MAD

AUGUST 2014

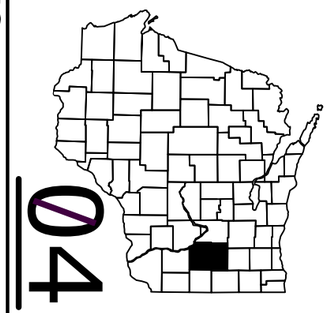
PROJECT ID: 3080-01-72

WITH:

COUNTY: DANE COUNTY

ORDER OF SHEETS

TOTAL SHEETS = 102



04

N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C MADISON

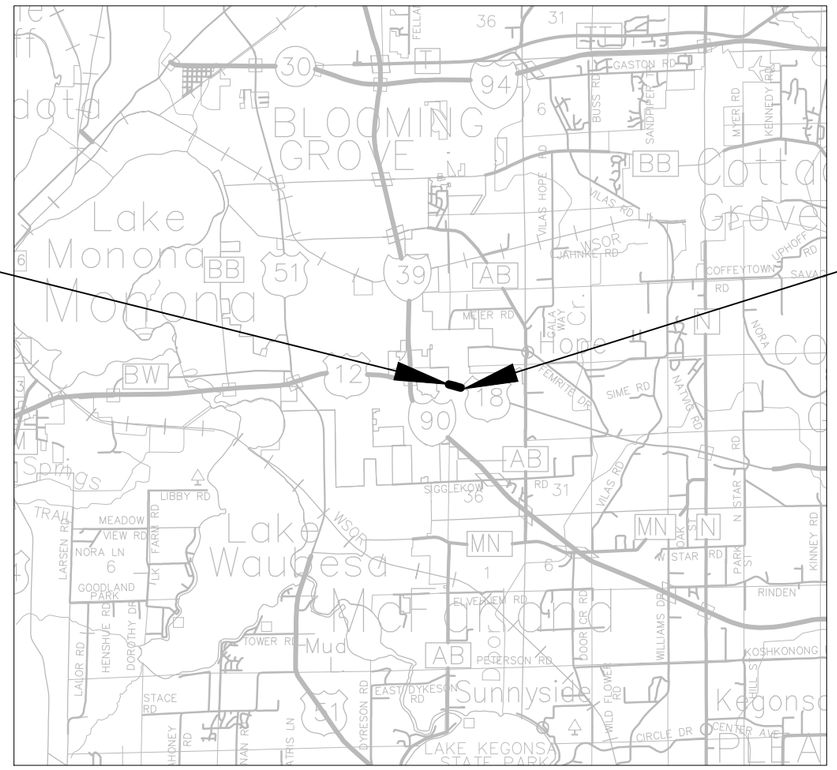
(MILLPOND ROAD INTERSECTION)

USH 12

DANE COUNTY

STATE PROJECT NUMBER
3080-01-72

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3080-01-72	WISC 2014294	1



BEGIN PROJECT
STA. 137+00 EB
X=853101.84
Y=471962.62

END PROJECT
STA. 147+00 EB

DESIGN DESIGNATION

A.A.D.T.	2014	=	17,700
A.A.D.T.	2024	=	21,800
D.H.V.		=	2289
D.D.		=	59/41
T.		=	6.9%
DESIGN SPEED		=	60 MPH
ESALS		=	956,300

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 (95.36)
- CULVERT (Profile View)

UTILITIES

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

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.189 MI

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

ELEVATIONS SHOWN ON THIS PLAN AARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM, NAVD 88 (2007).

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JOHN MORAN
Designer	CHARLENE BREGAUDIT
Project Manager	AMY COUGHLIN
Regional Examiner	
Regional Supervisor	BRENDA SCHOENFELD

APPROVED FOR THE DEPARTMENT

DATE: 5/1/14 Brenda Schoenfeld (Signature)

E

2

GENERAL NOTES

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 lb/sy/in.

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

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

ALL COORDINATES SHOWN ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM - DANE COUNTY.

SECTIONS AS SHOWN ON THE CROSS-SECTIONS INCLUDE THE THICKNESS OF TOPSOIL. TOPSOIL SHALL BE AT A 4-INCH MINIMUM DEPTH.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINT, ARE TO BE SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER.

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

ESTIMATE QUANTITIES OF SALVAGED TOPSOIL, SEEDING, MULCHING AND FERTILIZER HAVE BEEN COMPUTED BY A DIRECT MEASUREMENT ON THE CROSS-SECTION PLUS FIVE (5) FEET BEYOND THE TOE OF SLOPE.

THE EROSION CONTROL ITEMS SHOWN ON THE PLANS, ARE AT SUGGESTED LOCATIONS. THE ENGINEER SHALL DETERMINE THE EXACT LOCATIONS OF EROSION CONTROL ITEMS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY, THE PRIME CONTRACTOR IS RESPONSIBLE FOR REMOVING THESE ITEMS WHEN NO LONGER NECESSARY.

NUMBER, LOCATION, AND SPACING OF SIGNS AND DEVICES, AS SHOWN IN THE PLANS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

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

STORM SEWER PIPE ELEVATION, LENGTHS AND LOCATIONS, AS SHOWN ON THE PLANS, MAY BE ADJUSTED TO FIT EXISTING FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

INLET PROTECTION IS REQUIRED AT ALL INLETS AS PER DETAIL OR AS DIRECTED BY THE ENGINEER.

ALL CONCRETE PIPE SHALL HAVE THE APRON ENDWALL AND THE FIRST TWO PIPE JOINTS TIED AT THE JOINTS (3 JOINTS TOTAL). JOINT TIES SHALL BE INCIDENTAL TO THE ITEM OF CPRC.

PLACE THE 5" HMA PAVEMENT IN TWO LAYERS, A 3" LOWER LAYER AND 2" UPPER LAYER.

LOCATIONS SHOWN ON THE STORM SEWER SHEET FOR INLETS AND MANHOLES ARE BY STATION AND OFFSET TO THE CENTER OF THE STRUCTURE (SEE DETAILS).

ALL CURB AND GUTTER RADII ARE MEASURED TO FLAG OF CURB UNLESS OTHERWISE NOTED.

DO NOT DRIVE EQUIPMENT OR STORE EQUIPMENT OR MATERIALS IN WETLANDS OR WATERWAYS.

CONTRACTOR SHALL EXERCISE EXTREME CARE SO AS NOT TO DAMAGE MAINLINE PAVEMENT STRUCTURE WHEN REMOVING EXISTING TURN LANES OR SHOULDER MATERIAL. IF DAMAGE OCCURS DURING REMOVAL OF THE EXISTING TURN LANE OR SHOULDER MATERIAL, ALL REPAIRS WILL BE DONE AT THE CONTRACTOR'S EXPENSE.

UTILITY CONTACTS

LAWRENCE HUBER
ANR PIPELINE COMPANY - GAS/PETROLEUM
W3925 PIPELINE LN
EDEN, WI 53019
(920) 477-2235
LAWRENCE_HUBER@TRANSCANADA.COM

MICHAEL CHRISTOPH
CITY OF MADISON ENGINEERING - LIGHTING
1120 SAYLE ST.
MADISON, WI 53715
(608) 266-9031
MCRISTOPH@CITYOFMADISON.COM

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

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

BRANDON STORM
CHARTER COMMUNICATIONS - COMMUNICATION LINE
2701 DANIELS ST.
MADISON, WI 53718
(608) 274-3822
BRANDON.STORM@CHARTERCOM.COM

LUKE SCHUETTE
KOCH PIPELINE COMPANY L.P. - GAS/PETROLEUM
13775 CLARK RD
ROSEMOUNT, MN 55068
(651) 437-0877
LUKE.SCHUETTE@KOCHPIPELINE.COM

DENNIS CAWLEY
MADISON WATER UTILITY - WATER
119 E OLIN AVE
MADISON, WI 53713-1431
(608) 266-4651
DCAWLEY@CITYOFMADISON.COM

MIKE CHRISTOPH
CITY OF MADISON
215 MLK JR. BLVD
MADISON, WI 53703
(608) 266-9031

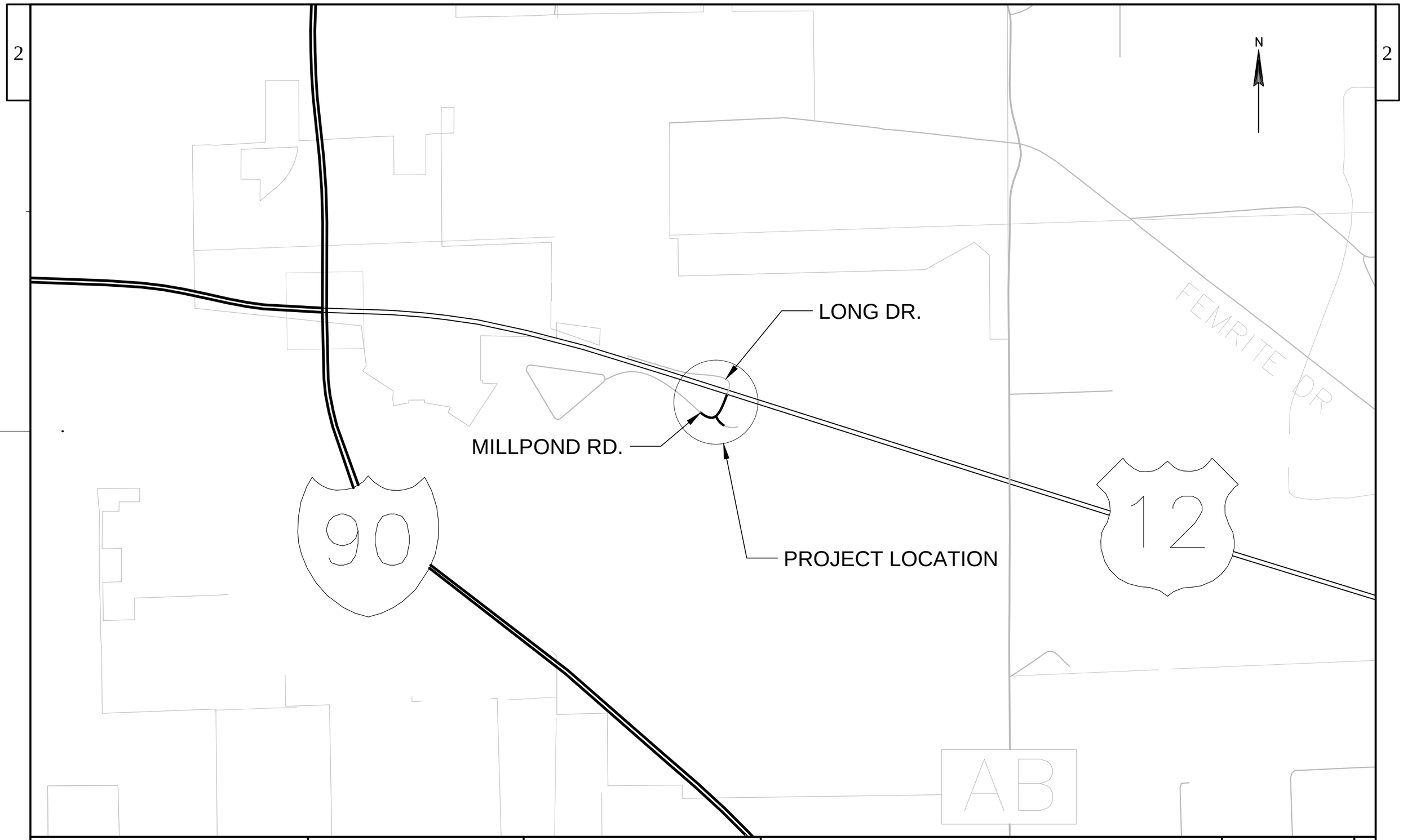
WI DEPARTMENT OF NATURAL RECOURCES LIASON

ERIC HEGGELUND
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711-5397
(608) 275-3301
ERIC.HEGGELUND@WISCONSIN.GOV

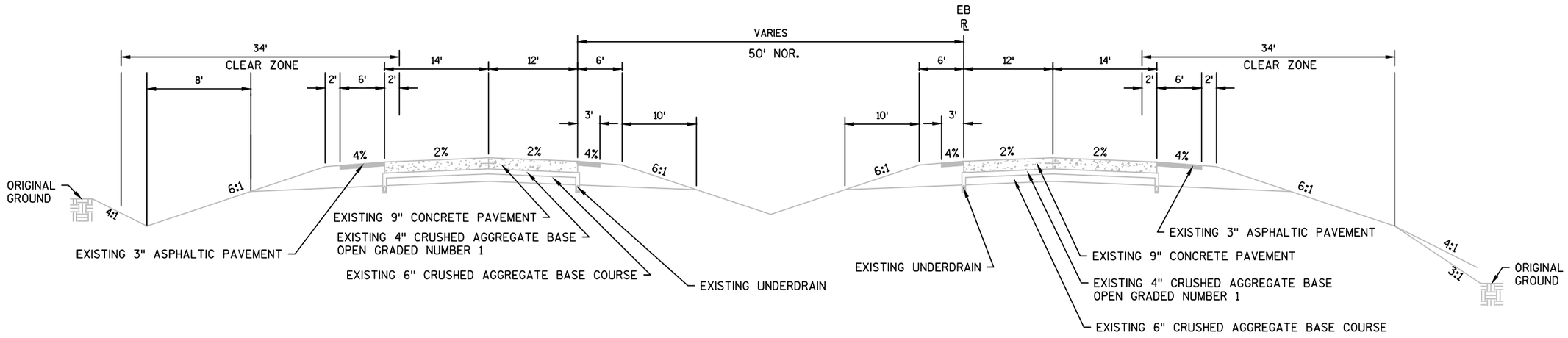
DESIGN CONTACTS

PROJECT LEADER
CHARLENE BREGAUDIT
DEPT. OF TRANSPORTATION
2101 WRIGHT ST.
MADISON, WI. 53704
(608) 246-5338

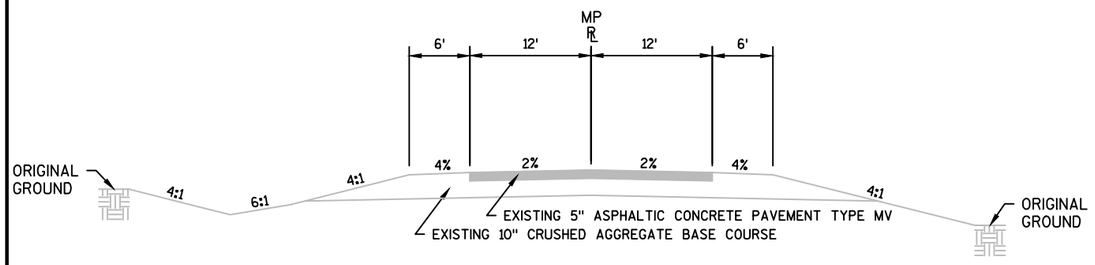
PROJECT MANAGER
AMY COUGHLIN
DEPT. OF TRANSPORTATION
2101 WRIGHT ST.
MADISON, WI. 53704
(608) 245-5358



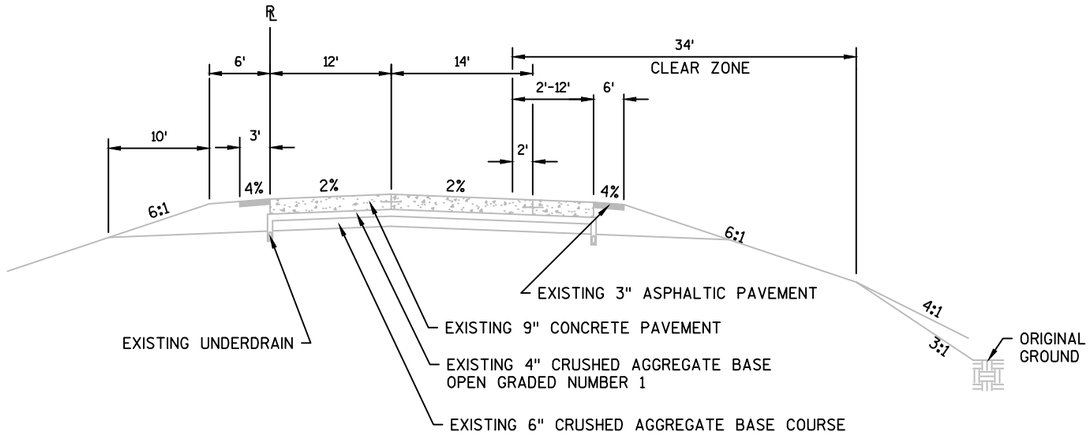
PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	PROJECT OVERVIEW	SHEET 3	E



EXISTING TYPICAL SECTION
USH 12
STA 137+00 EB TO STA 147+00 EB

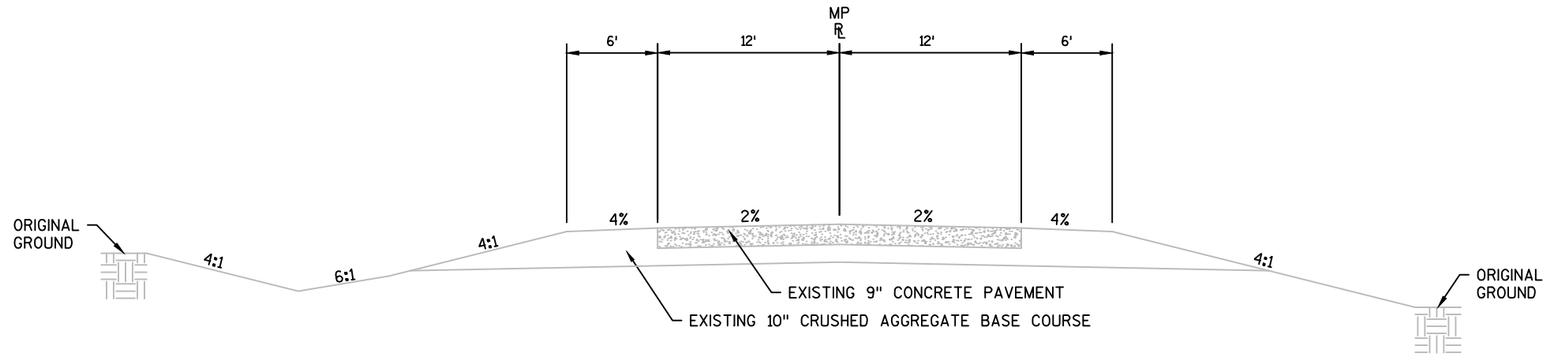


EXISTING TYPICAL SECTION
MILLPOND ROAD
STA. 95+45 MP TO STA. 98+26.30 MP



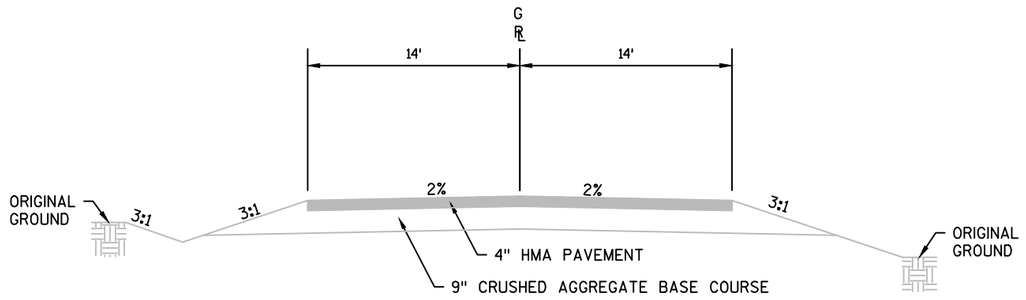
EXISTING TYPICAL SECTION
USH 12 RIGHT TURN LANE
STA 139+60 EB TO STA 144+60 EB RT.

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	TYPICAL SECTIONS	SHEET 4	E



EXISTING TYPICAL SECTION

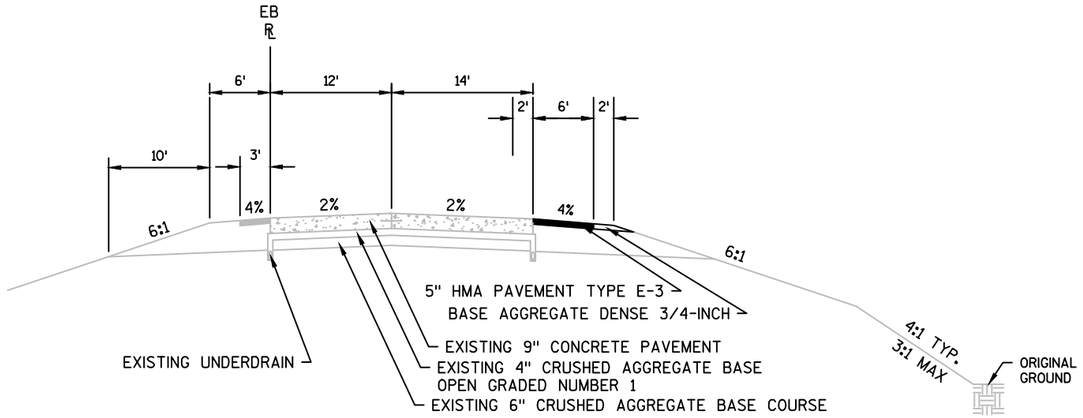
MILLPOND ROAD
STA. 98+26.30 MP TO STA. 99+74.00 MP



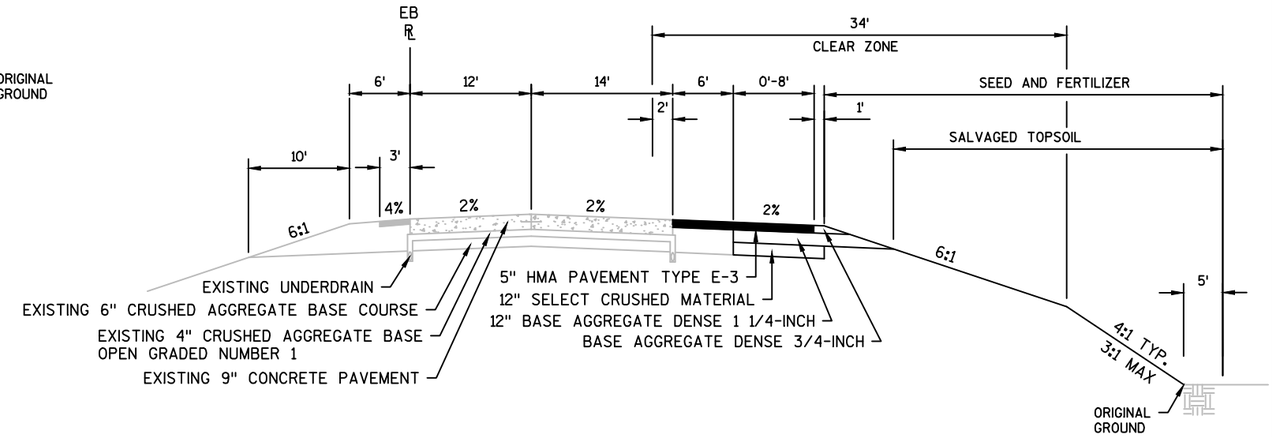
EXISTING TYPICAL SECTION

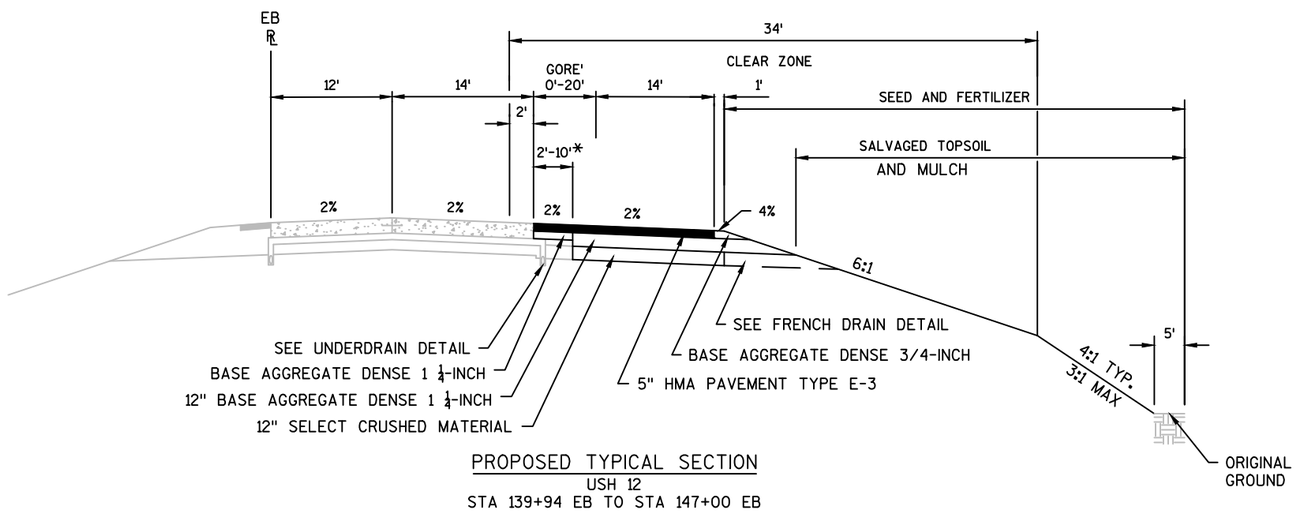
GOLF COURSE DRIVEWAY

PROJECT NO: 3080-01-02	HWY: USH 12	COUNTY: DANE	TYPICAL SECTIONS	SHEET 5	E



PROPOSED TYPICAL SECTION
USH 12
STA. 137+00 EB TO STA. 138+34 EB



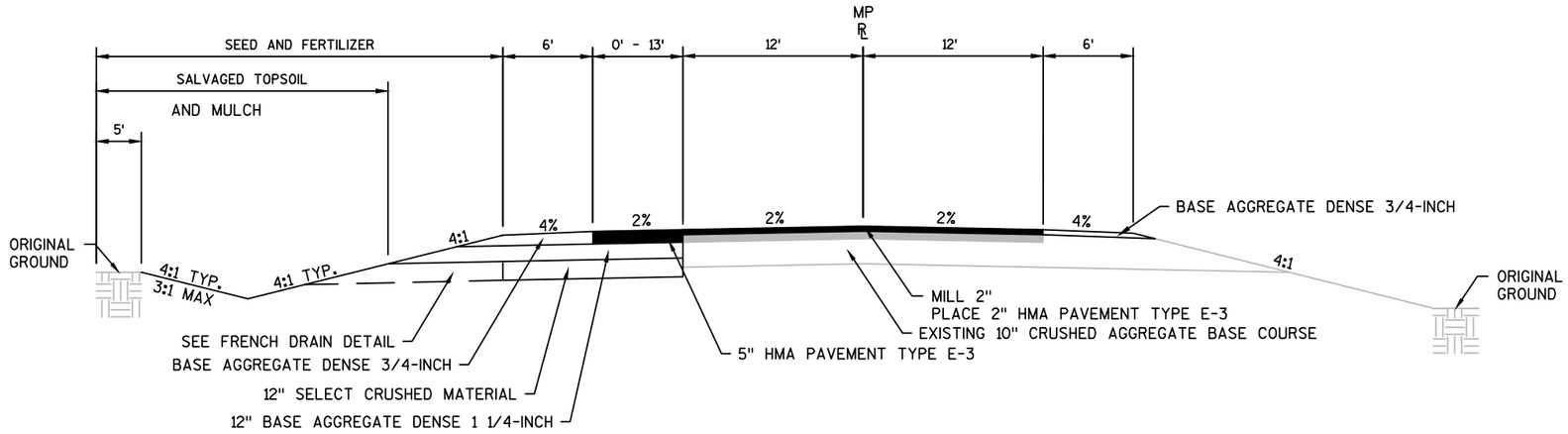


PROPOSED TYPICAL SECTION
USH 12
STA 139+94 EB TO STA 147+00 EB

PROPOSED TYPICAL SECTION
USH 12
STA. 138+34 EB TO STA. 139+94 EB

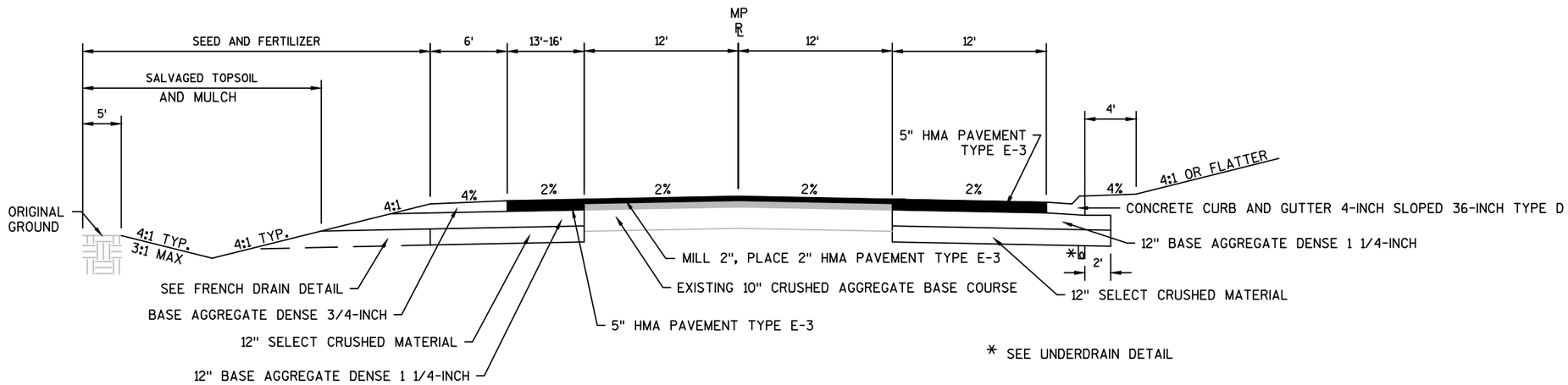
* IN LOCATIONS OF REMOVING PAVEMENT

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	TYPICAL SECTIONS	SHEET 6	E



PROPOSED TYPICAL SECTION

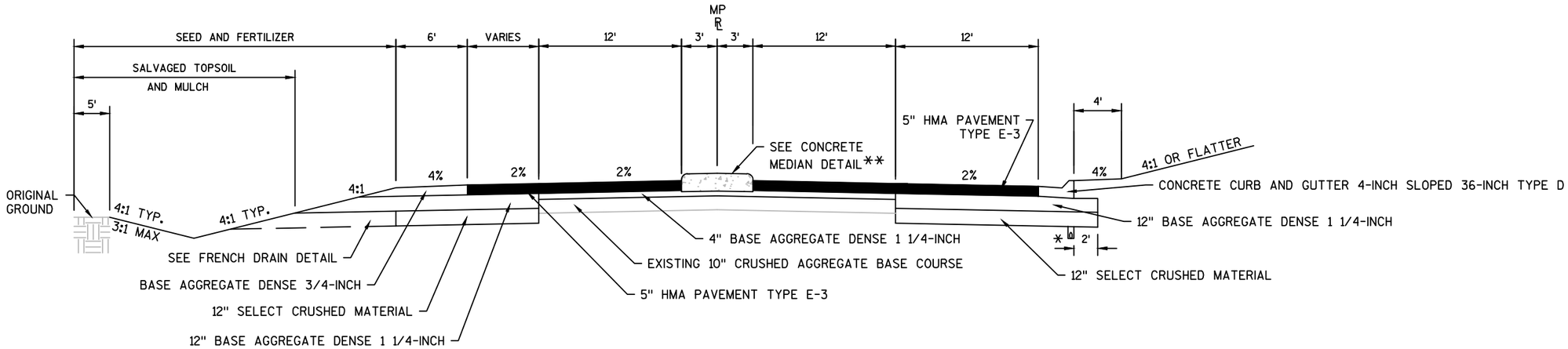
MILLPOND ROAD
STA. 95+45 MP TO STA. 97+81 MP



PROPOSED TYPICAL SECTION

MILLPOND ROAD
STA. 97+81 MP TO STA. 98+26 MP

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	TYPICAL SECTIONS	SHEET 7	E

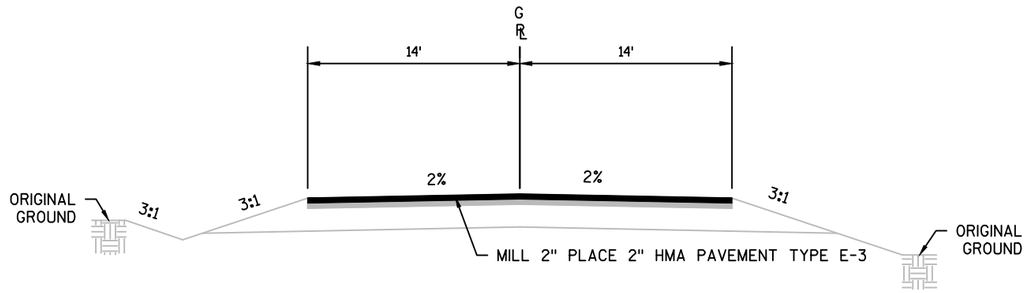


PROPOSED TYPICAL SECTION

MILLPOND ROAD
STA. 98+26 MP TO STA. 99+74 MP

* SEE UNDERDRAIN DETAIL

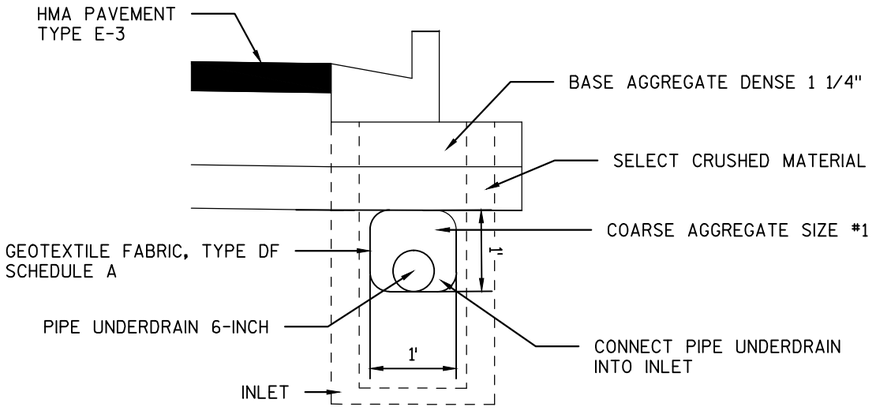
** CONCRETE MEDIAN STA. 98+34 MP - STA. 98+60 MP



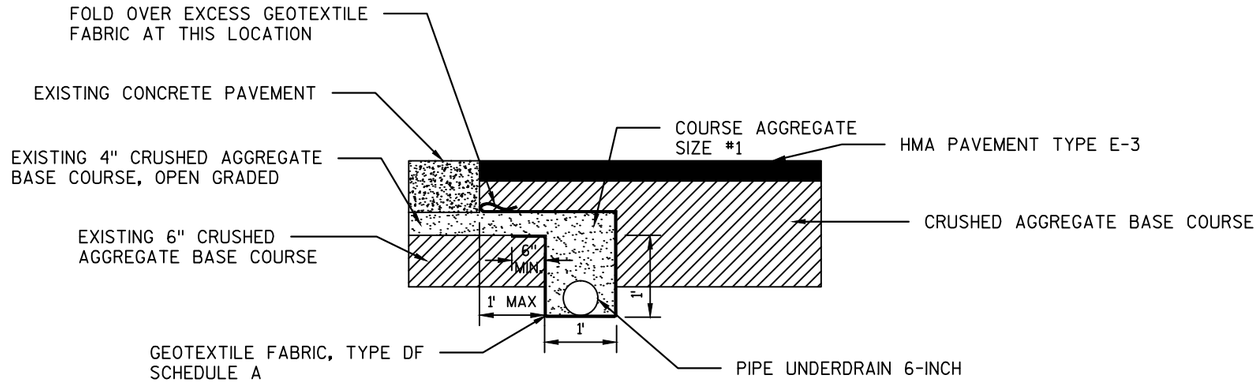
PROPOSED TYPICAL SECTION

GOLF COURSE DRIVEWAY
STA. 10+00 G TO STA. 11+50 G

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	TYPICAL SECTIONS	SHEET 8	E

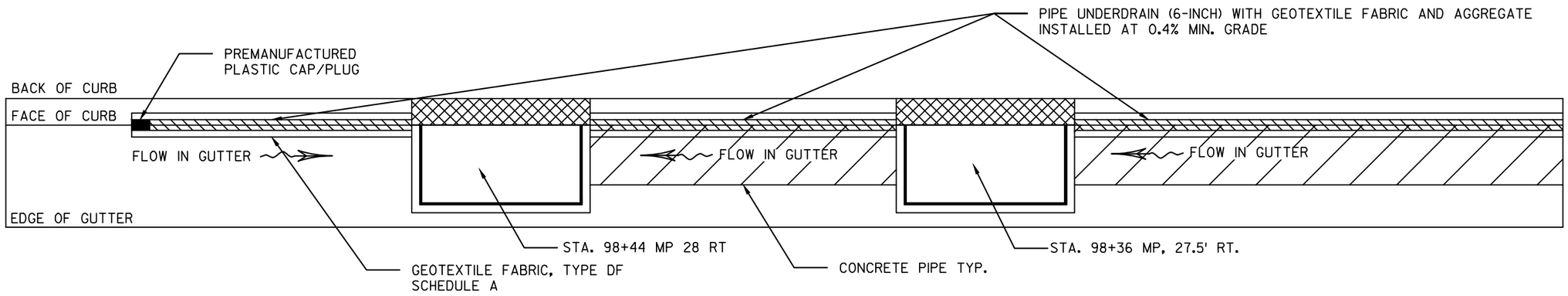


NOTE: PAYMENT FOR UNDERDRAIN CORE HOLES IS INCLUDED IN THE RESPECTIVE INLET BID ITEM.



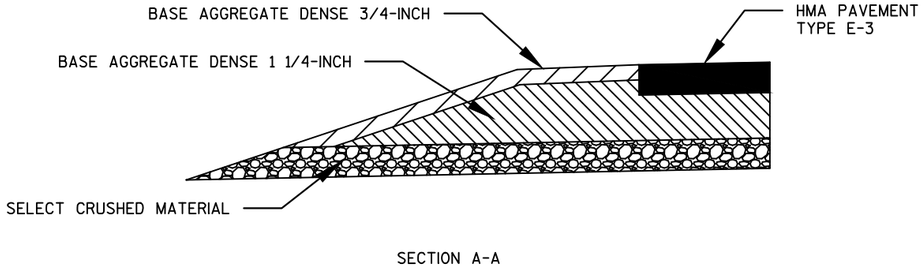
RURAL UNDERDRAIN CONSTRUCTION DETAIL
STA. 139+90 EB TO 144+25 EB RT

NOTE: ATTACH TO EXISTING UNDERDRAIN AT STA. 139+90 EB

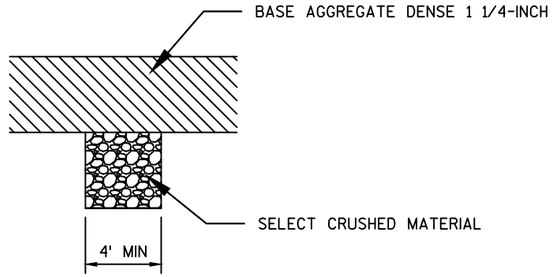


URBAN UNDERDRAIN CONSTRUCTION DETAIL
STA. 98+15 MP TO 99+50 MP RT

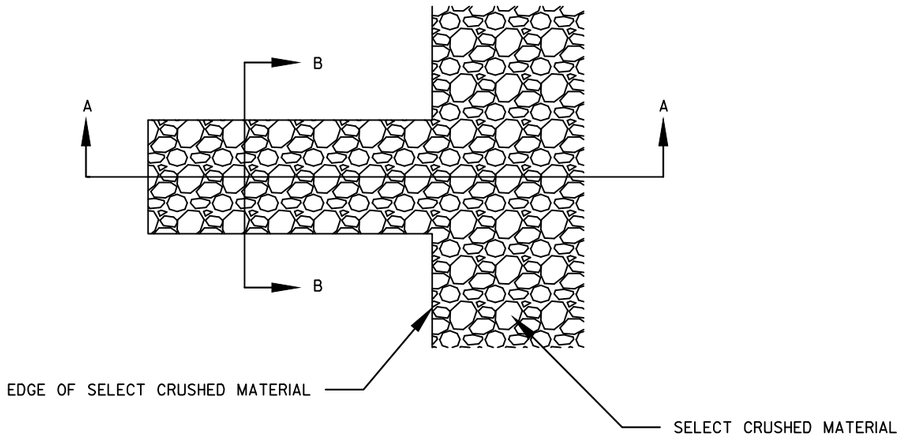
2



SECTION A-A



SECTION B-B



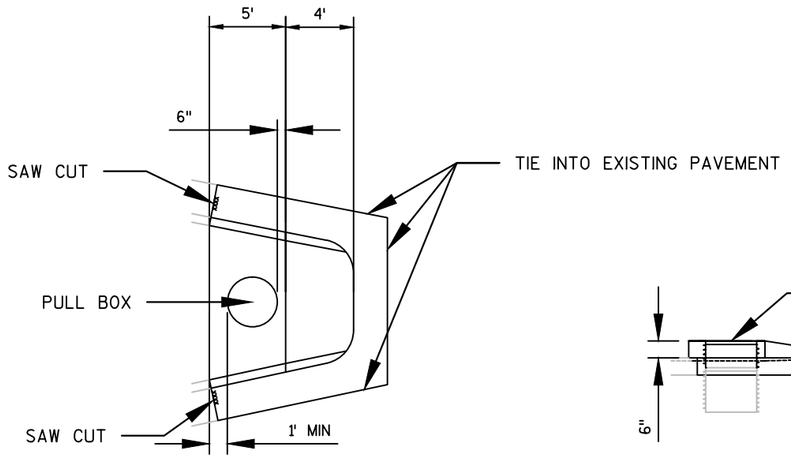
DETAIL FOR FRENCH DRAINS

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

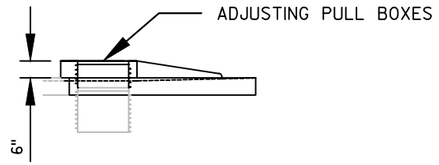
EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS SHALL
BE CONSIDERED INCIDENTAL TO THE ITEM SELECT CRUSHED MATERIAL.

DAYLIGHTED SELECT CRUSHED MATERIAL SHALL NOT BE COVERED
WITH TOPSOIL

STA. 138+50 EB RT.
STA. 141+00 EB RT.
STA. 143+50 EB RT.
STA. 97+30 MP LT.
STA. 98+36 MP LT.



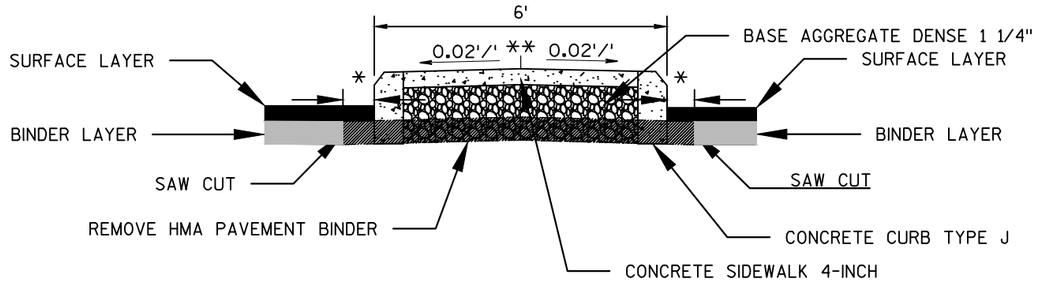
PLAN VIEW



PROFILE VIEW

USH 12 MEDIAN CONCRETE

STA. 144+90 EB LT

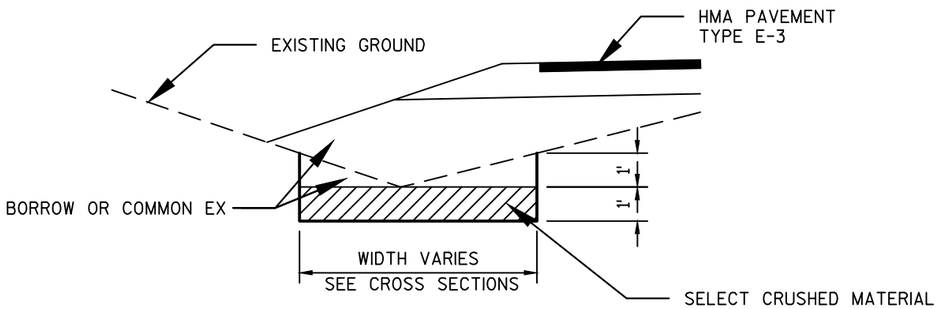


MILLPOND CENTER MEDIAN

* 0-1" FILL WITH CURB CONCRETE
1-6" FILL WITH HMA PAVEMENT TYPE E-3

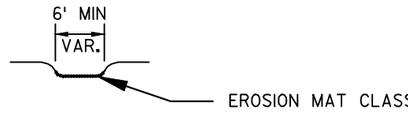
**LOCATE CROWNLINE EQUALLY
BETWEEN CONCRETE CURBS

STA. 98+34 MP TO 98+60 MP

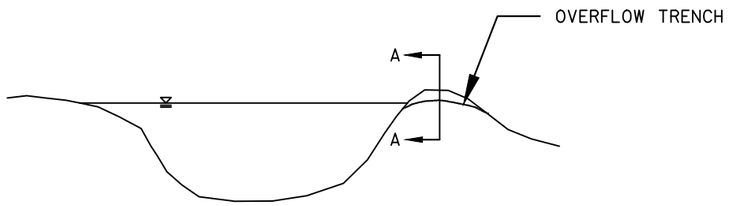


DITCH EXCAVATION BELOW SUBGRADE

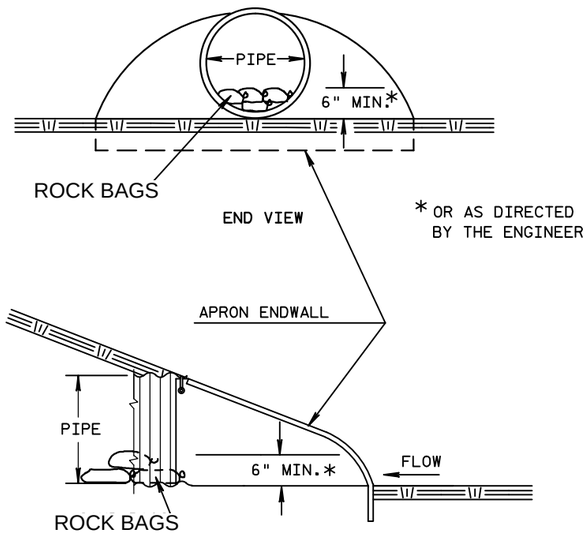
STA. 143+00 EB - 144+79 EB RT
STA. 98+03 MP - 99+50 MP LT & RT



OVERFLOW TRENCH
SECTION A-A



SEDIMENT BASIN



SIDE VIEW

CULVERT PIPE CHECK

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	CONSTRUCTION DETAILS	SHEET 11	E

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) UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

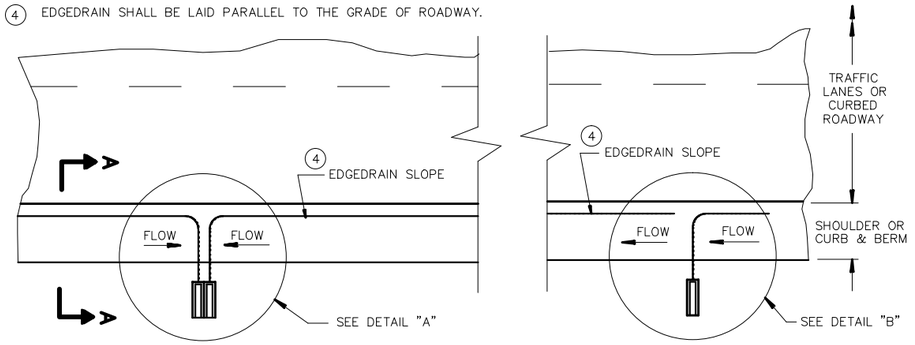
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.

(2) MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.

(3) EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.

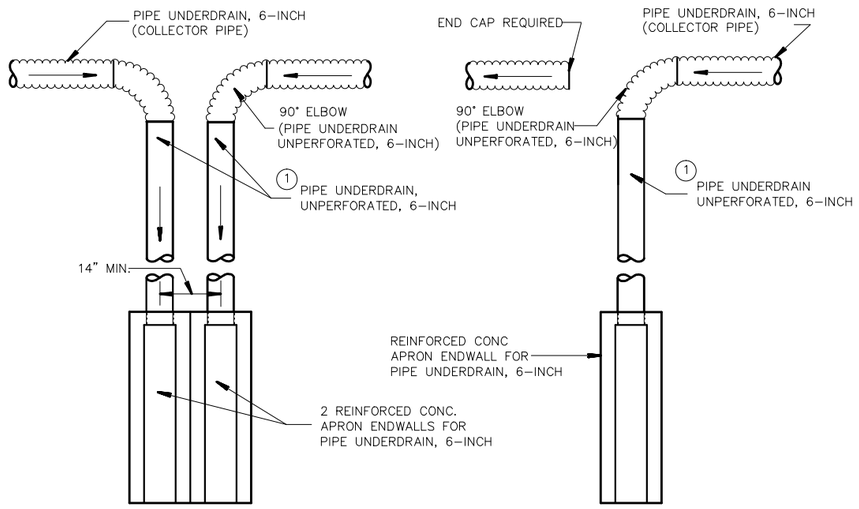
(4) EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



PLAN VIEW

ROADWAY WITH SHOULDERS OR CURBS

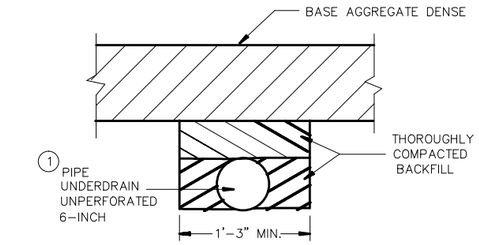
(EDGEDRAIN OUTLETS TO ROADSIDE) (2)



DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS

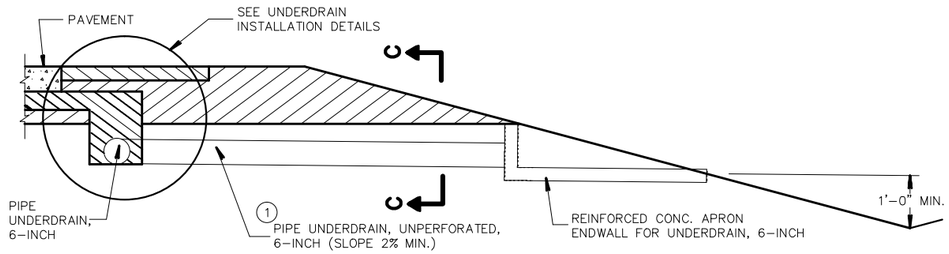
DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

TYPICAL DRAIN OUT DETAILS



SECTION C-C

(TRENCH FOR OUTFALL PIPE)



SECTION A-A

RURAL CROSS SECTION

2

SAWCUT

CONCRETE PAVEMENT HES 9-INCH
OVER 6' BASE AGGREGATE DENSE 1 1/4-INCH

SAWCUT

C12

CC11

N

145+00 EB

100+00 MP

CC2

867.17

CONCRETE CURB
36-INCH SLOPED
4-INCH TYPE D

C4

868.02

CC9

868.08

868.37

CC5

868.39

868.30

CC6

868.29

16'

SAWCUT

CC12

C1

C8

867.32

867.26

868.57

867.48

867.46 CC7

867.51

CC4

866.19

CONCRETE CURB
36-INCH SLOPED
4-INCH TYPE D

CC1

CC8

STA. 96+50 MP
20.64' LT.

STA. 97+00 MP
22.15' LT.

STA. 97+50 MP
23.87' LT.

STA. 98+00 MP
26.74' LT.

