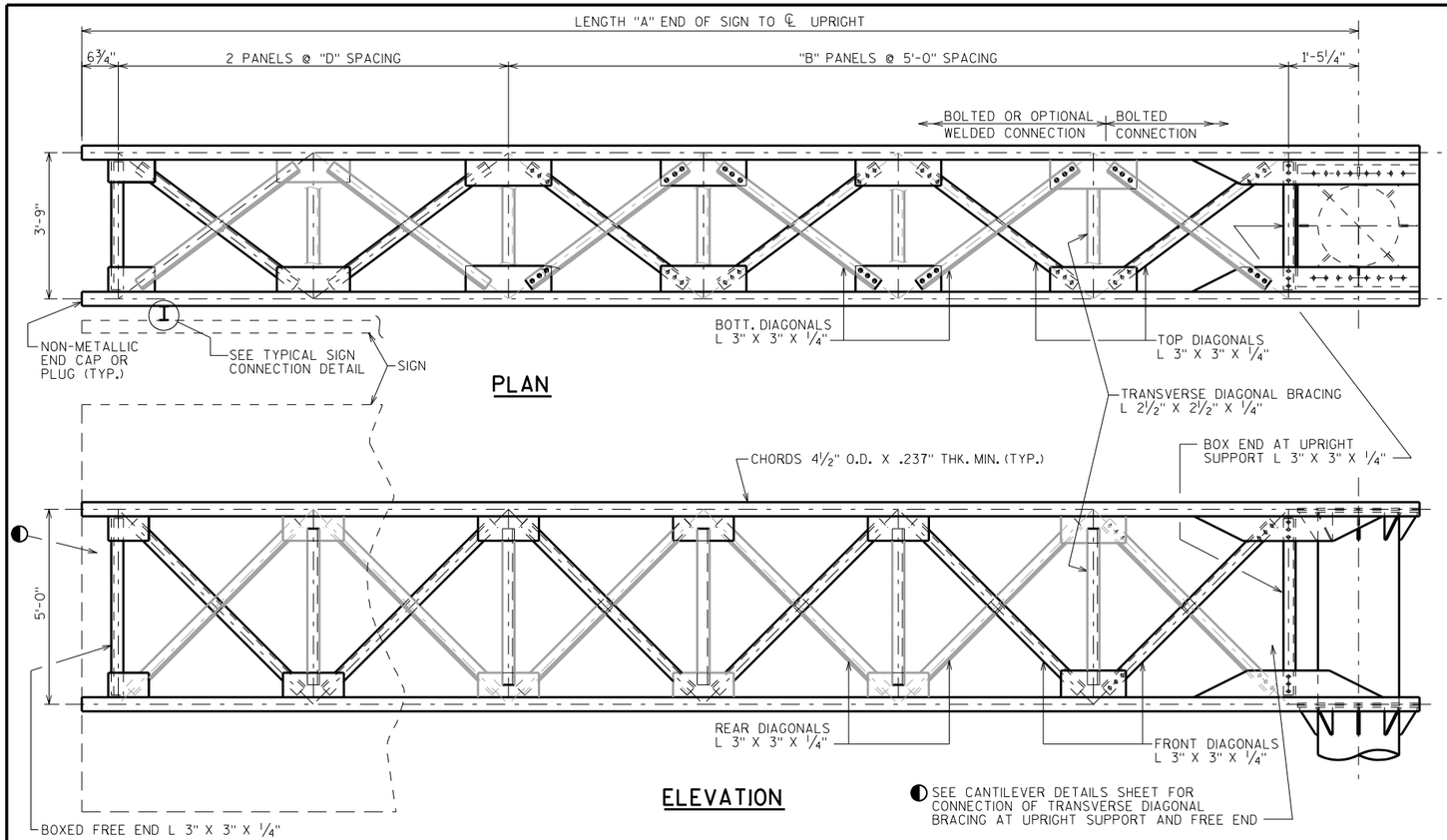
SCALE = 4.0

8

8

STATE PROJECT NUMBER

5411-02-74



PLAN

ELEVATION

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DESIGNED ACCORDING TO AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS".

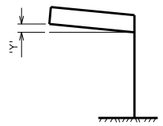
WIND VELOCITY = 90 MPH (3-SECOND GUST SPEED)

PREFABRICATE CAMBER INTO THE HORIZONTAL SUPPORT PROVIDING AN AMOUNT "Y" AT END OF TRUSS SHOWN IN "CAMBER DIAGRAM". DO NOT RAKE VERTICAL UPRIGHT BY ADJUSTMENT OF LEVELING NUTS.

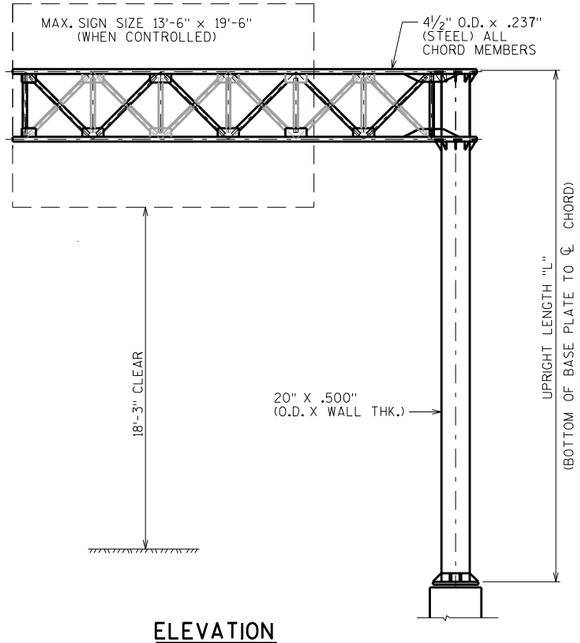
ALLOWABLE DESIGN STRESSES

CHORDS & COLUMN	API-5L-X42	fy=42,000 PSI
STRUCTURAL ANGLES	ASTM A709 GRADE 36	fy=36,000 PSI
PLATES & BARS	ASTM A709 GRADE 36	fy=36,000 PSI
ANCHOR BOLTS	AASTO M314	fy=55,000 PSI
HIGH STRENGTH BOLTS	A325	fy=92,000 PSI
STRUCTURAL MEMBERS GALVANIZED	A123	
HARDWARE GALVANIZED		A153 CLASS C

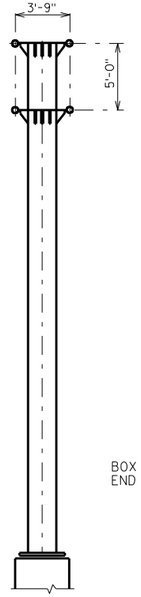
STRUCTURE	"A"	"L"	"B"	"D"	"Y"
S-13-440	31'-0"	25'-6"	4	4'-6"	2⅜"



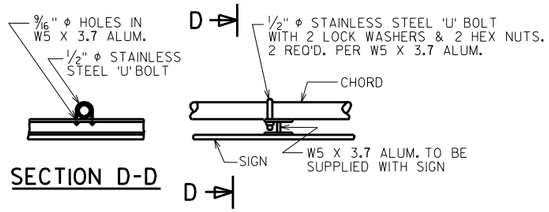
CAMBER DIAGRAM



ELEVATION

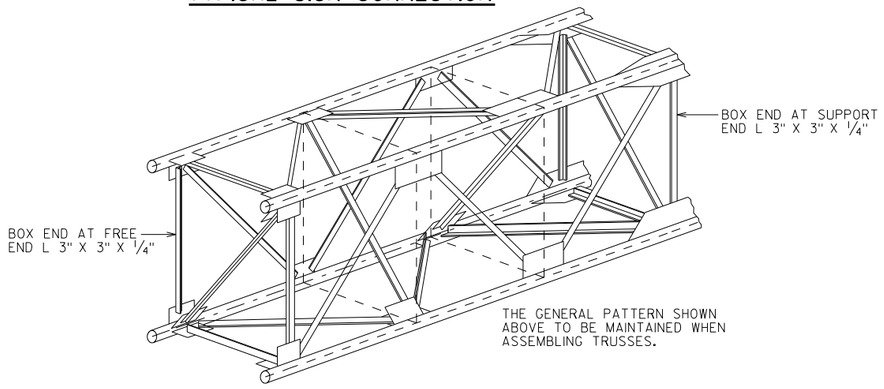


END VIEW



SECTION D-D

TYPICAL SIGN CONNECTION



TYPICAL TRUSS SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-13-440

DRAWN BY DDS | PLANS CK'D. VT

GALVANIZED STEEL CANTILEVER SIGN TRUSS

SHEET 2

565

8

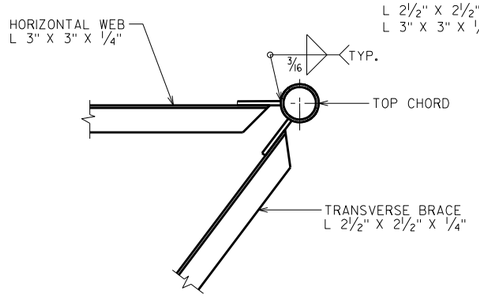
8

SCALE = 2.25

9-08

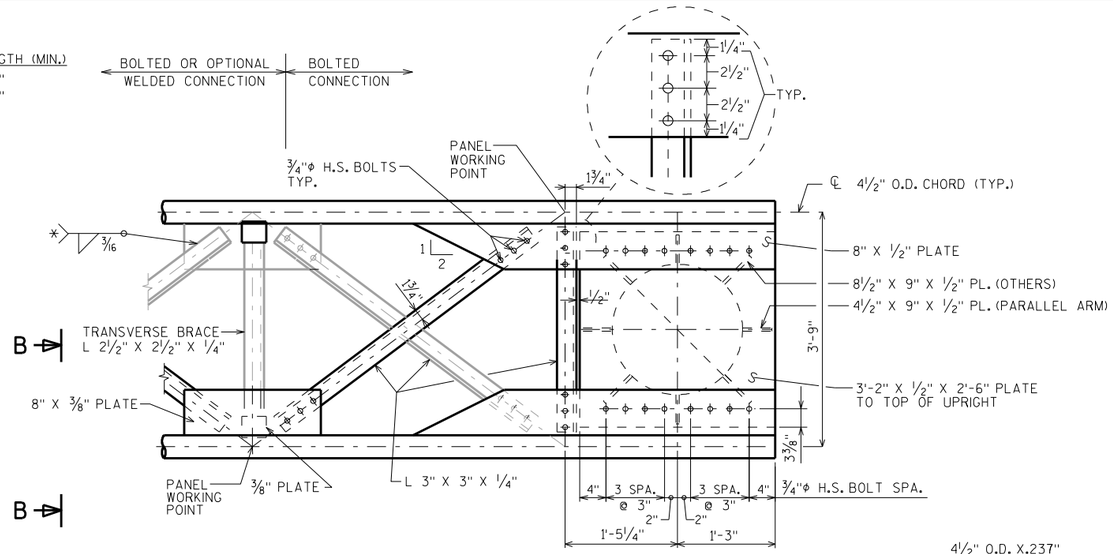
STATE PROJECT NUMBER

5411-02-74

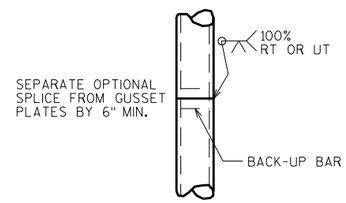


SECTION B-B

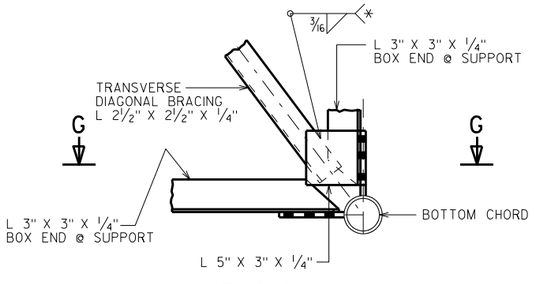
* ANGLE	WELD LENGTH (MIN.)
L 2 1/2" X 2 1/2" X 1/4"	7"
L 3" X 3" X 1/4"	8"



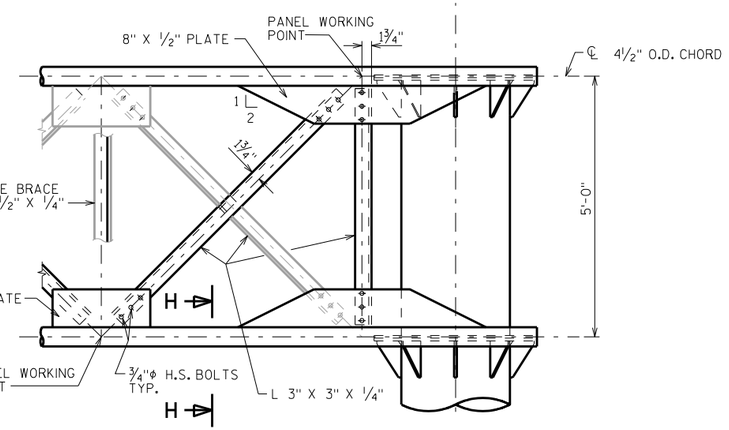
PLAN TRUSS TO UPRIGHT



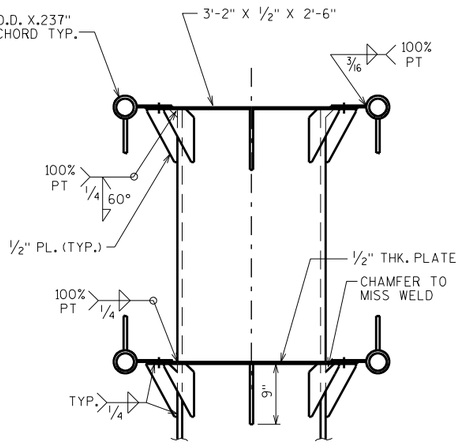
OPTIONAL COLUMN OR CHORD SPLICE DETAIL



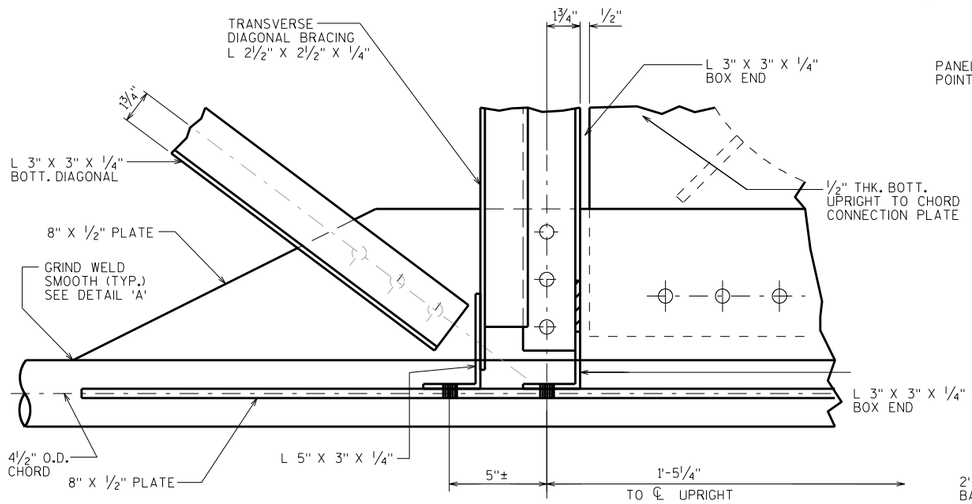
SECTION H-H



ELEVATION TRUSS TO UPRIGHT

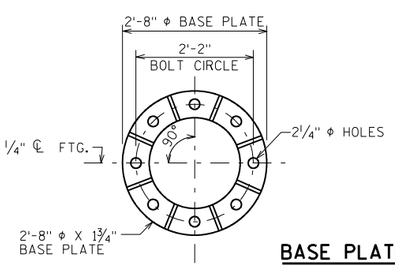


END VIEW TRUSS TO UPRIGHT

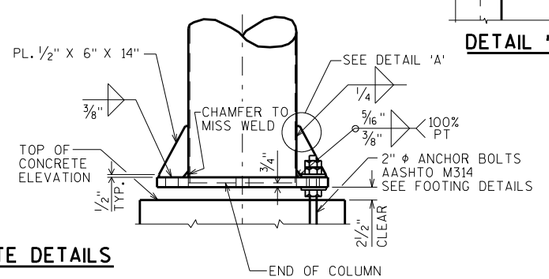


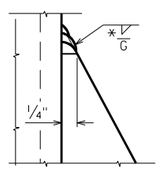
SECTION G-G

(LOOKING DOWN @ BOTT. HORIZ. PLANE @ FRONT CHORD)



BASE PLATE DETAILS





DETAIL 'A'

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-13-440

DRAWN BY DDS | PLANS CK'D. VT

GALVANIZED STEEL CANTILEVER SIGN TRUSS DETAILS

SHEET 3

566

8

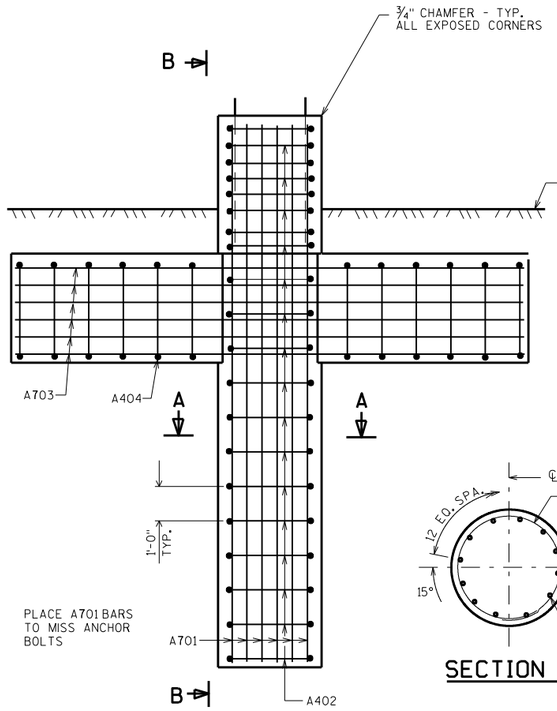
8

SCALE = 2.25

8-08

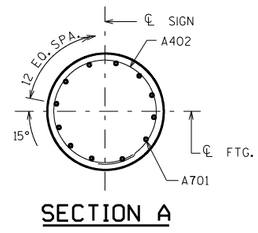
STATE PROJECT NUMBER

5411-02-74

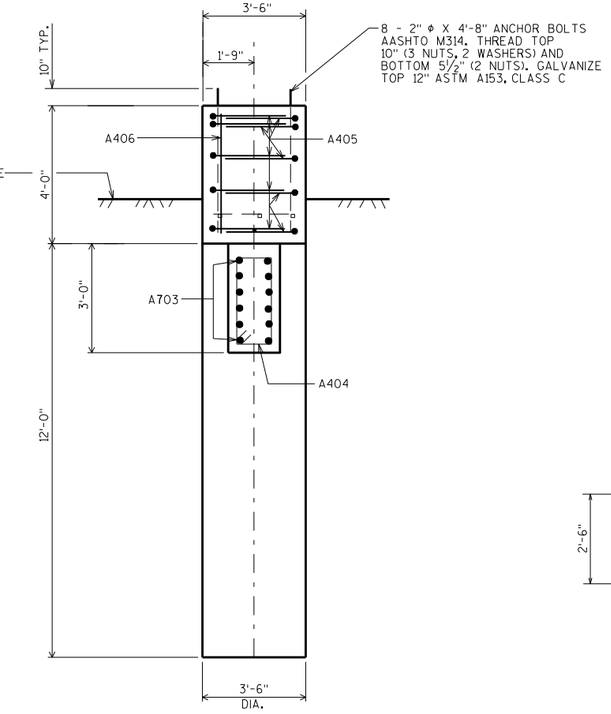


ELEVATION

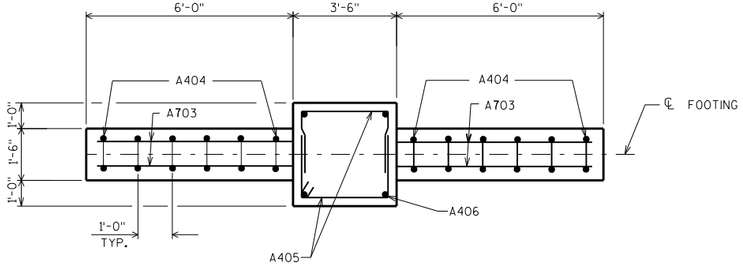
(8 C.Y.)



SECTION A



SECTION B

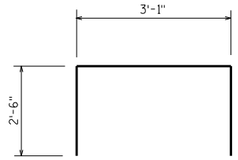


PLAN

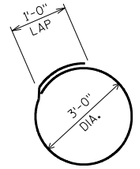
NOTE:
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

BILL OF BARS

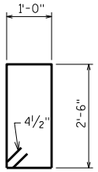
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	CUT. DIAG.	BUN-DLE	LOCATION
A701		12	15'-6"				FOOTING - COLUMN/TOP
A402		16	10'-6"	X			FOOTING - COLUMN/TOP
A703		12	15'-0"				FOOTING - WINGS
A404		12	7'-6"	X			FOOTING - WINGS
A405		10	7'-11"	X			FOOTING - TOP
A406		4	3'-6"				FOOTING - TOP - COLUMNS



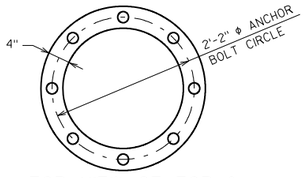
A405



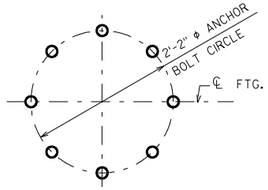
A402

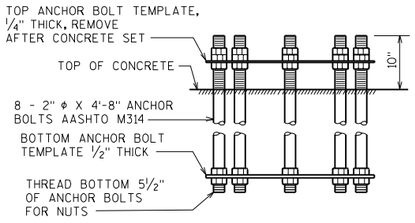


A404
(STIRRUP)



TOP VIEW OF TOP & BOTTOM TEMPLATES





ANCHOR BOLT DETAILS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR UNLESS DETAILED OTHERWISE.

ALLOWABLE DESIGN STRESSES

CONCRETE MASONRY ——— f'c=3,500 PSI

HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ——— fy=60,000 PSI

ANCHOR BOLTS AASHTO M314 ——— fy=55,000 PSI

FOUNDATION DATA

ALLOWABLE SOIL BEARING PRESSURE = 2T/SF

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-13-440

DRAWN BY DDS | PLANS CK'D. VT

CANTILEVER TRUSS FOOTING

SHEET 4

567

SCALE = 7.25

8

8

EARTHWORK PROJECT I.D. 5411-02-74 - DIVISION 1

DIVISION 1 STATION (Mainline south end)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
107+50.00	10750		19	0.00	138	0	0	0	0	0	0	0	0	0	0	0	0
108+00.00	10800	50	0	0.00	707	0	0	17	0	782	0	0	17	977	0	0	-960
108+50.00	10850	50	0	0.00	1474	0	0	0	0	2019	0	0	17	3501	0	0	-3483
108+69.02	10869	19.02	0	0.00	1688	0	0	0	0	1114	0	0	17	4893	0	0	-4875
108+82.25	10882	13.23	0	0.00	2206	0	0	0	0	954	0	0	17	6085	0	0	-6068
109+00.00	10900	30.98	0	0.00	2397	0	0	0	0	2641	0	0	17	9386	0	0	-9369
109+07.25	10907	25	0	0.00	2686	0	0	0	0	2353	0	0	17	12327	0	0	-12310
109+22.35	10922	22.35	0	0.00	2728	0	0	0	0	2241	0	0	17	15129	0	0	-15111
109+35.24	10935	27.99	0	0.00	3186	0	0	0	0	3065	0	0	17	18960	0	0	-18943
109+50.00	10950	27.65	0	0.00	3298	0	0	0	0	3320	0	0	17	23110	0	0	-23093
110+00.00	11000	50	0	0.00	3115	0	0	0	0	5937	0	0	17	30532	0	0	-30515
110+29.02	11029	29.02	0	0.00	1719	0	0	0	0	2597	0	0	17	33779	0	0	-33761
110+50.00	11050	20.98	0	0.00	1355	0	0	0	0	1194	0	0	17	35271	0	0	-35254
111+00.00	11100	50	0	0.00	810	0	0	0	0	2005	0	0	17	37778	0	0	-37760
111+36.02	11136	36.02	0	0.00	1052	0	0	0	0	1242	0	0	17	39330	0	0	-39313
111+50.00	11150	13.98	0	0.00	1113	0	0	0	0	560	0	0	17	40031	0	0	-40013
111+91.68	11192	41.68	0	0.00	1133	0	0	0	0	1733	0	0	17	42197	0	0	-42180
								17	0	33758	0	0					

DIVISION 1 STATION (Entrance Ramp)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
103+75.00	10375		58	0.00	0	0	0	0	0	0	0	0					0
104+00.00	10400	25	56	0.00	0	0	0	53	25	0	0	0	53	0	0	0	28
104+19.33	10419	19.33	53	0.00	0	0	0	39	25	0	0	0	92	0	0	0	42
104+50.00	10450	30.67	55	0.00	0	0	0	61	25	0	0	0	153	0	0	0	78
105+00.00	10500	50	45	0.00	79	0	0	93	25	73	0	0	246	91	0	0	54
105+50.00	10550	50	78	0.00	11	0	0	114	25	83	0	156	360	195	0	93	40
106+00.00	10600	50	223	0.00	0	0	0	279	25	10	0	0	639	207	0	93	281
106+50.00	10650	50	3012	0.00	0	0	227	2995	25	0	0	210	3634	207	0	219	3251
107+00.00	10700	50	4311	0.00	0	0	261	6780	25	0	0	452	10414	207	0	491	10006
107+50.00	10750	50	4492	0.00	633	0	291	8151	25	586	0	511	18565	940	0	797	17400
107+91.56	10792	41.56	4525	0.00	978	0	297	6940	25	1240	0	453	25505	2490	0	1069	22765
108+00.00	10800	8.44	4480	0.00	1022	0	297	1408	25	313	0	93	26913	2880	0	1124	23756
108+50.00	10850	50	4367	0.00	1086	0	308	8192	25	1952	0	560	35104	5320	0	1461	29484
109+00.00	10900	50	4258	0.00	1071	0	292	7986	25	1997	0	556	43091	7817	0	1794	34948
109+24.56	10925	24.56	4072	0.00	997	0	279	3789	25	941	0	260	46879	8992	0	1950	37536
109+50.00	10950	25.44	3699	0.00	942	0	263	3661	25	914	0	255	50541	10134	0	2103	40030
110+00.00	11000	50	3859	0.00	760	0	233	6999	25	1575	0	459	57539	12103	0	2378	45035
110+06.82	11007	6.82	2816	0.00	622	0	221	843	25	174	0	57	58382	12321	0	2413	45635
110+42.82	11043	36	2174	0.00	401	0	189	3326	25	682	0	273	61709	13174	0	2577	48083
110+50.00	11050	7.18	1982	0.00	382	0	180	553	25	104	0	49	62261	13304	0	2606	48480
110+75.00	11075	25	1398	0.00	155	0	158	1565	25	249	0	156	63826	13616	0	2700	49709
110+79.16	11079	4	1516	0.00	135	0	154	224	25	22	0	24	62486	13332	0	2715	48679
111+00.00	11100	20.84	1167	0.00	30	0	129	1035	25	64	0	109	63521	13412	0	2780	49610
111+51.82	11152	51.82	34	0.00	3	0	0	1153	25	32	0	124	64674	13452	0	2854	50697
112+00.30	11200	48.48	24	0.00	112	0	0	52	25	103	0	0	64726	13581	0	2854	50595
112+50.00	11250	49.7	20	0.00	99	0	0	41	25	193	0	0	64767	13823	0	2854	50369
112+72.96	11273	22.96	20	0.00	81	0	0	17	25	76	0	0	64784	13919	0	2854	50265
113+00.00	11300	27.04	20	0.00	61	0	0	20	25	71	0	0	64804	14007	0	2854	50172
113+09.30	11309	9.3	20	0.00	47	0	0	7	25	19	0	0	64810	14031	0	2854	50130
113+45.30	11345	36	20	0.00	29	0	0	27	25	51	0	0	64837	14094	0	2854	50068
113+50.00	11350	4.7	23	0.00	26	0	0	4	25	5	0	0	64841	14100	0	2854	50041
114+00.00	11400	50	42	0.00	8	0	0	60	25	31	0	0	64901	14139	0	2854	50037
114+50.00	11450	50	56	0.00	5	0	0	91	25	12	0	0	64992	14154	0	2854	50088
115+00.00	11500	50	64	0.00	3	0	0	112	25	0	0	0	65104	14154	0	2854	50174
115+50.00	11550	50	67	0.00	0	0	0	122	25	3	0	0	65226	14158	0	2854	50268
116+00.00	11600	50	89	0.00	0	0	0	145	25	0	0	0	65371	14158	0	2854	50388
								66936	0	11575	0	4757					

9

9

PROJECT NO: 5411-02-74 | HWY: USH 51 | COUNTY: DANE | EARTHWORK | SHEET 568 E

EARTHWORK CONTINUED - DIVISION 1

DIVISION 1 STATION (Exit Ramp south end)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
104+00.00	10400		57	0.00	2	0	0	0	0	0	0	0					0
104+50.00	10450	50	113	0.00	0	0	0	158	20	1	0	0	158	2	0	0	136
105+00.00	10500	50	78	0.00	1	0	0	177	20	1	0	0	335	3	0	0	292
105+50.00	10550	50	67	0.00	7	0	0	134	20	7	0	0	469	12	0	0	398
106+00.00	10600	50	52	0.00	2	0	0	110	20	8	0	0	580	22	0	0	479
106+50.00	10650	50	42	0.00	2	0	0	88	20	3	0	0	667	26	0	0	542
107+00.00	10700	50	32	0.00	7	0	0	69	20	9	0	0	736	37	0	0	580
107+19.06	10719		26	0.00	13	0	0	0	20	0	0	0	736	37	0	0	560
107+50.00	10750	30.94	11	0.00	7	0	0	21	20	12	0	0	758	52	0	0	548
107+87.73	10788	37.73	16	0.00	21	0	0	19	20	20	0	0	777	76	0	0	522
108+00.00	10800	12.27	18	0.00	61	0	0	8	20	19	0	0	785	100	0	0	487
108+50.00	10850	50	0	0.00	385	0	0	16	20	412	0	0	801	615	0	0	-31
109+00.00	10900	50	0	0.00	881	2286	0	0	20	1172	2117	0	801	2079	3175	0	-1516
109+50.00	10950	50	0	0.00	1295	2162	0	0	20	2015	4119	0	801	4598	9353	0	-4054
110+00.00	11000	50	0	0.00	1648	2118	0	0	20	2726	3963	0	801	8005	15297	0	-7481
110+50.00	11050	50	0	0.00	1927	1573	0	0	20	3311	3418	0	801	12143	20424	0	-11639
111+00.00	11100	50	0	0.00	2018	1438	0	0	20	3653	2788	0	801	16709	24606	0	-16225
111+36.43	11136	36.43	0	0.00	2298	1274	0	0	20	2912	1830	0	801	20349	27350	0	-19885
111+50.00	11150	13.57	0	0.00	2388	1373	0	0	20	1178	665	0	801	21821	28348	0	-21376
112+00.00	11200	50	0	0.00	3004	1711	0	0	20	4992	2856	0	801	28062	32631	0	-27637
112+05.10	11205	5.1	0	0.00	3002	1711	0	0	20	567	323	0	801	28771	33116	0	-28366
112+50.00	11250	44.9	0	0.00	4633	1641	0	0	20	6349	2787	0	801	36707	37297	0	-36321
113+00.00	11300	50	0	0.00	4801	1670	0	0	20	8736	3066	0	801	47626	41895	0	-47261
113+53.20	11353	53.2	0	0.00	2036	528	0	0	20	6736	2165	0	801	56046	45143	0	-55700
								801	455	44837	30096	0					

DIVISION 1 STATION (Railroad)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
05+00.00	500		6	0.00	0	0	0	0	0	0	0	0					0
05+06.00	506	6	0	0.00	0	0	0	1	0	0	0	0	1	0	0	0	1
05+50.00	550	44	0	0.00	0	0	0	0	0	0	0	0	1	0	0	0	1
06+00.00	600	50	0	0.00	8	0	0	0	0	7	0	0	1	9	0	0	-8
06+50.00	650	50	0	0.00	6	0	0	0	0	13	0	0	1	25	0	0	-24
07+00.00	700	50	0	0.00	6	0	0	0	0	12	0	0	1	40	0	0	-39
07+50.00	750	50	0	0.00	3	0	0	0	0	8	0	0	1	50	0	0	-50
								1	0	40	0	0					

DIVISION 1 STATION (Stage 2 Traffic Staging- south)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
100+00.00	10000	0	36	1.75	0	0	0	0	0	0	0	0	0	0	0	0	0
101+00.00	10100	100	25	1.75	0	0	0	113	6	0	0	0	113	0	0	0	107
102+00.00	10200	100	14	1.75	0	0	0	72	6	1	0	0	186	1	0	0	172
103+00.00	10300	100	11	1.75	1	0	0	45	6	2	0	0	231	4	0	0	208
104+00.00	10400	100	24	1.75	1	0	0	65	6	2	0	0	296	6	0	0	264
105+00.00	10500	100	28	1.75	31	0	0	97	6	58	0	0	393	79	0	0	281
106+00.00	10600	100	117	0.00	0	0	0	269	3	57	0	0	662	150	0	0	476
107+00.00	10700	100	116	0.00	0	0	0	433	0	0	0	0	1094	150	0	0	909
108+00.00	10800	100	0	0.00	561	0	0	215	0	1040	0	0	1310	1450	0	0	-176
109+00.00	10900	100	0	0.00	2286	0	0	0	0	5273	0	0	1310	8040	0	0	-6766
110+00.00	11000	100	0	0.00	3928	0	0	0	0	11506	0	0	1310	22423	0	0	-21149
111+00.00	11100	100	0	0.00	1131	0	0	0	0	9368	0	0	1310	34133	0	0	-32859
112+00.00	11200	100	0	0.00	2828	0	0	0	0	7332	0	0	1310	43297	0	0	-42023
								1310	36	34638	0	0					

EARTHWORK PROJECT I.D. 5411-02-74 - DIVISION 2

DIVISION 2 STATION (Exit Ramp north end)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
116+18.00	11618		0	0.00	1398	0	0	0	0	0	0	0		0	0	0	0
116+50.00	11650	32	0	0.00	1279	0	0	0	0	1586	0	0	0	1983	0	0	-1983
117+00.00	11700	50	0	0.00	1191	0	0	0	0	2287	0	0	0	4841	0	0	-4841
117+50.00	11750	50	0	0.00	2331	0	0	0	0	3262	0	0	0	8918	0	0	-8918
118+00.00	11800	50	0	0.00	2006	0	0	0	0	4016	0	0	0	13938	0	0	-13938
118+50.00	11850	50	0	0.00	1804	0	0	0	0	3528	0	0	0	18348	0	0	-18348
119+00.00	11900	50	0	0.00	1646	0	0	0	0	3195	0	0	0	22341	0	0	-22341
119+50.00	11950	50	0	0.00	1488	0	0	0	0	2902	0	0	0	25969	0	0	-25969
120+00.00	12000	50	0	0.00	1323	0	0	0	0	2603	0	0	0	29223	0	0	-29223
120+50.00	12050	50	0	0.00	1141	0	0	0	0	2281	0	0	0	32075	0	0	-32075
121+00.00	12100	50	0	0.00	1067	0	0	0	0	2045	0	0	0	34630	0	0	-34630
121+50.00	12150	50	0	0.00	809	0	0	0	0	1738	0	0	0	36802	0	0	-36802
121+91.42	12191	41.42	0	0.00	682	0	0	0	0	1144	0	0	0	38232	0	0	-38232
								0	0	30586	0	0					

DIVISION 2 STATION (Multi-Use Path)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
52+35.00	5235	0	0	0.00	133	0	0	0	0	0	0	0			0	0	
52+58.00	5258	23	0	0.00	82	0	0	0	0	91	0	0	0	114	0	0	-114
52+82.00	5282	24	0	0.00	349	0	0	0	0	191	0	0	0	239	0	0	-353
53+00.00	5300	18	0	0.00	415	0	0	0	0	255	0	0	0	318	0	0	-672
53+17.00	5317	17	0	0.00	556	0	0	0	0	306	0	0	0	382	0	0	-1054
53+37.00	5337	20	0	0.00	579	0	0	0	0	420	0	0	0	525	0	0	-1579
53+50.00	5350	13	0	0.00	499	0	0	0	0	259	0	0	0	324	0	0	-1903
53+75.00	5375	25	0	0.00	424	0	0	0	0	427	0	0	0	534	0	0	-2437
54+00.00	5400	25	3	0.00	496	0	0	1	0	426	0	0	1	533	0	0	-2969
								1	0	2376	0	0					

DIVISION 2 STATION (Stage 2 Traffic Staging- north)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
122+00.00	12200	0	0	0.00	537	0	0	0	0	0	0	0	0	0	0	0	0
123+00.00	12300	100	0	0.00	362	0	0	0	0	1664	0	0	0	2080	0	0	-2080
124+00.00	12400	100	0	0.00	322	0	0	0	0	1266	0	0	0	3663	0	0	-3663
125+00.00	12500	100	0	0.00	227	0	0	0	0	1017	0	0	0	4934	0	0	-4934
126+00.00	12600	100	2	2.29	159	0	0	2	2	716	0	0	2	5829	0	0	-5826
127+00.00	12700	100	13	13.02	86	0	0	9	9	454	0	0	11	6396	0	0	-6374
128+00.00	12800	100	28	27.98	49	0	0	76	76	249	0	0	87	6707	0	0	-6685
129+00.00	12900	100	40	39.76	29	0	0	125	125	144	0	0	213	6887	0	0	-6865
130+00.00	13000	100	41	41.10	11	0	0	150	150	74	0	0	362	6979	0	0	-6957
131+00.00	13100	100	51	50.53	4	0	0	170	170	28	0	0	532	7014	0	0	-6992
132+00.00	13200	100	47	46.82	8	0	0	180	180	23	0	0	712	7042	0	0	-7021
133+00.00	13300	100	45	44.74	9	0	0	170	170	32	0	0	882	7082	0	0	-7060
134+00.00	13400	100	40	39.92	10	0	0	157	157	35	0	0	1039	7125	0	0	-7104
135+00.00	13500	100	33	32.86	11	0	0	135	135	38	0	0	1173	7172	0	0	-7151
136+00.00	13600	100	22	22.20	0	0	0	102	102	20	0	0	1275	7197	0	0	-7175
137+00.00	13700	100	12	11.50	0	0	0	62	62	0	0	0	1338	7197	0	0	-7175
								1338	1338	5758	0	0					

EARTHWORK PROJECT I.D. 5411-02-74 - DIVISION 3

DIVISION 1 STATION (Mainline south end)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
99+75.07	9975		106	27.75	2	0	0	0	0	0	0	0					0
100+00.00	10000	24.93	102	27.75	2.54	0	0	96	26	2	0	0	96	3	0	0	68
100+36.67	10037	36.67	109	27.75	3	0	0	143	38	3	0	0	239	7	0	0	169
100+50.00	10050	13.33	109	27.75	3	0	0	54	14	1	0	0	293	9	0	0	207
101+00.00	10100	50	111	27.75	5	0	0	203	51	7	0	0	496	18	0	0	349
101+43.67	10144	43.67	158	27.75	4	0	0	218	45	7	0	0	714	27	0	0	513
101+50.00	10150	6.33	116	27.75	9	0	0	32	7	2	0	0	746	29	0	0	537
102+00.00	10200	50	119	27.75	10	0	0	217	51	18	0	0	963	51	0	0	680
102+50.34	10250	50.34	111	27.75	11	0	0	214	52	20	0	0	1177	76	0	0	818
103+00.00	10300	49.66	120	27.75	10	0	0	212	51	19	0	0	1390	101	0	0	955
103+03.67	10304	3.67	121	27.75	10	0	0	16	4	1	0	0	1406	102	0	0	966
103+50.00	10350	46.33	128	27.75	9	0	0	213	48	16	0	0	1619	123	0	0	1111
104+00.00	10400	50	81	18.75	8	0	0	193	43	16	0	0	1813	142	0	0	1242
104+50.00	10450	50	90	18.75	4	0	0	158	35	11	0	0	1971	156	0	0	1352
105+00.00	10500	50	101	21.25	1	0	0	177	37	4	0	0	2147	161	0	0	1486
105+50.00	10550	50	108	21.25	0	0	0	193	39	1	0	0	2341	163	0	0	1639
106+00.00	10600	50	77	21.25	0	0	0	171	39	0	0	0	2512	163	0	0	1771
106+50.00	10650	50	92	21.25	5	0	0	157	39	5	0	0	2669	168	0	0	1882
107+00.00	10700	50	162	21.25	2	0	0	235	39	6	0	0	2904	176	0	0	2070
107+50.00	10750	50	122	21.25	14	0	0	263	39	15	0	0	3167	195	0	0	2275
108+00.00	10800	50	82	21.25	58	0	0	189	39	67	0	0	3356	279	0	0	2341
108+50.00	10850	50	57	21.25	84	0	0	128	39	132	0	0	3485	443	0	0	2266
108+69.02	10869	19.02	59	21.25	109	0	0	41	15	68	0	0	3525	528	0	0	2207
108+82.25	10882	13.23	45	21.25	139	0	0	25	10	61	0	0	3551	604	0	0	2146
109+00.00	10900	30.98	43	21.25	147	0	0	51	24	164	0	0	3601	809	0	0	1966
109+07.25	10907	25	56	21.25	179	0	0	46	20	151	0	0	3647	998	0	0	1804
109+22.35	10922	22.35	63	21.25	184	0	0	49	18	150	0	0	3697	1186	0	0	1648
109+35.24	10935	27.99	65	21.25	210	0	0	66	22	204	0	0	3763	1440	0	0	1438
109+50.00	10950	27.65	85	21.25	209	0	0	77	22	215	0	0	3840	1709	0	0	1225
110+00.00	11000	50	110	21.25	265	0	0	181	39	440	0	0	4021	2258	0	0	817
110+29.02	11029	29.02	122	21.25	342	0	0	125	23	327	0	0	4146	2666	0	0	511
110+50.00	11050	20.98	100	21.25	408	0	0	86	17	291	0	0	4232	3030	0	0	216
111+00.00	11100	50	0	21.25	696	0	0	92	39	1022	0	0	4324	4308	0	0	-1009
111+36.02	11136	36.02	0	21.25	2171	0	0	0	28	1912	0	0	4324	6698	0	0	-3427
111+50.00	11150	13.98	0	21.25	2387	0	0	0	11	1180	0	0	4324	8173	0	0	-4913
111+91.68	11192	41.68	0	21.25	2303	0	0	0	33	3620	0	0	4324	12699	0	0	-9471
								4324	1097	10159	0	0					

DIVISION 1 STATION (Stage 2 Traffic Temporary Pavement Removals)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
100+00.00	10000	0	15	14.50	0	0	0	0	0	0	0	0	0	0	0	0	0
101+00.00	10100	100	15	14.50	0	0	0	54	54	0	0	0	54	0	0	0	0
102+00.00	10200	100	15	14.50	0	0	0	54	54	0	0	0	107	0	0	0	0
103+00.00	10300	100	15	14.50	0	0	0	54	54	0	0	0	161	0	0	0	0
104+00.00	10400	100	15	14.50	0	0	0	54	54	0	0	0	215	0	0	0	0
105+00.00	10500	100	18	17.50	0	0	0	59	59	0	0	0	274	0	0	0	0
106+00.00	10600	100	27	26.50	0	0	0	81	81	0	0	0	356	0	0	0	0
107+00.00	10700	100	15	14.50	0	0	0	76	76	0	0	0	431	0	0	0	0
108+00.00	10800	100	15	14.50	0	0	0	54	54	0	0	0	485	0	0	0	0
109+00.00	10900	100	15	14.50	0	0	0	54	54	0	0	0	539	0	0	0	0
110+00.00	11000	100	15	14.50	0	0	0	54	54	0	0	0	593	0	0	0	0
111+00.00	11100	100	29	28.70	0	0	0	80	80	0	0	0	673	0	0	0	0
112+00.00	11200	100	15	14.50	0	0	0	80	80	0	0	0	753	0	0	0	0
113+00.00	11300	100	3	2.50	0	0	0	31	31	0	0	0	784	0	0	0	0
								784	784	0	0	0					

DIVISION 1 STATION (Stage 2 Traffic Temporary Pavement Removals)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
124+00.00	12400	0	5	5.25	0	0	0	0	0	0	0	0	0	0	0	0	0
125+00.00	12500	100	32	7.53	0	0	0	69	24	0	0	0	69	0	0	0	46
126+00.00	12600	100	129	73.97	0	0	0	299	151	0	0	0	369	0	0	0	194
127+00.00	12700	100	104	68.50	0	0	0	432	264	0	0	0	800	0	0	0	362
128+00.00	12800	100	28	55.75	0	0	0	244	230	0	0	0	1044	0	0	0	375
129+00.00	12900	100	54	42.25	0	0	0	151	181	0	0	0	1195	0	0	0	345
130+00.00	13000	100	24	16.50	0	0	0	145	109	0	0	0	1340	0	0	0	381
131+00.00	13100	100	15	14.50	0	0	0	71	57	0	0	0	1412	0	0	0	395
132+00.00	13200	100	15	14.50	0	0	0	54	54	0	0	0	1465	0	0	0	395
133+00.00	13300	100	29	14.50	0	0	0	80	54	0	0	0	1545	0	0	0	422
134+00.00	13400	100	15	14.50	0	0	0	80	54	0	0	0	1625	0	0	0	448
135+00.00	13500	100	3	2.50	0	0	0	31	31	0	0	0	1657	0	0	0	448
								1657	1209	0	0	0					

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PROJECT NO: 5411-02-74 | HWY: USH 51 | COUNTY: DANE | EARTHWORK | SHEET 571 E

FILE NAME : P:\90s\93\00093080\CADD\Planshts\Earthwork\earthwork border.dgn PLOT DATE : 5/20/2014 PLOT BY : jdolens PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 49

EARTHWORK PROJECT I.D. 5411-02-74 - DIVISION 4

DIVISION 2 STATION (Mainline north end)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
116+07.38	11607		0	21.25	531	0	0	0	0		0	0			0	0	0
116+50.00	11650	42.62	0	21.25	481	0	0	0	34	799	0	0	0	998	0	0	-1032
117+00.00	11700	50	0	21.25	471	0	0	0	39	882	0	0	0	2100	0	0	-2173
117+50.00	11750	50	0	21.25	463	0	0	0	39	865	0	0	0	3182	0	0	-3294
118+00.00	11800	50	0	21.25	456	0	0	0	39	851	0	0	0	4245	0	0	-4397
118+50.00	11850	50	0	21.25	458	0	0	0	39	846	0	0	0	5303	0	0	-5494
119+00.00	11900	50	0	21.25	436	0	0	0	39	827	0	0	0	6337	0	0	-6567
119+52.70	11953	52.7	0	21.25	412	0	0	0	41	827	0	0	0	7371	0	0	-7642
120+00.00	12000	47.3	0	21.25	388	0	0	0	37	701	0	0	0	8247	0	0	-8556
120+32.70	12033	32.7	0	21.25	371	0	0	0	26	459	0	0	0	8821	0	0	-9156
120+50.00	12050	17.3	0	21.25	358	0	0	0	14	234	0	0	0	9113	0	0	-9461
121+00.00	12100	50	0	21.25	391	0	0	0	39	694	0	0	0	9981	0	0	-10368
121+12.70	12113	12.7	0	21.25	384	0	0	0	10	182	0	0	0	10209	0	0	-10606
121+50.00	12150	37.3	0	21.25	407	0	0	0	29	547	0	0	0	10892	0	0	-11319
122+00.00	12200	50	0	21.25	448	0	0	0	39	792	0	0	0	11882	0	0	-12348
122+50.00	12250	50	0	21.25	368	0	0	0	39	756	0	0	0	12826	0	0	-13332
123+00.00	12300	50	0	21.25	260	0	0	0	39	581	0	0	0	13553	0	0	-14098
123+50.00	12350	50	0	21.25	158	0	0	0	39	387	0	0	0	14037	0	0	-14621
124+00.00	12400	50	0	21.25	72	0	0	0	39	213	0	0	0	14303	0	0	-14927
124+50.00	12450	50	28	21.25	64	0	0	26	39	126	0	0	26	14461	0	0	-15098
124+55.25	12455	5.25	27	21.25	55	0	0	5	4	12	0	0	31	14475	0	0	-15111

DIVISION 2 STATION (Mainline north end)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
125+00.00	12500	44.75	28	21.25	22	0	0	46	35	0	0	0	77	14475	0	0	-15100
125+35.25	12535	35.25	27	21.25	10	0	0	36	28	21	0	0	113	14501	0	0	-15118
125+50.00	12550	14.75	36	21.25	0	0	0	17	12	3	0	0	131	14505	0	0	-15116
125+96.21	12596	46.21	28	21.25	0	0	0	55	36	0	0	0	185	14505	0	0	-15098
126+00.00	12600	3.79	28	21.25	0	0	0	4	3	0	0	0	189	14505	0	0	-15097
126+15.25	12615	15.25	9	21.25	0	0	0	11	12	0	0	0	200	14505	0	0	-15098
126+25.00	12625	9.75	13	21.25	0	0	0	4	8	0	0	0	204	14505	0	0	-15102
126+37.03	12637	12.03	11	21.25	0	0	0	5	9	0	0	0	209	14505	0	0	-15106
126+50.00	12650	34.75	21	21.25	0	0	0	21	27	0	0	0	230	14505	0	0	-15113
126+64.99	12665	39.99	34	21.25	0	0	0	41	31	0	0	0	271	14505	0	0	-15103
126+90.06	12690	53.03	25	21.25	0	0	0	58	42	0	0	0	329	14505	0	0	-15086
127+00.00	12700	50	31	21.25	0	0	0	52	39	0	0	0	381	14505	0	0	-15074
127+50.00	12750	50	5	21.25	0	0	0	33	39	0	0	0	415	14505	0	0	-15080
128+00.00	12800	50	72	21.25	0	0	0	71	39	0	0	0	485	14505	0	0	-15048
128+50.00	12850	50	85	21.25	0	0	0	145	39	0	0	0	631	14505	0	0	-14942
129+00.00	12900	50	96	21.25	0	0	0	168	39	0	0	0	799	14505	0	0	-14814
129+50.00	12950	50	103	21.25	0	0	0	184	39	0	0	0	983	14505	0	0	-14669
130+00.00	13000	50	106	21.25	0	0	0	194	39	0	0	0	1176	14505	0	0	-14515
130+32.97	13033	32.97	106	21.25	0	0	0	129	26	0	0	0	1306	14505	0	0	-14411
								1306	1212	11604	0	0					

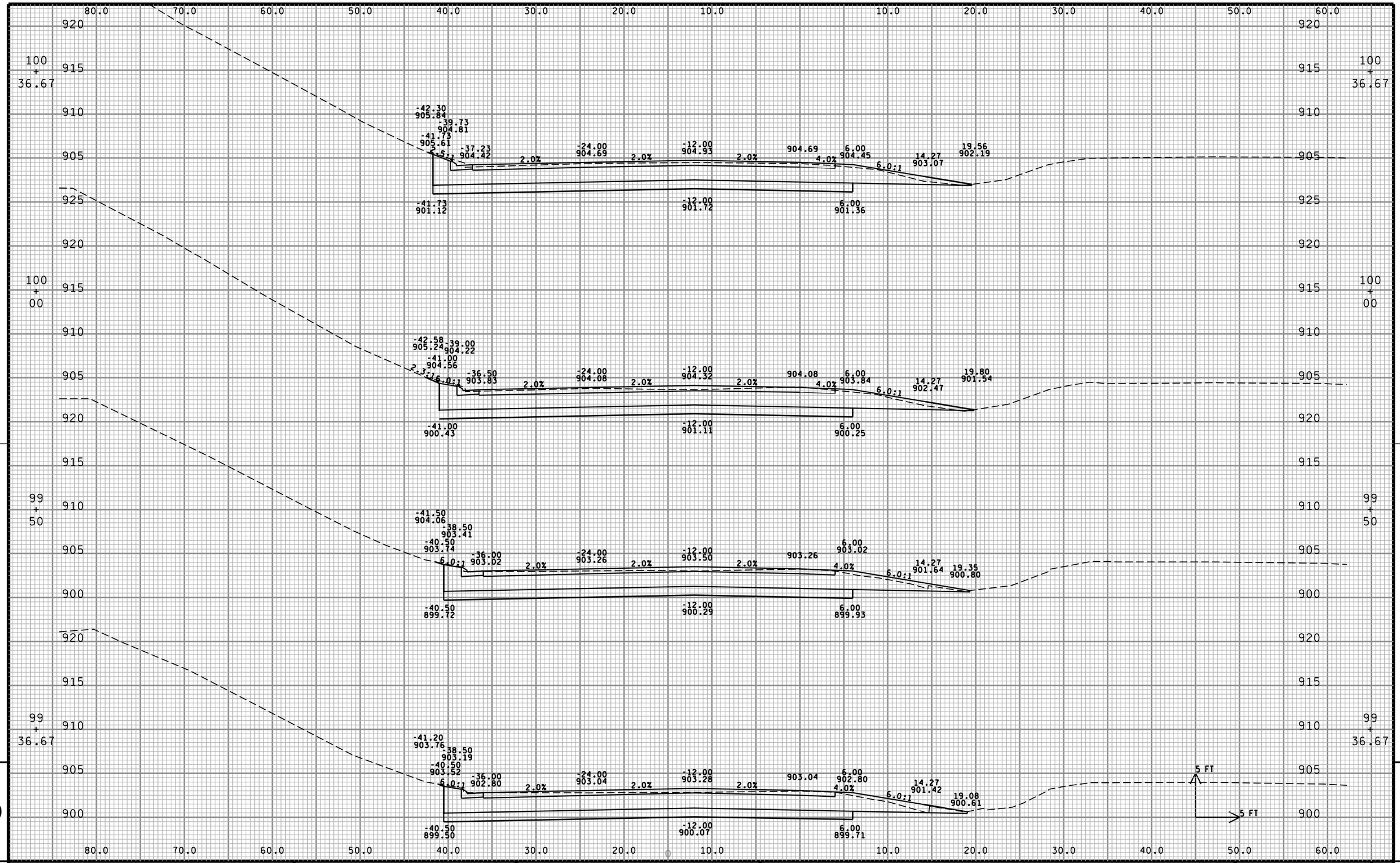
The remaining fill after Stage 2 fills have been accounted for.