866.35

866.75

866.74

CC10

C2

866.26

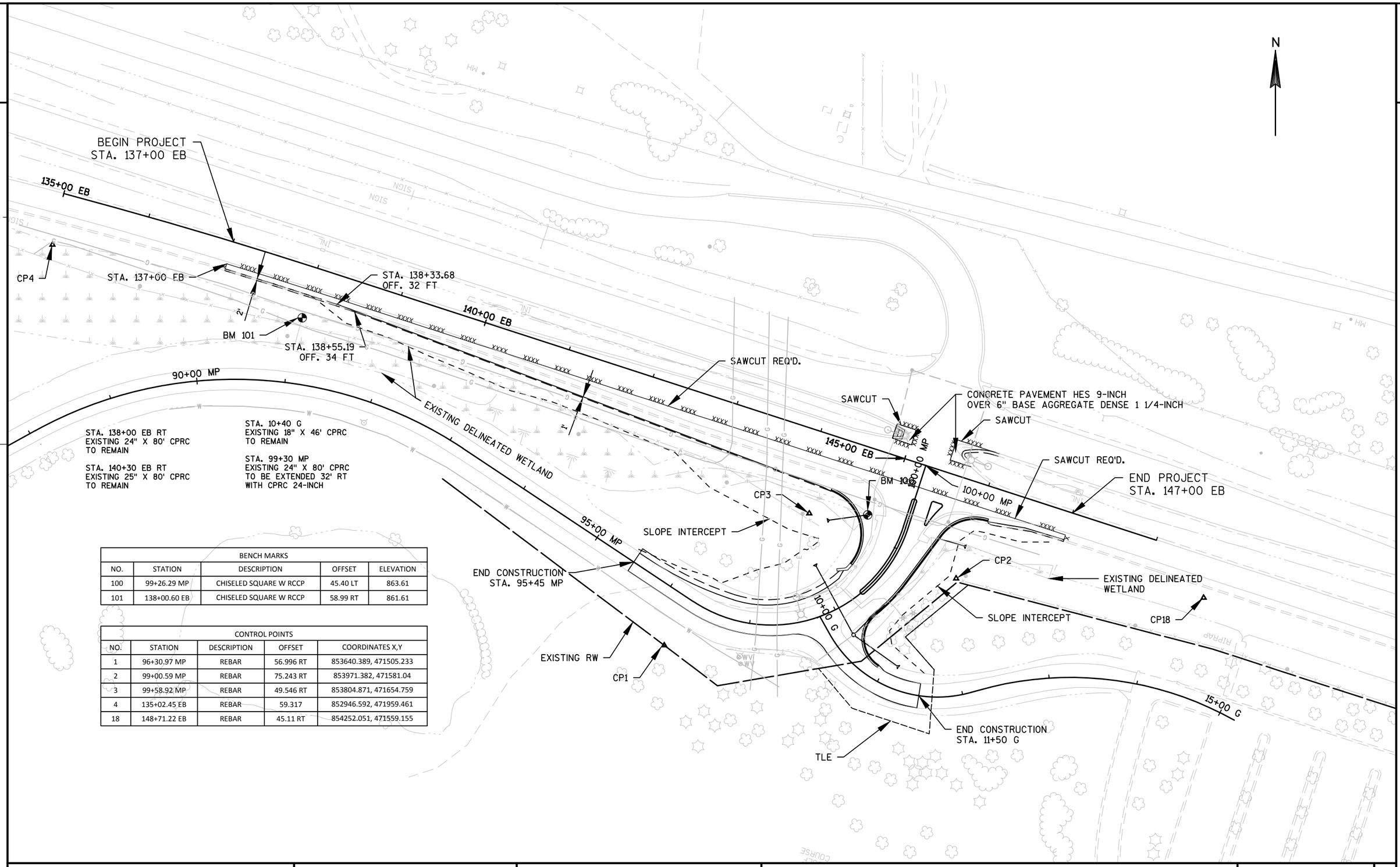
10+00 G

C3

CC3

866.33

RADIUS POINT TABLE			
POINT	STATION	OFFSET	RADIUS
CC1	99+18.18 MP	86.48 RT	50
CC2	143+64.71 EB	74 RT	187
CC3	10+91.15 G	51.9 LT	38
CC4	98+39.20 MP	85.03 LT	55
CC5	99+61.51 MP	21.42 RT	2.5
CC6	99+61.55 MP	29.74 RT	2.5
CC7	99+36.49 MP	20.50 RT	1.5
CC8	99+16.78 MP	118.97 RT	100
CC9	99+57.00 MP	0	3
CC10	98+37.19 MP	0	3
CC11	145+65.06 EB	25.61 LT	5
CC12	145+97.00 EB	36.85 RT	75



BENCH MARKS				
NO.	STATION	DESCRIPTION	OFFSET	ELEVATION
100	99+26.29 MP	CHISELED SQUARE W RCCP	45.40 LT	863.61
101	138+00.60 EB	CHISELED SQUARE W RCCP	58.99 RT	861.61

CONTROL POINTS				
NO.	STATION	DESCRIPTION	OFFSET	COORDINATES X,Y
1	96+30.97 MP	REBAR	56.996 RT	853640.389, 471505.233
2	99+00.59 MP	REBAR	75.243 RT	853971.382, 471581.04
3	99+58.92 MP	REBAR	49.546 RT	853804.871, 471654.759
4	135+02.45 EB	REBAR	59.317	852946.592, 471959.461
18	148+71.22 EB	REBAR	45.11 RT	854252.051, 471559.155

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	PLAN DETAILS	SHEET 14	E

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.8 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP- TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE- TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .81											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOUDERS	.40 - .60											

TOTAL PROJECT AREA = 4.23 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.92 ACRES

2

N

135+00 EB

140+00 EB

145+00 EB

EXISTING DELINEATED WETLAND

SILT FENCE

80+00 MP

95+00 MP

10+00 G

SILT FENCE

EXISTING DELINEATED WETLAND

INLET PROTECTION TYPE D

EROSION MAT CLASS I TYPE A

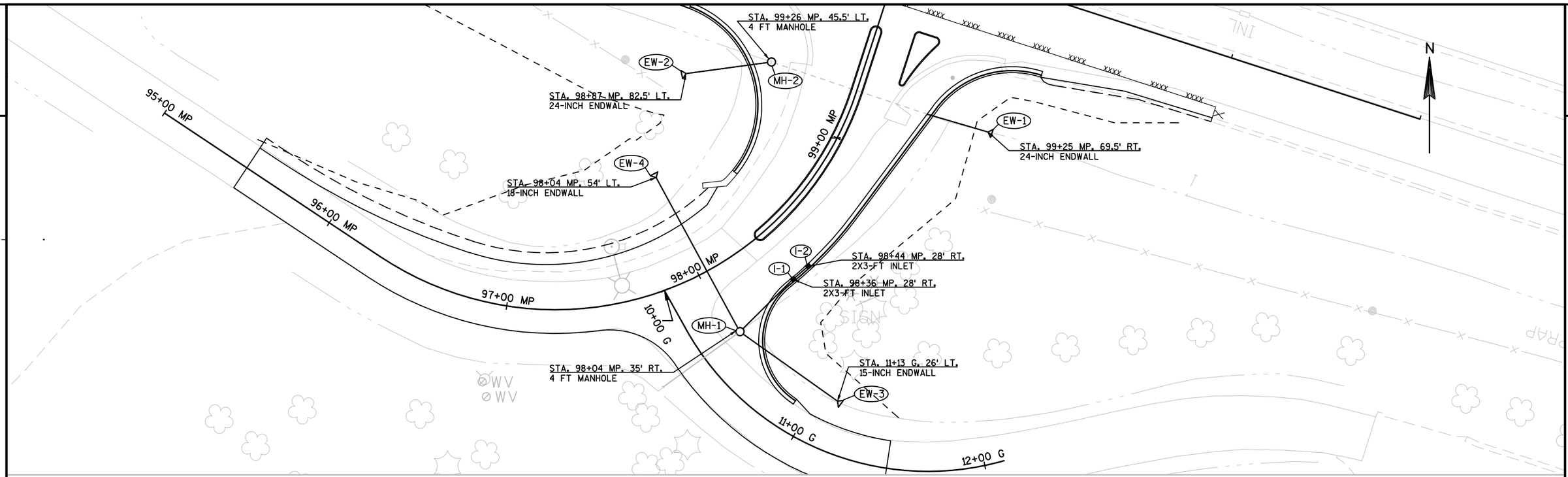
MULCH

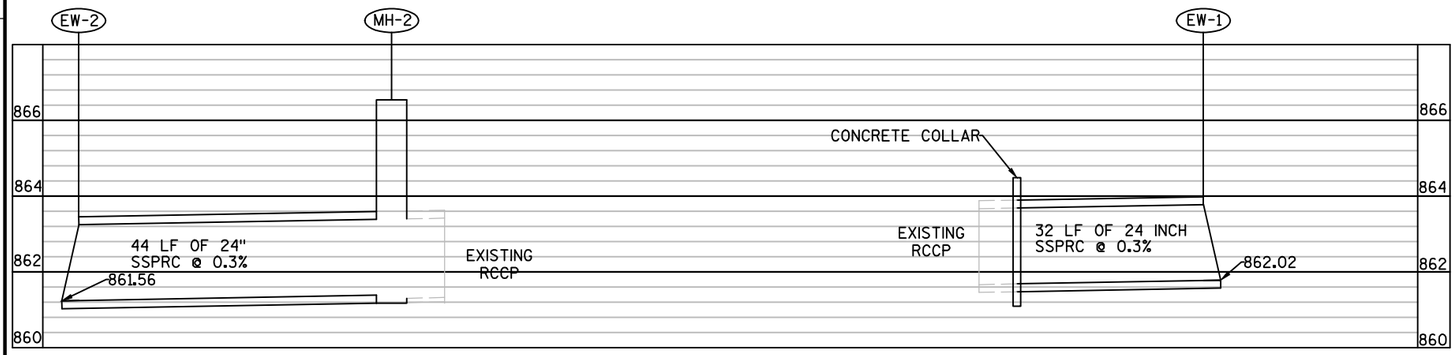
INLET PROTECTION TYPE D

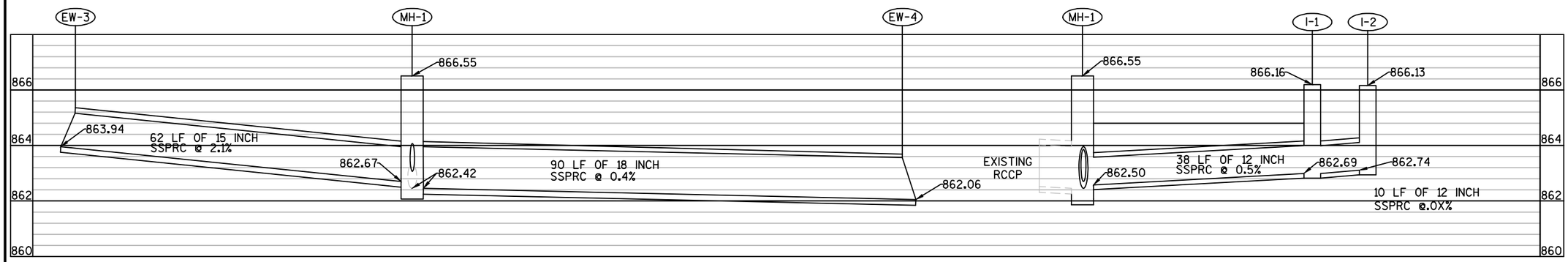
NOTE:
DO NOT PARK OR STORE EQUIPMENT OR MATERIALS IN WETLAND AREA OR IN DRAINAGE WAY.

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	EROSION CONTROL	SHEET 16	E

2







PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	STORM SEWER	SHEET	E

FILE NAME : N:\PDS\C3D\30800102\PLAN SHEETS\022501_SS.DWG PLOT DATE : 4/30/2014 2:29 PM PLOT BY : JOHNSON, JOHN R PLOT NAME : PLOT SCALE : 1" = 50'_XREF

2

N

135+00 EB

200'

1-1
<- LONG DR
MILLPOND RD ->
D1-2
108" X 36"

Gamers Grill <- 1/8 mi | -> Best Value Inn
Magnusen Grand Hotel <- 1/4 mi | -> 1/4 mi
ESTR

BEGIN RIGHT TURN LANE
R3-20R
36"X54"
1-2

MILLPOND RD
REMOVE
1-3

140+00 EB

90+00 MP

EXIT 267 A-B
39 90
Wis Dells
Chicago
1/3 Mile
ESTR

ESTR

ALTERNATE 94
ESTR

1-4
PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED
REMOVE

BEYOND NEXT EXIT
REMOVE
1-5

WRONG WAY
ESTR

LEFT LANE ENDS
ESTR

DO NOT ENTER
ESTR

1-6
REMOVE AND REPLACE ON POLE
R4-7
36" X 48"

ONE WAY
R6-1L
54" X 18"
1-23

ONE WAY
STOP
DIVIDED HIGHWAY
R6-1R
54" X 18"
1-24
MOVE
1-25
MOVE
1-26

NO OUTLET
ESTR

DO NOT ENTER
ESTR

ESTR

MILLPOND RD
REMOVE

1-9
<- MILLPOND RD
LONG DR ->
D1-2
108" X 36"

1-7
PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED
BEYOND NEXT INTERSECTION
1-8

R5-57
36" X 36"

CUSTOM SIGN
36" X 30"

500'

200'

100+00 MP

145+00 EB

1-17
R4-7
24" X 30"

1-14
NO OUTLET
W14-2
30" X 30"

NO OUTLET
REMOVE

1-21

SPEED LIMIT 35
MOVE
1-10

NO PARKING ANY TIME
MOVE TO LIGHT POLE
1-11

95+00 MP

100+00 MP

W12-1D
24" X 24"
1-15

STOP
R1-1
36" X 36"
1-16

STOP
DIVIDED HIGHWAY
REMOVE

STOP
R1-1
36" X 36"
1-22

USH 12/18
MILLPOND RD
TO BE MOVED
BY OTHERS

ONE WAY
STOP
DIVIDED HIGHWAY
1-18
R6-1R
54" X 18"
1-19
R1-1
36" X 36"
1-20
R6-3
30" X 24"

CAMBRIDGE 13
ESTR

R4-7
24" X 30"
1-12

STOP
MOVE
1-27

ONLY
R3-8
36" X 30"
1-13

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	PERMANENT SIGNING	SHEET 18	E

2

N

135+00 EB

140+00 EB

145+00 EB

90+00 MP

95+00 MP

10+00 G

PAVEMENT MARKING LEGEND

- Ⓐ PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- Ⓑ PAVEMENT MARKING EPOXY 4-INCH DOUBLE YELLOW
- Ⓒ PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- Ⓓ PAVEMENT MARKING WHITE WET REFLECTIVE TAPE 8-INCH (WHITE)
- Ⓔ PAVEMENT MARKING CURB EPOXY (YELLOW)
- Ⓕ PAVEMENT MARKING EPOXY STOP LINE 18-INCH (WHITE)
- Ⓖ PAVEMENT MARKING DIAGONAL EPOXY 24-INCH (WHITE) @ 25 FT C-C
- Ⓗ PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
- Ⓘ PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	PERMANENT PAVEMENT MARKING	SHEET	E

FILE NAME : N:\PDS\C3D\30800102\PLAN SHEETS\023202_PM.DWG PLOT DATE : 4/30/2014 2:29 PM PLOT BY : JOHNSON, JOHN R PLOT NAME : PLOT SCALE : 1" = 100'_XREF

WISDOT/CADDS SHEET 42

2

N

141+00 EB

142+00 EB

143+00 EB

144+00 EB

145+00 EB

146+00 EB

147+00 EB

148+00 EB

EXPB 3
ADJUSTING PULL BOX

ELB 2

100+00 MP

EXPB 4

ELB 3

TIE INTO EXISTING CONDUIT

2-3"

EXPB 2

2-3"

EXPB 1

PB1

2-3"

PB2

99+00 MP

95+00 MP

NEW ELECTRIC SERVICE
BY OTHERS

1-2-INCH SCH 40

96+00 MP

LB1

1-3"

ELB 1

98+00 MP

97+00 MP

10+00 G

TIE INTO EXISTING CONDUIT

SIGN

EXISTING SIGN TO REMAIN

MOVING LIGHTING ASSEMBLIES,
REMOVE CONCRETE BASE

WV
WV

11+00 G

12+00 G

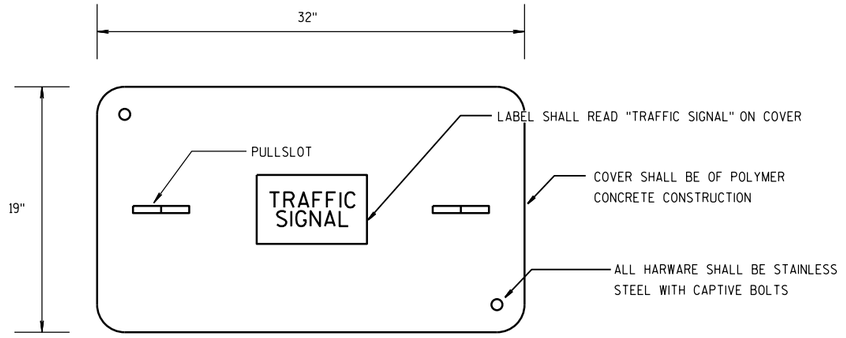
NOTE:
THE FINAL LOCATIONS FOR NEW STRUCTURES IS SUBJECT TO REVIEW AND APPROVAL BY THE INSPECTOR. THE LOCATION SHOWN FOR THESE STRUCTURES SHALL BE CONSIDERED APPROXIMATE.

⊕ ELECTRICAL TYPE I PULLBOX
--- CONDUIT RIGID NONMETALLIC SCH 80 UNLESS OTHERWISE NOTED
SALVAGED LIGHT POLE AND LUMINAIRE ON TYPE 5 BASE
POLE MOUNTED CONTROL BOX

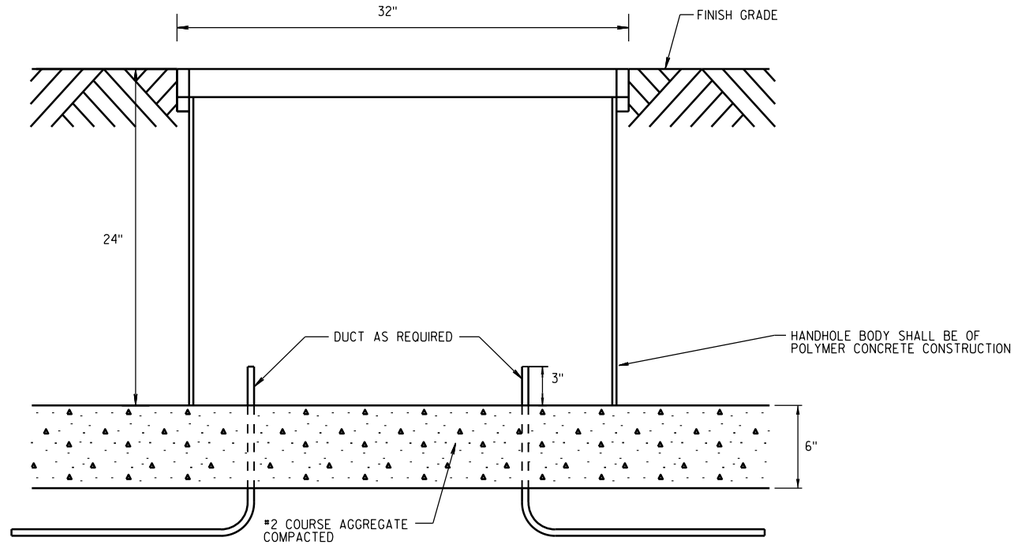
PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	LIGHTING PLAN	SHEET	E

FILE NAME : N:\PDS\C3D\30800102\PLAN SHEETS\023501_LP.DWG PLOT DATE : 4/30/2014 2:29 PM PLOT BY : JOHNSON, JOHN R PLOT NAME : PLOT SCALE : 1" = 50'_XREF
WISDOT/CADDS SHEET 42

2



*15,000 LBS MAXIMUM LOAD OVER A 10" X 10" TEST AREA RATING FOR COVER AND BOX



ELECTRICAL PULLBOX TYPE I

USE SDD "TRAFFIC CONTROL, LANE CLOSURE SPEED REDUCTION".

USE SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH".

N

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

ROAD WORK AHEAD
W20-1

135+00 EB

140+00 EB

USH 12 MEDIAN WORK:
-WORK ON ONE MEDIAN NOSE AT A TIME.
-CLOSE LEFT TURN LANE AND MEDIAN THROUGH LANE AND PROVIDE A 200' LEFT TURN LANE IN THROUGH LANE.
-SEE STAGE 2 TEMPORARY TURN LANE LAYOUT FOR DIMENSIONS AND PAVEMENT MARKING.

EXCAVATION AS NEEDED TO BALANCE EARTHWORK FOR STAGE 1

USE SDD "TRAFFIC CONTROL,ADVANCE WARNING SIGNS 40 MPH OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC".

145+00 EB MP

100+00 G

TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH

25'

50' TYP.

REMOVE EXISTING CENTERLINE PAVEMENT MARKING ON MILL POND ROAD

95+00 MP

TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

STOP
R1-1
36"X36"

DIVIDED HIGHWAY
R6-3
30"X24"

10+00 G

PAVE THROUGH FUTURE MILL POND ROAD MEDIAN AND ISLAND.

STOP
R1-1
30" X 30"

25'

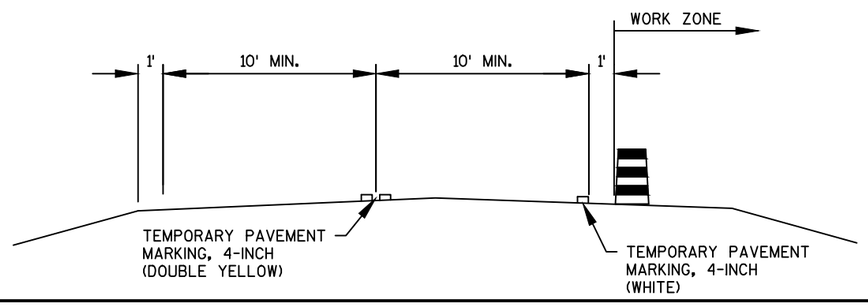
12+00 G

TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)

3' DASH, 9' GAP

WORK ZONE

STAGE 1 MILLPOND TYPICAL



PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1	SHEET 22	E

2

2

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

ROAD WORK AHEAD
W20-1

N

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

135+00 EB

100'

BEGIN RIGHT TURN LANE
R3-20R
36"X54"

USE SDD "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE".

140+00 EB

100' TAPER

USE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE, 8-INCH (WHITE)

ROAD WORK AHEAD
W20-1

PLACE TRAFFIC CONTROL ADVANCE WARNING SIGNS ON NB IH 39 EXIT RAMP TO EB USH 12.

50'

145+00 EB MP

TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH

PLACE FLAGS ON THE ADVANCE WARNING SIGNS ON RAMP.

ROAD WORK AHEAD
W20-1

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

95+00 MP

25'

100'

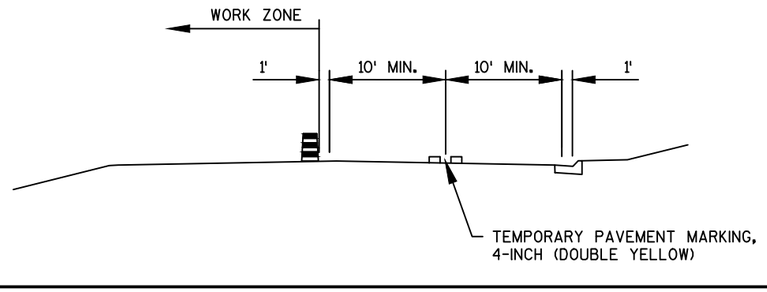
STOP
R1-1
36"X36"

DIVIDED HIGHWAY
R6-3
30"X24"

TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)

PAVE THROUGH FUTURE MILL POND ROAD MEDIAN AND ISLAND

STAGE 2 MILLPOND TYPICAL



STOP
R1-1
30"X30"

WORK ZONE

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

ROAD WORK AHEAD
W20-1

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

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2	SHEET 23	E

FILE NAME : N:\PDS\C3D\30800102\PLAN SHEETS\026101_S2.DWG PLOT DATE : 5/14/2014 1:45 PM PLOT BY : BREGAUDIT, CHARLENE PLOT NAME : PLOT SCALE : 1" = 100'_XREF

2

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

USE SDD "TRAFFIC CONTROL, LANE CLOSURE SPEED REDUCTION".

USE SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE".

USE SDD "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE".

ROAD WORK AHEAD
W20-1

N

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

135+00 EB

140+00 EB

TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
INSTALL IN THE FINAL PAVEMENT MARKING LOCATION

50' TYP.

145+00 SB MP

100+00 SB

ROAD WORK AHEAD
W20-1

ROAD WORK AHEAD
W20-1

R4-7
36"X48"

R4-7
24"X30"

95+00 MP

10+00 G

STOP R1-1
36"X36"
DIVIDED HIGHWAY
R6-3
30"X24"

12+00 G

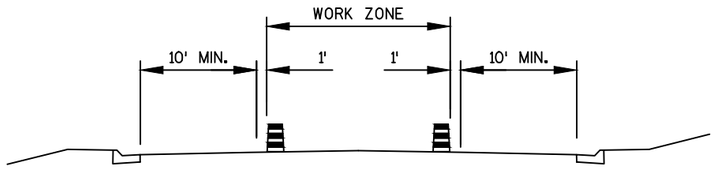
END ROAD WORK
G20-2A
48" X 24"

ROAD WORK AHEAD
W20-1

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

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

STAGE 3 MILLPOND TYPICAL



USE SDD "TRAFFIC CONTROL, FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATION)".

WORK ZONE

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	TRAFFIC CONTROL - STAGE 3	SHEET 24	E

2

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

USE SDD "TRAFFIC CONTROL, LANE CLOSURE SPEED REDUCTION".

USE SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH".

ROAD WORK AHEAD
W20-1

N

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

135+00 EB

140+00 EB

TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)

ROAD WORK AHEAD
W20-1

145+00 EB

100+00 MP

95+00 MP

10+00 G

12+00 G

USE SDD "TRAFFIC CONTROL, FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATION".

ROAD WORK AHEAD
W20-1

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

WORK ZONE

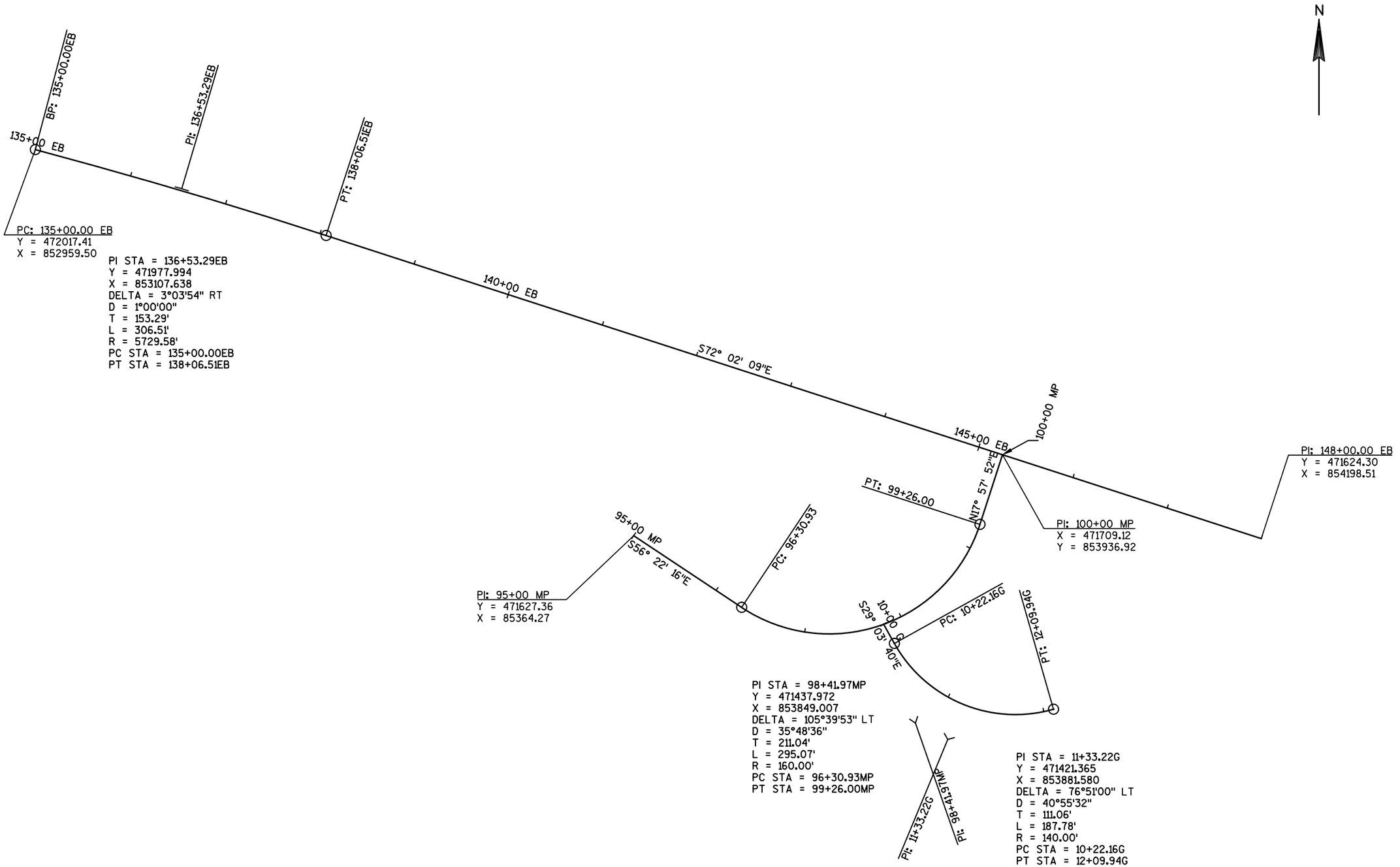
END ROAD WORK
G20-2A
48" X 24"

ROAD WORK AHEAD
W20-1

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

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	TRAFFIC CONTROL - STAGE 4	SHEET 25	E

2



PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	ALIGNMENT	SHEET	E

FILE NAME : N:\PDS\C3D\30800102\PLAN SHEETS\027301_XX.DWG PLOT DATE : 4/30/2014 2:30 PM PLOT BY : JOHNSON, JOHN R PLOT NAME : PLOT SCALE : 1" = 100'_XREF
WISDOT/CADDS SHEET 42

DATE 19MAY14 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	3080-01-72 QUANTITY
0010	201.0105	CLEARING	STA	3.000	3.000
0020	201.0205	GRUBBING	STA	3.000	3.000
0030	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	1.000	1.000
0040	204.0100	REMOVING PAVEMENT	SY	1,326.000	1,326.000
0050	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	1,152.000	1,152.000
0060	204.0170	REMOVING FENCE	LF	260.000	260.000
0070	204.0195	REMOVING CONCRETE BASES	EACH	1.000	1.000
0080	204.9090.S	REMOVING (ITEM DESCRIPTION) 01. PIPE UNDERDRAIN	LF	655.000	655.000
0090	205.0100	EXCAVATION COMMON	CY	3,047.000	3,047.000
0100	213.0100	FINISHING ROADWAY (PROJECT) 01. 3080-01-72	EACH	1.000	1.000
0110	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	220.000	220.000
0120	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	2,442.000	2,442.000
0130	312.0110	SELECT CRUSHED MATERIAL	TON	1,545.000	1,545.000
0140	415.1090	CONCRETE PAVEMENT HES 9-INCH	SY	94.000	94.000
0150	416.0610	DRILLED TIE BARS	EACH	39.000	39.000
0160	416.0620	DRILLED DOWEL BARS	EACH	32.000	32.000
0170	455.0105	ASPHALTIC MATERIAL PG58-28	TON	69.000	69.000
0180	460.1103	HMA PAVEMENT TYPE E-3	TON	1,256.000	1,256.000
0190	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	810.000	810.000
0200	465.0315	ASPHALTIC FLUMES	SY	6.000	6.000
0210	520.8000	CONCRETE COLLARS FOR PIPE	EACH	1.000	1.000
0220	522.1015	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH	EACH	1.000	1.000
0230	522.1018	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	EACH	1.000	1.000
0240	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	2.000	2.000
0250	601.0120	CONCRETE CURB TYPE J	LF	300.000	300.000
0260	601.0553	CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D	LF	365.000	365.000
0270	602.0405	CONCRETE SIDEWALK 4-INCH	SF	940.000	940.000
0280	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	48.000	48.000
0290	608.0315	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	LF	62.000	62.000
0300	608.0324	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	76.000	76.000
0310	608.0418	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH	LF	90.000	90.000
0320	611.0540	MANHOLE COVERS TYPE K	EACH	2.000	2.000
0330	611.0636	INLET COVERS TYPE HM-S	EACH	2.000	2.000
0340	611.2004	MANHOLES 4-FT DIAMETER	EACH	2.000	2.000
0350	611.3230	INLETS 2X3-FT	EACH	2.000	2.000
0360	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	30.000	30.000
0370	612.0806	APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH	EACH	1.000	1.000
0380	616.0100	FENCE WOVEN WIRE (HEIGHT) 01. 4.5-FT	LF	250.000	250.000
0390	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 3080-01-72	EACH	1.000	1.000
0400	619.1000	MOBILIZATION	EACH	1.000	1.000
0410	620.0300	CONCRETE MEDIAN SLOPED NOSE	SF	155.000	155.000
0420	624.0100	WATER	MGAL	29.000	29.000
0430	625.0500	SALVAGED TOPSOIL	SY	4,225.000	4,225.000
0440	627.0200	MULCHING	SY	3,050.000	3,050.000

3

DATE 19MAY14 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	3080-01-72 QUANTITY
0450	628.1504	SILT FENCE	LF	650.000	650.000
0460	628.1520	SILT FENCE MAINTENANCE	LF	650.000	650.000
0470	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000	2.000
0480	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	1.000	1.000
0490	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	1,175.000	1,175.000
0500	628.7020	INLET PROTECTION TYPE D	EACH	2.000	2.000
0510	628.7504	TEMPORARY DITCH CHECKS	LF	30.000	30.000
0520	628.7555	CULVERT PIPE CHECKS	EACH	6.000	6.000
0530	629.0210	FERTILIZER TYPE B	CWT	2.700	2.700
0540	630.0130	SEEDING MIXTURE NO. 30	LB	60.000	60.000
0550	630.0140	SEEDING MIXTURE NO. 40	LB	20.000	20.000
0560	630.0200	SEEDING TEMPORARY	LB	115.000	115.000
0570	633.5200	MARKERS CULVERT END	EACH	4.000	4.000
0580	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	4.000	4.000
0590	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	5.000	5.000
0600	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	7.000	7.000
0610	637.2210	SIGNS TYPE II REFLECTIVE H	SF	167.880	167.880
0620	637.2230	SIGNS TYPE II REFLECTIVE F	SF	10.250	10.250
0630	638.2102	MOVING SIGNS TYPE II	EACH	5.000	5.000
0640	638.2602	REMOVING SIGNS TYPE II	EACH	8.000	8.000
0650	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	12.000	12.000
0660	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
0670	643.0100	TRAFFIC CONTROL (PROJECT) 01. 3080-01-72	EACH	1.000	1.000
0680	643.0300	TRAFFIC CONTROL DRUMS	DAY	1,114.000	1,114.000
0690	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	19.000	19.000
0700	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	20.000	20.000
0710	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	185.000	185.000
0720	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	10.000	10.000
0730	643.0900	TRAFFIC CONTROL SIGNS	DAY	630.000	630.000
0740	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	1,897.000	1,897.000
0750	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	195.000	195.000
0760	646.0600	REMOVING PAVEMENT MARKINGS	LF	580.000	580.000
0770	646.0883.S	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH	LF	1,127.000	1,127.000
0780	647.0156	PAVEMENT MARKING ARROWS EPOXY TYPE 1	EACH	2.000	2.000
0790	647.0456	PAVEMENT MARKING CURB EPOXY	LF	133.000	133.000
0800	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	33.000	33.000
0810	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	3.000	3.000
0820	647.0746	PAVEMENT MARKING DIAGONAL EPOXY 24-INCH	LF	382.000	382.000
0830	649.0100	TEMPORARY PAVEMENT MARKING 4-INCH	LF	1,000.000	1,000.000
0840	649.0701	TEMPORARY PAVEMENT MARKING 8-INCH	LF	1,000.000	1,000.000
0850	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	LF	600.000	600.000
0860	649.1100	TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH	LF	22.000	22.000
0870	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	8.000	8.000
0880	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	1,245.000	1,245.000
0890	650.5000	CONSTRUCTION STAKING BASE	LF	1,395.000	1,395.000
0900	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	387.000	387.000
0910	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 3080-01-72	LS	1.000	1.000
0920	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	1,095.000	1,095.000

3

DATE 19MAY14 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	3080-01-72 QUANTITY
0930	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	160.000	160.000
0940	652.0325	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	LF	80.000	80.000
0950	652.0335	CONDUIT RIGID NONMETALLIC SCHEDULE 80 3-INCH	LF	470.000	470.000
0960	653.0900	ADJUSTING PULL BOXES	EACH	1.000	1.000
0970	653.0905	REMOVING PULL BOXES	EACH	2.000	2.000
0980	654.0105	CONCRETE BASES TYPE 5	EACH	1.000	1.000
0990	655.0615	ELECTRICAL WIRE LIGHTING 10 AWG	LF	510.000	510.000
1000	655.0620	ELECTRICAL WIRE LIGHTING 8 AWG	LF	467.000	467.000
1010	655.0625	ELECTRICAL WIRE LIGHTING 6 AWG	LF	1,401.000	1,401.000
1020	690.0150	SAWING ASPHALT	LF	673.000	673.000
1030	690.0250	SAWING CONCRETE	LF	1,037.000	1,037.000
1040	SPV.0060	SPECIAL 01. MOVING LIGHTING ASSEMBLIES	EACH	1.000	1.000
1050	SPV.0060	SPECIAL 02. ELECTRICAL PULL BOX TYPE 1	EACH	2.000	2.000
1060	SPV.0090	SPECIAL 01. PIPE UNDERDRAIN (6-INCH) WITH GEOTEXTILE FABRIC AND AGGREGATE	LF	570.000	570.000

3

CLEARING AND GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
96+00 MP	-	99+00 MP	LT & RT	3	3
			TOTAL	3	3

REMOVAL ITEMS

STATION	TO	STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	204.0170 REMOVING FENCE LF
140+38 EB			RT	1	-
141+75 EB	-	144+31 EB	RT	-	260
			TOTAL	1	260

PAVEMENT REMOVALS

	STATION	TO	STATION	LOCATION	204.0100 REMOVING PAVEMENT SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	REMARKS
STAGE 1	98+00			RT	-	-	17	-	PIPE INSTALLATION
	98+00 MP	-	98+26 MP	CL	-	-	26	-	-
	98+26 MP	-	99+25 MP	RT	145	-	-	-	-
	98+26 MP	-	99+74 MP	CL	-	-	-	148	-
	144+80 EB	-	145+01 EB	LT	51	-	-	85	WEST USH 12 MEDIAN
	145+25 EB	-	147+00 EB	RT	279	-	-	175	-
	145+52 EB	-	146+00 EB	LT	27	-	6	98	EAST USH 12 MEDIAN
	147+00 EB			RT	-	-	6	-	EAST PROJECT LIMIT
STAGE 2	95+50 MP	-	98+00 MP	LT	-	-	235	-	ASPHALT SHOULDER REMOVAL
	98+00 MP			LT	-	-	20	-	PIPE INSTALLATION
	98+00 MP	-	98+26 MP	CL	-	-	26	-	-
	98+26 MP	-	99+25 MP	LT	228	-	-	-	-
	137+00 EB			RT	-	-	6	-	WEST PROJECT LIMIT
	139+94 EB	-	145+25 EB	RT	596	-	-	531	-
STAGE 3	98+34 MP	-	99+60 MP	LT & RT	-	-	258	-	MEDIAN ISLAND
	99+35 MP		99+64 MP	RT	-	-	73	-	PORKCHOP ISLAND
STAGE 4	10+50 G	-	11+50 G	LT & RT	-	314	-	-	-
	95+50 MP	-	98+00 MP	LT & RT	-	838	-	-	-
				TOTAL	1326	1152	673	1037	

EARTHWORK

	STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON CY	(1) UNUSABLE ASPHALT MATERIAL CY	(2) AVAILABLE MATERIAL CY	UNEXPANDED FILL CY	(3) EXPANDED FILL FACTOR = 1.25 CY	(4) MASS ORDINATE BALANCE CY	REMARKS
DIVISION 1	98+00 MP	-	99+25 MP	MILLPOND RD RT	164	5	159	248	310	-151	
(STAGE 1)	98+00 MP	-	99+30 MP	RT DITCH	59	0	59	19	24	35	SEE EXCAVATION DETAIL
	145+25 EB	-	147+00 EB	USH 12 RT	146	7	139	18	23	116	
	10+50 G	-	11+50 G	DRIVEWAY	34	0	34	59	74	-40	
				DIVISION 1 SUBTOTAL	403	12	391	344	431	-40	
DIVISION 2	95+50 MP	-	99+25 MP	MILLPOND RD LT	1376	17	1359	176	220	1139	
(STAGE 2)	98+00 MP	-	99+30 MP	LT DITCH	89	0	89	24	30	59	
	98+34 MP		98+60 MP	MEDIAN + ISLAND	36	9	27	-	-	27	
	137+00 EB	-	145+25 EB	USH 12 RT	1025	39	986	340	425	561	
	143+00 EB	-	144+79 EB	USH 12 DITCH	118	0	118	24	30	88	
				DIVISION 2 SUBTOTAL	2644	65	2579	564	705	1874	
				PROJECT TOTAL	3047	77	2970	908	1136	1834	

(1) UNUSABLE ASPHALT MATERIAL IS INCLUDED IN COMMON EXCAVATION
(2) AVAILABLE MATERIAL = COMMON EXCAVATION - UNUSABLE ASPHALT MATERIAL
(3) EXPANDED FILL = UNEXPANDED FILL x 1.25
(4) MASS ORDINATE = AVAILABLE MATERIAL - EXPANDED FILL. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
(5) USE DIVISION 2 EXCAVATION COMMON OUTSIDE OF EXISTING ROADWAY TO BALANCE DIVISION 1.

3

BASE COURSE ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON	REMARKS
STAGE 1	10+50 G	-	11+50 G	LT	-	25	23	-
	97+96 MP	-	99+25 MP	RT	-	285	224	-
	98+00 MP	-	99+30 MP	RT	-	-	9	DITCH
	144+80 EB		145+01 EB	LT	-	7	-	WEST USH 12 MEDIAN
	145+25 EB	-	147+00 EB	RT	-	222	103	-
	145+52 EB		145+97 EB	LT	-	12	-	EAST USH 12 MEDIAN
	146+11 EB	-	147+00 EB	RT	11	-	-	-
STAGE 2	95+50 MP	-	98+50 MP	LT	33	-	-	-
	95+50 MP	-	99+25 MP	LT	-	503	322	-
	97+30 MP			LT	-	-	4	FRENCH DRAIN
	98+00 MP	-	99+30 MP	LT	-	-	17	DITCH
	98+36 MP			LT	-	-	4	FRENCH DRAIN
	137+00 EB	-	138+33 EB	RT	13	-	-	-
	138+33 EB	-	139+94 EB	RT	12	134	53	-
	138+50 EB			RT	-	-	4	FRENCH DRAIN
	139+94 EB	-	145+25 EB	RT	33	1185	765	-
	141+00 EB			RT	-	-	4	FRENCH DRAIN
	143+00 EB	-	144+79 EB	RT	-	-	9	DITCH
	143+50 EB			RT	-	-	4	FRENCH DRAIN
STAGE 3	98+35 MP	-	99+60 MP	CL	-	53	-	MILLPOND MEDIAN
	99+36 MP	-	99+64 MP	RT	-	16	-	MILLPOND PORKCHOP MEDIAN
STAGE 4	10+50 G	-	11+50 G	LT & RT	26	-	-	-
	95+50 MP	-	98+00 MP	LT & RT	70	-	-	-
	95+50 MP	-	98+50 MP	LT	22	-	-	-
				TOTAL	220	2442	1545	

CONCRETE PAVEMENT HES 9-INCH

STATION	TO	STATION	LOCATION	415.1090 SY	REMARKS
144+80 EB	-	145+01 EB	LT	47	WEST USH 12 MEDIAN
145+52 EB	-	145+97 EB	LT	47	EAST USH 12 MEDIAN
			TOTAL	94	

ASPHALTIC ITEMS

	STATION	TO	STATION	LOCATION	455.0105 ASPHALTIC MATERIAL PG58-28 TON	460.1103 HMA PAVEMENT TYPE E-3 TON	465.0315 ASPHALTIC FLUMES SY	REMARKS
STAGE 1	10+50 G	-	10+91 G	LT	0	2	-	-
	97+96 MP	-	99+25 MP	RT	4	80	-	-
	145+25 EB	-	147+00 EB	RT	4	66	-	-
	145+60 EB	-	145+97 EB	LT	0	6	-	EAST USH 12 MEDIAN
STAGE 2	95+67 MP	-	99+25 MP	LT	6	101	-	-
	137+00 EB	-	144+69 EB	RT	24	439	-	-
	144+69 EB	-	145+25 EB	RT	3	51	-	-
STAGE 4	10+50 G	-	11+50 G	LT & RT	3	53	-	FIRST LIFT
	95+50 MP	-	98+00 MP	LT & RT	8	141	-	FIRST LIFT
	10+50 G	-	11+50 G	LT & RT	2	37	-	FINAL LIFT
	95+50 MP	-	99+25 MP	LT & RT	11	208	-	FINAL LIFT
	98+28 MP	-	98+50 MP	LT	-	-	6	-
	144+69 EB	-	147+00 EB	RT	4	72	-	FINAL LIFT
				TOTAL	69	1256	6	

ANCILLARY CONCRETE ITEMS

STATION	TO	STATION	LOCATION	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	601.0120 CONCRETE CURB TYPE J LF	601.0553 CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D LF	602.0405 CONCRETE SIDEWALK 4-INCH SF	620.0300 CONCRETE MEDIAN SLOPED NOSE SF	REMARKS
98+09 MP		99+64 MP	RT	-	-	-	250	-	-	
98+34 MP	-	98+39 MP	CL	-	-	-	-	-	22	MILLPOND RD MEDIAN
98+39 MP	-	99+55 MP	CL	-	-	240	-	700	-	MILLPOND RD MEDIAN
98+50 MP	-	99+42 MP	LT	-	-	-	105	-	-	
99+35 MP	-	99+40 MP	RT	-	-	-	-	-	16	PORKCHOP MEDIAN
99+36 MP	-	99+62 MP	RT	-	-	60	-	200	-	PORKCHOP MEDIAN
99+55 MP	-	99+60 MP	CL	-	-	-	-	-	23	MILLPOND RD MEDIAN
99+58 MP	-	99+64 MP	RT	-	-	-	-	-	19	PORKCHOP MEDIAN
144+79 EB	-	145+01	LT	16	18	-	10	40	-	WEST USH 12 MEDIAN
144+84 EB	-	144+90 EB	LT	-	-	-	-	-	75	
145+52 EB	-	145+97 EB	LT	23	14	-	-	-	-	EAST USH 12 MEDIAN
			TOTAL	39	32	300	365	940	155	

STORM SEWER

STATION	TO	STATION	LOCATION	520.8000 CONCRETE COLLARS FOR PIPE EACH	STORM SEWER PIPE REINFORCED CONCRETE 608.0312 CLASS III 12-INCH LF	608.0315 CLASS III 15-INCH LF	608.0324 CLASS III 24-INCH LF	608.0418 CLASS IV 18-INCH LF
10+40 G	-	11+13 G	LT	-	-	62	-	-
98+05 MP	-	98+05 MP	LT & RT	-	-	-	-	90
98+05 MP	-	98+36 MP	RT	-	38	-	-	-
98+87 MP	-	99+26 MP	LT	-	-	-	44	-
98+36 MP	-	98+44 MP	RT	-	10	-	-	-
99+26 MP	-	99+26 MP	RT	1	-	-	32	-
			TOTAL	1	48	62	76	90

STORM SEWER STRUCTURES

STATION	TO	STATION	LOCATION	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 522.1015 15-INCH EACH	522.1018 18-INCH EACH	522.1024 24-INCH EACH	611.0540 MANHOLE COVERS TYPE K EACH	611.0636 INLET COVERS TYPE HM-S EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	611.3230 INLETS 2X3-FT EACH	633.5200 MARKERS CULVERT END EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH
11+13 G			LT	1	-	-	-	-	-	-	-	1
11+15 G			LT	-	-	-	-	-	-	-	1	-
98+04 MP			LT	-	1	-	-	-	-	-	-	1
98+05 MP			RT	-	-	-	1	-	1	-	-	1
98+06 MP			LT	-	-	-	-	-	-	-	1	-
98+35 MP	-	98+37 MP	RT	-	-	-	-	1	-	1	-	1
98+43 MP	-	98+45 MP	RT	-	-	-	-	1	-	1	-	1
98+87 MP			LT	-	-	1	-	-	-	-	-	1
99+25 MP			RT	-	-	-	-	-	-	-	1	-
99+26 MP			LT	-	-	-	1	-	1	-	-	1
99+27 MP			RT	-	-	1	-	-	-	-	-	1
144+36 EB			RT	-	-	-	-	-	-	-	1	-
			TOTAL	1	1	2	2	2	2	2	4	8

PIPE UNDERDRAIN

STATION	TO	STATION	LOCATION	204.9090.S REMOVING (PIPE UNDERDRAIN) LF	612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH LF	612.0806 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH EACH	SPV.0090.01 PIPE UNDERDRAIN (6-INCH) WITH GEOTEXTILE FABRIC AND AGGREGATE LF
98+15 MP	-	99+50 MP	RT	-	-	-	135
139+90 EB	-	144+25 EB	RT	-	-	-	435
139+90 EB	-	146+45 EB	RT	655	-	-	-
141+50 EB			RT	-	30	1	-
UNDISTRIBUTED			-	-	-	-	-
			TOTAL	655	30	1	570

FENCE WOVEN WIRE (4.5-FT)

STATION	TO	STATION	LOCATION	616.0100 LF
141+75 EB	-	144+25 EB	RT	250
			TOTAL	250

WATER

LOCATION	624.0100 MGAL
PROJECT	29
TOTAL	29

3

EROSION CONTROL

STATION	TO STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.7020 INLET PROTECTION TYPE D EACH	628.7504 TEMPORARY DITCH CHEKCS LF	628.7555 CULVERT PIPE CHECKS EACH	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB
11+13 G		LT	-	-	-	-	-	-	-	-	-	2	-	-	-	-
98+00 MP	99+70 MP	RT	895	550	160	160	-	-	345	-	-	-	0.6	-	20	25
98+30 MP	98+50 MP	RT	-	-	-	-	-	-	-	2	-	-	-	-	-	-
99+26		LT	-	-	-	-	-	-	-	-	-	4	-	-	-	-
138+25 EB	144+73 EB	RT	3330	2500	-	-	-	-	830	-	-	-	2.1	60	-	90
138+30 EB	143+12 EB	RT	-	-	490	490	-	-	-	-	-	-	-	-	-	-
142+75 EB		RT	-	-	-	-	-	-	-	-	15	-	-	-	-	-
143+50 EB		RT	-	-	-	-	-	-	-	-	15	-	-	-	-	-
PROJECT		PROJECT	-	-	-	-	2	1	-	-	-	-	-	-	-	-
		TOTAL	4225	3050	650	650	2	1	1175	2	30	6	2.7	60	20	115