EARTHWORK PROJECT I.D. 5411-02-74 - DIVISION 5

DIVISION 3 STATION (CG RD EB)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
08+64.00	864		18	16.50	0	0	0	0	0	0	0	0	0	0	0	0	0
09+00.00	900	36	24	16.50	0	0	0	28	22	0	0	0	28	0	0	0	6
09+50.00	950	50	24	16.50	0	0	0	45	31	0	0	0	73	0	0	0	20
10+00.00	1000	50	22	16.50	0	0	0	43	31	0	0	0	115	0	0	0	32
10+50.00	1050	50	29	18.38	0	0	0	47	32	0	0	0	162	0	0	0	47
11+00.00	1100	50	44	18.38	0	0	0	67	34	0	0	0	230	0	0	0	80
11+50.00	1150	50	44	18.38	0	0	0	81	34	0	0	0	311	0	0	0	127
12+00.00	1200	50	34	18.38	1	0	0	72	34	1	0	0	383	1	0	0	164
12+50.00	1250	50	36	18.38	1	0	0	65	34	2	0	0	448	4	0	0	193
13+00.00	1300	50	43	18.38	1	0	0	73	34	2	0	0	521	7	0	0	229
13+50.00	1350	50	32	20.25	0	0	0	70	36	1	0	0	591	9	0	0	261
14+00.00	1400	50	36	20.25	0	0	0	63	38	0	0	0	655	9	0	0	287
14+50.00	1450	50	30	22.13	3	0	0	62	39	3	0	0	716	12	0	0	306
15+00.00	1500	50	46	22.13	5	0	0	71	41	8	0	0	787	22	0	0	326
15+50.00	1550	50	24	18.38	4	0	0	65	38	8	0	0	852	33	0	0	343
16+00.00	1600	50	23	18.38	6	0	0	44	34	9	0	0	896	44	0	0	341
16+50.00	1650	50	23	18.38	8	0	0	43	34	13	0	0	939	61	0	0	333
17+00.00	1700	50	20	18.38	8	0	0	40	34	15	0	0	979	80	0	0	321
17+50.00	1750	50	14	10.73	0	0	0	32	27	7	0	0	1011	88	0	0	318
18+00.00	1800	50	22	20.40	6	0	0	34	29	5	0	0	1046	95	0	0	316
18+50.00	1850	50	29	24.23	6	0	0	47	41	11	0	0	1093	109	0	0	309
19+00.00	1900	50	30	25.88	7	0	0	55	46	12	0	0	1147	123	0	0	302
19+50.00	1950	50	29	25.88	6	0	0	54	48	12	0	0	1202	138	0	0	294
20+00.00	2000	50	28	30.38	5	0	0	52	52	10	0	0	1254	151	0	0	281
20+50.00	2050	50	28	25.88	4	0	0	52	52	8	0	0	1306	161	0	0	270
21+00.00	2100	50	31	25.88	4	0	0	55	48	7	0	0	1361	170	0	0	269
21+50.00	2150	50	31	25.88	3	0	0	58	48	6	0	0	1419	178	0	0	271
22+00.00	2200	50	32	25.88	5	0	0	58	48	7	0	0	1477	187	0	0	272
22+50.00	2250	50	39	24.75	0	0	0	66	47	4	0	0	1543	193	0	0	285
23+00.00	2300	50	32	32.18	5	0	0	66	53	4	0	0	1609	198	0	0	294
23+50.00	2350	50	25	18.68	5	0	0	53	47	9	0	0	1662	209	0	0	288
24+00.00	2400	50	28	18.23	0	0	0	49	34	5	0	0	1711	216	0	0	297
24+38.00	2438	38	30	18.23	0			41	26	0	0	0	1752	216	0	0	312
								1752	1224	172	0	0					

DIVISION 3 STATION (CG RD WB)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
08+64.00	864	0	19	16.50	0	0	0	0	0	0	0	0	0	0	0	0	0
09+00.00	900	36	21	18.00	0	0	0	27	23	0	0	0	27	0	0	0	4
09+50.00	950	50	19	20.03	0	0	0	38	35	0	0	0	64	0	0	0	6
10+00.00	1000	50	31	23.63	0	0	0	47	40	0	0	0	111	0	0	0	13
10+50.00	1050	50	30	18.38	0	0	0	56	39	0	0	0	168	0	0	0	30
11+00.00	1100	50	26	18.38	0	0	0	52	34	0	0	0	220	0	0	0	48
11+50.00	1150	50	25	18.38	0	0	0	47	34	0	0	0	267	0	0	0	61
12+00.00	1200	50	24	18.38	1	0	0	45	34	1	0	0	312	2	0	0	71
12+50.00	1250	50	29	22.65	1	0	0	49	38	2	0	0	362	4	0	0	80
13+00.00	1300	50	35	26.70	1	0	0	65	49	1	0	0	426	6	0	0	88
13+50.00	1350	50	48	61.13	0	0	0	76	81	1	0	0	503	7	0	0	82
14+00.00	1400	50	41	71.03	0	0	0	82	122	0	0	0	584	7	0	0	42

DIVISION 3 STATION (CG RD WB)	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Marsh Exc	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Reduced Marsh in Fill 0.60 Note 6	Mass Ordinate Note 8
14+50.00	1450	50	37	25.88	2	0	0	72	90	2	0	0	657	9	0	0	22
15+00.00	1500	50	36	25.88	0	0	0	67	48	2	0	0	724	12	0	0	38
15+50.00	1550	50	32	25.88	0	0	0	63	48	0	0	0	787	12	0	0	53
16+00.00	1600	50	26	25.88	4	0	0	54	48	4	0	0	841	18	0	0	54
16+50.00	1650	50	24	25.88	6	0	0	46	48	9	0	0	887	29	0	0	40
17+00.00	1700	50	17	8.70	3	0	0	38	32	8	0	0	924	40	0	0	35
17+50.00	1750	50	35	25.88	7	0	0	49	32	9	0	0	973	51	0	0	40
18+00.00	1800	50	29	21.98	5	0	0	59	44	10	0	0	1032	64	0	0	42
18+50.00	1850	50	23	18.38	6	0	0	48	37	10	0	0	1080	76	0	0	41
19+00.00	1900	50	23	18.38	6	0	0	43	34	11	0	0	1123	90	0	0	36
19+50.00	1950	50	23	18.38	5	0	0	43	34	10	0	0	1166	102	0	0	33
20+00.00	2000	50	24	18.38	4	0	0	44	34	8	0	0	1210	112	0	0	32
20+50.00	2050	50	24	18.38	3	0	0	44	34	7	0	0	1254	121	0	0	35
21+00.00	2100	50	24	18.38	4	0	0	44	34	6	0	0	1299	129	0	0	37
21+50.00	2150	50	22	18.38	3	0	0	42	34	6	0	0	1341	136	0	0	38
22+00.00	2200	50	22	18.38	3	0	0	41	34	6	0	0	1382	143	0	0	37
22+50.00	2250	50	30	39.68	0	0	0	48	54	3	0	0	1430	147	0	0	28
23+00.00	2300	50	23	20.10	4	0	0	49	55	4	0	0	1479	151	0	0	17
23+50.00	2350	50	23	18.38	5	0	0	42	36	8	0	0	1521	162	0	0	14
24+00.00	2400	50	24	18.38	3	0	0	44	34	8	0	0	1565	171	0	0	14
24+36.98	2437	37	28	18.38	2	0	0	36	25	4	0	0	1601	175	0	0	21
								1601	1400	140	0	0					

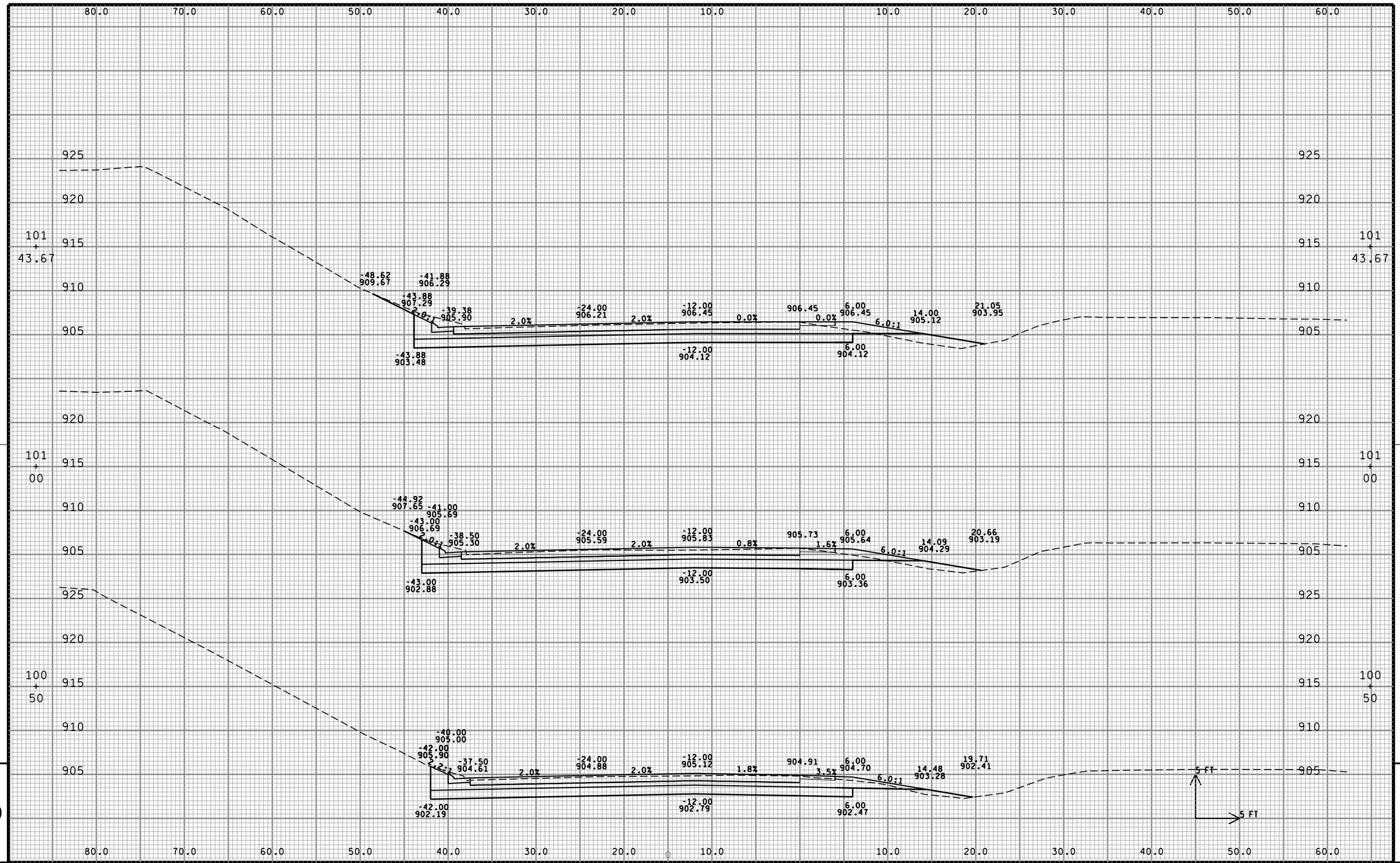


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET 574	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc026003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc026003.dgn 8/14/2014 8:35:28 AM ckieler



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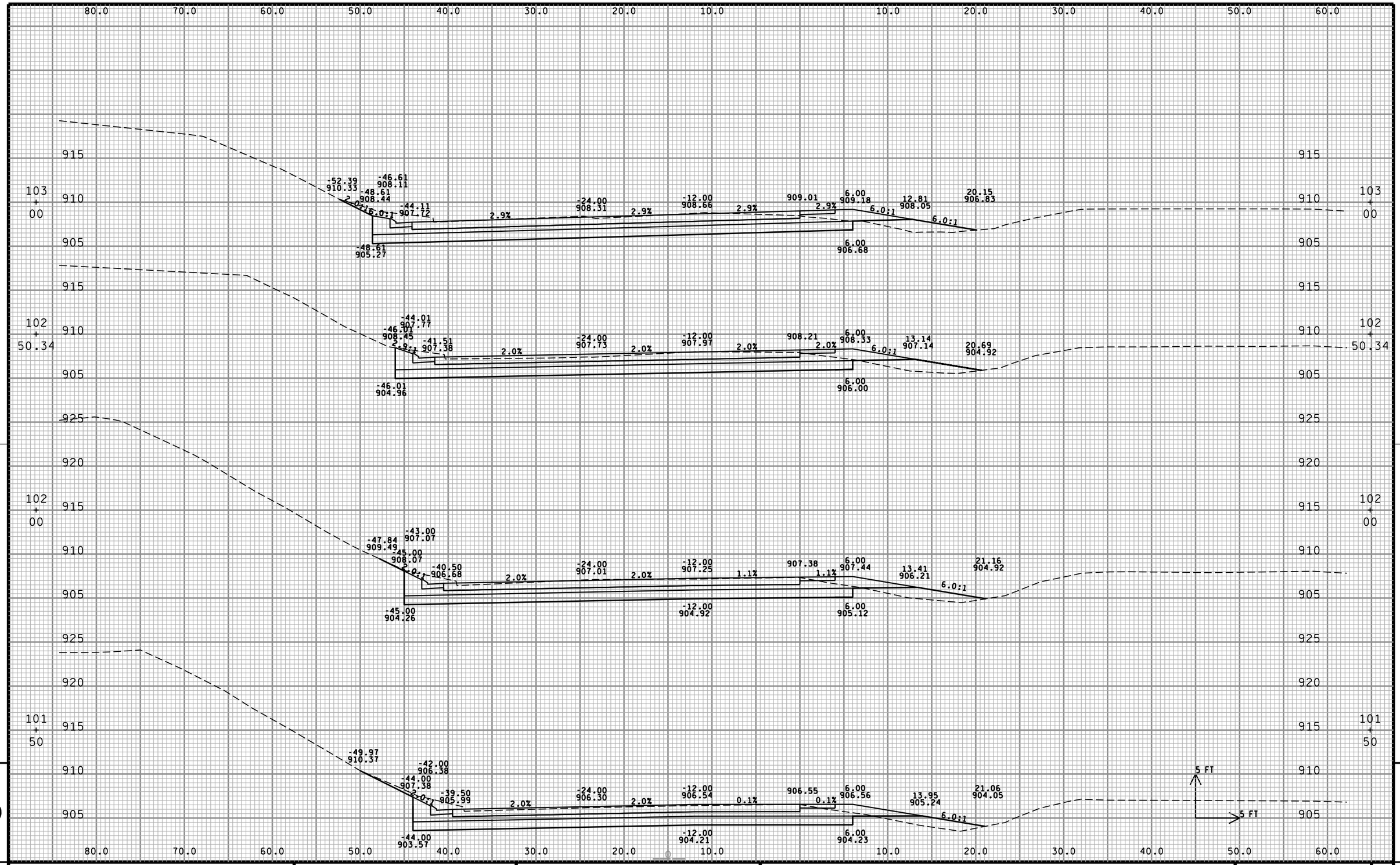
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET 575	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc002003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc002003.dgn 8/14/2014 8:35:28 AM ckieler



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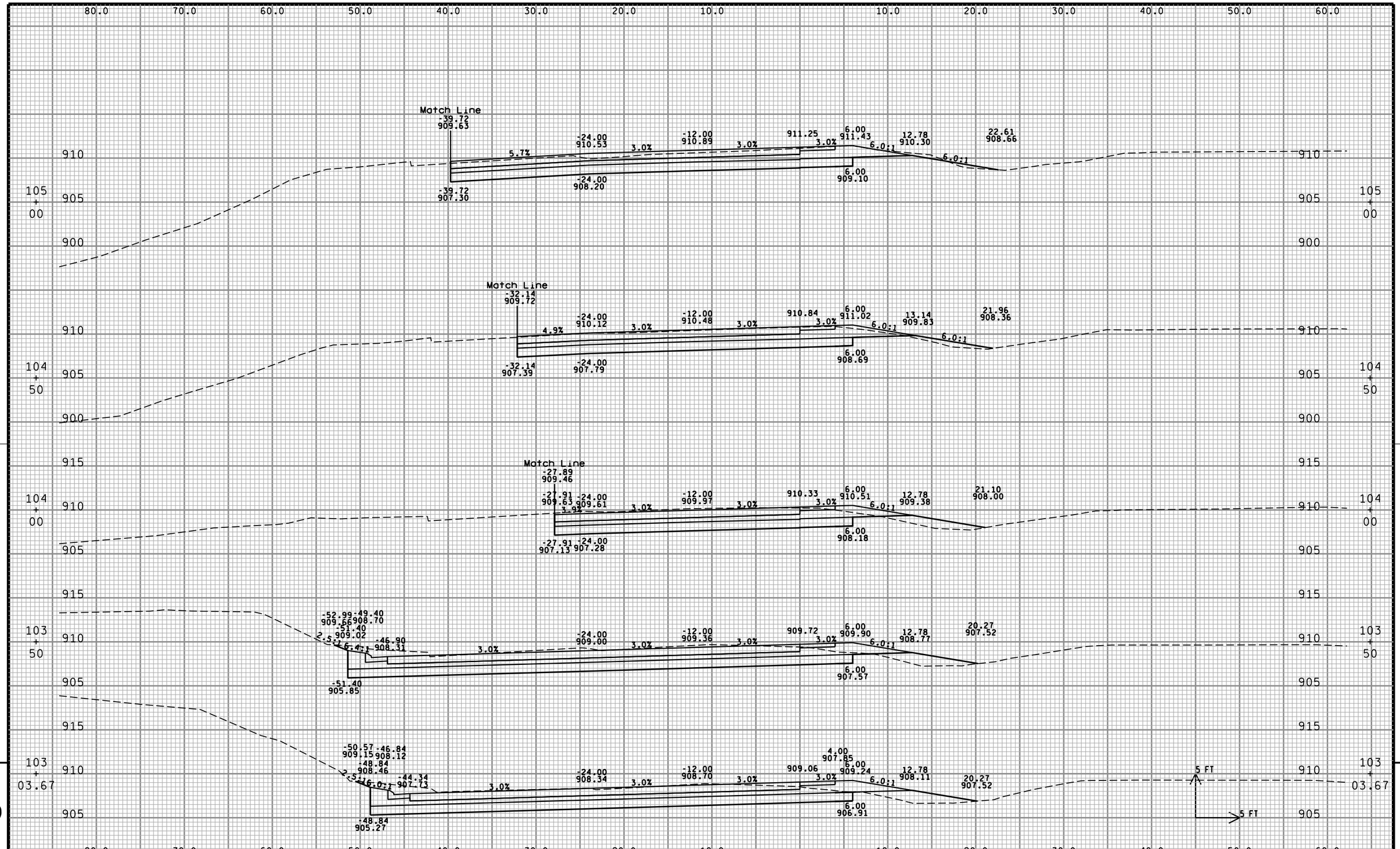
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET 576	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc024003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc024003.dgn 8/14/2014 8:35:29 AM ckieler



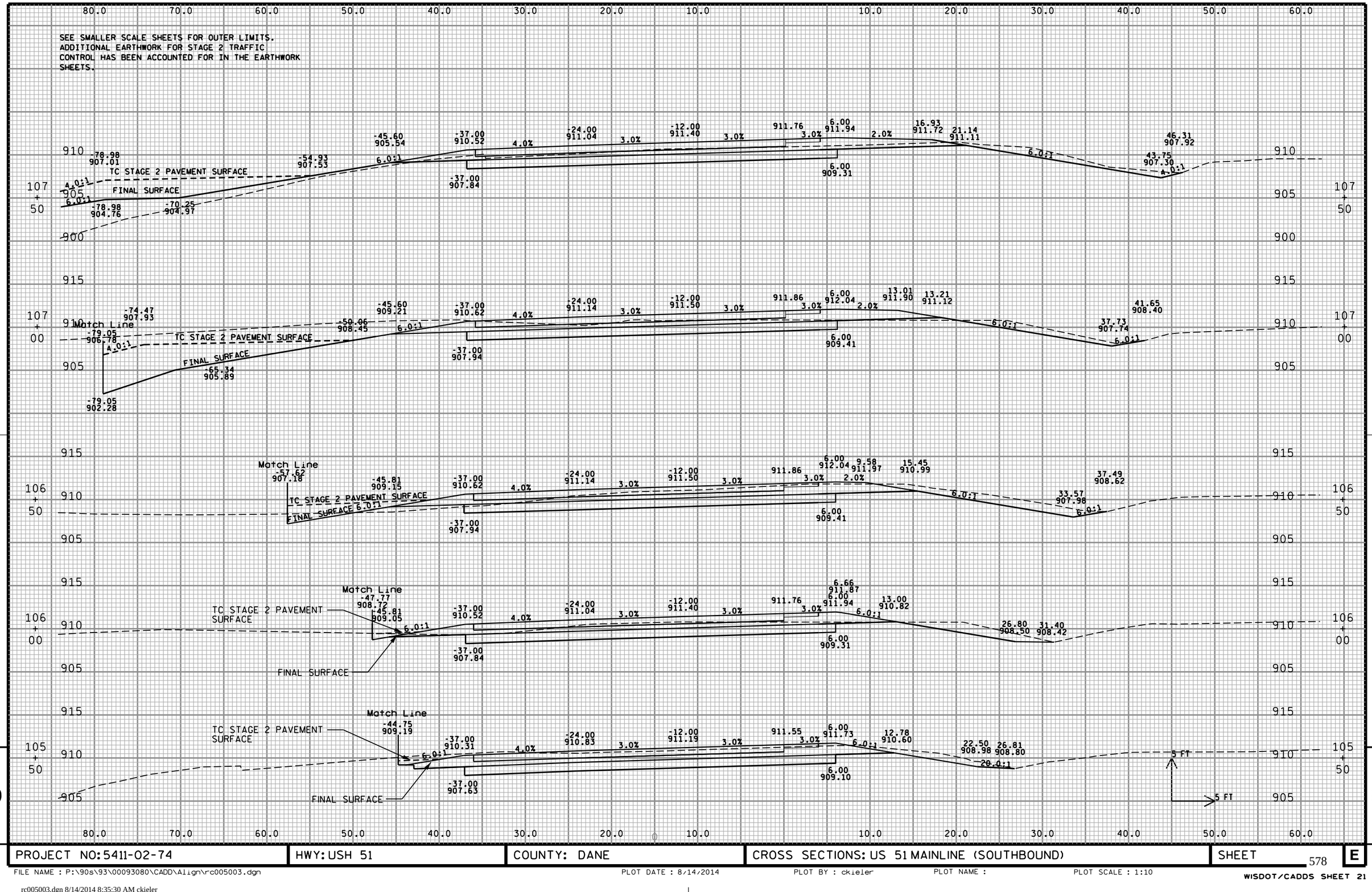
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET .577	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc025003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc025003.dgn 8/14/2014 8:35:29 AM ckieler

SEE SMALLER SCALE SHEETS FOR OUTER LIMITS.
ADDITIONAL EARTHWORK FOR STAGE 2 TRAFFIC CONTROL HAS BEEN ACCOUNTED FOR IN THE EARTHWORK SHEETS.



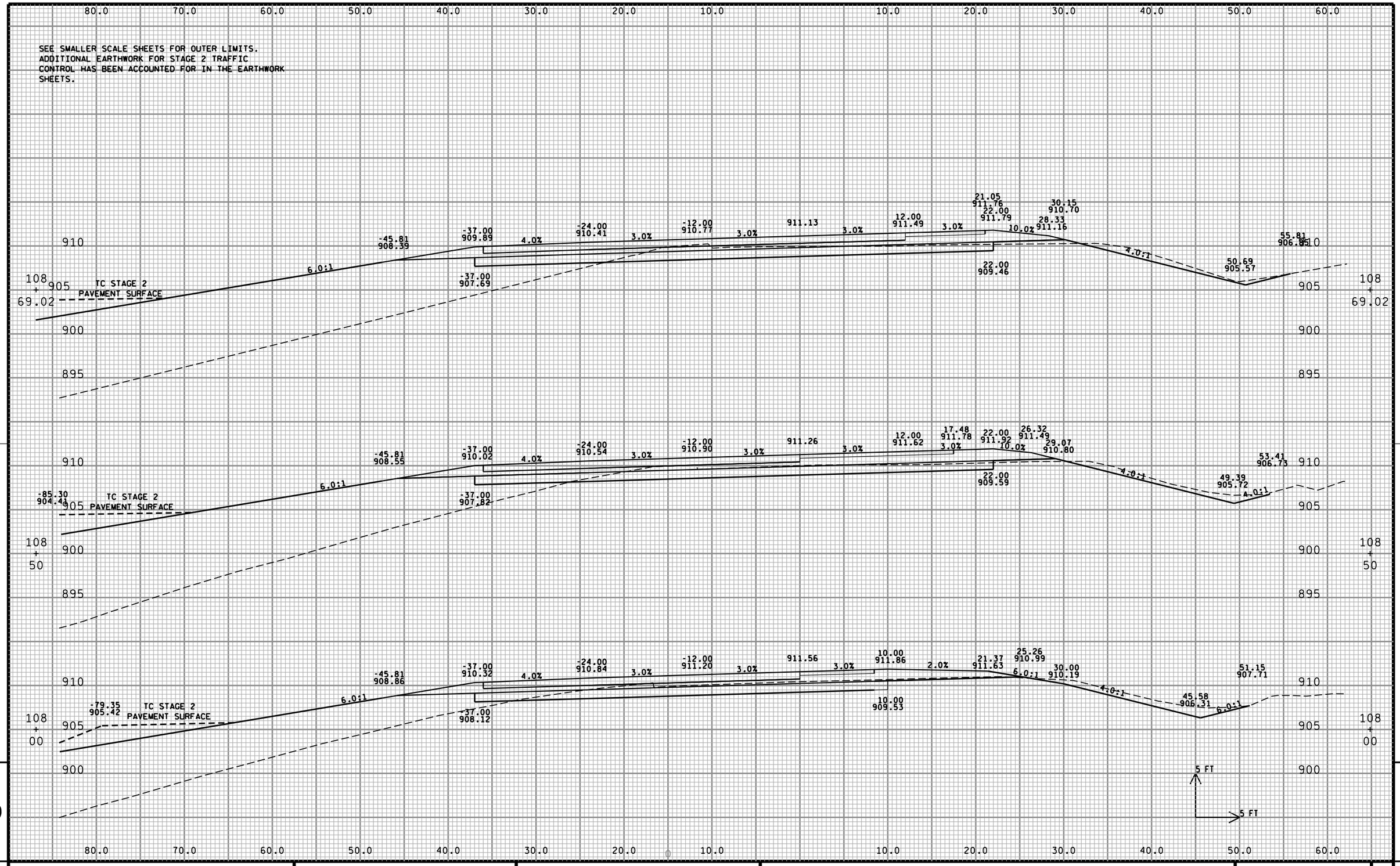
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET 578	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc005003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

rc005003.dgn 8/14/2014 8:35:30 AM ckieler

SEE SMALLER SCALE SHEETS FOR OUTER LIMITS.
ADDITIONAL EARTHWORK FOR STAGE 2 TRAFFIC CONTROL HAS BEEN ACCOUNTED FOR IN THE EARTHWORK SHEETS.



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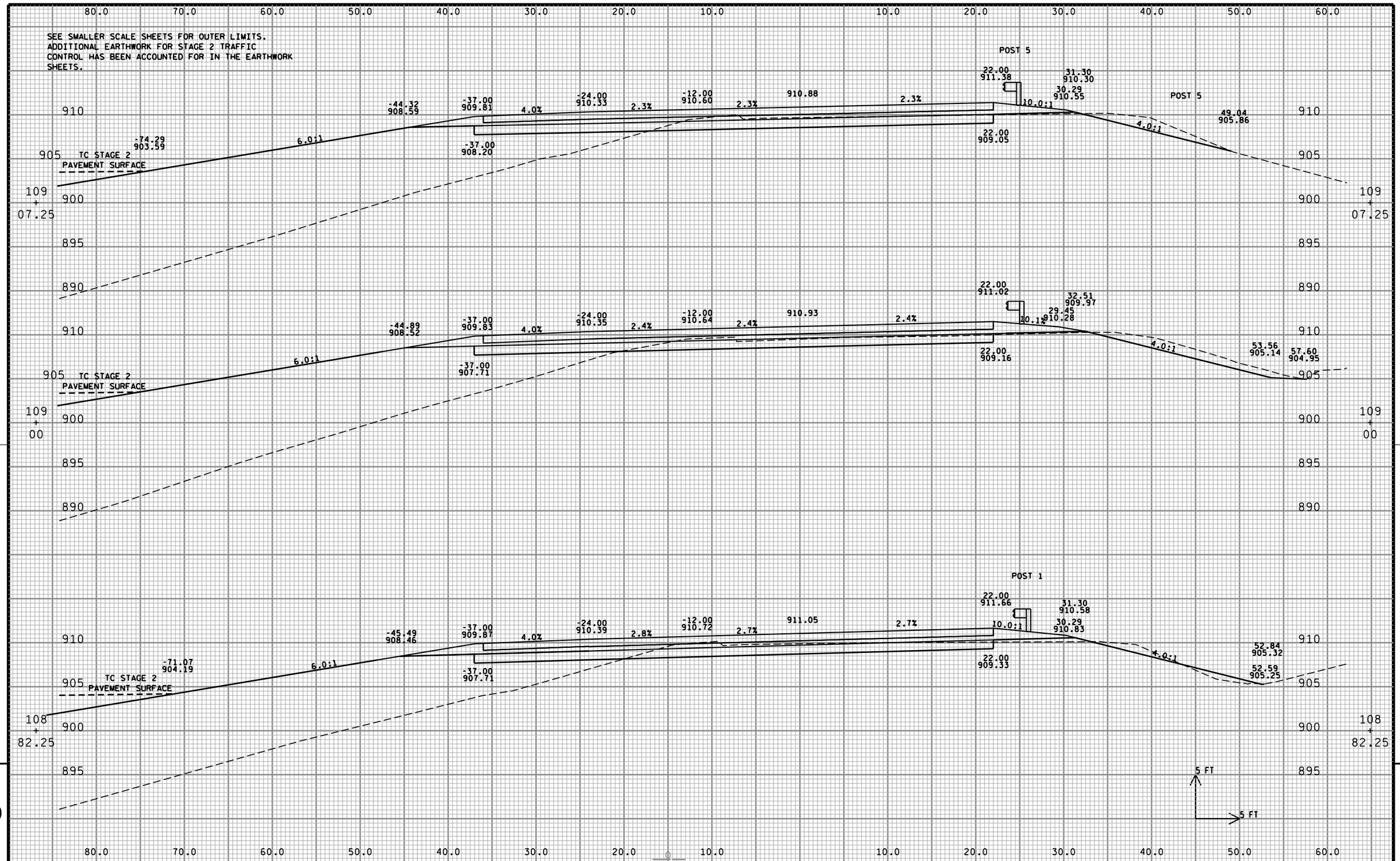
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc006003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

rc006003.dgn 8/14/2014 8:35:30 AM ckieler

SEE SMALLER SCALE SHEETS FOR OUTER LIMITS.
ADDITIONAL EARTHWORK FOR STAGE 2 TRAFFIC CONTROL HAS BEEN ACCOUNTED FOR IN THE EARTHWORK SHEETS.



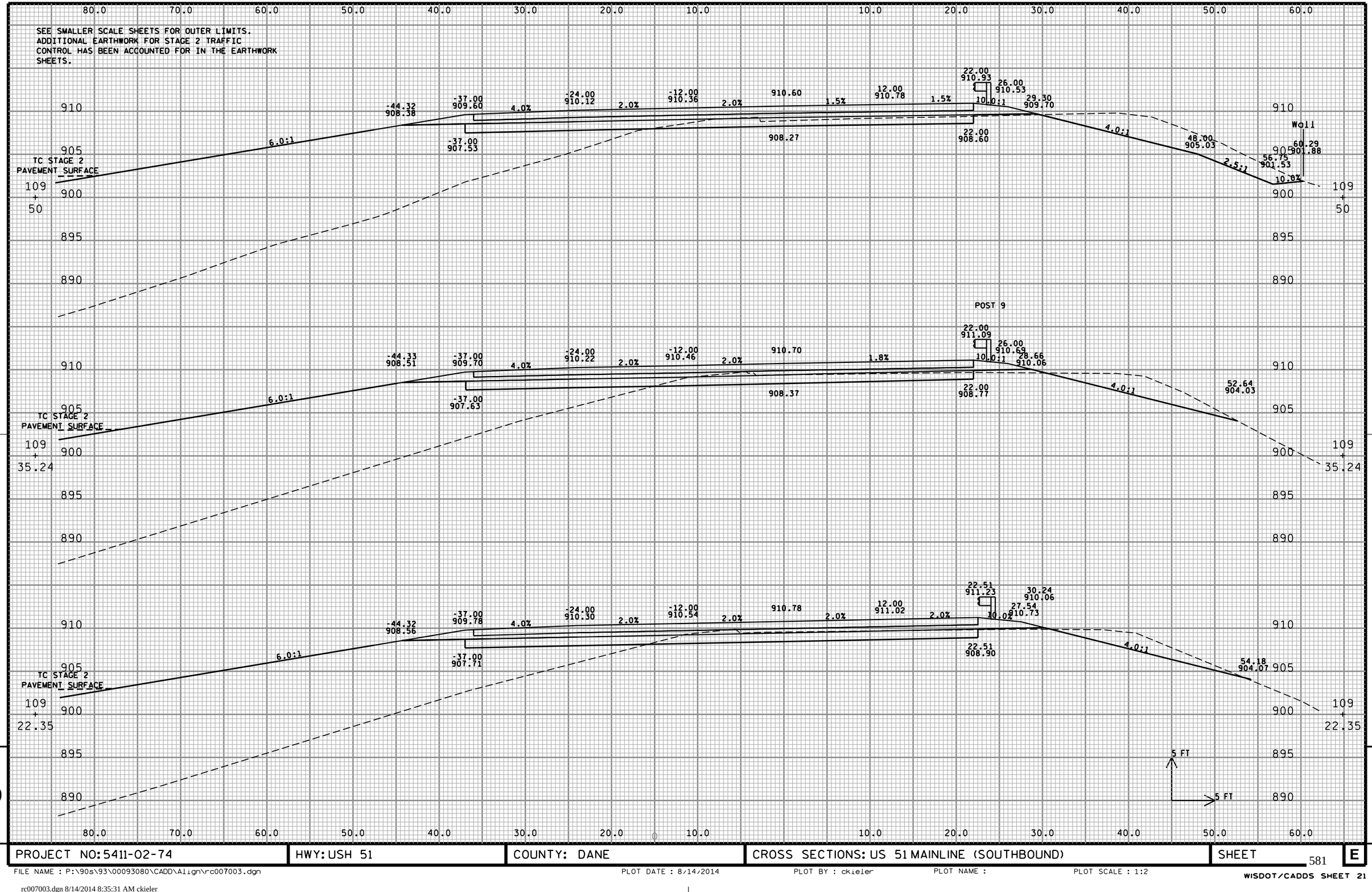
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET 580

FILE NAME : P:\90s\93\00093080\CADD\Align\rc030003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc030003.dgn 8/14/2014 8:35:31 AM ckieler

SEE SMALLER SCALE SHEETS FOR OUTER LIMITS.
ADDITIONAL EARTHWORK FOR STAGE 2 TRAFFIC CONTROL HAS BEEN ACCOUNTED FOR IN THE EARTHWORK SHEETS.



9 9

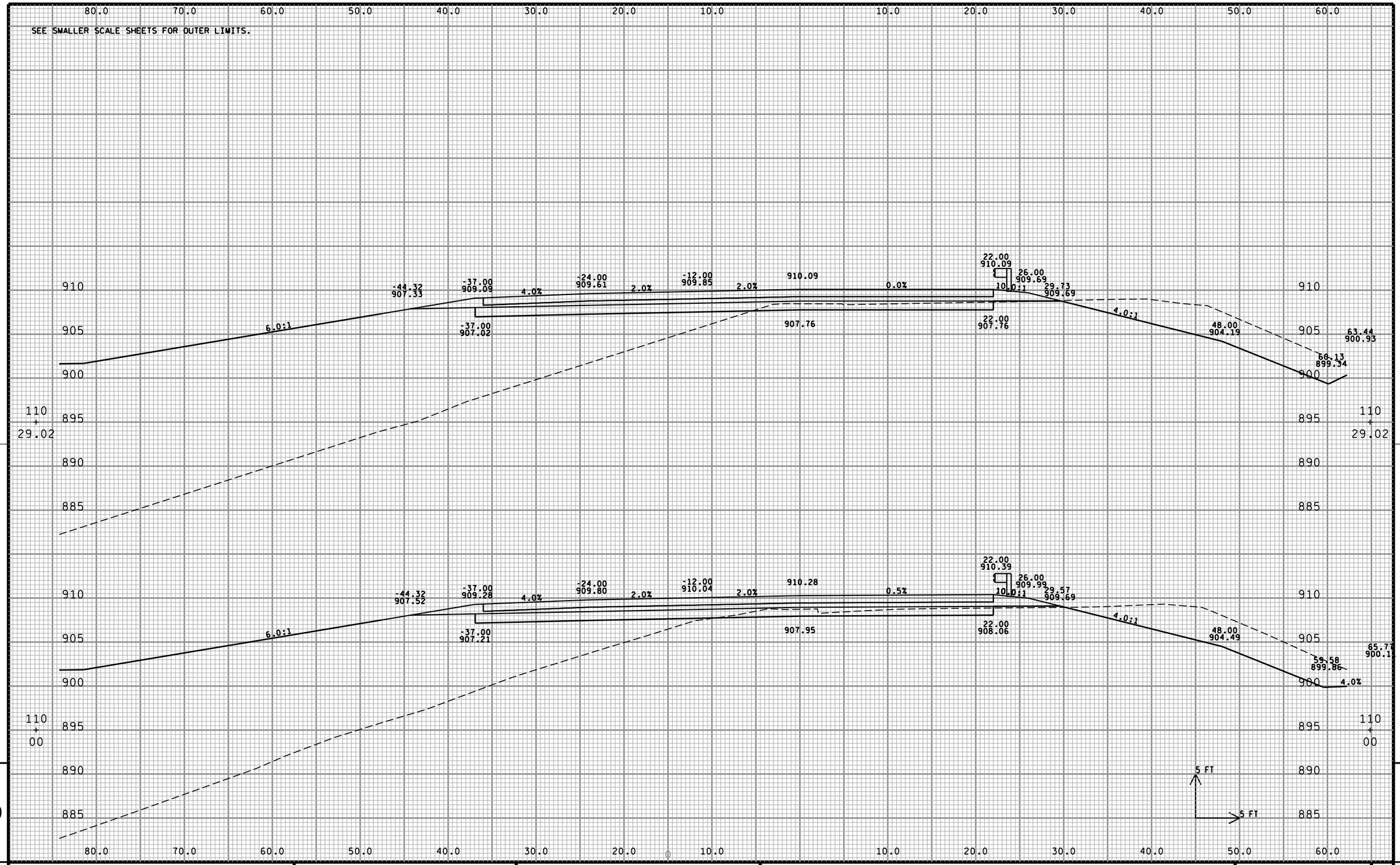
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc007003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc007003.dgn 8/14/2014 8:35:31 AM ckieler

SEE SMALLER SCALE SHEETS FOR OUTER LIMITS.



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PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET	E

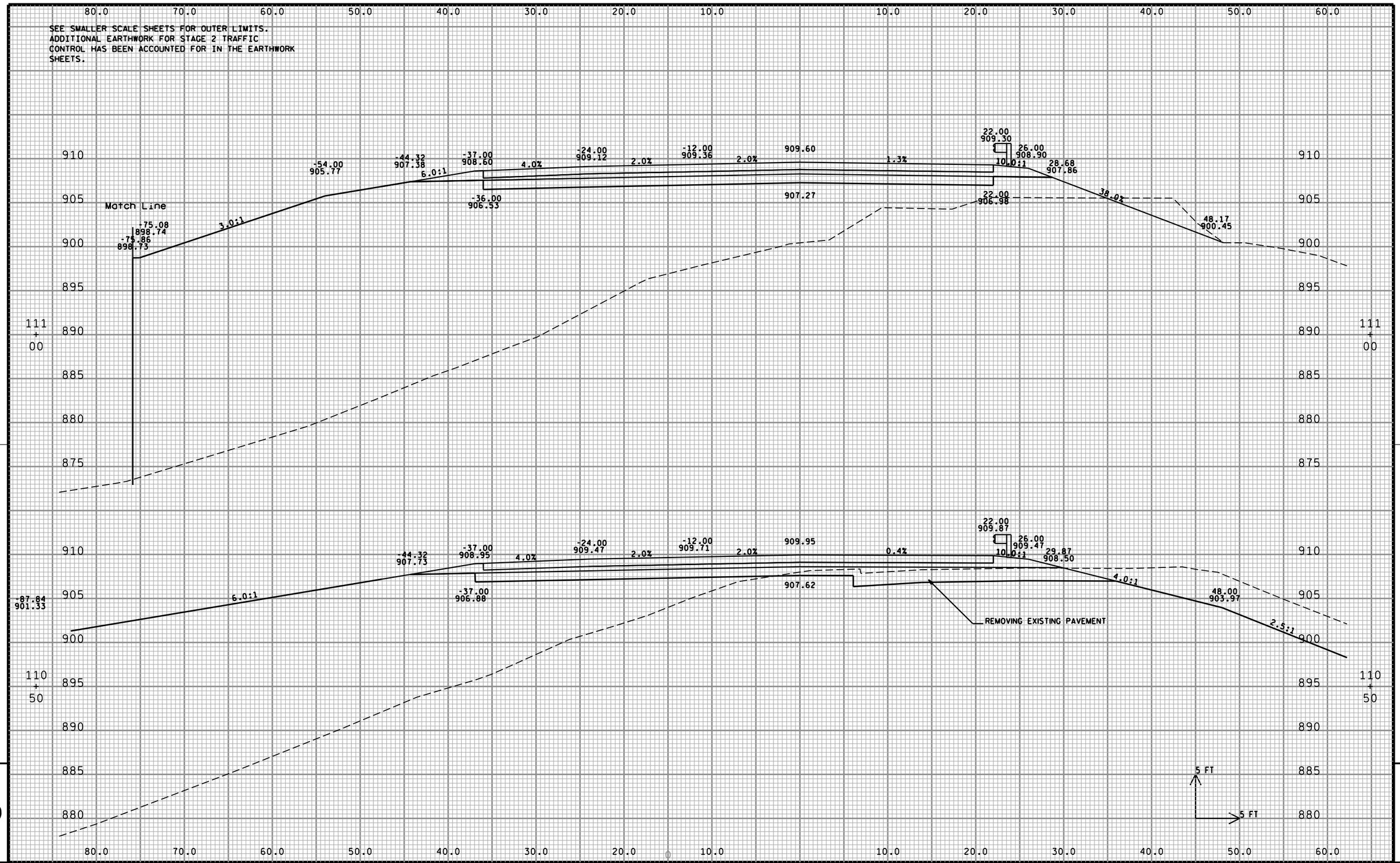
582

FILE NAME : P:\90s\93\00093080\CADD\Align\rc008003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc008003.dgn 8/14/2014 8:35:32 AM ckieler

SEE SMALLER SCALE SHEETS FOR OUTER LIMITS.
ADDITIONAL EARTHWORK FOR STAGE 2 TRAFFIC CONTROL HAS BEEN ACCOUNTED FOR IN THE EARTHWORK SHEETS.

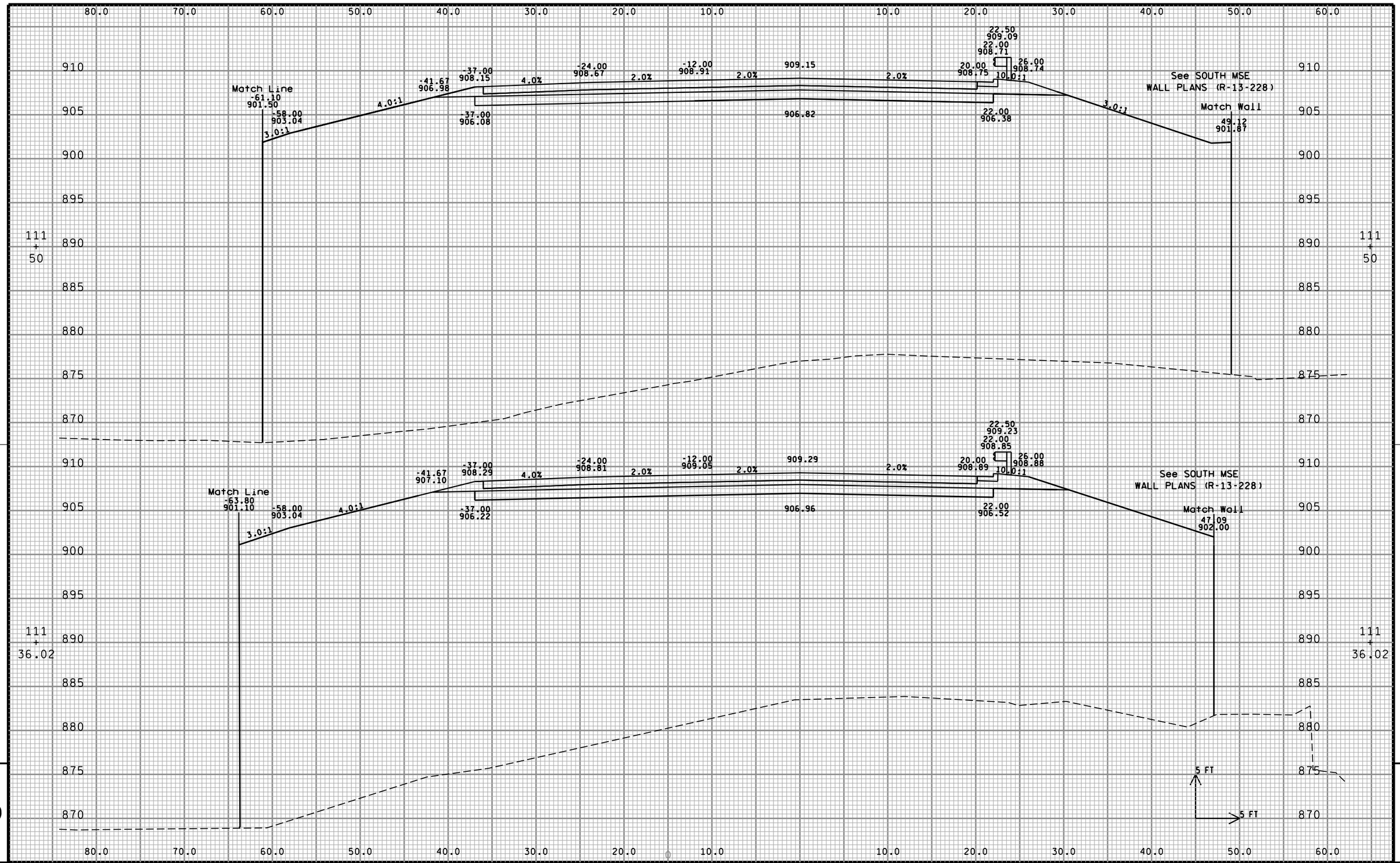


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET 583	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc009003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc009003.dgn 8/14/2014 8:35:32 AM ckieler



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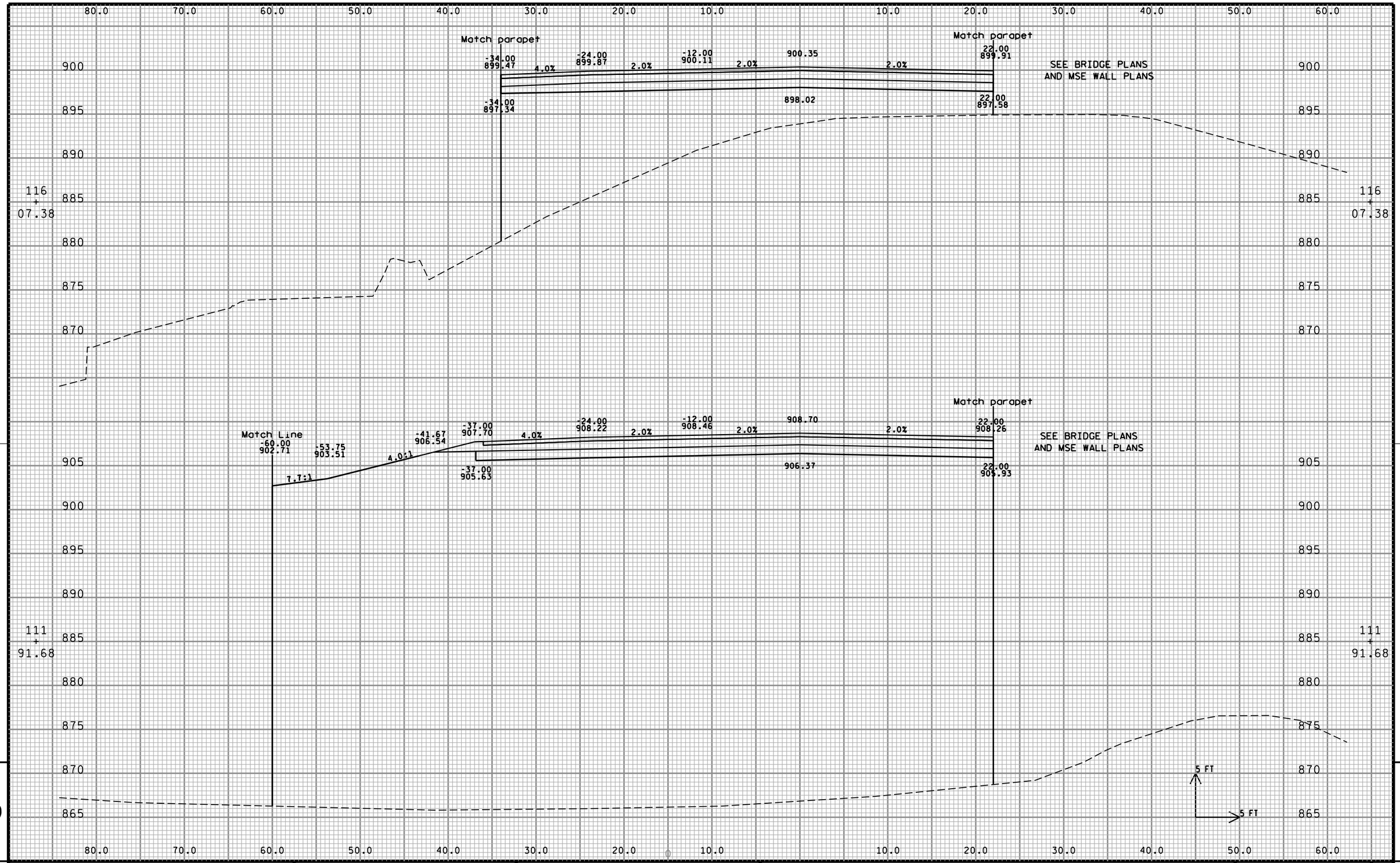
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET 584	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc010003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc010003.dgn 8/14/2014 8:35:33 AM ckieler

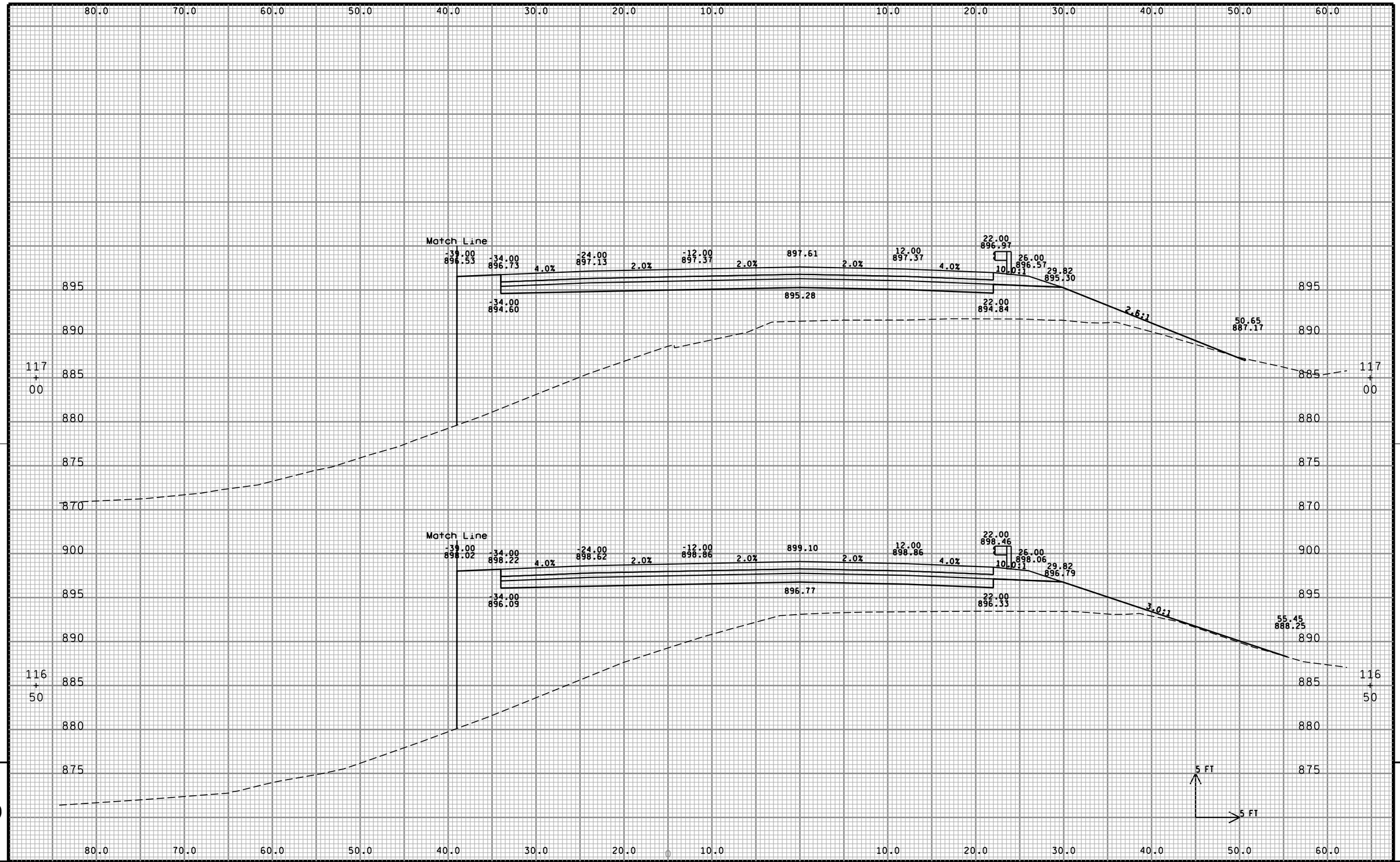


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc011003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc011003.dgn 8/14/2014 8:35:33 AM ckieler



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc012003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

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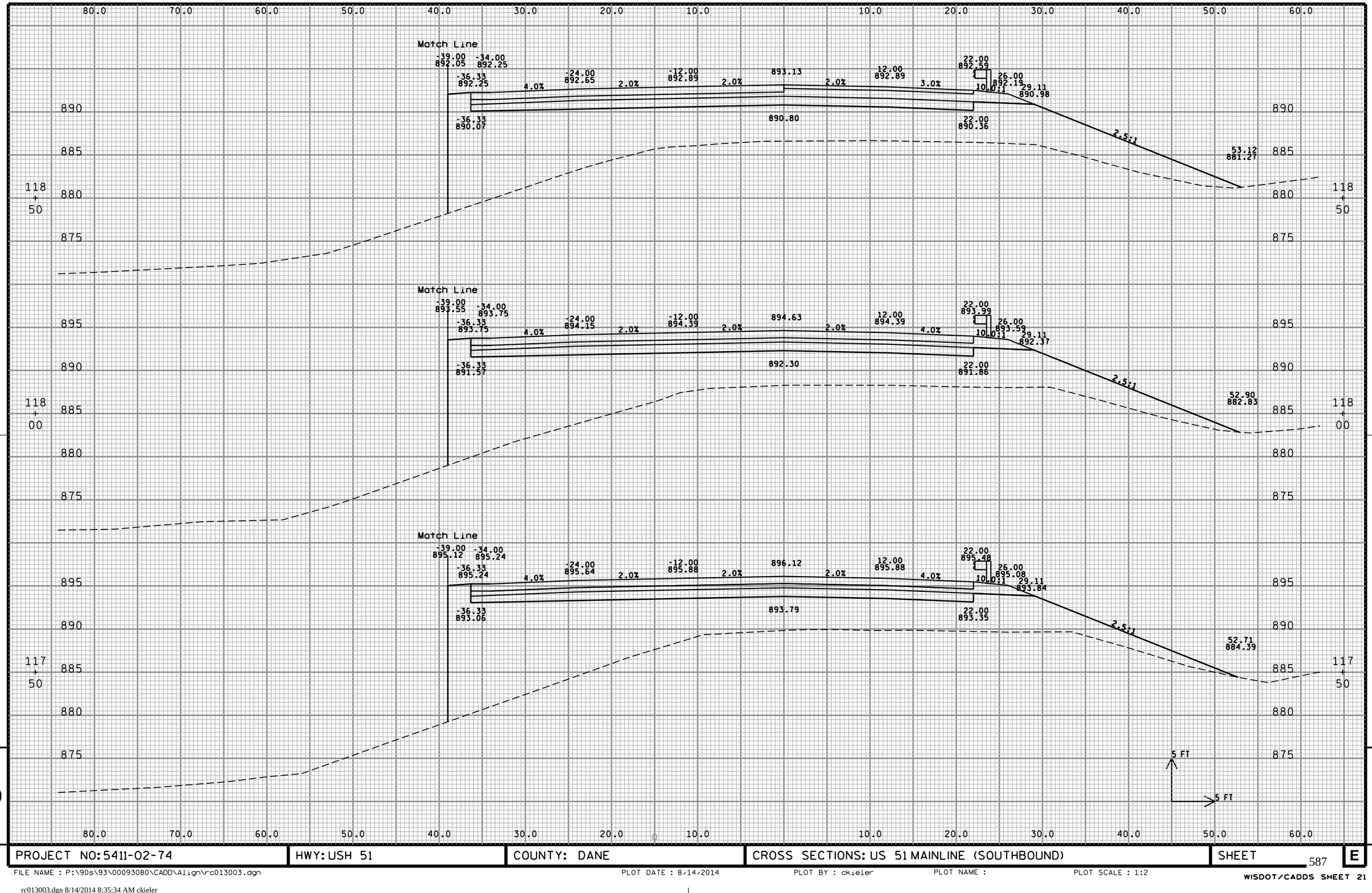
rc012003.dgn 8/14/2014 8:35:34 AM ckieler