PERMANENT TYPE II SIGNS

STATION	LOCATION	NUMBER ON PLAN	SIGN SIZE IN X IN	SIGN PLATE NUMBER	634.0614 POSTS WOOD 4X6-INCH 14-FT EACH	634.0616 POSTS WOOD 4X6-INCH 16-FT EACH	634.0618 POSTS WOOD 4X6-INCH 18-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2102 MOVING SIGNS TYPE II EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
132+80 EB	RT	1-1	108 X 36	D1-2	-	-	2	27	-	-	-	-	-
137+00 EB	RT	1-2	36 X 54	R3-20R	-	-	1	13.5	-	-	-	-	-
137+00 EB	RT	1-3	-	-	-	-	-	-	-	-	1	2	-
141+50 EB	LT	1-4	-	-	-	-	-	-	-	-	1	1	-
141+50 EB	LT	1-5	-	-	-	-	-	-	-	-	1	-	-
144+80 EB	LT	1-6	36 X 48	R4-7	-	-	-	12	-	-	1	1	ATTACH TO LIGHT POLE
150+00 EB	LT	1-7	36 X 36	R5-57	-	-	1	9	-	-	-	-	-
150+00 EB	LT	1-8	36 X 30	CUSTOM	-	-	-	7.5	-	-	-	-	-
152+00 EB	LT	1-9	108 X 36	D1-2	-	-	2	27	-	-	1	2	-
96+60 MP	LT	1-10	-	-	-	1	-	-	-	1	-	1	-
97+60 MP	LT	1-11	-	-	-	-	-	-	-	1	-	1	ATTACH TO LIGHT POLE
98+40 MP	LT	1-12	24 X 30	R4-7	1	-	-	5	-	-	-	-	-
98+40 MP	RT	1-13	36 X 30	R3-4B	1	-	-	7.5	-	-	-	-	-
98+50 MP	LT	1-14	30 X 30	W14-2	-	1	-	-	6.25	-	1	1	-
99+30 MP	RT	1-15	24 X 24	W12-1D	1	-	-	-	4	-	-	-	-
99+50 MP	LT	1-16	36 X 36	R1-1	-	1	-	7.46	-	-	-	-	-
99+50 MP	LT	1-17	24 X 30	R4-7	-	-	-	5	-	-	-	-	-
99+50 MP	RT	1-18	54 X 18	R6-1R	-	1	-	6.75	-	-	-	-	-
99+50 MP	LT	1-19	36 X 36	R1-1	-	-	-	7.46	-	-	1	1	-
99+50 MP	LT	1-20	30 X 24	R6-3	-	-	-	5	-	-	1	-	-
99+50 MP	RT	1-21	54 X 18	R6-1L	-	-	-	6.75	-	-	-	-	-
99+50 MP	RT	1-22	36 X 36	R1-1	-	1	-	7.46	-	-	-	-	-
101+10 MP	LT	1-23	54 X 18	R6-1L	-	-	1	6.75	-	-	-	1	-
101+10 MP	LT	1-24	54 X 18	R6-1R	-	-	-	6.75	-	-	-	-	-
101+10 MP	LT	1-25	-	-	-	-	-	-	-	1	-	-	-
101+10 MP	LT	1-26	-	-	-	-	-	-	-	1	-	-	-
10+70 G	LT	1-27	-	-	1	-	-	-	-	1	-	1	-
				TOTAL	4	5	7	167.88	10.25	5	8	12	

3

3

TRAFFIC CONTROL

	643.0300	643.0420	643.0705	643.0715	643.0800	643.0900	TEMPORARY PAVEMENT MARKING				
							649.0100		649.0701	649.0801	649.1100
	DRUMS	BARRICADES TYPE III	WARNING LIGHTS TYPE A	WARNING LIGHTS TYPE C	ARROW BOARDS	SIGNS	4-INCH (YELLOW)	4-INCH (WHITE)	8-INCH (WHITE)	REMOVABLE TAPE 8-INCH (WHITE)	STOP LINE 18-INCH (WHITE)
	DAY	DAY	DAY	DAY	DAY	DAY	LF	LF	LF	LF	LF
STAGE 1	446	8	10	70	5	248	500	235	-	-	10
STAGE 2	516	10	10	115	5	272	500	-	1000	600	12
STAGE 3	38	-	-	-	-	26	-	-	-	-	-
STAGE 4	114	1	-	-	-	84	-	-	-	-	-
TOTAL	1114	19	20	185	10	630	1000		1000	600	22

3

PAVEMENT MARKING

			646.0106		646.0126	646.0600	646.0883.S	647.0156	647.0456	647.0566	647.0606	647.0746	
			EPOXY 4-INCH		EPOXY 8-INCH	REMOVING PAVEMENT	GROOVED WET REFLECTIVE TAPE 8-INCH	ARROWS EPOXY TYPE 1	CURB EPOXY	STOP LINE EPOXY 18-INCH	ISLAND NOSE EPOXY	DIAGONAL EPOXY 24-INCH	
STATION	TO STATION	LOCATION	(WHITE) LF	(YELLOW) LF	(WHITE) LF	MARKINGS LF	(WHITE) LF	(WHITE) EACH	(YELLOW) LF	(WHITE) LF	(YELLOW) EACH	(WHITE) LF	REMARKS
95+50 MP	- 97+64 MP	RT	223	-	-	-	-	-	-	-	-	-	-
95+50 MP	- 98+35 MP	CL	-	572	-	-	-	-	-	-	-	-	-
95+50 MP	- 98+50 MP	LT	269	-	-	-	-	-	-	-	-	-	-
98+34 MP	- 98+34 MP	CL	-	-	-	-	-	-	-	-	1	-	SLOPED NOSE TYPE I
98+34 MP	- 99+57 MP	RT	-	-	195	-	-	-	-	-	-	-	-
98+39 MP	- 98+44 MP	CL	-	-	-	-	-	-	10	-	-	-	-
98+53 MP	- 98+65 MP	RT	-	-	-	-	-	1	-	-	-	-	-
98+99 MP	- 99+11 MP	RT	-	-	-	-	-	1	-	-	-	-	-
99+50 MP	- 99+55 MP	CL	-	-	-	-	-	-	10	-	-	-	-
99+57 MP	- 99+57 MP	RT	-	-	-	-	-	-	-	33	-	-	-
99+60 MP	- 99+60 MP	CL	-	-	-	-	-	-	-	-	1	-	SLOPED NOSE TYPE I
136+85 EB	- 139+80 EB	RT	-	-	-	295							
137+00 EB	- 144+32 EB	RT	744	-	-	-	-	-	-	-	-	-	-
139+63 EB	- 145+02 EB	RT	-	-	-	-	1127	-	-	-	-	382	-
142+65 EB	145+00 EB	RT	-	-	-	235	-	-	-	-	-	-	-
144+28 EB	- 144+84 EB	LT	-	-	-	-	-	-	113	-	-	-	-
144+84 EB	- 144+90 EB	LT	-	-	-	-	-	-	-	-	1	-	SLOPED NOSE TYPE I
146+11 EB	- 147+00 EB	RT	89	-	-	-	-	-	-	-	-	-	-
146+60 EB	147+10 EB	RT				50							
		SUBTOTAL	1325	572	-	-	-	-	-	-	-	-	-
		TOTAL	1897		195	580	1127	2	133	33	3	382	

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB GUTTER AND CURB & GUTTER LF	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF
10+50 G	-	11+00 G	LT & RT	50	50	-	-	50
95+80 MP	-	99+25 MP	LT & RT	345	345	-	-	345
98+09 MP	-	99+64 MP	RT	-	-	250	-	-
98+50 MP	-	99+42 MP	LT	-	-	105	-	-
137+00 EB	-	147+00 EB	RT	-	1000	-	-	-
138+50 EB	-	144+50 EB	RT	-	-	-	-	600
138+50 EB	-	145+00 EB	RT	700	-	-	-	-
144+80 EB			LT	-	-	32	-	-
145+50 EB	-	147+00 EB	RT	150	-	-	-	-
146+00 EB	-	147+00 EB	RT	-	-	-	-	100
PROJECT			-	-	-	-	1	-
			TOTAL	1245	1395	387	1	1095

ELECTRICAL ITEMS

FROM	TO	OFFSET	STRUCTURE	204.0195 REMOVING CONCRETE BASES EACH	CONDUIT RIGID NONMETALLIC 652.0225 SCHEDULE 40 2-INCH LF	652.0325 SCHEDULE 80 2-INCH LF	652.0335 SCHEDULE 80 3-INCH LF	653.0900 ADJUSTING PULL BOXES EACH	653.0905 REMOVING PULL BOXES EACH	654.0105 CONCRETE BASES TYPE 5 EACH	ELECTRICAL WIRE LIGHTING 655.0615 10 AWG LF	655.0620 8 AWG LF	655.0625 6 AWG LF	SPV.0060.01 MOVING LIGHTING ASSEMBLIES EACH	SPV.0060.02 ELECTRICAL PULL BOX TYPE 1 EACH	REMARKS
LB1	PB1	-	-	-	100	-	-	-	-	-	-	110	330	-	-	3#6, 1#8
PB1	EXPB3	-	-	-	-	-	150	-	-	-	-	125	375	-	-	2 DUCTS, 3#6, 1#8
EXPB3	ELB2	-	-	-	-	-	-	-	-	-	-	6	18	-	-	3#6, 1#8
PB1	PB2	-	-	-	-	-	230	-	-	-	-	120	360	-	-	2 DUCTS, 3#6, 1#8
PB2	EXPB4	-	-	-	-	-	90	-	-	-	-	100	300	-	-	2 DUCTS, 3#6, 1#8
EXPB4	ELB3	-	-	-	-	-	-	-	-	-	-	6	18	-	-	3#6, 1#8
LB1	SIGN	-	-	-	60	80	-	-	-	-	510	-	-	-	-	3#10
STATION																
97+35 MP		33' LT	LB1	-	-	-	-	-	-	1	-	-	-	1	-	VERIFY LOCATION WITH INSPECTOR
97+60 MP		25' LT	-	1	-	-	-	-	-	-	-	-	-	-	-	-
98+85 MP		52' LT	PB1	-	-	-	-	-	-	-	-	-	-	-	1	-
99+30 MP		55' RT	PB2	-	-	-	-	-	-	-	-	-	-	-	1	-
99+47 MP		43' LT	-	-	-	-	-	-	1	-	-	-	-	-	-	-
99+47 MP		43' RT	-	-	-	-	-	-	1	-	-	-	-	-	-	-
144+83 EB		27' LT	EXPB3	-	-	-	-	1	-	-	-	-	-	-	-	-
		TOTAL		1	160	80	470	1	2	1	510	467	1401	1	2	

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
3080-01-22		
FEDERAL PROJECT NUMBER	4.1	3

PLAT OF RIGHT-OF-WAY REQUIRED FOR

C MADISON

(MILLPOND ROAD INTERSECTION)

USH 12 — DANE COUNTY

CONSTRUCTION PROJECT NUMBER

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	RECORDED AS	(100')
ACCESS RIGHTS	AR	REFERENCE LINE	R/L
ACRES	AC.	RELEASE OF RIGHTS	ROR
AND OTHERS	ET.AL.	REMAINING	REM.
CENTERLINE	C/L	RIGHT-OF-WAY	R/W
CERTIFIED SURVEY MAP	CSM	SECTION	SEC.
CORNER	COR.	STATION	STA.
DOCUMENT	DOC.	TEMPORARY LIMITED EASEMENT	TLE
EASEMENT	EASE.	VOLUME	V.
HIGHWAY EASEMENT	H.E.	**CURVE DATA**	
LAND CONTRACT	LC	LONG CHORD	LCH
MONUMENT	MON.	LONG CHORD BEARING	LCB
PAGE	P.	RADIUS	R
PERMANENT LIMITED EASEMENT	PLE	DEGREE OF CURVE	D
PRIVATE DRIVE	P.D.	CENTRAL ANGLE OR DELTA	Δ
PROPERTY LINE	PL	LENGTH OF CURVE	L
		TANGENT	T

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		⊠	

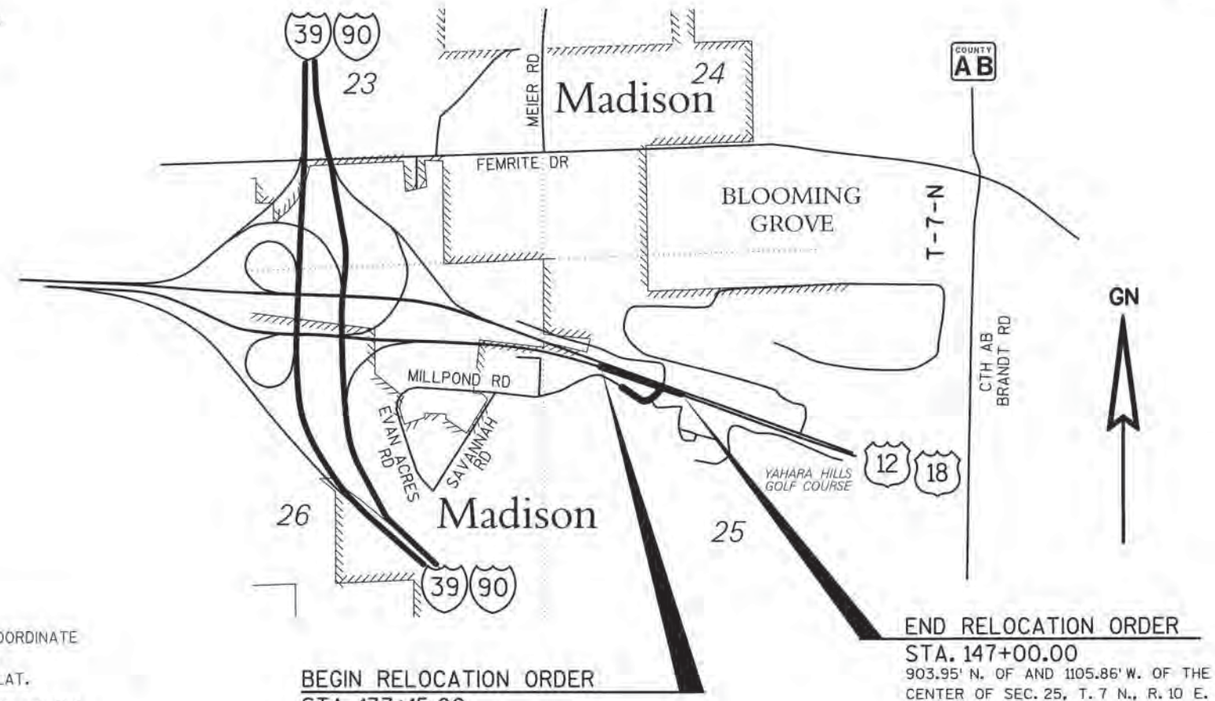
CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W LINE
PROPERTY LINE
LOT, TIE AND OTHER MINOR LINES
CORPORATE LIMITS
FEE ACQUISITION AREA (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT (HIGHWAY, PERMANENT LIMITED OR RESTRICTED DEVELOPMENT) AREAS
BUILDING

SECTION CORNER
NOTATION FOR COMBUSTABLE FLUIDS
NOTATION FOR HIGH VOLTAGE TRANSMISSION LINES
ELECTRIC POLE
TELEPHONE POLE
PEDESTAL (LABEL TYPE - (COMMUNICATIONS, ELECTRIC)
NO ACCESS (BY PARCEL ACQUISITION)
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT/CONTROL)
BRIDGE

R/W MONUMENT ○ ● (SET)
NON-MONUMENTED R/W POINT ○
IRON PIPE / PIN ○ I.P. / TYPE
VALVE (GAS, WATER, ETC.) ⊙ (TYPE)
SIGN
OFF-PREMISE SIGN
PARCEL NUMBER (6)
UTILITY PARCEL NUMBER (83)

R-10-E



BEGIN RELOCATION ORDER
STA. 137+15.00
1207.05' N. OF AND 2043.06' W. OF THE CENTER OF SEC. 25, T. 7 N., R. 10 E.

END RELOCATION ORDER
STA. 147+00.00
903.95' N. OF AND 1105.86' W. OF THE CENTER OF SEC. 25, T. 7 N., R. 10 E.

LAYOUT
SCALE 0 — ½ MILE

TOTAL NET LENGTH OF CENTERLINE = 0.186 MI.

NOTES:

COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DANE COUNTY ZONE, NAD83(2007) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID AND GROUND VALUES ON THIS PLAT.

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 BY OTHERS.

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

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT-OF-WAY FOR USH 12/18 AND MILL POND ROAD ESTABLISHED FROM PREVIOUS PROJECT 3080-00-21,

EXISTING ACCESS CONTROL ALONG USH 12/18 ESTABLISHED FROM PREVIOUS PROJECTS F04-2(31) & 3080-00-21.

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

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

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.

ORIGINAL PLAT PREPARED BY

AYRES ASSOCIATES

WISCONSIN — JAMEY L. REID — Portage, WI — S-2559 — PROFESSIONAL LAND SURVEYOR

THIS SURVEY IS PREPARED AT THE REQUEST OF THE DEPARTMENT. THE FIELD SURVEY WAS PERFORMED IN JULY 2013. THIS SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

(SIGNATURE) Jamey L. Reid
DATE: 9/19/2013
(PRINTED NAME) JAMEY L. REID
(REGISTRATION NUMBER) S-2559

REVISION DATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED FOR THE DEPARTMENT
DATE: 11/18/13 (Signature)

E

FILE NAME : N:\410656-57\DGN\410656-Millpond\3080-01-22_040101.dgn | PLOT DATE : 9/19/2013 | PLOT BY : kk226 | PLOT NAME : | PLOT SCALE : 1:100

WISDOT/CADDS SHEET 50

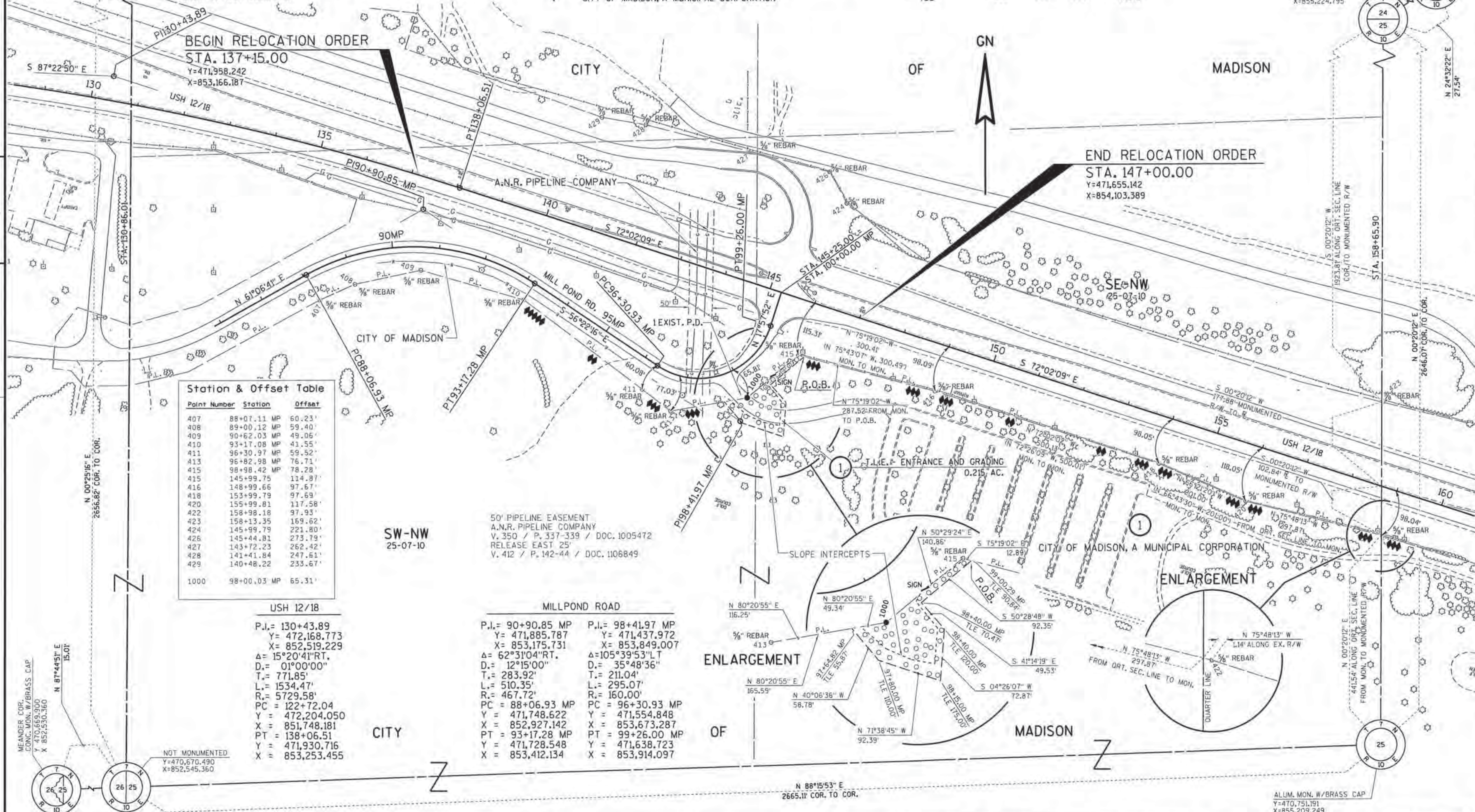
NOTE:
DISCREPANCIES HAVE BEEN IDENTIFIED BETWEEN THE LOCATIONS OF THE SECTION CORNERS AND THE LOCATIONS OF THE R/W MONUMENTS SET FOR R/W PROJECT 3080-00-21. CURRENT RIGHT-OF-WAY CORRIDOR MONUMENTATION HAS BEEN DETERMINED BY WISDOT TO BE IN THE CORRECT LOCATION AND IS REPRESENTATIVE OF THE PROPER RIGHT-OF-WAY LOCATION.

SCHEDULE OF LANDS & INTERESTS REQUIRED

ALL AREAS SHOWN IN ACRES UNLESS OTHERWISE NOTED

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 OR S.F. REQUIRED NEW	EXISTING	TOTAL	TLE ACRES
1	CITY OF MADISON, A MUNICIPAL CORPORATION	TLE	---	---	---	0.215



Station & Offset Table

Point Number	Station	Offset
407	88+07.11 MP	60.23'
408	89+00.12 MP	59.40'
409	90+62.03 MP	49.06'
410	93+17.08 MP	41.55'
411	96+30.97 MP	59.52'
413	96+82.98 MP	76.71'
415	98+98.42 MP	78.28'
415	145+99.75	114.87'
416	148+99.66	97.67'
418	153+99.79	97.69'
420	155+99.81	117.58'
422	158+98.18	97.93'
423	158+13.35	169.62'
424	145+99.79	221.80'
426	145+44.81	273.79'
427	143+72.23	262.42'
428	141+41.84	247.61'
429	140+48.22	233.67'
1000	98+00.03 MP	65.31'

USH 12/18

P.I.= 130+43.89
Y= 472,168.773
X= 852,519.229
Δ= 15°20'41"RT.
D.= 01°00'00"
T.= 771.85'
L.= 1534.47'
R.= 5729.58'
PC = 122+72.04
Y = 472,204.050
X = 851,748.181
PT = 138+06.51
Y = 471,930.716
X = 853,253.455

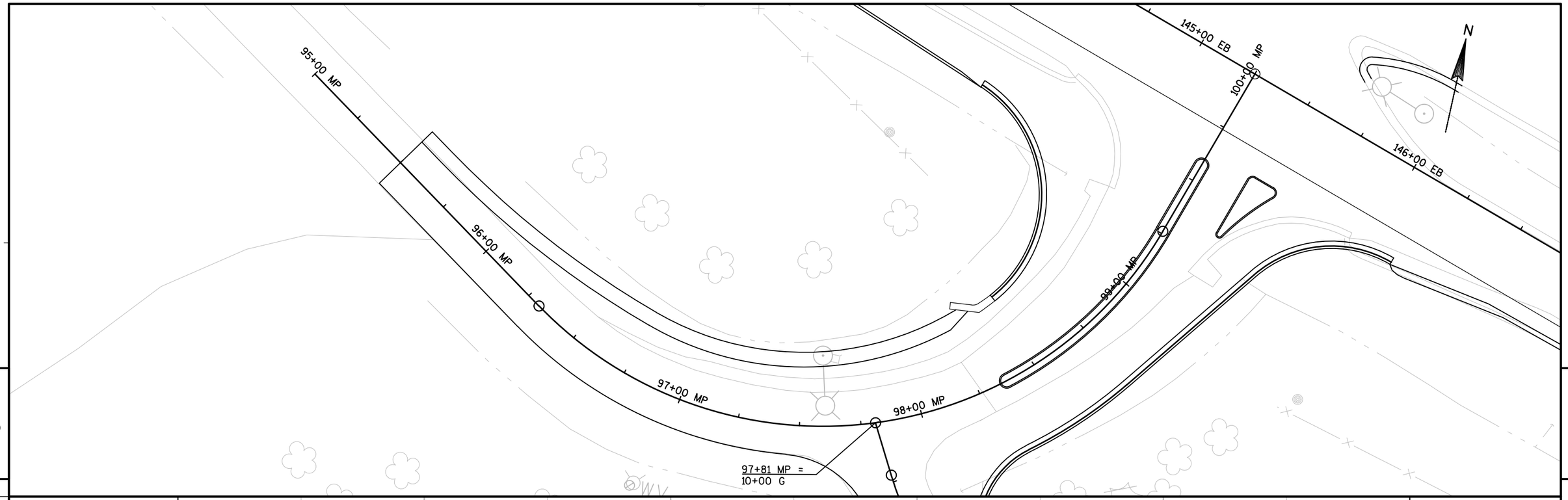
MILLPOND ROAD

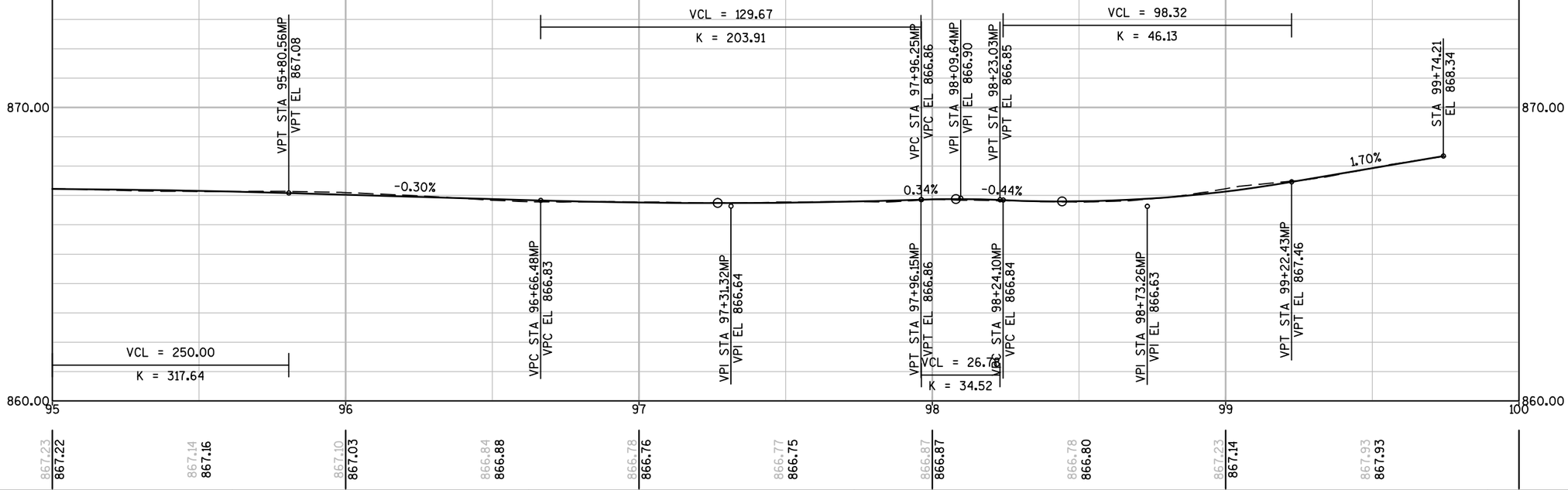
P.I.= 90+90.85 MP	P.I.= 98+41.97 MP
Y= 471,885.787	Y= 471,437.972
X= 853,175.731	X= 853,849.007
Δ= 62°31'04"RT.	Δ=105°39'53"LT
D.= 12°15'00"	D.= 35°48'36"
T.= 283.92'	T.= 211.04'
L.= 510.35'	L.= 295.07'
R.= 467.72'	R.= 160.00'
PC = 88+06.93 MP	PC = 96+30.93 MP
Y = 471,748.622	Y = 471,554.848
X = 852,927.142	X = 853,673.287
PT = 93+17.28 MP	PT = 99+26.00 MP
Y = 471,728.548	Y = 471,638.723
X = 853,412.134	X = 853,914.097

REVISION DATE	DATE	SCALE, FEET 0 100 200	HWY: USH 12	STATE R/W PROJECT NUMBER 3080-01-22	PLAT SHEET 4.2
	GRID FACTOR N/A		COUNTY: DANE	CONSTRUCTION PROJECT NUMBER	PS&E SHEET E

R/W MONUMENT POINT NUMBER AND COORDINATE TABLE

R/W MONUMENT POINT NUMBER AND COORDINATE TABLE		
POINT	Y	X
407	471695.962	852956.372
408	471728.581	853030.505
409	471757.409	853170.347
410	471694.052	853388.969
411	471505.254	853640.376
413	471459.420	853700.675
415	471576.797	853972.596
416	471500.654	854263.192
418	471346.385	854738.937
420	471265.771	854923.065
422	471192.438	855212.953
423	471473.114	855214.774
424	471897.036	854076.469
426	471963.454	854040.206
427	472005.859	853872.539
428	472062.829	853648.809
429	472078.446	853555.450
1000	471487.182	853863.924



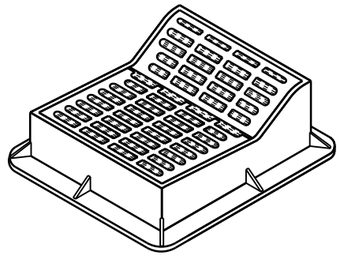


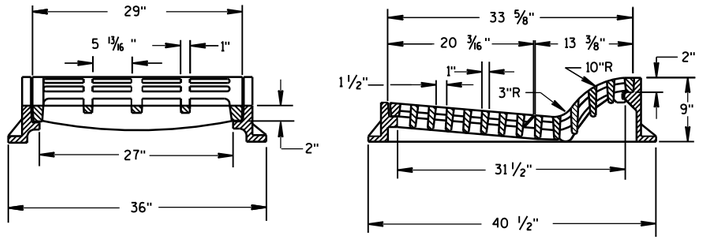
PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	PLAN AND PROFILE: MILLPOND RD INTERSECTION	SHEET 39	E

FILE NAME : N:\PDS\C3D\30800102\PLAN SHEETS\050101_PP.DWG PLOT DATE : 5/1/2014 7:13 AM PLOT BY : JOHNSON, JOHN R PLOT NAME : PLOT SCALE : 1" = 40'_XREF

Standard Detail Drawing List

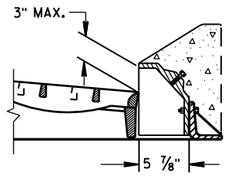
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
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
11B02-02	CONCRETE MEDIAN NOSE
13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-11A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
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
15D21-02	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH





TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

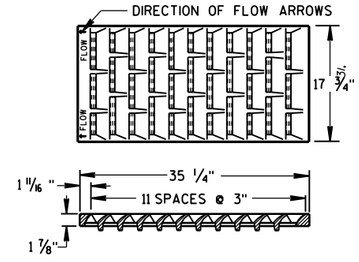
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

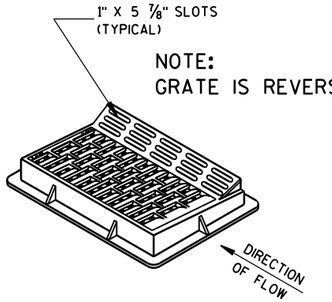
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

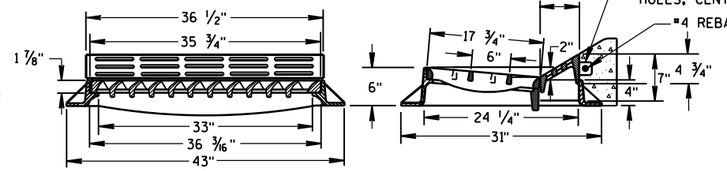
GENERAL NOTES

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.



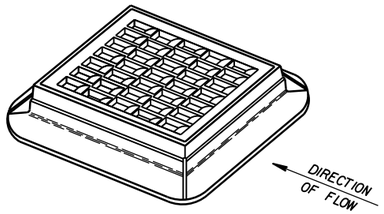


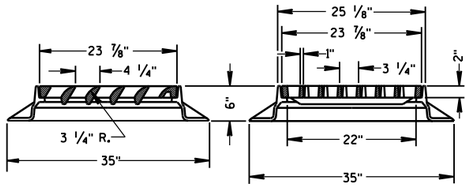


TYPE "HM"

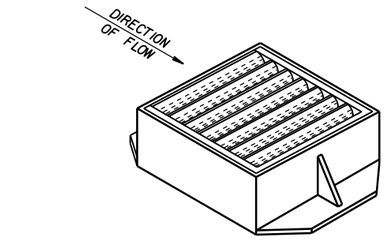
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

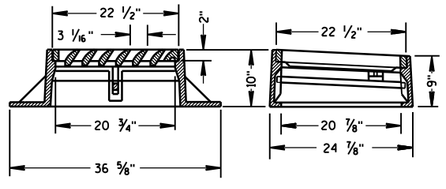
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



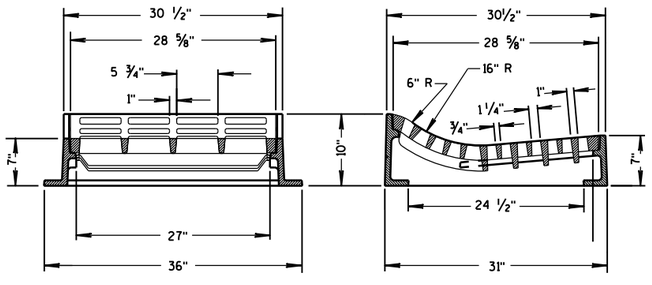


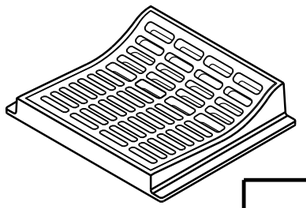
TYPE "S"





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

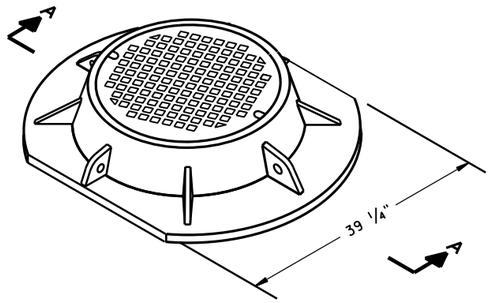
APPROVED
11/27/2013
DATE

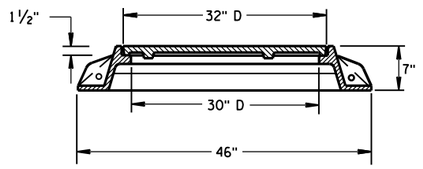
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

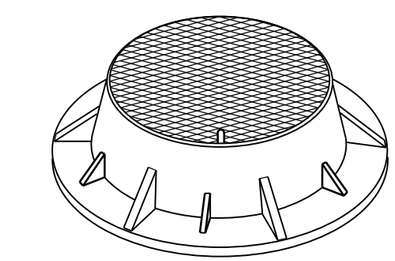
6

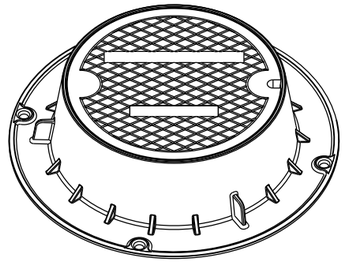
S.D.D. 8 A 5-19c

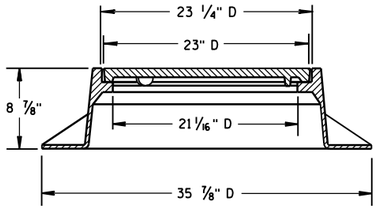


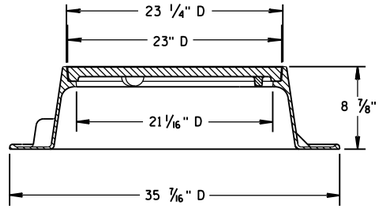


SECTION A-A
TYPE "K"









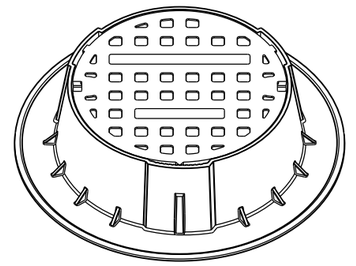
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

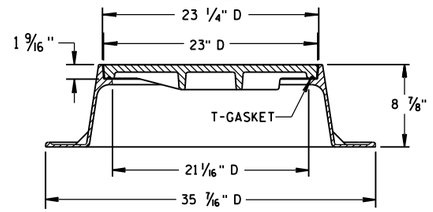
GENERAL NOTES

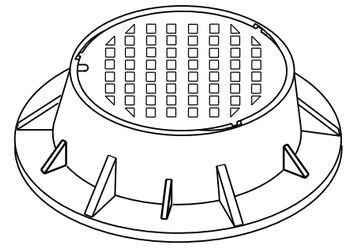
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

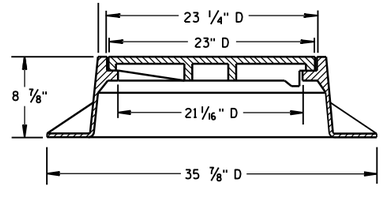
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

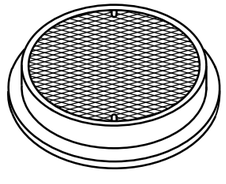


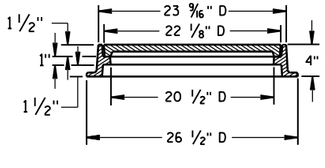




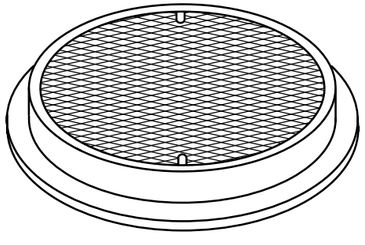


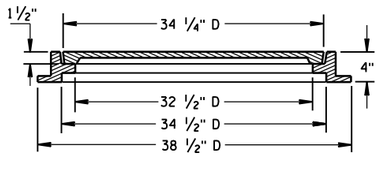
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



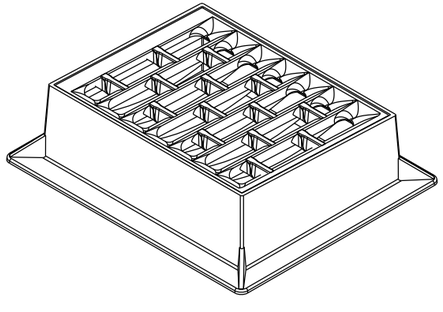


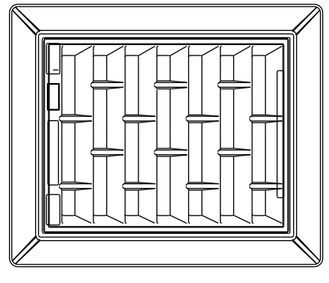
TYPE "L"

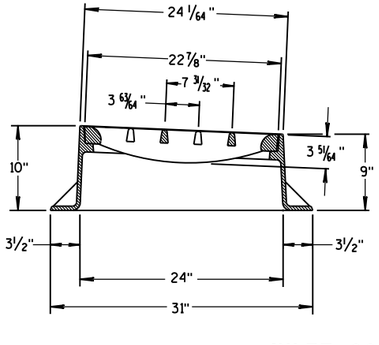


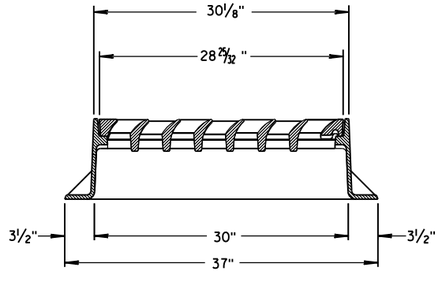


TYPE "M"









INLET COVER TYPE "BW"

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

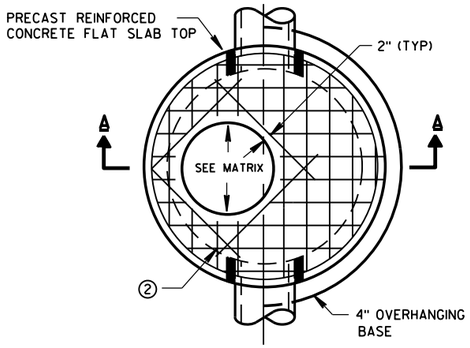
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

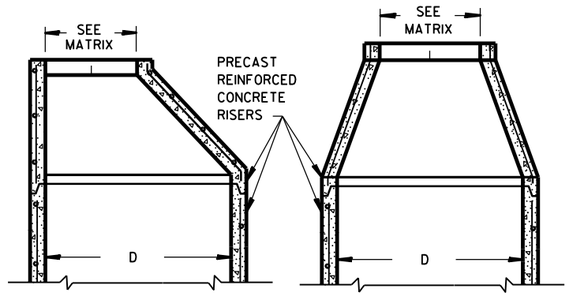
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

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

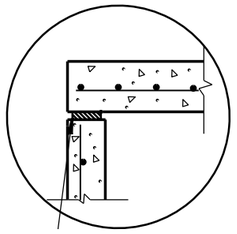


PLAN VIEW CIRCULAR OPENING

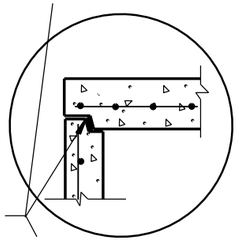


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

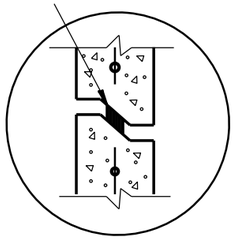


TOP WITH PLAIN END JOINT



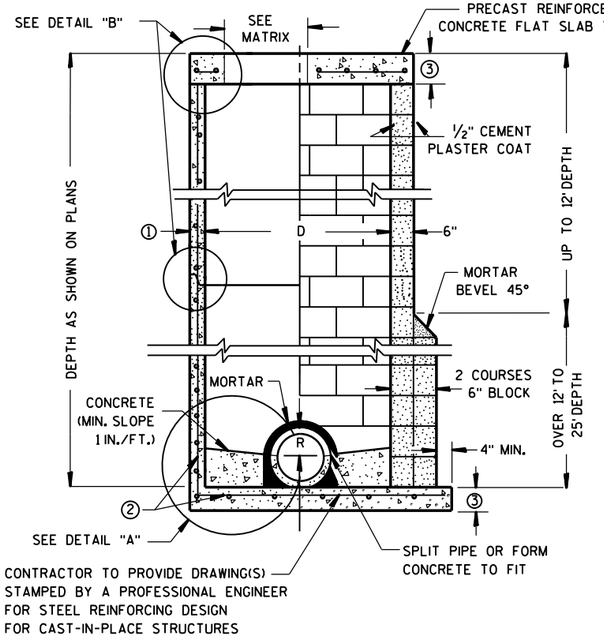
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



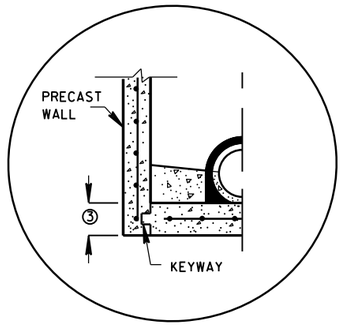
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

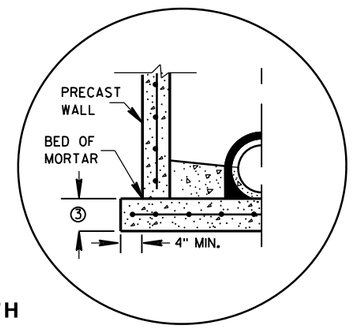


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

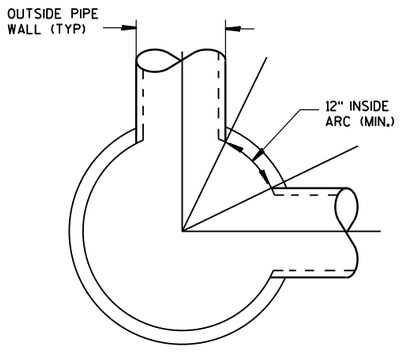


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

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

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

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

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

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF 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

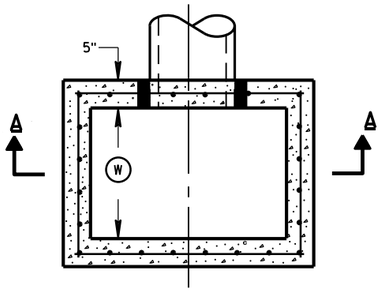
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

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

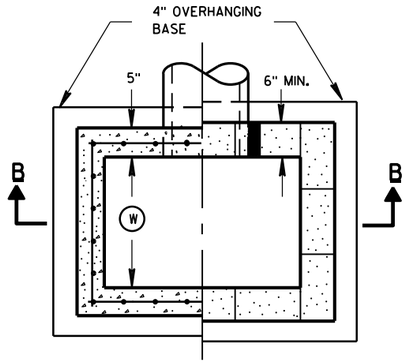
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

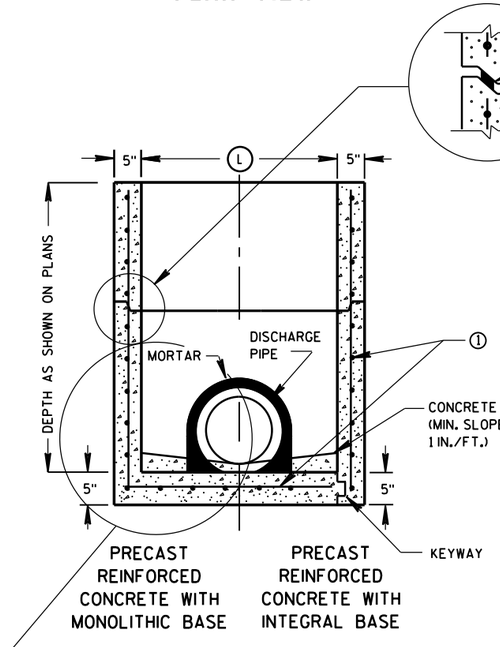
6
S.D.D. 8 B 9-1



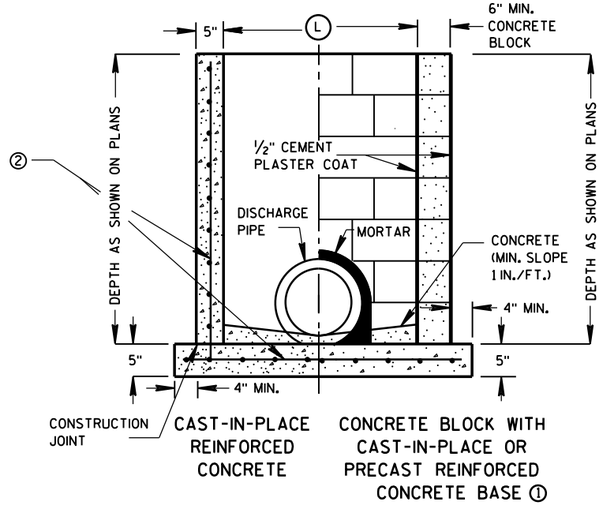
PLAN VIEW



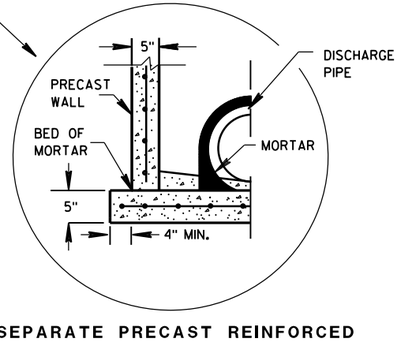
PLAN VIEW



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.

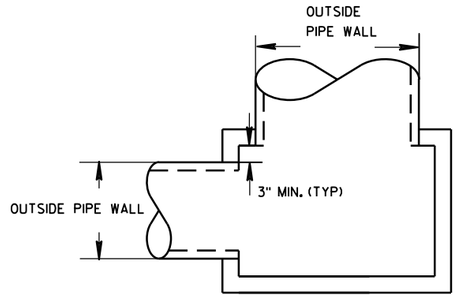
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

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"

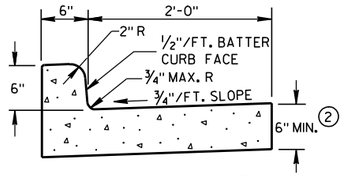
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

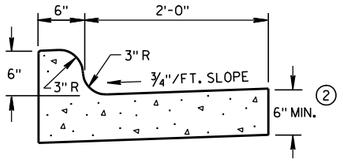
APPROVED
6/5/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER

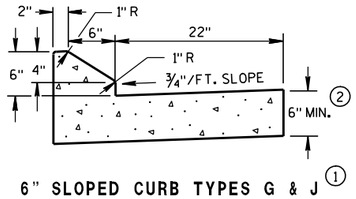
6
S.D.D. 8 C 7-1



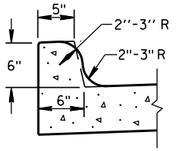
TYPES A & D (1)



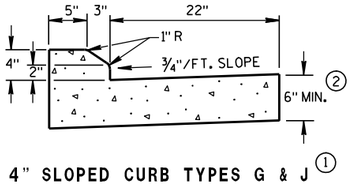
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

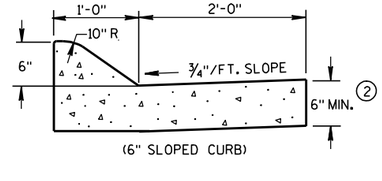


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

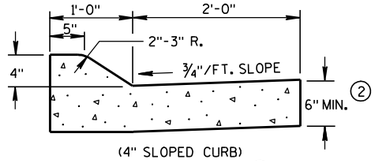


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

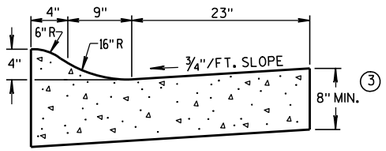


(6" SLOPED CURB)



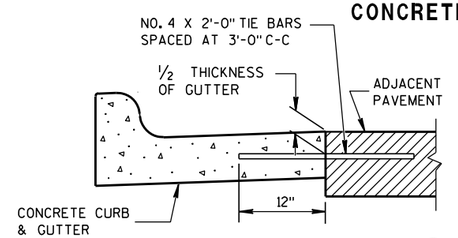
(4" SLOPED CURB)

TYPES A & D (1)

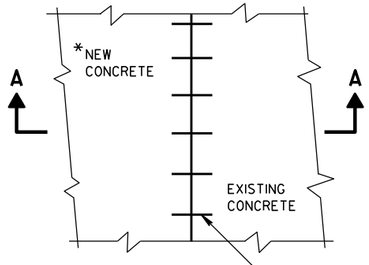


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

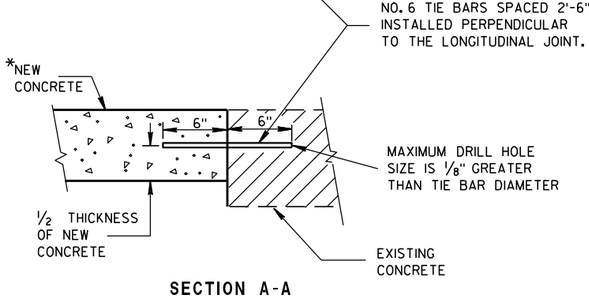


TYPICAL TIE BAR LOCATION (1)



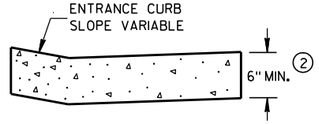
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW



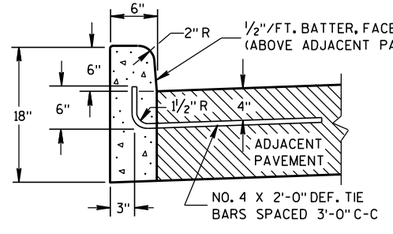
SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



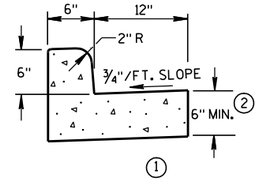
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



(1)

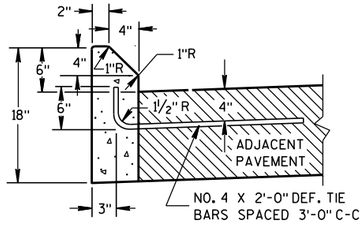
TYPES A & D



(1)

TYPES A & D

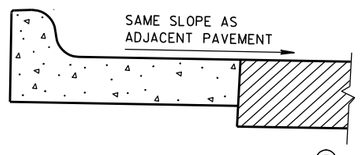
CONCRETE CURB & GUTTER 18"



(1)

TYPES G & J

CONCRETE CURB



(5)

REVERSE SLOPE GUTTER

(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.