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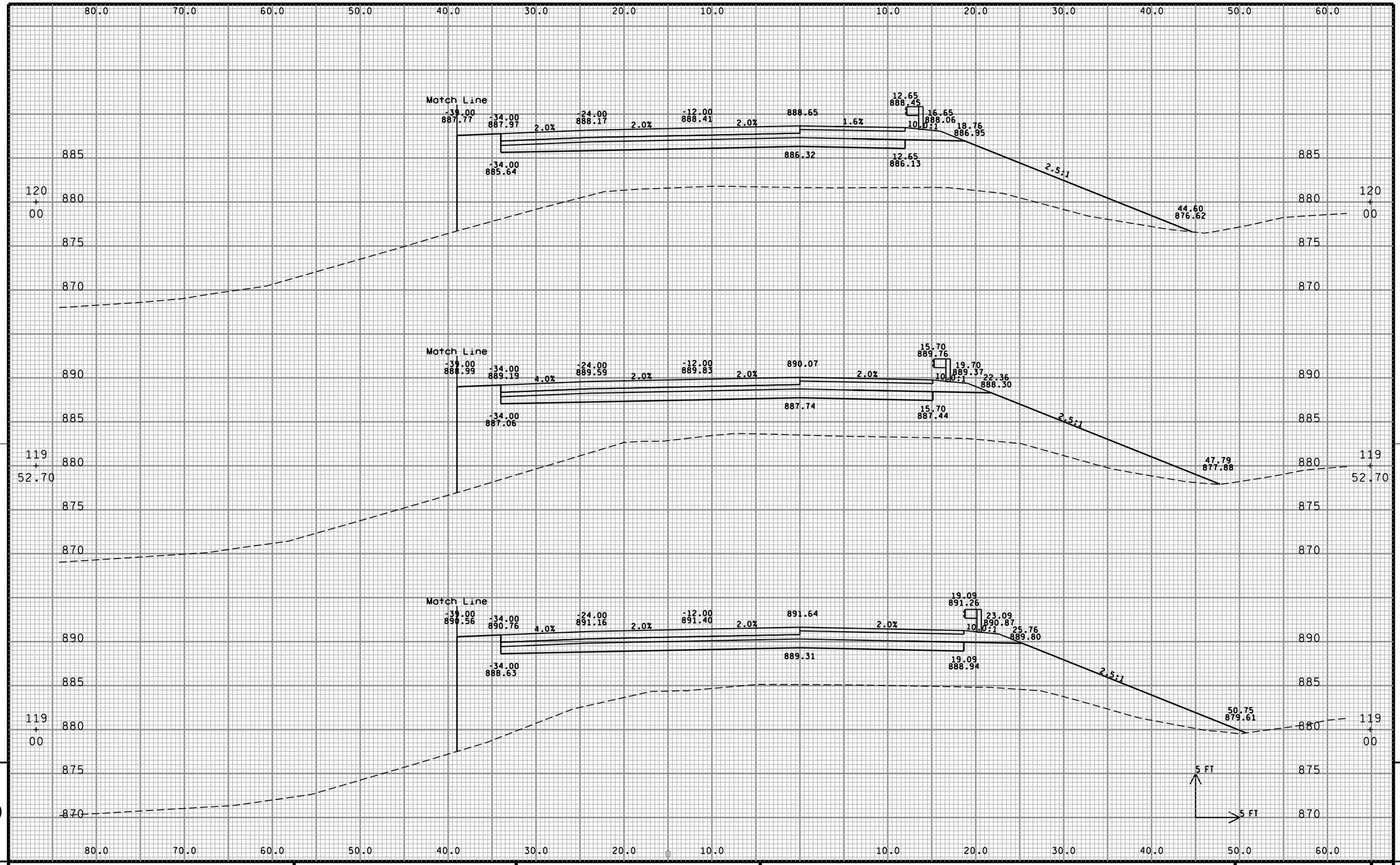
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc013003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc013003.dgn 8/14/2014 8:35:34 AM ckieler



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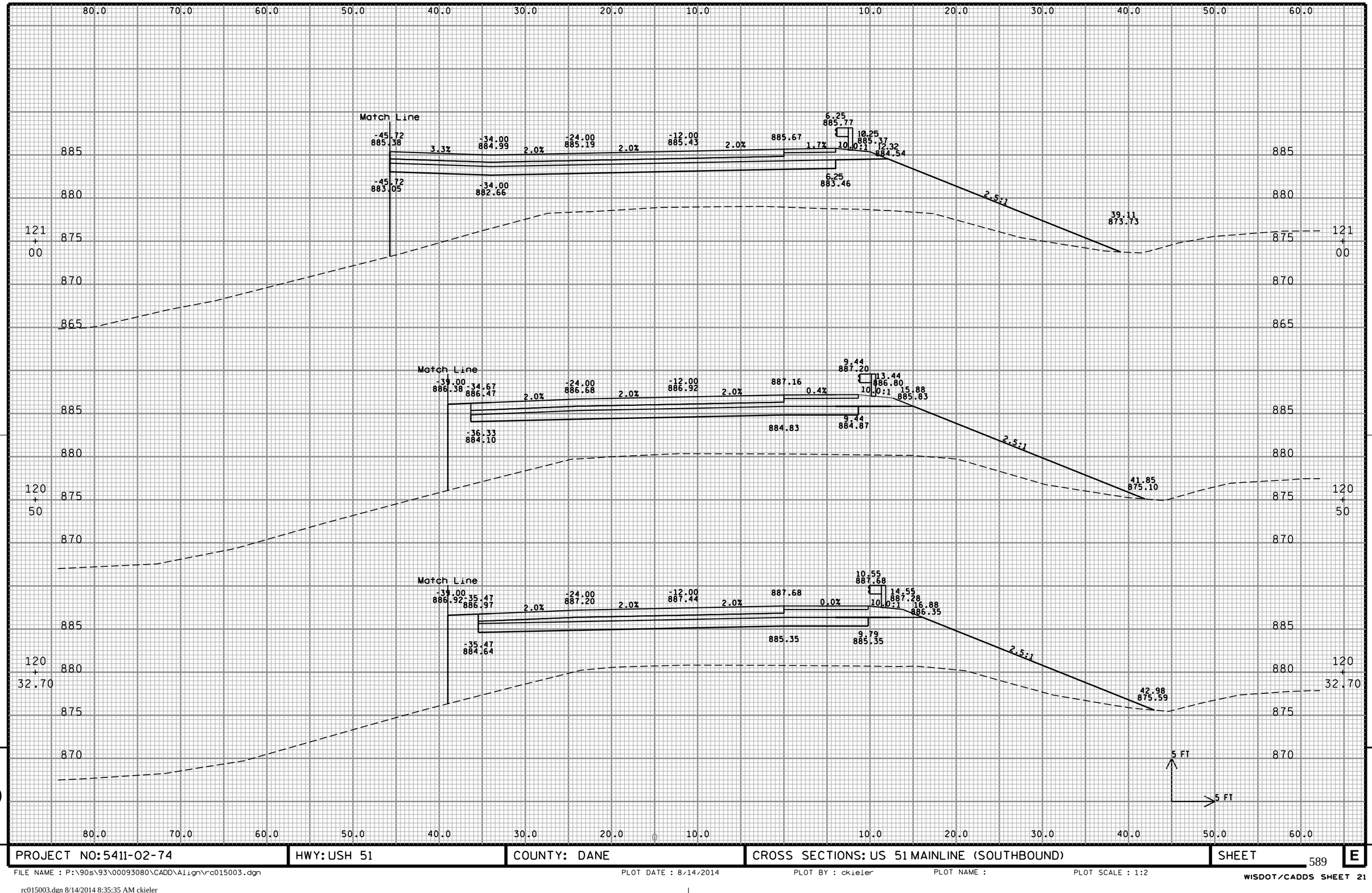
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc014003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc014003.dgn 8/14/2014 8:35:35 AM ckieler



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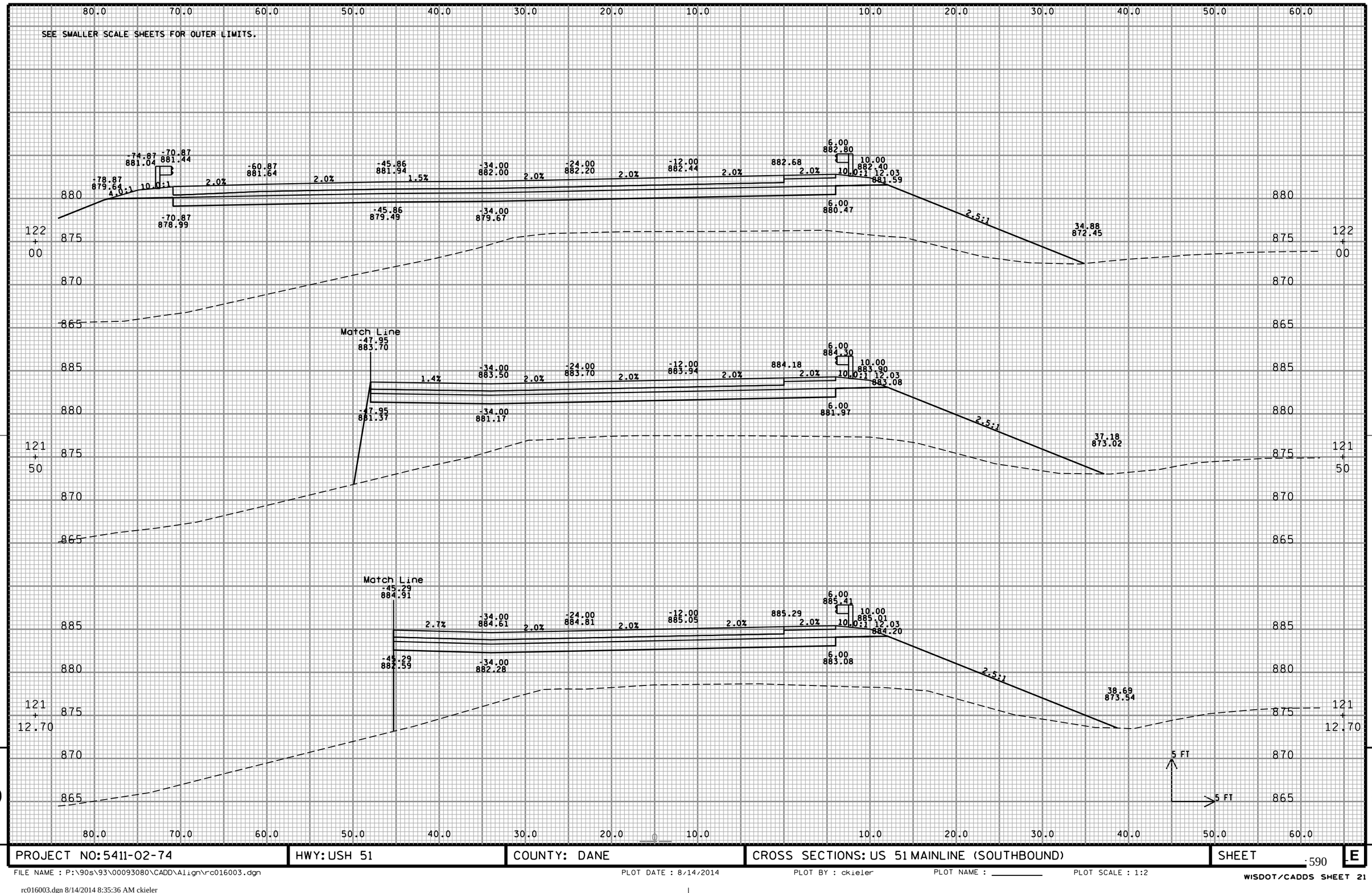
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET 589	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc015003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc015003.dgn 8/14/2014 8:35:35 AM ckieler

SEE SMALLER SCALE SHEETS FOR OUTER LIMITS.



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9

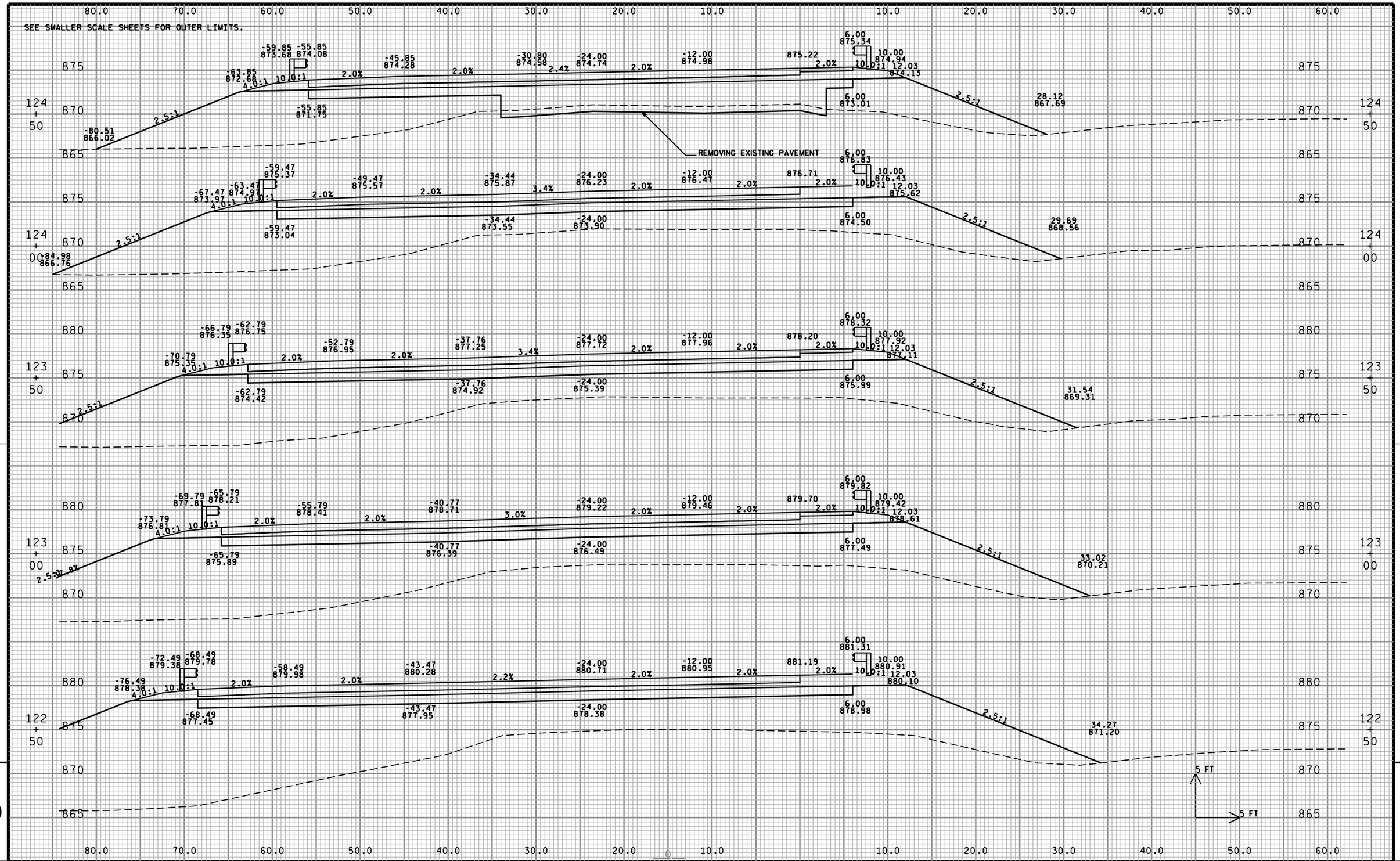
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc016003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc016003.dgn 8/14/2014 8:35:36 AM ckieler

SEE SMALLER SCALE SHEETS FOR OUTER LIMITS.



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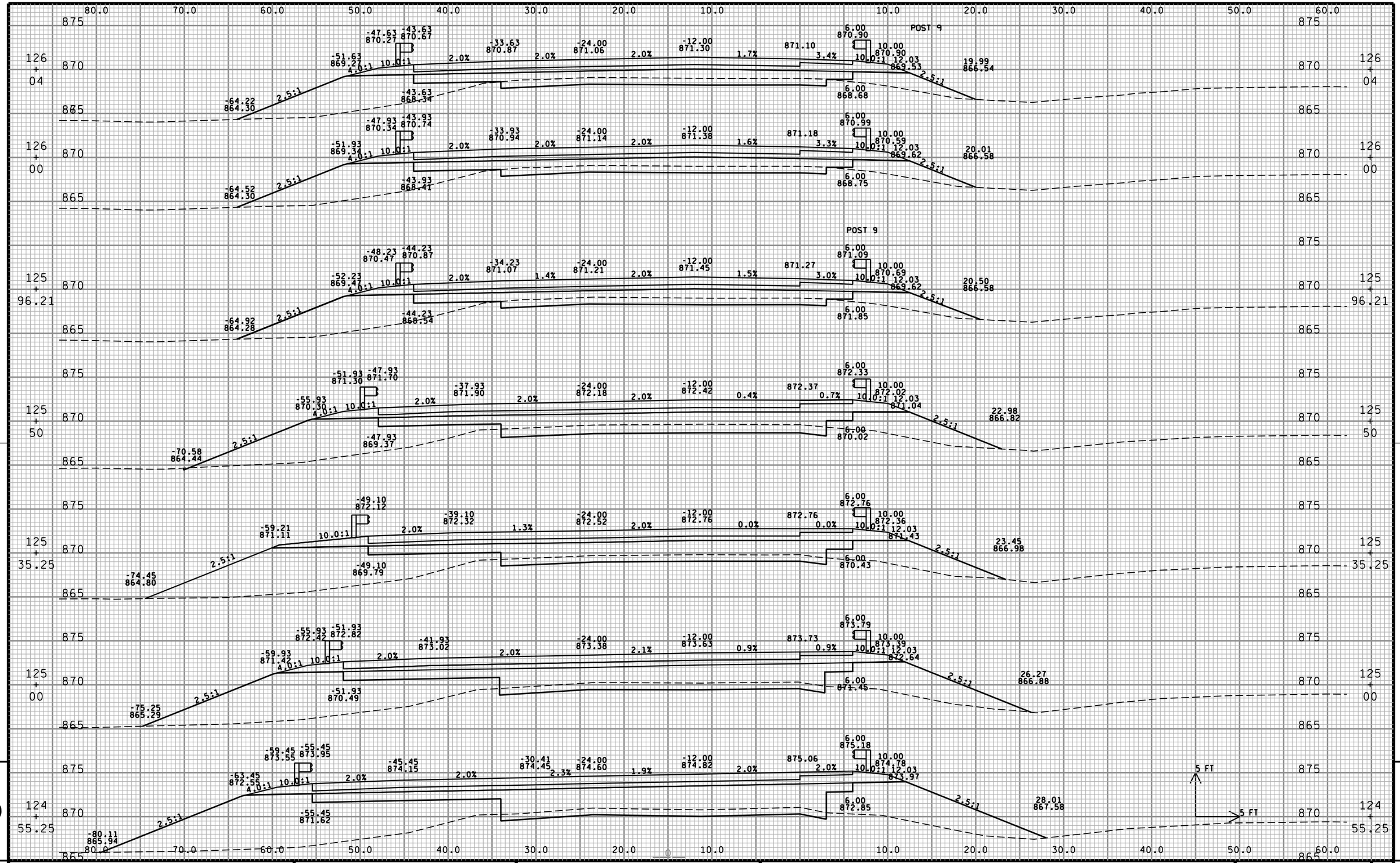
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET 591	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc017003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc017003.dgn 8/14/2014 8:35:37 AM ckieler



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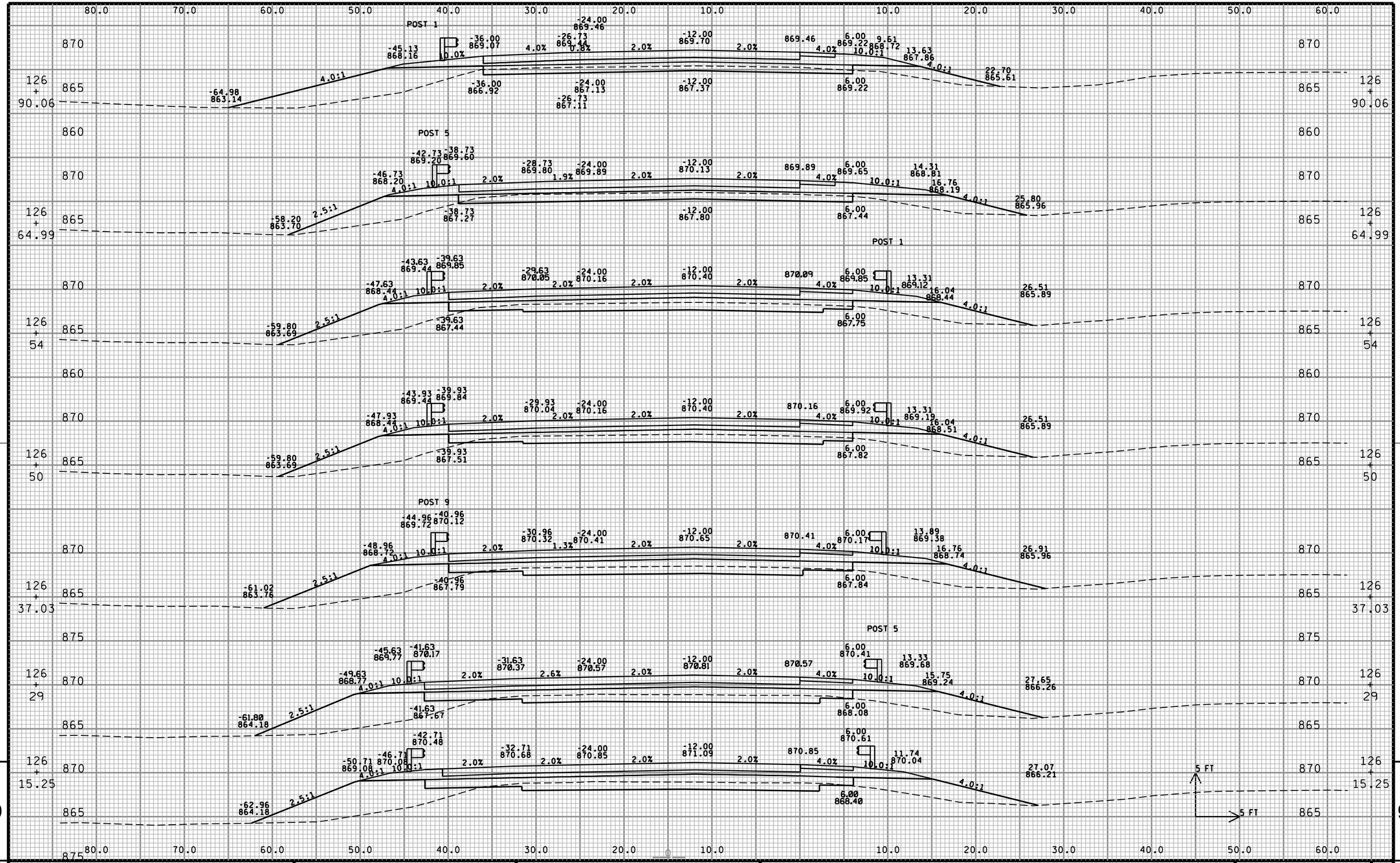
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc018003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc018003.dgn 8/14/2014 8:35:37 AM ckieler



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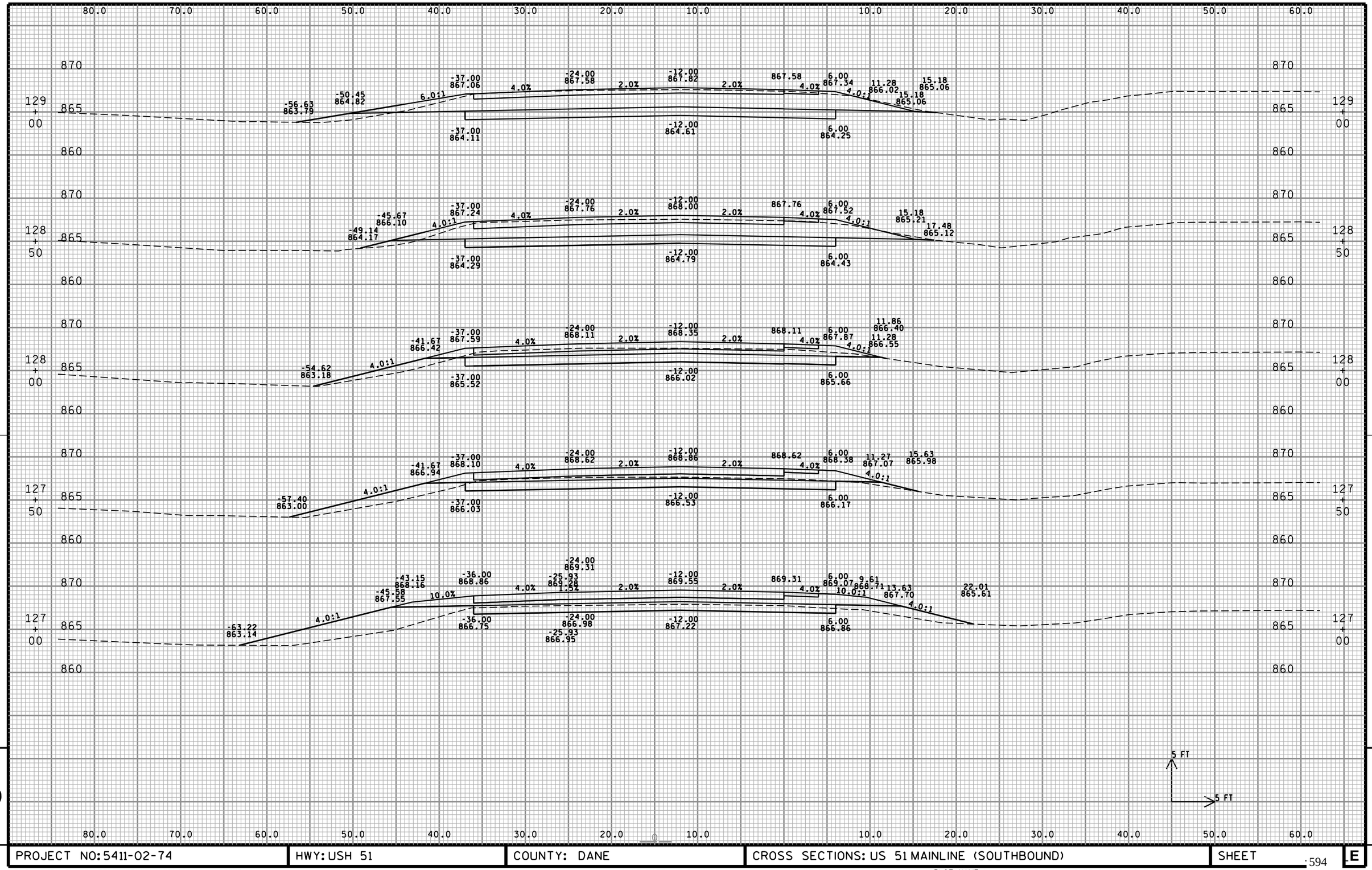
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET 593 E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc018003 B.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc018003 B.dgn 8/14/2014 8:35:38 AM ckieler



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PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET 594	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc019003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc019003.dgn 8/14/2014 8:35:38 AM ckieler

80.0 70.0 60.0 50.0 40.0 30.0 20.0 10.0 10.0 20.0 30.0 40.0 50.0 60.0

870 865 860

130 + 32.97

-50.32 865.16
-37.00 867.38
-24.00 867.90
-12.00 868.14
867.90
6.00 867.66
18.50 21.83 865.57 866.50
-37.00 864.43
-12.00 864.93
6.00 864.57

130 + 00

-50.45 864.97
-51.59 864.78
-37.00 867.21
-24.00 867.73
-12.00 867.97
867.73
6.00 867.49
18.50 22.08 865.40 865.26
-37.00 864.26
-12.00 864.76
6.00 864.40

129 + 50

-50.48 864.83
-53.46 864.31
-37.00 867.05
-24.00 867.57
-12.00 867.81
867.57
6.00 867.33
18.48 865.32
-37.00 864.10
-12.00 864.60
6.00 864.24

6.0:1 4.0% 2.0% 2.0% 4.0% 6.0:1

5 FT 5 FT

9 9

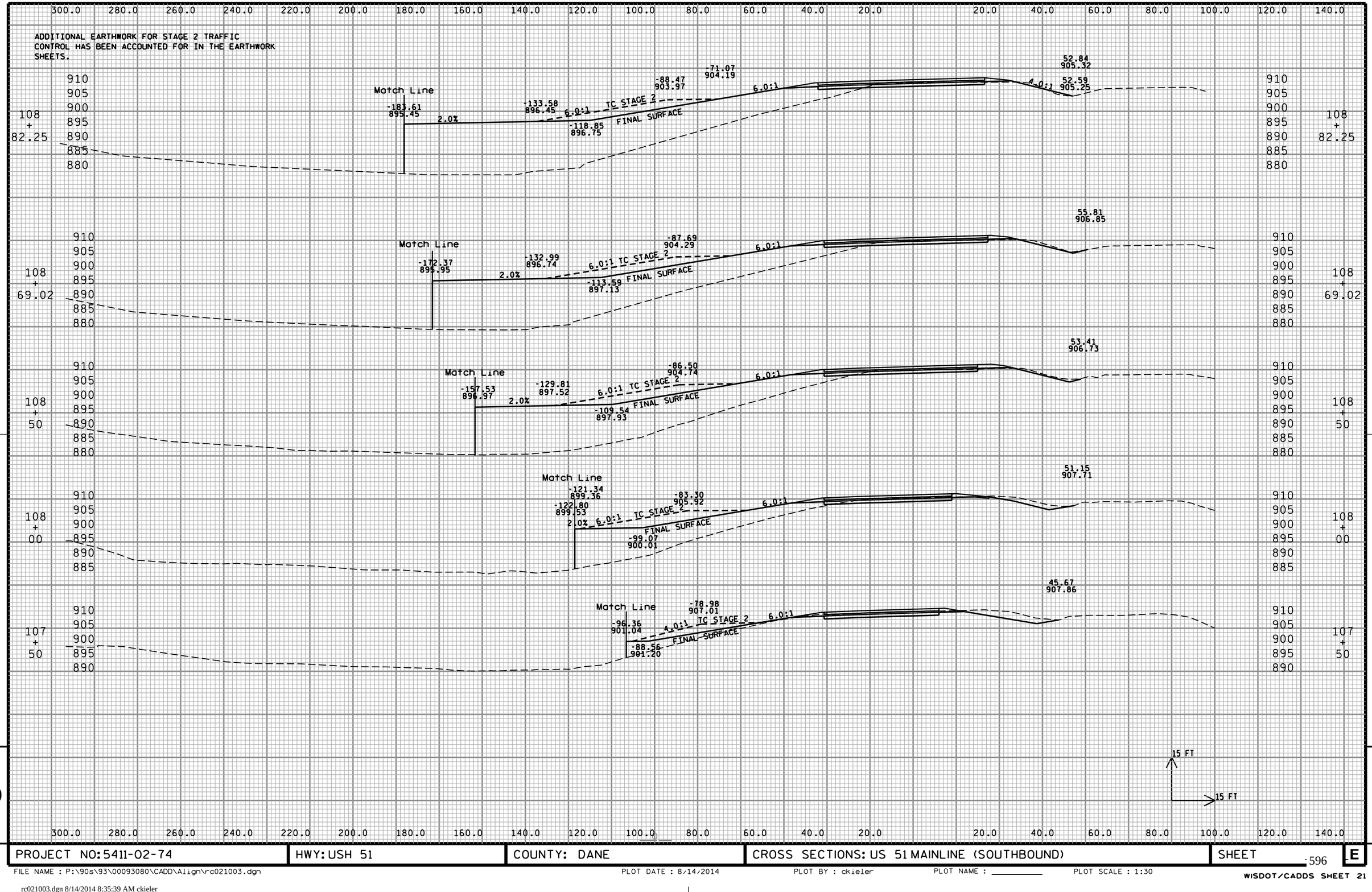
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET .595	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc020003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc020003.dgn 8/14/2014 8:35:39 AM ckieler

ADDITIONAL EARTHWORK FOR STAGE 2 TRAFFIC CONTROL HAS BEEN ACCOUNTED FOR IN THE EARTHWORK SHEETS.



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET 596 E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc021003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:30

WISDOT/CADDS SHEET 21

rc021003.dgn 8/14/2014 8:35:39 AM ckieler

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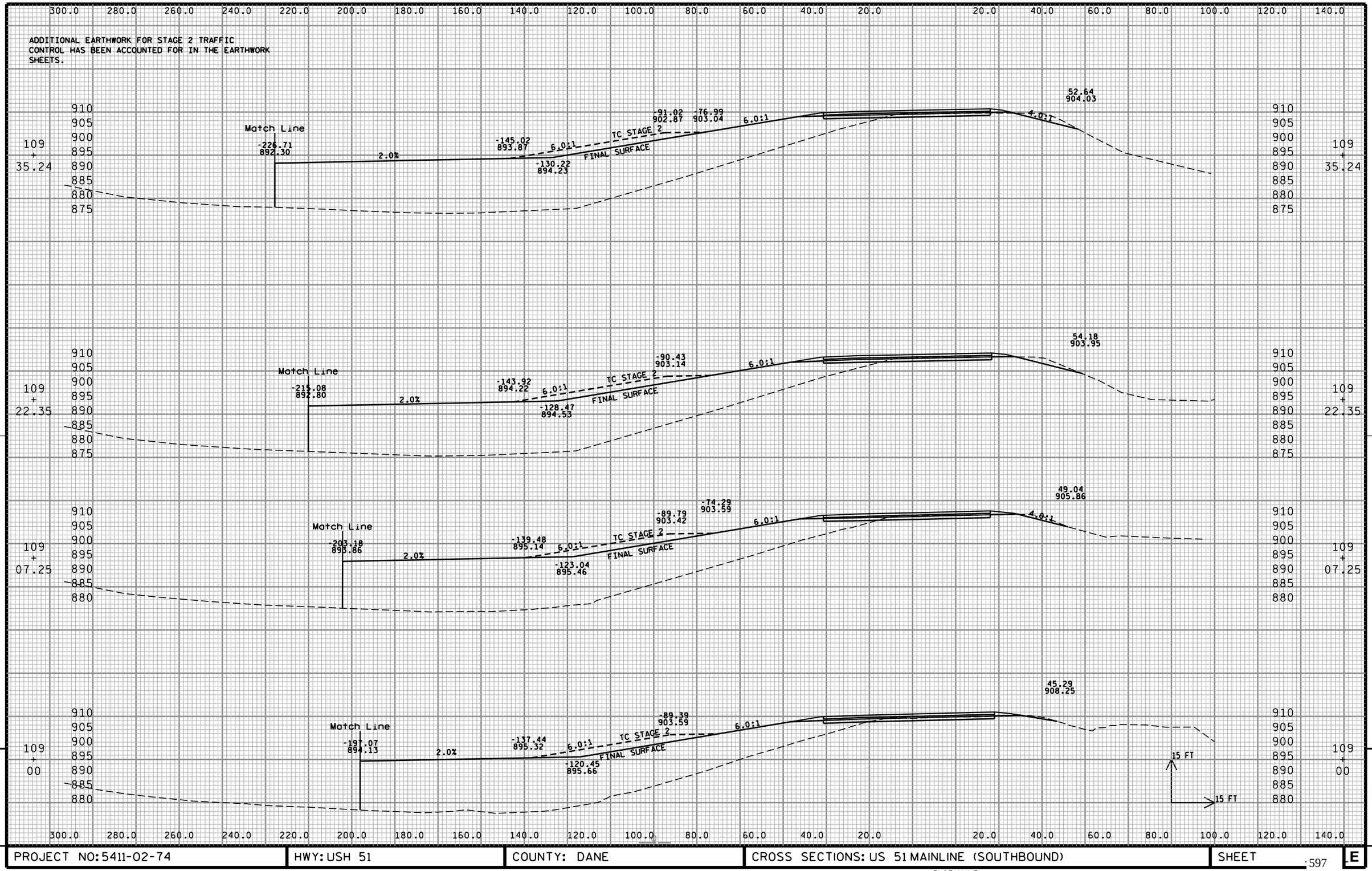

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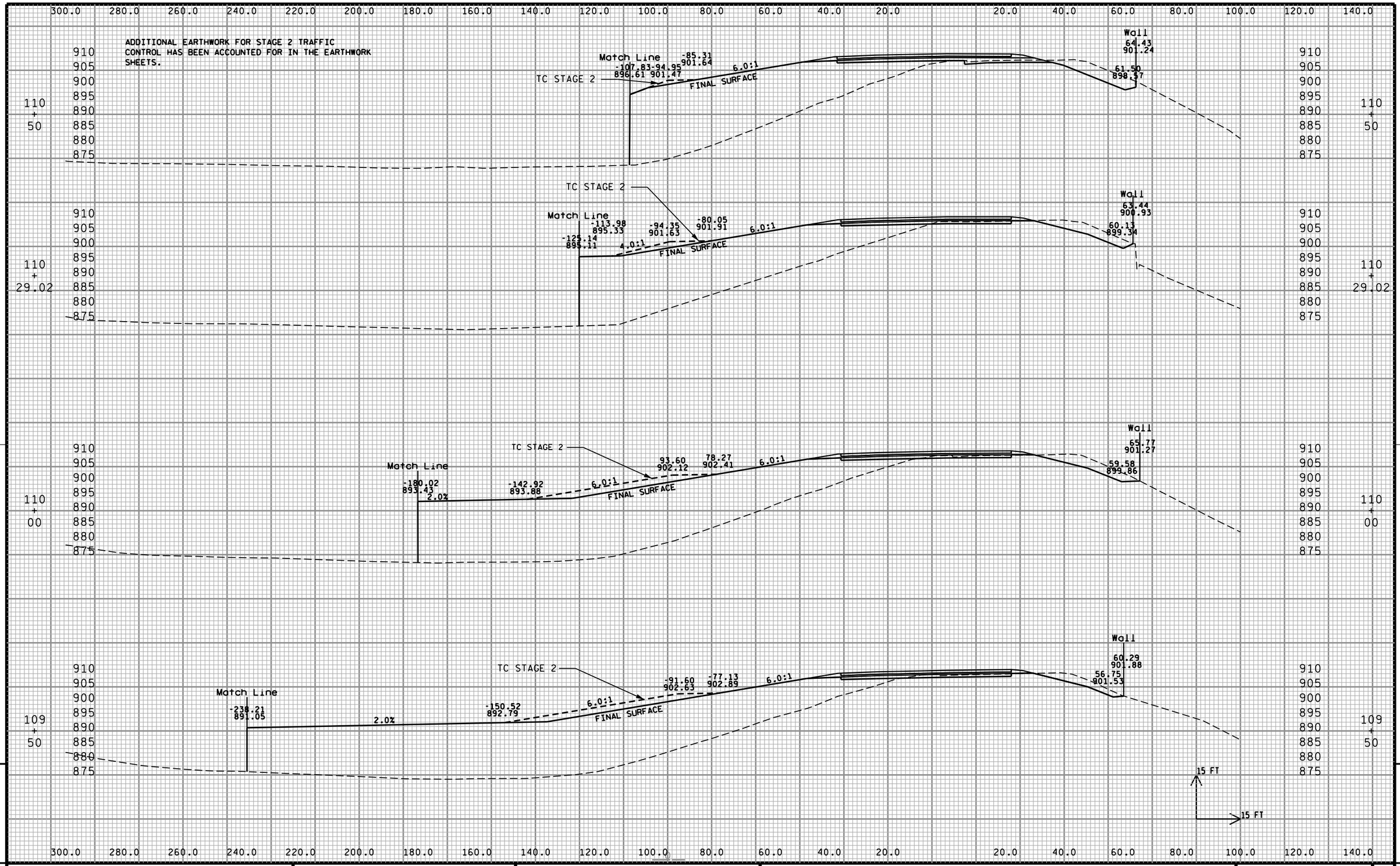
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET 597 E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc031003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc031003.dgn 8/14/2014 8:35:40 AM ckieler

ADDITIONAL EARTHWORK FOR STAGE 2 TRAFFIC CONTROL HAS BEEN ACCOUNTED FOR IN THE EARTHWORK SHEETS.

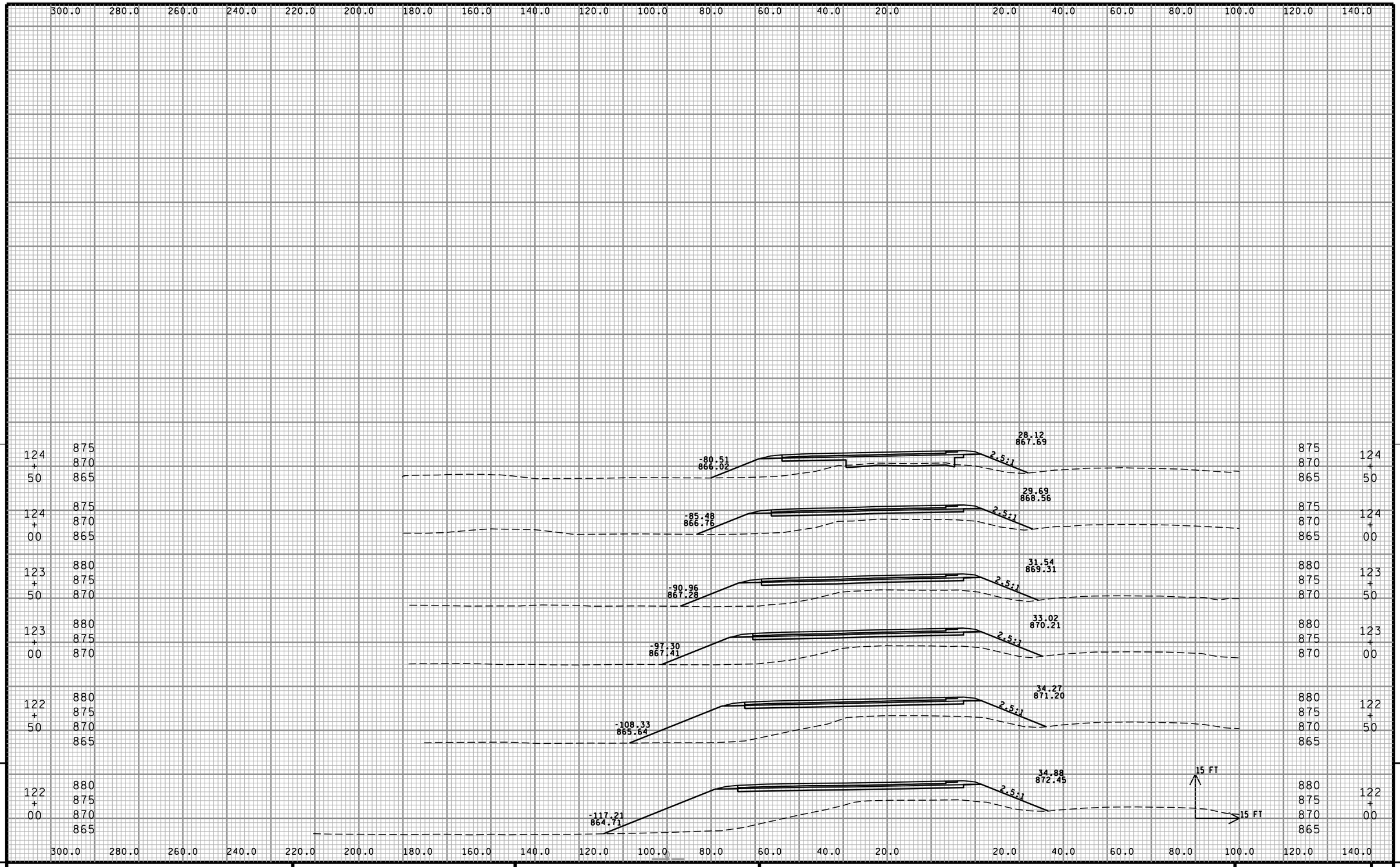


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc022003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:30

WISDOT/CADDS SHEET 21

rc022003.dgn 8/14/2014 8:35:40 AM ckieler



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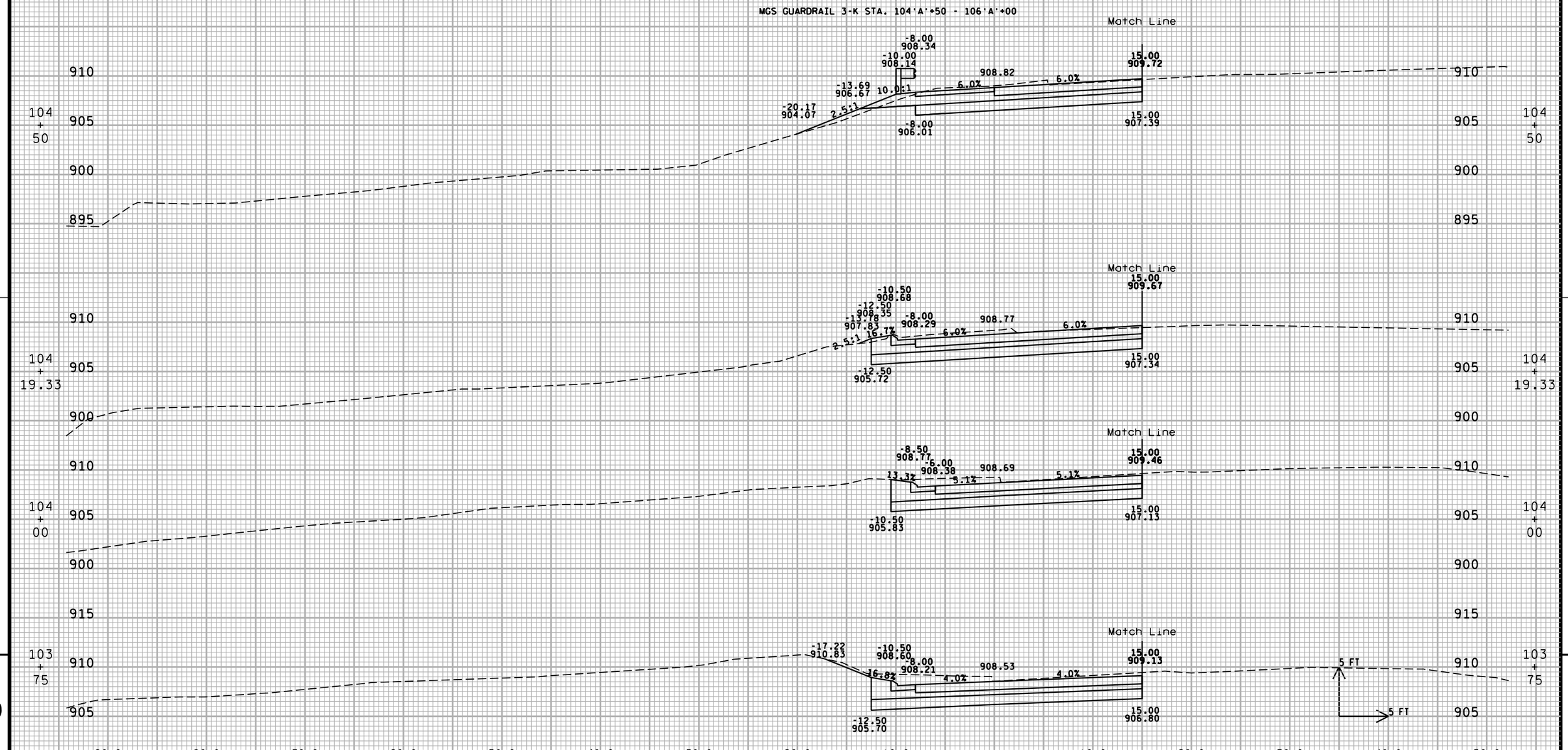
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 MAINLINE (SOUTHBOUND)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc023003.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc023003.dgn 8/14/2014 8:35:41 AM ckieler

MGS GUARDRAIL 3-K STA. 104'A'+50 - 106'A'+00



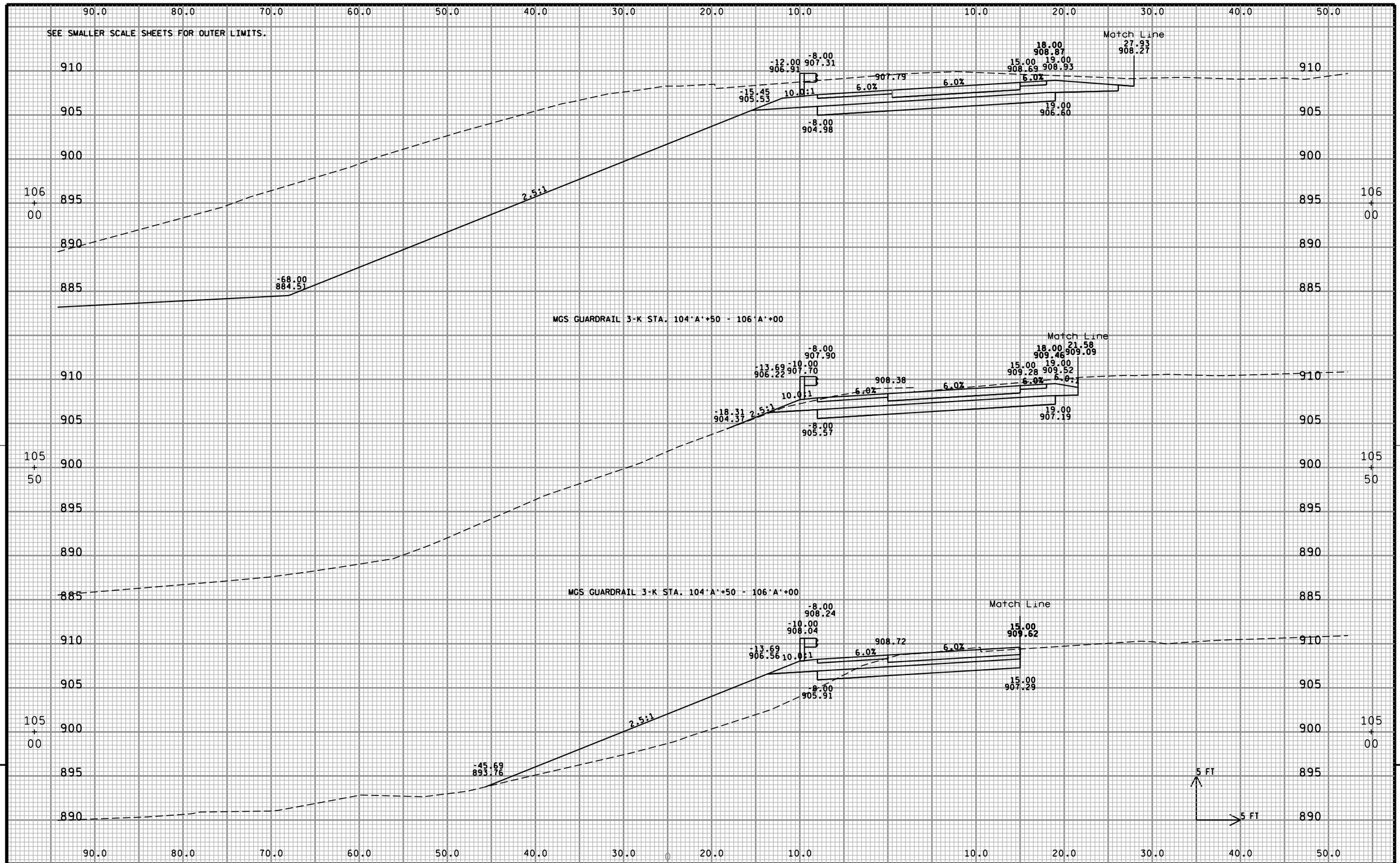
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET 600

FILE NAME : P:\90s\93\00093080\CADD\Align\rc001001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc001001.dgn 8/14/2014 8:35:41 AM ckieler

SEE SMALLER SCALE SHEETS FOR OUTER LIMITS.



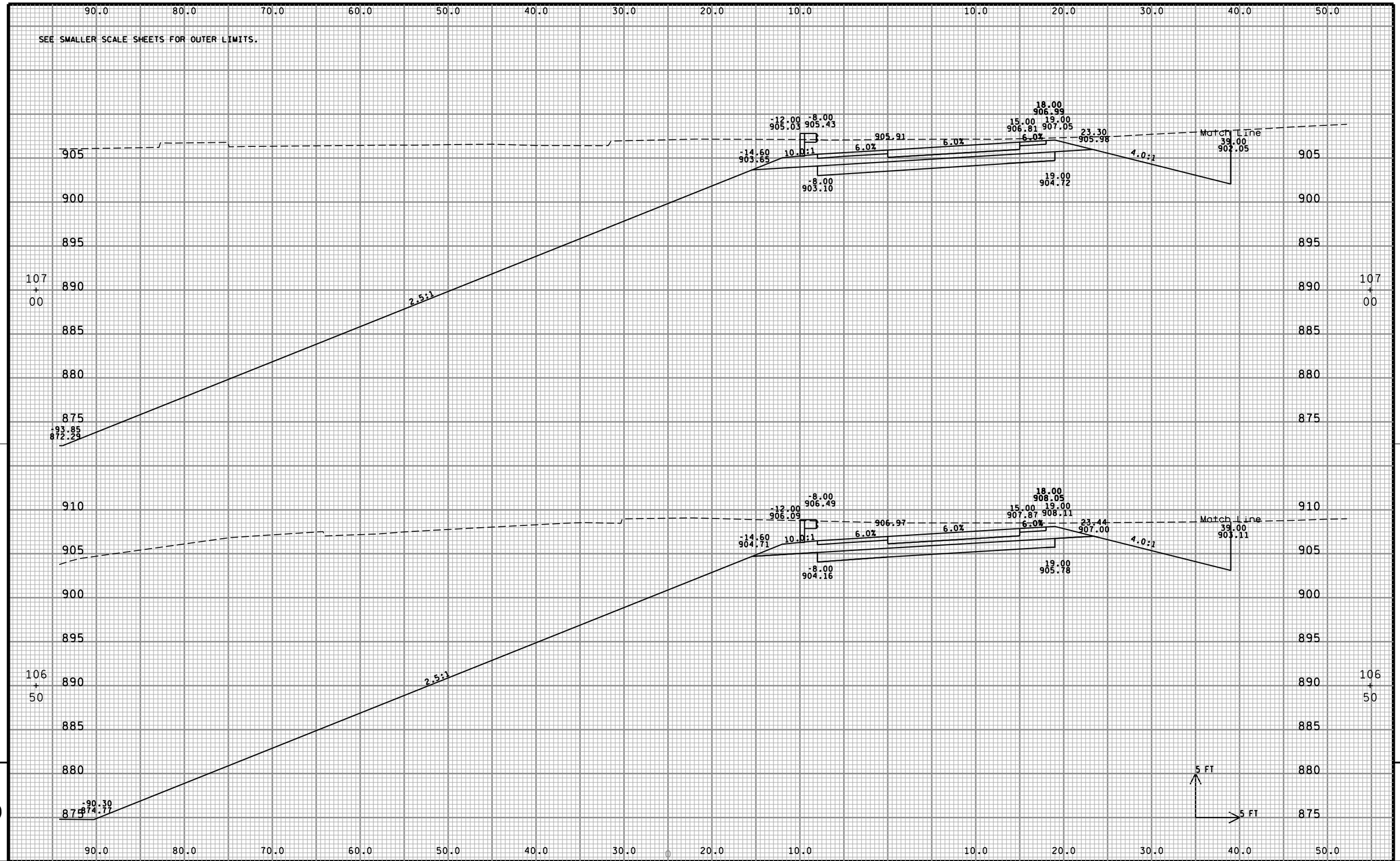
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET 601	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc002001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc002001.dgn 8/14/2014 8:35:42 AM ckieler

SEE SMALLER SCALE SHEETS FOR OUTER LIMITS.