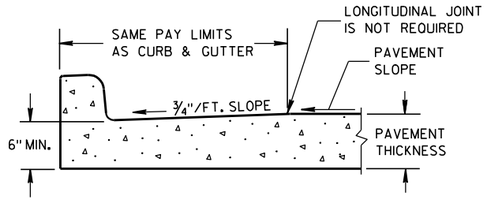
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(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.

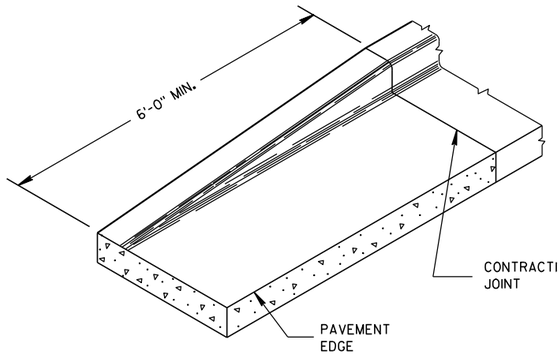
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(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



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

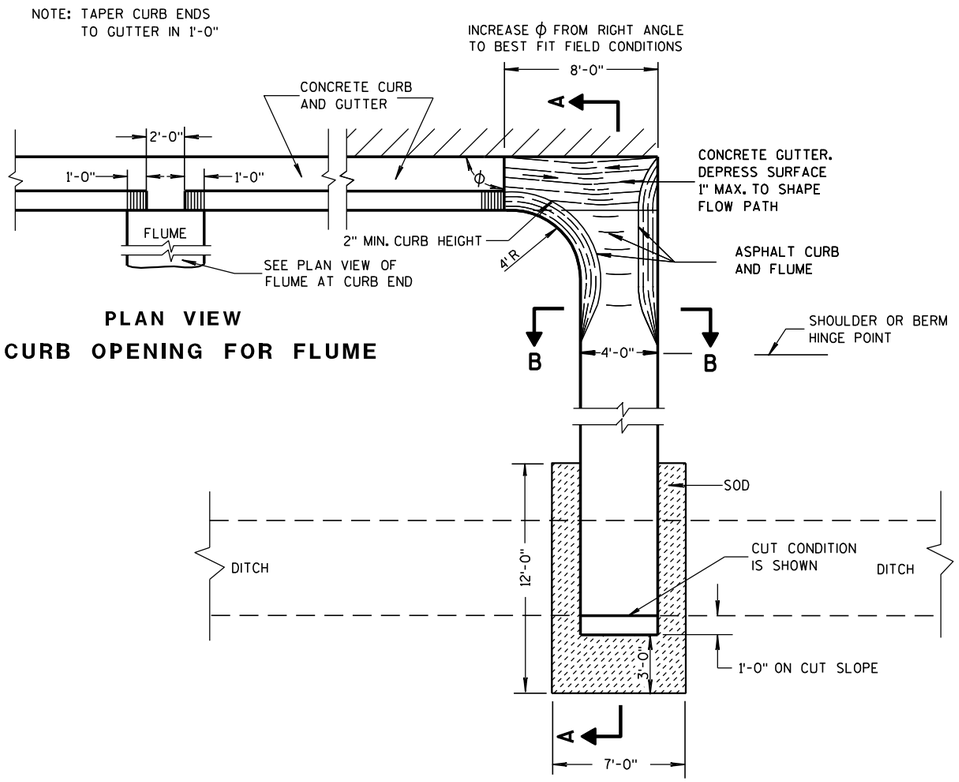
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER
FHWA

6

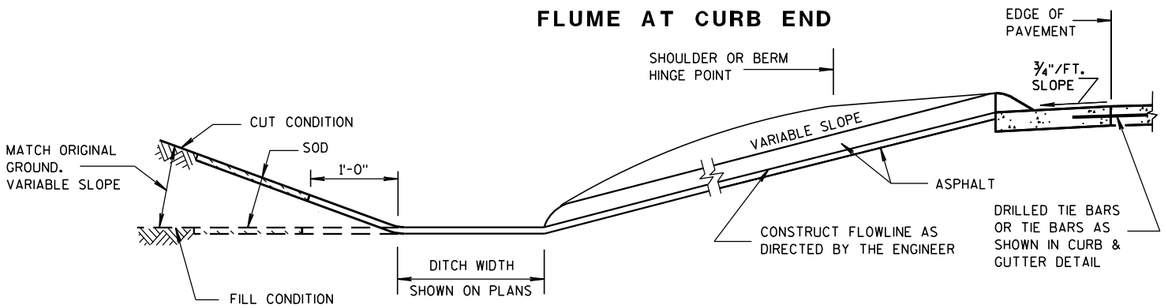
S.D.D. 8 D 1-17

ASPHALTIC FLUME

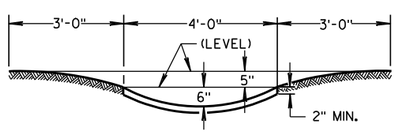


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

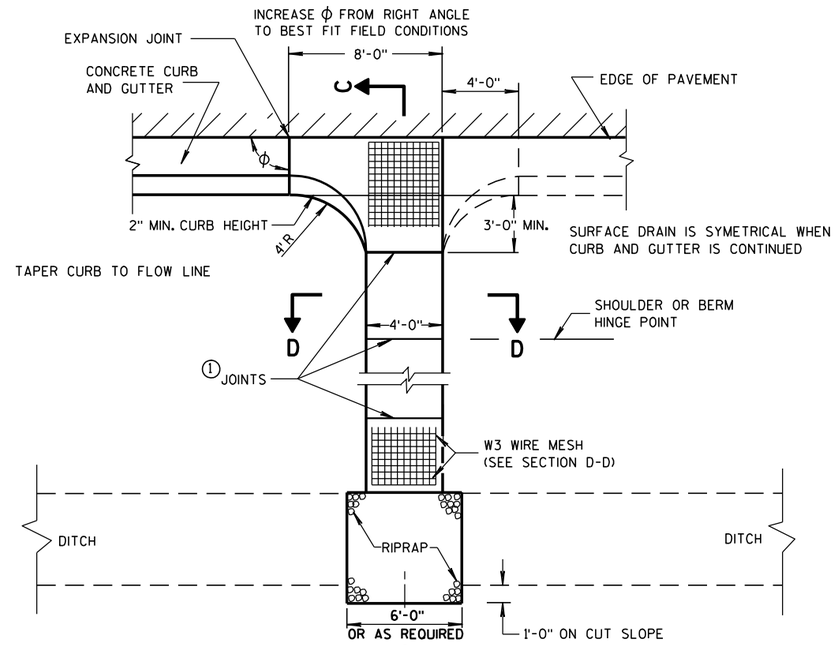
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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

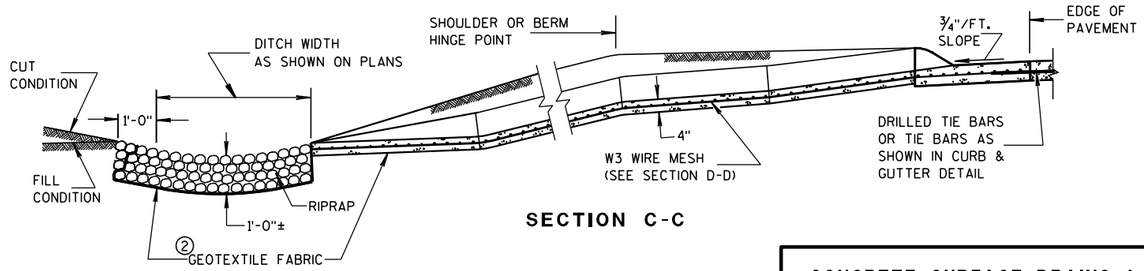
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

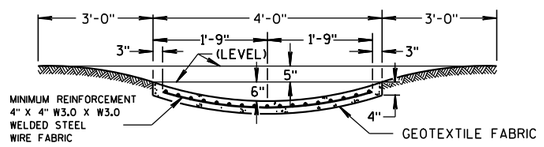
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

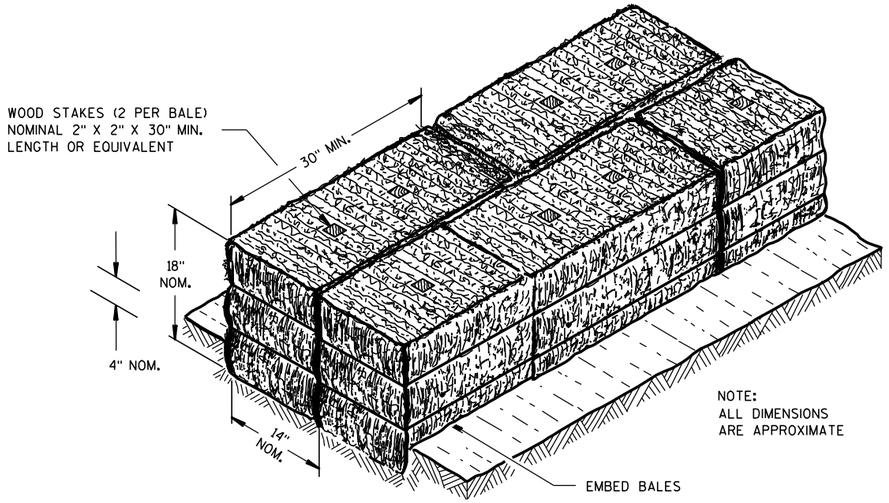
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
MENT
FHWA

6

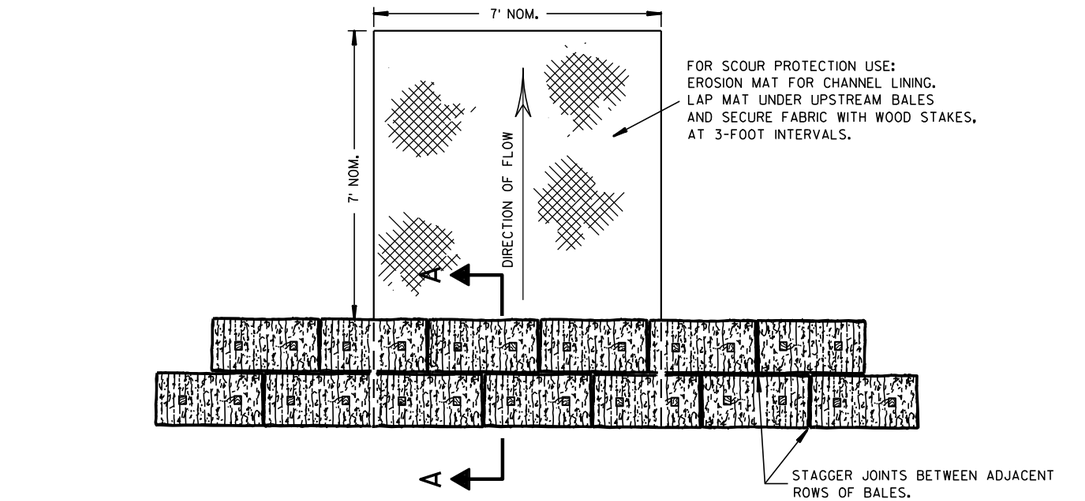
S.D.D. 8 D 4-5

6

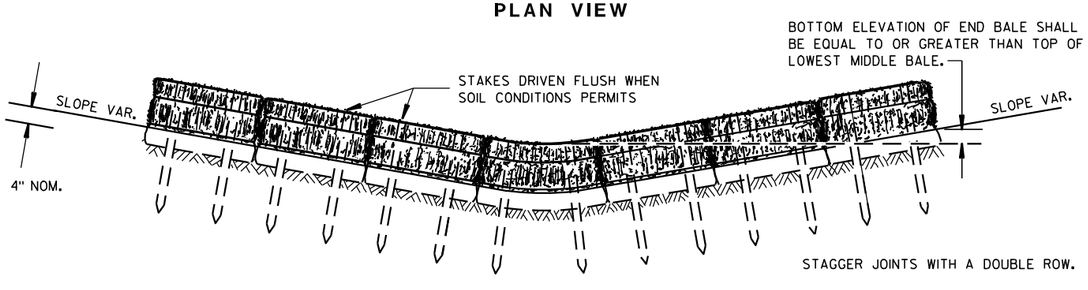
S.D.D. 8 D 4-5



SECTION A-A



PLAN VIEW



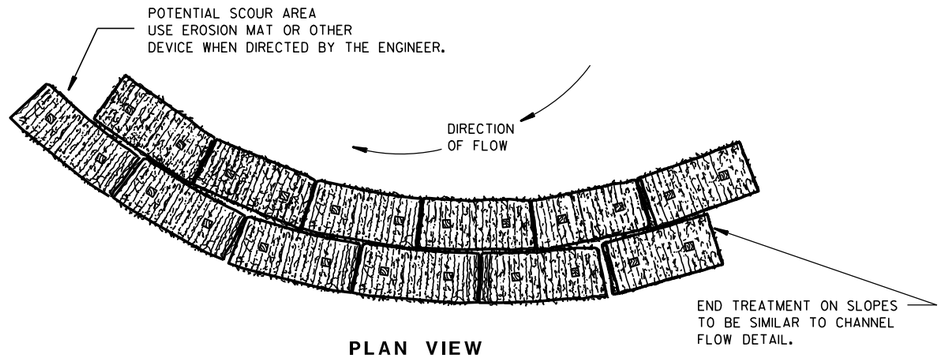
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

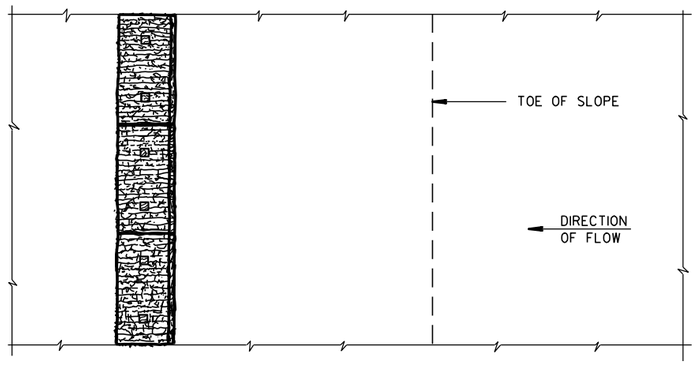
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

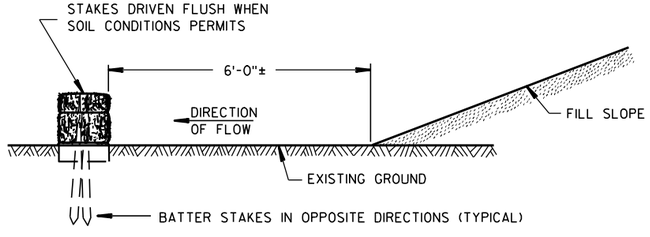


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

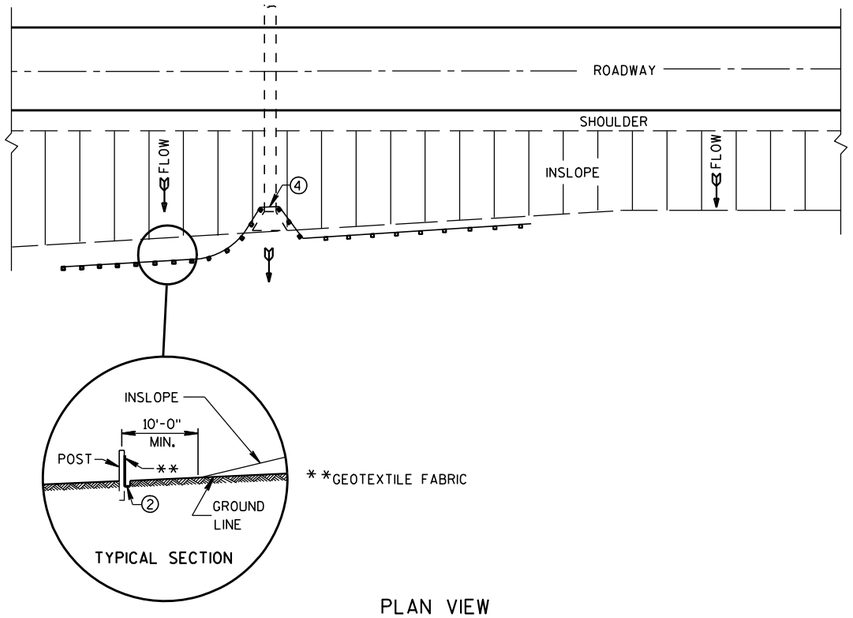
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

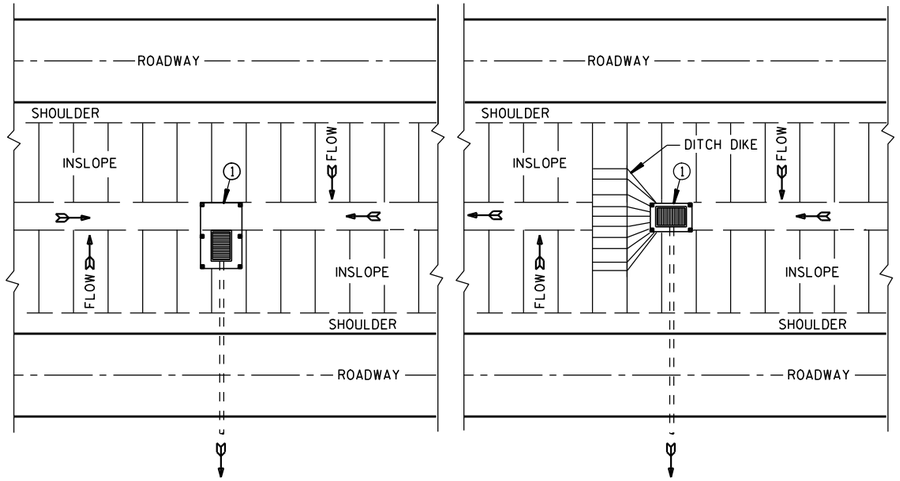
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



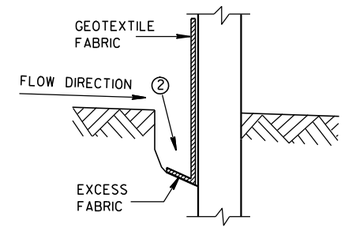
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

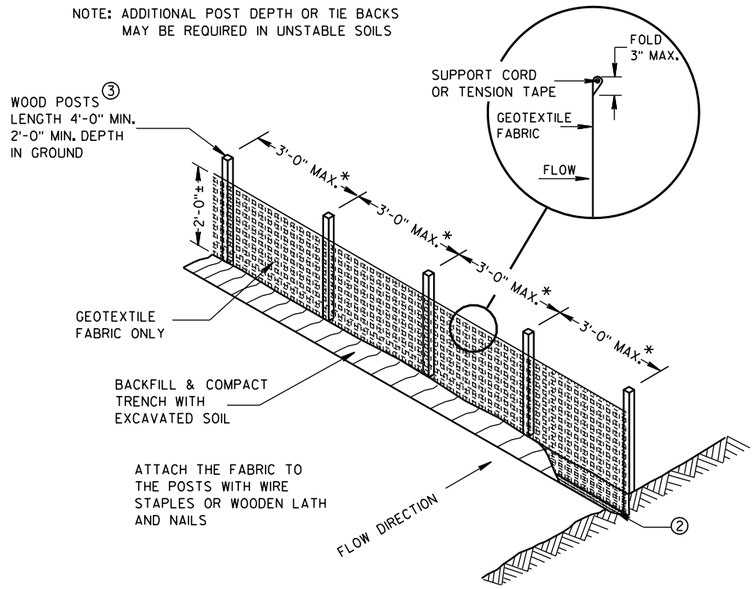
GENERAL NOTES

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

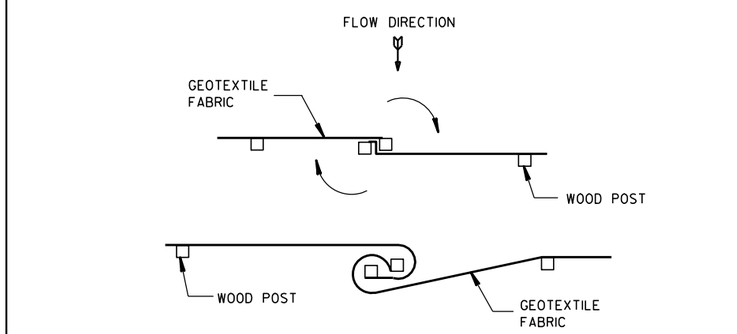
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



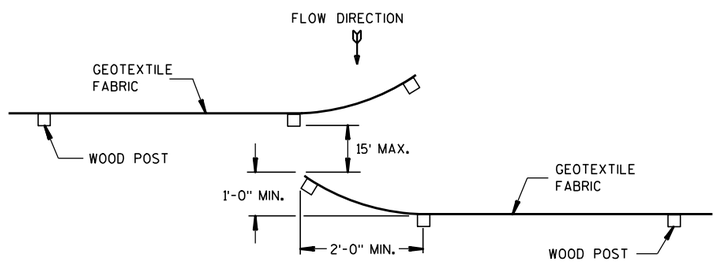
TRENCH DETAIL



SILT FENCE

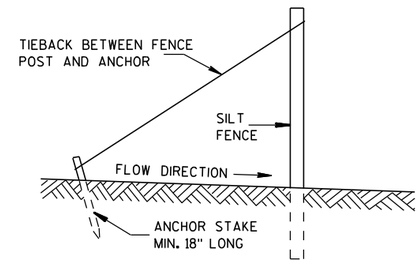


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

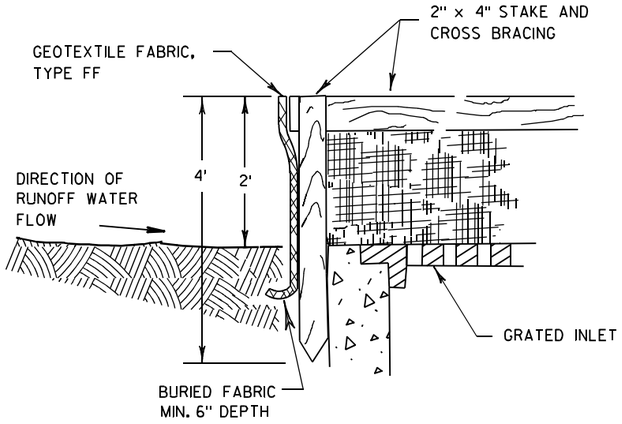
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

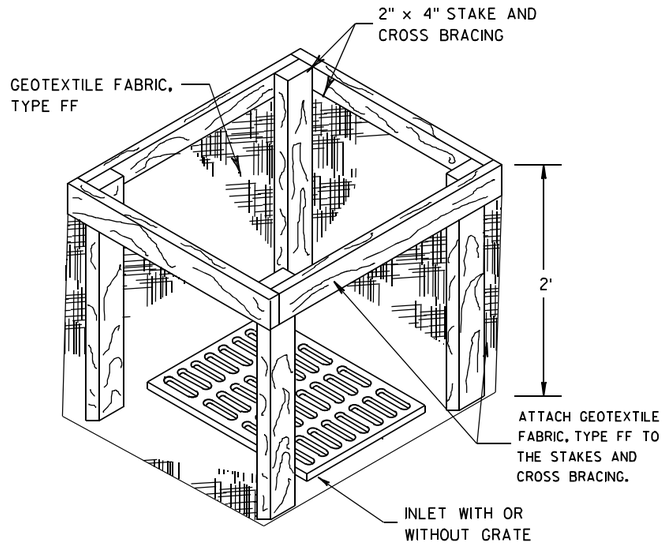
6

S.D.D. 8 E 9-6

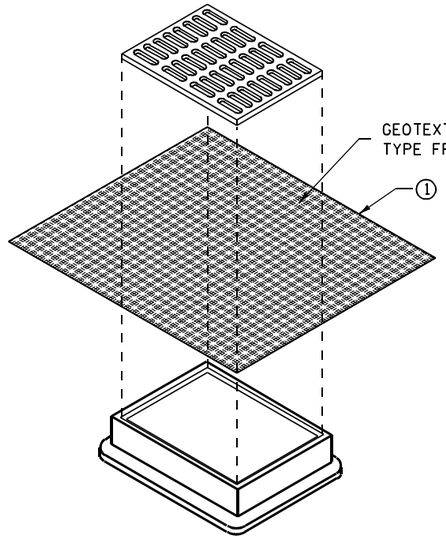
6

S.D.D. 8 E 9-6



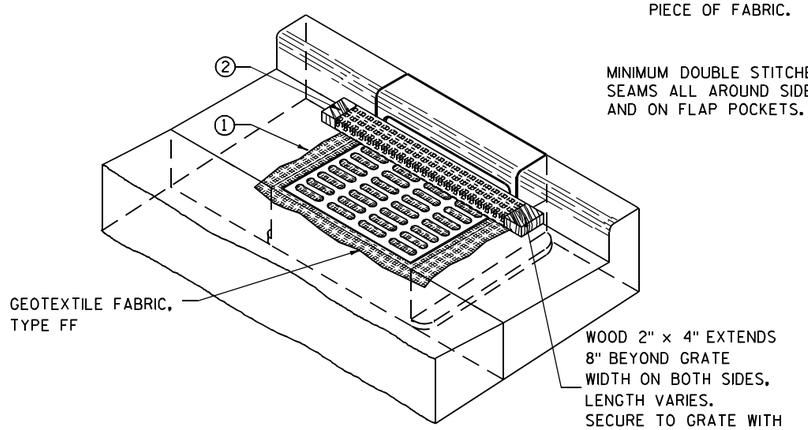


INLET PROTECTION, TYPE A

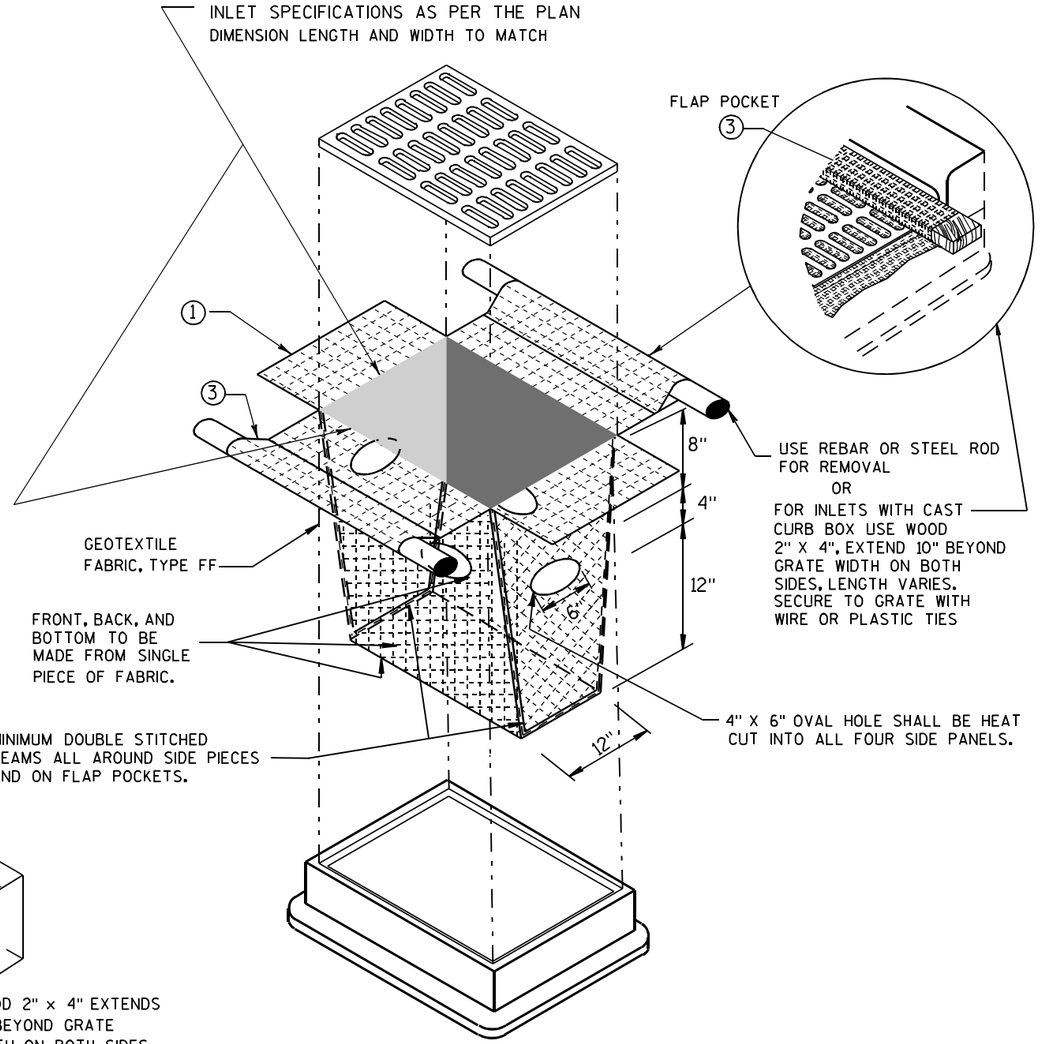


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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

METAL APRON ENDWALLS

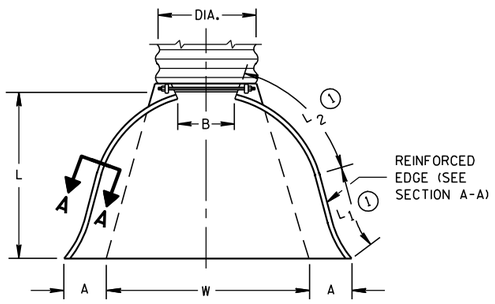
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 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

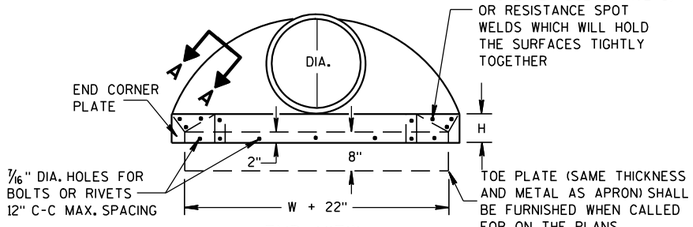
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
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

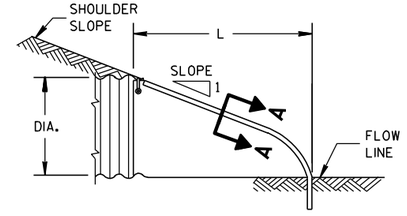
*MINIMUM
**MAXIMUM



PLAN VIEW

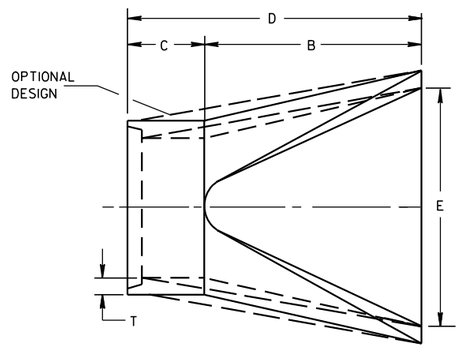


END VIEW

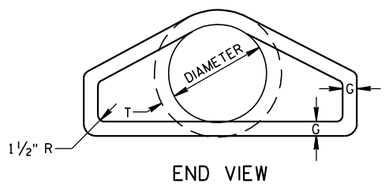


SIDE ELEVATION

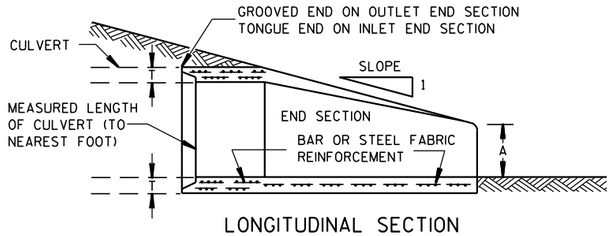
METAL ENDWALLS



PLAN

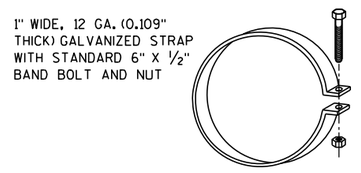


END VIEW



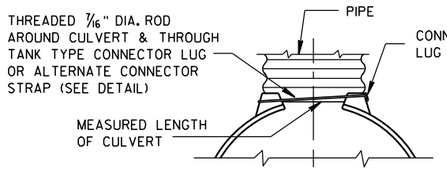
LONGITUDINAL SECTION

CONCRETE ENDWALLS

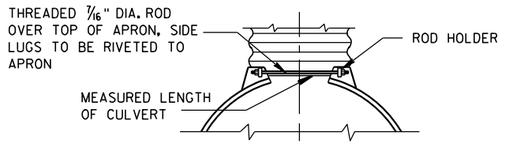


ALTERNATE FOR TYPE 1 CONNECTION

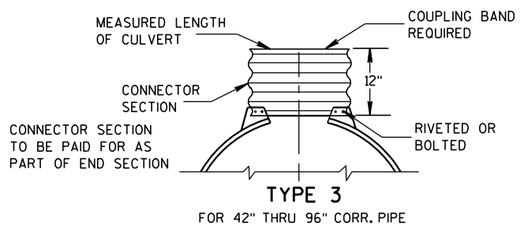
END SECTION CONNECTOR STRAP



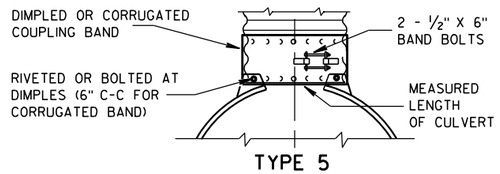
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

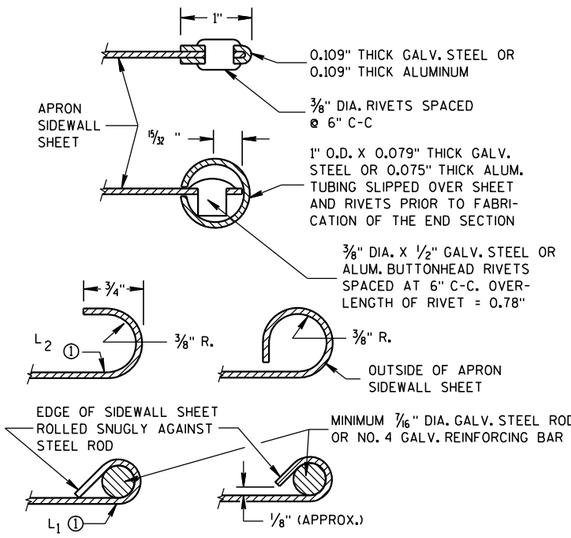
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

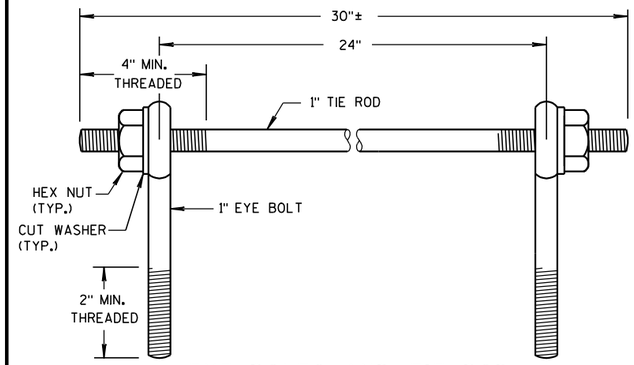
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

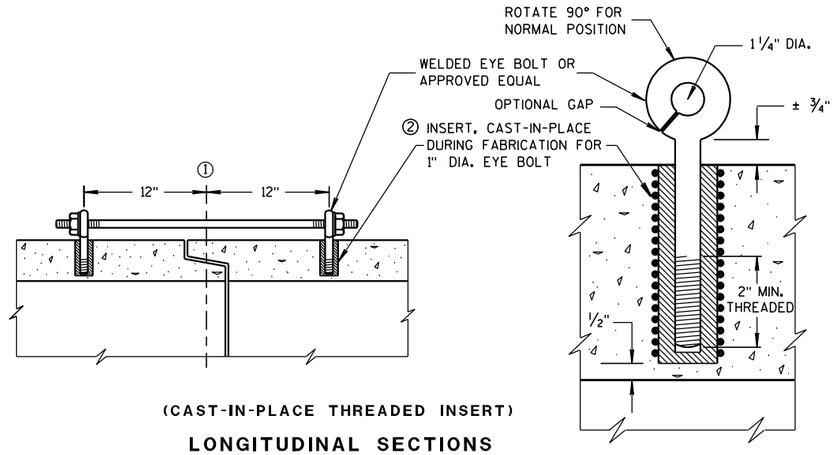
APPROVED
11/30/94 — DATE
/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENGINEER
FHWA

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.

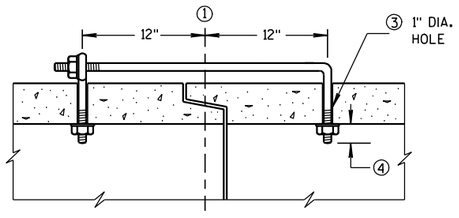
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

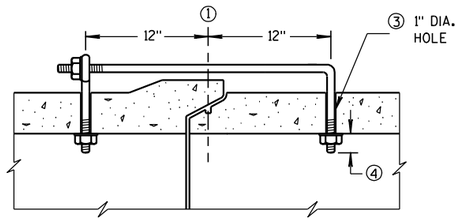
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

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)

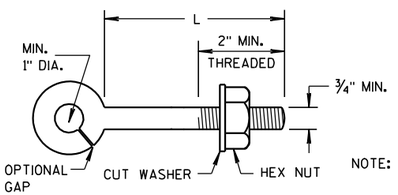


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

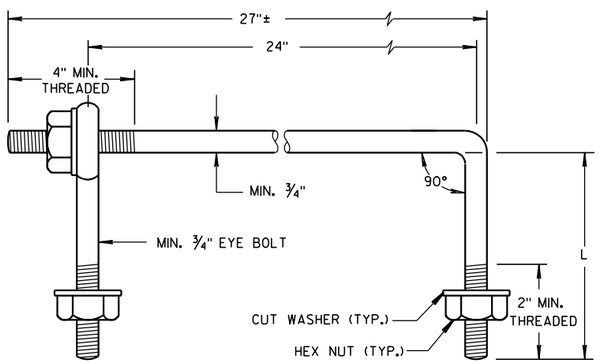
EYE BOLT DIMENSION TABLE

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"	



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

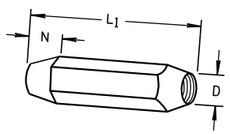
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

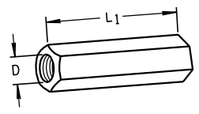
ADJUSTABLE TIE ROD TABLE

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



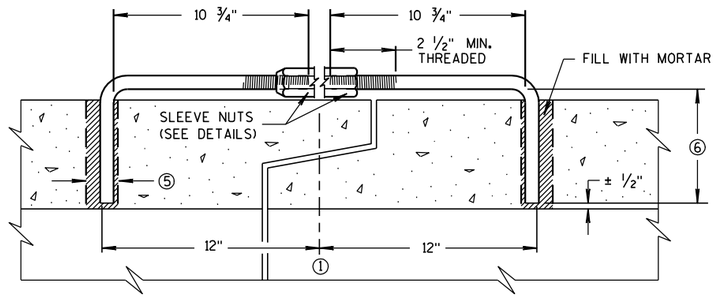
TAPERED



PLAIN

RIGHT AND LEFT THREADS

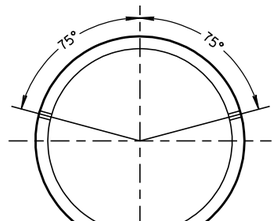
SLEEVE NUTS



LONGITUDINAL SECTION

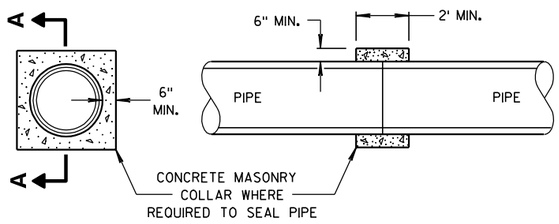
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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
FHWA

6

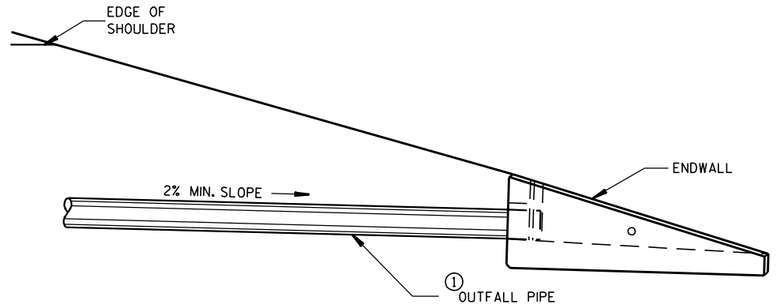
S.D.D. 8 F 4-7

6

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.

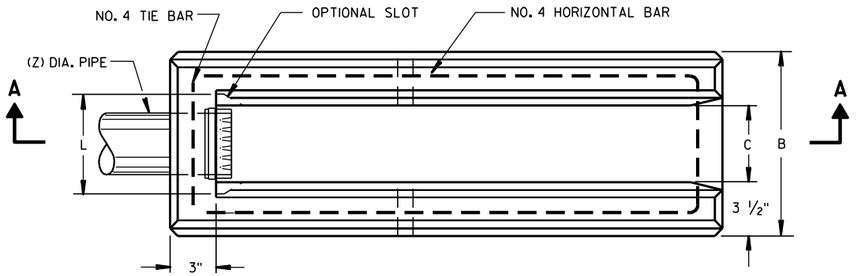
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

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.

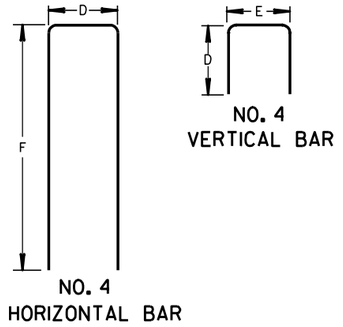
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE 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.

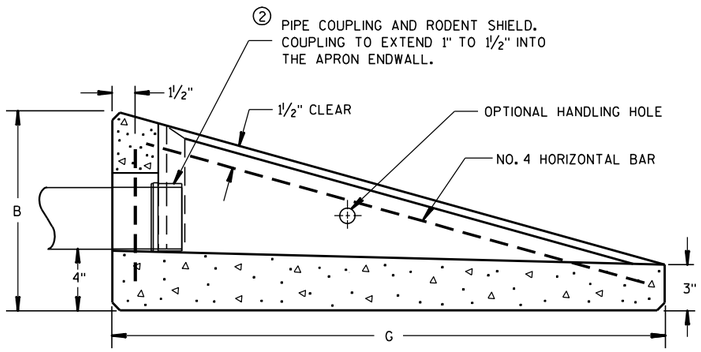
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



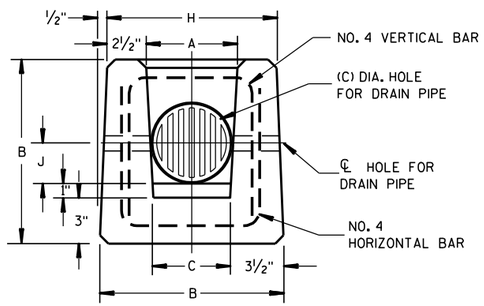
PLAN VIEW



BAR STEEL REINFORCEMENT DETAILS

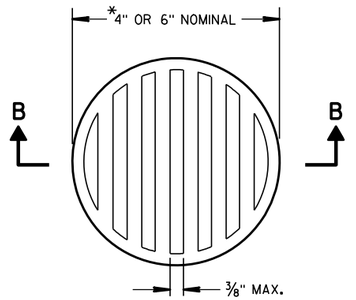


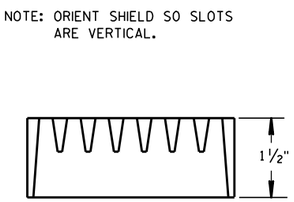
SECTION A-A



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

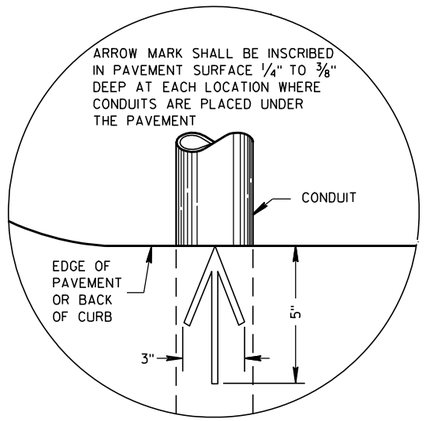
APPROVED
3/10/98 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 6-4

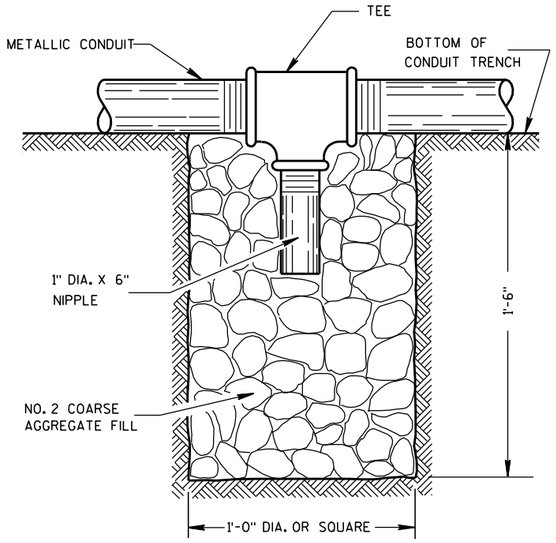
6

S.D.D. 8 F 6-4



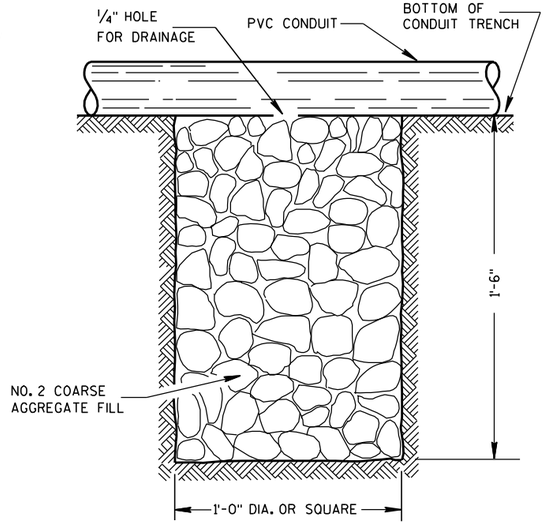
PLAN VIEW

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.

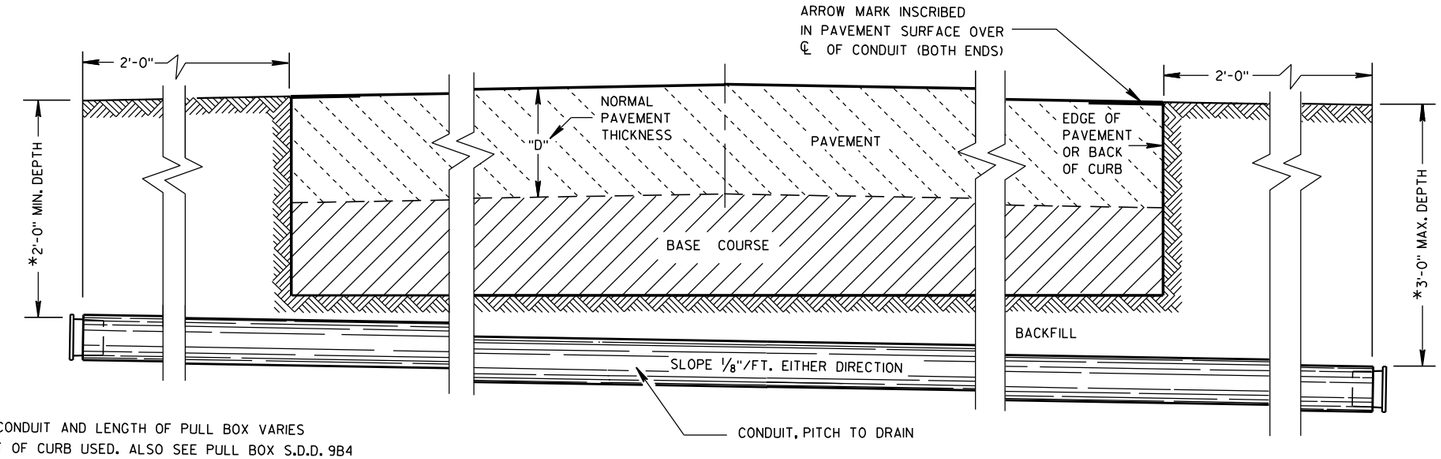
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

HWYS

6

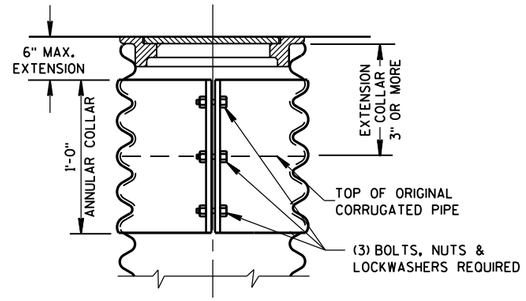
S.D.D. 9 B 2-7

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

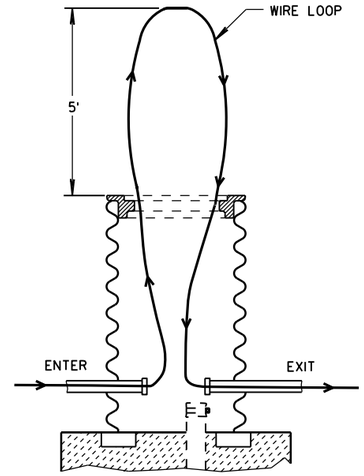
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	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.

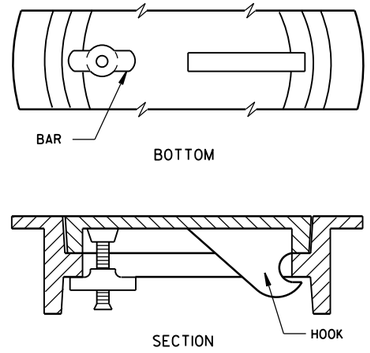
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

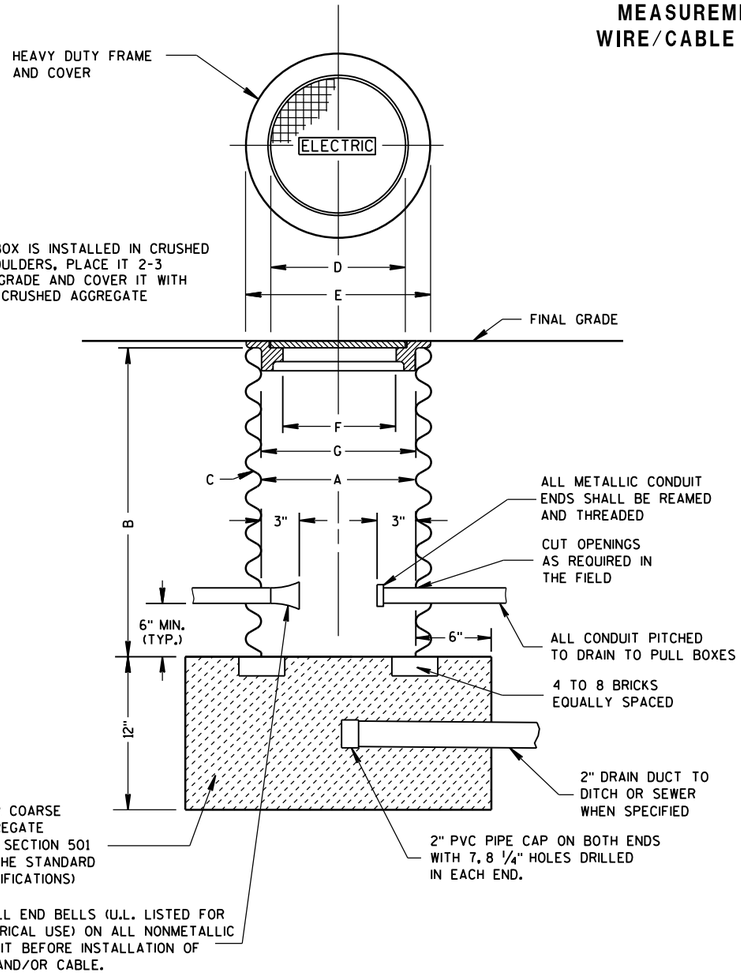


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



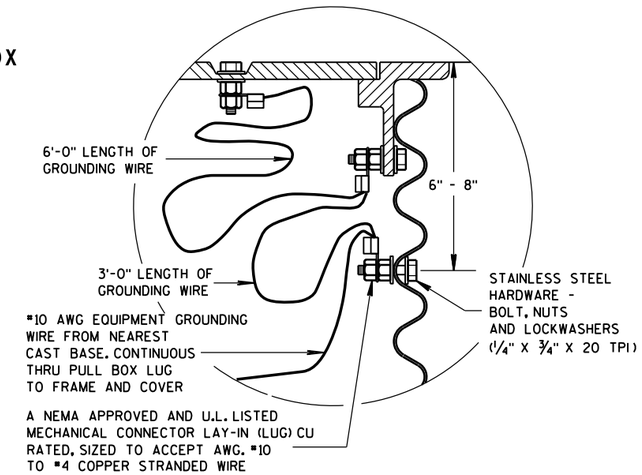
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

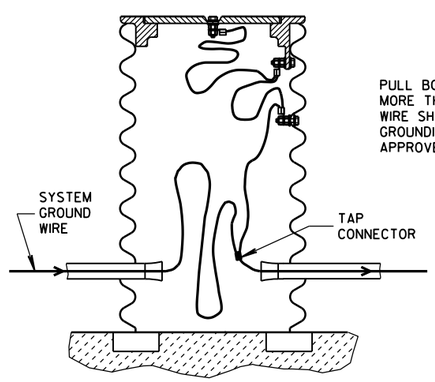


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

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.

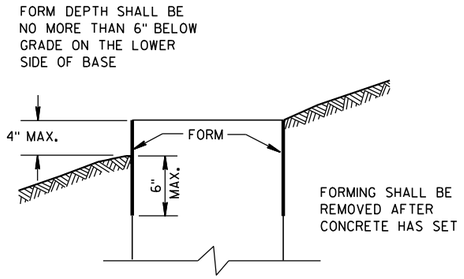
S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

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
FHWA	

6

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.

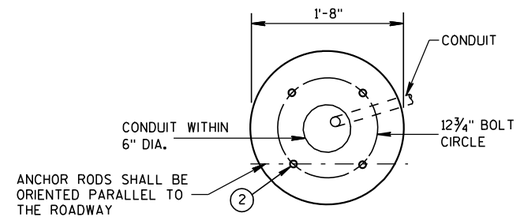
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

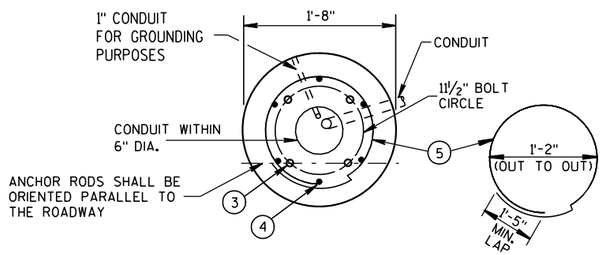
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

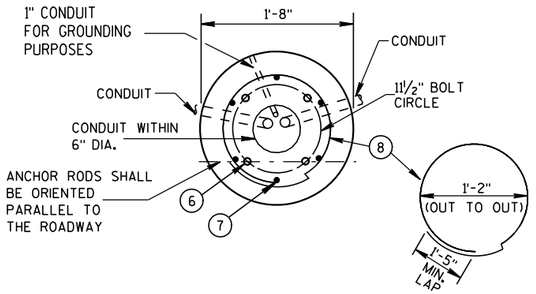
(6) (4) I" DIA. X 3'-6" ANCHOR RODS.

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

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

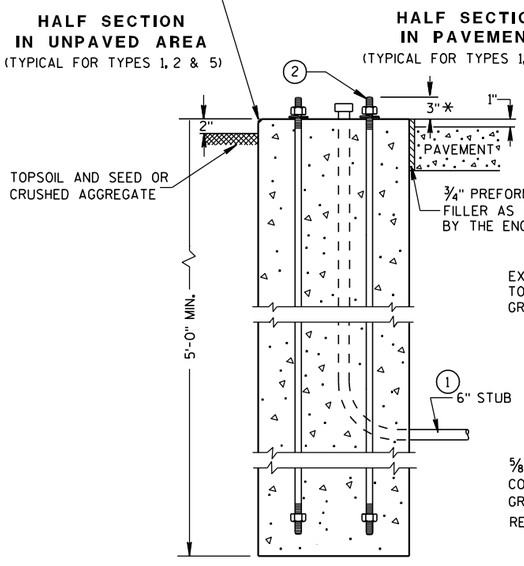






FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

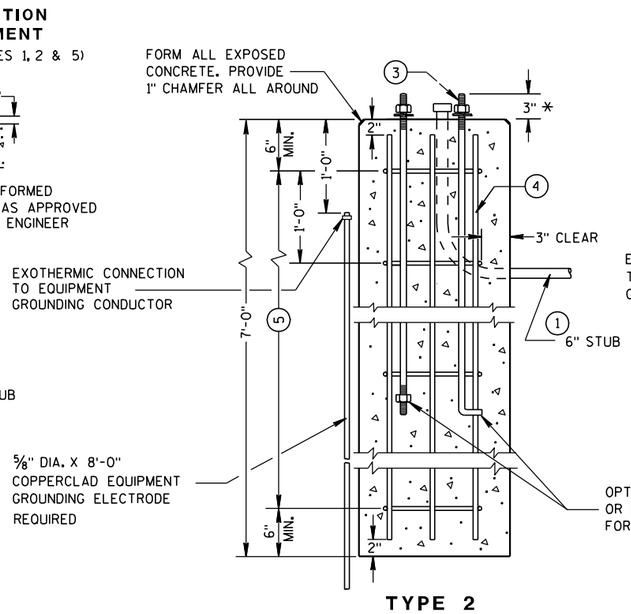
HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2 & 5)



HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2 & 5)

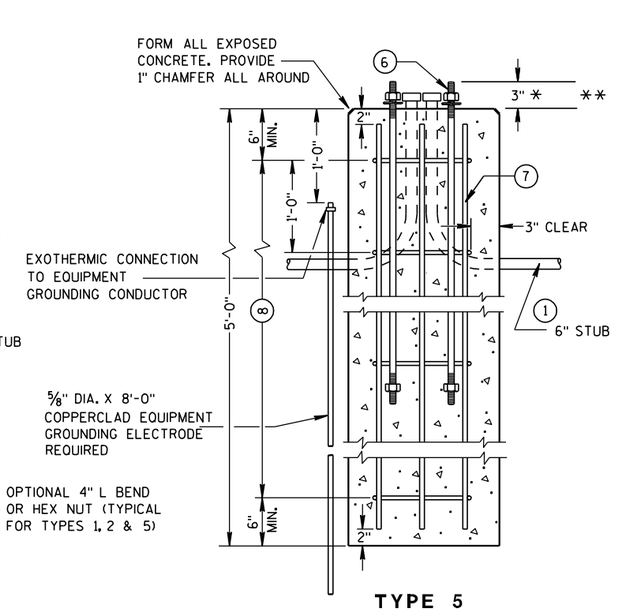
TYPE 1

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 2

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



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.

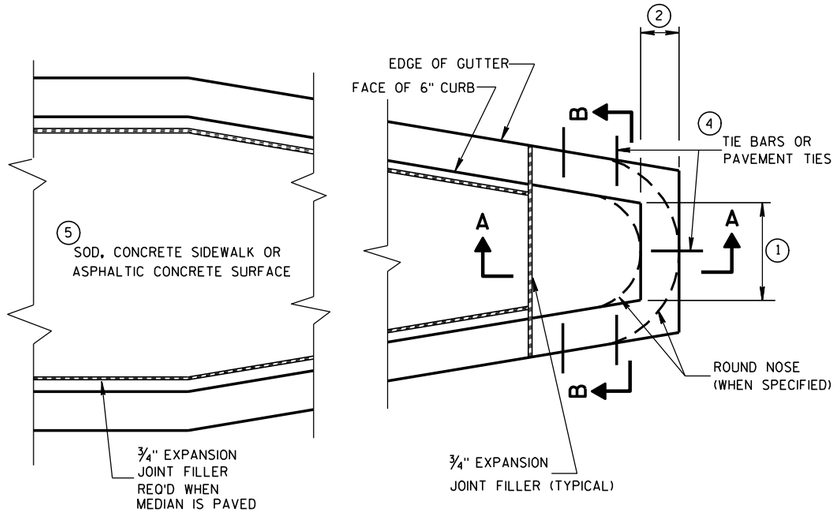
** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

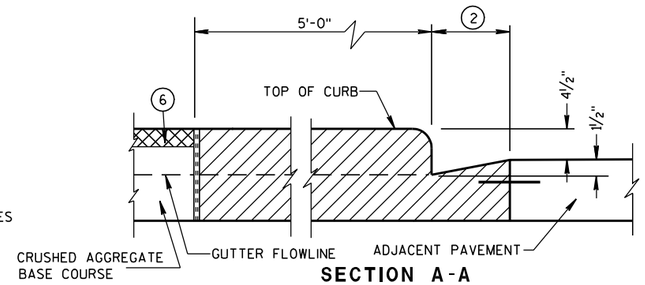
CONCRETE BASES, TYPES 1, 2 & 5

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

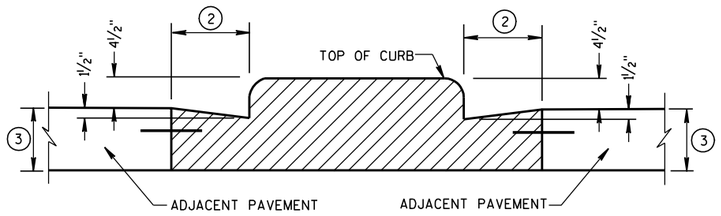
APPROVED
3/3/10 — DATE
/S/ Joanna L. Rush — STATE ELECTRICAL ENGI
55
HWYS
FHWA

6
S.D.D. 9 C 2-6





SECTION A-A



SECTION B-B

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.

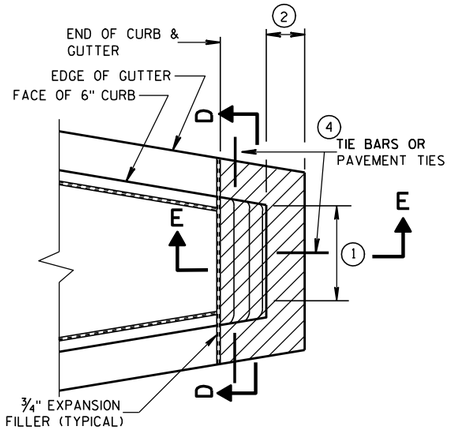
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

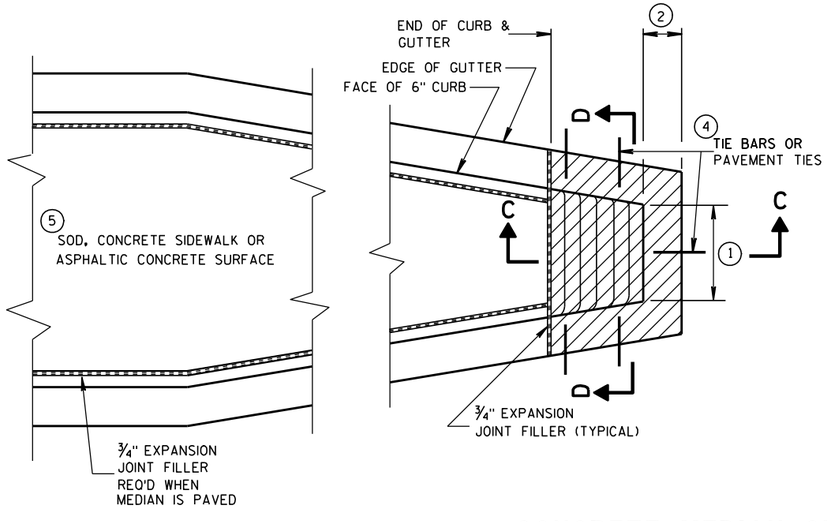
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

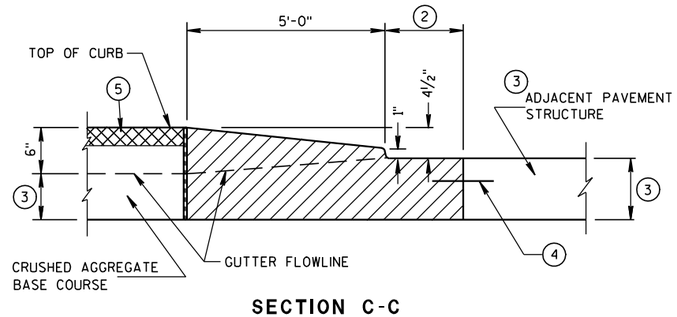
(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

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.

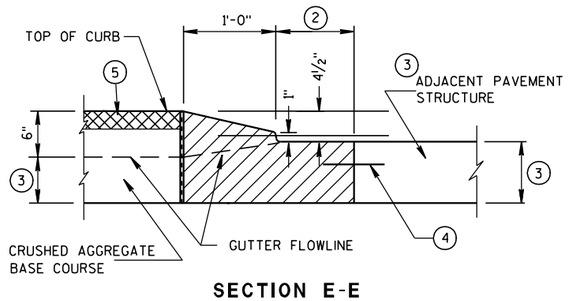
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.







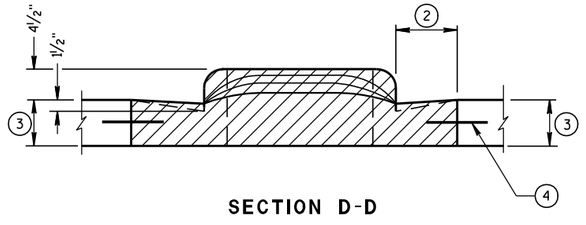
SECTION C-C



SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 1

CONCRETE MEDIAN SLOPED NOSE TYPE 2



SECTION D-D

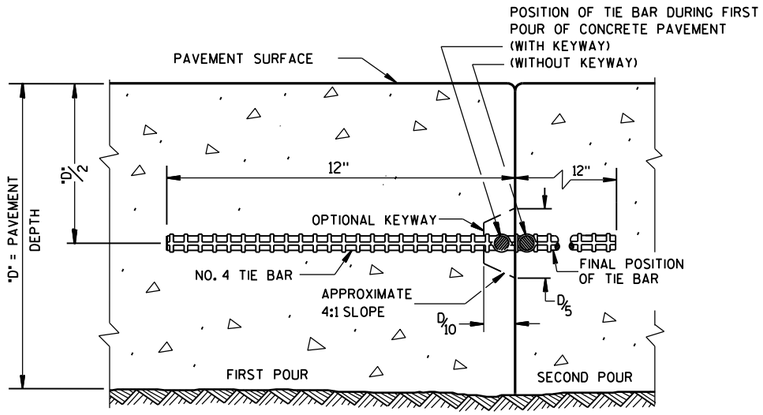
CONCRETE MEDIAN NOSE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/8/2006 DATE FHWA	/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER 156
	NT

6

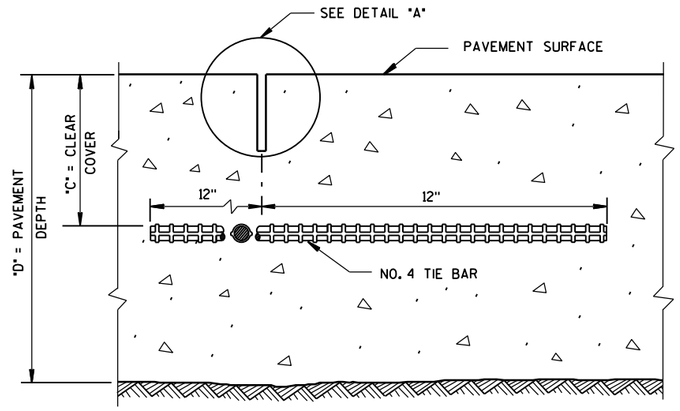
S.D.D. 11 B 2-2

6

S.D.D. 11 B 2-2



CONSTRUCTION JOINT



SAWED JOINT

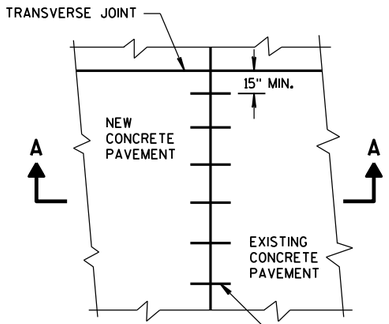
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

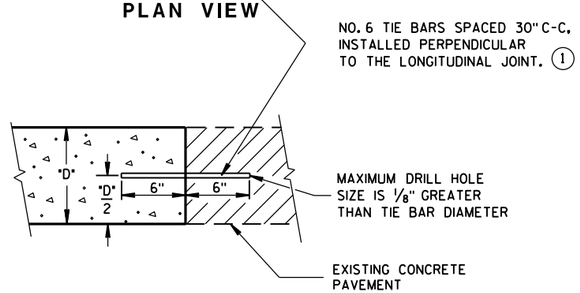
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

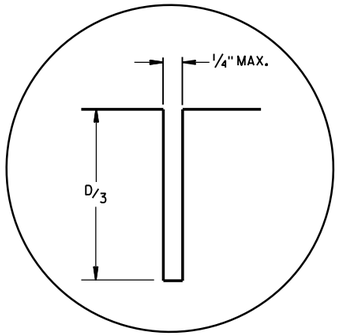


PLAN VIEW



SECTION A-A

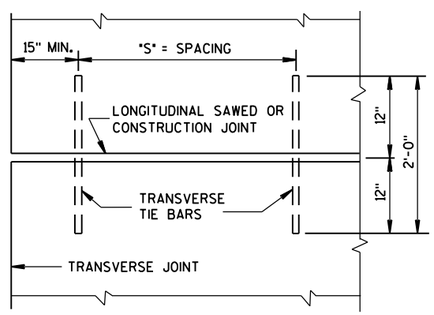
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



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

FHWA

6

S.D.D. 13 C 1-16

6

S.D.D. 13 C 1-16

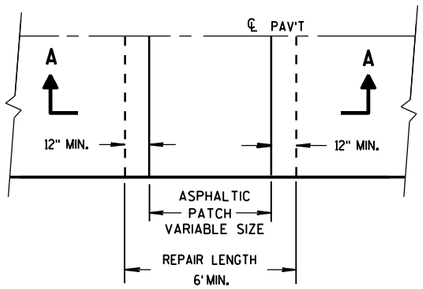
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

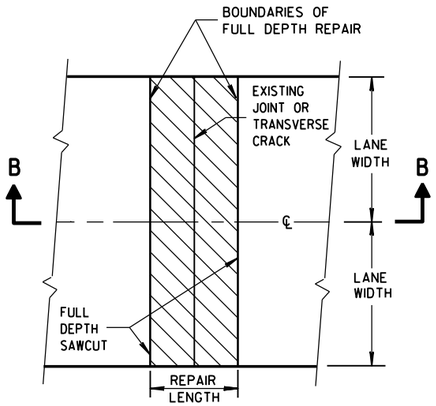
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

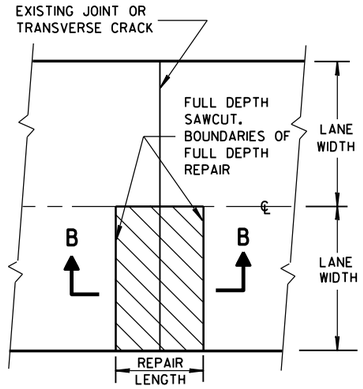
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW



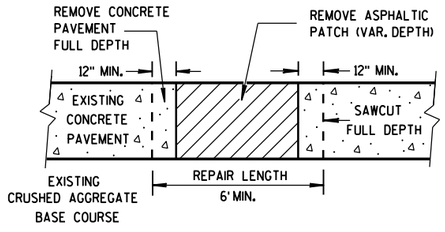
PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

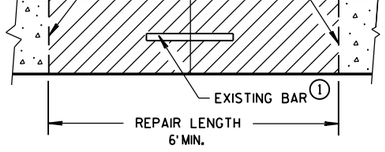
FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

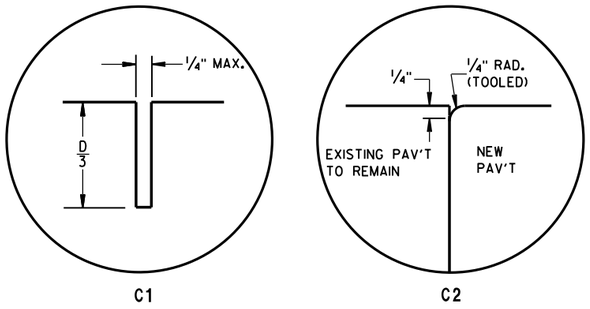
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

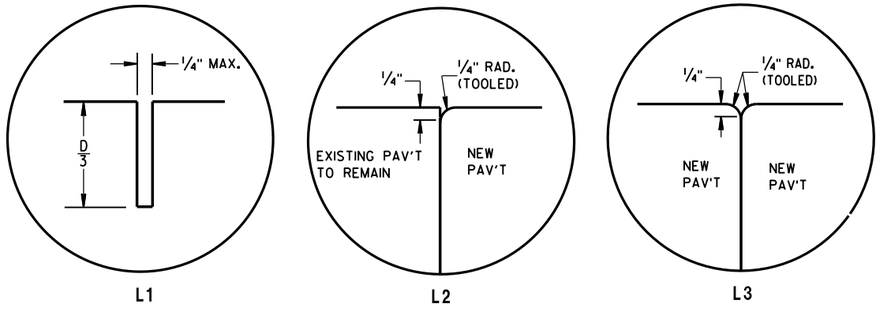
S.D.D. 13 C 9-11a



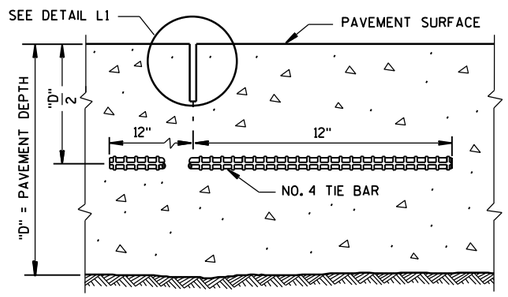
TRANSVERSE JOINTS

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"



LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

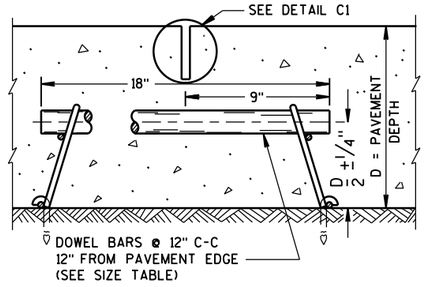
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

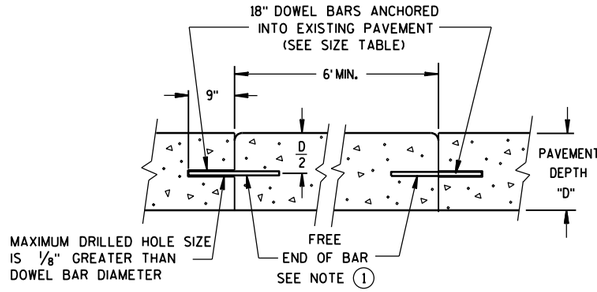
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

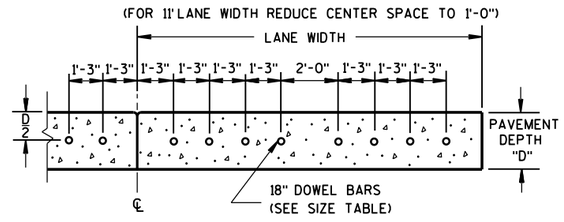


SECTION F-F

CONTRACTION JOINT



SECTION D-D

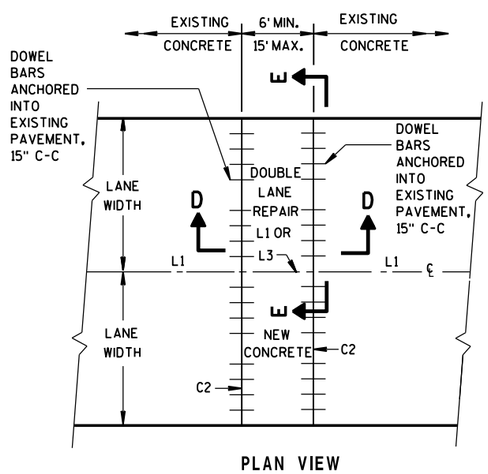


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

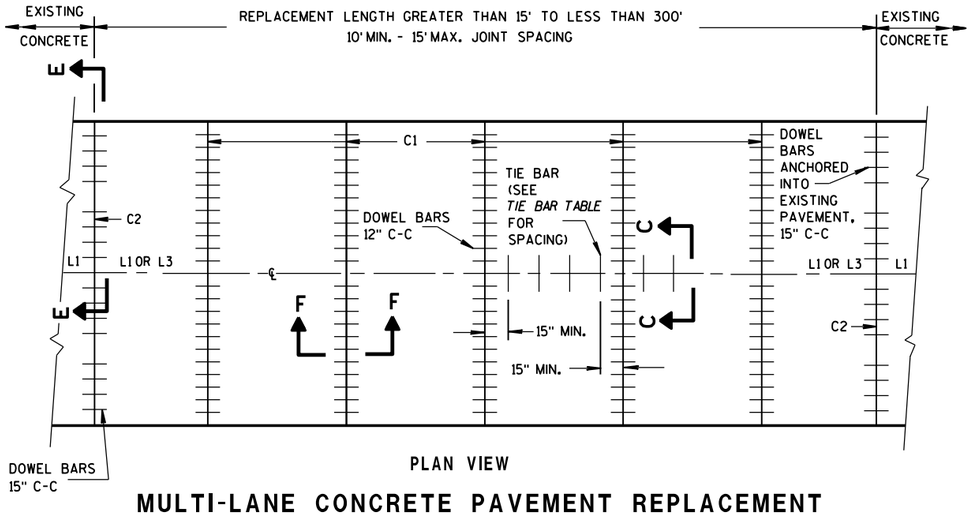
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6",6 1/2"	NONE	12'
7",7 1/2"	1"	14'
8",8 1/2"	1 1/4"	15'
9",9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



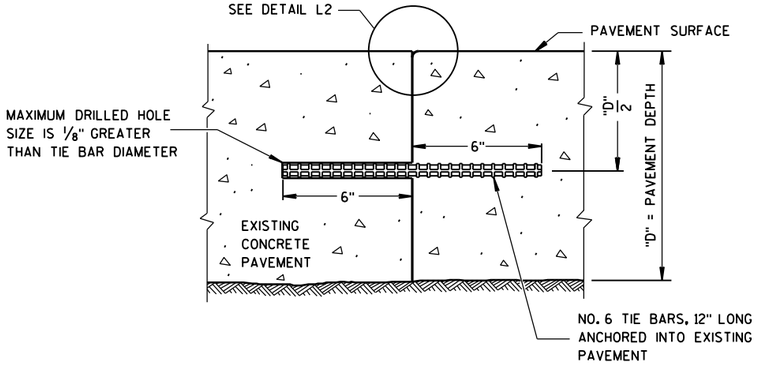
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 13 C 9-11b



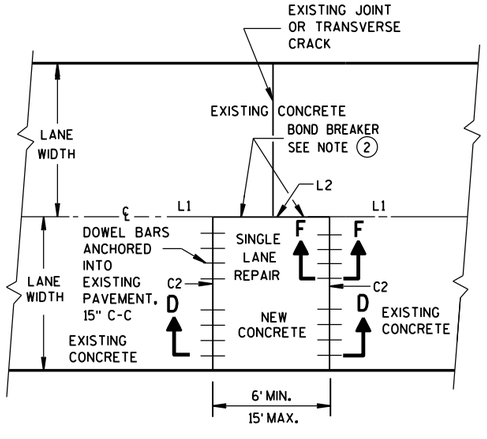
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

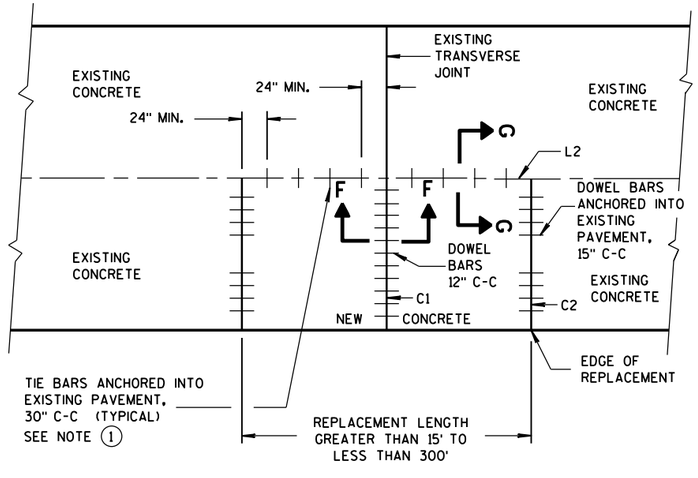
(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12-2013
DATE

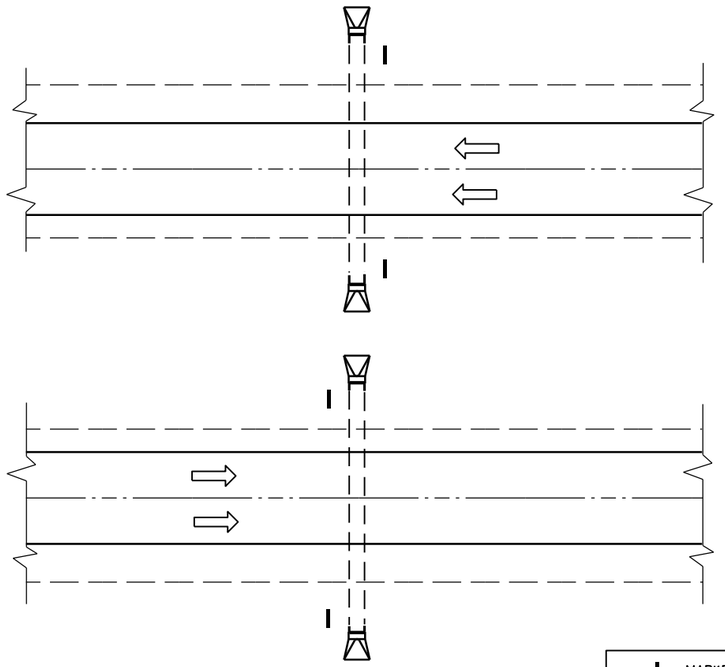
/S/ Deb Bischoff
PAVEMENT POLICY & DE

FHWA

IEER

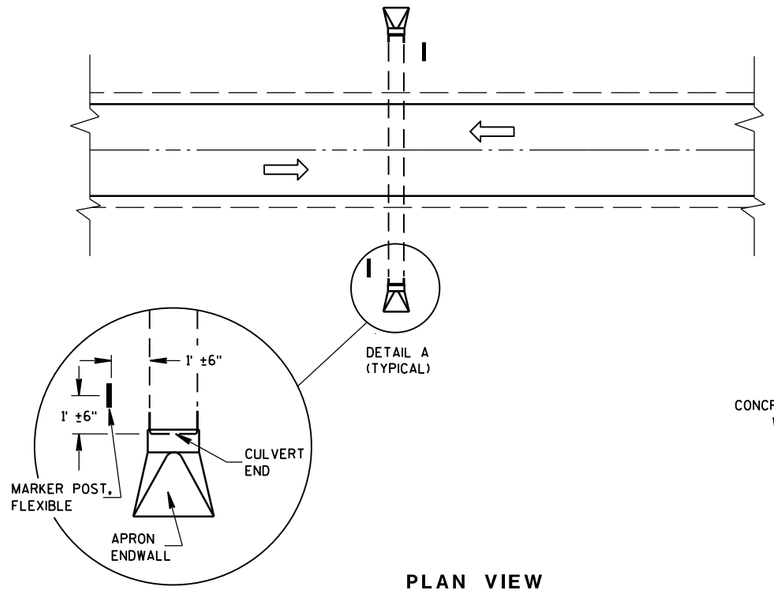
6

S.D.D. 13 C 9-11c



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

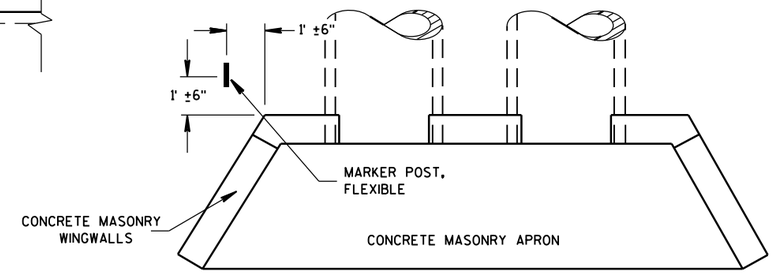
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

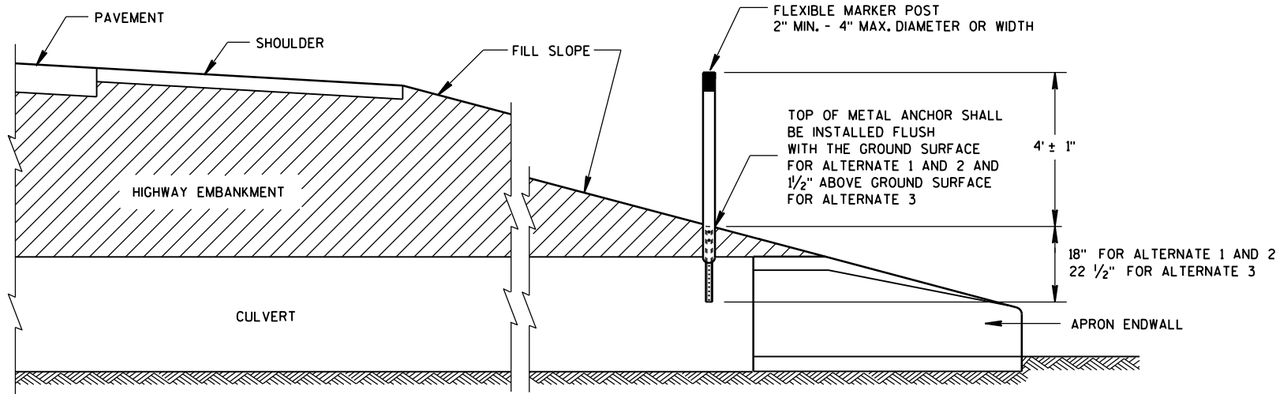
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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

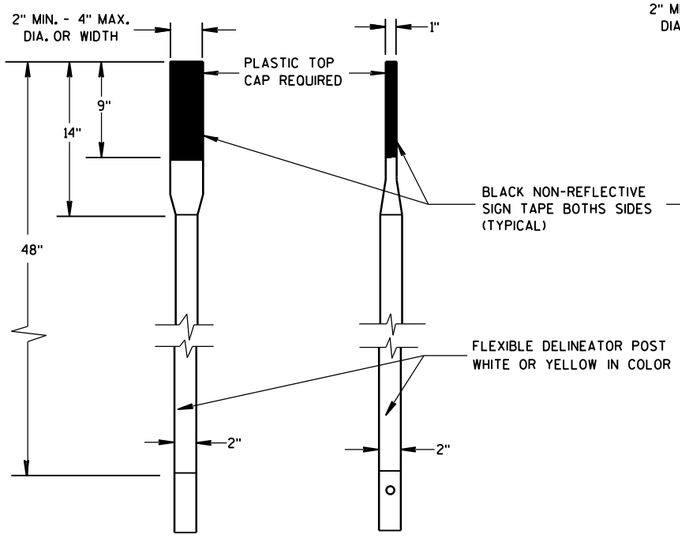
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

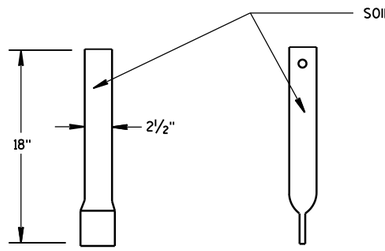
6

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

6

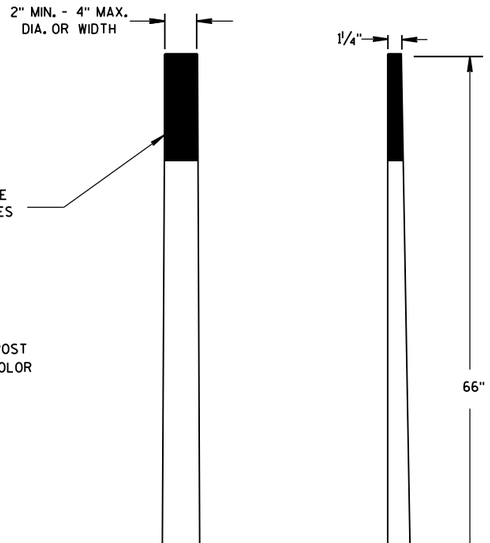
S.D.D. 15 A 3-2a





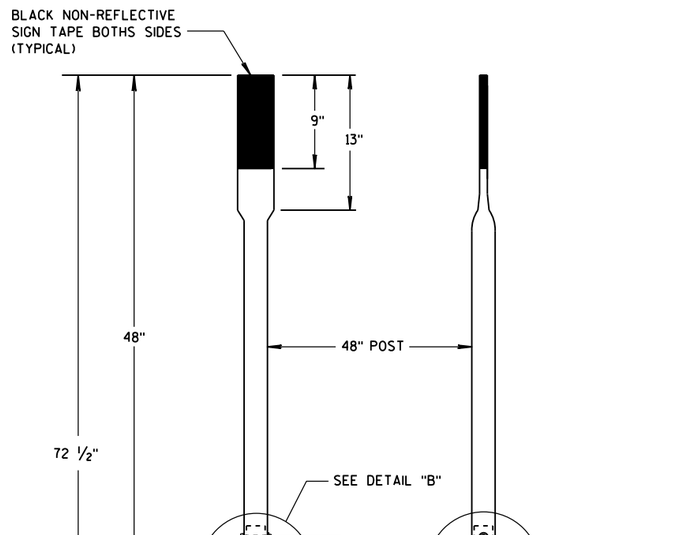
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

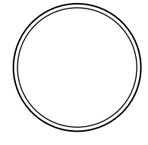
ALTERNATE 2



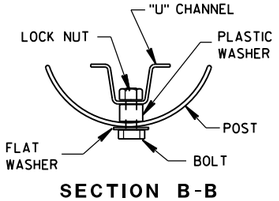
FRONT VIEW SIDE VIEW

ALTERNATE 3

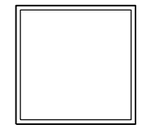
FLEXIBLE MARKER POSTS



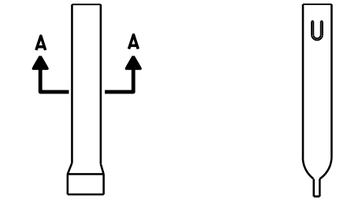
SECTION A-A



SECTION B-B

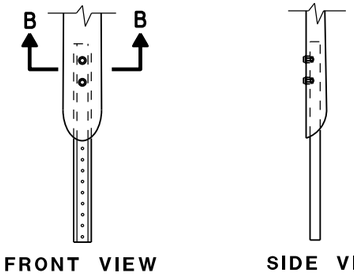


SECTION C-C



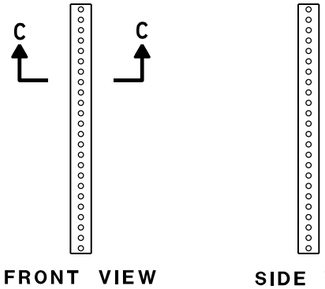
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

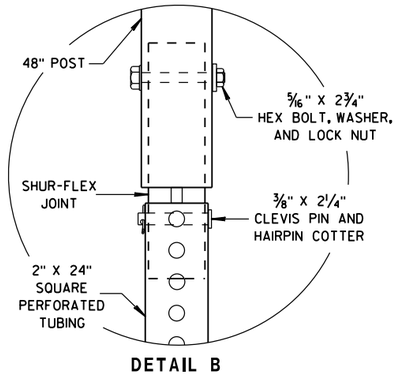
ALTERNATE 2



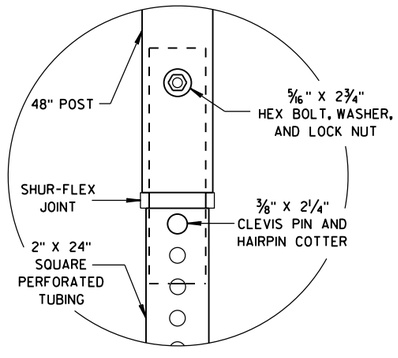
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

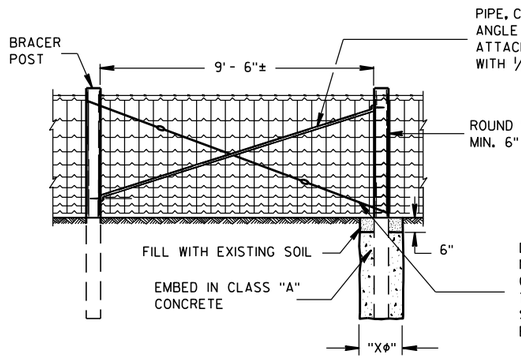
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

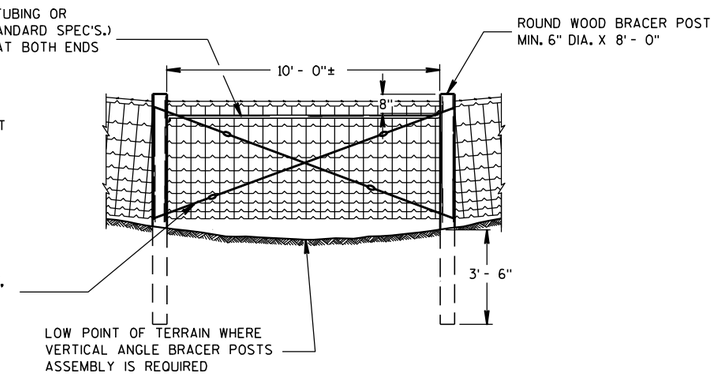
6
S.D.D. 15 A 3-2b

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

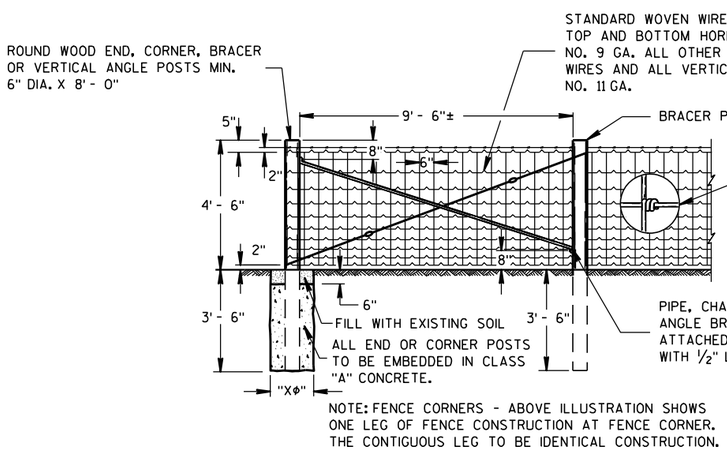
GENERAL NOTES

"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

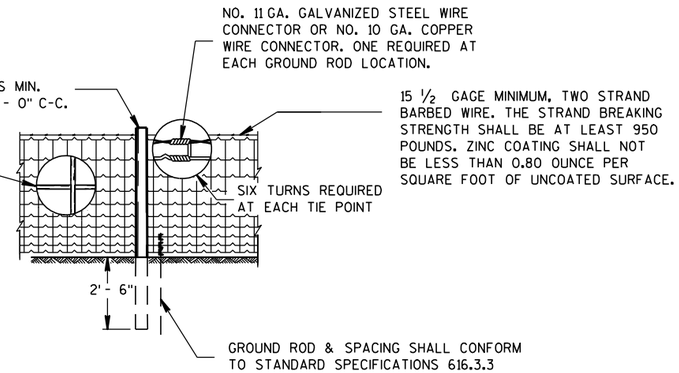
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.