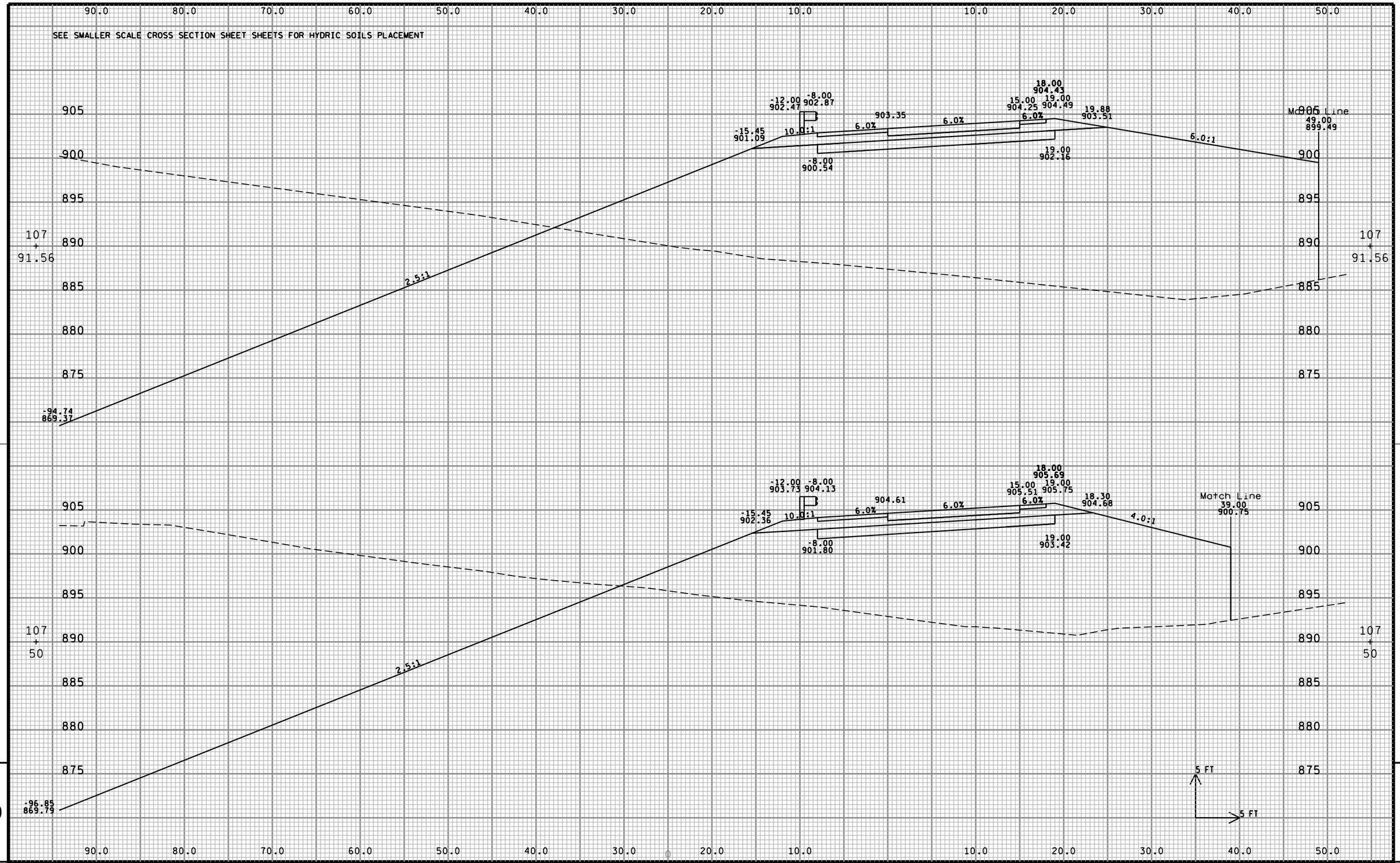
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc003001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc003001.dgn 8/14/2014 8:35:42 AM ckieler

SEE SMALLER SCALE CROSS SECTION SHEET SHEETS FOR HYDRIC SOILS PLACEMENT



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9

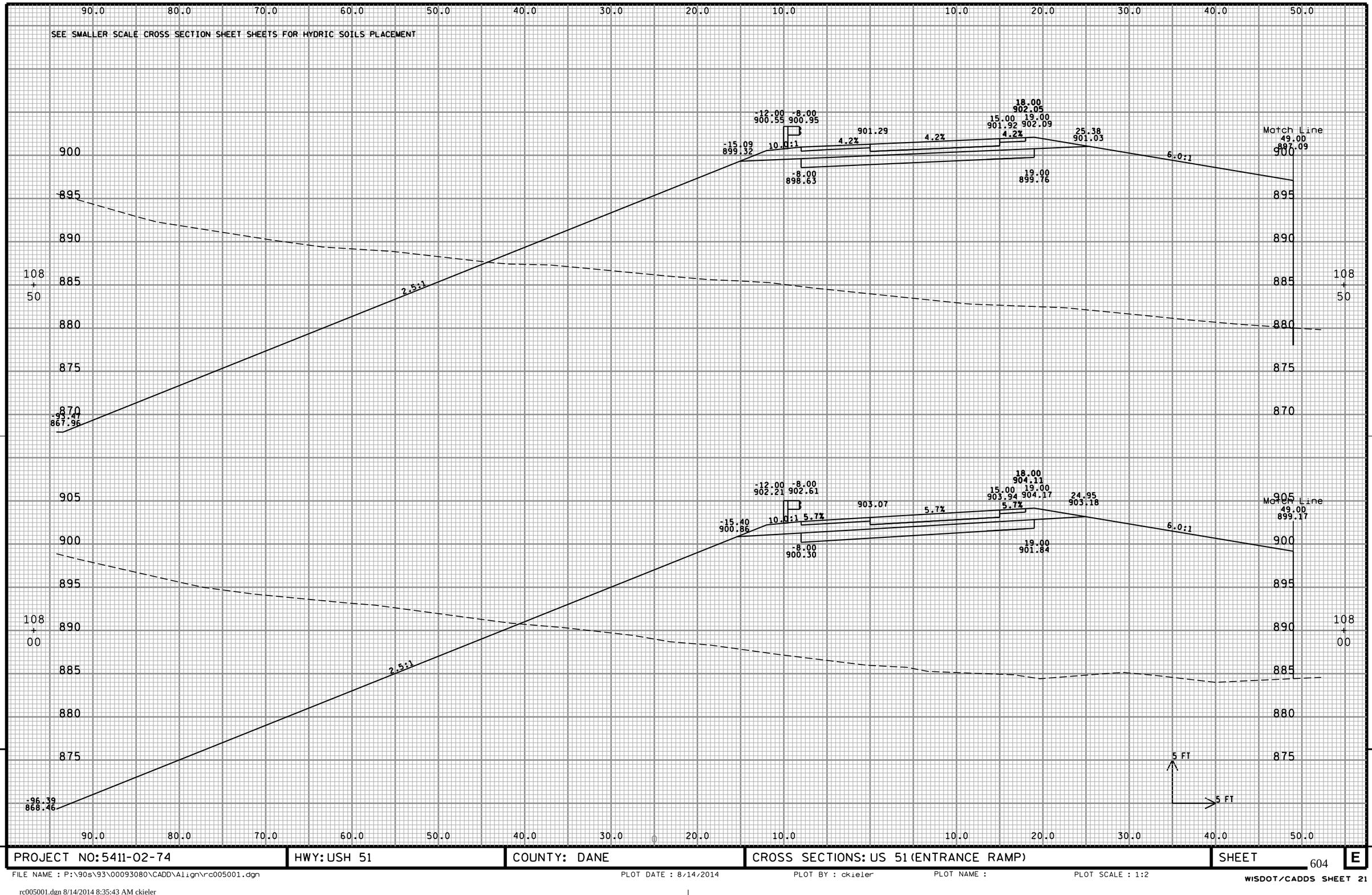
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET 603	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc004001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc004001.dgn 8/14/2014 8:35:43 AM ckieler

SEE SMALLER SCALE CROSS SECTION SHEET SHEETS FOR HYDRIC SOILS PLACEMENT



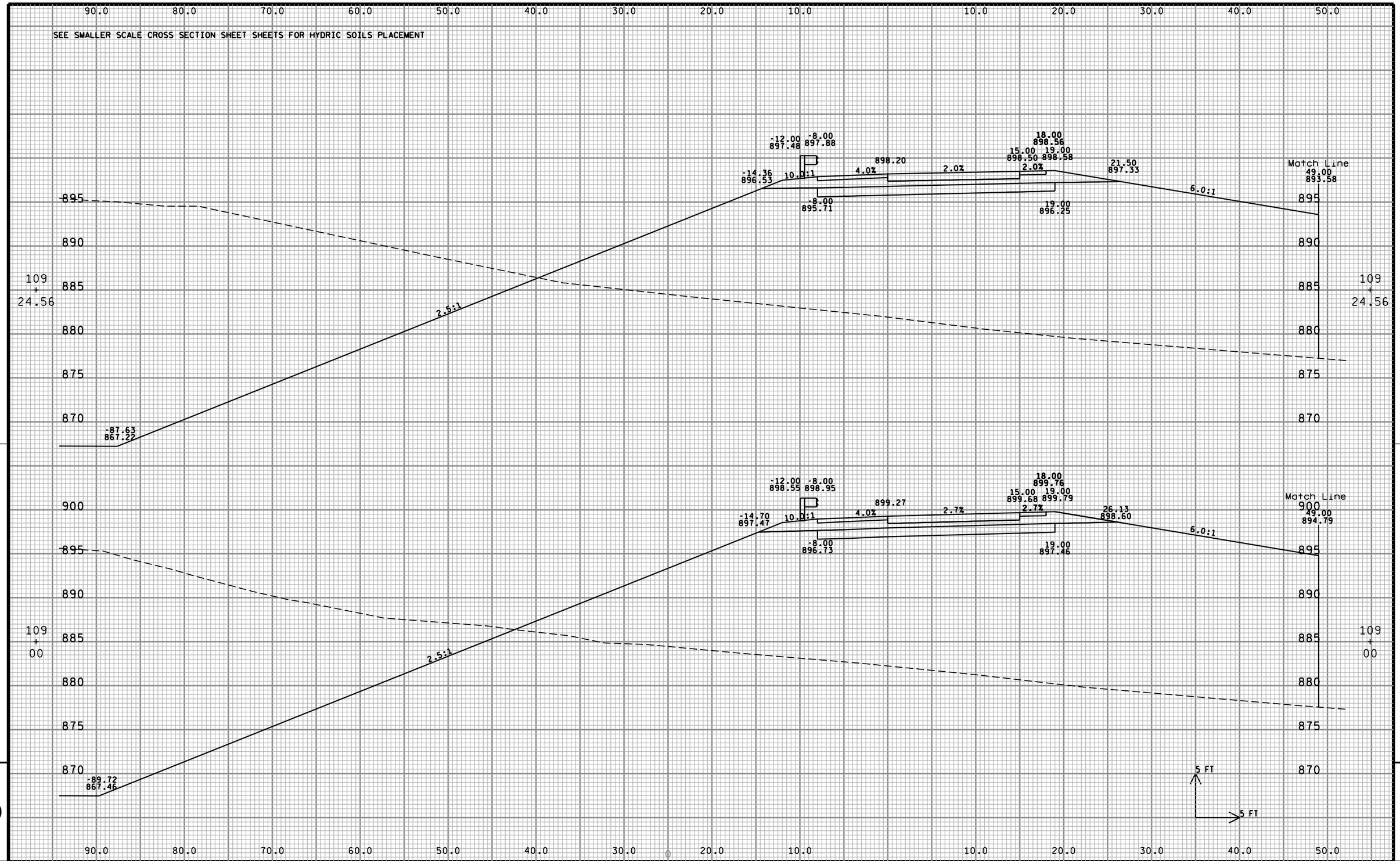
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET 604	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc005001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc005001.dgn 8/14/2014 8:35:43 AM ckieler

SEE SMALLER SCALE CROSS SECTION SHEET SHEETS FOR HYDRIC SOILS PLACEMENT



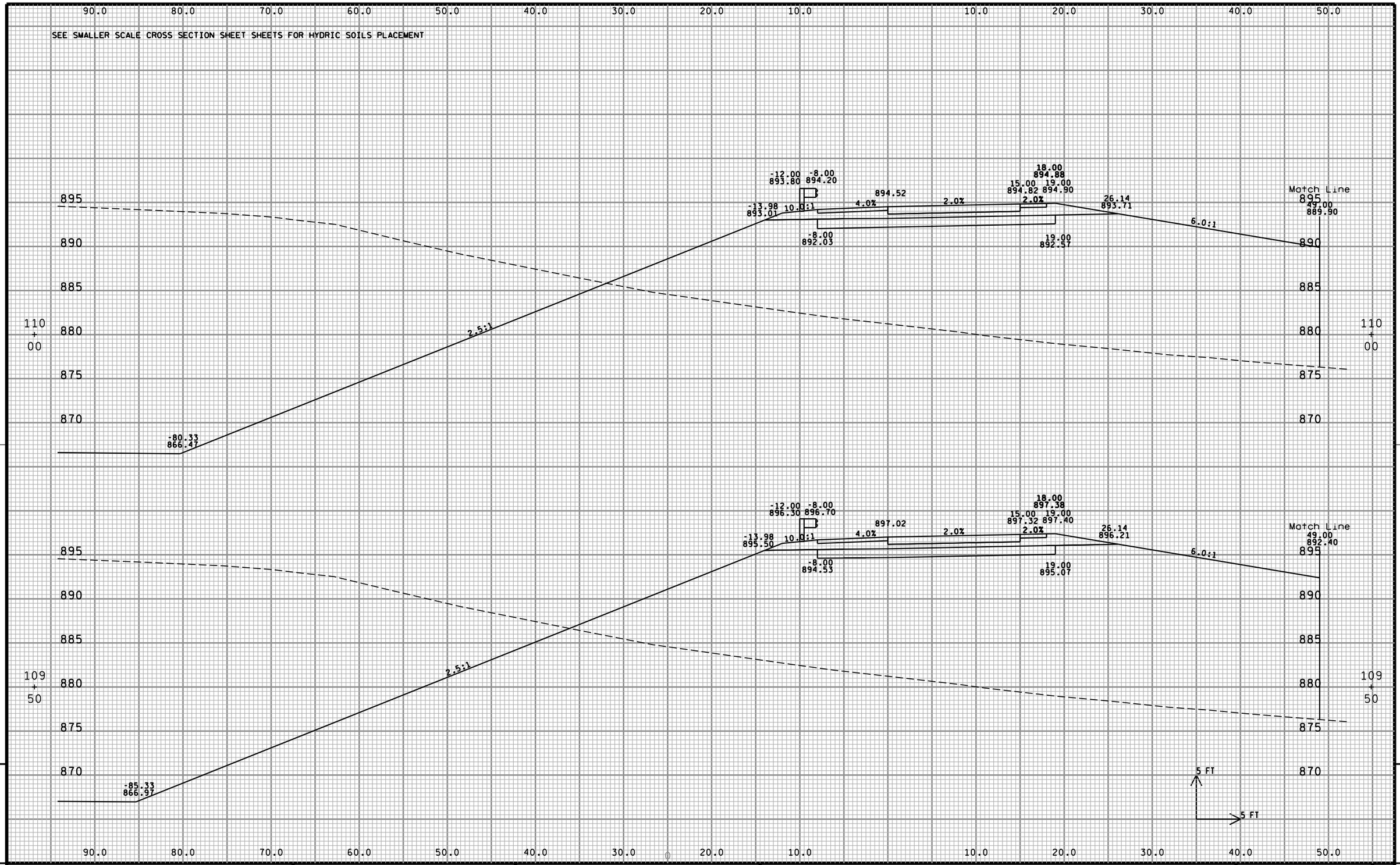
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET 605	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc006001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc006001.dgn 8/14/2014 8:35:44 AM ckieler

SEE SMALLER SCALE CROSS SECTION SHEET SHEETS FOR HYDRIC SOILS PLACEMENT



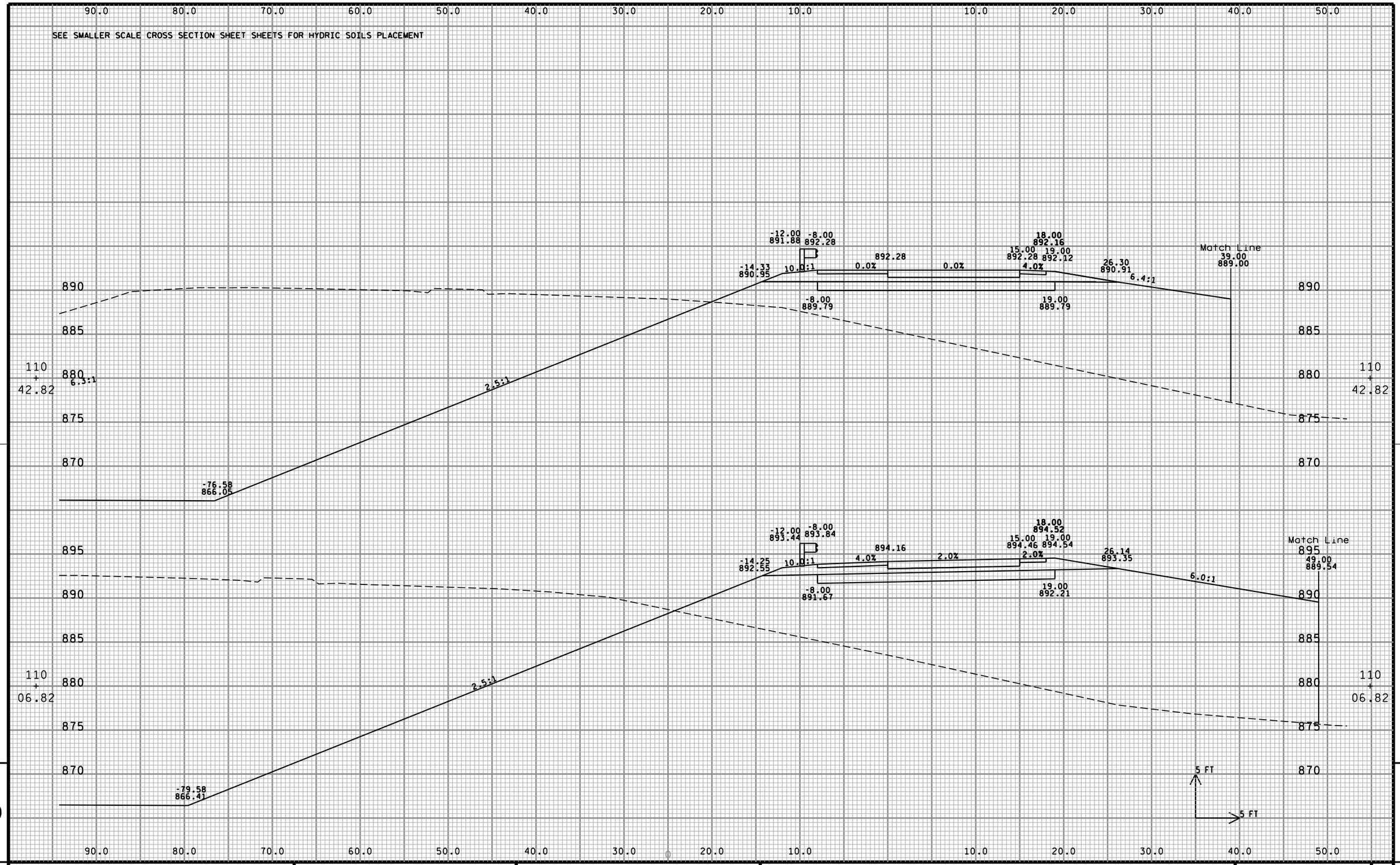
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc007001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc007001.dgn 8/14/2014 8:35:44 AM ckieler

SEE SMALLER SCALE CROSS SECTION SHEET SHEETS FOR HYDRIC SOILS PLACEMENT



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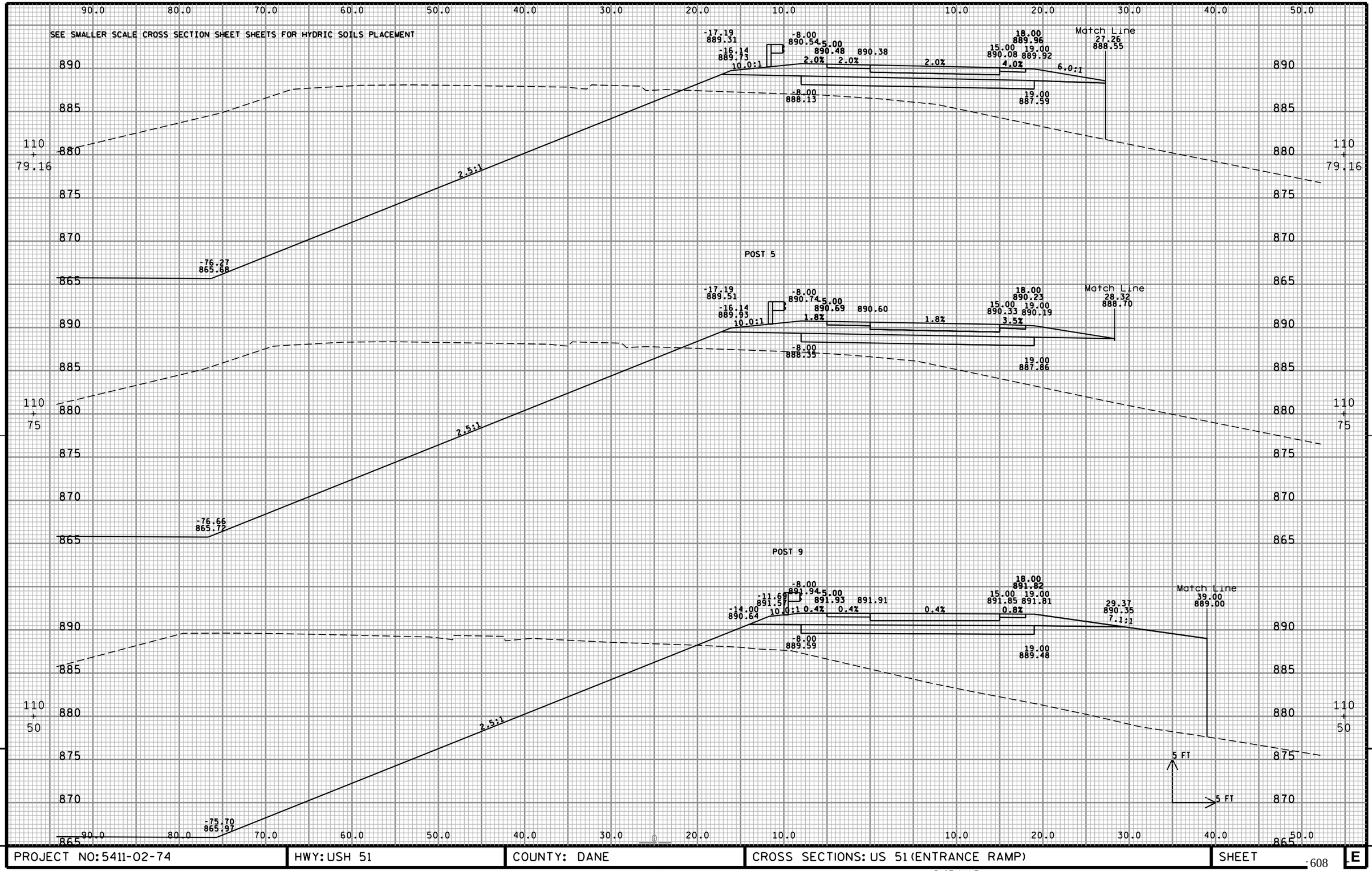
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET 607	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc008001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc008001.dgn 8/14/2014 8:35:45 AM ckieler

SEE SMALLER SCALE CROSS SECTION SHEET SHEETS FOR HYDRIC SOILS PLACEMENT



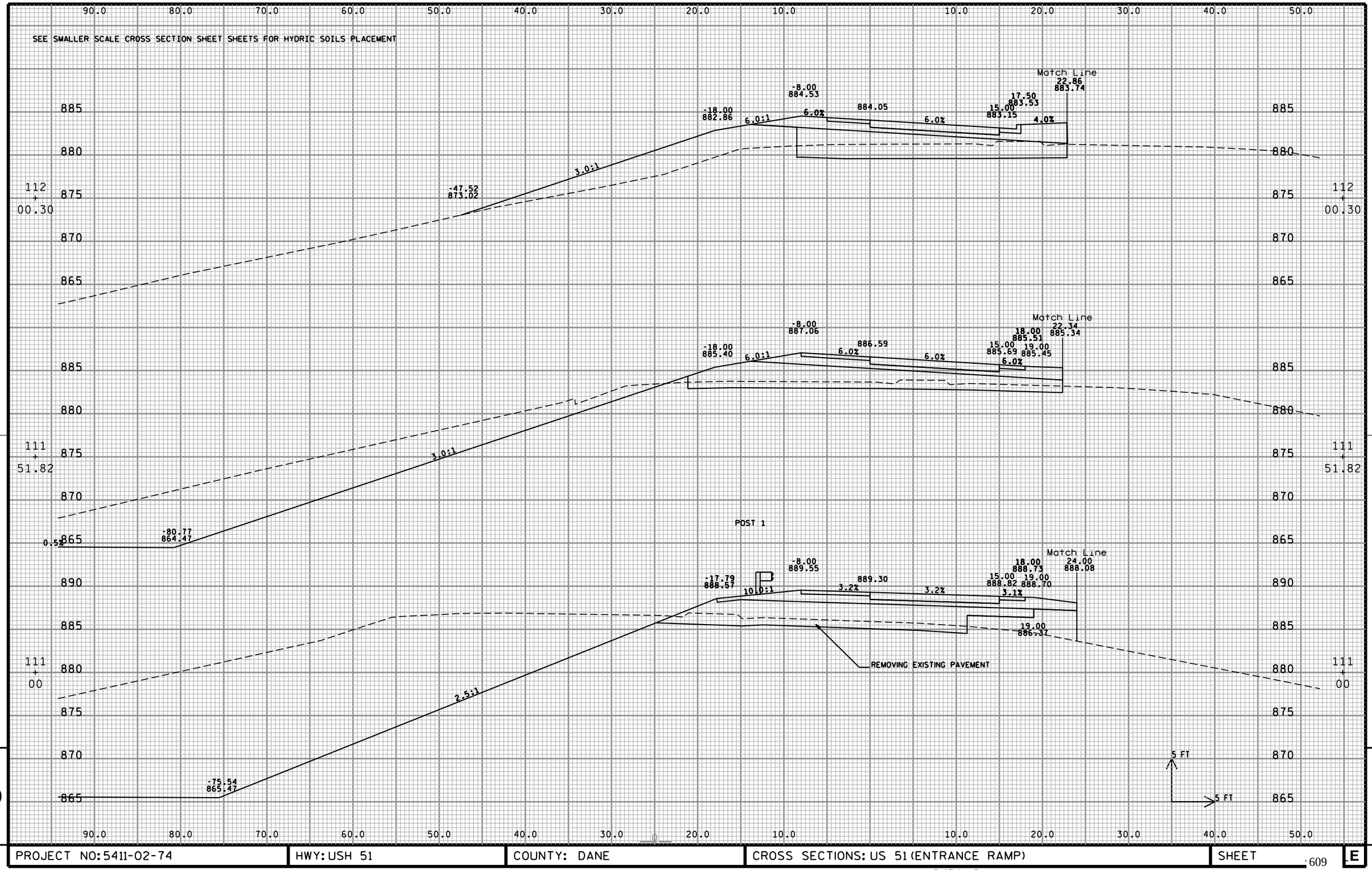
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc009001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc009001.dgn 8/14/2014 8:35:45 AM ckieler

SEE SMALLER SCALE CROSS SECTION SHEET SHEETS FOR HYDRIC SOILS PLACEMENT



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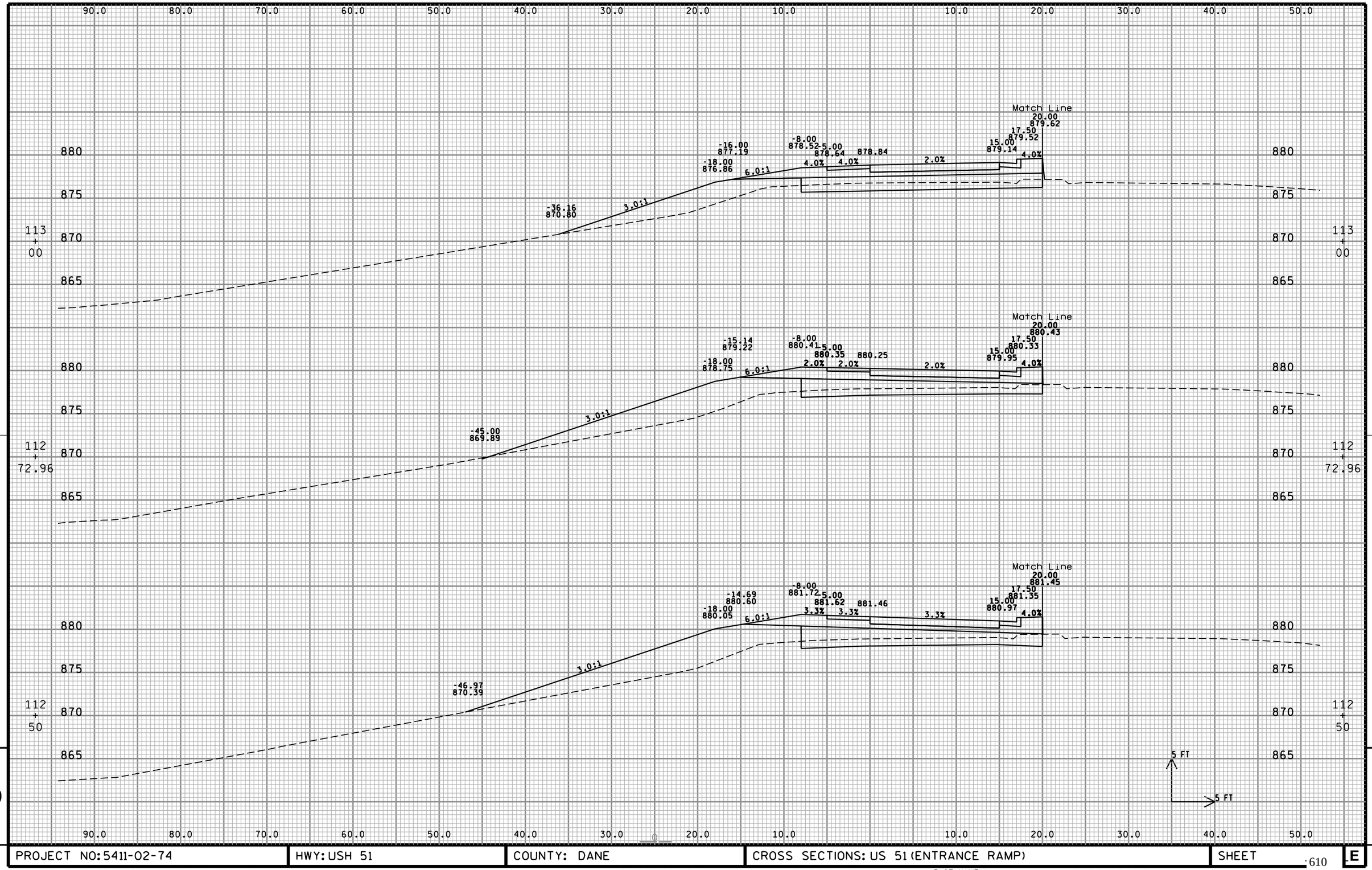
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc010001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc010001.dgn 8/14/2014 8:35:46 AM ckieler



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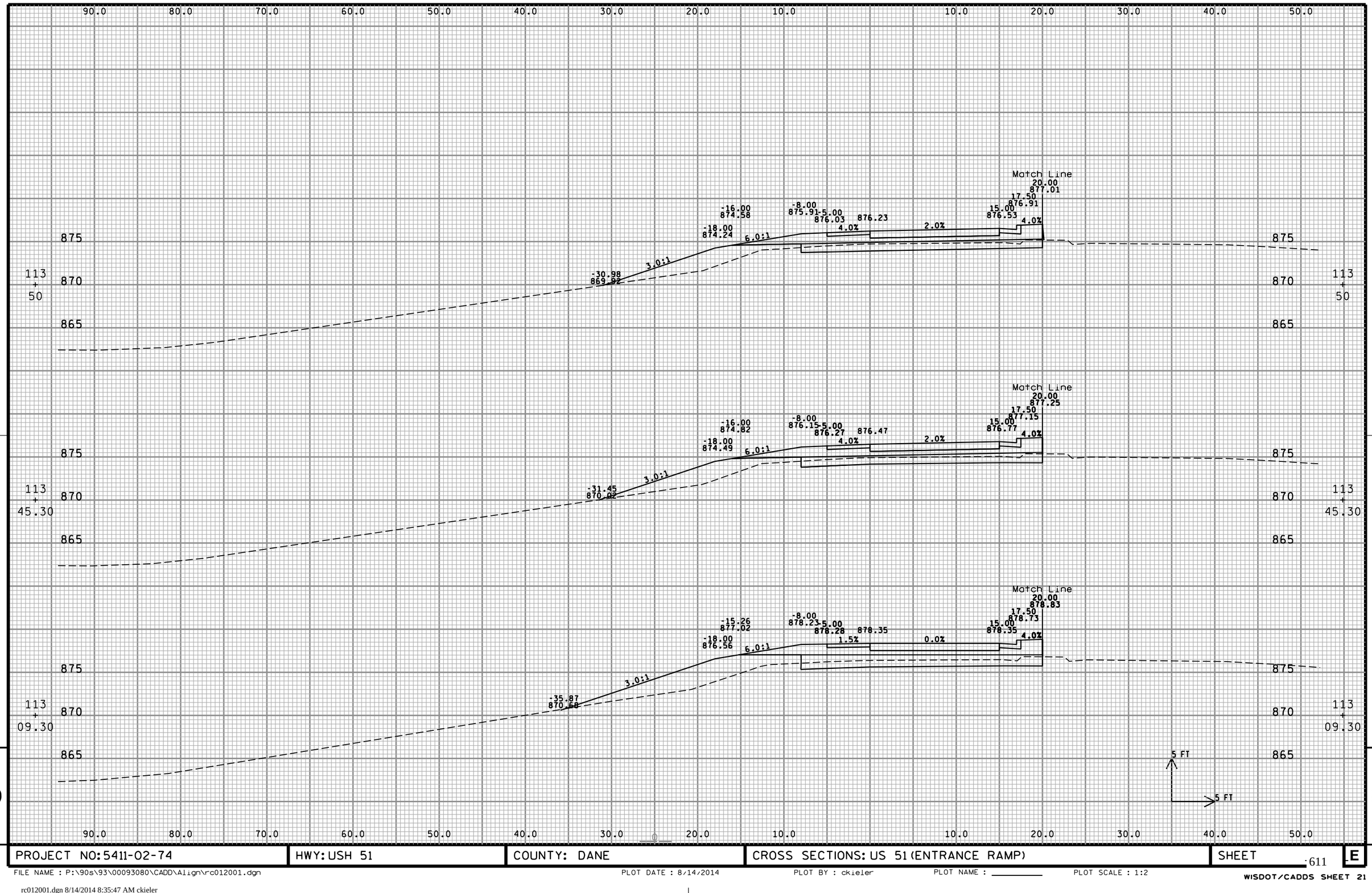
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET 610 E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc011001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc011001.dgn 8/14/2014 8:35:46 AM ckieler



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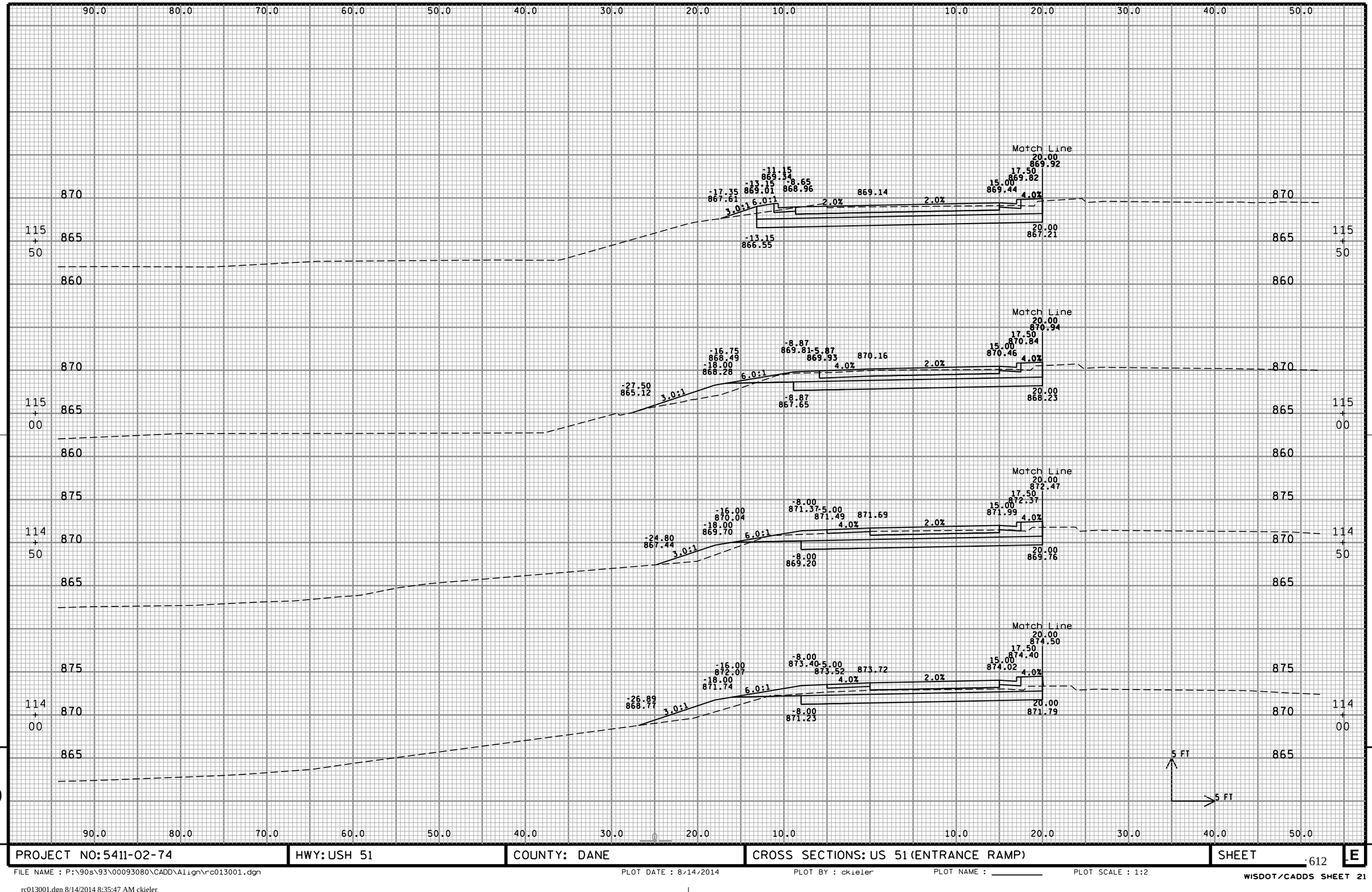
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc012001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc012001.dgn 8/14/2014 8:35:47 AM ckieler



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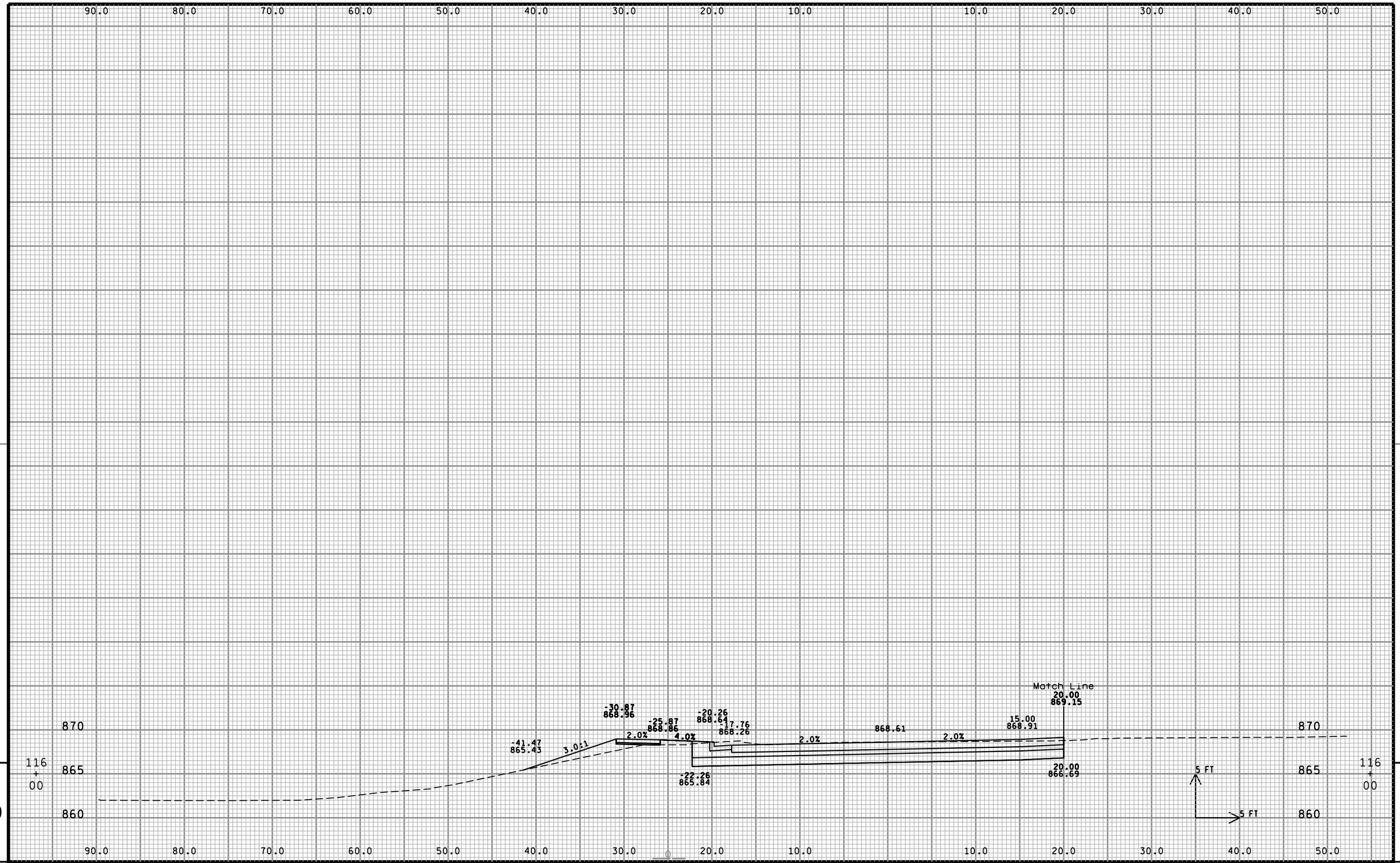
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc013001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc013001.dgn 8/14/2014 8:35:47 AM ckieler



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PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET 613	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc014001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc014001.dgn 8/14/2014 8:35:48 AM ckieler

SALVAGED HYDRIC SOILS PLACEMENT

107 + 50

-242.28
872.03

2' DEPTH (TYP.)

1.5%

-96.85
869.79

2.5:1

Match Line
39.00
902.05

107 + 00

-224.51
873.87

1.2%

-93.85
872.29

2.5:1

Match Line
39.00
903.11

106 + 50

-203.91
875.90

1.0%

-90.30
874.77

2.5:1

Match Line
27.93
907.44

106 + 00

-126.98
881.56

5.0%

-68.00
884.51

2.5:1

10 FT

10 FT

9

9

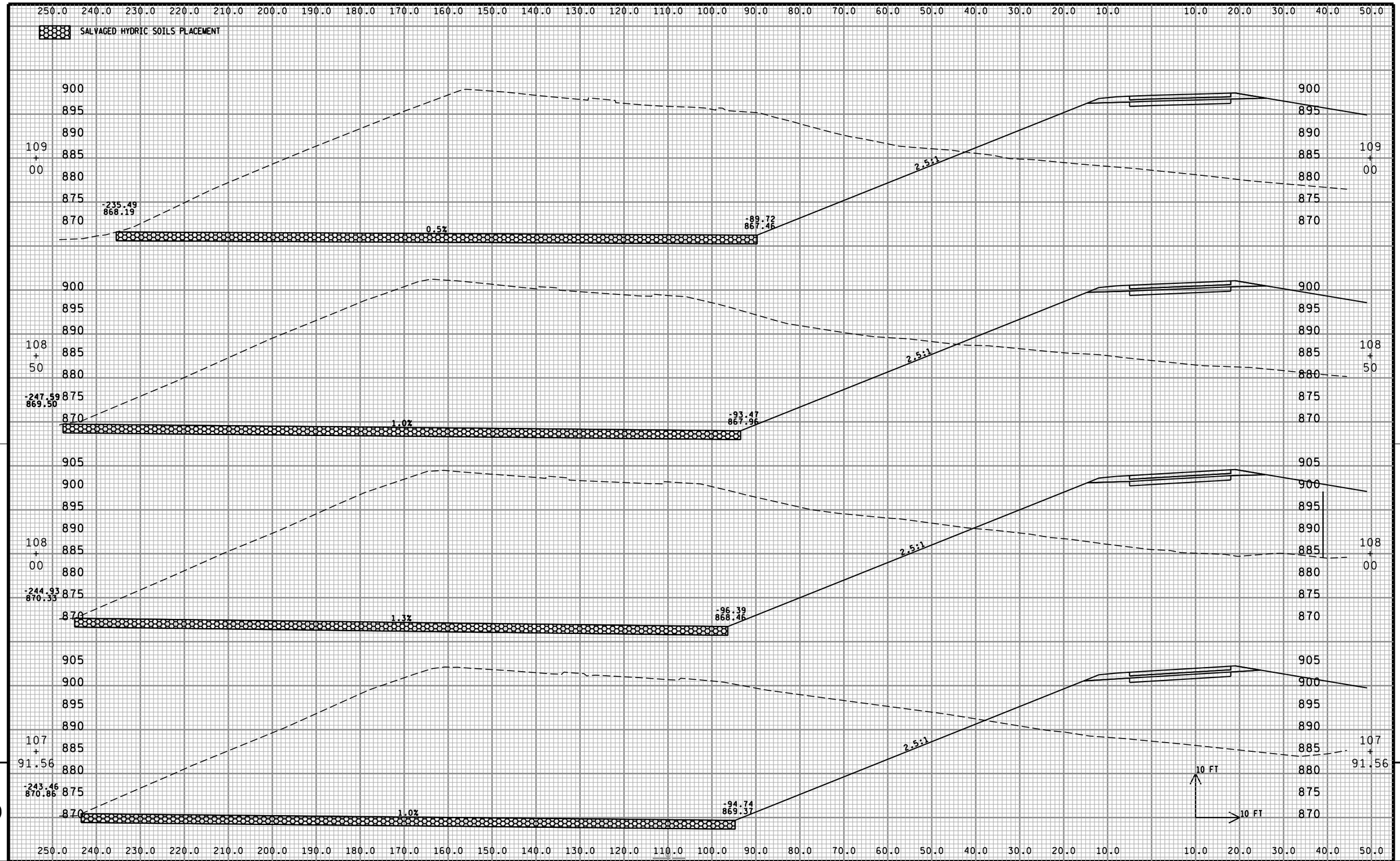
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET 614	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc015001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc015001.dgn 8/14/2014 8:35:48 AM ckieler

SALVAGED HYDRIC SOILS PLACEMENT



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PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET 615	E

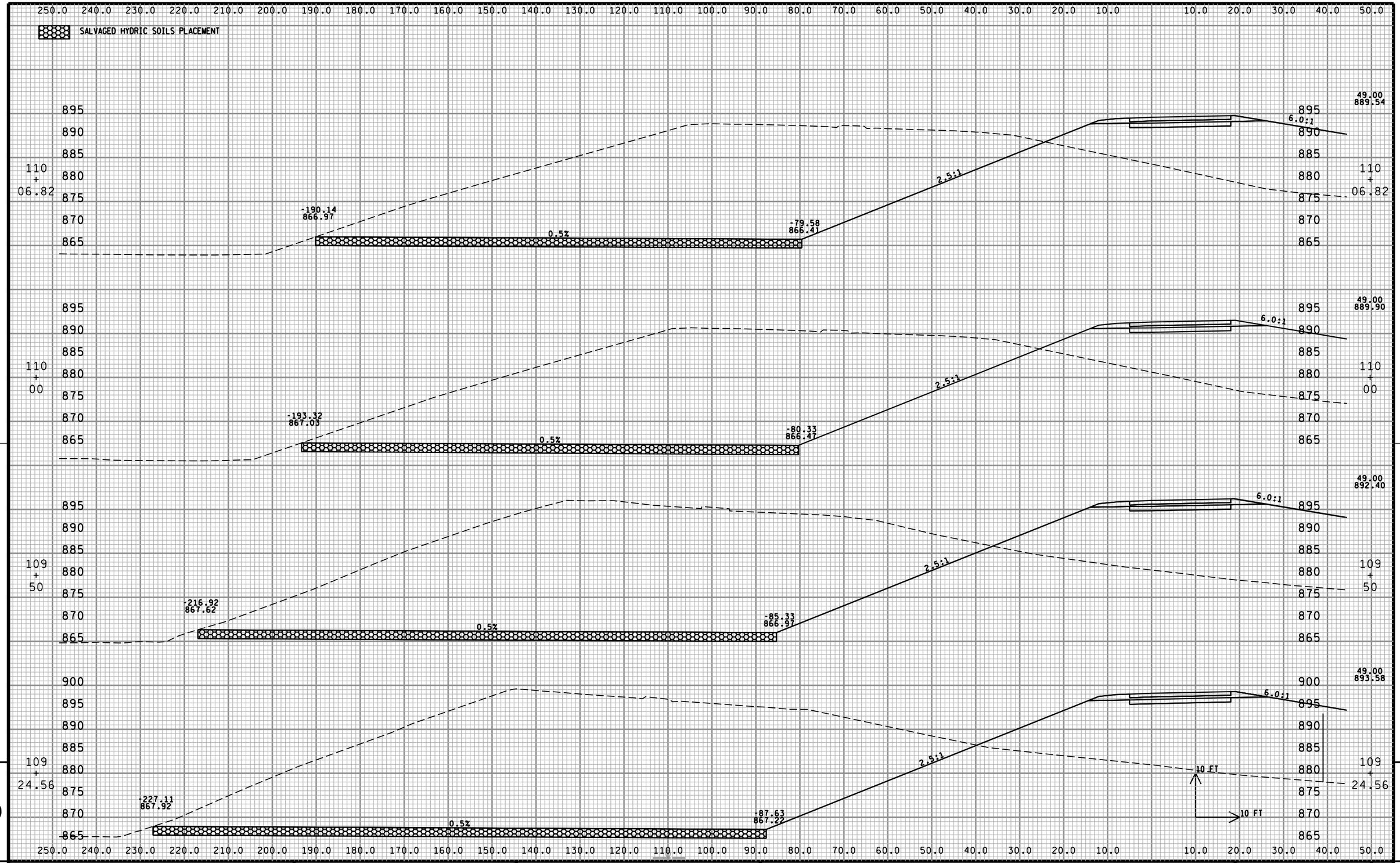
FILE NAME : P:\90s\93\00093080\CADD\Align\rc016001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc016001.dgn 8/14/2014 8:35:49 AM ckieler

SALVAGED HYDRIC SOILS PLACEMENT

250.0 240.0 230.0 220.0 210.0 200.0 190.0 180.0 170.0 160.0 150.0 140.0 130.0 120.0 110.0 100.0 90.0 80.0 70.0 60.0 50.0 40.0 30.0 20.0 10.0 10.0 20.0 30.0 40.0 50.0



9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET 616	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc017001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc017001.dgn 8/14/2014 8:35:49 AM ckieler

SALVAGED HYDRIC SOILS PLACEMENT

250.0 240.0 230.0 220.0 210.0 200.0 190.0 180.0 170.0 160.0 150.0 140.0 130.0 120.0 110.0 100.0 90.0 80.0 70.0 60.0 50.0 40.0 30.0 20.0 10.0 10.0 20.0 30.0 40.0 50.0

890 885 880 875 870 865

111 + 00

-140.21
865.79

0.5%

-75.54
865.47

2.5:1

Match Line
24.00
888.08

110 + 79.16

-153.14
866.06

0.5%

-76.27
865.68

2.5:1

Match Line
27.26
888.55

110 + 75

-155.67
866.12

0.5%

-76.66
865.72

2.5:1

Match Line
28.32
888.70

110 + 50

-165.75
866.42

0.5%

-75.70
865.97

2.5:1

Match Line
39.00
889.00

110 + 42.82

-170.85
866.52

0.5%

-76.58
866.05

2.5:1

10 FT

10 FT

Match Line
39.00
889.00

9

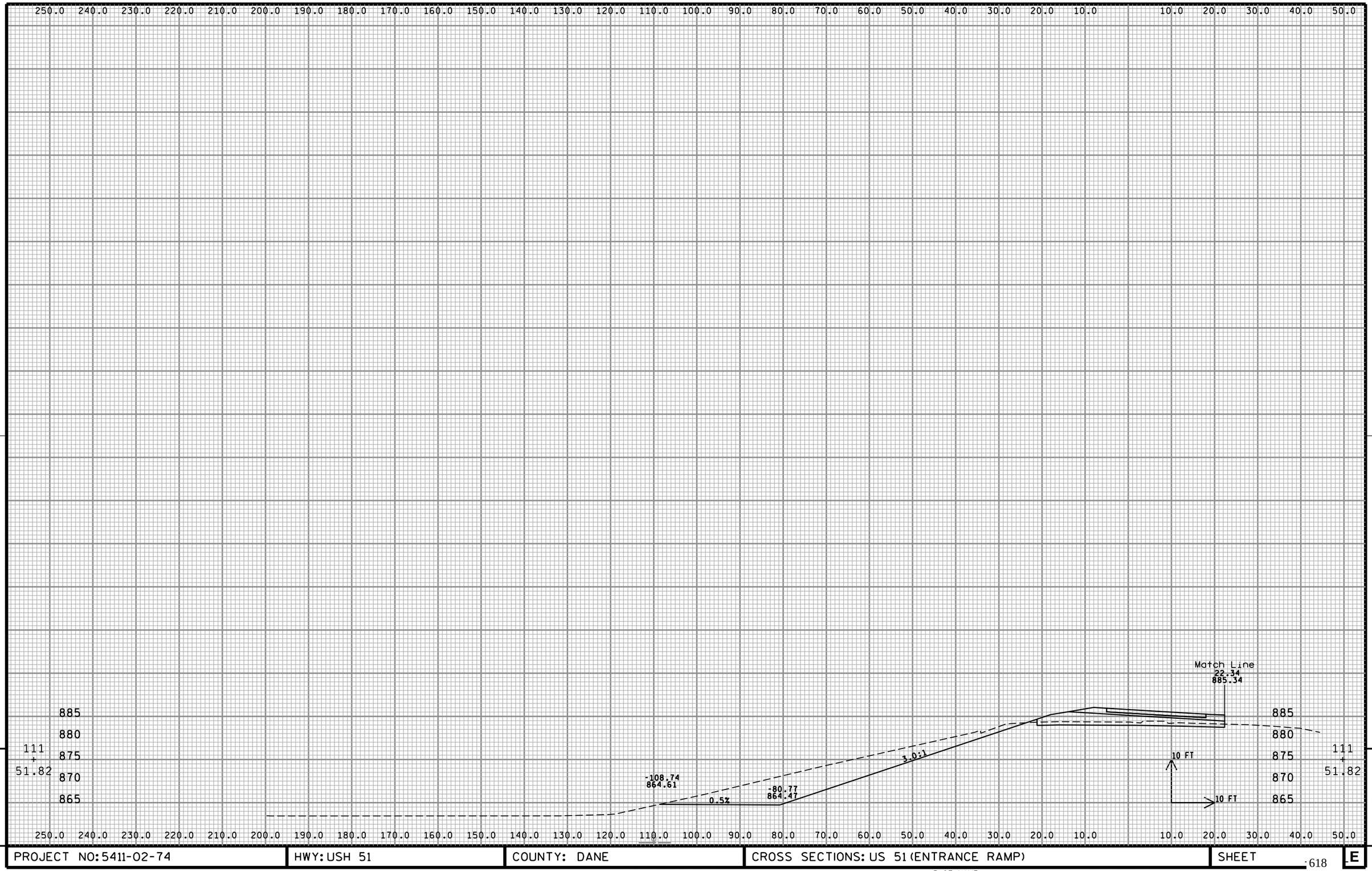
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET 617	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc018001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc018001.dgn 8/14/2014 8:35:50 AM ckieler