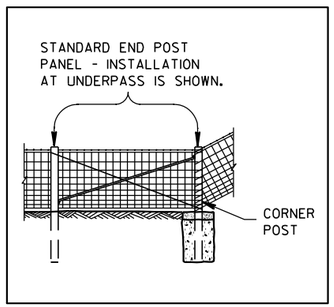
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

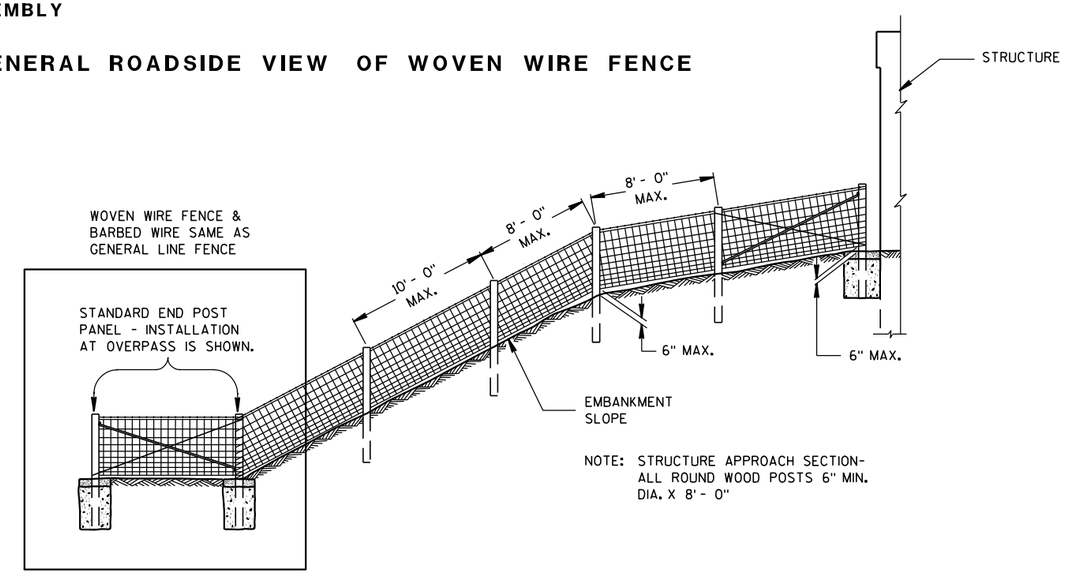


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

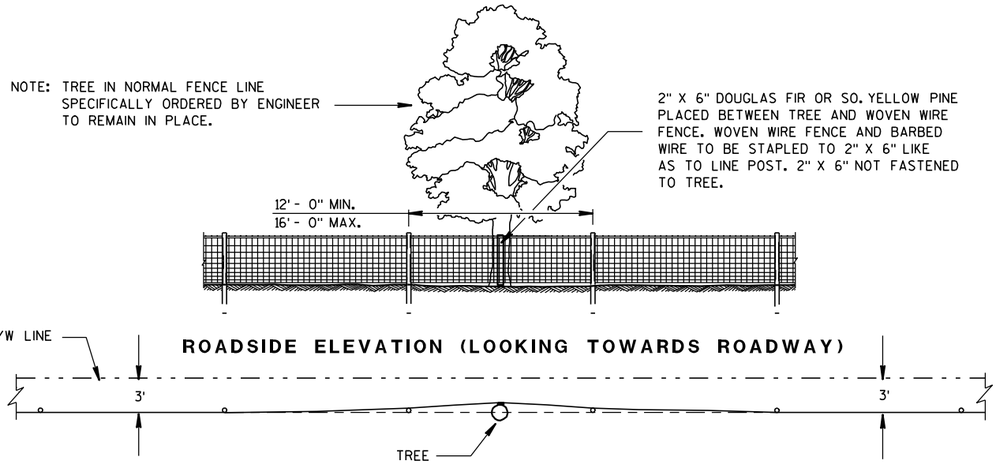
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 15 B 1-8a

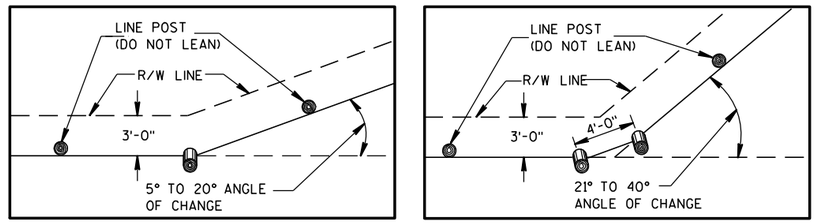
6

S.D.D. 15 B 1-8a



PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



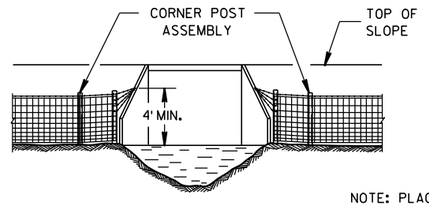
PLAN VIEW SINGLE POST CORNER

PLAN VIEW DOUBLE POST CORNER

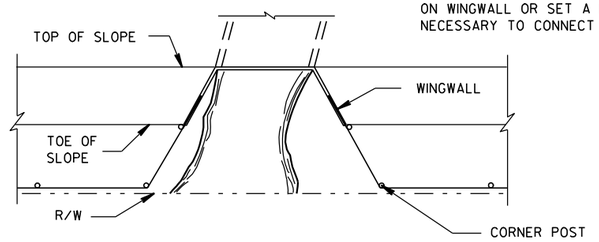
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

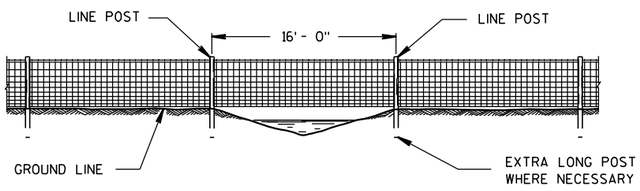
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



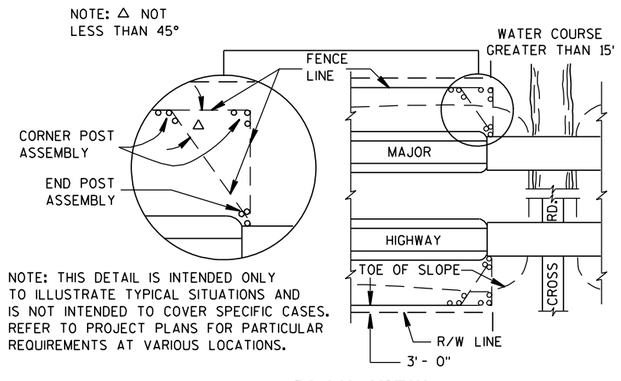
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



FENCE INSTALLATION TO WINGWALLS

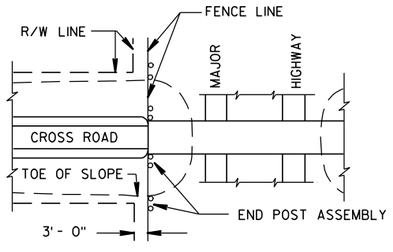


FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



PLAN VIEW

MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH

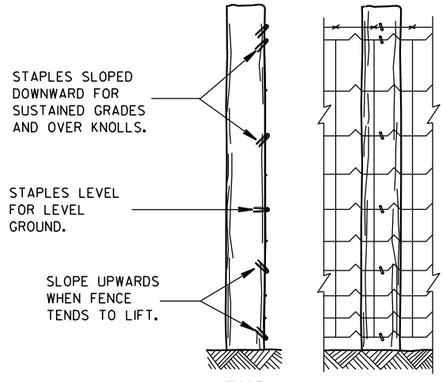


PLAN VIEW

MAJOR HIGHWAY UNDERPASS

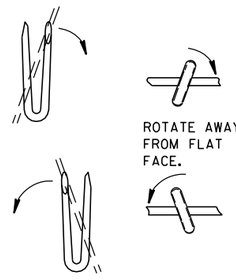
FENCE LOCATION AT STRUCTURES

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION **FARM SIDE ELEVATION**

FENCE MOUNTING DETAIL

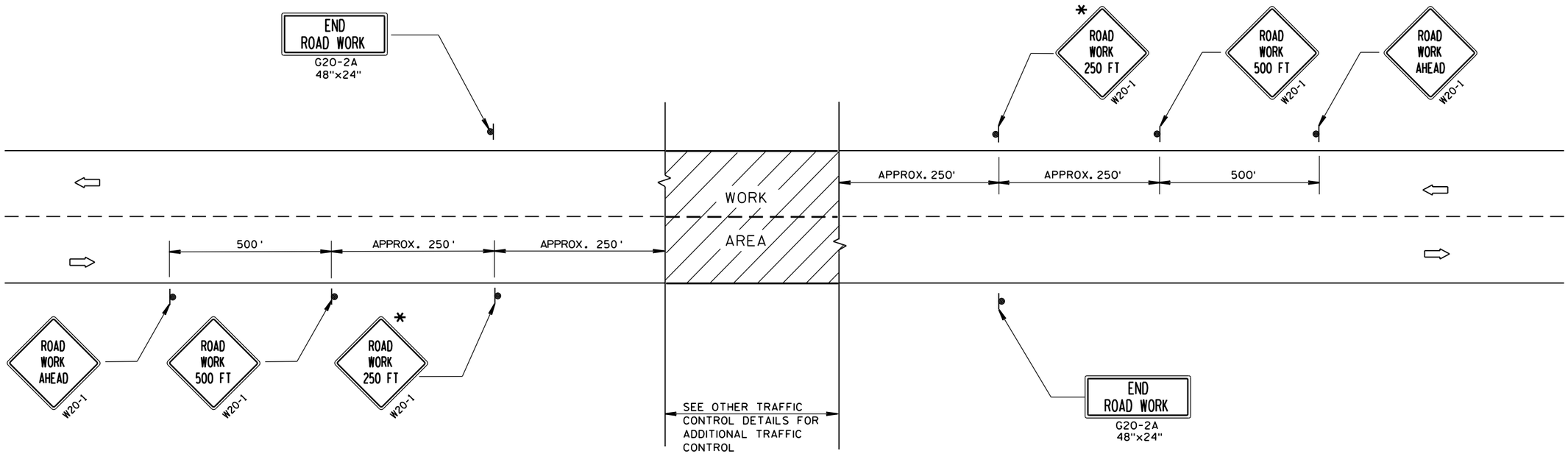


LINE POST

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

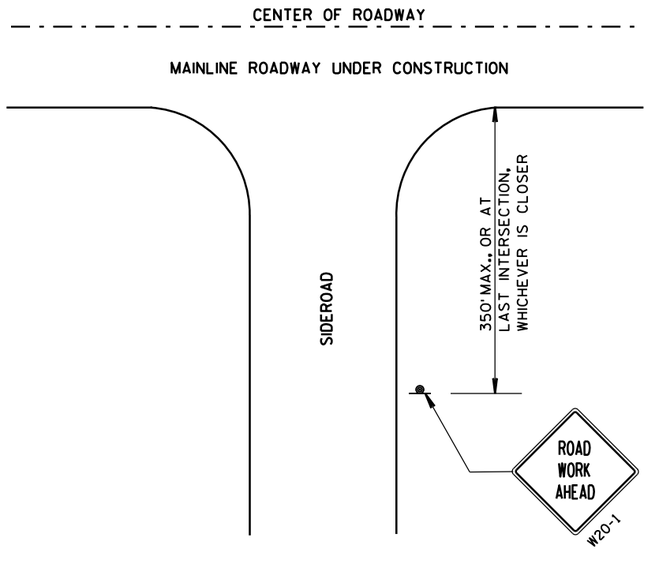
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

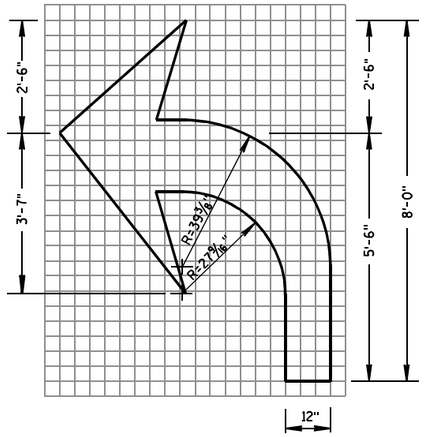
/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

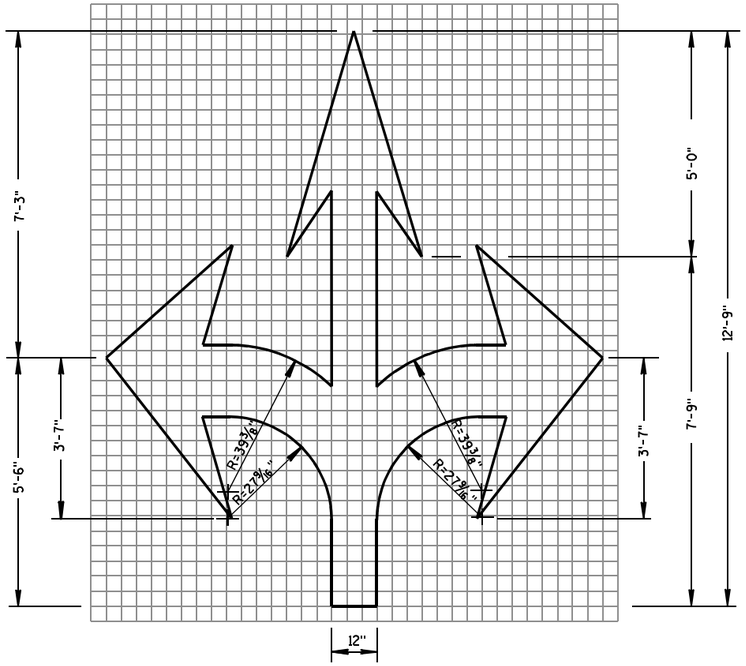
SIGN

6

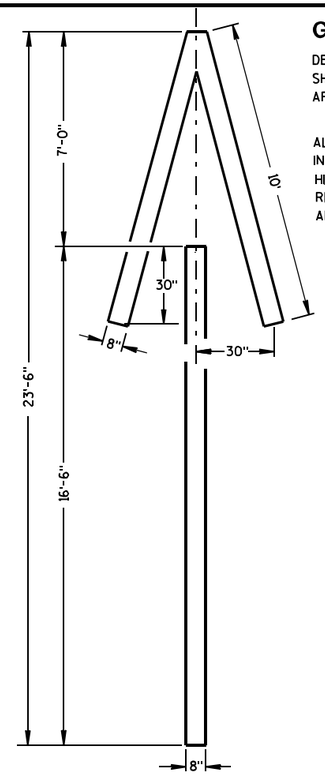
S.D.D. 15 C 5-2



TYPE 2



TYPE 6

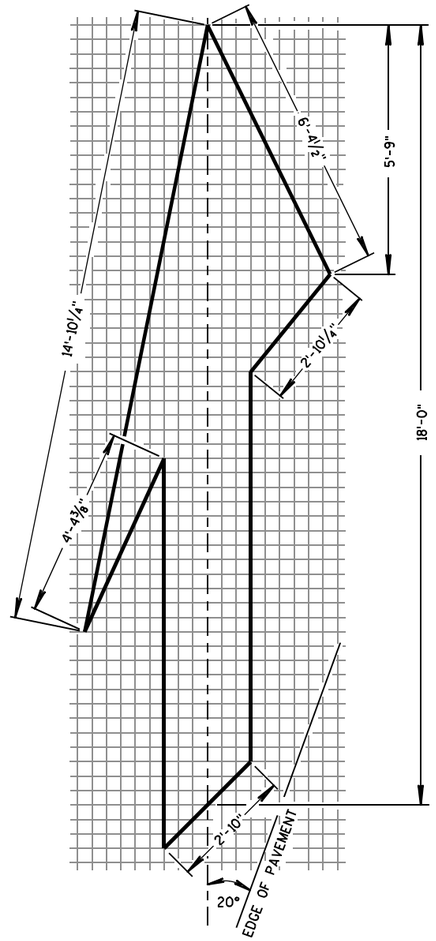


TYPE 4

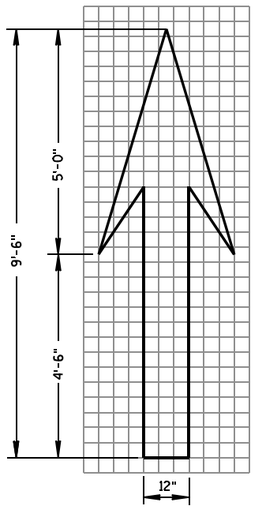
GENERAL NOTES

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.

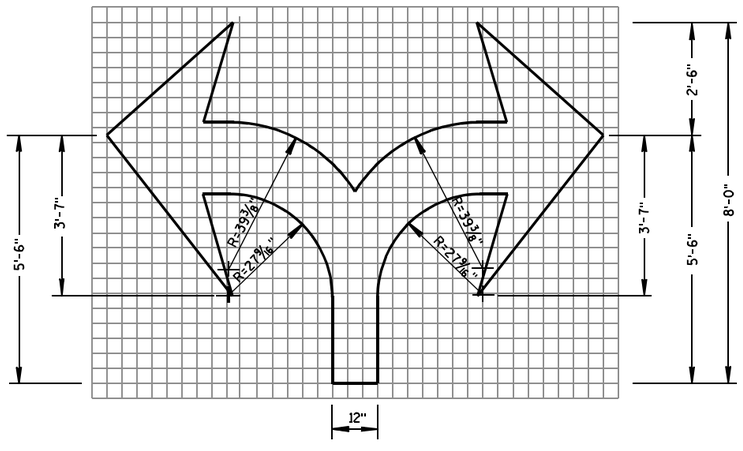
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



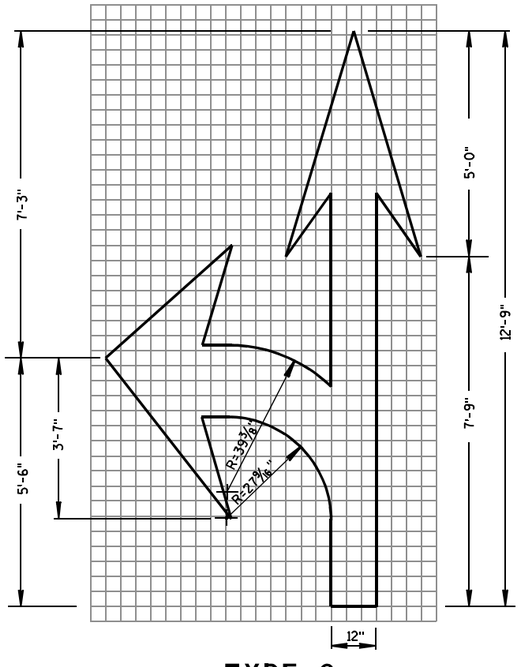
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

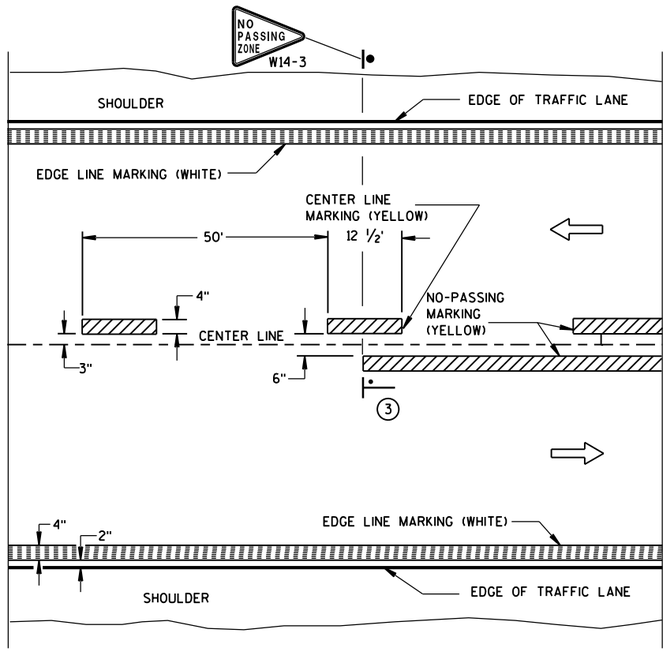
FHWA

6

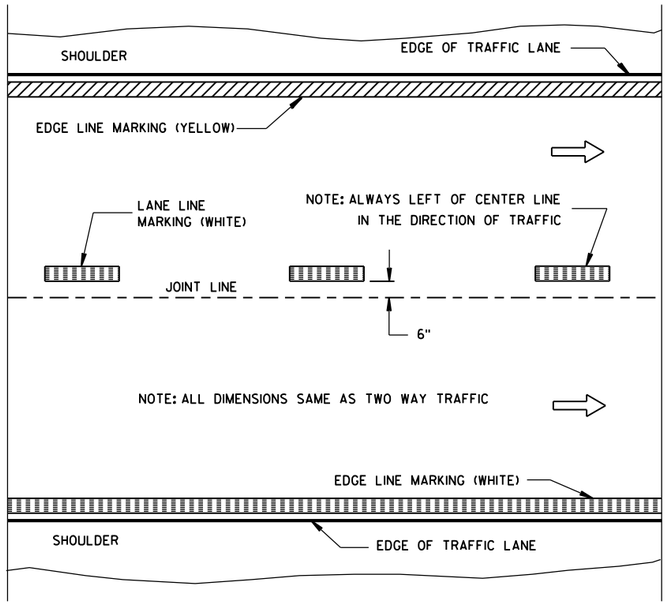
S.D.D. 15 C 7-12c

6

S.D.D. 15 C 7-12c

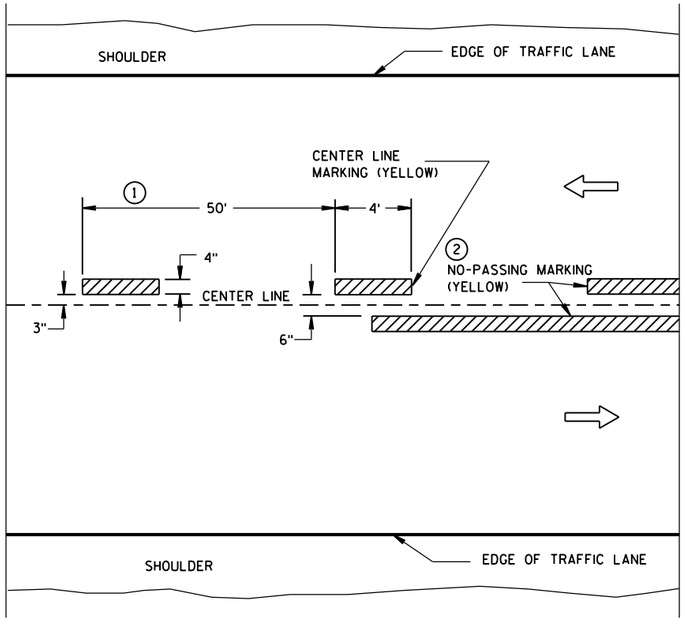


TWO WAY TRAFFIC

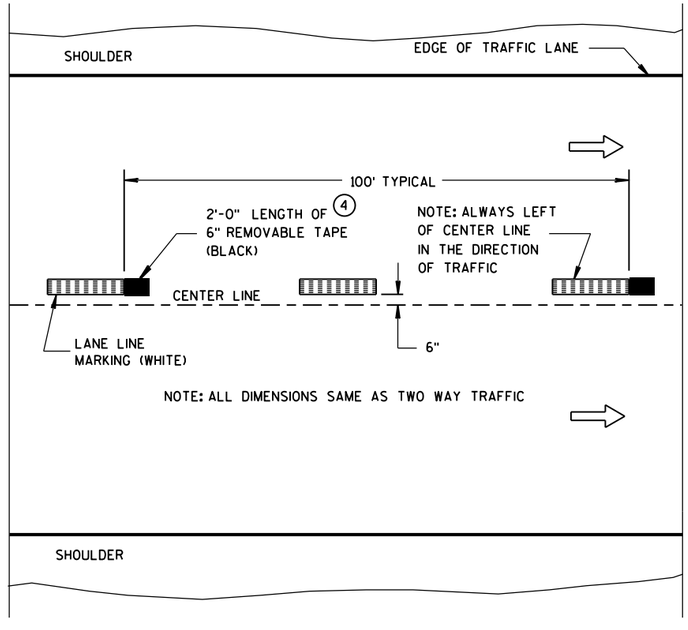


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

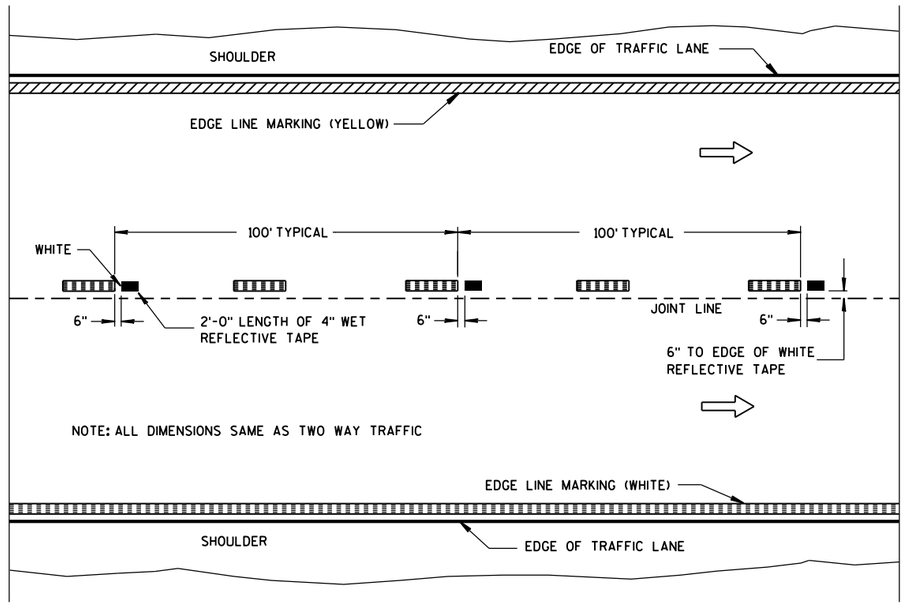
GENERAL NOTES

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

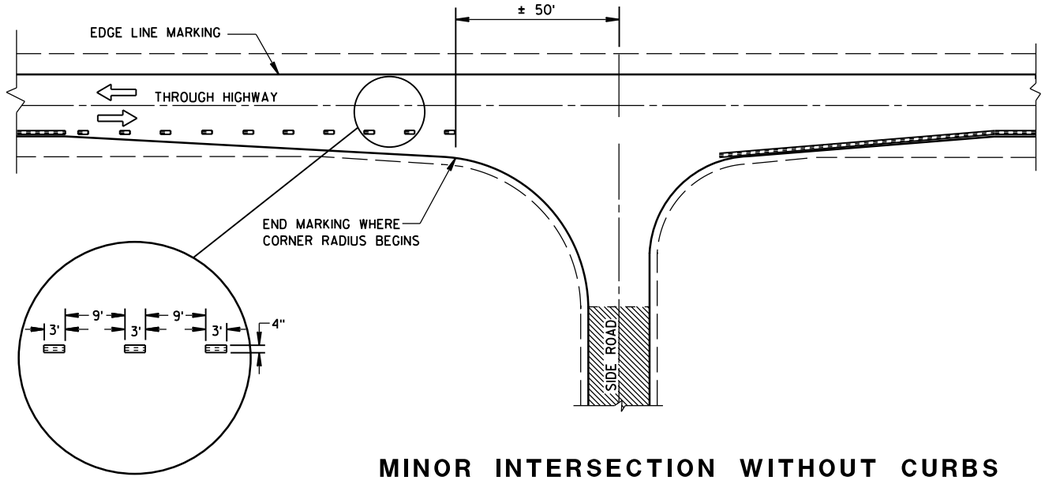
APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

6

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

6

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



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

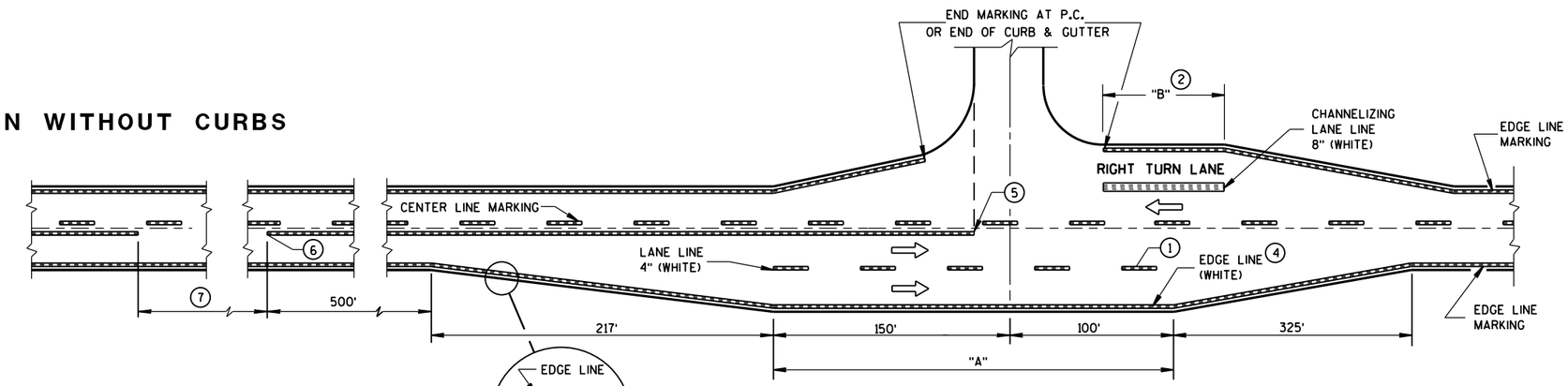
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

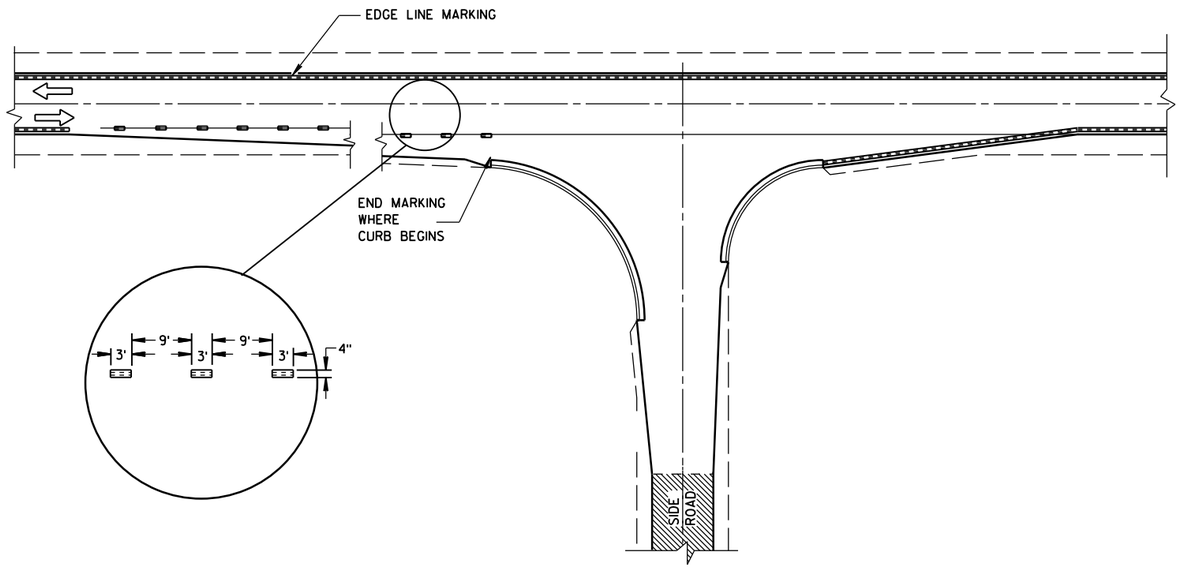
(7)

POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



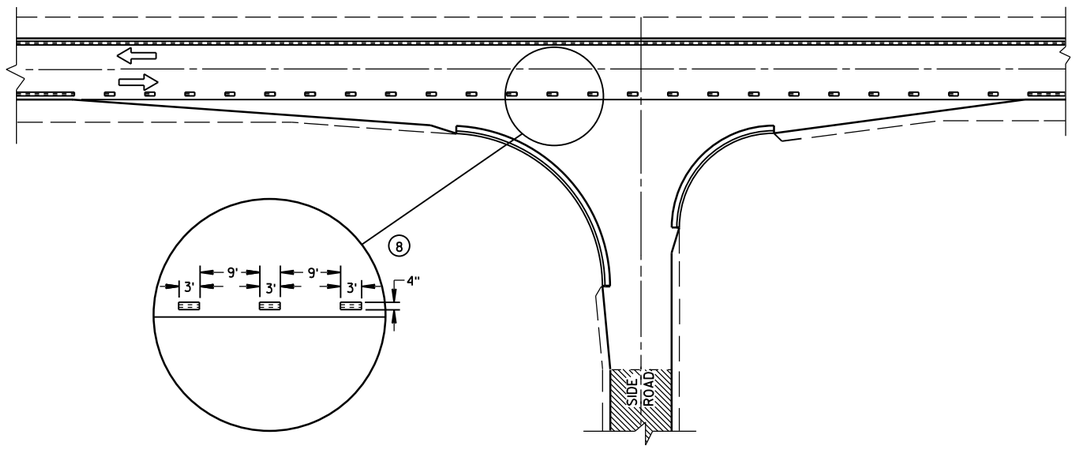
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

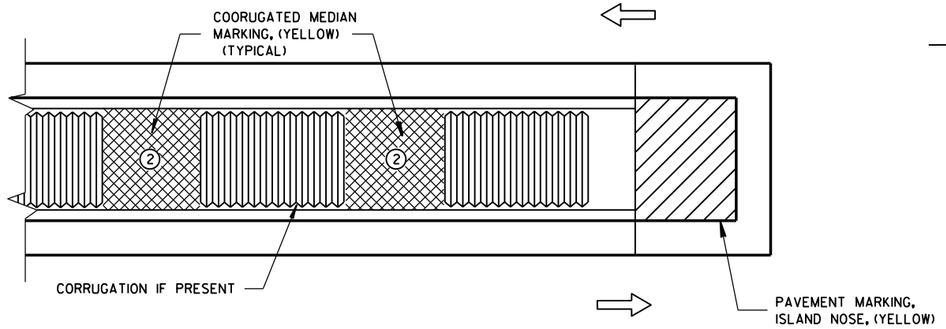
(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

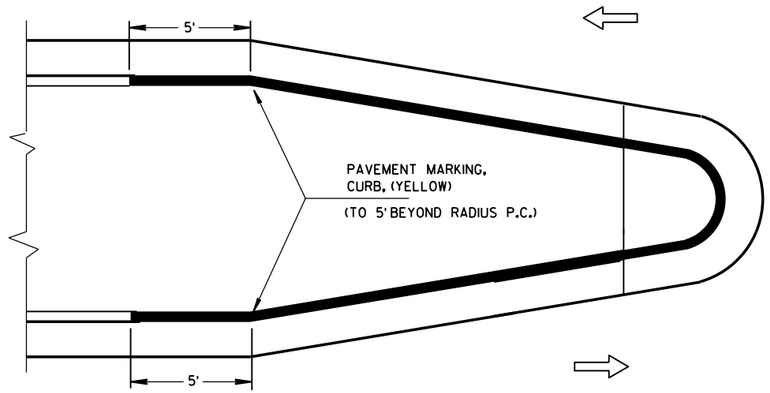
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

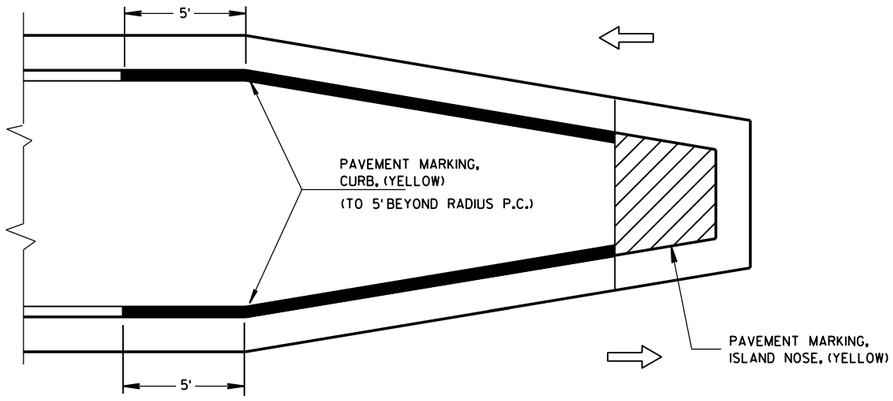
S.D.D. 15 C 8-16b



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

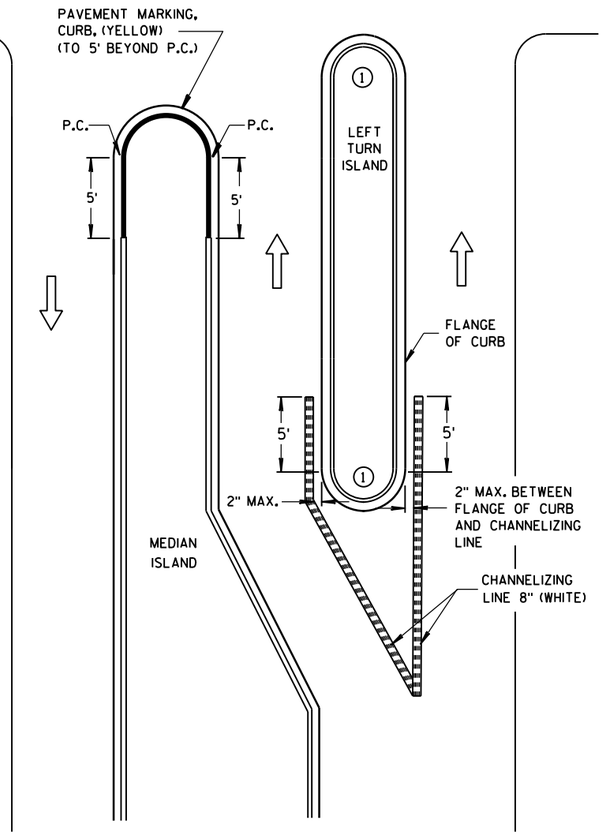


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

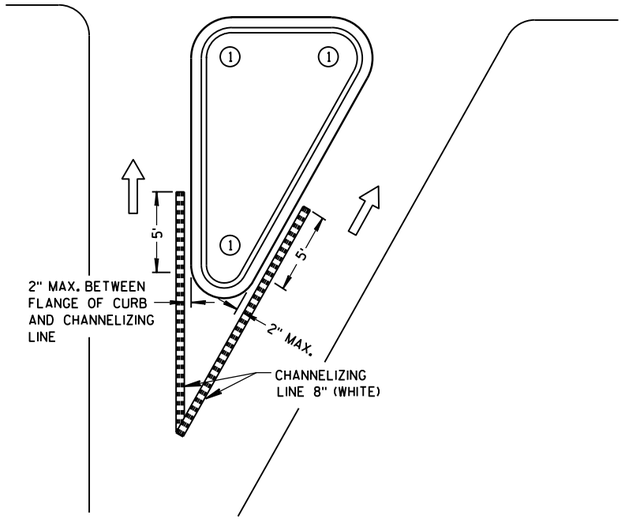


LEFT TURN & MEDIAN ISLAND

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

6

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

6

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

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

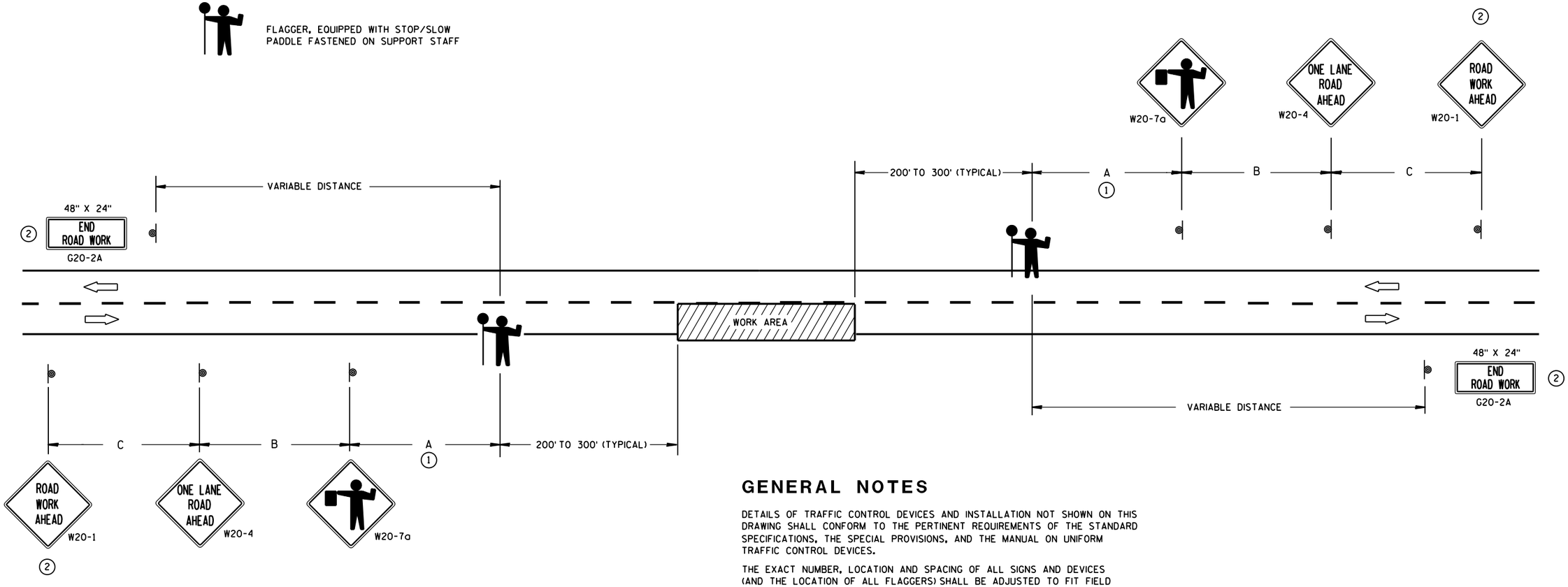
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

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

W3-4

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



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

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

GENERAL NOTES

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

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

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

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

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

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

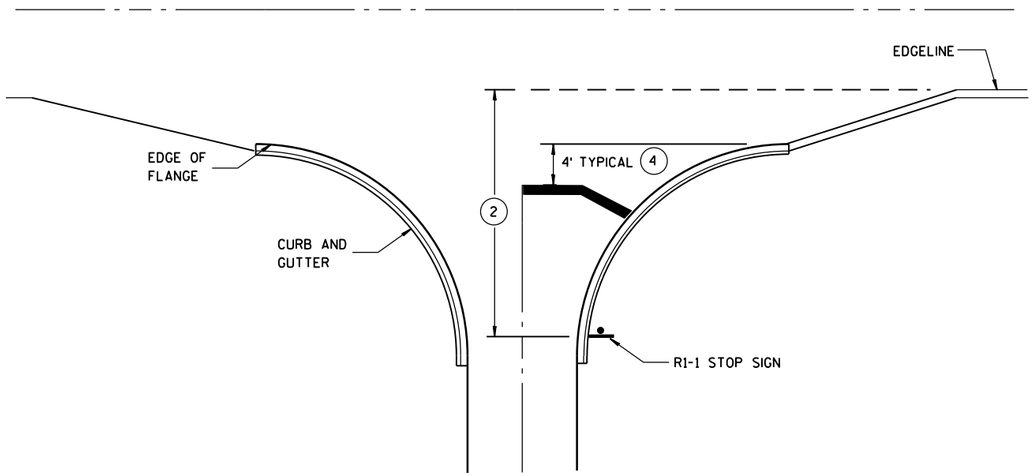
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
DESIGN
FHWA

6

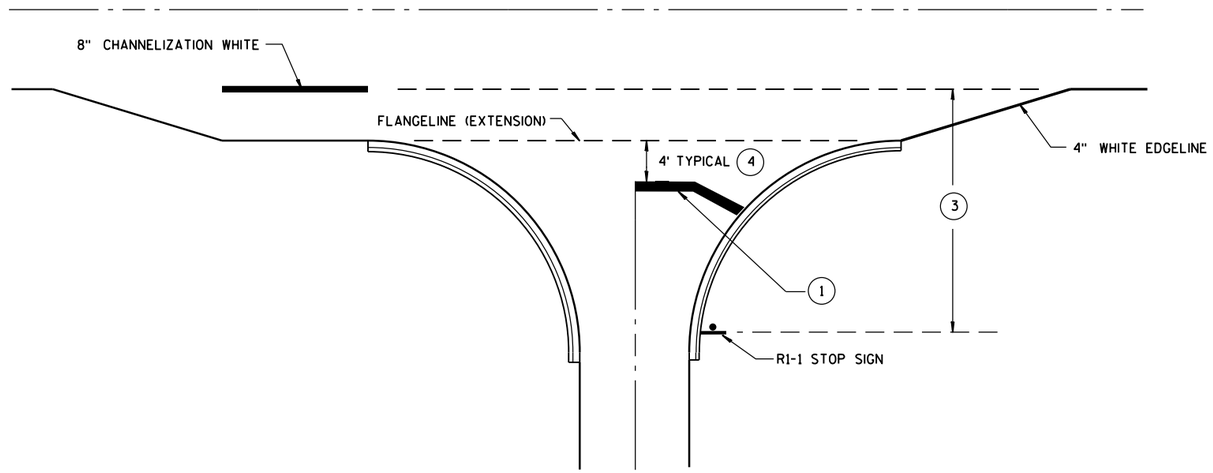
S.D.D. 15 C 12-4

6

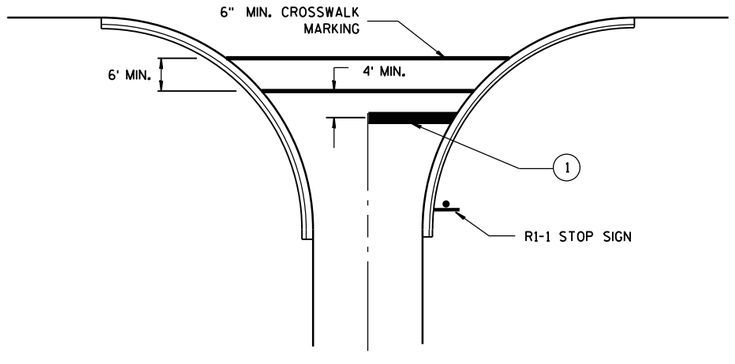
S.D.D. 15 C 12-4



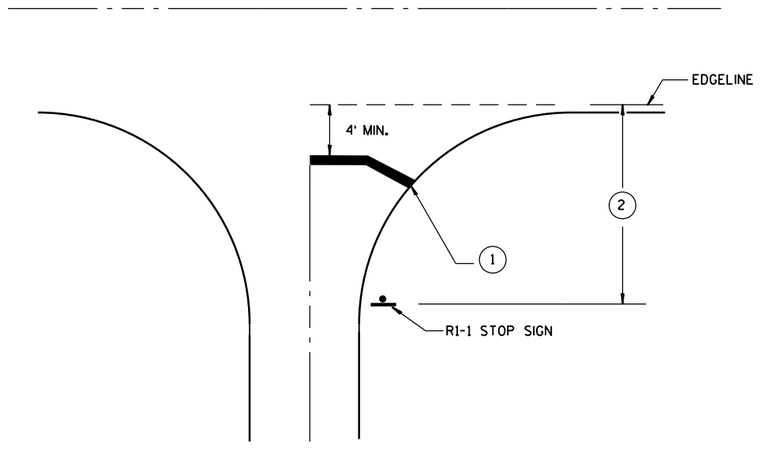
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



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 EI

FHWA

6

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.

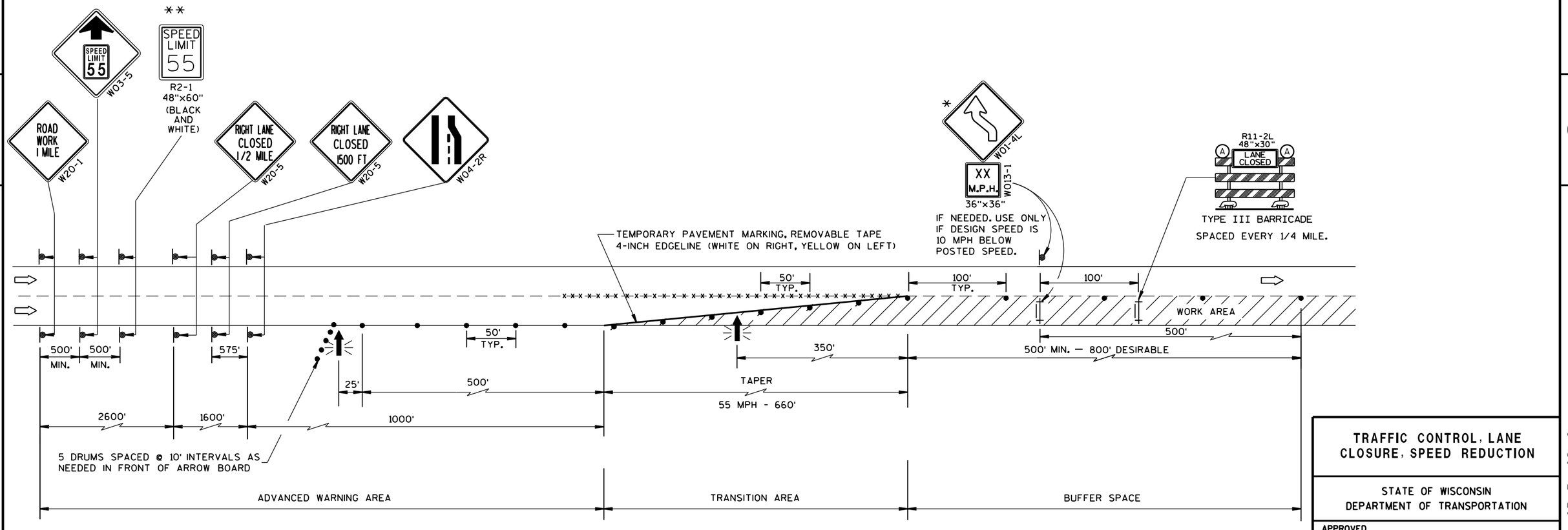
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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.



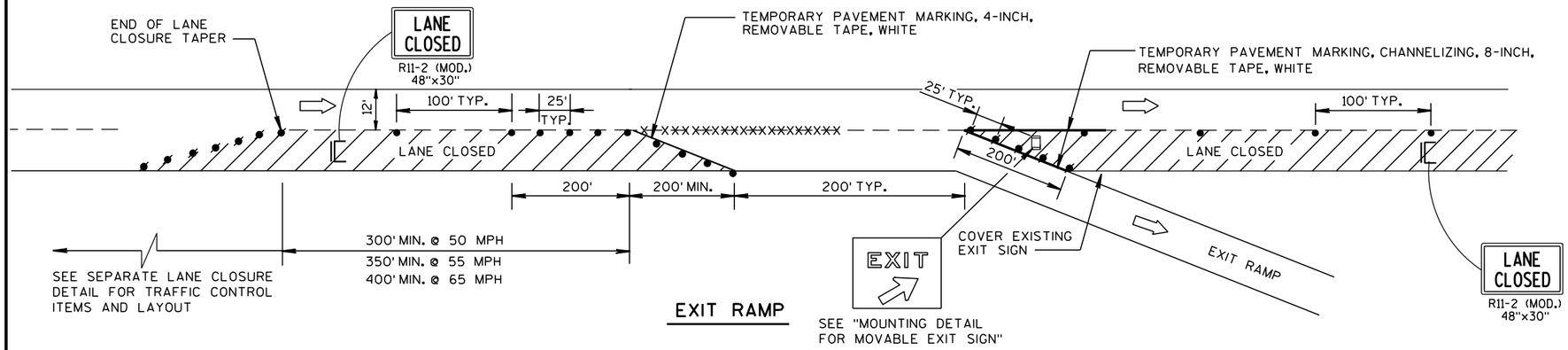
TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

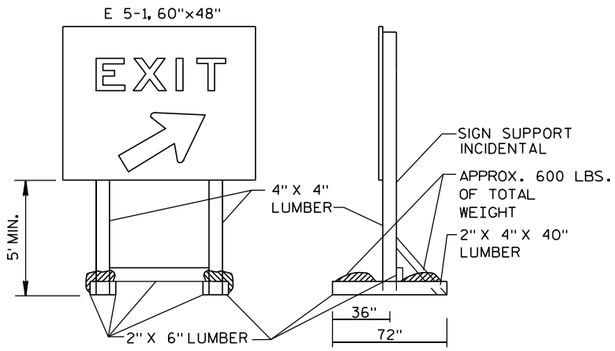
APPROVED
3-2014 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 D 12-4

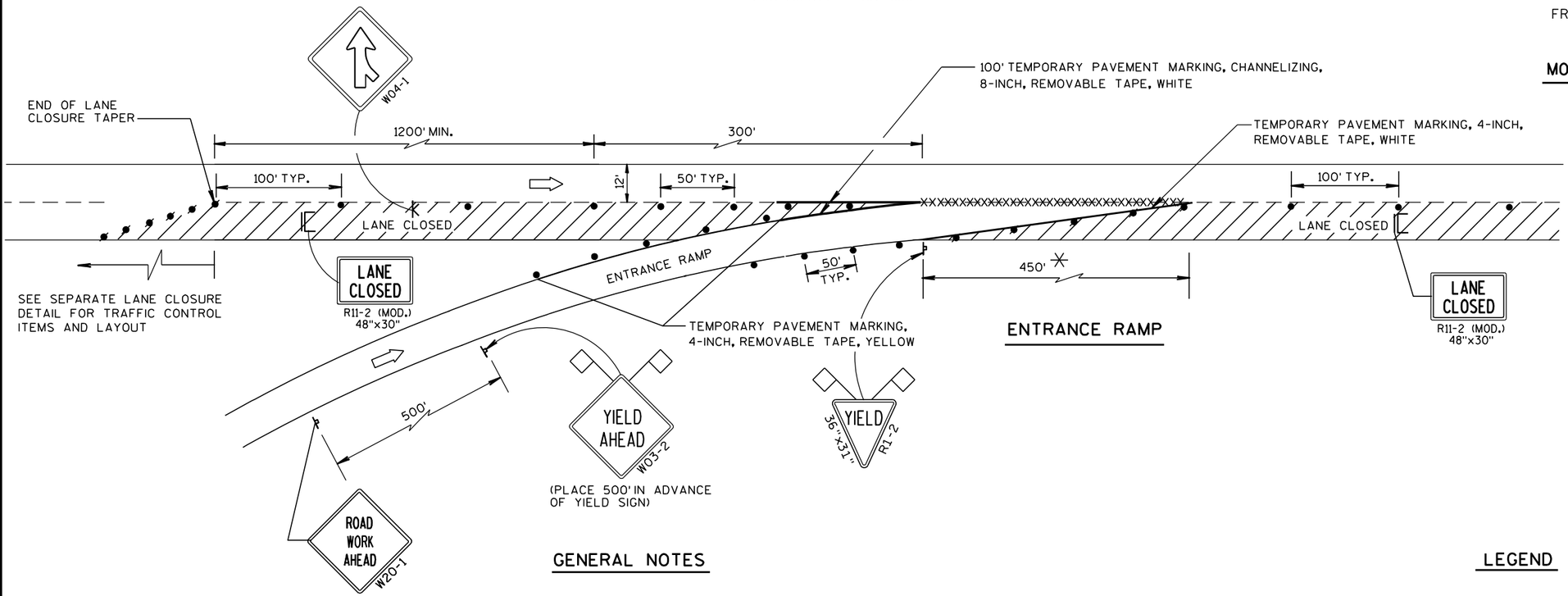


EXIT RAMP



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

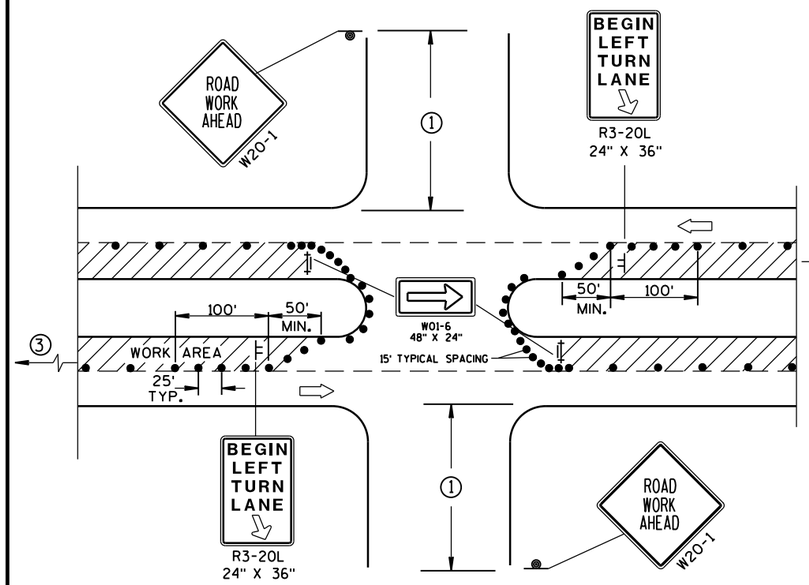
- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL, DRUM
- TRAFFIC CONTROL, DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE (8' EQUIVALENT) WITH SIGN
- FLAGS, 16"x16" MIN., ORANGE
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/24/2000 DATE
/S/ Chester J. [illegible] CHIEF SIGNS AND MARKINGS ENGINEER
FHWA

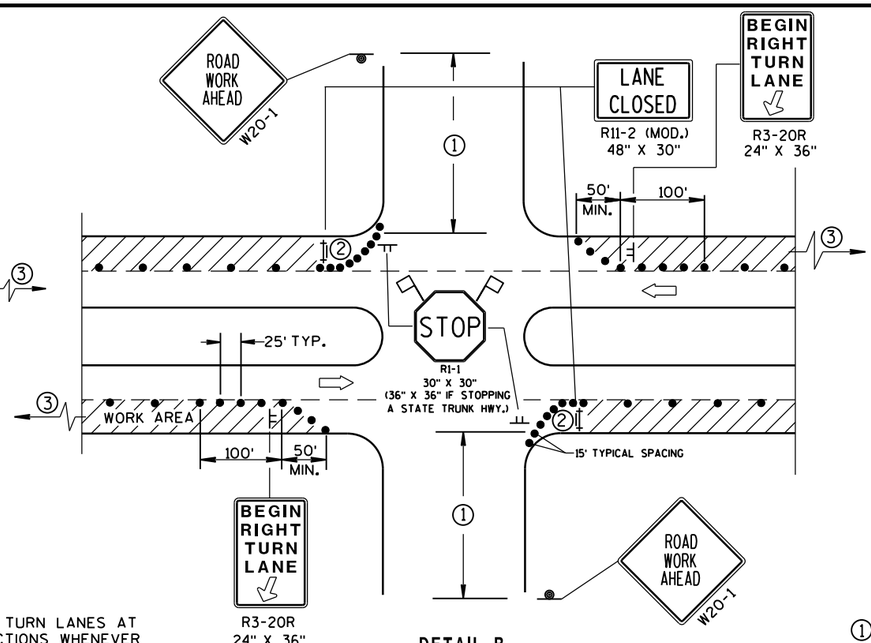
S.D.D. 15 D 15-1



DETAIL A

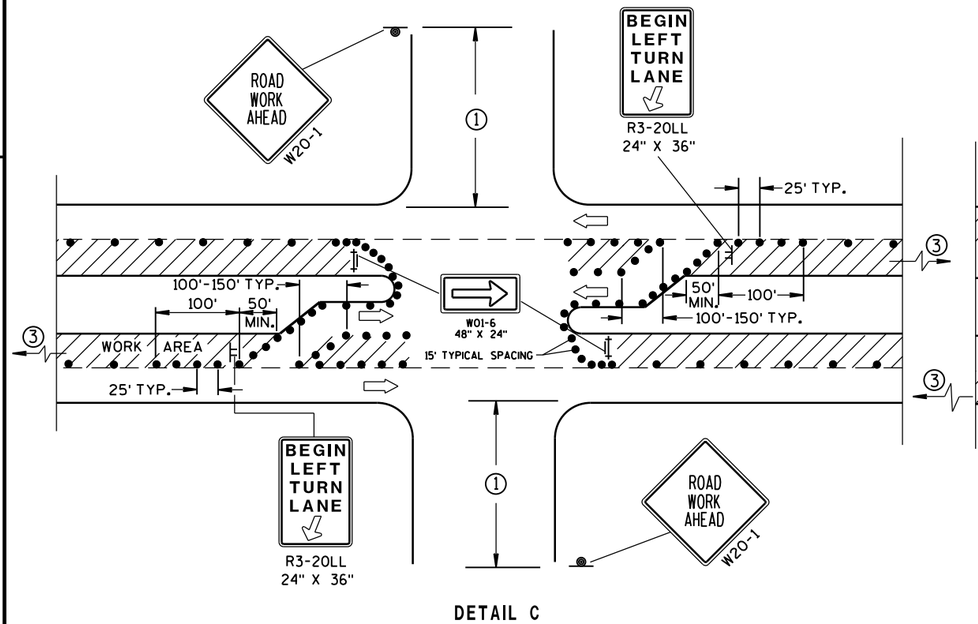
FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



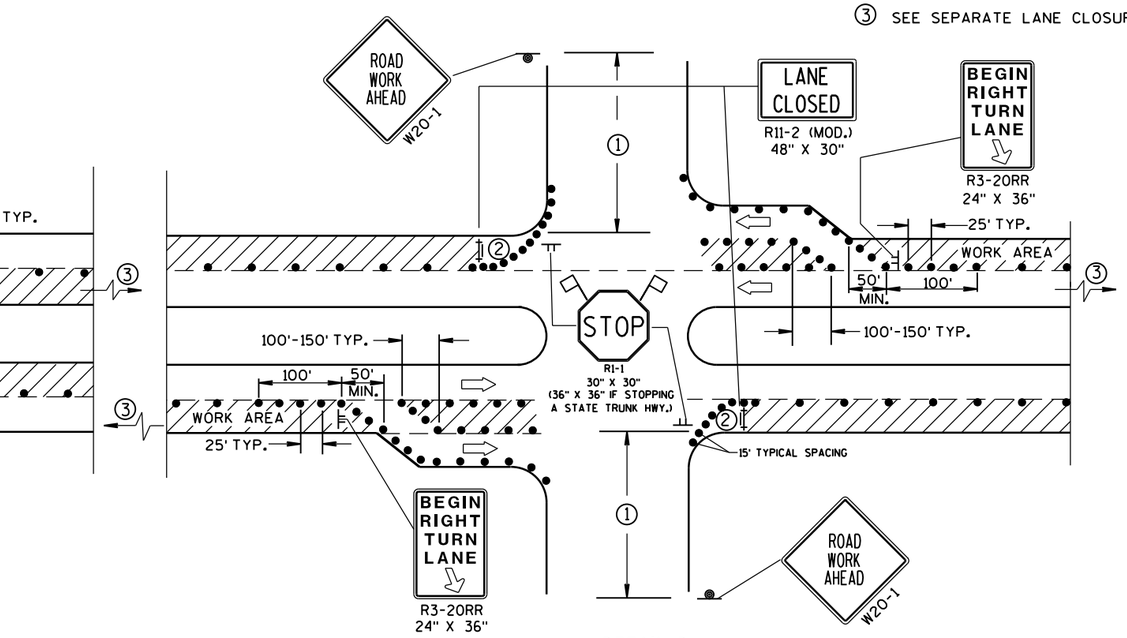
DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION



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)

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.