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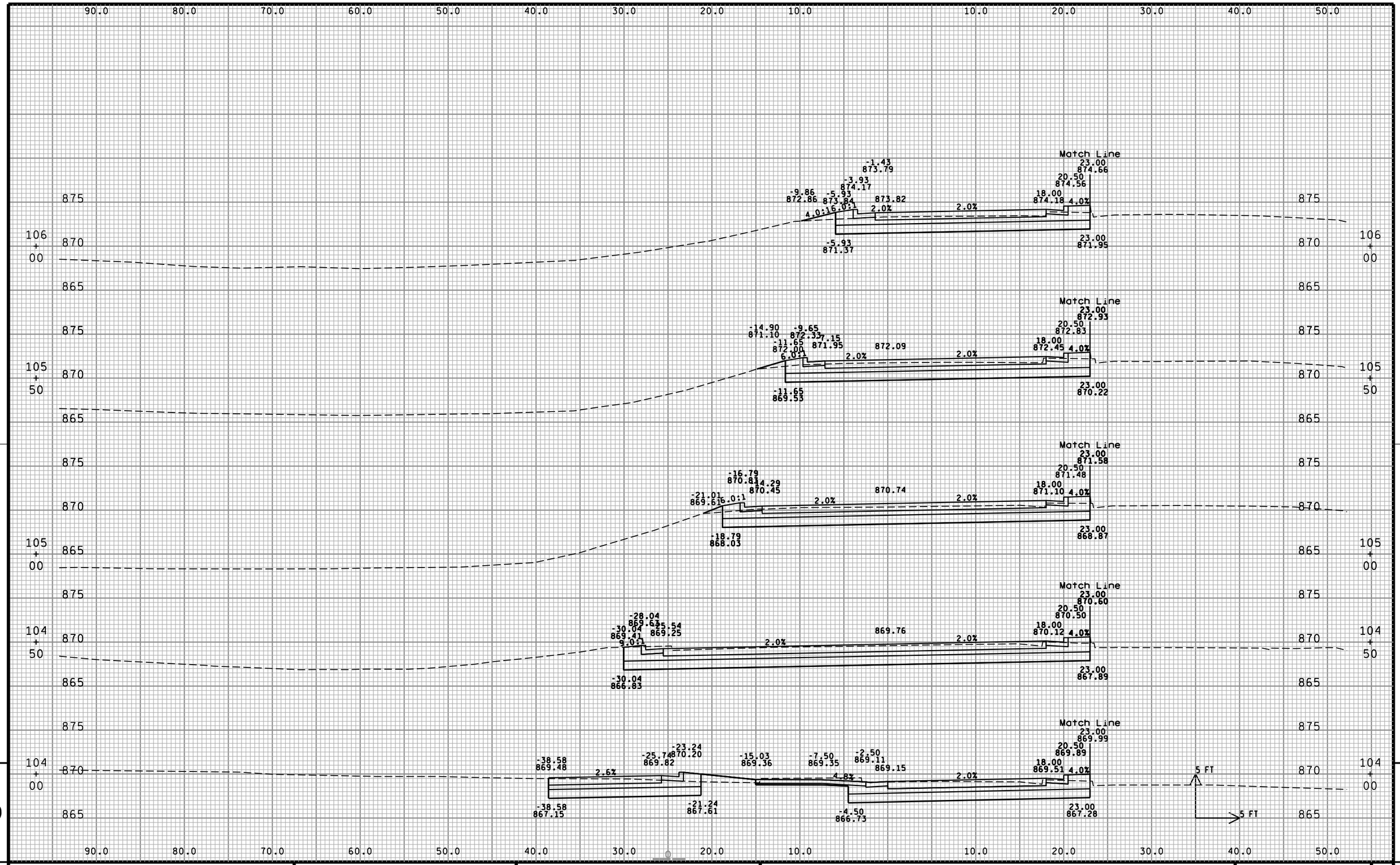
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (ENTRANCE RAMP)	SHEET 618	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc019001.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc019001.dgn 8/14/2014 8:35:51 AM ckieler



9

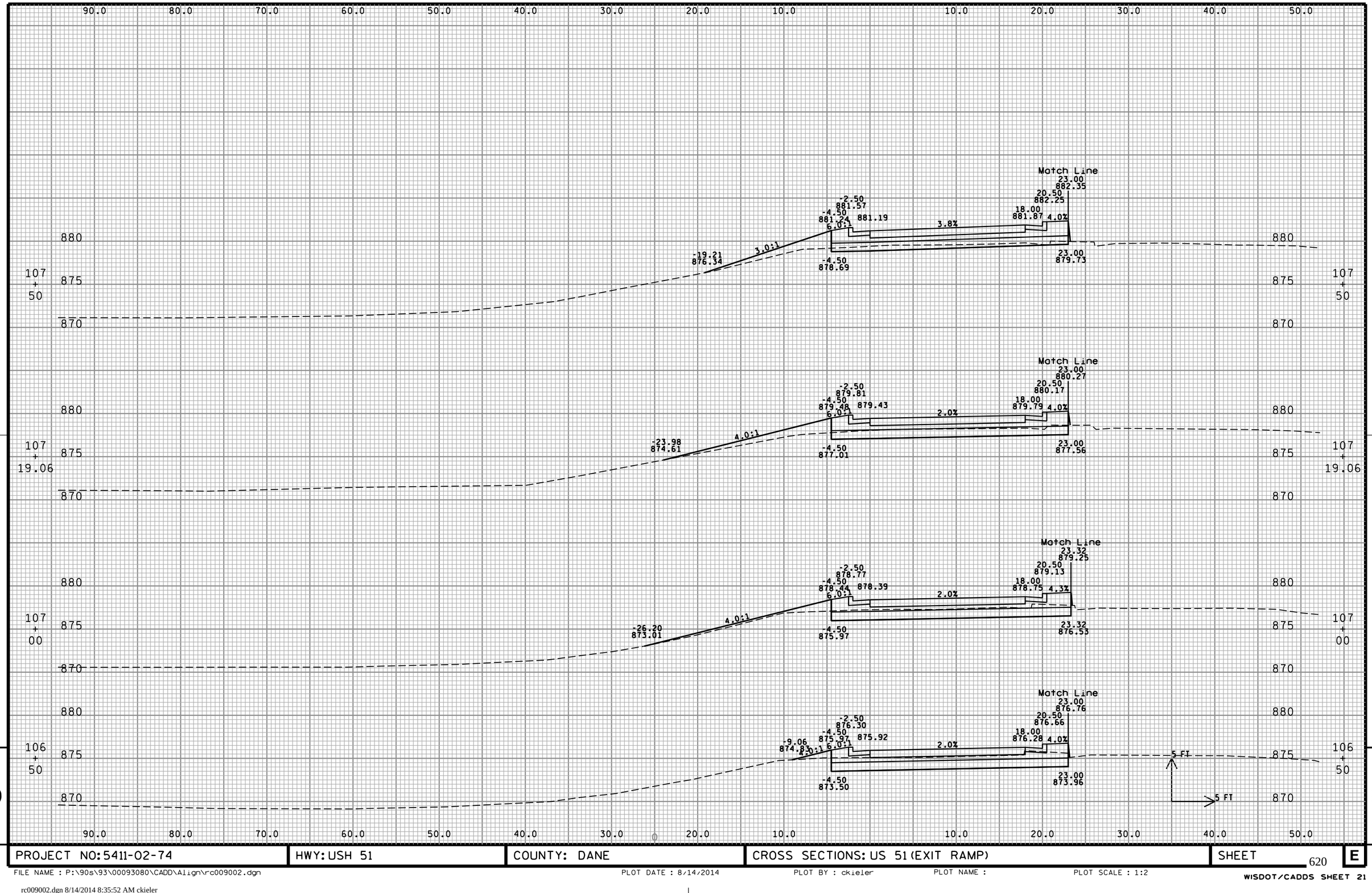
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 619	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc008002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc008002.dgn 8/14/2014 8:35:51 AM ckieler



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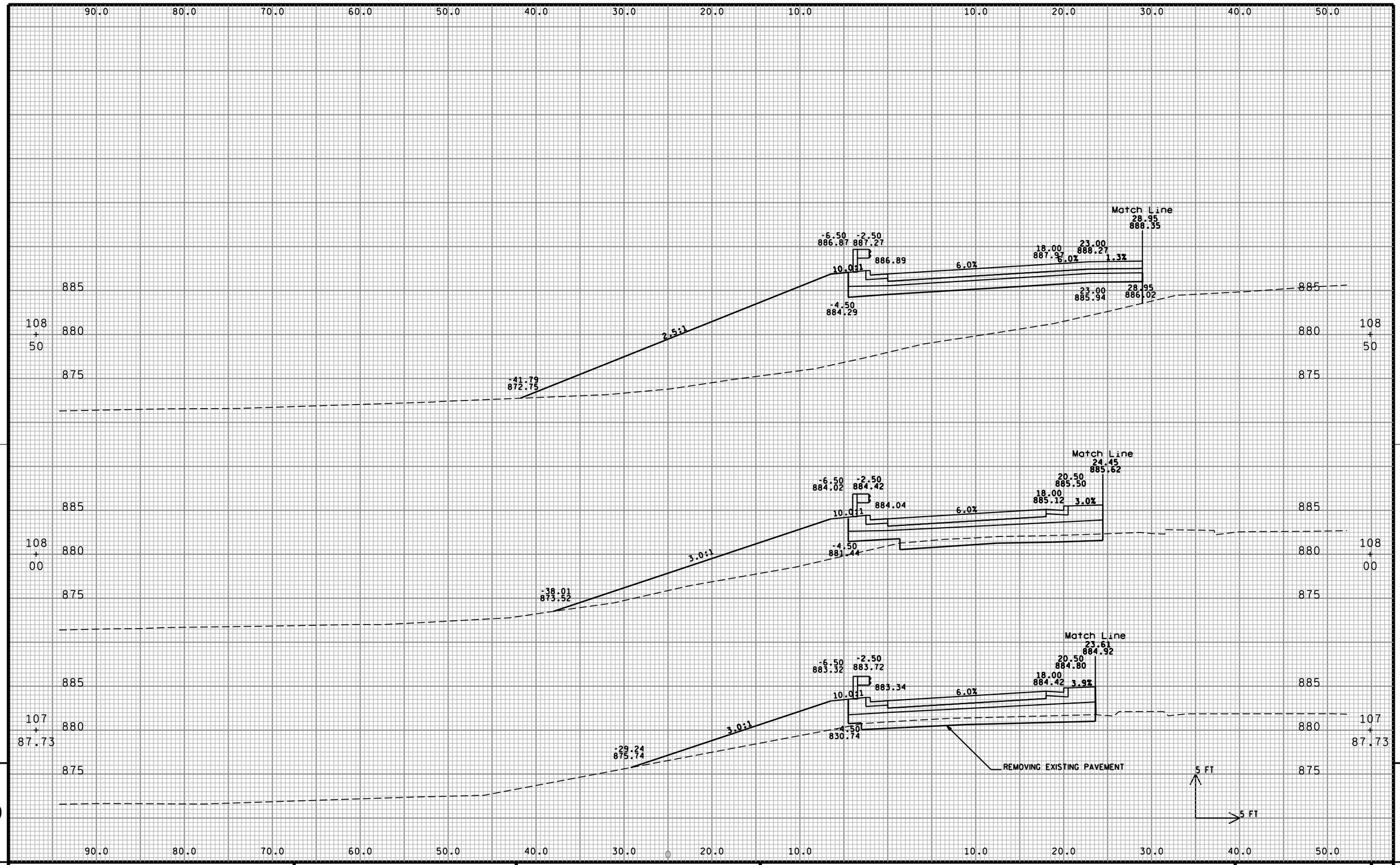
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 620	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc009002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc009002.dgn 8/14/2014 8:35:52 AM ckieler



9

9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET	E

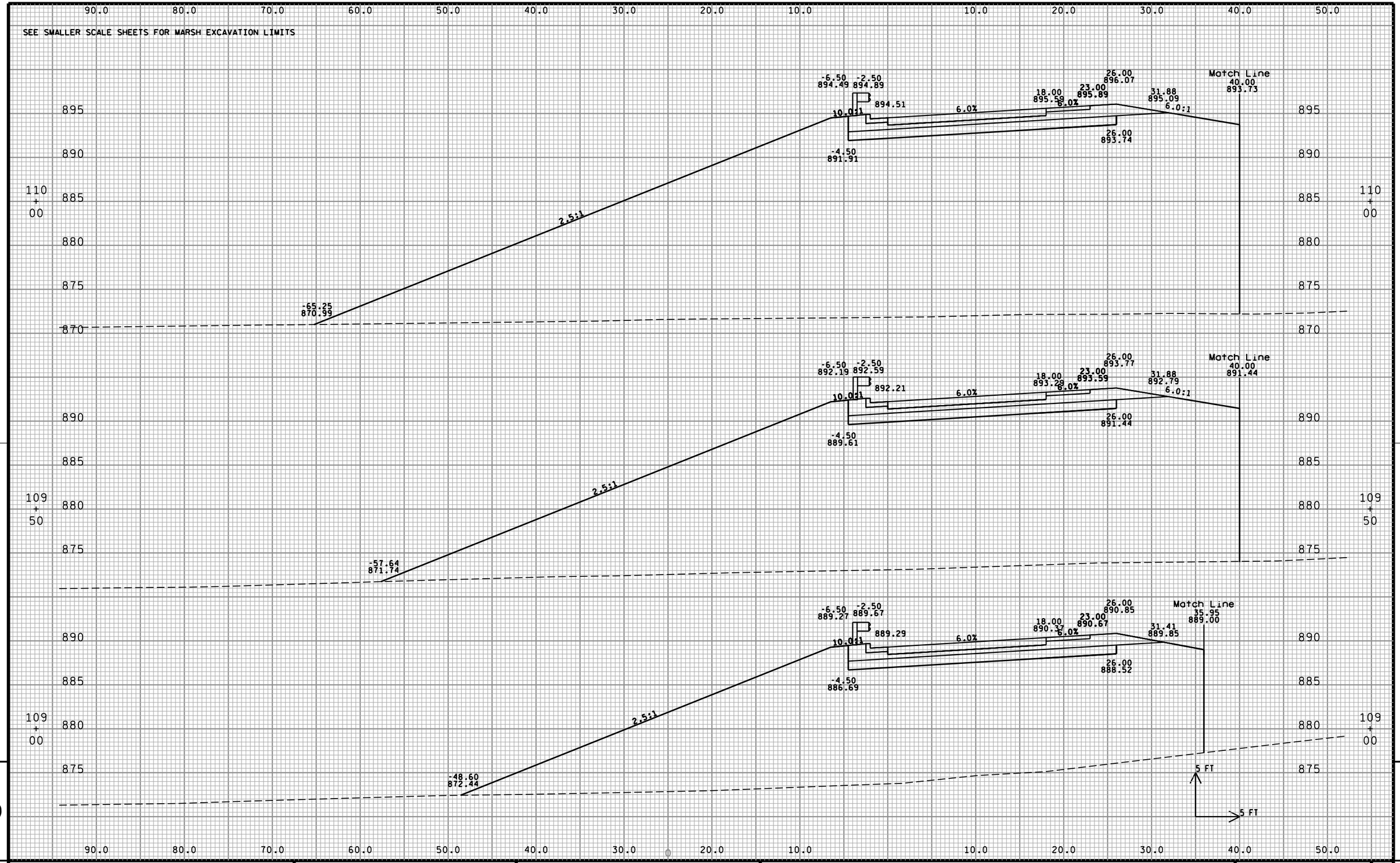
621

FILE NAME : P:\90s\93\00093080\CADD\Align\rc010002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc010002.dgn 8/14/2014 8:35:52 AM ckieler

SEE SMALLER SCALE SHEETS FOR MARSH EXCAVATION LIMITS



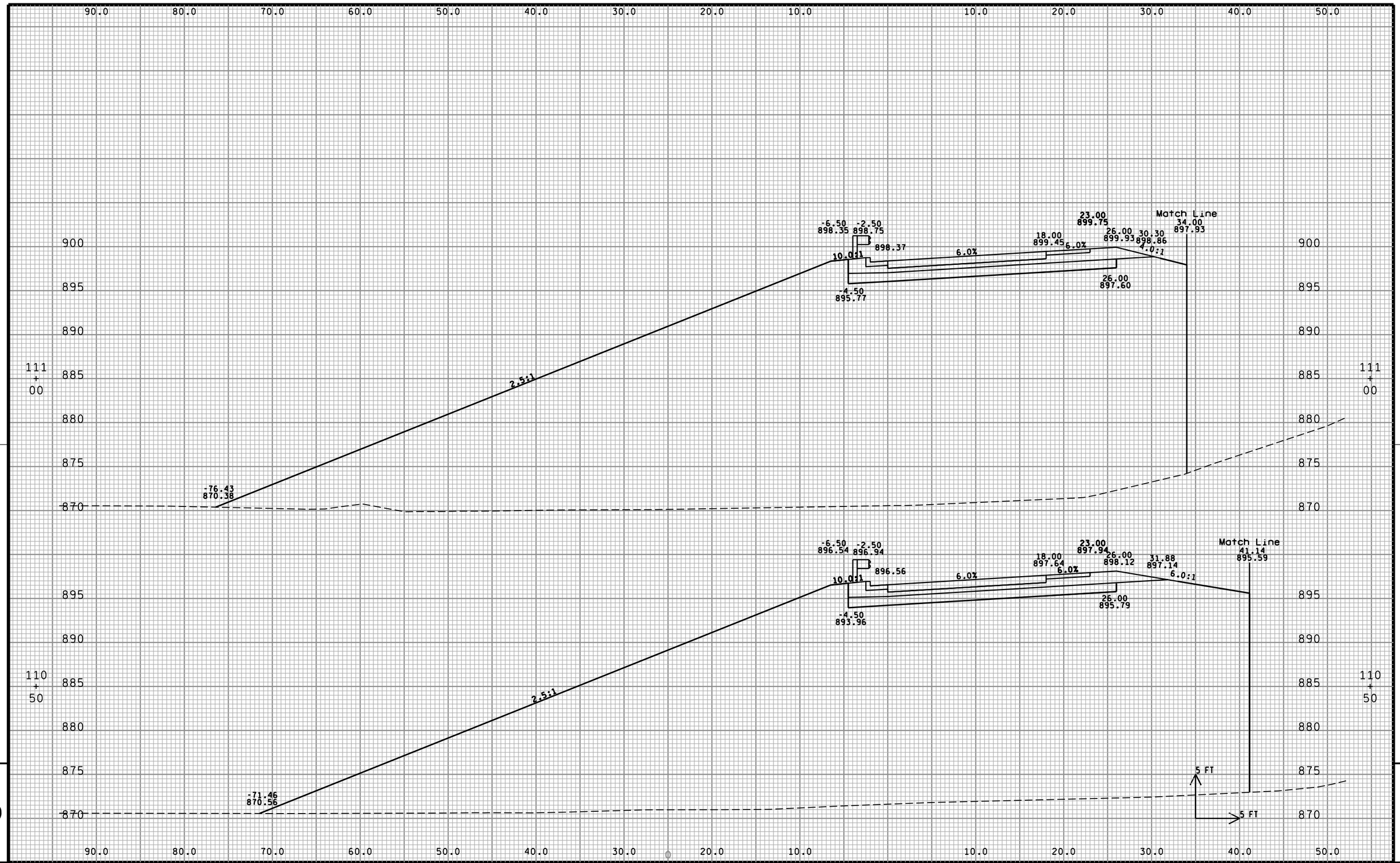
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc011002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc011002.dgn 8/14/2014 8:35:53 AM ckieler



9

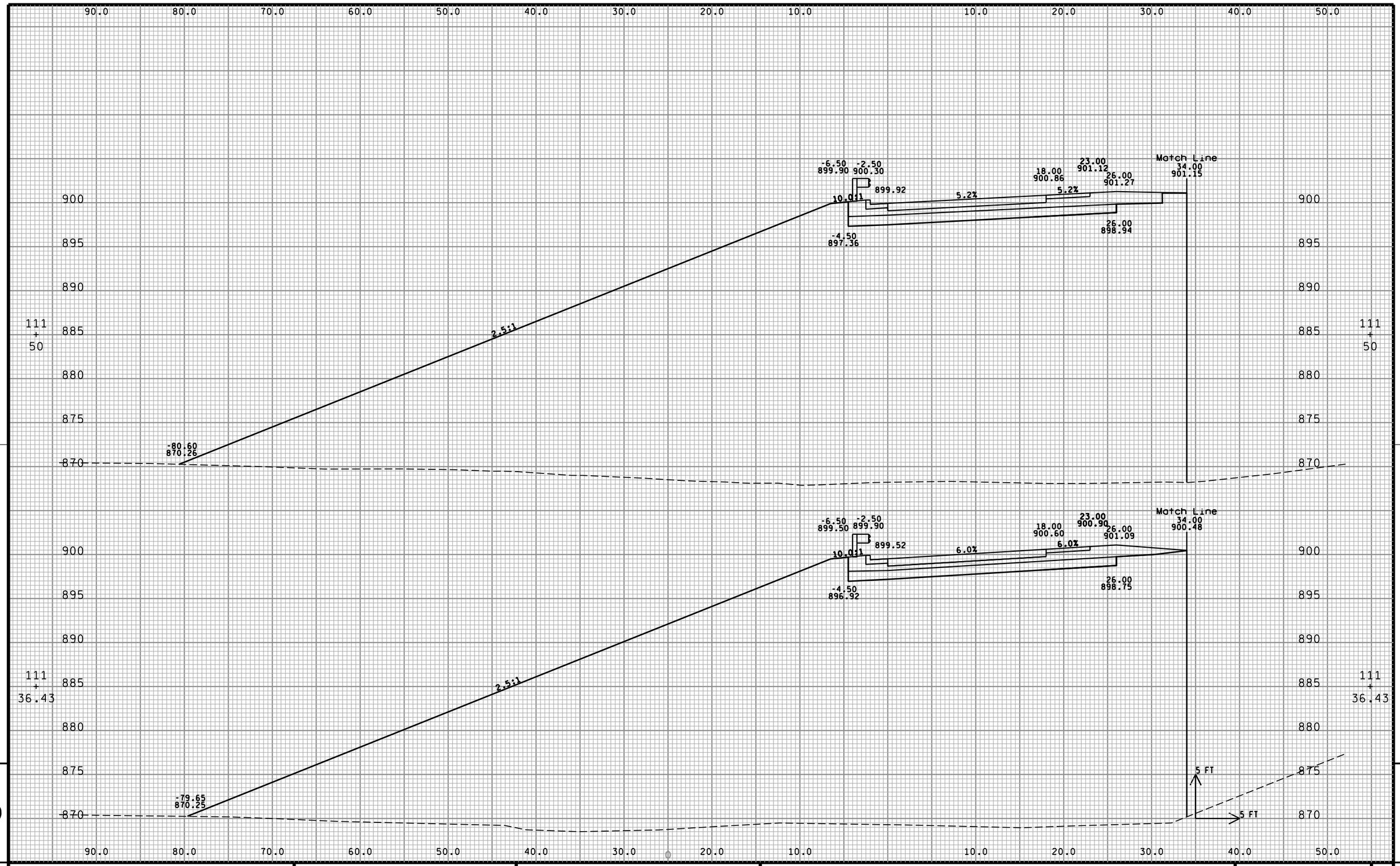
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 623	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc012002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc012002.dgn 8/14/2014 8:35:53 AM ckieler



9

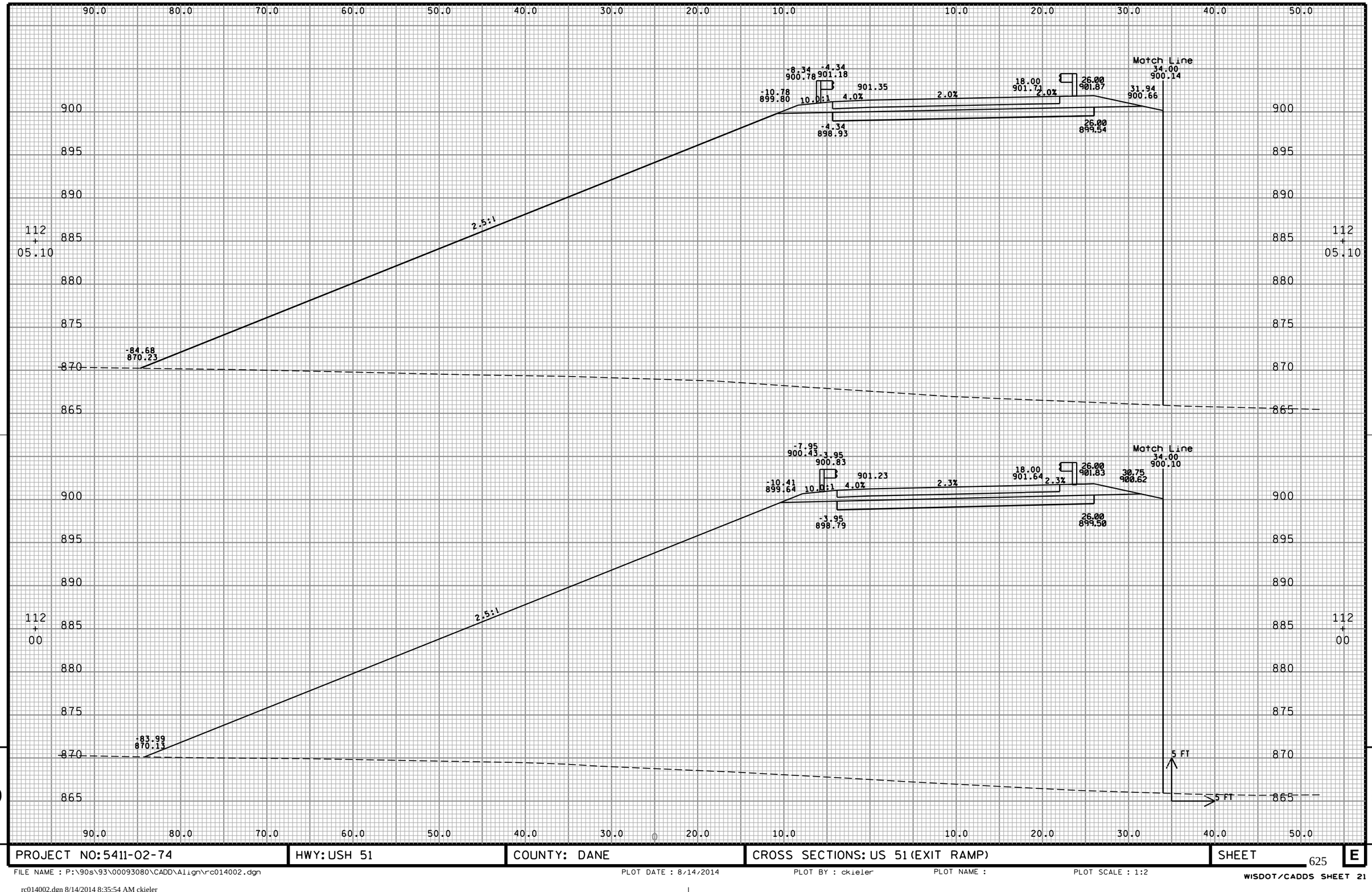
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 624	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc013002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc013002.dgn 8/14/2014 8:35:54 AM ckieler



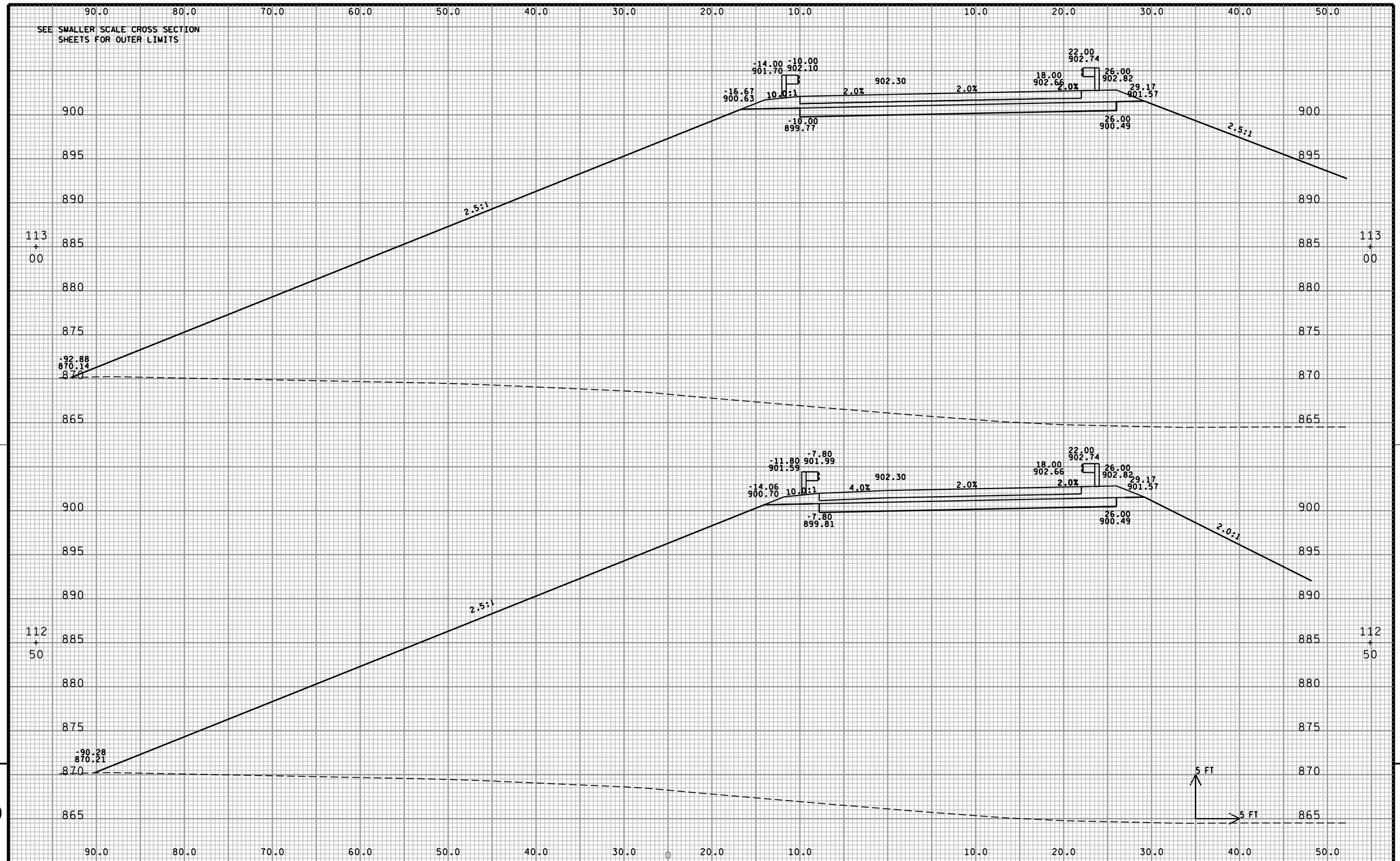
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 625	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc014002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc014002.dgn 8/14/2014 8:35:54 AM ckieler

SEE SMALLER SCALE CROSS SECTION
SHEETS FOR OUTER LIMITS

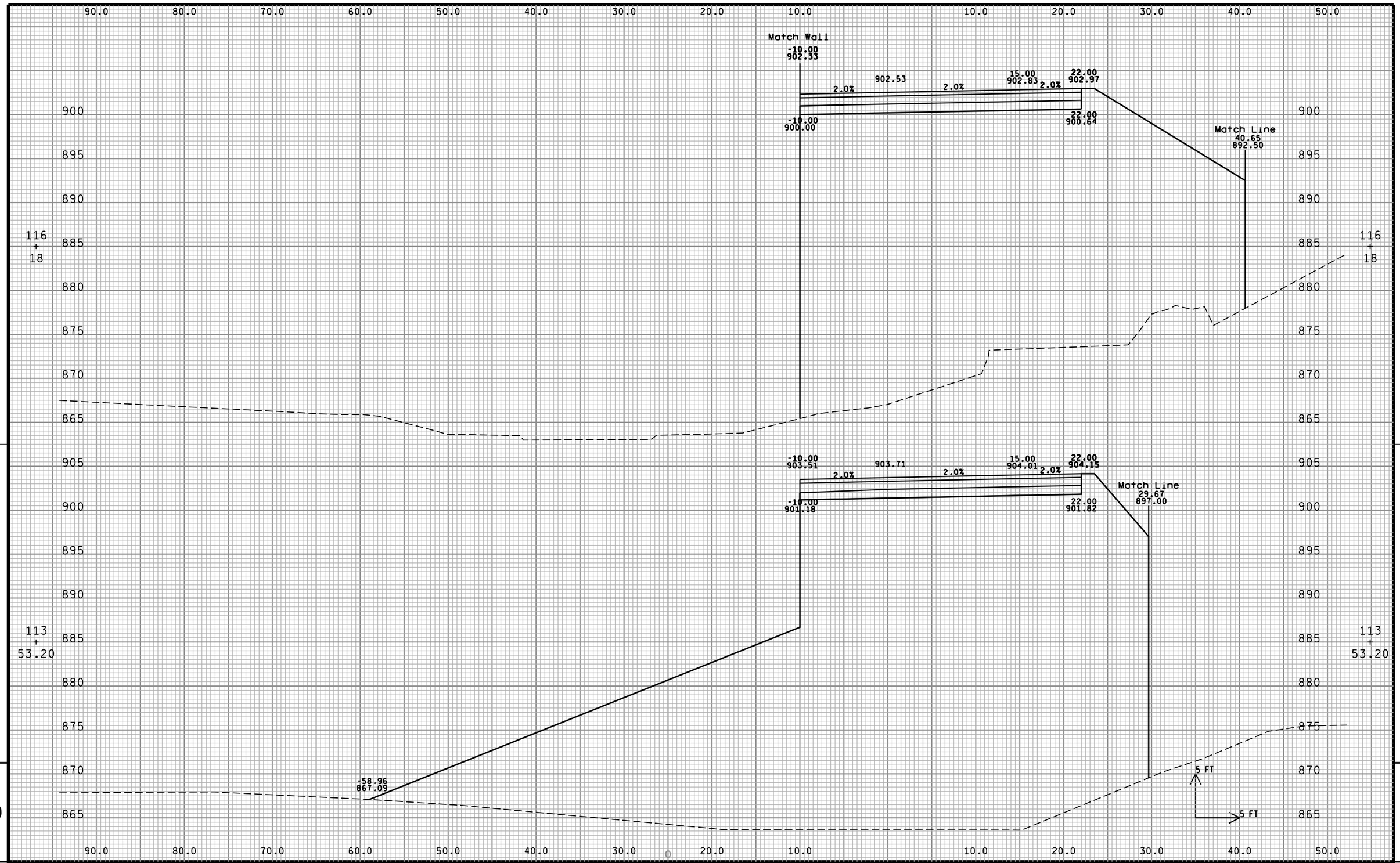


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc015002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc015002.dgn 8/14/2014 8:35:55 AM ckieler

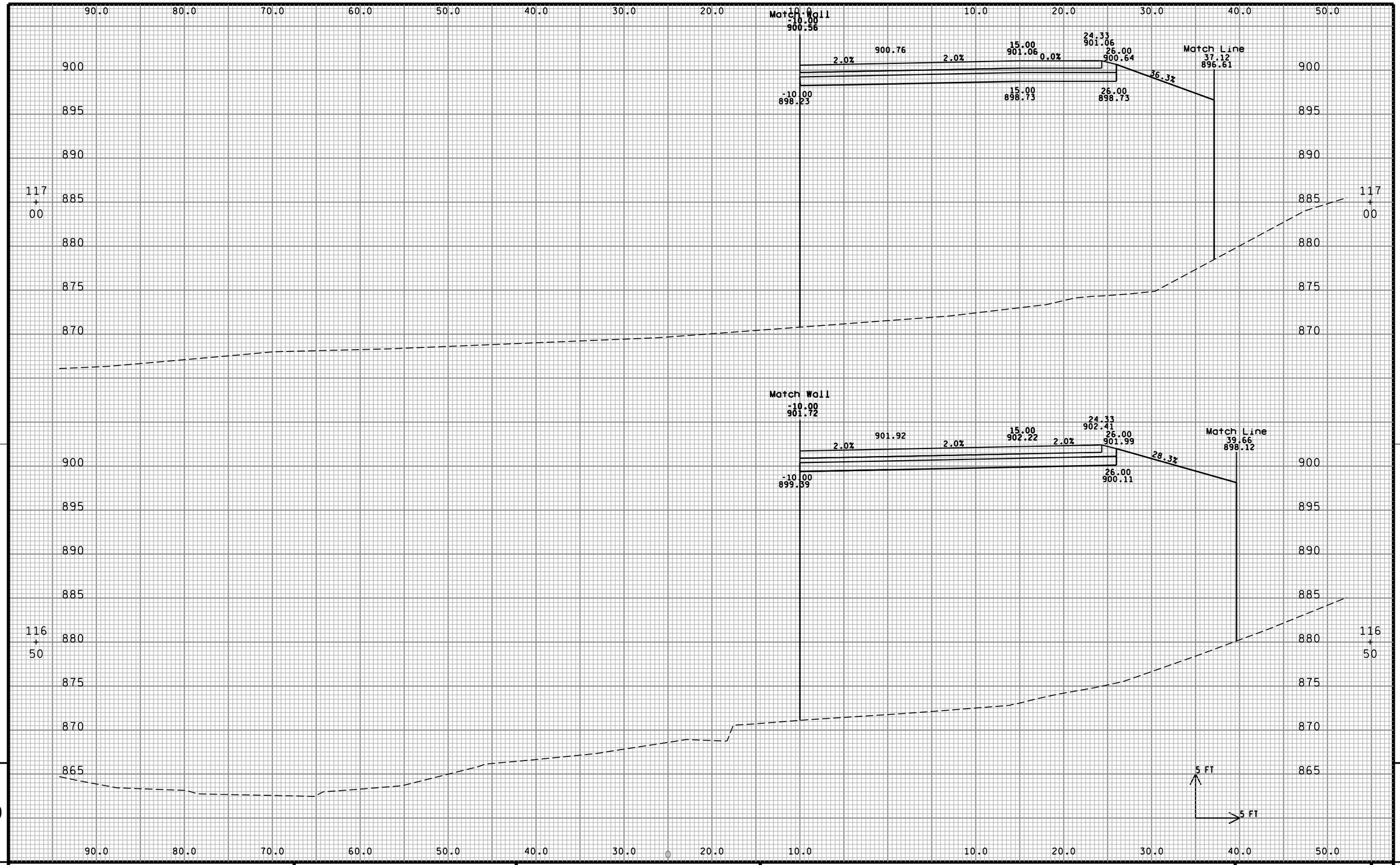


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 627	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc001002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc001002.dgn 8/14/2014 8:35:55 AM ckieler



9

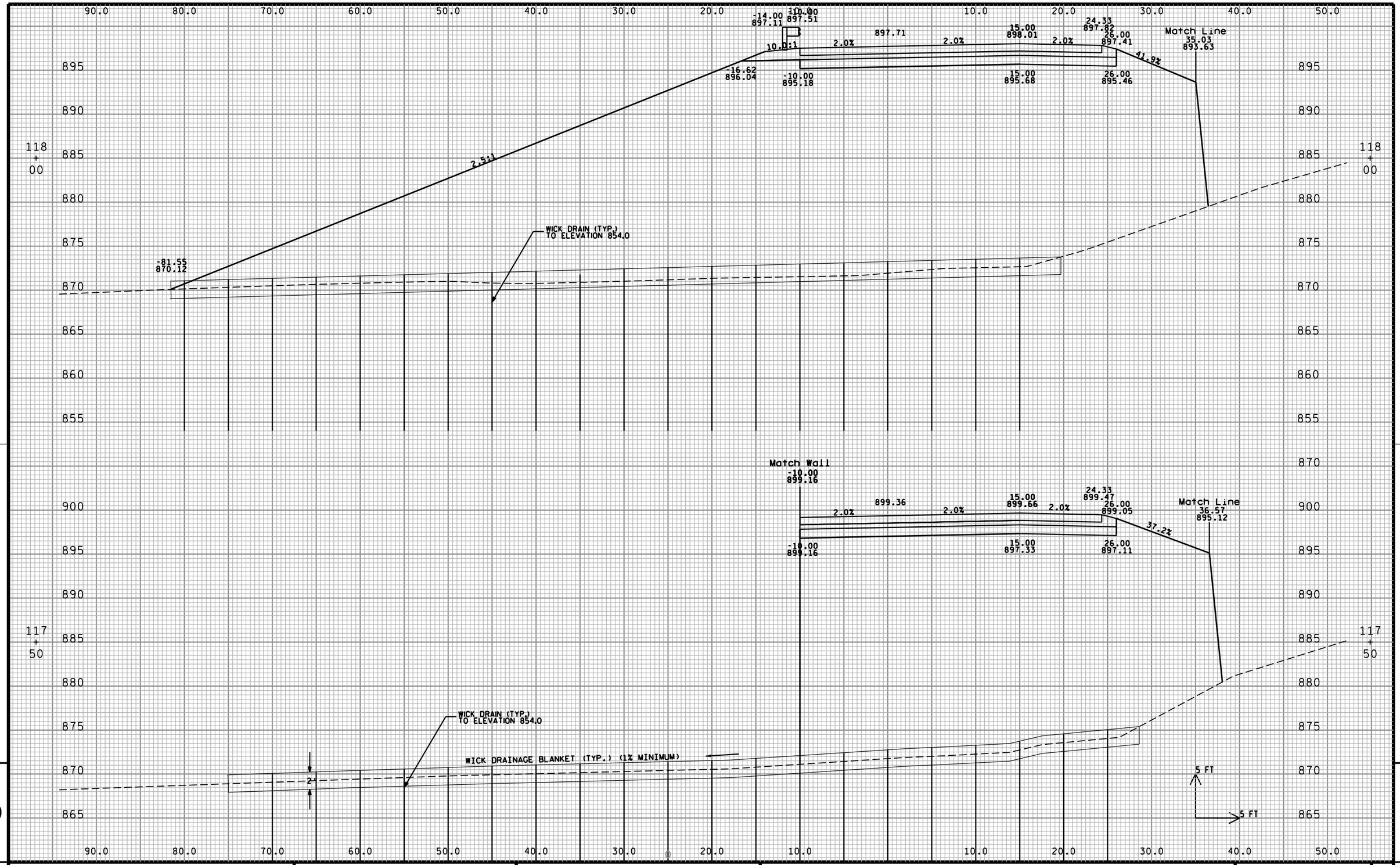
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc002002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc002002.dgn 8/14/2014 8:35:56 AM ckieler

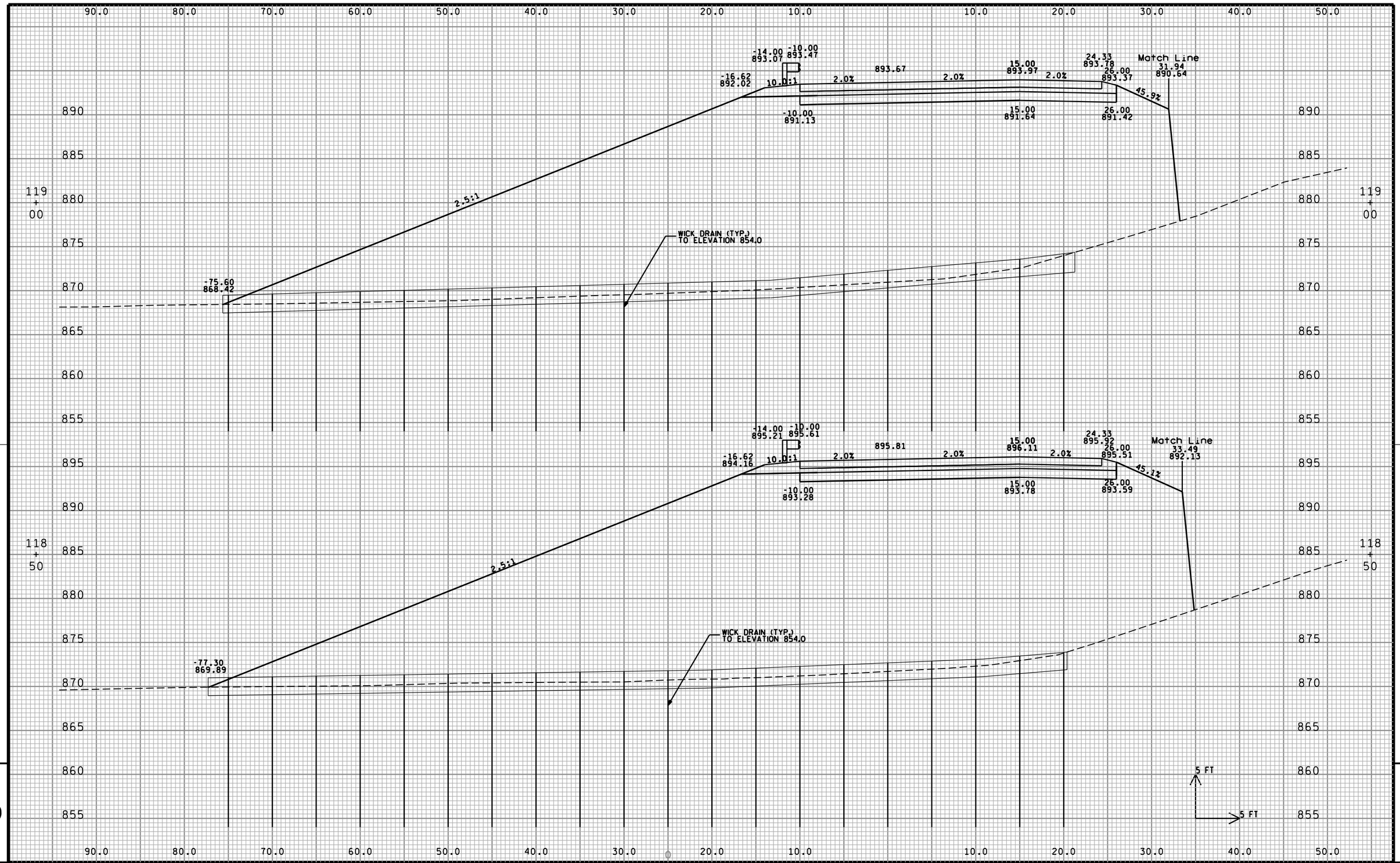


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 629	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc003002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc003002.dgn 8/14/2014 8:35:56 AM ckieler



9 9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 630	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc004002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

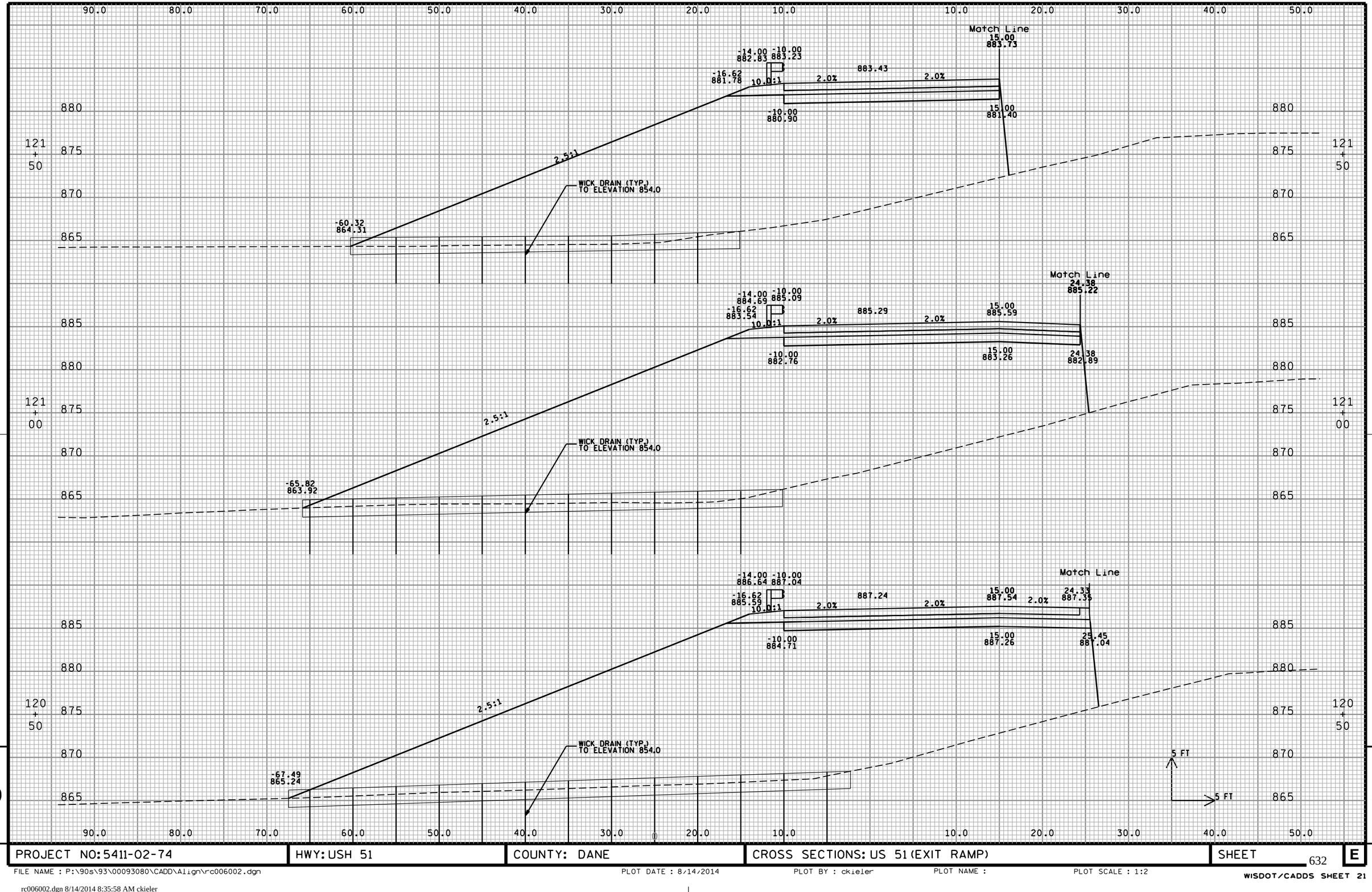
rc004002.dgn 8/14/2014 8:35:57 AM ckieler

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc005002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc005002.dgn 8/14/2014 8:35:57 AM ckieler



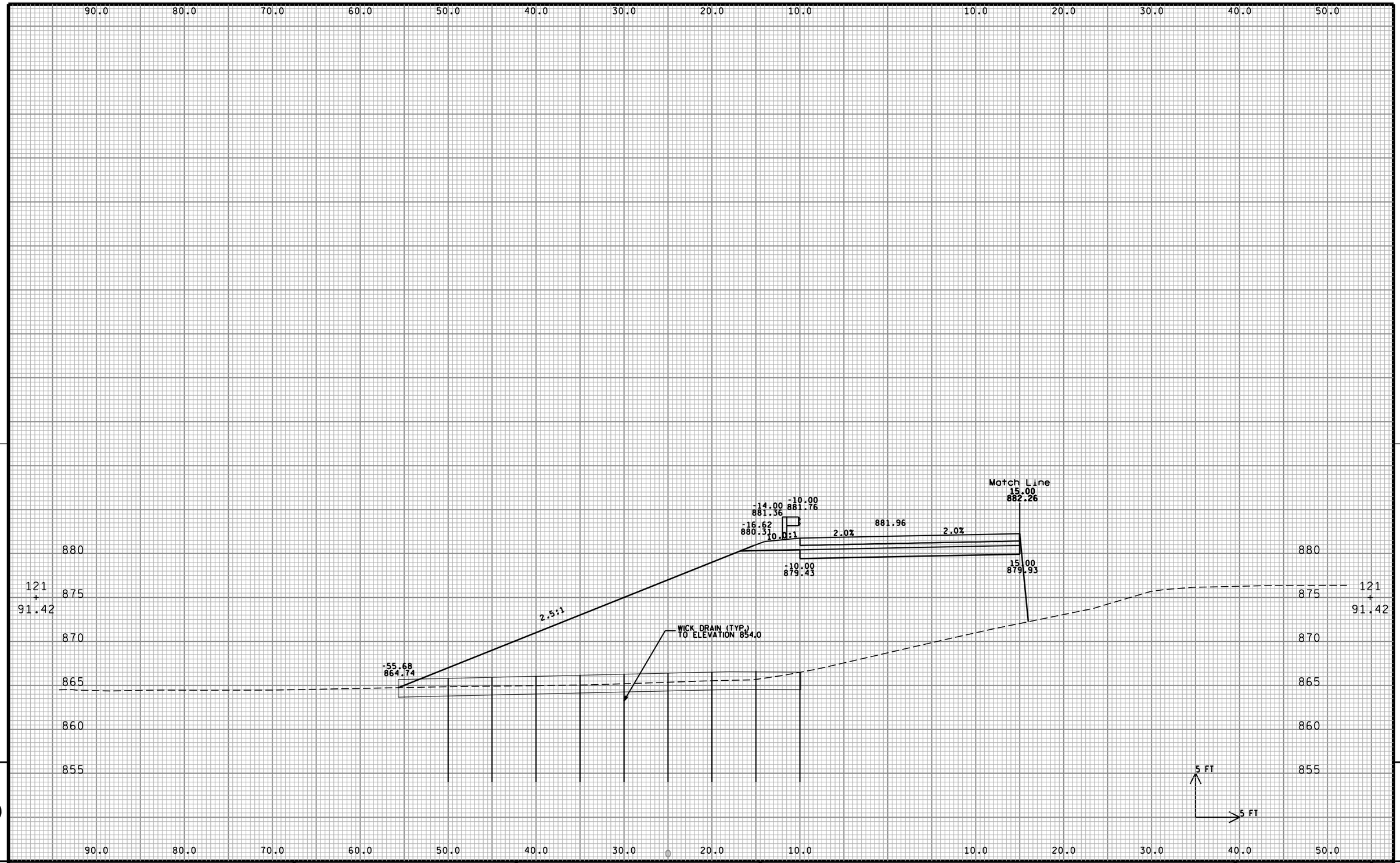
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc006002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc006002.dgn 8/14/2014 8:35:58 AM ckieler



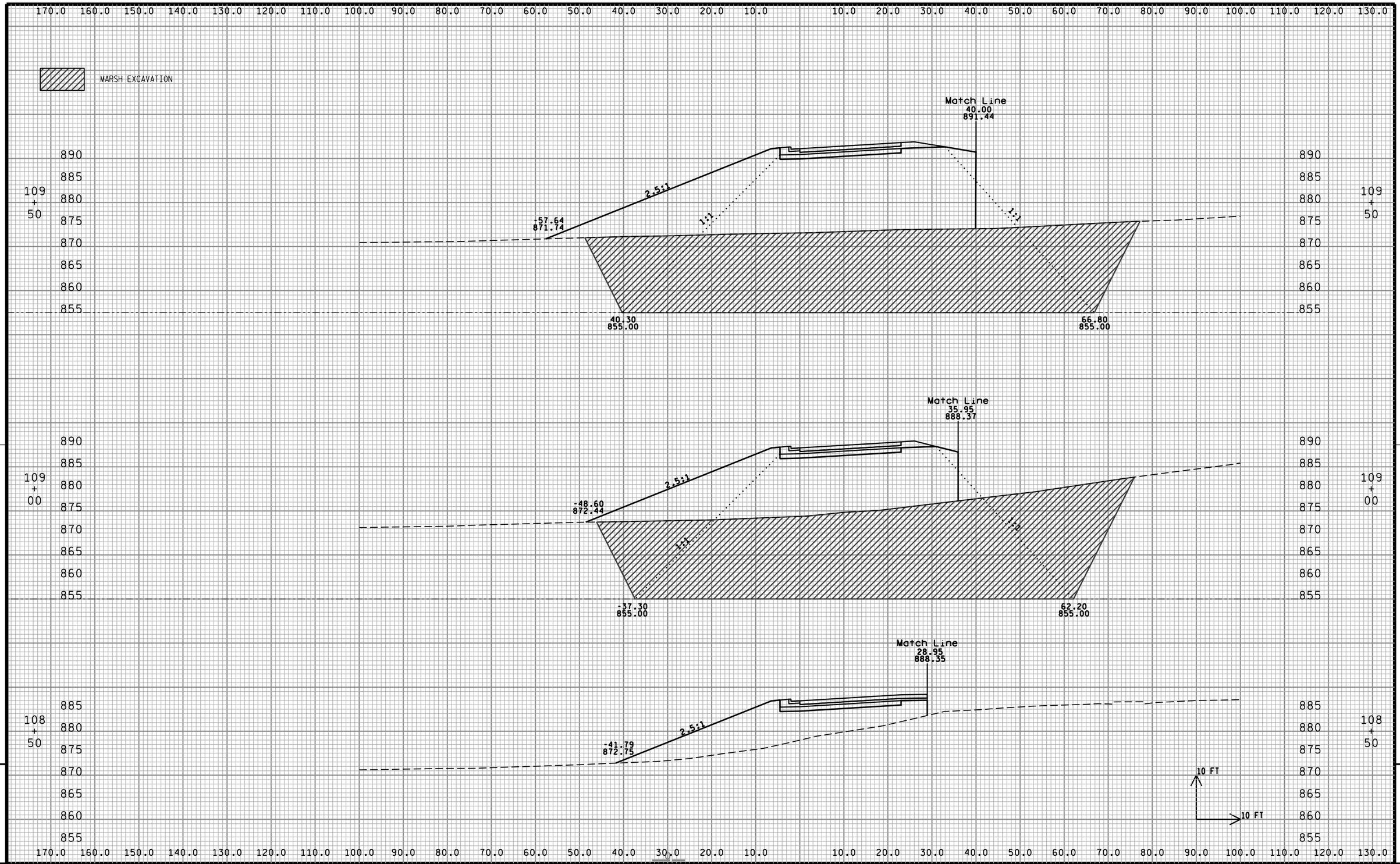
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc007002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc007002.dgn 8/14/2014 8:35:58 AM ckieler

MARSH EXCAVATION



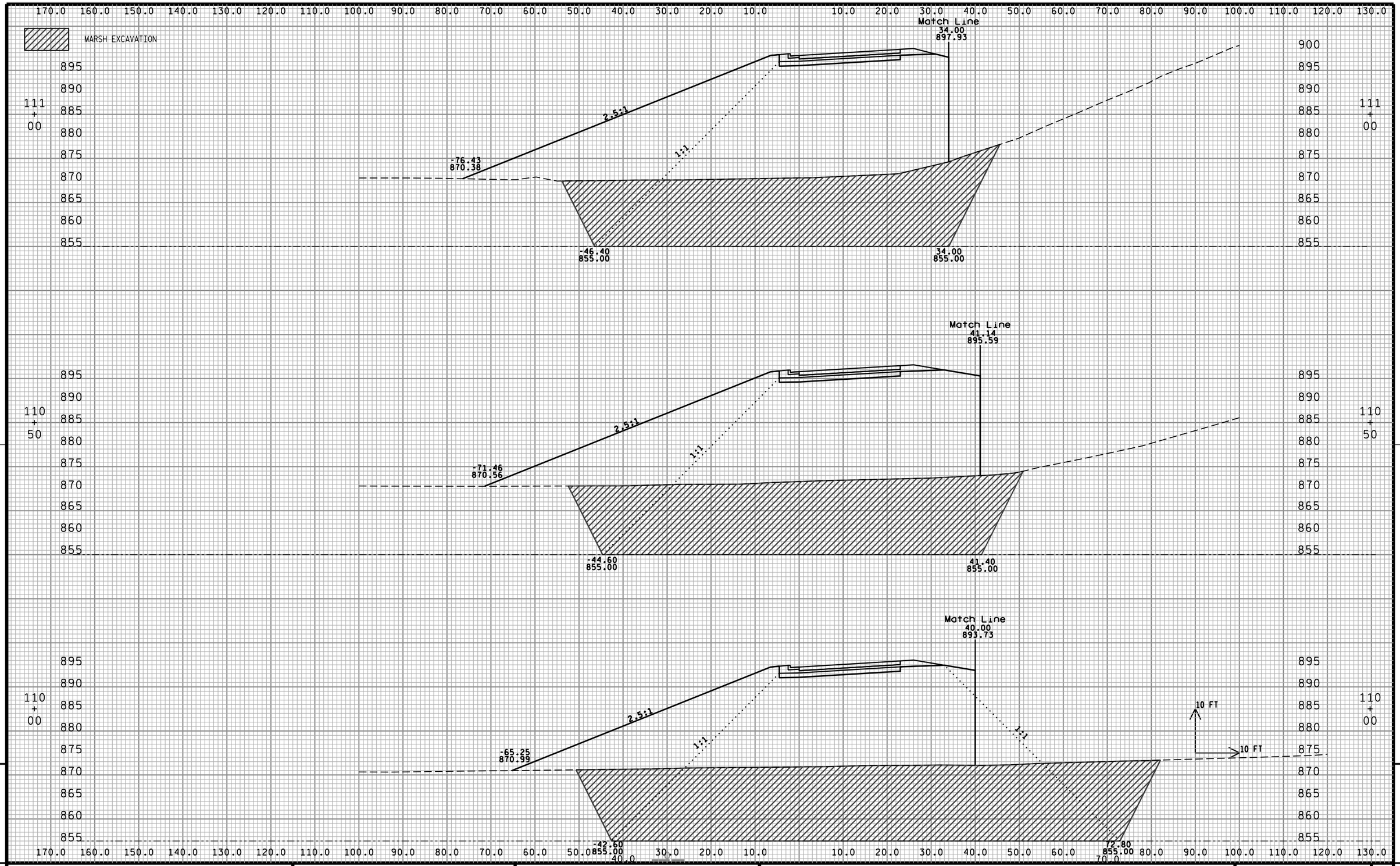
9 9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 634	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc017002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc017002.dgn 8/14/2014 8:35:59 AM ckieler



9

9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 635	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc018002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc018002.dgn 8/14/2014 8:35:59 AM ckieler

MARSH EXCAVATION

Match Line
34.00
899.27

111 + 50

2.5:1

1:1

-80.60
870.26

-47.90
855.00

45.80
855.00

Match Line
34.00
899.09

111 + 36.43

-79.65
870.25

-47.60
855.00

34.00
855.00

10 FT

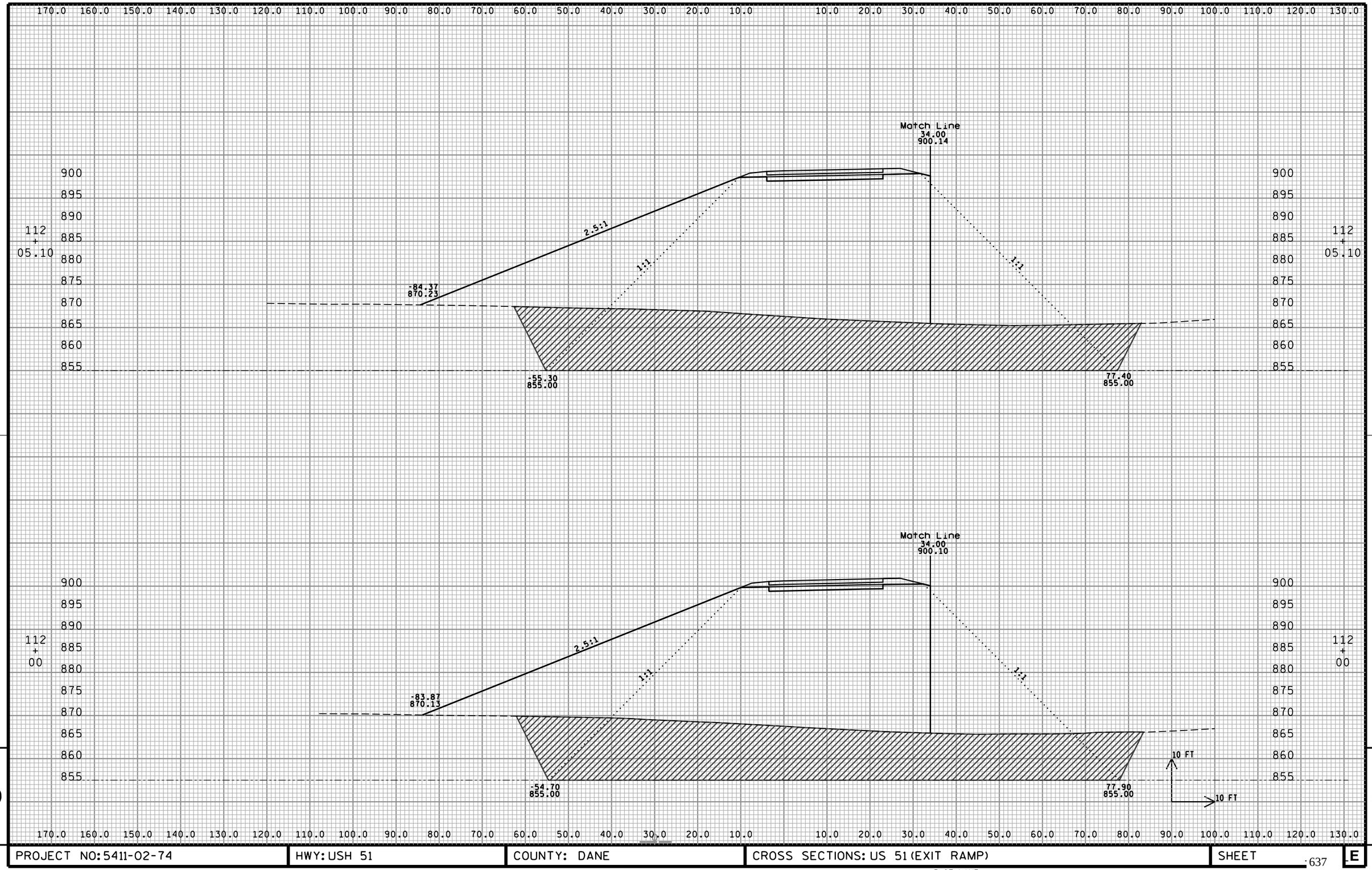
10 FT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 636	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc019002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc019002.dgn 8/14/2014 8:36:00 AM ckieler



9

9

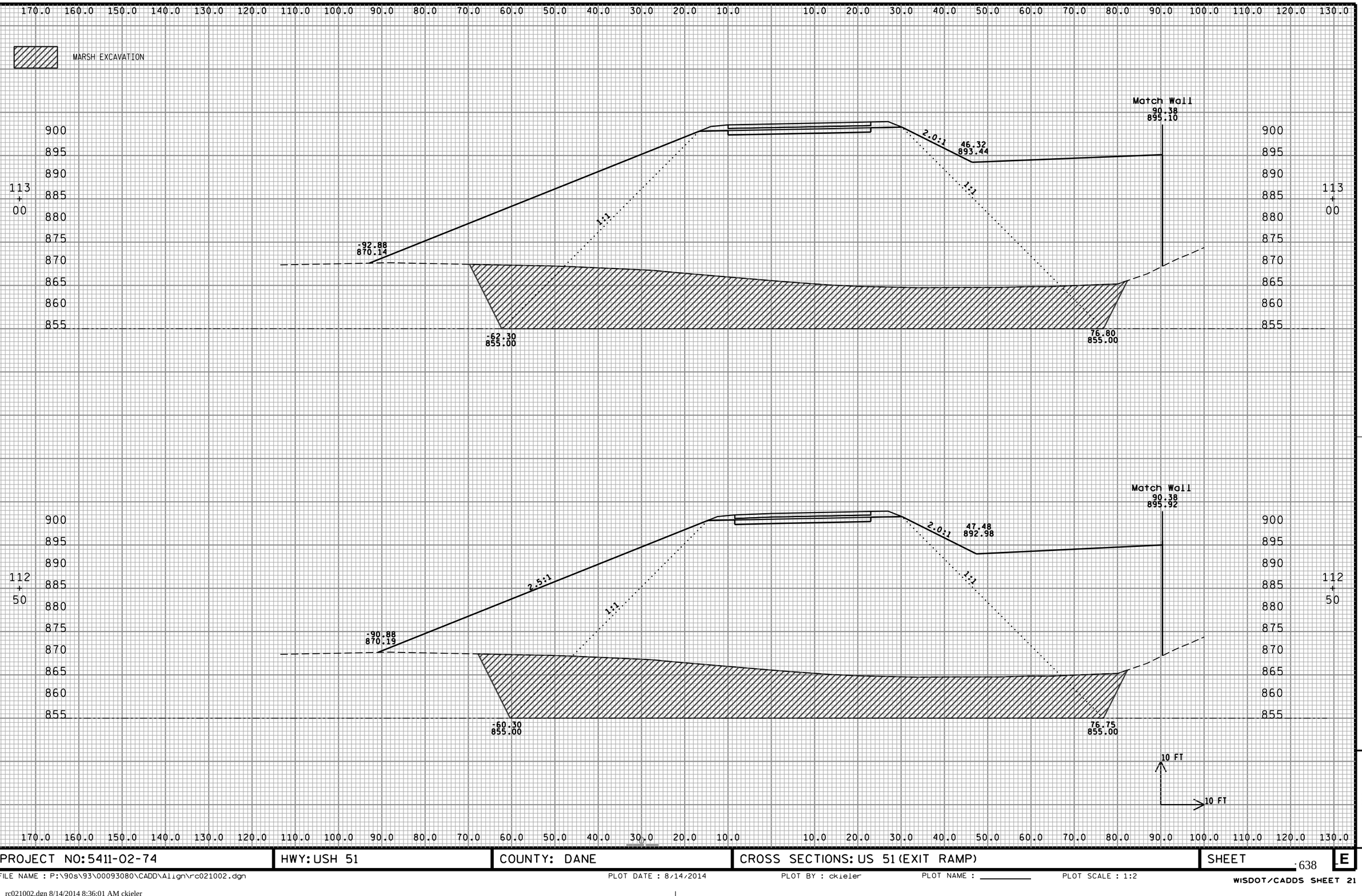
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 637	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc020002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc020002.dgn 8/14/2014 8:36:00 AM ckieler

MARSH EXCAVATION



9

9

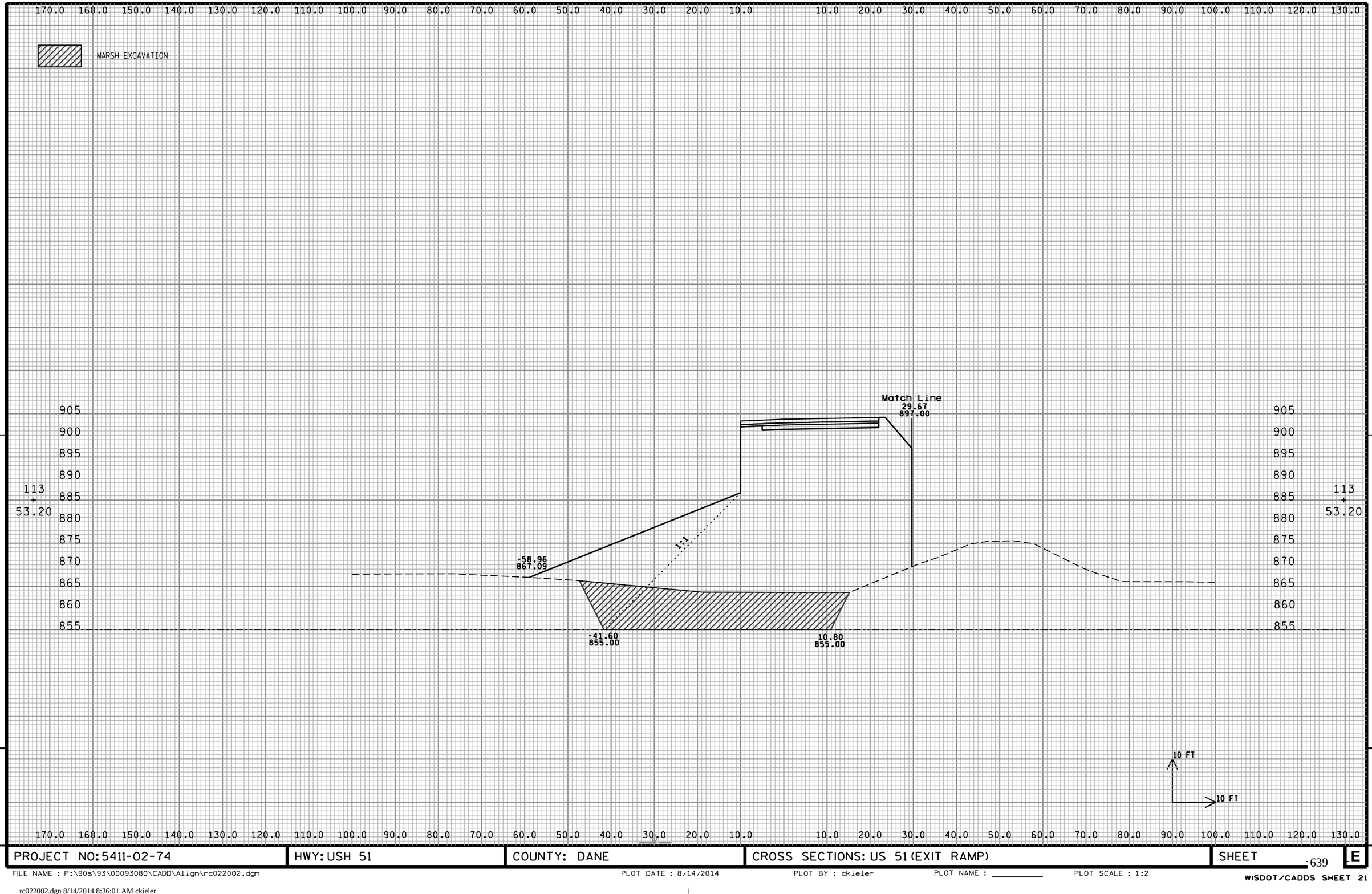
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 638	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc021002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc021002.dgn 8/14/2014 8:36:01 AM ckieler

MARSH EXCAVATION



9

9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: US 51 (EXIT RAMP)	SHEET 639 E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc022002.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc022002.dgn 8/14/2014 8:36:01 AM ckieler

70.0 60.0 50.0 40.0 30.0 20.0 10.0 0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

RR RR
EDGE OF BALLAST 875.24
Proposed Ret. Wall
4.34'
2:1
870.90
6+50
ORIGINAL EL =875.9
APPROX. RR ROW

RR RR
EDGE OF BALLAST 875.59
Proposed Ret. Wall
4.39'
2:1
871.20
6+00
ORIGINAL EL =876.2
APPROX. RR ROW

RR RR
EDGE OF BALLAST 876.01
Proposed Ret. Wall
4.47'
2:1
871.54
5+50
ORIGINAL EL =876.6
APPROX. RR ROW

Proposed Ret. Wall
RR RR
EDGE OF BALLAST 876.49
3.74'
PIPE ENDWALL
872.75
(IE)
5+06
ORIGINAL EL =876.9
APPROX. RR ROW

Proposed Ret. Wall
RR RR
EDGE OF BALLAST 876.49
3.58'
2:1
872.91
5+00
ORIGINAL EL =876.9
APPROX. RR ROW

5 FT
5 FT

875 870 865 890 885 880 875 870

6+50 6+00 5+50 5+06 5+00

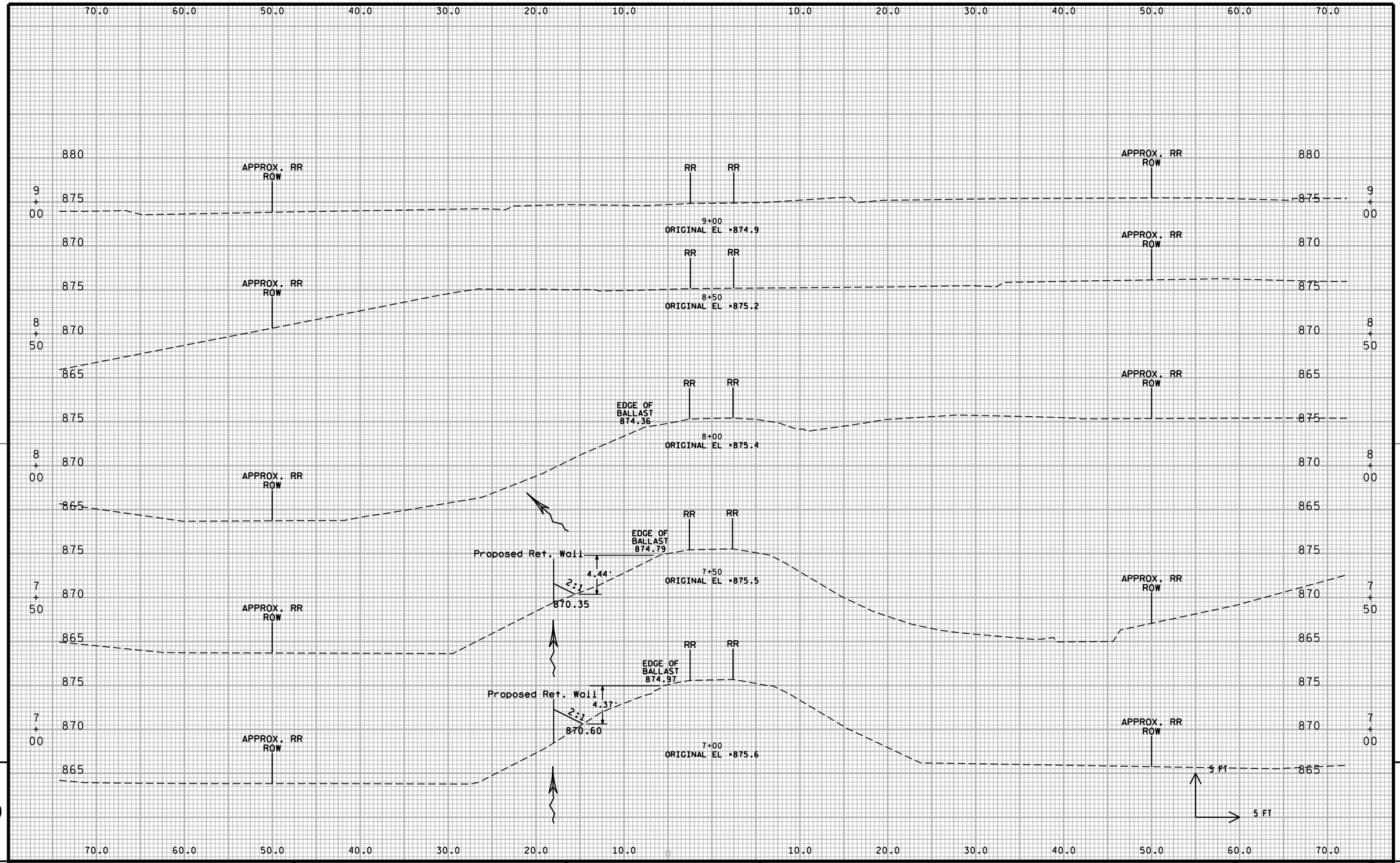
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: RAILROAD TRACKS	SHEET 640	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc004007.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc004007.dgn 8/14/2014 8:36:02 AM ckieler

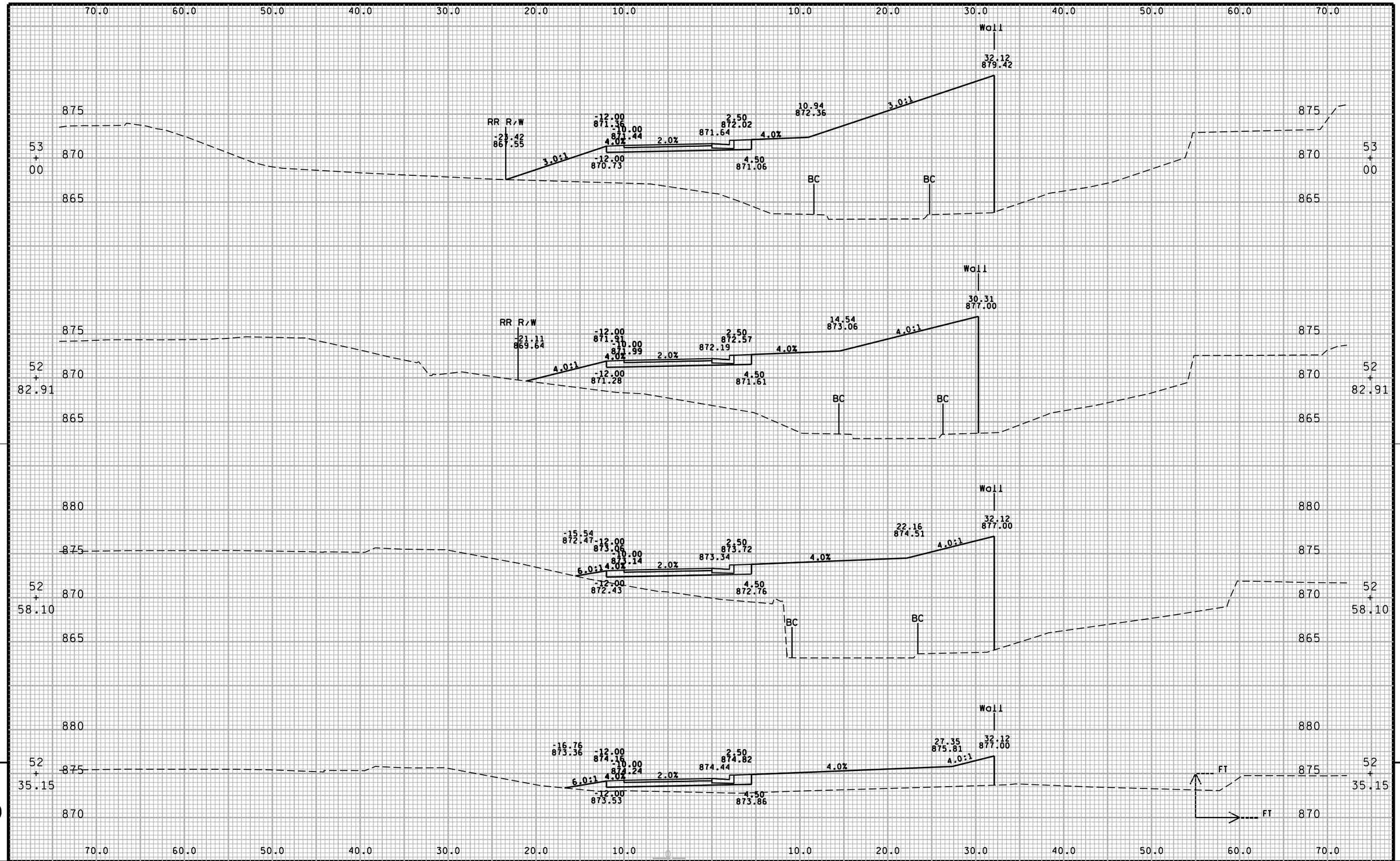


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: RAILROAD TRACKS	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc005007.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc005007.dgn 8/14/2014 8:36:02 AM ckieler

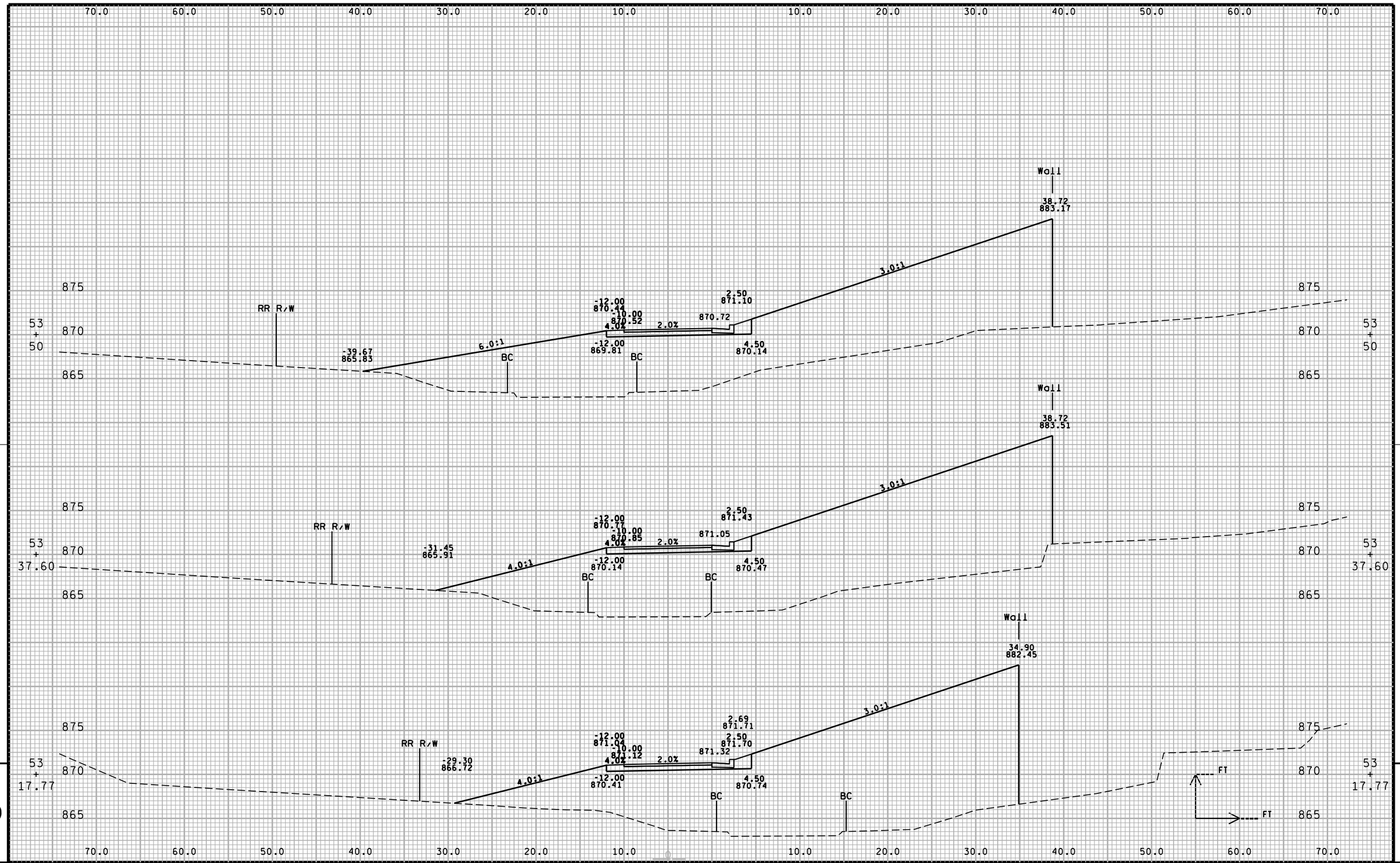


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: MULTI-USE PATH	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc001012.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc001012.dgn 8/14/2014 8:36:03 AM ckieler



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PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: MULTI-USE PATH	SHEET 643	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc002012.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc002012.dgn 8/14/2014 8:36:03 AM ckieler

70.0 60.0 50.0 40.0 30.0 20.0 10.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

Match Line Exit Ramp Sections

RR R/W

870
865
860

54 + 35.37

-13.46
867.26
-12.00
867.62
-10.00
867.70
4.0%
4.1%
-12.00
866.95
4.50
868.17
2.50
868.49
868.11
4.0:1
4.50
867.01

Match Line Exit Ramp Sections

RR R/W

870
865
860

54 + 25

-15.31
867.11
-12.00
867.94
-10.00
868.02
4.0%
2.0%
868.22
4.0:1
-12.00
867.31
4.50
868.93
2.50
868.60
4.50
867.64

Wall
57.12
887.33
3.0:1

875
870
865

54 + 00

RR R/W

-20.93
866.23
-12.00
868.46
-10.00
868.54
4.0%
2.0%
868.74
4.0:1
-12.00
867.83
2.50
869.12
4.50
868.16

Wall
45.95
884.53

875
870
865

53 + 75

RR R/W

Endwall
6.0:1
-12.00
869.39
-10.00
869.47
4.0%
2.0%
869.67
-12.00
868.76
2.50
870.05
4.50
869.09
FT
FT

70.0 60.0 50.0 40.0 30.0 20.0 10.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

9

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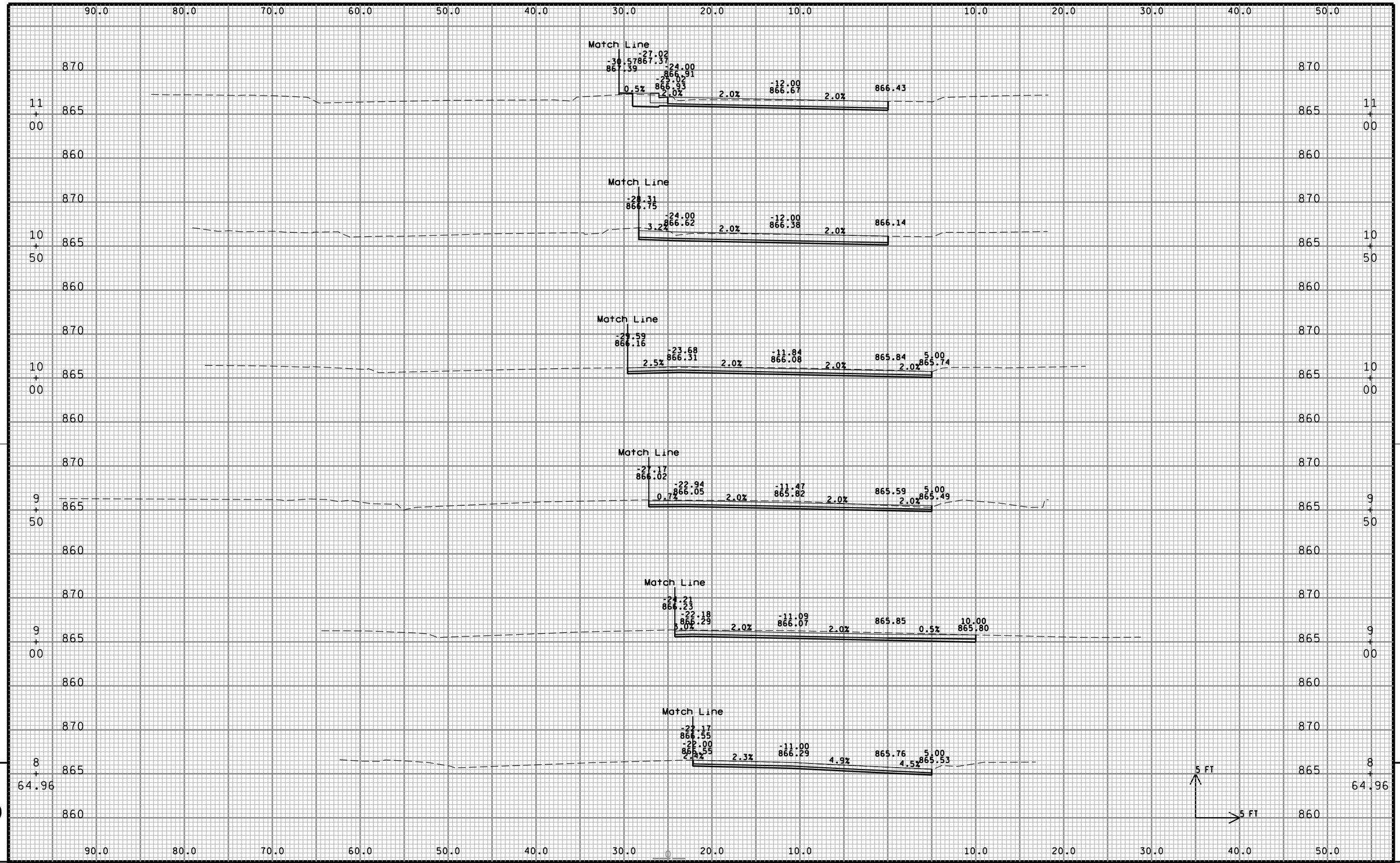
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: MULTI-USE PATH	SHEET 644	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc003012.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc003012.dgn 8/14/2014 8:36:04 AM ckieler

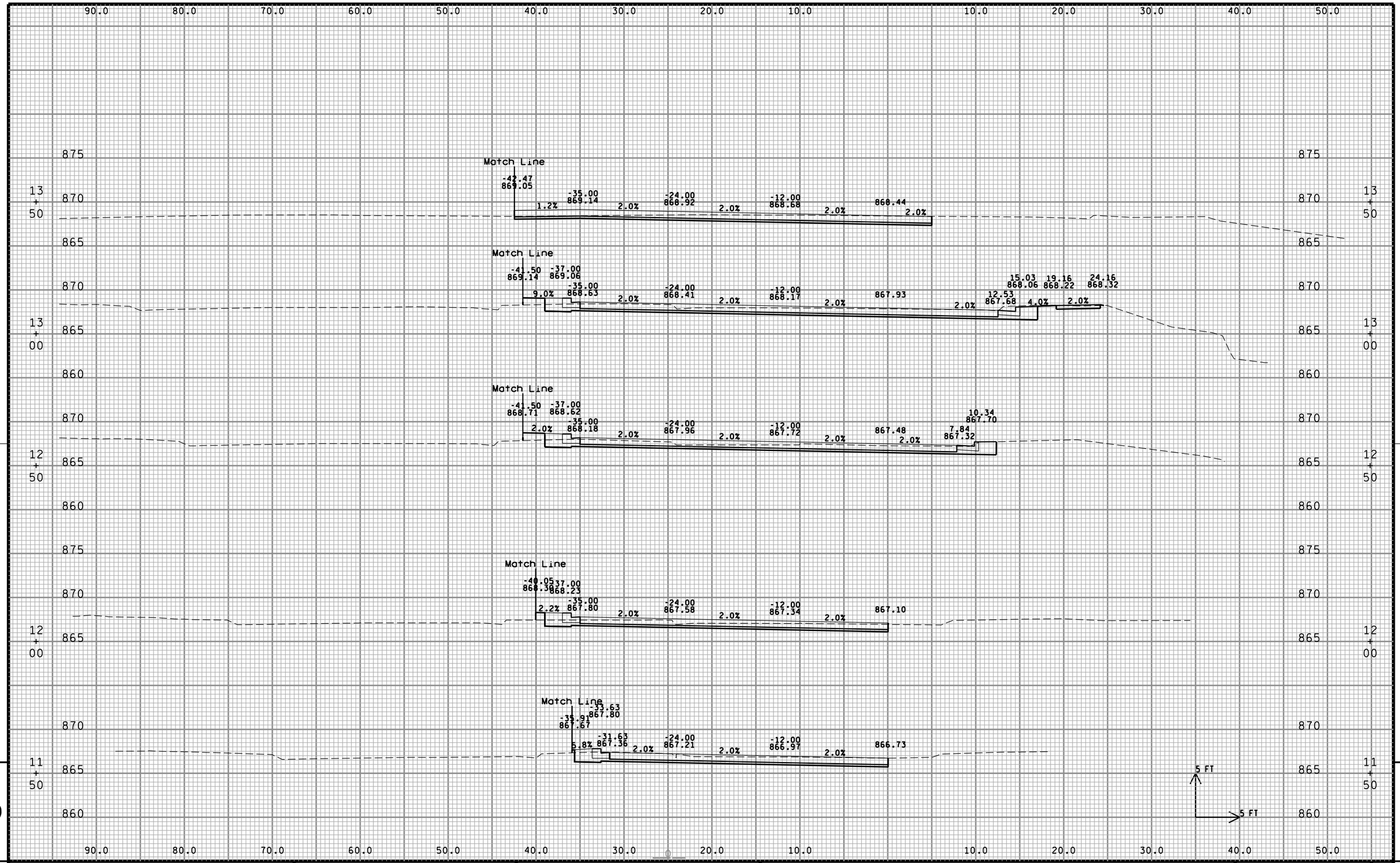


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (EASTBOUND)	SHEET 645 E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc001021.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc001021.dgn 8/14/2014 8:36:04 AM ckieler



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (EASTBOUND)	SHEET

FILE NAME : P:\90s\93\00093080\CADD\Align\rc002021.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc002021.dgn 8/14/2014 8:36:12 AM ckieler

90.0 80.0 70.0 60.0 50.0 40.0 30.0 20.0 10.0 10.0 20.0 30.0 40.0 50.0

875 870 865

16 + 00

Match Line
-37.48 873.16
-26.00 872.90
-24.00 872.46
-12.00 872.22
871.98
2.3% 2.0% 2.0%

15 + 50

Match Line
-37.48 872.32
-26.00 872.06
-24.00 871.62
-12.00 871.38
871.14
2.3% 2.0% 2.0%

15 + 00

Match Line
-37.49 871.55
-26.00 871.29
-24.00 870.85
-12.00 870.61
870.37
5.00 870.27
12.53 870.12
15.03 870.50
19.16 870.66
24.16 870.76
2.3% 2.0% 2.0% 2.0% 2.0% 4.0% 2.0%

14 + 50

Match Line
-37.49 870.84
-26.00 870.58
-24.00 870.14
-12.00 869.90
869.66
2.3% 2.0% 2.0% 2.0%

14 + 00

Match Line
-42.99 869.60
-35.00 869.71
-24.00 869.49
-12.00 869.25
869.01
1.4% 2.0% 2.0% 2.0% 2.0%

5 FT
5 FT

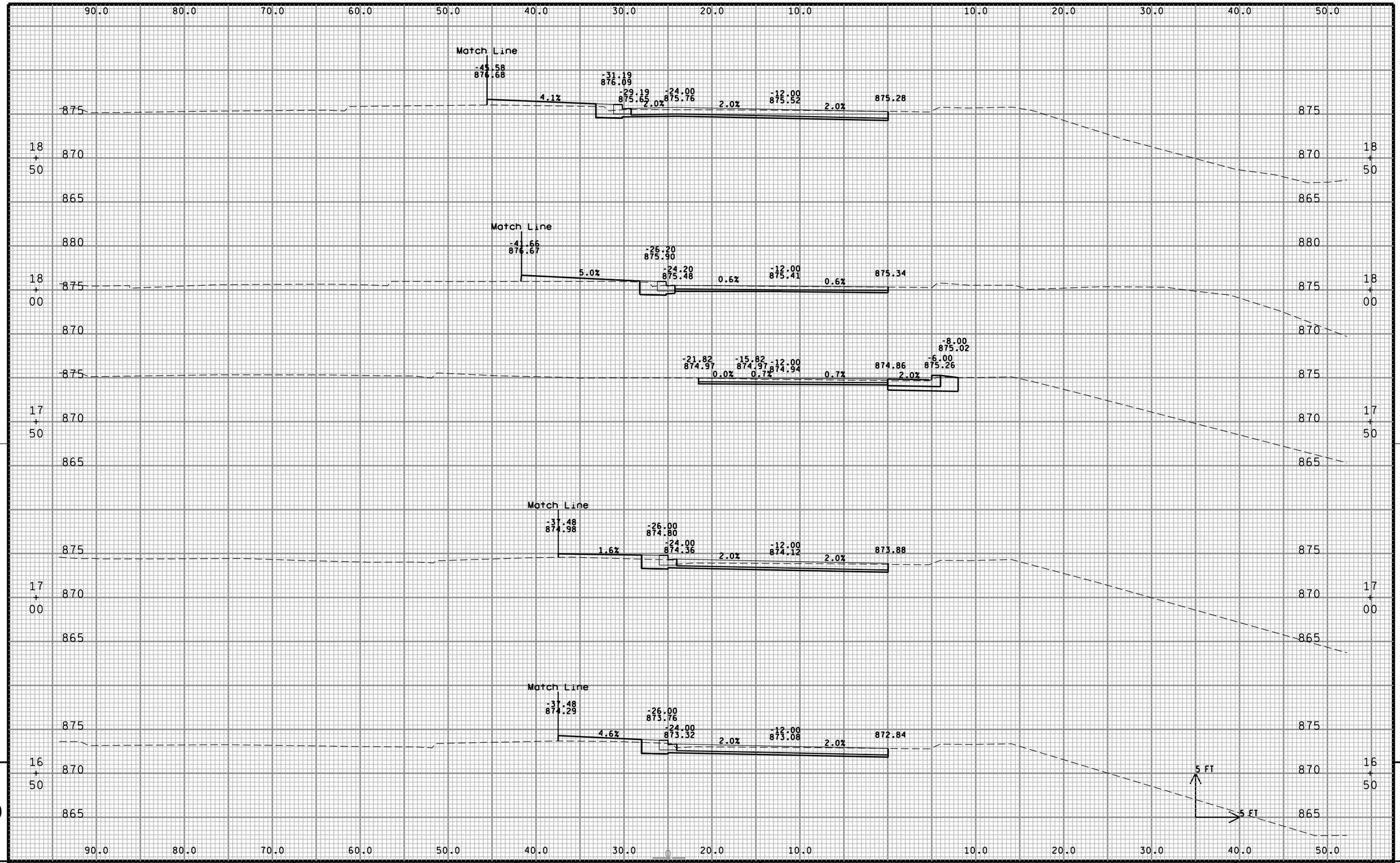
9 9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (EASTBOUND)	SHEET 647	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc003021.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc003021.dgn 8/14/2014 8:36:12 AM ckieler

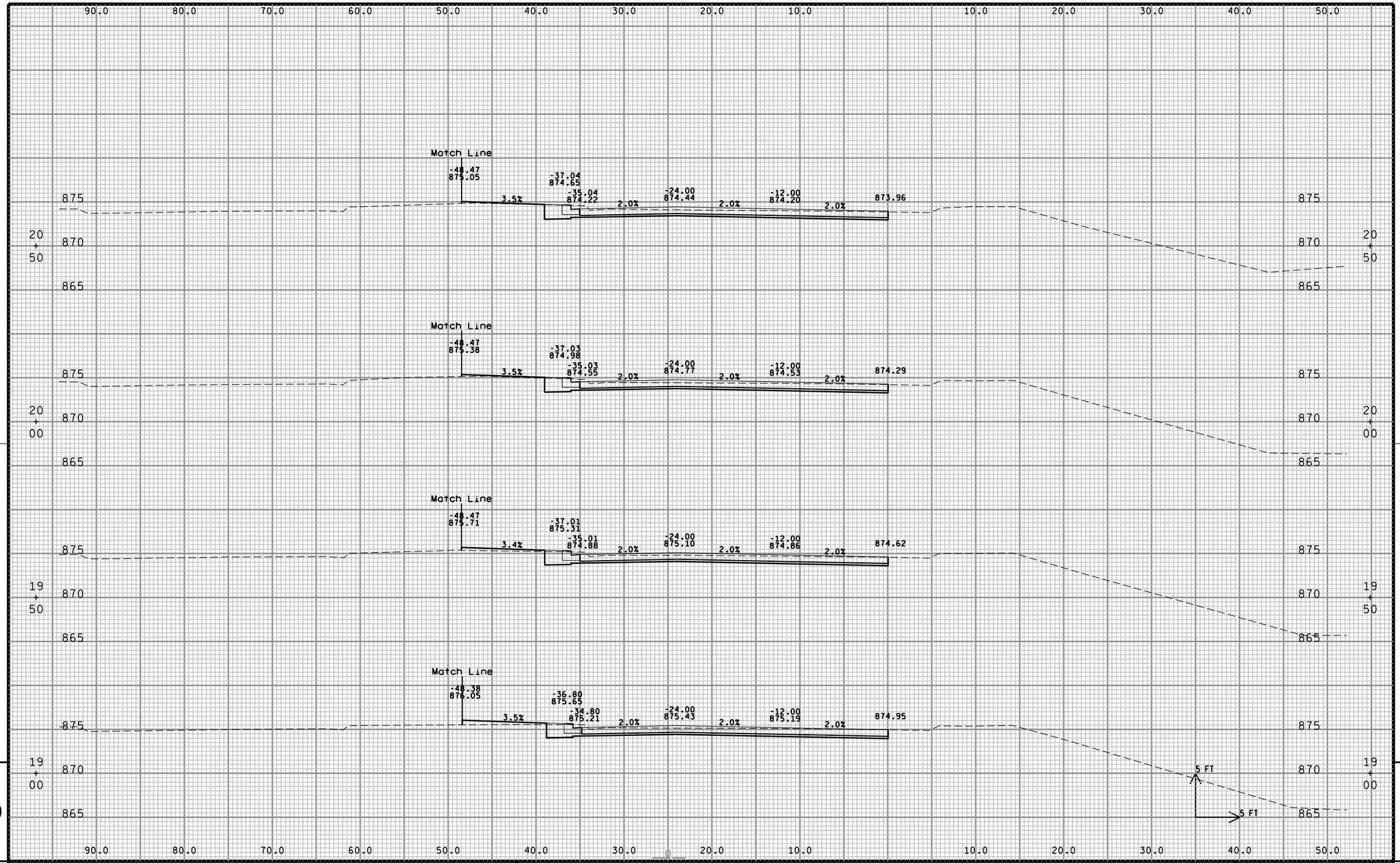


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (EASTBOUND)	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc004021.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc004021.dgn 8/14/2014 8:36:13 AM ckieler



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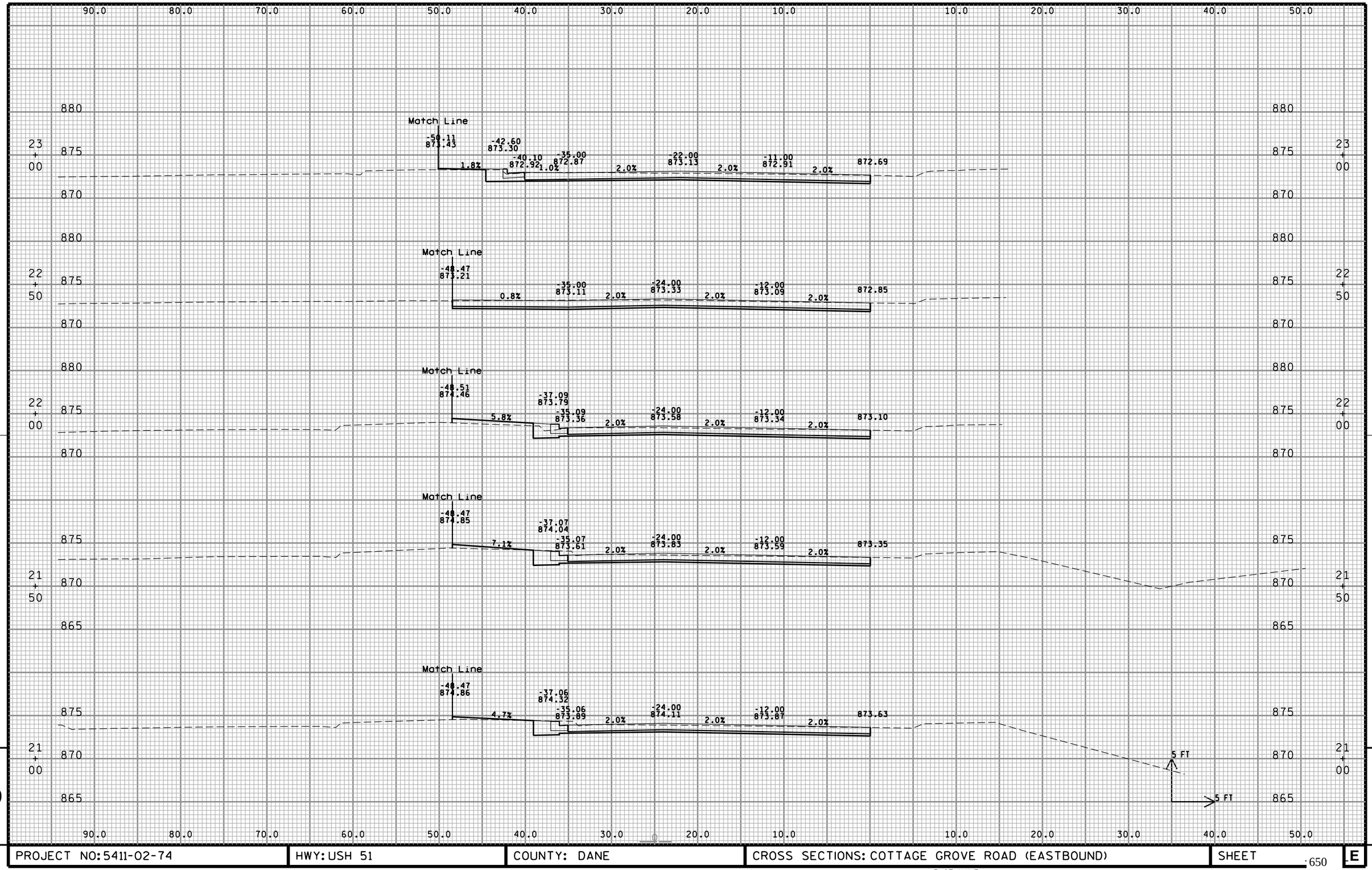
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (EASTBOUND)	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc005021.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc005021.dgn 8/14/2014 8:36:13 AM ckieler



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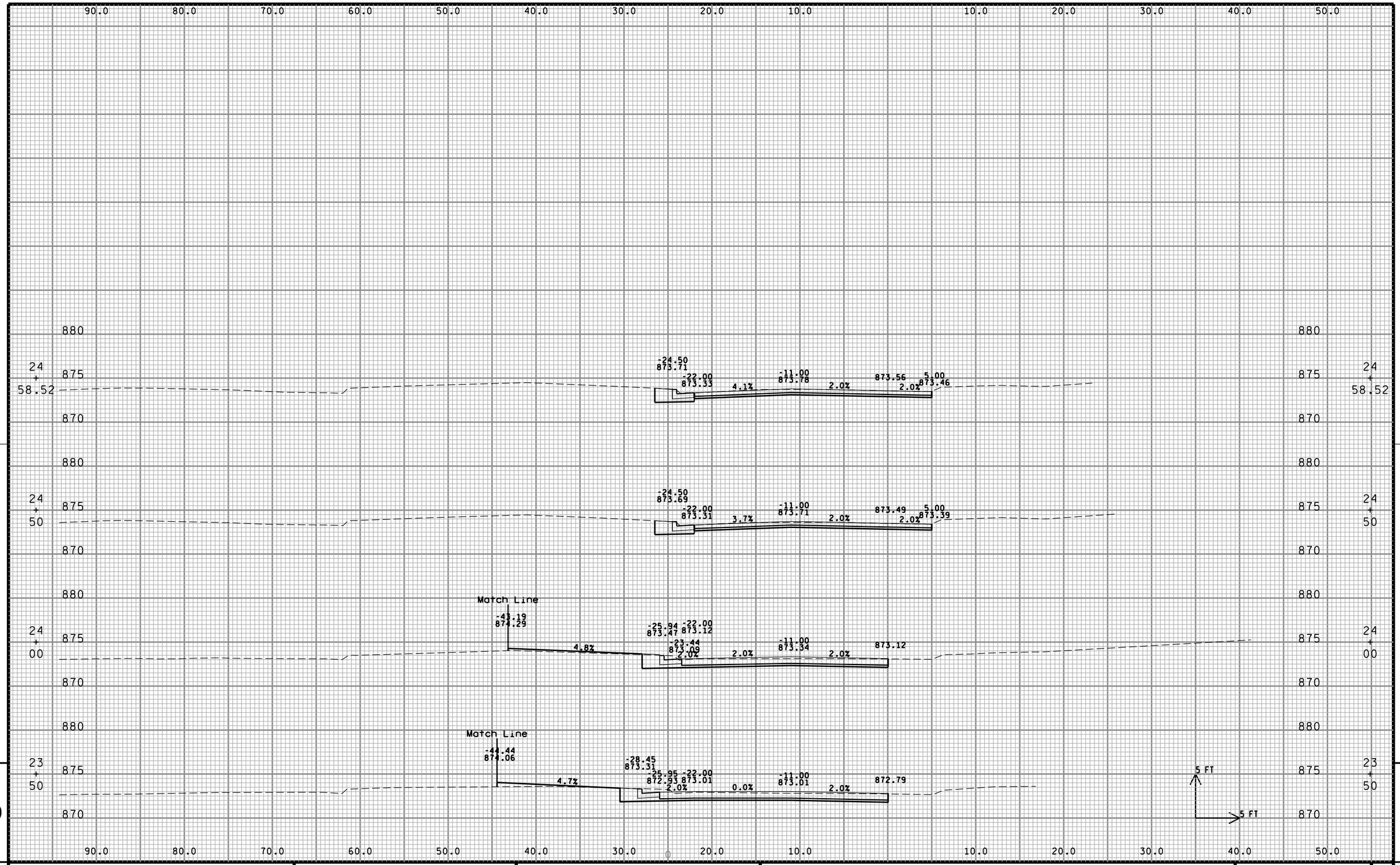
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (EASTBOUND)	SHEET 650 E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc006021.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc006021.dgn 8/14/2014 8:36:14 AM ckieler