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	/S/ Travis Feltes
DATE	STATE TRAFFIC ENGINEER

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.

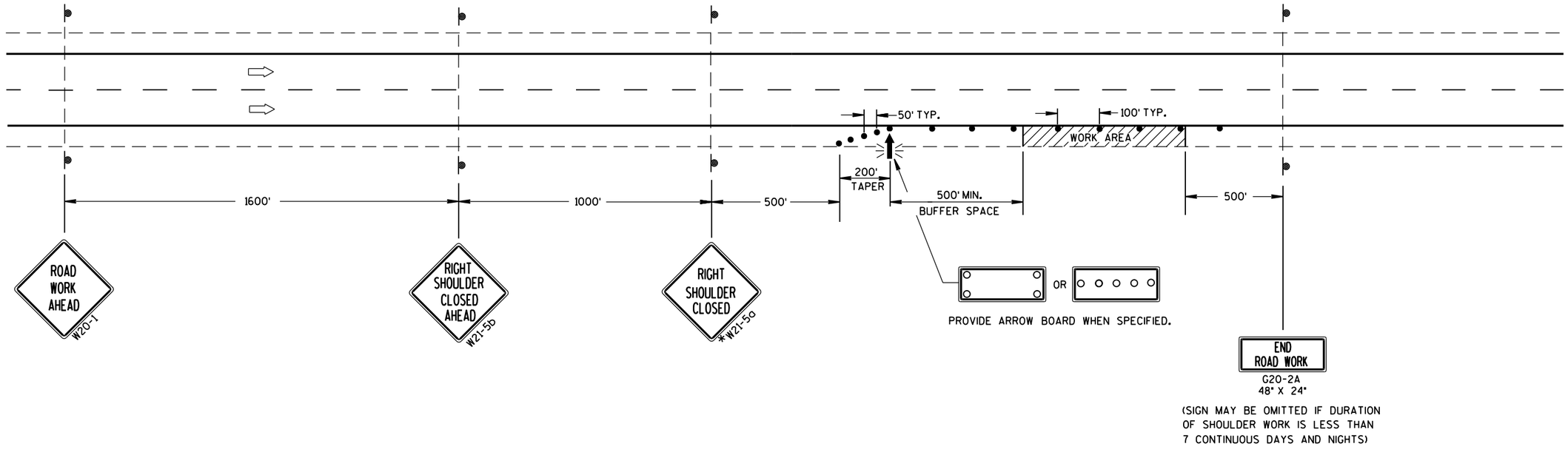
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

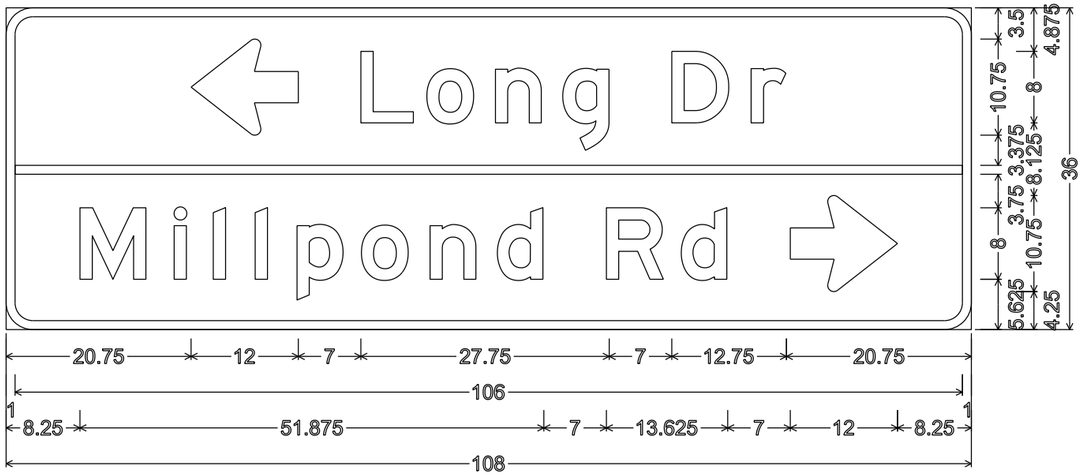
FHWA

6

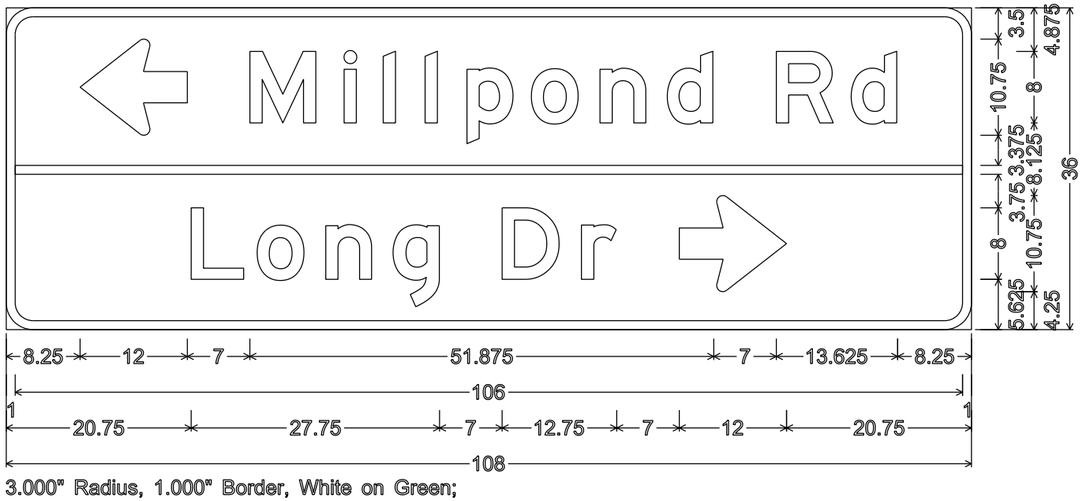
S.D.D. 15 D 27-2

NOTES

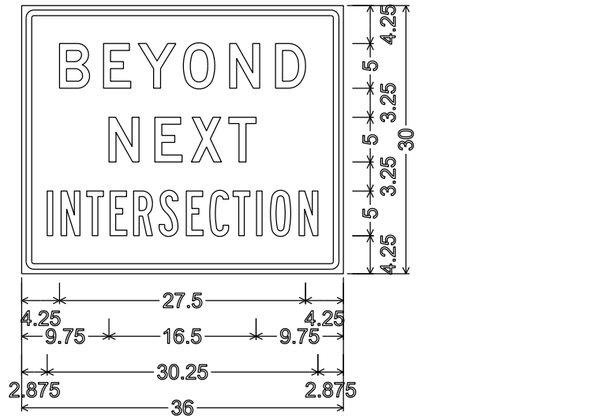
1. All Signs are Type II - Type H Reflective
2. Color:
   Background - Green except as noted
   Message - White except as noted
3. Message Series - E except as noted



3.000" Radius, 1.000" Border, White on Green;



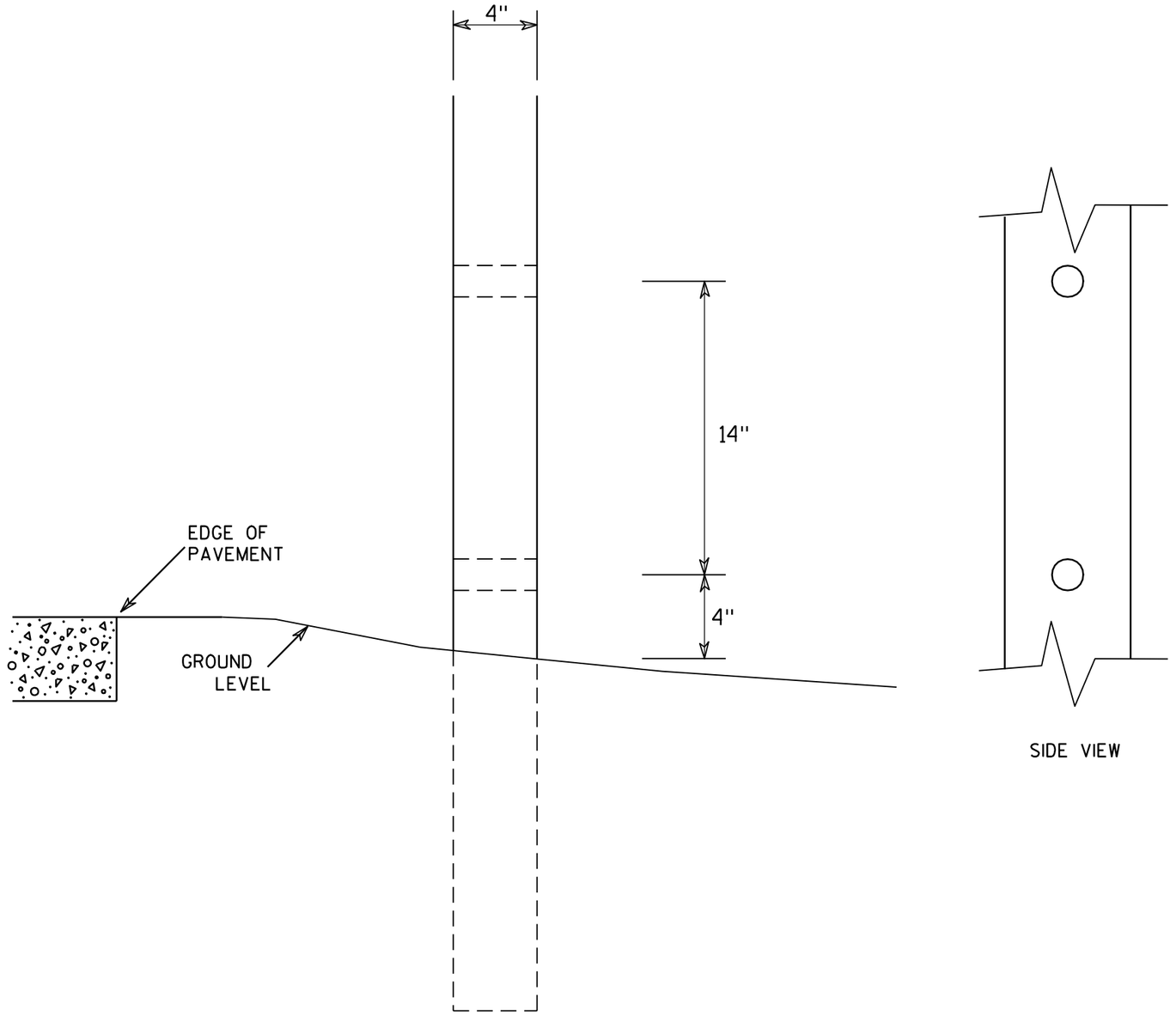
3.000" Radius, 1.000" Border, White on Green;



1.375" Radius, 0.625" Border, 0.500" Indent, Black on White;
"BEYOND" D; "NEXT" D;
"INTERSECTION" B;

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	PERMANENT SIGNING	SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_d1\1132a214.dgn PLOT DATE : 18-FEB-2014 14:53 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 25.428261:1.000000 WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

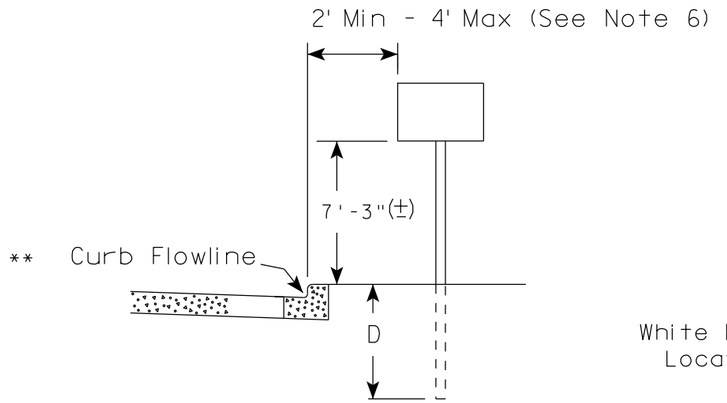
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

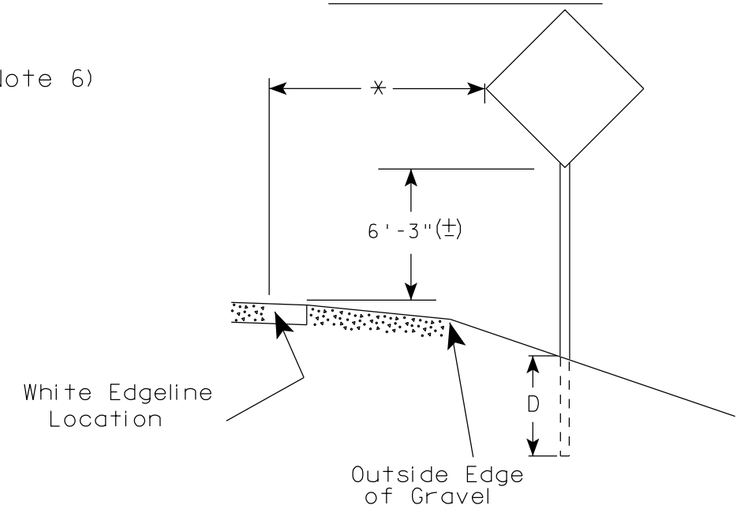
DATE 3/27/97 PLATE NO. A4-11.2

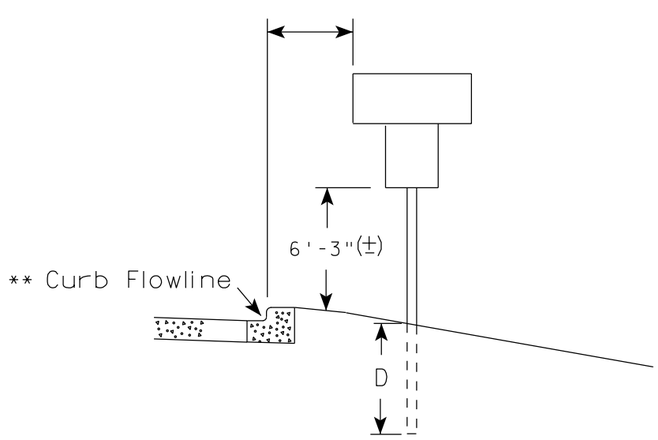
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 77	E

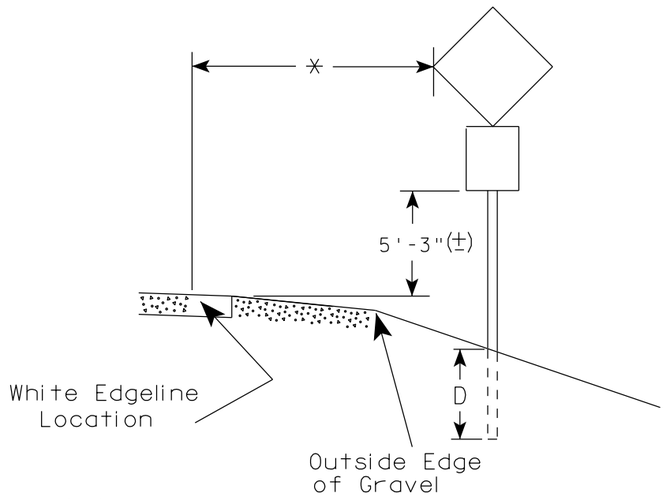
URBAN AREA



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

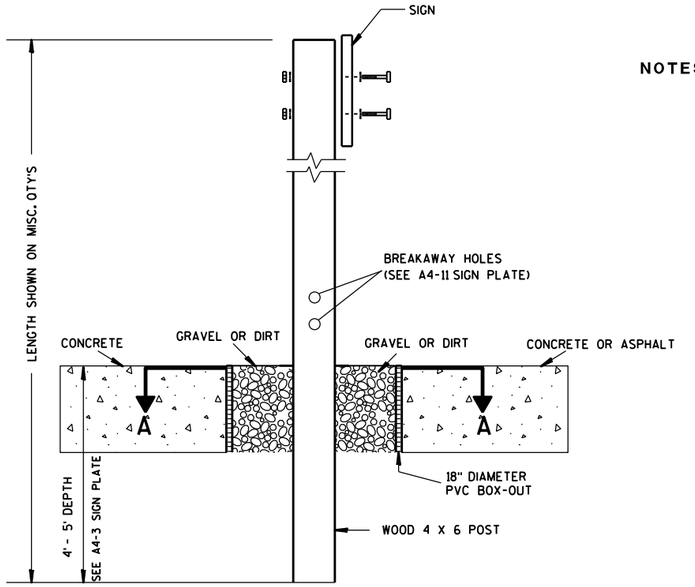
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

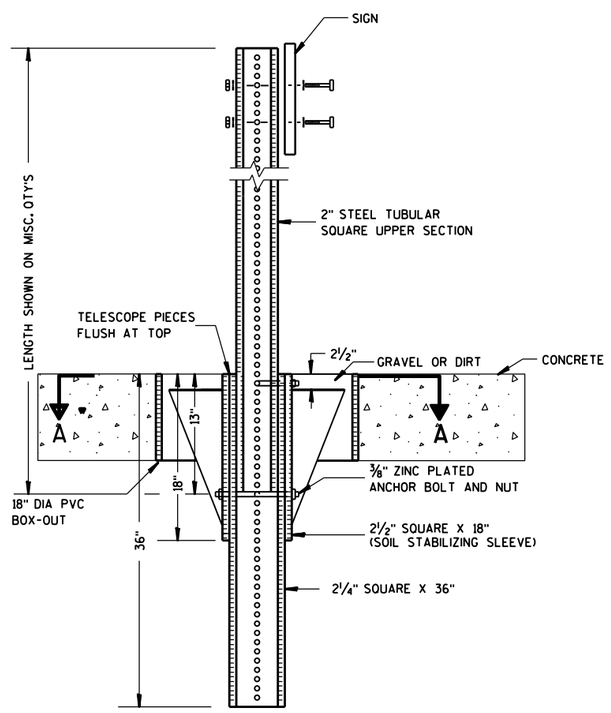
7



ELEVATION VIEW

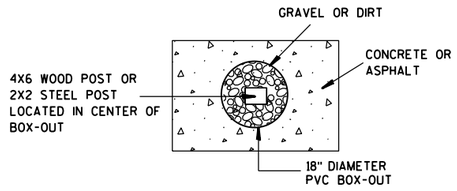
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

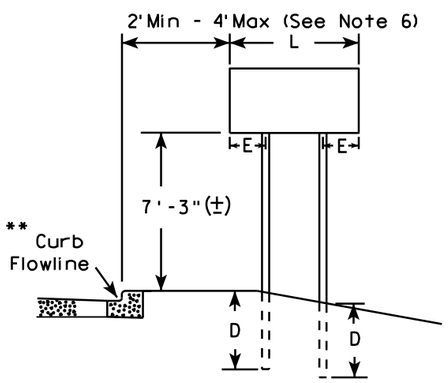
APPROVED Matthew R Rauch
for State Traffic Engineer

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

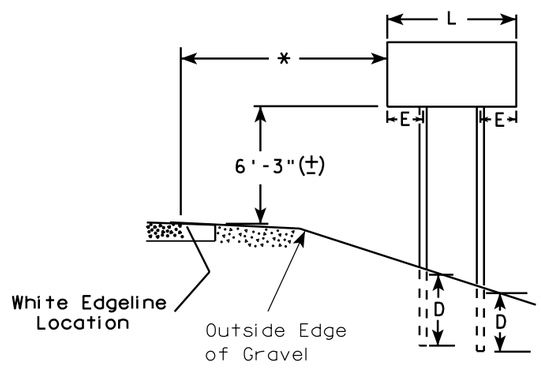
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

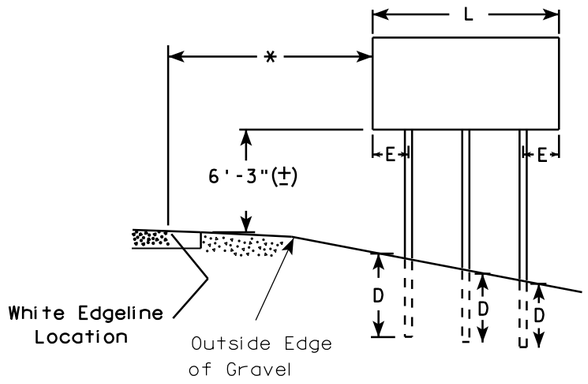
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

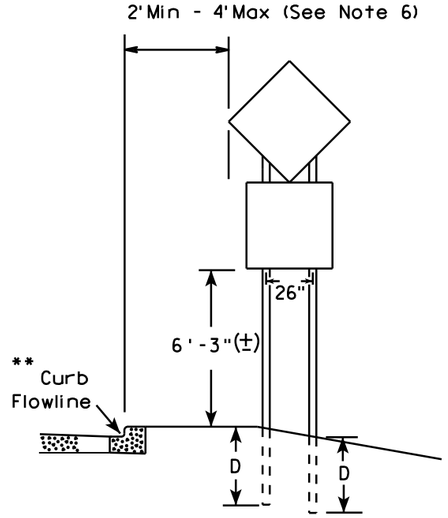
URBAN AREA



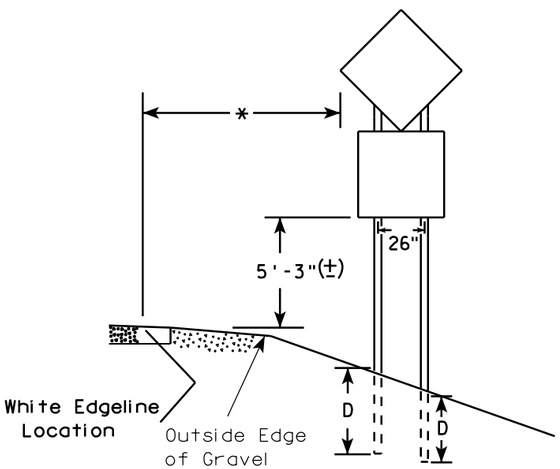
RURAL AREA (See Note 3)







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'

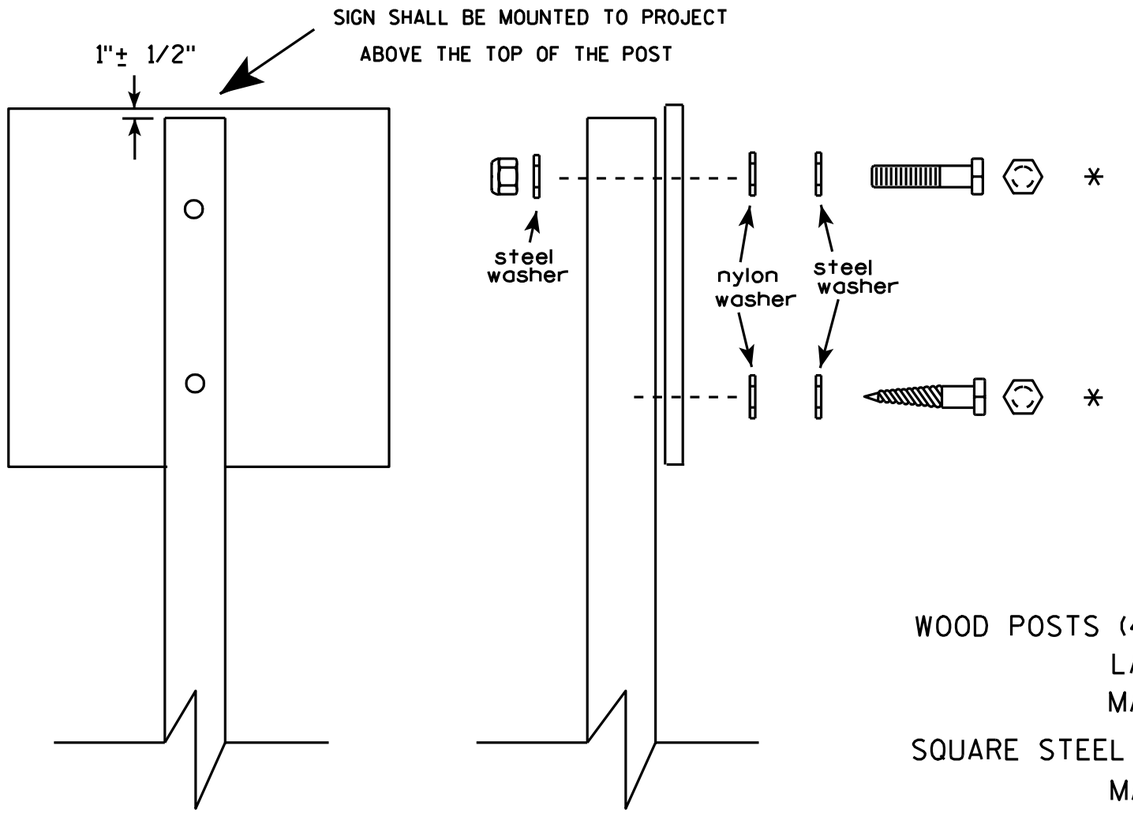
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/29/14 PLATE NO. A4-4 13

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



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

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

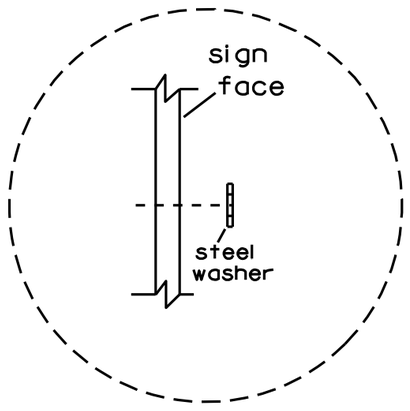
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

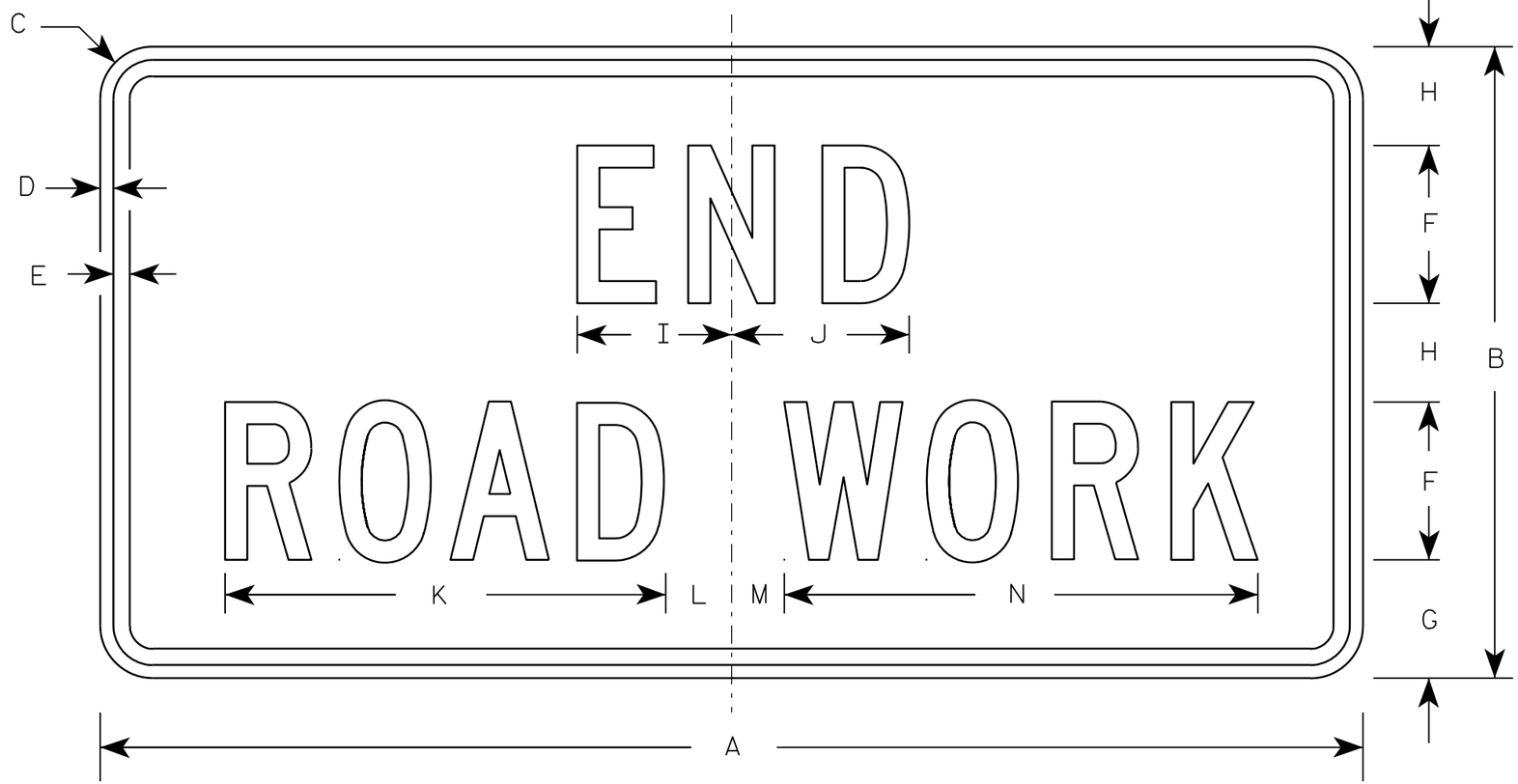
DATE 3/23/10 PLATE NO. A4-8.7

7

7

PROJECT NO:

SHEET NO: 81 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

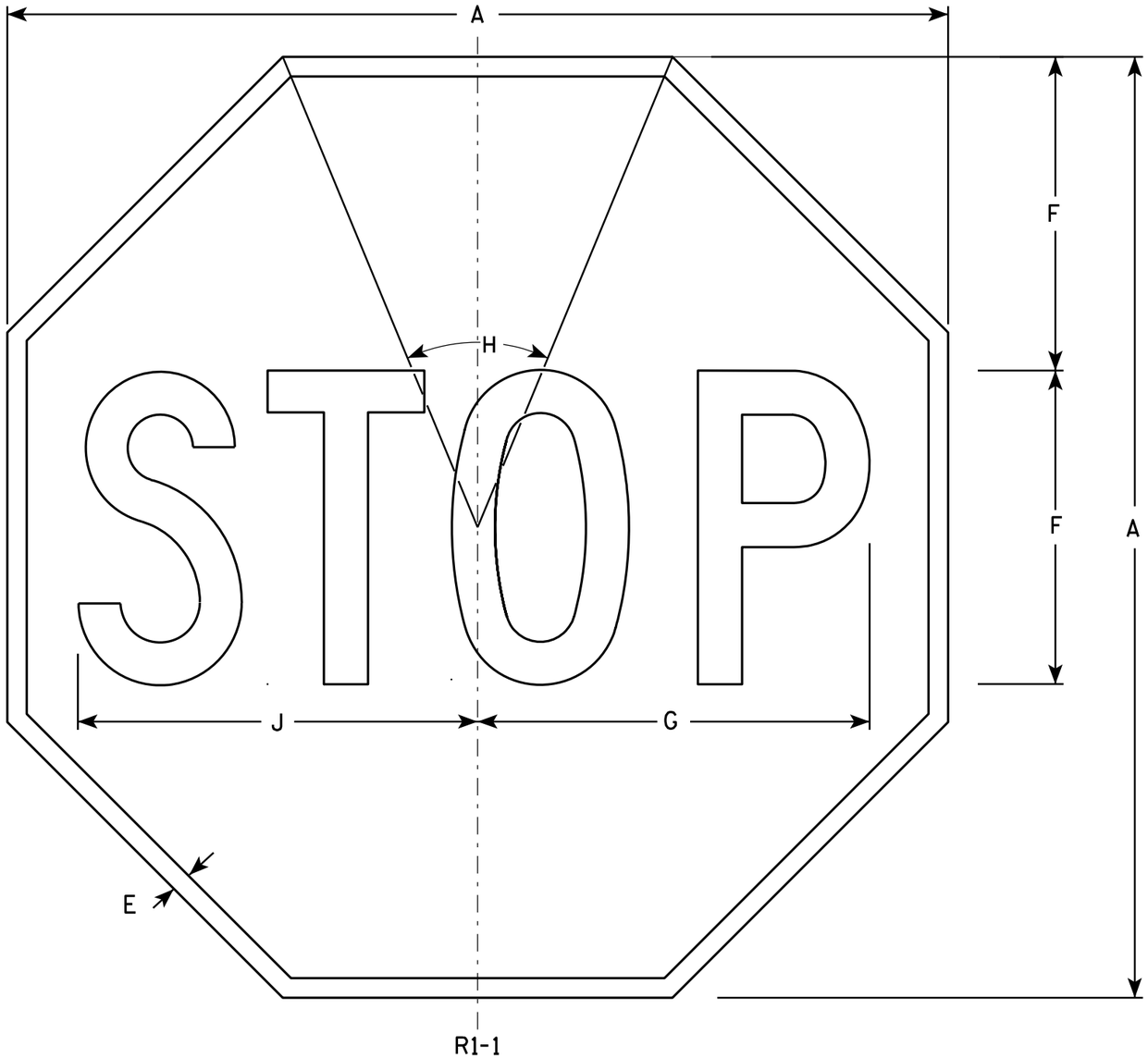
STANDARD SIGN
G20-2A

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: 82	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

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				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

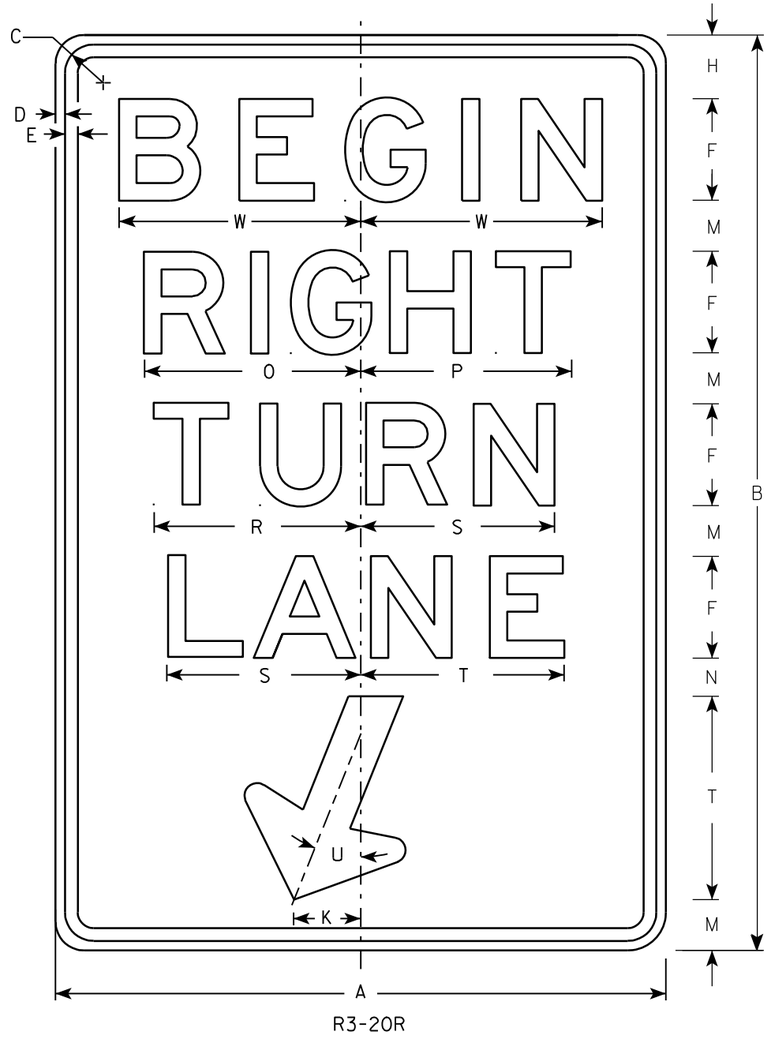
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

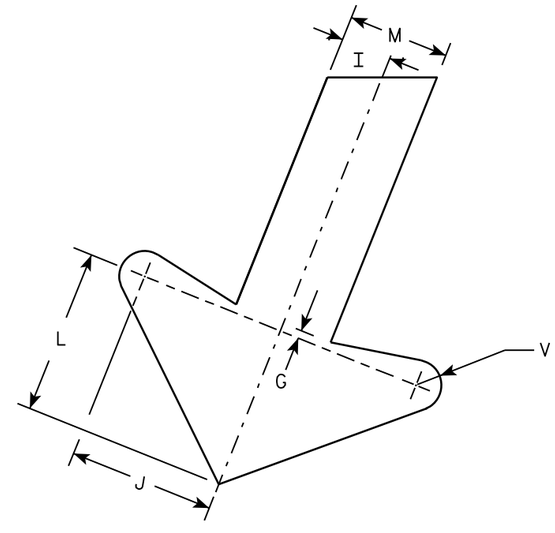
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 83	E



R3-20R

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	8 1/2	8 1/4		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	8 1/2	8 1/4		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	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

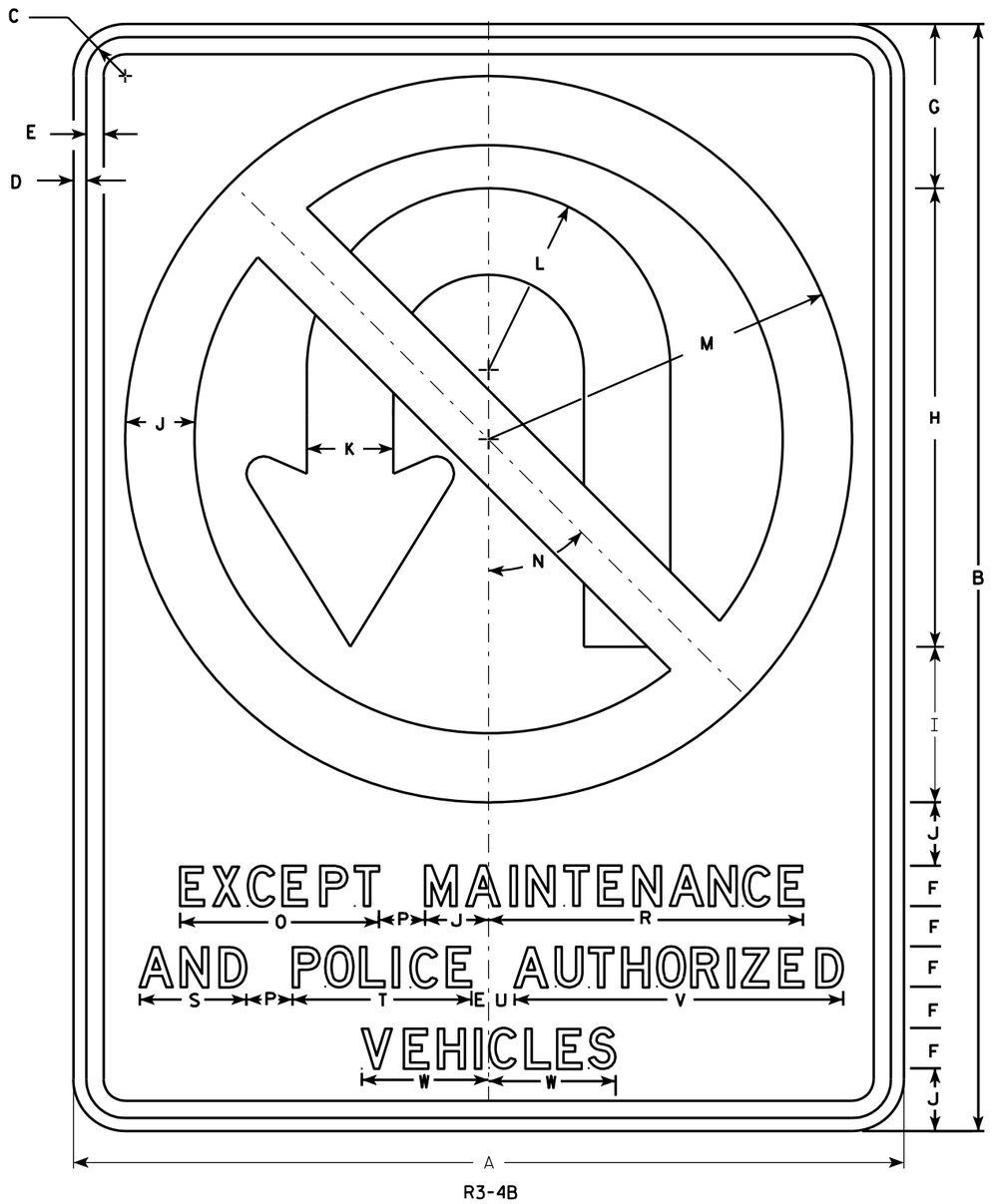
STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

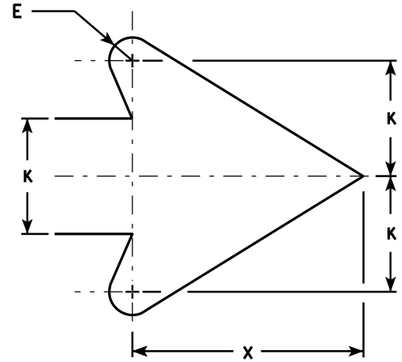
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 84 | E



R3-4B

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																											
2S																											
2M																											
3																											
4	36	48	1 5/8	5/8	3/4	1 3/4	7 1/8	19 7/8	6 3/4	2 3/4	3 3/4	7 7/8	15 3/4	45°	8 5/8	2		13 5/8	4 5/8	7 3/4	1 1/8	14 1/4	5 1/2	7 5/8			12.0
5	36	48	1 5/8	5/8	3/4	1 3/4	7 1/8	19 7/8	6 3/4	2 3/4	3 3/4	7 7/8	15 3/4	45°	8 5/8	2		13 5/8	4 5/8	7 3/4	1 1/8	14 1/4	5 1/2	7 5/8			12.0

STANDARD SIGN
R3-4B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/17/2011 PLATE NO. R3-4B.2

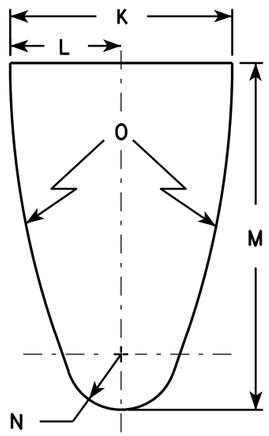
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 85	E

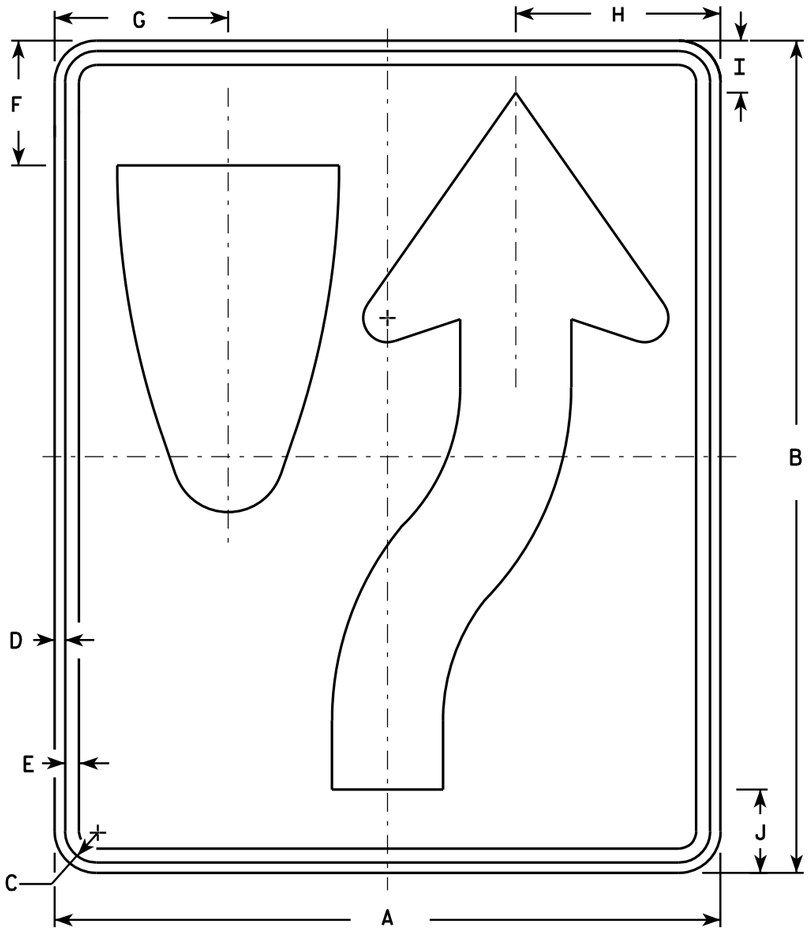
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R34B.DGN PLOT DATE : 17-MAR-2011 14:27 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.554949:1.000000

WISDOT/CADDS SHEET 42

7

7

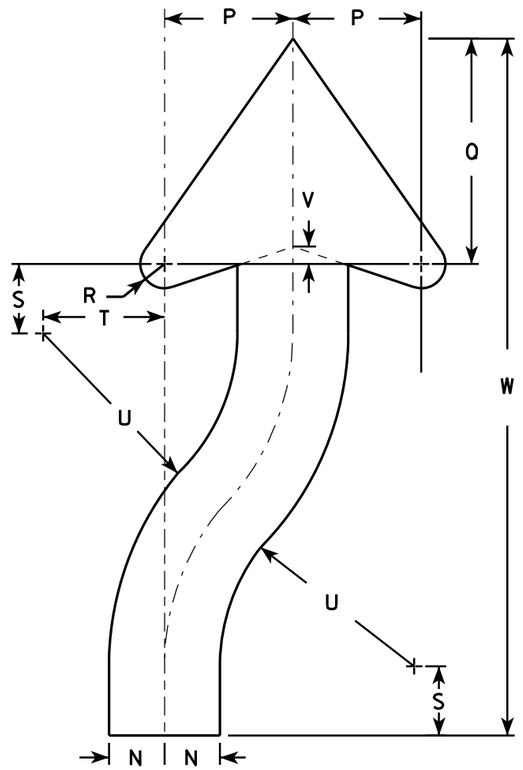




R4-7

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: 86	E

R5-57

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 - Lines 1, 2, and 5 are Series C.
   Lines 3 and 4 are Series B.
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																											
2M																											
3																											
4	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8		9.0
5	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8		9.0

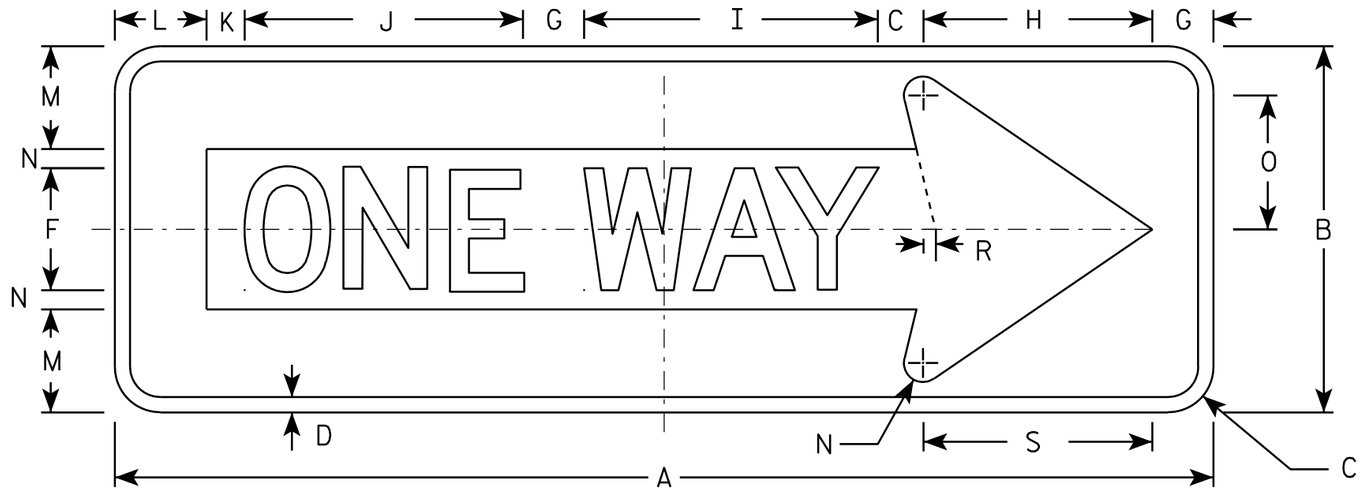
STANDARD SIGN
R5-57

WISCONSIN DEPT OF TRANSPORTATION

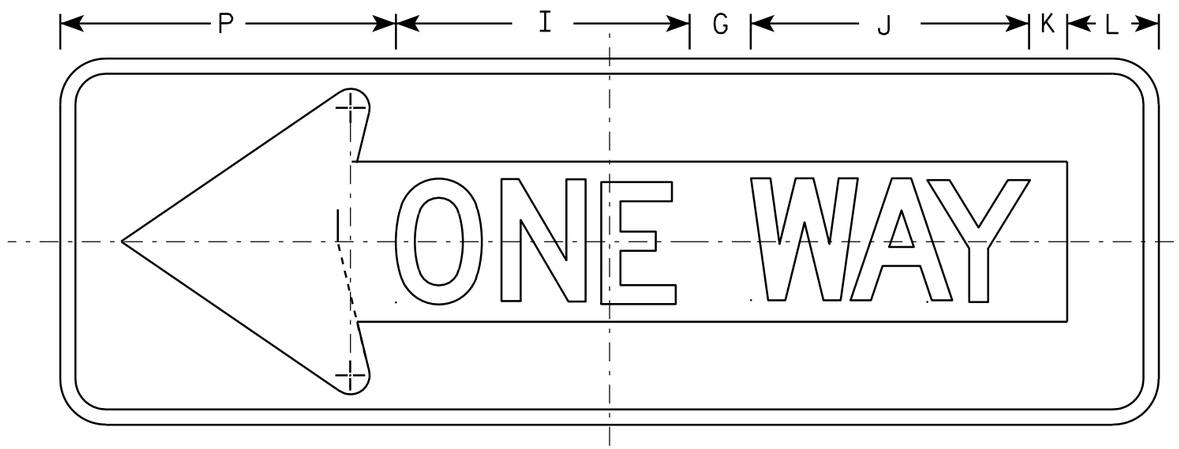
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-57.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 87	E



R6-1R



R6-1L

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - BLACK
   Message - BLACK LEGEND & WHITE ARROW & BORDER
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																											
2S	36	12	1 1/2	1/2		4	2	7 1/2	9 5/8	9 1/8	1 1/4	3	3 3/8	5/8	4 3/8	11		3/8	7 1/2								3.0
2M	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 1/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
3	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 1/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
4	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 1/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
5																											

STANDARD SIGN
R6-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

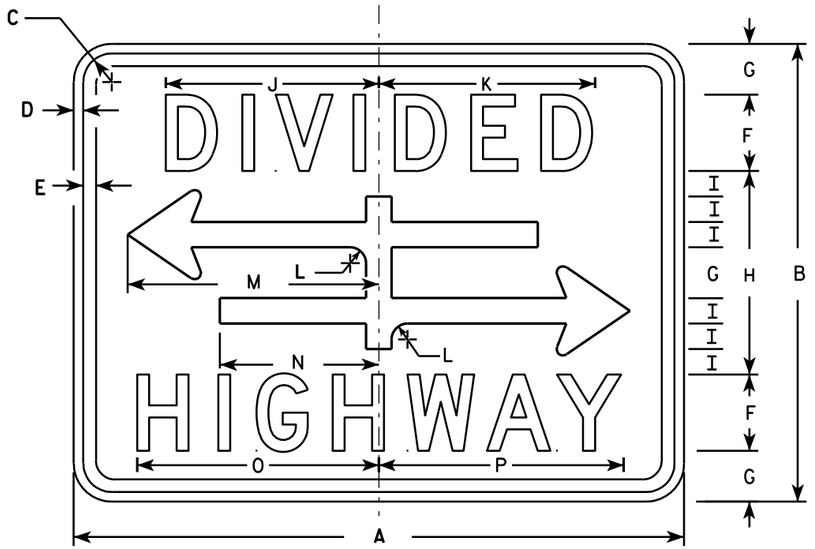
DATE 12/17/10 PLATE NO. R6-1.2

PROJECT NO:

SHEET NO: 88 E

7

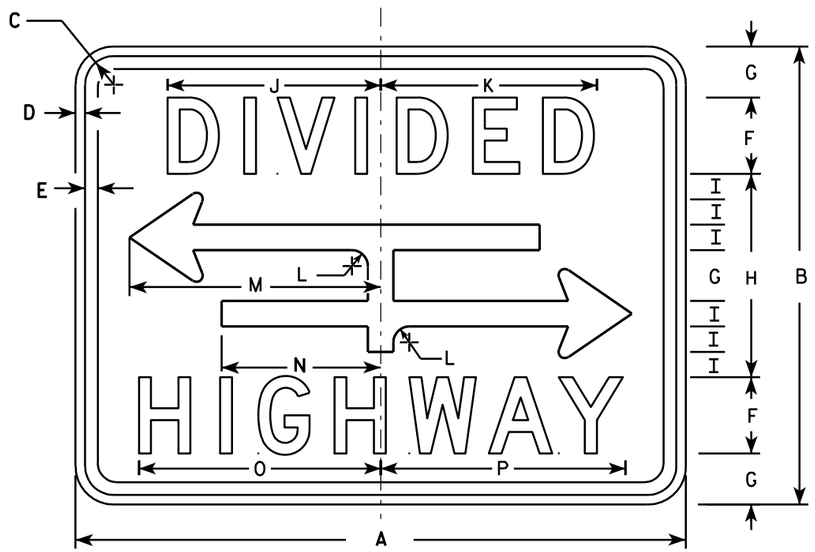
7



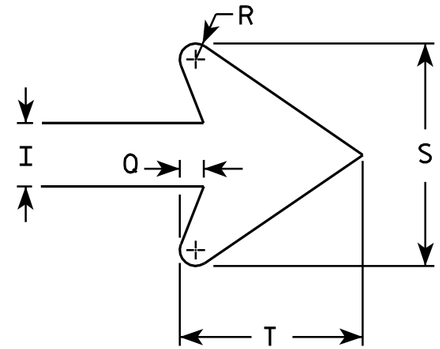
R6-3

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.