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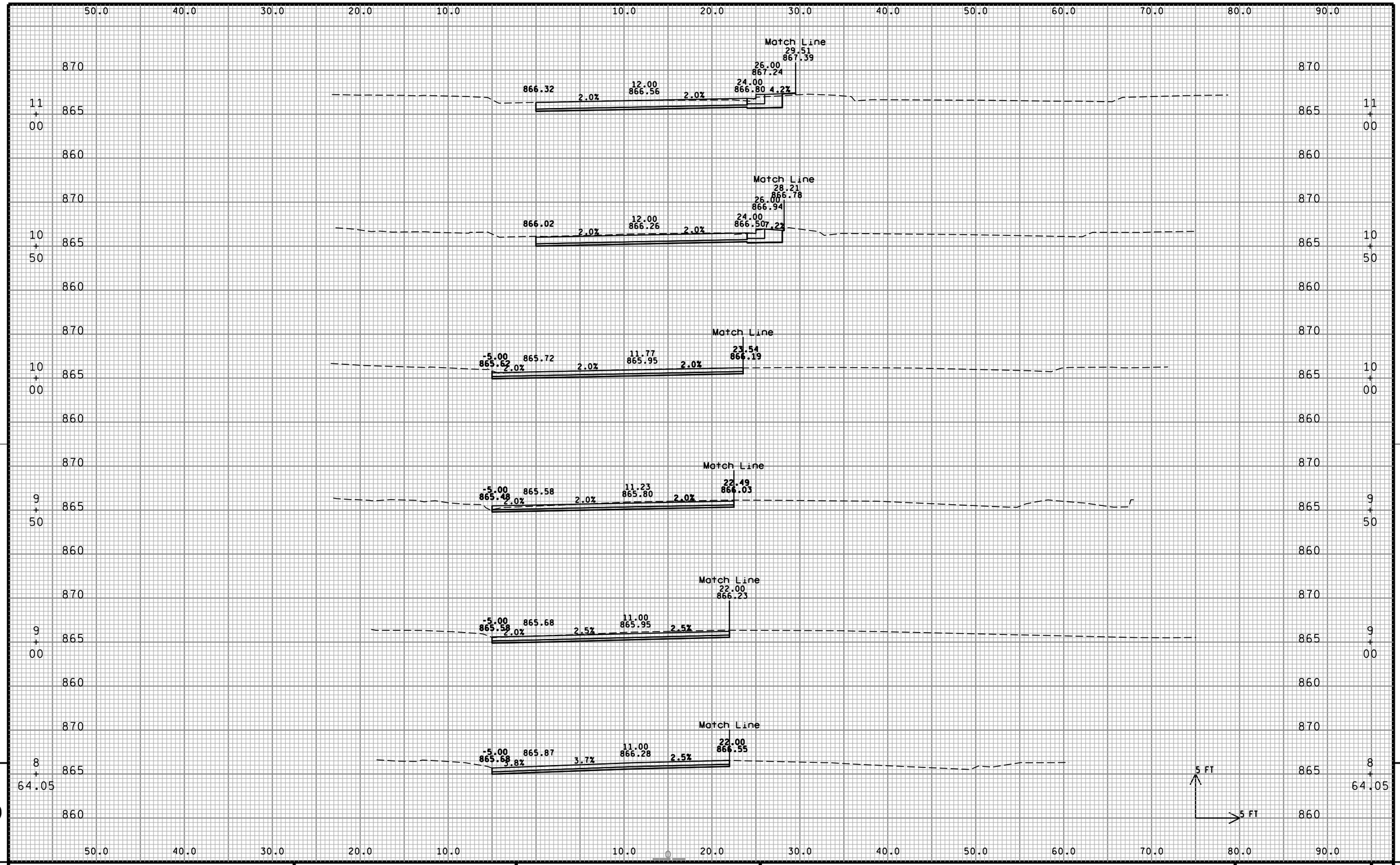
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (EASTBOUND)	SHEET 651	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc007021.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc007021.dgn 8/14/2014 8:36:14 AM ckieler

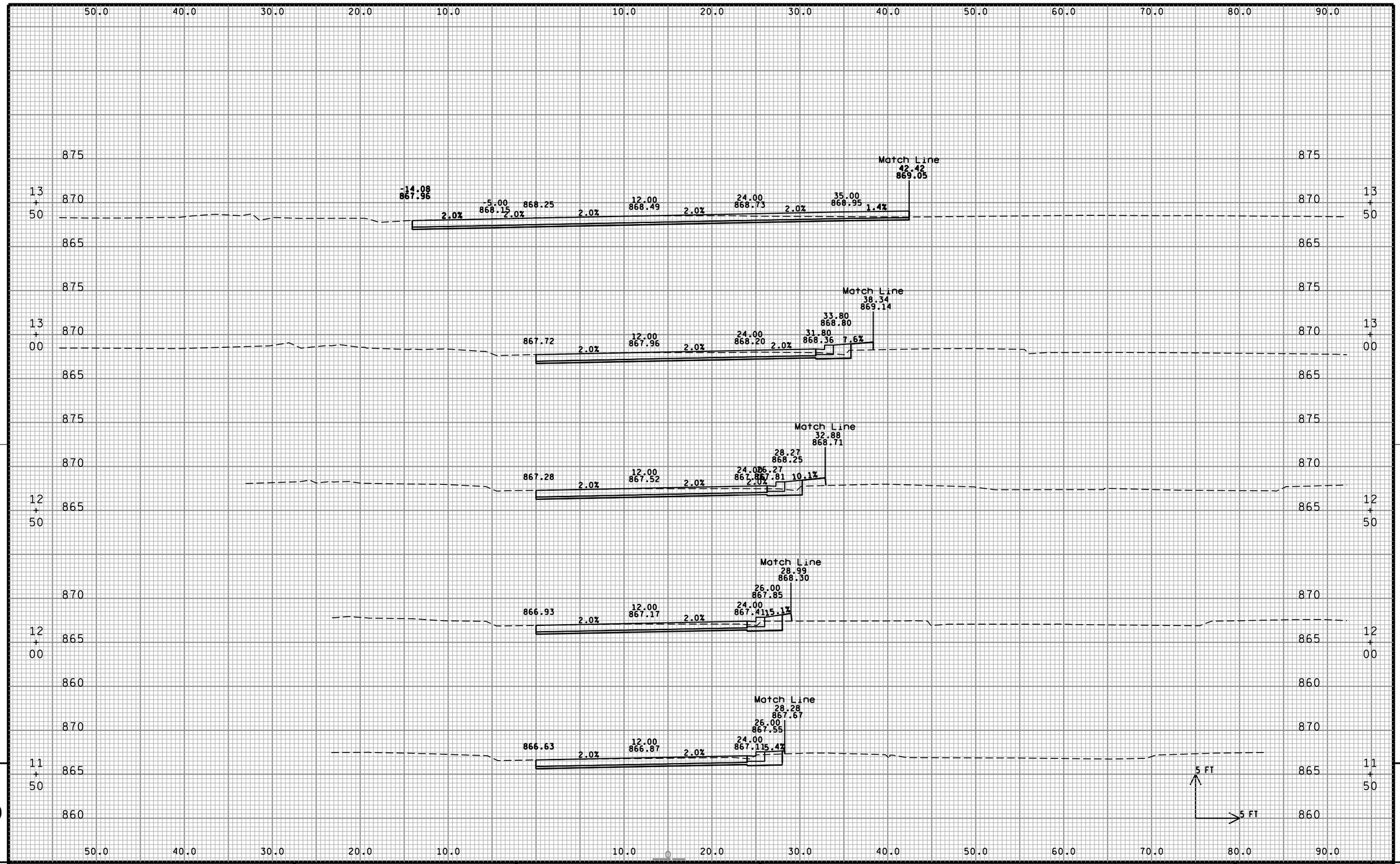


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (WESTBOUND)	SHEET 652 E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc001018.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc001018.dgn 8/14/2014 8:36:15 AM ckieler



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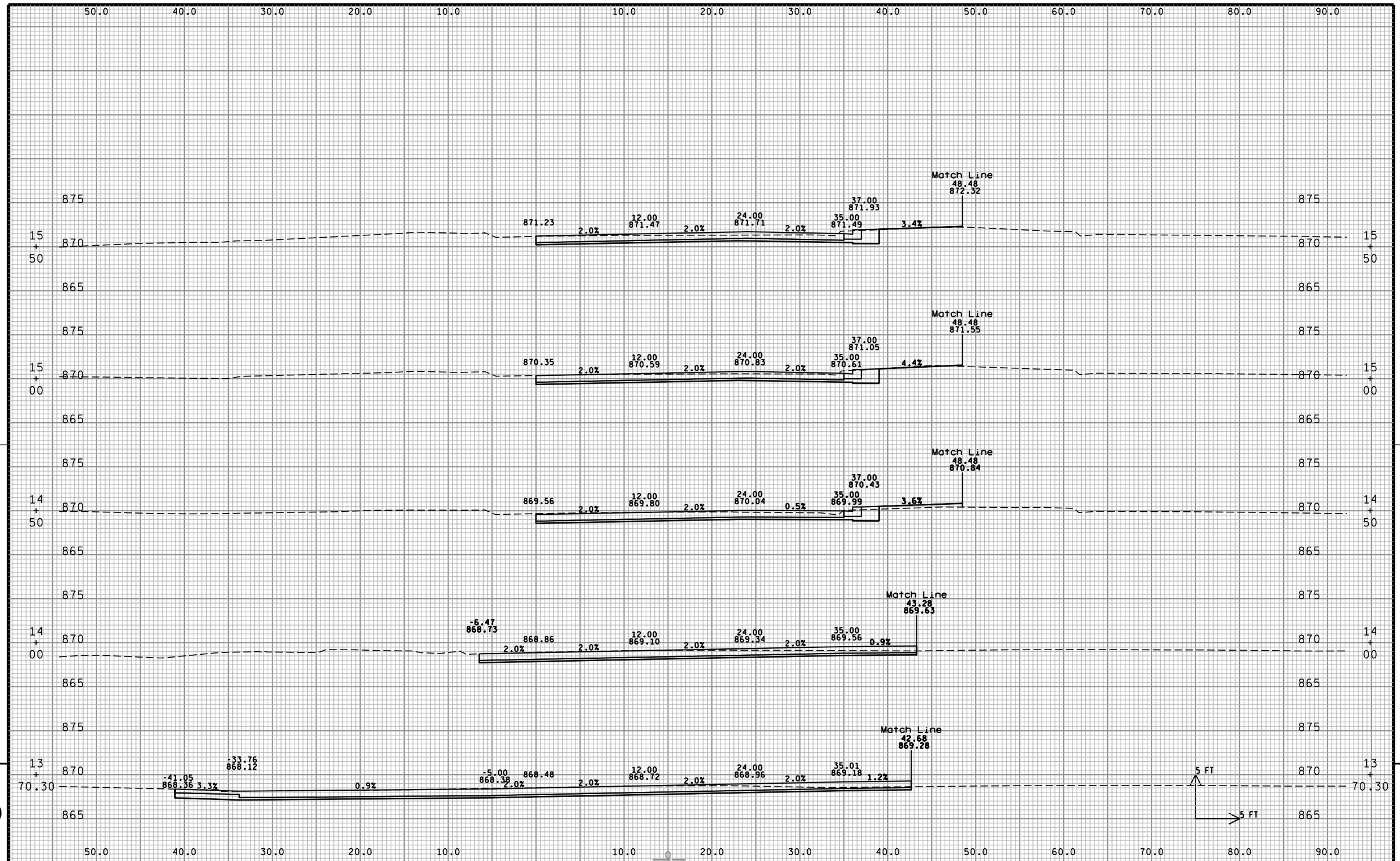
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (WESTBOUND)	SHEET 653	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc002018.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc002018.dgn 8/14/2014 8:36:15 AM ckieler



9

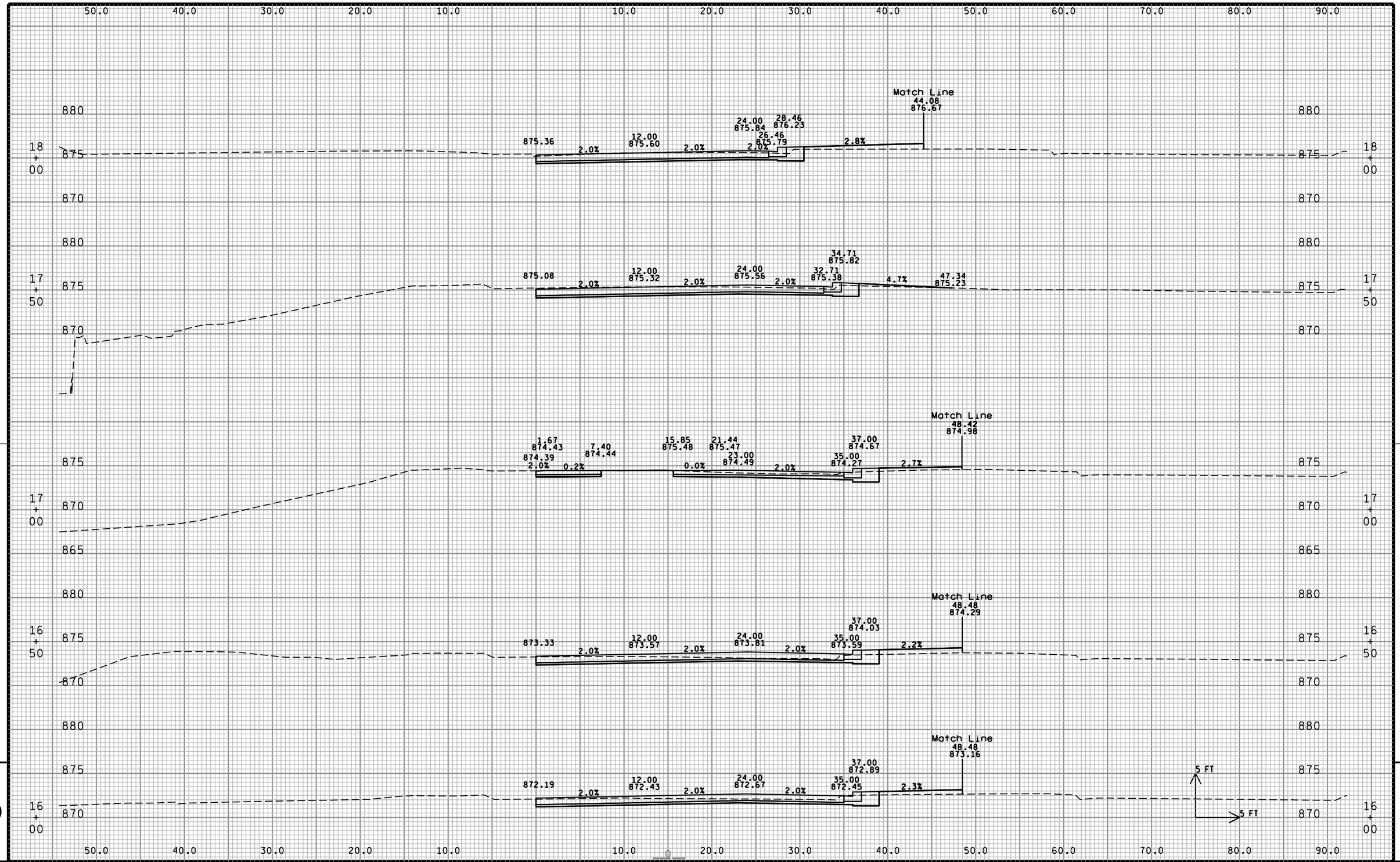
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (WESTBOUND)	SHEET 654	E

9

FILE NAME : P:\90s\93\00093080\CADD\Align\rc003018.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc003018.dgn 8/14/2014 8:36:16 AM ckieler



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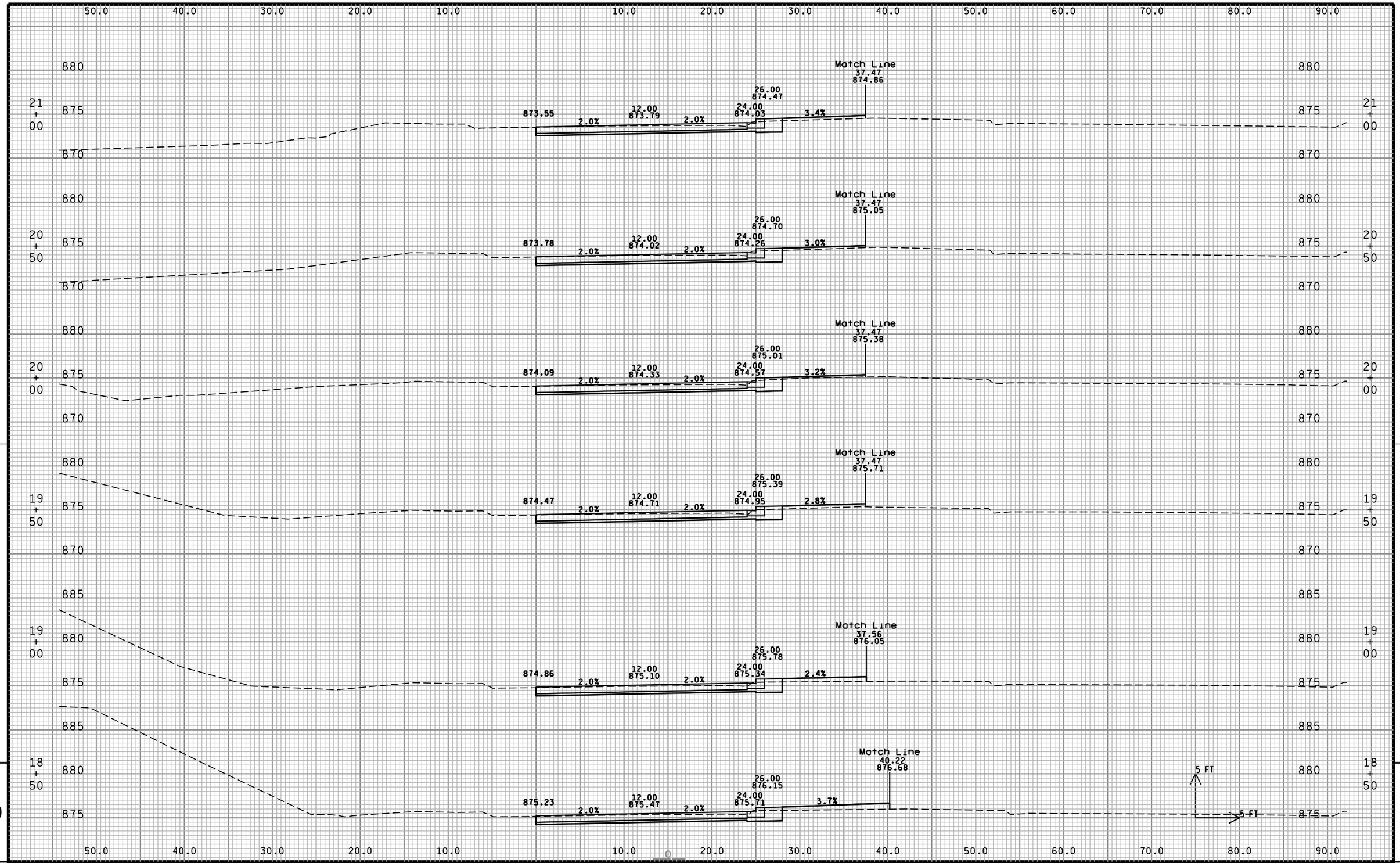
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (WESTBOUND)	SHEET 655	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc004018.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc004018.dgn 8/14/2014 8:36:16 AM ckieler



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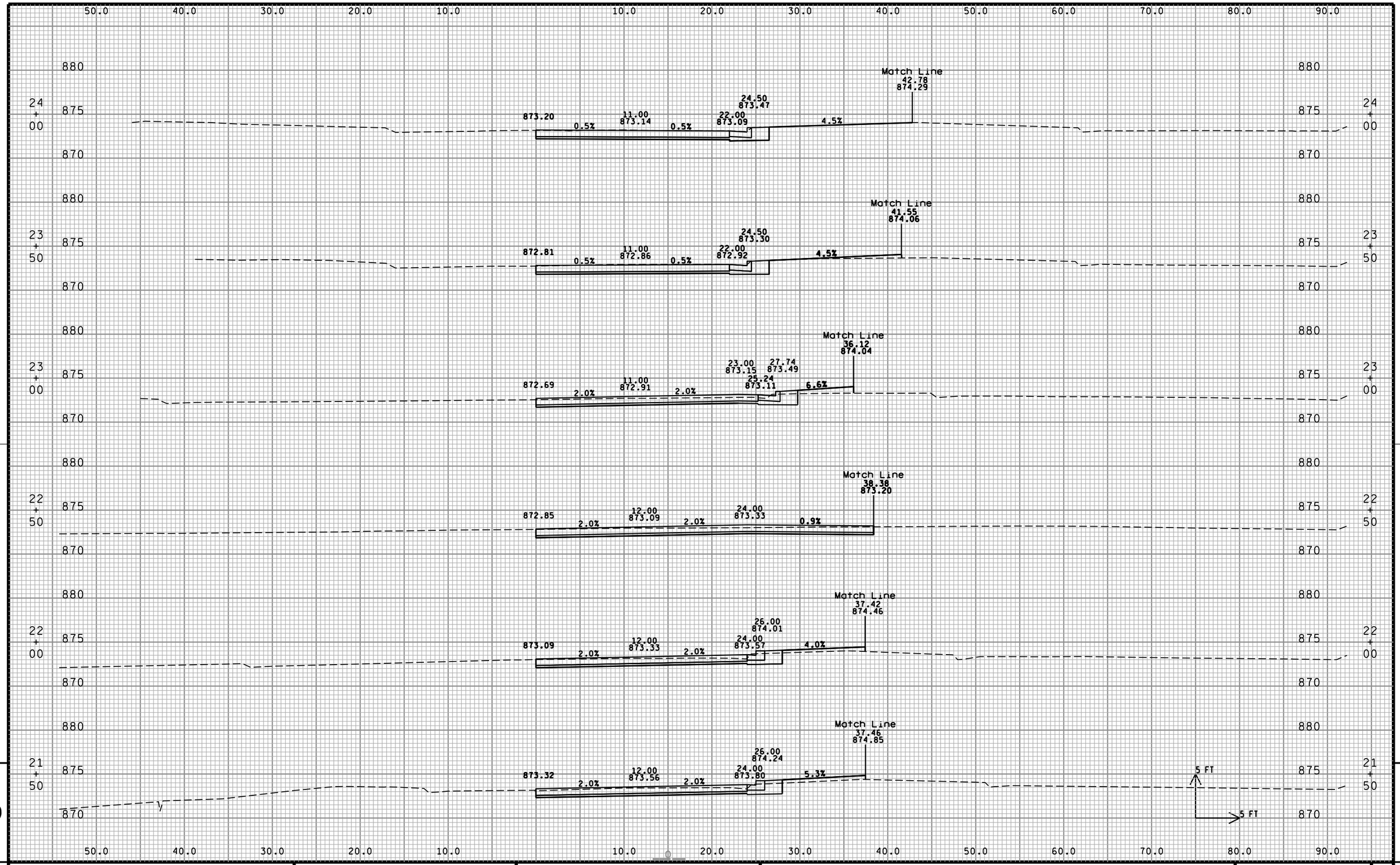
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (WESTBOUND)	SHEET 656	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc005018.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc005018.dgn 8/14/2014 8:36:17 AM ckieler



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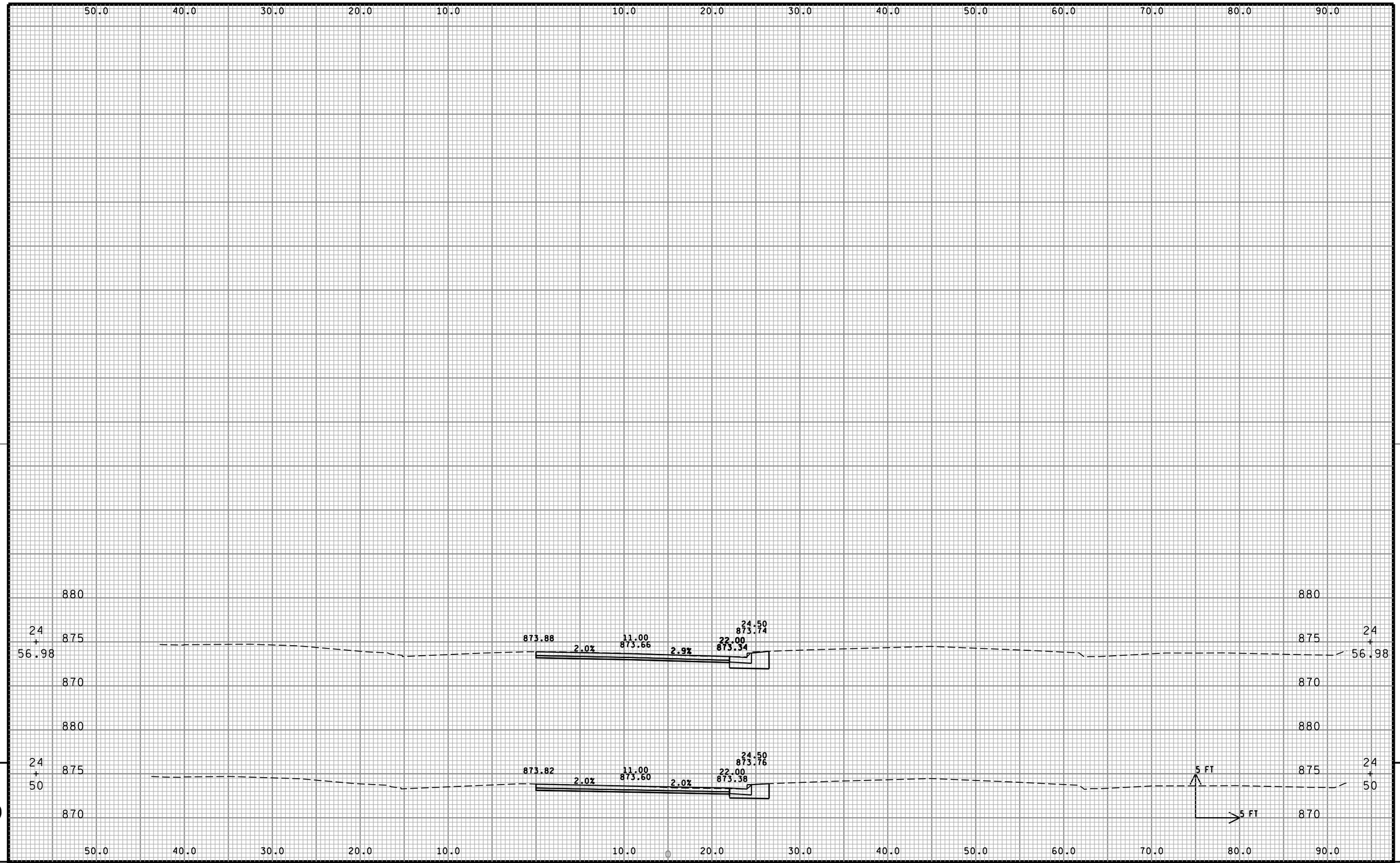
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (WESTBOUND)	SHEET 657	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc006018.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc006018.dgn 8/14/2014 8:36:17 AM ckieler



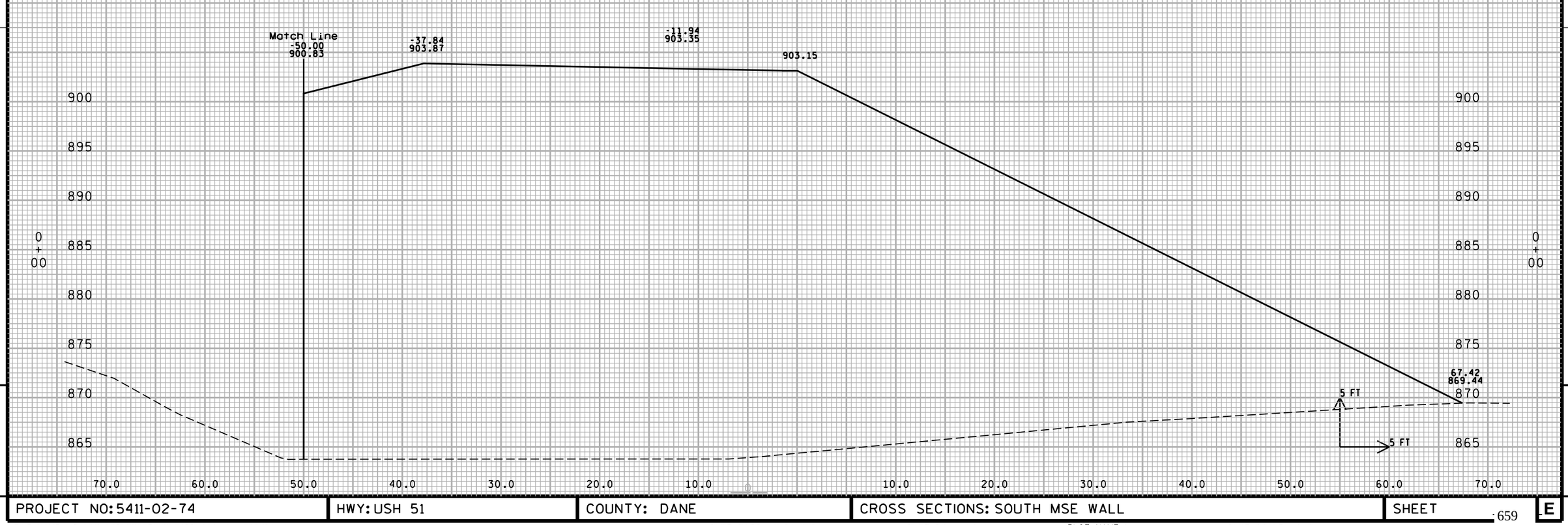
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: COTTAGE GROVE ROAD (WESTBOUND)	SHEET 658	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc007018.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc007018.dgn 8/14/2014 8:36:18 AM ckieler

SEE SOUTH MSE WALL PLANS
FOR WALL DETAILS

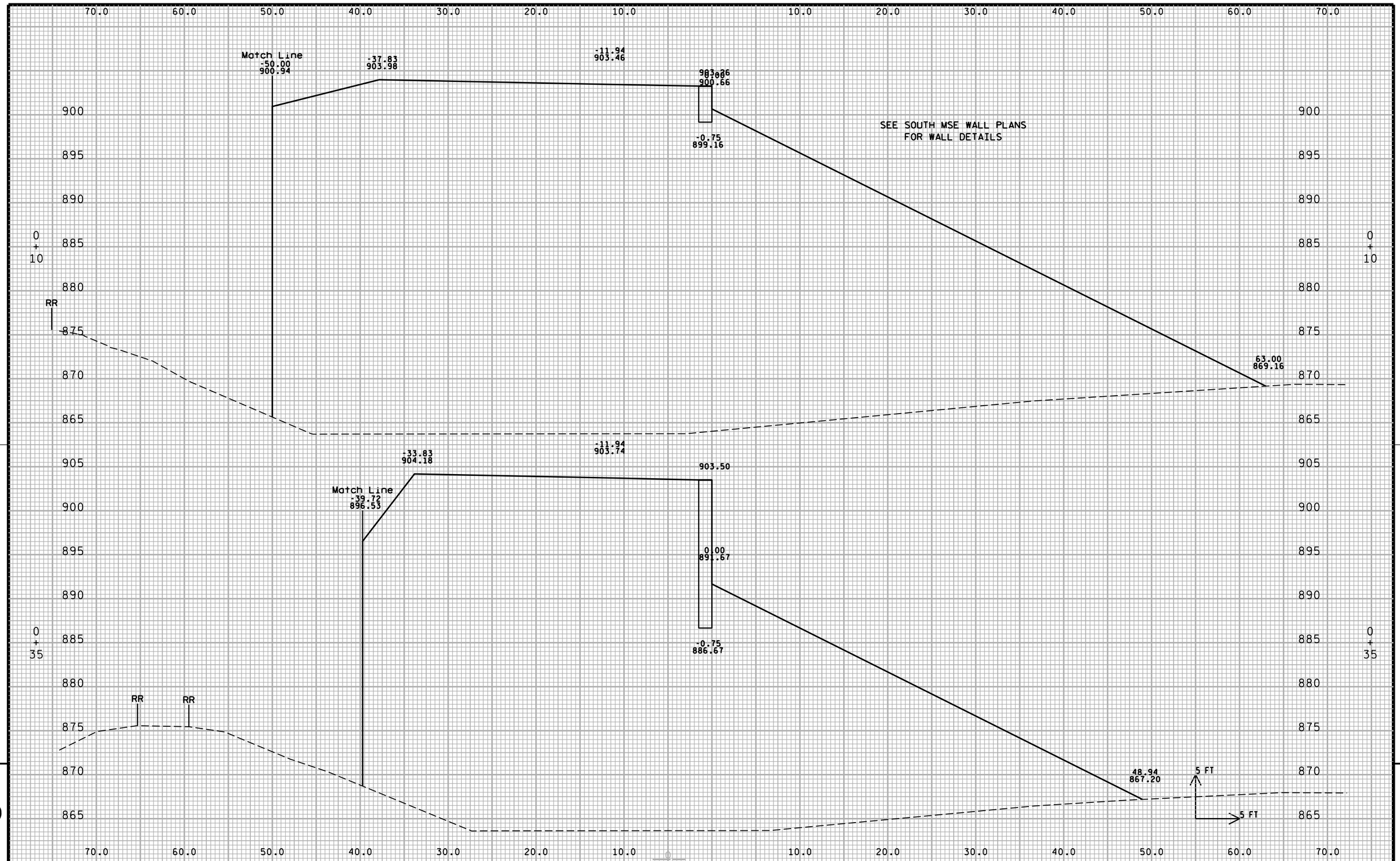


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: SOUTH MSE WALL	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc016014.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc016014.dgn 8/14/2014 8:36:18 AM ckieler



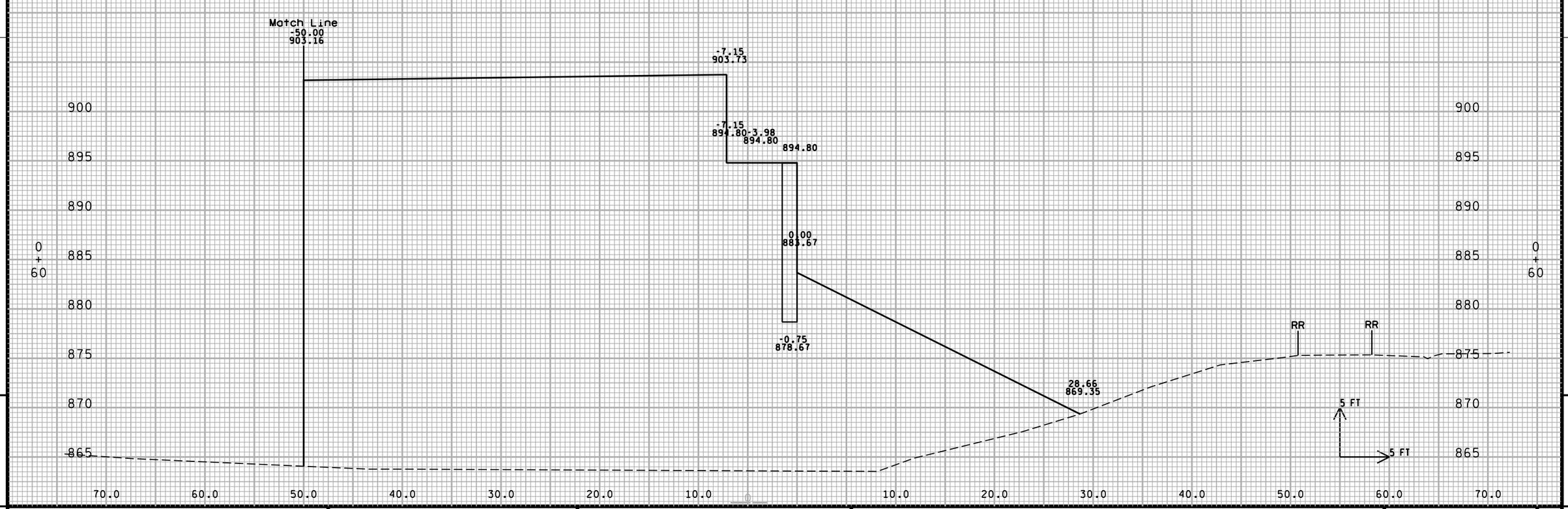
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: SOUTH MSE WALL	SHEET

FILE NAME : P:\90s\93\00093080\CADD\Align\rc015014.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc015014.dgn 8/14/2014 8:36:19 AM ckieler

SEE SOUTH MSE WALL PLANS
FOR WALL DETAILS



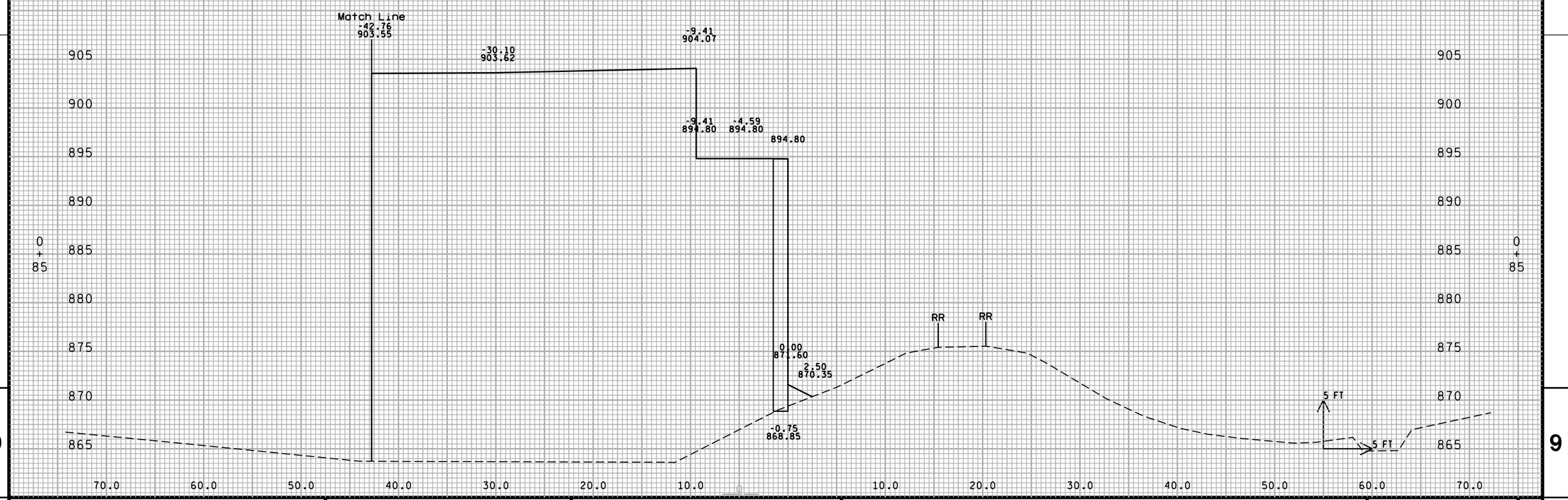
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: SOUTH MSE WALL	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc014014.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc014014.dgn 8/14/2014 8:36:19 AM ckieler

SEE SOUTH MSE WALL PLANS
FOR WALL DETAILS

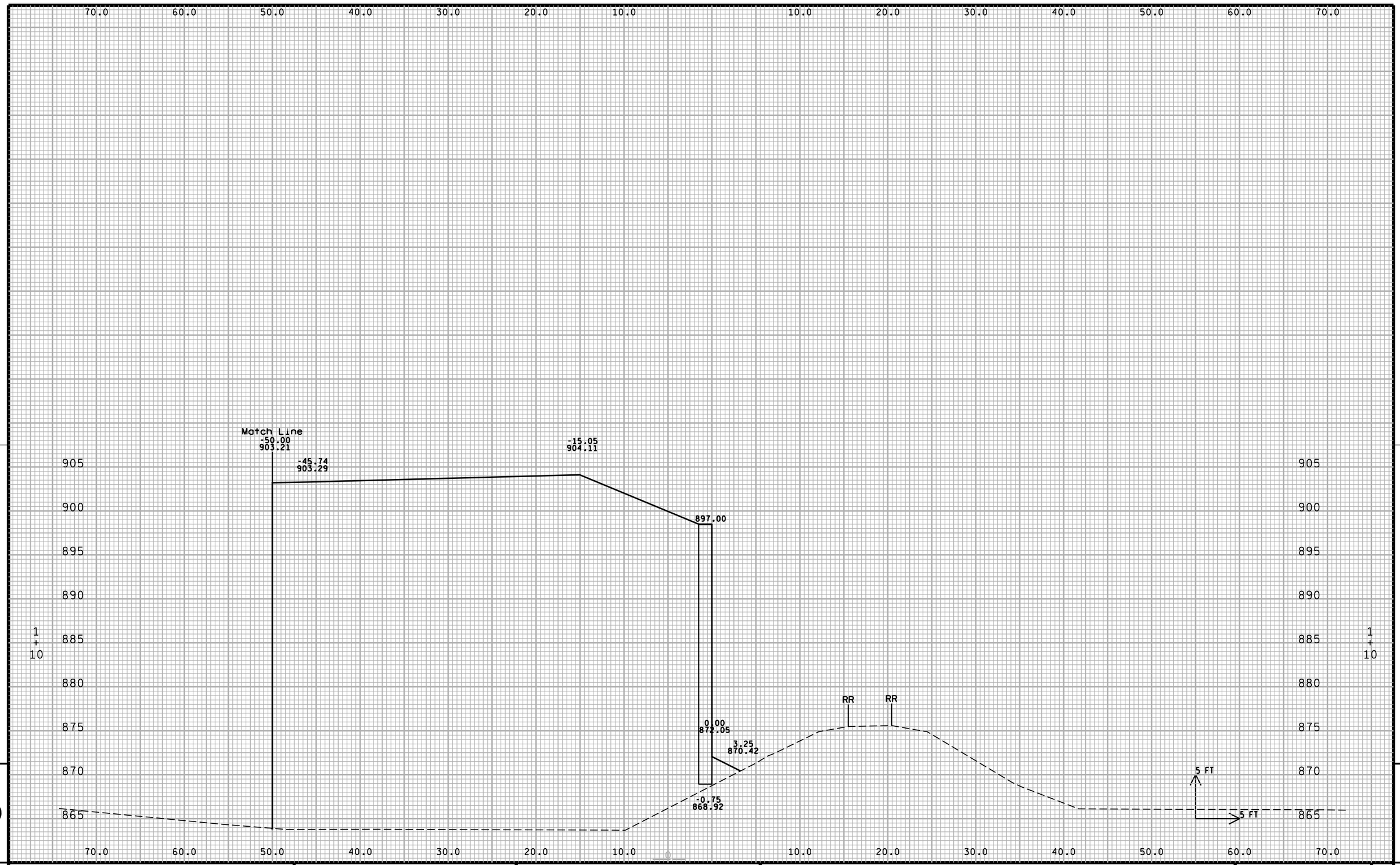


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: SOUTH MSE WALL	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc013014.dgn PLOT DATE : 8/19/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc013014.dgn 8/19/2014 8:56:30 AM ckieler

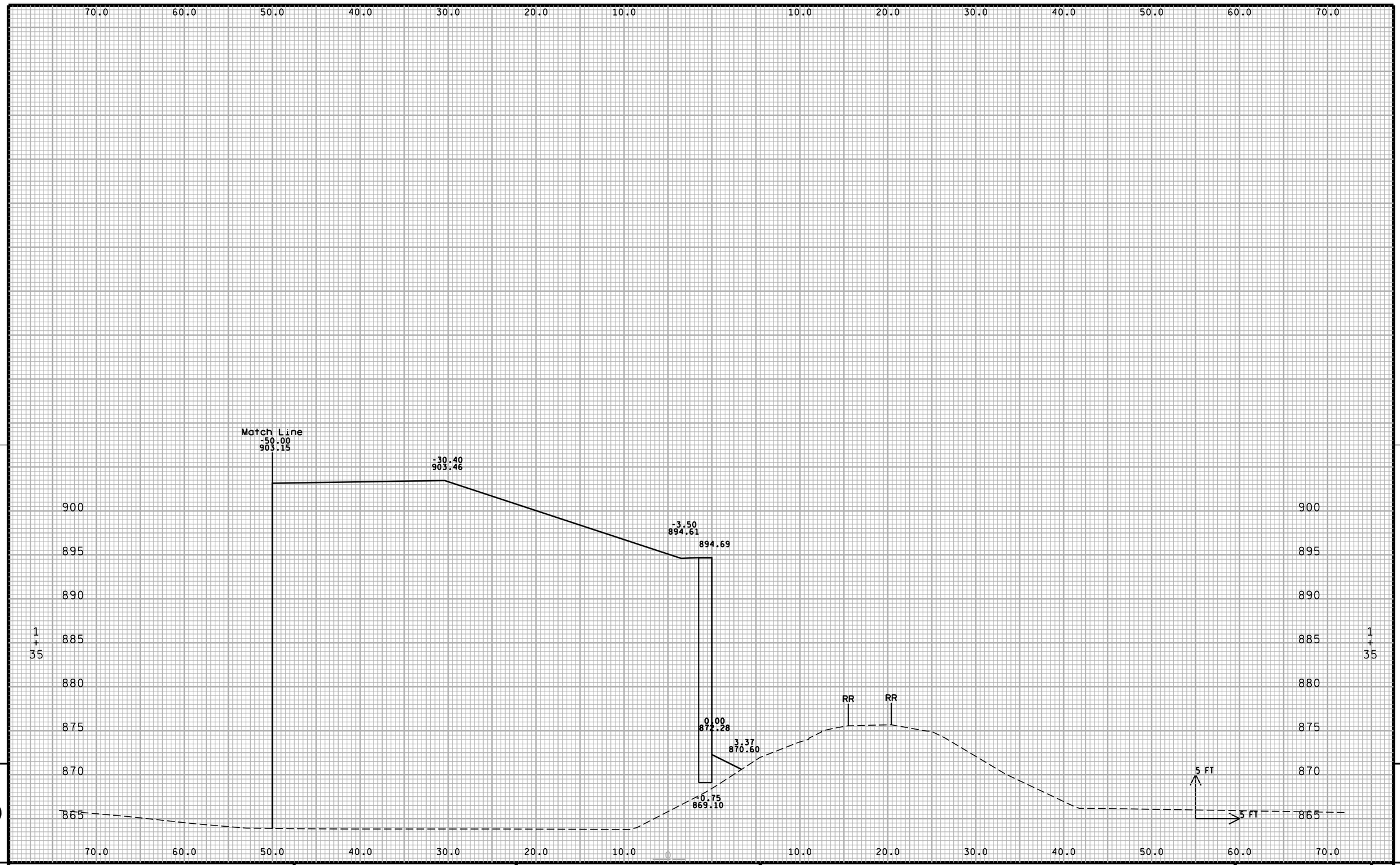


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: SOUTH MSE WALL	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc012014.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc012014.dgn 8/14/2014 8:36:20 AM ckieler



9

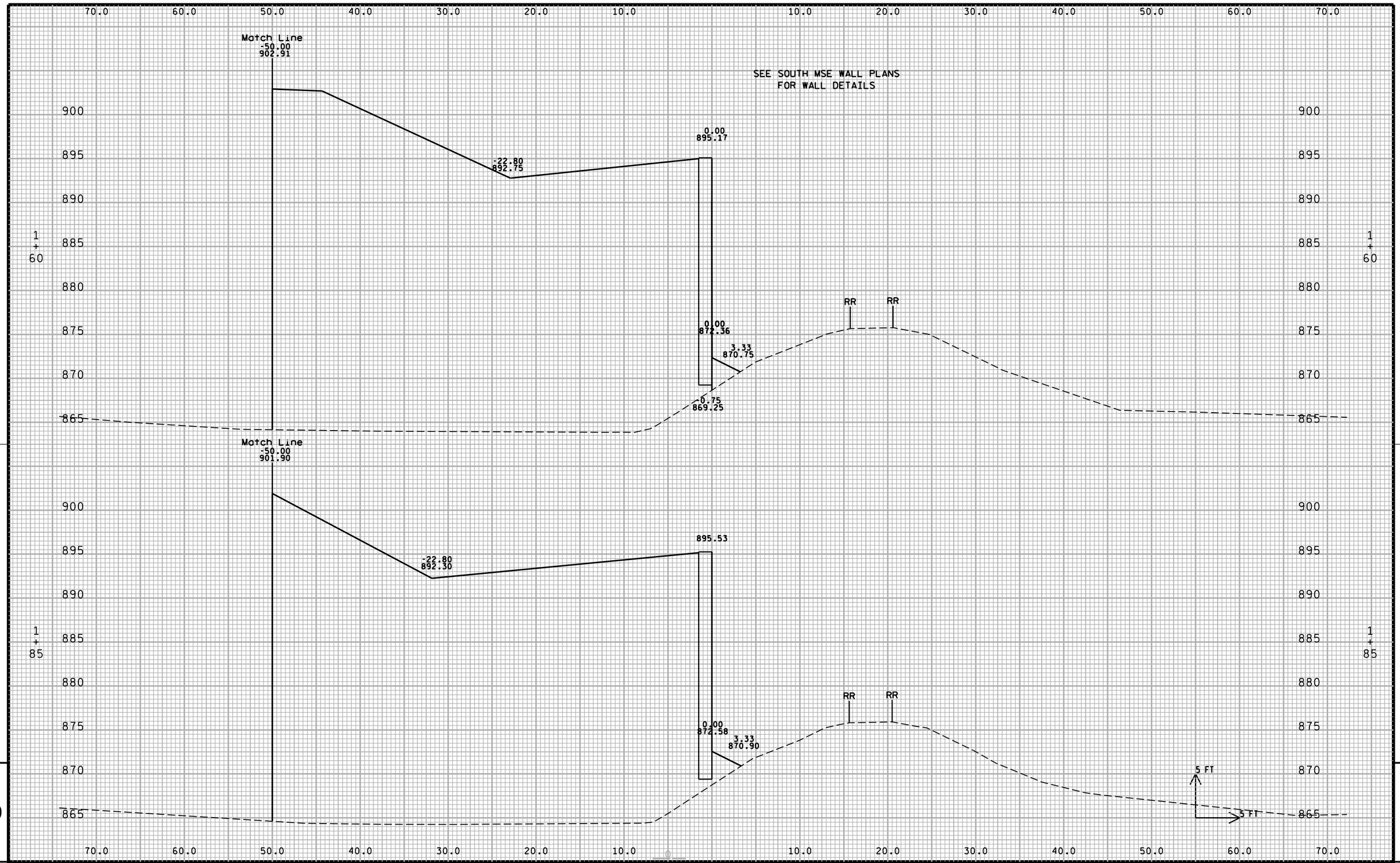
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: SOUTH MSE WALL	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc011014.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc011014.dgn 8/14/2014 8:36:21 AM ckieler



9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: SOUTH MSE WALL	SHEET 665	E

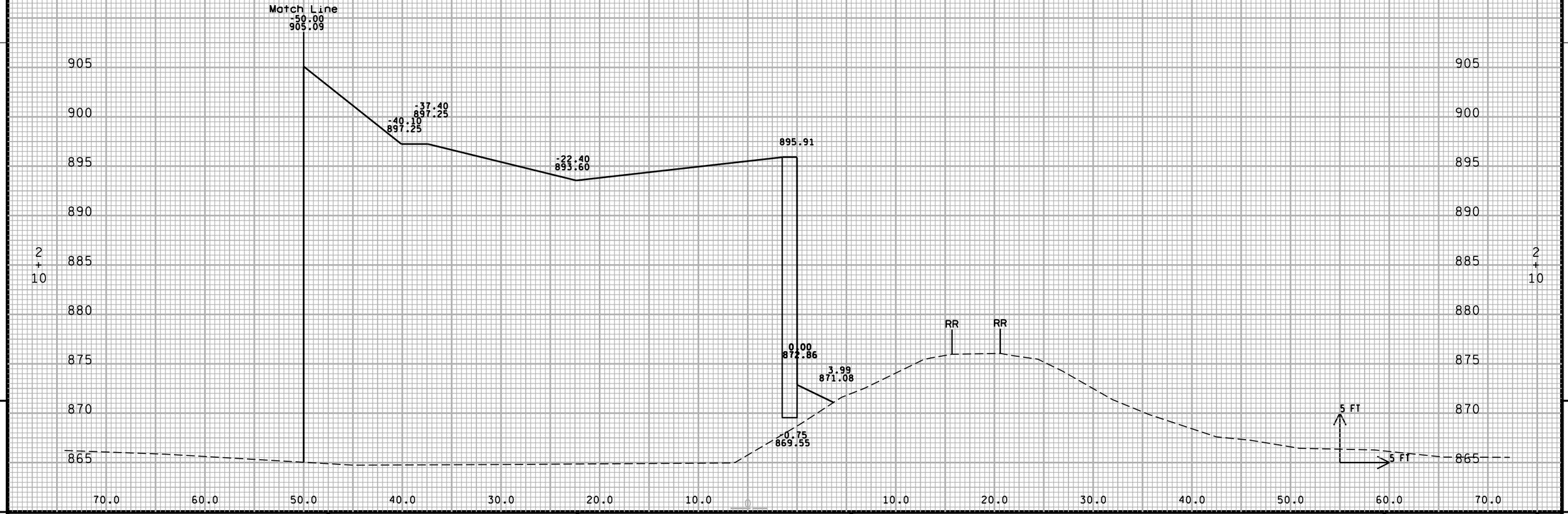
9

FILE NAME : P:\90s\93\00093080\CADD\Align\rc010014.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc010014.dgn 8/14/2014 8:36:21 AM ckieler

SEE SOUTH MSE WALL PLANS
FOR WALL DETAILS



9 9

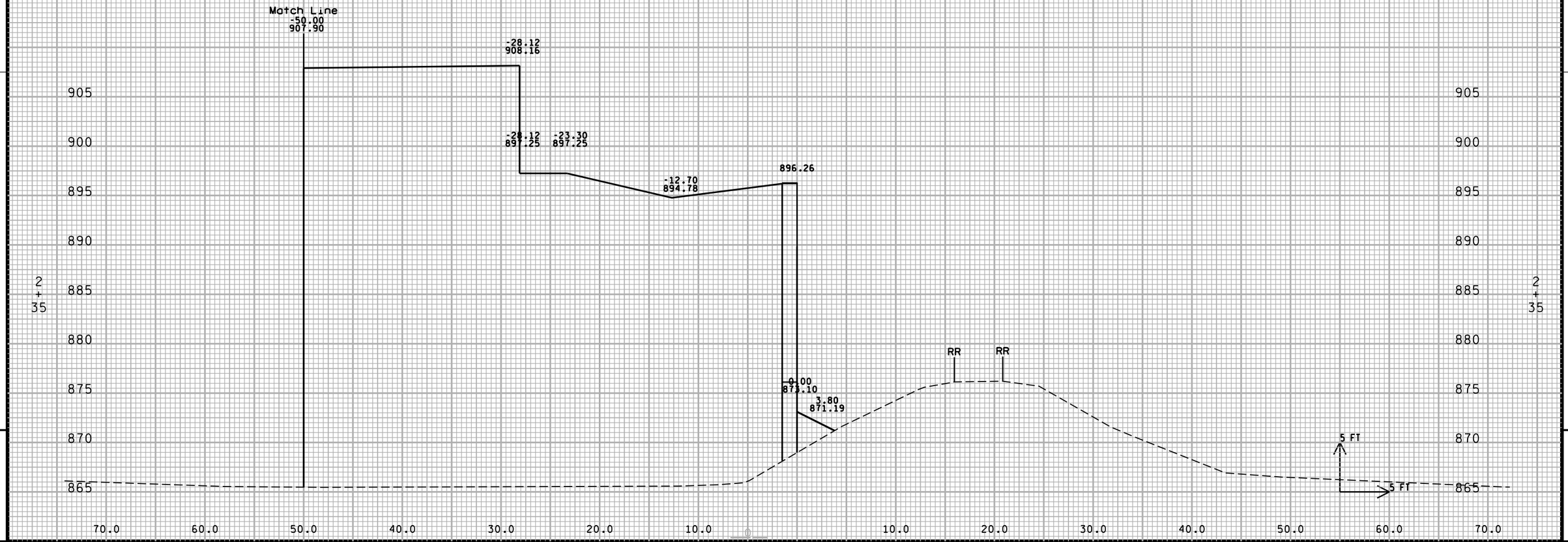
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: SOUTH MSE WALL	SHEET 666 E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc009014.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc009014.dgn 8/14/2014 8:36:22 AM ckieler

SEE SOUTH MSE WALL PLANS
FOR WALL DETAILS



9

9

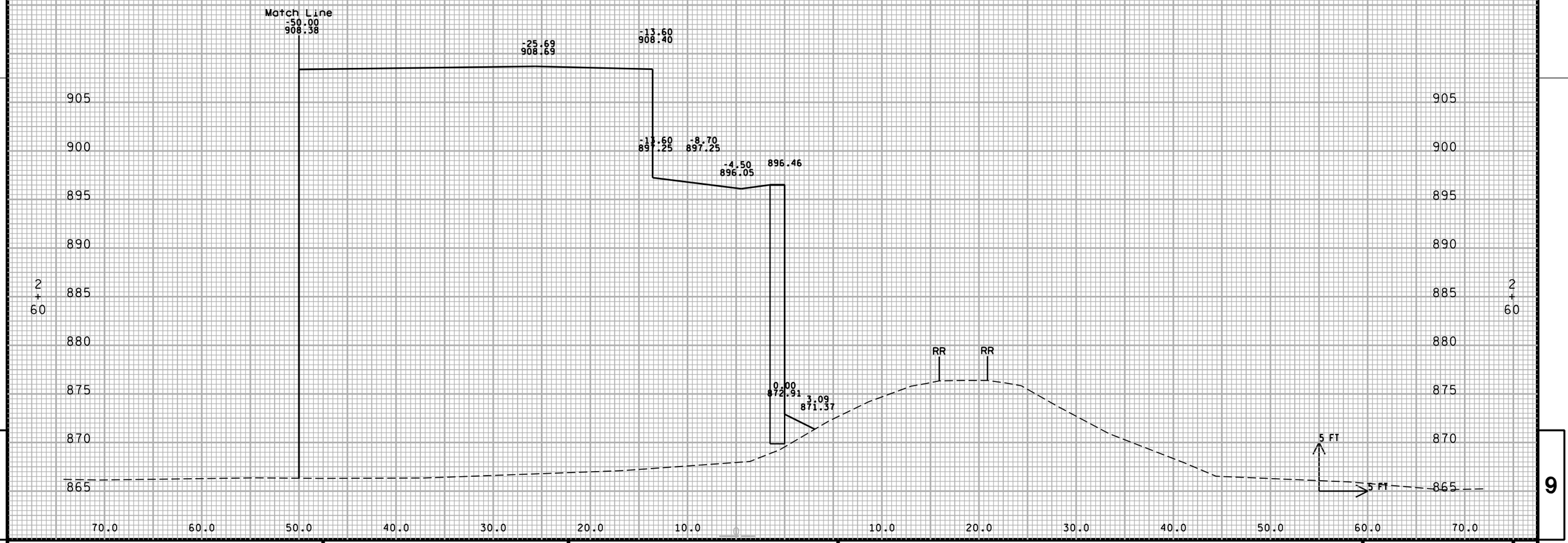
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: SOUTH MSE WALL	SHEET 667	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc008014.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc008014.dgn 8/14/2014 8:36:22 AM ckieler

SEE SOUTH MSE WALL PLANS
FOR WALL DETAILS



9 9

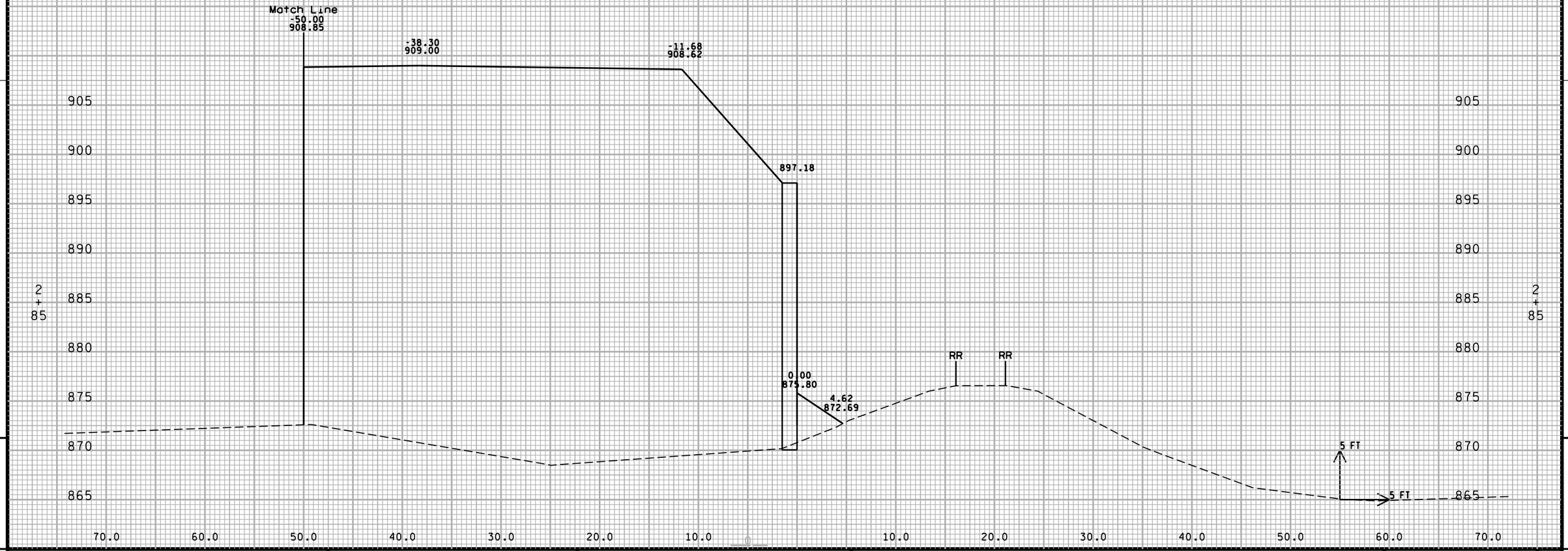
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: SOUTH MSE WALL	SHEET 668 E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc007014.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc007014.dgn 8/14/2014 8:36:22 AM ckieler

SEE SOUTH MSE WALL PLANS
FOR WALL DETAILS



9 9

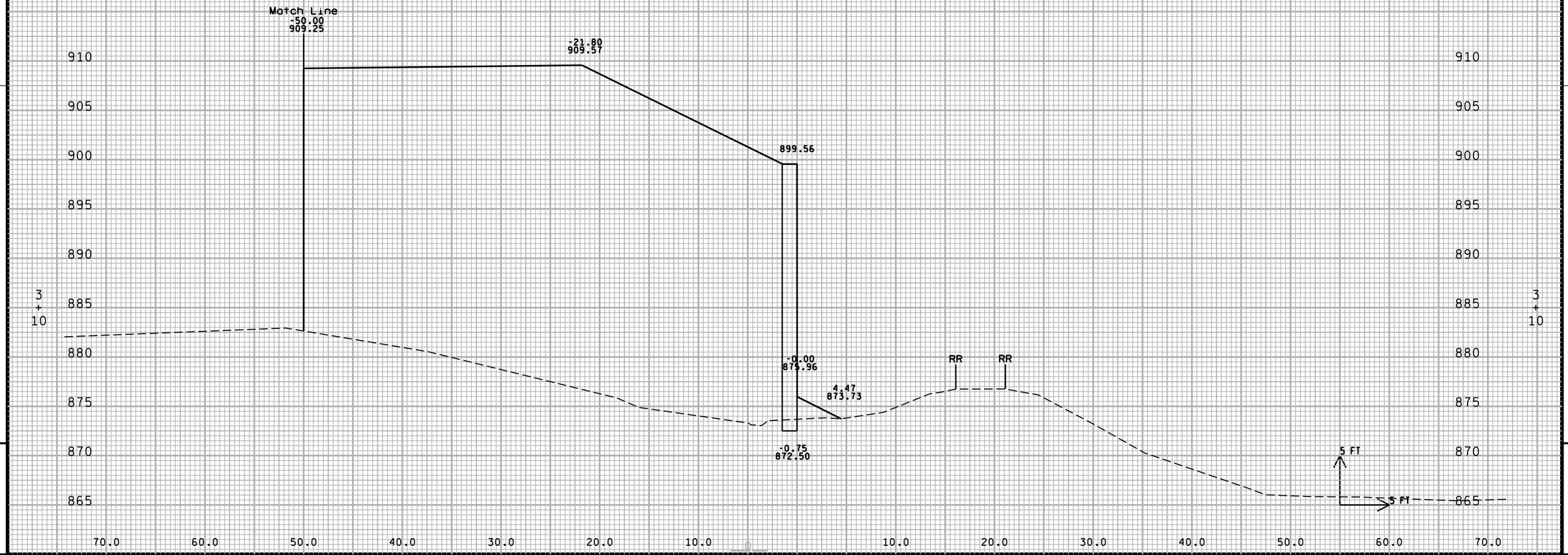
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: SOUTH MSE WALL	SHEET E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc006014.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc006014.dgn 8/14/2014 8:36:23 AM ckieler

SEE SOUTH MSE WALL PLANS
FOR WALL DETAILS



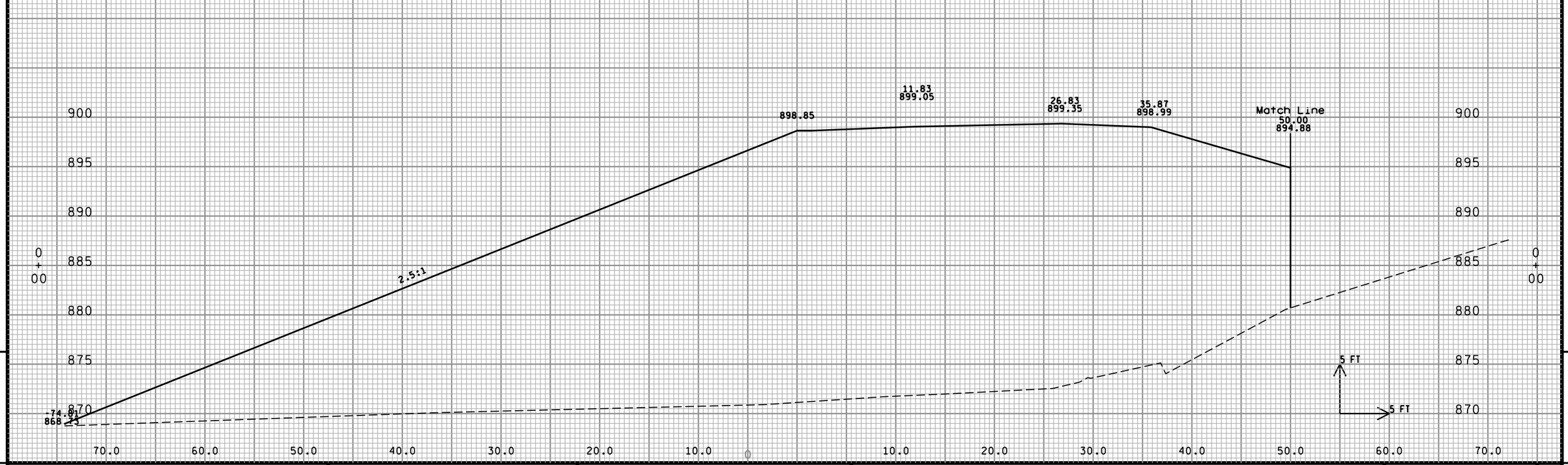
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: SOUTH MSE WALL	SHEET 670	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc005014.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc005014.dgn 8/14/2014 8:36:24 AM ckieler

SEE NORTH MSE WALL PLANS
FOR WALL DETAILS



9

9

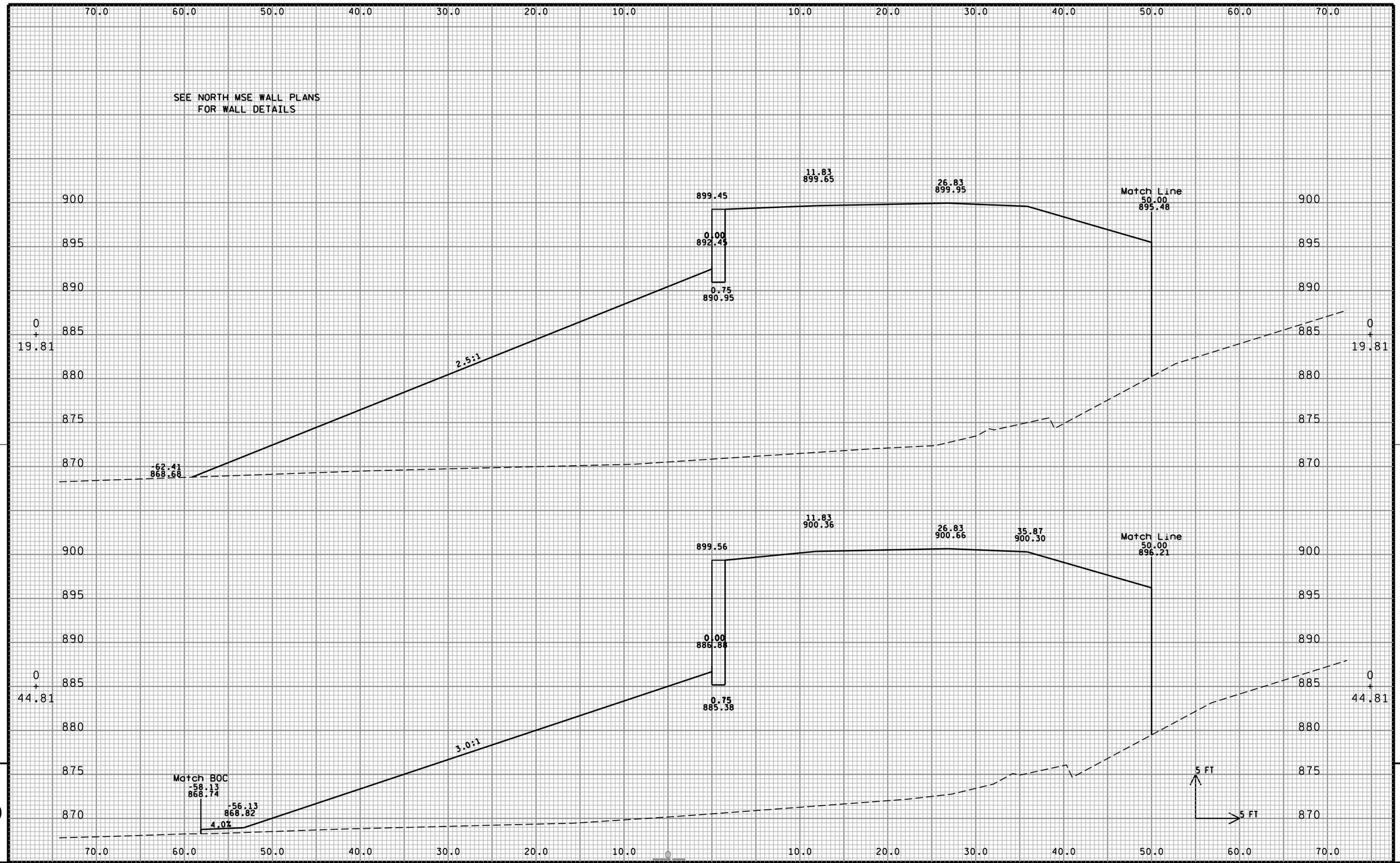
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: NORTH MSE WALL	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc007015.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc007015.dgn 8/14/2014 8:36:24 AM ckieler

SEE NORTH MSE WALL PLANS
FOR WALL DETAILS



9 9

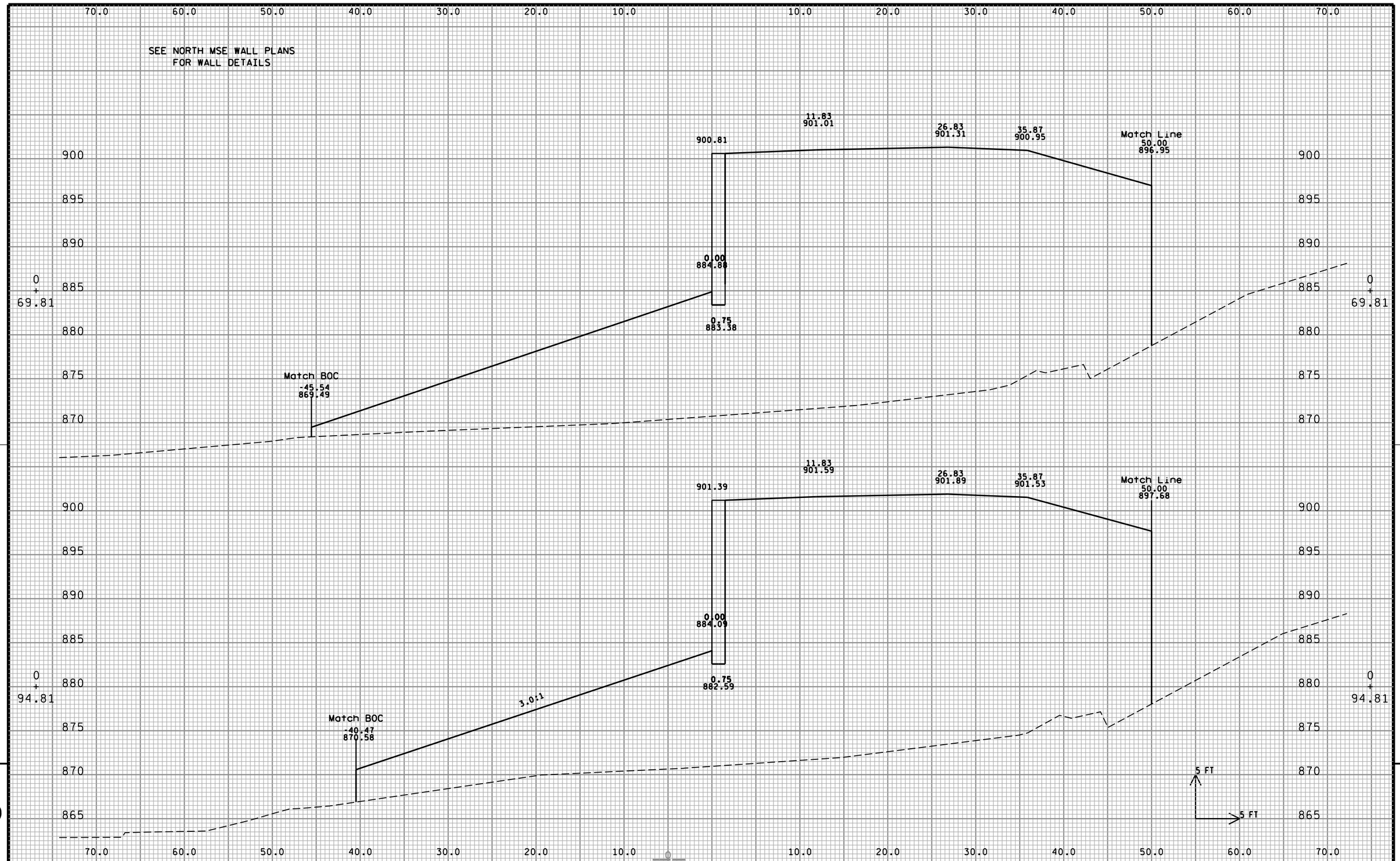
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: NORTH MSE WALL	SHEET 672	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc006015.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc006015.dgn 8/14/2014 8:36:24 AM ckieler

SEE NORTH MSE WALL PLANS
FOR WALL DETAILS



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: NORTH MSE WALL	SHEET

673

FILE NAME : P:\90s\93\00093080\CADD\Align\rc005015.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc005015.dgn 8/14/2014 8:36:25 AM ckieler

SEE NORTH MSE WALL PLANS
FOR WALL DETAILS

11.83
902.12
901.92
26.83
902.42
35.87
902.06
Match Line
50.00
898.19
0.00
881.47
0.75
879.97
Match BOC
-35.59
871.43
-29.37
871.68
4.0%
3.0:1

21.12
902.53
35.67
902.82
21.12
892.57
892.57
Match Line
50.00
891.32
0.00
877.63
0.75
876.11
Match BOC
-30.81
871.77
-12.85
872.49
4.0%
2.5:1

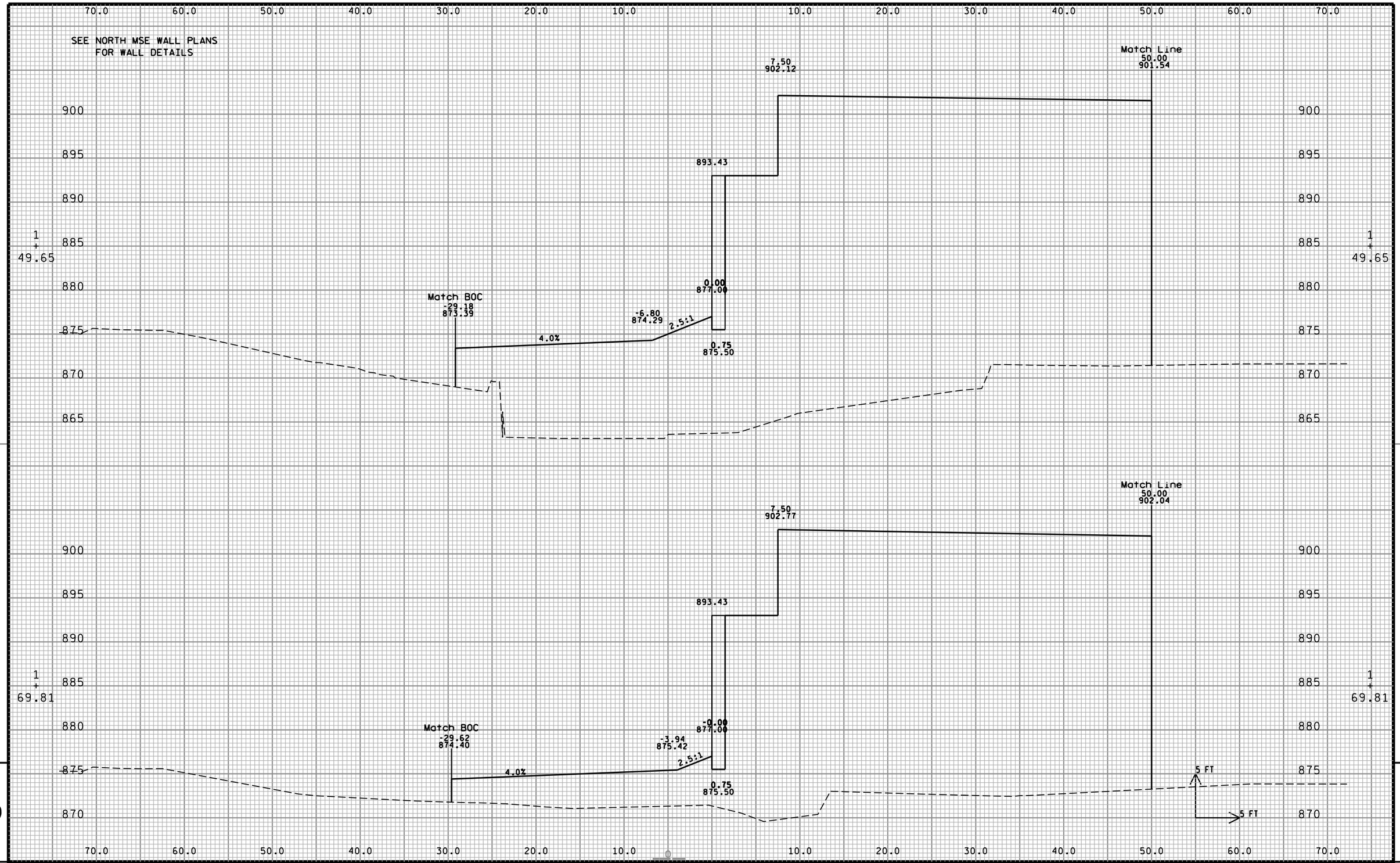
1 + 19.81
1 + 44.19
5 FT
5 FT

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: NORTH MSE WALL	SHEET 674	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc004015.dgn
PLOT DATE : 8/14/2014
PLOT BY : ckieler
PLOT NAME : _____
PLOT SCALE : 1:2
WISDOT/CADDS SHEET 21

rc004015.dgn 8/14/2014 8:36:25 AM ckieler

SEE NORTH MSE WALL PLANS
FOR WALL DETAILS



9

9

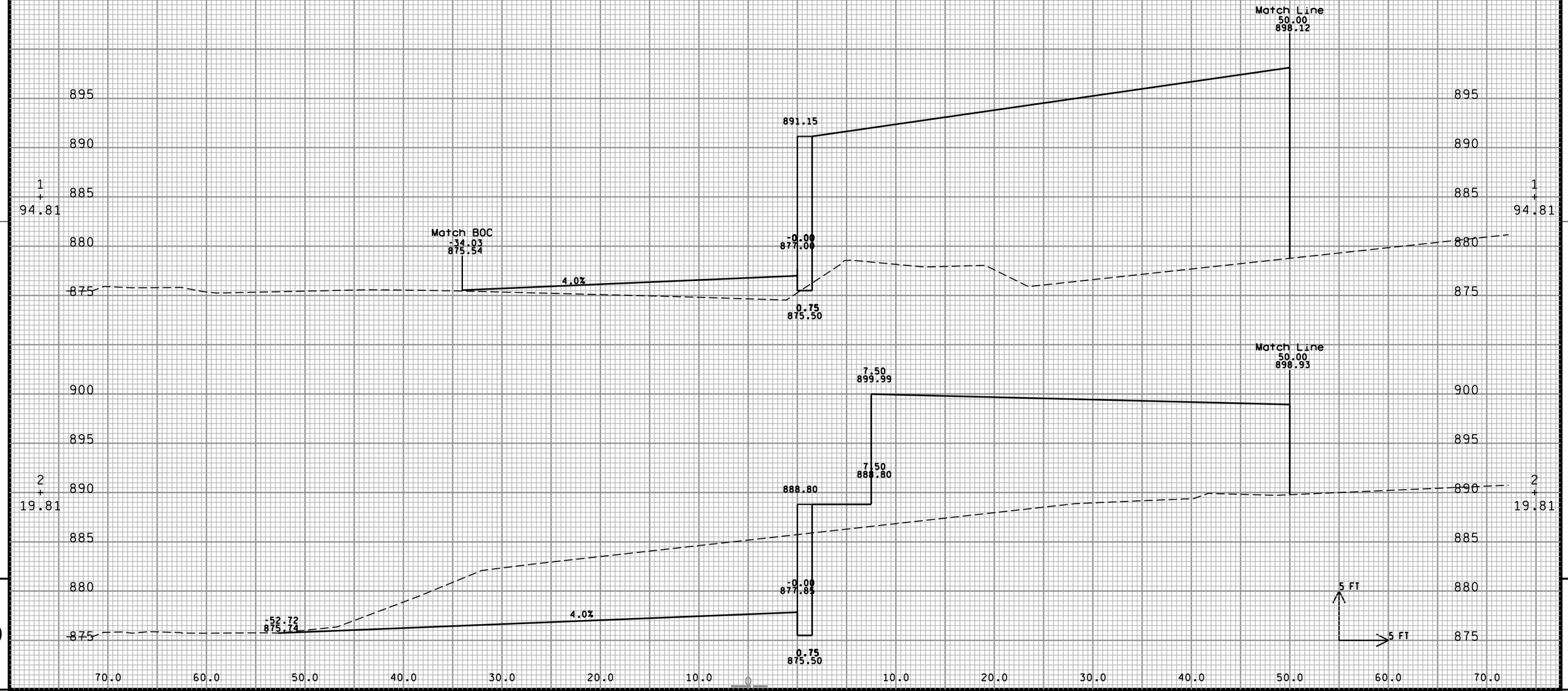
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: NORTH MSE WALL	SHEET 675	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc003015.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc003015.dgn 8/14/2014 8:36:26 AM ckieler

SEE NORTH MSE WALL PLANS
FOR WALL DETAILS



9

9

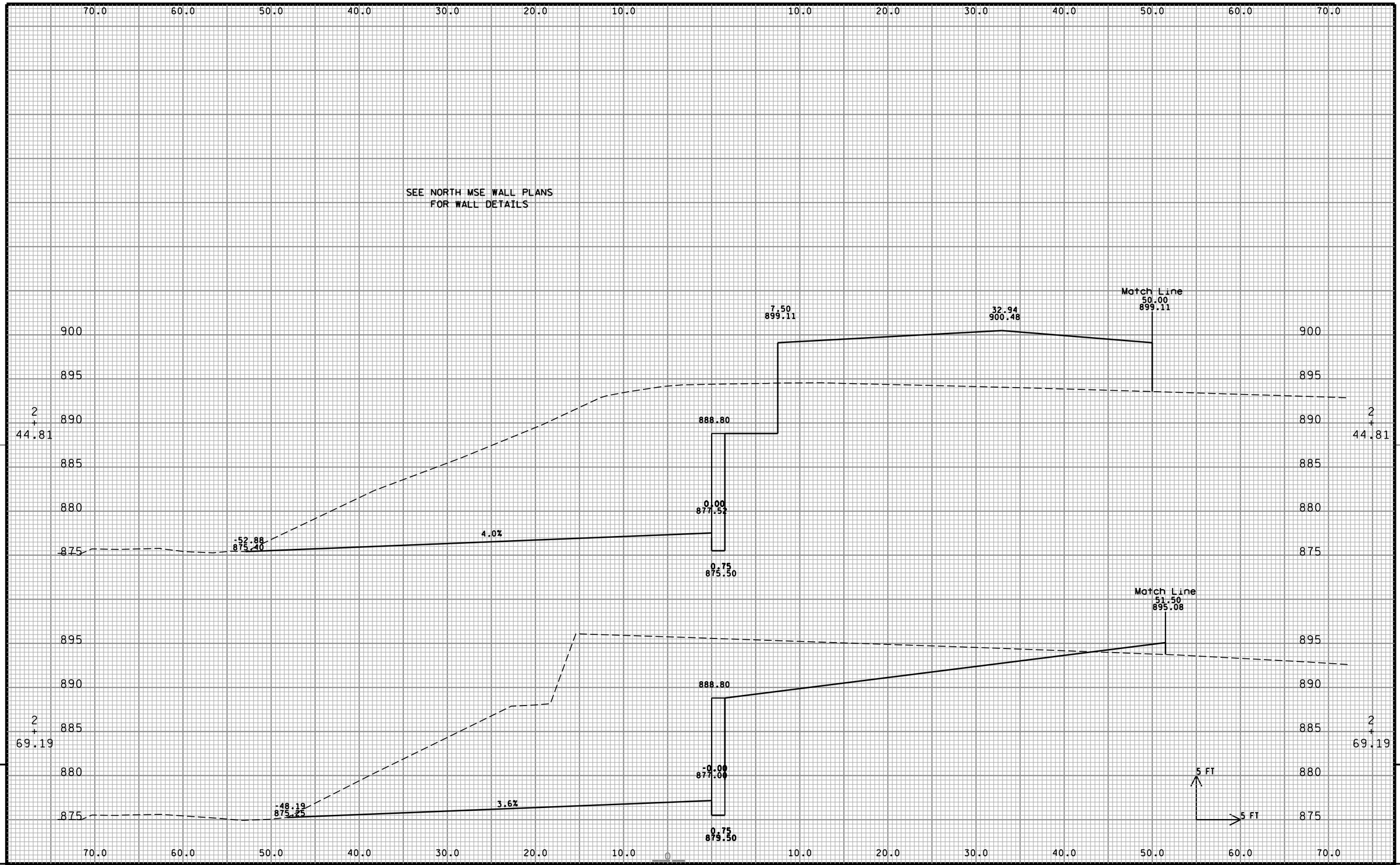
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: NORTH MSE WALL	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc002015.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc002015.dgn 8/14/2014 8:36:26 AM ckieler

SEE NORTH MSE WALL PLANS
FOR WALL DETAILS



9

9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: NORTH MSE WALL	SHEET 677	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc001015.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc001015.dgn 8/14/2014 8:36:27 AM ckieler

70.0 60.0 50.0 40.0 30.0 20.0 10.0 0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

920 915 910 925 920 915 910 905 920 915 910 905 920 915 910 905

103 + 00

102 + 00

101 + 00

100 + 00

-26.50
908.97
-24.00
908.55
4.0%
-12.00
909.03
4.0%
909.51 4.00
909.67
4.0%

-26.50
907.95
-24.00
907.49
2.0%
-12.00
907.73
2.0%
907.97 4.00
908.05
2.0%

TEMPORARY SHORING REQUIRED.
EXACT LIMITS DETERMINED BY THE
FIELD ENGINEER.

-26.50
905.90
-24.00
905.44
2.0%
-12.00
905.68
2.0%
905.92 4.00
906.00
2.0%

TEMPORARY SHORING REQUIRED.
EXACT LIMITS DETERMINED BY THE
FIELD ENGINEER.

-26.50
903.84
-24.00
903.38
2.0%
-12.00
903.62
2.0%
903.86 4.00
903.94
2.0%

EXTEND SELECT CRUSHED MATERIAL
FROM EXISTING LIMITS

5 FT
5 FT

9

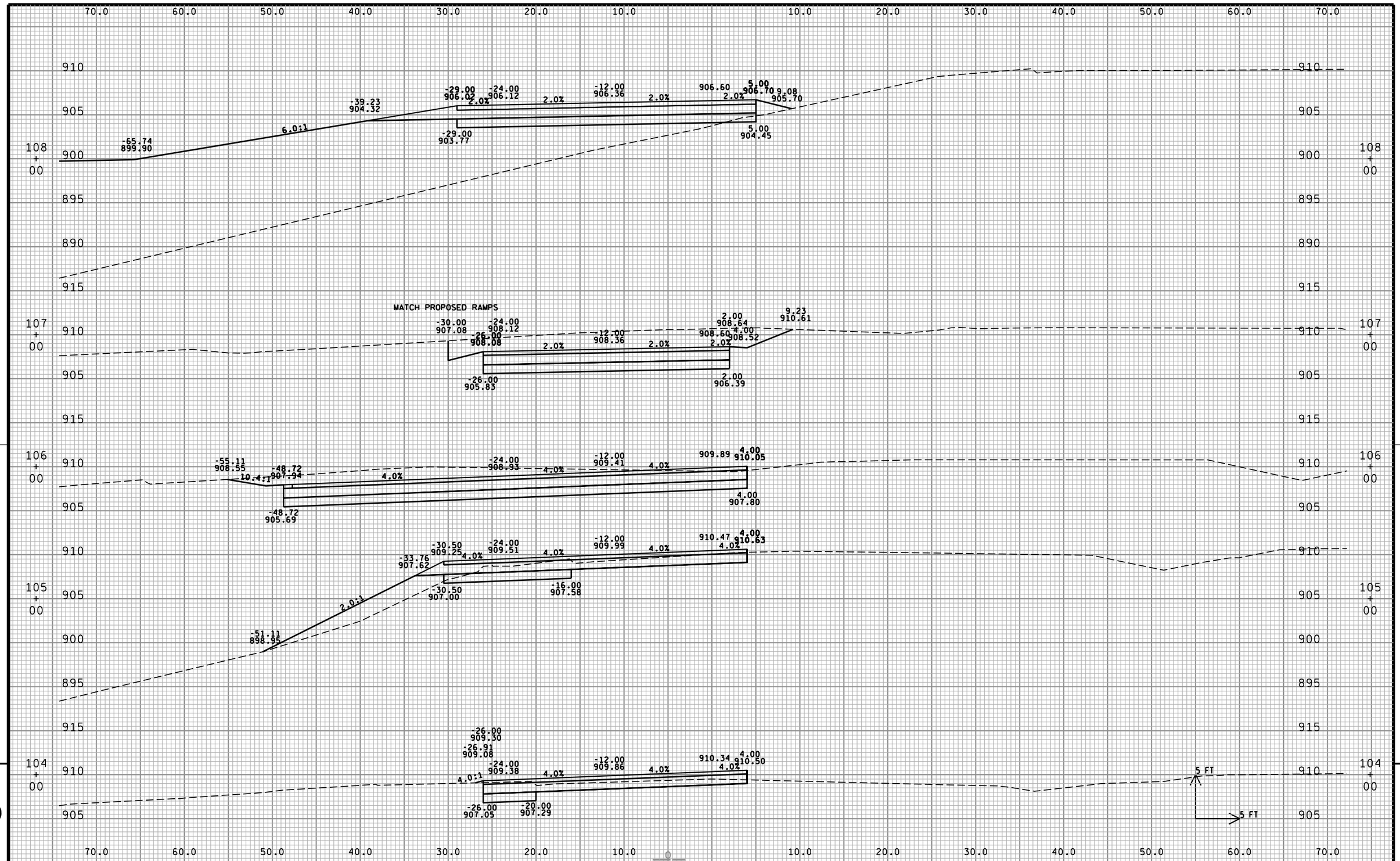
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: TRAFFIC CONTROL STAGE 2	SHEET 678	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc001011.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc001011.dgn 8/14/2014 8:36:27 AM ckieler



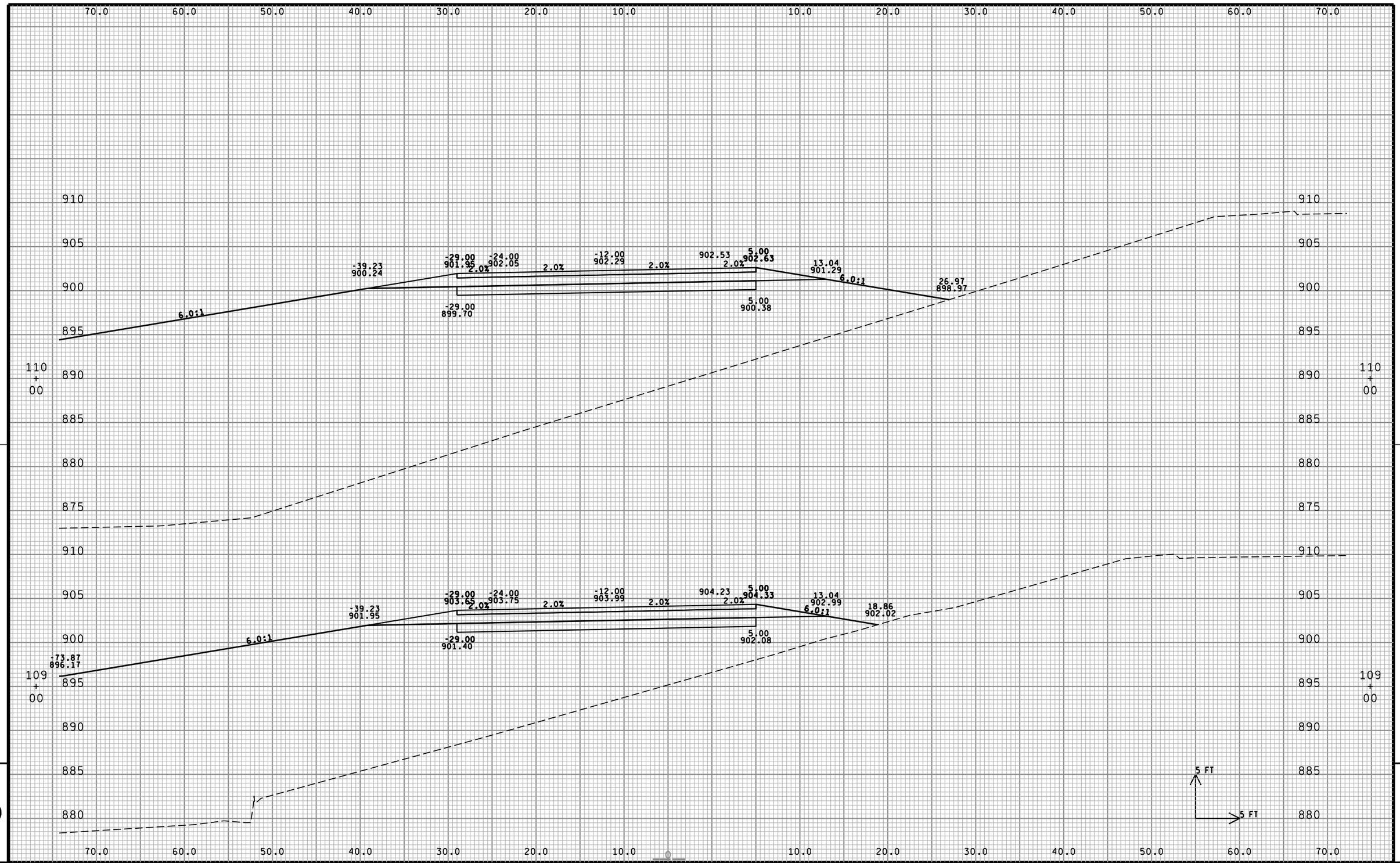
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: TRAFFIC CONTROL STAGE 2	SHEET

9 9

FILE NAME : P:\90s\93\00093080\CADD\Align\rc002011.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc002011.dgn 8/14/2014 8:36:28 AM ckieler

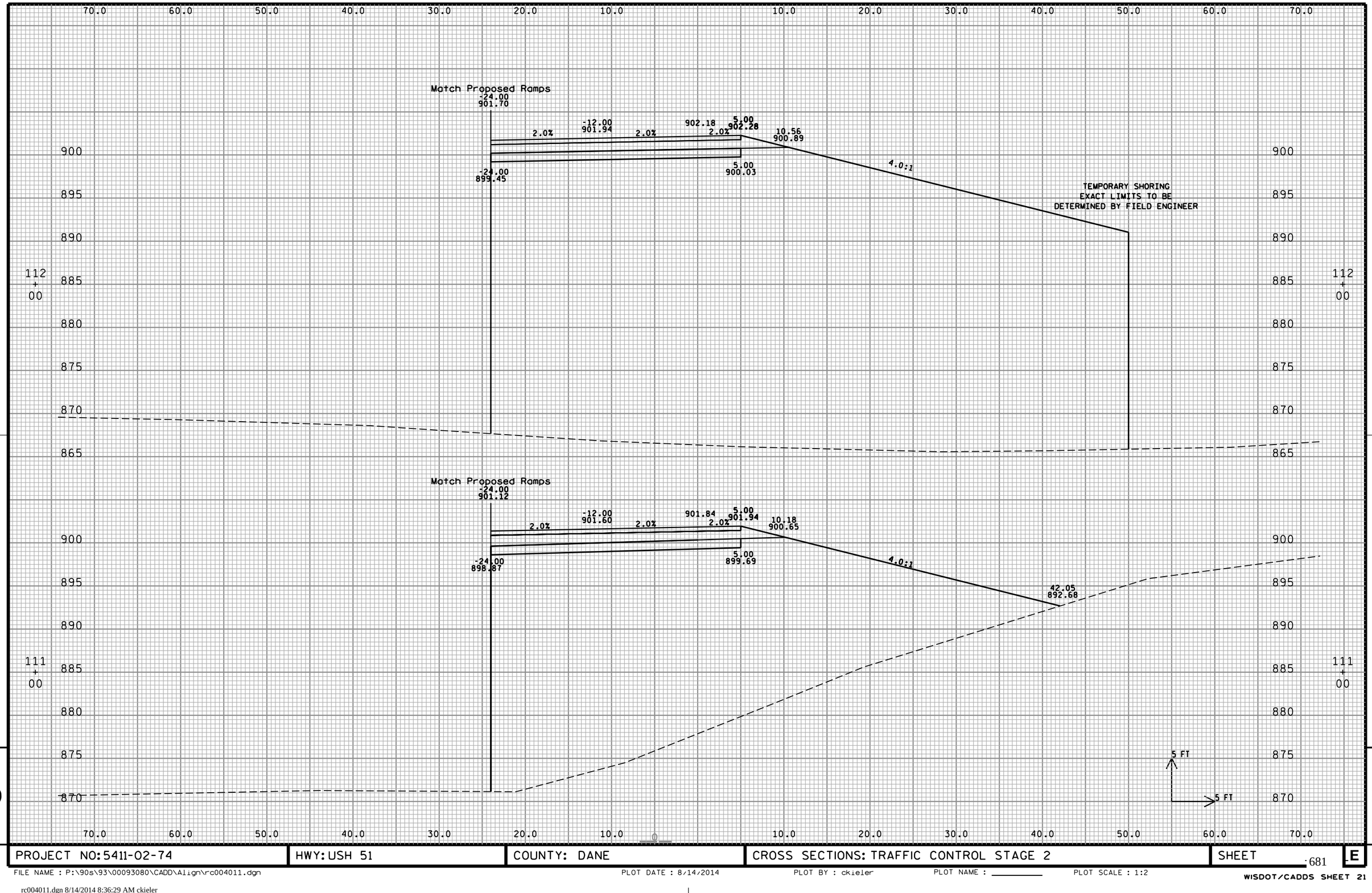


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: TRAFFIC CONTROL STAGE 2	SHEET 680	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc003011.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc003011.dgn 8/14/2014 8:36:28 AM ckieler



9

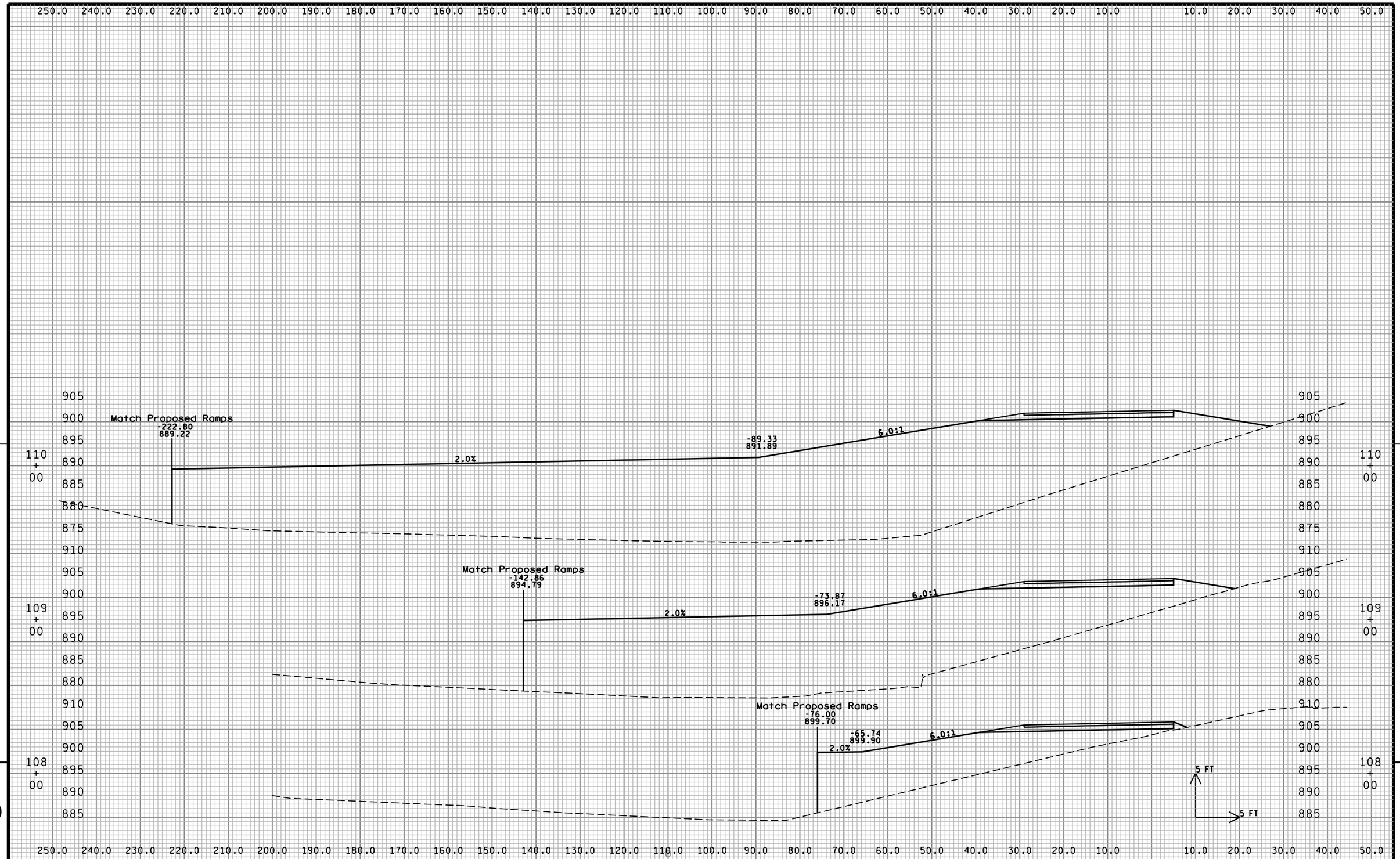
PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: TRAFFIC CONTROL STAGE 2	SHEET	E

9

FILE NAME : P:\90s\93\00093080\CADD\Align\rc004011.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc004011.dgn 8/14/2014 8:36:29 AM ckieler



9

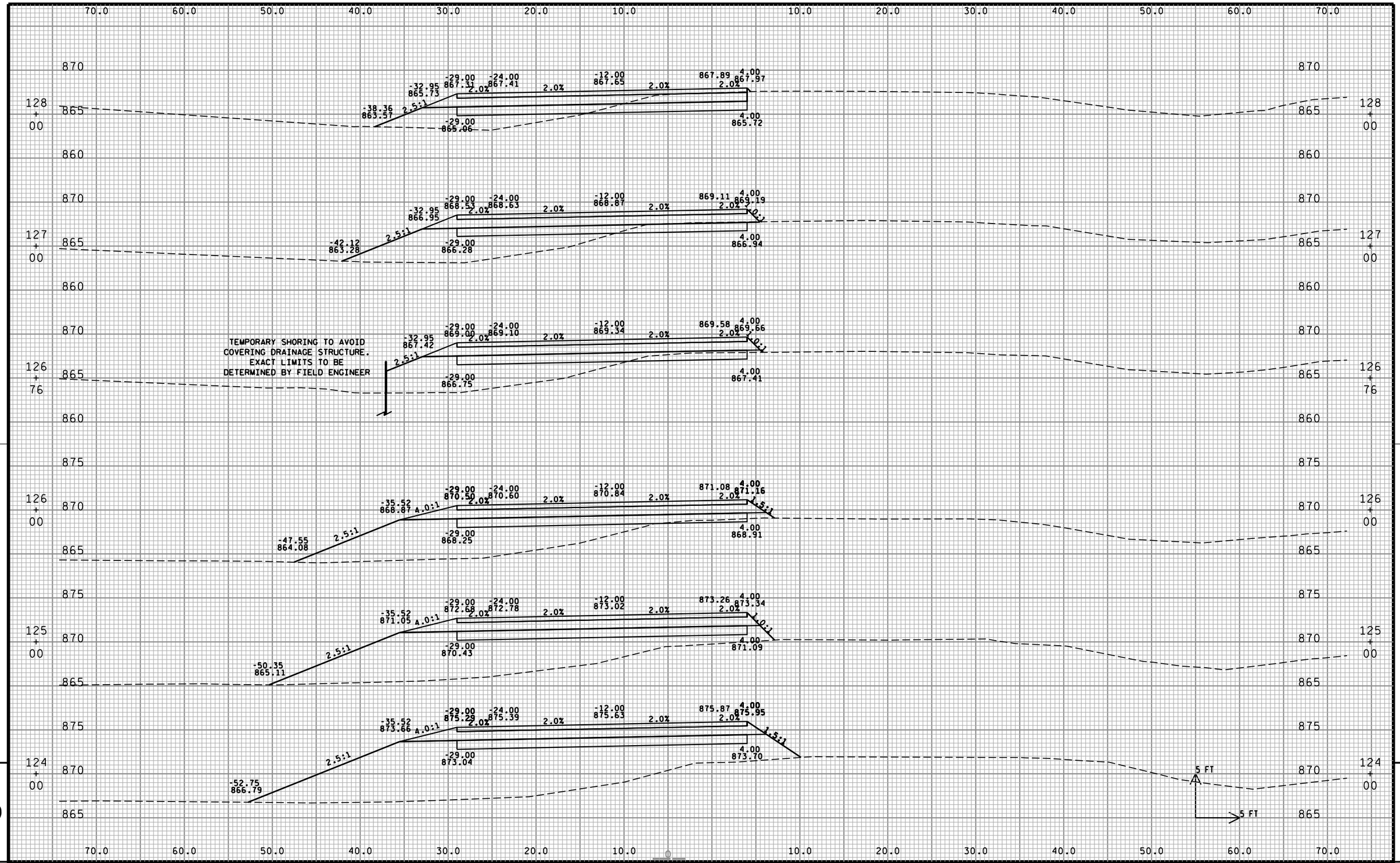
9

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: TRAFFIC CONTROL STAGE 2	SHEET 682	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc005011.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc005011.dgn 8/14/2014 8:36:29 AM ckieler

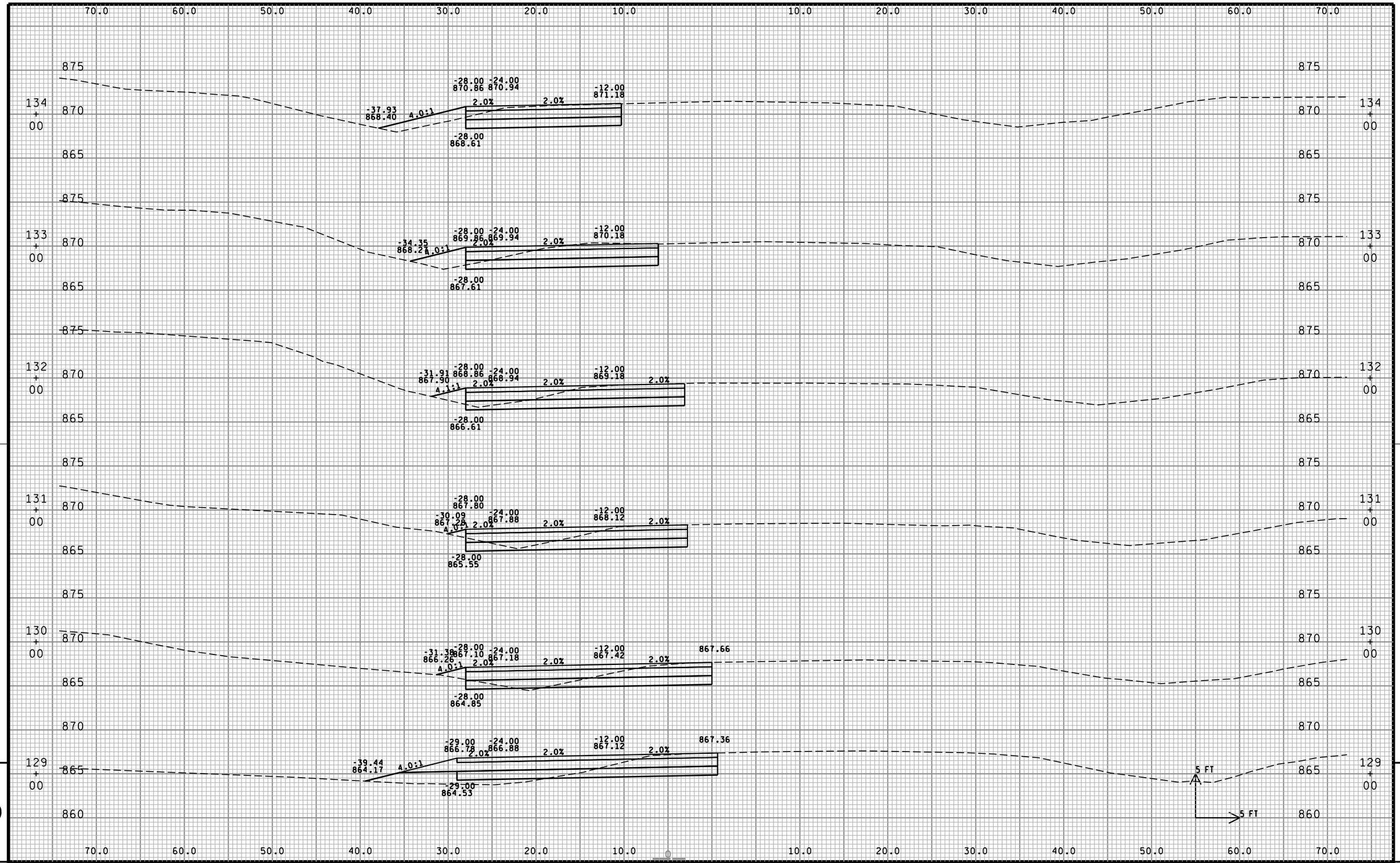


PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: TRAFFIC CONTROL STAGE 2	SHEET 683 E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc006011.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc006011.dgn 8/14/2014 8:36:30 AM ckieler



PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: TRAFFIC CONTROL STAGE 2	SHEET	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc007011.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc007011.dgn 8/14/2014 8:36:30 AM ckieler

70.0 60.0 50.0 40.0 30.0 20.0 10.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

880 880

137+00 875 875 137+00

870 870

875 875

136+00 870 870 136+00

865 865

875 875

135+00 870 870 135+00

865 865

-44.06
869.17

6.0:1

-28.00
871.85

2.0%

-24.00
871.93

2.0%

-28.00
869.60

5 FT

5 FT

9 9

70.0 60.0 50.0 40.0 30.0 20.0 10.0 0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

PROJECT NO: 5411-02-74	HWY: USH 51	COUNTY: DANE	CROSS SECTIONS: TRAFFIC CONTROL STAGE 2	SHEET 685	E

FILE NAME : P:\90s\93\00093080\CADD\Align\rc008011.dgn PLOT DATE : 8/14/2014 PLOT BY : ckieler PLOT NAME : _____ PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc008011.dgn 8/14/2014 8:36:31 AM ckieler

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