R6-3A



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	18	1 1/8	3/8	3/8	3	2	8	1	8 3/8	8 1/2	5/8	9 7/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
2S	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
2M	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
3																											
4																											
5																											

STANDARD SIGN
R6-3 & R6-3A

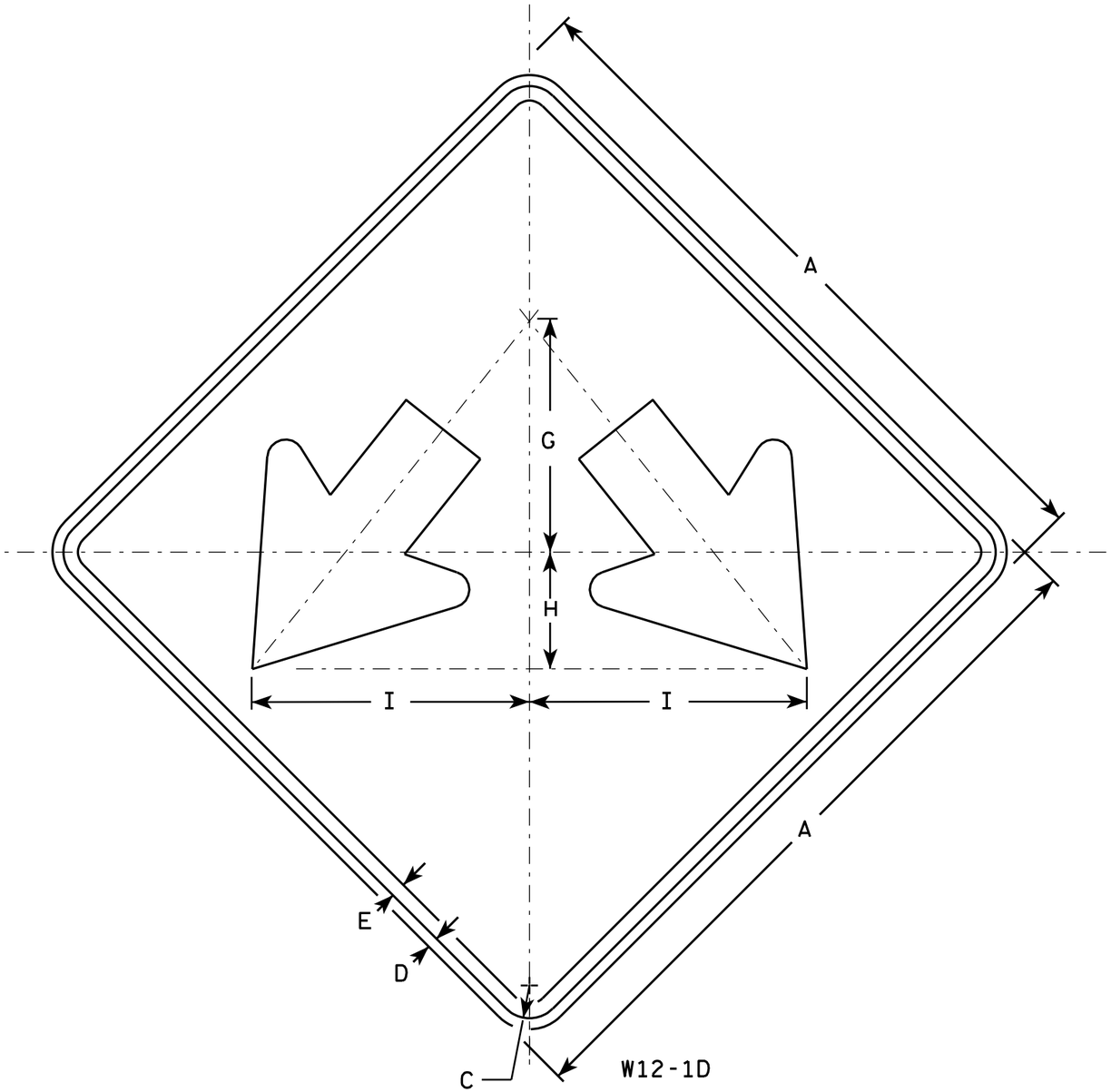
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

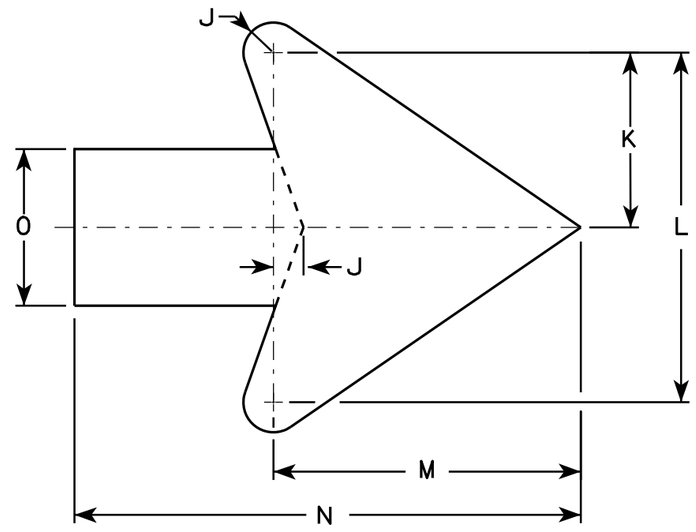
PROJECT NO:

SHEET NO: 89 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.



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

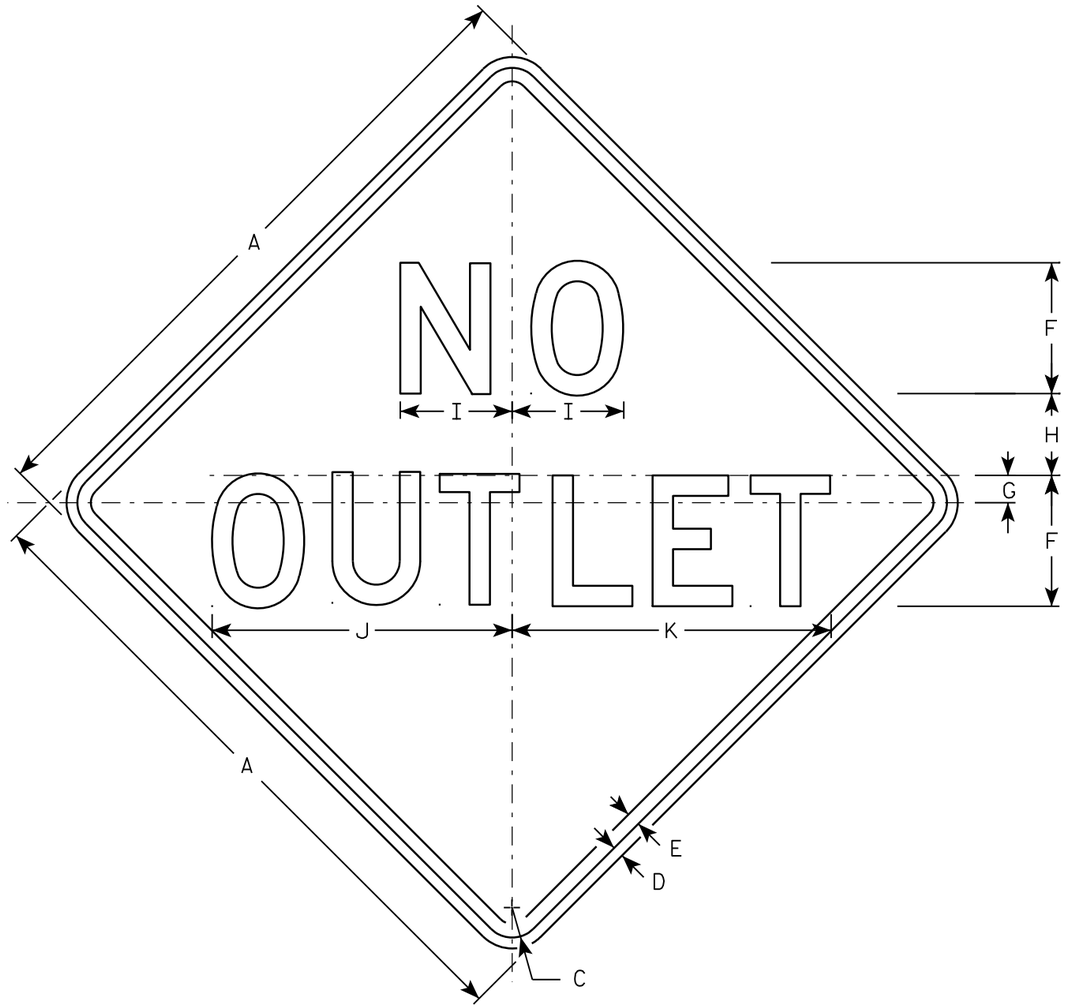
STANDARD SIGN
W12-1D

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: 90	E



W14-2

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 - 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		1 1/8	3/8	1/2	5	1	2 3/4	4 1/8	11 3/4	12 3/8																4.0
2S	30		1 3/8	1/2	5/8	6	1 1/4	3 3/4	5 1/8	13 3/4	14 5/8																6.25
2M	30		1 3/8	1/2	5/8	6	1 1/4	3 3/4	5 1/8	13 3/4	14 5/8																6.25
3	36		1 5/8	5/8	3/4	7	1 3/8	4 5/8	6	16 1/8	17 1/8																9.0
4																											
5																											

STANDARD SIGN
W14-2

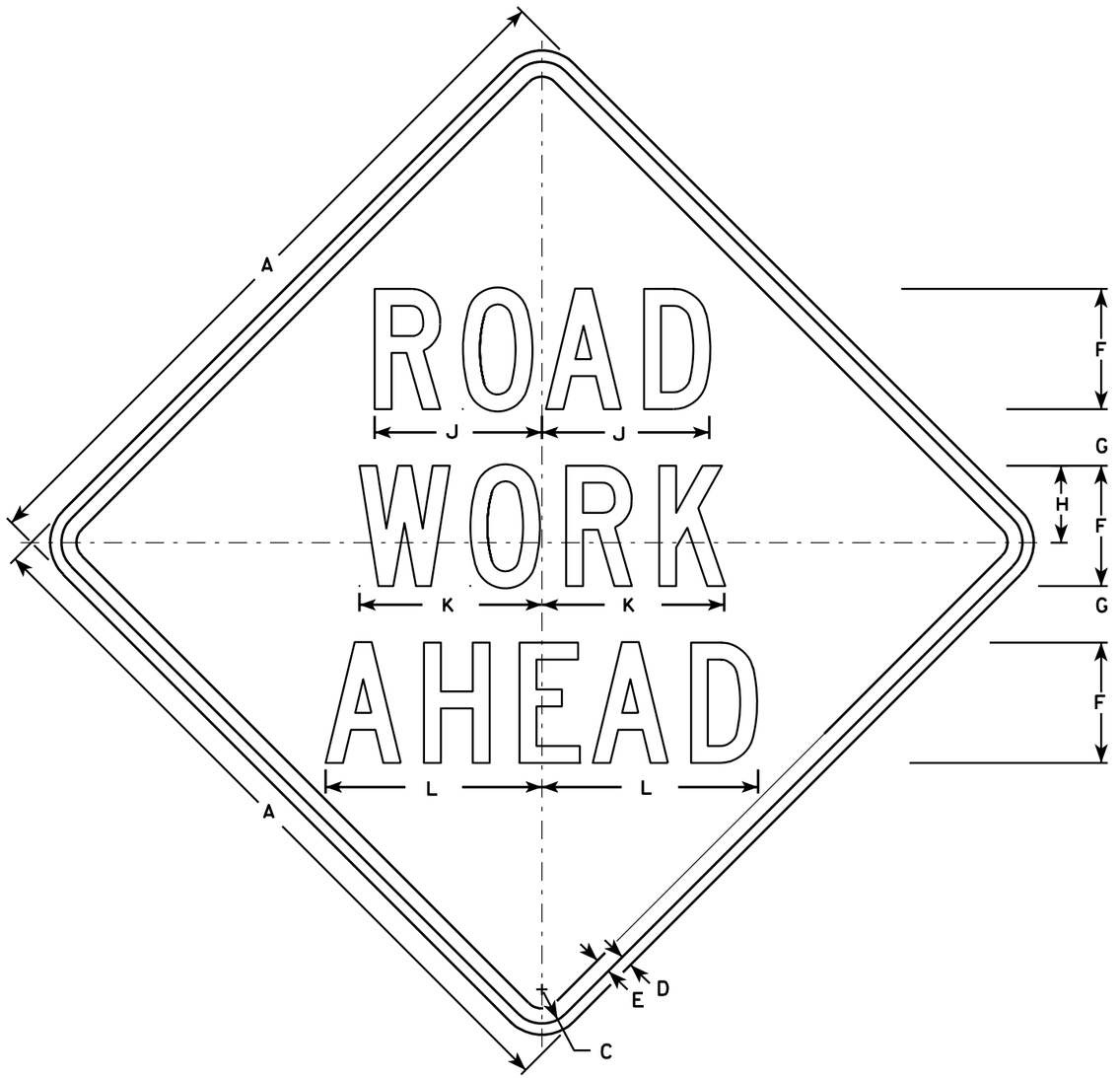
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

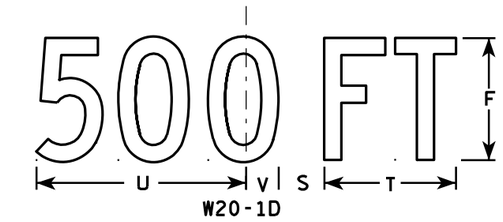
DATE 3/13/13 PLATE NO. W14-2.3

PROJECT NO:

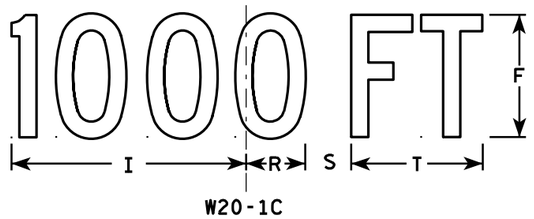
SHEET NO: 91 E



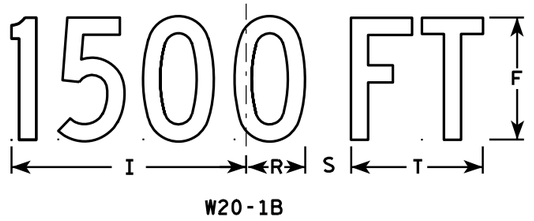
W20-1A



W20-1D

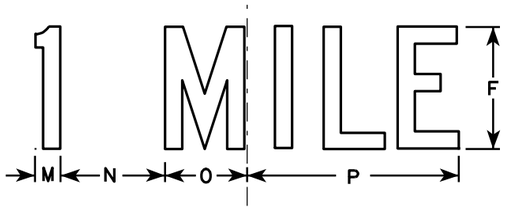


W20-1C



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: 92 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

EB-LINE EARTHWORK

Station	Cut Area (SF)	Incremental Cut Volume (CY)	Fill Area (SF)	IncrementalFill Volume (CY)	Cumulative Cut Volume (CY)	Cumulative Fill Volume (CY)	Mass Ordinate (CY)
137+00.000	2	0	0	0	0	0	0
138+00.000	2	8	1	2	8	2	6
139+00.000	15	32	1	3	40	5	36
140+00.000	26	77	6	12	117	17	100
141+00.000	39	121	5	21	238	38	200
142+00.000	33	134	10	28	372	65	306
143+00.000	43	141	25	64	512	129	383
144+00.000	127	315	33	108	827	237	591
144+50.000	43	158	39	67	985	304	682
145+00.000	0	40	0	36	1025	340	686
145+25.000	0	0	0	0	1025	340	686
145+50.000	30	14	0	0	1039	340	700
146+00.000	20	46	6	6	1086	346	740
147+00.000	26	85	0	12	1171	358	813

Earthwork Values in table have not been expanded.
Fill Expansion Factor for Common Excavation = 1.25

MP-LINE EARTWORK

Station	Cut Area (SF)	Incremental Cut Volume (CY)	Fill Area (SF)	Incremental Fill Volume (CY)	Cumulative Cut Volume (CY)	Cumulative Fill Volume (CY)	Mass Ordinate (CY)
95+50.000	2	0	1	0	0	0	0
96+00.000	64	62	0	1	62	1	61
96+50.000	108	160	0	0	221	1	221
96+75.000	133	112	0	0	333	1	332
97+00.000	149	131	1	1	464	1	462
97+25.000	158	142	2	1	606	2	603
97+50.000	144	140	3	2	745	5	741
97+75.000	129	126	3	3	872	8	864
98+00.000	150	129	8	5	1001	13	988
98+25.000	127	128	43	24	1129	37	1092
98+50.000	132	120	71	53	1249	90	1160
98+75.000	150	131	103	81	1380	170	1210
99+00.000	75	104	122	104	1484	275	1210
99+25.000	44	55	199	149	1540	424	1116

Earthwork Values in table have not been expanded.
Fill Expansion Factor for Common Excavation = 1.25

G-LINE EARTHWORK

Station	Cut Area (SF)	Incremental Cut Volume (CY)	Fill Area (SF)	Incremental Fill Volume (CY)	Cumulative Cut Volume (CY)	Cumulative Fill Volume (CY)	Mass Ordinate (CY)
10+50.000	14	0	41	0	0	0	0
10+75.000	15	14	43	39	14	39	-25
11+00.000	6	10	0	20	24	59	-35
11+25.000	5	5	0	0	29	59	-30
11+50.000	6	5	0	0	34	59	-25

Earthwork Values in table have not been expanded.
Fill Expansion Factor for Common Excavation = 1.25

STAGE 1 EARTHWORK

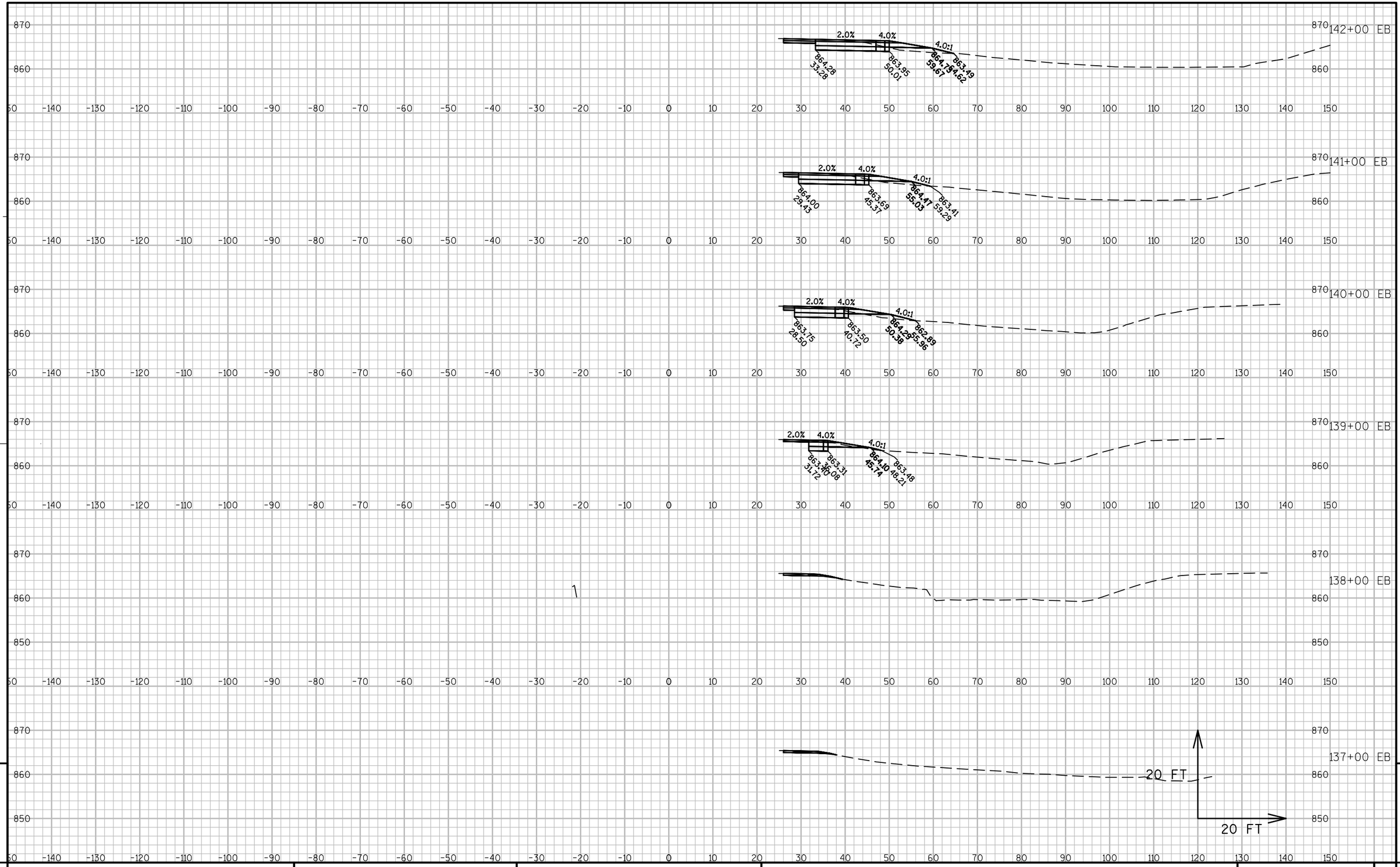
Station	Cut Area (SF)	Incremental Cut Volume (CY)	Fill Area (SF)	Incremental Fill Volume (CY)	Cumulative Cut Volume (CY)	Cumulative Fill Volume (CY)	Mass Ordinate (CY)
G-LINE							
10+50	14	0	41	0	0	0	0
10+75	15	14	43	39	14	39	-25
11+00	6	10	0	20	24	59	-35
11+25	5	5	0	0	29	59	-30
11+50	6	5	0	0	34	59	-25
MP-LINE							
97+75	0	0	0	0	0	0	0
98+00	37	17	1	0	17	0	17
98+25	28	30	38	18	47	18	29
98+50	36	30	49	41	77	59	18
98+75	35	32	70	55	109	114	-5
99+00	30	30	63	61	139	175	-36
99+25	24	25	94	73	164	248	-84
EB-LINE							
145+25	0	0	0	0	0	0	0
145+50	30	14	0	0	14	0	14
146+00	20	46	6	6	60	6	54
147+00	26	85	0	12	146	18	128

Earthwork Values in table have not been expanded.
Fill Expansion Factor for Common Excavation = 1.25

STAGE 2 EARTHWORK

Station	Cut Area (SF)	Incremental Cut Volume (CY)	Fill Area (SF)	Incremental Fill Volume (CY)	Cumulative Cut Volume (CY)	Cumulative Fill Volume (CY)	Mass Ordinate (CY)
Millpond Rd							
95+50	2	0	1	0	0	0	0
96+00	64	62	0	1	62	1	61
96+50	108	160	0	0	221	1	221
96+75	133	112	0	0	333	1	332
97+00	149	131	1	1	464	1	462
97+25	158	142	2	1	606	2	603
97+50	144	140	3	2	745	5	741
97+75	129	126	3	3	872	8	864
98+00	113	112	7	5	984	13	971
98+25	99	98	5	6	1082	19	1064
98+50	96	90	21	12	1173	31	1142
98+75	116	98	34	25	1271	56	1215
99+00	46	75	60	43	1346	99	1246
99+25	20	31	105	76	1376	176	1200
USH 12							
137+00	2	0	0	0	0	0	0
138+00	2	8	1	2	8	2	6
139+00	15	32	1	3	40	5	36
140+00	26	77	6	12	117	17	100
141+00	39	121	5	21	238	38	200
142+00	33	134	10	28	372	65	306
143+00	43	141	25	64	512	129	383
144+00	127	315	33	108	827	237	591
144+50	43	158	39	67	985	304	682
145+00	0	40	0	36	1025	340	686
145+25	0	0	0	0	1025	340	686

Earthwork Values in table have not been expanded.
Fill Expansion Factor for Common Excavation = 1.25



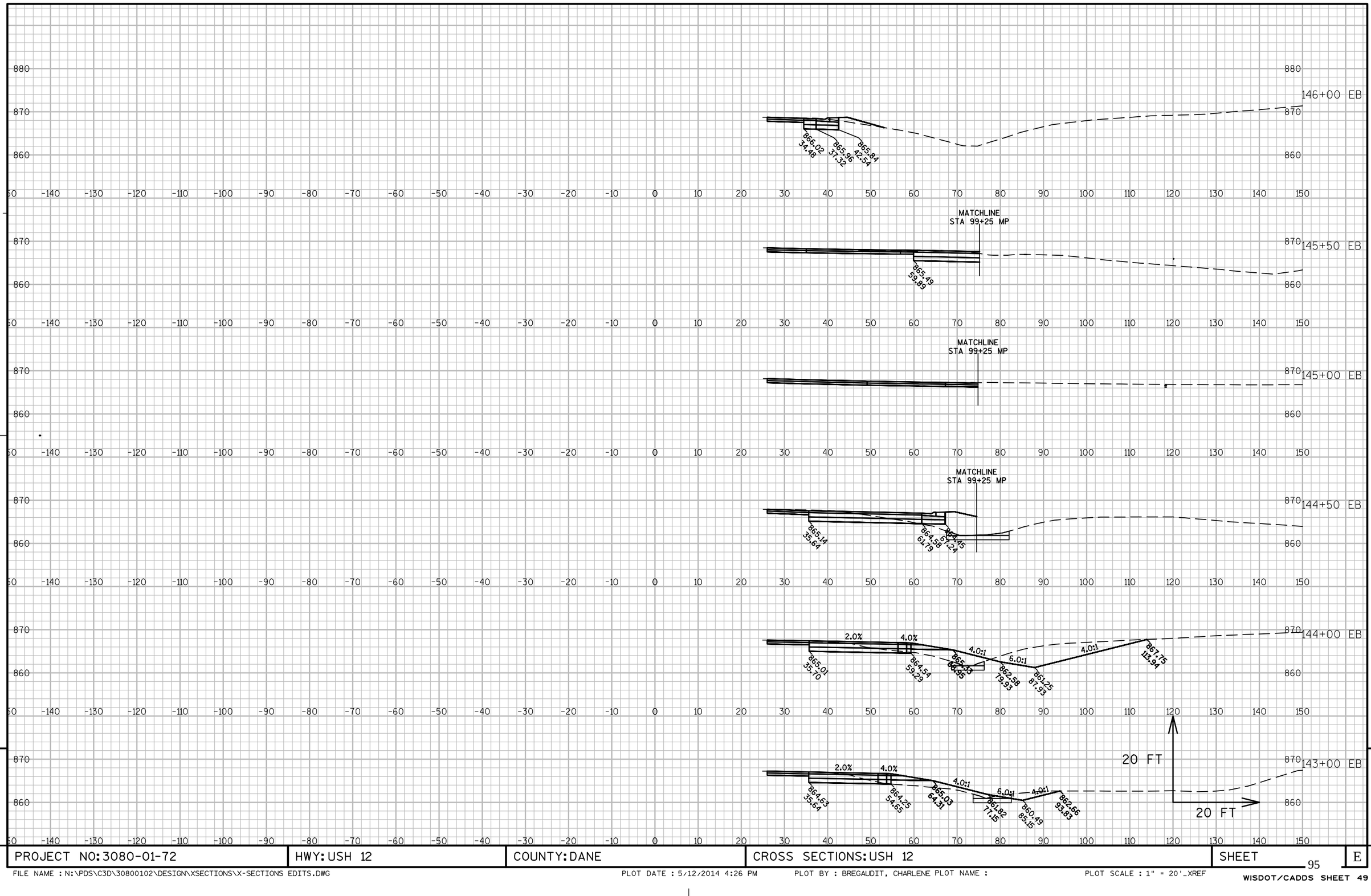
9

9

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: USH 12	SHEET	E

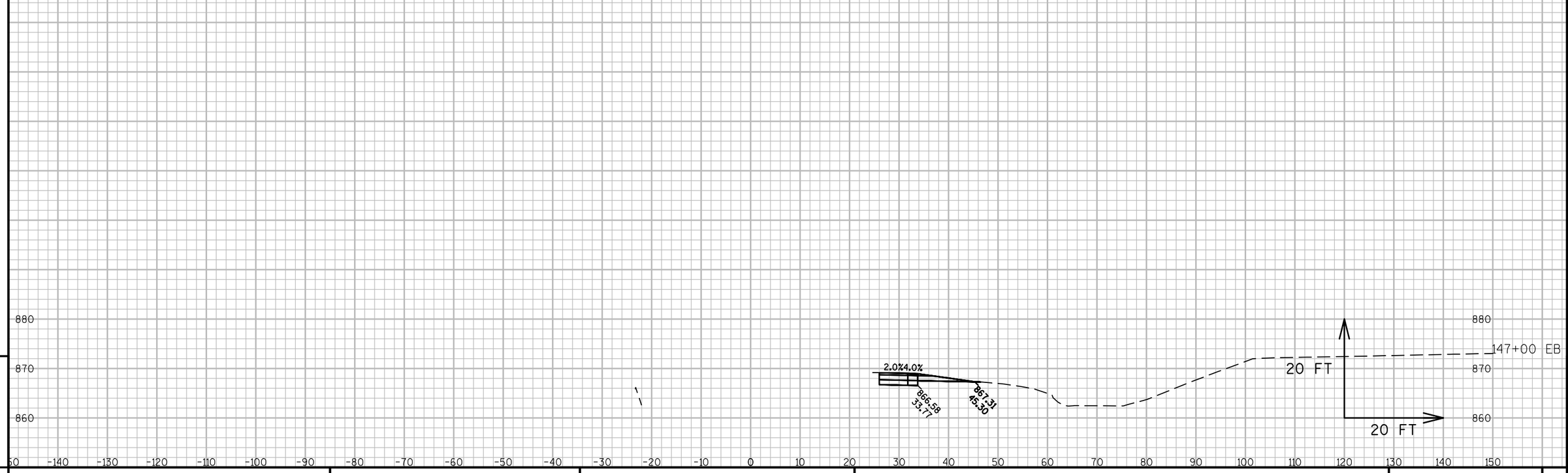
FILE NAME : N:\PDS\C3D\30800102\DESIGN\XSECTIONS\X-SECTIONS EDITS.DWG PLOT DATE : 5/12/2014 4:25 PM PLOT BY : BREGAUDIT, CHARLENE PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: USH 12	SHEET	E

FILE NAME : N:\PDS\C3D\30800102\DESIGN\XSECTIONS\X-SECTIONS EDITS.DWG PLOT DATE : 5/12/2014 4:26 PM PLOT BY : BREGAUDIT, CHARLENE PLOT NAME : PLOT SCALE : 1" = 20'_XREF



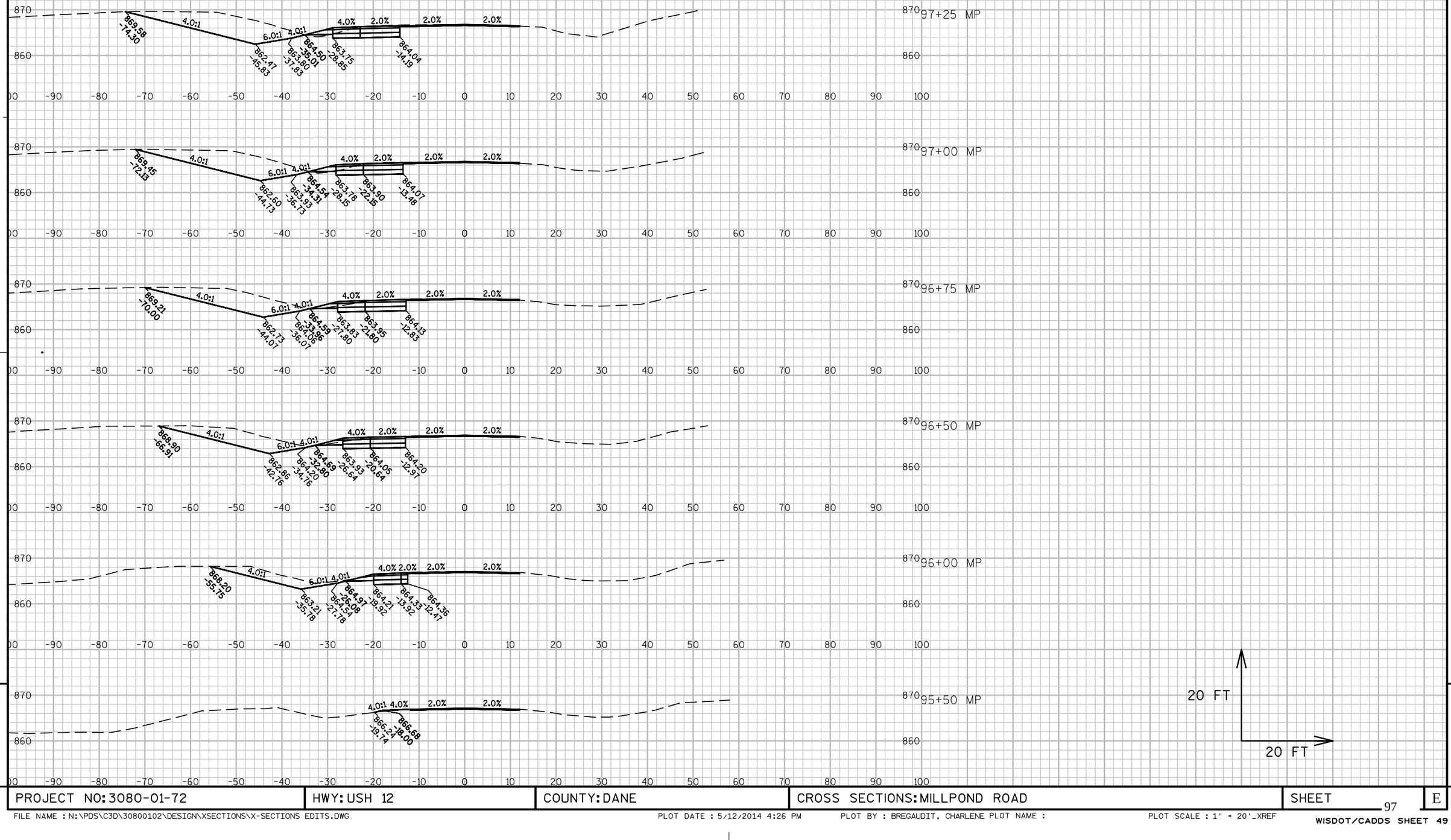
9

9

PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: USH 12	SHEET	E

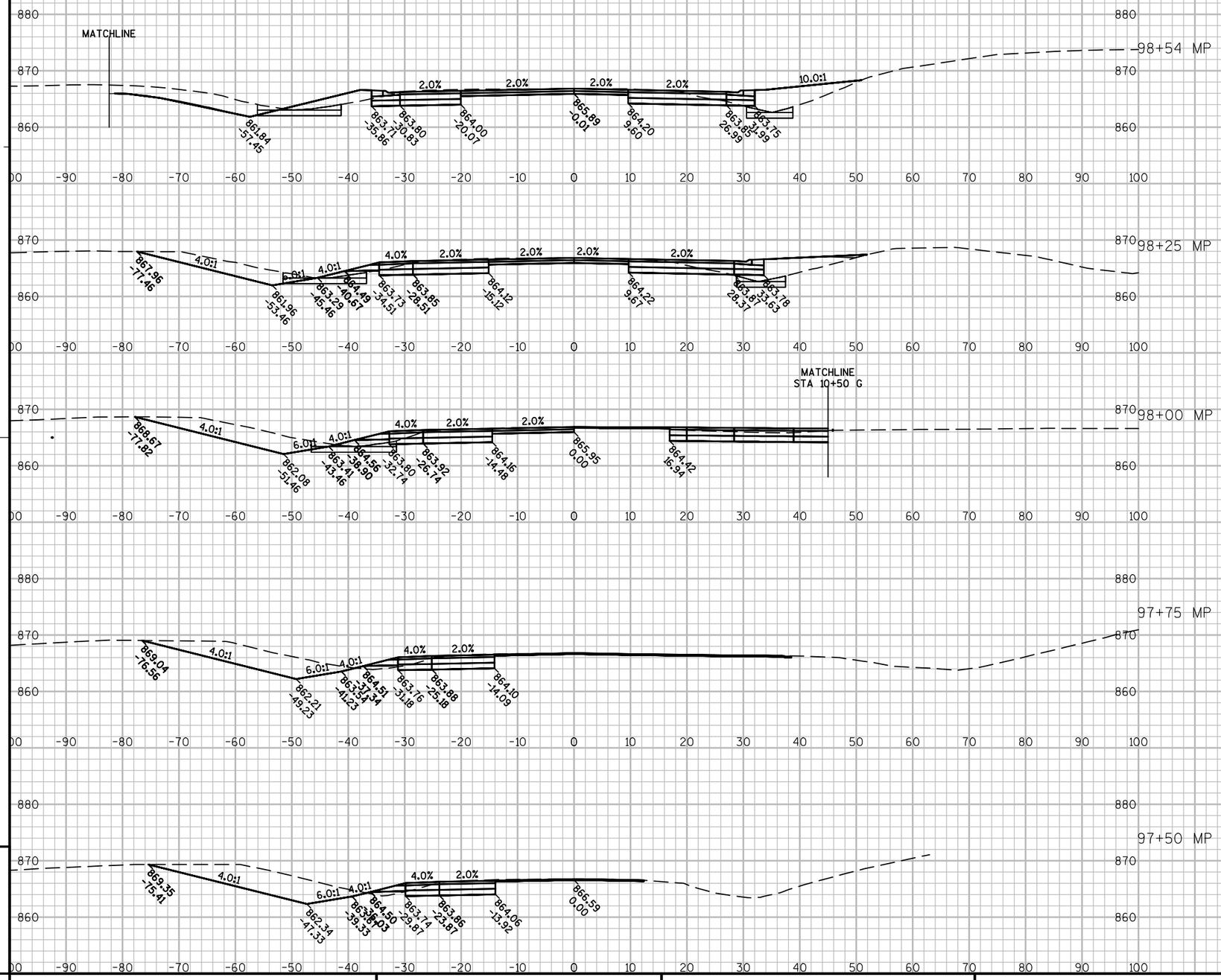
FILE NAME : N:\PDS\C3D\30800102\DESIGN\XSECTIONS\X-SECTIONS EDITS.DWG PLOT DATE : 5/12/2014 4:26 PM PLOT BY : BREGAUDIT, CHARLENE PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49

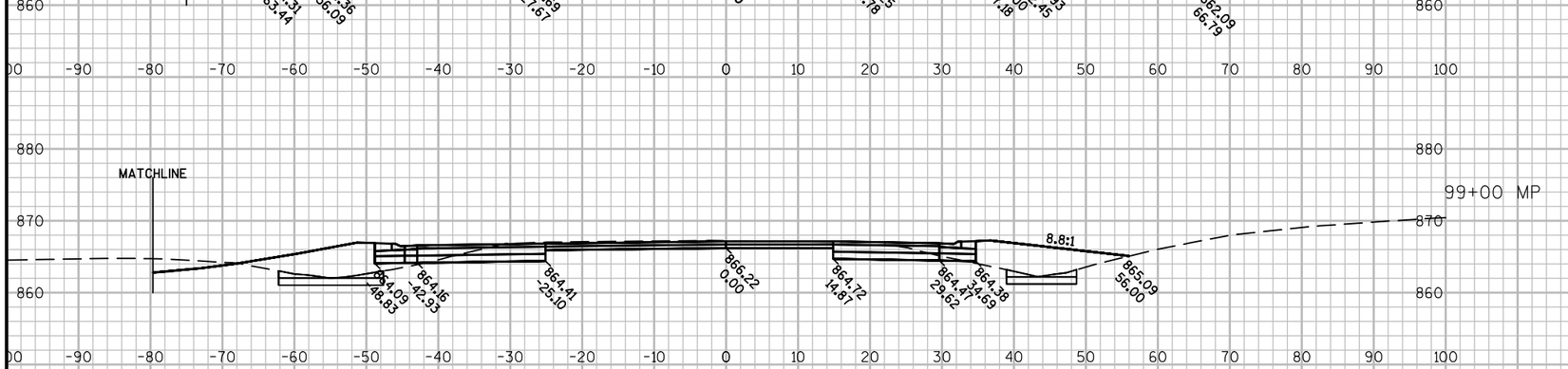


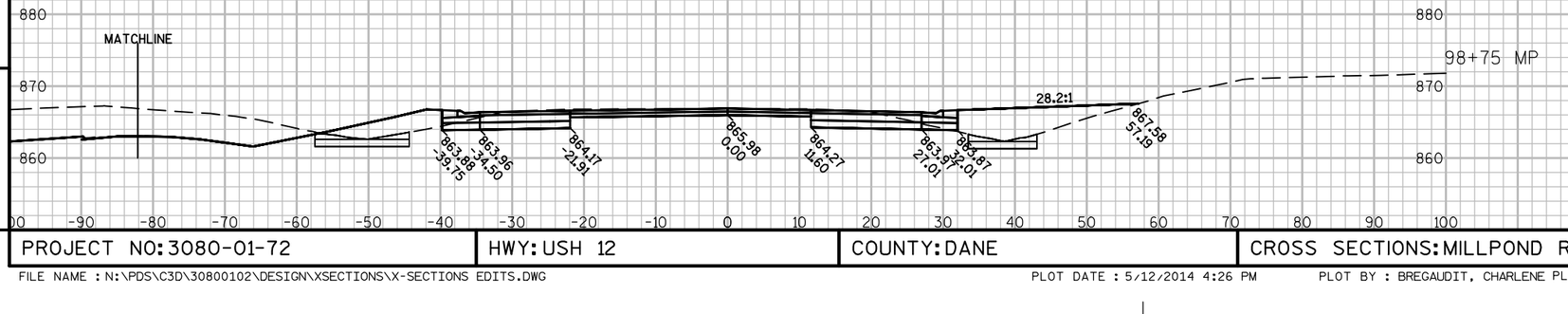
PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: MILLPOND ROAD	SHEET	E

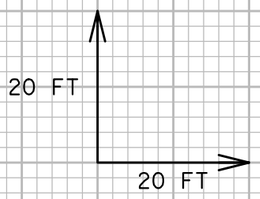
FILE NAME : N:\PDS\C3D\30800102\DESIGN\XSECTIONS\X-SECTIONS EDITS.DWG PLOT DATE : 5/12/2014 4:26 PM PLOT BY : BREGAUDIT, CHARLENE PLOT NAME : PLOT SCALE : 1" = 20'_XREF



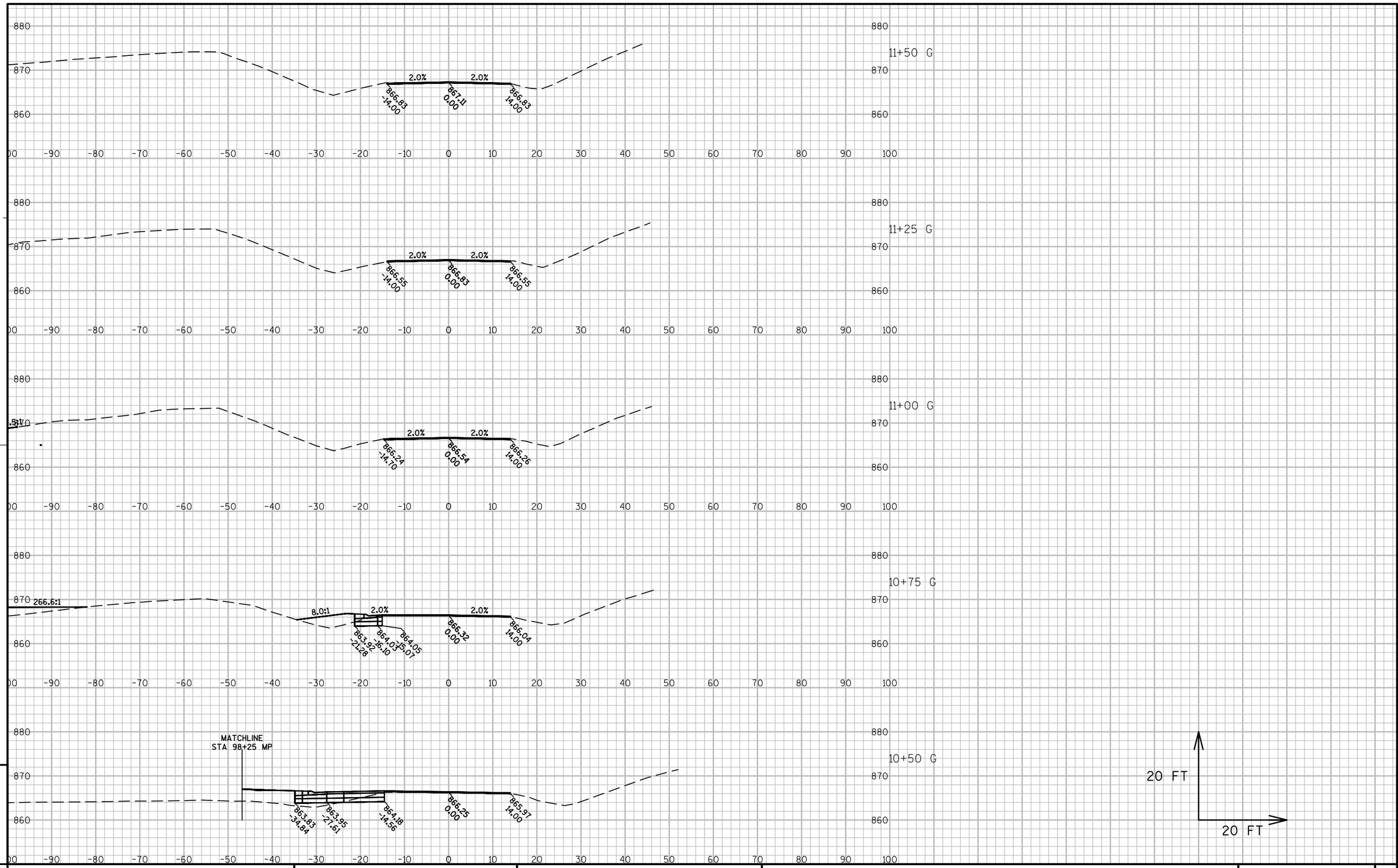
PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: MILLPOND ROAD	SHEET	E







PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: MILLPOND ROAD	SHEET	E



PROJECT NO: 3080-01-72	HWY: USH 12	COUNTY: DANE	CROSS SECTIONS: GOLF COURSE DRIVEWAY	SHEET 100	E

FILE NAME : N:\PDS\C3D\30800102\DESIGN\XSECTIONS\X-SECTIONS EDITS.DWG PLOT DATE : 5/12/2014 4:26 PM PLOT BY : BREGAUDIT, CHARLENE PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov