WKE

JUNE 2016

ORDER OF SHEETS

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

TOTAL SHEETS = 44



10

N

DESIGN DESIGNATION

A.A.D.T. (2016) = 21,340
A.A.D.T. (2036) = 25,860
D.H.V. =
D.D. = 60-40
T. = 12.3
DESIGN SPEED = 65 MPH
ESALS =

CONVENTIONAL SYMBOLS

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

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

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

COUNTY: KENOSHA

PROJECT ID: 1310-16-70
WITH: 3738-02-73, 3738-06-60

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STH 50

B-30-54 EB OVER DES PLAINES RIVER

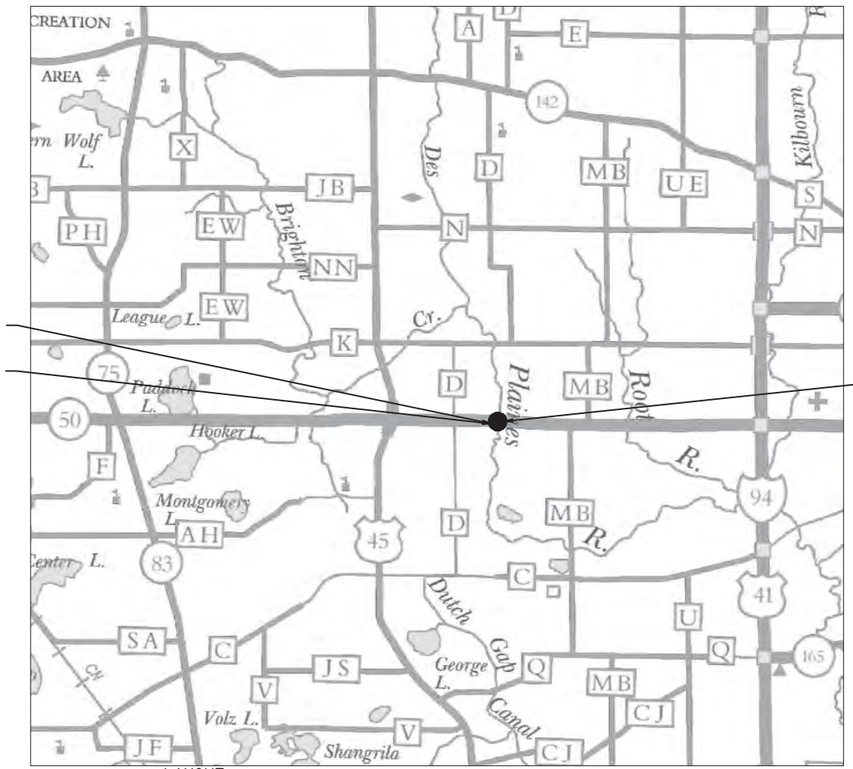
STH 50

KENOSHA COUNTY

STATE PROJECT NUMBER
1310-16-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1310-16-70		

R-21-E



B-30-54 EB

BEGIN PROJECT
STA 1266+56
X= 576285.186
Y= 128112.249

END PROJECT
STA 1266+86

T-1-N

LAYOUT
SCALE 0 2 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.000

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, KENOSHA COUNTY,

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
- Surveyor: WISDOT
- Designer: DAWN MARSHALL
- Project Manager: MARK WILFERT
- Regional Examiner: STEVE CHOJNACKI
- Regional Supervisor: REEM SHAHIN

APPROVED FOR THE DEPARTMENT
DATE: 4-7-2016

E

FILE NAME : N:\PDS\C3D\CAD\13101600\010101_TI.DWG
LAYOUT NAME - ****

PLOT DATE : 4/4/2016 10:59 AM

PLOT BY : SCHMIDT, JUDENE M PLOT NAME :

WISDOT/CADDS SHEET 10

GENERAL NOTES

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

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

THE LOCATIONS OF JOINTS IN THE HMA PAVEMENT SHALL BE APPROVED BY THE ENGINEER.

MAINTAIN ACCESS TO ALL DRIVEWAYS AND ALL BUSINESSES AT ALL TIMES.

A SAWED JOINT WILL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

TRAFFIC CONTROL LOCATIONS AS SHOWN IN THE PLAN ARE SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

NO TREES OR SHRUBS SHALL BE REMOVED UNLESS DESIGNATED FOR REMOVAL BY THE ENGINEER.

RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE WITHIN 7 CALENDAR DAYS AFTER FINISHED GRADING IS COMPLETE

CONTACT THE PROJECT ENGINEER AND THE SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION, AT LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC SURVEY MONUMENT.

ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE SEEDED AS DIRECTED BY THE ENGINEER

IF AN EXISTING SIGN IS TO BE REMOVED AND REPLACED WITH A NEW SIGN, DO NOT REMOVE THE EXISTING SIGN PRIOR TO INSTALLATION OF THE NEW SIGN.

THE LOCATIONS OF EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

TEMPORARY STORAGE OF ANY MATERIAL SHALL NOT BE PERMITTED IN WETLANDS

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE.

EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

2

STANDARD ABBREVIATIONS

ABUT	Abutment	POT	Point on Tangent
AH	Ahead	R	Radius
AADT	Annual Average Daily Traffic	RL or R/L	Reference Line
BK	Back	RHF	Right-Hand Forward
CL or C/L	Center Line	R/W	Right-of-Way
Δ	Central Angle or Delta	SALV	Salvaged
CH	Chord	SAN S	Sanitary Sewer
D	Degree of Curve	SF	Square Feet
DHV	Design Hour Volume	SY	Square Yard
DIA	Diameter	STD	Standard
X	East Grid Coordinate	SDD	Standard Detail Drawings
EBS	Excavation Below Subgrade	SSD	Stopping Sight Distance
FL or F/L	Flow Line	SE	Superelevation
CWT	Hundredweight	SL or S/L	Survey Line
IN DIA	Inch Diameter	T	Tangent
ID	Inside Diameter	TEL	Telephone
I	Intersection Angle	TLE	Temporary Limited Easement
INV	Invert	T	Ton
LHF	Left-Hand Forward	T	Trucks (percent of)
LC	Long Chord of Curve	UG	Underground
LS	Lump Sum	VAR	Variable
ML or M/L	Match Line	V	Velocity or Design Speed
NC	Normal Crown	VC	Vertical Curve
Y	North Grid Coordinate	VPCC	Vertical Point of Compound Curve
PAVT	Pavement	VPC	Vertical Point of Curve
PCC	Point of Compound Curve	VPI	Vertical Point of Intersection
PC	Point of Curvature	VPRC	Vertical Point of Reverse Curve
PI	Point of Intersection	VPT	Vertical Point of Tangency
PRC	Point of Reverse Curvature	W	Water
PT	Point of Tangency	WM	Water Main
POC	Point On Curve	WV	Water Valve

DIGGERS HOTLINE

Dial 811 or (800) 242-8511

www.DiggersHotline.com

PROJECT NO: 1310-16-70	**HWY: STH 50**	**COUNTY: KENOSHA**	**GENERAL NOTES AND UTILITY CONTACTS**	**SHEET:** 2	**E**

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

UTILITY CONTACTS

WE ENERGIES - GAS
LaTROY BRUMFIELD
333 W EVERETT ST - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
FAX: (414) 221-2336
latroy.brumfield@we-energies.com

WE ENERGIES - ELECTRIC
LaTROY BRUMFIELD
333 W EVERETT ST - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
FAX: (414) 221-2336
latroy.brumfield@we-energies.com

AT&T WISCONSIN - COMMUNICATION LINE
316 W. Washington Ave, Rm 607
Madison, WI 53703
PHONE: (608)282-7894

TIME WARNER CABLE - COMMUNICATION LINE
STEVEN CRAMER
1320 N. Dr. Martin Luther King Jr. Dr.
Milwaukee, WI 53212-4002
PHONE: (414)277-4045
wis.engineering@twcable.com

FRONTIER COMMINICATIONS of WI LLC - COMMUNICATION LINE
ROBERT CHURCH
2222 West Wisconsin Street
Portage, WI 53901
PHONE: (608)742-1817
robert.church@ftr.com

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION
JOHN WASHBURN
W239 N1812 ROCKWOOD DRIVE
PO BOX 1607
WAUKESHA, WI 53187-1607
PHONE: (262)953-4295
FAX: (262) 547-1103
jwashburn@sewrpc.org

WI DNR LIAISON
CRAIG WEBSTER
141 NW BARSTOW STREET, ROOM 180
WAUKESHA, WI 53188
PHONE: (262) 574-5141
craig.webster@Wisconsin.gov

WISDOT PROJECT MANAGER
MARK WILFERT
141 NW BARSTOW STREET
P.O. BOX 798
WAUKESHA, WI 53187-0798
PHONE: (262) 548-5936
mark.wilfert@dot.wi.gov

WISDOT - UTILITIES
JUSTIN EFFINGER
141 NW BARSTOW STREET
P.O. BOX 798
WAUKESHA, WI 53187-0798
PHONE: (262) 548-5676
justin.effinger@dot.wi.gov

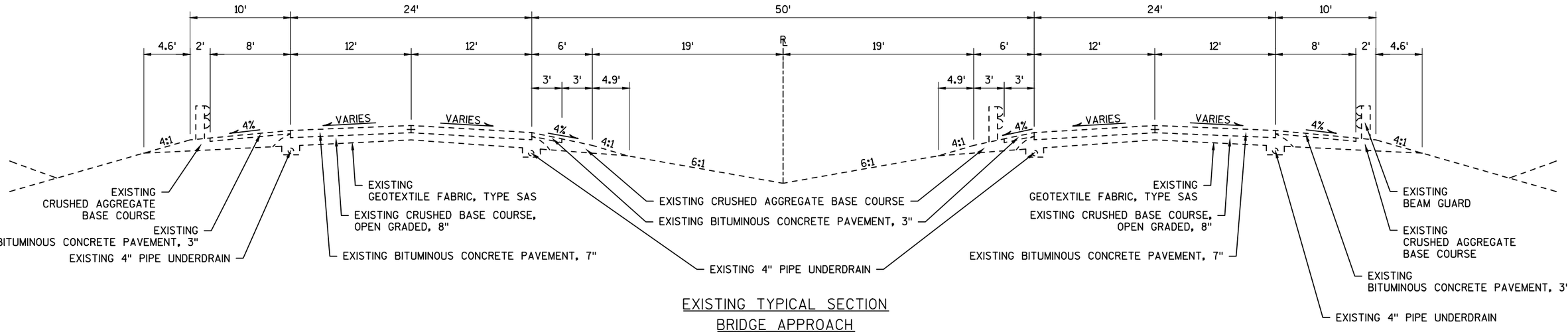
HMA PAVING

	THICKNESS	PAVEMENT TYPE
ONE LAYER	4-INCH	ASPHALTIC SURFACE

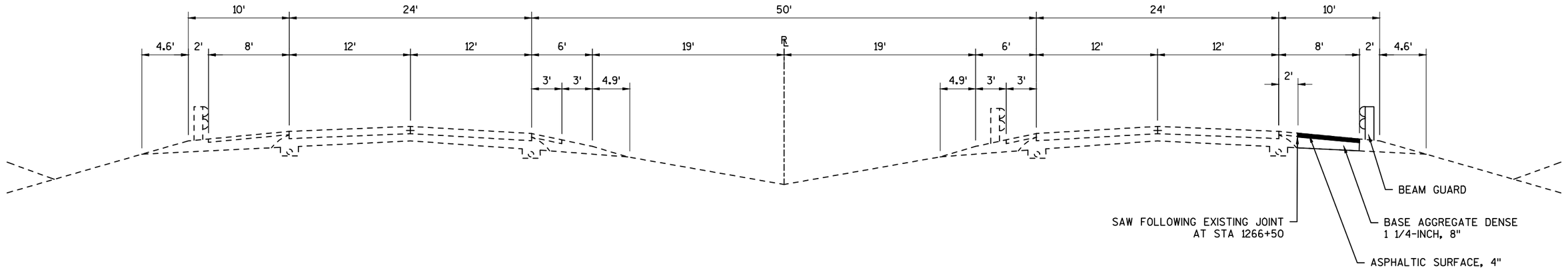
TRAFFIC CONTROL GENERAL NOTES

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

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH SHALL BE CUT THROUGH IT'S FULL WIDTH AND THICKNESS AT 25-FOOT INTERVALS TO CONTROL RAVELING.

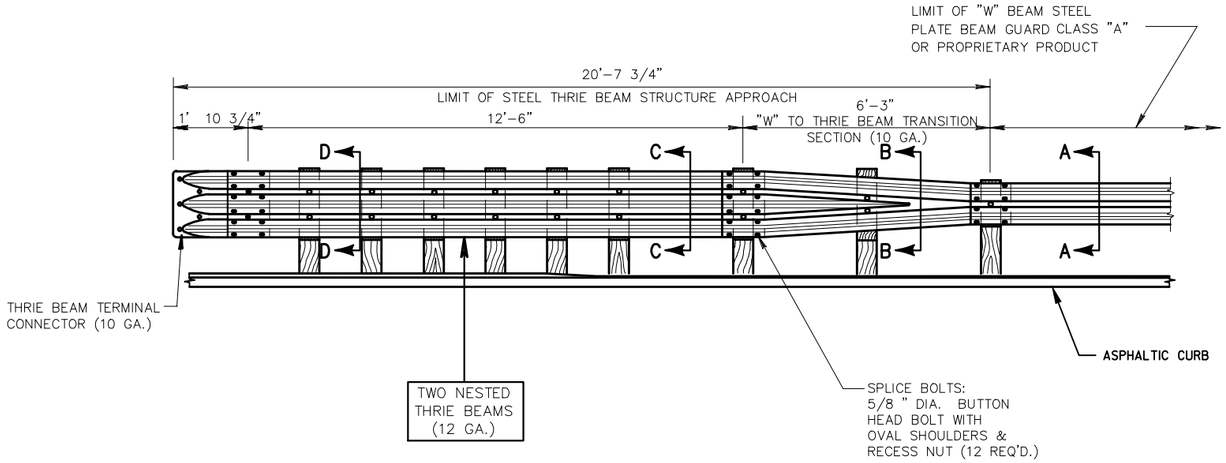


EXISTING TYPICAL SECTION
BRIDGE APPROACH
STA 1266+52 TO STA 1266+86 EB

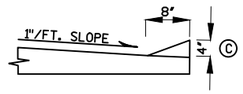


FINISHED TYPICAL SECTION
BRIDGE APPROACH
STA 1266+52 TO STA 1266+86 EB

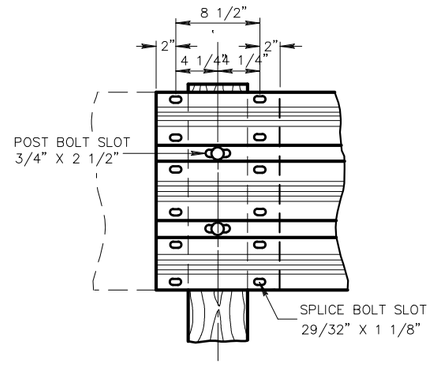
PROJECT NO: 1310-16-70	HWY: STH 50	COUNTY: KENOSHA	TYPICAL SECTIONS	SHEET 4	E



THRIE BEAM TRANSITION WITH ASPHALTIC CURB



ASPHALTIC CURB

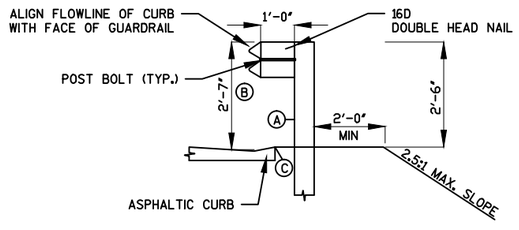


THRIE BEAM SPLICE

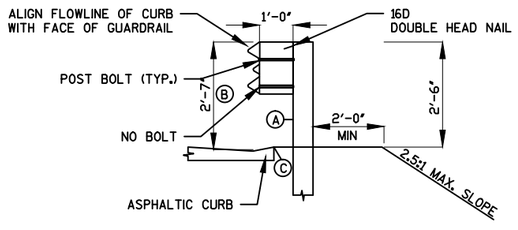
Ⓐ WOOD OR STEEL POSTS (W6X9 OR W6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

Ⓑ FOR NEW INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1".

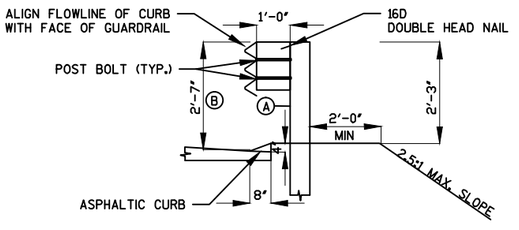
Ⓒ DEPRESS 4-INCH CURB HEAD TO 1-INCH AT ASYMMETRICAL AND W-BEAM SECTIONS OF THRIE BEAM TRANSITION.



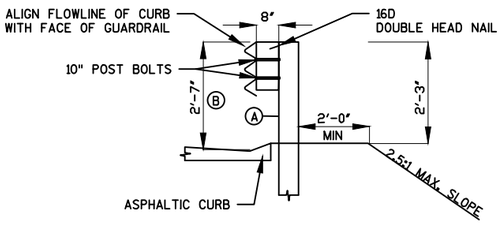
SECTION A–A



SECTION B–B



SECTION C–C



SECTION D–D

PROJECT NO: 1310-16-70	HWY: STH 50	COUNTY: KENOSHA	CONSTRUCTION DETAILS - CURB AT THRIE BEAM TRANSITION	SHEET 5	E

2

N

STH 50 WB

1265+00

1266+00

1267+00

1268+00

1269+00

1270+00

STH 50 EB

WINGWALL

DES PLAINES RIVER

1265+86
77' RT

1266+92
62' RT

1266+89
72' RT

LEGEND:

SILT FENCE

WETLANDS

NOTE:

ALL AREAS OF DISTURBED EXPOSED SOIL MUST BE RESTORED WITH SEEDING MIXTURE NO. 30 AND EROSION MAT URBAN CLASS 1 TYPE B

PROJECT NO: 1310-16-70	HWY: STH 50	COUNTY: KENOSHA	EROSION CONTROL	SHEET 6	E

FILE NAME : N:\PDS\C3D\CAD\13101600\022000_EC.DWG
LAYOUT NAME - ****

PLOT DATE : 3/28/2016 1:25 PM PLOT BY : SCHMIDT, JUDENE M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N



PROJECT NO: 1310-16-70	HWY: STH 50	COUNTY: KENOSHA	PAVEMENT MARKING	SHEET 7	E

FILE NAME : N:\PDS\C3D\CAD\13101600\024500_PM.DWG
LAYOUT NAME - ****

PLOT DATE : 3/17/2016 4:24 PM PLOT BY : SCHMIDT, JUDENE M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

TRAFFIC CONTROL LEGEND:

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- SIGN ON PERMANENT SUPPORT
- FLASHING ARROW BOARD
- TEMPORARY CRASH CUSHION
- TEMPORARY CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- WORK ZONE

N

RIGHT LANE CLOSED 1500 FT
W20-5-B

575'



2600'

1600'

ROAD WORK 1 MILE
W20-1-F

RIGHT LANE CLOSED 1/2 MILE
W20-5-G

W4-2R
36"X36"

PROJECT NO: 1310-16-70	HWY: STH 50	COUNTY: KENOSHA	TRAFFIC CONTROL	SHEET 8	E

FILE NAME : N:\PDS\C3D\CAD\13101600\025000_TC.DWG
LAYOUT NAME - ****

PLOT DATE : 4/4/2016 1:46 PM PLOT BY : SCHMIDT, JUDENE M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

TRAFFIC CONTROL LEGEND:

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- SIGN ON PERMANENT SUPPORT
- FLASHING ARROW BOARD
- TEMPORARY CRASH CUSHION
- TEMPORARY CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- WORK ZONE

N

2



PROJECT NO: 1310-16-70	HWY: STH 50	COUNTY: KENOSHA	TRAFFIC CONTROL	SHEET 9	E

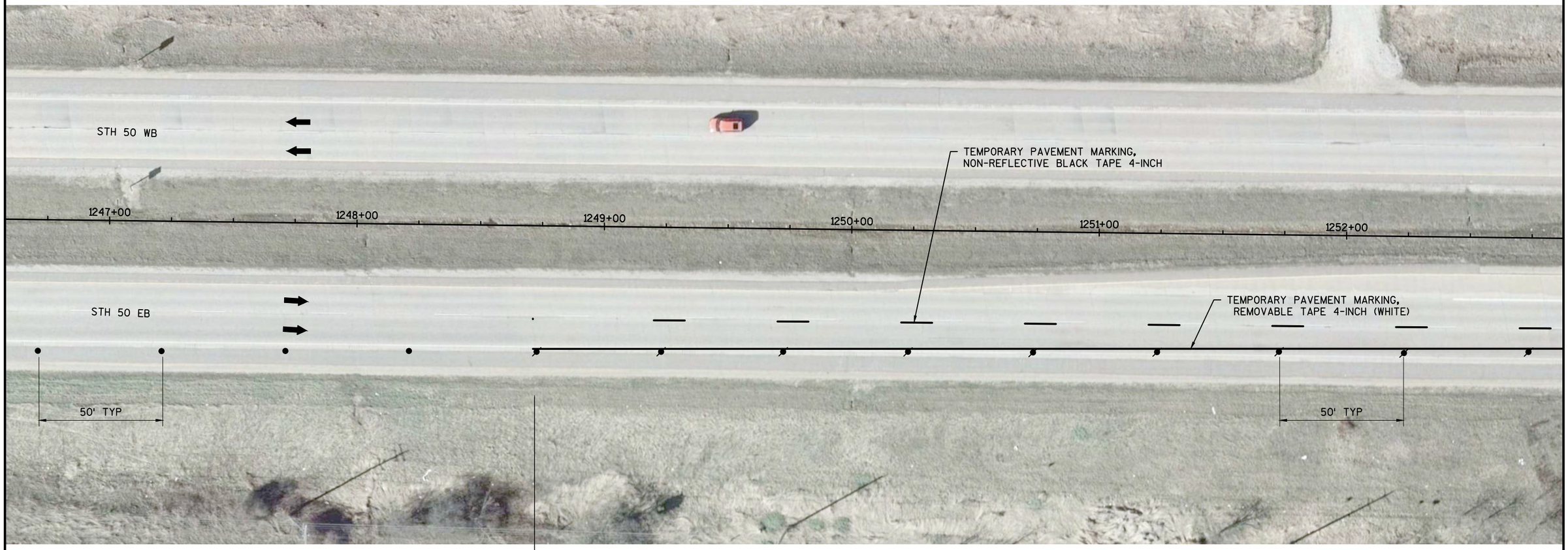
2

2

TRAFFIC CONTROL LEGEND:

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- SIGN ON PERMANENT SUPPORT
- FLASHING ARROW BOARD
- TEMPORARY CRASH CUSHION
- TEMPORARY CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- WORK ZONE

N



PROJECT NO: 1310-16-70	HWY: STH 50	COUNTY: KENOSHA	TRAFFIC CONTROL	SHEET 10	E

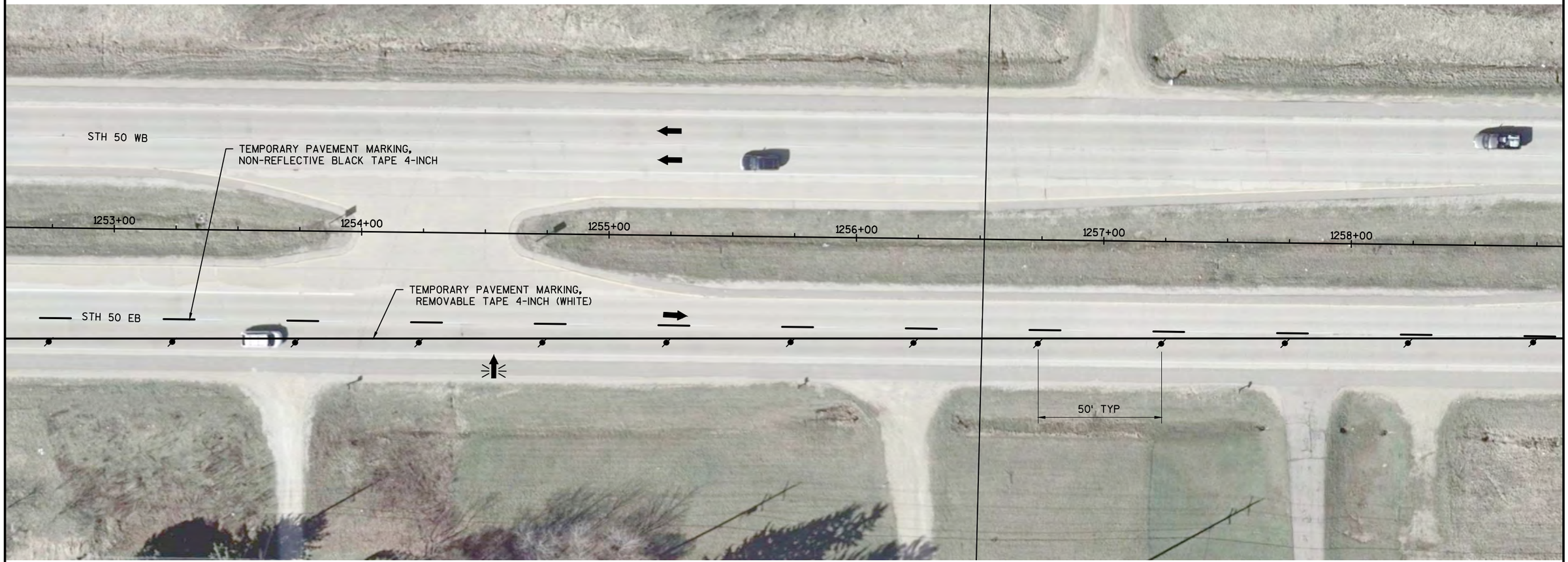
2

2

TRAFFIC CONTROL LEGEND:

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- SIGN ON PERMANENT SUPPORT
- FLASHING ARROW BOARD
- TEMPORARY CRASH CUSHION
- TEMPORARY CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- WORK ZONE

N



1100' TAPER ACROSS EB LANE

PROJECT NO: 1310-16-70	HWY: STH 50	COUNTY: KENOSHA	TRAFFIC CONTROL	SHEET 11	E

2

TRAFFIC CONTROL LEGEND:

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- SIGN ON PERMANENT SUPPORT
- FLASHING ARROW BOARD
- TEMPORARY CRASH CUSHION
- TEMPORARY CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- WORK ZONE

N

2

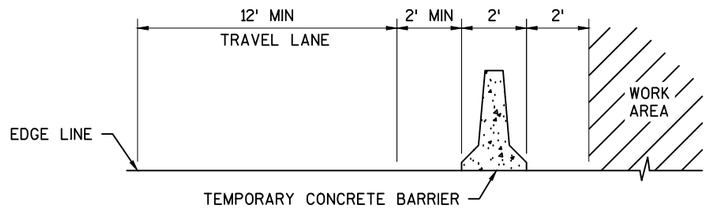


PROJECT NO: 1310-16-70	HWY: STH 50	COUNTY: KENOSHA	TRAFFIC CONTROL	SHEET 12	E

2

TRAFFIC CONTROL LEGEND:

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- SIGN ON PERMANENT SUPPORT
- FLASHING ARROW BOARD
- TEMPORARY CRASH CUSHION
- TEMPORARY CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- WORK ZONE



TYPICAL SECTION





2

PROJECT NO: 1310-16-70	HWY: STH 50	COUNTY: KENOSHA	TRAFFIC CONTROL	SHEET 13	E

2

2

TRAFFIC CONTROL LEGEND:

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- SIGN ON PERMANENT SUPPORT
- FLASHING ARROW BOARD
- TEMPORARY CRASH CUSHION
- TEMPORARY CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- WORK ZONE

N



PROJECT NO:1310-16-70	HWY: STH 50	COUNTY:KENOSHA	TRAFFIC CONTROL	SHEET 14	E

FILE NAME : N:\PDS\C3D\CAD\13101600\025000_TC.DWG
LAYOUT NAME - ****

PLOT DATE : 4/4/2016 1:46 PM PLOT BY : SCHMIDT, JUDENE M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

DATE 14APR16 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	1310-16-70 QUANTITY
0060	203.0200	Removing Old Structure (station) 02. 1266+70 RT	LS	1.000	1.000
0080	204.0110	Removing Asphaltic Surface	SY	34.000	34.000
0120	204.0165	Removing Guardrail	LF	40.000	40.000
0270	206.1000	Excavation for Structures Bridges (structure) 02. B-30-54	LS	1.000	1.000
0300	210.0100	Backfill Structure	CY	10.000	10.000
0340	213.0100	Finishing Roadway (project) 03. 1310-16-70	EACH	1.000	1.000
0370	305.0125	Base Aggregate Dense 1 1/4-Inch	CY	10.000	10.000
0550	455.0605	Tack Coat	GAL	4.000	4.000
0610	465.0105	Asphaltic Surface	TON	15.000	15.000
0640	465.0310	Asphaltic Curb	LF	20.000	20.000
0670	502.0100	Concrete Masonry Bridges	CY	4.000	4.000
0690	502.3210	Pigmented Surface Sealer	SY	5.000	5.000
0700	502.5002	Masonry Anchors Type L No. 4 Bars	EACH	4.000	4.000
0710	502.5005	Masonry Anchors Type L No. 5 Bars	EACH	16.000	16.000
0740	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	590.000	590.000
0800	509.1500	Concrete Surface Repair	SF	12.000	12.000
0840	511.1200	Temporary Shoring (structure) 02. B-30-54	SF	165.000	165.000
0860	516.0500	Rubberized Membrane Waterproofing	SY	2.000	2.000
1070	603.8000	Concrete Barrier Temporary Precast Delivered	LF	360.000	360.000
1080	603.8125	Concrete Barrier Temporary Precast Installed	LF	360.000	360.000
1440	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	30.000	30.000
1480	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	1.000	1.000
1490	614.0200	Steel Thrie Beam Structure Approach	LF	21.000	21.000
1520	614.0305	Steel Plate Beam Guard Class A	LF	19.000	19.000
1550	614.0905	Crash Cushions Temporary	EACH	1.000	1.000
1600	619.1000	Mobilization	EACH	0.020	0.020
1660	628.1504	Silt Fence	LF	136.000	136.000
1670	628.1520	Silt Fence Maintenance	LF	136.000	136.000
1680	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
1690	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
1720	628.2008	Erosion Mat Urban Class I Type B	SY	15.000	15.000
1830	628.7570	Rock Bags	EACH	10.000	10.000
1850	630.0130	Seeding Mixture No. 30	LB	1.000	1.000
2030	643.0100	Traffic Control (project) 03. 1310-16-70	EACH	1.000	1.000
2040	643.0300	Traffic Control Drums	DAY	966.000	966.000
2100	643.0715	Traffic Control Warning Lights Type C	DAY	462.000	462.000
2110	643.0800	Traffic Control Arrow Boards	DAY	42.000	42.000
2120	643.0900	Traffic Control Signs	DAY	252.000	252.000
2170	646.0106	Pavement Marking Epoxy 4-Inch	LF	356.000	356.000
2260	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	1,700.000	1,700.000
3000	690.0150	Sawing Asphalt	LF	54.000	54.000
3340	SPV.0090	Special 08. Pavement Marking Contrast Epoxy 4-Inch	LF	75.000	75.000
3350	SPV.0090	Special 12. TEMPORARY PAVEMENT MARKING NON-REFLECTIVE BLACK TAPE 4-INCH	LF	275.000	275.000

3

3

	REMOVING	
	ASPHALTIC SURFACE	GUARDRAIL
	204.0110	204.0165
LOCATION	SY	LF
STATION 1266+52 TO STATION 1266+86	34	
STATION 1266+77 TO STATION 1266+37		40
TOTAL	34	40

	FINISHING ROADWAY
	1310-16-70
	213.0100
LOCATION	EACH
PROJECT LIMITS	1
TOTAL	1

	MOBIIZATION
	619.1000
LOCATION	EACH
PROJECT LIMITS	0.02
TOTAL	0.02

3

	TEMPORARY PAVEMENT MARKING	
	REMOVABLE TAPE	NON-REFLECTIVE BLACK
	4-INCH	TAPE 4-INCH
	649.0400	SPV.0090.12
LOCATION	LF	LF
STATION 1249+86 TO STATION 1266+87	1700	275
TOTAL	1700	275

	TRAFFIC CONTROL 1310-16-70
	643.0300
LOCATION	EACH
PROJECT 1310-16-70	1
TOTAL	1

	PAVEMENT MARKING	
	EPOXY 4-INCH	CONTRAST EPOXY 4-INCH
	646.0106	SPV.0090.08
LOCATION	LF	LF
STATION 1264+94 TO STATION 1268+50	356	75
TOTAL	356	75

	TRAFFIC CONTROL			
	DRUMS	WARNING LIGHTS TYPE C	ARROW BOARD	SIGNS
	643.0300	643.0715	643.0800	643.0900
LOCATION	DAY	DAY	DAY	DAY
PROJECT 1310-16-70	966	462	42	252
TOTAL	966	462	42	252

			MOBILIZATIONS				
	SILT FENCE	SILT FENCE MAINTENANCE	EROSION CONTROL	EMERGENCY EROSION CONTROL	SEEDING MIXTURE NO. 30	EROSION MAT URBAN CLASS 1 TYPE B	ROCK BAGS
	628.1504	628.1520	628.1905	628.1910	630.0130	628.2008	628.7570
LOCATION	LF	LF	EACH	EACH	LB	SY	EACH
PROJECT LIMITS			1	1			10
STATION 1267+00 TO STATION 1268+00	136	136			1	15	
TOTAL	136	136	1	1	1	15	10

ITEMS ON THIS PAGE ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

3

LOCATION	BASE AGGREGATE DENSE 1 1/4-INCH 305.0125 CY
STATION 1266+52 TO STATION 1266+86	10
TOTAL	10

LOCATION	ASPHALTIC SURFACE 465.0105 TON
STATION 1266+52 TO STATION 1266+86	15
TOTAL	15

3

LOCATION	SAWING ASPHALT 690.0150 LF
STATION 1266+52 TO STATION 1266+86	54
TOTAL	54

LOCATION	ASPHALTIC CURB 465.0310 LF
STATION 1266+66 TO STATION 1266+86	20
TOTAL	20

LOCATION	TACK COAT 455.0605 GAL
STATION 1266+52 TO STATION 1266+86	4
TOTAL	4

LOCATION	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED 603.8000 LF	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED 603.8125 LF
STATION 1264+72 TO STATION 1268+22	360	
STATION 1264+72 TO STATION 1268+22		360
TOTAL	360	360

LOCATION	STEEL THRIE BEAM STRUCTURE APPROACH 614.0200 LF	STEEL PLATE BEAM GUARD CLASS A 614.0305 LF
STATION 1266+59 TO STATION 1266+80	21	
STATION 1266+40 TO STATION 1266+59		19
TOTAL	21	19

LOCATION	CRASH CUSHION TEMPORARY 614.0905 EACH
STATION 264+70	1
TOTAL	1

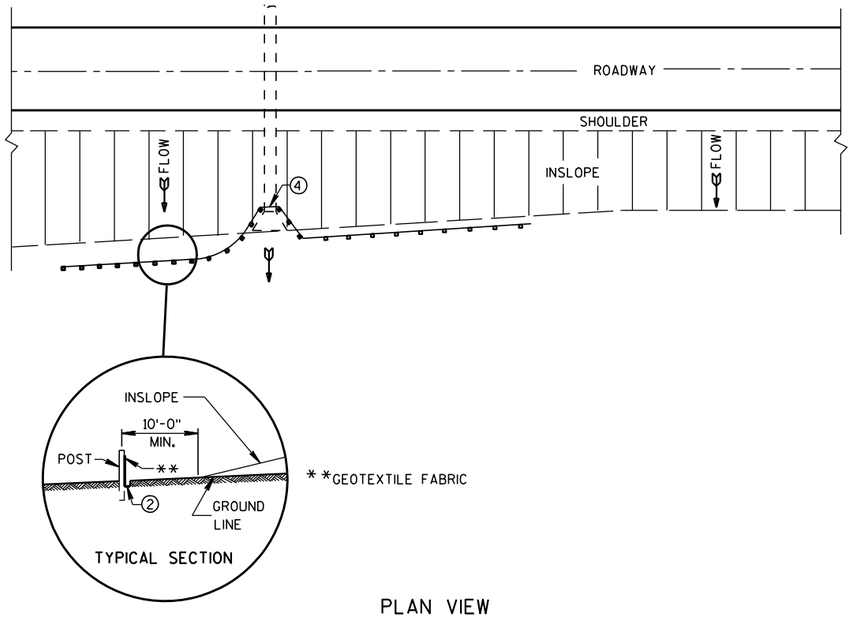
ITEMS ON THIS PAGE ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

PROJECT NO: 1310-16-70	HWY: STH 50	COUNTY: KENOSHA	MISCELLANEOUS QUANTITIES	SHEET:	E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

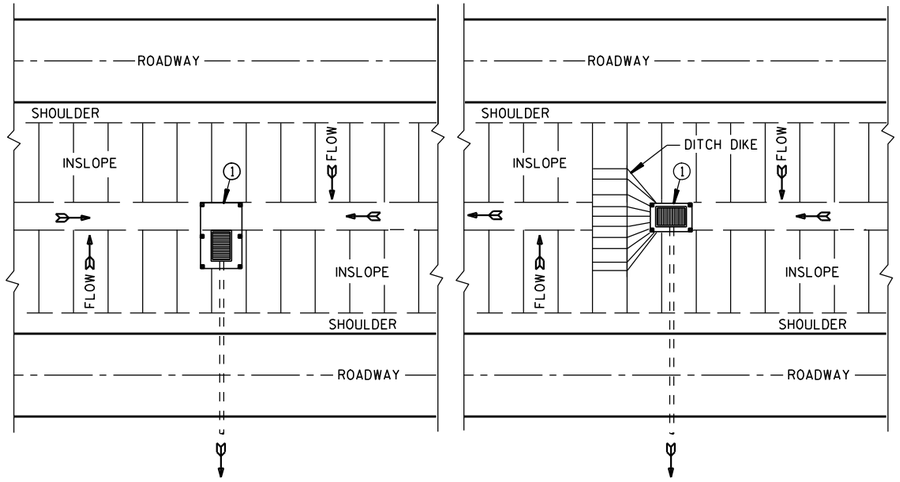
Standard Detail Drawing List

08E09-06	SILT FENCE
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B15-08A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15D03-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER



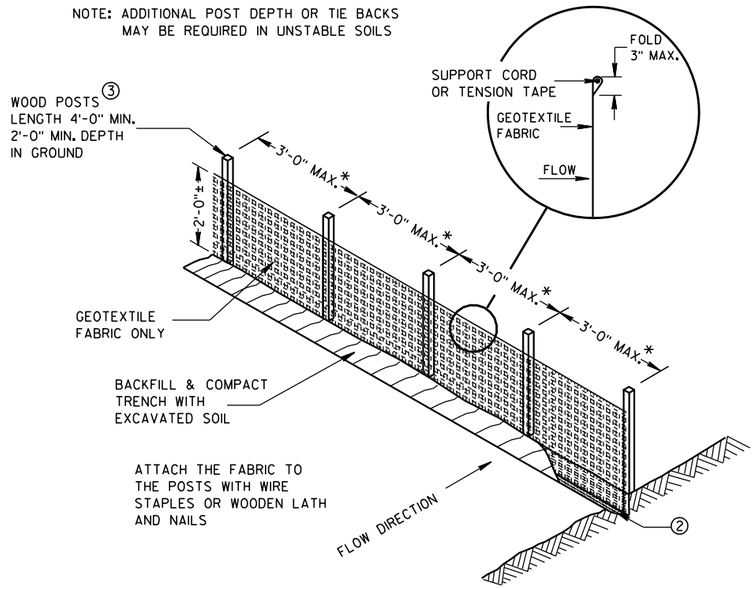
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



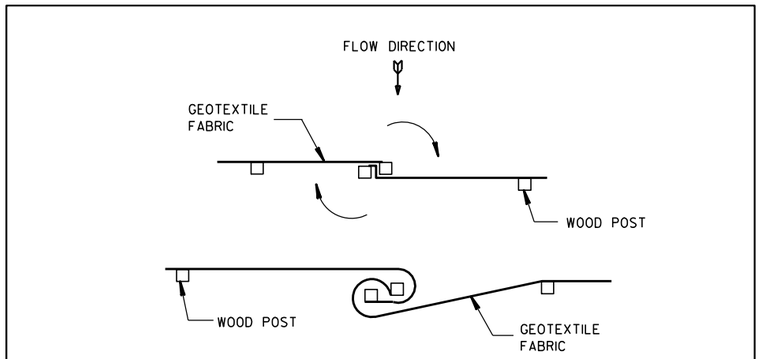
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



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

SILT FENCE

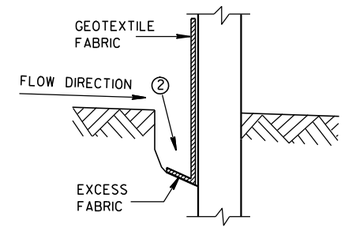


JOINING TWO LENGTHS OF SILT FENCE 5

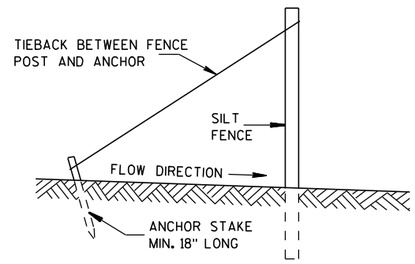
GENERAL NOTES

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 TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

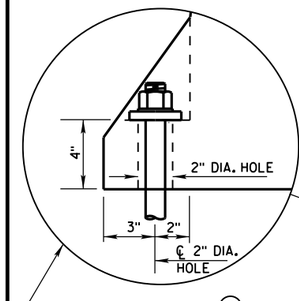
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

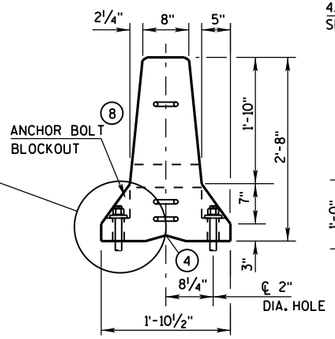
6

S.D.D. 8 E 9-6

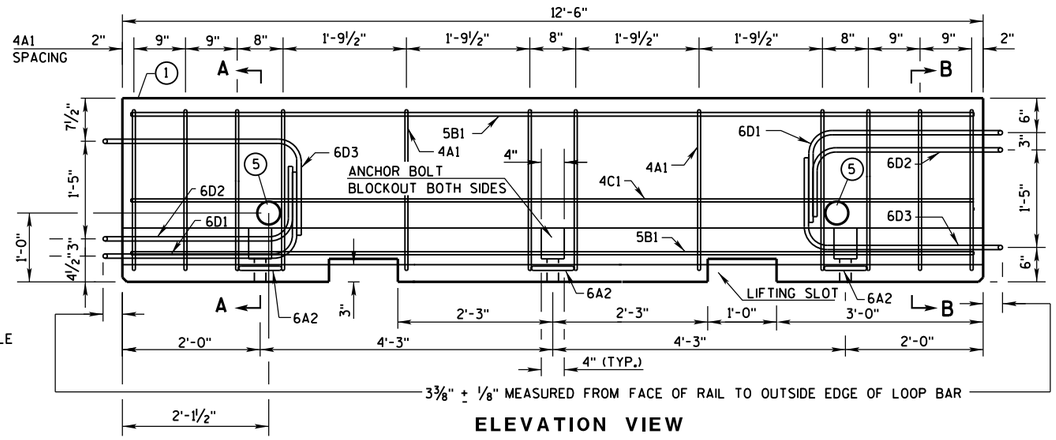
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S.D.D. 8 E 9-6

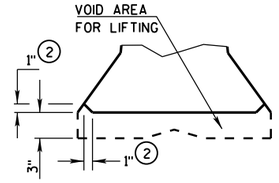




END VIEW



ELEVATION VIEW



DETAIL "B"
LIFTING SLOT DETAIL

GENERAL NOTES

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

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

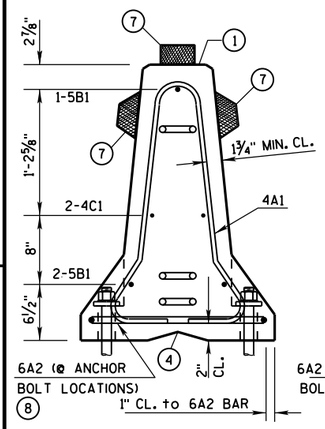
(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

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

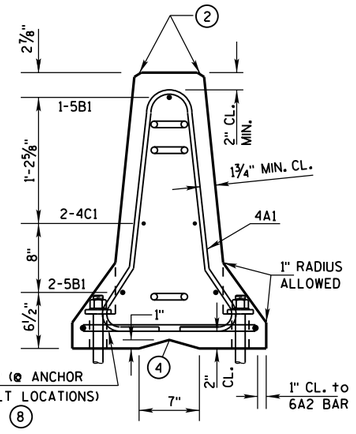
(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED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

(8) SEE SHEET D FOR ANCHORING CRITERIA.

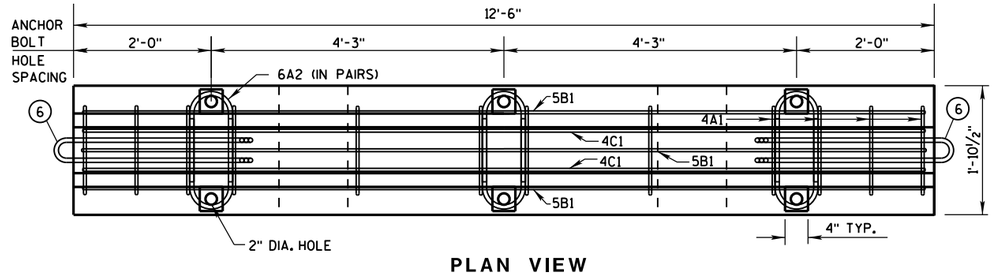
(9) 1" CHAMFER OPTIONAL.



SECTION A-A
(STIRRUP PLACEMENT)

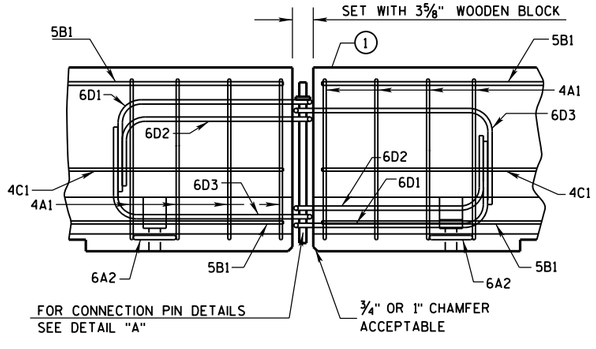


SECTION B-B
(STIRRUP PLACEMENT)

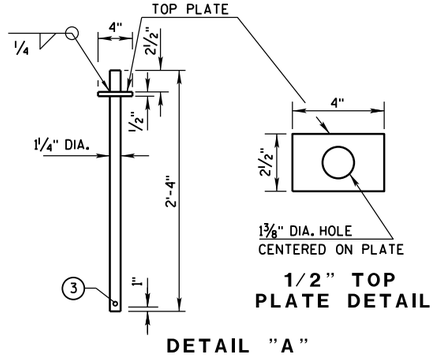


PLAN VIEW

DETAILS OF BARRIER SECTION

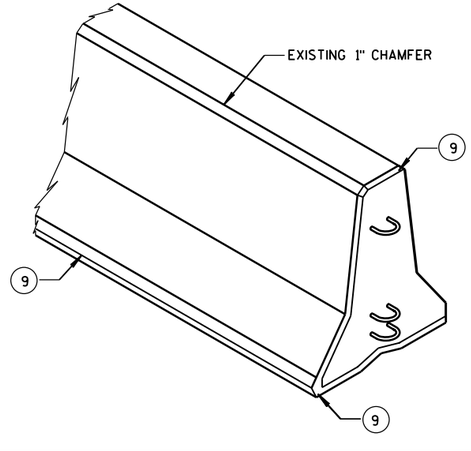


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

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

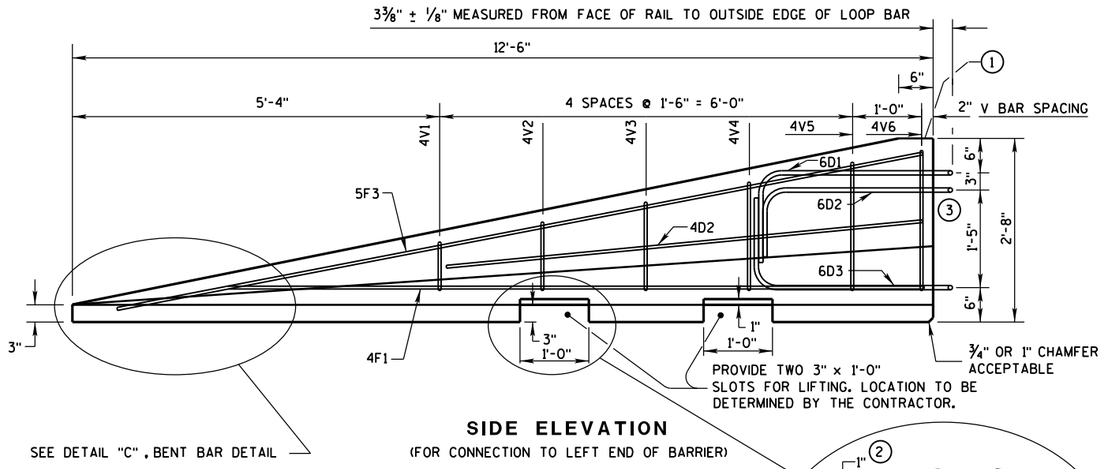


CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

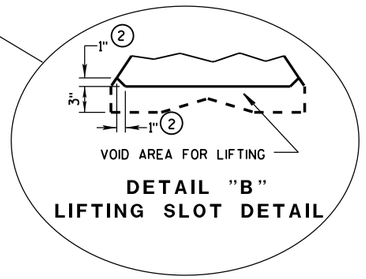
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

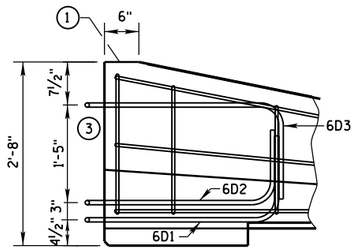
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



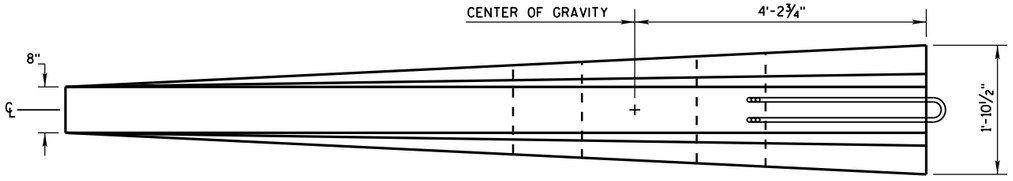
DETAIL "B"
LIFTING SLOT DETAIL



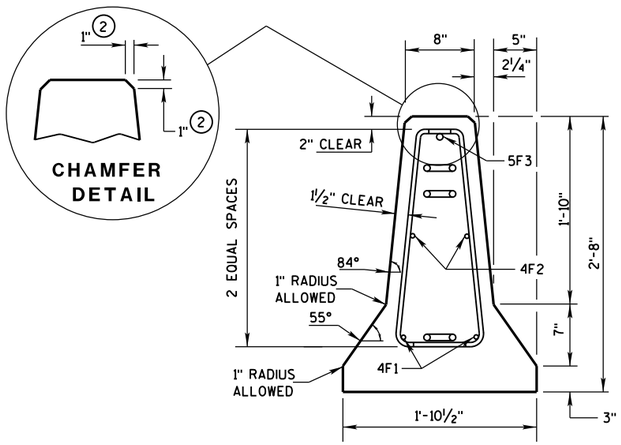
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

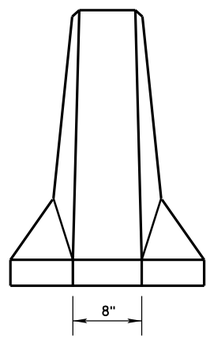
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



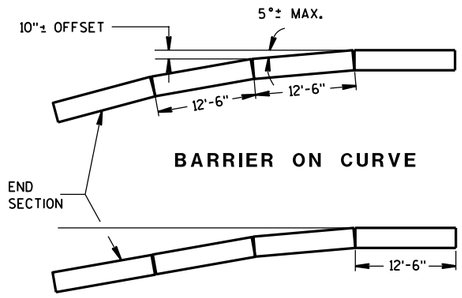
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

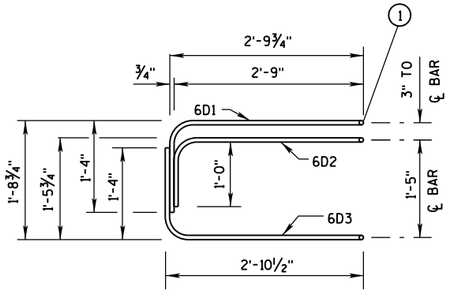
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14b

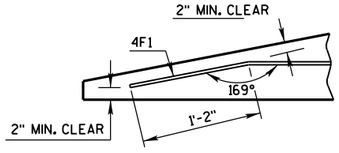
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

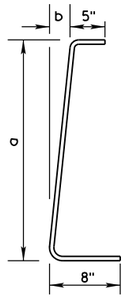
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

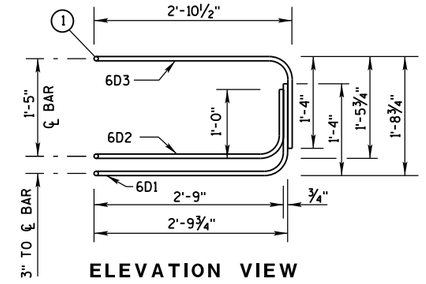
GENERAL NOTES

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

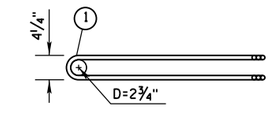
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

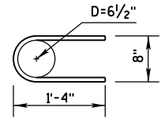
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



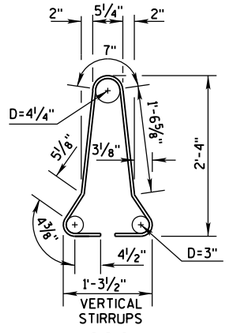
ELEVATION VIEW



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



6A2



4A1

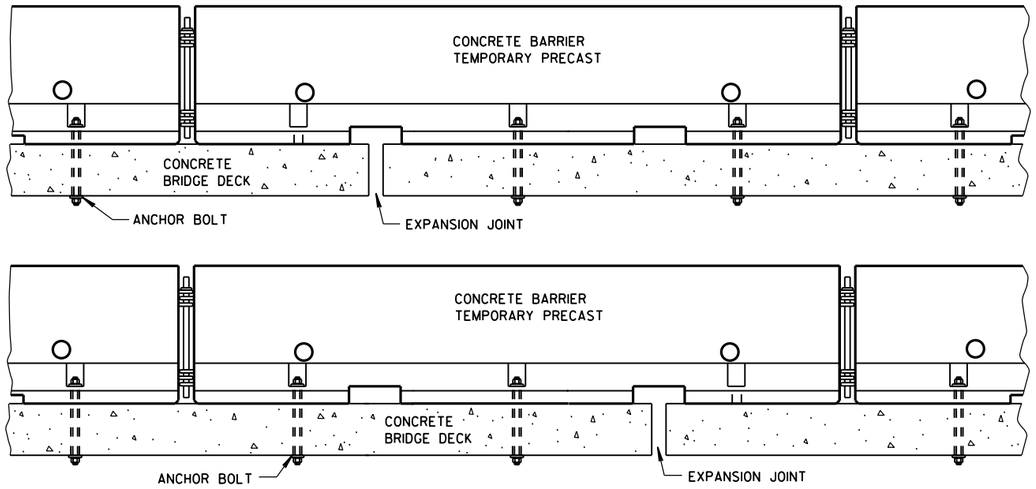
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

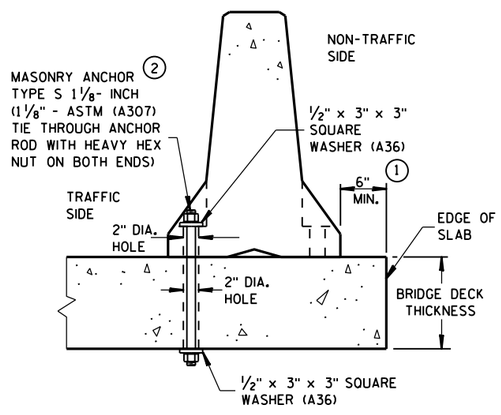
6

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



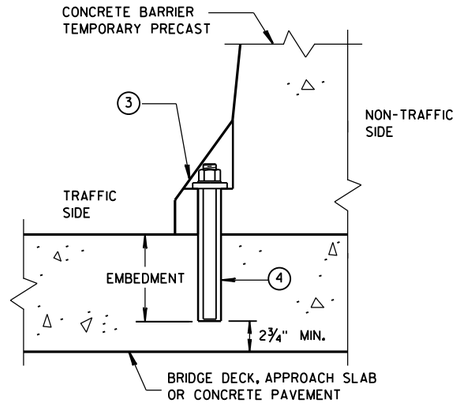
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



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

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

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

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

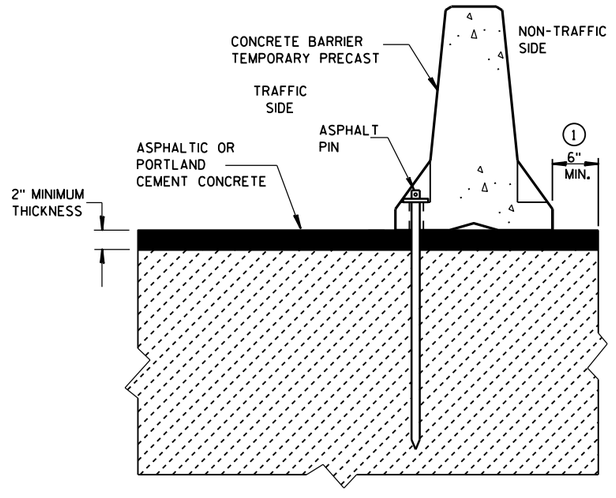
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

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

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

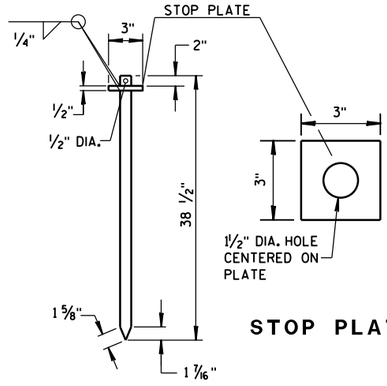
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

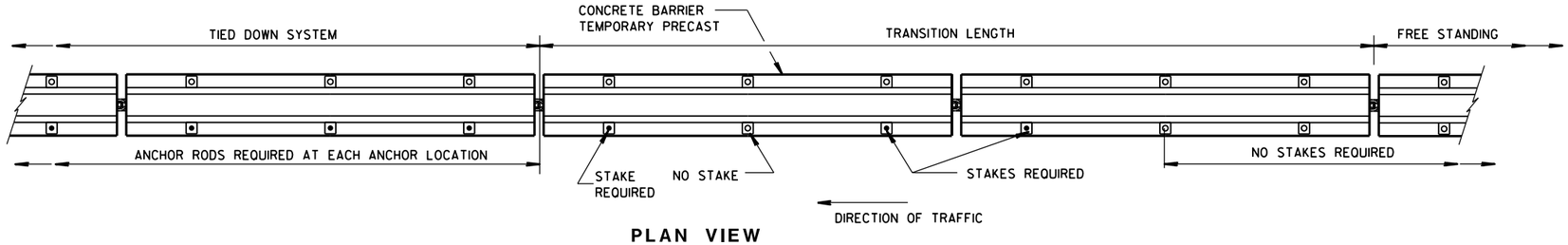
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

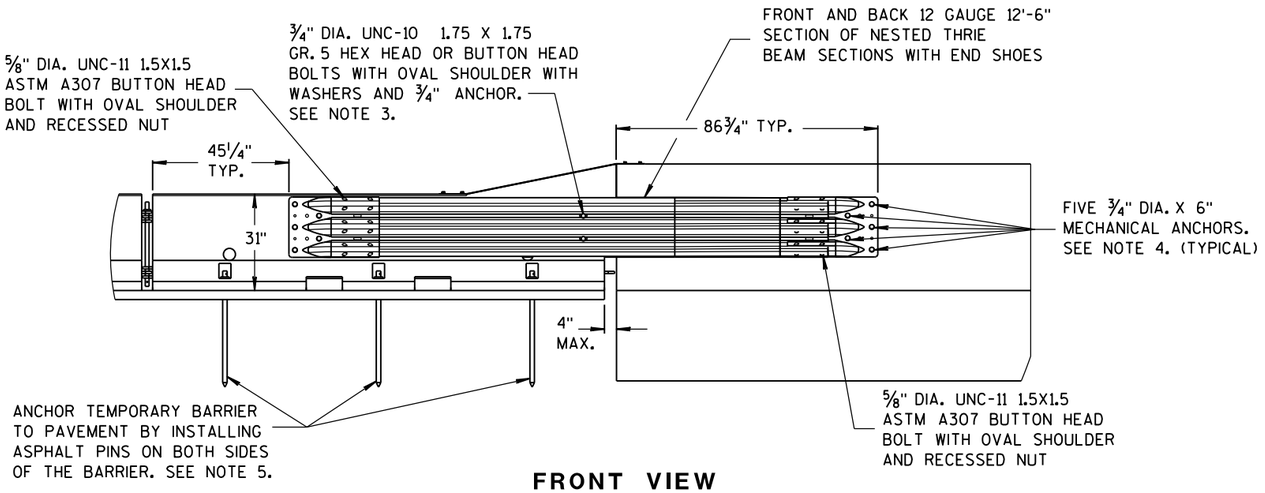
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

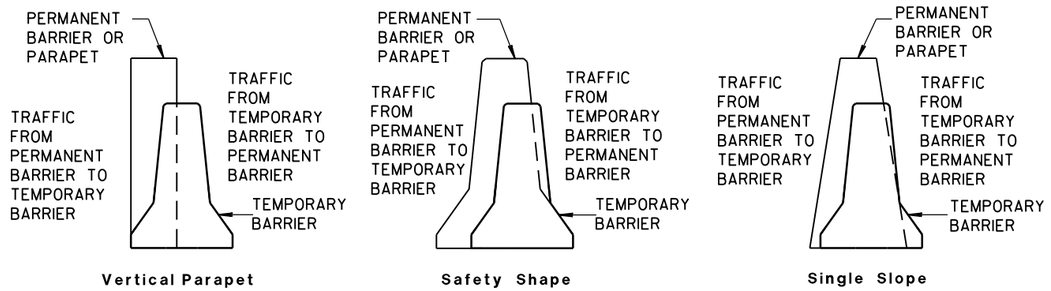
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-14d



FRONT VIEW

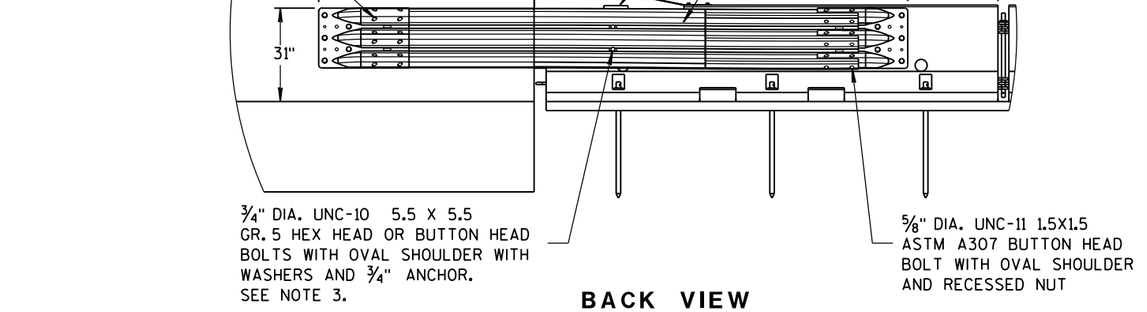


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

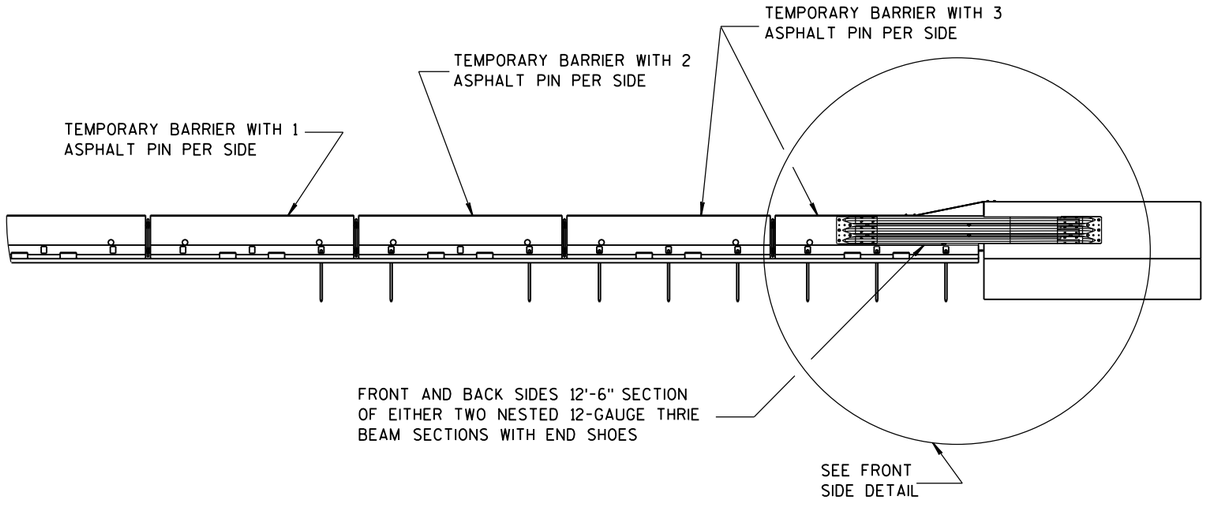
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

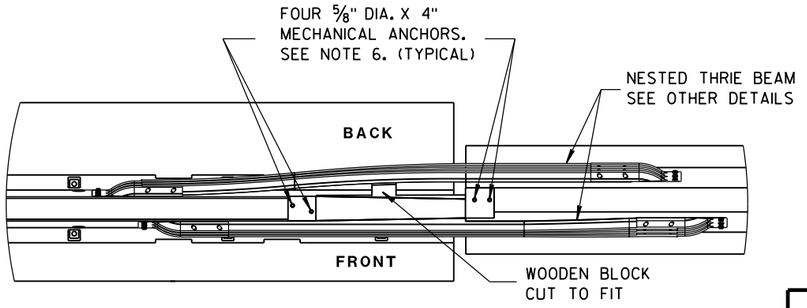
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD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



BACK VIEW



FRONT VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

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

6

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

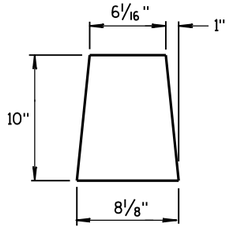
GUSSET 1

GUSSET 2

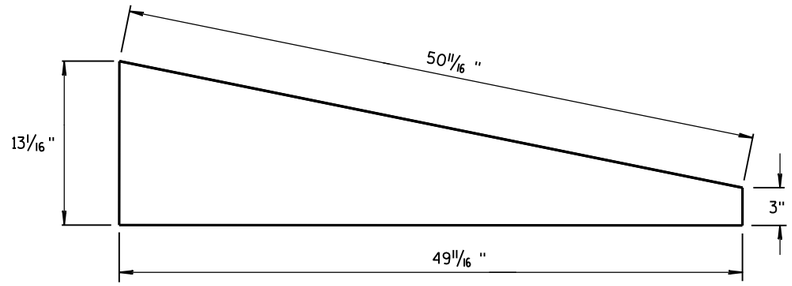
GUSSET 3

GUSSET 4

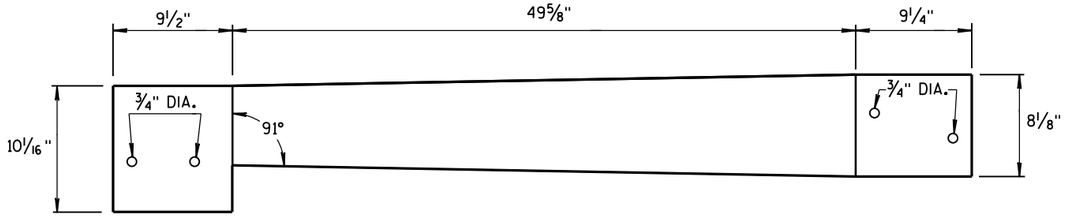
GUSSETS

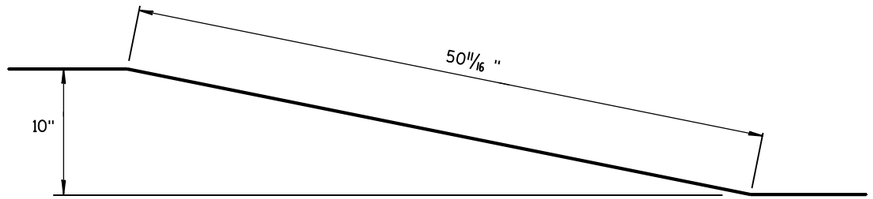


END PLATE

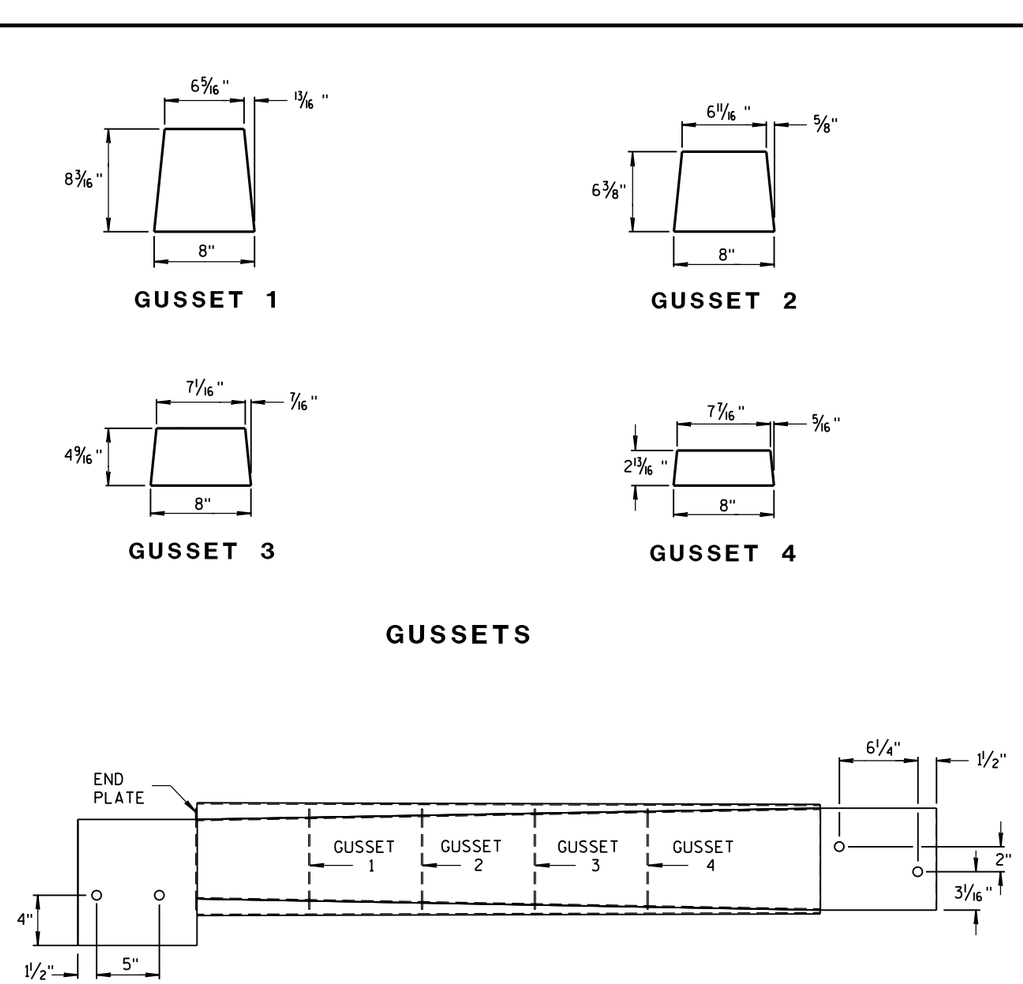


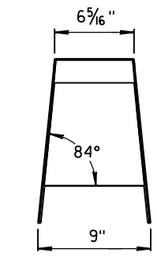
SIDE PLATE





TOP PLATE





SECTION C-C

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

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

NOTES

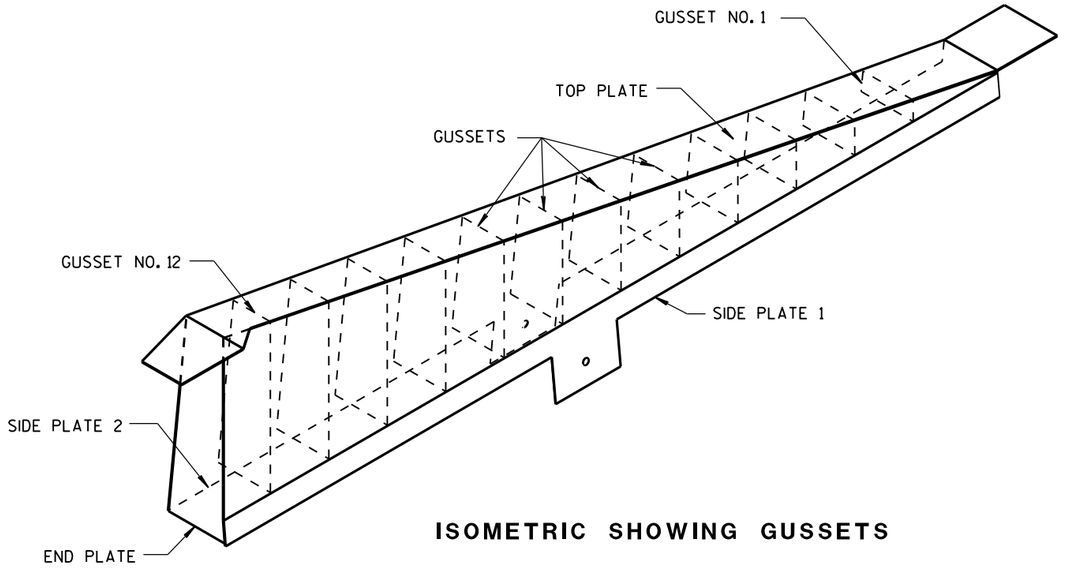
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

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

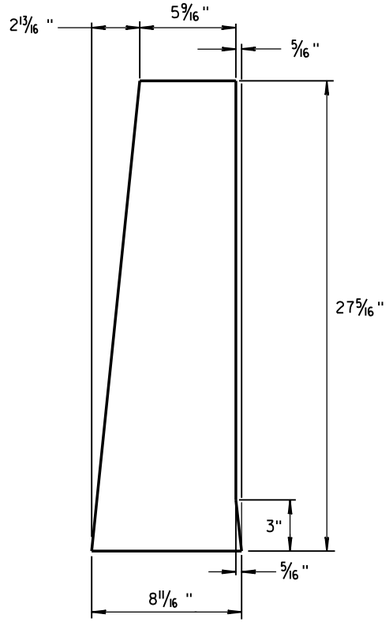
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14f

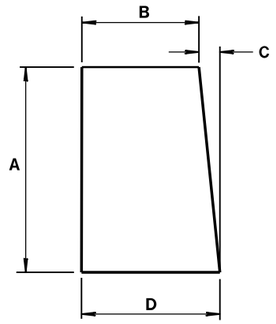


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



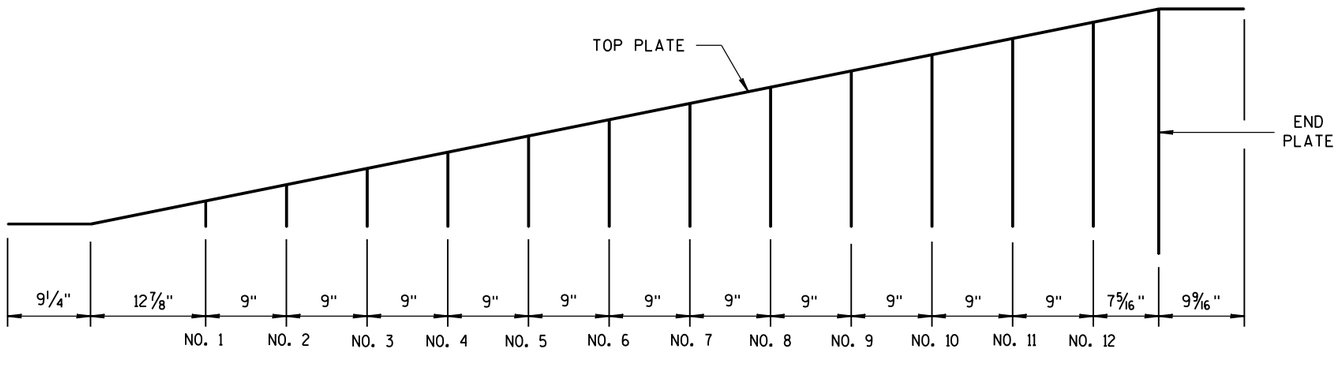
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

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

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

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



GUSSET LOCATION

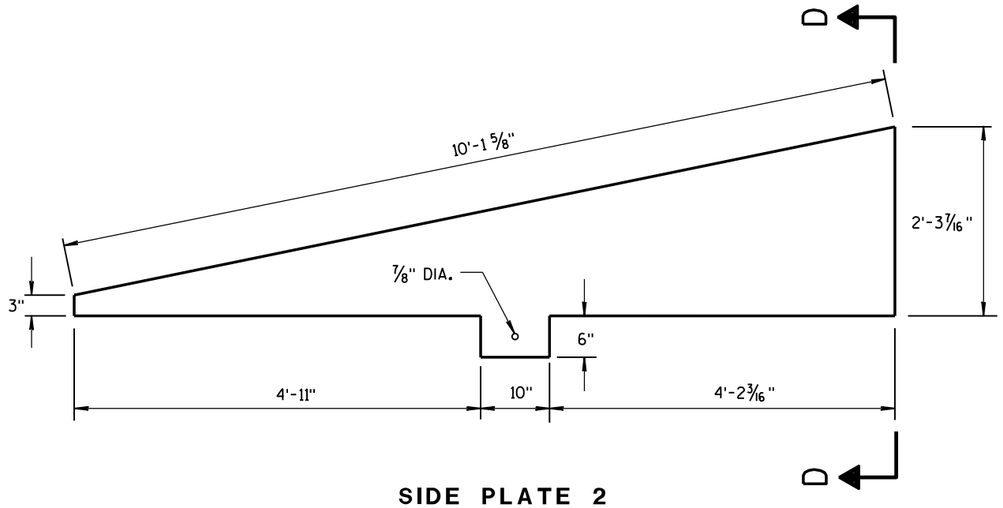
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

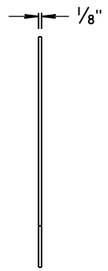
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

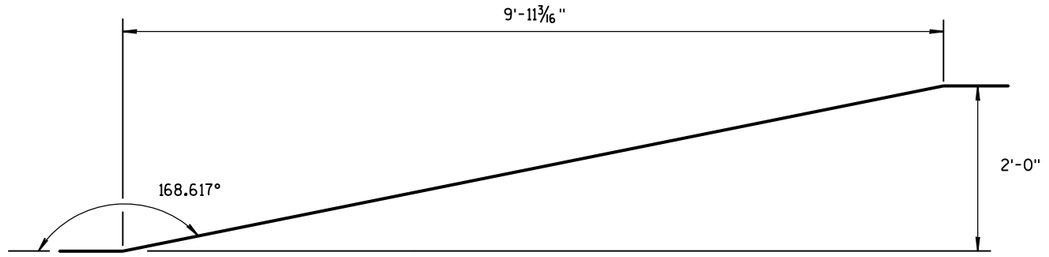
S.D.D. 14 B 7-14g



SIDE PLATE 2

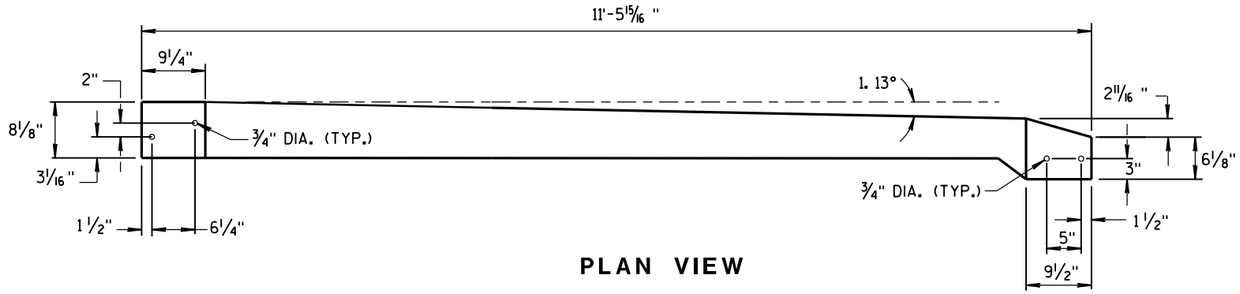


END VIEW



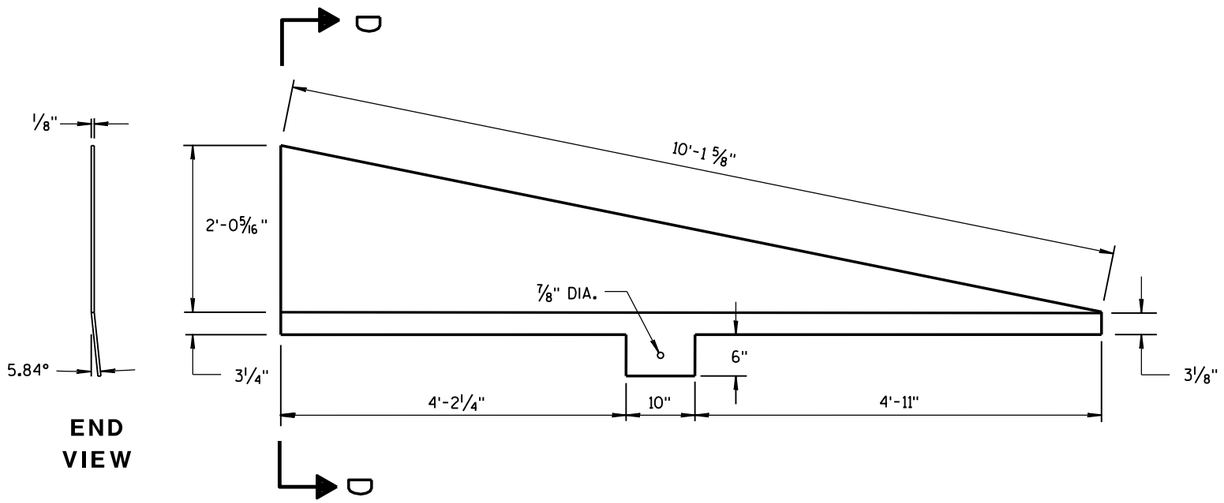
SIDE VIEW

TOP PLATE



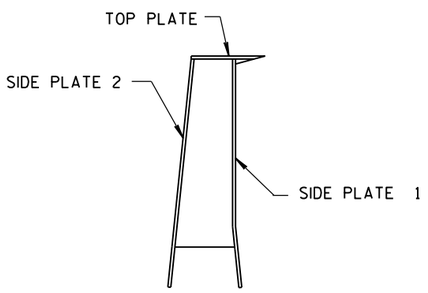
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

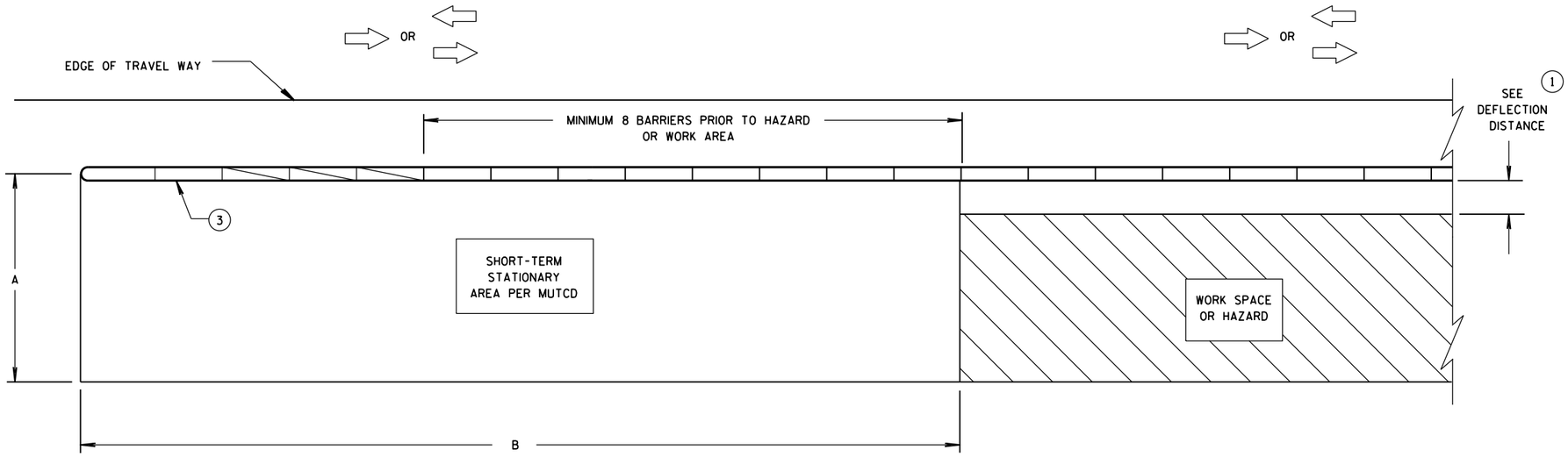
APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

6

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

6

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



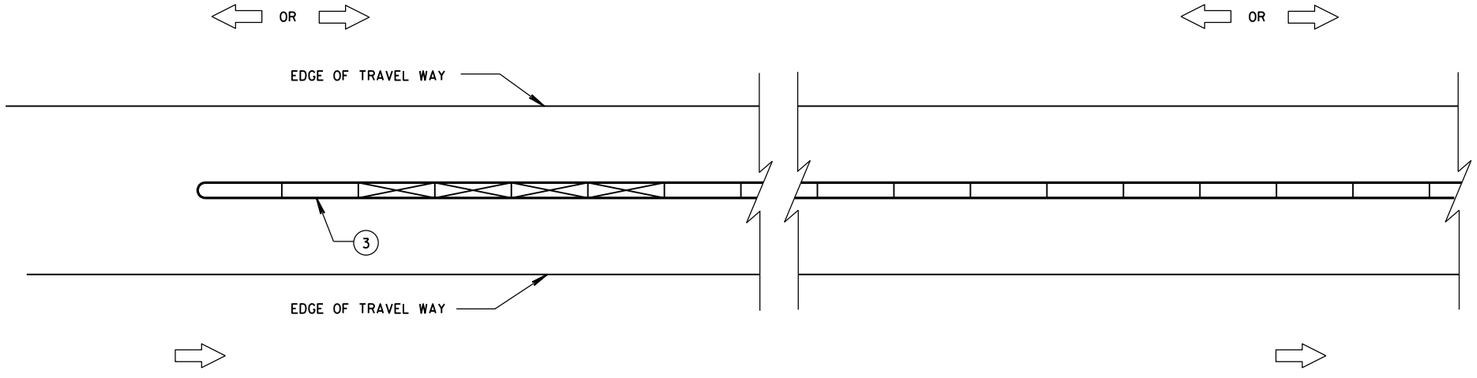
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

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

DIMENSION B TABLE (2)

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



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

LEGEND

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

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

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

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

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

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

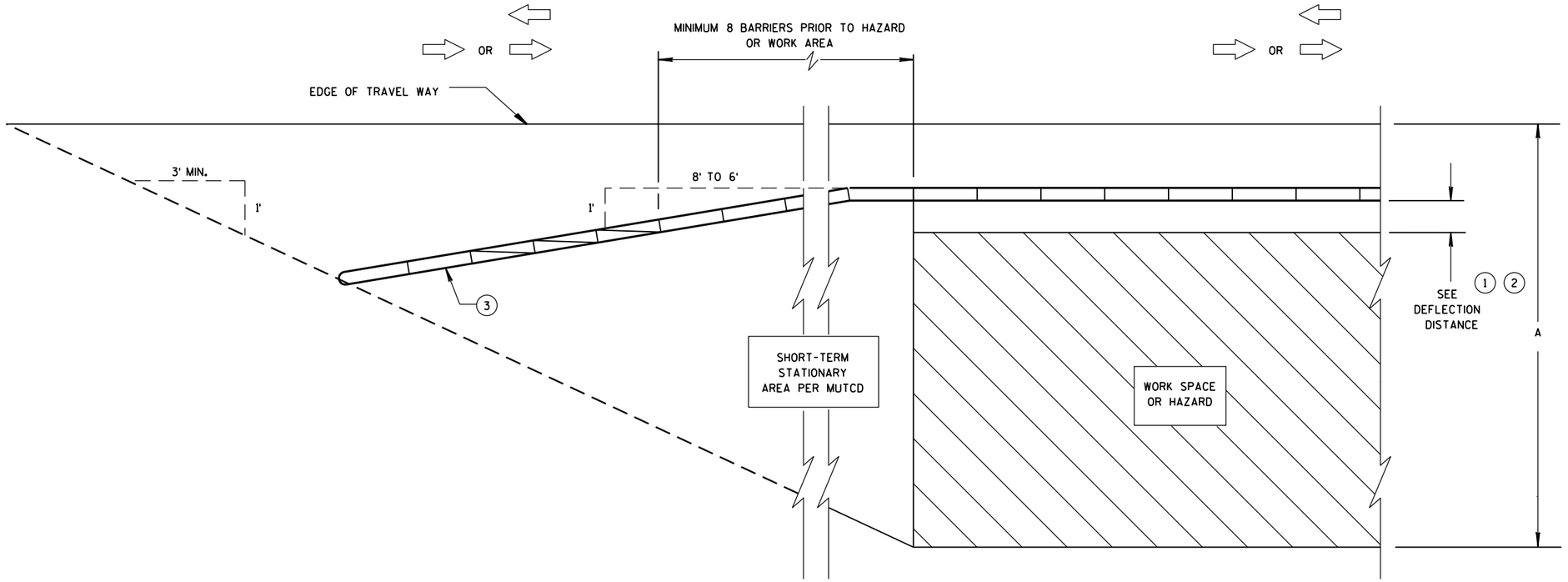
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

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

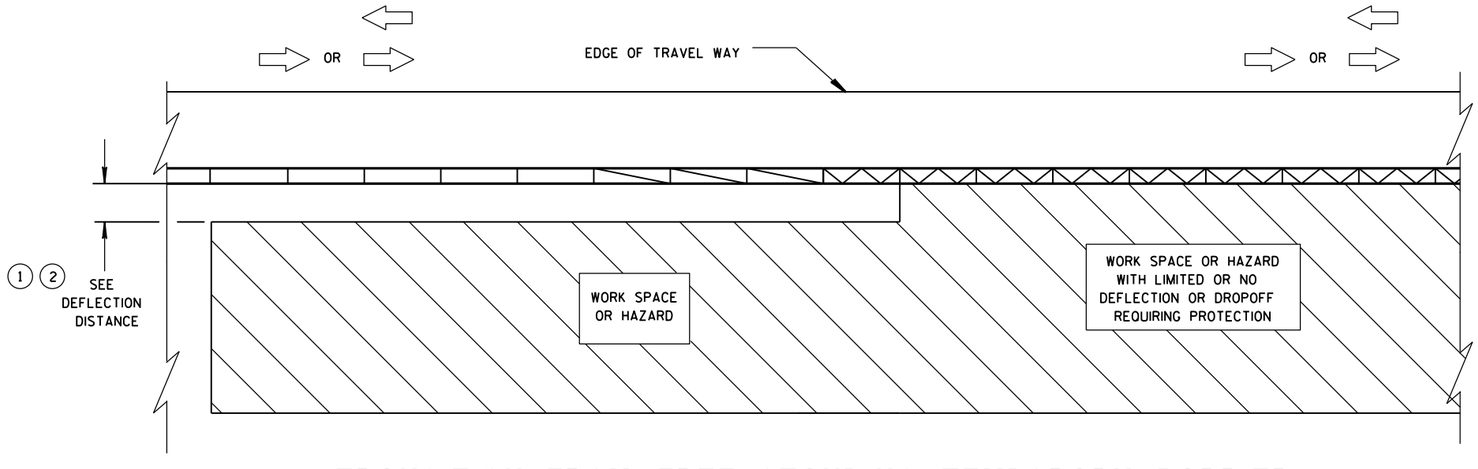
STATE OF WISCONSIN
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S.D.D. 14 B 8-2a
S.D.D. 14 B 8-2a



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



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

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

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

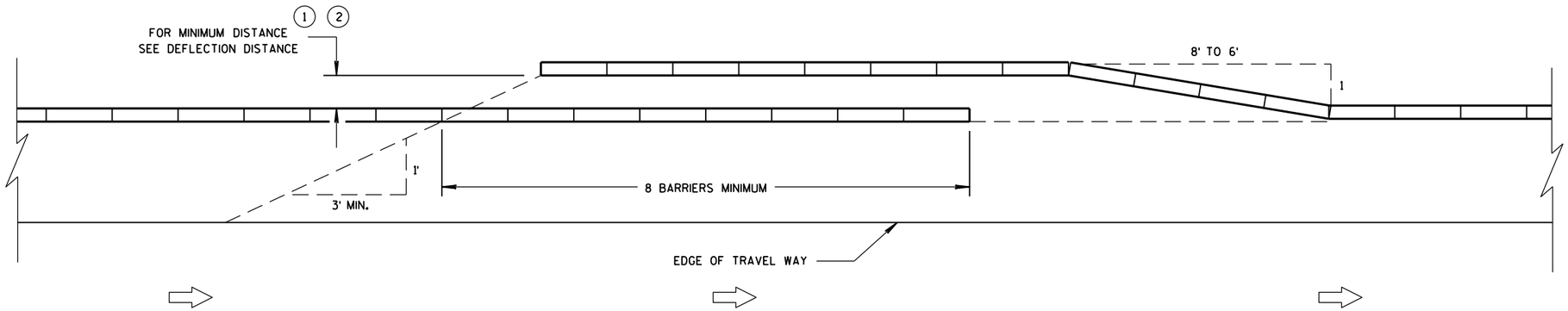
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

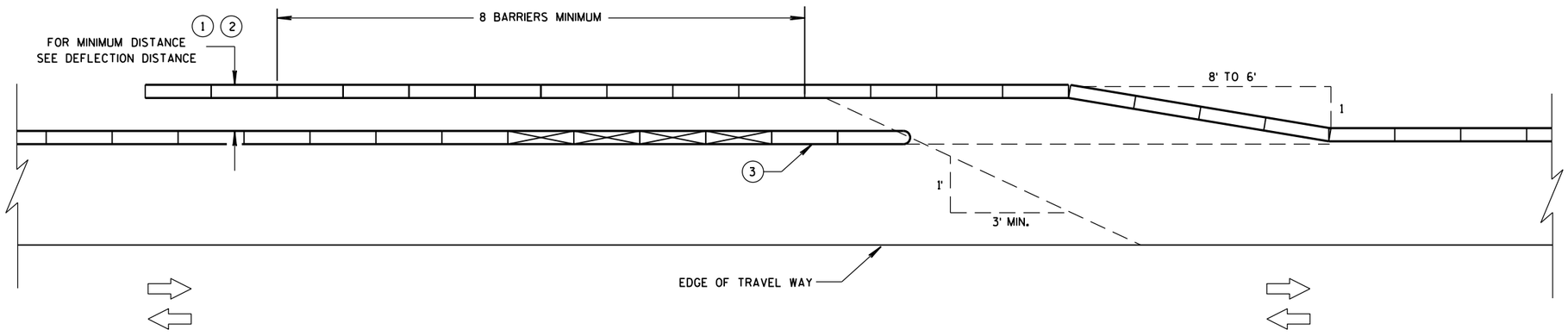
S.D.D. 14 B 8-2b

6

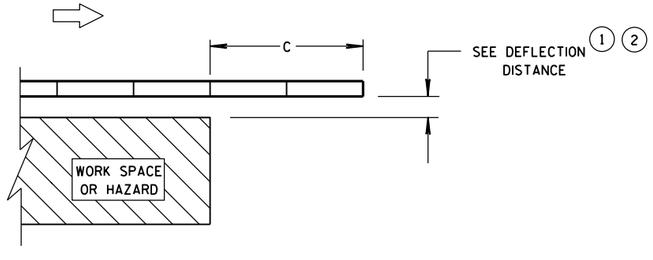
S.D.D. 14 B 8-2b



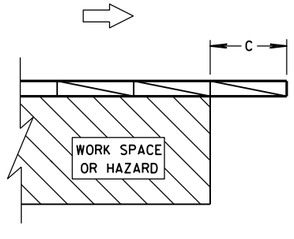
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

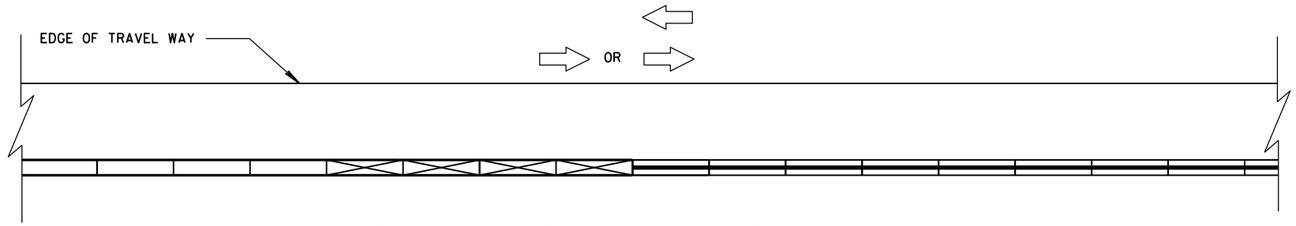
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

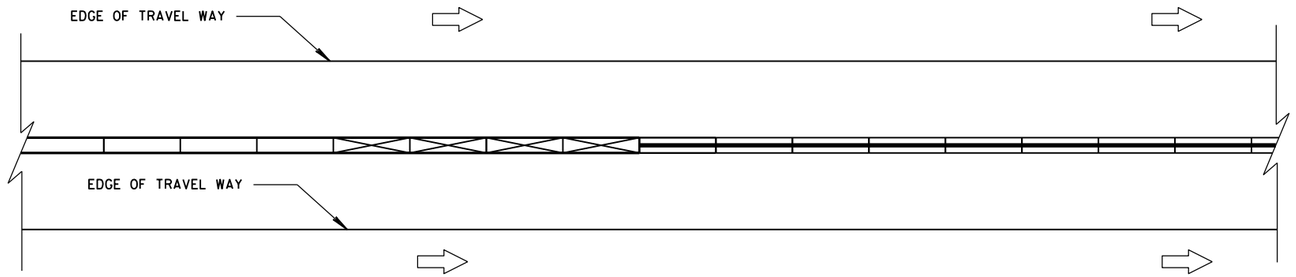
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CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



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

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

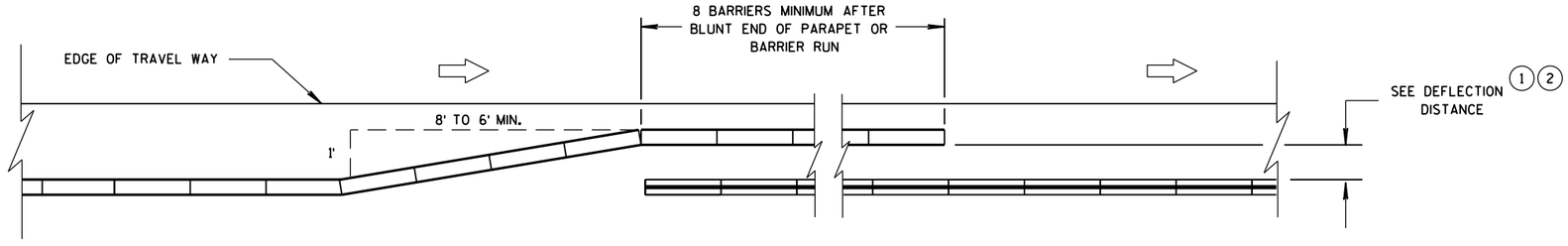
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

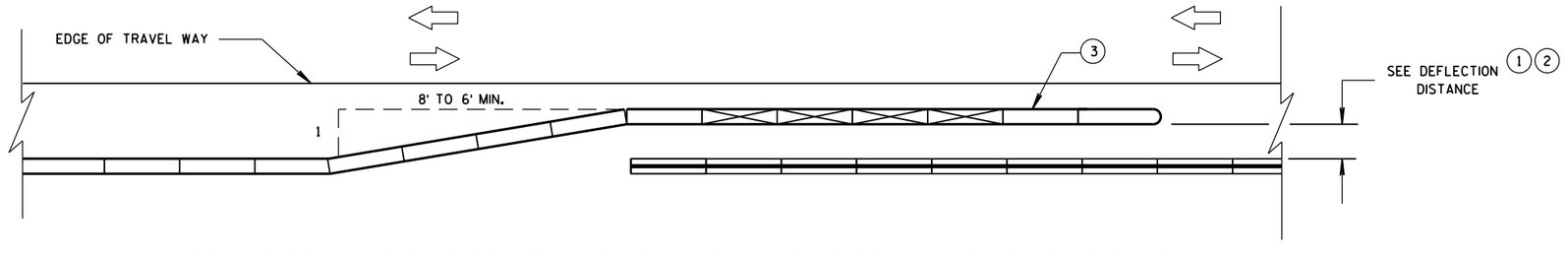
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 8-2d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

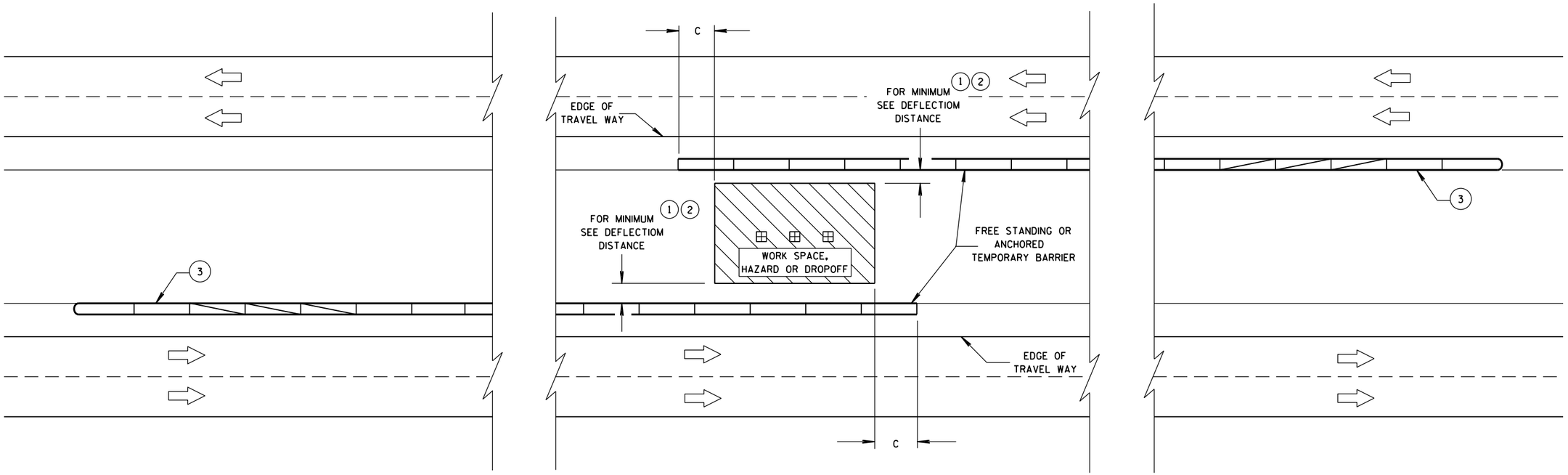
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 14 B 8-2e

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) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

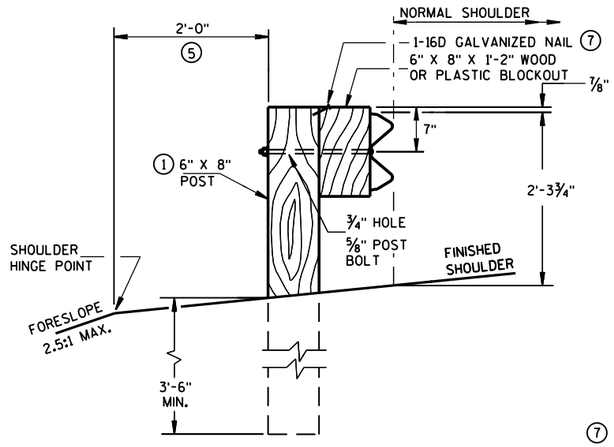
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

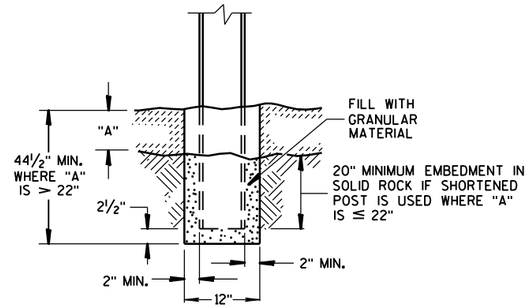
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

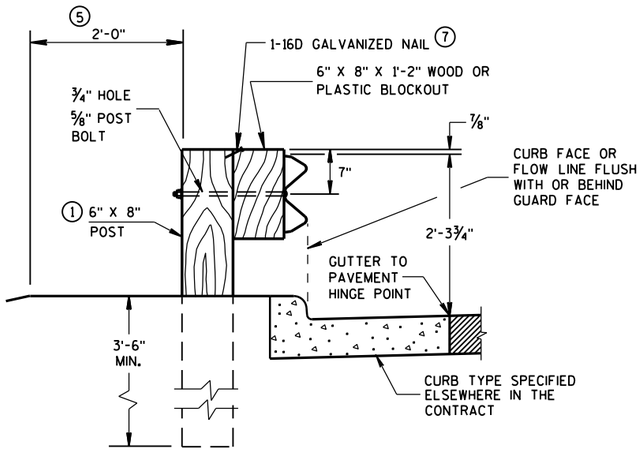
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



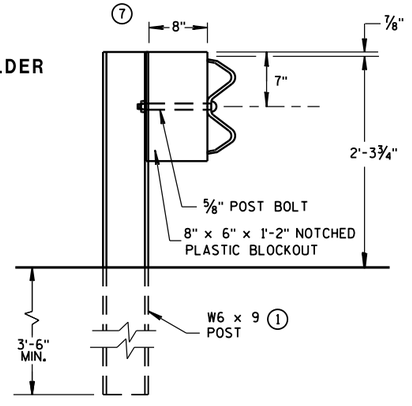
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



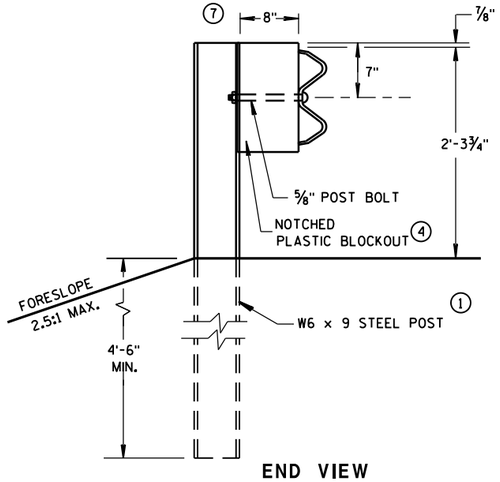
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



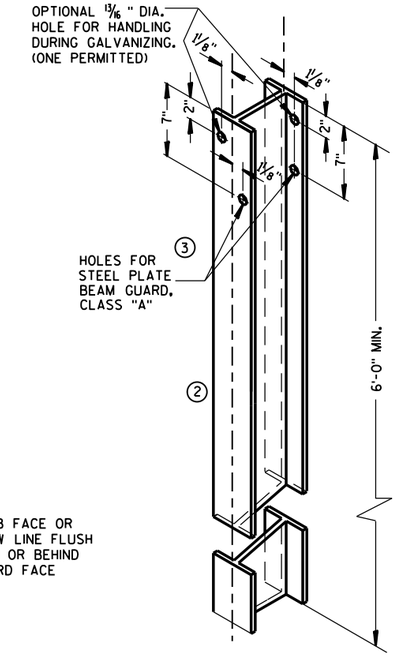
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION

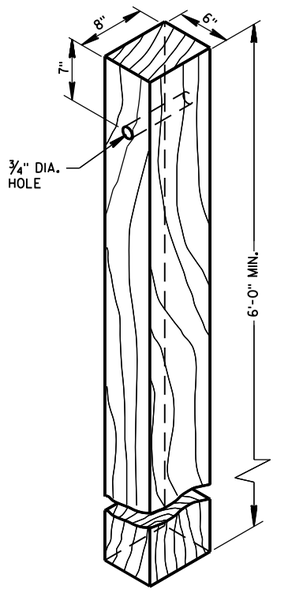


END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

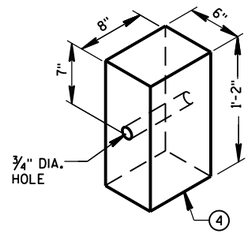


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

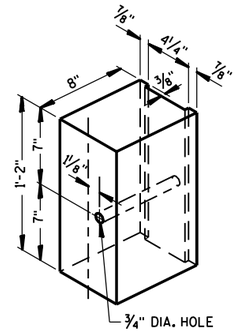
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



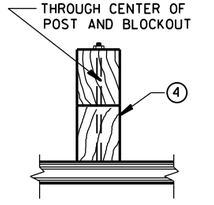
WOOD POST
(6"X8") NOMINAL



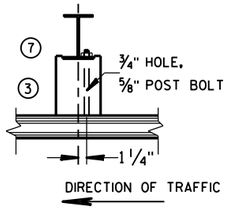
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



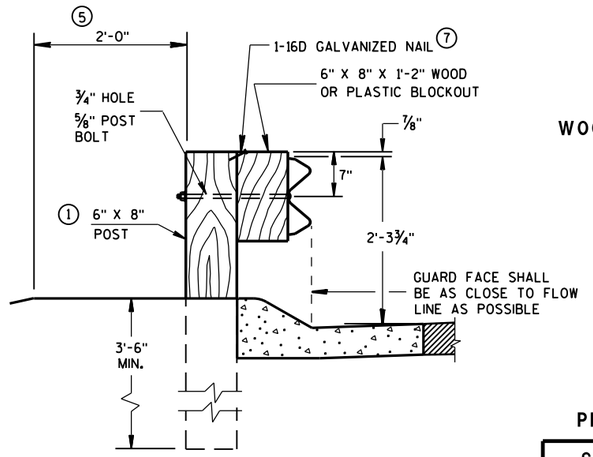
TYPICAL NOTCHED (1)
PLASTIC BLOCKOUT
FOR STEEL POSTS



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI 33

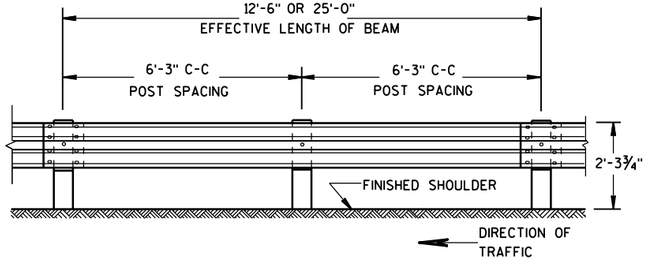
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

6

S.D.D. 14 B 15-8a

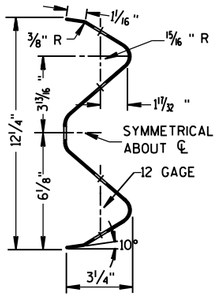
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S.D.D. 14 B 15-8a

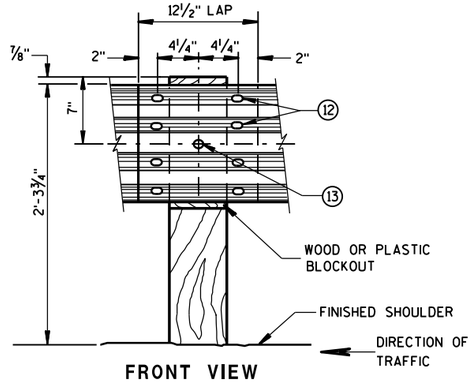


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

(8) PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

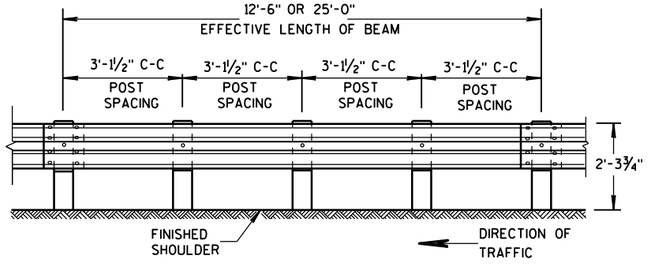
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

(10) REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

(11) PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

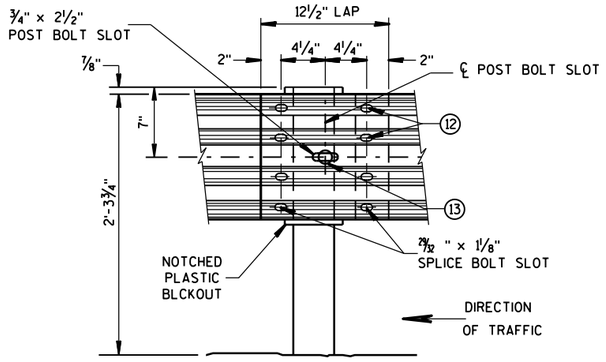
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



FRONT VIEW

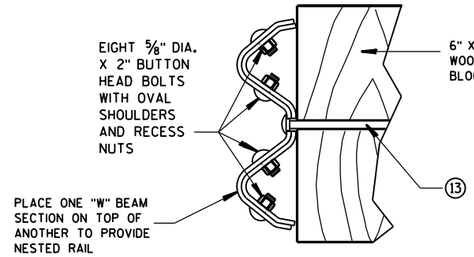
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

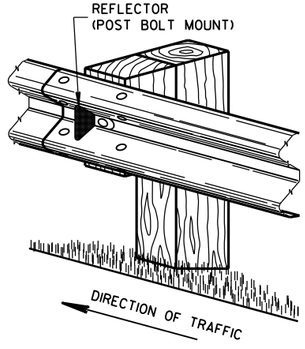


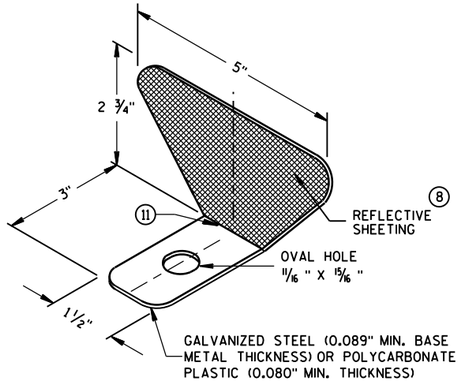
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (9)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 (10) 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 (11)	3



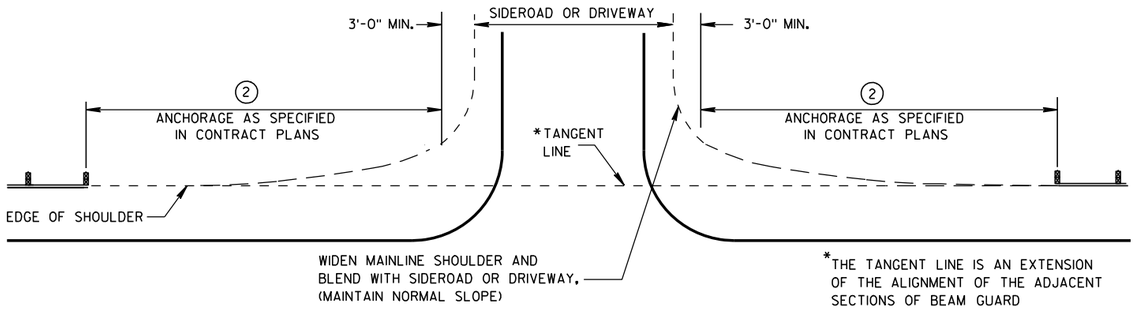


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (8)

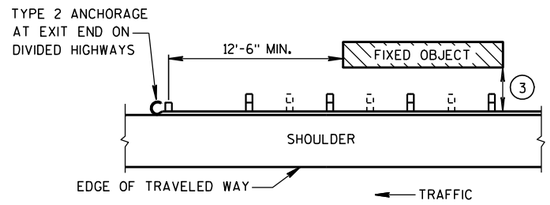
STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

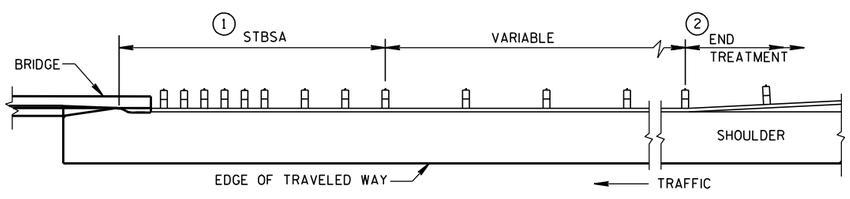
6
S.D.D. 14 B 15-8b



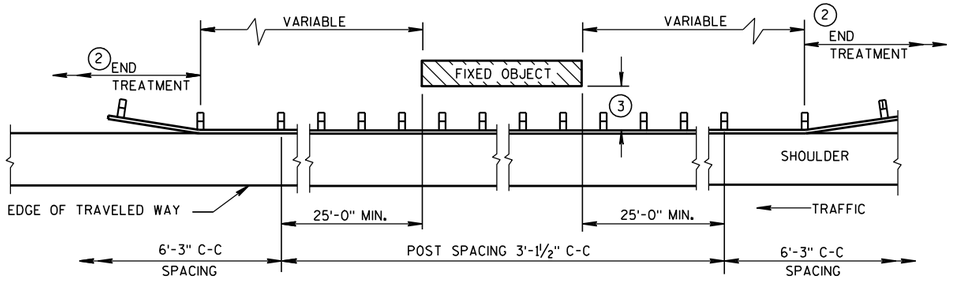
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

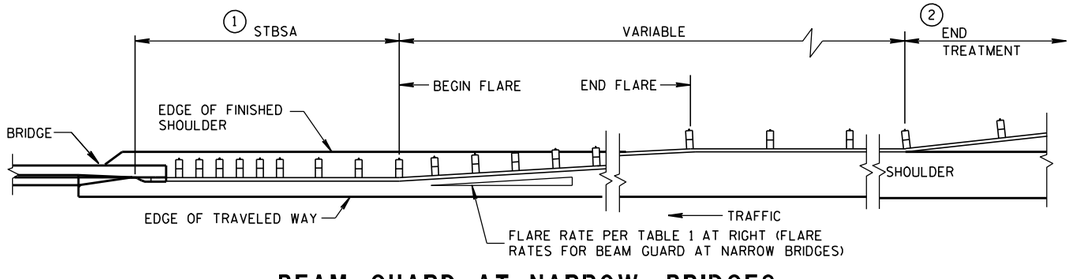


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES

(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

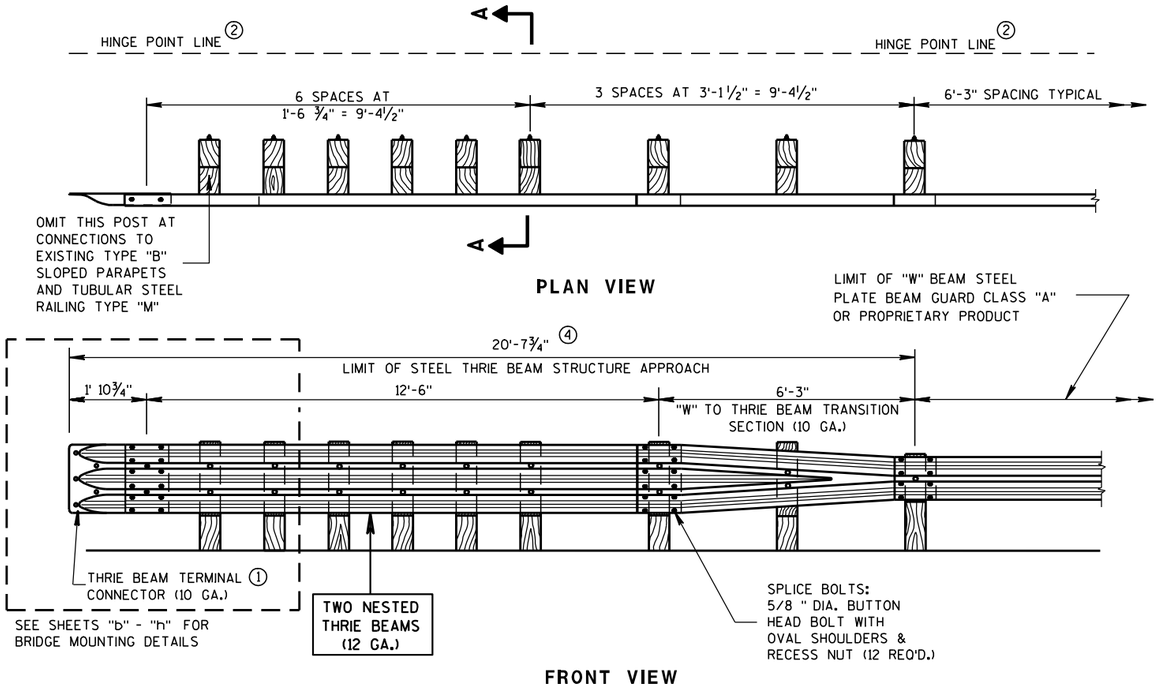
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-21-07
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



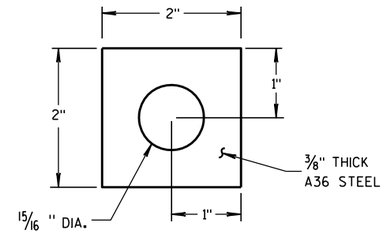


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

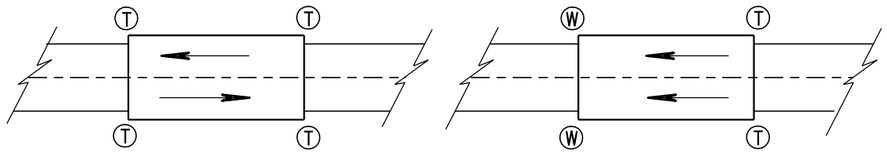
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



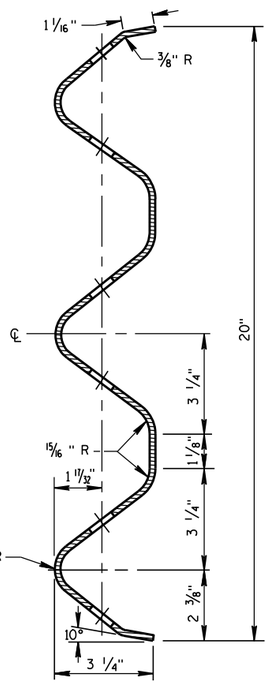
TWO WAY TRAFFIC

ONE WAY TRAFFIC

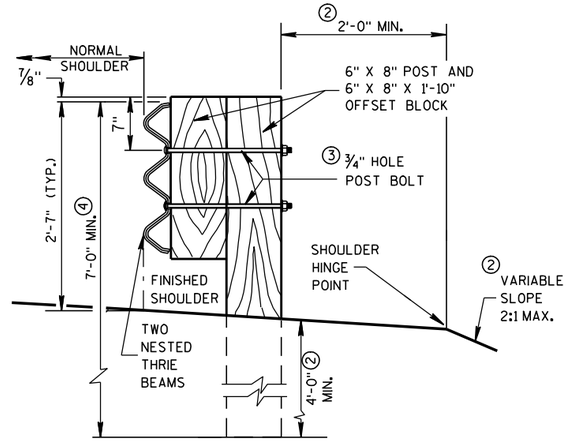
T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

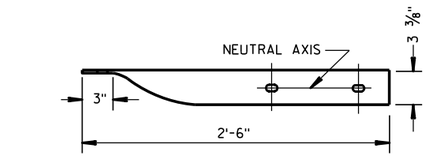
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

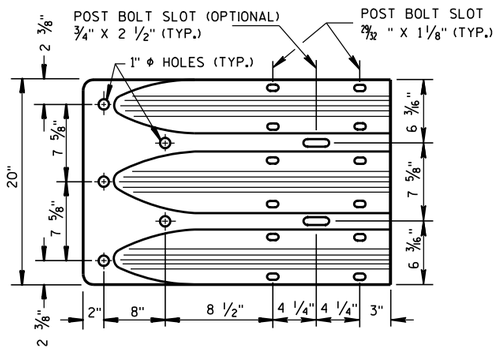


SECTION THRU THRIE BEAM RAIL ELEMENT

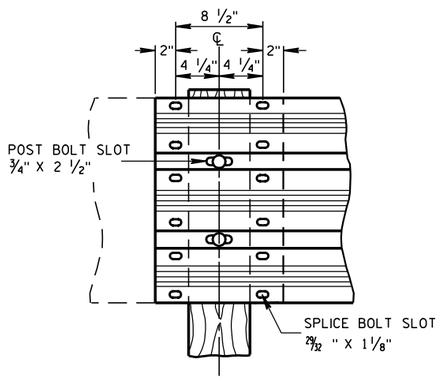


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

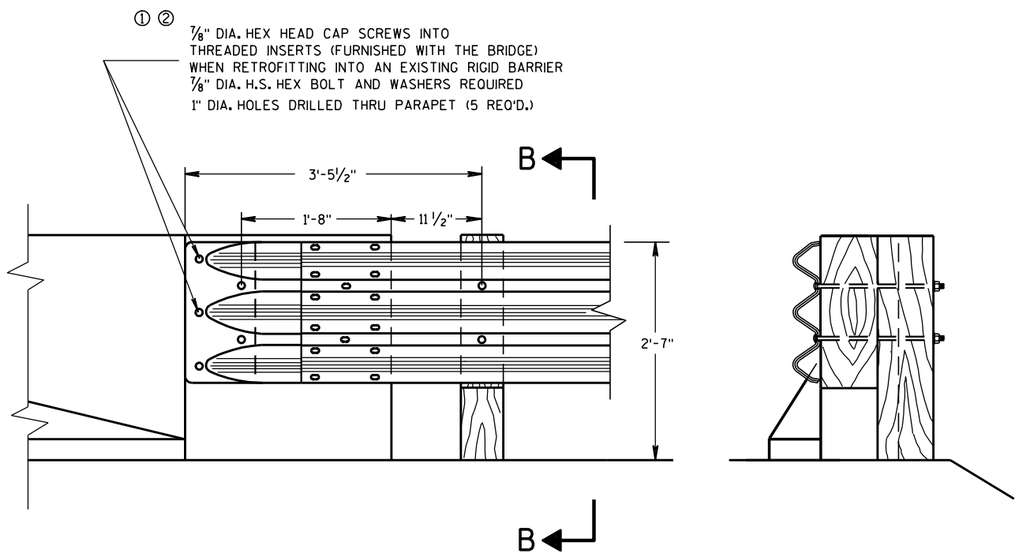
APPROVED

8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA

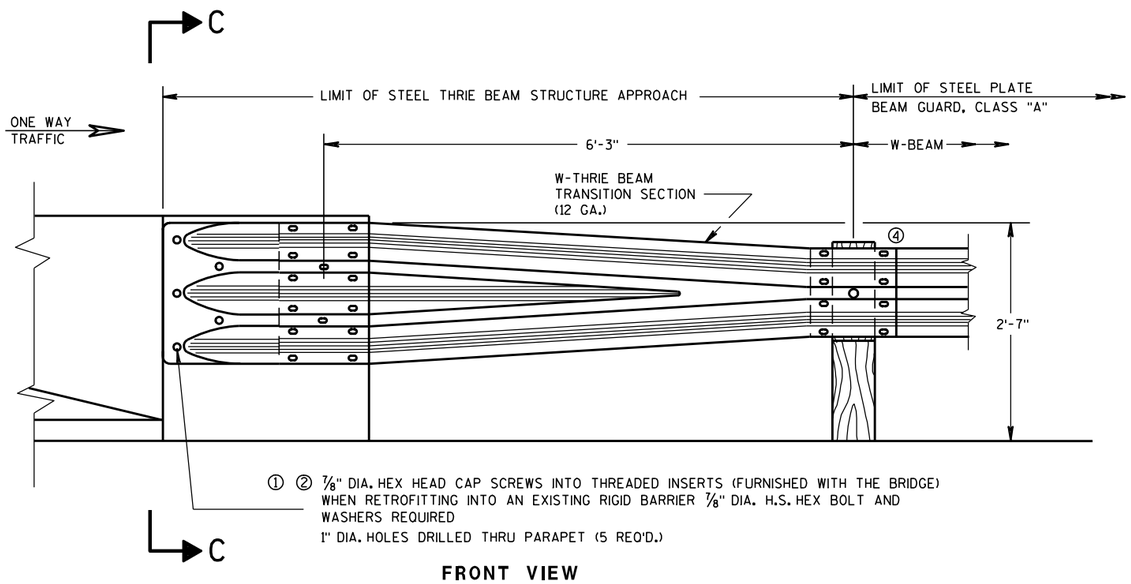
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FRONT VIEW

SECTION B-B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

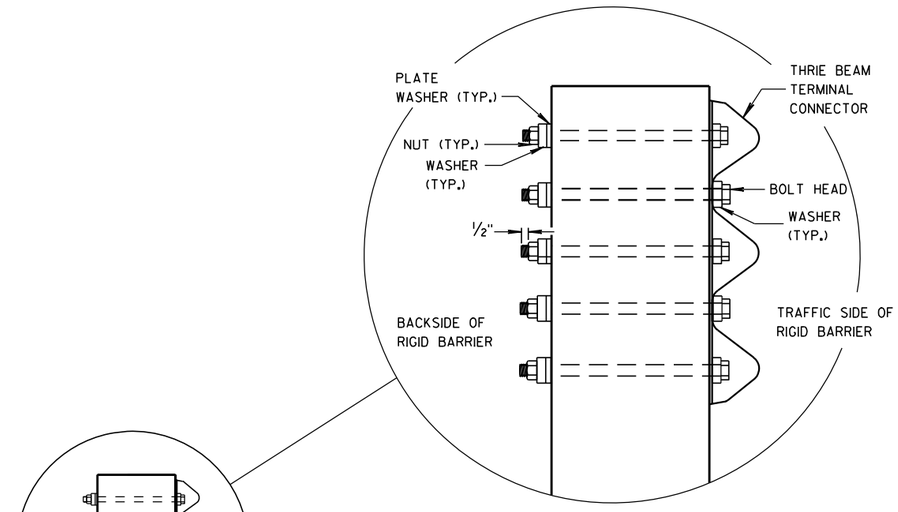
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

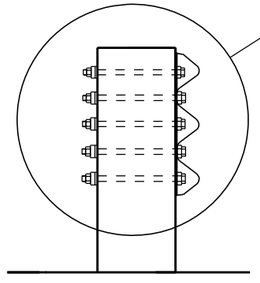
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.





SECTION C-C

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

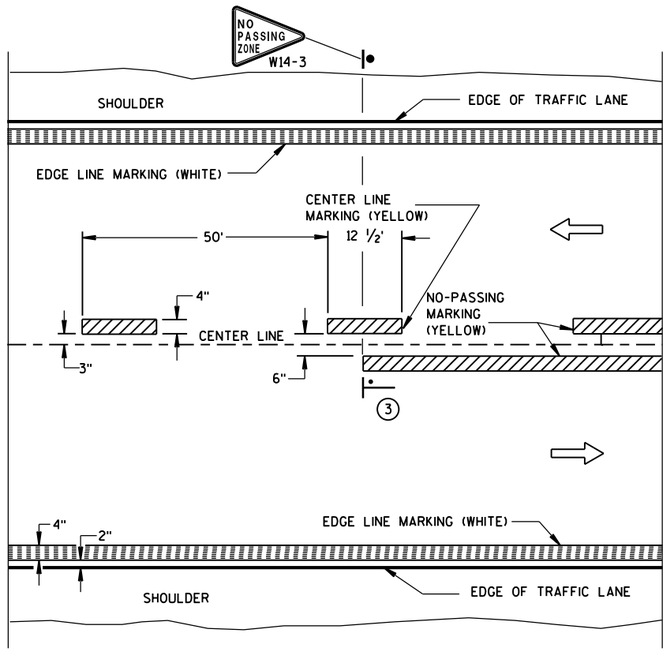
APPROVED

8/31/2012
DATE

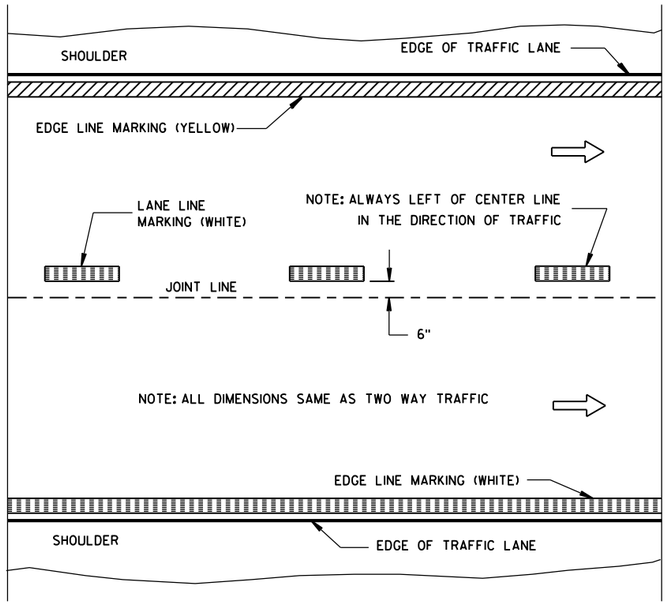
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

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S.D.D. 14 B 20-11b

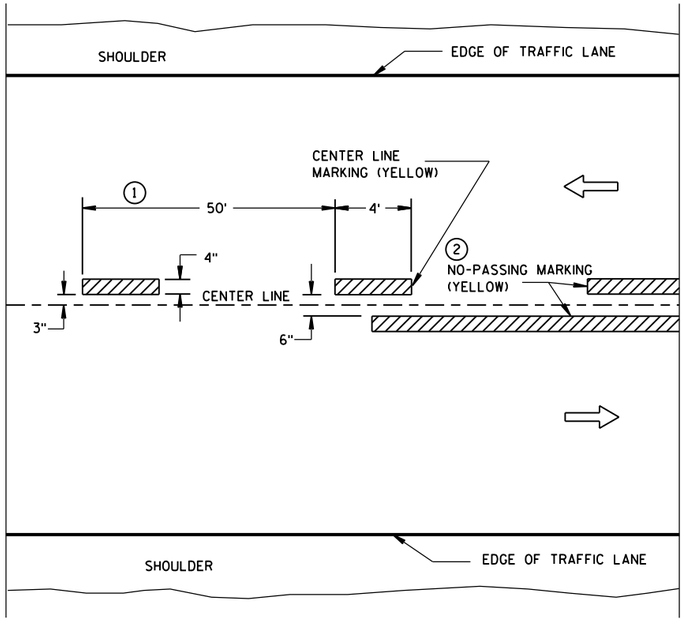


TWO WAY TRAFFIC

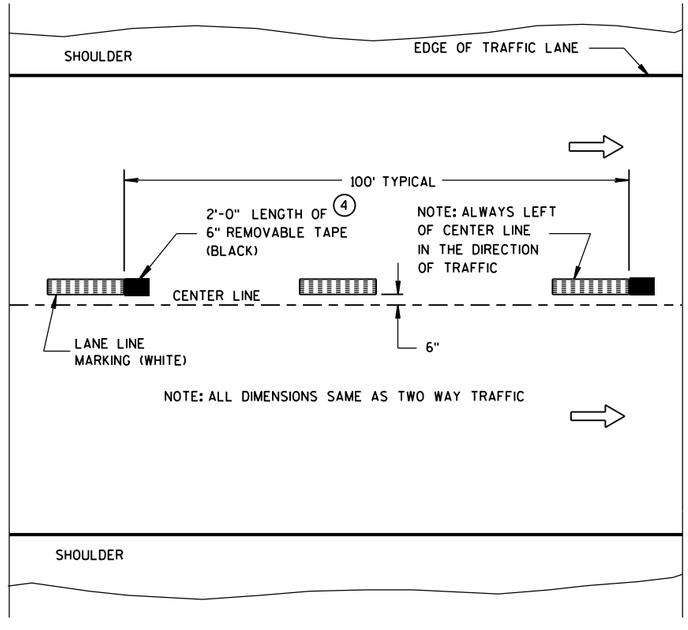


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

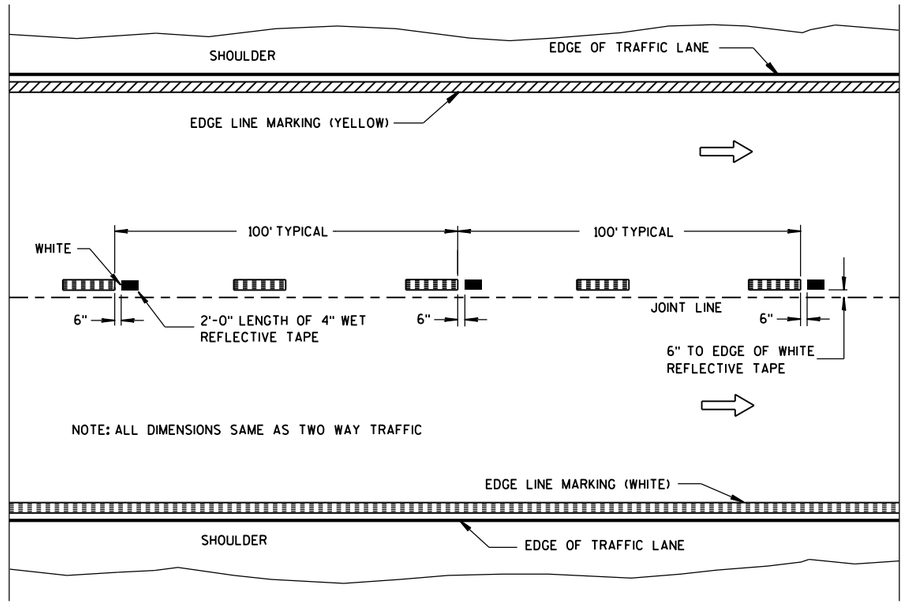
GENERAL NOTES

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA



W057-52
36"x24"

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



LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.



R2-1
48"x60"
(BLACK AND WHITE)

IF THE REGULATORY SPEED HAS BEEN REDUCED, 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 RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

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

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 DESIRABLE) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.

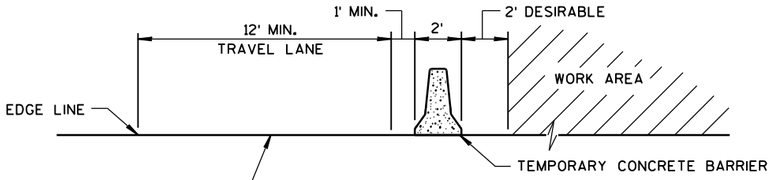
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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.

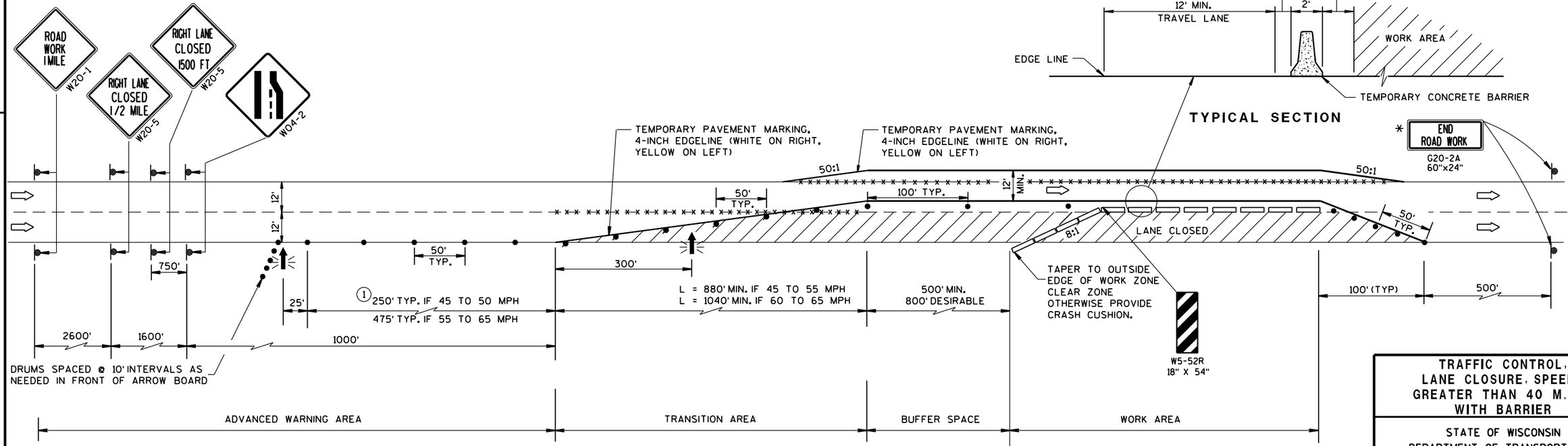
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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 OR INTERSECTION. THE LANE CLOSURE 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.



TYPICAL SECTION



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

S.D.D. 15 D 3-2

S.D.D. 15 D 3-2

N

1265+00
1266+00
1267+00
1268+00
1269+00
1270+00

5

5

SAW AT JOINT

STA 1266+52
BEGIN REMOVING ASPHALTIC SURFACE
BEGIN HMA PAVEMENT (SEE HMA PAVING TABLE)
BEGIN BASE AGGREGATE OPEN GRADED
BEGIN REMOVING BEAM GUARD

STEEL PLATE BEAM GUARD CLASS A

STEEL THRIE BEAM STRUCTURE APPROACH

STA 1266+86
END REMOVING ASPHALTIC SURFACE
END HMA PAVEMENT (SEE HMA PAVING TABLE)
END BASE AGGREGATE OPEN GRADED
END REMOVING BEAM GUARD

REMOVING AND REPLACING WINGWALL
(SEE STRUCTURE PLAN)

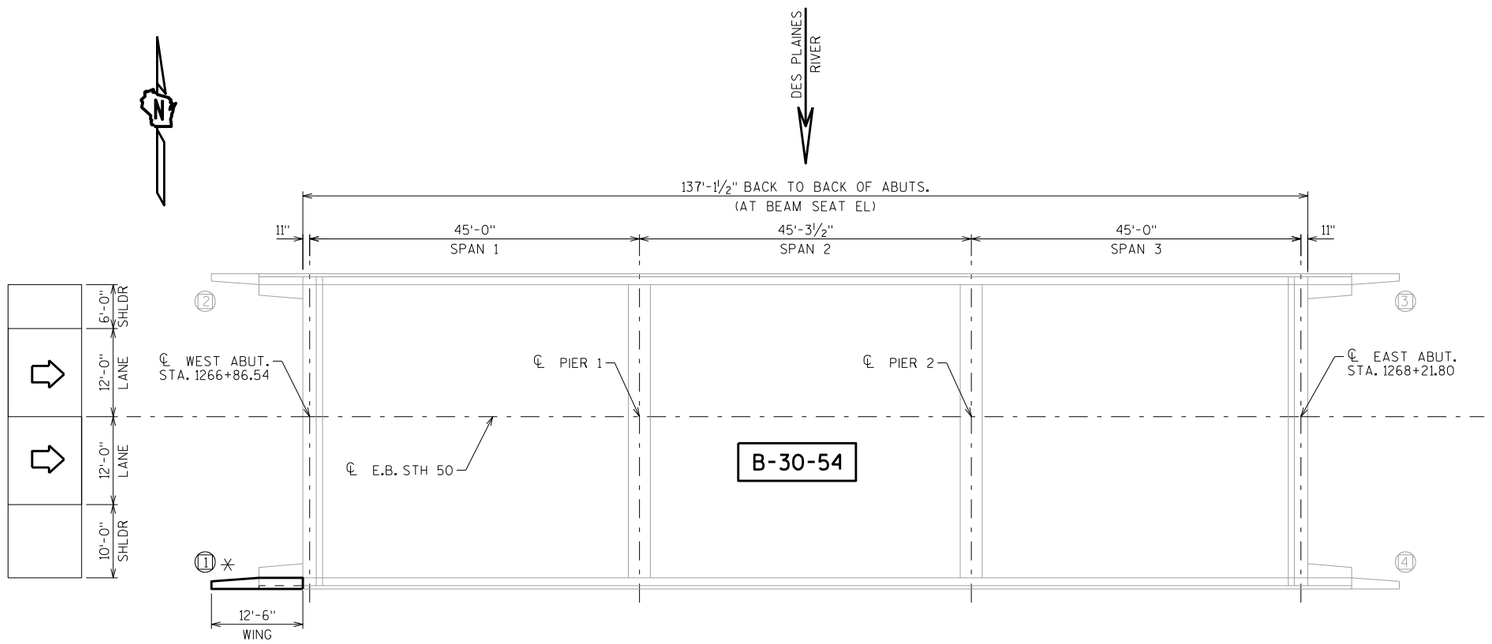
LEGEND

XXXXX SAWCUT

PROJECT NO:1310-16-70	HWY: STH 50	COUNTY:KENOSHA	PLAN DETAIL	SHEET 40	E

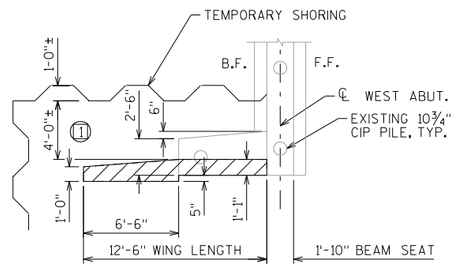
STATE PROJECT NUMBER

1310-16-70

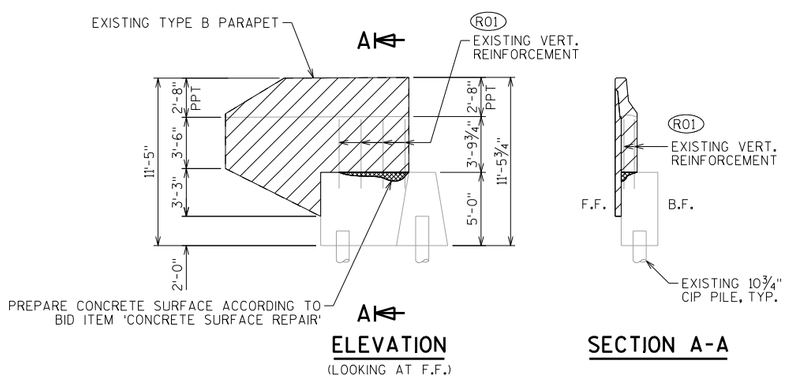


PLAN B-30-54

EXISTING 3 SPAN - 36" PRESTRESSED GIRDER BRIDGE



PARTIAL PLAN



ELEVATION

(LOOKING AT F.F.)

SECTION A-A

EXISTING WING 1 REMOVAL

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

AT THE BACKFACE OF WING WALL AND ABUT. VOLUME WHICH CANNOT BE PLACED BEFORE WING CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW WORK SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

CONCRETE SURFACE REPAIR TO BE PERFORMED AT THE DIRECTION OF THE ENGINEER.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A ½" DEEP SAWCUT.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1989.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE THE FRONT FACE AND THE TOP OF THE NEW PARAPET.

DESIGN DATA

MATERIAL PROPERTIES:

CONCRETE MASONRY	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

LEGEND

✳ PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

(1) INDICATES WING NUMBER

(R01) CLEAN, STRAIGHTEN & INCORPORATE INTO NEW WORK. DO NOT CUT UNLESS CLEARANCE REQUIREMENTS ARE VIOLATED. REPLACE DAMAGED OR CORRODED REINFORCEMENT AS DIRECTED BY THE ENGINEER.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 1266+85	LS	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-30-54	LS	1
210.0100	BACKFILL STRUCTURE	CY	10
502.0100	CONCRETE MASONRY BRIDGES	CY	4
502.3210	PIGMENTED SURFACE SEALER	SY	5
502.5002	MASONRY ANCHORS TYPE L NO.4 BARS	EACH	4
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	16
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	590
509.1500	CONCRETE SURFACE REPAIR	SF	12
511.1200	TEMPORARY SHORING B-30-54	SF	165
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	2
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	30
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1
	NON-BID ITEMS		
	FILLER	SIZE	½"

B-30-54 BID ITEMS ARE CATEGORY 0090

LIST OF DRAWINGS

1. WINGWALL REPLACEMENT
2. WINGWALL DETAILS
3. SLOPED FACE PARAPET 'B'

STRUCTURE DESIGN CONTACTS:

PHILIP MEINEL (608) 261-2590

LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher LLS 4/13/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-30-54

STH 50 EB OVER DES PLAINES RIVER

COUNTY	KENOSHA	TOWN/~~CITY/VILLAGE~~	BRISTOL
DESIGN SPEC.	REHABILITATION		N/A
DESIGNED BY	PMM	DESIGN CK'D.	JJS
DRAWN BY	PMM	PLANS CK'D.	JJS

WINGWALL REPLACEMENT

SHEET 1 OF 3

41

I.D. 1310-16-00

DATE: **DEC. 2015**

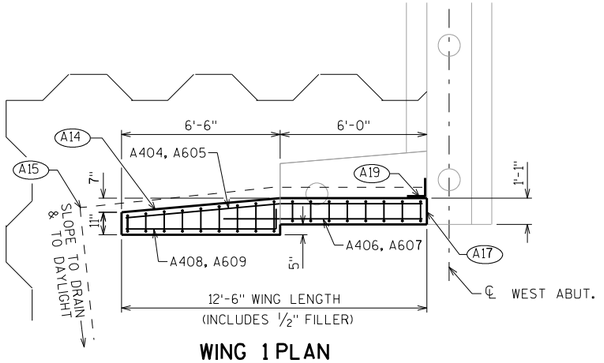
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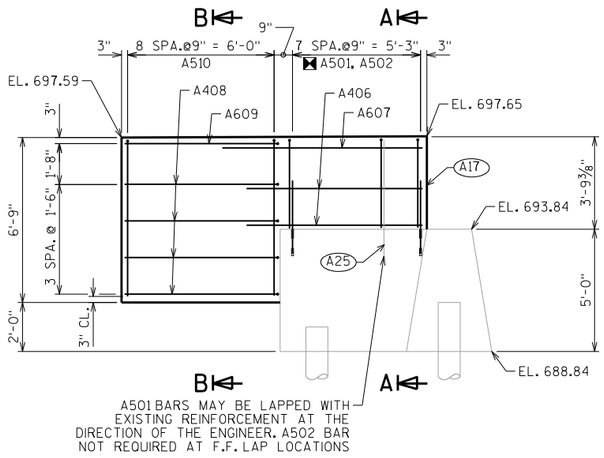
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STATE PROJECT NUMBER

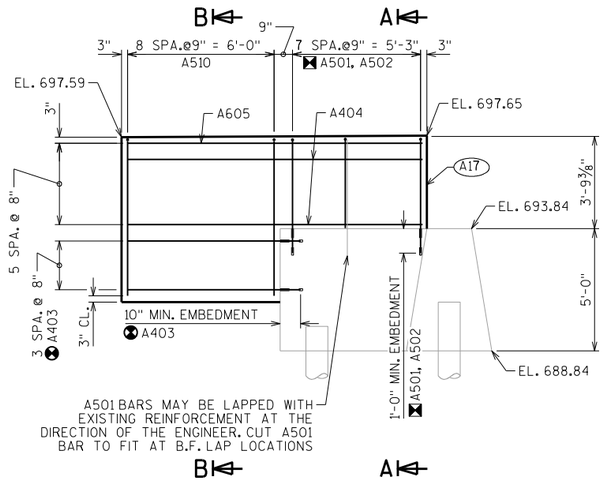
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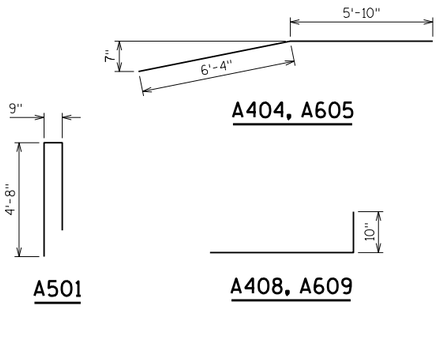
WING 1 PLAN

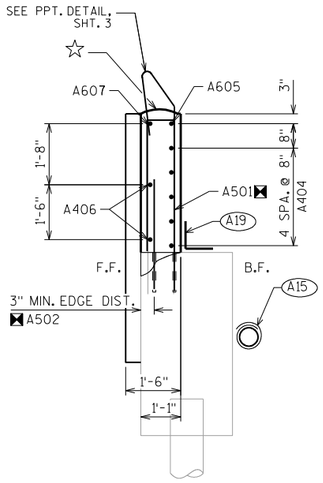


WING 1 ELEVATION
(SHOWING F.F. REINF.)

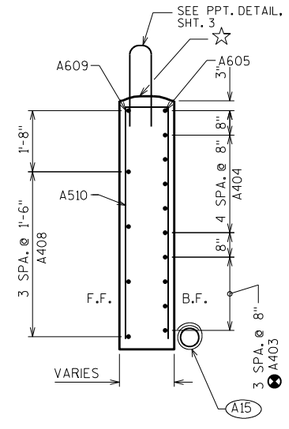


WING 1 ELEVATION
(SHOWING B.F. REINF.)

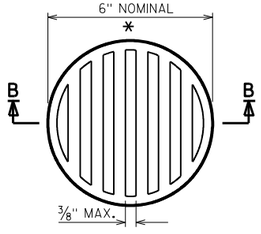


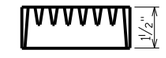


SECTION A-A
(1.5 X SCALE)



SECTION B-B
(1.5 X SCALE)





SECTION B-B

RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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 EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
⊠ A501	X	8	8'-9"	X	WING - VERT. - ANCHORS
⊠ A502	X	8	3'-0"		WING - VERT. - ANCHORS
⊗ A403	X	4	7'-4"		WING - HORIZ. - B.F. - ANCHORS
A404	X	5	12'-2"	X	WING - HORIZ. - B.F.
A605	X	1	12'-2"	X	WING - HORIZ. - B.F. - TOP
A406	X	2	7'-3"		WING - HORIZ. - F.F.
A607	X	1	8'-5"		WING - HORIZ. - F.F. - TOP
A408	X	4	6'-11"	X	WING TIP - HORIZ. - F.F.
A609	X	1	6'-10"	X	WING TIP - HORIZ. - F.F. - TOP
A510	X	9	13'-4" ▲	X	WING TIP - VERT.

BAR SERIES TABLE

MARK	NO REQD.	LENGTH
A510	1 SERIES OF 9	13'-0" TO 13'-7"

BUNDLE AND TAG EACH SERIES SEPARATELY.

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

⊠ CONCRETE MASONRY ANCHORS TYPE "L". NO 5 BARS EMBED 1'-0" INTO CONCRETE.

⊗ CONCRETE MASONRY ANCHORS TYPE "L". NO 4 BARS EMBED 10" INTO CONCRETE.

☆ STRIKE OFF AS SHOWN AND LEAVE ROUGH.

(A14) CONTRACTOR SHALL SUPPLY A NEW NAME PLATE PER 502.3.12 OF STD. SPEC.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-30-54

DRAWN BY PMM | PLANS CK'D. JJS

WINGWALL DETAILS

SHEET 2

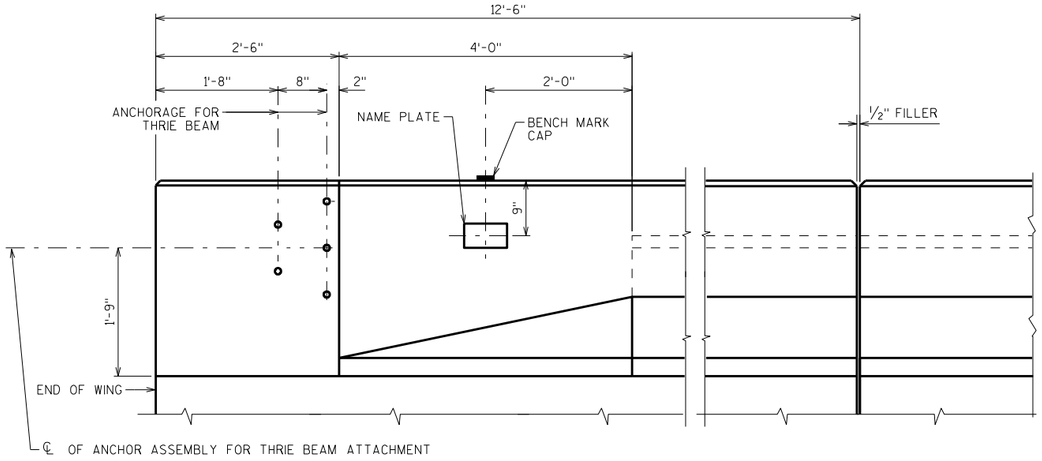
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8

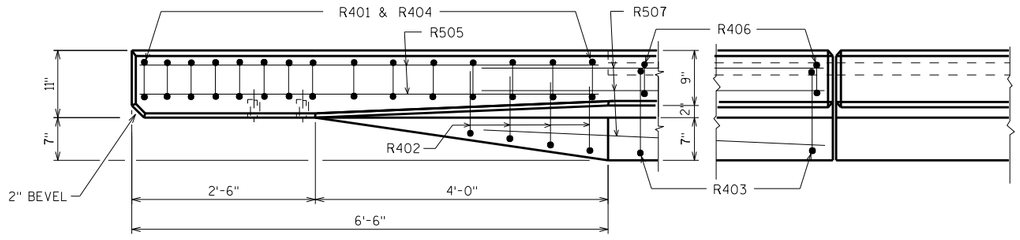
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STATE PROJECT NUMBER

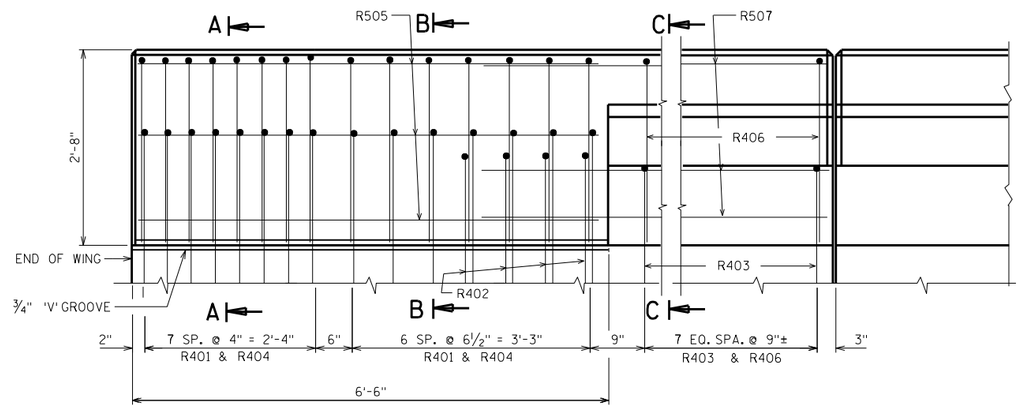
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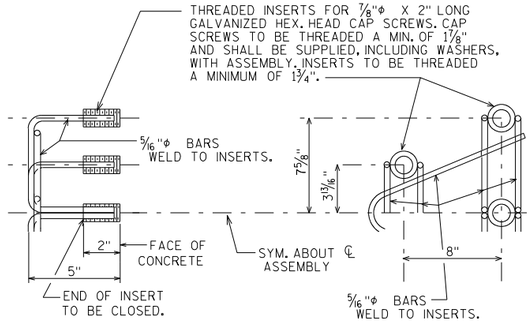
INSIDE ELEVATION



PLAN



OUTSIDE ELEVATION



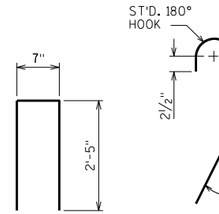
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C. SEE SHEET 1 FOR LOCATION.

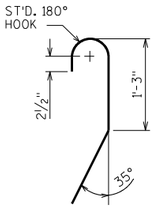
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

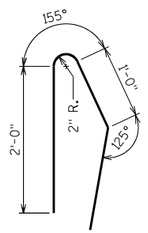
BAR MARK	COAT	WEST ABUT.	LENGTH	BENT	LOCATION
R401	X	15	5-3	X	PARAPET STIRRUPS
R402	X	4	3-1	X	PARAPET - VERT
R403	X	8	4-7	X	PARAPET STIRRUPS
R404	X	15	4-9	X	PARAPET STIRRUPS
R505	X	6	6-2		PARAPET - HORIZ
R406	X	8	4-10	X	PARAPET - VERT
R507	X	5	7-6		PARAPET - HORIZ



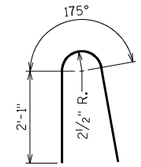
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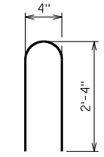
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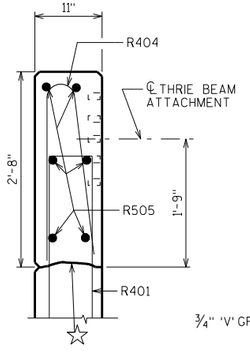
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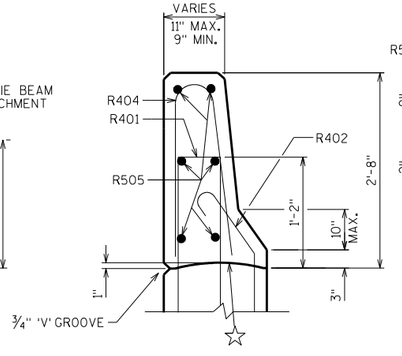
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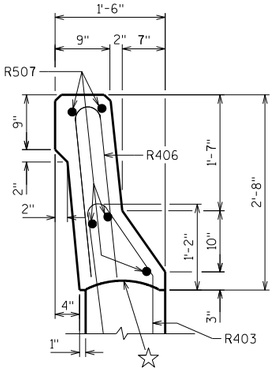
R406



SECTION A



SECTION B



SECTION C

☆ CONST. JOINT STRIKE OFF AS SHOWN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-30-54

DRAWN BY PMM | PLANS CK'D. JJS

SLOPED FACE PARAPET 'B'

SHEET 3

43

SCALE = 1.0

8

8

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

WKE JUNE 2016

PROJECT ID: 3738-02-73
WITH: 3738-06-60

COUNTY: KENOSHA

ORDER OF SHEETS

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

TOTAL SHEETS = 434

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3738-02-73	WISC 2016223	1

104TH STREET, VILLAGE OF PLEASANT PRAIRIE

CORPORATE DRIVE TO EAST OF TERWALL TERRACE

STH 165

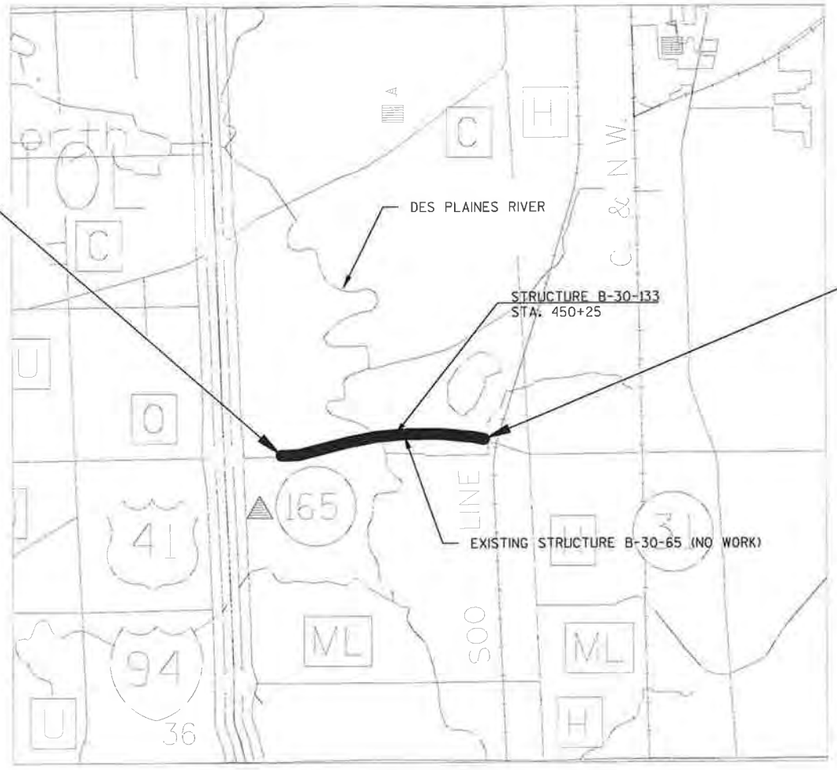
KENOSHA COUNTY

STATE PROJECT NUMBER
3738-02-73





BEGIN PROJECT
STA. 416+00.00
Y = 111,918.78
X = 596,126.90



END PROJECT
STA. 487+24.00
Y = 112,579.77
X = 603,010.93

T-1-N

R-22-E

LAYOUT
SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 1.349 MI

DESIGN DESIGNATION		CORPORATE DRIVE TO STA. 424+85	STA. 424+85 TO TERWALL TERRACE
A.A.D.T.	2016 =	16,900	16,900
A.A.D.T.	2036 =	21,400	21,400
D.H.V.	=	2,333	2,333
D.D.	=	60/40	60/40
T.	=	17.1	17.1
DESIGN SPEED	=	40 MPH	60 MPH
ESALS	=	10,906,200	10,906,200

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

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, KENOSHA 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 ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 - NAVD88 (2007).

ORIGINAL PLANS PREPARED BY
GRAEF

WISCONSIN
STEVEN T. SCHOWALTER
37305
LISBON, WI
PROFESSIONAL ENGINEER

10/29/15 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
- Surveyor: EMCS
- Designer: GRAEF
- Project Manager: MARK WILFERT
- Regional Examiner:
- Regional Supervisor: REEM SHAHIN

APPROVED FOR THE DEPARTMENT
DATE: 10-29-15 (Signature)

E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\010101_TI.DWG
LAYOUT NAME - 010101_TI - TITLE SHEET 1 IN EO 1 MI

PLOT DATE : 10/28/2015 7:37 AM PLOT BY : OLSON, JULIE PLOT NAME :

WISDOT/CADDS SHEET 10

GENERAL NOTES

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS INDICATED FOR REMOVAL BY THE ENGINEER.

THE EXACT LOCATION OF PRIVATE ENTRANCES ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM THE ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES OR FROM GRUBBING OF TREES OR STUMPS SHALL BE BACKFILLED WITH GRANULAR BACKFILL. BACKFILL GRANULAR MATERIAL IS INCIDENTAL TO THE REMOVAL ITEM.

ALL RADIUS DIMENSIONS FOR CURB & GUTTER ARE GIVEN TO THE FLANGE. ALL ELEVATIONS ALONG CURB & GUTTER ARE GIVEN TO THE FLANGE. OFFSETS NOTED ARE TO THE FLANGE OR EDGE OF LANE IF NO CURB, UNLESS OTHERWISE NOTED.

CONTRACTOR MUST CONTACT THE PROJECT ENGINEER AND SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION (SEWRPC) JOHN WASHBURN AT LEAST TWO WEEKS PRIOR RO WORK NEAR ANY PUBLIC SURVEY MONUMENTS. CONTACT JOHN WASHBURN AT (262) 547-6721 FOR MONUMENT RELOCATION PROCEDURES. CONTRACTOR SHALL ALSO CONTACT TOM LIPSKY AT WDOT SOUTHEAST REGION AT (262) 548-6737.

THE LOCATION OF KNOWN EXISTING UTILITIES IN THE VICINITY OF THE PROJECT ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITIES IN THE AREA THAT ARE NOT SHOWN.

HMA PAVEMENT, TYPE WHERE INDICATED ON THE PLANS, SHALL CONSIST OF LAYERS AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER.

4" DEPTH	4" OF 12.5mm HMA PAVEMENT 4 LT 58-28 S AS THE UPPER LAYER

SILT FENCE SHALL BE INSTALLED IN THE LOCATIONS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

ASPHALT AND CONCRETE DRIVEWAYS SHALL BE SAWCUT AT THE MATCH LINE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

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

REMOVAL OF EROSION CONTROL DEVICES IS INCLUDED IN THE COST OF THEIR RESPECTIVE BID ITEMS.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

CONCRETE JOINTS SHALL MATCH ABUTTING PAVEMENT AND CURB AND GUTTER JOINTS UNLESS OTHERWISE DESIGNATED BY THE ENGINEER.

RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.

ALL DISTURBED AREAS WITHIN 200' OF THE DES PLAINES RIVER AND STRUCTURE B-30-133 SHALL BE SEEDED WITHIN ONE DAY OF THE WORK.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

STANDARD ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CONC	CONCRETE
CP	CULVERT PIPE
CPCM	CULVERT PIPE CORRUGATED METAL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CSCP	CORRUGATED STEEL CULVERT PIPE
CSPA	CORRUGATED STEEL PIPE ARCH
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC-YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
FE	FIELD ENTRANCE
HERCP	HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LT	LEFT
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
NTS	NOT TO SCALE
PAVT	PAVEMENT
PB	PULL BOX
PC	POINT-OF-CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASEMENT
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RAD	RADIUS
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
RCHESS	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL STORM SEWER
RCPSS	REINFORCED CONCRETE PIPE - STORM SEWER
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RT	RIGHT
SALV	SALVAGED
SB	SIGNAL BASE
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF	SQUARE FOOT
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TC	TOP OF CURB
TLE	TEMPORARY LIMITED EASEMENT

AGENCIES

VILLAGE OF PLEASANT PRAIRIE
MR. MATTHEW FINEOUR
9915 39TH AVENUE
PLEASANT PRAIRIE, WI 53158
(262) 925-6778
MFINEOUR@PLPRAIRIEWI.COM

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION
MR. JOHN WASHBURN
W239 N1812 ROCKWOOD DRIVE
P.O. BOX 1607
WAUKESHA, WI 53187-1607
(262) 953-4295
JWASHBURN@SEWRPC.ORG

DEPT. OF NATURAL RESOURCES

WISCONSIN DEPT. OF NATURAL RESOURCES
MR. CRAIG WEBSTER
141 NW BARSTOW STREET
WAUKESHA, WI 53187
(262) 574-2141
CRAIG.WEBSTER@WI.GOV

WISDOT CONTACT

WISCONSIN DEPT OF TRANSPORTATION, SE REGION
MR. MARK WILFERT
141 NW BARSTOW STREET
P.O. BOX 798
WAUKESHA, WI 53187
(262) 548-5936
MARK.WILFERT@DOT.WI.GOV

DESIGN CONTACT

GRAEF
MR. STEVEN SCHOWALTER
HONEY CREEK CORPORATE CENTER
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MILWAUKEE, WI 53212
(414) 266-9246
STEVEN.SCHOWALTER@GRAEF-USA.COM

UTILITIES

WE ENERGIES-ELECTRIC
SEND ALL CORRESPONDENCE TO:

MR. LATROY BRUMFIELD
333 W. EVERETT STREET A299
MILWAUKEE, WI 53203
(414) 221-5617
LATROY.BRUMFIELD@WE-ENERGIES.COM

CONSTRUCTION CONTACT
MR. FRANCISCO CHAVEZ
500 S 116TH STREET
WEST ALLIS, WI 53214
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WE ENERGIES-GAS/PETROLEUM
SEND ALL CORRESPONDENCE TO:

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CONSTRUCTION CONTACT
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TIME WARNER CABLE
MR. STEVE CRAMER
1320 N. MARTIN LUTHER KING JR. DRIVE
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WIS.ENGINEERING@TWCABLE.COM

WISDOT TRAFFIC LIGHTING
MR. ERIC PEREA
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WAUKESHA, WI 53187-0798
(262) 574-5442
ERIC.PEREA@DOT.WI.GOV

FRONTIER - WISCONSIN
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100 COMMUNICATIONS DRIVE
SUN PRAIRIE WI, 53590
(608) 837-1410
EDWARD.O.STIEBER@FTR.COM

AT&T WISCONSIN
MR. MARK EDER
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WAUKESHA, WI 53188
(262) 896-7434
ME1754@ATT.COM

MIDWEST FIBER NETWORKS
MR. RICHARD TRGOVEC
6070 NORTH FLINT ROAD
GLENDALE, WI 53209
(414) 672-5612
RTRGOVEC@MIDWESTFIBERNETOWRKS.COM

AT&T CORP. (TCA)
MS. DEBBIE SADDLER
6070 NORTH FLINT ROAD
GLENDALE, WI 53209
(414) 459-3572
D.SADDLER@NORTHWINDTECH.COM

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

2

N

VILLAGE OF PLEASANT PRAIRIE

LAKE ANDREA

REC PLEX

PARK-N-RIDE

PARK DRIVE

TERWALL TERRACE

BEGIN PROJECT 3738-02-73
STA. 416+00.00

STRUCTURE B-30-133

STH 165 (104TH STREET)

EXISTING STRUCTURE
B-30-065 (NO WORK)

DES PLAINES RIVER

END PROJECT 3738-02-73
STA. 487+24.00

CTH H (88TH AVENUE)

STH 31

I-94/US 41

120TH AVENUE

CORPORATE DRIVE

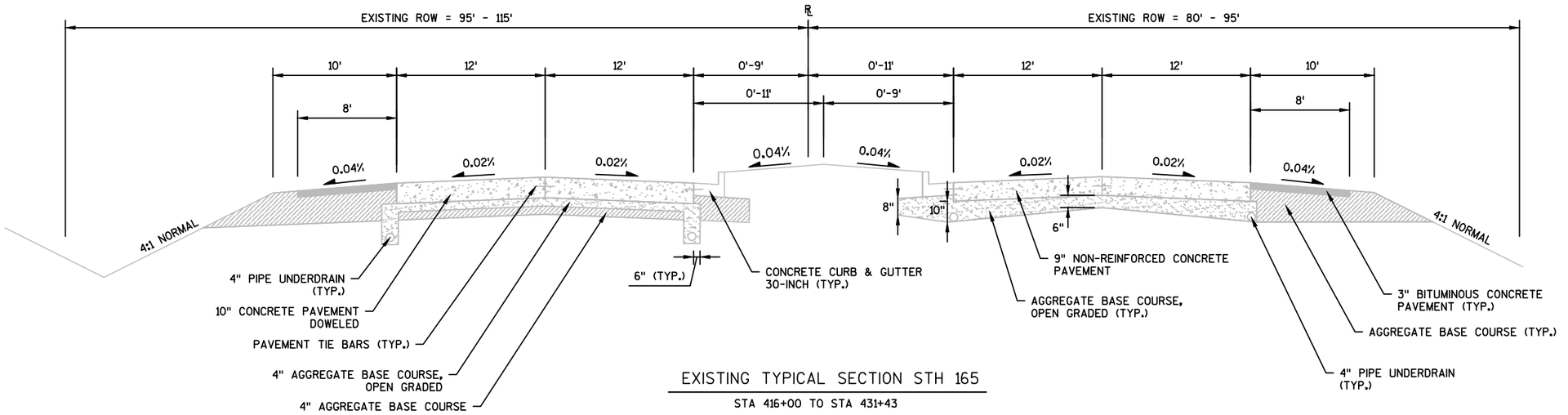
CANADIAN PACIFIC RAILROAD

VILLAGE OF PLEASANT PRAIRIE

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PROJECT OVERVIEW	SHEET 3	E

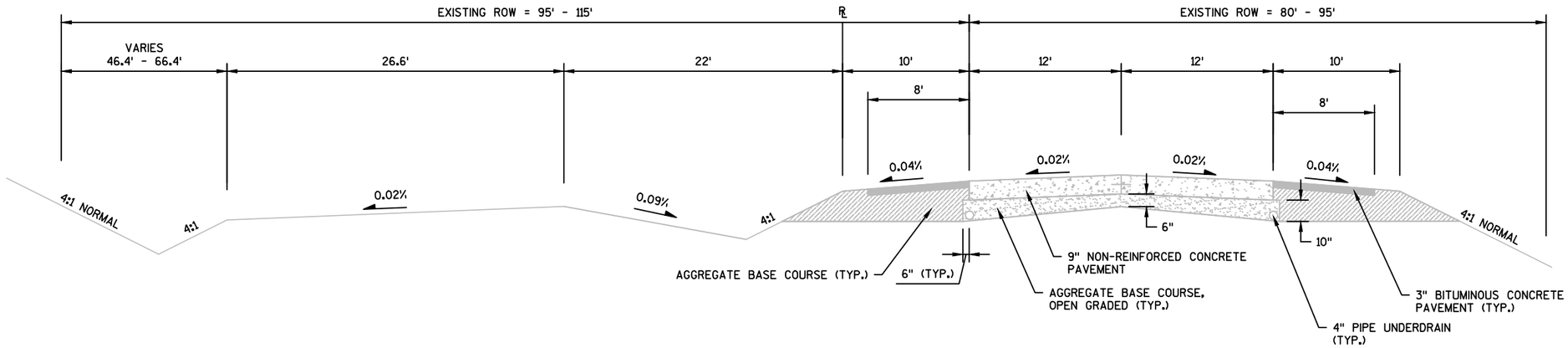
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2



EXISTING TYPICAL SECTION STH 165

STA 416+00 TO STA 431+43

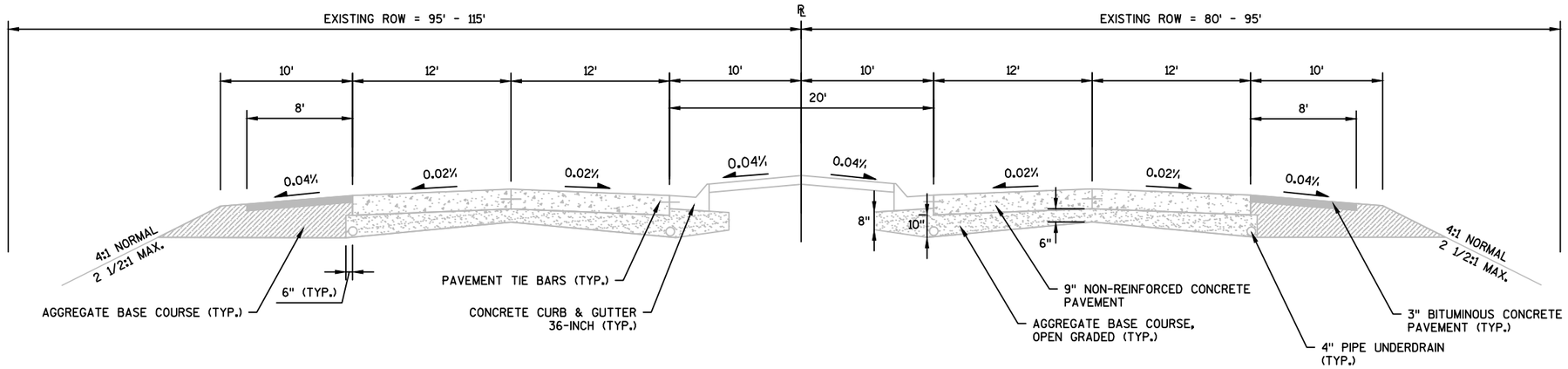


EXISTING TYPICAL SECTION STH 165

STA 431+43 TO STA 477+25

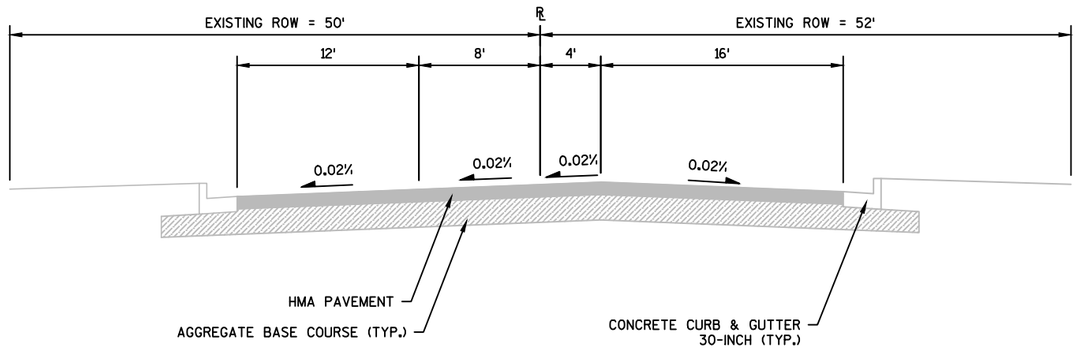
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EXISTING TYPICAL SECTION	SHEET 4	E

2



EXISTING TYPICAL SECTION STH 165

STA 477+25 TO STA 487+24

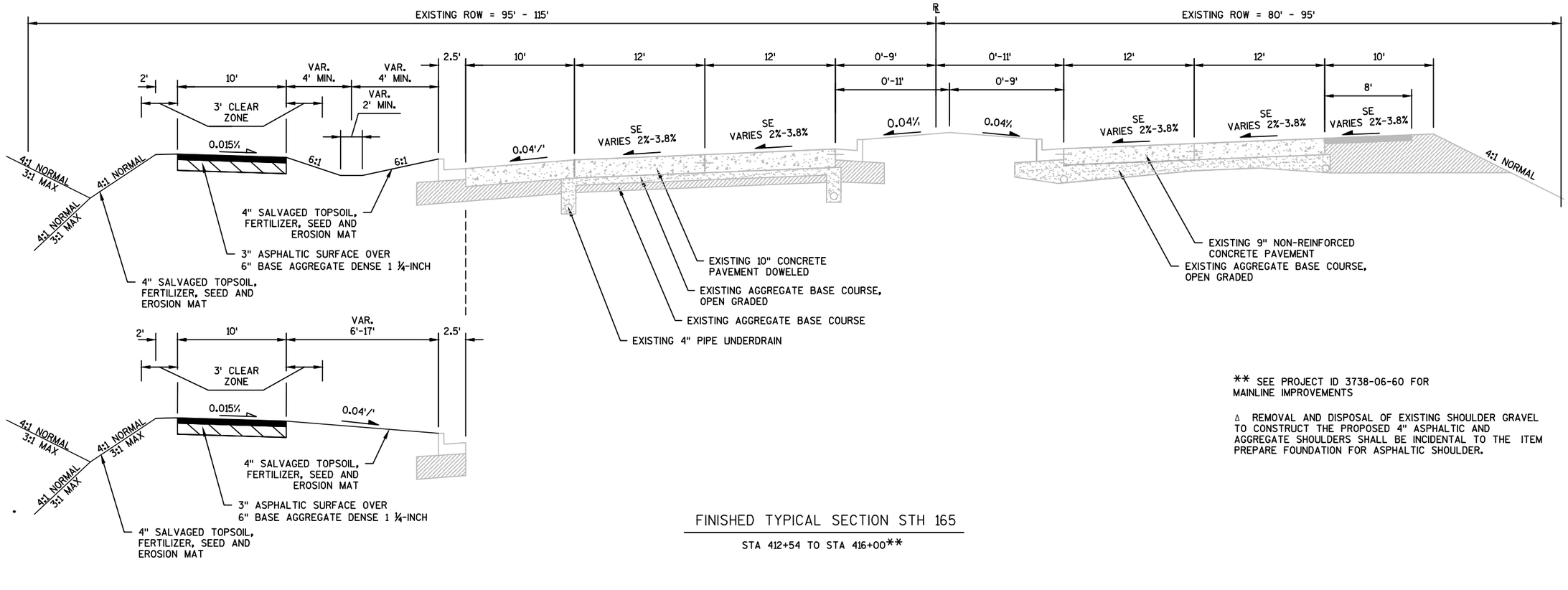


EXISTING TYPICAL SECTION TERWALL TERRACE

STA 20+45 TO STA 22+59

PROJECT NO:3738-02-73	HWY: STH 165	COUNTY:KENOSHA	EXISTING TYPICAL SECTION	SHEET 5	E

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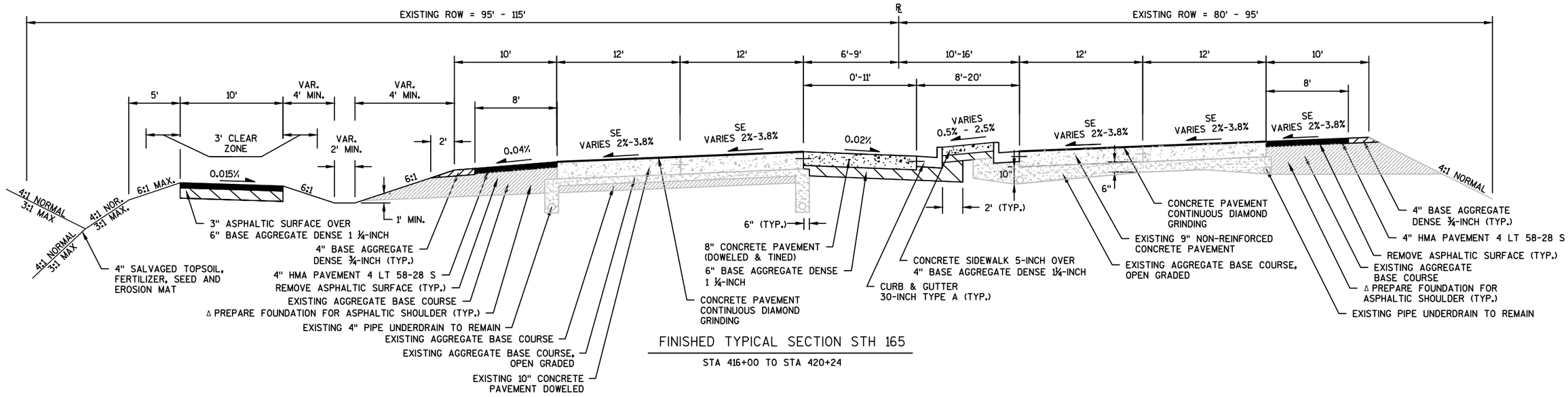


FINISHED TYPICAL SECTION STH 165

STA 412+54 TO STA 416+00**

** SEE PROJECT ID 3738-06-60 FOR MAINLINE IMPROVEMENTS

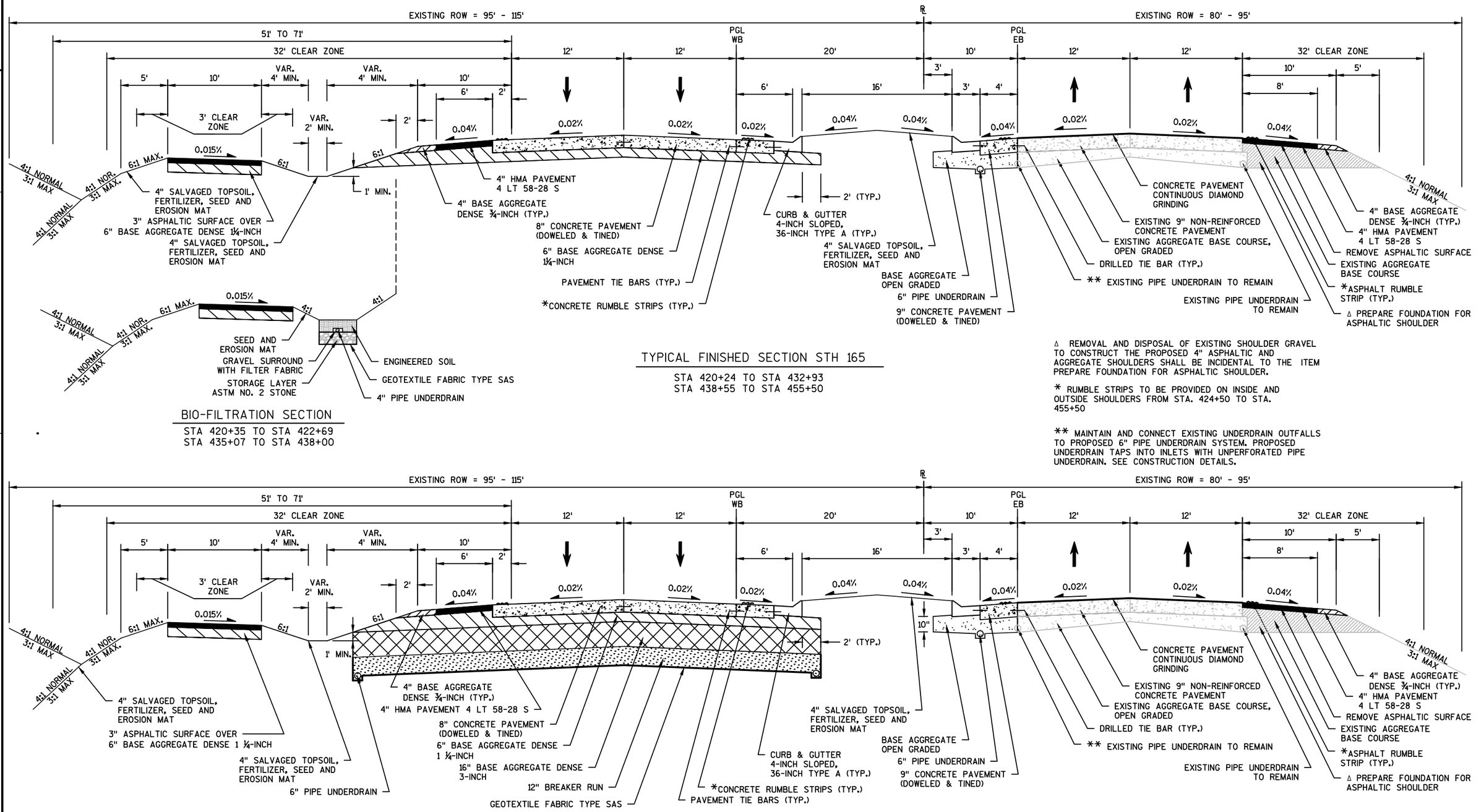
Δ REMOVAL AND DISPOSAL OF EXISTING SHOULDER GRAVEL TO CONSTRUCT THE PROPOSED 4" ASPHALTIC AND AGGREGATE SHOULDERS SHALL BE INCIDENTAL TO THE ITEM PREPARE FOUNDATION FOR ASPHALTIC SHOULDER.



FINISHED TYPICAL SECTION STH 165

STA 416+00 TO STA 420+24

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TYPICAL FINISHED SECTION	SHEET 6	E



BIO-FILTRATION SECTION

STA 420+35 TO STA 422+69
STA 435+07 TO STA 438+00

TYPICAL FINISHED SECTION STH 165

STA 420+24 TO STA 432+93
STA 438+55 TO STA 455+50

Δ REMOVAL AND DISPOSAL OF EXISTING SHOULDER GRAVEL TO CONSTRUCT THE PROPOSED 4" ASPHALTIC AND AGGREGATE SHOULDERS SHALL BE INCIDENTAL TO THE ITEM PREPARE FOUNDATION FOR ASPHALTIC SHOULDER.

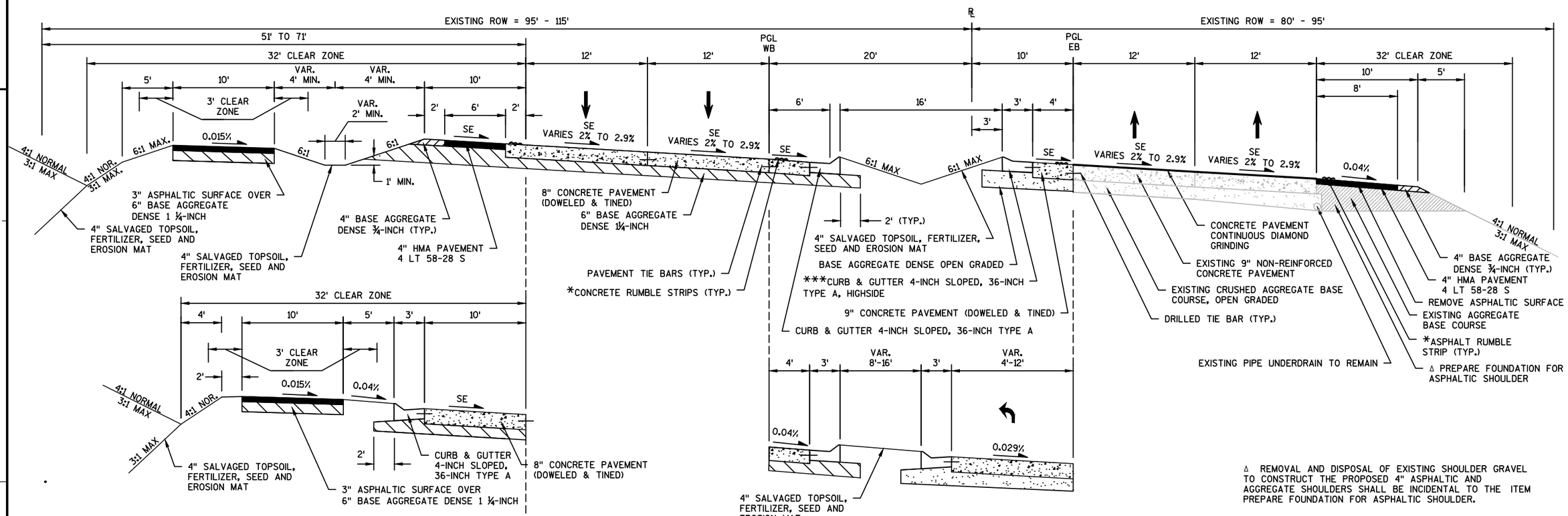
* RUMBLE STRIPS TO BE PROVIDED ON INSIDE AND OUTSIDE SHOULDERS FROM STA. 424+50 TO STA. 455+50

** MAINTAIN AND CONNECT EXISTING UNDERDRAIN OUTFALLS TO PROPOSED 6" PIPE UNDERDRAIN SYSTEM. PROPOSED UNDERDRAIN TAPS INTO INLETS WITH UNPERFORATED PIPE UNDERDRAIN. SEE CONSTRUCTION DETAILS.

TYPICAL FINISHED SECTION STH 165

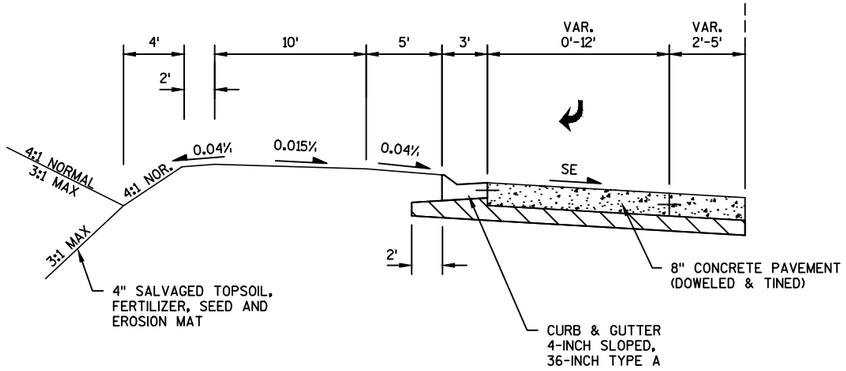
STA 432+93 TO STA 438+55

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TYPICAL FINISHED SECTION	SHEET 7	E



URBAN SHARED-USE PATH SECTION

STA 460+00 TO STA 480+54



WESTBOUND RIGHT TURN LANE

STA 480+54 TO STA 487+24

EASTBOUND LEFT TURN LANE

STA 472+68 TO STA 479+50

Δ REMOVAL AND DISPOSAL OF EXISTING SHOULDER GRAVEL TO CONSTRUCT THE PROPOSED 4" ASPHALTIC AND AGGREGATE SHOULDERS SHALL BE INCIDENTAL TO THE ITEM PREPARE FOUNDATION FOR ASPHALTIC SHOULDER.

* RUMBLE STRIPS TO BE PROVIDED ON INSIDE AND OUTSIDE SHOULDERS FROM STA. 424+50 TO STA. 455+50

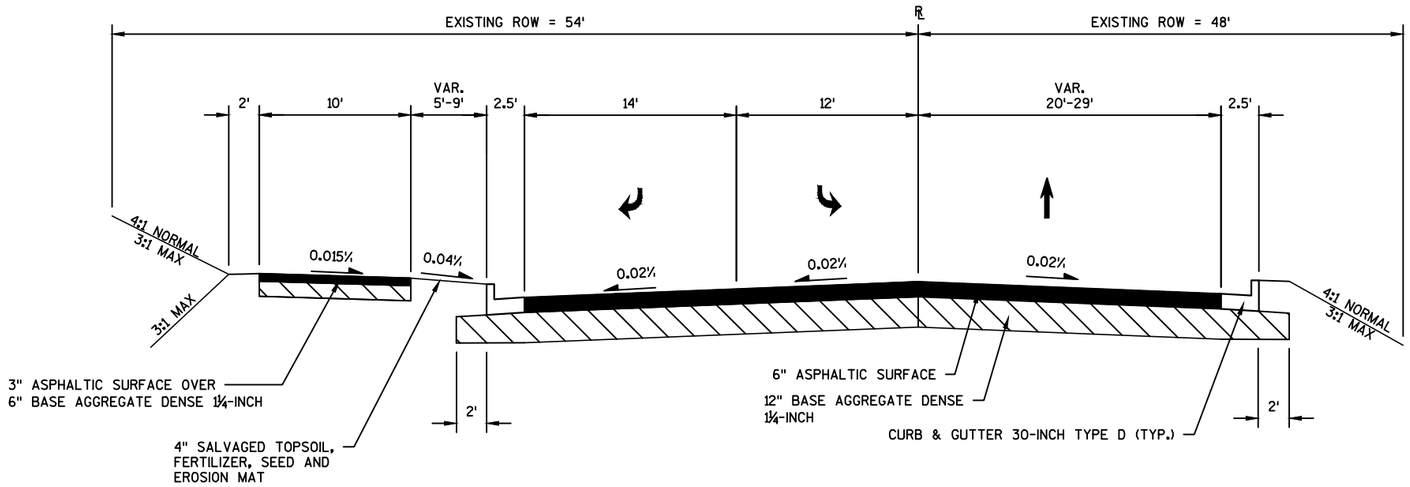
** MAINTAIN AND CONNECT EXISTING UNDERDRAIN OUTFALLS TO PROPOSED 6" PIPE UNDERDRAIN SYSTEM.

*** HIGHSIDE CURB & GUTTER FROM STA. 457+05 TO STA. 472+68 AND STA. 480+55 TO STA. 487+24

TYPICAL FINISHED SECTION STH 165

STA 455+50 TO STA 487+24

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TYPICAL FINISHED SECTION	SHEET 8	E



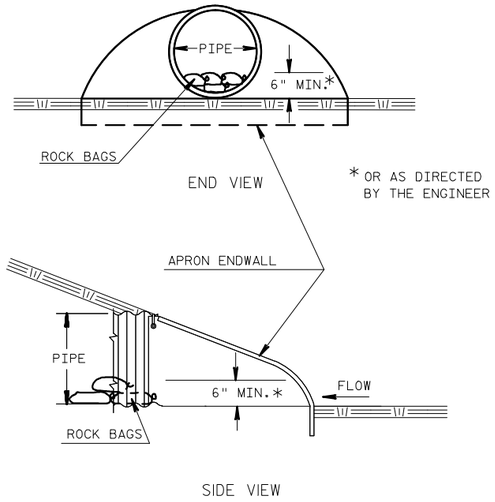
TYPICAL FINISHED SECTION TERWALL TERRACE

STA 20+00 TO STA 22+59

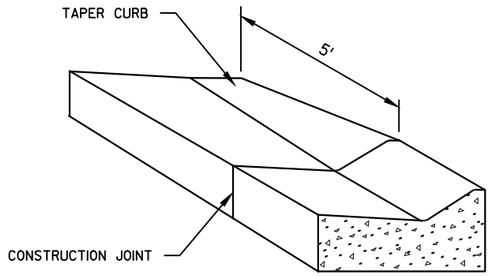
PROJECT NO:3738-02-73	HWY:STH 165	COUNTY:KENOSHA	PLAN: TYPICAL FINISHED SECTION	SHEET 9	E

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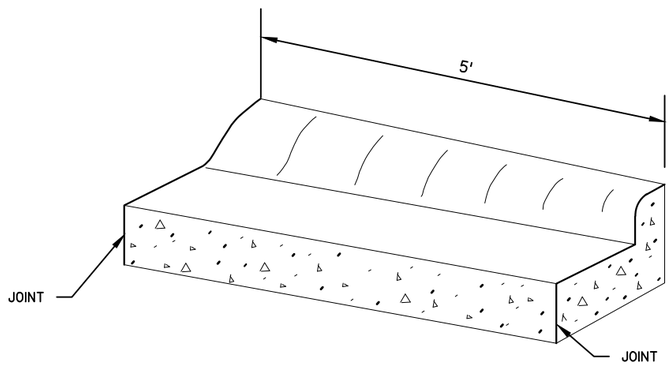
WISDOT/CADDS SHEET 42



CULVERT PIPE CHECK

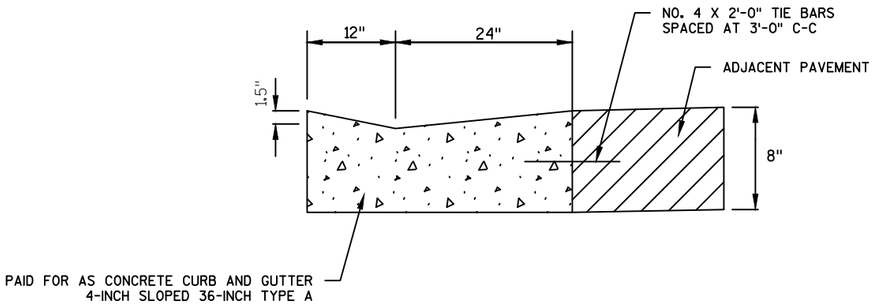


DETAIL OF CURB & GUTTER TERMINI

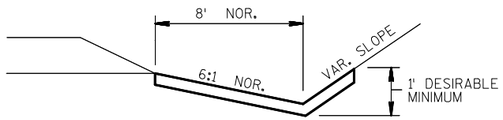


TRANSITION DETAIL

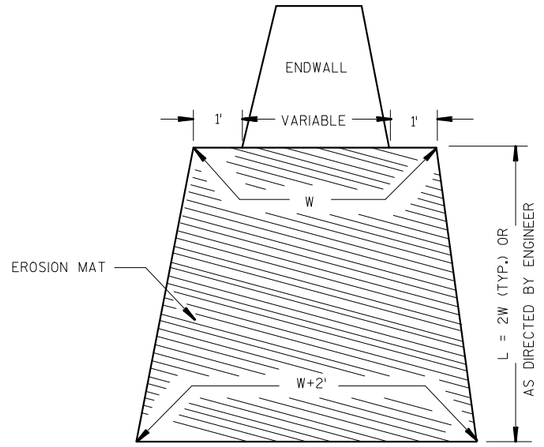
36" SLOPED TYPE CURB & GUTTER TO 30" TYPE A CURB & GUTTER
(TO BE MEASURED & PAID FOR AS CONCRETE CURB & GUTTER
4-INCH SLOPED 36" TYPE A)



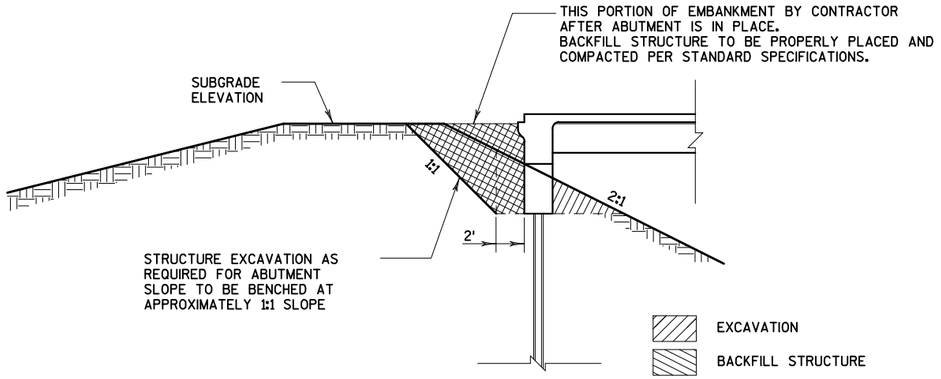
DRIVEWAY CURB HEAD AT BEAM GUARD TERMINAL



EROSION MAT DETAIL FOR DITCHES



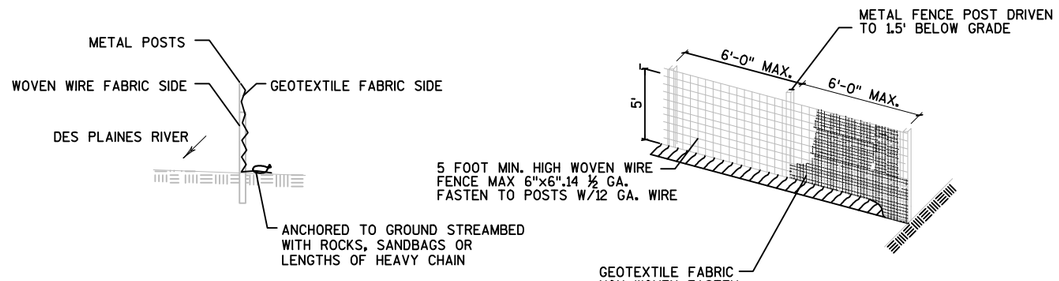
EROSION MAT TREATMENT AT CULVERTS



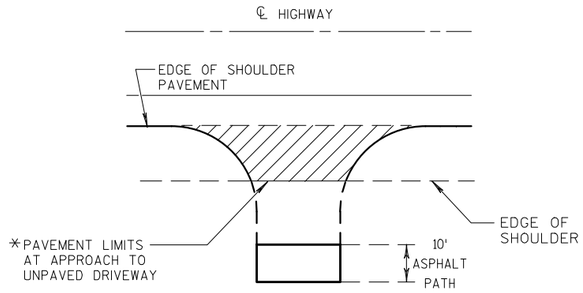
NOTE

THE EMBANKMENT CONFIGURATION SHOWN IS THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.

EMBANKMENT CONSTRUCTION & BACKFILL STRUCTURE DETAIL

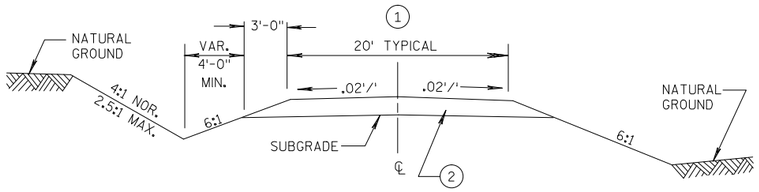


HEAVY DUTY SILT FENCE
N.T.S.

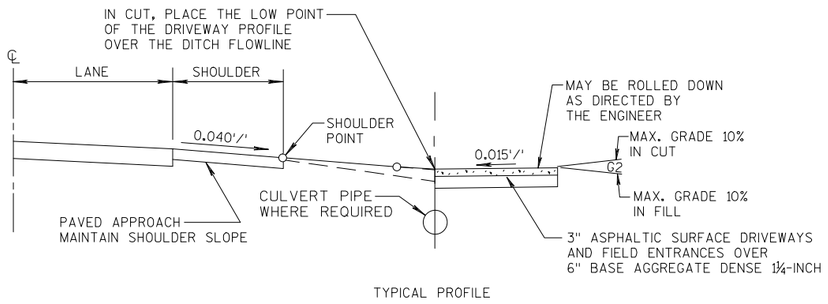


*WHERE DRIVEWAY IS PAVED. APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT. USE 3" ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES WITH 6" BASE AGGREGATE DENSE 1¼-INCH.

PLAN VIEW

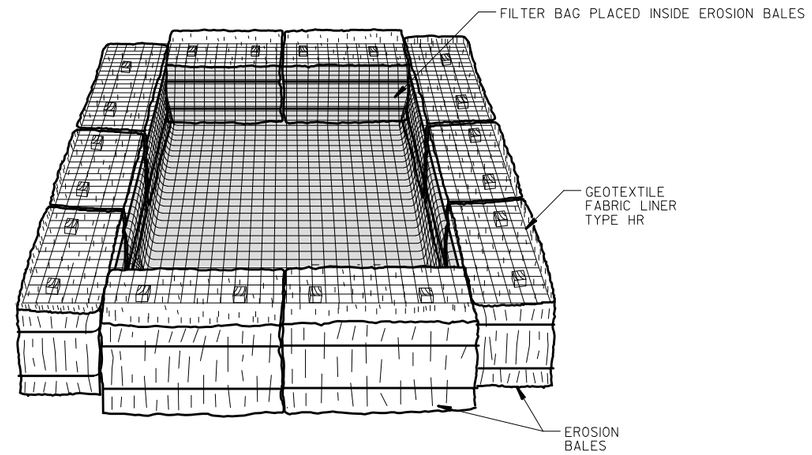


TYPICAL CROSS SECTION



TYPICAL PROFILE

DRIVEWAY DETAIL



(SIZE TO BE DETERMINED IN FIELD AS INDICATED BELOW:)

STORAGE VOLUME (C.F.) = 16 X GPM (PUMP RATE)

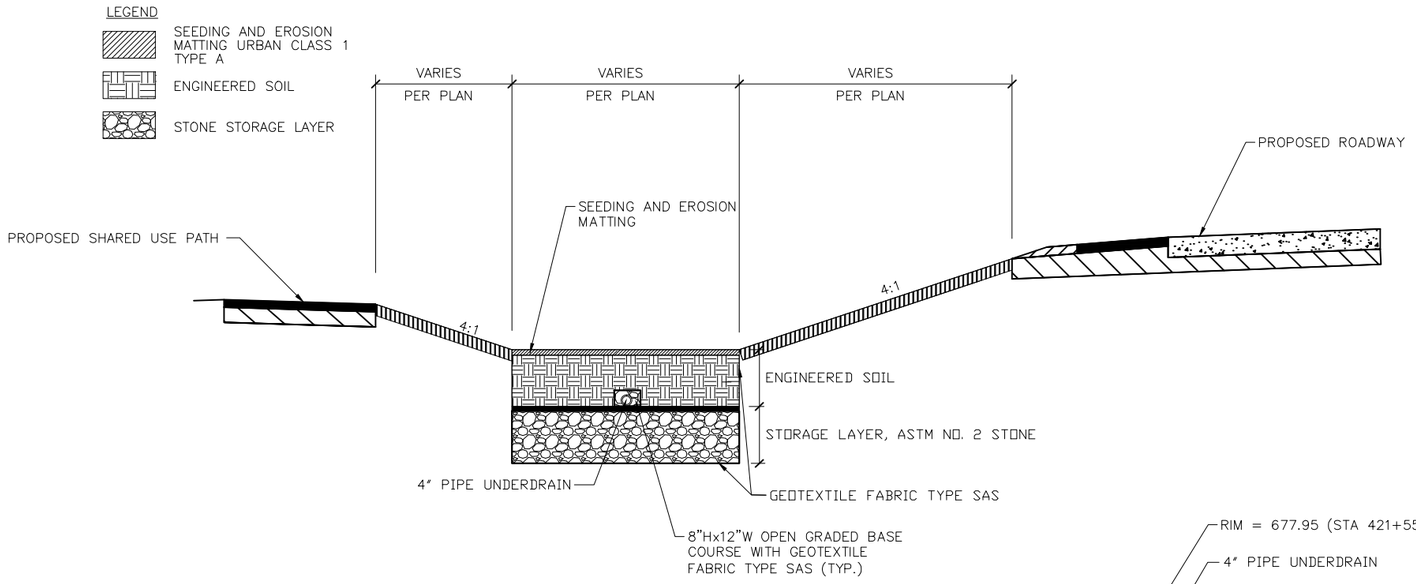
EXAMPLE:
CONTRACTOR INDICATES PUMP CAPABLE OF 50 GPM
HEIGHT OF BALES = 1.5 FT.

SOLUTION:
SV (C.F.) = 16 X 50
SV = 800 C.F.

$\frac{800\ C.F.}{1.5\ FT.}$ = 533 S.F.

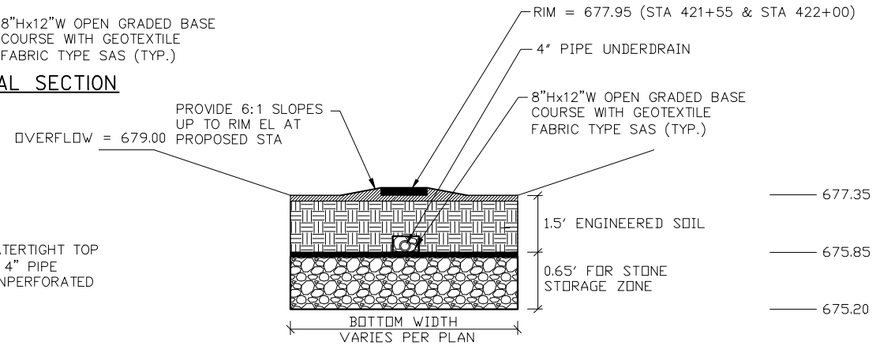
USE A 20 FT. X 27 FT. BASIN

TEMPORARY SETTLING BASIN



BIO-FILTRATION TYPICAL SECTION

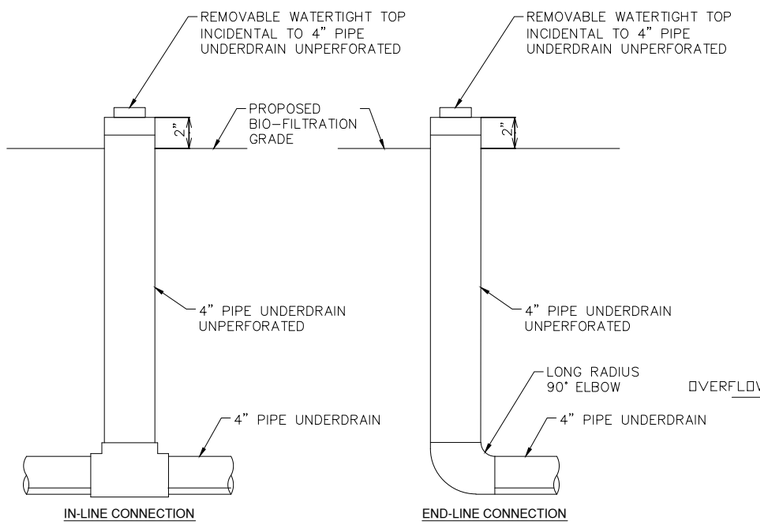
N.T.S.



BIO-FILTRATION TYPICAL SECTION

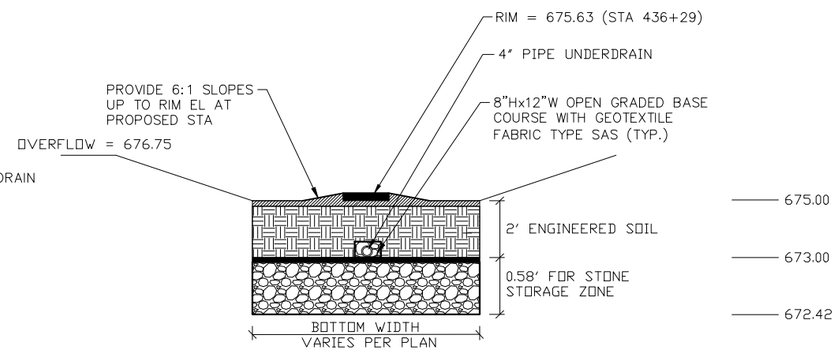
STA 420+35 TO STA 422+69

N.T.S.



BIO-FILTRATION BASIN CLEANOUT DETAIL

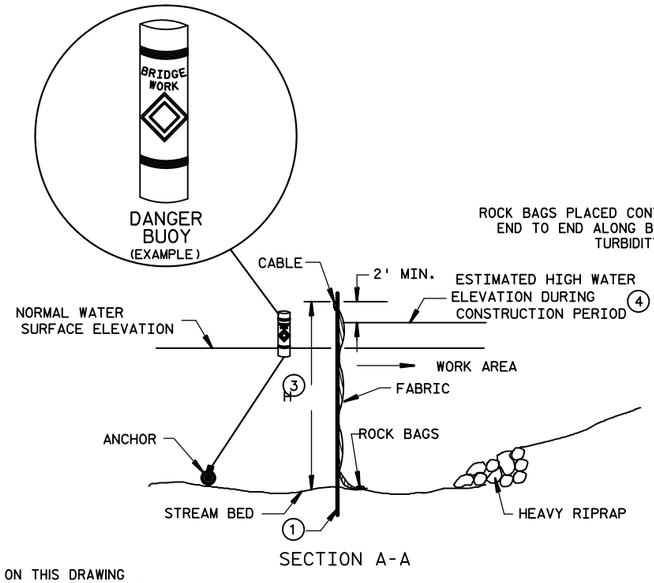
N.T.S.



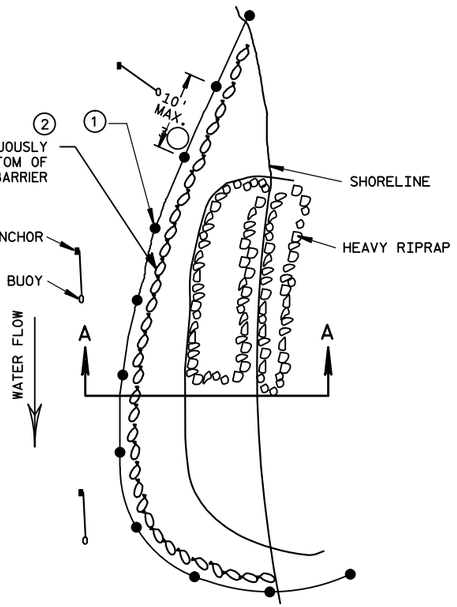
BIO-FILTRATION TYPICAL SECTION

STA 435+07 TO STA 438+00

N.T.S.



SECTION A-A



PLAN VIEW

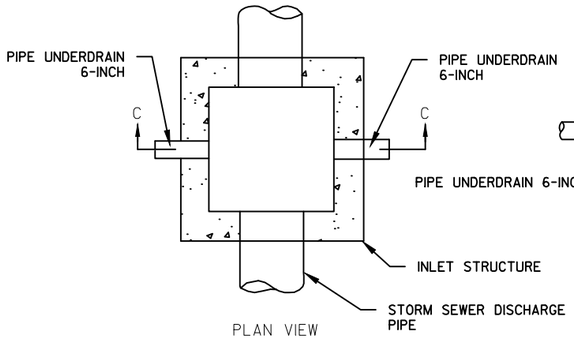
TURBIDITY BARRIER DETAIL

GENERAL NOTES

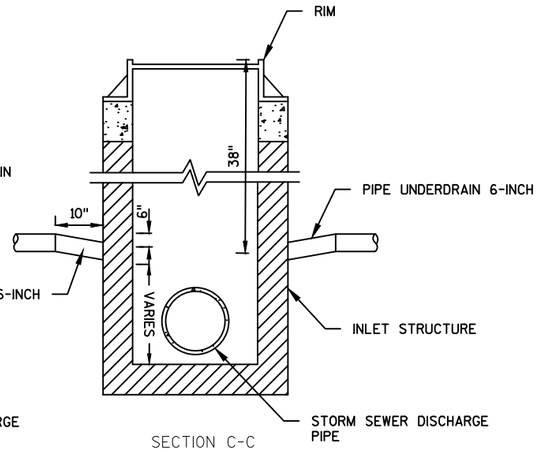
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION. WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

1. DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
2. SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
3. WHEN BARRIER HEIGHT, H, EXCEEDS 8FT., POST SPACING MAY NEED TO BE DECREASED.
4. IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
5. ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
6. FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
7. ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
8. USE AS DIRECTED BU COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

UNDERDRAIN OUTFALL AT INLET

NOTES:

1. CONNECTS TO INLETS OR MANHOLES IN MEDIAN SHALL USE PIPE UNDERDRAIN, 6-INCH

2. PROVIDE TWO 6" DIA. OPENINGS FOR UNDERDRAIN PIPE A MINIMUM OF 38" BELOW THE RIM ELEVATION.

3. SEE MISCELLANEOUS QUANTITIES FOR PIPE UNDERDRAIN LOCATIONS.

4. PIPE UNDERDRAIN ONLY REQUIRED ON HIGH SIDE OF INLET IN SLOPED CONDITION.

5. PIPE UNDERDRAIN REQUIRED ON BOTH SIDES OF INLET IN SAG CONDITION.

LEGEND

- PROPOSED STORM SEWER
- SS EXISTING STORM SEWER
- PROPOSED STORM INLET
- PROPOSED STORM OUTFALL
- PROPOSED CLEANOUT
- PROPOSED UNDERDRAIN

POINT	STATION	OFFSET	ELEV (FT)	COMMENT
1	420+35	57.6' LT	677.35	EDGE OF BIO-FILTRATION BASIN
2	420+35	63.3' LT	677.35	EDGE OF BIO-FILTRATION BASIN
3	420+57	64.0' LT	677.35	EDGE OF BIO-FILTRATION BASIN
4	422+69	64.0' LT	677.35	EDGE OF BIO-FILTRATION BASIN
5	422+69	59.1' LT	677.35	EDGE OF BIO-FILTRATION BASIN
6	421+55	62.6' LT	677.95	STORM STRUCTURE #17
7	422+00	62.5' LT	677.95	STORM STRUCTURE #25

NOTES

1. SEE CONSTRUCTION DETAILS FOR ADDITIONAL BIO-FILTRATION LAYOUT INFORMATION
2. SEE STORM SEWER PLAN FOR CONNECTING PROPOSED STRUCTURES TO STORM SEWER
3. THE CONTRACTOR SHALL CONTACT CRAIG WEBSTER AT THE WISCONSIN DNR AT (262) 574-2141 AND HANS HALLANGER FROM WISDOT AT (262) 548-6706 FIVE (5) DAYS PRIOR TO THE SCHEDULED CONSTRUCTION OF THE BIO-FILTRATION AREAS

N

WETLAND BOUNDARY

EX. R/W

10' OUTLOT

EX. R/W

10' SHARED USE PATH

1 4" CLEANOUT 4" I.E. 677.60

2

3

126' OF 4-INCH UNDERDRAIN @ 0.0%

6 4" CLEANOUT 4" I.E. 677.60

7 101' OF 4-INCH UNDERDRAIN @ 0.0%

4 4" CLEANOUT 4" I.E. 677.60

5

STH 165 WB

420+00

421+00

422+00

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CONSTRUCTION DETAIL - BIO-FILTRATION BASIN	SHEET 16	E

LEGEND

- PROPOSED STORM SEWER
- SS EXISTING STORM SEWER
- PROPOSED STORM INLET
- PROPOSED STORM OUTFALL
- PROPOSED CLEANOUT
- PROPOSED UNDERDRAIN

POINT	STATION	OFFSET	ELEV (FT)	COMMENT
1	435+07	65.1' LT	675.85	EDGE OF BIO-FILTRATION BASIN
2	435+07	70.1' LT	675.85	EDGE OF BIO-FILTRATION BASIN
3	438+00	72.5' LT	675.85	EDGE OF BIO-FILTRATION BASIN
4	438+00	64.3' LT	675.85	EDGE OF BIO-FILTRATION BASIN
5	436+30	66.6' LT	675.63	STORM STRUCTURE #35

NOTES

1. SEE CONSTRUCTION DETAILS FOR ADDITIONAL BIO-FILTRATION LAYOUT INFORMATION
2. SEE STORM SEWER PLAN FOR CONNECTING PROPOSED STRUCTURES TO STORM SEWER

N

WETLAND BOUNDARY

EX. R/W

EX. R/W

10' OUTLOT

10' SHARED USE PATH

4" CLEANOUT
4" I.E. 676.10

292' OF 4-INCH
UNDERDRAIN @ 0.0%

4" CLEANOUT
4" I.E. 676.10

6-INCH PIPE UNDERDRAIN UNPERFORATED

6-INCH PIPE UNDERDRAIN

STH 165 WB

STH 165 EB

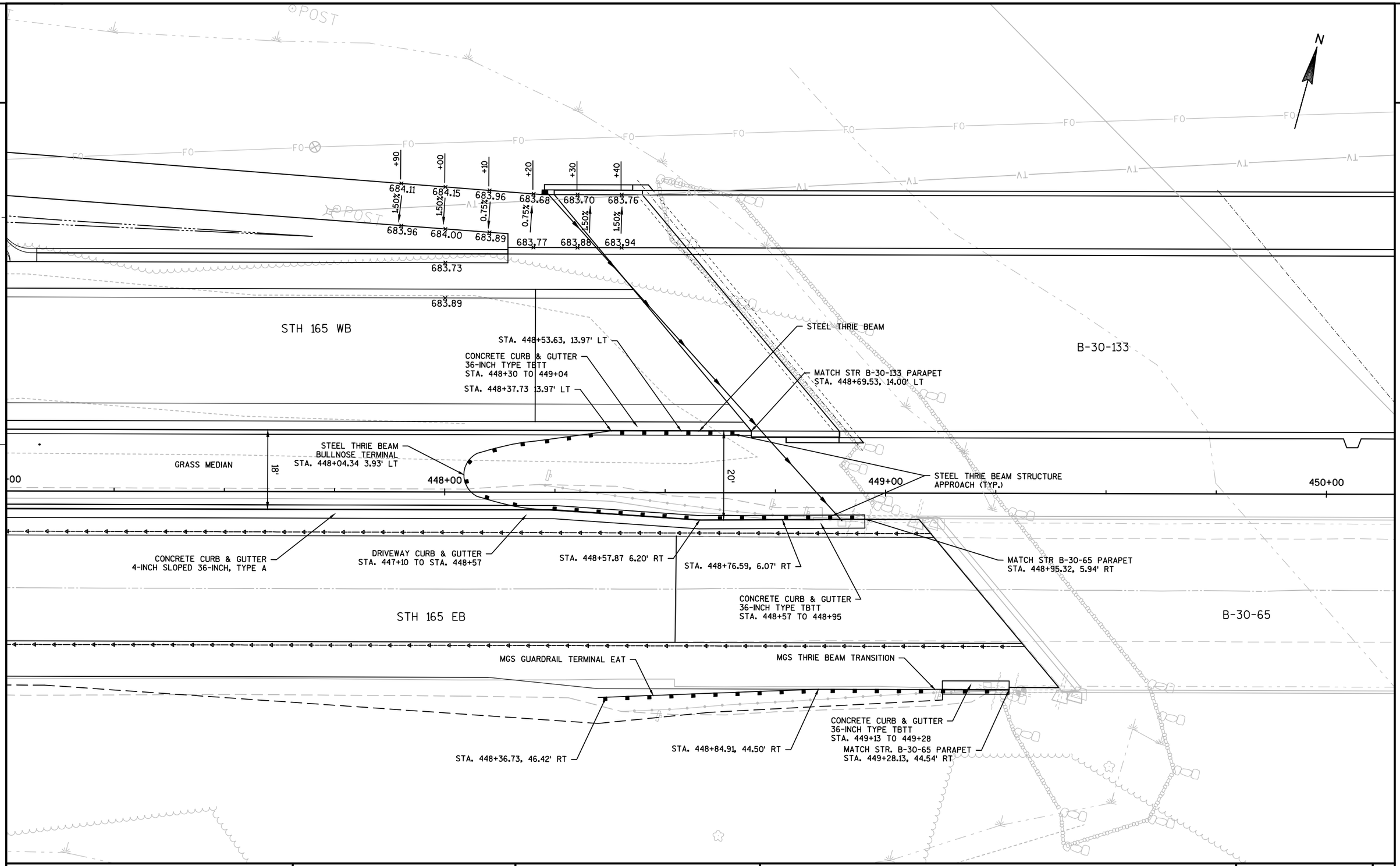
435+00

436+00

437+00

438+00

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CONSTRUCTION DETAIL - BIO-FILTRATION BASIN	SHEET 17	E



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CONSTRUCTION DETAIL - STH 165 BEAM GUARD	SHEET 18	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021003_CD.DWG PLOT DATE : 4/11/2016 10:43 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 42

2

N

+10 685.47
+20 685.55
+30 685.60
+40 685.63
+50 685.67
+60 685.72
+70 685.76

1.50%
1.50%
0.75%
0.75%
1.50%
1.50%

685.73
685.78
685.71
685.60
685.57
685.61

MGS GUARDRAIL 3

MGS GUARDRAIL TERMINAL EAT

MGS THRIE BEAM TRANSITION

STA. 452+27.25, 54.00' LT

STA. 452+75.66, 55.94' LT

B-30-133

MATCH STR B-30-133 PARAPET
STA. 451+37.51, 54.00' LT

MATCH STR B-30-133 PARAPET
STA. 451+72.71, 14.00' LT

STA. 451+87.08, 14.00' LT

CONCRETE CURB & GUTTER
36-INCH TYPE TBTT
STA. 451+73 TO STA. 451+87

STA. 452+24.49, 11.77' LT

DRIVEWAY CURB & GUTTER
STA. 451+87 TO STA. 453+24

STH 165 WB

STEEL THRIE BEAM STRUCTURE
APPROACH (TYP.)

451+00

452+00

20'

STEEL THRIE BEAM
BULLNOSE TERMINAL
STA. 452+40.32, 4.11' LT

GRASS MEDIAN

453+00

18'

MATCH STR B-30-65 PARAPET
STA. 451+82.49, 6.04' RT

STEEL THRIE BEAM
STA. 451+94.73, 6.04" RT

B-30-65

STA. 452+06.97, 6.04' RT

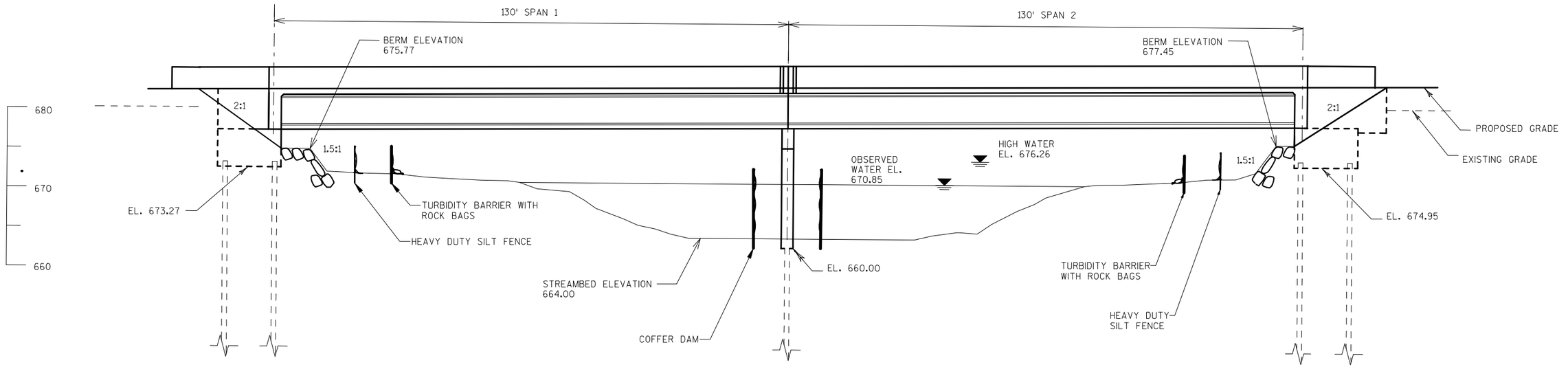
CONCRETE CURB & GUTTER
36-INCH TYPE TBTT
STA. 451+82 TO STA. 452+35

CONCRETE CURB & GUTTER
4-INCH SLOPED 36-INCH, TYPE A

STH 165 EB

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CONSTRUCTION DETAIL - STH 165 BEAM GUARD	SHEET 19	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021003_CD.DWG PLOT DATE : 4/11/2016 10:43 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1:20_XREF



EROSION CONTROL ELEVATION

LOOKING NORTH AT STR B-30-133

LEGEND

- CONCRETE PAVEMENT REPAIR
- REMOVING PAVEMENT
- REMOVING ASPHALTIC SURFACE
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING CONCRETE SIDEWALK
- CLEARING AND GRUBBING AREA
- X CLEARING AND GRUBBING INDIVIDUAL TREE
- REMOVING CURB & GUTTER
- SAWING CONCRETE
- SAWING ASPHALT
- FENCE SAFETY

N

REMOVE CONCRETE SURFACE DRAIN

SLOPE INTERCEPT (TYP.)

STA. 417+82 80' LT

STA. 418+30 80' LT

STA. 418+56 84' LT

STA. 419+10 86' LT

STA. 419+23 86' LT

STA. 419+45 83' LT

STA. 419+81 85' LT

STA. 420+00

STA. 418+00

406+00 407+00 408+00 409+00 410+00 411+00 412+00 413+00 414+00 415+00 416+00 417+00 418+00 419+00 420+00

MATCHLINE STA. 420+00

STH 165 WB

STH 165 EB

STA. 416+24

STA. 419+43

120TH AVENUE

CORPORATE DRIVE

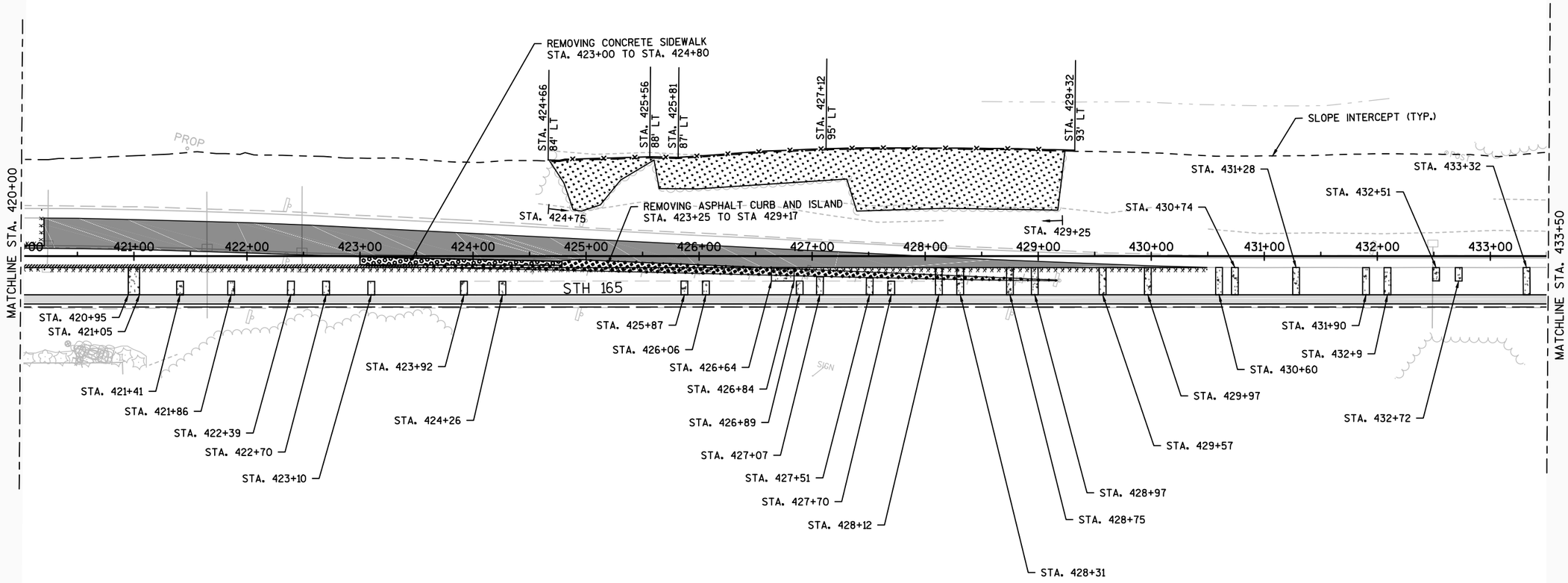
GENERAL NOTES

1. BASE PATCHING, PAVEMENT REPLACEMENT, SIDEWALK REPLACEMENT, AND CURB & GUTTER REMOVAL LOCATIONS SHOWN ON THIS PLAN SHALL BE FIELD VERIFIED WITH THE ENGINEER PRIOR TO REMOVAL
2. CURB AND GUTTER REMOVALS SHALL BE SAWCUT OR REMOVED TO THE NEAREST JOINT AS DIRECTED BY THE ENGINEER
3. BASE PATCH WIDTHS SHALL BE 6' MINIMUM OR AS SHOWN ON THE PLANS
4. STATION/OFFSET INFORMATION FOR REMOVALS IS APPROXIMATE. REMOVALS SHALL BE TAKEN TO THE NEAREST JOINT AND/OR SAWCUT AS DIRECTED BY THE ENGINEER.

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	REMOVAL PLAN	SHEET 21	E

LEGEND

- CONCRETE PAVEMENT REPAIR
- REMOVING PAVEMENT
- REMOVING ASPHALTIC SURFACE
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING CONCRETE SIDEWALK
- CLEARING AND GRUBBING AREA
- X — CLEARING AND GRUBBING INDIVIDUAL TREE
- REMOVING CURB & GUTTER
- SAWING CONCRETE
- SAWING ASPHALT
- FENCE SAFETY



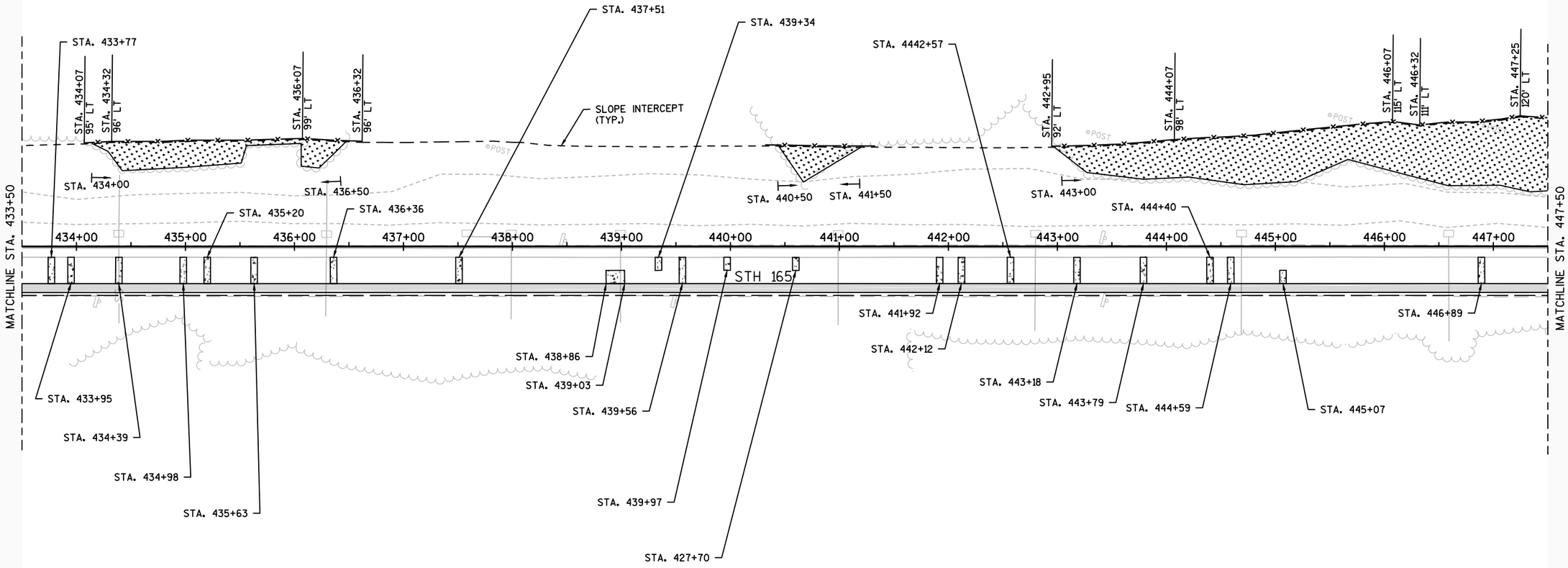
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PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	REMOVAL PLAN	SHEET 22	E

LEGEND

- CONCRETE PAVEMENT REPAIR
- REMOVING PAVEMENT
- REMOVING ASPHALTIC SURFACE
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING CONCRETE SIDEWALK
- CLEARING AND GRUBBING AREA
- X CLEARING AND GRUBBING INDIVIDUAL TREE
- REMOVING CURB & GUTTER
- SAWING CONCRETE
- SAWING ASPHALT
- FENCE SAFETY



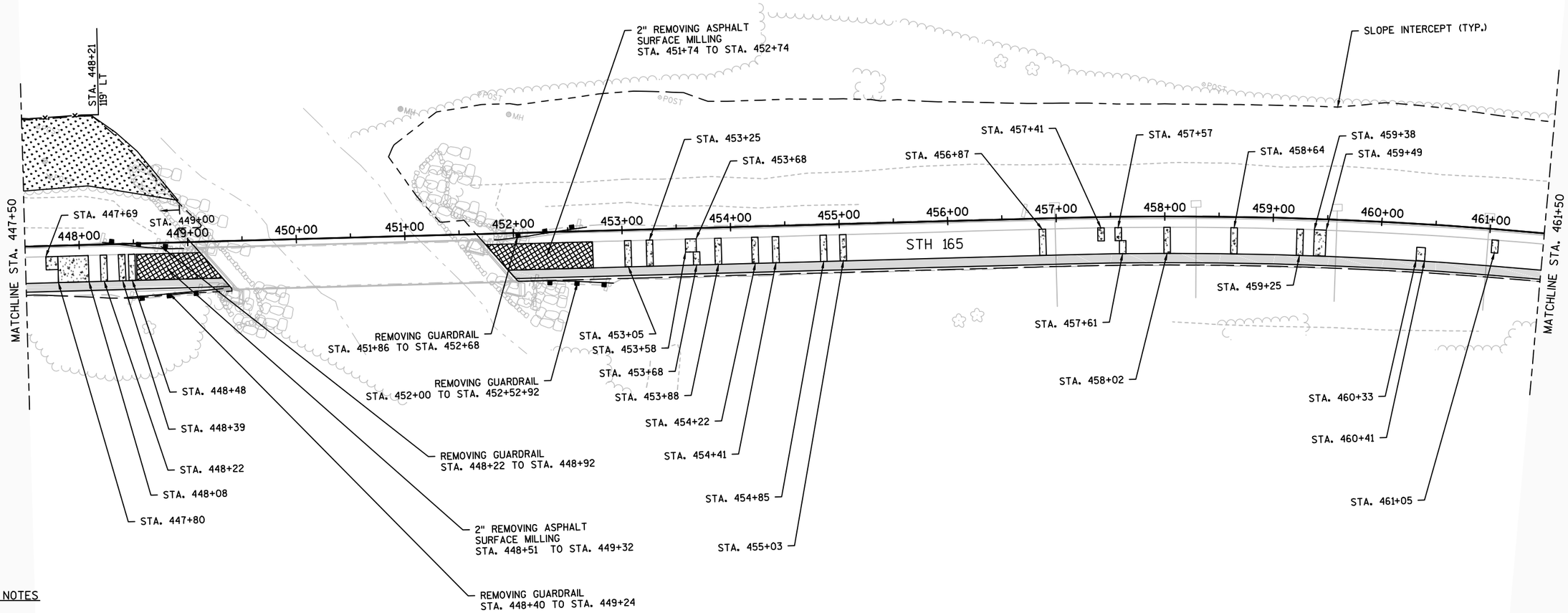
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PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	REMOVAL PLAN	SHEET 23	E

LEGEND

- CONCRETE PAVEMENT REPAIR
- REMOVING PAVEMENT
- REMOVING ASPHALTIC SURFACE
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING CONCRETE SIDEWALK
- CLEARING AND GRUBBING AREA
- X — CLEARING AND GRUBBING INDIVIDUAL TREE
- REMOVING CURB & GUTTER
- SAWING CONCRETE
- SAWING ASPHALT
- FENCE SAFETY



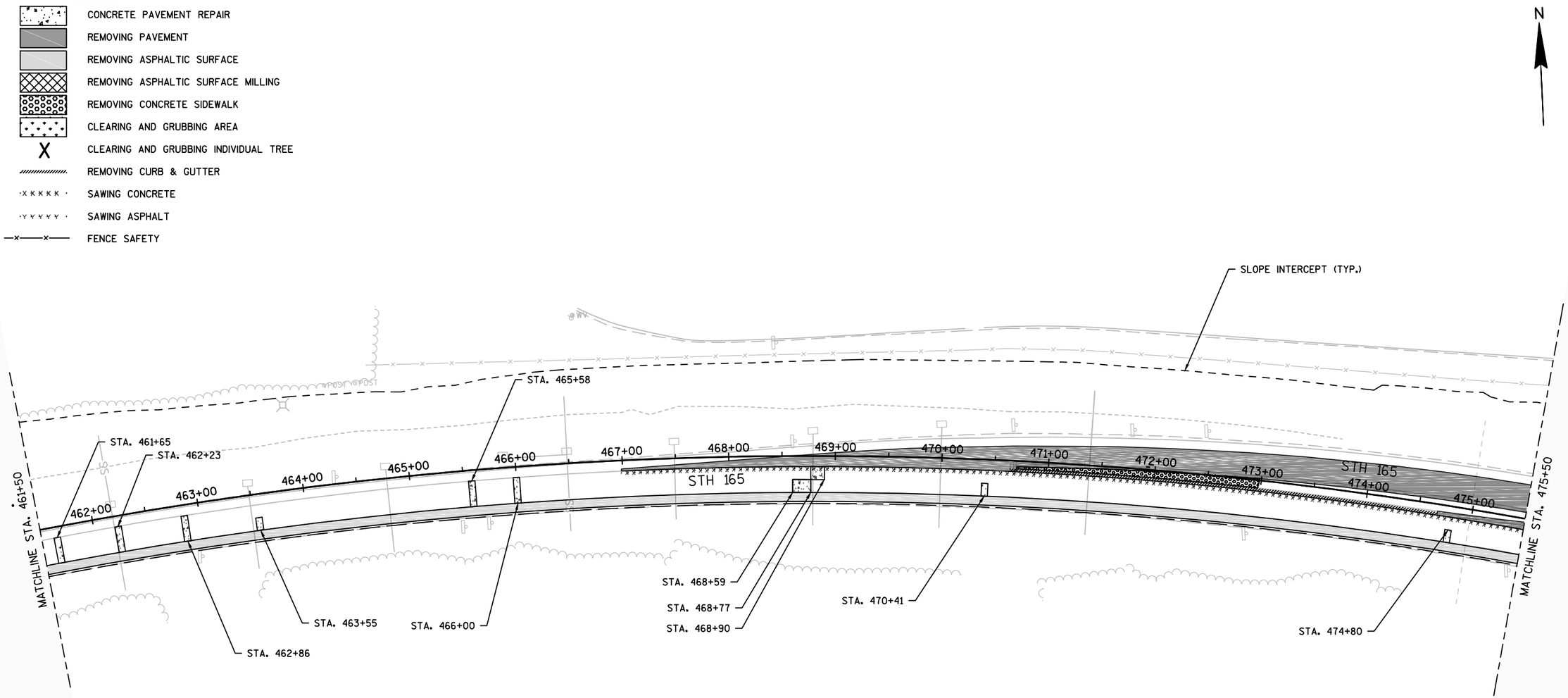
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PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	REMOVAL PLAN	SHEET 24	E

LEGEND

- CONCRETE PAVEMENT REPAIR
- REMOVING PAVEMENT
- REMOVING ASPHALTIC SURFACE
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING CONCRETE SIDEWALK
- CLEARING AND GRUBBING AREA
- CLEARING AND GRUBBING INDIVIDUAL TREE
- REMOVING CURB & GUTTER
- SAWING CONCRETE
- SAWING ASPHALT
- FENCE SAFETY



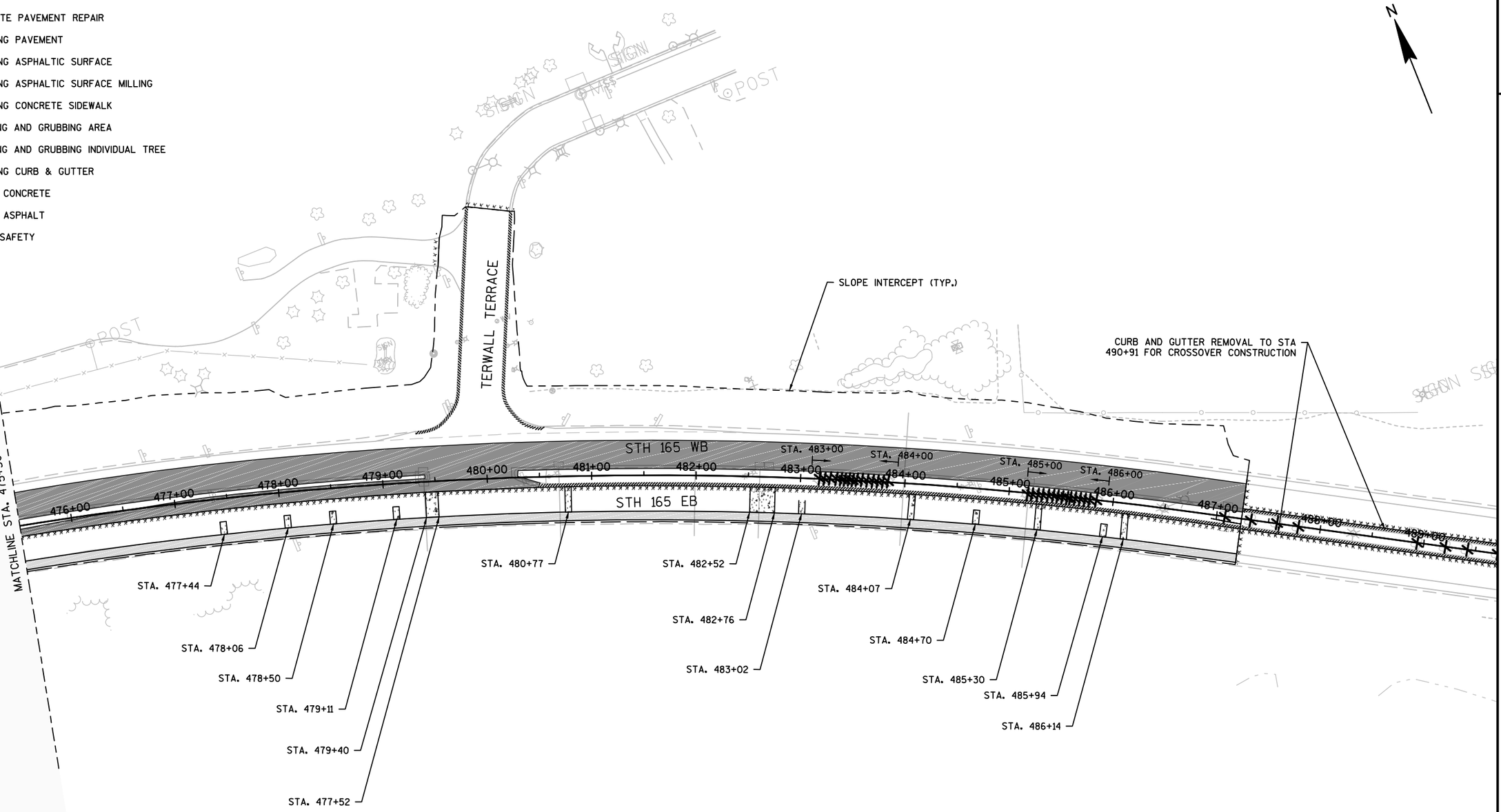
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PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	REMOVAL PLAN	SHEET 25	E

LEGEND

- CONCRETE PAVEMENT REPAIR
- REMOVING PAVEMENT
- REMOVING ASPHALTIC SURFACE
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING CONCRETE SIDEWALK
- CLEARING AND GRUBBING AREA
- X — CLEARING AND GRUBBING INDIVIDUAL TREE
- REMOVING CURB & GUTTER
- SAWING CONCRETE
- SAWING ASPHALT
- FENCE SAFETY



GENERAL NOTES

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PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	REMOVAL PLAN	SHEET 26	E

2

N

WISPARK LLC

CP 502

EX. R/W

SLOPE INTERCEPT (TYP.)

EX. R/W

BEGIN CONSTRUCTION 3738-02-73
STA. 411+33.80

STH 165 WB

STH 165 EB

120TH AVENUE

MATCHLINE STA. 415+50

410+00 411+00 412+00 413+00 414+00 415+00

10'

109'

25'

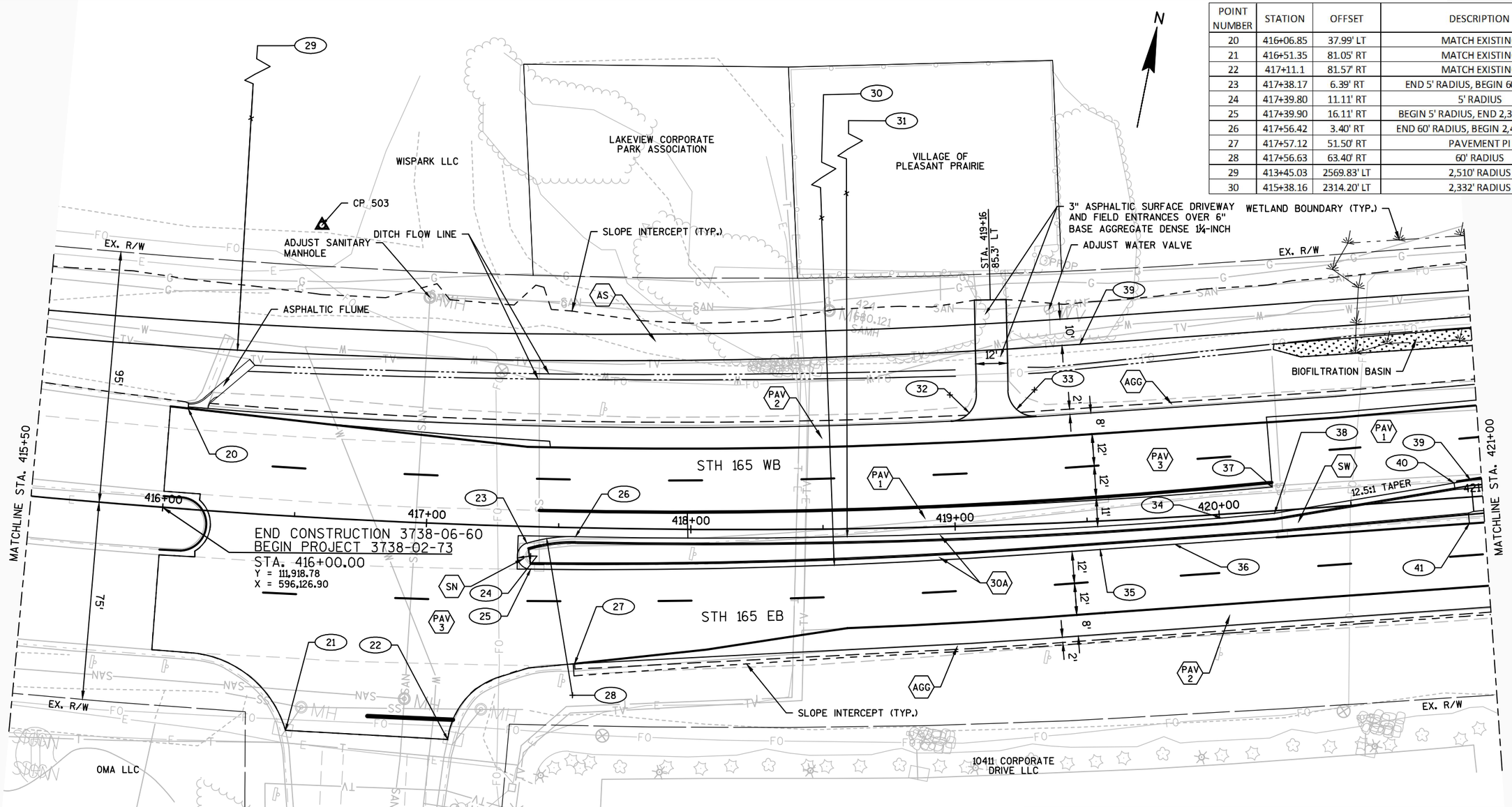
POINT NUMBER	STATION	OFFSET	DESCRIPTION
1	411+33.26	73.93' LT	BEGIN PATH
2	411+33.47	63.93' LT	BEGIN PATH
3	411+57.71	69.44' LT	CENTER OF CURB RAMP
4	412+13.60	94.24' LT	BEGIN SIDEWALK
5	412+13.48	80.95' LT	5' RADIUS
6	412+52.59	70.94' LT	CENTER OF CURB RAMP
7	412+72.21	75.94' LT	BEGIN 32' RADIUS
8	412+95.52	98.59' LT	32' RADIUS
9	412+80.88	69.91' LT	END 32' RADIUS
10	412+81.53	50.48' LT	CENTER OF CURB RAMP
11	412+81.79	2.72' LT	CENTER OF CURB RAMP
12	412+81.82	15.00' RT	CENTER OF CURB RAMP
13	412+77.27	71.13' RT	BEGIN PATH
14	412+87.03	71.08' RT	BEGIN PATH
15	412+82.10	53.80' RT	CENTER OF CURB RAMP

LEGEND

36A	CONCRETE CURB AND GUTTER TYPE SIZE (INCHES)
AS	ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
SN	CONCRETE MEDIAN SLOPED NOSE TYPE 1
AGG	4" BASE AGGREGATE DENSE ¾-INCH
CRX	CURB RAMP TYPE X
PAV 1	8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
PAV 2	4" HMA PAVEMENT 4 LT 58-28 S
PAV 3	CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
PAV 4	CONCRETE PAVEMENT APPROACH SLAB
PAV 5	9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
SW	CONCRETE SIDEWALK 5-INCH

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAIL	SHEET 27	E

POINT NUMBER	STATION	OFFSET	DESCRIPTION
20	416+06.85	37.99' LT	MATCH EXISTING
21	416+51.35	81.05' RT	MATCH EXISTING
22	417+11.1	81.57' RT	MATCH EXISTING
23	417+38.17	6.39' RT	END 5' RADIUS, BEGIN 60' RADIUS
24	417+39.80	11.11' RT	5' RADIUS
25	417+39.90	16.11' RT	BEGIN 5' RADIUS, END 2,332' RADIUS
26	417+56.42	3.40' RT	END 60' RADIUS, BEGIN 2,447' RADIUS
27	417+57.12	51.50' RT	PAVEMENT PI
28	417+56.63	63.40' RT	60' RADIUS
29	413+45.03	2569.83' LT	2,510' RADIUS
30	415+38.16	2314.20' LT	2,332' RADIUS



POINT NUMBER	STATION	OFFSET	DESCRIPTION
31	417+40.08	2443.59' LT	2,447' RADIUS
32	418+99.44	49.87' LT	10' RADIUS
33	419+32.02	50.69' LT	10' RADIUS
34	420+00.78	1.37' RT	CURB & GUTTER PI
35	419+54.40	10.77' RT	BEGIN 2,332' RADIUS
36	419+82.58	10.56' RT	CURB & GUTTER PI
37	420+20.74	9.05' LT	PAVEMENT PI, BEGIN RECONSTRUCTION
38	420+20.91	0.95' RT	END 12.5:1 TAPER
39	420+95.78	6.35' LT	BEGIN 12.5:1 TAPER
40	420+89.44	5.74' LT	END 30" C&G, BEGIN 36" C&G
41	420+94.14	10.00' RT	END 30" C&G, BEGIN 36" C&G

LEGEND

- 36A — CONCRETE CURB AND GUTTER TYPE SIZE (INCHES)
- AS — ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
- SN — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- AGG — 4" BASE AGGREGATE DENSE ¾-INCH
- CRX — CURB RAMP TYPE X
- PAV 1 — 8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
- PAV 2 — 4" HMA PAVEMENT 4 LT 58-28 S
- PAV 3 — CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- PAV 4 — CONCRETE PAVEMENT APPROACH SLAB
- PAV 5 — 9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
- SW — CONCRETE SIDEWALK 5-INCH

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAIL	SHEET 28	E

2

N

VILLAGE OF
PLEASANT PRAIRIE

WETLAND BOUNDARY (TYP.)

CP 504

BIO-FILTRATION BASIN

SLOPE INTERCEPT (TYP.)

DITCH FLOW LINE

10' OUTLOT

EX. R/W

PROP

EX. R/W

CONCRETE RUMBLE STRIPS

STA. 424+50
BEGIN RUMBLE STRIPS

STA. 424+50
BEGIN RUMBLE STRIPS

ASPHALT RUMBLE STRIPS

MATCHLINE STA. 421+00

MATCHLINE STA. 426+50

STH 165 WB

STH 165 EB

421+00

422+00

423+00

424+00

425+00

426+00

45

46

47

48

AS

AGG

36A

PAV 1

PAV 2

PAV 3

PAV 5

2'

6'

14'

12'

4'

12'

12'

8'

2'

10'

9'

97'

78'

EX. R/W

WETLAND BOUNDARY (TYP.)

SLOPE INTERCEPT (TYP.)

EX. R/W

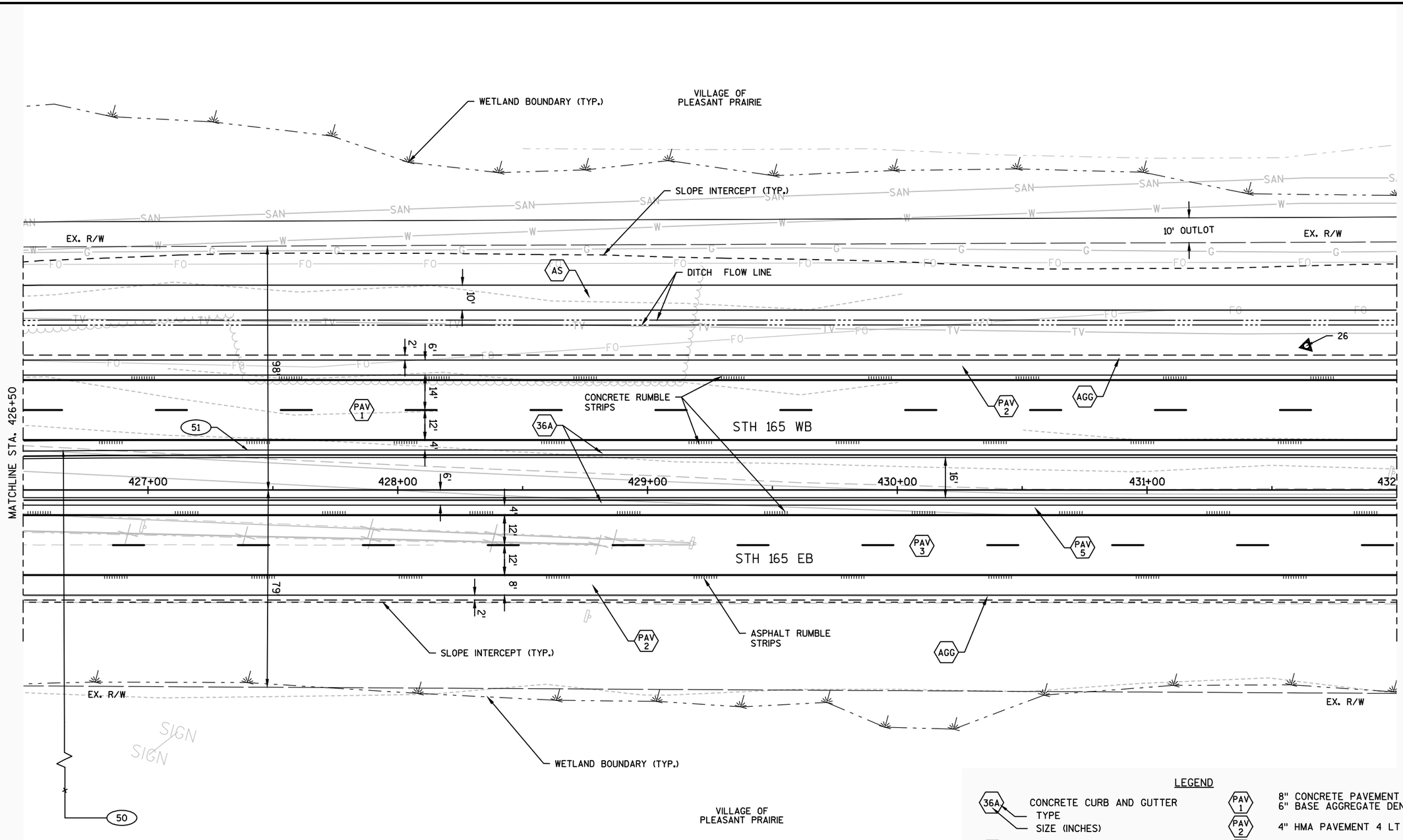
VILLAGE OF
PLEASANT PRAIRIE

POINT NUMBER	STATION	OFFSET	DESCRIPTION
45	421+20.94	8.00' RT	BEGIN 100' TAPER
46	422+20.95	6.00' RT	END 100' TAPER
47	424+07.39	68.00' LT	PATH PI
48	425+31.12	14.45' LT	BEGIN 10,284' RADIUS

LEGEND

36A — TYPE / SIZE (INCHES)	CONCRETE CURB AND GUTTER
AS	ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
SN	CONCRETE MEDIAN SLOPED NOSE TYPE 1
AGG	4" BASE AGGREGATE DENSE ¾-INCH
CRX	CURB RAMP TYPE X
PAV 1	8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
PAV 2	4" HMA PAVEMENT 4 LT 58-28 S
PAV 3	CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
PAV 4	CONCRETE PAVEMENT APPROACH SLAB
PAV 5	9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
SW	CONCRETE SIDEWALK 5-INCH

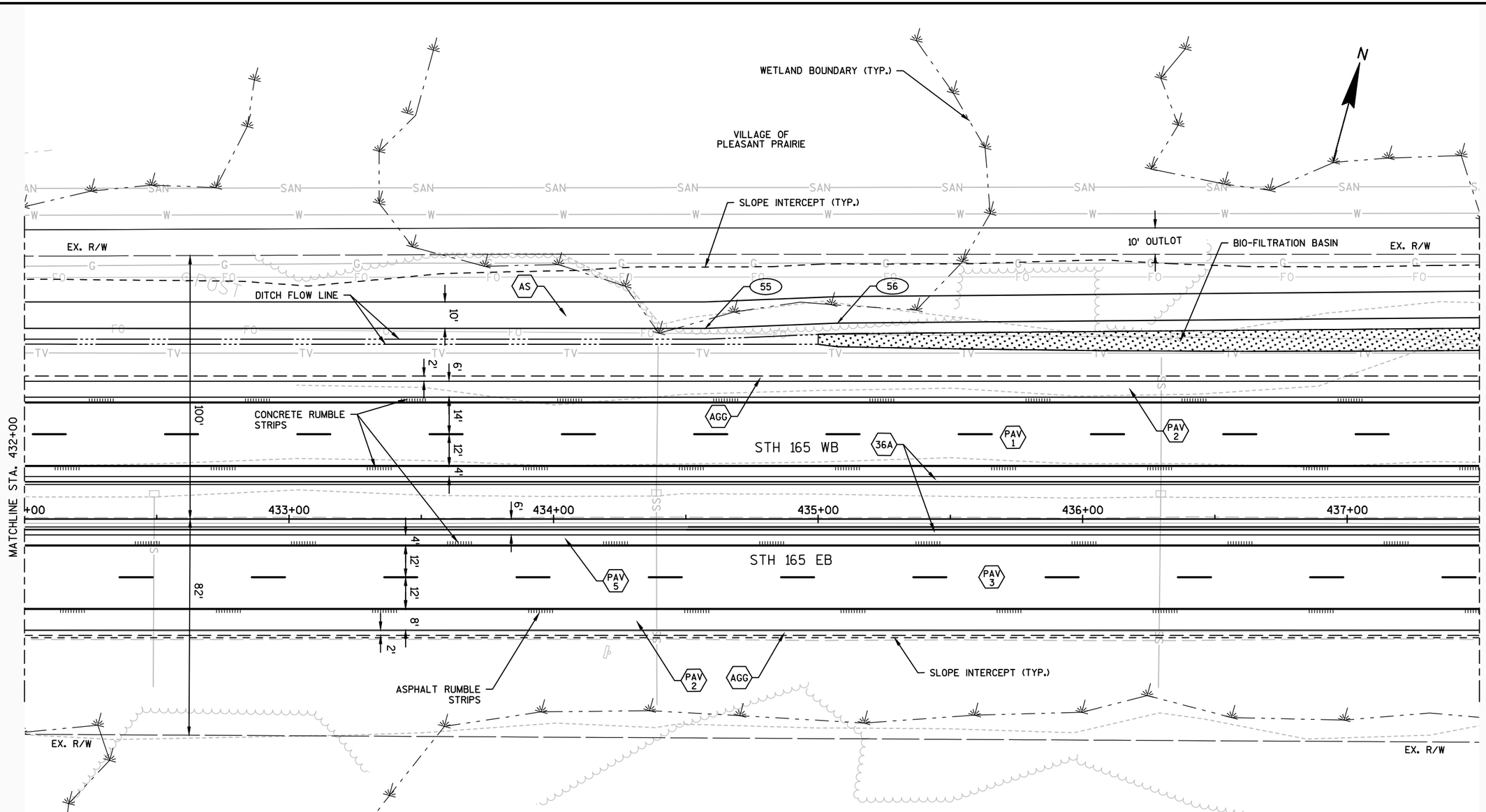
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POINT NUMBER	STATION	OFFSET	DESCRIPTION
50	427+39.91	10,268.00' RT	10,284' RADIUS
51	427+39.91	16.00' LT	END 10,284' RADIUS

LEGEND

- 36A — CONCRETE CURB AND GUTTER TYPE / SIZE (INCHES)
- AS — ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
- SN — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- AGG — 4" BASE AGGREGATE DENSE ¾-INCH
- CRX — CURB RAMP TYPE X
- PAV 1 — 8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
- PAV 2 — 4" HMA PAVEMENT 4 LT 58-28 S
- PAV 3 — CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- PAV 4 — CONCRETE PAVEMENT APPROACH SLAB
- PAV 5 — 9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
- SW — CONCRETE SIDEWALK 5-INCH



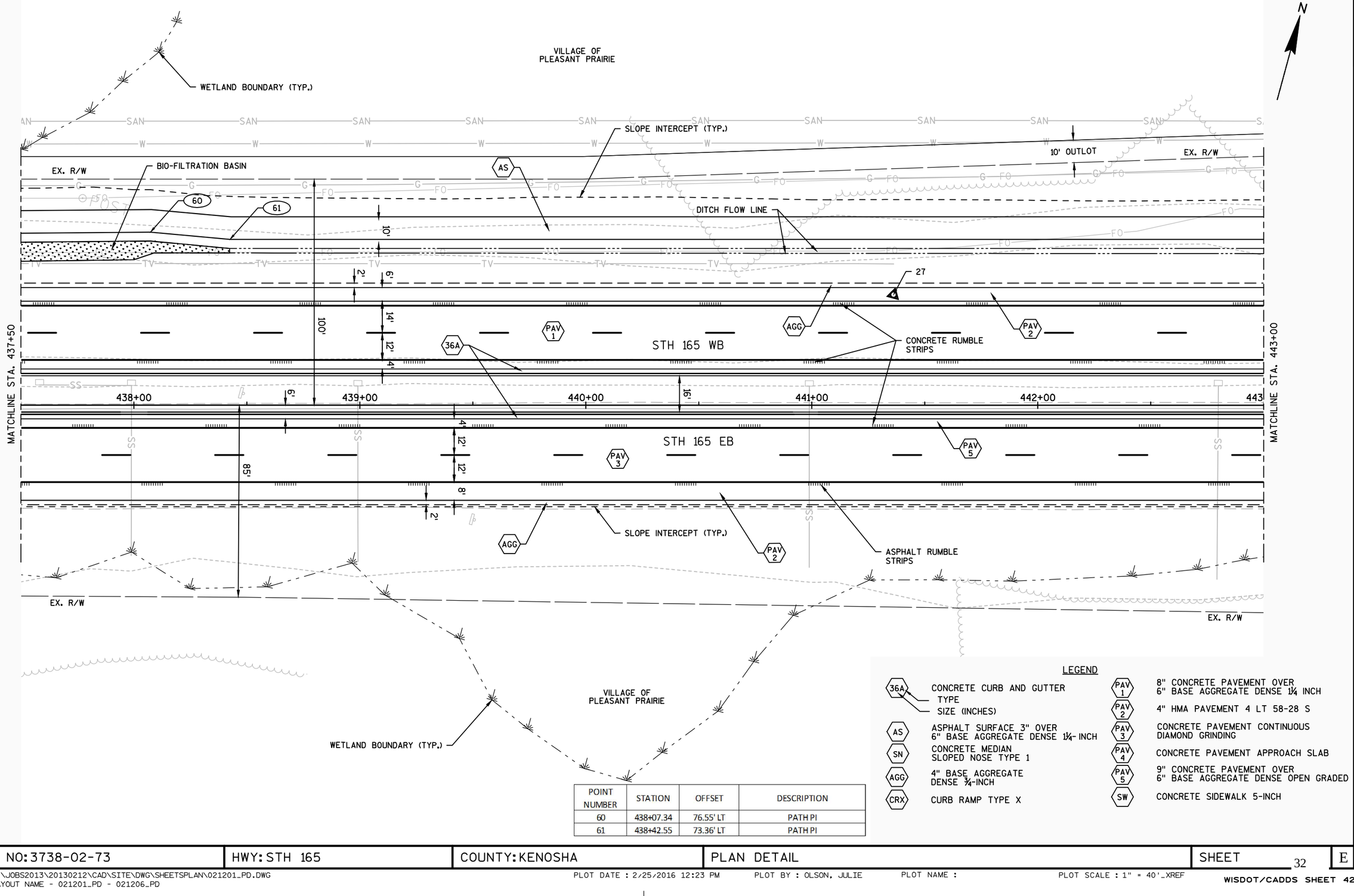
POINT NUMBER	STATION	OFFSET	DESCRIPTION
55	434+57.34	72.00' LT	PATH PI
56	435+07.34	74.06' LT	PATH PI

LEGEND

36A	CONCRETE CURB AND GUTTER TYPE SIZE (INCHES)
AS	ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
SN	CONCRETE MEDIAN SLOPED NOSE TYPE 1
AGG	4" BASE AGGREGATE DENSE ¾-INCH
CRX	CURB RAMP TYPE X
PAV 1	8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
PAV 2	4" HMA PAVEMENT 4 LT 58-28 S
PAV 3	CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
PAV 4	CONCRETE PAVEMENT APPROACH SLAB
PAV 5	9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
SW	CONCRETE SIDEWALK 5-INCH

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAIL	SHEET 31	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - 021201_PD - 021205_PD
PLOT DATE : 2/25/2016 12:23 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

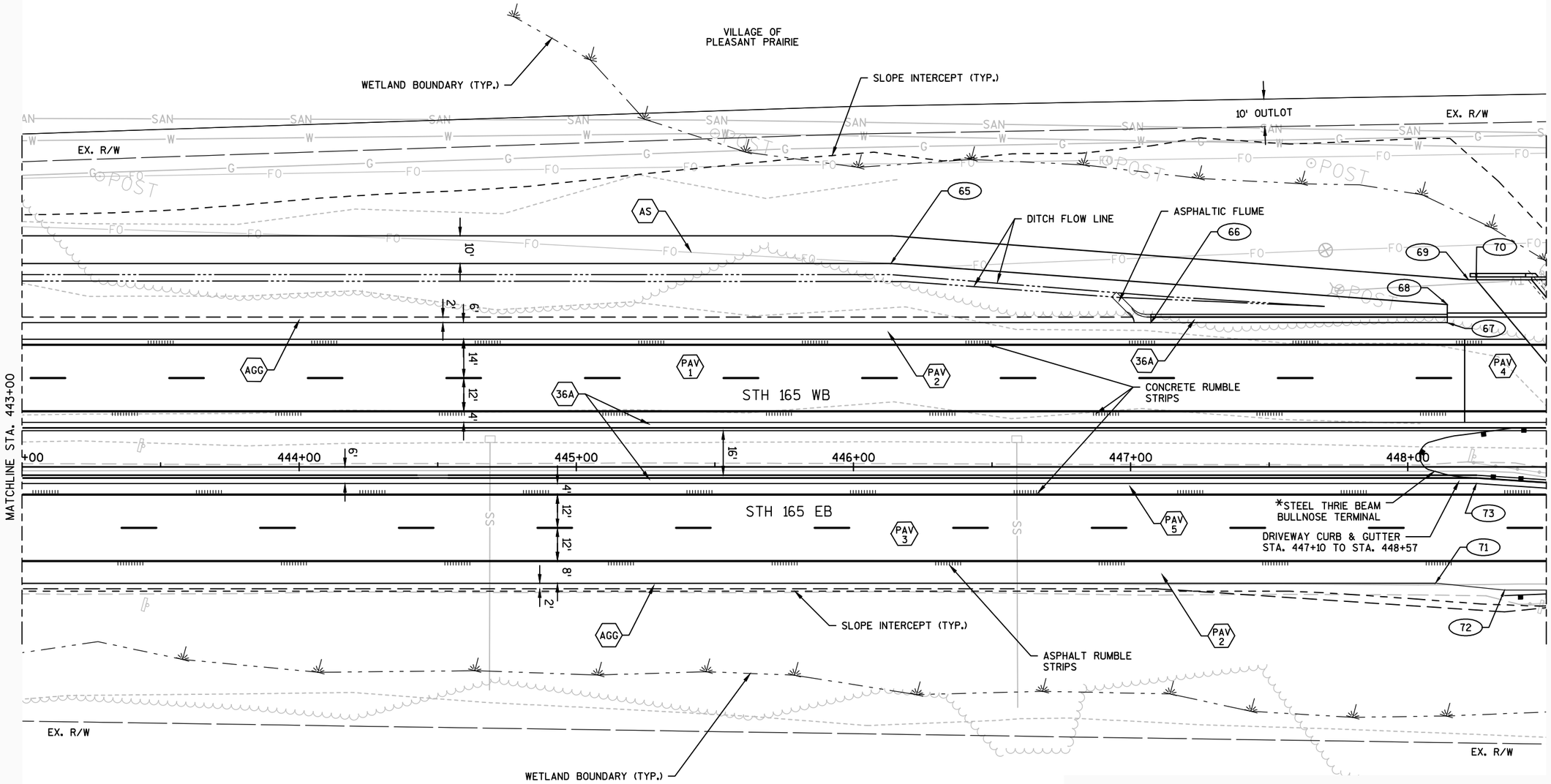


POINT NUMBER	STATION	OFFSET	DESCRIPTION
60	438+07.34	76.55' LT	PATH PI
61	438+42.55	73.36' LT	PATH PI

LEGEND

36A	CONCRETE CURB AND GUTTER TYPE SIZE (INCHES)
AS	ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
SN	CONCRETE MEDIAN SLOPED NOSE TYPE 1
AGG	4" BASE AGGREGATE DENSE ¾-INCH
CRX	CURB RAMP TYPE X
PAV 1	8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
PAV 2	4" HMA PAVEMENT 4 LT 58-28 S
PAV 3	CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
PAV 4	CONCRETE PAVEMENT APPROACH SLAB
PAV 5	9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
SW	CONCRETE SIDEWALK 5-INCH

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - 021201_PD - 021206_PD
PLOT DATE : 2/25/2016 12:23 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42



VILLAGE OF
PLEASANT PRAIRIE

*SEE BEAM GUARD CONSTRUCTION DETAILS FOR LAYOUT INFORMATION

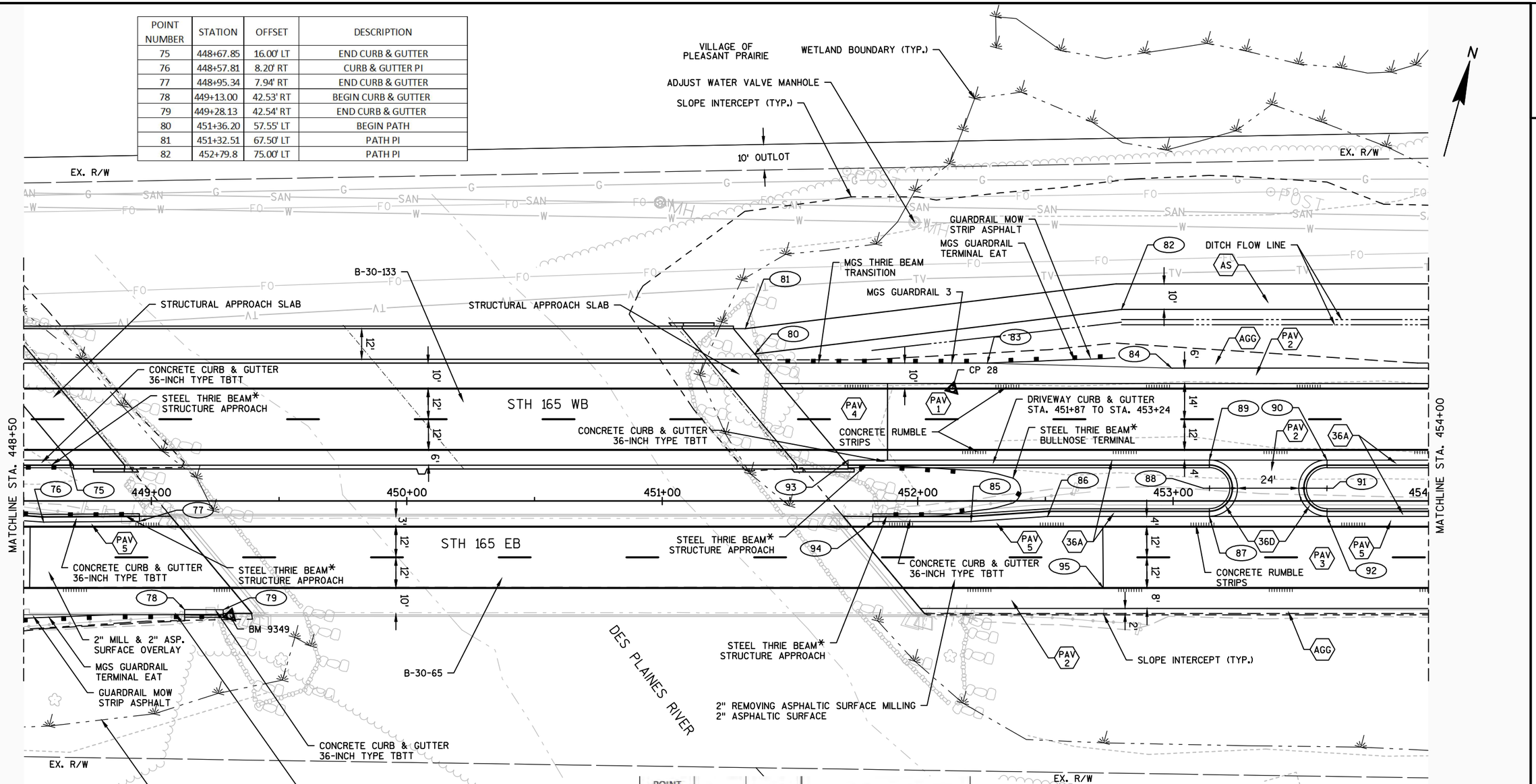
POINT NUMBER	STATION	OFFSET	DESCRIPTION
65	446+13.50	73.36' LT	PATH PI
66	447+07.34	52.00' LT	BEGIN CURB & GUTTER
67	448+14.22	52.00' LT	END CURB & GUTTER
68	448+14.22	58.60' LT	PATH PI
69	448+21.91	67.50' LT	PATH PI
70	448+24.66	67.51' LT	END OF PATH
71	448+09.91	42.00' RT	PAVEMENT PI
72	448+34.91	44.49' RT	PAVEMENT PI
73	448+24.75	6.00' RT	CURB & GUTTER PI

LEGEND

- 36A — CONCRETE CURB AND GUTTER, TYPE, SIZE (INCHES)
- AS — ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
- SN — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- AGG — 4" BASE AGGREGATE DENSE ¾-INCH
- CRX — CURB RAMP TYPE X
- PAV 1 — 8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
- PAV 2 — 4" HMA PAVEMENT 4 LT 58-28 S
- PAV 3 — CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- PAV 4 — CONCRETE PAVEMENT APPROACH SLAB
- PAV 5 — 9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
- SW — CONCRETE SIDEWALK 5-INCH

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAIL	SHEET 33	E

POINT NUMBER	STATION	OFFSET	DESCRIPTION
75	448+67.85	16.00' LT	END CURB & GUTTER
76	448+57.81	8.20' RT	CURB & GUTTER PI
77	448+95.34	7.94' RT	END CURB & GUTTER
78	449+13.00	42.53' RT	BEGIN CURB & GUTTER
79	449+28.13	42.54' RT	END CURB & GUTTER
80	451+36.20	57.55' LT	BEGIN PATH
81	451+32.51	67.50' LT	PATH PI
82	452+79.8	75.00' LT	PATH PI



*SEE BEAM GUARD CONSTRUCTION DETAILS FOR LAYOUT INFORMATION

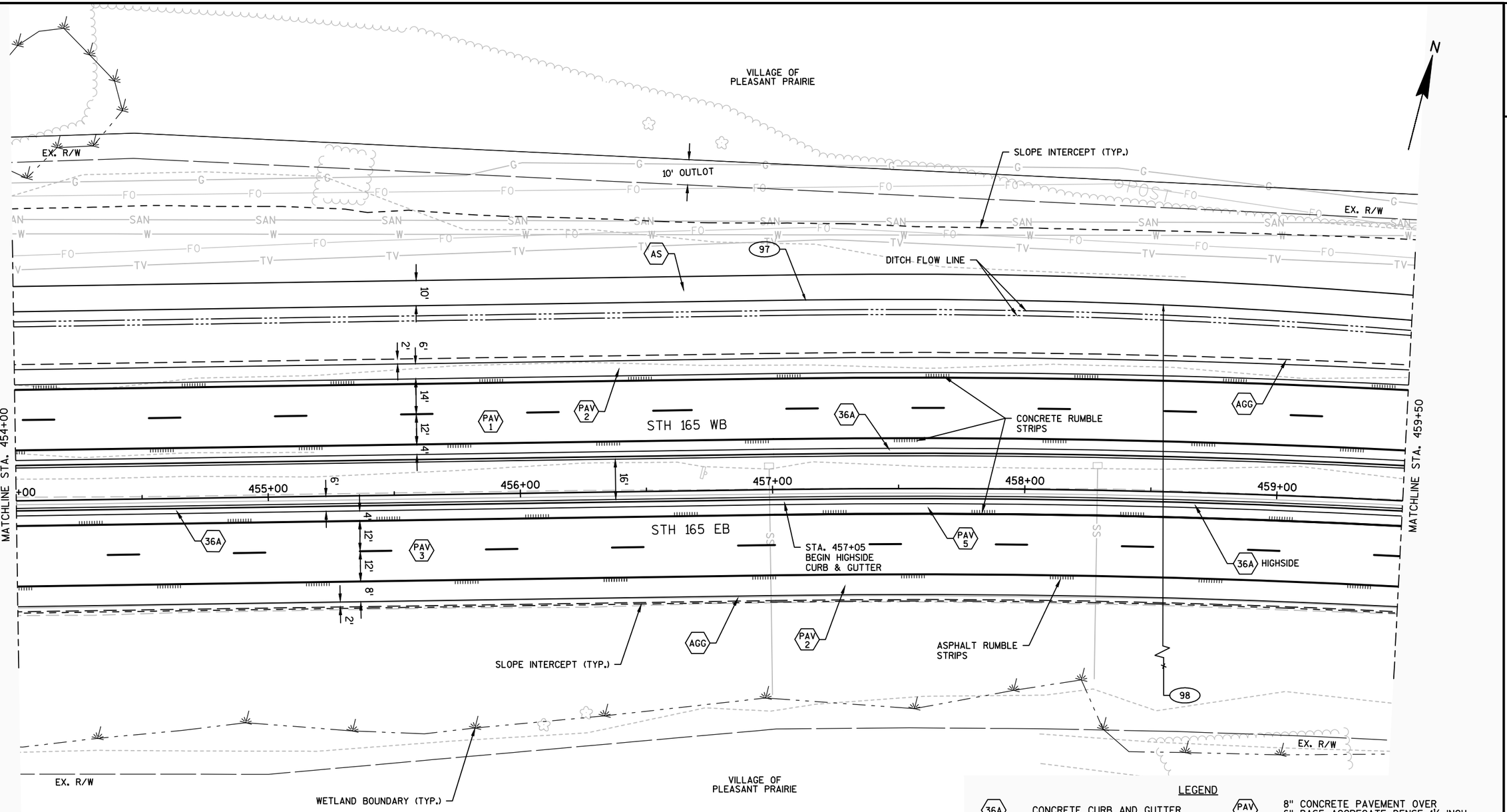
POINT NUMBER	STATION	OFFSET	DESCRIPTION
83	452+27.25	54.00' LT	PAVEMENT PI
84	452+99.44	52.00' LT	PAVEMENT PI
85	452+20.86	8.00' RT	BEGIN CURB & GUTTER TAPER
86	452+50.86	6.00' RT	END CURB & GUTTER TAPER
87	453+14.21	6.00' RT	BEGIN 11' RADIUS
88	453+14.21	5.00' LT	11' RADIUS
89	453+14.21	16.00' LT	END 11' RADIUS
90	453+60.21	16.00' LT	BEGIN 11' RADIUS
91	453+60.21	5.00' LT	11' RADIUS
92	453+60.21	6.00' RT	END 11' RADIUS
93	451+72.71	16.00' LT	BEGIN CURB & GUTTER
94	451+82.49	8.00' RT	END CURB & GUTTER
95	452+72.68	34.00' RT	BEGIN PAV 3

LEGEND

- 36A — CONCRETE CURB AND GUTTER TYPE SIZE (INCHES)
- AS — ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
- SN — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- AGG — 4" BASE AGGREGATE DENSE ¾-INCH
- CRX — CURB RAMP TYPE X
- PAV 1 — 8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
- PAV 2 — 4" HMA PAVEMENT 4 LT 58-28 S
- PAV 3 — CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- PAV 4 — CONCRETE PAVEMENT APPROACH SLAB
- PAV 5 — 9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
- SW — CONCRETE SIDEWALK 5-INCH

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAIL	SHEET 34	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - 021201_PD - 021208_PD
PLOT DATE : 2/25/2016 12:24 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

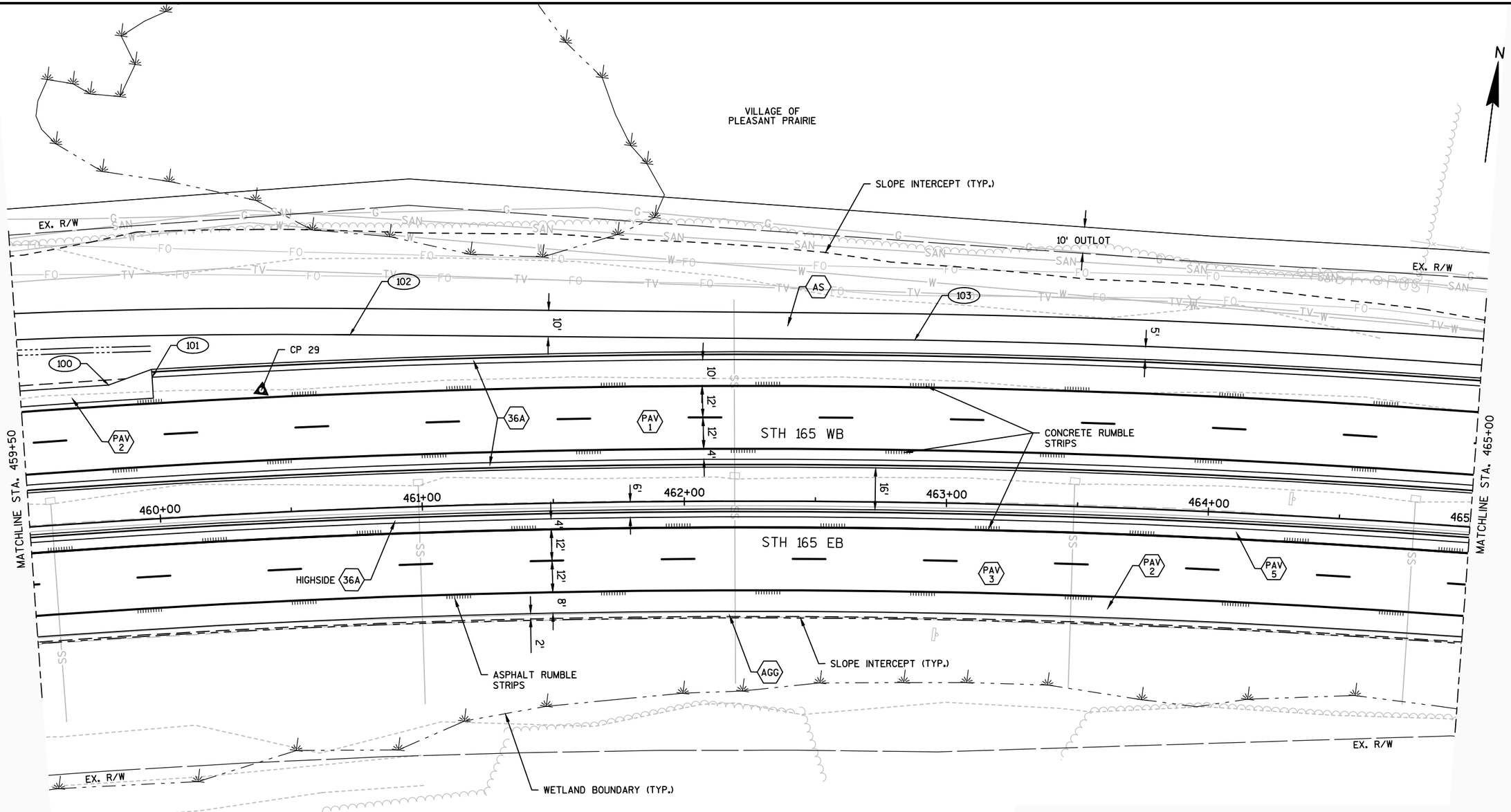


POINT NUMBER	STATION	OFFSET	DESCRIPTION
97	457+13.97	75.02' LT	BEGIN 2,490' RADIUS
98	457+37.61	2414.93' RT	2,490' RADIUS

LEGEND

36A	CONCRETE CURB AND GUTTER TYPE SIZE (INCHES)
AS	ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
SN	CONCRETE MEDIAN SLOPED NOSE TYPE 1
AGG	4" BASE AGGREGATE DENSE ¾-INCH
CRX	CURB RAMP TYPE X
PAV 1	8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
PAV 2	4" HMA PAVEMENT 4 LT 58-28 S
PAV 3	CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
PAV 4	CONCRETE PAVEMENT APPROACH SLAB
PAV 5	9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
SW	CONCRETE SIDEWALK 5-INCH

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAIL	SHEET 35	E



VILLAGE OF
PLEASANT PRAIRIE

POINT NUMBER	STATION	OFFSET	DESCRIPTION
100	459+83.51	52.00' LT	PAVEMENT PI
101	460+00.00	54.00' LT	BEGIN CURB & GUTTER
102	460+75.07	66.50' LT	END 2,490' RADIUS
103	462+86.91	62.00' LT	PATH PI

LEGEND

36A	CONCRETE CURB AND GUTTER TYPE SIZE (INCHES)
AS	ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
SN	CONCRETE MEDIAN SLOPED NOSE TYPE 1
AGG	4" BASE AGGREGATE DENSE ¾-INCH
CRX	CURB RAMP TYPE X
PAV 1	8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
PAV 2	4" HMA PAVEMENT 4 LT 58-28 S
PAV 3	CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
PAV 4	CONCRETE PAVEMENT APPROACH SLAB
PAV 5	9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
SW	CONCRETE SIDEWALK 5-INCH

2

N

VILLAGE OF
PLEASANT PRAIRIE

SLOPE INTERCEPT (TYP.)

DITCH FLOW LINE (TYP.)

10' OUTLOT

EX. R/W

EX. R/W

AS

10'

5'

10'

12'

12'

4"

CONCRETE RUMBLE
STRIPS

STH 165 WB

PAV 1

36A

MATCHLINE STA. 465+00

16'

6'

466+00

467+00

468+00

469+00

DITCH FLOW LINE

470+00

MATCHLINE STA. 470+50

4"

12'

12'

8"

2"

PAV 5

PAV 2

STH 165 EB

PAV 3

36A HIGHSIDE

ASPHALT RUMBLE
STRIPS

SLOPE INTERCEPT (TYP.)

AGG

EX. R/W

EX. R/W

WETLAND BOUNDARY (TYP.)

VILLAGE OF
PLEASANT PRAIRIE

LEGEND

36A	CONCRETE CURB AND GUTTER TYPE / SIZE (INCHES)	PAV 1	8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
AS	ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH	PAV 2	4" HMA PAVEMENT 4 LT 58-28 S
SN	CONCRETE MEDIAN SLOPED NOSE TYPE 1	PAV 3	CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
AGG	4" BASE AGGREGATE DENSE ¾-INCH	PAV 4	CONCRETE PAVEMENT APPROACH SLAB
CRX	CURB RAMP TYPE X	PAV 5	9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
		SW	CONCRETE SIDEWALK 5-INCH

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAIL	SHEET 37	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - 021201_PD - 021211_PD

PLOT DATE : 2/25/2016 12:24 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

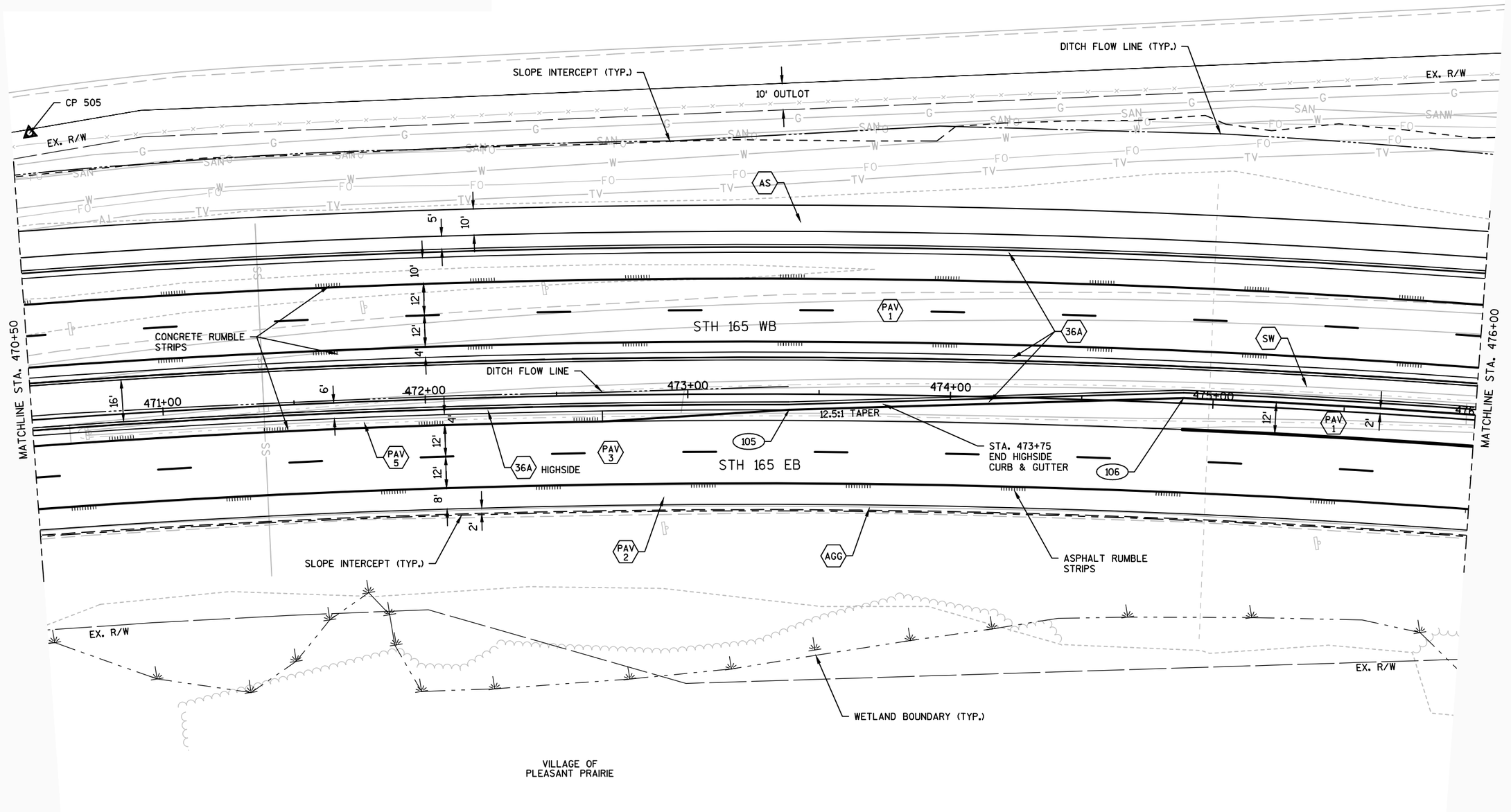
LEGEND

- 36A — CONCRETE CURB AND GUTTER TYPE SIZE (INCHES)
- AS — ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
- SN — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- AGG — 4" BASE AGGREGATE DENSE ¾-INCH
- CRX — CURB RAMP TYPE X
- PAV 1 — 8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
- PAV 2 — 4" HMA PAVEMENT 4 LT 58-28 S
- PAV 3 — CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- PAV 4 — CONCRETE PAVEMENT APPROACH SLAB
- PAV 5 — 9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
- SW — CONCRETE SIDEWALK 5-INCH

POINT NUMBER	STATION	OFFSET	DESCRIPTION
105	473+38.52	6.00' RT	BEGIN 12.5:1 TAPER
106	474+88.80	2.00 LT	END 12.5:1 TAPER

N

VILLAGE OF PLEASANT PRAIRIE



VILLAGE OF PLEASANT PRAIRIE

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAIL	SHEET 38	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - 021201_PD - 021212_PD
PLOT DATE : 2/25/2016 12:25 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

LEGEND

- 36A — CONCRETE CURB AND GUTTER TYPE SIZE (INCHES)
- AS — ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
- SN — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- AGG — 4" BASE AGGREGATE DENSE ¾-INCH
- CRX — CURB RAMP TYPE X
- PAV 1 — 8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
- PAV 2 — 4" HMA PAVEMENT 4 LT 58-28 S
- PAV 3 — CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- PAV 4 — CONCRETE PAVEMENT APPROACH SLAB
- PAV 5 — 9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
- SW — CONCRETE SIDEWALK 5-INCH

* NOTE:
CONTRACTOR MUST CONTACT THE PROJECT ENGINEER AND SEWRPC (JOHN WASHBURN) AT LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC SURVEY MONUMENT.

POINT NUMBER	STATION	OFFSET	DESCRIPTION
109	478+20.39	54.00' LT	END 10:1 TAPER
110	479+32.85	68.04' LT	END 50' RADIUS, BEGIN 10:1 TAPER
111	479+35.84	2.00' LT	BEGIN 60' RADIUS
112	479+33.23	61.94' LT	60' RADIUS
113	479+55.66	6.37' LT	END 60' RADIUS, BEGIN 5' RADIUS
114	479+53.77	11.00' LT	5' RADIUS
115	479+53.77	16.00' LT	END 5' RADIUS
116	479+25.38	117.46' LT	50' RADIUS
117	21+04.68	26.75' LT	END 10:1 TAPER, BEGIN 50' RADIUS
118	479+63.57	86.43' LT	CENTER OF CURB RAMP
119	21+05.62	34.70' LT	BEGIN 42' RADIUS
120	21+72.27	22.12' LT	END 30' RADIUS

POINT NUMBER	STATION	OFFSET	DESCRIPTION
121	21+72.23	52.12' LT	30' RADIUS
122	22+01.57	45.857' LT	BEGIN 30' RADIUS
123	22+29.62	38.89' LT	CENTER OF CURB RAMP
124	22+26.99	45.89' LT	MATCH EXISTING
125	22+46.44	43.92' LT	BEGIN PATH
126	22+57.11	54.98' LT	35' RADIUS
127	21+99.14	38.86' LT	CENTER OF CURB RAMP
128	22+58.31	20.02' LT	MATCH EXISTING
129	22+59.51	19.63' RT	MATCH EXISTING
130	22+06.69	20.06' RT	BEGIN 10:1 TAPER
131	21+02.37	32.72' RT	END 10:1 TAPER, BEGIN 40' RADIUS

POINT NUMBER	STATION	OFFSET	DESCRIPTION
132	480+35.70	80.74' LT	CENTER OF CURB RAMP
133	480+69.25	101.21' LT	40' RADIUS
134	480+53.54	74.57' LT	END PATH
135	480+68.77	61.22' LT	END 40' RADIUS
136	480+58.41	16.00' LT	BEGIN 5' RADIUS
137	480+55.28	7.11' LT	END 5' RADIUS, BEGIN 60' RADIUS
138	480+58.41	11.00' LT	5' RADIUS
139	480+91.87	6.00' RT	END 60' RADIUS
140	480+85.61	16.00' LT	BEGIN 3,668' RADIUS
141	480+92.41	54.00' LT	60' RADIUS
142	21+44.06	22.08' LT	BEGIN 10:1 TAPER

PARK DRIVE
VILLAGE OF PLEASANT PRAIRIE
CP 506
10' OUTLOT
EX. R/W
END CONSTRUCTION STA. 22+58.77
ADJUST WATER VALVE
TERWALL TERRACE
6" ASPHALTIC SURFACE OVER 12" BASE AGGREGATE DENSE 1¼-INCH
22+00
+05
DITCH FLOW LINE (TYP.)
SLOPE INTERCEPT (TYP.)
CONCRETE RUMBLE STRIPS
STH 165 WB
STH 165 EB
MATCHLINE STA. 476+00
MATCHLINE STA. 481+50
477+00
478+00
479+00
480+00
481+00
STA. 479+89.79 = STA. 20+00.00
ASPHALT RUMBLE STRIPS
36A HIGHSIDE
WETLAND BOUNDARY (TYP.)
VILLAGE OF PLEASANT PRAIRIE
*WITNESS PLSS CORNER
PT* 122095
STA. 480+56.71, 0.2' LT
N = 112,863.050
E = 602,407.654

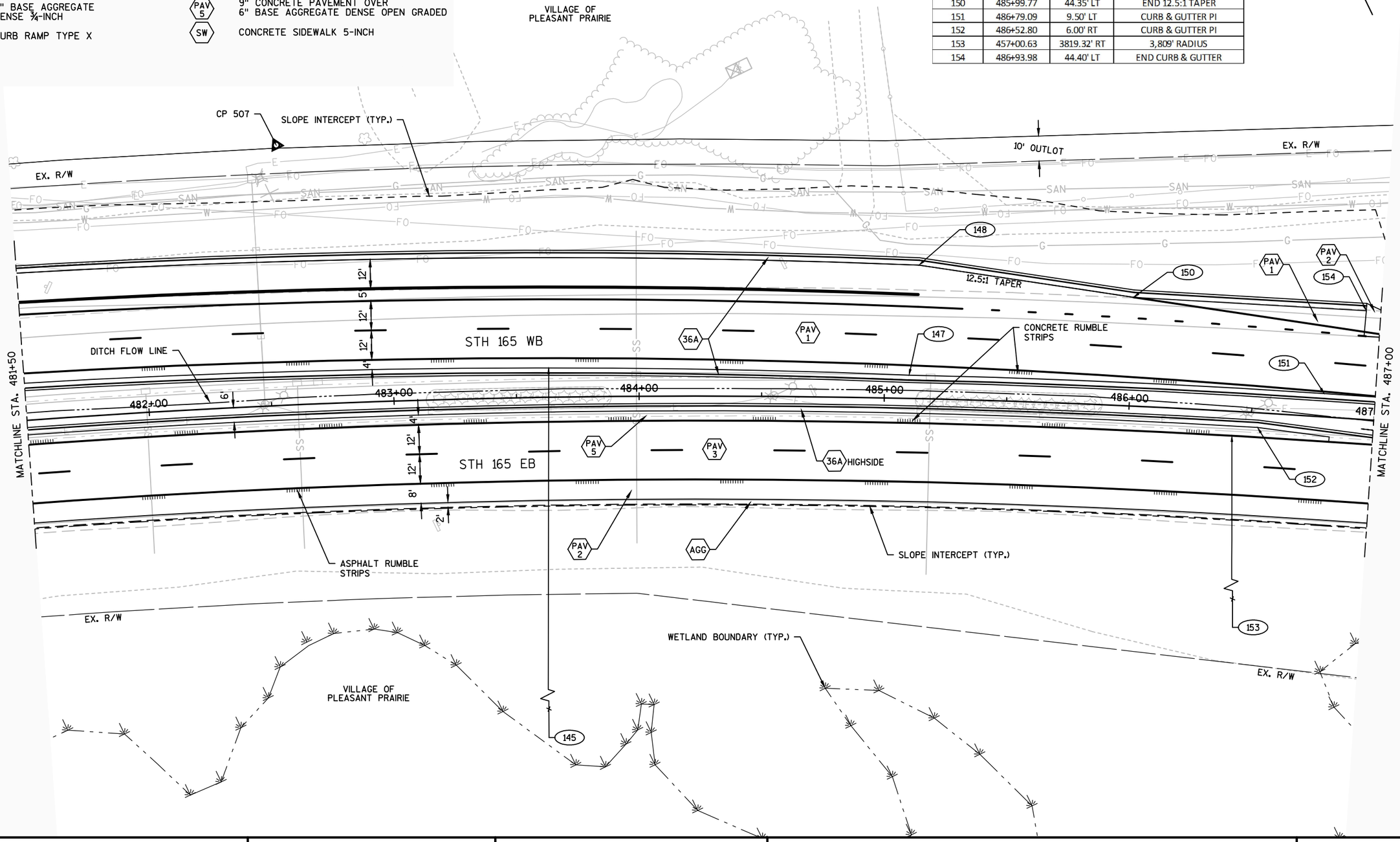
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAIL	SHEET 39	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - 021201_PD - 021213_PD
PLOT DATE : 2/25/2016 12:25 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

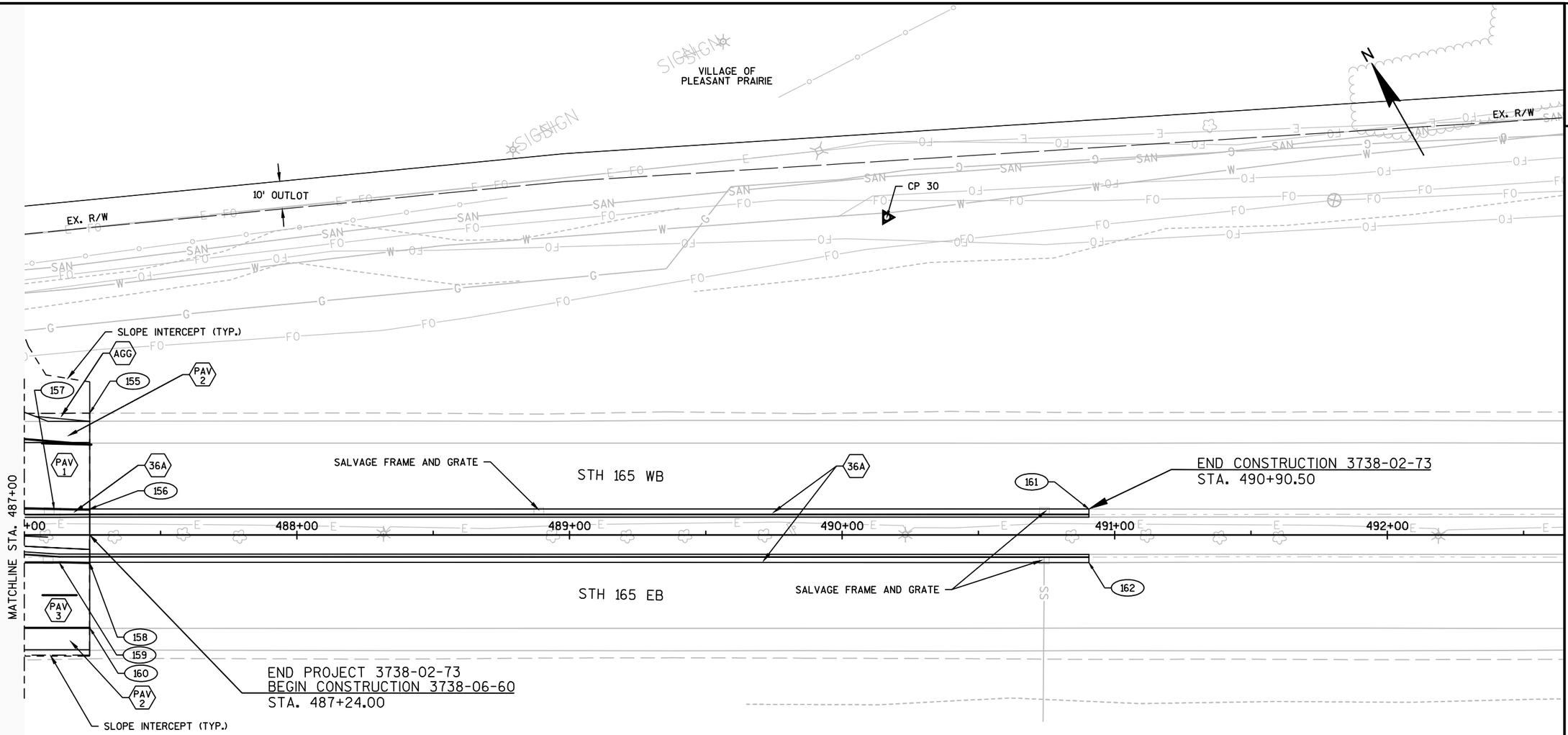
LEGEND

- 36A — CONCRETE CURB AND GUTTER TYPE SIZE (INCHES)
- AS — ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
- SN — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- AGG — 4" BASE AGGREGATE DENSE ¾-INCH
- CRX — CURB RAMP TYPE X
- PAV 1 — 8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
- PAV 2 — 4" HMA PAVEMENT 4 LT 58-28 S
- PAV 3 — CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- PAV 4 — CONCRETE PAVEMENT APPROACH SLAB
- PAV 5 — 9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
- SW — CONCRETE SIDEWALK 5-INCH

POINT NUMBER	STATION	OFFSET	DESCRIPTION
145	470+47.73	3645.08' RT	3,668' RADIUS
146	--	--	NOT USED
147	485+09.95	9.50' LT	END 3,668' RADIUS
148	485+12.92	54.45' LT	BEGIN 12.5:1 TAPER
149	--	--	NOT USED
150	485+99.77	44.35' LT	END 12.5:1 TAPER
151	486+79.09	9.50' LT	CURB & GUTTER PI
152	486+52.80	6.00' RT	CURB & GUTTER PI
153	457+00.63	3819.32' RT	3,809' RADIUS
154	486+93.98	44.40' LT	END CURB & GUTTER



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAIL	SHEET 40	E

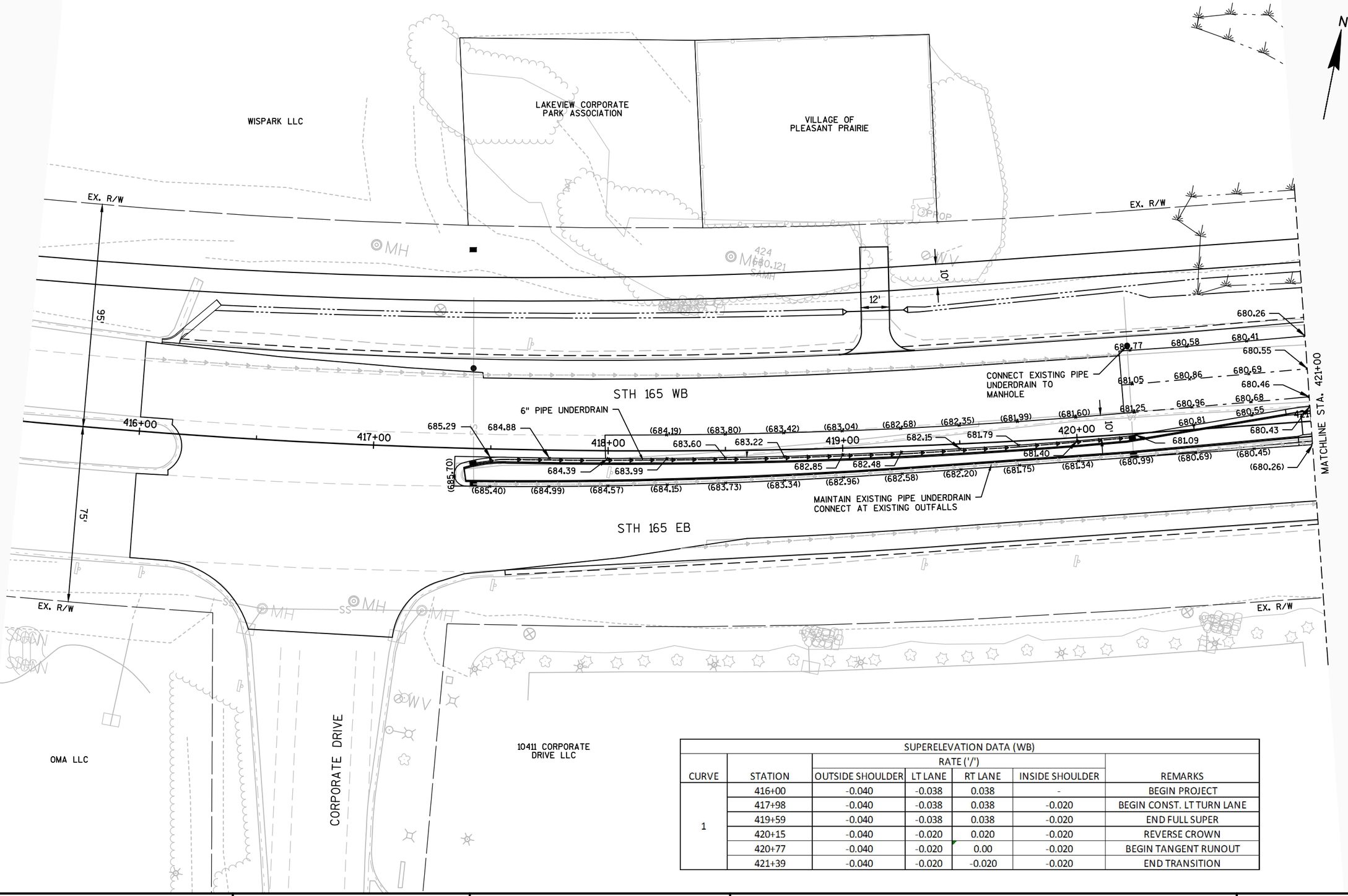


POINT NUMBER	STATION	OFFSET	DESCRIPTION
155	487+24.00	46.67' LT	MATCH EXISTING
156	487+24.00	9.56' LT	MATCH EXISTING
157	487+10.99	9.56' LT	CURB & GUTTER PI
158	487+23.99	10.22' RT	MATCH EXISTING
159	487+12.82	10.05' RT	CURB AND GUTTER PI
160	487+23.97	34.00' RT	MATCH EXISTING
161	490+90.49	9.54' LT	END CURB & GUTTER
162	490+90.51	10.09' RT	END CURB & GUTTER

LEGEND

- 36A — CONCRETE CURB AND GUTTER TYPE (SIZE (INCHES))
- AS — ASPHALT SURFACE 3" OVER 6" BASE AGGREGATE DENSE 1¼- INCH
- SN — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- AGG — 4" BASE AGGREGATE DENSE ¾-INCH
- CRX — CURB RAMP TYPE X
- PAV 1 — 8" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE 1¼ INCH
- PAV 2 — 4" HMA PAVEMENT 4 LT 58-28 S
- PAV 3 — CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
- PAV 4 — CONCRETE PAVEMENT APPROACH SLAB
- PAV 5 — 9" CONCRETE PAVEMENT OVER 6" BASE AGGREGATE DENSE OPEN GRADED
- SW — CONCRETE SIDEWALK 5-INCH

2

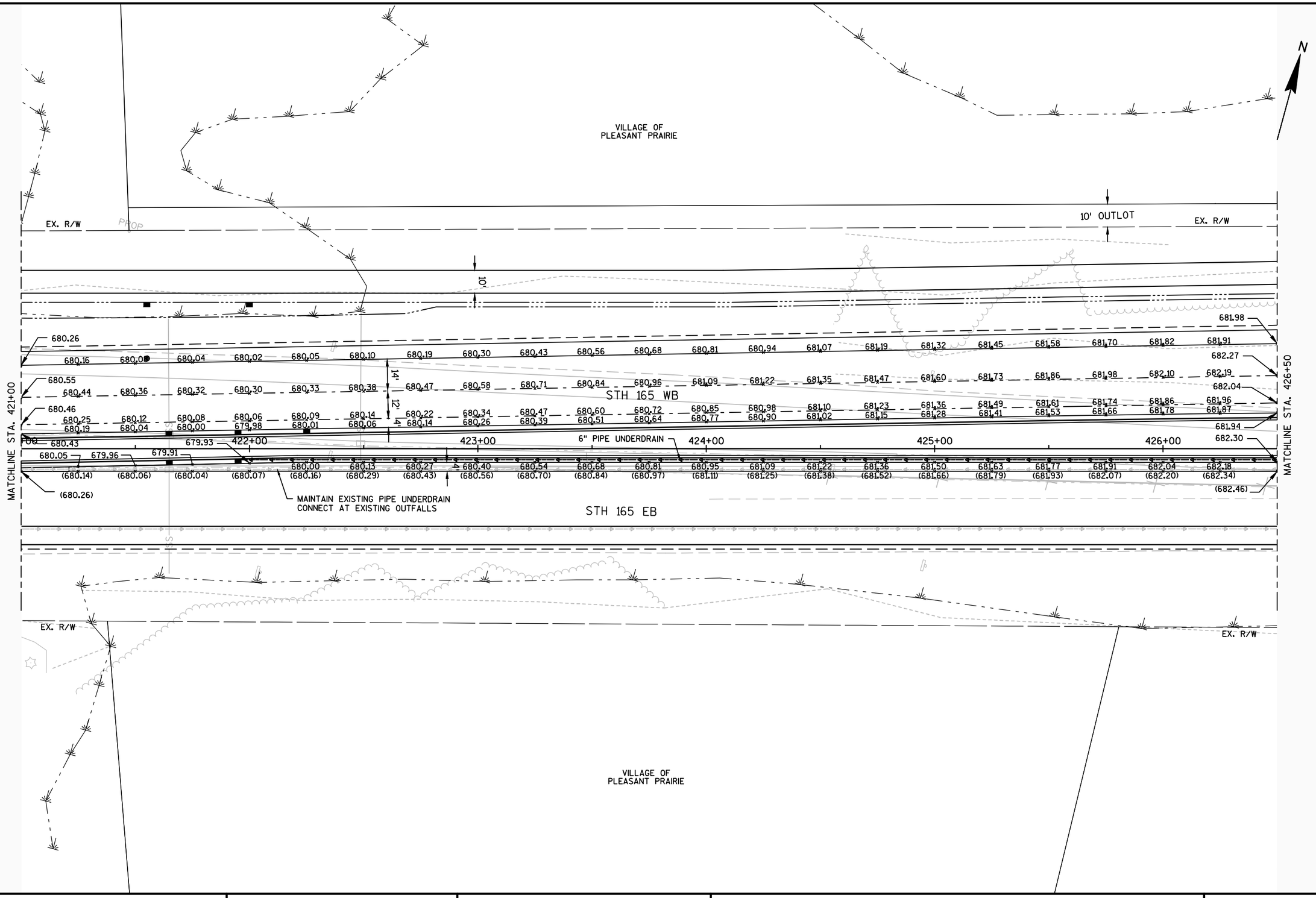


SUPERELEVATION DATA (WB)						
		RATE ('/')				
CURVE	STATION	OUTSIDE SHOULDER	LT LANE	RT LANE	INSIDE SHOULDER	REMARKS
1	416+00	-0.040	-0.038	0.038	-	BEGIN PROJECT
	417+98	-0.040	-0.038	0.038	-0.020	BEGIN CONST. LT TURN LANE
	419+59	-0.040	-0.038	0.038	-0.020	END FULL SUPER
	420+15	-0.040	-0.020	0.020	-0.020	REVERSE CROWN
	420+77	-0.040	-0.020	0.00	-0.020	BEGIN TANGENT RUNOUT
	421+39	-0.040	-0.020	-0.020	-0.020	END TRANSITION

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	JOINT DETAILS & PAVEMENT GRADES	SHEET 42	E

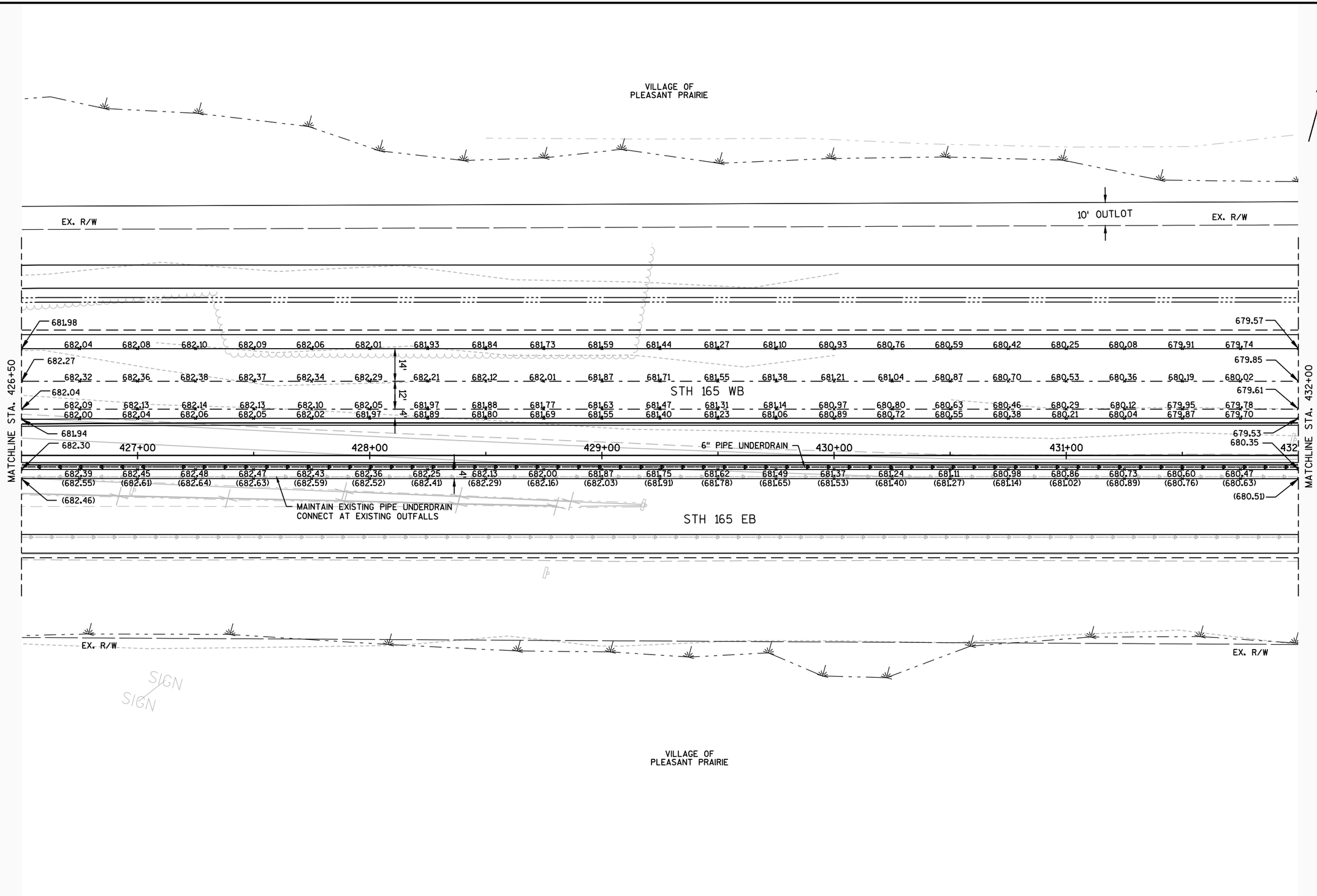
FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021301_JD.DWG
LAYOUT NAME - 021301_JD - 021302_JD
PLOT DATE : 2/25/2016 12:27 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF

2



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	JOINT DETAILS & PAVEMENT GRADES	SHEET 43	E

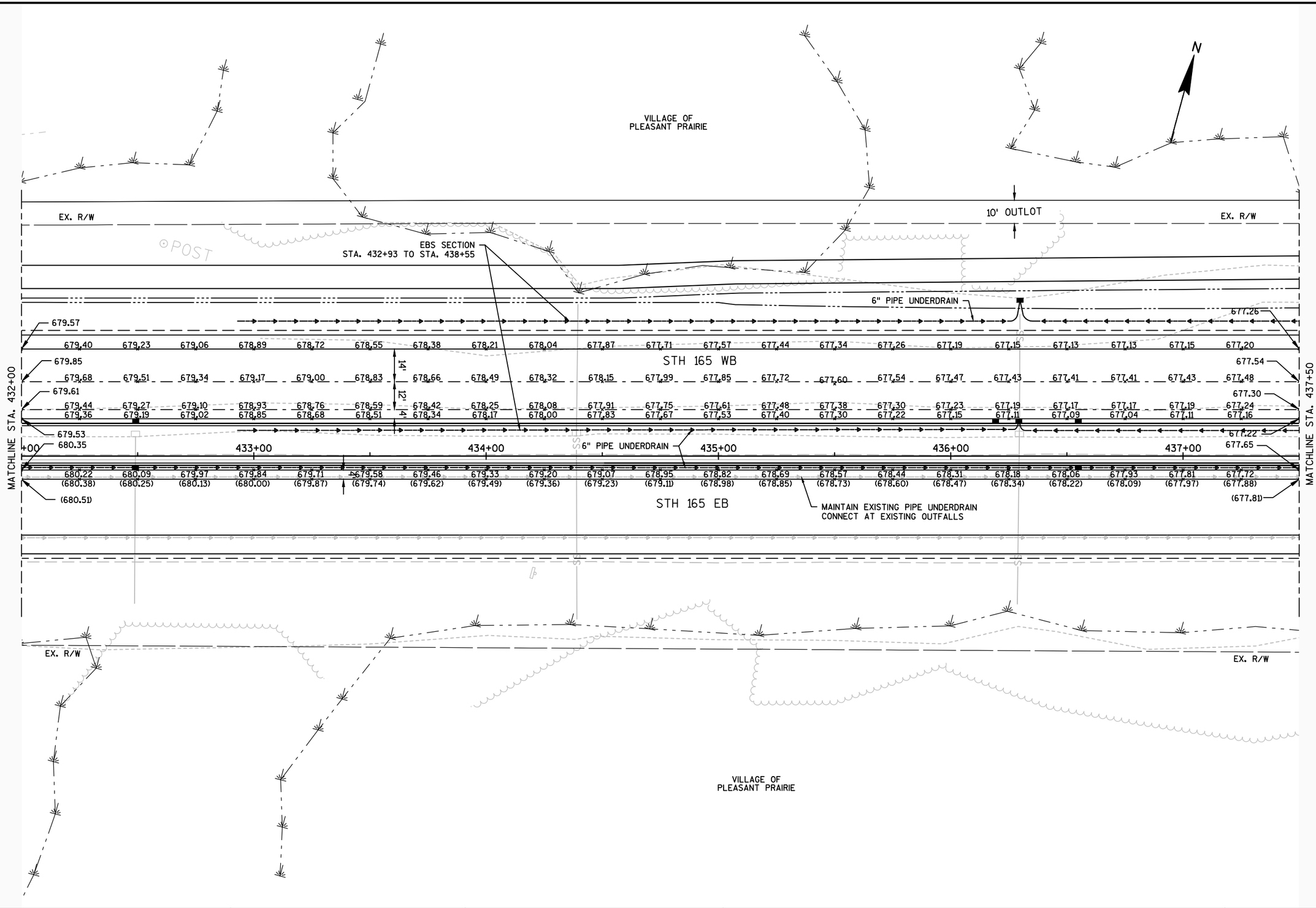
2



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	JOINT DETAILS & PAVEMENT GRADES	SHEET 44	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021301_JD.DWG
LAYOUT NAME - 021301_JD - 021304_JD
PLOT DATE : 2/25/2016 12:27 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

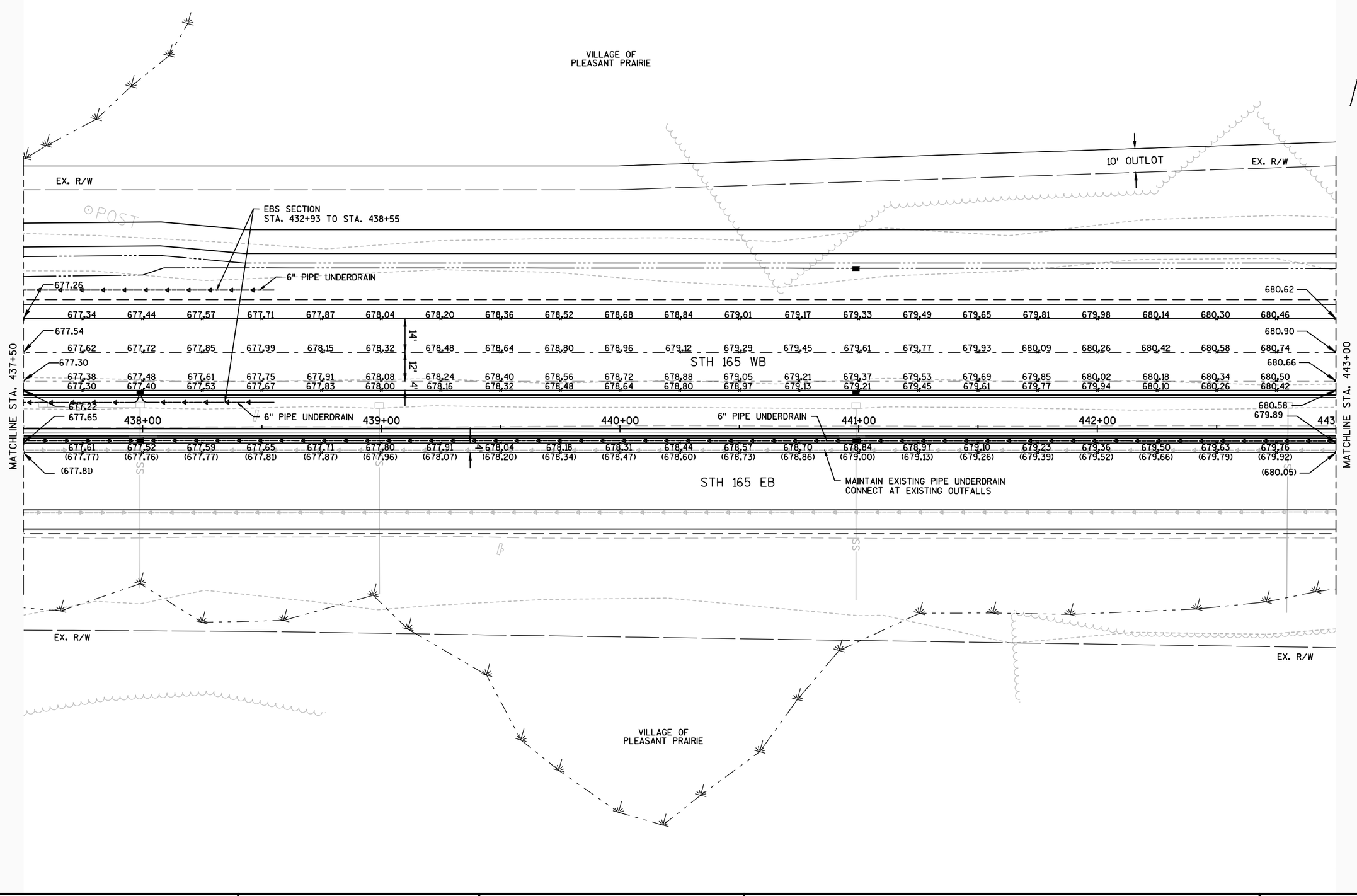
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PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	JOINT DETAILS & PAVEMENT GRADES	SHEET 45	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021301_JD.DWG
LAYOUT NAME - 021301_JD - 021305_JD
PLOT DATE : 2/25/2016 12:28 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

2



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	JOINT DETAILS & PAVEMENT GRADES	SHEET 46	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021301_JD.DWG
LAYOUT NAME - 021301_JD - 021306_JD
PLOT DATE : 2/25/2016 12:28 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

2

N

VILLAGE OF
PLEASANT PRAIRIE

10' OUTLOT

EX. R/W

EX. R/W

POST

680.62

680.78 680.94 681.11 681.27 681.43 681.59 681.75 681.91 682.08 682.24 682.40 682.56 682.72 682.88 683.04 683.01 683.25 683.41 683.57 683.73 683.82
683.21 683.37 683.53 683.69 683.85 684.01

680.90

681.06 681.22 681.39 681.55 681.71 681.87 682.03 682.19 682.36 682.52 682.68 682.84 683.00 683.16 683.32 683.49 683.65 683.81 683.97 684.13 684.29 684

14'

680.66

12'

STH 165 WB

680.82 680.98 681.15 681.31 681.47 681.63 681.79 681.95 682.12 682.28 682.44 682.60 682.76 682.92 683.08 683.25 683.41 683.57 683.73 683.89 684.05 684
680.74 680.90 681.07 681.23 681.39 681.55 681.71 681.87 682.04 682.20 682.36 682.52 682.68 682.84 683.00 683.17 683.33 683.49 683.65 683.81 683.97 684

4'

680.58

679.89

MATCHLINE STA. 443+00

444+00

445+00

6" PIPE UNDERDRAIN

446+00

447+00

448+00

682.87

MATCHLINE STA. 448+50

680.02 680.15 680.29 680.42 680.55 680.68 680.81 680.95 681.08 681.21 681.34 681.47 681.61 681.74 681.87 682.00 682.21 682.34 682.48 682.61 682.74
(680.18) (680.31) (680.45) (680.58) (680.71) (680.84) (680.97) (681.11) (681.24) (681.37) (681.50) (681.63) (681.77) (681.90) (682.03) (682.16) (682.29) (682.42) (682.56) (682.69) (682.82)

(680.05)

(682.95)

STH 165 EB

MAINTAIN EXISTING PIPE UNDERDRAIN
CONNECT AT EXISTING OUTFALLS

EX. R/W

EX. R/W

VILLAGE OF
PLEASANT PRAIRIE

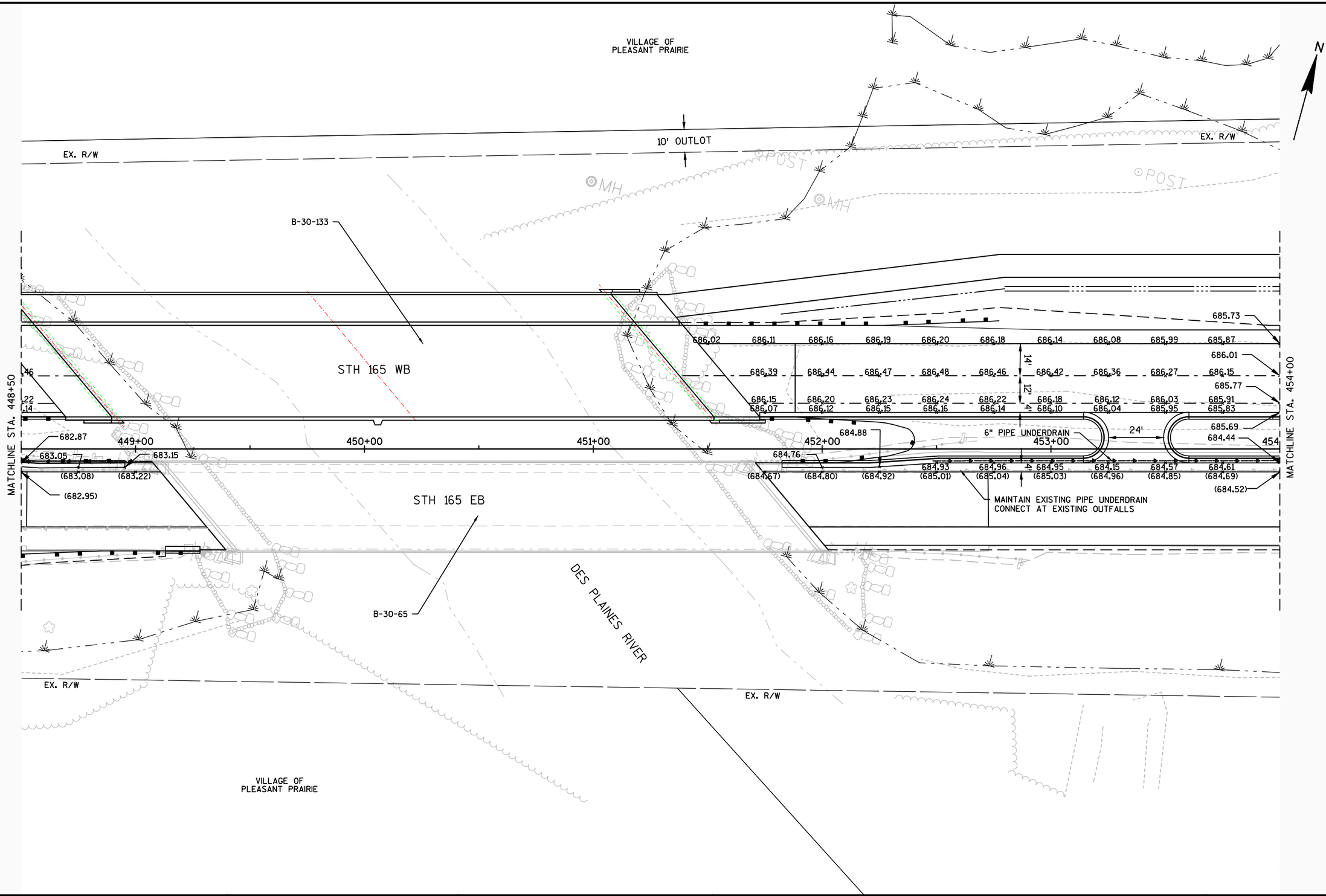
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	JOINT DETAILS & PAVEMENT GRADES	SHEET 47	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021301_JD.DWG
LAYOUT NAME - 021301_JD - 021307_JD

PLOT DATE : 2/25/2016 12:28 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF

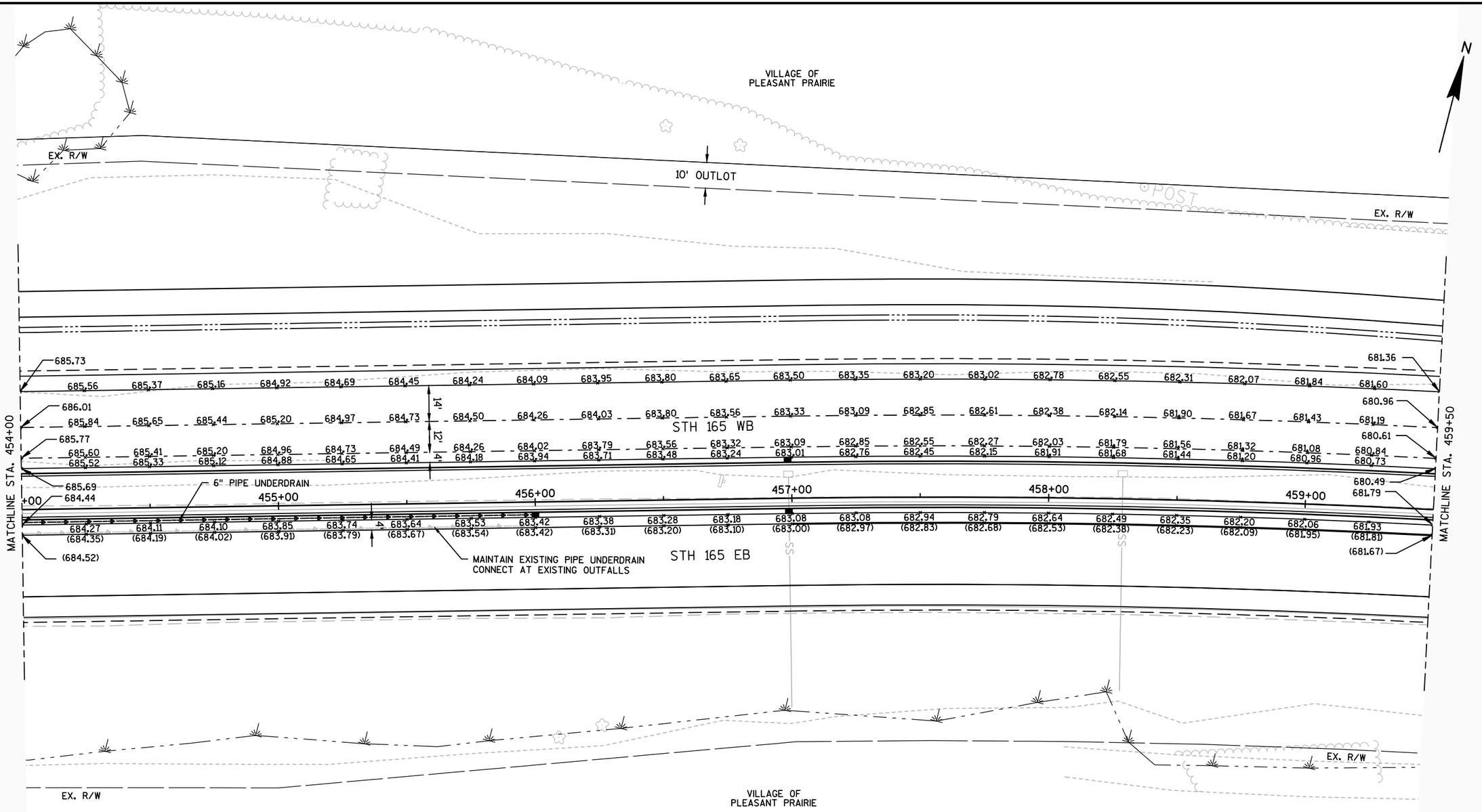
WISDOT/CADDS SHEET 42

2



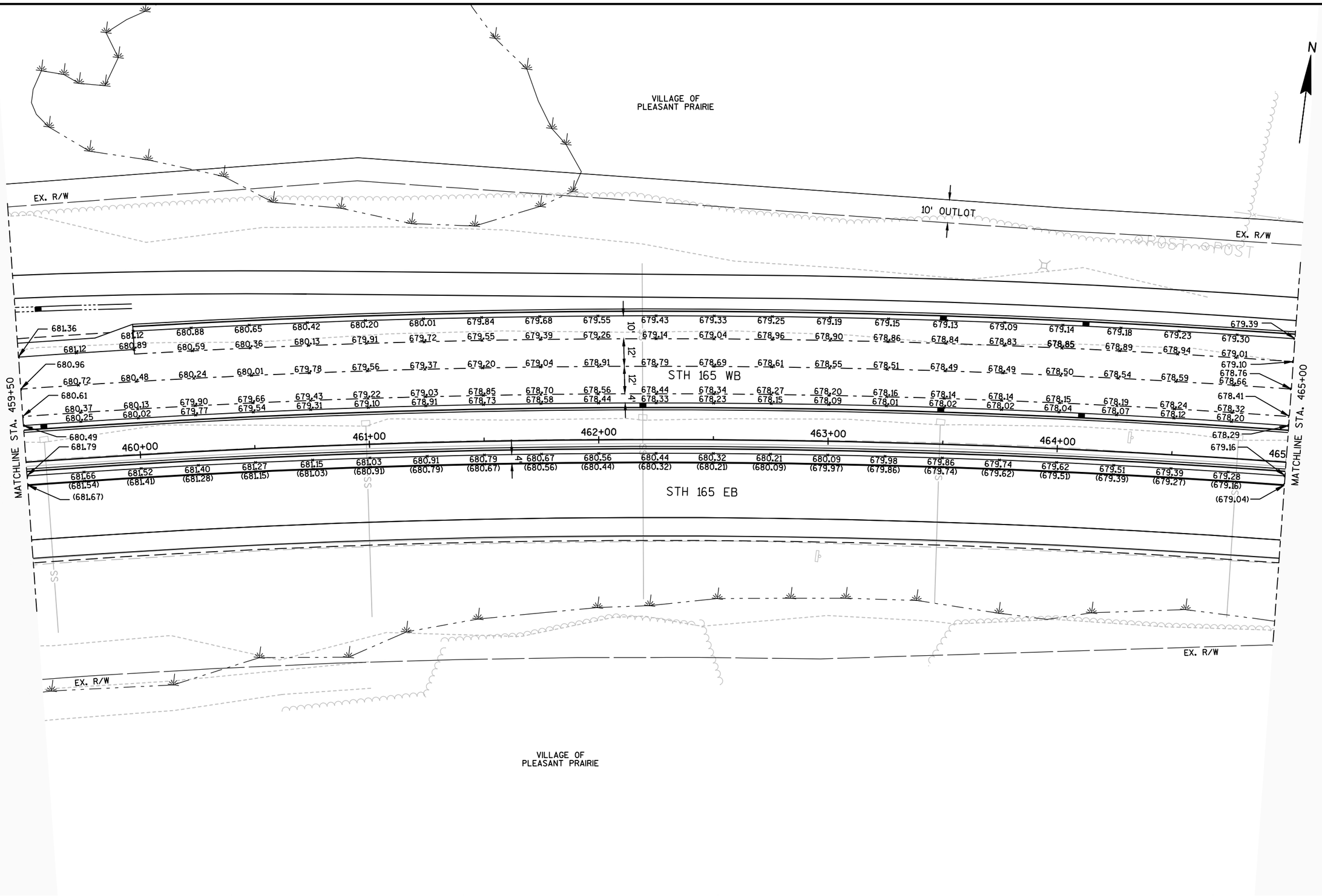
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	JOINT DETAILS & PAVEMENT GRADES	SHEET 48	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021301_JD.DWG
LAYOUT NAME - 021301_JD - 021308_JD
PLOT DATE : 2/25/2016 12:29 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42



SUPERELEVATION DATA (WB)						
		RATE ('/')				
CURVE	STATION	OUTSIDE SHOULDER	LT LANE	RT LANE	INSIDE SHOULDER	REMARKS
2	455+29	-0.040	-0.020	-0.020	-0.020	BEGIN SHOULDER TRANSITION
	455+69	-0.020	-0.020	-0.020	-0.020	BEGIN LANE TRANSITION
	456+49	0.000	0.000	-0.020	-0.020	END TANGENT RUNOUT
	457+29	0.020	0.020	-0.020	-0.020	REVERSE CROWN
	457+65	0.029	0.029	-0.029	-0.029	BEGIN FULL SUPER

2



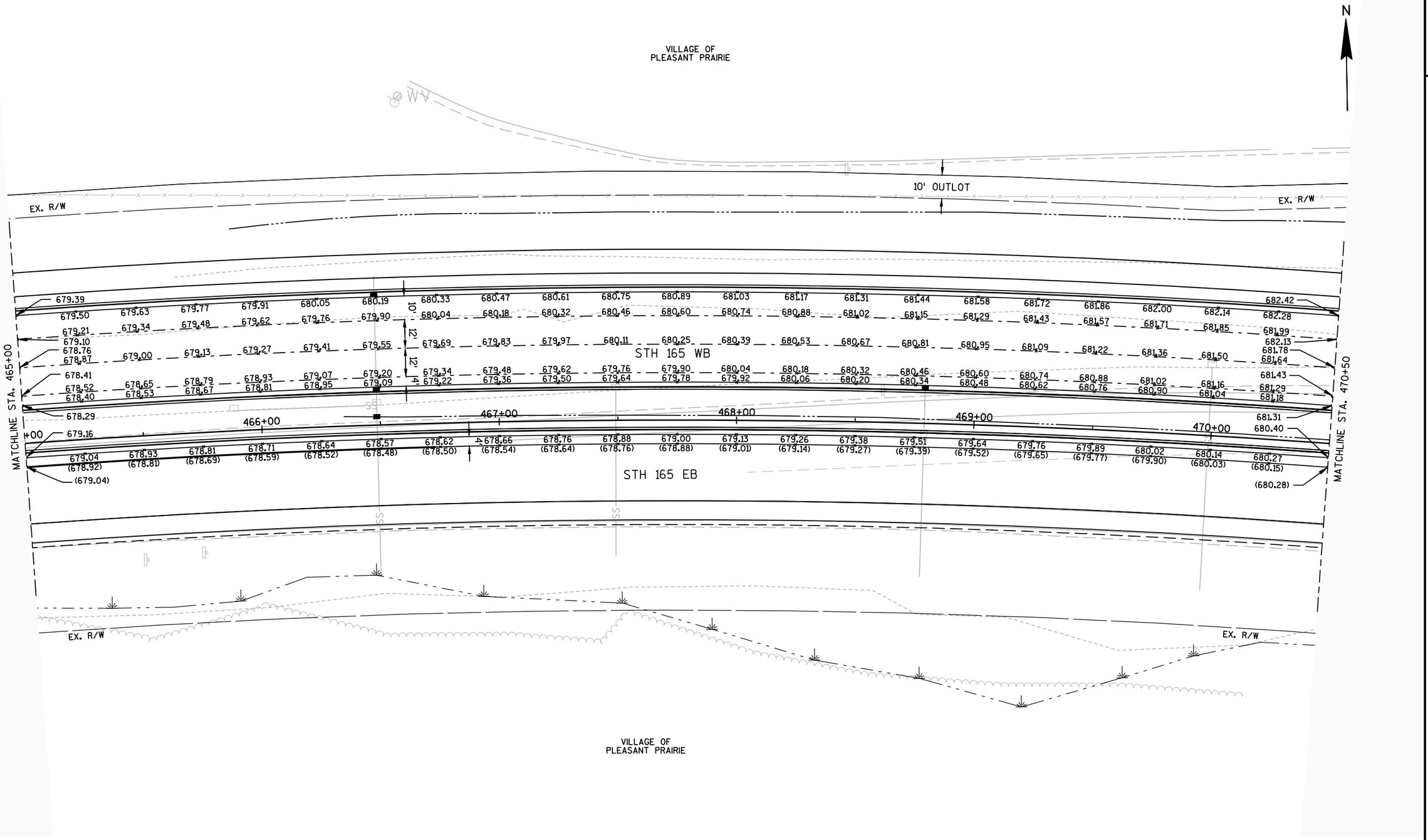
VILLAGE OF
PLEASANT PRAIRIE

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	JOINT DETAILS & PAVEMENT GRADES	SHEET 50	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021301_JD.DWG
LAYOUT NAME - 021301_JD - 021310_JD

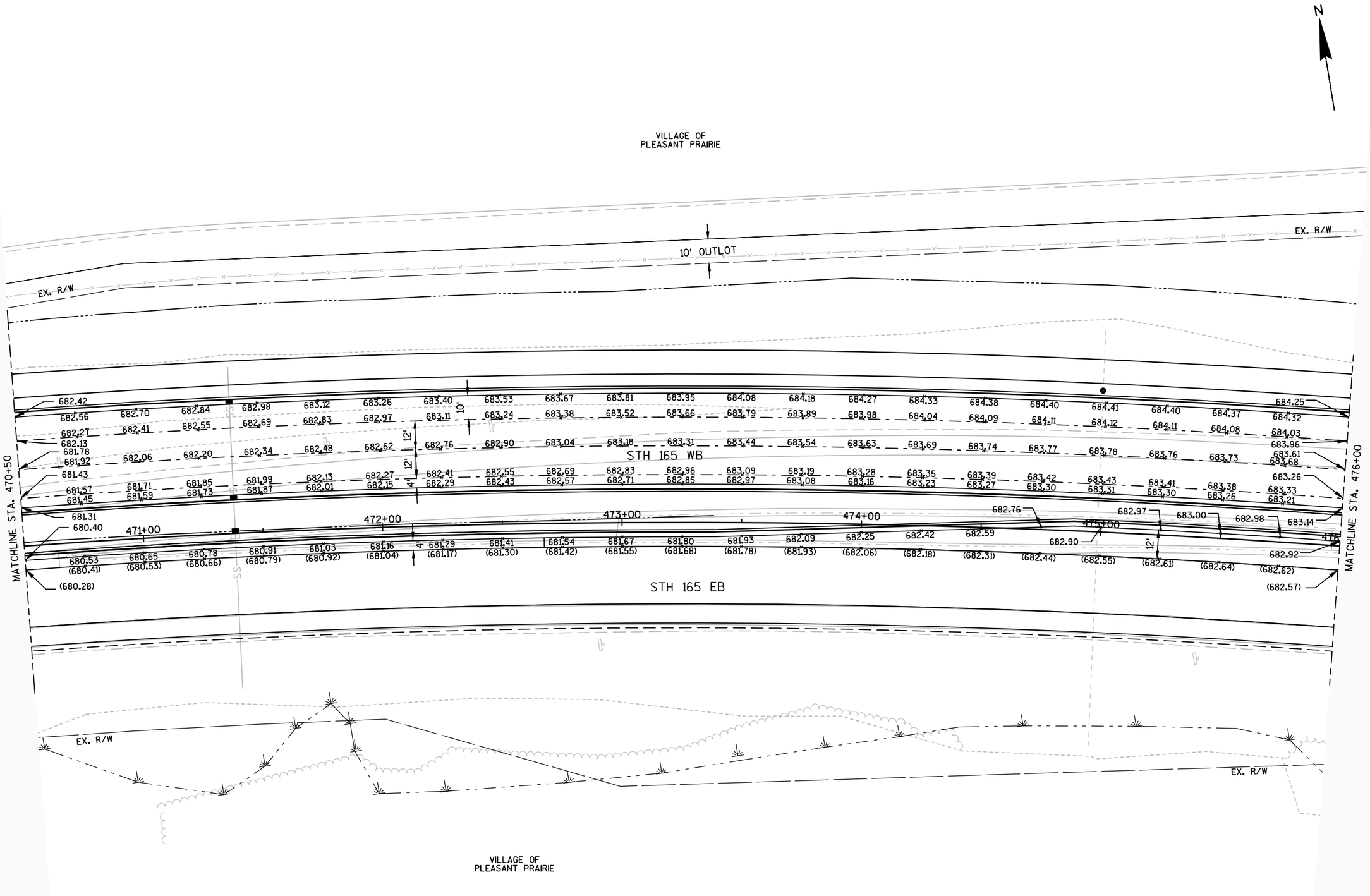
PLOT DATE : 2/25/2016 12:29 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF

2



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	JOINT DETAILS & PAVEMENT GRADES	SHEET 51	E

2

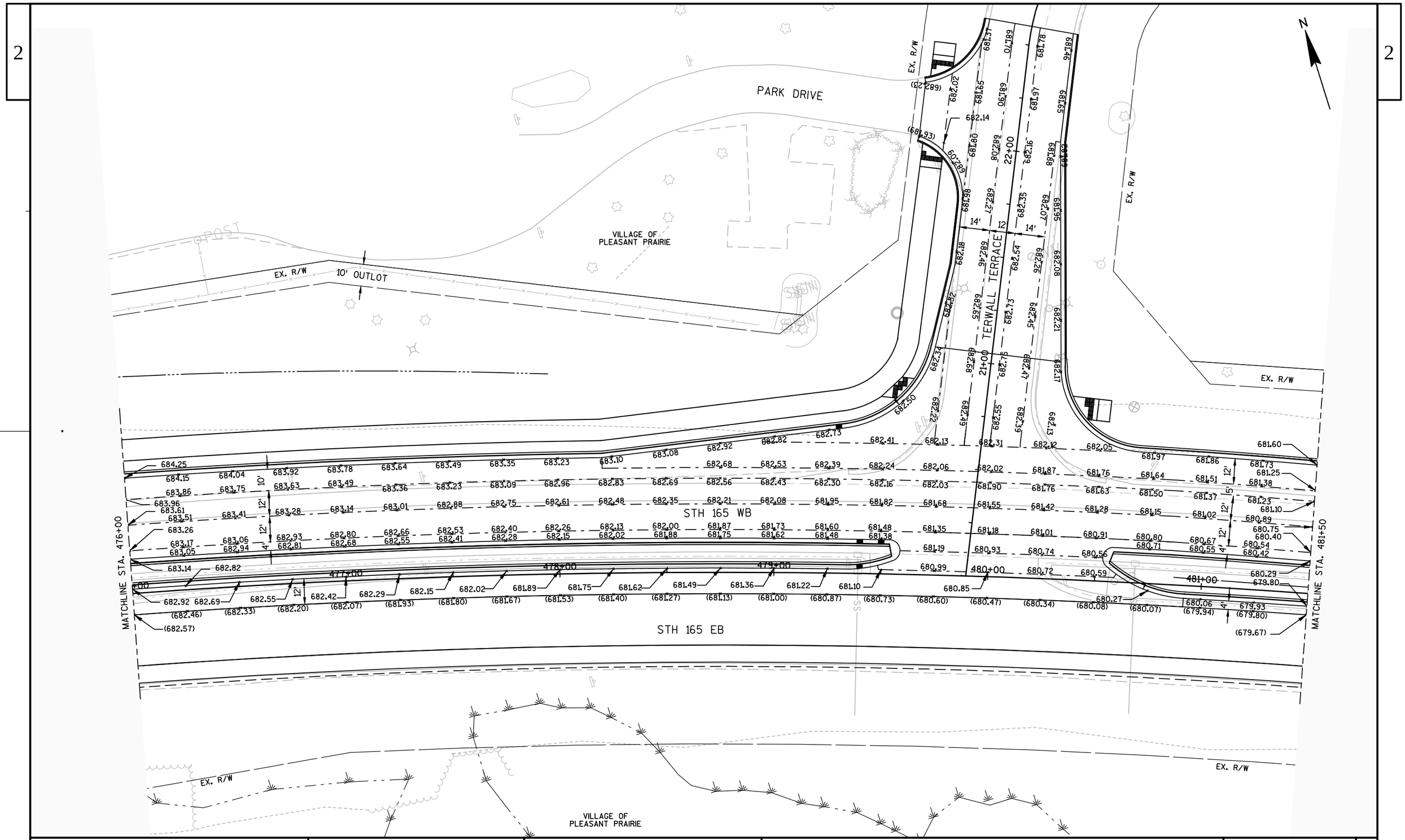


PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	JOINT DETAILS & PAVEMENT GRADES	SHEET 52	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021301_JD.DWG
LAYOUT NAME - 021301_JD - 021312_JD

PLOT DATE : 2/25/2016 12:30 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF

2



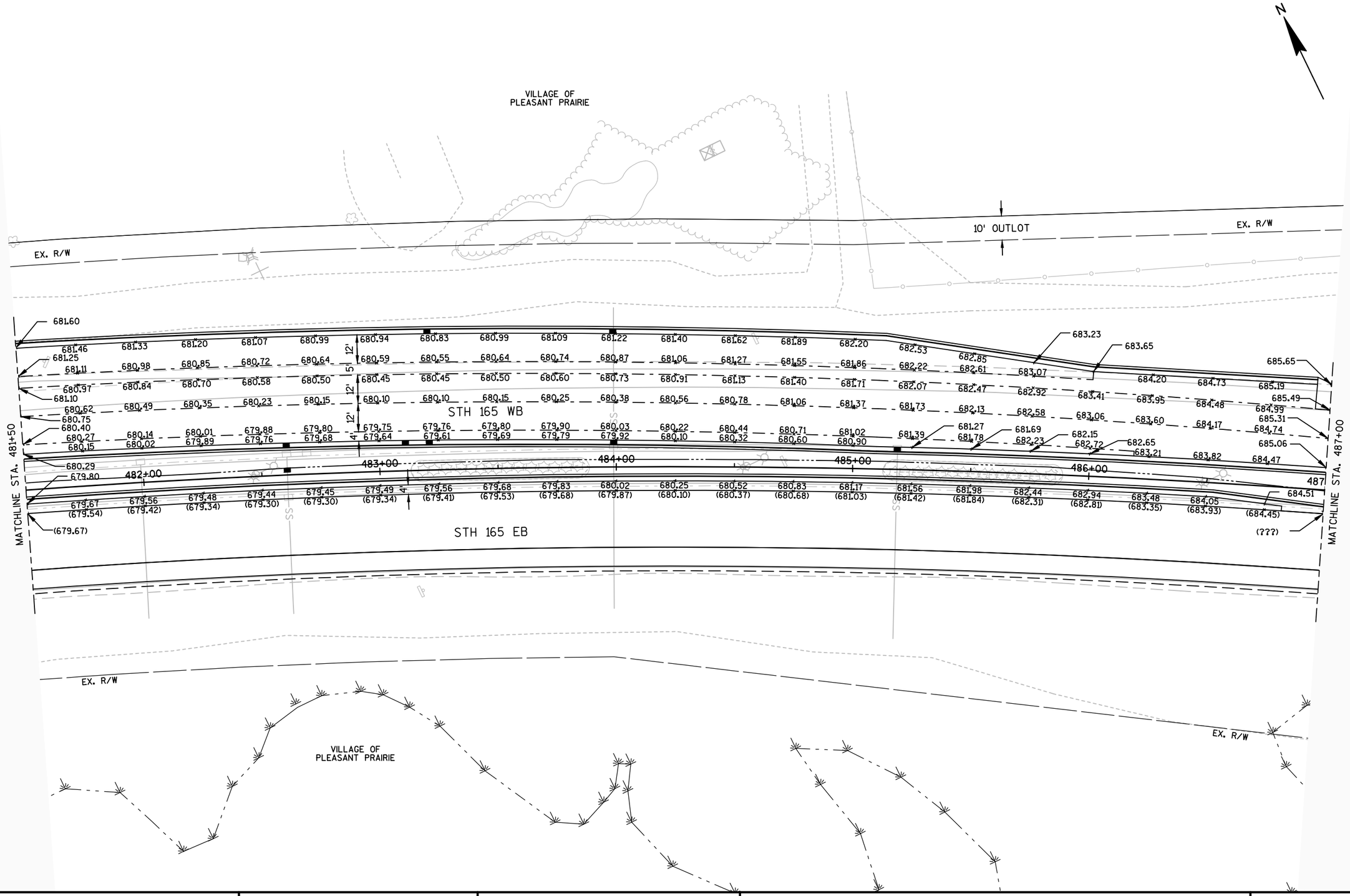
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	JOINT DETAILS & PAVEMENT GRADES	SHEET 53	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\021301_JD.DWG
LAYOUT NAME - 021301_JD - 021313_JD

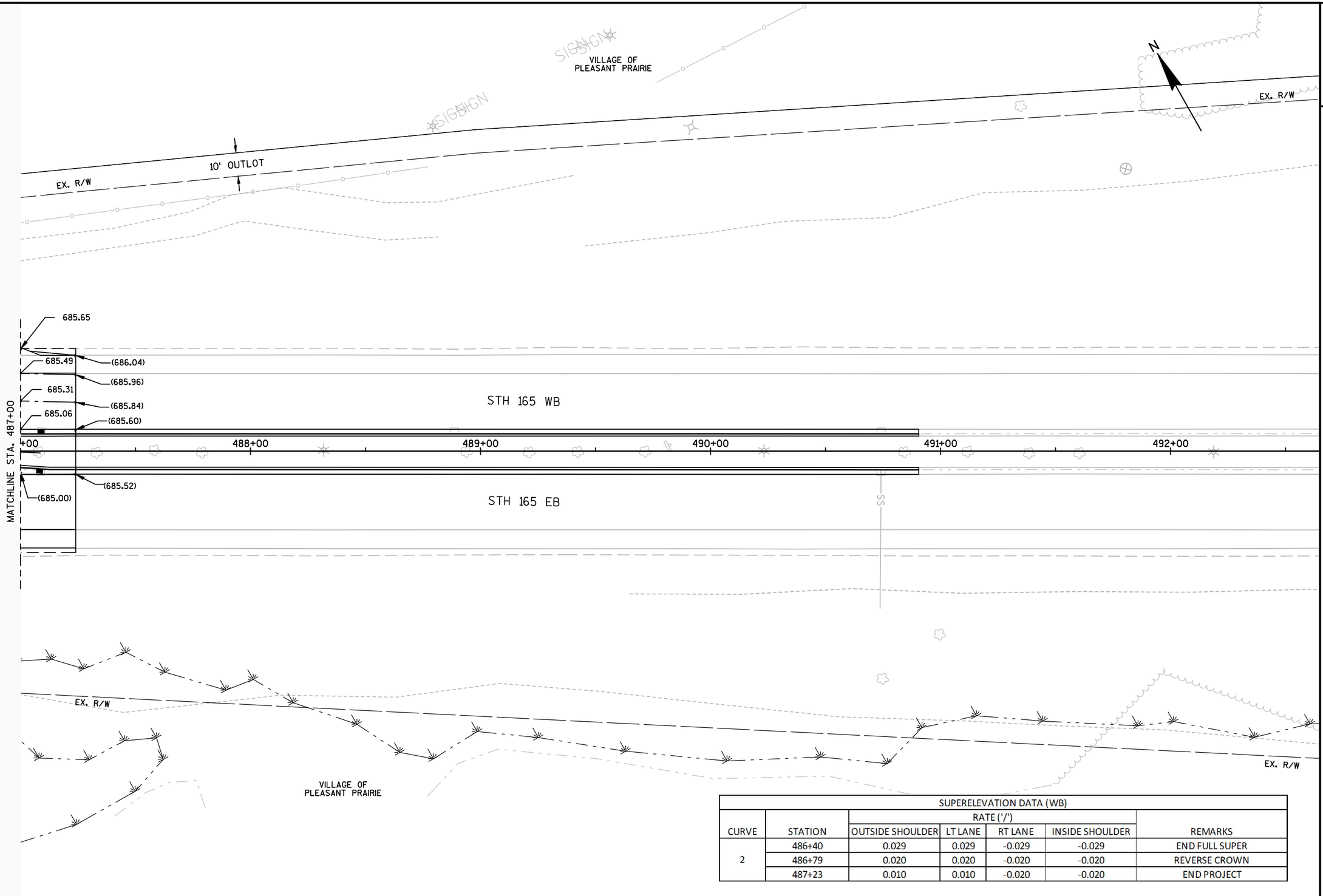
PLOT DATE : 2/25/2016 12:30 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	JOINT DETAILS & PAVEMENT GRADES	SHEET 54	E

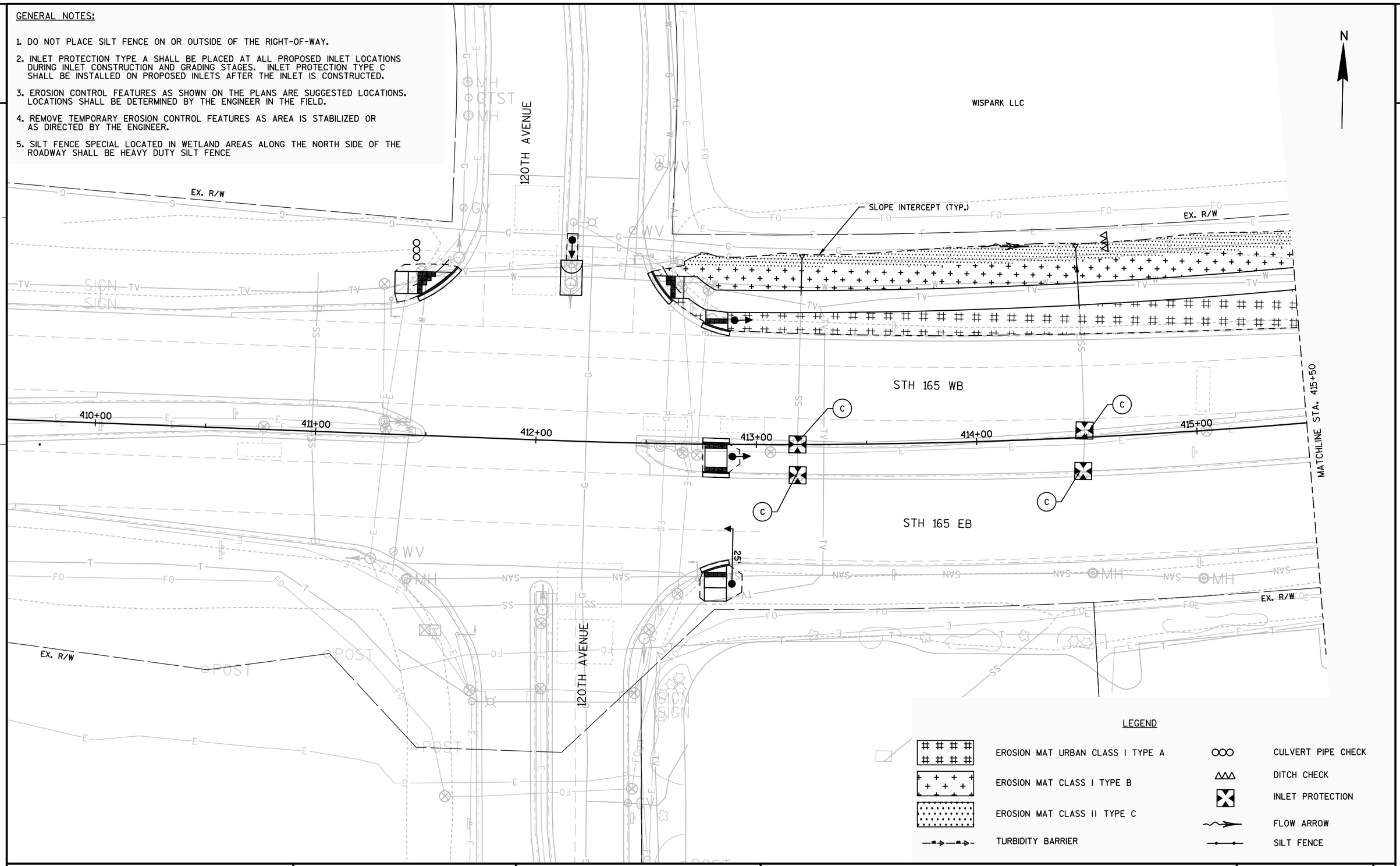


SUPERELEVATION DATA (WB)						
		RATE ('/')				
CURVE	STATION	OUTSIDE SHOULDER	LT LANE	RT LANE	INSIDE SHOULDER	REMARKS
2	486+40	0.029	0.029	-0.029	-0.029	END FULL SUPER
	486+79	0.020	0.020	-0.020	-0.020	REVERSE CROWN
	487+23	0.010	0.010	-0.020	-0.020	END PROJECT

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	JOINT DETAILS & PAVEMENT GRADES	SHEET 55	E

GENERAL NOTES:

1. DO NOT PLACE SILT FENCE ON OR OUTSIDE OF THE RIGHT-OF-WAY.
2. INLET PROTECTION TYPE A SHALL BE PLACED AT ALL PROPOSED INLET LOCATIONS DURING INLET CONSTRUCTION AND GRADING STAGES. INLET PROTECTION TYPE C SHALL BE INSTALLED ON PROPOSED INLETS AFTER THE INLET IS CONSTRUCTED.
3. EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE SUGGESTED LOCATIONS. LOCATIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
4. REMOVE TEMPORARY EROSION CONTROL FEATURES AS AREA IS STABILIZED OR AS DIRECTED BY THE ENGINEER.
5. SILT FENCE SPECIAL LOCATED IN WETLAND AREAS ALONG THE NORTH SIDE OF THE ROADWAY SHALL BE HEAVY DUTY SILT FENCE

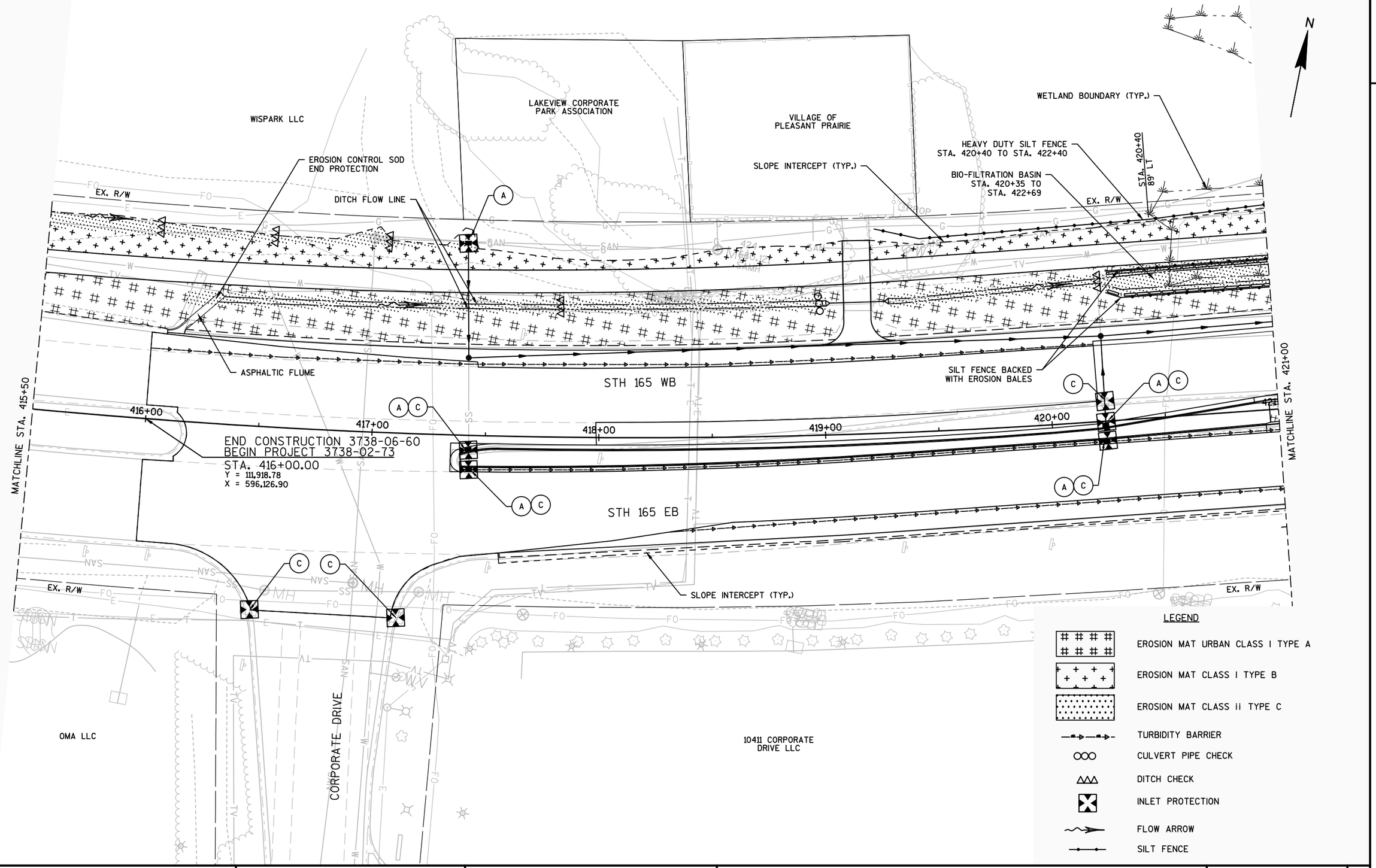


LEGEND

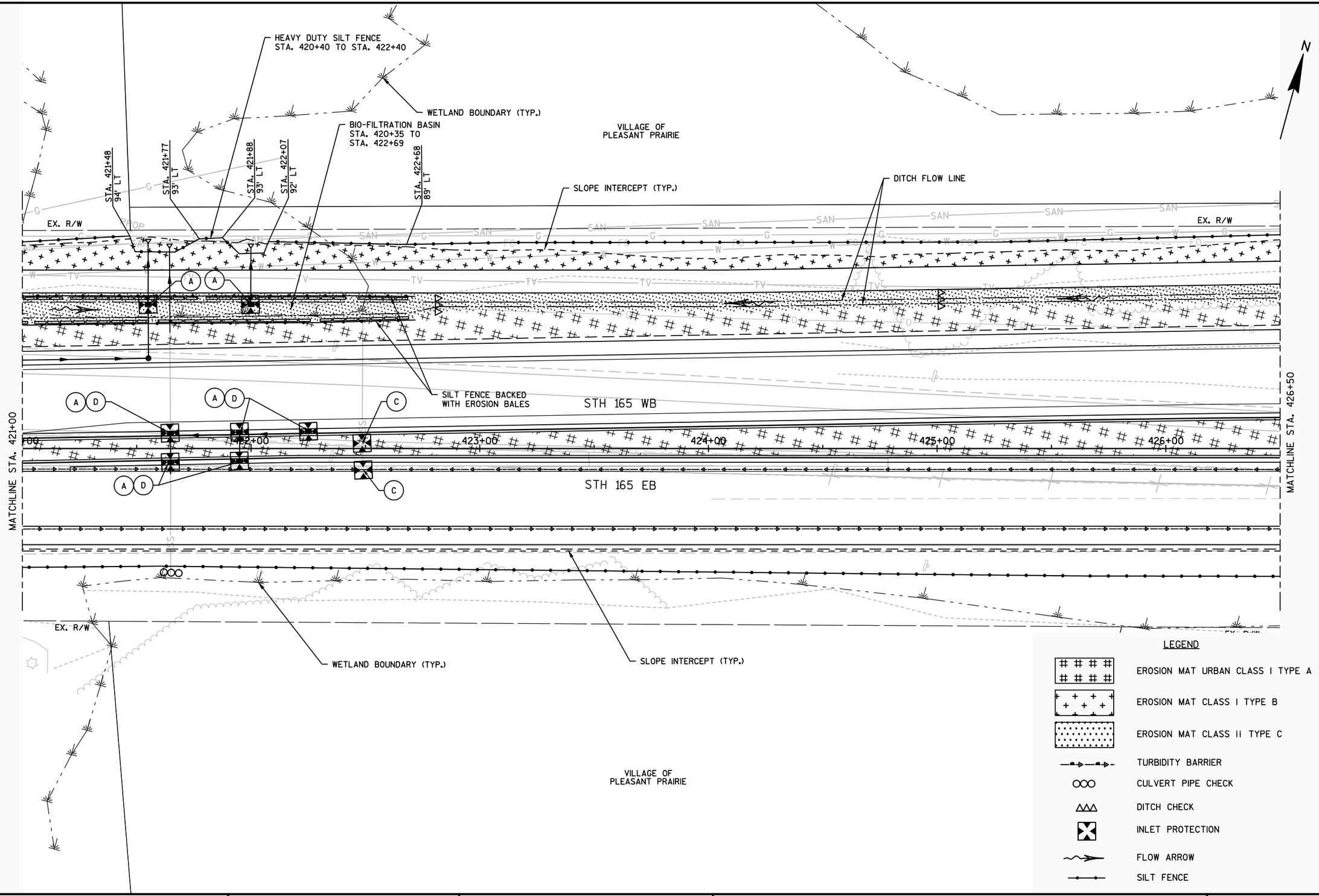
- EROSION MAT URBAN CLASS I TYPE A
- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- TURBIDITY BARRIER
- CULVERT PIPE CHECK
- DITCH CHECK
- INLET PROTECTION
- FLOW ARROW
- SILT FENCE

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 56	E

2



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 57	E



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 58	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_EC - 022003_EC
PLOT DATE : 4/11/2016 10:46 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

2

N

WETLAND BOUNDARY (TYP.)

VILLAGE OF
PLEASANT PRAIRIE

SLOPE INTERCEPT (TYP.)

EX. R/W

EX. R/W

DITCH FLOW LINE

STH 165 WB

A C

MATCHLINE STA. 426+50

427+00 428+00 429+00 430+00 431+00 432

MATCHLINE STA. 432+00

STH 165 EB

SLOPE INTERCEPT (TYP.)

EX. R/W

SIGN

SIGN

WETLAND BOUNDARY (TYP.)

VILLAGE OF
PLEASANT PRAIRIE

LEGEND

- EROSION MAT URBAN CLASS I TYPE A
- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- TURBIDITY BARRIER
- CULVERT PIPE CHECK
- DITCH CHECK
- INLET PROTECTION
- FLOW ARROW
- SILT FENCE

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 59	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_EC - 022004_EC

PLOT DATE : 4/11/2016 10:46 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME :

PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2

2

VILLAGE OF
PLEASANT PRAIRIE

N

EX. R/W

EX. R/W

EX. R/W

EX. R/W

STH 165 WB

432+00

433+00

434+00

435+00

436+00

437+00

STH 165 EB

EX. R/W

EX. R/W

EX. R/W

VILLAGE OF
PLEASANT PRAIRIE

LEGEND

- EROSION MAT URBAN CLASS I TYPE A
- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- TURBIDITY BARRIER
- CULVERT PIPE CHECK
- DITCH CHECK
- INLET PROTECTION
- FLOW ARROW
- SILT FENCE

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 60	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_EC - 022005_EC

PLOT DATE : 4/11/2016 10:46 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME :

PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2

N

VILLAGE OF
PLEASANT PRAIRIE

WETLAND BOUNDARY (TYP.)

BIO-FILTRATION BASIN
STA. 435+07 TO
STA. 438+00

SLOPE INTERCEPT (TYP.)

EX. R/W

EX. R/W

DITCH FLOW LINE

SILT FENCE BACKED
WITH EROSION BALES

STH 165 WB

STH 165 EB

438+00

439+00

440+00

441+00

442+00

443

MATCHLINE STA. 437+50

MATCHLINE STA. 443+00

SLOPE INTERCEPT (TYP.)

EX. R/W

EX. R/W

VILLAGE OF
PLEASANT PRAIRIE

WETLAND BOUNDARY (TYP.)

LEGEND

EROSION MAT URBAN CLASS I TYPE A

EROSION MAT CLASS I TYPE B

EROSION MAT CLASS ii TYPE C

TURBIDITY BARRIER

CULVERT PIPE CHECK

DITCH CHECK

INLET PROTECTION

FLOW ARROW

SILT FENCE

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 61	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_EC - 022006_EC

PLOT DATE : 4/11/2016 10:47 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME :

PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2

N

VILLAGE OF
PLEASANT PRAIRIE

WETLAND BOUNDARY (TYP.)

SLOPE INTERCEPT (TYP.)

STA. 445+29
108' LT

HEAVY DUTY SILT FENCE
STA. 445+45 TO STA. 448+50

STA. 446+08
115' LT

STA. 446+32
112' LT

STA. 446+57
115' LT

STA. 446+82
115' LT

STA. 447+25
120' LT

STA. 448+16
120' LT

HEAVY RIPRAP

EX. R/W

EX. R/W

ASPHALTIC FLUME

DITCH FLOW LINE

EROSION CONTROL SOD
END PROTECTION

TEMPORARY SETTLING BASIN.
FILTER BAG PLACED INSIDE SETTLING
BASIN WITH GEOTEXTILE FABRIC TYPE
HR AND EROSION BALES

STH 165 WB

STH 165 EB

MATCHLINE STA. 443+00

444+00

445+00

446+00

447+00

448+00

MATCHLINE STA. 448+50

SLOPE INTERCEPT (TYP.)

SILT FENCE SPECIAL
STA. 447+40 TO STA. 449+35

EX. R/W

EX. R/W

WETLAND BOUNDARY (TYP.)

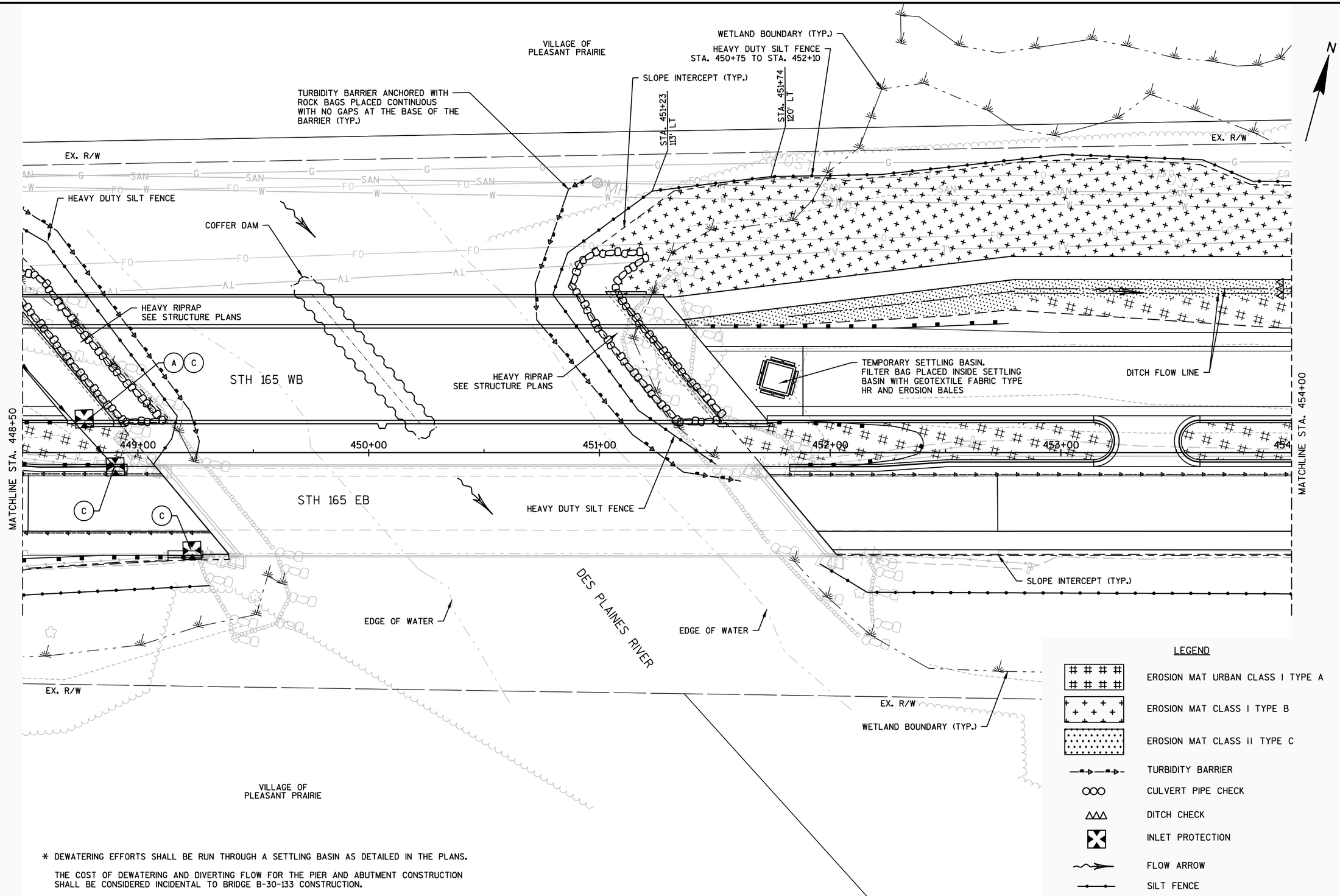
VILLAGE OF
PLEASANT PRAIRIE

LEGEND

- EROSION MAT URBAN CLASS I TYPE A
- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- TURBIDITY BARRIER
- CULVERT PIPE CHECK
- DITCH CHECK
- INLET PROTECTION
- FLOW ARROW
- SILT FENCE

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 62	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_EC - 022007_EC
PLOT DATE : 4/11/2016 10:47 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME :
PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42



* DEWATERING EFFORTS SHALL BE RUN THROUGH A SETTLING BASIN AS DETAILED IN THE PLANS.

THE COST OF DEWATERING AND DIVERTING FLOW FOR THE PIER AND ABUTMENT CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL TO BRIDGE B-30-133 CONSTRUCTION.

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 63	E

2

2

VILLAGE OF
PLEASANT PRAIRIE

N

EX. R/W

SLOPE INTERCEPT (TYP.)

EX. R/W

DITCH FLOW LINE

STH 165 WB

STH 165 EB

MATCHLINE STA. 454+00

MATCHLINE STA. 459+50

455+00

456+00

457+00

458+00

459+00

A

C

SLOPE INTERCEPT (TYP.)

EX. R/W

EX. R/W

WETLAND BOUNDARY (TYP.)

VILLAGE OF
PLEASANT PRAIRIE

LEGEND

EROSION MAT URBAN CLASS I TYPE A

EROSION MAT CLASS I TYPE B

EROSION MAT CLASS II TYPE C

TURBIDITY BARRIER

CULVERT PIPE CHECK

DITCH CHECK

INLET PROTECTION

FLOW ARROW

SILT FENCE

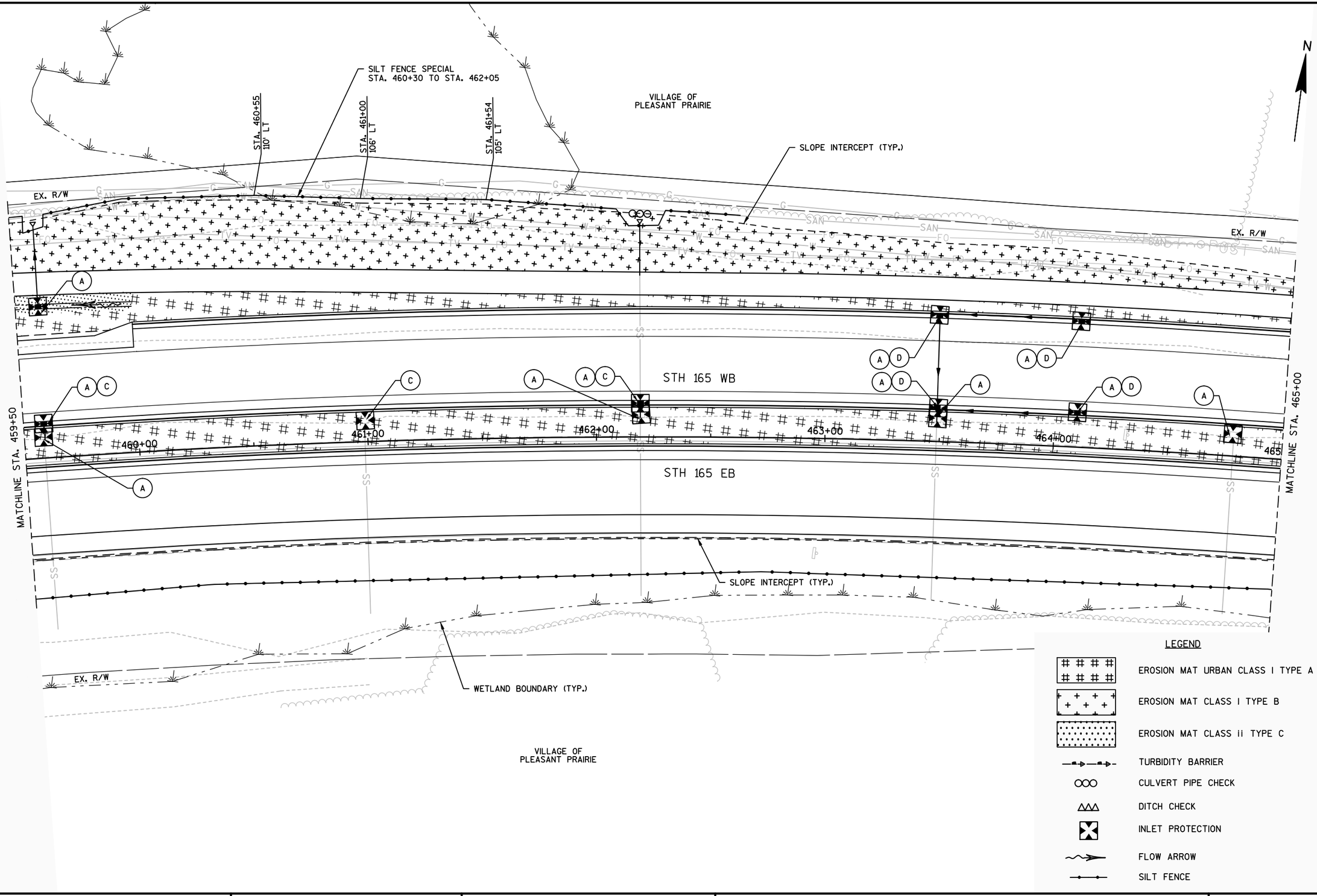
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 64	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_EC - 022009_EC

PLOT DATE : 4/11/2016 10:48 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME :

PLOT SCALE : 1" = 40'_XREF

2



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 65	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_EC - 022010_EC
PLOT DATE : 4/11/2016 10:48 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME :
PLOT SCALE : 1" = 40'_XREF

2

N

VILLAGE OF
PLEASANT PRAIRIE

SLOPE INTERCEPT (TYP.)

EX. R/W

EX. R/W

STH 165 WB

STH 165 EB

MATCHLINE STA. 465+00

MATCHLINE STA. 470+50

466+00

467+00

468+00

469+00

470+00

SLOPE INTERCEPT (TYP.)

EX. R/W

WETLAND BOUNDARY (TYP.)

VILLAGE OF
PLEASANT PRAIRIE

LEGEND

- EROSION MAT URBAN CLASS I TYPE A
- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS ii TYPE C
- TURBIDITY BARRIER
- CULVERT PIPE CHECK
- DITCH CHECK
- INLET PROTECTION
- FLOW ARROW
- SILT FENCE

PROJECT NO:3738-02-73	HWY: STH 165	COUNTY:KENOSHA	EROSION CONTROL	SHEET 66	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_EC - 022011_EC

PLOT DATE : 4/11/2016 10:49 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1" = 40'_XREF

2

VILLAGE OF
PLEASANT PRAIRIE

SLOPE INTERCEPT (TYP.)

EX. R/W

EX. R/W

MATCHLINE STA. 470+50

MATCHLINE STA. 476+00

STH 165 WB

471+00

472+00

473+00

474+00

475+00

476

STH 165 EB

SLOPE INTERCEPT (TYP.)

EX. R/W

WETLAND BOUNDARY (TYP.)

VILLAGE OF
PLEASANT PRAIRIE

LEGEND

- EROSION MAT URBAN CLASS I TYPE A
- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- TURBIDITY BARRIER
- CULVERT PIPE CHECK
- DITCH CHECK
- INLET PROTECTION
- FLOW ARROW
- SILT FENCE

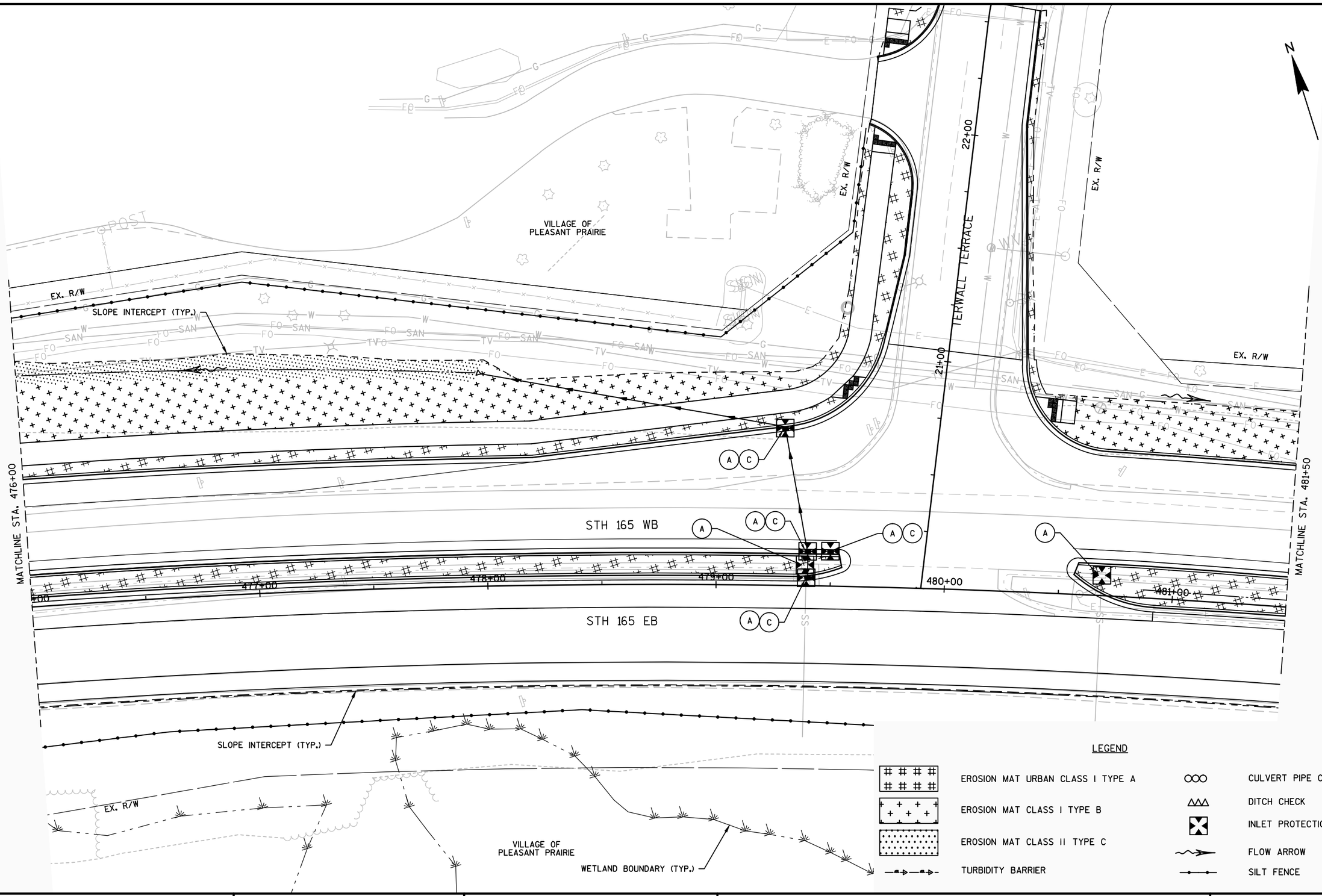
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 67	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_EC - 022012_EC

PLOT DATE : 4/11/2016 10:49 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME :

PLOT SCALE : 1" = 40'_XREF

2



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 68	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_EC - 022013_EC
PLOT DATE : 4/11/2016 10:49 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME :
PLOT SCALE : 1'=40' WISDOT/CADDS SHEET 42

2

N

VILLAGE OF
PLEASANT PRAIRIE

SLOPE INTERCEPT (TYP.)

EX. R/W

EX. R/W

A

A D

A D

A D

A D

A D

D

D

C

STH 165 WB

STH 165 EB

482+00

483+00

484+00

485+00

486+00

487

MATCHLINE STA. 481+50

MATCHLINE STA. 487+00

SLOPE INTERCEPT (TYP.)

EX. R/W

WETLAND BOUNDARY (TYP.)

VILLAGE OF
PLEASANT PRAIRIE

LEGEND

- EROSION MAT URBAN CLASS I TYPE A
- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- TURBIDITY BARRIER
- CULVERT PIPE CHECK
- DITCH CHECK
- INLET PROTECTION
- FLOW ARROW
- SILT FENCE

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 69	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_EC - 022014_EC

PLOT DATE : 4/11/2016 10:50 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2

VILLAGE OF
PLEASANT PRAIRIE

EX. R/W

SLOPE INTERCEPT (TYP.)

MATCHLINE STA. 487+00

STH 165 WB

STH 165 EB

488+00

489+00

490+00

491+00

492+00

END PROJECT 3738-02-73
BEGIN CONSTRUCTION 3738-06-60
STA. 487+24.00

SLOPE INTERCEPT (TYP.)

WETLAND BOUNDARY (TYP.)

EX. R/W

VILLAGE OF
PLEASANT PRAIRIE

LEGEND

- EROSION MAT URBAN CLASS I TYPE A
- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS ii TYPE C
- TURBIDITY BARRIER
- CULVERT PIPE CHECK
- DITCH CHECK
- INLET PROTECTION
- FLOW ARROW
- SILT FENCE

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	EROSION CONTROL	SHEET 70	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_EC - 022015_EC

PLOT DATE : 4/11/2016 10:50 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME :

PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

LEGEND

- (XX) PROPOSED DRAINAGE STRUCTURE
- XX EXISTING STRUCTURE TO BE ADJUSTED
- XX EXISTING DRAINAGE STRUCTURE TO BE REMOVED
- \\\\\\\\ EXISTING STORM SEWER TO BE REMOVED

N

7 STA. 413+21, 86.9' LT
SALVAGED 12" ENDWALL

9 STA. 414+49, 88.5' LT
SALVAGED 12" ENDWALL

SLOPE INTERCEPT (TYP.)

STA. 417+40, 84.0' LT
INLET 3G-MS
10

503

STA. 420+24, 37.6' LT
MANHOLE 4FT-J
14

WETLAND BOUNDARY (TYP.)

BIOSWALE
STA. 420+35 TO
STA. 422+69

EX. R/W

6 REMOVE PIPE
BACK TO SINKHOLE
CONCRETE COLLAR REQUIRED

8 CONCRETE COLLAR REQUIRED

STH 165

DITCH FLOW LINE

STA. 417+42, 34.2' LT
MANHOLE 4FT-J
11

24" - 18" CSCP WITH
APRON ENDWALLS

301

413+00 414+00 415+00 416+00 417+00 418+00 419+00 420+00 421+00

MATCHLINE STA. 421+50

END CONSTRUCTION 3738-06-60
BEGIN PROJECT 3738-02-73
STA. 416+00.00

SALVAGE FRAME
AND GRATE

SALVAGE FRAME
AND GRATE

STA. 420+24, 2.7' RT
CATCH BASIN 2X3-HM
15

EX. R/W

EX. R/W

EX. R/W

CORPORATE DRIVE

SLOPE INTERCEPT (TYP.)

WETLAND BOUNDARY (TYP.)

695
690
685
680
675
670

EX. 12" SSPRC
7
689.07
17' - 12" SSPRC @ 0.50%
CONCRETE COLLAR REQUIRED
689.15

EX. 12" SSPRC
9
685.02
CONCRETE COLLAR REQUIRED
685.42
27' - 12" SSPRC @ 1.50%

681.01
15
681.00
14
680.65
677.00
676.21
677.39
675.20
40' - 12" SSPRC @ 0.50%
677.20

684.48
11
10
680.34
680.50
680.00
50' - 18" SSPRC @ 0.75%
679.63
679.23
EXISTING CONDUIT

680.65
14
677.00
279' - 21" SSPRC @ 0.80%
677.00
676.21
141' - 21" SSPRC @ 0.60%

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	STORM SEWER PLAN	SHEET 71	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022501_SS.DWG
LAYOUT NAME - 022501_SS - 022501_SS

PLOT DATE : 2/25/2016 12:38 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 60'_XREF

WISDOT/CADDS SHEET 41

2

16 STA. 421+55, 92.4' LT
21" ENDWALL

17 STA. 421+55, 63.0' LT
INLET 2G-MS

19 CONCRETE COLLAR
REQUIRED

20 STA. 421+64, 90.3' LT
SALVAGED 30" ENDWALL

24 STA. 422+00, 90.3' LT
SALVAGED 12" ENDWALL

18 STA. 421+55, 39.4' LT
MANHOLE 5FT-J

504

25 STA. 422+00, 63.0' LT
INLET 1G-MS

BIOSWALE
STA. 420+35 TO
STA. 422+69

WETLAND BOUNDARY (TYP.)

SLOPE INTERCEPT (TYP.)

DITCH FLOW LINE

EX. R/W

EX. R/W

MATCHLINE STA. 421+50

MATCHLINE STA. 430+50

STH 165

302

304

305

303

EX. R/W

28 STA. 422+25, 6.6' LT
INLET 2X3-HM

27 STA. 421+95, 6.1' LT
CATCH BASIN 2X3-HM-S

26 STA. 421+95, 4.5' RT
INLET 2X3-HM

22 STA. 421+65, 5.6' LT
MANHOLE 5-FT-HM

23A CONCRETE COLLAR
REQUIRED

23 STA. 421+65, 5.1' RT
MANHOLE 5-FT-HM-S

WETLAND BOUNDARY (TYP.)

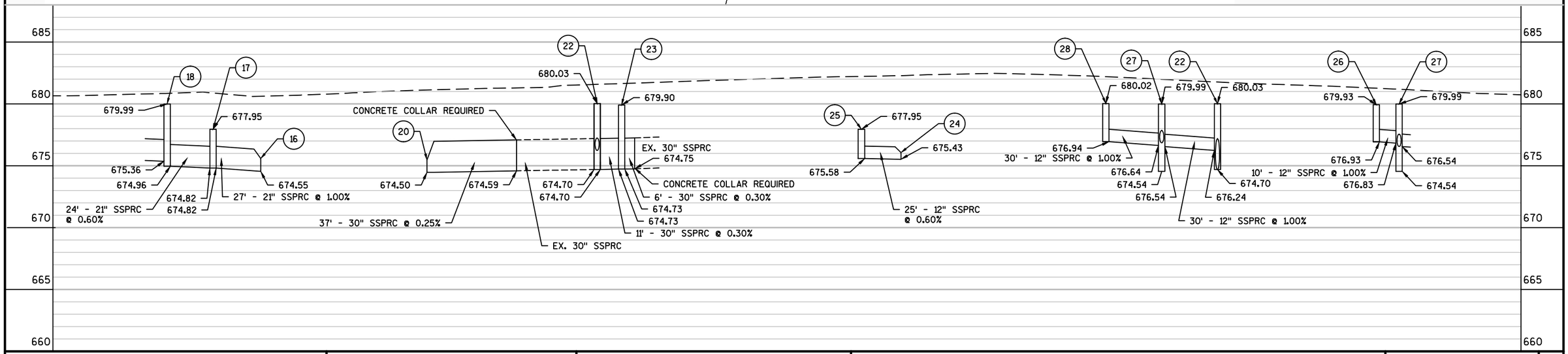
SLOPE INTERCEPT (TYP.)

SIGN
SIGN

N

LEGEND

- (XX) PROPOSED DRAINAGE STRUCTURE
- (XX) EXISTING STRUCTURE TO BE ADJUSTED
- (XX) EXISTING DRAINAGE STRUCTURE TO BE REMOVED
- EXISTING STORM SEWER TO BE REMOVED



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	STORM SEWER PLAN	SHEET 72	E

LEGEND

- (XX) PROPOSED DRAINAGE STRUCTURE
- XX EXISTING STRUCTURE TO BE ADJUSTED
- XX EXISTING DRAINAGE STRUCTURE TO BE REMOVED
- EXISTING STORM SEWER TO BE REMOVED

SLOPE INTERCEPT (TYP.)

WETLAND BOUNDARY (TYP.)

32 STA. 434+40, 95.3' LT SALVAGED 24" ENDWALL

33A CONCRETE COLLAR REQUIRED

34 STA. 436+30, 95.8' LT SALVAGED 30" ENDWALL

35 STA. 436+30, 67.1' LT INLET 2G-MS

35A CONCRETE COLLAR REQUIRED

36 STA. 436+30, 14.0' LT MANHOLE 5-FT-HM

BIOSWALE STA. 435+07 TO STA. 438+00

39 STA. 437+99, 14.0' LT INLET 2X3-HM

EX. R/W

DITCH FLOW LINE

26

MATCHLINE STA. 430+50

306 307 308 309 310 311

30 STA. 432+49, 14.0' LT INLET 2X3-HM

33B CONCRETE COLLAR REQUIRED

STH 165

37 STA. 436+55, 14.0' LT CATCH BASIN 2X3-HM-S

431+00 432+00 433+00 434+00 435+00 436+00 437+00 438+00 439+00

STA. 436+20, 14.0' LT CATCH BASIN 2X3-HM-S 36A

38 STA. 436+55, 4.0' RT INLET 2X3-HM

33C CONCRETE COLLAR REQUIRED

36B CONCRETE COLLAR REQUIRED

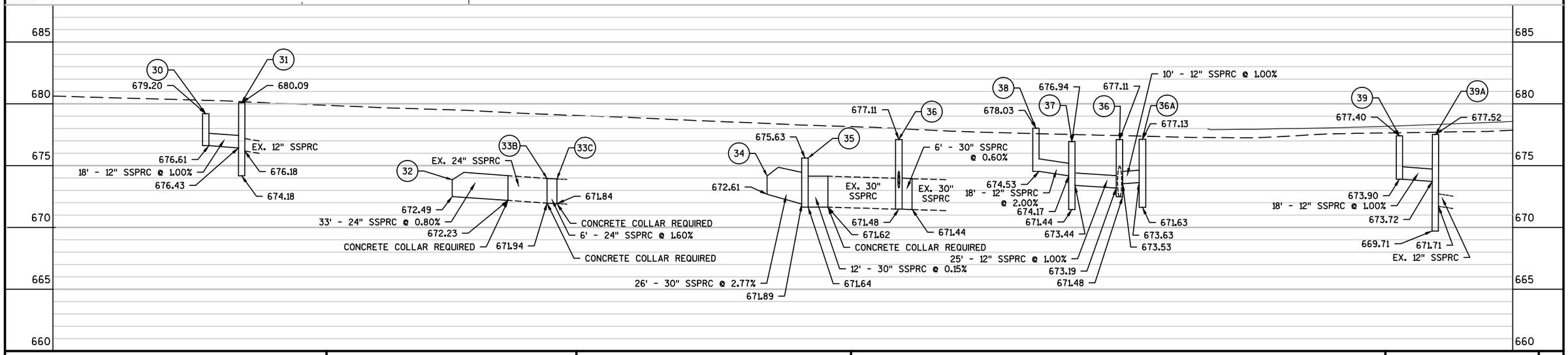
ABANDON PIPE

31 STA. 432+49, 4.0' RT CATCH BASIN 2X3-HM

STA. 437+99, 4.0' RT CATCH BASIN 2X3-HM-S 39A

MATCHLINE STA. 439+50

N



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	STORM SEWER PLAN	SHEET 73	E

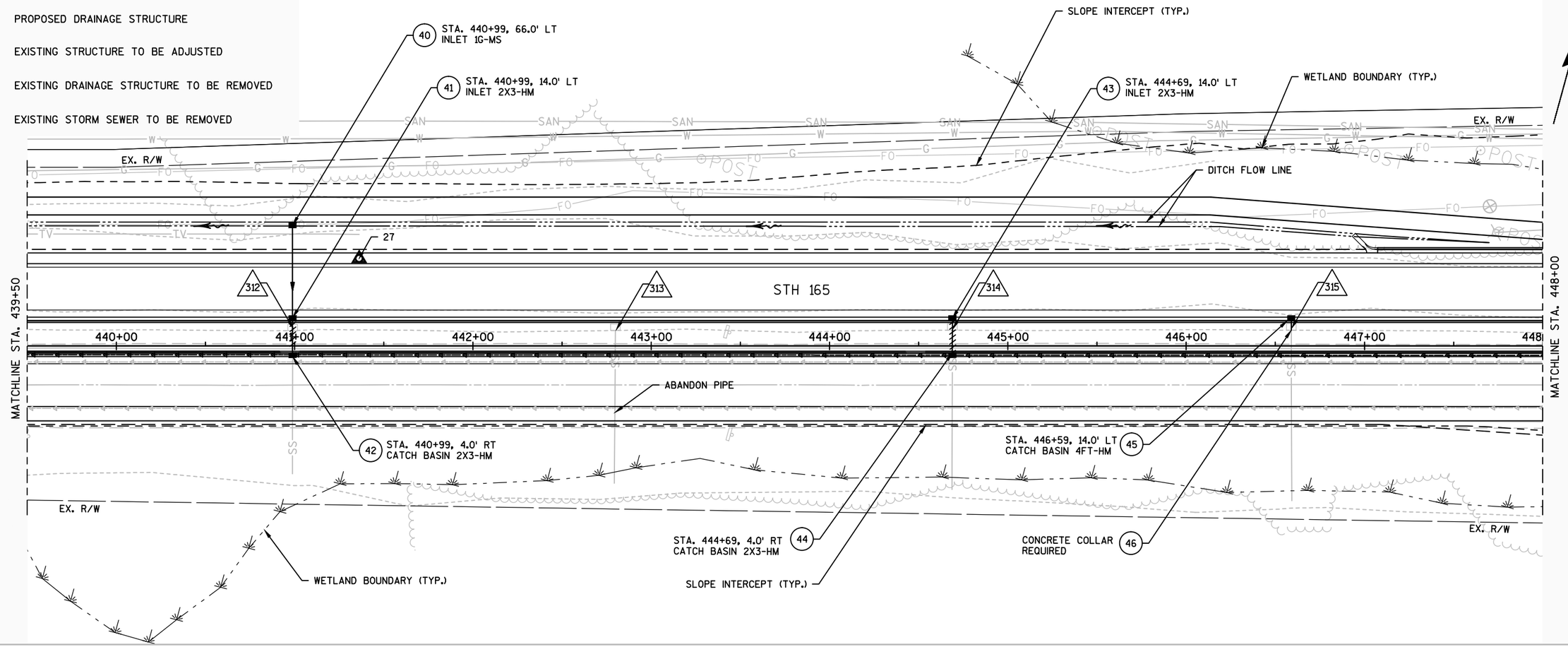
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LAYOUT NAME - 022501_SS - 022503_SS

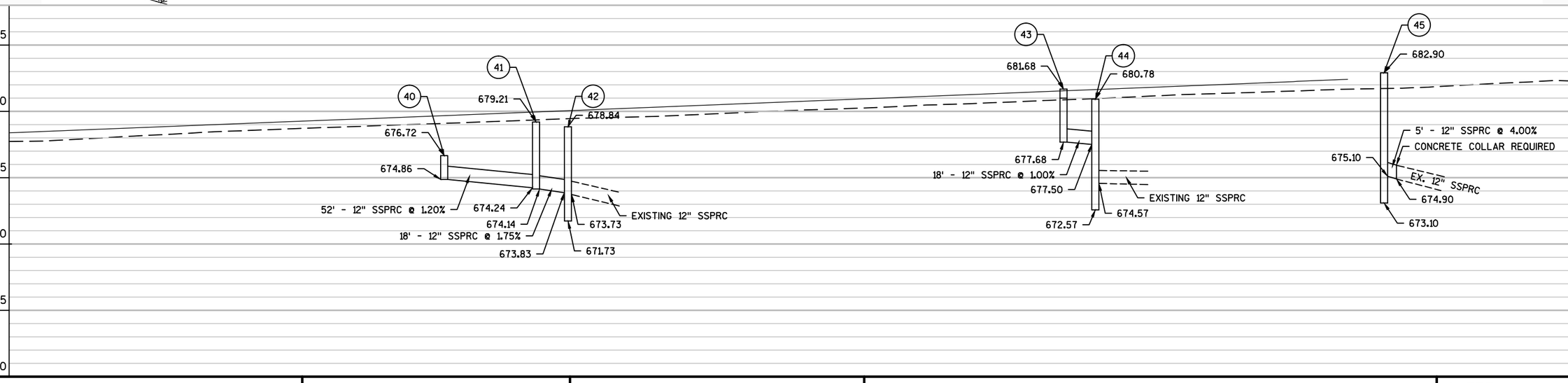
PLOT DATE : 2/25/2016 12:38 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 60'_XREF

WISDOT/CADDS SHEET 41

LEGEND

- XX — PROPOSED DRAINAGE STRUCTURE
- XX — EXISTING STRUCTURE TO BE ADJUSTED
- XX — EXISTING DRAINAGE STRUCTURE TO BE REMOVED
- EXISTING STORM SEWER TO BE REMOVED





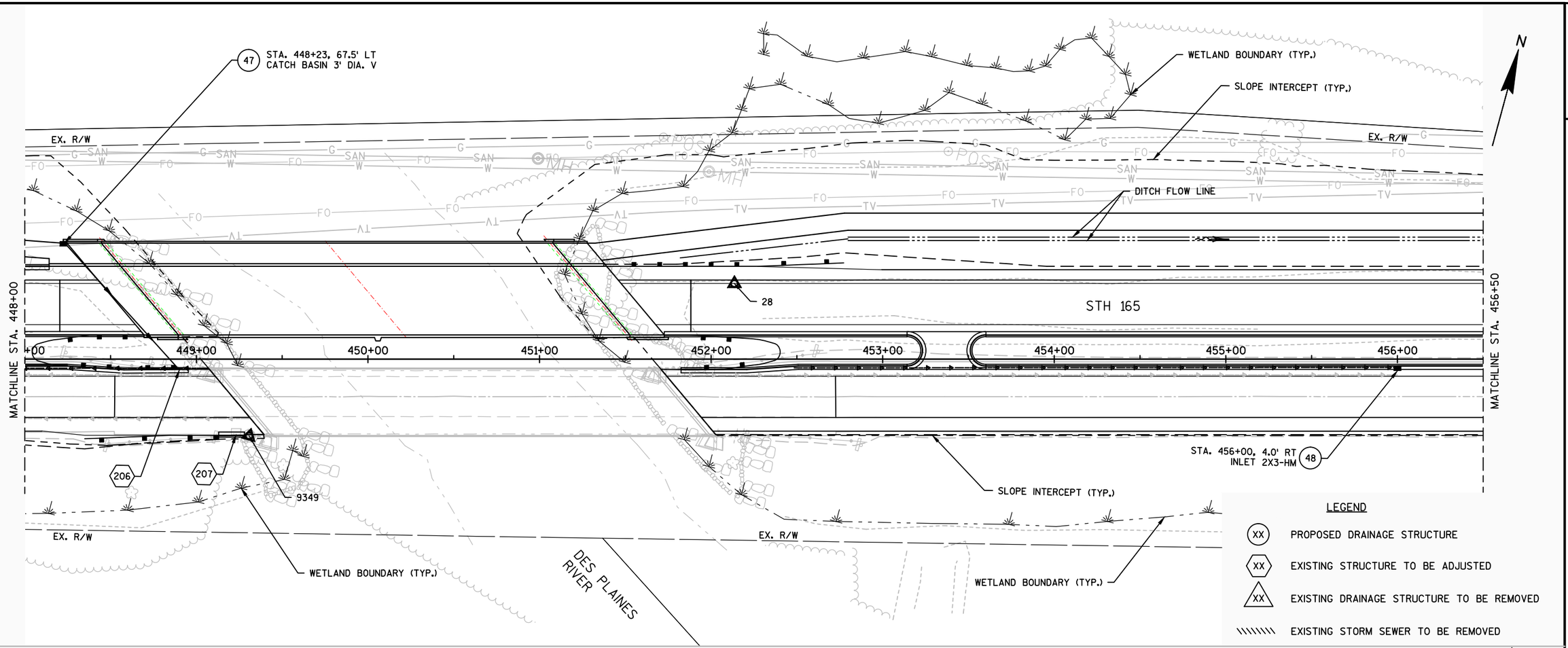
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	STORM SEWER PLAN	SHEET 74	E

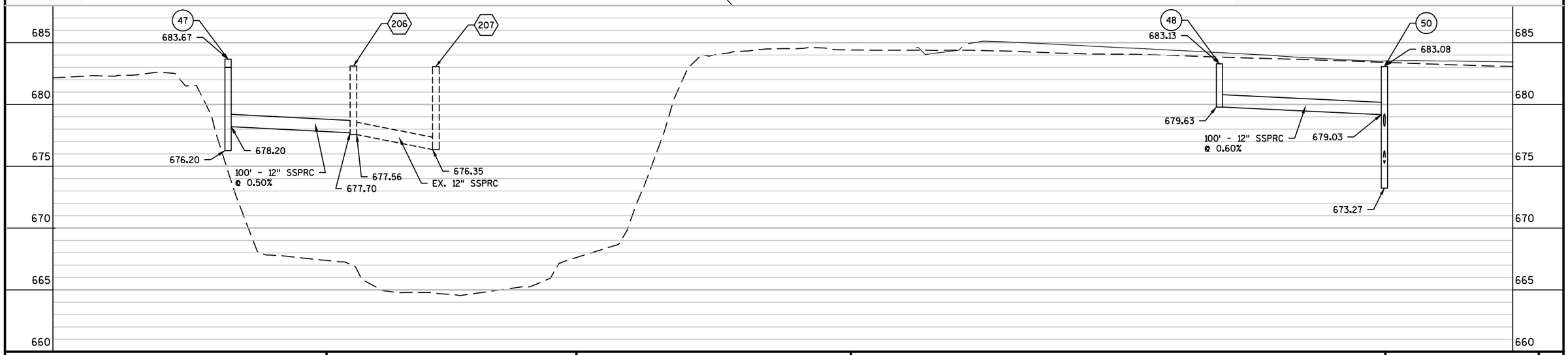
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LAYOUT NAME - 022501_SS - 022504_SS

PLOT DATE : 2/25/2016 12:39 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 60'_XREF

WISDOT/CADDS SHEET 41

2

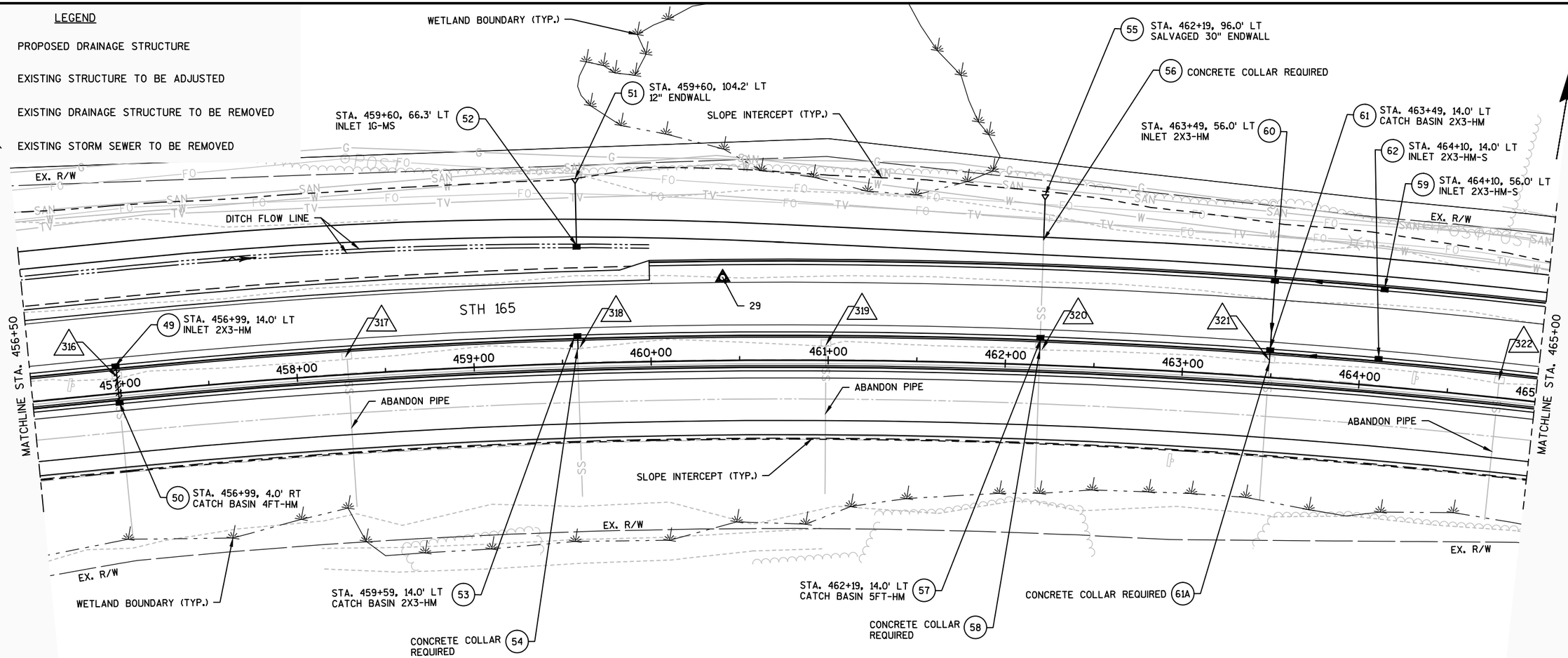


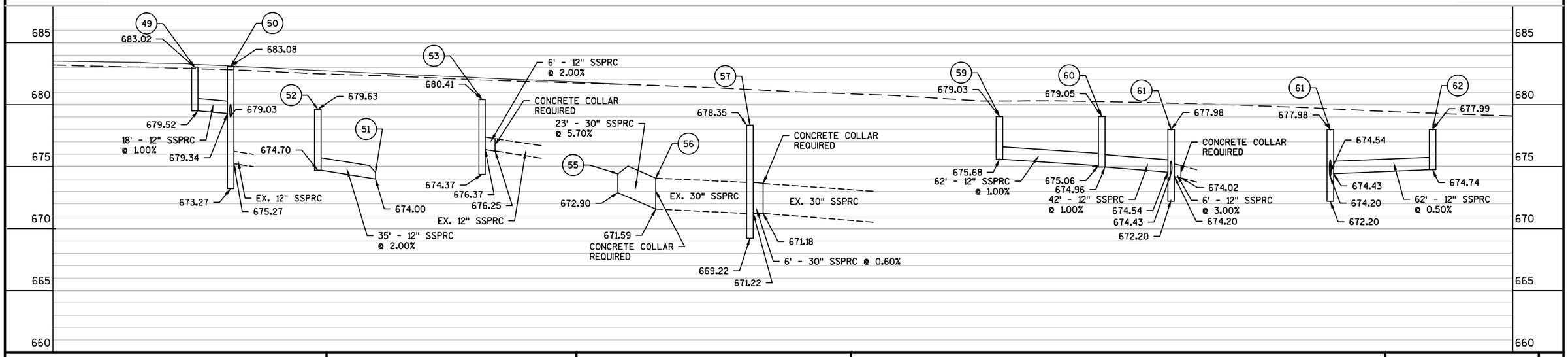


PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	STORM SEWER PLAN	SHEET 75	E

LEGEND

- (XX) PROPOSED DRAINAGE STRUCTURE
- ⬡ XX EXISTING STRUCTURE TO BE ADJUSTED
- △ XX EXISTING DRAINAGE STRUCTURE TO BE REMOVED
- \\\\\\\\ EXISTING STORM SEWER TO BE REMOVED





PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	STORM SEWER PLAN	SHEET 76	E

LEGEND

- (XX) PROPOSED DRAINAGE STRUCTURE
- ⬡ XX EXISTING STRUCTURE TO BE ADJUSTED
- △ XX EXISTING DRAINAGE STRUCTURE TO BE REMOVED
- \\\\\\\\ EXISTING STORM SEWER TO BE REMOVED

65 STA. 466+49, 84.7' LT
SALVAGED 24" ENDWALL

66 STA. 466+49, 56.0' LT
INLET 4FT-HM

67 STA. 466+49, 14.0' LT
CATCH BASIN 4FT-HM

70 STA. 468+79, 14.0' LT
CATCH BASIN 2X3-HM

SLOPE INTERCEPT (TYP.)

505

72 STA. 471+39, 93.4' LT
SALVAGED 24" ENDWALL

73 STA. 471+38, 56.0' LT
INLET 4FT-HM

74 STA. 471+38, 14.0' LT
CATCH BASIN 4FT-HM

EX. R/W

STH 165

DITCH FLOW LINE

323 324 325 326 327 328 329

MATCHLINE STA. 465+00

466+00 467+00 468+00 469+00 470+00 471+00 472+00 473+00

MATCHLINE STA. 473+50

ABANDON PIPE

ABANDON PIPE

68 STA. 466+49, 5.2' LT
INLET 2G-MS

STA. 471+38, 3.1' LT
INLET 2G-MS 75

SLOPE INTERCEPT (TYP.)

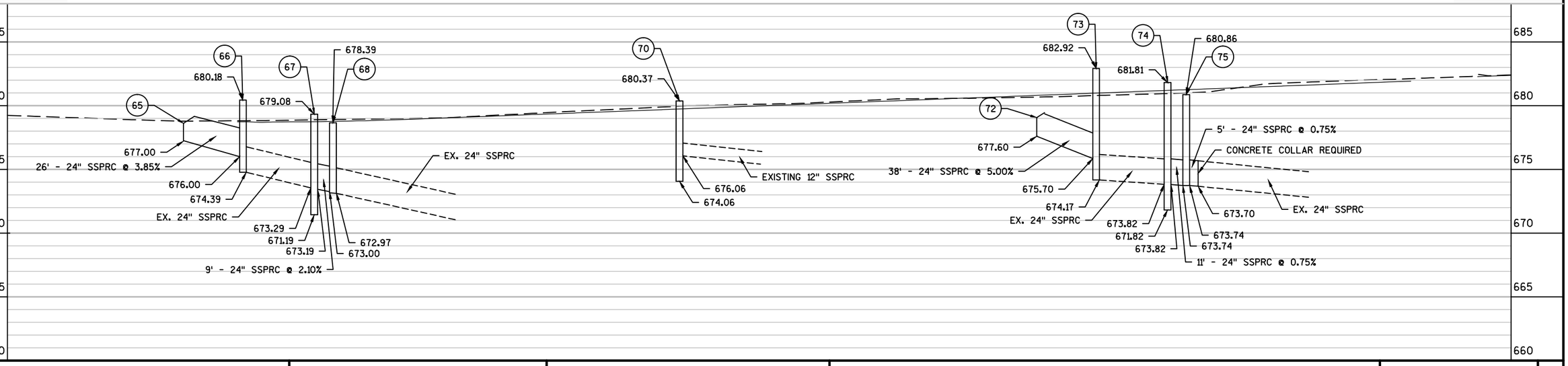
CONCRETE COLLAR
REQUIRED 76

EX. R/W

EX. R/W

WETLAND BOUNDARY (TYP.)

N



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	STORM SEWER PLAN	SHEET 77	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022501_SS.DWG
LAYOUT NAME - 022501_SS - 022507_SS

PLOT DATE : 2/25/2016 12:40 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 60'_XREF

WISDOT/CADDS SHEET 41

LEGEND

- (XX) PROPOSED DRAINAGE STRUCTURE
- ⬡ XX EXISTING STRUCTURE TO BE ADJUSTED
- △ XX EXISTING DRAINAGE STRUCTURE TO BE REMOVED
- \\\\\\\\ EXISTING STORM SEWER TO BE REMOVED

77 STA. 474+98, 102.8' LT
12" ENDWALL

78 STA. 474+98, 59.0' LT
MANHOLE 5FT-J

SLOPE INTERCEPT (TYP.)

EX. R/W

STA. 477+96, 93.9' LT
15" ENDWALL 79A

STA. 479+29, 69.6' LT
CATCH BASIN 2X3-HM 79

506

EX. R/W

22+00

TERWALL TERRACE

21+00

EX. R/W

80 STA. 479+40, 14.0' LT
INLET 2X3-HM

330

332

331

MATCHLINE STA. 473+50

474+00 475+00 476+00 477+00 478+00 479+00 480+00 481+00 482

STH 165

ABANDON PIPE

ABANDON PIPE

MATCHLINE STA. 482+00

81 STA. 479+50, 14.0' LT
INLET 2X3-HM

ABANDON PIPE

WETLAND BOUNDARY (TYP.)

SLOPE INTERCEPT (TYP.)

EX. R/W

EX. R/W

STA. 479+40, 4.3' LT
INLET 2X3-HM 82

N

685 680 675 670 665 660

78 684.70

77 676.10

43' - 12" SSPRC @ 1.00%

675.71

EX. 30" SSPRC

671.41

79A 678.33

135' - 15" SSPRC @ 0.30%

79 682.72

678.73

676.73

678.73

80 681.42

82 681.10

679.10

10' - 12" SSPRC @ 2.00%

678.90

678.90

57' - 15" SSPRC @ 0.30%

80 681.42

678.90

81 681.38

679.38

10' - 12" SSPRC @ 3.00%

679.08

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	STORM SEWER PLAN	SHEET 78	E

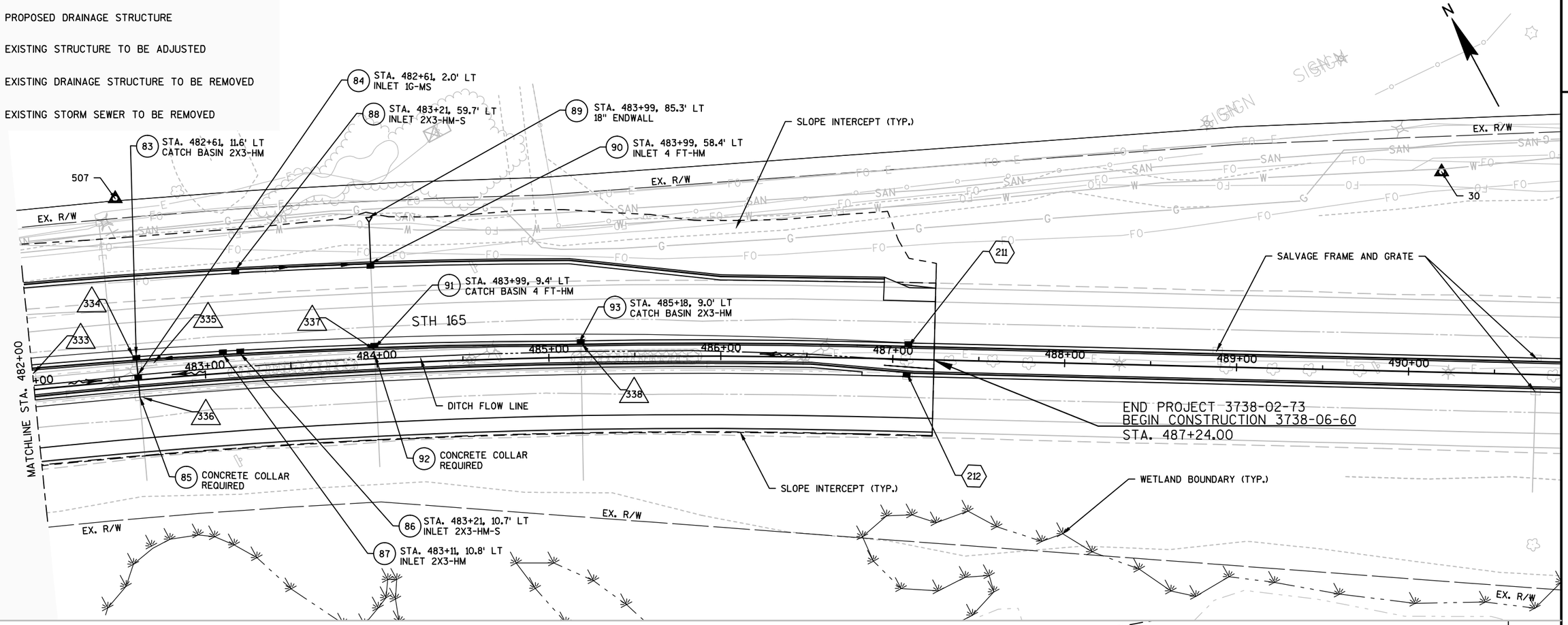
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LAYOUT NAME - 022501_SS - 022508_SS

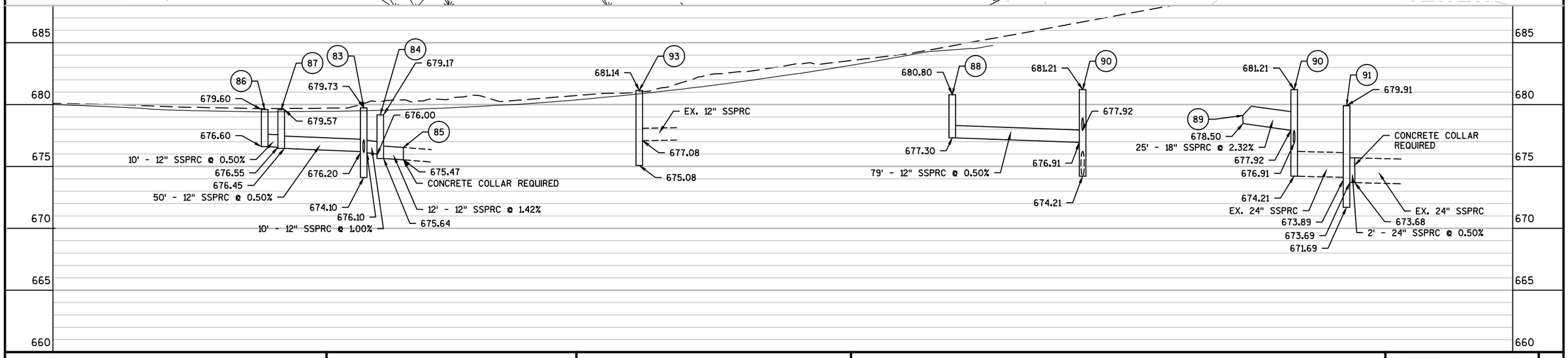
PLOT DATE : 2/25/2016 12:40 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 60'_XREF

WISDOT/CADDS SHEET 41

LEGEND

- (XX) PROPOSED DRAINAGE STRUCTURE
- (XX) EXISTING STRUCTURE TO BE ADJUSTED
- XX EXISTING DRAINAGE STRUCTURE TO BE REMOVED
- EXISTING STORM SEWER TO BE REMOVED





PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	STORM SEWER PLAN	SHEET 79	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\022501_SS.DWG
LAYOUT NAME - 022501_SS - 022509_SS

PLOT DATE : 2/25/2016 12:41 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 60'_XREF

WISDOT/CADDS SHEET 41

STRUCT. NO.	STATION	OFFSET	C-C (FT)	TO STRUCT.	INLET/CB TYPE & COVER	MH TYPE & COVER	RIM/GRATE ELEV.	DEPTH (FT)	DISCHARGE PIPE SIZE (IN)	INLET ELEV.	DISCH. ELEV.	LENGTH (FT)	SLOPE (%)	PIPE CLASS	REMARKS	PIPE JOINT TIES
6	--	--	17	7	-- --	-- --	--	--	12	689.15	689.07	17.00	0.50	III	CONNECT EXISTING STORM SEWER, 12" S I.E. 689.15+/- CONCRETE COLLAR REQUIRED APRON ENDWALL REQUIRED	X
8	--	'-	27	9	-- --	-- --	--	--	12	685.42	685.02	27.00	1.50	III	CONNECT EXISTING STORM SEWER, 12" S I.E.685.42+/- CONCRETE COLLAR REQUIRED APRON ENDWALL REQUIRED	X
10	417+40.00	84.0' LT	50	11	INL 3G MS	-- --	680.50	0.50	18	680.00	679.63	50.00	0.75	III	RIM GRADE GIVEN IS DITCH ELEVATION	
11	417+42.00	34.2' LT	279	14	-- --	4FT J	684.48	5.25	21	679.23	677.00	279.00	0.80	IV	CONNECT EXISTING STORM SEWER, 12" S I.E. 680.34+/-	
14	420+24.00	37.6' LT	141	18	-- --	4FT J	680.65	4.44	21	676.21	675.36	141.00	0.60	III		
15	420+24.00	2.7' RT	40	14	CB 2X3 HM	-- --	681.00	3.80	12	677.20	677.00	40.00	0.50	III	CONNECT EXISTING STORM SEWER, 12" S I.E.677.39+/-	
17	421+55.00	63.0' LT	27	16	INL 2G MS	-- --	677.95	3.13	21	674.82	674.55	27.00	1.00	III	APRON ENDWALL REQUIRED	X
18	421+55.00	39.4' LT	24	17	-- --	5FT J	679.99	5.03	21	674.96	674.82	24.00	0.60	III		
19	--	--	37	20	-- --	-- --	--	--	30	674.59	674.50	37.00	0.25	III	CONNECT EXISTING STORM SEWER, 30" S I.E. 674.59+/- CONCRETE COLLAR REQUIRED SALVAGED ENDWALL REQUIRED	X
22	421+65.00	5.6' LT	--	19	-- --	5FT HM	680.03	5.33	30	674.70	--	--	--	--	CONNECT EXISTING STORM SEWER, 30" N I.E. 674.70+/-	
23A	--	--	6	23	-- --	-- --	--	--	30	674.75	674.73	6.00	0.30	III	CONNECT EXISTING STORM SEWER, 30" S I.E. 674.75+/- CONCRETE COLLAR REQUIRED	
23	421+65.00	5.1' RT	11	22	-- --	5FT HM-S	679.90	5.17	30	674.73	674.70	11.00	0.30	III		
25	422+00.00	63.0' LT	25	24	INL 1G MS	-- --	677.95	2.37	12	675.58	675.43	25.00	0.60	III	SALVAGED APRON ENDWALL REQUIRED	X
26	421+95.00	4.5' RT	10	27	INL 2X3 HM	-- --	679.93	3.00	12	676.93	676.83	10.00	1.00	III		
27	421+95.00	6.1' LT	30	22	CB 2X3 HM-S	-- --	679.99	3.45	12	676.54	676.24	30.00	1.00	III		
28	422+25.00	6.6' LT	30	27	INL 2X3 HM	-- --	680.02	3.08	12	676.94	676.64	30.00	1.00	III		
30	432+49.00	14.0' LT	18	31	INL 2X3 HM	-- --	679.20	2.59	12	676.61	676.43	18.00	1.00	III		
31	432+49.00	4.0' RT	--	--	CB 2X3 HM	-- --	680.09	3.91	12	676.18	--	--	--	--	CONNECT EXISTING STORM SEWER, 12" S I.E. 676.18+/-	
32	434+40.00	95.3' LT	33	33A	-- --	-- --	--	--	24	672.49	672.23	33.00	0.80	III	CONNECT EXISTING STORM SEWER, 24" S I.E. 672.23+/- CONCRETE COLLAR REQUIRED SALVAGED APRON ENDWALL REQUIRED	X
33B	--	--	6	33C	-- --	-- --	--	--	24	671.94	671.84	6.00	1.60	III	2 CONCRETE COLLARS REQUIRED	
34	436+30.00	95.8' LT	26	35	-- --	-- --	--	--	30	672.61	671.89	26.00	2.77	III	SALVAGED APRON ENDWALL REQUIRED	X
35	436+30.00	67.1' LT	12	35A	INL 2G MS	-- --	675.63	3.99	30	671.64	671.62	12.00	0.15	III	CONNECT EXISTING STORM SEWER, 30" N I.E. 671.62+/- CONCRETE COLLAR REQUIRED	
36A	436+20.00	14.0' LT	10	36	CB 2X3 HM-S	-- --	677.13	3.50	12	673.63	673.53	10.00	1.00	III		
36	436+30.00	14.0' LT	6	36B	-- --	5FT HM	677.11	5.63	30	671.48	671.44	6.00	0.60	III	CONNECT EXISTING STORM SEWER, 30" N I.E 671.48+/- CONNECT EXISTING STORM SEWER, 30" S I.E. 671.44 +/- CONCRETE COLLAR REQUIRED	
37	436+55.00	14.0' LT	25	36	CB 2X3 HM-S	-- --	676.94	3.50	12	673.44	673.19	25.00	1.00	III		
38	436+55.00	4.0' RT	18	37	INL 2X3 HM	-- --	678.03	3.50	12	674.53	674.17	18.00	2.00	III		
39	437+99.00	14.0' LT	18	39A	INL 2X3 HM	-- --	677.40	3.50	12	673.90	673.72	18.00	1.00	III		
39A	437+99.00	4.0' RT	--	--	CB 2X3 HM-S	-- --	677.52	5.81	12	671.71	--	--	--	--	CONNECT EXISTING STORM SEWER, 12" S I.E. 671.71+/-	
40	440+99.00	66.0' LT	52	41	INL 1G MS	-- --	676.72	1.86	12	674.86	674.24	52.00	1.20	III		
41	440+99.00	14.0' LT	18	42	INL 2X3 HM	-- --	679.21	5.07	12	674.14	673.83	18.00	1.75	III		
42	440+99.00	4.0' RT	--	--	CB 2X3 HM	-- --	678.84	5.11	12	673.73	--	--	--	--	CONNECT EXISTING STORM SEWER, 12" S I.E. 673.73+/-	
43	444+69.00	14.0' LT	18	44	INL 2X3 HM	-- --	681.68	4.00	12	677.68	677.50	18.00	1.00	III		
44	444+69.00	4.0' RT	--	--	CB 2X3 HM	-- --	680.78	6.21	12	674.57	--	--	--	--	CONNECT EXISTING STORM SEWER, 12" S I.E. 674.57+/-	
45	446+59.00	14.0' LT	5	46	CB 4FT HM	-- --	682.90	7.80	12	675.10	674.90	5.00	4.00	III	CONNECT EXISTING STORM SEWER, 12" S I.E. 674.90+/- CONCRETE COLLAR REQUIRED	
47	448+23.00	67.5' LT	100	206	CB 3FT V	-- --	683.67	5.47	12	678.20	677.70	100.00	0.50	III	CORE INTO EXISTING STRUCTURE	
48	456+00.00	4.0' RT	100	50	INL 2X3 HM	-- --	683.13	3.50	12	679.63	679.03	100.00	0.60	III		
49	456+99.00	14.0' LT	18	50	INL 2X3 HM	-- --	683.02	3.50	12	679.52	679.34	18.00	1.00	III		
50	456+99.00	4.0' RT	--	--	CB 4FT HM	-- --	683.08	7.81	12	675.27	--	--	--	--	CONNECT EXISTING STORM SEWER, 12" S I.E. 675.27+/-	
52	459+60.00	66.3' LT	35	51	INL 1G MS	-- --	679.63	4.93	12	674.70	674.00	35.00	2.00	III	APRON ENDWALL REQUIRED	X
53	459+59.00	14.0' LT	6	54	CB 2X3 HM	-- --	680.41	4.04	12	676.37	676.25	6.00	2.00	III	CONNECT EXISTING STORM SEWER, 12" S I.E. 676.25+/- CONCRETE COLLAR REQUIRED	

NOTES:

1. STATIONS AND OFFSETS TO MANHOLES, INLETS 1G AND INLETS 2G ARE GIVEN TO THE CENTER OF STRUCTURE.
2. STATIONS AND OFFSETS TO CATCH BASINS AND INLETS ARE GIVEN TO FACE OF CURB.
3. STATIONS, OFFSETS AND ELEVATIONS OF ENDWALLS ARE GIVEN TO THE END OF THE ENDWALL.
4. MANHOLE RIM/GRATE ELEVATIONS ARE GIVEN TO THE CENTER OF STRUCTURE.
5. CATCH BASIN AND INLET RIM/GRATE ELEVATIONS ARE GIVEN TO FLANGE LINE.
6. DEPTH OF MANHOLES AND INLETS ARE MEASURED FROM THE LOWEST INVERT OF THE STRUCTURE TO THE RIM/GRATE ELEVATION.
7. DEPTH OF CATCH BASINS ARE MEASURED FROM THE LOWEST INVERT TO THE RIM/GRATE ELEVATION. (ADD TWO FEET FOR SUMP DEPTH.)
8. PIPE LENGTHS FOR STRUCTURES ARE SHOWN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
9. CONTRACTOR SHALL VERIFY DEPTH AND ELEVATIONS OF ALL EXISTING STORM SEWER STRUCTURES BEFORE BEGINNING WORK AND SHALL REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK.

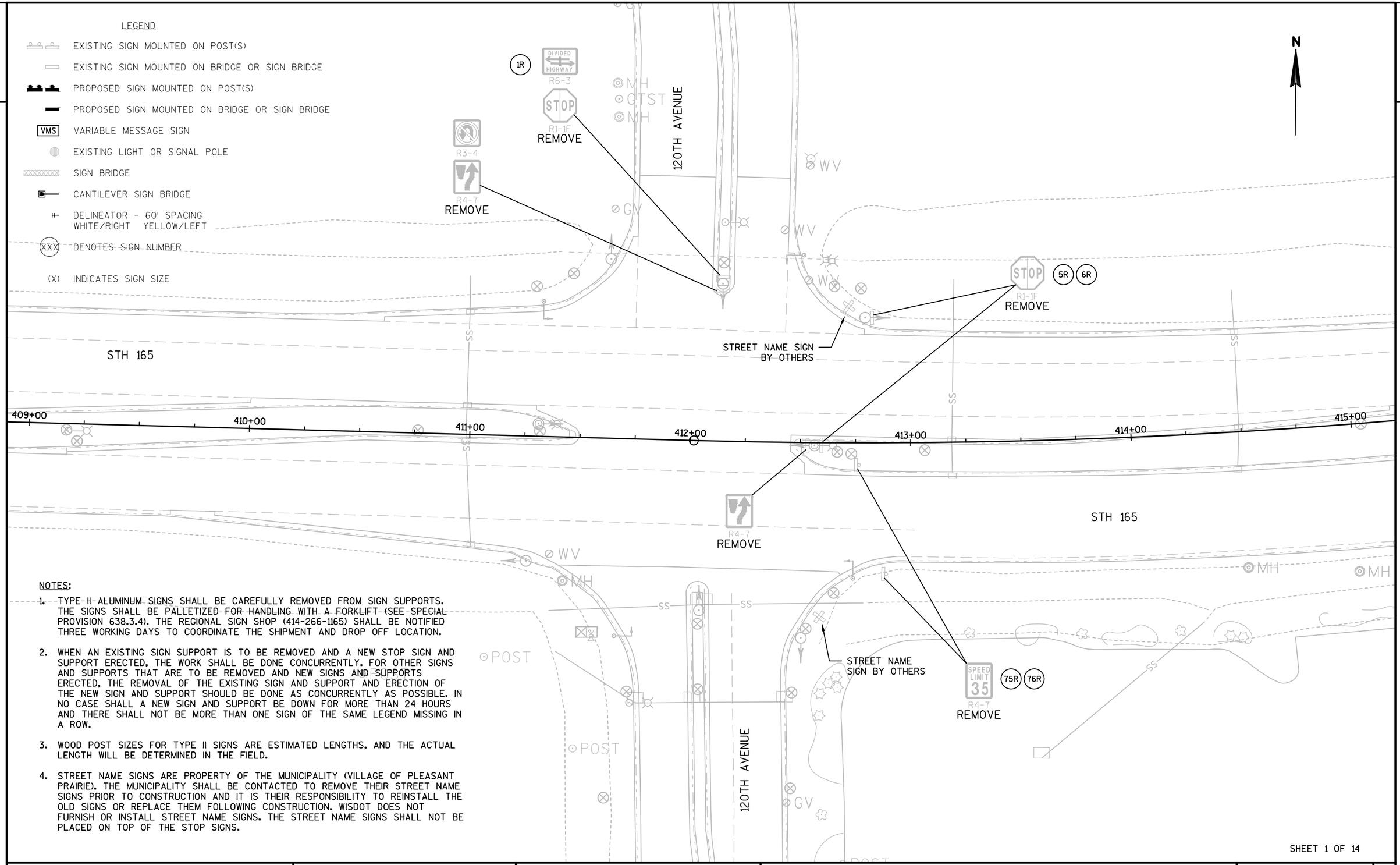
STRUCT. NO.	STATION	OFFSET	C-C (FT)	TO STRUCT.	INLET/CB TYPE & COVER		MH TYPE & COVER		RIM/GRATE ELEV.	DEPTH (FT)	SIZE (IN)	DISCHARGE PIPE INLET ELEV.	DISCH. ELEV.	LENGTH (FT)	SLOPE (%)	PIPE CLASS	REMARKS	PIPE JOINT TIES
55	462+19.00	96.0' LT	23	56	--	--	--	--	--	--	30	672.90	671.59	23.00	5.70	III	SALVAGED APRON ENDWALL REQUIRED CONCRETE COLLAR REQUIRED	X
57	462+19.00	14.0' LT	6	58	CB 5FT	HM	--	--	678.35	7.13	30	671.22	671.18	6.00	0.60	III	CONNECT EXISTING STORM SEWER, 30" N I.E. 671.22+/- CONNECT EXISTING STORM SEWER, 30" S I.E. 671.18+/- CONCRETE COLLAR REQUIRED	
59	464+10.00	56.0' LT	62	60	INL 2X3	HM-S	--	--	679.03	3.35	12	675.68	675.06	62.00	1.00	III		
60	463+49.00	56.0' LT	42	61	INL 2X3	HM	--	--	679.05	4.09	12	674.96	674.54	42.00	1.00	III		
61	463+49.00	14.0' LT	6	61A	CB 2X3	HM	--	--	677.98	3.78	12	674.20	674.02	6.00	3.00	III	CONNECT EXISTING STORM SEWER, 12" S I.E. 674.02+/- CONCRETE COLLAR REQUIRED	
62	464+10.00	14.0' LT	62	61	INL 2X3	HM-S	--	--	677.99	3.25	12	674.74	674.43	62.00	0.50	III		
65	466+49.00	84.7' LT	26	66	--	--	--	--	--	--	24	677.00	676.00	26.00	3.85	III	SALVAGED APRON ENDWALL REQUIRED	X
66	466+49.00	56.0' LT	--	67	INL 4FT	HM	--	--	680.18	5.79	24	674.39	--	--	--	--	CONNECT EXISTING STORM SEWER, 24" S I.E. 674.39+/-	
67	466+49.00	14.0' LT	9	68	CB 4FT	HM	--	--	679.08	5.89	24	673.19	673.00	9.00	2.10	III	CONNECT EXISTING STORM SEWER, 24" N I.E. 673.29+/-	
68	466+49.00	5.2' LT	--	--	INL 2G	MS	--	--	678.39	5.42	24	672.97	--	--	--	--	CONNECT EXISTING STORM SEWER, 24" S I.E. 672.97+/-	
70	468+79.00	14.0' LT	--	--	CB 2X3	HM	--	--	680.37	4.31	12	676.06	--	--	--	--	CONNECT EXISTING STORM SEWER, 12" S I.E. 676.06+/-	
72	471+39.00	93.4' LT	38	73	--	--	--	--	--	--	24	677.60	675.70	38.00	5.00	III	SALVAGED APRON ENDWALL REQUIRED	X
73	471+38.00	56.0' LT	--	74	INL 4FT	HM	--	--	682.92	8.75	24	674.17	--	--	--	--	CONNECT EXISTING SOTRM SEWER, 24" S I.E. 674.17+/-	
74	471+38.00	14.0' LT	11	75	CB 4FT	HM	--	--	681.81	7.99	24	673.82	673.74	11.00	0.75	III	CONNECT EXISTING STORM SEWER, 24" N I.E. 673.82+/-	
75	471+38.00	3.1' LT	5	76	INL 2G	MS	--	--	680.86	7.12	24	673.74	673.70	5.00	0.75	III	CONNECT EXISTING STORM SEWER, 24" S I.E. 673.70+/- CONCRETE COLLAR REQUIRED	
77	474+98.00	102.8' LT	43	78	--	--	--	--	--	--	12	676.14	675.71	43.00	1.00	III	APRON ENDWALL REQUIRED	X
78	474+98.00	59.0' LT	--	--	--	--	5FT	J	684.50	13.09	30	671.41	--	--	--	--	CONNECT EXISTING STORM SEWER, 30" S I.E. 671.41+/-	
79	479+29.00	69.6' LT	135	79A	CB 4FT	HM	--	--	682.72	3.99	15	678.73	678.33	135.00	0.30	III	APRON ENDWALL REQUIRED	X
80	479+40.00	14.0' LT	57	79	INL 2X3	HM	--	--	681.42	2.52	15	678.90	678.73	57.00	0.30	III		
81	479+50.00	14.0' LT	10	80	INL 2X3	HM	--	--	681.38	2.00	12	679.38	679.08	10.00	3.00	III		
82	479+40.00	4.3' LT	10	80	INL 2X3	HM	--	--	681.10	2.00	12	679.10	678.90	10.00	2.00	III		
83	482+61.00	11.6' LT	10	84	CB 2X3	HM	--	--	679.73	3.63	12	676.10	676.00	10.00	1.00	III		
84	482+61.00	2.0' LT	12	85	INL 1G	MS	--	--	679.17	3.53	12	675.64	675.47	12.00	1.42	III	CONNECT EXISTING STORM SEWER, 12" S I.E. 675.47+/- CONCRETE COLLAR REQUIRED	
86	483+21.00	10.7' LT	10	87	INL 2X3	HM-S	--	--	679.60	3.00	12	676.60	676.55	10.00	0.50	III		
87	483+11.00	10.8' LT	50	83	INL 2X3	HM	--	--	679.57	3.12	12	676.45	676.20	50.00	0.50	III		
88	483+21.00	59.7' LT	79	90	INL 2X3	HM-S	--	--	680.80	3.50	12	677.30	676.91	79.00	0.50	III		
89	483+99.00	85.3' LT	25	90	--	--	--	--	--	--	18	678.50	677.92	25.00	2.32	III	APRON ENDWALL REQUIRED	X
90	483+99.00	58.4' LT	--	91	INL 4FT	HM	--	--	681.21	7.00	24	674.21	--	--	--	--	CONNECT EXISTING STORM SEWER, 24" S I.E. 674.21+/-	
91	483+99.00	9.4' LT	2	92	CB 4FT	HM	--	--	679.91	6.22	24	673.69	673.68	2.00	0.50	III	CONNECT EXISTING STORM SEWER, 24" N I.E. 673.89+/- CONNECT EXISTING STORM SEWER, 24" S I.E. 673.68+/- CONCRETE COLLAR REQUIRED	
93	485+18.00	9.0' LT	--	--	CB 2X3	HM	--	--	681.14	4.06	12	677.08	--	--	--	--	CONNECT EXISTING STORM SEWR, 12" S I.E 677.08+/-	

NOTES:

1. STATIONS AND OFFSETS TO MANHOLES, INLETS 1G AND INLETS 2G ARE GIVEN TO THE CENTER OF STRUCTURE.
2. STATIONS AND OFFSETS TO CATCH BASINS AND INLETS ARE GIVEN TO FACE OF CURB.
3. STATIONS, OFFSETS AND ELEVATIONS OF ENDWALLS ARE GIVEN TO THE END OF THE ENDWALL.
4. MANHOLE RIM/GRATE ELEVATIONS ARE GIVEN TO THE CENTER OF STRUCTURE.
5. CATCH BASIN AND INLET RIM/GRATE ELEVATIONS ARE GIVEN TO FLANGE LINE.
6. DEPTH OF MANHOLES AND INLETS ARE MEASURED FROM THE LOWEST INVERT OF THE STRUCTURE TO THE RIM/GRATE ELEVATION.
7. DEPTH OF CATCH BASINS ARE MEASURED FROM THE LOWEST INVERT TO THE RIM/GRATE ELEVATION. (ADD TWO FEET FOR SUMP DEPTH.)
8. PIPE LENGTHS FOR STRUCTURES ARE SHOWN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
9. CONTRACTOR SHALL VERIFY DEPTH AND ELEVATIONS OF ALL EXISTING STORM SEWER STRUCTURES BEFORE BEGINNING WORK AND SHALL REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK.

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE



NOTES:

1. TYPE II ALUMINUM SIGNS SHALL BE CAREFULLY REMOVED FROM SIGN SUPPORTS. THE SIGNS SHALL BE PALLETIZED FOR HANDLING WITH A FORKLIFT (SEE SPECIAL PROVISION 638.3.4). THE REGIONAL SIGN SHOP (414-266-1165) SHALL BE NOTIFIED THREE WORKING DAYS TO COORDINATE THE SHIPMENT AND DROP OFF LOCATION.

2. WHEN AN EXISTING SIGN SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED, THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN AND SUPPORT AND ERECTION OF THE NEW SIGN AND SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN AND SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

3. WOOD POST SIZES FOR TYPE II SIGNS ARE ESTIMATED LENGTHS, AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

4. STREET NAME SIGNS ARE PROPERTY OF THE MUNICIPALITY (VILLAGE OF PLEASANT PRAIRIE). THE MUNICIPALITY SHALL BE CONTACTED TO REMOVE THEIR STREET NAME SIGNS PRIOR TO CONSTRUCTION AND IT IS THEIR RESPONSIBILITY TO REINSTALL THE OLD SIGNS OR REPLACE THEM FOLLOWING CONSTRUCTION. WISDOT DOES NOT FURNISH OR INSTALL STREET NAME SIGNS. THE STREET NAME SIGNS SHALL NOT BE PLACED ON TOP OF THE STOP SIGNS.

SHEET 1 OF 14

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 82	E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

MH
MH
WV
PROP

8R
R4-7
REMOVE

STREET NAME
SIGN BY OTHERS

W3-3
16R 17R
REMOVE

STH 165

416+00
417+00
418+00
419+00
420+00
421+00

3738-06-60
3738-02-73

12R
EAST
165
J4-1
REMOVE

STH 165

MH
MH
MH
WV

STREET NAME
SIGN BY OTHERS

9R
RIGHT LANE MUST TURN RIGHT
R3-7R
REMOVE

10R
STOP
R1-1F
REMOVE

VILLAGE OF PLEASANT PRAIRIE
ADOPT A ROAD
ESTR

114TH AVENUE
(CORPORATE DRIVE)

STOP
R1-1F
11R
DIVIDED HIGHWAY
R6-3
REMOVE

LANE ENDS
MERGE
RIGHT
13R
W9-2R
REMOVE

NO PARKING ANY TIME
14R
R7-1D
REMOVE

15R
W6-2
REMOVE

SHEET 2 OF 14

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 83	E

FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023101_PS.DWG
PLOT DATE : 6/16/2015 1:02 PM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1 IN:40 FT

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

18R — NO PARKING THIS SIDE — R7-1D — REMOVE

26R — SPEED LIMIT 35 — W12-1R — REMOVE

SNOWMOBILE SIGN BY OTHERS

20R 21R — W12-1R — REMOVE

STH 165

422+00 423+00 424+00 425+00 426+00 427+00

7R — RIDESHARE INFO CALL 1-800-455-POOL — D12-2A — REMOVE

19R — W4-2L — REMOVE

22R — SPEED LIMIT 55 — W12-1R — REMOVE

WRONG WAY — W5-1A — REMOVE

23R 24R — W12-1R — REMOVE

STH 165

25R — W12-1R — REMOVE

SHEET 3 OF 14

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 84	E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

POST

30R
W3-5
SPEED LIMIT 35
REMOVE

31R
W6-1
REMOVE

428+00 429+00 430+00 431+00 432+00 433+00

STH 165

STH 165

27R
W12-1R
REMOVE

28R
DO NOT ENTER
R5-1
REMOVE

29R
R4-7
W5-52L
REMOVE

SHEET 4 OF 14

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 85	E

FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023101_PS.DWG PLOT DATE : 6/16/2015 1:02 PM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

2

POST

SS

33R
NO PARKING ANY TIME
R7-1
REMOVE

434+00 435+00 436+00 437+00 438+00 439+00

STH 165

STH 165

32R
NO PASSING ZONE
W14-3
REMOVE

34R
NO PARKING ANY TIME
R7-1
REMOVE

SHEET 5 OF 14

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 86	E

FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023101_PS.DWG PLOT DATE : 6/16/2015 1:03 PM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

POST

35R 36R — NO PARKING — R7-1

REMOVE

440+00 441+00 442+00 443+00 444+00 445+00

STH 165

STH 165

SHEET 6 OF 14

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 87	E

FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023101_PS.DWG PLOT DATE : 6/16/2015 1:03 PM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

NO PASSING ZONE
W14-3
40R
REMOVE

41R
W5-52L
REMOVE

SNOWMOBILE SIGN BY OTHERS

DES PLAINES RIVER

POST
POST
POST
MH

446+00
447+00
448+00
449+00
450+00
451+00

STH 165
STH 165

37R 38R
NO PARKING THIS SIGN
R7-1
REMOVE

39R
W5-52R
REMOVE

DES PLAINES RIVER

2

SHEET 7 OF 14

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 88	E

FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023101_PS.DWG PLOT DATE : 6/16/2015 1:03 PM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

POST

PROPERTY OF VILLAGE
REMOVE BY OTHERS

42R
W5-52R
REMOVE

47R
R7-1D
REMOVE

452+00 453+00 454+00 455+00 456+00 457+00

STH 165

STH 165

44R 45R
R7-1
REMOVE

43R
W5-52L
REMOVE

46R
R7-1
REMOVE

SHEET 8 OF 14

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 89	E

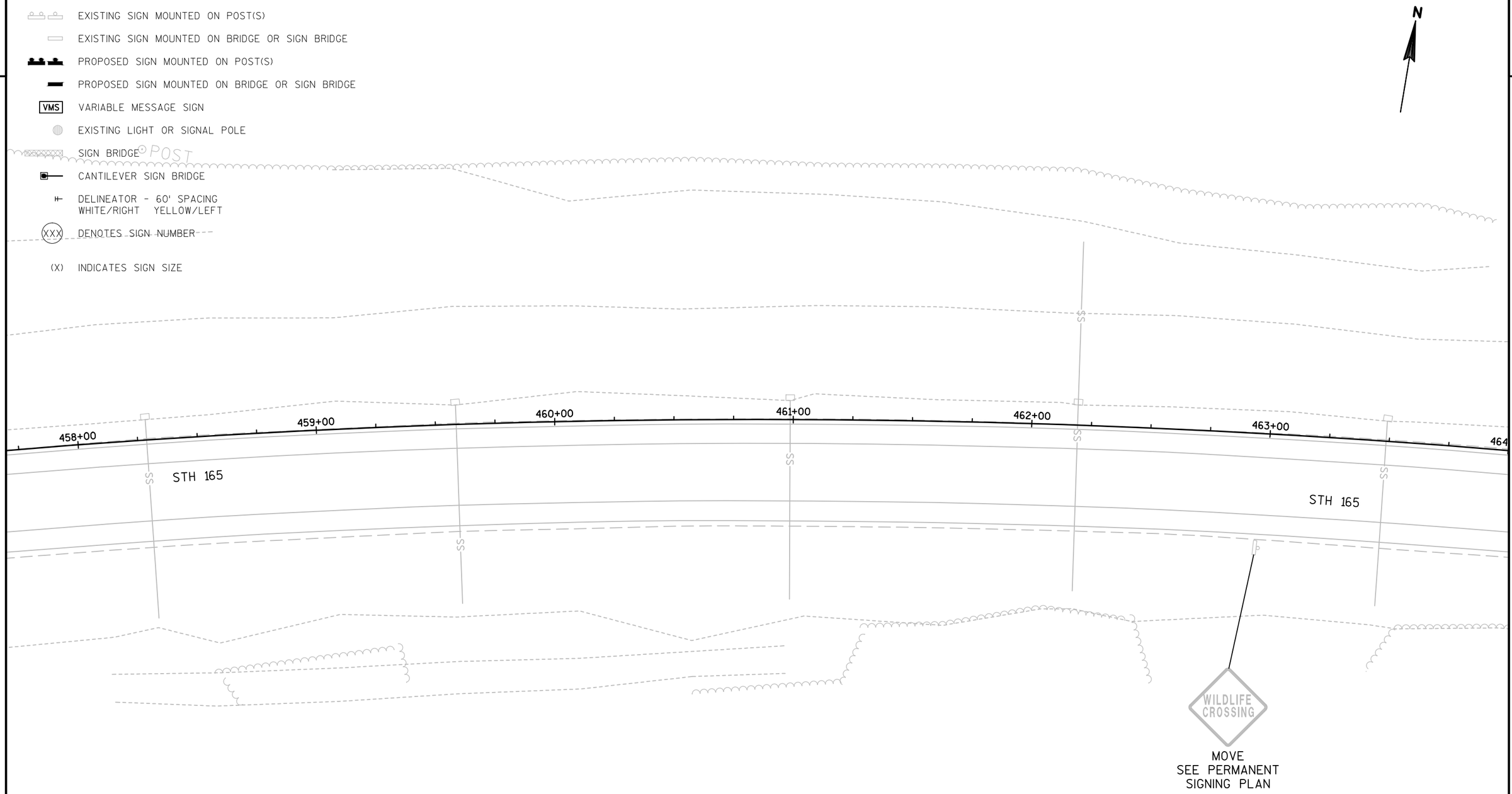
FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023101_PS.DWG PLOT DATE : 6/16/2015 1:03 PM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE



SHEET 9 OF 14

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 90	E

FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023101_PS.DWG PLOT DATE : 6/16/2015 1:03 PM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1 IN:40 FT

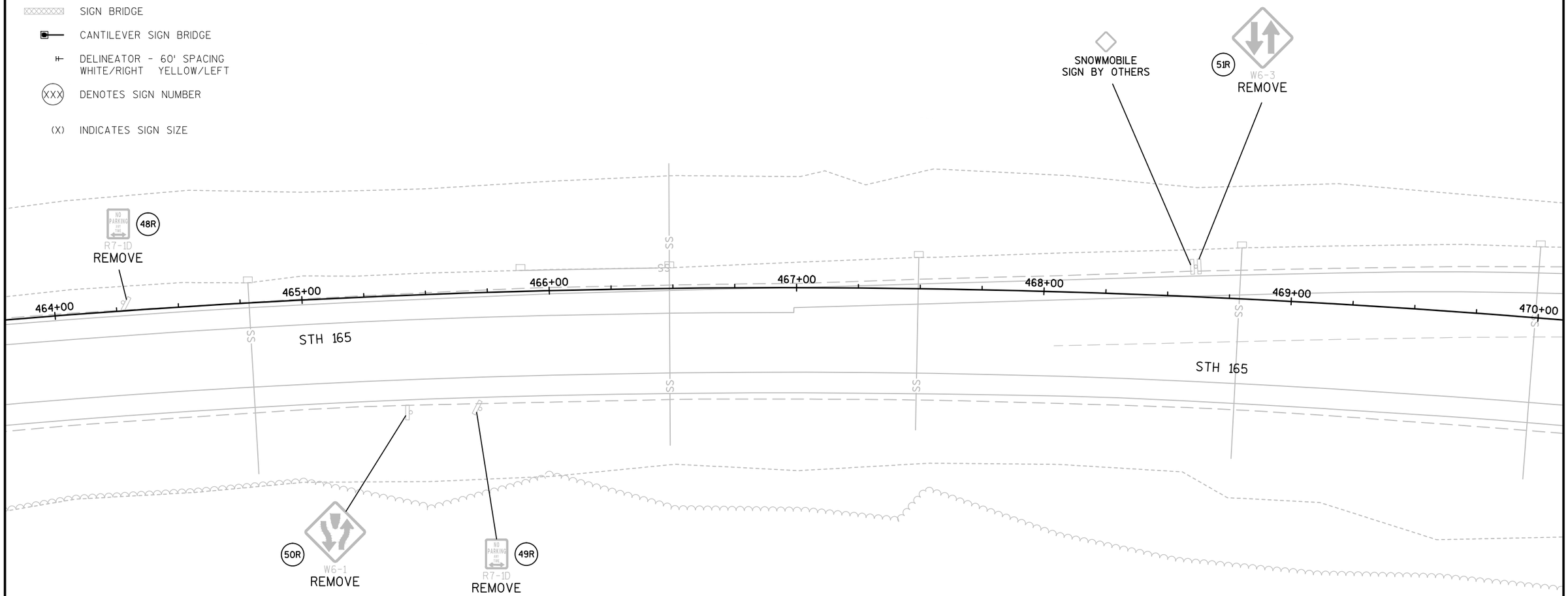
WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N



SHEET 10 OF 14

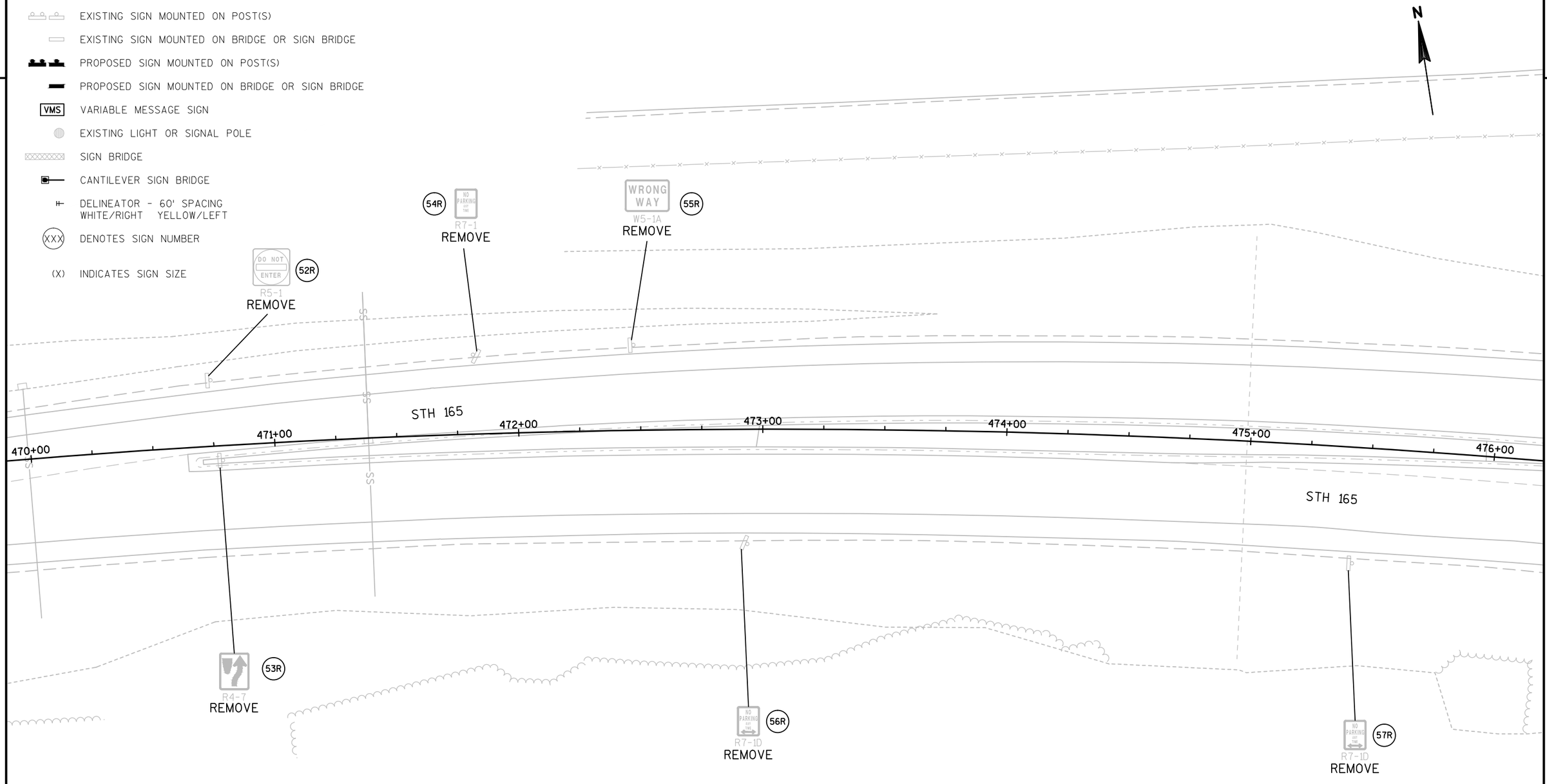
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 91	E

FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023101_PS.DWG PLOT DATE : 6/16/2015 1:03 PM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING — WHITE/RIGHT YELLOW/LEFT
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE



SHEET 11 OF 14

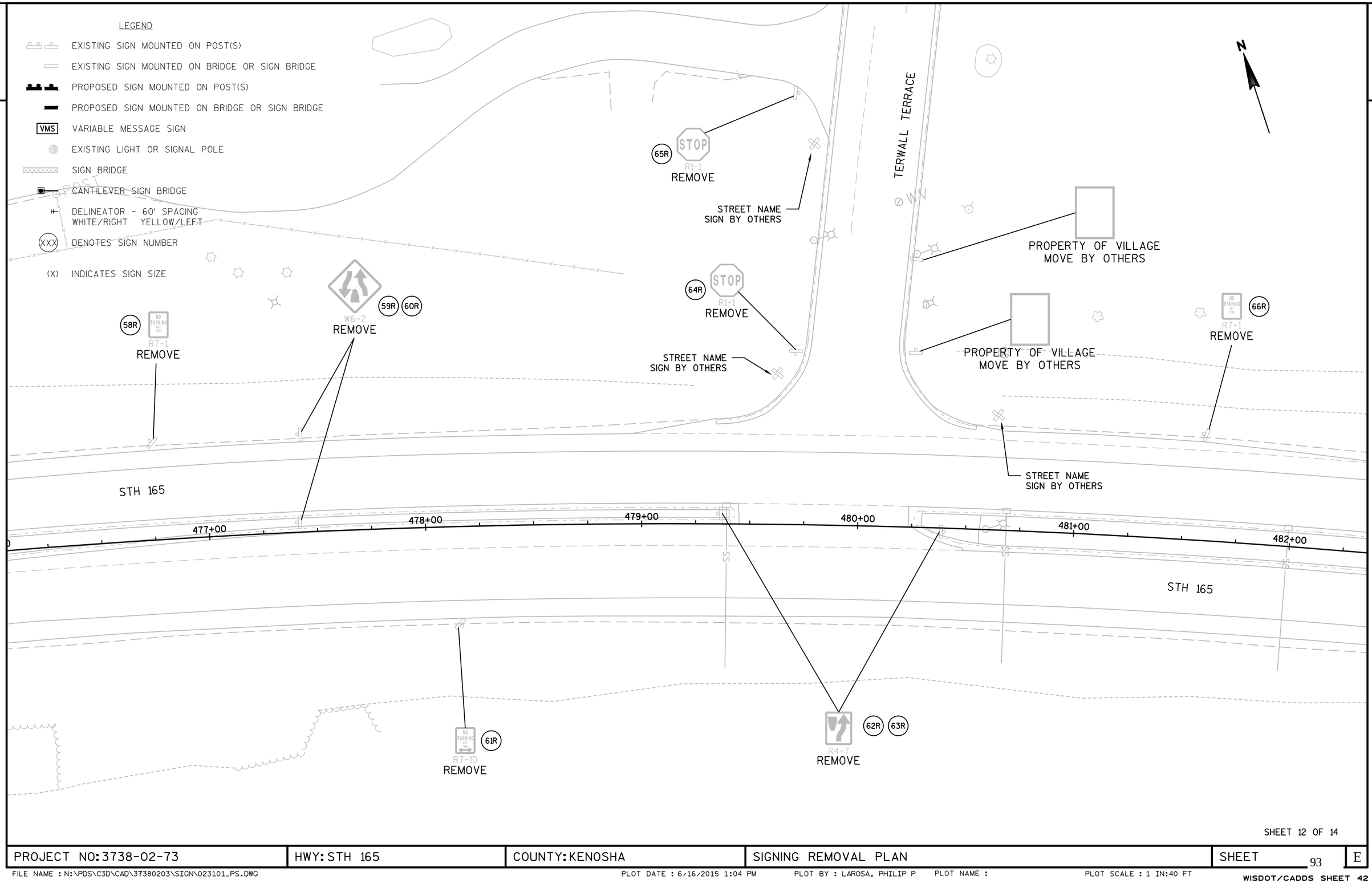
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 92	E

FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023101_PS.DWG PLOT DATE : 6/16/2015 1:04 PM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE



SHEET 12 OF 14

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 93	E

FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023101_PS.DWG PLOT DATE : 6/16/2015 1:04 PM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

W4-2L
REMOVE
68R 69R

SNOWMOBILE
SIGN BY OTHERS

71R
R7-1
REMOVE

STH 165

483+00 484+00 485+00 486+00 487+00 488+00

SS SS SS

STH 165

67R
R7-1D
REMOVE

70R
R7-1D
REMOVE

SHEET 13 OF 14

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 94	E

FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023101_PS.DWG PLOT DATE : 6/16/2015 1:04 PM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE

NO PARKING
R7-1D
72R
REMOVE

LANE ENDS
MERGE
RIGHT
W9-2
73R 74R
REMOVE

STH 165

+00 489+00 490+00 491+00 492+00 493+00 494+00

SS SS

STH 165

N

MH

2

SHEET 14 OF 14

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGNING REMOVAL PLAN	SHEET 95	E

FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023101_PS.DWG PLOT DATE : 6/16/2015 1:04 PM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1 IN:40 FT

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

2 STOP R1-1F (3)
1 DIVIDED HIGHWAY R6-3 (2S)
MOUNT ON SIGNAL POLE

120TH AVENUE

4 R4-7 (2S)
3 R3-4 (2S)
MOUNT ON SIGNAL POLE

PATH ENDS AHEAD 82

STOP R1-1F (3) 6 7
MOUNT ON SIGNAL POLE

STH 165

8 120th Ave M1-94-H
MOUNT ON MAST ARM

5 R4-7 (2S)

SPEED LIMIT 35 R2-1 (2S) 10 11

ONE WAY R6-2-L (2M) 9
MOUNT ON SIGNAL POLE

409+00 410+00 411+00 412+00 413+00 414+00 415+00
3123+00 3122+00 2000+00 1999+00 1998+00

NOTES:

1. STREET NAME SIGNS ARE PROPERTY OF THE MUNICIPALITY (VILLAGE OF PLEASANT PRAIRIE). THE MUNICIPALITY SHALL BE CONTACTED TO REMOVE THEIR STREET NAME SIGNS PRIOR TO CONSTRUCTION AND IT IS THEIR RESPONSIBILITY TO REINSTALL THE OLD SIGNS OR REPLACE THEM FOLLOWING CONSTRUCTION. WISDOT DOES NOT FURNISH OR INSTALL STREET NAME SIGNS. THE STREET NAME SIGNS SHALL NOT BE PLACED ON TOP OF THE STOP SIGNS.

SHEET 1 OF 13

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING PLAN	SHEET 96	E

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

SIGN BRIDGE

CANTILEVER SIGN BRIDGE

(XXX) DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

N

12 R4-7 (2M)

13 R6-2-L (2M)

14 R4-7 (2M)

15 16 W3-3 (2M)

17 R7-1-D (2S)

STH 165

416+00

417+00

418+00

419+00

420+00

421+00

STH 165

3738-06-60

3738-02-73

STREET NAME SIGN BY OTHERS

24 RIGHT LANE MUST TURN RIGHT R3-7-R (3)

22 STOP R1-1 (3)

23 DO NOT ENTER R5-1 (2M)

VILLAGE OF PLEASANT PRAIRIE ADOPT A ROAD

ESTR

114TH AVENUE (CORPORATE DRIVE)

20 STOP R1-1 (3)

21 DIVIDED HIGHWAY R6-3-A (2S)

19 EAST M3-2 165 M1-6 J4-1(2S)

18 NO PARKING ANY TIME R7-1-D (2S)

MH WV SS PROP

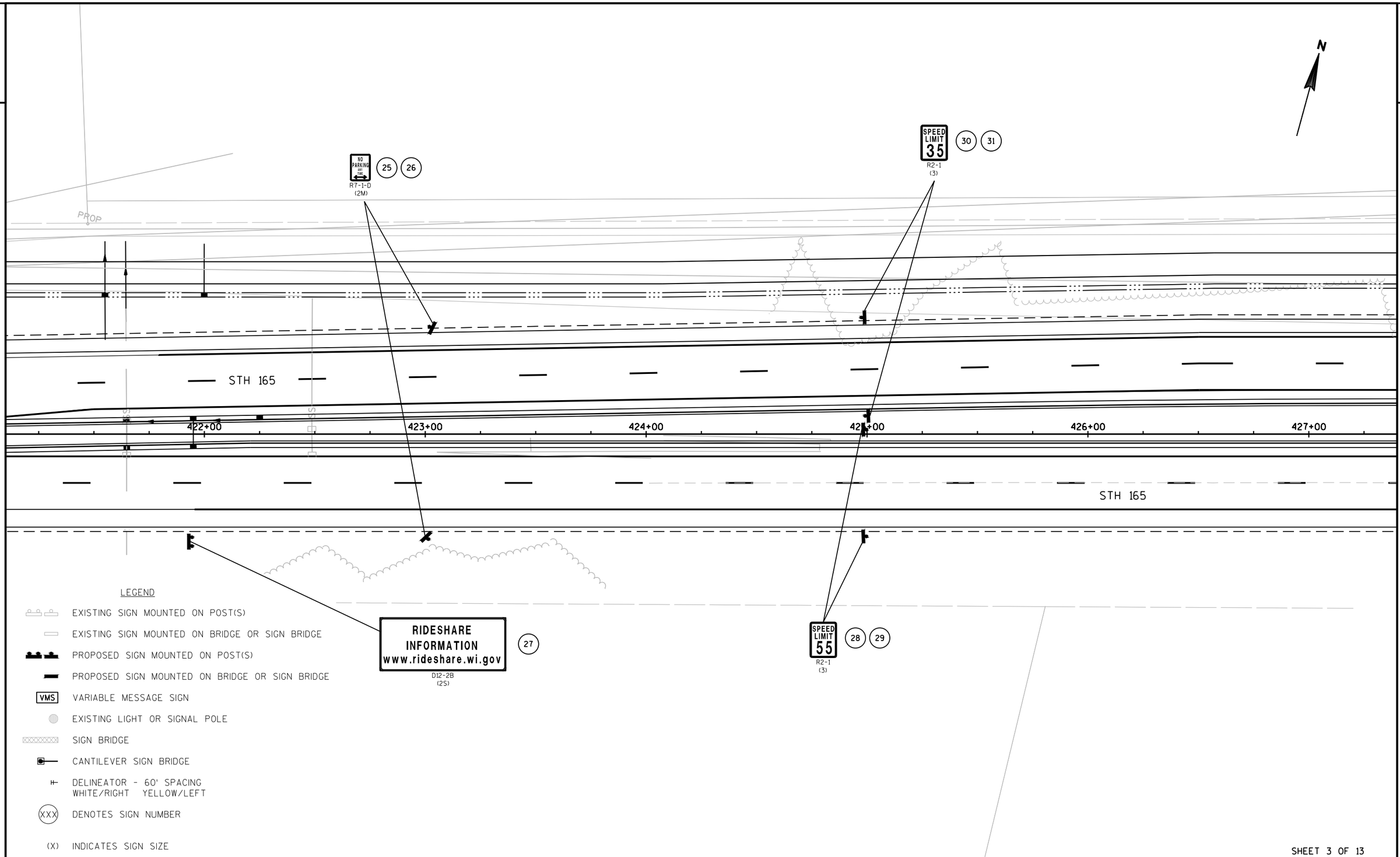
SHEET 2 OF 13

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING PLAN	SHEET 97	E

FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023201_PS.DWG PLOT DATE : 9/3/2015 9:55 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2



LEGEND

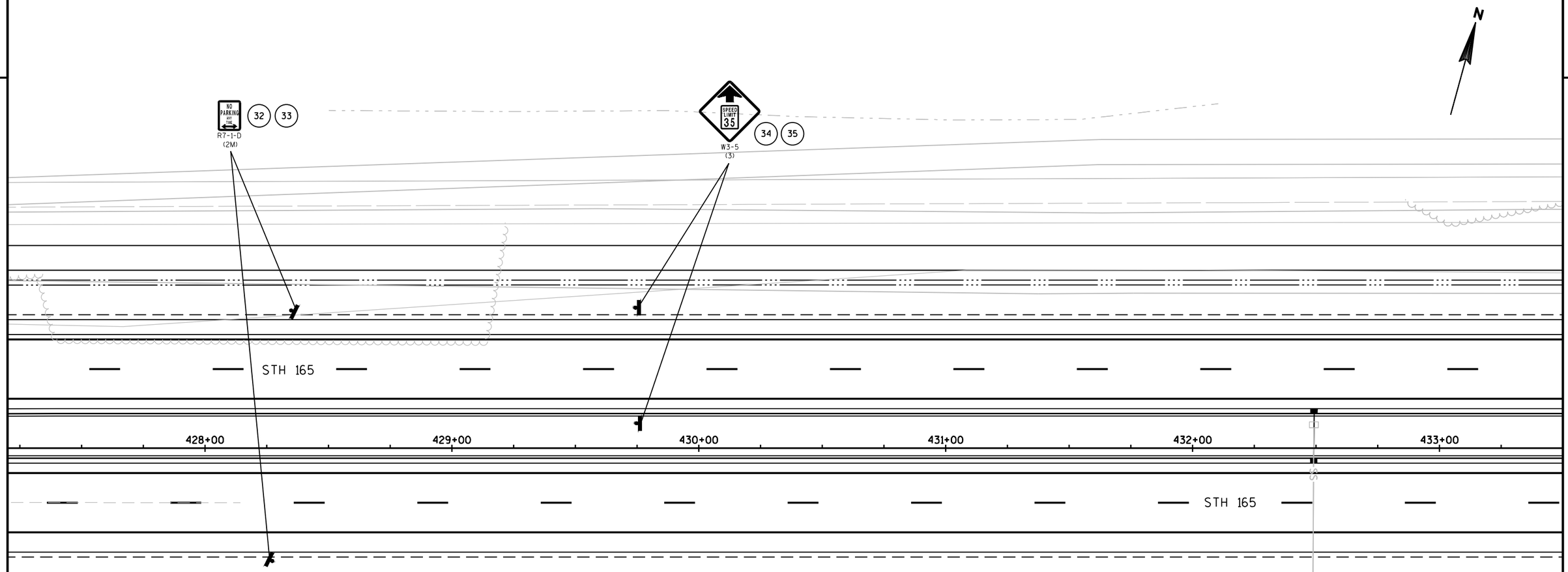
- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

SHEET 3 OF 13

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING PLAN	SHEET 98	E

2

2



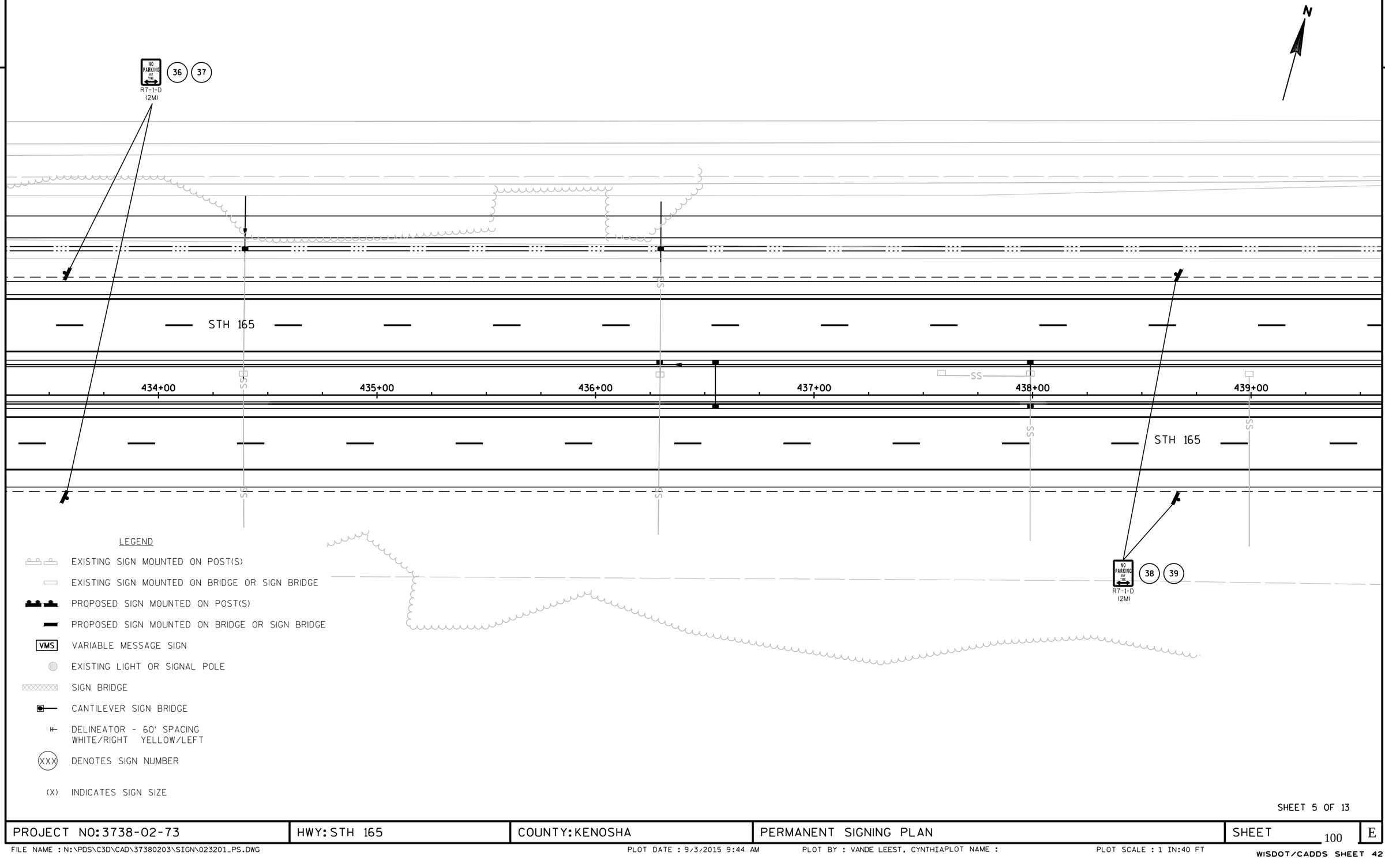
LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

SHEET 4 OF 13

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING PLAN	SHEET 99	E

2



LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

SHEET 5 OF 13

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING PLAN	SHEET 100	E

2

2

N

STH 165

440+00 441+00 442+00 443+00 444+00 445+00

STH 165

NO PARKING ANY TIME R7-1-D (2M)

40

41

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

SHEET 6 OF 13

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING PLAN	SHEET 101	E

FILE NAME : N:\PDS\C3D\CAD\37380203\SIGN\023201_PS.DWG PLOT DATE : 9/3/2015 9:44 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

STH 165

446+00 447+00 448+00 449+00 450+00 451+00

STH 165

DES PLAINES RIVER

DES PLAINES RIVER

MH

NO PARKING ANY TIME
R7-1-D
(2M)
42 43

47
W5-52R
(3)
4' MOUNT HEIGHT

45
W5-52L
(3)
4' MOUNT HEIGHT

46
W5-52R
(3)
4' MOUNT HEIGHT

48
W5-52L
(3)
4' MOUNT HEIGHT

44
DES PLAINES RIVER
I3-1

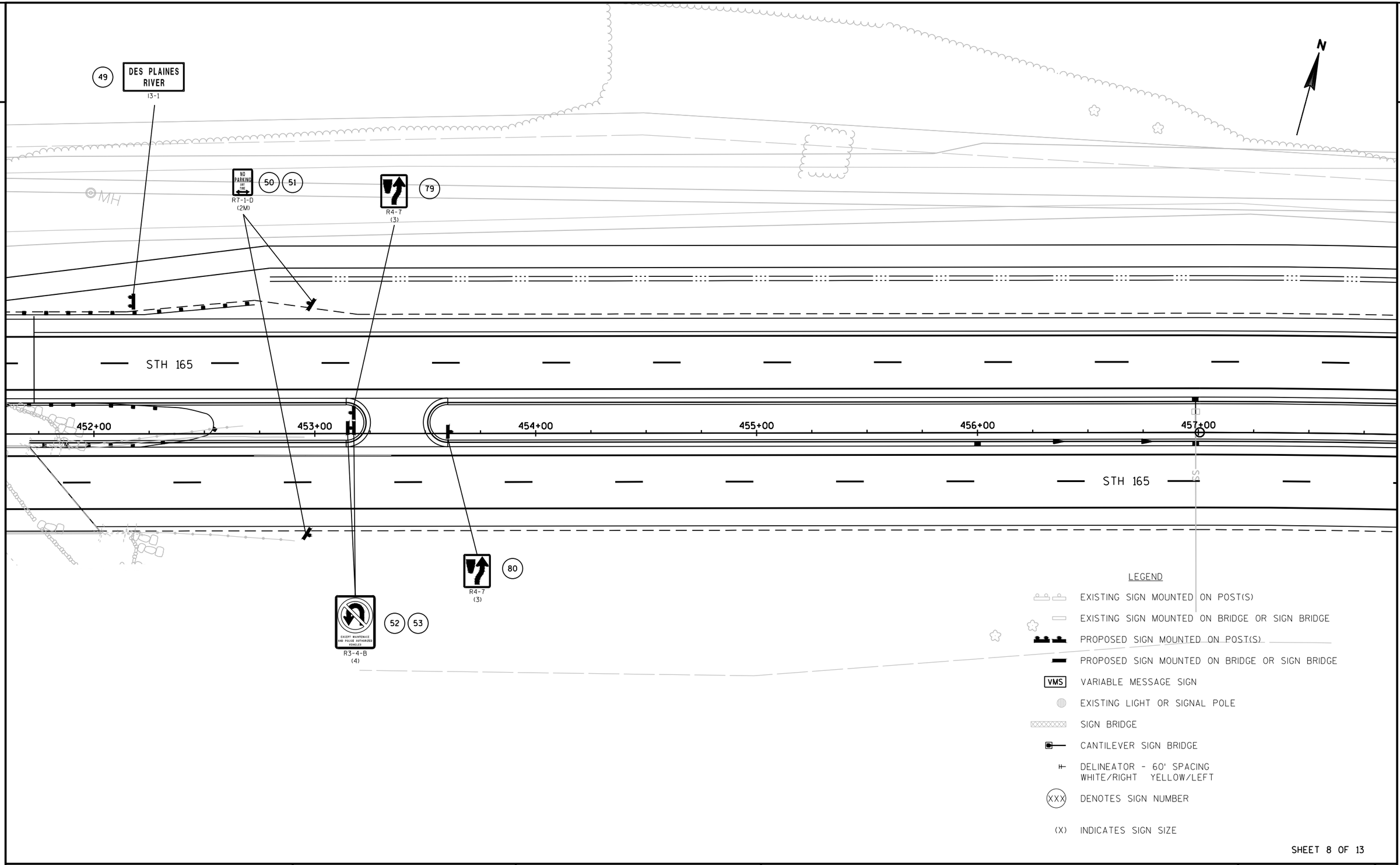
LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

SHEET 7 OF 13

PROJECT NO:3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING PLAN	SHEET 102	E

2



SHEET 8 OF 13

PROJECT NO:3738-02-73	HWY: STH 165	COUNTY:KENOSHA	PERMANENT SIGNING PLAN	SHEET 103	E

2

2

N

STH 165

458+00

459+00

460+00

461+00

462+00

463+00

464

STH 165

SS

SS

SS

SS

F

F

NO PARKING ANY TIME
R7-1-D
(2M)

54

55

WILDLIFE CROSSING
W8-6
(MOD)

81

WILDLIFE CROSSING
W8-6
(MOD)

56

MOVE TO
NEW POST

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

SHEET 9 OF 13

PROJECT NO:3738-02-73	HWY:STH 165	COUNTY:KENOSHA	PERMANENT SIGNING PLAN	SHEET 104	E

2

N

W

S

STH 165

464+00

465+00

466+00

467+00

468+00

469+00

470+00

NO PARKING ANY TIME
R7-1-D
(2M)

57

58

59

60

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

SHEET 10 OF 13

PROJECT NO:3738-02-73	HWY:STH 165	COUNTY:KENOSHA	PERMANENT SIGNING PLAN	SHEET 105	E

2

N

STH 165

470+00

471+00

472+00

473+00

474+00

475+00

476+00

STH 165

Terwall Ter 61 62

D1-1

NO PARKING ANY TIME 63 64

R7-1-D (2M)

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

SHEET 11 OF 13

PROJECT NO:3738-02-73	HWY:STH 165	COUNTY:KENOSHA	PERMANENT SIGNING PLAN	SHEET 106	E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

TERWALL TERRACE

69 STOP R1-1 (2S)

67 STOP R1-1 (3)

68 DIVIDED HIGHWAY R6-3-A (2M)

PATH ENDS AHEAD 83

73 DO NOT ENTER R5-1 (3)

65 NO PARKING ANY TIME R7-1-D (2M)

66 NO PARKING ANY TIME R7-1-D (2M)

70 71 R4-7 (3)

72 ONE WAY R6-2-L (2M)

STH 165

477+00 478+00 479+00 480+00 481+00 482+00

STH 165

SHEET 12 OF 13

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING PLAN	SHEET 107	E

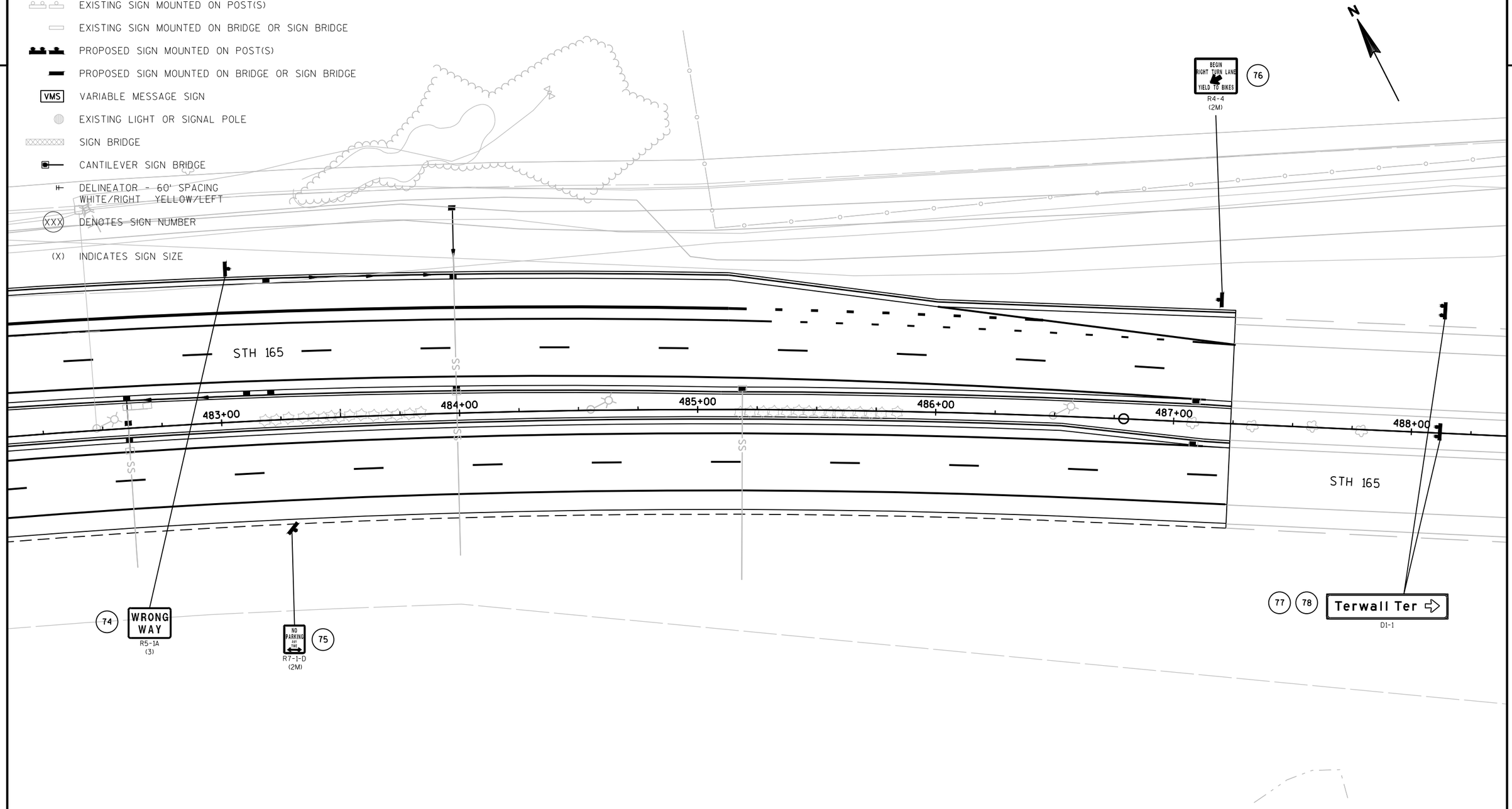
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WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE



SHEET 13 OF 13

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING PLAN	SHEET 108	E

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WISDOT/CADDS SHEET 42

LIGHTING LEGEND

A-7-(1,3)
STA 865+55.00, 22.0' LT
C-5(T)-8

- CONTROL CABINET DESIGNATION
- POLE NUMBER
- LIGHTING CURCUIT(S)
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- POLE TYPE (T) INCLUDES TRANSFORMER BASE
- LUMINAIRE DESIGNATION

- LIGHTING UNIT
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT (SEE CABLE AND CONDUIT LEGEND)
- CONDUIT STUB-OUT
- PULL BOX, 24" X 36"

STA. 419+26.9, 81.3' LT
CONTROL CABINET "A"

A-2-(1,3)
STA. 419+10.2, 7.3' RT
C-5(T)-8

A-4-(2,4
STA. 421+80.0, 0.5' LT
C-5(T)-8

A-1-(1,3)
STA. 417+75.2, 9.4' RT
C-5(T)-8

A-3-(2,4)
STA. 420+45.1, 4.1' RT
C-5(T)-8

END CONSTRUCTION 3738-06-60
BEGIN PROJECT 3738-02-73
STA. 416+00.00

STH 165 WB

STH 165 EB

CORPORATE DRIVE

EX. R/W

MATCHLINE STA. 422+00

414+00 415+00 416+00 417+00 418+00 419+00 420+00 421+00 422

CABLE AND CONDUIT LEGEND

- A — 3 #4 AWG AND 1 #4 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- B — 3 #2 AWG AND 1 #2 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- C — 3 #2 AWG AND 1 #2 GROUND. INSTALL IN 2" CONDUIT IN STR 13-30-133, PROVIDED BY OTHERS IN BRIDGE PARAPET

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	LIGHTING PLAN	SHEET 109 E

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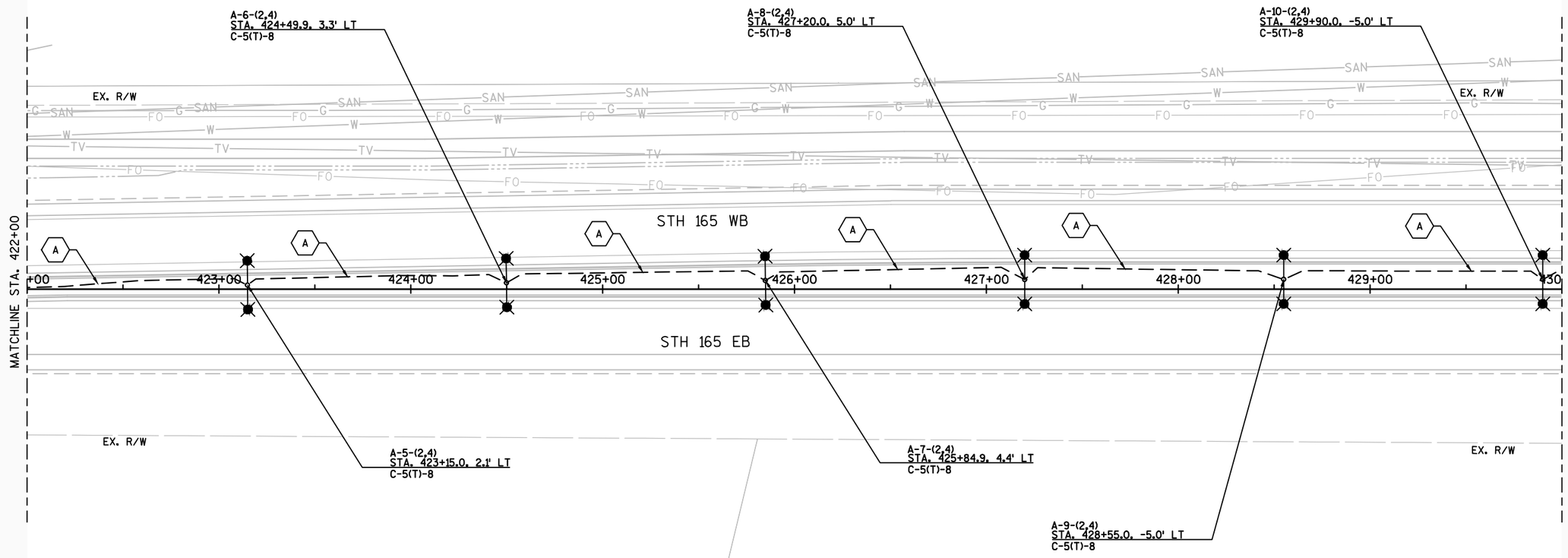
LIGHTING LEGEND

A-7-(1,3)
STA 865+55.00, 22.0' LT
C-5(T)-8

- CONTROL CABINET DESIGNATION
- POLE NUMBER
- LIGHTING CURCUIT(S)
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- POLE TYPE (T) INCLUDES TRANSFORMER BASE
- LUMINAIRE DESIGNATION

- LIGHTING UNIT
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT (SEE CABLE AND CONDUIT LEGEND)
- CONDUIT STUB-OUT
- PULL BOX, 24" X 36"

N



CABLE AND CONDUIT LEGEND

- A — 3 #4 AWG AND 1 #4 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- B — 3 #2 AWG AND 1 #2 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- C — 3 #2 AWG AND 1 #2 GROUND. INSTALL IN 2" CONDUIT IN STR 13-30-133. PROVIDED BY OTHERS IN BRIDGE PARAPET

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	LIGHTING PLAN	SHEET 110	E

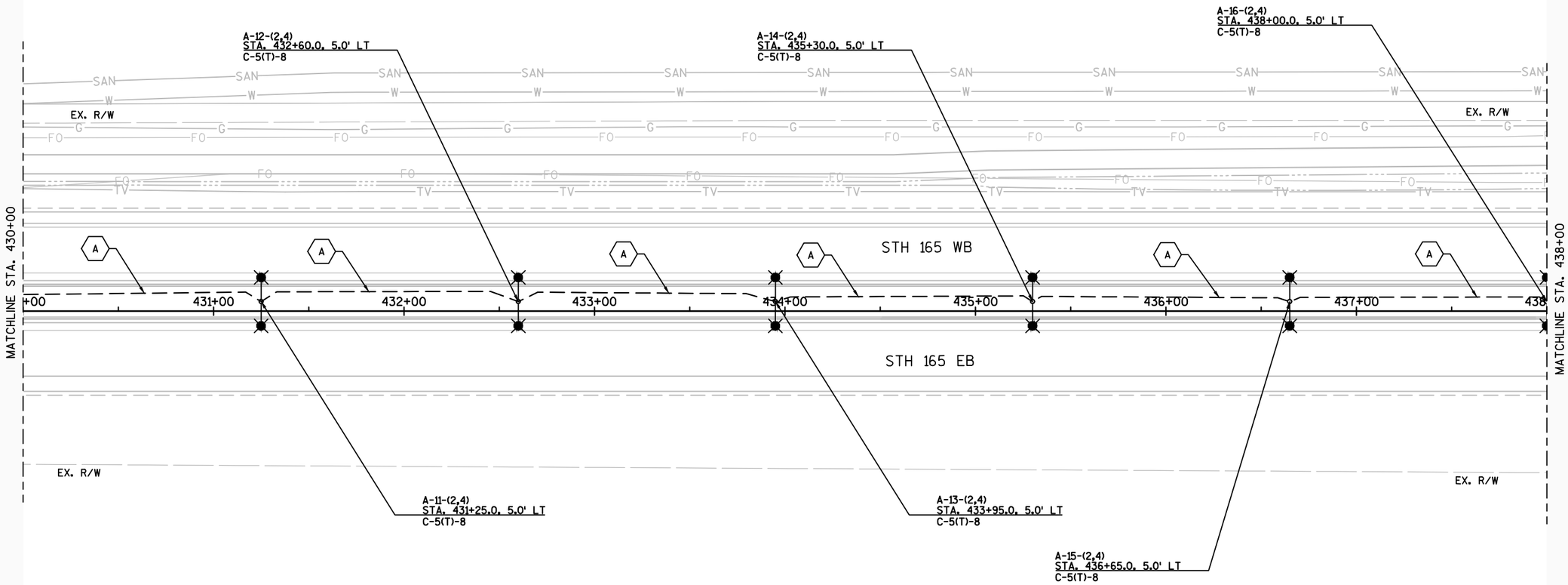
LIGHTING LEGEND

A-7-(1.3)
STA 865+55.00, 22.0' LT
C-5(T)-8

- CONTROL CABINET DESIGNATION
- POLE NUMBER
- LIGHTING CURCUIT(S)
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- POLE TYPE (T) INCLUDES TRANSFORMER BASE
- LUMINAIRE DESIGNATION

- LIGHTING UNIT
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT (SEE CABLE AND CONDUIT LEGEND)
- CONDUIT STUB-OUT
- PULL BOX, 24" X 36"

N



CABLE AND CONDUIT LEGEND

- A — 3 #4 AWG AND 1 #4 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- B — 3 #2 AWG AND 1 #2 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- C — 3 #2 AWG AND 1 #2 GROUND. INSTALL IN 2" CONDUIT IN STR 13-30-133, PROVIDED BY OTHERS IN BRIDGE PARAPET

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	LIGHTING PLAN	SHEET 111	E

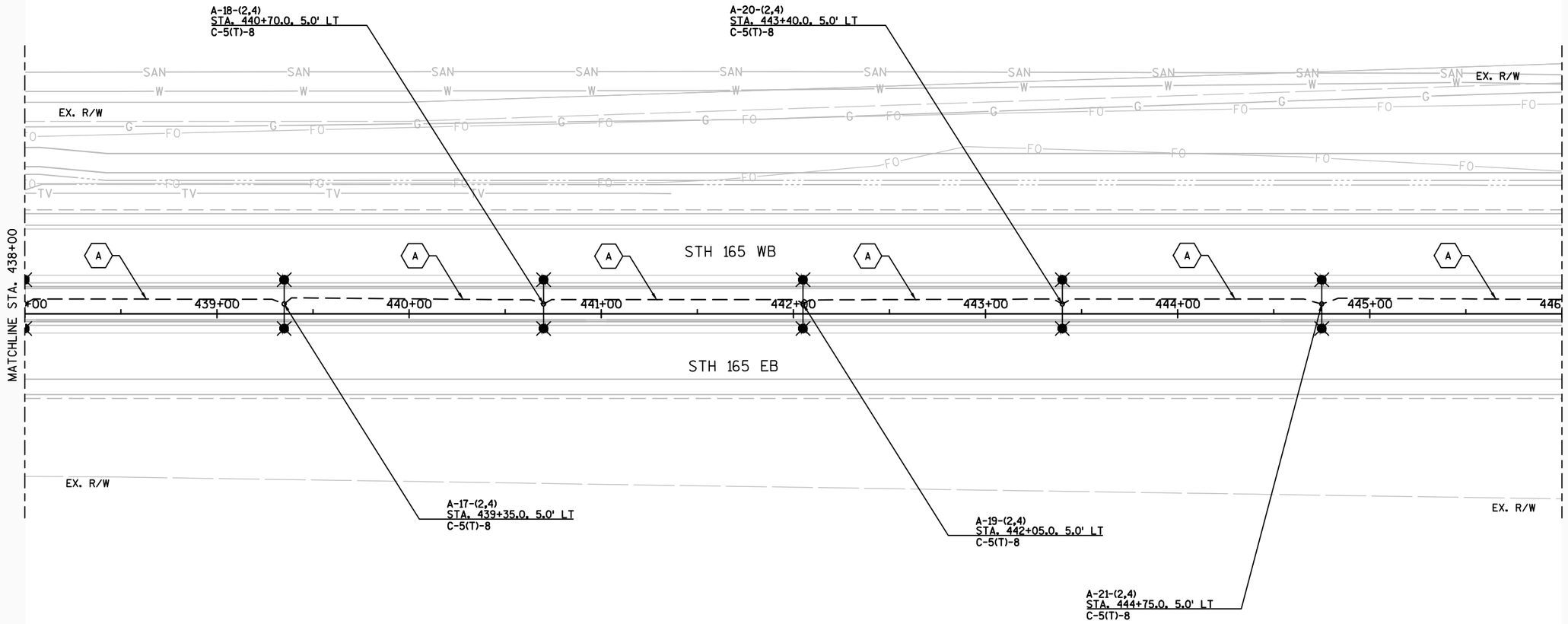
LIGHTING LEGEND

A-7-(1.3)
STA 865+55.00, 22.0' LT
C-5(T)-8

- CONTROL CABINET DESIGNATION
- POLE NUMBER
- LIGHTING CURCUIT(S)
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- POLE TYPE (T) INCLUDES TRANSFORMER BASE
- LUMINAIRE DESIGNATION

- LIGHTING UNIT
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT (SEE CABLE AND CONDUIT LEGEND)
- CONDUIT STUB-OUT
- PULL BOX, 24" X 36"

N



CABLE AND CONDUIT LEGEND

- A: 3 #4 AWG AND 1 #4 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- B: 3 #2 AWG AND 1 #2 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- C: 3 #2 AWG AND 1 #2 GROUND. INSTALL IN 2" CONDUIT IN STR 13-30-133. PROVIDED BY OTHERS IN BRIDGE PARAPET

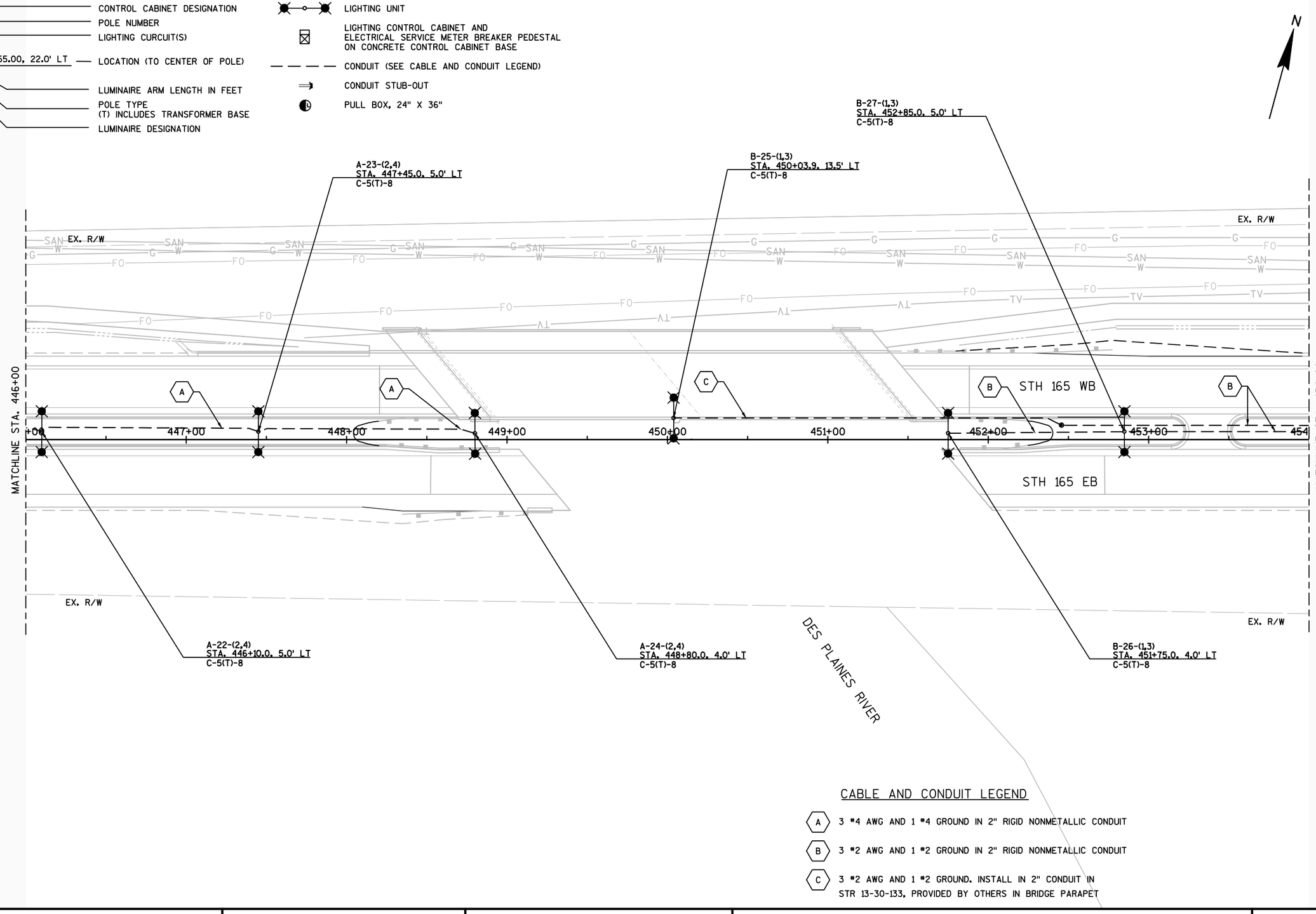
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	LIGHTING PLAN	SHEET 112	E

LIGHTING LEGEND

A-7-(1,3)
STA 865+55.00, 22.0' LT
C-5(T)-8

- CONTROL CABINET DESIGNATION
- POLE NUMBER
- LIGHTING CURCUIT(S)
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- POLE TYPE (T) INCLUDES TRANSFORMER BASE
- LUMINAIRE DESIGNATION

- LIGHTING UNIT
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT (SEE CABLE AND CONDUIT LEGEND)
- CONDUIT STUB-OUT
- PULL BOX, 24" X 36"



CABLE AND CONDUIT LEGEND

- (A) 3 #4 AWG AND 1 #4 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- (B) 3 #2 AWG AND 1 #2 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- (C) 3 #2 AWG AND 1 #2 GROUND. INSTALL IN 2" CONDUIT IN STR 13-30-133. PROVIDED BY OTHERS IN BRIDGE PARAPET

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	LIGHTING PLAN	SHEET 113	E

LIGHTING LEGEND

A-7-(1,3)
STA 865+55.00, 22.0' LT
C-5(T)-8

- CONTROL CABINET DESIGNATION
- POLE NUMBER
- LIGHTING CURCUIT(S)
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- POLE TYPE (T) INCLUDES TRANSFORMER BASE
- LUMINAIRE DESIGNATION

- LIGHTING UNIT
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT (SEE CABLE AND CONDUIT LEGEND)
- CONDUIT STUB-OUT
- PULL BOX, 24" X 36"

N

B-29-(1,3)
STA. 455+55.0, 5.0' LT
C-5(T)-8

B-31-(1,3)
STA. 458+25.0, 5.0' LT
C-5(T)-8

B-33-(1,3)
STA. 460+95.0, 5.0' LT
C-5(T)-8

EX. R/W

STH 165 WB

STH 165 EB

MATCHLINE STA. 454+00

MATCHLINE STA. 462+00

455+00 456+00 457+00 458+00 459+00 460+00 461+00

B-28-(1,3)
STA. 454+20.0, 5.0' LT
C-5(T)-8

B-30-(1,3)
STA. 456+90.0, 5.0' LT
C-5(T)-8

B-32-(1,3)
STA. 459+60.0, 5.0' LT
C-5(T)-8

CABLE AND CONDUIT LEGEND

- A: 3 #4 AWG AND 1 #4 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- B: 3 #2 AWG AND 1 #2 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- C: 3 #2 AWG AND 1 #2 GROUND. INSTALL IN 2" CONDUIT IN STR 13-30-133. PROVIDED BY OTHERS IN BRIDGE PARAPET

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	LIGHTING PLAN	SHEET 114	E

LIGHTING LEGEND

A-7-(1,3)
STA 865+55.00, 22.0' LT
C-5(T)-8

- CONTROL CABINET DESIGNATION
- POLE NUMBER
- LIGHTING CURCUIT(S)
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- POLE TYPE (T) INCLUDES TRANSFORMER BASE
- LUMINAIRE DESIGNATION

- LIGHTING UNIT
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT (SEE CABLE AND CONDUIT LEGEND)
- CONDUIT STUB-OUT
- PULL BOX, 24" X 36"

N

B-35-(1,3)
STA. 463+65.0, 5.0' LT
C-5(T)-8

B-37-(1,3)
STA. 466+35.0, 8.0' LT
C-5(T)-8

B-39-(1,3)
STA. 469+05.0, 8.0' LT
C-5(T)-8

EX. R/W

STH 165 WB

STH 165 EB

DITCH FLOW LINE

MATCHLINE STA. 462+00

463+00

464+00

465+00

466+00

467+00

468+00

469+00

MATCHLINE STA. 470+00

B-34-(1,3)
STA. 462+30.0, 5.0' LT
C-5(T)-8

B-36-(1,3)
STA. 465+00.0, 5.0' LT
C-5(T)-8

B-38-(1,3)
STA. 467+70.0, 8.0' LT
C-5(T)-8

CABLE AND CONDUIT LEGEND

- A — 3 #4 AWG AND 1 #4 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- B — 3 #2 AWG AND 1 #2 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- C — 3 #2 AWG AND 1 #2 GROUND. INSTALL IN 2" CONDUIT IN STR 13-30-133. PROVIDED BY OTHERS IN BRIDGE PARAPET

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	LIGHTING PLAN	SHEET 115	E

LIGHTING LEGEND

A-7-(1,3)
STA 865+55.00, 22.0' LT
C-5(T)-8

- CONTROL CABINET DESIGNATION
- POLE NUMBER
- LIGHTING CURCUIT(S)
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- POLE TYPE (T) INCLUDES TRANSFORMER BASE
- LUMINAIRE DESIGNATION

- LIGHTING UNIT
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT (SEE CABLE AND CONDUIT LEGEND)
- CONDUIT STUB-OUT
- PULL BOX, 24" X 36"

N

B-40-(1,3)
STA. 470+40.0, 8.0' LT
C-5(T)-8

B-42-(1,3)
STA. 473+10.0, 8.0' LT
C-5(T)-8

B-44-(1,3)
STA. 475+80.0, 9.0' LT
C-5(T)-8

EX. R/W

DITCH FLOW LINE

STH 165 WB

STH 165 EB

MATCHLINE STA. 470+00

MATCHLINE STA. 478+00

470+00 471+00 472+00 473+00 474+00 475+00 476+00 477+00 478

B-41-(1,3)
STA. 471+75.0, 8.0' LT
C-5(T)-8

B-43-(1,3)
STA. 474+45.0, 7.5' LT
C-5(T)-8

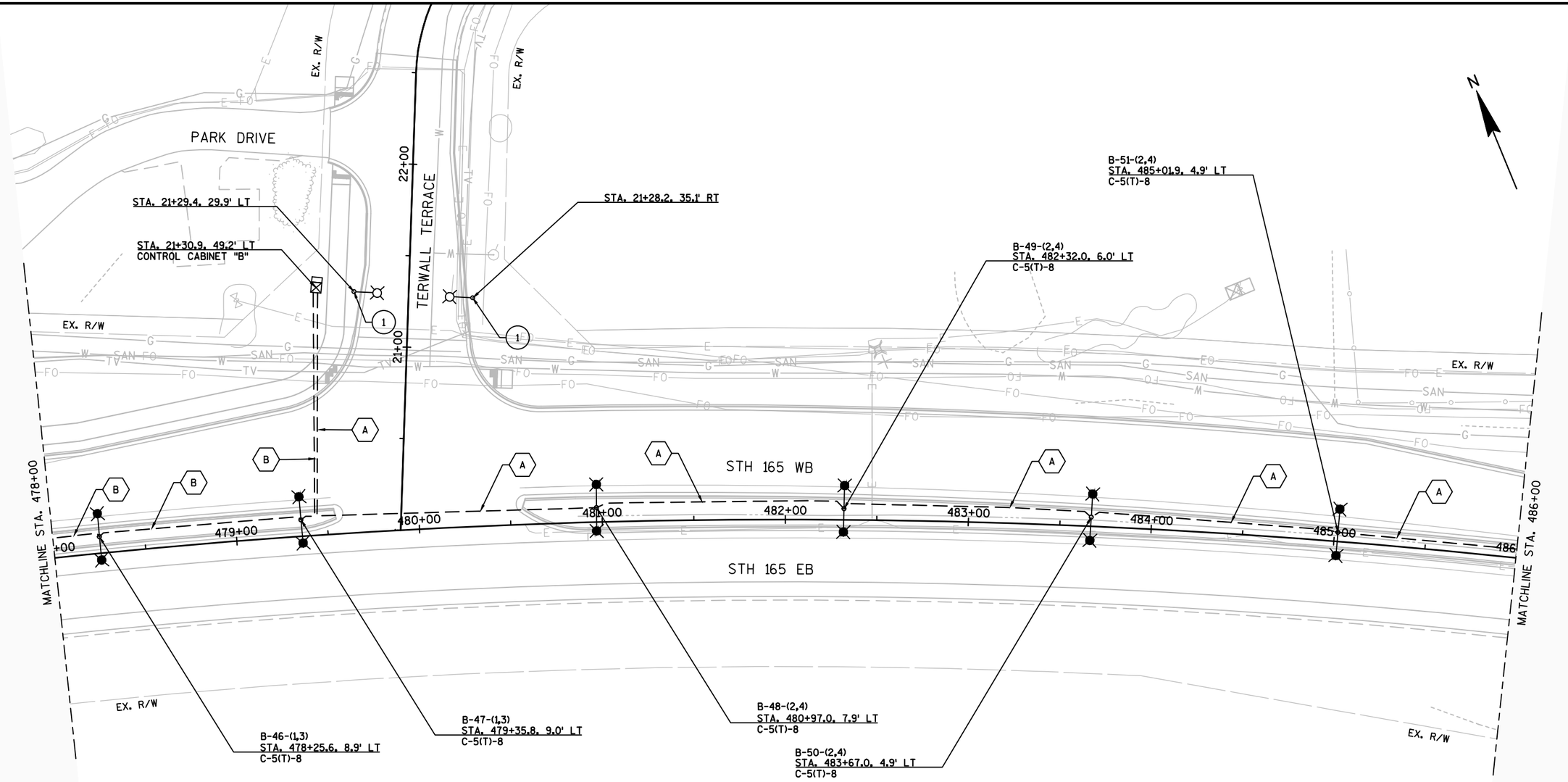
B-45-(1,3)
STA. 477+15.0, 9.0' LT
C-5(T)-8

CABLE AND CONDUIT LEGEND

- A — 3 #4 AWG AND 1 #4 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- B — 3 #2 AWG AND 1 #2 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- C — 3 #2 AWG AND 1 #2 GROUND. INSTALL IN 2" CONDUIT IN STR 13-30-133. PROVIDED BY OTHERS IN BRIDGE PARAPET

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	LIGHTING PLAN	SHEET 116	E

2



KEYED NOTES

(1) REMOVE AND RELOCATE EXISTING POLES, ARMS AND LUMINARIES TO LOCATION SHOWN ON PLAN. REMOVE CONCRETE BASE. EXTEND EXISTING CIRCUIT TO NEW FIXTURE LOCATION

CABLE AND CONDUIT LEGEND

(A) 3 #4 AWG AND 1 #4 GROUND IN 2" RIGID NONMETALLIC CONDUIT

(B) 3 #2 AWG AND 1 #2 GROUND IN 2" RIGID NONMETALLIC CONDUIT

(C) 3 #2 AWG AND 1 #2 GROUND. INSTALL IN 2" CONDUIT IN STR 13-30-133, PROVIDED BY OTHERS IN BRIDGE PARAPET

LIGHTING LEGEND

A-7-(1,3)
STA 865+55.00, 22.0' LT
C-5(T)-8

- CONTROL CABINET DESIGNATION
- POLE NUMBER
- LIGHTING CURCUIT(S)
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- POLE TYPE (T) INCLUDES TRANSFORMER BASE
- LUMINAIRE DESIGNATION

- LIGHTING UNIT
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT (SEE CABLE AND CONDUIT LEGEND)
- CONDUIT STUB-OUT
- PULL BOX, 24" X 36"

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	LIGHTING PLAN	SHEET 117	E

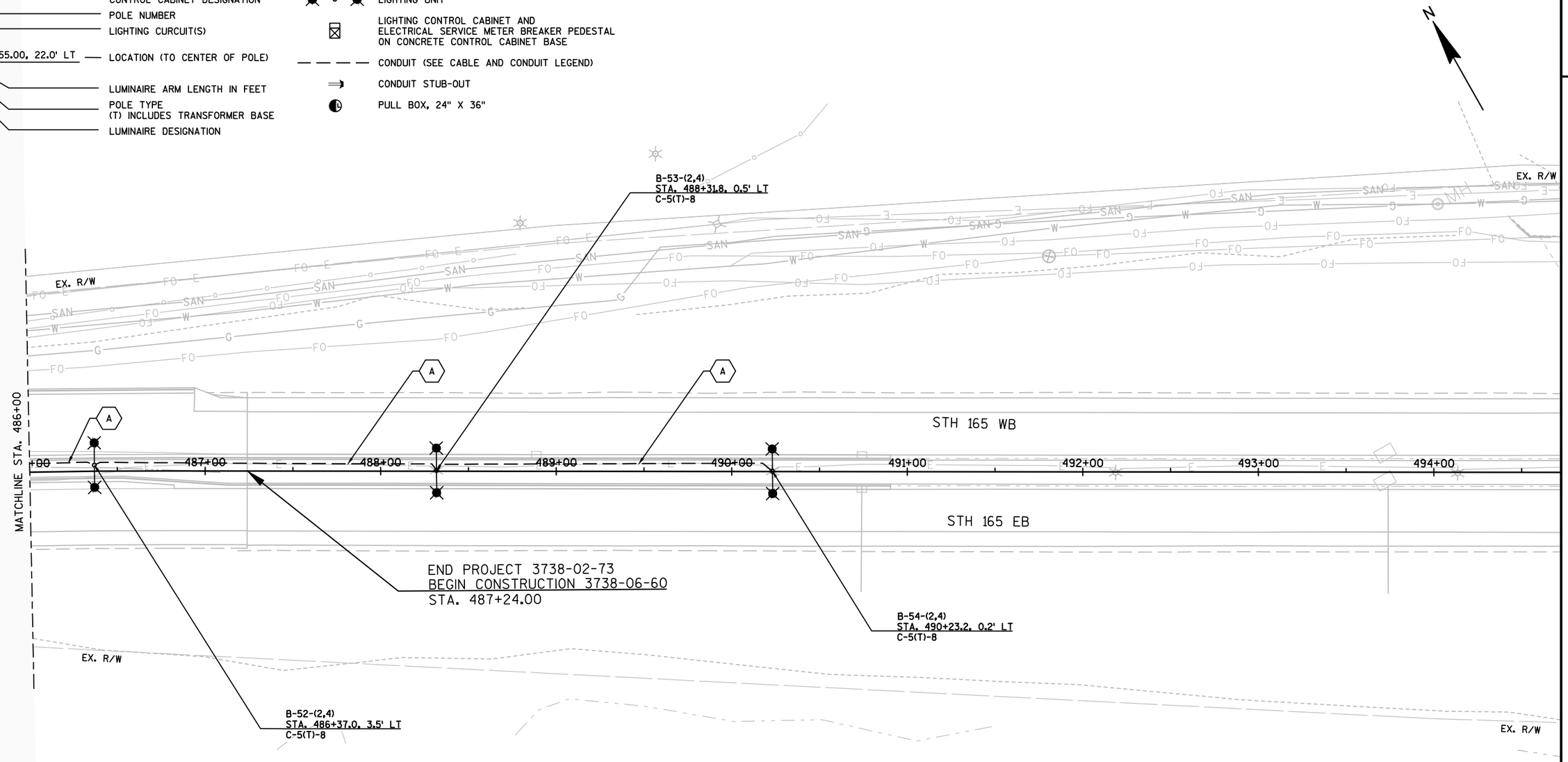
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WISDOT/CADDS SHEET 42

LIGHTING LEGEND

A-7-(1.3)
STA 865+55.00, 22.0' LT
C-5(T)-8

- CONTROL CABINET DESIGNATION
- POLE NUMBER
- LIGHTING CURCUIT(S)
- LOCATION (TO CENTER OF POLE)
- LUMINAIRE ARM LENGTH IN FEET
- POLE TYPE (T) INCLUDES TRANSFORMER BASE
- LUMINAIRE DESIGNATION

- LIGHTING UNIT
- LIGHTING CONTROL CABINET AND ELECTRICAL SERVICE METER BREAKER PEDESTAL ON CONCRETE CONTROL CABINET BASE
- CONDUIT (SEE CABLE AND CONDUIT LEGEND)
- CONDUIT STUB-OUT
- PULL BOX, 24" X 36"

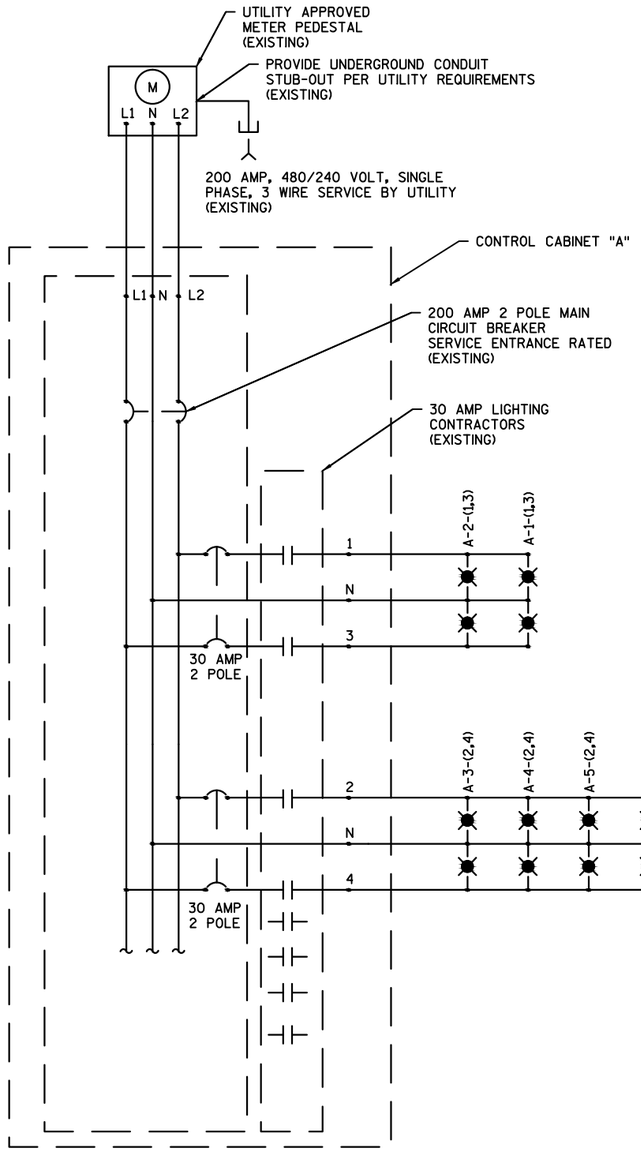


CABLE AND CONDUIT LEGEND

- (A) 3 #4 AWG AND 1 #4 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- (B) 3 #2 AWG AND 1 #2 GROUND IN 2" RIGID NONMETALLIC CONDUIT
- (C) 3 #2 AWG AND 1 #2 GROUND. INSTALL IN 2" CONDUIT IN STR 13-30-133, PROVIDED BY OTHERS IN BRIDGE PARAPET

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	LIGHTING PLAN	SHEET 118	E

2



LEGEND

- PROPOSED 227 WATT TYPE C LED LUMINAIRE

GENERAL NOTES

1. GROUND WIRE REQUIRED, NOT SHOWN.
2. REFER TO WISDOT S.D.D. 9D4 LIGHTING CONTROL CABINET, FOR ADDITIONAL INFORMATION.

LOAD TABULATION FOR LIGHTING CONTROLLER "A"				
CIRCUIT	DESCRIPTION	L1	L2	BREAKER SIZE AMPS
1	(2) FIXTURES @ 0.97 AMPS		1.94	30 AMP, 2 POLE
3	(2) FIXTURES @ 0.97 AMPS	1.94		
2	(22) FIXTURES @ 0.97 AMPS		21.34	
4	(22) FIXTURES @ 0.97 AMPS	21.34		
	TOTAL CONNECTED LOAD @ 240 VOLT, 1 PHASE	23.28 AMPS	23.28 AMPS	
	TOTAL CONNECTED LOAD @ 240 VOLT, 1 PHASE	5.59 KILOVOLT AMPS	5.59 KILOVOLT AMPS	
	TOTAL CONNECTED LOAD @ 480 VOLT, 1 PHASE	23.28 AMPS		

CONTROL CABINET "A" SYSTEM WIRING DIAGRAM

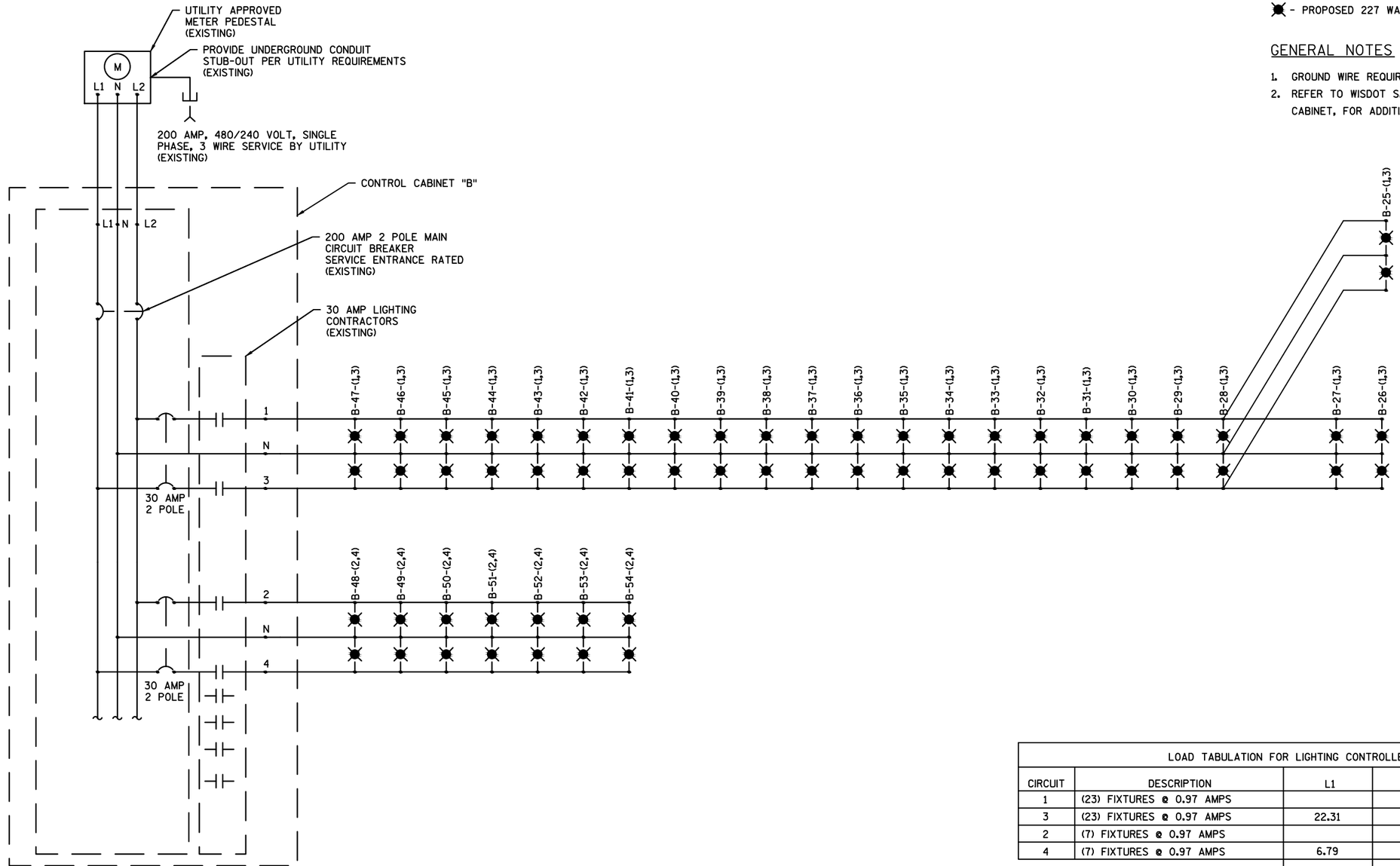
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LEGEND

- PROPOSED 227 WATT TYPE C LED LUMINAIRE

GENERAL NOTES

1. GROUND WIRE REQUIRED, NOT SHOWN.
2. REFER TO WISDOT S.D.D. 9D4 LIGHTING CONTROL CABINET, FOR ADDITIONAL INFORMATION.



LOAD TABULATION FOR LIGHTING CONTROLLER "B"				
CIRCUIT	DESCRIPTION	L1	L2	BREAKER SIZE AMPS
1	(23) FIXTURES @ 0.97 AMPS		22.31	30 AMP, 2 POLE
3	(23) FIXTURES @ 0.97 AMPS	22.31		
2	(7) FIXTURES @ 0.97 AMPS		6.79	
4	(7) FIXTURES @ 0.97 AMPS	6.79		
	TOTAL CONNECTED LOAD @ 240 VOLT, 1 PHASE	29.1 AMPS	29.1 AMPS	
	TOTAL CONNECTED LOAD @ 240 VOLT, 1 PHASE	6.98 KILOVOLT AMPS	6.98 KILOVOLT AMPS	
	TOTAL CONNECTED LOAD @ 480 VOLT, 1 PHASE	29.1 AMPS		

CONTROL CABINET "B" SYSTEM WIRING DIAGRAM

2

N

WISPARK LLC

120TH AVENUE

EX. R/W

EX. R/W

4' MIN

11'

STH 165 WB

4' MIN

11'

STH 165 EB

11'

25

MATCHLINE STA. 415+50

410+00

411+00

412+00

413+00

414+00

415+00

MH

GTST

MH

WV

GV

SS

SIGN

SIGN

EX. R/W

OMA LLC

LEGEND

1	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE
2	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
3	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)
4	PAVEMENT MARKING EPOXY 4-INCH, WHITE EDGE LINE
5	PAVEMENT MARKING EPOXY 4-INCH, YELLOW
6	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE
7	NOT USED
8	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH, WHITE
9	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH, WHITE
10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
11	PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
12	PAVEMENT MARKING CURB EPOXY, YELLOW

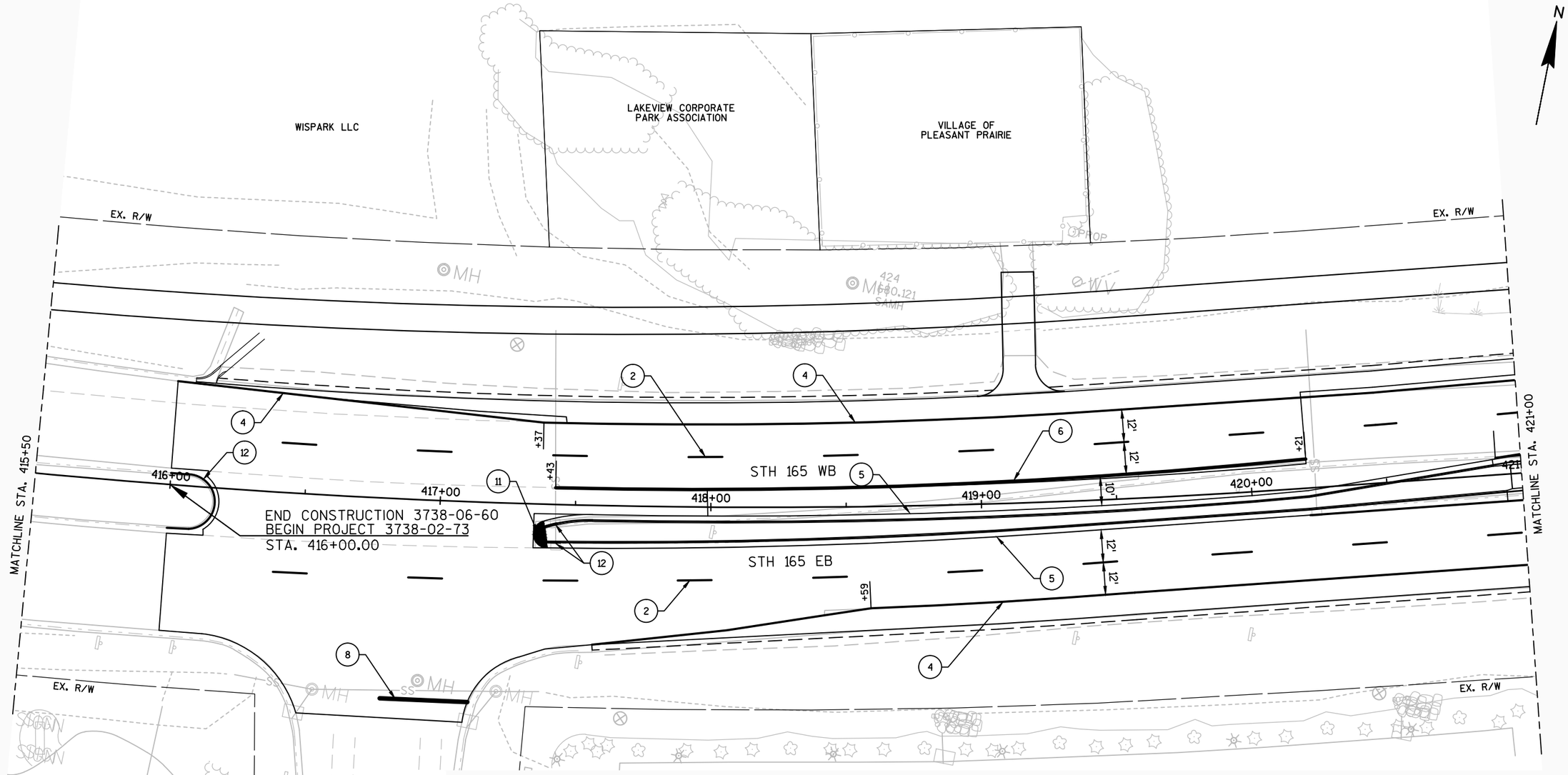
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING PLAN	SHEET 121	E

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PLOT DATE : 2/25/2016 1:59 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2



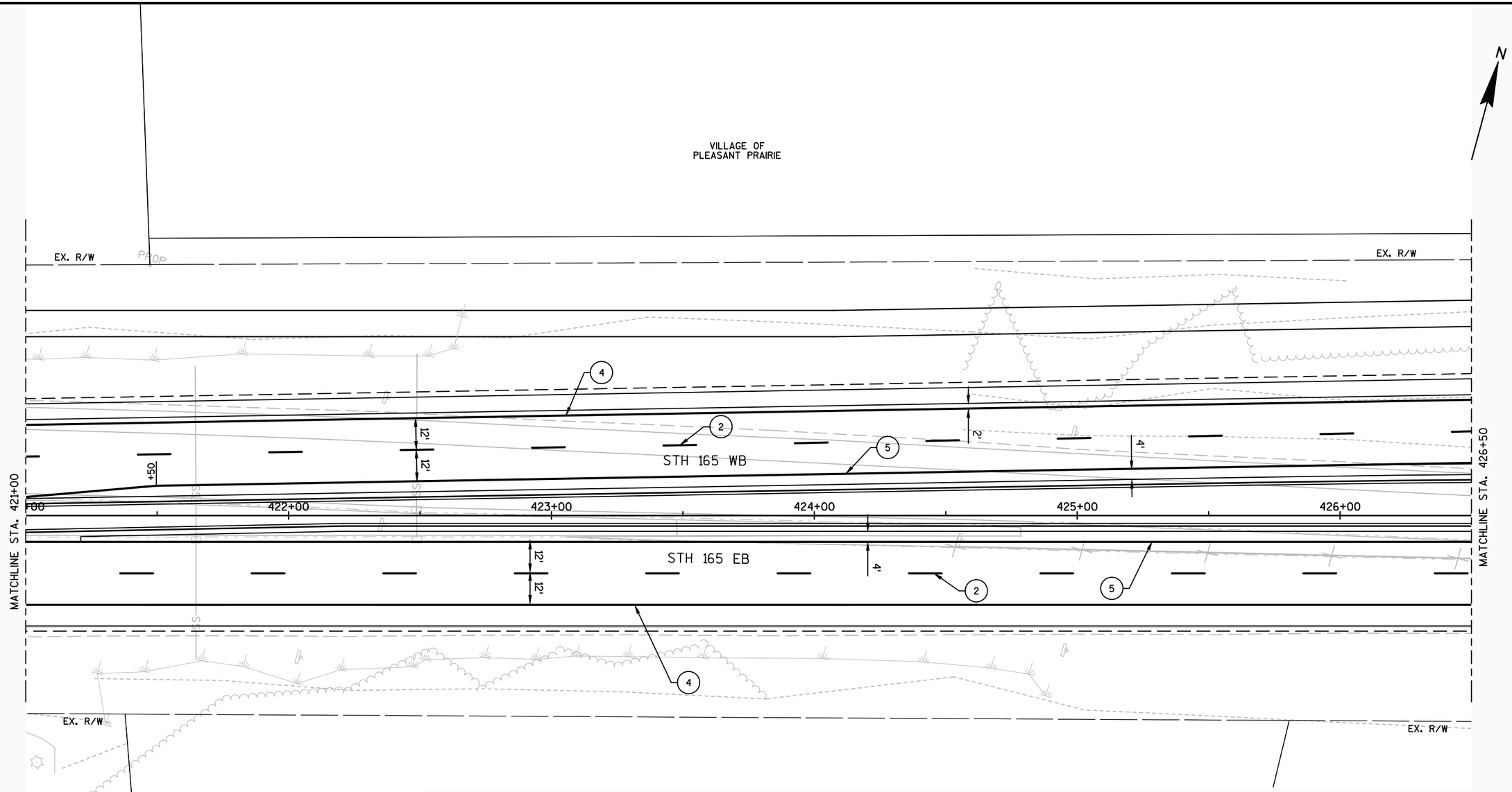
LEGEND

1	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE	8	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH, WHITE
2	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)	9	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH, WHITE
3	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)	10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
4	PAVEMENT MARKING EPOXY 4-INCH, WHITE EDGE LINE	11	PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
5	PAVEMENT MARKING EPOXY 4-INCH, YELLOW	12	PAVEMENT MARKING CURB EPOXY, YELLOW
6	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE		
7	NOT USED		

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING PLAN	SHEET 122	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024501_PM - 024502_PM
PLOT DATE : 2/25/2016 1:59 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

2

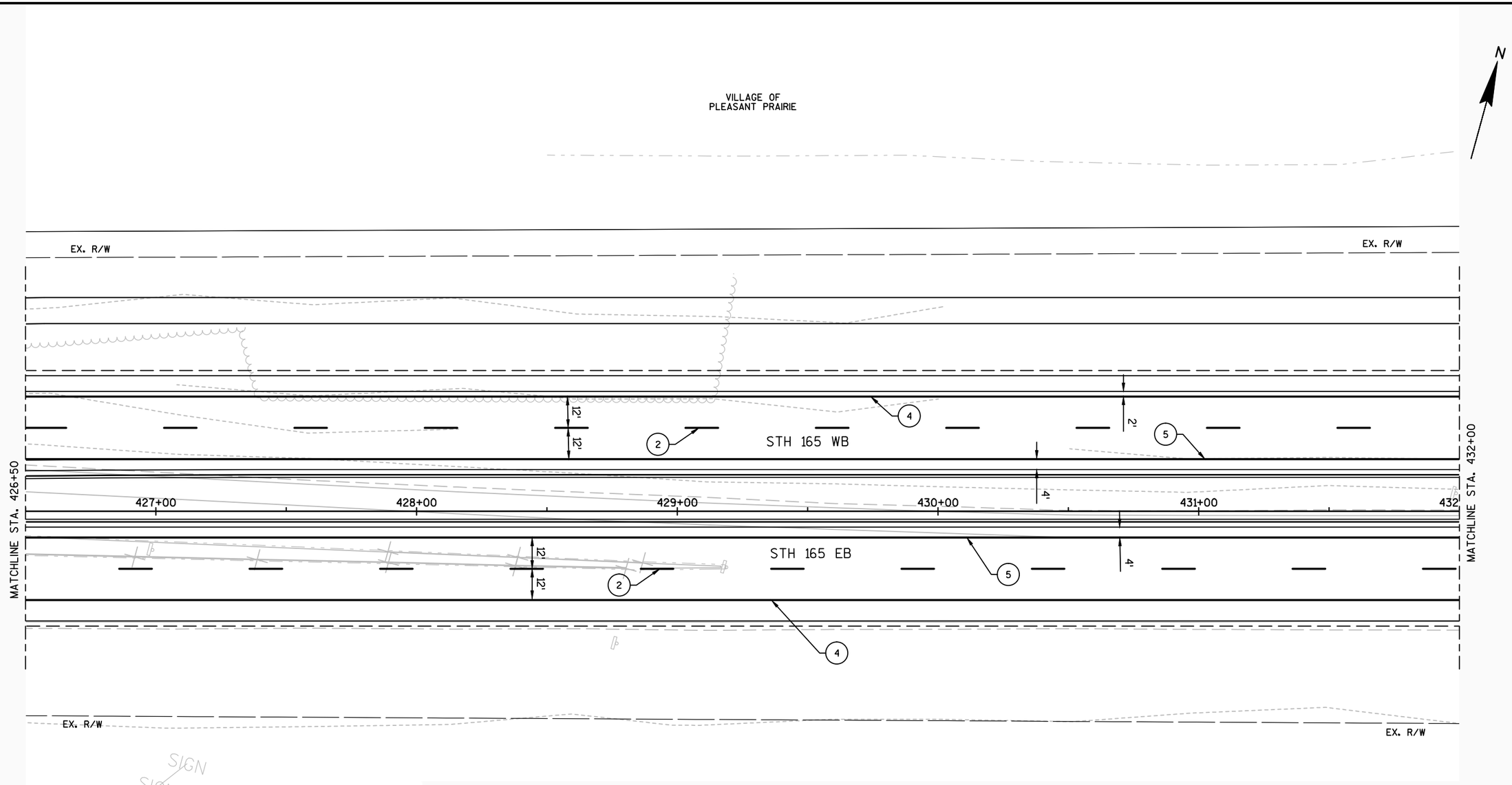


LEGEND

1	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE	8	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH, WHITE
2	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)	9	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH, WHITE
3	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)	10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
4	PAVEMENT MARKING EPOXY 4-INCH, WHITE EDGE LINE	11	PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
5	PAVEMENT MARKING EPOXY 4-INCH, YELLOW	12	PAVEMENT MARKING CURB EPOXY, YELLOW
6	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE		
7	NOT USED		

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING PLAN	SHEET 123	E

2



LEGEND

1	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE
2	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
3	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)
4	PAVEMENT MARKING EPOXY 4-INCH, WHITE EDGE LINE
5	PAVEMENT MARKING EPOXY 4-INCH, YELLOW
6	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE
7	NOT USED
8	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH, WHITE
9	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH, WHITE
10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
11	PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
12	PAVEMENT MARKING CURB EPOXY, YELLOW

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING PLAN	SHEET 124	E

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PLOT DATE : 2/25/2016 1:59 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

2

VILLAGE OF
PLEASANT PRAIRIE

N

EX. R/W

EX. R/W

POST

12'
12'

2

4

STH 165 WB

5

4'

2'

MATCHLINE STA. 432+00

433+00

434+00

435+00

436+00

437+00

MATCHLINE STA. 437+50

12'
12'

4

STH 165 EB

2

5

4'

EX. R/W

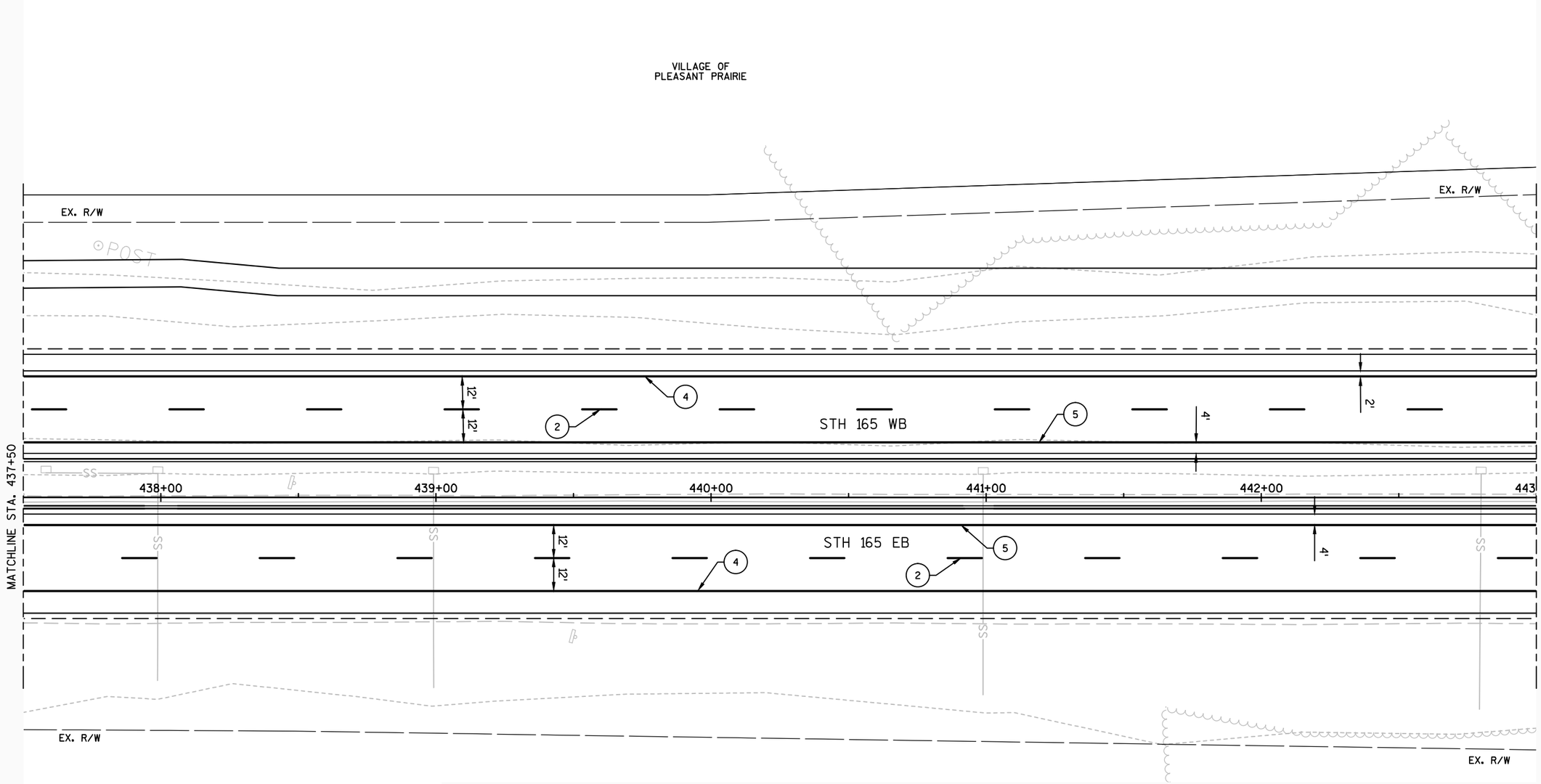
EX. R/W

LEGEND

1	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE	8	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH, WHITE
2	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)	9	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH, WHITE
3	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)	10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
4	PAVEMENT MARKING EPOXY 4-INCH, WHITE EDGE LINE	11	PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
5	PAVEMENT MARKING EPOXY 4-INCH, YELLOW	12	PAVEMENT MARKING CURB EPOXY, YELLOW
6	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE		
7	NOT USED		

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING PLAN	SHEET 125	E

2

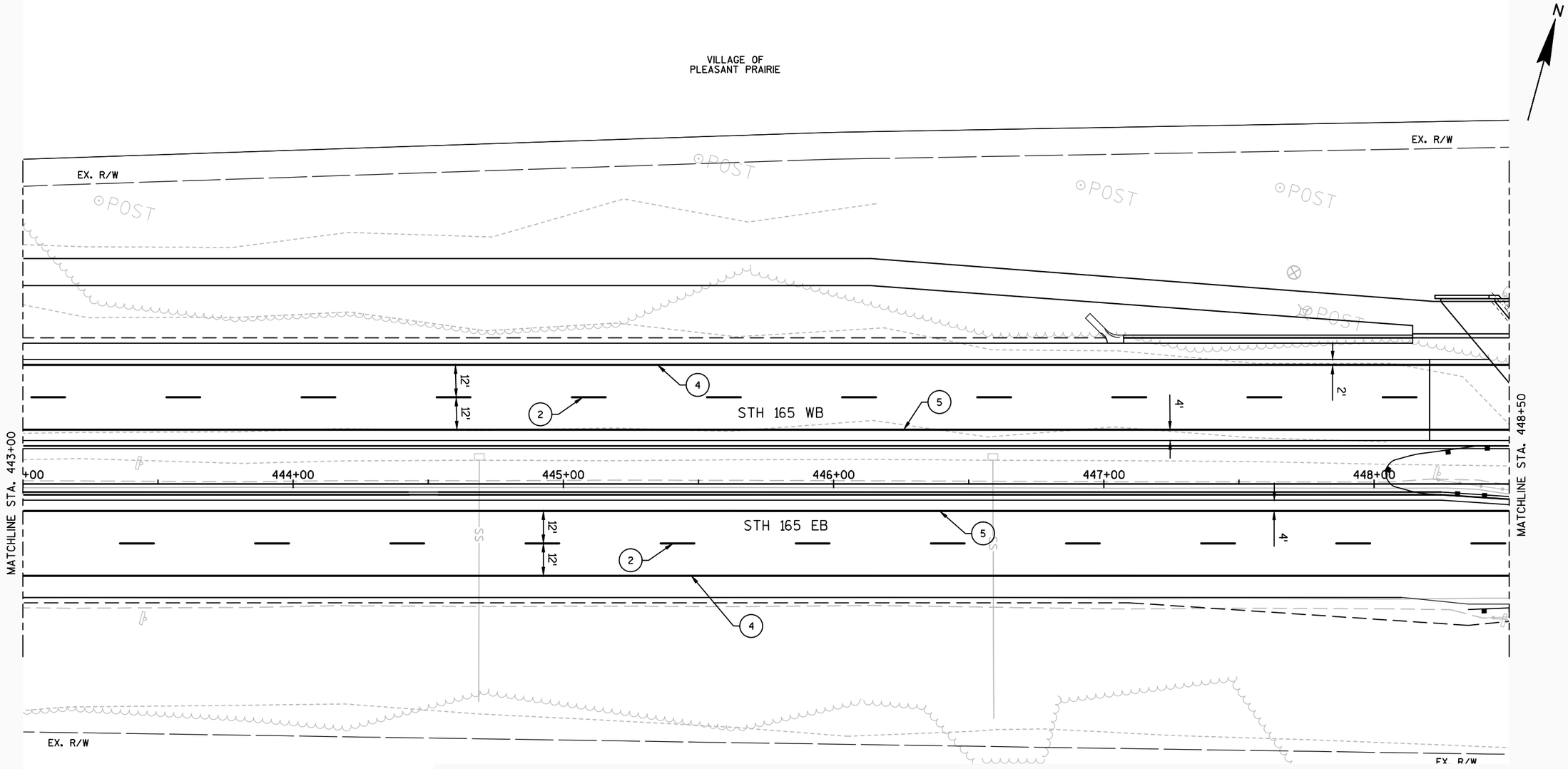


LEGEND

1	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE
2	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
3	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)
4	PAVEMENT MARKING EPOXY 4-INCH, WHITE EDGE LINE
5	PAVEMENT MARKING EPOXY 4-INCH, YELLOW
6	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE
7	NOT USED
8	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH, WHITE
9	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH, WHITE
10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
11	PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
12	PAVEMENT MARKING CURB EPOXY, YELLOW

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING PLAN	SHEET 126	E

2



LEGEND

1	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE	8	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH, WHITE
2	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)	9	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH, WHITE
3	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)	10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
4	PAVEMENT MARKING EPOXY 4-INCH, WHITE EDGE LINE	11	PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
5	PAVEMENT MARKING EPOXY 4-INCH, YELLOW	12	PAVEMENT MARKING CURB EPOXY, YELLOW
6	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE		
7	NOT USED		

PROJECT NO:3738-02-73	HWY: STH 165	COUNTY:KENOSHA	PAVEMENT MARKING PLAN	SHEET 127	E

2

LAKEVIEW CORPORATE
PARK ASSOCIATION

EX. R/W

EX. R/W

MH

POST

MH

POST

12'
10'
12'
12'

STH 165 WB

STH 165 EB

449+00

450+00

451+00

452+00

453+00

454

MATCHLINE STA. 448+50

MATCHLINE STA. 454+00

DES PLAINES RIVER

EX. R/W

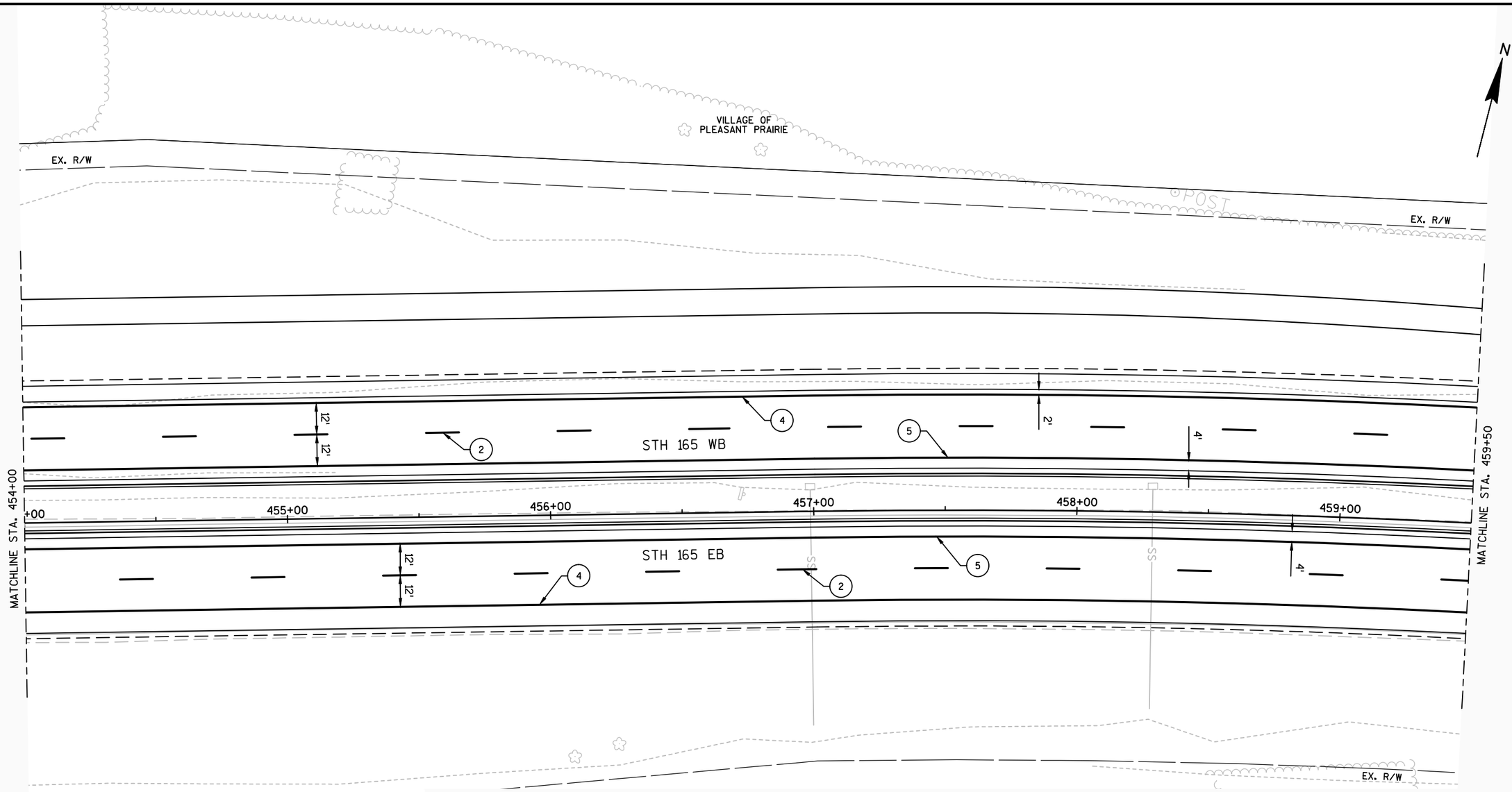
VILLAGE OF
PLEASANT PRAIRIE

LEGEND

1	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE
2	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
3	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)
4	PAVEMENT MARKING EPOXY 4-INCH, WHITE EDGE LINE
5	PAVEMENT MARKING EPOXY 4-INCH, YELLOW
6	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE
7	NOT USED
8	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH, WHITE
9	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH, WHITE
10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
11	PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
12	PAVEMENT MARKING CURB EPOXY, YELLOW

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING PLAN	SHEET 128	E

2



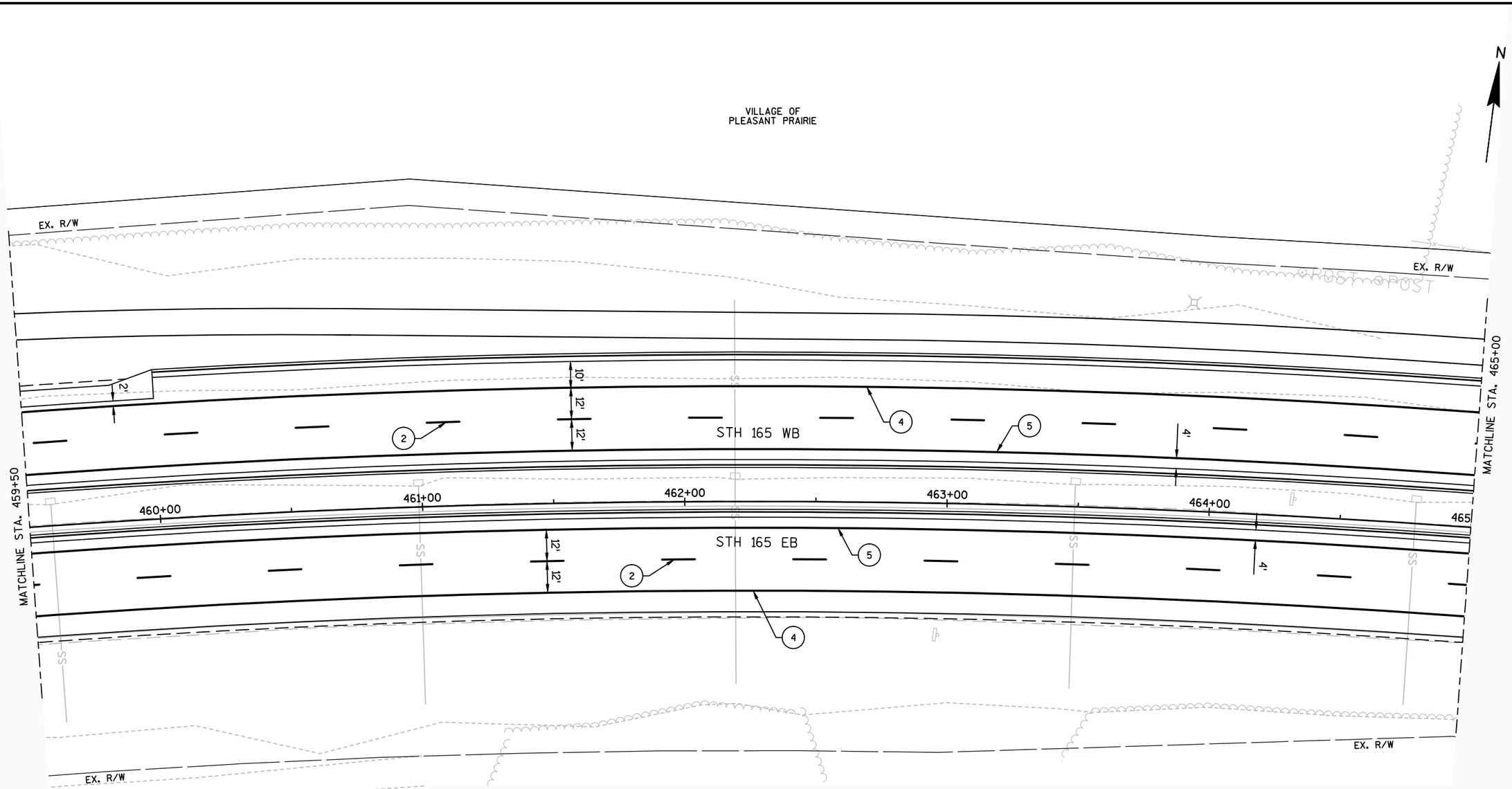
LEGEND

1	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE
2	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
3	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)
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8	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH, WHITE
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10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
11	PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
12	PAVEMENT MARKING CURB EPOXY, YELLOW

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING PLAN	SHEET 129	E

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WISDOT/CADDS SHEET 42

2



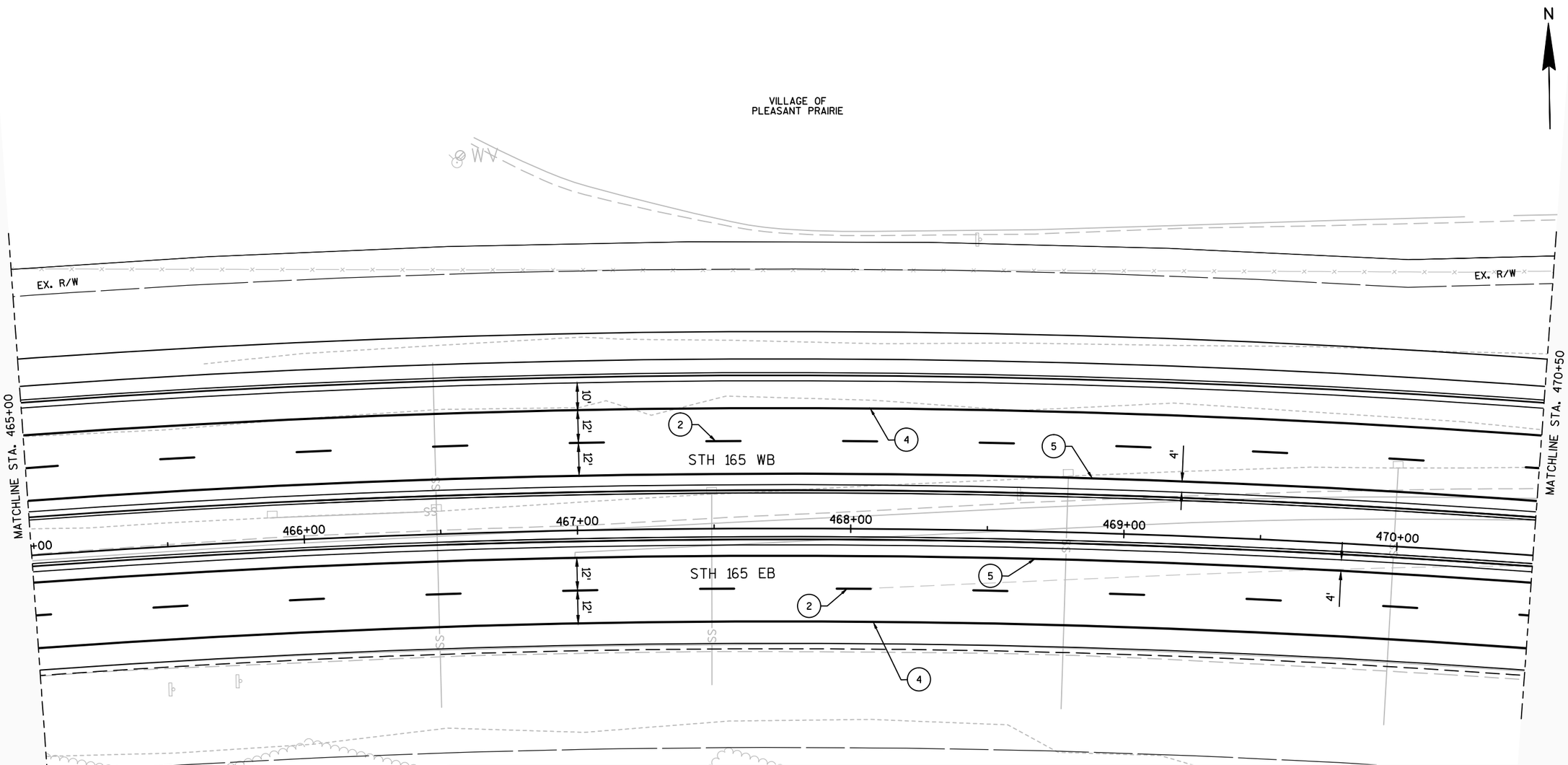
LEGEND

1	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE
2	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
3	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)
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6	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE
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10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
11	PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
12	PAVEMENT MARKING CURB EPOXY, YELLOW

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING PLAN	SHEET 130	E

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WISDOT/CADDS SHEET 42

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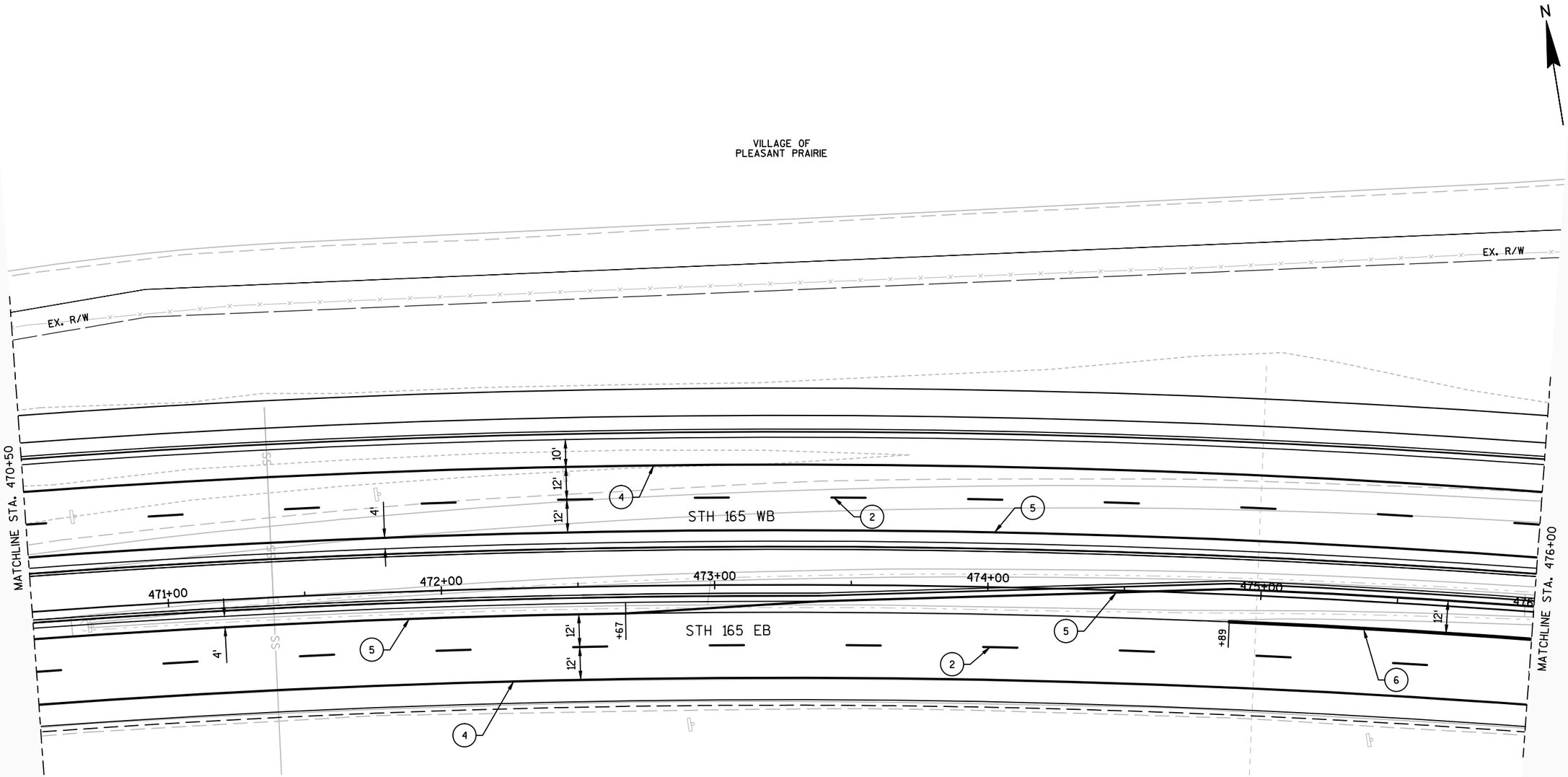


LEGEND

1	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE	8	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH, WHITE
2	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)	9	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH, WHITE
3	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)	10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
4	PAVEMENT MARKING EPOXY 4-INCH, WHITE EDGE LINE	11	PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
5	PAVEMENT MARKING EPOXY 4-INCH, YELLOW	12	PAVEMENT MARKING CURB EPOXY, YELLOW
6	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE		
7	NOT USED		

PROJECT NO:3738-02-73	HWY:STH 165	COUNTY:KENOSHA	PAVEMENT MARKING PLAN	SHEET 131	E

2



LEGEND

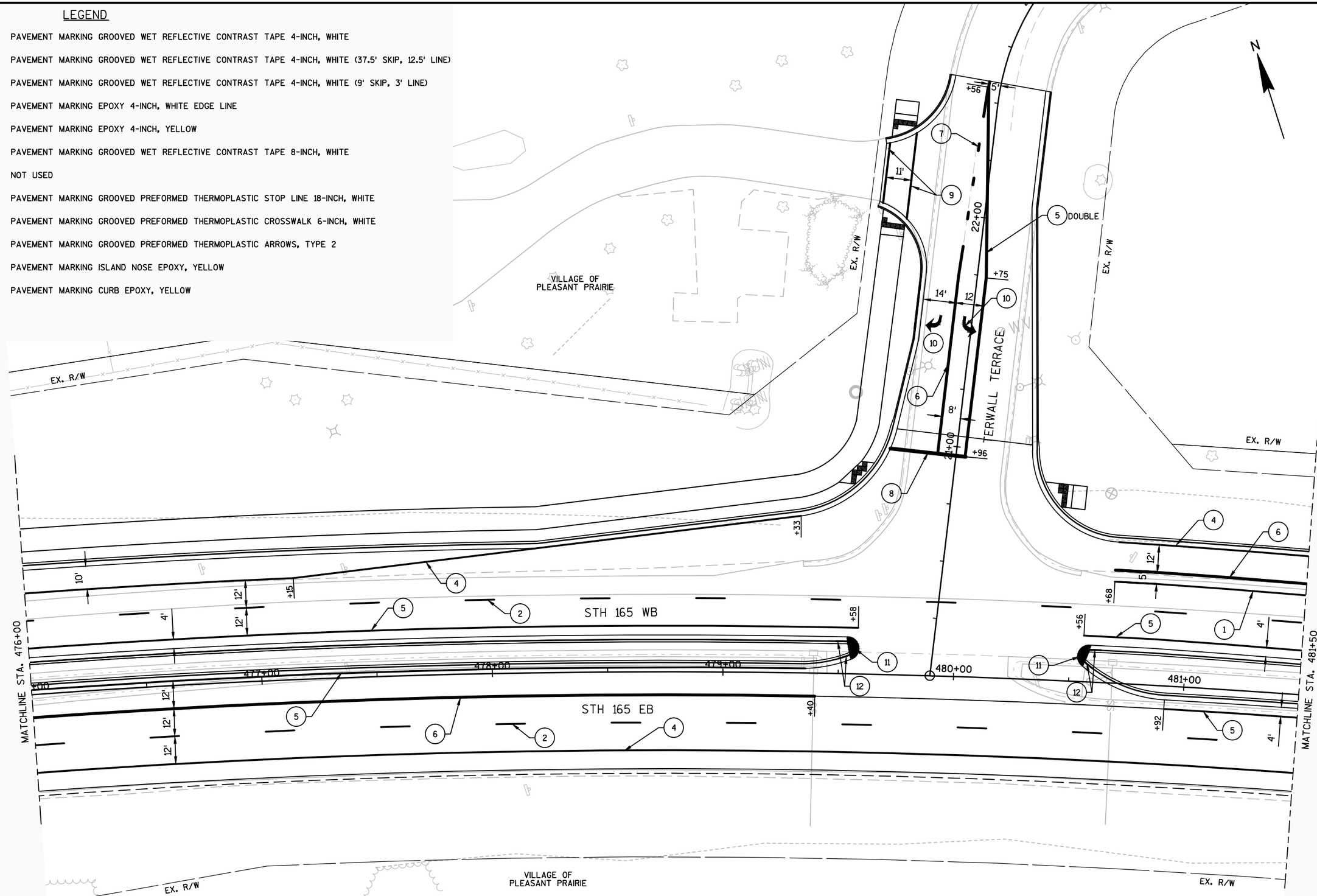
1	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE	8	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH, WHITE
2	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)	9	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH, WHITE
3	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)	10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
4	PAVEMENT MARKING EPOXY 4-INCH, WHITE EDGE LINE	11	PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
5	PAVEMENT MARKING EPOXY 4-INCH, YELLOW	12	PAVEMENT MARKING CURB EPOXY, YELLOW
6	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE		
7	NOT USED		

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING PLAN	SHEET 132	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\024501_PM.DWG
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PLOT DATE : 2/25/2016 2:01 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

LEGEND

1. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE
2. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
3. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)
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5. PAVEMENT MARKING EPOXY 4-INCH, YELLOW
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11. PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
12. PAVEMENT MARKING CURB EPOXY, YELLOW



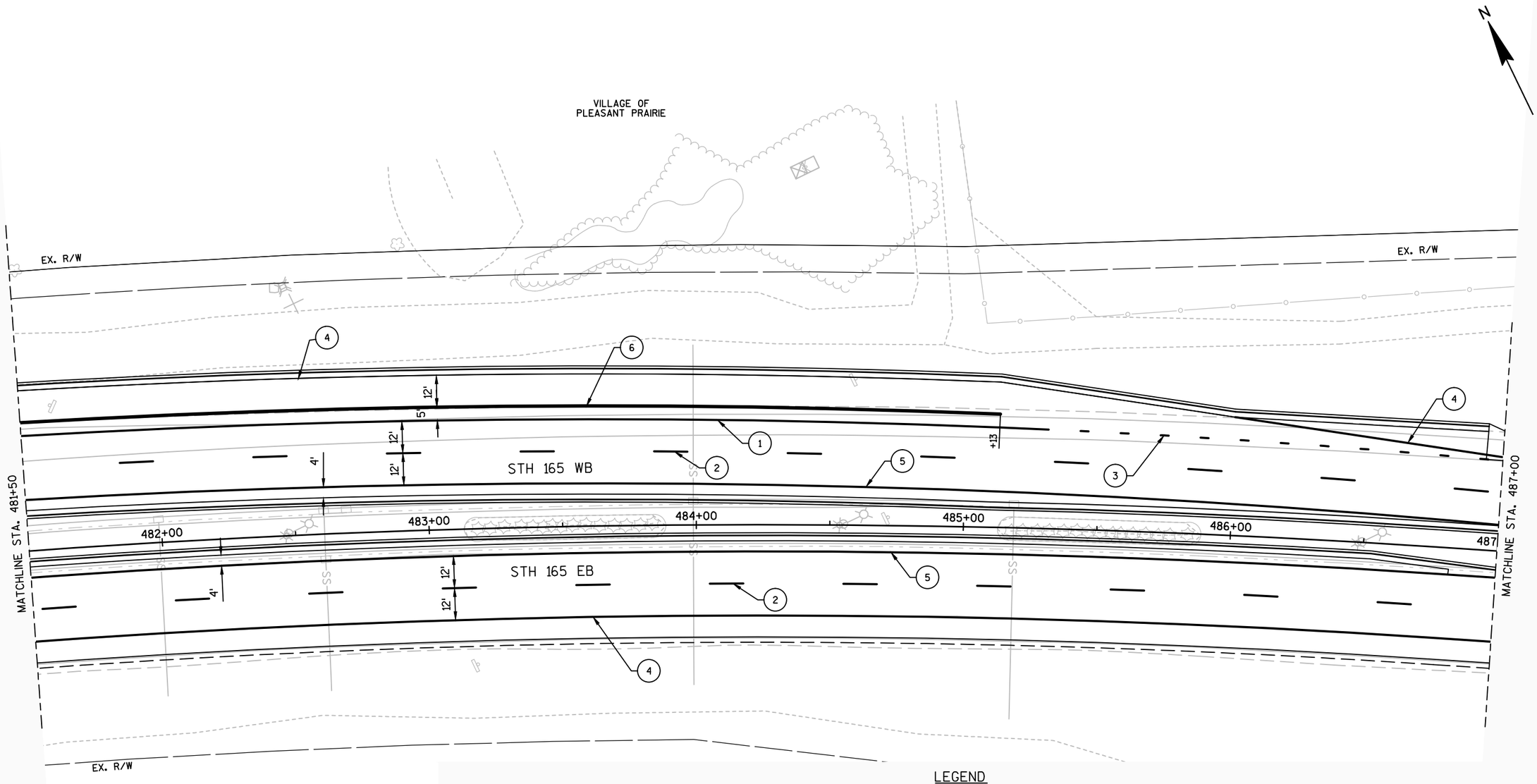
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING PLAN	SHEET 133	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\024501_PM.DWG
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WISDOT/CADDS SHEET 42

2

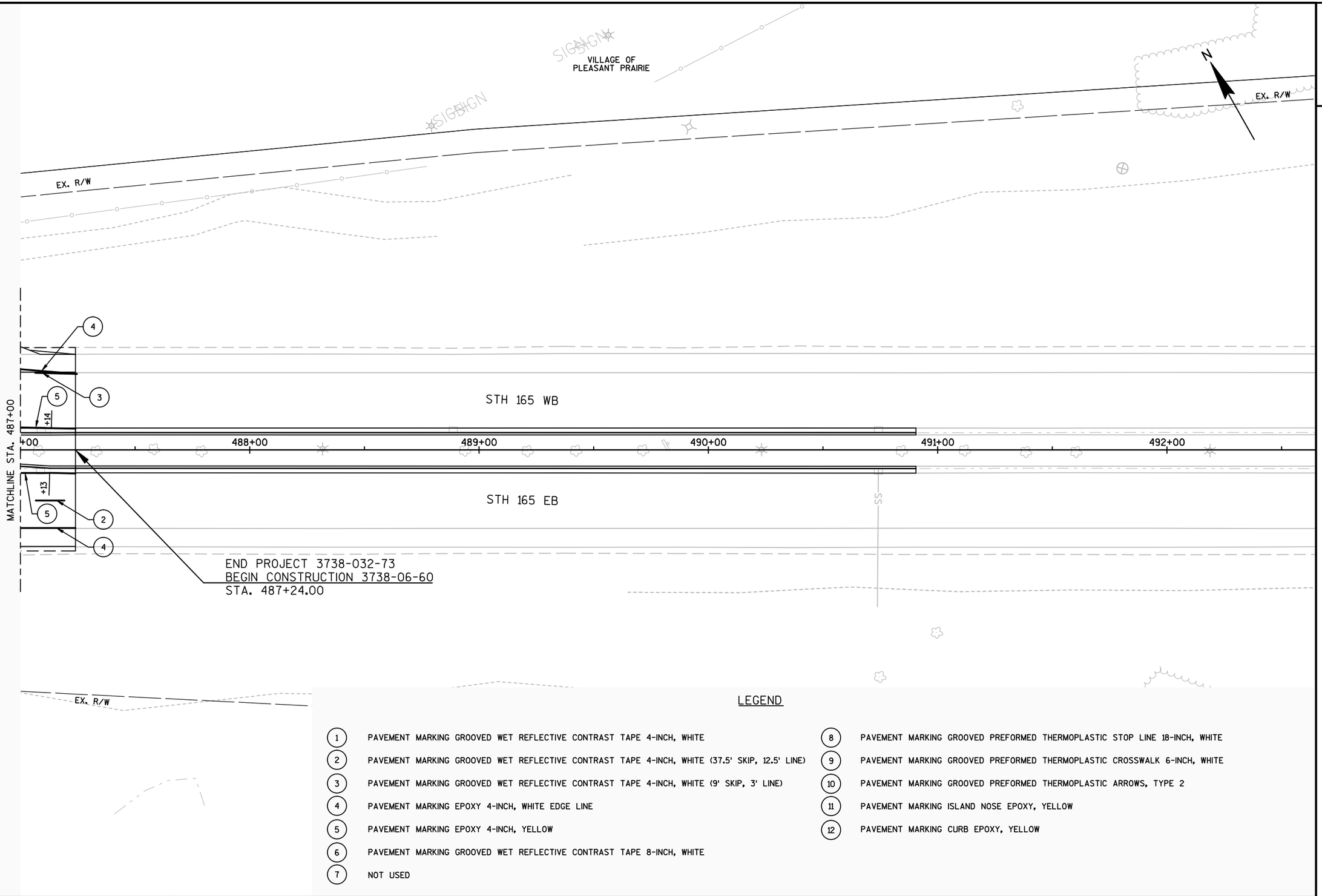


VILLAGE OF
PLEASANT PRAIRIE

LEGEND

1	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE
2	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
3	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)
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11	PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
12	PAVEMENT MARKING CURB EPOXY, YELLOW

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING PLAN	SHEET 134	E



LEGEND

1. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE
2. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
3. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH, WHITE (9' SKIP, 3' LINE)
4. PAVEMENT MARKING EPOXY 4-INCH, WHITE EDGE LINE
5. PAVEMENT MARKING EPOXY 4-INCH, YELLOW
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH, WHITE
7. NOT USED
8. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH, WHITE
9. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH, WHITE
10. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
11. PAVEMENT MARKING ISLAND NOSE EPOXY, YELLOW
12. PAVEMENT MARKING CURB EPOXY, YELLOW

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING PLAN	SHEET 135	E

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LAYOUT NAME - 024501_PM - 024515_PM
PLOT DATE : 2/25/2016 2:02 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

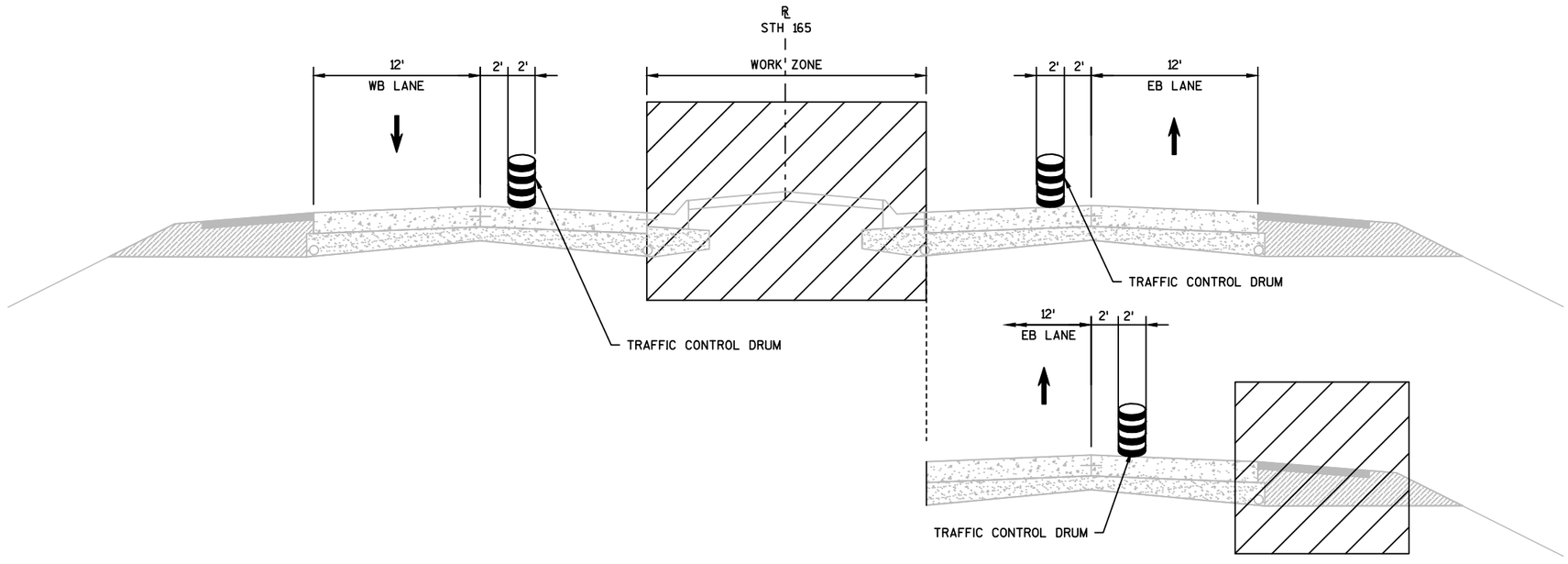
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PRESTAGE A & B

TRAFFIC
- TRAFFIC ON EXISTING ROADWAY CONFIGURATION IN 2-LANE SECTION
- TRAFFIC ON OUTSIDE LANES IN 4-LANE SECTIONS

PRESTAGE A CONSTRUCTION
- CONSTRUCT EAST AND WEST CROSSOVERS
- CONSTRUCT TEMPORARY PAVEMENT IN MEDIAN AT TERWALL TERRACE FOR STAGE 1 TRAFFIC
- REMOVE ISLAND BETWEEN STA 424+00 AND STA 429+00
- BEGIN CONSTRUCTION OF STRUCTURE B-30-133

PRESTAGE B CONSTRUCTION
- CONSTRUCT TEMPORARY PAVEMENT ALONG EB OUTSIDE SHOULDER FOR STAGE 1 TRAFFIC
- CONTINUE CONSTRUCTION OF STRUCTURE B-30-133



STH 165
TRAFFIC CONTROL PRESTAGE A & B

STA 417+35 TO STA 420+30
STA 480+23 TO STA 484+88
STA 487+38 TO STA 490+91

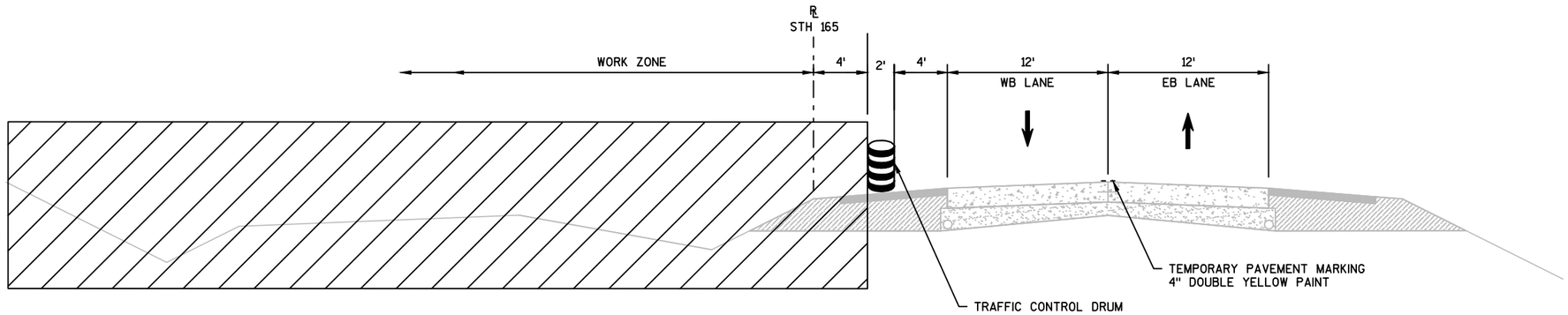
EB SHOULDER

STA 474+75 TO STA 484+95

STAGE 1

TRAFFIC
- TRAFFIC ON EXISTING ROADWAY CONFIGURATION IN 2-LANE SECTION
- TRAFFIC UTILIZES EAST AND WEST CROSSOVERS TO FORM 2-LANE UNDIVIDED ROADWAY IN EXISTING 4-LANE SECTION

CONSTRUCTION
- CONSTRUCT WB LANES ON STH 165
- CONSTRUCT CURB & GUTTER IN MEDIAN ALONG WB INSIDE SHOULDER
- CONSTRUCT TERWALL TERRACE INTERSECTION
- CONSTRUCT SHARED-USE PATH
- CONTINUE CONSTRUCTION OF STRUCTURE B-30-133



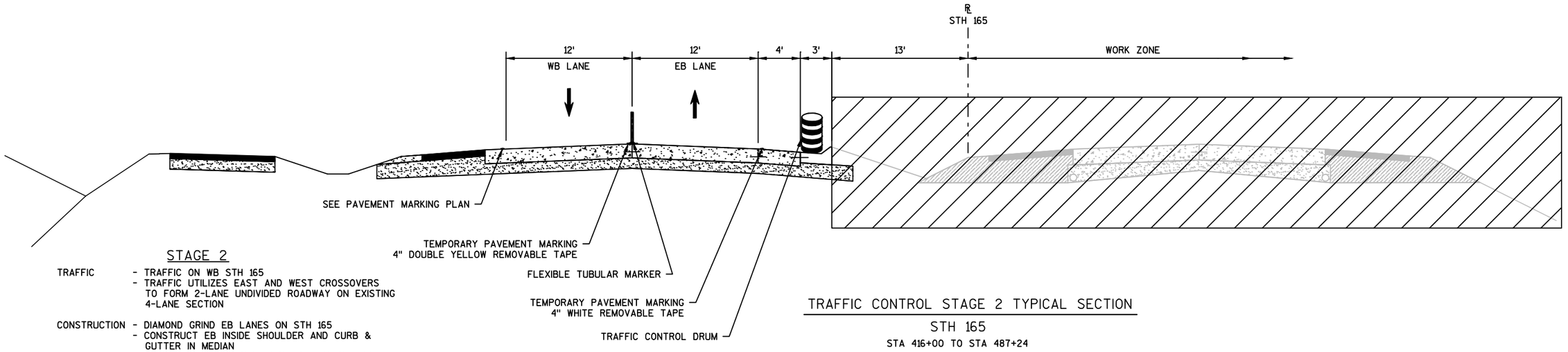
TRAFFIC CONTROL STAGE 1 TYPICAL SECTION

STH 165

STA 416+00 TO STA 487+24

WORK ZONE

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL - TYPICAL SECTIONS	SHEET 136	E



STAGE 2

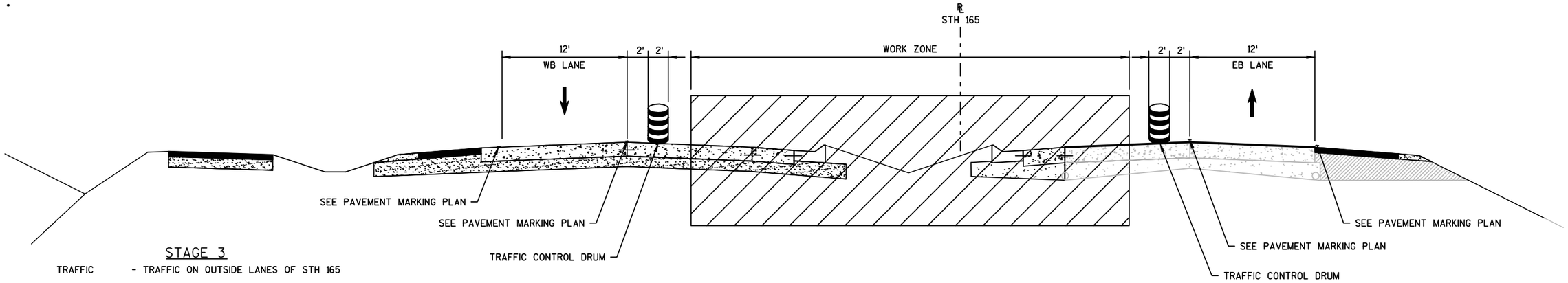
TRAFFIC
- TRAFFIC ON WB STH 165
- TRAFFIC UTILIZES EAST AND WEST CROSSOVERS TO FORM 2-LANE UNDIVIDED ROADWAY ON EXISTING 4-LANE SECTION

CONSTRUCTION
- DIAMOND GRIND EB LANES ON STH 165
- CONSTRUCT EB INSIDE SHOULDER AND CURB & GUTTER IN MEDIAN
- CONSTRUCT EB OUTSIDE SHOULDER ON STH 165

TRAFFIC CONTROL STAGE 2 TYPICAL SECTION

STH 165

STA 416+00 TO STA 487+24



STAGE 3

TRAFFIC
- TRAFFIC ON OUTSIDE LANES OF STH 165

CONSTRUCTION
- FINISH CONSTRUCTION OF CENTER MEDIAN
- CONSTRUCT MEDIAN IN AREA OF EAST AND WEST CROSSOVER

TRAFFIC CONTROL STAGE 3 TYPICAL SECTION

STH 165

STA 417+35 TO STA 490+91

WORK ZONE

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL - TYPICAL SECTION	SHEET 137	E

LEGEND

X — TREE REMOVAL

5" ASPHALTIC SURFACE TEMPORARY ON 10" BASE AGGREGATE DENSE 1¼-INCH

·X X X X X X · SAWCUT CONCRETE

N

REMOVE EXISTING FRAME AND GRATE COVER INLET WITH TEMPORARY COVER PLATE

420+30.6, 9.4' LT
EL. 681.06

420+00.0, 8.7' LT
EL. 681.39

419+50.0, 8.0' LT
EL. 682.14

419+00.0, 7.3' LT
EL. 683.07

SAWCUT ALONG EXISTING JOINT LINE

SAWCUT ALONG EXISTING FLANGE LINE
REMOVE EXISTING CURB & GUTTER

417+54.7, 4.3' RT
EL. 684.67

418+50.0, 1.7' LT
EL. 683.90

SALVAGE EXISTING FRAME AND GRATE
COVER INLET WITH TEMPORARY COVER PLATE

417+98.9, 3.3' RT
EL. 684.58

417+34.8, 3.6' RT
EL. 685.60

420+30.6, 10.0' RT
EL. 681.01

SALVAGE EXISTING FRAME AND GRATE
COVER INLET WITH TYPE S COVER

419+50.0, 10.9' RT
EL. 682.20

420+00.0, 10.1' RT
EL. 681.41

CONSTRUCT 5" ASPHALTIC
SURFACE TEMPORARY ON 10" BASE
AGGREGATE DENSE 1¼-INCH

418+50.0, 13.8' RT
EL. 683.72

419+00.0, 12.2' RT
EL. 682.95

417+99.1, 15.2' RT
EL. 684.60

SAWCUT ALONG EXISTING FLANGE LINE
REMOVE EXISTING CURB & GUTTER

417+34.8, 16.2' RT
EL. 685.67

SALVAGE EXISTING FRAME AND GRATE
COVER INLET WITH TYPE S COVER

422+00
421+00
420+00
419+00
418+00
417+00
416+00

PROP
MH
424
680.121
SAMH
WV
SS
SIGN

PROJECT NO:3738-02-73	HWY: STH 165	COUNTY:KENOSHA	TRAFFIC CONTROL: WEST CROSSOVER DETAIL - PRESTAGE A	SHEET 138	E

2

2

N

487+00

487+38.3, 9.8' LT
EL. 686.04

487+38.3, 9.8' LT
EL. 686.32

488+00.0, 9.6' LT
EL. 687.54

LIGHT POLE AND FIXTURE TO BE
REMOVED BY OTHERS

487+38.2, 10.0' RT
EL. 685.93

487+50.0, 10.0' RT
EL. 686.22

488+00

488+50.0, 9.6' LT
EL. 688.77

SALVAGE EXISTING FRAME AND GRATE
COVER INLET WITH TEMPORARY COVER PLATE

488+00.0, 10.0' RT
EL. 687.46

489+00.0, 9.8' LT
EL. 690.00

CONSTRUCT 5" ASPHALTIC
SURFACE TEMPORARY ON 10" BASE
AGGREGATE DENSE 1¼-INCH

SAWCUT ALONG EXISTING FLANGE LINE
REMOVE EXISTING CURB & GUTTER

489+00

488+50.0, 10.0' RT
EL. 688.71

489+50.0, 9.8' LT
EL. 691.24

489+00.0, 10.0' RT
EL. 690.00

490+00.0, 9.6' LT
EL. 692.51

489+50.0, 10.0' RT
EL. 691.22

490+00

490+50.0, 9.6' LT
EL. 693.79

490+90.9, 9.5' LT
EL. 694.79

490+00.0, 10.1' RT
EL. 692.49

LIGHT POLE AND FIXTURE TO BE
REMOVED BY OTHERS

491+00

490+50.0, 10.0' RT
EL. 693.77

490+91.2, 9.9' RT
EL. 694.81

SALVAGE EXISTING FRAME AND GRATE
COVER INLETS WITH TYPE S COVER

492+00

493+00

LEGEND

TREE REMOVAL

5" ASPHALTIC SURFACE TEMPORARY ON
10" BASE AGGREGATE DENSE 1¼-INCH

SAWCUT CONCRETE

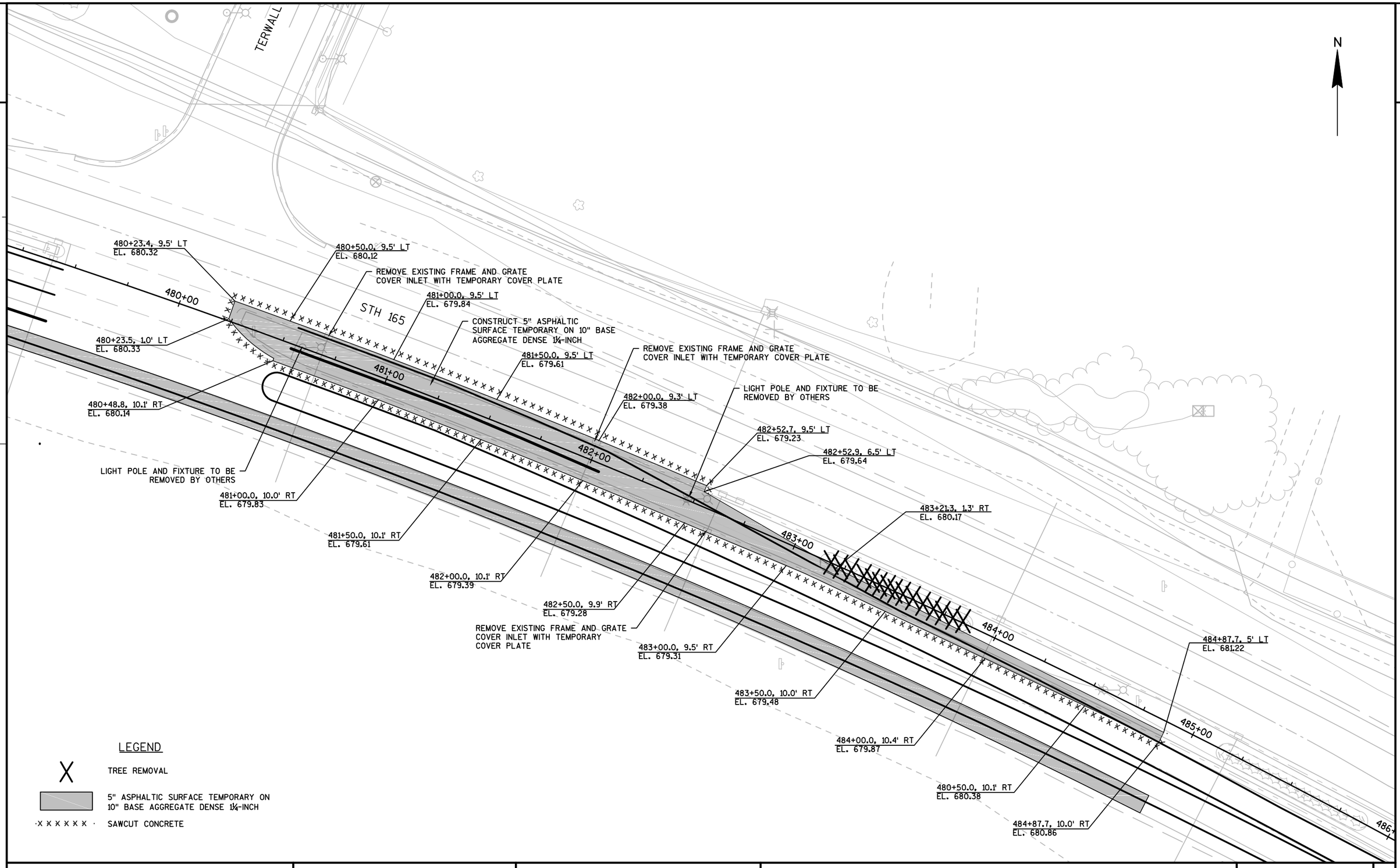
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: EAST CROSSOVER DETAIL - PRESTAGE A	SHEET 139	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025000_TC.DWG
LAYOUT NAME - 025000_TC - 25001_ST

PLOT DATE : 2/25/2016 2:03 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

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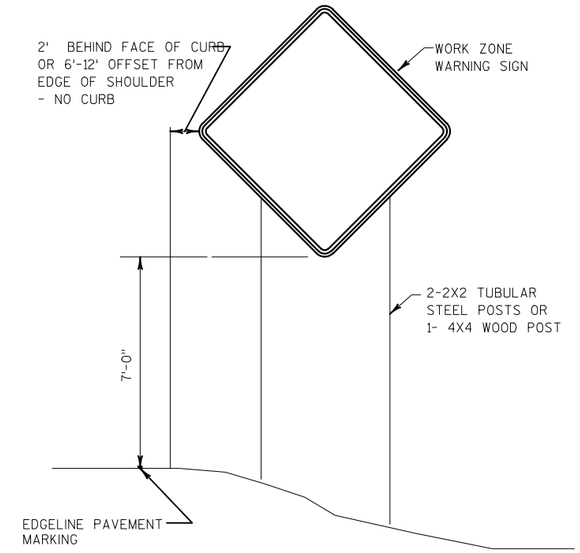
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FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025000_TC.DWG
LAYOUT NAME - 025000_TC - 25002_ST
PLOT DATE : 2/25/2016 2:03 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

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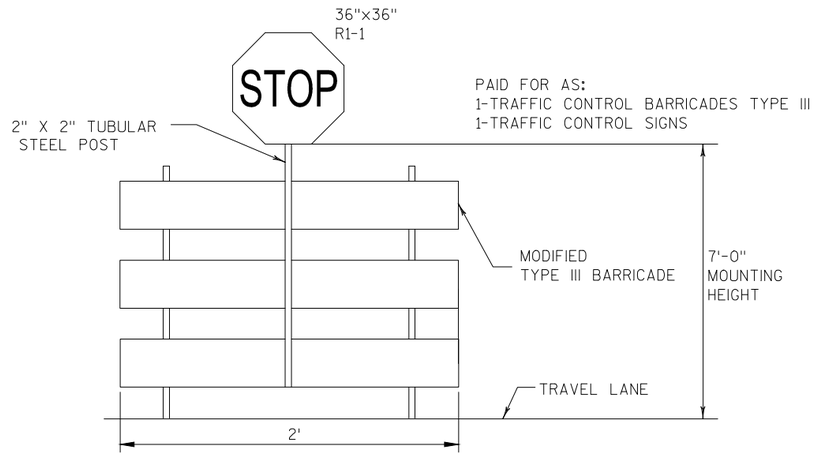
TRAFFIC CONTROL GENERAL NOTES:

1. TRAFFIC CONTROL DRUMS ARE SPACED AT 50' O.C. AND 25' O.C. IN TAPERS UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH THE TRAFFIC CONTROL.
3. THE CONTRACTOR SHALL COVER ANY SIGN CONFLICTING WITH THE TRAFFIC CONTROL IN OPERATION AS NEEDED OR AS DIRECTED BY THE ENGINEER. COVERING OF SIGNS SHALL BE PAID FOR AS COVERING SIGNS TYPE I OR II.
4. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY BARRICADES, SIGNS, DIRECTIONAL ARROWS, LIGHTS, TEMPORARY MARKINGS, FLAGMEN, AND SAFETY DEVICES AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
5. DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR'S METHOD OR SEQUENCES OF OPERATION.
6. MOVE SIGNS BETWEEN DAYTIME AND NIGHTTIME OPERATIONS TO MAINTAIN VISIBILITY TO TRAFFIC.
7. "WO"SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
8. ALL SIGNS ARE 48" X 48" EXCEPT OTHERWISE NOTED.
9. ANY "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.
10. THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD LOCATIONS AS APPROVED BY THE ENGINEER IN THE FIELD.
11. BOTH STEADY BURN LIGHTS AND FLASHING LIGHTS SHALL BE ONE WAY WITH THE LIGHT SOURCE SHOWING TOWARDS ADJACENT APPROACHING TRAFFIC.
12. CHANNELIZING DEVICES SHALL BE DRUMS WITH ATTACHED TYPE "C" STEADY BURN LIGHT (TAPERS ONLY).
13. MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES.
14. ARROW BOARDS SHALL BE LOCATED AS SHOWN ON THE PLAN, OR AS DIRECTED BY THE ENGINEER.
15. ROAD WORK AHEAD SIGNING ON SIDE ROADS TO BE INSTALLED AT 500' MAX FROM MAINLINE UNDER CONSTRUCTION OR LAST INTERSECTION, WHICHEVER IS CLOSER.
16. END ROAD WORK SIGNING ON SIDE ROADS TO BE INSTALLED 300' FROM END OF THE WORK AREA ON THE SIDE ROAD OR MAINLINE UNDER CONSTRUCTION.



TYPICAL TEMPORARY TRAFFIC CONTROL DETAIL
MOUNTING ON FIXED SUPPORT

LONG TERM
7 DAYS OR MORE



TEMPORARY STOP SIGN

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CONSTRUCTION STAGING NOTES	SHEET 141	E

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT

N

LEFT LANE CLOSED AHEAD W20-5S-A

W04-2L

ROAD WORK AHEAD W20-1-A

BEGIN LEFT TURN LANE R3-20-L

END ROAD WORK G20-2A

CONSTRUCT CROSSOVER SEE WEST CROSSOVER DETAIL SHEET

BEGIN RIGHT TURN LANE R3-20-R

EX. R/W

120TH AVENUE

TEMPORARY PAVEMENT MARKING, 4-INCH REMOVABLE TAPE (YELLOW)

12' 12' 12' 12'

405+00 406+00 407+00 408+00 409+00 410+00 411+00 412+00 413+00 414+00 415+00 416+00 417+00 418+00 419+00

MATCHLINE STA. 419+50

25' (TYP.)

STH 165

50' (TYP.)

EX. R/W

700' 350' 245' LANE DROP

BEGIN RIGHT TURN LANE R3-20-R

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

LANE CLOSED R11-2-L

SPEED LIMIT 45 W03-5

END ROAD WORK G20-2A

ROAD WORK AHEAD W20-1-A

BEGIN RIGHT TURN LANE R3-20-R

LANE CLOSED R11-2-L

CORPORATE DRIVE

W01-4R

END ROAD WORK G20-2A

ROAD WORK AHEAD W20-1-A

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: PRESTAGE A	SHEET 142	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025001_TC_PREA.DWG
LAYOUT NAME - 025001_TC_PREA - 025001_TC

PLOT DATE : 2/25/2016 2:04 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

2

2

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT

N

REMOVE ASPHALT CURB AND MEDIAN SITTING ON EXISTING 9" CONCRETE PAVEMENT STA 423+50 TO STA 429+30

EX. R/W

PROP

EX. R/W

270' TAPER

MATCHLINE STA. 419+50

MATCHLINE STA. 434+00

420+00 421+00 422+00 423+00 424+00 425+00 426+00 427+00 428+00 429+00 430+00 431+00 432+00 433+00 434

12' 12' 12' 12' 12' 12' 12'

+60 +60 +60

25' (TYP.)

50' (TYP.)

STH 165

EX. R/W

270' TAPER *

EX. R/W

SIGN

SPEED LIMIT 45 R2-1

REMOVE SIGN

LANE CLOSED R11-2-L

CONSTRUCT CROSSOVER SEE WEST CROSSOVER DETAIL SHEET

* DIRECT TRAFFIC TO SHOULDER ONLY WHEN REMOVING ISLAND STA. 423+50 TO STA. 429+30

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: PRESTAGE A	SHEET 143	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025001_TC_PREA.DWG
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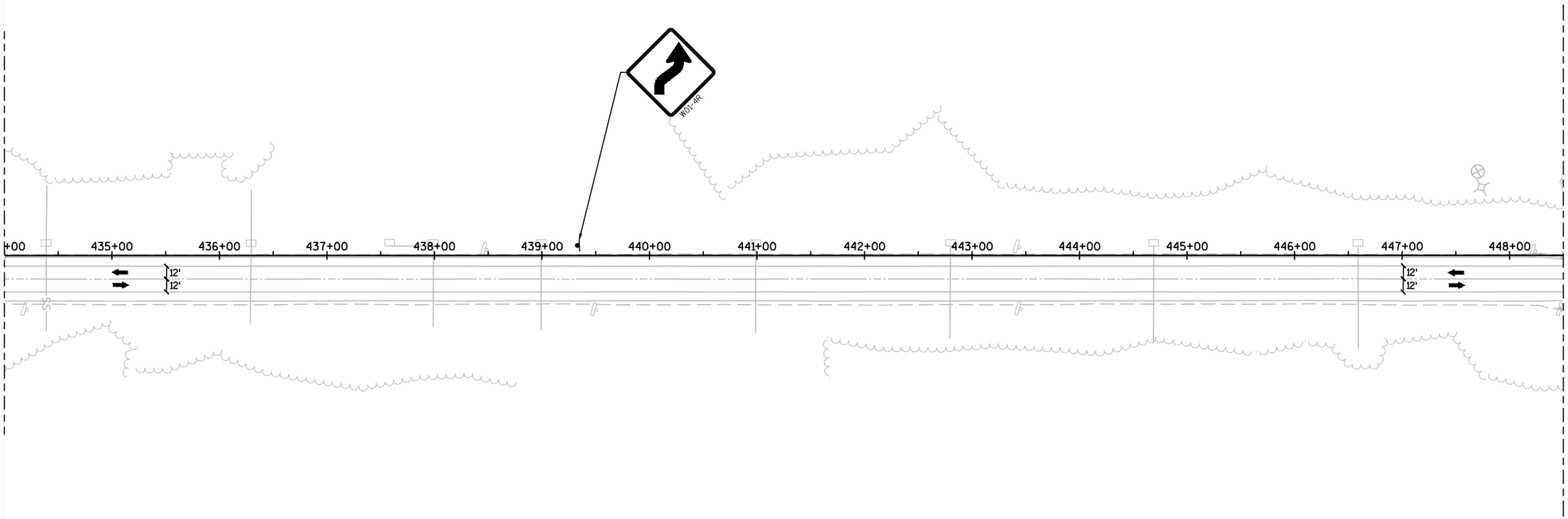
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2

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT

N



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: PRESTAGE A	SHEET 144	E

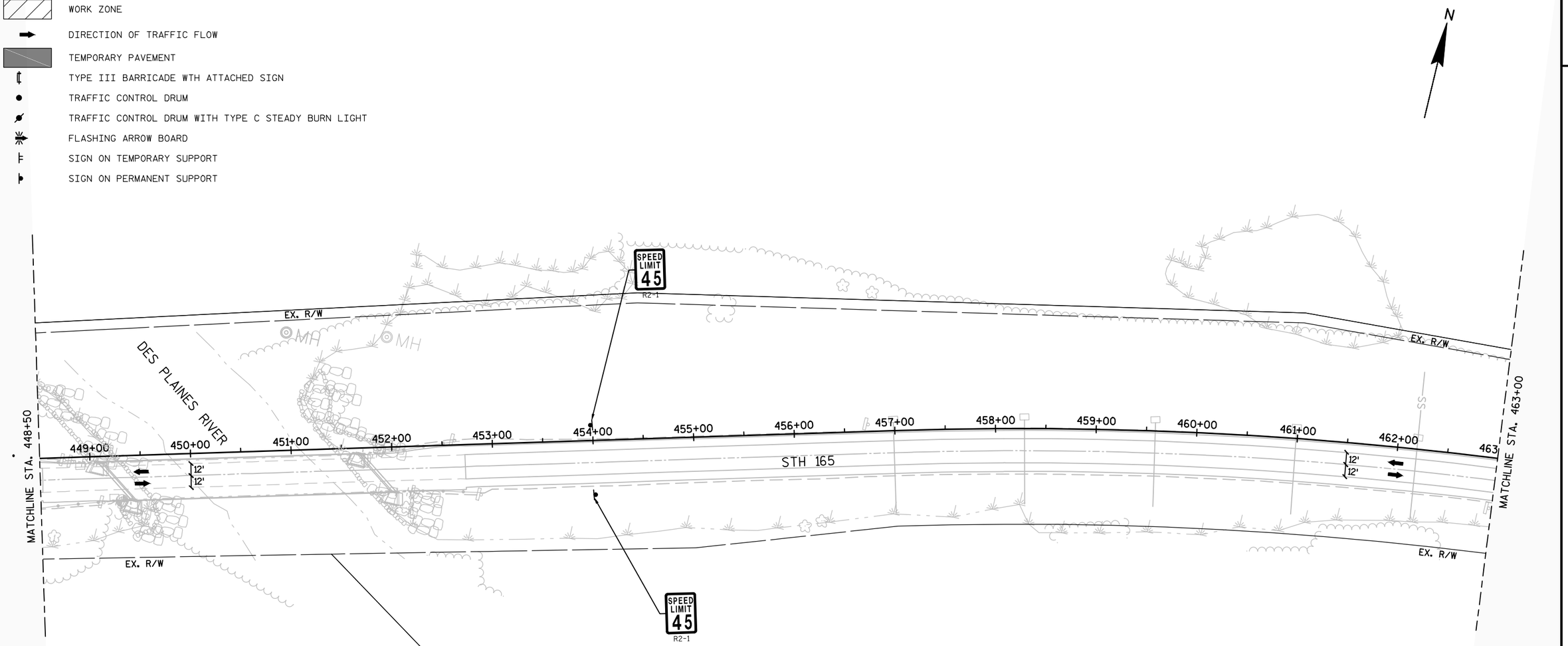
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LAYOUT NAME - 025001_TC_PREA - 025003_TC

PLOT DATE : 2/25/2016 2:05 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: PRESTAGE A	SHEET 145	E

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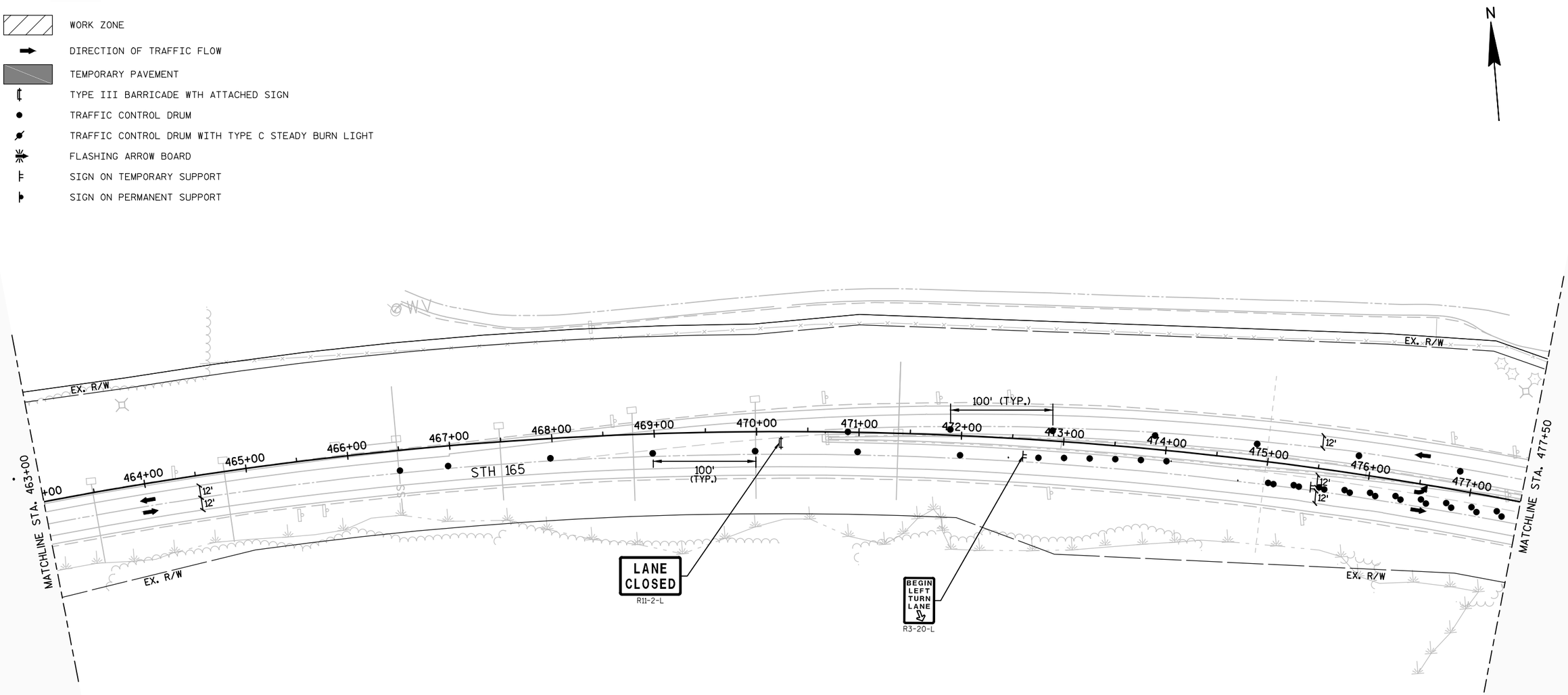
PLOT DATE : 2/25/2016 2:05 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

2

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT

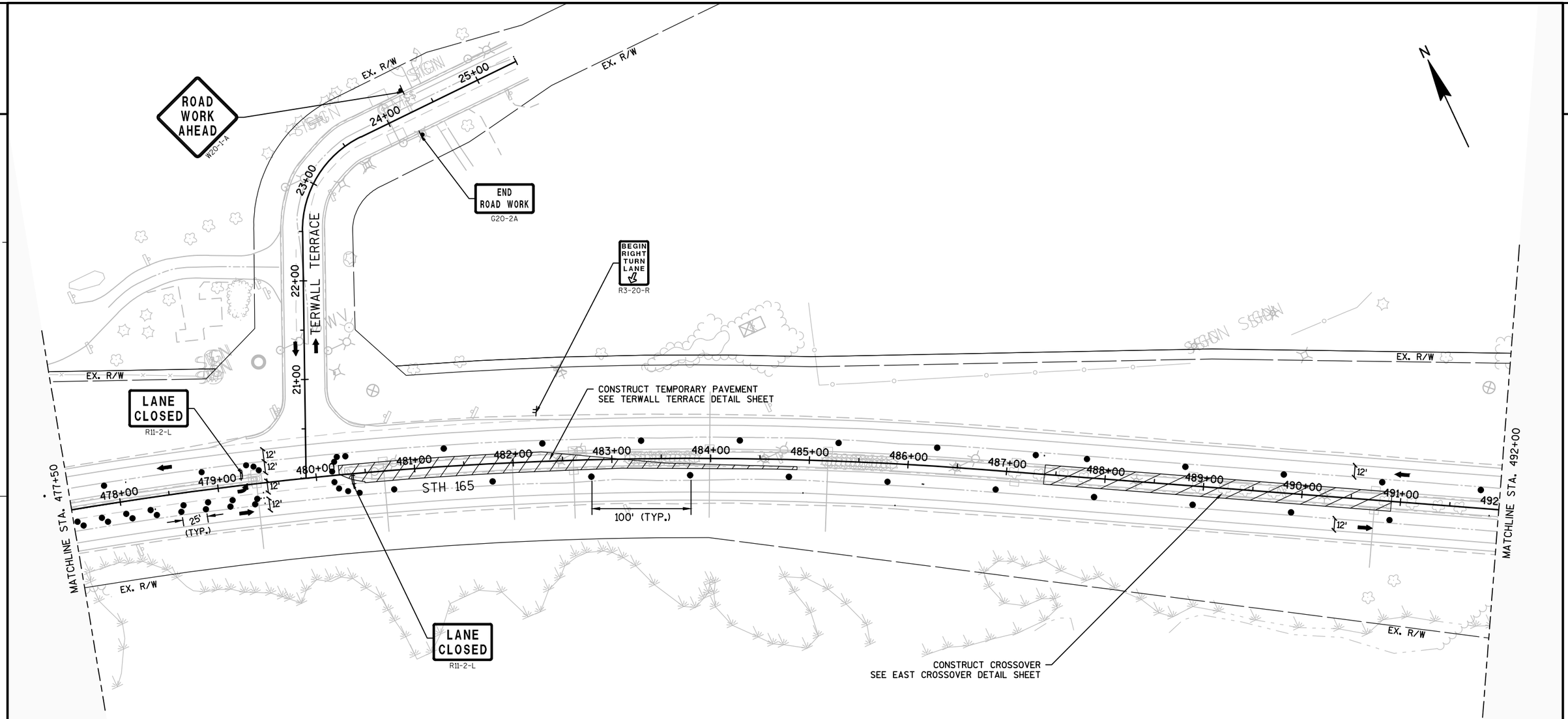


PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: PRESTAGE A	SHEET 146	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025001_TC_PREA.DWG
LAYOUT NAME - 025001_TC_PREA - 025005_TC

PLOT DATE : 2/25/2016 2:05 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

2



LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: PRESTAGE A	SHEET 147	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025001_TC_PREA.DWG
LAYOUT NAME - 025001_TC_PREA - 025006_TC
PLOT DATE : 2/25/2016 2:05 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 42

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT

N

REMOVE SIGN

EX. R/W

SPEED LIMIT 45 R2-1

540' LANE DROP

500'

500'

500'

50' (TYP.)

12'

12'

12'

12'

12'

MATCHLINE STA. 492+00

+00 493+00 494+00 495+00 496+00 497+00 498+00 499+00 500+00 501+00 502+00 503+00 504+00 505+00 506+00

STH 165

LANE CLOSED R11-2-L

TEMPORARY PAVEMENT MARKING, 4-INCH REMOVABLE TAPE (YELLOW)

EX. R/W

W04-2L

SPEED LIMIT 45 W03-5

LEFT LANE CLOSED AHEAD W20-5S-A

EX. R/W

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: PRESTAGE A	SHEET 148	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025001_TC_PREA.DWG
LAYOUT NAME - 025001_TC_PREA - 025007_TC

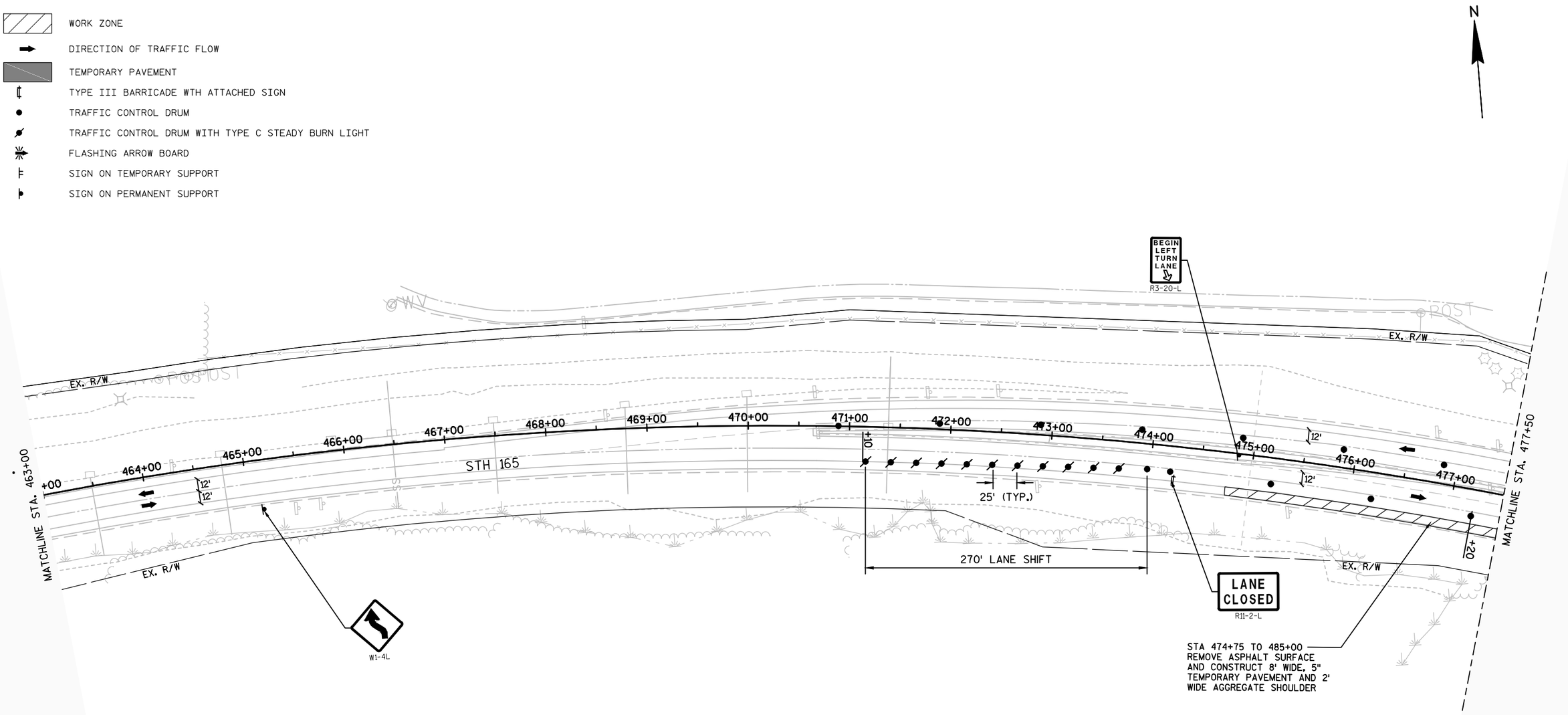
PLOT DATE : 2/25/2016 2:06 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

2

LEGEND

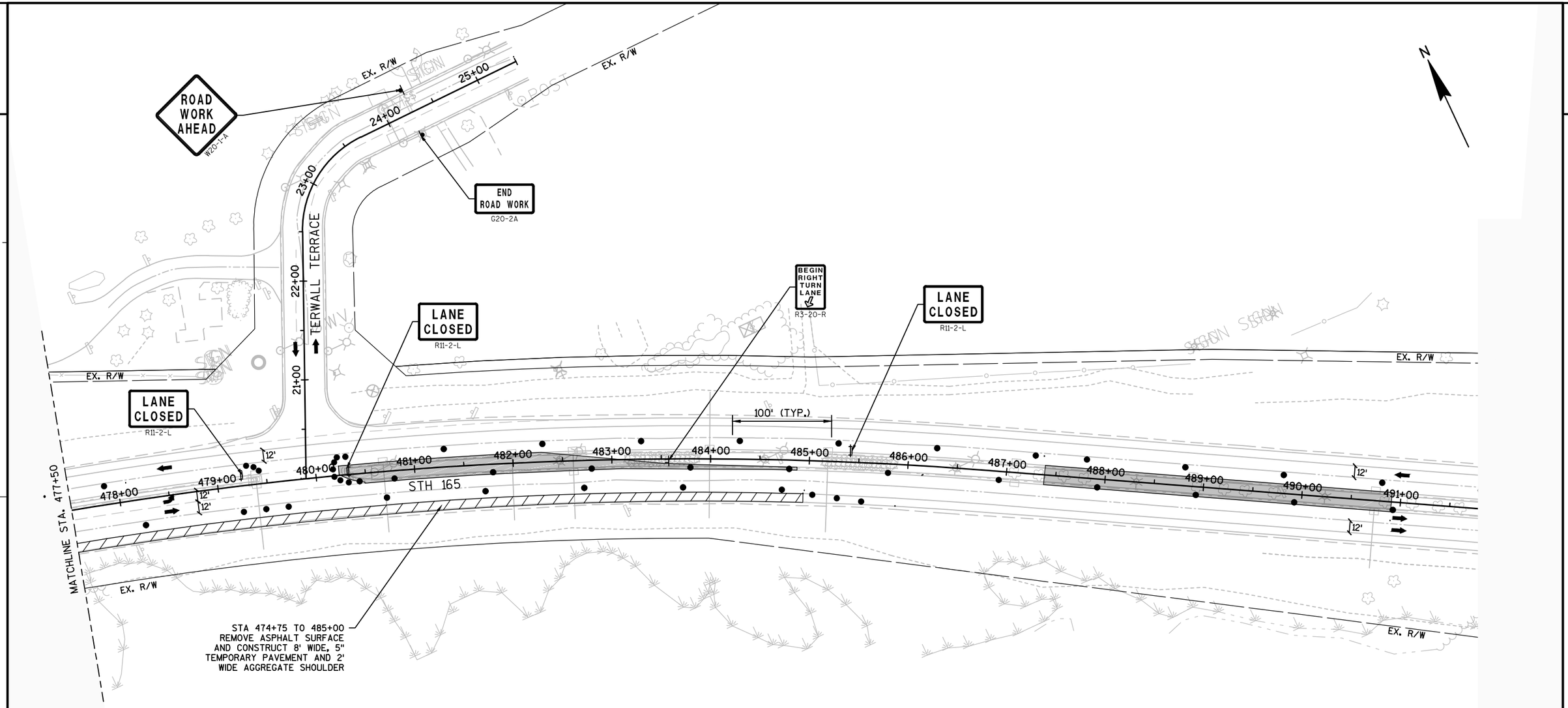
- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: PRESTAGE B	SHEET 149	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025001_TC_PREB.DWG
LAYOUT NAME - 025001_TC_PREB - 025005_TC
PLOT DATE : 2/25/2016 2:06 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 42

2



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

478+00 479+00 480+00 481+00 482+00 483+00 484+00 485+00 486+00 487+00 488+00 489+00 490+00 491+00

LEGEND

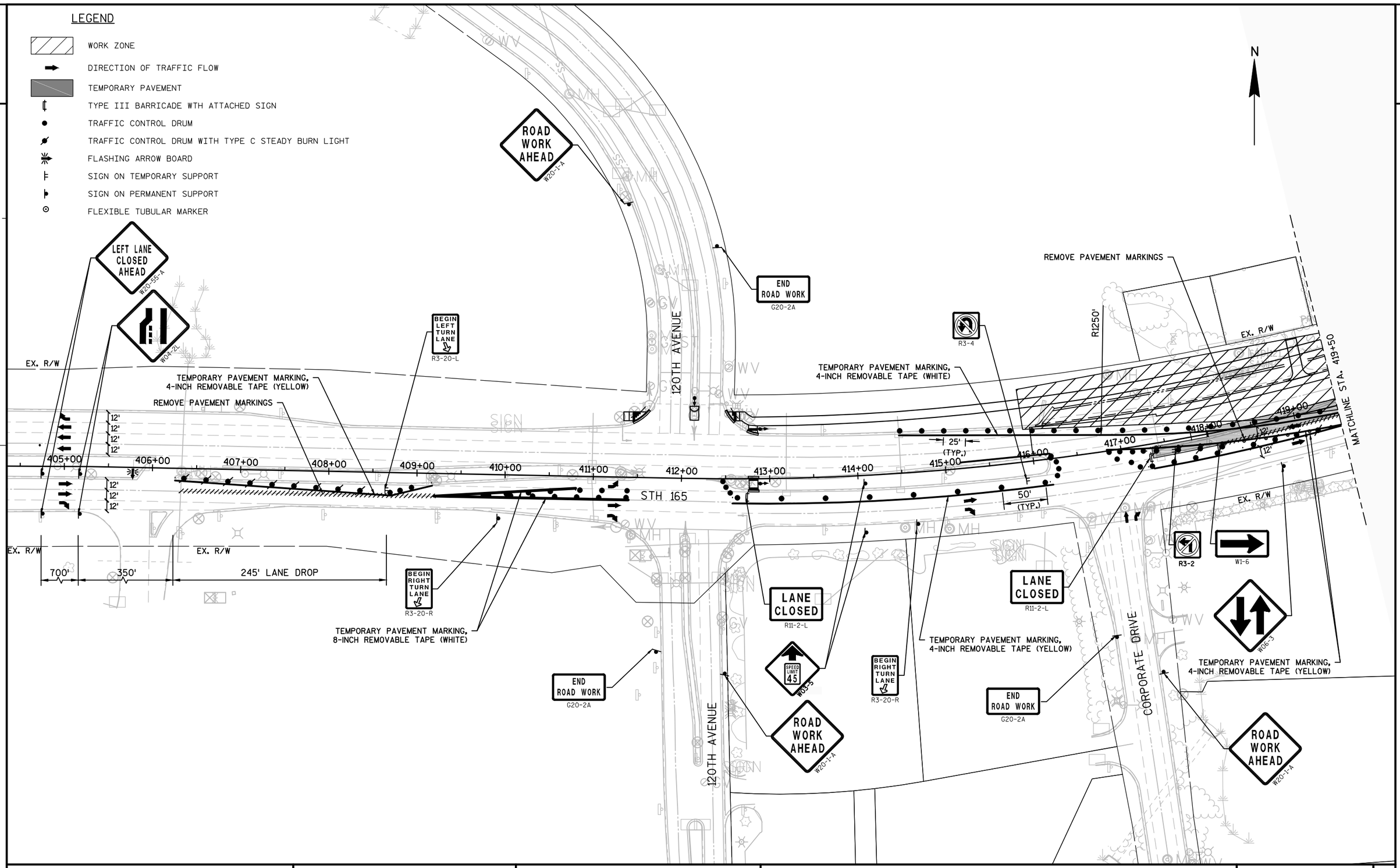
- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT

PROJECT NO:3738-02-73	HWY: STH 165	COUNTY:KENOSHA	TRAFFIC CONTROL: PRESTAGE B	SHEET 150	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025001_TC_PREB.DWG
LAYOUT NAME - 025001_TC_PREB - 025006_TC
PLOT DATE : 2/25/2016 2:06 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 42

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 1	SHEET 151 E

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER

N

W01-4L

35 M.P.H.
W013-1

W06-3

EX. R/W

PROP

MATCHLINE STA. 419+50

420+00 421+00 422+00 423+00 424+00 425+00 426+00 427+00 428+00 429+00 430+00 431+00 432+00 433+00 434

MATCHLINE STA. 434+00

12'
12'

100' (TYP.)

STH 165

EX. R/W

FLEXIBLE TUBULAR MARKERS

SPEED LIMIT 45
R2-1

LANE CLOSED
R11-2-L

TEMPORARY PAVEMENT MARKING,
4-INCH (DOUBLE YELLOW)

EX. R/W

W06-3

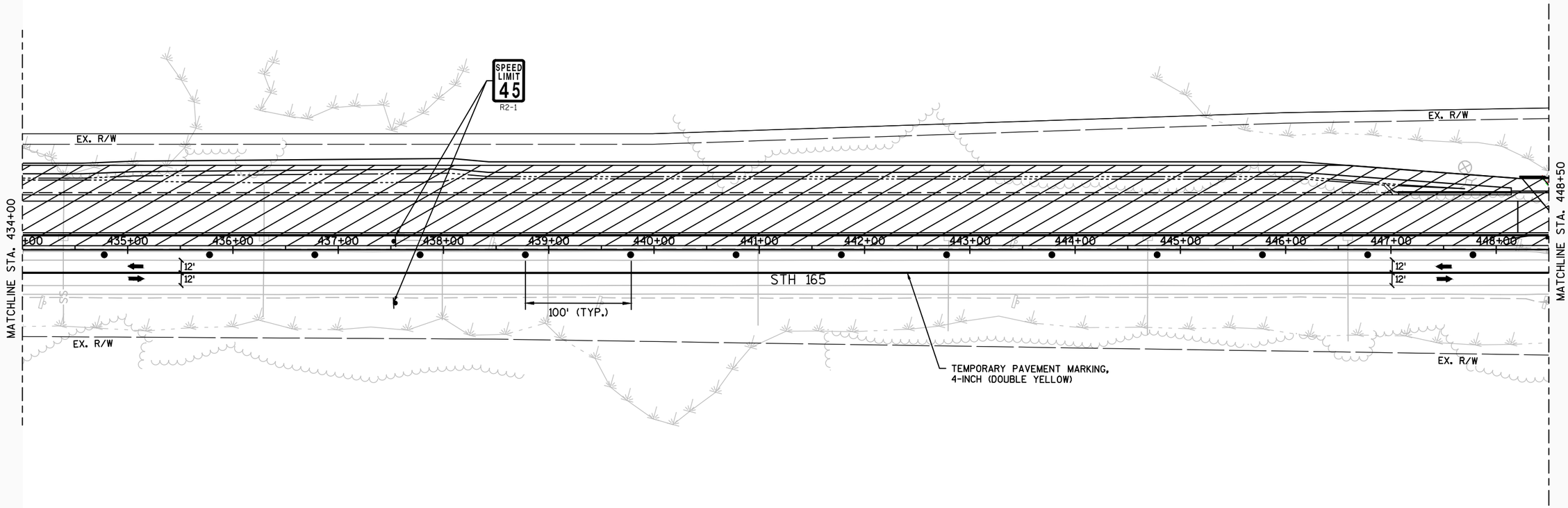
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 1	SHEET 152	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025002_TC_S1.DWG
LAYOUT NAME - 025002_TC_S1 - 025009_TC

PLOT DATE : 2/25/2016 2:07 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 1	SHEET 153	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025002_TC_S1.DWG
LAYOUT NAME - 025002_TC_S1 - 025010_TC

PLOT DATE : 2/25/2016 2:08 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

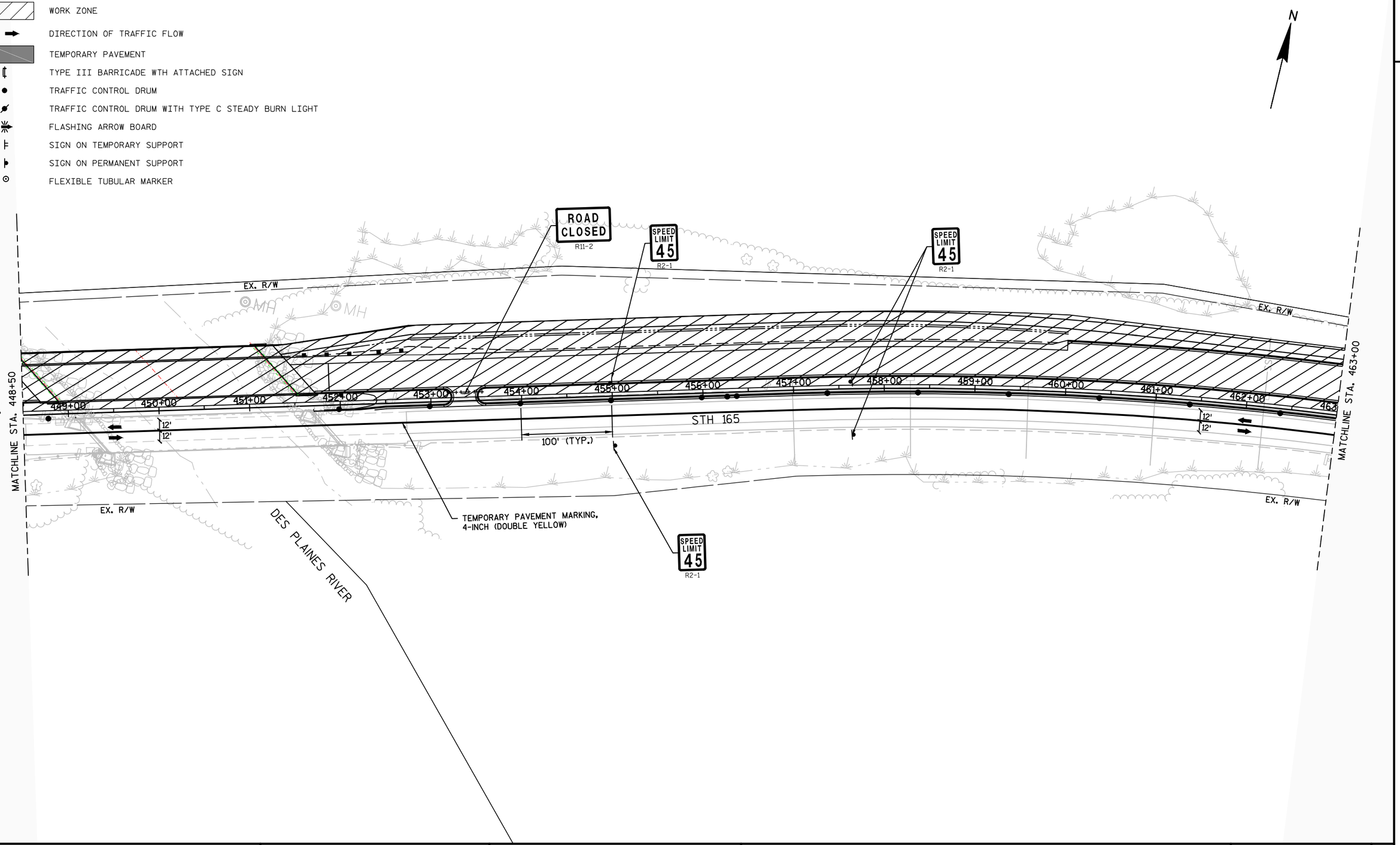
WISDOT/CADDS SHEET 42

2

2

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 1	SHEET 154	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025002_TC_S1.DWG
LAYOUT NAME - 025002_TC_S1 - 025011_TC
PLOT DATE : 2/25/2016 2:08 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 42

2

2

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER

N

W06-3

BEGIN LEFT TURN LANE
R3-20-LL

SPEED LIMIT 45
R2-1

EX. R/W

STH 165

MATCHLINE STA. 463+00

MATCHLINE STA. 477+50

464+00 465+00 466+00 467+00 468+00 469+00 470+00 471+00 472+00 473+00 474+00 475+00 476+00 477+00

12' 12'

100' (TYP.)

+65

+95

+05

TEMPORARY PAVEMENT MARKING, 4-INCH (DOUBLE YELLOW)

REMOVE EDGELINE AND CENTER LANE MARKINGS STA. 473+65 TO STA. 487+35

TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING, 8-INCH (WHITE)

SPEED LIMIT 45
R2-1

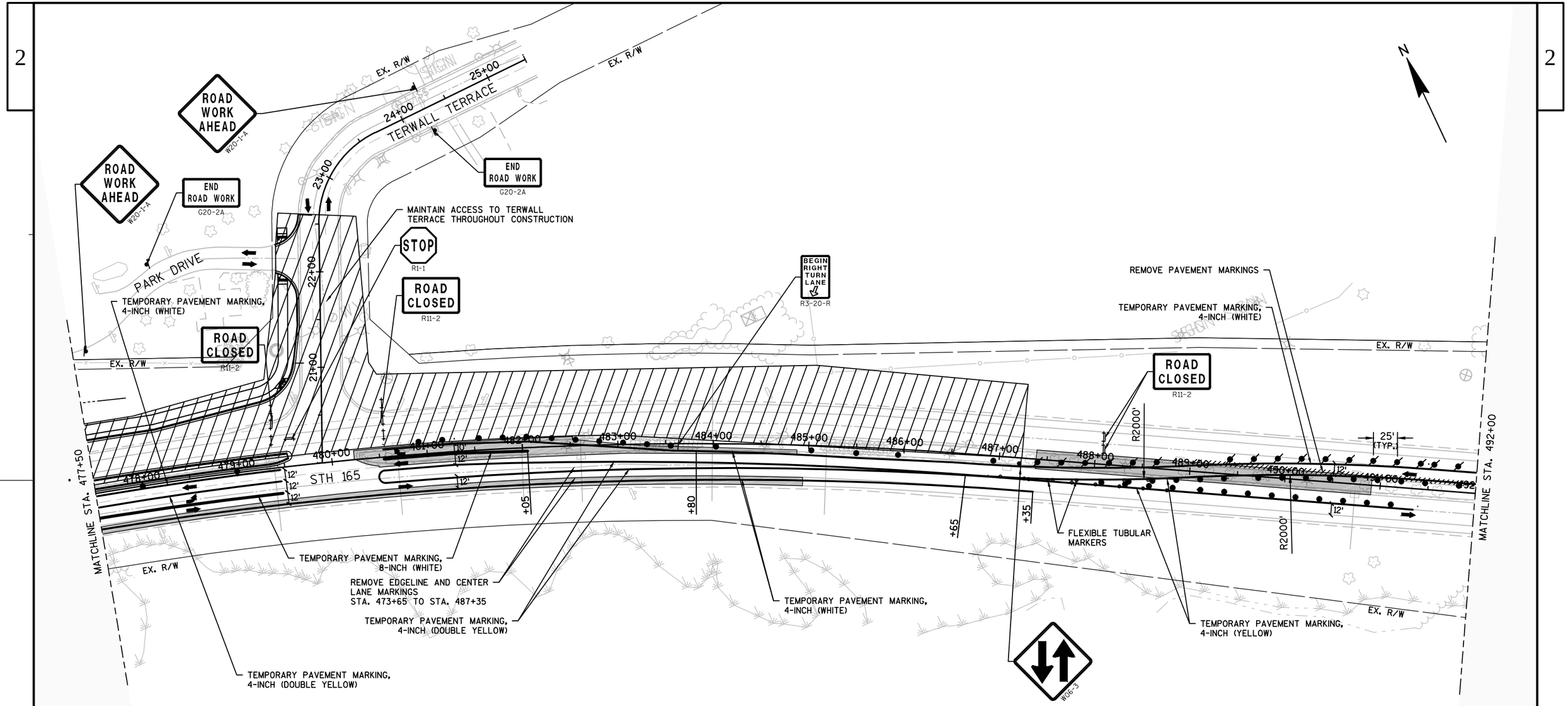
W06-3

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 1	SHEET 155	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025002_TC_S1.DWG
LAYOUT NAME - 025002_TC_S1 - 025012_TC

PLOT DATE : 2/25/2016 2:08 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

2



LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 1	SHEET 156	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025002_TC_S1.DWG
LAYOUT NAME - 025002_TC_S1 - 025013_TC
PLOT DATE : 2/25/2016 2:08 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 42

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER

W01-4L
35 M.P.H.
W013-1
EX. R/W
LANE CLOSED
R11-2-L
540' LANE DROP
50'
500'
500'
500'
500'
12'
12'
12'
12'
12'
12'
MATCHLINE STA. 492+00
493+00
494+00
495+00
496+00
497+00
498+00
499+00
500+00
501+00
502+00
503+00
504+00
505+00
506+00
STH 165
TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)
SPEED LIMIT 45
R2-1
EX. R/W
W06-3
W04-2R
SPEED LIMIT 45
W03-5
RIGHT LANE CLOSED AHEAD
W20-5-A
EX. R/W
N

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 1	SHEET 157	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025002_TC_S1.DWG
LAYOUT NAME - 025002_TC_S1 - 025014_TC
PLOT DATE : 2/25/2016 2:09 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 42

2

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER

N

ROAD WORK AHEAD W20-1-A

END ROAD WORK G20-2A

RIGHT LANE CLOSED AHEAD W20-5-A

W04-2R

REMOVE PAVEMENT MARKINGS

BEGIN RIGHT TURN LANE R3-20-R

BEGIN LEFT TURN LANE R3-20-L

MAINTAIN PEDESTRIAN ACCESS THROUGH CROSSING ONCE SHARED USE PATH IS OPENED ON THE NORTH SIDE OF STH 165

REMOVE PAVEMENT MARKINGS

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

REMOVE PAVEMENT MARKINGS

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

W01-4L

35 M.P.H. W013-1

120TH AVENUE

EX. R/W

R600'

MATCHLINE STA. 419+50

405+00 406+00 407+00 408+00 409+00 410+00 411+00 412+00 413+00 414+00 415+00 416+00 417+00 418+00

12' 12' 12' 12'

STH 165

(TYP.) 25'

EX. R/W

700' 350' 245' LANE DROP

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)

R3-2

LANE CLOSED R11-2-L

BEGIN RIGHT TURN LANE R3-20-R

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)

CORPORATE DRIVE

SPEED LIMIT 45 W03-5

END ROAD WORK G20-2A

LANE CLOSED R11-2-L

END ROAD WORK G20-2A

ROAD WORK AHEAD W20-1-A

120TH AVENUE

ROAD WORK AHEAD W20-1-A

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 2	SHEET 158	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025003_TC_S2.DWG
LAYOUT NAME - 025003_TC_S2 - 025015_TC

PLOT DATE : 2/25/2016 2:09 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

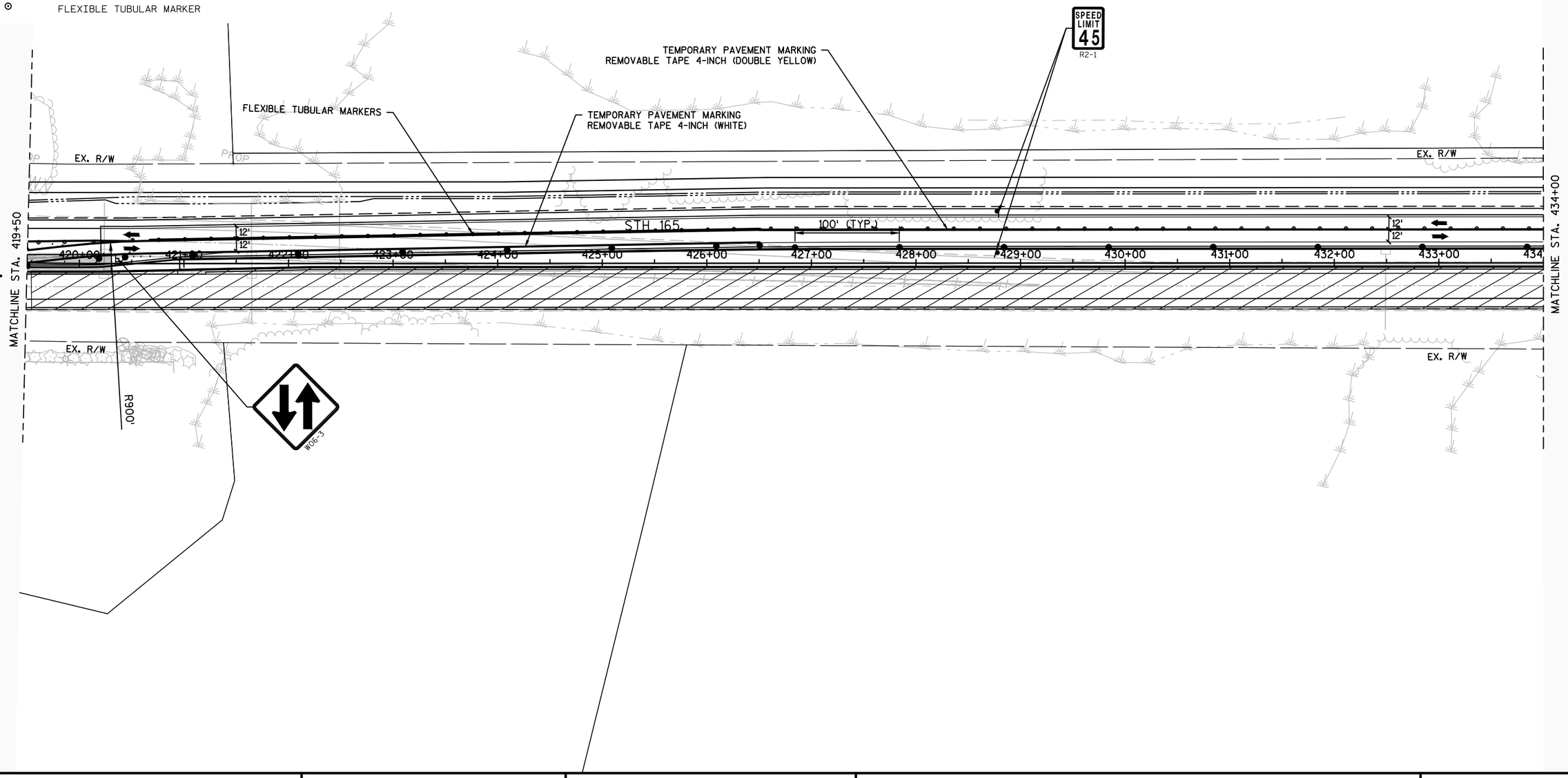
2

2

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER

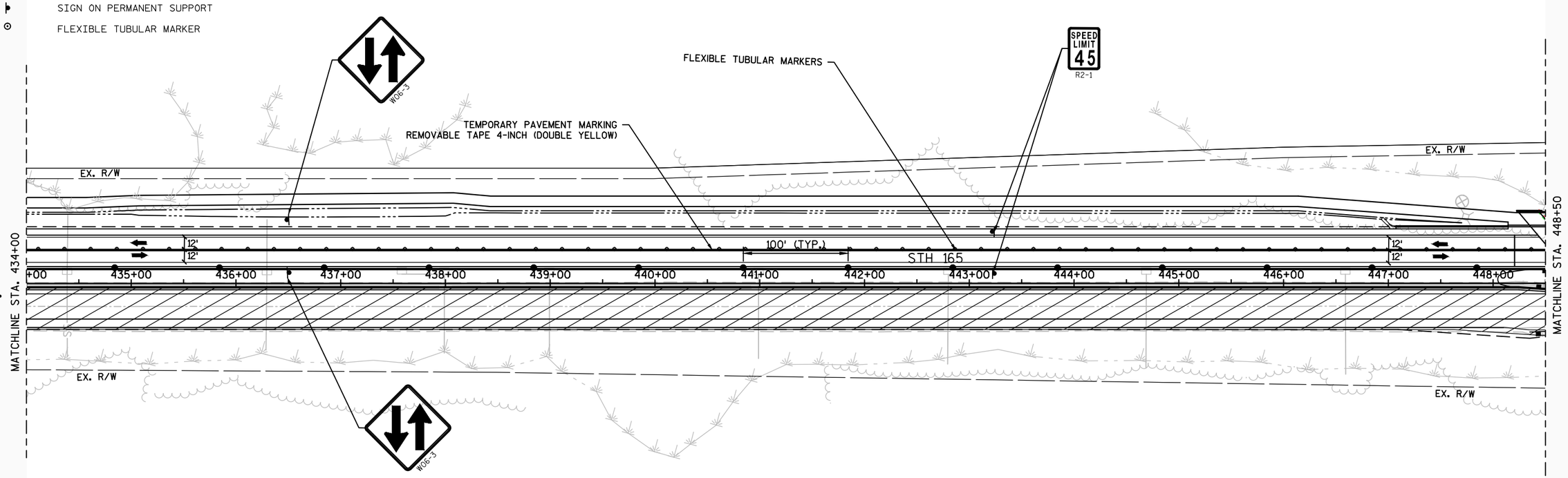
N



PROJECT NO:3738-02-73	HWY:STH 165	COUNTY:KENOSHA	TRAFFIC CONTROL: STAGE 2	SHEET 159	E

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER



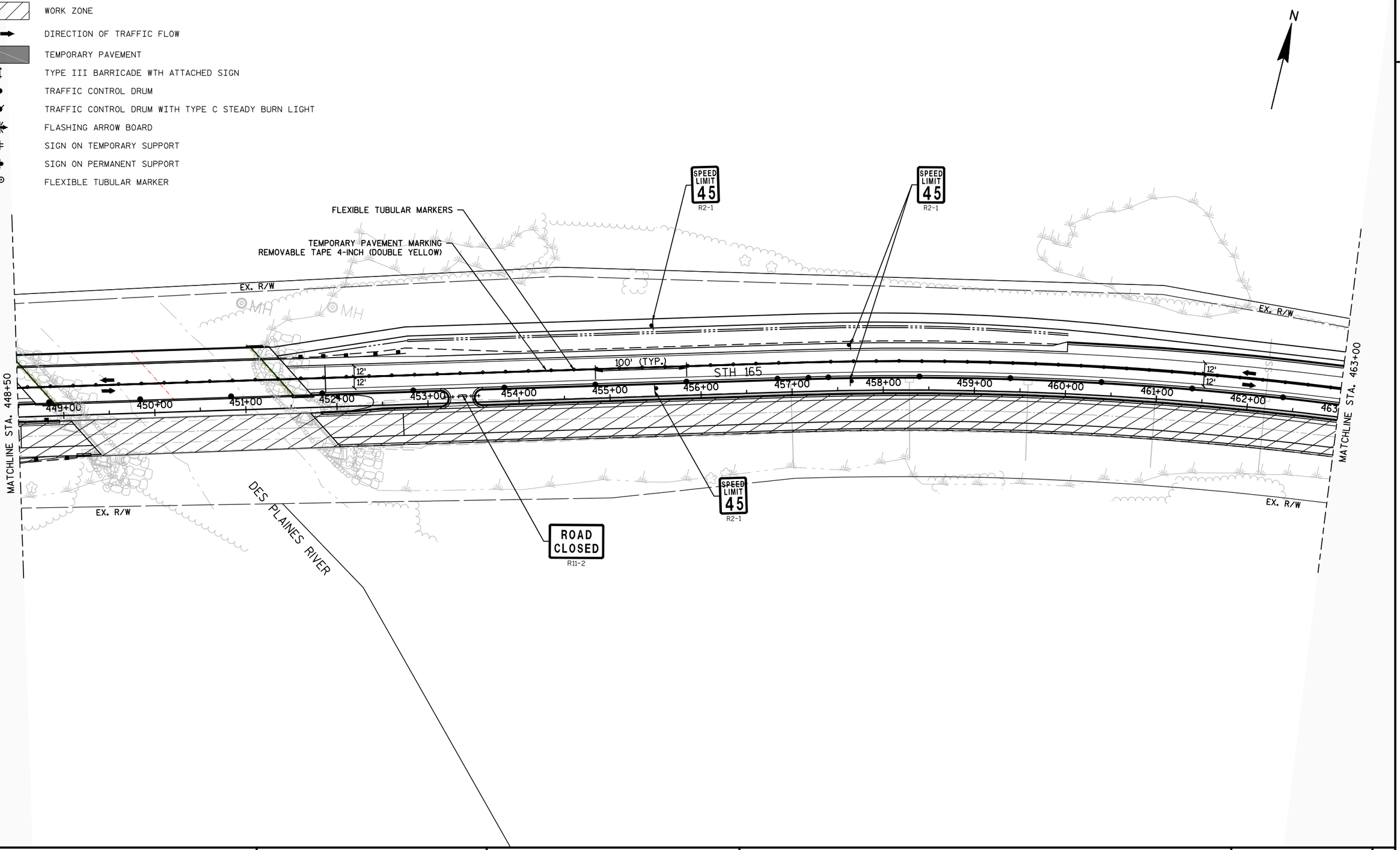
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 2	SHEET 160	E

2

2

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER

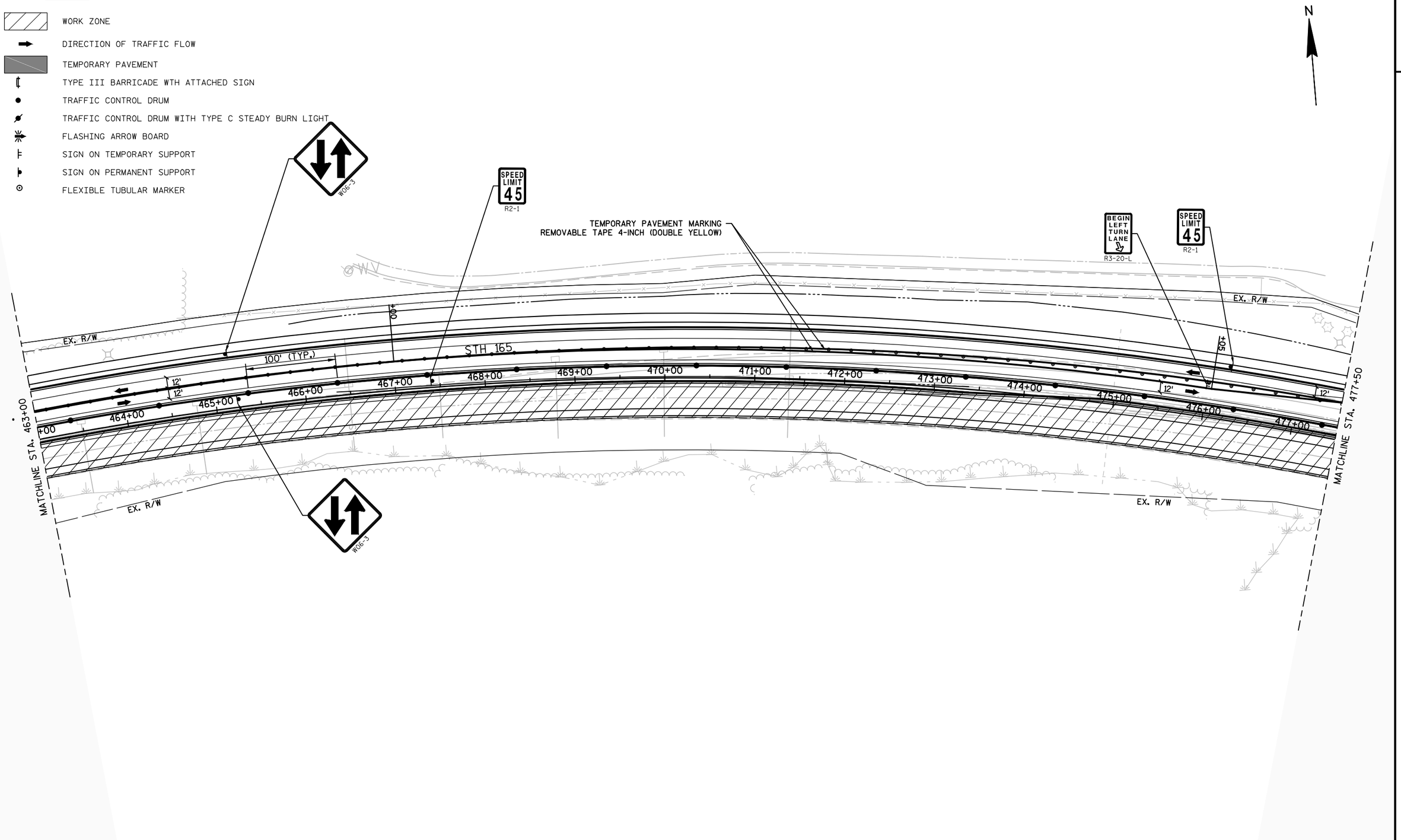


PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 2	SHEET 161	E

2

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 2	SHEET 162	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025003_TC_S2.DWG
LAYOUT NAME - 025003_TC_S2 - 025019_TC

PLOT DATE : 2/25/2016 2:10 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

2

ROAD WORK AHEAD W20-1-A

ROAD WORK AHEAD W20-1-A

END ROAD WORK G20-2A

END ROAD WORK G20-2A

STOP R1-1

EX. R/W

EX. R/W

EX. R/W

EX. R/W

EX. R/W

TERWALL TERRACE

25+00

24+00

23+00

22+00

21+00

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 8-INCH (WHITE)

BEGIN RIGHT TURN LANE R3-20-R

W06-3

REMOVE PAVEMENT MARKINGS

540' LANE DROP

R2000'

R2000'

+10

+45

STH 165

12'

55'

MATCHLINE STA. 477+50

478+00

479+00

480+00

481+00

482+00

483+00

484+00

485+00

486+00

487+00

488+00

489+00

490+00

491+00

492

MATCHLINE STA. 492+00

25'

LANE CLOSED R11-2-L

ROAD CLOSED R11-2

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 8-INCH (WHITE)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

W01-4R

35 M.P.H. W013-1

N

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 2	SHEET 163	E

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- FLEXIBLE TUBULAR MARKER

N

W06-3

EX. R/W

540' LANE DROP | 500' | 1000' | 500'

50' (TYP.)

12' 12'

MATCHLINE STA. 492+00

+00 493+00 494+00 495+00 496+00 497+00 498+00 499+00 500+00 501+00 502+00 503+00 504+00 505+00 506+00

STH 165

SPEED LIMIT 45 R2-1

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

W04-2L

LEFT LANE CLOSED AHEAD W20-5S-A

SPEED LIMIT 45 W03-5

EX. R/W

EX. R/W

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 2	SHEET 164	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025003_TC_S2.DWG
LAYOUT NAME - 025003_TC_S2 - 025021_TC

PLOT DATE : 2/25/2016 2:11 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT

N

LEFT LANE CLOSED AHEAD W20-5S-A

W04-2L

ROAD WORK AHEAD W20-1-A

END ROAD WORK G20-2A

BEGIN LEFT TURN LANE R3-20-L

MAINTAIN PEDESTRIAN ACCESS THROUGH CROSSING ONCE SHARED USE PATH IS OPENED ON THE NORTH SIDE OF STH 165

120TH AVENUE

EX. R/W

TEMPORARY PAVEMENT MARKING, 4-INCH REMOVABLE TAPE (YELLOW)

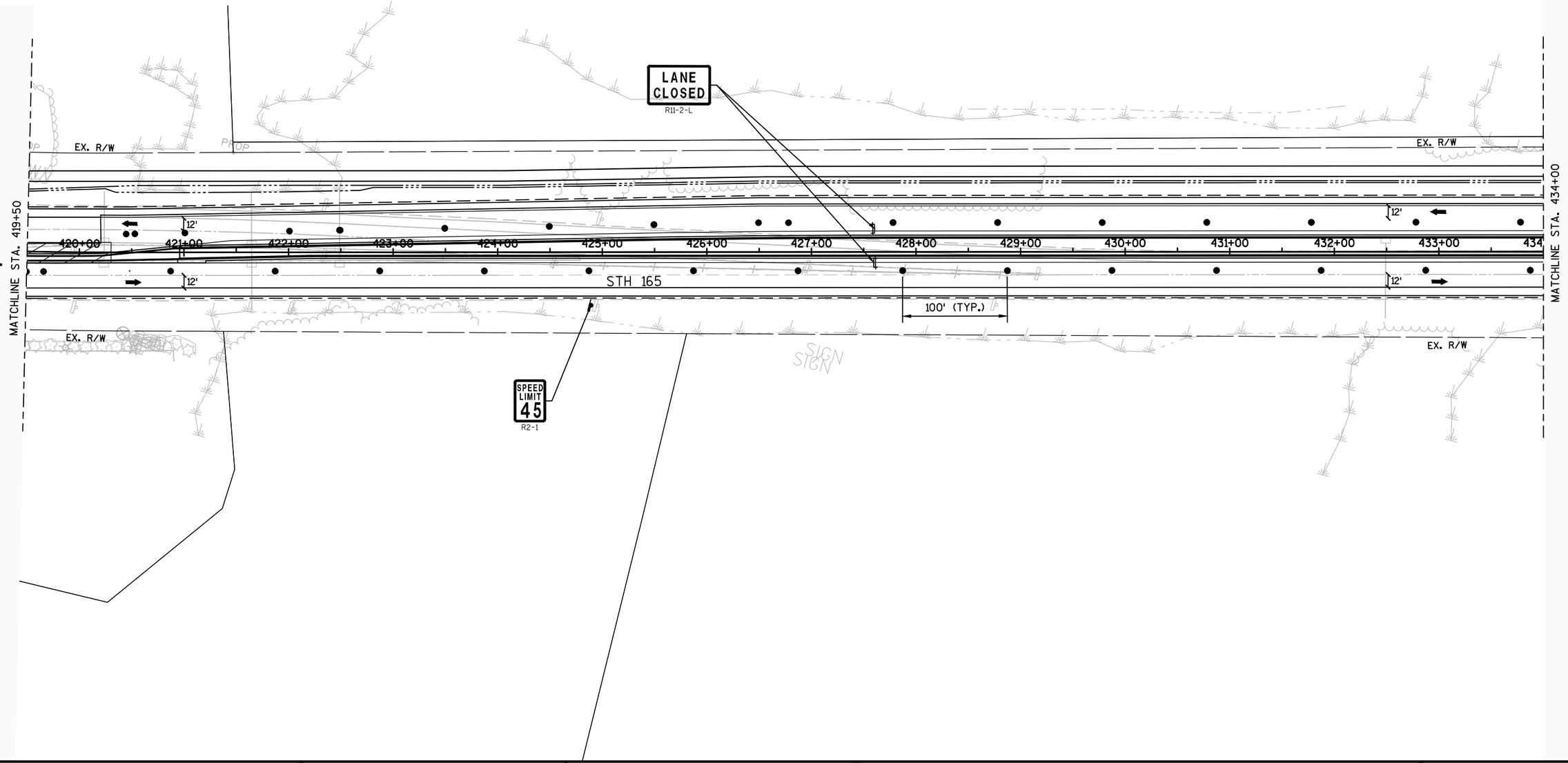
12' 12' 12'

2

2

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT



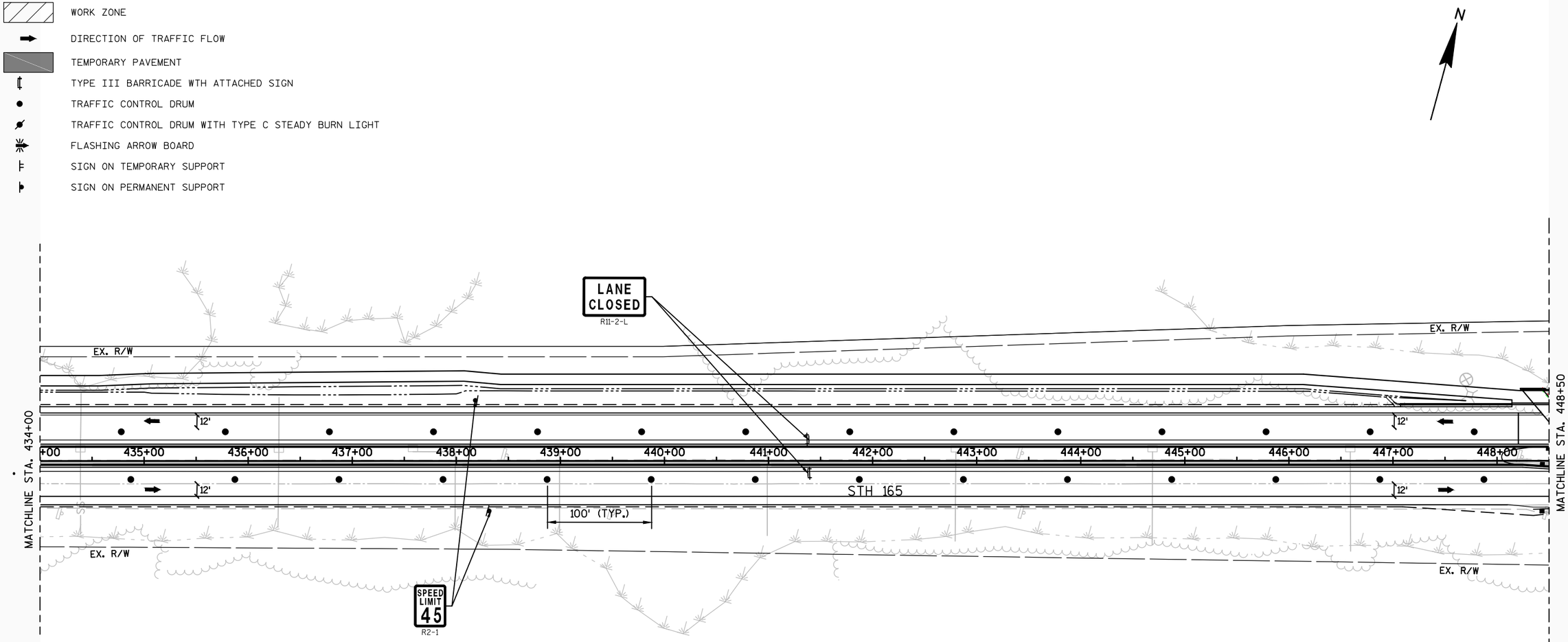
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 3	SHEET 166	E

2

2

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 3	SHEET 167	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025004_TC_S3.DWG
LAYOUT NAME - 025004_TC_S3 - 025024_TC

PLOT DATE : 2/25/2016 2:12 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

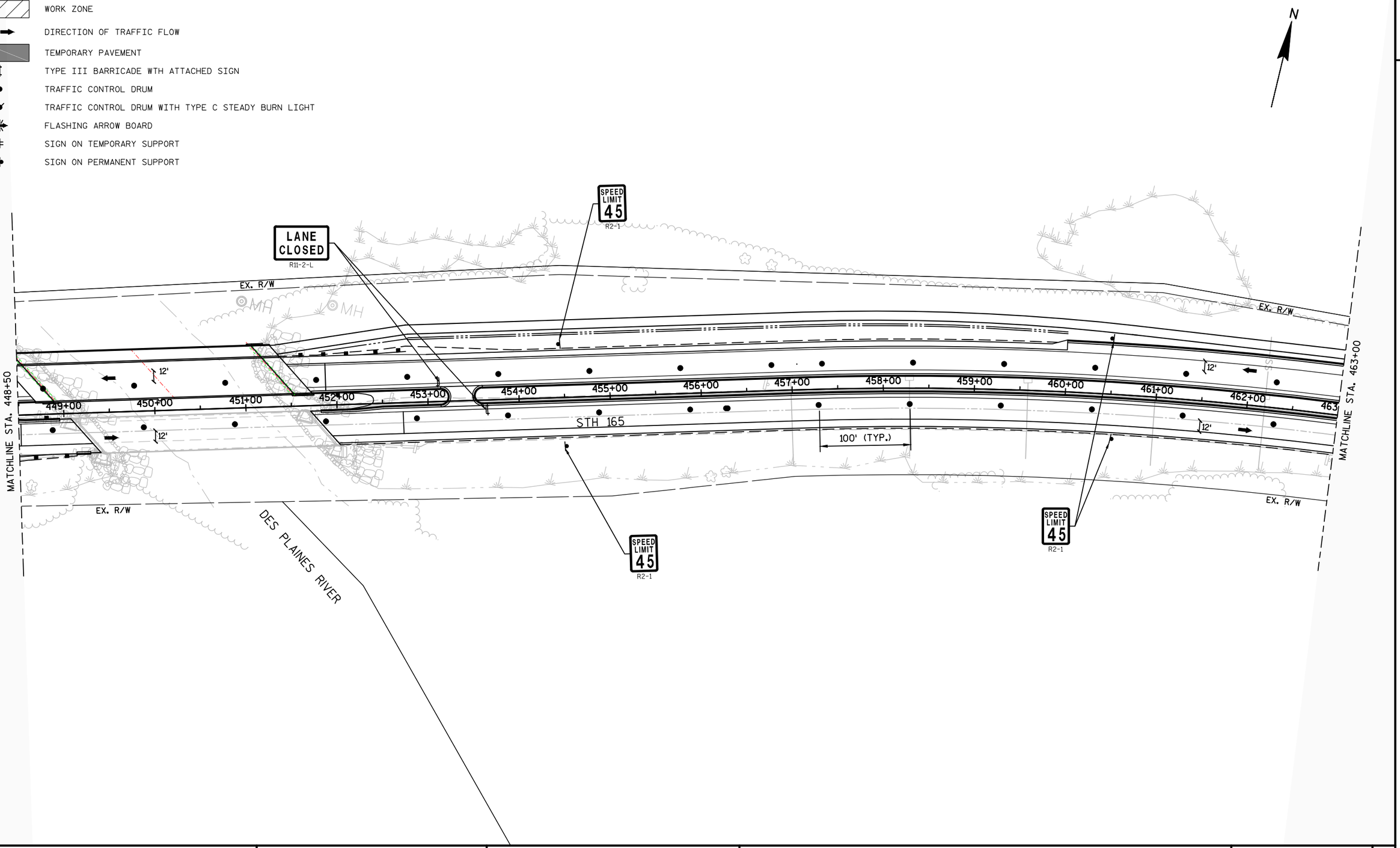
WISDOT/CADDS SHEET 42

2

2

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT



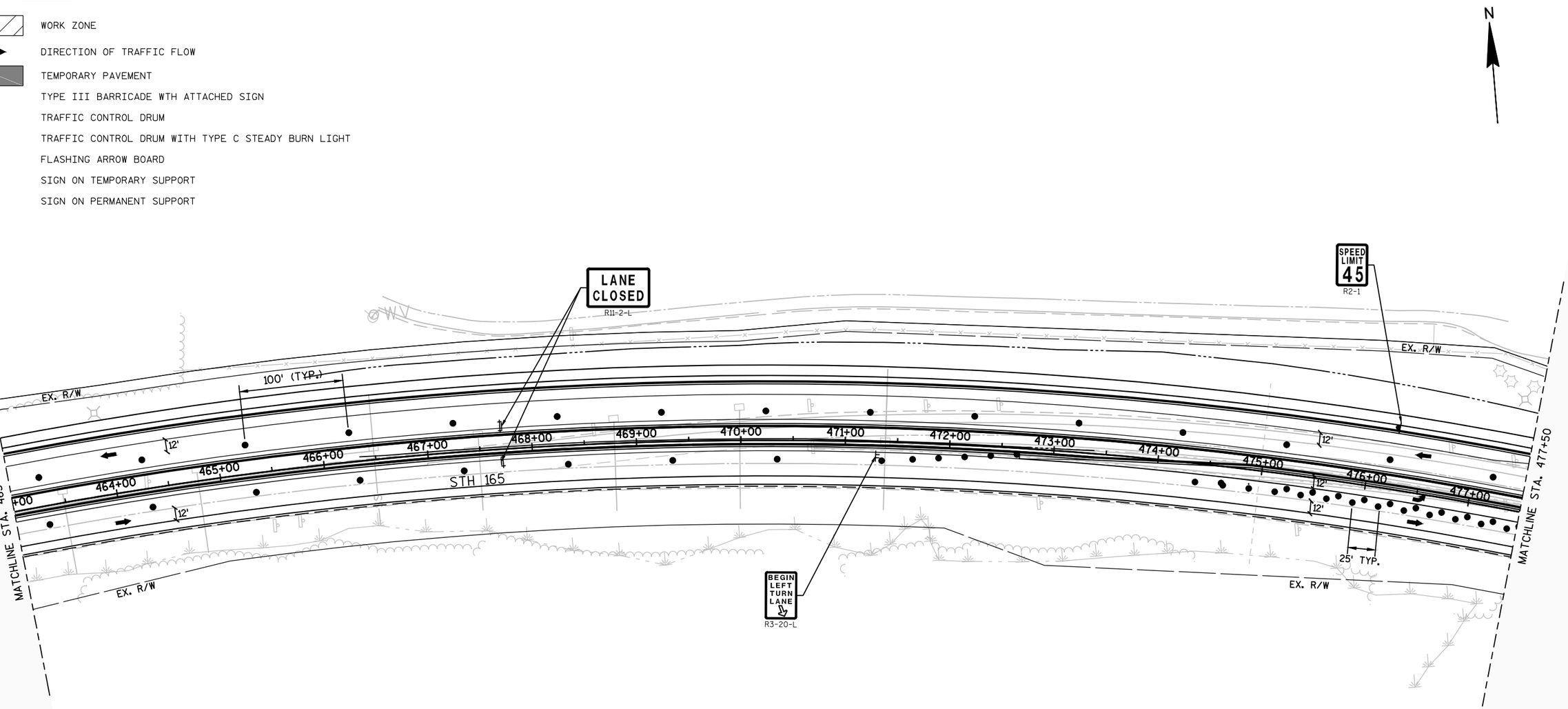
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 3	SHEET 168	E

2

2

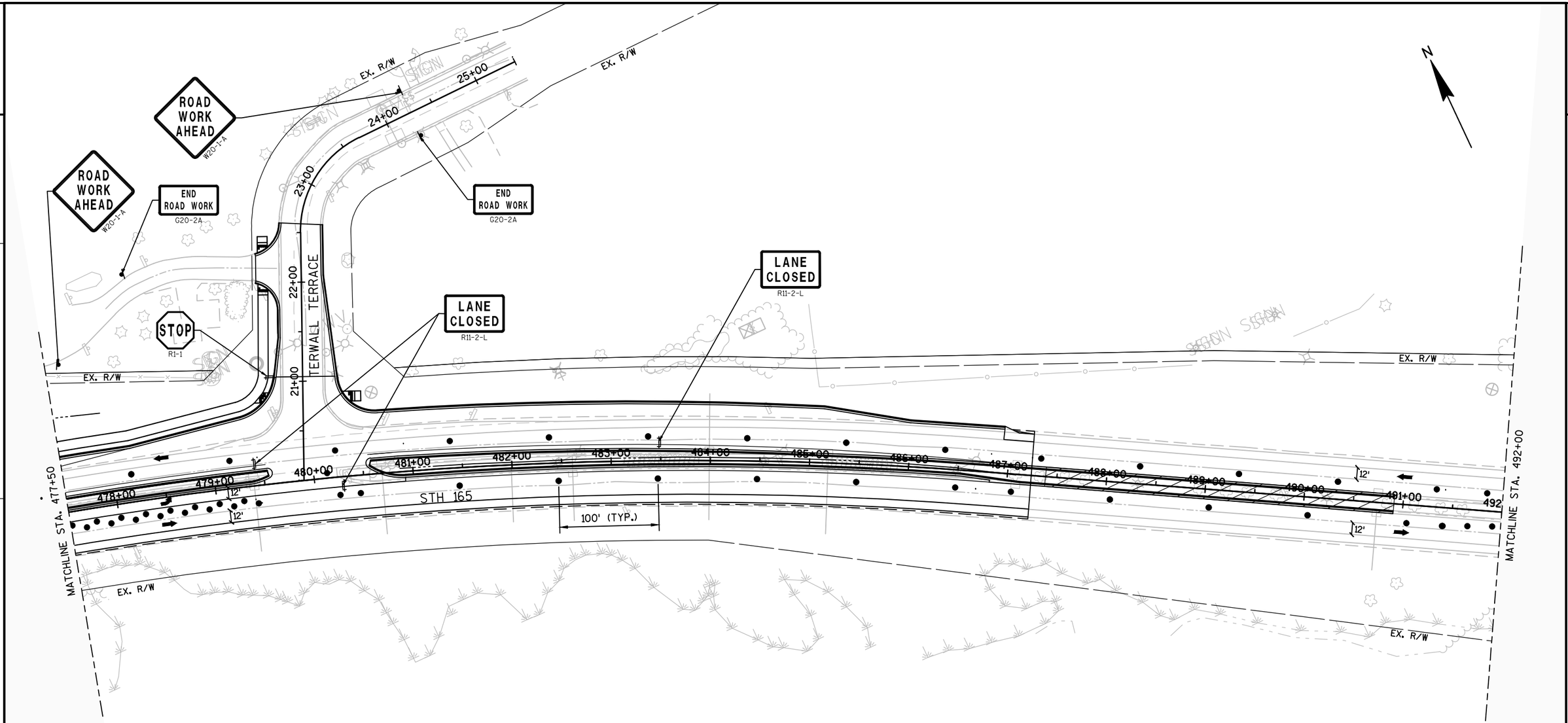
LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 3	SHEET 169	E

2



LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT

PROJECT NO:3738-02-73	HWY: STH 165	COUNTY:KENOSHA	TRAFFIC CONTROL: STAGE 3	SHEET 170	E

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY PAVEMENT
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT

N

EX. R/W

SPEED LIMIT 45 R2-1

540' LANE DROP

500'

500'

500'

50' (TYP.)

12'

12'

MATCHLINE STA. 492+00

+00 493+00 494+00 495+00 496+00 497+00 498+00 499+00 500+00 501+00 502+00 503+00 504+00 505+00 506+00

STH 165

LANE CLOSED R11-2-L

EX. R/W

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)

W04-2L

SPEED LIMIT 45 W03-5

EX. R/W

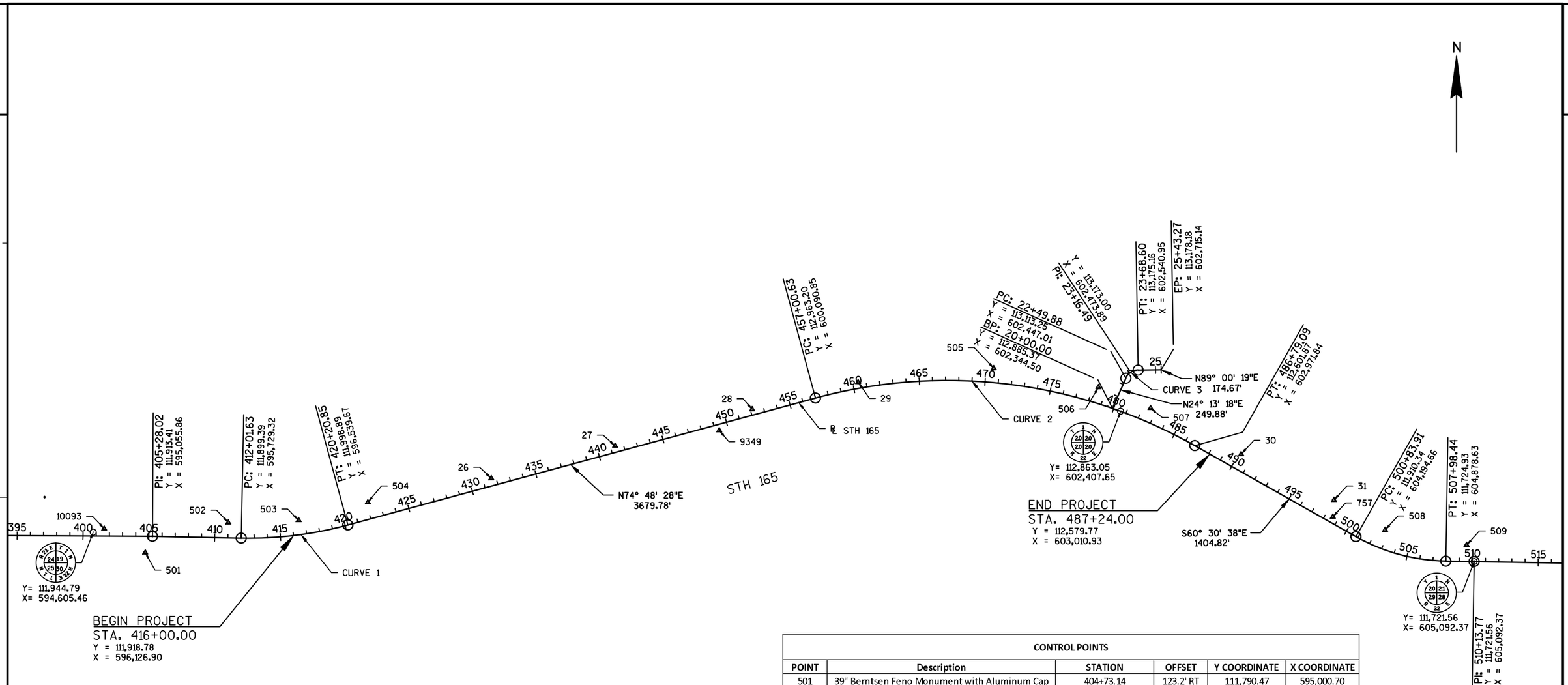
LEFT LANE CLOSED AHEAD W20-5S-A

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL: STAGE 3	SHEET 171	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\025004_TC_S3.DWG
LAYOUT NAME - 025004_TC_S3 - 025028_TC

PLOT DATE : 2/25/2016 2:13 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42



CURVE 1
PI STA = 416+14.06
Y = 111890.81
X = 596141.66
DELTA = 16°23'04"
D = 2°00'00"
T = 412.43'
L = 819.22'
R = 2864.79'
PC STA = 412+01.63
PT STA = 420+20.85
SE = 3.8%

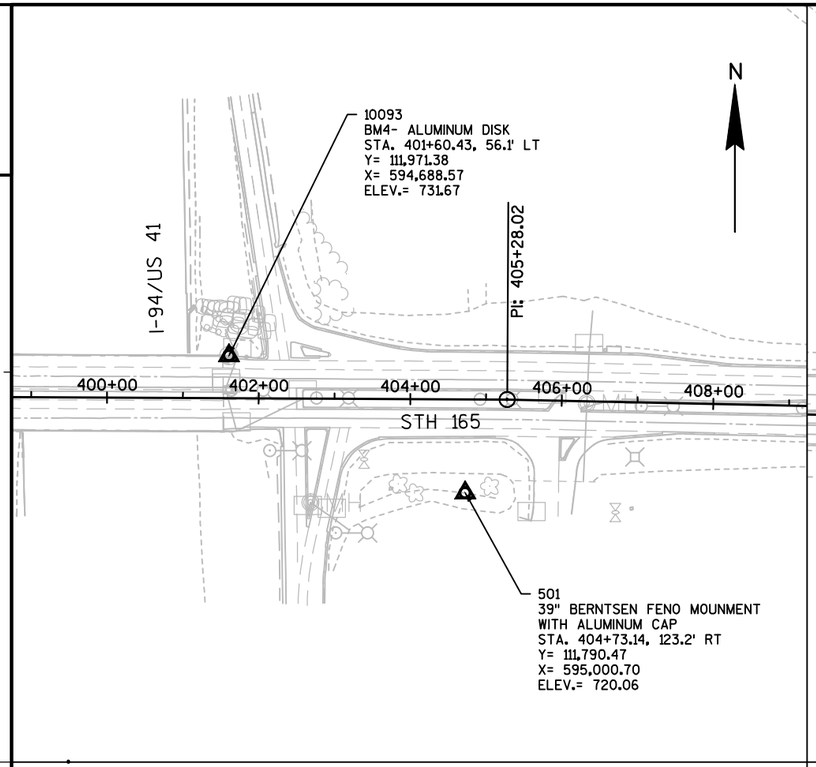
CURVE 2
PI STA = 472+70.23
Y = 113374.52
X = 601605.59
DELTA = 44°40'54"
D = 1°30'01"
T = 1569.59'
L = 2978.46'
R = 3819.32'
PC STA = 457+00.63
PT STA = 486+79.09
SE = 2.9%

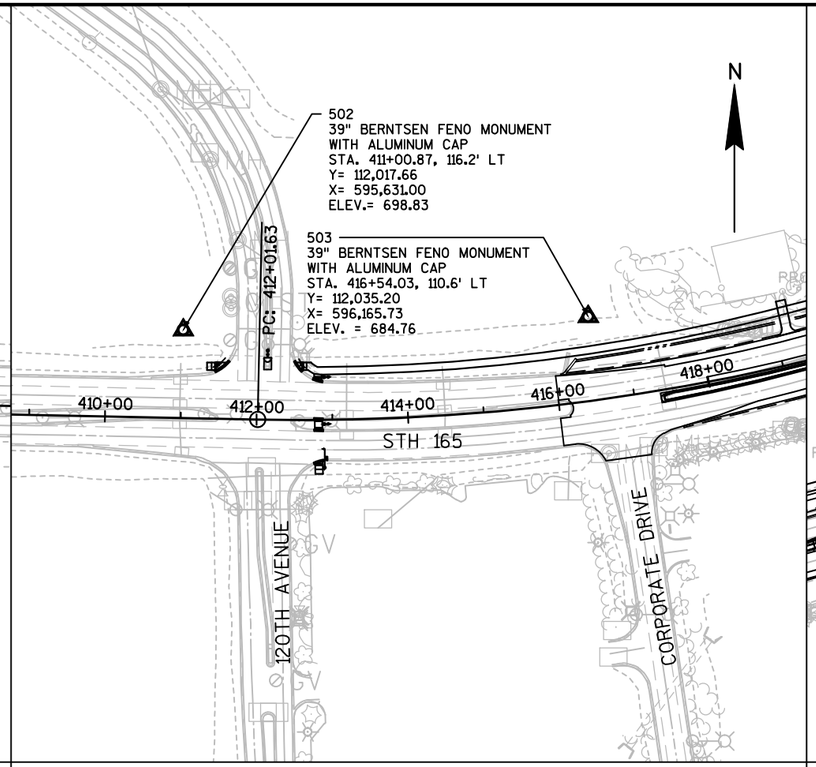
CURVE 3
PI STA = 23+16.49
Y = 113174.00
X = 602474.34
DELTA = 64°47'01"
D = 54°34'03"
T = 66.61'
L = 118.72'
R = 105.00'
PC STA = 22+49.88
PT STA = 23+68.60

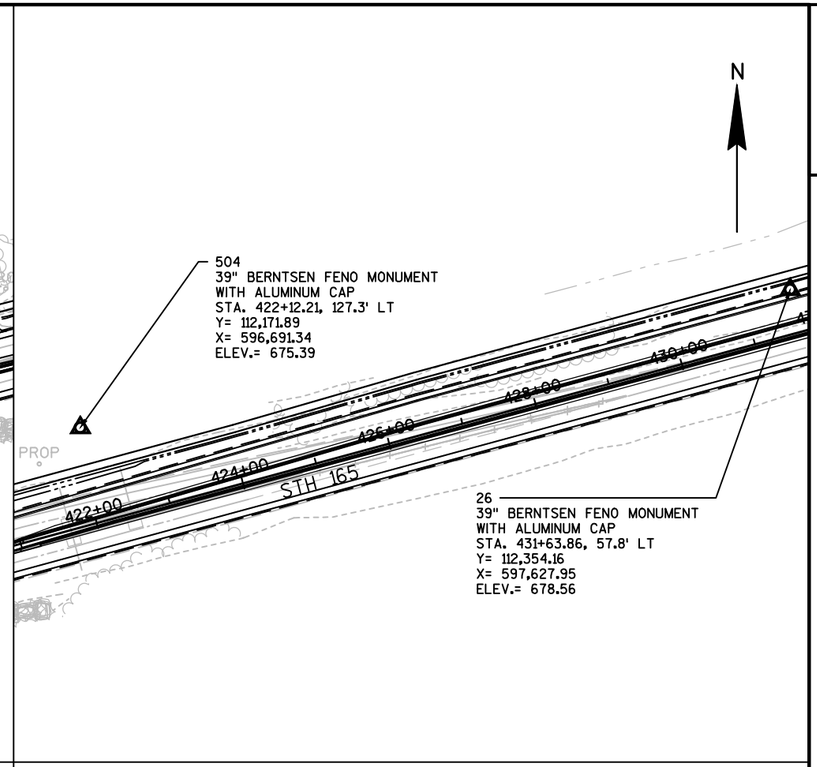
CONTROL POINTS

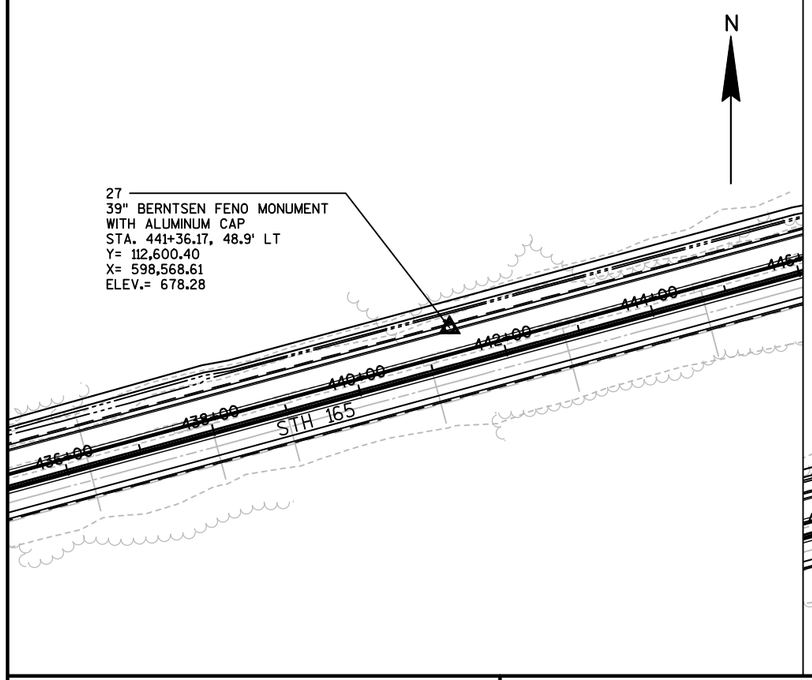
POINT	Description	STATION	OFFSET	Y COORDINATE	X COORDINATE
501	39" Berntsen Feno Monument with Aluminum Cap	404+73.14	123.2' RT	111,790.47	595,000.70
502	39" Berntsen Feno Monument with Aluminum Cap	411+00.87	116.2' LT	112,017.66	595,631.00
503	39" Berntsen Feno Monument with Aluminum Cap	416+54.03	110.6' LT	112,035.20	596,165.73
504	39" Berntsen Feno Monument with Aluminum Cap	422+12.21	127.3' LT	112,171.89	596,691.34
505	39" Berntsen Feno Monument with Aluminum Cap	470+56.80	109.1' RT	113,189.86	601,444.90
506	39" Berntsen Feno Monument with Aluminum Cap	478+42.28	119.4' LT	113,045.21	602,239.45
507	39" Berntsen Feno Monument with Aluminum Cap	482+56.60	106.2' LT	112,886.71	602,635.41
508	39" Berntsen Feno Monument with Aluminum Cap	502+70.03	143.4' LT	111,962.40	604,415.97
509	39" Berntsen Feno Monument with Aluminum Cap	509+54.17	125.6' LT	111,848.03	605,035.13
26	39" Berntsen Feno Monument with Aluminum Cap	431+63.86	57.8' LT	112,354.16	597,627.95
27	39" Berntsen Feno Monument with Aluminum Cap	441+36.17	48.9' LT	112,600.40	598,568.61
28	39" Berntsen Feno Monument with Aluminum Cap	452+13.57	44.0' LT	112,877.97	599,609.65
29	39" Berntsen Feno Monument with Aluminum Cap	460+40.86	46.8' LT	113,083.71	600,414.88
30	39" Berntsen Feno Monument with Aluminum Cap	490+16.38	116.5' LT	112,537.24	603,323.16
31	39" Berntsen Feno Monument with Aluminum Cap	498+01.21	160.9' LT	112,189.56	604,028.17
757	BM5 - Aluminum disk (coordinates approximate)	498+56.51	44.5' LT	112,061.03	604,018.64
9349	BM3 - Aluminum disk	449+30.83	44.8' RT	112,718.20	599,359.70
10093	BM4 - Aluminum disk	401+60.43	56.1' LT	111,971.38	594,688.57

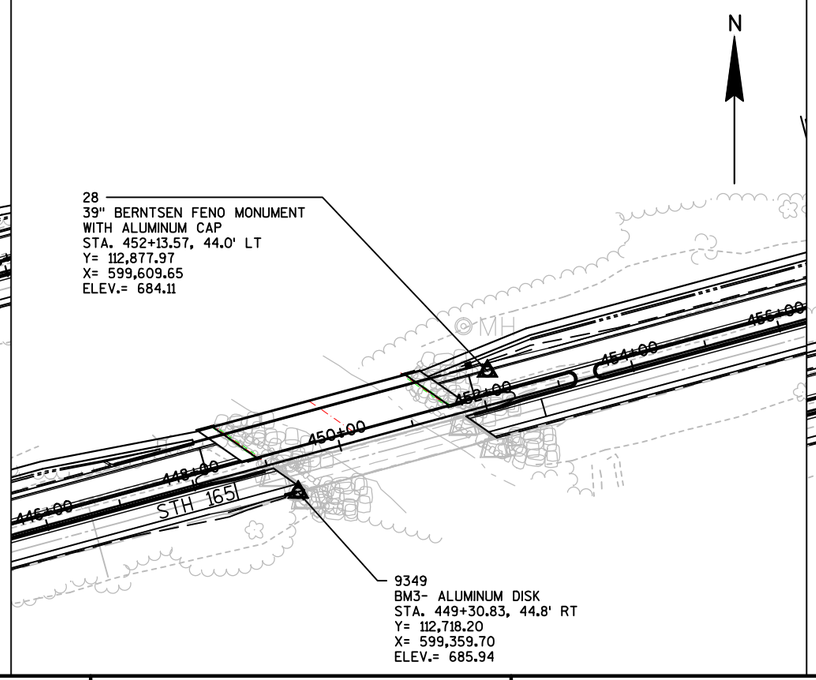
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT PLAN	SHEET 172	E

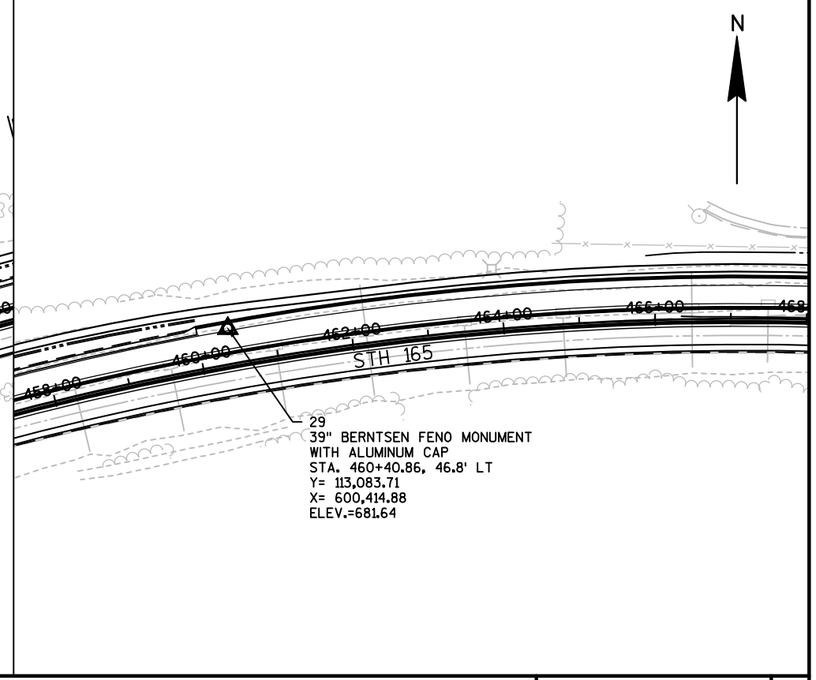




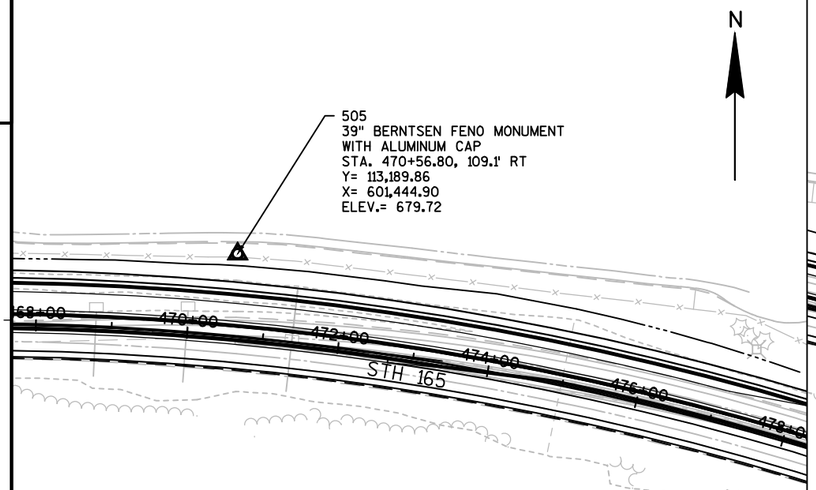


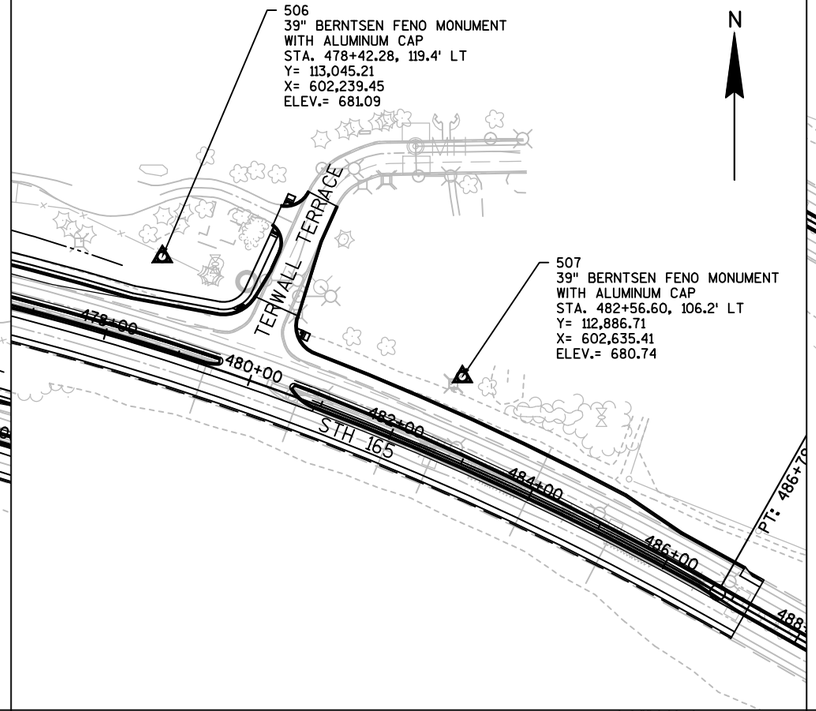


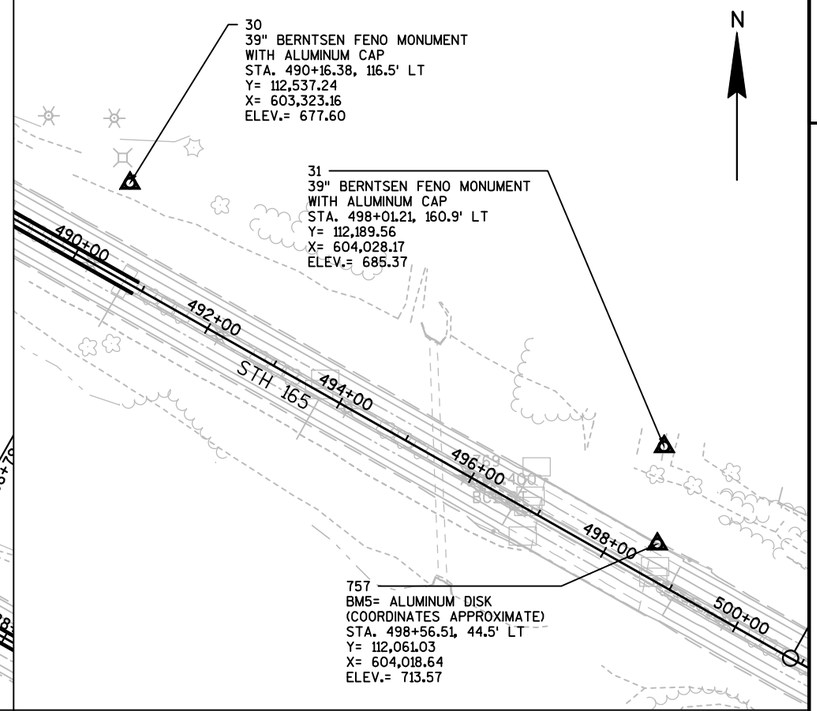




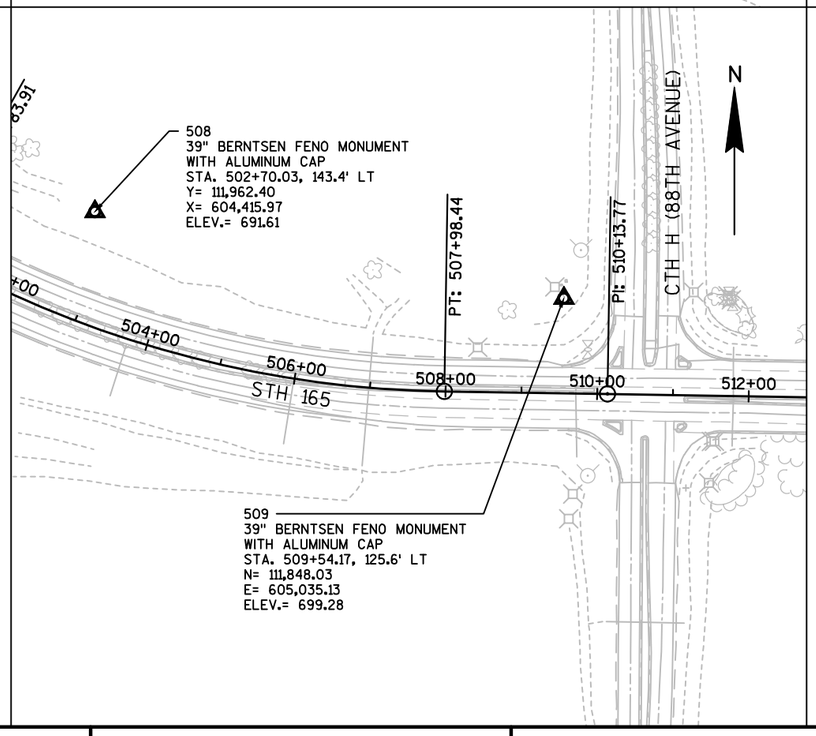
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT PLAN _ SURVEY CONTROL	SHEET 173	E







2



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT PLAN _ SURVEY CONTROL	SHEET 174	E

DATE 14APR16 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	3738-02-73 QUANTITY
0010	201.0105	Clearing	STA	17.000	17.000
0020	201.0120	Clearing	ID	65.000	65.000
0030	201.0205	Grubbing	STA	17.000	17.000
0040	201.0220	Grubbing	ID	65.000	65.000
0050	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0070	204.0100	Removing Pavement	SY	8,200.000	8,200.000
0080	204.0110	Removing Asphaltic Surface	SY	6,091.000	6,091.000
0090	204.0120	Removing Asphaltic Surface Milling	SY	418.000	418.000
0100	204.0150	Removing Curb & Gutter	LF	3,051.000	3,051.000
0110	204.0155	Removing Concrete Sidewalk	SY	245.000	245.000
0120	204.0165	Removing Guardrail	LF	327.000	327.000
0130	204.0190	Removing Surface Drains	EACH	1.000	1.000
0140	204.0195	Removing Concrete Bases	EACH	2.000	2.000
0160	204.0220	Removing Inlets	EACH	38.000	38.000
0170	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	276.000	276.000
0200	204.0245	Removing Storm Sewer (size) 04. 24-Inch	LF	31.000	31.000
0210	204.0245	Removing Storm Sewer (size) 05. 30-Inch	LF	96.000	96.000
0220	204.0291.S	Abandoning Sewer	CY	21.730	21.730
0240	204.9180.S	Removing (item description) 01. Asphalt Curb and Island	SY	323.000	323.000
0250	205.0100	Excavation Common	CY	21,708.000	21,708.000
0260	206.1000	Excavation for Structures Bridges (structure) 01. B-30-133	LS	1.000	1.000
0280	206.5000	Cofferdams (structure) 01. B-30-133	LS	1.000	1.000
0290	208.0100	Borrow	CY	24,997.000	24,997.000
0300	210.0100	Backfill Structure	CY	424.000	424.000
0310	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	67.000	67.000
0320	213.0100	Finishing Roadway (project) 01. 3728-02-73	EACH	1.000	1.000
0350	305.0110	Base Aggregate Dense 3/4-Inch	TON	619.000	619.000
0360	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	19,969.000	19,969.000
0380	305.0130	Base Aggregate Dense 3-Inch	TON	2,664.000	2,664.000
0390	310.0110	Base Aggregate Open-Graded	TON	3,051.000	3,051.000
0400	311.0110	Breaker Run	TON	1,999.000	1,999.000
0410	415.0080	Concrete Pavement 8-Inch	SY	26,299.000	26,299.000
0420	415.0090	Concrete Pavement 9-Inch	SY	2,065.000	2,065.000
0440	415.0210	Concrete Pavement Gaps	EACH	4.000	4.000
0450	415.0410	Concrete Pavement Approach Slab	SY	1,938.000	1,938.000
0460	416.0610	Drilled Tie Bars	EACH	2,655.000	2,655.000
0470	416.0620	Drilled Dowel Bars	EACH	3,061.000	3,061.000
0480	416.1110	Concrete Shoulder Rumble Strips	LF	15,972.000	15,972.000
0490	416.1710	Concrete Pavement Repair	SY	1,264.000	1,264.000
0500	416.1715	Concrete Pavement Repair SHES	SY	126.000	126.000
0510	416.1720	Concrete Pavement Replacement	SY	226.000	226.000
0520	416.1725	Concrete Pavement Replacement SHES	SY	23.000	23.000
0530	420.1000	Continuous Diamond Grinding Concrete Pavement	SY	19,959.000	19,959.000
0540	440.4410	Incentive IRI Ride	DOL	5,400.000	5,400.000
0550	455.0605	Tack Coat	GAL	131.000	131.000
0560	460.2000	Incentive Density HMA Pavement	DOL	1,500.000	1,500.000
0570	460.4000	HMA Cold Weather Paving	TON	164.000	164.000
0580	460.5224	HMA Pavement 4 LT 58-28 S	TON	2,099.000	2,099.000
0610	465.0105	Asphaltic Surface	TON	1,601.000	1,601.000

3

DATE 14APR16 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	3738-02-73 QUANTITY
0620	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	10.000	10.000
0630	465.0125	Asphaltic Surface Temporary	TON	657.000	657.000
0650	465.0315	Asphaltic Flumes	SY	16.000	16.000
0660	465.0400	Asphaltic Shoulder Rumble Strips	LF	5,953.000	5,953.000
0670	502.0100	Concrete Masonry Bridges	CY	1,145.000	1,145.000
0680	502.3200	Protective Surface Treatment	SY	1,774.000	1,774.000
0690	502.3210	Pigmented Surface Sealer	SY	536.000	536.000
0720	503.0155	Prestressed Girder Type I 54W-Inch	LF	2,347.000	2,347.000
0730	505.0400	Bar Steel Reinforcement HS Structures	LB	17,910.000	17,910.000
0740	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	171,280.000	171,280.000
0750	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	1,940.000	1,940.000
0760	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	36.000	36.000
0770	506.4000	Steel Diaphragms (structure) 01. B-30-133	EACH	32.000	32.000
0830	511.1200	Temporary Shoring (structure) 01. B-30-133	SF	335.000	335.000
0850	513.7016	Railing Steel Type C3 (structure) 01. B-30-133	LF	303.000	303.000
0860	516.0500	Rubberized Membrane Waterproofing	SY	36.000	36.000
0870	520.8000	Concrete Collars for Pipe	EACH	17.000	17.000
0880	520.8700	Cleaning Culvert Pipes	EACH	10.000	10.000
0890	521.0118	Culvert Pipe Corrugated Steel 18-Inch	LF	24.000	24.000
0900	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	2.000	2.000
0910	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	4.000	4.000
0920	522.1015	Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	EACH	1.000	1.000
0930	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	1.000	1.000
0940	522.1021	Apron Endwalls for Culvert Pipe Reinforced Concrete 21-Inch	EACH	1.000	1.000
0950	524.0612	Apron Endwalls for Culvert Pipe Salvaged 12-Inch	EACH	1.000	1.000
0960	524.0624	Apron Endwalls for Culvert Pipe Salvaged 24-Inch	EACH	3.000	3.000
0970	524.0630	Apron Endwalls for Culvert Pipe Salvaged 30-Inch	EACH	3.000	3.000
0980	550.1120	Piling Steel HP 12-Inch X 53 Lb	LF	4,410.000	4,410.000
0990	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	799.000	799.000
1000	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	305.000	305.000
1010	601.0551	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type A	LF	15,733.000	15,733.000
1020	601.0553	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type D	LF	113.000	113.000
1040	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	194.000	194.000
1050	602.0410	Concrete Sidewalk 5-Inch	SF	2,994.000	2,994.000
1060	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	256.000	256.000
1090	606.0300	Riprap Heavy	CY	260.000	260.000
1100	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	979.000	979.000

3

DATE 14APR16 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	3738-02-73 QUANTITY
1110	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	184.000	184.000
1120	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	71.000	71.000
1130	608.0321	Storm Sewer Pipe Reinforced Concrete Class III 21-Inch	LF	186.000	186.000
1140	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	112.000	112.000
1150	608.0330	Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	LF	106.000	106.000
1170	608.0421	Storm Sewer Pipe Reinforced Concrete Class IV 21-Inch	LF	279.000	279.000
1180	611.0530	Manhole Covers Type J	EACH	4.000	4.000
1200	611.0627	Inlet Covers Type HM	EACH	35.000	35.000
1210	611.0636	Inlet Covers Type HM-S	EACH	9.000	9.000
1220	611.0642	Inlet Covers Type MS	EACH	15.000	15.000
1230	611.0651	Inlet Covers Type S	EACH	4.000	4.000
1240	611.0654	Inlet Covers Type V	EACH	1.000	1.000
1260	611.1003	Catch Basins 3-FT Diameter	EACH	1.000	1.000
1270	611.1004	Catch Basins 4-FT Diameter	EACH	3.000	3.000
1280	611.1005	Catch Basins 5-FT Diameter	EACH	1.000	1.000
1290	611.1230	Catch Basins 2x3-FT	EACH	13.000	13.000
1300	611.2004	Manholes 4-FT Diameter	EACH	5.000	5.000
1310	611.2005	Manholes 5-FT Diameter	EACH	5.000	5.000
1320	611.3004	Inlets 4-FT Diameter	EACH	3.000	3.000
1330	611.3230	Inlets 2x3-FT	EACH	18.000	18.000
1340	611.3901	Inlets Median 1 Grate	EACH	4.000	4.000
1350	611.3902	Inlets Median 2 Grate	EACH	4.000	4.000
1360	611.3903	Inlets Median 3 Grate	EACH	1.000	1.000
1370	611.8115	Adjusting Inlet Covers	EACH	4.000	4.000
1380	611.8120.S	Cover Plates Temporary	EACH	6.000	6.000
1390	611.9710	Salvaged Inlet Covers	EACH	6.000	6.000
1400	612.0104	Pipe Underdrain 4-Inch	LF	527.000	527.000
1410	612.0106	Pipe Underdrain 6-Inch	LF	4,445.000	4,445.000
1420	612.0204	Pipe Underdrain Unperforated 4-Inch	LF	4.000	4.000
1430	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	40.000	40.000
1440	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	214.000	214.000
1450	612.0700	Drain Tile Exploration	LF	100.000	100.000
1480	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	3.000	3.000
1490	614.0200	Steel Thrie Beam Structure Approach	LF	58.000	58.000
1500	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	2.000	2.000
1510	614.0230	Steel Thrie Beam	LF	42.000	42.000
1540	614.0396	Guardrail Mow Strip Asphalt	SY	53.000	53.000
1560	614.2300	MGS Guardrail 3	LF	75.000	75.000
1570	614.2500	MGS Thrie Beam Transition	LF	42.000	42.000
1580	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
1590	616.0700.S	Fence Safety	LF	1,531.000	1,531.000
1600	619.1000	Mobilization	EACH	0.740	0.740
1620	620.0300	Concrete Median Sloped Nose	SF	143.000	143.000
1630	624.0100	Water	MGAL	521.000	521.000
1640	625.0500	Salvaged Topsoil	SY	44,772.000	44,772.000
1650	628.1104	Erosion Bales	EACH	740.000	740.000
1660	628.1504	Silt Fence	LF	14,836.000	14,836.000
1670	628.1520	Silt Fence Maintenance	LF	14,836.000	14,836.000

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DATE 14APR16 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	3738-02-73 QUANTITY
1680	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
1690	628.1910	Mobilizations Emergency Erosion Control	EACH	16.000	16.000
1700	628.2004	Erosion Mat Class I Type B	SY	17,222.000	17,222.000
1710	628.2006	Erosion Mat Urban Class I Type A	SY	21,425.000	21,425.000
1730	628.2027	Erosion Mat Class II Type C	SY	6,125.000	6,125.000
1740	628.6005	Turbidity Barriers	SY	486.000	486.000
1750	628.6505	Soil Stabilizer Type A	ACRE	5.000	5.000
1760	628.6510	Soil Stabilizer Type B	ACRE	5.000	5.000
1770	628.7005	Inlet Protection Type A	EACH	104.000	104.000
1780	628.7015	Inlet Protection Type C	EACH	57.000	57.000
1790	628.7020	Inlet Protection Type D	EACH	26.000	26.000
1800	628.7504	Temporary Ditch Checks	LF	675.000	675.000
1810	628.7555	Culvert Pipe Checks	EACH	150.000	150.000
1820	628.7560	Tracking Pads	EACH	5.000	5.000
1830	628.7570	Rock Bags	EACH	325.000	325.000
1840	629.0210	Fertilizer Type B	CWT	28.000	28.000
1850	630.0130	Seeding Mixture No. 30	LB	517.000	517.000
1860	630.0175	Seeding Mixture No. 75	LB	98.000	98.000
1870	630.0200	Seeding Temporary	LB	1,792.000	1,792.000
1880	631.1100	Sod Erosion Control	SY	23.000	23.000
1890	633.5200	Markers Culvert End	EACH	13.000	13.000
1900	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	77.000	77.000
1930	637.2210	Signs Type II Reflective H	SF	530.060	530.060
1940	637.2215	Signs Type II Reflective H Folding	SF	22.380	22.380
1950	637.2230	Signs Type II Reflective F	SF	78.000	78.000
1960	638.2102	Moving Signs Type II	EACH	1.000	1.000
1980	638.2602	Removing Signs Type II	EACH	73.000	73.000
1990	638.3000	Removing Small Sign Supports	EACH	72.000	72.000
2000	642.5401	Field Office Type D	EACH	1.000	1.000
2010	643.0100	Traffic Control (project) 01. 3728-02-73	EACH	1.000	1.000
2040	643.0300	Traffic Control Drums	DAY	63,952.000	63,952.000
2050	643.0420	Traffic Control Barricades Type III	DAY	3,032.000	3,032.000
2070	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	200.000	200.000
2080	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	200.000	200.000
2090	643.0705	Traffic Control Warning Lights Type A	DAY	6,064.000	6,064.000
2100	643.0715	Traffic Control Warning Lights Type C	DAY	13,939.000	13,939.000
2110	643.0800	Traffic Control Arrow Boards	DAY	561.000	561.000
2120	643.0900	Traffic Control Signs	DAY	15,605.000	15,605.000
2130	643.1050	Traffic Control Signs PCMS	DAY	580.000	580.000
2140	645.0111	Geotextile Fabric Type DF Schedule A	SY	3,738.000	3,738.000
2150	645.0120	Geotextile Fabric Type HR	SY	875.000	875.000
2160	645.0140	Geotextile Fabric Type SAS	SY	4,530.000	4,530.000
2170	646.0106	Pavement Marking Epoxy 4-Inch	LF	27,609.000	27,609.000
2190	646.0600	Removing Pavement Markings	LF	3,371.000	3,371.000
2200	646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF	4,001.000	4,001.000
2210	646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF	1,306.000	1,306.000
2220	647.0456	Pavement Marking Curb Epoxy	LF	99.000	99.000
2230	647.0606	Pavement Marking Island Nose Epoxy	EACH	4.000	4.000

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DATE 14APR16 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	3738-02-73 QUANTITY
2260	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	19,650.000	19,650.000
2270	649.0402	Temporary Pavement Marking Paint 4-Inch	LF	10,444.000	10,444.000
2280	649.0801	Temporary Pavement Marking Removable Tape 8-Inch	LF	1,632.000	1,632.000
2290	649.0802	Temporary Pavement Marking Paint 8-Inch	LF	336.000	336.000
2300	650.4000	Construction Staking Storm Sewer	EACH	64.000	64.000
2310	650.4500	Construction Staking Subgrade	LF	7,283.000	7,283.000
2330	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	418.000	418.000
2340	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
2350	650.6500	Construction Staking Structure Layout (structure) 01. B-30-133	LS	1.000	1.000
2360	650.7000	Construction Staking Concrete Pavement	LF	6,703.000	6,703.000
2380	650.8500	Construction Staking Electrical Installations (project) 01. 3728-02-73	LS	1.000	1.000
2390	650.9910	Construction Staking Supplemental Control (project) 01. 3728-02-73	LS	1.000	1.000
2410	650.9920	Construction Staking Slope Stakes	LF	7,283.000	7,283.000
2420	652.0125	Conduit Rigid Metallic 2-Inch	LF	39.000	39.000
2430	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	8,737.000	8,737.000
2510	653.0222	Junction Boxes 18x12x6-Inch	EACH	1.000	1.000
2560	654.0105	Concrete Bases Type 5	EACH	56.000	56.000
2580	654.0230	Concrete Control Cabinet Bases Type L30	EACH	2.000	2.000
2630	655.0610	Electrical Wire Lighting 12 AWG	LF	8,208.000	8,208.000
2640	655.0630	Electrical Wire Lighting 4 AWG	LF	19,422.000	19,422.000
2650	655.0635	Electrical Wire Lighting 2 AWG	LF	14,252.000	14,252.000
2690	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. STA 419+27	LS	1.000	1.000
2700	656.0200	Electrical Service Meter Breaker Pedestal (location) 02. STA 21+31	LS	1.000	1.000
2770	657.6005.S	Anchor Assemblies Light Poles on Structures	EACH	1.000	1.000
2910	659.2230	Lighting Control Cabinets 240/480 30-Inch	EACH	2.000	2.000
3000	690.0150	Sawing Asphalt	LF	90.000	90.000
3010	690.0250	Sawing Concrete	LF	9,349.000	9,349.000
3020	715.0415	Incentive Strength Concrete Pavement	DOL	8,510.000	8,510.000
3030	715.0502	Incentive Strength Concrete Structures	DOL	6,870.000	6,870.000
3040	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,000.000	1,000.000
3050	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,200.000	1,200.000
3060	SPV.0035	Special 01. Storage Layer ASTM No. 2 Stone	CY	165.000	165.000
3070	SPV.0035	Special 02. Engineered Soil for Bio-Filtration Basins	CY	147.000	147.000
3080	SPV.0060	Special 01. Adjusting Sanitary Manholes	EACH	1.000	1.000
3100	SPV.0060	Special 03. Adjusting Water Valve Box	EACH	2.000	2.000
3110	SPV.0060	Special 04. Adjusting Water Valve Manhole	EACH	1.000	1.000
3120	SPV.0060	Special 05. Landmark Reference Monuments Special	EACH	1.000	1.000
3130	SPV.0060	Special 06. Pavement Marking Grooved Preformed Thermoplastic, Arrows Type 2	EACH	2.000	2.000

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DATE 14APR16 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	3738-02-73 QUANTITY
3140	SPV.0060	Special 07. Relocating Existing Single Arm Lighting Assembly	EACH	2.000	2.000
3150	SPV.0060	Special 08. Transformer Bases Breakaway	EACH	54.000	54.000
3160	SPV.0060	Special 09. Luminaire Arms Single Member 8-FT	EACH	108.000	108.000
3170	SPV.0060	Special 10. LED Type C Luminaire	EACH	108.000	108.000
3180	SPV.0060	Special 11. Type 5 Black Pole	EACH	54.000	54.000
3250	SPV.0090	Special 01. Pavement Marking Grooved Preformed Thermoplastic, Crosswalk 6-Inch	LF	429.000	429.000
3260	SPV.0090	Special 02. Pavement Marking Grooved Preformed Thermoplastic Stop Line 18-Inch	LF	152.000	152.000
3270	SPV.0090	Special 03. Heavy Duty Silt Fence	LF	1,399.000	1,399.000
3360	SPV.0105	Special 01. Concrete Pavment Joint Layout	LS	1.000	1.000
3450	SPV.0120	Special 01. Water for Seeded Areas	MGAL	502.000	502.000
3460	SPV.0120	Special 02. Water for Biofiltration Basins	MGAL	25.000	25.000

ALL QUANTITIES ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

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CLEARING AND GRUBBING

STREET	STATION	TO	STATION	CLEARING 201.0105 STA	CLEARING 201.0120 ID	GRUBBING 201.0205 STA	GRUBBING 201.0220 ID
STH 165	418+00	-	420+00	2	--	2	--
STH 165	424+75	-	429+75	5	--	5	--
STH 165	434+00	-	437+00	3	--	3	--
STH 165	440+50	-	441+50	1	--	1	--
STH 165	443+00	-	449+00	6	--	6	--
STH 165	483+00	-	490+85	--	65	--	65
PROJECT TOTAL				17	65	17	65

REMOVING ASPHALTIC SURFACE

STREET	STATION		STATION	204.0110 SY
STH 165	411+34	-	420+00	172
	420+00	-	433+50	1,238
	433+50	-	447+50	1,271
	447+50	-	461+50	1,050
	461+50	-	475+50	1,297
	475+50	-	487+24	1,064
PROJECT TOTAL				6,091

3

REMOVING SMALL PIPE CULVERTS

STREET	STATION	TO	STATION	OFFSET	TYPE	SIZE (IN)	LENGTH (FT)	203.0100 EACH
STH 165	419+07	-	419+24	63' LT	CMP	12	17	1
PROJECT TOTAL								1

REMOVING ASPHALTIC SURFACE MILLING

STREET	STATION	TO	STATION	204.0120 SY
STH 165	448+52	-	449+31	182
	451+74	-	452+72	236
PROJECT TOTAL				418

REMOVING PAVEMENT

STREET	STATION	TO	STATION	204.0100 SY
STH 165				
	411+34	-	420+00	160
	420+00	-	433+50	2,002
	433+50	-	447+50	--
	447+50	-	461+50	--
	461+50	-	475+50	1,812
	475+50	-	487+24	4,226
PROJECT TOTAL				8,200

REMOVING CURB & GUTTER

STREET	STATION	TO	STATION	204.0150 LF
STH 165	411+34	-	420+00	465
	420+00	-	433+50	306
	433+50	-	447+50	--
	447+50	-	461+50	--
	461+50	-	475+50	403
	475+50	-	490+90	1,877
PROJECT TOTAL				3,051

ALL QUANTITIES ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

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REMOVING CONCRETE SIDEWALK

STREET	STATION	TO	STATION	LOCATION	204.0155 SY
STH 165	412+10	-	412+16	85' LT	6
	423+00	-	424+79	4' RT	102
	470+70	-	472+99	5' RT	137
PROJECT TOTAL					245

REMOVING CONCRETE BASES

STREET	STATION	LOCATION	204.0195 EACH
TERWALL TER	21+32	32' RT	1
	21+30	24' LT	1
PROJECT TOTAL			2

3

REMOVING GUARDRAIL

STATION		STATION	LOCATION	204.0165 LF
448+40	-	449+24	45' RT	90
448+22	-	448+92	0' RT	75
451+86	-	452+68	0'RT	86
452+82	-	452+68	45' RT	76
PROJECT TOTAL				327

REMOVING SURFACE DRAINS

STATION	LOCATION	204.0190 EACH
416+12	40' LT	1
PROJECT TOTAL		1

REMOVING INLETS

CATEGORY	STRUCTURE NO.	STREET	STATION	LOCATION	204.0220 EACH
0010	301	STH 165	420+24	9' LT	1
	302	STH 165	421+65	7' LT	1
	303	STH 165	421+65	7' RT	1
	304	STH 165	422+49	2' LT	1
	305	STH 165	422+49	9' RT	1
	306	STH 165	432+49	9' LT	1
	307	STH 165	434+39	10' LT	1
	308	STH 165	436+30	10' LT	1
	309	STH 165	437+58	10' LT	1
	310	STH 165	437+99	10' LT	1
	311	STH 165	438+99	10' LT	1
	312	STH 165	440+99	10' LT	1
	313	STH 165	442+80	10' LT	1
	314	STH 165	444+69	10' LT	1
	315	STH 165	446+59	10' LT	1
	316	STH 165	456+99	9' LT	1
	317	STH 165	458+29	9' LT	1
	318	STH 165	459+59	9' LT	1
	319	STH 165	460+99	9' LT	1
	320	STH 165	462+19	10' LT	1
	321	STH 165	463+49	9' LT	1
	322	STH 165	464+79	9' LT	1
	323	STH 165	465+89	9' LT	1
	324	STH 165	466+49	10' LT	1
	325	STH 165	467+49	14' LT	1
	326	STH 165	468+79	22' LT	1
	327	STH 165	469+99	29' LT	1
	328	STH 165	471+38	2' LT	1
	329	STH 165	471+38	1' RT	1
	330	STH 165	479+39	9' LT	1
	331	STH 165	479+39	1' RT	1
	332	STH 165	480+69	9' LT	1
	333	STH 165	481+99	9' LT	1
	334	STH 165	482+61	9' LT	1
	335	STH 165	482+69	9' LT	1
	336	STH 165	482+61	9' RT	1
	337	STH 165	483+99	8' LT	1
	338	STH 165	485+19	9' LT	1
				PROJECT TOTAL	38

3

REMOVING STORM SEWER

CATEGORY	STREET	STATION	-	STATION	LOCATION	204.0245.01 12-INCH LF	204.0245.04 24-INCH LF	204.0245.05 30-INCH LF
0010	STH 165	417+41	-	417+42	LT	30	-	-
	STH 165	420+24	-	420+25	LT	61	-	-
	STH 165	422+49	-	422+49	LT	-	-	69
	STH 165	437+58	-	438+01	LT	43	-	-
	STH 165	440+99	-	440+99	LT	14	-	-
	STH 165	444+69	-	444+69	LT	19	-	-
	STH 165	456+99	-	456+99	LT	18	-	-
	STH 165	465+89	-	466+50	LT	62	-	-
	STH 165	469+99	-	469+99	LT	29	-	-
	STH 165	471+38	-	471+38	LT	-	16	-
	STH 165	471+39	-	471+39	LT	-	15	-
	STH 165	474+98	-	474+98	LT	-	-	27
					PROJECT TOTAL	276	31	96

ABANDONING SEWER

CATEGORY	STREET	STATION	LOCATION	204.0291.S CY
0010	STH 165	438+99	RT	2.27
	STH 165	442+80	RT	2.50
	STH 165	458+29	RT	2.44
	STH 165	460+99	RT	2.41
	STH 165	464+79	RT	2.24
	STH 165	467+49	RT	2.04
	STH 166	469+99	RT	1.89
	STH 167	479+39	RT	2.01
	STH 168	480+69	RT	2.04
	STH 169	481+99	RT	1.89
			PROJECT TOTAL	21.73

ALL QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

REMOVING ASPHALT CURB AND ISLAND

STATION	TO	STATION	LOCATION	204.9180.S SY
423+25	-	429+17	RT	323
PROJECT TOTAL				323

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EARTHWORK SUMMARY

Division	From/To Station	Location	Common Excavation (1) (item # 205.0100) Cut (2)	EBS Excavation (3)	Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Reduced EBS in Fill (6) Factor 0.90	Unexpanded Fill	Expanded Fill (7) Factor 1.11	Mass Ordinate +/- (8)	Waste	Borrow (9) (item #208.0100)	Comment:
PRESTAGE/STAGE 1													
CROSSOVERS	225+78	Crossovers	1195	0	0	1195	0	0	0	1195	-	-	Install 5" of asphaltic surface temporary over 10" of crushed aggregate base course.
STH 165 - WESTBOUND	413+00 to 487+23	Mainline	7184	914	2045	5139	823	29450	32690	-26637	-	24997	The waste in Prestage/Stage 1 shall be used as borrow.
TERWALL TERRACE	21+00 to 22+00	Sideroad	447	0	0	447	0	2	2	445	-	-	
STAGE 1 SUBTOTAL			8826	914	2045	6781	1892	29452	31779	-24997	0	24997	
STAGE 2													
STH 165 - EASTBOUND	413+00 to 487+23	Mainline	11616	0	0	11616	0	1549	1719	9897	9897	-	
STAGE 2 SUBTOTAL			11616	0	0	11616	0	1549	1719	9897	9897	0	
STAGE 3													
REMOVAL OF CROSSOVERS		Crossovers	351	0	0	351	0	0	0	351	351	-	Remove 5" of asphaltic concrete pavement.
STAGE 3 SUBTOTAL			351	0	0	351	0	0	0	351	351	0	
CATEGORY 0010 SUBTOTAL			20794 Total Common Exc	914 21708	2045	18749	1892	31001	33498	-14749	10248	24997	

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Breaker Run. See quantities elsewhere for Item number 311.0110
4) Salvaged/Unusable Pavement Material
5) Available Material = (Cut + EBS Excavation) - Salvaged/Unusuable Pavement Material
6) EBS in Fill Reduction factor = 0.9.
7) Expanded Fill. Factor = 1.11
Depending on selections:
Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh) * Fill Factor
Expanded Fill = Unexpanded Fill * Fill Factor
8) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
9) Borrow Subtotal = Sum (Borrow) - Sum (Waste)

ALL QUANTITIES ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

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PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

STREET	STATION	TO	STATION	211.0400 STA
STH 165	418+00	-	420+00	2
STH 165	424+75	-	429+75	14
STH 165	434+00	-	437+00	14
STH 165	440+50	-	441+50	11
STH 165	443+00	-	449+00	14
STH 165	483+00	-	490+85	12
PROJECT TOTAL				67

FINISHING ROADWAY

PROJECT	213.0100 LS
ID 3738-02-73	1
PROJECT TOTAL	1

BASE AGGREGATE DENSE 3/4 INCH

STREET		STATION	TO	STATION	305.0110 TON
STH 165					
	PRESTAGE B				
	STH 165	411+34	-	420+00	--
	STH 165	420+00	-	433+50	--
	STH 165	433+50	-	447+50	--
	STH 165	447+50	-	461+50	--
	STH 165	461+50	-	475+50	5
	STH 165	475+50	-	487+24	58
	PRESTAGE B TOTAL				63
	STAGE 1				
	STH 165	411+34	-	420+00	18
	STH 165	420+00	-	433+50	67
	STH 165	433+50	-	447+50	67
	STH 165	447+50	-	461+50	59
	STH 165	461+50	-	475+50	--
	STH 165	475+50	-	487+24	--
	STAGE 1 TOTAL				211
	STAGE 2				
	STH 165	411+34	-	420+00	12
	STH 165	420+00	-	433+50	67
	STH 165	433+50	-	447+50	70
	STH 165	447+50	-	461+50	71
	STH 165	461+50	-	475+50	68
	STH 165	475+50	-	487+24	57
	STAGE 2 TOTAL				345
				PROJECT TOTAL	619

BASE AGGREGATE DENSE 1-1/4 INCH

STREET		STATION	TO	STATION	305.0120 TON
STH 165					
	PRESTAGE A				
	STH 165	411+34	-	420+00	296
	STH 165	420+00	-	433+50	36
	STH 165	433+50	-	447+50	--
	STH 165	447+50	-	461+50	--
	STH 165	461+50	-	475+50	--
	STH 165	475+50	-	487+24	387
	STH 165	487+24	-	491+00	426
	PRESTAGE A TOTAL				1,145
	STAGE 1				
	STH 165	411+34	-	420+00	806
	STH 165	420+00	-	433+50	4,225
	STH 165	433+50	-	447+50	4,326
	STH 165	447+50	-	461+50	3,171
	STH 165	461+50	-	475+50	3,159
	STH 165	475+50	-	487+24	2,666
	STAGE 1 TOTAL				18,353
	STAGE 3				
	STH 165	411+34	-	420+00	73
	STH 165	420+00	-	433+50	--
	STH 165	433+50	-	447+50	--
	STH 165	447+50	-	461+50	--
	STH 165	461+50	-	475+50	--
	STH 165	475+50	-	487+24	--
	STAGE 3 TOTAL				73
				PROJECT TOTAL	19,571

BASE AGGREGATE DENSE 3 INCH

STREET		STATION	TO	STATION	305.0130 TON
STH 165					
	STAGE 1				
	STH 165	411+34	-	420+00	--
	STH 165	420+00	-	433+50	270
	STH 165	433+50	-	447+50	2,394
	STH 165	447+50	-	461+50	--
	STH 165	461+50	-	475+50	--
	STH 165	475+50	-	487+24	--
	STAGE 1 TOTAL				2,664
				PROJECT TOTAL	2,664

ALL QUANTITIES ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

3

BASE AGGREGATE OPEN GRADED

STREET		STATION	TO	STATION	310.0110 TON
STH 165					
	STAGE 2				
	STH 165	411+34	-	420+00	--
	STH 165	420+00	-	433+50	564
	STH 165	433+50	-	447+50	622
	STH 165	447+50	-	461+50	467
	STH 165	461+50	-	475+50	573
	STH 165	475+50	-	487+24	753
	STAGE 2 TOTAL				2,979
	STAGE 3				
	STH 165	411+34	-	420+00	64
	STH 165	420+00	-	433+50	8
	STH 165	433+50	-	447+50	--
	STH 165	447+50	-	461+50	--
	STH 165	461+50	-	475+50	--
	STH 165	475+50	-	487+24	--
	STAGE 3 TOTAL				72
				PROJECT TOTAL	3,051

CONCRETE PAVEMENT GAPS

STREET	STATION	TO	STATION	415.0210 EACH
STH 165	UNDISTRIBUTED			4
PROJECT TOTAL				4

3

BREAKER RUN

STREET		STATION	TO	STATION	311.0110 TON
STH 165					
	STAGE 1				
	STH 165	411+34	-	420+00	--
	STH 165	420+00	-	433+50	203
	STH 165	433+50	-	447+50	1,796
	STH 165	447+50	-	461+50	--
	STH 165	461+50	-	475+50	--
	STH 165	475+50	-	487+24	--
					-
	STAGE 1 TOTAL				1,999
				PROJECT TOTAL	1,999

CONCRETE PAVEMENT

STAGE	STREET	STATION	TO	STATION	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0090 CONCRETE PAVEMENT 9-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH
STAGE 1	STH 165	411+34	-	420+00	219	--	--	--	--
	STH 165	420+00	-	433+50	4,528	--	--	--	--
	STH 165	433+50	-	447+50	4,695	--	--	--	--
	STH 165	447+50	-	461+50	3,869	--	1,938	--	--
	STH 165	461+50	-	475+50	6,187	--	--	--	--
	STH 165	475+50	-	487+24	6,801	--	--	--	--
				STAGE 1 SUBTOTAL	26,299	0	1,938	0	0
STAGE 2	STH 165	411+34	-	420+00	--	208	--	--	--
	STH 165	420+00	-	433+50	--	622	--	532	--
	STH 165	433+50	-	447+50	--	465	--	560	--
	STH 165	447+50	-	461+50	--	512	--	450	--
	STH 165	461+50	-	475+50	--	258	--	560	--
	STH 165	475+50	-	487+24	--	12	--	432	--
				STAGE 2 SUBTOTAL	0	2,065	0	2,102	0
STAGE 3	STH 165	411+34	-	420+00	--	--	--	239	16
	STH 165	420+00	-	433+50	--	--	--	17	--
	STH 165	433+50	-	447+50	--	--	--	--	--
	STH 165	447+50	-	461+50	--	--	--	--	--
	STH 165	461+50	-	475+50	--	--	--	--	--
	STH 165	475+50	-	487+24	--	--	--	--	--
	STH 165	487+24	-	491+00	--	--	--	281	16
				STAGE 3 SUBTOTAL	0	0	0	256	32
				PROJECT TOTAL	26,299	2,065	1,938	*2,358	*32

* QUANTITIES SHOWN ELSEWHERE ON PLANS

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UNLESS OTHERWISE NOTED

3

RUMBLE STRIPS

STREET	LOCATION			416.1110 CONCRETE SHOULDER RUMBLE STRIPS LF	465.0400 ASPHALT SHOULDER RUMBLE STRIPS LF
STH 165	412+00	-	420+00	--	--
	420+00	-	433+50	2,700	900
	433+50	-	447+50	4,200	1,400
	447+50	-	461+50	3,314	1,104
	461+50	-	475+50	3,939	1,386
	475+50	-	490+90	1,819	1,163
PROJECT TOTAL				15,972	5,953

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STREET	STATION	TO	STATION	416.1710 CONCRETE PAVEMENT REPAIR SY	416.1715 CONCRETE PAVEMENT REPAIR SHES SY	416.1720 CONCRETE PAVEMENT REPLACEMENT SY	416.1725 CONCRETE PAVEMENT REPLACEMENT SHES SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH
STH 165	411+34	-	420+00	24	2	--	--	8	58
	420+00	-	433+50	344	34	26	3	94	818
	433+50	-	447+50	304	30	23	2	65	749
	447+50	-	461+50	317	32	90	9	81	749
	461+50	-	475+50	121	12	23	2	32	288
	475+50	-	487+24	153	15	64	6	17	367
PROJECT TOTAL				1,264	126	226	23	*297	*3,029

* QUANTITIES SHOWN ELSEWHERE ON PLANS

CONTINUOUS DIAMOND GRINDING CONCRETE PAVEMENT

STREET	STATION	TO	STATION	420.1000 SY
STH 165	411+34	-	420+00	3,138
	420+00	-	433+50	3,657
	433+50	-	447+50	3,733
	447+50	-	461+50	2,606
	461+50	-	475+50	3,712
	475+50	-	487+24	3,113
PROJECT TOTAL				19,959

ASPHALTIC PAVEMENT

STAGE	STREET	STATION	TO	STATION	460.4000 HMA COLD WEATHER PAVING TON	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	455.0605 TACK COAT GAL
STAGE 1	STH 165	411+34	-	420+00	17	66	--
		420+00	-	433+50	55	221	--
		433+50		447+50	55	221	--
		447+50		461+50	37	148	--
		461+50		475+50	--	--	--
		475+50		490+91	--	--	--
		TERWALL TERRACE			--	--	88
		STAGE 1 SUBTOTAL			164	655	88
STAGE 2	STH 165	411+34	-	420+00	--	41	--
		420+00	-	433+50	--	293	--
		433+50		447+50	--	304	--
		447+50		461+50	--	253	43
		461+50		475+50	--	301	--
		475+50		490+91	--	252	--
		STAGE 2 SUBTOTAL			0	1,444	43
PROJECT TOTALS					164	2,099	131

ASPHALTIC SURFACE

STAGE	STREET	STATION	TO	STATION	465.0105 TON
STAGE 1	STH 165	411+34	-	420+00	135
		420+00	-	433+50	259
		433+50	-	447+50	268
		447+50	-	461+50	213
		461+50	-	475+50	273
		475+50	-	490+91	99
		TERWALL TERRACE			304
STAGE 2	STH 165	411+34	-	420+00	--
		420+00	-	433+50	--
		433+50	-	447+50	--
		447+50	-	461+50	50
		461+50	-	475+50	--
		475+50	-	490+91	--
		TERWALL TERRACE			--
PROJECT TOTALS					1,601

3

ALL QUANTITIES ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

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ASPHALTIC SURFACE TEMPORARY

STREET	STATION	TO	STATION	LOCATION	465.0125 TON
STH 165	417+35	-	420+31	WEST CROSSOVER	172
	474+74	-	484+95	EAST SHOULDER	264
	487+39	-	490+91	EAST CROSSOVER	221
PROJECT TOTALS					657

CLEANING CULVERT PIPES

STREET	STATION	TO	STATION	LOCATION	520.8700 EACH
STH 165			UNDISTRIBUTED		10
	PROJECT TOTAL				10

3

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

CATEGORY	STREET	STATION	OFFSET	LOCATION	465.0120 TON
0010	STH 165	419+20	LT	DRIVEWAY	10
	PROJECT TOTALS				10

DRIVEWAY CULVERT

STREET	STATION	TO	STATION	LOCATION	521.0118 CULVERT PIPE CORRUGATED STEEL 18-INCH LF	521.1018 APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH EACH
STH 165	419+04	-	419+28	58' LT	24	2
	PROJECT TOTAL				24	2

ASPHALTIC FLUMES

CATEGORY	STREET	STATION	LOCATION	465.0315 SY
0010				
	STH 165	416+07	39' LT	10
	STH 165	447+00	52' LT	6
	PROJECT TOTAL			16

ALL QUANTITIES ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

3

CONCRETE CURB & GUTTER

STAGE	STREET	STATION	TO	STATION	601.0409 30-INCH TYPE A LF	601.0411 30-INCH TYPE D LF	601.0551 4-INCH SLOPED 36-INCH TYPE A LF	601.0553 4-INCH SLOPED 36-INCH TYPE D LF	601.0590 4-INCH SLOPED 36-INCH TYPE TBTT LF
STAGE 1	STH 165	411+34	-	420+00	76	--	--	--	--
	STH 165	420+00	-	433+50	60	--	1,261	--	--
	STH 165	433+50	-	447+50	--	--	1,443	--	--
	STH 165	447+50	-	461+50	--	--	1,182	58	88
	STH 165	461+50	-	475+50	--	--	2,826	--	--
	STH 165	475+50	-	487+24	--	305	2,240	--	--
			STAGE SUBTOTAL		136	305	8,952	58	88
STAGE 2	STH 165	411+34	-	420+00	13	--	--	--	--
	STH 165	420+00	-	433+50	64	--	1,256	--	--
	STH 165	433+50	-	447+50	--	--	1,400	--	--
	STH 165	447+50	-	461+50	--	--	917	55	106
	STH 165	461+50	-	475+50	--	--	1,399	--	--
	STH 165	475+50	-	487+24	--	--	1,076	--	--
			STAGE SUBTOTAL		77	0	6,048	55	106
STAGE 3	STH 165	411+34	-	420+00	524	--	--	--	--
	STH 165	420+00	-	433+50	62	--	--	--	--
	STH 165	433+50	-	447+50	--	--	--	--	--
	STH 165	447+50	-	461+50	--	--	--	--	--
	STH 165	461+50	-	475+50	--	--	--	--	--
	STH 165	475+50	-	487+24	--	--	733	--	--
			STAGE SUBTOTAL		586	0	733	0	0
			PROJECT TOTAL		799	305	15,733	113	194

CONCRETE SIDEWALK 5-INCH

STREET	STATION	TO	STATION	602.0410 SF
STH 165	411+34	-	420+00	2,029
	420+00	-	433+50	527
	433+50	-	447+50	--
	447+50	-	461+50	--
	461+50	-	475+50	--
	475+50	-	490+91	438
PROJECT TOTAL				2,994

CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA

CATEGORY	STREET	602.0515 SF
0010	120TH AVENUE	152
	TERWALL TERRACE	104
	PROJECT TOTAL	256

STORM SEWER SUMMARY

ITEM NUMBER	ITEM	TOTAL	
520.8000	Concrete Collars for Pipe	17	EACH
522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	4	EACH
522.1015	Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	1	EACH
522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	1	EACH
522.1021	Apron Endwalls for Culvert Pipe Reinforced Concrete 21-Inch	1	EACH
524.0612	Apron Endwalls for Culvert Pipe Salvaged 12-Inch	1	EACH
524.0624	Apron Endwalls for Culvert Pipe Salvaged 24-Inch	3	EACH
524.0630	Apron Endwalls for Culvert Pipe Salvaged 30-Inch	3	EACH
608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	979	LF
608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	184	LF
608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	71	LF
608.0321	Storm Sewer Pipe Reinforced Concrete Class III 21-Inch	186	LF
608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	112	LF
608.0330	Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	106	LF
608.0421	Storm Sewer Pipe Reinforced Concrete Class IV 21-Inch	279	LF
611.0530	Manhole Covers Type J	4	EACH
611.0627	Inlet Covers Type HM	35	EACH
611.0636	Inlet Covers Type HM-S	9	EACH
611.0642	Inlet Covers Type MS	15	EACH
611.0654	Inlet Covers Type V	1	EACH
611.1003	Catch Basins 3-FT Diameter	1	EACH
611.1004	Catch Basins 4-FT Diameter	3	EACH
611.1005	Catch Basins 5-FT Diameter	1	EACH
611.1230	Catch Basins 2x3-FT	13	EACH
611.2004	Manholes 4-FT Diameter	5	EACH
611.2005	Manholes 5-FT Diameter	5	EACH
611.3004	Inlets 4-FT Diameter	3	EACH
611.3230	Inlets 2x3-FT	18	EACH
611.3901	Inlets Median 1 Grate	4	EACH
611.3902	Inlets Median 2 Grate	4	EACH
611.3903	Inlets Median 3 Grate	1	EACH

ADJUSTING INLET COVERS

STREET	STRUCTURE NO.	STREET	STATION	LOCATION	611.8115 EACH
STH 165	206	STH 165	448+90	6' RT	1
	207	STH 165	449+23	44' RT	1
	211	STH 165	487+09	8' LT	1
	212	STH 165	487+09	8' RT	1
				PROJECT TOTAL	4

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UNLESS OTHERWISE NOTED

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TEMPORARY STORM SEWER

CATEGORY	STREET	STATION	LOCATION	611.0651 INLET COVER TYPE S EACH	611.8120.S COVER PLATE TEMPORARY EACH
0010	STH 165	417+42	5' RT	--	1
	STH 165	417+42	15' RT	1	--
	STH 165	420+24	9' LT	--	1
	STH 165	420+24	9' RT	1	--
	STH 165	480+69	9' LT	--	1
	STH 165	481+98	9' LT	--	1
	STH 165	482+61	9' RT	--	1
	STH 165	488+88	9' LT	--	1
	STH 165	490+74	10' LT	1	--
	STH 165	490+74	10' RT	1	--
			PROJECT TOTAL	4	6

PIPE UNDERDRAIN

STREET	STATION	TO	STATION	612.0104 4-INCH LF	612.0204 UNPERFORATED 4-INCH LF	612.0106 6-INCH LF	612.0206 UNPERFORATED 6-INCH LF
STH 165	411+34	-	420+00	--	--	257	--
	420+00	-	433+50	234	4	1,290	--
	433+50	-	447+50	293	--	2,391	40
	447+50	-	461+50	--	--	507	--
	461+50	-	475+50	--	--	--	--
	475+50	-	487+24	--	--	--	--
PROJECT TOTAL				527	4	4,445	40

3

SALVAGED INLET COVERS

CATEGORY	STREET	STATION	LOCATION	611.9710 EACH
0010	STH 165	417+42	5' RT	1
	STH 165	417+43	15' RT	1
	STH 165	420+24	9' RT	1
	STH 165	488+88	9' LT	1
	STH 165	490+74	9' RT	1
	STH 165	490+75	9' LT	1
			PROJECT TOTAL	6

DRAIN TILE EXPLORATION

STREET	STATION	TO	STATION	LOCATION	612.0700 LF
STH 165			UNDISTRIBUTED		100
	PROJECT TOTAL				100

STEEL THRIE BEAM AND MGS GUARDRAIL

STREET	STATION	TO	STATION	LOCATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	614.0396 GUARDRAIL MOW STRIP ASPHALT SY	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
STH 165	448+04	-	448+95	4' LT	29	1	25	--	--	--	--
	448+37	-	449+28	45' RT	--	--	--	21	--	21	1
	451+38	-	452+76	54' LT	--	--	--	31	75	21	1
	451+73	-	452+40	4' LT	29	1	17	--	--	--	--
PROJECT TOTAL					58	2	42	53	75	42	2

FENCY SAFETY

STREET	STATION	TO	STATION	616.0700.S LF
STH 165				
	411+34	-	420+00	182
	420+00	-	433+50	466
	433+50	-	447+50	810
	447+50	-	461+50	73
	461+50	-	475+50	--
	475+50	-	487+24	--
	PROJECT TOTAL			1,531

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UNLESS OTHERWISE NOTED

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MOBILIZATION

LOCATION	619.1000 EACH
PROJECT 3738-02-73	0.74
PROJECT TOTAL	0.74

TRAFFIC CONTROL

LOCATION	643.0100 EACH
PROJECT 3738-02-73	1
PROJECT TOTAL	1

3

FIELD OFFICE TYPE D

LOCATION	642.5401 EACH
PROJECT 3738-02-73	1
PROJECT TOTAL	1

CONCRETE MEDIAN SLOPED NOSE

CATEGORY	STREET	620.0300 SF
0010	120TH AVENUE	47
	CORPORATE DRIVE	34
	TERWALL TERRACE	63
	PROJECT TOTAL	143

645.0120 GEOTEXTILE FABRIC TYPE HR

STREET	STATION	TO	STATION	SY
STH 165	411+34	-	487+24	444
PROJECT TOTAL				444

MARKERS CULVERT END

STREET	STATION	TO	STATION	633.5200 EACH
STH 165				
	411+34	-	420+00	2
	420+00	-	433+50	3
	433+50	-	447+50	2
	447+50	-	461+50	1
	461+50	-	475+50	4
	475+50	-	487+24	1
	PROJECT TOTAL			13

GEOTEXTILE FABRIC

STREET	STATION	TO	STATION	645.0140 TYPE SAS SY	645.0111 TYPE DF SCHEDULE A SY
STH 165	411+34	-	420+00	--	214
	420+00	-	433+50	963	1,075
	433+50	-	447+50	3,567	2,026
	447+50	-	461+50	--	423
	461+50	-	475+50	--	--
	475+50	-	487+24	--	--
PROJECT TOTAL				4,530	3,738

ALL QUANTITIES ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

TRAFFIC CONTROL

STAGE	STREET	DAYS	643.0300 TRAFFIC CONTROL DRUMS EACH	643.0300 DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 DAYS	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH	643.0715 DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS EACH	643.0800 DAYS	643.0900 TRAFFIC CONTROL SIGNS EACH	643.0900 DAYS	643.1050 TRAFFIC CONTROL PCMS EACH	643.1050 DAYS
PRESTAGE A	STH 165	5	217	1,085	8	40	0	0	16	80	53	265	2	10	34	170	2	10
PRESTAGE B	STH 165	5	56	280	1	5	0	0	2	10	11	55	0	0	8	40	2	10
STAGE 1	STH 165	211	232	48,952	11	2321	50	50	22	4,642	50	10,550	2	422	56	11,816	2	422
STAGE 2	STH 165	60	189	11,340	9	540	150	150	18	1,080	48	2,880	2	120	52	3,120	2	120
STAGE 3	STH 165	9	255	2,295	14	126	0	0	28	252	21	189	1	9	51	459	2	18
	PROJECT TOTAL			63,952		3,032	200	200		6,064		13,939		561		15,605		580

PAVEMENT MARKING

CATEGORY	STREET	LOCATION			646.0600 REMOVING PAVEMENT MARKINGS LF	646.0106 EPOXY 4-INCH WHITE LF	646.0106 EPOXY 4-INCH YELLOW LF	646.0841.S GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH WHITE LF	646.0843.S GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH WHITE LF	647.0456 CURB EPOXY YELLOW LF	647.0606 ISLAND NOSE EPOXY YELLOW EACH	SPV.0060.06 GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 EACH	SPV.0090.01 GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH LF	SPV.0090.02 GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH LF
1000														
	STH 165	411+34	-	420+00	538	843	--	200	257	79	2	--	365	119
	STH 165	420+00	-	433+50	--	2,700	2,590	663	21	--	--	--	--	--
	STH 165	433+50	-	447+50	--	2,800	2,800	700	--	--	--	--	--	--
	STH 165	447+50	-	461+50	--	2,800	2,800	700	--	--	--	--	--	--
	STH 165	461+50	-	475+50	280	2,803	2,804	700	61	--	--	--	--	--
	STH 165	475+50	-	498+50	2554	2,274	2,069	1,038	840	20	2	--	--	--
	TERWALL TERRACE	20+00	-	22+59	--	--	327	--	127	--	--	2	64	33
				SUBTOTAL	3,371	14,219	13,390	4,001	1,306	99	4	2	429	152
				PROJECT TOTAL	3,371	27,609		4,001	1,306	99	4	2	429	152

TEMPORARY PAVEMENT MARKINGS

STAGE	STREET	649.0400 REMOVABLE TAPE 4-INCH LF	649.0402 PAINT 4-INCH LF	649.0801 REMOVABLE TAPE 8-INCH LF	649.0802 PAINT 8-INCH LF
PRESTAGE A	STH 165	1,186	--	381	--
PRESTAGE B	STH 165	--	--	--	--
STAGE 1	STH 165	582	10,444	--	336
STAGE 2	STH 165	17,049	--	1,090	--
STAGE 3	STH 165	833	--	161	--
PROJECT TOTAL		19,650	10,444	1,632	336

CONSTRUCTION STAKING MAINLINE ITEMS

ITEM	QUANTITY	UNIT	DESCRIPTION	CATEGORY
650.4000	64	EACH	CONSTRUCTION STAKING STORM SEWER	0010
650.4500	7,283	LF	CONSTRUCTION STAKING SUBGRADE	0010
650.5500	418	LF	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	0010
650.6000	1	EACH	CONSTRUCTION STAKING PIPE CULVERTS	0010
650.6500	1	LS	CONSTRUCTION STAKING STRUCTURE LAYOUT (B-30-133)	0010
650.7000	6,703	LF	CONSTRUCTION STAKING CONCRETE PAVEMENT	0010
650.8500	1	LS	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (ID 3738-02-73)	0040
650.9910	1	LS	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (ID 3738-02-73)	0010
650.9920	7,283	LF	CONSTRUCTION STAKING SLOPE STAKES	0010

3

SAWING PAVEMENT

STREET	LOCATION	TO	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
STH 165	411+34	-	420+00	12	1,120
	420+00	-	433+50	--	2,252
	433+50	-	447+50	--	1,097
	447+50	-	461+50	--	1,135
	461+50	-	475+50	--	1,270
	475+50	-	490+90	78	2,476
PROJECT TOTAL				90	9,349

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 EACH
PROJECT 3738-02-73	8
PROJECT TOTAL	8

ALL QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

MOBILIZATIONS EMERGENCY EROSION CONTROL

LOCATION	628.1910 EACH
PROJECT 3738-02-73	16
PROJECT TOTAL	16

3

EROSION CONTROL

STAGE	STREET	STATION	TO	STATION	624.0100 WATER MGAL	628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2004 EROSION MAT CLASS I TYPE B SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.2027 EROSION MAT CLASS II TYPE C SY	628.6005 TURBIDITY BARRIERS SY	628.6505 SOIL STABILIZER TYPE A ACRE	628.6510 SOIL STABILIZER TYPE B ACRE
PRE-STAGE	STH 165	411+34	-	420+00	4	--	--	--	--	--	--	--	--	--
	STH 165	420+00	-	433+50	1	--	--	--	--	--	--	--	--	--
	STH 165	433+50	-	447+50	--	--	--	--	--	--	--	--	--	--
	STH 165	447+50	-	461+50	--	--	--	--	--	--	--	--	--	--
	STH 165	461+50	-	475+50	--	--	--	--	--	--	--	--	--	--
	STH 165	475+50	-	487+24	13	--	--	--	--	--	--	--	--	--
	STH 165	UNDISTRIBUTED			5	--	--	--	--	--	--	--	--	--
		PRE-STAGE TOTAL			23	0	0	0	0	0	0	0	0	0
STAGE 1	STH 165	411+34	-	420+00	12	24	74	74	691	1,185	567	--	--	--
	STH 165	420+00	-	433+50	71	196	1,617	1,617	1,359	1,467	1,266	--	--	--
	STH 165	433+50	-	447+50	129	276	1,628	1,628	2,163	1,663	1,468	--	--	--
	STH 165	447+50	-	461+50	48	48	1,041	1,041	3,998	1,113	850	389	--	--
	STH 165	461+50	-	475+50	47	24	692	692	2,750	784	472	--	--	--
	STH 165	475+50	-	487+24	40	24	485	485	2,818	419	277	--	--	--
	STH 165	UNDISTRIBUTED			87	148	1,384	1,384	3,444	1,657	1,225	97	4	4
		STAGE 1 TOTAL			436	740	6,921	6,921	17,222	8,287	6,125	486	4	4
STAGE 2	STH 165	411+34	-	420+00	--	--	--	--	--	--	--	--	--	--
	STH 165	420+00	-	433+50	9	--	1,252	1,252	--	1,942	--	--	--	--
	STH 165	433+50	-	447+50	10	--	1,400	1,400	--	2,464	--	--	--	--
	STH 165	447+50	-	461+50	8	--	1,133	1,133	--	1,982	--	--	--	--
	STH 165	461+50	-	475+50	10	--	1,378	1,378	--	2,385	--	--	--	--
	STH 165	475+50	-	487+24	12	--	1,169	1,169	--	1,185	--	--	--	--
	STH 165	UNDISTRIBUTED			12	--	1,583	1,583	--	2,489	--	--	1	1
		STAGE 2 TOTAL			62	0	7,915	7,915	0	12,447	0	0	1	1
STAGE 3	STH 165	411+34	-	420+00	1	--	--	--	--	--	--	--	--	--
	STH 165	420+00	-	433+50	--	--	--	--	--	--	--	--	--	--
	STH 165	433+50	-	447+50	--	--	--	--	--	--	--	--	--	--
	STH 165	447+50	-	461+50	--	--	--	--	--	--	--	--	--	--
	STH 165	461+50	-	475+50	--	--	--	--	--	--	--	--	--	--
	STH 165	475+50	-	487+24	--	--	--	--	--	553	--	--	--	--
	STH 165	UNDISTRIBUTED			--	--	--	--	--	138	--	--	--	--
		STAGE 3 TOTAL			1	0	0	0	0	691	0	0	0	0
		PROJECT TOTAL			521	740	14,836	14,836	17,222	21,425	6,125	486	5	5

ALL QUANTITIES ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

EROSION CONTROL

	STREET	STATION	TO	STATION	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7020 INLET PROTECTION TYPE D EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7560 TRACKING PADS EACH	628.7570 ROCK BAGS EACH	631.1100 SOD EROSION CONTROL SY	SPV.0090.03 HEAVY DUTY SILT FENCE LF
PRE-STAGE	STH 165	411+34	-	420+00	2	8	--	--	--	2	--	--	--
	STH 165	420+00	-	433+50	2	4	--	--	--	--	--	--	--
	STH 165	433+50	-	447+50	9	--	--	--	--	--	--	--	--
	STH 165	447+50	-	461+50	3	3	--	--	--	--	--	--	--
	STH 165	461+50	-	475+50	8	--	--	--	--	--	--	--	--
	STH 165	475+50	-	487+24	5	3	1	--	--	2	--	--	--
	STH 165	UNDISTRIBUTED			7	5	0	--	--	1	--	--	--
		PRE-STAGE TOTAL			36	23	1	0	0	5	0	0	0
STAGE 1	STH 165	411+34	-	420+00	1	--	--	80	20	--	--	9	--
	STH 165	420+00	-	433+50	2	--	--	120	--	--	--	--	228
	STH 165	433+50	-	447+50	2	--	--	120	20	--	--	9	413
	STH 165	447+50	-	461+50	2	1	--	60	--	--	260	--	420
	STH 165	461+50	-	475+50	4	1	3	60	70	--	--	--	58
	STH 165	475+50	-	487+24	4	1	2	40	--	--	--	--	--
	STH 165	UNDISTRIBUTED			4	1	1	120	28	--	65	5	280
		STAGE 1 TOTAL			19	4	6	600	138	0	325	23	1,399
STAGE 2	STH 165	411+34	-	420+00	--	--	--	--	--	--	--	--	--
	STH 165	420+00	-	433+50	8	3	5	--	10	--	--	--	--
	STH 165	433+50	-	447+50	11	7	4	--	--	--	--	--	--
	STH 165	447+50	-	461+50	5	5	--	--	--	--	--	--	--
	STH 165	461+50	-	475+50	7	3	2	60	--	--	--	--	--
	STH 165	475+50	-	487+24	7	6	4	--	--	--	--	--	--
	STH 165	UNDISTRIBUTED			10	6	4	15	3	--	--	--	--
		STAGE 2 TOTAL			48	30	19	75	13	0	0	0	0
STAGE 3	STH 165	411+34	-	420+00	--	--	--	--	--	--	--	--	--
	STH 165	420+00	-	433+50	1	1	--	--	--	--	--	--	--
	STH 165	433+50	-	447+50	--	--	--	--	--	--	--	--	--
	STH 165	447+50	-	461+50	--	--	--	--	--	--	--	--	--
	STH 165	461+50	-	475+50	--	--	--	--	--	--	--	--	--
	STH 165	475+50	-	487+24	--	--	--	--	--	--	--	--	--
	STH 165	UNDISTRIBUTED			--	--	--	--	--	--	--	--	--
		STAGE 3 TOTAL			1	1	0	0	0	0	0	0	0
		PROJECT TOTAL			104	57	26	675	150	5	325	23	1,399

BIO-FILTRATION BASIN

STREET	STATION	TO	STATION	SPV.0035.01 ASTM NO. 2 STONE CY	SPV.0035.02 ENGINEERED SOIL FOR BIO-FILTRATION BASINS CY
STH 165	411+34	-	420+00	--	--
	420+00	-	433+50	73	65
	433+50	-	447+50	92	82
	447+50	-	461+50	--	--
	461+50	-	475+50	--	--
	475+50	-	487+24	--	--
PROJECT TOTAL				165	147

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LANDSCAPING

	STREET	STATION	TO	STATION	625.0500 SALVAGED TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0175 SEEDING MIXTURE NO. 75 LB	630.0200 SEEDING TEMPORARY LB	SPV.0120.01 WATER FOR SEEDED AREAS MGAL	SPV.0120.02 WATER FOR BIO-FILTRATION BASINS MGAL
STAGE 1	STH 165	411+34	-	420+00	2,442	2	26	6	99	27	-
	STH 165	420+00	-	433+50	4,091	3	49	9	165	46	10
	STH 165	433+50	-	447+50	5,294	3	56	14	214	59	10
	STH 165	447+50	-	461+50	5,961	3	35	23	224	67	-
	STH 165	461+50	-	475+50	4,005	3	14	20	162	45	-
	STH 165	475+50	-	487+24	3,514	2	44	7	143	39	-
	STH 165	UNDISTRIBUTED			6,327	4	56	20	252	71	5
		STAGE 1 TOTAL			31,634	20	280	98	1,259	354	25
STAGE 2	STH 165	411+34	-	420+00	--	0	0	--	0	--	--
	STH 165	420+00	-	433+50	1,942	1	35	--	79	22	--
	STH 165	433+50	-	447+50	2,464	2	44	--	100	28	--
	STH 165	447+50	-	461+50	1,982	1	36	--	80	22	--
	STH 165	461+50	-	475+50	2,385	2	43	--	97	27	--
	STH 165	475+50	-	487+24	1,185	1	21	--	48	13	--
	STH 165	UNDISTRIBUTED			2,489	2	45	0	101	28	--
		STAGE 2 TOTAL			12,447	8	224	0	504	140	0
STAGE 3	STH 165	411+34	-	420+00	--	--	--	--	--	--	--
	STH 165	420+00	-	433+50	--	--	--	--	--	--	--
	STH 165	433+50	-	447+50	--	--	--	--	--	--	--
	STH 165	447+50	-	461+50	--	--	--	--	--	--	--
	STH 165	461+50	-	475+50	--	--	--	--	--	--	--
	STH 165	475+50	-	487+24	553	0.3	10	--	22	6	--
	STH 165	UNDISTRIBUTED			138	0	2	0	6	2	0
		STAGE 3 TOTAL			691	0	12	0	28	8	0
		PROJECT TOTAL			44,772	28	517	98	1,792	502	25

ADJUSTING WATER VALVE BOX

CATEGORY	STREET	STATION	LOCATION	SPV.0060.03 EACH
0030				
	STH 165	419+39	81' LT	1
	TERWALL TERRACE	21+52	13' RT	1
			PROJECT TOTAL	2

ADJUSTING WATER VALVE MANHOLE

CATEGORY	STRUCTURE NO.	STREET	STATION	LOCATION	SPV.0060.04 EACH
0030		STH 165	451+99	109' LT	1
				PROJECT TOTAL	1

ADJUSTING MANHOLE COVERS

CATEGORY	STREET	STATION	LOCATION	SPV.0060.01 ADJUSTING SANITARY MANHOLES EACH
0030	STH 165	416+98	85' LT	1
			PROJECT TOTAL	1

SPV.0060.05 LANDMARK REFERENCE MONUMENTS SPECIAL

STREET	STATION	OFFSET	EACH
STH 165	480+56.71	0.2' LT	1
PROJECT TOTAL			1

SPV.0105.01 CONCRETE PAVEMENT JOINT LAYOUT

STREET	LS
STH 165	1
PROJECT TOTAL	1

LIGHTING CONTROL CABINET

CATEGORY	DESCRIPTION	STATION	DIRECTION	LOCATION	659.2230 LIGHTING CONTROL CABINETS 240/480 30-INCH EACH	654.0230 CONCRETE CONTROL CABINET BASES TYPE L30 EACH	656.0200.01 ELECTRICAL SERVICE METER BREAKER PEDESTAL STA. 419+27 LS	656.0200.02 ELECTRICAL SERVICE METER BREAKER PEDESTAL STA. 21+31
0040	A	419+26.9	LT	81.3	1	1	1	--
	B	21+30.9	LT	49.2	1	1	--	1
			PROJECT TOTAL		2	2	1	1

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LUMINAIRE AND POLE MOUNTINGS

DESCRIPTION	STATION	DIRECTION	LOCATION	CATEGORY 0040 654.0105 CONCRETE BASES TYPE 5 EACH	CATEGORY 0040 SPV.0060.07 RELOCATING EXISTING SINGLE ARM LIGHTING ASSEMBLY EACH	CATEGORY 0040 SPV.0060.08 TRANSFORMER BASES BREAKAWAY SPECIAL EACH	CATEGORY 0040 SPV.0060.09 LUMINAIRE ARMS SINGLE MEMBER 8-FT SPECIAL EACH	CATEGORY 0040 SPV.0060.10 LED TYPE C LUMINAIRE SPECIAL EACH	CATEGORY 0040 SPV.0060.11 TYPE 5 BLACK POLE EACH
A-1-(1.3)	417+78.2	RT	9.4'	1	0	1	2	2	1
A-2-(1,3)	419+10.2	RT	7.3'	1	0	1	2	2	1
A-3-(2,4)	420+45.1	RT	4.1'	1	0	1	2	2	1
A-4-(2,4)	421+80.0	LT	0.5'	1	0	1	2	2	1
A-5-(2,4)	423+15	LT	2.1'	1	0	1	2	2	1
A-6-(2,4)	424+49.9	LT	3.3'	1	0	1	2	2	1
A-7-(2,4)	425+84.9	LT	4.4'	1	0	1	2	2	1
A-8-(2,4)	427+20.0	LT	5.0'	1	0	1	2	2	1
A-9-(2,4)	428+55.0	LT	5.0'	1	0	1	2	2	1
A-10-(2,4)	429+99.0	LT	5.0'	1	0	1	2	2	1
A-11-(2,4)	431+25.0	LT	5.0'	1	0	1	2	2	1
A-12-(2,4)	432+60.0	LT	5.0'	1	0	1	2	2	1
A-13-(2,4)	433+95	LT	5.0'	1	0	1	2	2	1
A-14-(2,4)	435+30.0	LT	5.0'	1	0	1	2	2	1
A-15-(2,4)	436+65.0	LT	5.0'	1	0	1	2	2	1
A-16-(2,4)	438+00.0	LT	5.0'	1	0	1	2	2	1
A-17-(2,4)	439+35.0	LT	5.0'	1	0	1	2	2	1
A-18-(2,4)	440+70.0	LT	5.0'	1	0	1	2	2	1
A-19-(2,4)	442+05.0	LT	5.0'	1	0	1	2	2	1
A-20-(2,4)	443+40.0	LT	5.0'	1	0	1	2	2	1
A-21-(2,4)	444+75.0	LT	5.0'	1	0	1	2	2	1
A-22-(2,4)	446+10.0	LT	5.0'	1	0	1	2	2	1
A-23-(2,4)	447+45.0	LT	5.0'	1	0	1	2	2	1
A-24-(2,4)	448+80.0	LT	4.0'	1	0	1	2	2	1
B-25-(1,3)	450+03.9	LT	13.5'	1	0	1	2	2	1
B-26-(1,3)	451+75.0	LT	4.0'	1	0	1	2	2	1
B-27-(1,3)	452+85.0	LT	5.0'	1	0	1	2	2	1
B-28-(1,3)	454+20.0	LT	5.0'	1	0	1	2	2	1
B-29-(1,3)	455+55.0	LT	5.0'	1	0	1	2	2	1
B-30-(1,3)	456+90.0	LT	5.0'	1	0	1	2	2	1
			SUBTOTAL	30	0	30	60	60	30

**CONTINUED ON NEXT PAGE

ALL QUANTITIES ARE CATEGORY 0010
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LUMINAIRE AND POLE MOUNTINGS

DESCRIPTION	STATION	DIRECTION	LOCATION	CATEGORY 0040 654.0105 CONCRETE BASES TYPE 5 EACH	CATEGORY 0040 SPV.0060.07 RELOCATING EXISTING LIGHTING ASSEMBLY EACH	CATEGORY 0040 SPV.0060.08 TRANSFORMER BASES BREAKAWAY SPECIAL EACH	CATEGORY 0040 SPV.0060.09 LUMINAIRE ARMS SINGLE MEMBER 8-FT SPECIAL EACH	CATEGORY 0040 SPV.0060.10 LED TYPE C LUMINAIRE SPECIAL EACH	CATEGORY 0040 SPV.0060.11 TYPE 5 BLACK POLE EACH
B-31-(1,3)	458+25.0	LT	5.0'	1	0	1	2	2	1
B-32-(1,3)	459+60.0	LT	5.0'	1	0	1	2	2	1
B-33-(1,3)	460+95.0	LT	5.0'	1	0	1	2	2	1
B-34-(1,3)	462+30.0	LT	5.0'	1	0	1	2	2	1
B-35-(1,3)	463+65.0	LT	5.0'	1	0	1	2	2	1
B-36-(1,3)	465+00.0	LT	5.0'	1	0	1	2	2	1
B-37-(1,3)	466+35.0	LT	8.0'	1	0	1	2	2	1
B-38-(1,3)	467+70.0	LT	8.0'	1	0	1	2	2	1
B-39-(1,3)	469+05.0	LT	8.0'	1	0	1	2	2	1
B-40-(1,3)	470+40.0	LT	8.0'	1	0	1	2	2	1
B-41-(1,3)	471+75.0	LT	8.0'	1	0	1	2	2	1
B-42-(1,3)	473+10.0	LT	8.0'	1	0	1	2	2	1
B-43-(1,3)	474+45.0	LT	7.5'	1	0	1	2	2	1
B-44-(1,3)	475+80.0	LT	9.0'	1	0	1	2	2	1
B-45-(1,3)	477+15.0	LT	9.0'	1	0	1	2	2	1
B-46-(1,3)	478+25.6	LT	8.9'	1	0	1	2	2	1
B-47-(1,3)	479+35.8	LT	9.0'	1	0	1	2	2	1
B-48-(2,4)	480+97.0	LT	7.9'	1	0	1	2	2	1
B-49-(2,4)	482+32.0	LT	6.0'	1	0	1	2	2	1
B-50-(2,4)	483+67.0	LT	4.9'	1	0	1	2	2	1
B-51-(2,4)	485+01.9	LT	4.9'	1	0	1	2	2	1
B-52-(2,4)	486+37.0	LT	3.5'	1	0	1	2	2	1
B-53-(2,4)	488+31.8	LT	0.5'	1	0	1	2	2	1
B-54-(2,4)	490+23.2	LT	0.2'	1	0	1	2	2	1
X-55	21+29.4	LT	29.9'	1	1	0	0	0	0
X-56	21+28.2	RT	35.1'	1	1	0	0	0	0
			SUBTOTAL	26	2	24	48	48	24
			PROJECT TOTAL	56	2	54	108	108	54

ALL QUANTITIES ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

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STREET LIGHTING WIRING AND CONDUIT

DESCRIPTION FROM	STATION	DIRECTION	LOCATION	DESCRIPTION TO	STATION	DIRECTION	LOCATION	CETEGORY 0040 652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	CETEGORY 0040 655.0630 ELECTRICAL WIRE LIGHTING 4 AWG L.F.	CETEGORY 0040 655.0635 ELECTRICAL WIRE LIGHTING 2 AWG L.F.	CETEGORY 0040 655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.
A-1-(1,3)	417+75.2	RT	9.4'	A-2-(1,3)	419+10.2	RT	7.3'	144	588	-	152
A-2-(1,3)	419+10.2	RT	7.3'	CONTROL CABINET "A"	419+26.9	LT	81.3'	114	508	-	152
CONTROL CABINET "A"	419+26.9	LT	81.3'	A-3-(2,4)	420+45.1	RT	4.1'	208	872	-	152
A-3-(2,4)	420+45.1	RT	4.1'	A-4-(2,4)	421+80.0	LT	0.5'	143	584	-	152
A-4-(2,4)	421+80.0	LT	0.5'	A-5-(2,4)	423+15.0	LT	2.1'	144	588	-	152
A-5-(2,4)	423+15.0	LT	2.1'	A-6-(2,4)	424+49.9	LT	3.3'	145	592	-	152
A-6-(2,4)	424+49.9	LT	3.3'	A-7-(2,4)	425+84.9	LT	4.4'	145	592	-	152
A-7-(2,4)	425+84.9	LT	4.4'	A-8-(2,4)	427+20.0	LT	5.0'	146	596	-	152
A-8-(2,4)	427+20.0	LT	5.0'	A-9-(2,4)	428+55.0	LT	5.0'	146	596	-	152
A-9-(2,4)	428+55.0	LT	5.0'	A-10-(2,4)	429+90.0	LT	5.0'	147	600	-	152
A-10-(2,4)	429+90.0	LT	5.0'	A-11-(2,4)	431+25.0	LT	5.0'	147	600	-	152
A-11-(2,4)	431+25.0	LT	5.0'	A-12-(2,4)	432+60.0	LT	5.0'	146	596	-	152
A-12-(2,4)	432+60.0	LT	5.0'	A-13-(2,4)	433+95.0	LT	5.0'	145	592	-	152
A-13-(2,4)	433+95.0	LT	5.0'	A-14-(2,4)	435+30.0	LT	5.0'	147	600	-	152
A-14-(2,4)	435+30.0	LT	5.0'	A-15-(2,4)	436+65.0	LT	5.0'	147	600	-	152
A-15-(2,4)	436+65.0	LT	5.0'	A-16-(2,4)	438+00.0	LT	5.0'	147	600	-	152
A-16-(2,4)	438+00.0	LT	5.0'	A-17-(2,4)	439+35.0	LT	5.0'	148	604	-	152
A-17-(2,4)	439+35.0	LT	5.0'	A-18-(2,4)	440+70.0	LT	5.0'	148	604	-	152
A-18-(2,4)	440+70.0	LT	5.0'	A-19-(2,4)	442+05.0	LT	5.0'	148	604	-	152
A-19-(2,4)	442+05.0	LT	5.0'	A-20-(2,4)	443+40.0	LT	5.0'	148	604	-	152
A-20-(2,4)	443+40.0	LT	5.0'	A-21-(2,4)	444+75.0	LT	5.0'	149	608	-	152
A-21-(2,4)	444+75.0	LT	5.0'	A-22-(2,4)	446+10.0	LT	5.0'	148	604	-	152
A-22-(2,4)	446+10.0	LT	5.0'	A-23-(2,4)	447+45.0	LT	5.0'	149	608	-	152
A-23-(2,4)	447+45.0	LT	5.0'	A-24-(2,4)	448+80.0	LT	4.0'	149	608	-	152
							SUBTOTAL	3,548	14,548	0	3,648

**CONTINUED ON NEXT PAGE

ALL QUANTITIES ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

STREET LIGHTING WIRING AND CONDUIT

DESCRIPTION				DESCRIPTION				CETEGORY 0040 652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	CETEGORY 0040 655.0630 ELECTRICAL WIRE LIGHTING 4 AWG	CETEGORY 0040 655.0635 ELECTRICAL WIRE LIGHTING 2 AWG	CETEGORY 0040 655.0610 ELECTRICAL WIRE LIGHTING 12 AWG
B-25-(1,3)	450+03.9	LT	13.5'	B-27-(1,3)	452+85.0	LT	5.0'	117		1184	152
B-26-(1,3)	451+75.0	LT	4.0'	B-27-(1,3)	452+85.0	LT	5.0'	122		500	152
B-27-(1,3)	452+85.0	LT	5.0'	B-28-(1,3)	454+20.0	LT	5.0'	150		612	152
B-28-(1,3)	454+20.0	LT	5.0'	B-29-(1,3)	455+55.0	LT	5.0'	150		612	152
B-29-(1,3)	455+55.0	LT	5.0'	B-30-(1,3)	456+90.0	LT	5.0'	148		604	152
B-30-(1,3)	456+90.0	LT	5.0'	B-31-(1,3)	458+25.0	LT	5.0'	149		608	152
B-31-(1,3)	458+25.0	LT	5.0'	B-32-(1,3)	459+60.0	LT	5.0'	148		604	152
B-32-(1,3)	459+60.0	LT	5.0'	B-33-(1,3)	460+95.0	LT	5.0'	148		604	152
B-33-(1,3)	460+95.0	LT	5.0'	B-34-(1,3)	462+30.0	LT	5.0'	150		612	152
B-34-(1,3)	462+30.0	LT	5.0'	B-35-(1,3)	463+65.0	LT	5.0'	150		612	152
B-35-(1,3)	463+65.0	LT	5.0'	B-36-(1,3)	465+00.0	LT	5.0'	150		612	152
B-36-(1,3)	465+00.0	LT	5.0'	B-37-(1,3)	466+35.0	LT	8.0'	148		604	152
B-37-(1,3)	466+35.0	LT	8.0'	B-38-(1,3)	467+70.0	LT	8.0'	148		604	152
B-38-(1,3)	467+70.0	LT	8.0'	B-39-(1,3)	469+05.0	LT	8.0'	146		596	152
B-39-(1,3)	469+05.0	LT	8.0'	B-40-(1,3)	470+40.0	LT	8.0'	145		592	152
B-40-(1,3)	470+40.0	LT	8.0'	B-41-(1,3)	471+75.0	LT	8.0'	146		596	152
B-41-(1,3)	471+75.0	LT	8.0'	B-42-(1,3)	473+10.0	LT	8.0'	148		604	152
B-42-(1,3)	473+10.0	LT	8.0'	B-43-(1,3)	474+45.0	LT	7.5'	148		604	152
B-43-(1,3)	474+45.0	LT	7.5'	B-44-(1,3)	475+80.0	LT	9.0'	146		596	152
B-44-(1,3)	475+80.0	LT	9.0'	B-45-(1,3)	477+15.0	LT	9.0'	146		596	152
B-45-(1,3)	477+15.0	LT	9.0'	B-46-(1,3)	478+25.6	LT	8.9'	146		596	152
B-46-(1,3)	478+25.6	LT	8.9'	B-47-(1,3)	479+35.8	LT	9.0'	122		500	152
B-47-(1,3)	479+35.8	LT	9.0'	CONTROL CABINET "B"	21+30.9	LT	49.2'	140		600	152
CONTROL CABINET "B"	21+30.9	LT	49.2'	B-48-(2,4)	480+97.0	LT	7.9'	282	1140		152
B-48-(2,4)	480+97.0	LT	7.9'	B-49-(2,4)	482+32.0	LT	6.0'	146	596		152
B-49-(2,4)	482+32.0	LT	6.0'	B-50-(2,4)	483+67.0	LT	4.9'	146	596		152
B-50-(2,4)	483+67.0	LT	4.9'	B-51-(2,4)	485+01.9	LT	4.9'	144	441		152
B-51-(2,4)	485+01.9	LT	4.9'	B-52-(2,4)	486+37.0	LT	3.5'	144	441		152
B-52-(2,4)	486+37.0	LT	3.5'	B-53-(2,4)	488+31.8	LT	.05'	205	832		152
B-53-(2,4)	488+31.8	LT	.05'	B-54-(2,4)	490+23.2	LT	.02'	204	828		152
							SUBTOTAL	4,582	4,874	14,252	4,560
							PROJECT TOTAL	8,130	19,422	14,252	8,208

INCENTIVE STRENGTH CONCRETE

LOCATION	715.0415 PAVEMENT DOL	CAT 0020 715.0502 FOR STRUCTURES DOL
PROJECT 3738-02-73	8510	6870
PROJECT TOTAL	8510	6870

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1	R6-3(2S)	--	30	x	24	5.000	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
2	R1-1F(3)	--	36	x	36	--	--	7.460	--	--	--	--	MOUNT ON SIGNAL POLE
3	R3-4(2S)	--	24	x	24	4.000	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
4	R4-7(2S)	--	24	x	30	5.000	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
5	R4-7(2S)	--	24	x	30	5.000	--	--	--	1	--	--	--
6	R1-1F(3)	--	36	x	36	--	--	7.460	--	--	--	--	MOUNT ON SIGNAL POLE
7	R1-1F(3)	--	36	x	36	--	--	7.460	--	--	--	--	MOUNT ON SIGNAL POLE
8	M1-94H	120TH AVE	66	x	18	8.250	--	--	--	--	--	--	MOUNT ON MAST ARM
9	R6-2L(2M)	--	30	x	36	7.500	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
10	R2-1(2S)	35 MPH	24	x	30	5.000	--	--	--	1	--	--	--
11	R2-1(2S)	35 MPH	24	x	30	5.000	--	--	--	1	--	--	--
12	R4-7(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
13	R6-2L(2M)	--	30	x	36	7.500	--	--	--	1	--	--	--
14	R4-7(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
15	W3-3(2M)	--	36	x	36	--	9.000	--	--	1	--	--	--
16	W3-3(2M)	--	36	x	36	--	9.000	--	--	1	--	--	--
17	R7-1D(2S)	--	18	x	24	3.000	--	--	--	1	--	--	--
18	R7-1D(2S)	--	18	x	24	3.000	--	--	--	1	--	--	--
19	J4-1(2S)	--	24	x	36	6.000	--	--	--	1	--	--	--
	M3-2	--	24	x	12								
	M1-6	STH 165	24	x	24								
20	R1-1(3)	--	36	x	36	7.460	--	--	--	1	--	--	--
21	R6-3A(2S)	--	30	x	24	5.000	--	--	--	--	--	20	--
22	R1-1(3)	--	36	x	36	7.460	--	--	--	1	--	--	--
23	R5-1(2M)	--	36	x	36	9.000	--	--	--	1	--	--	--
24	R3-7R(3)	--	36	x	36	9.000	--	--	--	--	--	23	BACK OF SIGN #23
25	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
26	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
27	D12-2B(2S)	--	84	x	36	21.000	--	--	--	2	--	--	--
28	R2-1(3)	55 MPH	36	x	48	12.000	--	--	--	1	--	--	--
29	R2-1(3)	55 MPH	36	x	48	12.000	--	--	--	1	--	--	--
30	R2-1(3)	35 MPH	36	x	48	12.000	--	--	--	1	--	--	--
31	R2-1(3)	35 MPH	36	x	48	12.000	--	--	--	1	--	--	--
32	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
33	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
34	W3-5(3)	35 MPH	36	x	36	--	9.000	--	--	1	--	--	--

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING QUANTITIES	SHEET:	E

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
35	W3-5(3)	35 MPH	36	x	36	--	9.000	--	--	1	--	--	--
36	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
37	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
38	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
39	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
40	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
41	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
42	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
43	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
44	I3-1(4)	DES PLAINES RIVER	84	x	36	21.000	--	--	--	2	--	--	--
45	W5-52L(3)	--	18	x	54	--	6.750	--	--	1	--	--	4 FT MOUNTING HEIGHT
46	W5-52R(3)	--	18	x	54	--	6.750	--	--	1	--	--	4 FT MOUNTING HEIGHT
47	W5-52R(3)	--	18	x	54	--	6.750	--	--	1	--	--	4 FT MOUNTING HEIGHT
48	W5-52L(3)	--	18	x	54	--	6.750	--	--	1	--	--	4 FT MOUNTING HEIGHT
49	I3-1(4)	DES PLAINES RIVER	84	x	36	21.000	--	--	--	2	--	--	--
50	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
51	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
52	R3-4B(4)	--	36	x	48	12.000	--	--	--	1	--	--	--
53	R3-4B(4)	--	36	x	48	12.000	--	--	--	--	--	52	BACK OF SIGN #52
54	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
55	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
56	W8-6(MOD)	WILDLIFE CROSSING	--	x	--	--	--	--	1	--	1	--	--
57	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
58	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
59	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
60	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
61	D1-1	[A] TERWALL TER	102	x	21	14.875	--	--	--	2	--	--	--
62	D1-1	[A] TERWALL TER	102	x	21	14.875	--	--	--	2	--	--	--
63	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
64	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
65	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
66	R7-1D(2M)	--	24	x	30	5.000	--	--	--	1	--	--	--
67	R1-1(3)	--	36	x	36	7.460	--	--	--	1	--	--	--
68	R6-3A(2M)	--	30	x	24	5.000	--	--	--	--	--	67	--
69	R1-1(2S)	--	30	x	30	5.180	--	--	--	1	--	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
70	R4-7(3)	--	36 x 48	12.000	--	--	--	1	--	--	--
71	R4-7(3)	--	36 x 48	12.000	--	--	--	1	--	--	--
72	R6-2L(2M)	--	30 x 36	7.500	--	--	--	1	--	--	--
73	R5-1(3)	--	36 x 36	9.000	--	--	--	1	--	--	--
74	R5-1A(3)	--	42 x 30	8.750	--	--	--	1	--	--	--
75	R7-1D(2M)	--	24 x 30	5.000	--	--	--	1	--	--	--
76	R4-4(2M)	--	36 x 30	7.500	--	--	--	1	--	--	--
77	D1-1	TERWALL TER [A]	102 x 21	14.875	--	--	--	2	--	--	--
78	D1-1	TERWALL TER [A]	102 x 21	14.875	--	--	--	2	--	--	--
79	R4-7(3)	--	36 x 48	12.000	--	--	--	1	--	--	SHEET 8 OF 13
80	R4-7(3)	--	36 x 48	12.000	--	--	--	1	--	--	SHEET 8 OF 13
81	W8-6(MOD)	WILDLIFE CROSSING	36 x 36	--	9.000	--	--	1	--	--	SHEET 9 OF 13
82	--	PATH ENDS AHEAD	18 x 24	--	3.000	--	--	1	--	--	SHEET 1 OF 13
83	--	PATH ENDS AHEAD	18 x 24	--	3.000	--	--	1	--	--	SHEET 12 OF 13
TOTALS				530.060	78.000	22.380	1 *	77	1		

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TYPE II SIGN REMOVAL CATEGORY 0010 **3738-02-73 STH 165**

SIGN NO.	SIGN CODE	SIGN MESSAGE	**638.2602** REM SIGNS TYPE II [EA]	**638.3000** REM SMALL SIGN SUP [EA]	REMARKS / SIGN LOCATION
1R	R6-3	--	1	--	REMOVE FROM SIGNAL POLE
	R1-1F	--	--	--	REMOVE FROM SIGNAL POLE
	R3-4	--	--	--	REMOVE FROM SIGNAL POLE
	R4-7	--	--	--	REMOVE FROM SIGNAL POLE
2R-4R	*NOT USED*	--	--	--	--
5R	R1-1F	--	1	--	REMOVE FROM SIGNAL POLE
6R	R1-1F	--	1	--	REMOVE FROM SIGNAL POLE
	R4-7	--	--	--	REMOVE FROM SIGNAL POLE
7R	D12-2A	--	1	2	SHEET 2 OF 13
8R	R4-7	--	1	1	--
9R	R3-7R	--	1	1	--
10R	R1-1	--	1	1	--
11R	R1-1	--	1	1	--
	R6-3A	--	--	--	--
12R	J4-1	--	1	1	REMOVE EXISTING ASSEMBLY
13R	W9-2R	--	1	1	--
14R	R7-1D	--	1	1	--
15R	W6-2	--	1	1	--
16R	W3-3	--	1	1	--
17R	W3-3	--	1	1	--
18R	R7-1D	--	1	1	--
19R	W4-2L	--	1	1	--
20R	W12-1	--	1	1	--
21R	W12-1	--	1	1	--
22R	R2-1	--	1	1	--
	R5-1A	--	--	--	--
23R	W12-1	--	1	1	--
24R	W12-1	--	1	1	--
25R	W12-1	--	1	1	--
	W12-1	--	--	--	--

TYPE II SIGN REMOVAL CATEGORY 0010 **3738-02-73 STH 165**

SIGN NO.	SIGN CODE	SIGN MESSAGE	**638.2602** REM SIGNS TYPE II [EA]	**638.3000** REM SMALL SIGN SUP [EA]	REMARKS / SIGN LOCATION
26R	R2-1	--	1	1	--
27R	W12-1	--	1	1	--
	W12-1	--	--	--	--
28R	R5-1	--	1	1	--
29R	R4-7	--	1	1	--
	W5-52L	--	--	--	--
30R	W3-5	--	1	1	--
31R	W6-1	--	1	1	--
32R	W14-3	--	1	1	--
33R	R7-1	--	1	1	--
34R	R7-1	--	1	1	--
35R	R7-1	--	1	1	--
36R	R7-1	--	1	1	--
37R	R7-1	--	1	1	--
38R	R7-1	--	1	1	--
39R	W5-52R	--	1	1	--
40R	W14-3	--	1	1	--
41R	W5-52L	--	1	1	--
42R	W5-52R	--	1	1	--
43R	W5-52L	--	1	1	--
44R	R7-1	--	1	1	--
45R	R7-1	--	1	1	--
46R	R7-1	--	1	1	--
47R	R7-1D	--	1	1	--
48R	R7-1D	--	1	1	--
49R	R7-1D	--	1	1	--
50R	W6-1	--	1	1	--
51R	W6-3	--	1	1	--
52R	R5-1	--	1	1	--
53R	R4-7	--	1	1	--

3

TYPE II SIGN REMOVAL CATEGORY 0010 **3738-02-73 STH 165**

SIGN NO.	SIGN CODE	SIGN MESSAGE	**638.2602** REM SIGNS TYPE II [EA]	**638.3000** REM SMALL SIGN SUP [EA]	REMARKS / SIGN LOCATION
54R	R7-1	--	1	1	--
55R	R5-1A	--	1	1	--
56R	R7-1D	--	1	1	--
57R	R7-1D	--	1	1	--
58R	R7-1	--	1	1	--
59R	W6-2	--	1	1	--
60R	W6-2	--	1	1	--
61R	R7-1D	--	1	1	--
62R	R4-7	--	1	1	--
63R	R4-7	--	1	1	--
64R	R1-1	--	1	1	--
65R	R1-1	--	1	1	--
66R	R7-1	--	1	1	--
67R	R7-1D	--	1	1	--
68R	W4-2L	--	1	1	--
69R	W4-2L	--	1	1	--
70R	R7-1D	--	1	1	--
71R	R7-1	--	1	1	--
72R	R7-1D	--	1	1	--
73R	W9-2R	--	1	1	--
74R	W9-2R	--	1	1	--
75R	R2-1	--	1	1	--
76R	R2-1	--	1	1	--
	TOTALS		73	71 *	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CURVE 1 - STH 165
PI STA = 416+14.06
Y = 111890.81
X = 596141.66
DELTA = 16°23'04"
D = 2°00'00"
T = 412.43'
L = 819.22'
R = 2864.79'
PC STA = 412+01.63
PT STA = 420+20.85
SE = 3.8%

CURVE 1 - WB PGL
PI STA = 116+48.96
Y = 111919.22
X = 596178.74
DELTA = 16°22'19"
D = 2°21'46"
T = 348.84'
L = 692.93'
R = 2425.00'
PC STA = 113+00.12
PT STA = 119+93.05
SE = 3.8%

BP: 105+26.45WB
Y = 111,939.28
X = 595,056.34

PI: 405+28.02

BP: 105+41.25

CAUTION
CP 502

EX. R/W

WB PGL

S88° 48' 33"E
773.67'

S88° 48' 28"E
673.61'

PC: 112+79.03

PC: 113+00.12WB
Y = 111,923.41
X = 595,829.80

PC: 412+01.63

FRONTIER

MIDWEST FIBER NETWORK

WE ENERGIES ELECTRIC
AT&T CORP
TIME WARNER CABLE

CURVE 1 WB PGL
CURVE 1 STH 165

SLOPE INTERCEPT (TYP.) R STH 165

CP 503

WE ENERGIES GAS

WISPARK LLC

STA. 419+16, 58' LT
24' - 18" CSCP WITH
APRON ENDWALLS
W INV. EL. 679.26
E. INV. EL. 678.85

LAKEVIEW CORPORATE PARK ASSOCIATION

VILLAGE OF PLEASANT PRAIRIE

PT: 119+49.68
Y = 111,963.53
X = 596,514.99

BWM

STA. 120+00 WB

MATCHLINE STA. 120+00 WB

SLOPE INTERCEPT (TYP.)

10411 CORPORATE DRIVE LLC

OMA LLC

CORPORATE DRIVE

STH 165

NO.	STATION	OFFSET	DESCRIPTION	ELEVATION
10093	401+60.43	56.1' RT	BM-4 ALUMINUM DISK	731.67

END CONSTRUCTION 3738-06-60
BEGIN PROJECT 3738-02-73
STA. 416+00.00 = STA. 115+95.53 WB PGL
Y = 111,918.78
X = 596,126.90

EXISTING PROFILE ALONG WB PGL

EXISTING ELEVATION ALONG WB PGL (TYP.)

LEFT DITCH PROFILE (TYP.)

STA. 116+10.00
EL 684.28

STA. 117+63.00
EL 681.14

-2.09%

-1.76%

710
700
690
680
675

721.85 720.32 718.57 716.50 714.21 711.91 709.66 707.39 705.13 702.86 700.68 698.65 696.81 695.27 693.97 692.76 691.54 690.34 689.19 688.16 687.28 686.47 685.61 684.84 684.04 683.30 682.50 681.81 681.24

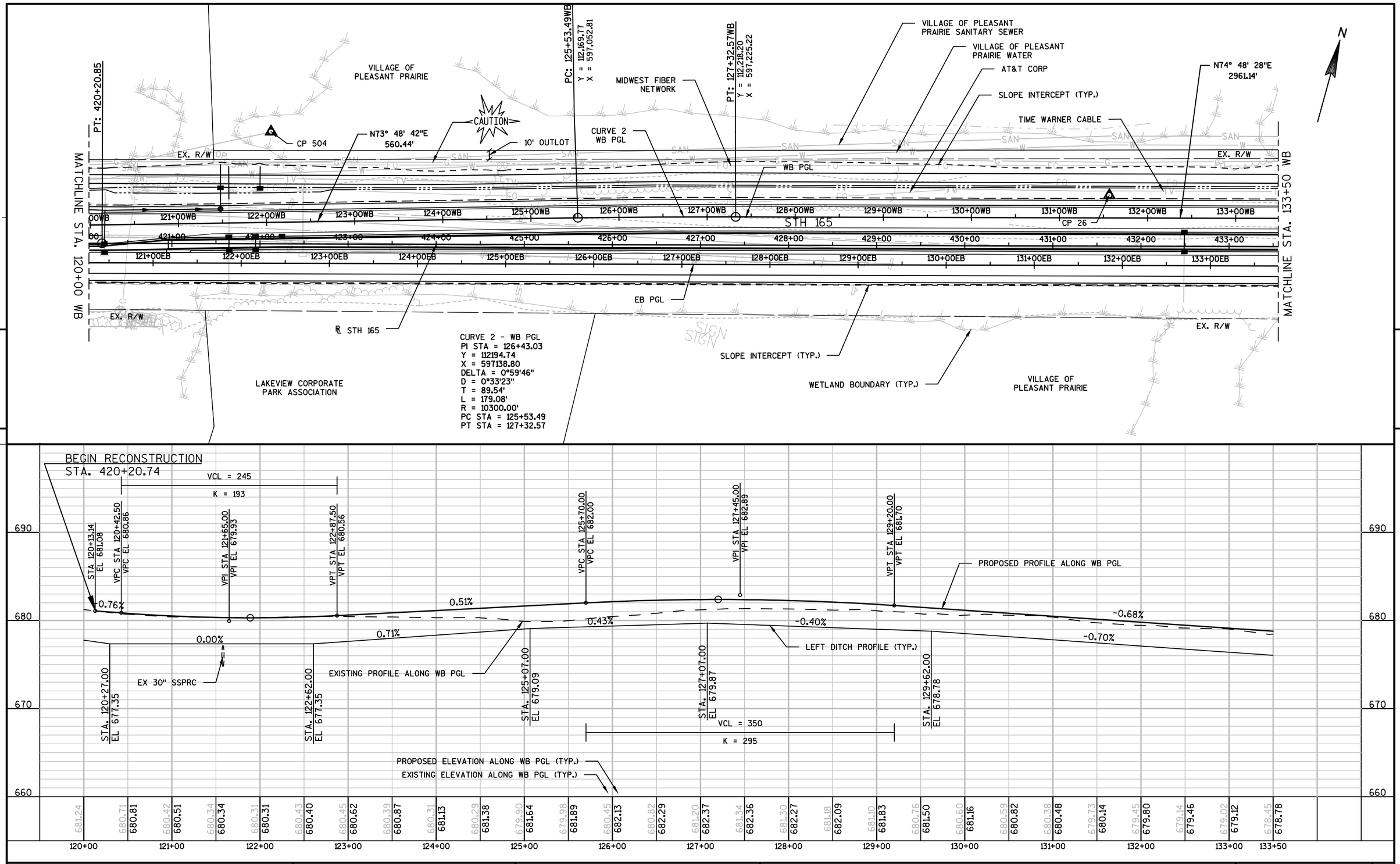
106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00 116+00 117+00 118+00 119+00 120+00

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN & PROFILE - STH 165 WB PGL	SHEET 205 E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050101_PP - 050101

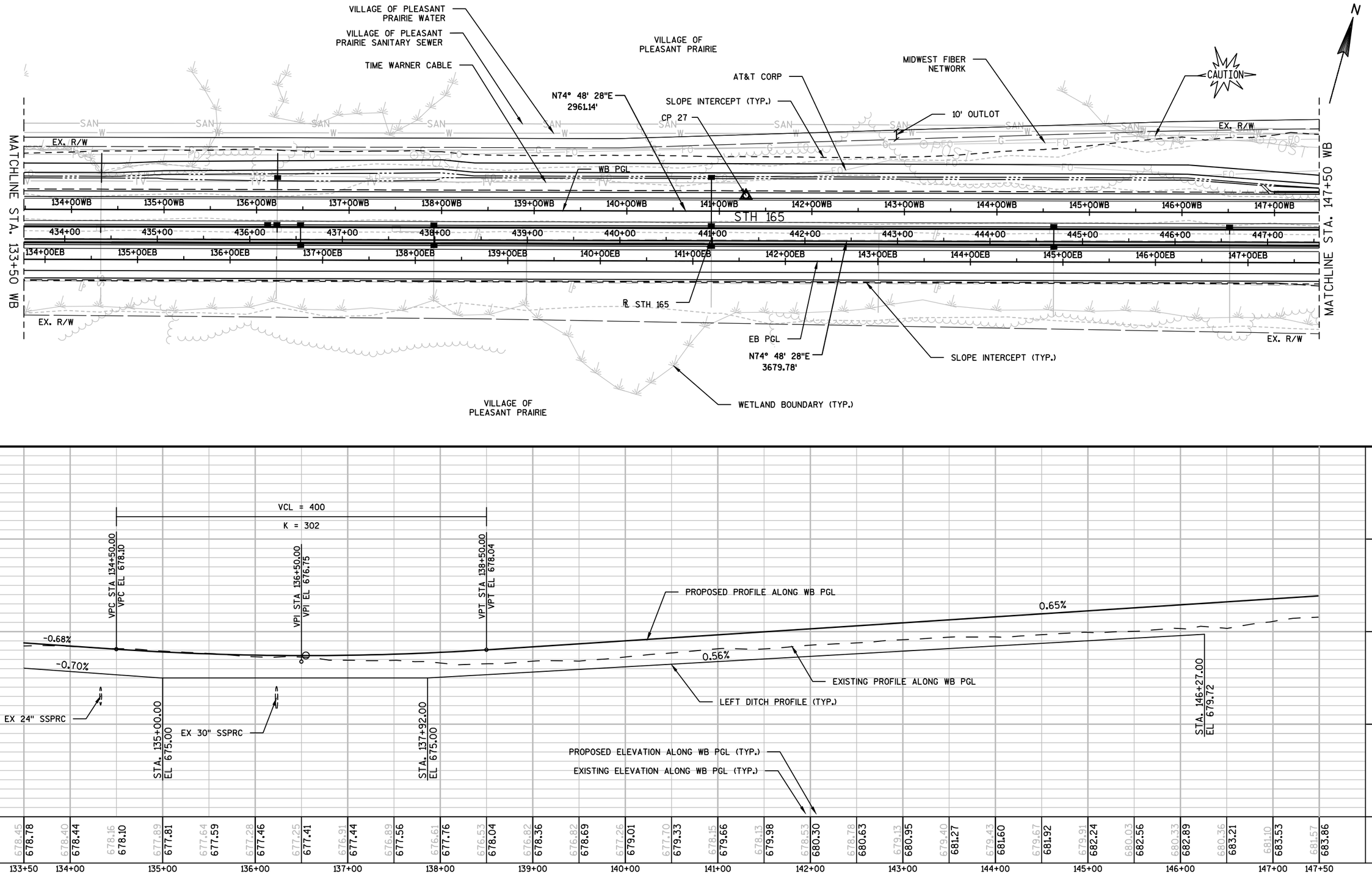
PLOT DATE : 2/25/2016 2:19 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 44

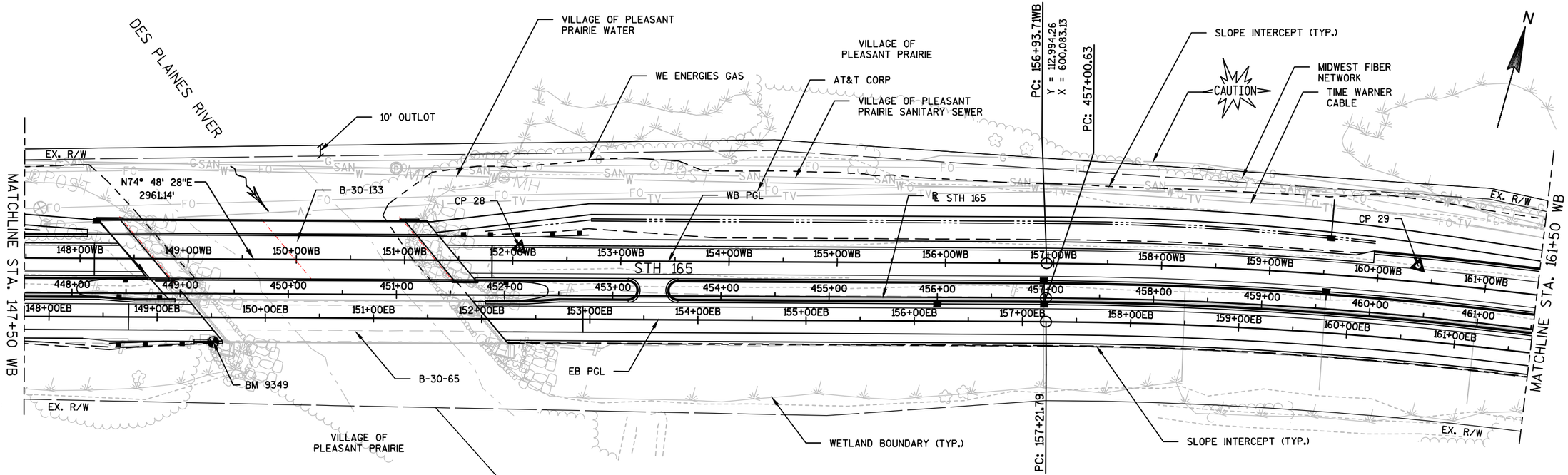


PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN & PROFILE - STH 165 WB PGL	SHEET 206	E

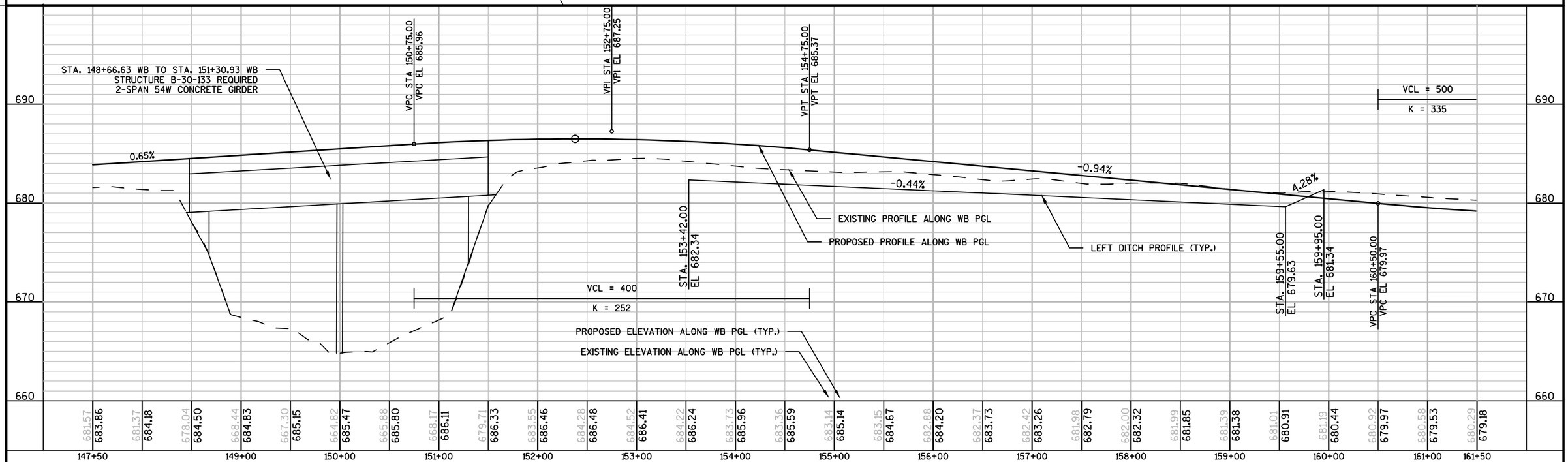
FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050101_PP - 050102
PLOT DATE : 2/25/2016 2:19 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 44



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN & PROFILE - STH 165 WB PGL	SHEET 207 E



NO.	STATION	OFFSET	DESCRIPTION	ELEVATION
9349	449+30.83	44.8' RT	BM-3 ALUMINUM DISK	685.94

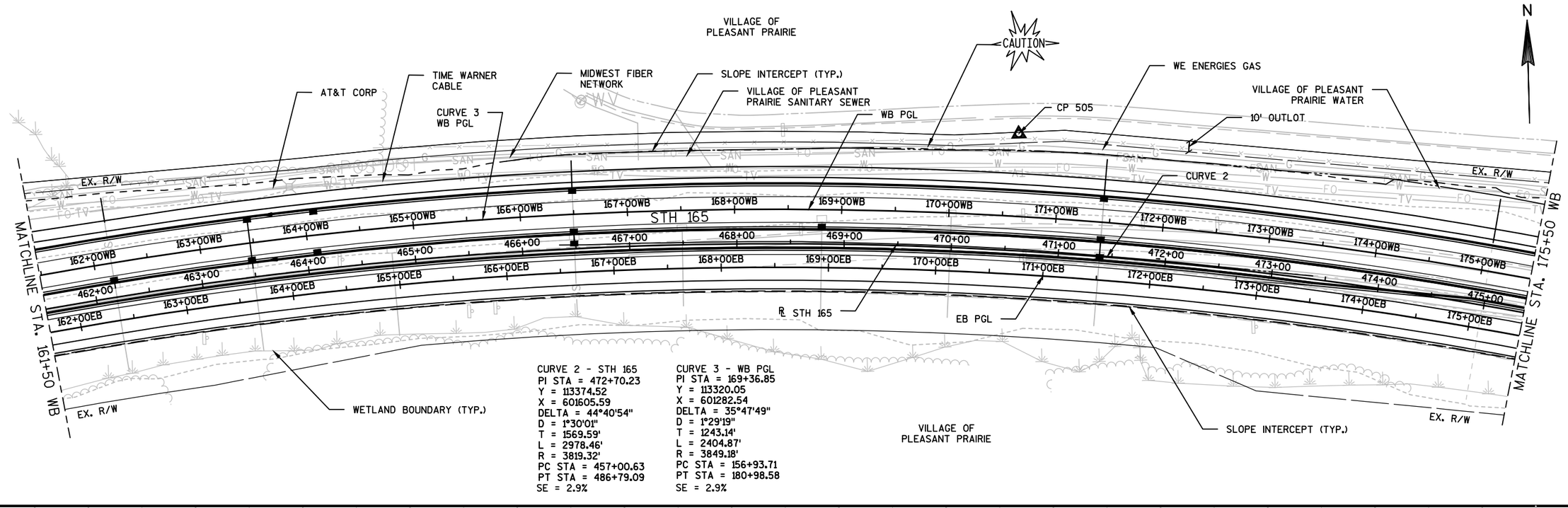


PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN & PROFILE - STH 165 WB PGL	SHEET	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050101_PP - 050104

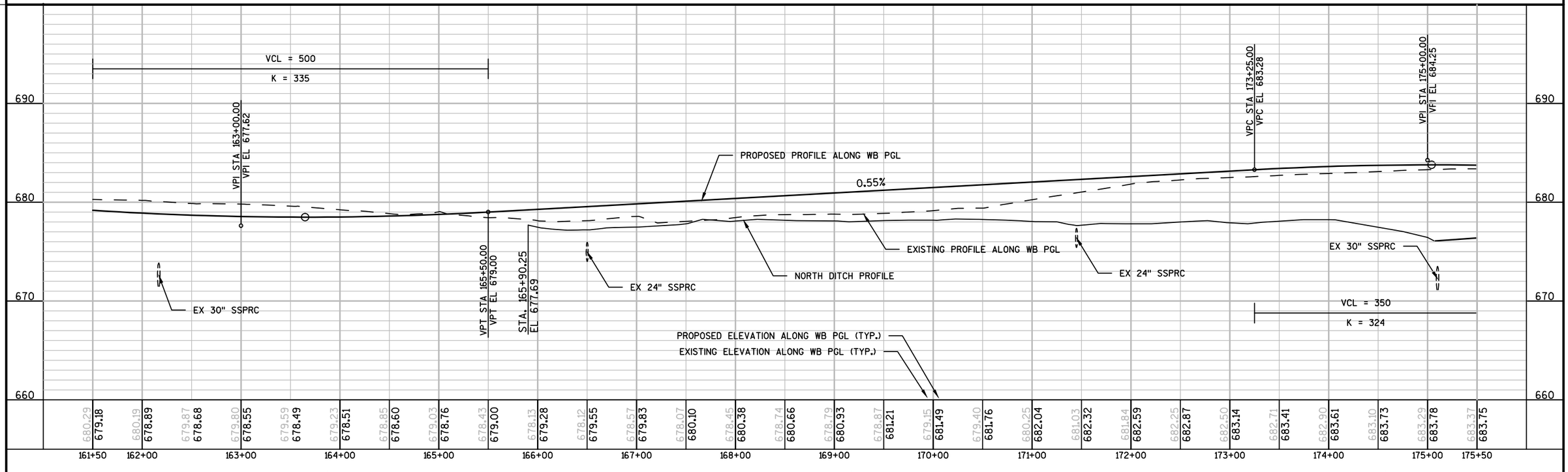
PLOT DATE : 2/25/2016 2:20 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 44



CURVE 2 - STH 165
PI STA = 472+70.23
Y = 113374.52
X = 601605.59
DELTA = 44°40'54"
D = 1°30'01"
T = 1569.59'
L = 2978.46'
R = 3819.32'
PC STA = 457+00.63
PT STA = 486+79.09
SE = 2.9%

CURVE 3 - WB PGL
PI STA = 169+36.85
Y = 113320.05
X = 601282.54
DELTA = 35°47'49"
D = 1°29'19"
T = 1243.14'
L = 2404.87'
R = 3849.18'
PC STA = 156+93.71
PT STA = 180+98.58
SE = 2.9%



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN & PROFILE - STH 165 WB PGL	SHEET 209 E

VILLAGE OF PLEASANT PRAIRIE

BP: 22+49.88

WE ENERGIES GAS
AT&T CORP
TIME WARNER CABLE
VILLAGE OF PLEASANT PRAIRIE WATER
CP 506
EX. R/W
22+00
21+00
TERMALL TERRACE
EX. R/W
PCC: 180+98.58WB
Y = 112,882.65
X = 602,446.19
AT&T WISCONSIN
CP 507
WE ENERGIES ELECTRIC
SLOPE INTERCEPT (TYP.)
MIDWEST FIBER NETWORK
VILLAGE OF PLEASANT PRAIRIE
CAUTION
10' OUTLOT
CURVE 4 - WB PGL
PI STA = 184+06.11
Y = 112770.85
X = 602732.67
DELTA = 9°32'39"
D = 1°33'19"
T = 307.53'
L = 613.63'
R = 3683.77'
PC STA = 180+98.58
PT STA = 187+12.21
SE = 2.9%
PT: 187+12.21WB
Y = 112,613.09
X = 602,396.65
EP: 190+03.27WB
Y = 112,469.76
X = 603,249.97
N
EX. R/W
WB PGL
CURVE 4 WB PGL
MATCHLINE STA. 175+50 WB
176+00WB 177+00WB 178+00WB 179+00WB 180+00WB 181+00WB 182+00WB 183+00WB 184+00WB 185+00WB 186+00WB 187+00WB 188+00WB 189+00WB 190+00WB
180+00 481+00 482+00 483+00 484+00 485+00 486+00 487+00 488+00 489+00 490+00
476+00 477+00 478+00 479+00
176+00EB 177+00EB 178+00EB 179+00EB 180+00EB 181+00EB 182+00EB 183+00EB 184+00EB 185+00EB 186+00EB 187+00EB 188+00EB 189+00EB 189+92EB
STH 165
S60° 29' 54"E
291.06'
S60° 30' 38"E
1404.82'
EB PGL
SLOPE INTERCEPT (TYP.)
℄ STH 165
STA. 180+04.46 WB =
STA.20+32.14 TERWALL
BP: 20+00.00
STA. 20+00 = STA. 479+89.73
VILLAGE OF PLEASANT PRAIRIE
WETLAND BOUNDARY (TYP.)
PT: 486+79.09
PT: 186+87.33
EP: 189+91.50
END PROJECT 3738-02-73
BEGIN CONSTRUCTION 3738-06-60
STA. 487+24 = STA. 187+41.04 WB

NO.	STATION	OFFSET	DESCRIPTION	ELEVATION
757	498+56.51	44.5' LT	BM-5 ALUMINUM DISK	713.57

VCL = 400
K = 143
VPT STA 176+75.00
VPT EL 683.33
PROPOSED PROFILE ALONG WB PGL
-0.53%
NORTH DITCH PROFILE
VPI STA 184+50.00
VPI EL 679.24
2.27%
STA. 178+06.51
EL 678.42
EXISTING PROFILE ALONG WB PGL
VPC STA 182+50.00
VPC EL 680.29
EX 24" SSPRC
VPT STA 186+50.00
VPT EL 683.78
STA 187+50.00
EL 686.06
VCL = 350
K = 324
PROPOSED ELEVATION ALONG WB PGL (TYP.)
EXISTING ELEVATION ALONG WB PGL (TYP.)

690 680 670 660

683.37 683.75 | 683.32 683.64 | 683.15 683.45 | 682.86 683.20 | 682.58 682.93 | 682.31 682.67 | 682.02 682.40 | 681.76 682.14 | 681.49 681.88 | 681.22 681.61 | 680.93 681.35 | 680.62 681.09 | 680.35 680.82 | 680.13 680.56 | 680.00 680.29 | 679.97 680.12 | 680.15 680.12 | 680.39 680.29 | 680.79 680.64 | 681.34 681.16 | 682.08 681.86 | 682.97 682.74 | 683.91 683.78 | 684.99 684.92 | 686.16 686.06 | 687.37 | 688.59 | 689.83

175+50 177+00 178+00 179+00 180+00 181+00 182+00 183+00 184+00 185+00 186+00 187+00 188+00 189+00

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN & PROFILE - STH 165 WB PGL	SHEET 210	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050101_PP - 050106
PLOT DATE : 2/25/2016 2:21 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1:100_XREF

CURVE 1 - STH 165
PI STA = 416+14.06
Y = 111890.808
X = 596141.658
DELTA = 16°23'04"
D = 2°00'00"
T = 412.43'
L = 819.22'
R = 2864.79'
PC STA = 412+01.63
PT STA = 420+20.85
SE = 3.8%

CURVE 1 - EB PGL
PI STA = 116+16.66
Y = 111864.983
X = 596130.503
DELTA = 16°23'35"
D = 2°26'40"
T = 337.63'
L = 670.64'
R = 2344.00'
PC STA = 112+79.03
PT STA = 119+49.68
SE = 3.8%

N

CAUTION

120TH AVENUE

EX. R/W

WISPARK LLC

STA. 419+16, 58' LT
24' - 18" CSCP WITH
APRON ENDWALLS

LAKEVIEW CORPORATE
PARK ASSOCIATION

VILLAGE OF
PLEASANT PRAIRIE

SLOPE INTERCEPT (TYP.)

WE ENERGIES
GAS

TIME WARNER
CABLE
AT&T CORP

WE ENERGIES
ELECTRIC

℄ STH 165

PC: 412+01.63

PC: 113+00.12

BP: 105+26.45

105+26WB 106+00WB 107+00WB 108+00WB 109+00WB 110+00WB 111+00WB 112+00WB 113+00WB 114+00WB 115+00WB 116+00WB 117+00WB 118+00WB 119+00WB

406+00 407+00 408+00 409+00 410+00 411+00 412+00 413+00 414+00 415+00 416+00 417+00 418+00 419+00 120+00 EB

105+41EB 106+00EB 107+00EB 108+00EB 109+00EB 110+00EB 111+00EB 112+00EB 113+00EB 114+00EB 115+00EB 116+00EB 117+00EB 118+00EB 119+00EB

MATCHLINE STA. 120+00 EB

EX. R/W

STH 165

EX. R/W

S88° 48' 28"E
673.61'

S88° 47' 57"E
737.78'

CURVE 1
EB PGL

CURVE 1

SLOPE INTERCEPT (TYP.)

FRONTIER

MIDWEST FIBER
NETWORK

EX. R/W

CORPORATE DRIVE

10411 CORPORATE
DRIVE LLC

OMA LLC

PI: 405+28.02

BP: 105+41.25EB
Y = 111,887.44
X = 595,055.41

PC: 112+79.03EB
Y = 111,872.06
X = 595,792.95

PT: 119+49.68EB
Y = 111,953.46
X = 596,456.33

END CONSTRUCTION 3738-06-60
BEGIN PROJECT 3738-02-73
STA. 416+00.00 = STA. 116+16.95 EB
Y = 111,918.78
X = 596,126.90

EXISTING PROFILE ALONG EB PGL

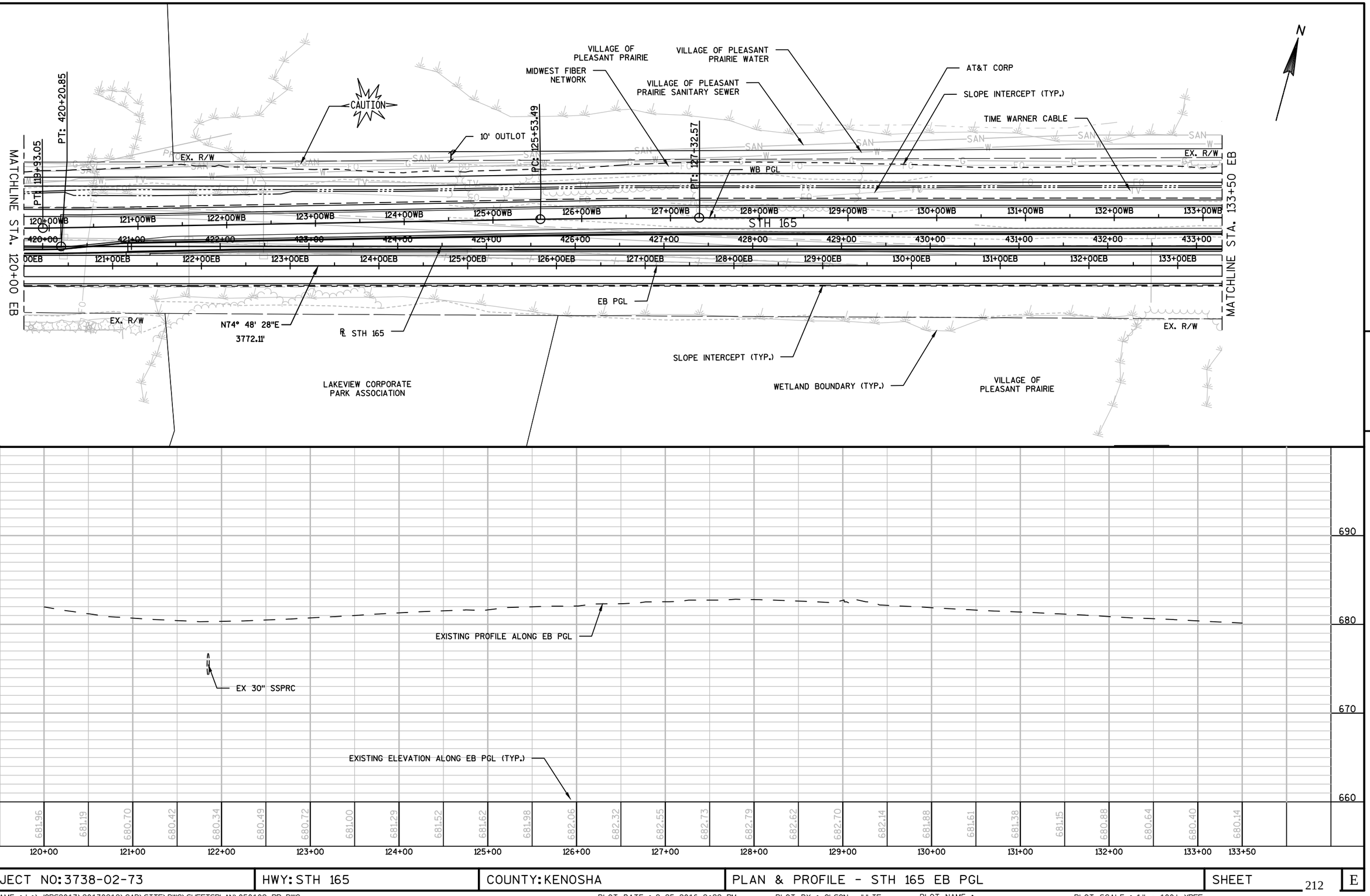
EXISTING ELEVATION ALONG EB PGL (TYP.)

710
700
690
680

723.37 722.22 720.75 719.06 717.01 714.75 712.54 710.28 708.04 705.78 703.47 701.28 699.31 697.64 696.16 695.01 693.90 692.81 691.75 690.67 689.68 688.74 687.80 686.95 686.18 685.39 684.60 683.74 682.84 681.96

105+50 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00 116+00 117+00 118+00 119+00 120+00

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN & PROFILE - STH 165 EB PGL	SHEET 211 E

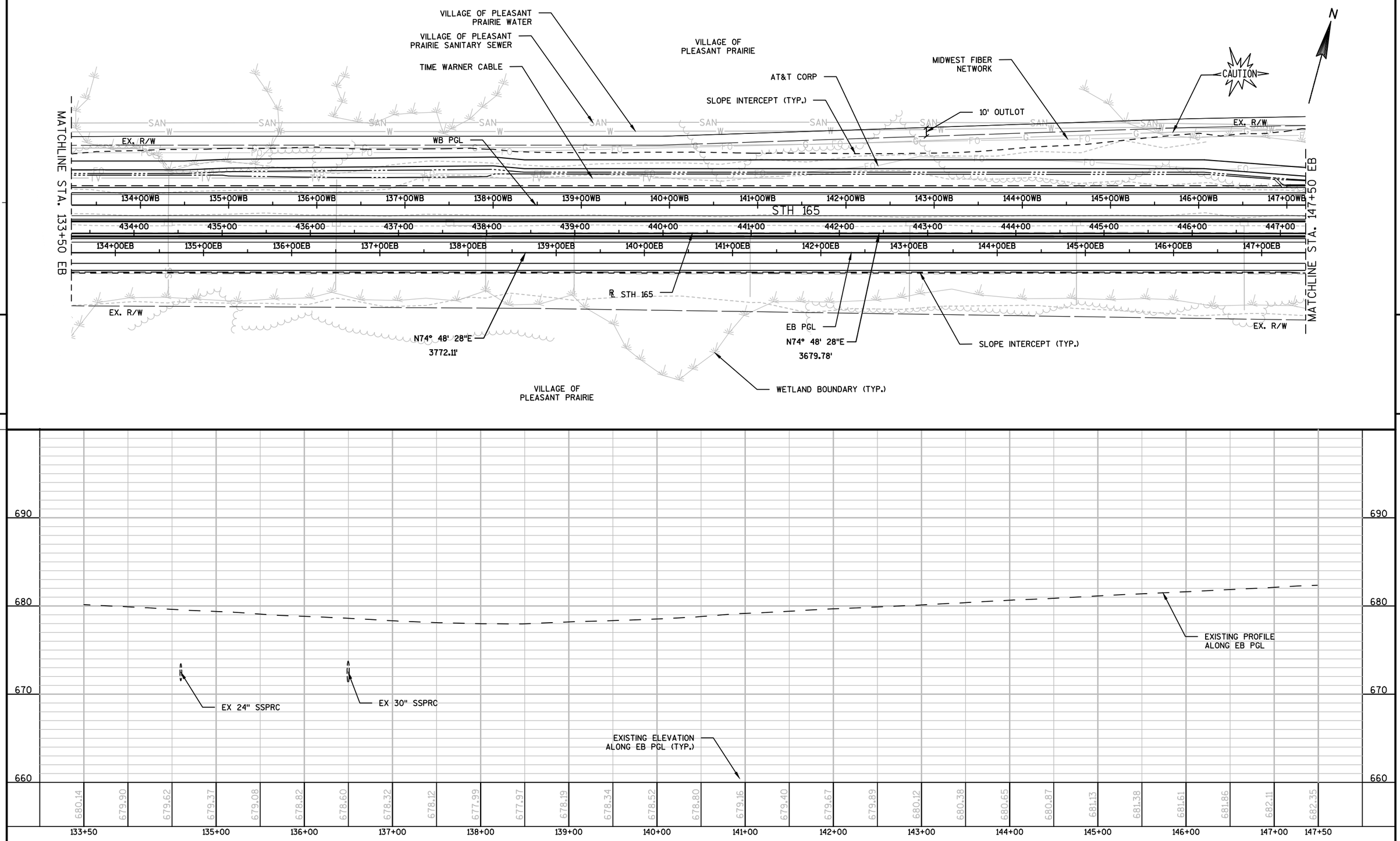


PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN & PROFILE - STH 165 EB PGL	SHEET 212	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\050102_PP.DWG
LAYOUT NAME - 050102_PP - 050108

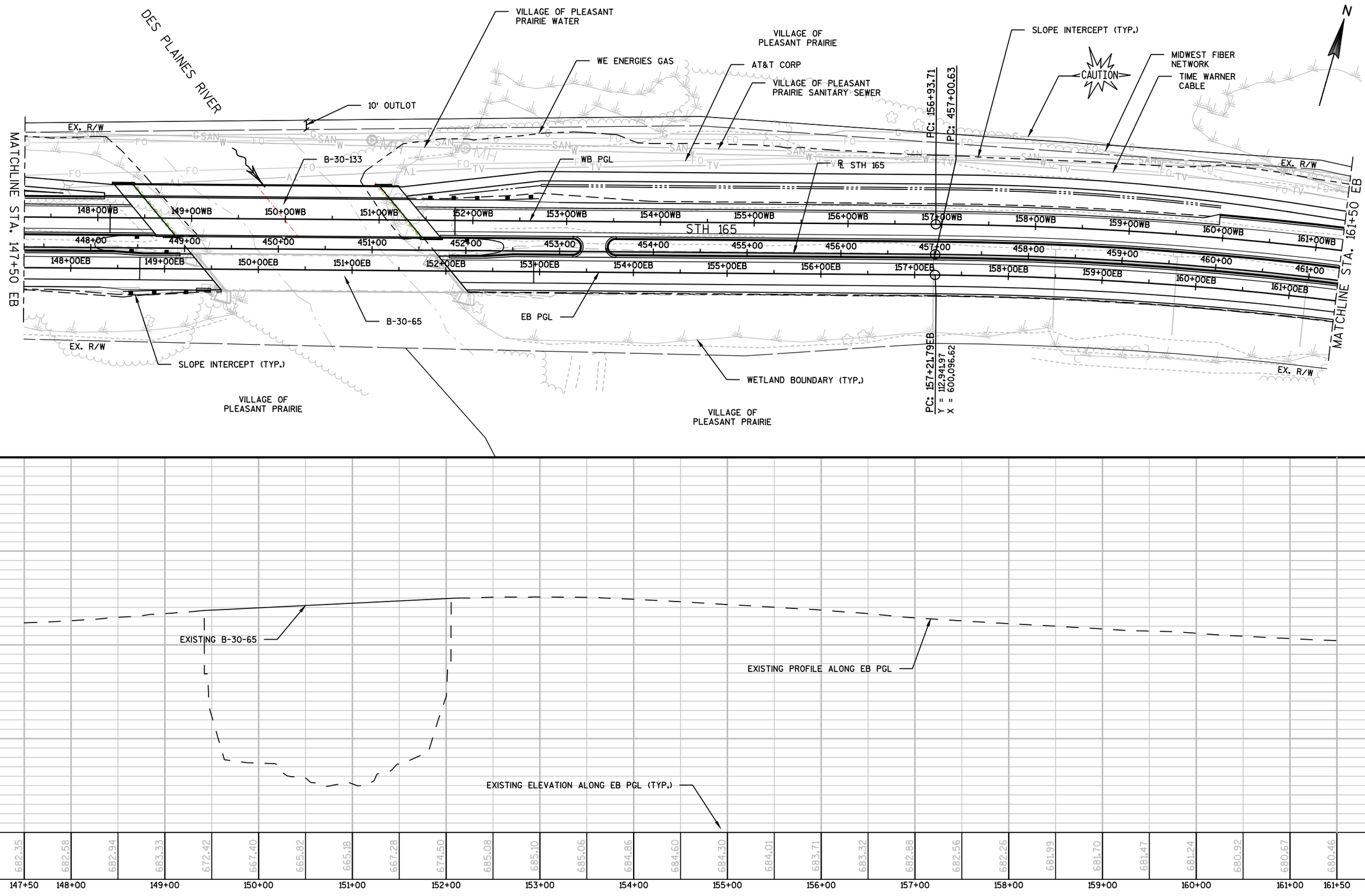
PLOT DATE : 2/25/2016 2:22 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 100'_XREF

WISDOT/CADDS SHEET 44



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN & PROFILE - STH 165 EB PGL	SHEET 213 E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\050102_PP.DWG
LAYOUT NAME - 050102_PP - 050109
PLOT DATE : 2/25/2016 2:23 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 100'_XREF
WISDOT/CADDS SHEET 44

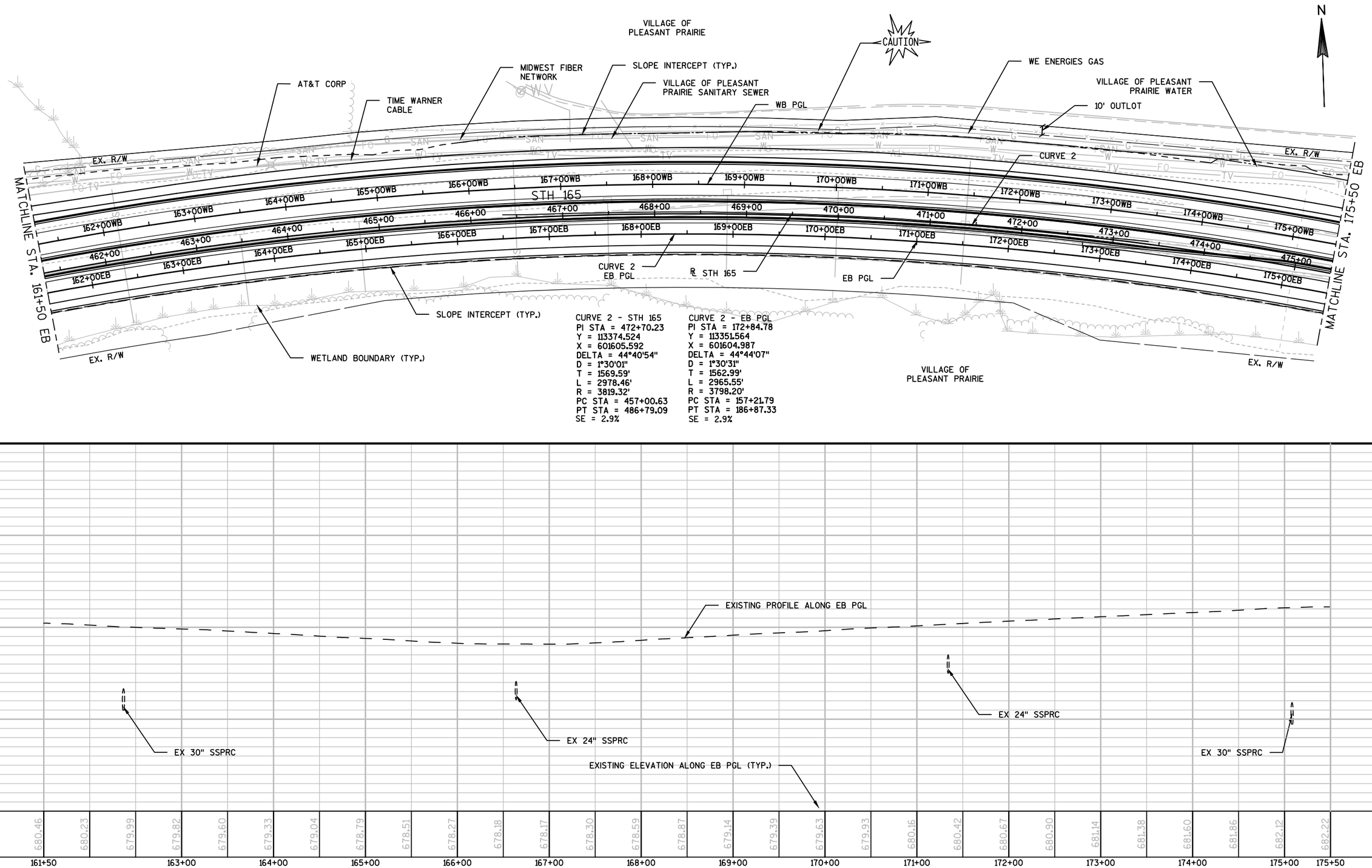


PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN & PROFILE - STH 165 EB PGL	SHEET 214	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\050102_PP.DWG
LAYOUT NAME - 050102_PP - 050110

PLOT DATE : 2/25/2016 2:23 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 100'_XREF

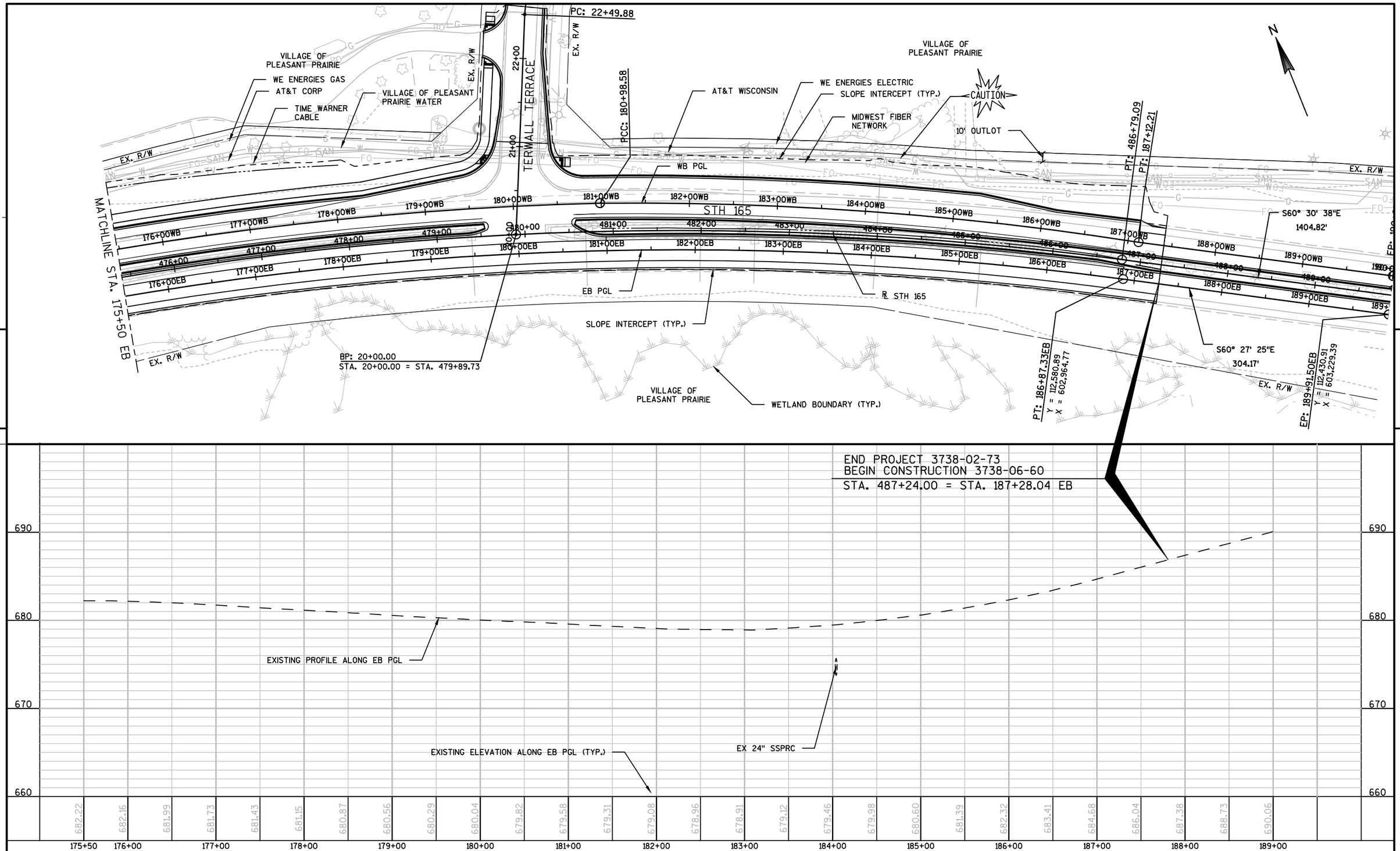
WISDOT/CADDS SHEET 44



CURVE 2 - STH 165
PI STA = 472+70.23
Y = 113374.524
X = 601605.592
DELTA = 44°40'54"
D = 1°30'01"
T = 1569.59'
L = 2978.46'
R = 3819.32'
PC STA = 457+00.63
PT STA = 486+79.09
SE = 2.9%

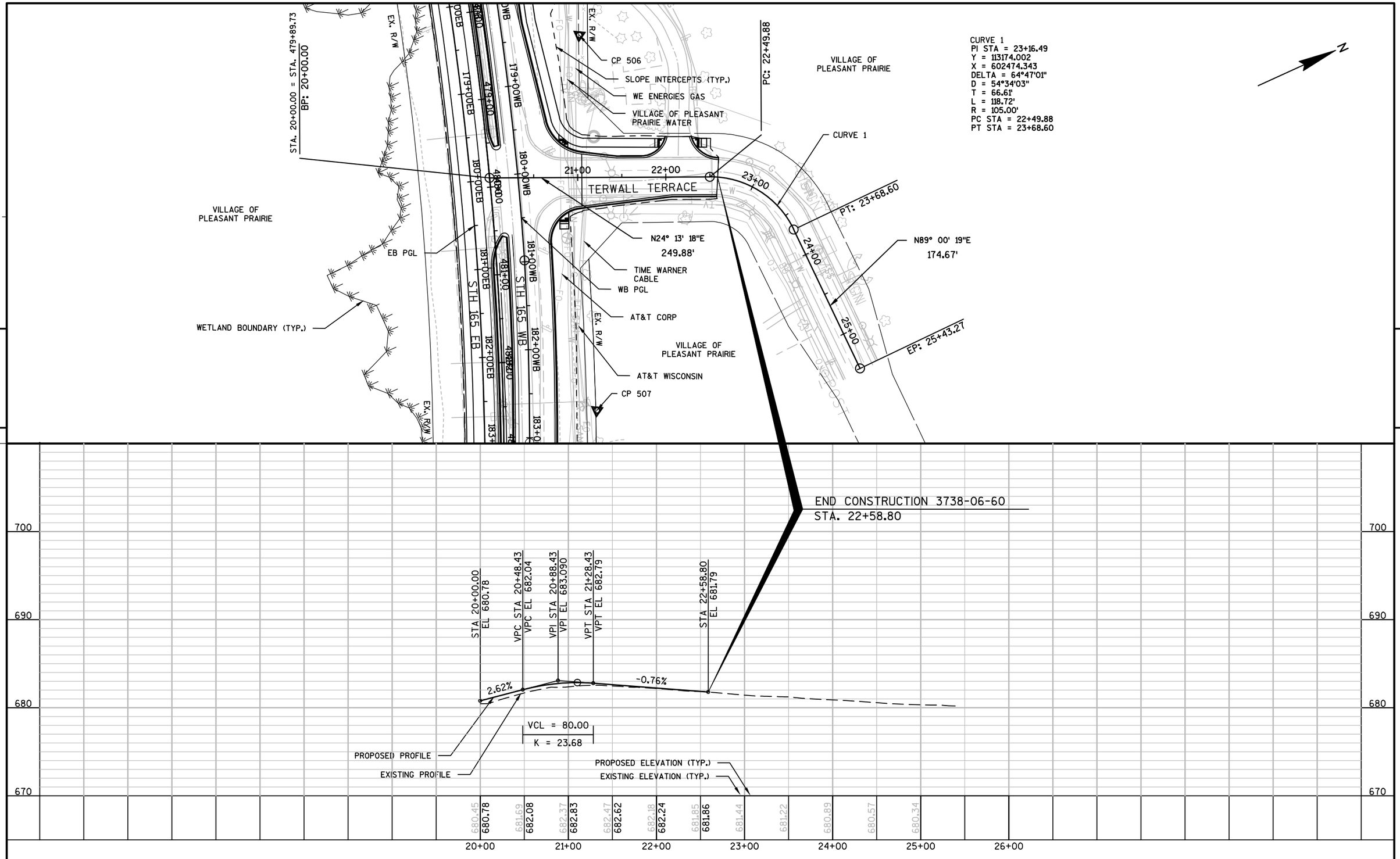
CURVE 2 - EB PGL
PI STA = 172+84.78
Y = 113351.564
X = 601604.987
DELTA = 44°44'07"
D = 1°30'31"
T = 1562.99'
L = 2965.55'
R = 3798.20'
PC STA = 157+21.79
PT STA = 186+87.33
SE = 2.9%

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN & PROFILE - STH 165 EB PGL	SHEET 215	E



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN & PROFILE - STH 165 EB PGL	SHEET 216	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\050102_PP.DWG
LAYOUT NAME - 050102_PP - 050112
PLOT DATE : 2/25/2016 2:24 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 100'_XREF
WISDOT/CADDS SHEET 44



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	PLAN AND PROFILE: TERWALL TERRACE	SHEET 217	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\050103_PP.DWG
LAYOUT NAME - 050103_PP - 050113_PP
PLOT DATE : 2/25/2016 2:25 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 100'_XREF
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

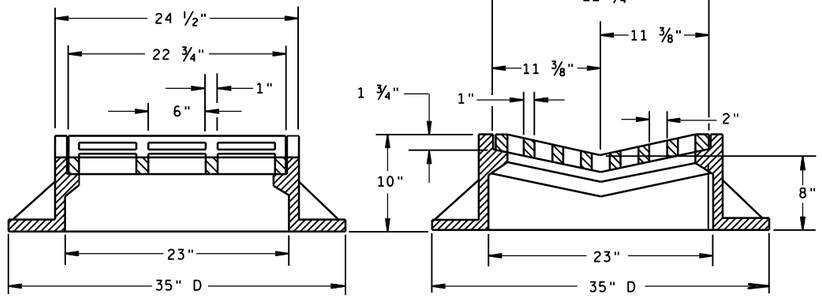
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A08-01	CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER
08A09-01	CATCH BASINS 2X3-FT AND 2.5X3-FT
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08C09-01	INLETS MEDIAN 3 AND 4 GRATE
08D01-18	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-16A	CURB RAMPS TYPES 1 AND 1-A
08D05-16B	CURB RAMPS TYPES 2 AND 3
08D05-16C	CURB RAMPS TYPES 4A AND 4A1
08D05-16D	CURB RAMPS TYPE 4B AND 4B1
08D05-16E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D15-05B	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08D15-05C	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F05-01	CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER
09B02-09	CONDUIT
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C10-03	TRANSFORMER BASE FOR 15" BOLT CIRCLE
09C14-02	CONCRETE CONTROL CABINET BASE, TYPE L
09D04-01	LIGHTING CONTROL CABINET
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
11B02-02	CONCRETE MEDIAN NOSE
12A03-10	NAME PLATE (STRUCTURES)
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13A10-01A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01B	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-13A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-13B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-13C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C16-02A	DETAIL FOR RIGHT TURN LANE/TEE INTERSECTION BYPASS LANE ON A CONRETE ROADWAY
13C16-02B	DETAIL FOR RIGHT TURN LANE/TEE INTERSECTION BYPASS LANE ON A CONRETE ROADWAY
13C18-03A	CONCRETE PAVEMENT JOINTING
13C18-03B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-03C	CONCRETE PAVEMENT JOINT TIES
13C18-03D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B15-08A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B26-03A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03B	STEEL THRIE BEAM BULLNOSE TERMINAL

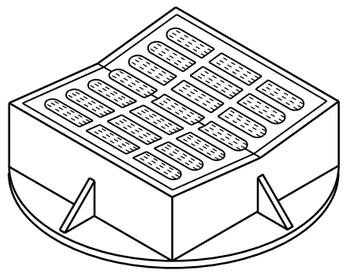
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Standard Detail Drawing List

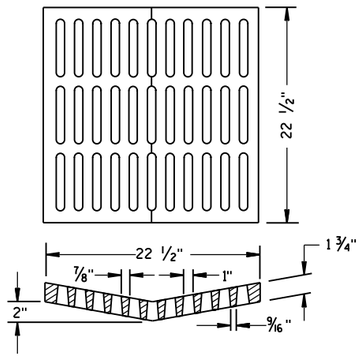
14B26-03C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B28-03	GUARDRAIL MOW STRIP
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12A	PAVEMENT MARKING SYMBOLS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C11-06	FLEXIBLE TUBULAR MARKER POST
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT
15C29-03A	BICYCLE LANE MARKING
15C29-03B	BICYCLE LANE MARKING
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D20-03	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-03	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
16A01-06	LANDMARK REFERENCE MONUMENTS AND COVERS

6



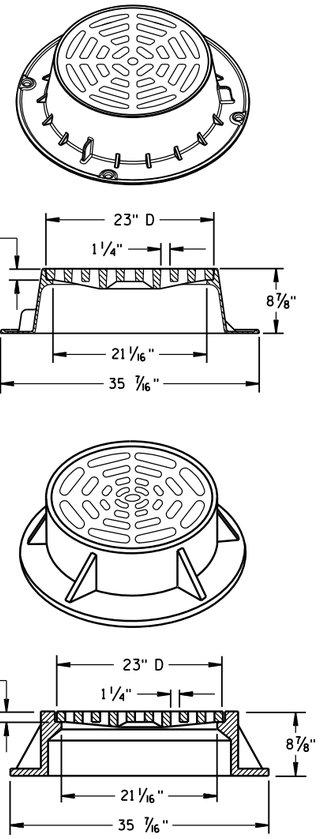


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

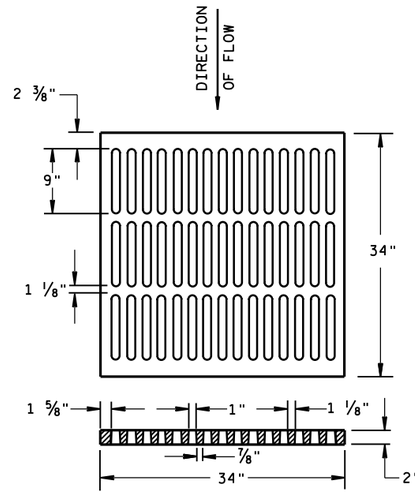
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

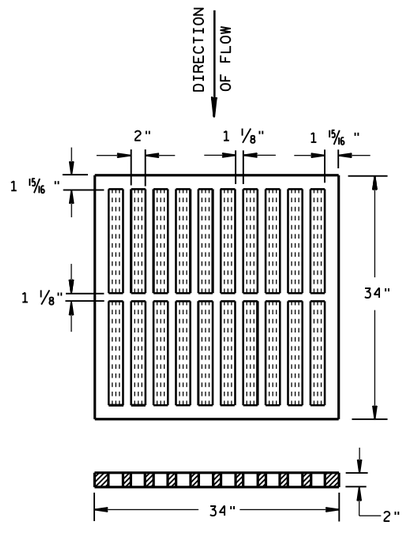
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



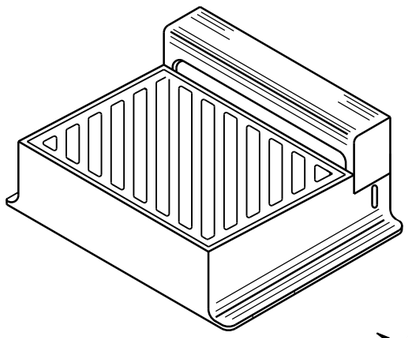
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

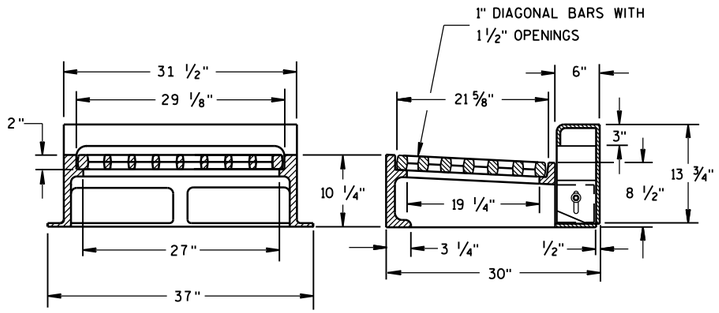


TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

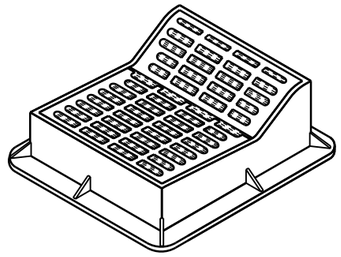
INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

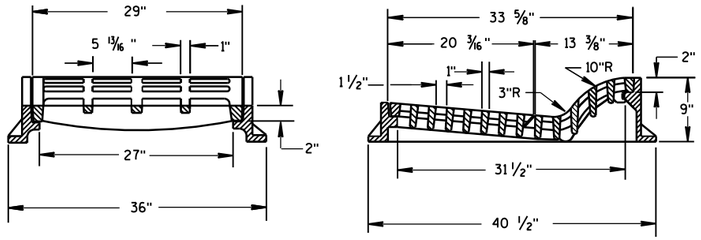
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

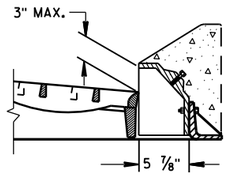
S.D.D. 8 A 5-19b





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

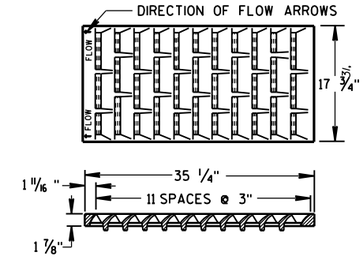
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

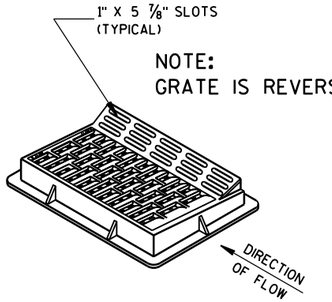
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

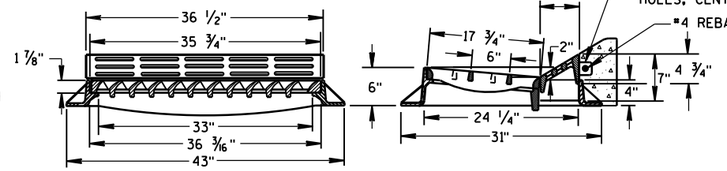
GENERAL NOTES

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

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



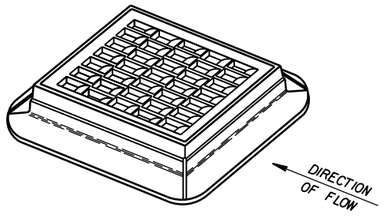


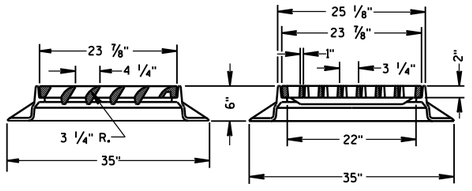


TYPE "HM"

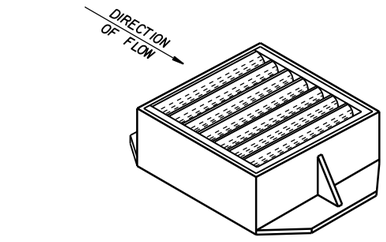
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

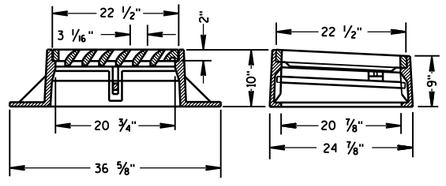
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



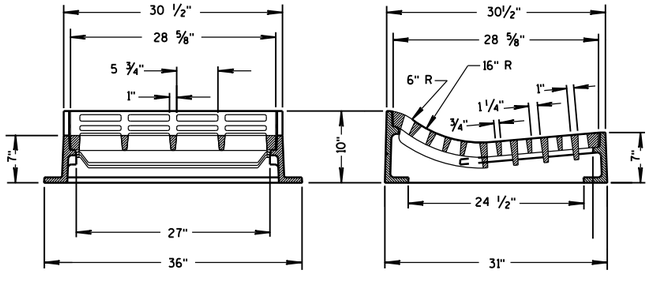


TYPE "S"



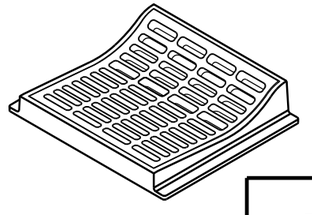


TYPE "V"



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

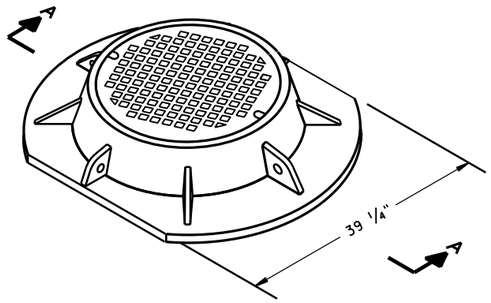
FHWA

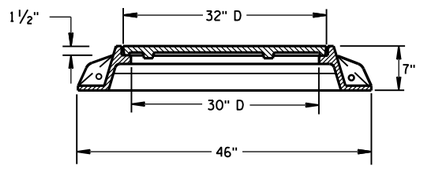
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S.D.D. 8 A 5-19c

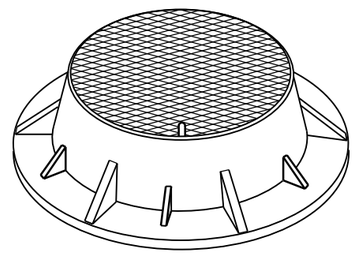
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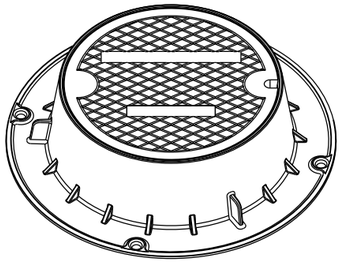
S.D.D. 8 A 5-19c

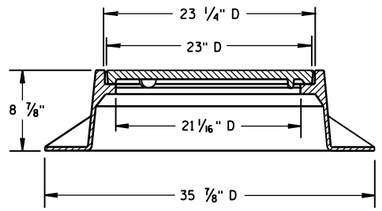


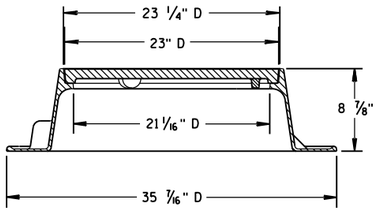


SECTION A-A
TYPE "K"









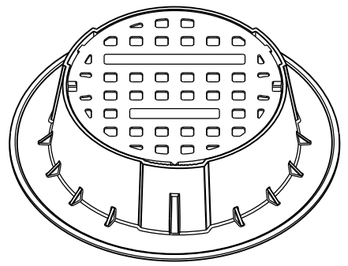
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

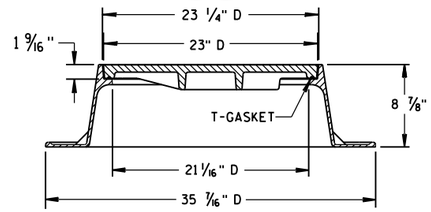
GENERAL NOTES

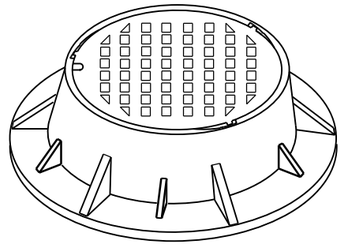
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

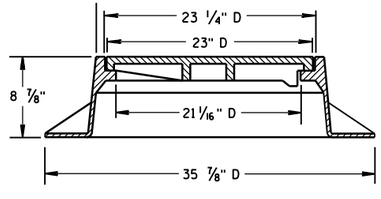
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

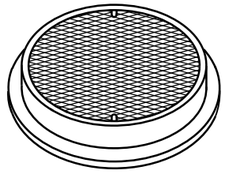


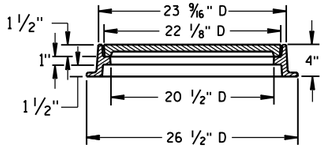




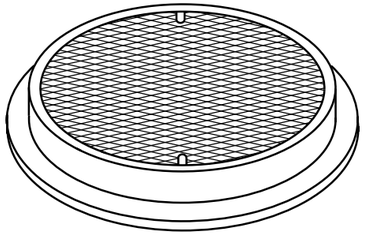


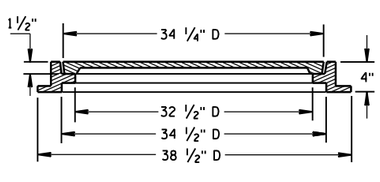
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



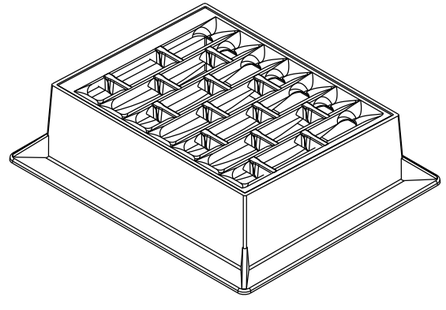


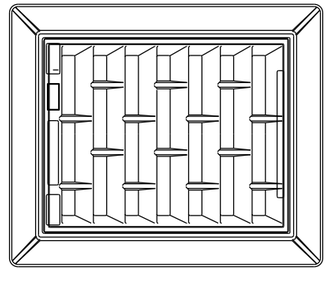
TYPE "L"

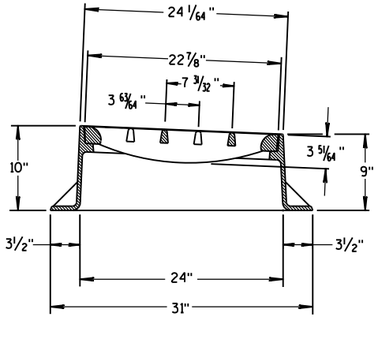


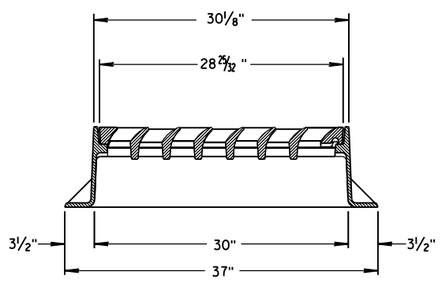


TYPE "M"









INLET COVER TYPE "BW"

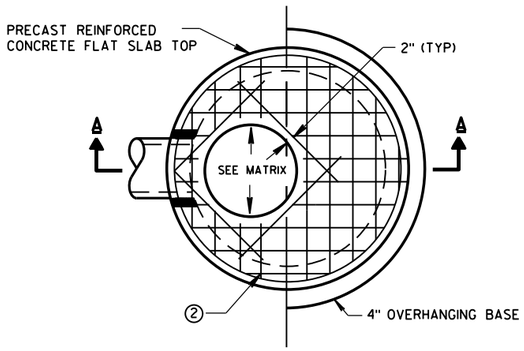
INLET COVER TYPE BW
MANHOLE COVERS, TYPE K, J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

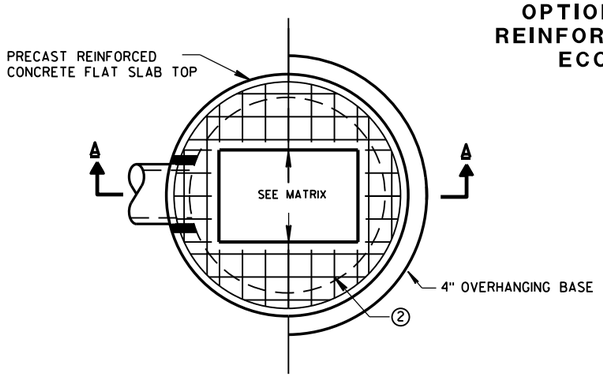
APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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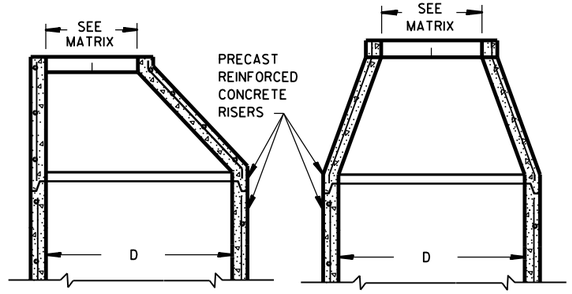
S.D.D. 8 A 5-19d



PLAN VIEW CIRCULAR OPENING

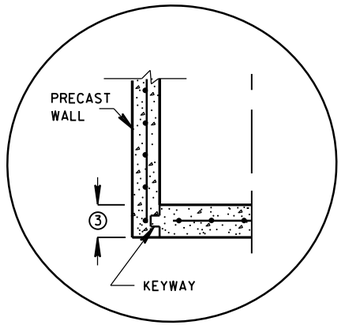


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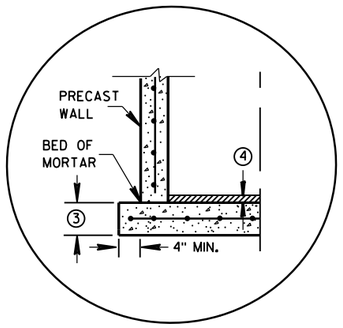


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

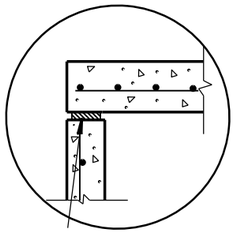


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

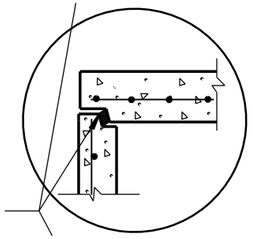


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"

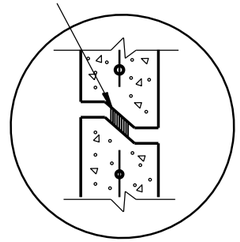


TOP WITH PLAIN END JOINT



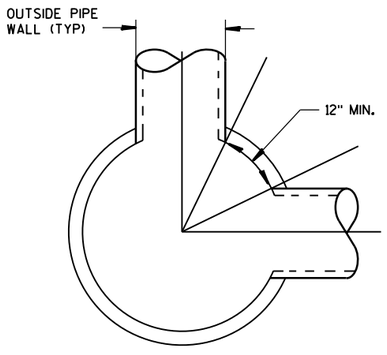
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT

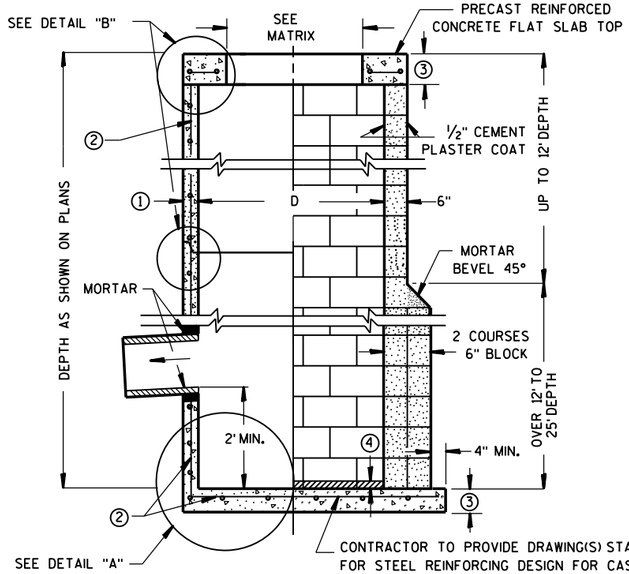


RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"



DETAIL "C"



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

SECTION A-A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN 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 CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE 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 1/2 INCH 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.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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 AND 7 INCHES FOR 6-FT DIAMETER PRECAST CATCH BASINS.

② FOR PRECAST CATCH BASINS 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".

④ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER OPENING MATRIX

CATCH BASIN SIZE	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
	OPENING SIZE (FT)											
3-FT	2X2	X	X					X		X		
	2 DIA.				X							X
4-FT-6-FT	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2 DIA.				X							X
	2X3						X					
	2.5X3					X						

PIPE MATRIX

CATCH BASIN 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	30

CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

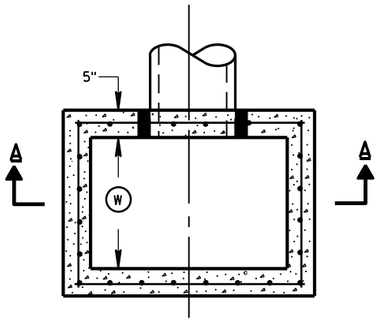
CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

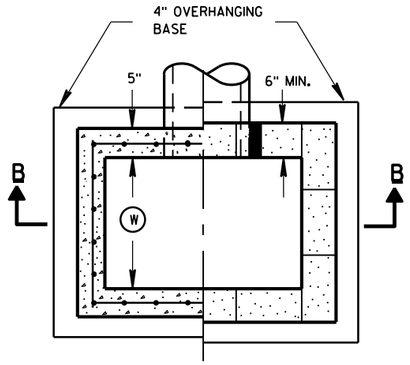
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

S.D.D. 8 A 8-1

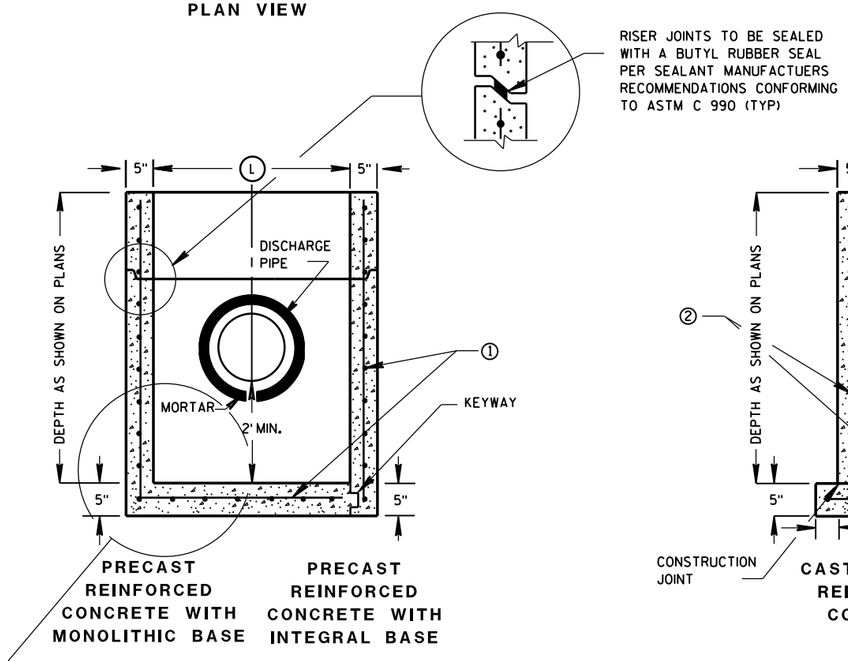
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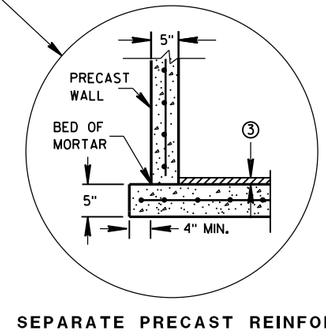
PLAN VIEW



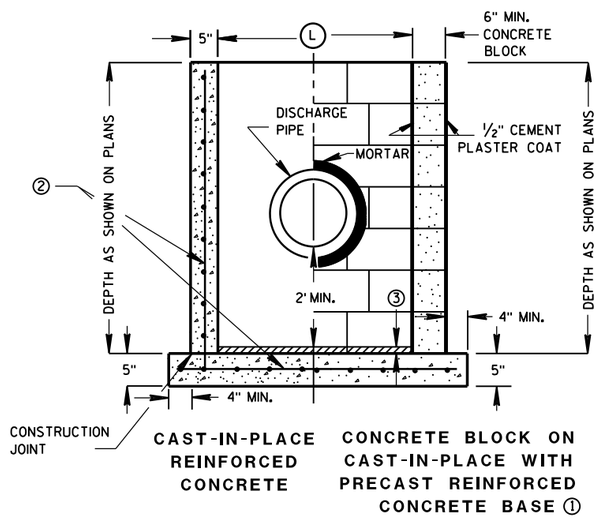
PLAN VIEW



SECTION A-A



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



SECTION B-B

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN 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 CATCH BASIN 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" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST CATCH BASINS 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.

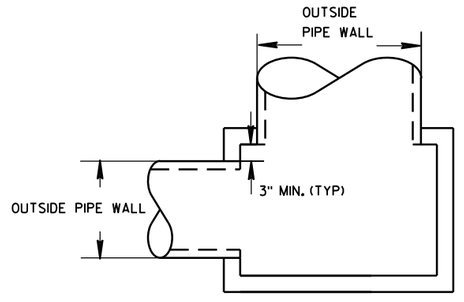
③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER MATRIX

CATCH BASIN SIZE		INLET COVER TYPE	F	ALL H'S
	WIDTH (W) (FT)	LENGTH (L) (FT)		
2X3-FT	2	3		X
2.5X3-FT	2.5	3	X	

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

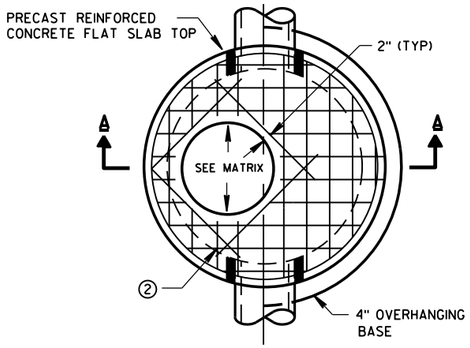
CATCH BASINS 2X3-FT AND 2.5X3-FT

CATCH BASINS 2X3-FT AND 2.5X3-FT

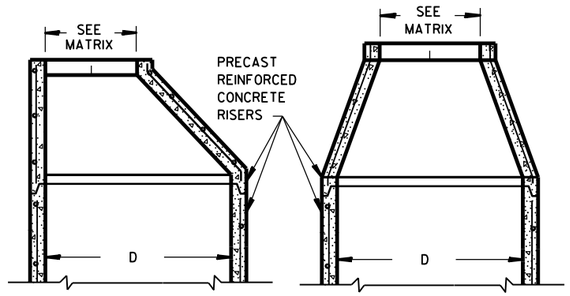
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

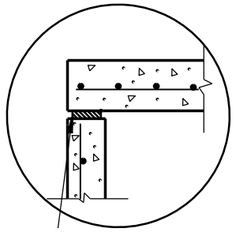


PLAN VIEW CIRCULAR OPENING

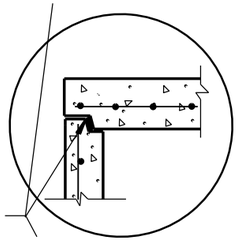


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

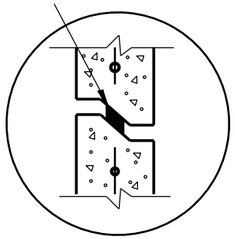


TOP WITH PLAIN END JOINT



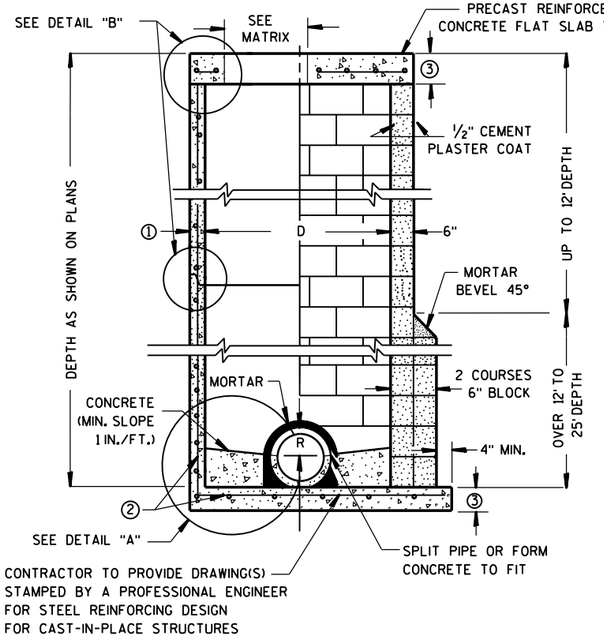
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



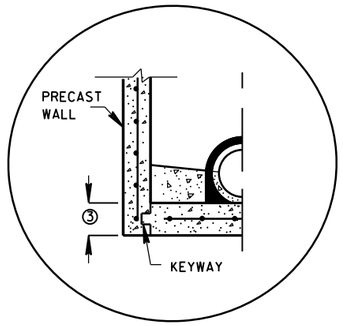
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

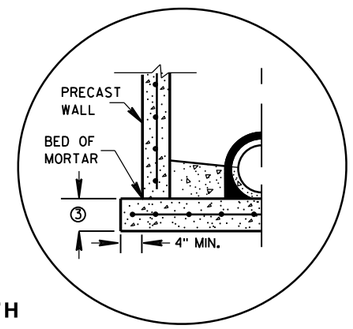


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

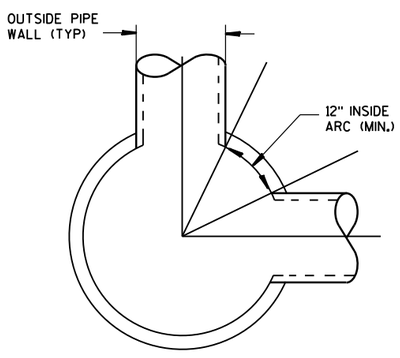


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



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

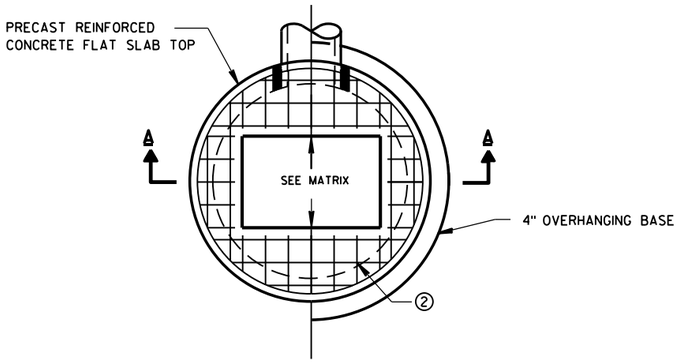
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

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

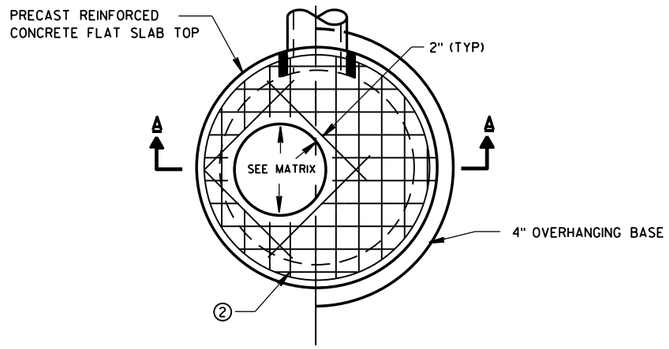
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

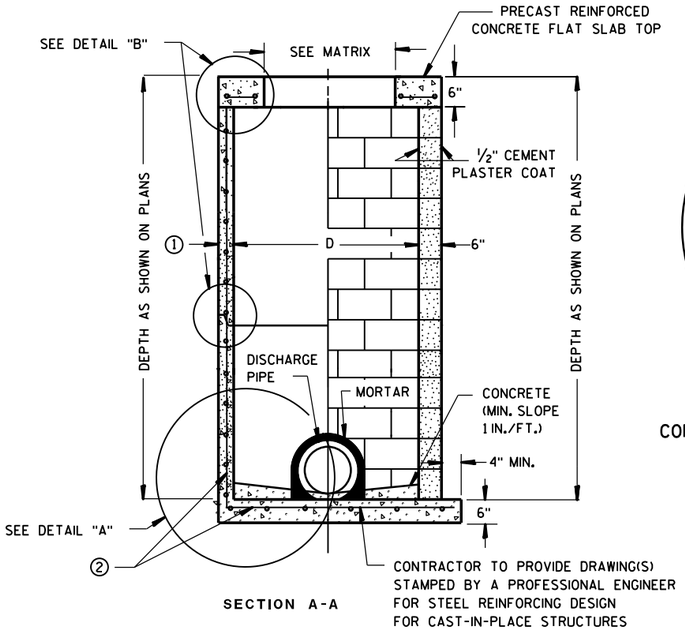
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S.D.D. 8 B 9-1



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

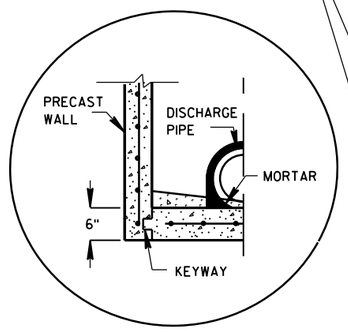


SECTION A-A

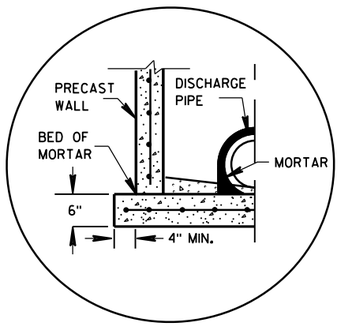
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

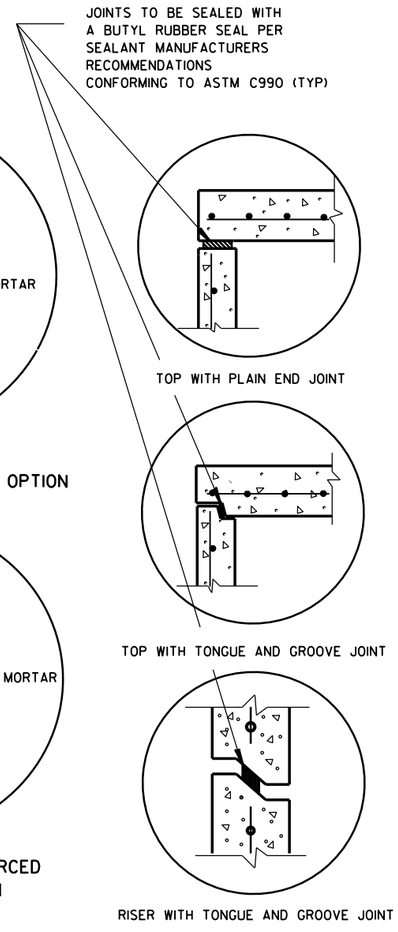


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "B"

GENERAL NOTES

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

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

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

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

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

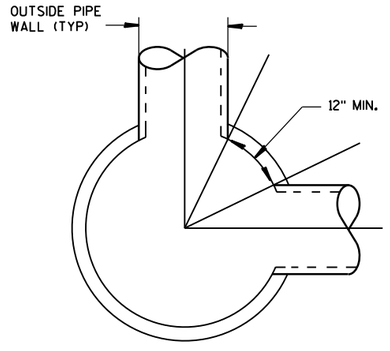
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

INLETS 3-FT AND 4-FT DIAMETER

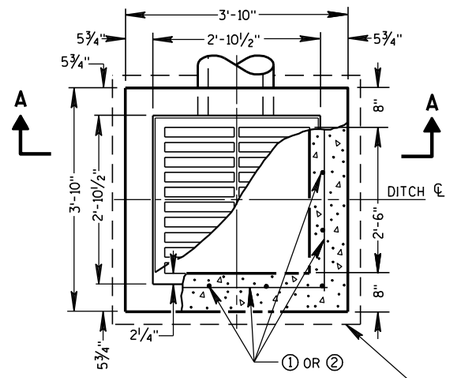
STATE OF WISCONSIN
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FHWA

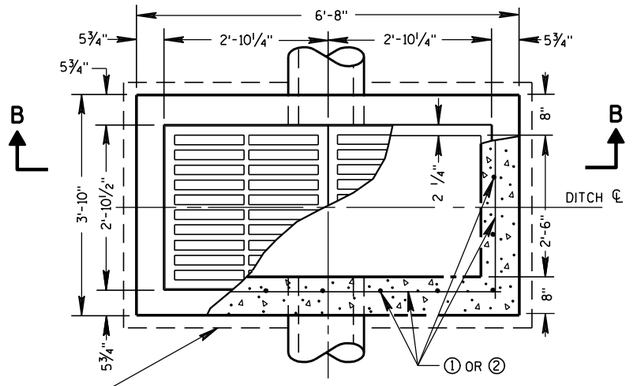
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INLETS 3-FT AND 4-FT DIAMETER

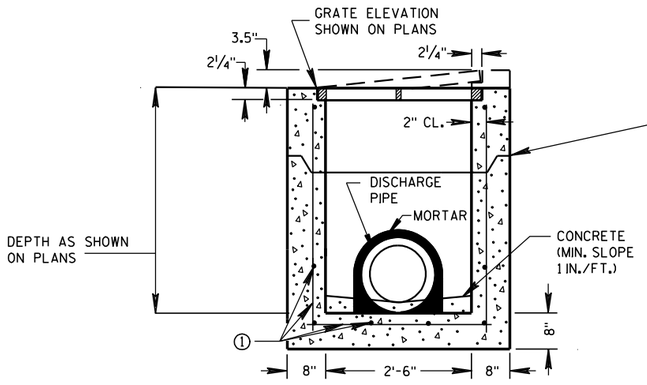


PLAN VIEW

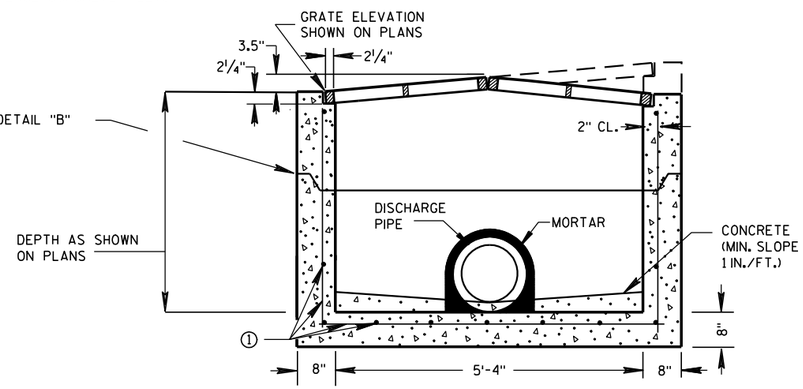


PLAN VIEW

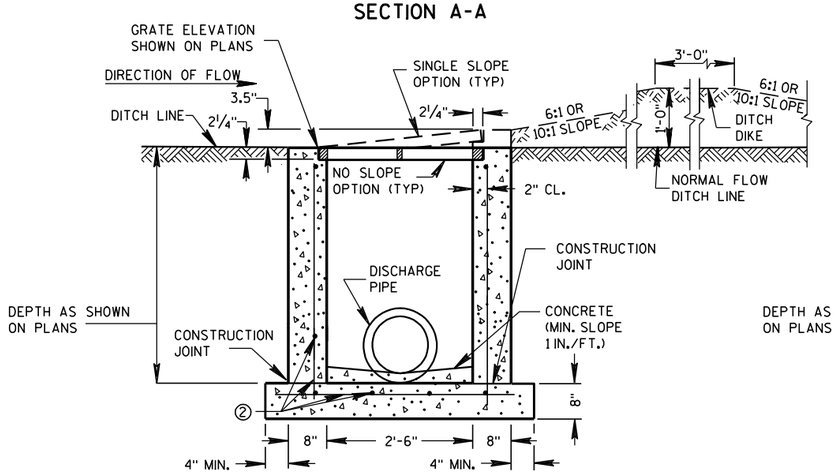
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



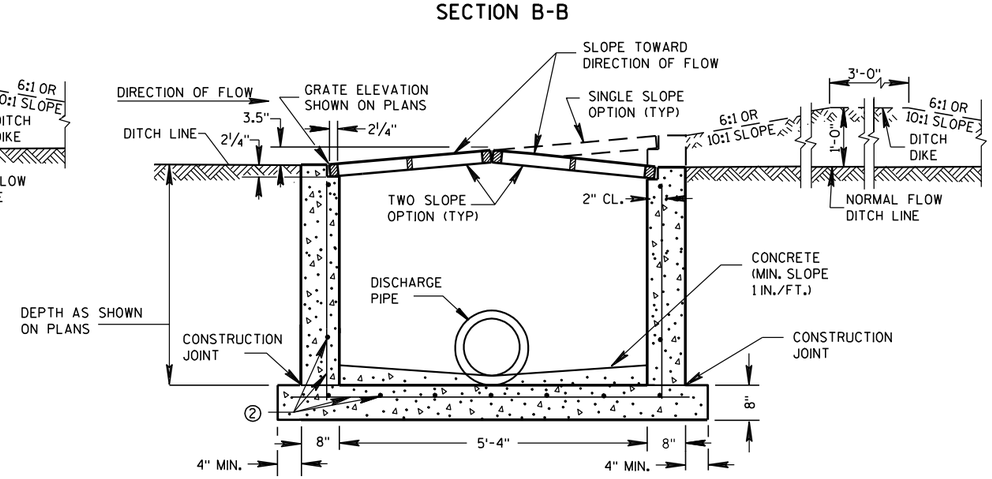
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

GENERAL NOTES

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

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

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

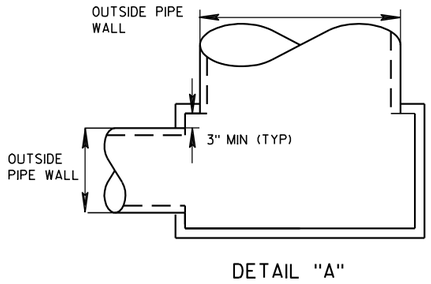
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

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

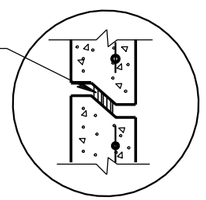
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



DETAIL "B"

INLETS MEDIAN 1 GRATE

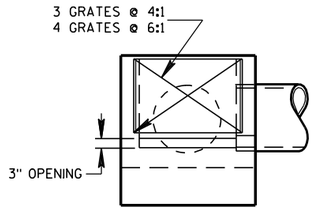
INLETS MEDIAN 2 GRATE

INLETS MEDIAN 1 AND 2 GRATE

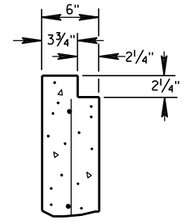
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



SECTION C-C

GENERAL NOTES

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

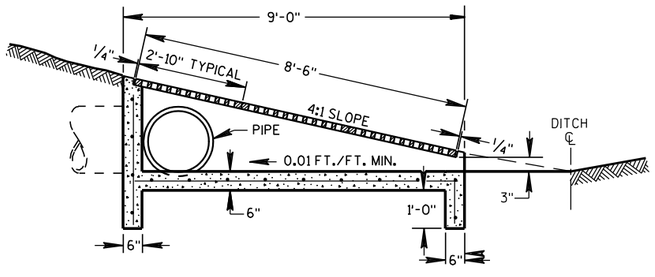
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DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

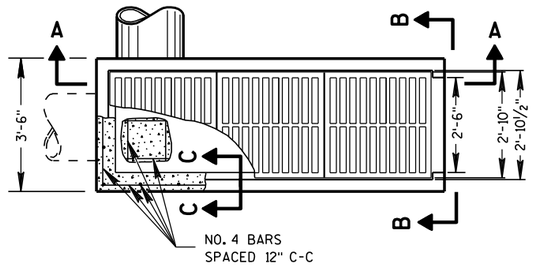
ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 3G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

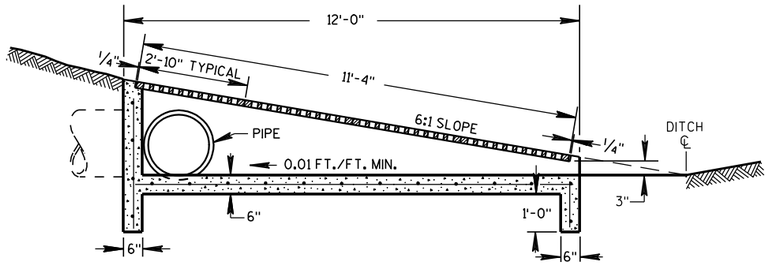


SECTION A-A

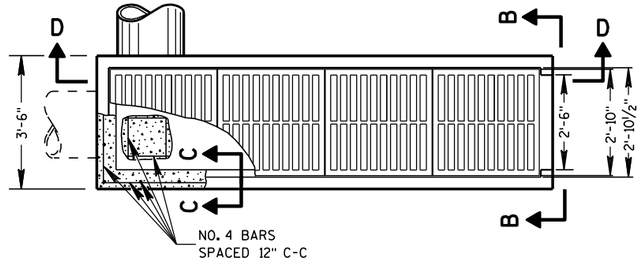


PLAN VIEW

INLETS MEDIAN 3 GRATE



SECTION D-D



PLAN VIEW

INLETS MEDIAN 4 GRATE

INLETS MEDIAN 3 AND 4 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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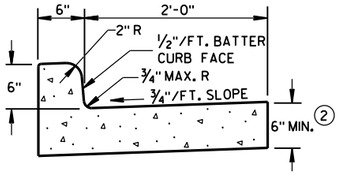
6/5/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEV ENGINEER

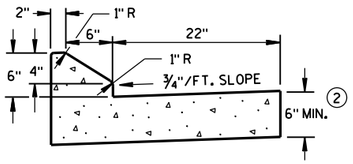
FHWA

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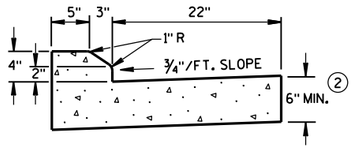
S.D.D. 8 C 9-1



TYPES A & D ①

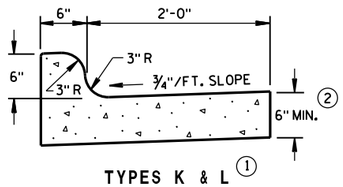


6" SLOPED CURB TYPES G & J ①

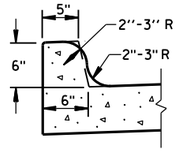


4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

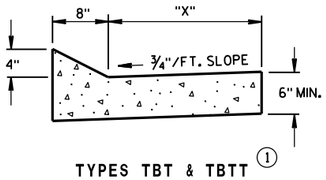


TYPES K & L ①



OPTIONAL CURB SHAPE FOR TYPES K & L ①

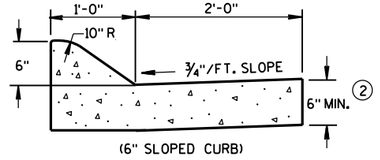
CONCRETE CURB & GUTTER 30"



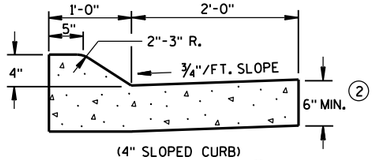
TYPES TBT & TBTT ①

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"

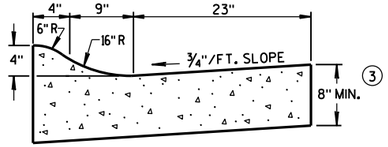


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D ①



4" SLOPED CURB TYPES R & T ① ④

CONCRETE CURB & GUTTER 36"

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.

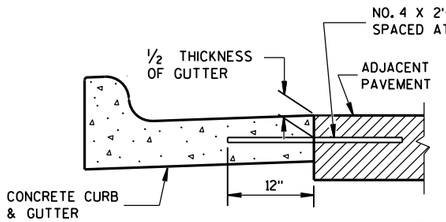
① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

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.

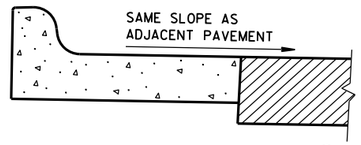
③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

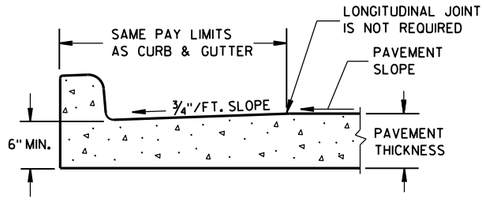
⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



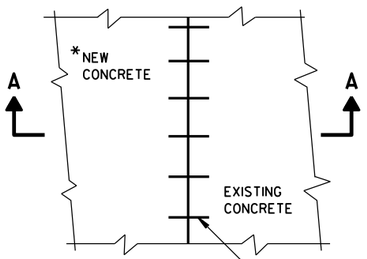
TYPICAL TIE BAR LOCATION ①



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

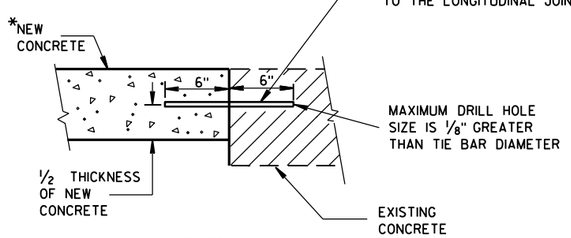


PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



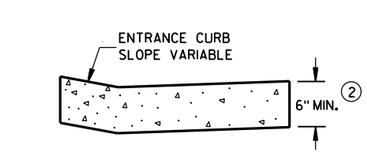
PLAN VIEW

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

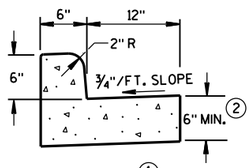


SECTION A-A

TIE BARS DRILLED
INTO EXISTING PAVEMENT

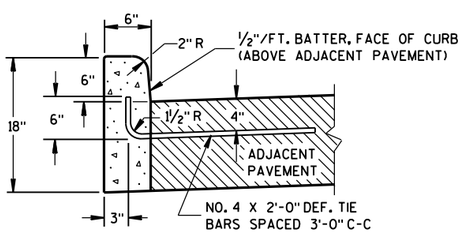


DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

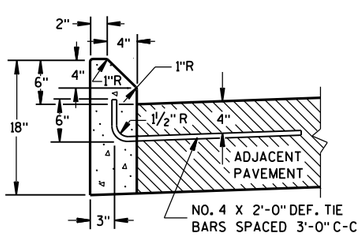


① TYPES A & D

CONCRETE CURB & GUTTER 18"

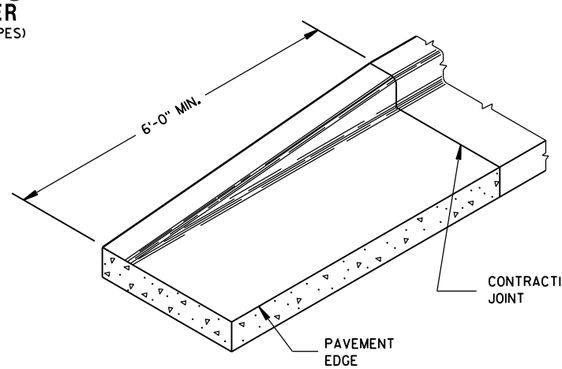


① TYPES A & D



① TYPES G & J

CONCRETE CURB



END SECTION CURB & GUTTER

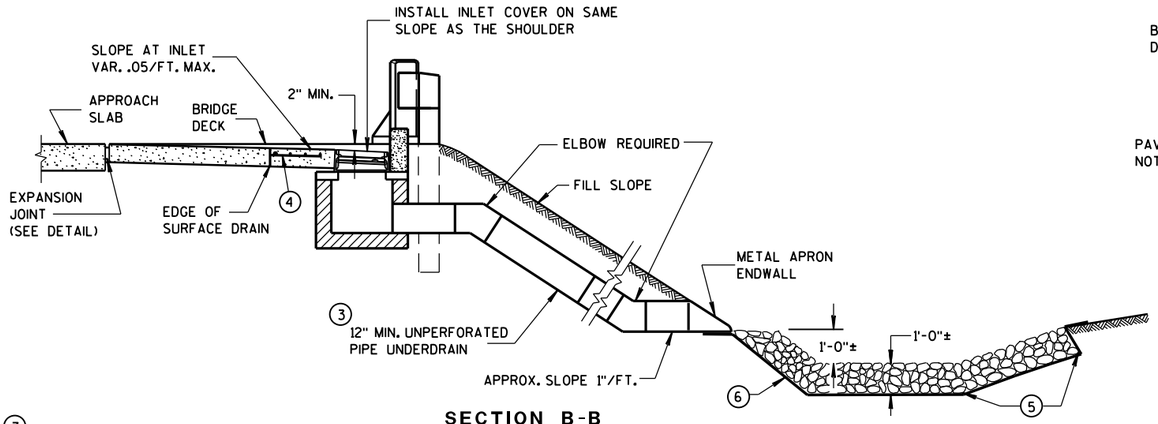
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

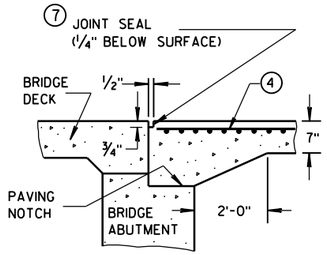
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

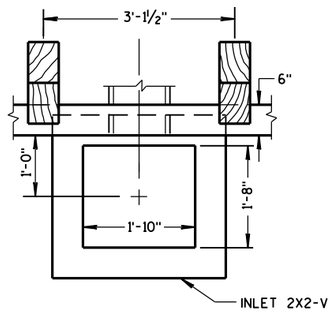
S.D.D. 8 D 1-18



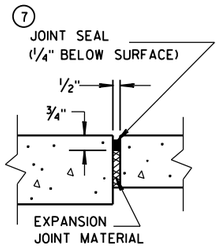
SECTION B-B



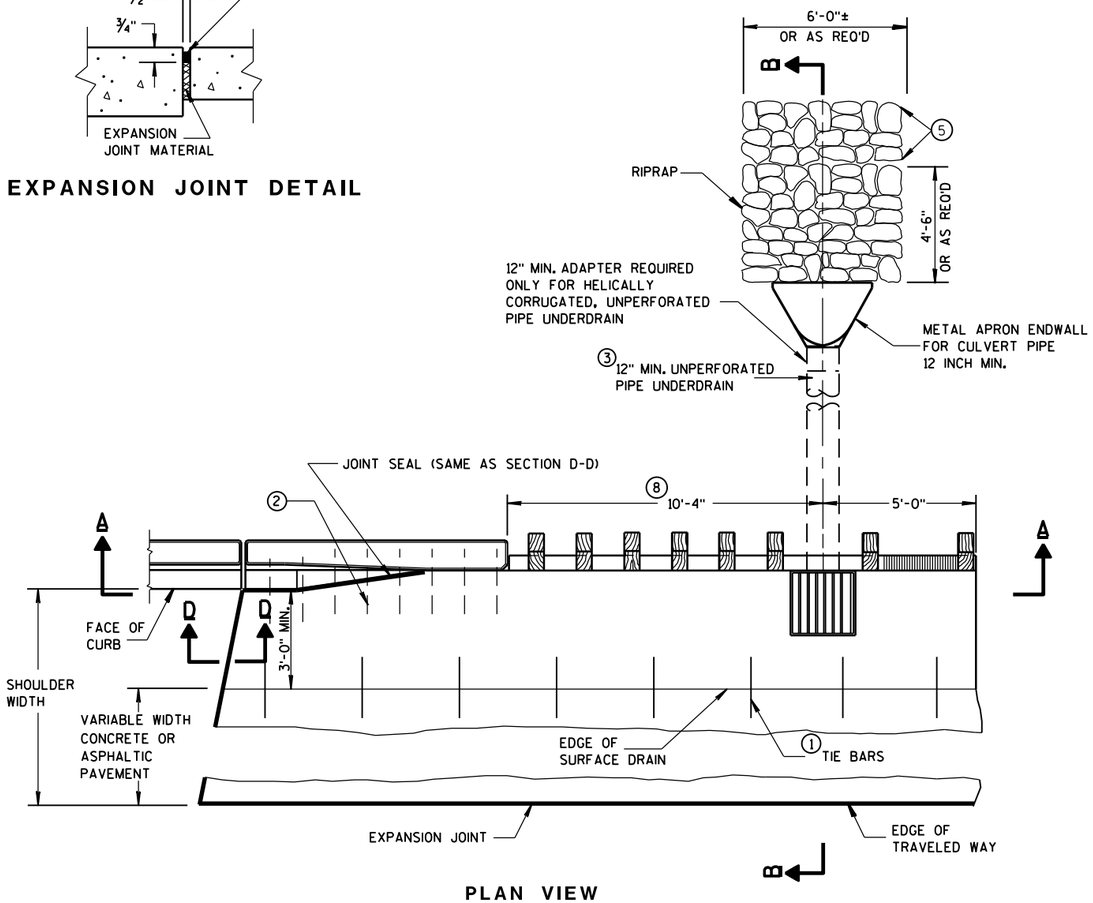
SECTION D-D



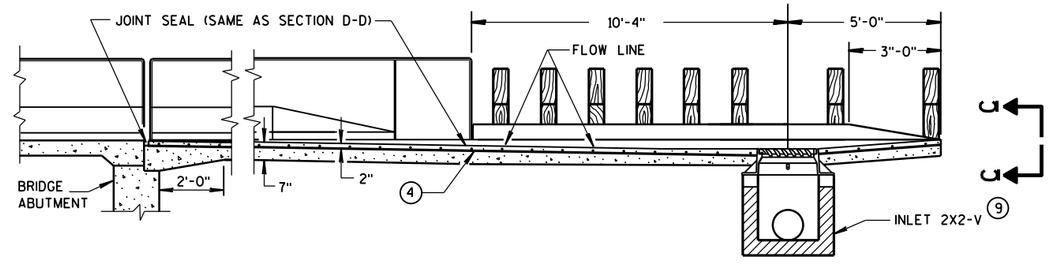
PLAN VIEW



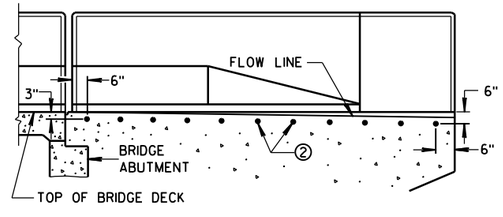
EXPANSION JOINT DETAIL



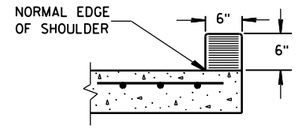
PLAN VIEW



SECTION A-A



LOCATION OF TIE BARS IN WINGWALL



SECTION C-C

GENERAL NOTES

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

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.

(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(6) GEOTEXTILE FABRIC, TYPE 'R'

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".

(9) SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

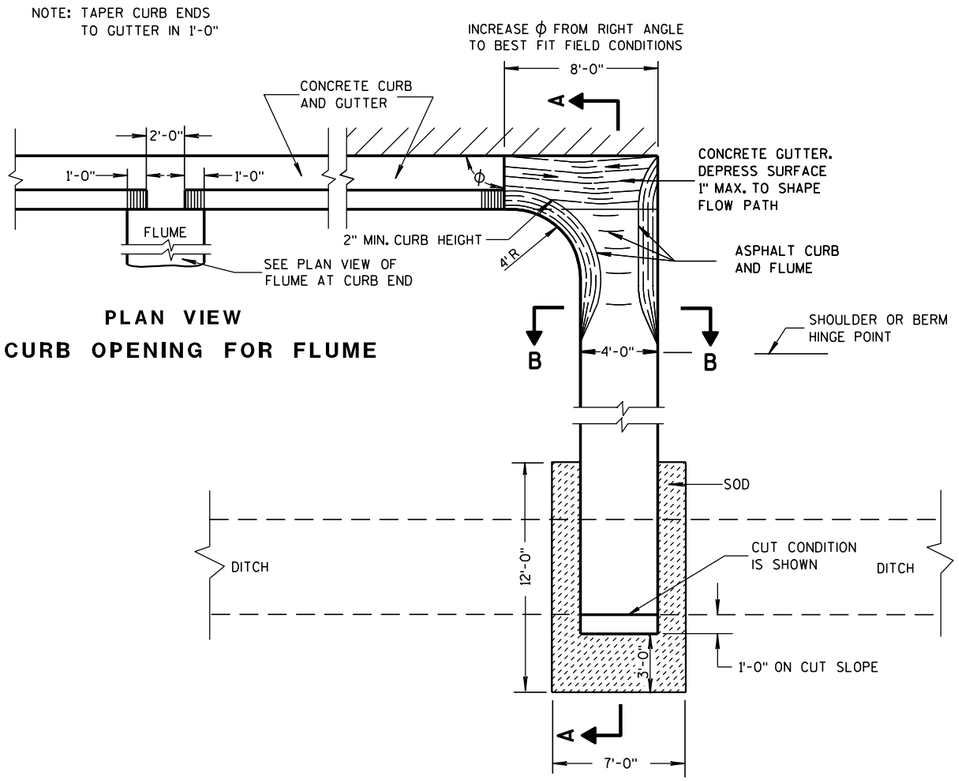
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S.D.D. 8 D 3-6

6

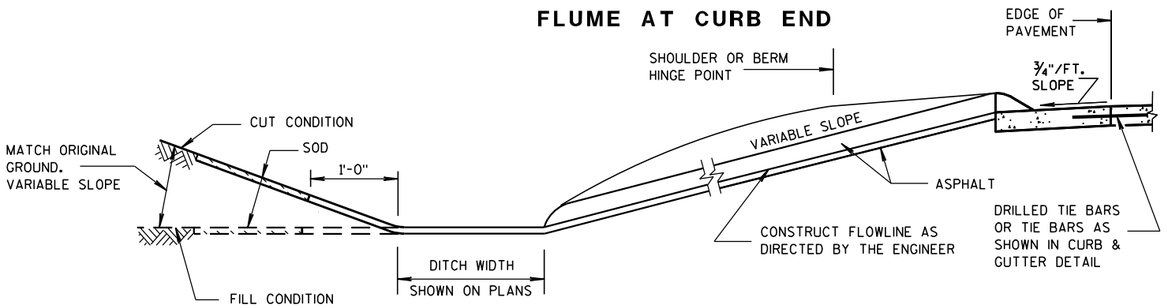
S.D.D. 8 D 3-6

ASPHALTIC FLUME

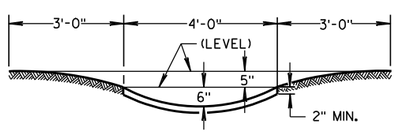


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

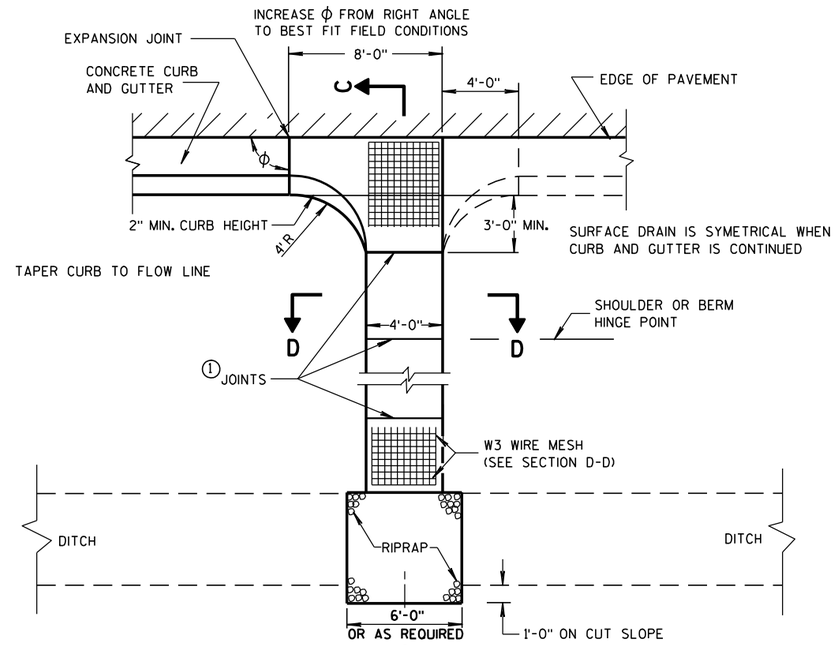
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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

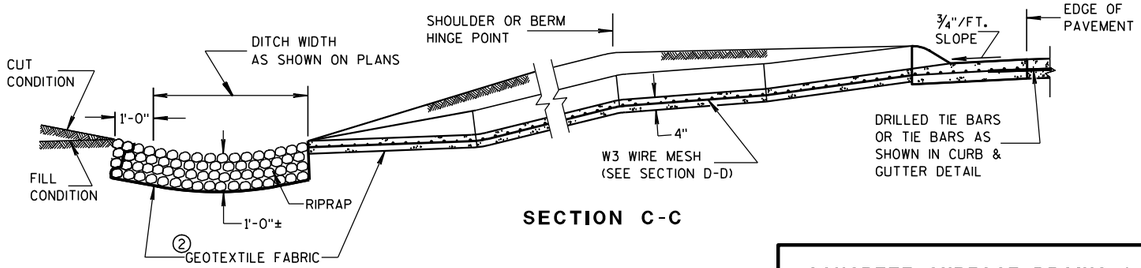
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

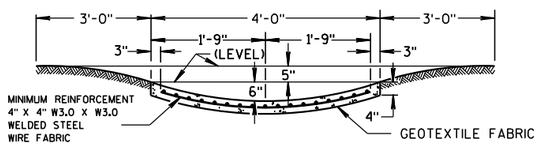
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

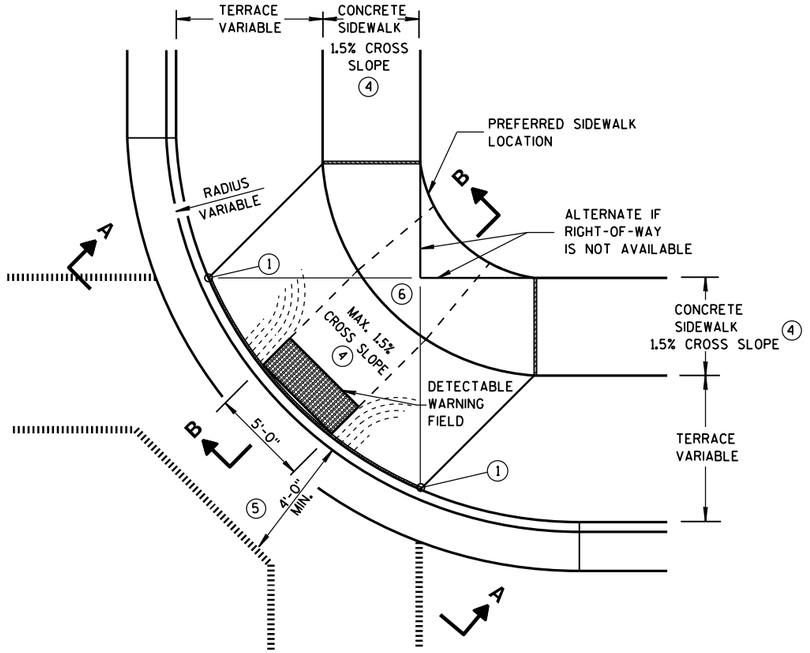
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
MENT
FHWA

6

S.D.D. 8 D 4-5

6

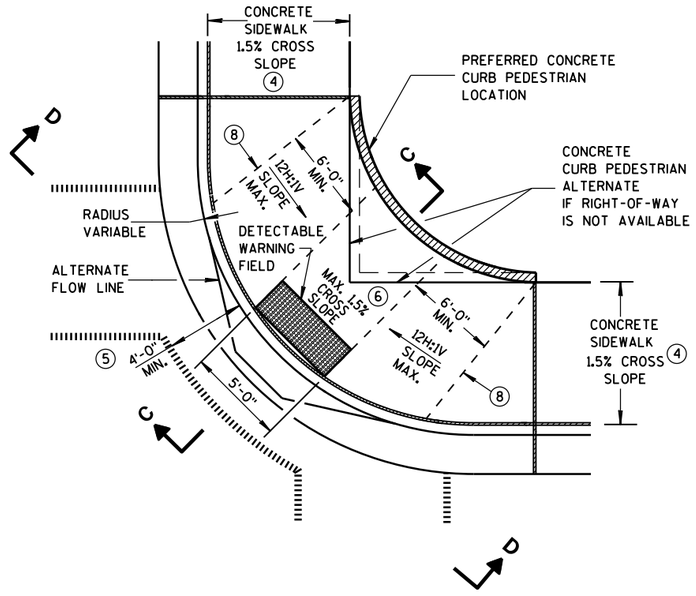
S.D.D. 8 D 4-5



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

GENERAL NOTES

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

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.

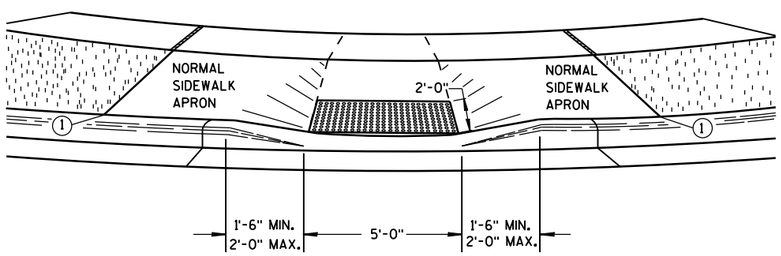
(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(5) PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA. (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.

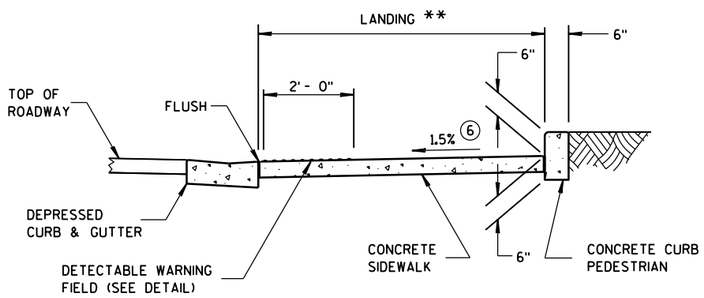
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.



VIEW A-A

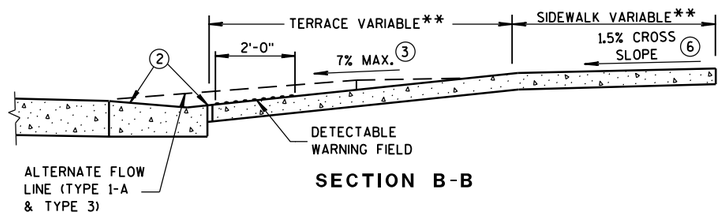
** WIDTH SHOWN ELSEWHERE IN THE PLANS



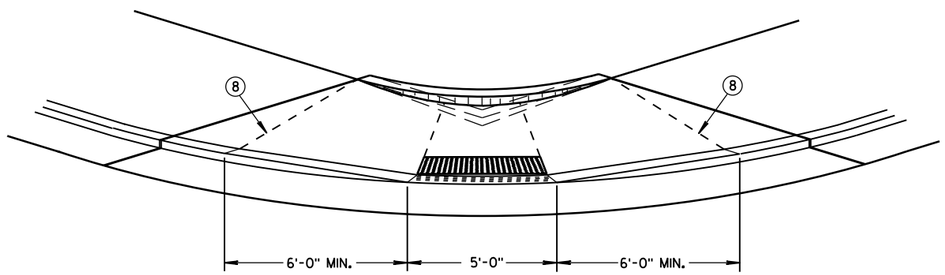
SECTION C-C

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



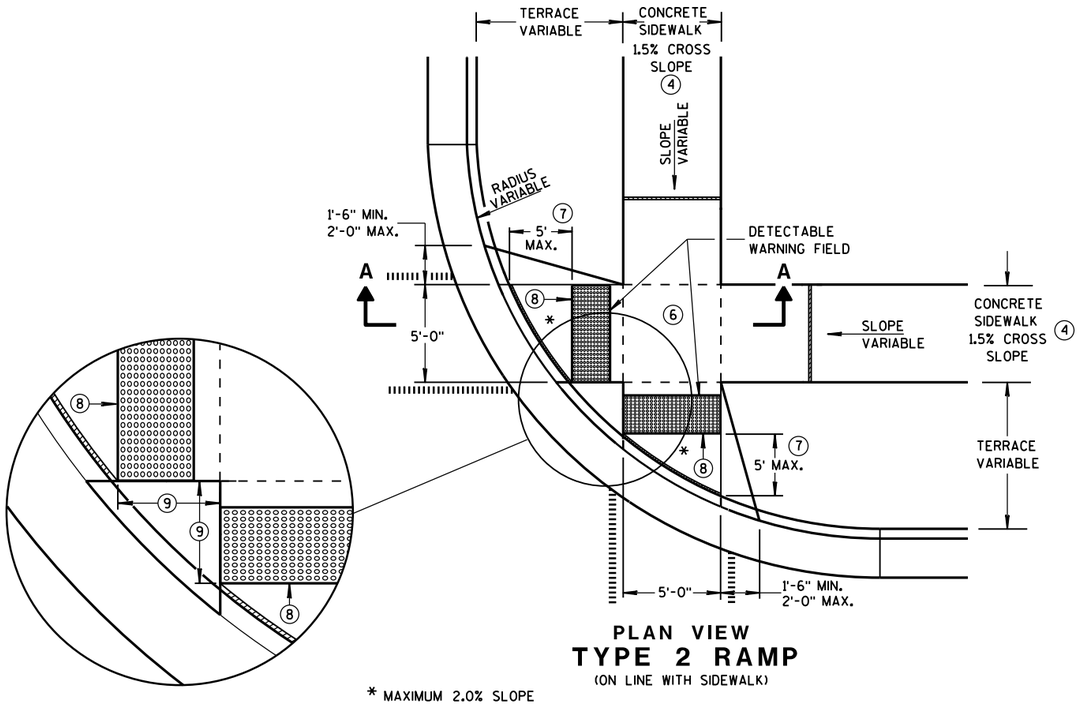
SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

6
S.D.D. 8 D 5-16a

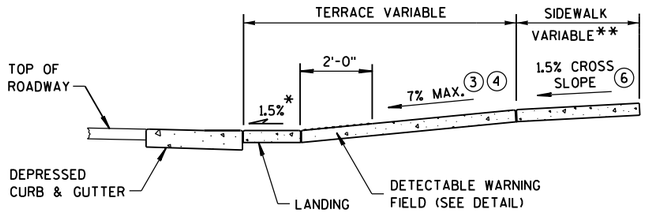


PLAN VIEW

TYPE 2 RAMP

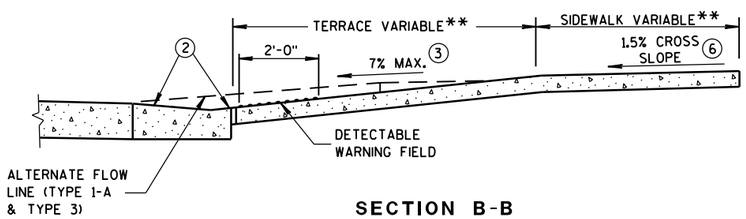
(ON LINE WITH SIDEWALK)

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



SECTION A-A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

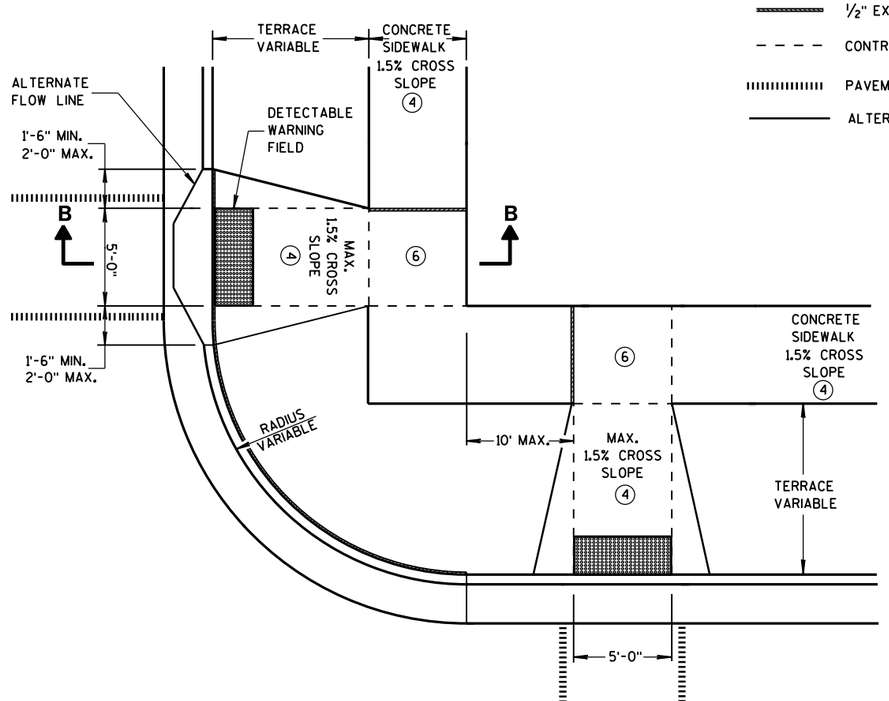
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, USE MULTIPLE DETECTABLE WARNING PANELS ACROSS THE RAMP AND STAGGER ADDITIONAL DETECTABLE WARNING PANEL(S) FORWARD TO REDUCE THIS DISTANCE.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(9) WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. 2" MINIMUM CURB HEIGHT.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



PLAN VIEW

TYPE 3 RAMP

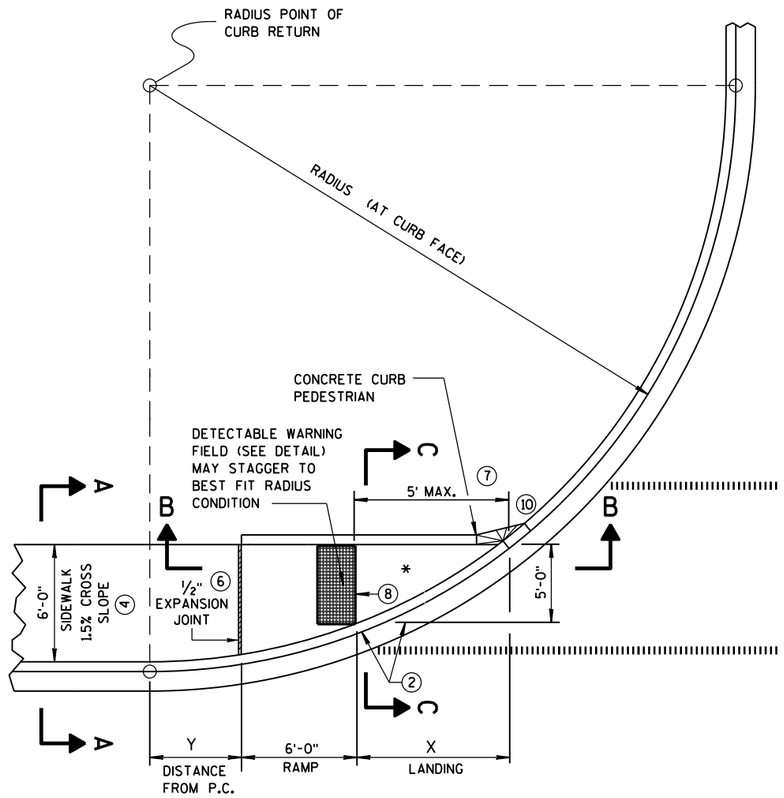
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

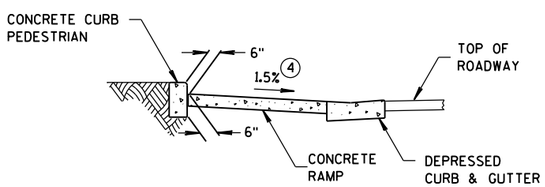
S.D.D. 8 D 5-16b



CURB RAMP TYPE 4A
PLAN VIEW

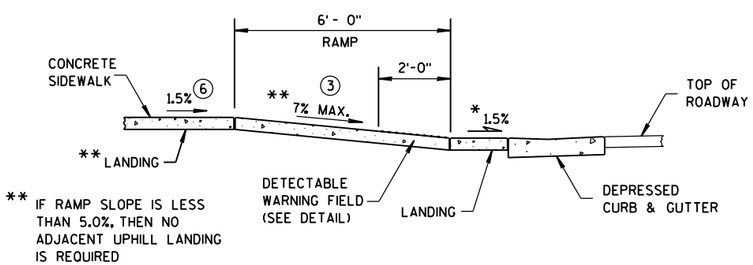
RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



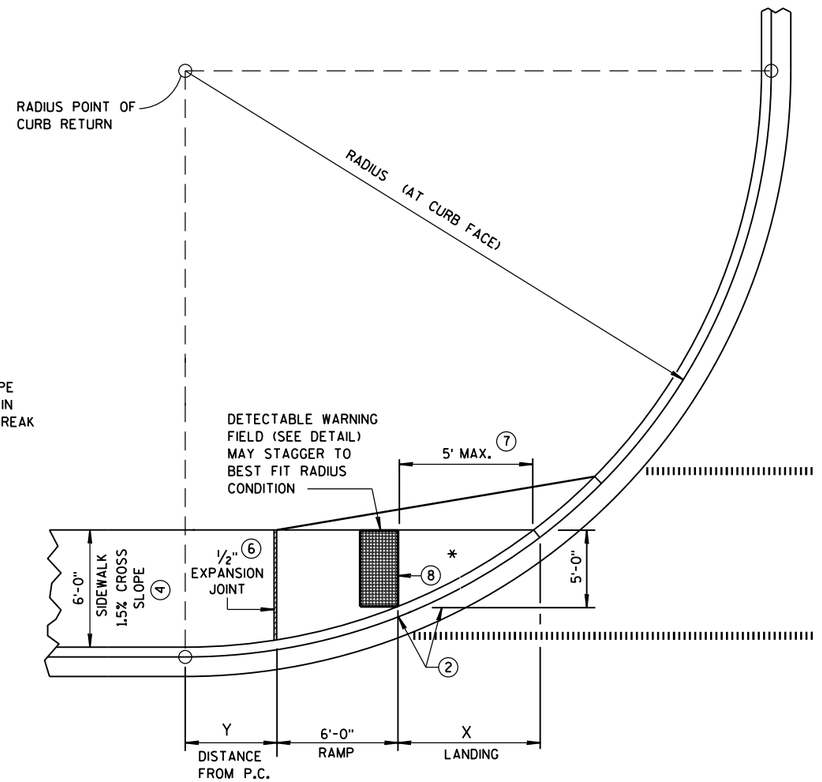
SECTION C-C FOR TYPE 4A

SECTION A-A FOR TYPE 4A



SECTION B-B FOR TYPE 4A

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



CURB RAMP TYPE 4A1
PLAN VIEW

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

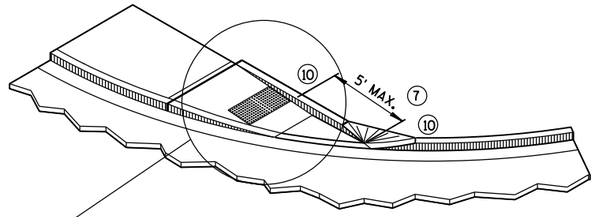
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

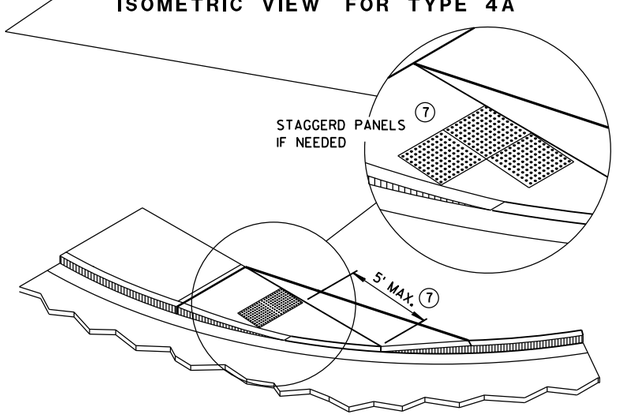
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, USE MULTIPLE DETECTABLE WARNING PANELS ACROSS THE RAMP AND STAGGER ADDITIONAL DETECTABLE WARNING PANEL(S) FORWARD TO REDUCE THIS DISTANCE.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4A



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

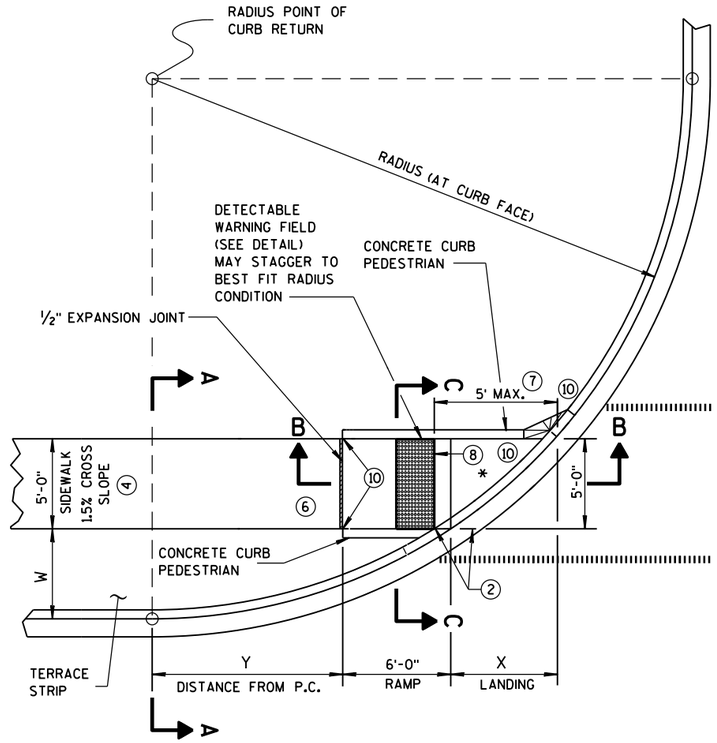
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPES 4A AND 4A1

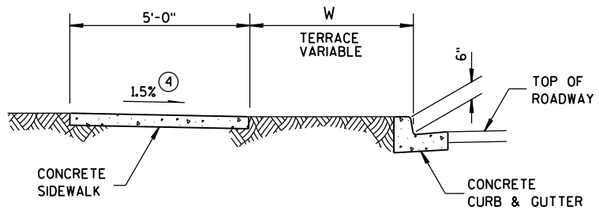
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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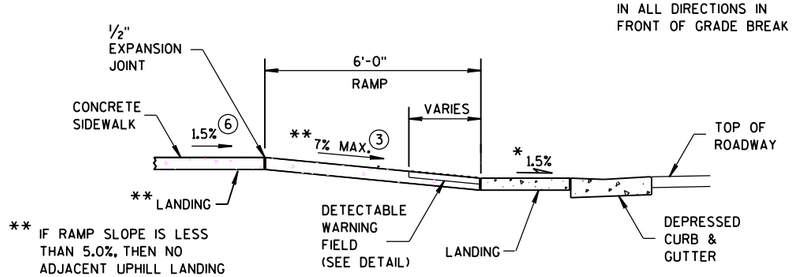
S.D.D. 8 D 5-16c



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

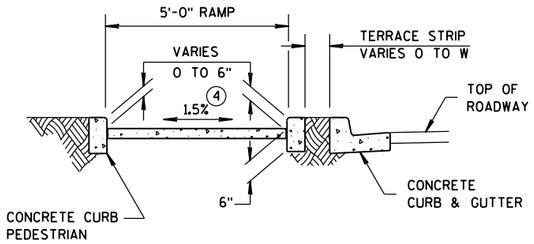
SECTION B-B FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)



SECTION C-C FOR TYPE 4B

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

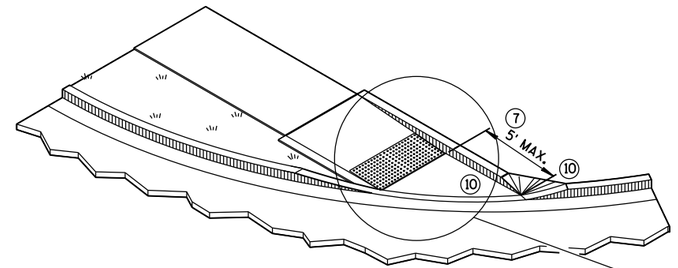
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

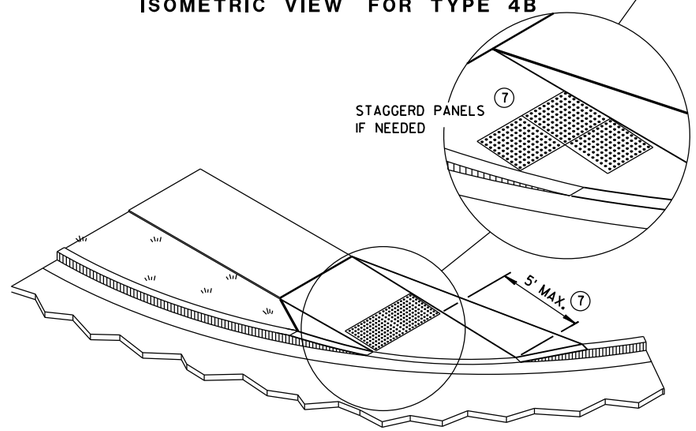
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, USE MULTIPLE DETECTABLE WARNING PANELS ACROSS THE RAMP AND STAGGER ADDITIONAL DETECTABLE WARNING PANEL(S) FORWARD TO REDUCE THIS DISTANCE.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

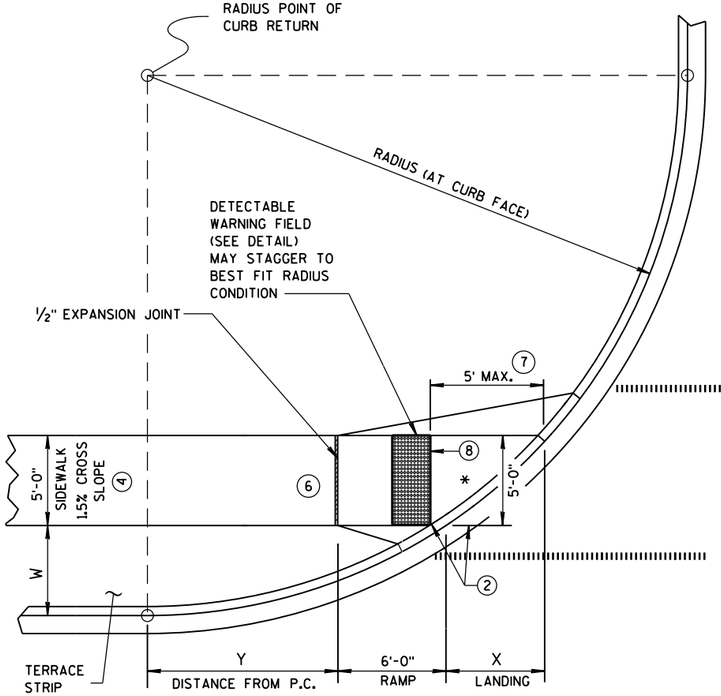
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1



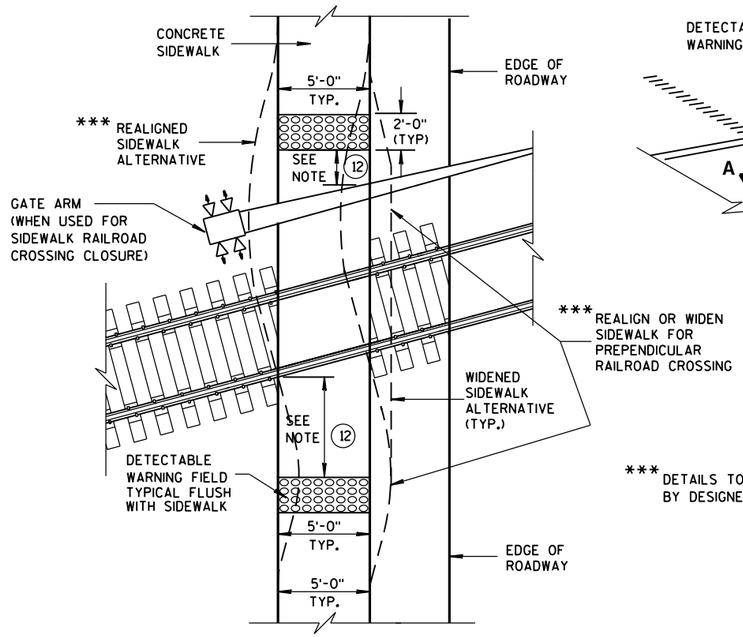
CURB RAMP TYPE 4B1
PLAN VIEW

CURB RAMPS
TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

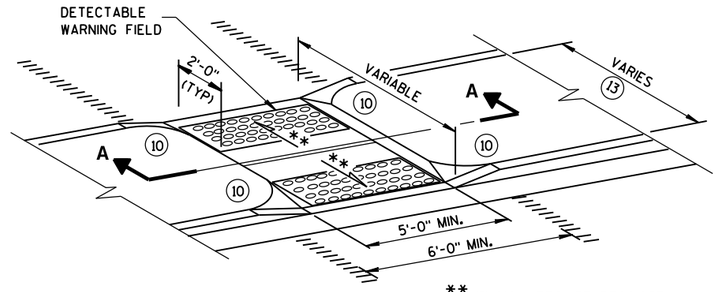
6

S.D.D. 8 D 5-16d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING

*** DETAILS TO BE DETERMINED BY DESIGNER



** 1% MIN. (PROVIDE DRAINAGE)

MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

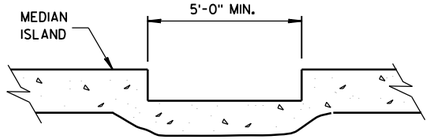
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

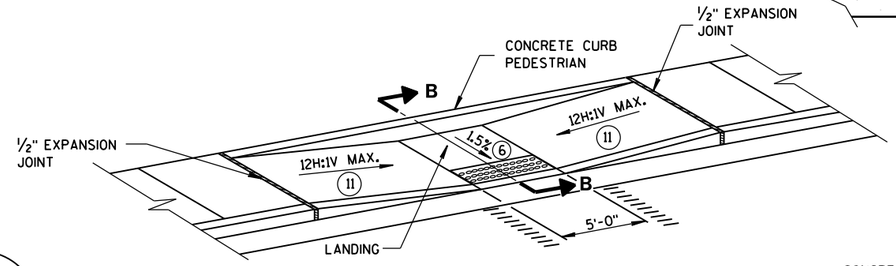
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(13) DO NOT INSTALL DETECTABLE WARNING FIELDS IF MEDIAN WIDTH BETWEEN BACK OF CURBS IS LESS THAN 6 FEET.



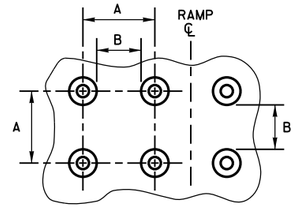
SECTION A-A



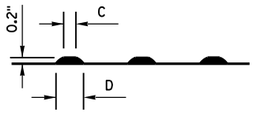
MID-BLOCK CROSSING
TYPE 7A

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

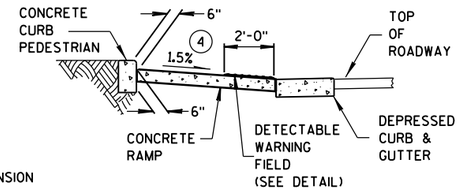


PLAN VIEW

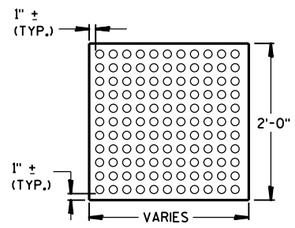


ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



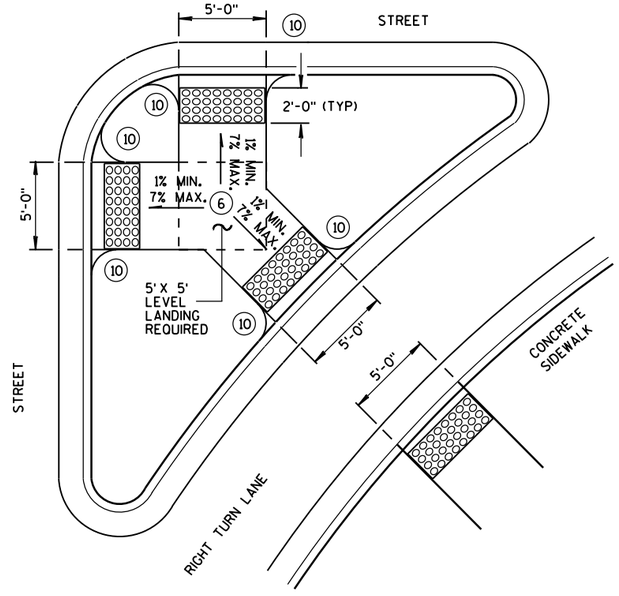
SECTION B-B



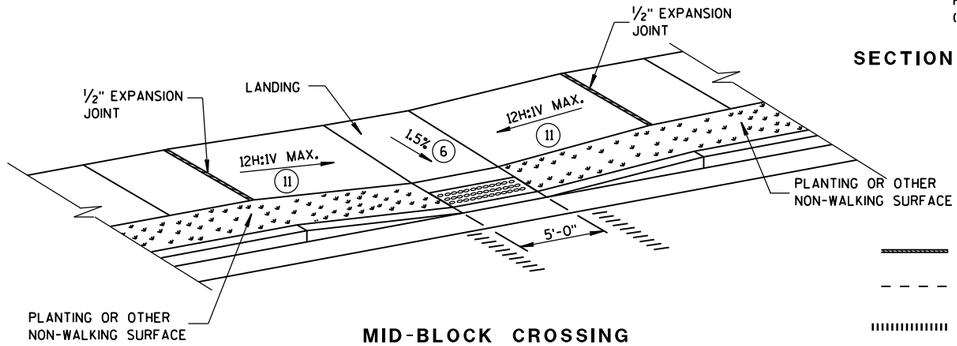
PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

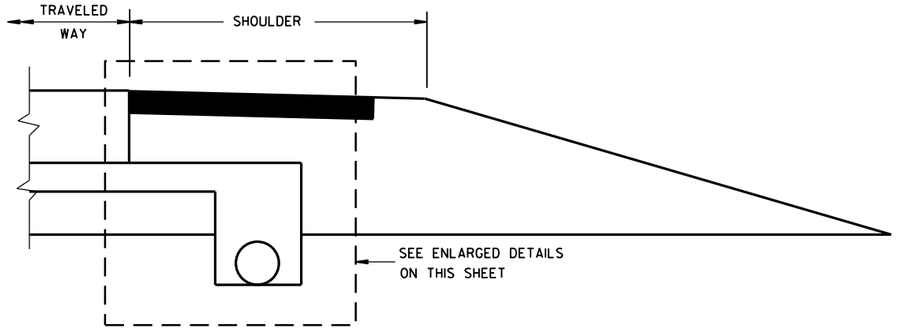
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 D 5-16e



RURAL CROSS SECTION

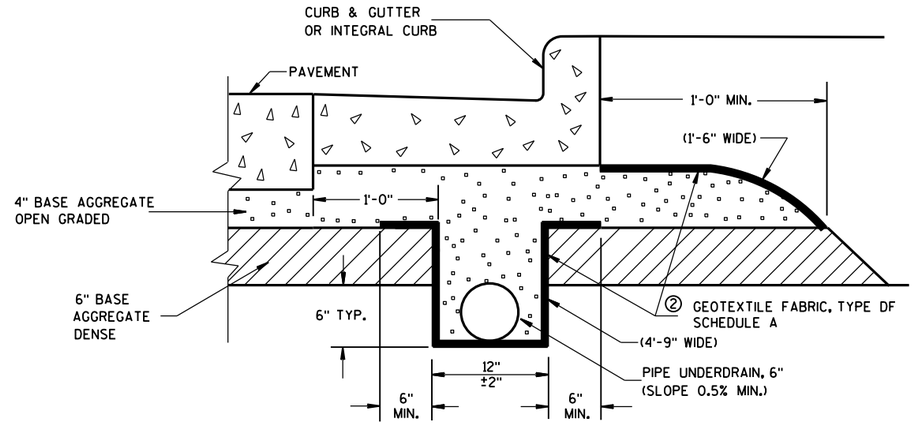
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

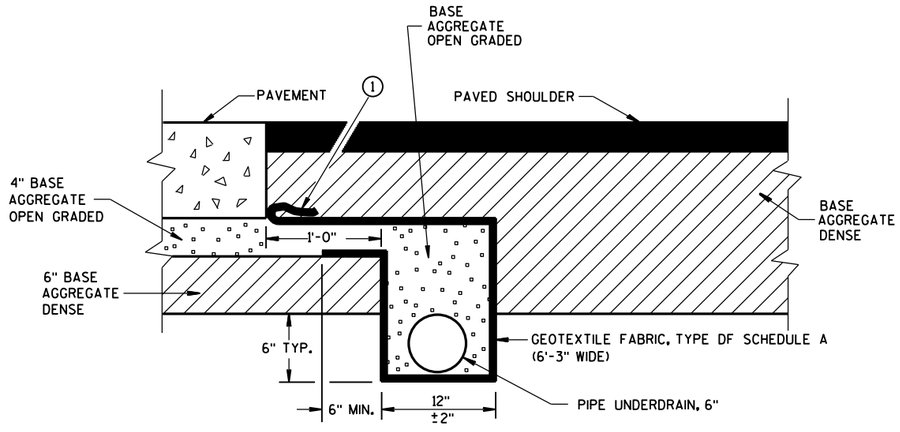
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.

① FOLD OVER EXCESS GEOTEXTILE FABRIC AT THIS LOCATION.

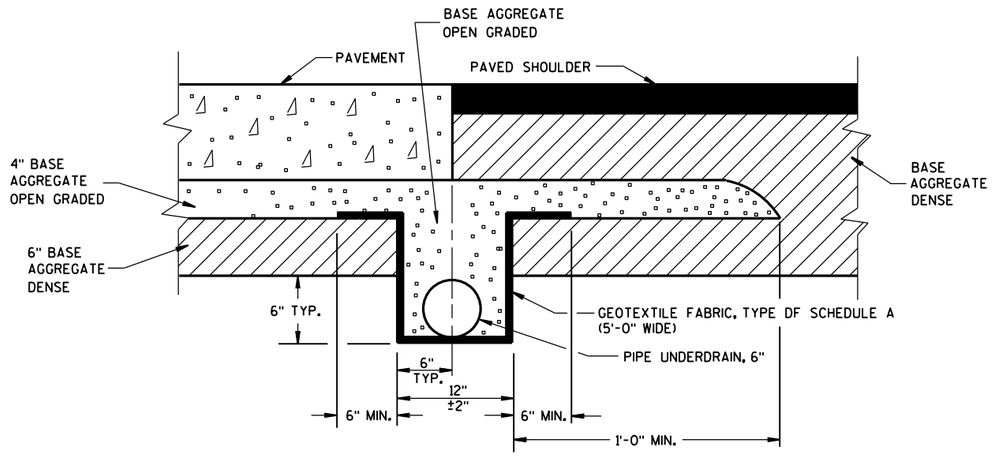
② TOTAL FABRIC WIDTH IS 6'-3" FOR PAYMENT.



EDGEDRAIN IN URBAN ROADWAY



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)



PRE-PAVING INSTALLATION ALTERNATE

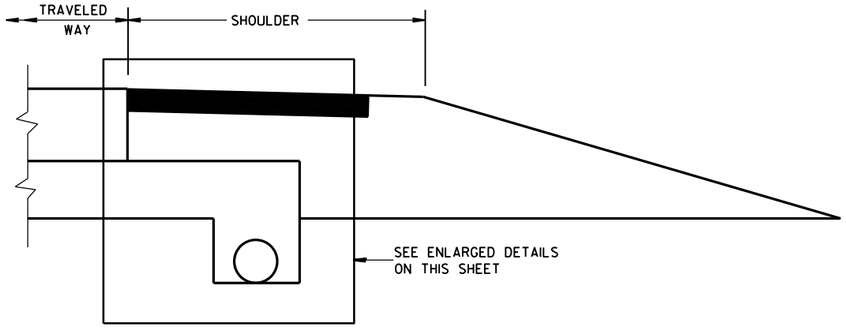
EDGEDRAIN IN RURAL ROADWAY

EDGEDRAIN AND BASE AGGREGATE OPEN GRADED

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPE
FHWA

6
S.D.D. 8 D 15-5b

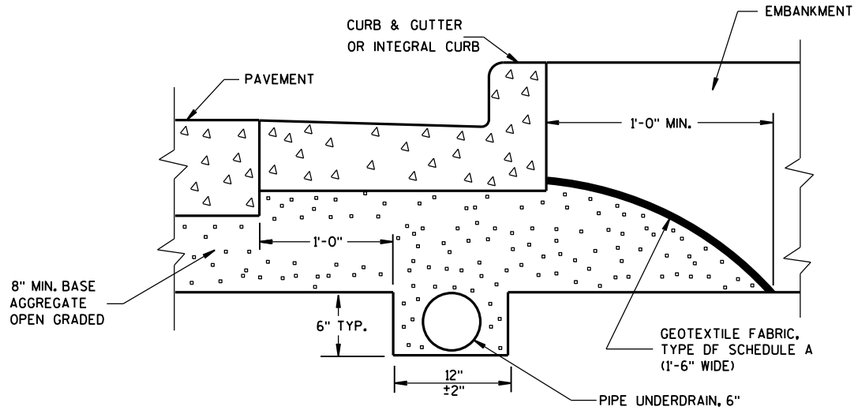


RURAL CROSS SECTION

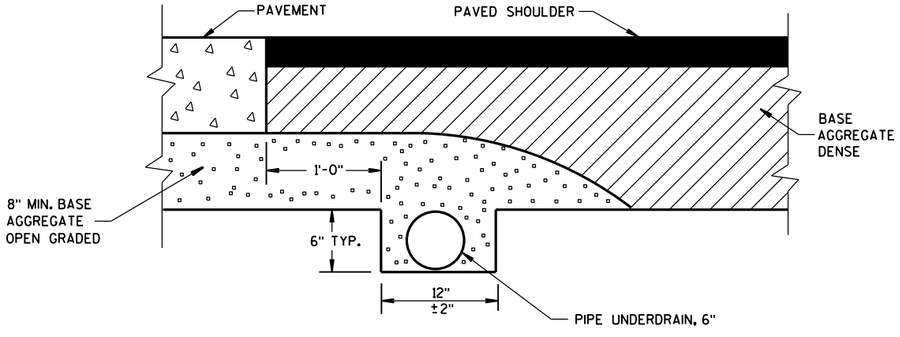
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

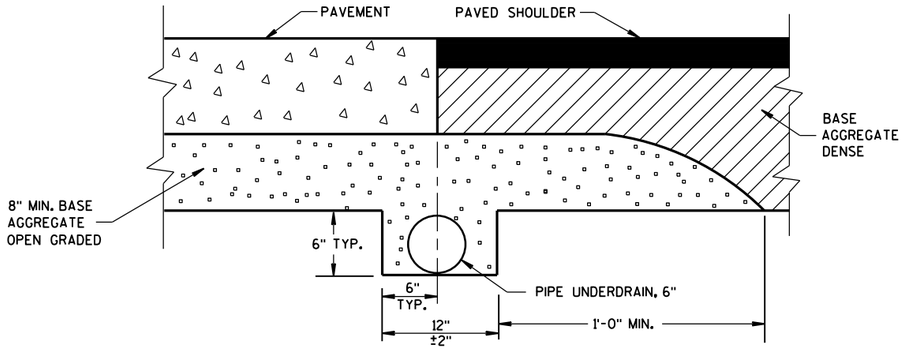
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.



EDGEDRAIN IN URBAN ROADWAY



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)



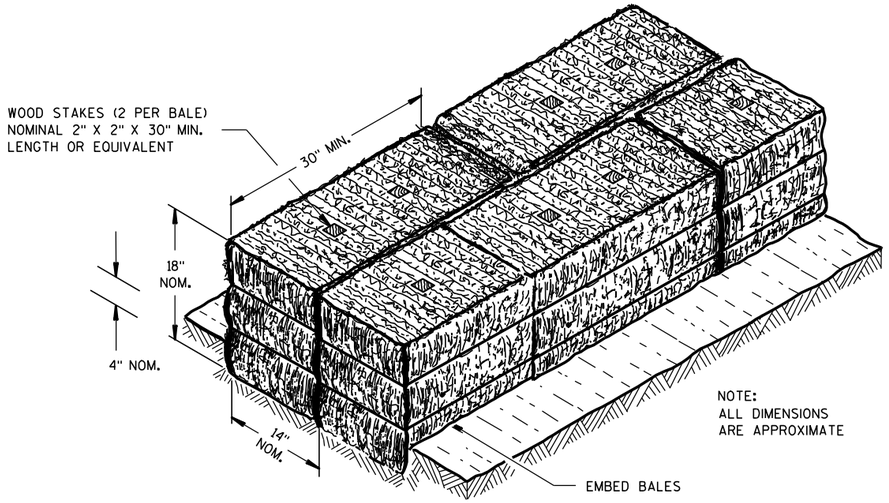
PRE-PAVING INSTALLATION ALTERNATIVE

EDGEDRAIN IN RURAL ROADWAY

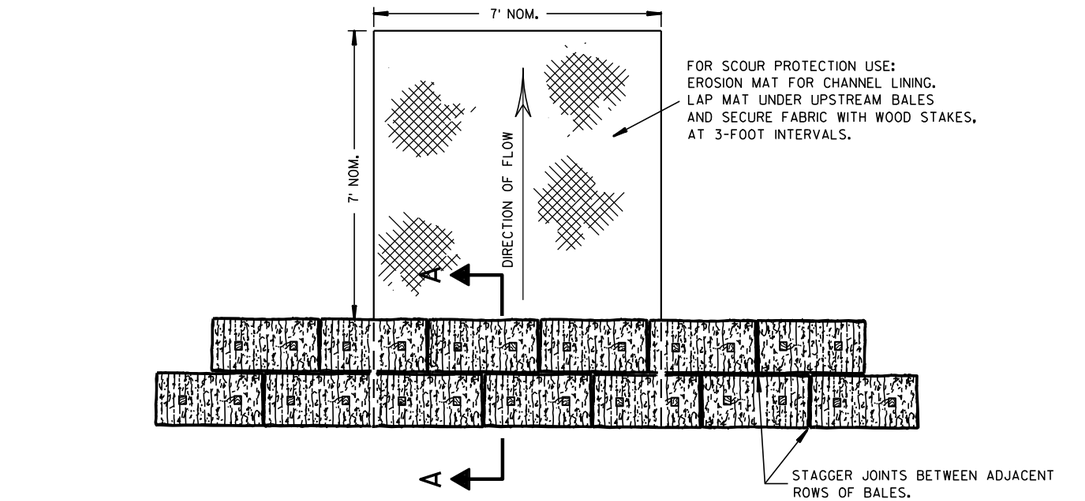
6

EDGEDRAIN AND BASE AGGREGATE OPEN GRADED	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
Sept. 2015	/S/ Peter Kemp, P.E.
DATE	PAVEMENT SUPE
FHWA	

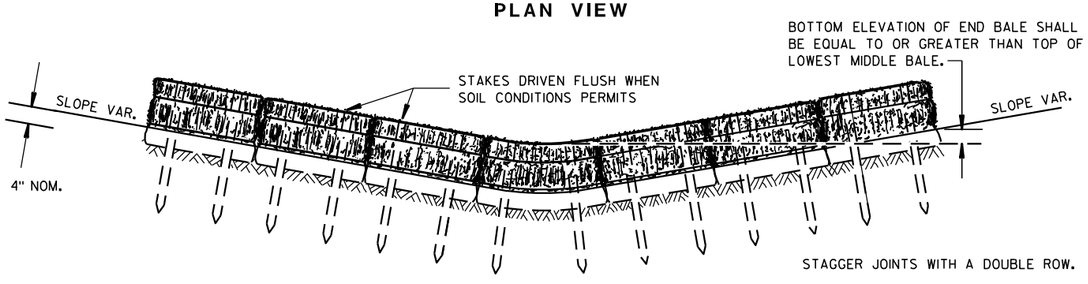
S.D.D. 8 D 15-5c



SECTION A-A



PLAN VIEW



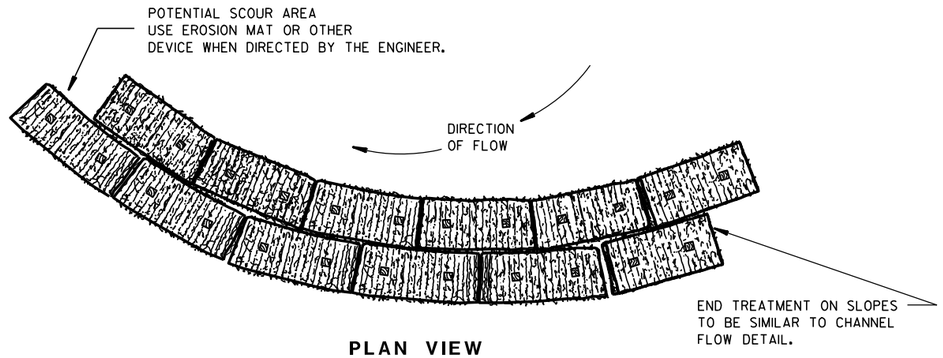
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

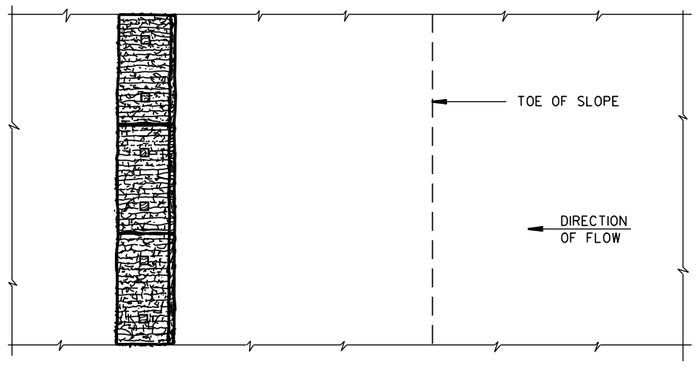
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

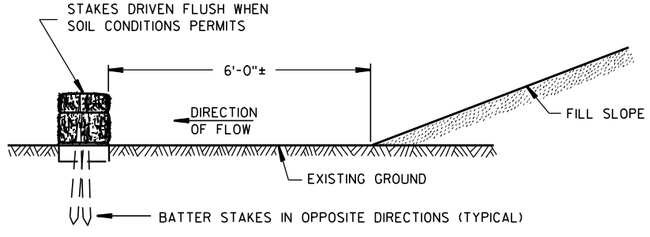


PLAN VIEW

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

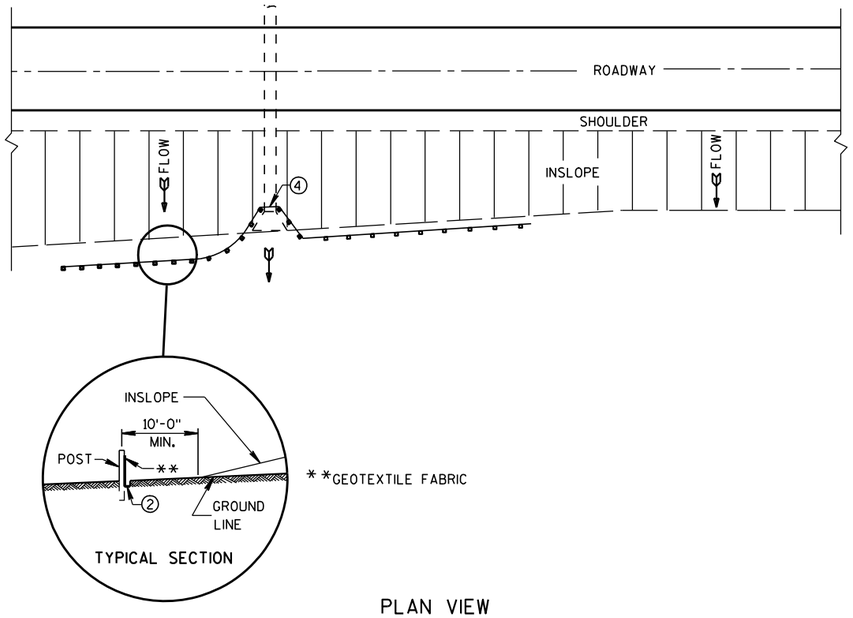
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

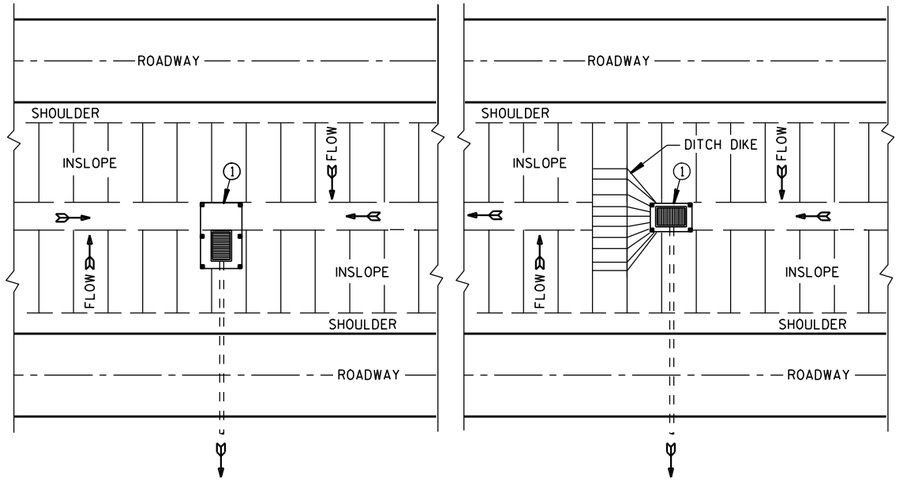
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



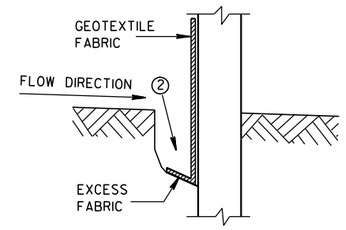
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

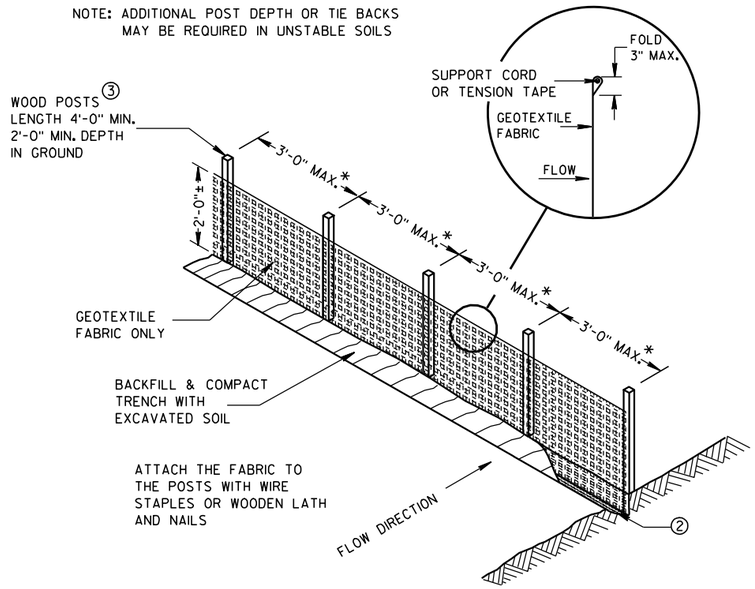
GENERAL NOTES

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

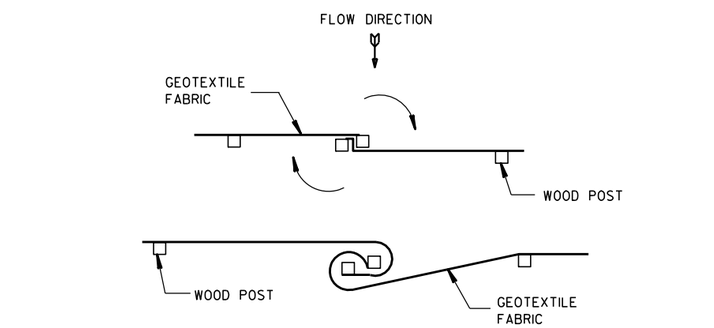
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



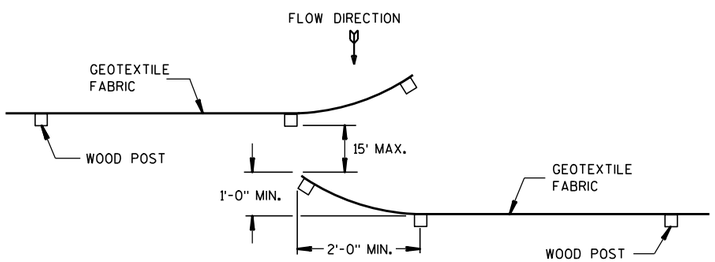
TRENCH DETAIL



SILT FENCE

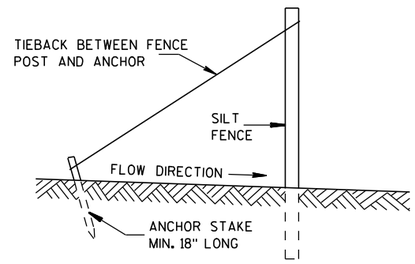


TWIST METHOD



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

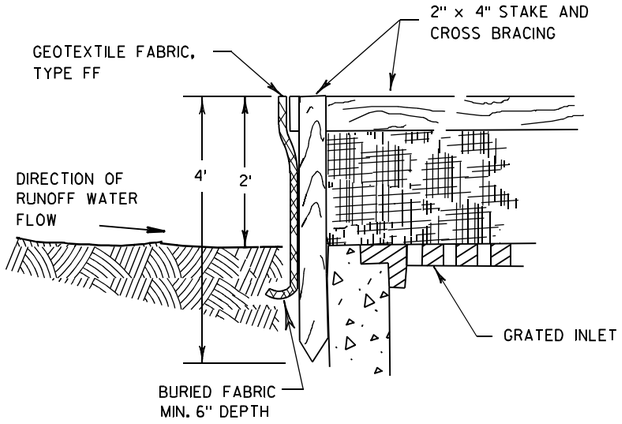
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

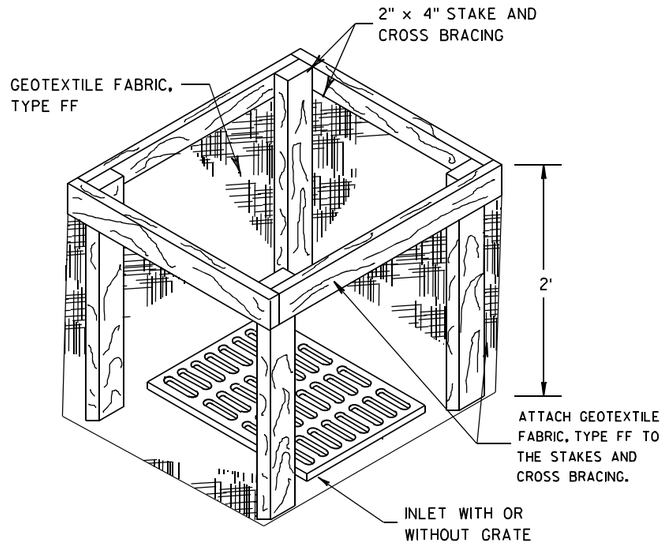
6

S.D.D. 8 E 9-6

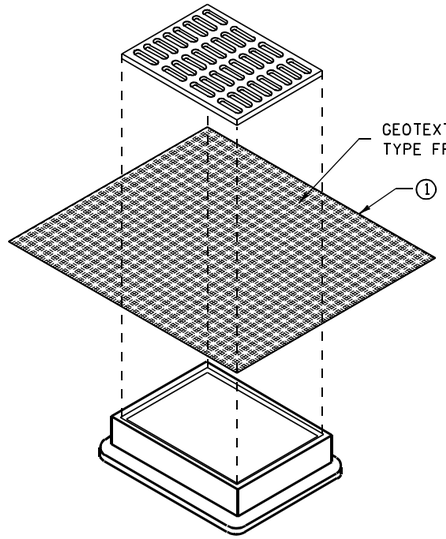
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S.D.D. 8 E 9-6



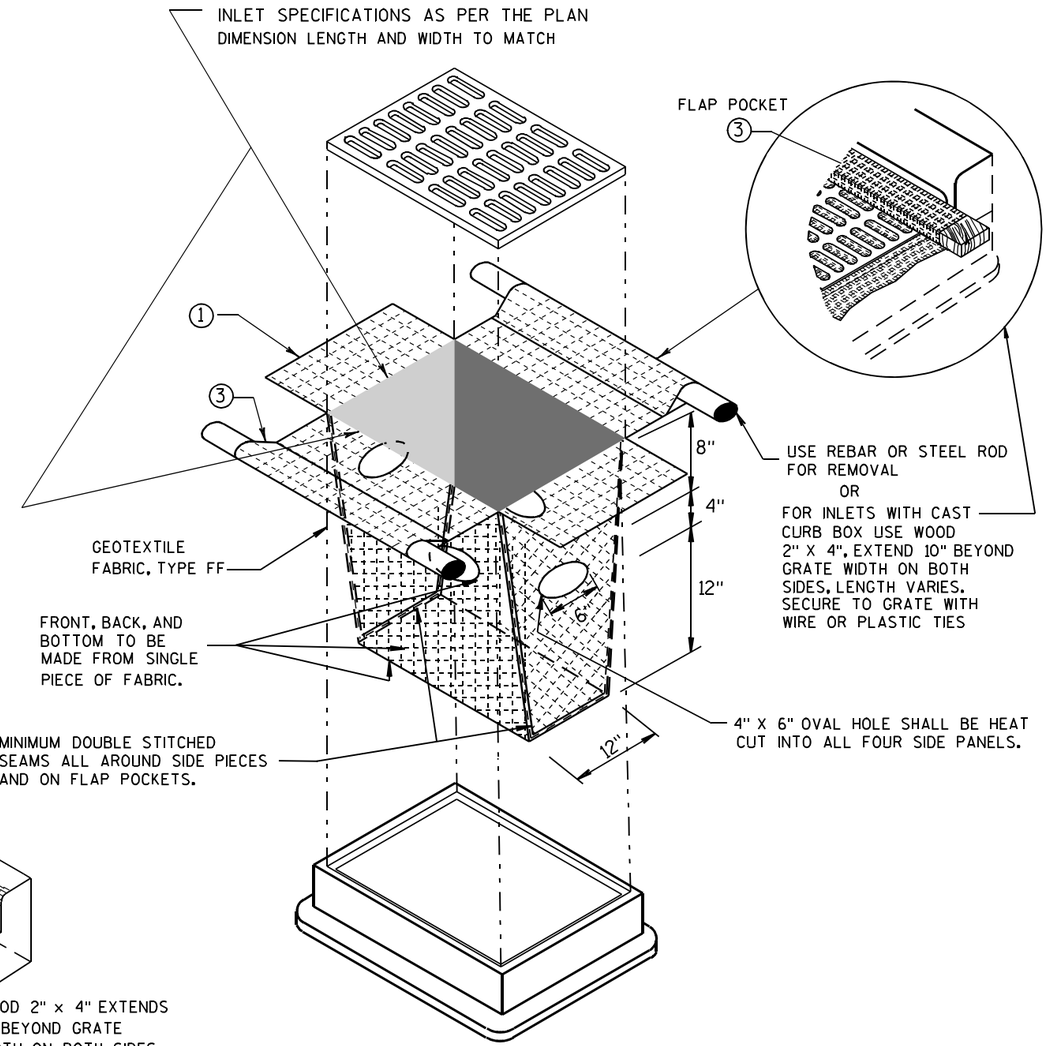


INLET PROTECTION, TYPE A



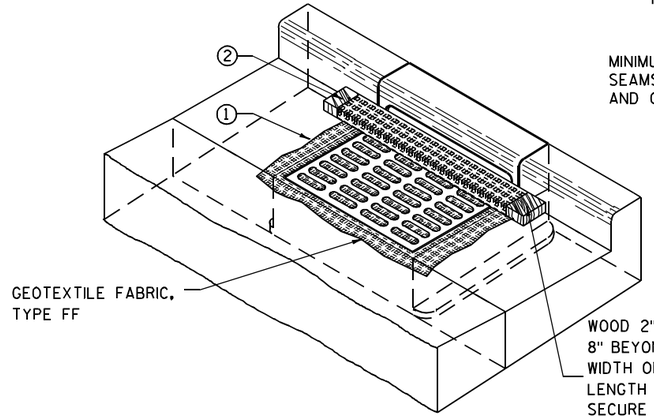
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

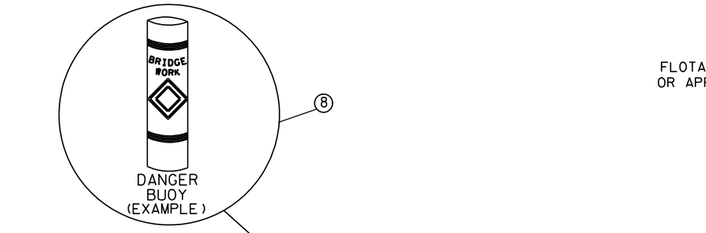
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

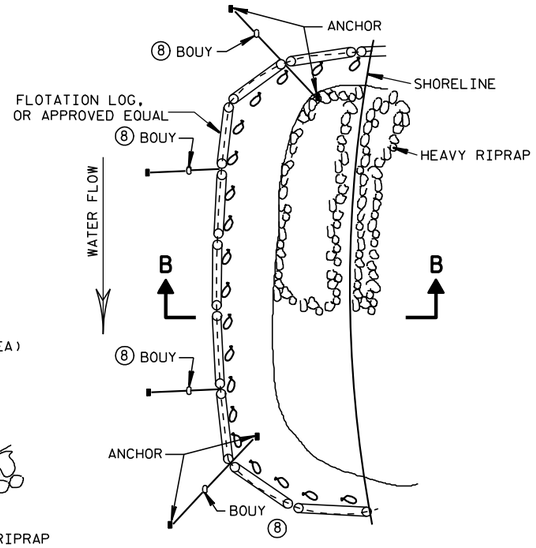
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

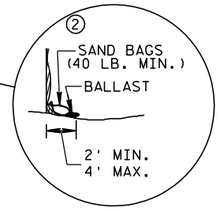
APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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

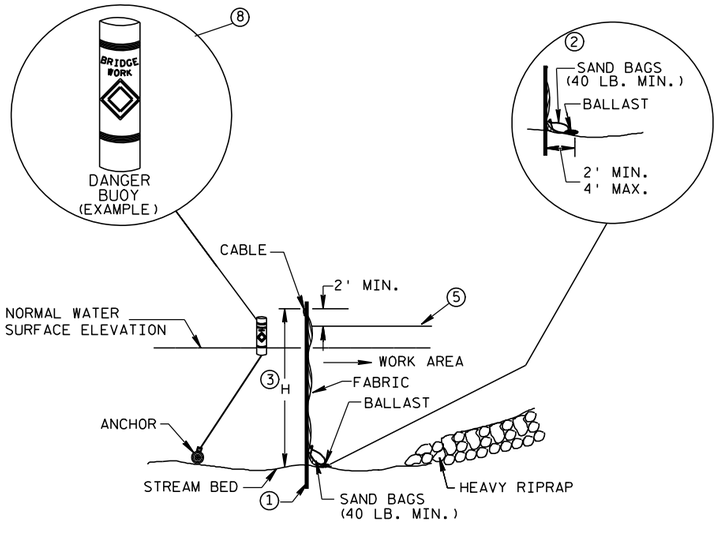


SECTION B-B

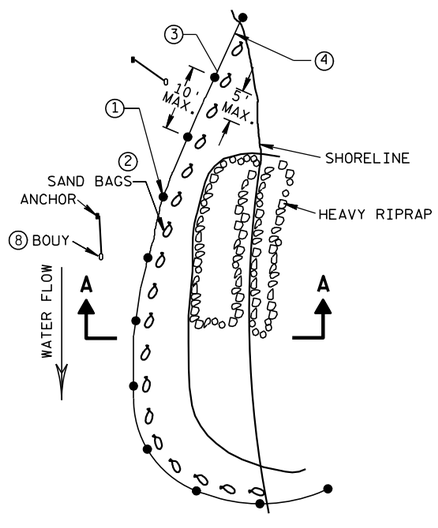




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

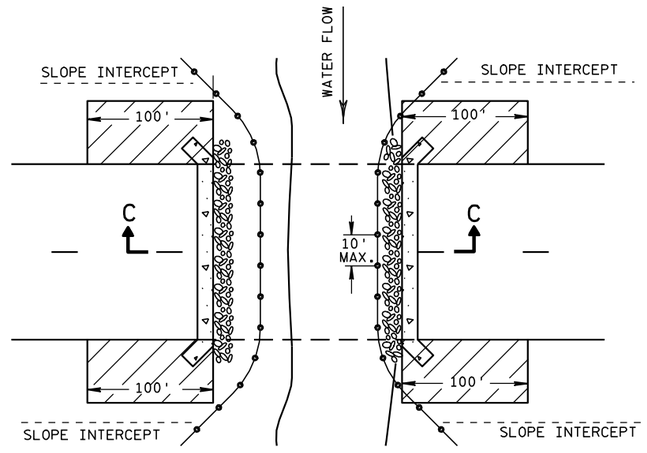
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

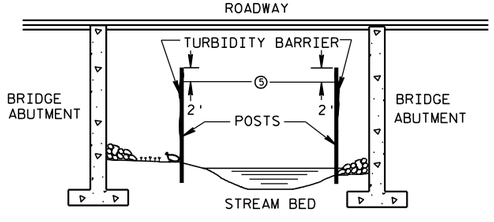
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

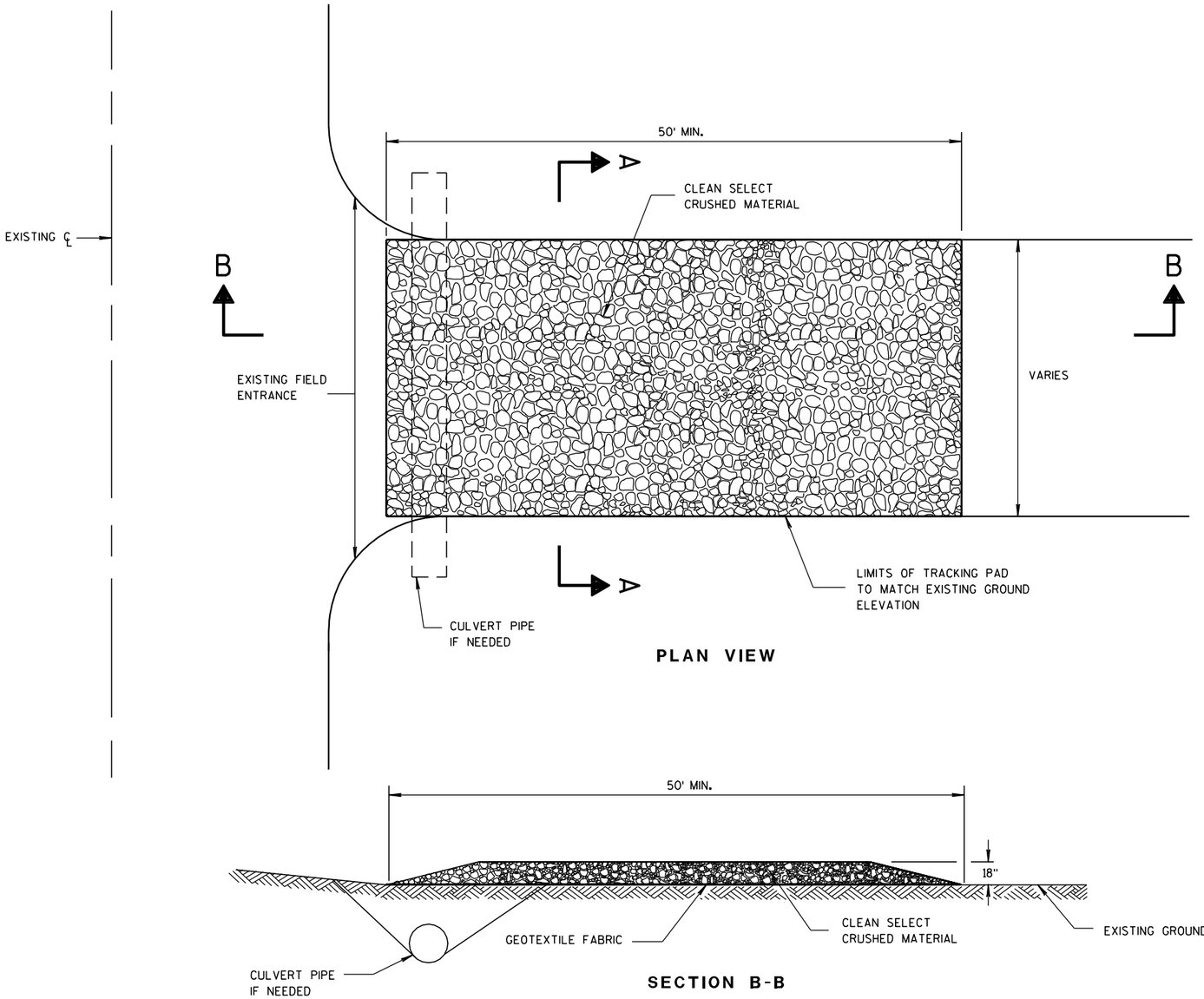
APPROVED
6/04/02 DATE
/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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S.D.D. 8 E 11-2

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S.D.D. 8 E 11-2



PLAN VIEW

SECTION B-B

GENERAL NOTES

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

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

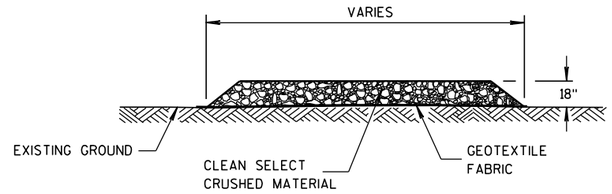
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A-A

TRACKING PAD

6

S.D.D. 8 E 14-1

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011 — DATE

/S/ Jerry H. Zoda — ROADWAY STANDARDS ENGINEER

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FHWA

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S.D.D. 8 E 14-1

METAL APRON ENDWALLS

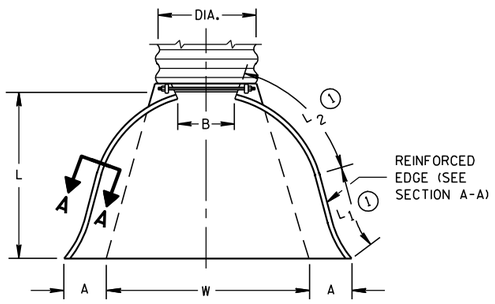
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

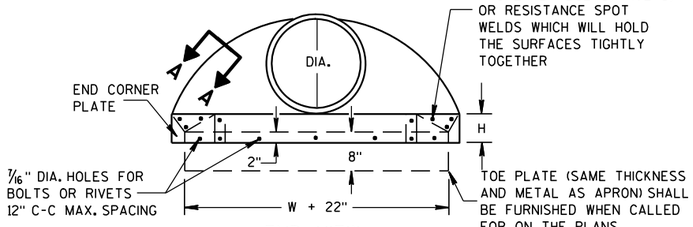
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

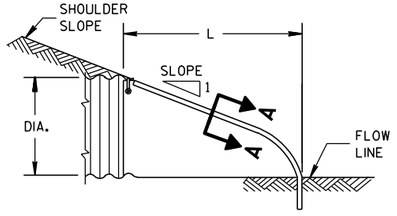
*MINIMUM
**MAXIMUM



PLAN VIEW

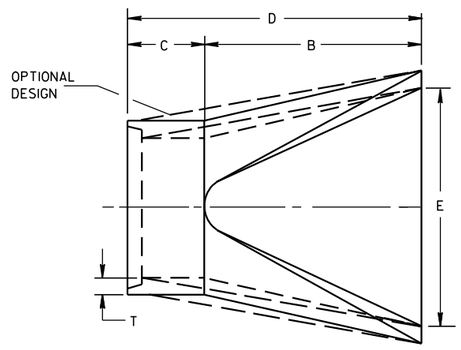


END VIEW

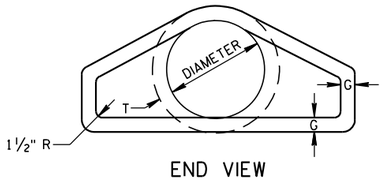


SIDE ELEVATION

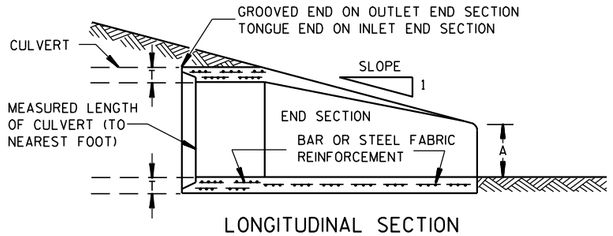
METAL ENDWALLS



PLAN

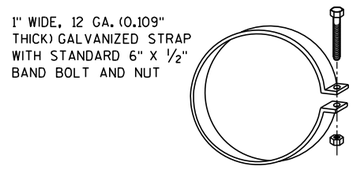


END VIEW



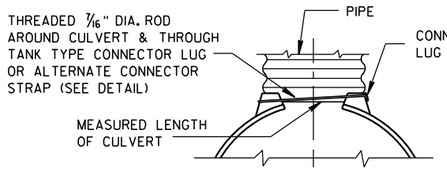
LONGITUDINAL SECTION

CONCRETE ENDWALLS

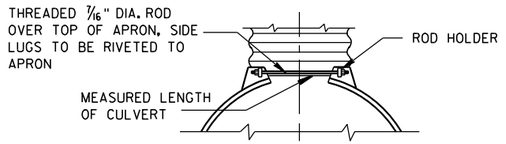


ALTERNATE FOR TYPE 1 CONNECTION

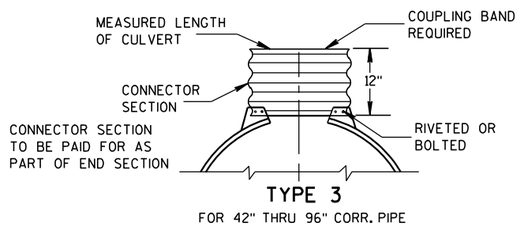
END SECTION CONNECTOR STRAP



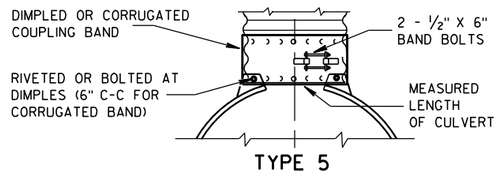
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

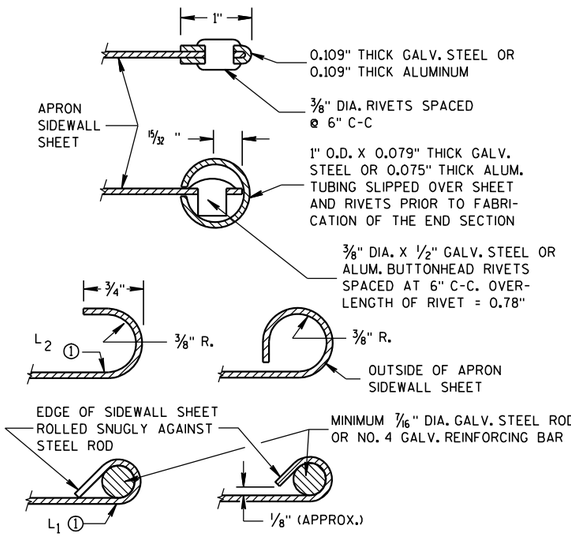
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

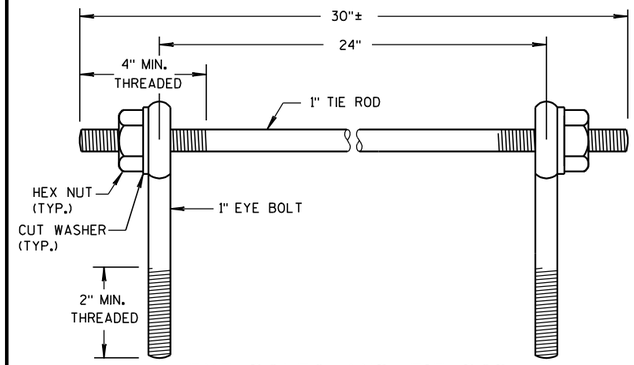
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

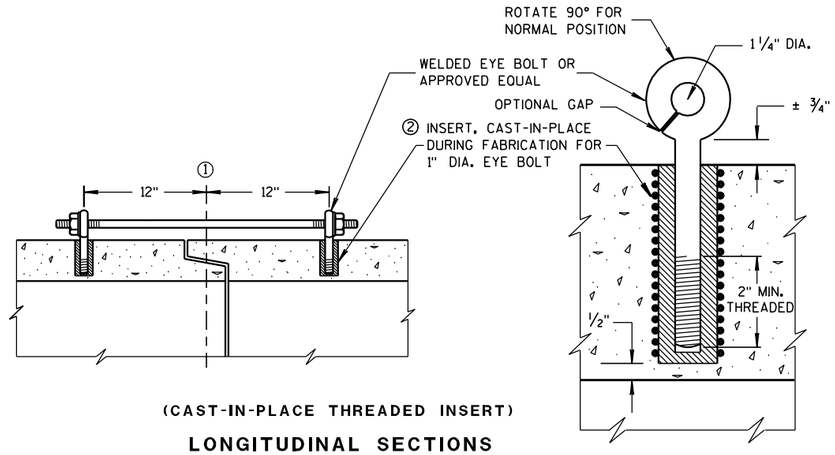
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

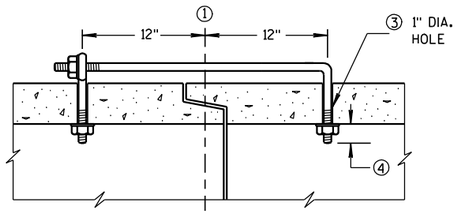
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

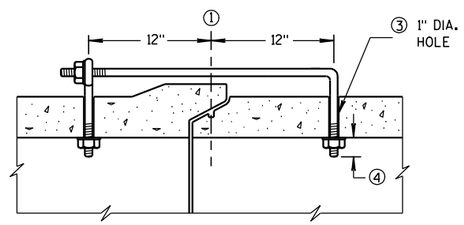
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

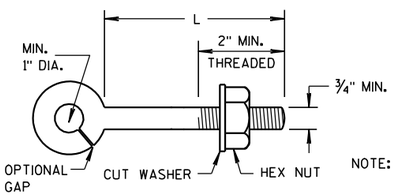


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

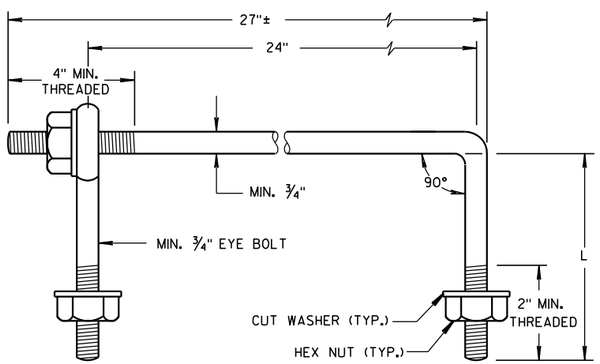
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

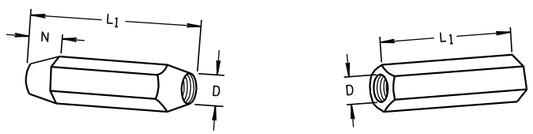
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

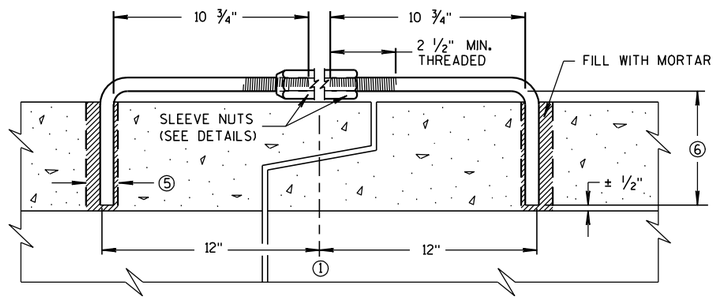
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

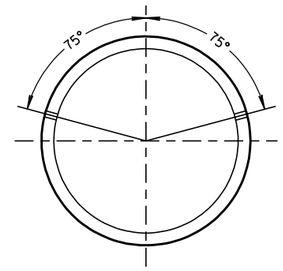
SLEEVE NUTS



LONGITUDINAL SECTION

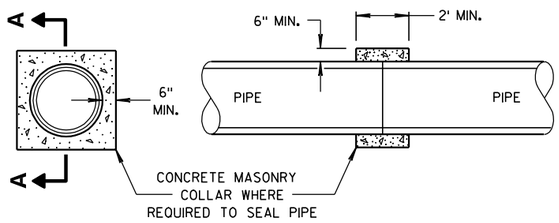
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
245
FHWA

6

S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7

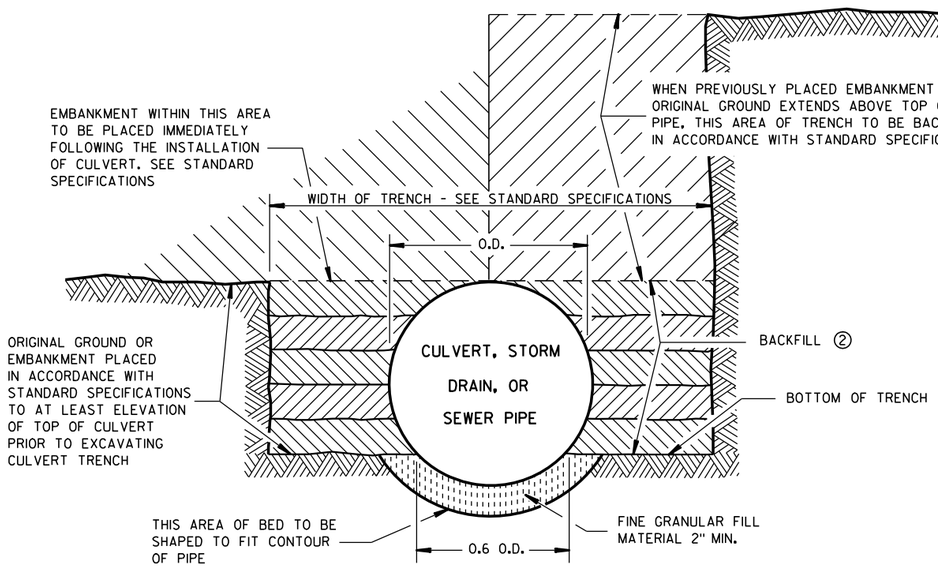
GENERAL NOTES

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

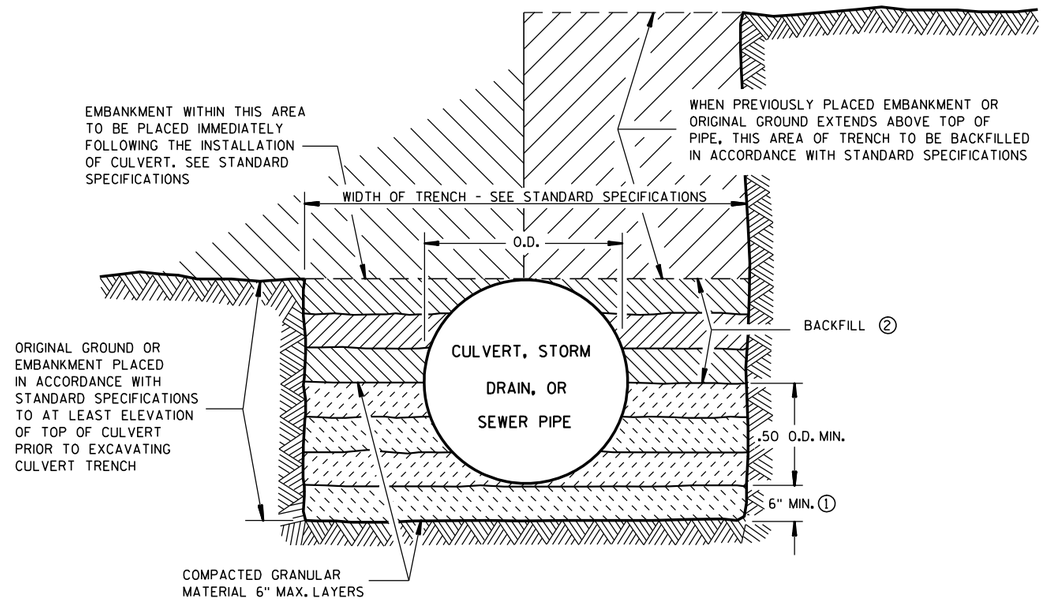
THE SHAPED SUBGRADE WITH GRANULAR FOUNDATION IS AN EQUAL ALTERNATE TO THE GRANULAR FOUNDATION EXCEPT WHERE ROCK IS ENCOUNTERED.

① WHERE ROCK, HARD PAN OR FRAGMENTED MATERIAL IS ENCOUNTERED, THE TRENCH SHALL BE EXCAVATED BELOW THE BOTTOM OF THE PIPE AN AMOUNT EQUAL TO ½ INCH PER FOOT OF PROPOSED EMBANKMENT ABOVE THE TOP OF THE PIPE, BUT NOT LESS THAN 6 INCHES.

② TRENCH SHALL BE BACKFILLED AS REQUIRED BY STANDARD SPECIFICATIONS; SECTION 520 FOR PIPE CULVERTS AND SECTION 607 FOR STORM SEWERS.



SHAPED SUBGRADE WITH GRANULAR FOUNDATION



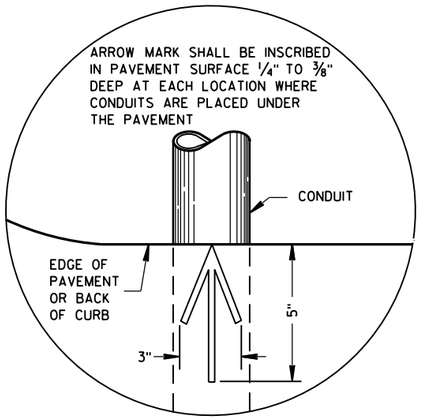
GRANULAR FOUNDATION

CLASS "B" BEDDING

CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4/7/83 DATE	/S/ D. L. Strand STATE DESIGN ENGINEER
FHWA	HWYS

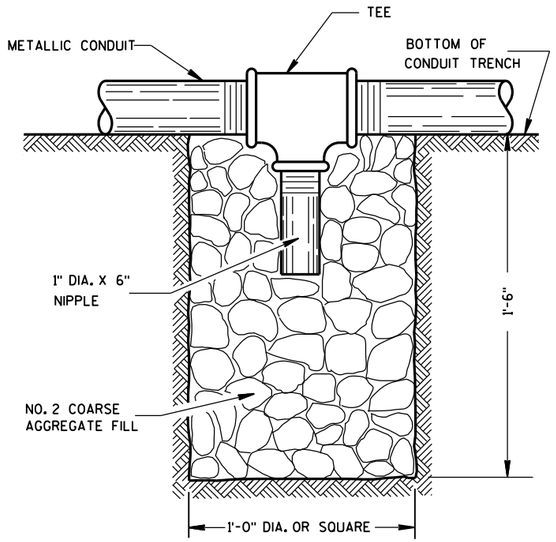
6

S.D.D. 8 F 5-1



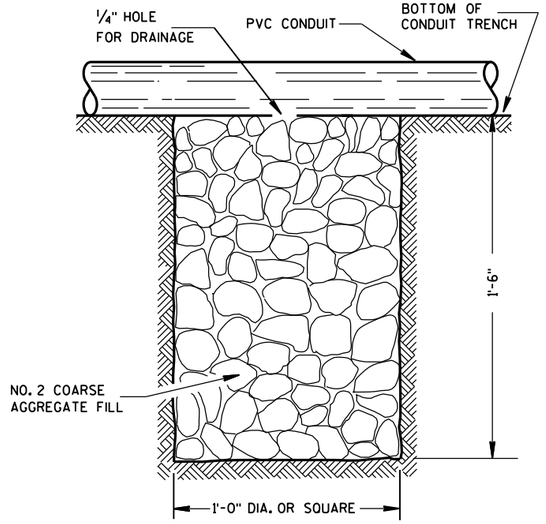
PLAN VIEW

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.

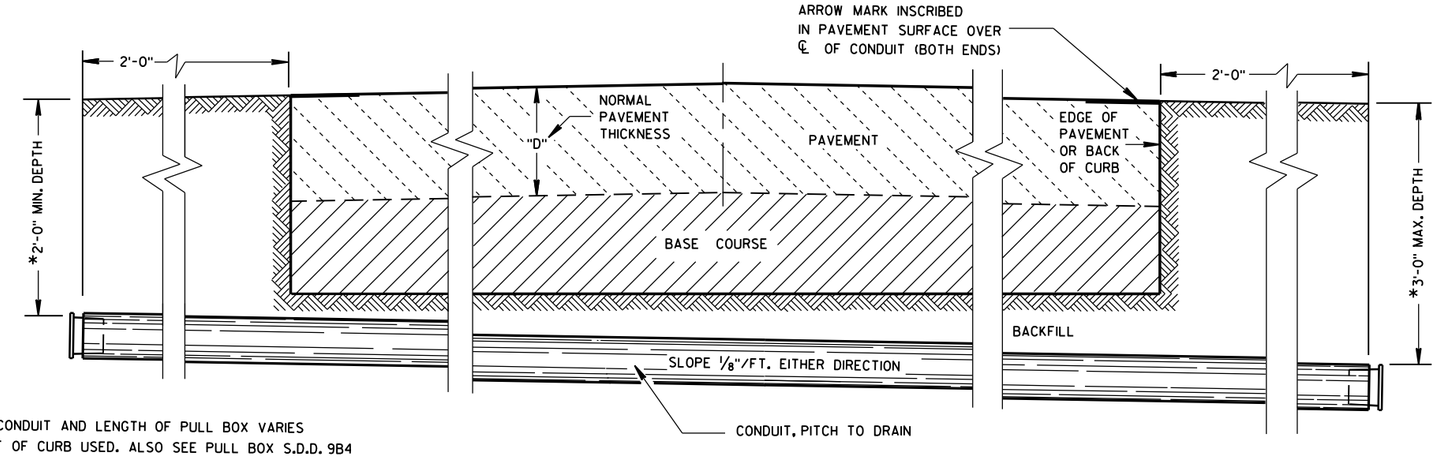
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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.).

TRACER 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

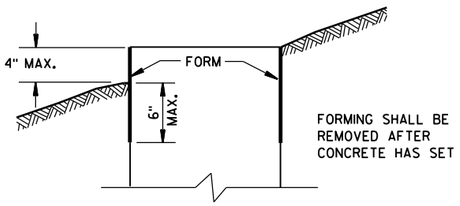
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 B 2-9

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
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 1, TYPE 2, TYPE 5, AND TYPE 6 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 OF THE STANDARD SPECIFICATIONS.

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) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

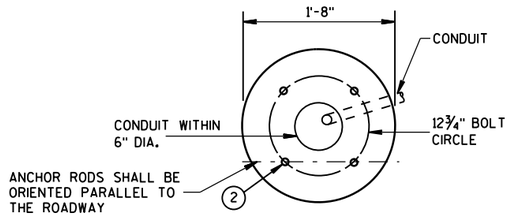
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

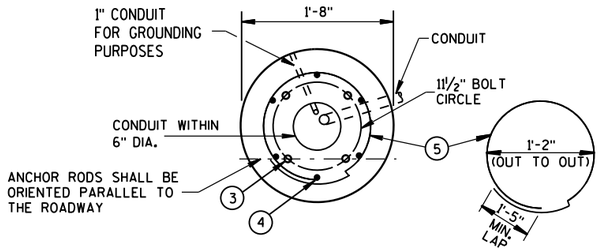
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

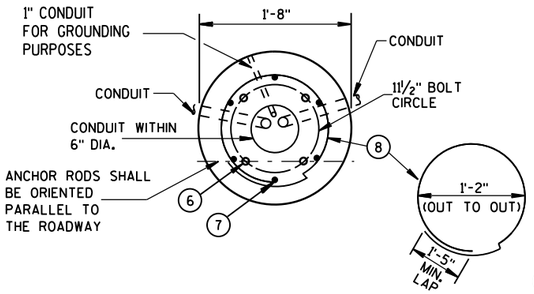
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

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

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



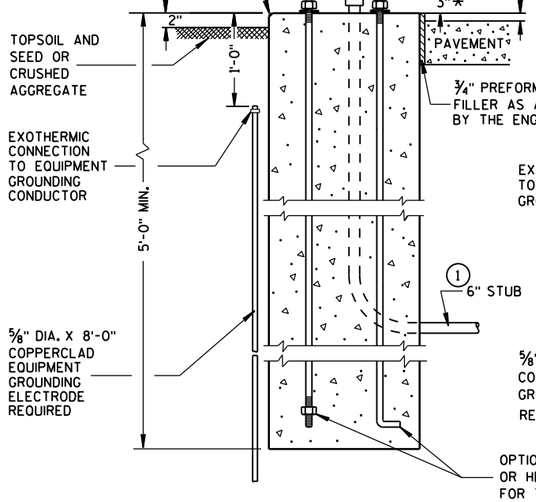




FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

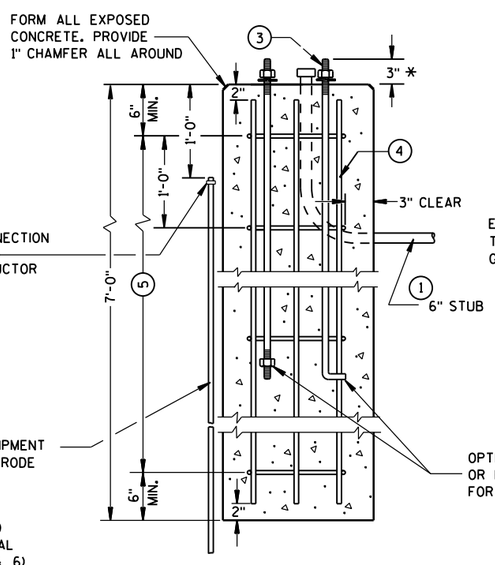
HALF SECTION IN UNPAVED AREA

(TYPICAL FOR TYPES 1, 2, 5, & 6)

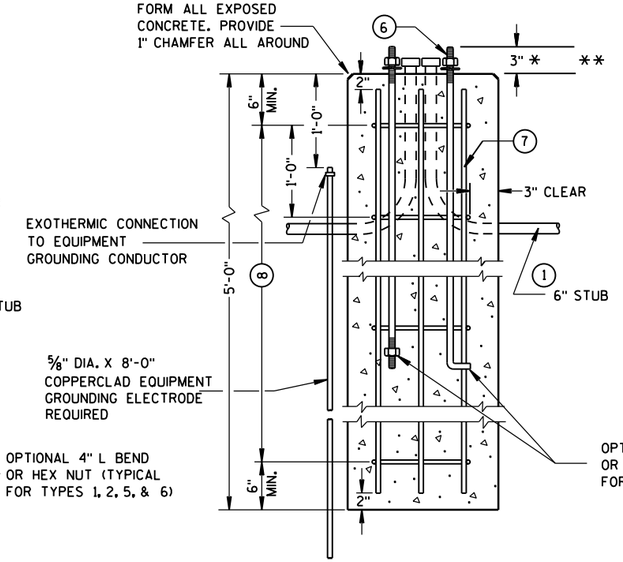


HALF SECTION IN PAVEMENT

(TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 2



TYPE 5 & 6

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, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6 S.D.D. 9 C 2-7

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

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

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

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

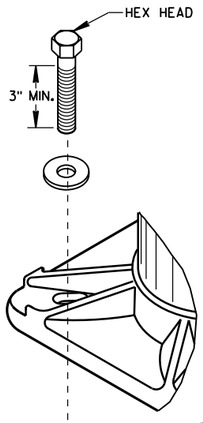
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

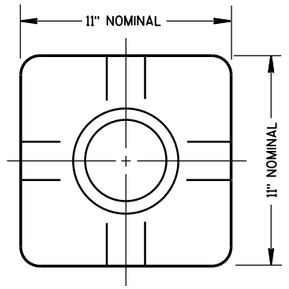
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

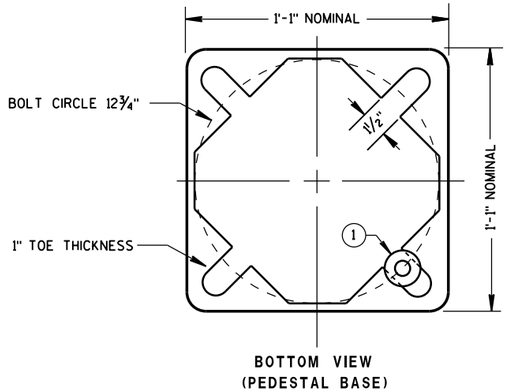
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

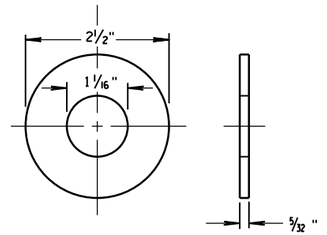




TOP VIEW
(PEDESTAL BASE)

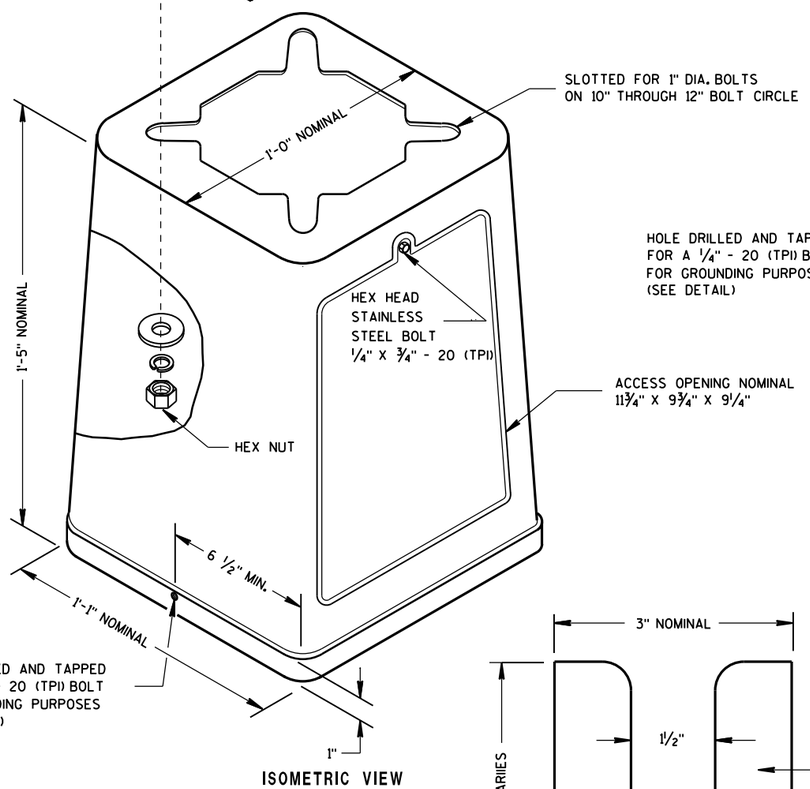


BOTTOM VIEW
(PEDESTAL BASE)

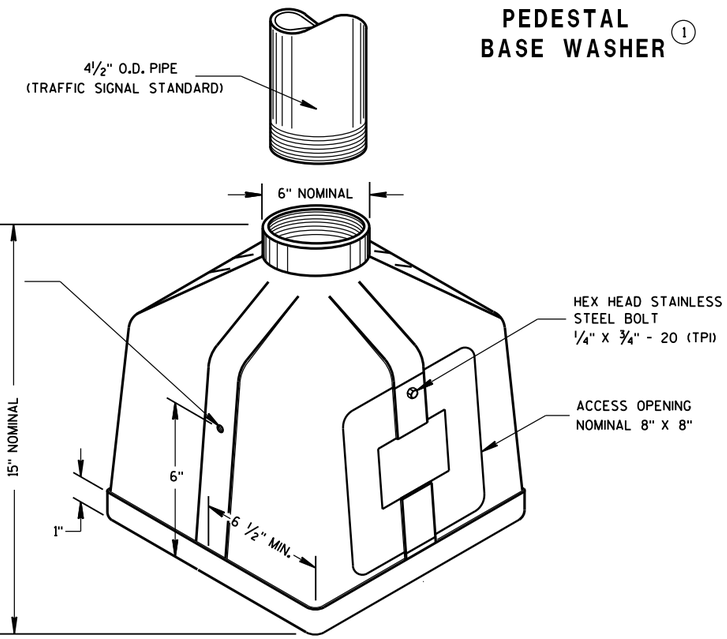


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

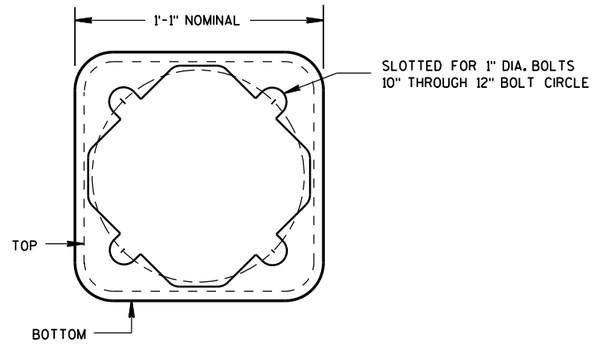
PEDESTAL BASE WASHER (1)



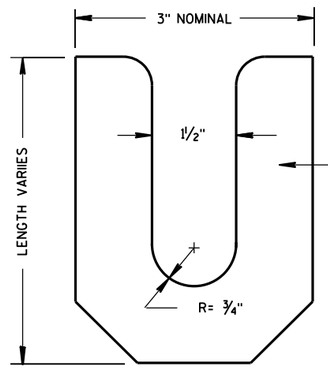
ISOMETRIC VIEW



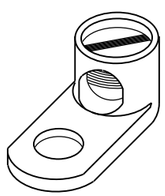
ISOMETRIC VIEW
PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)



LEVELING SHIM



TYPICAL MECHANICAL
CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

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

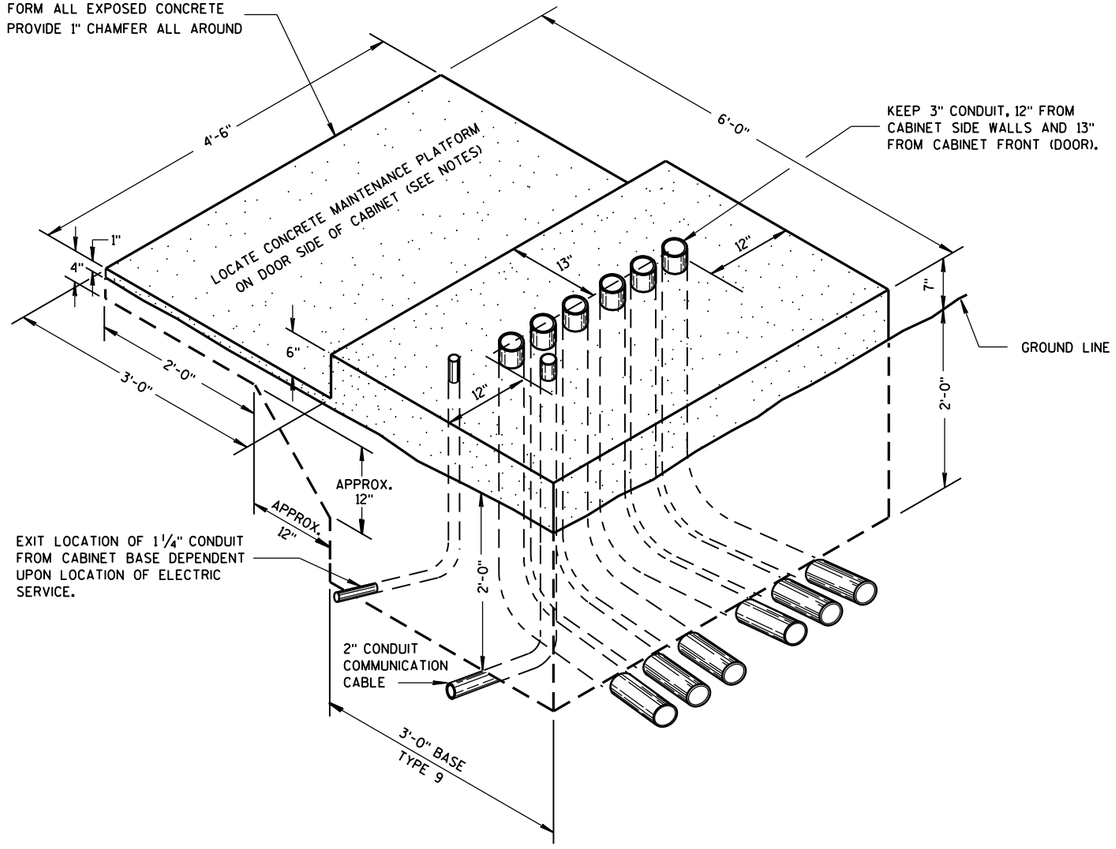
TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

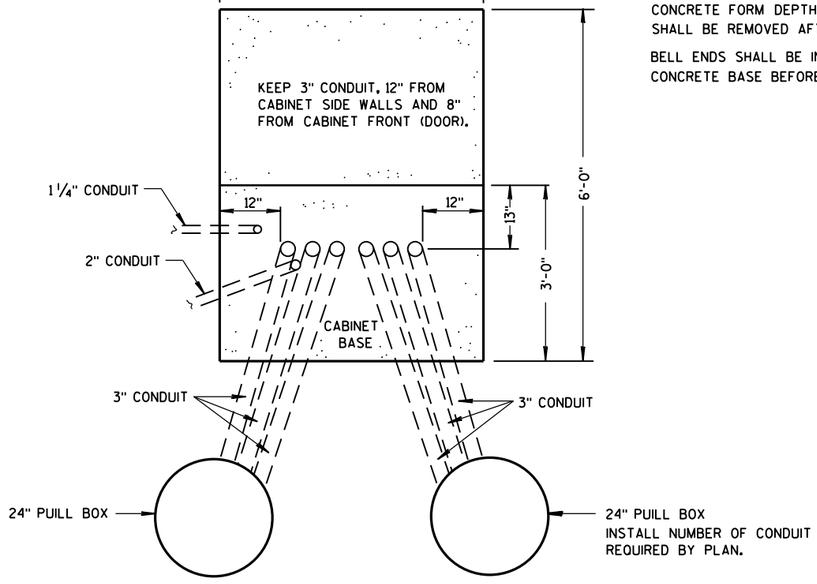
S.D.D. 9 C 3-4



ISOMETRIC VIEW

TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

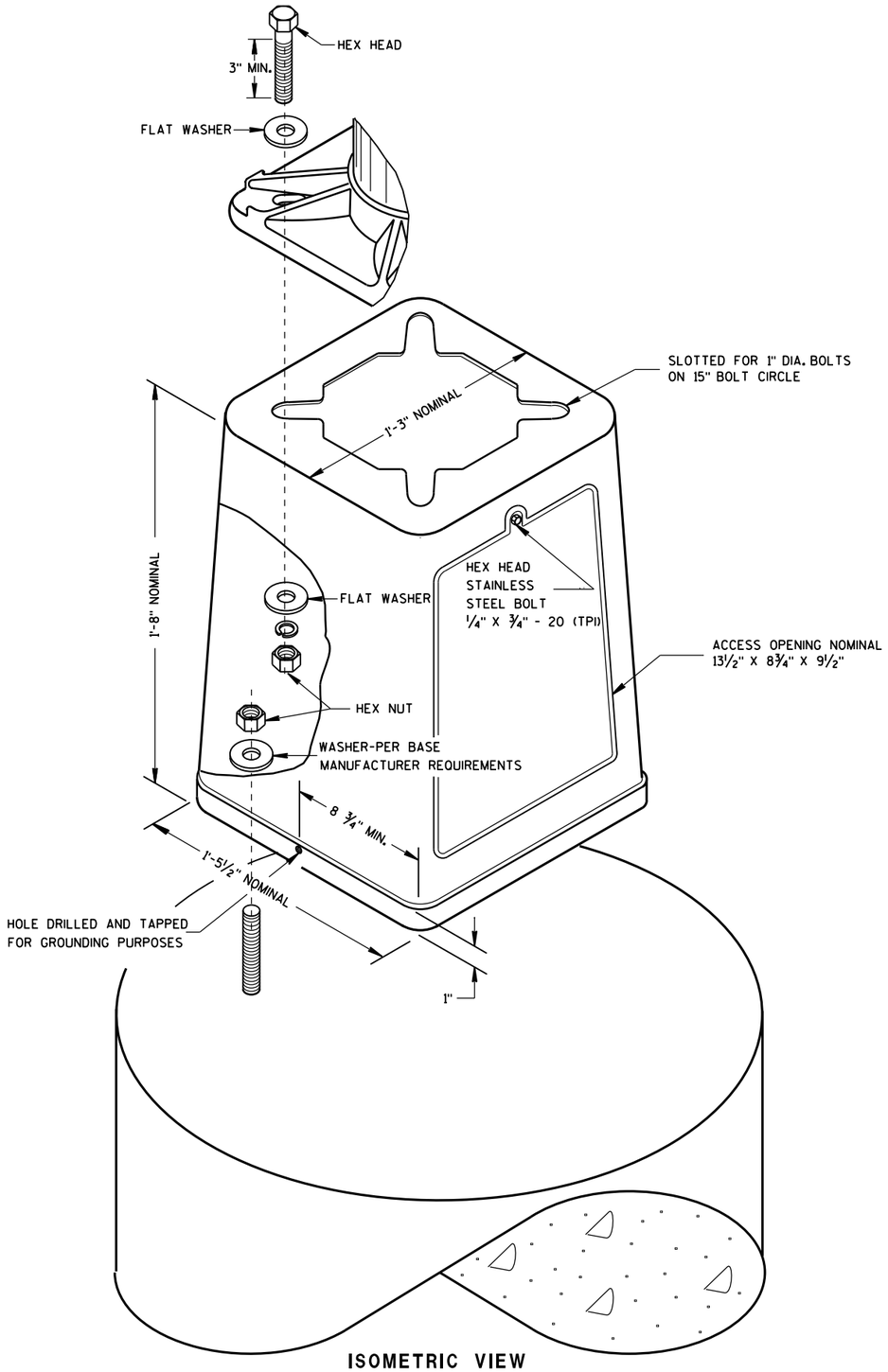
CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

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

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

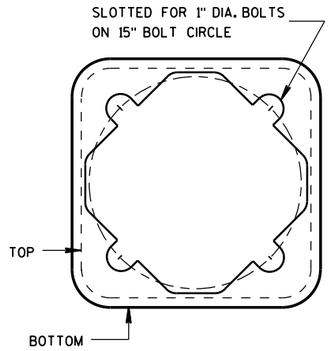
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL 250
FHWA



ISOMETRIC VIEW

TRANSFORMER BASE



BOTTOM VIEW

GENERAL NOTES

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

BREAKAWAY BASES (WHERE REQUIRED) WILL BE MEASURED AND PAID AS SEPARATE ITEMS OF WORK IN ADDITION TO THE LIGHT POLE.

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

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

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

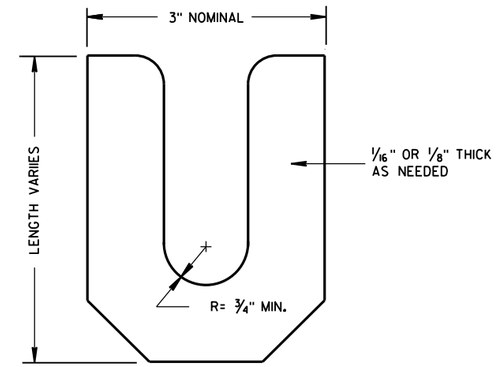
A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE TRANSFORMER BASE.

THE MECHANICAL CONNECTOR (GROUNDING LUG) SHALL BE INSTALLED USING THE TAPPED HOLE PROVIDED BY THE MANUFACTURER. THE MOUNTING BOLT HEXHEAD), NUT, WASHER AND LOCK WASHER SHALL BE STAINLESS STEEL, SIZED TO FIT THE THREADING AND HOLE SIZE, AND BE OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD A GROUNDING LUG MOUNTING HOLE NOT BE PROVIDED, THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" X 3/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE. IT SHALL BE MOUNTED IN THE SAME LOCATION AS IS SHOWN ON THE DRAWING.

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

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



LEVELING SHIM



TYPICAL MECHANICAL CONNECTOR LUG

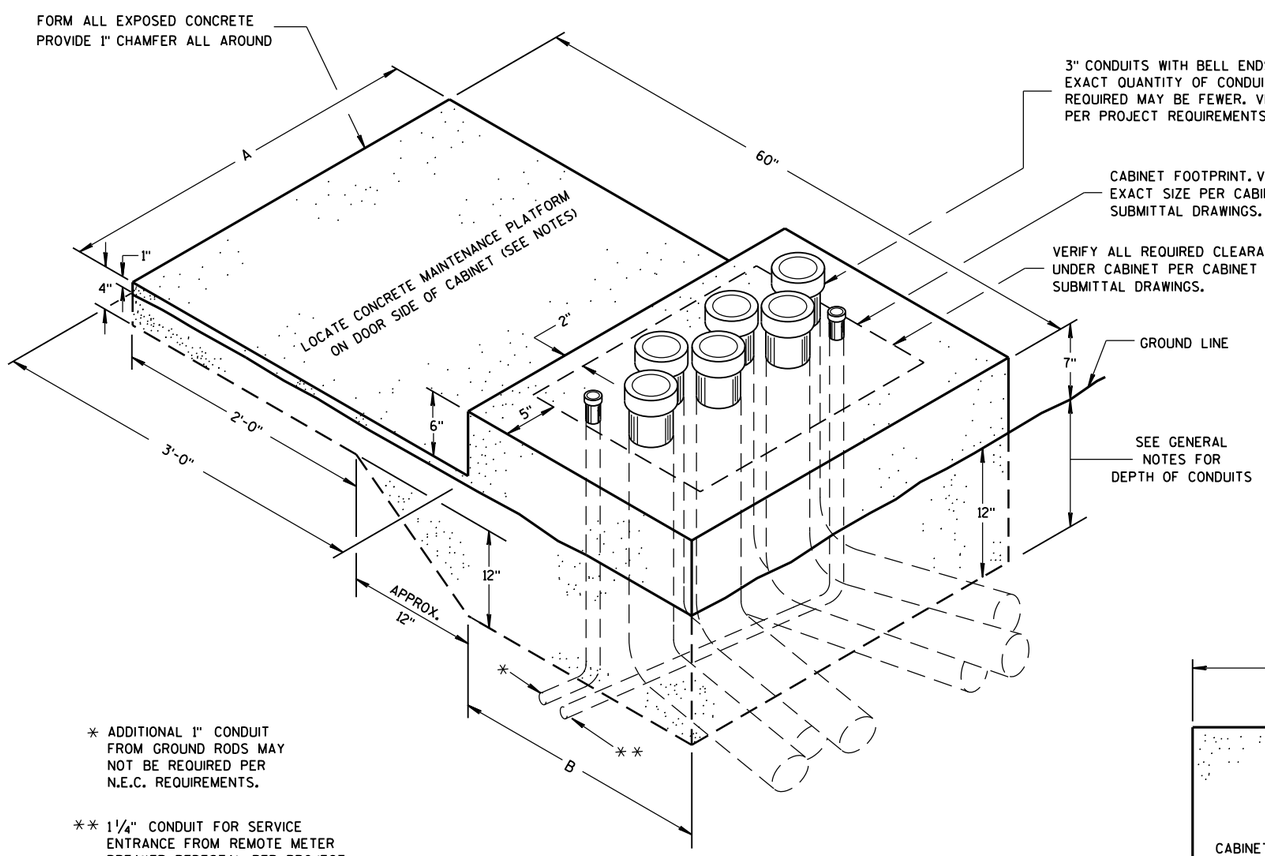
TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE FOR 15" BOLT CIRCLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6
S.D.D. 9 C 10-3



* ADDITIONAL 1" CONDUIT FROM GROUND RODS MAY NOT BE REQUIRED PER N.E.C. REQUIREMENTS.

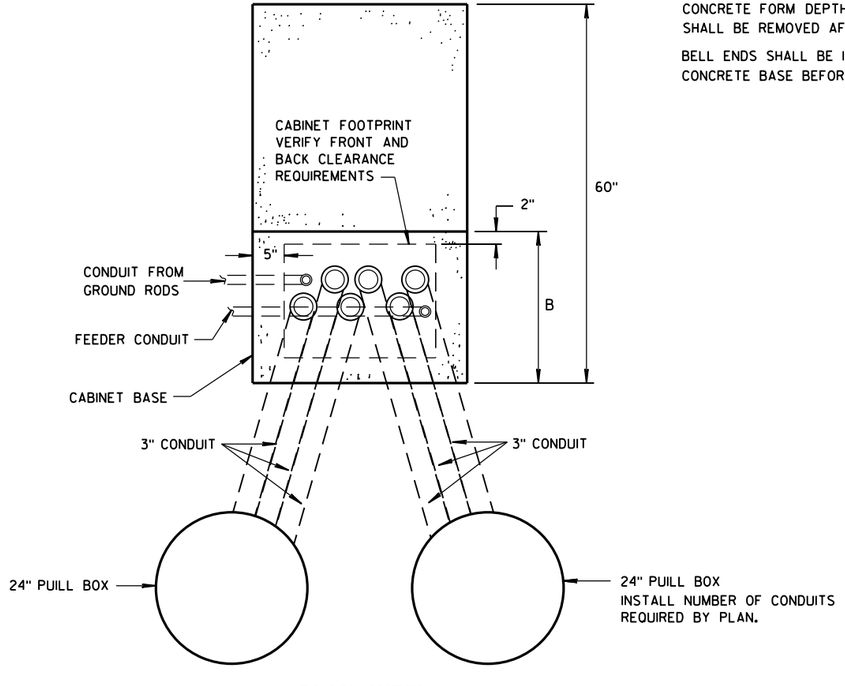
** 1¼" CONDUIT FOR SERVICE ENTRANCE FROM REMOTE METER BREAKER PEDESTAL PER PROJECT REQUIREMENTS. VERIFY LOCATION OF CONDUIT DEPENDENT UPON LOCATION OF INCOMING FEEDER AND FOR EASE OF CONNECTION TO LOAD CENTER.

ISOMETRIC VIEW

CONCRETE CONTROL CABINET BASE, TYPE L

(C.Y. CONCRETE = APPROX. 0.4)

CONCRETE BASE TYPE	CABINET WIDTH	DIMENSIONS		MAXIMUM 3" CONDUITS
		A	B	
L24	24"	34"	24"	4
L30	30"	40"	24"	6



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE L

GENERAL NOTES

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

INSTALL FOUR STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET BASES. THE ANCHORS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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

CONDUIT EXITING THE CONCRETE BASE SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

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

CONCRETE CONTROL CABINET BASE, TYPE L

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Nov. 2014 — DATE
/S/ Thomas Gonring — STATE LIGHTING ENGINE — WYS
FHWA

6
S.D.D. 9 C 14-2

GENERAL NOTES

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

ALL INTERNAL ELECTRICAL COMPONENTS WILL BE PRE-WIRED BY THE CABINET FABRICATOR.

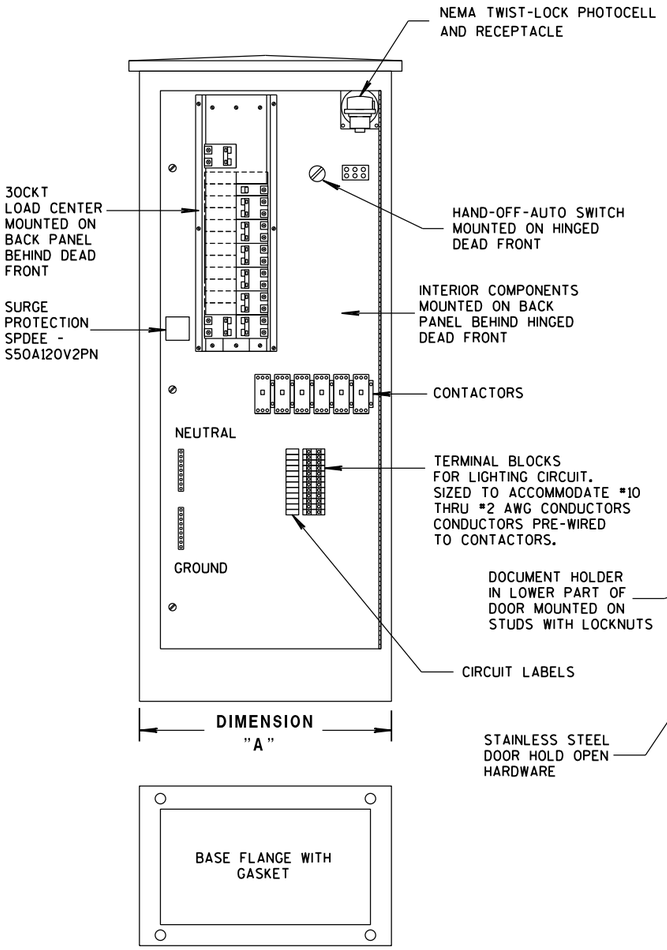
ALL CONDUIT ENTRIES SHALL BE SEALED WITH AN APPROPRIATE DUCT SEALING COMPOUND.

ORIENT PHOTOCELL AWAY FROM AMBIENT LIGHT SOURCES AND ONCOMING TRAFFIC HEADLIGHTS.

THE CONTRACTOR SHALL TOUCH UP ANY DAMAGE TO THE ANODIZED FINISH CAUSED BY THE INSTALLATION PROCESS. COLOR MATCH PAINT SHALL BE USED.

A COMPLETE LIGHTING OR ELECTRICAL PLAN SHALL BE SECURELY PLACED IN THE DOCUMENT HOLDER ATTACHED TO THE DOOR.

FRONT INTERIOR ELEVATION



SIDE VIEW

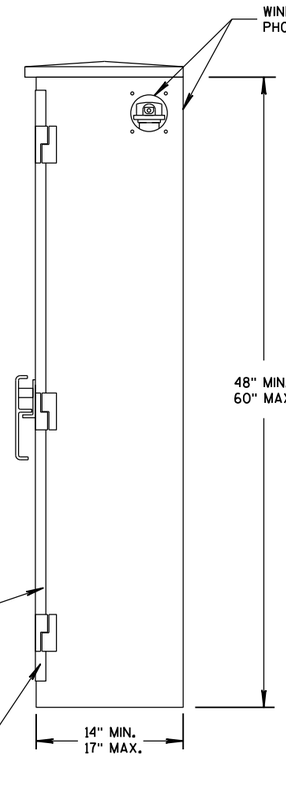
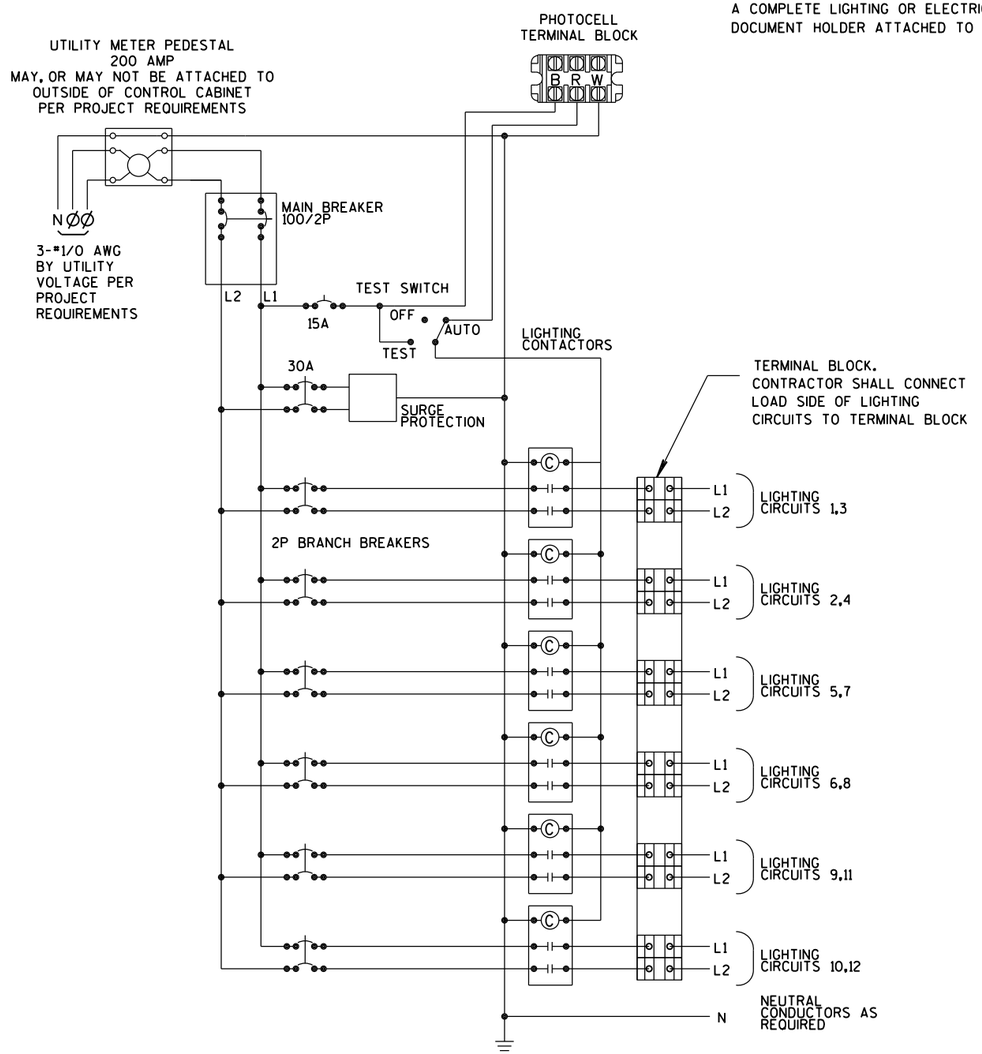


TABLE OF DIMENSIONS (INCHES)

CONCRETE BASE TYPE	CABINET WIDTH	DIMENSION "A"
L24	24"	24"
L30	30"	30"



CONTROL CABINET SCHEMATIC

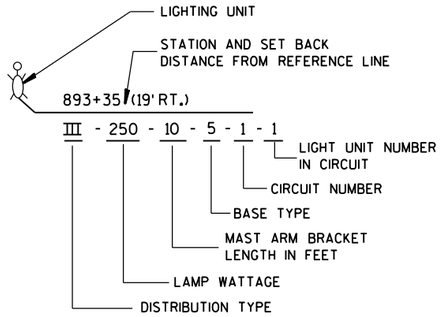
LIGHTING CONTROL CABINET

LIGHTING CONTROL CABINET

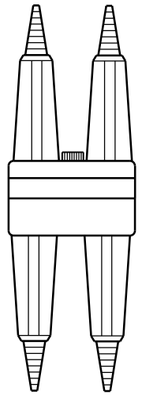
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Thomas Gonring — STATE LIGHTING ENGINEER
FHWA

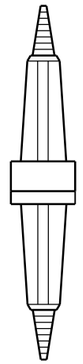
6
S.D.D. 9 D 4-1



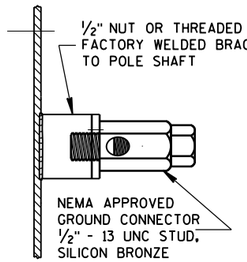
LIGHTING UNIT CODE
(TYPICAL)

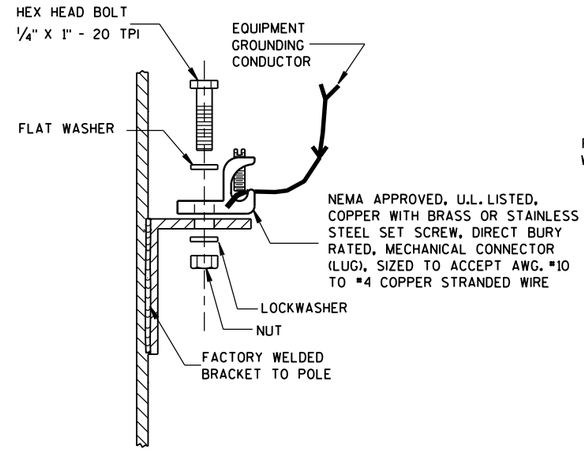


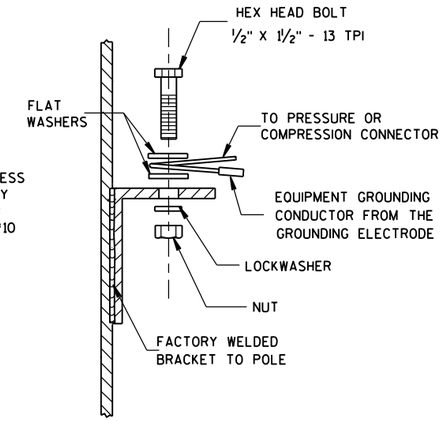
DETAIL "A"
BREAKAWY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



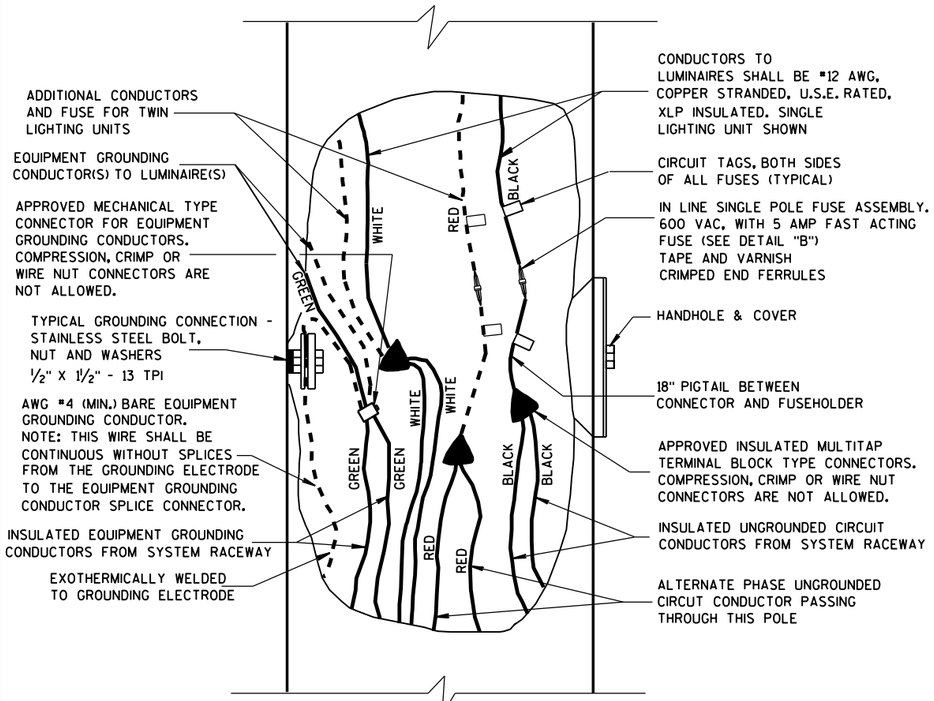
DETAIL "B"
BREAKAWY SINGLE POLE WITH WATERPROOF INSULATING BOOT



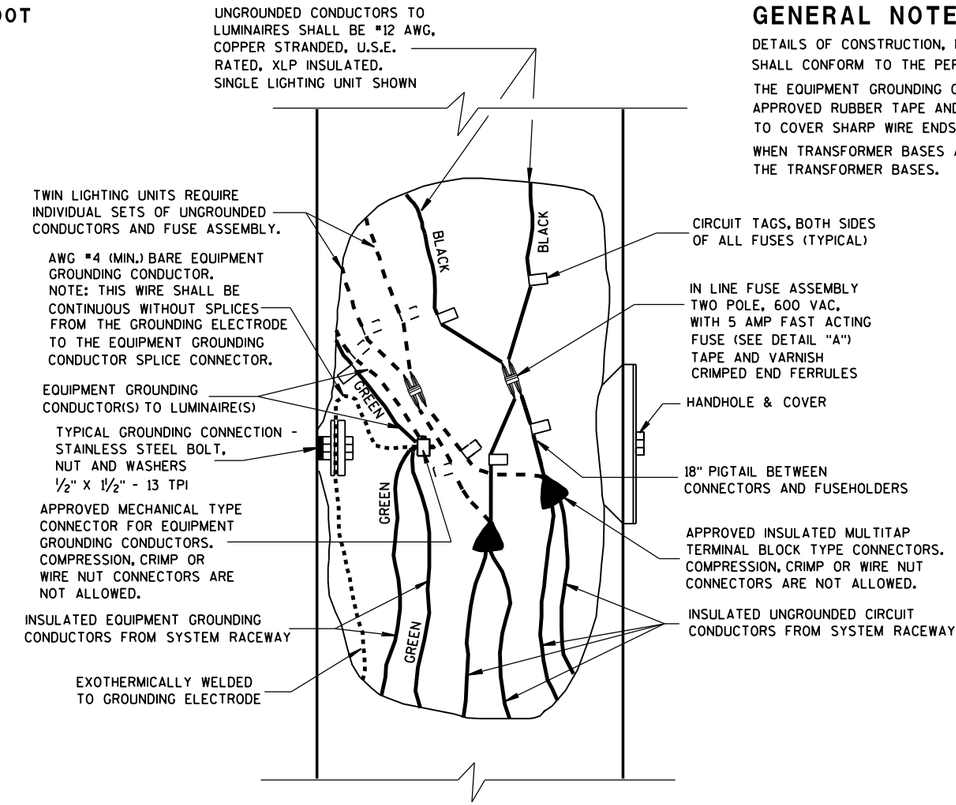




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTOR) WITH GROUNDED CONDUCTOR AND WITH EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

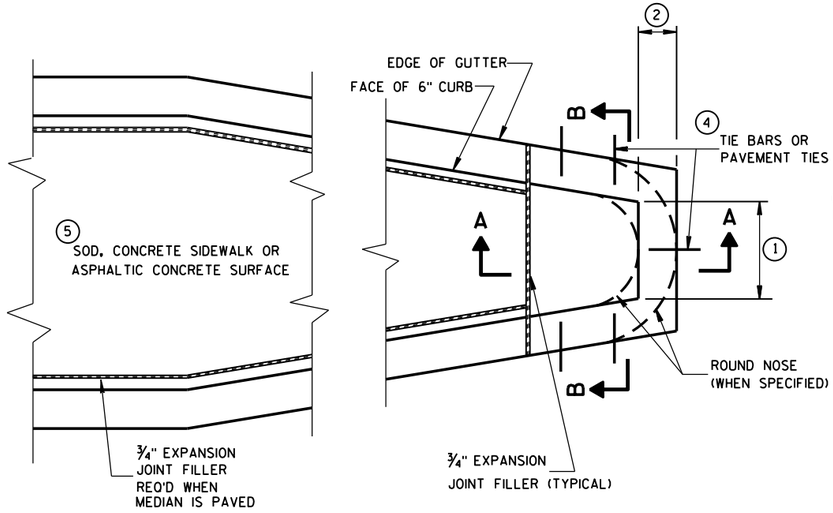
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

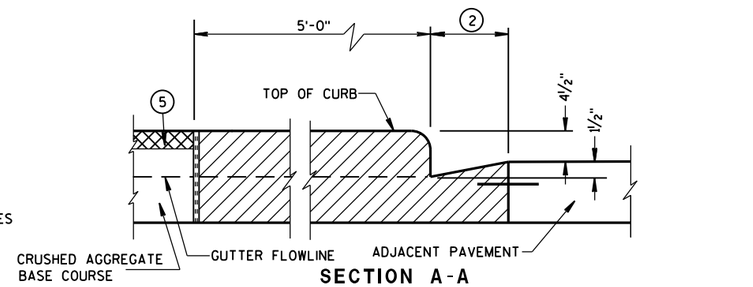
NON-FREEWAY LIGHTING UNIT POLE WIRING

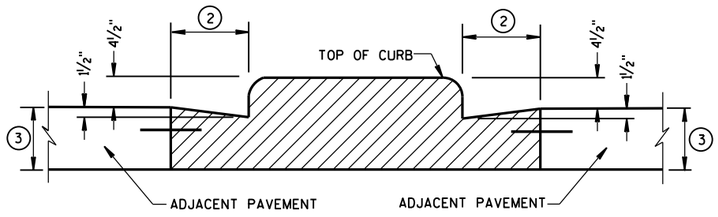
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6
S.D.D. 9 E 3-5







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.

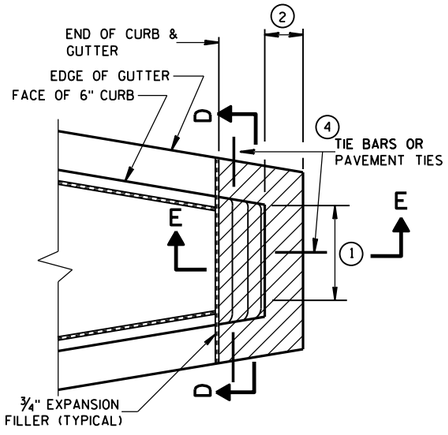
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

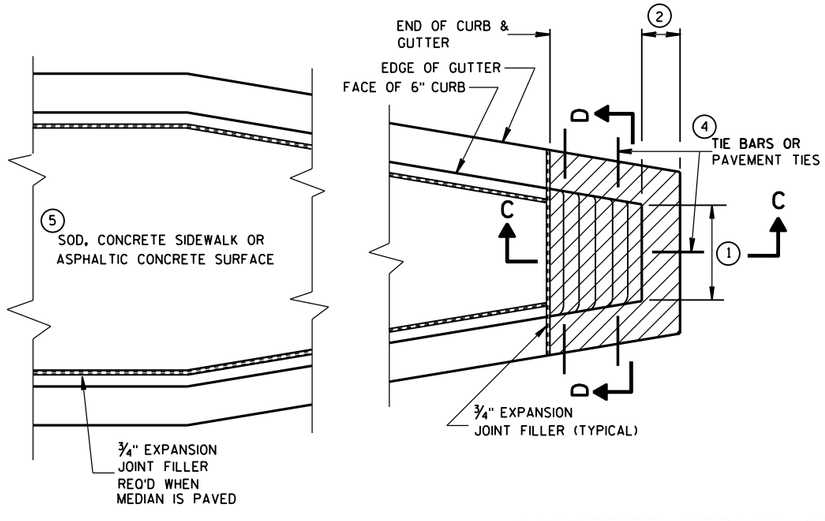
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

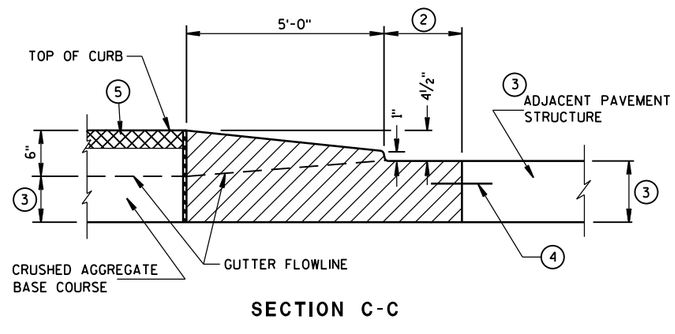
(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

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.

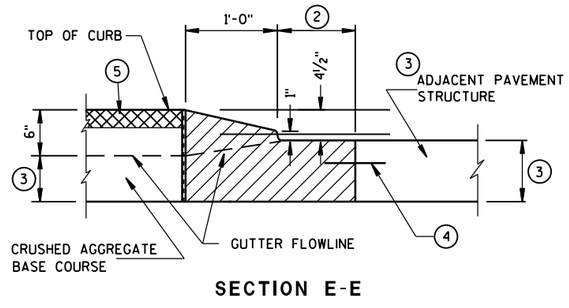
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.



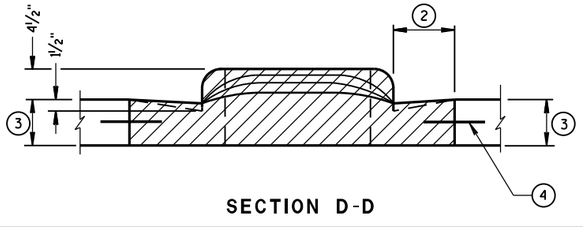




CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

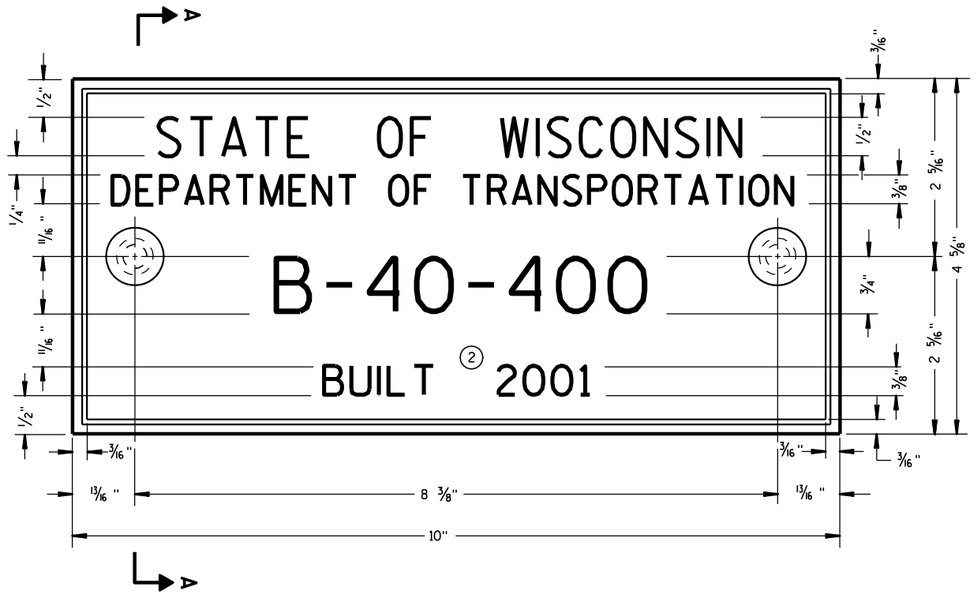
APPROVED
6/8/2006 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 11 B 2-2

6

S.D.D. 11 B 2-2



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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

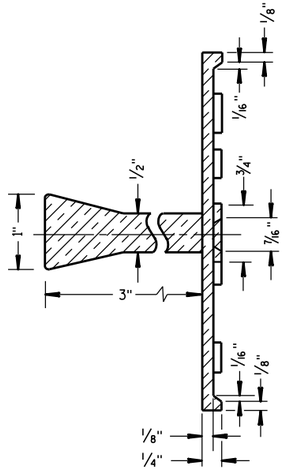
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

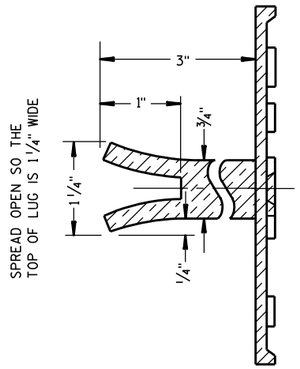
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

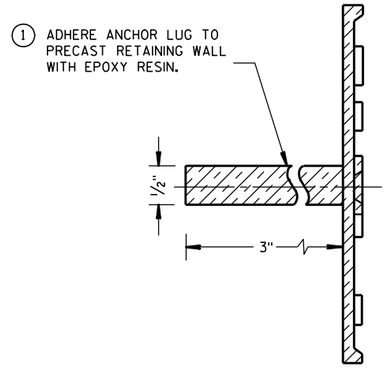
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP 256 ENGINEER

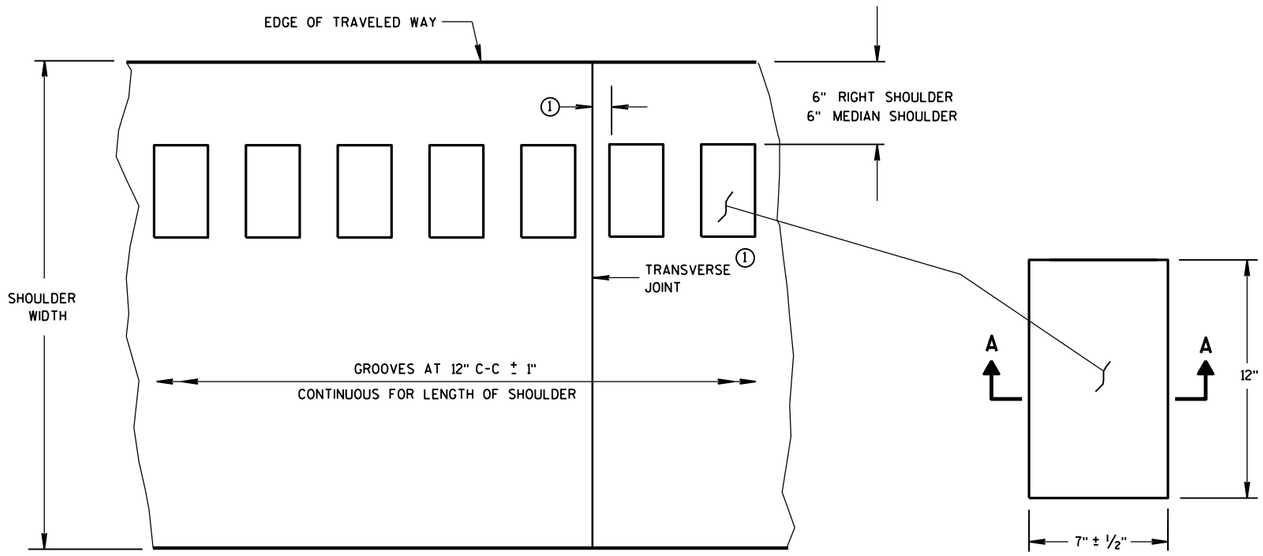
FHWA

6

S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

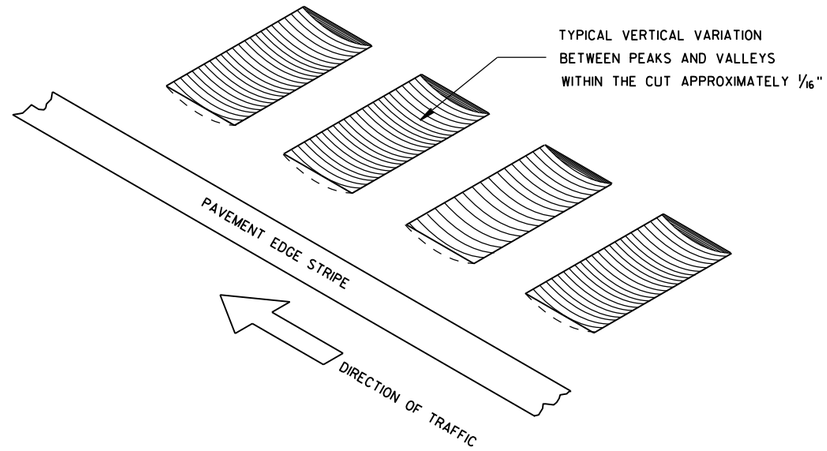
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

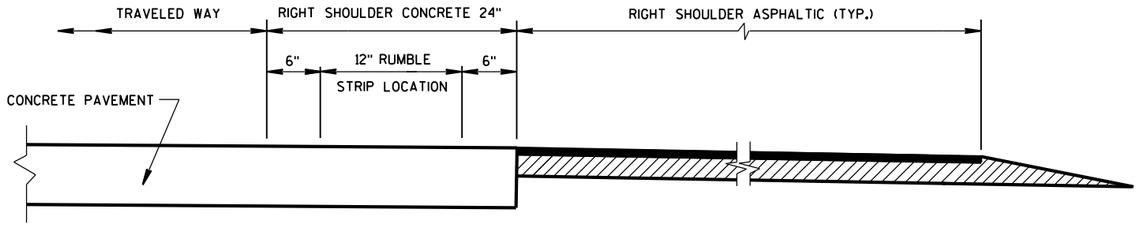
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

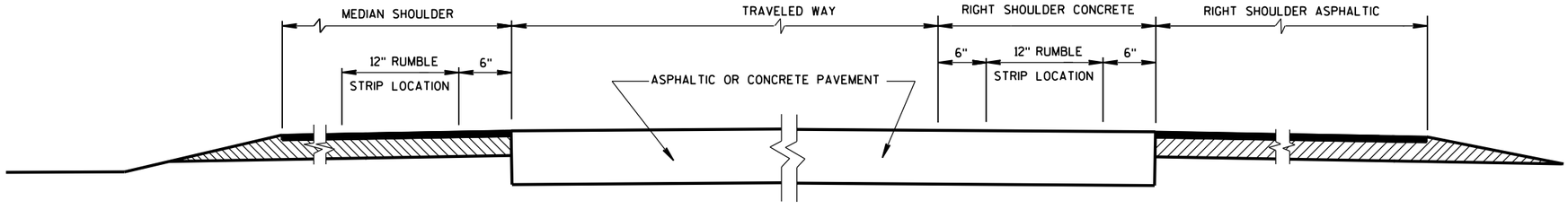
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



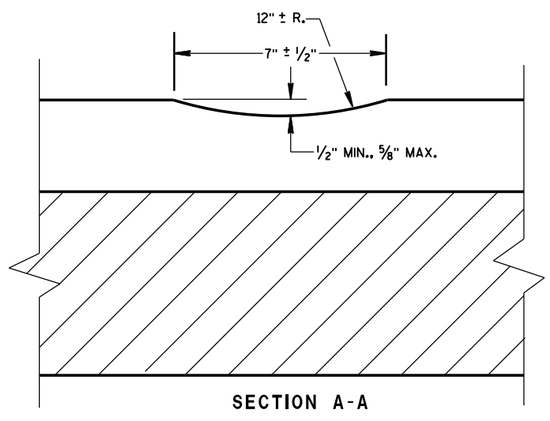
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

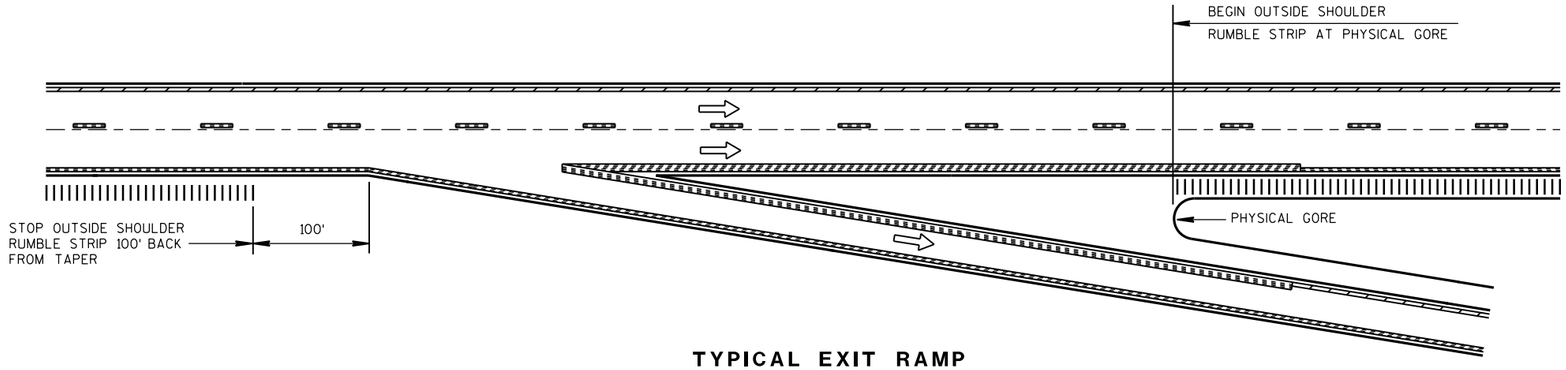
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



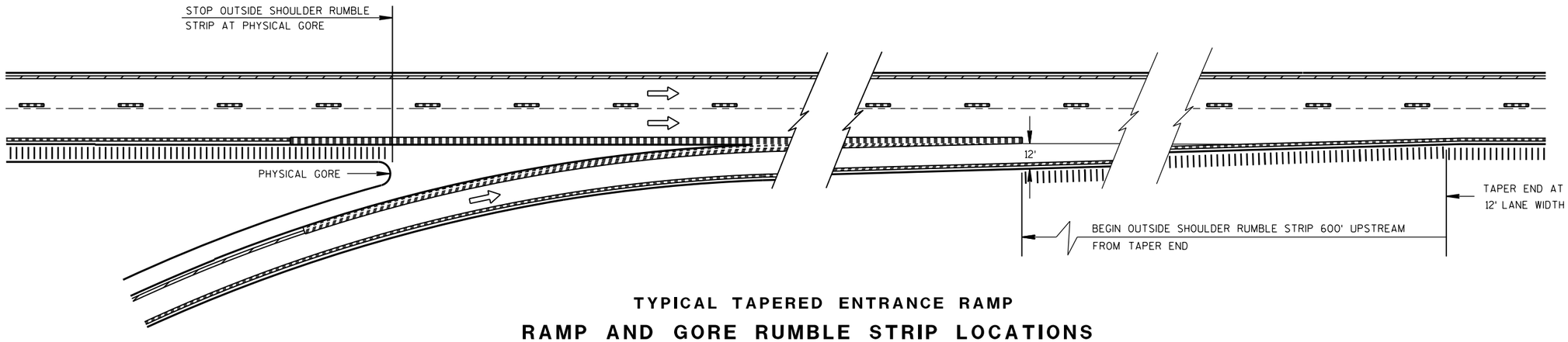
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

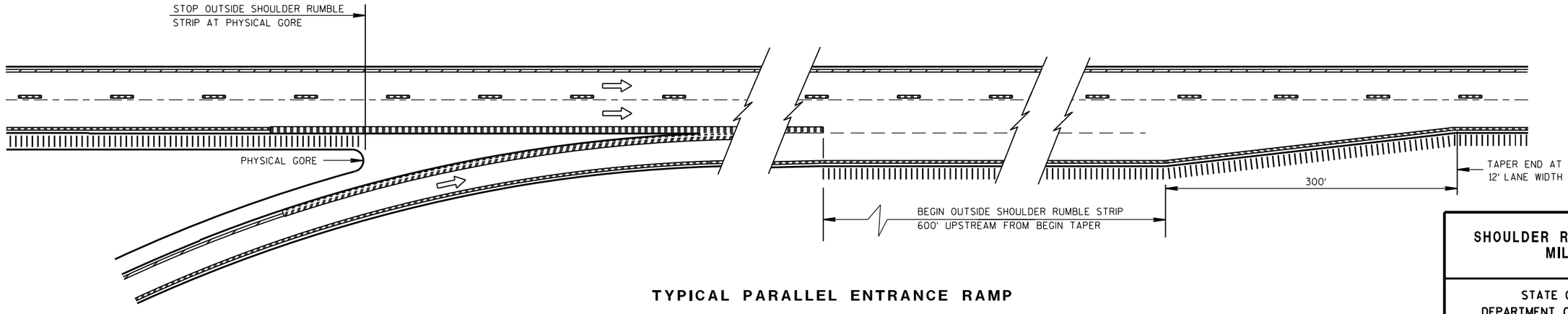
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/2012
DATE

/S/ Jerry H. Zoga
ROADWAY STANDARDS ENGINEER

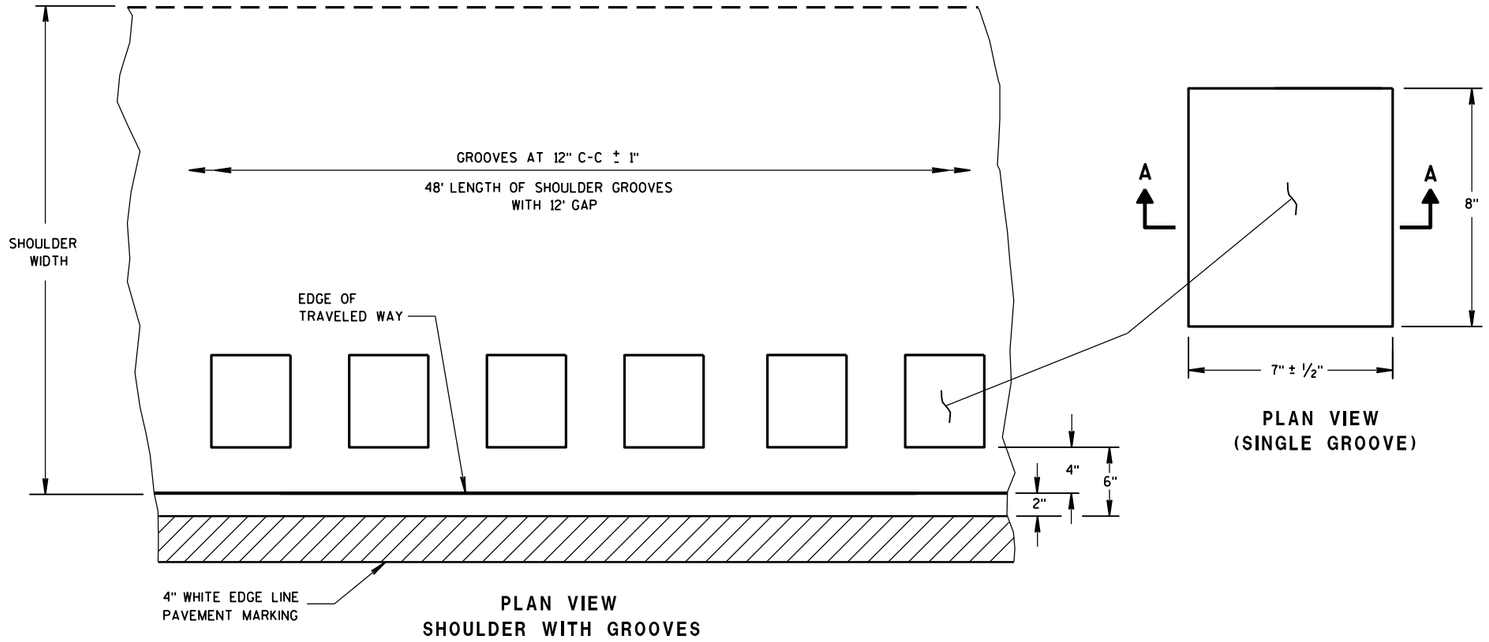
FHWA

6

S.D.D. 13 A 5-5b

6

S.D.D. 13 A 5-5b



PLAN VIEW
SHOULDER WITH GROOVES

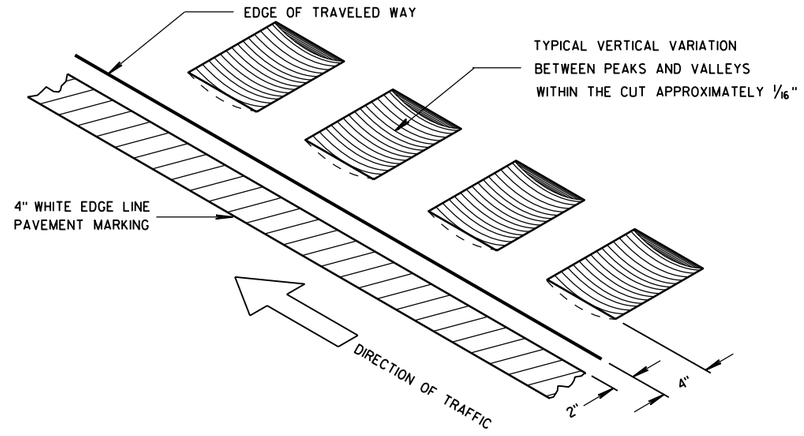
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

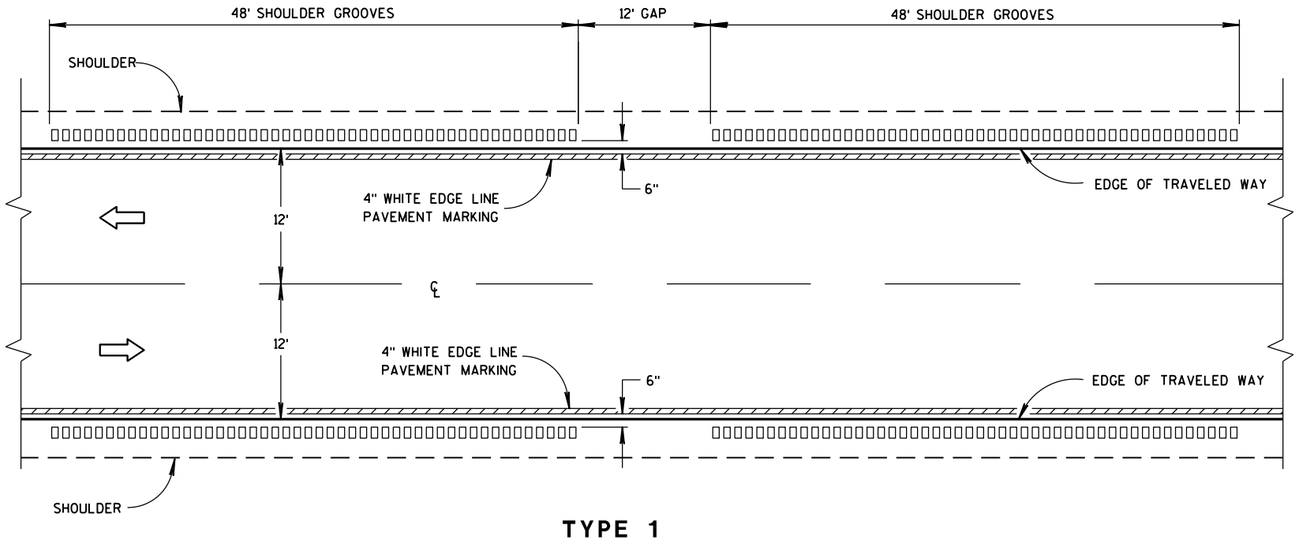
DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.

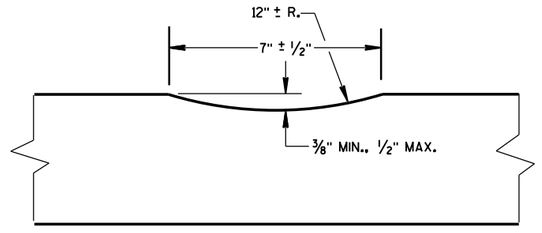


ISOMETRIC

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



TYPE 1
2-LANE SHOULDER RUMBLE STRIP



SECTION A-A

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

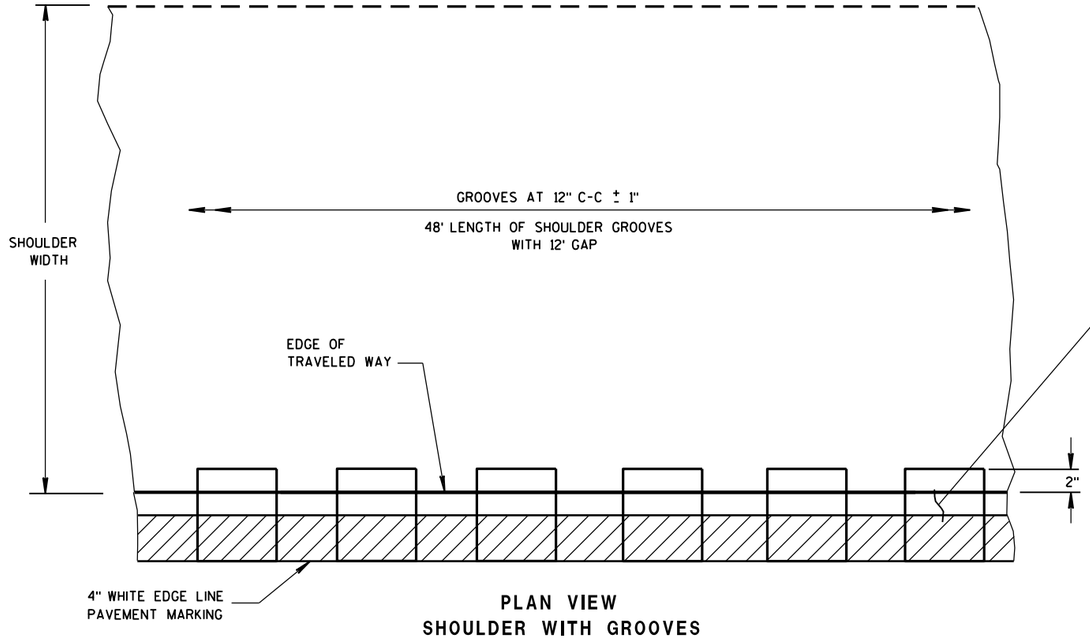
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

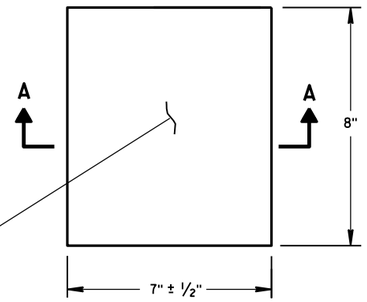
S.D.D. 13 A 10-1a

6

S.D.D. 13 A 10-1a



PLAN VIEW
SHOULDER WITH GROOVES



PLAN VIEW
(SINGLE GROOVE)

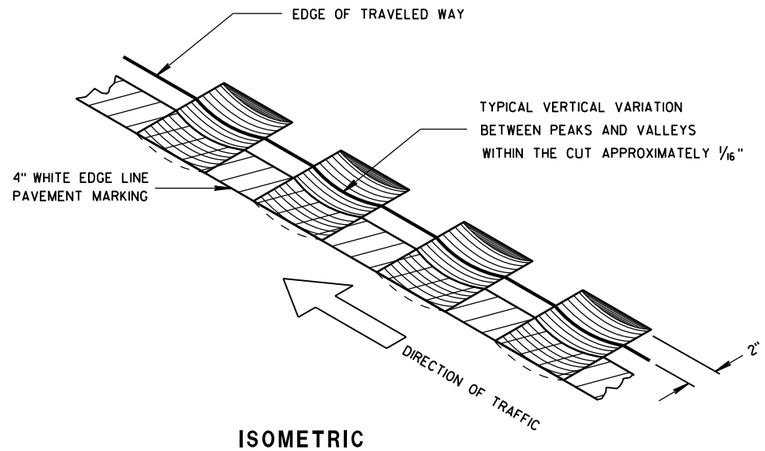
PLACEMENT DETAIL FOR TYPE 2 MILLED RUMBLE STRIP

GENERAL NOTES

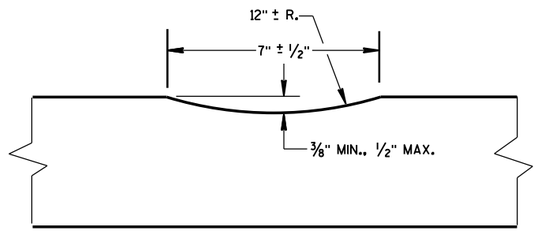
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

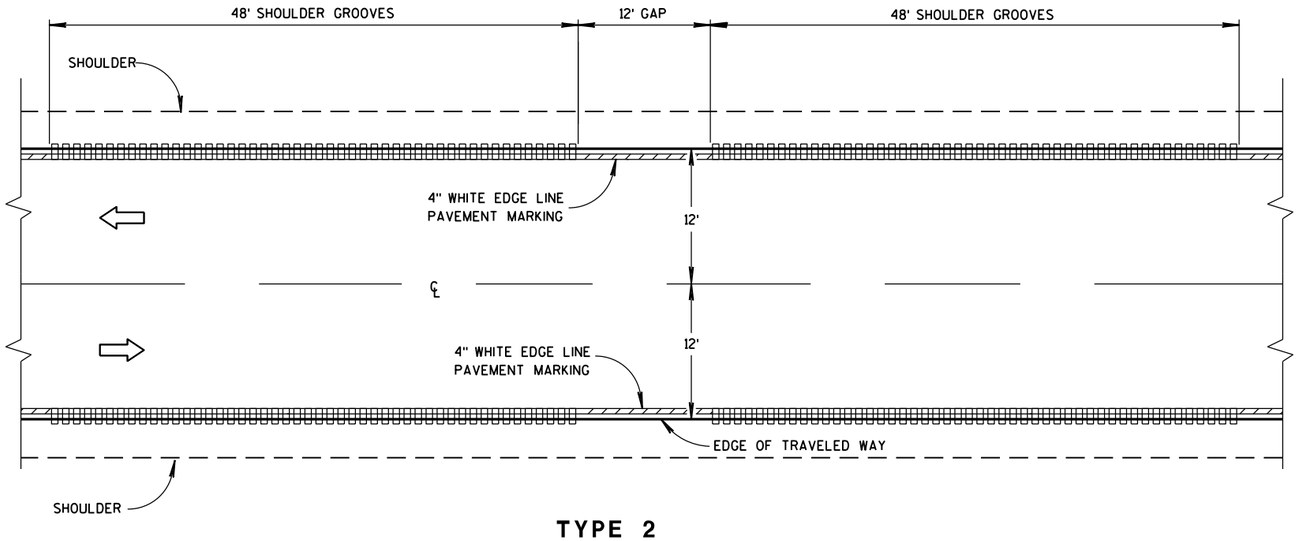
(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



ISOMETRIC



SECTION A-A



TYPE 2
2-LANE SHOULDER RUMBLE STRIP

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

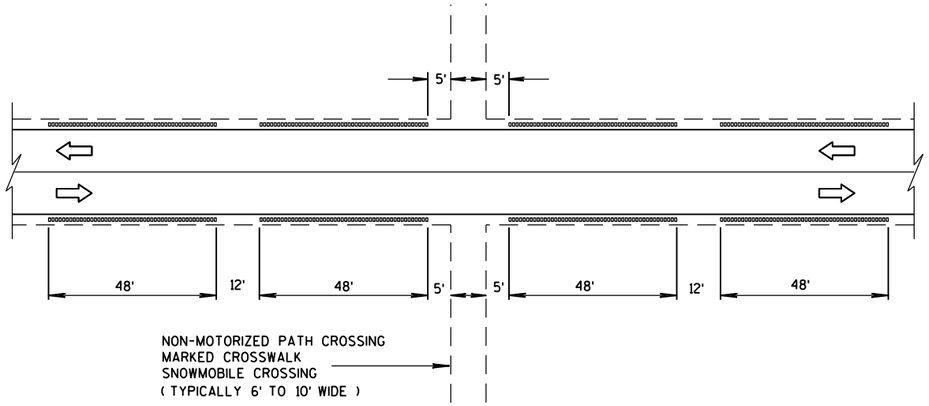
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

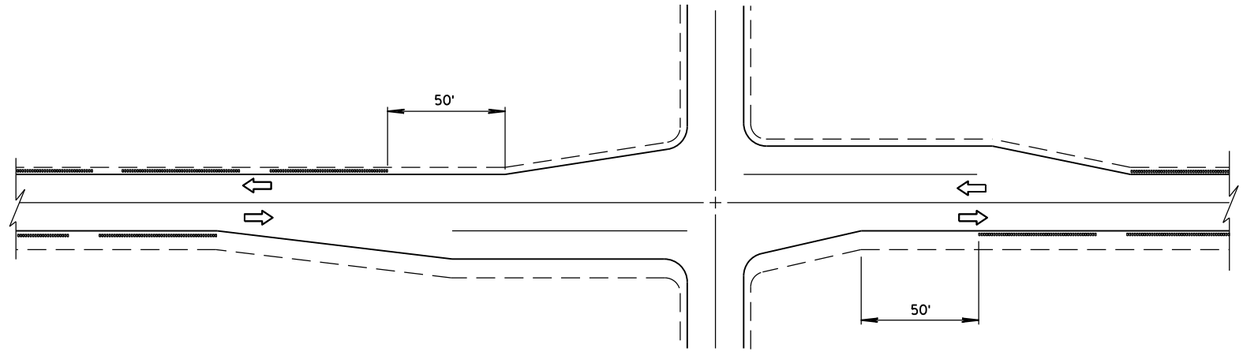
S.D.D. 13 A 10-1b

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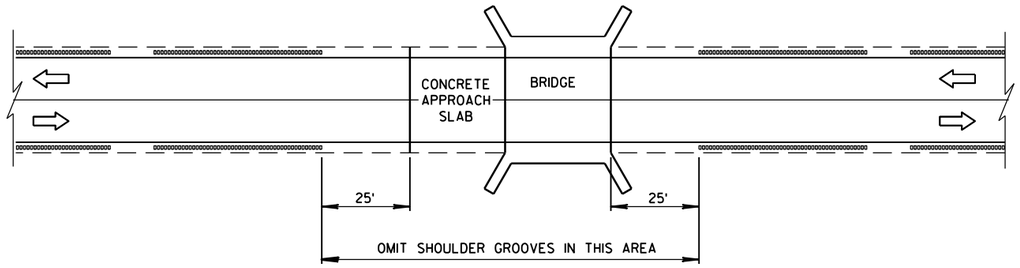
S.D.D. 13 A 10-1b



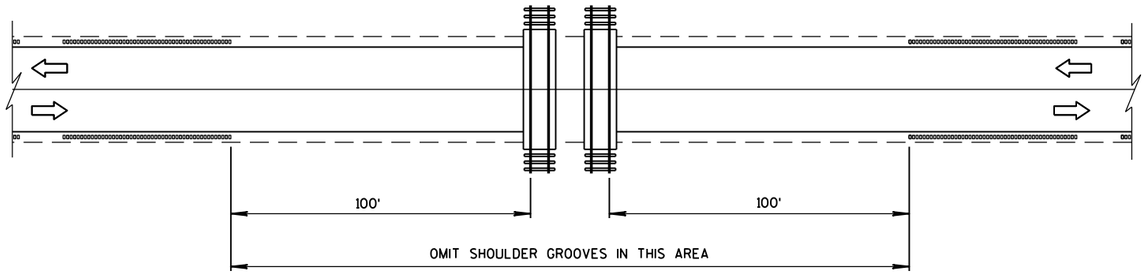
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



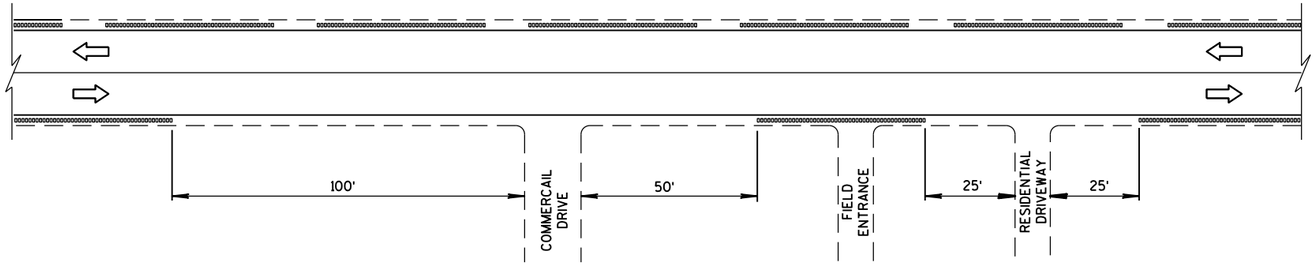
SHOULDER GROOVES AT INTERSECTIONS



SHOULDER GROOVES AT BRIDGES



SHOULDER GROOVES AT RAILROADS

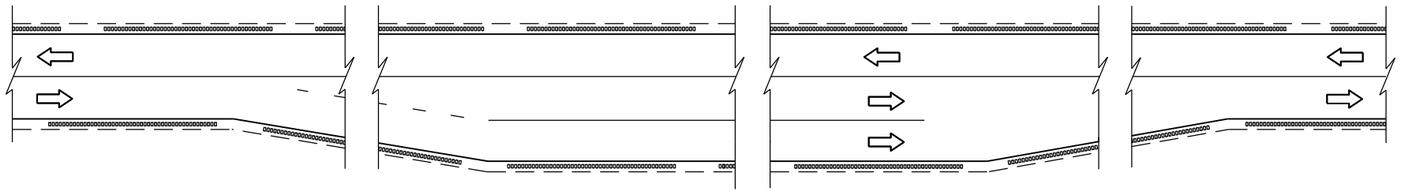


SHOULDER GROOVES AT DRIVEWAYS (1)

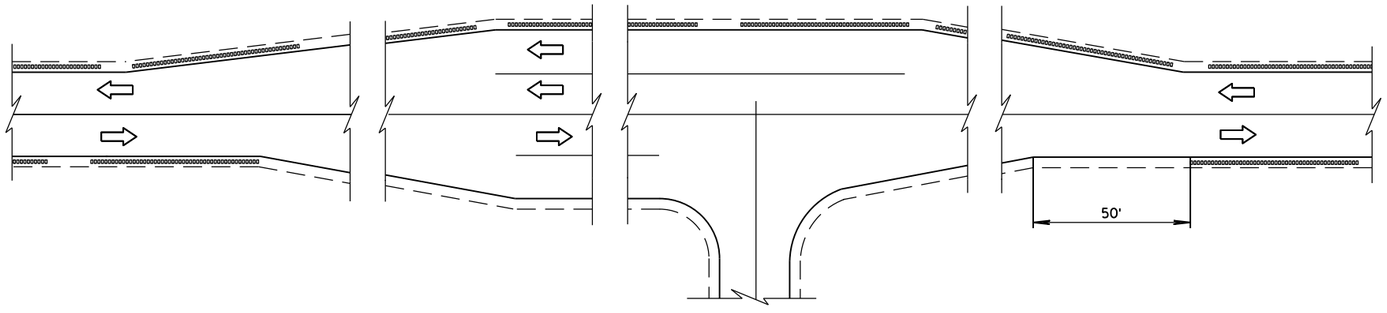
2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 13 A 10-1c



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

6

6

S.D.D. 13 A 10-1d

S.D.D. 13 A 10-1d

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

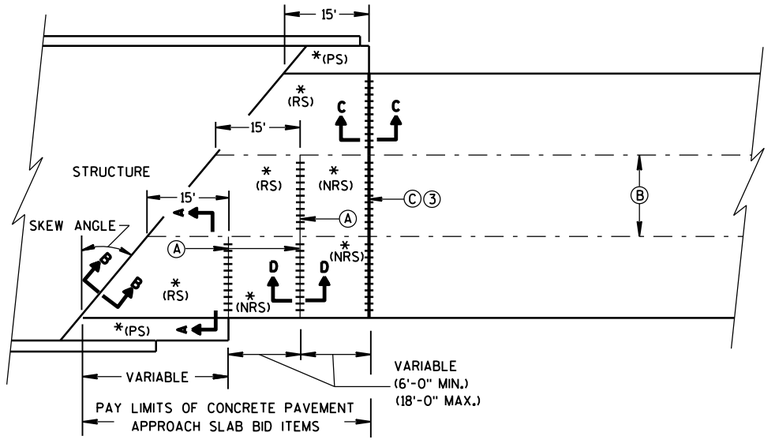
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

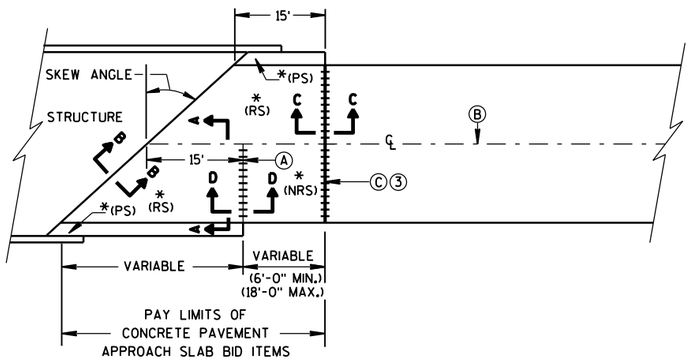
12/17/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

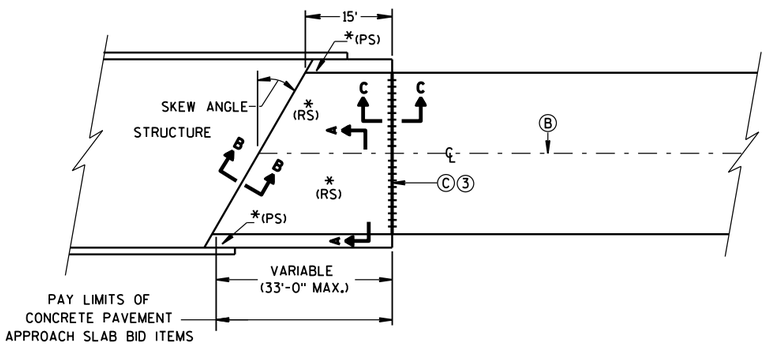
FHWA



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

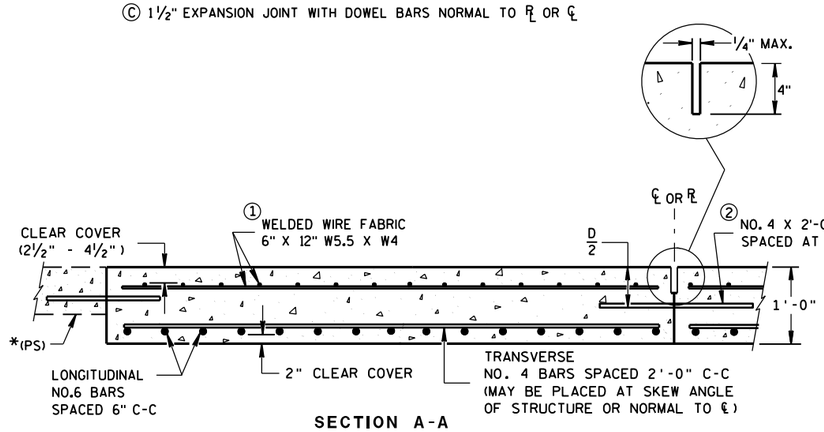
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

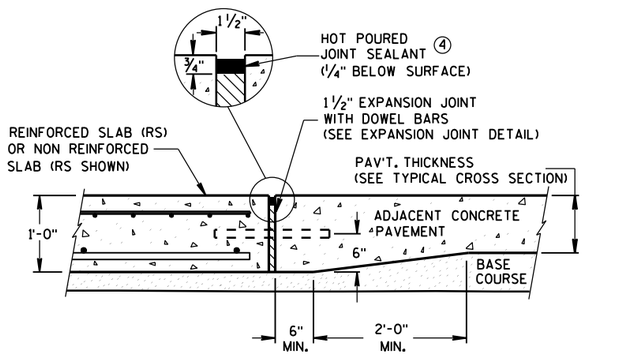
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

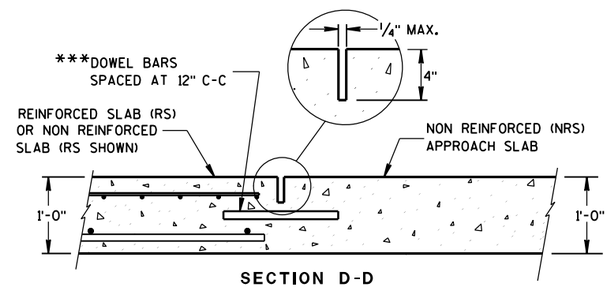
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

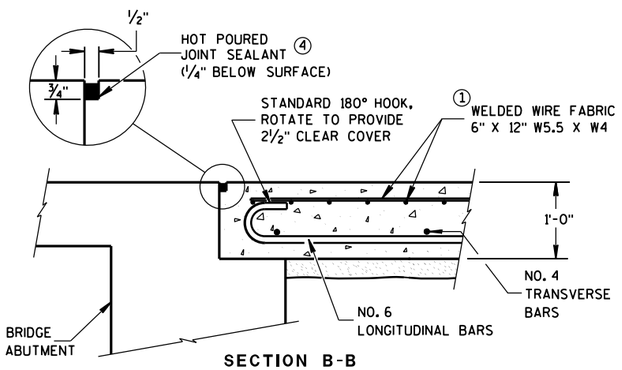
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

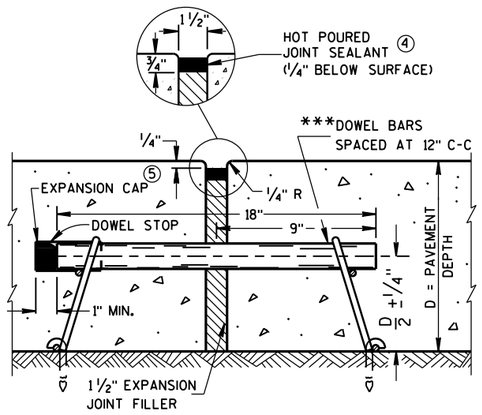
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

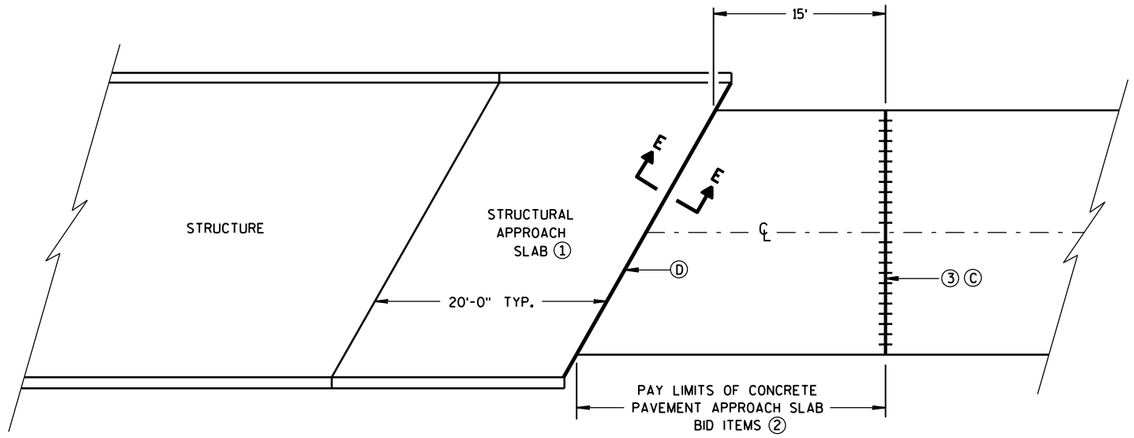
6

S.D.D. 13 B 2-8a

6

S.D.D. 13 B 2-8a

BRIDGE APPROACHES



GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

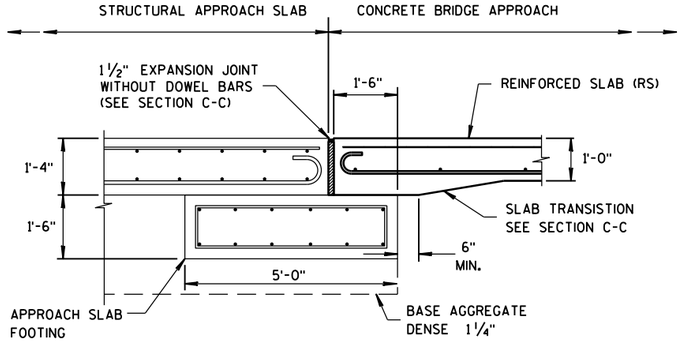
① SEE BRIDGE PLAN.

② CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.

③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)



SECTION E-E

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

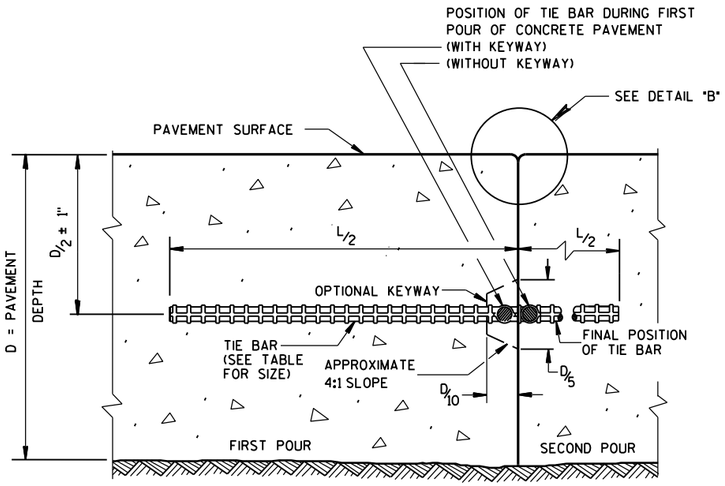
June, 2015
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPEF

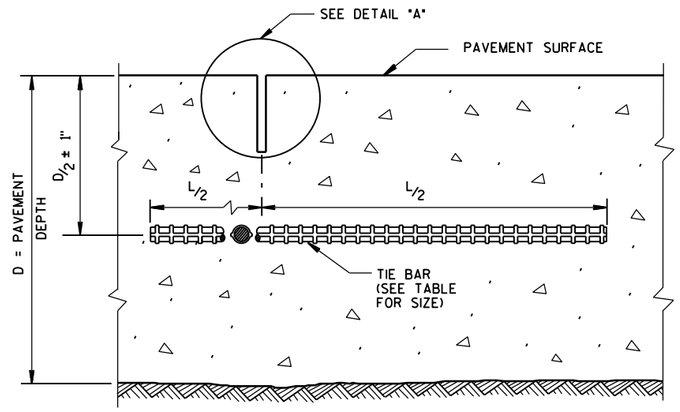
FHWA

6

S.D.D. 13 B 2-8b



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.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

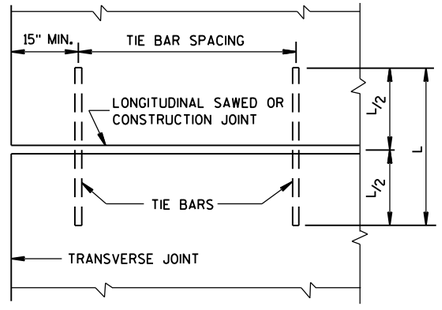
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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S.D.D. 13 C 1-18

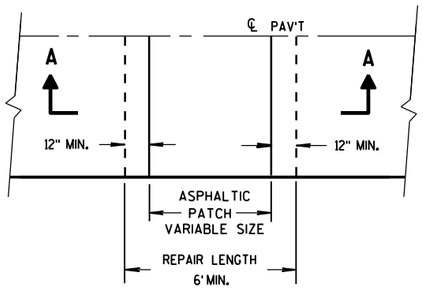
GENERAL NOTES

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.

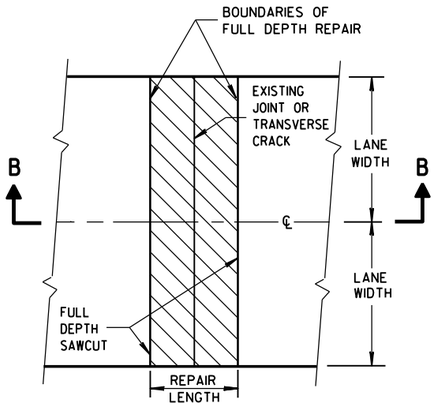
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

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.

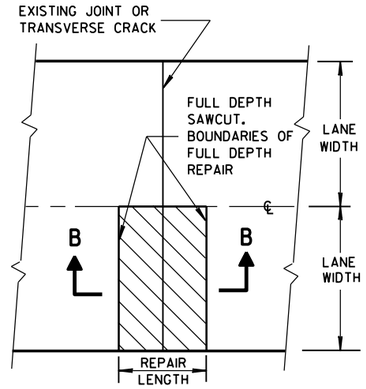
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

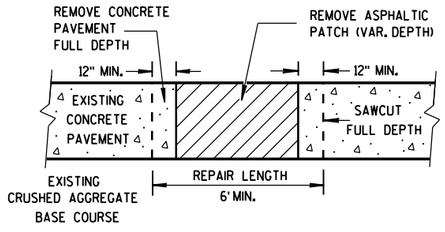


PLAN VIEW
(DOUBLE LANE REPAIR)



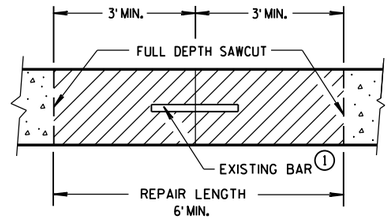
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



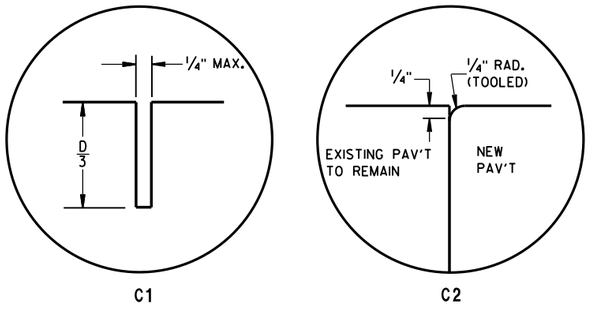
SECTION B-B

CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 13 C 9-13a



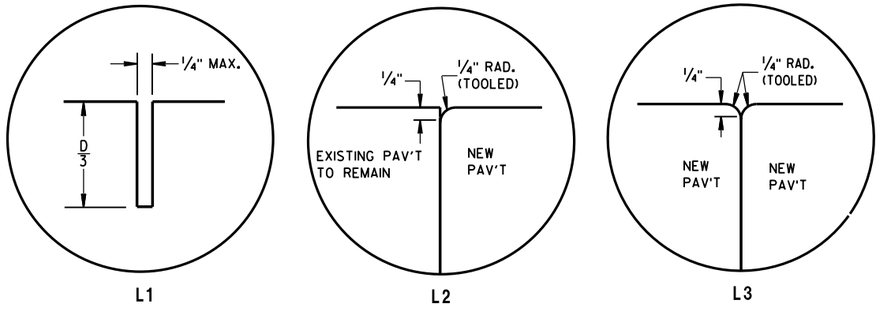
TRANSVERSE JOINTS

TIE BAR TABLE

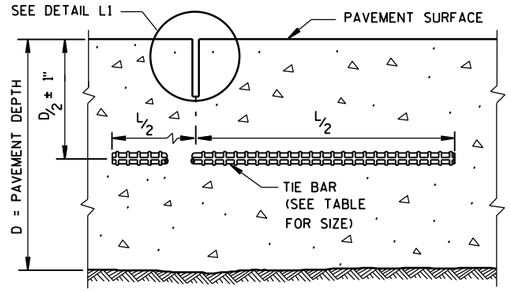
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

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

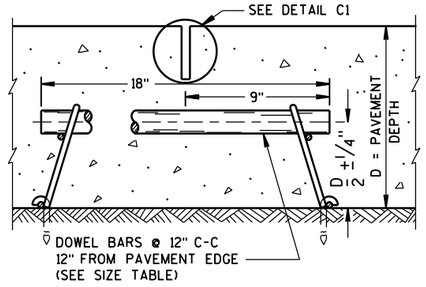
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

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

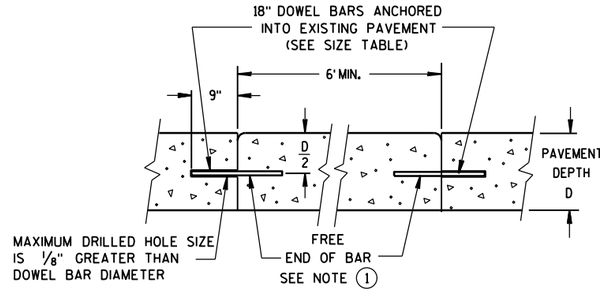
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

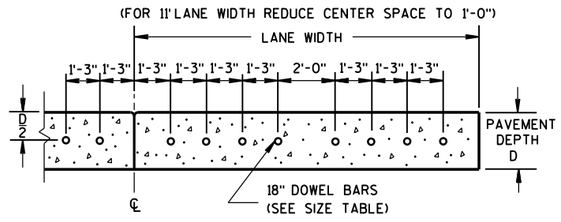


SECTION F-F

CONTRACTION JOINT



SECTION D-D

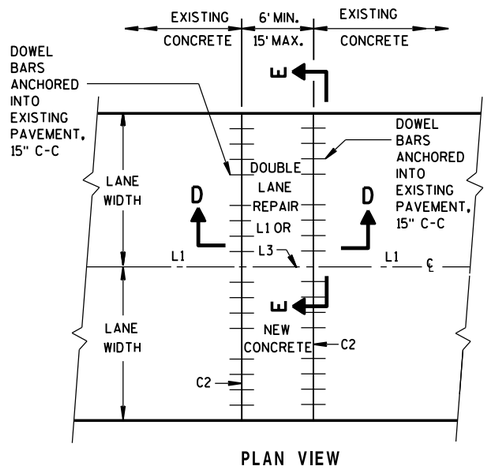


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

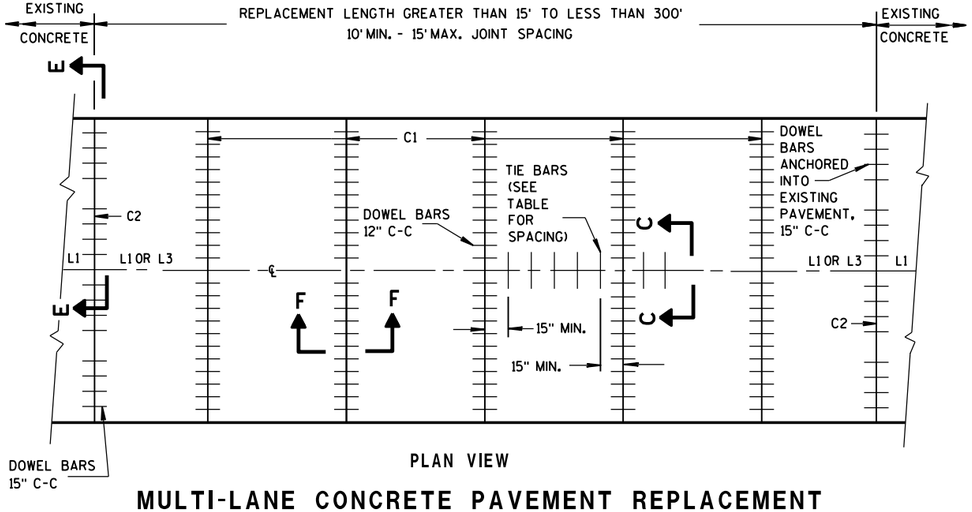
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6",6 ½"	NONE	12'
7",7 ½"	1"	14'
8",8 ½"	1 ¼"	15'
9",9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

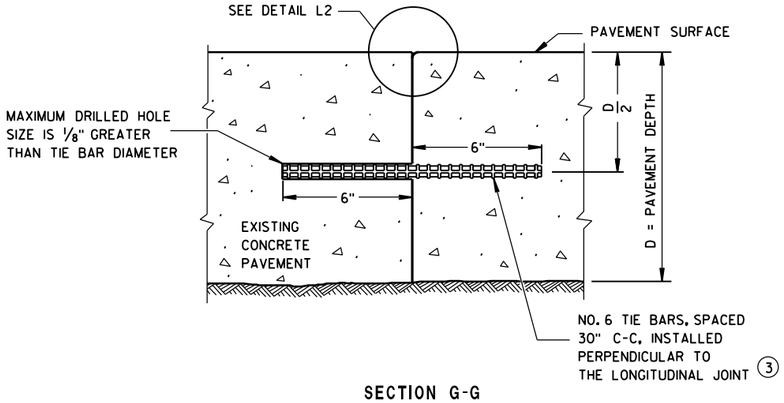
MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



SECTION G-G

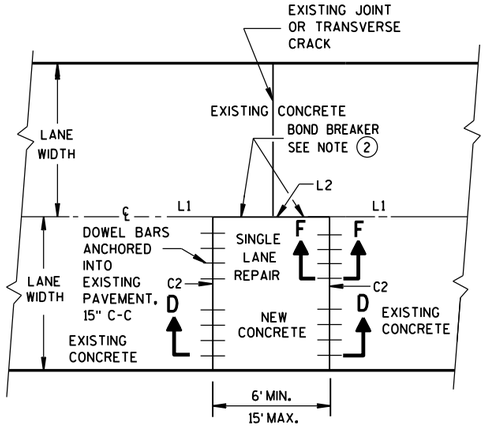
TIE BARS ANCHORED INTO EXISTING PAVEMENT

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 IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

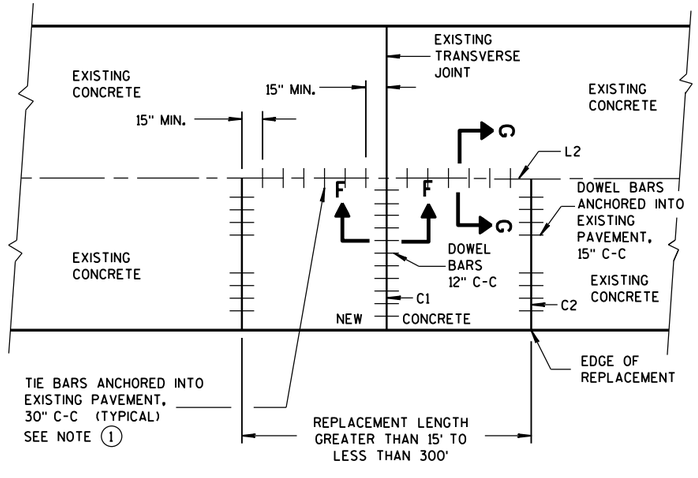
(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

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



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

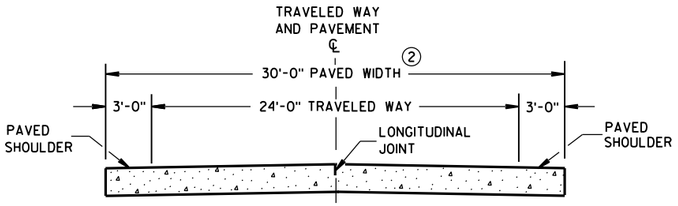
CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

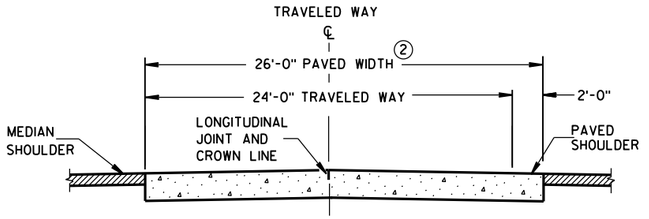
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S.D.D. 13 C 9-13c

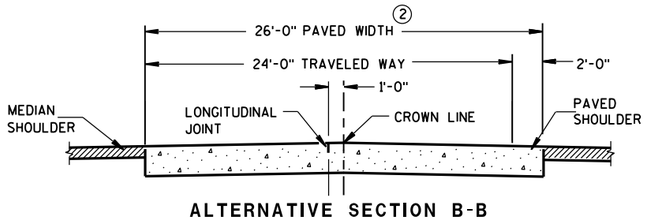


SECTION A-A ①

TWO-LANE TWO-WAY HIGHWAY



SECTION B-B



ALTERNATIVE SECTION B-B ①

DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

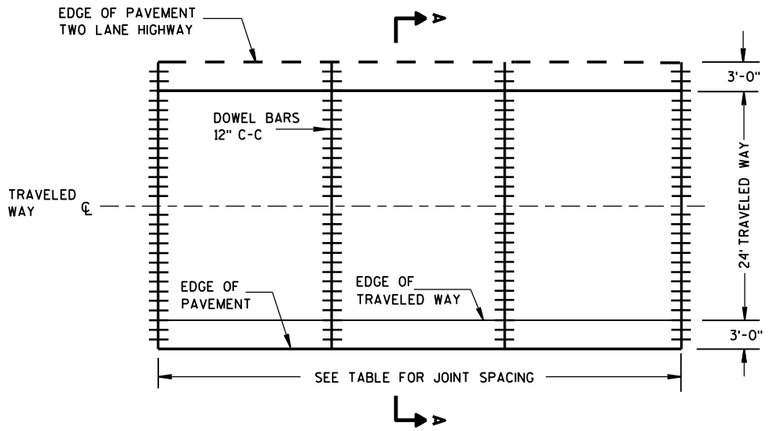
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

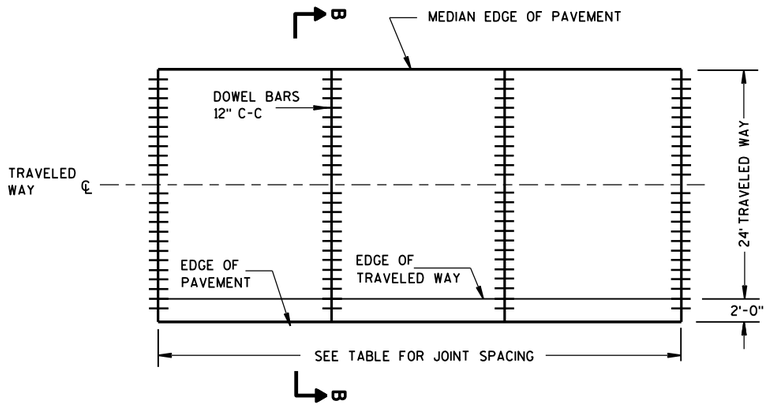
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



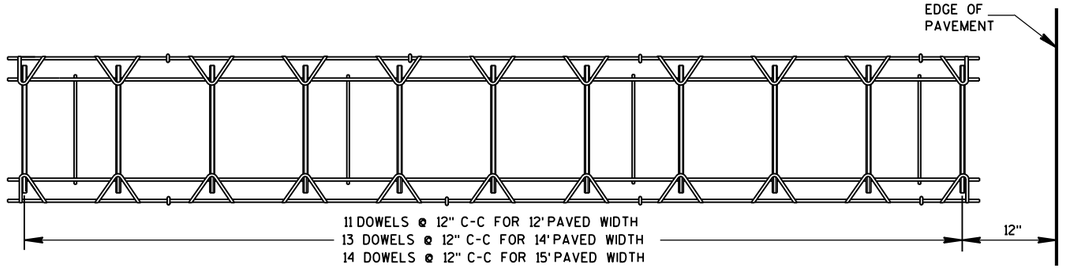
CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED
CONCRETE PAVEMENT

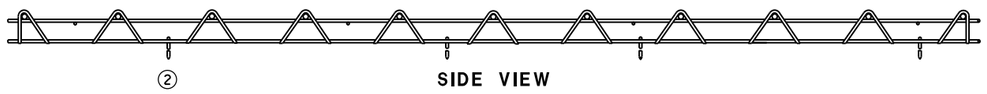
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



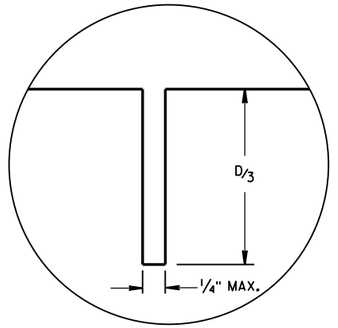
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

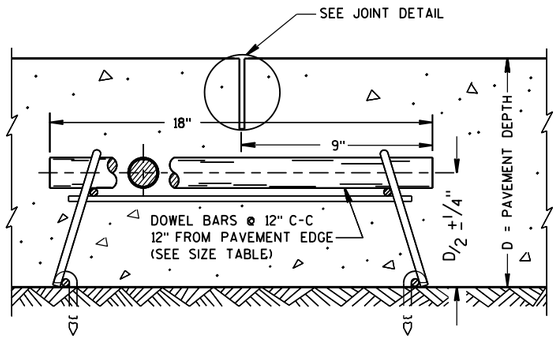
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

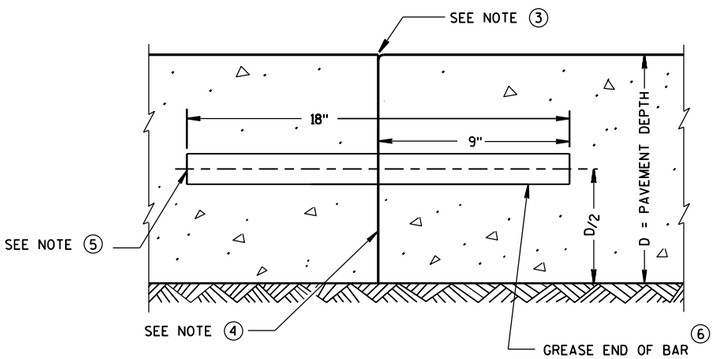
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

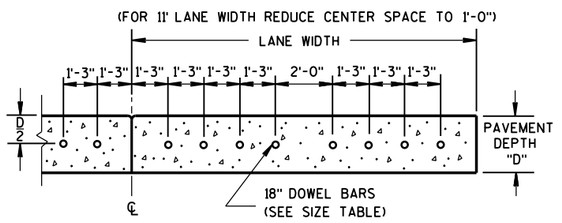
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/3/2013 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER

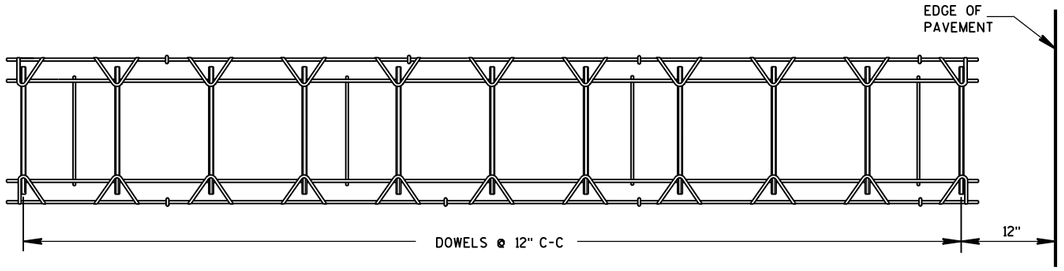
FHWA

6

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

6

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

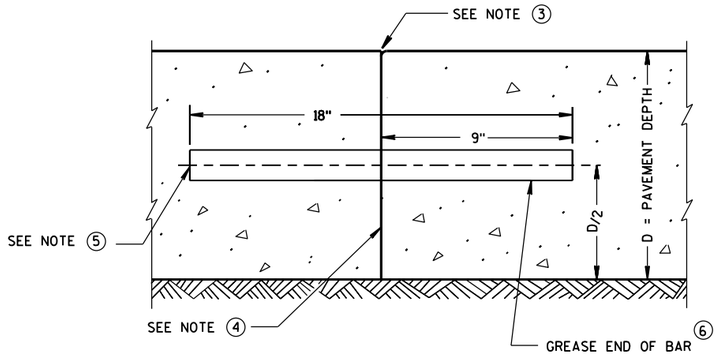


PLAN VIEW

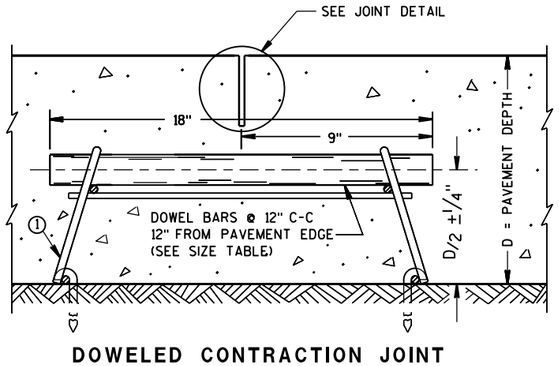


SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



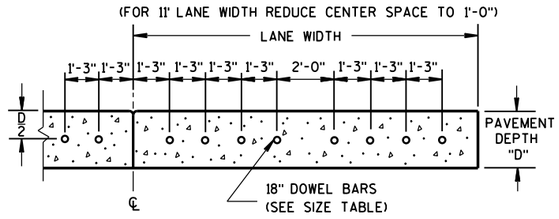
TRANSVERSE CONSTRUCTION JOINT



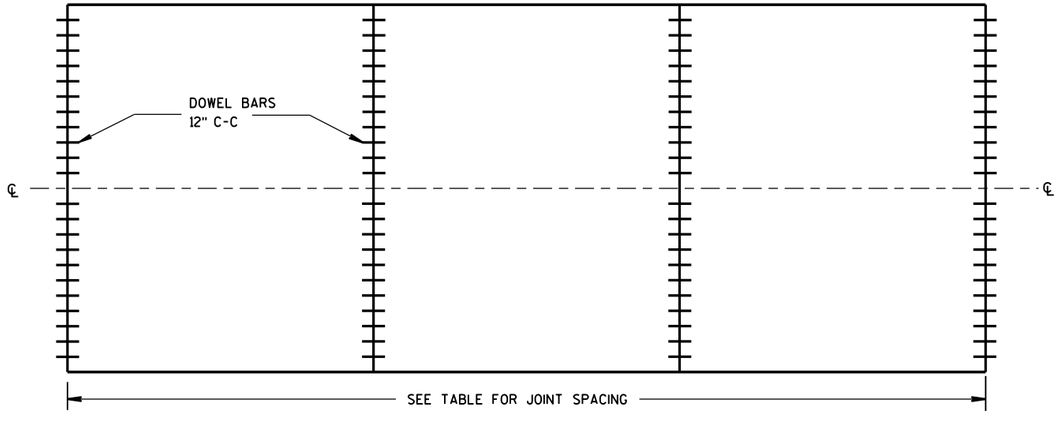
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① **OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.**

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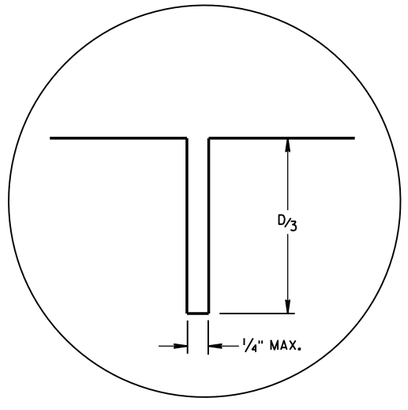
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 DATE
/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER
FHWA

6

S.D.D. 13 C 13-8

GENERAL NOTES

PCCP = PORTLAND CEMENT CONCRETE PAVEMENT.

SHLDR = SHOULDER.

CONTINUE SAW CUT CONTRACTION JOINT ACROSS TURN LANE, EXIT TAPER AND PASSING LANE.

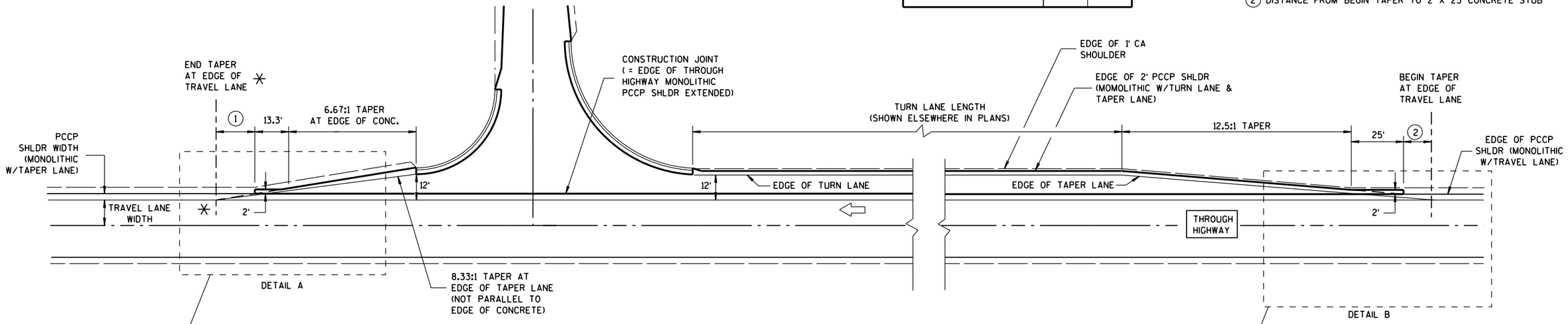
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

THROUGH HIGHWAY LANE WIDTH AND PCCP SHOULDER WIDTH ARE SHOWN ELSEWHERE IN PLANS

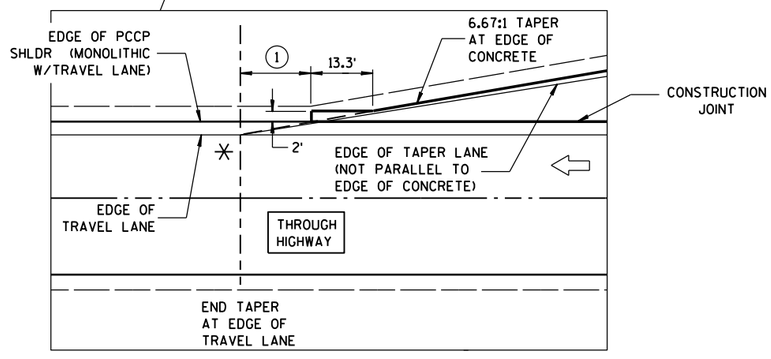
(1) DISTANCE FROM END TAPER TO 2' X 13.3' CONCRETE STUB

(2) DISTANCE FROM BEGIN TAPER TO 2' X 25' CONCRETE STUB

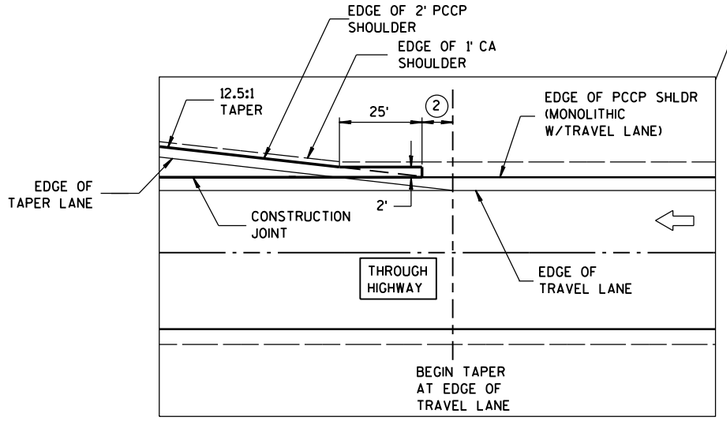
THROUGH HIGHWAY MONOLITHIC PCCP SHOULDER WIDTH (FEET)	DISTANCE (FEET) (1)	DISTANCE (FEET) (2)
2	13.3	0.0
3	20.0	12.5
TAPER RATE : 1	6.67	12.5



NOTE: EDGE OF CONCRETE TAPER (EXTENDED) & EDGE OF TAPER LANE CONVERGE



DETAIL A



DETAIL B

RIGHT TURN LANE AND EXIT TAPER

DETAIL FOR RIGHT TURN LANE/ TEE INTERSECTION BYPASS LANE ON A CONCRETE ROADWAY

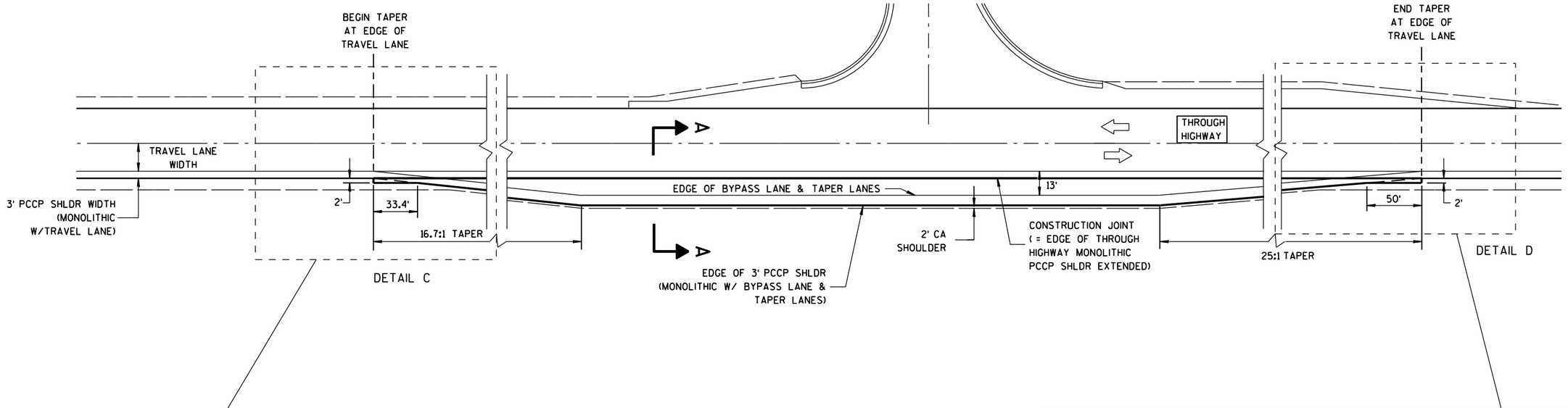
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

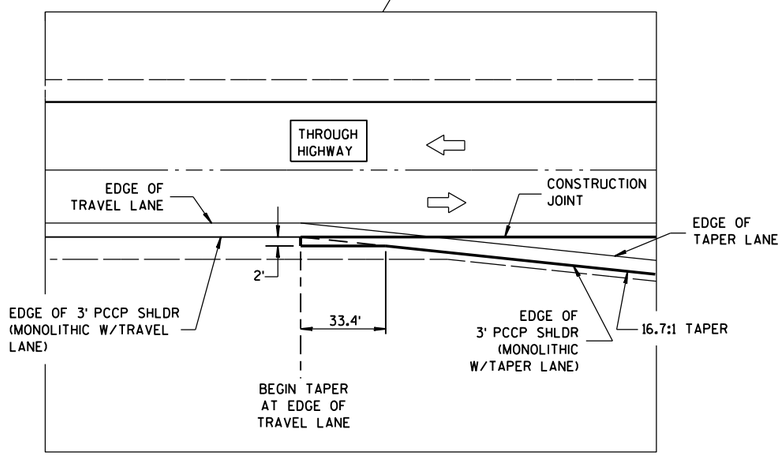
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S.D.D. 13 C 16-2a

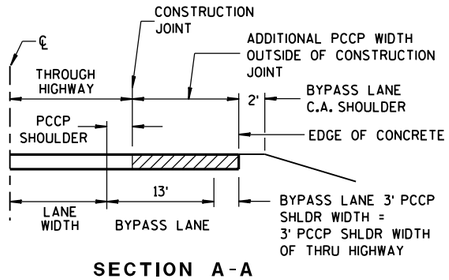
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S.D.D. 13 C 16-2a



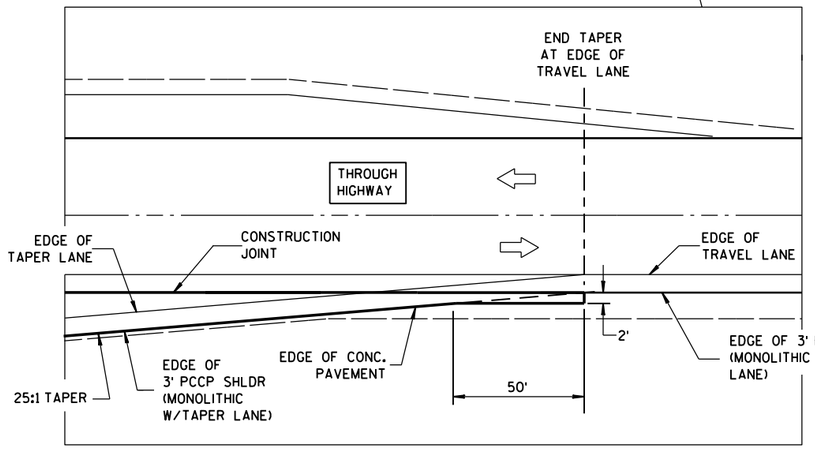


DETAIL C



SECTION A-A

(SHOWING BYPASS LANE AND SHOULDER)



DETAIL D

TWO LANE UNDIVIDED HIGHWAY TEE INTERSECTION BYPASS LANE

DETAIL FOR RIGHT TURN LANE/
TEE INTERSECTION BYPASS LANE
ON A CONCRETE ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/18/12
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

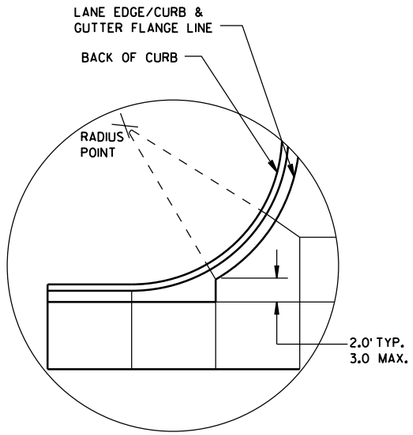
FHWA

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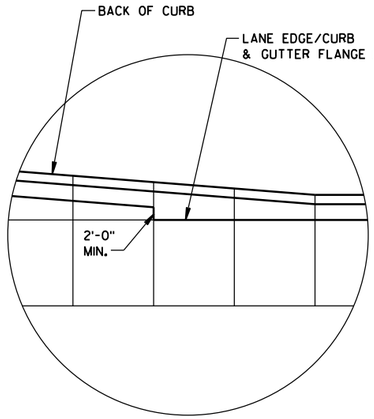
S.D.D. 13 C 16-2b

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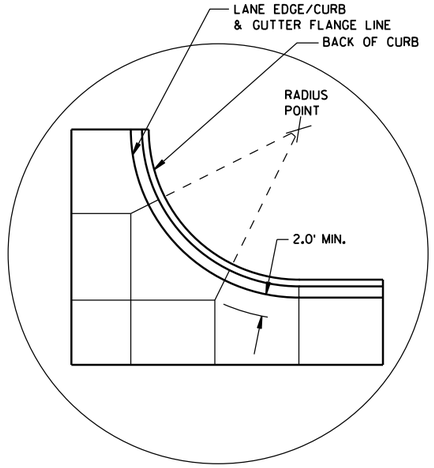
S.D.D. 13 C 16-2b



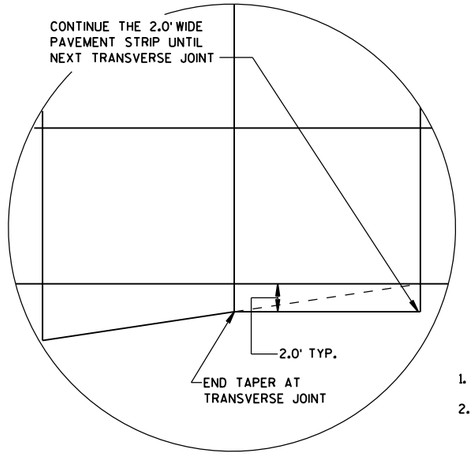
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

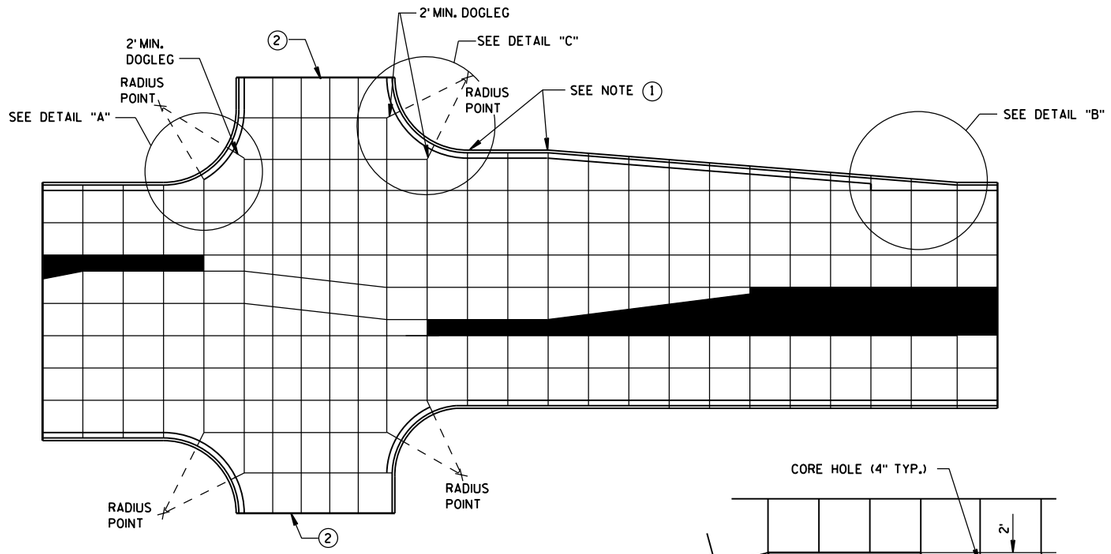
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

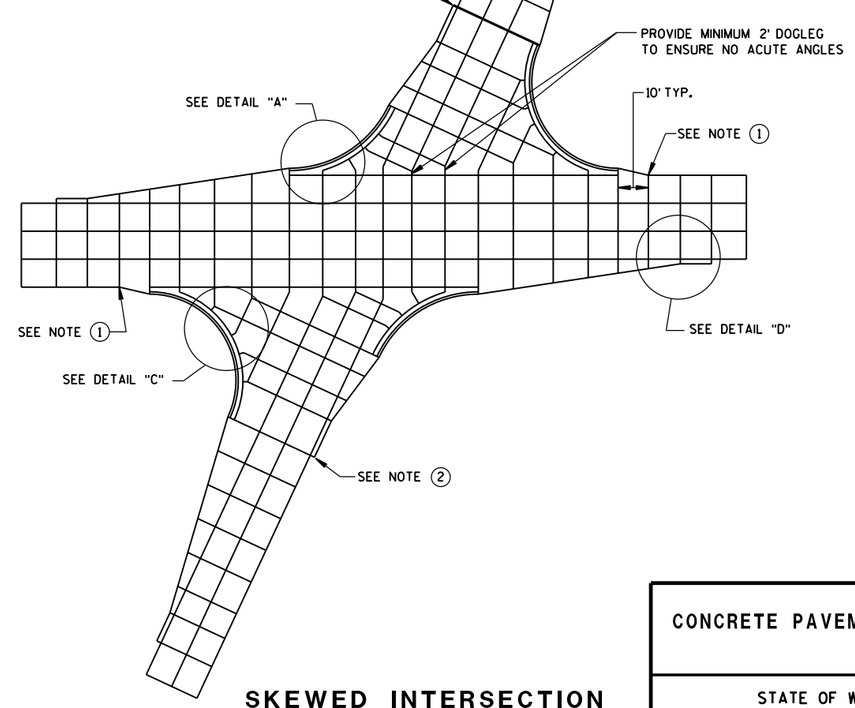
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



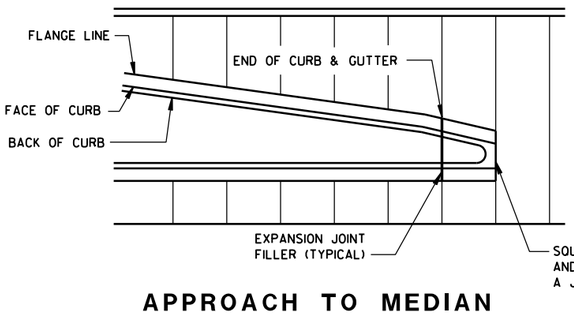
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

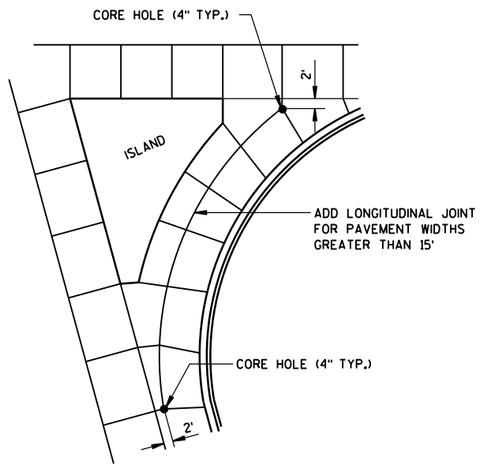
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

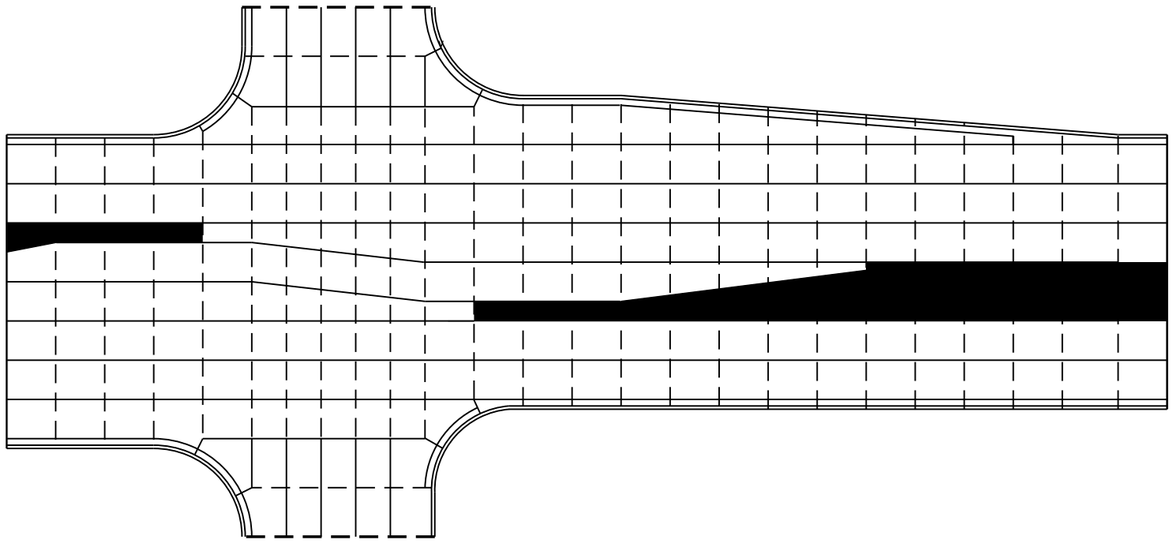
6
S.D.D. 13 C 18-3a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

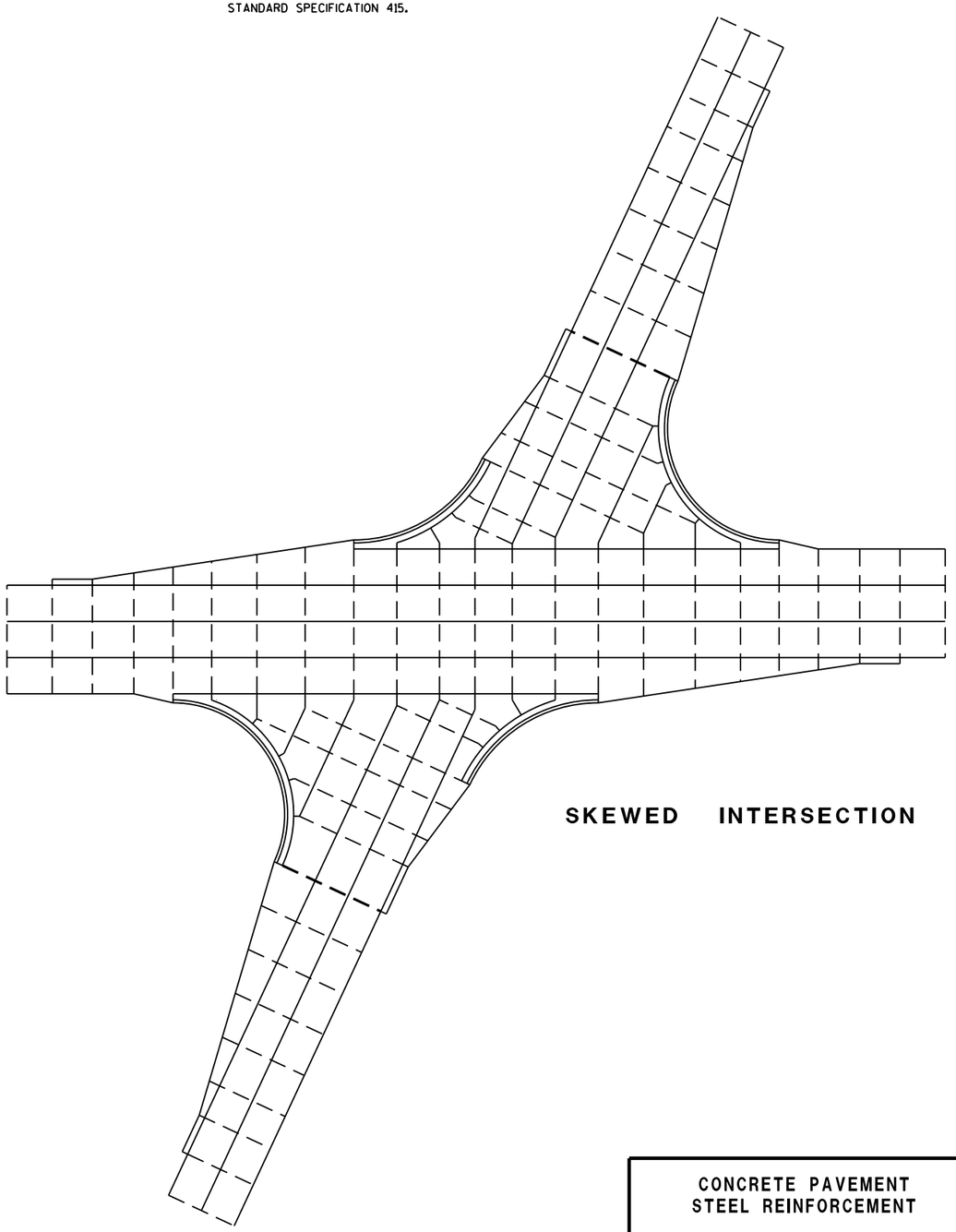
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

6

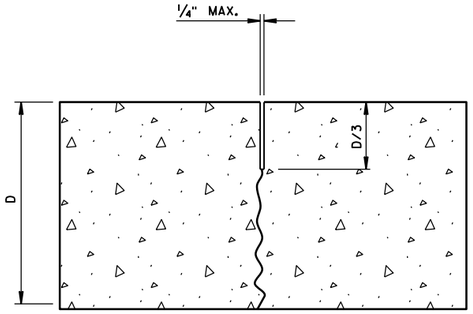
S.D.D. 13 C 18-3b

CONCRETE PAVEMENT
STEEL REINFORCEMENT

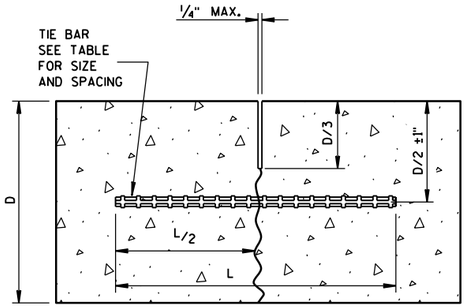
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 13 C 18-3b



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

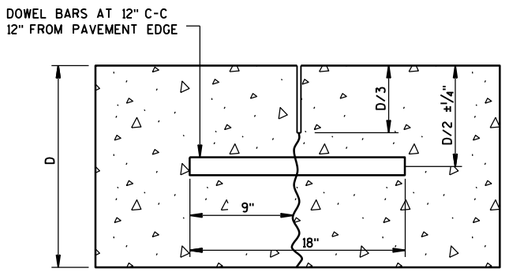
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

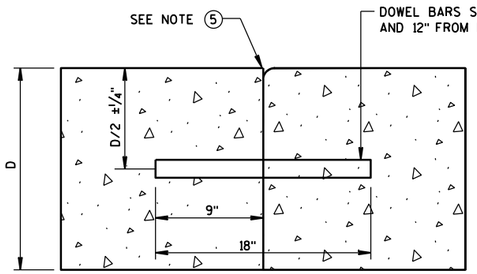
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



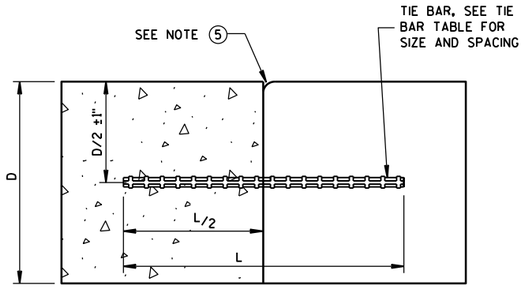
DOWELED-TRANSVERSE

CONTRACTION JOINTS

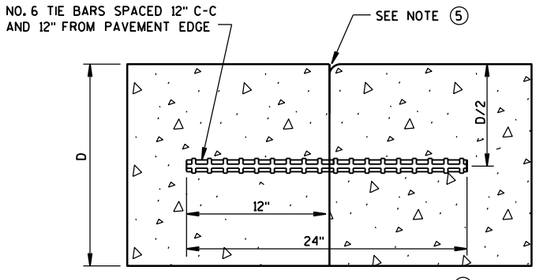
SEE NOTE (2)



DOWELED TRANSVERSE (3)

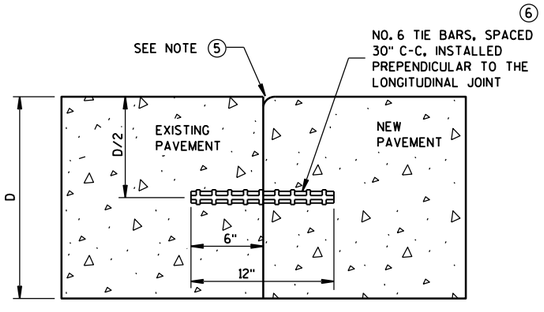


TIED LONGITUDINAL



TIED TRANSVERSE (3)

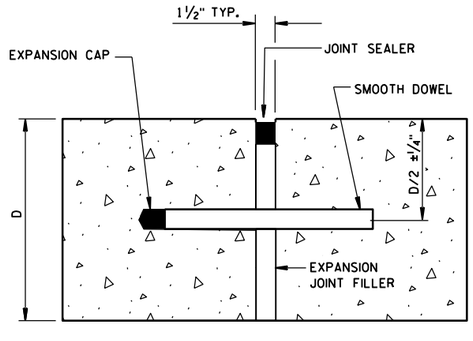
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

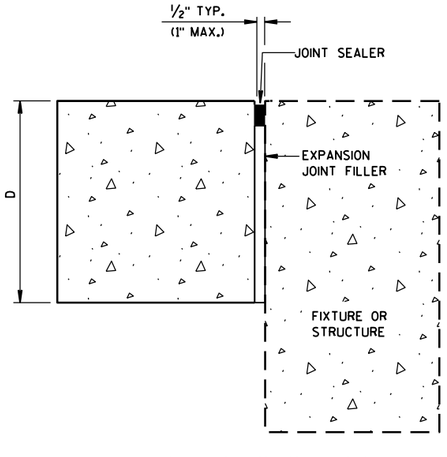
CONSTRUCTION JOINTS

SEE NOTE (4)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

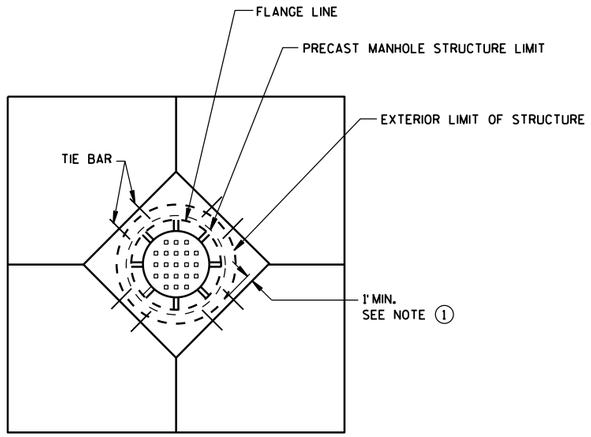
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

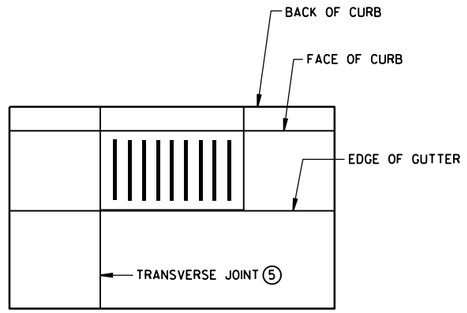
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

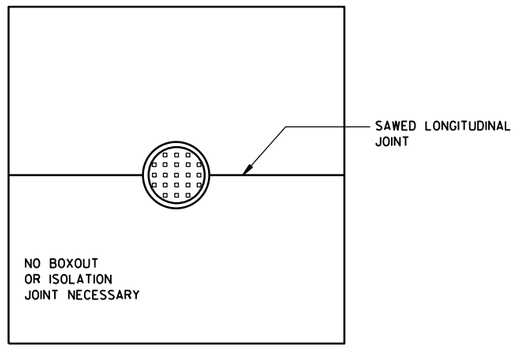
S.D.D. 13 C 18-3c



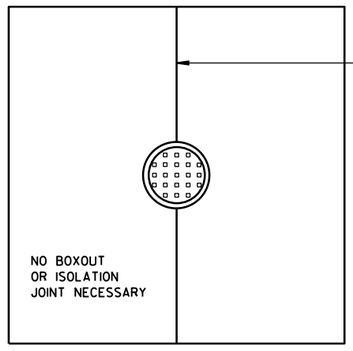
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



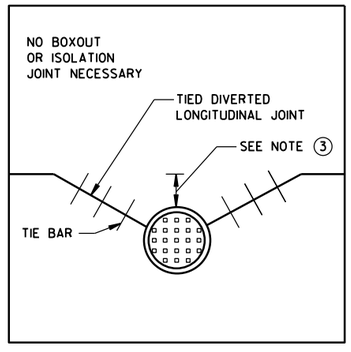
INLET WITH TRANSVERSE JOINT



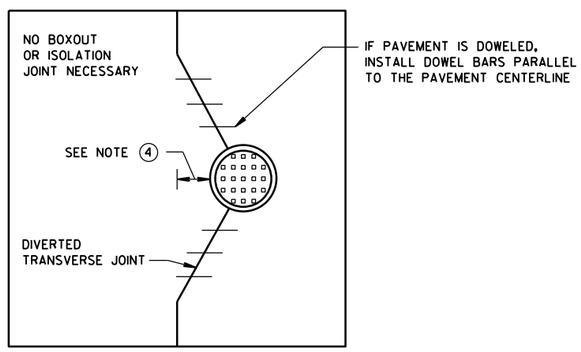
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

6

S.D.D. 13 C 18-3d

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) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

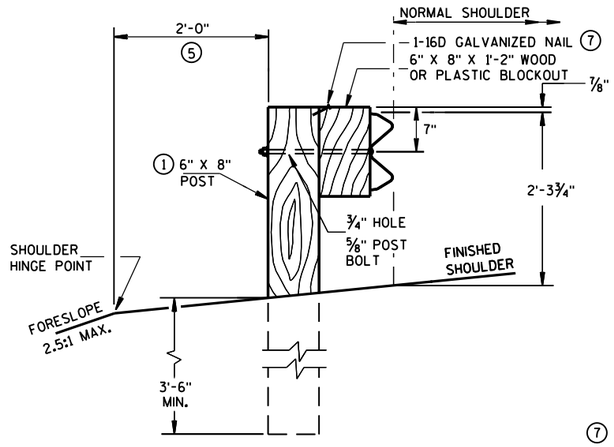
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

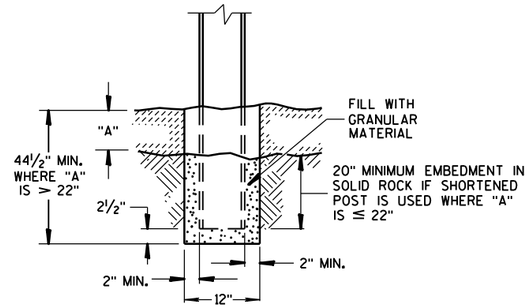
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

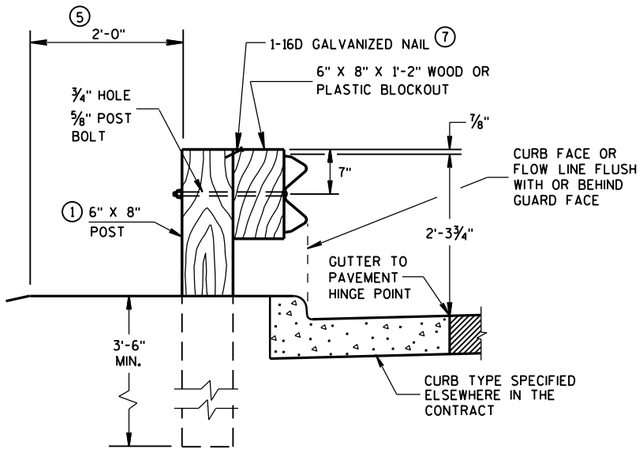
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



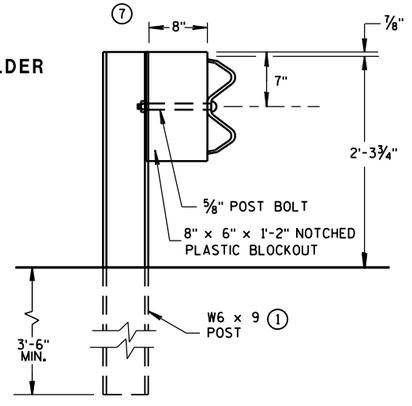
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



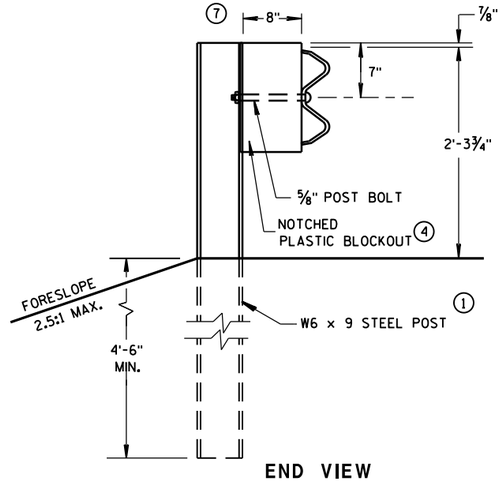
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



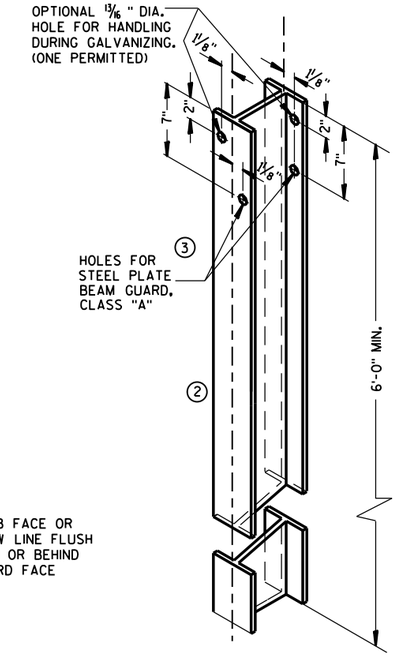
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION

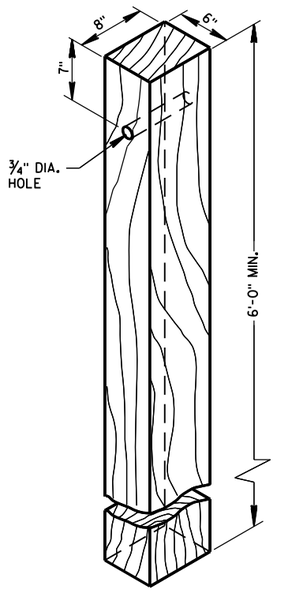


END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

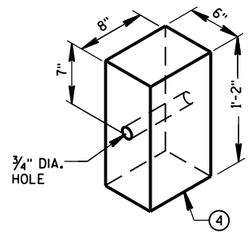


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

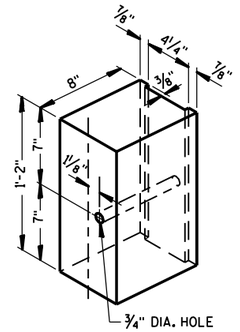
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



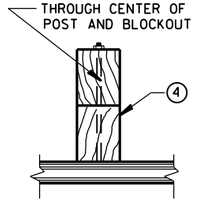
WOOD POST
(6"X8") NOMINAL



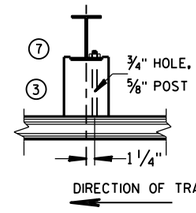
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



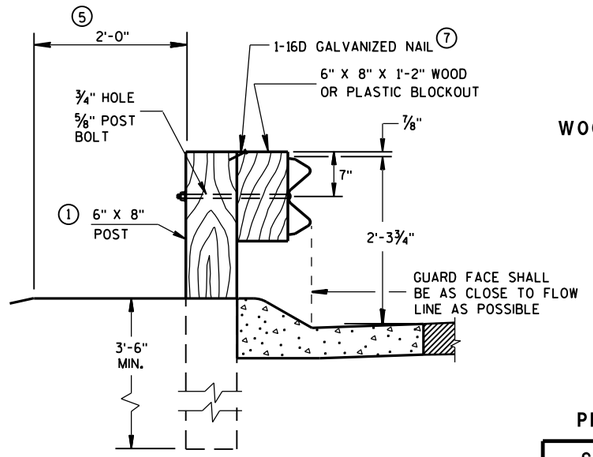
TYPICAL NOTCHED (1)
PLASTIC BLOCKOUT
FOR STEEL POSTS



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

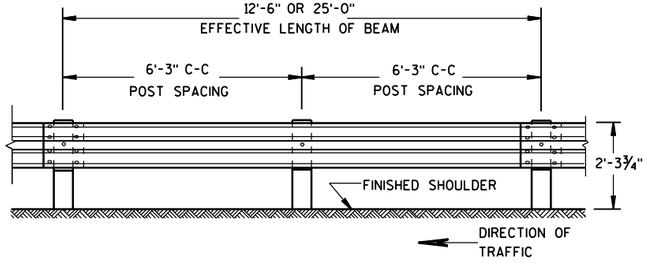
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO 278

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S.D.D. 14 B 15-8a

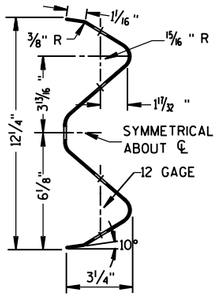
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S.D.D. 14 B 15-8a

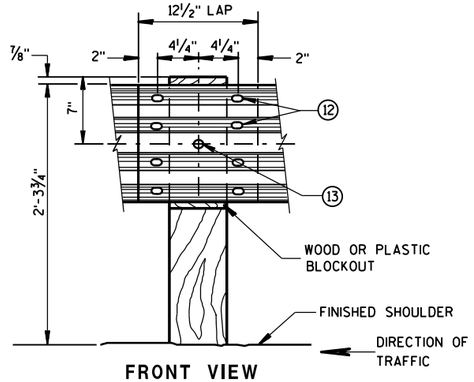


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

(8) PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

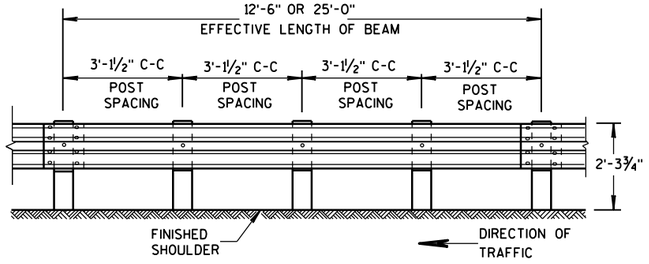
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

(10) REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

(11) PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

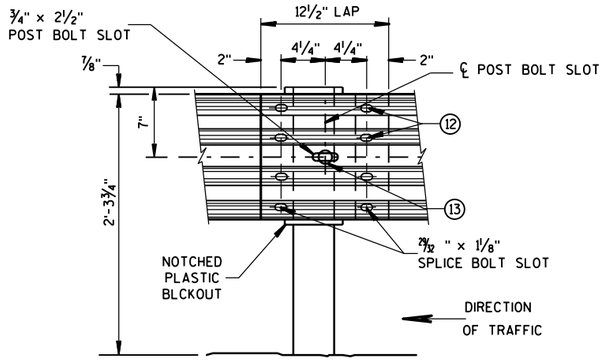
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



FRONT VIEW

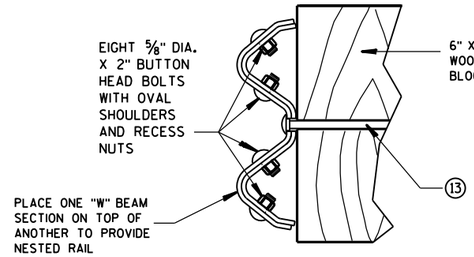
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

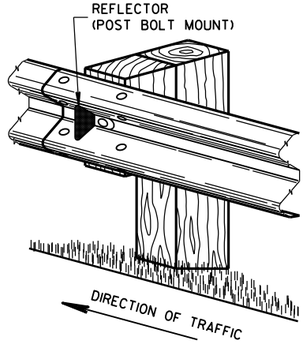


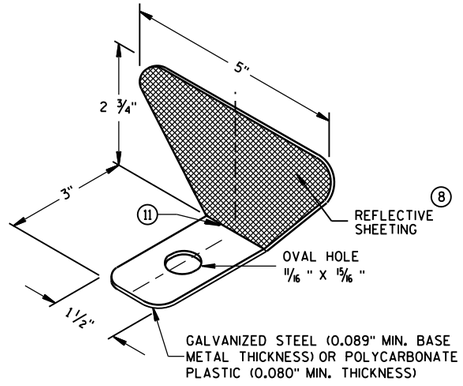
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (9)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (10)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 (11)	3
	> 200'	100' C-C	2	



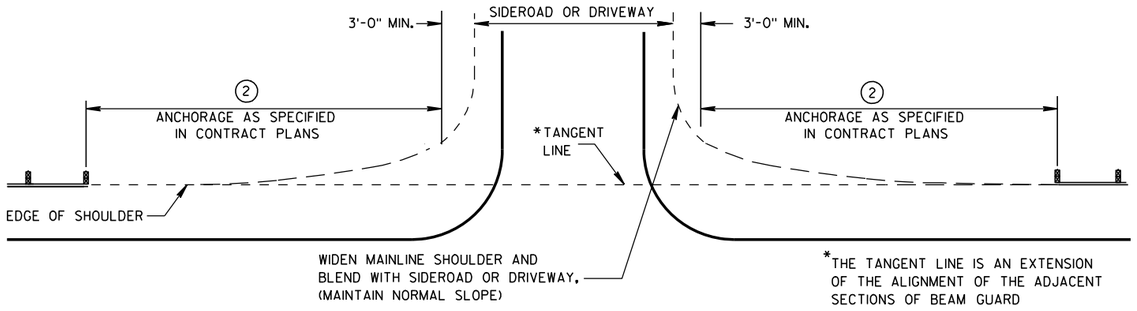


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (8)

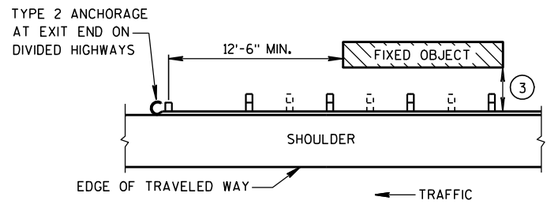
STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

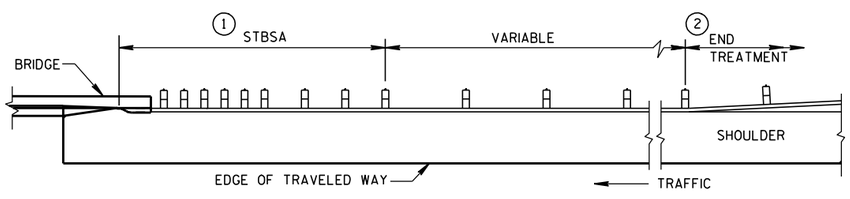
6
S.D.D. 14 B 15-8b



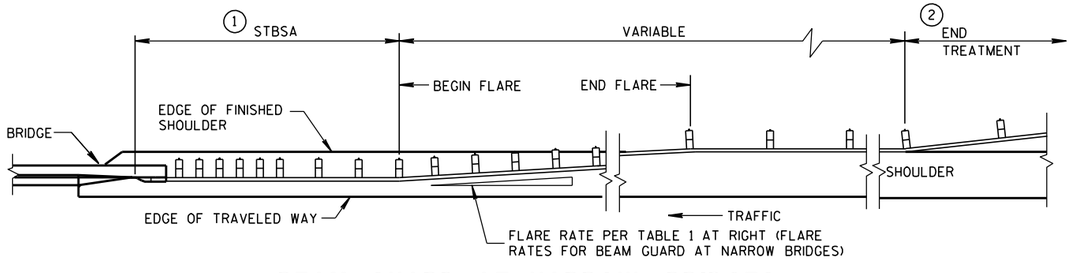
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



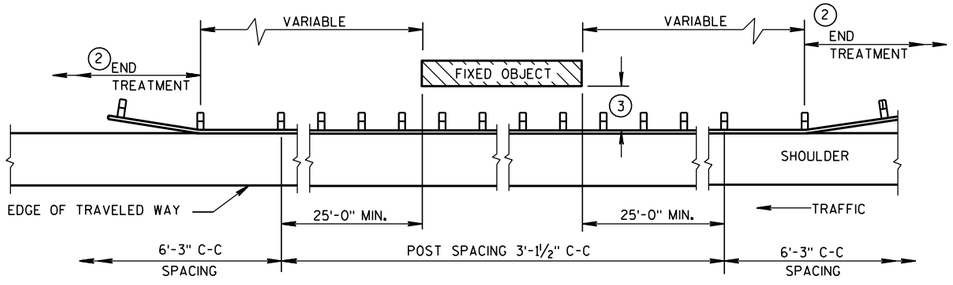
BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC



BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT NARROW BRIDGES
(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC
(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

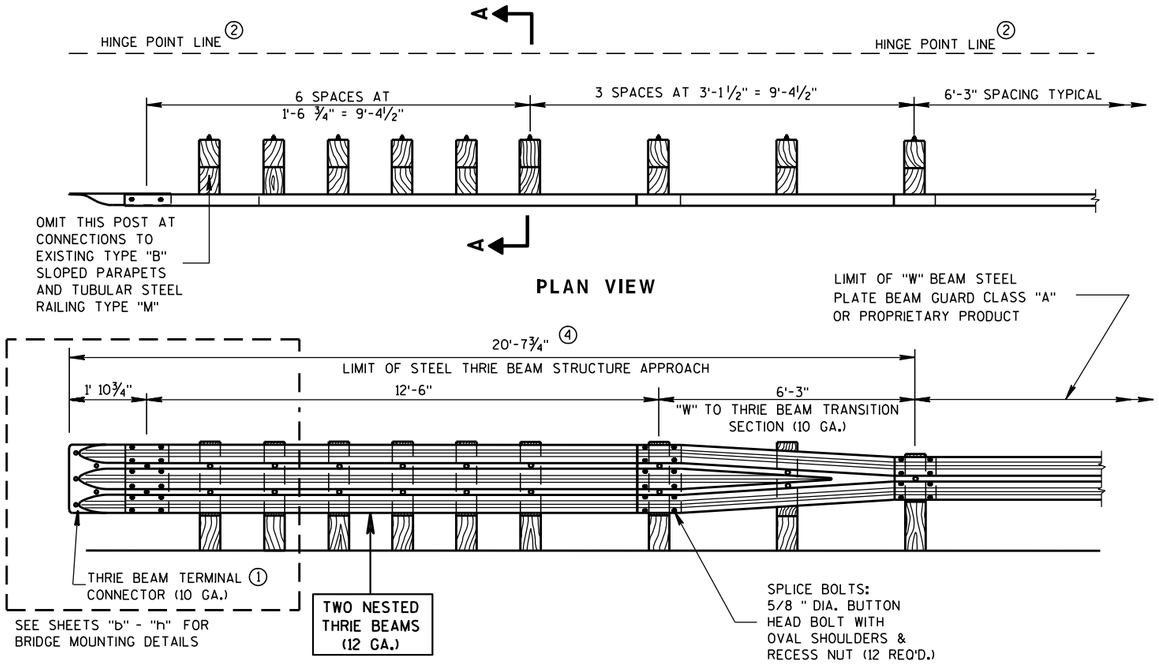
MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

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APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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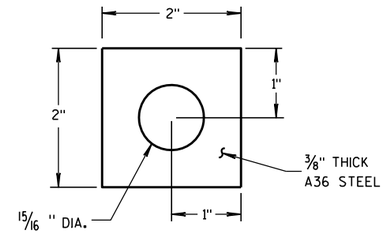


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

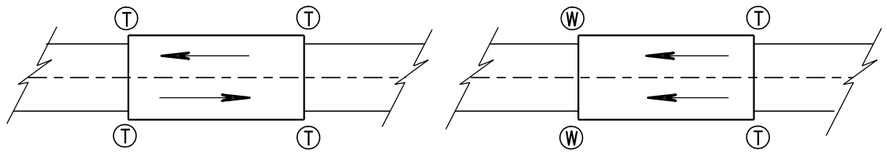
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



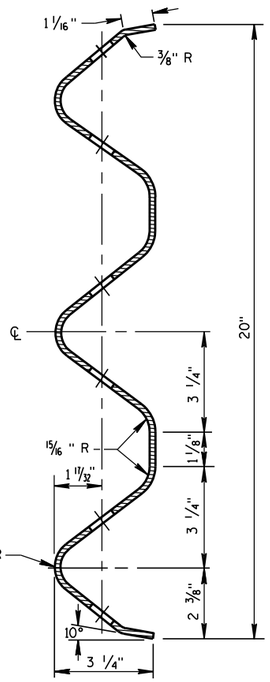
TWO WAY TRAFFIC

ONE WAY TRAFFIC

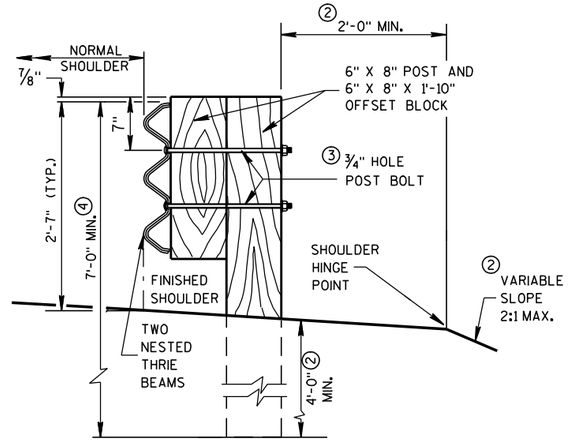
T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

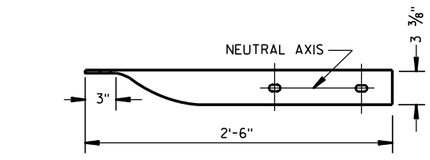
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

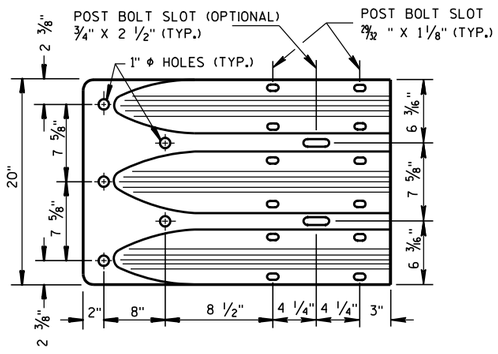


SECTION THRU THRIE BEAM RAIL ELEMENT

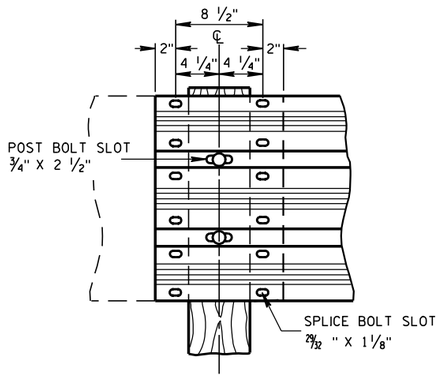


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

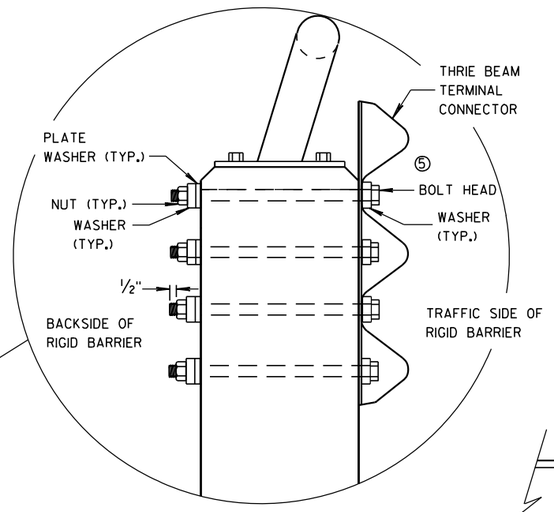
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

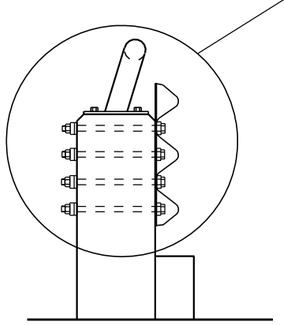
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

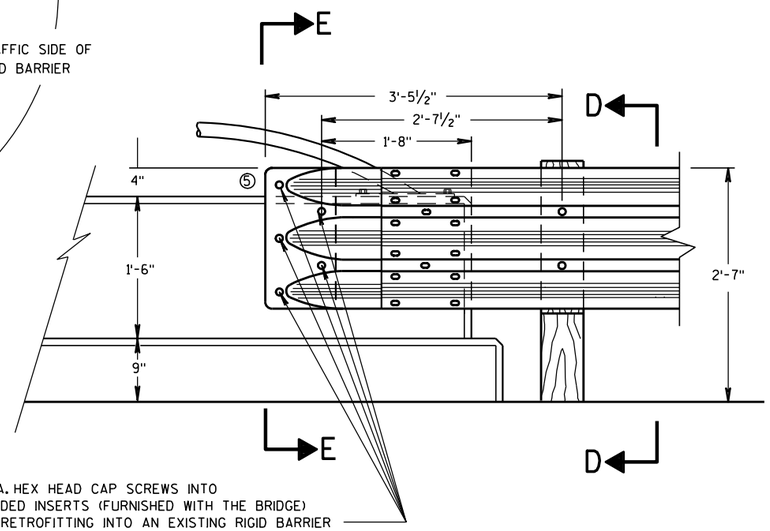
⑤ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.





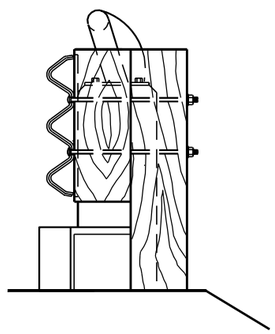
SECTION E-E



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

FRONT VIEW

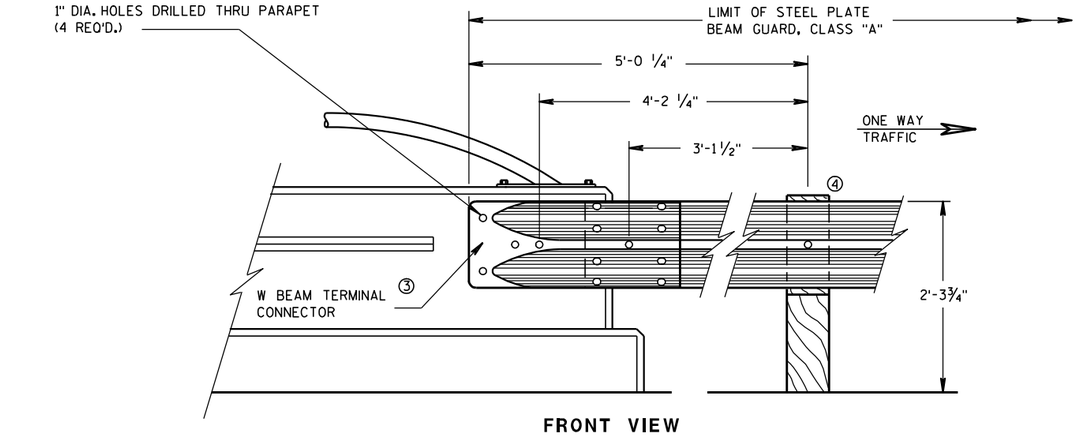


SECTION D-D

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

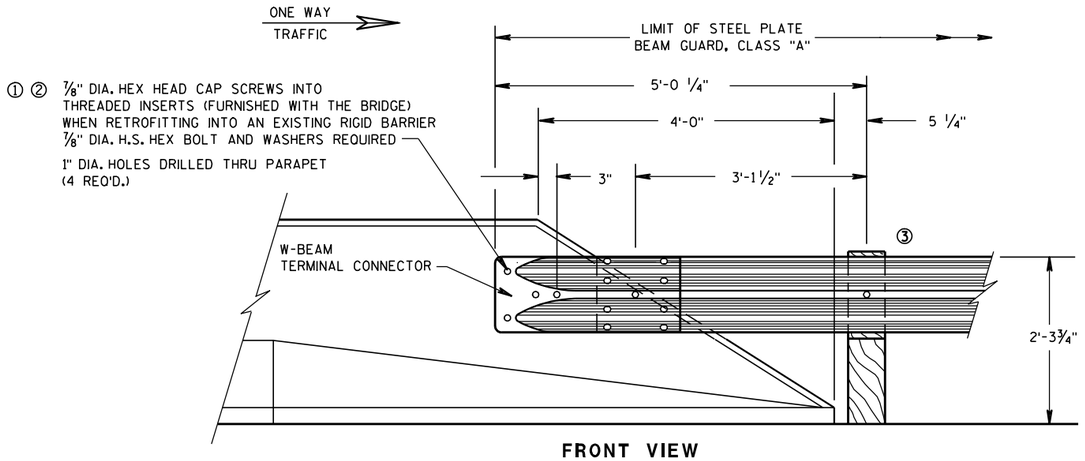
APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 20-11c

6

S.D.D. 14 B 20-11c



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

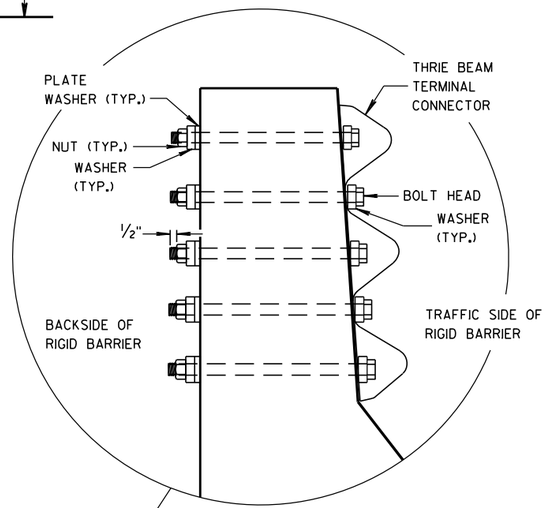
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

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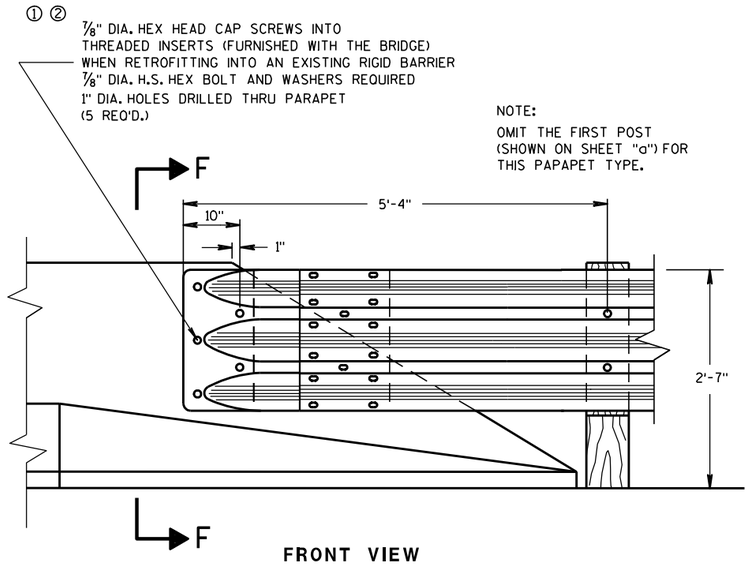
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③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

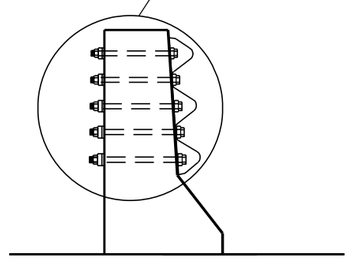
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION F-F

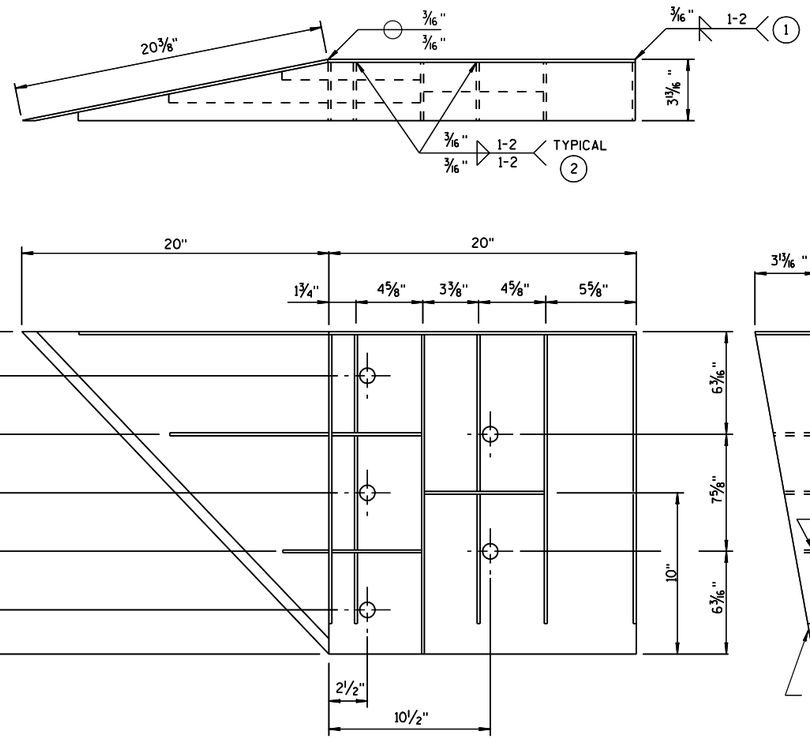
THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

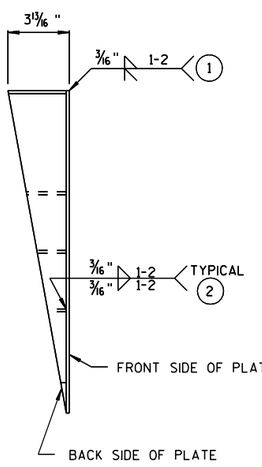
STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

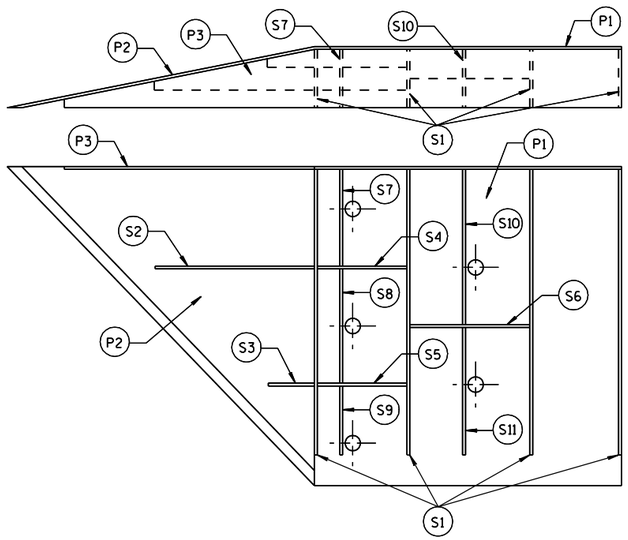
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S.D.D. 14 B 20-11d





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)



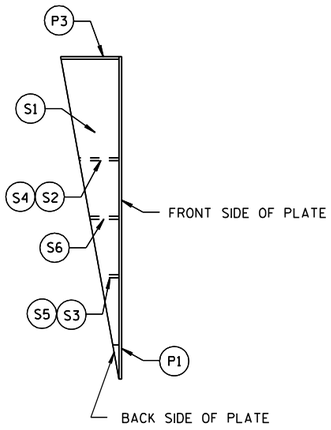


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE ⅜" THICK.

ALL STIFFENERS ARE ¼" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

① STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND ⅜" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

② STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
⅜" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	⅜"
P2	1		20" x 20" x 28⁹⁄₁₆"	⅜"
P3	1		39" x 3⅝" x 20" x 19⁵⁄₁₆"	⅜"
S1	4		18⁷⁄₁₆" x 3⅝" x 18¾"	¼"
S2	1		10¼" x 2⁷⁄₁₆" x 10⅜" x ½"	¼"
S3	1		3" x 1⅛" x 3⅛" x ½"	¼"
S4	1		6⅛" x 2⁷⁄₁₆"	¼"
S5	1		6⅛" x 1⅛"	¼"
S6	1		7¾" x 1¾"	¼"
S7	1		2⁹⁄₁₆" x 6" x 3⅝" x 5⅞"	¼"
S8	1		1⁵⁄₃₂" x 7½" x 2½" x 7⅜"	¼"
S9	1		6⅛" x 6⅜" x 1³⁄₃₂"	¼"
S10	1		1⅞" x 9⅞" x 3⅝" x 9¹¹⁄₁₆"	¼"
S11	1		8½" x 8¾" x 1¹³⁄₁₆"	¼"

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

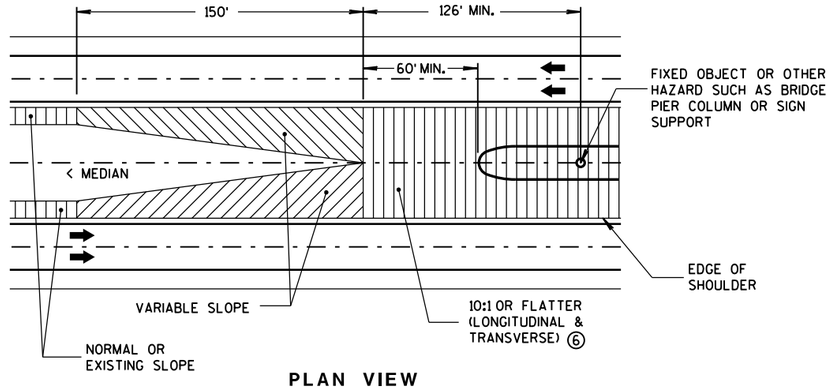
APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 20-11g

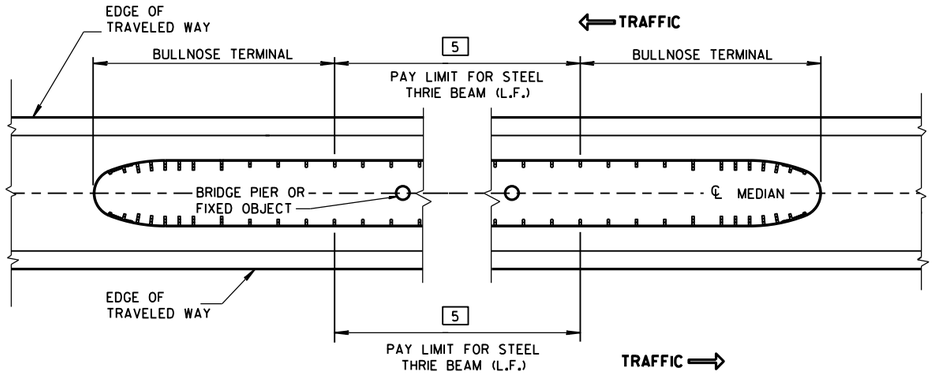
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S.D.D. 14 B 20-11g

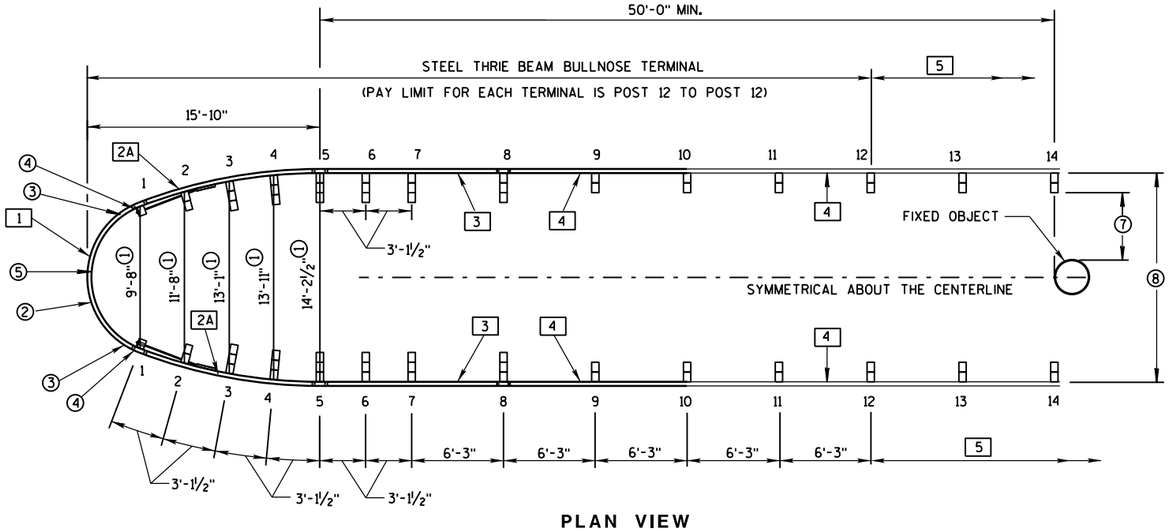


PLAN VIEW

GRADING AT BULLNOSE
(ALL INSTALLATIONS)

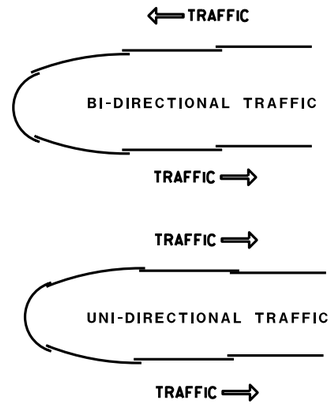


MEDIAN HAZARD PROTECTION PAY LIMITS



PLAN VIEW

TYPICAL BULLNOSE LAYOUT



LAPPING DETAIL
(ALL INSTALLATIONS)

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

PUNCHING, DRILLING, CUTTING OR WELDING IS NOT PERMITTED ON ANY GALVANIZED THRIE BEAM ACCESSORY OR TERMINAL ACCESSORY.

OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

THE USE OF STEEL POSTS ON THE BULLNOSE IS NOT ALLOWED.

BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

ALL THRIE BEAM SHALL BE 12-GAUGE.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½" AND 12" DIAMETER AROUND POST. SEE SDD 14B15 OR SDD 14B42 FOR MORE INFORMATION.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A. (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

[4] UNBENT STANDARD THRIE-BEAM RAIL NO.4. (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.

② U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.

③ NOSE CABLE W/SWAGGED END BUTTONS.

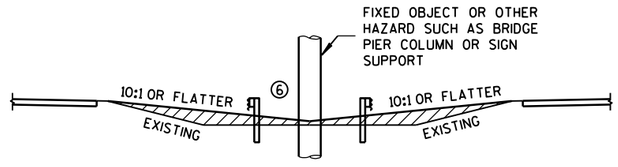
④ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).

⑤ THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.

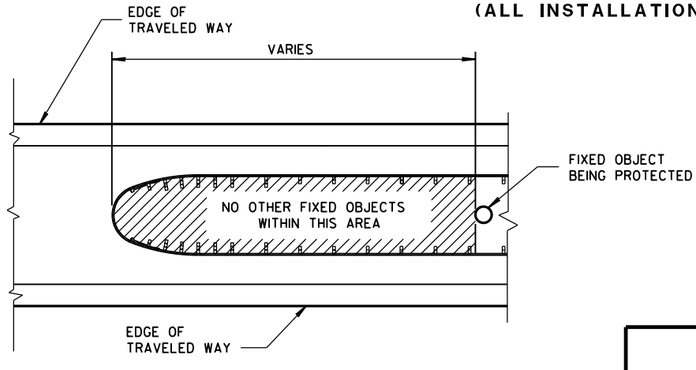
⑥ PROVIDE SUITABLE DRAINAGE WHEN MEDIAN GRADING IMPEDES NORMAL FLOW.

⑦ 2'-6" MINIMUM LATERAL DISTANCE BETWEEN BACK OF POST AND FACE OF FIXED OBJECT.

⑧ MAXIMUM WIDTH OF SYSTEM IS 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



MEDIAN GRADING SECTION
(ALL INSTALLATIONS)



HAZARD FREE AREA INSIDE BULLNOSE

STEEL THRIE BEAM BULLNOSE TERMINAL

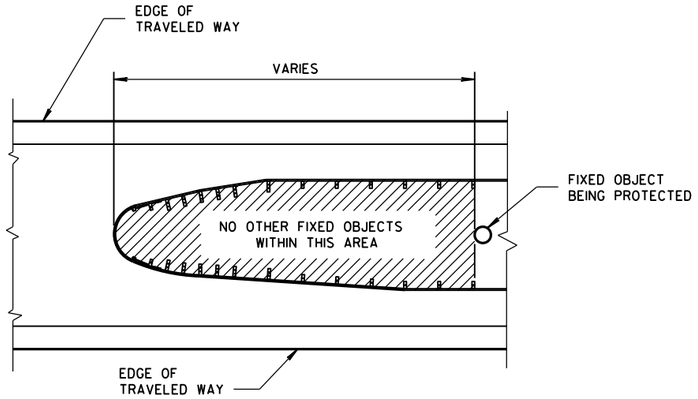
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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S.D.D. 14 B 26-3a

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S.D.D. 14 B 26-3a



HAZARD FREE
AREA INSIDE BULLNOSE

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A, (POST 1 TO POST 5)

[2B] SLOTTED THRIE BEAM RAIL NO. 2B, (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

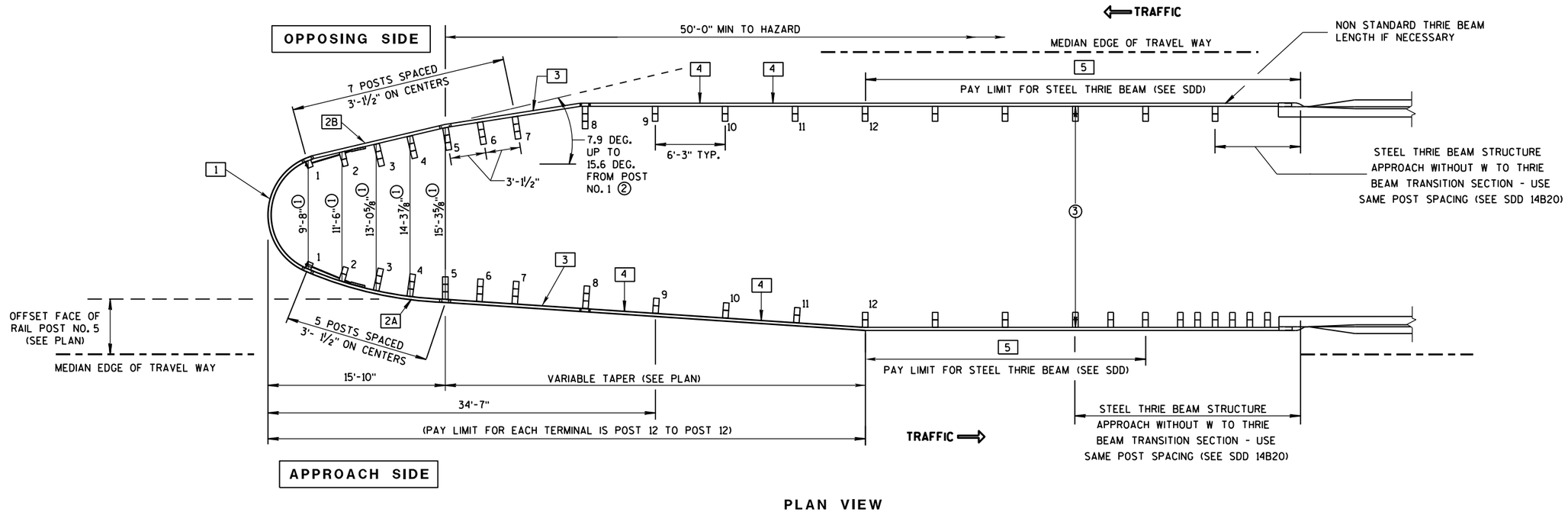
[4] UNBENT STANDARD THRIE-BEAM RAIL NO. 4, (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST.

② TAPER BEGINNING AT POST NO. 1 MUST CONTINUE TO POST NO. 5. PAST POST NO. 5 TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS. (SEE PLAN)

③ FOR MEDIANS WIDER THAN 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



PLAN VIEW

WIDENED BULLNOSE DESIGN

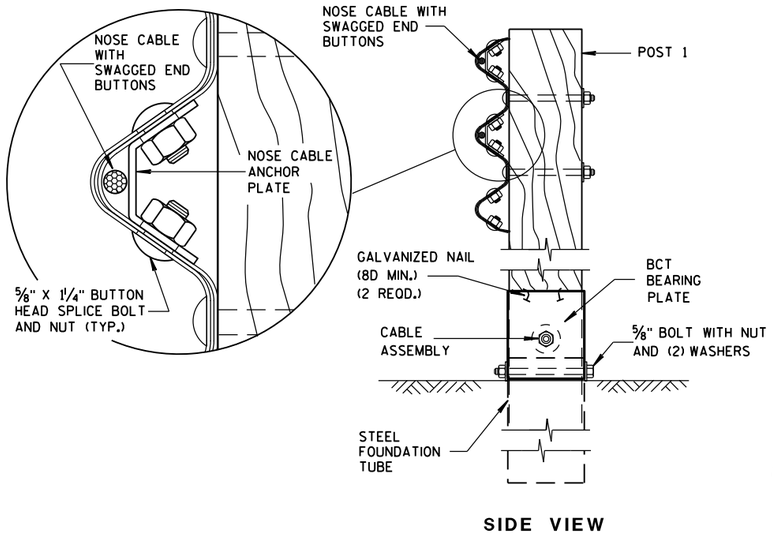
(INSTALLATION AT TWIN BRIDGES WITH BI-DIRECTIONAL TRAFFIC SHOWN)

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

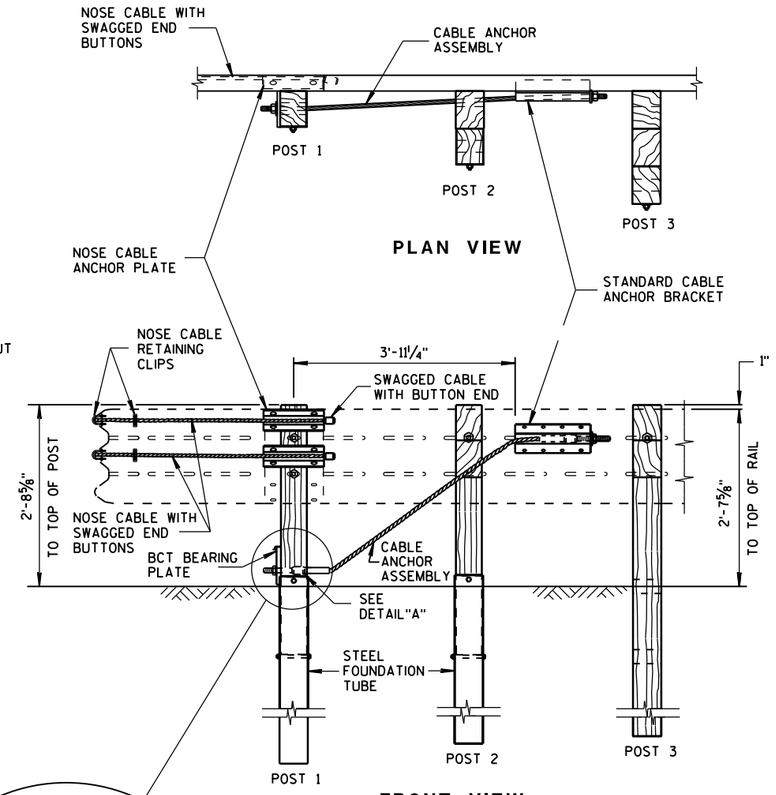
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S.D.D. 14 B 26-3b



SIDE VIEW

NOSE CABLE ASSEMBLY AT POST NO. 1



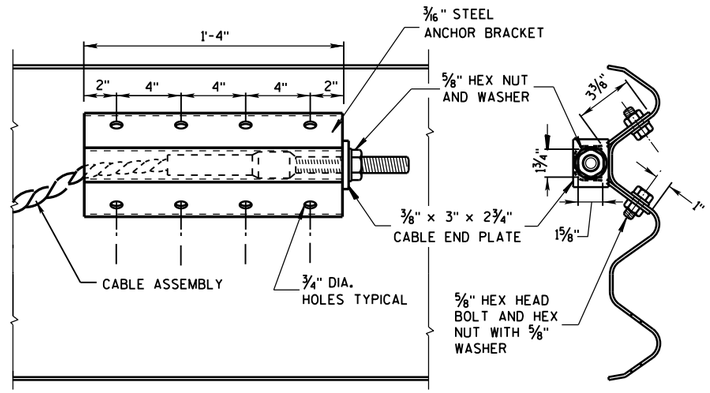
PLAN VIEW

FRONT VIEW

NOSE CABLE ANCHOR AND STANDARD BRACKET ASSEMBLY

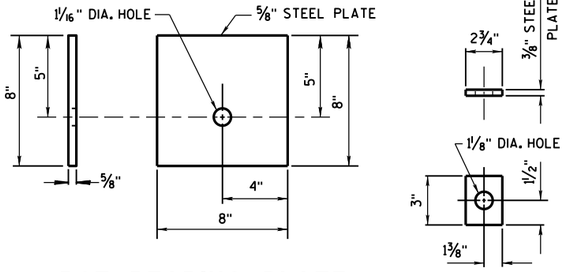
GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



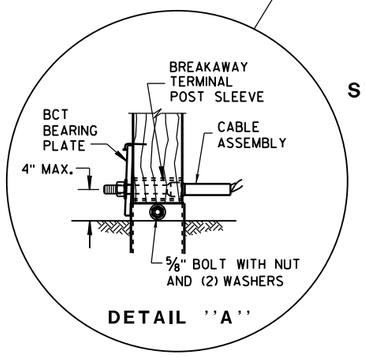
FRONT VIEW END VIEW

DETAILS OF CABLE ANCHOR BRACKET

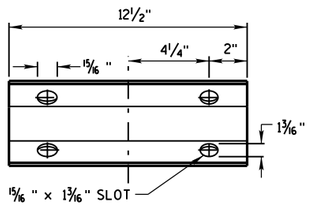


BCT BEARING PLATE

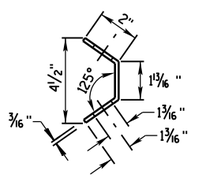
CABLE END PLATE



DETAIL ''A''



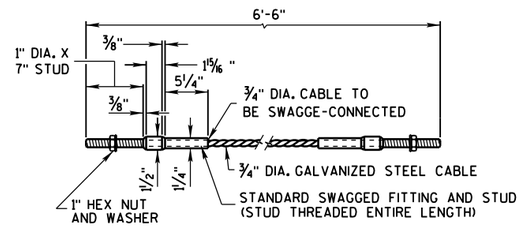
ELEVATION VIEW



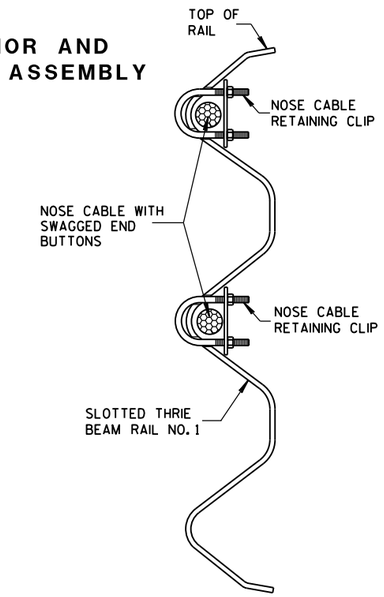
END VIEW

NOSE CABLE ANCHOR PLATE

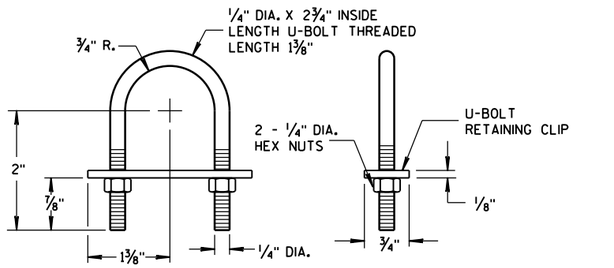
NOTE: 12 1/2" x 5 13/16" x 3/16" STEEL PLATE (A306)



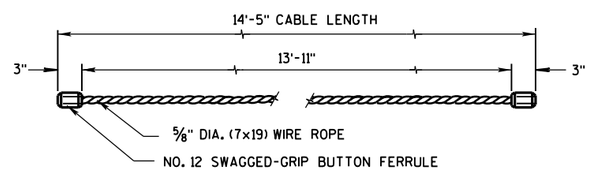
DETAILS OF CABLE ANCHOR ASSEMBLY



PLACEMENT OF NOSE CABLE RETAINING CLIP



NOSE CABLE RETAINING CLIP



NOSE CABLE WITH SWAGGED END BUTTONS

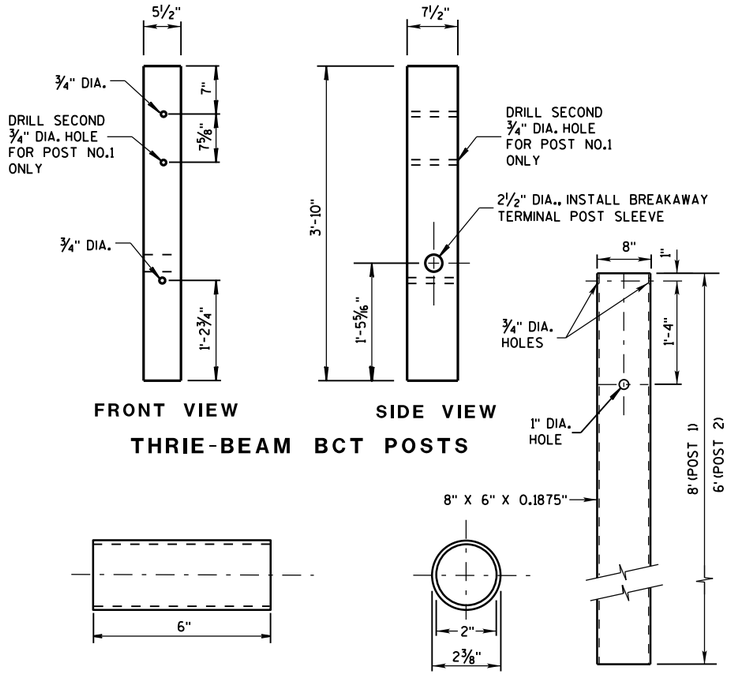
TO PULL OFF SWAGGED GRIP BUTTON FERRULE FROM WIRE ROPE REQUIRES A FORCE EQUAL TO 98% OF THE WIRE ROPE'S BREAKING STRENGHT.

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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S.D.D. 14 B 26-3c

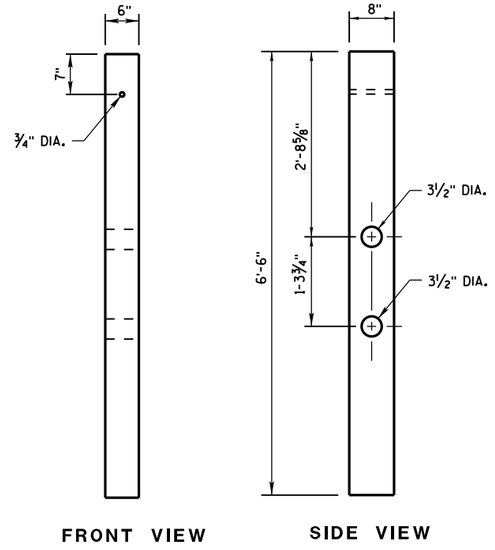


FRONT VIEW SIDE VIEW

THRIE-BEAM BCT POSTS

BREAKAWAY TERMINAL POST SLEEVE

STEEL FOUNDATION TUBE

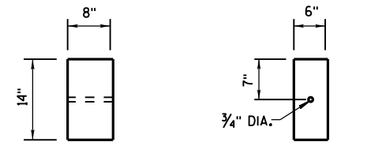


FRONT VIEW SIDE VIEW

THRIE-BEAM CRT WOOD POSTS

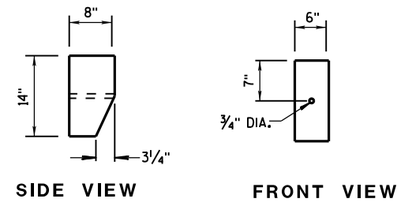
GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



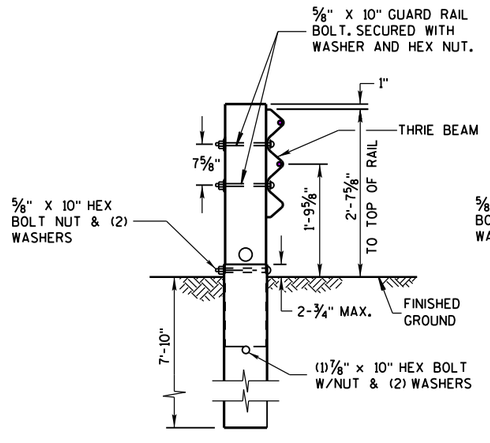
SIDE VIEW FRONT VIEW

STANDARD WOOD BLOCK



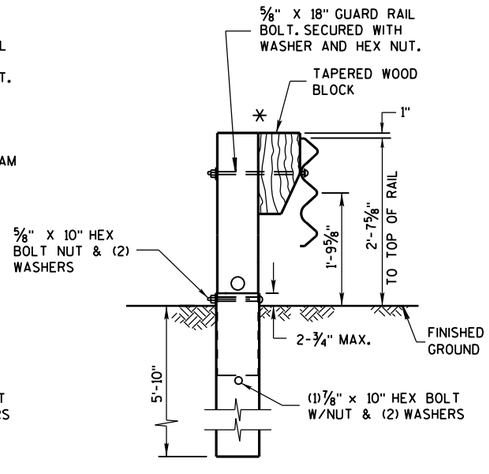
SIDE VIEW FRONT VIEW

TAPERED WOOD BLOCK



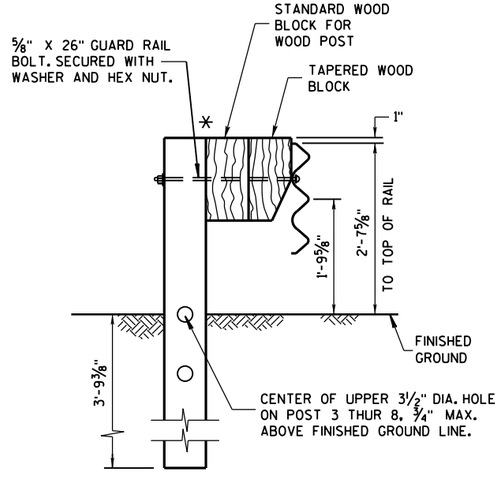
THRIE-BEAM BCT POST
(WITH 8'-0" FOUNDATION TUBE)

POST NO. 1



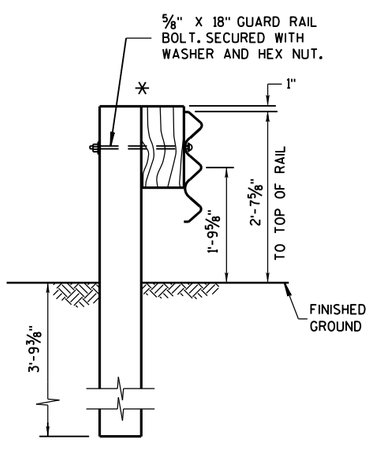
THRIE-BEAM BCT POST
(WITH 6'-0" FOUNDATION TUBE AND 1'-2" TAPERED BLOCK)

POST NO. 2



THRIE-BEAM CRT POST
(6'-6" LONG POST WITH 1'-2" BLOCK AND 1'-2" TAPERED BLOCK)

POST NO. 3,4,5,6,7, & 8



THRIE-BEAM POST
(6'-6" LONG POST WITH 1'-2" BLOCK)

POST NO. 9,10,11,& 12

(ALSO USE FOR STEEL THRIE BEAM BEYOND POST 12)

* IF NEEDED DUE TO AN UNDERGROUND OBSTACLE ADD 1 ADDITIONAL STANDARD BLOCKOUT TO POST.

STEEL THRIE BEAM BULLNOSE TERMINAL

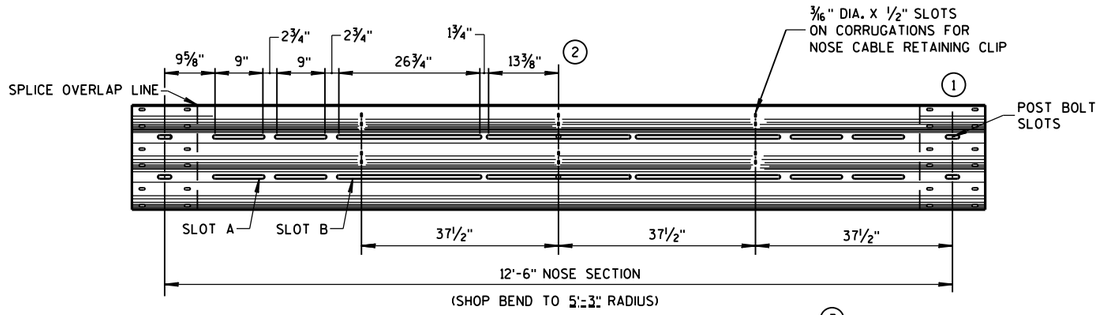
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 288

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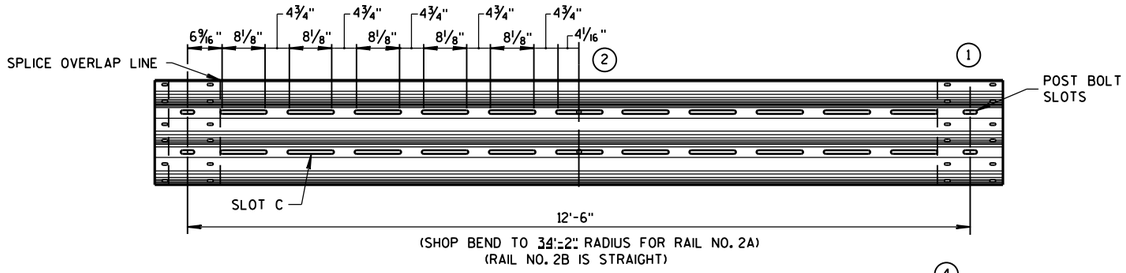
S.D.D. 14 B 26-3d

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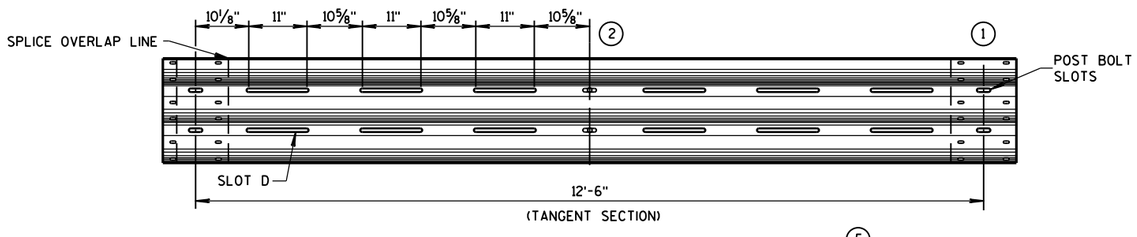
S.D.D. 14 B 26-3d



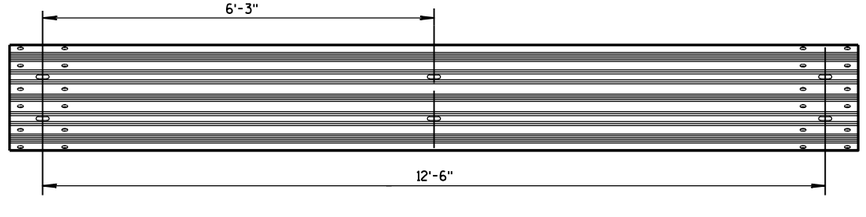
SLOTTED THRIE BEAM RAIL NO. 1 (3)



SLOTTED THRIE BEAM RAILS NO. 2A AND NO. 2B (4)



SLOTTED THRIE BEAM RAIL NO. 3 (5)



UNBENT STANDARD THRIE BEAM RAIL NO. 4 AND NO. 5

GENERAL NOTES

SEE STANADRD DETAIL DRAWINGS 14 B 26a-e.

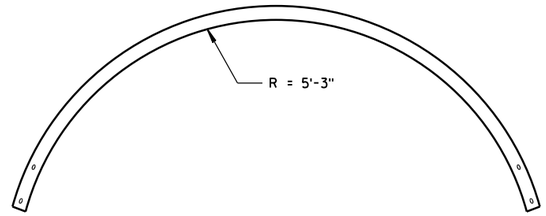
(1) SLOTTED THRIE BEAM RAIL DIMENSIONS SHOWN ARE BEFORE BENDING TO THE RADIUS SHOWN.

(2) SLOT SIZE AND SPACING SYMMETRIC.

(3) SLOTTED THRIE BEAM RAIL NO. 1, 12'-6", SHOP BEND TO R=5'-3".

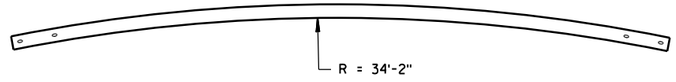
(4) SLOTTED THRIE BEAM RAIL NO. 2A, 12'-6", SHOP BEND TO R=34'-2".
SLOTTED THRIE BEAM RAIL NO. 2B, 12'-6", RAIL IS STRAIGHT.

(5) SLOTTED THRIE BEAM RAIL NO. 3, 12'-6", TANGENT.



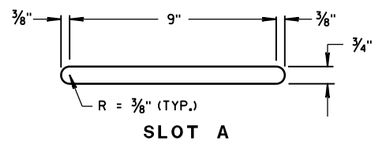
PLAN VIEW

SLOTTED THRIE BEAM RAIL NO. 1

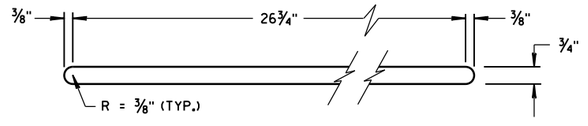


PLAN VIEW

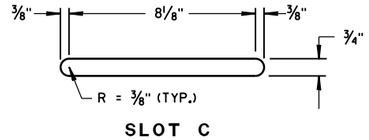
SLOTTED THRIE BEAM RAIL NO. 2A



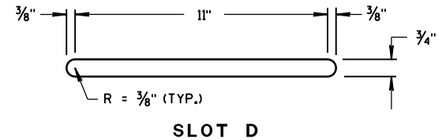
SLOT A



SLOT B



SLOT C



SLOT D

SLOT DETAILS

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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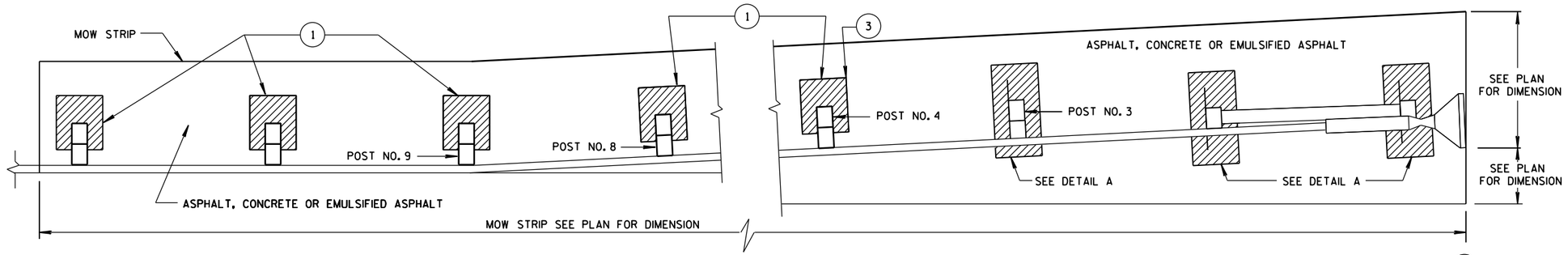
FHWA

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S.D.D. 14 B 26-3e

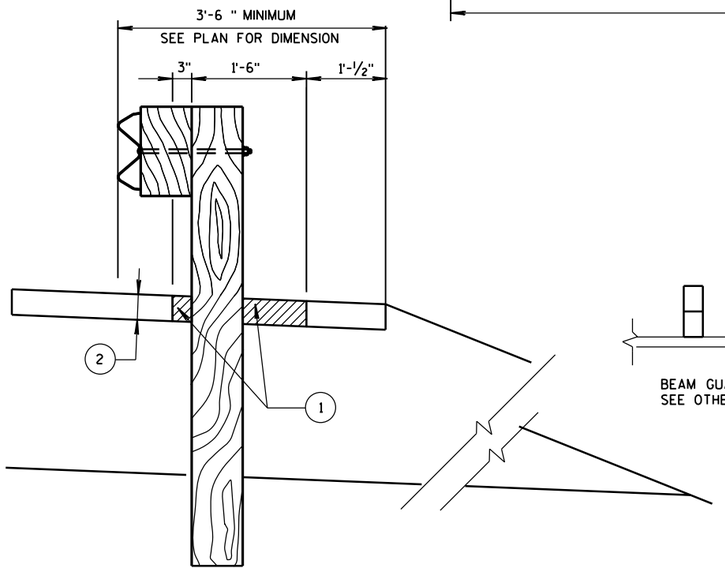
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S.D.D. 14 B 26-3e

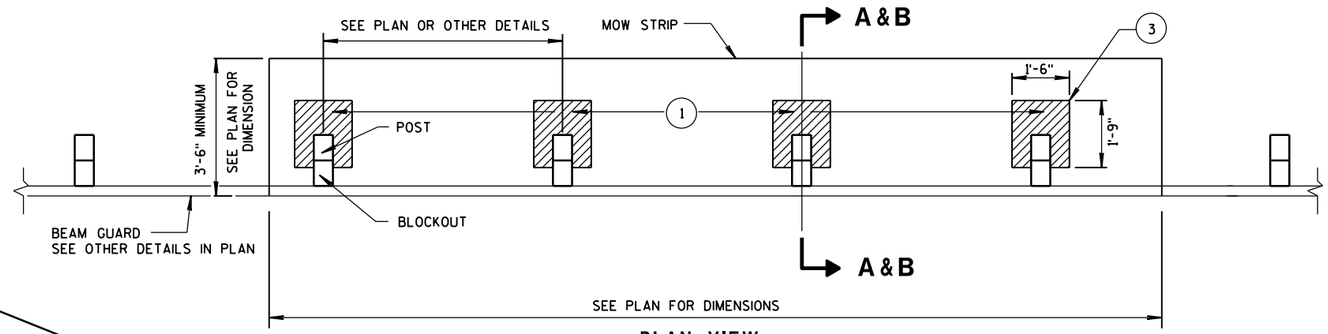


PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABORBING TERMINAL

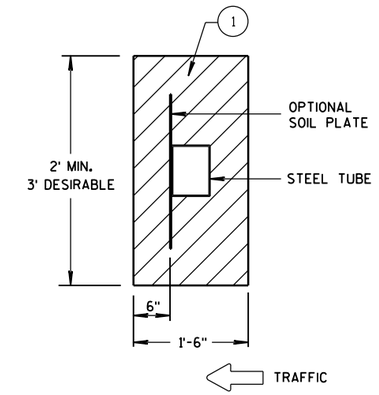


SECTION A-A

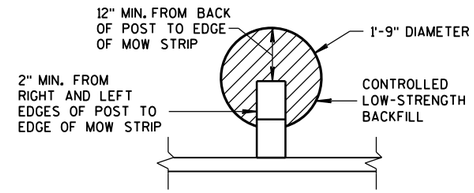


PLAN VIEW

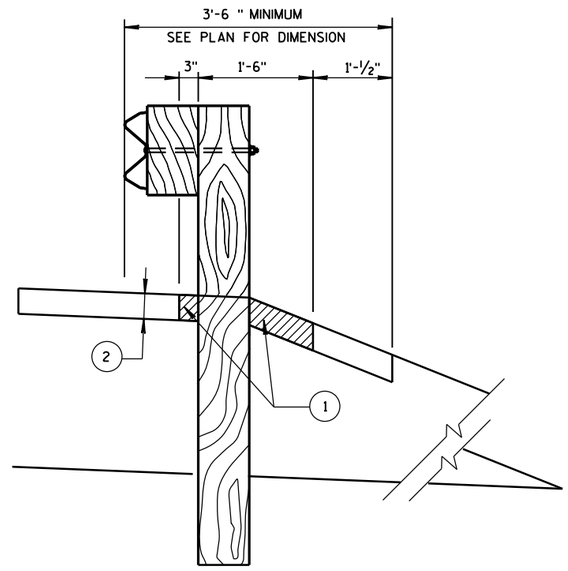
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



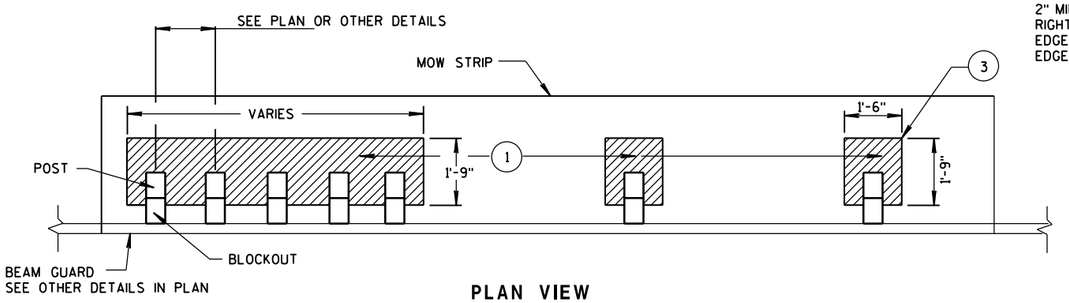
DETAIL A



ALTERNATIVE HMA
MOW STRIP DESIGN

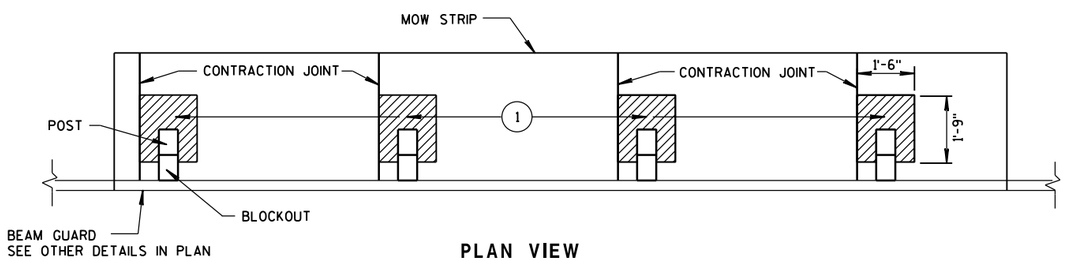


SECTION B-B



PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP

1. CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
2. DEPTH OF MOW STRIP:
   ASPHALT - 4"
   CONCRETE - 4"
   EMULSIFIED ASPHALT - 1" OR LESS
3. FOR EMULSIFIED ASPHALT MOW STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS.)

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA
290
NT

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S.D.D. 14 B 28-3

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S.D.D. 14 B 28-3

GENERAL NOTES

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

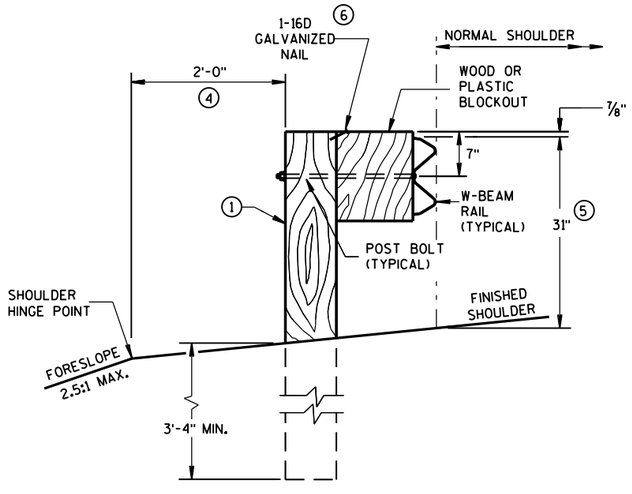
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

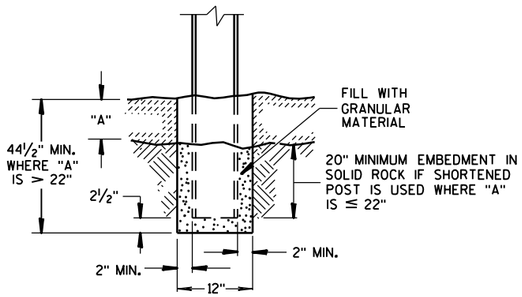
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



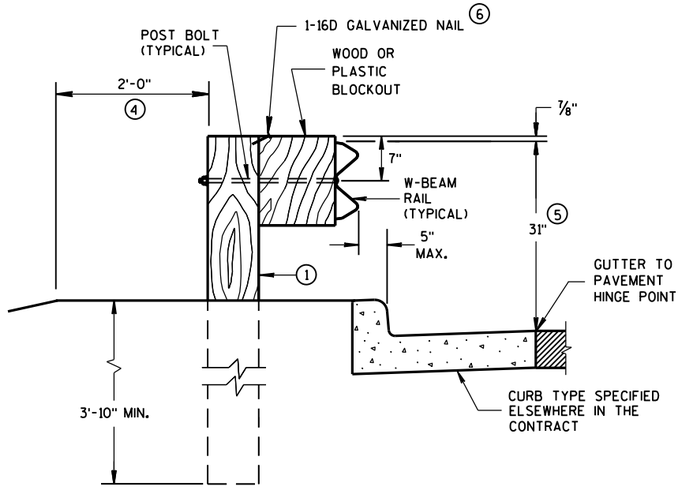
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



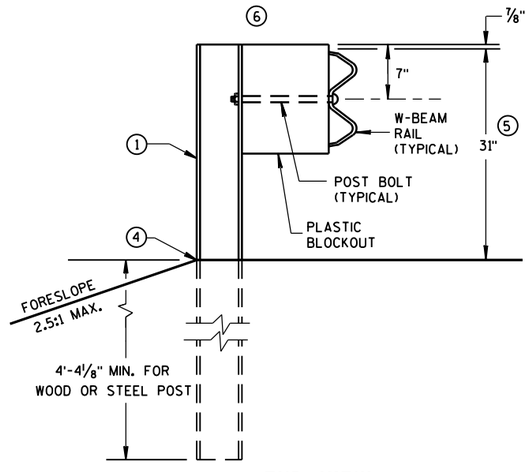
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



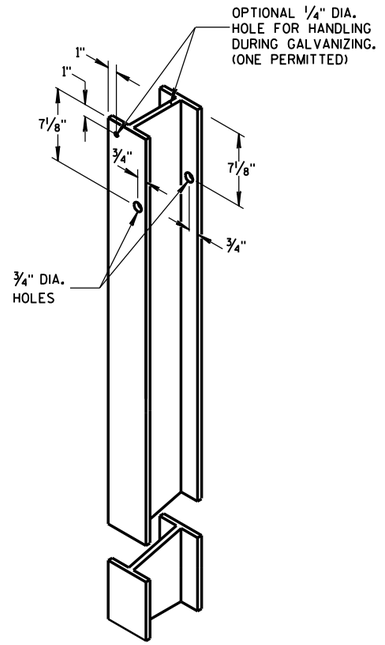
END VIEW

LOCATED ALONG A CURBED ROADWAY

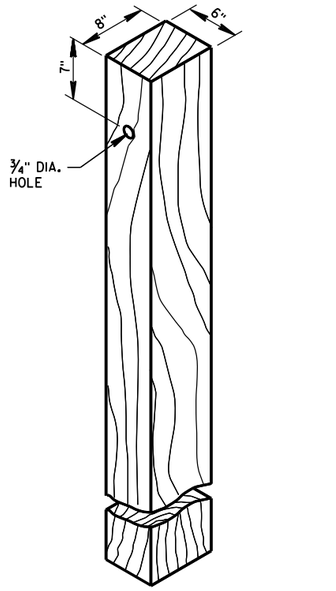


END VIEW

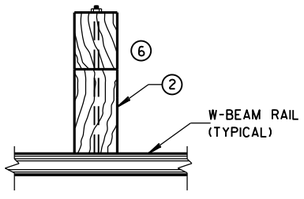
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



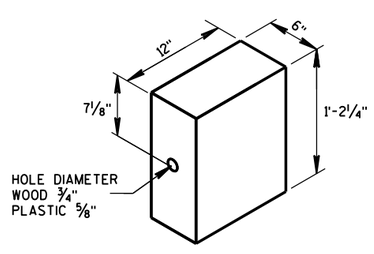
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



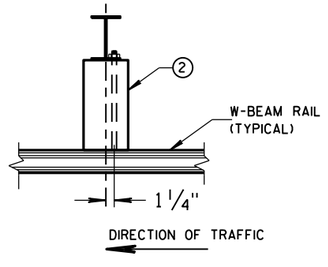
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

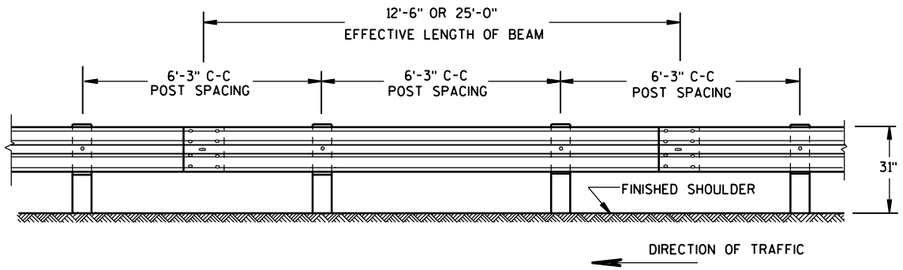


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

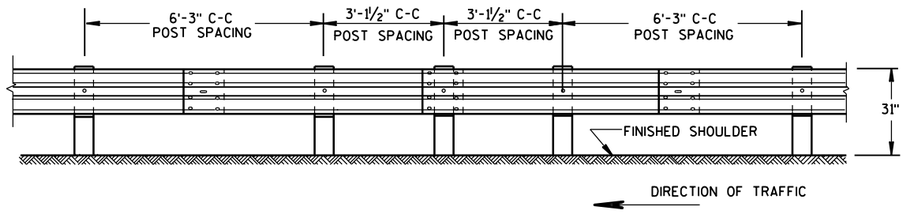
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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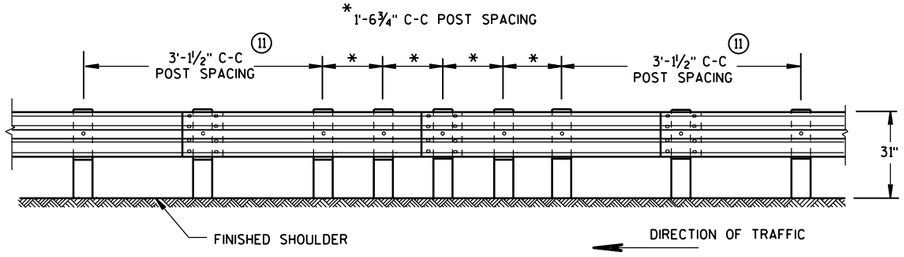
FRONT VIEW

POST SPACING STANDARD INSTALLATION



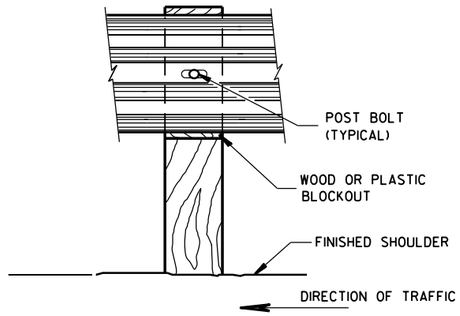
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

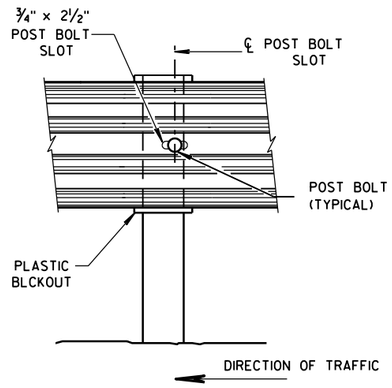


FRONT VIEW

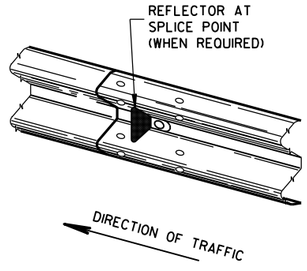
QUARTER POST SPACING (QS)

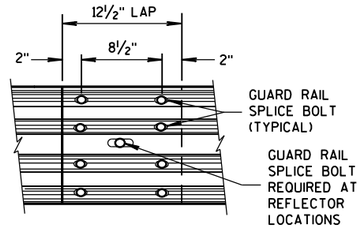


FRONT VIEW AT WOOD POST

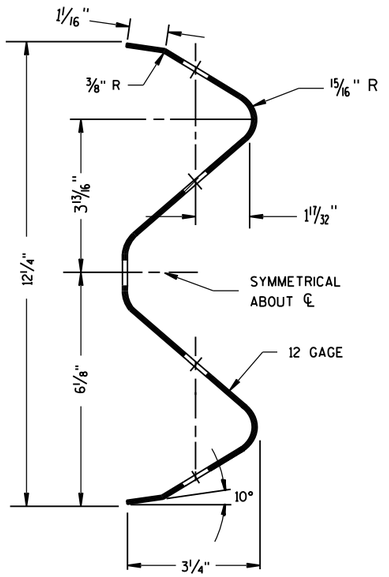


FRONT VIEW AT STEEL POST

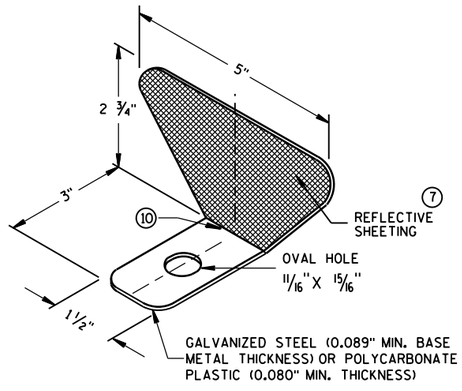




FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ⑧

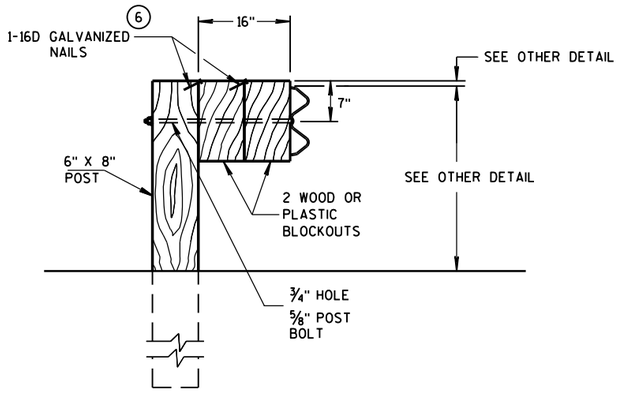
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 ⑨ 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ⑩	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

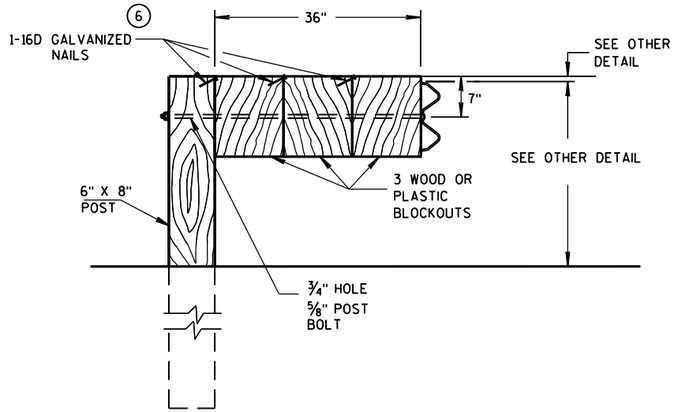
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S.D.D. 14 B 42-3b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

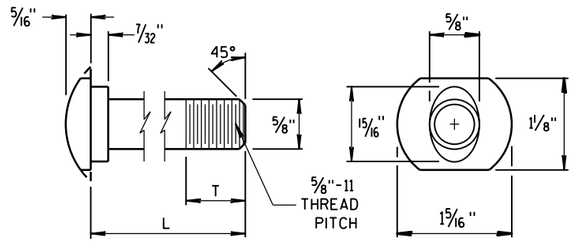


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

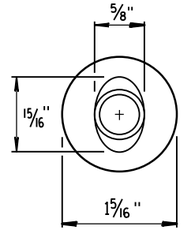
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

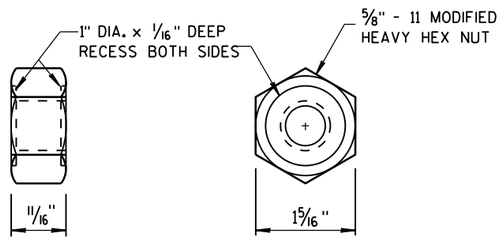


POST BOLT TABLE

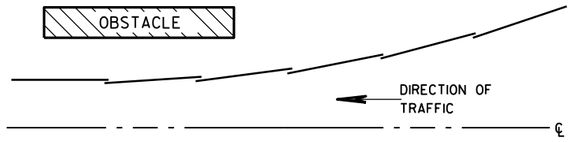
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

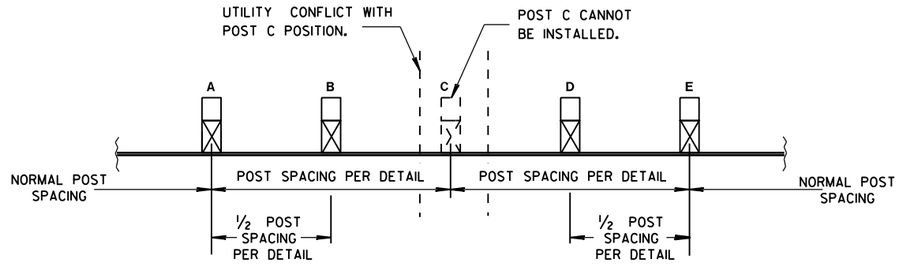


POST BOLT AND RECESS NUT

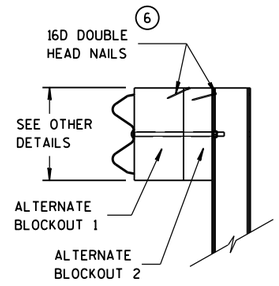


PLAN VIEW

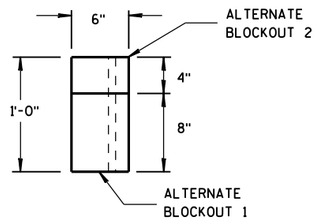
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 42-3c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

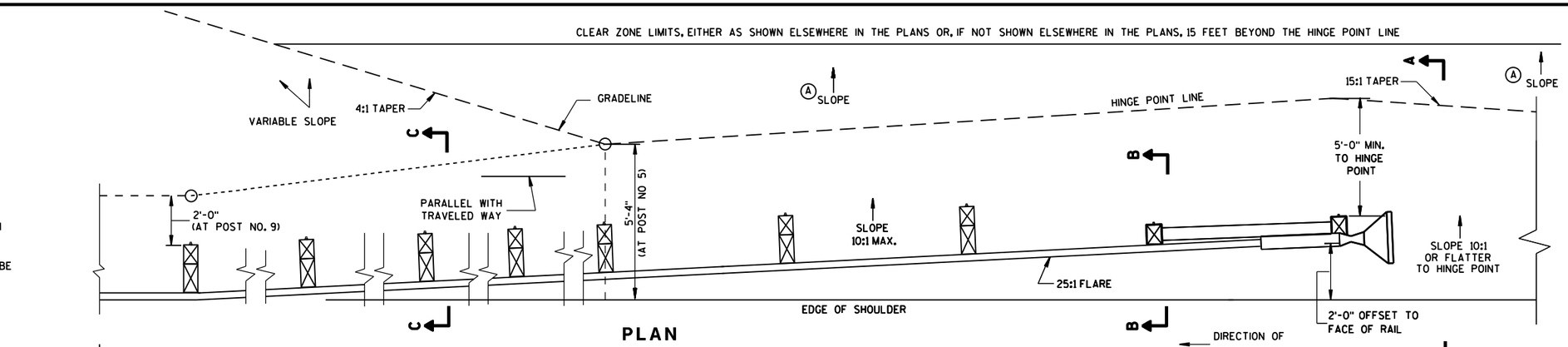
SEE SDD 14B42 FOR MORE INFORMATION.

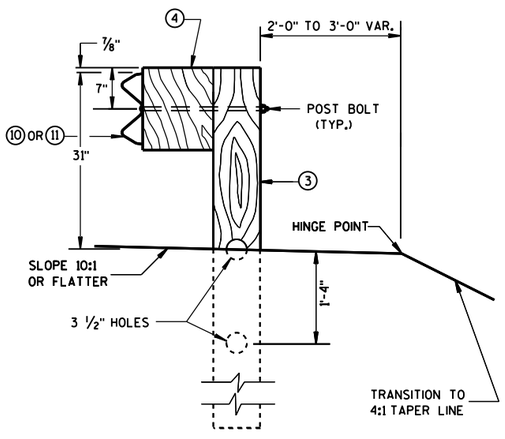
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

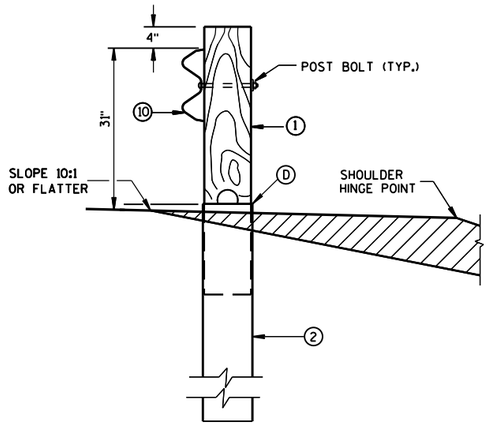
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

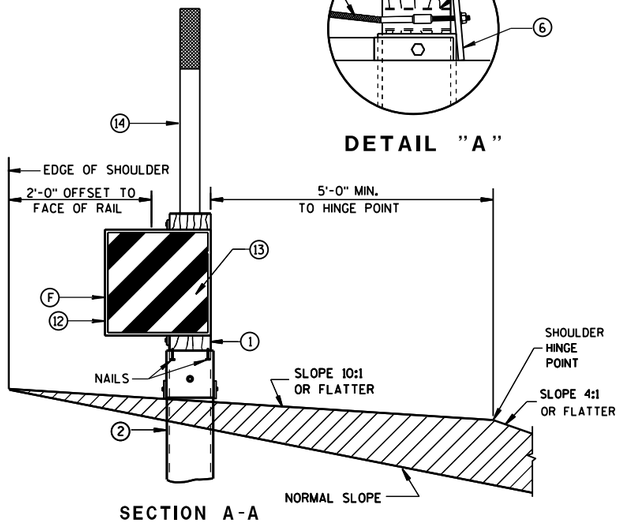




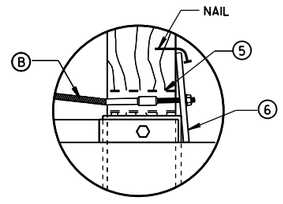
SECTION C-C
TYPICAL AT POST NOS. 3-9



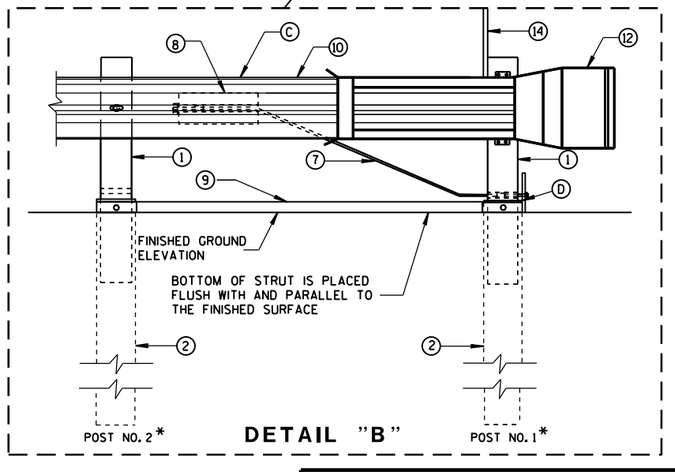
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"

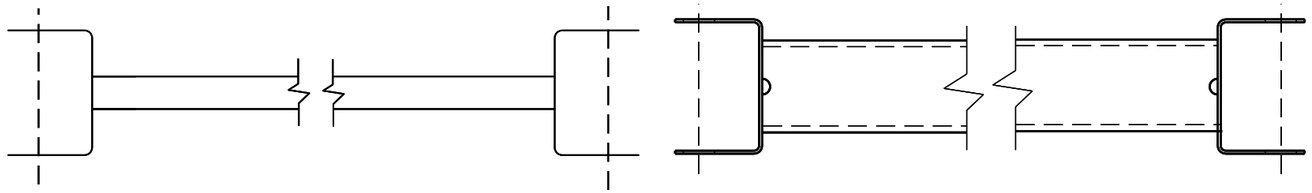


DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

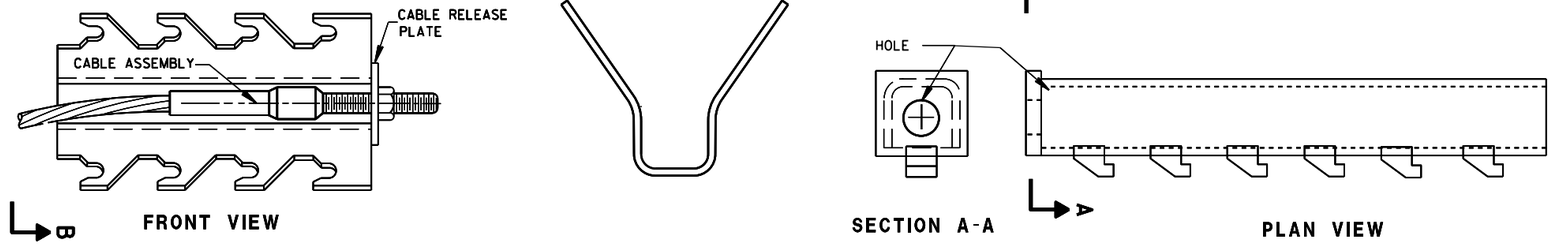


⑨ Ⓗ

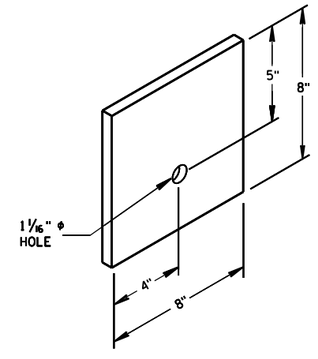
GENERIC GROUND STRUT

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX ⑧ Ⓗ



BEARING PLATE ⑥

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

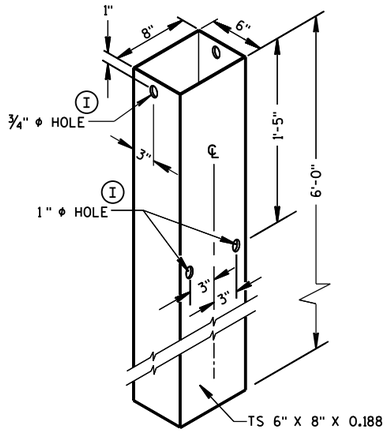
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

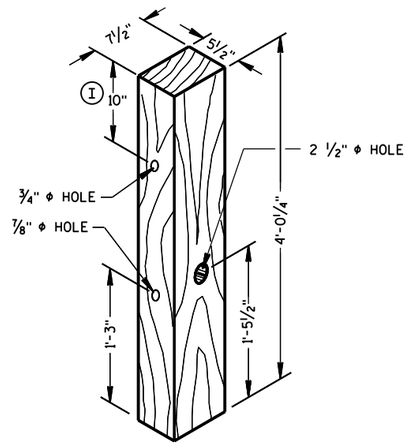
S.D.D. 14 B 44-2b

6

S.D.D. 14 B 44-2b

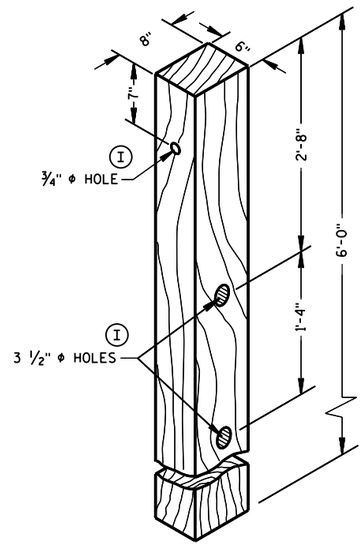


FOUNDATION TUBE (2)



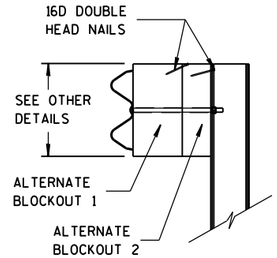
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

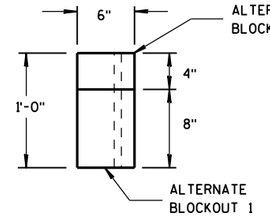


POSTS NUMBER 3-9

WOOD CRT POST (3)

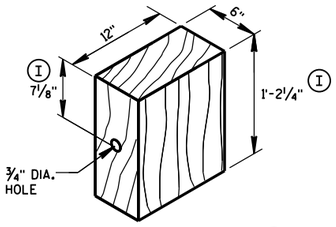


SIDE VIEW



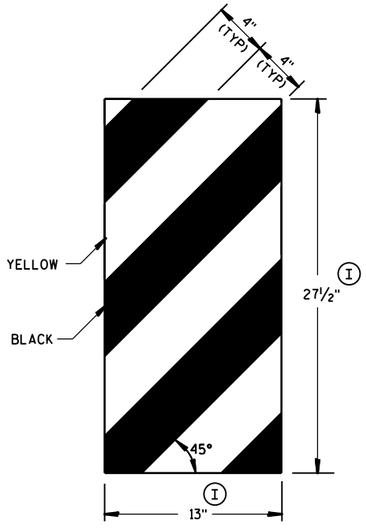
TOP VIEW

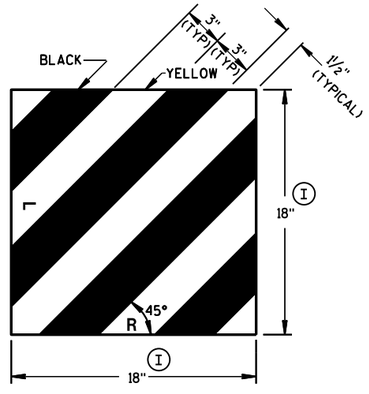
ALTERNATE WOOD BLOCKOUT DETAIL



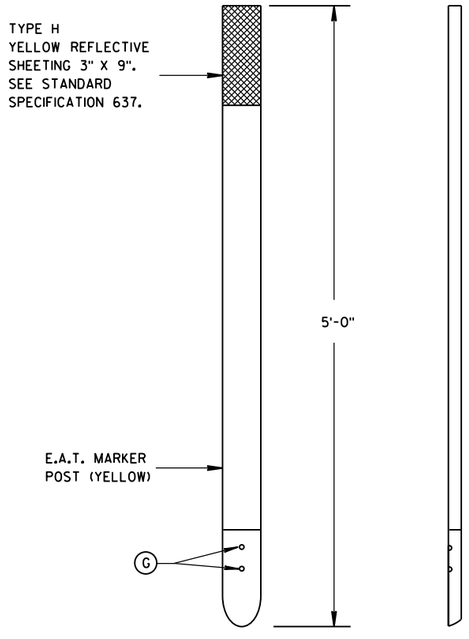
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





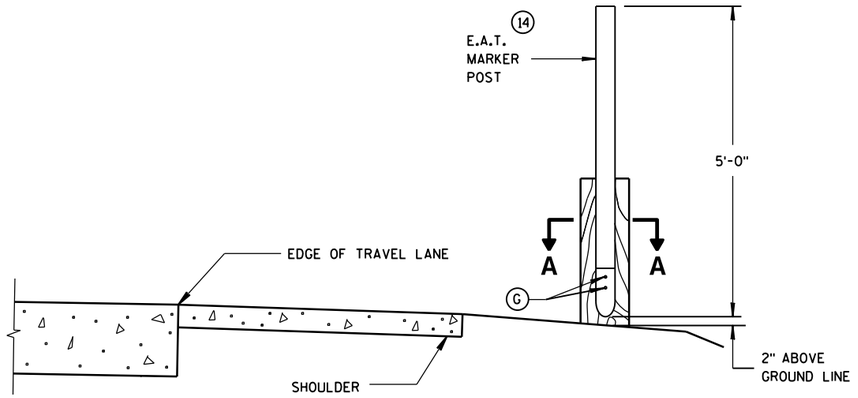
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

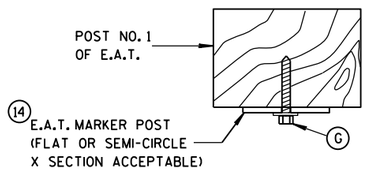
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

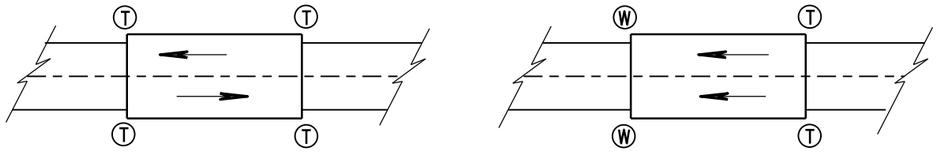
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

6

S.D.D. 14 B 44-2c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

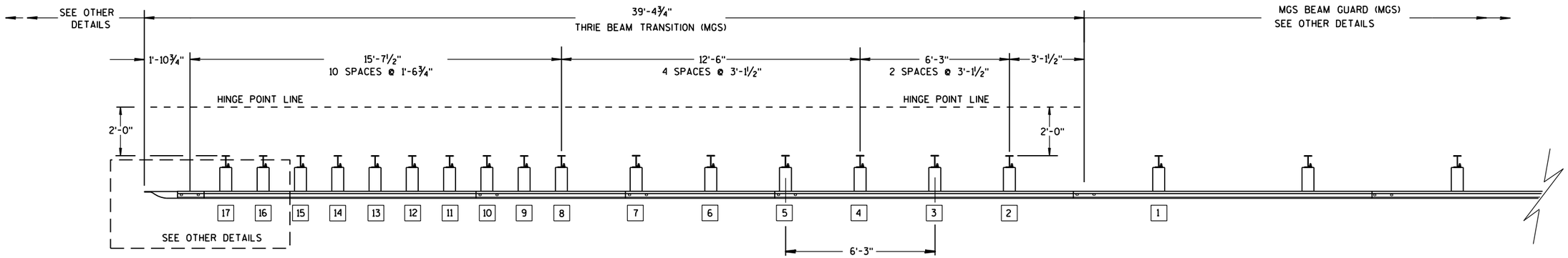
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

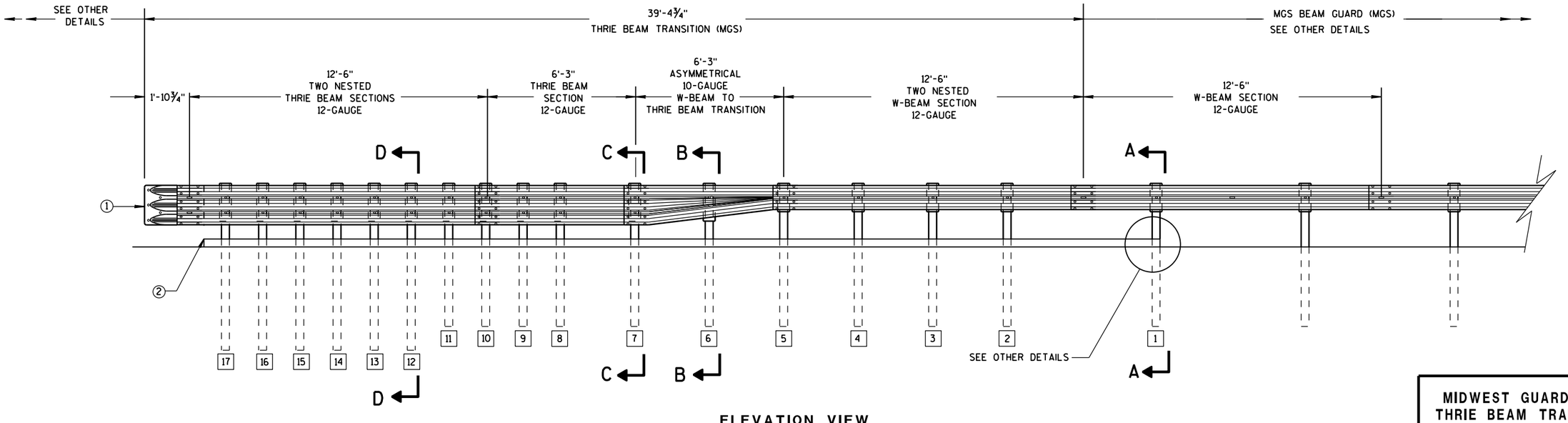
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

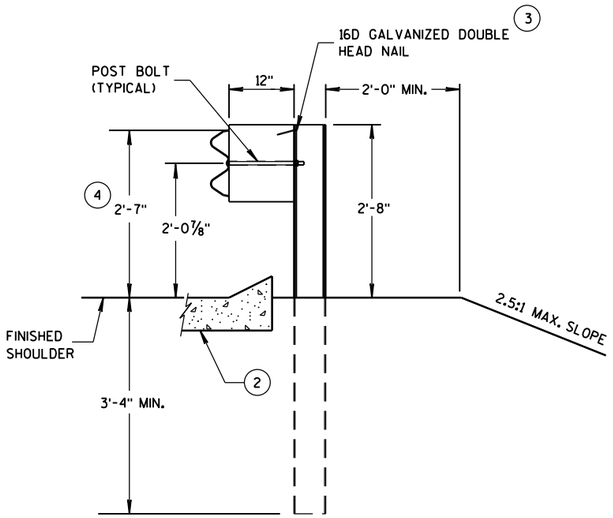
S.D.D. 14 B 45-4a

GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

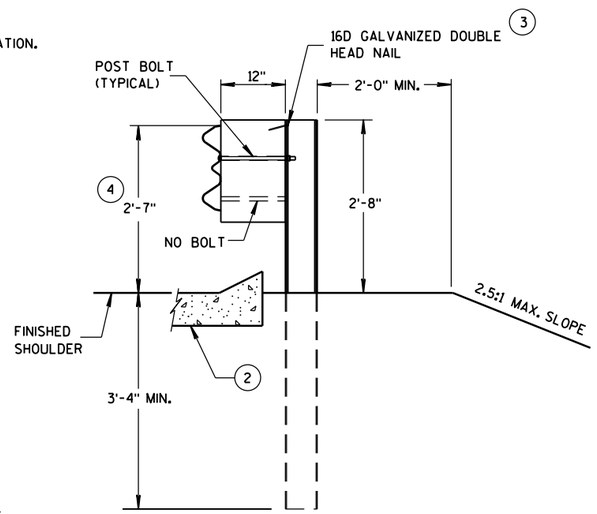
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



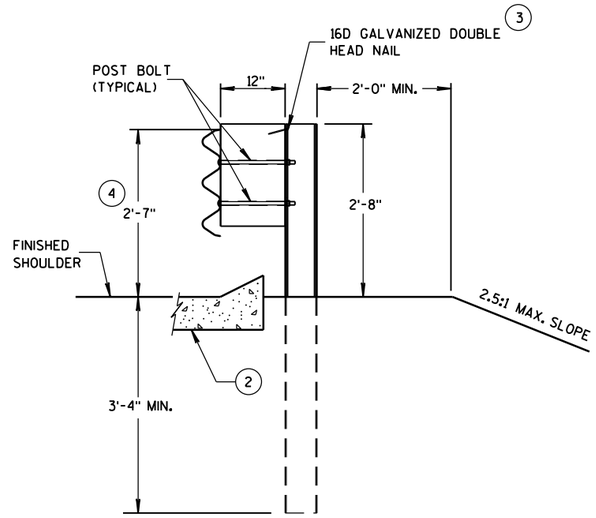
SECTION A-A

POSTS 1-5



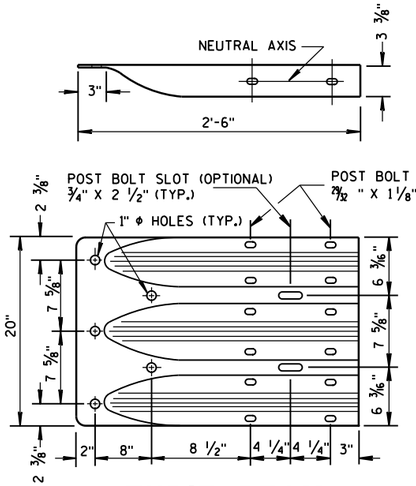
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

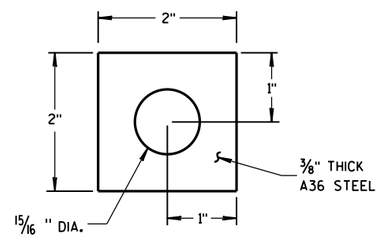
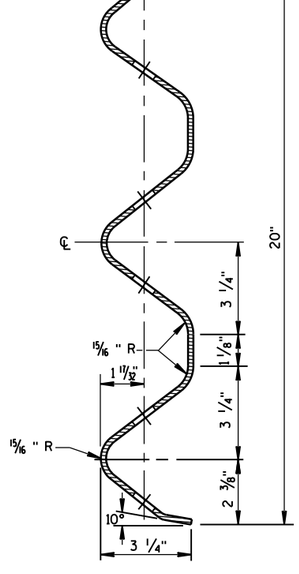
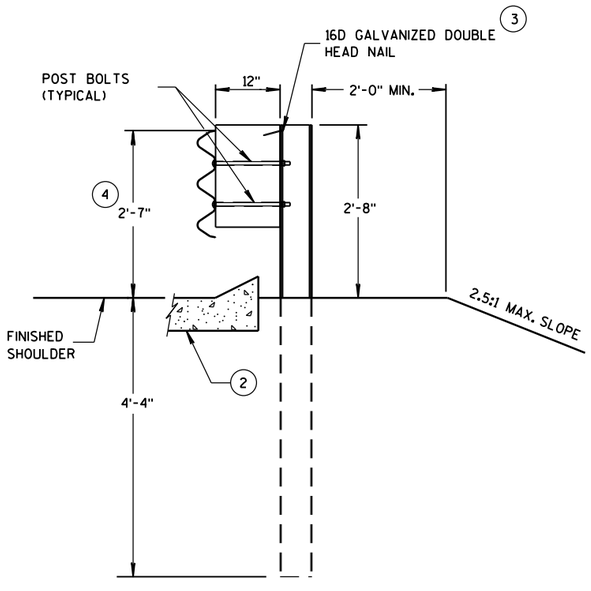


PLATE WASHER DETAIL

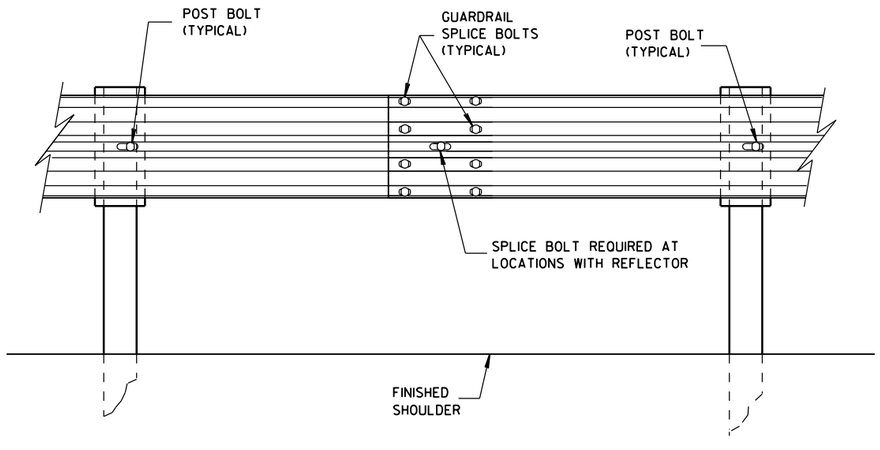


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



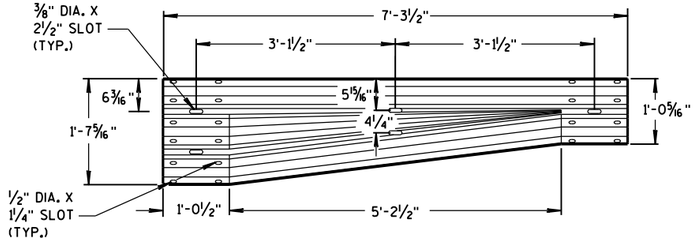
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

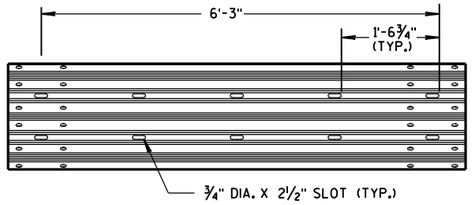
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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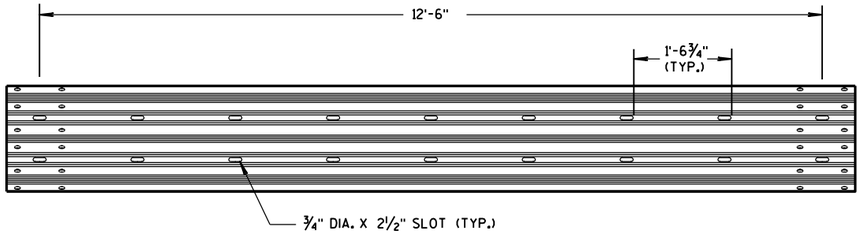
S.D.D. 14 B 45-4b



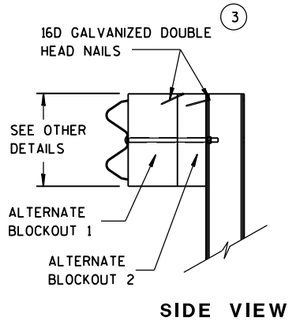
W-BEAM TO THRIE BEAM TRANSITION SECTION



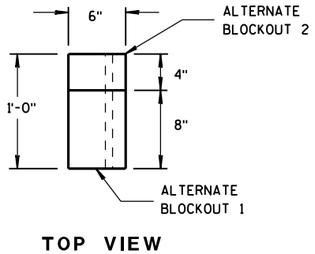
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

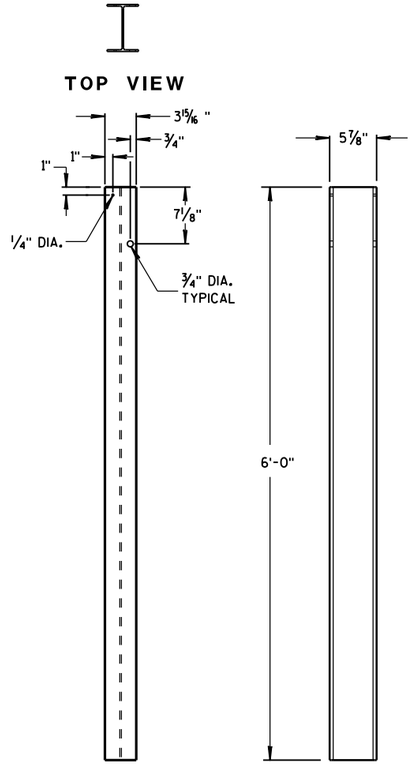


SIDE VIEW



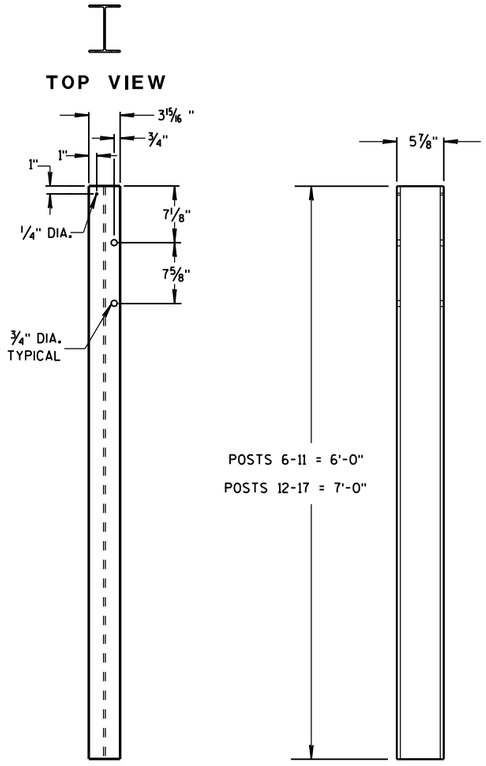
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



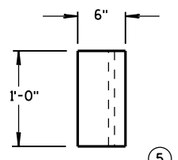
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5

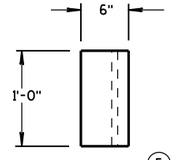


FRONT VIEW SIDE VIEW

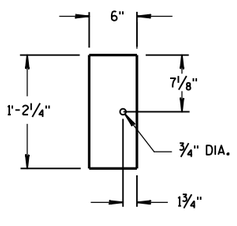
STEEL POSTS 6-17



TOP VIEW 5

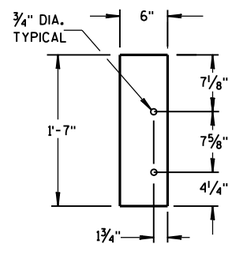


TOP VIEW 5



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

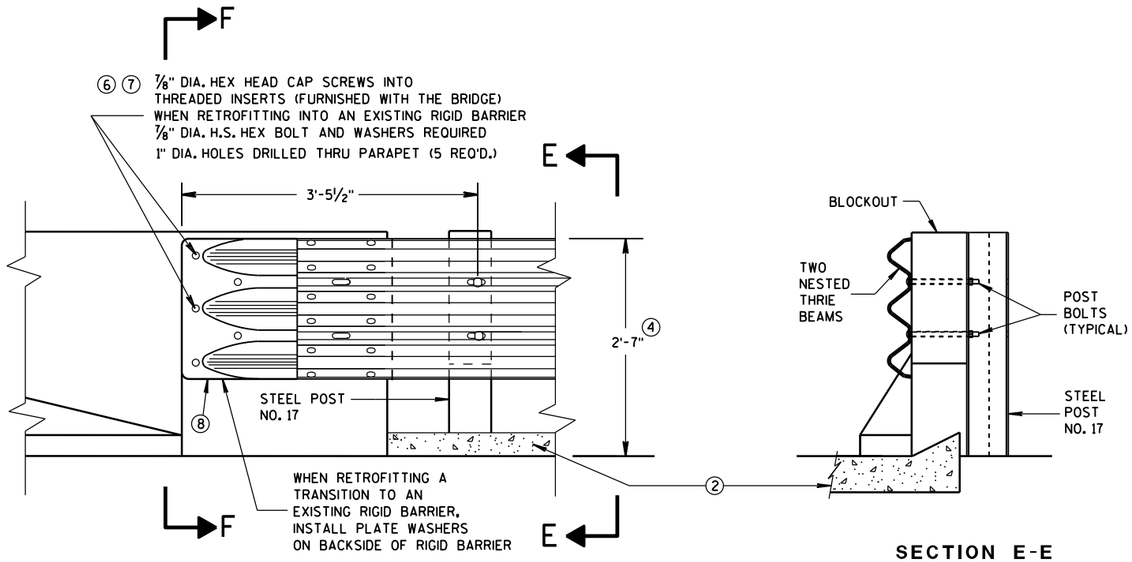
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-4c
S.D.D. 14 B 45-4c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

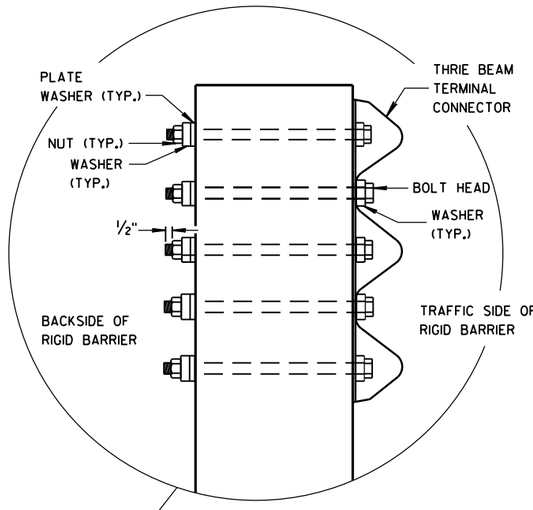
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

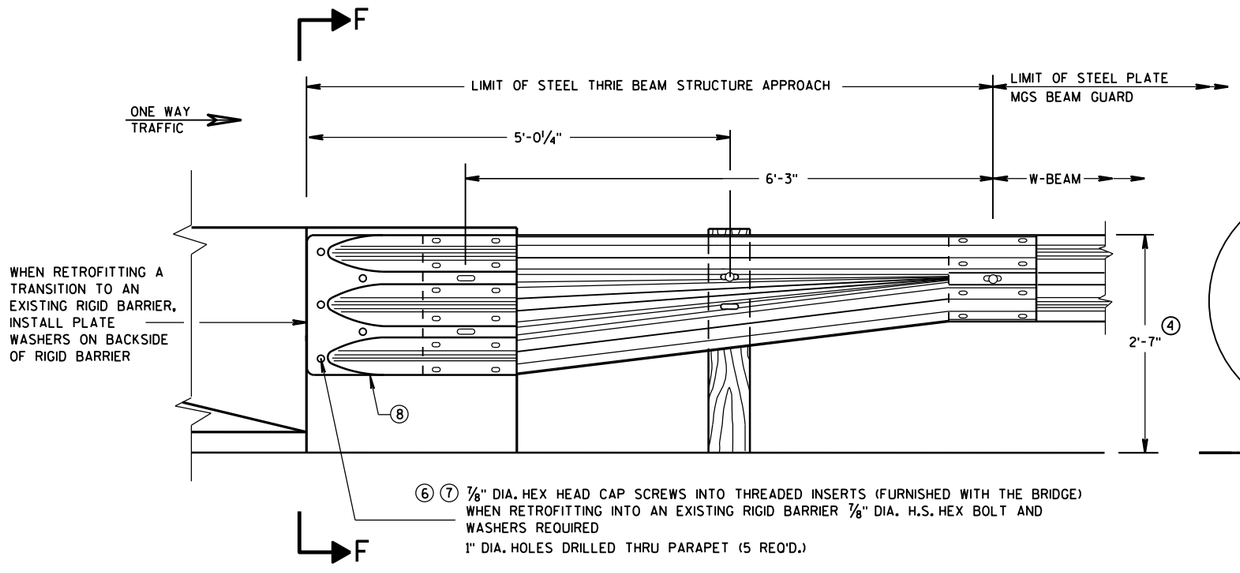
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

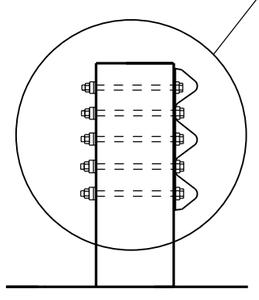
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

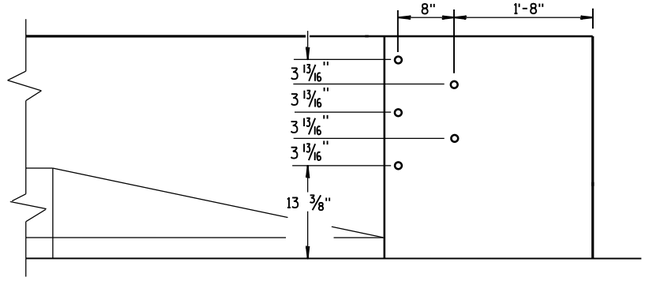




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA
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GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

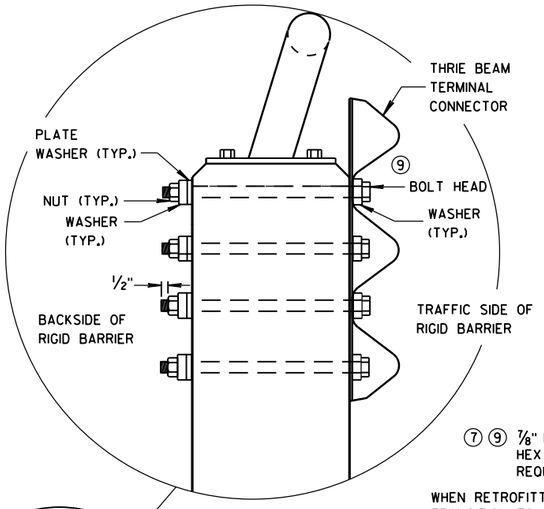
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

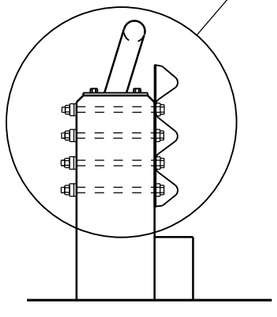
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

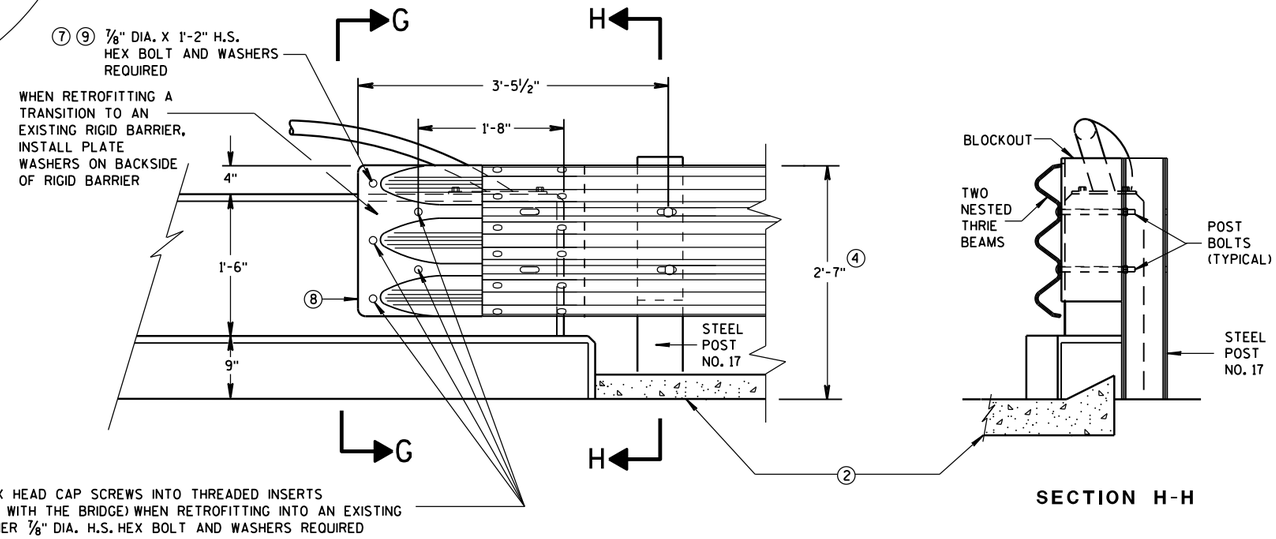
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.





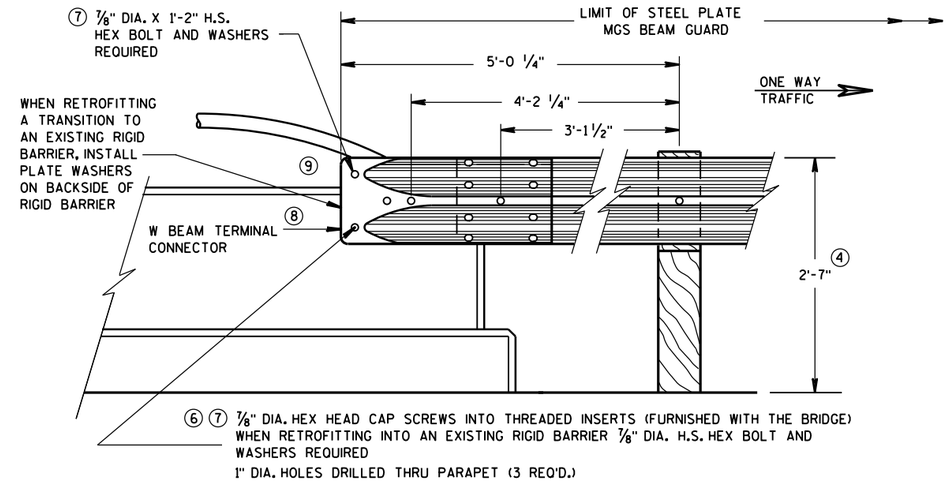
SECTION G-G



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

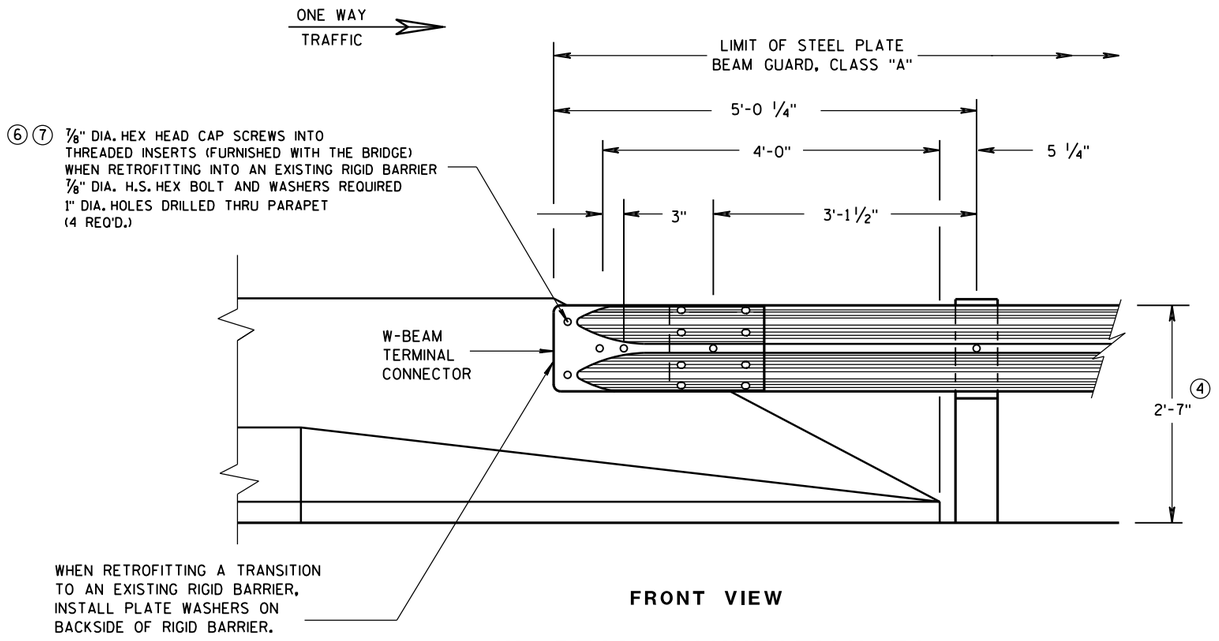
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 45-4e

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S.D.D. 14 B 45-4e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

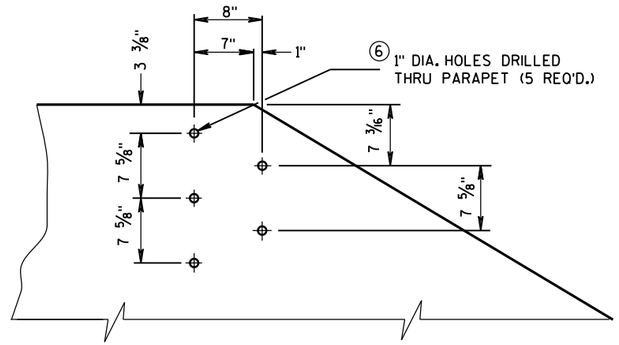
GENERAL NOTES

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

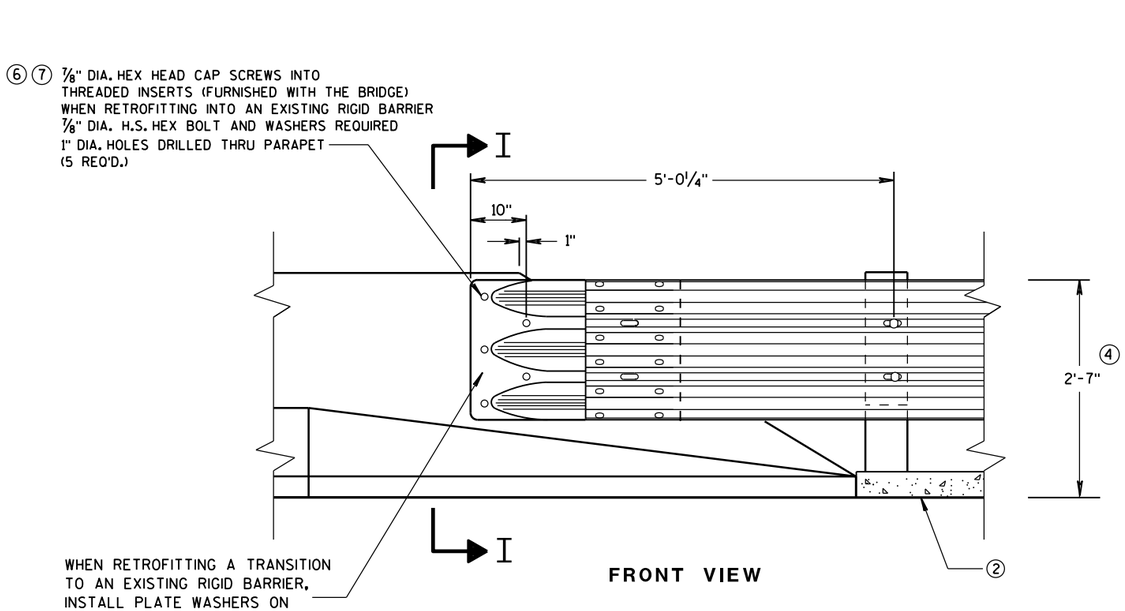
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

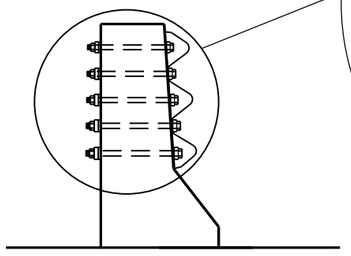
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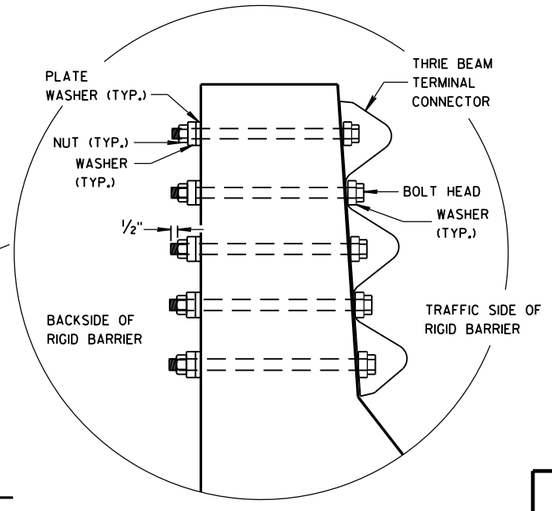
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

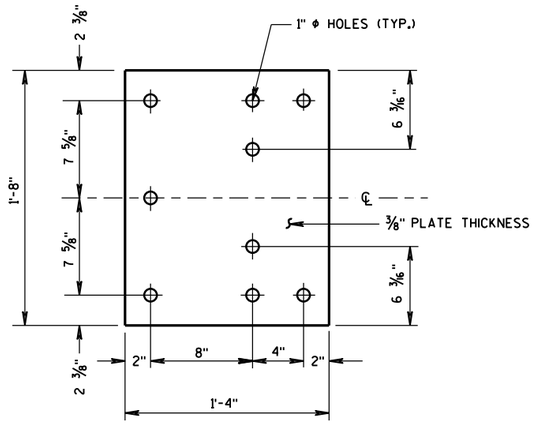
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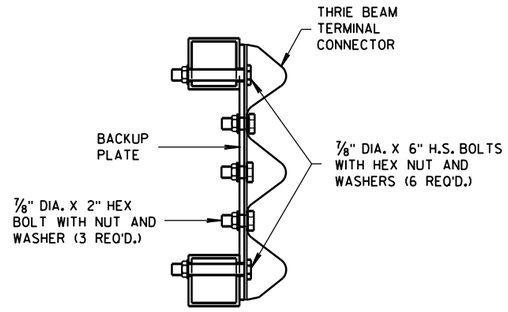
S.D.D. 14 B 45-4f

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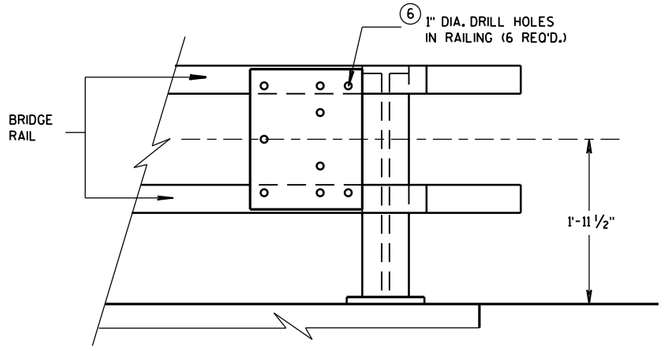
S.D.D. 14 B 45-4f



BACK-UP PLATE DETAIL



SECTION J-J

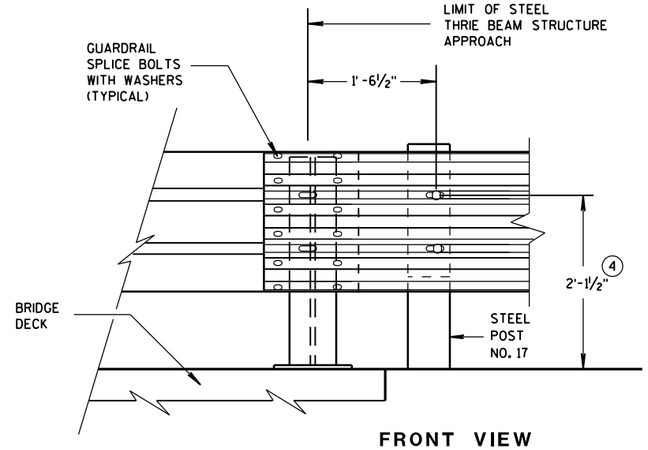


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

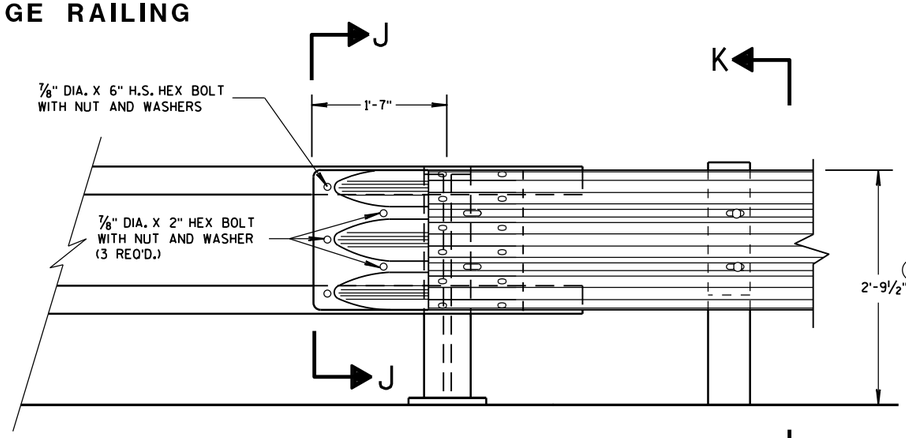
4 TOLERANCE FOR TOP OF BEAM IS ± 1".

6 DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

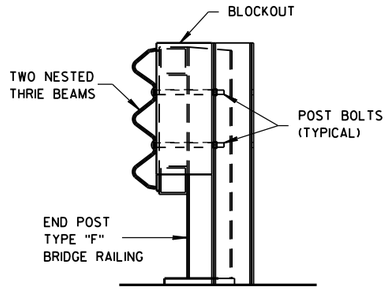


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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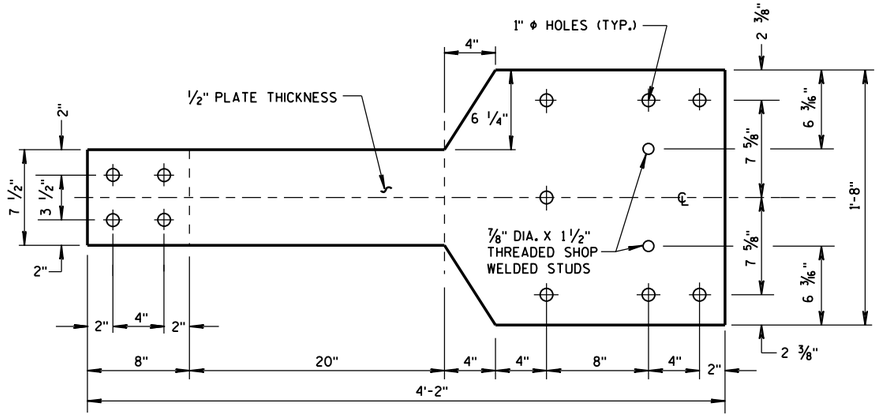
S.D.D. 14 B 45-4g

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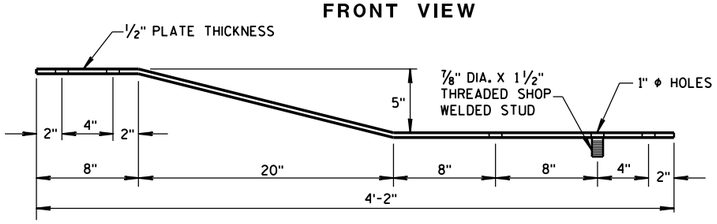
S.D.D. 14 B 45-4g

GENERAL NOTES

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

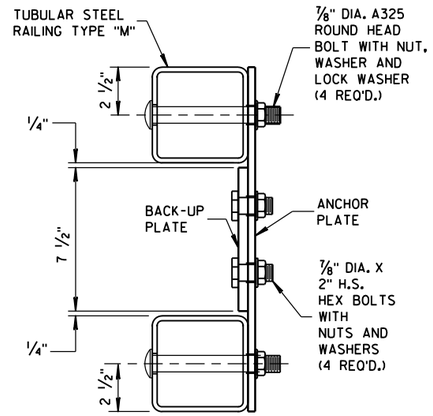


FRONT VIEW

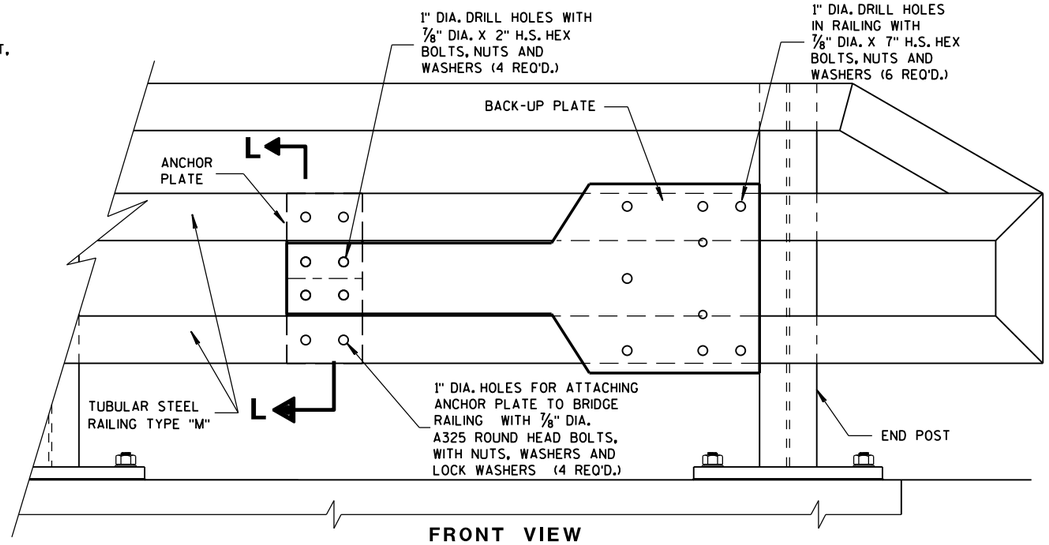


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

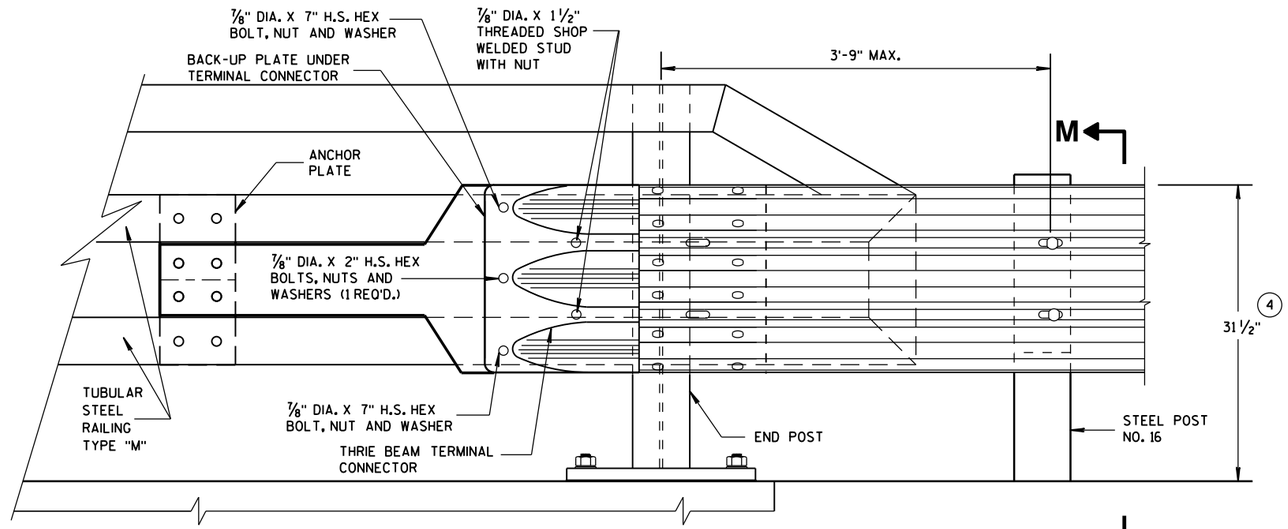


SECTION L-L

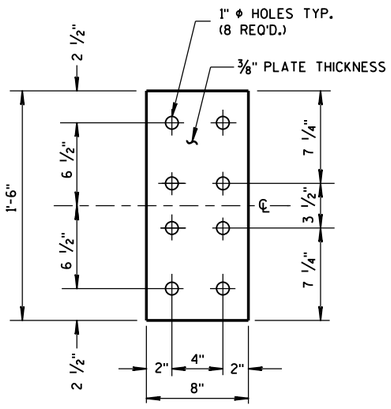


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"

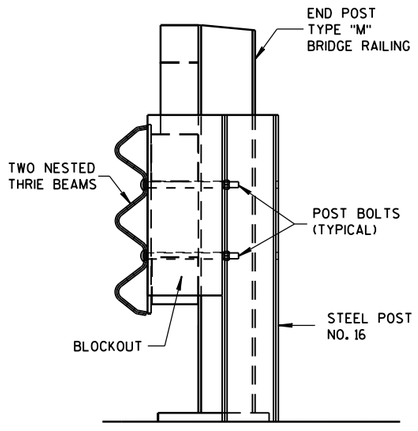


FRONT VIEW

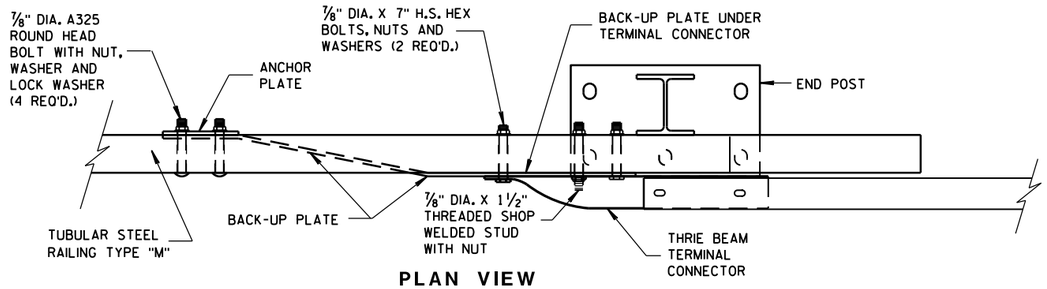


FRONT VIEW

ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



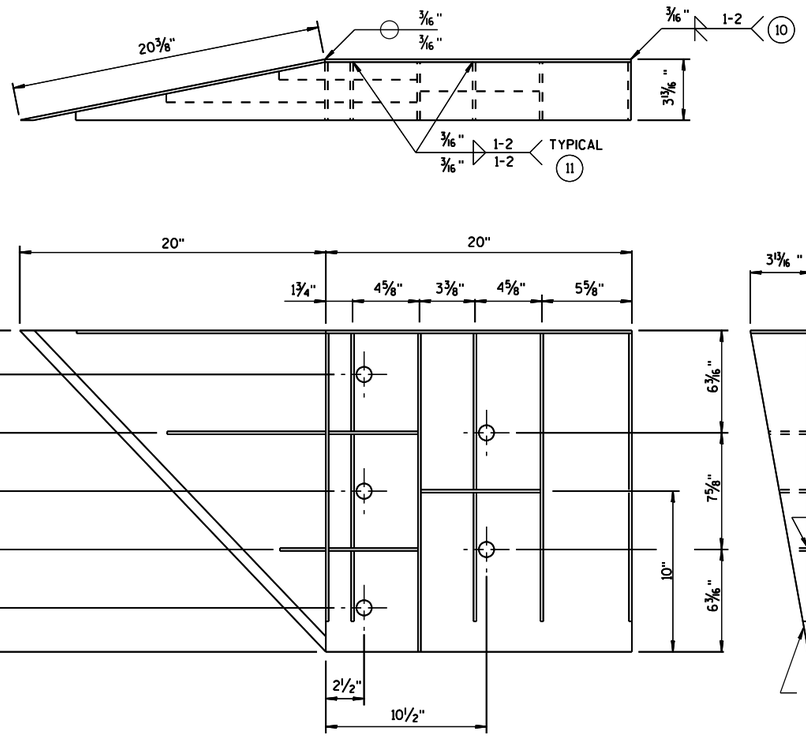
PLAN VIEW

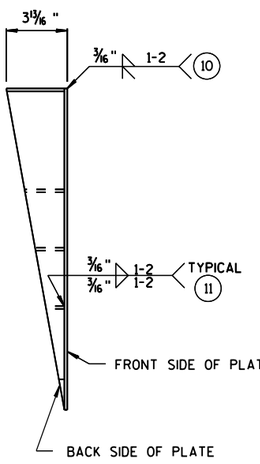
THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
June, 2015	/S/ Jerry H. Zogg
DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

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WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

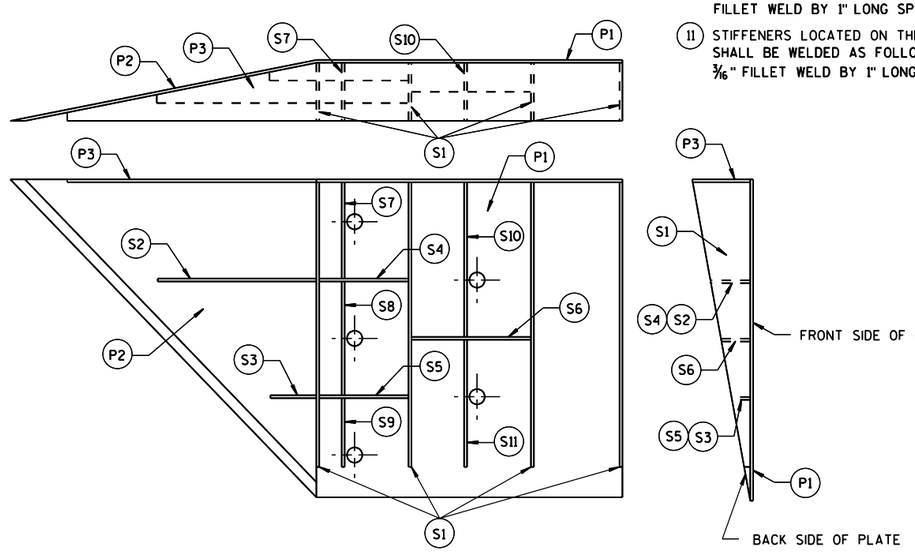


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE ⅜" THICK.

ALL STIFFENERS ARE ¼" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND ⅜" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
⅜" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	⅜"
P2	1		20" x 20" x 28⁹⁄₁₆"	⅜"
P3	1		39" x 3⅝" x 20" x 19⁵⁄₁₆"	⅜"
S1	4		18⁷⁄₁₆" x 3⅜" x 18¾"	¼"
S2	1		10¼" x 2⁷⁄₁₆" x 10⅜" x ½"	¼"
S3	1		3" x 1¹⁄₁₆" x 3⅛" x ½"	¼"
S4	1		6⅛" x 2⁷⁄₁₆"	¼"
S5	1		6⅛" x 1¹⁄₁₆"	¼"
S6	1		7¾" x 1¾"	¼"
S7	1		2⁹⁄₁₆" x 6" x 3⅝" x 5⅞"	¼"
S8	1		1⁵⁄₃₂" x 7½" x 2½" x 7⅜"	¼"
S9	1		6¹⁄₁₆" x 6³⁄₁₆" x 1³⁄₃₂"	¼"
S10	1		1⅛" x 9⅞" x 3⅝" x 9¹¹⁄₁₆"	¼"
S11	1		8½" x 8¾" x 1¹³⁄₁₆"	¼"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

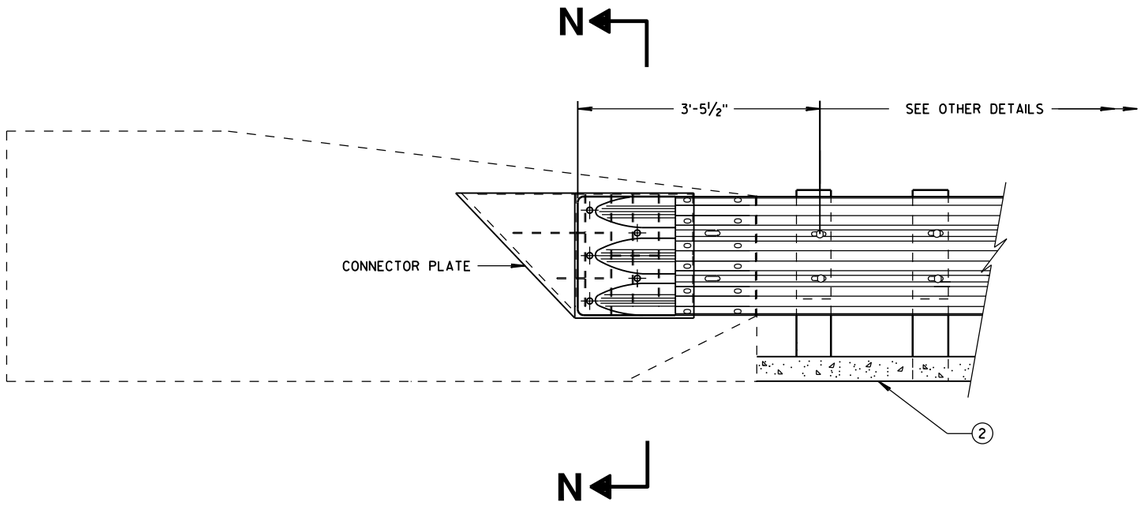
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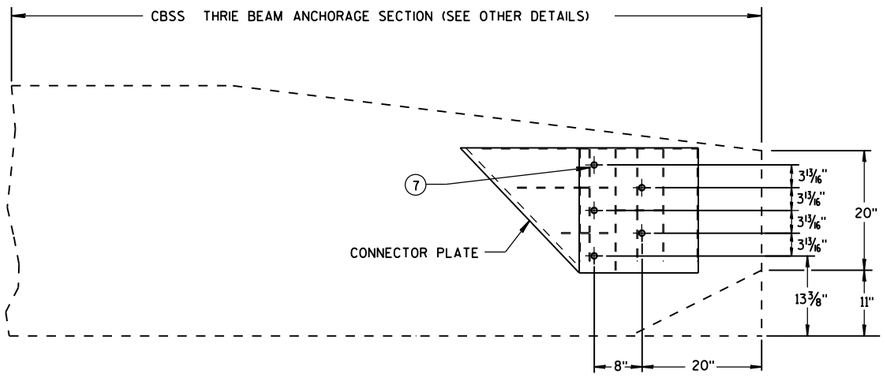
S.D.D. 14 B 45-4i

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S.D.D. 14 B 45-4i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



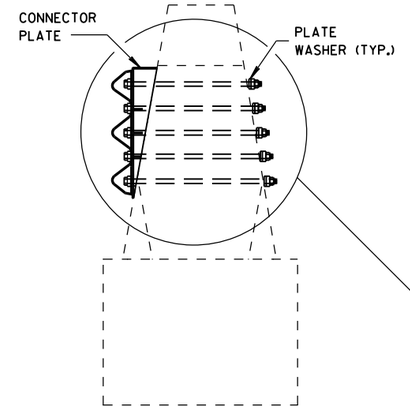
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

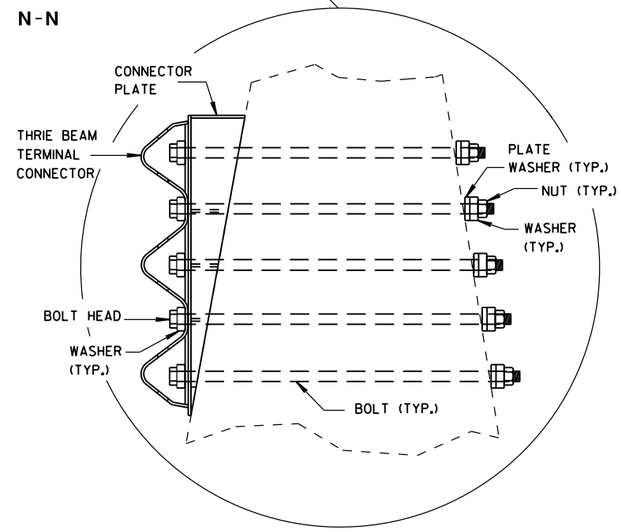
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SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

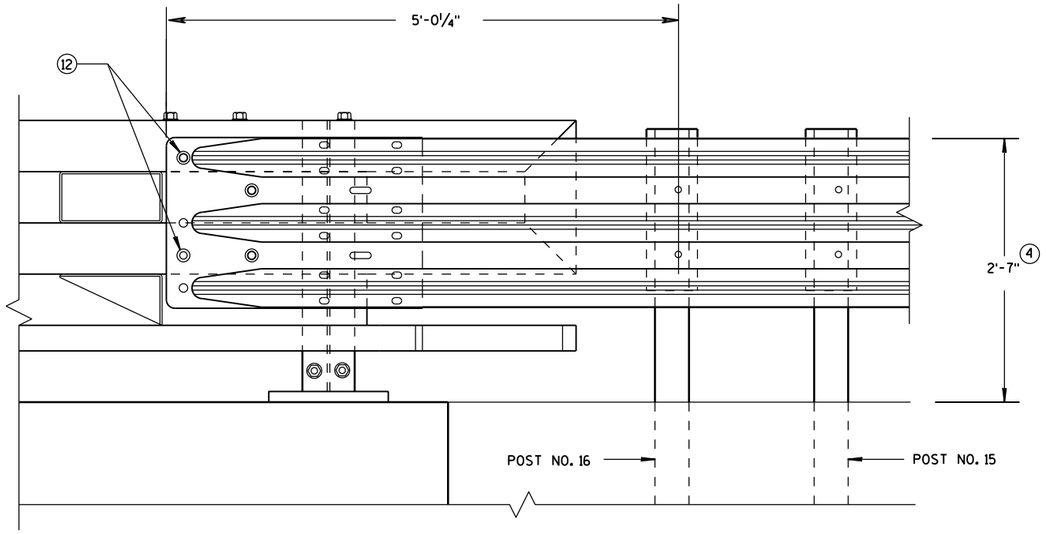
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June, 2015 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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FHWA

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S.D.D. 14 B 45-4j

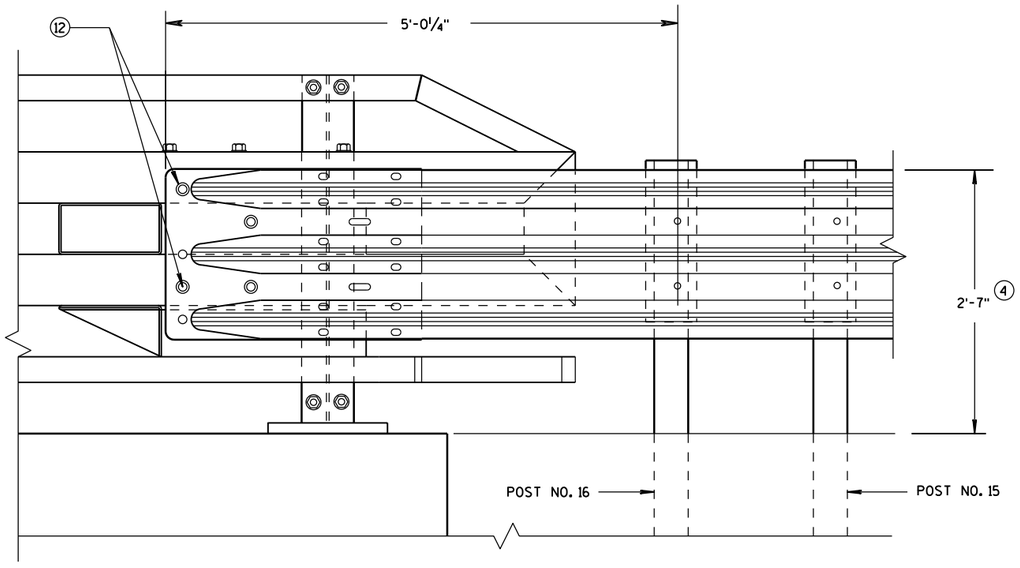
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S.D.D. 14 B 45-4j



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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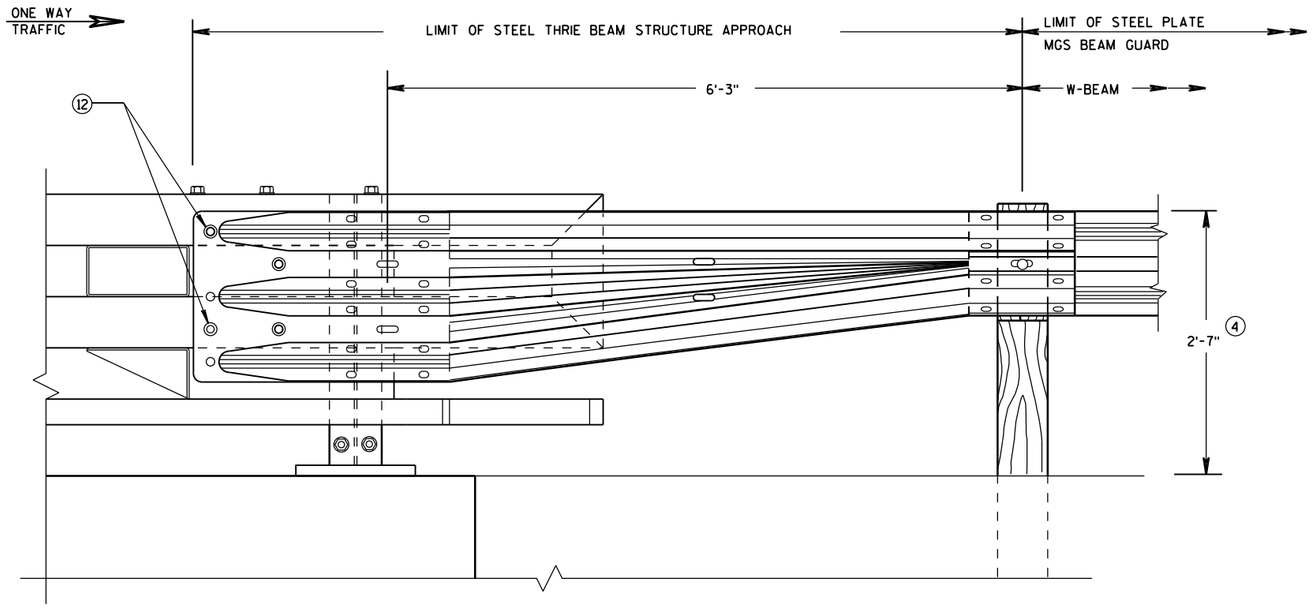
/S/ Jerry H. Zogg
ROADWAY STANDARDS D 307 NT
ENGINEER

6

S.D.D. 14 B 45-4k

6

S.D.D. 14 B 45-4k



FRONT VIEW

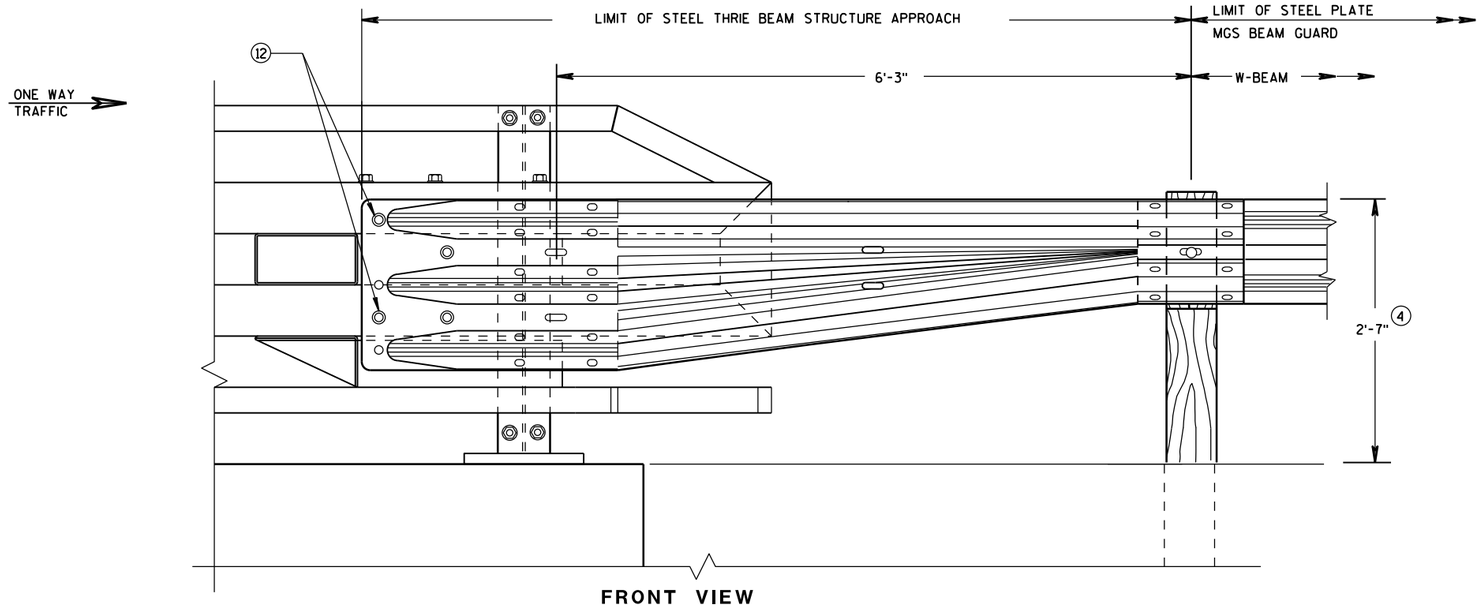
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

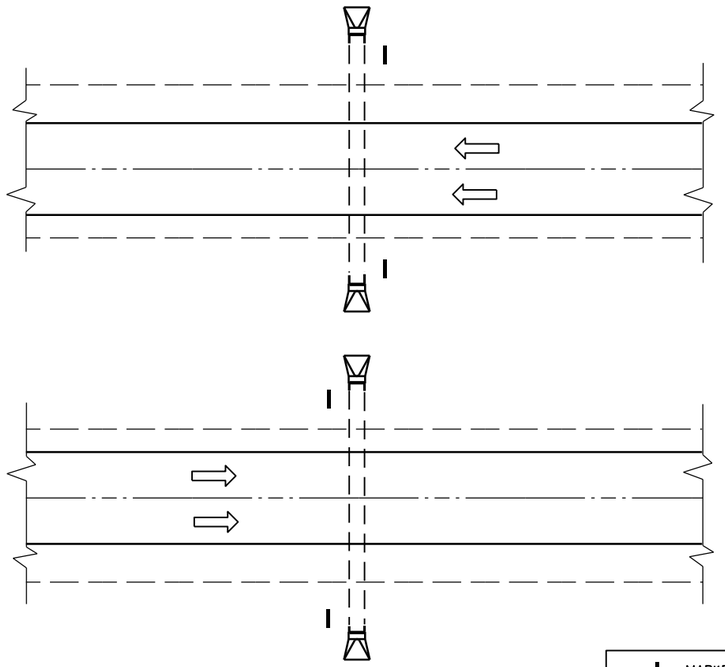
D 308 NT

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S.D.D. 14 B 45-4L

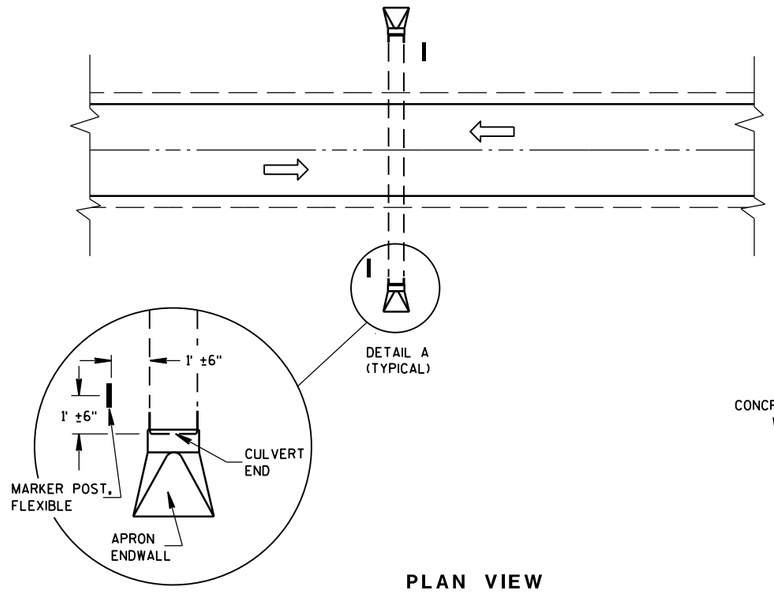
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S.D.D. 14 B 45-4L



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

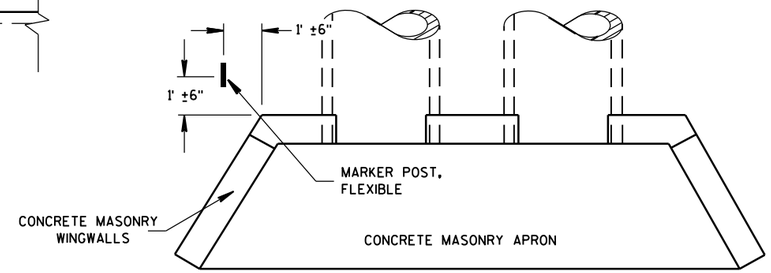
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

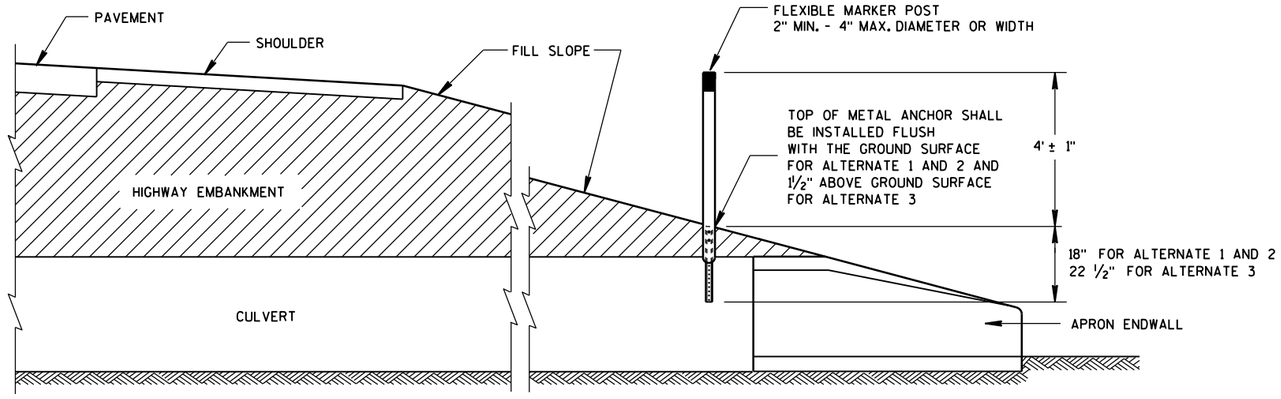
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

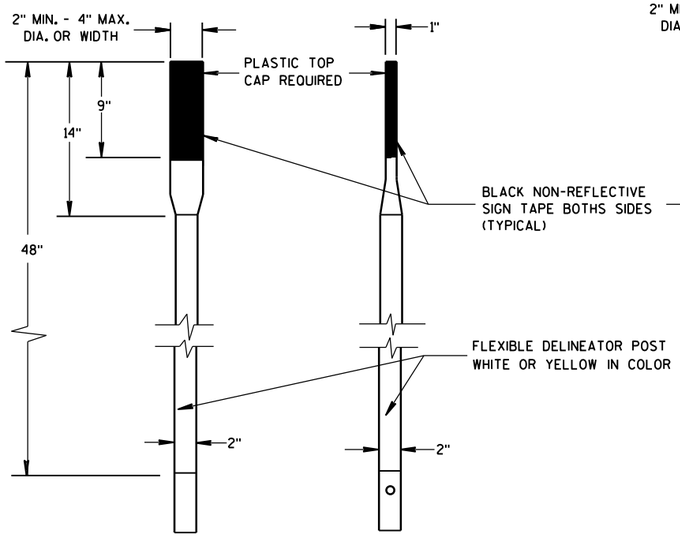
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

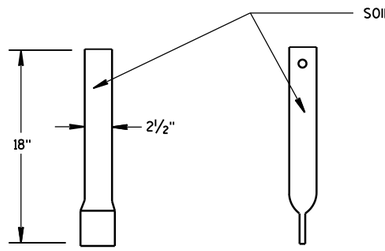
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S.D.D. 15 A 3-2a

6

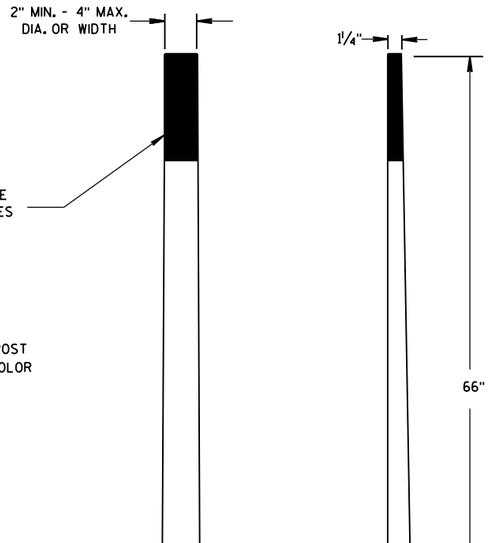
S.D.D. 15 A 3-2a





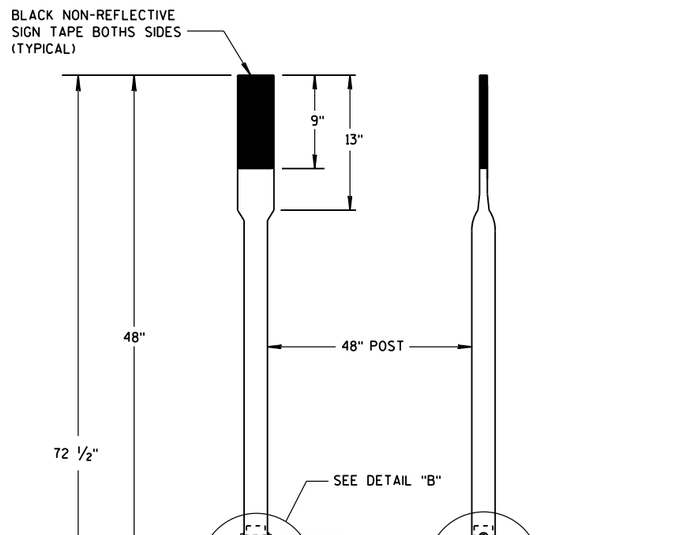
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

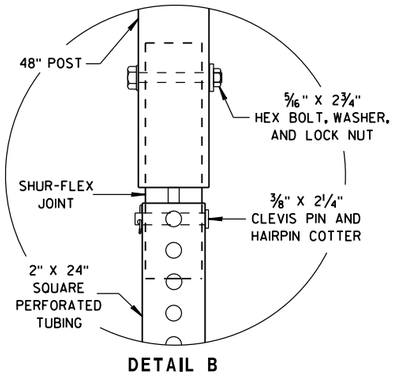
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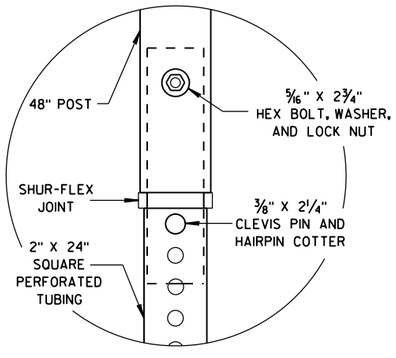
FRONT VIEW SIDE VIEW

ALTERNATE 3

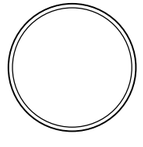
FLEXIBLE MARKER POSTS



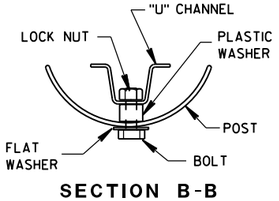
DETAIL B



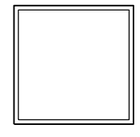
DETAIL C



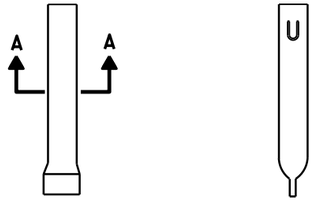
SECTION A-A



SECTION B-B

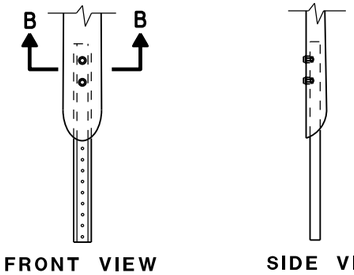


SECTION C-C



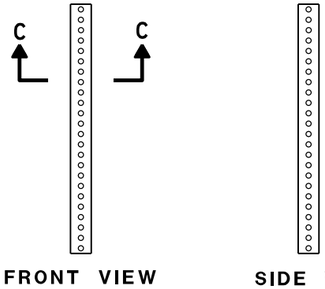
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

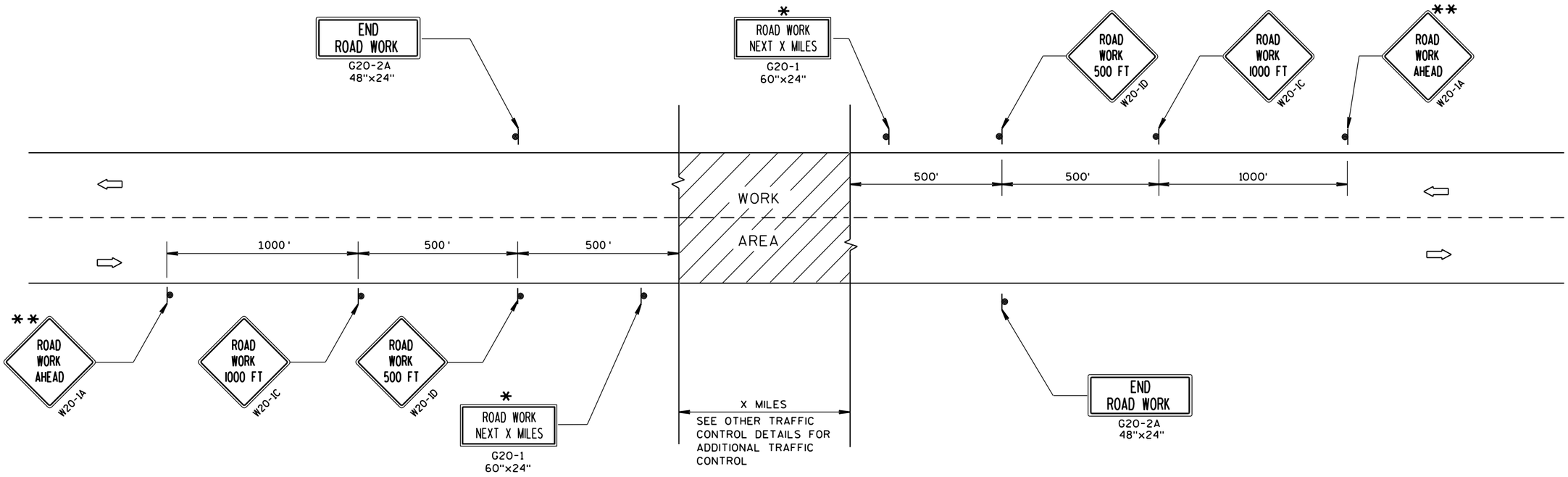
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S.D.D. 15 A 3-2b

6

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

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

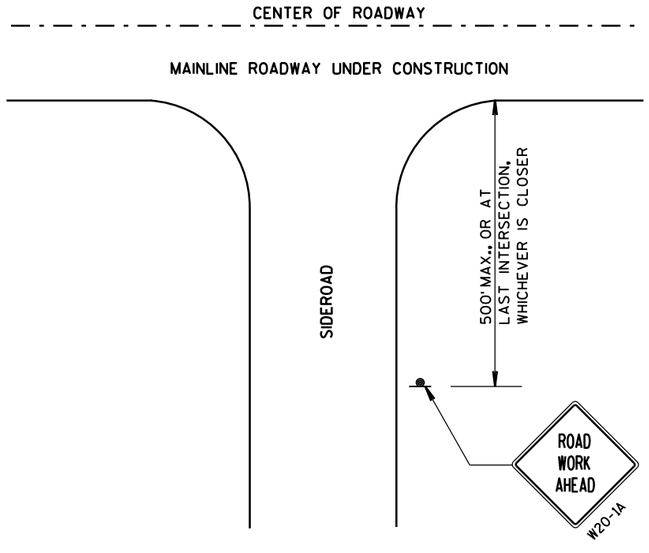
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015 — DATE

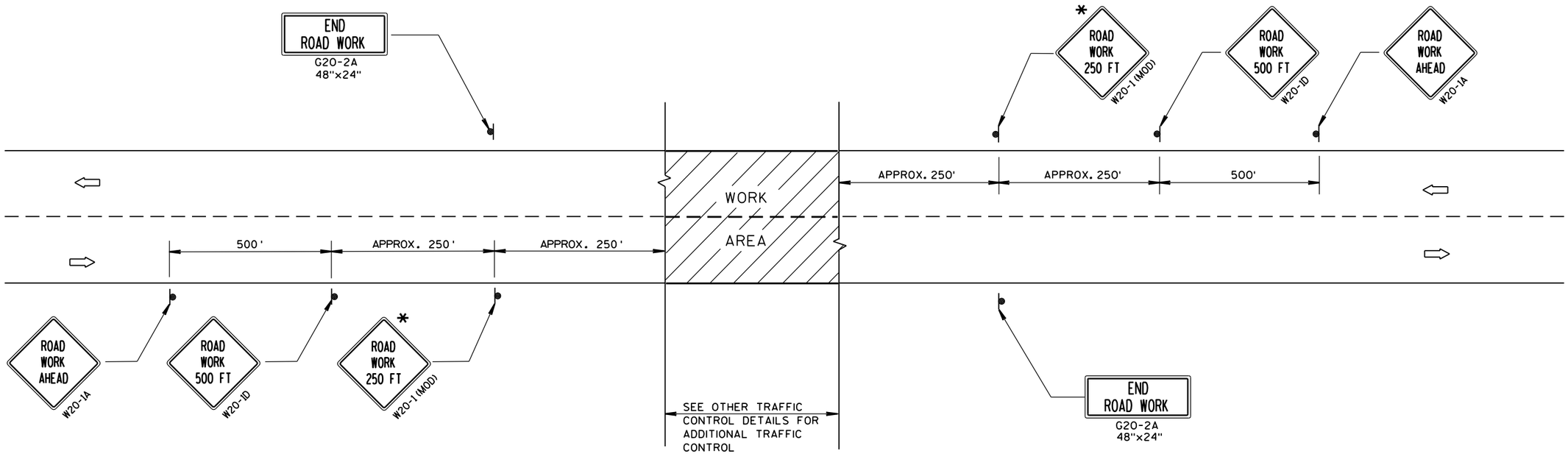
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER

FHWA

6

S.D.D. 15 C 4-3

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.

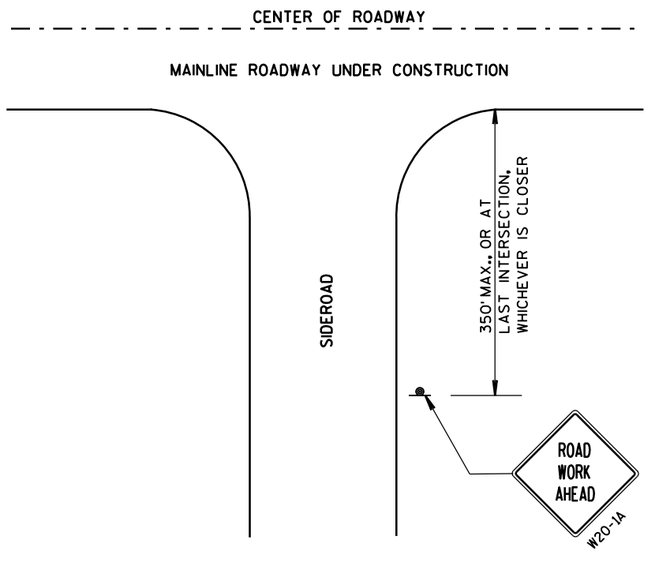
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

6

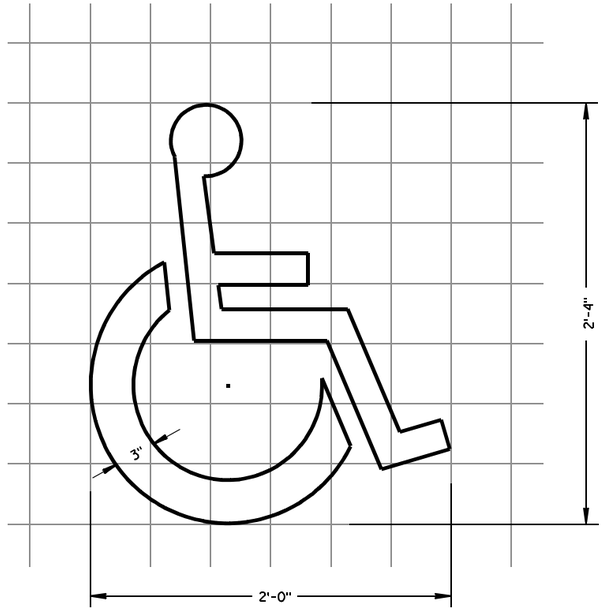
S.D.D. 15 C 5-3

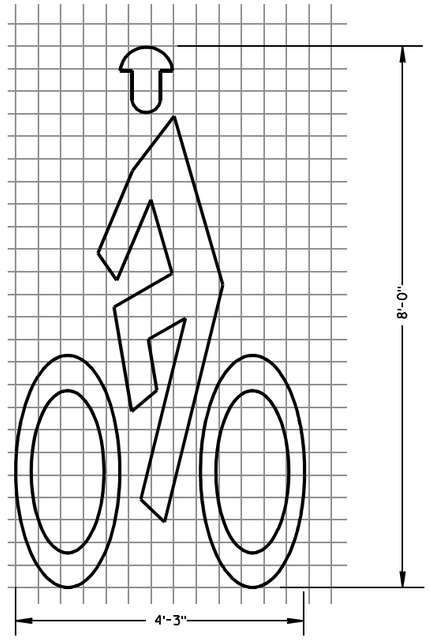
GENERAL NOTES

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.

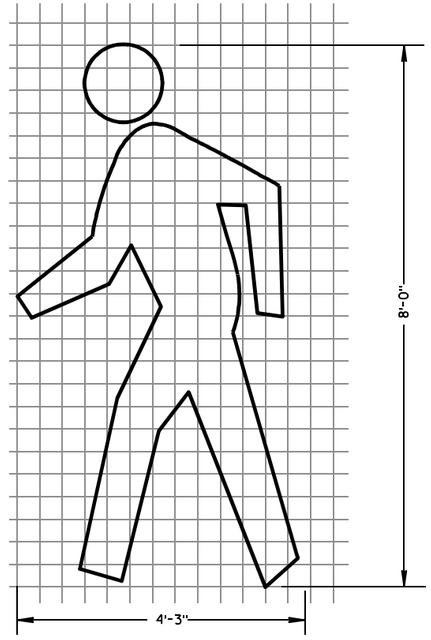
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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

A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.

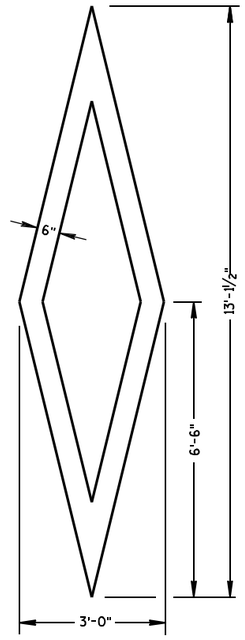




BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



PREFERENTIAL LANE SYMBOL

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N Nathan — STATE TRAFFIC ENGINEER

FHWA

6

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

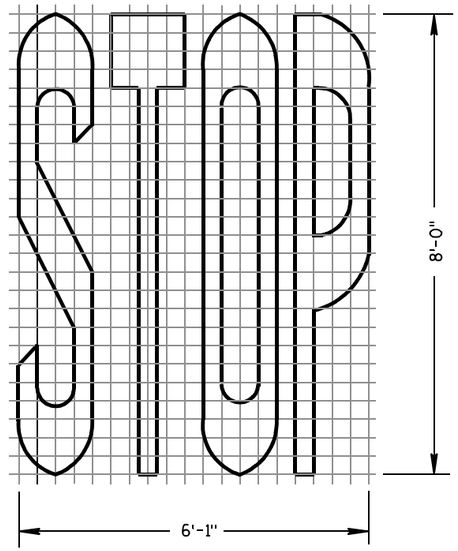
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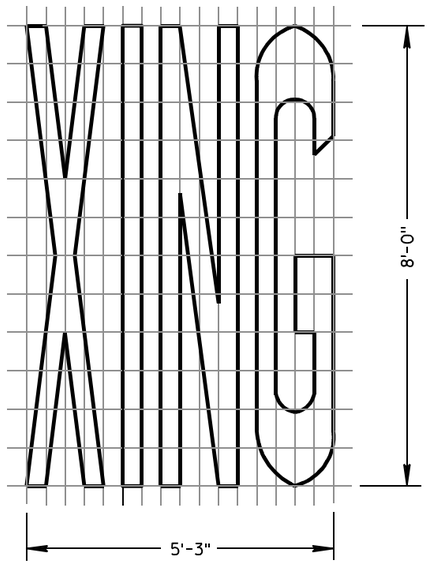
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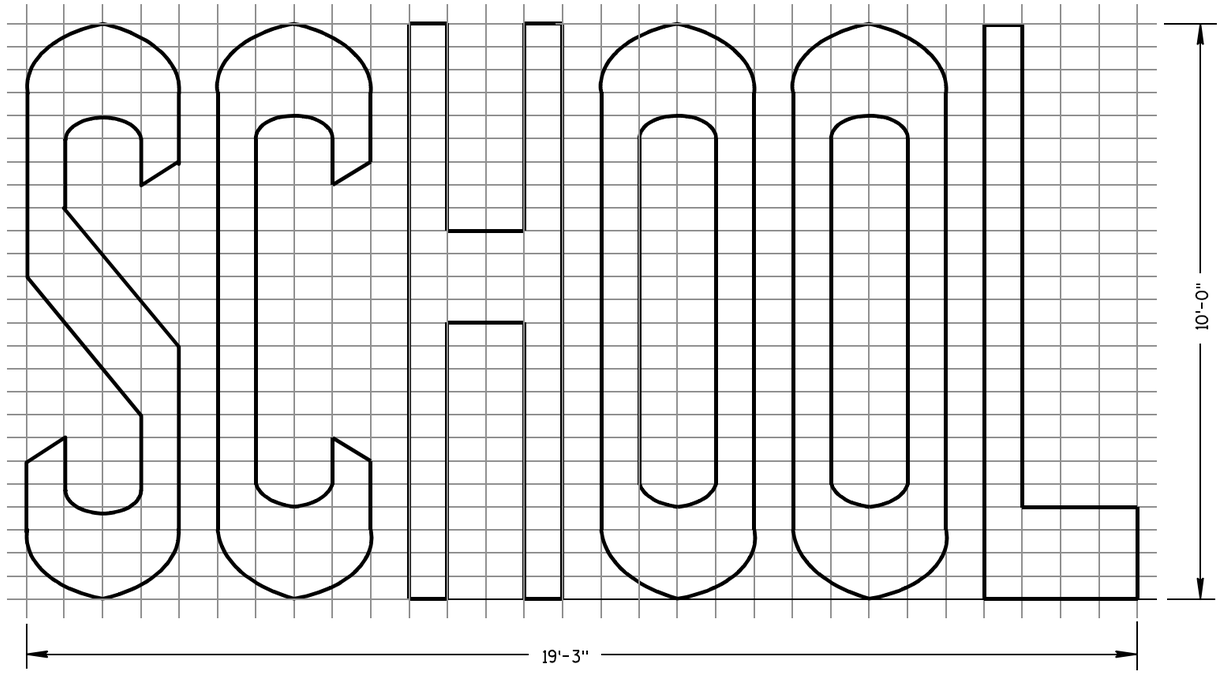
GENERAL NOTES

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.

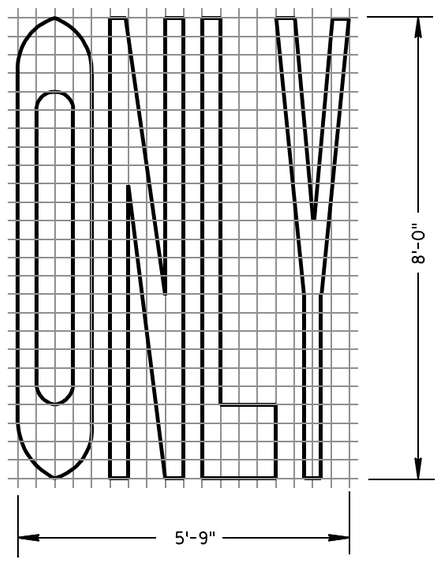
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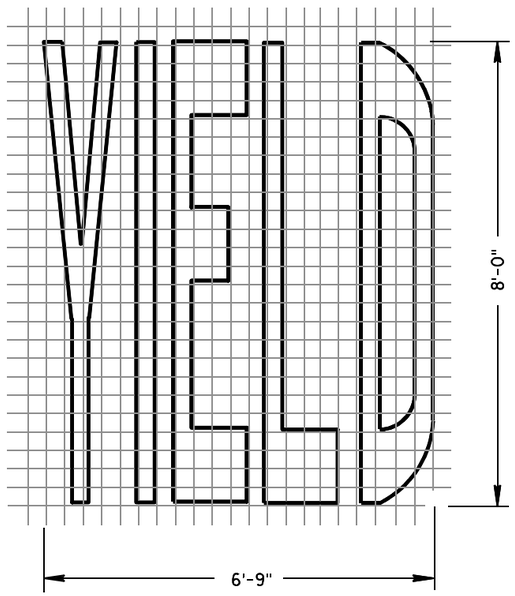


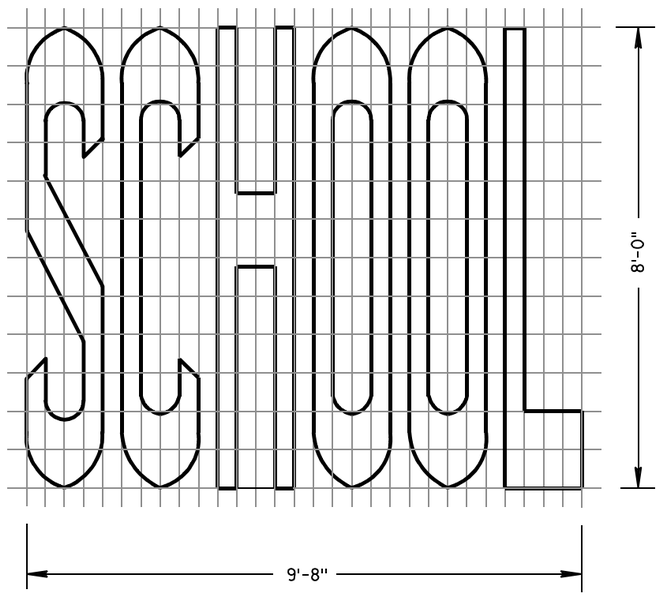




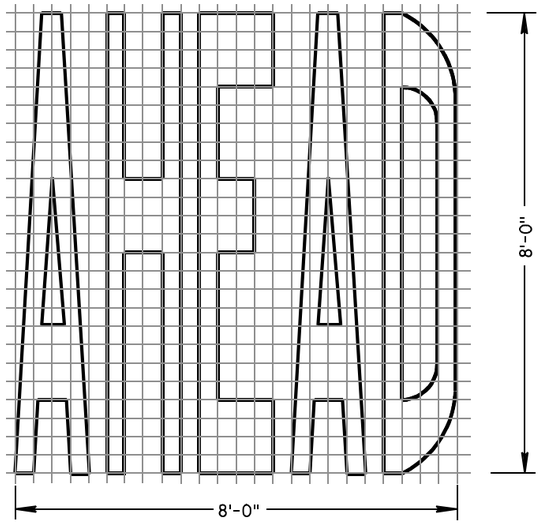
TWO-LANE







SINGLE-LANE



PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 DATE — /S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER

FHWA

6

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

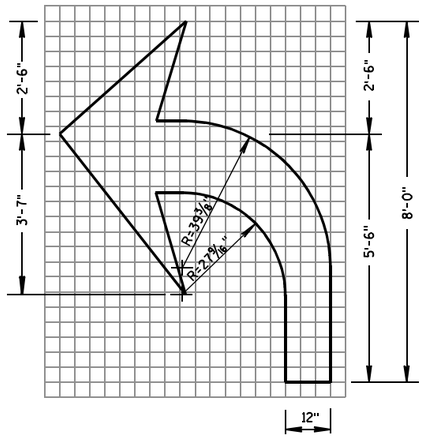
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S.D.D. 15 C 7-12b

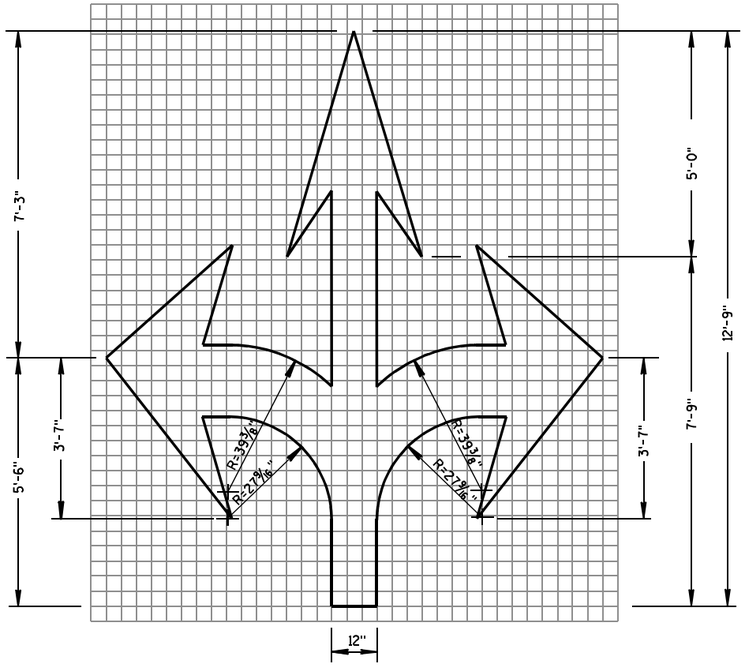
GENERAL NOTES

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

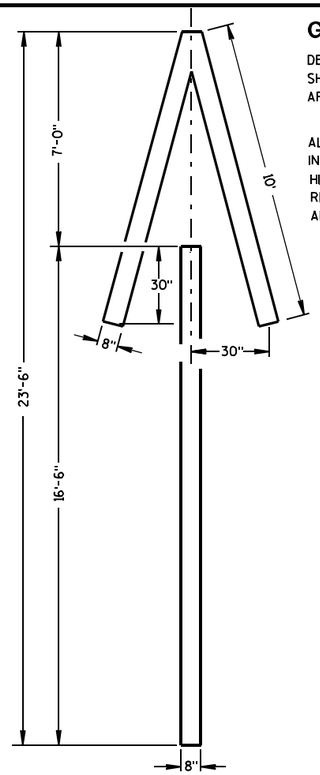
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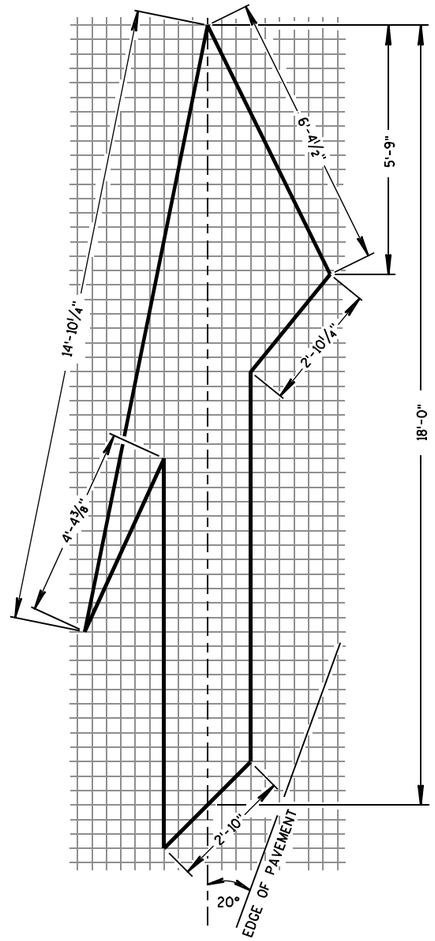
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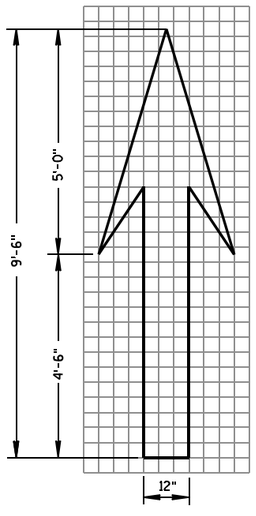
TYPE 6



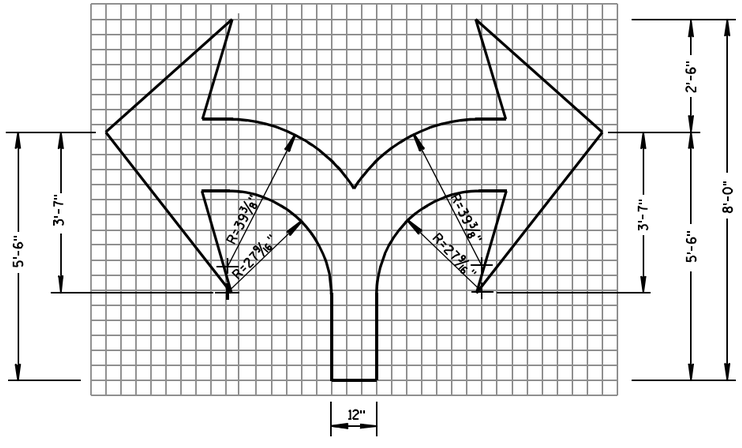
TYPE 4



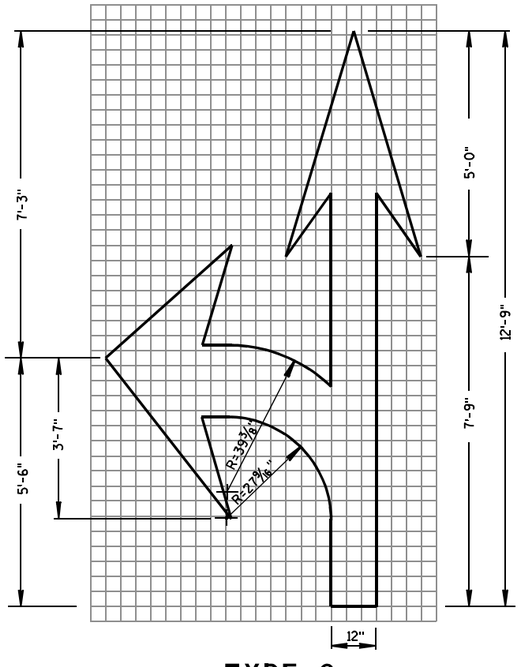
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

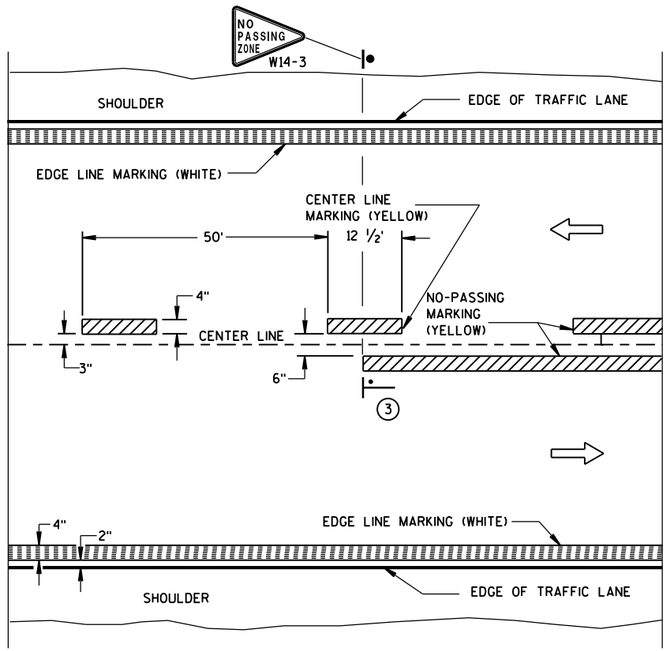
7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

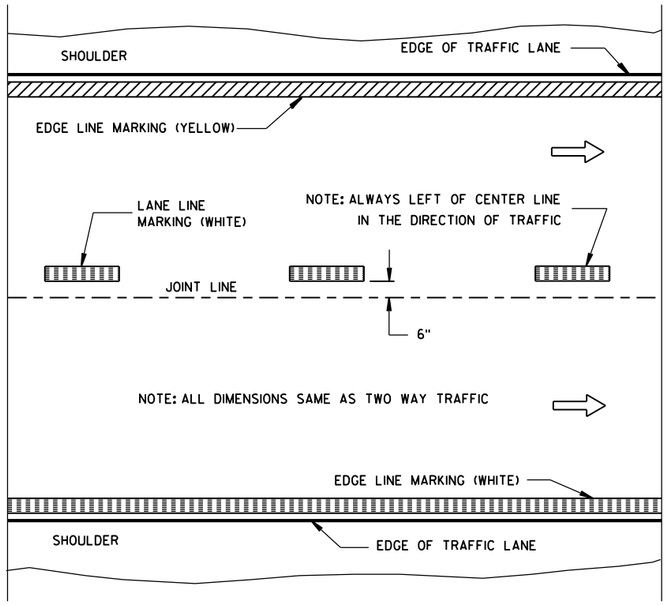
FHWA

6

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

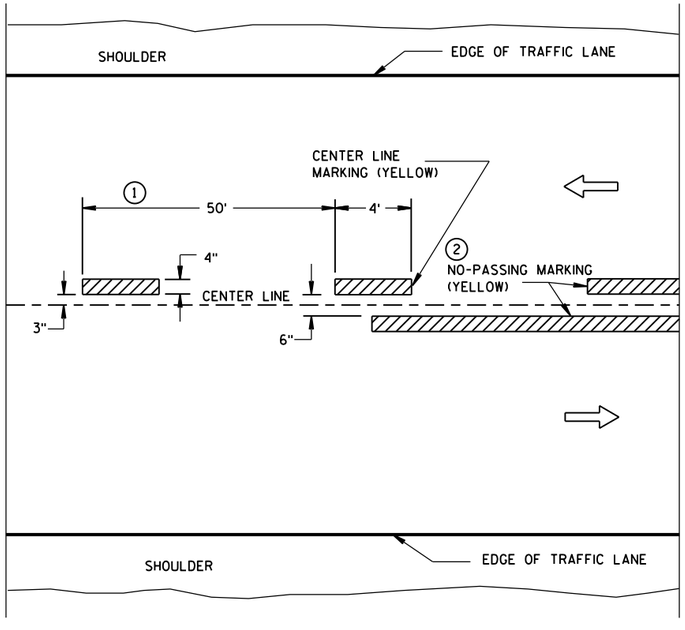


TWO WAY TRAFFIC

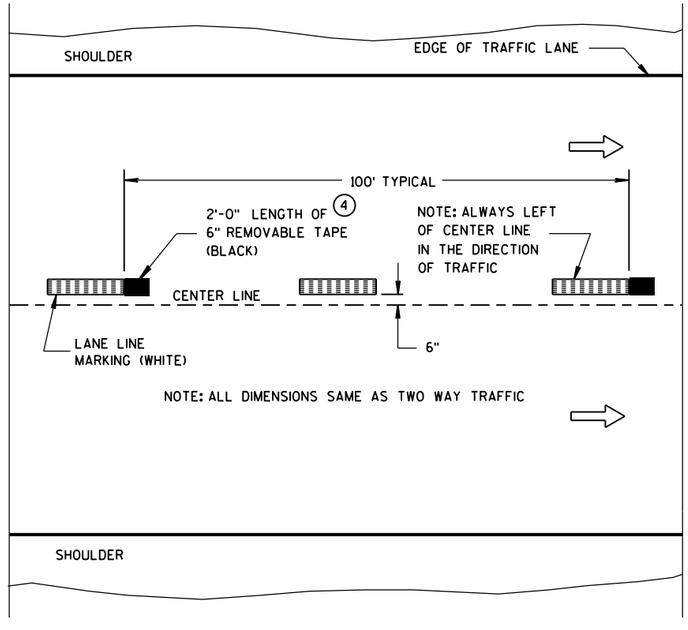


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

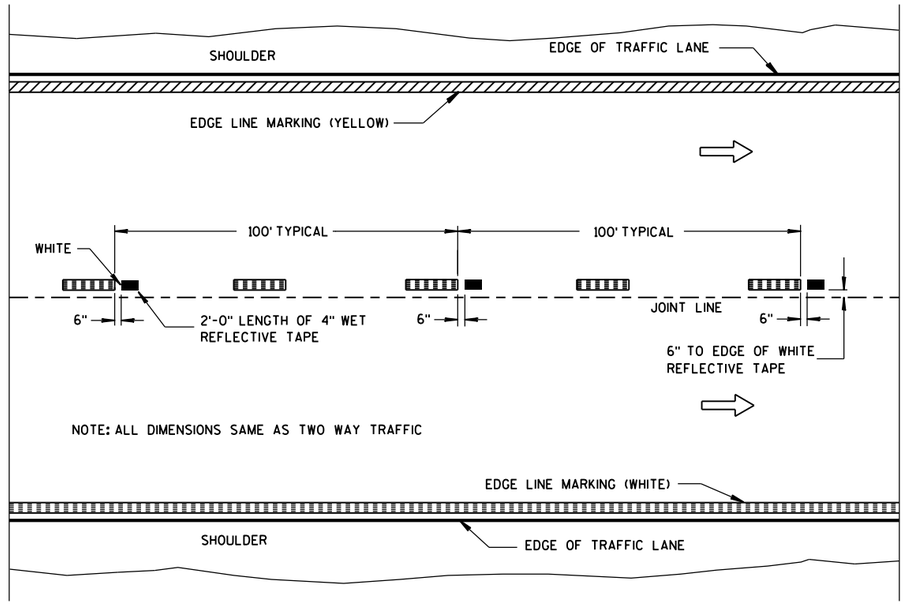
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

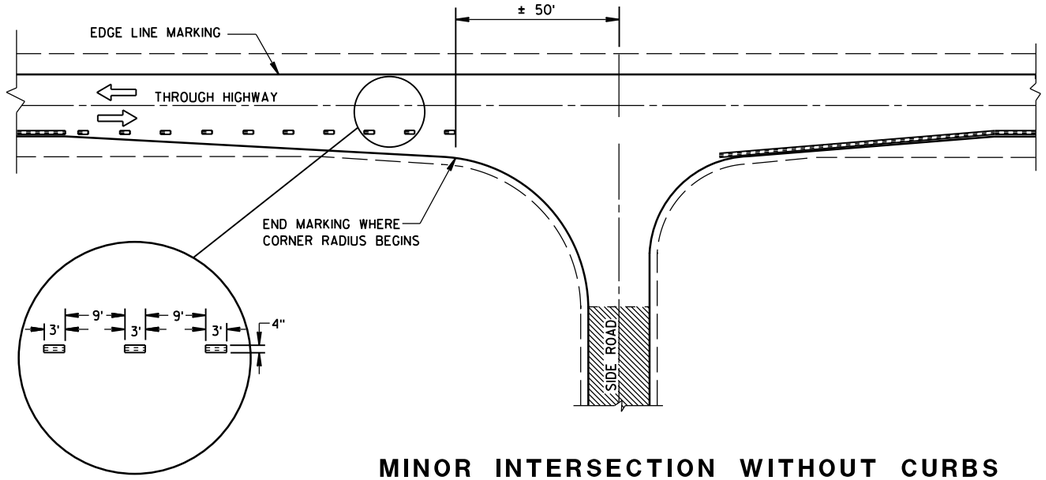
APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

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

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.

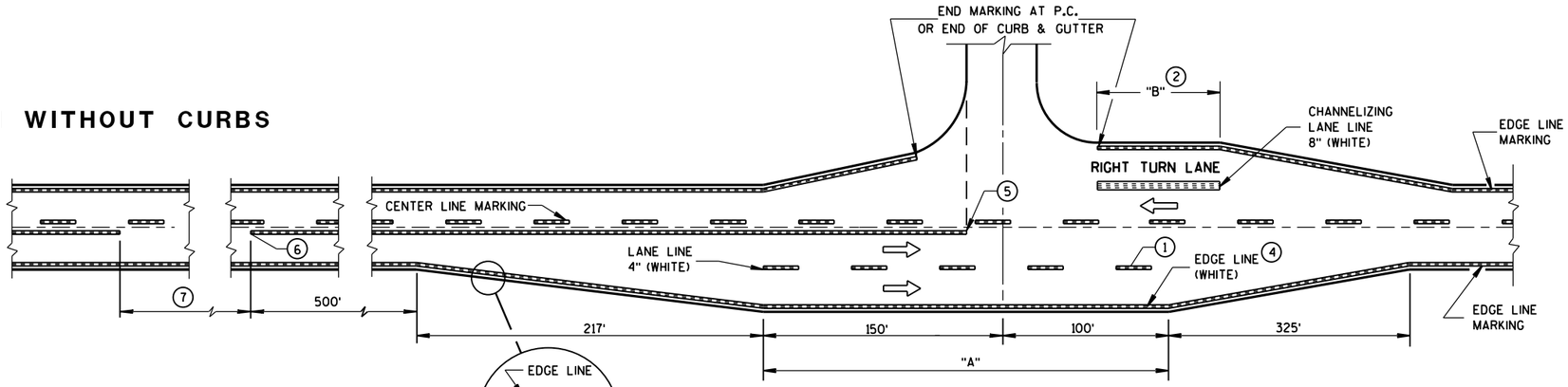
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

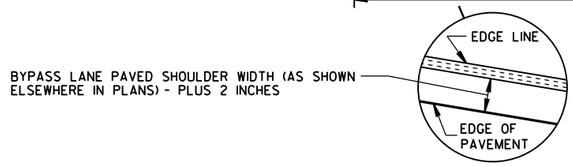
(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

(7)

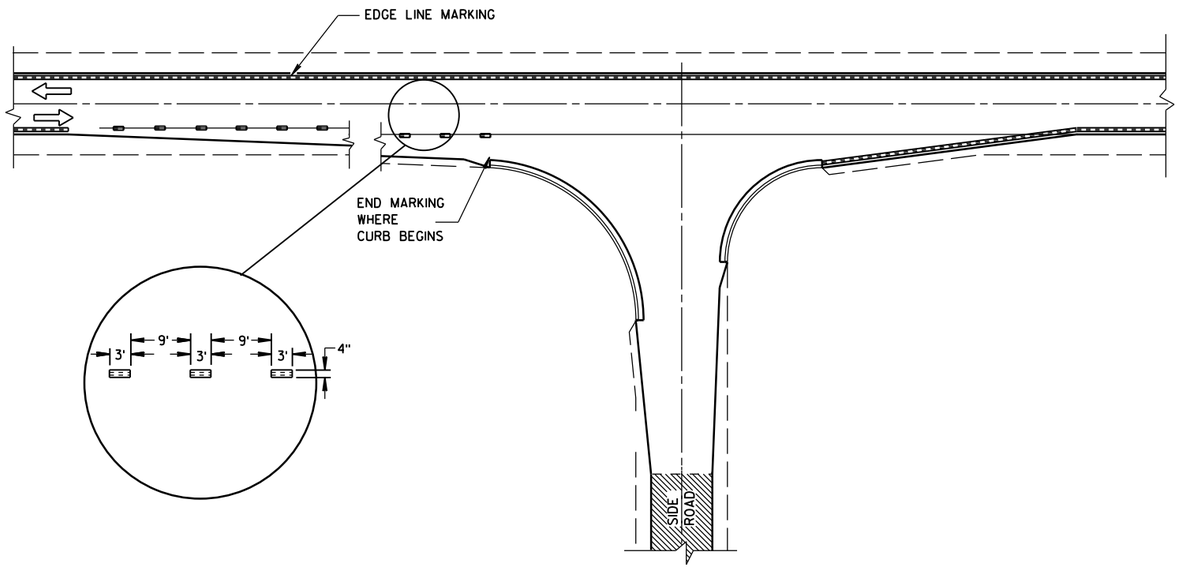
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792





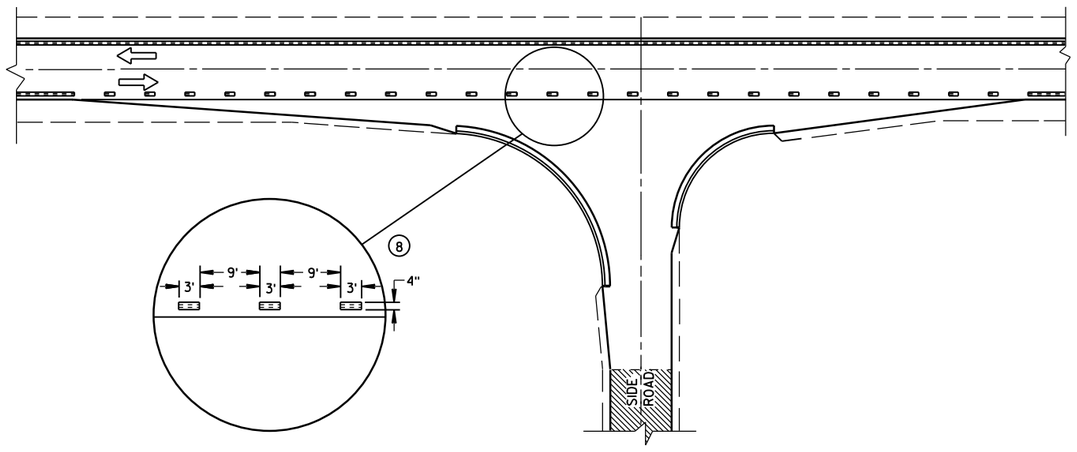
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

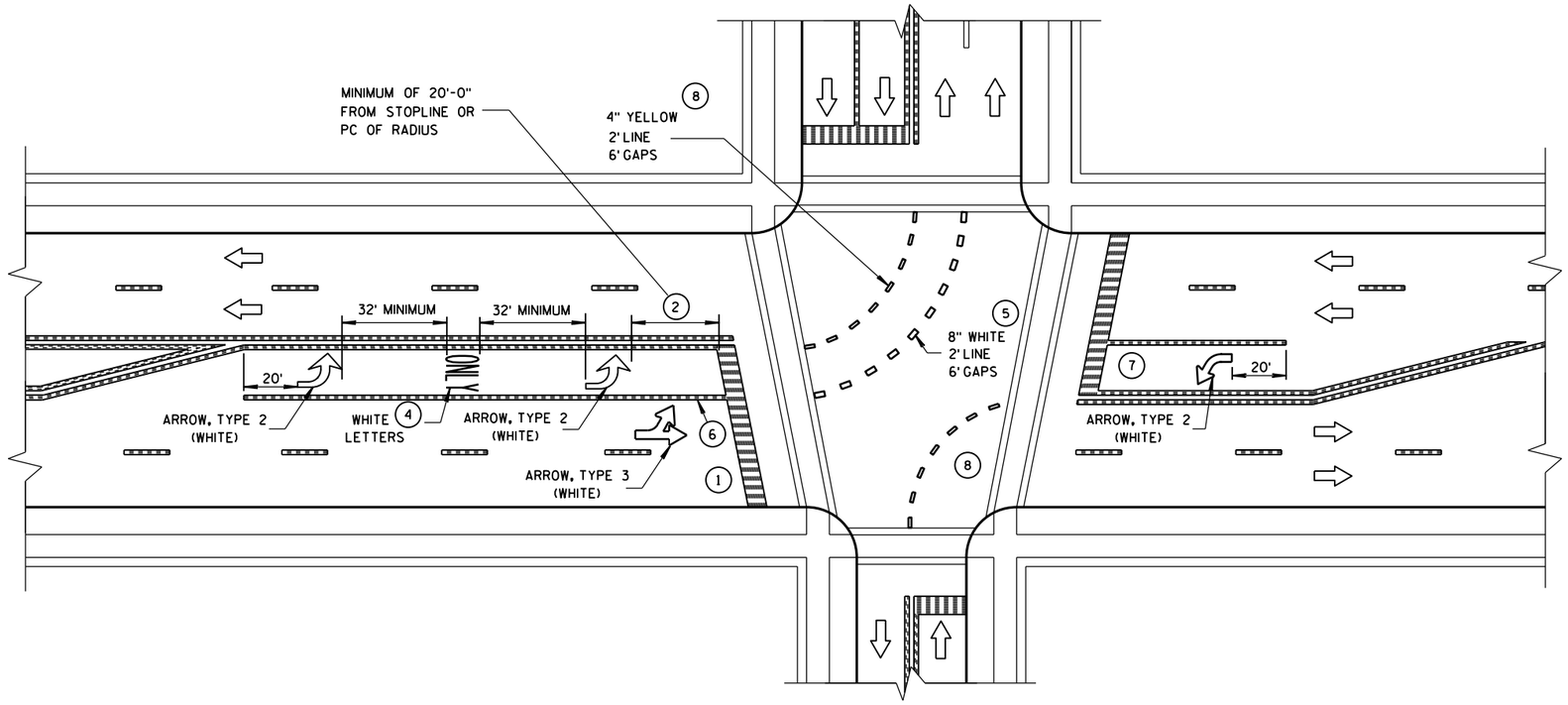
(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

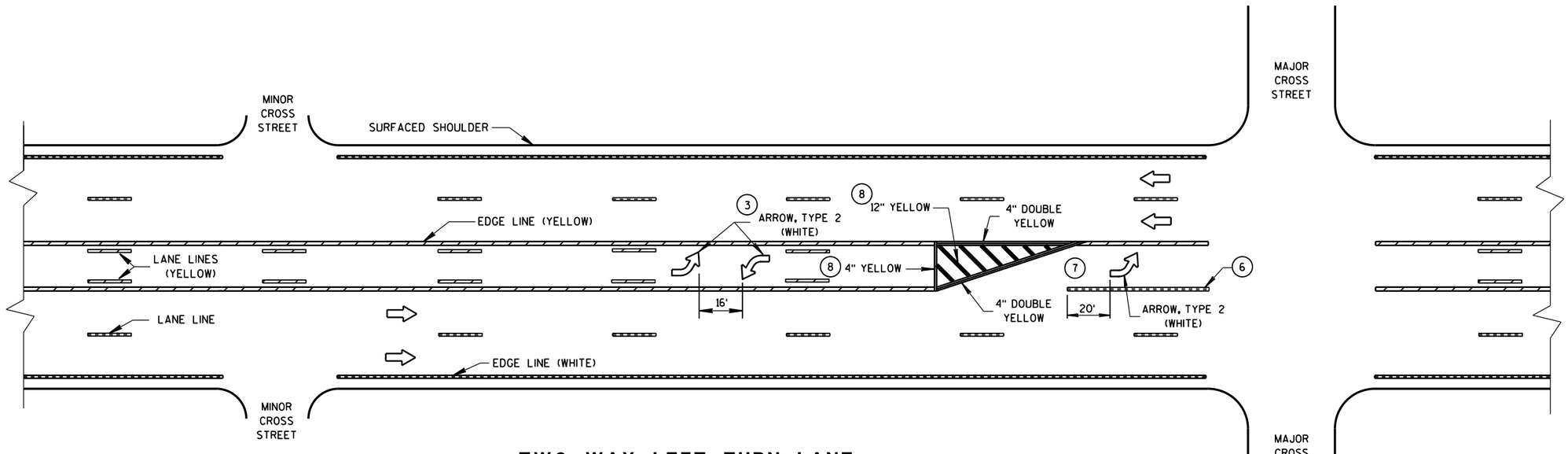
S.D.D. 15 C 8-16b



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

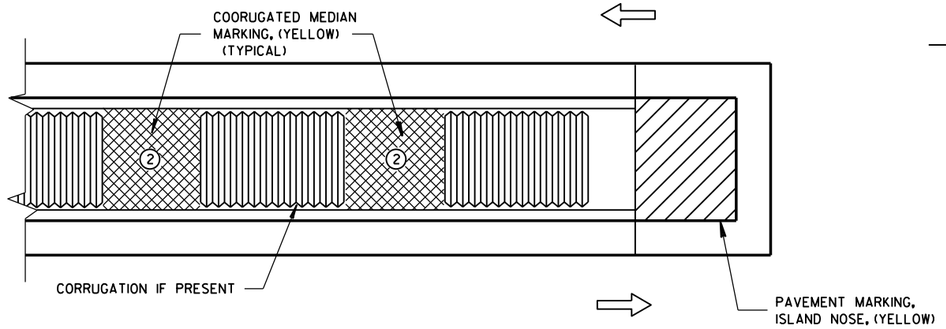
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

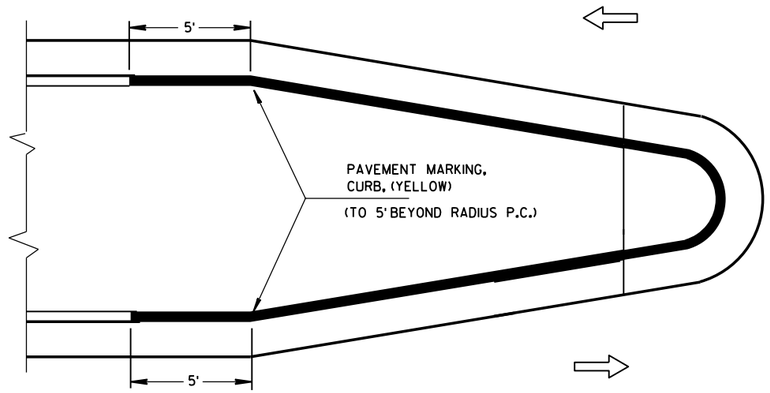
S.D.D. 15 C 8-16e

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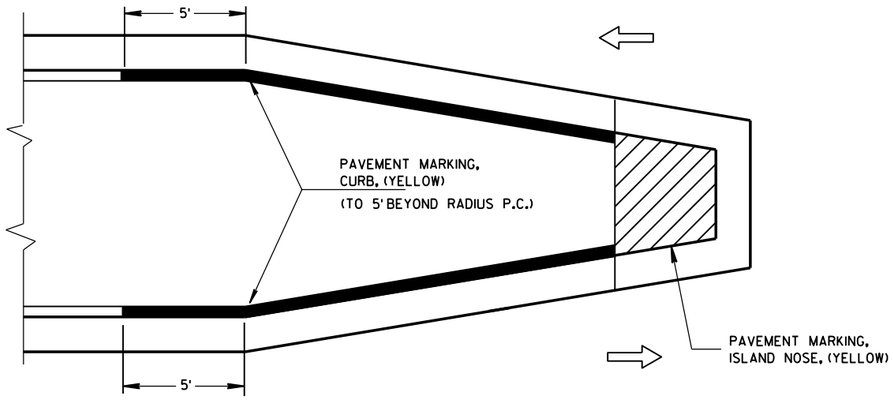
S.D.D. 15 C 8-16e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

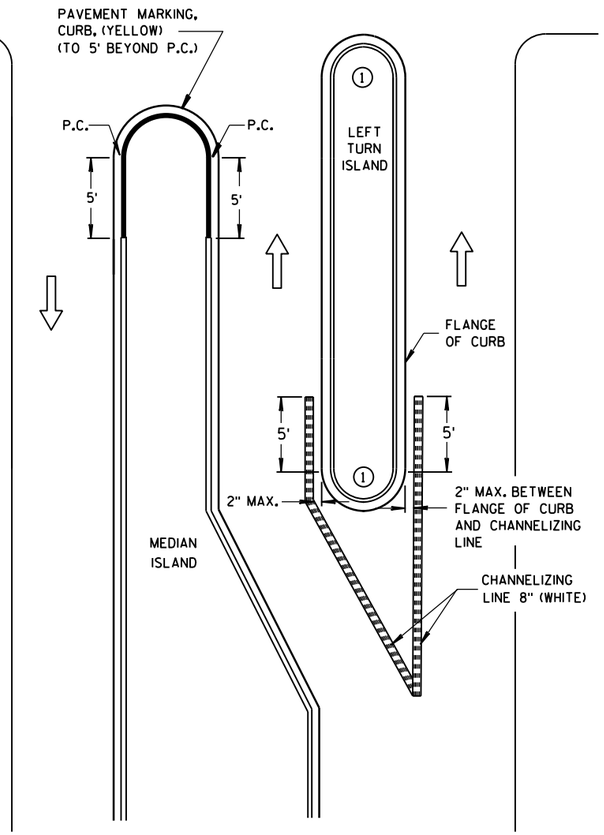


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

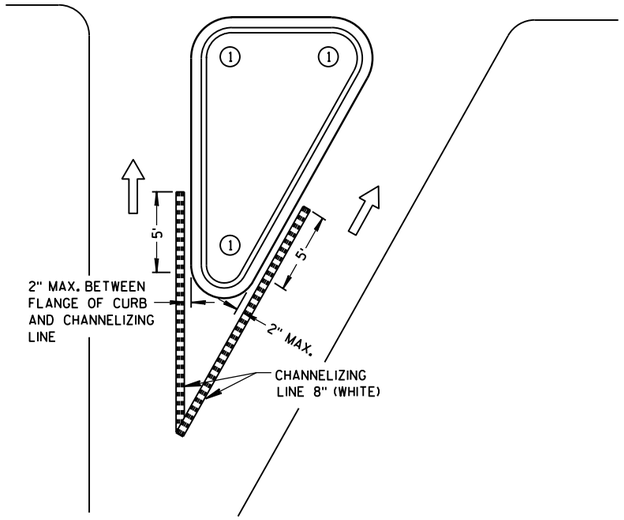


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

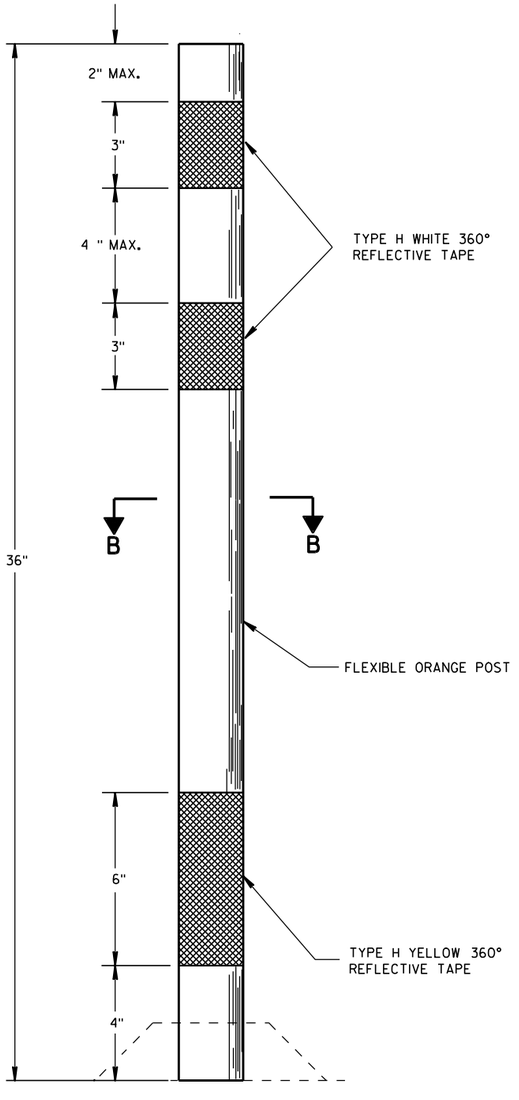
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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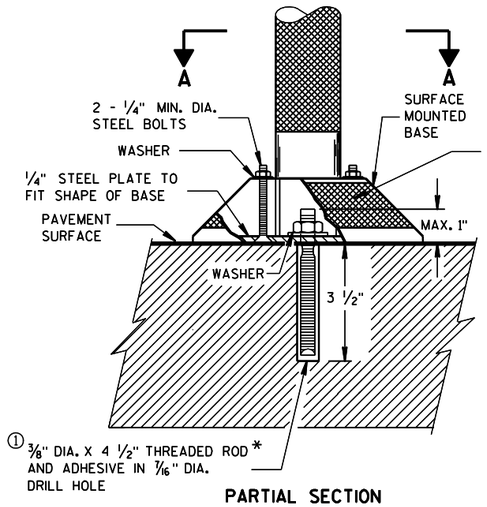
S.D.D. 15 C 8-16f

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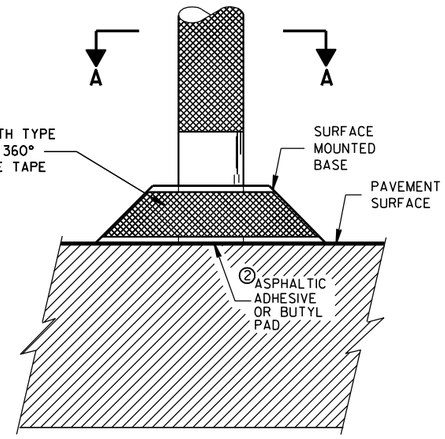
S.D.D. 15 C 8-16f



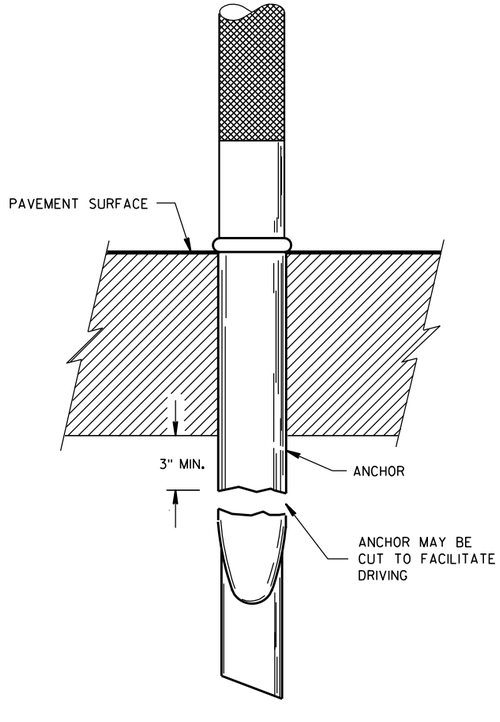
FLEXIBLE TUBULAR MARKER POST

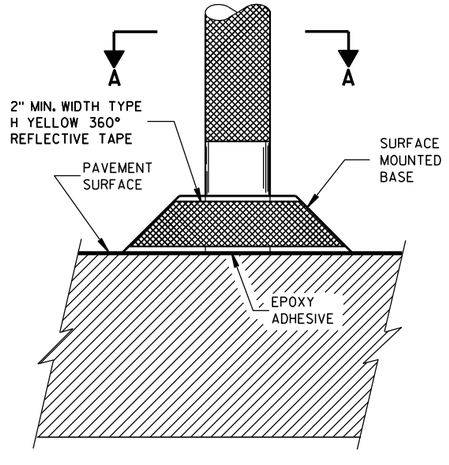


PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT





POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

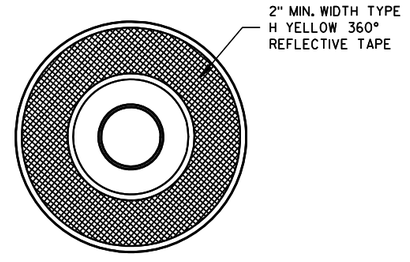
GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

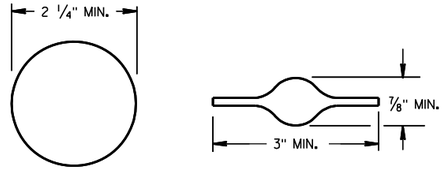
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



SECTION A-A

SURFACE MOUNTED BASE



SECTION B-B

ALTERNATIVE SHAPES

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/17/94 DATE

/S/ Chester J. [illegible] DIRECTOR, OFFICE O

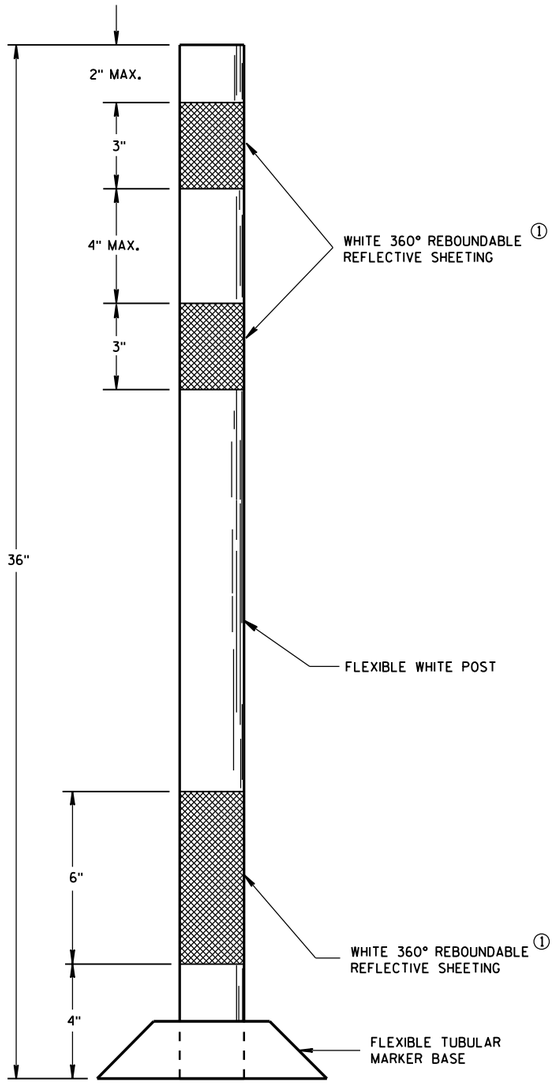
FHWA

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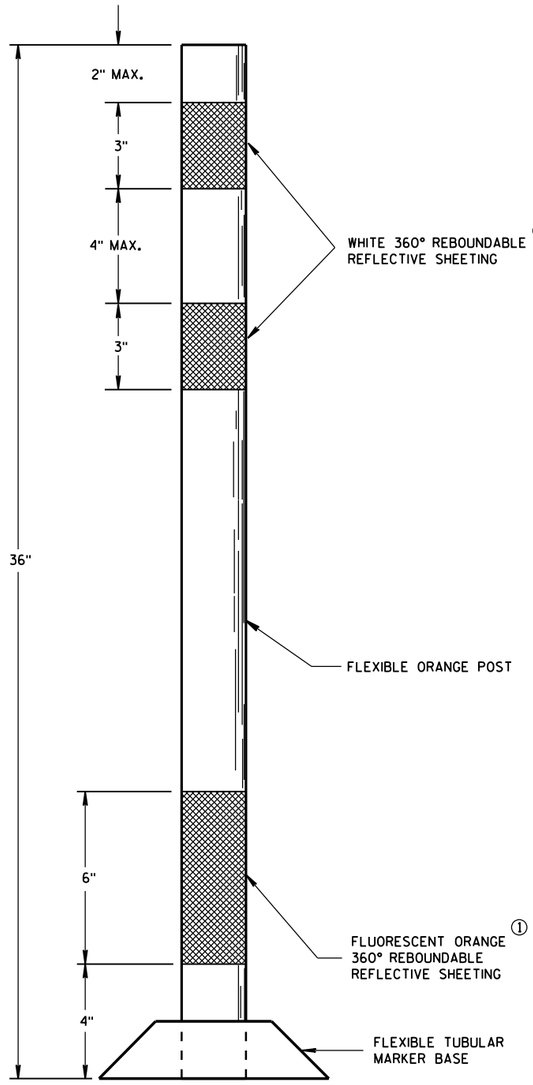
S.D.D. 15 C 11-5

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S.D.D. 15 C 11-5



FLEXIBLE
TUBULAR MARKER POST
PERMANENT CROSSOVER



FLEXIBLE
TUBULAR MARKER POST
WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-16-2015
DATE
FHWA

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON
SAFETY ENGINE

6

S.D.D. 15 C 11-6

6

S.D.D. 15 C 11-6

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

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

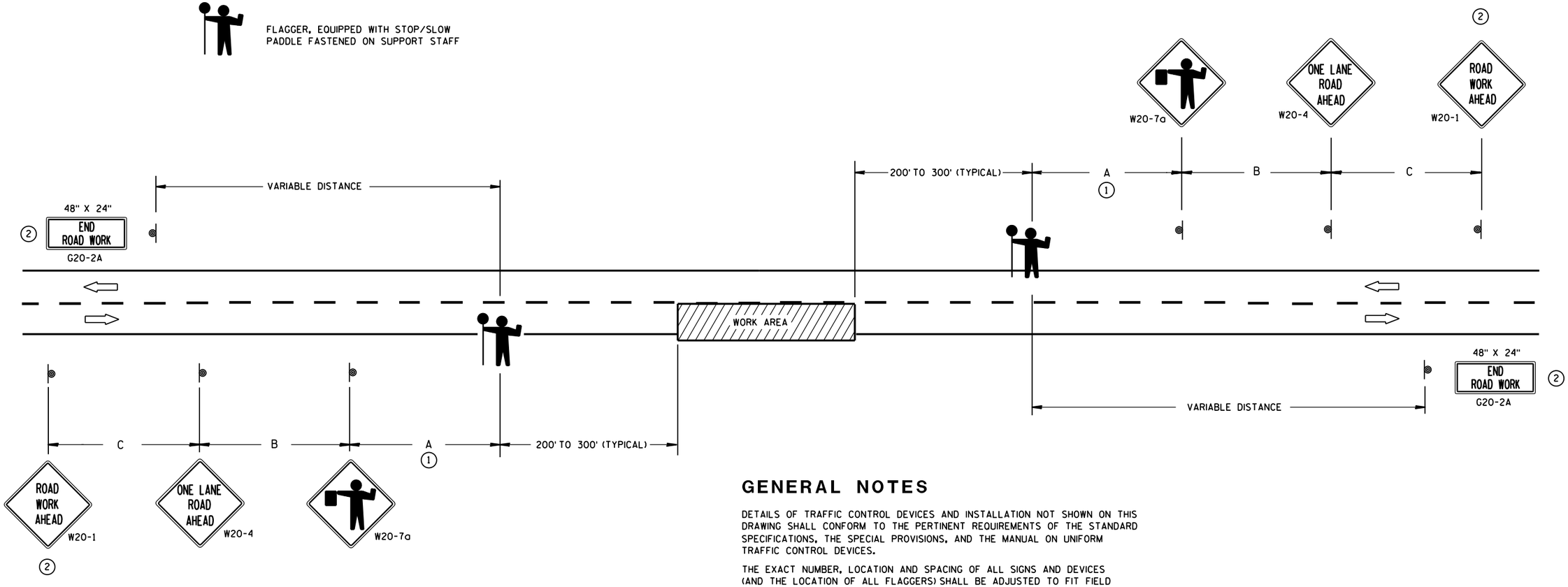
SIGN SPACING TABLE

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



W3-4

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



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

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

GENERAL NOTES

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

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

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

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

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

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

S.D.D. 15 C 12-4

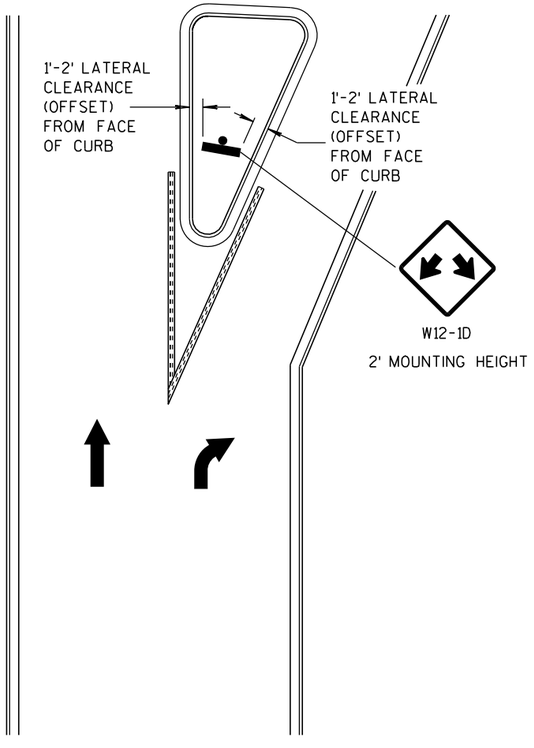
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S.D.D. 15 C 12-4

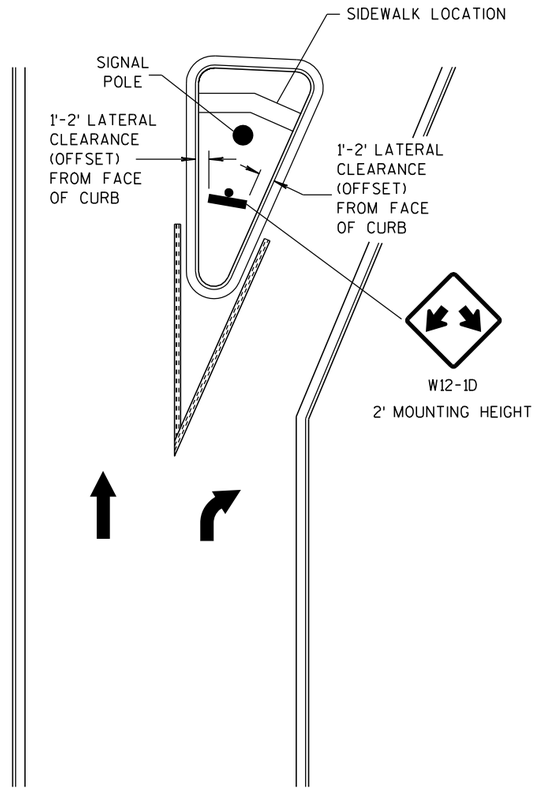
GENERAL NOTE

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

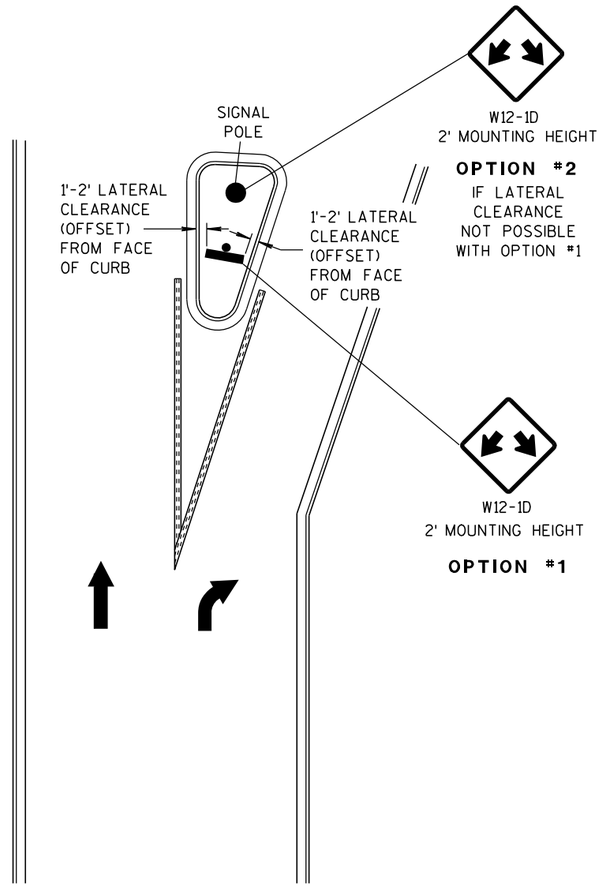
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.



LARGE RIGHT TURN ISLAND



LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE



SMALL RIGHT TURN ISLAND

DOUBLE ARROW WARNING SIGN PLACEMENT

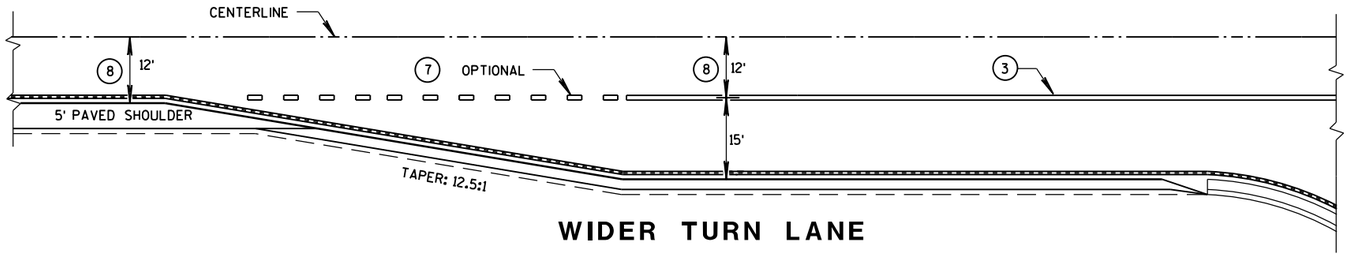
DOUBLE ARROW WARNING SIGN PLACEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
10-22-08 DATE	/S/ Thomas N. Nothdurft STATE TRAFFIC ENGINEER 323 IGN
FHWA	

6

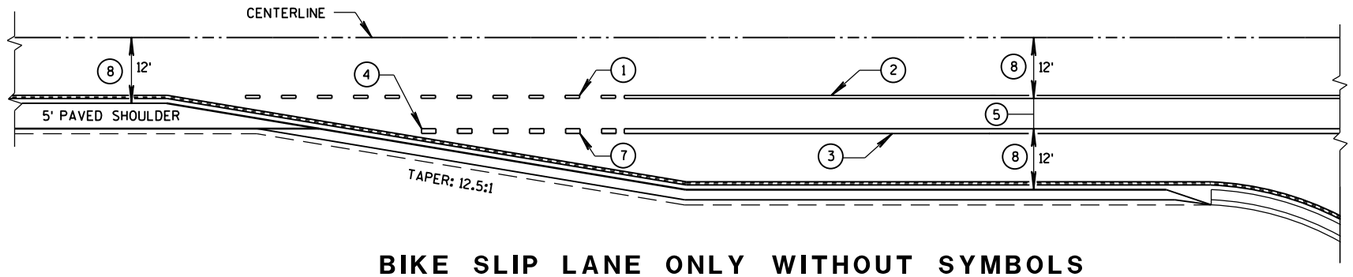
S.D.D. 15 C 27-1

6

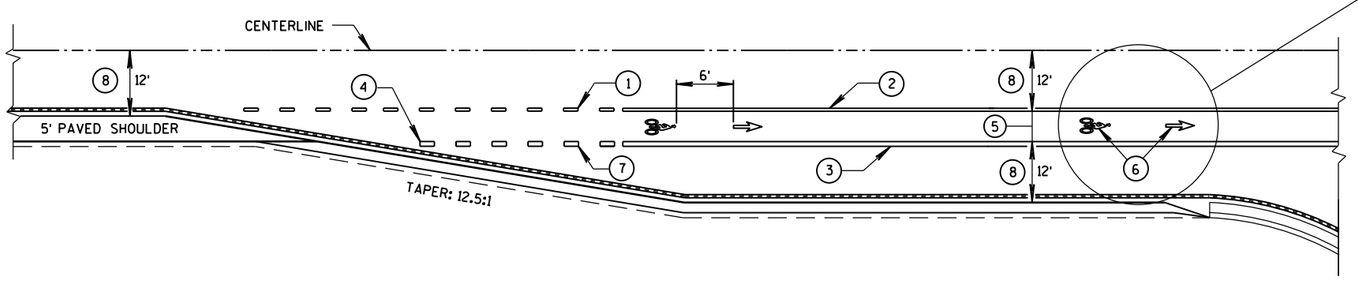
S.D.D. 15 C 27-1



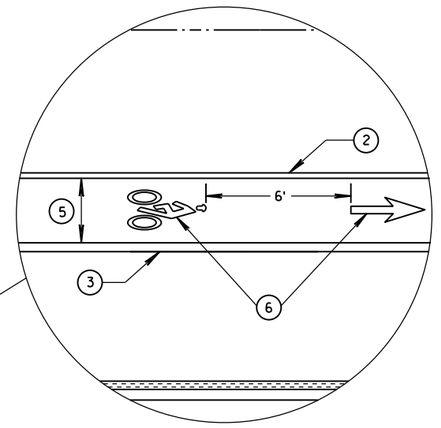
WIDER TURN LANE



BIKE SLIP LANE ONLY WITHOUT SYMBOLS



BIKE LANE WITH SYMBOLS



GENERAL NOTES

1. 3' LINE, 9' GAP - 4-INCH WIDE, WHITE.
2. 4-INCH, WHITE.
3. 8-INCH, WHITE.
4. IF SIGNED AND/OR MARKED AS A BICYCLE FACILITY INCLUDE SECOND LINE OF LINE-SPACE MARKING, OTHERWISE DO NOT.
5. BIKE ACCOMMODATION FOR CONCRETE PAVEMENT IS 5' WIDE.
   BIKE ACCOMMODATION FOR ASPHALT PAVEMENT IS A MINIMUM OF 4', 5' AT ≥ 45 MPH.
6. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
7. 3' LINE, 9' GAP - 8-INCH WIDE, WHITE.
8. REFER TO CONTRACT PLANS.

6

S.D.D. 15 C 29-3a

BICYCLE LANE MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

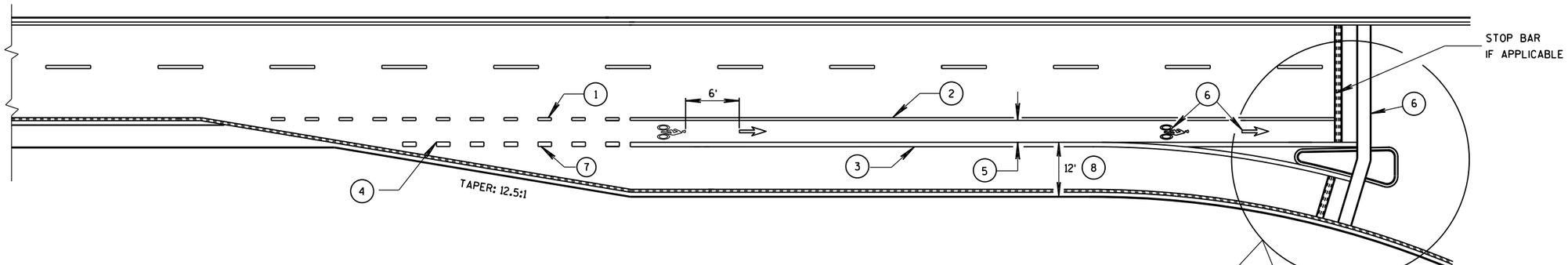
FHWA

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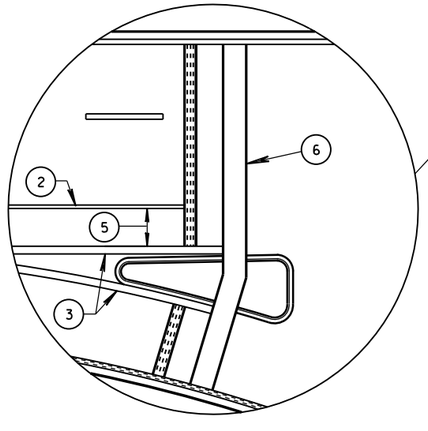
S.D.D. 15 C 29-3a

GENERAL NOTES

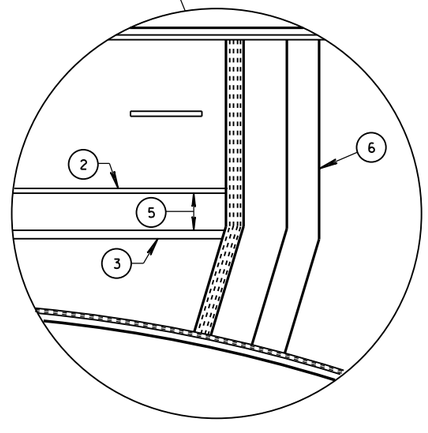
1. 3' LINE, 9' GAP - 4-INCH WIDE, WHITE.
2. 4-INCH, WHITE.
3. 8-INCH, WHITE.
4. IF SIGNED AND/OR MARKED AS A BICYCLE FACILITY INCLUDE SECOND LINE OF LINE-SPACE MARKING, OTHERWISE DO NOT.
5. 5' TYPICAL.
6. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
7. 3' LINE, 9' GAP - 8-INCH WIDE, WHITE.
8. REFER TO CONTRACT PLANS.



BIKE LANE - 4-LANE DIVIDED WITH RIGHT TURN LANE



4 LANE DIVIDED WITH ISLAND



4 LANE DIVIDED WITHOUT ISLAND

BICYCLE LANE MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

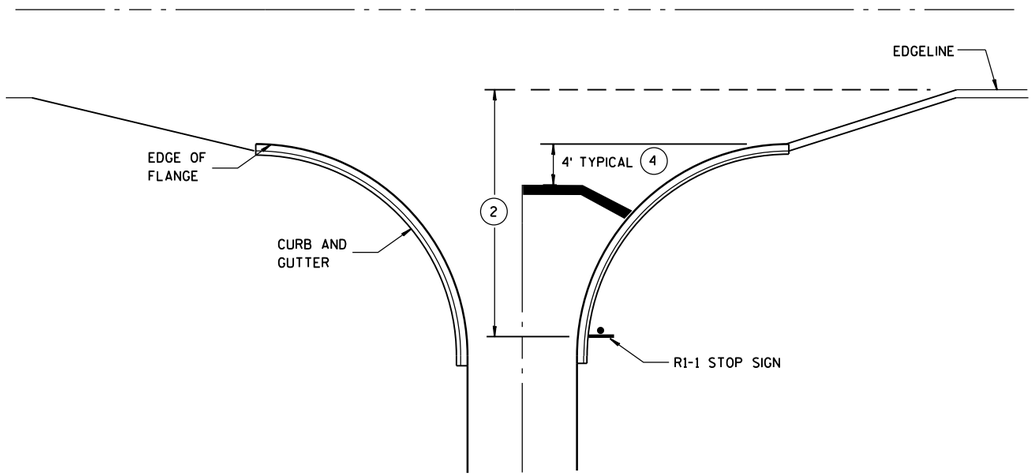
APPROVED
4/30/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC E
FHWA

6

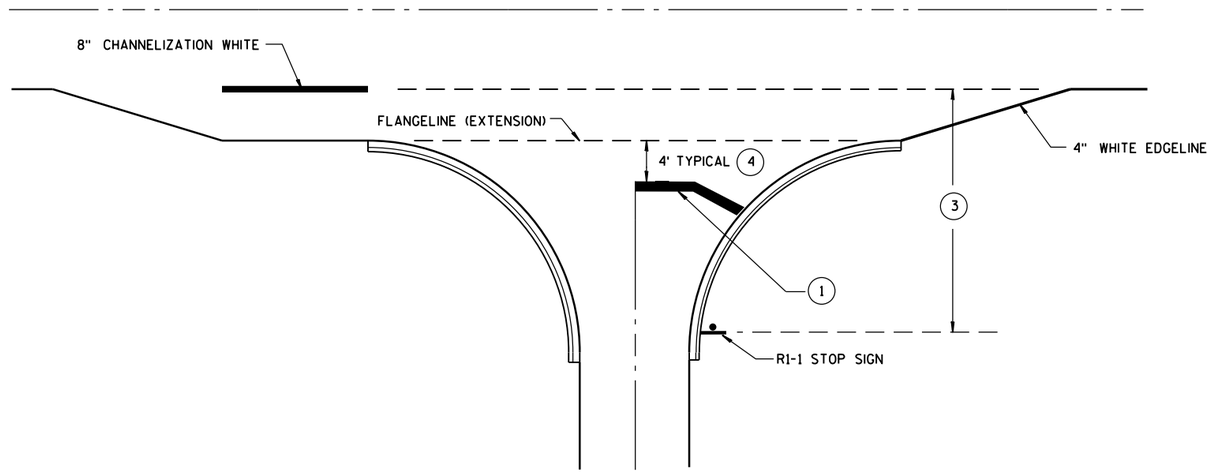
S.D.D. 15 C 29-3b

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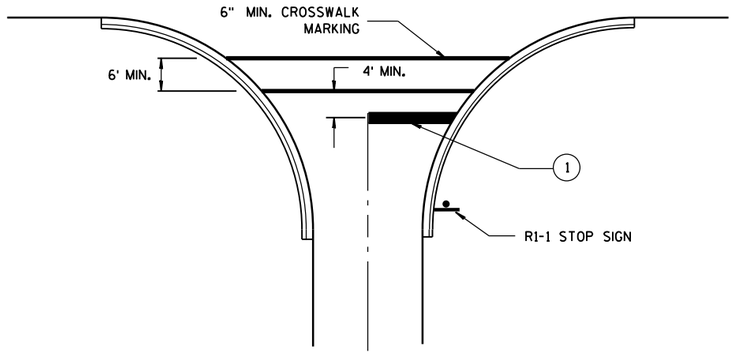
S.D.D. 15 C 29-3b



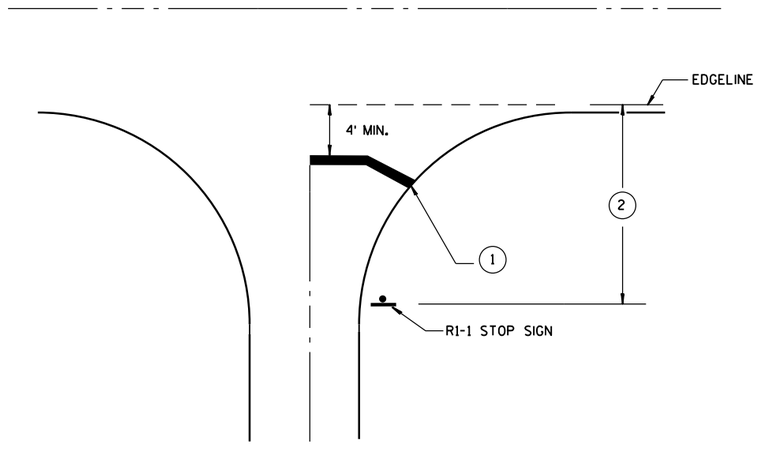
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

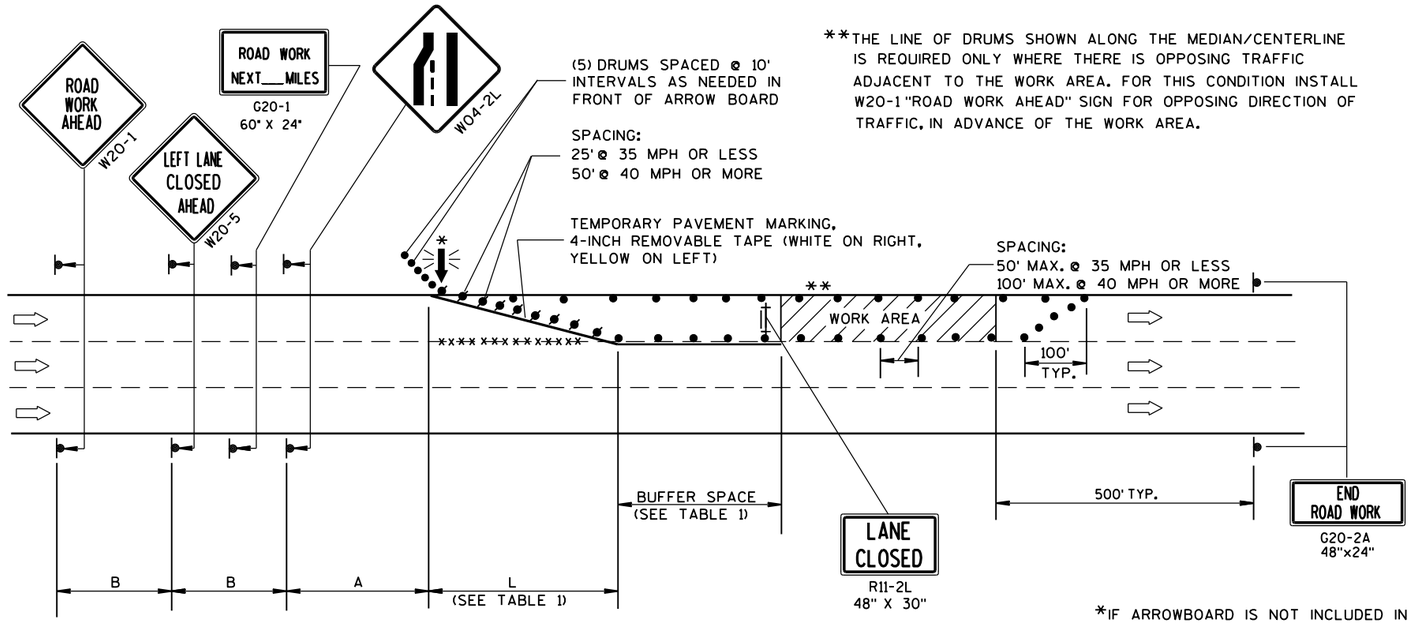
4/30/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

6

S.D.D. 15 C 33-1



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

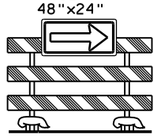


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

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

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

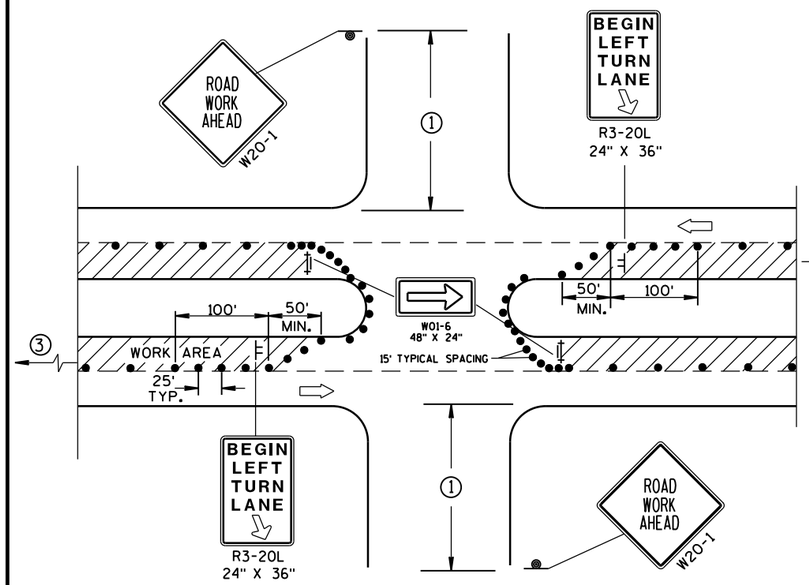
TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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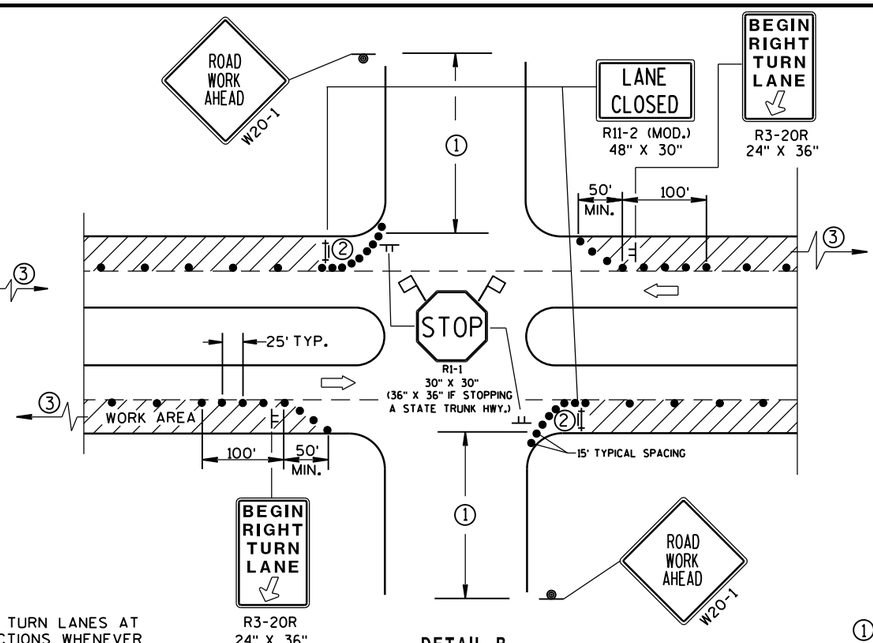
S.D.D. 15 D 20-3



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

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



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

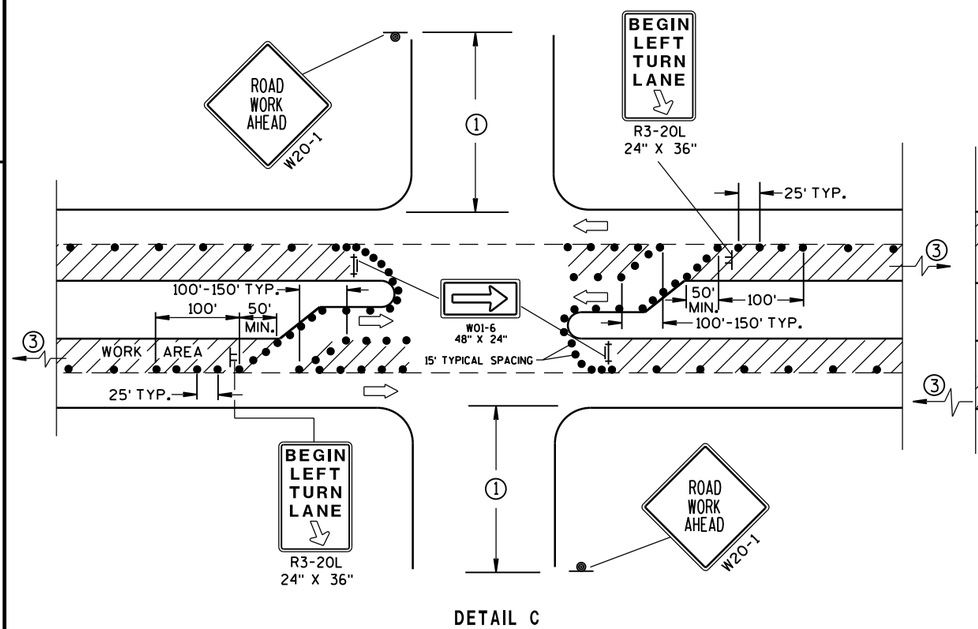
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

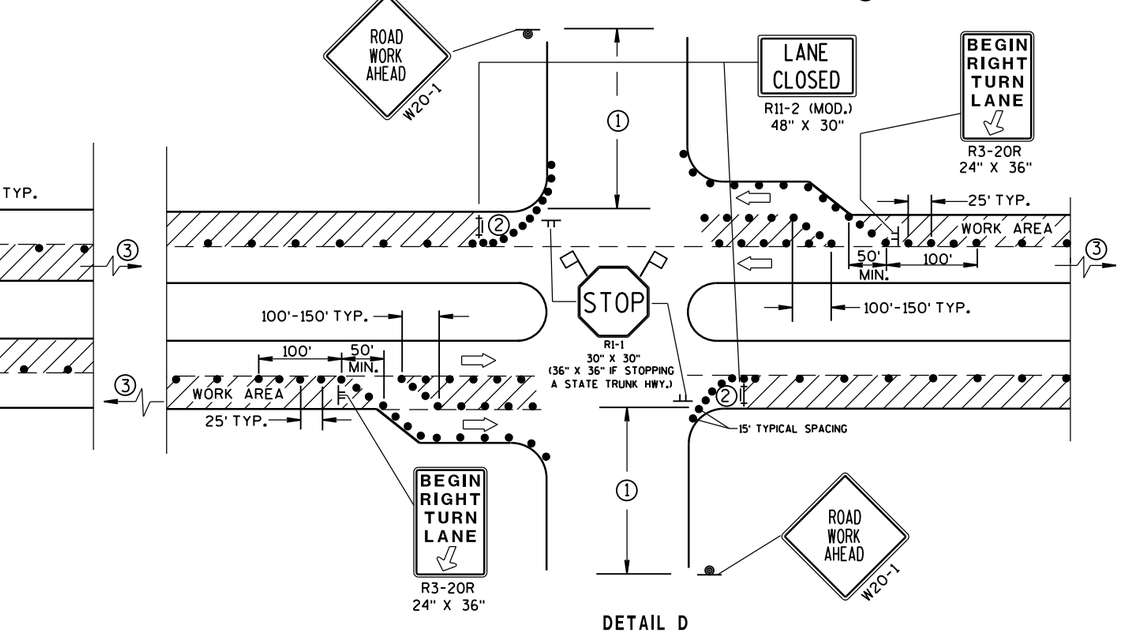
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Nov. 2014 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 D 21-3

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.

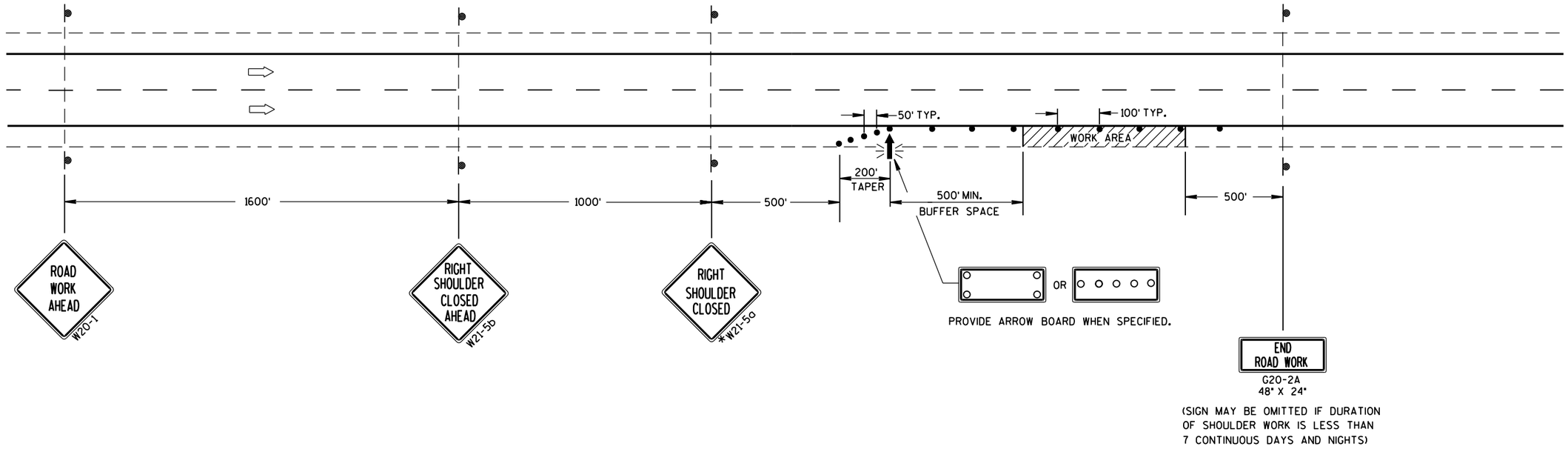
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

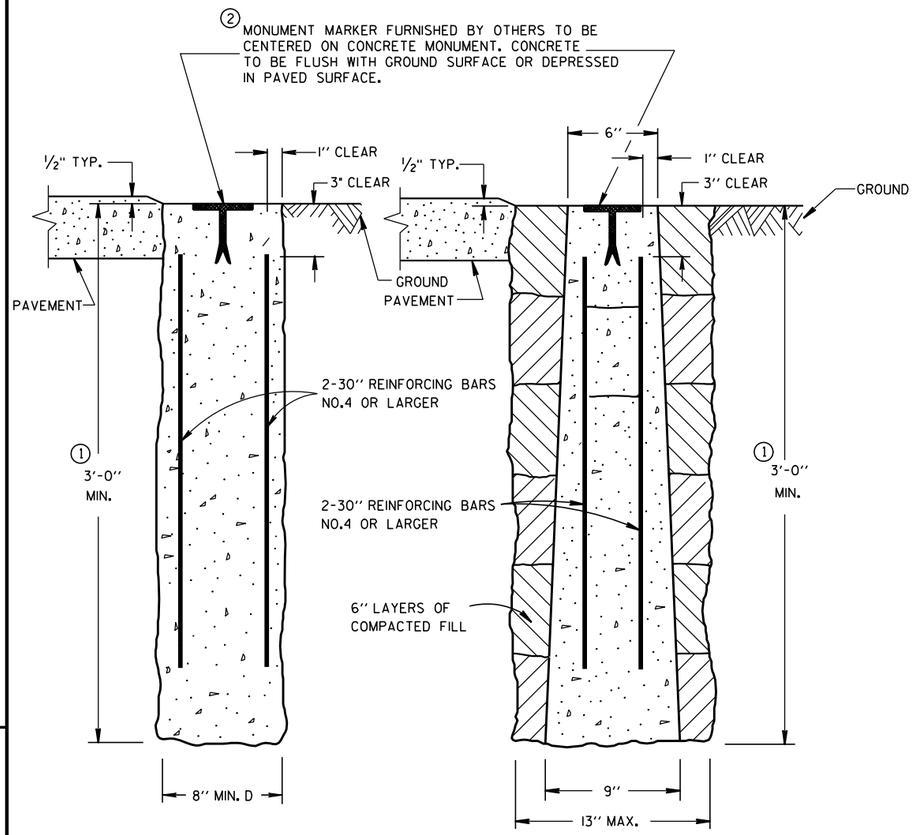
8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

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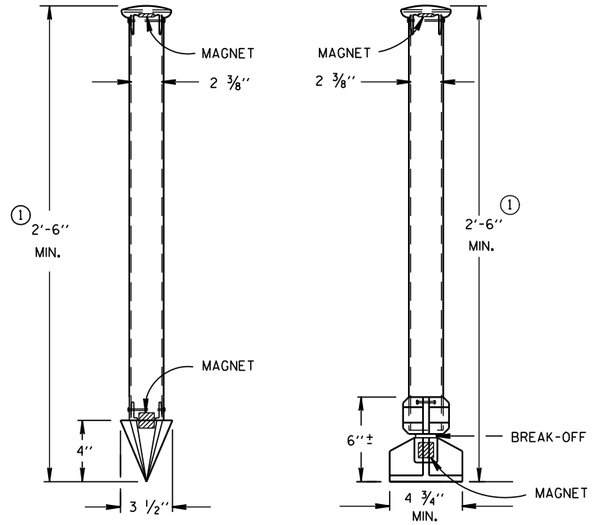
S.D.D. 15 D 27-2



CAST-IN-PLACE PRECAST

CONCRETE MONUMENTS

TYPE A



TYPE C TYPE D

DRIVE-IN MONUMENT BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)

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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

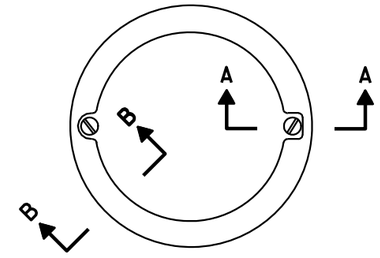
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

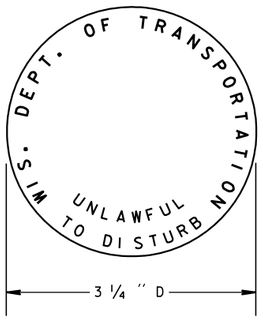
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.

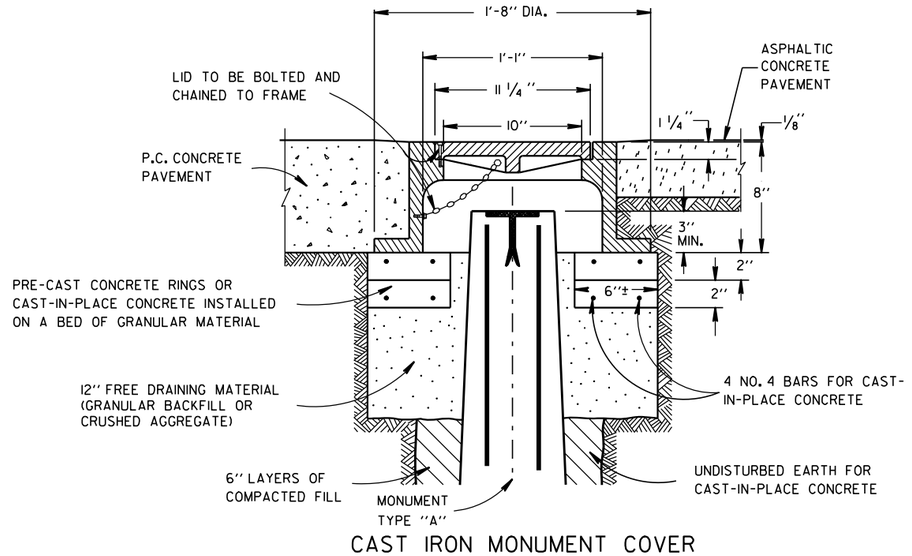


TOP VIEW



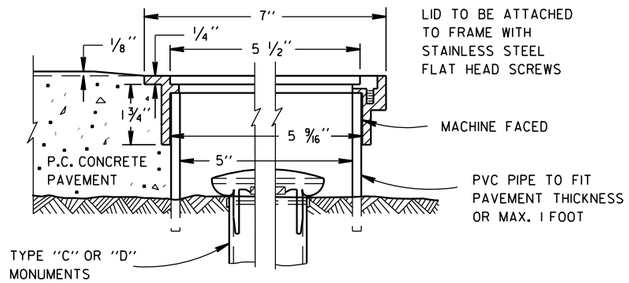
② WIS DOT MONUMENT MARKER LOGO

FOR TYPES "A", "C" & "D"



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 95 LBS.)



SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)

(FOR CONCRETE PAVEMENT ONLY)

LANDMARK REFERENCE MOUNMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

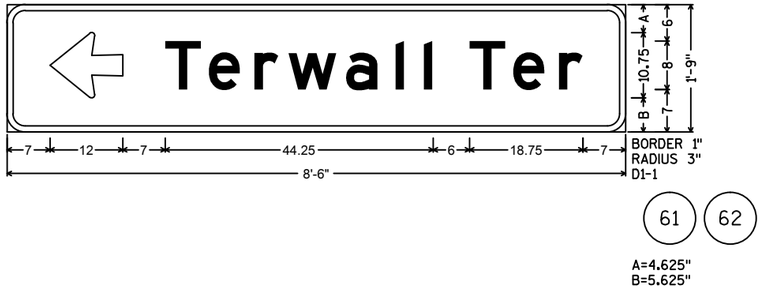
APPROVED

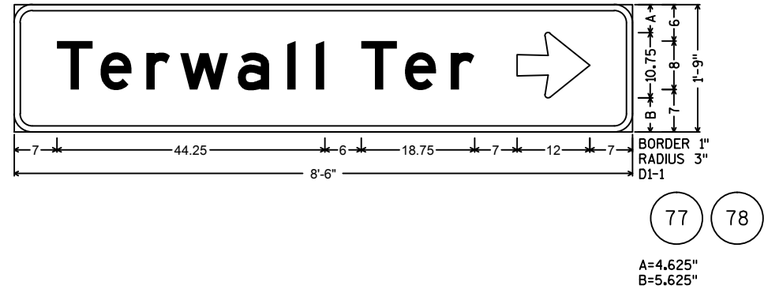
9/22/1999 DATE

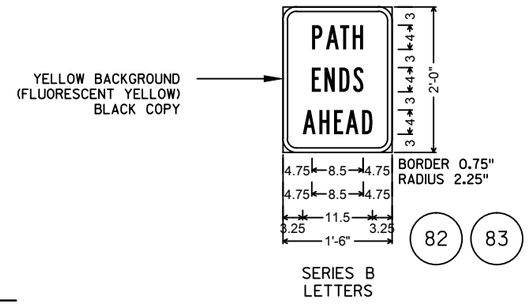
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

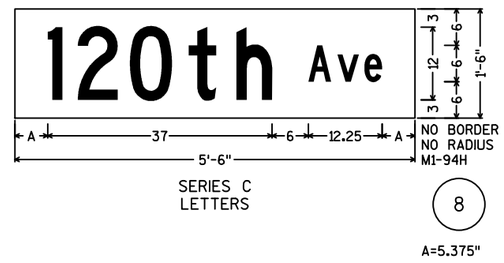
FHWA

6
S.D.D. 16 A 1-6



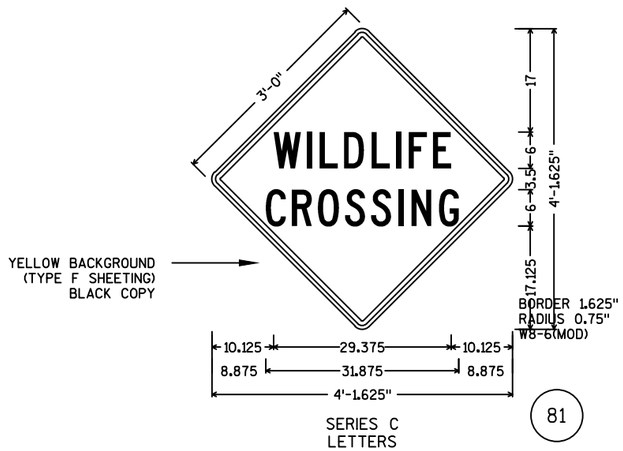


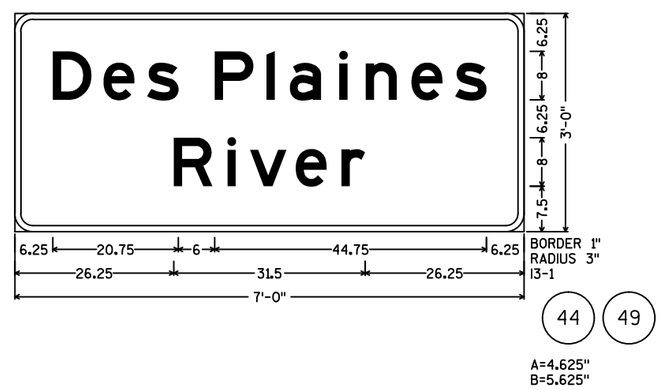




GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".
3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE "TYPE SH REFLECTIVE SHEETING".
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
5. TYPE II SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E". ALL LOWERCASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E".
6. TYPE I SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E MODIFIED". ALL LOWER CASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E MODIFIED". ALL CAP WORDS ARE "SERIES E".
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "SERIES C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE "SERIES E" PER PLATES A11-7 AND A11-10.





SHEET 1 OF 1

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	SIGN DETAIL - TYPE II	SHEET 331	E

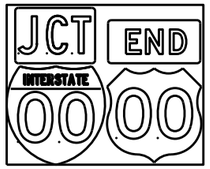
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WISDOT/CADDS SHEET

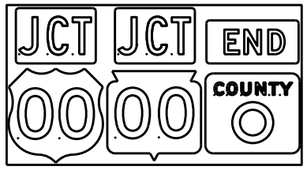
TYPICAL ASSEMBLIES



J1-1



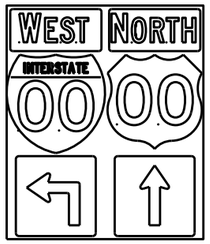
J1-2



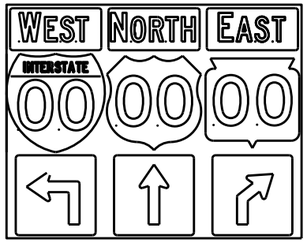
J1-3



J2-1



J2-2

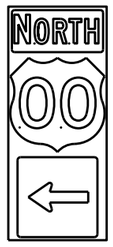


J2-3

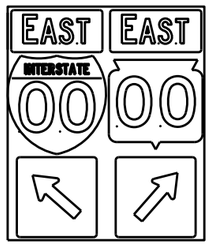


JV

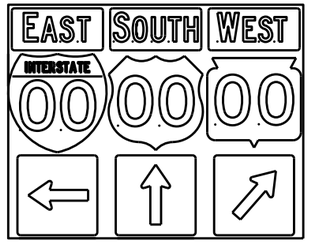
(Typical Vertical J-Assembly
See Note 10 and 11)



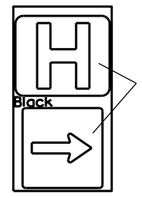
J3-1



J3-2



J3-3

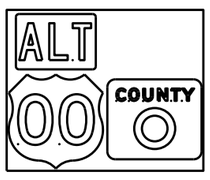


Blue Background

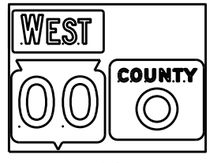
JH-1



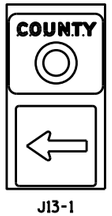
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

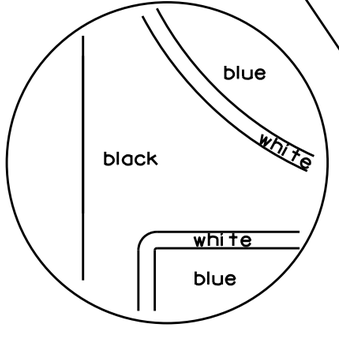


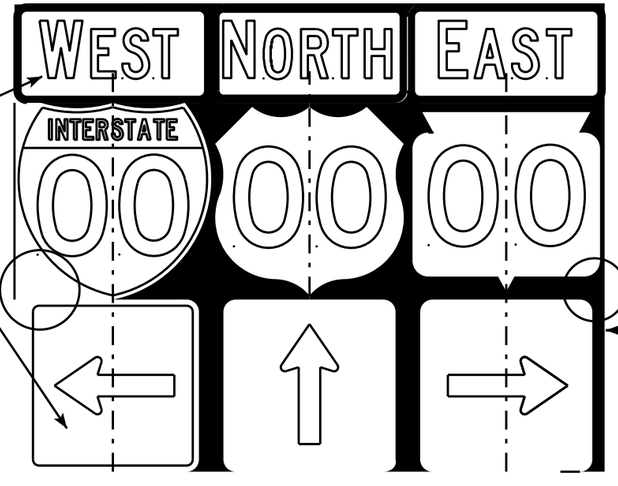
J23-1

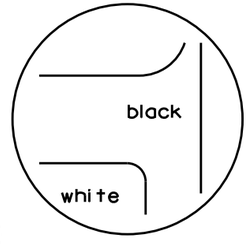


J22-1

[blue background with interstate]







[black background]

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PL... A2-1S.8

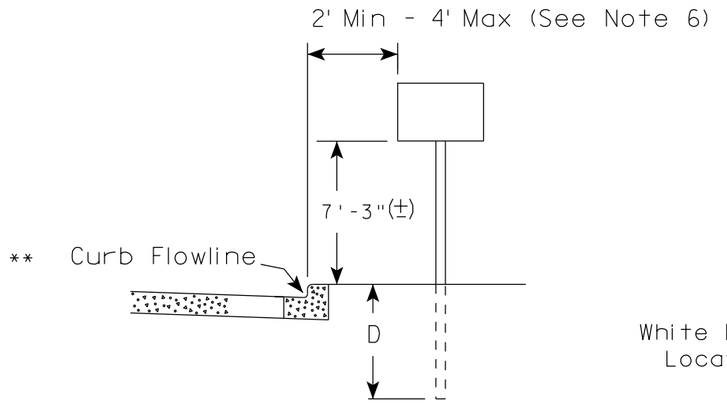
PROJECT NO:

SHEET NO: E

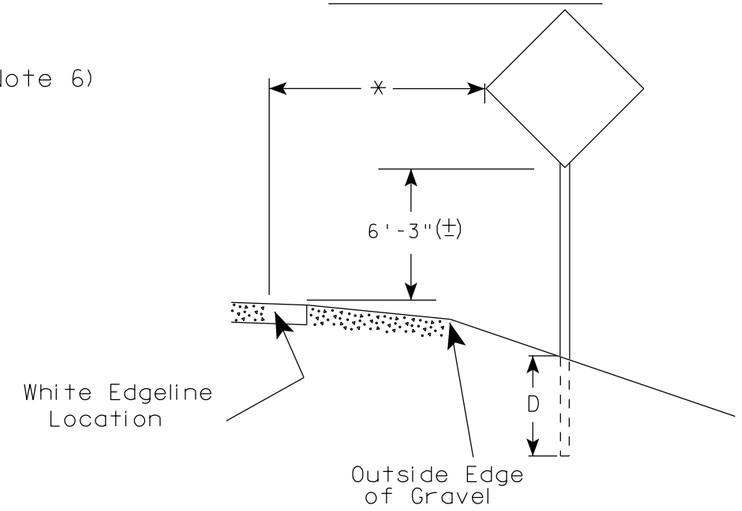
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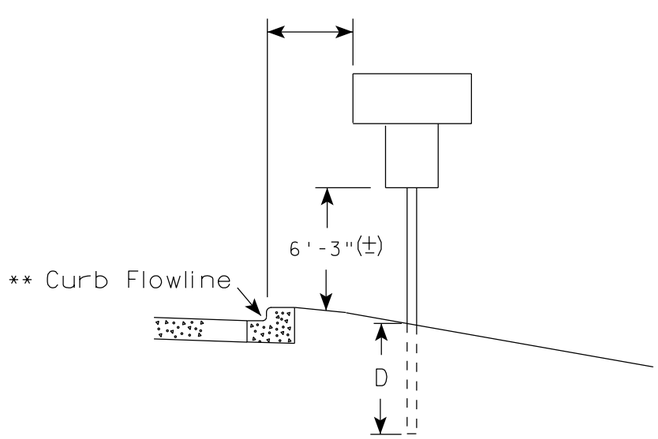
WISDOT/CADDS SHEET 42

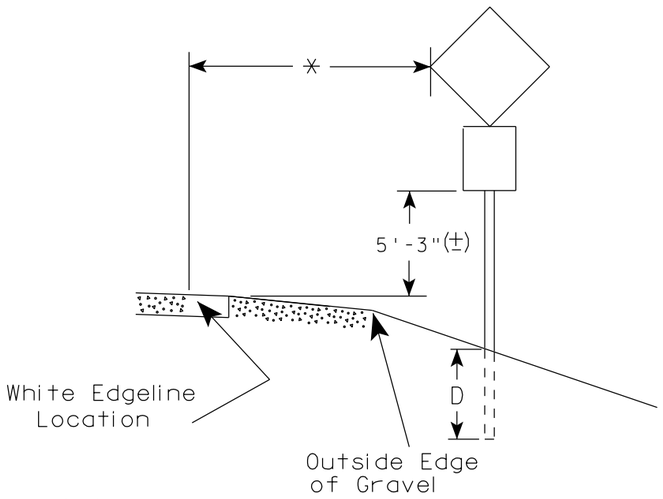
URBAN AREA



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.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 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 (A2-1S) 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 signs shall be mounted at a height of 5'-3" (±) or as directd 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

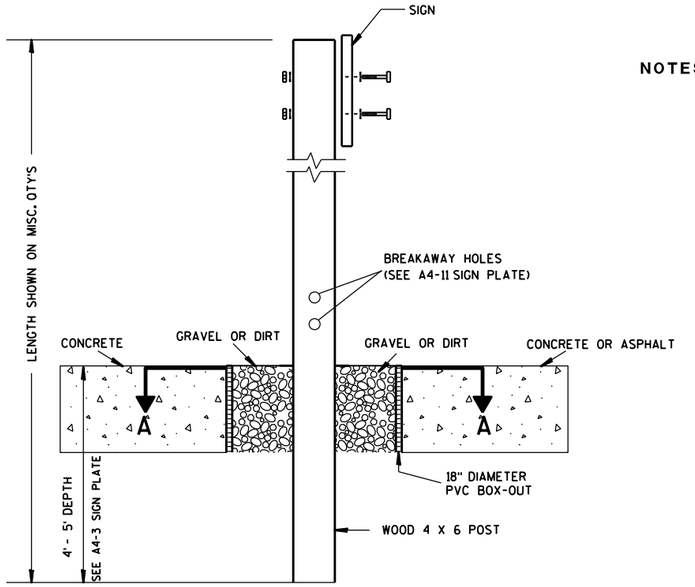
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

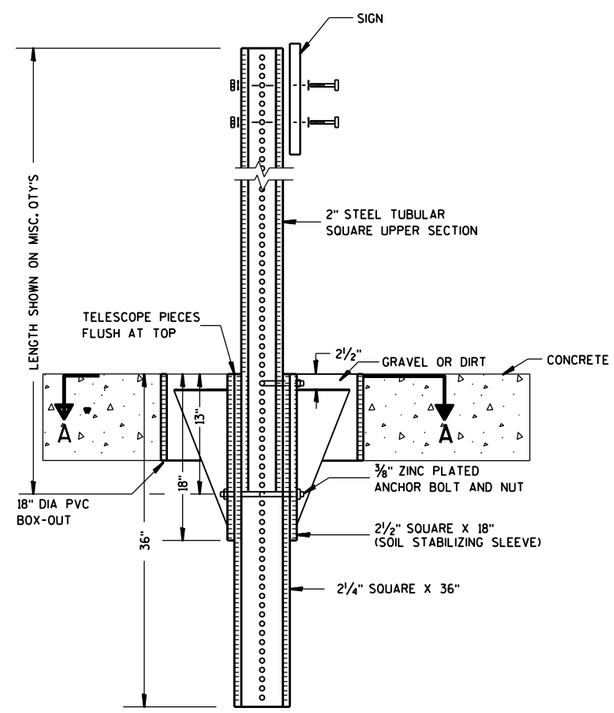
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

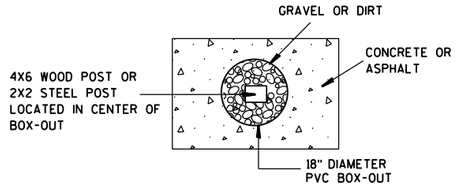
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

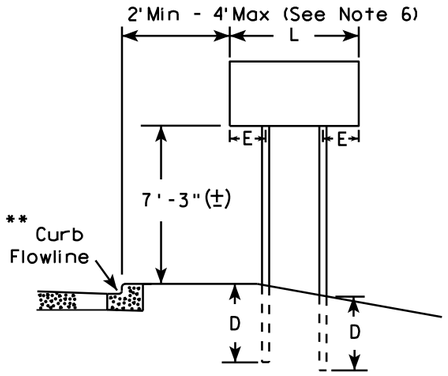
APPROVED Matthew R Rauch
for State Traffic Engineer

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

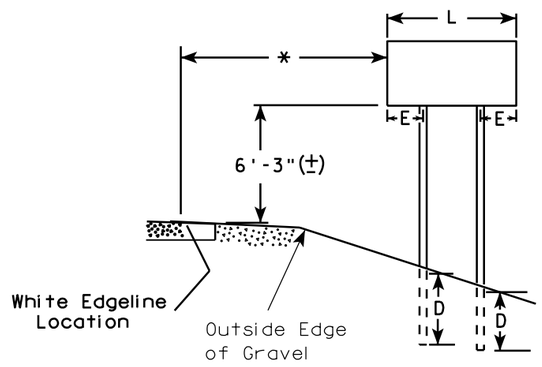
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

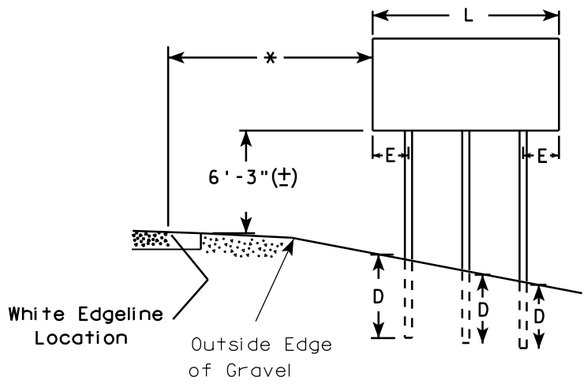
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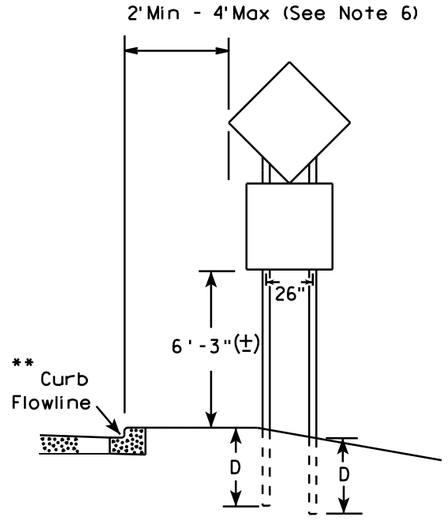
URBAN AREA



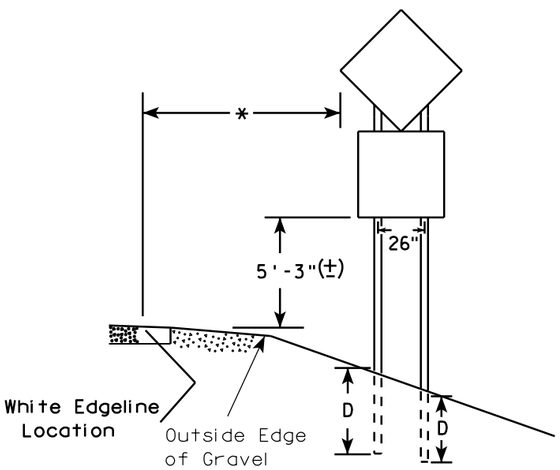
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	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"

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 (A2-1S) 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 signs 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) 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 and less than 20 S.F. in area.

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

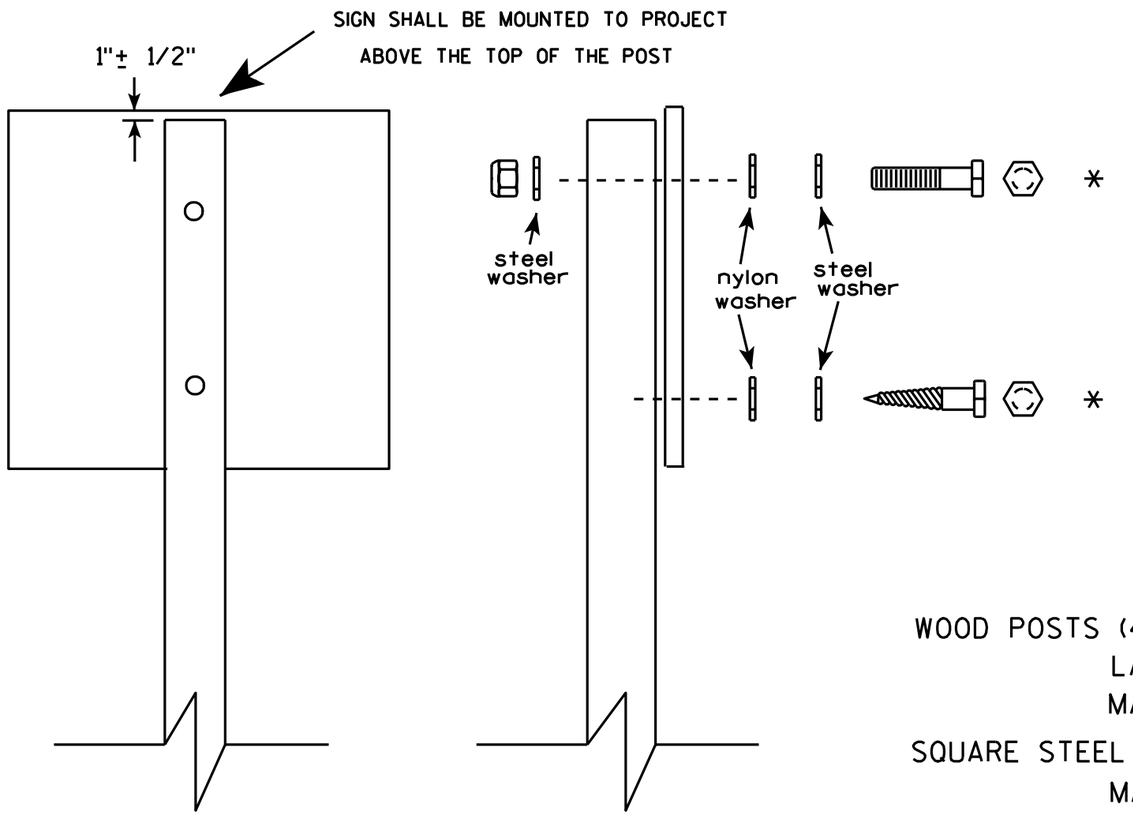
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 335 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 23-JUL-2015 15:23 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000

WISDOT/CADDS SHEET 42



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

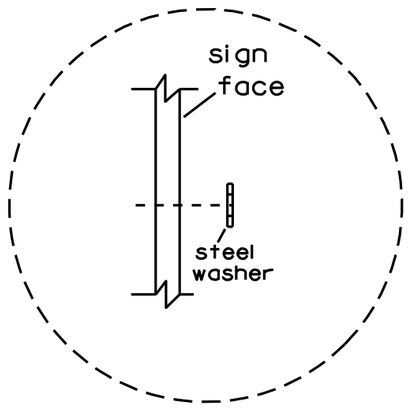
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

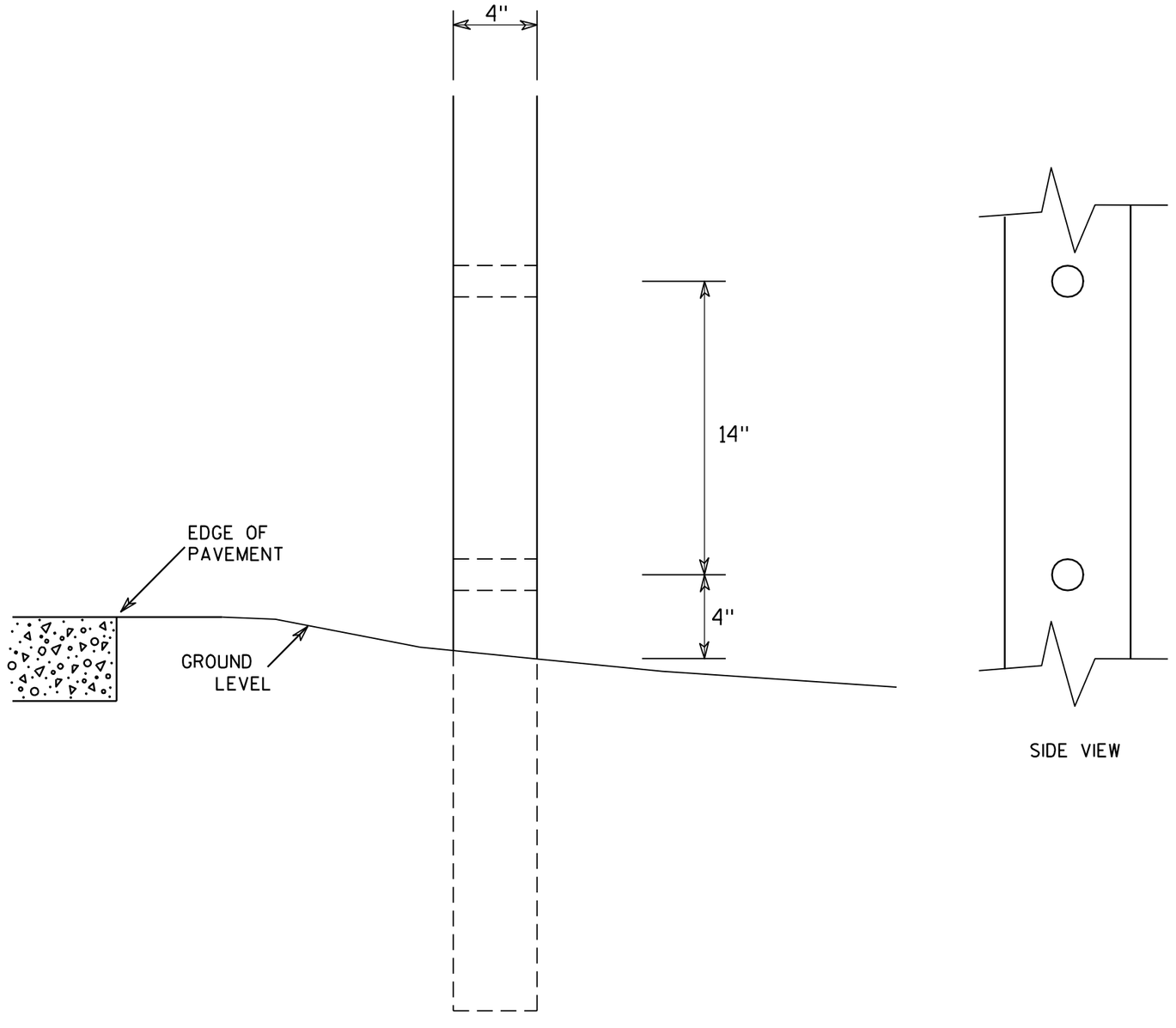
DATE 3/23/10 PLATE NO. A4-8.7

7

7

PROJECT NO:

SHEET NO: 336 E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

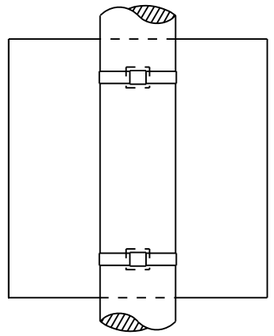
APPROVED Chester J Spang for State Traffic Engineer

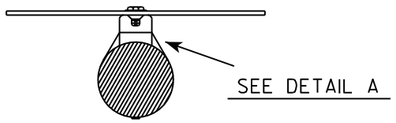
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 337	E

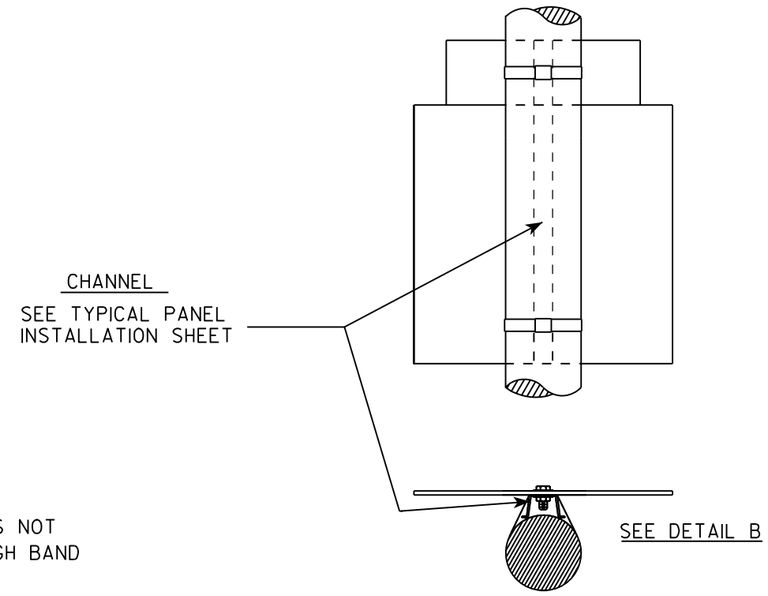
BANDING

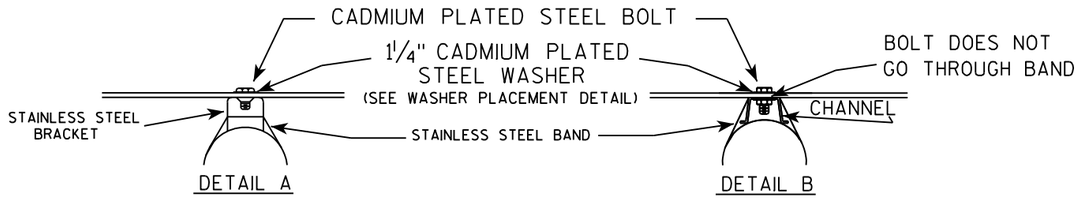
SINGLE SIGN



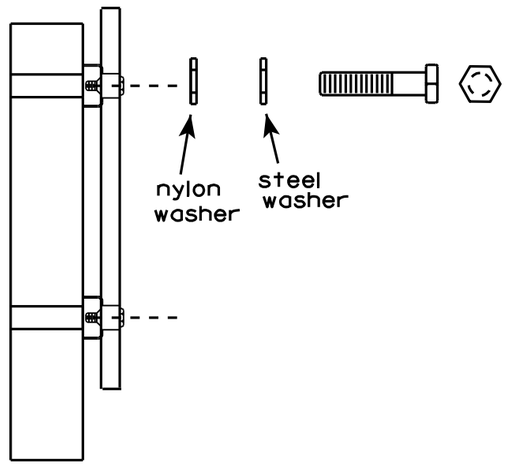


"J" ASSEMBLY





WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

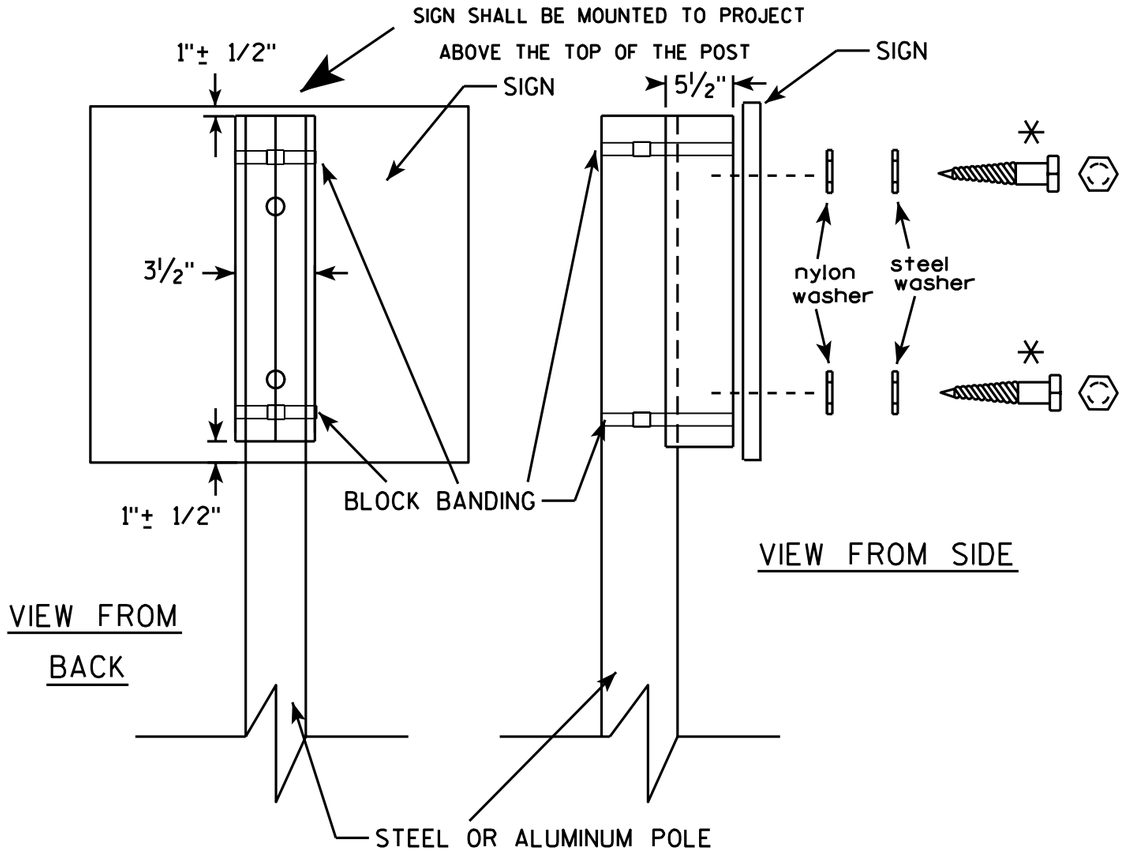
STANDARD SIGN
SIGN BANDING DETAILS

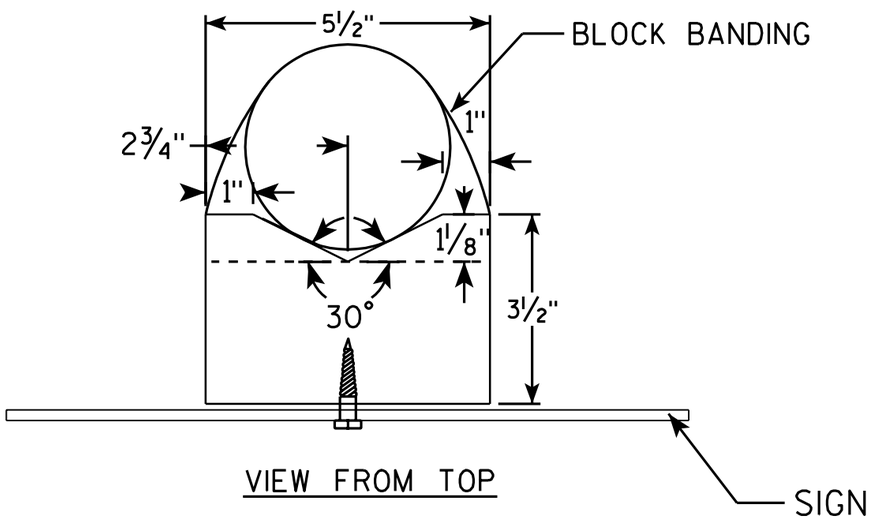
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 338	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

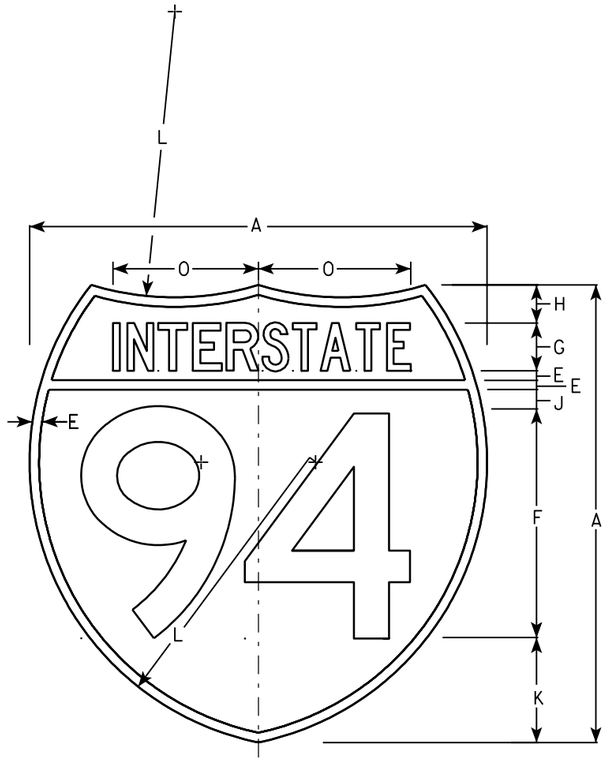
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

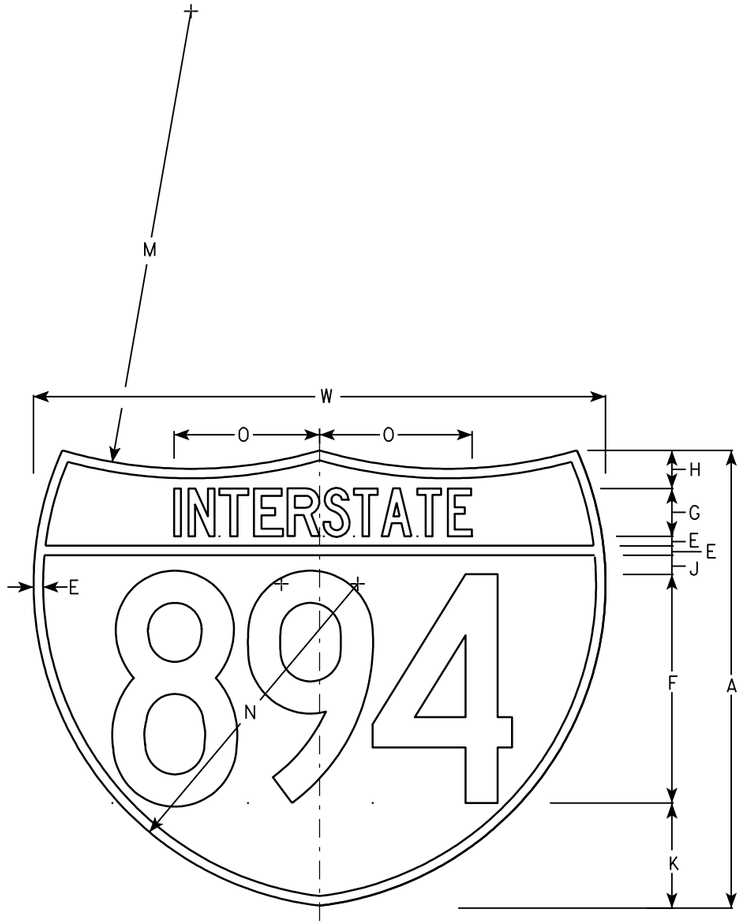
SHEET NO: 339 E

FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph

WISDOT/CADDS SHEET 42



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 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	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

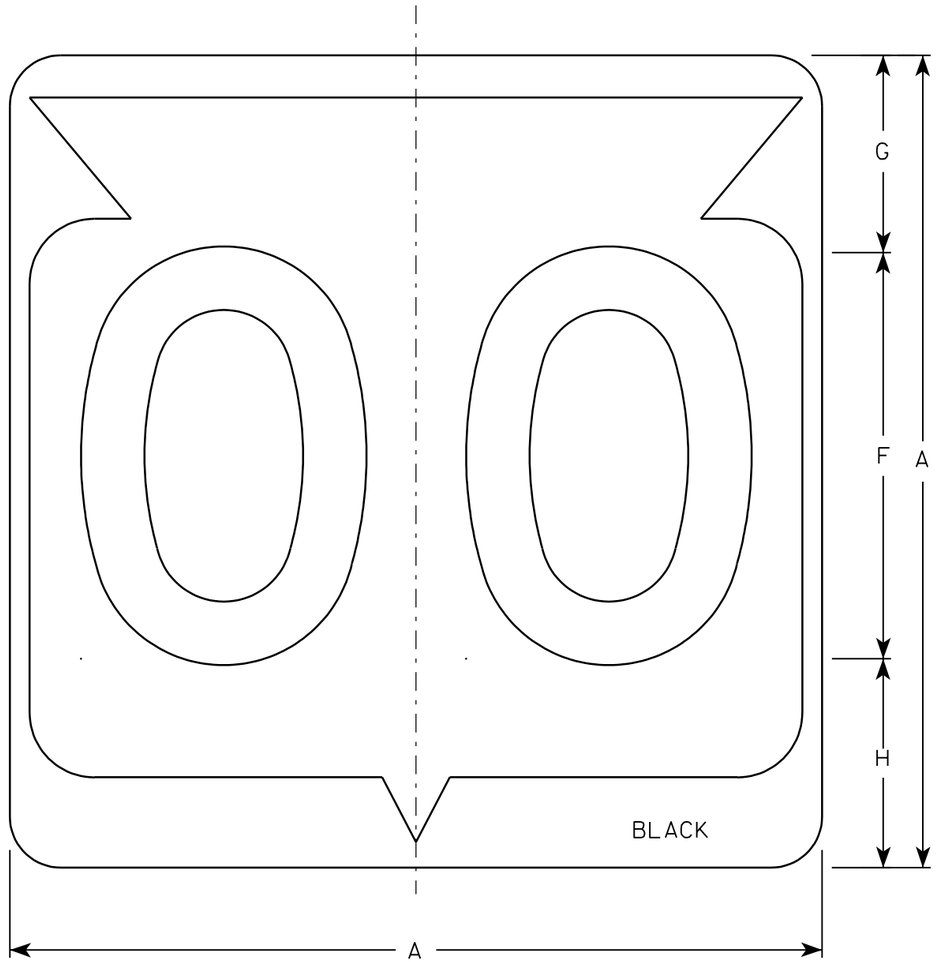
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

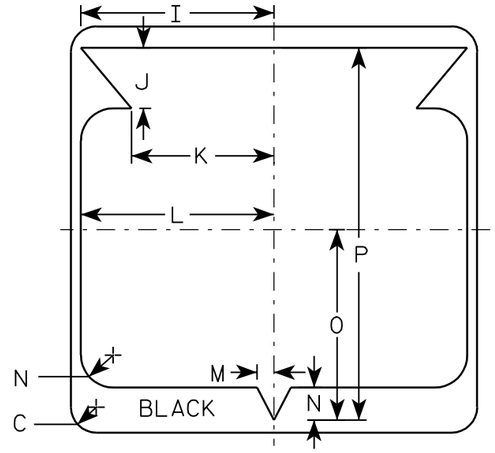
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 340	E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

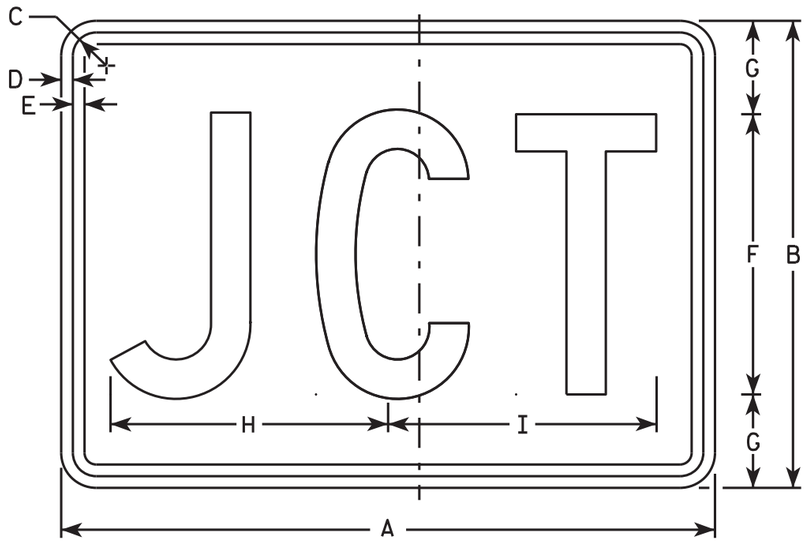
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

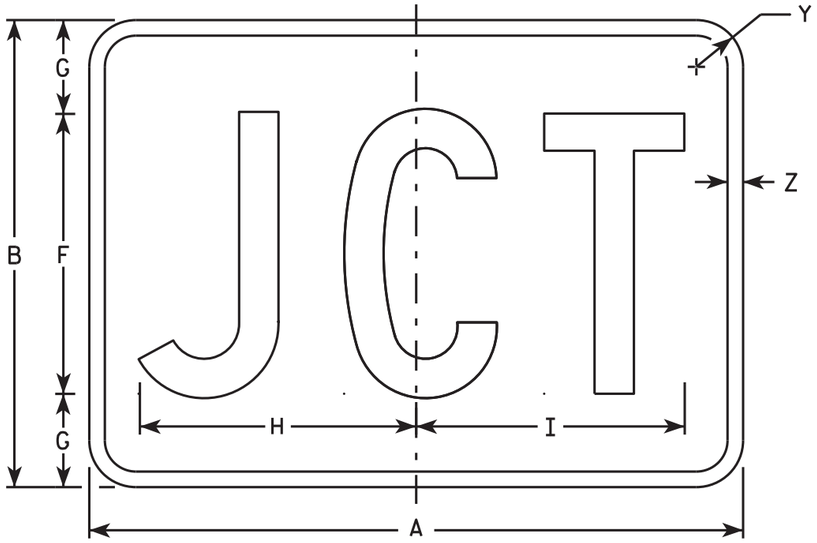
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 341	E



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
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.
5. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MP2-1 Background - White
   Message - Blue
   MR2-1 Background - Brown
   Message - Yellow

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																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

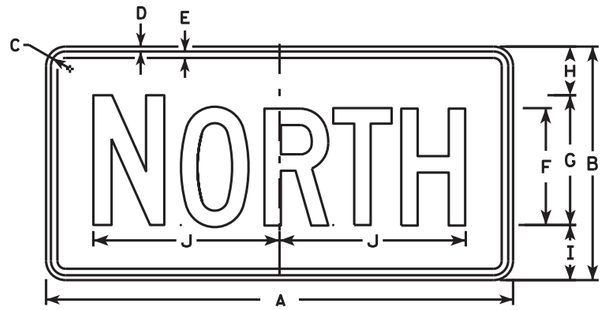
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

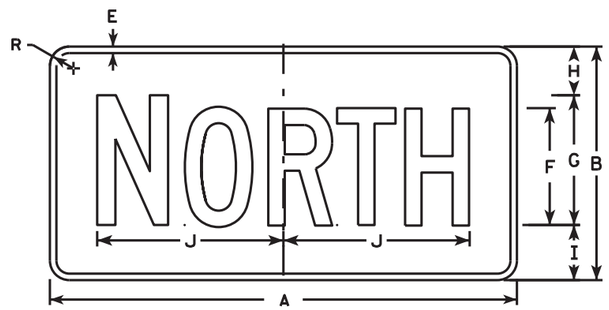
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M2-1.12

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



M3-1
MM3-1
MP3-1



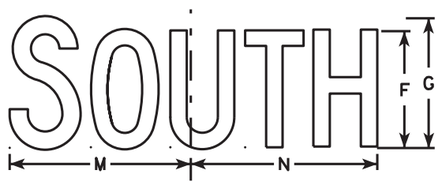
MB3-1
MK3-1
MN3-1



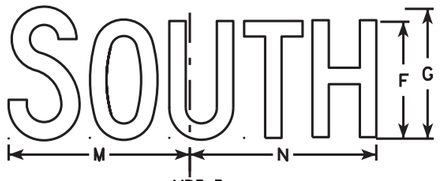
M3-2
MM3-2
MP3-2



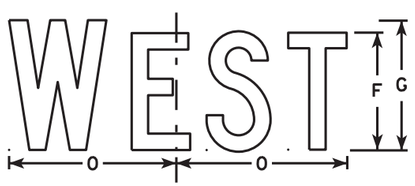
MB3-2
MK3-2
MN3-2



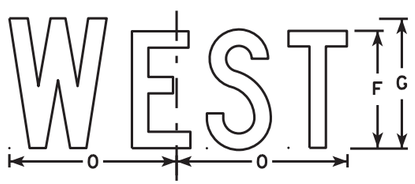
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
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.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

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																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

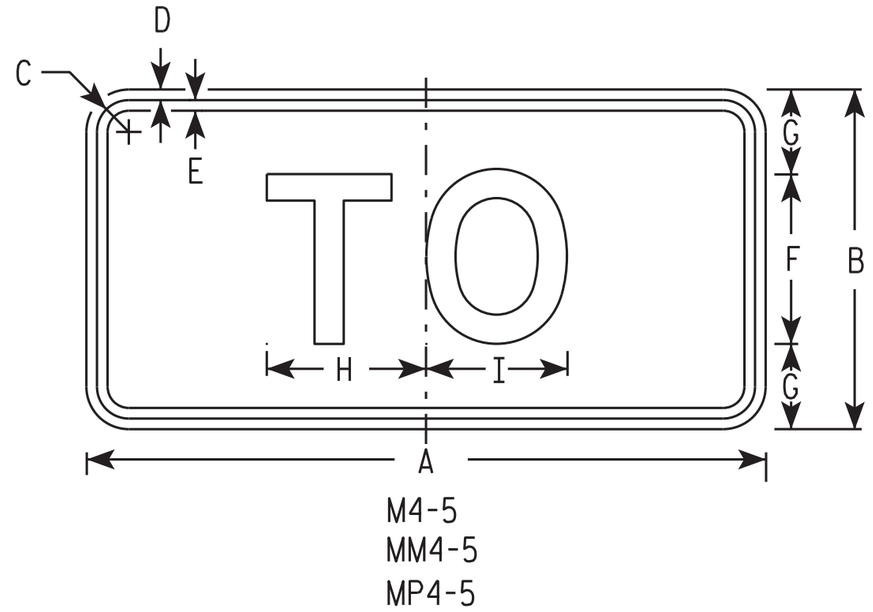
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

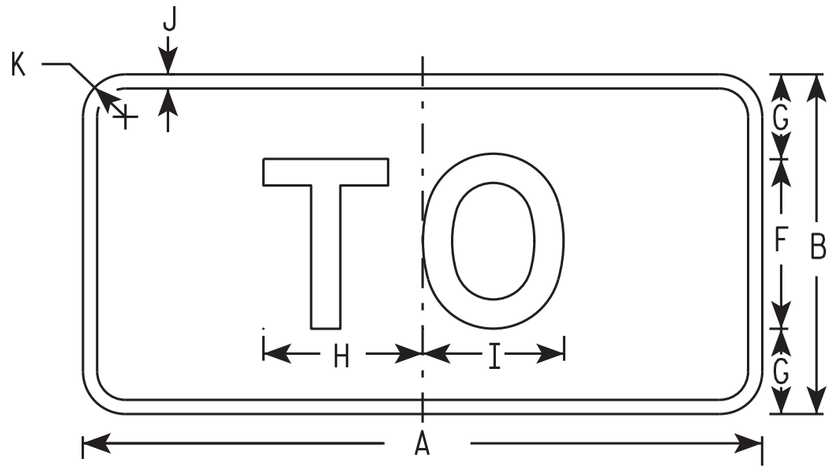
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14

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



M4-5
MM4-5
MP4-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

   MP4-5 Background - White
   Message - Blue

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																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5

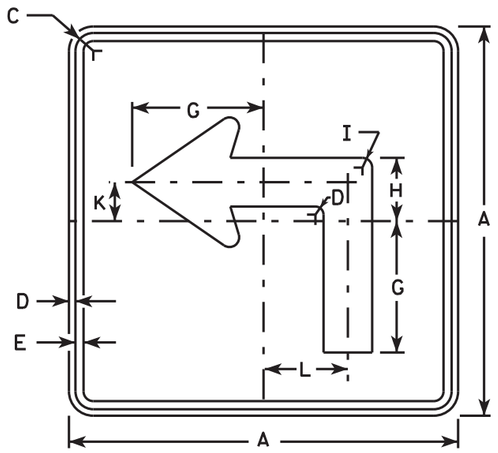
STANDARD SIGN
M4-5

WISCONSIN DEPT OF TRANSPORTATION

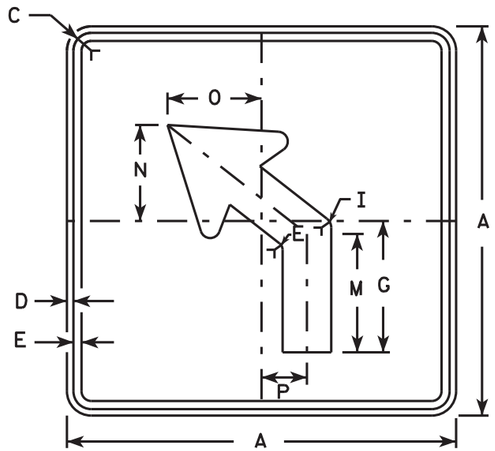
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M4-5.8

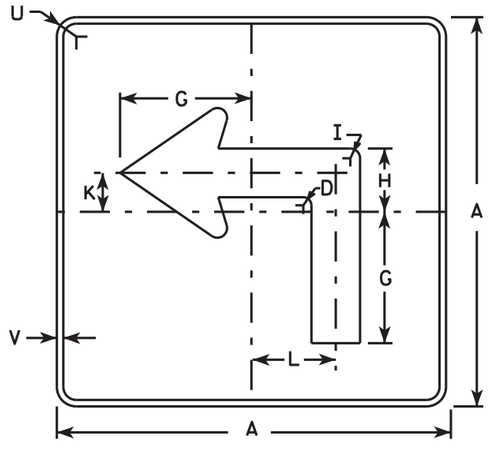
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



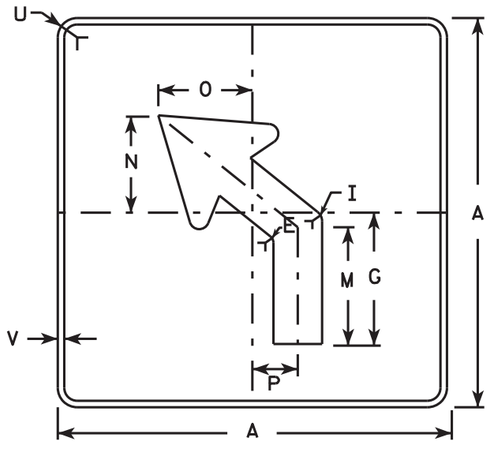
M5-1L
MM5-1L
MO5-1L
MP5-1L



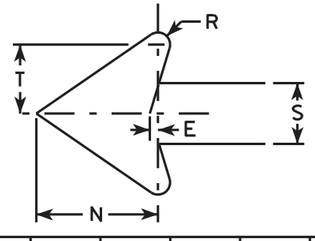
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   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. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

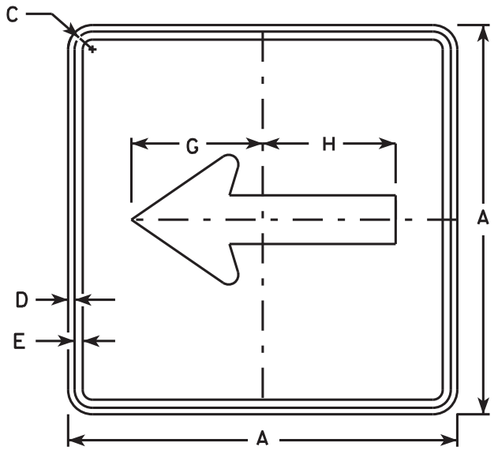
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

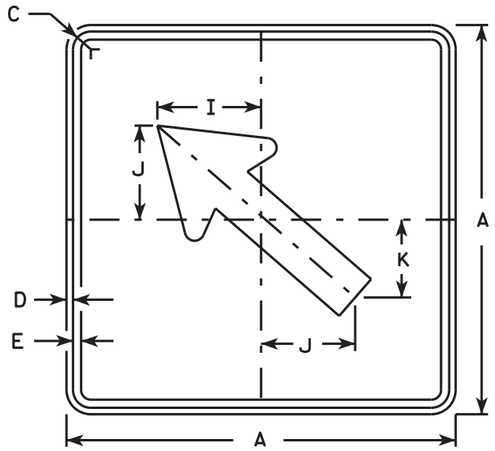
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M5-1.13

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



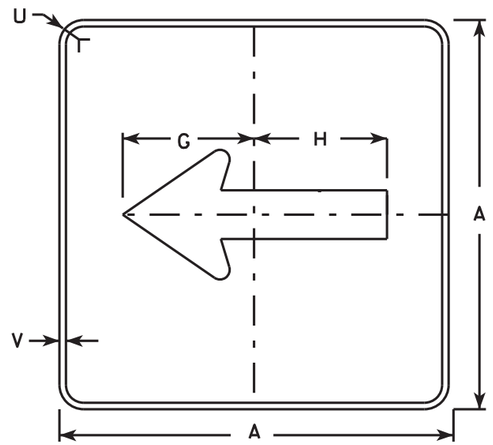
M6-1
MM6-1
MO6-1
MP6-1



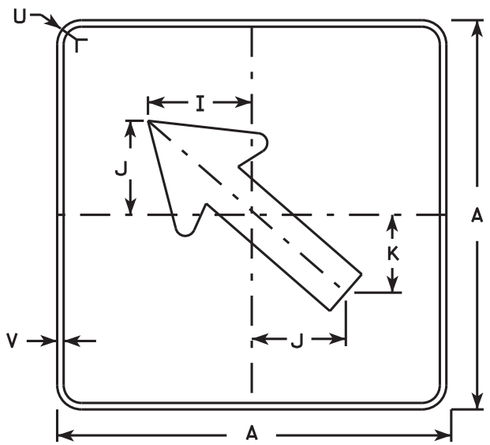
M6-2
MM6-2
MO6-2
MP6-2

NOTES

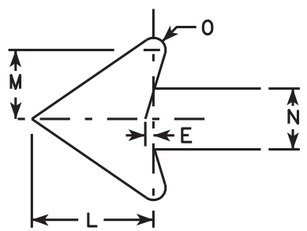
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



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																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

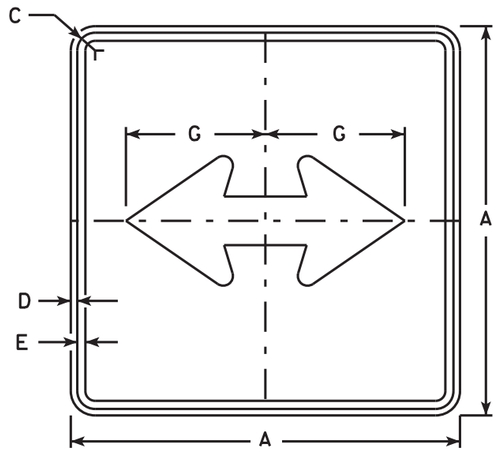
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

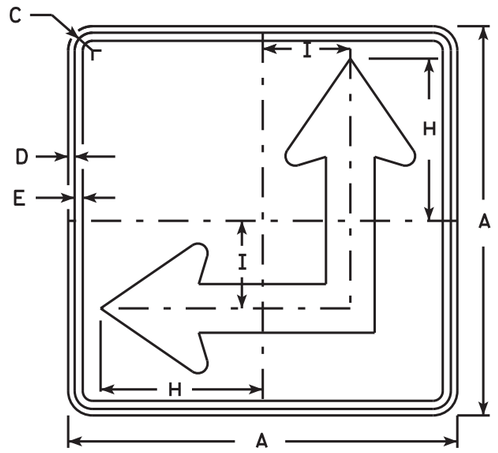
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15

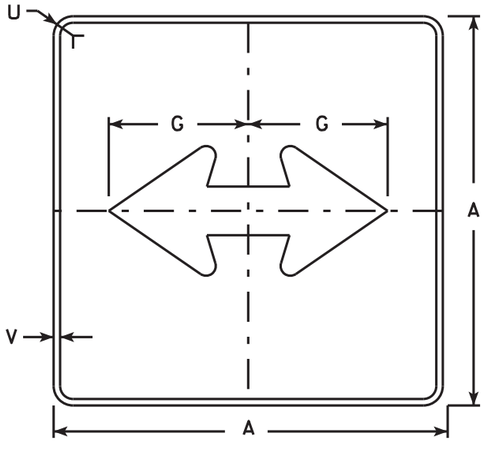
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



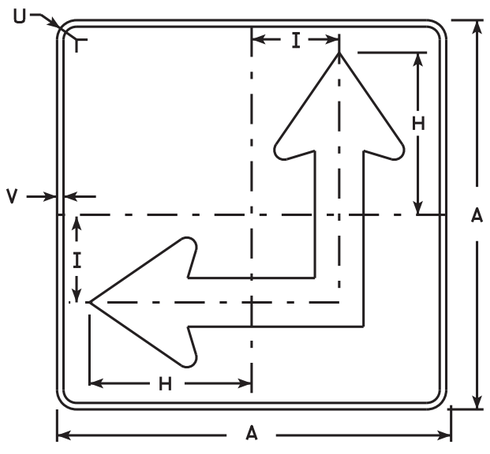
M6-4
MM6-4
MO6-4
MP6-4



M6-6
MM6-6
MO6-6
MP6-6



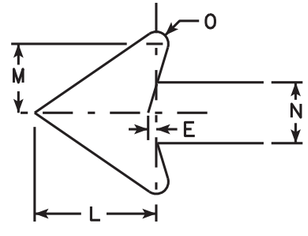
MB6-4
MK6-4
MN6-4
MR6-4



MB6-6
MK6-6
MN6-6
MR6-6

NOTES

1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See Note 4
   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. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.



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																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

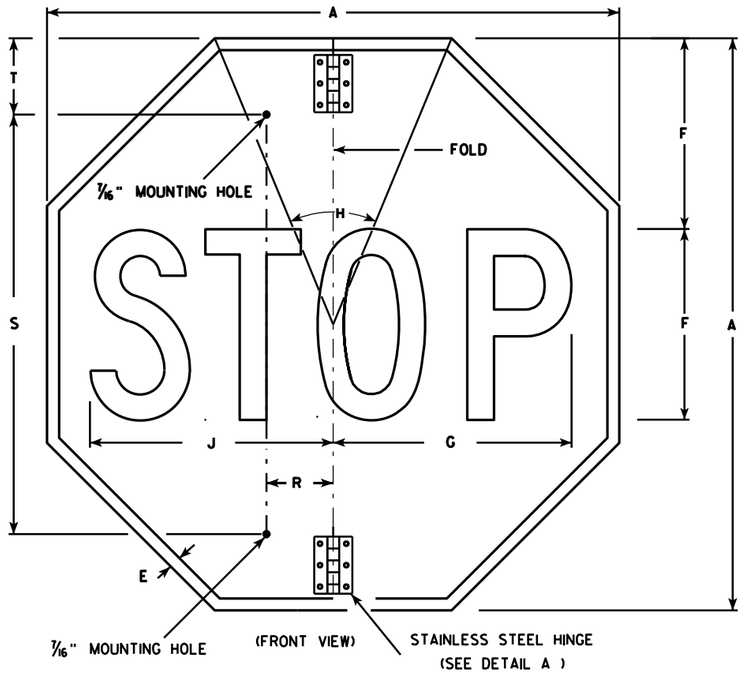
STANDARD SIGN
M6-4 & M6-6
SERIES

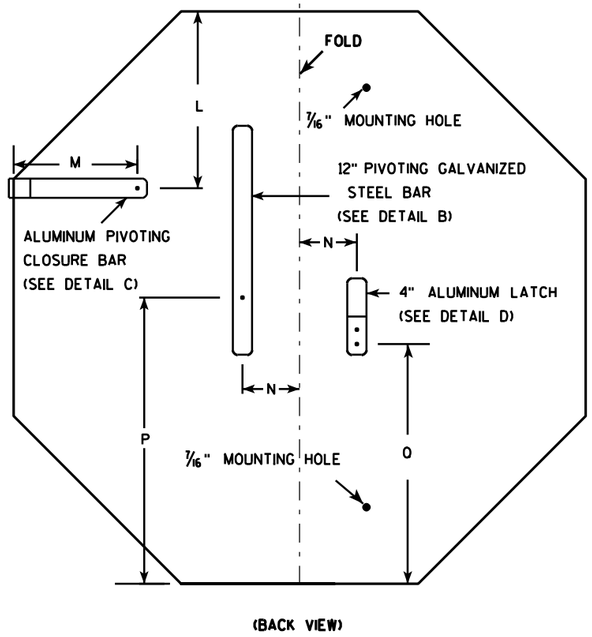
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-4.10

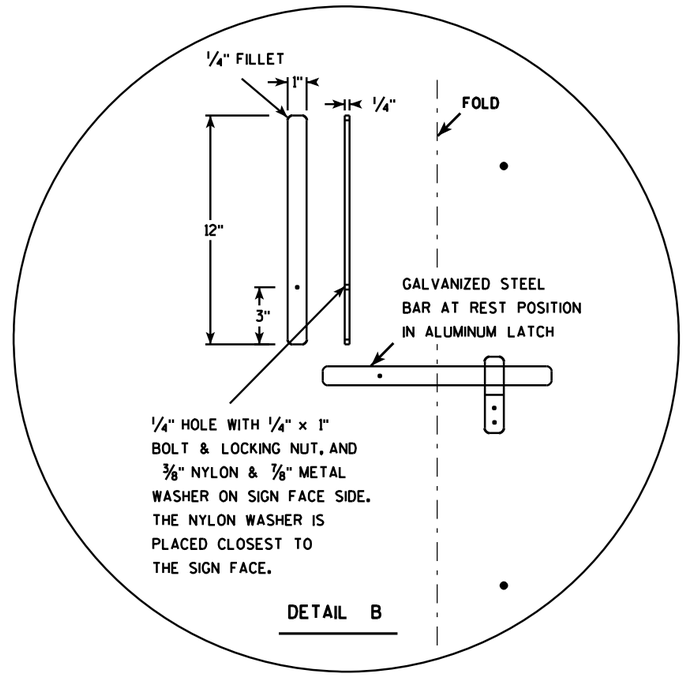
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



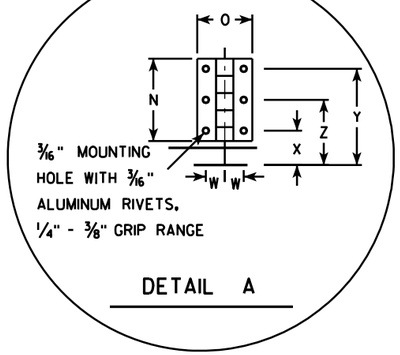


NOTES

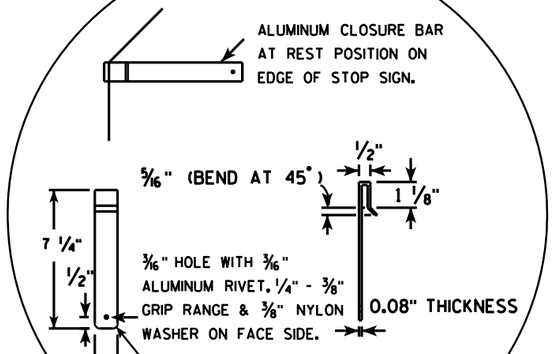
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



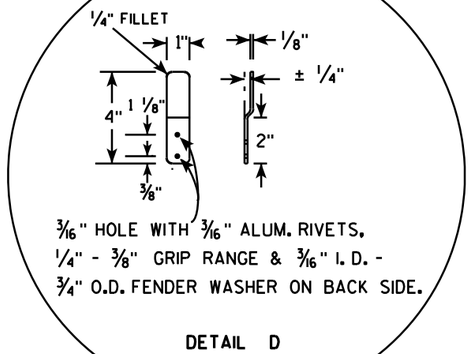
DETAIL B



DETAIL A



DETAIL C



DETAIL D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

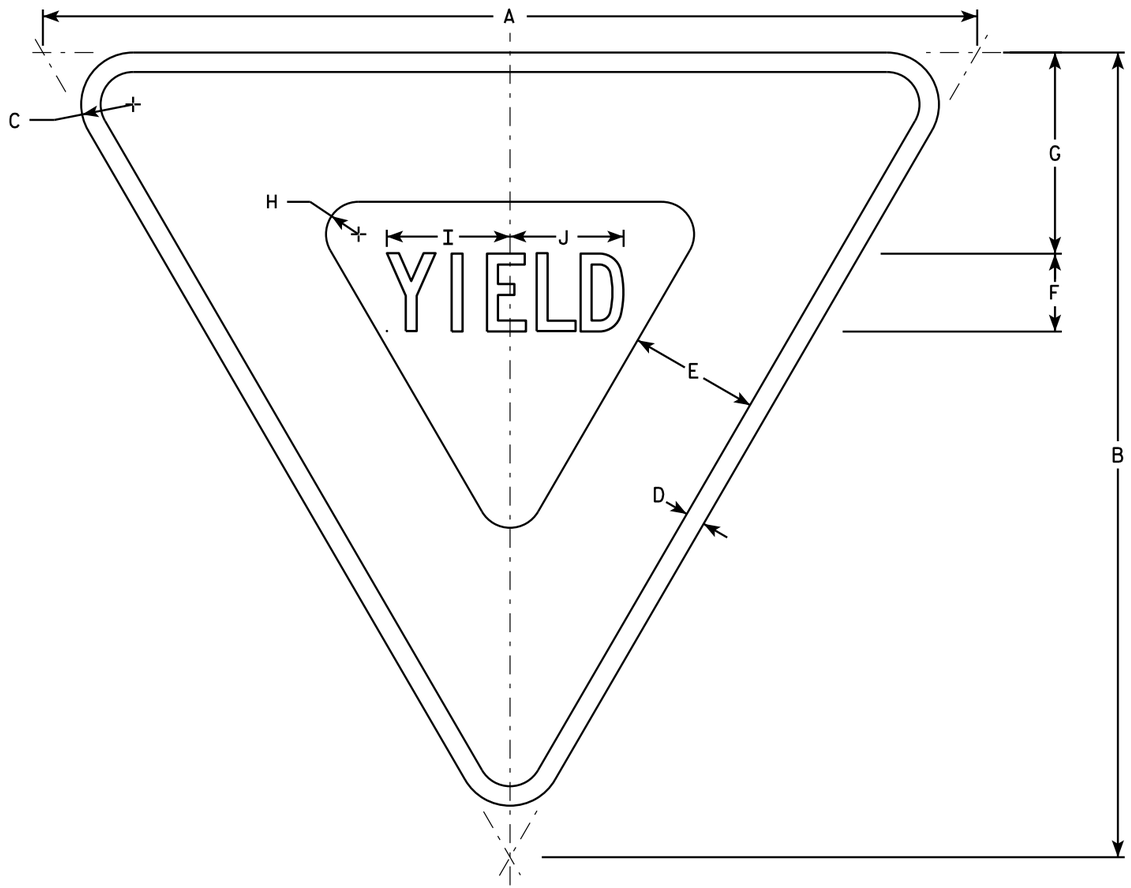
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 348	E



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 5
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.
5. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

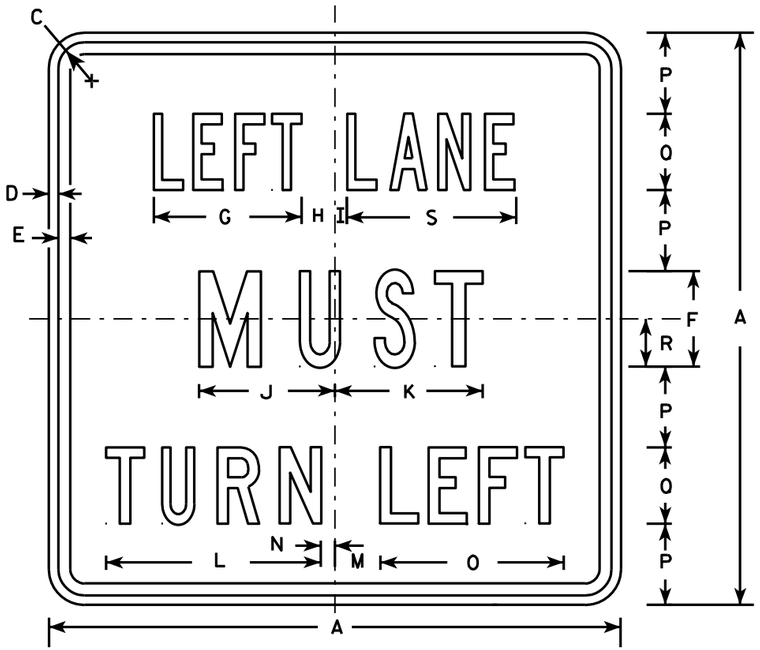
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

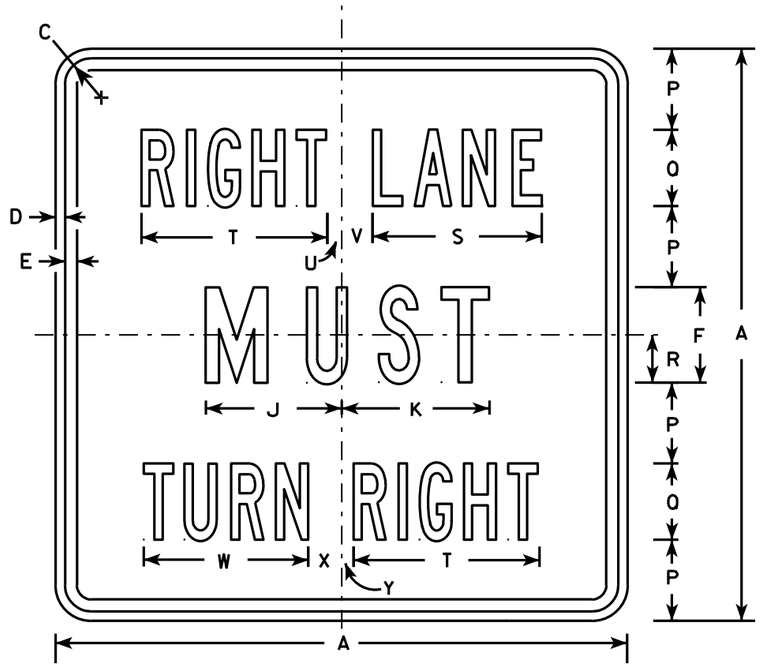
DATE 10/13/14 PLATE R1-2.12

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



R3-7L



R3-7R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - Line 1 is Series B.
   Line 2 is Series C.
   Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

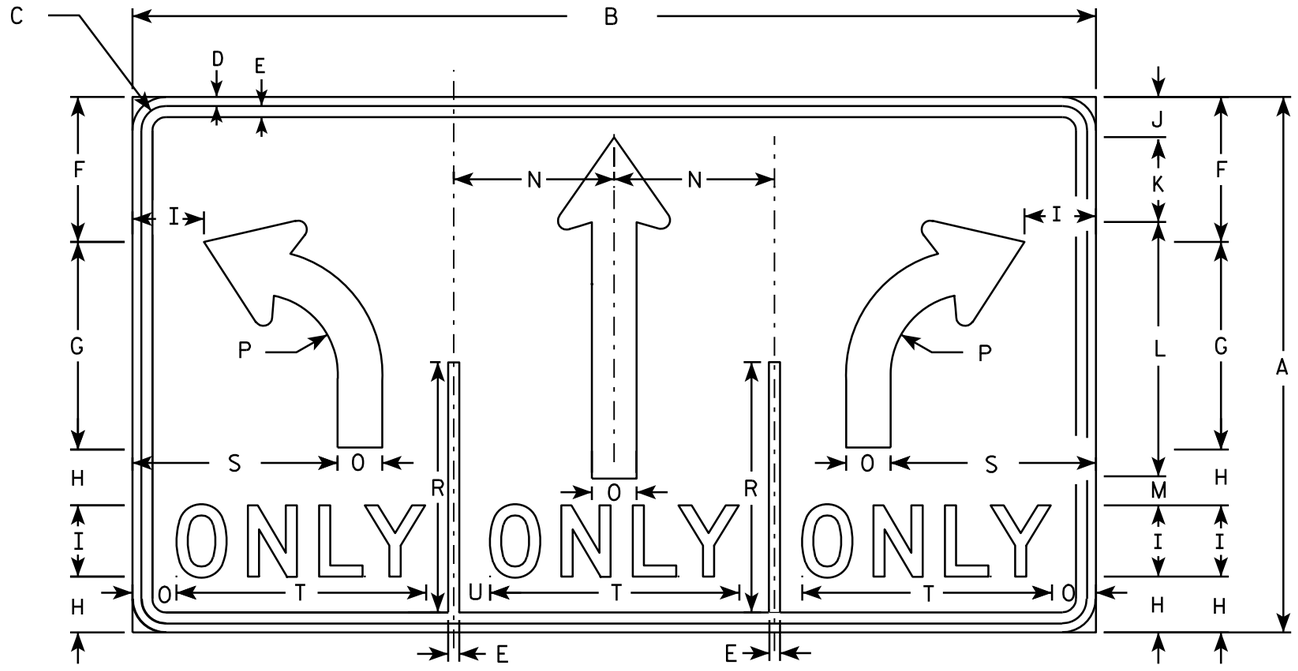
STANDARD SIGN
R3-7L & R3-7R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-7.3

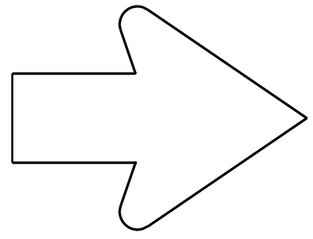
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 350 | E



R3-8W

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.



SEE R3-8 FOR ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	9	2 1/2	4 1/2		14	11 1/2	14	2						11.25
2M	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	9	2 1/2	4 1/2		14	11 1/2	14	2						11.25
3																											
4	48	84	2 1/4	3/4	1	13	18 1/2	5 1/4	6	3 3/4	7	29 1/8	2 3/8	14	3 3/4	7 1/4		22 3/8	17 1/4	20 1/2	3 1/4						28.0
5	48	84	2 1/4	3/4	1	13	18 1/2	5 1/4	6	3 3/4	7	29 1/8	2 7/8	14	3 3/4	7 1/4		22 3/8	17 1/4	20 1/2	3 1/4						28.0

STANDARD SIGN
R3-8W

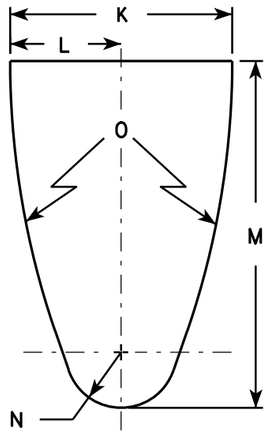
WISCONSIN DEPT OF TRANSPORTATION

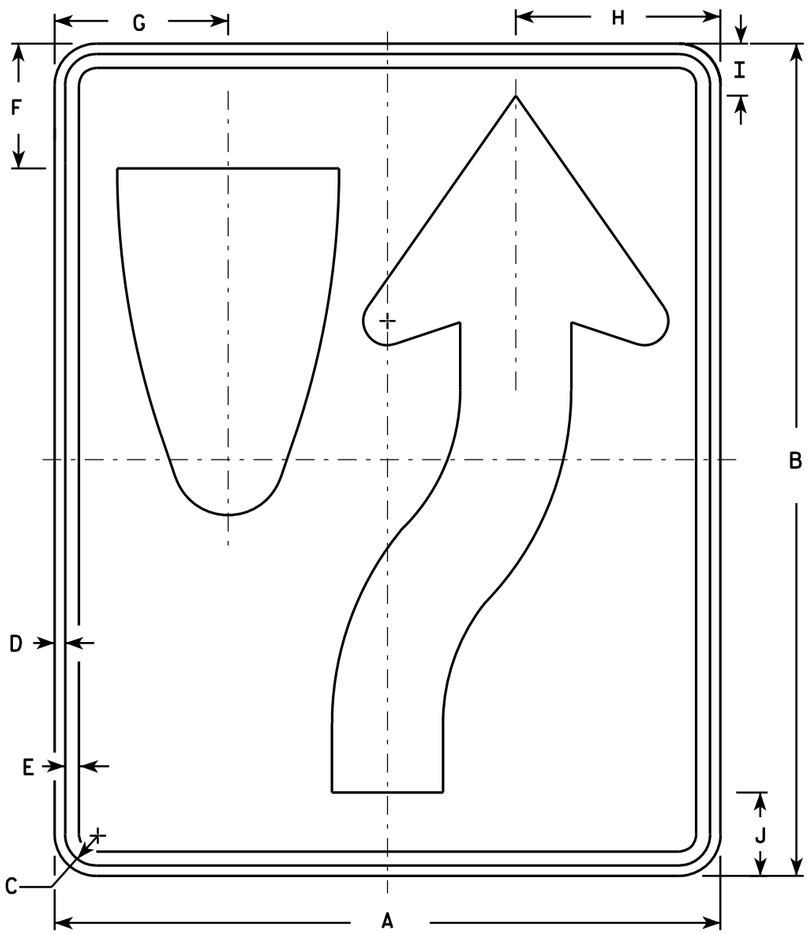
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-8W.4

PROJECT NO:

SHEET NO: 351 E

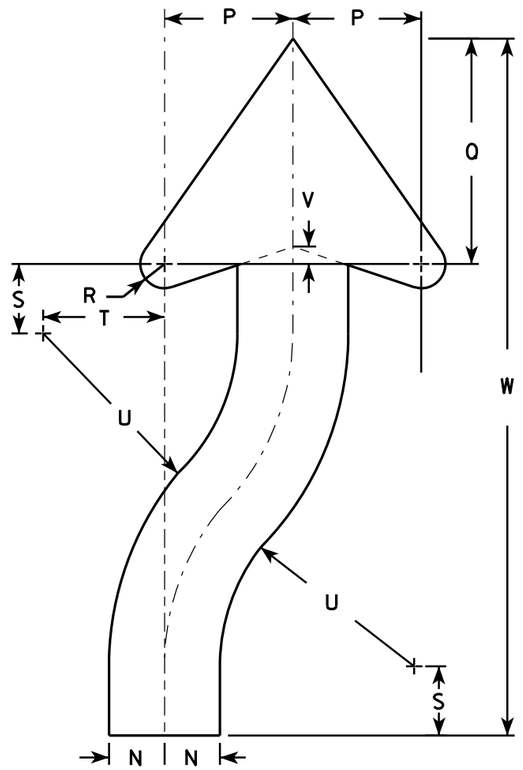




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

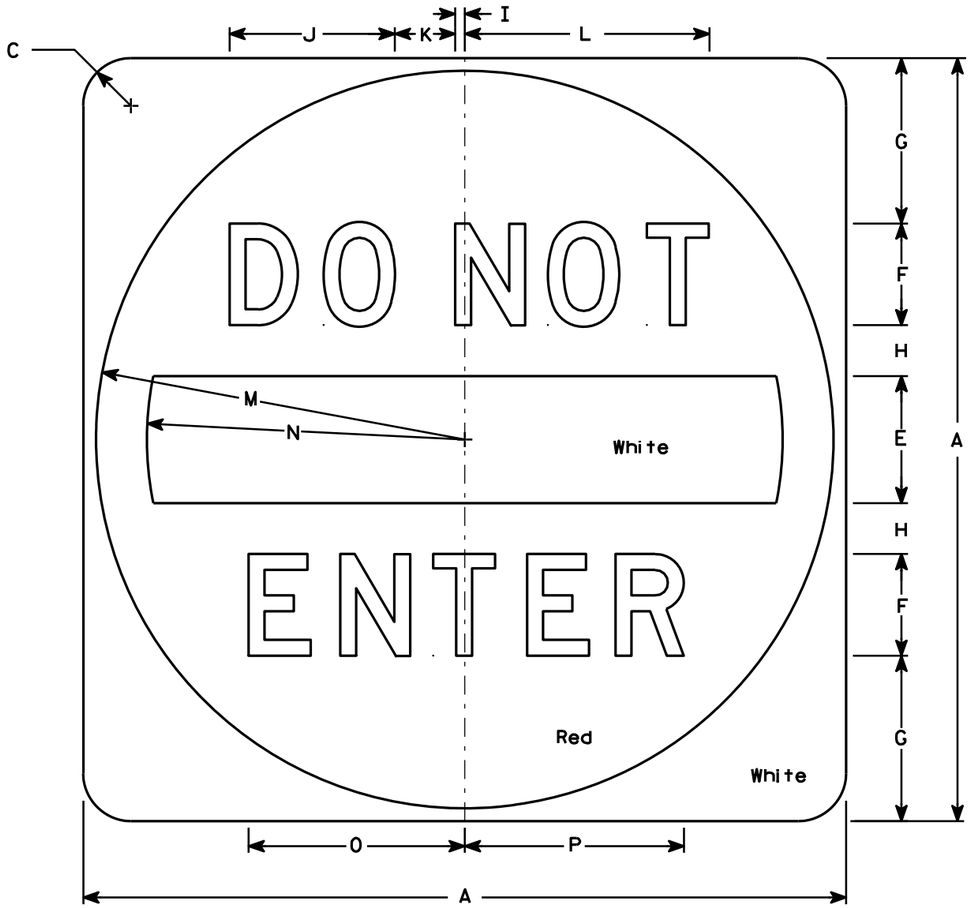
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 352	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See detail
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the cornors shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

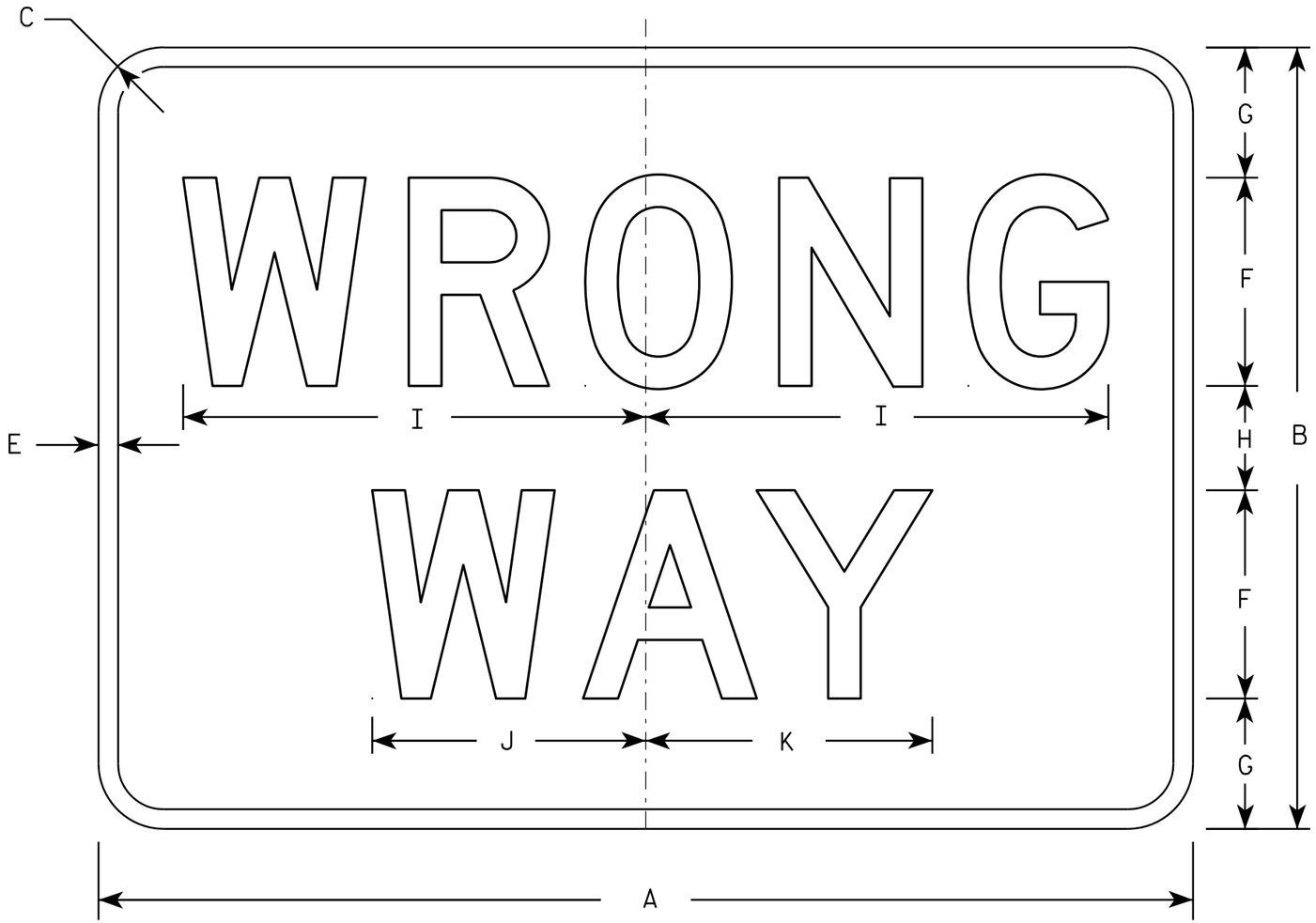
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 353 | E



R5-1A

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

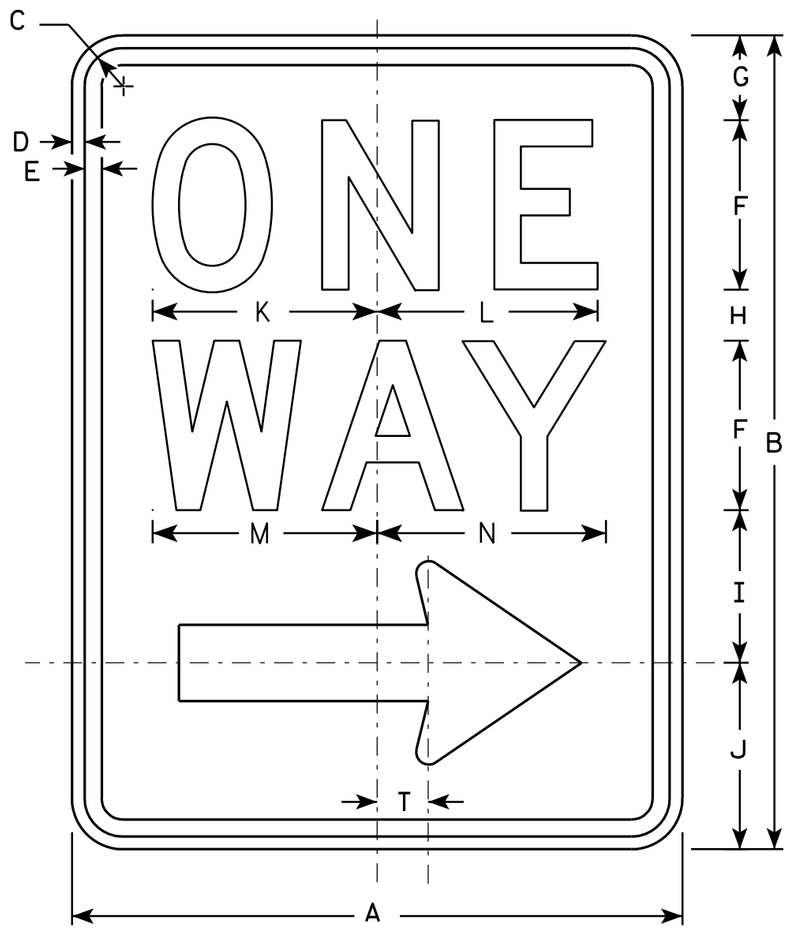
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 354 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R51A.DGN PLOT DATE : 17-DEC-2010 12:42 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 5.462457:1.000000

WISDOT/CADDS SHEET 42

7

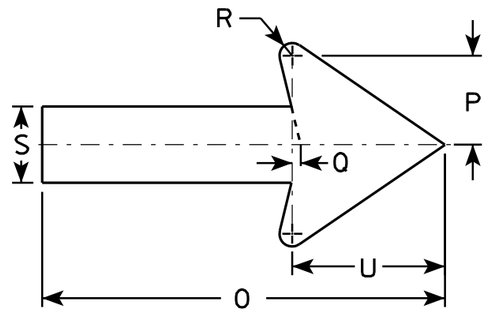
7



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



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
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

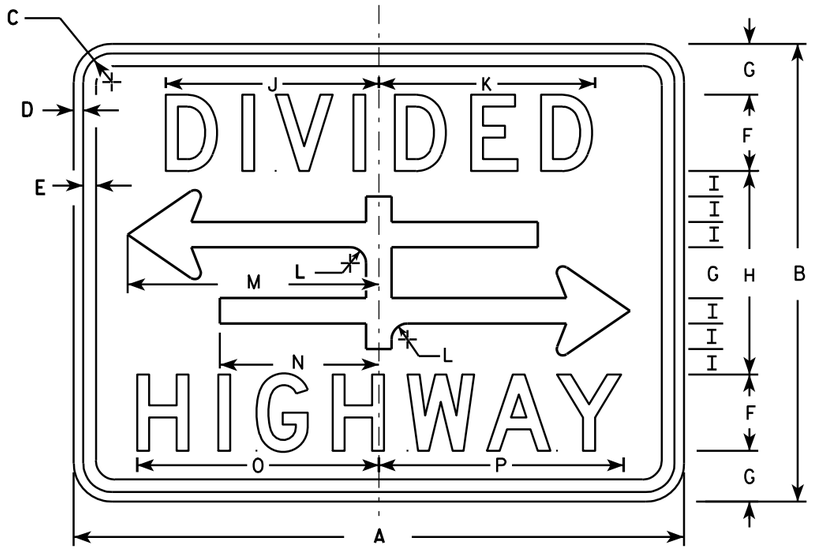
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

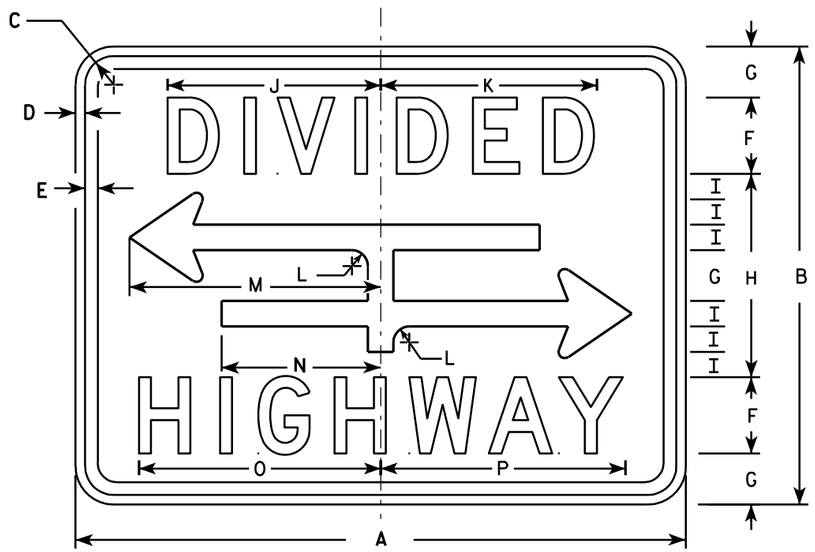
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 355	E



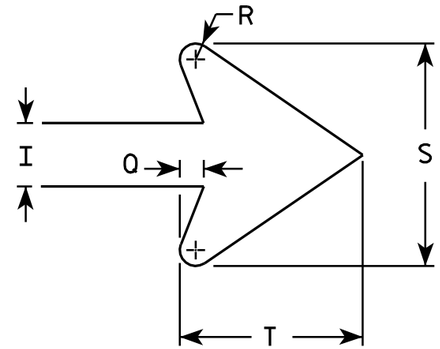
R6-3

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

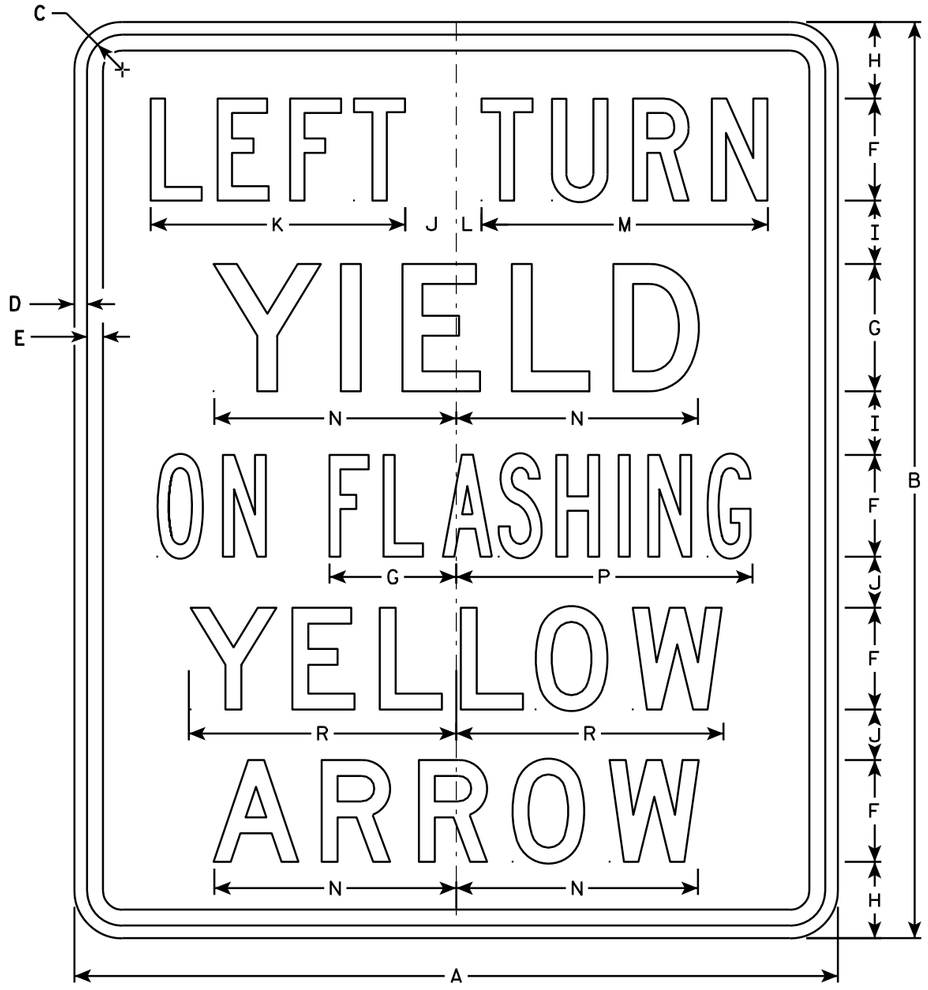
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 356 E

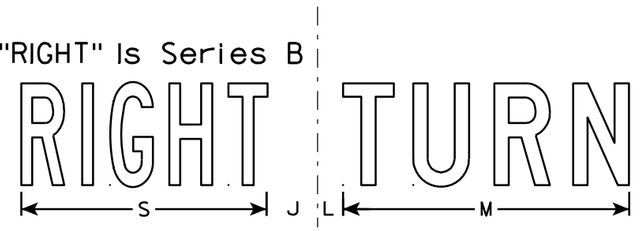


R10-50L

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 - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series C.
   Lines 2, 4 and 5 are Series D.
   Line 3 is Series B.

"RIGHT" Is Series B



R10-50R

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2	9 5/8								7.5
2M	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2	9 5/8								7.5
3																											
4																											
5																											

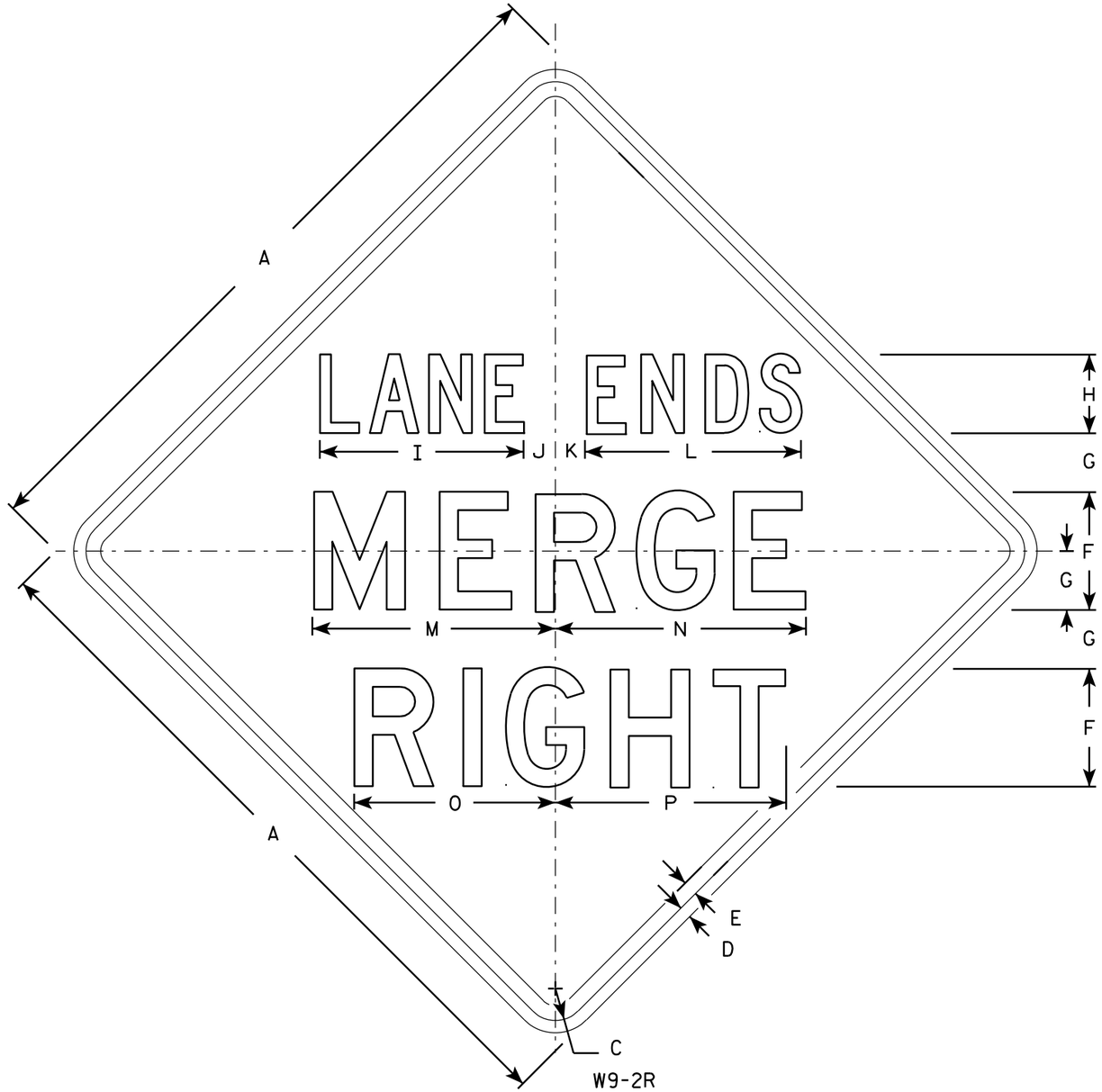
STANDARD SIGN
R10-50

WISCONSIN DEPT OF TRANSPORTATION

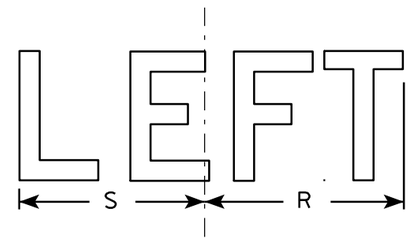
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/11/13 PLATE NO. R10-50.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 357	E



W9-2R



W9-2L

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series C, lines 2 & 3 are Series D.
6. W9-1L is the same as W9-2R except the word LEFT replaces RIGHT.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	2 1/2	3	8	1	1 1/8	8 1/4	10 3/8	10 5/8	8 5/8	9 7/8		7 5/8	7 1/8								6.25
2S	36		1 5/8	5/8	3/4	6	3	4	10 3/8	1 5/8	1 1/2	11	12 3/8	12 3/4	10 1/4	11 3/4		9 1/8	8 1/2								9.0
2M	36		1 5/8	5/8	3/4	6	3	4	10 3/8	1 5/8	1 1/2	11	12 3/8	12 3/4	10 1/4	11 3/4		9 1/8	8 1/2								9.0
3																											
4	48		2 1/4	3/4	1	8	4	6	14 1/2	2	3 1/4	13 3/4	16 3/8	17 1/8	13 3/4	15 3/4		12 1/4	11 1/4								16.0
5	48		2 1/4	3/4	1	8	4	6	14 1/2	2	3 1/4	13 3/4	16 3/8	17 1/8	13 3/4	15 3/4		12 1/4	11 1/4								16.0

STANDARD SIGN
W9-2

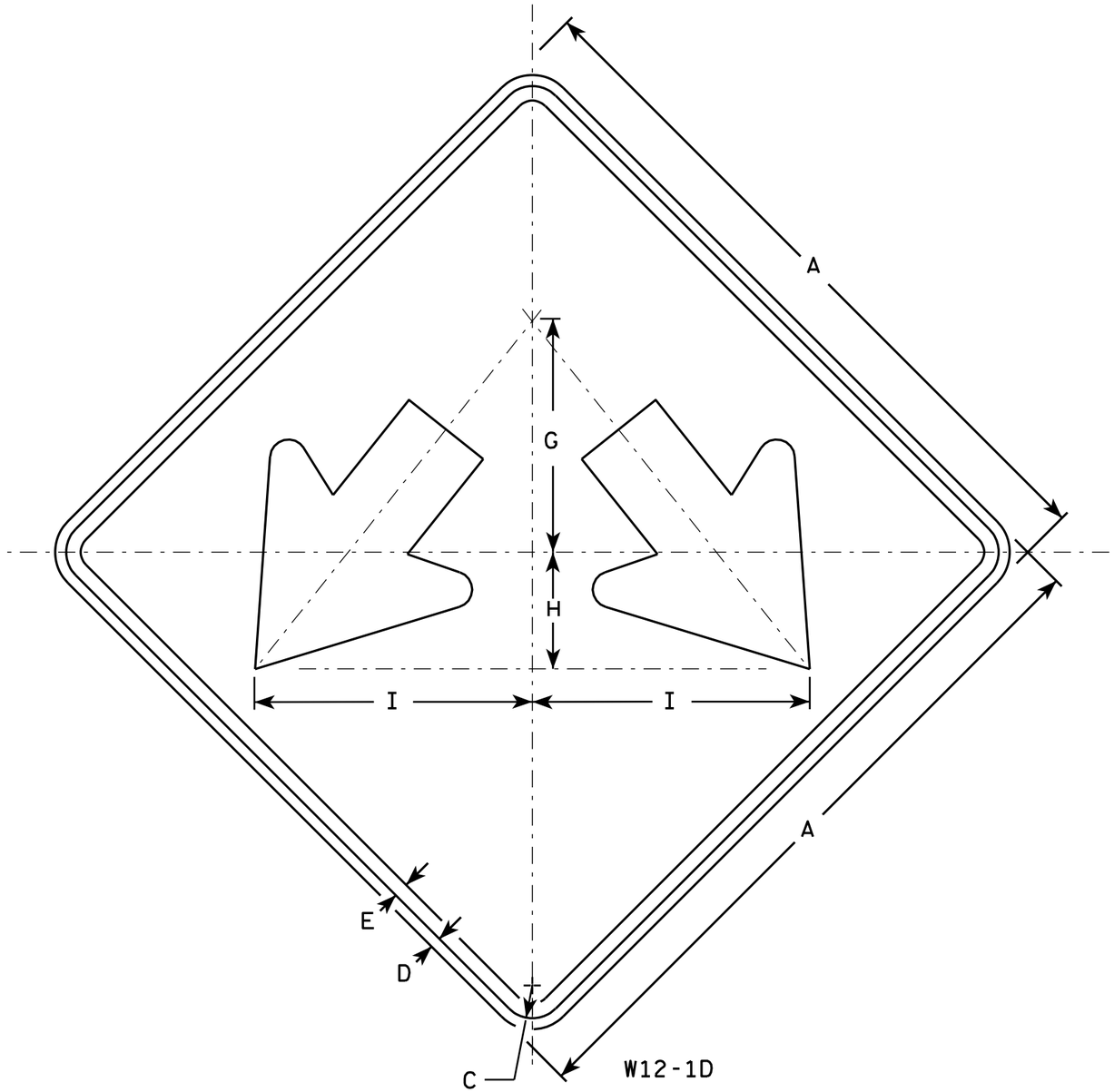
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/18/13 PLATE NO. W9-2.10

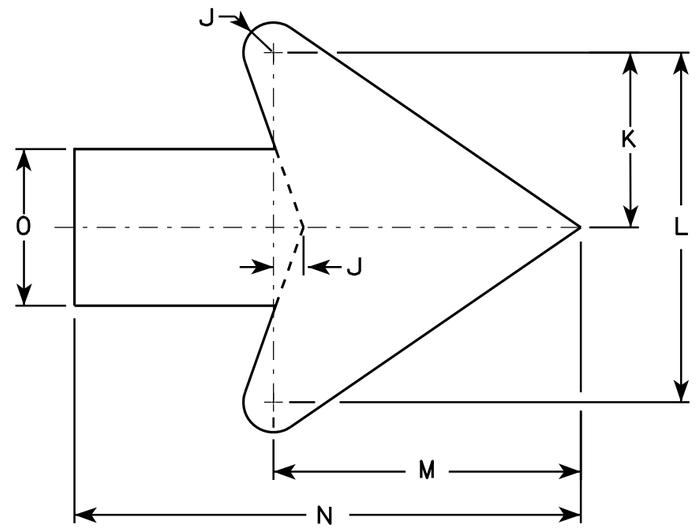
PROJECT NO:

SHEET NO: 358 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

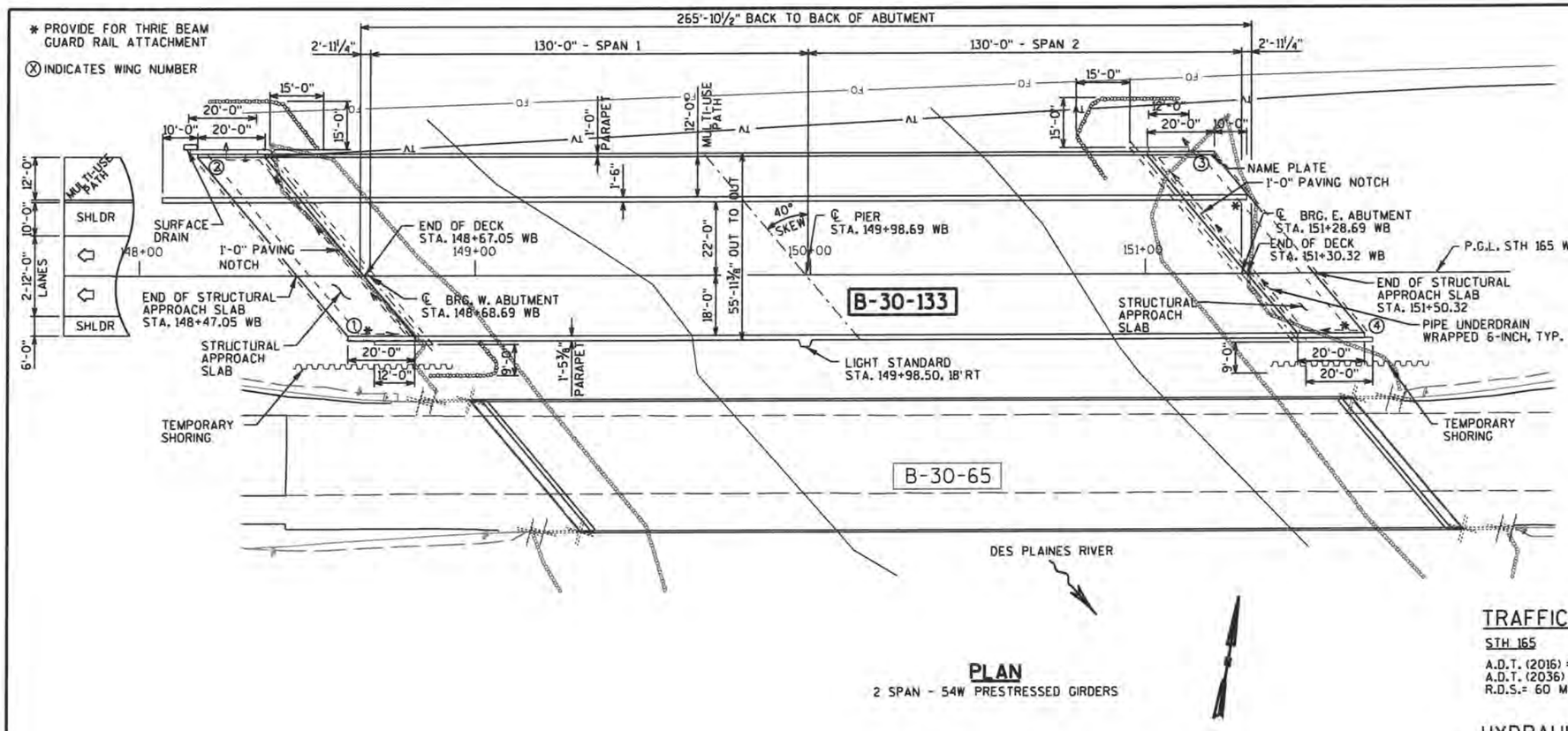
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 359	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W121D.DGN PLOT DATE : 13-MAR-2013 13:26 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 4.713802:1.000000

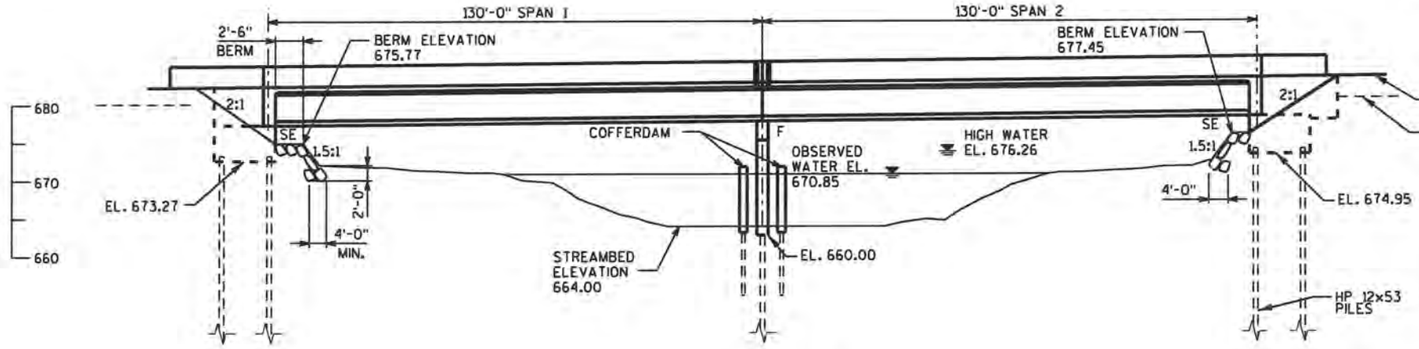
WISDOT/CADDS SHEET 42

7

7



PLAN
2 SPAN - 54W PRESTRESSED GIRDERS



ELEVATION
LOOKING NORTH

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF=1.10
OPERATING RATING FACTOR: RF=1.58
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY
DECK, PARAPETS, AND STRUCTURAL APPROACH SLAB — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

54W PRESTRESSED GIRDERS, CONCRETE MASONRY — f'c = 8,000 P.S.I.
STRANDS- 0.6" ϕ WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

ALLOWABLE SOIL BEARING PRESSURE = 2,000 P.S.F.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO THE REQUIRED DRIVING RESISTANCE OF 220 TONS * PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 75 FEET LONG.

PIER TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO THE REQUIRED DRIVING RESISTANCE OF 220 TONS * PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 110 FEET LONG.

* THE FACTORED AXIAL RESISTANCE OF PILE IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC VOLUME

STH 165

A.D.T. (2016) = 16,900
A.D.T. (2036) = 21,400
R.D.S.= 60 M.P.H.

HYDRAULIC DATA

BASE FLOOD
Q_{100} = 2820 CFS
V_{s18} = 1.61 FT/S
HIGHWATER = 676.26
DRAINAGE AREA = 109 SQ. MI.
WATERWAY AREA = 1757 SQ. FT.
Q_{2} = 1100CFS
HW_{2} = 672.69 FT
SCOUR CRITICAL CODE 5
OVERTOPPING FLOOD N/A

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT WINGWALLS
6. EAST ABUTMENT
7. EAST ABUTMENT WINGWALLS
8. PIER
9. PIER DETAILS
10. 54W" PRESTRESSED GIRDER DETAILS
11. STEEL DIAPHRAGM
12. SUPERSTRUCTURE PLAN
13. SUPERSTRUCTURE CROSS SECTION & LIGHT STANDARD
14. SUPERSTRUCTURE BILL OF BARS AND DETAILS
15. SUPERSTRUCTURE DETAILS
16. STRUCTURAL APPROACH SLAB
17. SINGLE SLOPE PARAPET 32SS
18. SINGLE SLOPE PARAPET 42SS EAST APPROACH
19. SINGLE SLOPE PARAPET 42SS WEST APPROACH
20. PARAPET REINFORCING
21. PARAPET FOOTING
22. CONDUIT DETAILS
23. VERTICAL FACE PARAPET 'A' MODIFIED
24. COMBINATION RAIL TYPE "C3" DETAILS

WISCONSIN
RYAN P. BOWERS
E-42396
MILWAUKEE, WI
PROFESSIONAL ENGINEER
4/14/16

STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES:
WILLIAM DREHER, PE (608) 266-8489
CONSULTANT:
RYAN BOWERS, PE (414) 259-1500

NO.	DATE	REVISION	BY

GRÄEF
One Honey Creek Corporate Center
125 South 84th Street, Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 04/14/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STATE PROJECT NUMBER
3738-02-73

STRUCTURE B-30-133

STH 165 WB OVER DES PLAINES RIVER

COUNTY	TOWN/CITY/VILLAGE
KENOSHA	PLEASANT PRAIRIE

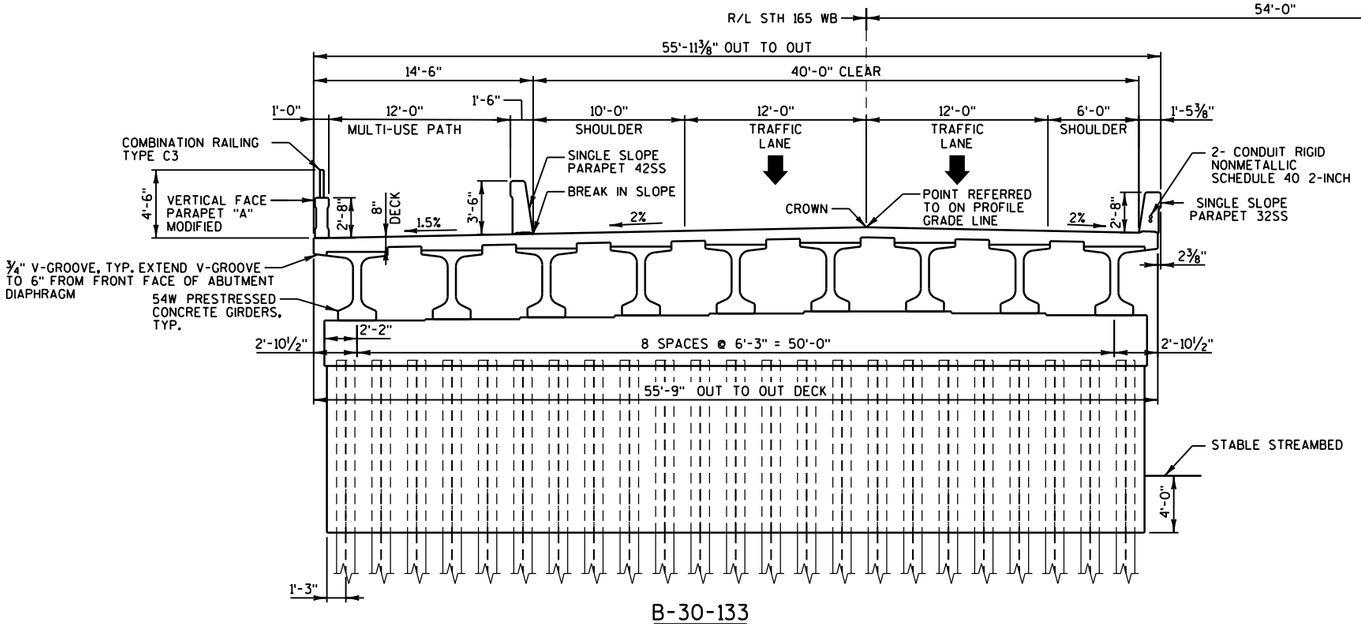
DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	RPB	DESIGN CK'D.	KGW	DRAWN BY	RBH	PLANS CK'D.	AML

GENERAL PLAN & ELEVATION

SHEET 1 OF 24

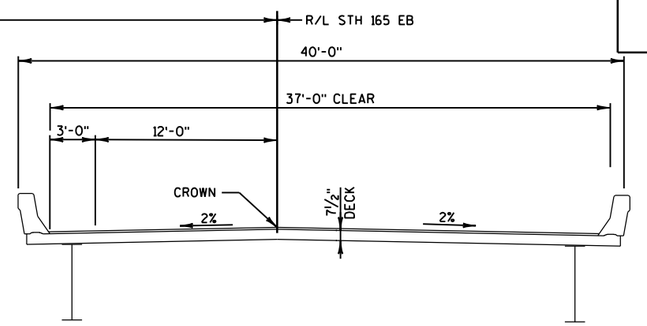
STATE PROJECT NUMBER
3738-02-73



B-30-133

PROPOSED SECTION

LOOKING EAST



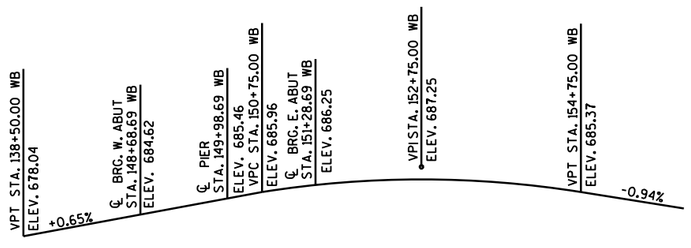
B-30-65

EXISTING BRIDGE - EASTBOUND

LOOKING EAST

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	W. STR. APPR. SLAB	W. ABUT	E. STR. APPR. SLAB	E. ABUT	PIER	SUPER	TOTAL
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-30-133	LS	-	-	-	-	-	-	1
206.5000	COFFERDAMS B-30-133	LS	-	-	-	-	-	-	1
210.0100	BACKFILL STRUCTURE	CY	-	213	-	211	-	-	424
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	-	199	-	199	-	-	398
502.0100	CONCRETE MASONRY BRIDGES	CY	88	81	82	81	136	677	1,145
502.3200	PROTECTIVE SURFACE TREATMENT	SY	115	-	115	-	-	1,544	1,774
502.3210	PIGMENTED SURFACE SEALER	SY	52	-	34	-	-	450	536
503.0155	PRESTRESSED GIRDER TYPE I 54W-INCH	LF	-	-	-	-	-	2,347	2,347
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	-	5,410	-	5,310	7,190	-	17,910
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	15,480	2,360	14,670	2,370	-	136,400	171,280
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	970	-	970	-	-	-	1,940
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-	9	-	9	18	-	36
506.4000	STEEL DIAPHRAGMS B-30-133	EACH	-	-	-	-	-	32	32
511.1200	TEMPORARY SHORING B-30-133	SF	-	209	-	126	-	-	335
513.7016	RAILING STEEL TYPE C3 B-30-133	LF	20	-	20	-	-	263	303
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	18	-	18	-	-	36
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	-	1,050	-	1,050	2,310	-	4,410
606.0300	RIPRAP HEAVY	CY	-	125	-	135	-	-	260
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-	107	-	107	-	-	214
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1	-	2	-	-	-	3
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	-	204	-	227	-	-	431
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	-	-	-	-	-	39	39
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	-	-	-	-	-	607	607
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	-	-	-	-	-	1	1
657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	-	-	-	-	-	1	1
	NON-BID ITEMS								
	PREFORMED JOINT FILLER	SIZE		-		-	-	-	3/4"



PROFILE GRADE LINE 165 WB

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
9349	449+30.83 44.8' RT	BM3 - ALUMINUM DISK	685.94
28	452+13.57 44.0' LT	39" BERNTSEN FENO MONUMENT WITH ALUMINUM CAP	684.11

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE FIRST DIGIT OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

ALL QUANTITIES FOR BID ITEMS FOR PARAPETS ON STRUCTURAL APPROACH SLAB AND THE PARAPET FOOTING ARE INCLUDED WITH THE STRUCTURAL APPROACH SLAB QUANTITIES.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION STRUCTURES.

AT THE BACK FACE OF THE ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIALS.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON SUPERSTRUCTURE DETAILS SHEET.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NAVD 88 (2007).

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

THE QUANTITY FOR BACKFILL STRUCTURE, BID ITEM 210.0100, IS CALCULATED BASED ON THE APPLICABLE FIGURES 12.6-1 AND 12.6-2 IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL.

THE EXISTING STREAMBED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

THE CONCRETE FOR THE PIER CAN BE PLACED UNDERWATER. THE COFFERDAM DOES NOT HAVE TO BE DEWATERED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

DRAWN BY RBH | PLANS CK'D. RPB

CROSS SECTION & QUANTITIES

SHEET 2 OF 24
361

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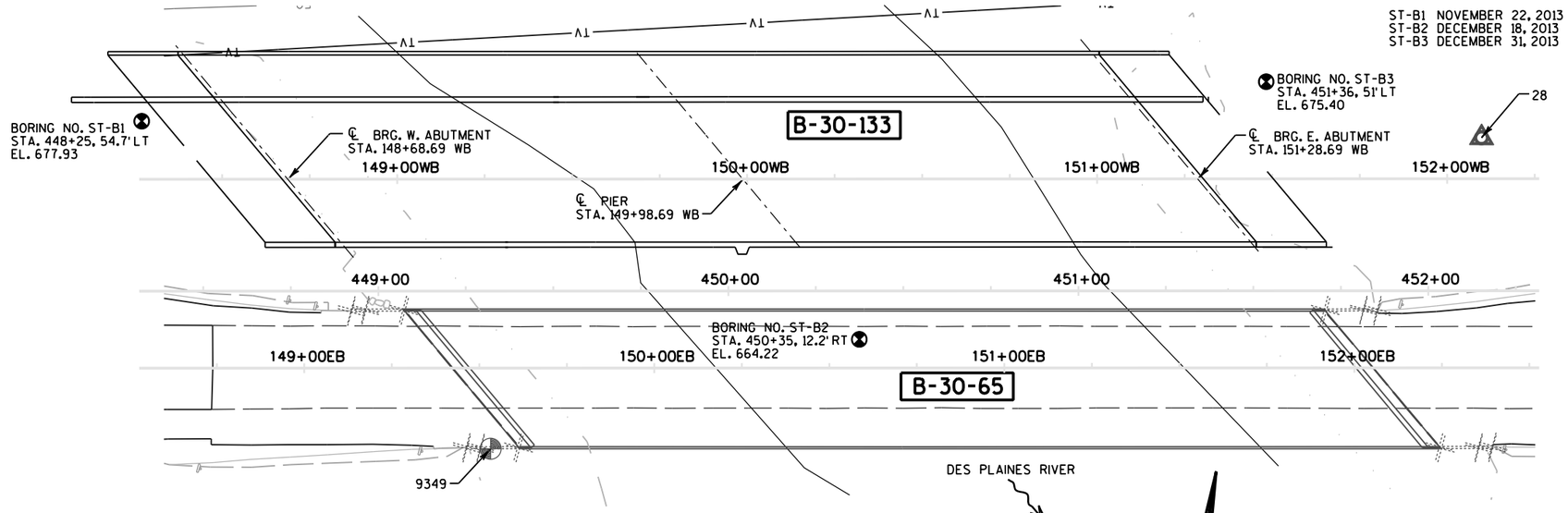
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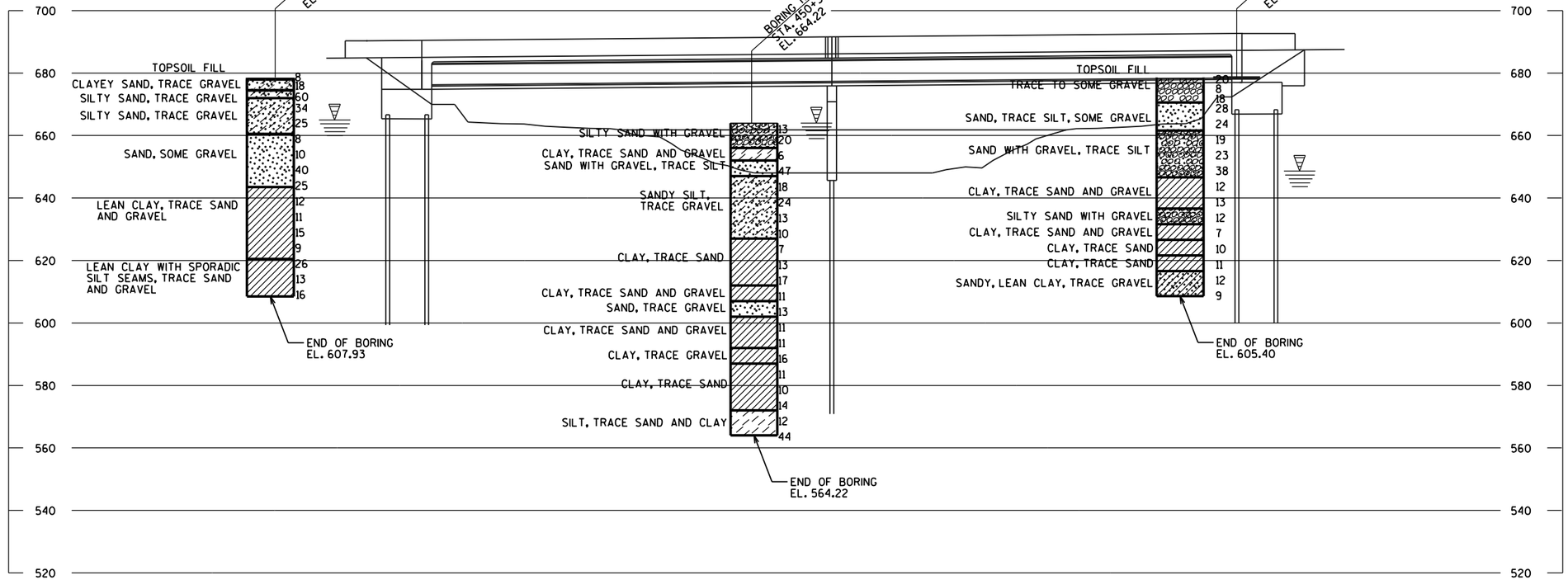
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SCALE =

SOIL EXPLORATION PERFORMED BY:
PROFESSIONAL SERVICE INDUSTRIES, INC.
W237 N2878 WOODGATE ROAD, SUITE 2
PEWAUKEE, WI 53072
262-347-0898 TELEPHONE
262-347-2256 FAX

ST-B1 NOVEMBER 22, 2013
ST-B2 DECEMBER 18, 2013
ST-B3 DECEMBER 31, 2013



PLAN
2 SPAN - 54W PRESTRESSED GIRDERS



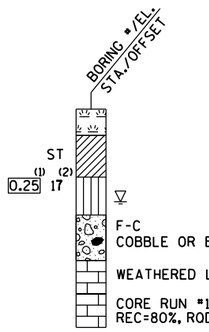
STATE PROJECT NUMBER

3738-02-73

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

DRAWN BY RBH | PLANS CK'D. RPB

SUBSURFACE EXPLORATION

SHEET 3 OF 24
362

I.D.

DATE:

8

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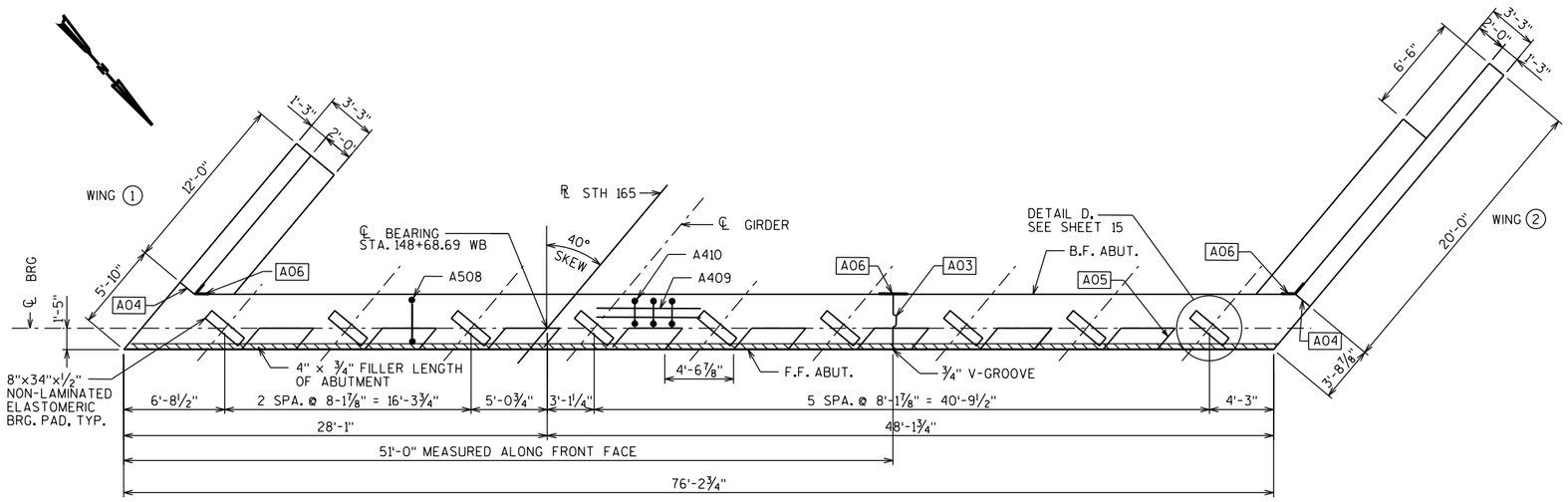
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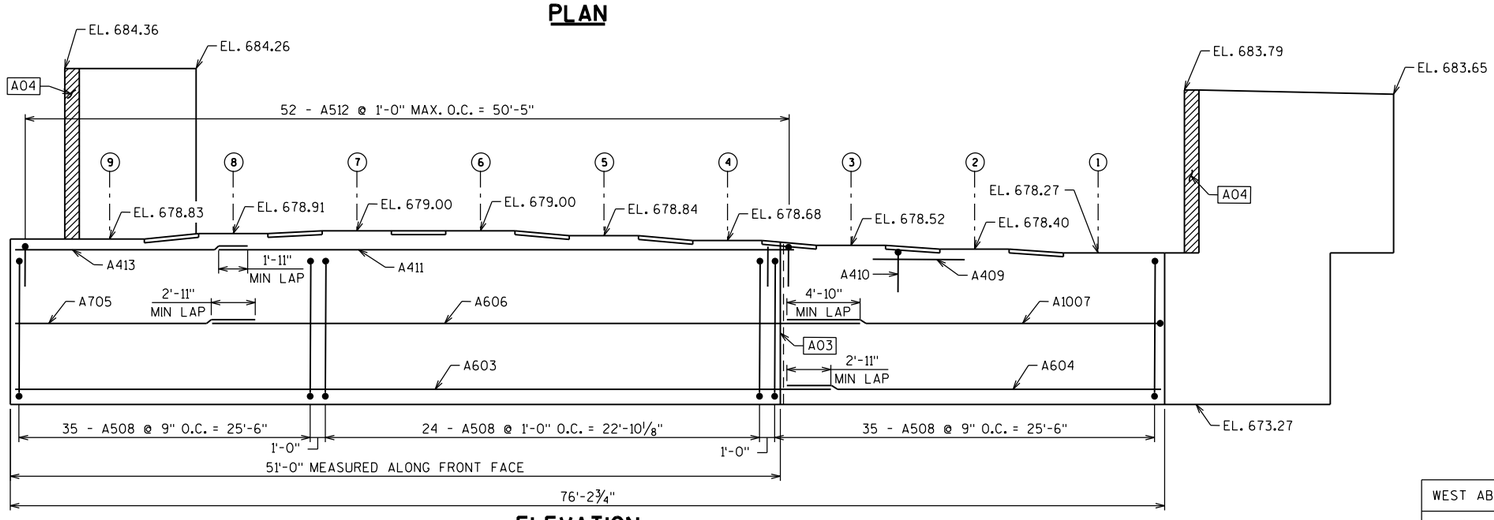
3738-02-73

LEGEND

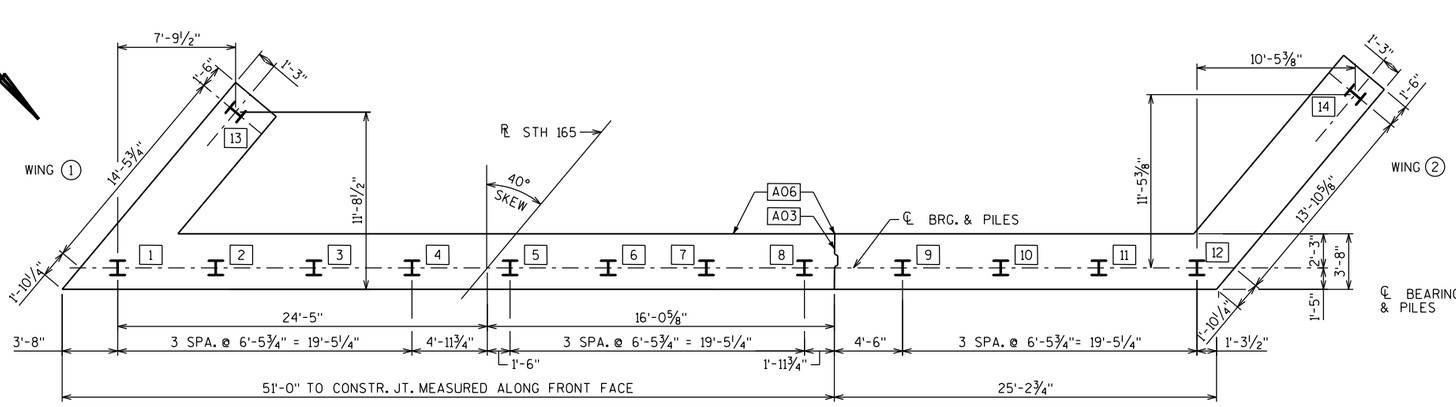
A01	ABUTMENT TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO THE REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH = 75 FEET.
**	THE FACTORED AXIAL RESISTANCE OF PILE IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.
A02	PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5 % MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN, SEE SHEET 9.
A03	VERT. CONSTR. JOINT KEYWAY FORMED BY A BEVELED 2"x8".
A04	1/2" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING (INCLUDED IN WING LENGTH).
A05	3/4" CORK FILLER ON VERT. BEAM SEAT FACES, TYP.
A06	18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
X	PILE NUMBER, SEE SHEET 9 FOR PILE SPLICE DETAILS



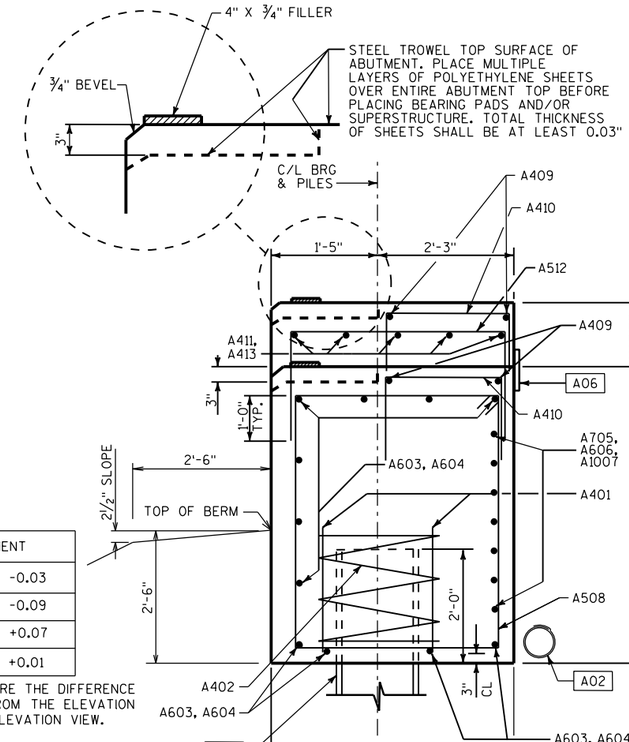
PLAN



ELEVATION



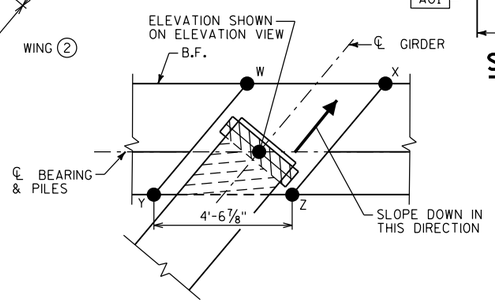
PILE LAYOUT PLAN



SECTION THRU BODY

WEST ABUTMENT	
W	-0.03
X	-0.09
Y	+0.07
Z	+0.01

VALUES GIVEN ARE THE DIFFERENCE IN ELEVATION FROM THE ELEVATION GIVEN ON THE ELEVATION VIEW.



PLAN GIRDER SEAT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

DRAWN BY RBH | PLANS CK'D. RPB

WEST ABUTMENT

SHEET 4 OF 24
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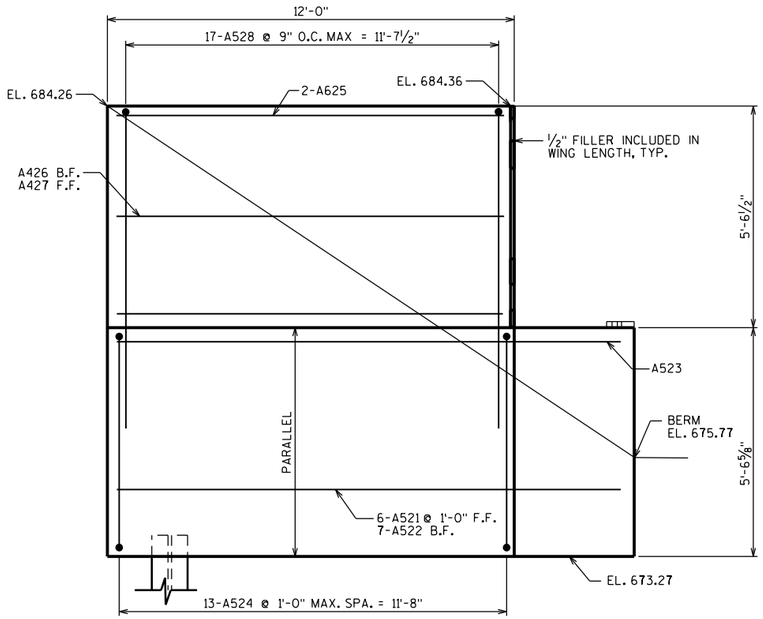
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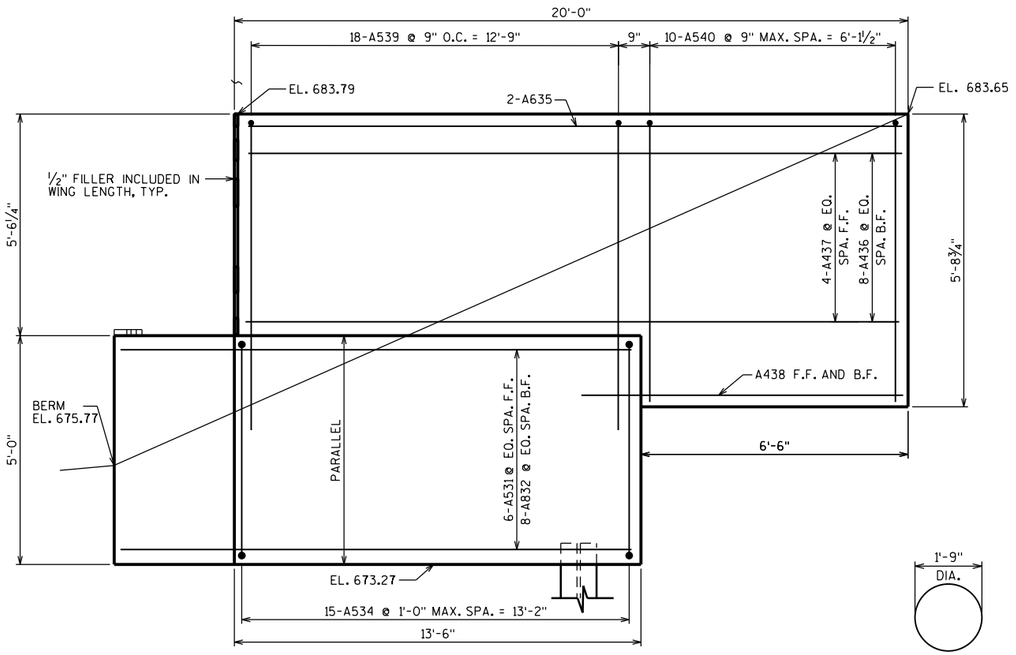
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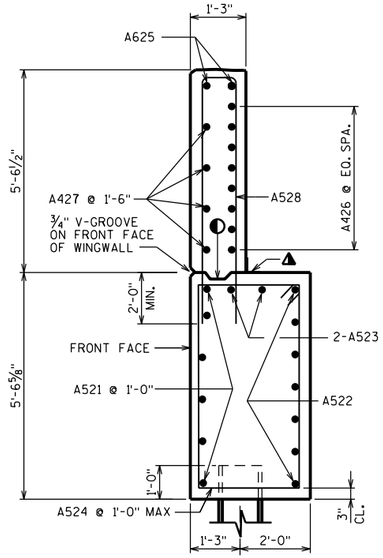
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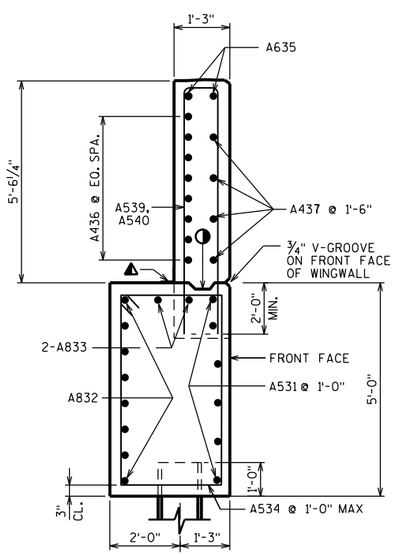
ELEVATION WING 1



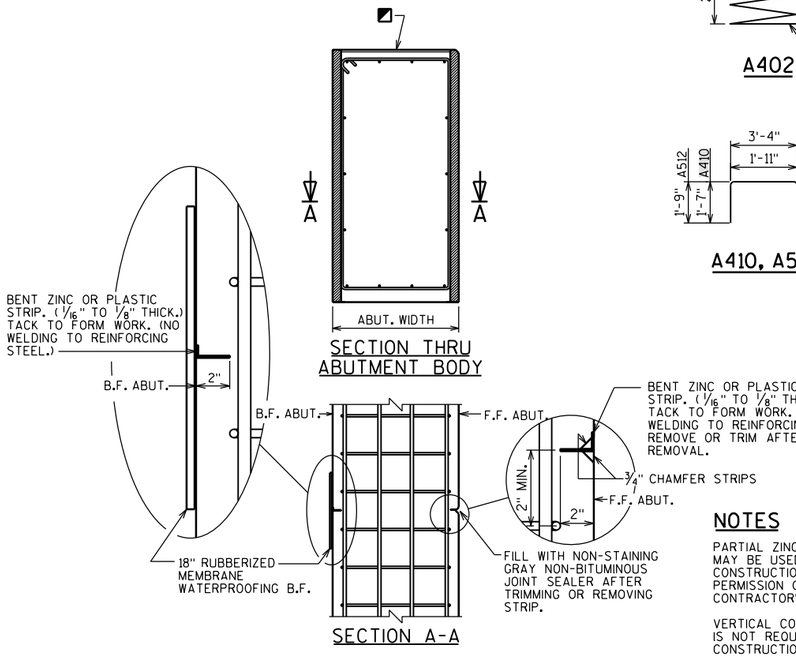
ELEVATION WING 2



SECTION WING 1



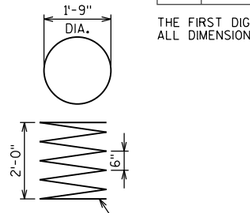
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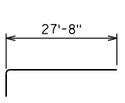
ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

WEST ABUTMENT - BILL OF BARS						
MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
A401		28	2'-3"			ABUT. PILES
A402		14	28'-0"		X	ABUT. PILES
A603		11	54'-2"			ABUT. BODY HORIZ BOTTOM, F.F. TOP
A604		11	24'-11"			ABUT. BODY HORIZ BOTTOM, F.F. TOP
A705		7	16'-4"			ABUT. BODY HORIZ B.F.
A606		7	40'-0"			ABUT. BODY HORIZ B.F.
A1007		7	29'-2"		X	ABUT. BODY HORIZ B.F.
A508		94	16'-0"		X	ABUT. BODY STIRRUPS
A409		16	5'-9"			ABUT. BODY BETWEEN BEAM SEATS
A410		32	4'-11"		X	ABUT. BODY BETWEEN BEAM SEATS
A411		5	40'-0"			ABUT. BODY HORIZ TOP
A512		52	6'-7"		X	ABUT. BODY STIRRUPS
A413		5	12'-4"			ABUT. BODY HORIZ TOP
A521	X	6	17'-3"			WING 1 HORIZ F.F.
A522	X	7	13'-9"			WING 1 HORIZ B.F.
A523	X	2	13'-9"			WING 1 HORIZ TOP
A524	X	13	16'-8"		X	WING 1 STIRRUPS
A625	X	2	11'-7"			WING 1 HORIZ TOP
A426	X	8	11'-7"			WING 1 HORIZ B.F.
A427	X	4	11'-7"			WING 1 HORIZ F.F.
A528	X	17	15'-8"		X	WING 1 STIRRUPS
A531	X	6	16'-11"			WING 2 HORIZ F.F.
A832	X	8	18'-10"			WING 2 HORIZ B.F.
A833	X	2	19'-4"			WING 2 HORIZ TOP
A534	X	15	15'-8"		X	WING 2 STIRRUPS
A635	X	2	19'-7"			WING 2 HORIZ TOP
A436	X	8	19'-7"			WING 2 HORIZ B.F.
A437	X	4	19'-7"			WING 2 HORIZ F.F.
A438	X	2	8'-0"			WING 2 BOTTOM
A539	X	18	15'-6"		X	WING 2 STIRRUPS
A540	X	10	11'-4"		X	WING 2 STIRRUPS

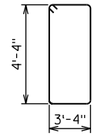
THE FIRST DIGIT OR FIRST TWO DIGITS OF A BAR MARK INDICATES THE BAR SIZE. ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.



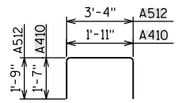
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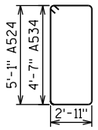
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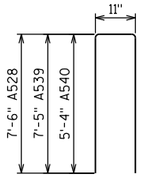
A508



A410, A512



A524, A534



A528, A539, A540

LEGEND

- OPTIONAL CONSTR. JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY ½" DEEP.

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

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WEST ABUTMENT WINGWALLS

SHEET 5 OF 24
364

8

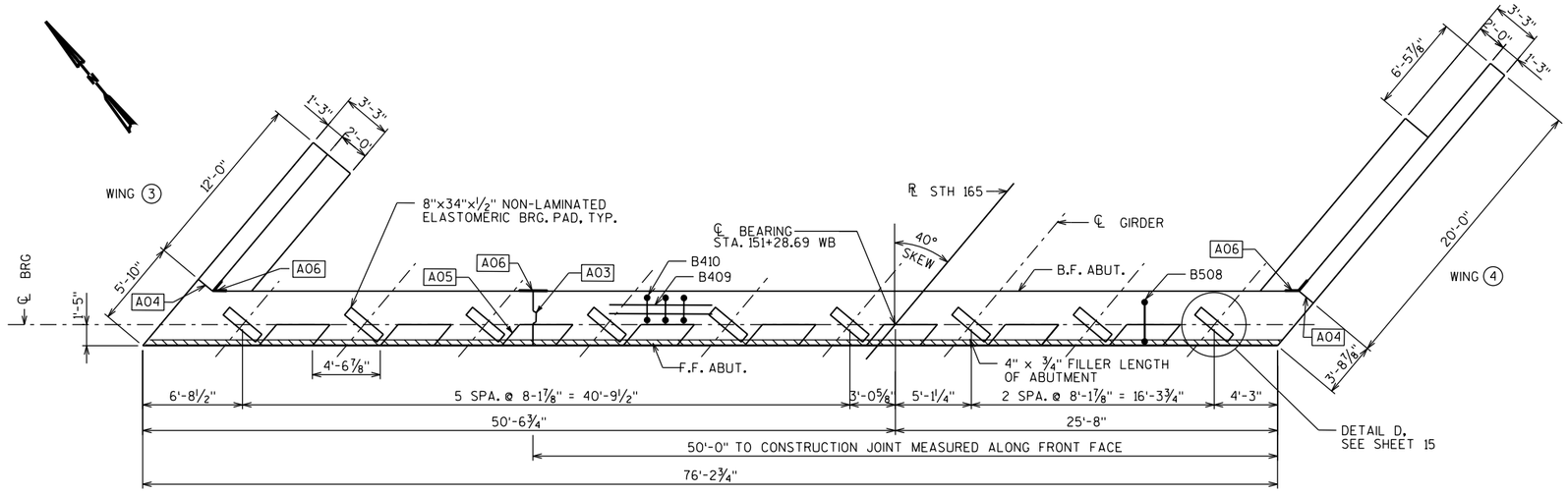
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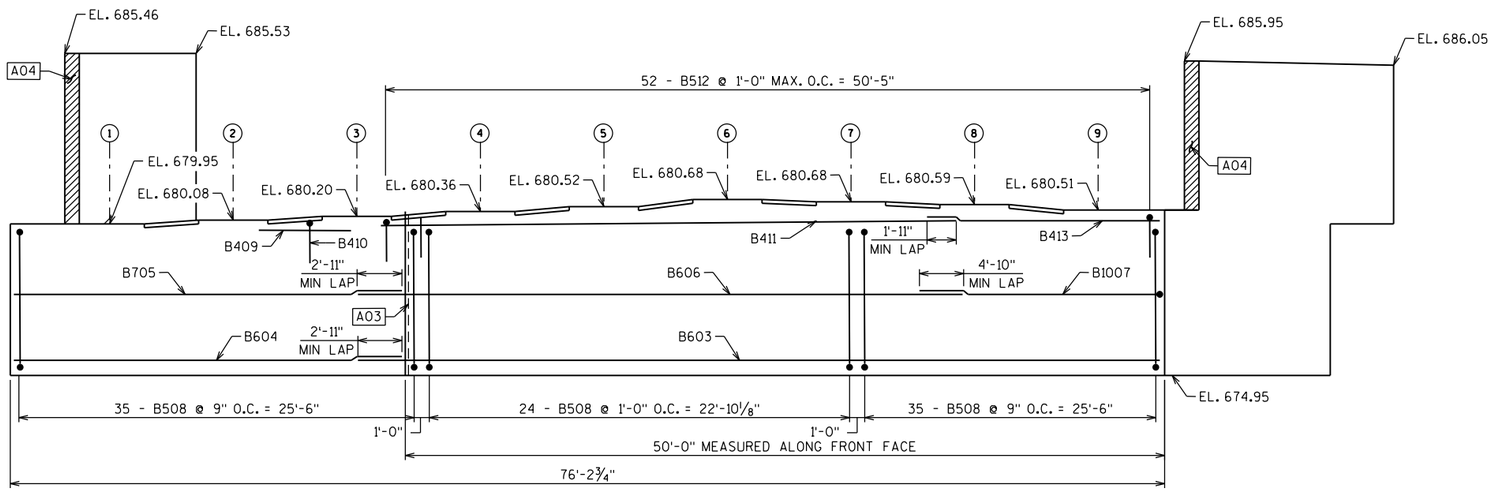
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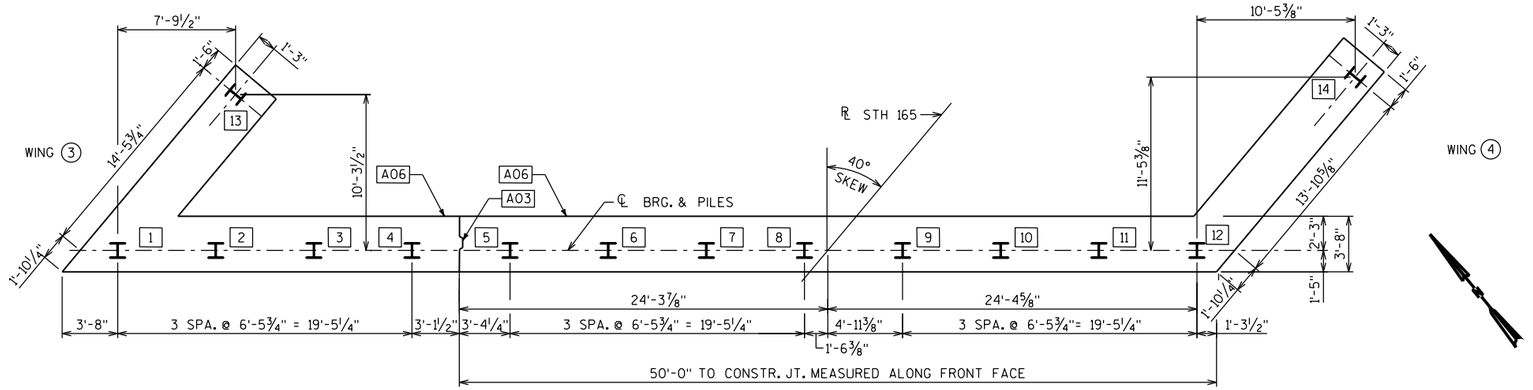
3738-02-73



PLAN



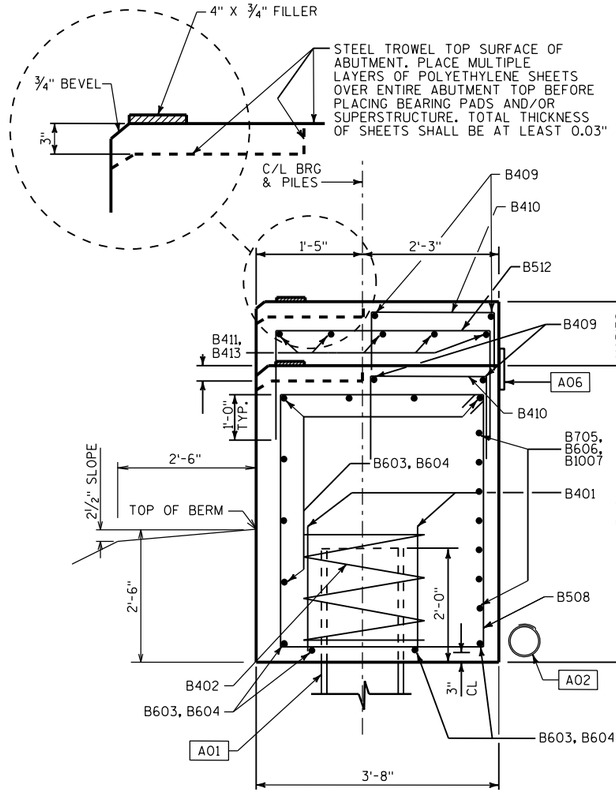
ELEVATION



PILE LAYOUT PLAN

LEGEND

A01	ABUTMENT TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO THE REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH = 75 FEET.
**	THE FACTORED AXIAL RESISTANCE OF PILE IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.
A02	PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5 % MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN, SEE SHEET 9.
A03	VERT. CONSTR. JOINT KEYWAY FORMED BY A BEVELED 2"x8".
A04	1/2" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING (INCLUDED IN WING LENGTH).
A05	3/4" CORK FILLER ON VERT. BEAM SEAT FACES, TYP.
A06	18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
X	PILE NUMBER, SEE SHEET 9 FOR PILE SPLICE DETAILS



SECTION THRU BODY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-30-133

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EAST ABUTMENT

SHEET 6 OF 24
365

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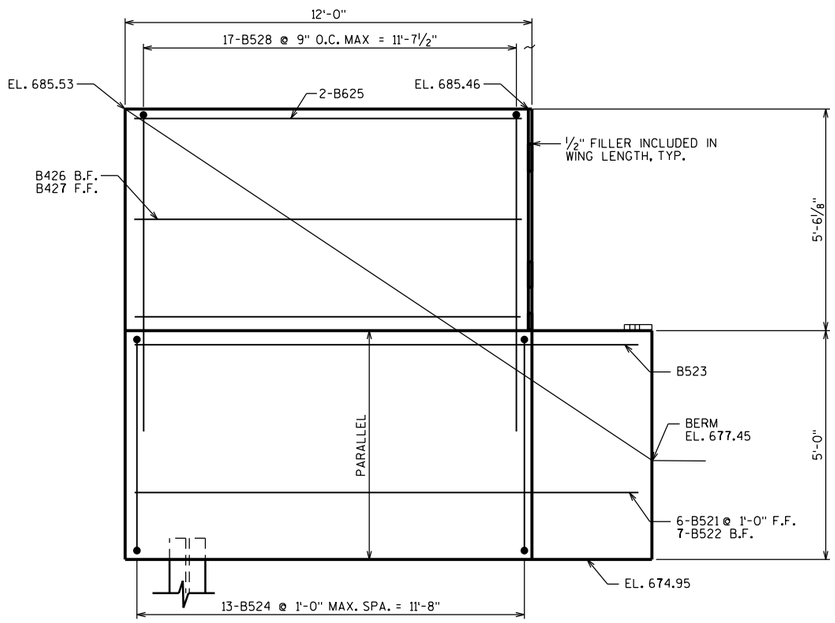
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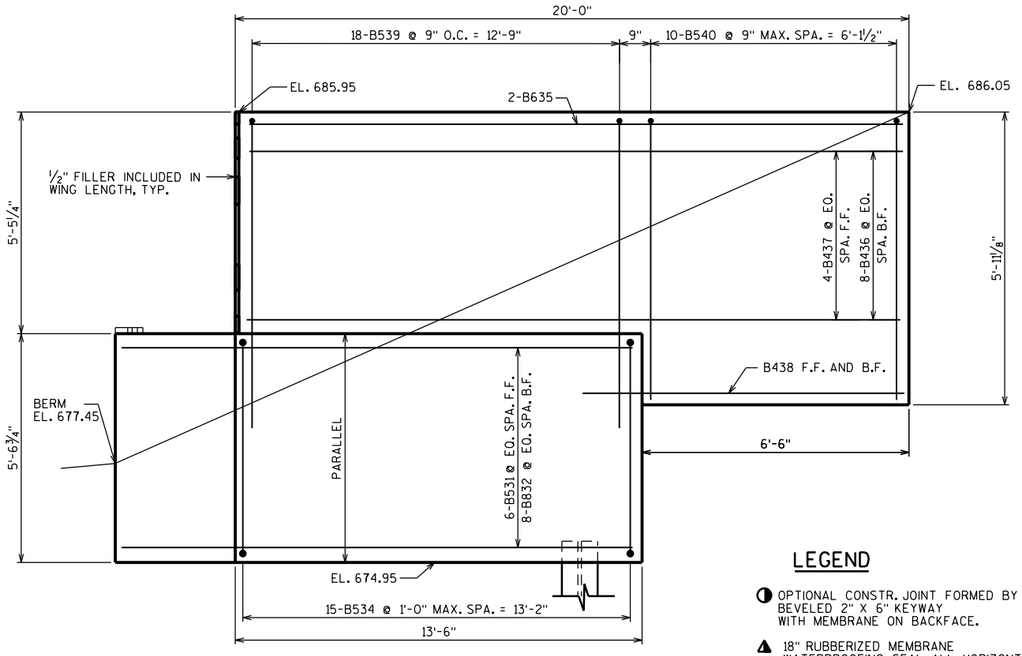
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STATE PROJECT NUMBER

3738-02-73



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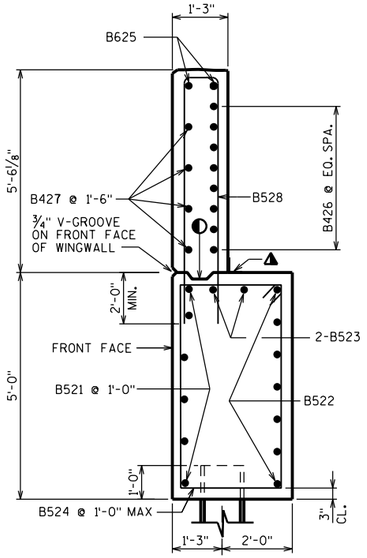


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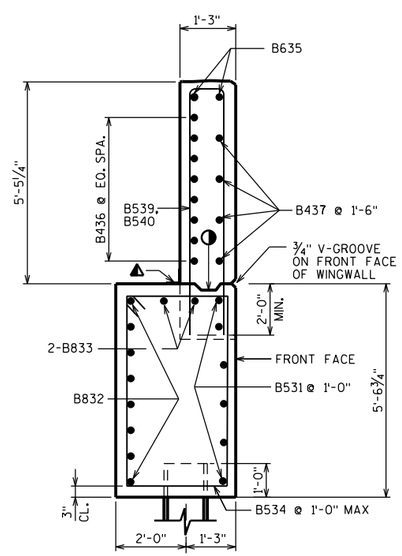
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◑ OPTIONAL CONSTR. JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACKFACE.

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.



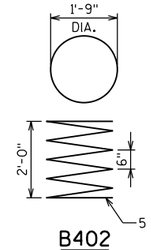
SECTION WING 3



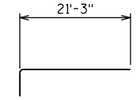
SECTION WING 4

EAST ABUTMENT - BILL OF BARS						
MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
B401		28	2'-3"			ABUT. PILES
B402		14	28'-0"		X	ABUT. PILES
B603		11	56'-0"			ABUT. BODY HORIZ. BOTTOM, F.F. TOP
B604		11	22'-11"			ABUT. BODY HORIZ. BOTTOM, F.F. TOP
B705		7	22'-11"			ABUT. BODY HORIZ. B.F.
B606		7	40'-0"			ABUT. BODY HORIZ. B.F.
B1007		7	22'-9"		X	ABUT. BODY HORIZ. B.F.
B508		94	16'-0"		X	ABUT. BODY STIRRUPS
B409		16	5'-9"			ABUT. BODY BETWEEN BEAM SEATS
B410		32	4'-11"		X	ABUT. BODY BETWEEN BEAM SEATS
B411		5	40'-0"			ABUT. BODY HORIZ. TOP
B512		52	6'-7"		X	ABUT. BODY STIRRUPS
B413		5	12'-4"			ABUT. BODY HORIZ. TOP
B521	X	6	17'-3"			WING 3 HORIZ. F.F.
B522	X	7	13'-9"			WING 3 HORIZ. B.F.
B523	X	2	13'-9"			WING 3 HORIZ. TOP
B524	X	13	15'-8"		X	WING 3 STIRRUPS
B625	X	2	11'-7"			WING 3 HORIZ. TOP
B426	X	8	11'-7"			WING 3 HORIZ. B.F.
B427	X	4	11'-7"			WING 3 HORIZ. F.F.
B528	X	17	15'-8"		X	WING 3 STIRRUPS
B531	X	6	16'-11"			WING 4 HORIZ. F.F.
B832	X	8	18'-10"			WING 4 HORIZ. B.F.
B833	X	2	19'-4"			WING 4 HORIZ. TOP
B534	X	15	16'-8"		X	WING 4 STIRRUPS
B635	X	2	19'-7"			WING 4 HORIZ. TOP
B436	X	8	19'-7"			WING 4 HORIZ. B.F.
B437	X	4	19'-7"			WING 4 HORIZ. F.F.
B438	X	2	8'-0"			WING 4 BOTTOM
B539	X	18	15'-6"		X	WING 4 STIRRUPS
B540	X	10	11'-10"		X	WING 4 STIRRUPS

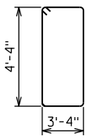
THE FIRST DIGIT OR FIRST TWO DIGITS OF A BAR MARK INDICATES THE BAR SIZE.
ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.



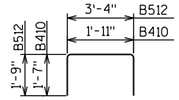
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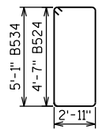
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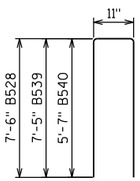
B508



B410, B512



B524, B534



B528, B539, B540

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

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EAST ABUTMENT WINGWALLS

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FILE=
SCALE =

STATE PROJECT NUMBER

3738-02-73

NOTES

(P01) PIER TO BE SUPPORTED ON HP12x53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 110'-0" LONG.

** THE FACTORED AXIAL RESISTANCE OF PILE IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

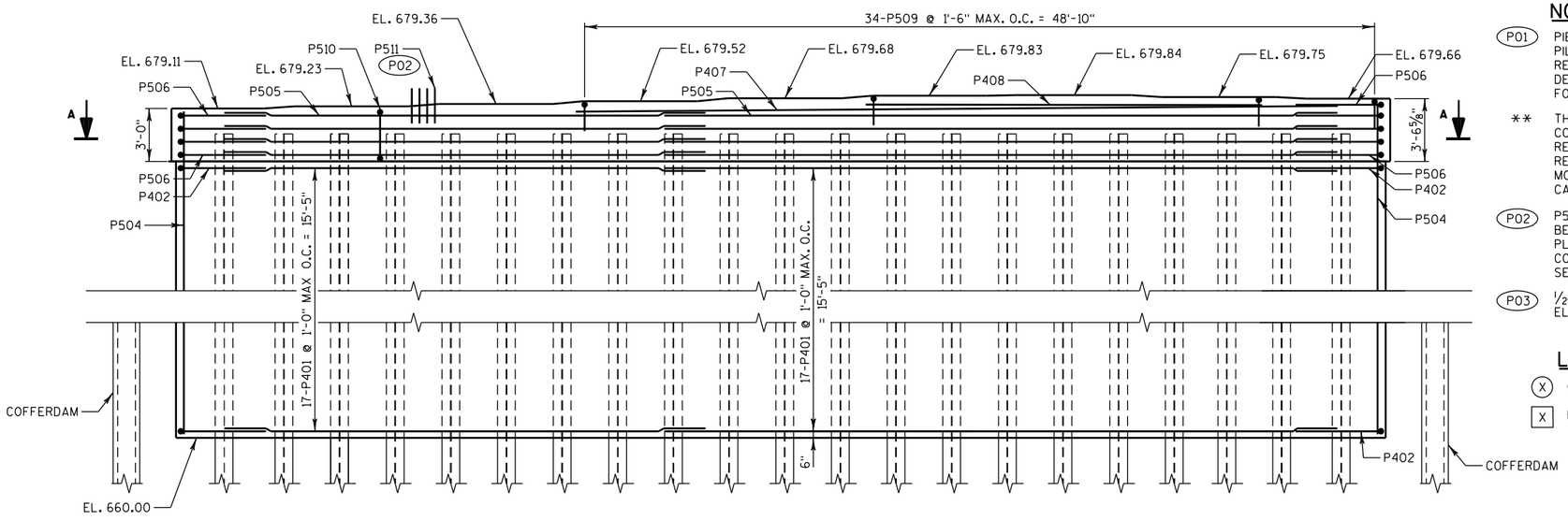
(P02) P511 AT 1'-0" CENTERS BETWEEN GIRDERS. EMBED 1'-0". PLACE BARS BEFORE CONCRETE HAS TAKEN INITIAL SET.

(P03) 1/2"x8"x30" NON-LAMINATED ELASTOMERIC BEARING PAD.

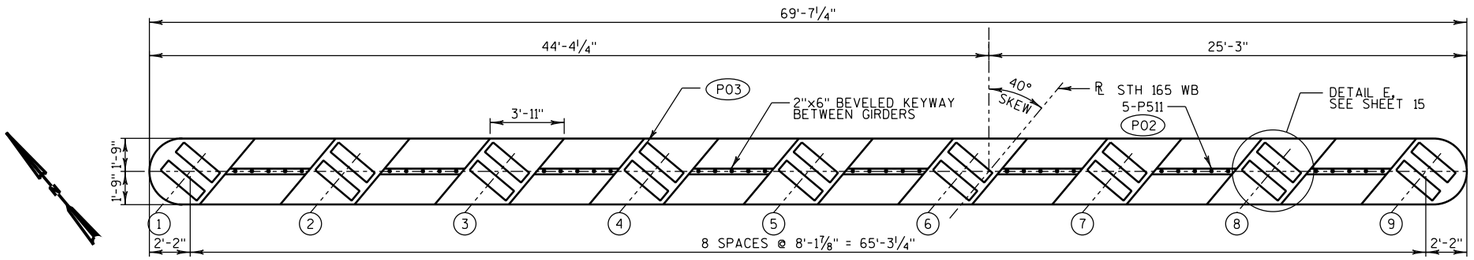
LEGEND

(X) GIRDER NUMBER

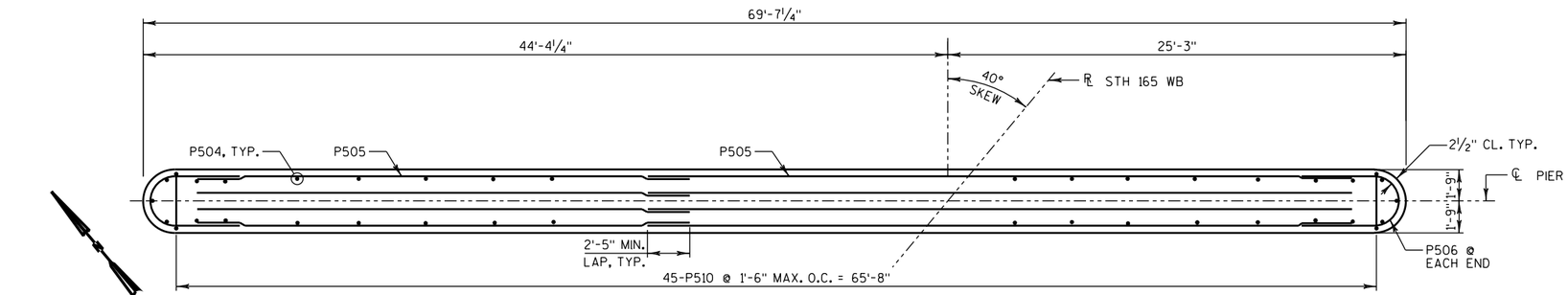
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ELEVATION

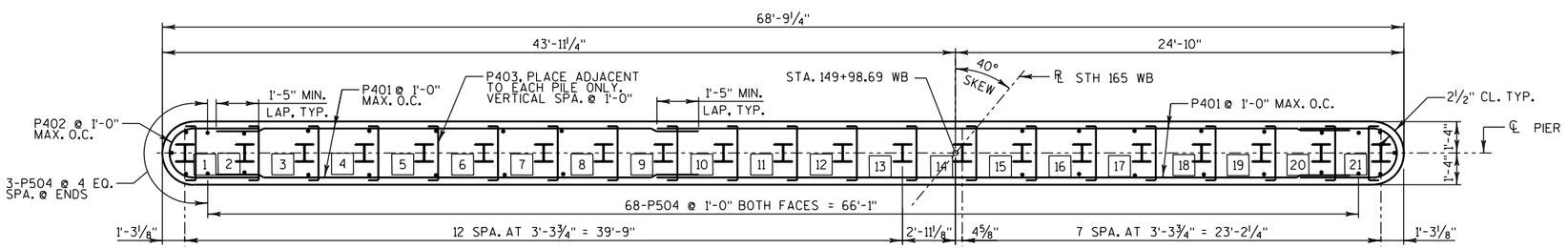


PIER CAP PLAN

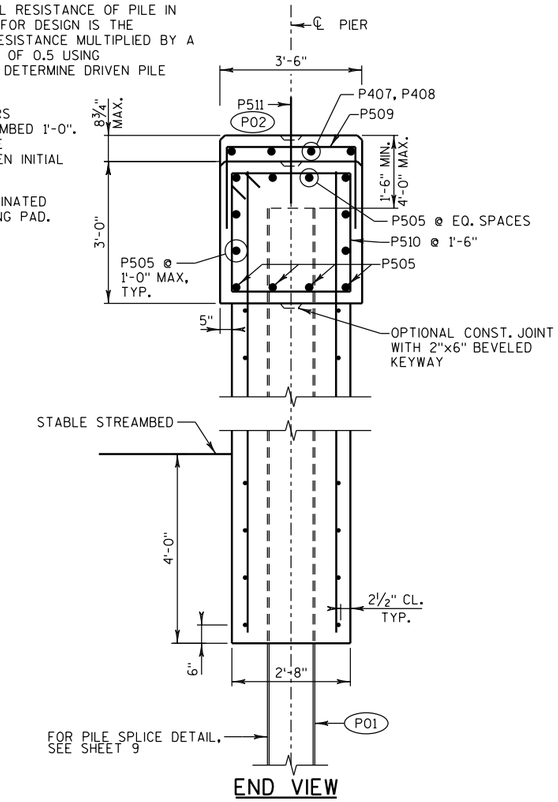


SECTION A

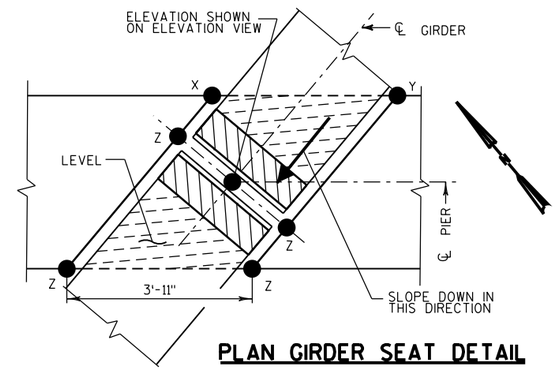
PILES NOT SHOWN FOR CLARITY



PILE / SHAFT PLAN



END VIEW



PLAN GIRDER SEAT DETAIL

PIER	
X	+0.02
Y	+0.07
Z	+0.0

VALUES GIVEN ARE THE DIFFERENCE IN ELEVATION FROM THE ELEVATION GIVEN ON THE ELEVATION VIEW.

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STRUCTURE B-30-133

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PIER

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FILE= SCALE =

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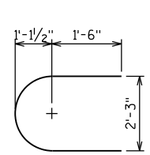
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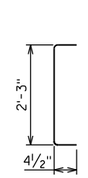
STATE PROJECT NUMBER

3738-02-73

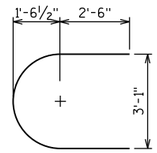
PIER - BILL OF BARS						
MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
P401		68	34'-0"			SHAFT - HORIZ. F.F & B.F.
P402		34	6'-6"		X	SHAFT - HORIZ. AT ENDS
P403		399	2'-10"		X	SHAFT - HORIZ. AT PILES
P504		142	18'-4"			SHAFT - VERT.
P505		24	34'-4"			CAP - HORIZ.
P506		9	9'-10"		X	CAP - HORIZ. AT ENDS
P407		4	48'-10"			CAP - HORIZ.
P408		4	28'-6"			CAP - HORIZ.
P509		34	6'-4"		X	CAP - VERT.
P510		45	12'-0"		X	CAP - VERT.
P511		40	2'-0"			CAP - DOWELS



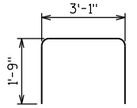
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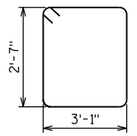
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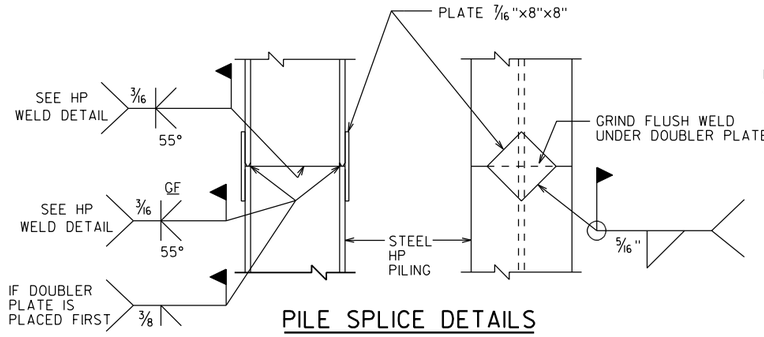
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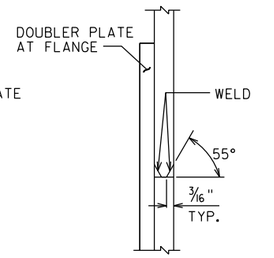
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P510

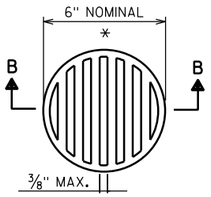


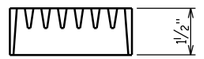
PILE SPLICE DETAILS



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR





SECTION B-B

RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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 EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

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STRUCTURE B-30-133

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PIER DETAILS

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368

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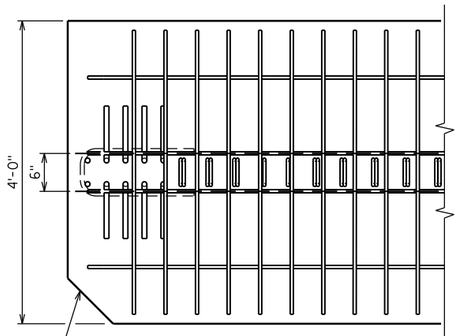
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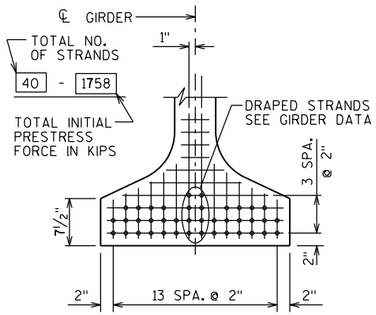
STATE PROJECT NUMBER

3738-02-73

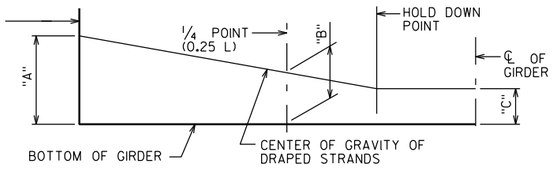


TOP FLANGE

SEE DETAIL D ON SHEET 15 FOR FLANGE NOTCH DETAIL



TYP. STRAND PATTERN



LOCATION OF DRAPED STRANDS

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

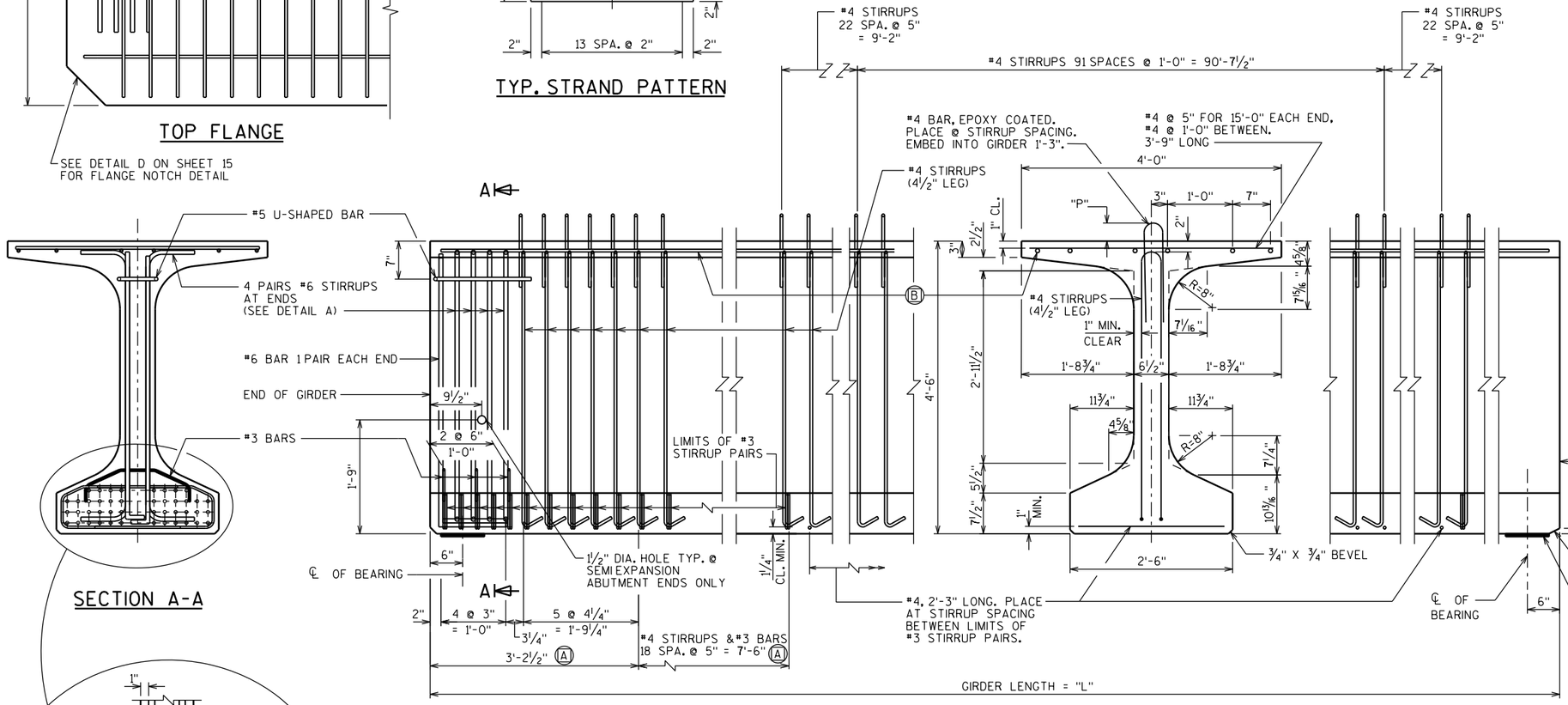
STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

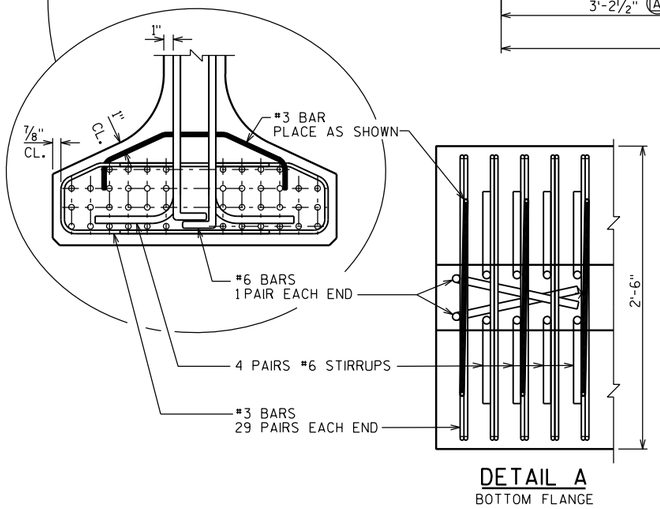
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.6 DIA-7-WIRE LOW RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.



SECTION A-A



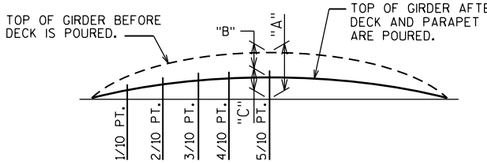
DETAIL A
BOTTOM FLANGE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	4.4
2	4.4

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



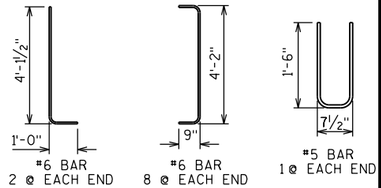
CAMBER AND DEFLECTION DIAGRAM

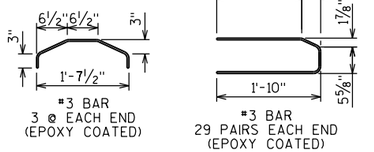
"A" = PRESTRESS CAMBER
"B" = DEAD LOAD DEFLECTION
"C" = RESIDUAL CAMBER

LEGEND

(A) DETAIL TYPICAL AT EACH END

(B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 2'-4"





* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST ⅓ OF GIRDER	"P" MID ⅓ OF GIRDER	"P" END ⅓ OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1, 2	1-9	130'-4½"	0.8	1.5	2.1	2.4	2.5	2.4	2.0	1.5	0.8	8000	8"	7"	8"	0.6	40	6200	49	16	19	5	--	--

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

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54W" PRESTRESSED GIRDER DETAILS

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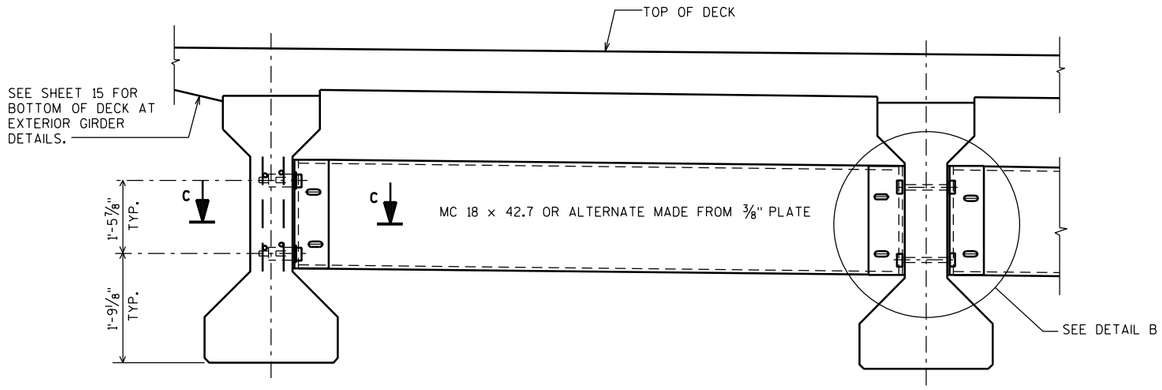
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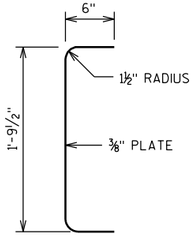
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3738-02-73



SECTION A-A PART TRANSVERSE SECTION AT DIAGRAM



SECTION THRU ALTERNATE DIAPHRAGM

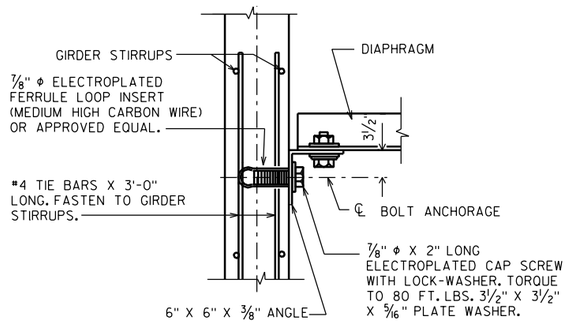
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-30-133", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

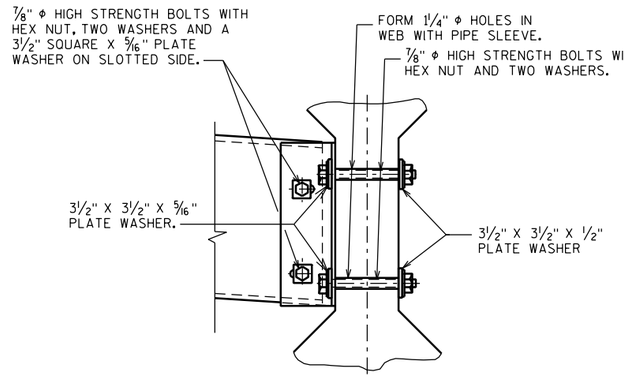
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A 709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.



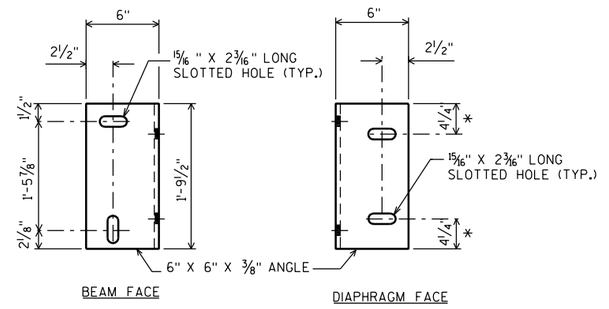
SECT. C-C

(FOR EXTERIOR ATTACHMENT)



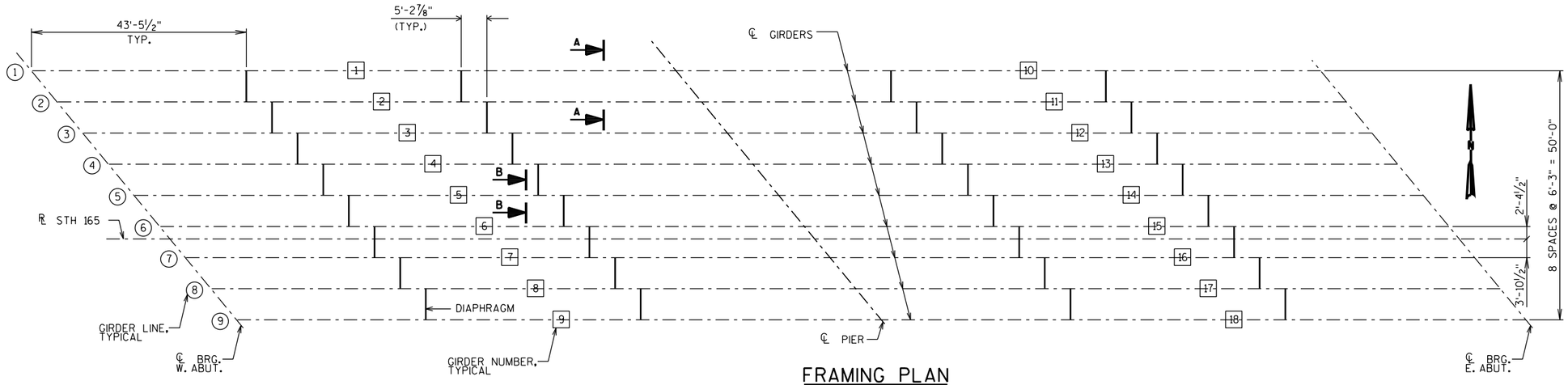
DETAIL B

(FOR INTERIOR ATTACHMENT)



DIAPHRAGM SUPPORT

* DIM. = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



FRAMING PLAN

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

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STEEL DIAPHRAGM

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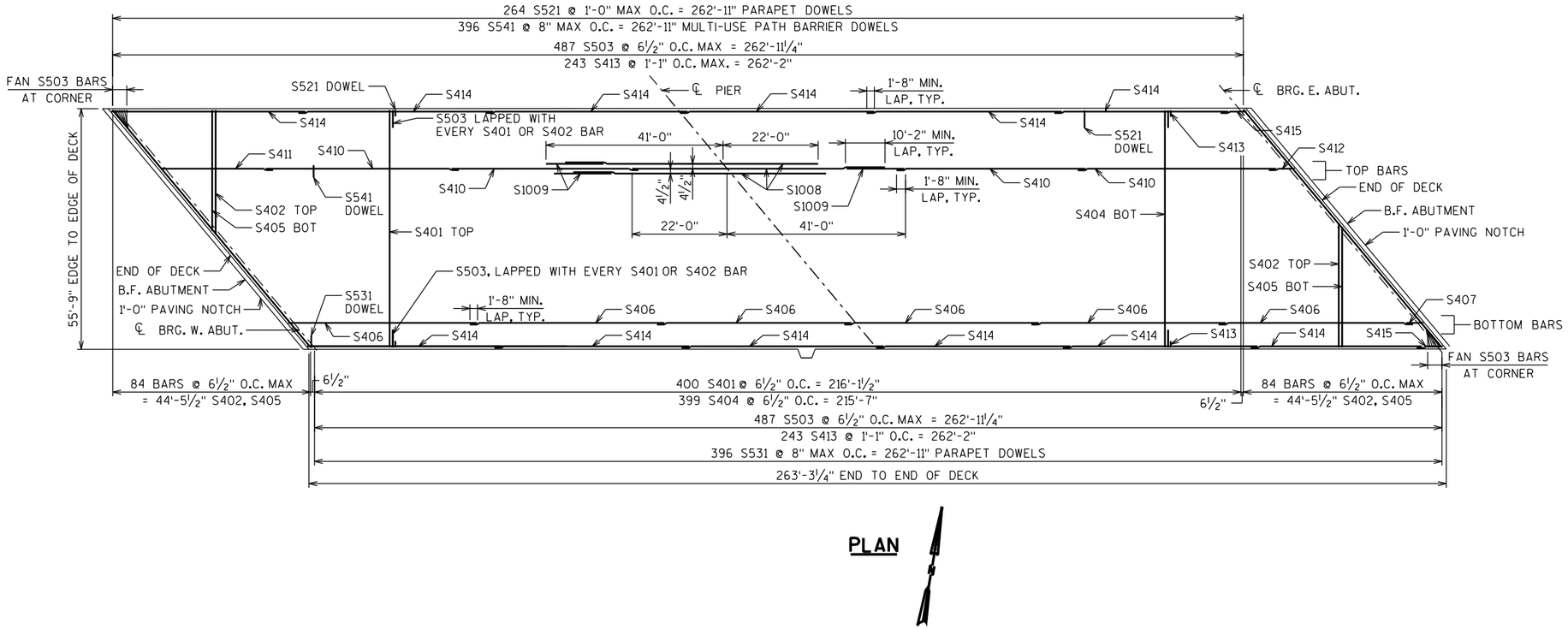
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PLAN

TOP OF DECK ELEVATIONS

	C/L BRG.	SPAN 1									C/L BRG.	SPAN 2									
GIRDER LINE	W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	PIER	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	E. ABUT.
NORTH DECK EDGE	683.79	683.88	683.96	684.04	684.13	684.21	684.30	684.38	684.46	684.55	684.63	684.72	684.80	684.88	684.97	685.05	685.14	685.22	685.30	685.39	685.46
1	683.83	683.91	684.00	684.08	684.17	684.25	684.33	684.42	684.50	684.59	684.67	684.75	684.84	684.92	685.01	685.09	685.17	685.26	685.34	685.42	685.50
2	683.96	684.04	684.13	684.21	684.29	684.38	684.46	684.55	684.63	684.71	684.80	684.88	684.97	685.05	685.13	685.22	685.30	685.39	685.47	685.55	685.62
TOE OF 42SS PARAPET	684.07	684.15	684.23	684.32	684.40	684.49	684.57	684.66	684.74	684.82	684.91	684.99	685.08	685.16	685.24	685.33	685.41	685.50	685.58	685.65	685.72
3	684.09	684.17	684.26	684.34	684.43	684.51	684.59	684.68	684.76	684.85	684.93	685.01	685.10	685.18	685.27	685.35	685.43	685.52	685.60	685.68	685.74
4	684.25	684.33	684.42	684.50	684.58	684.67	684.75	684.84	684.92	685.00	685.09	685.17	685.26	685.34	685.42	685.51	685.59	685.68	685.76	685.83	685.90
5	684.41	684.49	684.57	684.66	684.74	684.83	684.91	685.00	685.08	685.16	685.25	685.33	685.42	685.50	685.58	685.67	685.75	685.83	685.91	685.98	686.05
6	684.57	684.65	684.73	684.82	684.90	684.99	685.07	685.15	685.24	685.32	685.41	685.49	685.57	685.66	685.74	685.83	685.91	685.99	686.07	686.13	686.19
CROWN	684.63	684.71	684.79	684.88	684.96	685.05	685.13	685.21	685.30	685.38	685.47	685.55	685.63	685.72	685.80	685.89	685.97	686.05	686.12	686.19	686.25
7	684.57	684.65	684.74	684.82	684.91	684.99	685.07	685.16	685.24	685.33	685.41	685.49	685.58	685.66	685.75	685.83	685.91	685.99	686.06	686.13	686.19
8	684.48	684.56	684.65	684.73	684.81	684.90	684.98	685.07	685.15	685.24	685.32	685.40	685.49	685.57	685.66	685.74	685.82	685.90	685.97	686.03	686.08
9	684.39	684.47	684.56	684.64	684.72	684.81	684.89	684.98	685.06	685.14	685.23	685.31	685.40	685.48	685.56	685.65	685.73	685.80	685.87	685.93	685.98
SOUTH DECK EDGE	684.36	684.45	684.53	684.62	684.70	684.78	684.87	684.95	685.04	685.12	685.20	685.29	685.37	685.46	685.54	685.62	685.70	685.78	685.84	685.90	685.95

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

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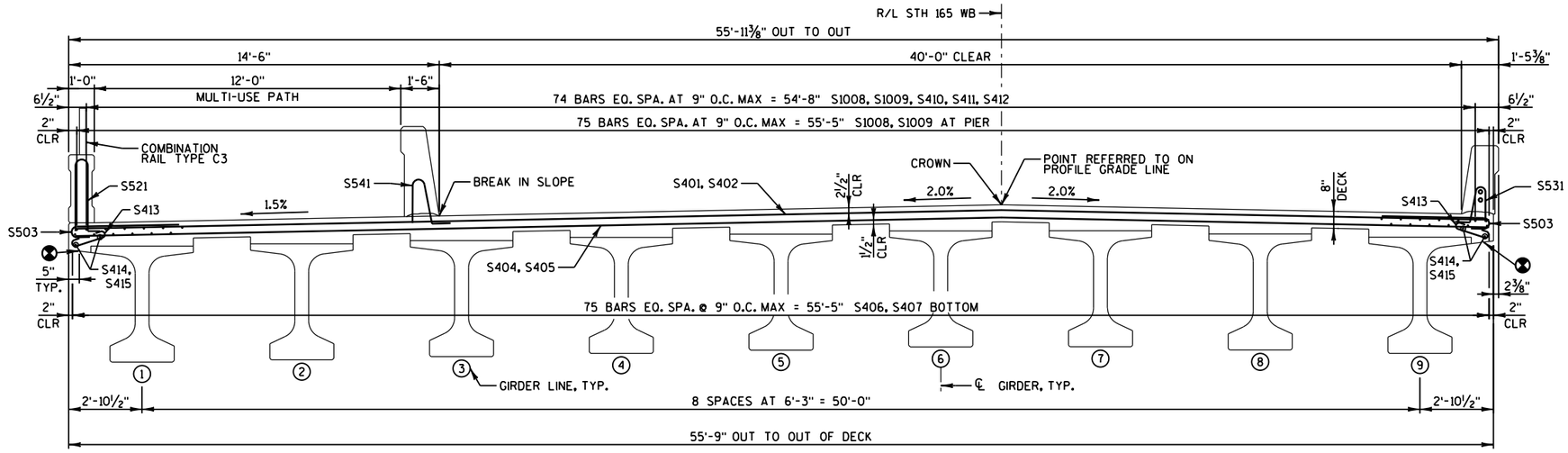
SUPERSTRUCTURE PLAN

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TYPICAL SECTION
LOOKING EAST

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18x12x6-INCH", EACH
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURE", EACH

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

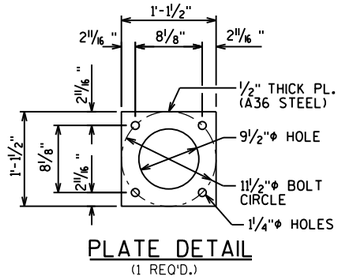
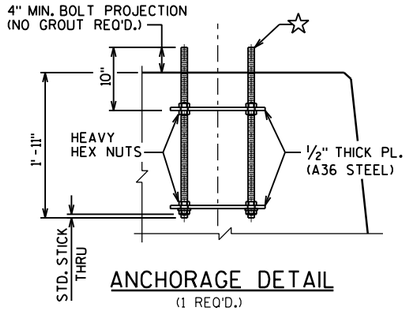
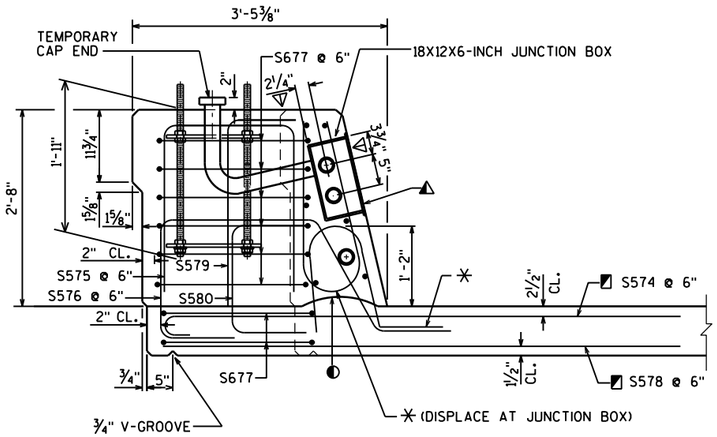


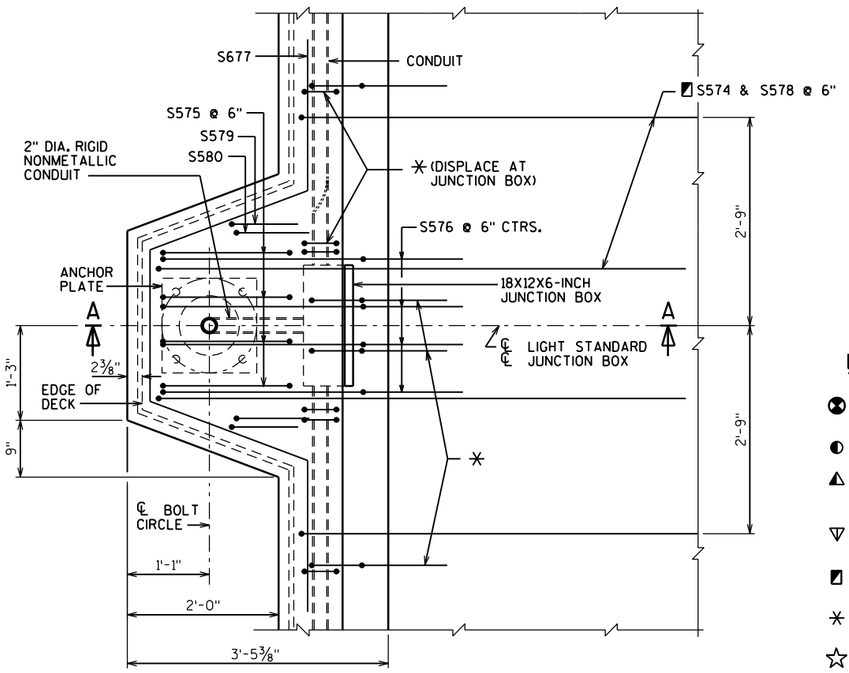
PLATE DETAIL
(1 REQ'D.)



ANCHORAGE DETAIL
(1 REQ'D.)



SECTION A-A



PLAN AT LIGHT STANDARD

LEGEND

- ⅜" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM. V-GROOVES ARE REQUIRED.
- CONST. JT. STRIKE OFF AS SHOWN.
- CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.
- SEE SINGLE SLOPE PARAPET 32SS SHEET FOR ADDITIONAL BAR STEEL DETAILS.
- 1"φ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153. CLASS C, UPPER 8" MIN. OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUT FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.

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STRUCTURE B-30-133

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SUPERSTRUCTURE CROSS SECTION & LIGHT STANDARD

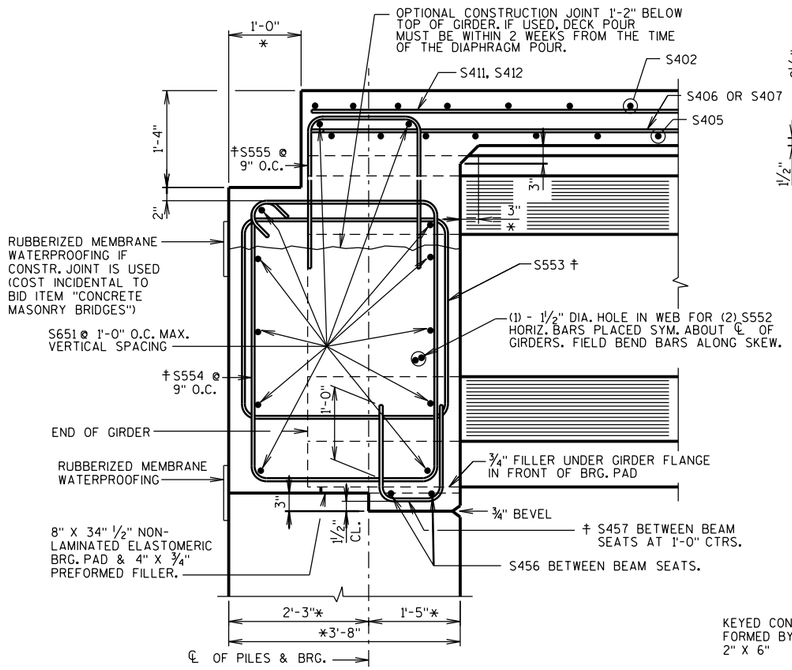
SHEET 13 OF 24
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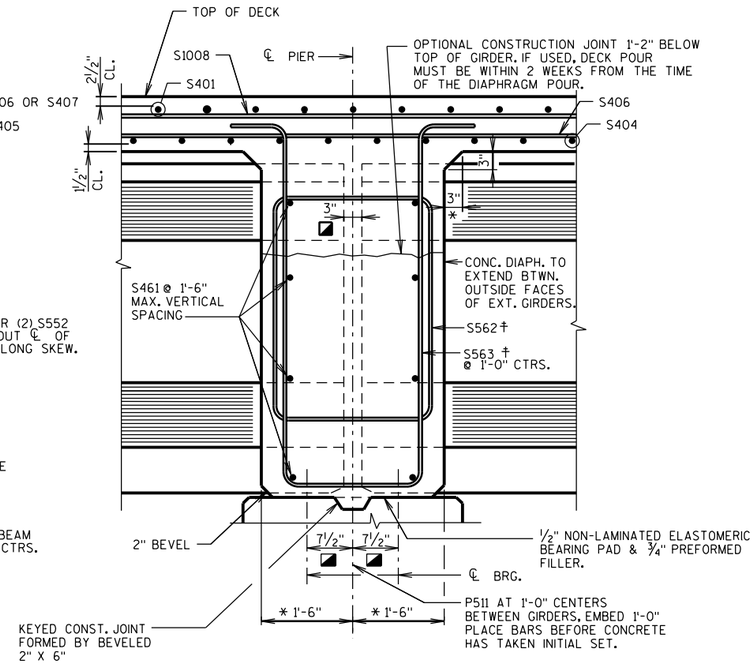
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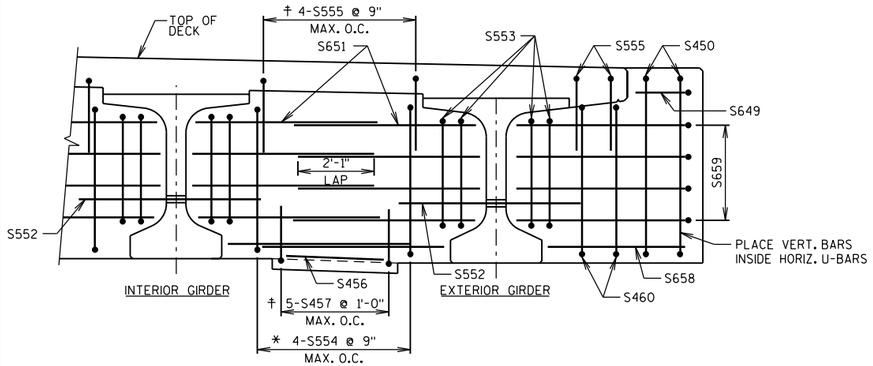
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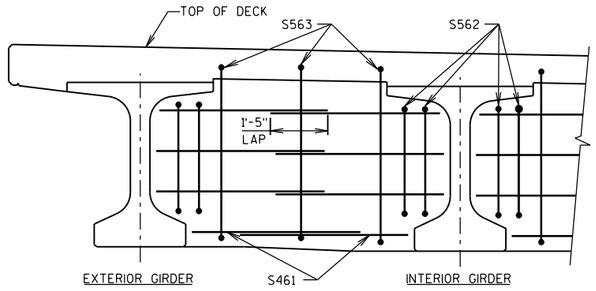
PRESTRESSED GIRDER WITH SEMI-EXPANSION SEAT



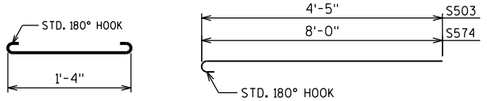
DIAPHRAGM AT ½" ELASTOMERIC BEARING



PART TRANSVERSE SECTION AT DIAPHRAGM SEMI EXPANSION END

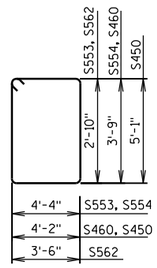


PART TRANSVERSE SECTION AT DIAPHRAGM PIER

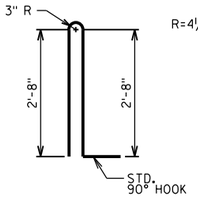


S413

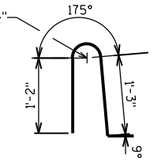
S503, S574



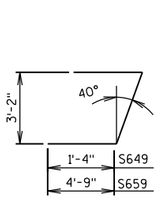
S450, S553, S554, S460, S562



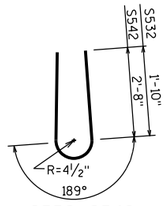
S521



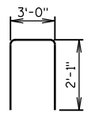
S531, S541



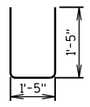
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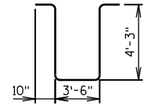
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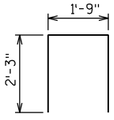
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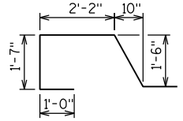
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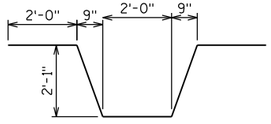
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S575



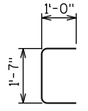
S576



S677



S579



S580

SUPERSTRUCTURE - BILL OF BARS						
MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
S401	X	400	55'-5"			DECK TRANSVERSE TOP
S402	X	168	28'-6"	X		DECK TRANSVERSE TOP
S503	X	974	5'-0"		X	DECK TRANSVERSE OVERHANG
S404	X	399	55'-5"			DECK TRANSVERSE BOTTOM
S405	X	168	28'-10"	X		DECK TRANSVERSE BOTTOM
S406	X	450	45'-0"			DECK LONGITUDINAL BOTTOM
S407	X	75	4'-0"			DECK LONGITUDINAL BOTTOM
S1008	X	149	60'-0"			DECK LONGITUDINAL TOP AT PIER
S1009	X	149	13'-4"			DECK LONGITUDINAL TOP AT PIER
S410	X	296	45'-0"			DECK LONGITUDINAL TOP
S411	X	74	25'-0"			DECK LONGITUDINAL TOP - SPAN 1
S412	X	74	6'-0"			DECK LONGITUDINAL TOP - SPAN 2
S413	X	486	2'-4"		X	DECK OVERHANG TRANSVERSE
S414	X	12	45'-0"			DECK OVERHANG LONGITUDINAL
S415	X	2	4'-0"			DECK OVERHANG LONGITUDINAL
S521	X	264	6'-10"		X	VERTICAL FACE PARAPET VERT.
S422	X	36	45'-0"			VERTICAL FACE PARAPET HORIZ.
S423	X	6	2'-4"			VERTICAL FACE PARAPET HORIZ.
S531	X	396	4'-5"		X	32SS PARAPET VERT.
S532	X	396	5'-0"		X	32SS PARAPET VERT.
S533	X	24	60'-0"			32SS PARAPET HORIZ.
S534	X	6	30'-7"			32SS PARAPET HORIZ.
S541	X	396	4'-5"		X	42SS PARAPET VERT.
S542	X	396	6'-8"		X	42SS PARAPET VERT.
S543	X	32	60'-0"			42SS PARAPET HORIZ.
S544	X	8	30'-7"			42SS PARAPET HORIZ.
S649	X	4	5'-6"		X	ABUT. DIAPH. HORIZ. AT FASCIA
S450	X	8	19'-0"		X	ABUT. DIAPH. VERT. AT FASCIA
S651	X	320	4'-8"			ABUT. DIAPH. HORIZ.
S552	X	36	6'-0"			ABUT. DIAPH. AT GIRDER WEB
S553	X	72	15'-0"		X	ABUT. DIAPH. VERT.
S554	X	64	16'-10"		X	ABUT. DIAPH. VERT.
S555	X	72	6'-11"		X	ABUT. DIAPH. VERT.
S456	X	32	3'-3"			ABUT. DIAPH. HORIZ. BETWEEN BEAM SEATS
S457	X	80	4'-1"		X	ABUT. DIAPH. VERT. BETWEEN BEAM SEATS
S658	X	8	3'-5"			ABUT. DIAPH. HORIZ. AT FASCIA
S659	X	16	12'-4"		X	ABUT. DIAPH. HORIZ. AT FASCIA
S460	X	8	16'-4"		X	ABUT. DIAPH. VERT. AT FASCIA
S461	X	128	4'-4"			PIER DIAPH. HORIZ.
S562	X	32	13'-4"		X	PIER DIAPH. VERT.
S563	X	24	13'-2"		X	PIER DIAPH. VERT.
S574	X	12	8'-7"		X	DECK TRANSVERSE AT LIGHT STD.
S575	X	4	6'-0"		X	PARAPET VERT. AT LIGHT STD.
S576	X	4	7'-0"		X	PARAPET VERT. AT LIGHT STD.
S677	X	8	10'-0"		X	PARAPET HORIZ. AT LIGHT STD.
S578	X	12	8'-0"			DECK TRANSVERSE AT LIGHT STD.
S579	X	2	3'-2"		X	PARAPET VERT. AT LIGHT STD.
S580	X	2	3'-4"		X	PARAPET VERT. AT LIGHT STD.

THE FIRST DIGIT OR FIRST TWO DIGITS OF A BAR MARK INDICATES THE BAR SIZE.
ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.

BAR SERIES TABLE		
MARK	NO REQ'D	LENGTH
S402	2 SERIES OF 84	2'-0" TO 54'-11"
S405	2 SERIES OF 84	2'-3" TO 55'-5"

LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR LENGTH CALCULATIONS. SEE BAR SERIES FOR ACTUAL LENGTHS. BUNDLE AND TAG EACH SERIES SEPARATELY.

LEGEND

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

† BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO ℄ GIRDERS.

◪ DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.

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STRUCTURE B-30-133

DRAWN BY RBH | PLANS CK'D. RPB

SUPERSTRUCTURE BILL OF BARS AND DETAILS

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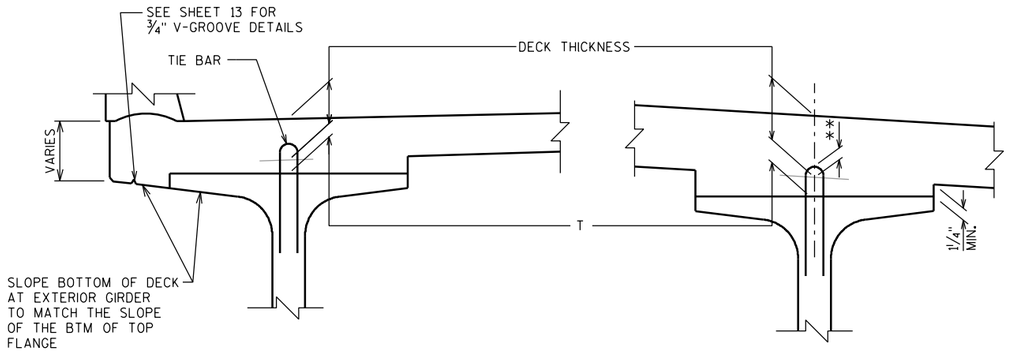
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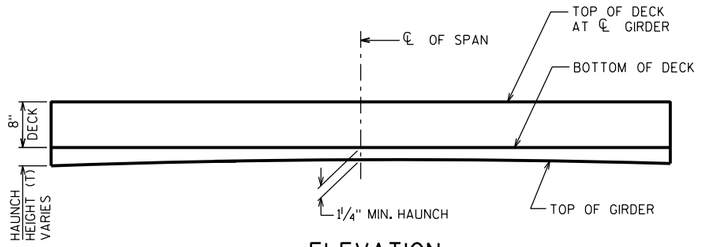
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EXTERIOR GIRDER DETAIL

INTERIOR GIRDER DETAIL



ELEVATION

DECK HAUNCH DETAIL

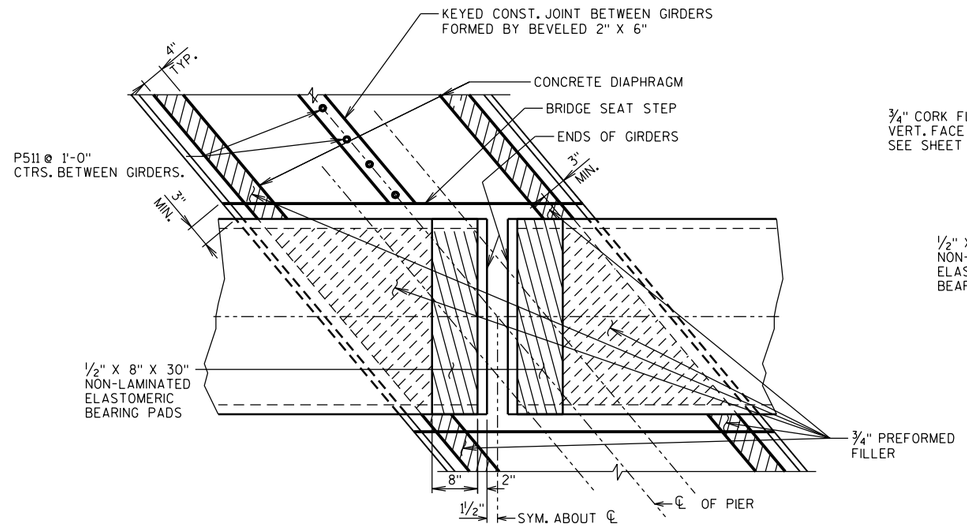
IF 1¼" MINIMUM HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF THE TIE BAR CANNOT BE OBTAINED.

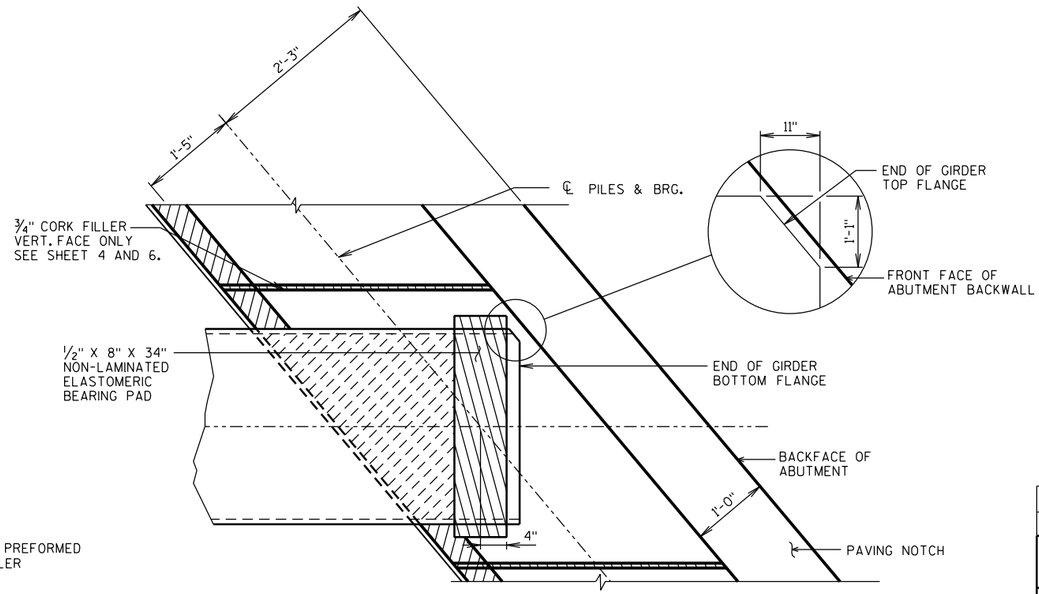
TO DETERMINE 'T', ELEV. OF TOP OF GIRDERS AT ℄ OF SUBSTRUCTURE UNITS & AT ⅒ POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3.3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DETAIL E



DETAIL D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

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SUPERSTRUCTURE DETAILS

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3738-02-73

NOTES

POLYETHYLENE SHEETS SHALL BE INCIDENTAL TO CONCRETE MASONRY BRIDGES.

LONGITUDINAL APPROACH SLAB REINFORCEMENT SHALL BE PLACED PARALLEL TO THE APPROACH SLAB (I.E.... NOT NORMAL TO THE ℄ ABUTMENT WITH SKEWED STRUCTURES).

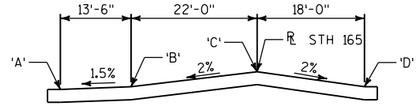
LEGEND

▲ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

◐ SEE PARAPET STANDARD DETAILS FOR LOCATION OF NAME PLATE AND BENCH MARK WITH RESPECT TO THE END OF PARAPET.

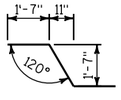
(T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.

(T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF THE SUBGRADE BENEATH THE SLAB.

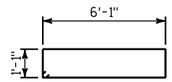


POINT		WEST APPROACH	EAST APPROACH
A	STA.	148+17.39 WB	151+20.41 WB
	ELEV.	683.65	685.57
B	STA.	148+28.72 WB	151+31.74 WB
	ELEV.	683.93	685.82
C	STA.	148+47.18 WB	151+50.20 WB
	ELEV.	684.49	686.33
D	STA.	148+62.28 WB	151+65.30 WB
	ELEV.	684.22	686.02

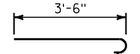
APPROACH SLAB BILL OF BARS							
MARK	COATED	W. STR. APPR. SLAB	E. STR. APPR. SLAB	LENGTH	BAR SERIES	BENT	LOCATION
T501	X	57	57	15'-0"		X	APPROACH SLAB FT. - STIRRUP
T802	X	24	24	39'-3"			APPROACH SLAB FT. - TRANS.
T803	X	92	92	21'-6"		X	APPROACH SLAB - LONG. - BOT.
T505	X	57	57	19'-8"			APPROACH SLAB - LONG. - TOP
T507	X	42	42	37'-8"			APPROACH SLAB - TRANS. - BOT.
T508	X	42	42	37'-10"			APPROACH SLAB - TRANS. - TOP
T510	X	40	40	4'-1"		X	APPROACH SLAB - TRANS. - TOP - WING
SS901		57	57	5'-0"		X	CONC. ABUT. DIAPH. TO APPROACH SLAB



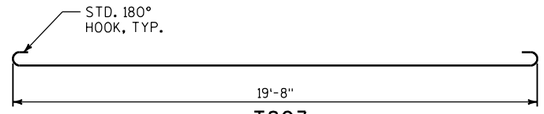
SS901



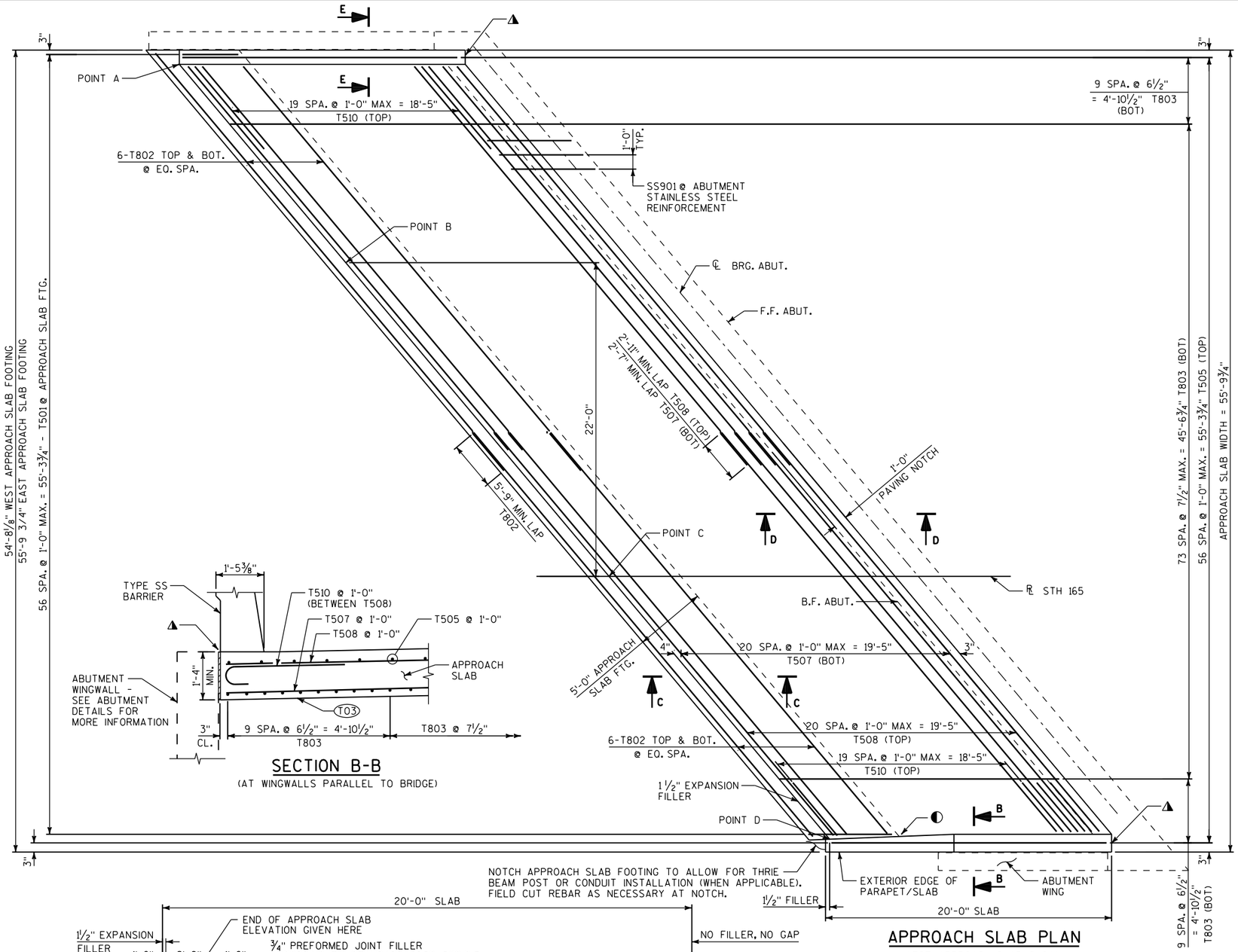
T501



T510



T803

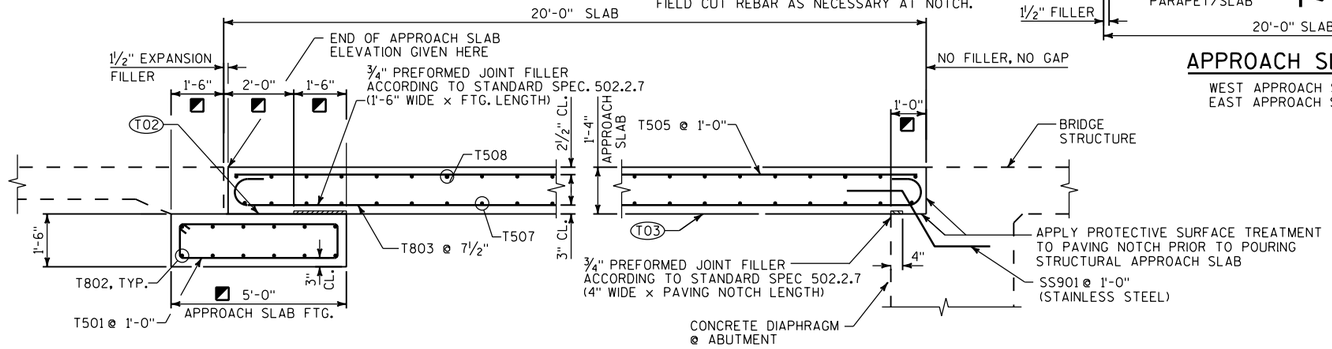


APPROACH SLAB PLAN

WEST APPROACH SLAB SHOWN
EAST APPROACH SLAB SIMILAR

SECTION B-B

(AT WINGWALLS PARALLEL TO BRIDGE)

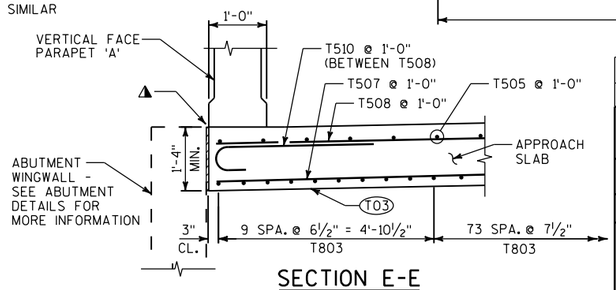


SECTION C-C

SECTION THRU APPROACH SLAB

▩ MEASURED NORMAL TO ABUTMENT

SECTION D-D



SECTION E-E

(AT WINGWALLS PARALLEL TO BRIDGE)

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STRUCTURE B-30-133

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STRUCTURAL APPROACH SLAB

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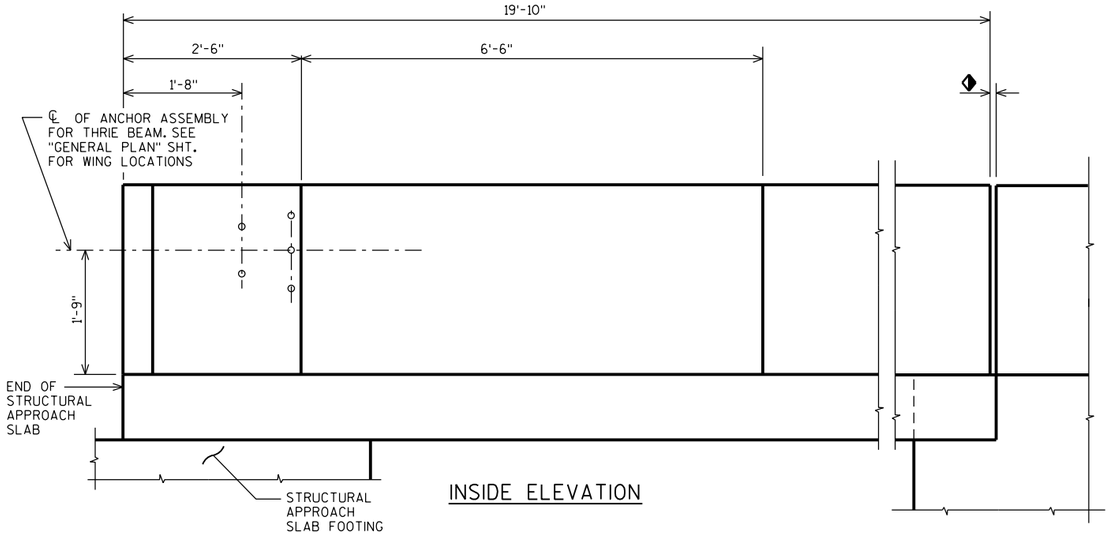
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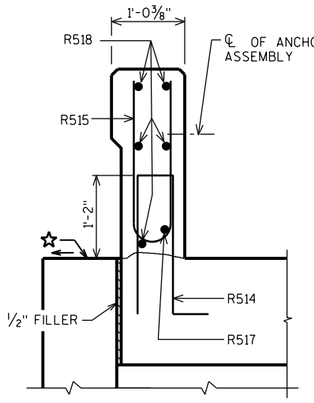
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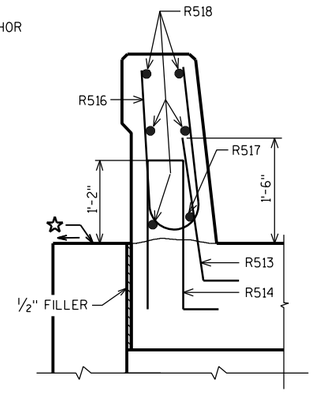
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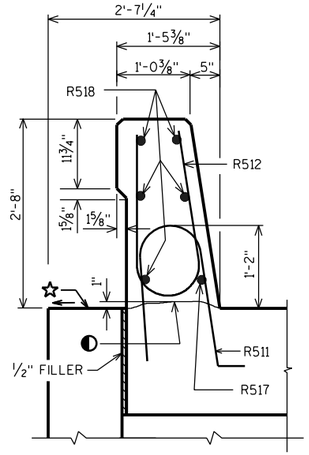
INSIDE ELEVATION



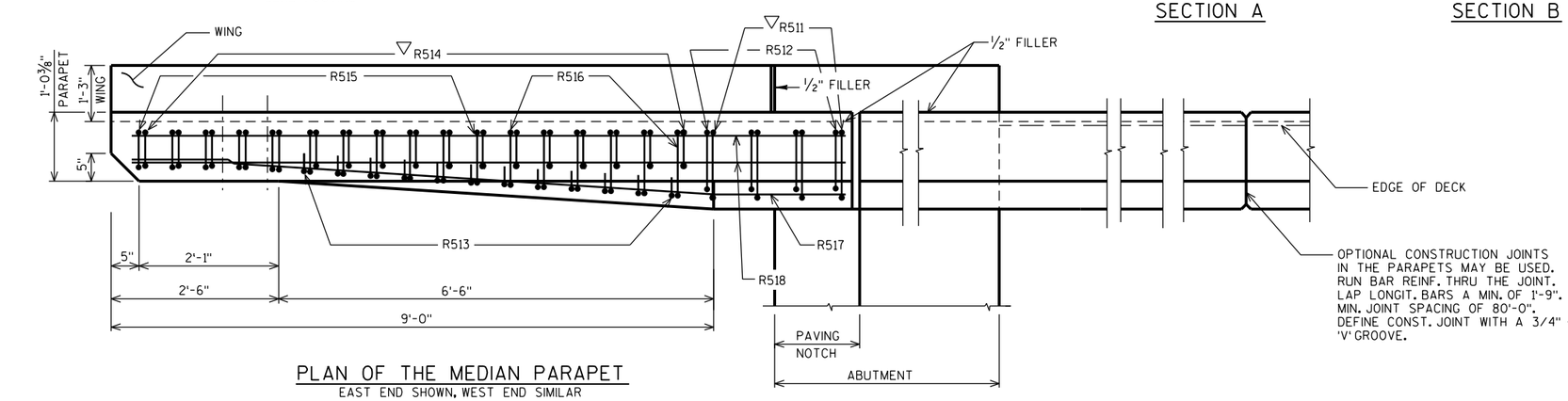
SECTION A



SECTION B

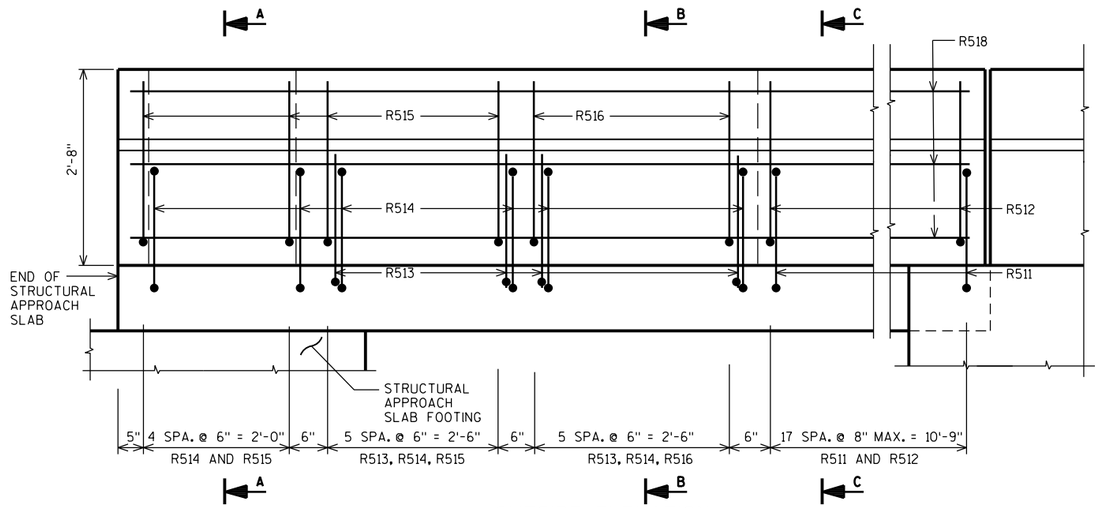


SECTION C



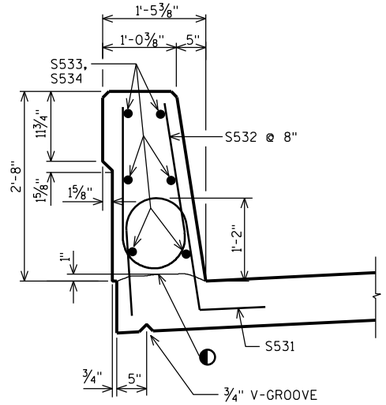
PLAN OF THE MEDIAN PARAPET

EAST END SHOWN, WEST END SIMILAR

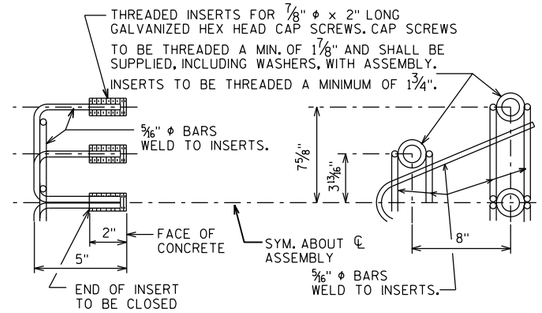


OUTSIDE ELEVATION

(WING NOT SHOWN FOR CLARITY)



SECTION THRU PARAPET ON BRIDGE



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY BID ITEM SHALL BE "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

LEGEND

- ☆ SLOPE FOR DRAINAGE
- ◐ CONST. JOINT - STRIKE OFF AS SHOWN
- ▽ R511 AND R514 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.
- ◆ USE ½" OPENING WITH FILLER

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STRUCTURE B-30-133

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SINGLE SLOPE PARAPET 32SS

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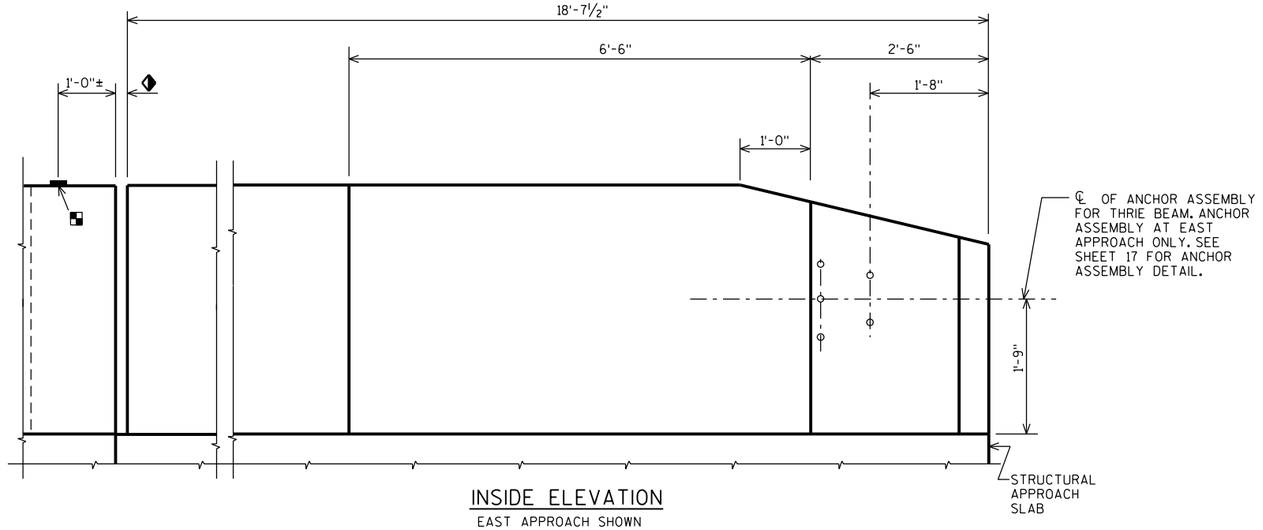
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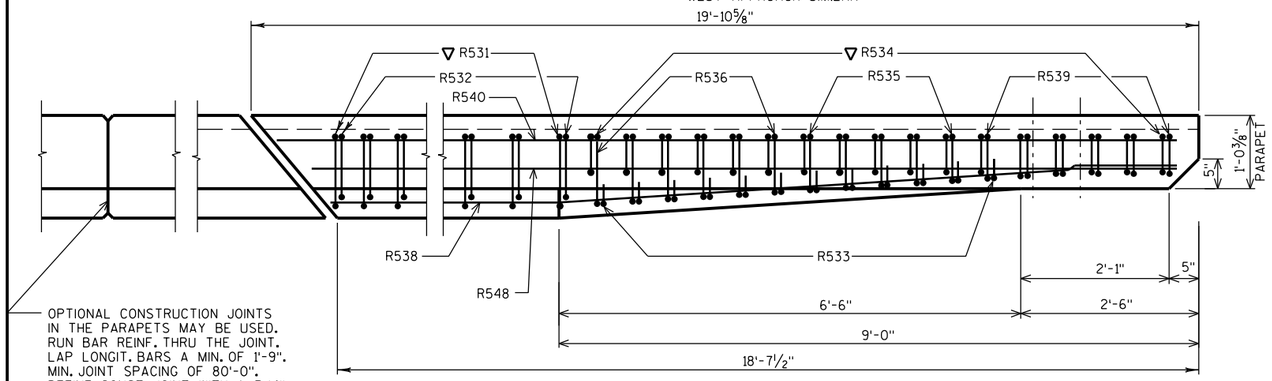
3738-02-73

■ BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.

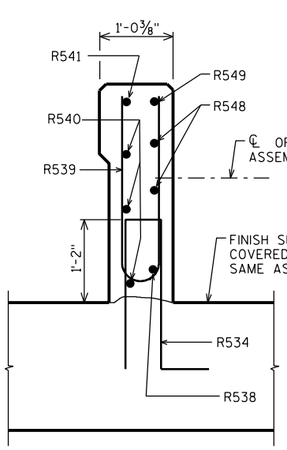


INSIDE ELEVATION

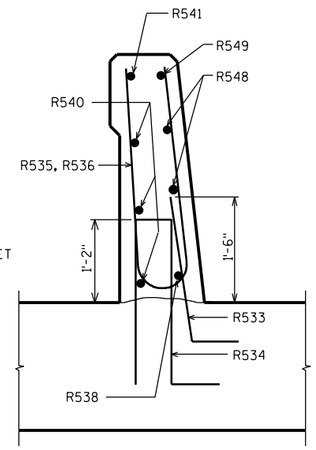
EAST APPROACH SHOWN
WEST APPROACH SIMILAR



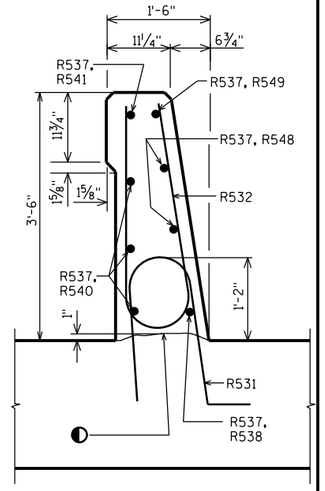
PLAN OF THE MULTI-USE PATH BARRIER - EAST APPROACH



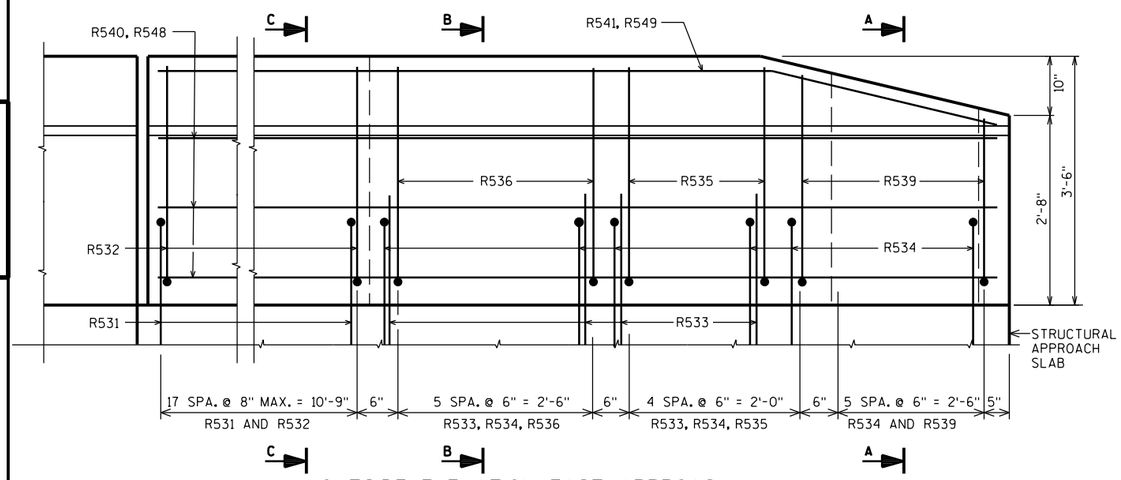
SECTION A



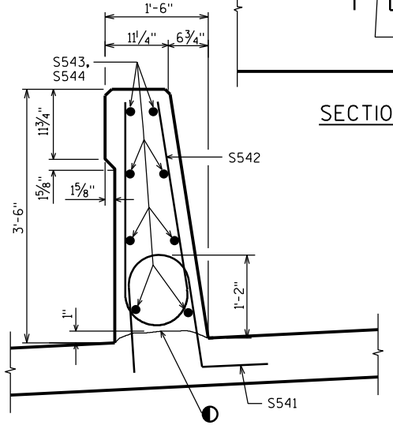
SECTION B



SECTION C



OUTSIDE ELEVATION EAST APPROACH



SECTION THRU PARAPET ON BRIDGE

LEGEND

- ◐ CONST. JOINT - STRIKE OFF AS SHOWN
- ▽ R531 AND R534 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.
- ◩ R542 AND R544 BARS TO BE TIED TO PARAPET FOOTING STEEL BEFORE PARAPET FOOTING IS POURED.
- ◆ USE ½" OPENING WITH FILLER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

DRAWN BY RBH | PLANS CK'D. RPB

SINGLE SLOPE PARAPET 42SS EAST APPROACH

SHEET 18 OF 24
377

FILE=
SCALE =

8

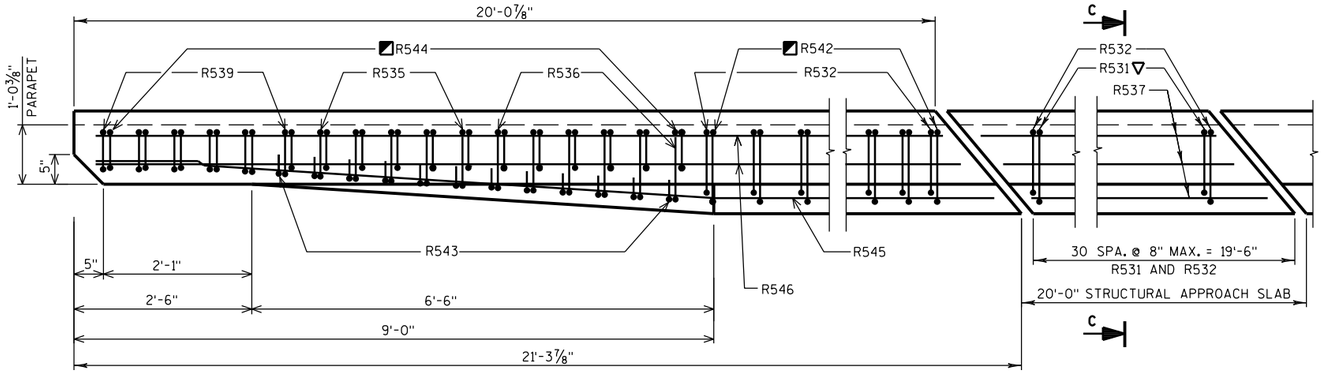
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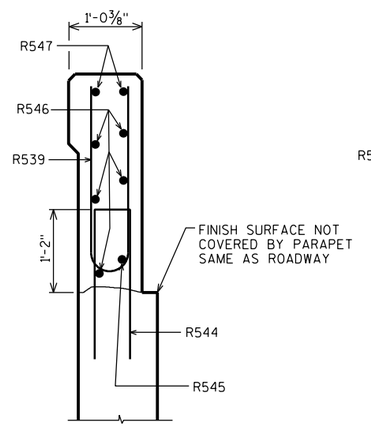
STATE PROJECT NUMBER
3738-02-73

NOTES

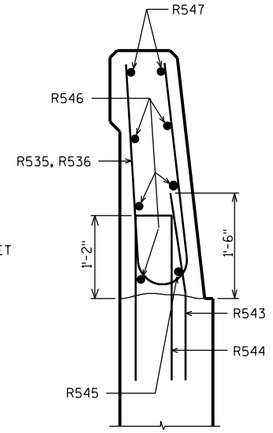
SEE SHEET 18 FOR SECTION C-C.



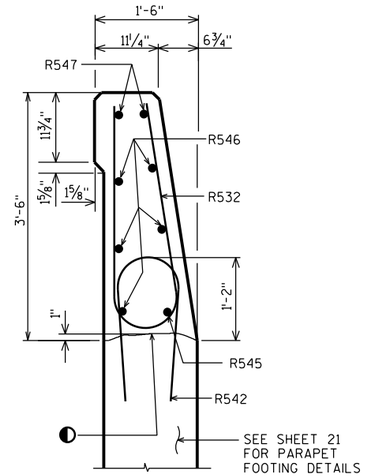
PLAN OF THE MULTI-USE PATH BARRIER - WEST APPROACH



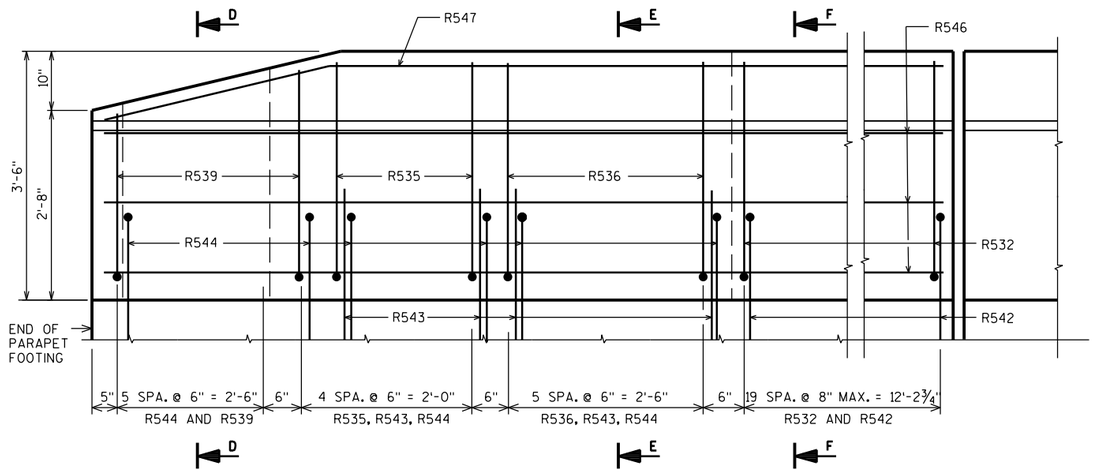
SECTION D



SECTION E



SECTION F



OUTSIDE ELEVATION

LEGEND

- ◐ CONST. JOINT - STRIKE OFF AS SHOWN
- ▽ R531 AND R534 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.
- ◩ R542 AND R544 BARS TO BE TIED TO PARAPET FOOTING STEEL BEFORE PARAPET FOOTING IS POURED.
- ◆ USE ½" OPENING WITH FILLER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

DRAWN BY RBH | PLANS CK'D. RPB

SINGLE SLOPE PARAPET 42SS WEST APPROACH

SHEET 19 OF 24
378

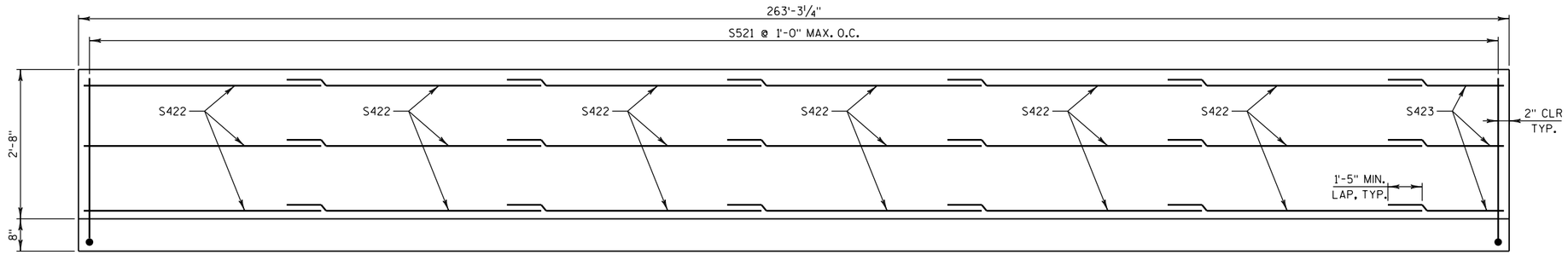
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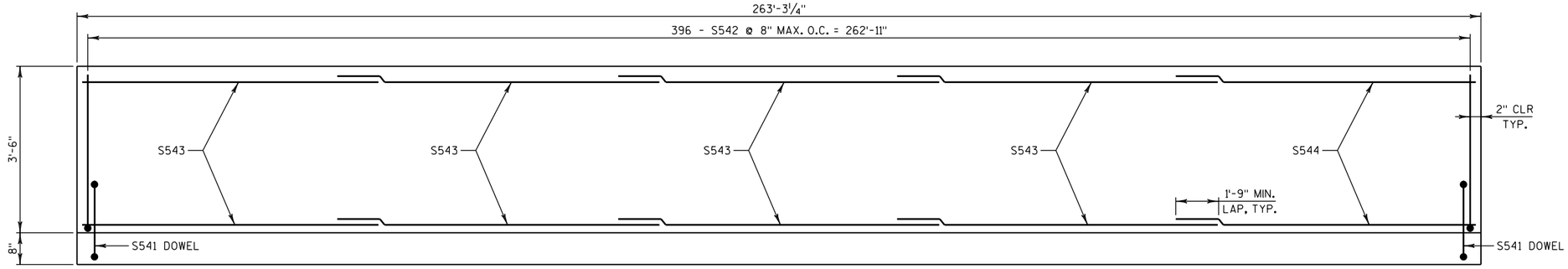
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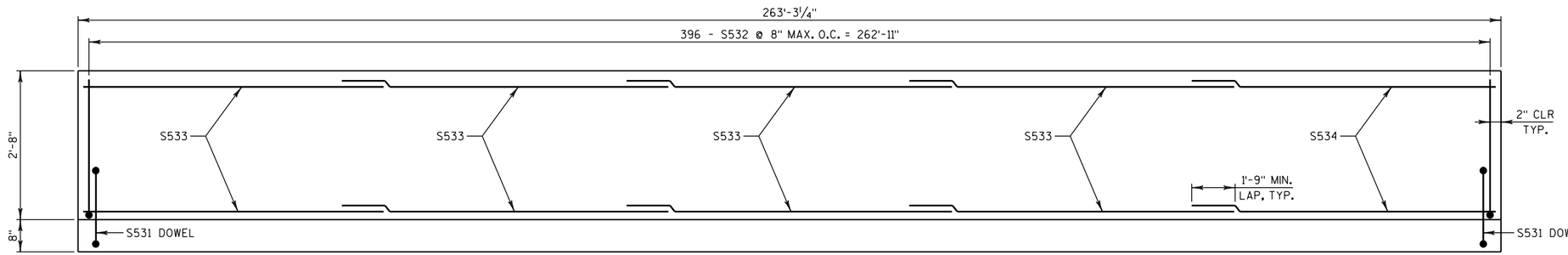
STATE PROJECT NUMBER
3738-02-73



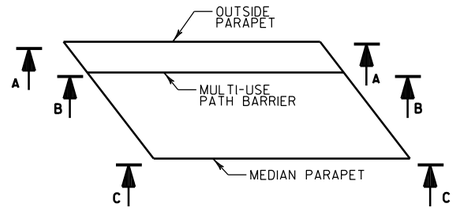
SECTION A-A VERTICAL FACE PARAPET 'A MODIFIED REINFORCING ELEVATION



SECTION B-B PARAPET '42SS' REINFORCING ELEVATION



SECTION C-C PARAPET '32SS' REINFORCING ELEVATION



KEY PLAN

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

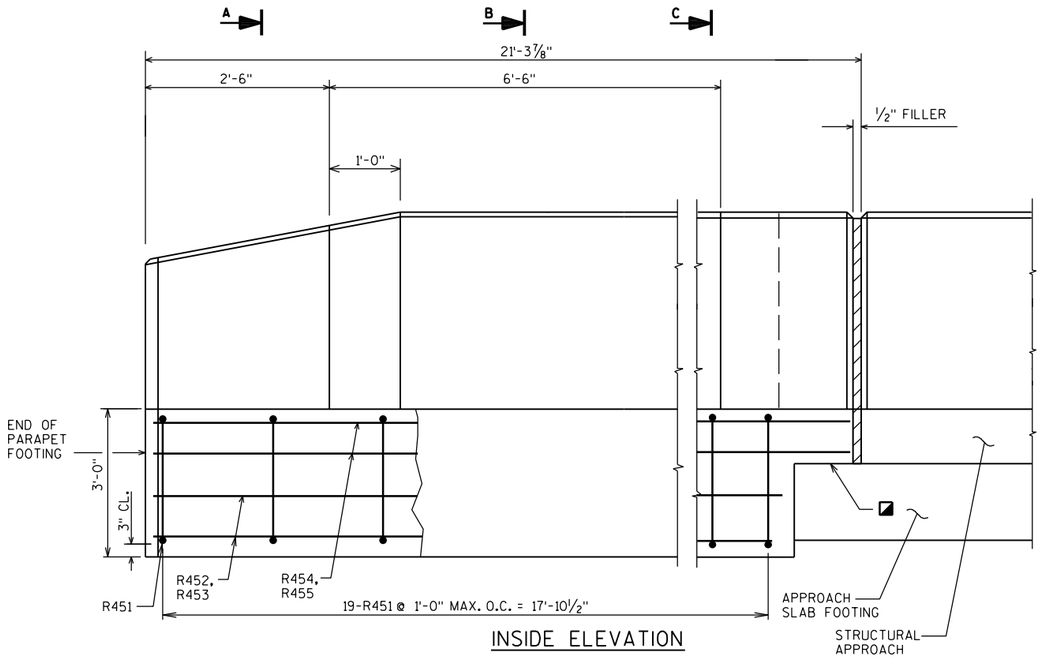
DRAWN BY RBH | PLANS CK'D. RPB

PARAPET REINFORCING

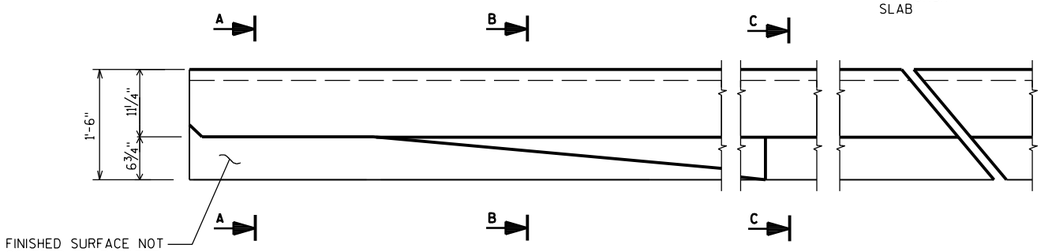
SHEET 20 OF 24
379

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INSIDE ELEVATION



PLAN

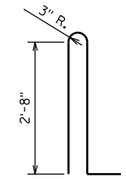
PARAPET BILL OF BARS

BAR MARK	COAT	WEST ABUT.	EAST ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	25	25	6'-10"	X		VERTICAL FACE PARAPET VERT.
R402	X	6	6	19'-7"			VERTICAL FACE PARAPET HORIZ.
R511	X	18	18	4'-5"	X		32SS PARAPET VERT.
R512	X	18	18	5'-0"	X		32SS PARAPET VERT.
R513	X	12	12	2'-9"	X		32SS PARAPET VERT.
R514	X	17	17	4'-4"	X		32SS PARAPET VERT.
R515	X	11	11	4'-9"	X		32SS PARAPET VERT.
R516	X	6	6	4'-10"	X		32SS PARAPET VERT.
R517	X	1	1	19'-3"	X		32SS PARAPET HORIZ.
R518	X	5	5	19'-3"			32SS PARAPET HORIZ.
R531	X	31	18	4'-5"	X		42SS PARAPET VERT.
R532	X	51	18	6'-8"	X		42SS PARAPET VERT.
R533	X	-	11	2'-9"	X		42SS PARAPET VERT.
R534	X	-	17	4'-4"	X		42SS PARAPET VERT.
R535	X	5	5	6'-5"	X		42SS PARAPET VERT.
R536	X	6	6	6'-6"	X		42SS PARAPET VERT.
R537	X	8	-	19'-6"			42SS PARAPET HORIZ.
R538	X	-	1	18'-3"	X		42SS PARAPET HORIZ.
R539	X	6	6	5'-5"	X	⚠	42SS PARAPET VERT.
R540	X	-	3	19'-2"			42SS PARAPET HORIZ.
R541	X	-	1	18'-11"	X		42SS PARAPET HORIZ.
R542	X	20	-	5'-10"	X		42SS PARAPET VERT.
R543	X	11	-	3'-0"	X		42SS PARAPET VERT.
R544	X	17	-	5'-7"	X		42SS PARAPET VERT.
R545	X	1	-	20'-8"	X		42SS PARAPET HORIZ.
R546	X	5	-	19'-8"			42SS PARAPET HORIZ.
R547	X	2	-	19'-7"	X		42SS PARAPET HORIZ.
R548	X	-	2	18'-7"			42SS PARAPET HORIZ.
R549	X	-	1	18'-7"	X		42SS PARAPET HORIZ.
R451	X	19	-	7'-8"	X		PARAPET FOOTING VERT.
R452	X	2	-	18'-10"			PARAPET FOOTING HORIZ.
R453	X	2	-	17'-10"			PARAPET FOOTING HORIZ.
R454	X	2	-	20'-9"			PARAPET FOOTING HORIZ.
R455	X	2	-	20'-11"			PARAPET FOOTING HORIZ.

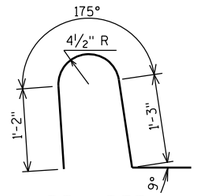
⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

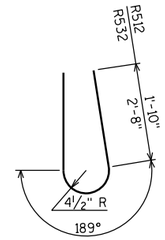
BAR MARK	NO. REQ'D	LENGTH
R539	2 SERIES OF 6	4'-9" TO 6'-1"



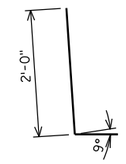
R501



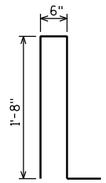
R511, R531



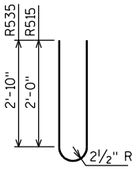
R512, R532



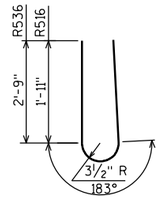
R513, R533



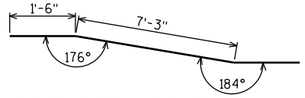
R514, R534



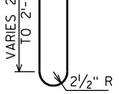
R515, R535



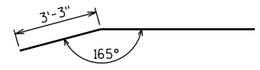
R516, R536



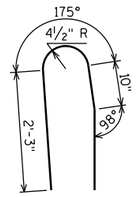
R517, R538, R545



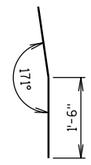
R539



R541, R547, R549



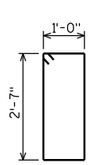
R542



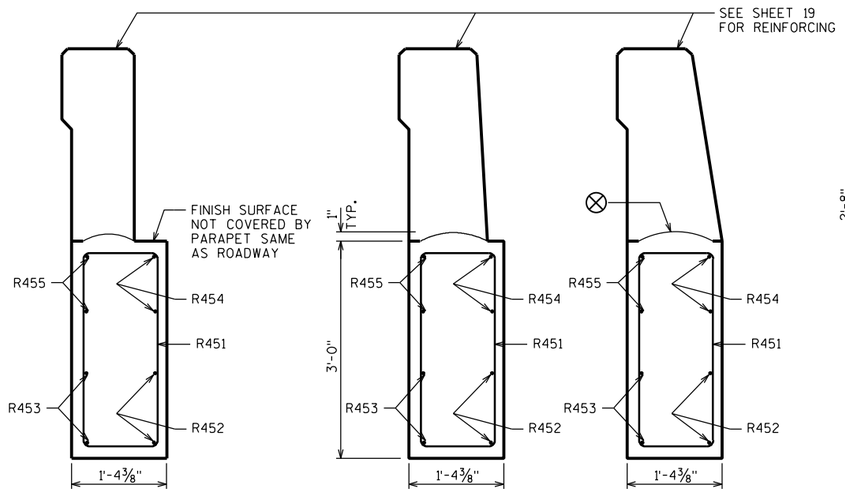
R543



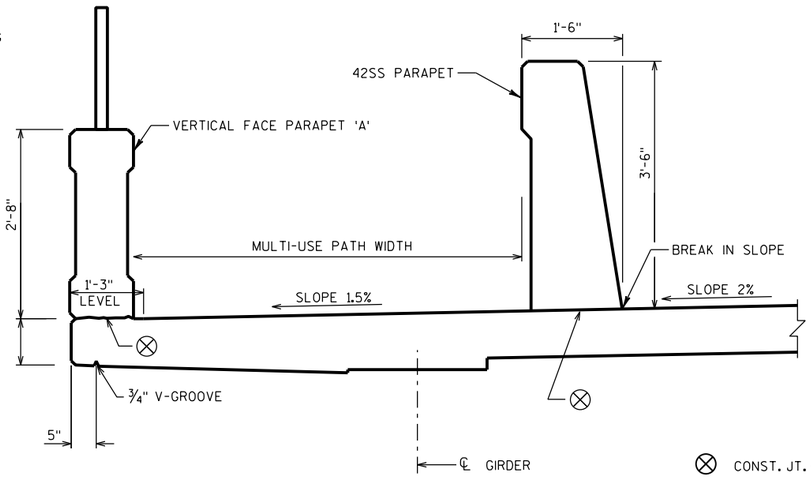
R544



R451



SECTION A SECTION B SECTION C



SECTION THRU PARAPET ON BRIDGE

⊗ CONST. JT. - STRIKE OFF AS SHOWN AND LEAVE ROUGH

◪ STEEL TROWEL HORIZONTAL SURFACE OF PAVING NOTCH. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS BETWEEN PARAPET FOOTING AND HORIZONTAL SURFACE OR PAVING NOTCH. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

STATE PROJECT NUMBER

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

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PARAPET FOOTING

SHEET 21 OF 24
380

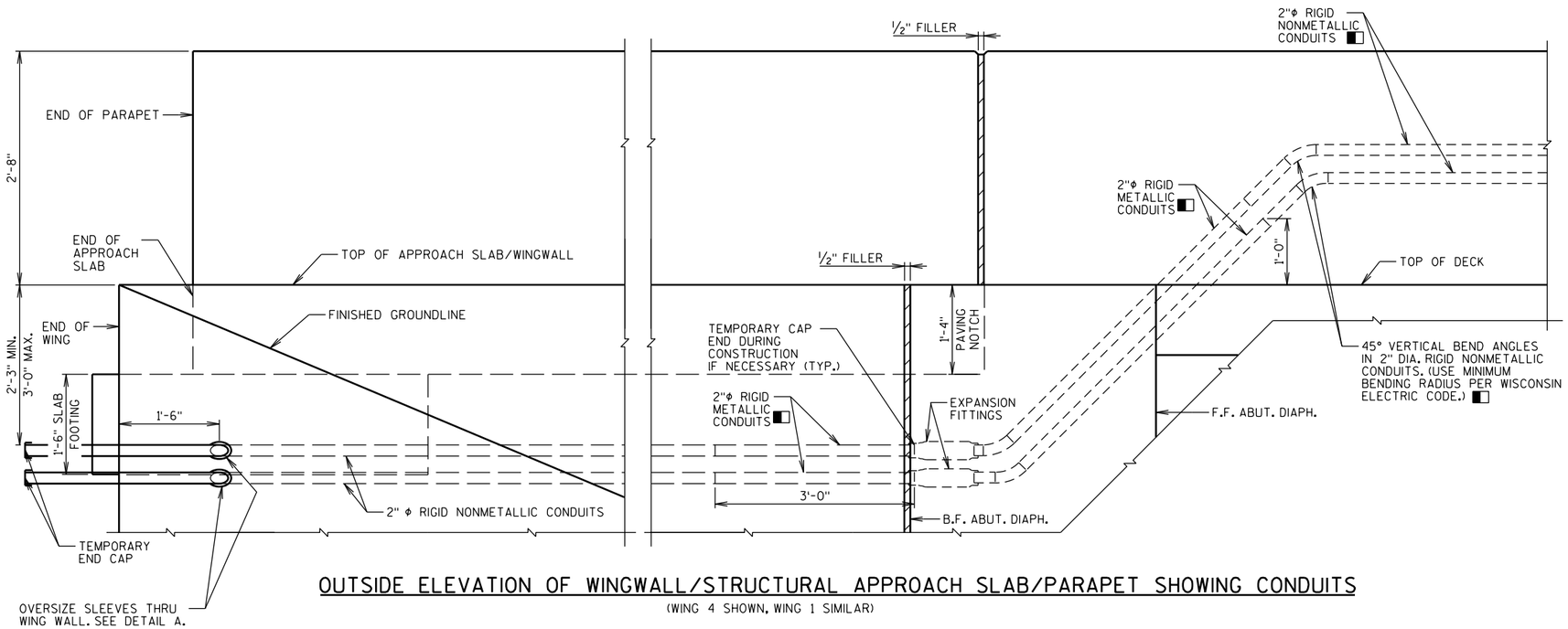
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FILE= SCALE =

STATE PROJECT NUMBER
3738-02-73



OUTSIDE ELEVATION OF WINGWALL/STRUCTURAL APPROACH SLAB/PARAPET SHOWING CONDUITS

(WING 4 SHOWN, WING 1 SIMILAR)

NOTES

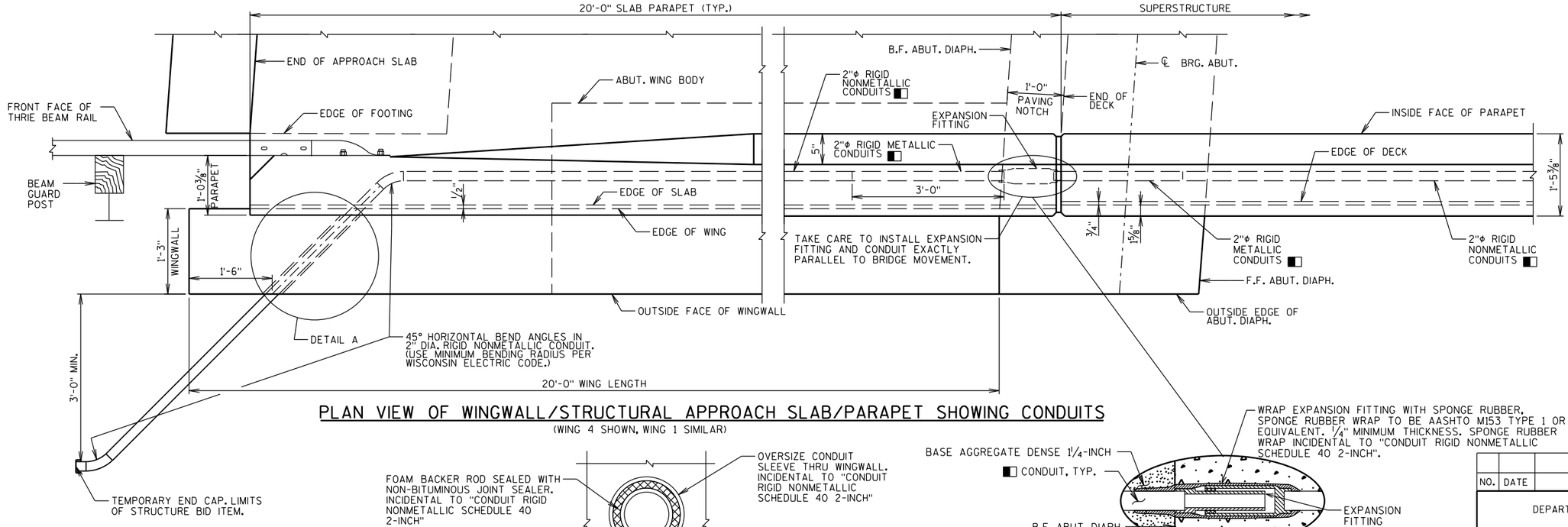
BID ITEMS SHALL BE:
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTINGS: O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

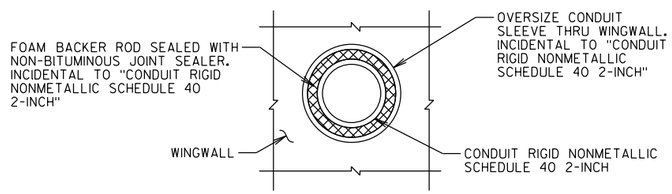
WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

■ USE 2"ϕ RIGID NONMETALLIC CONDUIT EXCEPT AT EXPANSION FITTINGS. AT EXPANSION FITTING, USE 2"ϕ RIGID METALLIC CONDUIT FROM 1'-0" FT ABOVE THE DECK TO EXPANSION FITTING AND 3'-0" INTO BASE AGGREGATE DENSE BEHIND THE ABUTMENT DIAPHRAGM.



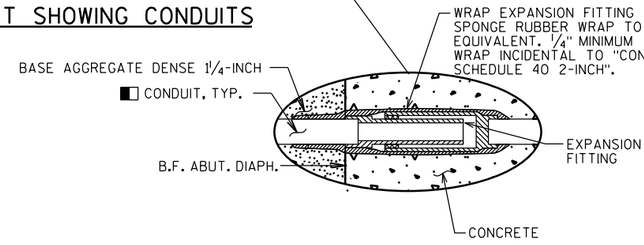
PLAN VIEW OF WINGWALL/STRUCTURAL APPROACH SLAB/PARAPET SHOWING CONDUITS

(WING 4 SHOWN, WING 1 SIMILAR)



DETAIL A

(AT WING 4 ONLY)



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

DRAWN BY RBH | PLANS CK'D. RPB

CONDUIT DETAILS

SHEET 22 OF 24
381

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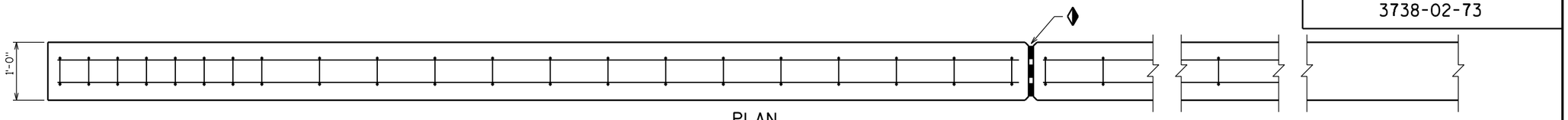
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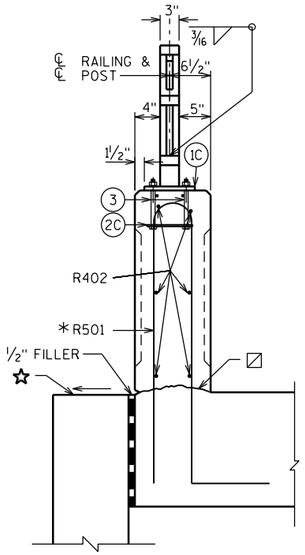
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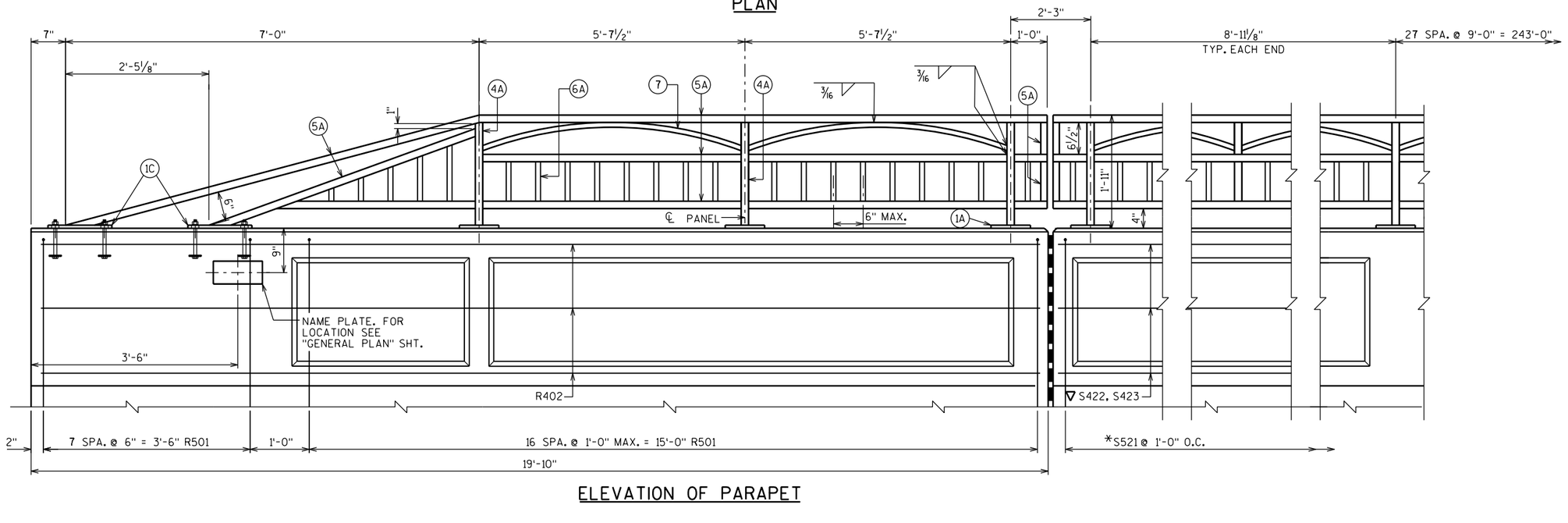
3738-02-73



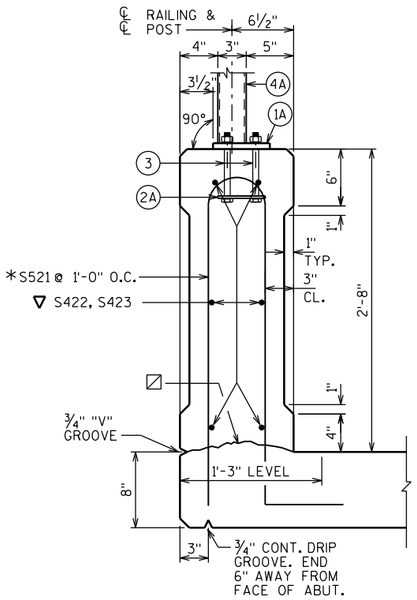
PLAN



END VIEW



ELEVATION OF PARAPET



SECTION THRU PARAPET ON BRIDGE

LEGEND

- USE 1/2" OPENING WITH FILLER
- OPTIONAL CONSTR. JOINTS IN THE PARAPETS MAY BE USED. RUN BAR STEEL THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-5". MIN. JOINT SPACING 80'-0"DEFINE CONSTR. JOINT WITH A 3/4" V-GROOVE.
- (X) SEE SHEET 24
- SLOPE FOR DRAINAGE
- HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- * ADJUST LOCATIONS OF BARS TO ALLOW PLACEMENT OF ANCHOR ASSEMBLY FOR RAILING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

DRAWN BY RBH | PLANS CK'D. RPB

VERTICAL FACE PARAPET 'A' MODIFIED

SHEET 23 OF 24

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8

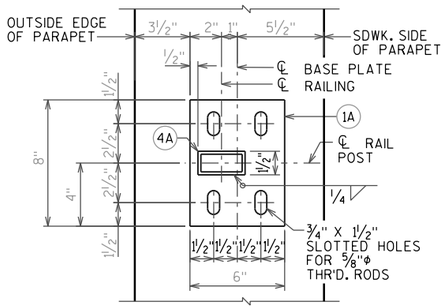
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L:±JOBS2013±20130212±CAD±STRUCTURAL±DGN±00±165_23.DGN 3/24/2016 9:11:08 AM

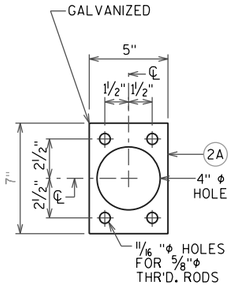
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STATE PROJECT NUMBER

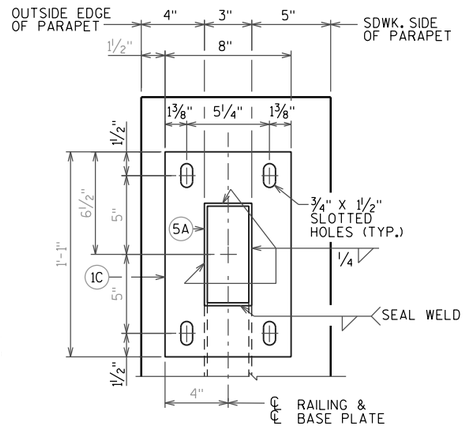
3738-02-73



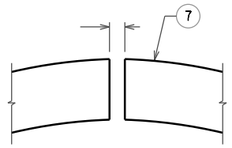
TYPICAL RAIL POST BASE PLATE



ANCHOR PLATE



END RAIL BASE PLATE



CURVED MEMBER JOINT DETAIL

LEGEND

(1A) PLATE ⅝" X 6" X 8" WITH ¾" X 1½" SLOTTED HOLES.

(1C) PLATE ⅝" X 8" X 1'-1" WITH ¾" X 1½" SLOTTED HOLES.

(2A) ¼" X 5" X 7" ANCHOR PLATE WITH 11/16 " φ HOLES FOR THR'D. RODS NO. 3.

(2C) ¼" X 2½" X 7¼" ANCHOR PLATE WITH 11/16 " φ HOLES FOR THR'D. RODS NO. 3.

(3) ⅝" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. (ALTERNATE RAIL POST ANCHORAGE - 4 EQUIV. STAINLESS STEEL CONCRETE MASONRY ANCHORS, TYPE S (EPOXY), ⅝" φ, MINIMUM PULLOUT CAPACITY OF 13 KIPS. EMBED A MIN. OF 7" FOR RAIL POSTS AND 5" FOR END RAILS.)

(4A) STRUCTURAL TUBING 3" X 1½" X 3/16". PLACE VERTICAL. WELD TO NO. 1 & 5.

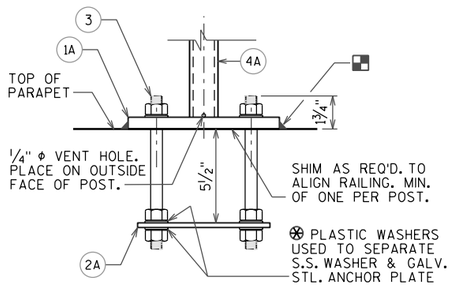
(5A) STRUCTURAL TUBING 3" X 1½" X 3/16" RAILS. WELD TO NO. 1 & NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.

(6A) BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE VERTICAL.

(7) BAR 1" X 1". BEND TO REQUIRED RADIUS. WELD TO NO. 4 & 5.

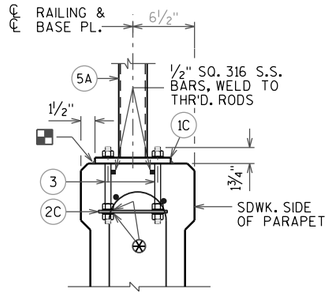
(9A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. PROVIDE "SLIDING FIT".

(10A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. (1'-4" ø FIELD ERECTION JTS.)



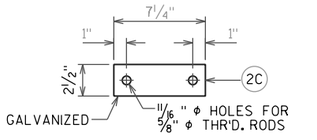
ANCHORAGE FOR RAIL POSTS

NOTE: ANCHOR PLATE NOT REQUIRED WHEN TYPE S ANCHORS ARE USED.



ANCHORAGE FOR END RAIL

NOTE: ANCHOR PLATES NOT REQ'D. WHEN TYPE "S" ANCHORS ARE USED.



END RAIL ANCHOR PLATE

FOR END RAIL BASE PLATES
2 REQ'D. PER END RAIL BASE PLATE

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL TYPE C3 B-30-133", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

NO. 1, 2, 6, 7, 9 AND 10 SHALL CONFORM TO ASTM A709 GRADE 36. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B (NO. 4, AND NO. 5).

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET NORMAL TO GRADE.

CUT BOTTOM OF POST TO MAKE POST VERTICAL IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTION.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

CAULK AROUND PERIMETER OF BASE PLATES, NO. 1, AND FILL BOLT SLOT OPENINGS IN SHIMS AND BASE PLATES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

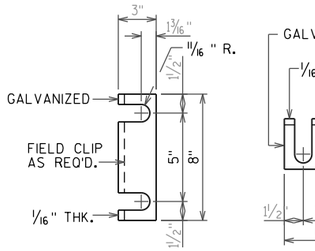
ALL JOINTS AND RECESSES IN CONCRETE PARAPET ARE TO BE VERTICAL.

ALL MATERIAL (EXCEPT NO. 3) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE "BRIDGE SPECIAL PROVISIONS". THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. 27038, BLACK.

VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

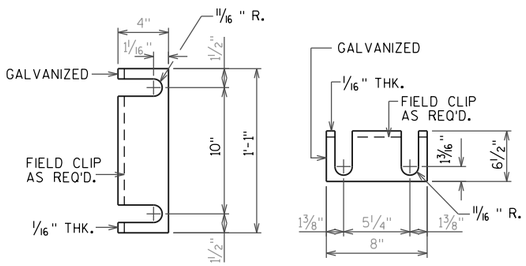
RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

TOUCH-UP PAINTING TO BE DONE AT COMPLETION OF STEEL RAILING INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST.



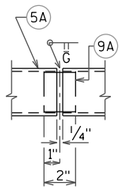
RAIL POST SHIM DETAIL

(2 SETS PER POST)



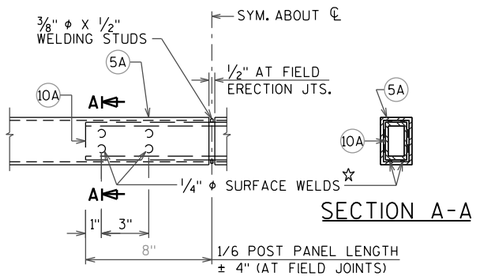
END RAIL SHIM DETAIL

(2 SETS PER POST)



SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



SECTION A-A

FIELD ERECTION JOINT DETAIL

☆ MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-133

DRAWN BY RBH | PLANS CK'D. RPB

COMBINATION RAIL TYPE "C3" DETAILS

SHEET 24 OF 24
383

FILE=
SCALE =

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STH 165 - WESTBOUND

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				
		Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	EBS	Cut 1.00 Note 1	Expanded Fill 1.11	Expanded EBS Backfill 1.30 Note 5	Reduced EBS In Fill 0.9 Note 7	Mass Ordinate Note 8
412+59.00		16	0	0	0	0	0	0	0	0	0	0	0	0
413+00.00	41	0	0	36	0	12	0	27	0	12	30	0	0	-18
413+20.00	20	0	0	46	0	0	0	30	0	12	64	0	0	-52
414+00.00	80	0	0	81	0	0	0	187	0	12	272	0	0	-260
414+50.00	50	0	0	89	0	0	0	157	0	12	446	0	0	-433
415+00.00	50	0	0	98	0	0	0	172	0	12	637	0	0	-625
416+00.00	100	2	0	73	0	4	0	317	0	17	989	0	0	-972
417+00.00	100	7	0	50	0	17	0	229	0	33	1243	0	0	-1209
417+42.00	42	14	0	45	0	16	0	74	0	50	1325	0	0	-1275
418+00.00	58	18	9	25	0	34	10	75	0	84	1408	0	0	-1334
419+00.00	100	30	6	18	0	89	28	80	0	173	1497	0	0	-1362
419+16.00	16	35	5	3	0	19	3	6	0	193	1504	0	0	-1353
420+00.00	84	29	2	28	0	100	10	47	0	292	1556	0	0	-1316
420+21.00	21	56	2	14	0	33	1	16	0	325	1575	0	0	-1302
420+24.00	3	53	20	18	0	6	1	2	0	331	1577	0	0	-1300
421+00.00	76	65	20	39	0	166	56	81	0	498	1666	0	0	-1279
421+55.00	55	64	20	64	0	131	41	106	0	629	1783	0	0	-1306
421+65.00	10	63	20	58	0	23	7	23	0	652	1808	0	0	-1315
422+00.00	35	60	20	67	0	80	26	81	0	732	1898	0	0	-1351
422+49.00	49	58	20	51	0	108	36	107	0	839	2018	0	0	-1399
423+00.00	51	42	19	38	0	94	37	84	0	934	2111	0	0	-1436
424+00.00	100	22	17	19	0	118	68	105	0	1052	2228	0	0	-1502
425+00.00	100	18	14	18	0	74	58	67	0	1126	2303	0	0	-1560
426+00.00	100	17	13	22	0	65	50	74	0	1191	2385	0	0	-1627
427+00.00	100	25	11	38	0	77	45	111	0	1268	2508	0	0	-1719
428+00.00	100	24	8	49	0	91	35	161	0	1359	2687	0	0	-1842
429+00.00	100	23	4	48	0	87	22	179	0	1445	2886	0	0	-1975
430+00.00	100	25	2	43	0	88	10	167	0	1533	3072	0	0	-2083
431+00.00	100	42	0	15	0	124	3	107	0	1657	3191	0	0	-2082
432+00.00	100	35	0	22	0	142	0	68	0	1799	3266	0	0	-2015
432+49.00	49	46	0	17	0	73	0	35	0	1872	3305	0	0	-1981
433+00.00	51	61	0	11	47	101	0	27	44	1973	3290	58	40	-1865
434+00.00	100	43	0	43	47	193	0	101	174	2166	3228	284	197	-1611
434+39.00	39	48	0	84	47	65	0	92	68	2231	3263	372	258	-1580
435+00.00	61	53	0	58	47	113	0	161	106	2344	3335	510	353	-1539
436+00.00	100	41	0	69	47	172	0	236	174	2516	3423	737	510	-1454
436+29.00	29	42	0	68	47	44	0	74	50	2561	3454	802	555	-1442
437+00.00	71	41	0	40	47	110	0	143	124	2670	3489	963	667	-1367
437+99.00	99	31	0	44	47	133	0	154	172	2803	3488	1187	822	-1233
438+00.00	1	31	0	44	0	1	0	2	1	2804	3489	1188	823	-1233
439+00.00	100	0	0	52	0	57	0	178	0	2862	3687	1188	823	-1374
440+00.00	100	0	0	62	0	1	0	211	0	2862	3922	1188	823	-1607
441+00.00	100	1	0	41	0	3	0	190	0	2865	4133	1188	823	-1816
442+00.00	100	4	0	49	0	9	0	167	0	2874	4318	1188	823	-1991
442+79.00	79	5	0	32	0	12	0	118	0	2887	4449	1188	823	-2110
443+00.00	21	4	0	50	0	4	0	32	0	2890	4485	1188	823	-2143
443+50.00	50	1	0	65	0	5	0	107	0	2895	4603	1188	823	-2256
444+00.00	50	0	0	92	0	1	0	146	0	2896	4765	1188	823	-2417
444+69.00	69	0	0	127	0	0	0	281	0	2896	5076	1188	823	-2729
445+00.00	31	0	0	145	0	0	0	156	0	2896	5250	1188	823	-2902
445+94.00	94	0	0	226	0	0	0	645	0	2896	5966	1188	823	-3618
446+00.00	6	0	0	230	0	0	0	51	0	2896	6022	1188	823	-3674
446+59.00	59	0	0	264	0	0	0	539	0	2896	6621	1188	823	-4273
447+00.00	41	0	0	286	0	0	0	417	0	2896	7083	1188	823	-4735
447+44.00	44	0	0	329	0	0	0	501	0	2896	7639	1188	823	-5291
448+00.00	56	0	0	350	0	0	0	704	0	2896	8420	1188	823	-6072
448+07.00	7	0	0	367	0	0	0	93	0	2896	8523	1188	823	-6175
448+20.00	13	0	0	406	0	0	0	186	0	2896	8730	1188	823	-6382
448+35.00	15	0	0	333	0	0	0	205	0	2896	8958	1188	823	-6610
448+39.00	4	0	0	317	0	0	0	48	0	2896	9012	1188	823	-6664
448+47.00	8	0	0	311	0	0	0	93	0	2896	9115	1188	823	-6767
448+70.00	23	0	0	207	0	0	0	221	0	2896	9360	1188	823	-7012
448+72.00	2	0	0	196	0	0	0	15	0	2896	9376	1188	823	-7028
448+95.00	23	0	0	38	0	0	0	100	0	2896	9487	1188	823	-7139

STH 165 - WESTBOUND

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				
		Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut 1.00	Expanded Fill 1.11	Expanded EBS Backfill 1.30	Reduced EBS In Fill 0.9	Mass Ordinate
						Note 1	Note 2	Note 3		Note 1		Note 5	Note 7	Note 8
449+00.00	5	0	0	30	0	0	0	6	0	2896	9494	1188	823	-7146
450+00.00	100	0	0	0	0	0	0	56	0	2896	9556	1188	823	-7208
451+00.00	100	0	0	204	0	0	0	378	0	2896	9976	1188	823	-7628
451+73.00	73	0	0	512	0	0	0	969	0	2896	11052	1188	823	-8704
451+82.00	9	0	0	453	0	0	0	161	0	2896	11230	1188	823	-8882
452+00.00	18	0	0	412	0	0	0	288	0	2896	11550	1188	823	-9202
452+24.00	24	0	0	394	0	0	0	358	0	2896	11948	1188	823	-9600
452+27.00	3	0	0	396	0	0	0	44	0	2896	11997	1188	823	-9649
452+37.00	10	0	0	409	0	0	0	149	0	2896	12162	1188	823	-9814
452+48.00	11	0	0	411	0	0	0	167	0	2896	12348	1188	823	-10000
452+73.00	25	0	0	415	0	0	0	383	0	2896	12772	1188	823	-10424
453+00.00	27	0	0	416	0	0	0	416	0	2896	13234	1188	823	-10886
454+00.00	100	0	0	248	0	0	0	1230	0	2896	14599	1188	823	-12251
454+50.00	50	0	0	234	0	0	0	446	0	2896	15094	1188	823	-12746
455+00.00	50	0	0	197	0	0	0	399	0	2896	15537	1188	823	-13189
456+00.00	100	0	0	135	0	0	0	615	0	2896	16220	1188	823	-13872
457+00.00	100	7	0	112	0	13	0	458	0	2909	16729	1188	823	-14367
458+00.00	100	26	0	114	0	62	0	418	0	2971	17193	1188	823	-14770
458+29.00	29	39	0	110	0	35	0	120	0	3006	17326	1188	823	-14868
459+00.00	71	45	0	117	0	111	0	298	0	3117	17656	1188	823	-15087
459+59.00	59	54	0	117	0	108	0	256	0	3225	17940	1188	823	-15263
460+00.00	41	73	0	181	0	96	0	226	0	3322	18191	1188	823	-15417
461+00.00	100	87	0	133	0	297	0	580	0	3619	18835	1188	823	-15765
462+00.00	100	91	0	134	0	331	0	494	0	3950	19383	1188	823	-15982
462+19.00	19	91	0	134	0	64	0	94	0	4014	19488	1188	823	-16022
463+00.00	81	95	0	55	0	279	0	284	0	4293	19803	1188	823	-16058
463+49.00	49	94	0	41	0	172	0	88	0	4465	19900	1188	823	-15983
464+00.00	51	81	0	37	0	165	0	74	0	4630	19982	1188	823	-15900
464+79.00	79	53	0	24	0	196	0	90	0	4825	20082	1188	823	-15805
465+00.00	21	62	0	10	0	45	0	13	0	4870	20097	1188	823	-15775
466+00.00	100	2	0	91	0	119	0	187	0	4989	20304	1188	823	-15864
466+48.00	48	0	0	129	0	2	0	195	0	4991	20521	1188	823	-16079
467+00.00	52	0	2	120	0	0	1	240	0	4991	20788	1188	823	-16346
467+49.00	49	0	3	140	0	0	4	237	0	4991	21050	1188	823	-16613
468+00.00	51	0	5	128	0	0	7	253	0	4991	21331	1188	823	-16901
468+79.00	79	1	8	135	0	1	19	384	0	4992	21757	1188	823	-17345
469+00.00	21	4	10	138	0	2	7	106	0	4994	21875	1188	823	-17468
470+00.00	100	10	15	163	0	25	46	557	0	5019	22494	1188	823	-18107
471+00.00	100	12	15	201	0	41	56	674	0	5061	23242	1188	823	-18870
471+39.00	39	12	16	212	0	18	22	298	0	5078	23573	1188	823	-19205
472+00.00	61	13	17	204	0	29	36	470	0	5107	24094	1188	823	-19734
473+00.00	100	13	18	205	0	49	63	757	0	5156	24935	1188	823	-20589
474+00.00	100	21	19	206	0	63	67	762	0	5219	25780	1188	823	-21439
475+00.00	100	33	23	262	0	100	78	867	0	5320	26743	1188	823	-22378
476+00.00	100	46	27	187	0	145	92	831	0	5465	27665	1188	823	-23247
477+00.00	100	38	29	162	0	154	103	645	0	5620	28381	1188	823	-23913
478+00.00	100	30	30	137	0	125	110	554	0	5745	28995	1188	823	-24511
479+00.00	100	24	30	106	0	100	112	451	0	5845	29496	1188	823	-25024
479+39.00	39	35	30	43	0	43	44	108	0	5888	29616	1188	823	-25145
480+00.00	61	93	33	0	0	145	71	48	0	6032	29670	1188	823	-25125
480+69.00	69	26	20	38	0	152	68	49	0	6185	29724	1188	823	-25095
481+00.00	31	24	20	79	0	29	23	67	0	6214	29799	1188	823	-25164
481+99.00	99	26	20	79	0	93	74	290	0	6306	30120	1188	823	-25467
482+00.00	1	26	20	79	0	1	1	3	0	6307	30123	1188	823	-25470
482+61.00	61	32	20	76	0	66	46	176	0	6373	30318	1188	823	-25645
483+00.00	39	37	20	80	0	50	29	113	0	6423	30443	1188	823	-25749
484+00.00	100	47	20	107	0	154	75	347	0	6577	30828	1188	823	-26054
485+00.00	100	54	20	98	0	186	74	380	0	6763	31250	1188	823	-26364
485+19.00	19	54	20	90	0	38	14	66	0	6801	31324	1188	823	-26414
486+00.00	81	52	20	77	0	159	61	250	0	6960	31601	1188	823	-26593
487+00.00	100	47	20	7	0	182	75	155	0	7143	31773	1188	823	-26658
487+23.00	23	50	20	1	0	41	17	3	0	7184	31777	1188	823	-26637
					Column totals	7184	2045	29450	914					

TERWALL TERRACE

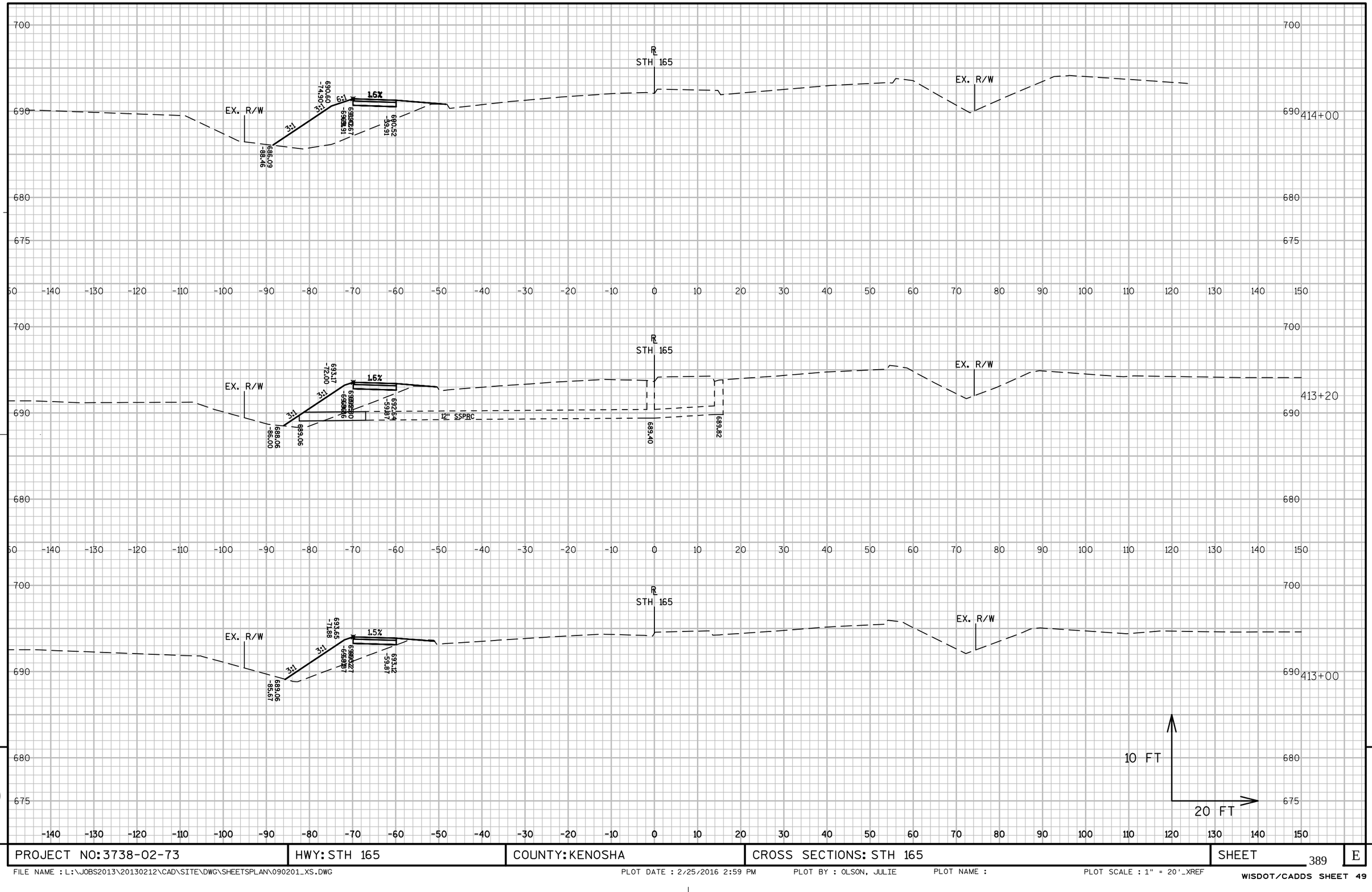
STATION	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.11	Expanded EBS Backfill 1.30 Note 5	Reduced EBS In Fill 0.9 Note 7	Mass Ordinate Note 8
21+00.00		0	0	0	0	0	0	0	0	0	0	0	0	0
21+50.00	50	92	0	1	0	86	0	1	0	86	1	0	0	85
22+00.00	50	104	0	0	0	182	0	1	0	267	2	0	0	266
22+50.00	50	90	0	0	0	180	0	0	0	447	2	0	0	445
				Column totals		447	0	2	0					

STH 165 - EASTBOUND

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)		
		Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	EBS	Cut 1.00 Note 1	Expanded Fill 1.11	Mass Ordinate Note 8
412+59.00		0	0	0	0	0	0	0	0	0	0	0
413+00.00	41	0	0	0	0	0	0	0	0	0	0	0
413+20.00	20	0	0	0	0	0	0	0	0	0	0	0
414+00.00	80	0	0	0	0	0	0	0	0	0	0	0
414+50.00	50	0	0	0	0	0	0	0	0	0	0	0
415+00.00	50	0	0	0	0	0	0	0	0	0	0	0
416+00.00	100	0	0	0	0	0	0	0	0	0	0	0
417+00.00	100	0	0	0	0	0	0	0	0	0	0	0
417+42.00	42	10	0	0	0	8	0	0	0	8	0	8
418+00.00	58	42	0	0	0	56	0	0	0	63	0	63
419+00.00	100	45	0	0	0	163	0	0	0	226	0	226
419+16.00	16	43	0	0	0	26	0	0	0	252	0	252
420+00.00	84	43	0	0	0	132	0	0	0	385	0	385
420+21.00	21	43	0	0	0	33	0	0	0	418	0	418
420+24.00	3	40	0	0	0	5	0	0	0	423	0	423
421+00.00	76	57	0	0	0	137	0	0	0	560	0	560
421+55.00	55	59	0	0	0	119	0	0	0	679	0	679
421+65.00	10	60	0	0	0	22	0	0	0	701	0	701
422+00.00	35	62	0	0	0	79	0	0	0	779	0	779
422+49.00	49	62	0	0	0	112	0	0	0	891	0	891
423+00.00	51	62	0	0	0	117	0	0	0	1008	0	1008
424+00.00	100	61	0	0	0	227	0	0	0	1235	0	1235
425+00.00	100	61	0	0	0	226	0	0	0	1461	1	1460
426+00.00	100	56	0	0	0	217	0	0	0	1678	1	1677
427+00.00	100	52	0	0	0	199	0	0	0	1877	1	1876
428+00.00	100	54	0	0	0	196	0	1	0	2073	2	2071
429+00.00	100	56	0	0	0	204	0	1	0	2277	3	2275
430+00.00	100	53	0	0	0	202	0	1	0	2480	4	2476
431+00.00	100	56	0	0	0	203	0	1	0	2683	5	2678
432+00.00	100	57	0	0	0	210	0	1	0	2892	6	2887
432+49.00	49	57	0	0	0	104	0	0	0	2996	6	2990
433+00.00	51	58	0	0	0	109	0	0	0	3105	6	3098
434+00.00	100	59	0	0	0	215	0	1	0	3320	7	3313
434+39.00	39	57	0	0	0	83	0	0	0	3403	8	3395
435+00.00	61	57	0	0	0	129	0	0	0	3532	8	3524
436+00.00	100	57	0	0	0	212	0	1	0	3744	9	3735
436+29.00	29	56	0	0	0	61	0	0	0	3805	9	3796
437+00.00	71	56	0	0	0	147	0	1	0	3952	10	3942
437+99.00	99	54	0	0	0	200	0	1	0	4153	12	4141
438+00.00	1	54	0	0	0	2	0	0	0	4155	12	4143
439+00.00	100	58	0	0	0	206	0	2	0	4361	14	4347
440+00.00	100	52	0	1	0	204	0	2	0	4564	15	4549
441+00.00	100	56	0	0	0	200	0	2	0	4765	17	4747
442+00.00	100	55	0	0	0	205	0	2	0	4970	19	4950
442+79.00	79	53	0	1	0	158	0	1	0	5128	21	5107
443+00.00	21	53	0	1	0	41	0	0	0	5169	21	5147
443+50.00	50	52	0	1	0	97	0	1	0	5266	23	5243
444+00.00	50	52	0	1	0	97	0	1	0	5362	24	5339
444+69.00	69	52	0	1	0	132	0	1	0	5494	25	5469
445+00.00	31	51	0	1	0	59	0	1	0	5553	26	5528
445+94.00	94	50	0	1	0	176	0	2	0	5729	28	5701
446+00.00	6	50	0	1	0	11	0	0	0	5740	28	5712
446+59.00	59	49	0	1	0	108	0	1	0	5848	30	5819
447+00.00	41	47	0	1	0	73	0	1	0	5921	31	5891
447+44.00	44	40	0	2	0	71	0	2	0	5993	33	5960
448+00.00	56	46	0	2	0	89	0	4	0	6082	37	6045
448+07.00	7	47	0	2	0	12	0	0	0	6093	37	6056
448+20.00	13	49	0	1	0	23	0	1	0	6116	38	6078
448+35.00	15	51	0	2	0	28	0	1	0	6144	39	6105
448+39.00	4	51	0	2	0	8	0	0	0	6152	39	6112
448+47.00	8	51	0	2	0	15	0	1	0	6167	40	6127
448+70.00	23	52	0	2	0	44	0	2	0	6210	42	6168
448+72.00	2	52	0	2	0	4	0	0	0	6214	42	6172
448+95.00	23	55	0	15	0	46	0	7	0	6260	50	6209

STH 165 - EASTBOUND

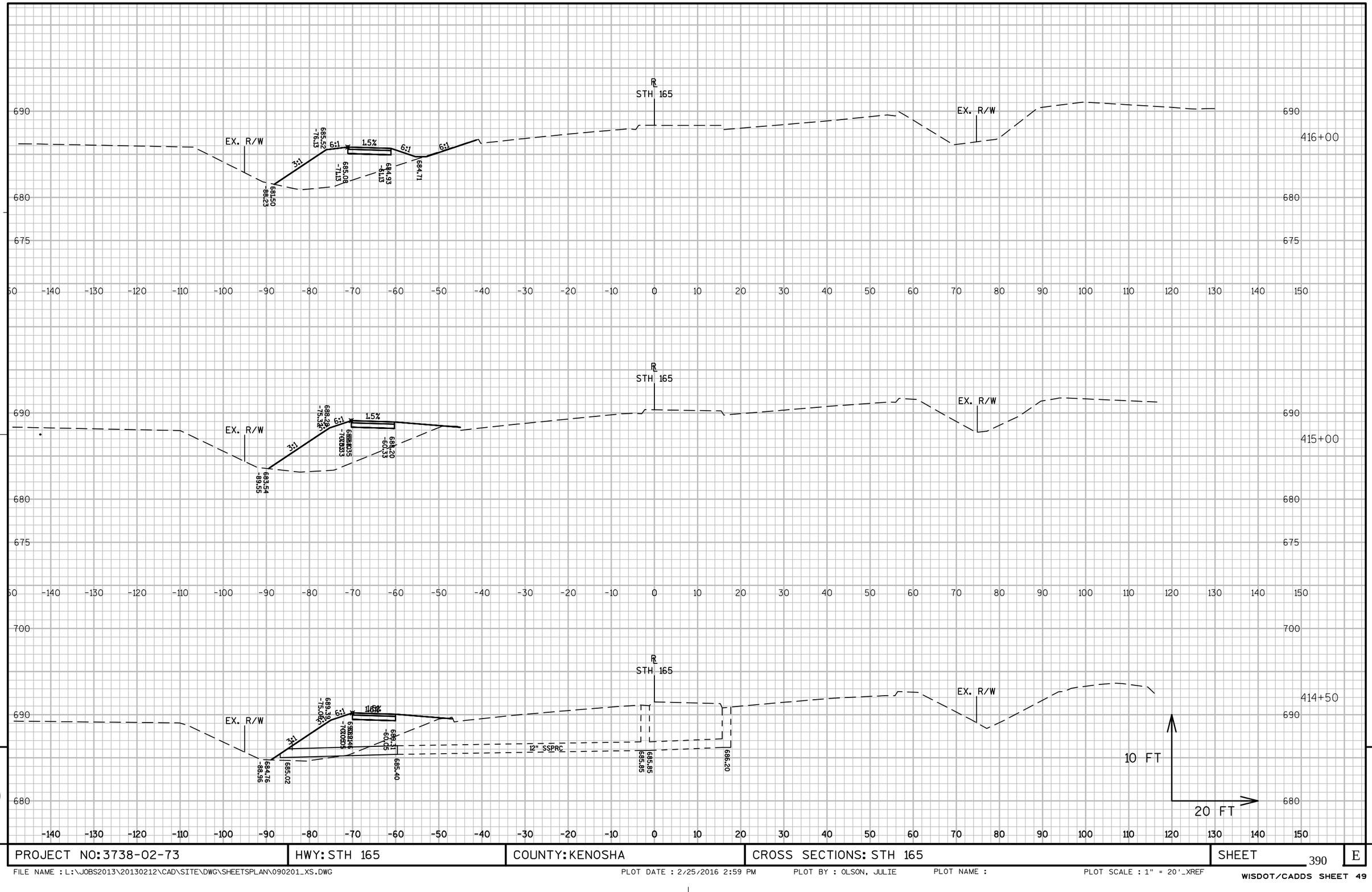
STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)		
		Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	EBS	Cut 1.00 Note 1	Expanded Fill 1.11	Mass Ordinate Note 8
449+00.00	5	57	0	25	0	10	0	4	0	6270	54	6216
450+00.00	100	0	0	142	0	105	0	311	0	6375	399	5976
451+00.00	100	0	0	40	0	0	0	337	0	6375	773	5602
451+73.00	73	6	0	407	0	9	0	604	0	6384	1444	4940
451+82.00	9	26	0	235	0	5	0	107	0	6389	1563	4826
452+00.00	18	49	0	22	0	25	0	86	0	6414	1658	4756
452+24.00	24	46	0	3	0	42	0	11	0	6456	1670	4786
452+27.00	3	46	0	3	0	5	0	0	0	6461	1671	4790
452+37.00	10	46	0	2	0	17	0	1	0	6478	1672	4806
452+48.00	11	46	0	2	0	19	0	1	0	6497	1673	4824
452+73.00	25	43	0	2	0	41	0	2	0	6538	1675	4863
453+00.00	27	43	0	2	0	43	0	2	0	6581	1677	4904
454+00.00	100	42	0	1	0	158	0	5	0	6739	1683	5056
454+50.00	50	46	0	1	0	81	0	2	0	6820	1685	5136
455+00.00	50	49	0	0	0	88	0	1	0	6908	1686	5223
456+00.00	100	51	0	0	0	187	0	1	0	7095	1686	5409
457+00.00	100	40	0	0	0	170	0	1	0	7265	1687	5578
458+00.00	100	37	0	0	0	144	0	1	0	7409	1688	5721
458+29.00	29	35	0	0	0	39	0	0	0	7448	1688	5760
459+00.00	71	38	0	0	0	96	0	0	0	7544	1689	5855
459+59.00	59	40	0	0	0	85	0	0	0	7629	1689	5940
460+00.00	41	42	0	0	0	62	0	0	0	7691	1689	6002
461+00.00	100	36	0	0	0	144	0	0	0	7834	1689	6145
462+00.00	100	36	0	0	0	134	0	1	0	7968	1690	6279
462+19.00	19	38	0	0	0	26	0	0	0	7995	1690	6305
463+00.00	81	41	0	0	0	119	0	0	0	8114	1690	6424
463+49.00	49	40	0	0	0	74	0	0	0	8187	1690	6497
464+00.00	51	40	0	0	0	75	0	0	0	8262	1690	6572
464+79.00	79	35	0	0	0	110	0	0	0	8372	1690	6682
465+00.00	21	36	0	0	0	28	0	0	0	8400	1690	6710
466+00.00	100	34	0	0	0	130	0	0	0	8530	1690	6840
466+48.00	48	37	0	0	0	63	0	0	0	8593	1690	6903
467+00.00	52	34	0	0	0	68	0	0	0	8661	1690	6971
467+49.00	49	36	0	0	0	64	0	0	0	8725	1691	7035
468+00.00	51	38	0	0	0	70	0	0	0	8795	1691	7105
468+79.00	79	40	0	0	0	113	0	0	0	8909	1691	7218
469+00.00	21	40	0	0	0	31	0	0	0	8940	1691	7249
470+00.00	100	38	0	0	0	146	0	0	0	9086	1691	7394
471+00.00	100	40	0	1	0	146	0	2	0	9232	1694	7538
471+39.00	39	40	0	1	0	58	0	2	0	9290	1696	7594
472+00.00	61	40	0	1	0	90	0	3	0	9380	1699	7681
473+00.00	100	39	0	1	0	145	0	4	0	9525	1704	7821
474+00.00	100	44	0	0	0	153	0	2	0	9678	1706	7972
475+00.00	100	47	0	0	0	168	0	0	0	9846	1707	8139
476+00.00	100	45	0	0	0	170	0	0	0	10016	1707	8309
477+00.00	100	48	0	0	0	173	0	0	0	10189	1707	8482
478+00.00	100	47	0	0	0	176	0	1	0	10365	1708	8657
479+00.00	100	43	0	1	0	166	0	2	0	10531	1711	8821
479+39.00	39	42	0	1	0	61	0	2	0	10592	1712	8880
480+00.00	61	39	0	0	0	91	0	2	0	10683	1714	8969
480+69.00	69	37	0	1	0	97	0	1	0	10780	1715	9064
481+00.00	31	33	0	1	0	40	0	1	0	10820	1717	9103
481+99.00	99	35	0	0	0	123	0	1	0	10943	1718	9225
482+00.00	1	34	0	0	0	1	0	0	0	10945	1718	9227
482+61.00	61	35	0	0	0	78	0	0	0	11023	1718	9305
483+00.00	39	33	0	0	0	49	0	0	0	11072	1718	9353
484+00.00	100	34	0	0	0	124	0	0	0	11196	1719	9477
485+00.00	100	35	0	0	0	127	0	0	0	11324	1719	9605
485+19.00	19	38	0	0	0	25	0	0	0	11349	1719	9630
486+00.00	81	35	0	0	0	109	0	0	0	11458	1719	9739
487+00.00	100	34	0	0	0	128	0	0	0	11586	1719	9867
487+23.00	23	36	0	0	0	30	0	0	0	11616	1719	9897
					Column totals	11616	0	1549	0			



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 389	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\090201_XS.DWG PLOT DATE : 2/25/2016 2:59 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 20'_XREF

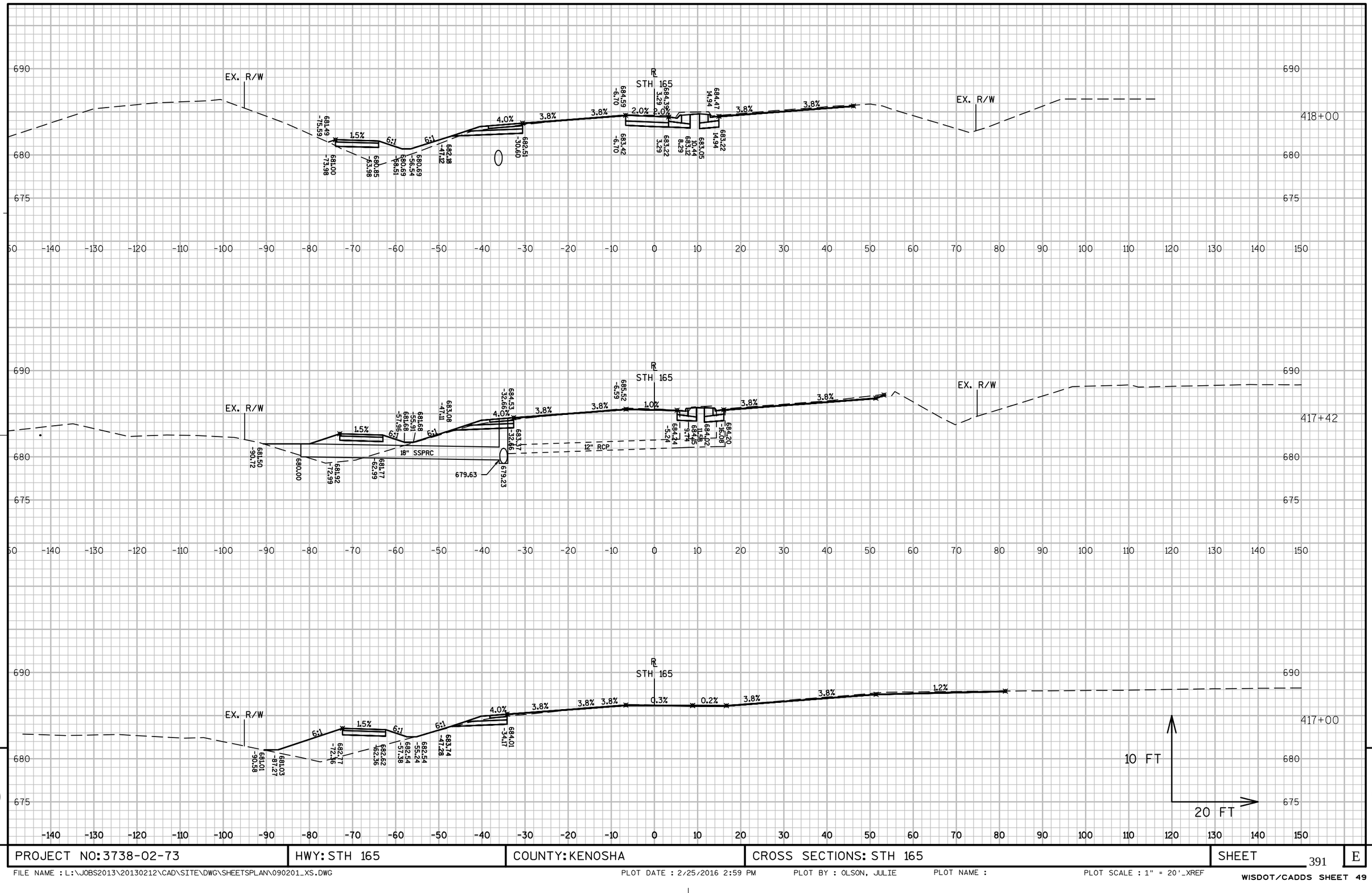
WISDOT/CADDS SHEET 49



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 390	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\090201_XS.DWG PLOT DATE : 2/25/2016 2:59 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 20'_XREF

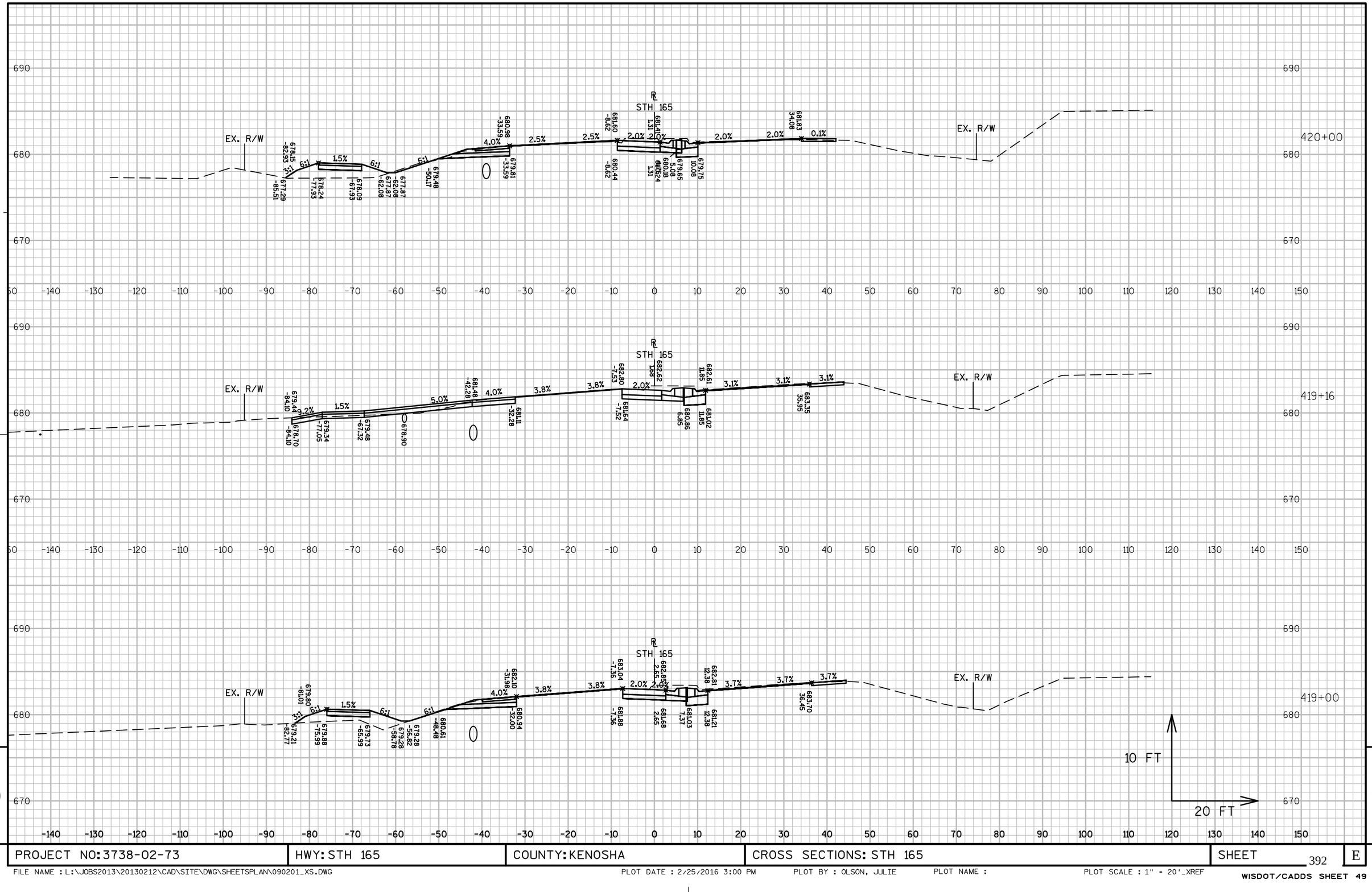
WISDOT/CADDS SHEET 49



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 391	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\090201_XS.DWG PLOT DATE : 2/25/2016 2:59 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 20'_XREF

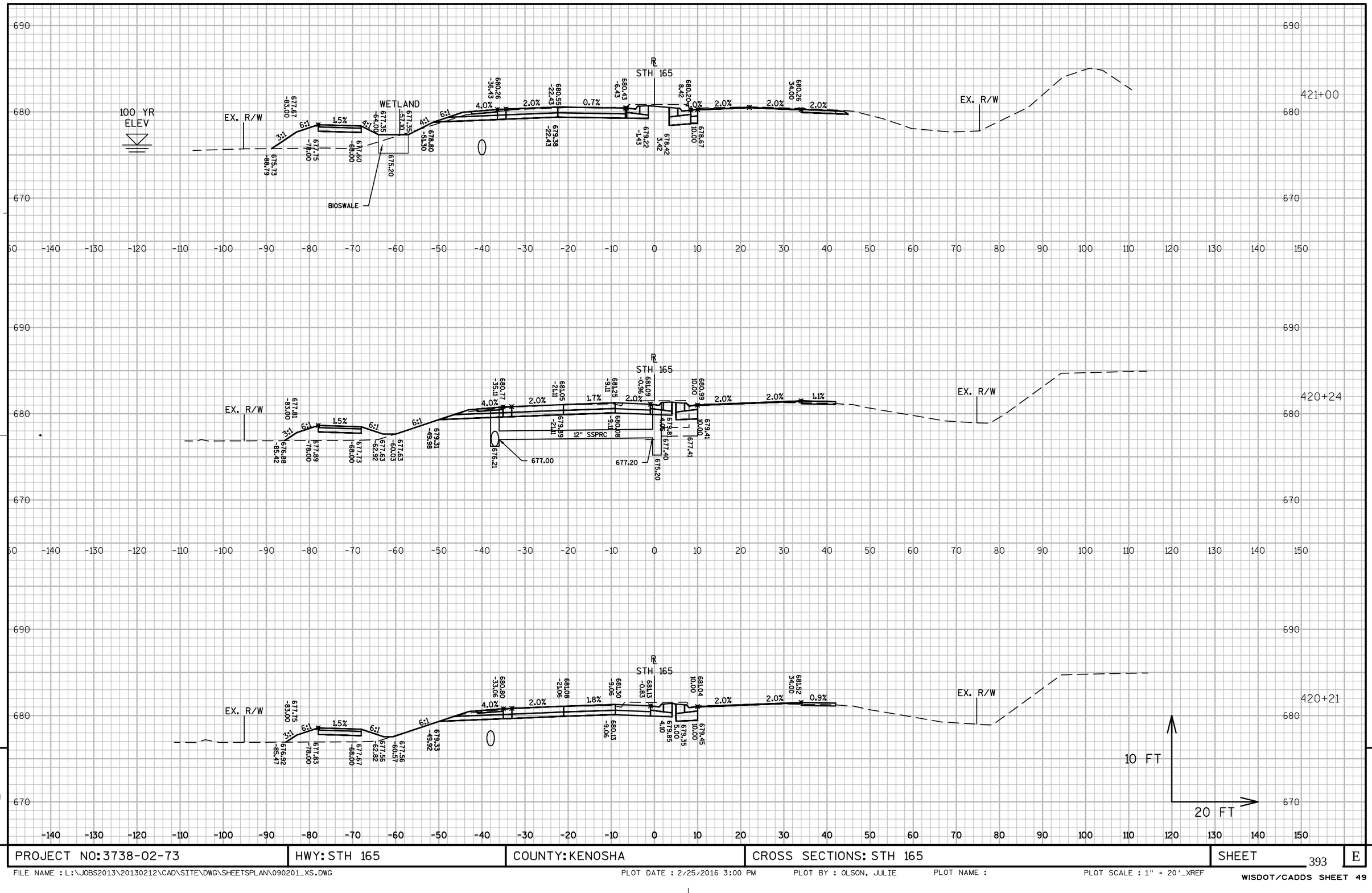
WISDOT/CADDS SHEET 49



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 392	E

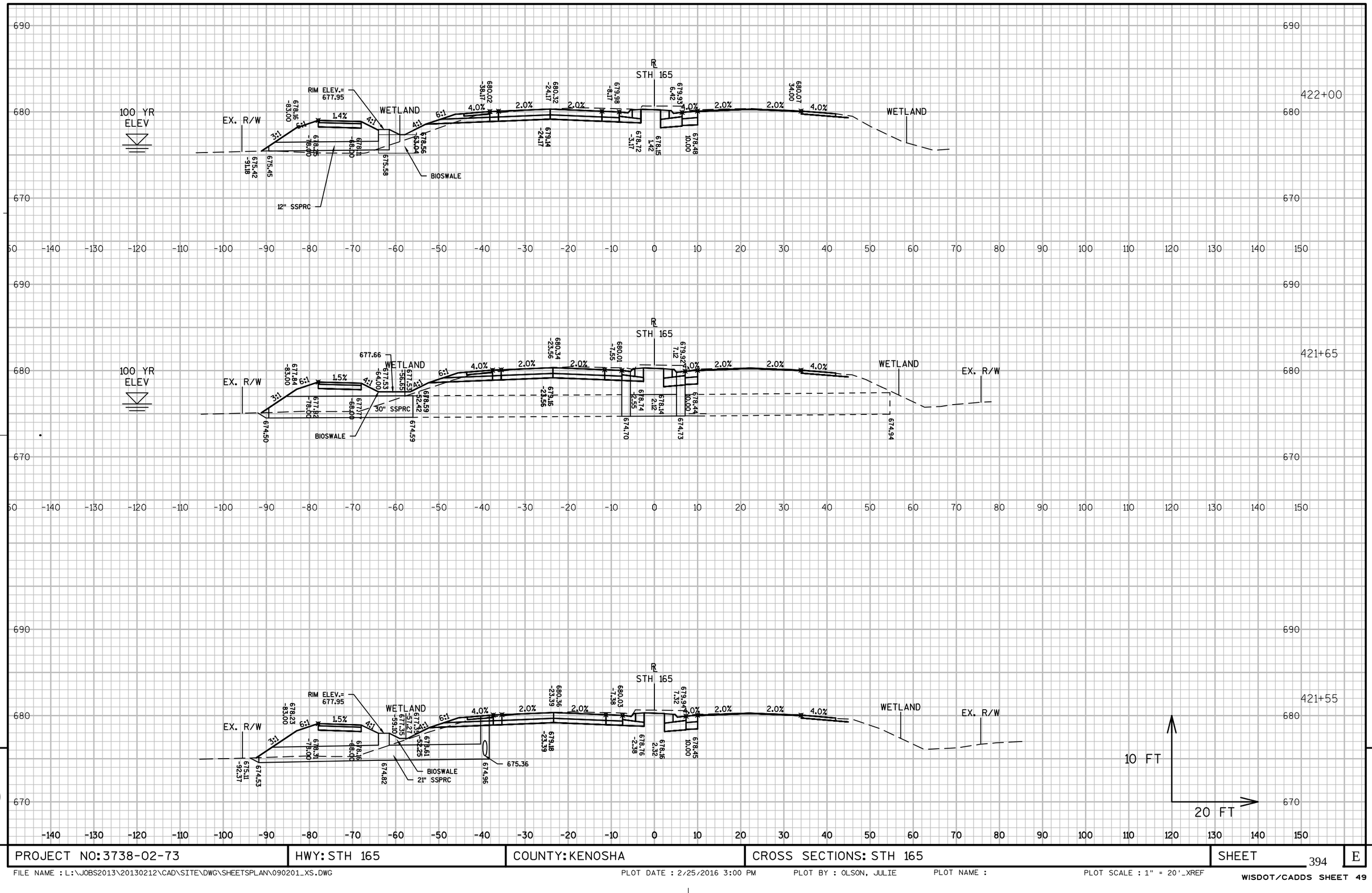
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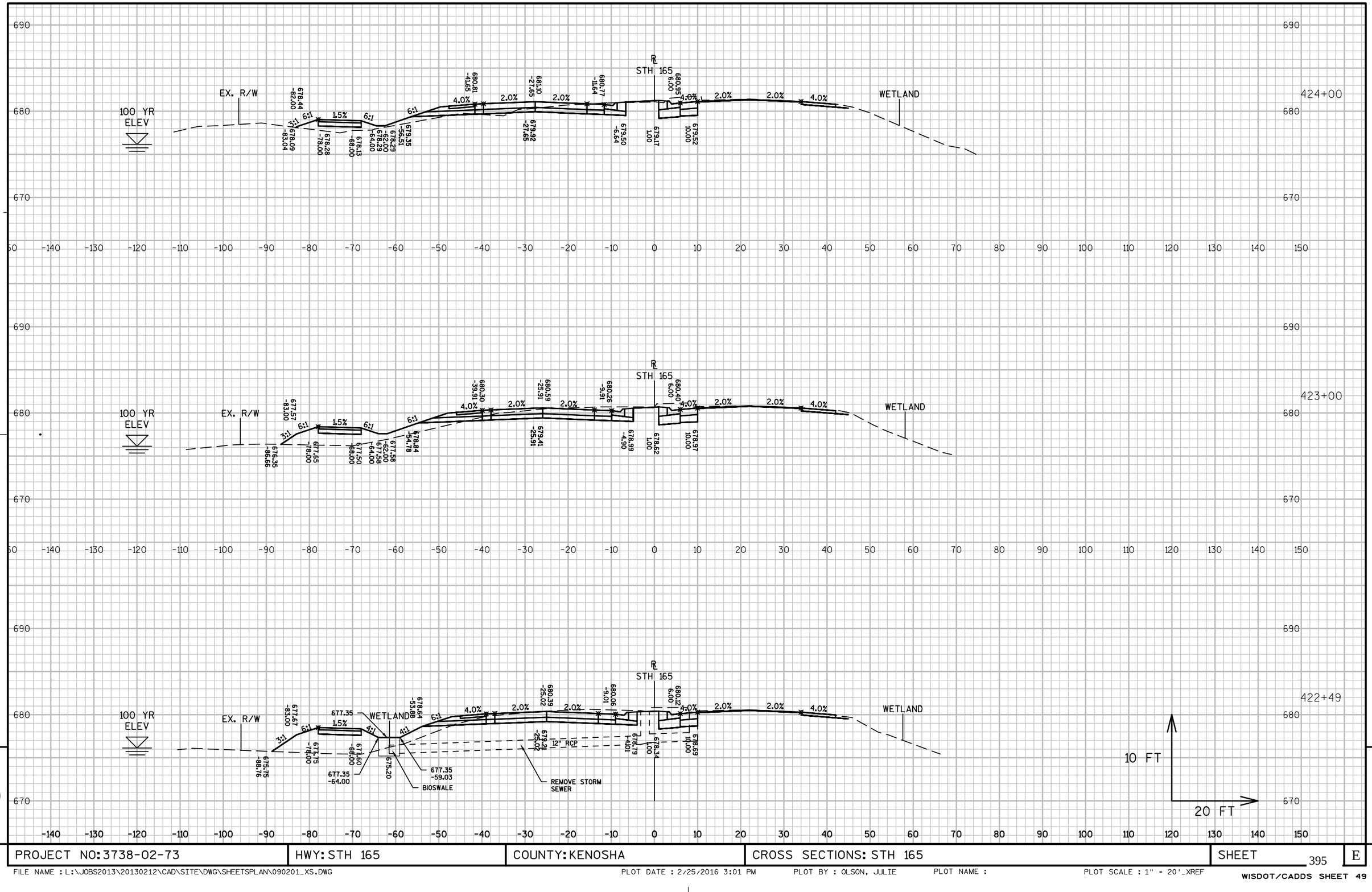
WISDOT/CADDS SHEET 49



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 393	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\090201_XS.DWG PLOT DATE : 2/25/2016 3:00 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 20'_XREF

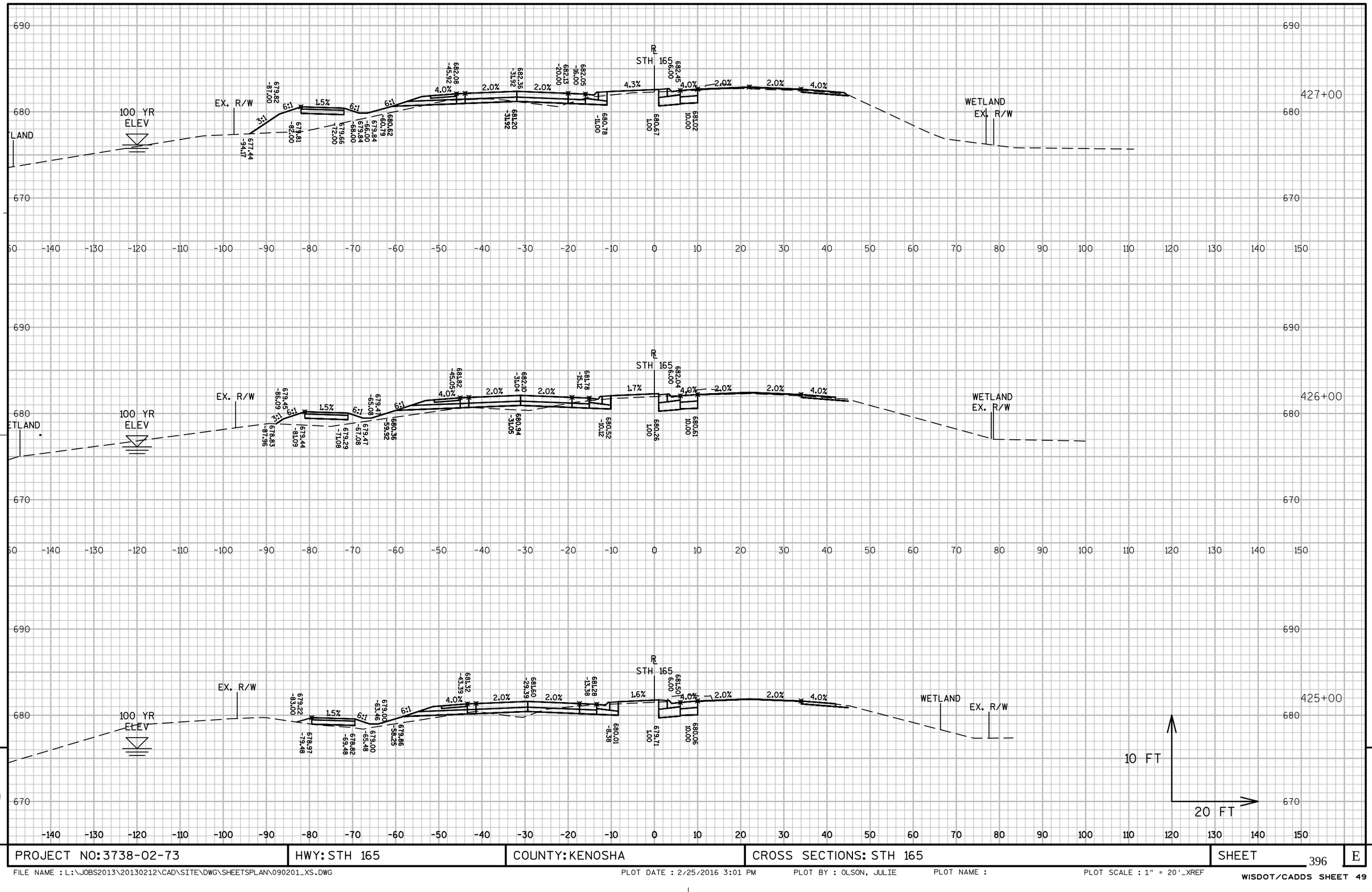

422+00
100 YR ELEV
EX. R/W
WETLAND
RIM ELEV.= 677.95
12" SSPRC
BIOSWALE
℄ STH 165
421+65
30" SSPRC
421+55
10 FT
20 FT



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 395	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\090201_XS.DWG PLOT DATE : 2/25/2016 3:01 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 20'_XREF

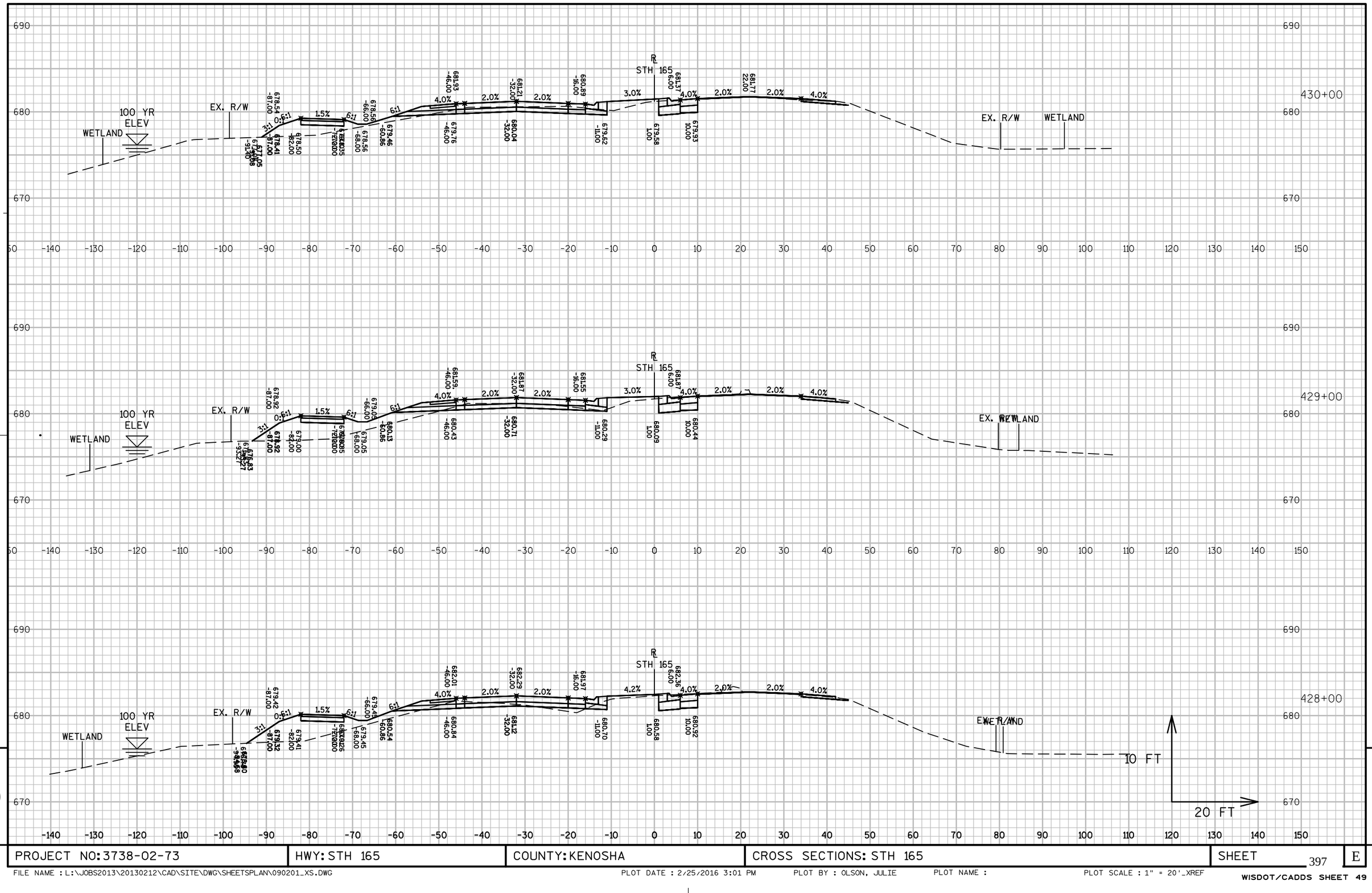
WISDOT/CADDS SHEET 49



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 396	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\090201_XS.DWG PLOT DATE : 2/25/2016 3:01 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 20'_XREF

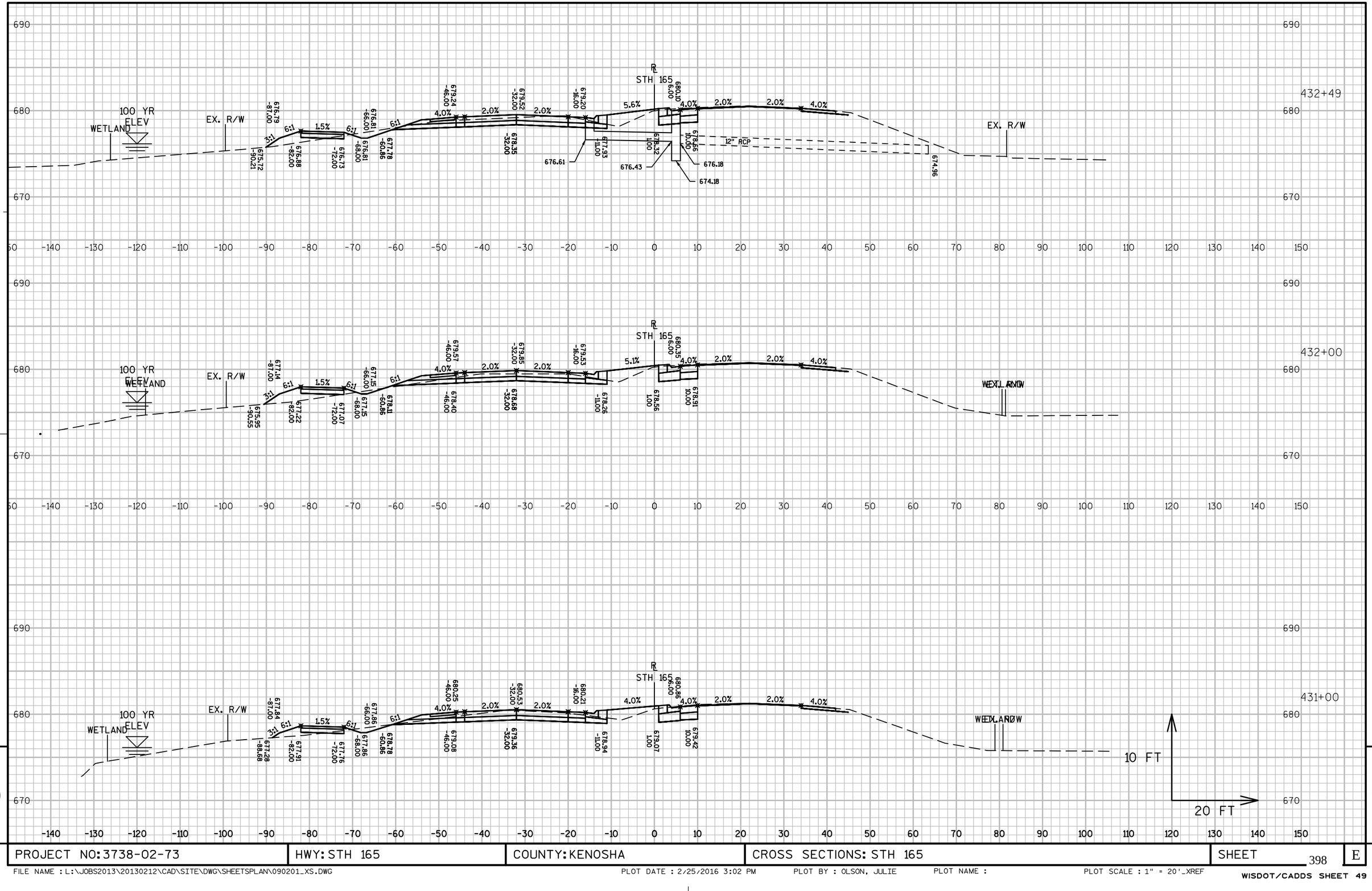
WISDOT/CADDS SHEET 49



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 397	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\090201_XS.DWG PLOT DATE : 2/25/2016 3:01 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49

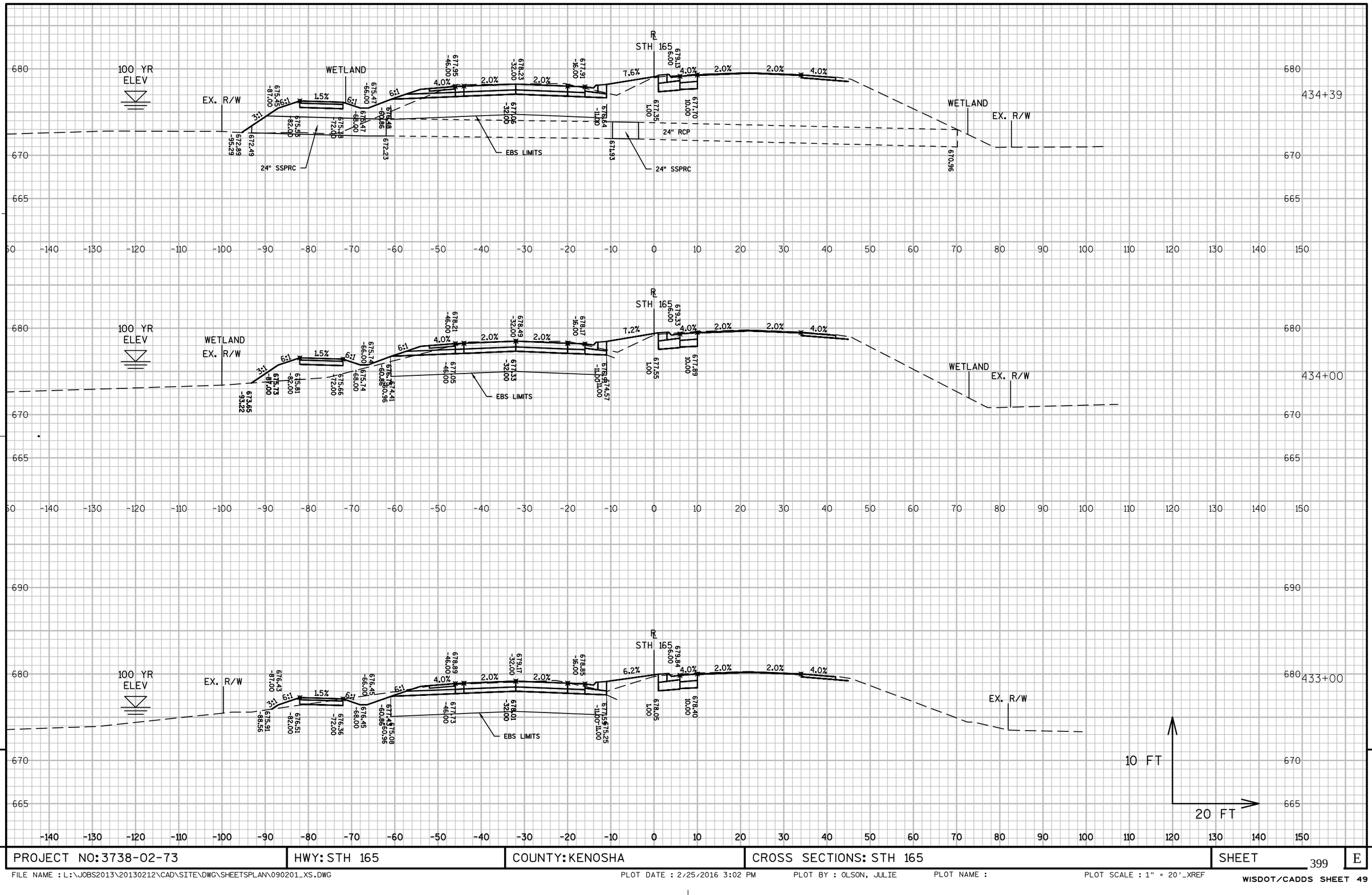


9

PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 398	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\090201_XS.DWG PLOT DATE : 2/25/2016 3:02 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49

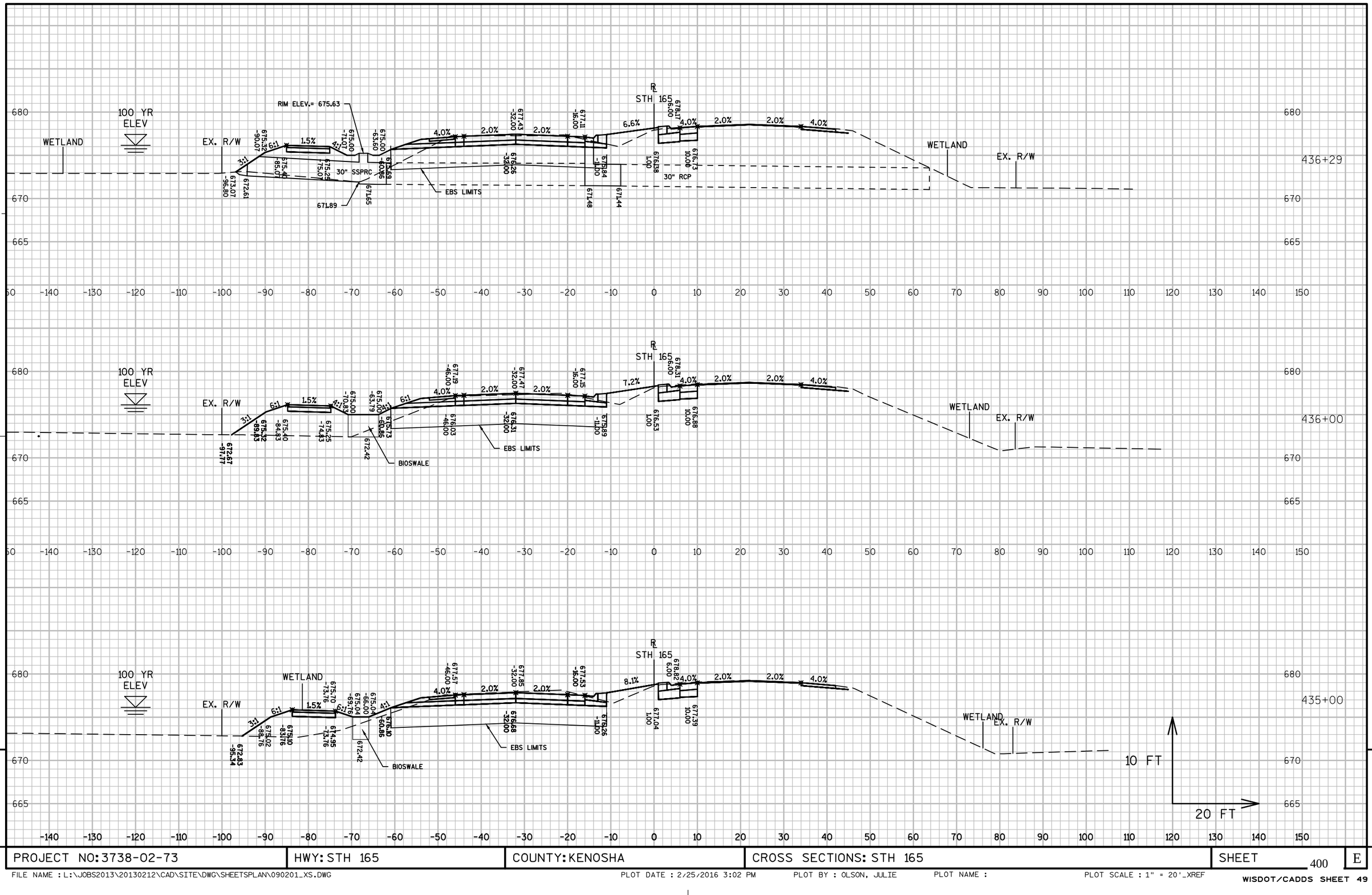


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PROJECT NO: 3738-02-73 | HWY: STH 165 | COUNTY: KENOSHA | CROSS SECTIONS: STH 165 | SHEET 399 | E

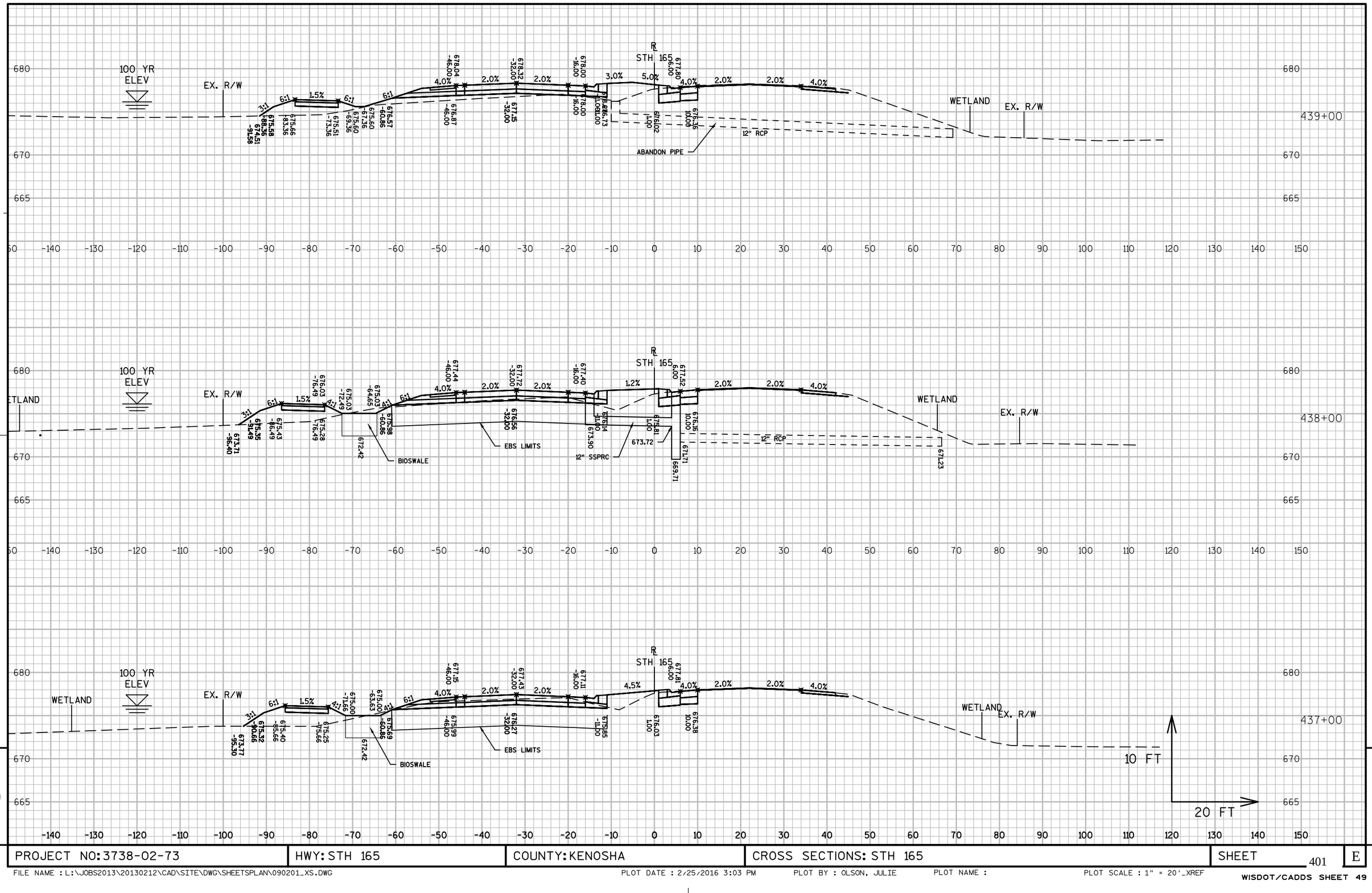
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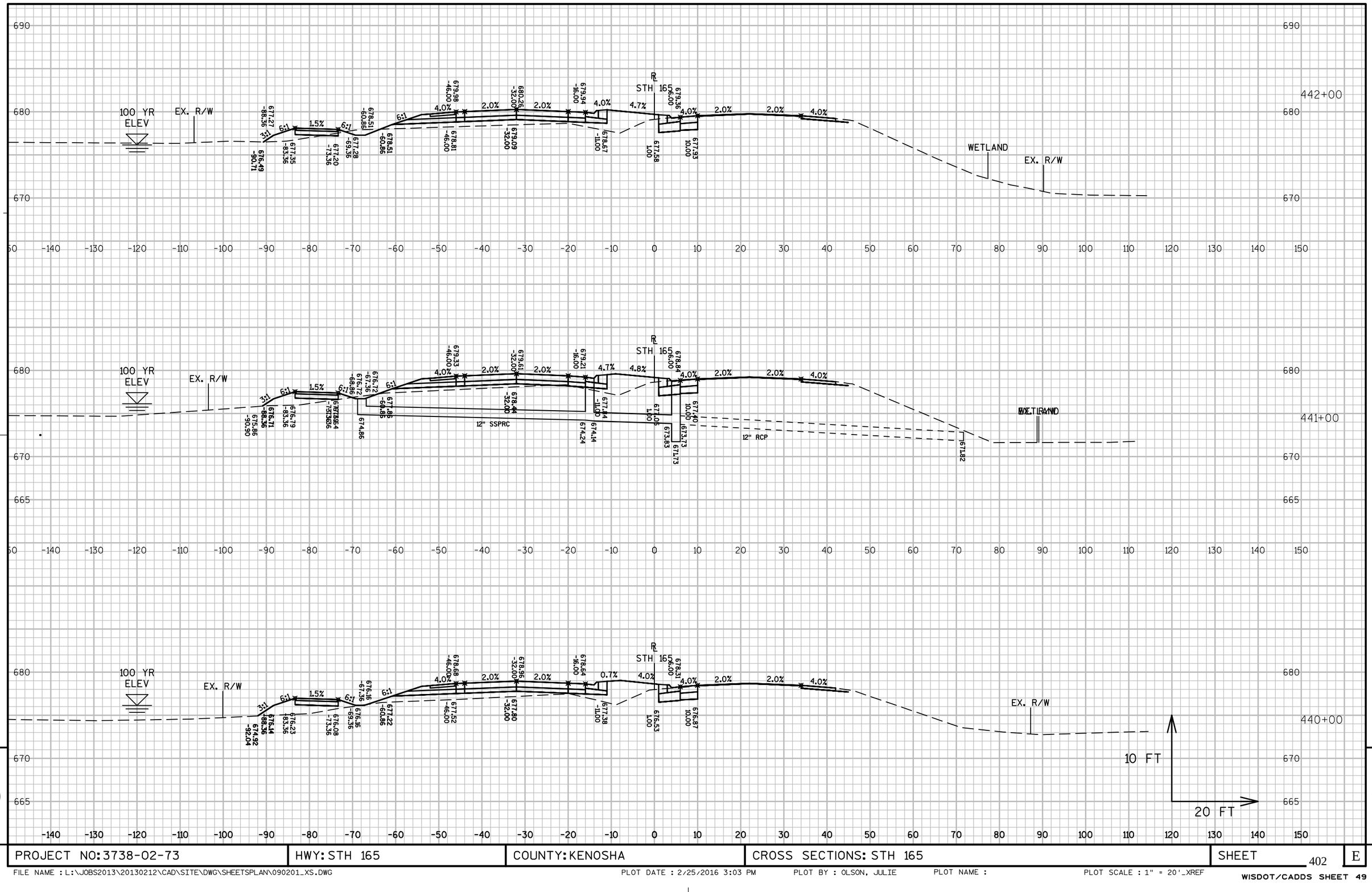
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PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 401	E

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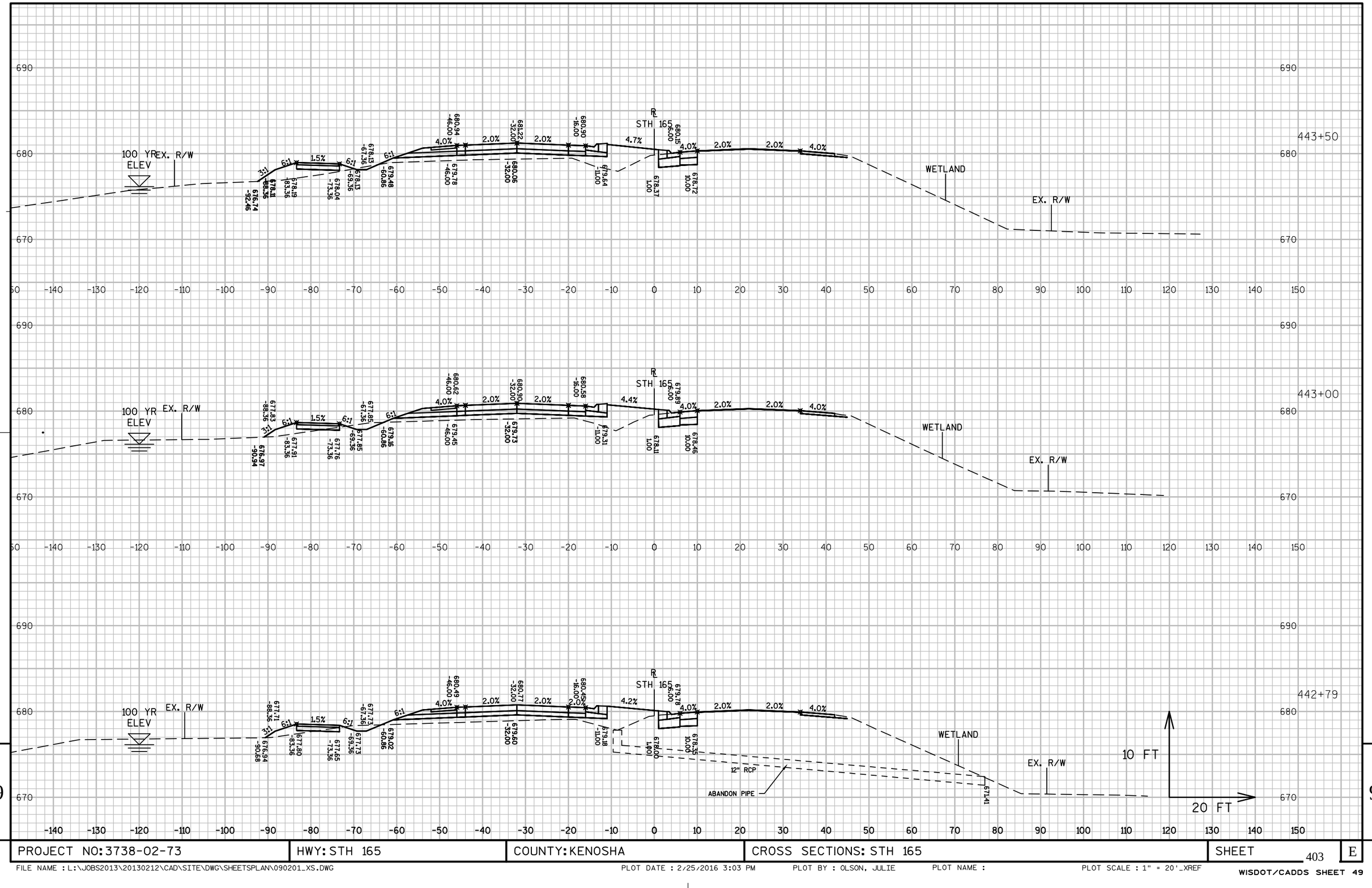
WISDOT/CADDS SHEET 49



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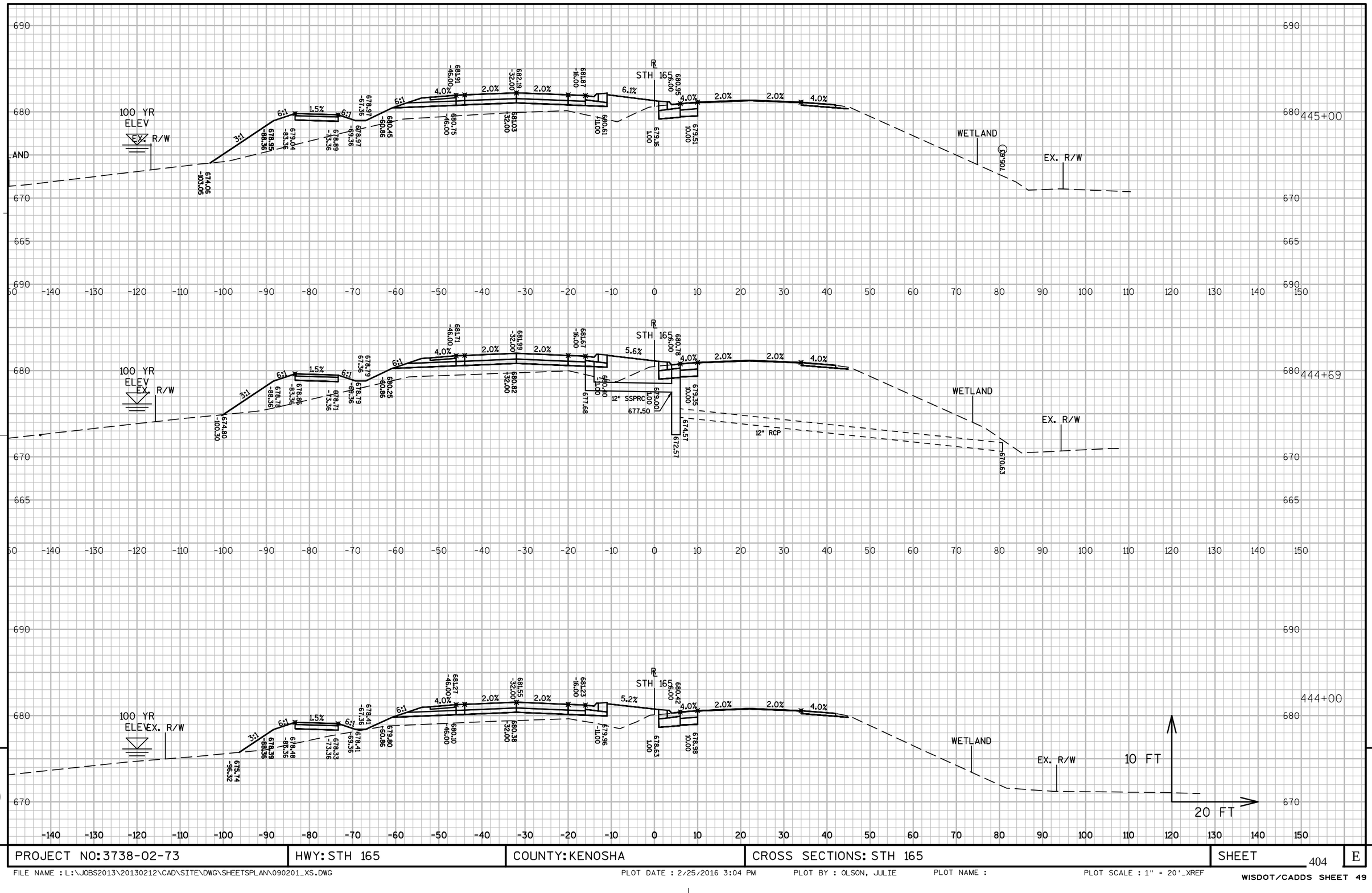
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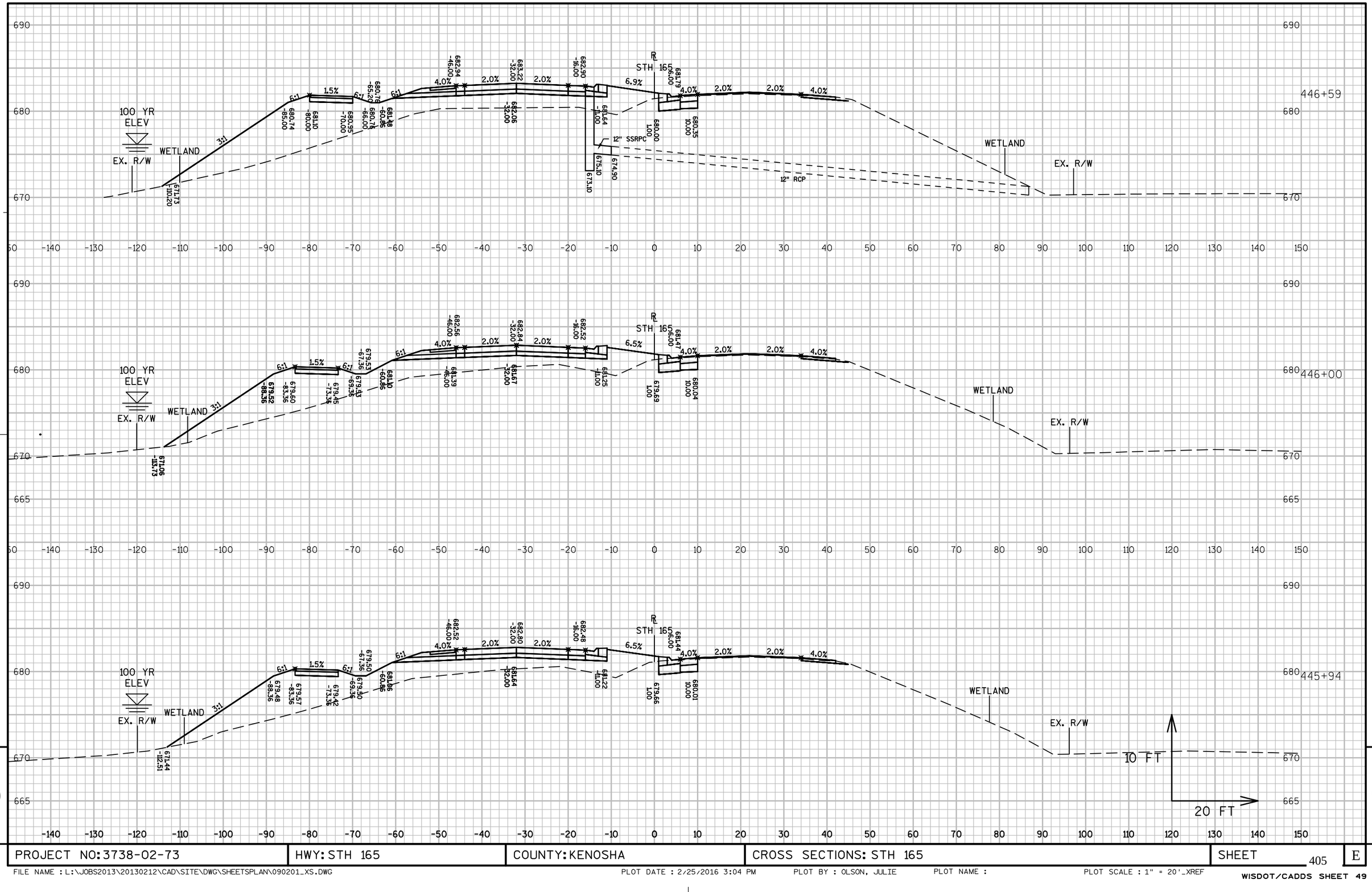
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PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 404	E

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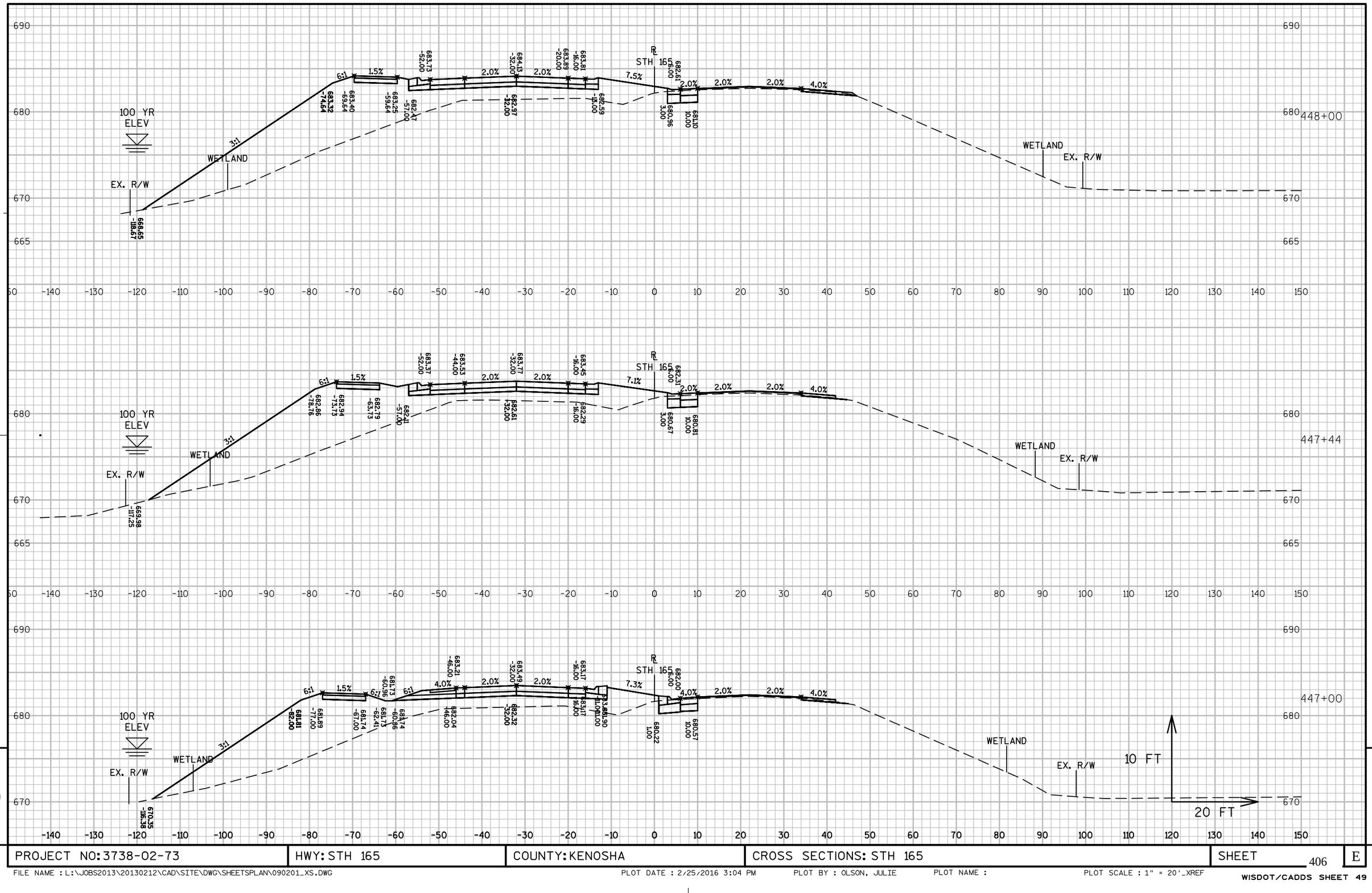
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PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 405	E

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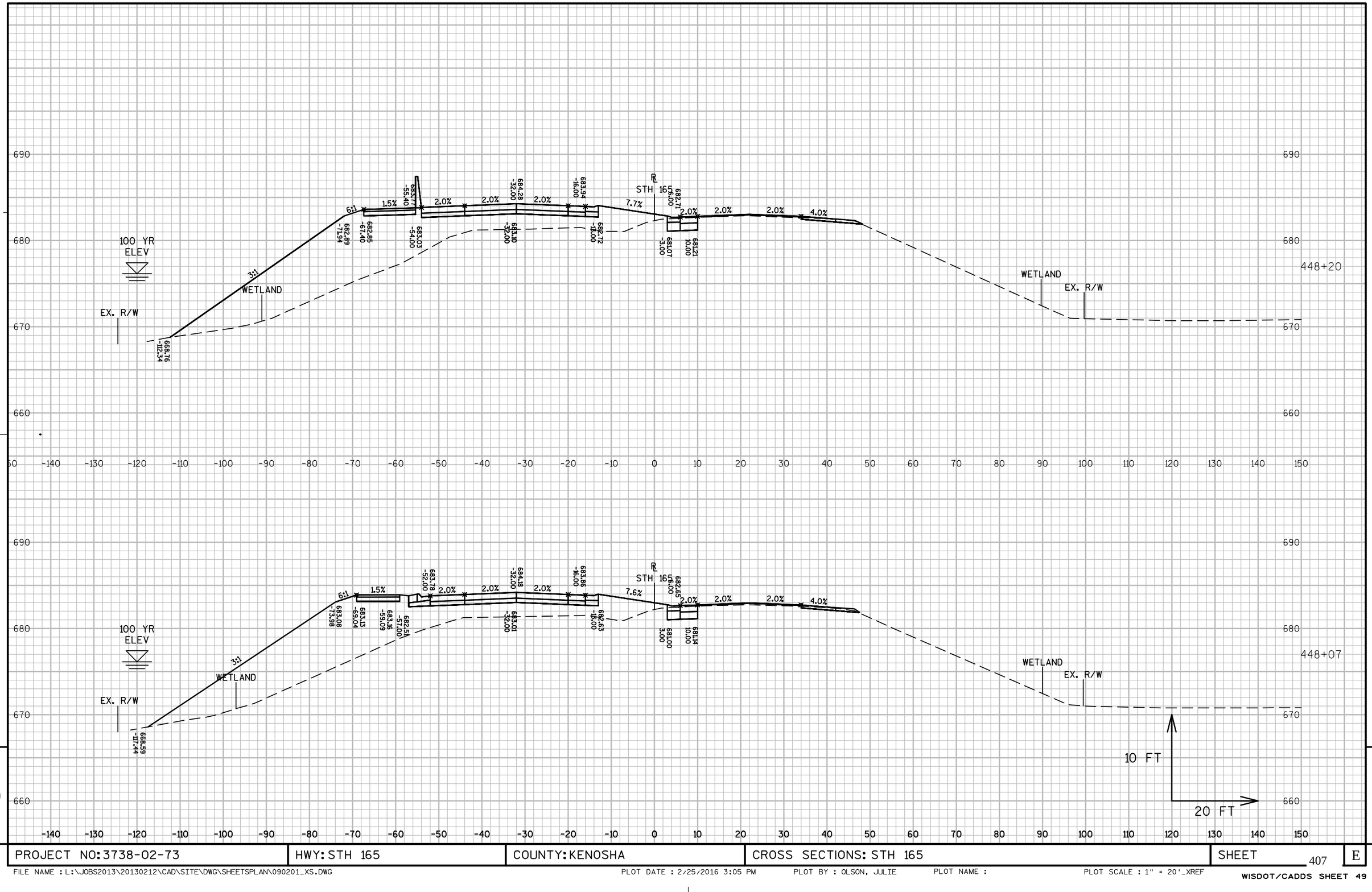
WISDOT/CADDS SHEET 49



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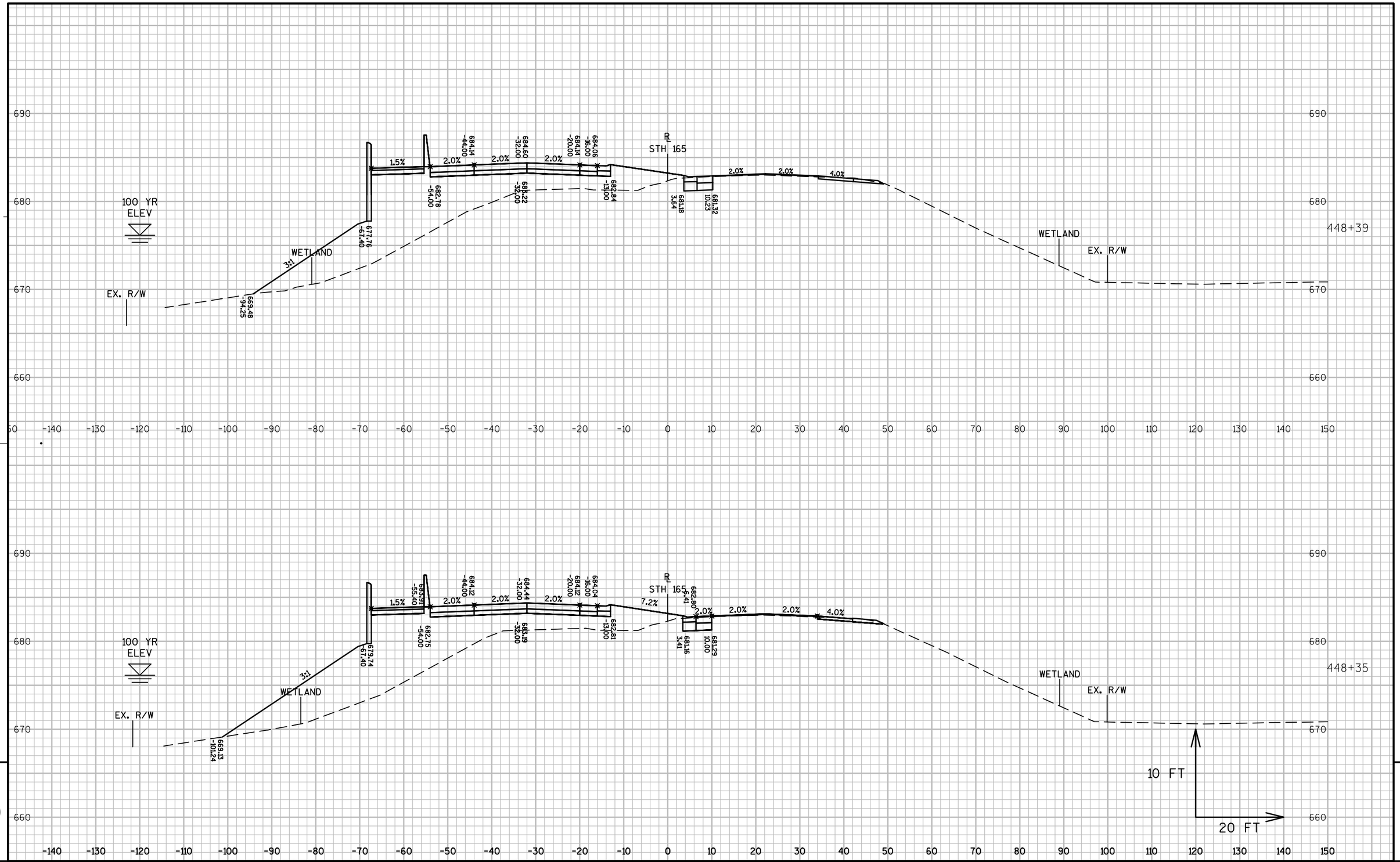
WISDOT/CADDS SHEET 49



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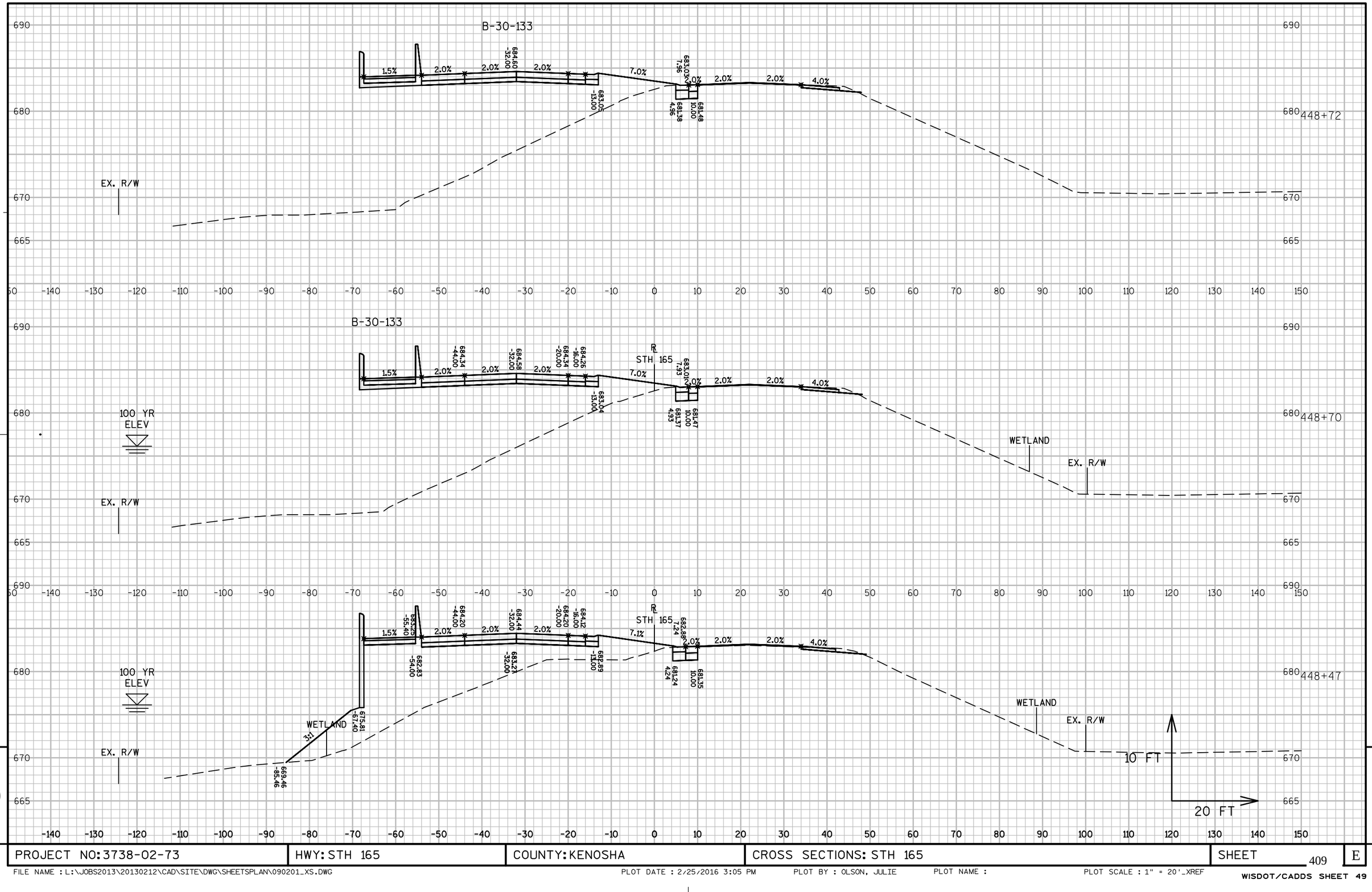
WISDOT/CADDS SHEET 49



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 408	E

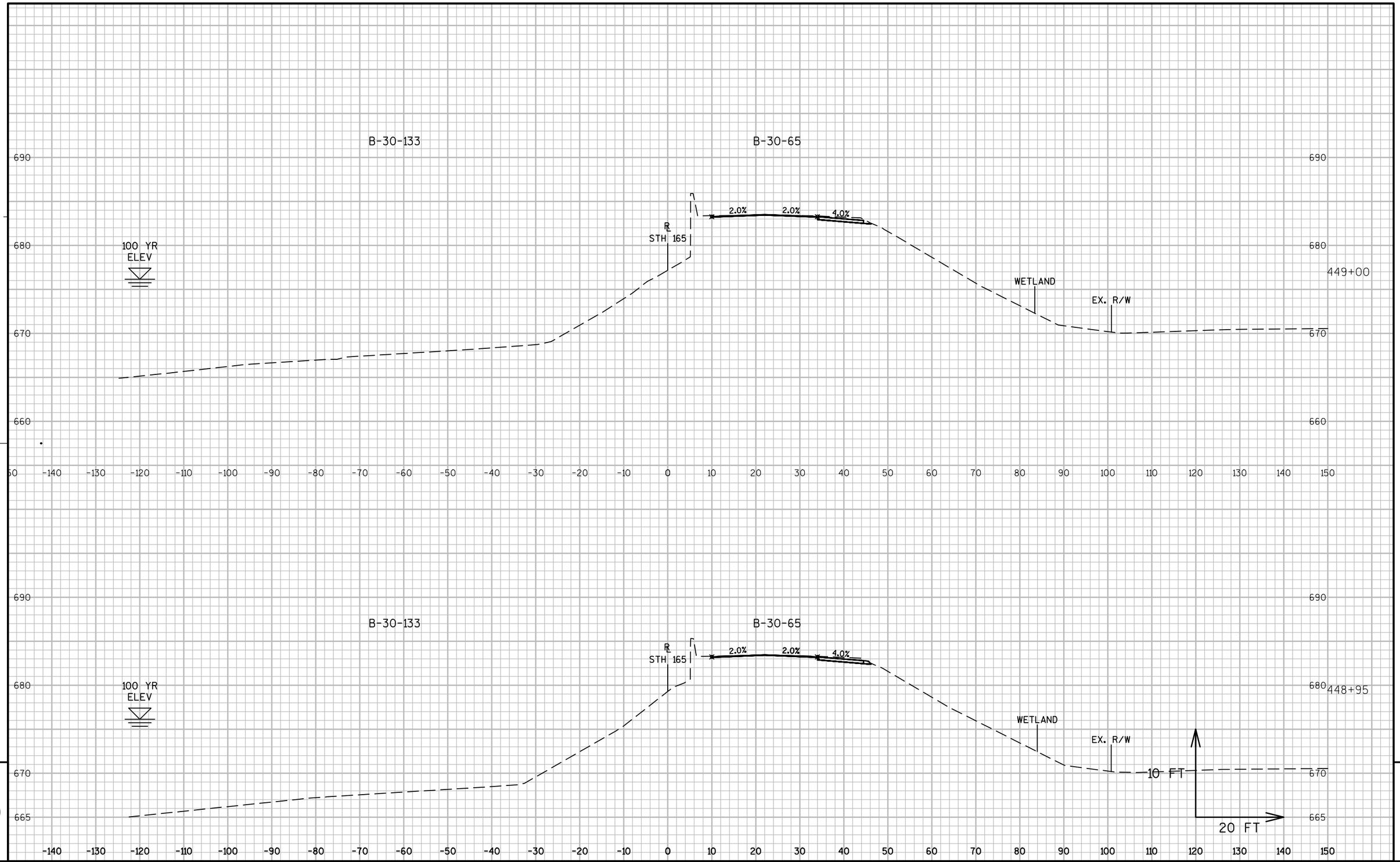
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WISDOT/CADDS SHEET 49



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 409	E

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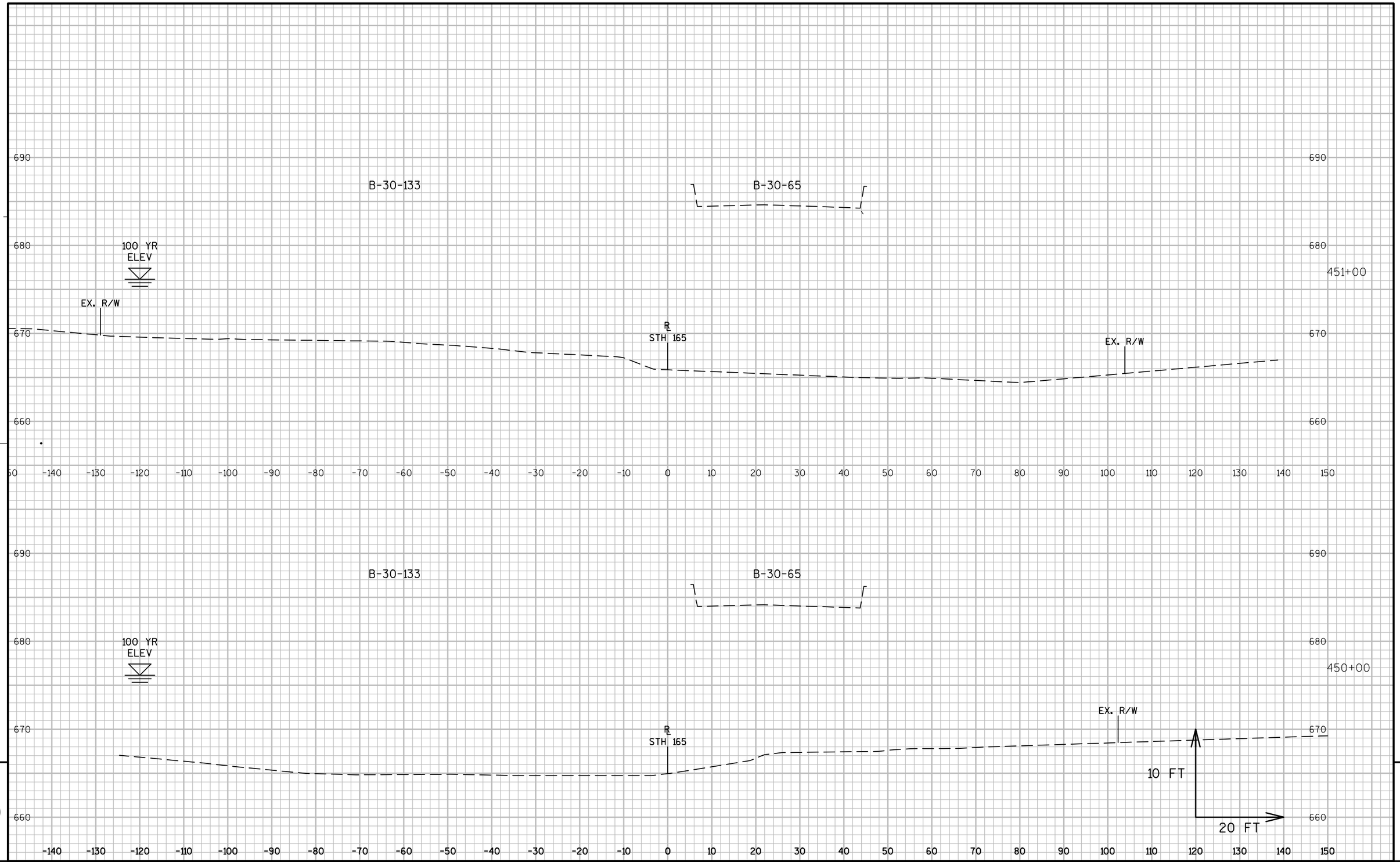


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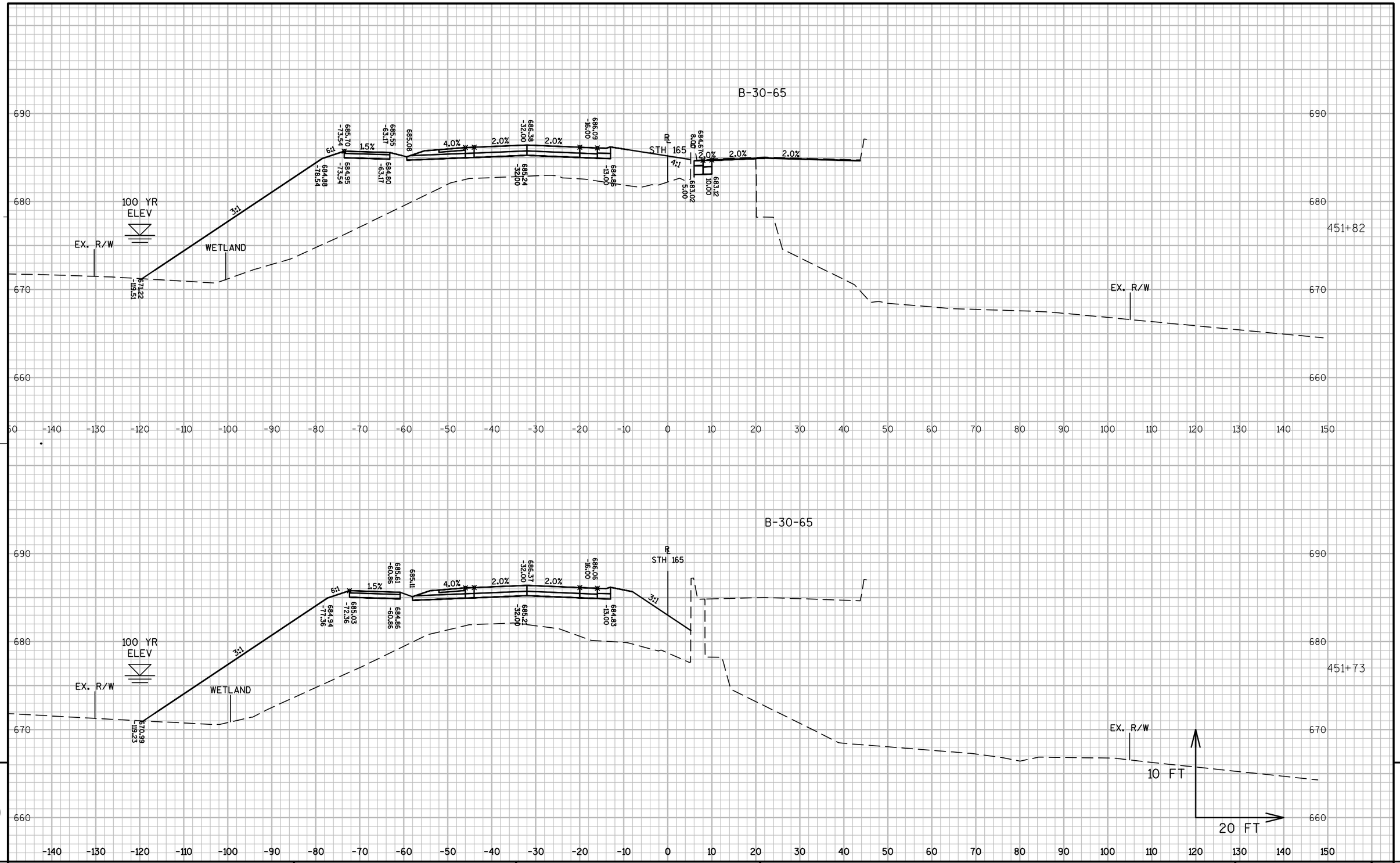
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WISDOT/CADDS SHEET 49



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 411	E



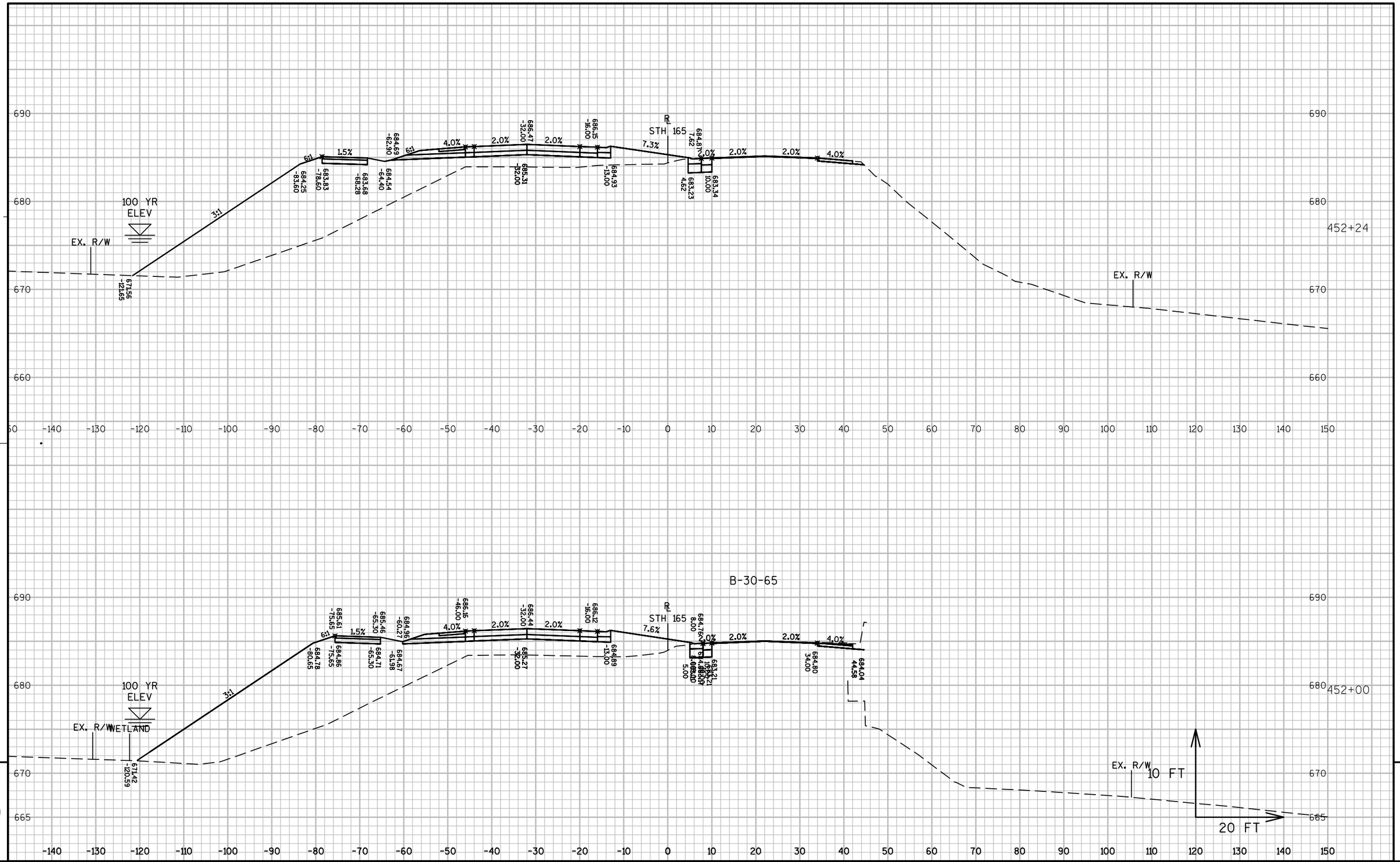
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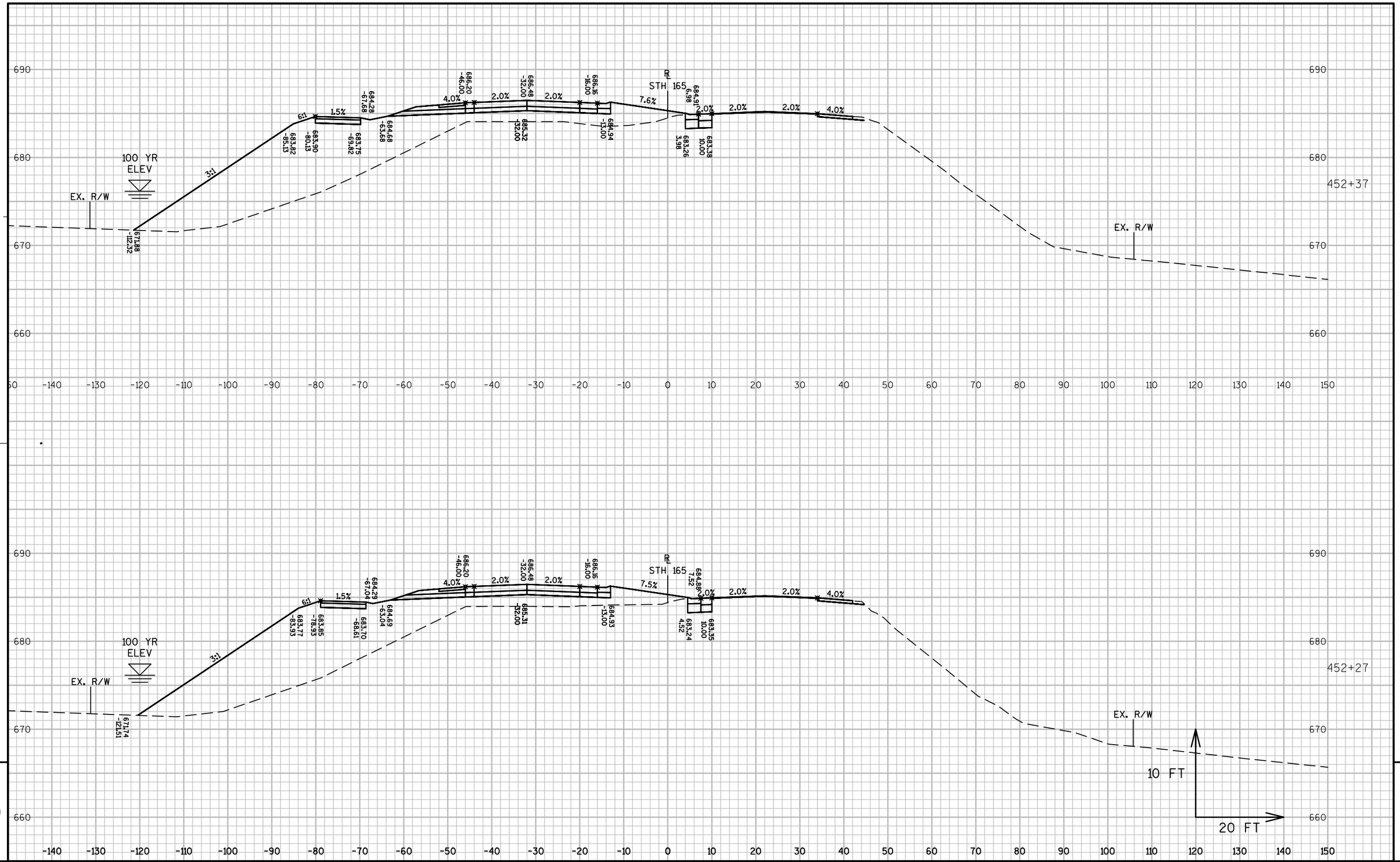
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WISDOT/CADDS SHEET 49



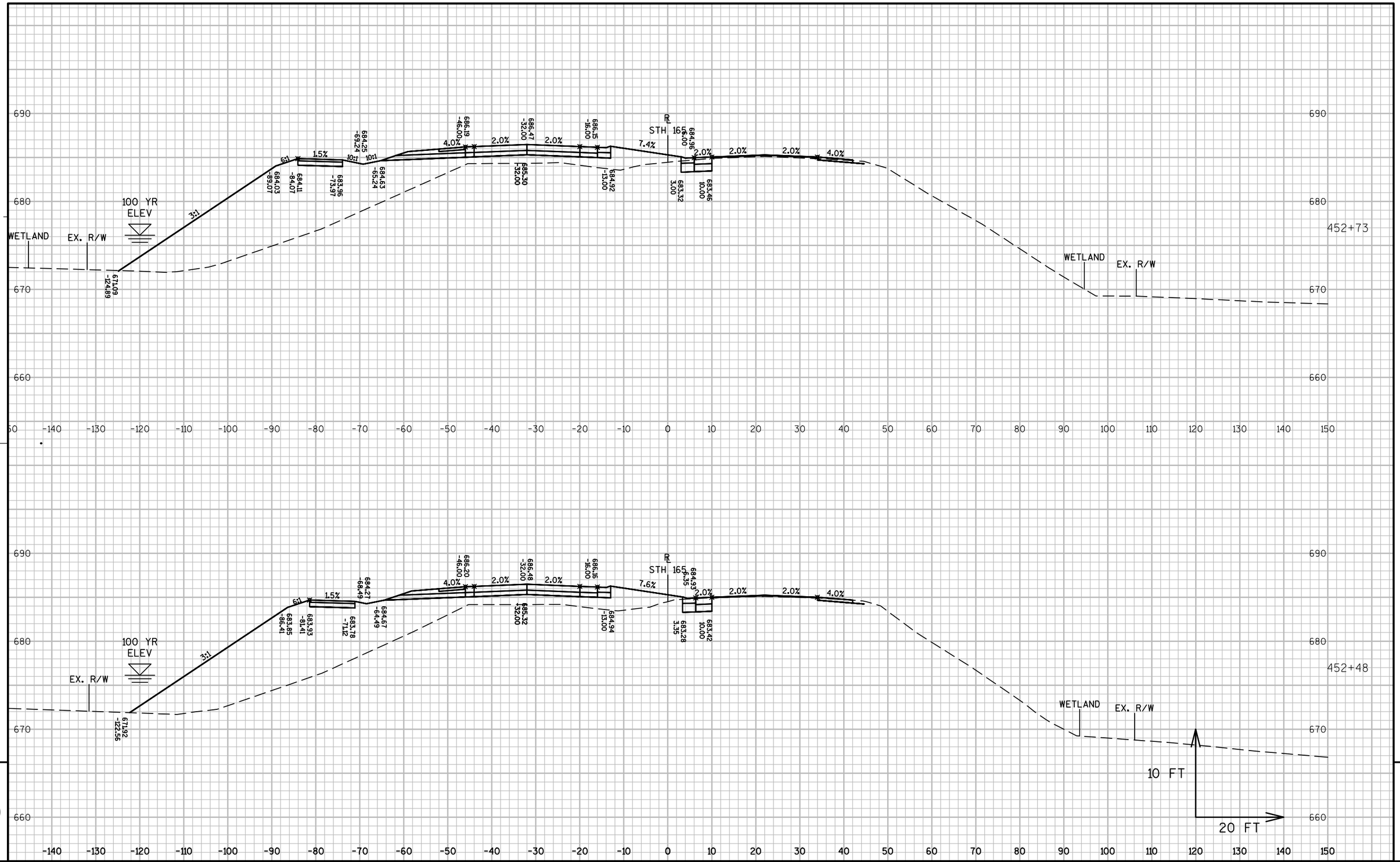
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PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 414	E

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WISDOT/CADDS SHEET 49

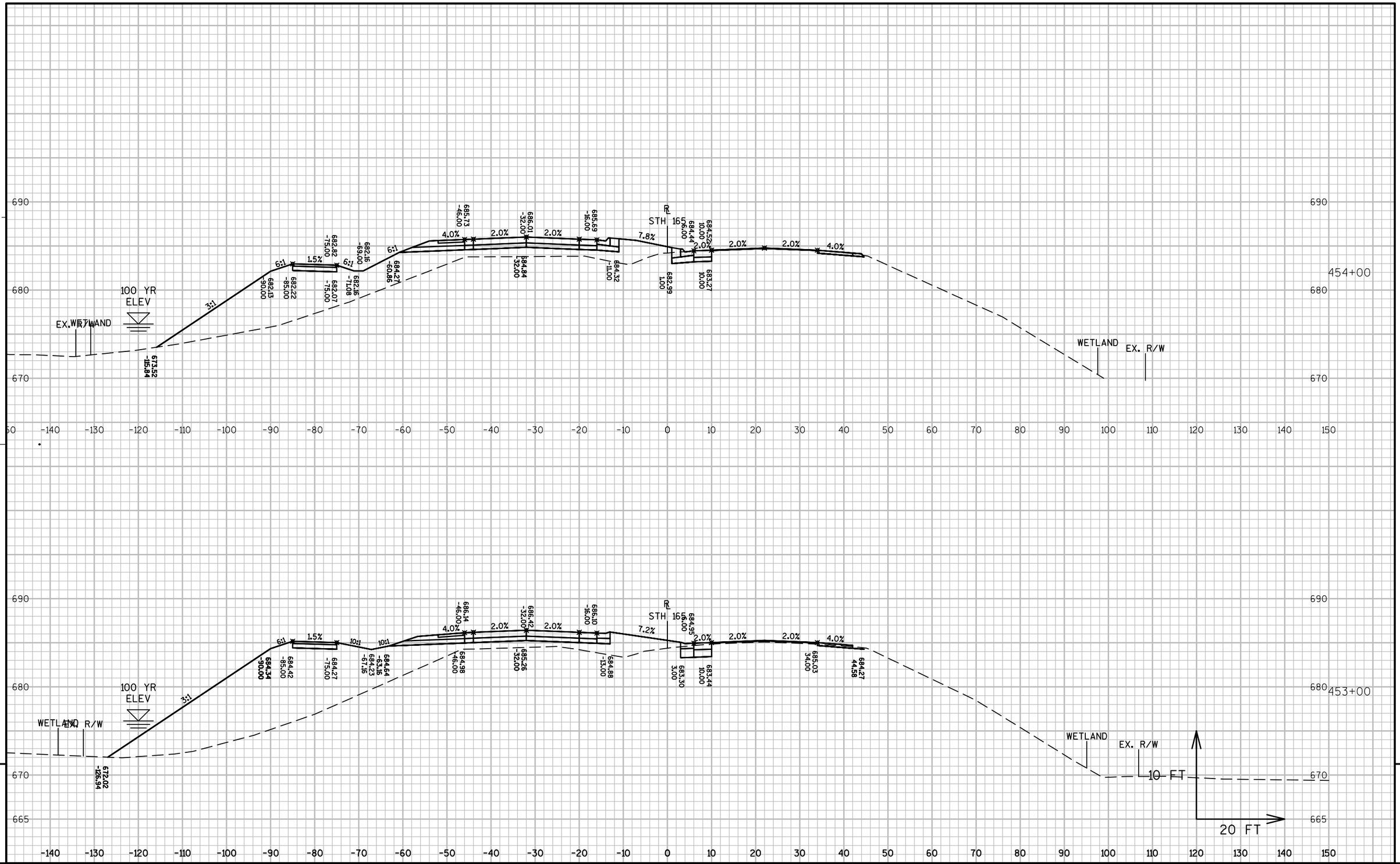


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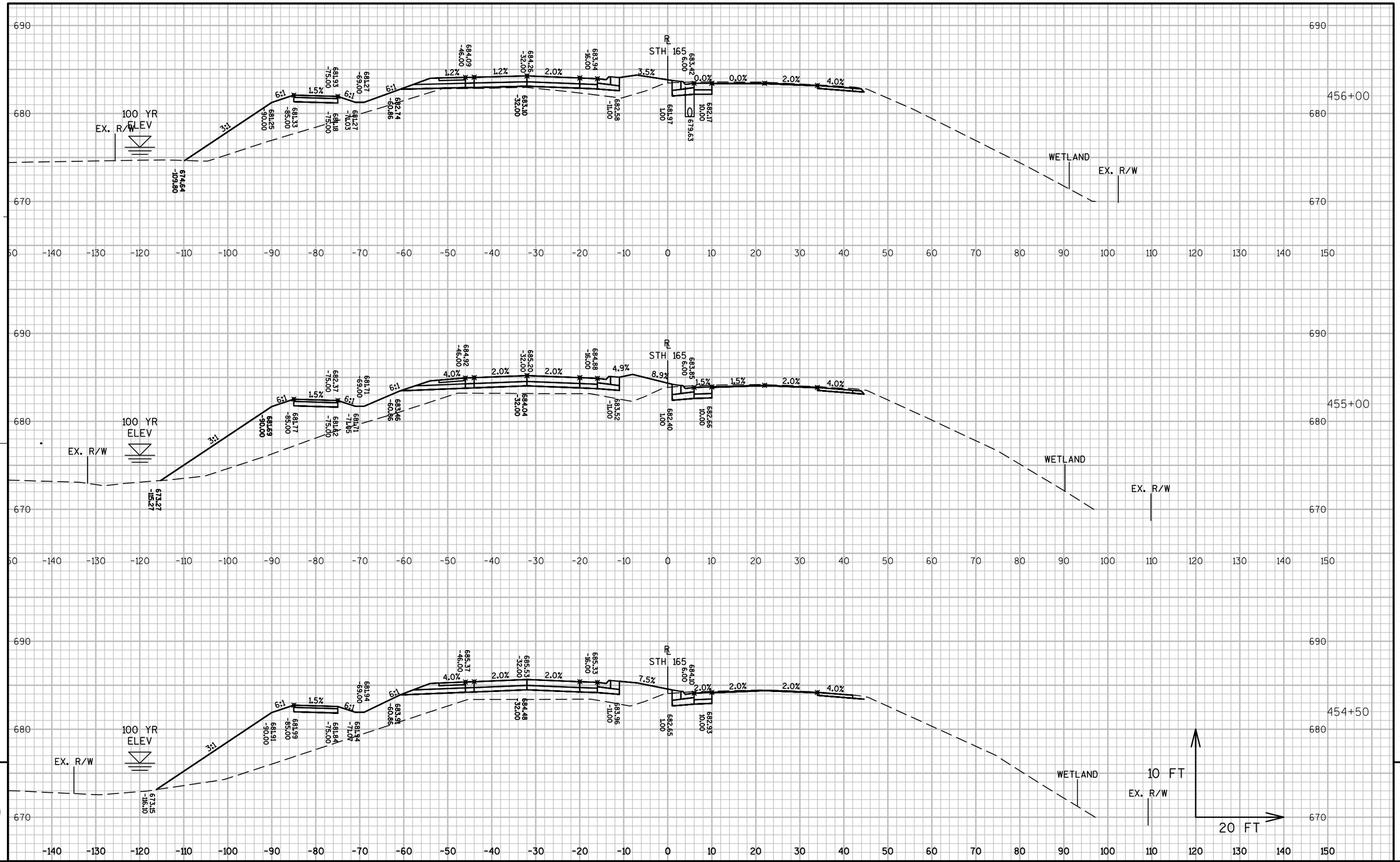
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PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 415	E

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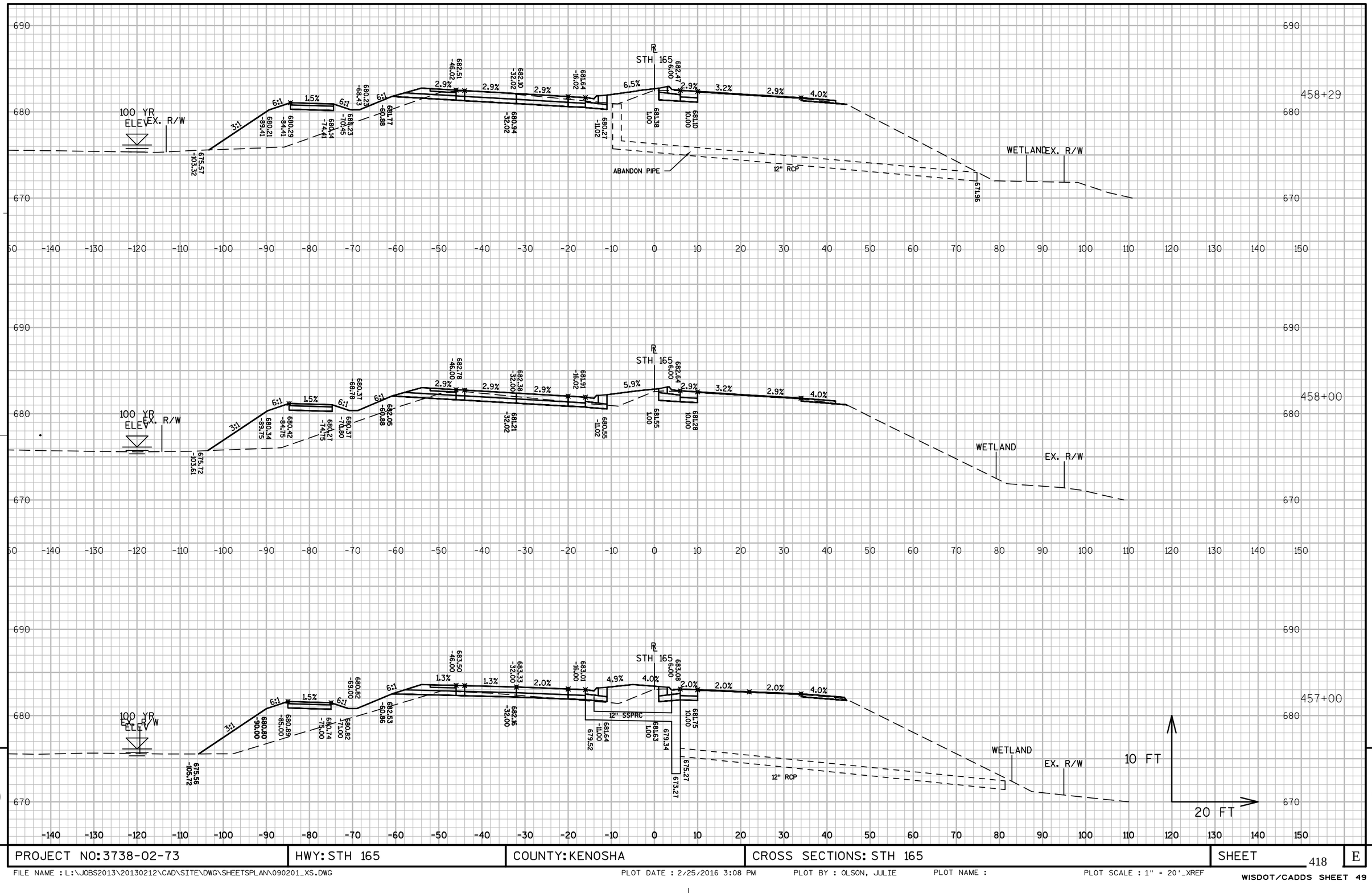
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PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 417	E

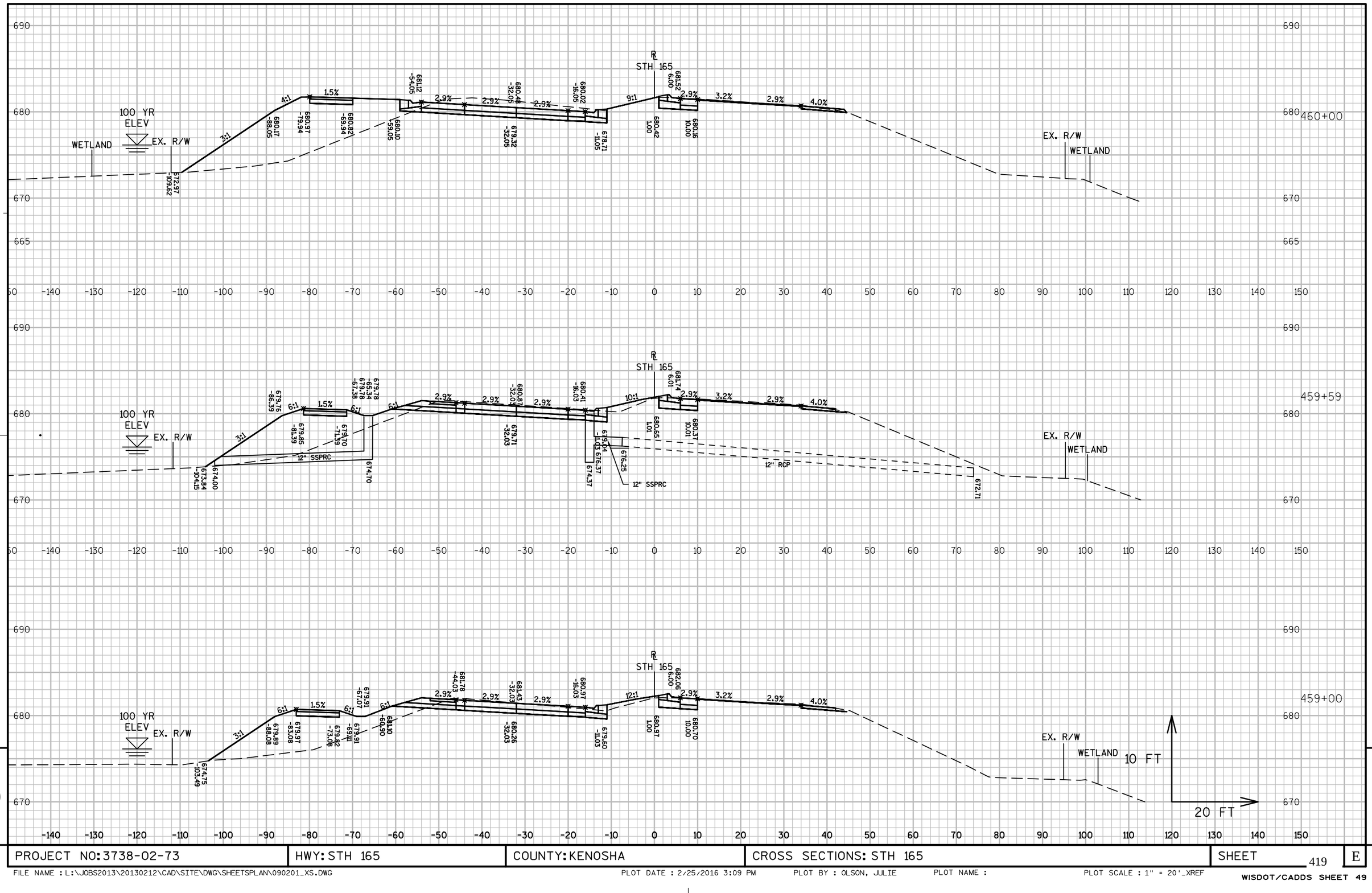
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WISDOT/CADDS SHEET 49



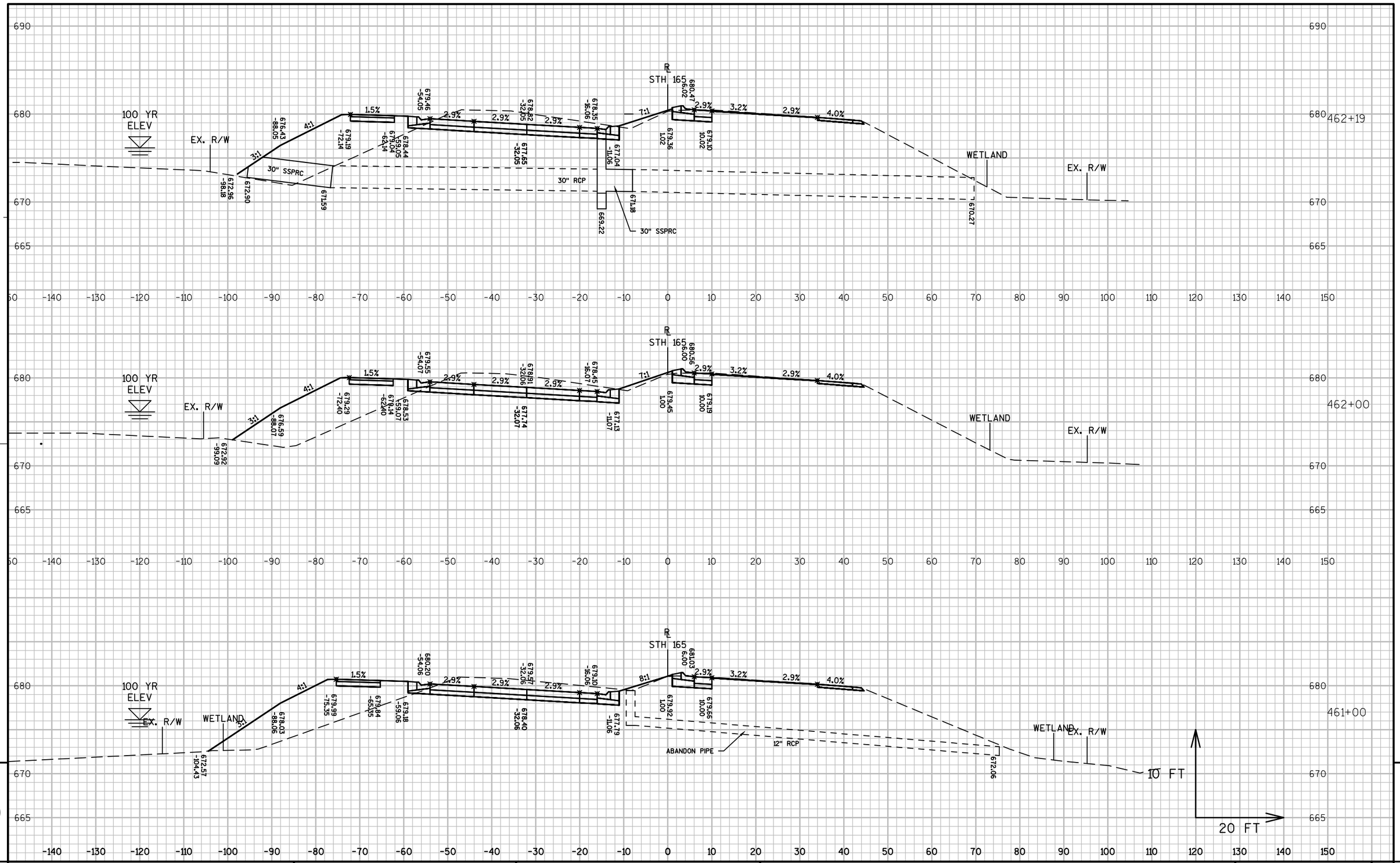
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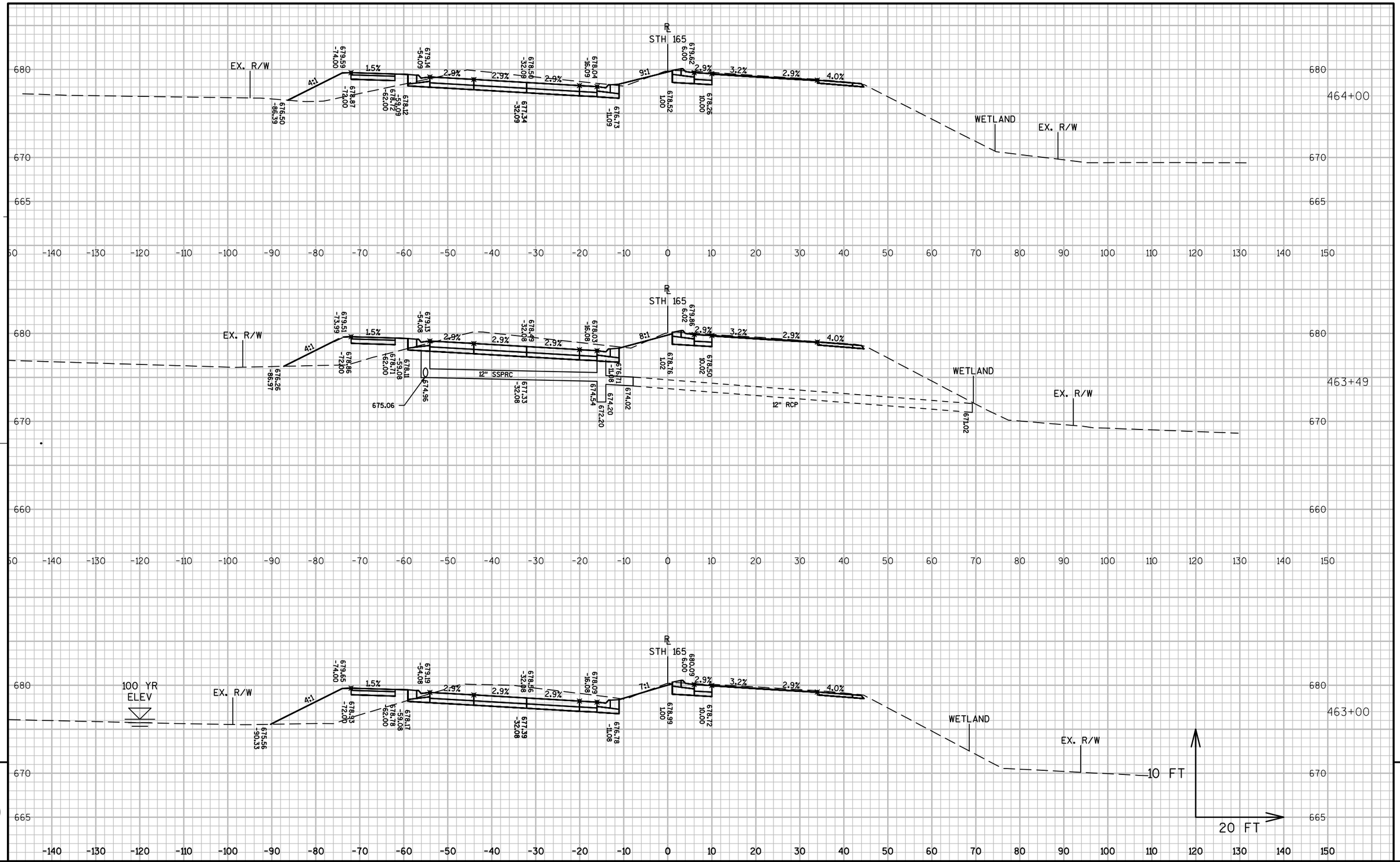
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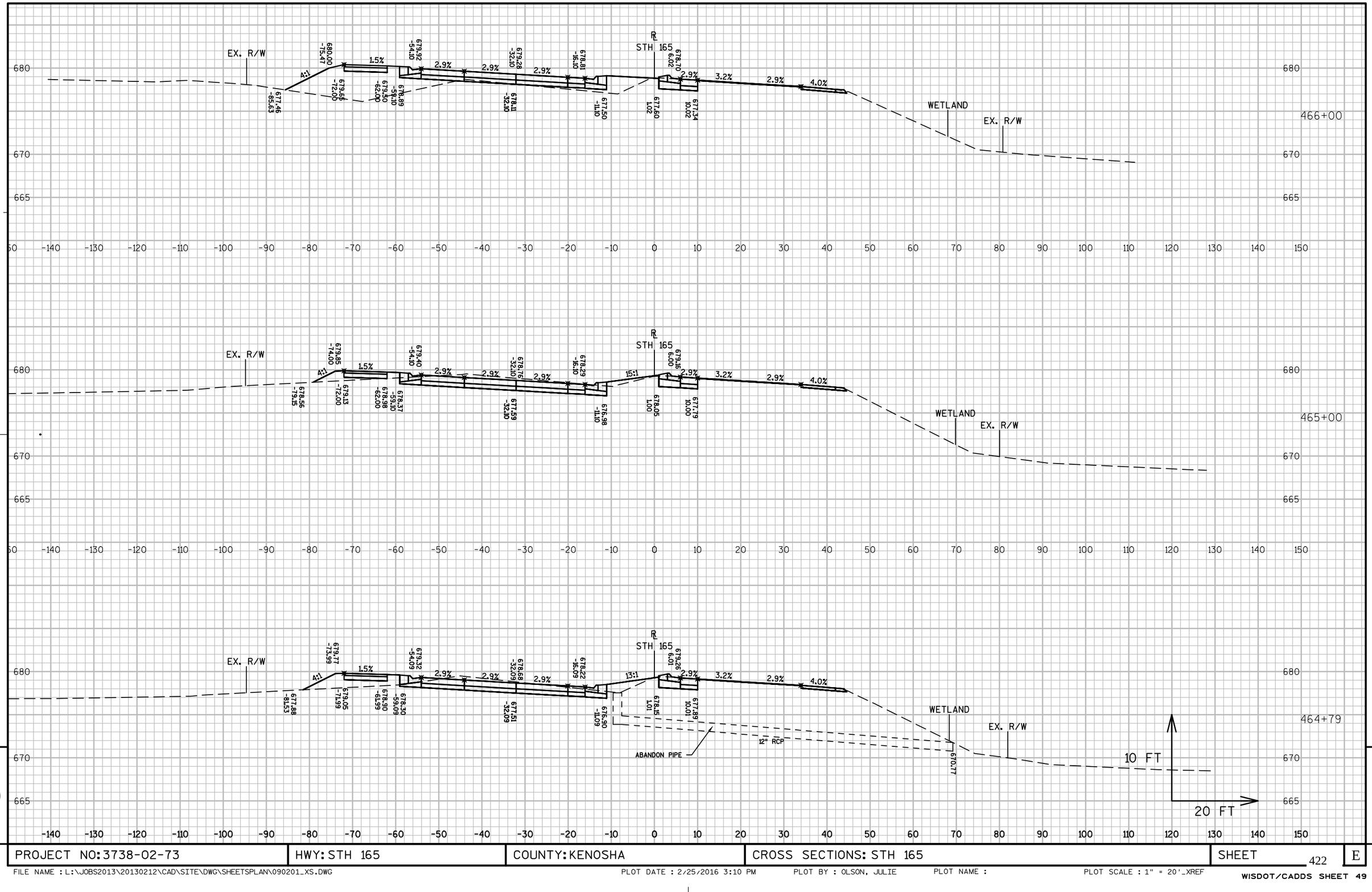
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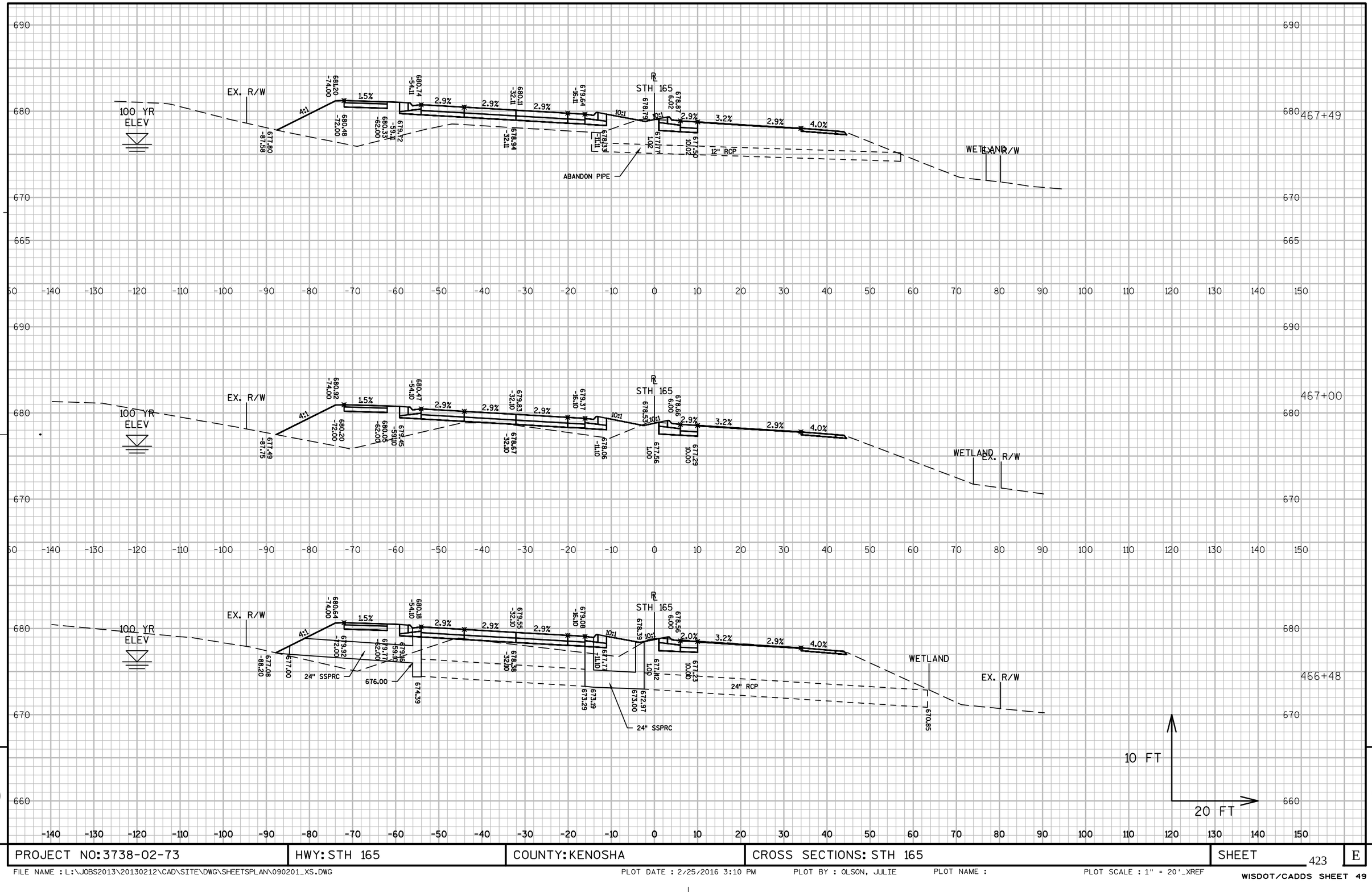


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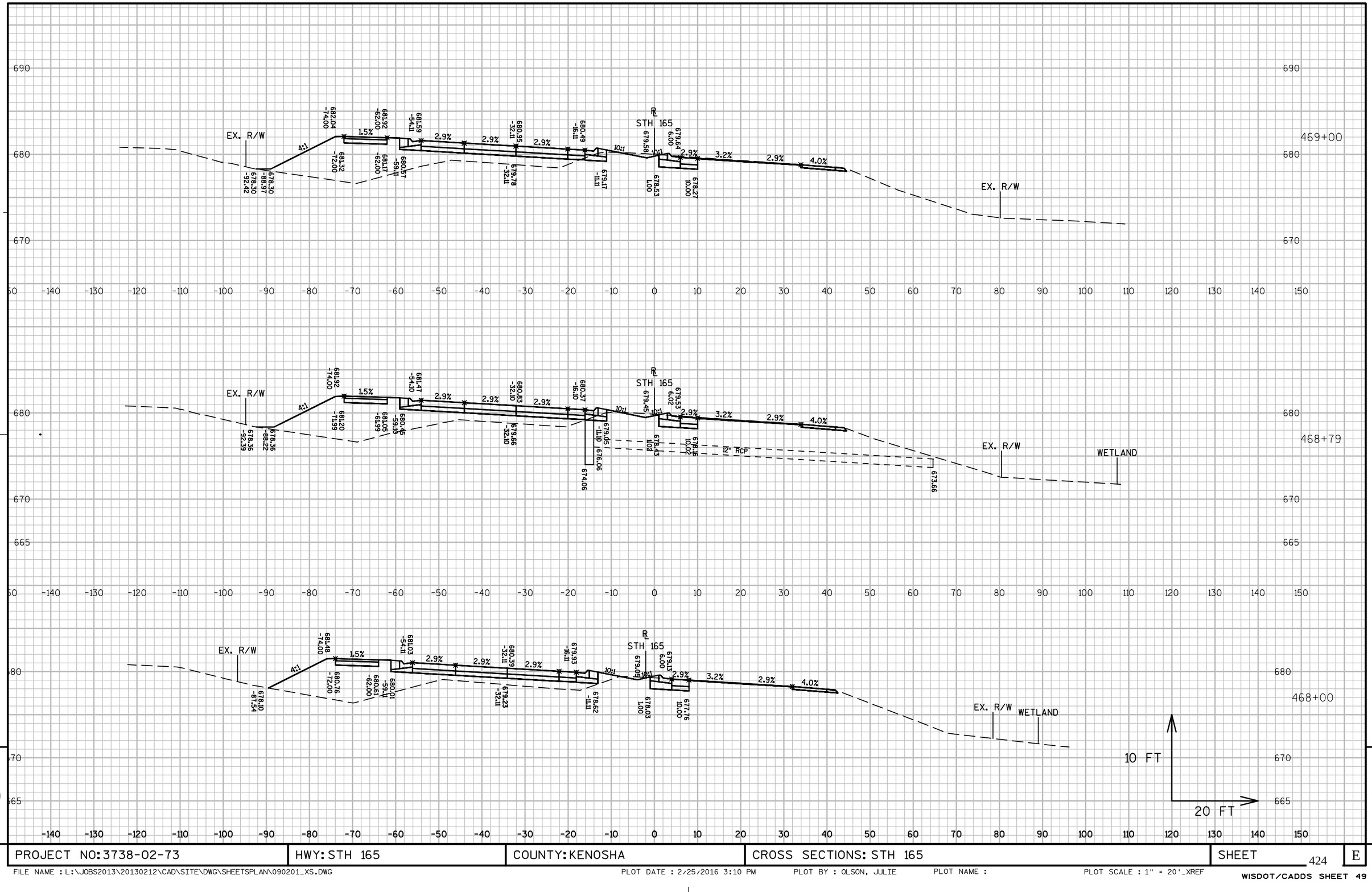
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WISDOT/CADDS SHEET 49



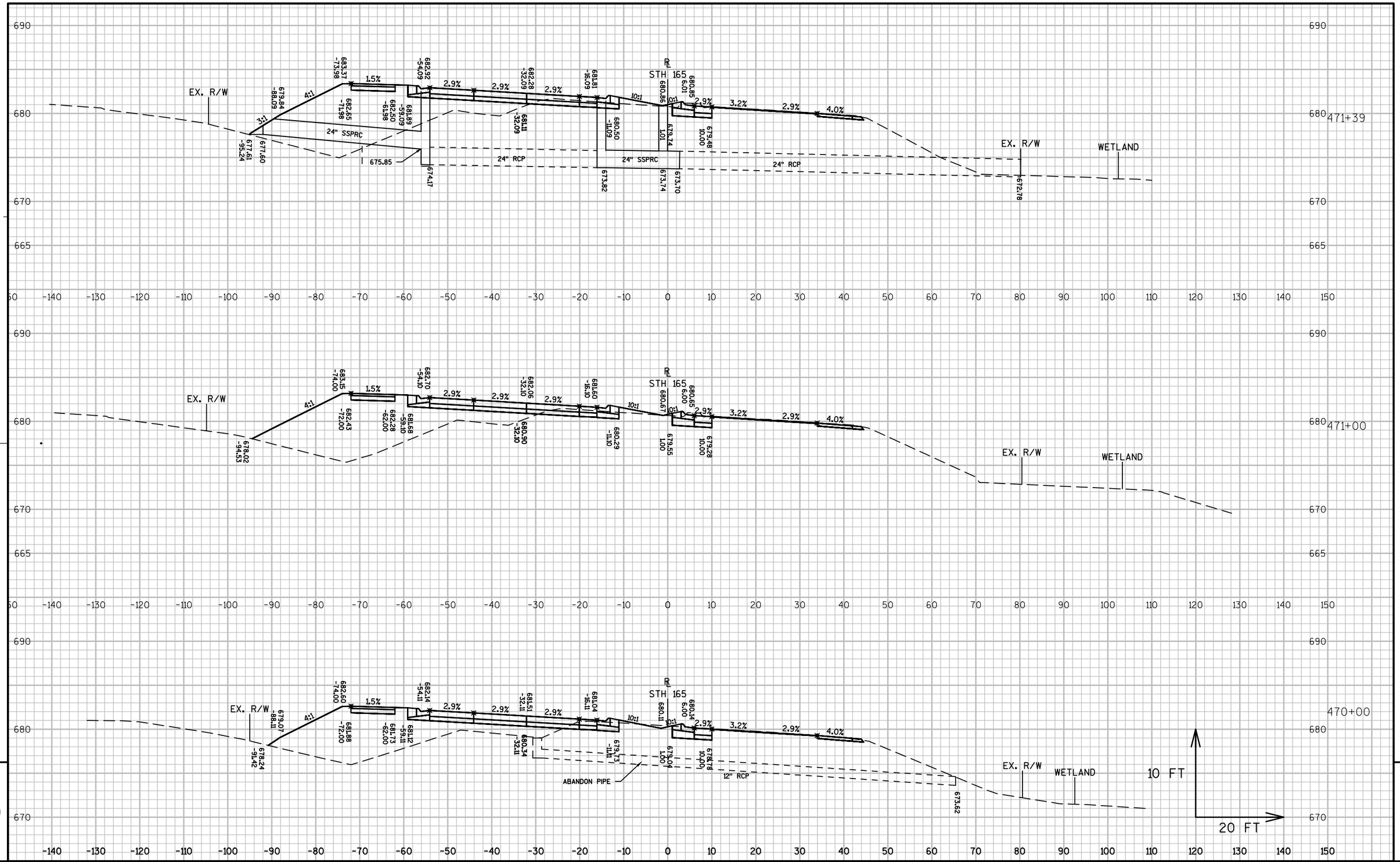
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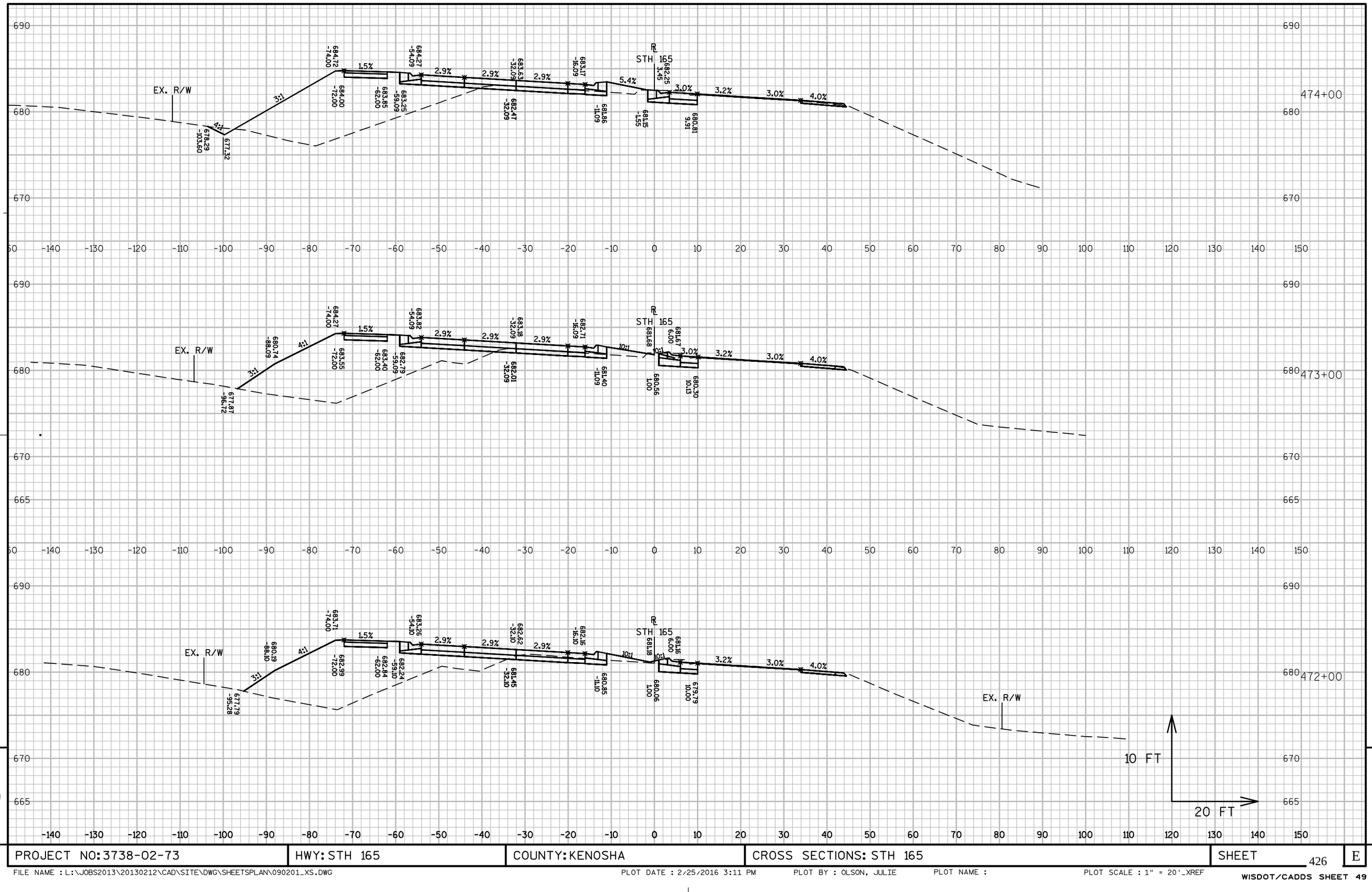
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WISDOT/CADDS SHEET 49



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 425	E

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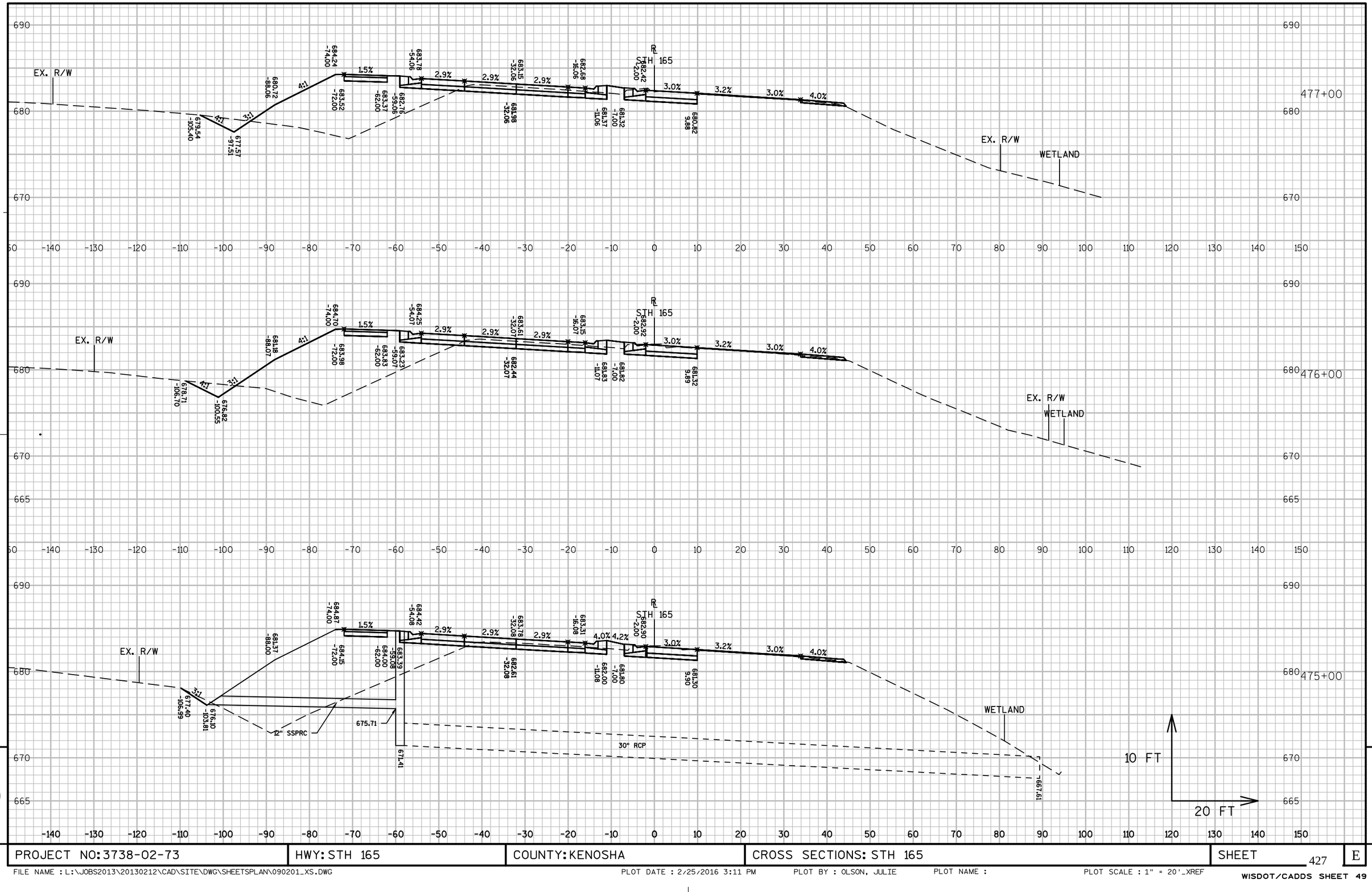


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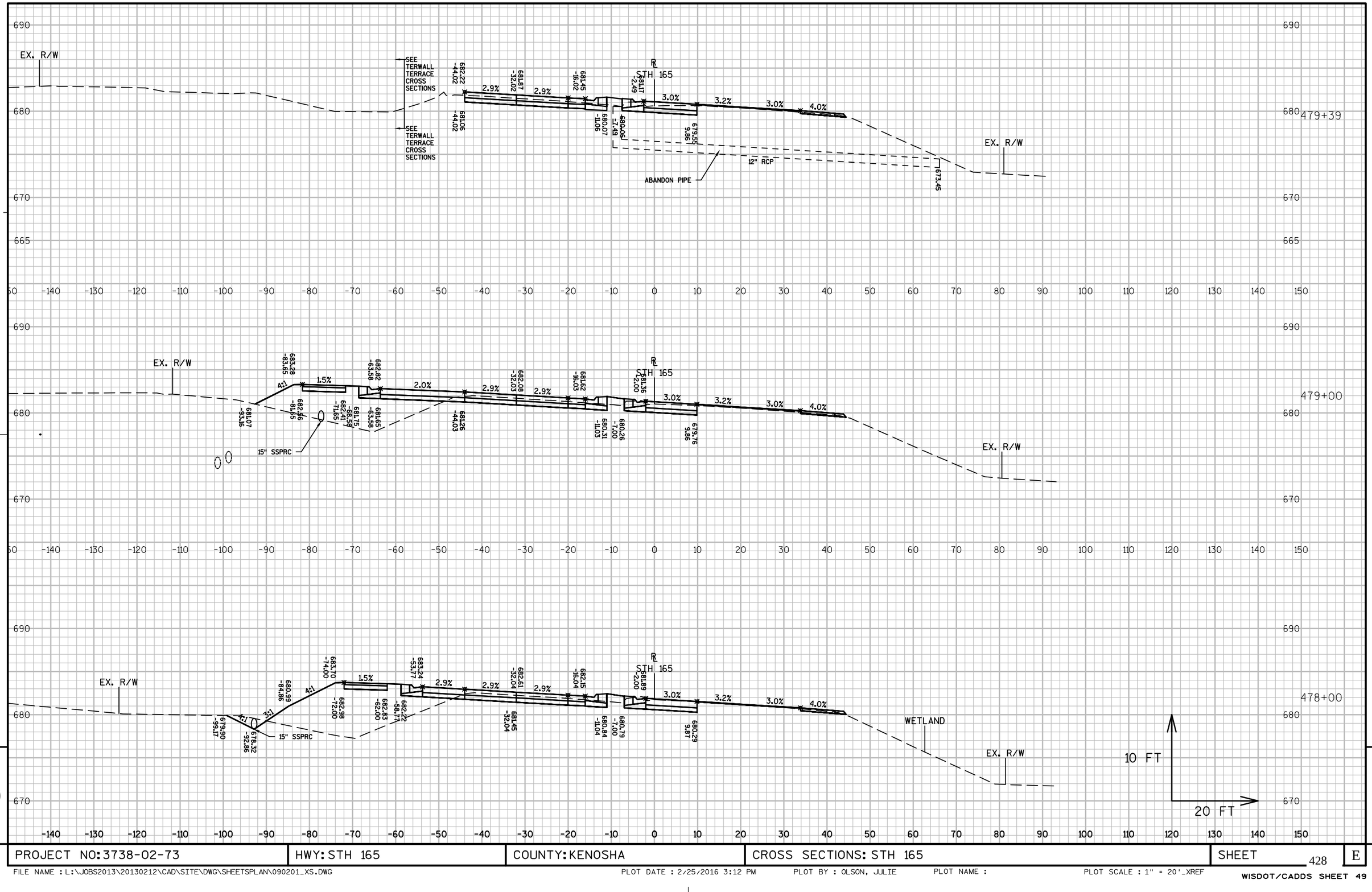
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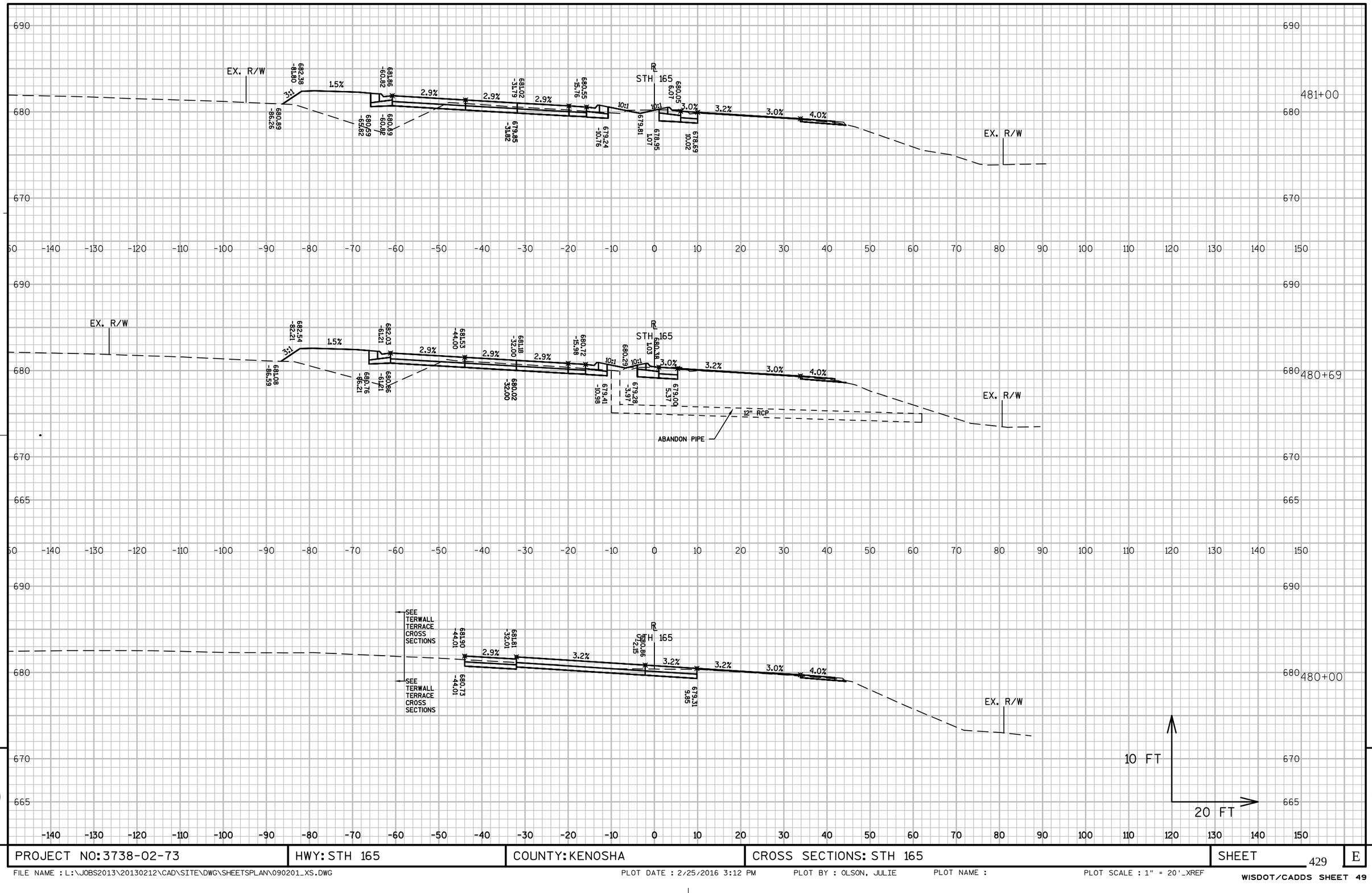
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WISDOT/CADDS SHEET 49

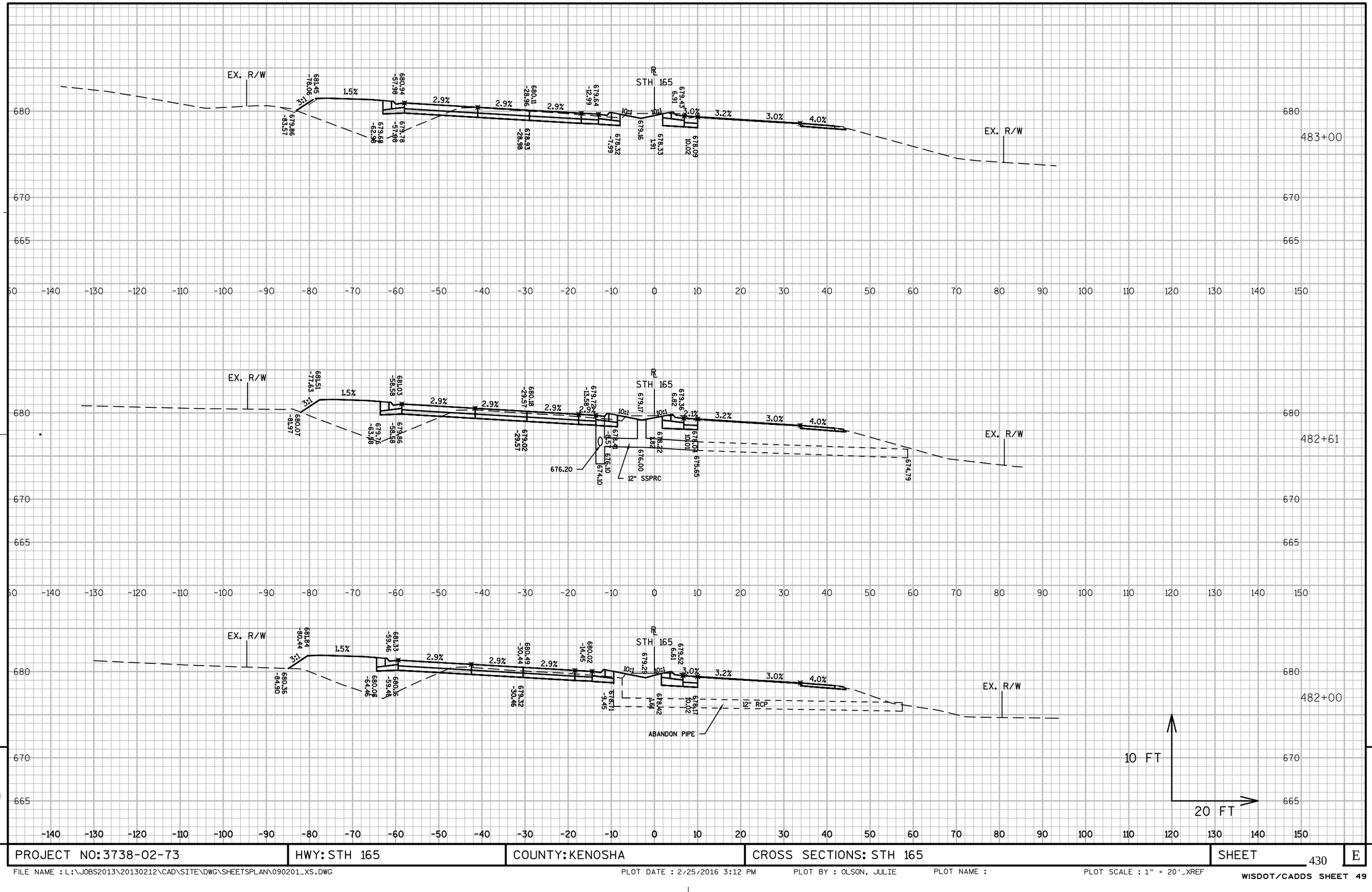


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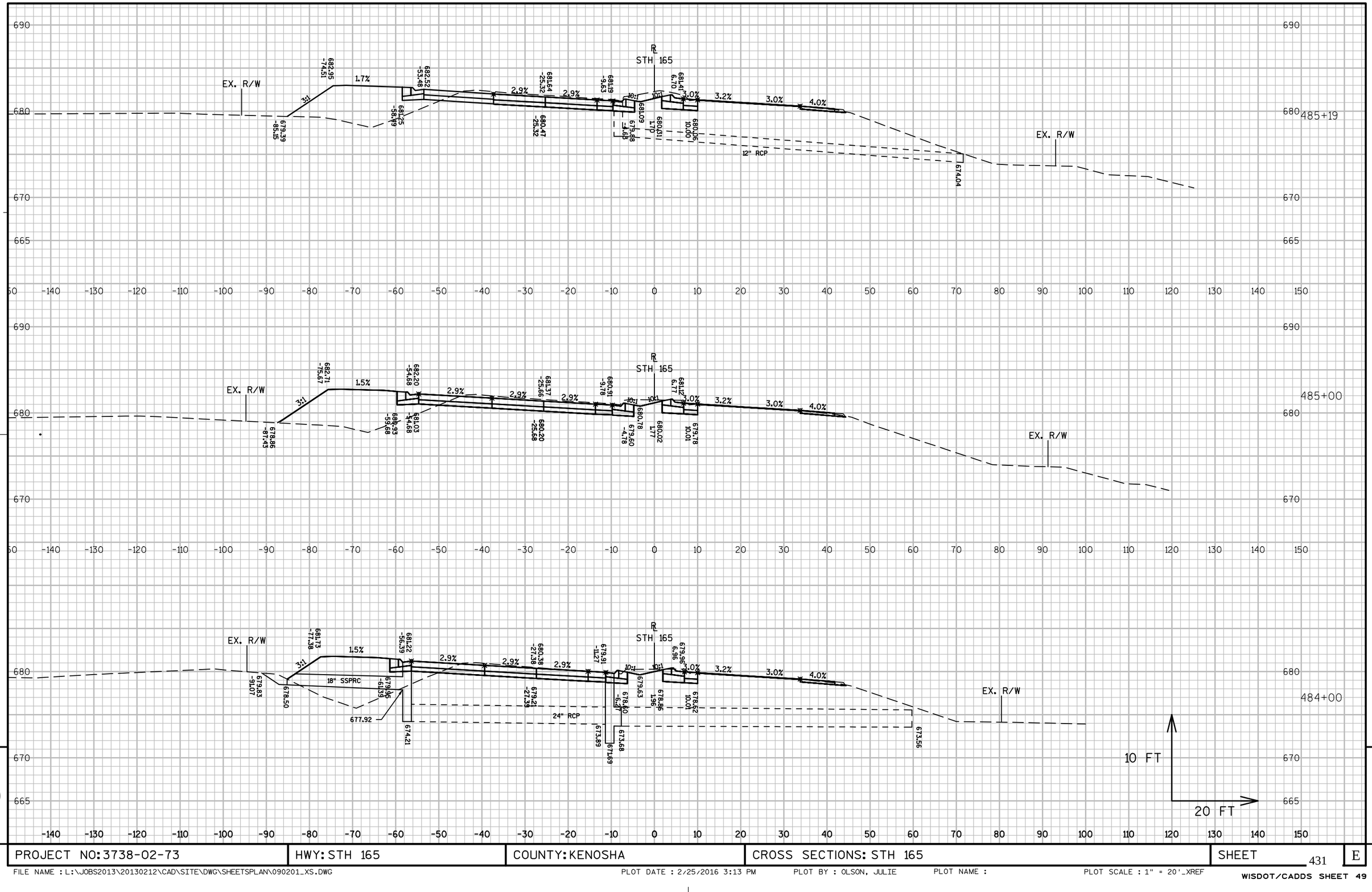
PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 429	E



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 430	E

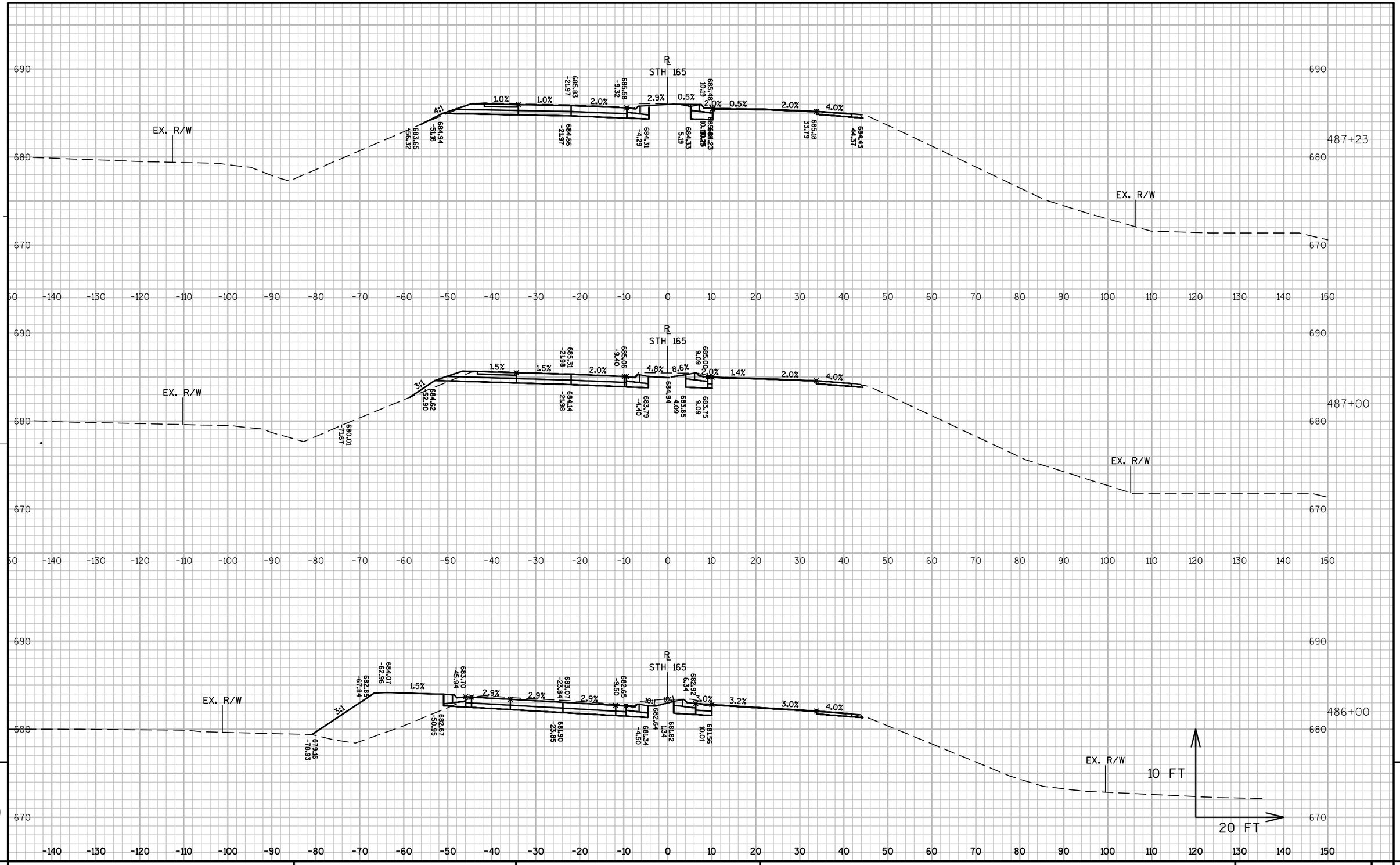
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WISDOT/CADDS SHEET 49



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 431	E

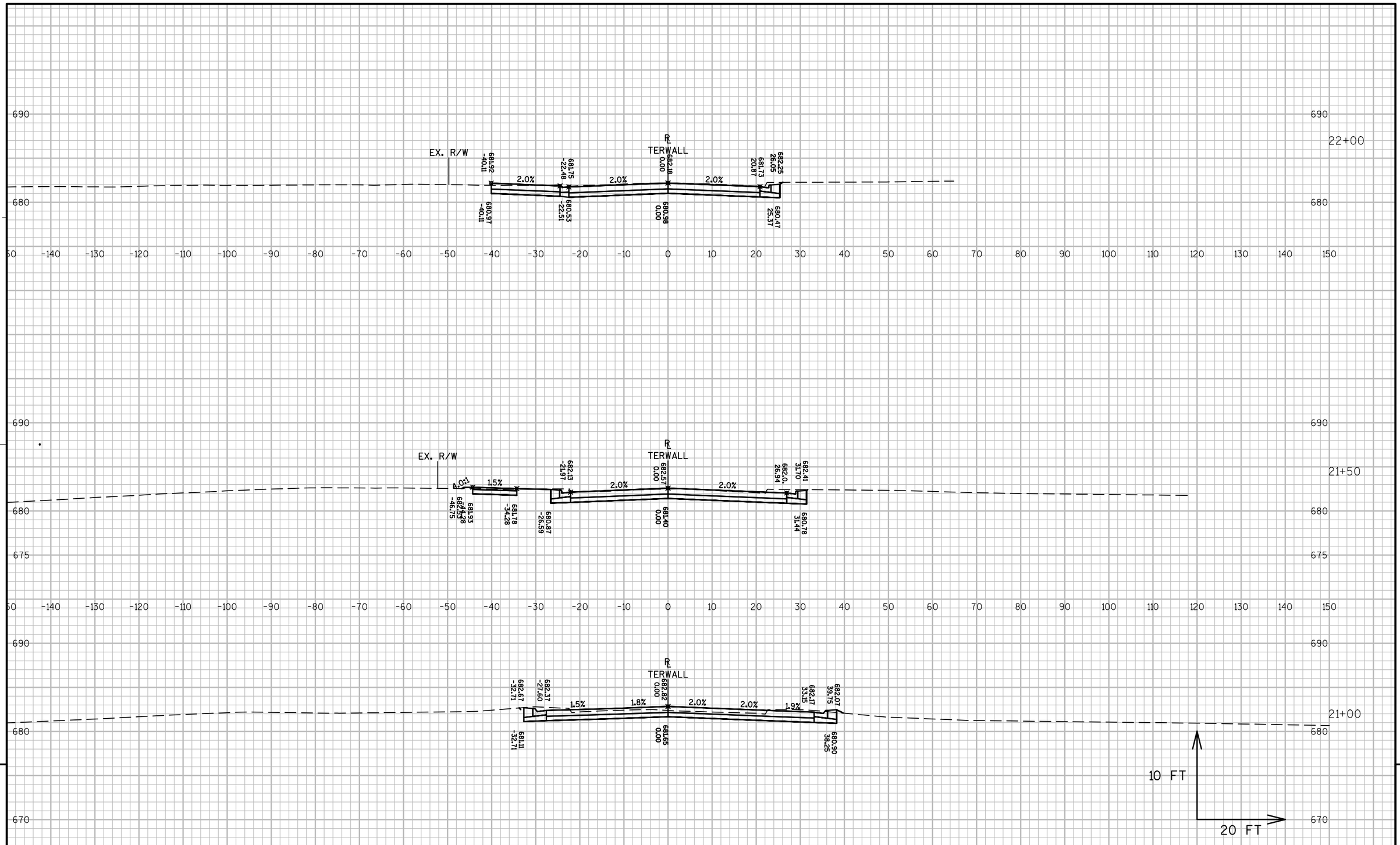
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PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 432	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\090201_XS.DWG PLOT DATE : 2/25/2016 3:13 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 3738-02-73	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: TERWALL TERRACE	SHEET 433	E

FILE NAME : L:\JOBS2013\20130212\CAD\SITE\DWG\SHEETSPLAN\090202_XS.DWG
LAYOUT NAME - SECTION SHEET - (40)

PLOT DATE : 2/25/2016 3:14 PM PLOT BY : OLSON, JULIE PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

WKE

JUNE 2016

ORDER OF SHEETS

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

TOTAL SHEETS = 368

PROJECT ID: 3738-06-60

WITH: 3738-02-73

COUNTY: KENOSHA

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3738-06-60	WISC 2016224	1

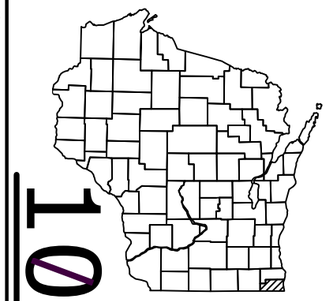
104TH STREET, VILLAGE OF PLEASANT PRAIRIE

IH 94 TO STH 31

STH 165

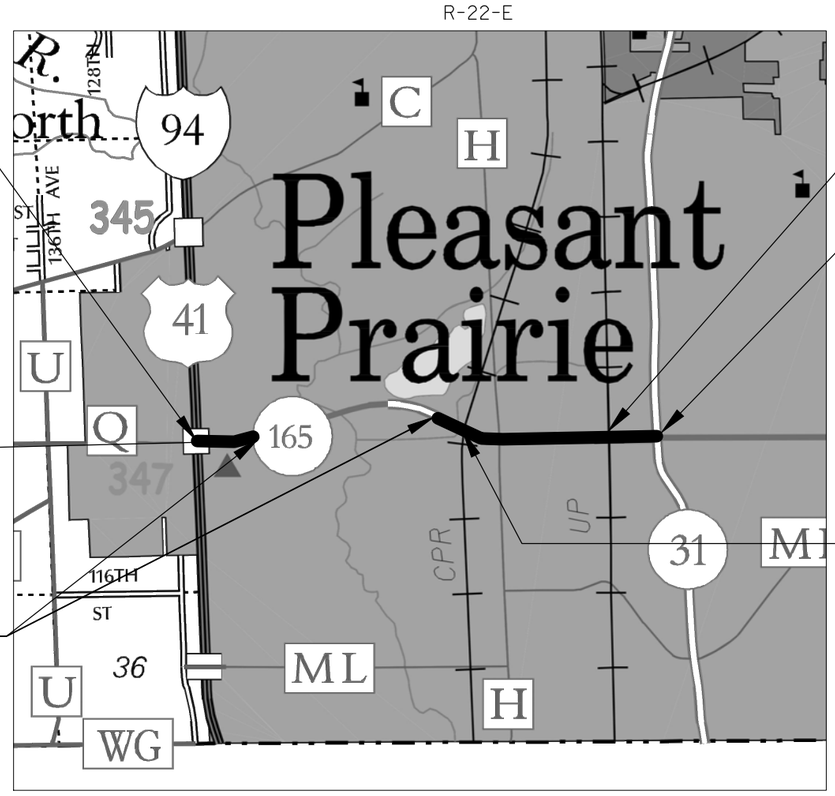
KENOSHA COUNTY

STATE PROJECT NUMBER
3738-06-60





BEGIN PROJECT 3738-06-60
STA. 389+13
X=593,440.89
Y=111,921.86



B-30-73 & B-30-74

END PROJECT 3738-06-60
STA. 574+31

EXCEPTION TO NET CENTER LINE LENGTH
STA. 496+65 - STA. 499+09
B-30-66 & B-30-67

EXCEPTION TO NET CENTER LINE LENGTH
STA. 398+34 - STA. 401+74
B-30-70 & B-30-71

EXCEPTION TO NET CENTER LINE LENGTH
STA. 416+00 -
STA. 487+24
PROJECT 3738-02-73

DESIGN DESIGNATION IH 94 TO CORPORATE DR.		TERWALL TERR. TO	CANADIAN PACIFIC RAILWAY	CANADIAN PACIFIC RAILWAY TO STH 31
A.A.D.T.	2015 = 13,300	13,300		14,300-15,400
A.A.D.T.	2035 = 16,400	16,400		18,300-20,400
D.H.V.	= 1,740	1,740		2,165
D.D.	= 58/42	58/42		58/42
T.	= 4.4	4.4		4.4
DESIGN SPEED	= 35 MPH	55 MPH		45 MPH
ESALS	= N/A	N/A		N/A

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 1.0 MI.

TOTAL NET LENGTH OF CENTERLINE = 1.989 MI.

ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD 88 (2007)

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), KENOSHA COUNTY ZONE, NAD 1983 (2007)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	EMCS
Designer	ANDREW LEDGER
Project Manager	MARK WILFERT
Regional Examiner	
Regional Supervisor	REEM SHAHIN
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 10-30-15 (Signature)

E

GENERAL NOTES

MAINTAIN ACCESS TO ALL DRIVEWAYS AND BUSINESSES AT ALL TIMES.

ALL LAYOUT DATA IS REFERENCED TO THE R/L UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL LOCATIONS AS SHOWN IN THE PLAN ARE SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

STATIONING, DISTANCES AND OFFSETS FOR SIGNS SHOWN ON THE PLANS ARE APPROXIMATE AND THE LOCATIONS OF SIGNS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

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 THAT ARE NOT SHOWN.

THE CONTRACTOR WILL COORDINATE CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A CALL TO THE UTILITIES THAT HAVE INSTALLATIONS WITHIN THE PROJECT AREA.

RETOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLAND, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTANINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

ELEVATIONS SHOWN FOR CURB AND GUTTER ARE FLANGE ELEVATION. DISTANCES SHOWN FOR CURB AND GUTTER RADAII ARE MEASURED TO THE FLANGE

CONTRACTOR MUST CONTACT THE PROJECT ENGINEER AND SEWRPC (JOHN WASHBURN); AT LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC SURVEY MONUMENT.

ALL SIGNAL LOOP DETECTORS SHALL BE INSTALLED IN THE BASE COURSE. PAVEMENT RESTORATION SHALL BE PAID UNDER THE APPLICABLE CONCRETE PAVEMENT REPAIR OR CONCRETE PAVEMENT REPLACEMENT ITEM.

HMA PAVING

STH 165		THICKNESS	HMA
STA 571+04 to STA 574+31	UPPER LAYER	2-INCH	4 MT 58-28 S
	LOWER LAYER	3 1/2-INCH	3 MT 58-28 S
(STA 487+24 to 554+99)	SHOULDERS	4-INCH	4 LT 58-28 S

WISDOT CONTACTS

WISDOT PROJECT MANAGER
MARK WILFERT
141 NW BARSTOW STREET
P.O. BOX 798
WAUKESHA, WI 53187-0798
PHONE: (262) 548-5936

WISDOT DESIGN LEADER
ANDREW LEDGER
141 NW BARSTOW STREET
P.O. BOX 798
WAUKESHA, WI 53187-0798
PHONE: (262) 548-5688

WISDOT HIGHWAY MAINTENANCE
DENNIS SCHMUNCK
141 NW BARSTOW STREET
P.O. BOX 798
WAUKESHA, WI 53187-0798

WISDOT BUREAU OF STRUCTURES
STEVE REVELLO
(608) 266-5095

LAURA SHADEWALD
(608) 267-9592

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES

PROJECT OVERVIEW

TYPICAL SECTIONS

CONSTRUCTION DETAILS

PLAN DETAILS

PERMANENT SIGNING

TRAFFIC SIGNALS

PAVEMENT MARKING

TRAFFIC CONTROL

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

2

UTILITY CONTACTS

AT&T WISCONSIN
RICK PODOLAK
304 S. DEWEY ST., 4TH FLOOR
EAU CLAIRE, WI 54701
PHONE: (715) 839-5565
RICK.T.PODOLAK@ATT.COM

AMERICAN TRANSMISSION CO.
ANTHONY MARCINIAK
W234 N2000 RIDGEVIEW PARKWAY COURT
WAUKESHA, WI 53188-1000
PHONE: (262) 506-6814
AMARCINIAK@ATCLLC.COM

WINDSTREAM KDL, INC.
JIM KOSTUCH
13935 BISHOPS DRIVE
BROOKFIELD, WI 53005
PHONE: (262) 792-7938
JAMES.KOSTUCH@WINDSTREAM.COM

KENOSHA COUNTY DEPARTMENT OF PUBLIC WORKS
RAYMOND ARBET
19600 75TH STREET
PO BOX 609
BRISTOL, WI 53104-0609
PHONE: (262) 857-1870
FAX: (262) 857-1885
RARBET@CO.KENOSHA.WI.US

CITY OF KENOSHA DEPARTMENT OF PUBLIC WORKS
MICHAEL LEMENS
625 52ND STREET
KENOSHA, WI 53140
PHONE: (262) 653-4150
MLEMENS@KENOSHA.ORG

FRONTIER - WISCONSIN
RYAN OSNESS
118 DIVISION STREET
PLYMOUTH, WI 53073
PHONE: (920) 893-7455
RYAN.D.OSNESS@FTR.COM

LEVEL 3 COMMUNICATIONS
NETWORK RELOCATIONS
1025 ELDORADO BLVD
BROOMFIELD, CO 80021
PHONE: (720) 888-0336
LEVEL3.NETWORKRELOCATIONS@LEVEL3.COM

MIDWEST FIBER NETWORKS
RICHARD TRGOVEC
3701 W. BURNHAM STREET, STE C
MILWAUKEE, WI 53215
PHONE: (414) 672-5612
FAX: (414) 226-2269
RTROGOVEC@MIDWESTFIBERNETWORKS.COM

WINDSTREAM NTI, INC.
JIM KOSTUCH
13935 BISHOPS DRIVE
BROOKFIELD, WI 53005
PHONE: (262) 792-7938
JAMES.KOSTUCH@WINDSTREAM.COM

PAETEC BUSINESS SERVICES
JIM KOSTUCH
13935 BISHOPS DR.
BROOKFIELD, WI 53005
PHONE: (262) 792-7938
JAMES.KOSTUCH@WINDSTREAM.COM

VILLAGE OF PLEASANT PRAIRIE
MATTHEW FINEOUR P.E., VILLAGE ENGINEER
9915 39TH AVE.
PLEASANT PRAIRIE, WI 53158
PHONE: (262) 925-6778
FAX: (262) 925-6786
MFINEOUR@PLPRAIRIEWI.COM

WE ENERGIES (ELECTRIC)
LATROY BRUMFIELD
333 W. EVERETT ST - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
FAX: (414) 221-2336
LATROY.BRUMFIELD@WE-ENERGIES.COM

TDS TELECOM
MICHAEL JOHNSON
20875 CROSSROADS CIRCLE, SUITE 800
WAUKESHA, WI 53186
PHONE:(262) 754-3052
FAX: (262) 717-6002
MICHAEL.JOHNSON@TDSTELECOM.COM

TIME WARNER CABLE
TIME WARNER CABLE ENGINEERING
1320 N. MARTIN LUTHER KING JR. DR.
MILWAUKEE, WI 53212
PHONE: (414) 277-4045
WIS.ENGINEERING@TWCABLE.COM

VERIZON BUSINESS DIVISION
OSP NATIONAL SUPPORT/INVESTIGATIONS
2400 N GLENVILLE
RICHARDSON, TX 75082
PHONE: (972) 729-6322
INVESTIGATIONS@VERIZON.COM

CENTURYLINK/QWEST NATIONAL NETWORK
KEVIN HUFF
13057 S. MONITOR AVE.
PALOS HEIGHTS, IL 60463
PHONE: (708) 837-7927
FAX: (708) 371-8674
KEVIN.HUFF@CENTURYLINK.COM

CITY OF KENOSHA WATER UTILITY
ED ST. PETER
4401 GREEN BAY ROAD
KENOSHA, WI 53144
PHONE: (262) 653-4305
FAX: (262) 653-4320
ESTPETER@KENOSHA.ORG

WE ENERGIES (GAS OPERATIONS)
LATROY BRUMFIELD
333 W. EVERETT ST - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
FAX: (414) 221-2336
LATROY.BRUMFIELD@WE-ENERGIES.COM

WISDOT STOC
JEFF MADSON
433 W ST. PAUL AVE., STE 300
MILWAUKEE, WI 53203-3007
PHONE: (414) 225-3723
JEFFREY.MADSON@DOT.WI.GOV

WISDOT TRAFFIC LIGHTING
ERIC PEREA
141 NW BARSTOW STREET
WAUKESHA, WI 53187-0798
PHONE: (262) 574-5422
ERIC.PEREA@DOT.WI.GOV

WISDOT SIGNALS
ELIZABETH LLOYD-WEIS
141 NW BARSTOW STREET
PO BOX 798
WAUKESHA, WI 53187-0798
PHONE: (414) 750-2605
ELIZABETH.LLOYD-WEIS@DOT.WI.GOV

WISDOT OH SIGNING
DENNIS NEWTON
935 S 60TH
PO BOX 798
WEST ALLIS, WI 53214-3362
PHONE: (414) 266-1165
DENNIS.NEWTON@DOT.STATE.WI.US

SPRINT COMMUNICATIONS, L.P.
JIM BURTON
5600 N RIVER ROAD SUITE 200
ROSEMONT, IL 60018
PHONE: (708) 955-6659
FAX: (630) 379-5958
JAMES.M.BURTON@SPRINT.COM

AT&T CORPORATION
CARL DONAHUE
866 ROCK CREEK ROAD
PLANO, IL 60545
PHONE: (847) 420-9115
FAX: (847) 244-9597
CD8729@ATT.COM

2

N

EXCEPTION TO NET CENTER LENGTH
STA. 398+34 - STA. 401+74
B-30-70 & B-30-71

BEGIN PROJECT
STA. 389+13

EXCEPTION TO NET CENTERLINE LENGTH
STA. 495+65 - STA. 499+09
B-30-66 & B-30-67

CANADIAN PACIFIC RAILROAD

DES PLAINES RIVER

TERWALL TERR.

88TH AVE (CTH H)

88TH AVE

86TH AVE

B-30-73
POLYMER
OVERLAY

STA. 543+99

82ND AVE

UNION PACIFIC
RAILROAD

80TH AVE

STA. 144+89

STH 31 (GREENBAY ROAD)

STA. 567+33

STA. 568+06

72ND AVE

W. FRONTAGE RD.

IH 94

E. FRONTAGE RD.

CORPORATE DR.

EXCEPTION TO NET CENTER LINE LENGTH
STA. 416+00 - STA. 487+24
PROJECT 3738-02-73

STA. 509+53

B-30-74
POLYMER
OVERLAY

END PROJECT
STA. 574+31

STA. 133+35

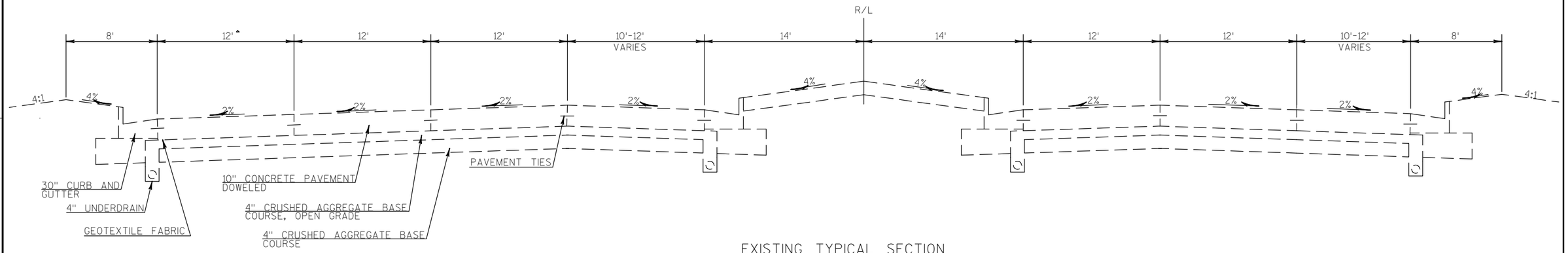
STA. 554+99

LEGEND

- DIAMOND GRINDING
- DIAMOND GRINDING AND REPLACING ASPHALTIC SHOULDER
- TURN LANE EXTENSIONS

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PROJECT OVERVIEW	SHEET 4	E

2



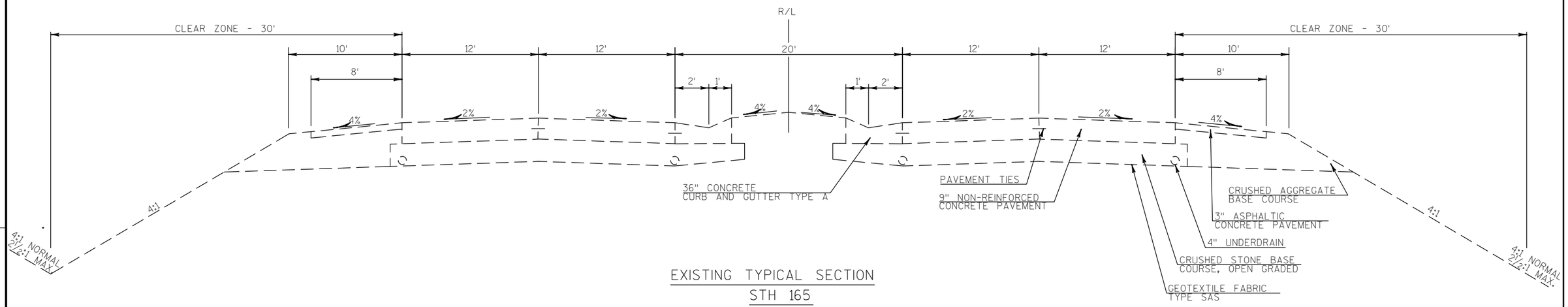
EXISTING TYPICAL SECTION

STH 165

STA. 389+13 - STA. 416+00

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: TYPICAL SECTION	SHEET 5	E

2

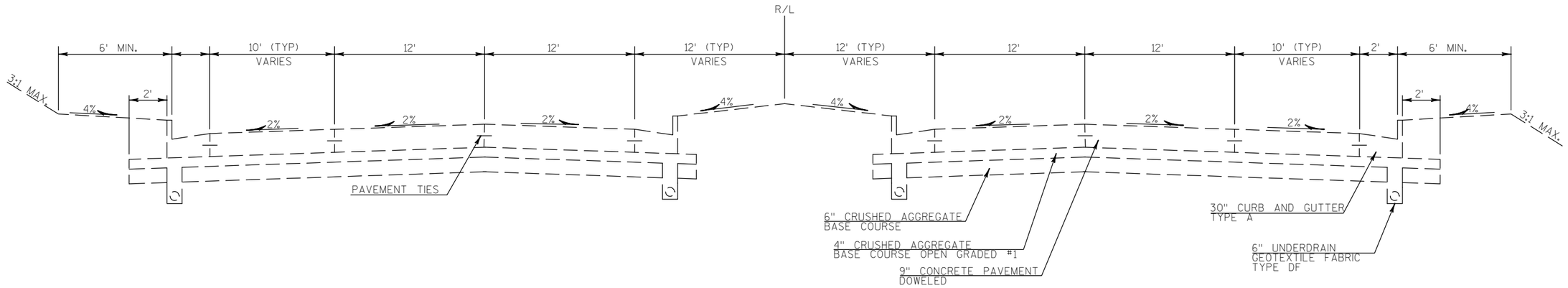


EXISTING TYPICAL SECTION
STH 165

STA. 487+24 - STA. 510+69

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: TYPICAL SECTION	SHEET 6	E

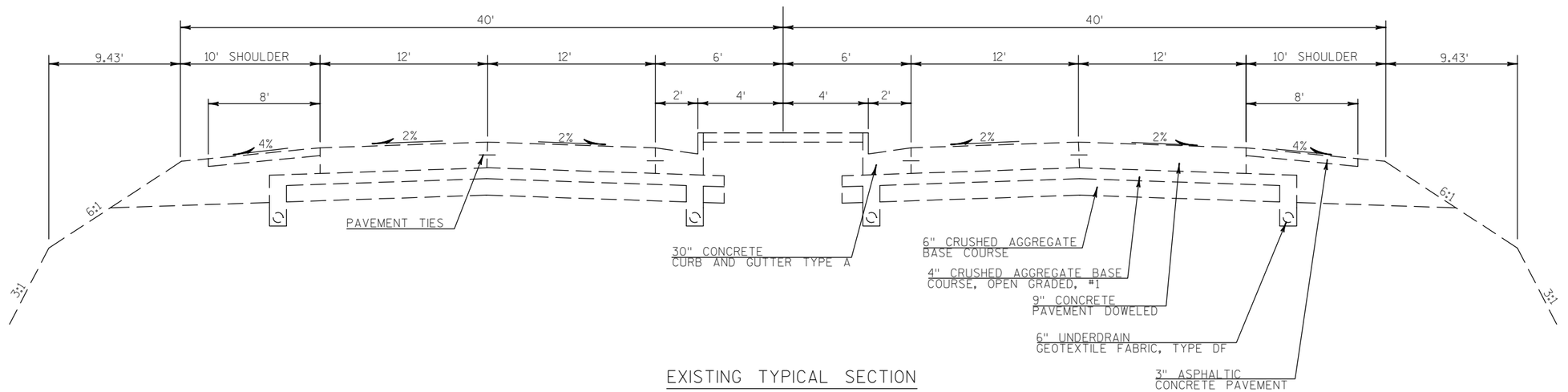
2



EXISTING TYPICAL SECTION

STH 165

STA. 510+69 - STA. 543+99
STA. 554+99 - STA. 566+00



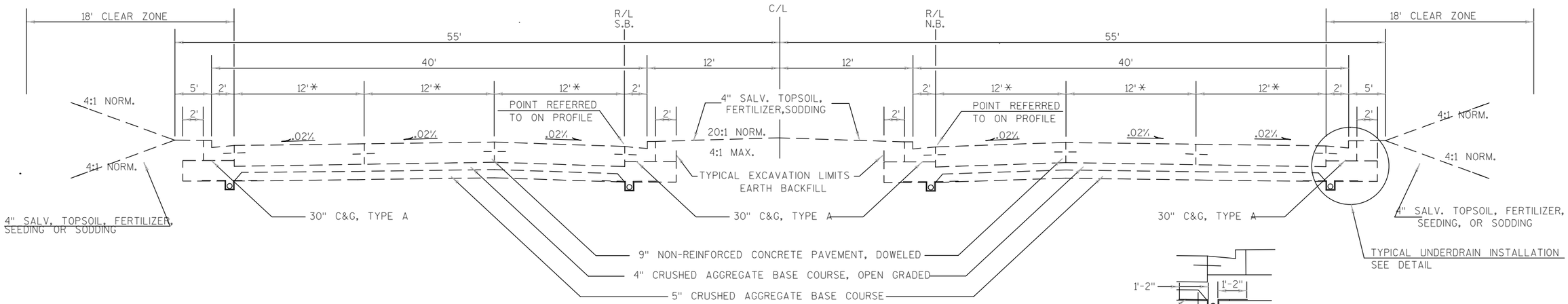
EXISTING TYPICAL SECTION

STH 165

STA. 543+99 - STA. 554+99
STA. 566+00 - STA. 571+04 RT

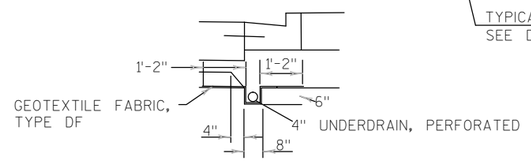
PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: TYPICAL SECTION	SHEET 7	E

2



EXISTING TYPICAL SECTION S.T.H. 31

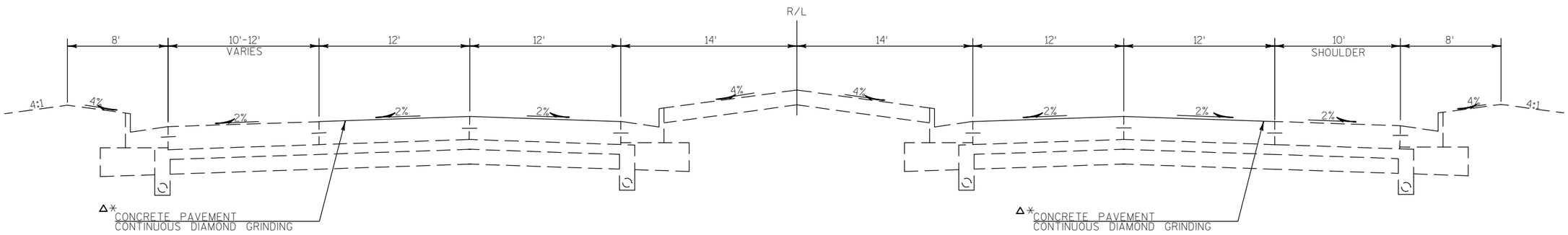
STA. 133+35 - STA. 144+89



DETAIL

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: TYPICAL SECTION	SHEET 8	E

2



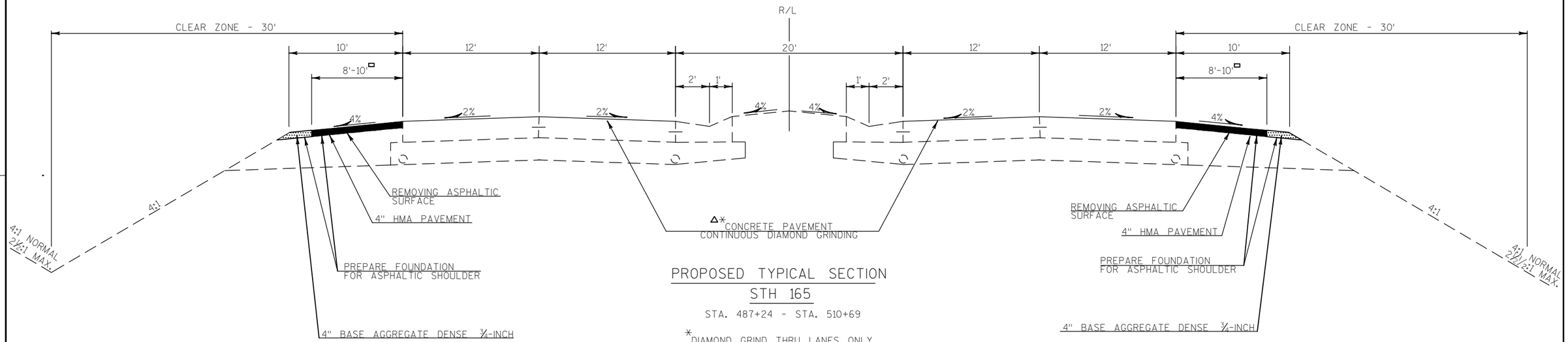
PROPOSED TYPICAL SECTION
STH 165

STA. 389+13 - STA. 416+00

*DIAMOND GRIND THRU LANES ONLY
△CONCRETE PAVEMENT REPAIR / REPLACEMENT
(LOCATIONS TO BE DETERMINED BY THE ENGINEER)

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: TYPICAL SECTION	SHEET 9	E

2



PROPOSED TYPICAL SECTION

STH 165

STA. 487+24 - STA. 510+69

* DIAMOND GRIND THRU LANES ONLY

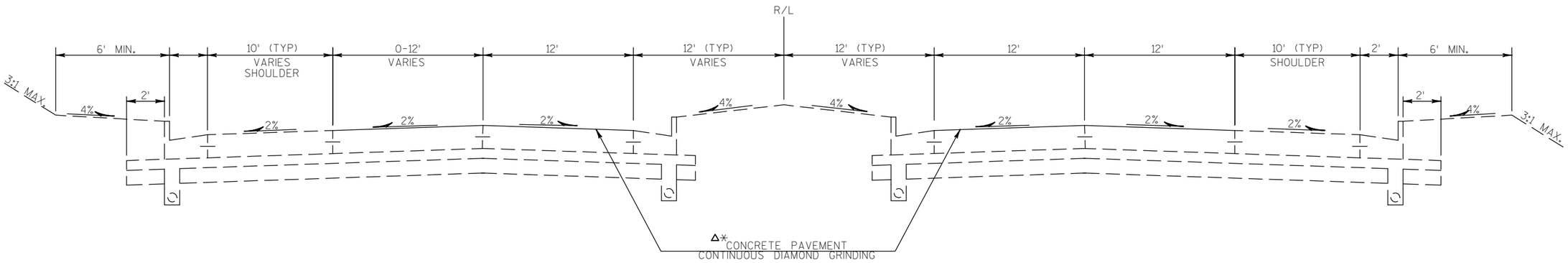
□ 10' AT BEAM GUARD INSTALLATIONS

△ CONCRETE PAVEMENT REPAIR / REPLACEMENT
(LOCATIONS TO BE DETERMINED BY THE ENGINEER)

NOTE:

REMOVAL OF AGGREGATE SHOULDER TO BE PAID AS PREPARE FOUNDATION FOR ASPHALTIC SHOULDER.

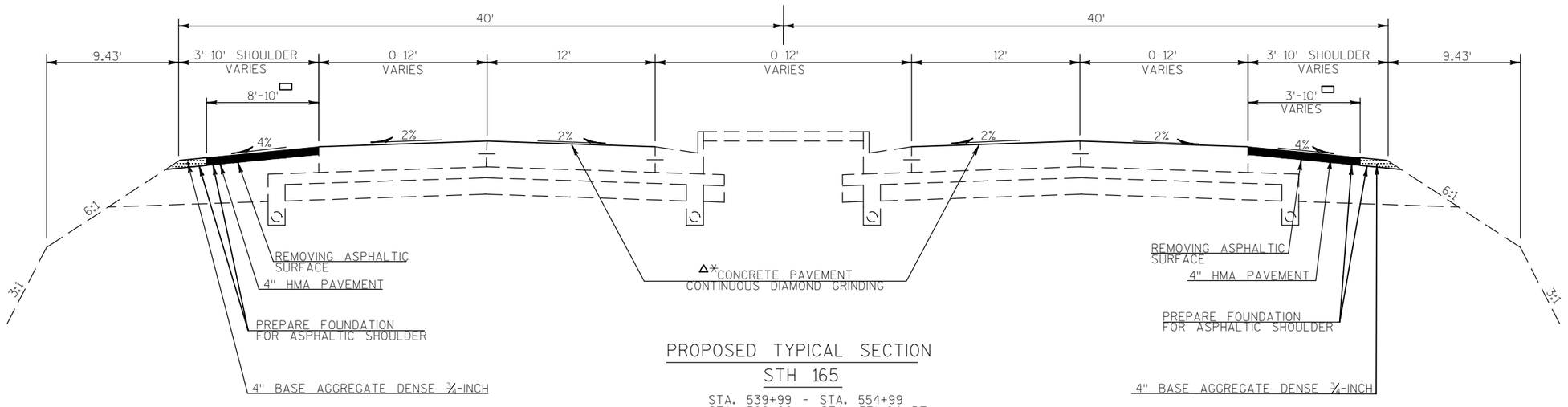
PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: TYPICAL SECTION	SHEET 10	E



PROPOSED TYPICAL SECTION
STH 165

STA. 510+69 - STA. 543+99
STA. 554+99 - STA. 566+00
STA. 566+00 - STA. 571+04 LT

*DIAMOND GRIND THRU LANES ONLY
△CONCRETE PAVEMENT REPAIR / REPLACEMENT
(LOCATIONS TO BE DETERMINED BY THE ENGINEER)



PROPOSED TYPICAL SECTION
STH 165

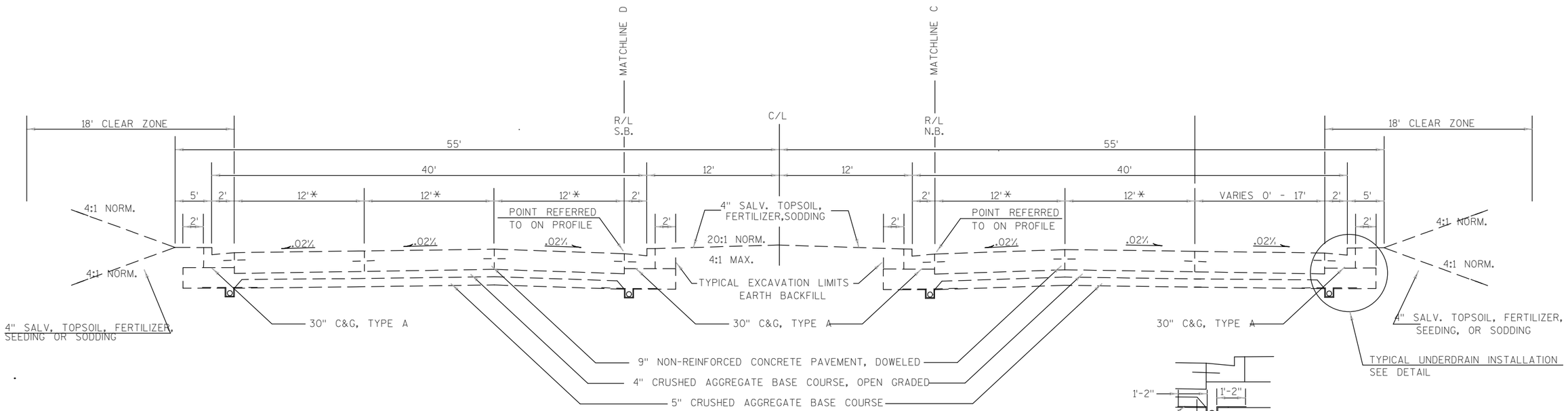
STA. 539+99 - STA. 554+99
STA. 566+00 - STA. 571+04 RT

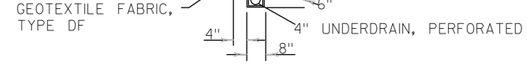
*DIAMOND GRIND THRU LANES ONLY
▭10' AT BEAM GUARD INSTALLATIONS
△CONCRETE PAVEMENT REPAIR / REPLACEMENT
(LOCATIONS TO BE DETERMINED BY THE ENGINEER)

NOTE:
REMOVAL OF AGGREGATE SHOULDER TO BE PAID AS PREPARE FOUNDATION FOR ASPHALTIC SHOULDER.

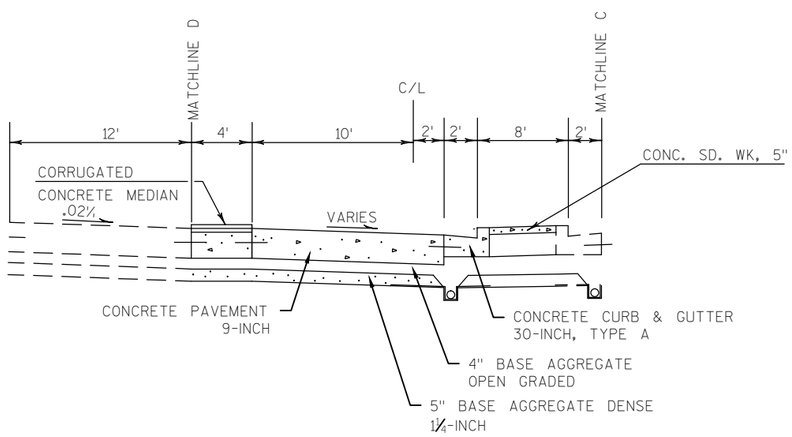
PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: TYPICAL SECTION	SHEET 11	E

2

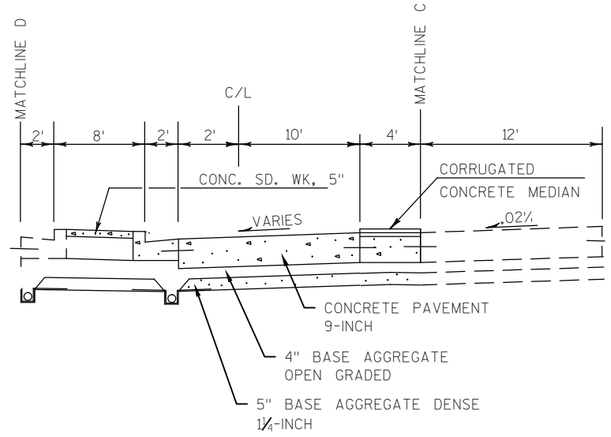




DETAIL



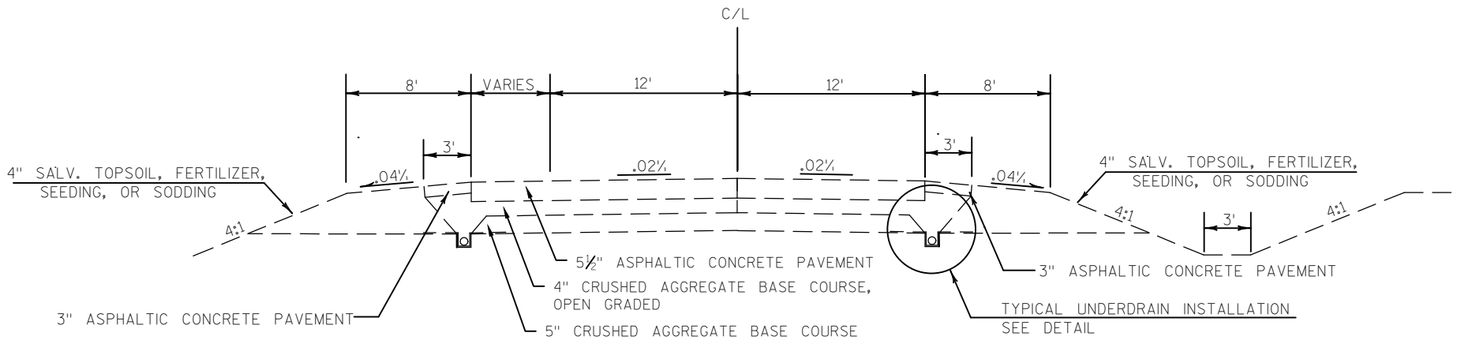
STA. 141+14 - STA. 144+89



STA. 133+35 - STA. 137+62

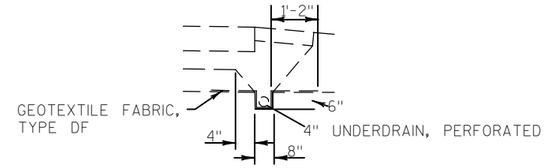
PROPOSED TYPICAL SECTION S.T.H. 31
STA. 133+35 - STA. 144+89

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: TYPICAL SECTION	SHEET 12	E

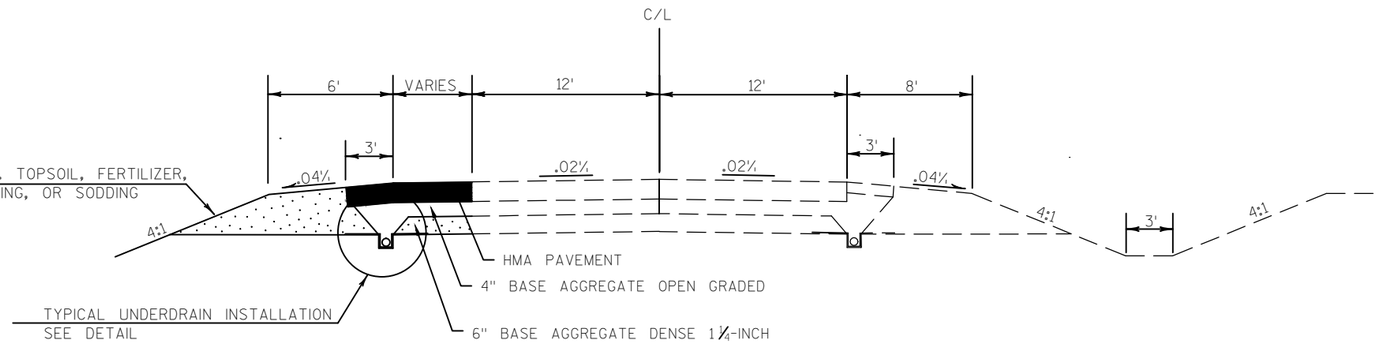


EXISTING TYPICAL SECTION-S.T.H. 165

STA. 571+04 - STA. 572+03

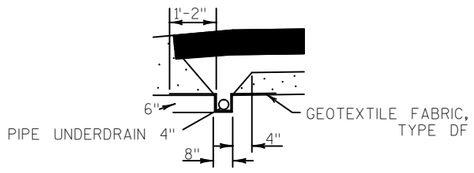


DETAIL



PROPOSED TYPICAL SECTION-S.T.H. 165

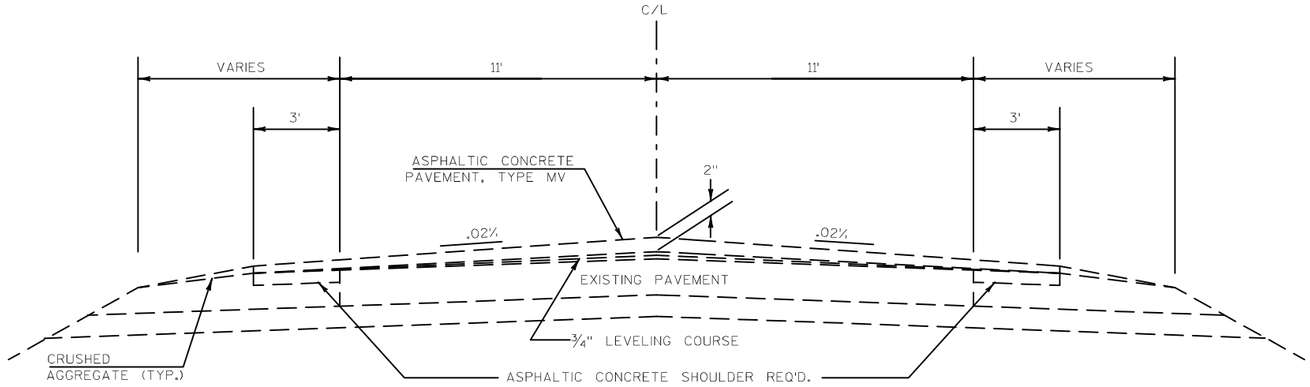
STA. 571+04 - STA. 572+03



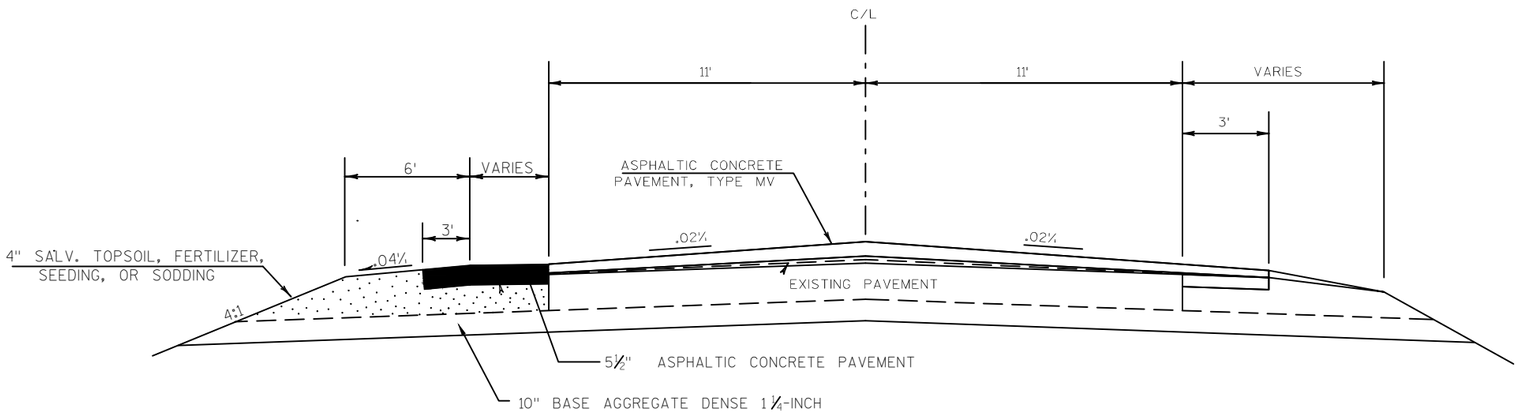
DETAIL

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: TYPICAL SECTION	SHEET 13	E

2



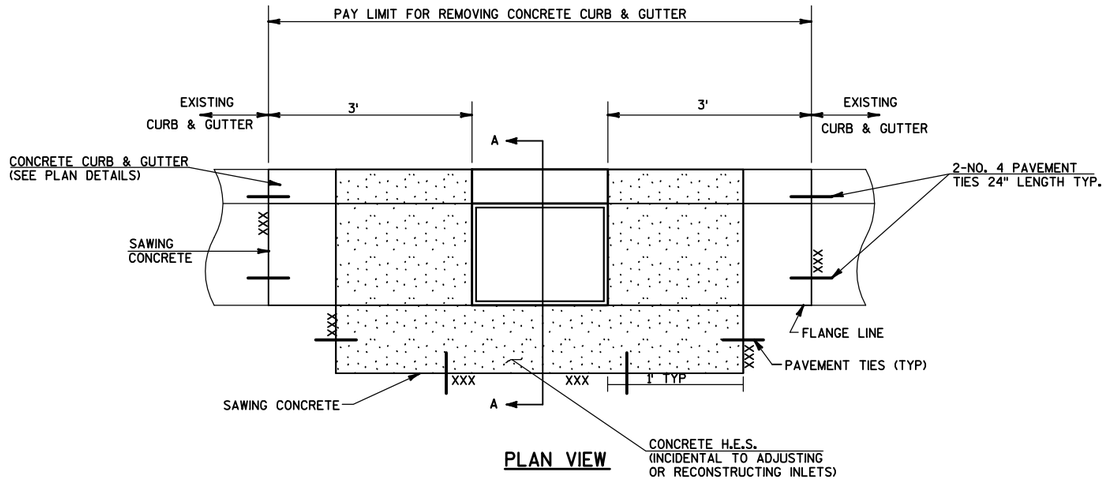
EXISTING TYPICAL SECTION
STA. 572+03 - STA. 574+31



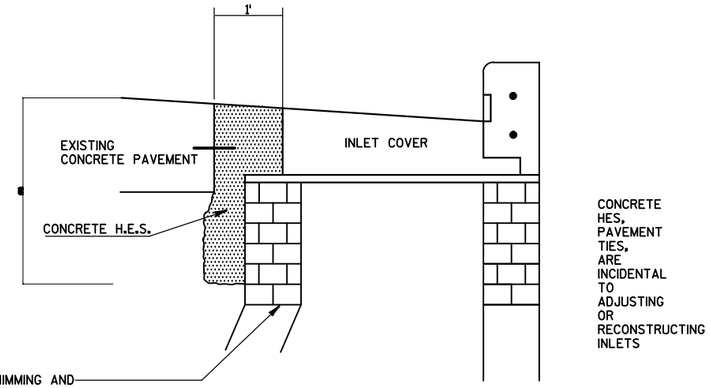
PROPOSED TYPICAL SECTION
STA. 572+03 - STA. 574+31

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: TYPICAL SECTION	SHEET 14	E

2

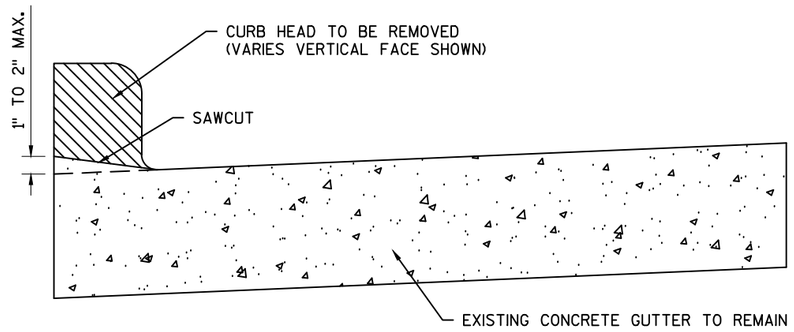


PLAN VIEW



SECTION A-A

ADJUSTING/RECONSTRUCTING INLET



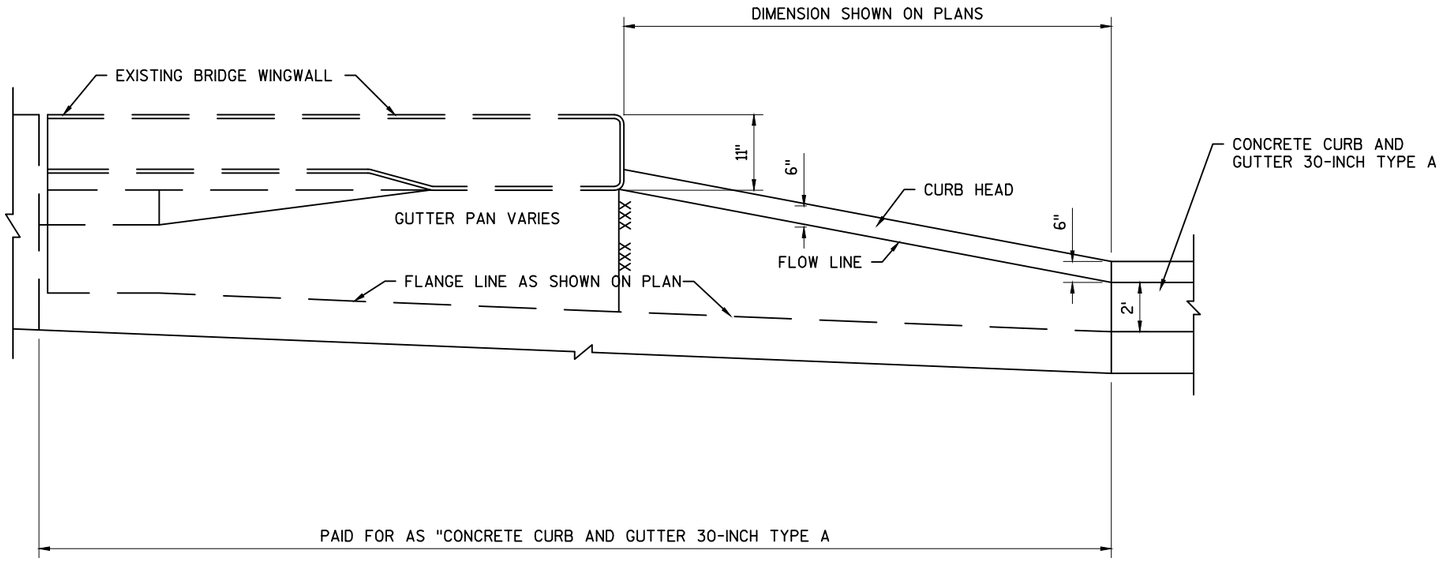
SAWING CONCRETE CURB HEAD

STH 165

STA. 396+45 RT - STA. 397+23 RT
STA. 494+51 LT - STA. 496+85 LT
STA. 494+51 RT - STA. 496+89 RT
STA. 498+75 LT - STA. 501+24 LT
STA. 498+80 RT - STA. 501+24 RT

TRANSITION FROM EXISTING CURB TO SAVED CURB OVER 4 FEET
AT CONCRETE SURFACE DRAINS AND 6 FEET AT ALL OTHER LOCATIONS.

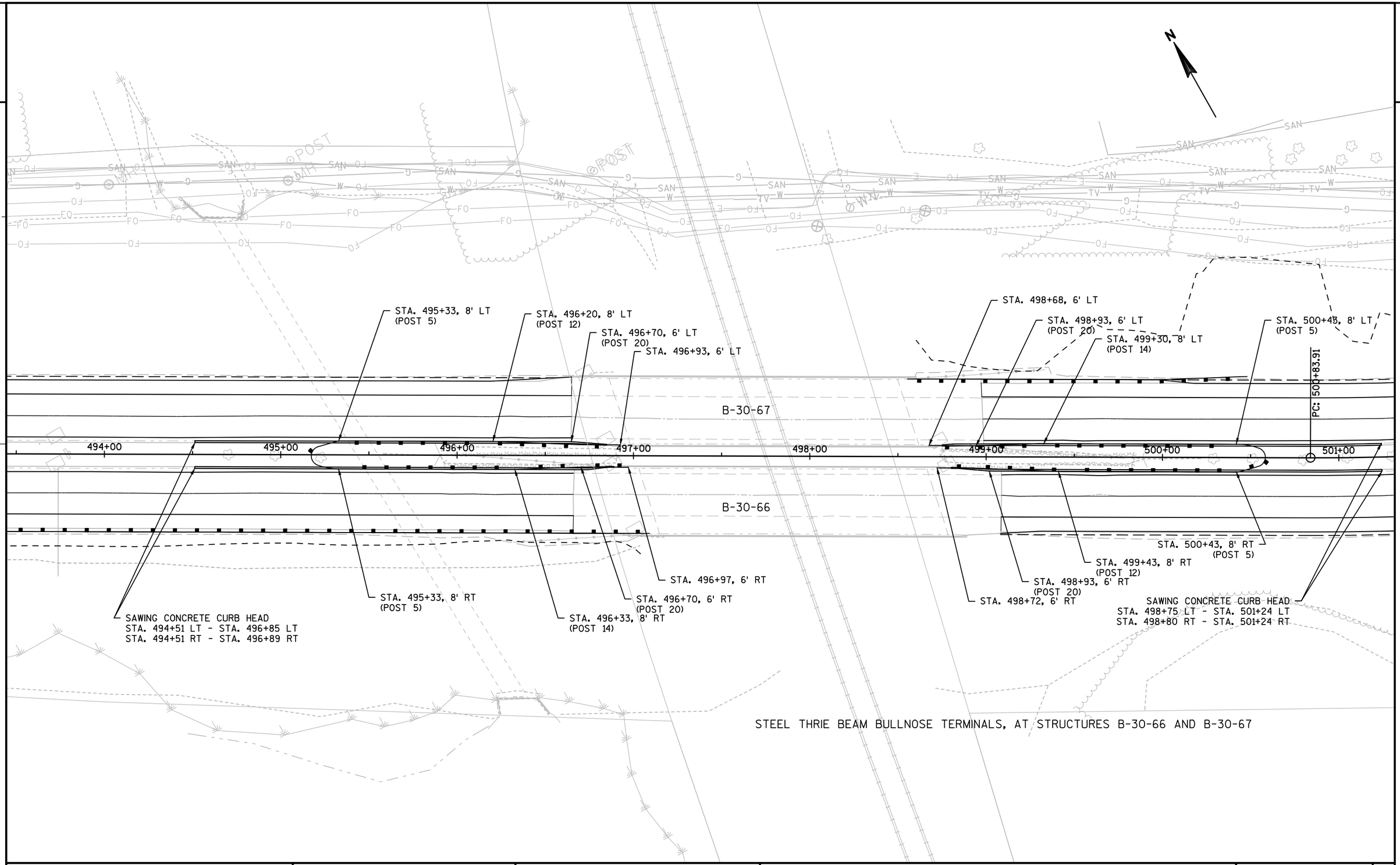
TRANSITION PAID AS SAWING CONCRETE CURB HEAD



CONCRETE CURB AND GUTTER, 30-INCH, TYPE A, AT STRUCTURE B-30-71

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CONSTRUCTION DETAILS	SHEET 17	E

2



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CONSTRUCTION DETAIL	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\37380631\021004_CD.DWG PLOT DATE : 10/20/2015 1:29 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:50_XREF

WISDOT/CADDS SHEET 42

2

N

IH-94

B-30-71

B-30-70

396+00 397+00 398+00 399+00 400+00 401+00 402+00 403+00

CONCRETE PAVEMENT APPROACH SLAB

MGS GUARDRAIL TERMINAL EAT

MGS GUARDRAIL

SI

STA. 397+04, 44' RT

STA. 397+54, 42' RT

STA. 398+47, 43' RT

ADJUST INLET COVERS

MGS THRIE BEAM TRANSITION

SAWING CONCRETE CURB HEAD
STA. 396+45 RT - STA. 397+23 RT

MGS BEAM GUARD AT STRUCTURE B-30-70

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CONSTRUCTION DETAIL	SHEET 19	E

N

B-30-70

B-30-71

400+00

401+00

402+00

403+00

404+00

RETAINING WALL

ASPH

CONC

ASPH

FO

SS

E

G

STA. 401+62, 55' LT

STEEL THRIE BEAM STRUCTURE APPROACH

STA. 401+93, 53' LT

STEEL PLATE BEAM GUARD SHORT RADIUS
13.87' RADIUS
25' LENGTH
7 CRT POSTS

SI

STEEL PLATE BEAMGUARD
CLASS "A"

STA. 129+43, 28' LT

REMOVE RAMP GATE

BP: 126+18.03

126+18

IH-94 NB ON-RAMP

127+00

128+00

129+00

130+00

131+00

ANCHORAGES FOR STEEL PLATE BEAM GUARD TYPE 2

INSTALL RAMP GATE SOLAR POWER
PLACE GATE OUTSIDE STEEL PLATE BEAM GUARD
SHORT RADIUS: AREA TO BE FREE OF FIXED OBJECTS.
SEE SDD: "STEEL PLATE BEAM GUARD SHORT RADIUS
TERMINAL" FOR DETAILS

STA. 402+08, 69' LT

CONCRETE PAVEMENT 10" DOWELED

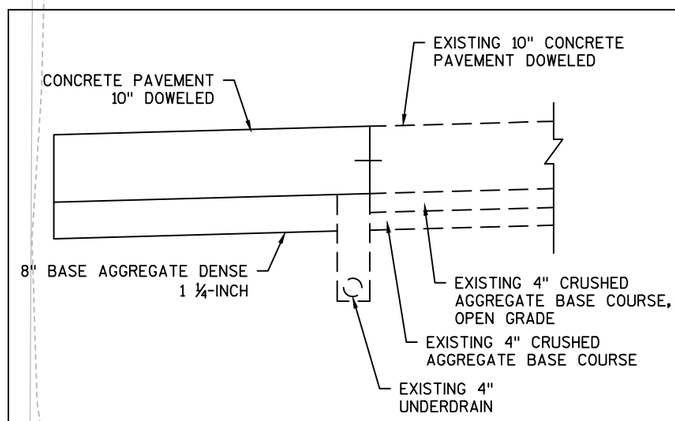
RAMP CLOSURE BARRICADE RACK, 3-UNIT

18" RCCP

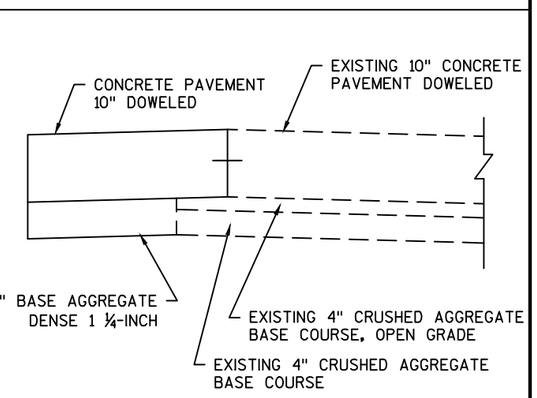
715.940

715.728

STEEL PLATE BEAM GUARD CLASS "A" AT STRUCTURE B-30-71



SECTION A-A

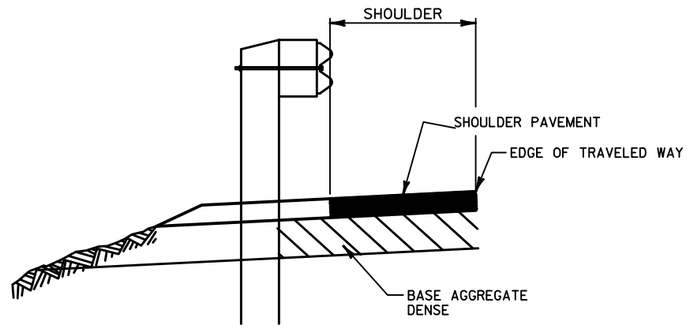


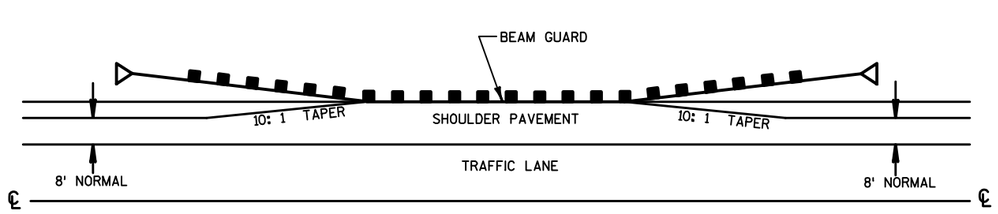
SECTION B-B

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CONSTRUCTION DETAIL	SHEET 20	E

FILE NAME : N:\PDS\C3D\CAD\37380631\021006_CD.DWG PLOT DATE : 2/10/2016 11:10 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1:50_XREF

2





DETAIL FOR SHOULDER AT BEAM GUARD

2

B-30-70

B-30-71

N

STA. 401+74, 51.6' LT

STA. 401+80, 53.7' LT
728.44

STA. 402+07, 75.0' LT
726.921

STA. 402+11, 75.6' LT

STA. 402+12, 50.5' LT

402+00

BP: 126+18.03

126+18

127+00

128+00

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CONSTRUCTION DETAIL	SHEET 22	E

FILE NAME : N:\PDS\C3D\CAD\37380631\021008_CD.DWG PLOT DATE : 10/20/2015 1:41 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:20_XREF

N

STA. 571+04

CONCRETE PAVEMENT 9-INCH

5½" HMA PAVEMENT

4" BASE AGGREGATE OPEN GRADE

6" BASE AGGREGATE DENSE 1-¾-INCH

STA. 568+06
37.77' LT

STA. 568+12
37.31' LT

716.72

717.12

STA. 569+04
32.93' LT

717.61

CONCRETE CURB & GUTTER
30-INCH TYPE A

718.07

12'

STA. 570+12
29.20' LT

718.49

3"

STA. 570+47
27.99' LT

718.57

12'

569+00

570+00

571+00

STH 165

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CONSTRUCTION DETAIL	SHEET 23	E

FILE NAME : N:\PDS\C3D\CAD\37380631\021009_CD.DWG PLOT DATE : 2/9/2016 8:36 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 42

N

STA. 572+03

5½" HMA PAVEMENT

4" BASE AGGREGATE OPEN GRADED
6" BASE AGGREGATE DENSE 1¼-INCH

5½" HMA PAVEMENT

10" BASE AGGREGATE DENSE 1¼-INCH

STA. 571+22
28.19' LT

END PROJECT
STA. 574+31

STA. 574+31
15.31' LT

572+00

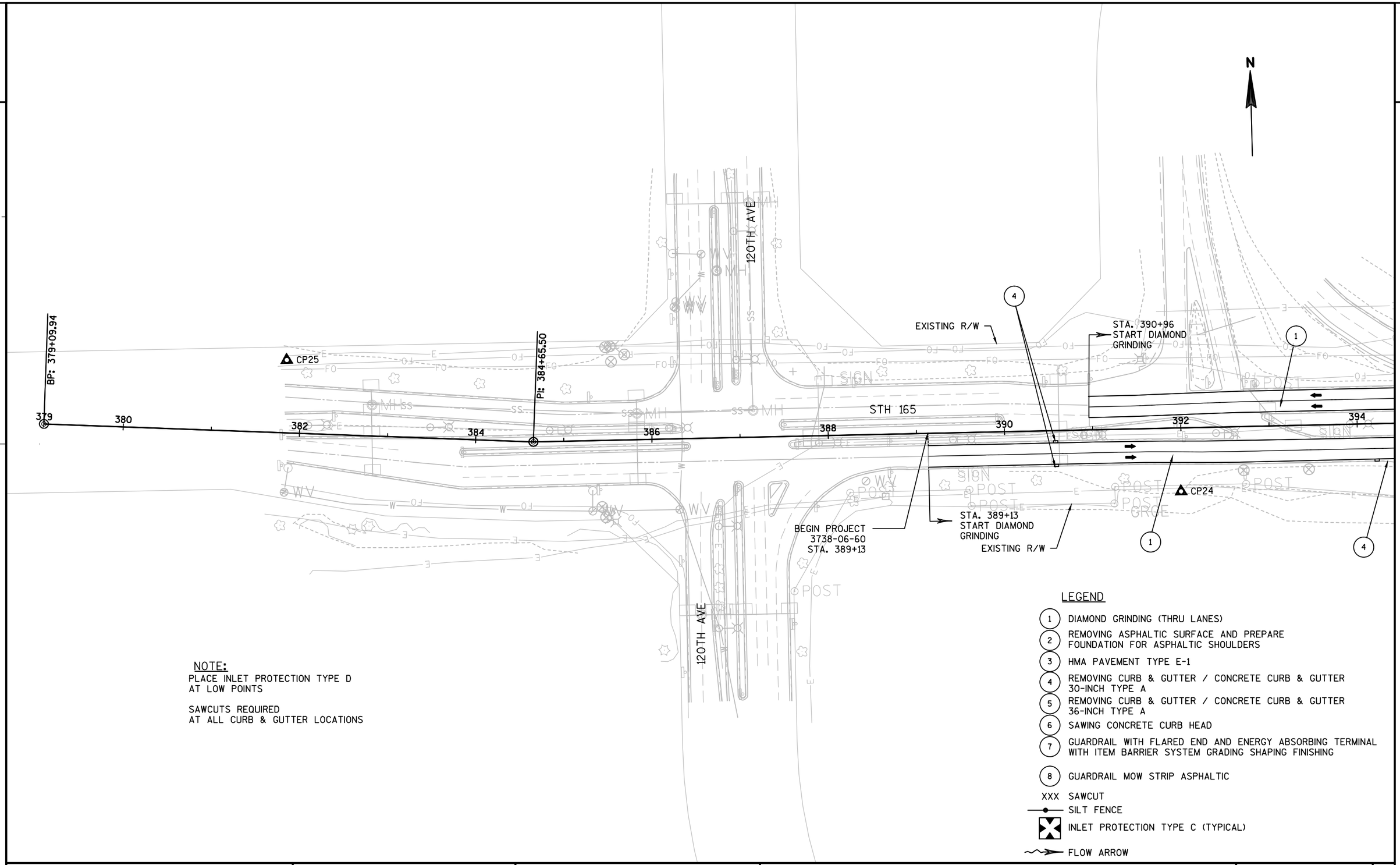
573+00

574+00

STH 165

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CONSTRUCTION DETAIL	SHEET 24	E

2



NOTE:
PLACE INLET PROTECTION TYPE D
AT LOW POINTS

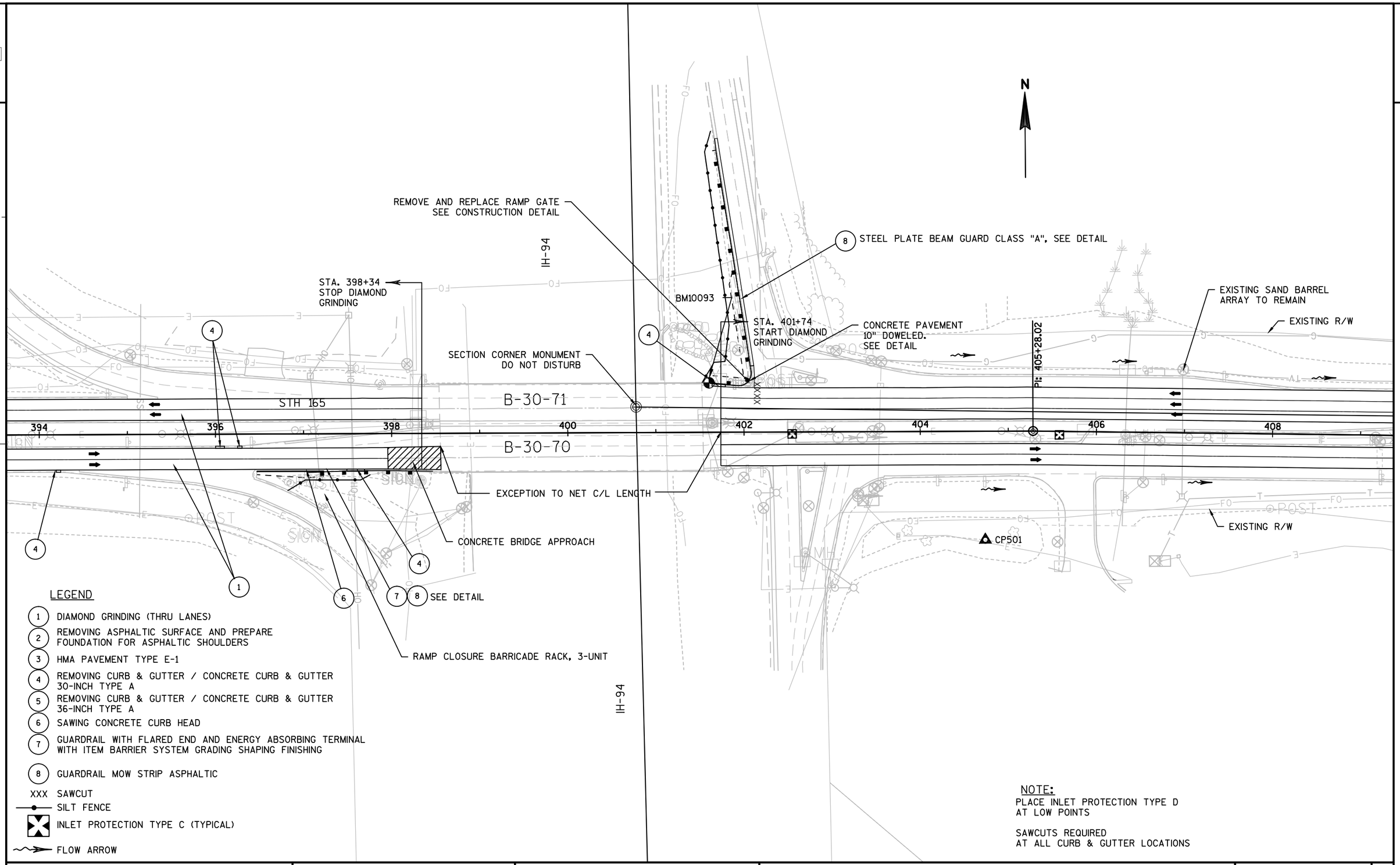
SAWCUTS REQUIRED
AT ALL CURB & GUTTER LOCATIONS

LEGEND

1. DIAMOND GRINDING (THRU LANES)
2. REMOVING ASPHALTIC SURFACE AND PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS
3. HMA PAVEMENT TYPE E-1
4. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 30-INCH TYPE A
5. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 36-INCH TYPE A
6. SAWING CONCRETE CURB HEAD
7. GUARDRAIL WITH FLARED END AND ENERGY ABSORBING TERMINAL WITH ITEM BARRIER SYSTEM GRADING SHAPING FINISHING
8. GUARDRAIL MOW STRIP ASPHALTIC

XXX SAWCUT
SILT FENCE
INLET PROTECTION TYPE C (TYPICAL)
FLOW ARROW

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAILS/EROSION CONTROL	SHEET 25	E



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAILS/EROSION CONTROL	SHEET 26	E

2

N

PT: 3127+02.21

9TH

3124

120TH AVE.

PC: 3122+84.64

EXISTING R/W

CP502

1

PI: 2000+00.00

STA AHEAD = 3121+57.83
STA BACK = 2000+03.21

PI: 3121+57.83

408

410

414

416

END CONSTRUCTION
PROJECT 3738-06-60
STA. 416+00
STOP DIAMOND
GRINDING

CP503

STH 165

418

420

422

PT: 420+20.85

CP504

EXISTING R/W

1998

1996

120TH AVE.

CORPORATE DR.

BEGIN
PROJECT 3738-02-73
EXCEPTION TO NET C/L LENGTH
STA. 416+00 TO STA. 487+24

NOTE:
PLACE INLET PROTECTION TYPE D
AT LOW POINTS

SAWCUTS REQUIRED
AT ALL CURB & GUTTER LOCATIONS

LEGEND

1. DIAMOND GRINDING (THRU LANES)
2. REMOVING ASPHALTIC SURFACE AND PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS
3. HMA PAVEMENT TYPE E-1
4. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 30-INCH TYPE A
5. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 36-INCH TYPE A
6. SAWING CONCRETE CURB HEAD
7. GUARDRAIL WITH FLARED END AND ENERGY ABSORBING TERMINAL WITH ITEM BARRIER SYSTEM GRADING SHAPING FINISHING
8. GUARDRAIL MOW STRIP ASPHALTIC

XXX SAWCUT
SILT FENCE
INLET PROTECTION TYPE C (TYPICAL)
FLOW ARROW

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAILS/EROSION CONTROL	SHEET 27	E

2

END
PROJECT 3738-02-73
EXCEPTION TO NET C/L LENGTH
STA. 416+00 TO STA. 487+24

PT: 486+79.09

EXISTING R/W

CP30

CANADIAN PACIFIC RAILWAY

CP31

STA. 496+65
STOP DIAMOND
GRINDING

CONCRETE SURFACE REPAIR
(ABUTMENT)

ADJUSTING
INLET
COVERS

STA. 499+09
START DIAMOND
GRINDING

+98
44' LT

+48
46' LT

BM757
55
44' LT

PC: 500+83.81

SI

ASPHALTIC
SHOULDER
RUMBLE STRIPS

END ASPHALTIC
SHOULDER RUMBLE STRIP
STA. 494+75

B-30-67

B-30-66

STH 165

488 490 492 494 496 498 500 502

SI

+79
44' RT

+09
44' RT

EXCEPTION TO NET
C/L LENGTH

STEEL THRIE BEAM
BULLNOSE TERMINAL
SEE DETAIL

BEGIN CONSTRUCTION
PROJECT 3738-06-60
START DIAMOND GRINDING,
ASPHALTIC SHOULDER RUMBLE STRIPS

EXISTING R/W

EROSION BALES

APRON ENDWALL FOR
CULVERT PIPE
SALVAGED 12-INCH

+29
46' RT

STEEL THRIE BEAM
BULLNOSE TERMINAL
SEE DETAIL

LEGEND

1. DIAMOND GRINDING (THRU LANES)
2. REMOVING ASPHALTIC SURFACE AND PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS
3. HMA PAVEMENT TYPE E-1
4. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 30-INCH TYPE A
5. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 36-INCH TYPE A
6. SAWING CONCRETE CURB HEAD
7. GUARDRAIL WITH FLARED END AND ENERGY ABSORBING TERMINAL WITH ITEM BARRIER SYSTEM GRADING SHAPING FINISHING
8. GUARDRAIL MOW STRIP ASPHALTIC

XXX SAWCUT
SILT FENCE
INLET PROTECTION TYPE C (TYPICAL)
FLOW ARROW

NOTE:
PLACE INLET PROTECTION TYPE D
AT LOW POINTS

SAWCUTS REQUIRED
AT ALL CURB & GUTTER LOCATIONS

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAILS/EROSION CONTROL	SHEET 28	E

2

2

N

CTH H

STH 165

88TH AVE

EXISTING R/W

EXISTING R/W

CP508

CP509

CP510

ADJUSTING INLET

PC: 31+34.38

PT: 507+98.44

STA. 509+53

PI: 510+13.77

STA. 507+01

SECTION CORNER MONUMENT
DO NOT DISTURB

502

504

506

508

510

512

514

516

34

32

30

28

26

LEGEND

1. DIAMOND GRINDING (THRU LANES)
2. REMOVING ASPHALTIC SURFACE AND PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS
3. HMA PAVEMENT TYPE E-1
4. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 30-INCH TYPE A
5. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 36-INCH TYPE A
6. SAWING CONCRETE CURB HEAD
7. GUARDRAIL WITH FLARED END AND ENERGY ABSORBING TERMINAL WITH ITEM BARRIER SYSTEM GRADING SHAPING FINISHING
8. GUARDRAIL MOW STRIP ASPHALTIC

XXX SAWCUT

SILT FENCE

INLET PROTECTION TYPE C (TYPICAL)

FLOW ARROW

NOTE:
PLACE INLET PROTECTION TYPE D
AT LOW POINTS

SAWCUTS REQUIRED
AT ALL CURB & GUTTER LOCATIONS

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAILS/EROSION CONTROL	SHEET 29	E

2

2

N

86TH AVE.

82ND AVE.

PI: 523+21.37

EXISTING R/W

CP512

STH 165

518 520 522 524 526 528 530 532

EXISTING R/W

CP511

RECONSTRUCTING INLET

LEGEND

1. DIAMOND GRINDING (THRU LANES)
2. REMOVING ASPHALTIC SURFACE AND PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS
3. HMA PAVEMENT TYPE E-1
4. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 30-INCH TYPE A
5. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 36-INCH TYPE A
6. SAWING CONCRETE CURB HEAD
7. GUARDRAIL WITH FLARED END AND ENERGY ABSORBING TERMINAL WITH ITEM BARRIER SYSTEM GRADING SHAPING FINISHING
8. GUARDRAIL MOW STRIP ASPHALTIC

XXX SAWCUT

SILT FENCE

INLET PROTECTION TYPE C (TYPICAL)

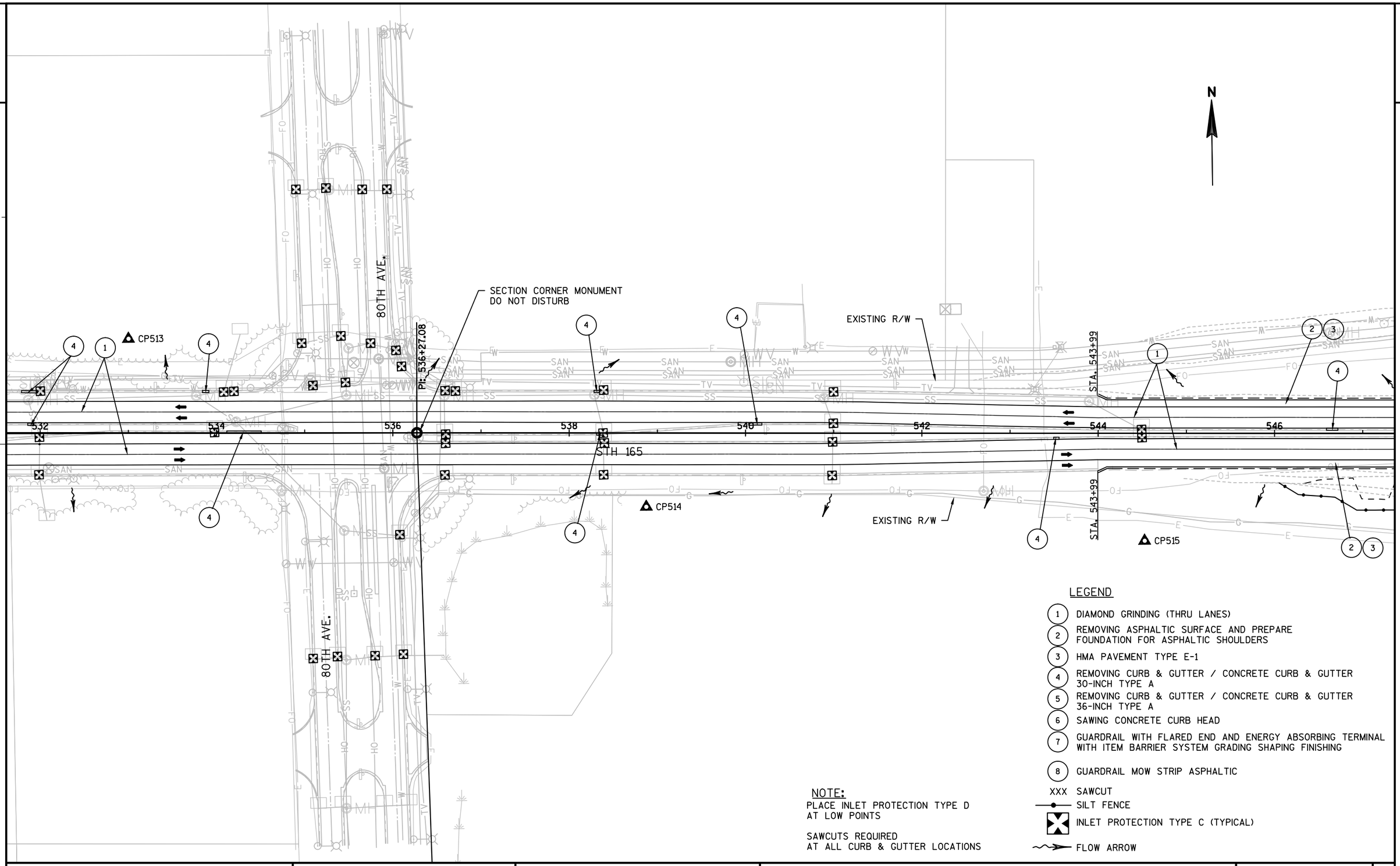
FLOW ARROW

NOTE:
PLACE INLET PROTECTION TYPE D AT LOW POINTS

SAWCUTS REQUIRED AT ALL CURB & GUTTER LOCATIONS

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAILS/EROSION CONTROL	SHEET 30	E

2



LEGEND

1. DIAMOND GRINDING (THRU LANES)
2. REMOVING ASPHALTIC SURFACE AND PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS
3. HMA PAVEMENT TYPE E-1
4. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 30-INCH TYPE A
5. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 36-INCH TYPE A
6. SAWING CONCRETE CURB HEAD
7. GUARDRAIL WITH FLARED END AND ENERGY ABSORBING TERMINAL WITH ITEM BARRIER SYSTEM GRADING SHAPING FINISHING
8. GUARDRAIL MOW STRIP ASPHALTIC

XXX SAWCUT

SILT FENCE

INLET PROTECTION TYPE C (TYPICAL)

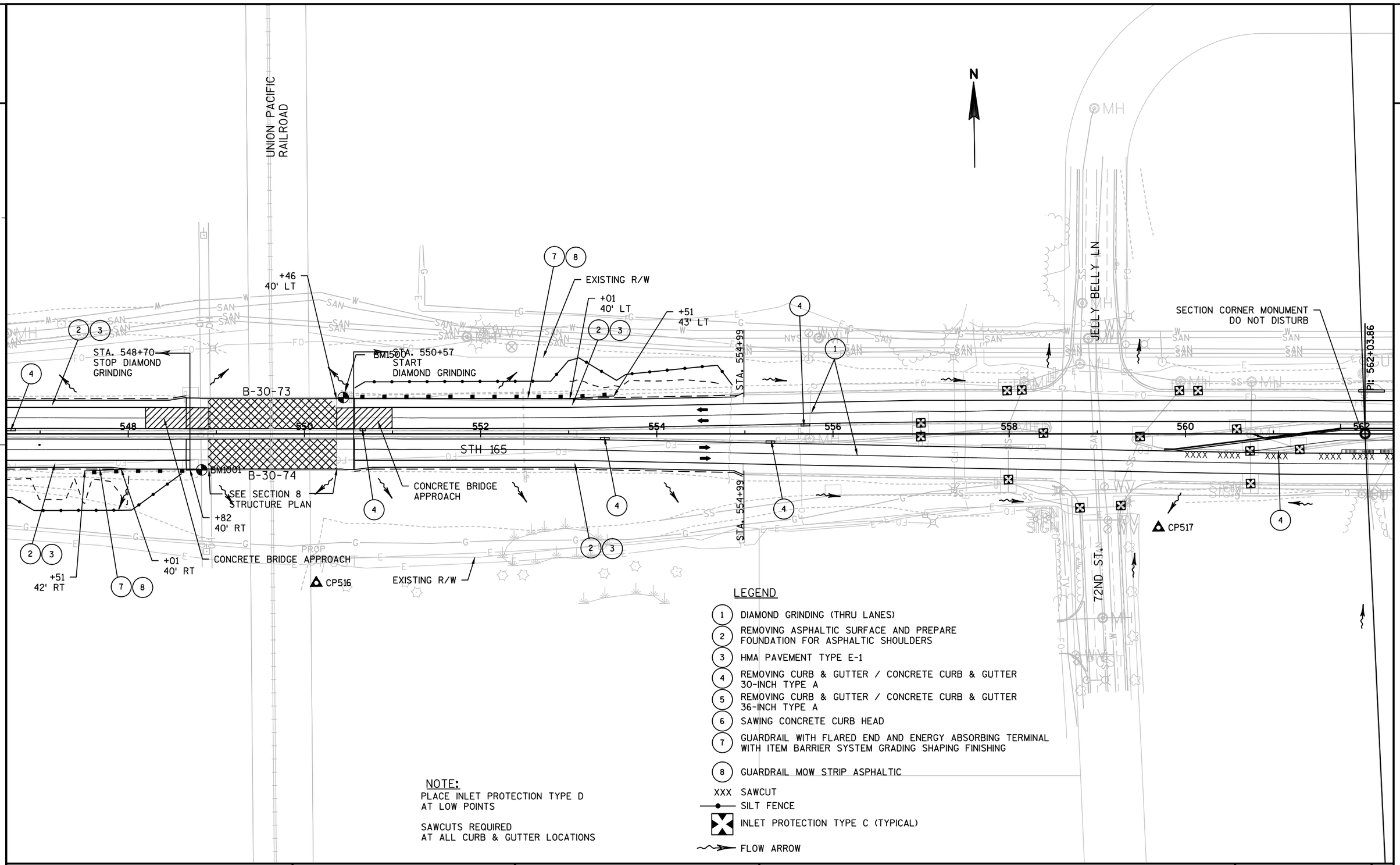
FLOW ARROW

NOTE:
PLACE INLET PROTECTION TYPE D AT LOW POINTS

SAWCUTS REQUIRED AT ALL CURB & GUTTER LOCATIONS

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAILS/EROSION CONTROL	SHEET 31	E

2



LEGEND

1. DIAMOND GRINDING (THRU LANES)
2. REMOVING ASPHALTIC SURFACE AND PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS
3. HMA PAVEMENT TYPE E-1
4. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 30-INCH TYPE A
5. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 36-INCH TYPE A
6. SAWING CONCRETE CURB HEAD
7. GUARDRAIL WITH FLARED END AND ENERGY ABSORBING TERMINAL WITH ITEM BARRIER SYSTEM GRADING SHAPING FINISHING
8. GUARDRAIL MOW STRIP ASPHALTIC

XXX SAWCUT

SILT FENCE

INLET PROTECTION TYPE C (TYPICAL)

FLOW ARROW

NOTE:
PLACE INLET PROTECTION TYPE D AT LOW POINTS

SAWCUTS REQUIRED AT ALL CURB & GUTTER LOCATIONS

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAILS/EROSION CONTROL	SHEET 32	E

JELLY BELLY LN

72ND AVE

STH 31 (GREEN BAY RD)

STH 165

REMOVING PAVEMENT

STA. 562+03.86

STA. 563+11, 4.3' LT

EXISTING R/W

CP521

CP517

STA. 559+86, 19.6' RT

STA. 561+76, 4.0' LT

STA. 563+25

STA. 568+06

CONCRETE CURB & GUTTER 30-INCH
TYPE A. SEE DETAIL

STA. 571+04
STOP DIAMOND
GRINDING

HMA PAVEMENT

CONCRETE
PAVEMENT
9-NCH

END OF PROJECT
STA. 574+31

EXISTING R/W

560 562 564 566 568 570 572 574

136 138 140 142

STORM SEWER

(S-X) STRUCTURE NUMBER

(P-X) PIPE NUMBER

NOTE:
PLACE INLET PROTECTION TYPE D
AT LOW POINTS

SAWCUTS REQUIRED
AT ALL CURB & GUTTER LOCATIONS

LEGEND

1. DIAMOND GRINDING (THRU LANES)
2. REMOVING ASPHALTIC SURFACE AND PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS
3. HMA PAVEMENT TYPE E-1
4. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 30-INCH TYPE A
5. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 36-INCH TYPE A
6. SAWING CONCRETE CURB HEAD
7. GUARDRAIL WITH FLARED END AND ENERGY ABSORBING TERMINAL WITH ITEM BARRIER SYSTEM GRADING SHAPING FINISHING
8. GUARDRAIL MOW STRIP ASPHALTIC

XXX SAWCUT

SILT FENCE

INLET PROTECTION TYPE C (TYPICAL)

FLOW ARROW

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAILS/EROSION CONTROL/STORM SEWER	SHEET 33	E

2

PI: 562+03.86

STH 165

STH 31 (GREEN BAY RD)

PT: 133+42.53

STA. 133+35, 13.7' RT

STA. 135+35, 2.3' LT

STA. 135+35

STA. 137+62, 2.3' LT

STA. 137+62

CONCRETE PAVEMENT 9-INCH

CONCRETE CURB & GUTTER 30-INCH TYPE A

CONCRETE CORRUGATED MEDIAN

STA. 141+14

STA. 141+14, 2.0' RT

STA. 142+93

STA. 142+93, 2.0' RT

STA. 143+44, 13.9' RT

STA. 144+17, 13.9' RT

STA. 144+89, 13.7' LT

CP521

CP523

STORM SEWER

S-X STRUCTURE NUMBER

P-X PIPE NUMBER

LEGEND

1. DIAMOND GRINDING (THRU LANES)
2. REMOVING ASPHALTIC SURFACE AND PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS
3. HMA PAVEMENT TYPE E-1
4. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 30-INCH TYPE A
5. REMOVING CURB & GUTTER / CONCRETE CURB & GUTTER 36-INCH TYPE A
6. SAWING CONCRETE CURB HEAD
7. GUARDRAIL WITH FLARED END AND ENERGY ABSORBING TERMINAL WITH ITEM BARRIER SYSTEM GRADING SHAPING FINISHING
8. GUARDRAIL MOW STRIP ASPHALTIC

XXX SAWCUT

SILT FENCE

INLET PROTECTION TYPE C (TYPICAL)

FLOW ARROW

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN DETAILS/EROSION CONTROL/STORM SEWER	SHEET 34	E

FILE NAME : N:\PDS\C3D\CAD\37380631\021210_PD.DWG PLOT DATE : 10/27/2015 4:57 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

2

2

N

JELLY BELLY LN

72ND AVE

STH 165

PI: 562+03.86

560 562 564

711.09 711.08 711.04 711.01 711.00 711.46 711.93 712.02
711.09 711.27 711.30 711.27 711.36 711.22 711.40 711.68 712.15 712.24
711.23 712.46
711.45 711.62 711.91 712.37 712.63
711.46 711.53 711.62 711.91 712.37 712.65

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	GRADES	SHEET 35	E

FILE NAME : N:\PDS\C3D\CAD\37380631\021401_GR.DWG
LAYOUT NAME - 021407_GR

PLOT DATE : 10/28/2015 1:09 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

713.13
713.37

140

138

PROP

716.72
717.12
717.61
718.07
718.49
718.57

716.74
716.62
716.84
716.72

566
568
570

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	GRADES	SHEET 36	E

FILE NAME : N:\PDS\C3D\CAD\37380631\021401_GR.DWG
LAYOUT NAME - 021408_GR

PLOT DATE : 10/28/2015 1:09 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

N

STH 165

STH 31 (GREEN BAY ROAD)

PT: 133+42.53

134 136 138

720.36 719.81 719.24 718.76 719.01 718.88 718.20 718.32 717.55 717.67 717.10 717.22 716.72 716.84 716.62 716.74

720.96 720.84

566

SIGN

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	GRADES	SHEET 37	E

FILE NAME : N:\PDS\C3D\CAD\37380631\021401_GR.DWG
LAYOUT NAME - 021409_GR

PLOT DATE : 10/28/2015 1:10 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

STH 165

STH 31 (GREEN BAY ROAD)

566

140

713.37
713.13

713.11
712.87

712.69
142
712.45

712.26
712.02

711.85

711.56

711.11

710.67
144

710.39

710.11

711.42

711.09

710.79

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	GRADES	SHEET 38	E

FILE NAME : N:\PDS\C3D\CAD\37380631\021401_GR.DWG
LAYOUT NAME - 021410_GR

PLOT DATE : 10/28/2015 1:10 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

N

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

120th Ave
West Frontage Rd
SOUTH NORTH
D1-60(MOD)
1

ALT WEST 41 / ALT NORTH 94
ESTR REPLACED WITH CONVERSION PROJECT

WEST FRONTAGE ROAD
REMOVE

STH 165

385+00 386+00 387+00 388+00 389+00 390+00 391+00

WEST FRONTAGE ROAD
120TH AVENUE (WEST)

SPEED LIMIT 35
R2-1
(2S)
5 325

SPEED LIMIT 35
REMOVE

LEFT TURN LANE
R3-55L
REMOVE

BEGIN LEFT TURN LANE
R3-20-L
(2S)
3

RIGHT TURN LANE
R3-55R
REMOVE

BEGIN RIGHT TURN LANE
R3-20-R
(2S)
2

Milwaukee
Chicago
D1-2
4

Milwaukee
Chicago
D1-2

NOTE:

STREET NAME SIGNS ARE PROPERTY OF THE MUNICIPALITY (CITY, VILLAGE, OR TOWN). THE MUNICIPALITY SHALL BE CONTACTED TO REMOVE THEIR STREET NAME SIGNS PRIOR TO CONSTRUCTION AND IT IS THEIR RESPONSIBILITY TO REINSTALL THE OLD SIGNS OR REPLACE THEM FOLLOWING CONSTRUCTION. WISDOT DOES NOT FURNISH OR INSTALL STREET NAME SIGNS. THE STREET NAME SIGNS SHALL NOT BE PLACED ON TOP OF THE STOP SIGNS.

SHEET 1 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 39	E

2

N

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

IH 94 EB EXIT RAMP

IH 94 EB EXIT RAMP

STH 165

391+00 392+00 393+00 394+00 395+00 396+00

REMOVE — JCT M2-1 / END M4-6 / FRONTAGE ROAD M1-95 / COUNTY Q M1-5A / 165 M1-6
J1-3(2S)
6

REMOVE — EAST M3-2 TO M4-5 / 165 M1-6 / COUNTY Q M1-5A
J3-2(2S)
8

REMOVE — YIELD R1-2 (2S)
7

REMOVE — STOP R1-1 (3)
11 12

REMOVE — ONE WAY R6-2-R (2S)
13

REMOVE — R3-1 (2S)
14

REMOVE — WRONG WAY / DO NOT ENTER R5-1 (2M)
15

3' MOUNT HEIGHT — WRONG WAY R5-1A (2S)
16

REMOVE — R3-4 (2S)
21

REMOVE — W12-1D (2S)
17

2' MOUNT HEIGHT

REMOVE — ONE WAY R6-2-R (2S)
26

REMOVE — R3-18 (2S)
25

REMOVE — BEGIN LEFT TURN LANE R3-20-L (2S) / LEFT TURN LANE R3-55L
24

9 DO NOT ENTER R5-1 (2M)

10 WRONG WAY R5-1A (2S)
3' MOUNT HEIGHT

REMOVE — ONE WAY R6-2-L (2S)
23

REMOVE — R4-7 (2M)
22

Bristol Renaissance Faire
ESTR

Lakeview Pkwy
D1-1
20

REMOVE — Lakeview Pkwy

J3-3
ESTR
REPLACED WITH CONVERSION PROJECT

18 19 W3-3 (3)

REMOVE

SHEET 2 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 40	E

2

N

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER

(XX) INDICATES SIGN SIZE

RAMP 30 M.P.H.
REMOVE

27
RAMP 30 MPH
W13-3C (2S)
MOUNT ON UPRIGHT

INTERSTATE 41 INTERSTATE 94 EAST
Chicago
ONLY
ESTR REPLACED WITH CONVERSION PROJECT

EXISTING TO REMAIN S-30-9

SPEED LIMIT 35
REMOVE

28
SPEED LIMIT 35
R2-1 (2S)

EXISTING TO REMAIN S-30-247

396+00 397+00 398+00 399+00 400+00 401+00

STH 165

IH 94

34
BEGIN LEFT TURN LANE
R3-20-L (2S)

LEFT TURN LANE
R3-20L
REMOVE

33
W12-1D (2S)
2' MOUNT HEIGHT

32
SPEED LIMIT 35
R2-1 (2S)

SPEED LIMIT 35
REMOVE

PASSAGE
TRAFFIC INFO
TUNE RADIO TO
1620 AM
ESTR
IDOT SIGN

31
W5-52R (2S)
4' MOUNT HEIGHT

REMOVE

WEST 41 NORTH 41 NORTH 94 EAST 165
J2-4
ESTR
REPLACED WITH
CONVERSION PROJECT

29 30
NORTH WEST
INTERSTATE 41 INTERSTATE 94
ONLY
D16-1L(MOD)

WEST
INTERSTATE 94
ONLY
REMOVE

SHEET 3 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 41	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023203_PS

PLOT DATE : 10/21/2015 7:29 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

N

IH 94 WB ENTRANCE RAMP

STH 165

401+00 402+00 403+00 404+00 405+00 406+00 407

35 REMOVE W1-6 (2S)

37 PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED R5-57 (5) REMOVE

38 YIELD R1-2 (2S) REMOVE

STOP REMOVE 39 STOP R1-1F (3) ON SIGNAL POLE

40 REMOVE W12-1D (2S) 2' MOUNT HEIGHT

STOP REMOVE 41 STOP R1-1F (3)

42 REMOVE R3-18 (2S)

REMOVE 51 52 W3-3 (2S)

SOUTH EAST 41 94 ESTR ON LIGHT POLE REPLACED WITH CONVERSION PROJECT

REMOVE 43 W12-1D (2S) 2' MOUNT HEIGHT

REMOVE 44 R4-7 (2S)

DO NOT ENTER REMOVE 45 DO NOT ENTER R5-1 (3)

66 REMOVE R4-7 (2S) ON SIGNAL POLE

305 W5-52R (2S) 4' MOUNT HEIGHT

EAST 94 USE RIGHT LANE ESTR REPLACED WITH CONVERSION

ONE WAY REMOVE 36 ONE WAY R6-2-L (2S)

58 REMOVE R4-7 (2S)

ONE WAY REMOVE 57 ONE WAY R6-2-L (2S) ON SIGNAL POLE

WEST NORTH 94 41 ESTR

67 68 STOP R1-1F (3) ON SIGNAL POLE

STOP REMOVE

65 R3-1 (2S) REMOVE

DO NOT ENTER 62 DO NOT ENTER R5-1 (3)

WRONG WAY 63 R5-1A (2S) 3' MOUNT HEIGHT

DO NOT ENTER WRONG WAY REMOVE

59 REMOVE W12-1D (2S) 2' MOUNT HEIGHT

60 DO NOT ENTER R5-1 (3)

61 WRONG WAY R5-1A (2S) ON SIGNAL POLE

DO NOT ENTER WRONG WAY REMOVE

STOP R1-1F (3) 64 56 54 ON SIGNAL POLE

STOP REMOVE

RIGHT LANE MUST TURN RIGHT R3-7-R (3) 53 REMOVE

NO TURN ON RED FROM LEFT LANE R10-11-F 55 ON SIGNAL POLE

NO TURN ON RED FROM LEFT LANE REMOVE

FRONTAGE RD BUSINESSES REST AREA WISCONSIN TRAVEL INFO ESTR

CRASH INVESTIGATION SITE 50 D4-54-R (2S)

CRASH INVESTIGATION SITE REMOVE

CARS TRUCKS TRAILERS BUSES RV'S ESTR

49 W12-1R (2S)

ONE WAY 336 R6-1-R (2S)

STOP 48 R1-1 (3) STOP REMOVE

RIGHT TURN ONLY 47 R3-53-R (2S) RIGHT TURN ONLY REMOVE

ONE WAY 46 R6-2-R (2S) ONE WAY REMOVE

SHEET 4 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 42	E

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

NOTE:
SEE 3738-02-73 FOR OTHER SIGNS AT INTERSECTION WITH 120TH AVENUE.

N

I-41 I-94 NORTH
Milwaukee
ONLY
ESTR
REPLACED WITH
CONVERSION
PROJECT

I-41 I-94 SOUTH
Chicago
ONLY
ESTR
REPLACED WITH
CONVERSION
PROJECT

REST AREA
WISCONSIN
TRAVEL INFO
ESTR

EXISTING TO REMAIN
S-30-15

Chicago
Milwaukee
REMOVE

73
Chicago
Milwaukee
D1-2

74
East Frontage Road
REMOVE

75
ONE WAY
R6-2-L
(2M)
ON SIGNAL POLE

76
120th St
M1-94-H
ON MAST ARM

JCT I-94 I-41
ESTR
REPLACED WITH
CONVERSION
PROJECT

REMOVE
77
R4-7
(2S)
ON SIGNAL POLE

104th St
ESTR
STREET NAME SIGN

STH 165

3123+00
3122+00
2000+00
1999+00
1998+00
407+00
408+00
409+00
410+00
411+00
412+00

MH
GTST
MH
GV
WV
SS

REMOVE
80
R4-7
(2S)
ON SIGNAL POLE

78 79
STOP
R1-1F
(3)
ON SIGNAL POLE

STOP
REMOVE

120th St
ESTR
STREET NAME SIGN

81
STOP
R1-1F
(3)
ON SIGNAL POLE

STOP
REMOVE

TO SOUTH I-41 EAST EAST I-94 165
ESTR
REPLACED WITH
CONVERSION
PROJECT

71 72
W3-3
(3)
REMOVE

ESTR

83
120th Ave
East Frontage Rd
NORTH SOUTH
D1-60(MOD)

East Frontage Road
REMOVE

TO MALL
82
MOVE

TO NORTH I-41 EAST I-94
ESTR
REPLACED WITH
CONVERSION
PROJECT

TO SOUTH I-41 EAST I-94
ESTR
REPLACED WITH
CONVERSION
PROJECT

120TH AVENUE (EAST)
EAST FRONTAGE ROAD

SHEET 5 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 43	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023205_PS

PLOT DATE : 10/22/2015 9:33 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

*NOTE:

SIGNALS TO BE MOVED AT NORTH MEDIAN, NORTHEAST QUADRANT, AND EAST MEDIAN OF INTERSECTION WITH 120TH AVE. SEE 3738-02-73 FOR SIGNING.

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

N

REMOVE
DIVIDED HIGHWAY 84
R6-3 (2S)
STOP 85
R1-1F (3)
ON SIGNAL POLE

165 104th St 69
M1-94-H
ON MAST ARM

ESTR *

East Frontage Road 86 87
REMOVE

88 89
120th Ave
East Frontage Rd
SOUTH NORTH
D1-60(MOD)

PROJECT LIMITS
PROJECT 3738-06-60
PROJECT 3738-02-73

3123+00
3122+00
2000+00
412+00
413+00
414+00
415+00
416+00
417+00
STH 165

ESTR *
STOP
ESTR *

70 165 104th St
M1-94-H
ON MAST ARM

1999+00
1998+00
120TH AVENUE (EAST)
EAST FRONTAGE ROAD

STREET NAME SIGN BY OTHERS
SPEED LIMIT 35
ESTR *

DIVIDED HIGHWAY 90
R6-3 (2S)
STOP 91
R1-1F (3)
ON SIGNAL POLE
DIVIDED HIGHWAY
STOP
REMOVE

LEFT LANE ENDS
REMOVE

RIGHT LANE MUST TURN RIGHT 92
R3-7-R (3)
RIGHT LANE MUST TURN RIGHT
REMOVE

W2-2 (2S) 93 94
REMOVE

CORPORATE DRIVE

SHEET 6 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 44	E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

PROJECT LIMITS

PROJECT 3738-02-73 | PROJECT 3738-06-60

486+00 487+00 488+00 489+00 490+00 491+00

STH 165

REMOVE
W2-2
(3)
106 107

LANE ENDS MERGE RIGHT
111 112
REMOVE

NO PARKING ANY TIME
REMOVE
NO PARKING ANY TIME
R7-1-D
(3)
113

SPEED LIMIT 45
W3-5
(3)
108

SPEED LIMIT 45
W3-5
(3)
109

NO PARKING ANY TIME
R7-1-D
(3)
110

REMOVE
SPEED LIMIT 45
REMOVE

NO PARKING ANY TIME
R7-1-D
(3)
114

REMOVE
NO PARKING ANY TIME
REMOVE

SHEET 7 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 45	E

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

N

WILDLIFE CROSSING 306
MOVE
MOVE TO NEW POST

WILDLIFE CROSSING
ESTR

SPEED LIMIT 55
REMOVE

SPEED LIMIT 55 116
R2-1
(3)

SNOWMOBILE SIGN
MOVE BY OTHERS

NO PARKING ANY TIME
REMOVE

NO PARKING ANY TIME 119
R7-1-D
(3)

491+00 492+00 493+00 494+00 495+00 496+00 497+00

STH 165

SS

307 SPEED LIMIT 55
R2-1
(3)

117 SPEED LIMIT 45
R2-1
(3)
MOUNT ON SIGNAL POLE

SPEED LIMIT 45
REMOVE

118 SPEED LIMIT 45
R2-1
(3)

SPEED LIMIT 45
REMOVE

NO PARKING ANY TIME 115
R7-1-D
(3)

NO PARKING ANY TIME
REMOVE

SHEET 8 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 46	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023208_PS

PLOT DATE : 10/21/2015 7:19 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME :

PLOT SCALE : 1 IN:40 FT

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

N

497+00 498+00 499+00 500+00 501+00 502+00

STH 165

REMOVE
W5-52R
(3)
4' MOUNT HEIGHT
122

REMOVE
W5-52L
(3)
4' MOUNT HEIGHT
123

REMOVE
NO PARKING ANY TIME
R7-1-D
(3)
126

120
W5-52L
(3)
4' MOUNT HEIGHT
REMOVE

121
W5-52R
(3)
4' MOUNT HEIGHT
REMOVE

JCT
M2-1
COUNTY H
M1-5A
J1-1(3)
308

JCT
M2-1
COUNTY H
M1-5A
J1-1(3)
124

REMOVE
JCT
COUNTY H

125
NO PARKING ANY TIME
R7-1-D
(3)
REMOVE

SHEET 9 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 47	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023209_PS

PLOT DATE : 10/21/2015 7:19 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

N

502+00 503+00 504+00 505+00 506+00 507+00

STH 165

ESTR

REMOVE
NO PARKING ANY TIME
R7-1-D
(3)
133

127 128
W3-3
(3)
REMOVE

129
W1-6
(2S)
REMOVE

88th Ave
NEXT SIGNAL
D1-66
309 310

131
SOUTH
M3-3
COUNTY H
M1-5A
M6-1
J1-1(3)
REMOVE

SNOWMOBILE SIGNS MOVE BY OTHERS TO SEPARATE POST

132
NO PARKING ANY TIME
R7-1-D
(3)
REMOVE

NORTH
M3-1
COUNTY H
M1-5A
130
M6-1
J1-1(3)
ON LIGHT POLE
NORTH
COUNTY H
REMOVE

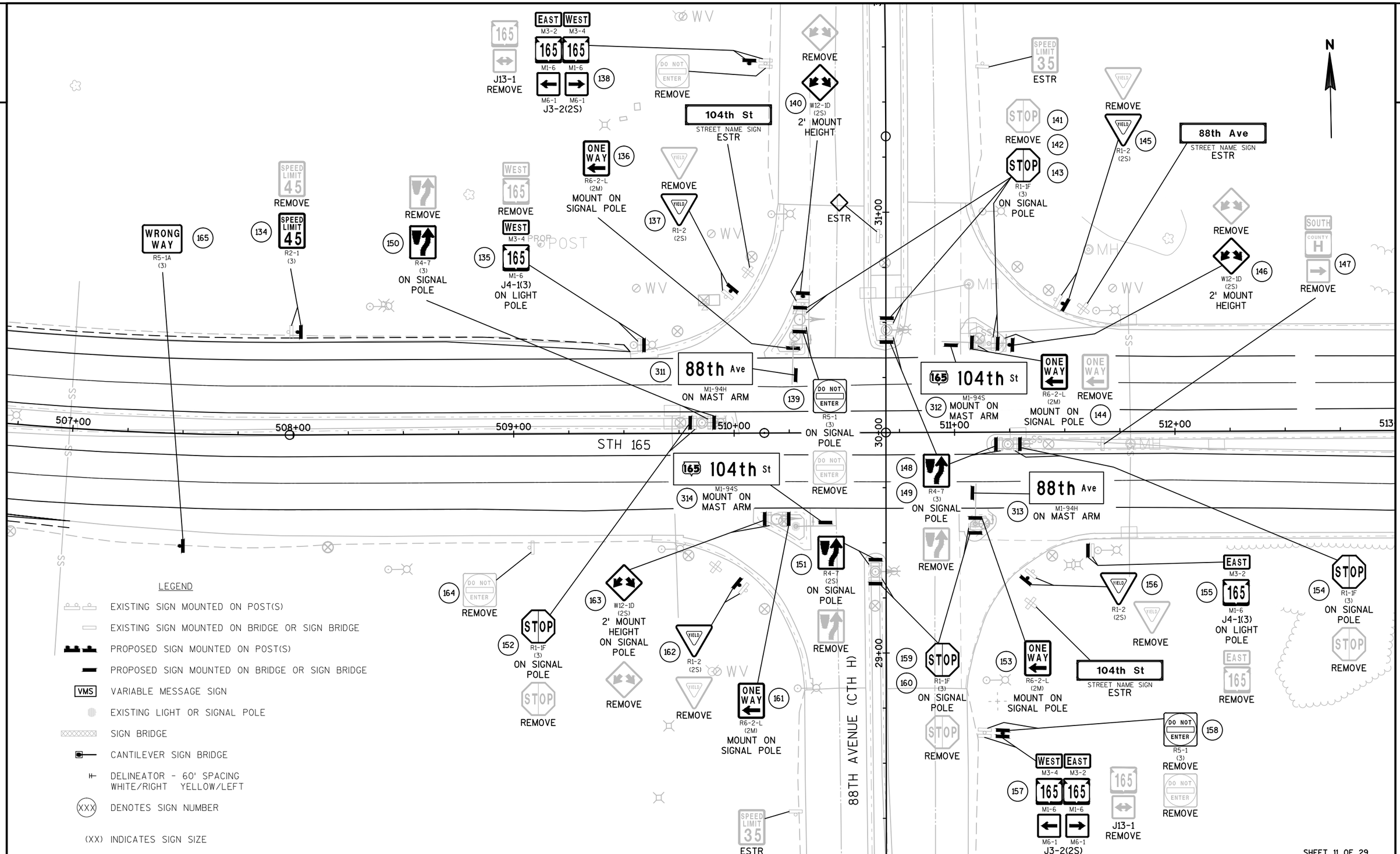
SHEET 10 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 48	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023210_PS

PLOT DATE : 10/21/2015 7:19 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

2



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 49	E

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER

(XX) INDICATES SIGN SIZE

N

STH 165

513+00 514+00 515+00 516+00 517+00 518+00

86TH AVE

86th Ave ESTR

J2-4 REMOVE

169 170 J2-3(3)

168 WRONG WAY R5-1A (3)

REMOVE 172 W3-3 (3) MOUNT ON LIGHT POLE

REMOVE 171 W3-3 (3)

REMOVE 173 ONE WAY R6-2-L (2M)

166 DO NOT ENTER R5-1 (3) REMOVE

167 NORTH M3-1 COUNTY H M1-5A M6-1 J3-1(3)

J3-2 REMOVE

181 182 SPEED LIMIT 45 R2-1 (3) MOUNT ON SIGNAL POLE

REMOVE

180 SOUTH M3-3 COUNTY H M1-5A M6-1 J3-1(3)

178 179 86th Ave D1-61

REMOVE

177 I55-56 MOVE TO NEW POST

176 WRONG WAY R5-1A (3) REMOVE

86th Ave ESTR

175 DO NOT ENTER R5-1 (3)

174 R4-7 (3) REMOVE

SHEET 12 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 50	E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

N

86TH AVE

183 — 165 M1-6 / M6-4 J13-1(2S) — REMOVE

315 — ONE WAY R6-1-R (2M)

184 — STOP R1-1 (3)

185 — DIVIDED HIGHWAY R6-3 (2M)

ONE WAY / STOP / DIVIDED HIGHWAY — REMOVE

186 — DO NOT ENTER R5-1 (3)

86th Ave ESTR

194 — WRONG WAY R5-1A (3)

86th Ave — REMOVE

187 188 — 86th Ave D1-61

317 318 — 88th Ave NEXT SIGNAL D1-65

518+00 519+00 520+00 521+00 522+00 523+00

STH 165

190 — ONE WAY R6-2-L (2M)

189 — R4-7 (3) — REMOVE

104th St ESTR

86TH AVE

316 — ONE WAY R6-1-R (2M)

192 — STOP R1-1 (3)

193 — DIVIDED HIGHWAY R6-3 (2M)

ONE WAY / STOP / DIVIDED HIGHWAY — REMOVE

191 — 165 M1-6 / M6-4 J13-1(2S) / 165 — REMOVE

SHEET 13 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 51	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023213_PS

PLOT DATE : 10/21/2015 7:20 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER

(XX) INDICATES SIGN SIZE

N

ONE WAY
REMOVE

202 ONE WAY
R6-2-L
(2M)

165
REMOVE

200 165
M1-6

M6-4
J13-1(2S)

ONE WAY
STOP
REMOVE

319 ONE WAY
R6-1-R
(2M)

201 STOP
R1-1
(3)

104th St
ESTR

523+00 524+00 525+00 526+00 527+00 528+00

STH 165

82nd Ave
195 196
D1-61

82nd Ave
REMOVE

197 WRONG WAY
R5-1A
(3)

WRONG WAY
REMOVE

82nd Ave
ESTR

DO NOT ENTER
198
R5-1
(3)

199
R4-7
(3)

REMOVE

SHEET 14 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 52	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023214_PS

PLOT DATE : 10/21/2015 7:20 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

N

528+00 529+00 530+00 531+00 532+00 533+00 534+00

STH 165

203 DO NOT ENTER R5-1 (3)

82nd Ave ESTR

204 WRONG WAY R5-1A (3)

205 SPEED LIMIT 45 R2-1 (3)

SPEED LIMIT 45 REMOVE

206 SPEED LIMIT 45 R2-1 (3)

82nd Ave REMOVE

207 82nd Ave D1-61

208 82nd Ave D1-61

209 WEST M3-4 165 M1-6 J4-1(3)

210 WEST 165 REMOVE

WEST 165 REMOVE

211 212 80th Ave D1-61

80th Ave REMOVE

213 214 W2-1 (3)

REMOVE

215 ONE WAY R6-2-L (2M)

ONE WAY REMOVE

216 STOP R1-1 (3)

217 DIVIDED HIGHWAY R6-3 (2M)

218 165 M1-6 M6-4 J13-1(2S)

165 REMOVE

320 ONE WAY R6-1-R (2M)

104th St ESTR

ONE WAY STOP DIVIDED HIGHWAY REMOVE

335 R4-7 (3)

219 WRONG WAY R5-1A (3)

SHEET 15 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 53	E

2

N

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER

(XX) INDICATES SIGN SIZE

220 ONE WAY R6-2-L (2M)

221 YIELD R1-2 (2S)

222 WEST 165 M1-6 / M6-1 J3-1(2S)

223 STOP R1-1 (3)

224 DIVIDED HIGHWAY R6-3 (2M)

225 DO NOT ENTER R5-1C (3)

226 TRIM TO OCTAGON

227 EAST 165 M1-6 / M6-1 J3-1(2S)

228 STOP R1-1 (3)

229 DO NOT CROSS UNTIL MEDIAN CLEAR R1-55 (2S)

230 R4-7 (2S)

231 DO NOT ENTER R5-1 (3)

232 WRONG WAY R5-1A (3)

233 ONE WAY R6-1-R (2M)

234 EAST 165 M1-6 J4-1(3)

235 EAST 165

236 ONE WAY R6-2-L (2M)

237 DO NOT ENTER R5-1C (3) TRIM TO OCTAGON

238 STOP R1-1 (3)

239 DIVIDED HIGHWAY R6-3 (2M)

240 R4-7 (3)

241 R4-7 (3)

242 STOP R1-1 (3)

243 DO NOT CROSS UNTIL MEDIAN CLEAR R1-55 (2S)

244 R4-7 (2S)

245 DO NOT ENTER R5-1 (3)

337 YIELD R1-2 (2S)

REMOVE: ONE WAY / STOP / DIVIDED HIGHWAY; WEST 165; YIELD; 104th St; STOP / DO NOT CROSS UNTIL MEDIAN CLEAR; EAST 165; R4-7 (3); R4-7 (2S); STOP / DO NOT CROSS UNTIL MEDIAN CLEAR; ONE WAY / STOP / DIVIDED HIGHWAY

80th Ave ESTR

104th St

STH 165

534+00 535+00 536+00 537+00 538+00 539+00

SHEET 16 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 54	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023216_PS

PLOT DATE : 10/21/2015 7:20 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

N

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

VMS VARIABLE MESSAGE SIGN

EXISTING LIGHT OR SIGNAL POLE

SIGN BRIDGE

CANTILEVER SIGN BRIDGE

DELINEATOR - 60' SPACING
WHITE/RIGHT YELLOW/LEFT

(XXX) DENOTES SIGN NUMBER

(XX) INDICATES SIGN SIZE

80th Ave
REMOVE

80th Ave
246 247
D1-61

WV
MH
SS

539+00 540+00 541+00 542+00 543+00 544+00

STH 165

248
SPEED LIMIT 45
R2-1
(3)

SPEED LIMIT 45
249
R2-1
(3)

SPEED LIMIT 45
REMOVE

W2-1
(3)
250 251

REMOVE

SHEET 17 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 55	E

2

2

N

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

MH

MH

SS

ESTR
SNOWMOBILE
SIGN

544+00 545+00 546+00 547+00 548+00 549+00 550+00

STH 165

252

W5-52R
(3)
4' MOUNT
HEIGHT

SHEET 18 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 56	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023218_PS

PLOT DATE : 10/21/2015 7:21 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

N

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER

(XX) INDICATES SIGN SIZE

REMOVE
253
W5-52R
(3)
4' MOUNT HEIGHT

MH
WV

REMOVE
254
SPEED LIMIT 45
R2-1
(3)

550+00
551+00
552+00
553+00
554+00
555+00

STH 165

255
SPEED LIMIT 45
R2-1
(3)

SPEED LIMIT 45
REMOVE

SS
SS
SS

PROP
POST

SHEET 19 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 57	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023219_PS

PLOT DATE : 10/21/2015 7:21 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER

(XX) INDICATES SIGN SIZE

N

104th St
ESTR

STOP
REMOVE

323 ONE WAY
R6-1-R
(2M)

258 STOP
R1-1
(3)

JELLY BELLY LN

326
W3-3
(3)

322 JCT
M2-1
31
M1-6
J1-1(3)

ONE WAY
REMOVE

257 ONE WAY
R6-2-L
(2M)

REMOVE
259 260
R4-7
(3)

Jelly Belly Ln
ESTR

DO NOT ENTER
261
R5-1
(3)

555+00 556+00 557+00 558+00 559+00 560+00

STH 165

XXXX XXXX XXXX XXXX XXXX XX

256 Jelly Belly Ln
72nd Ave
D1-61(MOD)

Jelly Belly Ln
REMOVE

267
W3-3
(3)
REMOVE

194 WRONG WAY
R5-1A
(3)
WRONG WAY
REMOVE

265 JCT
M2-1
31
M1-6
J1-1(3)
JCT
31
REMOVE

DO NOT ENTER
264
R5-1
(3)

72nd Ave
ESTR

72ND AVE

262 ONE WAY
R6-2-L
(2M)

104th St
ESTR

324 ONE WAY
R6-1-R
(2M)

263 STOP
R1-1
(3)
STOP
REMOVE

SHEET 20 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 58	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023220_PS

PLOT DATE : 10/21/2015 7:21 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER

(XX) INDICATES SIGN SIZE

N

560+00 561+00 562+00 563+00 564+00 565+00 566 141+00 140+00

STH 165

WRONG WAY REMOVE
268 WRONG WAY R5-1A (3)

WEST 165 J4-1 ESTR

31 Green Bay Rd ESTR

STOP ESTR

YIELD ESTR

LEFT TURN YIELD ON FLASHING YELLOW ARROW ESTR

ESTR

ONE WAY ESTR

270 BEGIN LEFT TURN LANE R3-20-L (3)

271 NORTH M3-1 SOUTH M3-3 / 31 31 / M1-6 M1-6 / M5-1L M5-1R J2-2(3)

NORTH EAST SOUTH 31 165 31 REMOVE

269 SPEED LIMIT 45 R2-1 (3)

SPEED LIMIT 45 REMOVE

NORTH SOUTH 31 31 338 J3-2 MOVE

WRONG WAY ESTR

272 ONLY ONLY R3-8-Y (2M)

ONLY ONLY REMOVE

NORTH SOUTH 31 31 J3-2 ESTR

STREET NAME SIGN BY OTHERS

STOP ESTR

DO NOT ENTER ESTR

YIELD ESTR

ONE WAY ESTR

165 104th St ESTR

SHEET 21 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 59	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023221_PS

PLOT DATE : 10/22/2015 9:34 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

N

165 104th St ESTR

STOP ESTR

ONE WAY ESTR

YIELD ESTR

NORTH 31 ESTR

SOUTH 31 ESTR

TO WEST 94 165 ESTR

BEGIN LEFT TURN LANE R3-20-L (3) 273

REMOVE W5-52R (3) 274 4' MOUNT HEIGHT

DO NOT ENTER ESTR

STOP ESTR

STH 165

141+00 140+00 139+00 138+00

566+00 567+00 568+00 569+00 570+00 571+00

MH

SS

LEFT TURN YIELD ON FLASHING YELLOW ARROW ESTR

STOP ESTR

YIELD ESTR

ONE WAY ESTR

WRONG WAY ESTR

LANE ENDS MERGE LEFT ESTR

31 Green Bay Rd ESTR

EAST 165 ESTR

STH 31 (GREENBAY ROAD)

NO PASSING ZONE W14-3 REMOVE 275

R4-7 (3) 276

W5-54S (2S) 277

REMOVE

W6-2 (2M) 278

REMOVE

DO NOT ENTER R5-1 (3) 279

REMOVE

SHEET 22 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 60	E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER

(XX) INDICATES SIGN SIZE

N

OLD GREEN BAY ROAD

NO PASSING ZONE
W14-3
(2M)
280

TO SOUTH WEST NORTH
INTERSTATE 94 31 165 31
REMOVE

SOUTH TO NORTH
M3-3 M4-5 M3-1
31 INTERSTATE 94 31
M1-6 M1-1 M1-6
M5-1L M6-1 M5-1R
J2-3(2S)
281

REMOVE
W3-3
(3)
282

JCT
31
REMOVE

JCT
M2-1
31
M1-6
J1-1(2S)
283

571+00 572+00 573+00 574+00 575+00 576+00

STH 165

EAST
165
284
J4-1(2S)
REMOVE

GUY
BLDG
MH
POST
V

SHEET 23 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 61	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023223_PS

PLOT DATE : 10/21/2015 7:22 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

VMS VARIABLE MESSAGE SIGN

EXISTING LIGHT OR SIGNAL POLE

SIGN BRIDGE

CANTILEVER SIGN BRIDGE

DELINEATOR - 60' SPACING
WHITE/RIGHT YELLOW/LEFT

(XXX) DENOTES SIGN NUMBER

(XX) INDICATES SIGN SIZE

N

REMOVE

W6-1
(2M)
289

ESTR

SPEED LIMIT 30
ESTR

NO PARKING ANY TIME
ESTR

ESTR

120TH AVENUE (EAST)

EAST FRONTAGE ROAD

SEE SHEET 6

1994+00 1995+00 1996+00 1997+00 1998+00 1999+00 2000+00

411+00 412+00 413+00 414+00

STH 165

MEDIAN TO BE CLOSED
UNDER ID 3738-02-70

W3-3
(3)
285

REMOVE

NO PARKING ANY TIME
ESTR

R3-8-Y
(2S)
286

ONLY ONLY
REMOVE

NO TRUCKS
ESTR

STOP
ESTR

R3-8-Z
(2M)
290

ONLY ONLY
REMOVE

TO EAST
M4-5 M3-2

COUNTY Q 165
M1-5A M1-6

M6-1 M6-1
291

J3-2(2S)

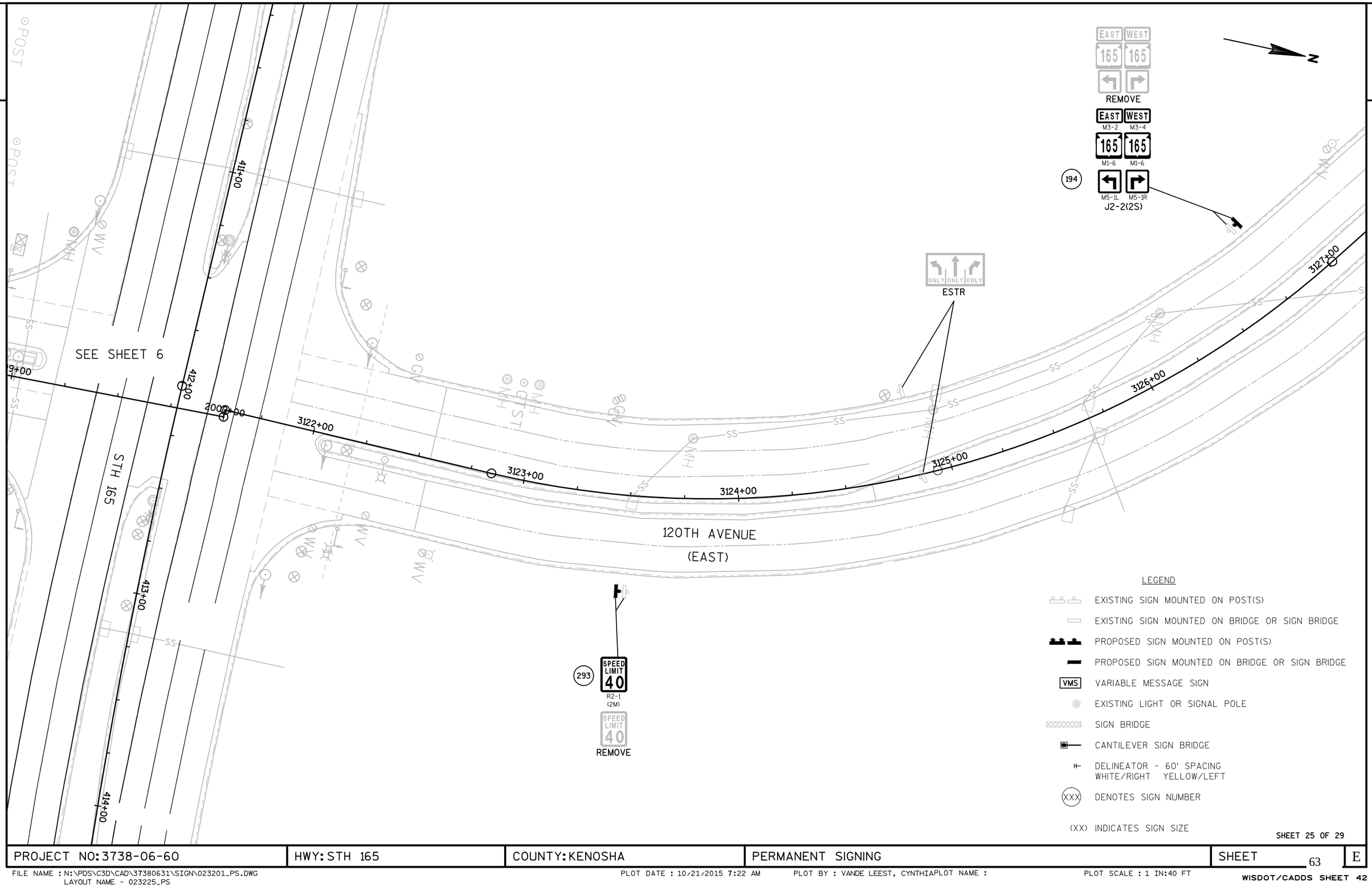
TO EAST
COUNTY Q 165
REMOVE

NO PARKING ANY TIME
R7-1-D
MOVE
292

SHEET 24 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 62	E

2



SHEET 25 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 63	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023225_PS

PLOT DATE : 10/21/2015 7:22 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1 IN:40 FT

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER

(XX) INDICATES SIGN SIZE

N

ESTR

88TH AVENUE (CTH H)

STH 165

25+00 26+00 27+00 28+00 29+00 30+00

509+00 510+00 511+00 512+00

ESTR

W3-3
(2M)
295

REMOVE

JCT
M2-1
165
M1-6
J1-1(3)
296

JCT
165
REMOVE

SHEET 26 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 64	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023226_PS

PLOT DATE : 10/21/2015 7:22 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER

(XX) INDICATES SIGN SIZE

N

REMOVE
W3-3
(2M)
297

JCT
165
REMOVE
JCT
M2-1
298
165
M1-6
J1-1(3)

STH 165

509+00

510+00

511+00

512+00

88TH AVENUE (CTH H)

30+00

31+00

32+00

33+00

34+00

35+00

PROPOSED

ESTR

ESTR

SHEET 27 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 65	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023227_PS

PLOT DATE : 10/21/2015 7:22 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1 IN:40 FT

2

N

SPEED LIMIT 55
REMOVE

SPEED LIMIT 55
R2-1
(3)
299
300

SOUTH 31
ESTR

WEST 165
ESTR

SS

134+00
135+00
136+00
137+00
138+00
139+00

565+00
566+00
567+00

STH 31 (GREENBAY ROAD)

STH 165

WEST
M3-4
165
M1-6
EAST
M3-2
165
M1-6
M5-1L
M5-1R
327
328
J2-2(2S)

WEST
165
NORTH
31
EAST
165
REMOVE

301
WRONG WAY
R5-1A
(3)
WRONG WAY
REMOVE

EAST
165
ESTR

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE

SHEET 28 OF 29

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 66	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIGN\023201_PS.DWG
LAYOUT NAME - 023228_PS

PLOT DATE : 10/21/2015 7:23 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME :

PLOT SCALE : 1 IN:40 FT

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE

N

VMS

(XXX)

(XX)

MH

WEST 165 ESTR

WRONG WAY REMOVE
302 WRONG WAY R5-1A (3)

RIGHT LANE MUST TURN RIGHT R3-7-R (3) 303

30'

140+00 141+00 142+00 143+00 144+00 145+00

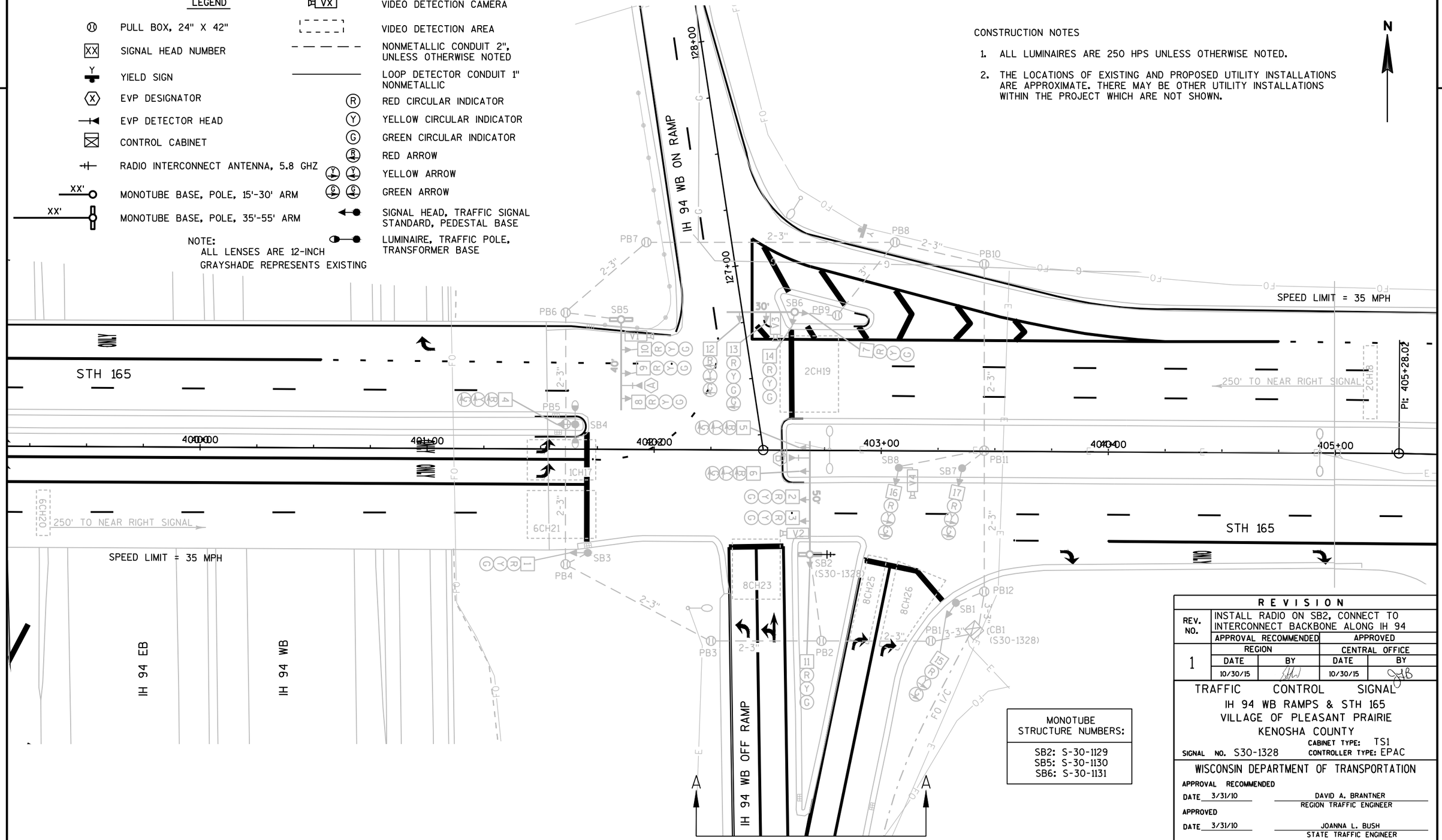
XXXX XXXX XXXX

LEGEND

PULL BOX, 24" X 42"	
SIGNAL HEAD NUMBER	
YIELD SIGN	
EVP DESIGNATOR	
EVP DETECTOR HEAD	
CONTROL CABINET	
RADIO INTERCONNECT ANTENNA, 5.8 GHZ	
MONOTUBE BASE, POLE, 15'-30' ARM	
MONOTUBE BASE, POLE, 35'-55' ARM	
NOTE: ALL LENSES ARE 12-INCH GRAYSHADE REPRESENTS EXISTING	
VIDEO DETECTION CAMERA	
VIDEO DETECTION AREA	
NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED	
LOOP DETECTOR CONDUIT 1" NONMETALLIC	
	RED CIRCULAR INDICATOR
	YELLOW CIRCULAR INDICATOR
	GREEN CIRCULAR INDICATOR
	RED ARROW
	YELLOW ARROW
	GREEN ARROW
	SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
	LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE

CONSTRUCTION NOTES

1. ALL LUMINAIRES ARE 250 HPS UNLESS OTHERWISE NOTED.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.



MONOTUBE STRUCTURE NUMBERS:

SB2: S-30-1129
SB5: S-30-1130
SB6: S-30-1131

REVISION				
REV. NO.	INSTALL RADIO ON SB2, CONNECT TO INTERCONNECT BACKBONE ALONG IH 94			
	APPROVAL RECOMMENDED		APPROVED	
1	REGION		CENTRAL OFFICE	
	DATE	BY	DATE	BY
	10/30/15		10/30/15	JB

TRAFFIC CONTROL SIGNAL
IH 94 WB RAMPS & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-1328
CABINET TYPE: TS1
CONTROLLER TYPE: EPAC

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
DATE 3/31/10 — DAVID A. BRANTNER, REGION TRAFFIC ENGINEER

APPROVED
DATE 3/31/10 — JOANNA L. BUSH, STATE TRAFFIC ENGINEER

REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

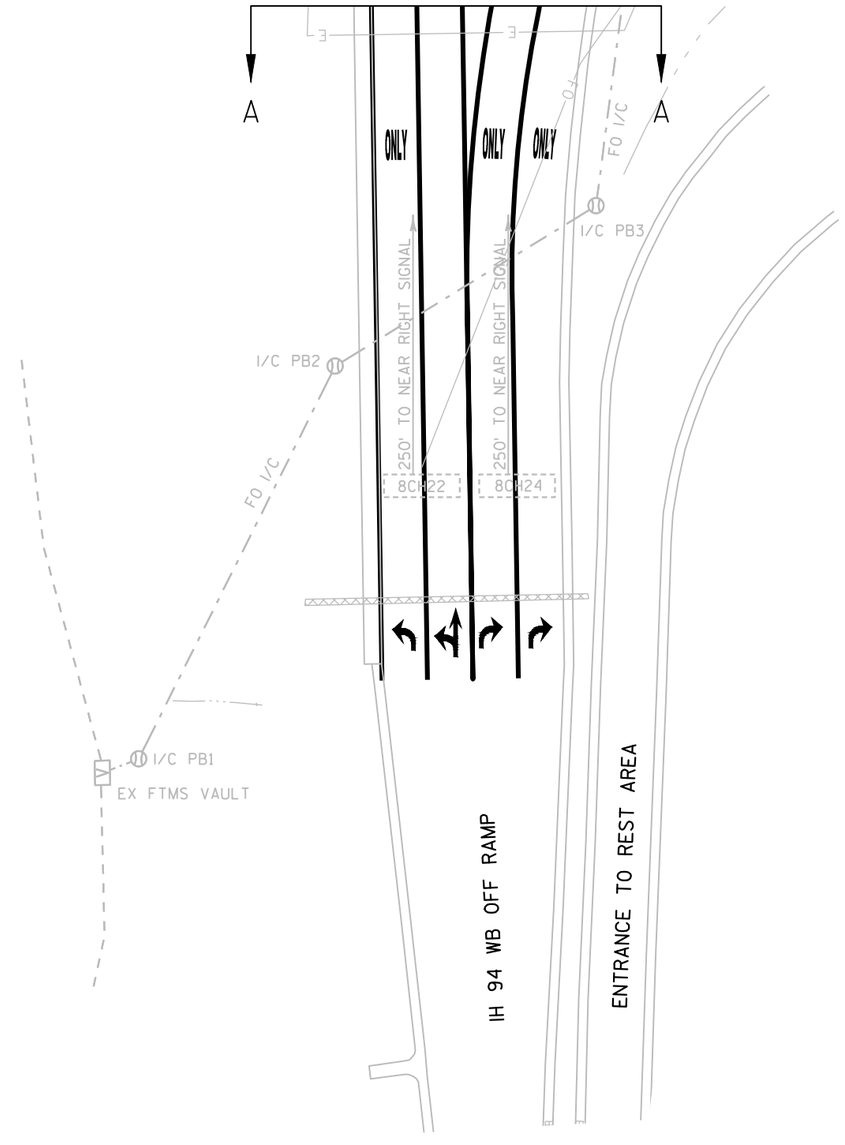
PAGE 1 OF 3

INITIAL INSTALLATION	7/10

PROJECT NO: 3738-06-60	HWY: IH 94	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 68	E

2

N



TRAFFIC CONTROL SIGNAL
IH 94 WB RAMPS & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-1328

REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 2 OF 3

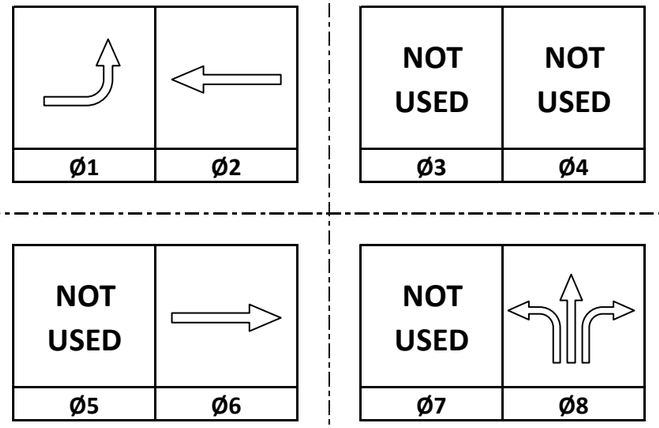
PROJECT NO: 3738-06-60	HWY: IH 94	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 69	E

2

	HEAD NUMBERS	FLASH
Ø1	4,5,6	R ←
Ø2	7,8,9,10	R
Ø3		
Ø4		
Ø5		
Ø6	1,2,3	R
Ø7		
Ø8	11,12,13,14,15,16,17	R,R ←
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLA		
OLB		
OLC		
OLD		

RING 1

RING 2



DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
1CH17	17	X			1	1					
2CH18	18	X			2	2			X		
2CH19	19	X			2	2					
6CH20	20	X			6	6			X		
6CH21	21	X			6	6					
8CH22	22	X			8	8			X		
8CH23	23	X			8	8					
8CH24	24	X			8	8		X	X		
8CH25	25	X			8	8					
8CH26	26	X			8	8		X			

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	X
RADIO	X
CELL MODEM	

CONTROLLER LOGIC

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

TYPE OF COORDINATION	
NONE	
TBC	X
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM NO:	SS- 0170

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

N

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT	←	↱ →		
PHASE	2	6+1		

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

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

IH 94 WB RAMPS & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY
SIGNAL NO: S30-1328 CABINET TYPE: TS1
CONTROLLER TYPE: EPAC
DATE: OCTOBER 2015 PAGE NO. 3 OF 3

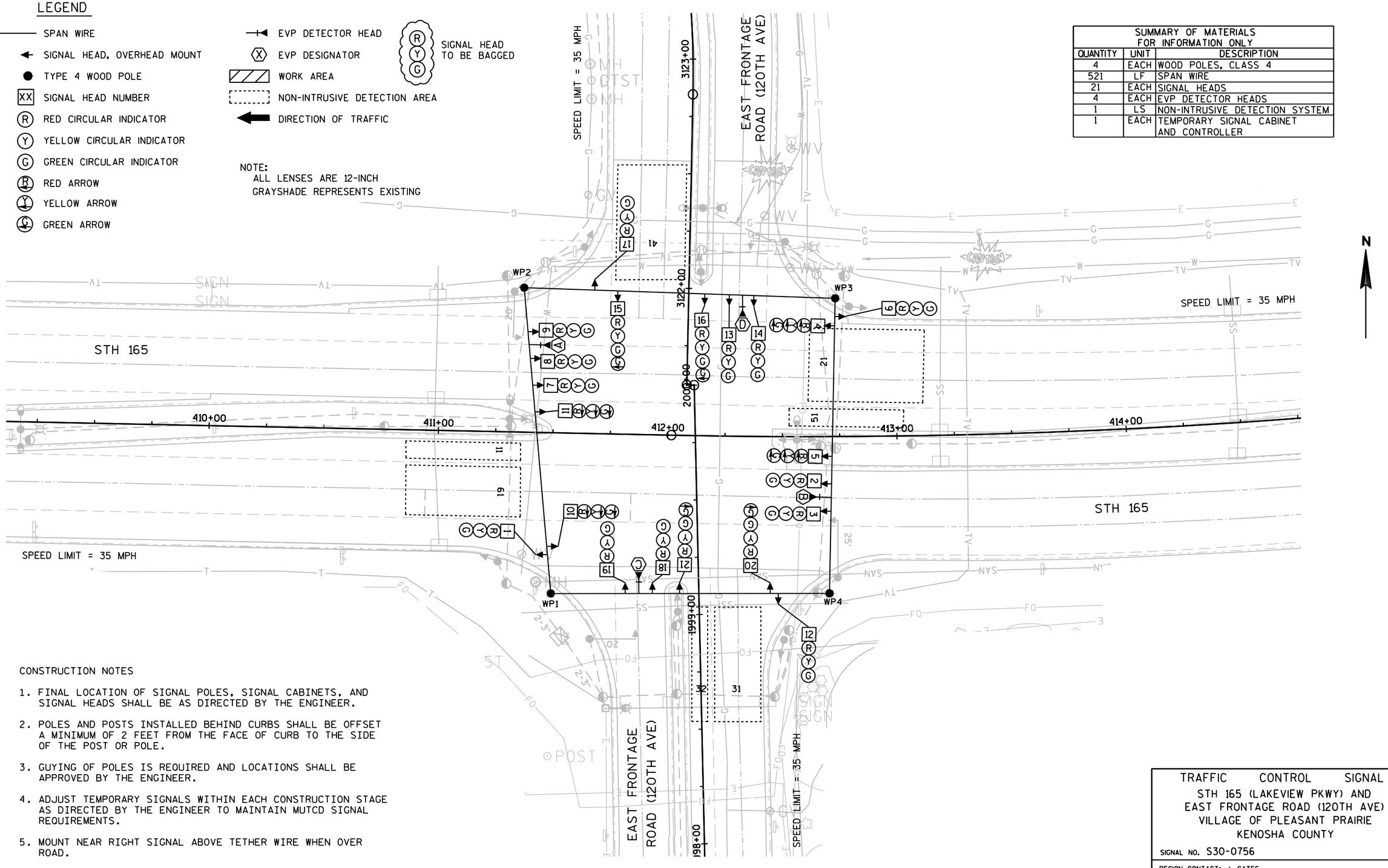
2

LEGEND

- SPAN WIRE
- SIGNAL HEAD, OVERHEAD MOUNT
- TYPE 4 WOOD POLE
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- Y YELLOW ARROW
- G GREEN ARROW
- EVP DETECTOR HEAD
- X EVP DESIGNATOR
- WORK AREA
- NON-INTRUSIVE DETECTION AREA
- DIRECTION OF TRAFFIC
- R Y G SIGNAL HEAD TO BE BAGGED

NOTE:
ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

SUMMARY OF MATERIALS FOR INFORMATION ONLY		
QUANTITY	UNIT	DESCRIPTION
4	EACH	WOOD POLES, CLASS 4
521	LF	SPAN WIRE
21	EACH	SIGNAL HEADS
4	EACH	EVP DETECTOR HEADS
1	LS	NON-INTRUSIVE DETECTION SYSTEM
1	EACH	TEMPORARY SIGNAL CABINET AND CONTROLLER



CONSTRUCTION NOTES

1. FINAL LOCATION OF SIGNAL POLES, SIGNAL CABINETS, AND SIGNAL HEADS SHALL BE AS DIRECTED BY THE ENGINEER.
2. POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POST OR POLE.
3. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
4. ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
5. MOUNT NEAR RIGHT SIGNAL ABOVE TETHER WIRE WHEN OVER ROAD.

TRAFFIC CONTROL SIGNAL
STH 165 (LAKEVIEW PKWY) AND
EAST FRONTAGE ROAD (120TH AVE)
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0756

REGION CONTACT: J. GATES
DESIGNED BY: MAS
REVISED BY:

PAGE 1 OF 4

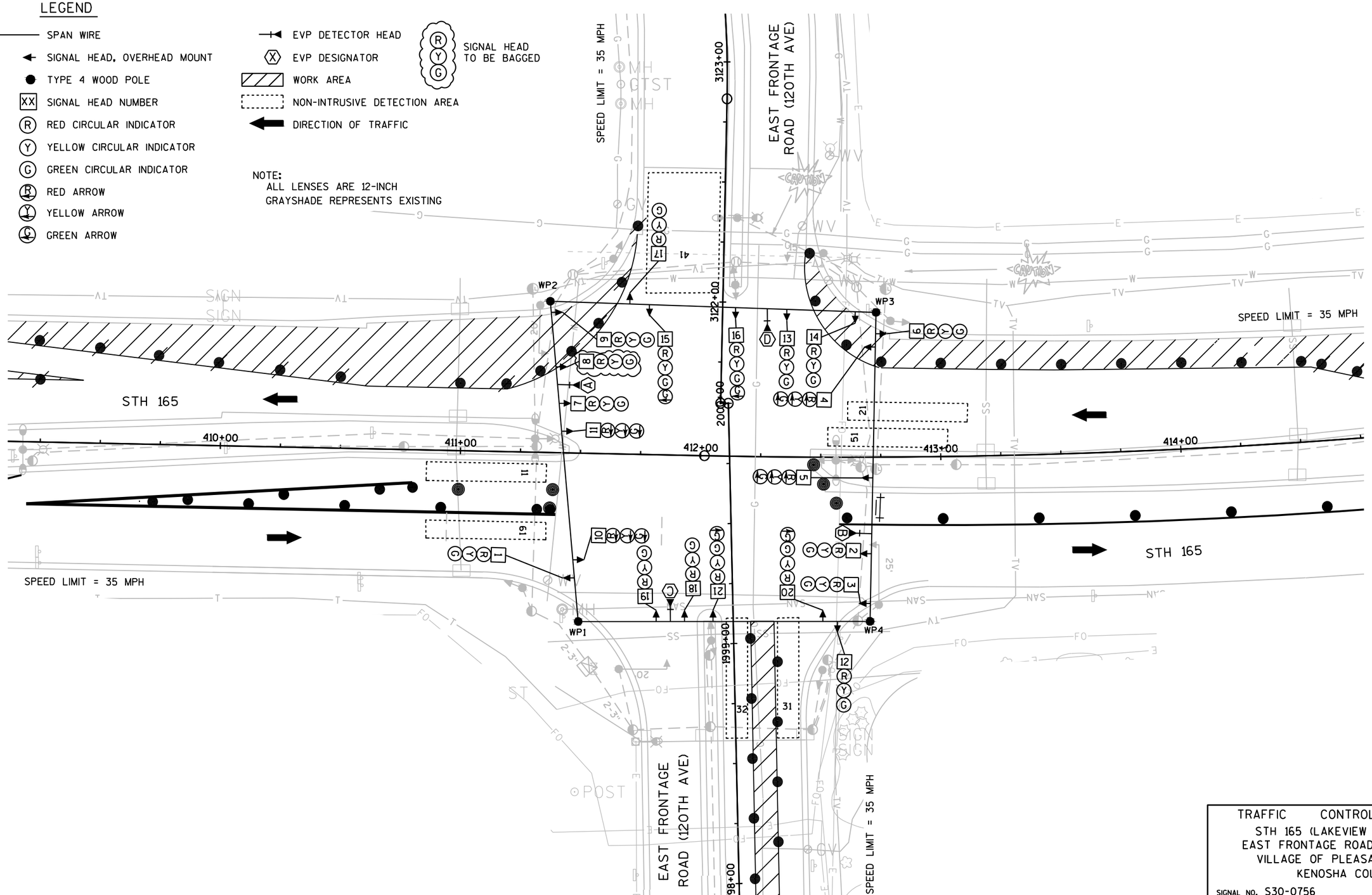
PROJECT NO:3738-06-60	HWY:STH 165	COUNTY:KENOSHA	TEMPORARY TRAFFIC SIGNAL PLAN - PRECONSTRUCTION STAGE	SHEET 71	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIG\S30-0756\S30-0756_TSPRE.DWG PLOT DATE : 10/28/2015 10:20 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1:40_XREF

LEGEND

- SPAN WIRE
- SIGNAL HEAD, OVERHEAD MOUNT
- TYPE 4 WOOD POLE
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- Y YELLOW ARROW
- G GREEN ARROW
- EVP DETECTOR HEAD
- X EVP DESIGNATOR
- WORK AREA
- NON-INTRUSIVE DETECTION AREA
- DIRECTION OF TRAFFIC
- R Y G SIGNAL HEAD TO BE BAGGED

NOTE:
ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING



TRAFFIC CONTROL SIGNAL
STH 165 (LAKEVIEW PKWY) AND
EAST FRONTAGE ROAD (120TH AVE)
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0756

REGION CONTACT: J. GATES
DESIGNED BY: MAS
REVISED BY:

PAGE 2 OF 4

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 1	SHEET 72	E

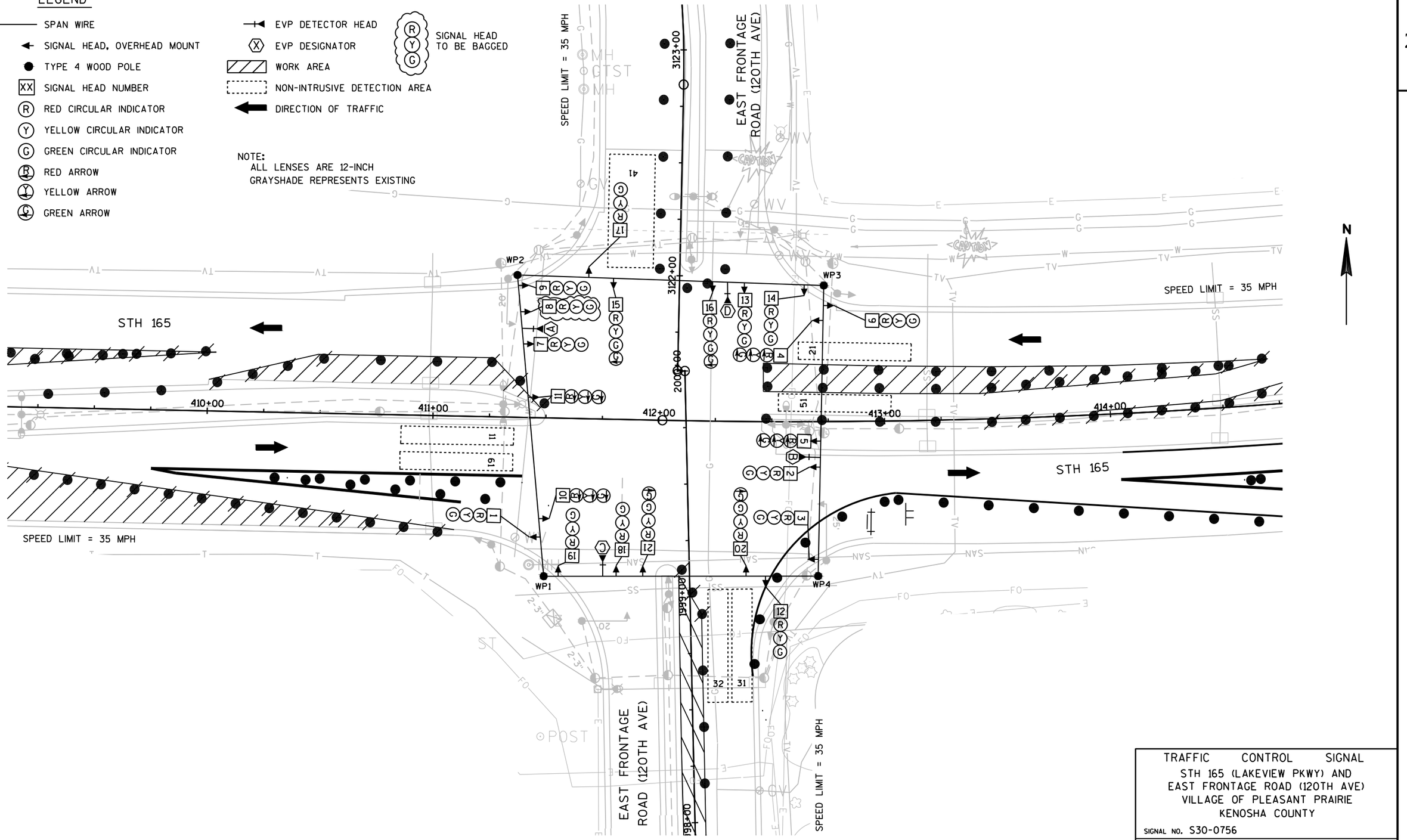
2

2

LEGEND

- SPAN WIRE
- SIGNAL HEAD, OVERHEAD MOUNT
- TYPE 4 WOOD POLE
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- Y YELLOW ARROW
- G GREEN ARROW
- EVP DETECTOR HEAD
- X EVP DESIGNATOR
- WORK AREA
- NON-INTRUSIVE DETECTION AREA
- DIRECTION OF TRAFFIC
- R Y G SIGNAL HEAD TO BE BAGGED

NOTE:
ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING



TRAFFIC CONTROL SIGNAL
STH 165 (LAKEVIEW PKWY) AND
EAST FRONTAGE ROAD (120TH AVE)
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

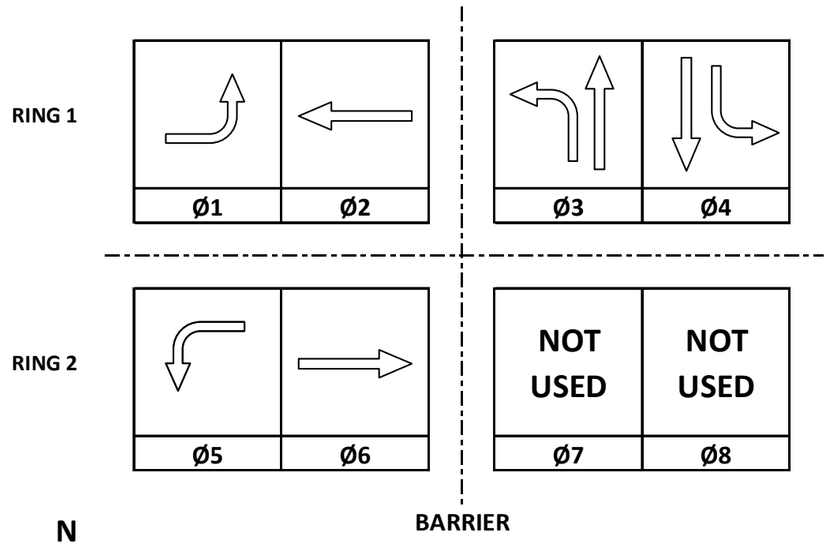
SIGNAL NO. S30-0756

REGION CONTACT: J. GATES
DESIGNED BY: MAS
REVISED BY:

PAGE 3 OF 4

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 2	SHEET 73	E

	HEAD NUMBERS	FLASH
Ø1	4,5	R ←
Ø2	6,7,8,9	R
Ø3	12,13,14,15,16	R
Ø4	17,18,19,20,21	R
Ø5	10,11	R ←
Ø6	1,2,3	R
Ø7		
Ø8		
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLA		
OLB		
OLC		
OLD		



CONTROLLER LOGIC

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT	←	→	↓ ↓	↖ ↑
PHASE	2+5	6+1	4	3

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4, CONTROLLER SHALL RETURN TO PHASE 4.
AFTER PREEMPTION SEQUENCE 3, CONTROLLER SHALL RETURN TO PHASE 3.

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	X
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	
CELL MODEM	

TYPE OF COORDINATION	
NONE	
TBC	X
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM NO:	SS- 0170

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	11	21	31	41	51	61		
ASSIGNED PHASE	1	2	3	4	5	6		
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH		
SWITCH								
EXTEND								
DELAY								

DETECTOR INPUT	19	17	23	21	27	25	31	29
PLAN LOOP DETECTOR*(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)			32					
ASSIGNED PHASE			3					
OPERATION MODE			VEH					
SWITCH								
EXTEND								
DELAY								

DETECTOR INPUT	20	18	24	22	28	26	32	30
PLAN LOOP DETECTOR*(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

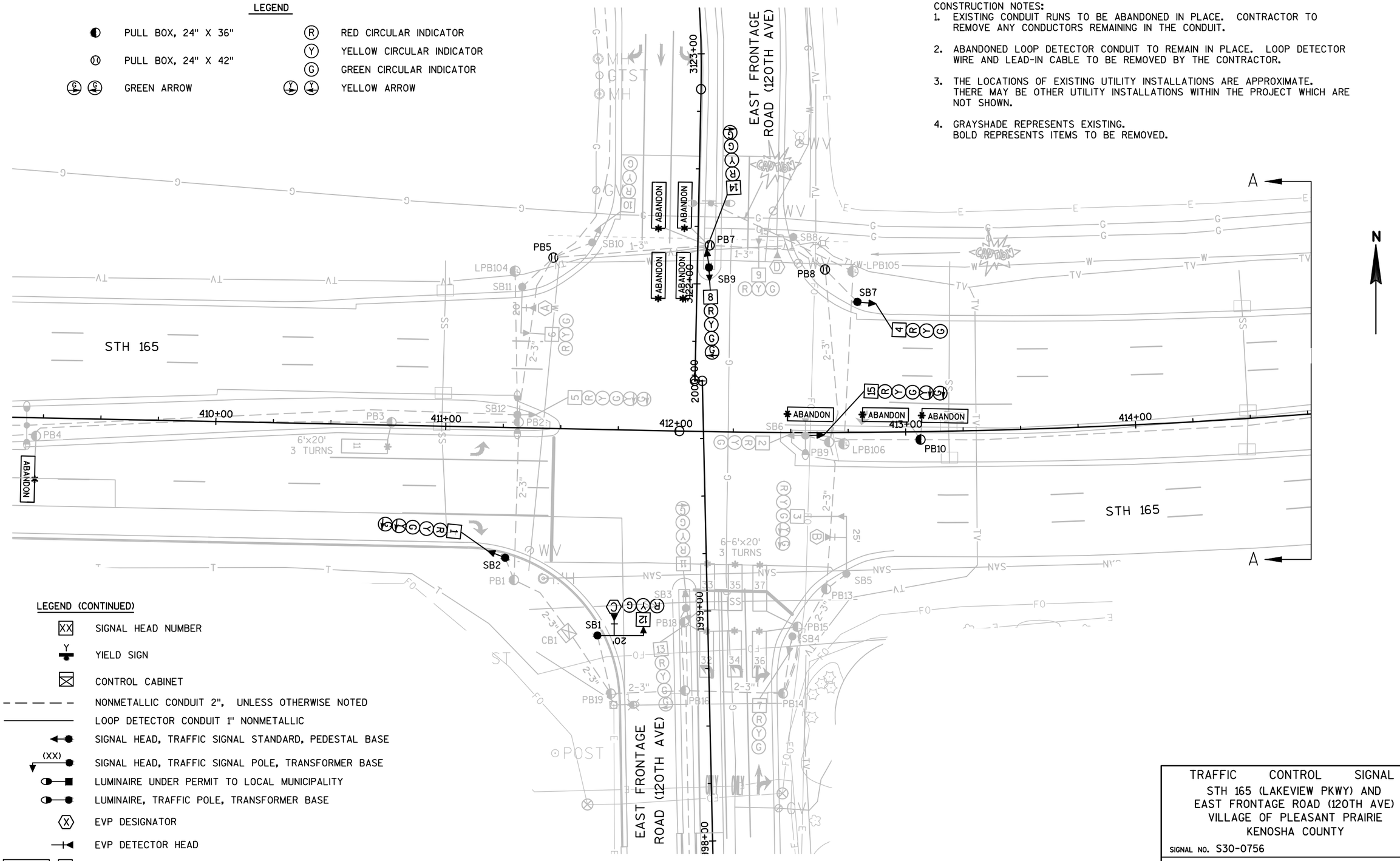
STH 165 (LAKEVIEW PKWY) & E. FRONTAGE RD. (120TH AVE.)
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY
SIGNAL NO: S30-0756
CONTROLLER TYPE: TEMP
DATE: 10/15 PAGE NO. 4 OF 4

LEGEND

- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- GREEN ARROW
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- YELLOW ARROW

CONSTRUCTION NOTES:

1. EXISTING CONDUIT RUNS TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY CONDUCTORS REMAINING IN THE CONDUIT.
2. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRE AND LEAD-IN CABLE TO BE REMOVED BY THE CONTRACTOR.
3. THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
4. GRAYSHADE REPRESENTS EXISTING. BOLD REPRESENTS ITEMS TO BE REMOVED.



LEGEND (CONTINUED)

- XX — SIGNAL HEAD NUMBER
- Y — YIELD SIGN
- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) — SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- X — EVP DESIGNATOR
- EVP DETECTOR HEAD
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

TRAFFIC CONTROL SIGNAL
STH 165 (LAKEVIEW PKWY) AND
EAST FRONTAGE ROAD (120TH AVE)
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0756

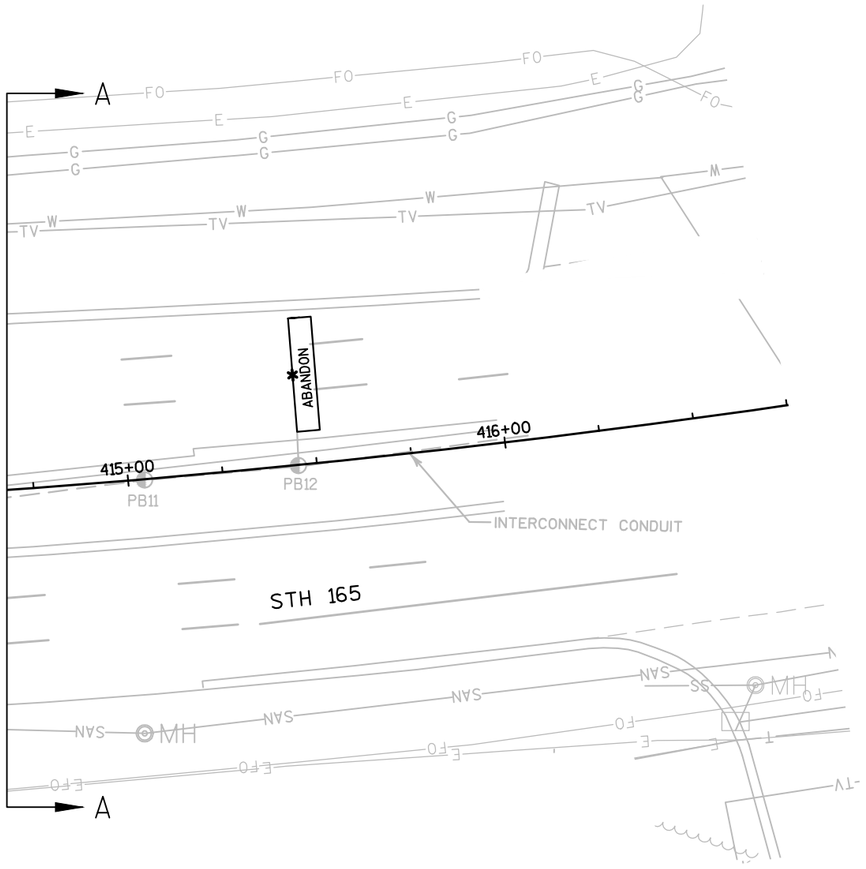
REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 1 OF 2

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 75	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIG\S30-0756\S30-0756_REM.DWG PLOT DATE : 10/23/2015 3:26 PM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1:40_XREF

2



N

TRAFFIC CONTROL SIGNAL
STH 165 (LAKEVIEW PKWY) AND
EAST FRONTAGE ROAD (120TH AVE)
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0756

REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 2 OF 2

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 76	E

LEGEND

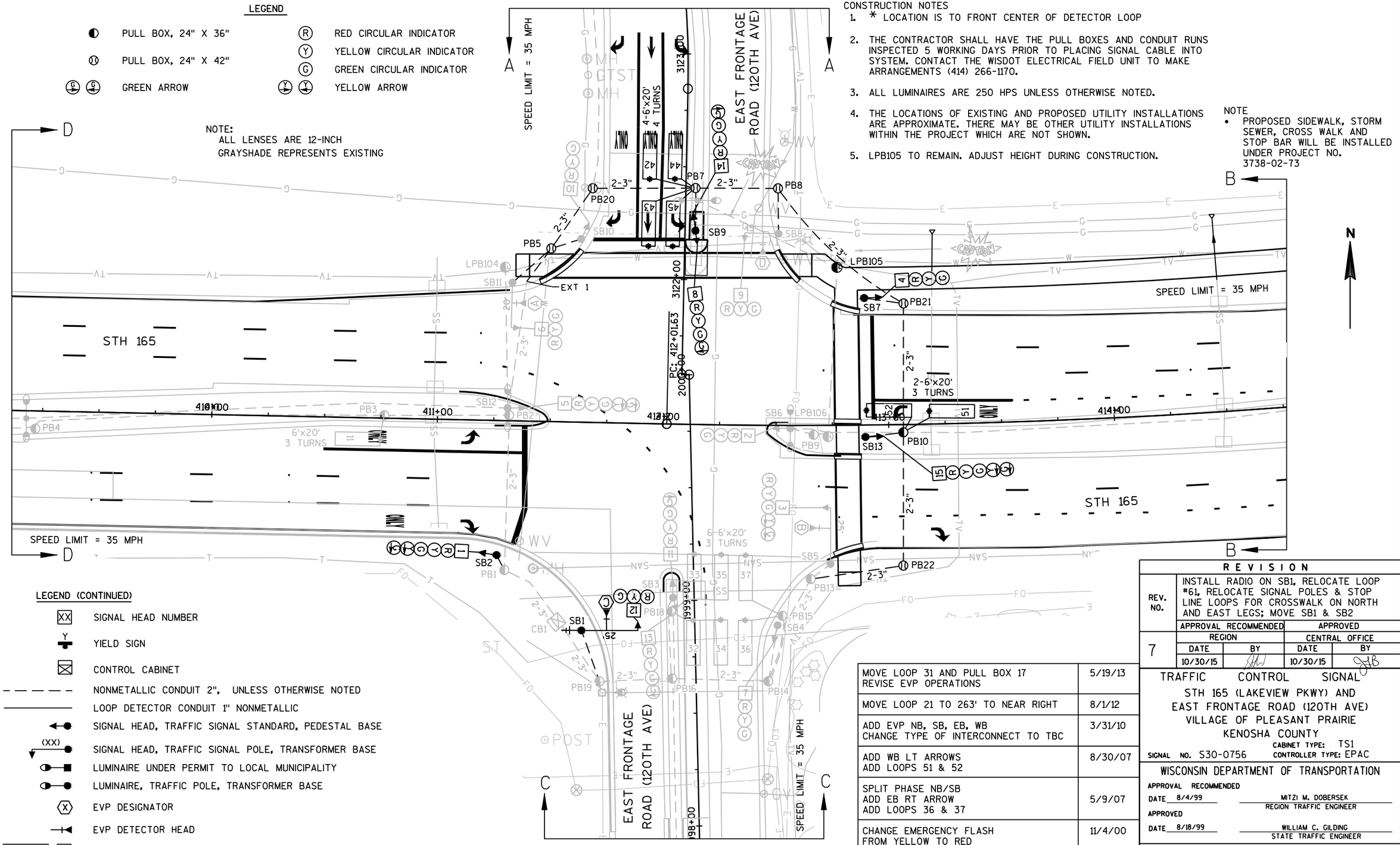
PULL BOX, 24" X 36"		RED CIRCULAR INDICATOR	
PULL BOX, 24" X 42"		YELLOW CIRCULAR INDICATOR	
GREEN ARROW		GREEN CIRCULAR INDICATOR	
		YELLOW ARROW	

NOTE:
ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

CONSTRUCTION NOTES

1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS (414) 266-1170.
3. ALL LUMINAIRES ARE 250 HPS UNLESS OTHERWISE NOTED.
4. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
5. LPB105 TO REMAIN. ADJUST HEIGHT DURING CONSTRUCTION.

NOTE
- PROPOSED SIDEWALK, STORM SEWER, CROSS WALK AND STOP BAR WILL BE INSTALLED UNDER PROJECT NO. 3738-02-73



LEGEND (CONTINUED)

- SIGNAL HEAD NUMBER
- YIELD SIGN
- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

MOVE LOOP 31 AND PULL BOX 17 REVISE EVP OPERATIONS	5/19/13
MOVE LOOP 21 TO 263' TO NEAR RIGHT	8/1/12
ADD EVP NB, SB, EB, WB CHANGE TYPE OF INTERCONNECT TO TBC	3/31/10
ADD WB LT ARROWS ADD LOOPS 51 & 52	8/30/07
SPLIT PHASE NB/SB ADD EB RT ARROW ADD LOOPS 36 & 37	5/9/07
CHANGE EMERGENCY FLASH FROM YELLOW TO RED	11/4/00
INITIAL INSTALLATION	8/99

REVISION				
REV. NO.	INSTALL RADIO ON SB1, RELOCATE LOOP #61, RELOCATE SIGNAL POLES & STOP LINE LOOPS FOR CROSSWALK ON NORTH AND EAST LEGS; MOVE SB1 & SB2			
	APPROVAL RECOMMENDED		APPROVED	
7	REGION		CENTRAL OFFICE	
	DATE	BY	DATE	BY
	10/30/15		10/30/15	

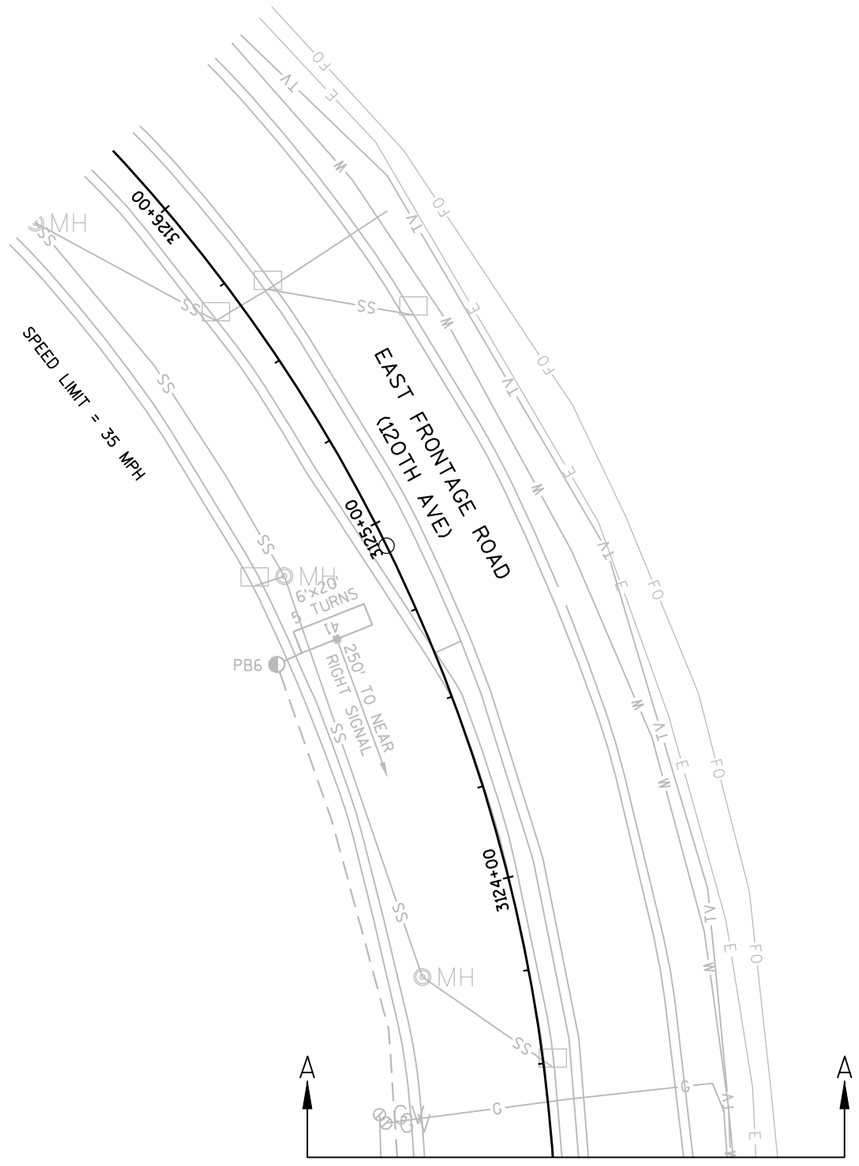
TRAFFIC CONTROL SIGNAL
STH 165 (LAKEVIEW PKWY) AND
EAST FRONTAGE ROAD (120TH AVE)
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY
CABINET TYPE: TS1
SIGNAL NO. S30-0756 CONTROLLER TYPE: EPAC

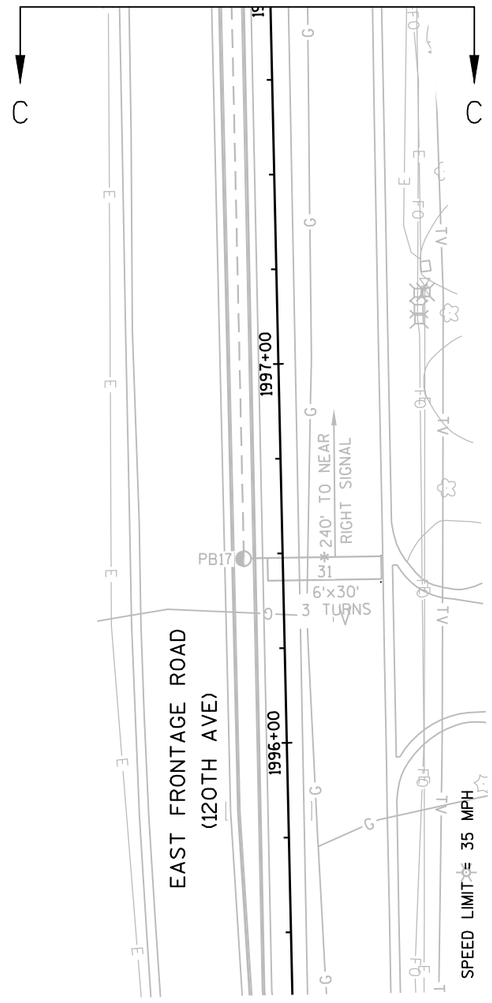
WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVAL RECOMMENDED
DATE 8/4/99 MITZI M. DOBERSEK, REGION TRAFFIC ENGINEER
APPROVED
DATE 8/18/99 WILLIAM C. GILDING, STATE TRAFFIC ENGINEER

REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST
PAGE 1 OF 4

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 77 E

2





TRAFFIC CONTROL SIGNAL
STH 165 (LAKEVIEW PKWY) AND
EAST FRONTAGE ROAD (120TH AVE)
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0756

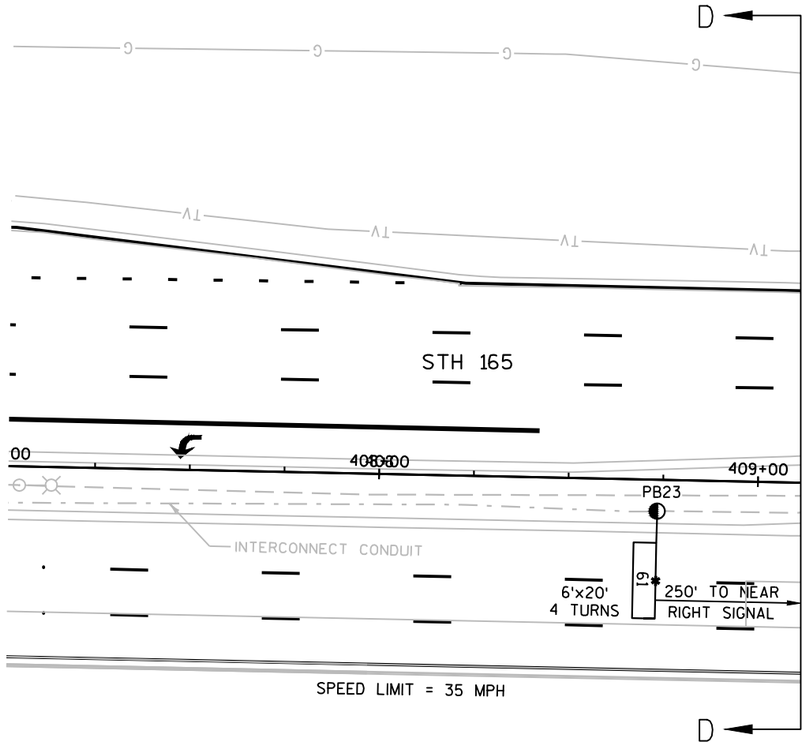
REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

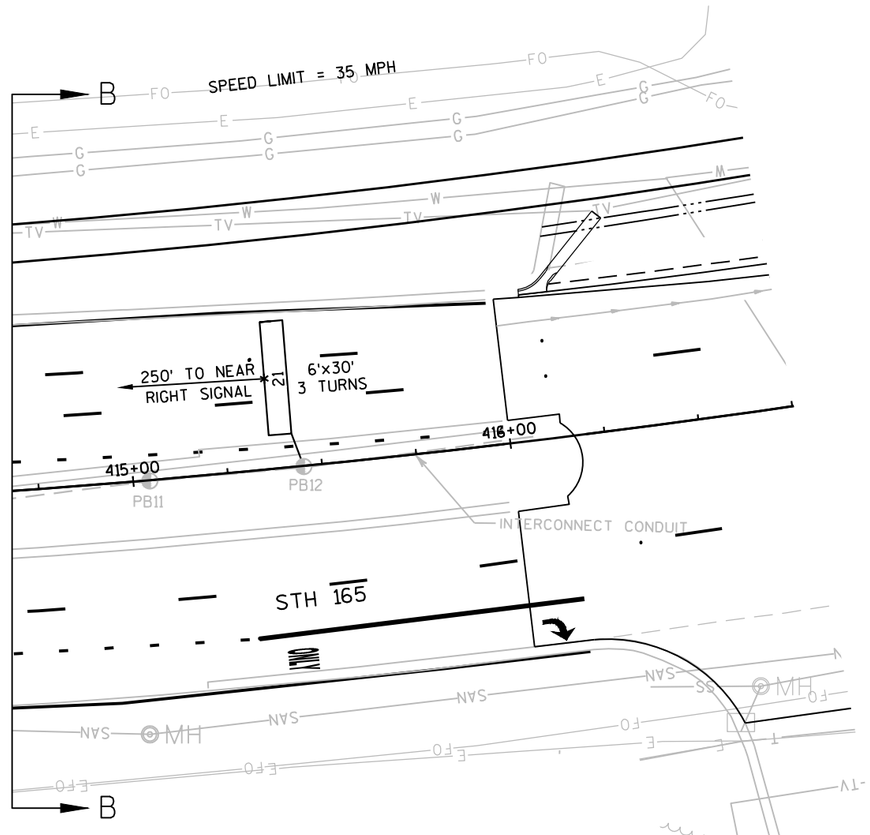
PAGE 2 OF 4

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 78	E

2

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TRAFFIC CONTROL SIGNAL
STH 165 (LAKEVIEW PKWY) AND
EAST FRONTAGE ROAD (120TH AVE)
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0756

REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 3 OF 4

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 79	E

	HEAD NUMBERS	FLASH
Ø1		
Ø2	4,5,6,15	R
Ø3	1,3,7,8,9,13	R. -
Ø4	10,11,12,14	R
Ø5	5,15	-
Ø6	1,2,3	R
Ø7		
Ø8		
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLA		
OLB		
OLC		
OLD		

RING 1

NOT USED			
Ø1	Ø2	Ø3	Ø4

RING 2

		NOT USED	NOT USED
Ø5	Ø6	Ø7	Ø8

BARRIER

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
11	1	X			6	6				6X20	3
21	2	X			2	2				6X30	3
31	3			X		3			X	6X30	3
32	4	X			3	3				6X20	3
33	4	X			3	3				6X20	3
34	5	X			3	3				6X20	3
35	5	X			3	3				6X20	3
36	6	X			3	3		X		6X20	3
37	6	X			3	3		X		6X20	3
41	7			X		4			X	6X20	5
42	8	X			4	4				6X20	4
43	8	X			4	4				6X20	4
44	9	X			4	4				6X20	4
45	9	X			4	4				6X20	4
51	10	X			5	5				6X20	3
52	10	X			5	5				6X20	3
61	11	X			6	6				6X20	4

CONTROLLER LOGIC

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

N

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	X
CELL MODEM	

TYPE OF COORDINATION	
NONE	
TBC	X
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM NO:	SS- 0170

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT				
PHASE	2+6	6+2	4	3

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

AFTER PREEMPTION SEQUENCE 4, CONTROLLER SHALL RETURN TO PHASE 4.

AFTER PREEMPTION SEQUENCE 3, CONTROLLER SHALL RETURN TO PHASE 3.

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

STH 165 (LAKEVIEW PKWY) & E. FRONTAGE ROAD (120TH AVE)
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY
SIGNAL NO: S30-0756 CABINET TYPE: TS1
CONTROLLER TYPE: EPAC
DATE: OCTOBER 2015 PAGE NO. 4 OF 4

PROJECT NO: 3738-06-60 | HWY: STH 165 | COUNTY: KENOSHA | SEQUENCE OF OPERATIONS | SHEET NO: 80 | E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

PROJECT ID:	3738-06-60
INTERSECTION:	STH 165 & E. Frontage Rd.

Signal Wire Color Coding	BLK - black	RED - red	GRN - green
	WHT - white	BLU - blue	ORG - orange

CB1 TO	AWG14 # OF CONDUCTORS	HEAD NO.	SIGNAL INDICATION WIRE COLOR									PED BUTTON	OTHER
			RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING YELLOW>	D/WALK	WALK		
SB1	7	12	RED	ORG	GRN								
SB2	12	1	RED	ORG	GRN		ORG/BLK	GRN/BLK					
SB6	7	2	RED	ORG	GRN								
SB7	12	4	RED	ORG	GRN								
SB8	7	9	RED	ORG	GRN								
SB9	12	8	RED	ORG	GRN			GRN					
		14	RED/BLK	ORG/BLK	GRN/BLK			GRN/BLK					
SB10	12	10	RED	ORG	GRN								
SB11	7	6	RED	ORG	GRN								
SB13	12	15	RED	ORG	GRN		ORG/BLK	GRN/BLK					

*Use the white conductor in the cable assembly as the grounded conductor for all traffic signal indications

*Ensure the grounded conductor in the feeder cable and the pole cables are both 18" longer than the ungrounded conductors.

*At the signal bases, connect one terminal from the pedestrian push buttons to the color indicated in the chart. Connect the other terminal to the grounded conductor.

*Reconnect the grounding conductors wherever the circuit has been interrupted to ensure the grounding circuit is complete.

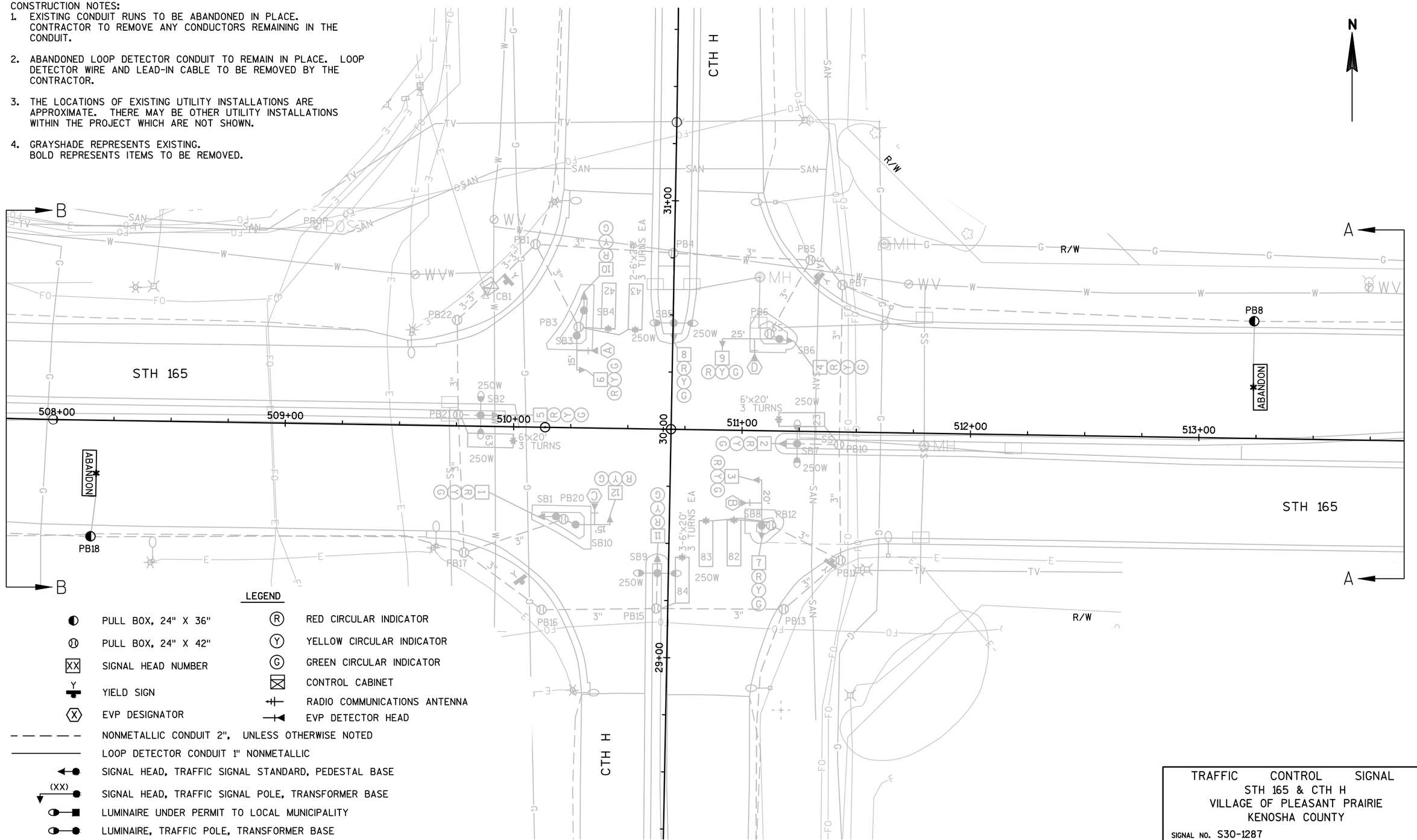
Equipment Grounding Conductor 10 AWG Green XLP	
From	To
CB1	SB1
SB1	SB3
SB5	SB13
SB13	SB6
SB6	SB7
SB7	SB8
SB8	SB9
SB9	SB10
SB10	SB11
SB11	SB12
SB12	SB2
SB2	CB1

Pull Box Bonding Jumper 10 AWG Green XLP	
From	To
PB1	SB2
PB5	SB10
PB20	SB10
PB7	SB9
PB8	SB8
PB21	SB7
PB10	SB13
PB22	SB5
PB19	CB1

EVP Cable	
From	To
CB1	HEAD A (SB11)
CB1	HEAD C (SB1)
CB1	HEAD D (SB8)

CONSTRUCTION NOTES:

1. EXISTING CONDUIT RUNS TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY CONDUCTORS REMAINING IN THE CONDUIT.
2. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRE AND LEAD-IN CABLE TO BE REMOVED BY THE CONTRACTOR.
3. THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
4. GRAYSHADE REPRESENTS EXISTING. BOLD REPRESENTS ITEMS TO BE REMOVED.



LEGEND

◐	PULL BOX, 24" X 36"	Ⓡ	RED CIRCULAR INDICATOR
ⓘ	PULL BOX, 24" X 42"	Ⓨ	YELLOW CIRCULAR INDICATOR
XX	SIGNAL HEAD NUMBER	Ⓖ	GREEN CIRCULAR INDICATOR
Y	YIELD SIGN	⊠	CONTROL CABINET
Ⓧ	EVP DESIGNATOR	⊣⊢	RADIO COMMUNICATIONS ANTENNA
		⊣◀	EVP DETECTOR HEAD

- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

TRAFFIC CONTROL SIGNAL
STH 165 & CTH H
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-1287

REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 1 OF 2

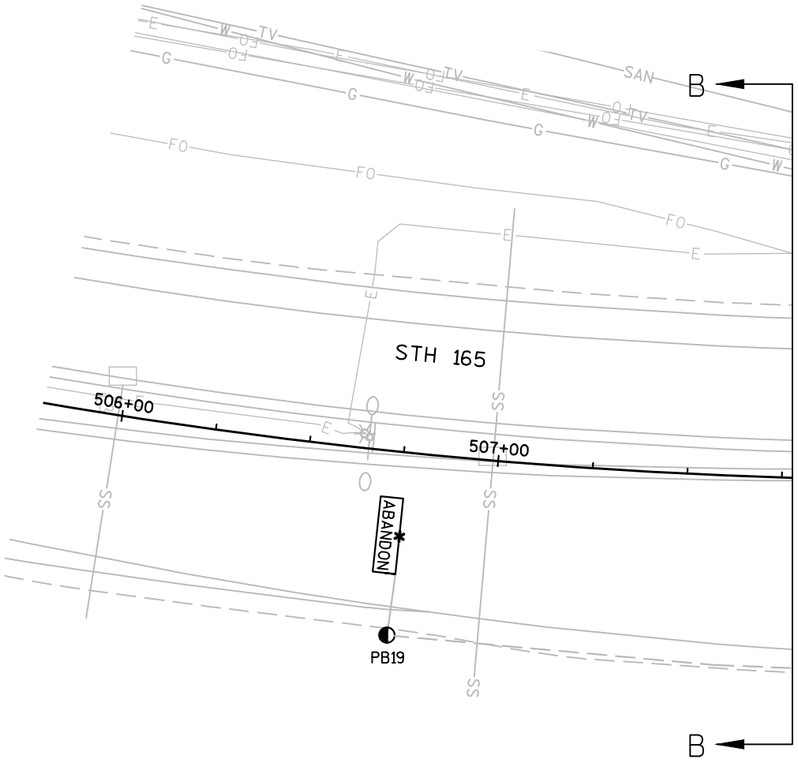
PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 82	E

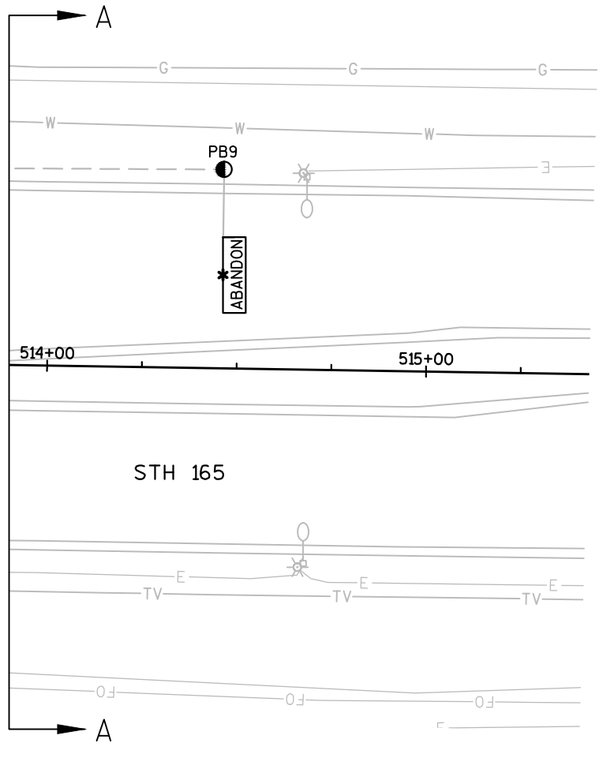
FILE NAME : N:\PDS\C3D\CAD\37380631\SIG\S30-1287\S30-1287_REM.DWG PLOT DATE : 10/5/2015 3:08 PM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

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TRAFFIC CONTROL SIGNAL
STH 165 & CTH H
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-1287

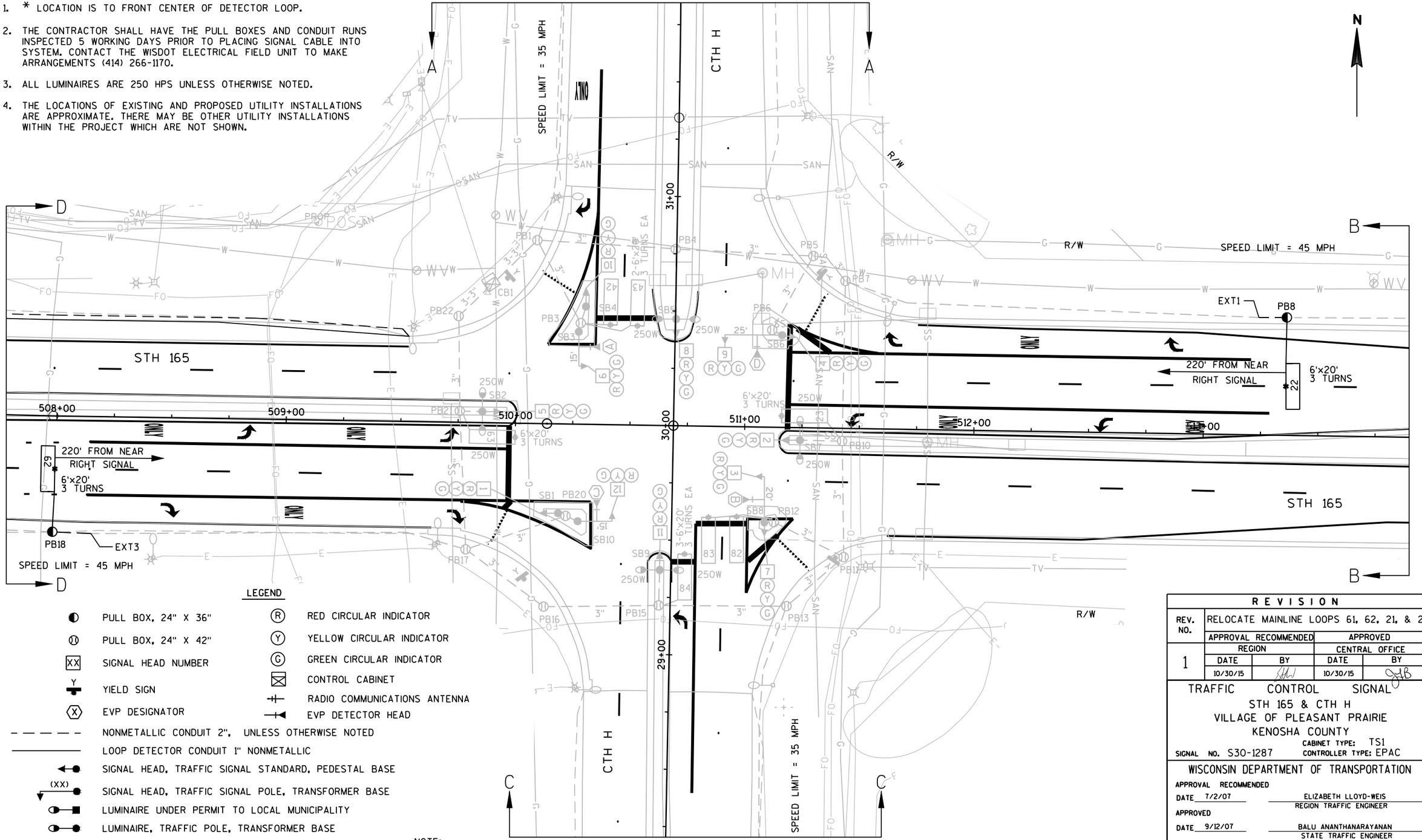
REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 2 OF 2

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 83	E

CONSTRUCTION NOTES

1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS (414) 266-1170.
3. ALL LUMINAIRES ARE 250 HPS UNLESS OTHERWISE NOTED.
4. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.



LEGEND

PULL BOX, 24" X 36"	RED CIRCULAR INDICATOR
PULL BOX, 24" X 42"	YELLOW CIRCULAR INDICATOR
SIGNAL HEAD NUMBER	GREEN CIRCULAR INDICATOR
YIELD SIGN	CONTROL CABINET
EVP DESIGNATOR	RADIO COMMUNICATIONS ANTENNA
NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED	EVP DETECTOR HEAD
LOOP DETECTOR CONDUIT 1" NONMETALLIC	
SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE	
SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE	
LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY	
LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE	
LOOP DETECTOR IN 1" NONMETALLIC CONDUIT	

NOTE:
ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

REVISION				
REV. NO.	RELOCATE MAINLINE LOOPS 61, 62, 21, & 22			
	APPROVAL RECOMMENDED		APPROVED	
	REGION		CENTRAL OFFICE	
	DATE	BY	DATE	BY
1	10/30/15		10/30/15	

TRAFFIC CONTROL SIGNAL
STH 165 & CTH H
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY
CABINET TYPE: TS1
SIGNAL NO. S30-1287 CONTROLLER TYPE: EPAC

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
DATE 7/2/07 ELIZABETH LLOYD-WEIS, REGION TRAFFIC ENGINEER

APPROVED
DATE 9/12/07 BALU ANANTHANARAYANAN, STATE TRAFFIC ENGINEER

REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

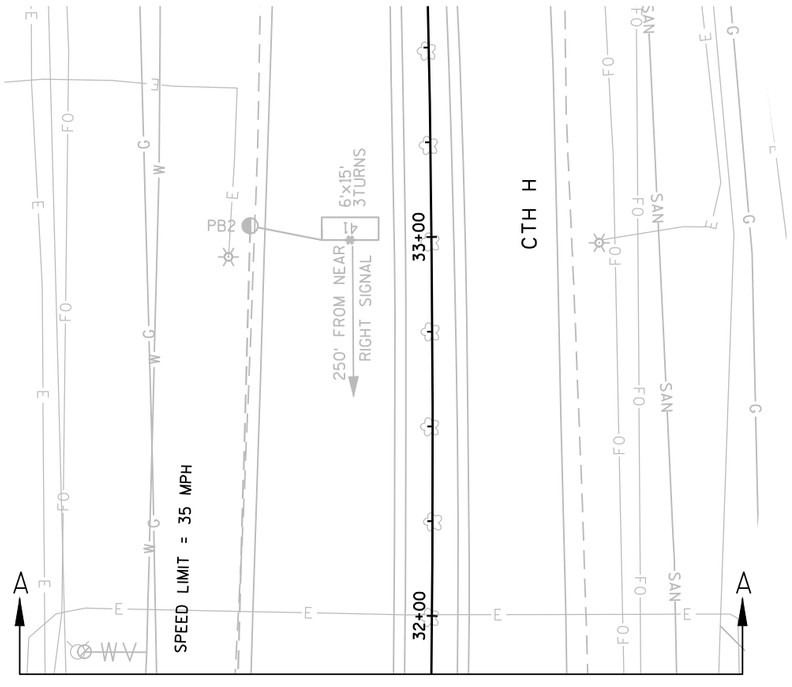
PAGE 1 OF 4

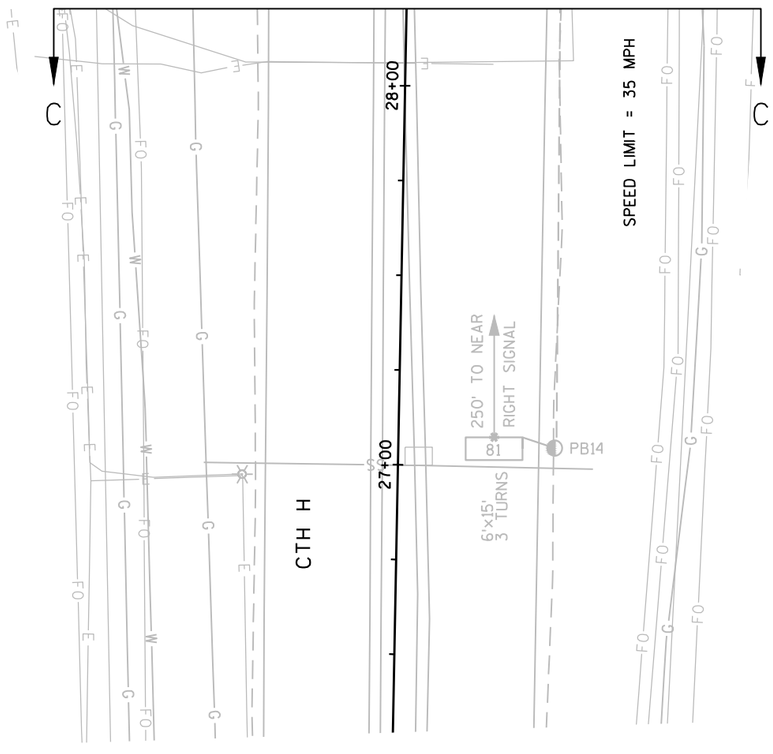
INITIAL INSTALLATION | 2007

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 84	E

2

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TRAFFIC CONTROL SIGNAL
STH 165 & CTH H
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-1287

REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

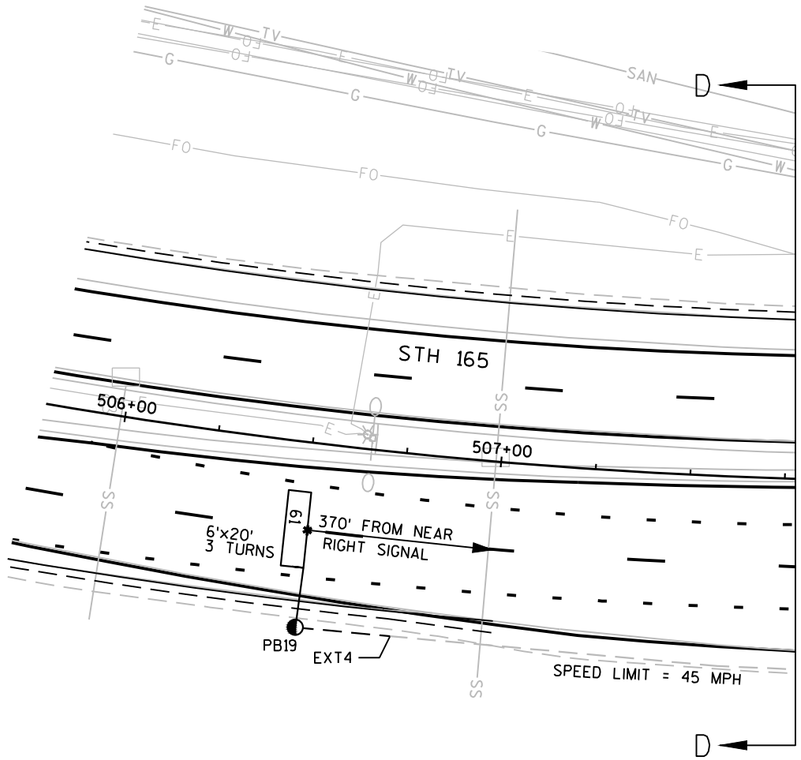
PAGE 2 OF 4

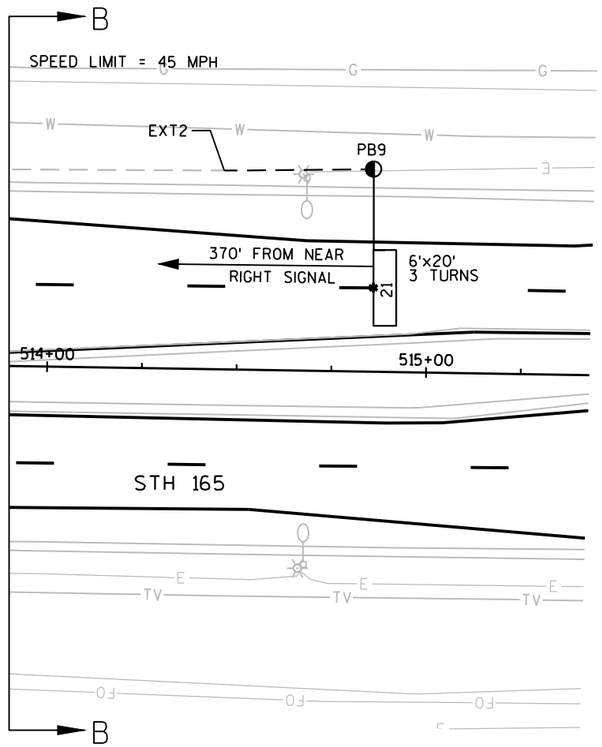
PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 85	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIG\S30-1287\S30-1287_A.DWG PLOT DATE : 10/30/2015 12:47 PM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : **********

2

N





TRAFFIC CONTROL SIGNAL
STH 165 & CTH H
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-1287

REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 3 OF 4

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 86	E

2

	HEAD NUMBERS	FLASH
Ø1		
Ø2	4,5,6	R
Ø3		
Ø4	10,11,12	R
Ø5		
Ø6	1,2,3	R
Ø7		
Ø8	7,8,9	R
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLA		
OLB		
OLC		
OLD		

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	X
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	
CELL MODEM	

TYPE OF COORDINATION	
NONE	X
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO: S-	
SIGNAL SYSTEM NO: SS-	

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

RING 1

RING 2

NOT USED	←	NOT USED	↓
Ø1	Ø2	Ø3	Ø4
NOT USED	→	NOT USED	↑
Ø5	Ø6	Ø7	Ø8

BARRIER

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
21	1	X			2	2				6X20	3
22	1	X			2	2				6X20	3
23	2	X			2	2				6X20	3
41	3			X		4			X	6X15	3
42	4	X			4	4				6X20	3
43	4	X			4	4				6X20	3
61	5	X			6	6				6X20	3
62	5	X			6	6				6X20	3
63	6	X			6	6				6X20	3
81	7			X		8			X	6X15	3
82	8	X			8	8				6X20	3
83	8	X			8	8				6X20	3
84	9	X			8	8				6X20	3

CONTROLLER LOGIC

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

N

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT	← →	← →	↓ ↑	↓ ↑
PHASE	2+6	6+2	4+8	8+4

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

AFTER PREEMPTION SEQUENCE 4+8 OR 8+4, CONTROLLER SHALL RETURN TO PHASES 4+8.

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

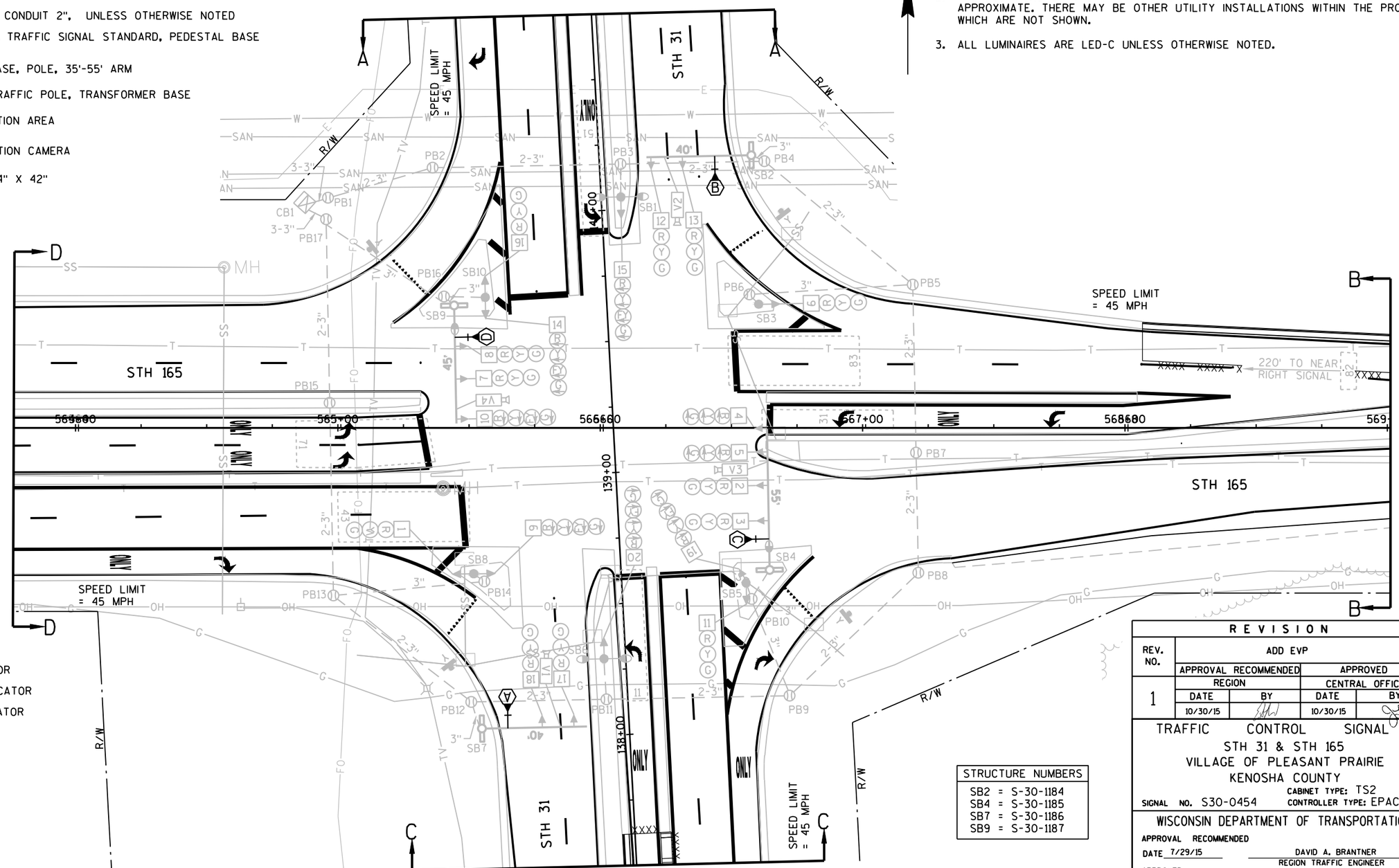
STH 165 & CTH H
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY
SIGNAL NO: S30-1287 CABINET TYPE: TS1
CONTROLLER TYPE: EPAC
DATE: OCTOBER 2015 PAGE NO. 4 OF 4

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 42"

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULLBOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170.
2. THE LOCATIONS OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. ALL LUMINAIRES ARE LED-C UNLESS OTHERWISE NOTED.



- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- YIELD SIGN
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

STRUCTURE NUMBERS
SB2 = S-30-1184
SB4 = S-30-1185
SB7 = S-30-1186
SB9 = S-30-1187

INITIAL INSTALLATION 2016

REVISION				
REV. NO.	ADD EVP			
	APPROVAL RECOMMENDED		APPROVED	
	REGION		CENTRAL OFFICE	
1	DATE	BY	DATE	BY
	10/30/15		10/30/15	

TRAFFIC CONTROL SIGNAL
STH 31 & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY
CABINET TYPE: TS2
SIGNAL NO. S30-0454 CONTROLLER TYPE: EPAC

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
DATE 7/29/15 DAVID A. BRANTNER, REGION TRAFFIC ENGINEER

APPROVED
DATE 7/31/15 JOANNA L. BUSH, STATE TRAFFIC ENGINEER

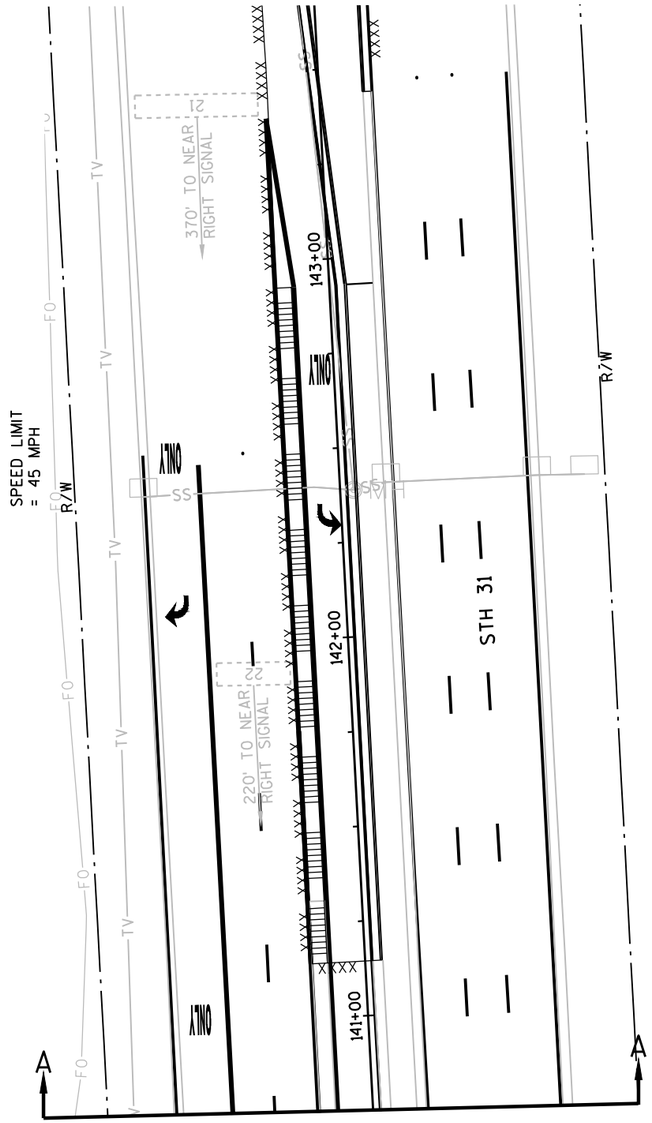
REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

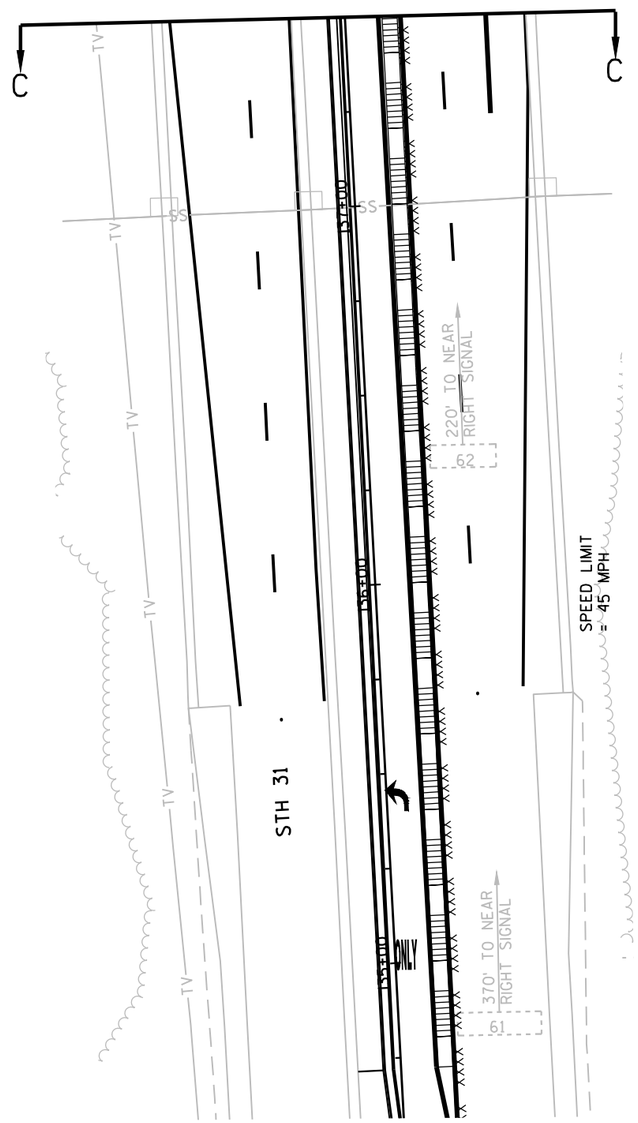
PAGE 1 OF 4

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 88	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIG\S30-0454\S30-0454_A.DWG
LAYOUT NAME - 024001_SP
PLOT DATE : 10/30/2015 1:14 PM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42





N

TRAFFIC CONTROL SIGNAL
STH 31 & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0454

REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 2 OF 4

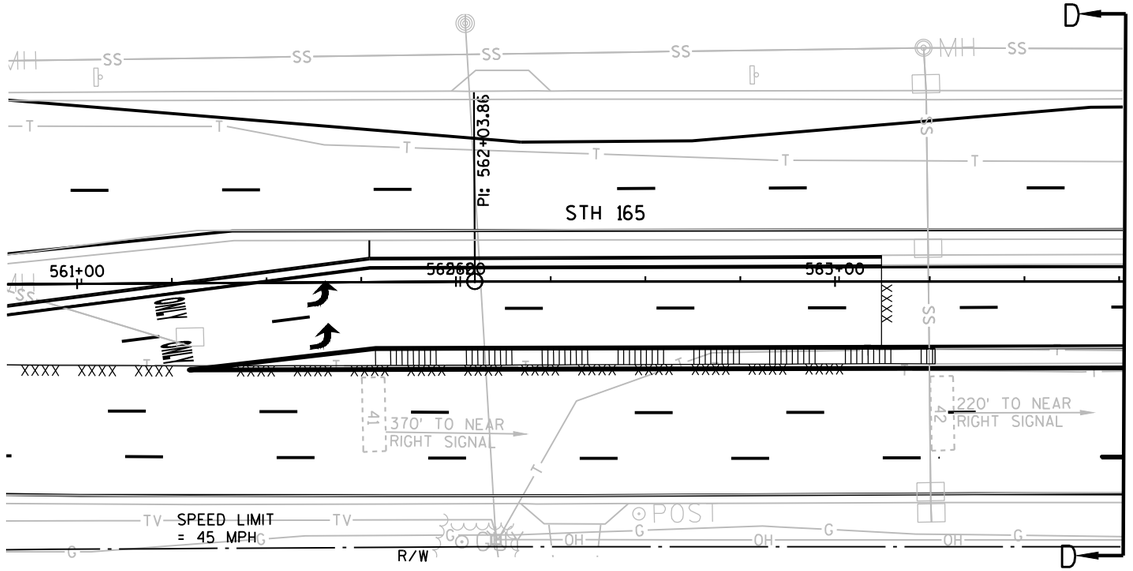
PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 89	E

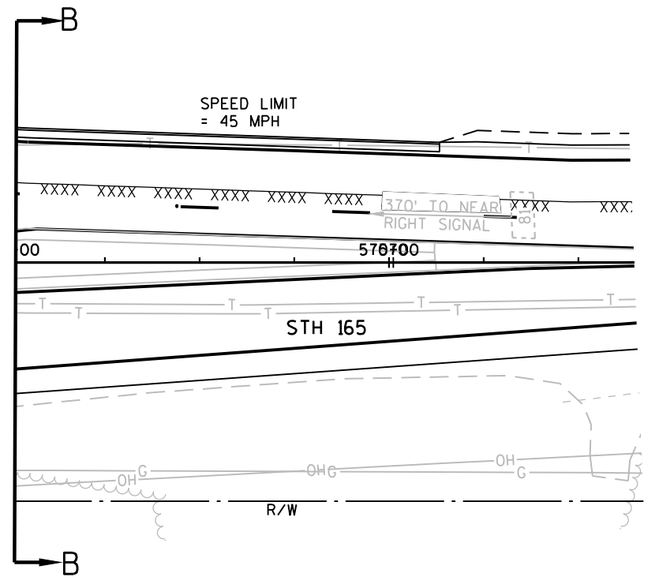
FILE NAME : N:\PDS\C3D\CAD\37380631\SIG\S30-0454\S30-0454_A.DWG
LAYOUT NAME - 024001_SP (2)

PLOT DATE : 10/30/2015 12:30 PM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1" = 40'_XREF

2

N





TRAFFIC CONTROL SIGNAL
STH 31 & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0454

REGION CONTACT: J. GATES
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 3 OF 4

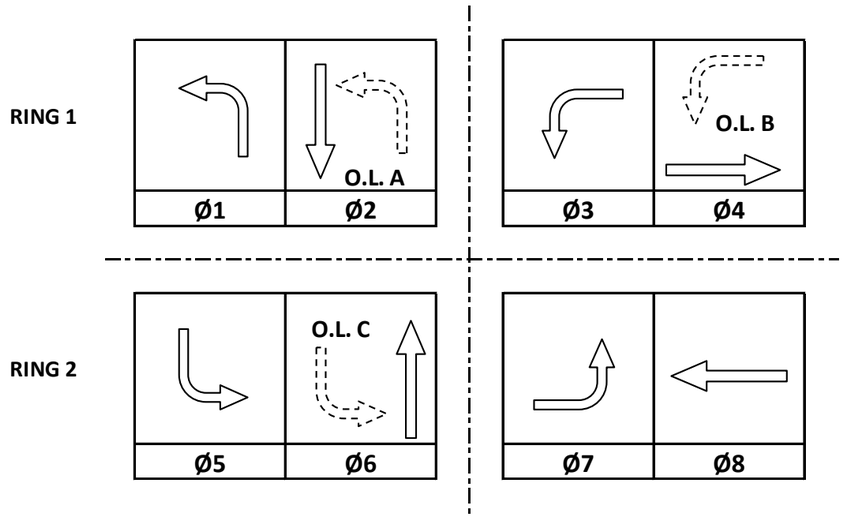
PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 90	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIG\S30-0454\S30-0454_A.DWG
LAYOUT NAME - 024001_SP (3)

PLOT DATE : 10/30/2015 12:30 PM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME :

PLOT SCALE : 1 IN:40 FT

	HEAD NUMBERS	FLASH
Ø1	14,15	-
Ø2	16,17,18	R
Ø3	9,10	-
Ø4	1,2,3	R
Ø5	19,20	-
Ø6	11,12,13	R
Ø7	4,5	R ←
Ø8	6,7,8	R
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLA	14,15	R ←
OLB	9,10	R ←
OLC	19,20	R ←
OLD		



CONTROLLER LOGIC

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	6+1	4+7	8+3

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4+7 OR 8+3, CONTROLLER SHALL RETURN TO PHASES 4+8.

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	X
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	
CELL MODEM	

TYPE OF COORDINATION	
NONE	X
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM NO:	SS-

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

19	17	23	21	27	25	31	29	DETECTOR INPUT
11	31	43	61/62	81/82				PLAN LOOP DETECTOR*(S)
1	3	4	6	8				ASSIGNED PHASE
VEH	VEH	VEH	VEH	VEH				OPERATION MODE
2	4							SWITCH
				X				EXTEND
								DELAY

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

20	18	24	22	28	26	32	30	DETECTOR INPUT
21/22	41/42	51	71	83				PLAN LOOP DETECTOR*(S)
2	4	5	7	8				ASSIGNED PHASE
VEH	VEH	VEH	VEH	VEH				OPERATION MODE
		6						SWITCH
	X							EXTEND
								DELAY

STH 31 & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY
SIGNAL NO: S30-0454 CABINET TYPE: TS2
CONTROLLER TYPE: EPAC
DATE: OCTOBER 2015 PAGE NO. 4 OF 4

2

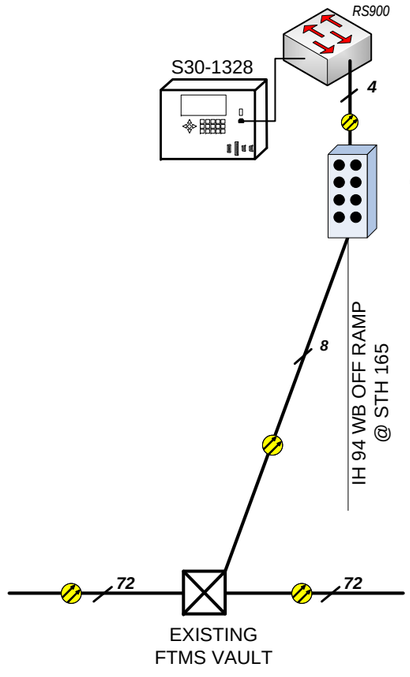
PROJECT ID:	3738-06-60
INTERSECTION:	STH 31 & STH 165

EVP Cable	
From	To
CB1	SB4 (HEAD A)
CB1	SB9 (HEAD B)
CB1	SB2 (HEAD C)
CB1	SB7 (HEAD D)

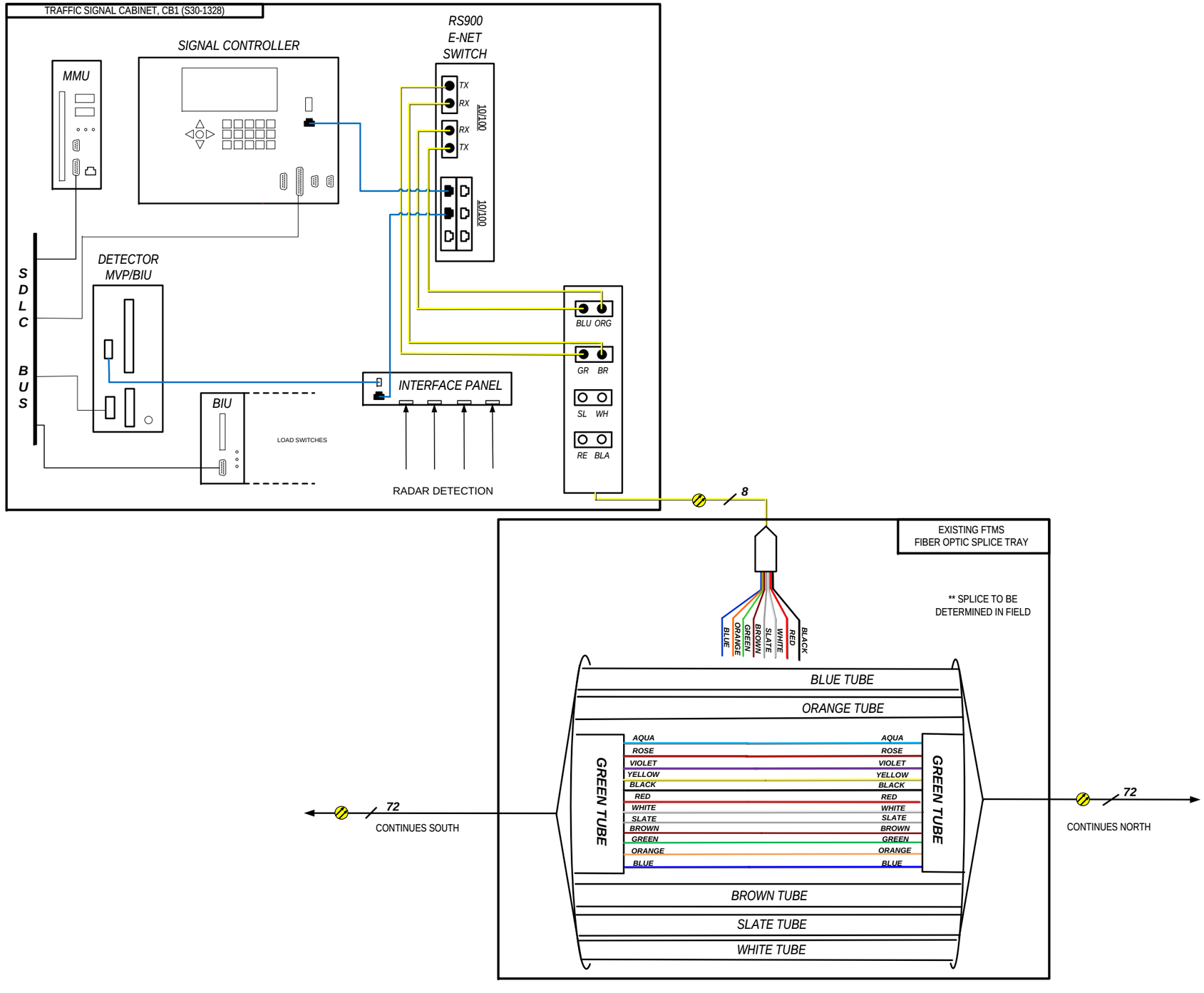
LEGEND

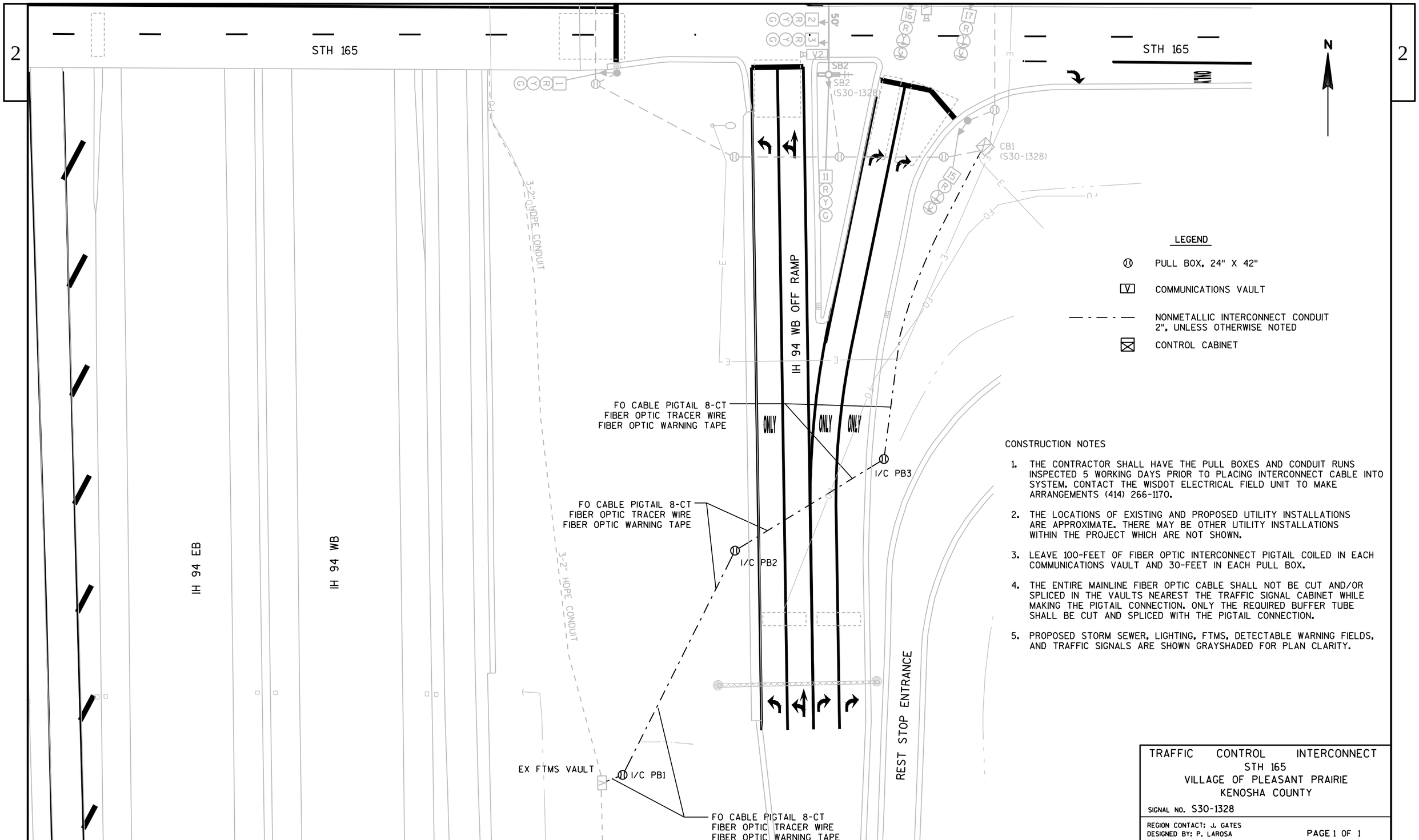
- 72 — SM FIBER OPTIC CABLE (# STRANDS)
- SPLICE ENCLOSURE
- HARDENED ETHERNET SWITCH
- TRAFFIC SIGNAL CONTROLLER
- 8 COUNT GATOR PATCH

N



NOTES:
1. MAXIMUM SPLICE LOSS SHALL BE 0.1dB.
2. NO INTERMEDIATE SPLICES ALLOWED.
3. ALL SPLICES SHALL BE FUSION SPLICES.
4. COORDINATE FIBER ASSIGNMENTS WITH THE STOC AT (414) 225-3723 BEFORE SPLICING FIBER OPTIC CABLE.
5. THE ENTIRE MAINLINE FIBER OPTIC CABLE SHALL NOT BE CUT AND/OR SPLICED IN THE VAULTS NEAREST THE TRAFFIC SIGNAL CABINET WHILE MAKING THE PIGTAIL CONNECTION. ONLY THE REQUIRED BUFFER TUBE SHALL BE CUT AND SPLICED WITH THE PIGTAIL CONNECTION.


TRAFFIC SIGNAL CABINET, CB1 (S30-1328)
SIGNAL CONTROLLER
MMU
RS900
E-NET
SWITCH
TX
RX
10/100
RX
TX
10/100
SDLC BUS
DETECTOR
MVP/BIU
BIU
LOAD SWITCHES
INTERFACE PANEL
RADAR DETECTION
BLU ORG
GR BR
SL WH
RE BLA
8
EXISTING FTMS
FIBER OPTIC SPLICE TRAY
** SPLICE TO BE
DETERMINED IN FIELD
BLUE
ORANGE
GREEN
BROWN
SLATE
WHITE
RED
BLACK
BLUE TUBE
ORANGE TUBE
GREEN TUBE
AQUA
ROSE
VIOLET
YELLOW
BLACK
RED
WHITE
SLATE
BROWN
GREEN
ORANGE
BLUE
GREEN TUBE
BROWN TUBE
SLATE TUBE
WHITE TUBE
72
CONTINUES SOUTH
72
CONTINUES NORTH
LEGEND
CAT 5E PATCH CORD
SM FIBER JUMPER
72
SM FIBER OPTIC CABLE
(# STRANDS)



LEGEND

- PULL BOX, 24" X 42"
- COMMUNICATIONS VAULT
- NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED
- CONTROL CABINET

CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING INTERCONNECT CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS (414) 266-1170.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. LEAVE 100-FEET OF FIBER OPTIC INTERCONNECT PIGTAIL COILED IN EACH COMMUNICATIONS VAULT AND 30-FEET IN EACH PULL BOX.
4. THE ENTIRE MAINLINE FIBER OPTIC CABLE SHALL NOT BE CUT AND/OR SPLICED IN THE VAULTS NEAREST THE TRAFFIC SIGNAL CABINET WHILE MAKING THE PIGTAIL CONNECTION. ONLY THE REQUIRED BUFFER TUBE SHALL BE CUT AND SPLICED WITH THE PIGTAIL CONNECTION.
5. PROPOSED STORM SEWER, LIGHTING, FTMS, DETECTABLE WARNING FIELDS, AND TRAFFIC SIGNALS ARE SHOWN GRAYSHADED FOR PLAN CLARITY.

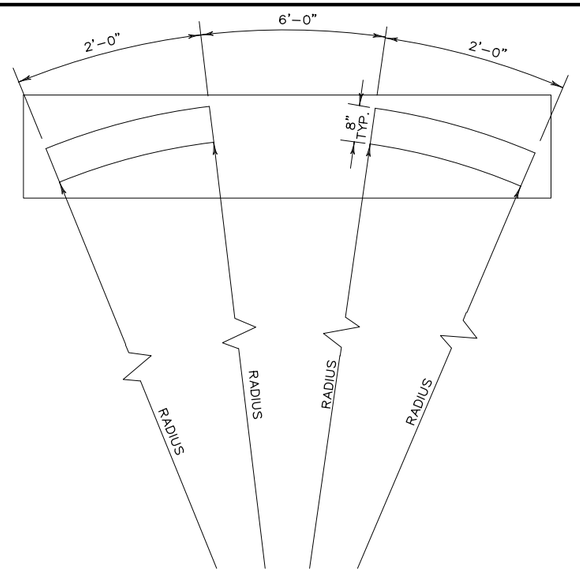
TRAFFIC CONTROL INTERCONNECT
STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-1328

REGION CONTACT: J. GATES
DESIGNED BY: P. LAROSA
REVISED BY:

PAGE 1 OF 1

PROJECT NO: 3738-06-60	HWY: IH 94	COUNTY: KENOSHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET 95	E

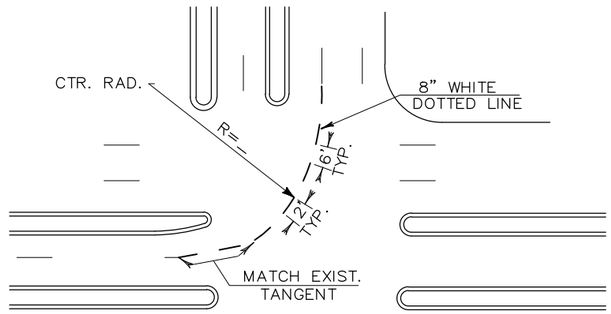


DOTTED TEMPLATE

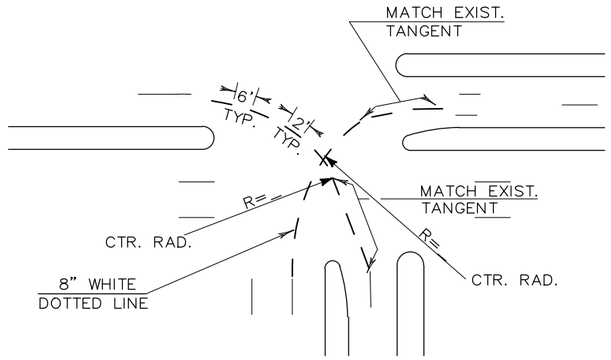
NOTE: CONTRACTOR TO BUILD TEMPLATE BASED ON RADIUS SHOWN. TEMPLATES ARE TO BE CONSTRUCTED OF PLYWOOD, PLASTIC, OR SUITABLE MATERIAL APPROVED BY THE ENGINEER IN THE FIELD.

DESIGNER NOTE: ESTABLISH RADIUS FOR DUAL LEFT MARKING PROVIDE R=VALUE IN SPECIFIC CASE

INTERSECTING HIGHWAYS
(DOTTED PATTERN)
DOUBLE LEFT–TURNING MOVEMENTS



INTERSECTING HIGHWAYS
(DOTTED PATTERN)
DOUBLE LEFT–TURNING MOVEMENTS



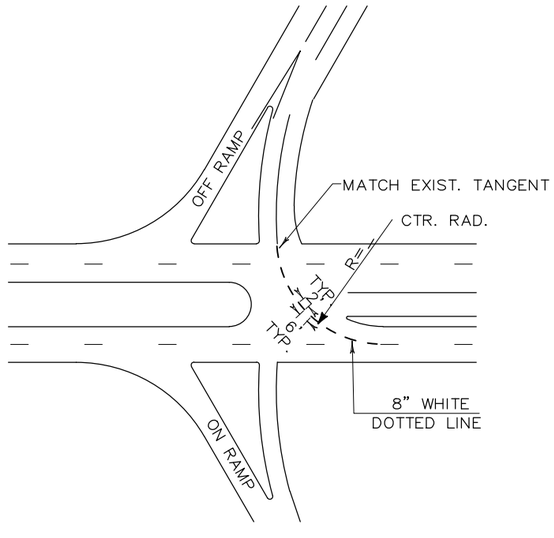
2

GENERAL NOTES

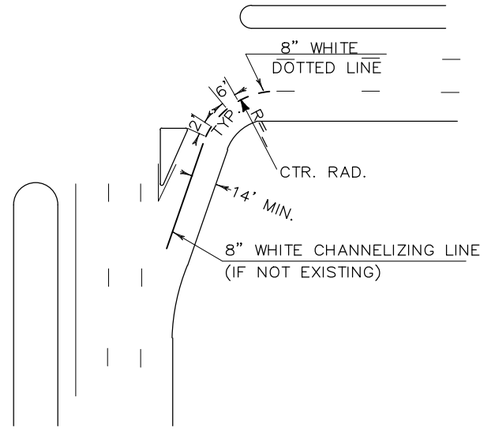
1. DOTTED PAVEMENT MARKING PATTERNS SHALL BE INSTALLED WITH A 2–FOOT SEGMENT AND A 6–FOOT GAP.
2. EXISTING MARKINGS THRU INTERSECTIONS DO NOT ALWAYS HAVE THE 2–FOOT X 6–FOOT CYCLE. IF THE EXISTING MARKINGS ARE OF THE 5–FOOT CYCLE, THEY WILL BE BRUSH PLASTED AND PAVEMENT MARKED WITH A 380 WR TAPE GROOVED IN.

   IF THE EXISTING MARKINGS ARE NOT OF THE 2–FOOT CYCLE, THE CONTRACTOR WILL LAY OUT THE NEW MARKINGS, PREPARE THE EXISTING PAVMENT BY BRUSH PLASTING, AND A 380 WR TAPE PAVEMENT MARK THE NEW CYCLE.
3. IF THE DOTTED PAVEMENT MARKINGS ARE NON–EXISTING, THE CONTRACTOR SHALL LAY OUT THE RADIUS, AS BEING USED BY THE PRESENT TRAFFIC, WITH THE MINIMUM LANE WIDTHS AS SHOWN ON THE PLANS.
4. THE CONTRACTOR SHALL CONSTRUCT AND USE ONE OF THE TWO DOTTED TEMPLATES WHICH MOST CLOSELY MATCH THE FIELD CONDITIONS.
5. THE CONTRACTOR SHALL PROTECT THE TAPE LINES UNTIL DRY, BY THE USE OF TRAFFIC CONTROLS AND TRAFFIC CONES AS SHOWN ON THE TRAFFIC CONTROL PLANS.

FREEWAY EXIT RAMPS
(DOTTED PATTERN)
DOUBLE LEFT–TURNING MOVEMENTS



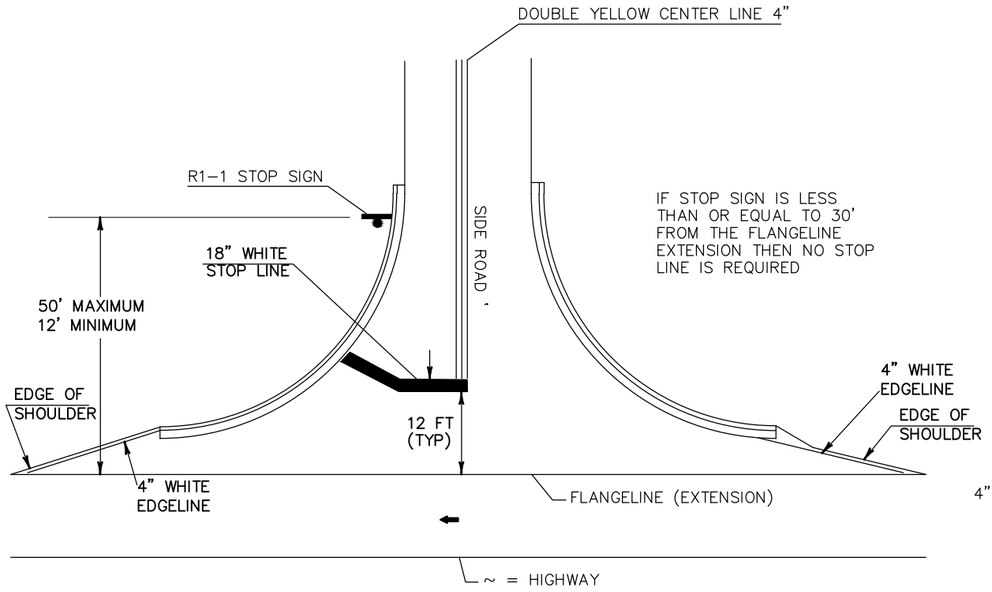
INTERSECTIIONS & EXIT RAMPS
(DOTTED PATTERN)
DOUBLE RIGHT–TURNING MOVEMENTS



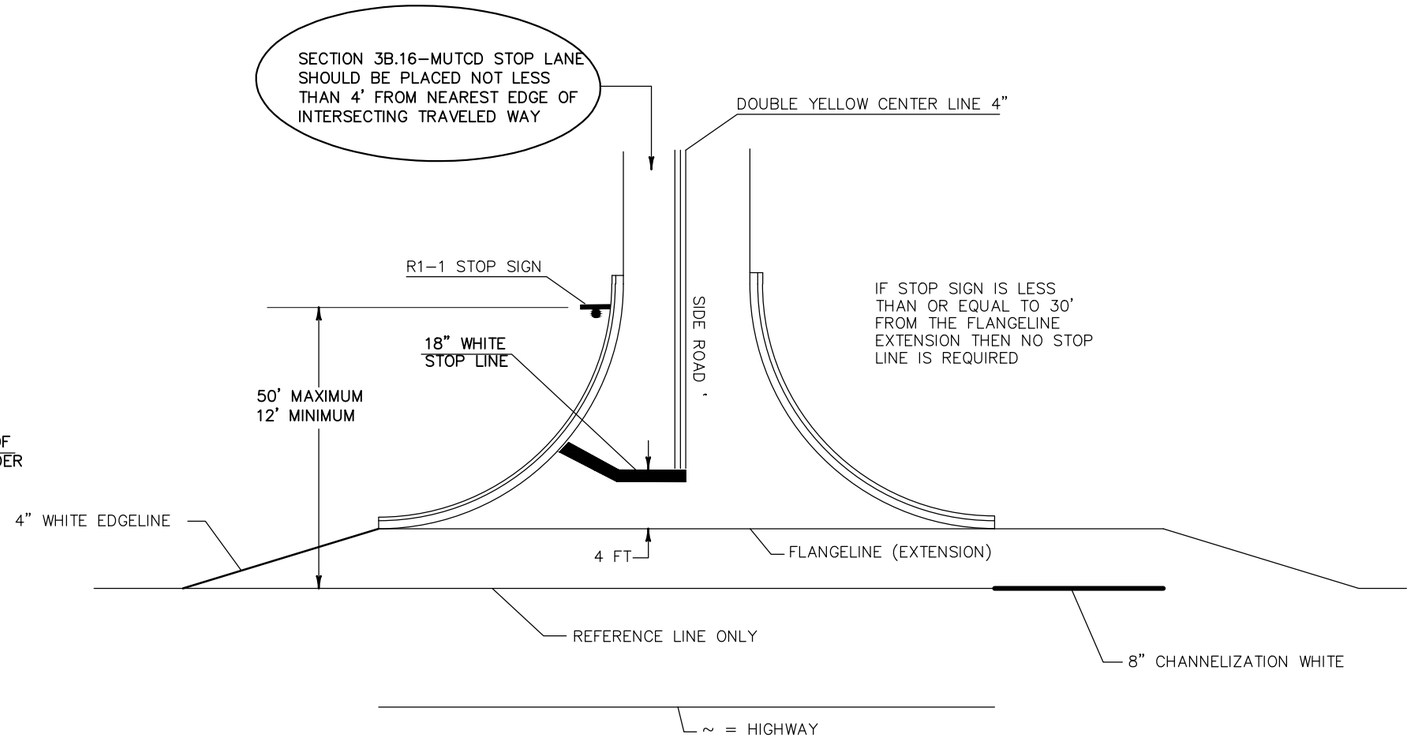
STANDARD DETAIL DRAWINGS

15 C 12–2 TRAFFIC CONTROL FOR LANE CLOSURES (SUITABLE FOR MOVING OPERATIONS)

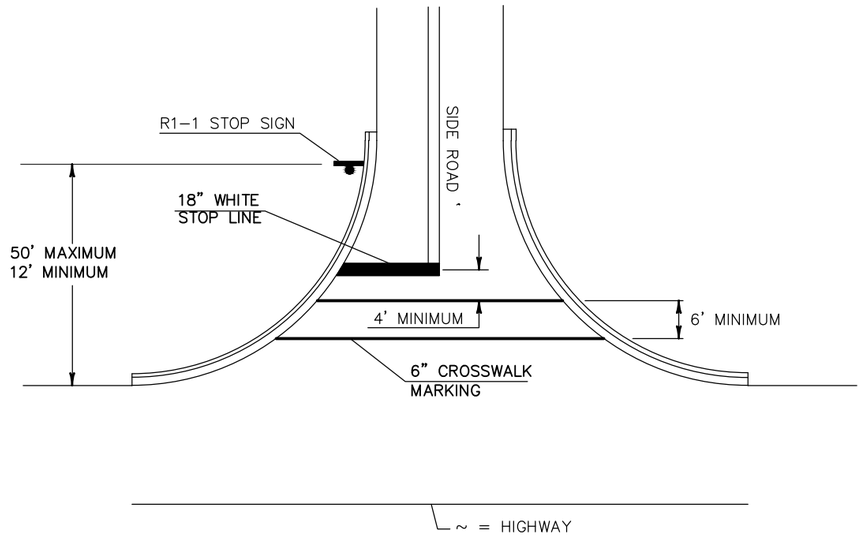
PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PAVEMENT MARKING	SHEET 96	E



TYPICAL PAVEMENT MARKING FOR SIDEROADS



TYPICAL PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



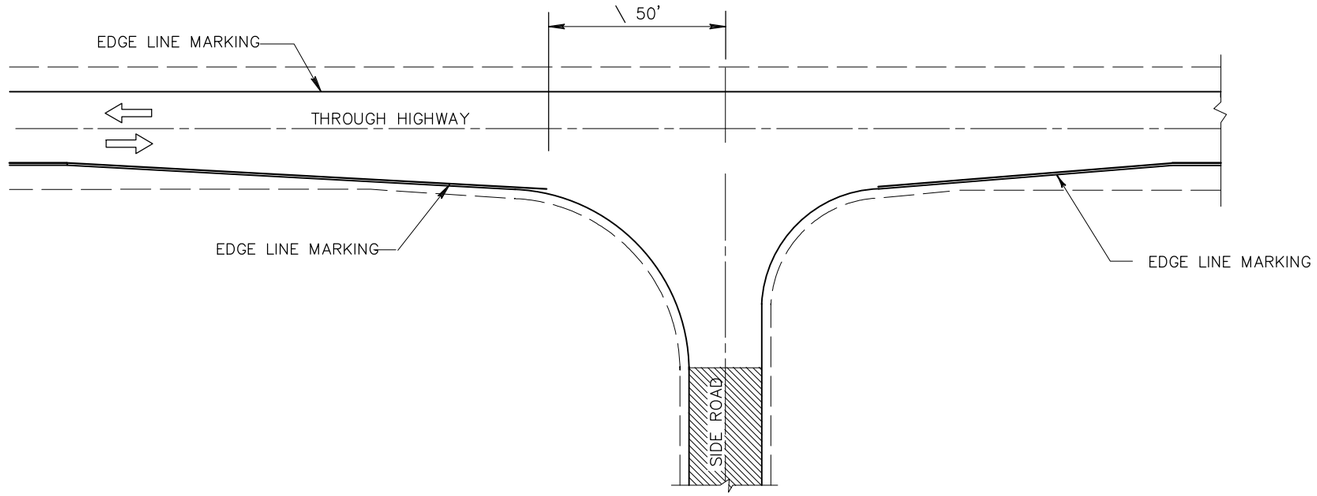
TYPICAL PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING

NOTES:
18–INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.

STOP LINES REQUIRED WHERE:

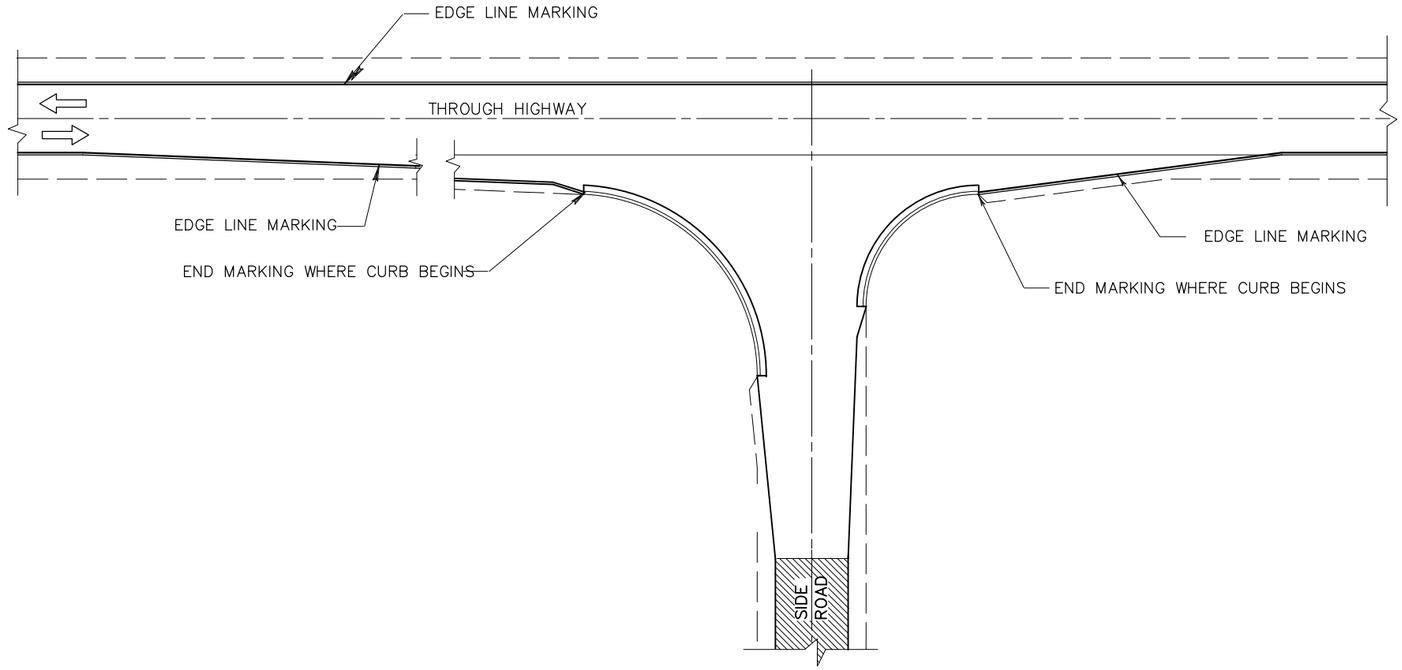
- CROSSWALK MARKINGS EXIST OR BEING PROVIDED
- LARGE RADII
- OFFSET LEFT TURNS WHERE STOP BAR FOR LEFT TURN IS SET BACK FROM THRU MOVEMENT.

2



MINOR INTERSECTION WITHOUT CURBS

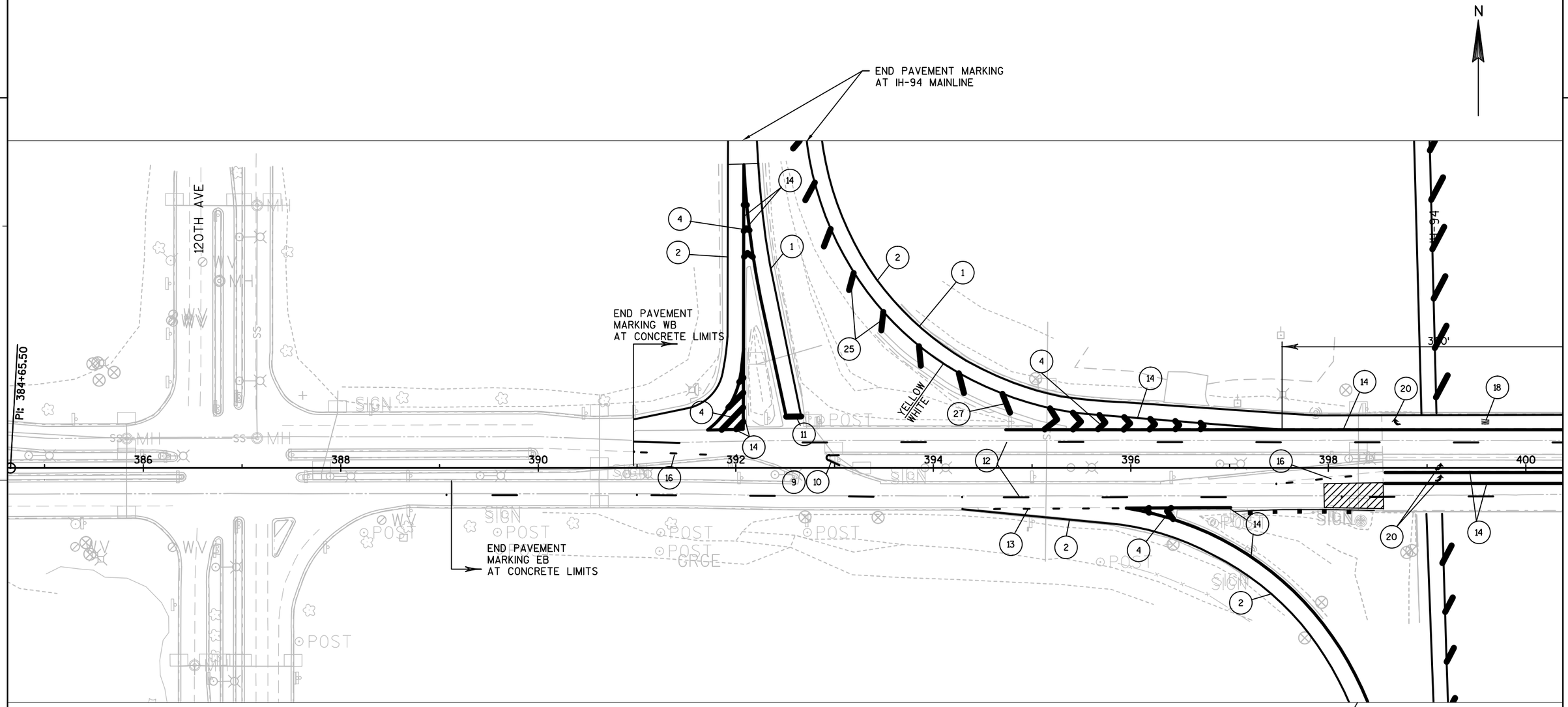
(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)

2

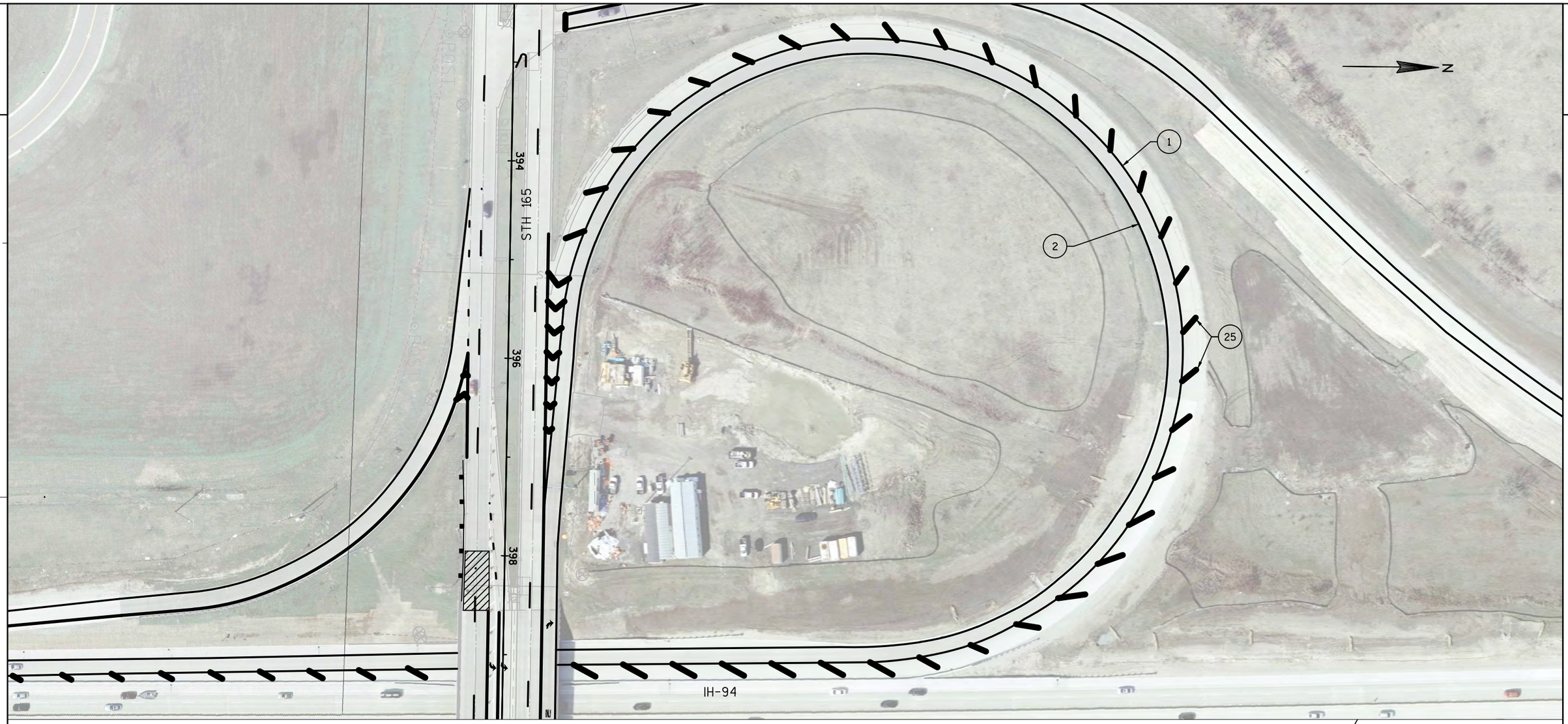


LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 8-INCH
4. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
5. PAVEMENT MARKING DIAGONAL EPOXY 24-INCH (WHITE)
6. PAVEMENT MARKING WORDS EPOXY
7. PAVEMENT MARKING ARROWS EPOXY TYPE 2
8. PAVEMENT MARKING ARROWS EPOXY TYPE 3
9. PAVEMENT MARKING ISLAND NOSE EPOXY
10. PAVEMENT MARKING CURB EPOXY
12. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (SKIPS-12.5' LINE 37.5' GAP)
13. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (SKIPS 3' LINE 9' GAP)
14. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (CHANNELIZING)
15. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (SKIPS-2' LINE 6' GAP)
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22. PAVEMENT MARKING ARROWS EPOXY TYPE 1
23. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE 18-INCH
24. PAVEMENT MARKING CONTRAST EPOXY 4-INCH
25. PAVEMENT MARKING DIAGONAL EPOXY 8-INCH (YELLOW)
26. PAVEMENT MARKING EPOXY 8-INCH (SKIPS 3' LINE, 9' GAP) (WHITE)
27. PAVEMENT MARKING DIAGONAL EPOXY 8-INCH (WHITE)

NOTE:
MARKING TO MATCH EXISTING DIMENSIONS UNLESS NOTED ON SHEETS

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: PAVEMENT MARKING	SHEET 99	E



LEGEND

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END PAVEMENT MARKING AT IH-94 MAINLINE

NOTE:
MARKING TO MATCH EXISTING DIMENSIONS UNLESS NOTED ON SHEETS

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: PAVEMENT MARKING	SHEET 100	E

END PAVEMENT MARKING
AT IH-94 MAINLINE

N

120TH AVE

END PAVEMENT
MARKING

TAPER
POINT

50'

PI: 405+28.02

PC: 412+01.63

400 402 404 406 408 410 412 414

END PAVEMENT MARKING

END PAVEMENT MARKING
AT IH-94 MAINLINE

LEGEND

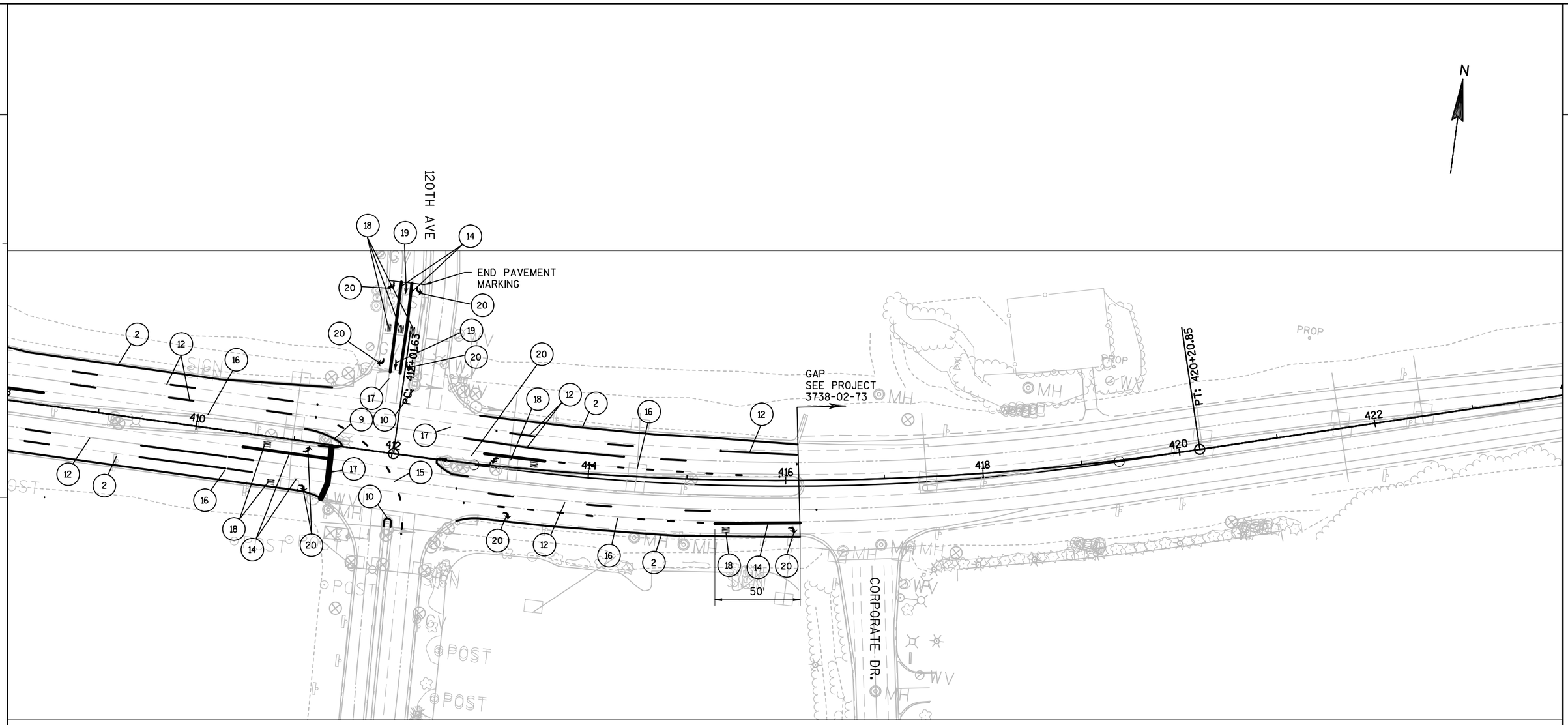
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NOTE:
MARKING TO MATCH EXISTING DIMENSIONS UNLESS NOTED ON SHEETS

*SEE SIGNAL PLAN FOR STOP BAR LOCATION.

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: PAVEMENT MARKING	SHEET 101	E

2



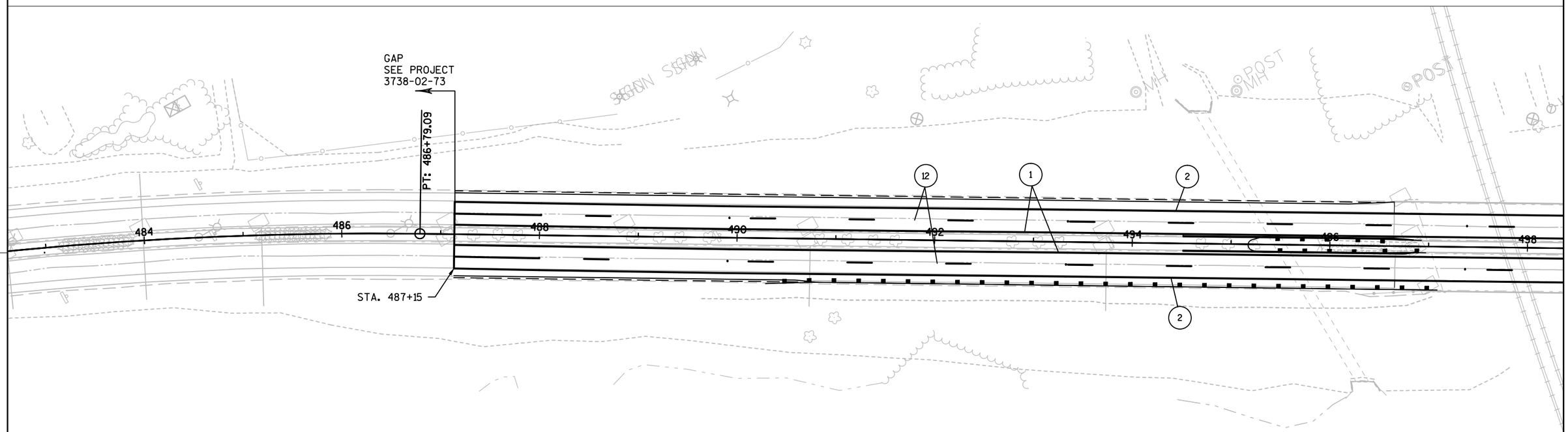
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NOTE:
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: PAVEMENT MARKING	SHEET 102	E

2



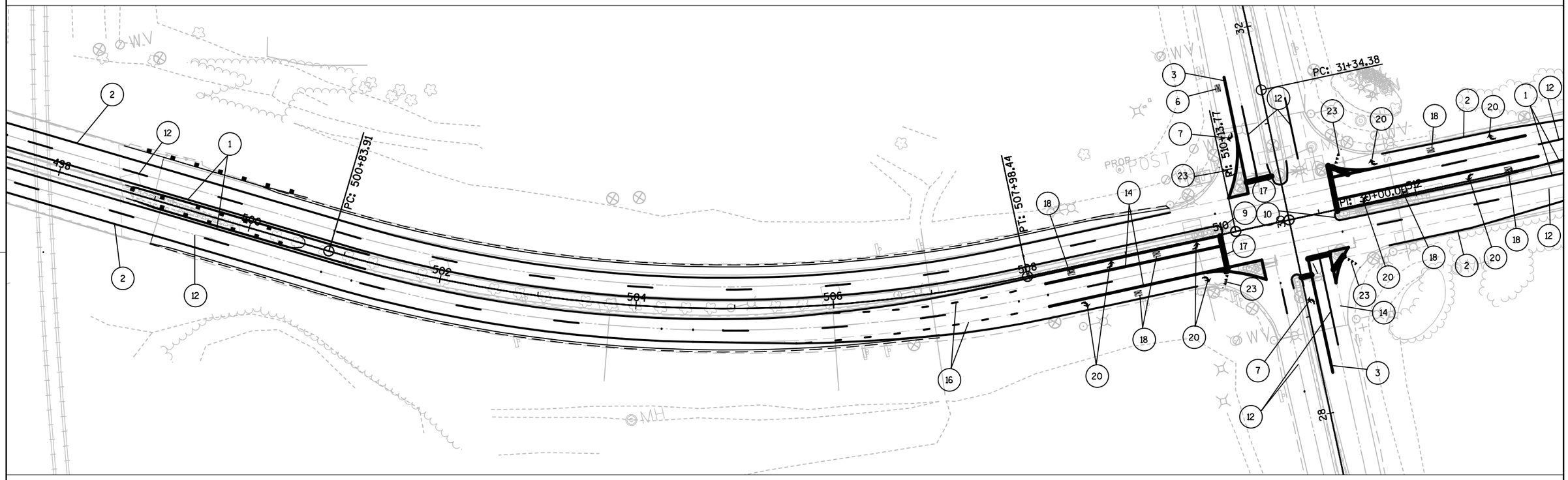
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NOTE:
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: PAVEMENT MARKING	SHEET 103	E

2



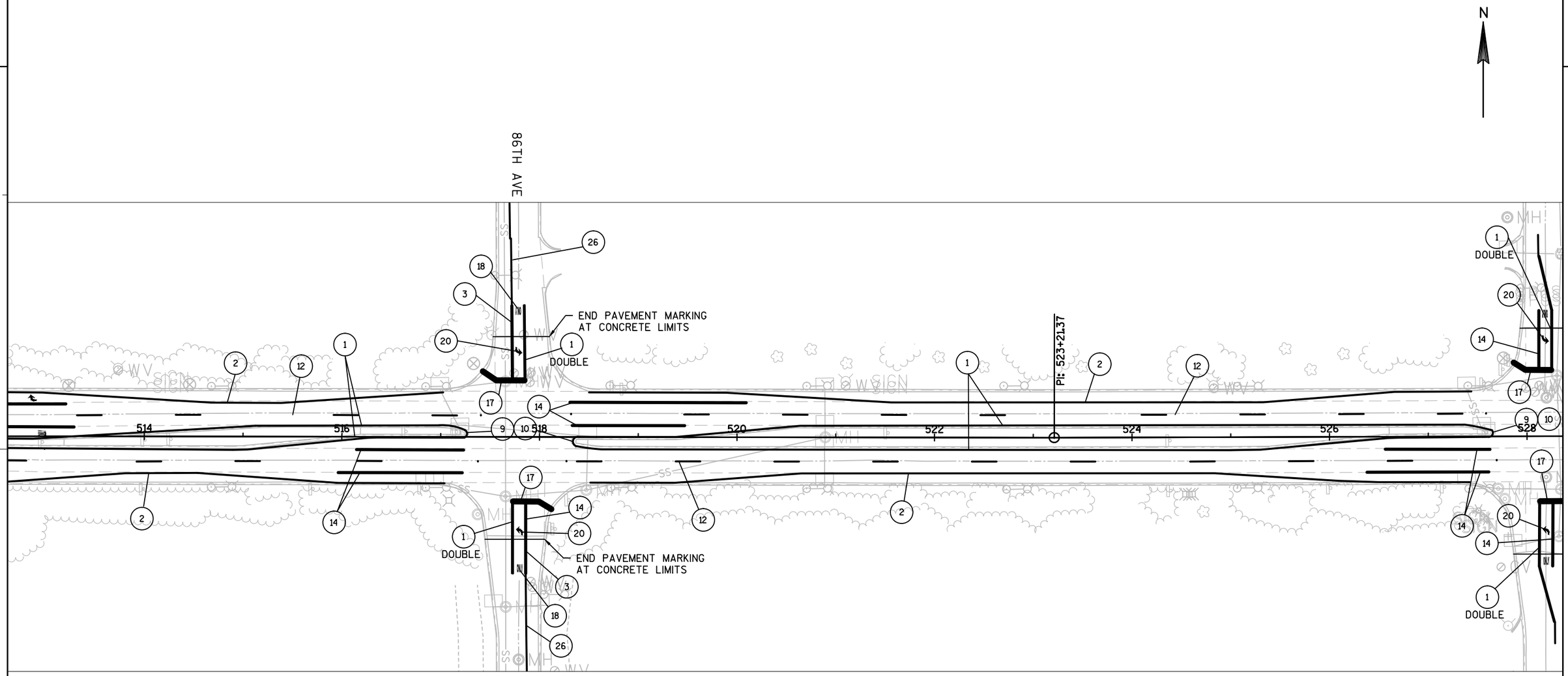
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NOTE:
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: PAVEMENT MARKING	SHEET 104	E

2



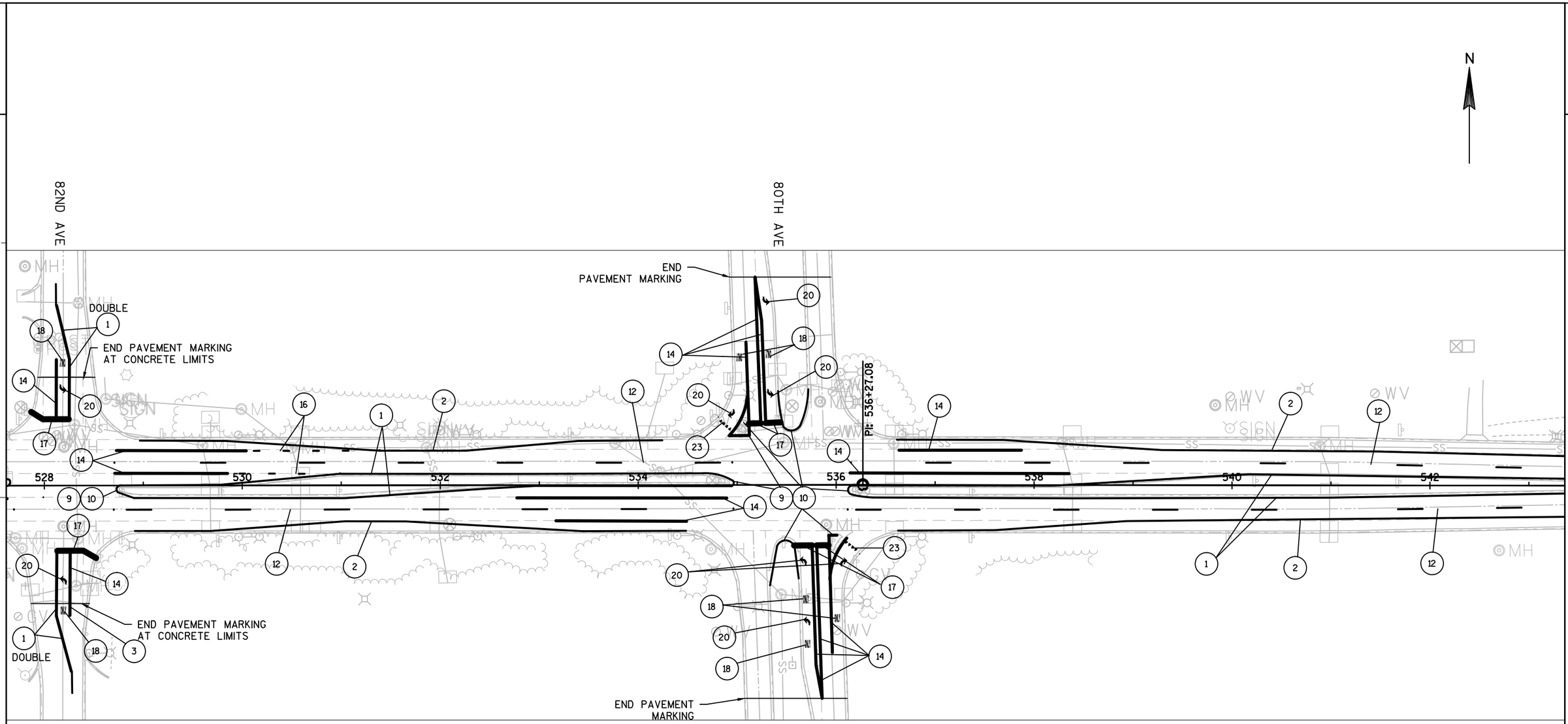
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NOTE:
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: PAVEMENT MARKING	SHEET 105	E

2



LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 8-INCH
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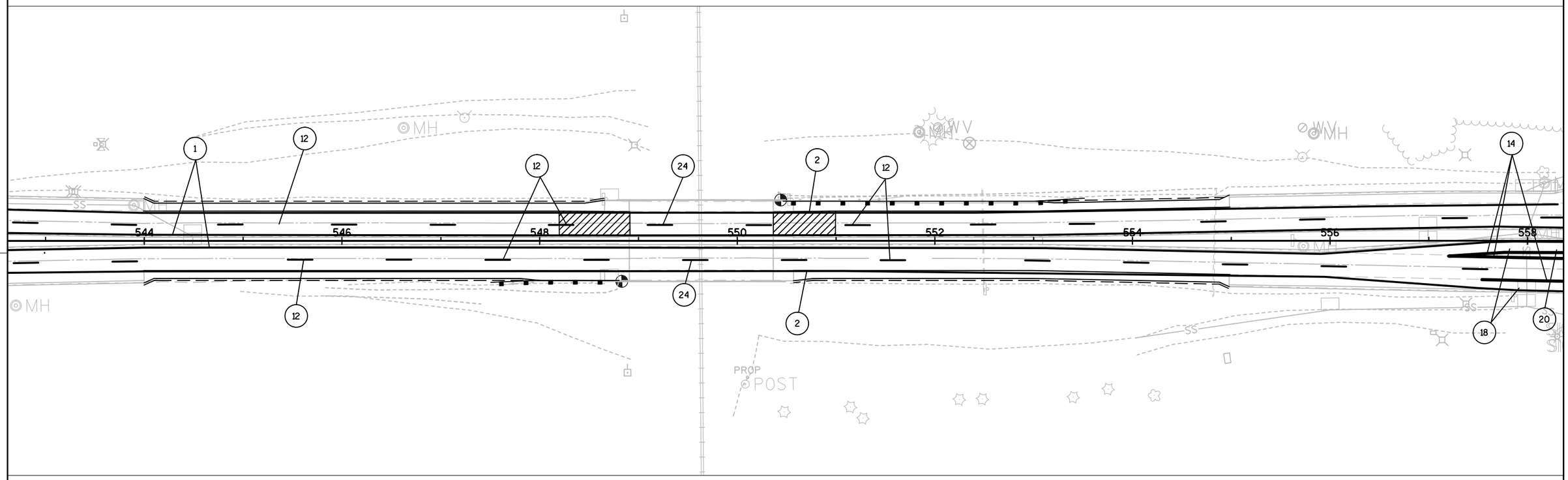
NOTE:
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: PAVEMENT MARKING	SHEET 106	E

2

2

N



LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 8-INCH
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22. PAVEMENT MARKING ARROWS EPOXY TYPE 1
23. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE 18-INCH
24. PAVEMENT MARKING CONTRAST EPOXY 4-INCH
25. PAVEMENT MARKING DIAGONAL EPOXY 8-INCH (YELLOW)
26. PAVEMENT MARKING EPOXY 8-INCH (SKIPS 3' LINE, 9' GAP) (WHITE)
27. PAVEMENT MARKING DIAGONAL EPOXY 8-INCH (WHITE)

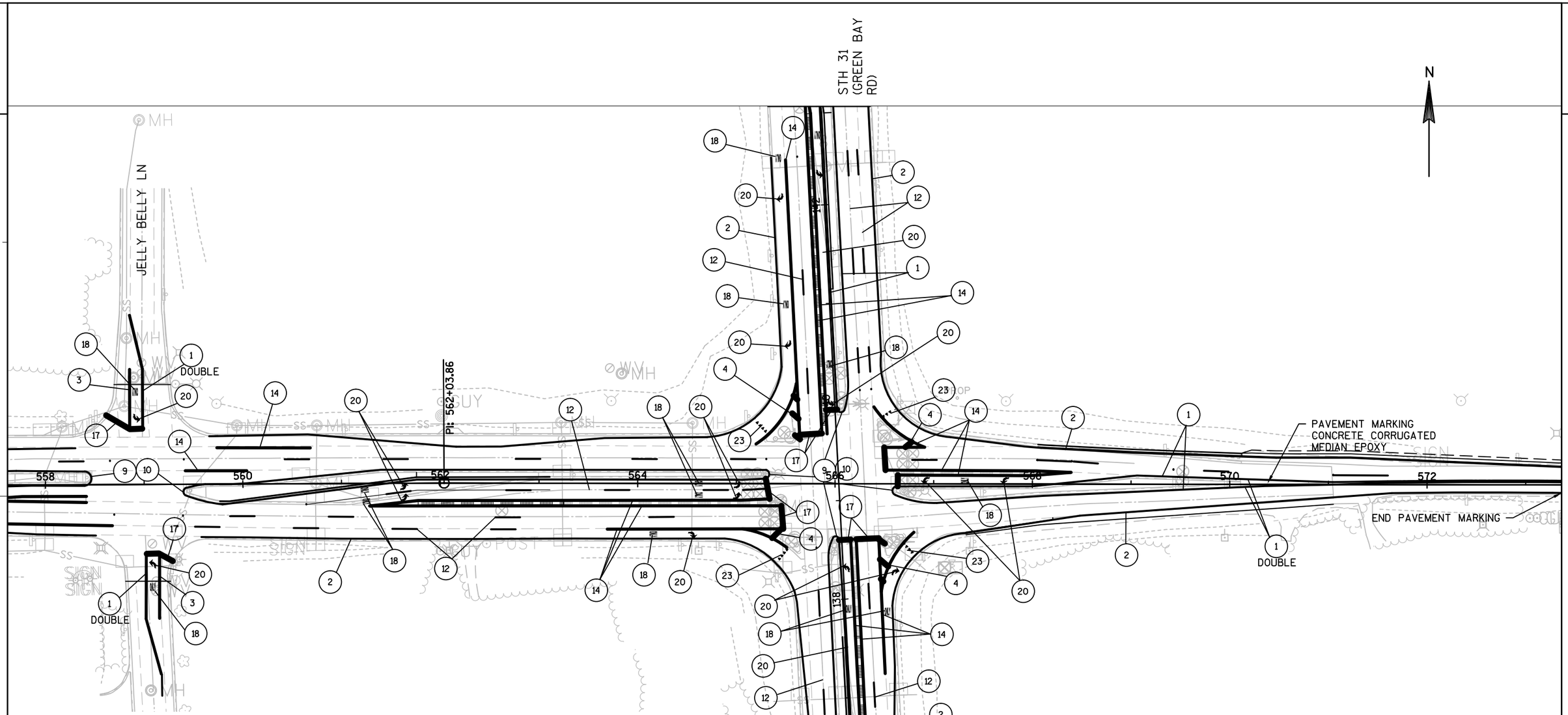
NOTE:
MARKING TO MATCH EXISTING DIMENSIONS UNLESS NOTED ON SHEETS

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: PAVEMENT MARKING	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\37380631\024508_PM.DWG
LAYOUT NAME - 024508_PM

PLOT DATE : 10/28/2015 3:19 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : ---------- PLOT SCALE : **********

WISDOT/CADDS SHEET 42



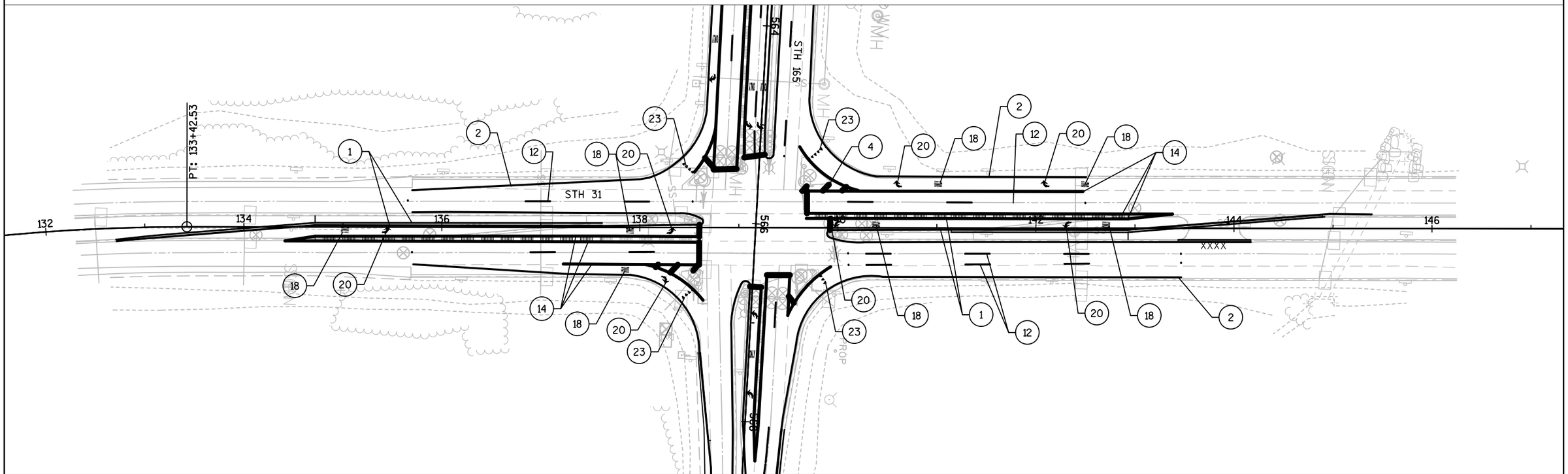
LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 8-INCH
4. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
5. PAVEMENT MARKING DIAGONAL EPOXY 24-INCH (WHITE)
6. PAVEMENT MARKING WORDS EPOXY
7. PAVEMENT MARKING ARROWS EPOXY TYPE 2
8. PAVEMENT MARKING ARROWS EPOXY TYPE 3
9. PAVEMENT MARKING ISLAND NOSE EPOXY
10. PAVEMENT MARKING CURB EPOXY
12. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (SKIPS-12.5' LINE 37.5' GAP)
13. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (SKIPS 3' LINE 9' GAP)
14. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (CHANNELIZING)
15. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (SKIPS-2' LINE 6' GAP)
16. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (SKIPS 3' LINE 9' GAP)
17. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH
18. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS
19. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 1
20. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
21. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 3
22. PAVEMENT MARKING ARROWS EPOXY TYPE 1
23. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE 18-INCH
24. PAVEMENT MARKING CONTRAST EPOXY 4-INCH
25. PAVEMENT MARKING DIAGONAL EPOXY 8-INCH (YELLOW)
26. PAVEMENT MARKING EPOXY 8-INCH (SKIPS 3' LINE, 9' GAP) (WHITE)
27. PAVEMENT MARKING DIAGONAL EPOXY 8-INCH (WHITE)

NOTE:
MARKING TO MATCH EXISTING DIMENSIONS UNLESS NOTED ON SHEETS

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: PAVEMENT MARKING	SHEET 108	E

2



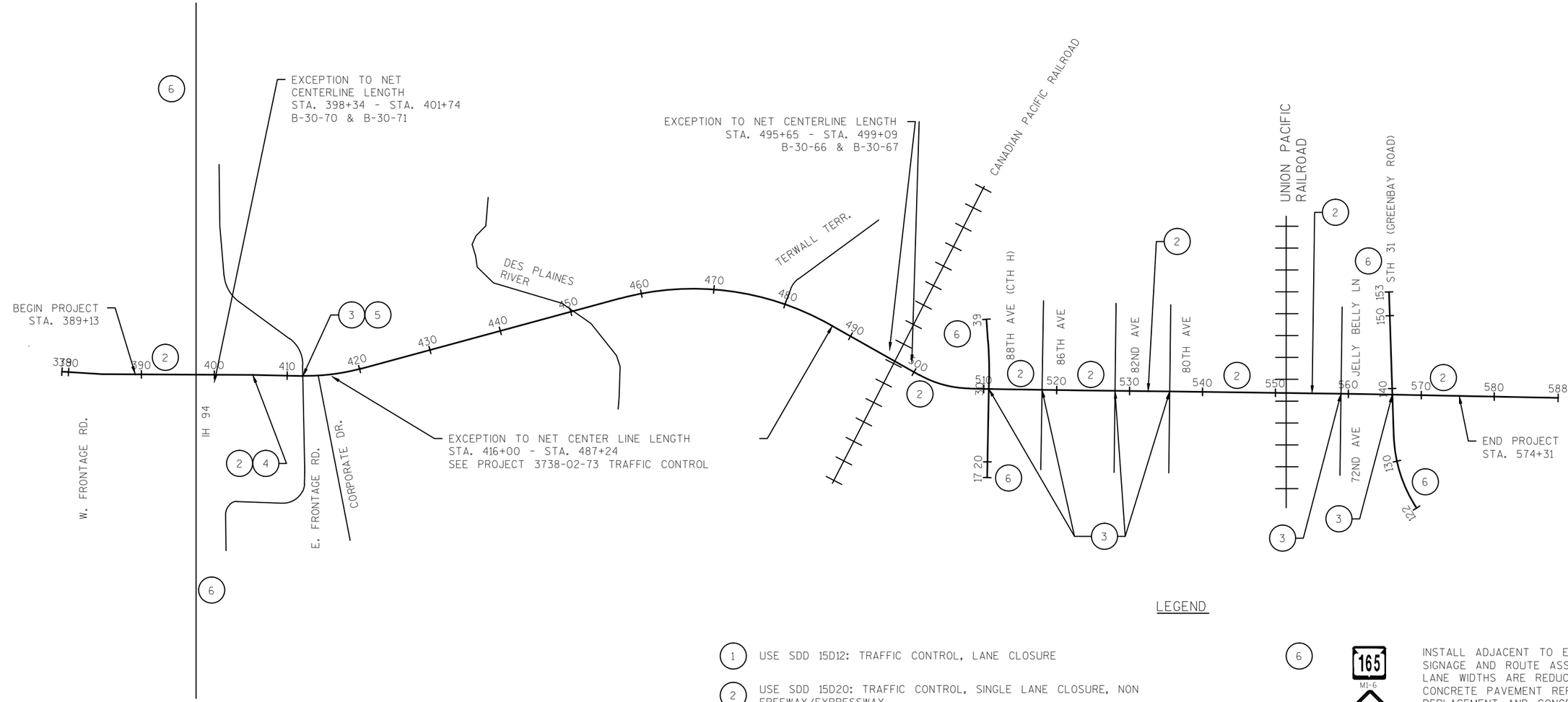
LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 8-INCH
4. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
5. PAVEMENT MARKING DIAGONAL EPOXY 24-INCH (WHITE)
6. PAVEMENT MARKING WORDS EPOXY
7. PAVEMENT MARKING ARROWS EPOXY TYPE 2
8. PAVEMENT MARKING ARROWS EPOXY TYPE 3
9. PAVEMENT MARKING ISLAND NOSE EPOXY
10. PAVEMENT MARKING CURB EPOXY
12. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (SKIPS-12.5' LINE 37.5' GAP)
13. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (SKIPS 3' LINE 9' GAP)
14. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (CHANNELIZING)
15. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (SKIPS-2' LINE 6' GAP)
16. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (SKIPS 3' LINE 9' GAP)
17. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH
18. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS
19. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 1
20. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2
21. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 3
22. PAVEMENT MARKING ARROWS EPOXY TYPE 1
23. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE 18-INCH
24. PAVEMENT MARKING CONTRAST EPOXY 4-INCH
25. PAVEMENT MARKING DIAGONAL EPOXY 8-INCH (YELLOW)
26. PAVEMENT MARKING EPOXY 8-INCH (SKIPS 3' LINE, 9' GAP) (WHITE)
27. PAVEMENT MARKING DIAGONAL EPOXY 8-INCH (WHITE)

NOTE:
MARKING TO MATCH EXISTING DIMENSIONS UNLESS NOTED ON SHEETS

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PLAN: PAVEMENT MARKING	SHEET 109	E

2



NOTES:

ALL LEFT TURN LANES SHALL BE MAINTAINED DURING CONSTRUCTION.

THE EXCLUSIVE RIGHT TURN LANE AT E. FRONTAGE ROAD SHALL BE MAINTAINED DURING CONSTRUCTION.

LEGEND

(1) USE SDD 15D12: TRAFFIC CONTROL, LANE CLOSURE

(2) USE SDD 15D20: TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY

(3) USE SDD 15D21: TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

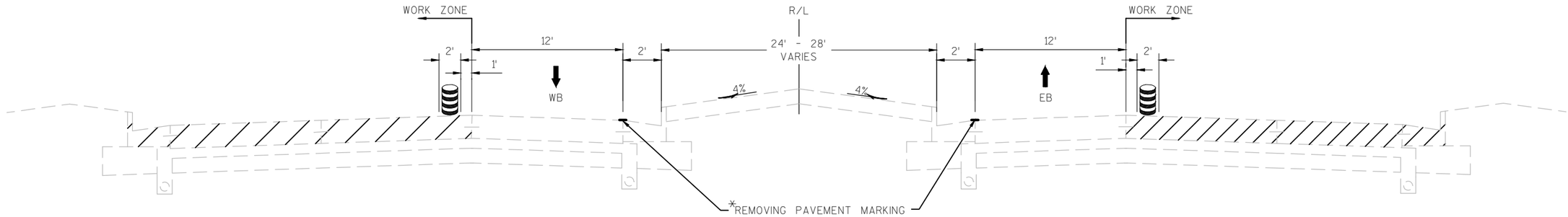
(4) USE SDD 15D22: TRAFFIC CONTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

(5) USE SDD 15D23: TRAFFIC CONTROL, INTERSECTION WITHIN TWO LANE CLOSURE

(6) 

INSTALL ADJACENT TO EXISTING EXIT SIGNAGE AND ROUTE ASSEMBLIES WHEN LANE WIDTHS ARE REDUCED DUE TO CONCRETE PAVEMENT REPAIR AND REPLACEMENT AND CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING OPERATIONS. M1-6 SHALL BE 36"X36" ON INSTALLATIONS ALONG I-41/94 AND 24"x24" ON ALL OTHER INSTALLATIONS.

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL - OVERVIEW	SHEET 110	E



STAGE 1 TYPICAL SECTION

STH 165

*STA. 510+69 - STA. 543+99
*STA. 554+99 - STA. 566+00
*STA. 566+00 - STA. 571+04 LT

STAGE 1

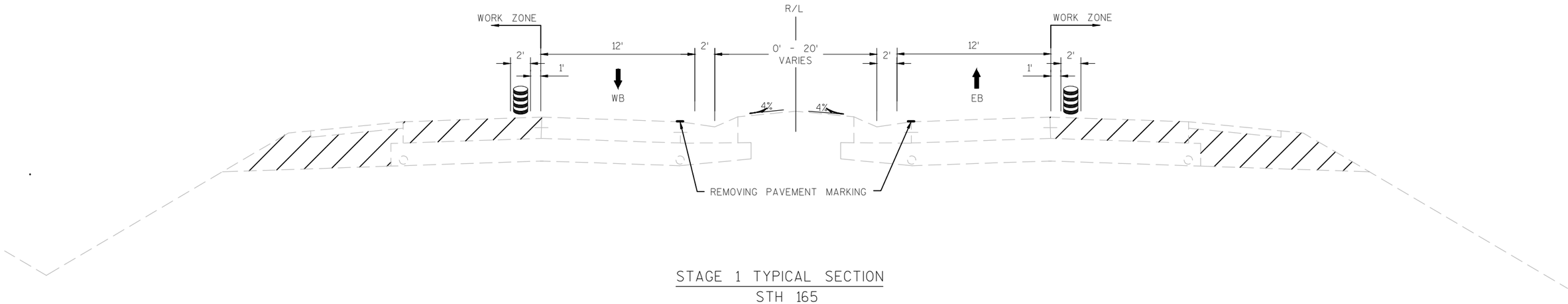
1) CONCRETE PAVEMENT REPAIR AND REPLACEMENT
2) BEAM GUARD
3) REMOVING ASPHALTIC SURFACE
4) CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
5) ASPHALTIC SHOULDER PAVING



W12-52
48"X48"

INSTALL ON WIS 165 WHEN LANE WIDTHS ARE REDUCED DUE TO CONCRETE PAVEMENT REPAIR AND REPLACEMENT AND CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING OPERATIONS.

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL STAGE 1	SHEET 111	E



STAGE 1 TYPICAL SECTION

STH 165

STA. 487+24 - STA. 510+69
STA. 543+99 - STA. 554+99
STA. 566+00 - STA. 571+04 RT

STAGE 1

1) CONCRETE PAVEMENT REPAIR AND REPLACEMENT
2) BEAM GUARD
3) REMOVING ASPHALTIC SURFACE
4) CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
5) ASPHALTIC SHOULDER PAVING

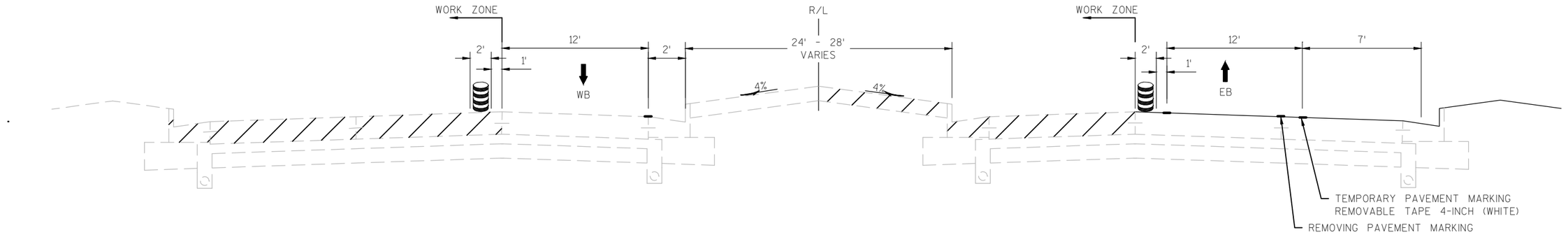


W12-52
48"X48"

INSTALL ON WIS 165 WHEN LANE WIDTHS ARE REDUCED DUE TO CONCRETE PAVEMENT REPAIR AND REPLACEMENT AND CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING OPERATIONS.

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL STAGE 1	SHEET 112	E

2



STAGE 1 TYPICAL SECTION

STH 165

STA. 389+13 - STA. 416+00

STAGE 1

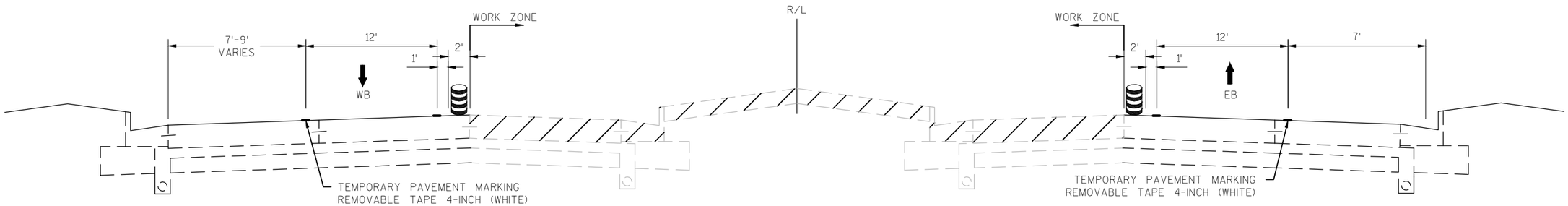
1) CONCRETE PAVEMENT REPAIR AND REPLACEMENT
2) BEAM GUARD
3) REMOVING ASPHALTIC SURFACE
4) CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING
5) ASPHALTIC SHOULDER PAVING



W12-52
48"X48"

INSTALL ON WIS 165 WHEN LANE WIDTHS ARE REDUCED DUE TO CONCRETE PAVEMENT REPAIR AND REPLACEMENT AND CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING OPERATIONS.

2



STAGE 2 TYPICAL SECTION

STH 165

STA. 510+70 - STA. 544+00
STA. 555+00 - STA. 566+00
STA. 566+00 - STA. 571+05 LT

STAGE 2

1) CONCRETE PAVEMENT REPAIR AND REPLACEMENT
2) BEAM GUARD / THRIE BEAM BULLNOSE
3) CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING

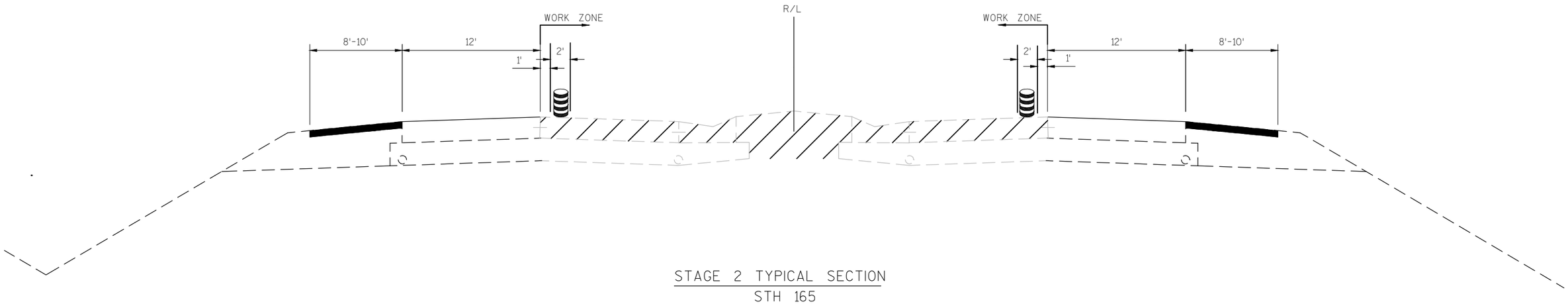


W12-52
48"X48"

INSTALL ON WIS 165 WHEN LANE WIDTHS ARE REDUCED DUE TO CONCRETE PAVEMENT REPAIR AND REPLACEMENT AND CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING OPERATIONS.

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL STAGE 2	SHEET 114	E

2



STAGE 2 TYPICAL SECTION

STH 165

STA. 487+24 - STA. 510+69
STA. 543+99 - STA. 554+99
STA. 566+00 - STA. 571+04 RT

STAGE 2

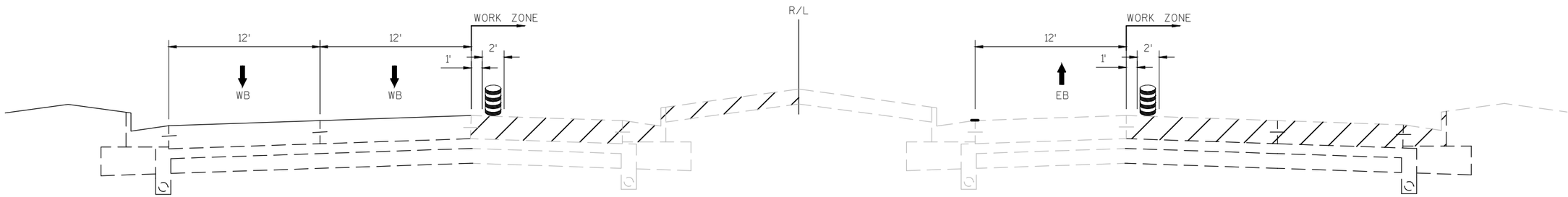
1) CONCRETE PAVEMENT REPAIR AND REPLACEMENT
2) BEAM GUARD / THRIE BEAM BULLNOSE
3) CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING



W12-52
48"X48"

INSTALL ON WIS 165 WHEN LANE WIDTHS ARE REDUCED DUE TO CONCRETE PAVEMENT REPAIR AND REPLACEMENT AND CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING OPERATIONS.

2



STAGE 2 TYPICAL SECTION

STH 165

STA. 389+13 - STA. 416+00

STAGE 2

1) CONCRETE PAVEMENT REPAIR AND REPLACEMENT
2) BEAM GUARD / THRIE BEAM BULLNOSE
3) CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING

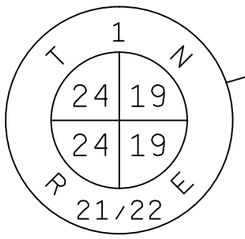


W12-52
48"X48"

INSTALL ON WIS 165 WHEN LANE WIDTHS ARE REDUCED DUE TO CONCRETE PAVEMENT REPAIR AND REPLACEMENT AND CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING OPERATIONS.

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	TRAFFIC CONTROL STAGE 2	SHEET 116	E

2



Y=114,590.5750
Y=594,576.3470

PC: 134+97.77
Y=112784.5614
X=594643.3278

135

N0° 37' 49"W
2645.95'

N8° 40' 04"W
879.74'

130

NB ON-RAMP R/L

99°

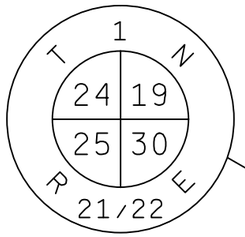
BM10093

PI: 405+28.02
Y=111913.4063
X=595055.8572

CP502

PC: 412+01.63

Y=111,944.7870
X=594,605.4590



CP25

PI: 384+65.50
Y=111924.2024
X=592993.3654

S86° 22' 18"E
555.56'

385

390

S89° 42' 00"E
2062.52'

395

STH 165 R/L

400

S88° 48' 25"E
2500.55'

405

S88° 48' 28"E
673.61'

410

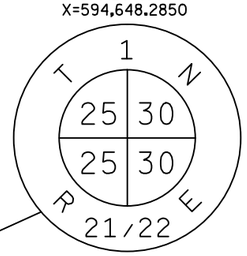
CP24

CP501

BP: 126+18.03
STH 165 RL STA. 402+48.07=
NE RAMP RL STA. 126+18.03
Y=111914.8717
X=594775.9075

S0° 55' 36"E
2647.77'

Y=109,297.3600
X=594,648.2850



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT PLAN	SHEET 117	E

2

N

502

PC: 412+01.63
Y=111899.3900
X=595729.3222

CP503

PT: 420+20.85
Y=111998.8876
X=596539.6707

CP504

CP26

CP27

415

420

425

430

435

440

STH 165 R/L

N74° 48' 28"E
3679.78'

CURVE 1
PI STA = 416+14.06
Y = 111890.808
X = 596141.658
DELTA = 16°23'04"
D = 2°00'00"
T = 412.43'
L = 819.22'
R = 2864.79'
PC STA = 412+01.63
PT STA = 420+20.85

S88° 48' 25"E
2500.55'

S88° 39' 20"E
2661.68'

1
T N
19 19
30 30
R E
22

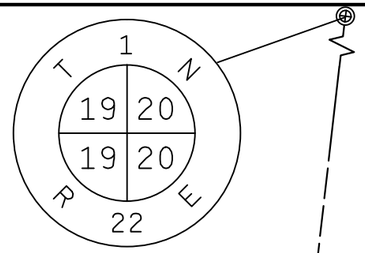
Y=111,892.7220
X=597,105.4700

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT PLAN	SHEET 118	E

FILE NAME : N:\PDS\C3D\CAD\37380631\027201_AD.DWG
LAYOUT NAME - 027202_AD

PLOT DATE : 8/5/2015 9:51 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:200 FT

2



Y=114,467.2280
X=599,685.6850



PC: 457+00.63
Y=112963.2009
X=600090.8518

CP29

CP505

CP28

N74° 48' 28"E
3679.78'

445
450
455
460
465
470

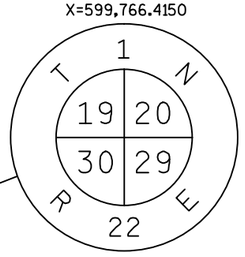
STH 165 R/L

BM9349

CURVE 2
PI STA = 472+70.23
Y = 113374.524
X = 601605.592
DELTA = 44°40'54"
D = 1°30'01"
T = 1569.59'
L = 2978.46'
R = 3819.32'
PC STA = 457+00.63
PT STA = 486+79.09

N1° 45' 13"W
2638.19'

Y=111,830.2700
X=599,766.4150



S88° 39' 20"E
2661.68'

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT PLAN	SHEET 119	E

FILE NAME : N:\PDS\C3D\CAD\37380631\027201_AD.DWG
LAYOUT NAME - 027203_AD

PLOT DATE : 8/5/2015 9:51 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

N

CP506

CP507

PT: 486+79.09
Y=112601.8732
X=602971.8404

CP30

CP31

BM757

PC: 500+83.91
Y=111910.3355
X=604194.6589

CP508

475 480 485 490 495 500 505

STH 165 R/L

S60° 30' 38"E
1404.82'

T 1 N
R 22 E
20 20
20 20

WITNESS CORNER
Y=112,863.0500
X=602,407.6540

Y=111,763.4770
X=602,440.8510

T 1 N
R 22 E
20 20
29 29

S1° 43' 45"E
1100.07'

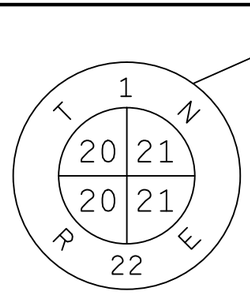
S89° 05' 39"E
2651.85'

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT PLAN	SHEET 120	E

FILE NAME : N:\PDS\C3D\CAD\37380631\027201_AD.DWG
LAYOUT NAME - 027204_AD

PLOT DATE : 8/5/2015 9:51 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:200 FT

2



Y=114,367.6260
X=605,022.7900

EP: 39+56.71
Y=112676.2262
X=605114.4163

N14° 08' 34"W
300.00'

PT: 36+56.71
Y=112377.0100
X=605136.0882

CP520

CURVE 4
PI STA = 33+95.73
Y = 112116.347
X = 605154.968
DELTA = 5°13'24"
D = 1°00'00"
T = 261.35'
L = 522.33'
R = 5729.54'
PC STA = 31+34.38
PT STA = 36+56.71

35

S1° 30' 23"E
2646.99

PI: 510+13.77
Y=111721.5550
X=605092.3710

PT: 507+98.44
Y=111724.9590
X=604877.0717

PC: 31+34.38
Y=111855.0472
X=605150.0387

CP509

CP510

PI: 523+21.37
Y=111700.9750
X=606399.8120

CP512

CP513

PI: 536+27.08

505

S89° 05' 39"E
215.33'

N1° 04' 50"E
134.38'

515

S89° 05' 54"E
1307.60'

520

525

530

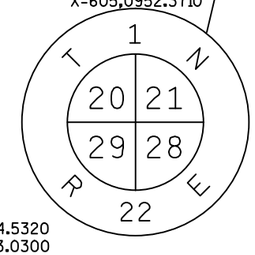
S89° 20' 48"E
1305.71'

535

STH 165 R/L

CURVE 3
PI STA = 504+48.77
Y = 111730.727
X = 604512.254
DELTA = 28°35'01"
D = 4°00'01"
T = 364.86'
L = 714.53'
R = 1432.28'
PC STA = 500+83.91
PT STA = 507+98.44

Y=111,721.5550
X=605,0952.3710



CP511

S1° 05' 47"E
2647.51'

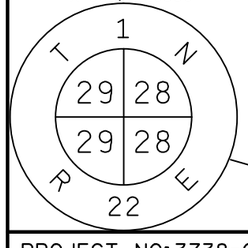
N1° 04' 50"E
1215.62'

25

STH H R/L

PI: 30+00.00
STH 165 RL STA. 510+68.91=
CTH H RL STA. 30+00.00
Y=111720.6872
X=605147.5042

Y=109,074.5320
X=605,143.0300



CP519

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT PLAN	SHEET 121	E

2

2

T 1 N
R 22 E
21 22
21 22

Y=114,331.5020
X=610,224.0540

S1° 14' 18"E
2680.52'

N

CP523

145

N1° 56' 07"W
1982.95'

Y=111,686.0870
X=607,705.4390

T 1 N
R 22 E
21 21
28 28

PI: 536+27.08
Y=111686.0870
X=607705.4390

Y=111,651.6060
X=610,281.9900

T 1 N
R 22 E
21 22
29 28

PI: 562+03.86
Y=111651.6060
X=610281.9900

CP521

140

BM1500

S89° 14' 00"E
2576.78'

BM1001

540 545 550 555 560 565

STH 165 R/L

CP514

CP515

CP516

CP517

STH 165 RL STA. 566+03.90=
STH 31 RL STA. 139+17.03
Y=111643.8090
X=610681.9458

STH 31 R/L

135

130

S1° 55' 45"E
2694.92'

S1° 18' 38"E
2666.48'

Y=109,020.3030
X=607,766.4210

T 1 N
R 22 E
28 28
28 28

Y=108,958.2140
X=610,372.7080

T 1 N
R 22 E
28 27
28 27

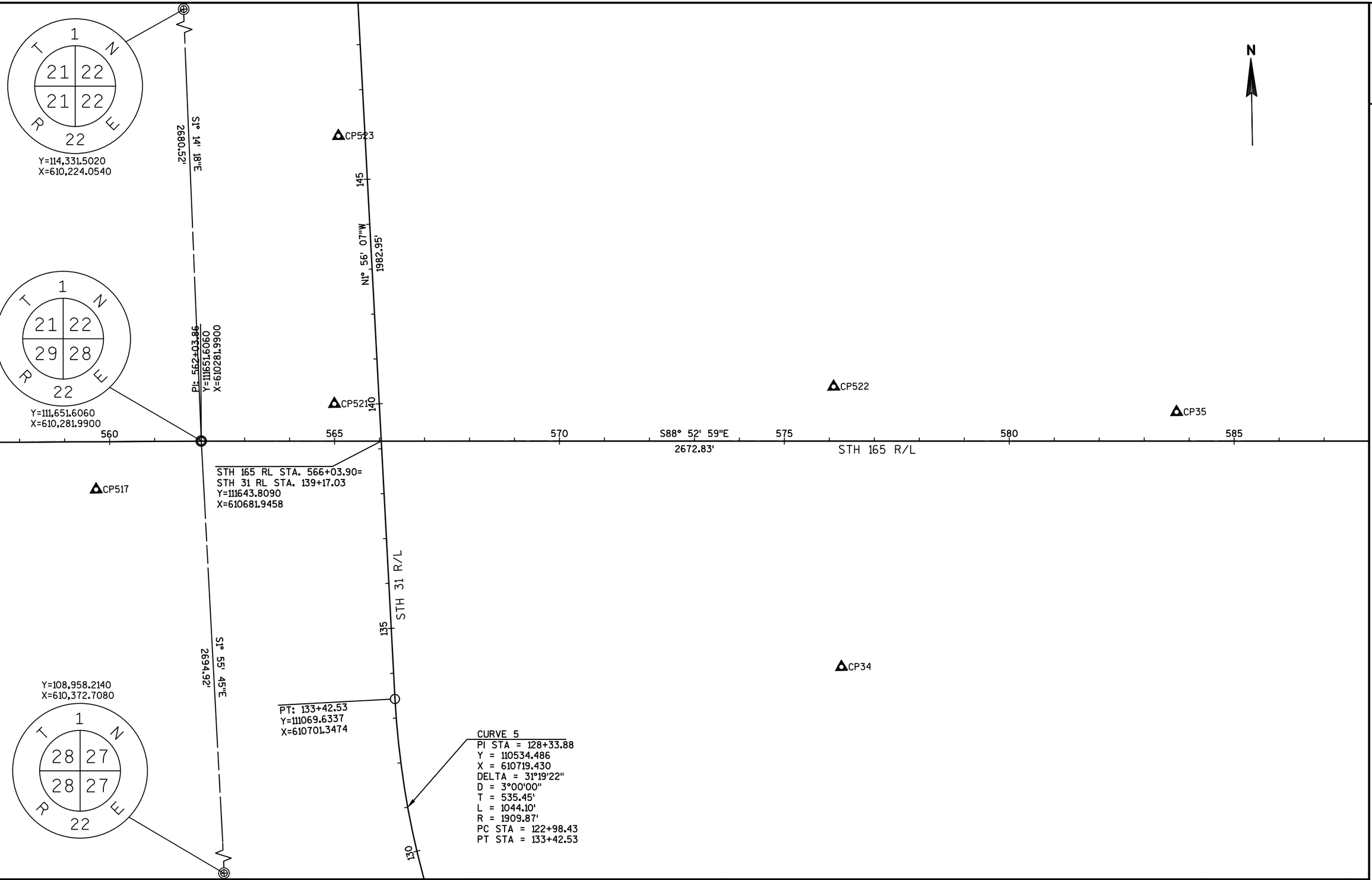
PT: 133+42.53
Y=111069.6337
X=610701.3474

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT PLAN	SHEET	E

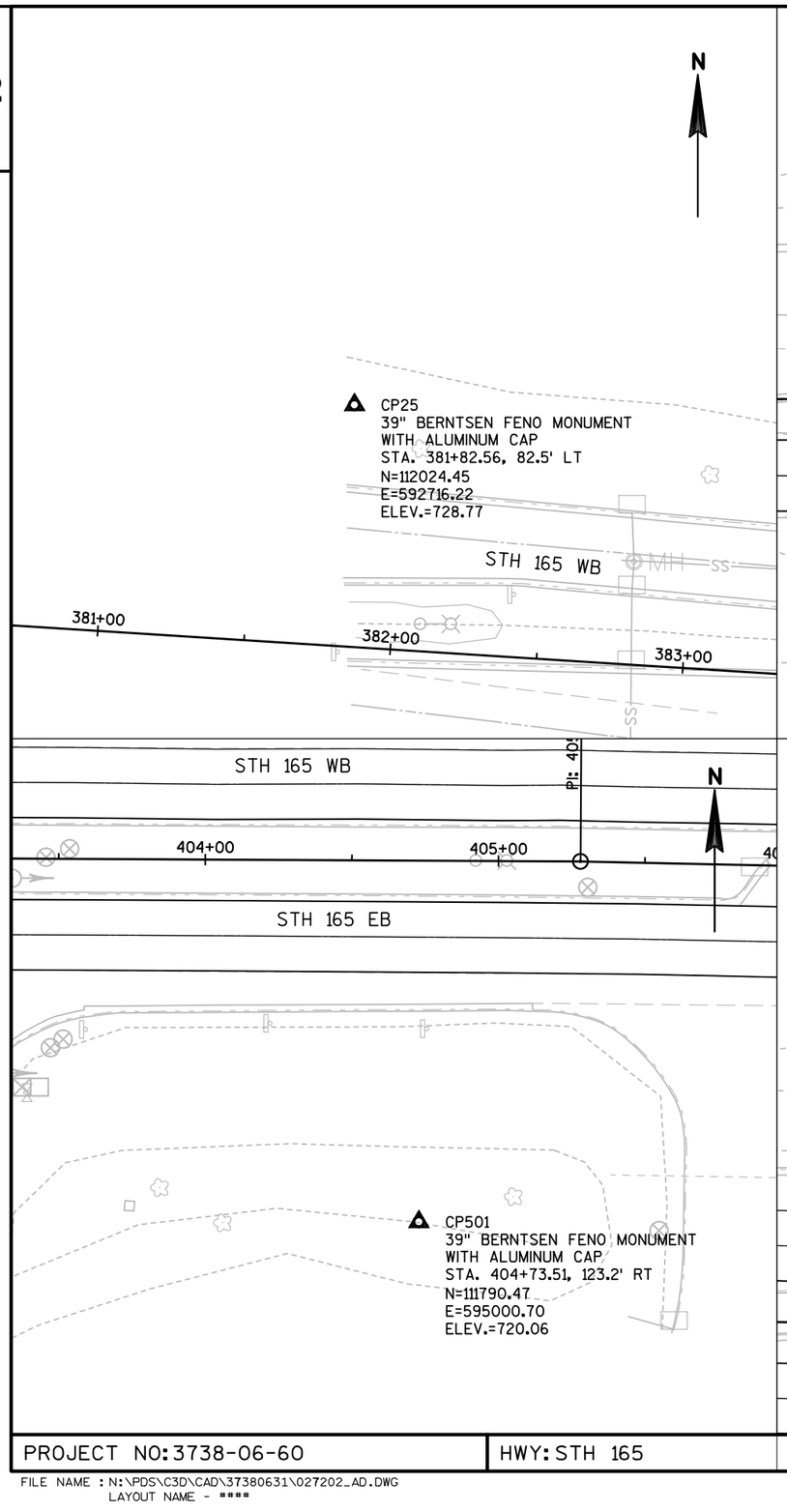
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LAYOUT NAME - 027206_AD

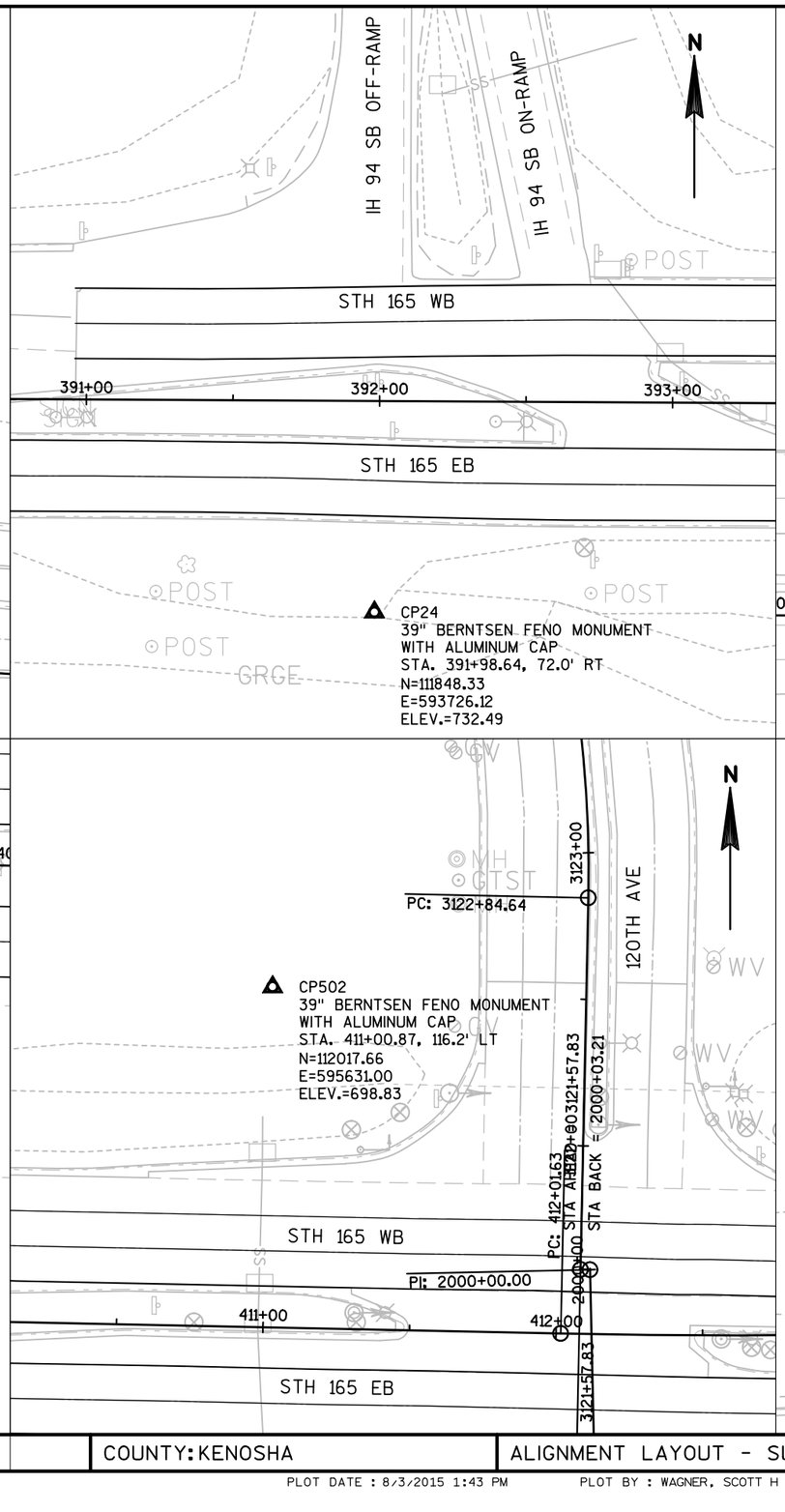
PLOT DATE : 8/5/2015 9:51 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:200 FT

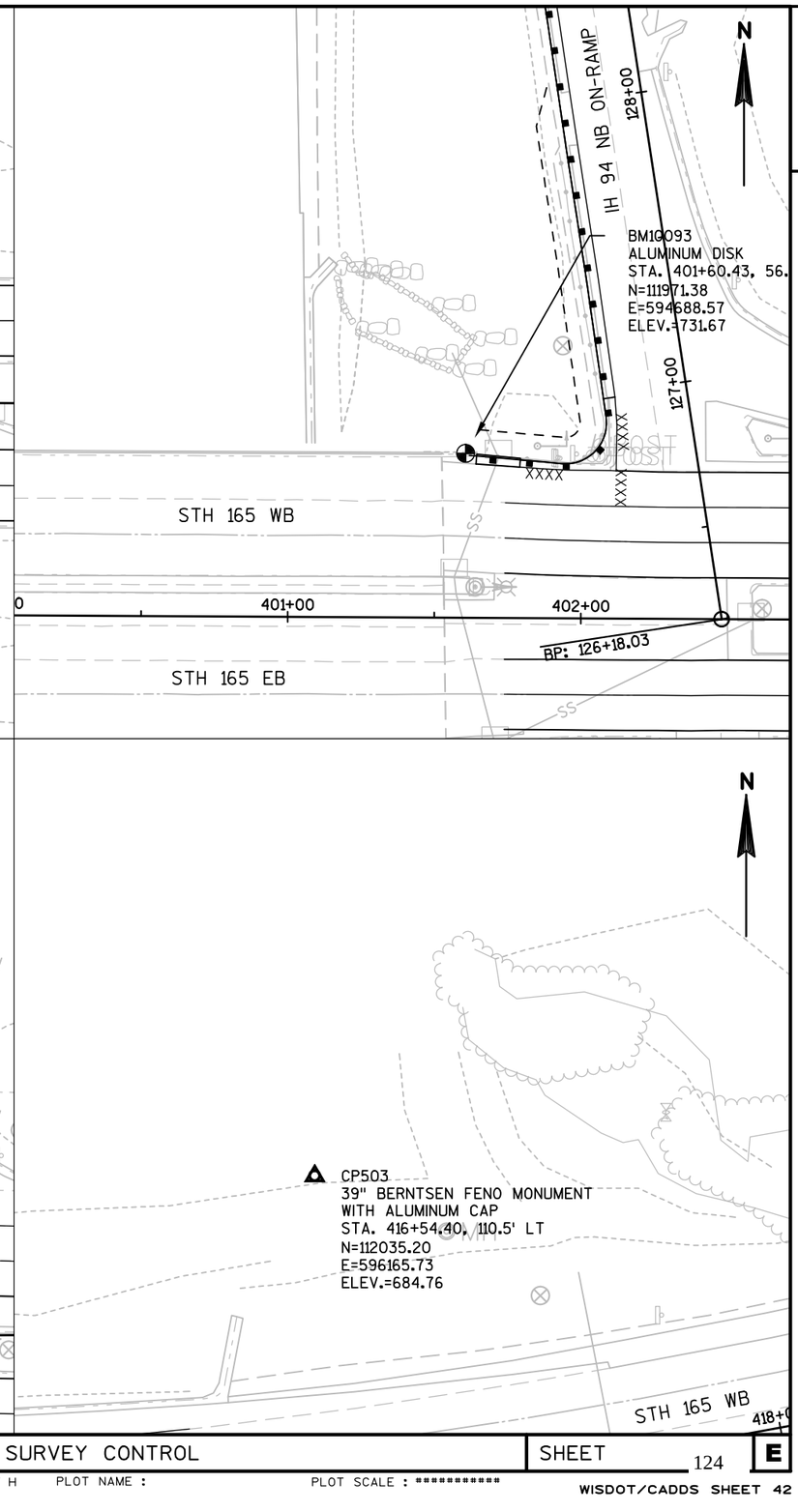
WISDOT/CADDS SHEET 42

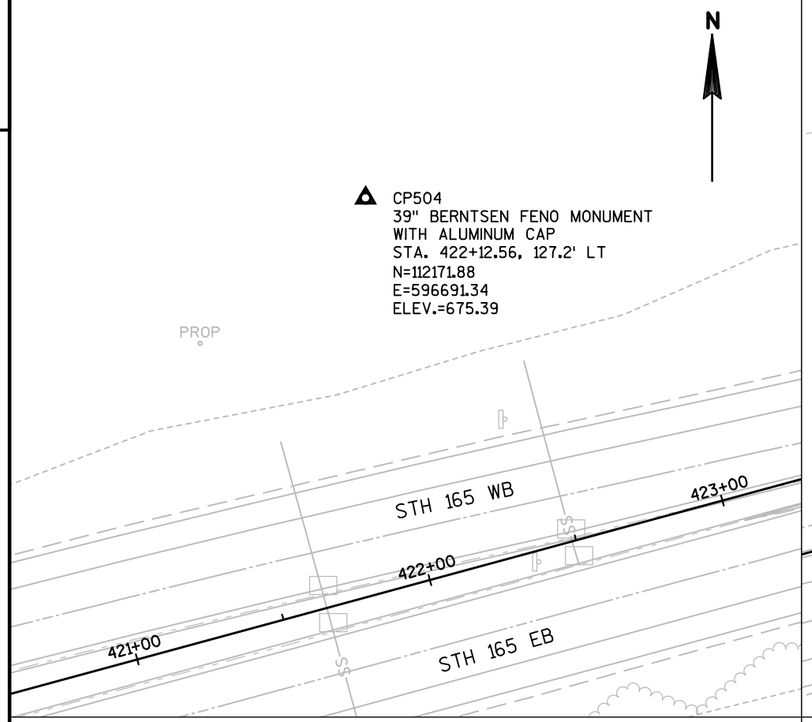


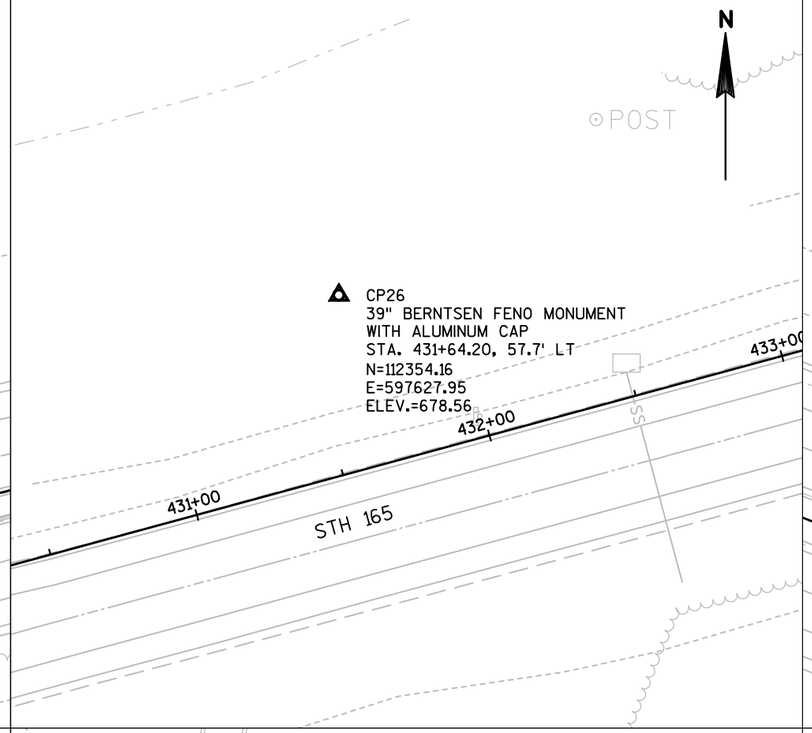
PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT PLAN	SHEET 123	E

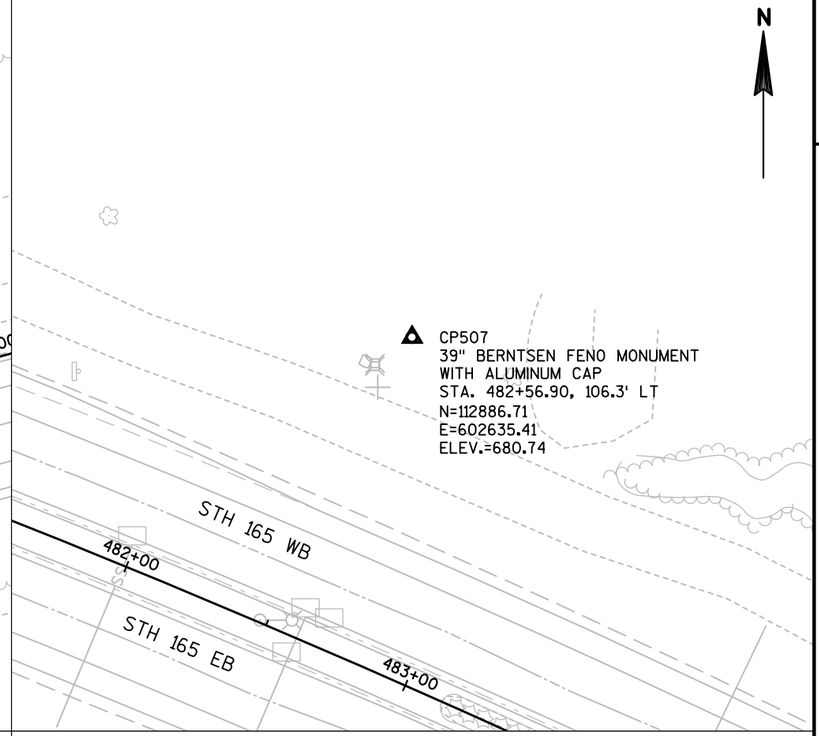

N
CP25
39" BERNTSEN FENO MONUMENT
WITH ALUMINUM CAP
STA. 381+82.56, 82.5' LT
N=112024.45
E=592716.22
ELEV.=728.77
STH 165 WB
381+00
382+00
383+00
MH
SS
STH 165 WB
PI: 405
404+00
405+00
STH 165 EB
CP501
39" BERNTSEN FENO MONUMENT
WITH ALUMINUM CAP
STA. 404+73.51, 123.2' RT
N=111790.47
E=595000.70
ELEV.=720.06

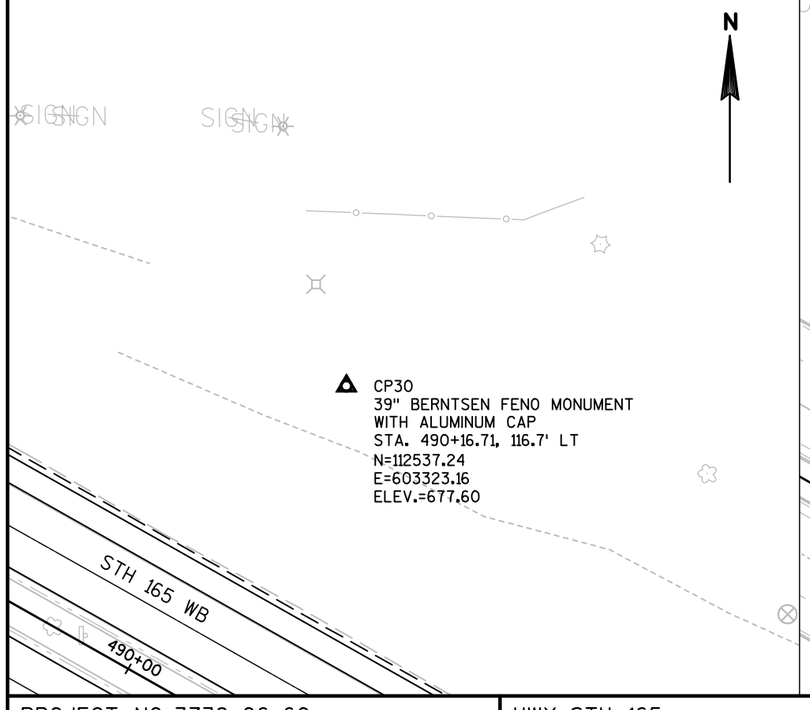

N
IH 94 SB OFF-RAMP
IH 94 SB ON-RAMP
POST
STH 165 WB
391+00
392+00
393+00
STH 165 EB
POST
POST
POST
GRGE
CP24
39" BERNTSEN FENO MONUMENT
WITH ALUMINUM CAP
STA. 391+98.64, 72.0' RT
N=111848.33
E=593726.12
ELEV.=732.49
N
MH
GTST
3123+00
PC: 3122+84.64
120TH AVE
WV
CP502
39" BERNTSEN FENO MONUMENT
WITH ALUMINUM CAP
STA. 411+00.87, 116.2' LT
N=112017.66
E=595631.00
ELEV.=698.83
3121+57.83
STA AHEAD = 3121+57.83
STA BACK = 2000+03.21
PC: 412+01.63
PI: 2000+00.00
STH 165 WB
411+00
412+00
STH 165 EB

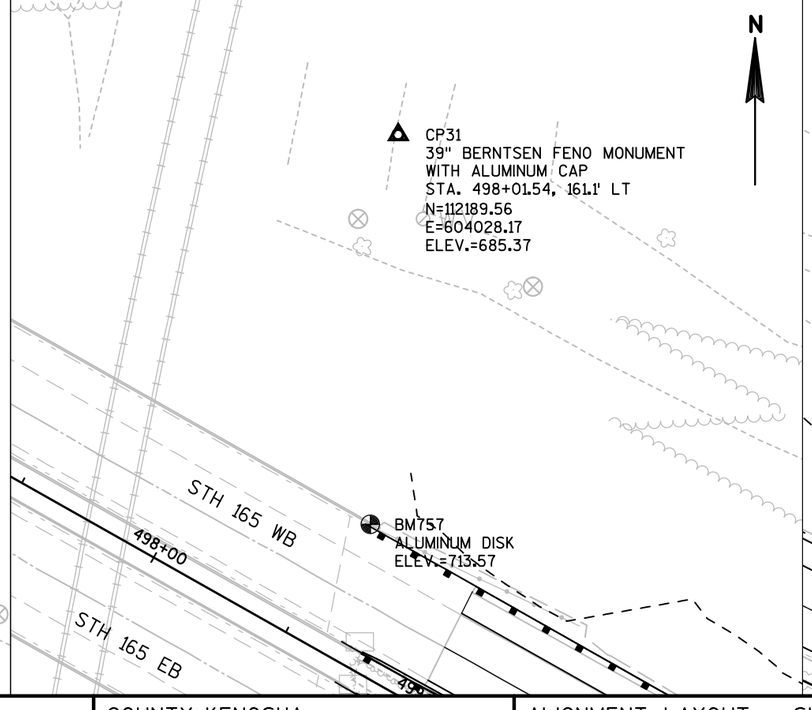

N
IH 94 NB ON-RAMP
128+00
BM10093
ALUMINUM DISK
STA. 401+60.43, 56.
N=111971.38
E=594688.57
ELEV.=731.67
127+00
XXXX
XXXX
POST
STH 165 WB
SS
401+00
402+00
BP: 126+18.03
STH 165 EB
N
CP503
39" BERNTSEN FENO MONUMENT
WITH ALUMINUM CAP
STA. 416+54.40, 110.5' LT
N=112035.20
E=596165.73
ELEV.=684.76
STH 165 WB

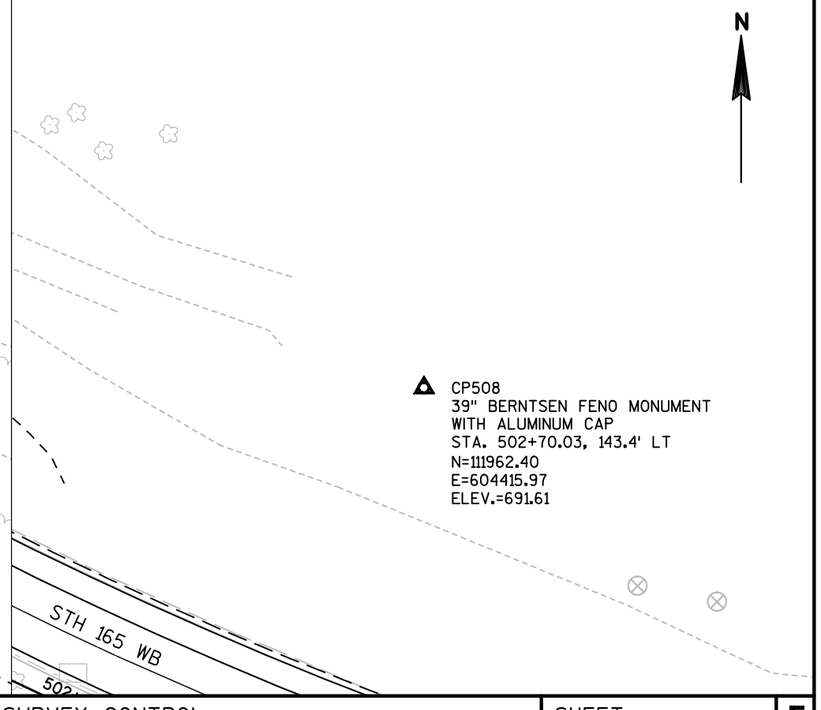




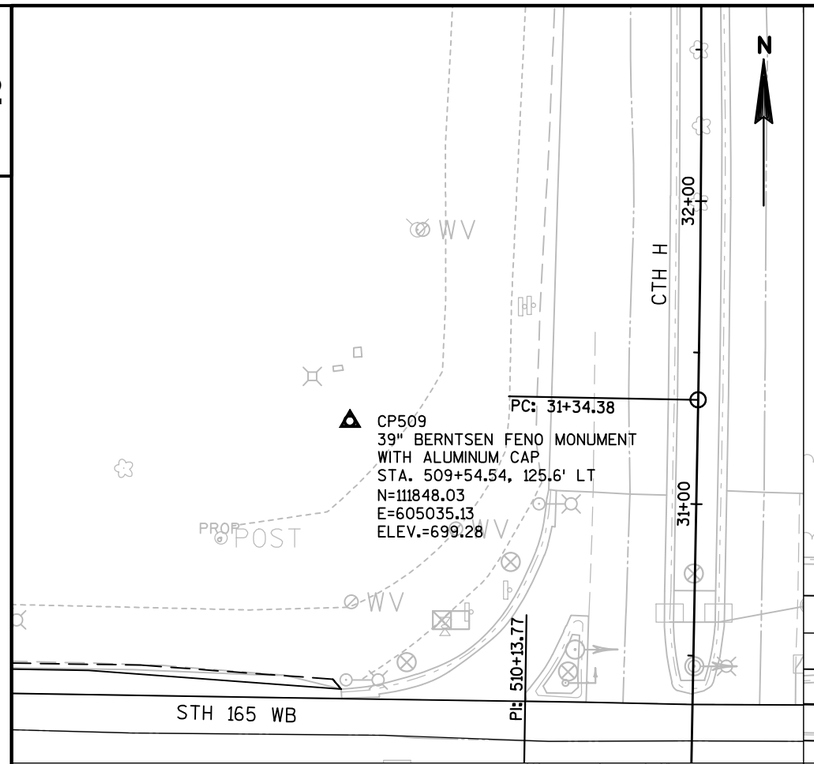


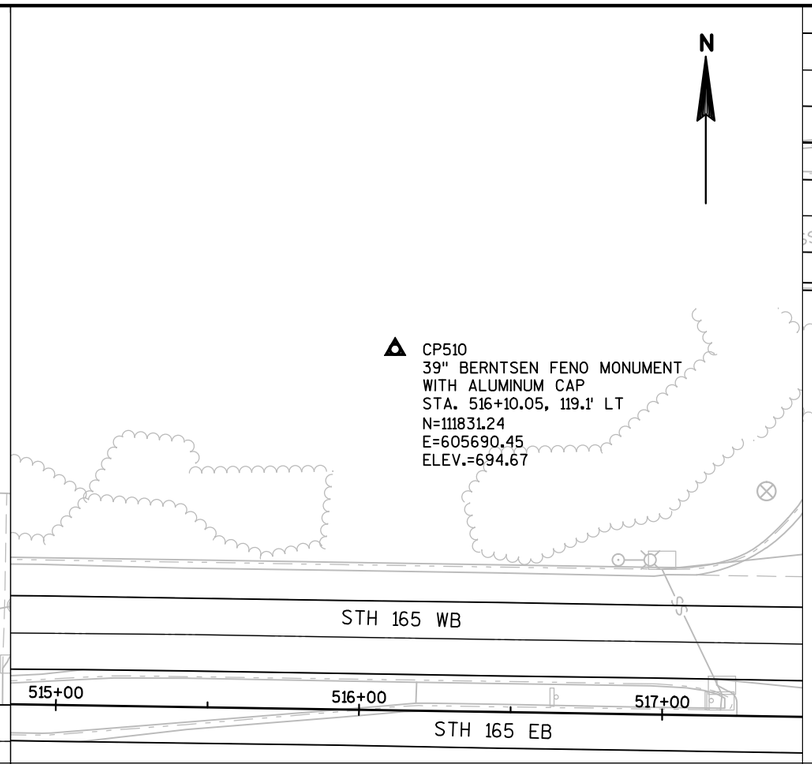


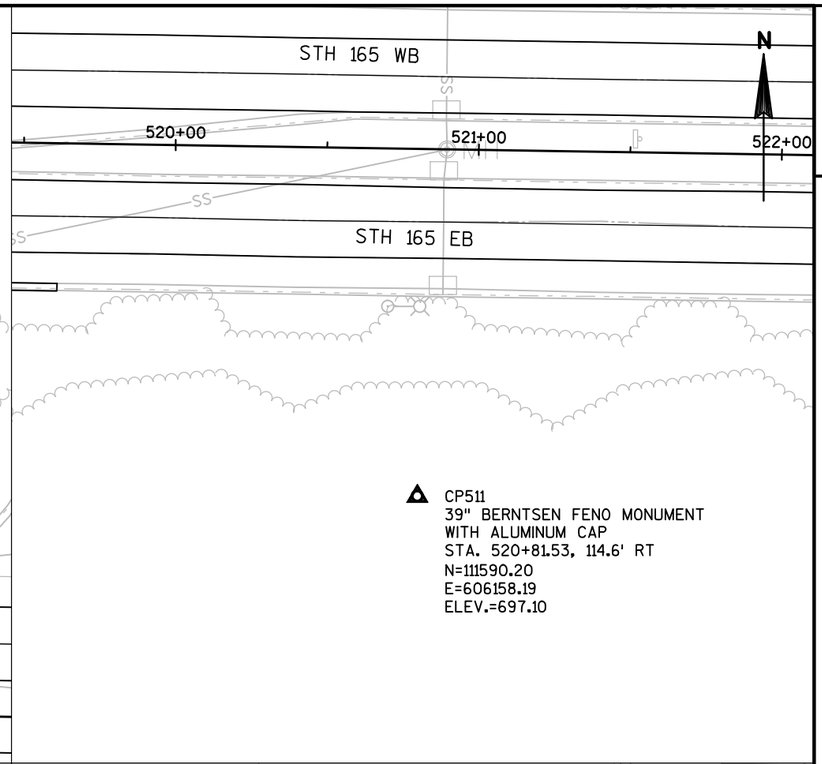


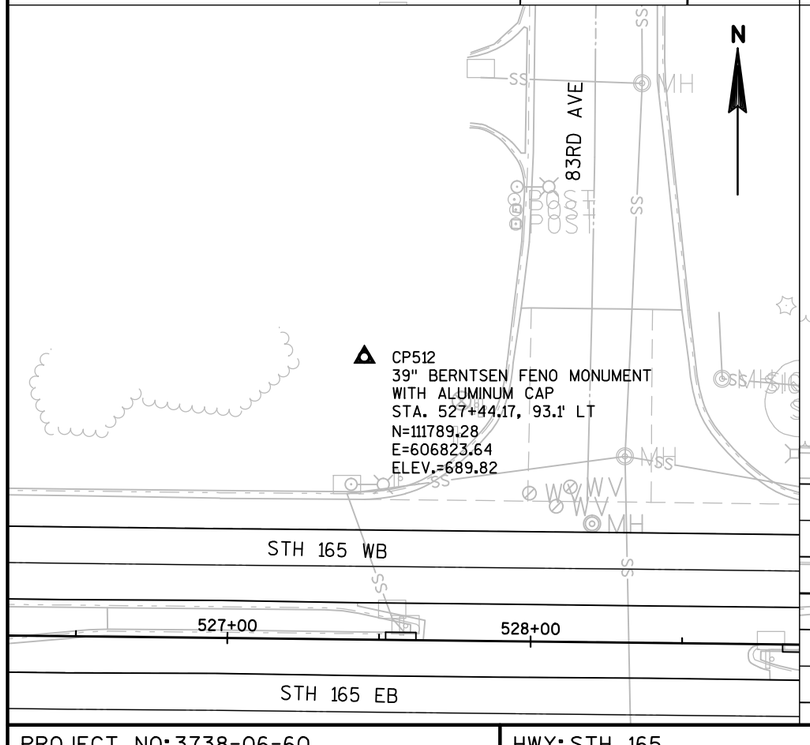


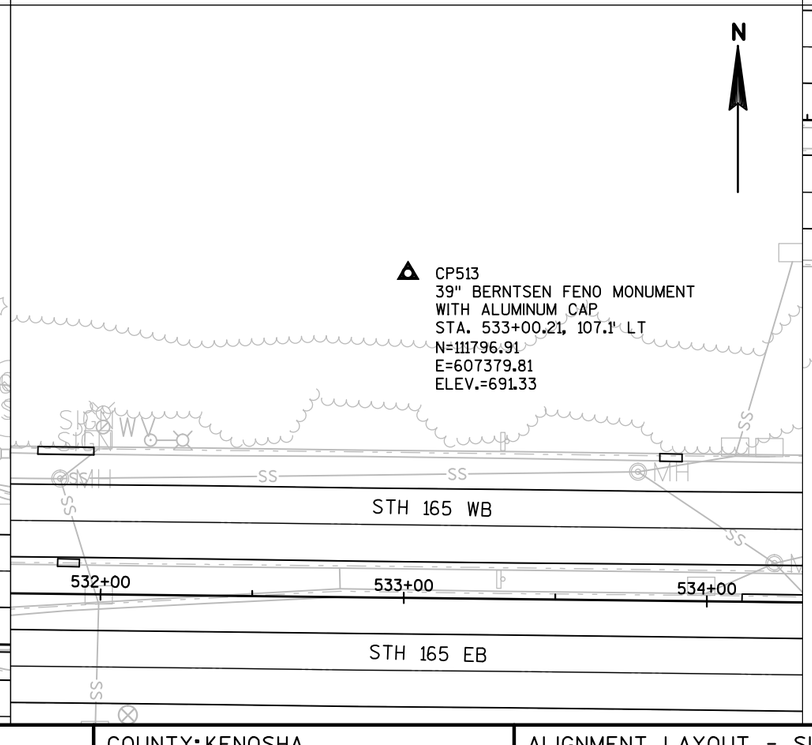
PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT LAYOUT - SURVEY CONTROL	SHEET 125	E

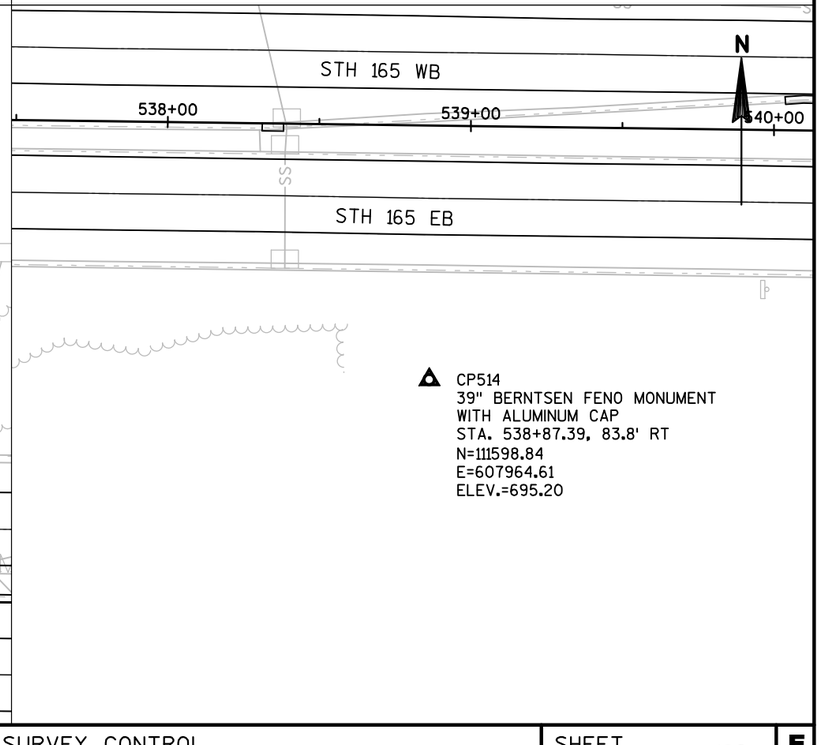




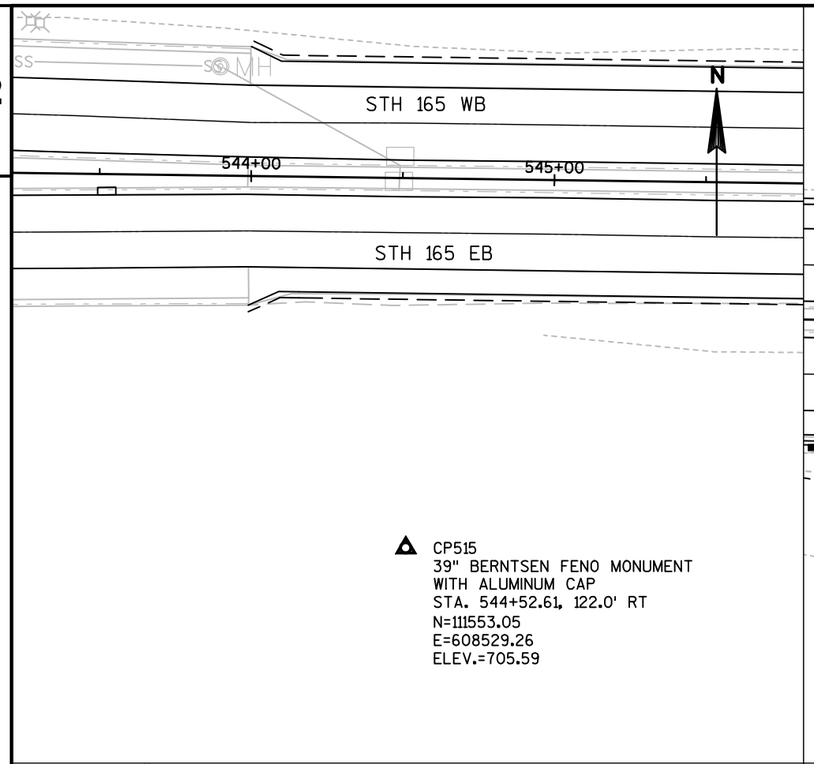




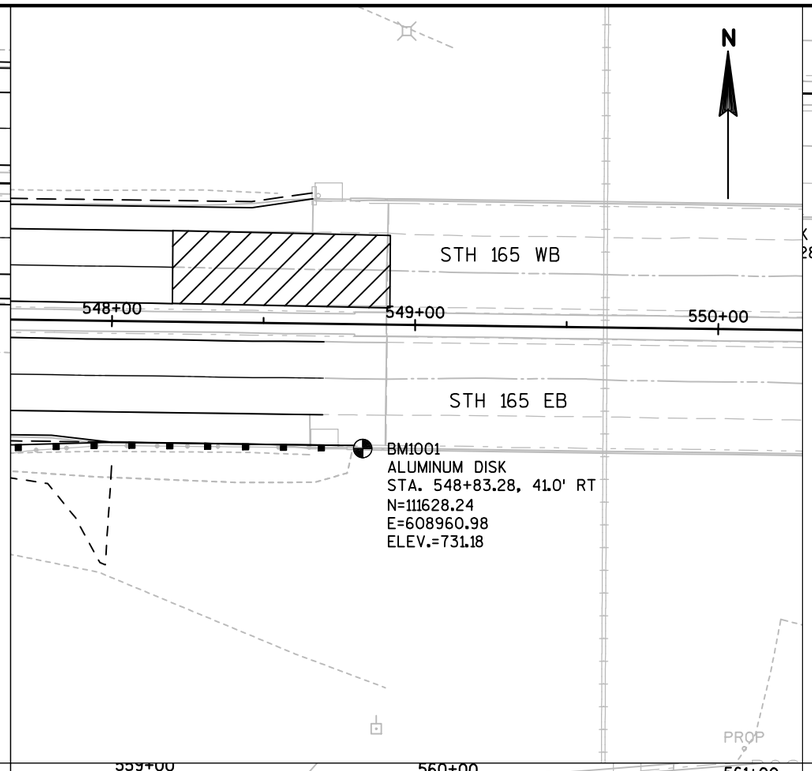




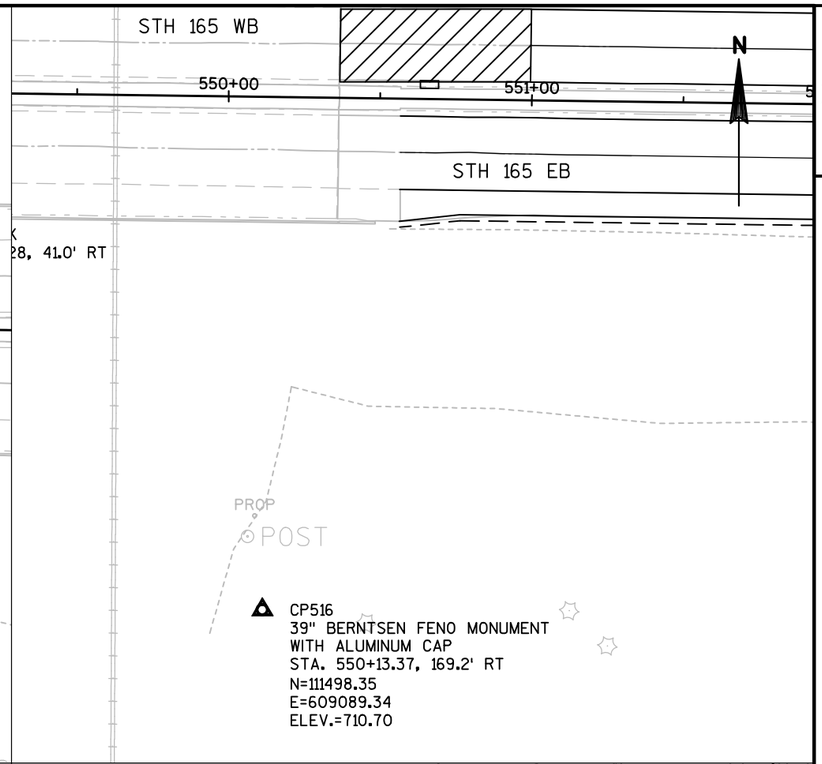
PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT LAYOUT - SURVEY CONTROL	SHEET 126	E



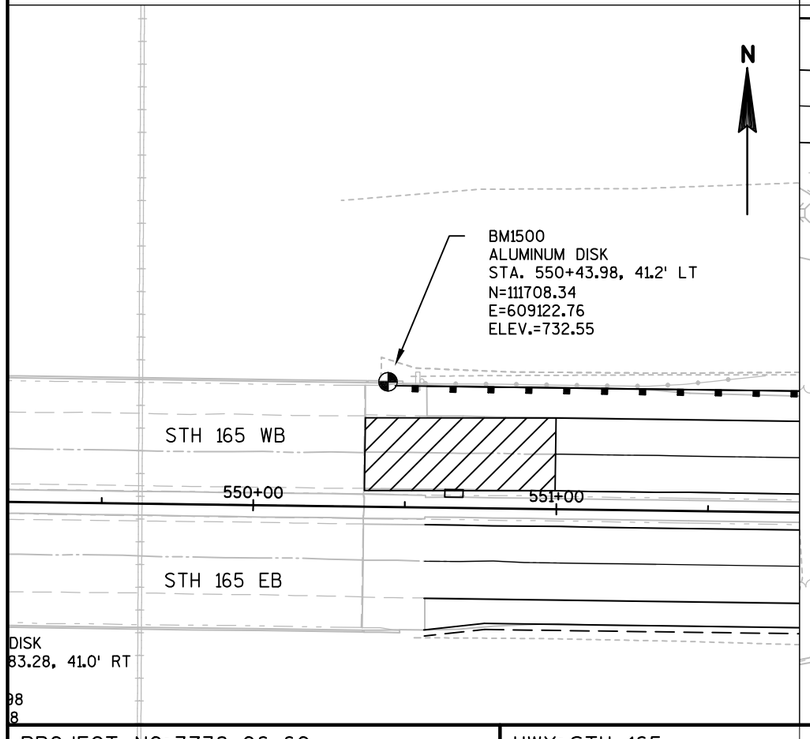
CP515
39" BERNTSEN FENO MONUMENT
WITH ALUMINUM CAP
STA. 544+52.61, 122.0' RT
N=111553.05
E=608529.26
ELEV.=705.59



BM1001
ALUMINUM DISK
STA. 548+83.28, 41.0' RT
N=111628.24
E=608960.98
ELEV.=731.18

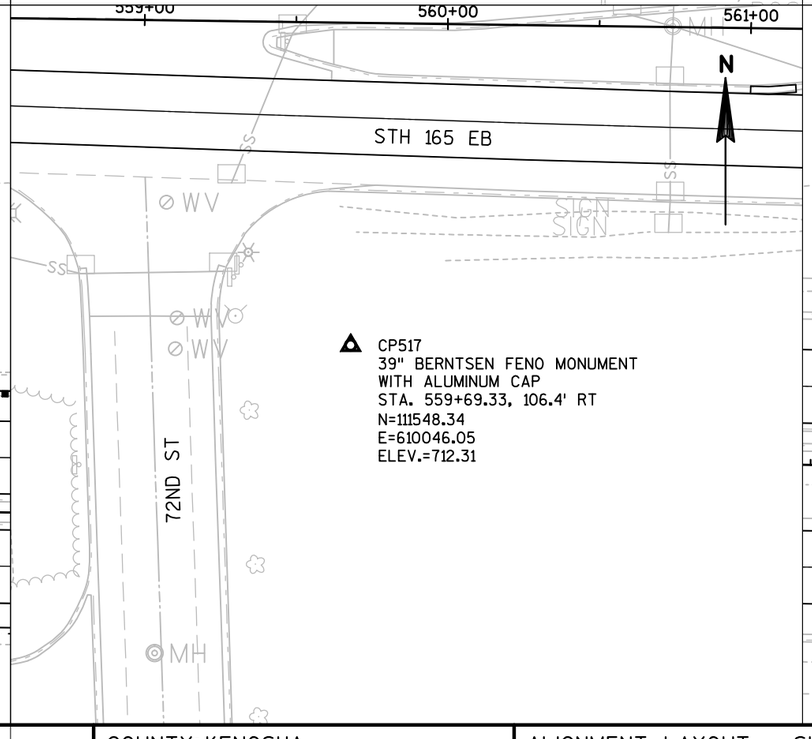


CP516
39" BERNTSEN FENO MONUMENT
WITH ALUMINUM CAP
STA. 550+13.37, 169.2' RT
N=111498.35
E=609089.34
ELEV.=710.70

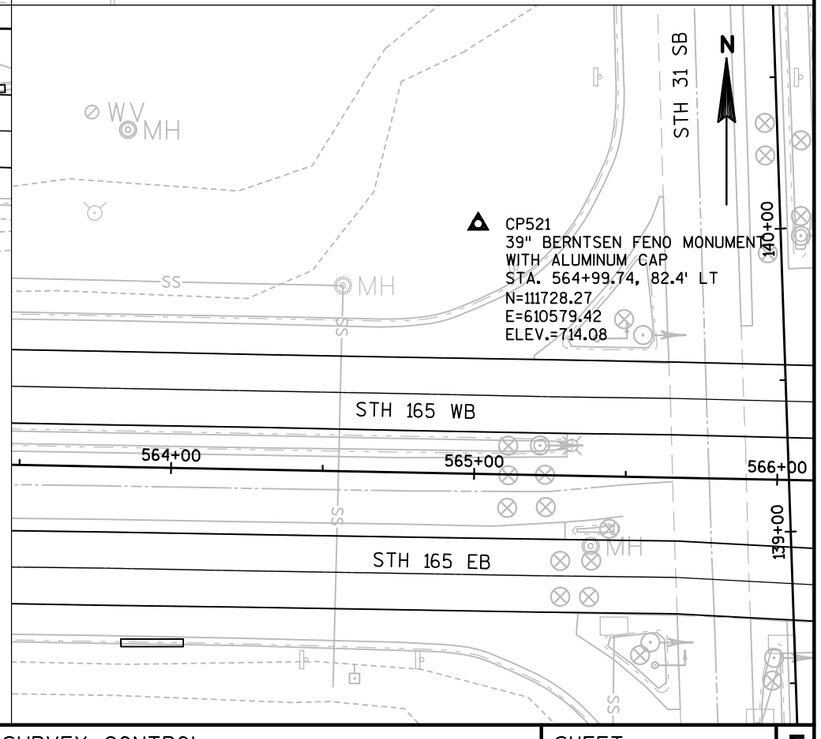


BM1500
ALUMINUM DISK
STA. 550+43.98, 41.2' LT
N=111708.34
E=609122.76
ELEV.=732.55

DISK
83.28, 41.0' RT

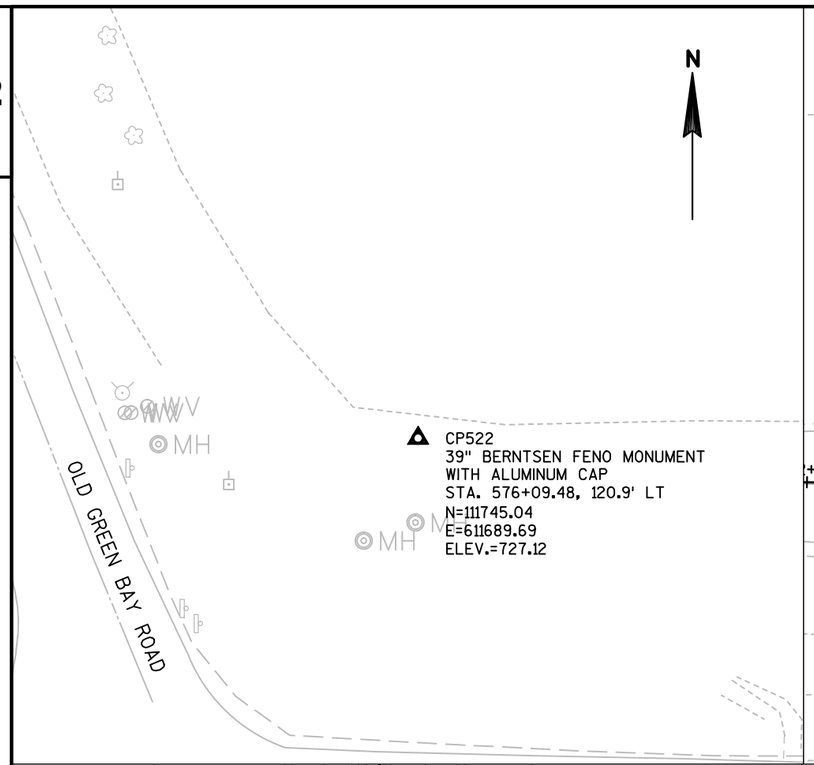


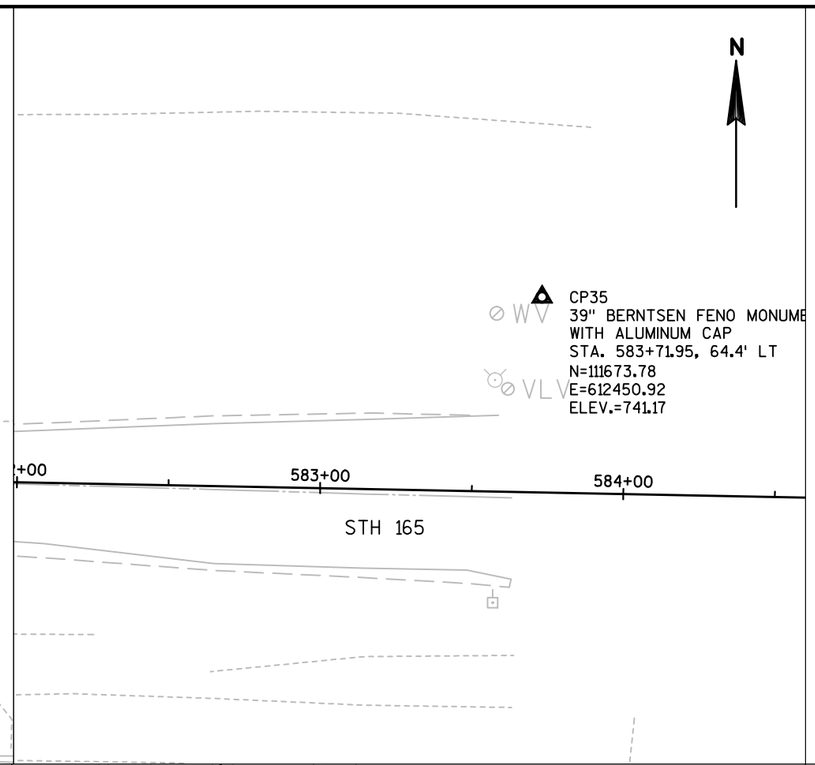
CP517
39" BERNTSEN FENO MONUMENT
WITH ALUMINUM CAP
STA. 559+69.33, 106.4' RT
N=111548.34
E=610046.05
ELEV.=712.31

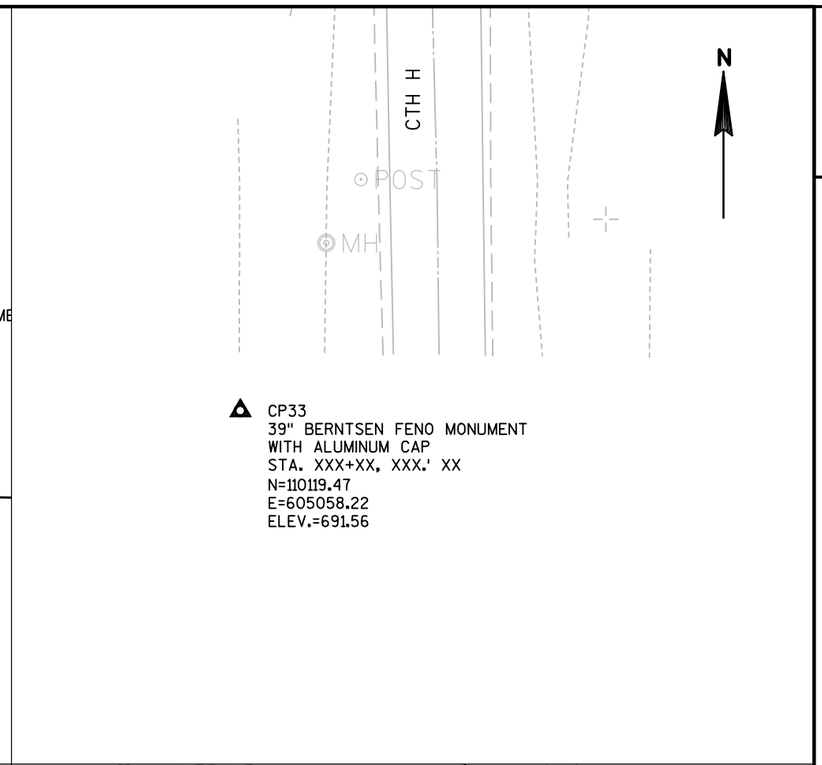


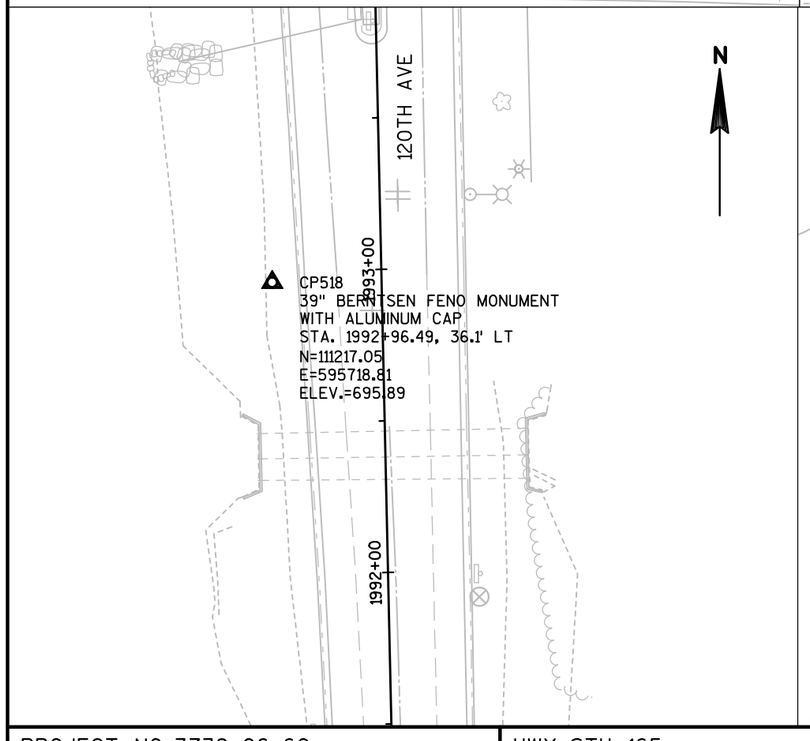
CP521
39" BERNTSEN FENO MONUMENT
WITH ALUMINUM CAP
STA. 564+99.74, 82.4' LT
N=111728.27
E=610579.42
ELEV.=714.08

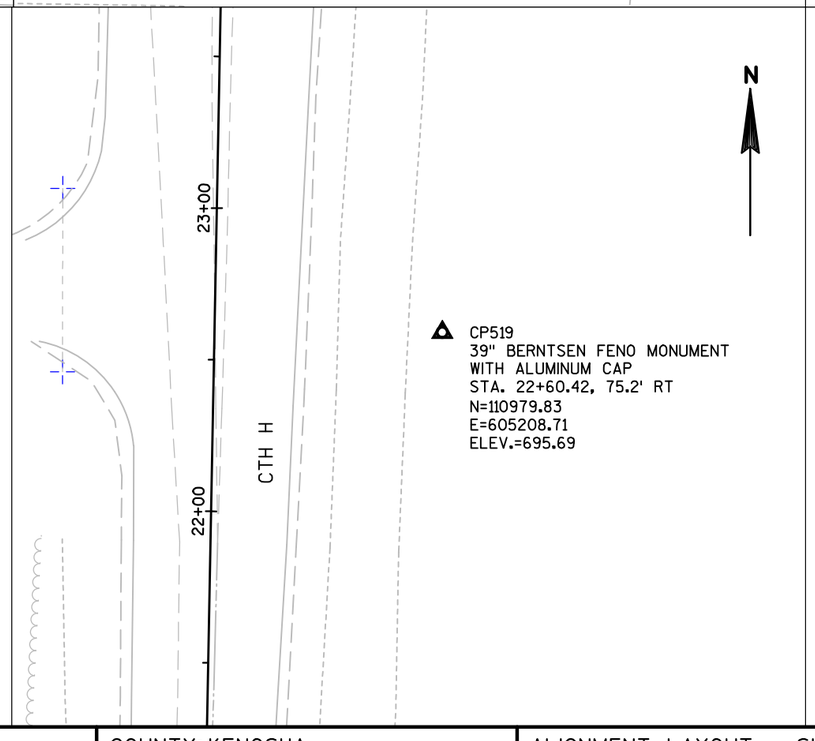
PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT LAYOUT - SURVEY CONTROL	SHEET 127	E

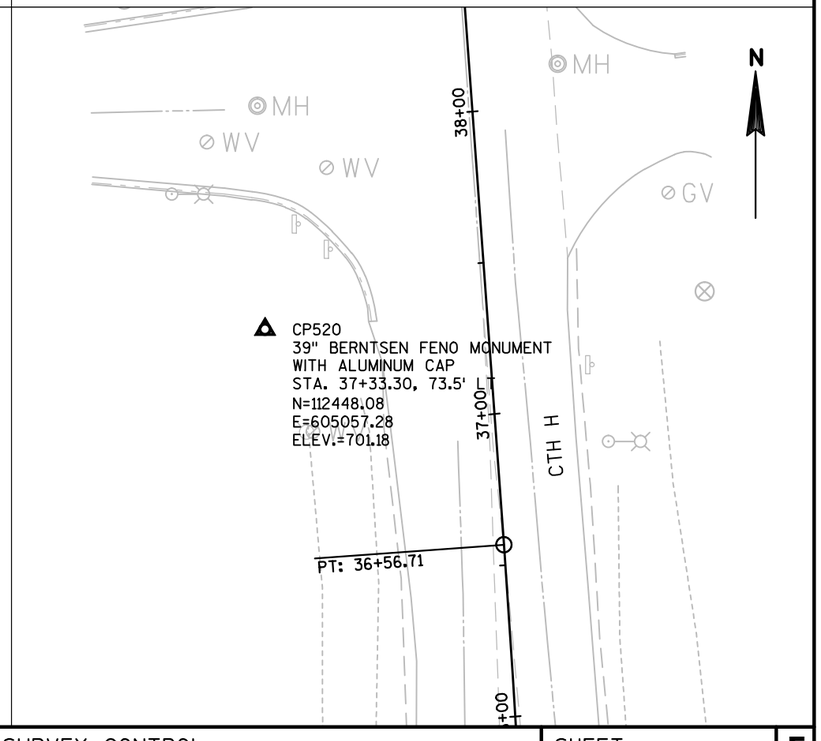




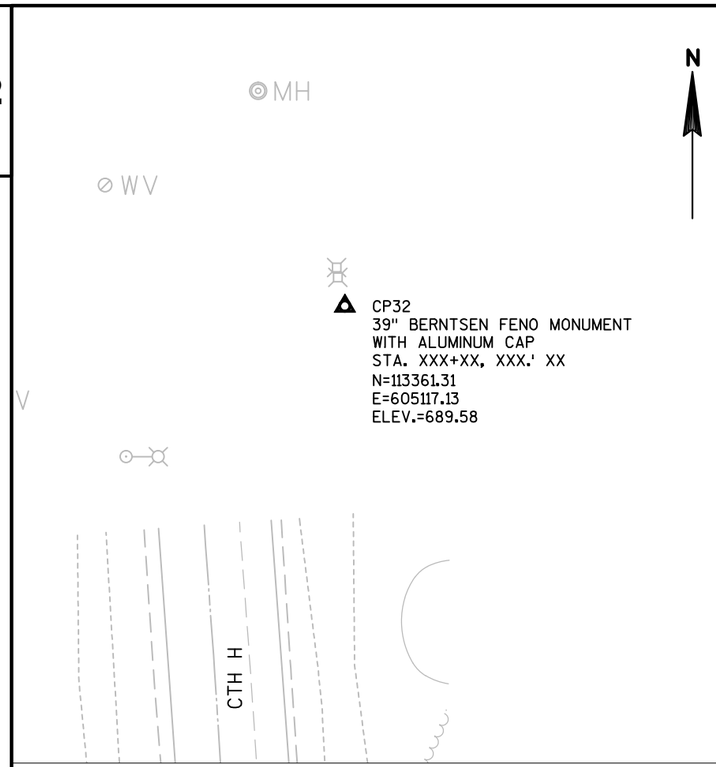


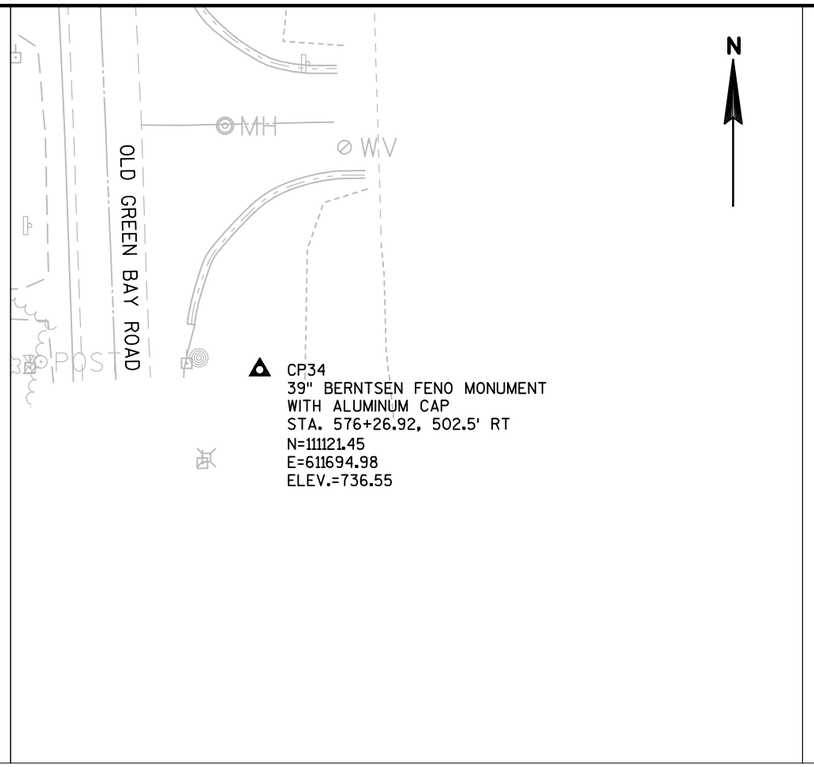


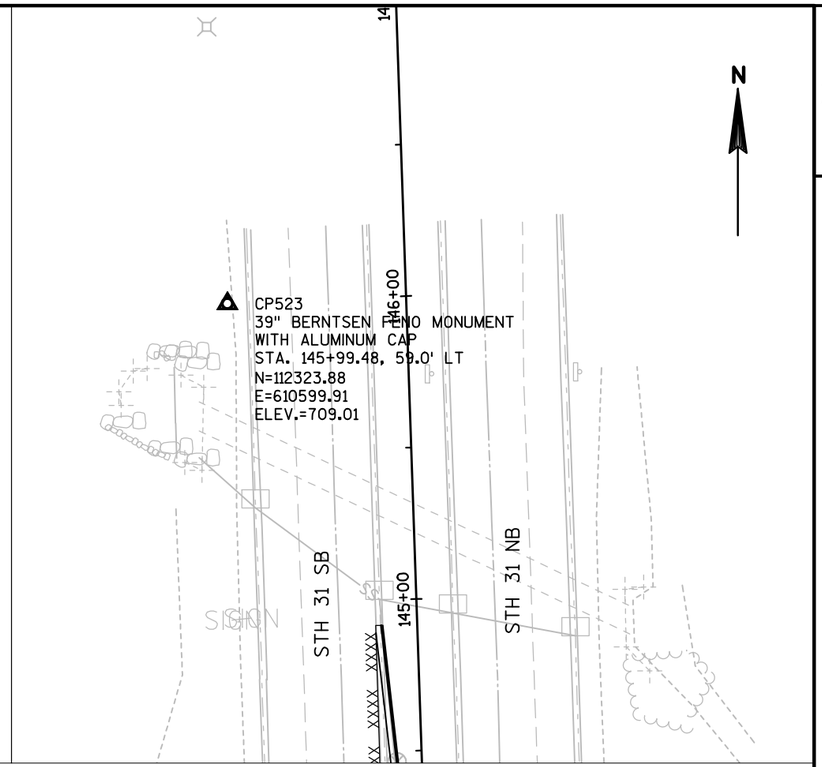




PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	ALIGNMENT LAYOUT - SURVEY CONTROL	SHEET 128	E







2

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CONTROL POINTS	SHEET 129	E

DATE 14APR16 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	3738-06-60 QUANTITY
0070	204.0100	Removing Pavement	SY	1,428.000	1,428.000
0080	204.0110	Removing Asphaltic Surface	SY	5,240.000	5,240.000
0100	204.0150	Removing Curb & Gutter	LF	928.000	928.000
0120	204.0165	Removing Guardrail	LF	769.000	769.000
0140	204.0195	Removing Concrete Bases	EACH	4.000	4.000
0150	204.0210	Removing Manholes	EACH	1.000	1.000
0160	204.0220	Removing Inlets	EACH	5.000	5.000
0170	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	85.000	85.000
0180	204.0245	Removing Storm Sewer (size) 02. 18-Inch	LF	23.000	23.000
0190	204.0245	Removing Storm Sewer (size) 03. 21-Inch	LF	8.000	8.000
0200	204.0245	Removing Storm Sewer (size) 04. 24-Inch	LF	8.000	8.000
0230	204.9060.S	Removing (item description) 01. Ramp Gate	EACH	1.000	1.000
0250	205.0100	Excavation Common	CY	2,209.000	2,209.000
0310	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	64.000	64.000
0330	213.0100	Finishing Roadway (project) 02. 3738-06-60	EACH	1.000	1.000
0350	305.0110	Base Aggregate Dense 3/4-Inch	TON	115.000	115.000
0360	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	815.000	815.000
0390	310.0110	Base Aggregate Open-Graded	TON	1,585.000	1,585.000
0420	415.0090	Concrete Pavement 9-Inch	SY	1,895.000	1,895.000
0430	415.0100	Concrete Pavement 10-Inch	SY	22.000	22.000
0450	415.0410	Concrete Pavement Approach Slab	SY	120.000	120.000
0460	416.0610	Drilled Tie Bars	EACH	8,500.000	8,500.000
0470	416.0620	Drilled Dowel Bars	EACH	6,100.000	6,100.000
0490	416.1710	Concrete Pavement Repair	SY	1,435.000	1,435.000
0500	416.1715	Concrete Pavement Repair SHES	SY	1,430.000	1,430.000
0510	416.1720	Concrete Pavement Replacement	SY	4,265.000	4,265.000
0520	416.1725	Concrete Pavement Replacement SHES	SY	1,585.000	1,585.000
0530	420.1000	Continuous Diamond Grinding Concrete Pavement	SY	69,540.000	69,540.000
0540	440.4410	Incentive IRI Ride	DOL	35,084.000	35,084.000
0550	455.0605	Tack Coat	GAL	20.000	20.000
0580	460.5224	HMA Pavement 4 LT 58-28 S	TON	1,136.000	1,136.000
0590	460.6223	HMA Pavement 3 MT 58-28 S	TON	72.000	72.000
0600	460.6224	HMA Pavement 4 MT 58-28 S	TON	41.000	41.000
0660	465.0400	Asphaltic Shoulder Rumble Strips	LF	1,702.000	1,702.000
0780	509.0301	Preparation Decks Type 1	SY	42.000	42.000
0790	509.0302	Preparation Decks Type 2	SY	16.000	16.000
0800	509.1500	Concrete Surface Repair	SF	5.000	5.000
0810	509.2500	Concrete Masonry Overlay Decks	CY	6.000	6.000
0820	509.5100.S	Polymer Overlay	SY	1,164.000	1,164.000
0870	520.8000	Concrete Collars for Pipe	EACH	10.000	10.000
0950	524.0612	Apron Endwalls for Culvert Pipe Salvaged 12-Inch	EACH	1.000	1.000
0990	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	1,847.000	1,847.000
1030	601.0555	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	LF	40.000	40.000
1050	602.0410	Concrete Sidewalk 5-Inch	SF	3,520.000	3,520.000
1100	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	28.000	28.000
1120	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	8.000	8.000

3

DATE 14APR16 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	3738-06-60 QUANTITY
1130	608.0321	Storm Sewer Pipe Reinforced Concrete Class III 21-Inch	LF	8.000	8.000
1140	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	8.000	8.000
1160	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	103.000	103.000
1190	611.0624	Inlet Covers Type H	EACH	4.000	4.000
1250	611.0660	Inlet Covers Type WM	EACH	2.000	2.000
1320	611.3004	Inlets 4-FT Diameter	EACH	3.000	3.000
1330	611.3230	Inlets 2x3-FT	EACH	2.000	2.000
1370	611.8115	Adjusting Inlet Covers	EACH	7.000	7.000
1400	612.0104	Pipe Underdrain 4-Inch	LF	1,280.000	1,280.000
1460	614.0010	Barrier System Grading Shaping Finishing	EACH	8.000	8.000
1470	614.0115	Anchorages for Steel Plate Beam Guard Type 2	EACH	1.000	1.000
1490	614.0200	Steel Thrie Beam Structure Approach	LF	79.000	79.000
1500	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	2.000	2.000
1510	614.0230	Steel Thrie Beam	LF	268.000	268.000
1520	614.0305	Steel Plate Beam Guard Class A	LF	244.000	244.000
1530	614.0345	Steel Plate Beam Guard Short Radius	LF	44.000	44.000
1540	614.0396	Guardrail Mow Strip Asphalt	SY	807.000	807.000
1560	614.2300	MGS Guardrail 3	LF	988.000	988.000
1570	614.2500	MGS Thrie Beam Transition	LF	197.000	197.000
1580	614.2610	MGS Guardrail Terminal EAT	EACH	5.000	5.000
1600	619.1000	Mobilization	EACH	0.240	0.240
1610	620.0100	Concrete Corrugated Median	SF	2,211.000	2,211.000
1640	625.0500	Salvaged Topsoil	SY	1,242.000	1,242.000
1650	628.1104	Erosion Bales	EACH	360.000	360.000
1660	628.1504	Silt Fence	LF	3,000.000	3,000.000
1670	628.1520	Silt Fence Maintenance	LF	1,500.000	1,500.000
1680	628.1905	Mobilizations Erosion Control	EACH	10.000	10.000
1690	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
1710	628.2006	Erosion Mat Urban Class I Type A	SY	1,242.000	1,242.000
1780	628.7015	Inlet Protection Type C	EACH	200.000	200.000
1790	628.7020	Inlet Protection Type D	EACH	40.000	40.000
1830	628.7570	Rock Bags	EACH	20.000	20.000
1840	629.0210	Fertilizer Type B	CWT	0.780	0.780
1850	630.0130	Seeding Mixture No. 30	LB	28.000	28.000
1870	630.0200	Seeding Temporary	LB	21.000	21.000
1900	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	245.000	245.000
1910	634.0620	Posts Wood 4x6-Inch X 20-FT	EACH	4.000	4.000
1920	637.1220	Signs Type I Reflective SH	SF	78.000	78.000
1930	637.2210	Signs Type II Reflective H	SF	2,348.890	2,348.890
1940	637.2215	Signs Type II Reflective H Folding	SF	141.740	141.740
1950	637.2230	Signs Type II Reflective F	SF	437.250	437.250
1960	638.2102	Moving Signs Type II	EACH	6.000	6.000
1970	638.2601	Removing Signs Type I	EACH	2.000	2.000
1980	638.2602	Removing Signs Type II	EACH	216.000	216.000
1990	638.3000	Removing Small Sign Supports	EACH	219.000	219.000
2020	643.0100	Traffic Control (project) 02. 3738-06-60	EACH	1.000	1.000
2040	643.0300	Traffic Control Drums	DAY	71,700.000	71,700.000
2050	643.0420	Traffic Control Barricades Type III	DAY	4,095.000	4,095.000
2060	643.0453	Traffic Control Barricades Permanent Type III	EACH	6.000	6.000

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DATE 14APR16 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	3738-06-60 QUANTITY
2090	643.0705	Traffic Control Warning Lights Type A	DAY	8,190.000	8,190.000
2100	643.0715	Traffic Control Warning Lights Type C	DAY	6,490.000	6,490.000
2110	643.0800	Traffic Control Arrow Boards	DAY	364.000	364.000
2120	643.0900	Traffic Control Signs	DAY	11,149.000	11,149.000
2140	645.0111	Geotextile Fabric Type DF Schedule A	SY	538.000	538.000
2170	646.0106	Pavement Marking Epoxy 4-Inch	LF	49,580.000	49,580.000
2180	646.0126	Pavement Marking Epoxy 8-Inch	LF	1,485.000	1,485.000
2190	646.0600	Removing Pavement Markings	LF	16,760.000	16,760.000
2200	646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF	6,185.000	6,185.000
2210	646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF	10,735.000	10,735.000
2220	647.0456	Pavement Marking Curb Epoxy	LF	1,655.000	1,655.000
2230	647.0606	Pavement Marking Island Nose Epoxy	EACH	66.000	66.000
2240	647.0716	Pavement Marking Diagonal Epoxy 8-Inch	LF	760.000	760.000
2250	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	655.000	655.000
2260	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	14,000.000	14,000.000
2300	650.4000	Construction Staking Storm Sewer	EACH	6.000	6.000
2310	650.4500	Construction Staking Subgrade	LF	1,769.000	1,769.000
2320	650.5000	Construction Staking Base	LF	328.000	328.000
2360	650.7000	Construction Staking Concrete Pavement	LF	1,442.000	1,442.000
2370	650.8000	Construction Staking Resurfacing Reference	LF	22,752.000	22,752.000
2400	650.9910	Construction Staking Supplemental Control (project) 02. 3738-06-60	LS	1.000	1.000
2410	650.9920	Construction Staking Slope Stakes	LF	625.000	625.000
2430	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	554.000	554.000
2440	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	326.000	326.000
2450	652.0605	Conduit Special 2-Inch	LF	100.000	100.000
2460	652.0615	Conduit Special 3-Inch	LF	390.000	390.000
2470	652.0700.S	Install Conduit into Existing Item	EACH	2.000	2.000
2480	652.0800	Conduit Loop Detector	LF	974.000	974.000
2490	653.0135	Pull Boxes Steel 24x36-Inch	EACH	7.000	7.000
2500	653.0140	Pull Boxes Steel 24x42-Inch	EACH	8.000	8.000
2520	653.0900	Adjusting Pull Boxes	EACH	1.000	1.000
2530	653.0905	Removing Pull Boxes	EACH	8.000	8.000
2540	654.0101	Concrete Bases Type 1	EACH	4.000	4.000
2550	654.0102	Concrete Bases Type 2	EACH	1.000	1.000
2560	654.0105	Concrete Bases Type 5	EACH	1.000	1.000
2570	654.0220	Concrete Control Cabinet Bases Type 10	EACH	1.000	1.000
2590	655.0230	Cable Traffic Signal 5-14 AWG	LF	69.000	69.000
2600	655.0240	Cable Traffic Signal 7-14 AWG	LF	1,272.000	1,272.000
2610	655.0260	Cable Traffic Signal 12-14 AWG	LF	1,499.000	1,499.000
2620	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	1,927.000	1,927.000
2660	655.0700	Loop Detector Lead In Cable	LF	4,597.000	4,597.000
2670	655.0800	Loop Detector Wire	LF	3,302.000	3,302.000
2680	655.0900	Traffic Signal EVP Detector Cable	LF	2,399.000	2,399.000
2710	657.0100	Pedestal Bases	EACH	5.000	5.000
2720	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	2.000	2.000
2730	657.0305	Poles Type 2	EACH	1.000	1.000
2740	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	1.000	1.000

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DATE 14APR16 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	3738-06-60 QUANTITY
2750	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	4.000	4.000
2760	657.0595	Trombone Arms 25-FT	EACH	1.000	1.000
2780	658.0110	Traffic Signal Face 3-12 Inch Vertical	EACH	1.000	1.000
2790	658.0115	Traffic Signal Face 4-12 Inch Vertical	EACH	2.000	2.000
2800	658.0120	Traffic Signal Face 5-12 Inch Vertical	EACH	2.000	2.000
2810	658.0155	Traffic Signal Face 3-12 Inch Horizontal	EACH	1.000	1.000
2820	658.0215	Backplates Signal Face 3 Section 12-Inch	EACH	2.000	2.000
2830	658.0220	Backplates Signal Face 4 Section 12-Inch	EACH	2.000	2.000
2840	658.0225	Backplates Signal Face 5 Section 12-Inch	EACH	2.000	2.000
2850	658.0600	Led Modules 12-Inch Red Ball	EACH	6.000	6.000
2860	658.0605	Led Modules 12-Inch Yellow Ball	EACH	6.000	6.000
2870	658.0610	Led Modules 12-Inch Green Ball	EACH	6.000	6.000
2880	658.0620	Led Modules 12-Inch Yellow Arrow	EACH	2.000	2.000
2890	658.0625	Led Modules 12-Inch Green Arrow	EACH	4.000	4.000
2900	658.5069	Signal Mounting Hardware (location) 01. STH 165 & E. Frontage Road	LS	1.000	1.000
2920	661.0200	Temporary Traffic Signals for Intersections (location) 01. STH 165 & E. Frontage Road	LS	1.000	1.000
2930	662.2040.S	Ramp Closure Gates Solar 40-FT	EACH	1.000	1.000
2940	662.6030.S	Ramp Closure Barricade Rack 3-Unit	EACH	2.000	2.000
2950	670.0100	Field System Integrator	LS	1.000	1.000
2960	670.0200	ITS Documentation	LS	1.000	1.000
2970	678.0200	Fiber Optic Splice Enclosure	EACH	1.000	1.000
2980	678.0300	Fiber Optic Splice	EACH	4.000	4.000
2990	678.0500	Communication System Testing	LS	1.000	1.000
3000	690.0150	Sawing Asphalt	LF	335.000	335.000
3010	690.0250	Sawing Concrete	LF	20,653.000	20,653.000
3020	715.0415	Incentive Strength Concrete Pavement	DOL	611.000	611.000
3090	SPV.0060	Special 02. Inlets 5-FT Diameter	EACH	1.000	1.000
3130	SPV.0060	Special 06. Pavement Marking Grooved Preformed Thermoplastic, Arrows Type 2	EACH	61.000	61.000
3190	SPV.0060	Special 13. Pavement Marking Grooved Preformed Thermoplastic, Words	EACH	42.000	42.000
3200	SPV.0060	Special 14. Install 5.8GHz Ethernet Bridge, IH-94 WB Ramps & STH 165	EACH	1.000	1.000
3210	SPV.0060	Special 15. Install 5.8GHz Ethernet Bridge, STH 165 & E. Frontage Road	EACH	1.000	1.000
3220	SPV.0060	Special 16. Pavement Marking Grooved Preformed Thermoplastic, Arrows Type 1	EACH	2.000	2.000
3230	SPV.0060	Special 17. Pavement Marking Grooved Preformed Thermoplastic, Arrows Type 3	EACH	2.000	2.000
3240	SPV.0060	Special 18. Pavement Marking Grooved Preformed Thermoplastic, Yield Line 18-Inch	EACH	93.000	93.000
3260	SPV.0090	Special 02. Pavement Marking Grooved Preformed Thermoplastic Stop Line 18-Inch	LF	1,040.000	1,040.000
3280	SPV.0090	Special 04. Sawing Concrete Curb Head	LF	985.000	985.000
3290	SPV.0090	Special 05. Joint and Crack Repair	LF	1,000.000	1,000.000
3300	SPV.0090	Special 07. Sawing Pavement Deck Preparation Areas	LF	420.000	420.000
3310	SPV.0090	Special 08. Pavement Marking Contrast Epoxy 4-Inch	LF	75.000	75.000
3320	SPV.0090	Special 09. Fiber Optic Tracing Wire	LF	381.000	381.000
3330	SPV.0090	Special 10. Fiber Optic Warning Tape	LF	381.000	381.000

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DATE 14APR16 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	3738-06-60 QUANTITY
3370	SPV.0105	Special 02. Install Fiber Communications in Cabinet IH-94 WB Ramps & STH 165	LS	1.000	1.000
3380	SPV.0105	Special 03. Remove Traffic Signals STH 165 & E. Frontage Road	LS	1.000	1.000
3390	SPV.0105	Special 04. Remove Loop Detector Wire and Lead - In Cable STH 165 & E. Frontage Road	LS	1.000	1.000
3400	SPV.0105	Special 05. Remove Loop Detector Wire and Lead - In Cable STH 165 & CTH H	LS	1.000	1.000
3410	SPV.0105	Special 06. Temporary Non-Intrusive Vehicle Detection System, STH 165 & E. Frontage	LS	1.000	1.000
3420	SPV.0105	Special 07. EVP Detector Head Installation, STH 165 & E. Frontage Road	LS	1.000	1.000
3430	SPV.0105	Special 08. EVP Detector Head Installation, STH 31 & STH 165	LS	1.000	1.000
3440	SPV.0105	Special 09. Temporary Infrared EVP System STH 165 & E. Frontage Road	LS	1.000	1.000

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CATEGORY	LOCATION	REMOVING PAVEMENT 204.0100 SY	*REMOVING CURB & GUTTER 204.0150 LF	SAWING ASPHALT 690.0150 LF	*SAWING CONCRETE 690.0250 LF
	STH 165				
0010	B-30-70, W APPROACH SLAB	40	--	--	54
	B-30-74, W APPROACH SLAB	40	--	--	54
	B-30-74, E APPROACH SLAB	40	--	--	54
	DRIVEWAY, STA 562+00, LT	13	--	--	--
	STA 559+76 to STA 563+25	375	125	--	381
	STA 568+06 to STA 574+31, LT	295	--	335	315
	STH 31				
	STA 133+35 to 137+62, NB LT LANE	220	245	--	450
	STA 141+14 to 144+92, SB LT LANE	405	130	--	475
	TOTALS	**1,428**	**500**	**335**	**1,783**

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

CATEGORY	LOCATION	REMOVING ASPHALTIC SURFACE 204.0110 SY
	STH 165	
0010	STA 487+15 to 496+65, RT	846
	STA 487+15 to 496+65, RT	848
	STA 499+09 to 507+81, RT	634
	STA 499+10 to 509+53, RT	916
	STA 543+99 to 548+70, RT	453
	STA 543+99 to 548+70, LT	438
	STA 550+57 to 554+99, RT	410
	STA 550+57 to 554+99, LT	438
	STA 567+34 to 571+06, RT	227
	STA 570+13 to 571+04, LT	28
	TOTALS	**5,240**

CATEGORY	LOCATION	REMOVING GUARDRAIL 204.0165 LF
	STH 165	
0010	STA 397+75 to 398+50, 40' RT	65
	STA 496+25 to 497+05, 10' RT	80
	STA 496+25 to 497+05, 50' RT	80
	STA 498+60 to 499+40, 50' LT	80
	STA 498+80 to 499+60, 10' LT	80
	STA 547+70 to 548+90, 40' RT	120
	STA 550+40 to 551+60, 40' LT	120
	RAMP NB	
	STA 0+65 to 1+49, LT	144
	TOTALS	**769**

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CATEGORY	LOCATION	*REMOVING CURB & GUTTER 204.0150 LF	*SAWING CONCRETE 690.0250 LF
	STH 165		
0010	STA 390+55 to 390+60, RT	5	11
	STA 390+55 to 390+60, RT	5	11
	STA 394+20 to 394+25, RT	5	11
	STA 396+00 to 396+10, RT	10	16
	STA 396+25 to 396+30, RT	5	11
	STA 397+50 to 397+70, RT	20	26
	STA 401+60 to 401+75, LT	15	21
	STA 509+60 to 509+80, LT	20	26
	STA 514+30 to 514+56, LT	26	32
	STA 519+20 to 519+40, LT	20	26
	STA 519+33 to 519+59, LT	26	32
	STA 527+50 to 527+60	10	16
	STA 528+84 to 528+90	6	12
	STA 529+65 to 529+75 RT	10	16
	STA 529+65 to 529+74, RT	9	15
	STA 530+48 to 530+60, LT	13	19
	STA 531+81 to 532+00, LT	19	25
	STA 531+87 to 531+95, LT	8	14
	STA 533+85 to 533+93, LT	8	14
	STA 534+10 to 534+49	39	45
	STA 538+28 to 538+34, LT	6	12
	STA 538+30 to 538+37	7	13
	STA 540+05 to 540+20	15	21
	STA 543+50 to 543+56	6	12
	STA 546+60 to 546+73	13	19
	STA 560+54 to 560+60	6	12
	STA 553+37 to 553+47	10	16
	STA 555+25 to 555+35	10	16
	STA 555+65 to 555+75	10	16
	STA 561+00 to 561+15	15	21
	STA 561+97 to 562+27	30	36
	STA 563+85 to 564+06	21	27
	TOTALS	**428**	**620**

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	MISCELLANEOUS QUANTITIES	SHEET:	E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

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REMOVING STORM SEWER

CATEGORY	LOCATION	12-INCH 204.0245 LF	18-INCH 204.0245 LF	21-INCH 204.0245 LF	24-INCH 204.0245 LF
0010	STH 31				
	STA 134+00	12	--	--	--
	STA 137+00	--	8	8	--
	STA 142+39	16	--	--	8
	STH 165				
	STA 560+75 - STA 561+29	57	--	--	--
	STA 560+75	--	15	--	--
	TOTALS	**85**	**23**	**8**	**8**

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Division	From / To Station	Location	Common Excavation (1)	(item # 205.0100)	Salvaged / Unusable Pavement Material (3)	Available Material (4)	Unexpanded Fill	Expanded Fill (5)	Mass Ordinate + / - (6)	Waste	Comment:
			Cut (2)	EBS Excavation				Factor 1.11			
Division 1											
STH 165	559+86.47/563+25.3	Eastbound Left Turn Lanes	520	0	103	417	3	4	414	414	
Division 1 Subtotal			520	0	103	417	3	4	414	414	
Division 2											
STH 165	568+05.53/574+31.46	Westbound Through Lane	411	0	83	328	43	48	281	281	
Division 2 Subtotal			411	0	83	328	43	48	281	281	
Division 3											
STH 31	568+05.53/144+89.26	Left Turn Lanes	1,277	0	133	1,145	12	13	1,131	1,131	
Division 3 Subtotal			1,277	0	133	1,145	12	13	1,131	1,131	
Grand Total			2,209	0.00	318.36	1,890.19	58.24	64.64	1,825.55	1,825.55	
Total Common Exc			2,209								

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) Salvaged/Unusable Pavement Material is to be wasted.
4) Available Material = Cut - Salvaged/Unusuable Pavement Material
5) Expanded Fill. Factor = 1.11

Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor

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

NOTES: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEORY 0010

THIS TABLE FOR INFORMATION ONLY

CATEGORY	LOCATION	*BASE AGGREGATE DENSE 1 1/4-INCH 305.0120 TON	*BASE AGGREGATE OPEN GRADED 310.0110 TON	CONCRETE PAVEMENT 9-INCH 415.0090 SY	CONCRETE SIDEWALK 5-INCH 602.0410 SF	CONCRETE CORRUGATED MEDIAN 620.0100 SF
	STH 165					
0010	STA 559+76 to 563+25, EB LT LANES	190	270	610	670	591
	STA 568+08 to 574+31, WB THRU LANE	320	200	395	--	--
	STH 31					
	STA 133+35 to 137+62, NB LT LANE	160	365	480	1590	906
	STA 141+14 to 144+89, SB LT LANE	135	325	410	1260	714
	TOTALS	**805**	**1,160**	**1,895**	**3,520**	**2,211**

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

CATEGORY	LOCATION	*BASE AGGREGATE OPEN GRADED 310.0110 TON	DRILLED TIE BARS 416.0610 EA	DRILLED DOWEL BARS 416.0620 EA	*SAWING CONCRETE 690.0250 LF
	STH 165				
0010	STA 389+13 to 416+00	55	870	1000	2280
	STA 487+24 to CTH H	65	1200	--	2900
	CTH H to 80TH AVE	85	2560	2300	3690
	80TH AVE to STA 571+04	220	3870	2800	9380
	TOTALS	**425**	**8,500**	**6,100**	**18,250**

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

CATEGORY	LOCATION	*BASE AGGREGATE DENSE 1 1/4-INCH 305.0120 TON	CONCRETE PAVEMENT 10-INCH 415.0100 SY
	STH 165		
0010	STA 401+50 to 402+15	10	22
	TOTALS	**10**	**22**

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

CATEGORY	LOCATION	CONCRETE PAVEMENT APPROACH SLAB 415.0410 SY
	STH 165	
0010	B-30-70, W APPROACH SLAB	40
	B-30-74, W APPROACH SLAB	40
	B-30-74, E APPROACH SLAB	40
	TOTALS	**120**

CATEGORY	LOCATION	CONCRETE PAVEMENT REPAIR 416.1710 SY	CONCRETE PAVEMENT REPAIR SHES 416.1715 SY	CONCRETE PAVEMENT REPLACEMENT 416.1720 SY	CONCRETE PAVEMENT REPLACEMENT SHES 416.1725 SY
	STH 165				
0010	STA 389+13 to 416+00	45	125	750	170
	STA 487+24 to CTH H	215	35	780	355
	CTH H to 80TH AVE	505	510	480	265
	80TH AVE to STA 571+04	670	760	2255	795
	TOTALS	**1,435**	**1,430**	**4,265**	**1,585**

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	MISCELLANEOUS QUANTITIES	SHEET:	E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

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CONCRETE PAVEMENT
CONTINUOUS GRINDING
420.1000

CATEGORY	LOCATION	SY
	STH 165	
0010	STA 389+13 to 398+34, EB	2865
	STA 390+96 to 398+34, WB	2296
	STA 401+71 to 416+00, EB	4446
	STA 401+71 to 412+00, WB	4573
	STA 412+00 to 416+00, WB	1244
	STA 487+15 to 496+67, EB & WB	5500
	STA 489+10 to 509+54, WB	5905
	STA 489+10 to 505+00, EB	4593
	STA 505+00 to 509+54, EB	1412
	STA 509+54 to 544+00, EB & WB	21442
	STA 544+00 to 548+71, EB & WB	2721
	STA 550+58 to 555+00, EB & WB	2554
	STA 555+00 to 571+04, EB & WB	9987
	TOTALS	**69,540**

CONCRETE SURFACE REPAIR
509.1500

CATEGORY	LOCATION	SF
	STH 165	
0060	B-30-67	5
	TOTALS	**5**

SAWING CONCRETE CURB HEAD
SPV.0090.04

CATEGORY	LOCATION	LF
	STH 165	
0010	STA 396+45 to 397+23	78
	STA 401+73 to 401+79	6
	STA 494+61 to 496+85	224
	STA 494+61 to 496+89	228
	STA 498+75 to 501+02	227
	STA 498+80 to 501+02	222
	TOTALS	**985**

		CONCRETE CURB & GUTTER	
		30-INCH TYPE A	6-INCH SLOPED 36-INCH TYPE A
		601.0409	601.0555
CATEGORY	LOCATION	LF	LF
	STH 165		
0010	STA. 390+55 to 390+60, RT	5	--
	STA. 390+55 to 390+60, RT	5	--
	STA. 394+20 to 394+25, RT	5	--
	STA. 396+00 to 396+10, RT	10	--
	STA 396+25 to 396+30, RT	5	--
	STA 397+50 to 397+70, RT	20	--
	STA 401+60 to 401+75, LT	--	15
	STA 509+60 to 509+80, LT	20	--
	STA 514+30 to 514+56, LT	26	--
	STA 519+20 to 519+40, LT	20	--
	STA 519+33 to 519+59, LT	26	--
	STA 527+50 to 527+60	10	--
	STA 528+84 to528+90	--	6
	STA 529+65 to 529+75, RT	--	10
	STA 529+65 to 529+74, RT	--	9
	STA 530+48 to 530+60, LT	13	--
	STA 531+81 to 532+00, LT	19	--
	STA 531+87 to 531+95, LT	8	--
	STA 533+85 to 533+93, LT	8	--
	STA 534+10 to 534+49	39	--
	STA 538+28 to 538+34, LT	6	--
	STA 538+30 to 538+37	7	--
	STA 540+05 to 540+20	15	--
	STA 543+50 to 543+56	6	--
	STA 546+60 to 546+73	13	--
	STA 560+54 to 560+60	6	--
	STA 553+37 to 553+47	10	--
	STA 555+25 to 555+35	10	--
	STA 555+65 to 555+75	10	--
	STA 559+76 to 563+11	335	--
	STA 561+00 to 561+15	15	--
	STA 561+97 to 562+27	30	--
	STA 563+85 to 564+06	21	--
	STA 568+06 to 570+12	207	--
	STH 31		
	STA 133+35 to 137+62, NB LT LANE	430	--
	STA 141+14 to 144+92, SB LT LANE	450	--
	UNDISTRIBUTED	37	--
	TOTALS	**1,847**	**40**

3

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	MISCELLANEOUS QUANTITIES	SHEET:	E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

3

ASPHALT ITEMS

CATEGORY	LOCATION	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS 211.0400 STA	*BASE AGGREGATE DENSE 3/4 - INCH 305.0110 TON	TACK COAT 455.0605 GAL	HMA PAVEMENT 4 LT 58-28 S 460.5224 TON	HMA PAVEMENT 3 MT 58-28 S 460.6223 TON	HMA PAVEMENT 4MT 58-28 S 460.6224 TON	JOINT AND CRACK REPAIR SPV.0090.05 LF
	STH 165							
0010	STA 487+24 to 496+75, RT	10	12	--	187	--	--	--
	STA 487+24 to 496+77, LT	10	12	--	216	--	--	--
	STA 499+09 to 509+45, LT	11	13	--	206	--	--	--
	STA 499+09 to 507+18, RT	9	10	--	138	--	--	--
	STA 543+99 to 548+66, LT	6	6	--	93	--	--	--
	STA 543+99 to 548+76, RT	6	6	--	103	--	--	--
	STA 550+57 to 554+99, LT	5	5	--	100	--	--	--
	STA 550+57 to 554+99, RT	5	5	--	87	--	--	--
	STA 571+04 to 574+31, LT	--	45	20	--	72	41	--
	STA 570+12 to 571+04, RT	2	1	--	6	--	--	--
	JOINT AND CRACK REPAIR	--	--	--	--	--	--	1,000
	TOTALS	**64**	**115**	**20**	**1,136**	**72**	**41**	**1,000**

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

CATEGORY	LOCATION	ASPHALTIC SHOULDER RUMBLE STRIPS 465.0400 LF
	STH 165	
0010	STA 487+24 to STA 495+75 LT	851
	STA 487+24 to STA 495+75 RT	851
	TOTAL	**1,702**

CATEGORY	LOCATION	REMOVING MANHOLES 204.0210 EACH	REMOVING INLETS 204.0220 EACH	CONCRETE COLLARS FOR PIPE 520.8000 EACH	APRON ENDWALLS FOR CULVERT PIPE SALVAGED 12-INCH 524.0612 EACH
	STH 165				
0010	STA 493+75, 65' RT	--	--	1	1
	STA 560+77, 18' RT	--	1	2	--
	STA 561+29, 17' RT	--	1	--	--
	STH 31				
	STA 134+00	--	1	2	--
	STA 137+00	--	1	2	--
	STA 142+40	1	1	3	--
	TOTALS	**1**	**5**	**10**	**1**

3

CATEGORY	LOCATION	ADJUSTING INLET COVERS 611.8115 EACH
	STH 165	
0010	STA 496+75, 44' LT	1
	STA 496+85, 8' LT	1
	STA 496+91, 8' RT	1
	STA 497+02, 44' RT	1
	STA 498+74, 8' LT	1
	STA 498+79, 8' RT	1
	STA 509+72, 10' LT	1
	TOTALS	**7**

CATEGORY	LOCATION	PIPE UNDERDRAIN 4-INCH 612.0104 LF	GEOTEXTILE FABRIC TYPE DF SCHEDULE A 645.0111 SY
	STH 165		
0010	STA 559+76 to 563+11, EB LT Lane	335	112
	STA 568+06 to 572+03, WB THRU LANE	400	133
	STH 31		
	STA 133+35 to 137+62, NB LT LANE	430	143
	STA 141+14 to 144+89, SB LT LANE	450	150
	TOTALS	**1,280**	**538**

STORM SEWER STRUCTURES

CATEGORY	STRUCTURE NO.	LOCATION	*GRATE ELEV.	**DEPTH	INLETS 4-FT DIAMETER 611.3004 EACH	INLETS 2X3-FT 611.3230 EACH	INLETS 5-FT DIAMETER SPV.0060.02 EACH	INLET COVERS TYPE H 611.0624 EACH	INLET COVERS TYPE WM 611.0660 EACH
		STH 31							
0010	S-1	STA 134+00, 3.5' RT	720.43	4.07	--	1	--	1	--
	S-2	STA 137+00, 2.3' LT	717.10	4.28	1	--	--	--	1
	S-3	STA 142+39, 2.0' RT	712.12	6.45	--	--	1	--	1
		STH 165							
	S-4	STA 561+78, 4.0' LT	711.01	3.69	1	--	--	1	--
	S-5	STA 561+14, 3.7' RT	711.01	3.93	1	--	--	1	--
	S-6	STA 560+74, 8.8' RT	711.08	4.01	--	1	--	1	--
		TOTALS			**3**	**2**	**1**	**4**	**2**

* GRATE ELEVATION IS AT FLANGE LINE

**DEPTH OF STRUCTURE IS MEASURED FROM RIM ELEVATION TO LOWEST PIPE INVERT ELEVATION

STORM SEWER PIPE

CATEGORY	PIPE	FROM	TO	*INLET ELEV.	*DISCH. ELEV.	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH 608.0312 LF	18-INCH 608.0318 LF	21-INCH 608.0321 LF	24-INCH 608.0324 LF	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH 608.0418 LF
	P-1	EXISTING	S-1	716.51	716.36	4	--	--	--	--
0010	P-2	S-1	EXISTING	716.36	716.00	8	--	--	--	--
	P-3	EXISTING	S-2	712.93	712.90	--	8	--	--	--
	P-4	S-2	EXISTING	712.82	712.51	--	--	8	--	--
	P-5	EXISTING	S-3	707.09	706.44	8	--	--	--	--
	P-6	EXISTING	S-3	707.00	706.22	8	--	--	--	--
	P-7	S-3	EXISTING	705.67	705.65	--	--	--	8	--
	P-8	S-4	S-5	707.32	707.08	--	--	--	--	63
	P-9	S-5	EXISTING	707.08	706.92	--	--	--	--	40
	P-10	EXISTING	S-6	707.09	707.07	--	--	--	--	11
	P-11	S-6	EXISTING	707.07	707.04					4
	TOTALS					**28**	**8**	**8**	**8**	**103**

*ELEVATIONS AT CONNECTIONS TO EXISTING STORM SEWER ARE APPROXIMATE.
MATCH EXISTING STORM SEWER PIPE.

BEAM GUARD

CATEGORY	LOCATION	ANCHORAGES FOR STEEL PLATE BEAM GUARD TYPE 2 614.0115 EACH	STEEL THRIE BEAM STRUCTURE APPROACH 614.0200 LF	STEEL THRIE BEAM BULLNOSE TERMINAL 614.0220 EACH	STEEL THRIE BEAM 614.0230 LF	STEEL PLATE BEAM GUARD CLASS A 614.0305 LF	STEEL PLATE BEAM GUARD SHORT RADIUS 614.0345 LF	GUARDRAIL MOW STRIP 614.0396 SY	MGS GUARDRAIL 3 614.2300 LF	MGS THRIE BEAM TRANSITION 614.2500 LF	MGS GUARDRAIL TERMINAL EAT 614.2610 EACH
	STH 165										
0010	STA 397+00 to 398+50, RT	--	--	--	--	--	--	68	50	39	1
	STA 401+60 to 402+10, LT	--	21	--	--	--	44	128	--	--	--
	STA 490+29 to 497+09, RT	--	--	--	--	--	--	311	588	39	1
	STA 495+65 to 496+85, MEDIAN	--	29	1	136	--	--	--	--	--	--
	STA 498+55 to 500+48, LT	--	--	--	--	--	--	94	100	39	1
	STA 498+65 to 499+97, MEDIAN	--	29	1	132	--	--	--	--	--	--
	STA 547+52 to 548+82, RT	--	--	--	--	--	--	67	213	40	1
	STA 550+48 to 553+51, LT	--	--	--	--	--	--	139	37	40	1
	RAMP NB										
	STA 0+65 - 3+36	1	--	--	--	244	--	--	--	--	--
	TOTALS	**1**	**79**	**2**	**268**	**244**	**44**	**807**	**988**	**197**	**5**

BARRIER SYSTEM GRADING SHAPING FINISHING

CATEGORY	LOCATION	614.0110 EACH	**EXCAVATION COMMON CY	**BORROW CY	**SALVAGED TOPSOIL SY	**FERTILIZER TYPE B CWT	**SEED MIXTURE NO. 30 LB	** EROSION MAT URBAN CLASS I TYPE B SY
	STH 165							
0010	STA 397+00 to 398+50, RT	1	3	--	47	0.03	1	47
	STA 401+60 to 402+10, LT	1	24	--	91	0.06	2	91
	STA 490+29 to 497+09, RT	1	16	215	1527	0.96	27	1527
	STA 495+65 to 496+85, MEDIAN	1	64	--	361	0.23	7	361
	STA 498+55 to 500+48, LT	1	14	141	1007	0.63	18	1007
	STA 498+65 to 499+97, MEDIAN	1	78	--	372	0.23	7	372
	STA 547+52 to 548+82, RT	1	22	5	321	0.20	6	321
	STA 550+48 to 553+51, LT	1	22	--	237	0.15	4	237
	TOTALS	8	242	361	3963	2.50	71	3963

**INCIDENTAL TO BARRIER SYSTEM GRADING SHAPING FINISHING.
ITEMS AND QUANTITIES LISTED FOR BID INFORMATION ONLY.

EROSION CONTROL

CATEGORY	LOCATION	SALVAGED TOPSOIL 625.0500 SY	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF	EROSION MAT URBAN CLASS I TYPE A 628.2006 SY	INLET PROTECTION TYPE C 628.7015 EACH	INLET PROTECTION TYPE D 628.7020 EACH	ROCK BAGS 628.7570 EACH	EROSION BALES 628.1104 EACH	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 30 630.0130 LB	SEEDING TEMPORARY 630.0200 LB
	STH 165											
0010	PROJECT LIMITS	--	--	--	--	150	30	--	--	--	--	--
	B-30-70	--	99	--	--	--	--	--	--	--	--	--
	B-30-71	--	304	--	--	--	--	--	--	--	--	--
	B-30-66	--	694	--	--	--	--	--	--	--	--	--
	B-30-67	--	277	--	--	--	--	--	--	--	--	--
	B-30-73	--	452	--	--	--	--	--	--	--	--	--
	B-30-74	--	556	--	--	--	--	--	--	--	--	--
	STA 559+76 to 563+25	237	--	--	237	--	--	--	--	0.15	4	3
	STA 568+06 - STA 574+31	357	--	--	357	--	--	--	--	0.23	6	5
	STH 31											
	STA 133+35 to 137+62, NB LT LANE	325	--	--	325	--	--	--	--	0.20	6	4
	STA 141+14 to 144+92, SB LT LANE	323	--	--	323	--	--	--	--	0.20	6	4
	UNDISTRIBUTED	--	618	1,500	--	50	10	20	360	--	6	5
	TOTALS	**1,242**	**3,000**	**1,500**	**1,242**	**200**	**40**	**20**	**360**	**0.78**	**28**	**21**

EROSION CONTROL MOBILIZATIONS

CATEGORY	LOCATION	MOBILIZATIONS EROSION CONTROL 628.1905 EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL 628.1910 EACH
0010	PROJECT	10	5
	TOTALS	**10**	**5**

PAVEMENT MARKING

CATEGORY	LOCATION	EPOXY 4-INCH (WHITE) 646.0106 LF	EPOXY 4-INCH (YELLOW) 646.0106 LF	EPOXY 8-INCH (WHITE) 646.0126 LF	GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE) 3' LINE 9' GAP 646.0841.S LF	GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE) 12.5' LINE 37.5' GAP 646.0841.S LF	GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE) CHANNELIZING 646.0843.S LF	GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE) 2' LINE 6' GAP 646.0843.S LF	GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE) 3' LINE 9' GAP 646.0843.S LF	CURB EPOXY (YELLOW) 647.0456 LF	ISLAND NOSE EPOXY (YELLOW) 647.0606 EACH
	STH 165										
0010	STA 389+13 to 416+00	9,060	5,360	--	130	1,610	3,610	45	215	595	20
	STA 487+24 to CTH H	4,490	4,555	205	--	1,185	485	--	120	75	8
	CTH H to 80TH AVE	3,940	5,060	805	--	1,125	1,885	--	145	470	15
	80TH AVE to STA 574+31	8,500	8,615	475	--	2,135	4,230	--	--	515	23
	TOTALS	**25,990**	**23,590**	**1,485**	**130**	**6,055**	**10,210**	**45**	**480**	**1,655**	**66**

(CONTINUED IN NEXT SECTION)

PAVEMENT MARKING (CONTINUED FROM PREVIOUS SECTION)

CATEGORY	LOCATION	DIAGONAL EPOXY 8-INCH (WHITE) 647.0716 LF	DIAGONAL EPOXY 8-INCH (YELLOW) 647.0716 LF	DIAGONAL EPOXY 12-INCH (WHITE) 647.0726 LF	GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 1 SPV.0060.16 EACH	ARROWS TYPE 2 SPV.0060.06 EACH	ARROWS TYPE 3 SPV.0060.17 EACH	WORDS SPV.0060.13 EACH	STOP LINE 18-INCH SPV.0090.02 LF	YIELD LINE 18-INCH SPV.0060.18 EACH	CONTRAST EPOXY 4-INCH SPV.0090.08 LF
	STH 165										
0010	STA 389+13 to 416+00	40	720	590	2	25	2	12	280	--	--
	STA 487+24 to CTH H	--	--	--	--	5	--	4	90	38	--
	CTH H to 80TH AVE	--	--	--	--	15	--	12	335	20	--
	80TH AVE to STA 574+31	--	--	65	--	16	--	14	335	35	75
	TOTALS	**40**	**720**	**655**	**2**	**61**	**2**	**42**	**1,040**	**93**	**75**

TRAFFIC CONTROL

CATEGORY	LOCATION	STAGE DURATION DAYS	DRUMS 643.0300 EACH	DRUMS 643.0300 DAYS	BARRICADES TYPE III 643.0420 EACH	BARRICADES TYPE III 643.0420 DAYS	WARNING LIGHTS TYPE A 643.0705 EACH	WARNING LIGHTS TYPE A 643.0705 DAYS	WARNING LIGHTS TYPE C 643.0715 EACH	WARNING LIGHTS TYPE C 643.0715 DAYS	ARROW BOARD 643.0800 EACH	ARROW BOARD 643.0800 DAYS	SIGNS 643.0900 EACH	SIGNS 643.0900 DAYS	REMOVING PAVEMENT MARKING 646.0600 LF	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (White) 649.0400 LF
	STH 165															
0010	STAGE 1	45	880	39,600	40	1,800	80	3,600	32	3,072	4	180	96	4,320	16,760	--
	STAGE 2	46	500	23,000	40	1,840	80	3,680	32	3,168	4	184	99	4,554	--	14,000
	UNDISTRIBUTED	91	100	9,100	5	455	10	910	10	250	--	--	25	2,275	--	--
	TOTALS	**182**	**1,480**	**71,700**	**85**	**4,095**	**170**	**8,190**	**74**	**6,490**	**8**	**364**	**220**	**11,149**	**16,760**	**14,000**

3

CONSTRUCTION STAKING
STORM SEWER
650.4000

CATEGORY	LOCATION	EA
	STH 165	
0010	STA 560+74	1
	STA 561+14	1
	STA 561+76	1
	STH 31	
	STA 134+00	1
	STA 137+00	1
	STA 142+40	1
	TOTALS	**6**

CONSTRUCTION STAKING
SUBGRADE
650.4500

CATEGORY	LOCATION	LF
	STH 165	
0010	STA 559+86 to 563+25	339
	STA 568+06 to 574+31	626
	STH 31	
	STA 133+35 to 137+62	427
	STA 141+14 to 144+89	377
	TOTALS	**1,769**

CONSTRUCTION STAKING
BASE
650.5000

CATEGORY	LOCATION	LF
	STH 165	
0010	STA 571+04 to 574+31	328
	TOTALS	**328**

CONSTRUCTION STAKING
CONCRETE PAVEMENT
650.7000

CATEGORY	LOCATION	LF
	STH 165	
0010	STA 559+86 to 563+25	339
	STA 568+06 to 571+04	298
	STH 31	
	STA 133+35 to 137+62	428
	STA 141+14 to 144+89	377
	TOTALS	**1,442**

CONSTRUCTION STAKING
RESURFACING REFERENCE
650.8000

CATEGORY	LOCATION	LF
	STH 165	
0010	STA 389+13 to 574+31	22,752
	TOTALS	**22,752**

CONSTRUCTION STAKING
SUPPLEMENTAL CONTROL
650.9910

CATEGORY	LOCATION	LS
0010	PROJECT	1
	TOTALS	**1**

CONSTRUCTION STAKING
SLOPE STAKES
650.9920

CATEGORY	LOCATION	LF
	STH 165	
0010	568+06 to 574+31	625
	TOTALS	**625**

3

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	MISCELLANEOUS QUANTITIES	SHEET:	E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

3

3

RAMP GATE AND BARRICADE RACK ITEMS

LOCATION	REMOVING RAMP GATE 204.9060.S EA	*SIGNS TYPE II REFLECTIVE H (R11-2R) (RAMP CLOSED) 637.2210 SF	TRAFFIC CONTROL BARRICADES PERMANENT TYPE III 643.0453 EA	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH 652.0225 LF	PULL BOX STEEL 24X36-INCH 653.01350 EA	CONCRETE BASES TYPE 5 654.0105 EA	CONCRETE CONTROL CABINET BASE TYPE 10 654.0220 EA
I-94 NB ON-RAMP	1	30	3	40	1	1	1
STA 397+00, RT	--	30	3	--	--	--	--
TOTAL	1	60	6	40	1	1	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

RAMP GATE AND BARRICADE RACK ITEMS (CONTINUED FROM PREVIOUS SECTION)

LOCATION	PEDESTAL BASES 657.0100 EA	TRANSFORMER BASE BREAKAWAY 11 1/2-INCH BOLT CIRCLE 657.0255 EA	TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT 657.0425 EA	RAMP CLOSURE GATE SOLAR 40-FT 662.2040.S EA	RAMP CLOSURE BARRICADE RACK 3-UNIT 662.6030.S EA
I-94 NB ON-RAMP	1	1	1	1	1
STA 397+00, RT	--	--	--	--	1
TOTAL	1	1	1	1	2

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

IH 94 WB RAMPS & STH 165
KENOSHA COUNTY
CATEGORY 0050
S30-1328

3

3

STATE FURNISHED MATERIALS SUMMARY

EACH	DESCRIPTION
1	RADIO INTERCONNECT ANTENNA 5.8 GHZ

STATE FURNISHED FOR INFORMATION ONLY

SIGNAL BASE NO.	RADIO INTERCONNECT ANTENNA 5.8 GHZ EACH
SB2 (S30-1328)	1
**TOTAL	1

INSTALL 5.8 GHZ ETHERNET BRIDGE

LOCATION	SPV.0060.14 INSTALL 5.8 GHZ ETHERNET BRIDGE EACH
SB2 (S30-1328)	1
TOTAL	1

** QUANTITY SHOWN ELSEWHERE ON PLAN

SHEET: 1 OF 1

STH 165 (LAKEVIEW PKWY) AND
EAST FRONTAGE ROAD (120TH AVE)
KENOSHA COUNTY
CATEGORY 0050
S30-0756

3

STATE FURNISHED MATERIALS SUMMARY

EACH	DESCRIPTION
1	RADIO INTERCONNECT ANTENNA 5.8 GHZ
1	EVP DETECTOR HEADS

STATE FURNISHED FOR INFORMATION ONLY

SIGNAL BASE NO.	RADIO INTERCONNECT ANTENNA 5.8 GHZ EACH	EVP DETECTOR HEADS EACH
SB1 (S30-0756)	1	1
** TOTAL	1	1

REMOVING CONCRETE BASES

SIGNAL BASE NO.	204.0195 REMOVING CONCRETE BASES EACH
SB1	1
SB2	1
SB7	1
SB9	1
TOTAL	4

REMOVE PULL BOXES

PULL BOX NO.	653.0905 REMOVING PULL BOXES EACH
PB5	1
PB7	1
PB8	1
PB10	1
**TOTAL	4

CONCRETE BASES

SIGNAL BASE NO.	LOCATION*	654.0101 CONCRETE BASES TYPE 1 EACH	654.0102 CONCRETE BASES TYPE 2 EACH
SB1	411+65.7, 92.2'RT		1
SB2	411+27.5, 59.7'RT	1	
SB7	412+89.7, 56.3'LT	1	
SB9	412+12.9, 85.9'LT	1	
SB13	412+89.6, 5.3'RT	1	
	TOTAL	4	1

* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

PULL BOXES

PULL BOX NO.	LOCATION*	653.0135 PULL BOXES STEEL 24x36-INCH EACH	653.0140 PULL BOXES STEEL 24x42-INCH EACH	653.0900 ADJUSTING PULL BOXES EACH
PB5	411+48.9, 76.7'LT		1	
PB7	412+03.0, 108.7'LT		1	
PB8	412+50.6, 105.0'LT		1	
PB20	411+66.7, 103.8'LT		1	
PB21	413+07.4, 53.7'LT		1	
PB22	413+05.6, 62.5'RT			
PB23	408+73.6, 8.0'RT	1		
PB10	413+06.5, 3.4'RT	1		
EX LPB105	412+77.5, 70.0'LT			1
	**TOTAL	2	5	1

* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

CONDUIT

FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH L.F.	652.0605 CONDUIT SPECIAL 2-INCH L.F.	652.0615 CONDUIT SPECIAL 3-INCH L.F.
PB1	SB2	7			
PB5	SB11	23			
PB5	EXT1		36		
PB5	PB20		64		
PB5	SB10	14			
PB20	PB7				92
PB7	SB9			19	
PB7	PB8				74
PB8	SB8	20			
PB8	PB21		152		
PB21	SB7	16			
PB21	PB10				110
PB10	SB13	17			
PB10	PB22				114
PB22	PB13		74		
PB19	SB1	24			
	**TOTAL	121	326	19	390

** QUANTITIES SHOWN ELSEWHERE ON PLAN

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	MISCELLANEOUS QUANTITIES	SHEET:	E

FILE NAME : N:\PDS\C3D\CAD\37380631\SIG\024003_S30-0756\S30-0756_mq.pptx PLOT DATE : 10/29/2015 PLOT BY : DOTBMD PLOT NAME : S30-0756_mq.pdf PLOT SCALE : 1:1

STH 165 (LAKEVIEW PKWY) AND
EAST FRONTAGE ROAD (120TH AVE)
KENOSHA COUNTY
CATEGORY 0050
S30-0756

TRAFFIC DETECTOR LOOPS

LOOP NO.	HOME RUN PB	LOCATION*	SIZE (FT)x(FT)	NO. OF TURNS	SDD INSTALLATION REFERENCE	652.0800 CONDUIT LOOP DETECTOR L.F.	655.0700 LOOP DETECTOR LEAD IN CABLE L.F.	655.0800 LOOP DETECTOR WIRE L.F.
21	PB12	415+15.6, 33.9'LT	6'x30'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	90	499	270
41	PB6	(EXISTING LOOP)	6'x20'	5			439	
42	PB7	411+91.8, 108.4'LT	6'x20'	4	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	88	266	352
43	PB7	411+91.9, 78.7'LT	6'x20'	4	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	88	266	352
44	PB7	412+03.0, 108.7'LT	6'x20'	4	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	66	266	264
45	PB7	412+02.6, 78.8'LT	6'x20'	4	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	66	266	264
51	PB10	413+18.1, 5.8'LT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	78	266	234
52	PB10	412+90.2, 6.6'LT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	68	266	204
61	PB23	408+73.5, 28.0'RT	6'x20'	4	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	72	377	288
					**TOTAL	616	2911	2228

* LOCATION IS TO FRONT CENTER OF DETECTOR LOOP
* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

** QUANTITIES SHOWN ELSEWHERE ON PLAN

SHEET: 2 OF 5

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STH 165 (LAKEVIEW PKWY) AND
EAST FRONTAGE ROAD (120TH AVE)
KENOSHA COUNTY
CATEGORY 0050
S30-0756

TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.
CB1	SB1	84	
CB1	SB2		68
CB1	SB6	426	
CB1	SB7		446
CB1	SB8	416	
CB1	SB9		362
CB1	SB10		247
CB1	SB11	256	
CB1	SB13		376
	**TOTAL	1182	1499

TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.
CB1	SB1	84
SB1	SB3	148
SB5	SB13	176
SB13	SB6	99
SB6	SB7	178
SB7	SB8	152
SB8	SB9	116
SB9	SB10	167
SB10	SB11	61
SB11	SB12	138
SB12	SB2	119
SB2	CB1	68
PB1	SB2	27
PB5	SB10	34
PB20	SB10	82
PB7	SB9	39
PB8	SB8	40
PB21	SB7	36
PB10	SB13	37
PB22	SB5	82
PB19	CB1	44
	TOTAL	1927

TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.
SB1	HEAD 12	50	
SB2	HEAD 1		23
SB7	HEAD 4	19	
SB9	HEAD 8		22
SB9	HEAD 14		22
SB13	HEAD 15		23
	**TOTAL	69	90

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
CB1	SB11 (HEAD A)	306
CB1	SB1 (HEAD C)	139
CB1	SB8 (HEAD D)	461
	**TOTAL	906

POLES

SIGNAL BASE NO.	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0305 POLES TYPE 2 EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0595 TROMBONE ARMS 25-FT EACH
SB1		1	1			1
SB2	1				1	
SB7	1			1		
SB9	1				1	
SB13	1				1	
TOTAL	4	1	1	1	3	1

** QUANTITIES SHOWN ELSEWHERE ON PLAN

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STH 165 (LAKEVIEW PKWY) AND
EAST FRONTAGE ROAD (120TH AVE)
KENOSHA COUNTY
CATEGORY 0050
S30-0756

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		FACES											
SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	658.0120 TRAFFIC SIGNAL FACE 5-12 INCH VERTICAL EACH	658.0155 TRAFFIC SIGNAL FACE 3-12 INCH HORIZONTAL EACH	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	658.0225 BACKPLATES SIGNAL FACE 5 SECTION 12-INCH EACH	658.0600 LED MODULES 12-INCH RED BALL EACH	658.0605 LED MODULES 12-INCH YELLOW BALL EACH	658.0610 LED MODULES 12-INCH GREEN BALL EACH	658.0620 LED MODULES 12-INCH YELLOW ARROW EACH	658.0625 LED MODULES 12-INCH GREEN ARROW EACH
1	SB2			1				1	1	1	1	1	1
4	SB7	1				1			1	1	1		
8	SB9		1				1		1	1	1		1
12	SB1				1	1			1	1	1		
14	SB9		1				1		1	1	1		1
15	SB13			1				1	1	1	1	1	1
	TOTAL	1	2	2	1	2	2	2	6	6	6	2	4

TRAFFIC SIGNAL MOUNTING HARDWARE

LOCATION	658.5069.01 SIGNAL MOUNTING HARDWARE L.S.
STH 165 & E FRONTAGE RD	1
TOTAL	1

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS

LOCATION	661.0200.01 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS L.S.
STH 165 & E FRONTAGE RD	1
TOTAL	1

** QUANTITIES SHOWN ELSEWHERE ON PLAN

STH 165 (LAKEVIEW PKWY) AND
EAST FRONTAGE ROAD (120TH AVE)
KENOSHA COUNTY
CATEGORY 0050
S30-0756

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INSTALL 5.8 GHZ ETHERNET BRIDGE

SIGNAL BASE NO.	SPV.0060.15 INSTALL 5.8 GHZ ETHERNET BRIDGE EACH
SB1 (S30-0756)	1
TOTAL	1

REMOVE TRAFFIC SIGNALS

LOCATION	SPV.0105.03 REMOVE TRAFFIC SIGNALS L.S.
STH 165 & E FRONTAGE RD	1
TOTAL	1

REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE

LOCATION	SPV.0105.04 REMOVE LOOP DETECTOR WIRE & LEAD-IN CABLE L.S.
STH 165 & E FRONTAGE RD	1
TOTAL	1

TEMPORARY NON-INTRUSIVE VEHICLE DETECTION SYSTEM

LOCATION	SPV.0105.06 TEMPORARY NON-INTRUSIVE VEHICLE DETECTION SYSTEM L.S.
STH 165 & E FRONTAGE RD	1
TOTAL	1

EVP DETECTOR HEAD INSTALLATION

LOCATION	SPV.0105.07 EVP DETECTOR HEAD INSTALLATION L.S.
STH 165 & E FRONTAGE RD	1
TOTAL	1

TEMPORARY INFRARED EVP SYSTEM

LOCATION	SPV.0105.09 TEMPORARY INFRARED EVP SYSTEM L.S.
STH 165 & E FRONTAGE RD	1
TOTAL	1

SHEET: 5 OF 5

3

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CONDUIT

FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.
EXT1	PB8	17
EXT2	PB9	44
EXT3	PB18	22
EXT4	PB19	30
	**TOTAL	113

PULL BOXES

PULL BOX NO.	LOCATION*	653.0135 PULL BOXES STEEL 24x36-INCH EACH
PB8	513+35.8, 51.3'LT	1
PB9	514+85.4, 53.4'LT	1
PB18	507+98.8, 50.7'RT	1
PB19	506+51.2, 48.9'RT	1
	**TOTAL	4

* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

REMOVE PULL BOXES

PULL BOX NO.	653.0905 REMOVING PULL BOXES EACH
PB8	1
PB9	1
PB18	1
PB19	1
**TOTAL	4

REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE

LOCATION	SPV.0105.05 REMOVE LOOP DETECTOR WIRE & LEAD-IN CABLE L.S.
STH 165 & CTH H	1
TOTAL	1

TRAFFIC DETECTOR LOOPS

LOOP NO.	HOME RUN PB	LOCATION*	SIZE (FT)x(FT)	NO. OF TURNS	SDD INSTALLATION REFERENCE	652.0800 CONDUIT LOOP DETECTOR L.F.	655.0700 LOOP DETECTOR LEAD IN CABLE L.F.	655.0800 LOOP DETECTOR WIRE L.F.
21	PB9	514+85.8, 22.1'LT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	94	524	282
22	PB8	513+35.8, 21.3' LT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	92	375	276
61	PB19	506+78.2, 12.9'RT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	84	470	252
62	PB18	507+99.4, 23.1'RT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	88	317	264
					**TOTAL	358	1686	1074

* LOCATION IS TO FRONT CENTER OF DETECTOR LOOP
* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

** QUANTITIES SHOWN ELSEWHERE ON PLAN

SHEET: 1 OF 1

3

3

STATE FURNISHED MATERIALS SUMMARY

EACH	DESCRIPTION
4	EVP DETECTOR HEADS

STATE FURNISHED FOR INFORMATION ONLY

SIGNAL BASE NO.	EVP DETECTOR HEADS EACH
SB2	1
SB4	1
SB7	1
SB9	1
TOTAL	4

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
CB1	SB4 (HEAD A)	604
CB1	SB9 (HEAD B)	186
CB1	SB2 (HEAD C)	329
CB1	SB7 (HEAD D)	374
	**TOTAL	1493

EVP DETECTOR HEAD INSTALLATION

LOCATION	SPV.0105.08 EVP DETECTOR HEAD INSTALLATION L.S.
STH 31 & STH 165	1
TOTAL	1

** QUANTITY SHOWN ELSEWHERE ON PLAN

SHEET: 1 OF 1

IH 94 WB EXIT RAMP & STH 165
KENOSHA COUNTY
CATEGORY 0050
COMMUNICATIONS

3

CONDUIT

FROM	TO		652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	652.0605 CONDUIT SPECIAL 2-INCH L.F.
EX FTMS VAULT	I/C PB1		10	
I/C PB1	I/C PB2		116	
I/C PB2	I/C PB3			81
I/C PB3	CB1 (S30-1328)		154	
		**TOTAL	280	81

INSTALL CONDUIT INTO EXISTING ITEM

STRUCTURE NO.		652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH
EX FTMS VAULT		1
CB1 (S30-1328)		1
	**TOTAL	2

PULL BOXES

PULL BOX NO.	LOCATION*		653.0140 PULL BOXES STEEL 24x42-INCH EACH
I/C PB1	401+75.4, 370.1' RT		1
I/C PB2	402+26.7, 266.1' RT		1
I/C PB3	402+95.3, 223.4; RT		1
		**TOTAL	3

* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

FIELD SYSTEM INTEGRATOR

LOCATION		670.0100.01 FIELD SYSTEM INTEGRATOR L.S.	670.0200.01 ITS DOCUMENTATION L.S.	678.0500.01 COMMUNICATION SYSTEM TESTING L.S.
3738-06-60		1	1	1
	TOTAL	1	1	1

FIBER OPTIC SPLICE

LOCATION		678.0200 FIBER OPTIC SPLICE ENCLOSURE EACH	678.0300 FIBER OPTIC SPLICE EACH
EX FTMS VAULT		1	4
	TOTAL	1	4

FIBER OPTIC TRACER WIRE

FROM	TO		SPV.0090.09 FIBER OPTIC TRACER WIRE L.F.
EX FTMS VAULT	I/C PB1		15
I/C PB1	I/C PB2		121
I/C PB2	I/C PB3		86
I/C PB3	CB1 (S30-1328)		159
		TOTAL	381

FIBER OPTIC WARNING TAPE

FROM	TO		SPV.0090.10 FIBER OPTIC WARNING TAPE L.F.
EX FTMS VAULT	I/C PB1		15
I/C PB1	I/C PB2		121
I/C PB2	I/C PB3		86
I/C PB3	CB1 (S30-1328)		159
		TOTAL	381

** QUANTITY SHOWN ELSEWHERE ON PLAN

IH 94 WB EXIT RAMP & STH 165
KENOSHA COUNTY
CATEGORY 0050
COMMUNICATIONS

3

3

FIBER OPTIC COMMUNICATIONS EQUIPMENT

LOCATION	***SPV.0105.02 INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET L.S.	ST-ST SINGLE MODE FIBER JUMPER 2-CT CONTRACTOR FURNISHED L.F.	CAT-5E CABLE 1-METER CONTRACTOR FURNISHED EACH	PATCH PANEL WITH FIBER OPTIC CABLE PIGTAIL 8-CT STATE FURNISHED L.F.	ETHERNET SWITCH 2-PORT STATE FURNISHED EACH
CB1 (S30-1328)	1	2	2	551	1
TOTAL	1	2	2	551	1

***PAY ITEM INCLUDES INSTALLATION OF BOTH CONTRACTOR FURNISHED AND STATE FURNISHED MATERIALS

STATE FURNISHED MATERIALS SUMMARY

QUANTITY	UNIT	DESCRIPTION
1	EACH	ETHERNET SWITCH 2-PORT
551	L.F.	PATCH PANEL WITH FIBER OPTIC CABLE PIGTAIL 8-CT

CONTRACTOR FURNISHED MATERIALS SUMMARY

QUANTITY	UNIT	DESCRIPTION
2	EACH	CAT-5E CABLE 1-METER
2	L.F.	ST-ST SINGLE MODE FIBER OPTIC JUMBER 2-CT

** QUANTITY SHOWN ELSEWHERE ON PLAN

SHEET: 2 OF 2

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	MISCELLANEOUS QUANTITIES	SHEET:	E

FILE NAME : N:\PDS\C3D\CAD\37380631\Interconnect\S30-1328_mq.pptx PLOT DATE : 10/28/2015 PLOT BY : DOTCMV PLOT NAME : S30-1328_mq.pdf PLOT SCALE : 1:1

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SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0620 WOOD POSTS 4"X6"X20' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	638.2601 REM SIGNS TYPE I [EA]
1	D1-60A(MOD)	II	120TH AVE WEST FRONTAGE RD [A] SOUTH NORTH [A]	96 x 36	24.000	--	--	1	1	2	--	--	--	--	-- x --	--	--
2	R3-20R(2S)	II	--	24 x 36	6.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
3	R3-20LL(2S)	II	--	24 x 36	6.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
4	D1-2	II	[A] MILWAUKEE CHICAGO [A]	78 x 30	16.250	--	--	1	2	2	--	--	--	--	-- x --	--	--
5	R2-1(2S)	II	35 MPH	24 x 30	5.000	-	--	1	1	1	--	--	--	--	-- x --	--	--
6	J1-2(2S)	II	--	48 x 63	21.000	--	--	1	1	2	--	--	--	--	-- x --	--	--
	M2-1		--	21 x 15													
	M1-95		--	24 x 24													
	M1-5A		CTH Q	24 x 24													
	M4-6		--	24 x 12													
	M1-6		STH 165	24 x 24													
7	R1-2(2S)	II	--	36 x 31	3.880	--	--	1	1	1	--	--	--	--	-- x --	--	--
8	J3-2(2S)	II	--	48 x 57	19.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M3-2		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M6-1		--	21 x 21													
	M4-5		--	24 x 12													
	M1-5A		CTH Q	24 x 24													
	M6-1		--	21 x 21													
9	R5-1(2M)	II	--	36 x 36	9.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
10	R5-1A(2S)	II	--	36 x 24	6.000	--	--	--	--	--	--	--	9	3 FT MOUNTING HEIGHT	-- x --	--	--
11	R1-1(3)	II	--	36 x 36	7.460	--	--	1	1	1	--	--	--	--	-- x --	--	--
12	R1-1(3)	II	--	36 x 36	7.460	--	--	1	1	1	--	--	--	--	-- x --	--	--
13	R6-2R(2S)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
14	R3-1(2S)	II	--	24 x 24	4.000	--	--	--	--	--	--	--	13	--	-- x --	--	--
15	R5-1(2M)	II	--	36 x 36	9.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
16	R5-1A(2S)	II	--	36 x 24	6.000	--	--	--	--	--	--	--	15	3 FT MOUNTING HEIGHT	-- x --	--	--
17	W12-1D(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	2 FT MOUNTING HEIGHT	-- x --	--	--
18	W3-3(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
19	W3-3(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
20	D1-1	II	[A] LAKEVIEW PKWY	96 x 15	10.000	--	--	1	2	2	--	--	--	--	-- x --	--	--
21	R3-4(2M)	II	--	36 x 36	9.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
22	R4-7(2M)	II	--	24 x 30	5.000	--	--	--	--	--	--	--	21	BACK OF SIGN #21	-- x --	--	--
23	R6-2L(2M)	II	--	30 x 36	7.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
24	R3-20L(2S)	II	--	24 x 36	6.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
25	R3-18(2M)	II	--	36 x 36	9.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
26	R6-2R(2S)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
27	W13-3C(4)	II	30 MPH	48 x 84	--	28.000	--	1	1	--	--	--	--	MOUNT ON UPRIGHT S-30-9	-- x --	--	--
28	R2-1(2S)	II	35 MPH	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0620 WOOD POSTS 4"X6"X20' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	638.2601 REM SIGNS TYPE I [EA]
29	D16-1L(MOD)	I	NORTH WEST [41] [94] ONLY [A]	-- x --	--	--	--	--	--	--	--	--	--	MOUNT ON S-30-247	6 x 6.5	39.00	1
30	D16-1L(MOD)	I	NORTH WEST [41] [94] ONLY [A]	-- x --	--	--	--	--	--	--	--	--	--	MOUNT ON S-30-247	6 x 6.5	39.00	1
31	W5-52R(2S)	II	--	12 x 36	--	3.000	--	1	1	1	--	--	--	4 FT MOUNTING HEIGHT	-- x --	--	--
32	R2-1(2S)	II	35 MPH	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
33	W12-1D(3)	II	--	36 x 36	--	9.000	--	--	--	1	--	--	--	2 FT MOUNTING HEIGHT	-- x --	--	--
34	R3-20L(2S)	II	--	24 x 36	6.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
35	W1-6(2S)	II	--	48 x 24	--	8.000	--	1	1	1	--	--	--	--	-- x --	--	--
36	R6-2L(2M)	II	--	30 x 36	7.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
37	R5-57(5)	II	--	36 x 36	9.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
38	R1-2(2S)	II	--	36 x 31	3.880	--	--	1	1	1	--	--	--	--	-- x --	--	--
39	R1-1F(3)	II	--	36 x 36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
40	W12-1D(2S)	II	--	24 x 24	--	4.000	--	1	1	1	--	--	--	2 FT MOUNTING HEIGHT	-- x --	--	--
41	R1-1F(3)	II	--	36 x 36	--	--	7.460	1	1	1	--	--	--	--	-- x --	--	--
42	R3-18(2S)	II	--	24 x 24	4.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
43	W12-1D(2S)	II	--	24 x 24	--	4.000	--	1	1	1	--	--	--	2 FT MOUNTING HEIGHT	-- x --	--	--
44	R4-7(2S)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
45	R5-1(2S)	II	--	30 x 30	6.250	--	--	1	1	1	--	--	--	--	-- x --	--	--
46	R6-2R(2S)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
47	R3-53(2S)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
48	R1-1(3)	II	--	36 x 36	7.460	--	--	1	1	1	--	--	--	--	-- x --	--	--
49	W12-1(2S)	II	--	24 x 24	--	4.000	--	1	1	1	--	--	--	--	-- x --	--	--
50	D4-54R(2S)	II	--	60 x 48	20.000	--	--	1	2	2	--	--	--	--	-- x --	--	--
51	W3-3(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
52	W3-3(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
53	R3-7R(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
54	R1-1F(3)	II	--	36 x 36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
55	R10-11F	II	--	30 x 36	7.500	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
56	R1-1F(3)	II	--	36 x 36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
57	R6-2L(2S)	II	--	24 x 30	5.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
58	R4-7(2S)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
59	W12-1D(2S)	II	--	24 x 24	--	4.000	--	1	1	1	--	--	--	2 FT MOUNTING HEIGHT	-- x --	--	--
60	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
61	R5-1A(2S)	II	--	36 x 24	6.000	--	--	--	--	--	--	--	60	3 FT MOUNTING HEIGHT	-- x --	--	--
62	R5-1(3)	II	--	36 x 36	9.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
63	R5-1A(2S)	II	--	36 x 24	6.000	--	--	--	--	--	--	--	62	3 FT MOUNTING HEIGHT	-- x --	--	--
64	R1-1F(3)	II	--	36 x 36	--	--	7.460	--	--	--	--	--	62	5 FT MOUNTING HEIGHT	-- x --	--	--
65	R3-1(2S)	II	--	24 x 24	4.000	--	--	1	1	1	--	--	--	--	-- x --	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0620 WOOD POSTS 4"X6"X20' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	638.2601 REM SIGNS TYPE I [EA]
66	R4-7(2S)	II	--	24 x 30	5.000	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
67	R1-1F(3)	II	--	36 x 36	--	--	7.460	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
68	R1-1F(3)	II	--	36 x 36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
69	M1-94S	II	[165] 104TH ST	60 x 18	7.500	--	--	--	--	--	--	--	--	MOUNT ON MAST ARM; SHEET 6 OF 29	-- x --	--	--
70	M1-94S	II	[165] 104TH ST	60 x 18	7.500	--	--	--	--	--	--	--	--	MOUNT ON MAST ARM; SHEET 6 OF 29	-- x --	--	--
71	W3-3(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
72	W3-3(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
73	D1-2	II	[A] CHICAGO MILWAUKEE [A]	78 x 30	16.250	--	--	1	2	2	--	--	--	--	-- x --	--	--
74	M1-95A	--	EAST FRONTAGE ROAD	-- x --	--	--	--	1	1	--	--	--	--	--	-- x --	--	--
75	R6-2L(2M)	II	--	30 x 36	7.500	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
76	M1-94H	II	120TH AVE	48 x 18	6.000	--	--	--	--	--	--	--	--	MOUNT ON MAST ARM	-- x --	--	--
77	R4-7(2S)	II	--	24 x 30	5.000	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
78	R1-1F(3)	II	--	36 x 36	--	--	7.460	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
79	R1-1F(3)	II	--	36 x 36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
80	R4-7(2S)	II	--	24 x 30	5.000	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
81	R1-1F(3)	II	--	36 x 36	--	--	7.460	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
82	--	--	TO MALL	-- x --	--	--	--	--	1	1	--	1	--	--	-- x --	--	--
83	D1-60A(MOD)	II	120TH AVE EAST FRONTAGE ROAD [A] NORTH SOUTH [A]	96 x 36	24.000	--	--	1	1	2	--	--	--	--	-- x --	--	--
84	R6-3(2S)	II	--	30 x 24	5.000	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
85	R1-1F(3)	II	--	36 x 36	--	--	7.460	--	--	--	--	--	84	MOUNT ON SIGNAL POLE	-- x --	--	--
86	M1-95A	--	EAST FRONTAGE ROAD	-- x --	--	--	--	1	1	--	--	--	--	--	-- x --	--	--
87	M1-95A W9-1L	--	EAST FRONTAGE ROAD	-- x --	--	--	--	1	1	--	--	--	--	--	-- x --	--	--
88	D1-60A(MOD)	II	120TH AVE EAST FRONTAGE ROAD [A] SOUTH NORTH [A]	96 x 36	24.000	--	--	--	--	2	--	--	--	--	-- x --	--	--
89	D1-60A(MOD)	II	120TH AVE EAST FRONTAGE ROAD [A] SOUTH NORTH [A]	96 x 36	24.000	--	--	--	--	2	--	--	--	--	-- x --	--	--
90	R6-3(2S)	II	--	30 x 24	5.000	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
91	R1-1F(3)	II	--	36 x 36	--	--	7.460	--	--	--	--	--	90	MOUNT ON SIGNAL POLE	-- x --	--	--
92	R3-7R(3)	II	--	36 x 36	9.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
93	W2-2R(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
94	W2-2R(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
95 - 105	*NOT USED*	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	-- x --	--	--
106	W2-2R(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
107	W2-2R(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
108	W3-5(3)	II	--	36 x 36	--	9.000	--	--	--	1	--	--	--	--	-- x --	--	--
109	W3-5(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	PERMANENT SIGNING QUANTITIES	SHEET:	E

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0620 WOOD POSTS 4"X6"X20' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	638.2601 REM SIGNS TYPE I [EA]
110	R7-1D(3)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
111	W9-2R	--	--	-- x --	--	--	--	1	1	--	--	--	--	--	-- x --	--	--
112	W9-2R	--	--	-- x --	--	--	--	1	1	--	--	--	--	--	-- x --	--	--
113	R7-1D(3)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
114	R7-1D(3)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
115	R7-1D(3)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
116	R2-1(3)	II	55 MPH	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
117	R2-1(3)	II	45 MPH	36 x 48	12.000	--	--	1	--	--	--	--	--	MOUNT ON LIGHT POLE	-- x --	--	--
118	R2-1(3)	II	45 MPH	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
119	R7-1D(3)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
120	W5-52L(3)	II	--	18 x 54	--	6.750	--	1	1	1	--	--	--	4 FT MOUNTING HEIGHT	-- x --	--	--
121	W5-52R(3)	II	--	18 x 54	--	6.750	--	1	1	1	--	--	--	4 FT MOUNTING HEIGHT	-- x --	--	--
122	W5-52R(3)	II	--	18 x 54	--	6.750	--	1	1	1	--	--	--	4 FT MOUNTING HEIGHT	-- x --	--	--
123	W5-52L(3)	II	--	18 x 54	--	6.750	--	1	1	1	--	--	--	4 FT MOUNTING HEIGHT	-- x --	--	--
124	J1-1(3)	II	--	36 x 57	14.250	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M2-1		--	30 x 21													
	M1-5A		CTH H	36 x 36													
125	R7-1D(3)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
126	R7-1D(3)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
127	W3-3(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
128	W3-3(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
129	W1-6(2S)	II	--	48 x 24	--	8.000	--	1	1	1	--	--	--	--	-- x --	--	--
130	J3-1(3)	II	--	36 x 84	21.000	--	--	1	--	--	--	--	--	MOUNT ON LIGHT POLE	-- x --	--	--
	M3-1		--	36 x 18													
	M1-5A		CTH H	36 x 36													
	M6-1		--	30 x 30													
131	J3-1(3)	II	--	36 x 84	21.000	--	--	1	--	--	--	--	--	--	-- x --	--	--
	M3-1		--	36 x 18													
	M1-5A		CTH H	36 x 36													
	M6-1		--	30 x 30													
132	R7-1D(3)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
133	R7-1D(3)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
134	R2-1(3)	II	45 MPH	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
135	J4-1(2S)	II	--	24 x 36	6.000	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
	M3-4		--	24 x 12													
	M1-6		STH 165	24 x 24													
136	R6-2L(2M)	II	--	30 x 36	7.500	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
137	R1-2(2S)	II	--	36 x 31	3.880	--	--	1	1	1	--	--	--	--	-- x --	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0620 WOOD POSTS 4"X6"X20' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	638.2601 REM SIGNS TYPE I [EA]
138	J3-2(2S)	II	--	48 x 57	19.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M3-2		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M6-1		--	21 x 21													
	M3-4		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M6-1		--	21 x 21													
139	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
140	W12-1D(2S)	II	--	24 x 24	--	4.000	--	1	1	1	--	--	--	2 FT MOUNTING HEIGHT	-- x --	--	--
141	R1-1F(3)	II	--	36 x 36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
142	R1-1F(3)	II	--	36 x 36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
143	R1-1F(3)	II	--	36 x 36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
144	R6-2L(2M)	II	--	30 x 36	7.500	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
145	R1-2(2S)	II	--	36 x 31	3.880	--	--	1	1	1	--	--	--	--	-- x --	--	--
146	W12-1D(2S)	II	--	24 x 24	--	4.000	--	1	1	1	--	--	--	2 FT MOUNTING HEIGHT	-- x --	--	--
147	J3-1	--	--	-- x --	--	--	--	1	1	--	--	--	--	REMOVE EXISTING ASSEMBLY	-- x --	--	--
148	R4-7(3)	II	--	36 x 48	12.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
149	R4-7(3)	II	--	36 x 48	12.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
150	R4-7(3)	II	--	36 x 48	12.000	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
151	R4-7(3)	II	--	36 x 48	12.000	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
152	R1-1F(3)	II	--	36 x 36	--	--	7.460	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
153	R6-2L(2M)	II	--	30 x 36	7.500	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
154	R1-1F(3)	II	--	36 x 36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
155	J4-1(3)	II	--	36 x 54	13.500	--	--	1	--	--	--	--	--	MOUNT ON LIGHT POLE	-- x --	--	--
	M3-2		--	36 x 18													
	M1-6		STH 165	36 x 36													
156	R1-2(2S)	II	--	36 x 31	3.880	--	--	1	1	1	--	--	--	--	-- x --	--	--
157	J3-2(2S)	II	--	48 x 57	19.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M3-4		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M6-1		--	21 x 21													
	M3-2		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M6-1		--	21 x 21													
158	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	--	--	--	157	BACK OF SIGN #157	-- x --	--	--
159	R1-1F(3)	II	--	36 x 36	--	--	7.460	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
160	R1-1F(3)	II	--	36 x 36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
161	R6-2L(2M)	II	--	30 x 36	7.500	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
162	R1-2(2S)	II	--	36 x 31	3.880	--	--	1	1	1	--	--	--	--	-- x --	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0620 WOOD POSTS 4"X6"X20' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	638.2601 REM SIGNS TYPE I [EA]
163	W12-1D(2S)	II	--	24 x 24	--	4.000	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE - 2 FT HEIGHT	-- x --	--	--
164	R5-1(3)	II	--	36 x 36	9.000	--	--	1	1	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--
165	R5-1A(3)	II	--	42 x 30	8.750	--	--	--	--	1	--	--	--	--	-- x --	--	--
166	R5-1(3)	II	--	36 x 36	9.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
167	J3-1(3)	II	--	36 x 84	21.000	--	--	--	--	--	1	--	166	BACK OF SIGN #166	-- x --	--	--
	M3-1		--	36 x 18													
	M1-5A		CTH H	36 x 36													
	M6-1		--	30 x 30													
168	R5-1A(3)	II	--	42 x 30	8.750	--	--	--	--	1	--	--	--	--	-- x --	--	--
169	J2-3(2S)	II	--	72 x 57	28.500	--	--	1	2	2	--	--	--	--	-- x --	--	--
	MB4-5		--	24 x 12													
	M1-1		IH 94	24 x 24													
	MB6-1		--	21 x 21													
	M3-3		--	24 x 12													
	M1-5A		CTH H	24 x 24													
	M5-1L		--	21 x 21													
	M3-1		--	24 x 12													
	M1-5A		CTH H	24 x 24													
	M5-1R		--	21 x 21													
170	J2-3(2S)	II	--	72 x 57	28.500	28.500	--	1	2	2	--	--	--	--	-- x --	--	--
	MB4-5		--	24 x 12													
	M1-1		IH 94	24 x 24													
	MB6-1		--	21 x 21													
	M3-3		--	24 x 12													
	M1-5A		CTH H	24 x 24													
	M5-1L		--	21 x 21													
	M3-1		--	24 x 12													
	M1-5A		CTH H	24 x 24													
	M5-1R		--	21 x 21													
171	W3-3(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
172	W3-3(3)	II	--	36 x 36	--	9.000	--	1	1	--	--	--	--	MOUNT ON LIGHT POLE	-- x --	--	--
173	R6-2L(2M)	II	--	30 x 36	7.500	--	--	--	--	1	--	--	--	--	-- x --	--	--
174	R4-7(2S)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
175	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	1	--	--	--	--	-- x --	--	--
176	R5-1A(3)	II	--	42 x 30	8.750	--	--	1	1	1	--	--	--	--	-- x --	--	--
177	I55-56	--	--	-- x --	--	--	--	--	--	1	--	1	--	MOVE TO SEPARATE POST	-- x --	--	--
178	D1-61	II	86TH AVE	72 x 30	15.000	--	--	1	2	2	--	--	--	--	-- x --	--	--
179	D1-61	II	86TH AVE	72 x 30	15.000	--	--	1	2	2	--	--	--	--	-- x --	--	--
180	J3-1(3)	II	--	36 x 84	21.000	--	--	--	--	--	1	--	--	--	-- x --	--	--
	M3-3		--	36 x 18													
	M1-5A		CTH H	36 x 36													
	M6-1		--	30 x 30													

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0620 WOOD POSTS 4"X6"X20' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	638.2601 REM SIGNS TYPE I [EA]
181	R2-1(3)	II	45 MPH	36 x 48	12.000	--	--	1	1	1	--	--	180	BACK OF SIGN #180	-- x --	--	--
182	R2-1(3)	II	45 MPH	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
183	J13-1(2S)	II	--	24 x 45	7.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M1-6		STH 165	24 x 24													
	M6-4		--	21 x 21													
184	R1-1(3)	II	--	36 x 36	7.460	--	--	1	1	1	--	--	--	--	-- x --	--	--
185	R6-3(2M)	II	--	30 x 24	5.000	--	--	--	--	--	--	--	184	--	-- x --	--	--
186	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	1	--	--	--	--	-- x --	--	--
187	D1-61	II	86TH AVE	72 x 30	15.000	--	--	1	2	2	--	--	--	--	-- x --	--	--
188	D1-61	II	86TH AVE	72 x 30	15.000	--	--	1	2	2	--	--	--	--	-- x --	--	--
189	R4-7(2S)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
190	R6-2L(2M)	II	--	30 x 36	7.500	--	--	--	--	1	--	--	--	--	-- x --	--	--
191	J13-1(2S)	II	--	24 x 45	7.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M1-6		STH 165	24 x 24													
	M6-4		--	21 x 21													
192	R1-1(3)	II	--	36 x 36	7.460	--	--	1	1	1	--	--	--	--	-- x --	--	--
193	R6-3(2M)	II	--	30 x 24	5.000	--	--	--	--	--	--	--	192	--	-- x --	--	--
194	R5-1A(3)	II	--	42 x 30	8.750	--	--	--	--	1	--	--	--	--	-- x --	--	--
195	D1-61	II	82ND AVE	72 x 30	15.000	--	--	1	2	2	--	--	--	--	-- x --	--	--
196	D1-61	II	82ND AVE	72 x 30	15.000	--	--	1	2	2	--	--	--	--	-- x --	--	--
197	R5-1A(3)	II	--	42 x 30	8.750	--	--	1	1	1	--	--	--	--	-- x --	--	--
198	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	1	--	--	--	--	-- x --	--	--
199	R4-7(2S)	II	--	24 x 30	5.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
200	J13-1(2S)	II	--	24 x 45	7.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M1-6		STH 165	24 x 24													
	M6-4		--	21 x 21													
201	R1-1(3)	II	--	36 x 36	7.460	--	--	1	1	1	--	--	--	--	-- x --	--	--
202	R6-2L(2M)	II	--	30 x 36	7.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
203	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	1	--	--	--	--	-- x --	--	--
204	R5-1A(3)	II	--	42 x 30	8.750	--	--	--	--	1	--	--	--	--	-- x --	--	--
205	R2-1(3)	II	45 MPH	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
206	R2-1(3)	II	45 MPH	36 x 48	12.000	--	--	--	--	1	--	--	--	--	-- x --	--	--
207	D1-61	II	82ND AVE	72 x 30	15.000	--	--	1	2	2	--	--	--	--	-- x --	--	--
208	D1-61	II	82ND AVE	72 x 30	15.000	--	--	--	--	2	--	--	--	--	-- x --	--	--
209	J4-1(3)	II	--	36 x 54	13.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M3-4		--	36 x 18													
	M1-6		STH 165	36 x 36													
210	J4-1	--	--	-- x --	--	--	--	1	1	--	--	--	--	REMOVE EXISTING ASSEMBLY	-- x --	--	--
211	D1-61	II	80TH AVE	72 x 30	15.000	--	--	1	2	2	--	--	--	--	-- x --	--	--
212	D1-61	II	80TH AVE	72 x 30	15.000	--	--	1	2	2	--	--	--	--	-- x --	--	--
213	W2-1(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
214	W2-1(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0620 WOOD POSTS 4"X6"X20' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	638.2601 REM SIGNS TYPE I [EA]
215	R6-2L(2M)	II	--	30 x 36	7.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
216	R1-1(3)	II	--	36 x 36	7.460	--	--	1	1	1	--	--	--	--	-- x --	--	--
217	R6-3(2M)	II	--	30 x 24	5.000	--	--	--	--	--	--	--	216	--	-- x --	--	--
218	J13-1(2S)	II	--	24 x 45	7.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M1-6		STH 165	24 x 24													
	M6-4		--	21 x 21													
219	R5-1A(3)	II	--	42 x 30	8.750	--	--	--	--	1	--	--	--	--	-- x --	--	--
220	R6-2L(2M)	II	--	30 x 36	7.500	--	--	--	--	1	--	--	--	--	-- x --	--	--
221	R1-2(2S)	II	--	36 x 31	3.880	--	--	1	1	1	--	--	--	--	-- x --	--	--
222	J3-1(2S)	II	--	24 x 57	9.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M3-4		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M6-1		--	21 x 21													
223	R1-1(3)	II	--	36 x 36	7.460	--	--	1	1	1	--	--	--	--	-- x --	--	--
224	R6-3(2M)	II	--	30 x 24	5.000	--	--	--	--	--	--	--	222	--	-- x --	--	--
225	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	--	--	--	223	TRIM TO OCTAGON	-- x --	--	--
226	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	--	--	--	228	TRIM TO OCTAGON	-- x --	--	--
227	J3-1(2S)	II	--	24 x 57	9.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M3-2		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M6-1		--	21 x 21													
228	R1-1(3)	II	--	36 x 36	7.460	--	--	1	1	1	--	--	--	--	-- x --	--	--
229	R1-55(2S)	II	--	30 x 36	7.500	--	--	--	--	--	--	--	228	--	-- x --	--	--
230	R4-7(2S)	II	--	24 x 30	5.000	--	--	--	--	1	--	--	--	--	-- x --	--	--
231	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	1	--	--	--	--	-- x --	--	--
232	R5-1A(3)	II	--	42 x 30	8.750	--	--	--	--	1	--	--	--	--	-- x --	--	--
233	R6-1R(2M)	II	--	54 x 18	6.750	--	--	--	--	--	--	--	238	MOUNT ABOVE STOP SIGN	-- x --	--	--
234	J4-1	--	--	-- x --	--	--	--	1	1	--	--	--	--	--	-- x --	--	--
235	J4-1(3)	II	--	36 x 54	13.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M3-1		--	36 x 18													
	M1-6		STH 165	36 x 36													
236	R6-2L(2M)	II	--	30 x 36	7.500	--	--	--	--	1	--	--	--	--	-- x --	--	--
237	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	--	--	--	238	TRIM TO OCTAGON	-- x --	--	--
238	R1-1(3)	II	--	36 x 36	7.460	--	--	1	1	1	--	--	--	--	-- x --	--	--
239	R6-3(2M)	II	--	30 x 24	5.000	--	--	--	--	--	--	--	238	--	-- x --	--	--
240	R4-7(3)	II	--	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
241	R4-7(3)	II	--	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
242	R1-1(3)	II	--	36 x 36	7.460	--	--	1	1	1	--	--	--	--	-- x --	--	--
243	R1-55(2S)	II	--	30 x 36	7.500	--	--	--	--	--	--	--	242	--	-- x --	--	--
244	R4-7(2S)	II	--	24 x 30	5.000	--	--	--	--	1	--	--	--	--	-- x --	--	--
245	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	1	--	--	--	--	-- x --	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0620 WOOD POSTS 4"X6"X20' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	638.2601 REM SIGNS TYPE I [EA]
246	D1-61	II	80TH AVE	72 x 30	15.000	--	--	1	2	2	--	--	--	--	-- x --	--	--
247	D1-61	II	80TH AVE	72 x 30	15.000	--	--	1	2	2	--	--	--	--	-- x --	--	--
248	R2-1(3)	II	45 MPH	36 x 48	12.000	--	--	--	--	1	--	--	--	--	-- x --	--	--
249	R2-1(3)	II	45 MPH	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
250	W2-1(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
251	W2-1(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
252	W5-52R(3)	II	--	18 x 54	--	6.750	--	--	--	1	--	--	--	4 FT MOUNTING HEIGHT	-- x --	--	--
253	W5-52R(3)	II	--	18 x 54	--	6.750	--	1	1	1	--	--	--	4 FT MOUNTING HEIGHT	-- x --	--	--
254	R2-1(3)	II	45 MPH	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
255	R2-1(3)	II	45 MPH	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
256	D1-61(MOD)	II	[A] JELLY BELLY LN 72ND AVE [A]	90 x 30	18.750	--	--	1	2	2	--	--	--	--	-- x --	--	--
257	R6-2L(2M)	II	--	30 x 36	7.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
258	R1-1(3)	II	--	36 x 36	7.460	--	--	1	1	1	--	--	--	--	-- x --	--	--
259	R4-7(3)	II	--	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
260	R4-7(3)	II	--	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
261	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	1	--	--	--	--	-- x --	--	--
262	R6-2L(2M)	II	--	30 x 36	7.500	--	--	--	--	1	--	--	--	--	-- x --	--	--
263	R1-1(3)	II	--	36 x 36	7.460	--	--	1	1	1	--	--	--	--	-- x --	--	--
264	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	1	--	--	--	--	-- x --	--	--
265	J1-1(3)	II	--	36 x 57	14.250	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M2-1		--	30 x 21													
	M1-6		STH 31	36 x 36													
266	R5-1A(3)	II	--	42 x 30	8.750	--	--	--	--	1	--	--	--	--	-- x --	--	--
267	W3-3(3)	II	--	36 x 36	--	9.000	--	1	1	--	--	--	266	BACK OF SIGN #266	-- x --	--	--
268	R5-1A(3)	II	--	42 x 30	8.750	--	--	1	1	1	--	--	--	--	-- x --	--	--
269	R2-1(3)	II	45 MPH	36 x 48	12.000	--	--	--	--	--	--	--	268	BACK OF SIGN #268	-- x --	--	--
270	R3-20L(3)	II	--	36 x 54	13.500	--	--	--	--	1	--	--	--	--	-- x --	--	--
271	J2-2(3)	II	--	72 x 84	42.000	--	--	1	2	--	2	--	--	--	-- x --	--	--
	M3-1		--	36 x 18													
	M1-6		STH 31	36 x 36													
	M5-1L		--	30 x 30													
	M3-3		--	36 x 18													
	M1-6		STH 31	36 x 36													
	M5-1R		--	30 x 30													
272	R3-8Y(2S)	II	--	30 x 36	7.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
273	R3-20L(3)	II	--	36 x 54	13.500	--	--	--	--	1	--	--	--	--	-- x --	--	--
274	W5-52R(2S)	II	--	12 x 36	--	3.000	--	1	1	1	--	--	--	4 FT MOUNTING HEIGHT	-- x --	--	--
275	W14-3	--	--	-- x --	--	--	--	1	1	--	--	--	--	--	-- x --	--	--
276	R4-7(3)	II	--	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--

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277	W5-54(2S)	II	--	18 x 18	--	2.250	--	--	--	--	--	--	276	--	-- x --	--	--
278	W6-2(2M)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
279	R5-1(3)	II	--	36 x 36	9.000	--	--	--	--	--	--	--	278	--	-- x --	--	--
280	W14-3(2M)	II	--	48 x 36	--	6.000	--	--	--	1	--	--	--	--	-- x --	--	--
281	J2-3(2S)	II	--	72 x 57	28.500	--	--	1	2	2	--	--	--	--	-- x --	--	--
	MB4-5		--	24 x 12													
	M1-1		IH 94	24 x 24													
	MB6-1		--	21 x 21													
	M3-3		--	24 x 12													
	M1-6		STH 31	24 x 24													
	M5-1R		--	21 x 21													
	M3-1		--	24 x 12													
	M1-6		STH 31	24 x 24													
	M5-1L		--	21 x 21													
282	W3-3(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
283	J1-1(2S)	II	--	24 x 39	6.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M2-1		--	21 x 15													
	M1-6		STH 31	24 x 24													
284	J4-1	--	--	-- x --	--	--	--	1	1	--	--	--	--	--	-- x --	--	--
285	W3-3(3)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
286	R3-8Y(2S)	II	--	30 x 36	7.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
287	*NOT USED*	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	-- x --	--	--
288	*NOT USED*	--	--	-- x --	--	--	--	--	--	--	--	--	--	--	-- x --	--	--
289	W6-1(2M)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
290	R3-8Z(2M)	II	--	30 x 54	11.250	--	--	1	1	2	--	--	--	--	-- x --	--	--
291	J3-2(2S)	II	--	48 x 57	19.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M4-5		--	24 x 12													
	M1-5A		CTH Q	24 x 24													
	M6-1		--	21 x 21													
	M3-2		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M6-1		--	21 x 21													
292	R7-1D	--	--	-- x --	--	--	--	--	--	--	--	1	291	ANGLE SIGN	-- x --	--	--
293	R2-1(2M)	II	40 MPH	30 x 36	7.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
294	J2-2(2S)	II	--	48 x 57	19.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M3-2		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M5-1L		--	21 x 21													
	M3-4		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M5-1R		--	21 x 21													

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0620 WOOD POSTS 4"X6"X20' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	638.2601 REM SIGNS TYPE I [EA]
295	W3-3(2M)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
296	J1-1(2S)	II	--	24 x 39	6.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M2-1		--	21 x 15													
	M1-6		STH 165	24 x 24													
297	W3-3(2M)	II	--	36 x 36	--	9.000	--	1	1	1	--	--	--	--	-- x --	--	--
298	J1-1(2S)	II	--	24 x 39	6.500	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M2-1		--	21 x 15													
	M1-6		STH 165	24 x 24													
299	R2-1(3)	II	55 MPH	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
300	R2-1(3)	II	55 MPH	36 x 48	12.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
301	R5-1A(3)	II	--	42 x 30	8.750	--	--	1	1	1	--	--	--	--	-- x --	--	--
302	R5-1A(3)	II	--	42 x 30	8.750	--	--	1	1	1	--	--	--	--	-- x --	--	--
303	R3-7R(3)	II	--	36 x 36	9.000	--	--	--	--	1	--	--	--	--	-- x --	--	--
304	J4-1(2S)	II	--	24 x 36	6.000	--	--	1	1	1	--	--	--	--	-- x --	--	--
	M3-1		--	24 x 12													
	M1-6		STH 31	24 x 24													
305	W5-52R(2S)	II	--	12 x 36	--	3.000	--	--	--	1	--	--	--	4 FT MOUNTING HEIGHT; SHEET 4 OF 29	-- x --	--	--
306	W8-6(MOD)	--	--	-- x --	--	--	--	--	1	1	--	1	--	SHEET 8 OF 29	-- x --	--	--
307	R2-1(3)	II	55 MPH	36 x 48	12.000	--	--	--	--	--	--	1	--	SHEET 8 OF 29	-- x --	--	--
308	J1-1(3)	II	--	36 x 57	14.250	--	--	--	--	--	--	1	--	SHEET 9 OF 29	-- x --	--	--
	M2-1		--	30 x 21													
	M1-5A		CTH H	36 x 36													
309	D1-65	II	88TH AVE	72 x 24	12.000	--	--	--	--	2	--	--	--	SHEET 10 OF 29	-- x --	--	--
			NEXT SIGNAL														
310	D1-65	II	88TH AVE	72 x 24	12.000	--	--	--	--	2	--	--	--	SHEET 10 OF 29	-- x --	--	--
			NEXT SIGNAL														
311	M1-94H	II	88TH AVE	42 x 18	5.250	--	--	--	--	--	--	--	--	MOUNT ON MAST ARM; SHEET 11 OF 29	-- x --	--	--
312	M1-94S	II	[165] 104TH ST	60 x 18	7.500	--	--	--	--	--	--	--	--	MOUNT ON MAST ARM; SHEET 11 OF 29	-- x --	--	--
313	M1-94H	II	88TH AVE	42 x 18	5.250	--	--	--	--	--	--	--	--	MOUNT ON MAST ARM; SHEET 11 OF 29	-- x --	--	--
314	M1-94S	II	[165] 104TH ST	60 x 18	7.500	--	--	--	--	--	--	--	--	MOUNT ON MAST ARM; SHEET 11 OF 29	-- x --	--	--
315	R6-1R(2M)	II	--	54 x 18	6.750	--	--	--	--	--	--	--	184	MOUNT ABOVE STOP SIGN; SHEET 13	-- x --	--	--
316	R6-1R(2M)	II	--	54 x 18	6.750	--	--	--	--	--	--	--	192	MOUNT ABOVE STOP SIGN; SHEET 13	-- x --	--	--
317	D1-65	II	88TH AVE	60 x 24	10.000	--	--	--	--	--	--	--	187	SHEET 13 OF 29	-- x --	--	--
			NEXT SIGNAL														
318	D1-65	II	88TH AVE	60 x 24	10.000	--	--	--	--	--	--	--	188	SHEET 13 OF 29	-- x --	--	--
			NEXT SIGNAL														
319	R6-1R(2M)	II	--	54 x 18	6.750	--	--	--	--	--	--	--	201	MOUNT ABOVE STOP SIGN; SHEET 14	-- x --	--	--
320	R6-1R(2M)	II	--	54 x 18	6.750	--	--	--	--	--	--	--	216	MOUNT ABOVE STOP SIGN; SHEET 15	-- x --	--	--
321	R6-1R(2M)	II	--	54 x 18	6.750	--	--	--	--	--	--	--	223	MOUNT ABOVE STOP SIGN; SHEET 16	-- x --	--	--
322	J1-1(3)	II	--	36 x 57	14.250	--	--	--	--	1	--	--	--	--	-- x --	--	--
	M2-1		--	30 x 21													
	M1-6		STH 31	36 x 36													

SIGN NO.	SIGN CODE & SIZE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0620 WOOD POSTS 4"X6"X20' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLC SH [SF]	638.2601 REM SIGNS TYPE I [EA]
323	R6-1R(2M)	II	--	54 x 18	6.750	--	--	--	--	--	--	--	258	MOUNT ABOVE STOP SIGN; SHEET 20	-- x --	--	--
324	R6-1R(2M)	II	--	54 x 18	6.750	--	--	--	--	--	--	--	263	MOUNT ABOVE STOP SIGN; SHEET 20	-- x --	--	--
325	R2-1(2S)	II	35 MPH	24 x 30	5.000	--	--	1	1	1	--	--	--	SHEET 1 OF 29	-- x --	--	--
326	W3-3(3)	II	--	36 x 36	--	9.000	--	--	--	1	--	--	--	SHEET 20 OF 29	-- x --	--	--
327	J2-2(2S)	II	--	48 x 57	19.000	--	--	1	2	1	--	--	--	SHEET 28 OF 29	-- x --	--	--
	M3-4		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M5-1L		--	21 x 21													
	M3-2		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M5-1R		--	21 x 21													
328	J2-2(2S)	II	--	48 x 57	19.000	--	--	1	2	1	--	--	--	SHEET 28 OF 29	-- x --	--	--
	M3-4		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M5-1L		--	21 x 21													
	M3-2		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M5-1R		--	21 x 21													
329	J4-1	--	--	-- x --	--	--	--	1	1	--	--	--	--	SHEET 29 OF 29	-- x --	--	--
330	J3-1(2S)	II	--	24 x 57	9.500	--	--	1	1	1	--	--	--	SHEET 29 OF 29	-- x --	--	--
	M3-2		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M6-1		--	21 x 21													
331	R4-7	--	--	-- x --	--	--	--	1	1	--	--	--	--	SHEET 29 OF 29	-- x --	--	--
332	R4-7	--	--	-- x --	--	--	--	1	1	--	--	--	--	SHEET 29 OF 29	-- x --	--	--
333	J2-2(2S)	II	--	48 x 57	19.000	--	--	1	2	1	--	--	--	SHEET 29 OF 29	-- x --	--	--
	M3-2		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M5-1L		--	21 x 21													
	M3-4		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M5-1R		--	21 x 21													
334	J2-2(2S)	II	--	48 x 57	19.000	--	--	1	2	1	--	--	--	SHEET 29 OF 29	-- x --	--	--
	M3-2		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M5-1L		--	21 x 21													
	M3-4		--	24 x 12													
	M1-6		STH 165	24 x 24													
	M5-1R		--	21 x 21													
TOTALS					2288.890	437.250	141.740	216	219	245	4	6				78.000	2

Standard Detail Drawing List

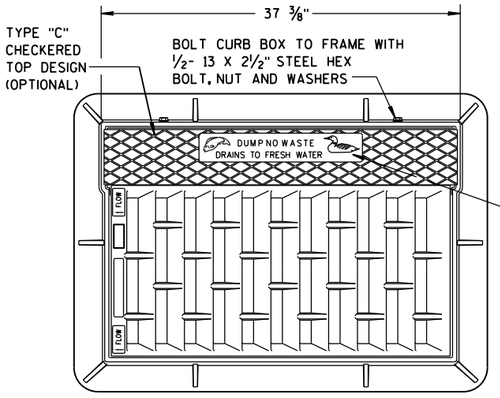
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-18	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / 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
09B02-09	CONDUIT
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C05-09	CONCRETE CONTROL CABINET BASES
09C14-02	CONCRETE CONTROL CABINET BASE, TYPE L
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09E01-14A	POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2
09E01-14F	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 17 (40 FEET)
09E01-14G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09F15-04A	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09F15-04B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
09G01-04A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
11B01-05	CONCRETE CORRUGATED MEDIAN
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-12A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-12B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-12C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C18-03A	CONCRETE PAVEMENT JOINTING
13C18-03B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-03C	CONCRETE PAVEMENT JOINT TIES
13C18-03D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B15-08A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B16-04A	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B16-04B	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B26-03A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B28-03	GUARDRAIL MOW STRIP
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

6

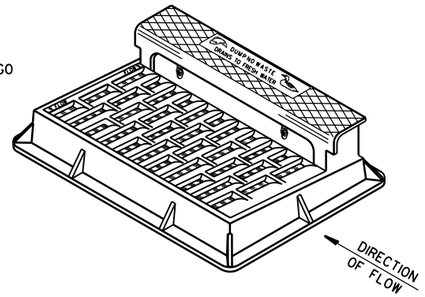
Standard Detail Drawing List

14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-01D	PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D34-02A	RAMP GATE SOLAR POWER
15D34-02B	RAMP GATE SOLAR POWER
15D34-02C	RAMP GATE SOLAR POWER
15D34-02D	RAMP GATE SOLAR POWER
15D36-01	BARRICADE RACK

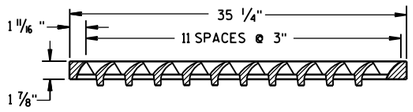
6

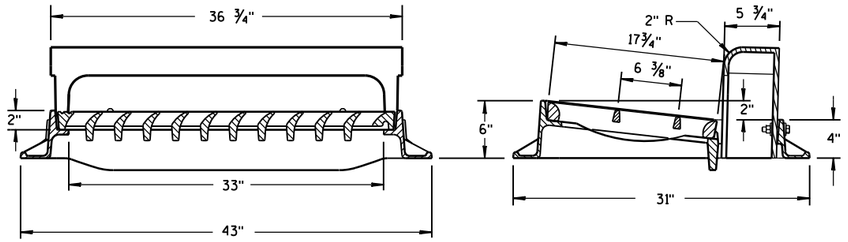


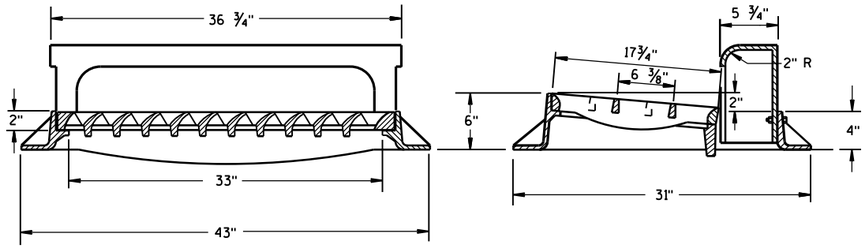
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

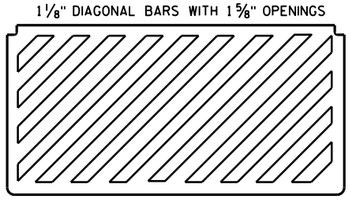






TYPE "H"

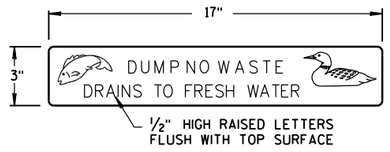
NOTE: EITHER CASTING IS ACCEPTABLE



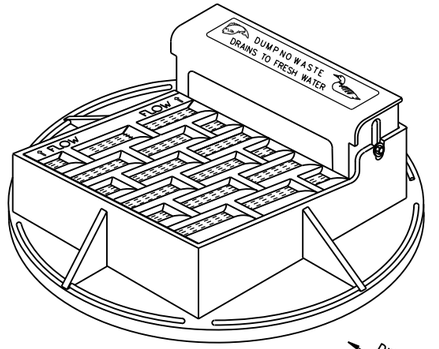
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

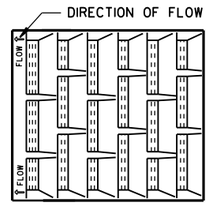
NOTE:
GRATE IS REVERSIBLE.

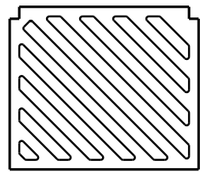
GENERAL NOTES

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

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

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

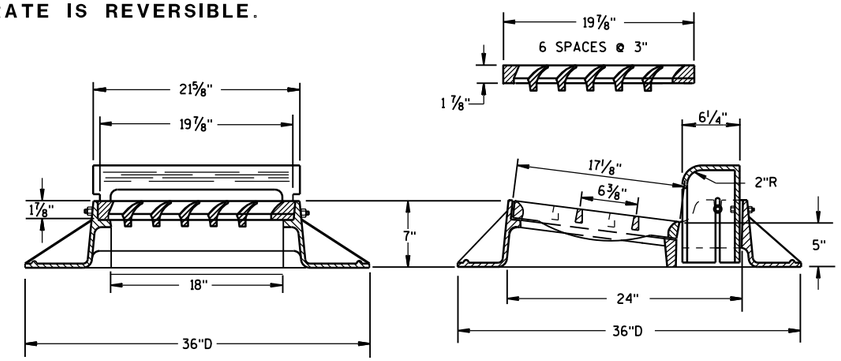




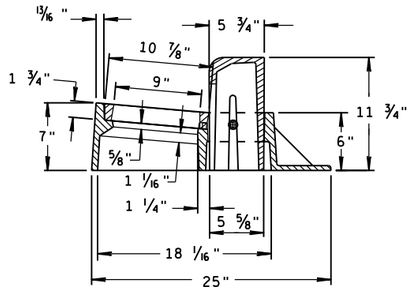
SPECIAL GRATE FOR TYPE "A" COVER

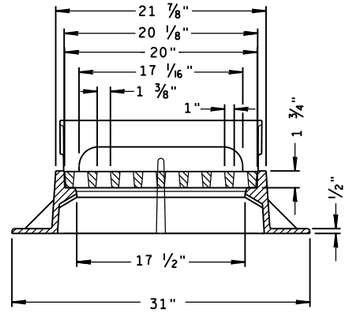
(MEASURES 19 3/4" X 17" X 1 7/8")

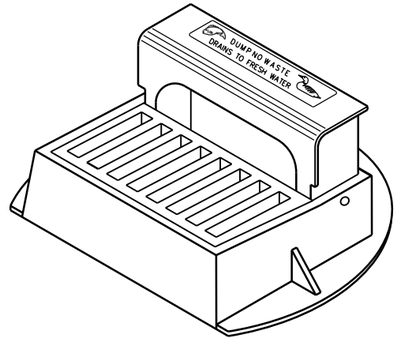
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"







TYPE "Z"

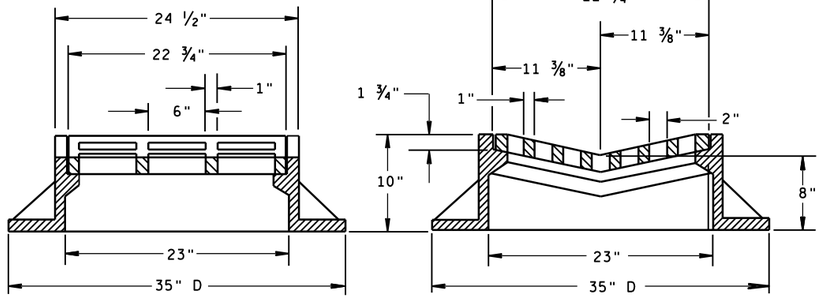
INLET COVERS
TYPE A, H, A-S, H-S & Z

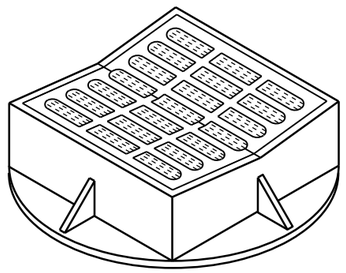
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

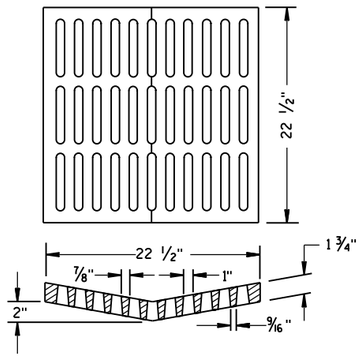
6

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



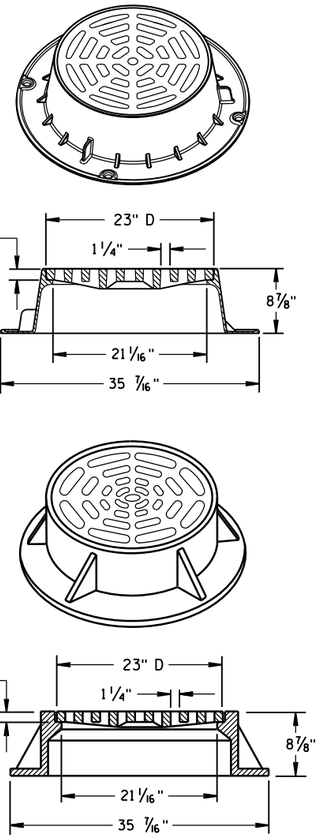


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

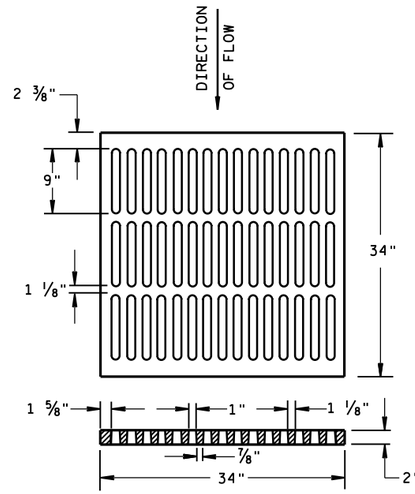
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

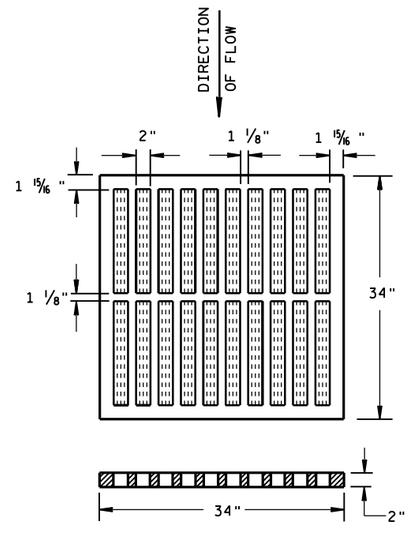
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



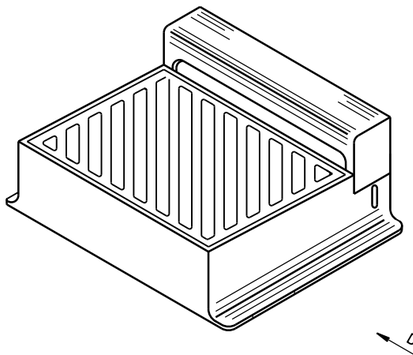
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



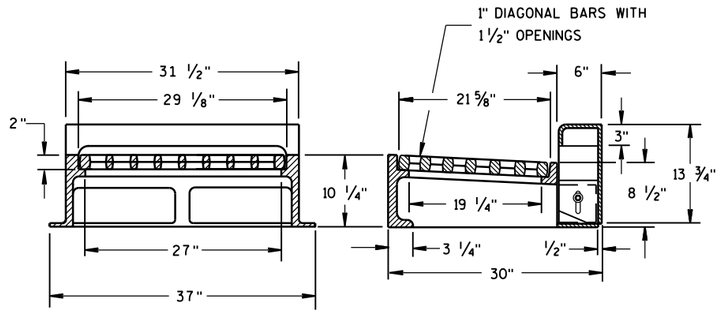
TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIRECTION OF FLOW

DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

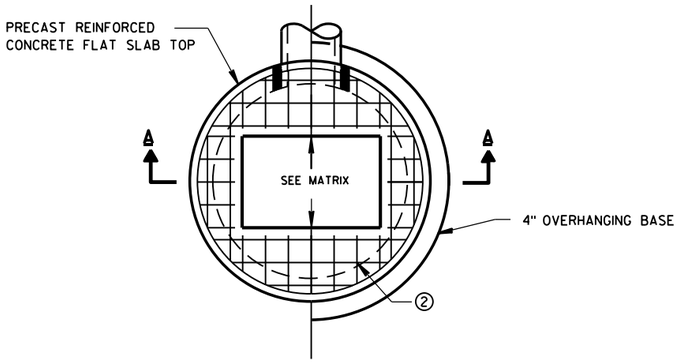
INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

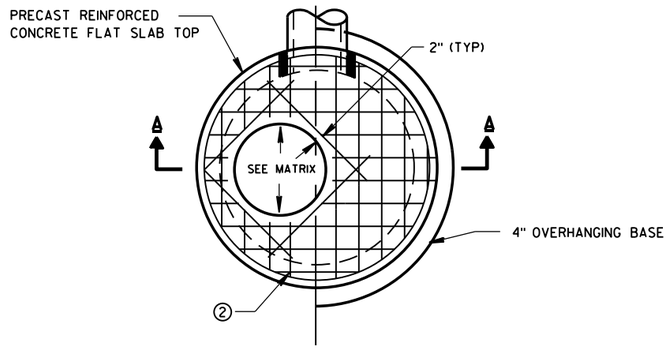
APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

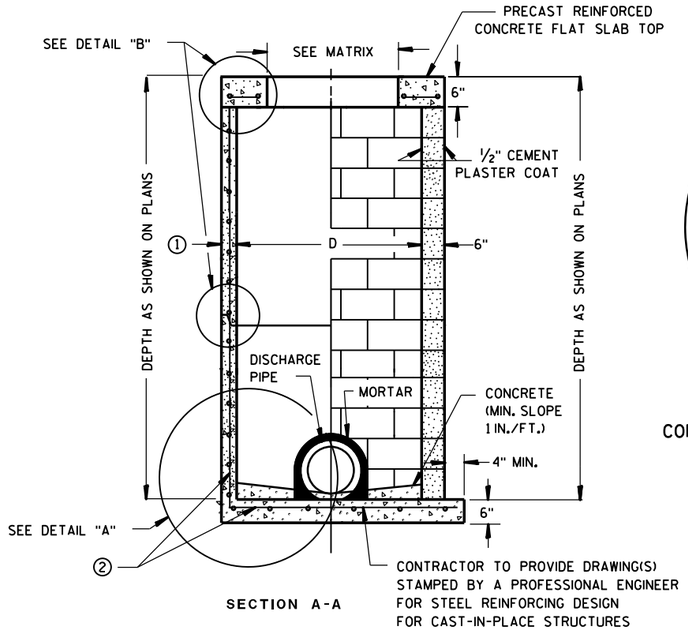
S.D.D. 8 A 5-19b



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

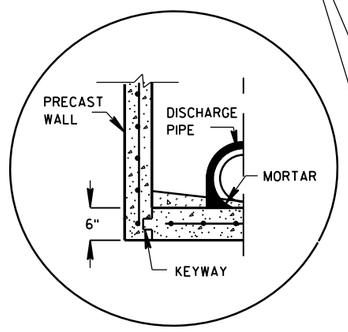


SECTION A-A

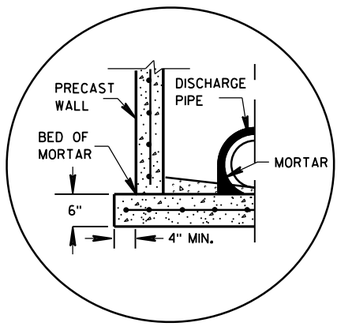
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

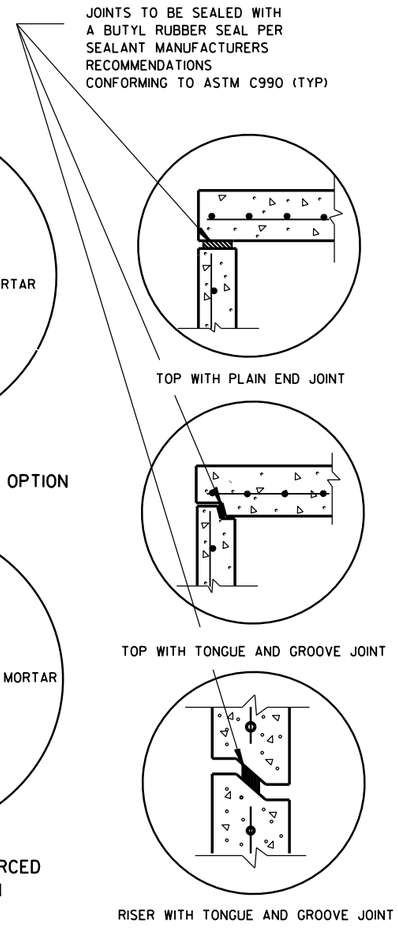


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "B"

GENERAL NOTES

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

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

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

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

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

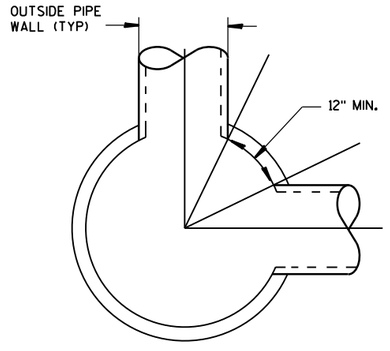
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

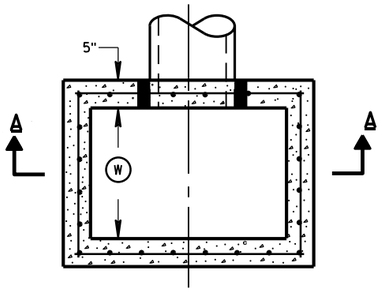
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

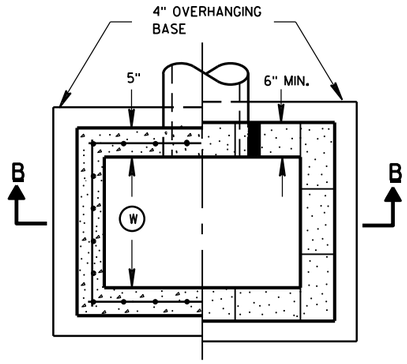
APPROVED
6/5/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

INLETS 3-FT AND 4-FT DIAMETER

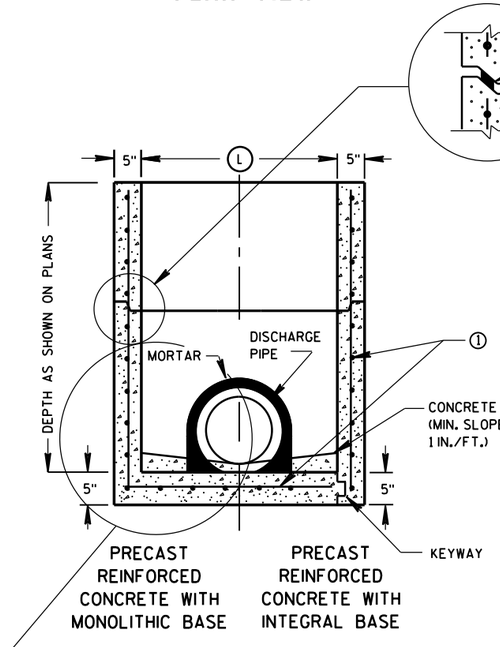
6
S.D.D. 8 C 6-1



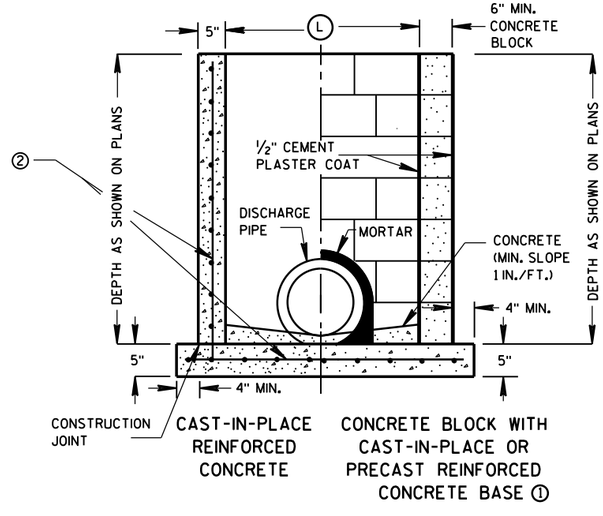
PLAN VIEW



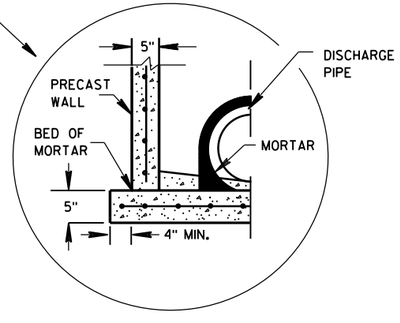
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

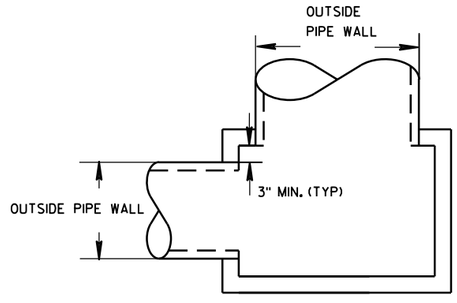
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



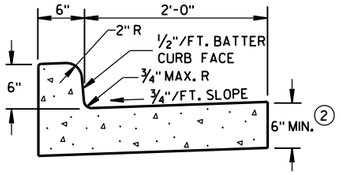
DETAIL "A"

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

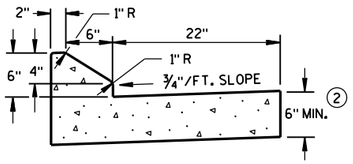
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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FHWA

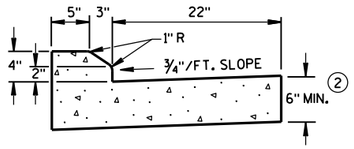
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S.D.D. 8 C 7-1



TYPES A & D ①

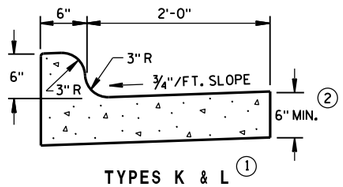


6" SLOPED CURB TYPES G & J ①

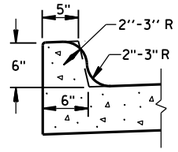


4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

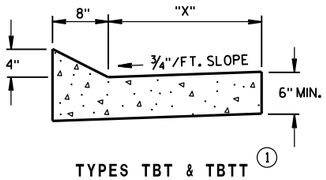


TYPES K & L ①



OPTIONAL CURB SHAPE FOR TYPES K & L ①

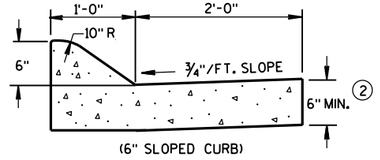
CONCRETE CURB & GUTTER 30"



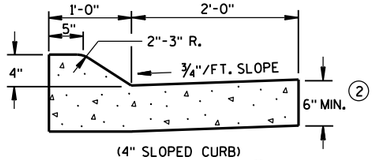
TYPES TBT & TBTT ①

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"

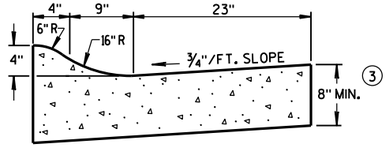


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D ①



4" SLOPED CURB TYPES R & T ① ④

CONCRETE CURB & GUTTER 36"

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.

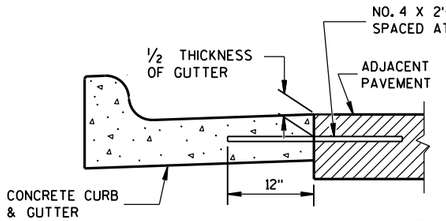
① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

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.

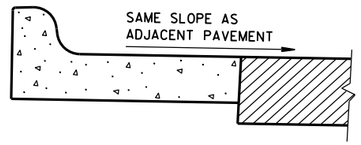
③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

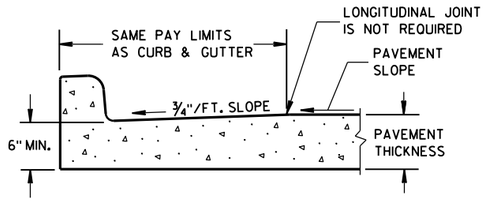
⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



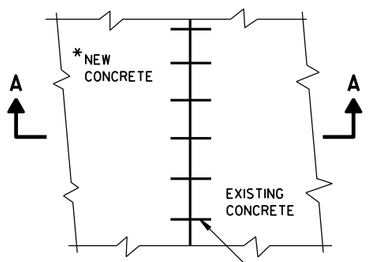
TYPICAL TIE BAR LOCATION ①



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

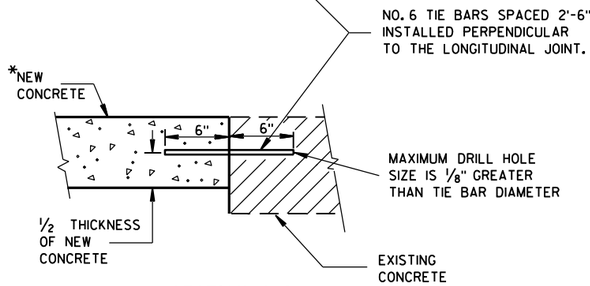


PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



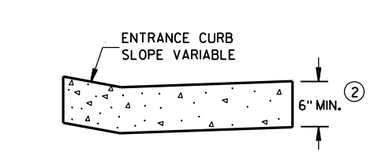
PLAN VIEW

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

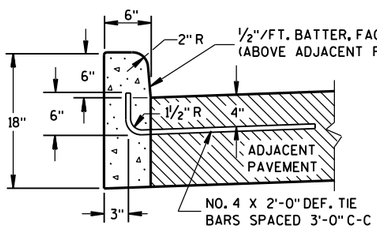


SECTION A-A

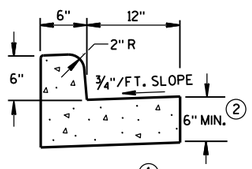
TIE BARS DRILLED
INTO EXISTING PAVEMENT



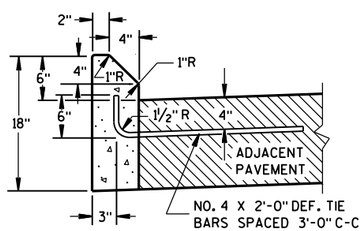
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



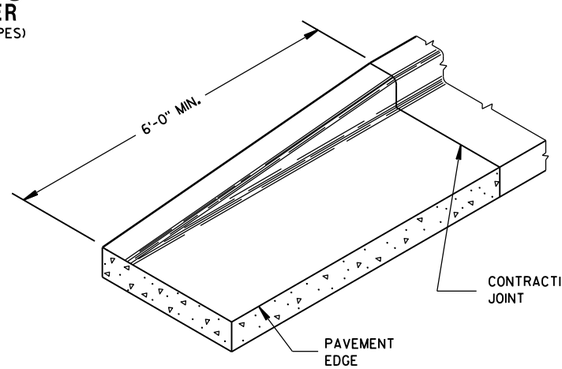
① TYPES A & D



① TYPES A & D
CONCRETE CURB & GUTTER 18"



① TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

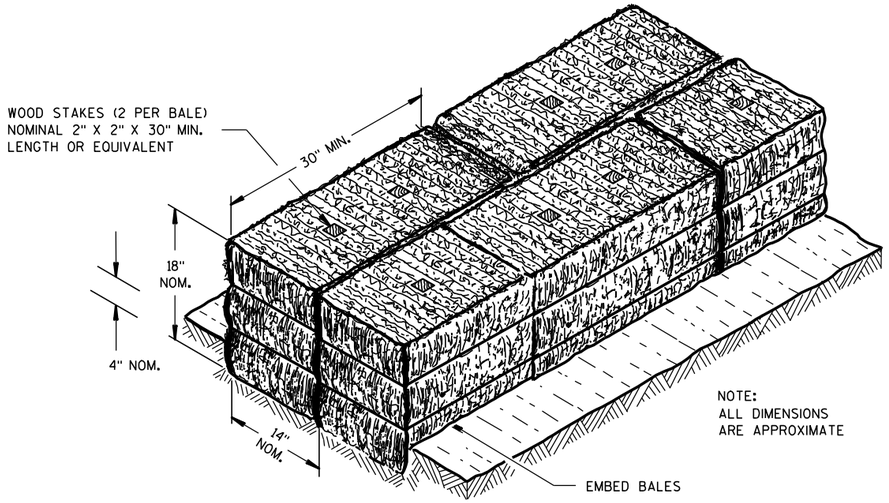
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

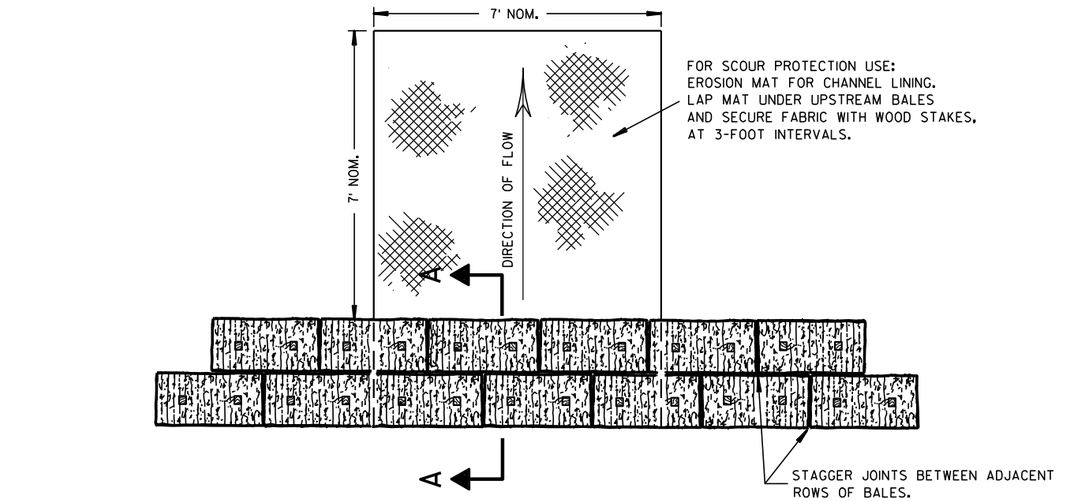
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

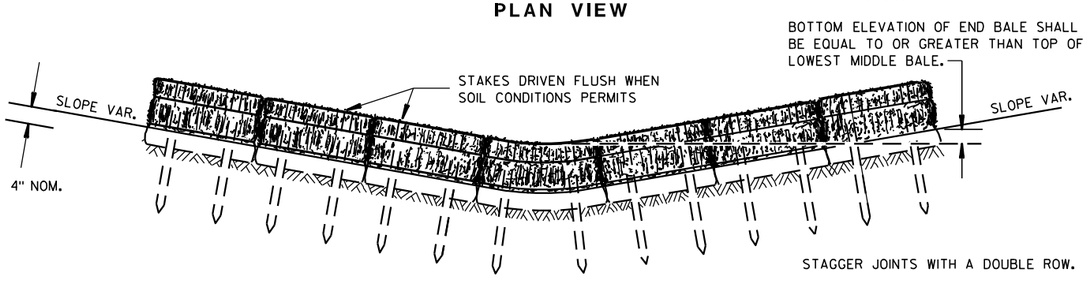
S.D.D. 8 D 1-18



SECTION A-A



PLAN VIEW



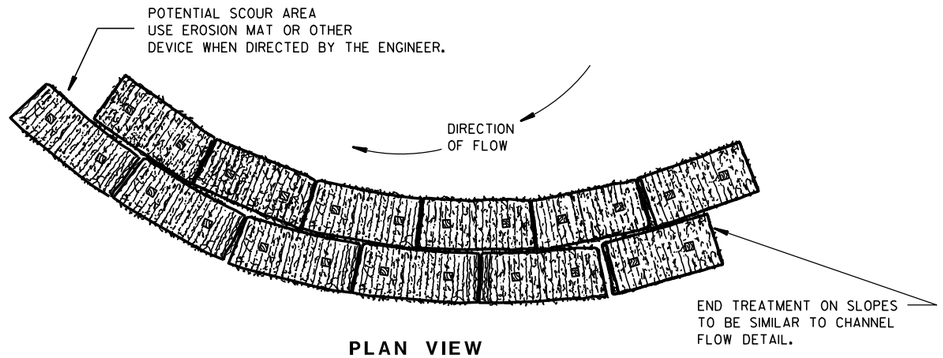
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

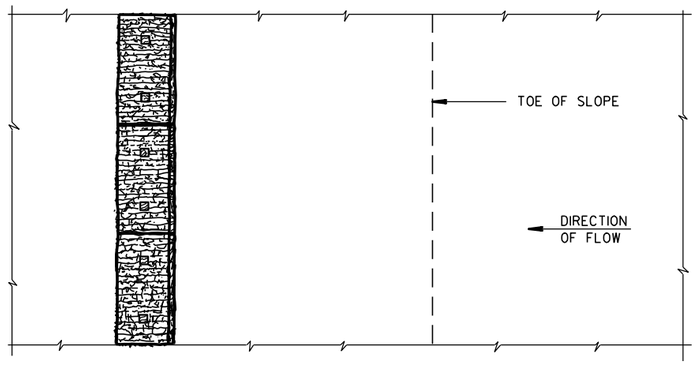
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

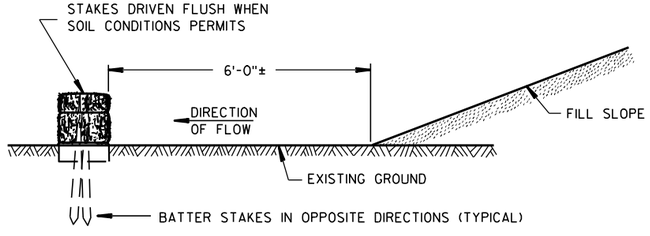


PLAN VIEW

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

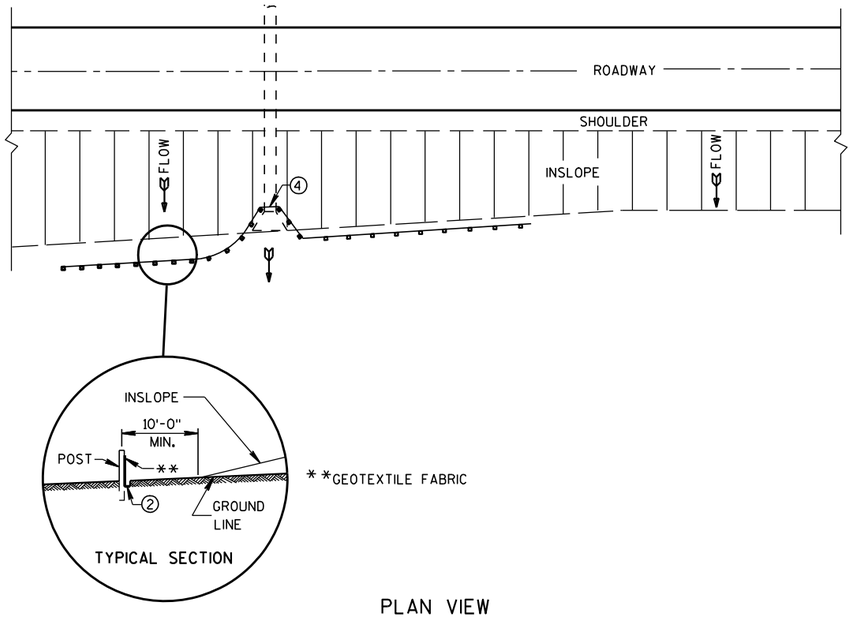
APPROVED
6/04/02 DATE
/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

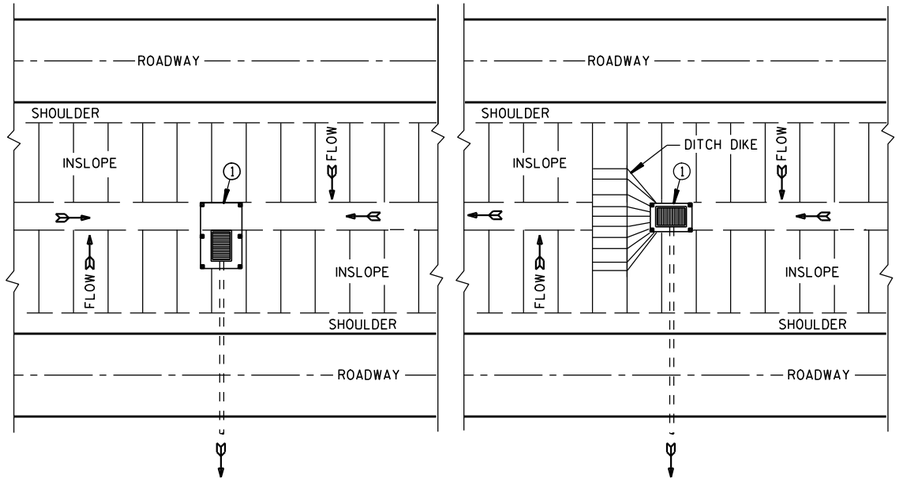
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S.D.D. 8 E 8-3



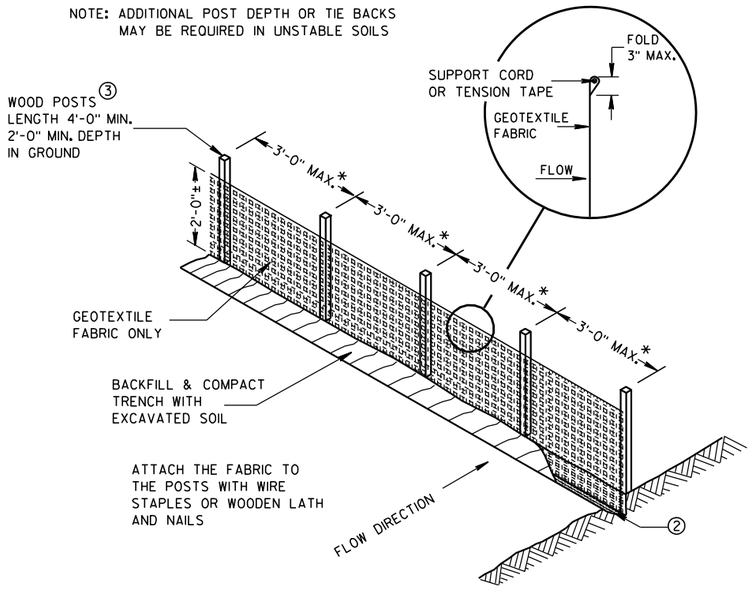
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE

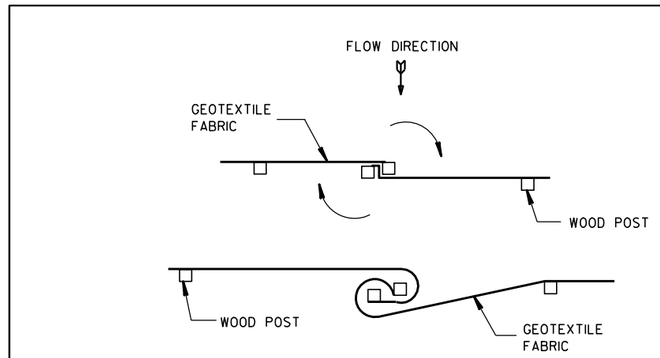


PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



SILT FENCE

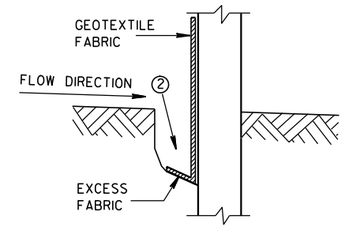


JOINING TWO LENGTHS OF SILT FENCE 5

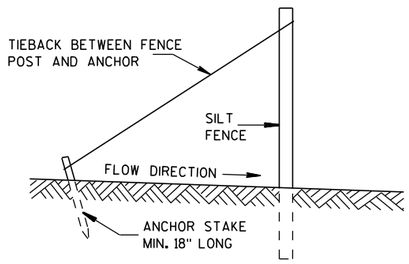
GENERAL NOTES

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 TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

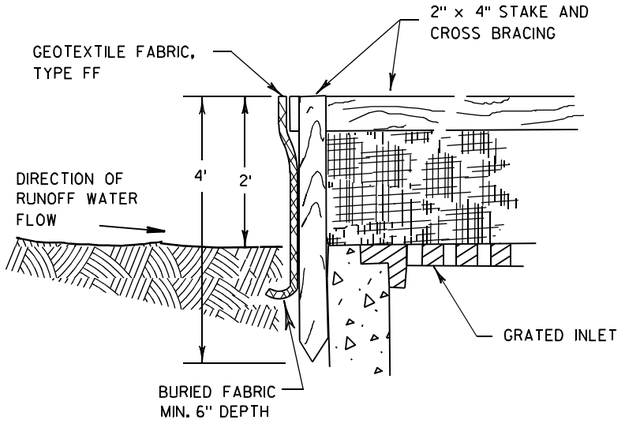
SILT FENCE

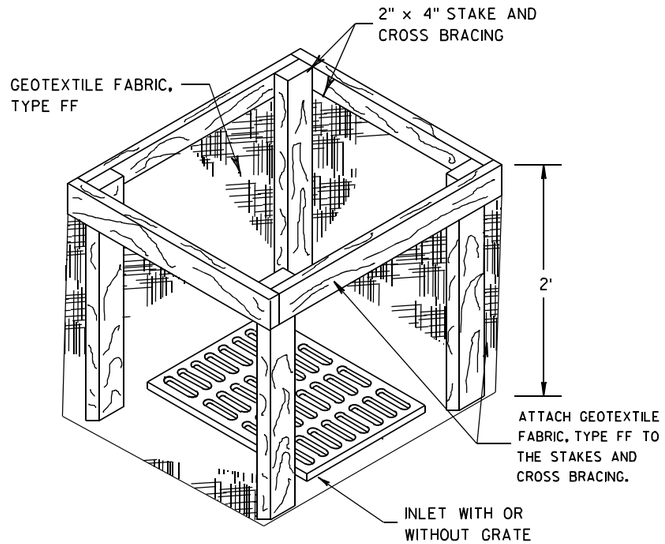
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

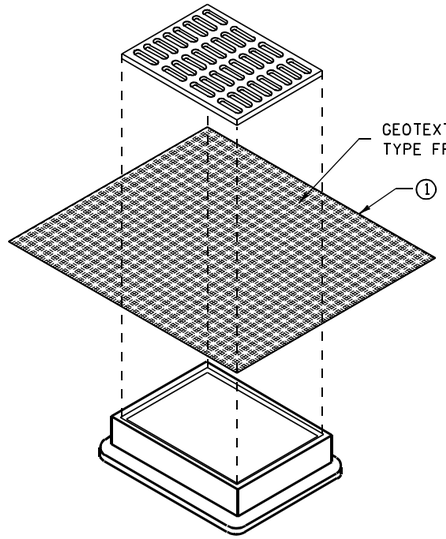
S.D.D. 8 E 9-6

6



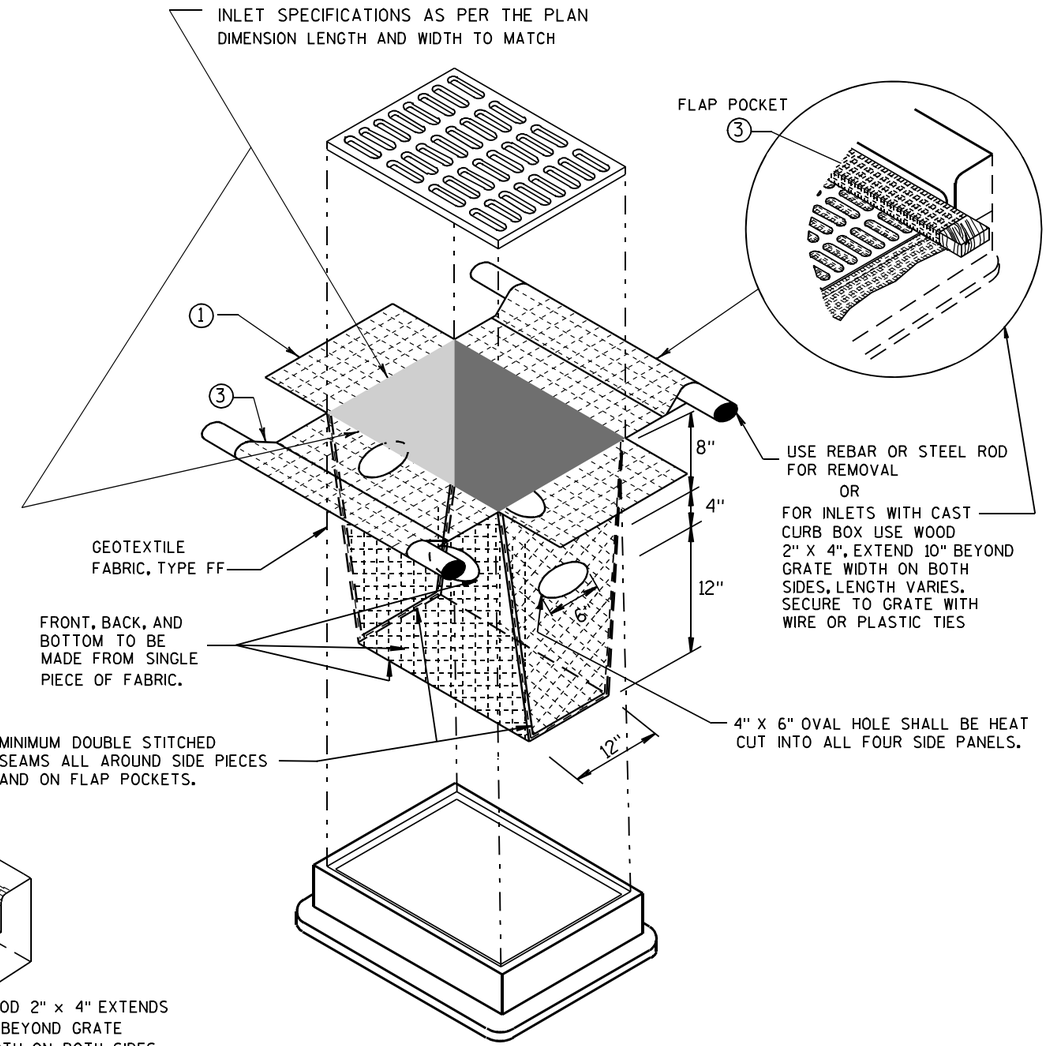


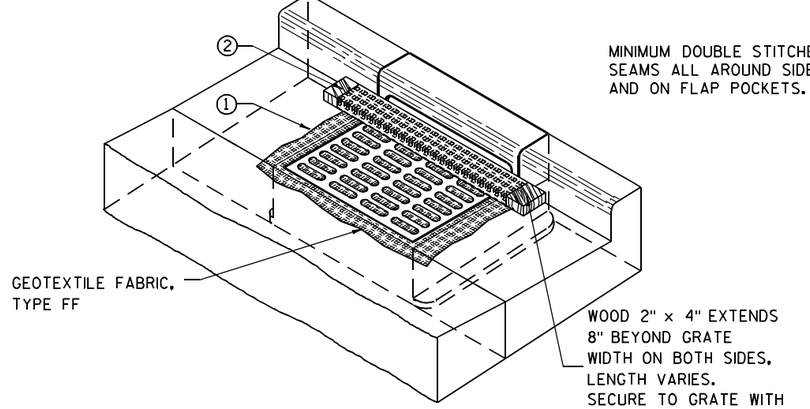
INLET PROTECTION, TYPE A



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

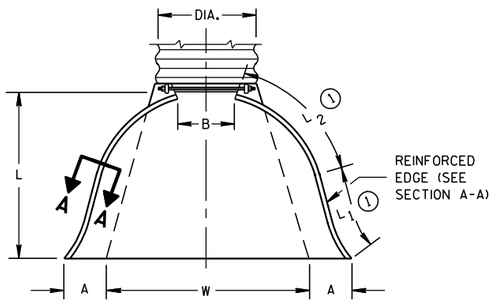
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

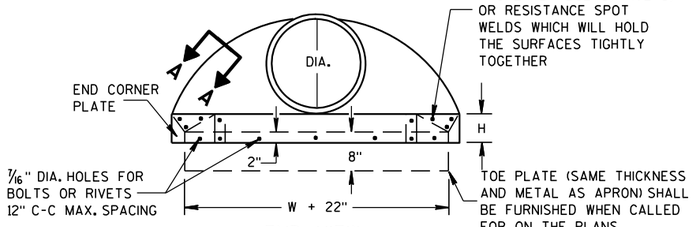
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

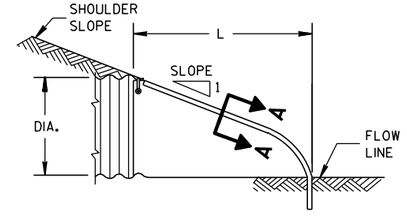
*MINIMUM
**MAXIMUM



PLAN VIEW

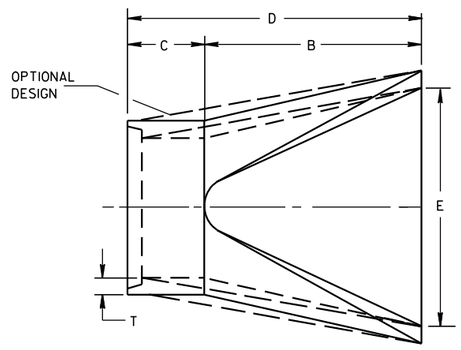


END VIEW

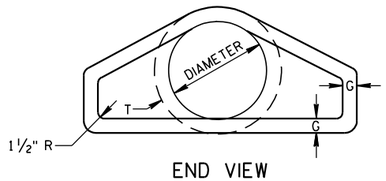


SIDE ELEVATION

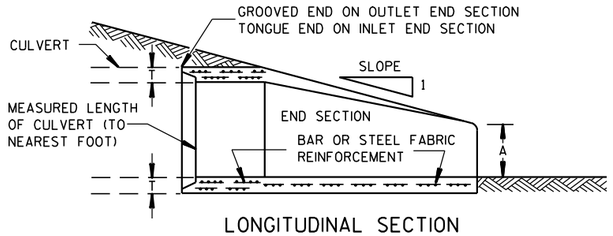
METAL ENDWALLS



PLAN

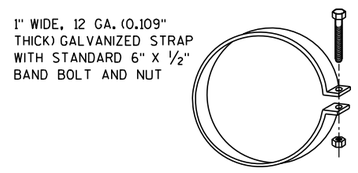


END VIEW



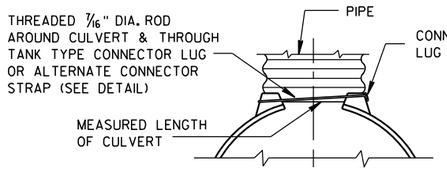
LONGITUDINAL SECTION

CONCRETE ENDWALLS

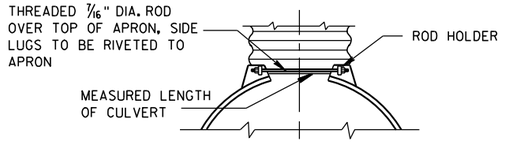


ALTERNATE FOR TYPE 1 CONNECTION

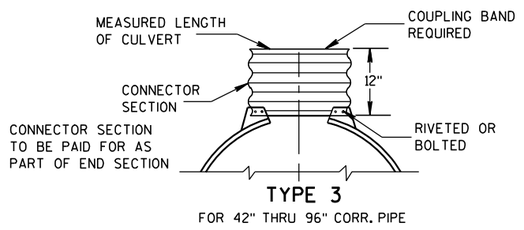
END SECTION CONNECTOR STRAP



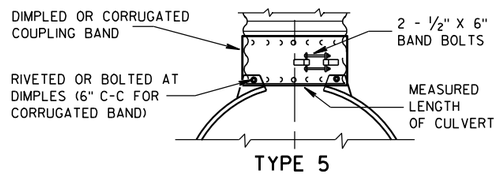
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

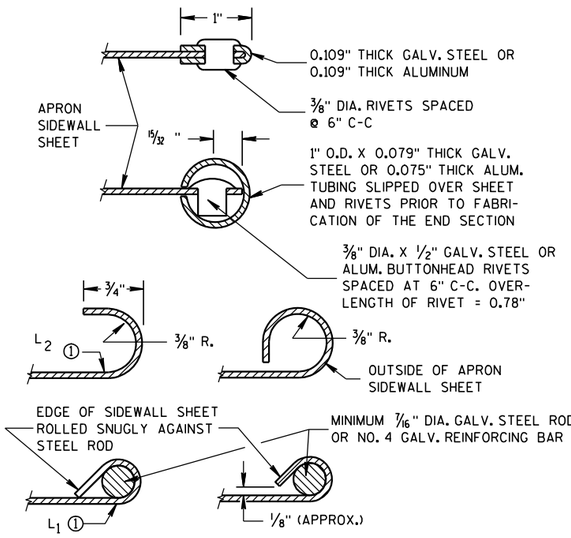
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

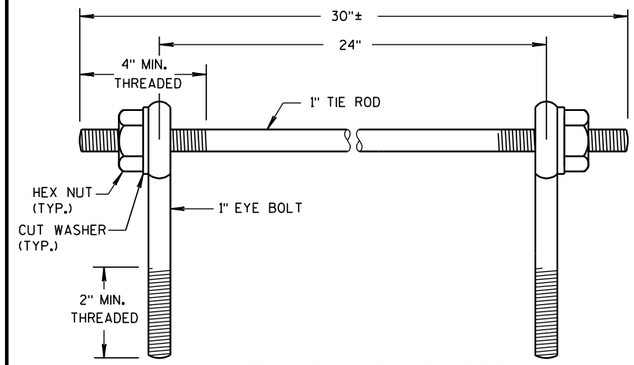
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

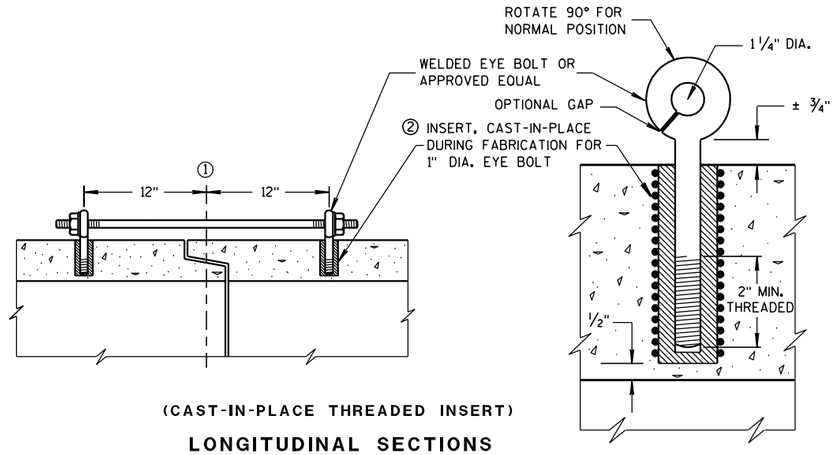
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

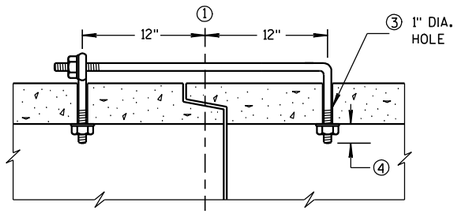
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

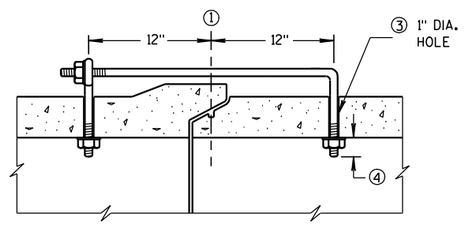
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

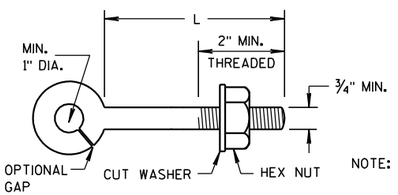


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

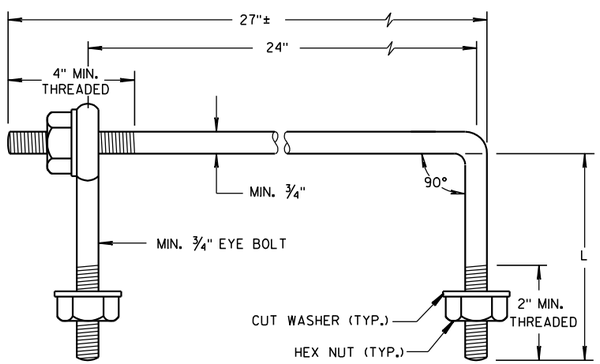
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

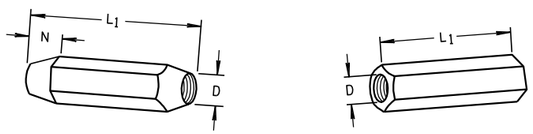
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

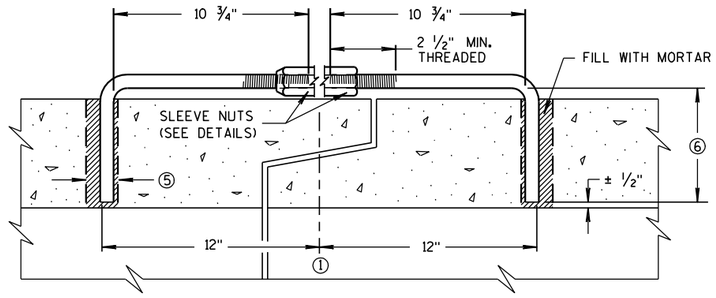
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

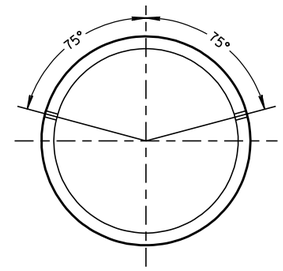
SLEEVE NUTS



LONGITUDINAL SECTION

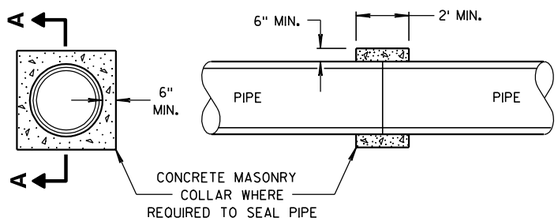
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

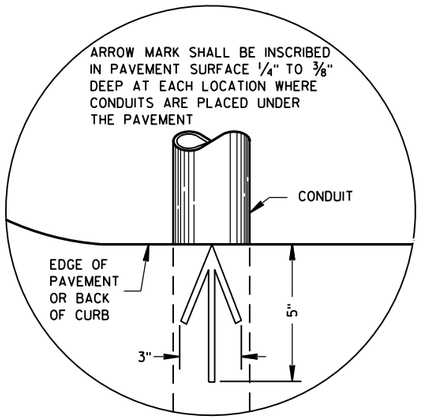
APPROVED
6/5/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
181
FHWA

6

S.D.D. 8 F 4-7

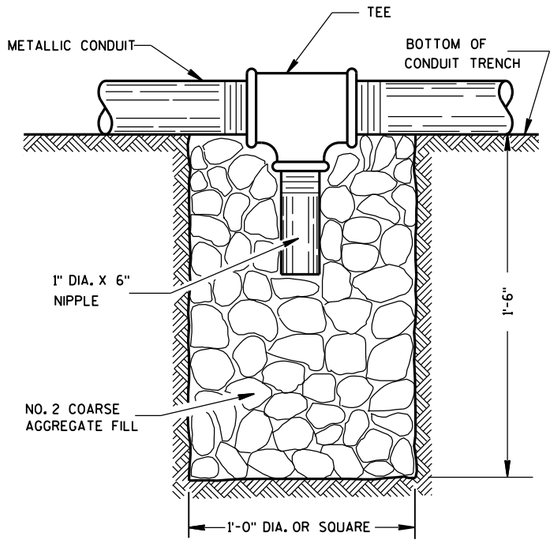
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S.D.D. 8 F 4-7



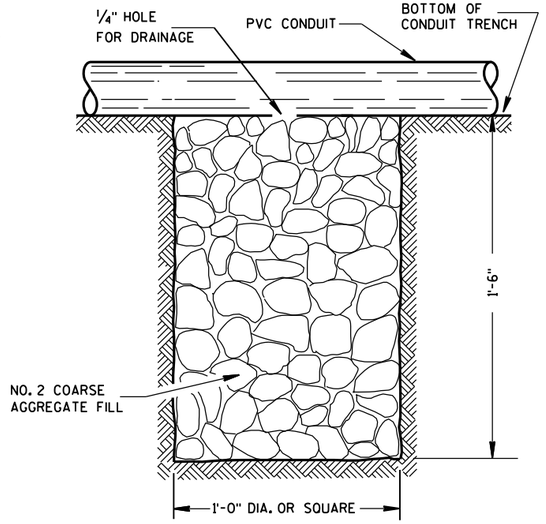
PLAN VIEW

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.

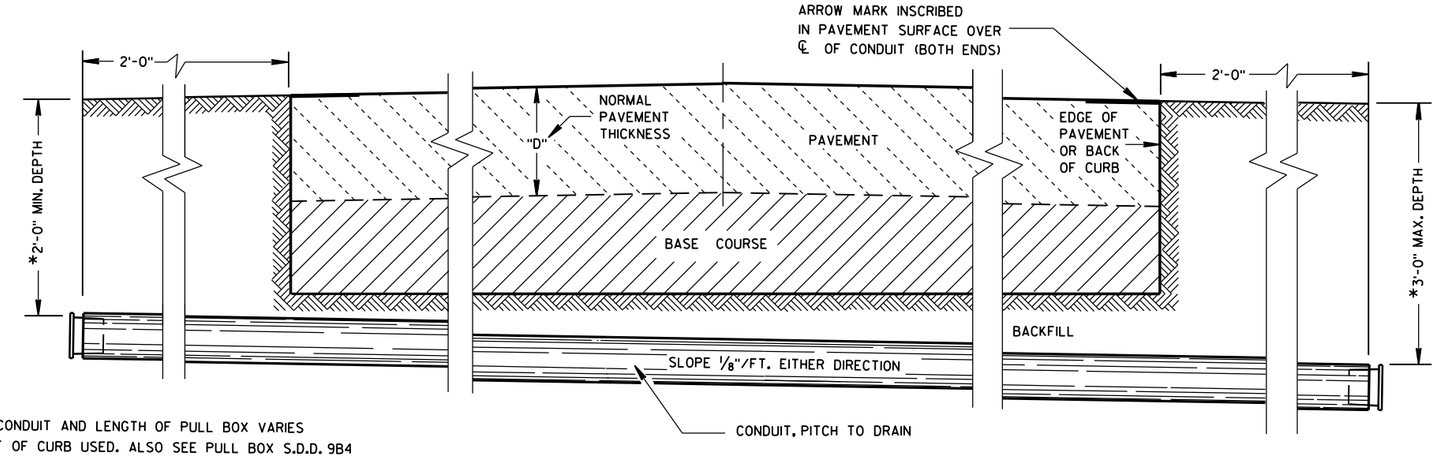
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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.).

TRACER 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
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

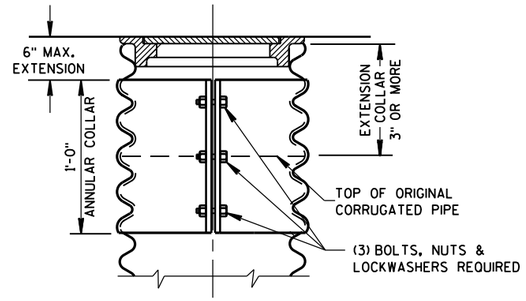
S.D.D. 9 B 2-9

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

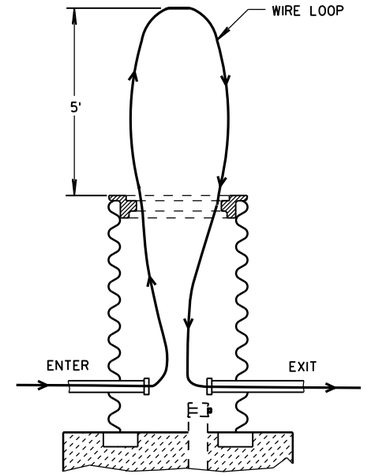
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2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

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

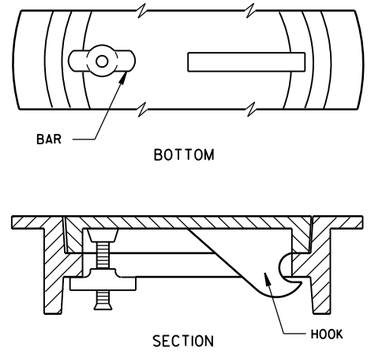
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

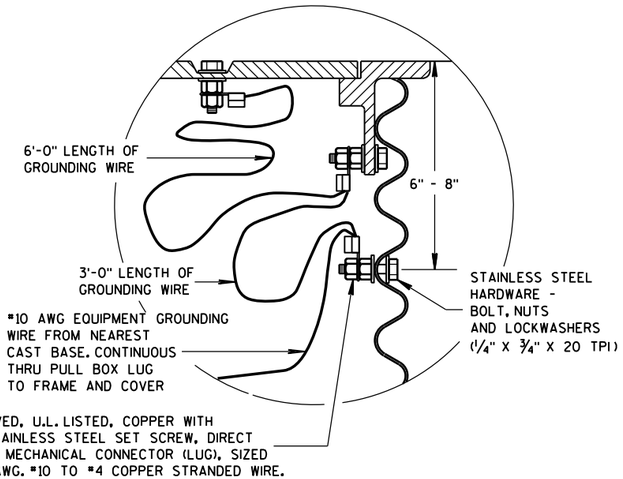


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

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.

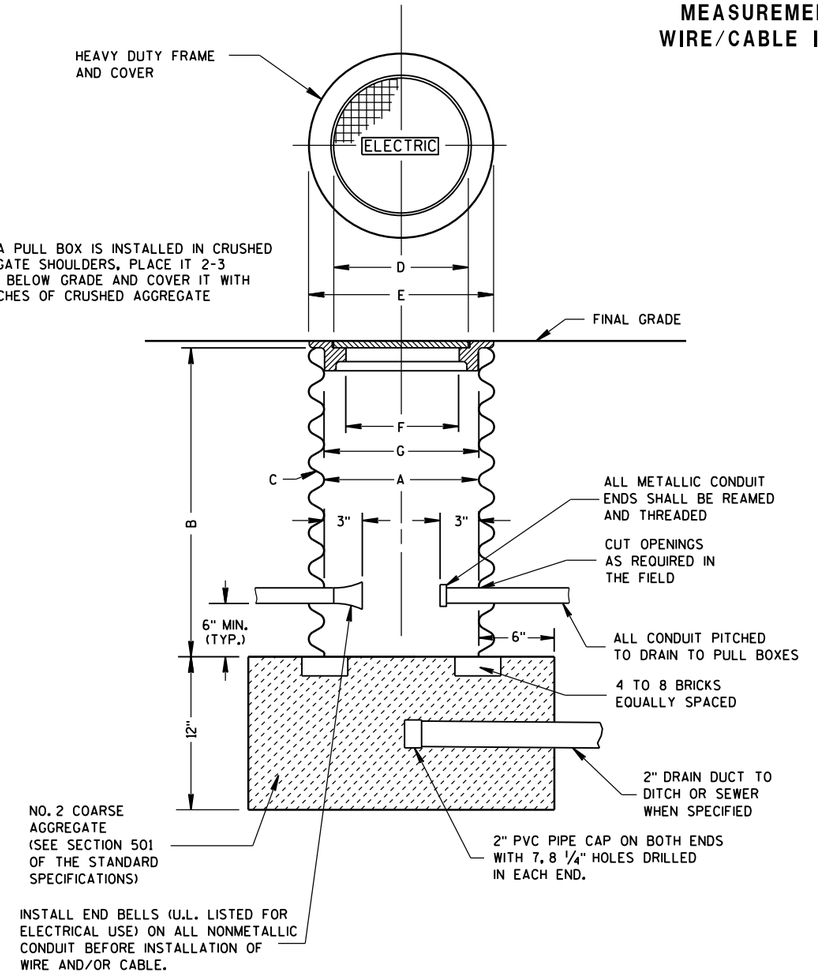
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

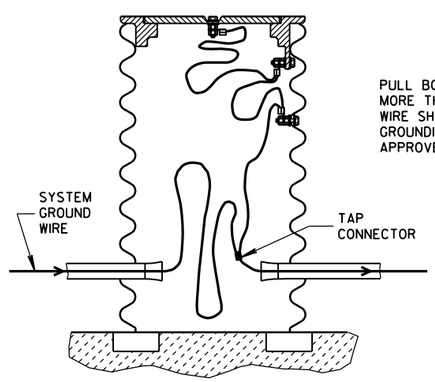
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

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

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



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

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

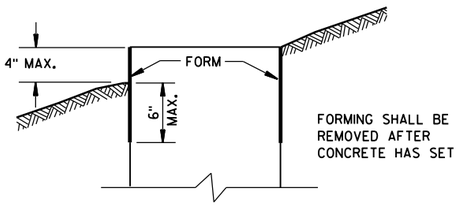
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA

6

S.D.D. 9 B 4-11

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
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 1, TYPE 2, TYPE 5, AND TYPE 6 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 OF THE STANDARD SPECIFICATIONS.

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) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

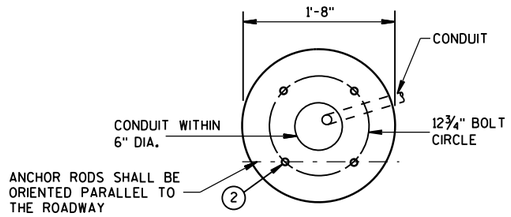
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

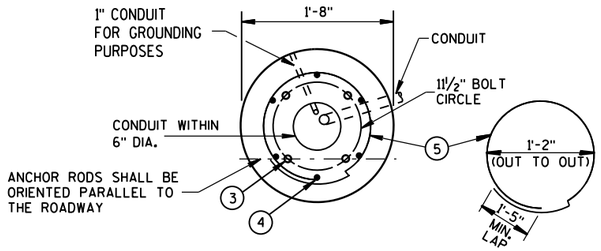
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

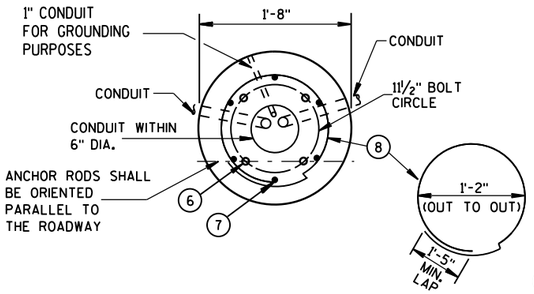
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

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

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

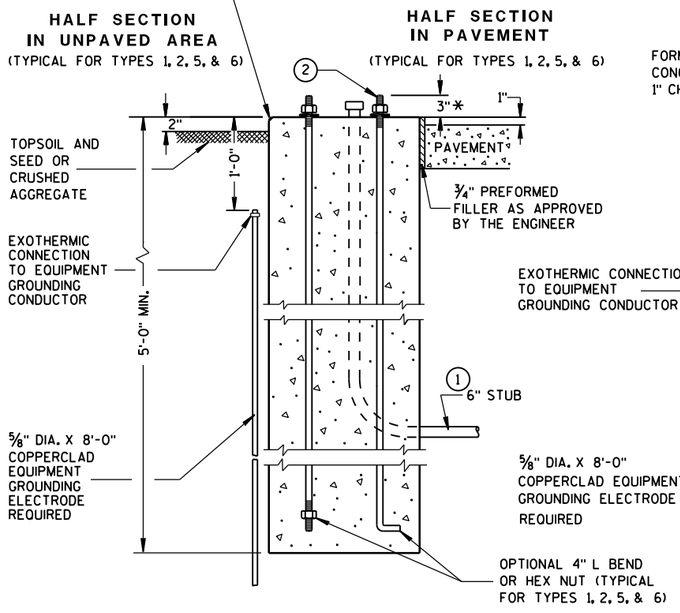


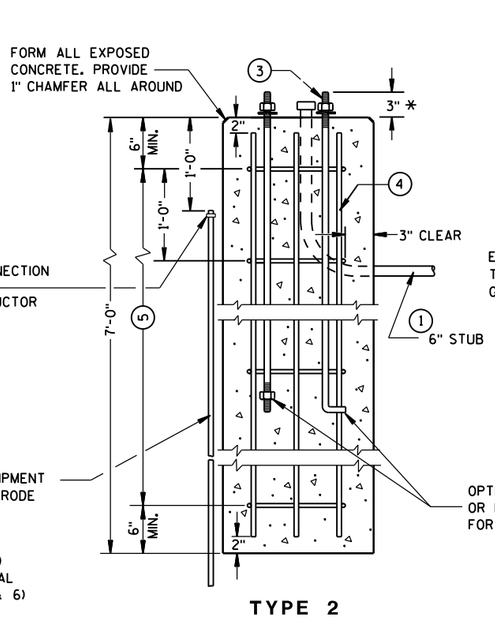




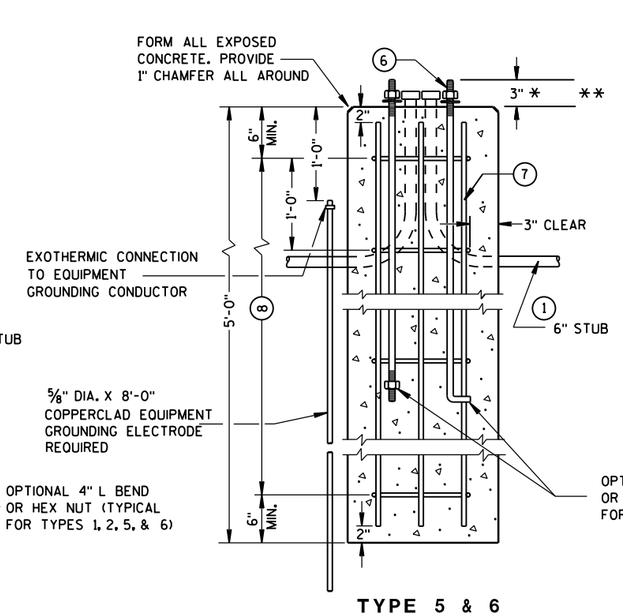
HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5, & 6)

HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5, & 6)





TYPE 2



TYPE 5 & 6

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, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 2-7

6

S.D.D. 9 C 2-7

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

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

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

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

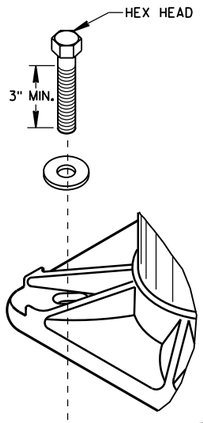
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

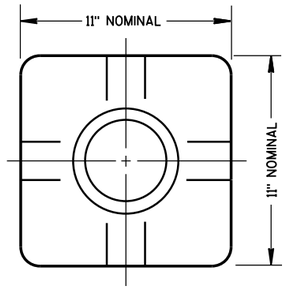
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

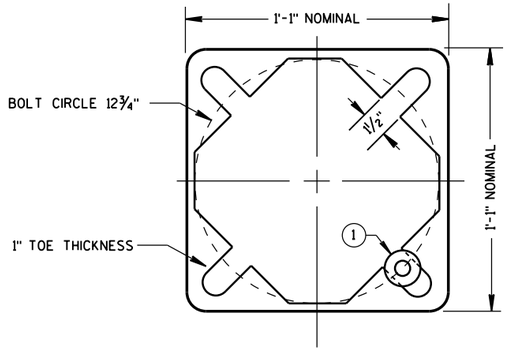
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

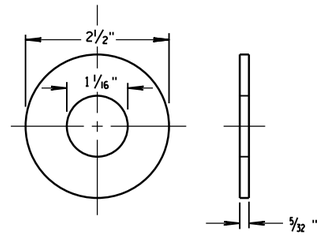




TOP VIEW
(PEDESTAL BASE)

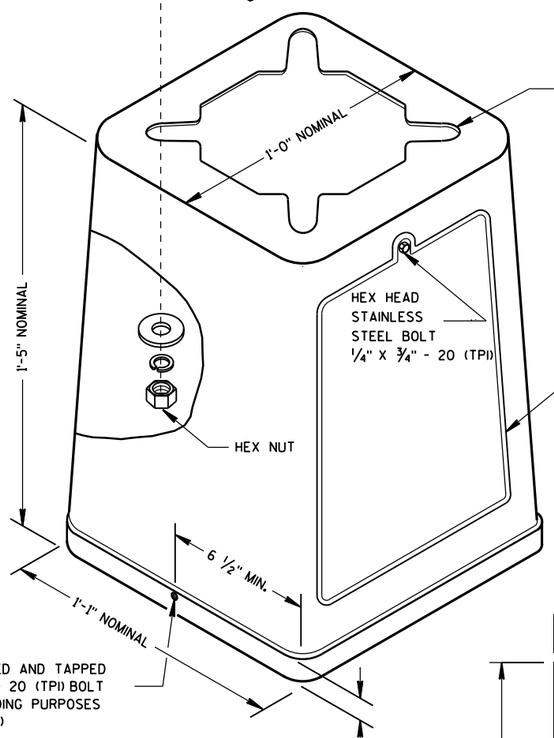


BOTTOM VIEW
(PEDESTAL BASE)

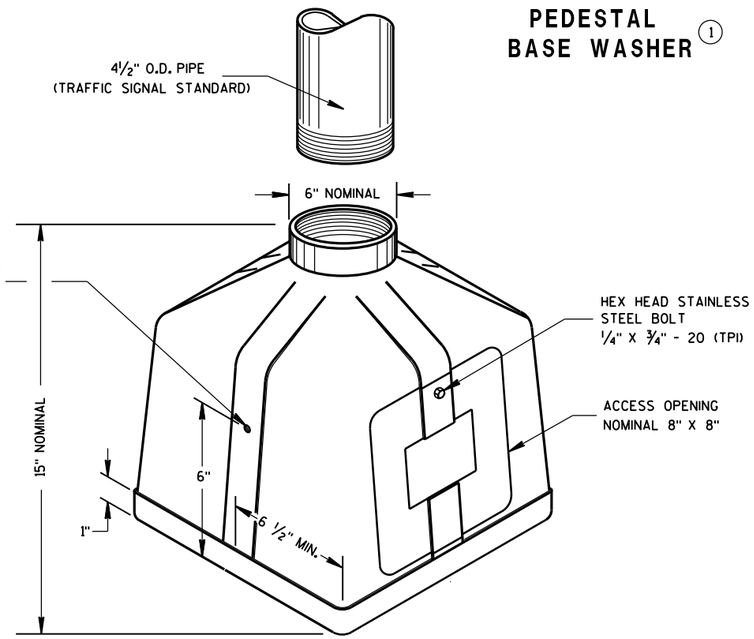


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

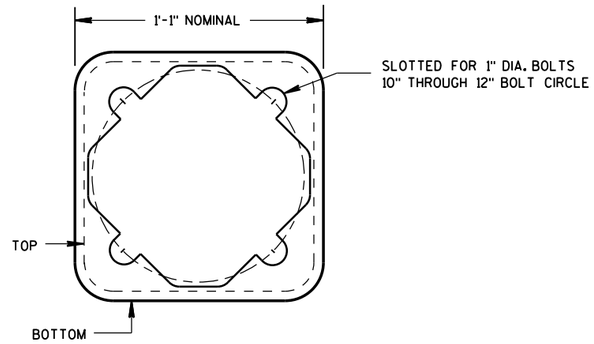


ISOMETRIC VIEW

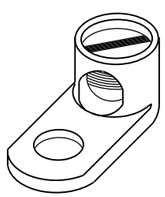


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

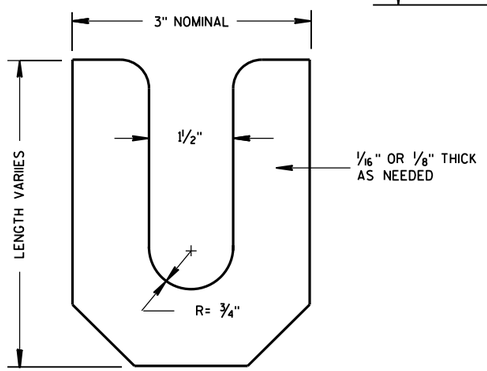


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

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



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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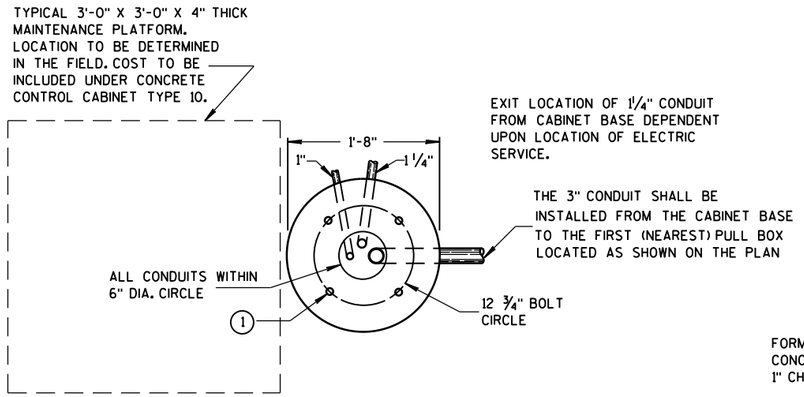
S.D.D. 9 C 3-4

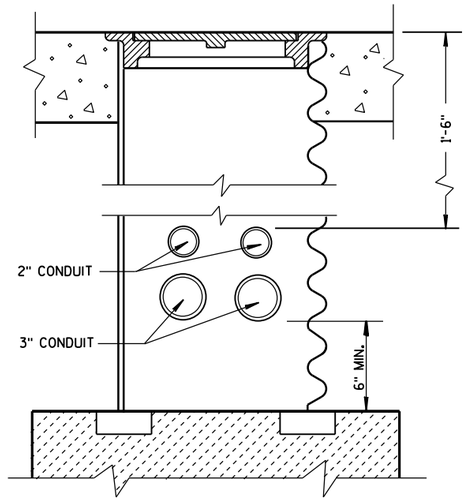
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S.D.D. 9 C 3-4

CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	H	I	J	K	
TYPE 6 - 30" CABINET	34"	60"	10"	17"	.64
TYPE 7 - 38" CABINET	42"	60"	10"	21"	.93
TYPE 8 - 38" CABINET	42"	72"	12"	21"	1.29
TYPE 9 - VARIABLE	54"	72"	14"	27"	1.56
TYPE 10 - POST MOUNT	AS SHOWN				.65 *

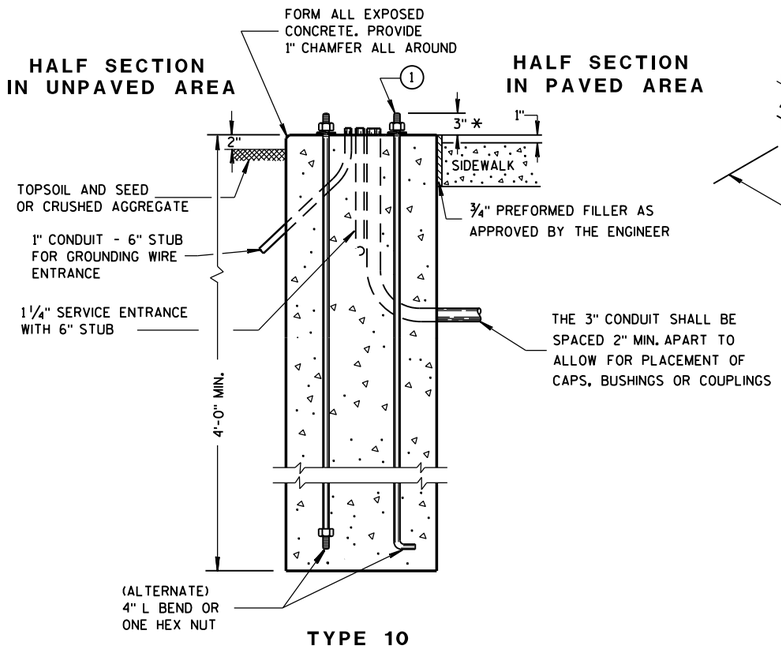
* INCLUDES MAINTENANCE PLATFORM.



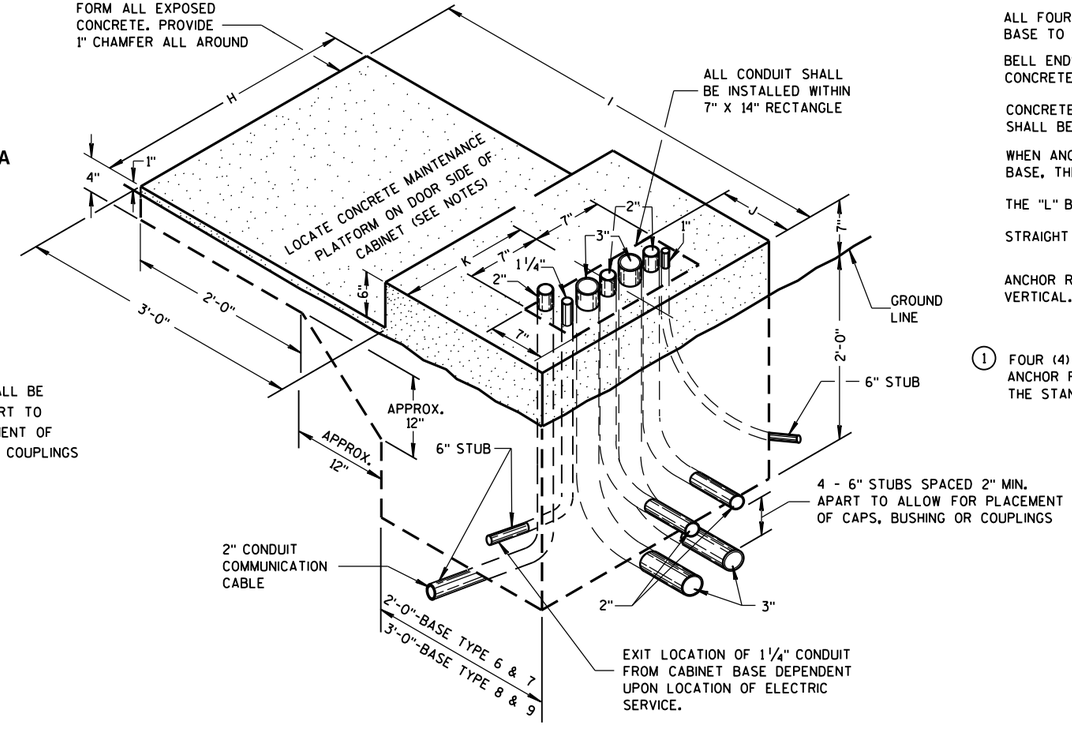


CONDUIT LOCATIONS IN 24" X 36" PULL BOX

(LEADING TO CONTROLLER CABINET BASE TYPE 6, 7, 8 AND 9)



TYPE 10



TYPE 6,7,8 AND 9
(ISOMETRIC VIEW)

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

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A 36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM FINISHED AND LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

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

ALL FOUR (TWO INCH AND THREE INCH) CONDUIT SHALL BE INSTALLED FROM THE CABINET BASE TO THE FIRST (NEAREST PULL BOX LOCATED AS SHOWN ON THE PLANS.

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

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10 BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

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

(1) FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6". ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

CONCRETE CONTROL CABINET BASES

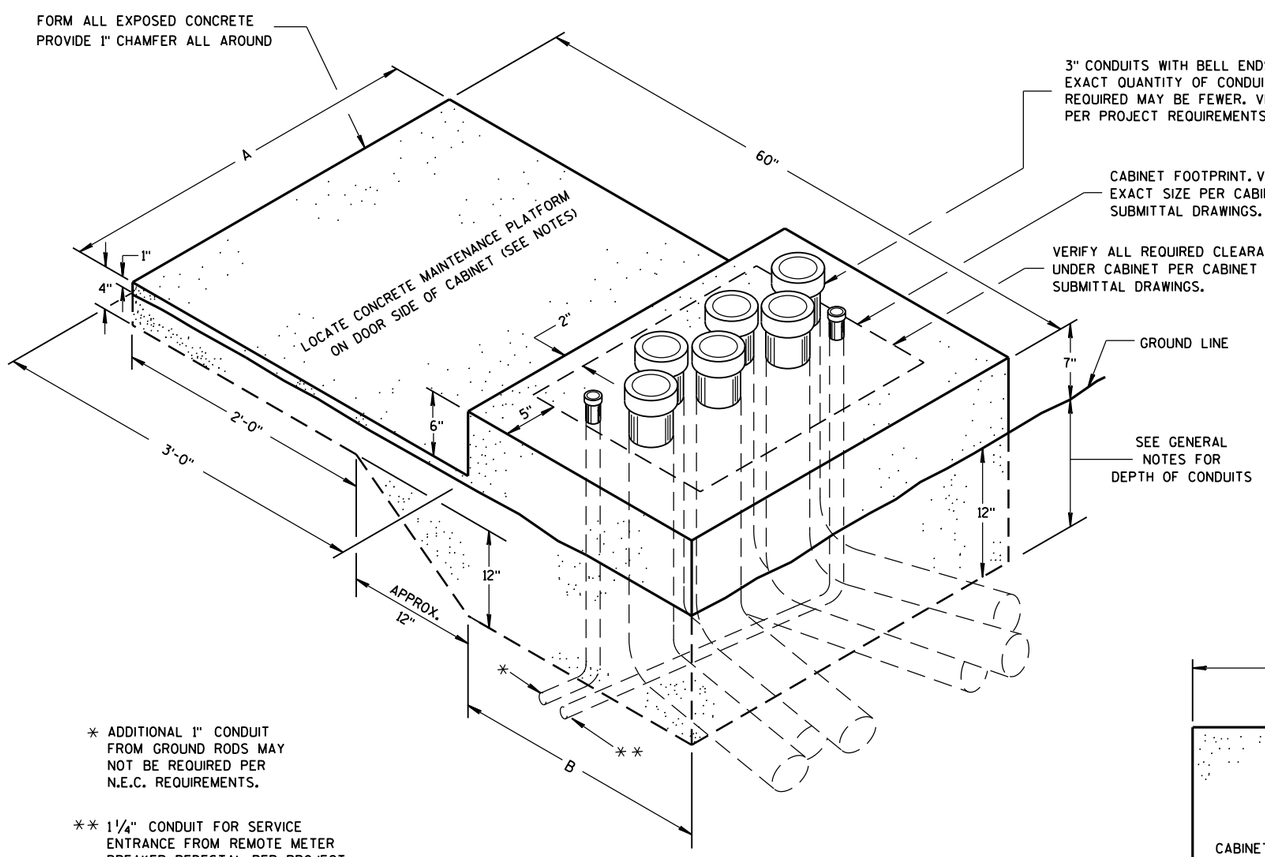
CONCRETE CONTROL CABINET BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 C 5-9



* ADDITIONAL 1" CONDUIT FROM GROUND RODS MAY NOT BE REQUIRED PER N.E.C. REQUIREMENTS.

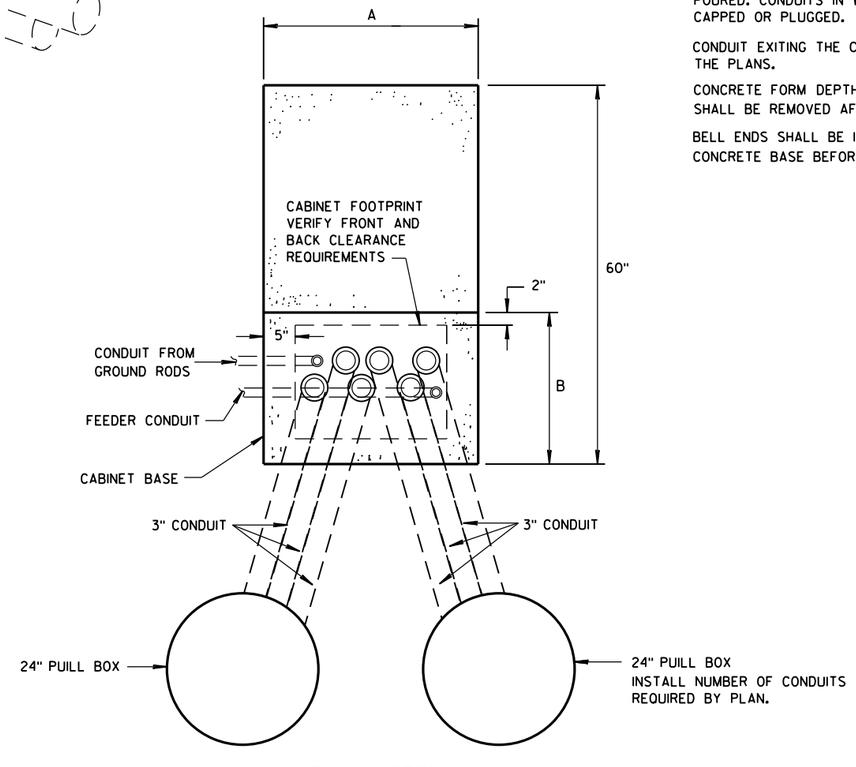
** 1¼" CONDUIT FOR SERVICE ENTRANCE FROM REMOTE METER BREAKER PEDESTAL PER PROJECT REQUIREMENTS. VERIFY LOCATION OF CONDUIT DEPENDENT UPON LOCATION OF INCOMING FEEDER AND FOR EASE OF CONNECTION TO LOAD CENTER.

ISOMETRIC VIEW

CONCRETE CONTROL CABINET BASE, TYPE L

(C.Y. CONCRETE = APPROX. 0.4)

CONCRETE BASE TYPE	CABINET WIDTH	DIMENSIONS		MAXIMUM 3" CONDUITS
		A	B	
L24	24"	34"	24"	4
L30	30"	40"	24"	6



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE L

GENERAL NOTES

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

INSTALL FOUR STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET BASES. THE ANCHORS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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

CONDUIT EXITING THE CONCRETE BASE SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

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

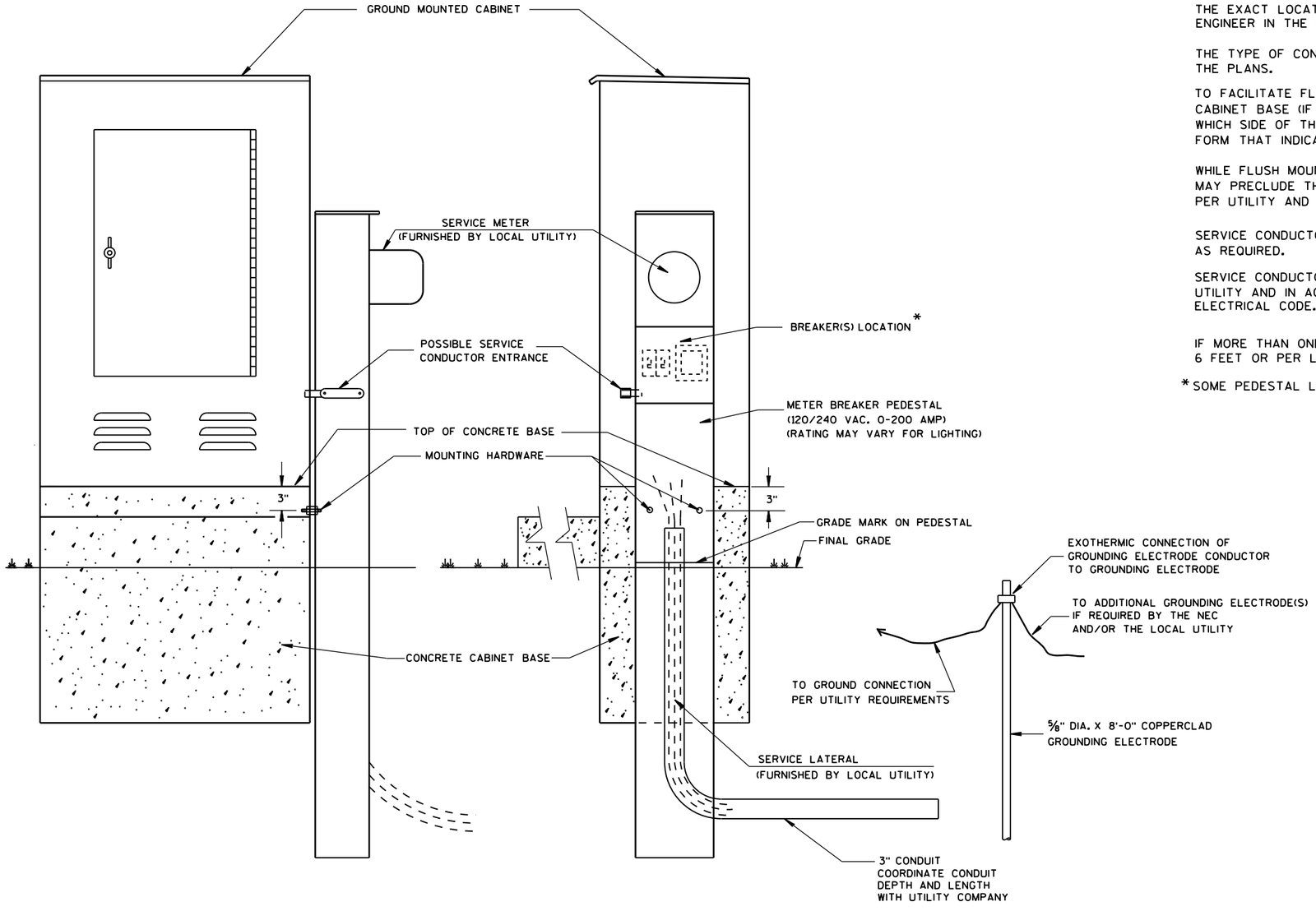
CONCRETE CONTROL CABINET BASE, TYPE L

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Nov. 2014 — DATE
/S/ Thomas Gonring — STATE LIGHTING ENGINE
FHWA
WYS

6

S.D.D. 9 C 14-2



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

6

S.D.D. 9 D 1-5

6

S.D.D. 9 D 1-5

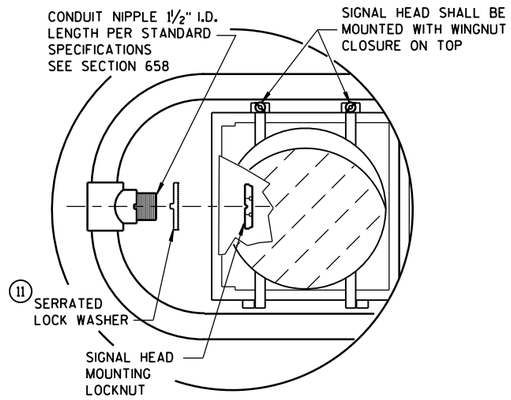
CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE

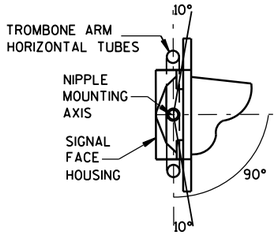
/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA



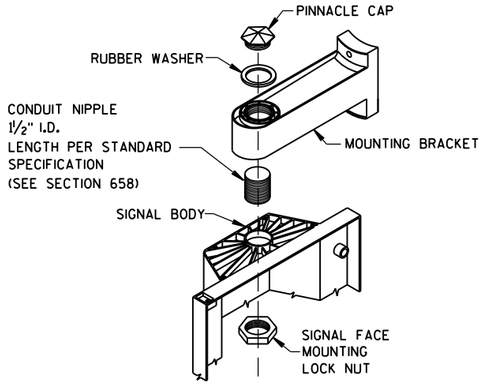
HORIZONTAL SIGNAL HEAD MOUNTING DETAIL *

* SIGNAL HEAD ATTACHMENT ALSO APPLYS TO MOUNTING AT CROSS BAR



SECTION A-A

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



SIGNAL FACE MOUNTING DETAIL

(BANDED)

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

(6) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

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

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

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

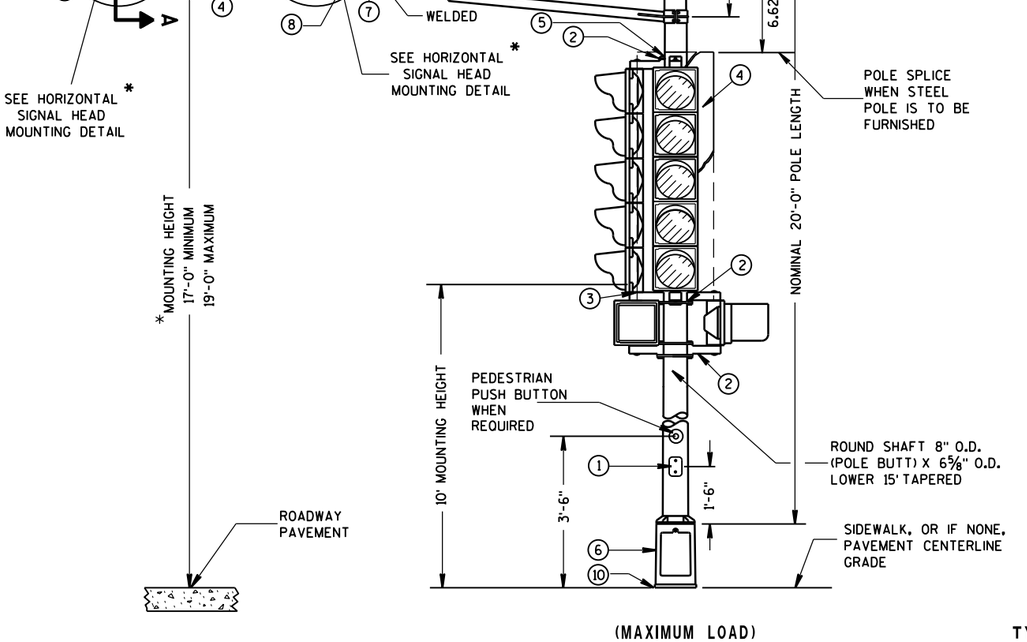
(10) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

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

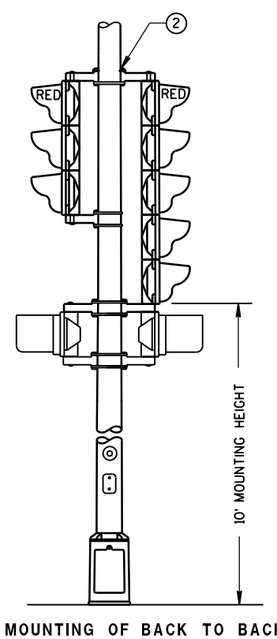
*MOUNTING HEIGHT LIMITATION DIMENSIONS OF THE TROMBONE MAST ARM WILL BE DEPENDENT UPON THE USE/NON-USE OF A TRANSFORMER BASE.

FOR MANUFACTURERS USE ONLY

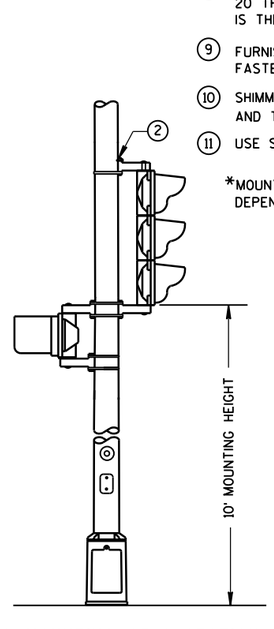
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.



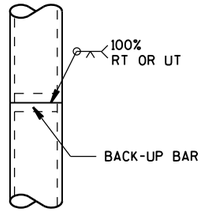
(MAXIMUM LOAD)



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



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE



POLE SPLICE DETAIL

TYPE 2 POLE MOUNTING CONFIGURATION

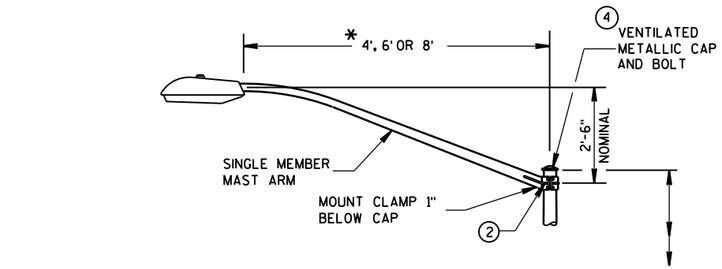
POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2

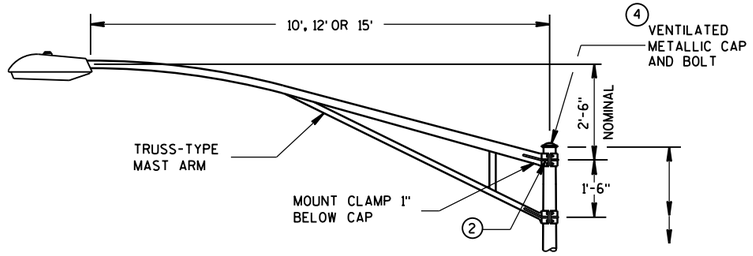
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

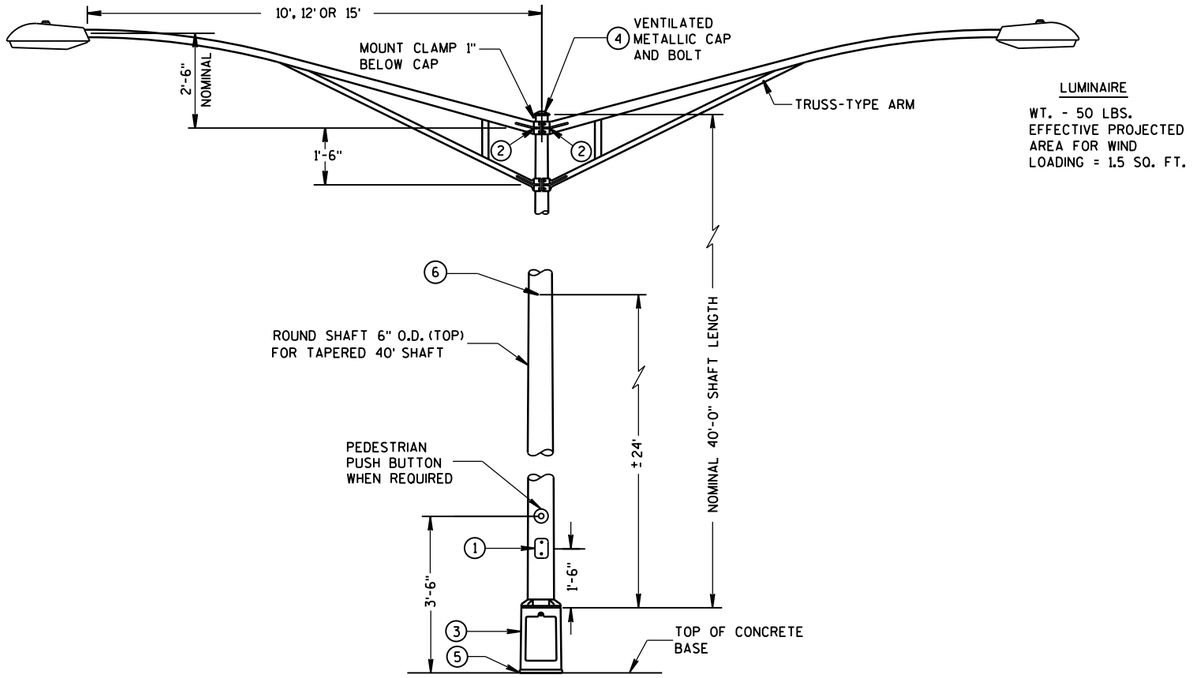
6

S.D.D. 9 E 1-14a

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

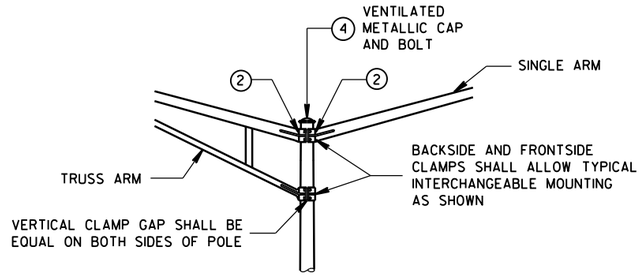






TYPE 17 POLE MOUNTING CONFIGURATION

(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

GENERAL NOTES

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

ALL LUMINAIRE POLE MOUNTINGS SHALL BE DESIGNED FOR TWIN 15' ARMS WITH LUMINAIRES.

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

TYPE 17 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

TYPE 17 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SHOE BASE SHALL BE SLOTTED TO ACCEPT A 15" BOLT CIRCLE (14" X 16" SLOT) USING 1" ANCHOR RODS.

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

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

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

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

(3) CAST ALUMINUM FHWA APPROVED TRANSFORMER BASE WHEN REQUIRED, SHALL HAVE AN ULTIMATE STATIC LOAD STRENGTH OF AT LEAST 40,000 FT. - LBS.

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

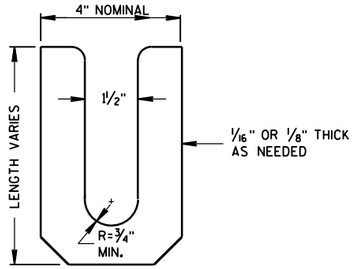
(5) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

(6) INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

POLE MOUNTINGS FOR LIGHTING UNIT, TYPE 17 (40 FEET)

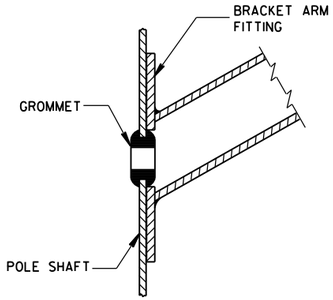
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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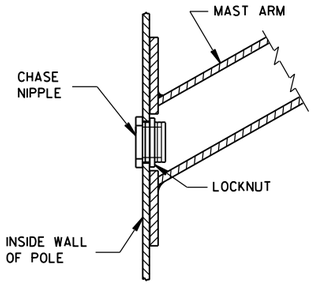


LEVELING SHIM (13)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

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

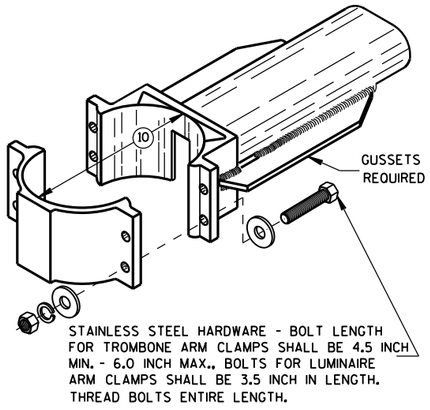
(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

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

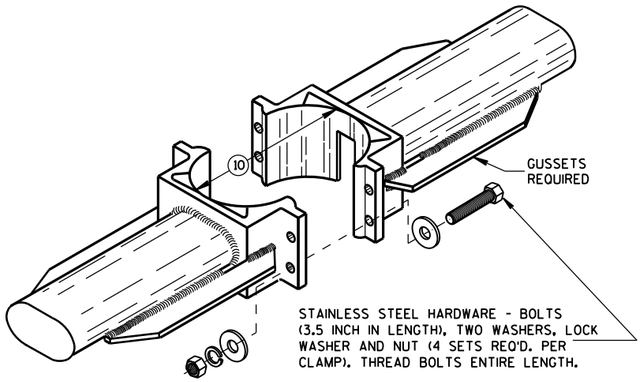
(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

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

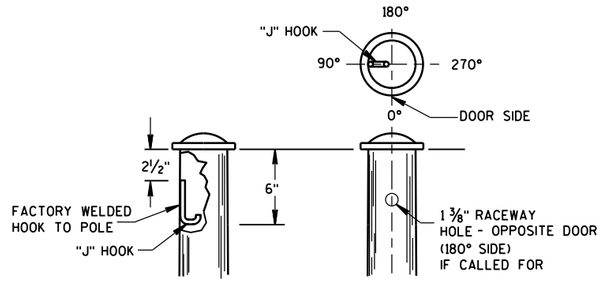
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



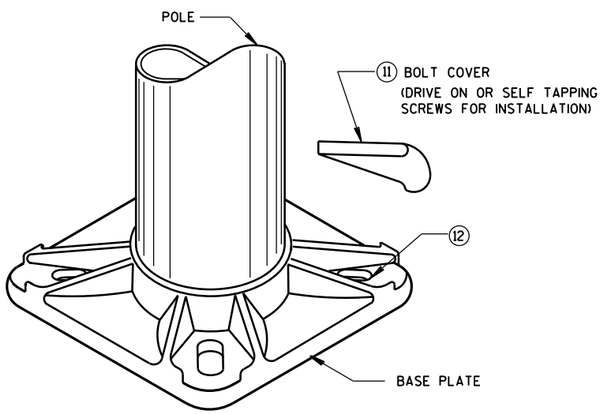
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



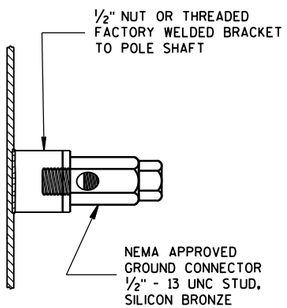
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

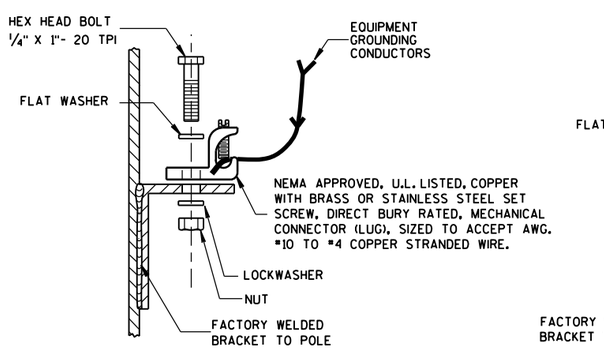


TYPICAL "J" HOOK LOCATION



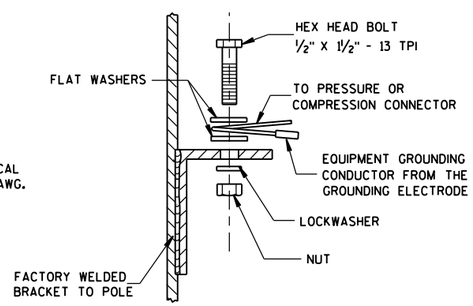
BASE PLATE





TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

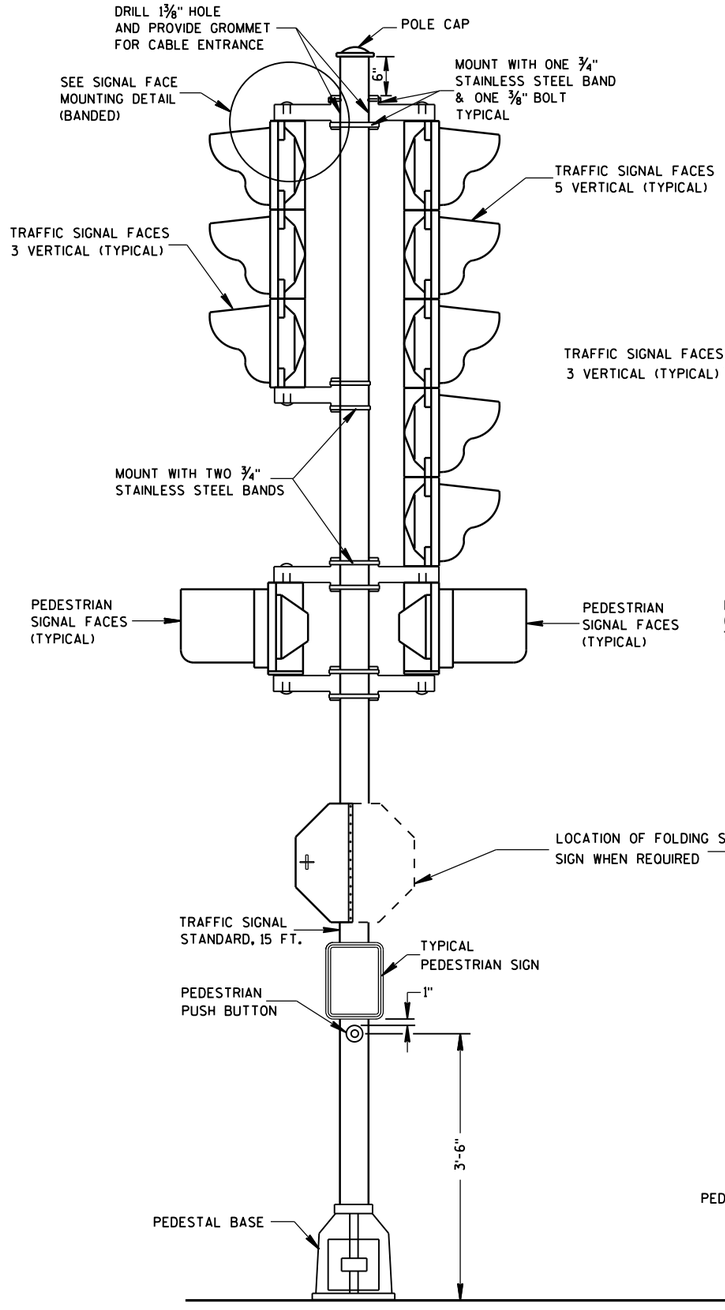
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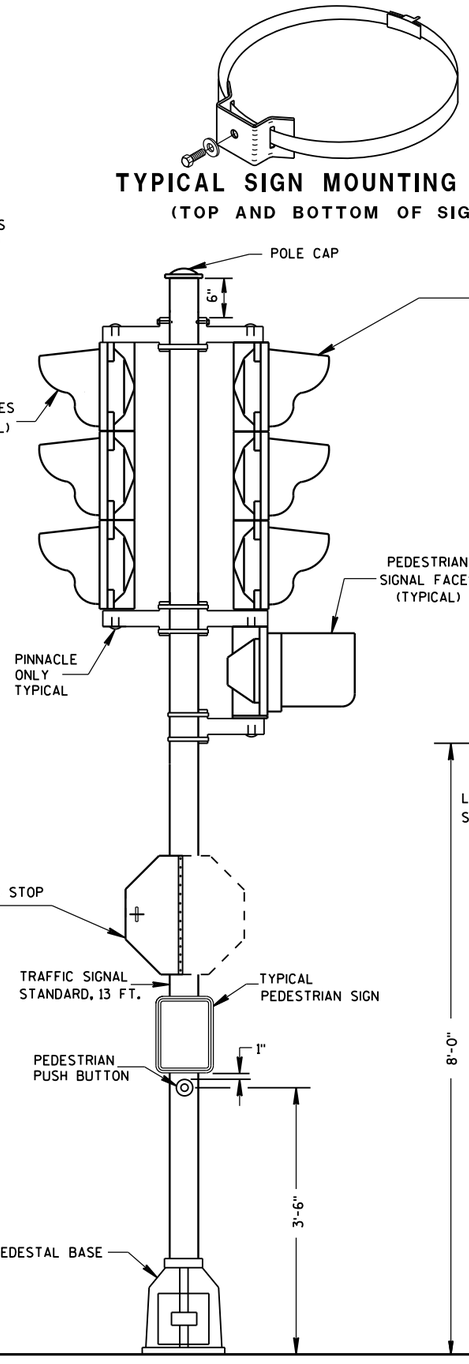
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S.D.D. 9 E 1-14g

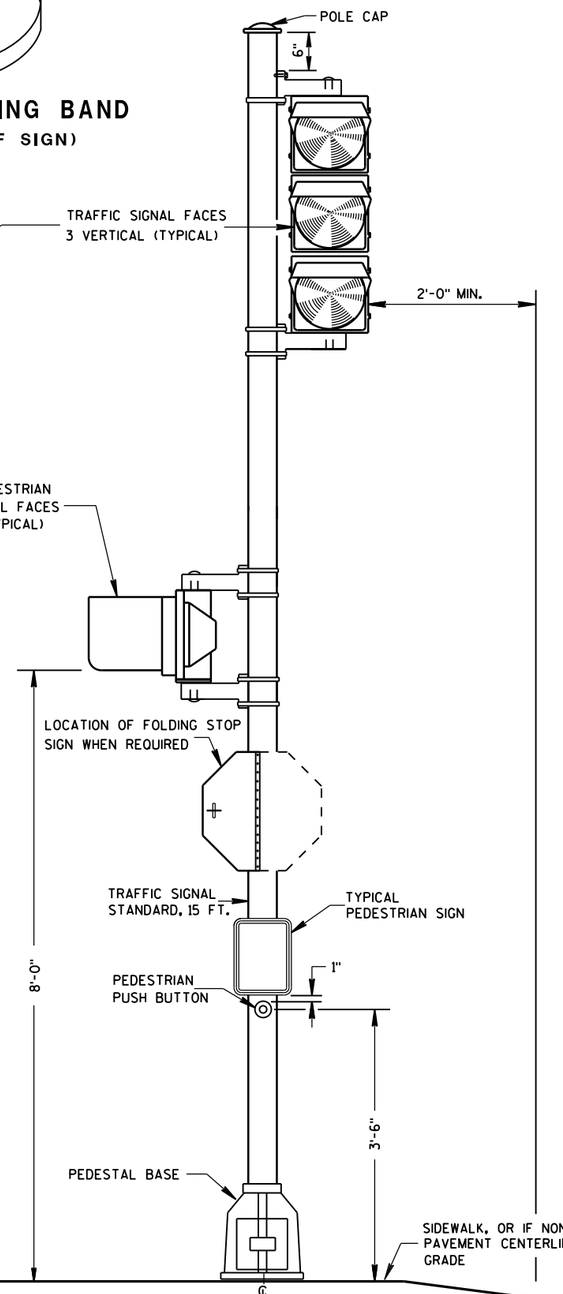


TRAFFIC SIGNAL STANDARD-15 FT.



TRAFFIC SIGNAL STANDARD-13 FT.

TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



TRAFFIC SIGNAL STANDARD-15 FT.
3M MOUNTING (TYPICAL)

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

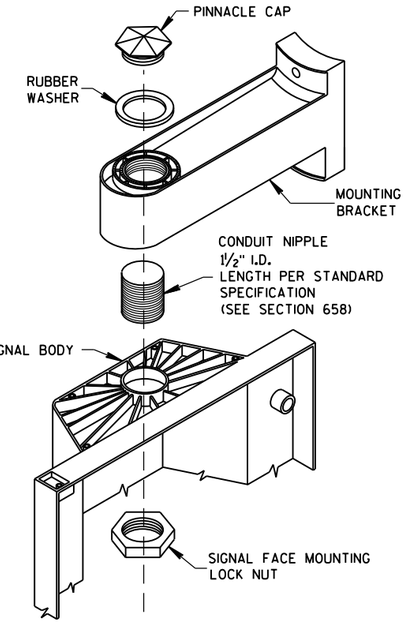
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

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



SIGNAL FACE MOUNTING DETAIL
(BANDED)

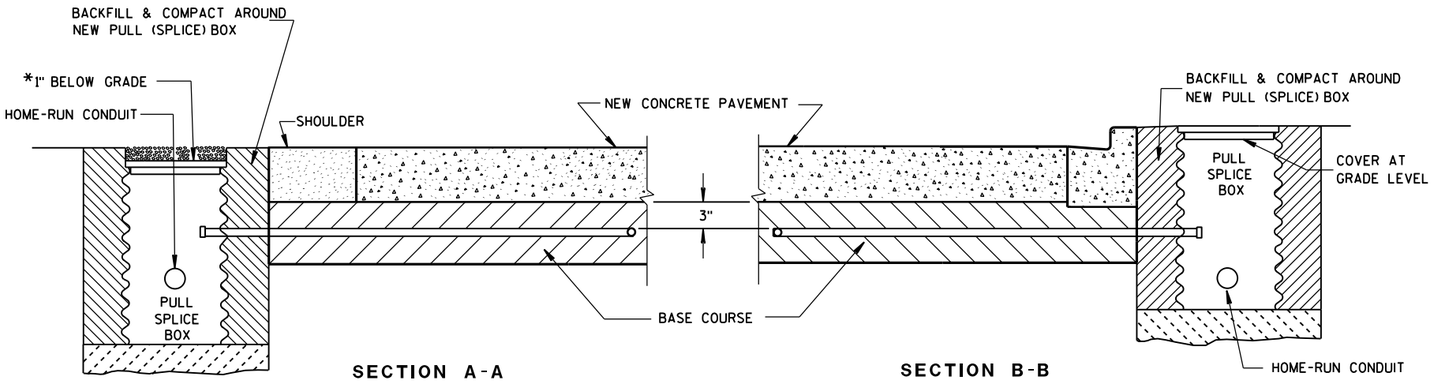
TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/28/2013 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
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S.D.D. 9 E 6-5



SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

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

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

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

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

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

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

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

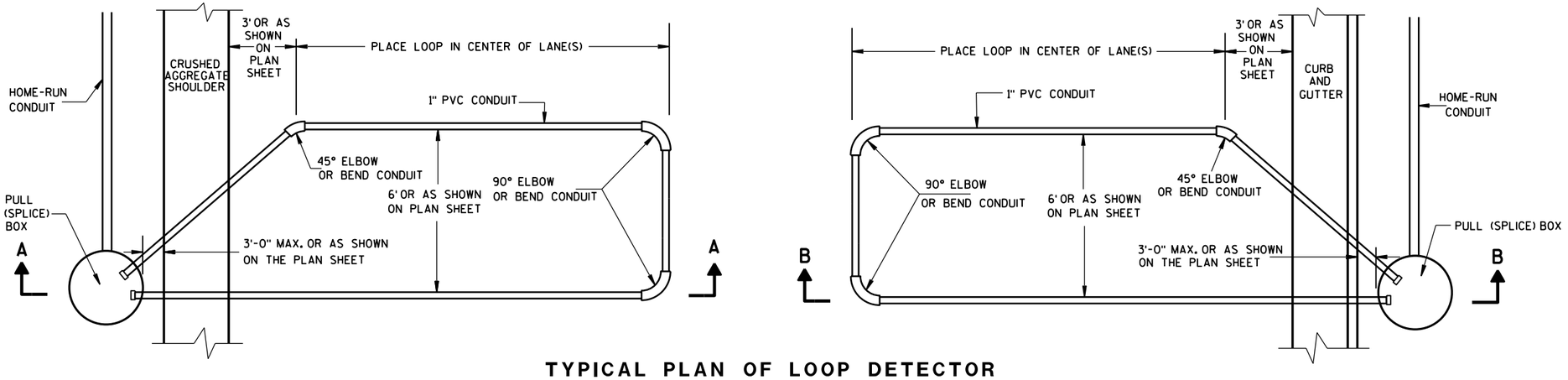
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

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

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

PROTECTION OF THE CONDUIT IN THE BASE COURSE, SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN OF LOOP DETECTOR WITH 18" OR 24" PULL (SPLICE) BOX

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE
FHWA

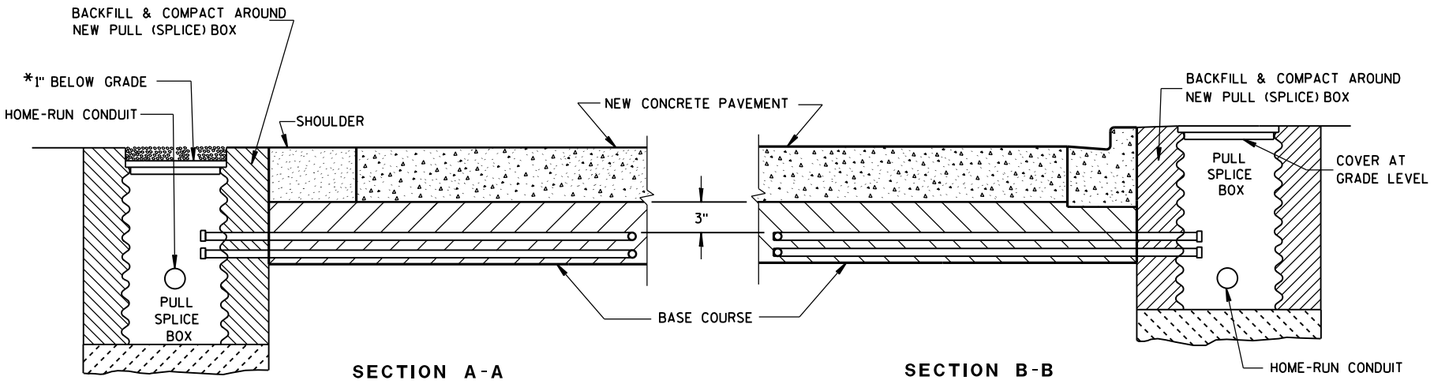
/S/ Ahmet Demirbilek
STATE ELECTRICAL

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S.D.D. 9 F 15-4a

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S.D.D. 9 F 15-4a



SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

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

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

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

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

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

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

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

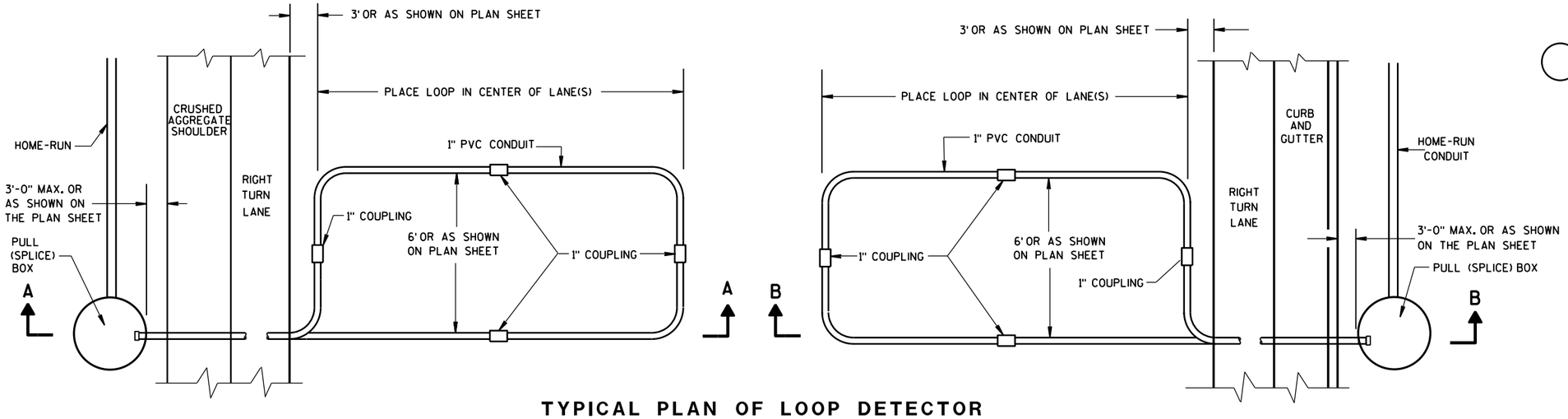
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

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

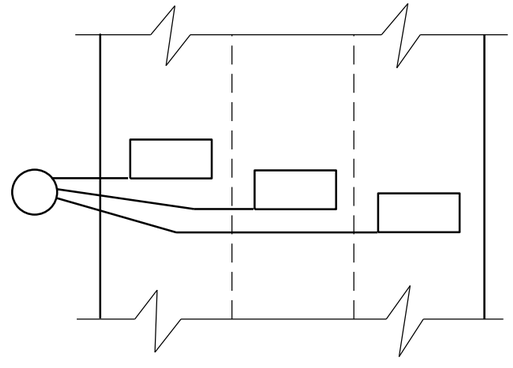
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX



MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED Sept. 2014 — DATE /S/ Ahmet Demirbilek — STATE ELECTRICAL FHWA

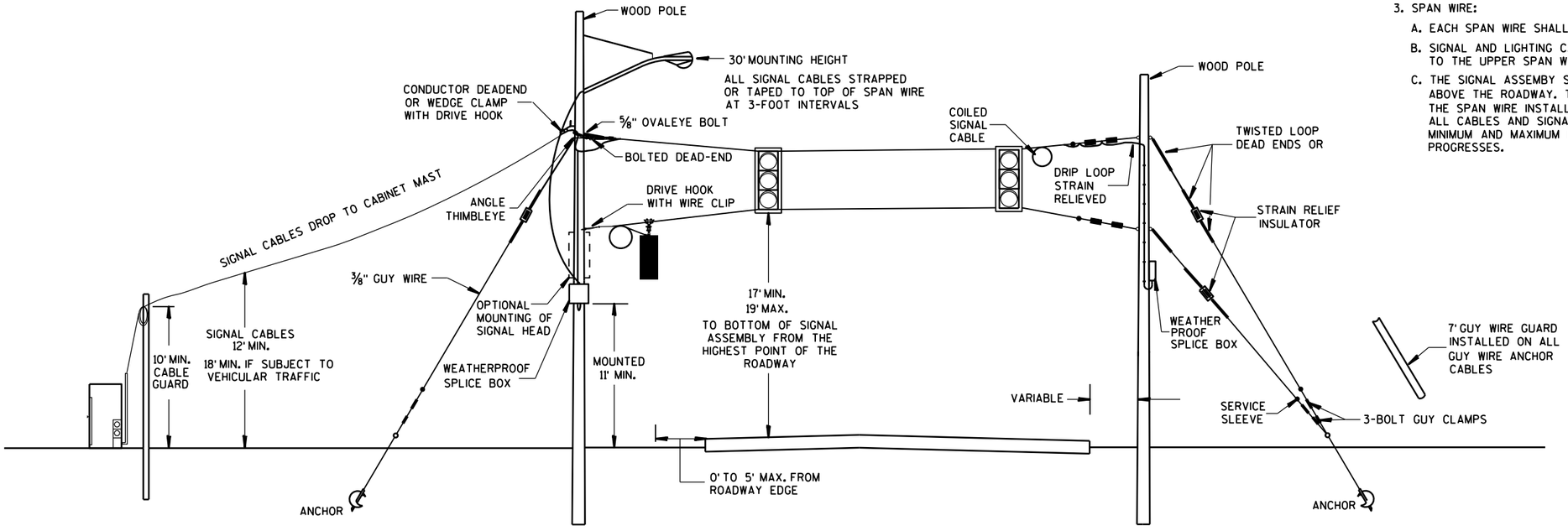
GENERAL NOTES

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

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

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

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



SPAN WIRE
TEMPORARY SIGNALS

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

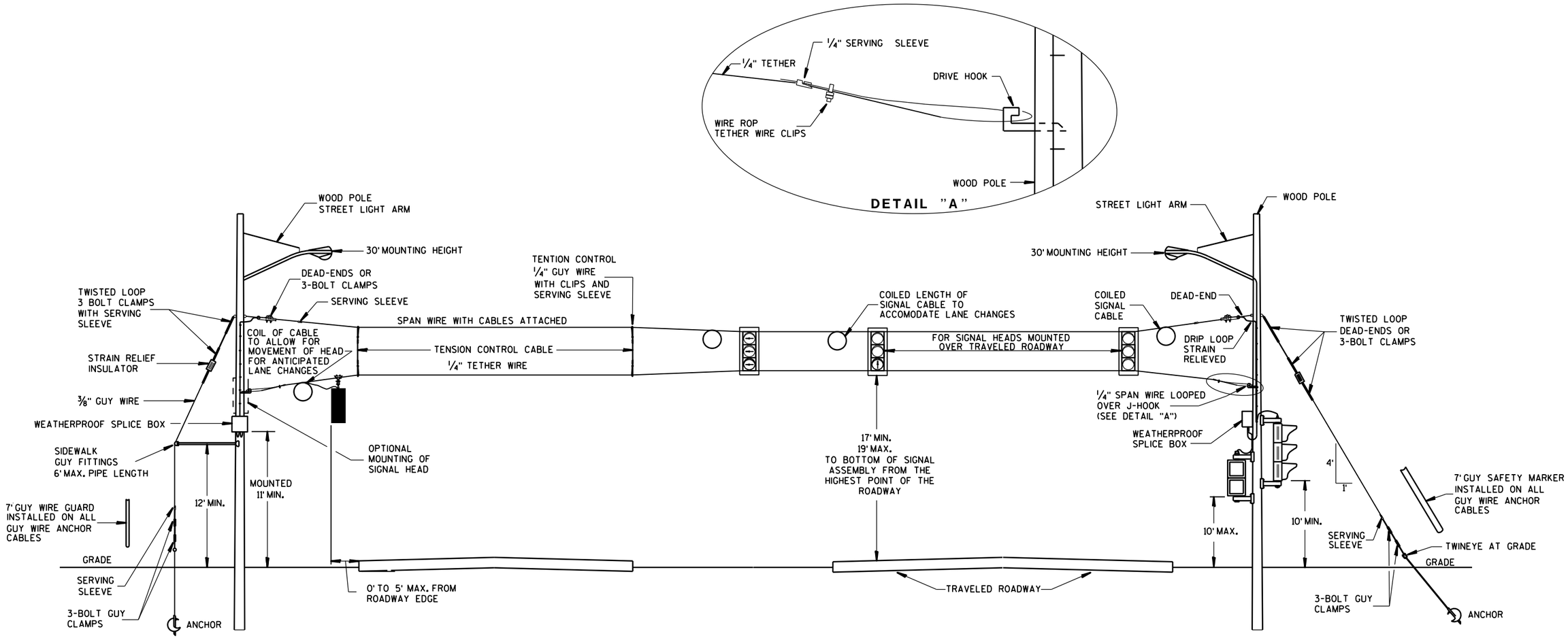
SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 G 1-4a



GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.
2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.

SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

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

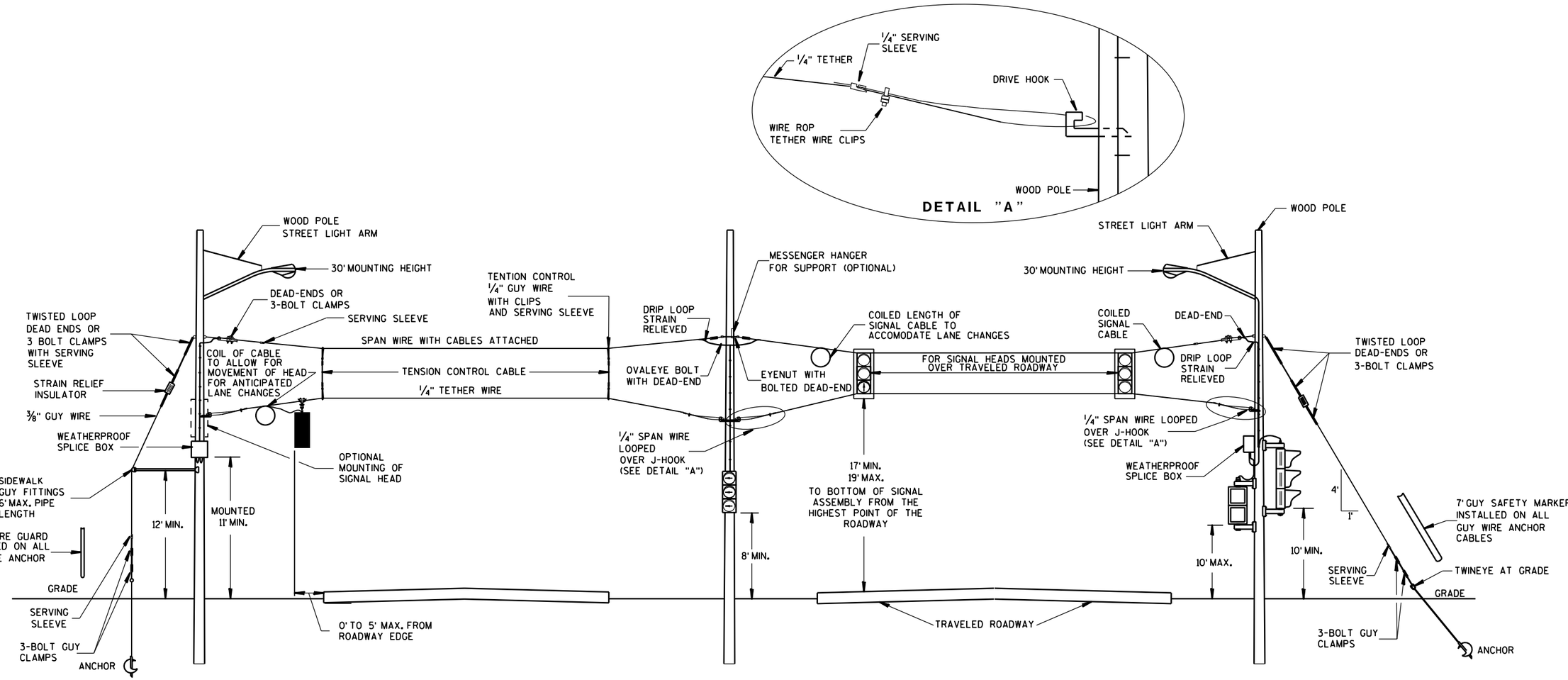
SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 G 1-4b



SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

GENERAL NOTES

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

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   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.

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

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

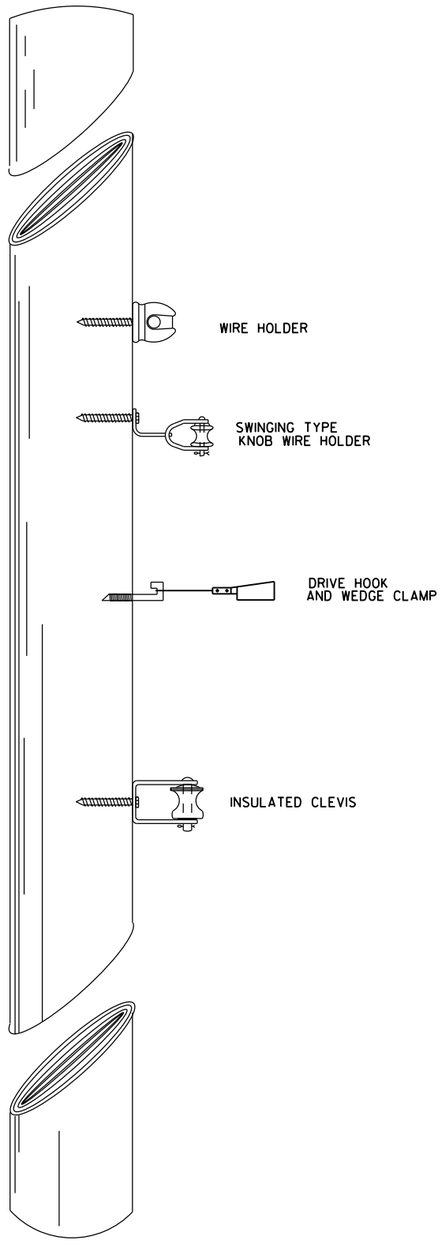
SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

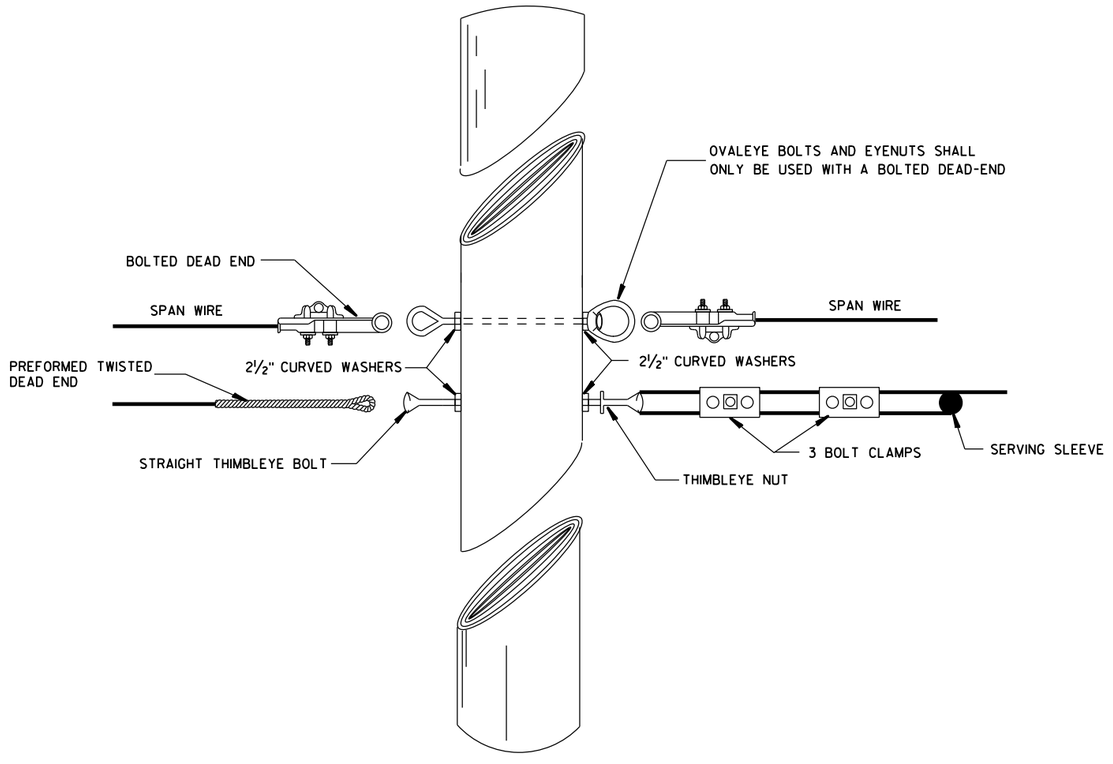
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FHWA

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S.D.D. 9 G 1-4c



TYPICAL CABLE HANGERS



TYPICAL DEAD-ENDING

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

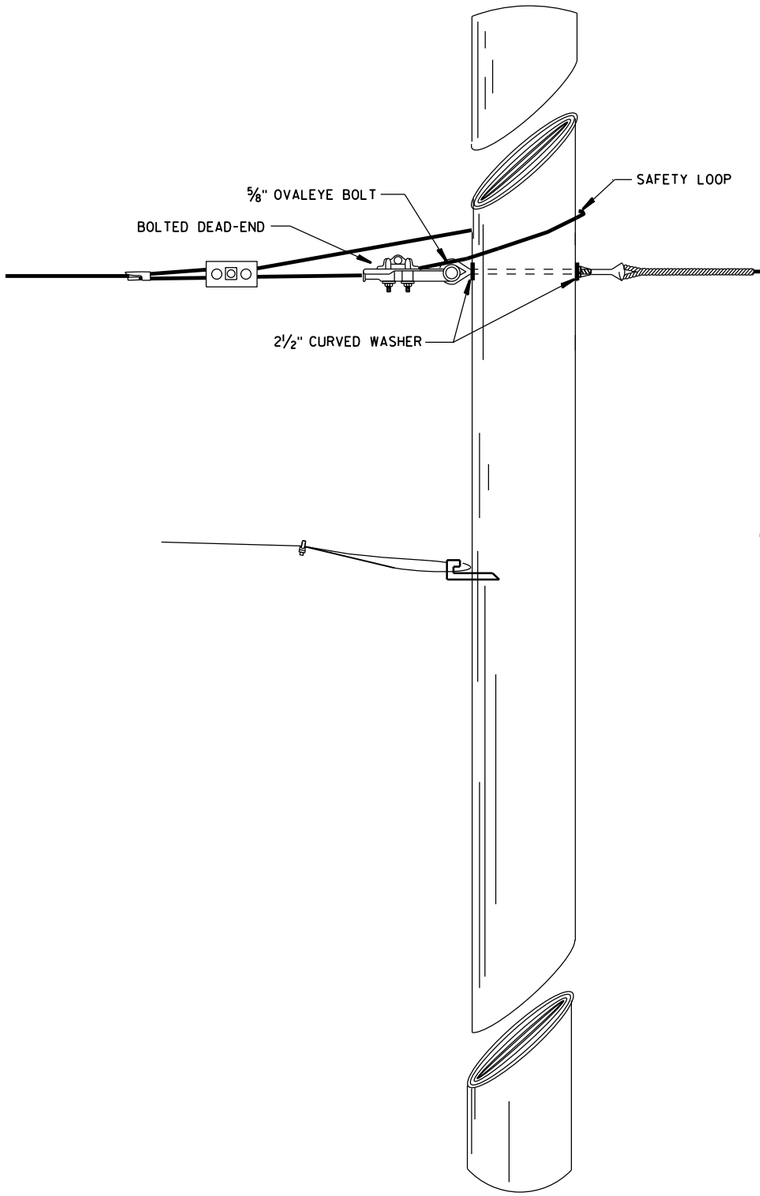
APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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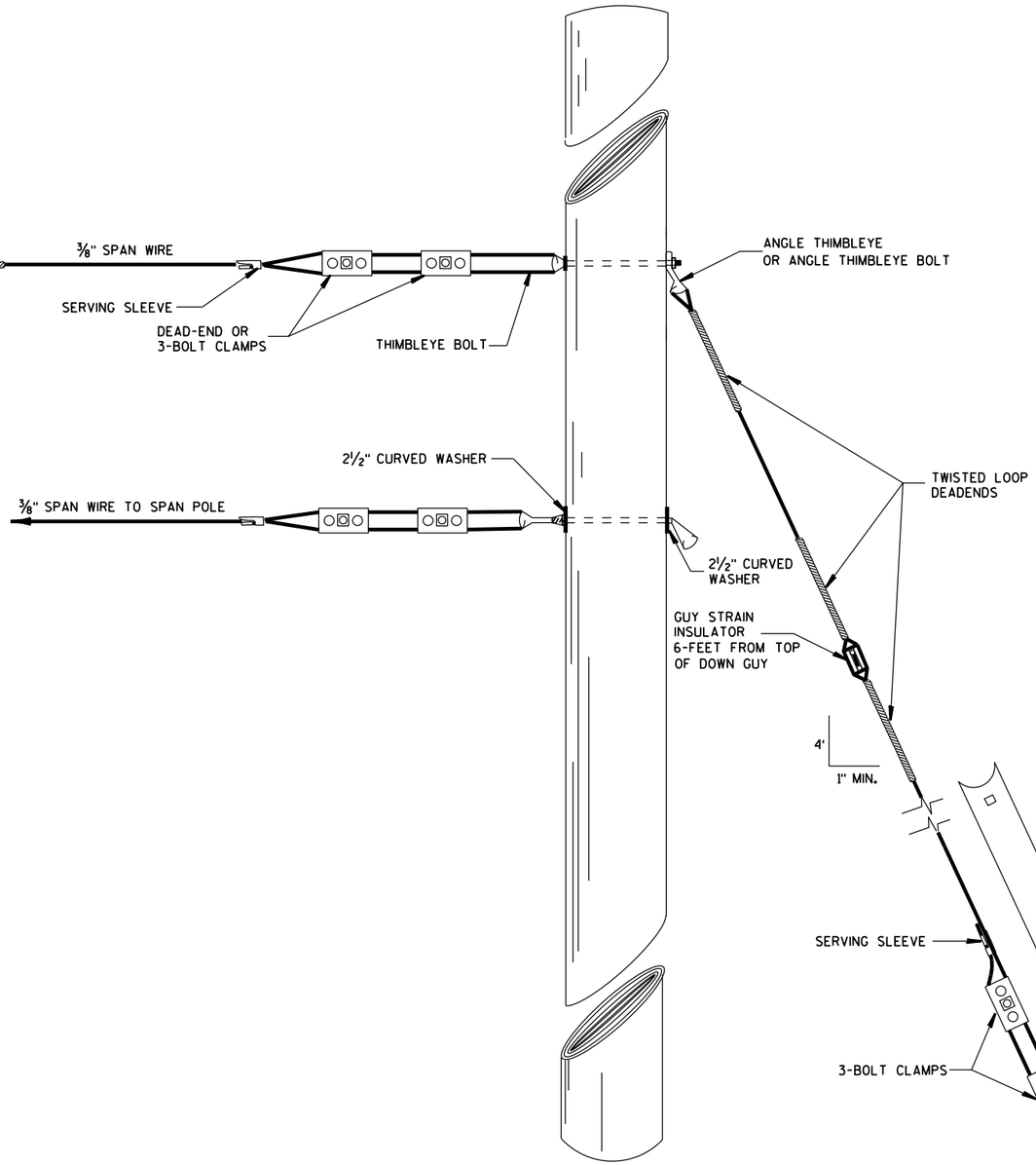
S.D.D. 9 G 1-4d

GENERAL NOTES

1. USE ¾" DRILL IN WOOD POLE TO PROVIDE HOLE FOR ⅝" BOLTS.
2. SAFTY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.



SPAN WIRE POLE



GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

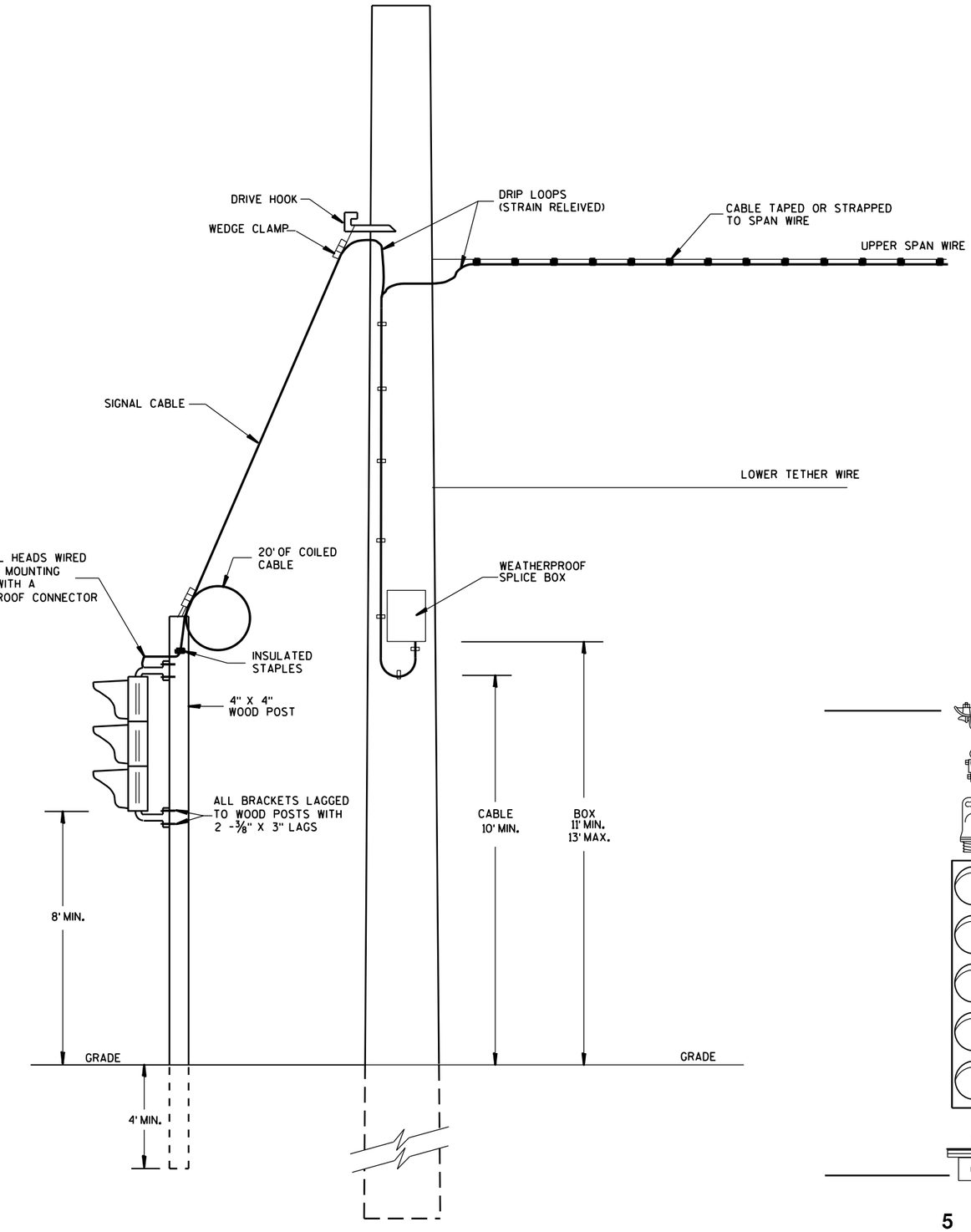
SPAN WIRE TEMPORARY TRAFFIC SIGNAL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
June. 2015 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL
FHWA	

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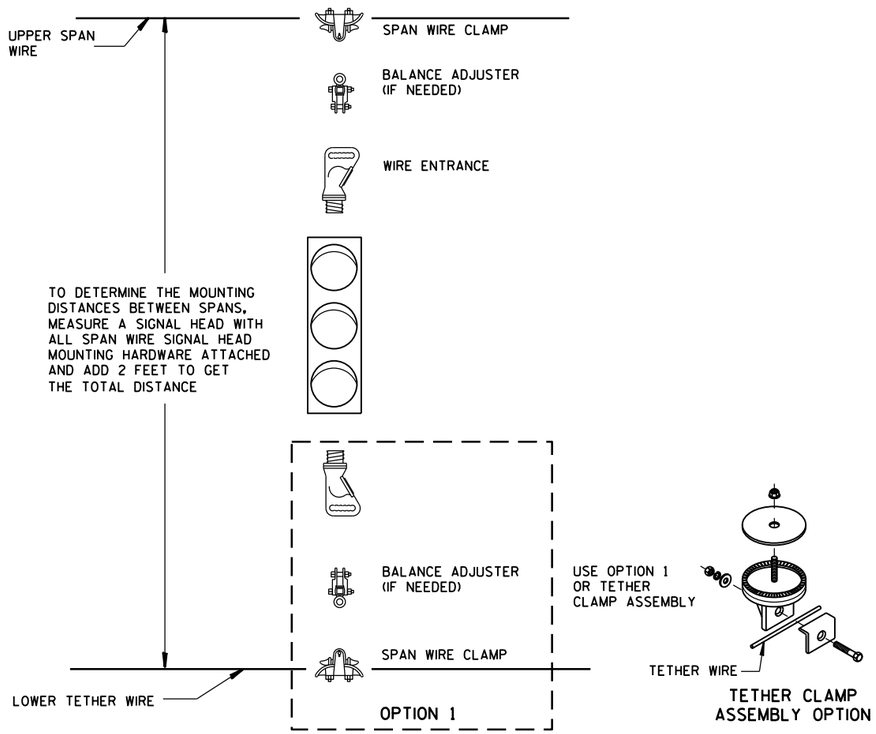
S.D.D. 9 G 1-4e

6

S.D.D. 9 G 1-4e

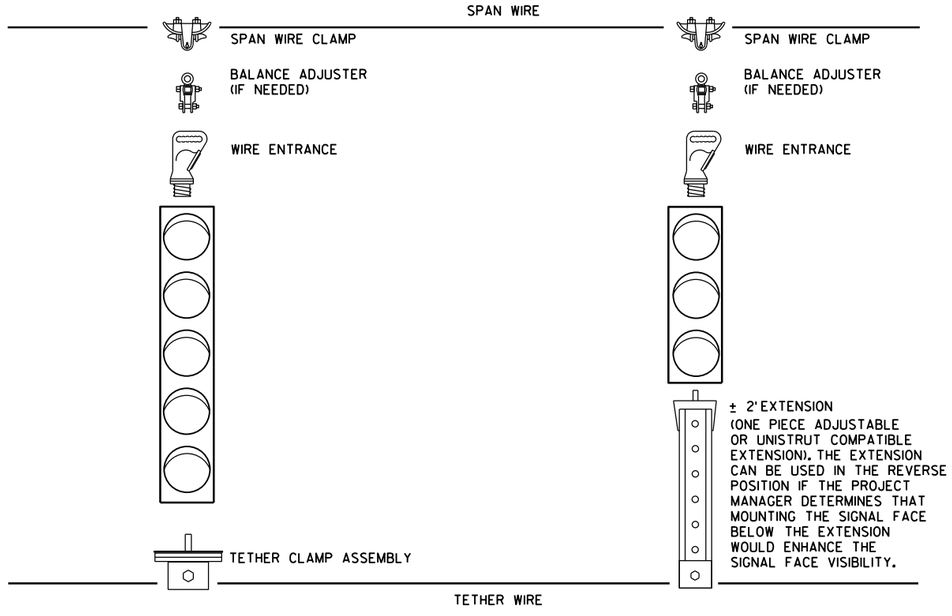


TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL



TETHER CLAMP ASSEMBLY OPTION

TYPICAL SPAN WIRE MOUNTING HARDWARE



5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June. 2015 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

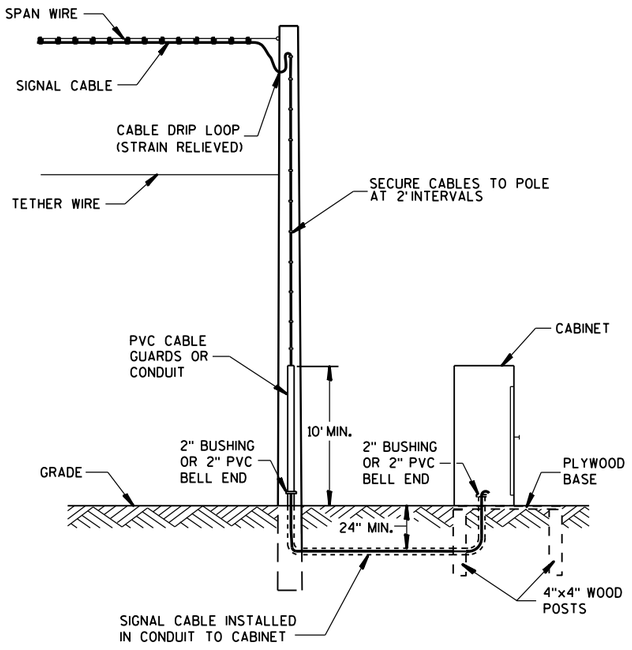
FHWA

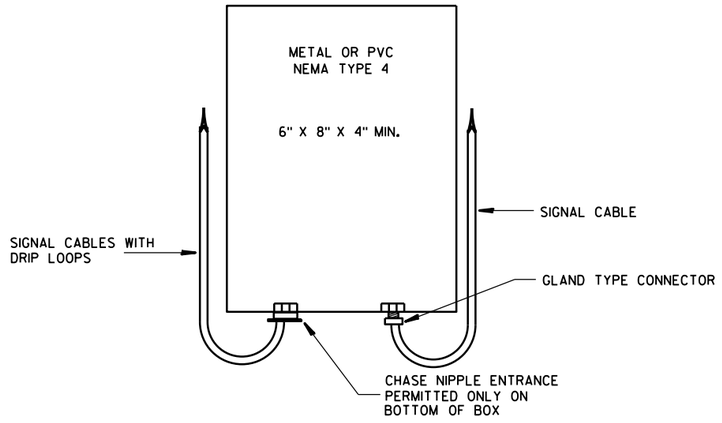
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S.D.D. 9 G 1-4f

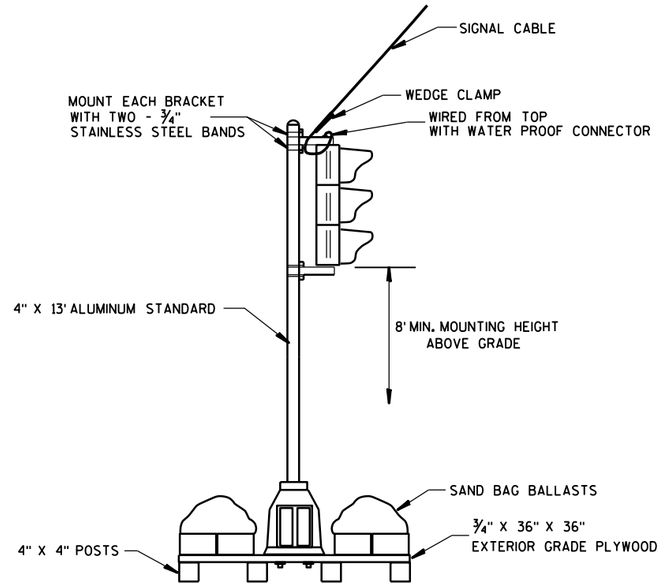
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S.D.D. 9 G 1-4f

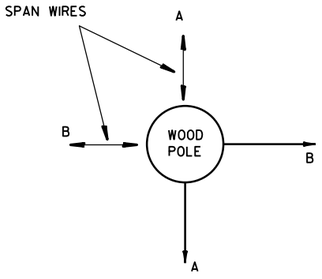




SPLICE BOX

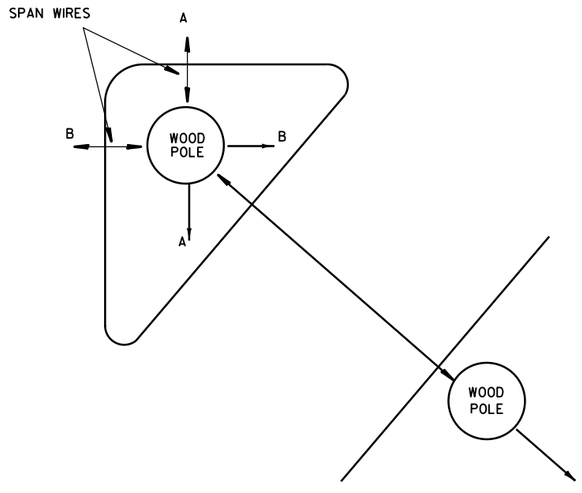


TYPICAL SKID TYPE TEMPORARY

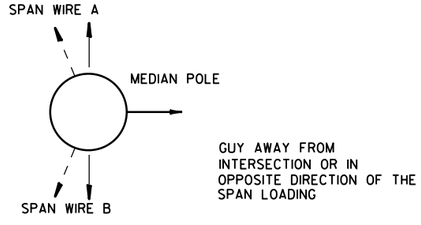


ALL DOWN OR SIDEWALK GUYS
SHALL BE INSTALLED IN THE
OPPOSITE DIRECTION OF THE
STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



GUY AWAY FROM
INTERSECTION OR IN
OPPOSITE DIRECTION OF THE
SPAN LOADING

MEDIAN POLES

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

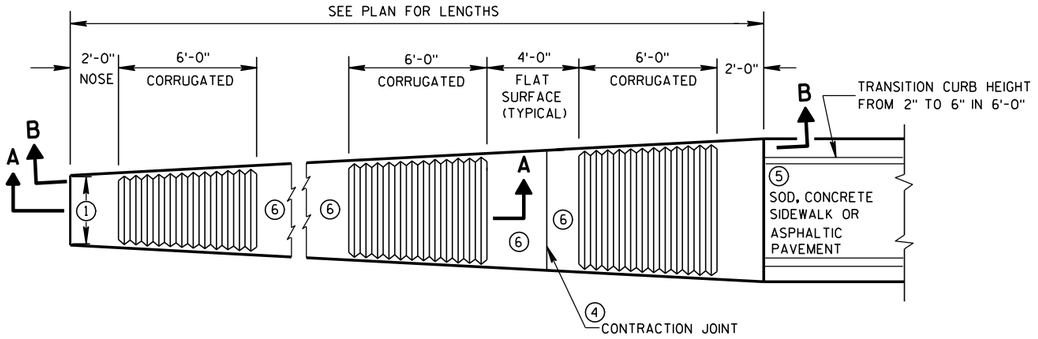
APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 G 1-4g

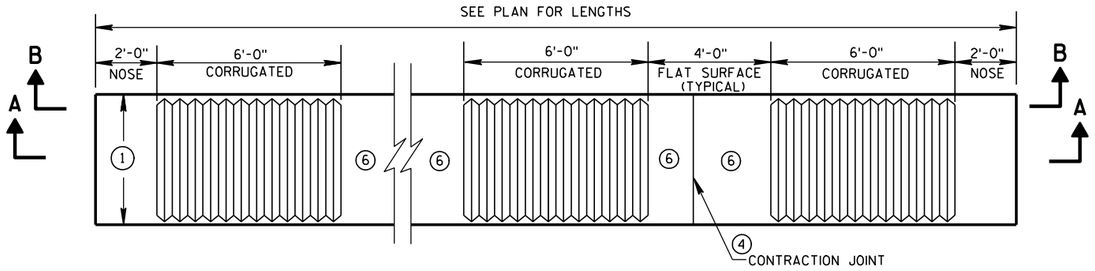
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S.D.D. 9 G 1-4g



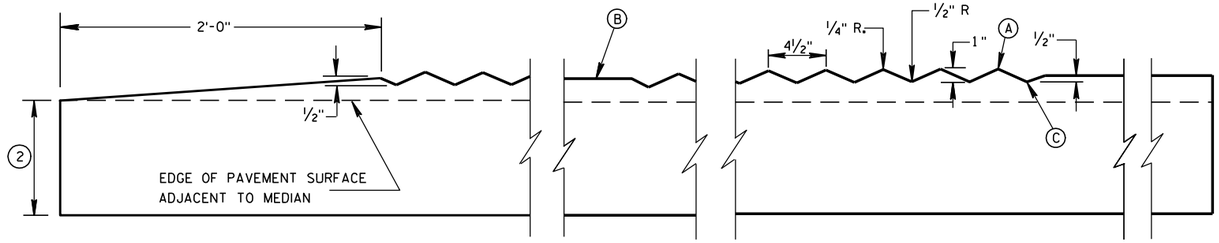
PLAN VIEW

VARIABLE WIDTH CONCRETE CORRUGATED MEDIAN



PLAN VIEW

UNIFORM WIDTH CONCRETE CORRUGATED MEDIAN



SECTION A-A

LONGITUDINAL SECTION

GENERAL NOTES

(1) SEE PLANS FOR CONSTANT OR VARIABLE WIDTH.

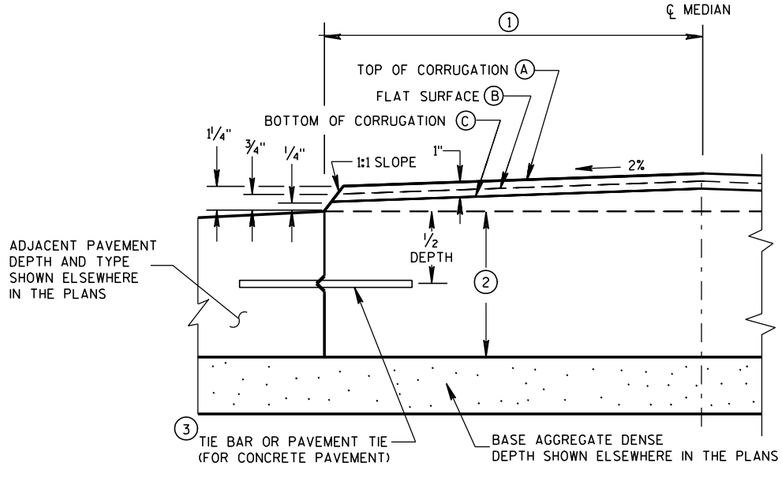
(2) THE DEPTH OF THE CONCRETE CORRUGATED MEDIAN SHALL BE 9-INCHES UNLESS SHOWN OTHERWISE IN THE PLAN.
ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN IN THE PLAN. TYPICAL OPTIONS ARE:
(1) NEW OR EXISTING CONCRETE PAVEMENT.
(2) ASPHALTIC CONCRETE OVER NEW OR EXISTING CONCRETE BASE COURSE, OR PAVEMENT.
(3) ASPHALTIC PAVEMENT OVER BASE AGGREGATE DENSE.

(3) 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.
INSTALL TIE BARS TO MAINTAIN A MINIMUM OF 3-INCHES OF COVER BETWEEN THE TIE BAR AND THE CONCRETE SURFACE (BOTTOM AND TOP).
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE PAVEMENT OR 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.

(4) CONCRETE CORRUGATED MEDIAN CONTRACTION JOINTS SHALL BE CONSTRUCTED TO MATCH THE JOINTS IN ADJACENT CONCRETE PAVEMENT. WHERE ADJACENT PAVEMENT IS ASPHALT WITH BASE AGGREGATE DENSE. TRANSVERSE CONTRACTION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS.

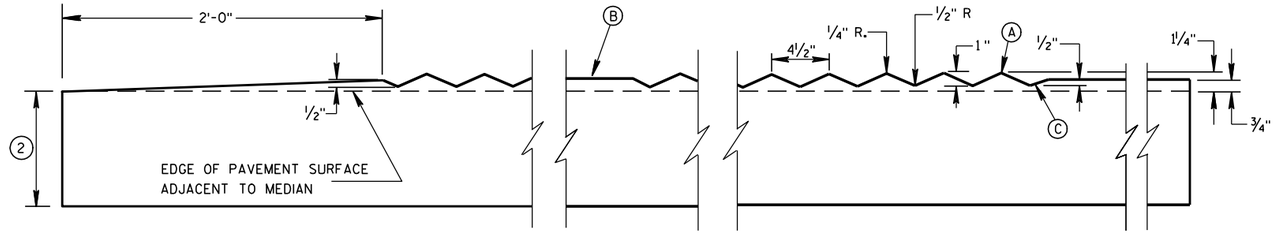
(5) SURFACE TYPE AND DETAILS ARE DEFINED ELSEWHERE IN THE PLAN.

(6) YELLOW MARKING ON FLAT SURFACE WHEN MEDIAN SEPARATES OPPOSING TRAFFIC.



HALF CROSS SECTION

(2) CONCRETE CORRUGATED MEDIAN AND ADJACENT PAVEMENT



SECTION B-B

LONGITUDINAL SECTION

CONCRETE CORRUGATED MEDIAN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/07
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

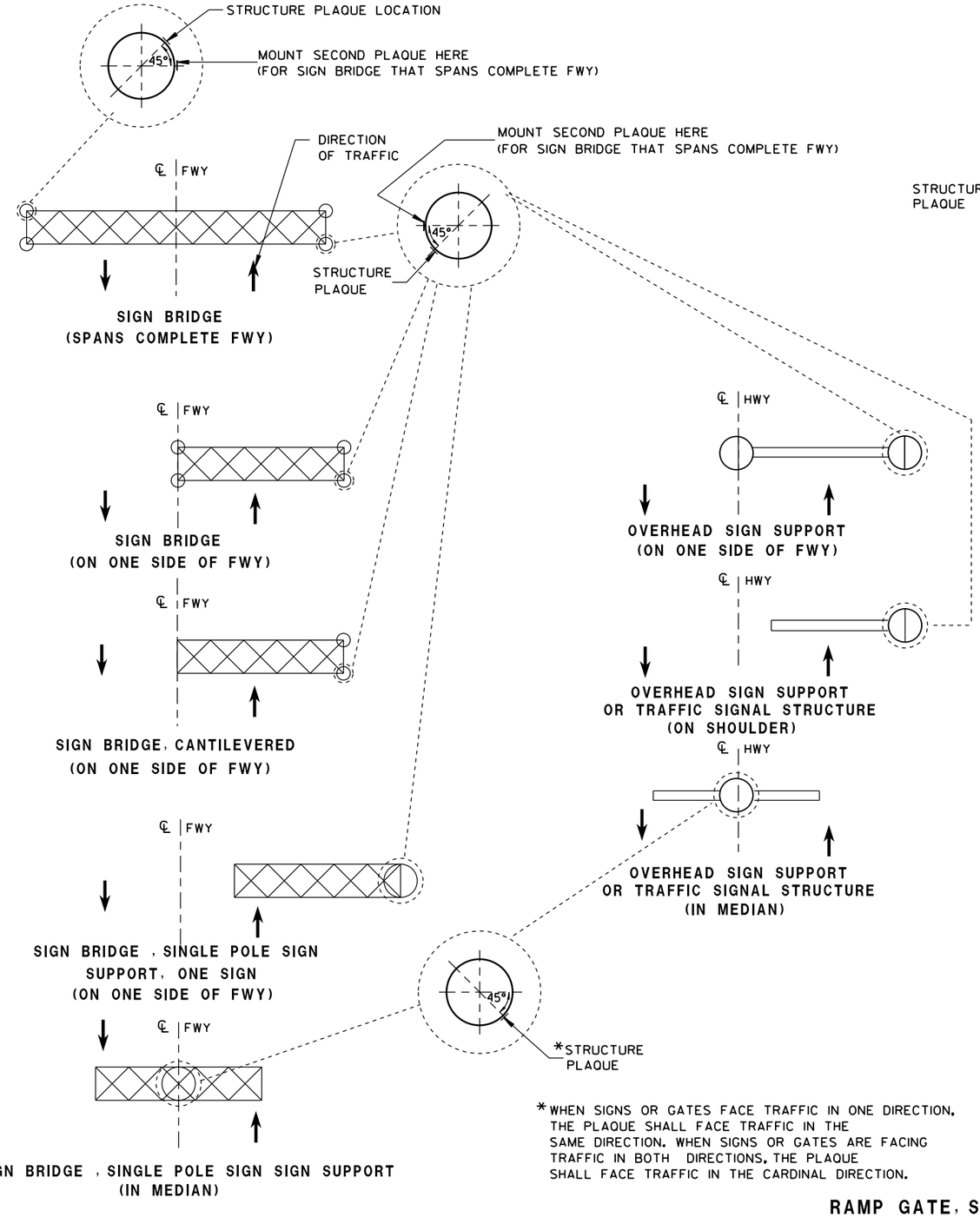
FHWA

6

S.D.D. 11 B 1-5

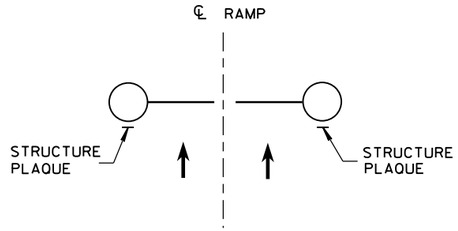
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S.D.D. 11 B 1-5

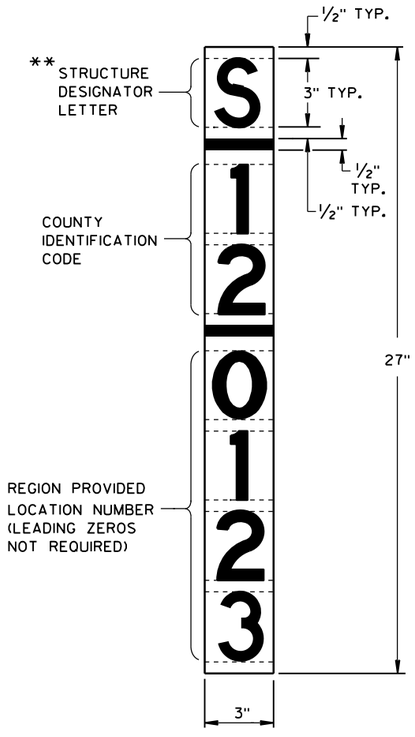


*WHEN SIGNS OR GATES FACE TRAFFIC IN ONE DIRECTION, THE PLAQUE SHALL FACE TRAFFIC IN THE SAME DIRECTION. WHEN SIGNS OR GATES ARE FACING TRAFFIC IN BOTH DIRECTIONS, THE PLAQUE SHALL FACE TRAFFIC IN THE CARDINAL DIRECTION.

LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES



**RAMP GATE
(ACROSS FWY ON-RAMP)**



RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

** LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

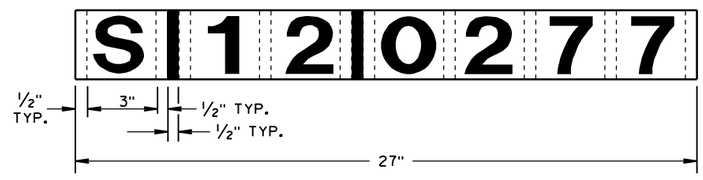
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, ½" WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.



IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

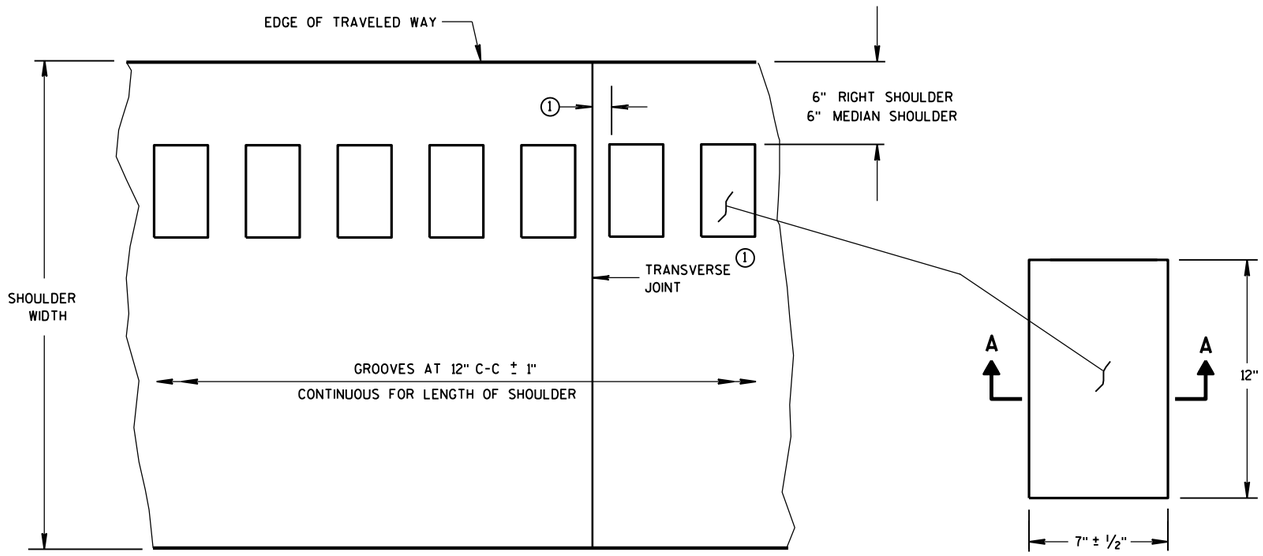
APPROVED
12/4/2012 DATE
/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA

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S.D.D. 12 A 4-3

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S.D.D. 12 A 4-3



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

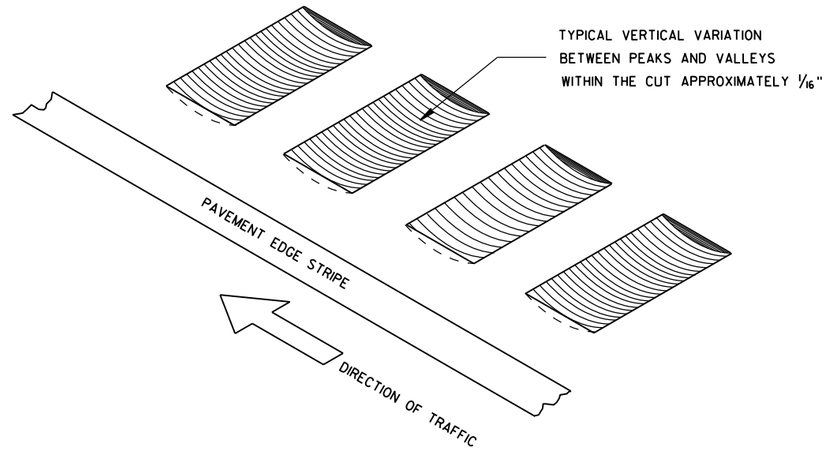
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

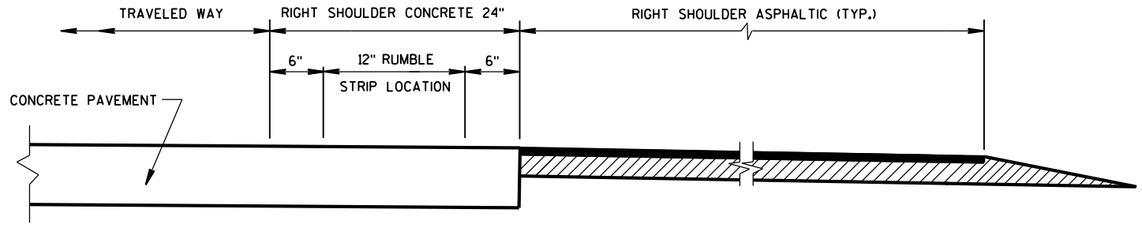
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

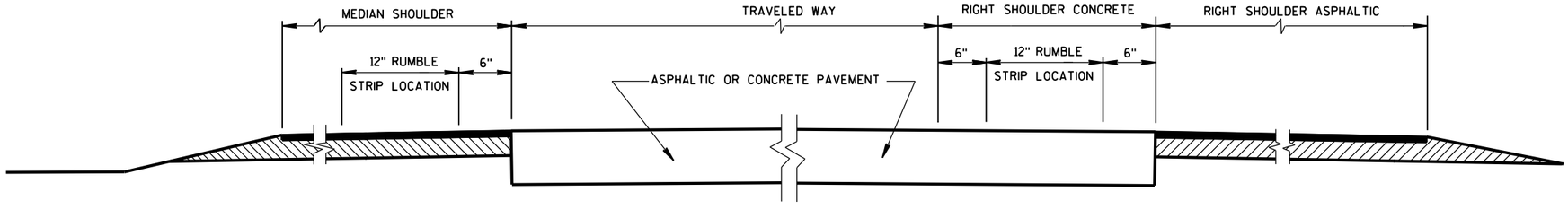
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



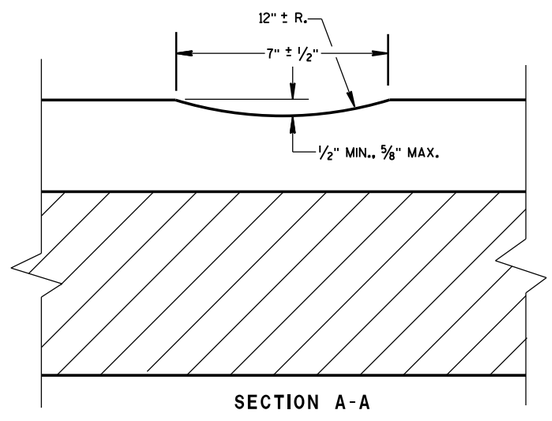
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

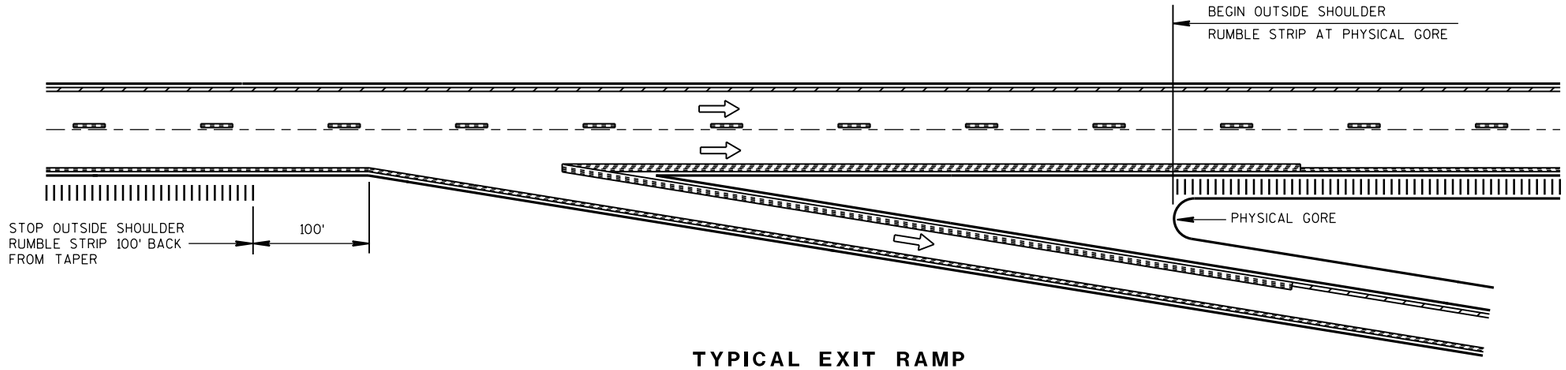
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 13 A 5-5a

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S.D.D. 13 A 5-5a



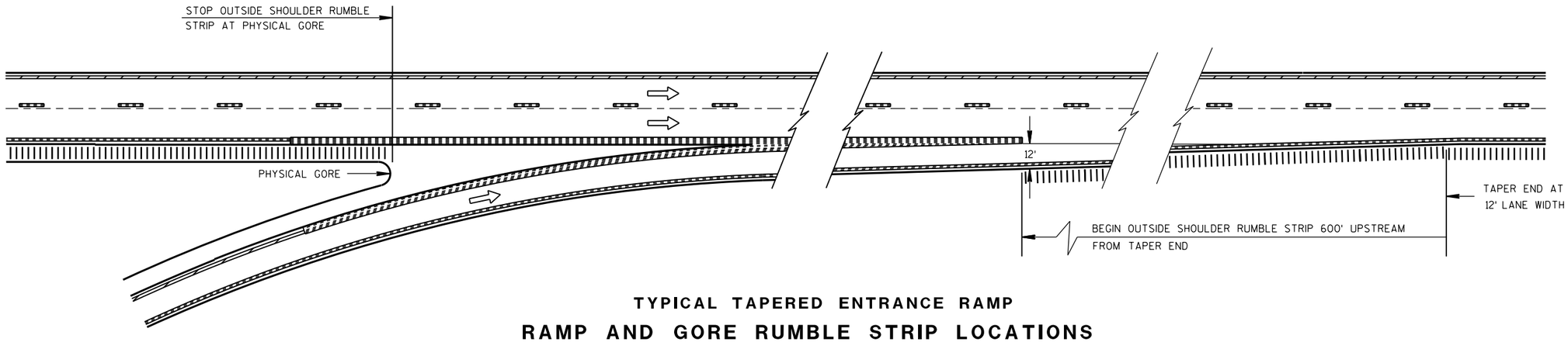
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

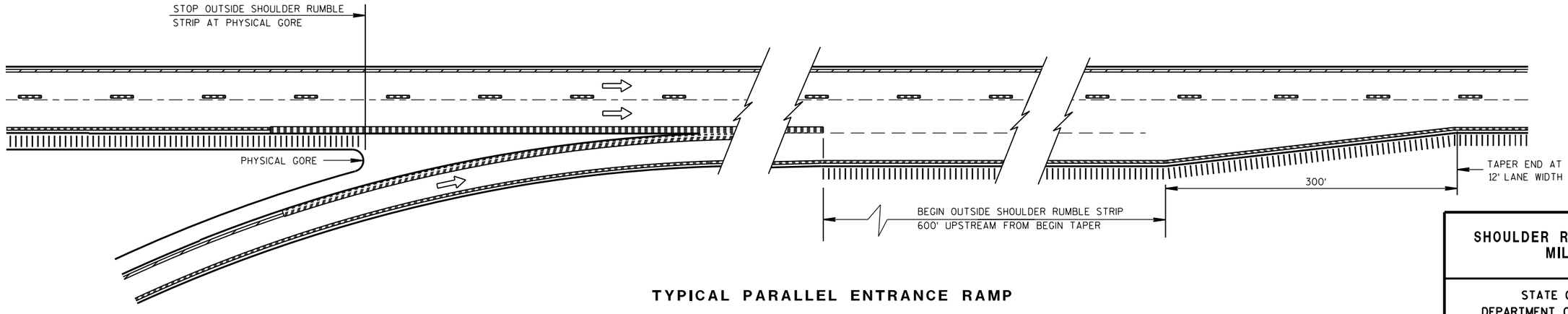
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/2012
DATE

/S/ Jerry H. Zoga
ROADWAY STANDARDS ENGINEER

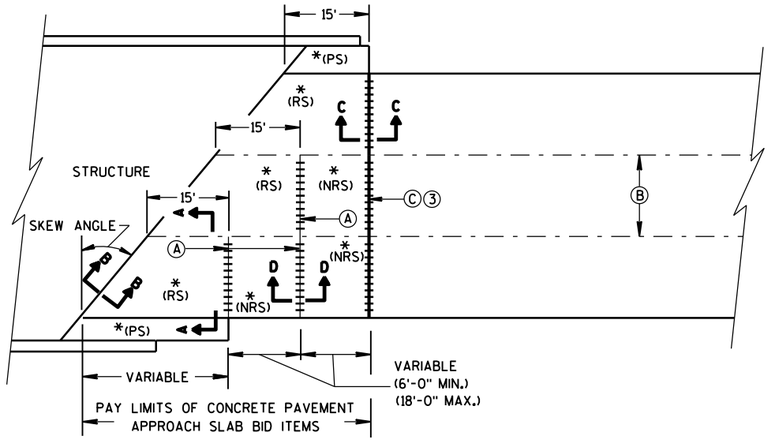
FHWA

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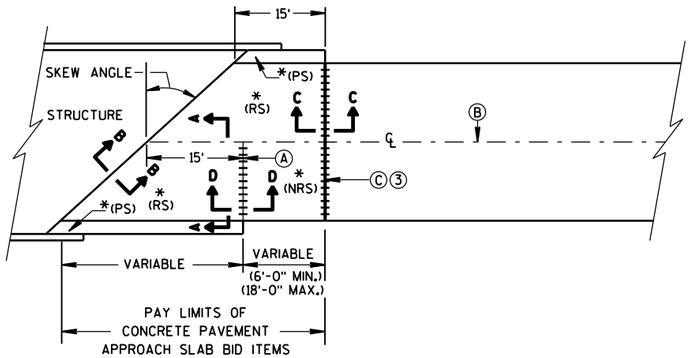
S.D.D. 13 A 5-5b

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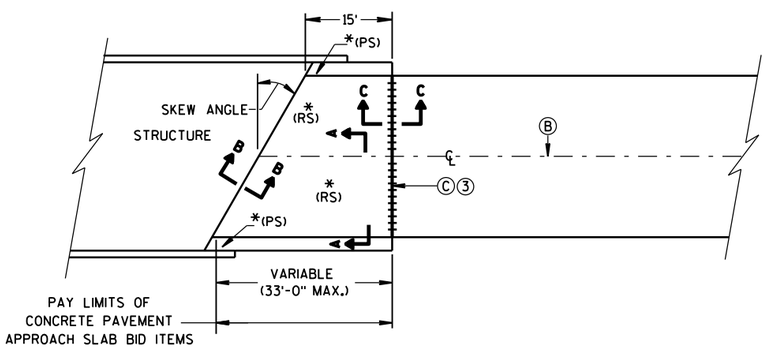
S.D.D. 13 A 5-5b



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

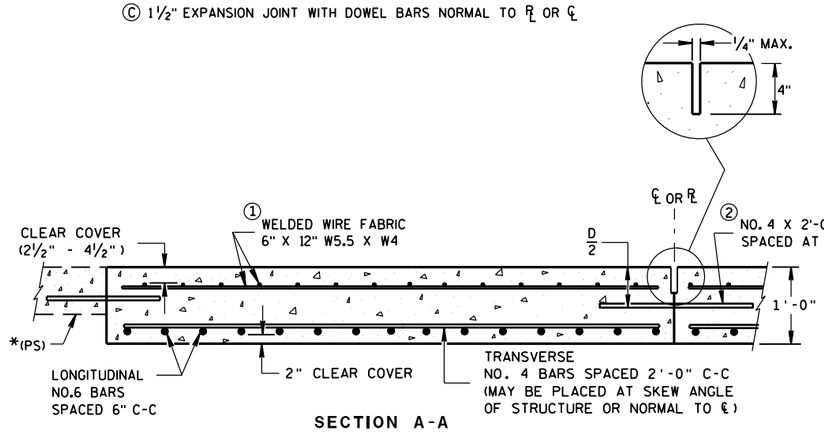
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

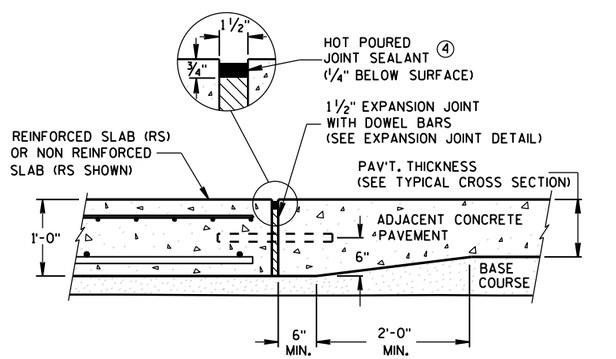
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

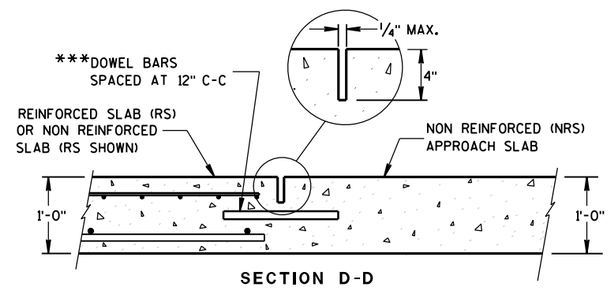
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

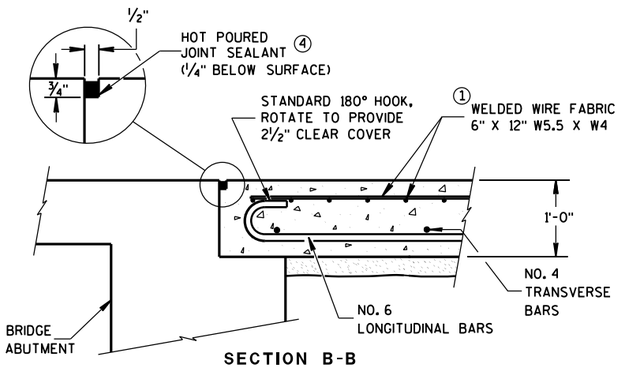
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

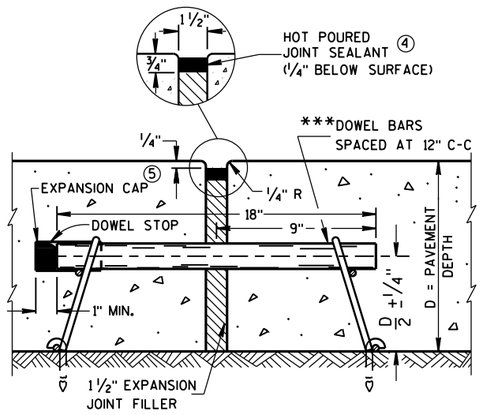
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



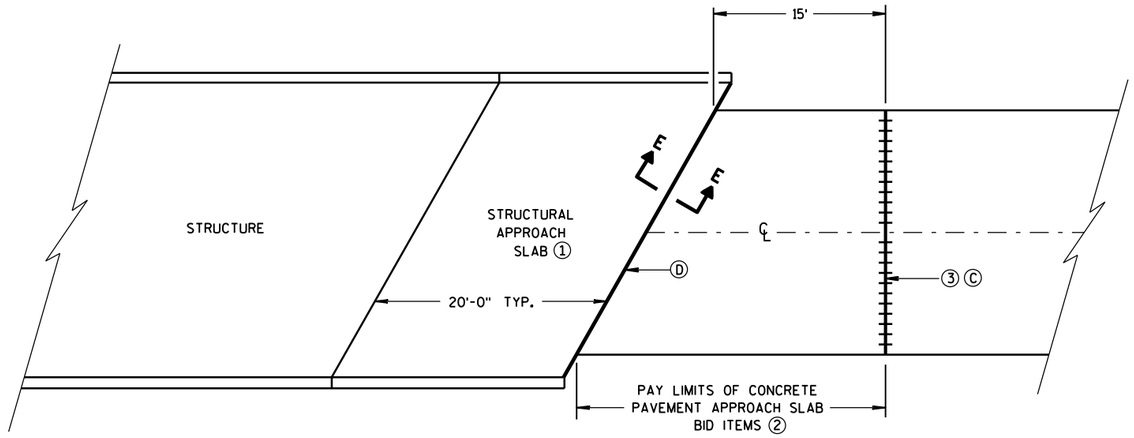
EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

6
S.D.D. 13 B 2-8a



GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

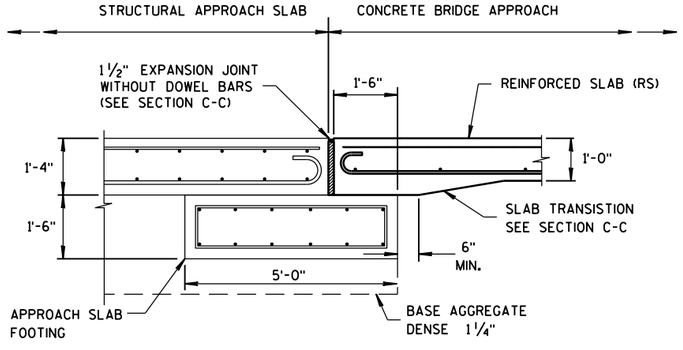
① SEE BRIDGE PLAN.

② CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.

③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)



SECTION E-E

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

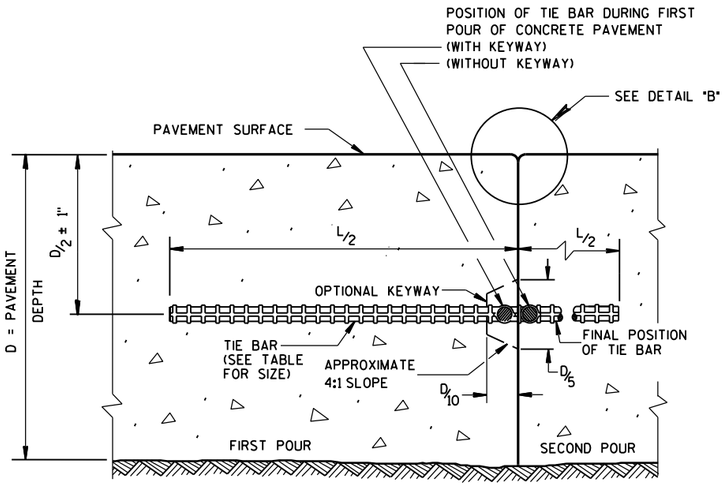
June, 2015
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERV

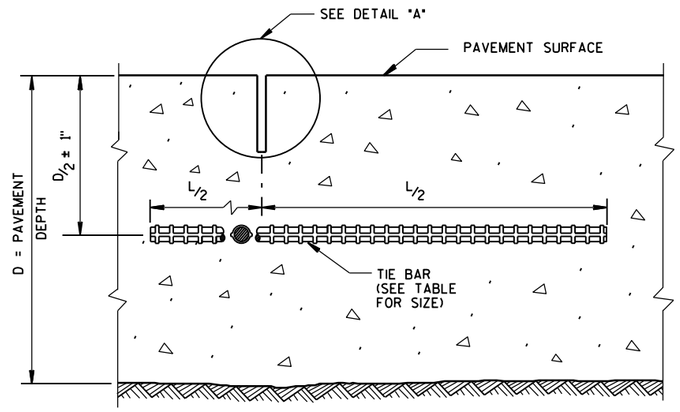
FHWA

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S.D.D. 13 B 2-8b



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.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

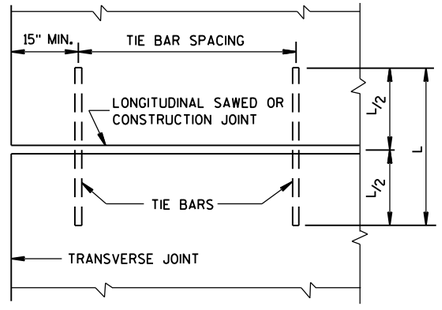
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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S.D.D. 13 C 1-18

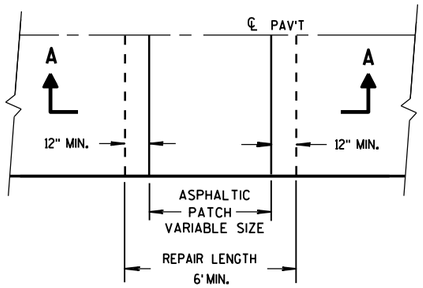
GENERAL NOTES

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.

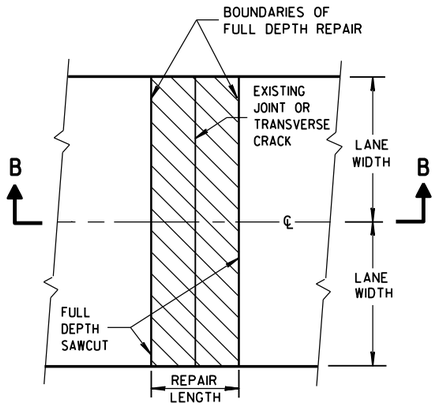
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

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.

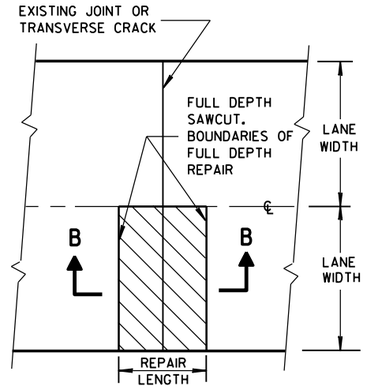
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

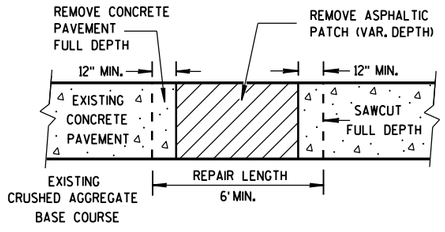


PLAN VIEW
(DOUBLE LANE REPAIR)



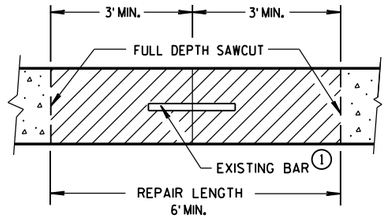
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

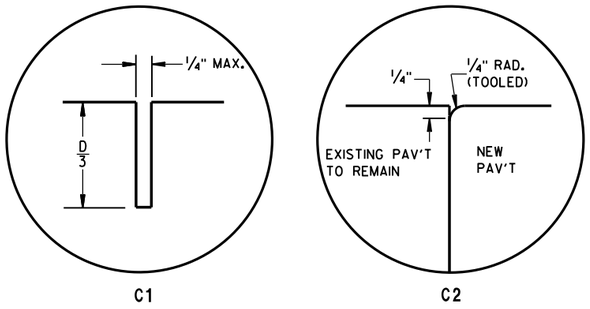
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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S.D.D. 13 C 9-12a



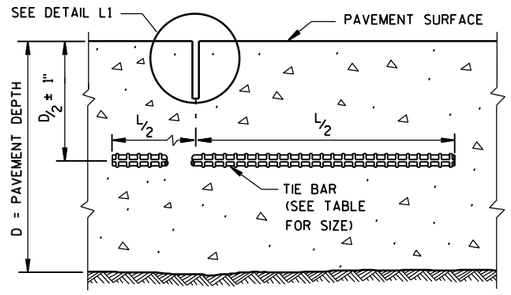
TRANSVERSE JOINTS

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

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

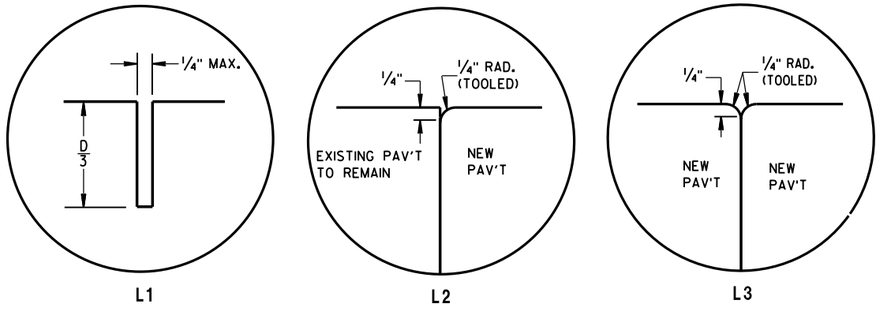
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

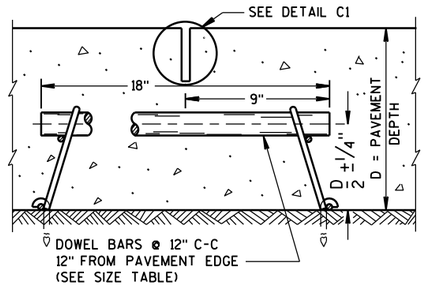
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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.

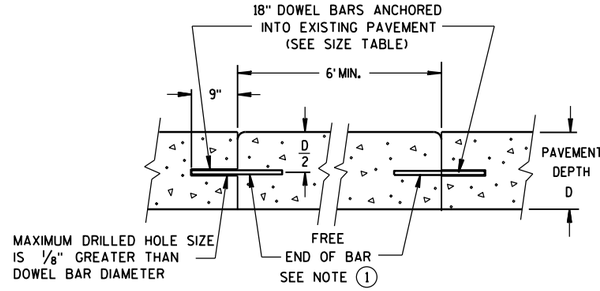


LONGITUDINAL JOINTS

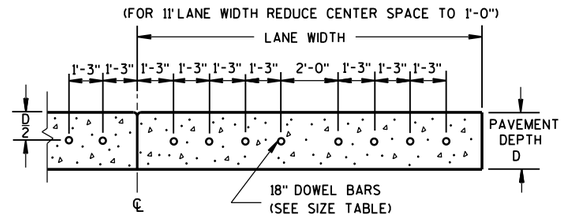


SECTION F-F

CONTRACTION JOINT



SECTION D-D

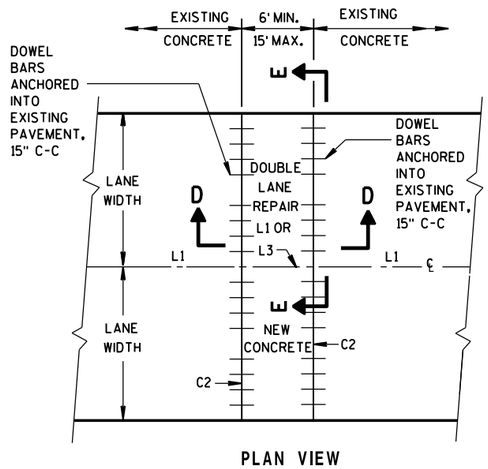


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

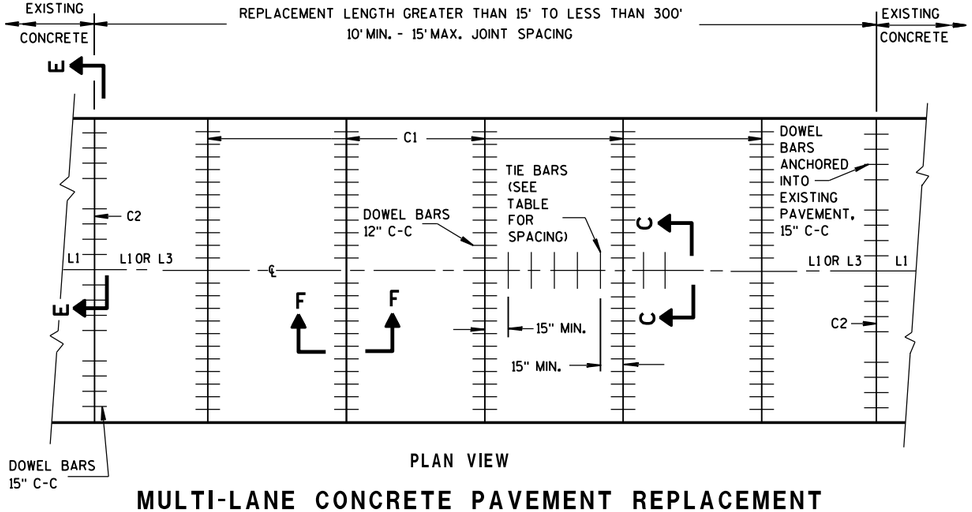
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6",6 ½"	NONE	12'
7",7 ½"	1"	14'
8",8 ½"	1 ¼"	15'
9",9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

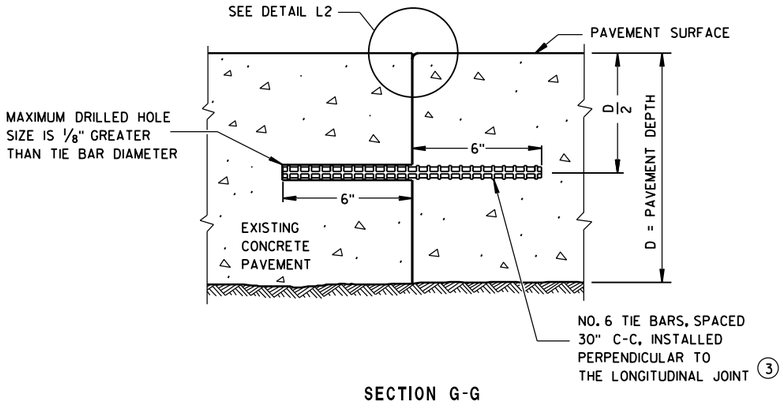
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 13 C 9-12b

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S.D.D. 13 C 9-12b



SECTION G-G

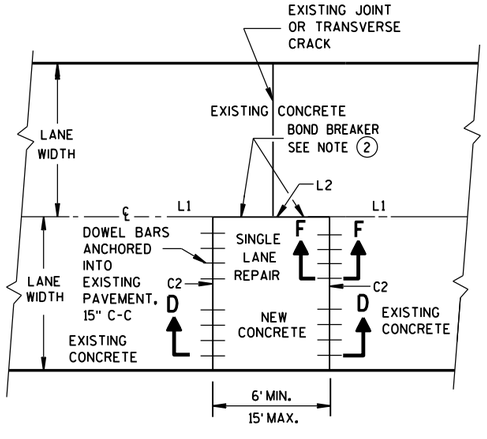
TIE BARS ANCHORED INTO EXISTING PAVEMENT

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 IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

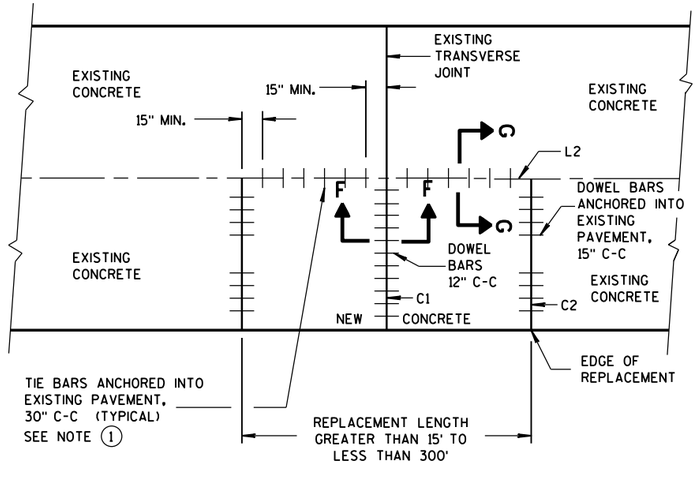
(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

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



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

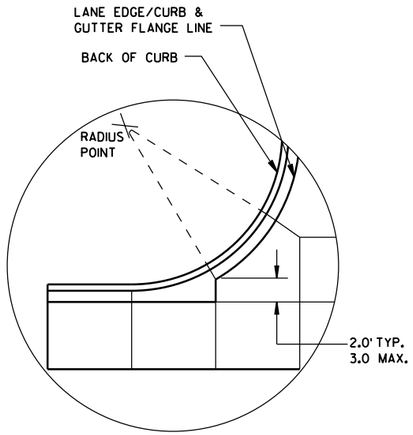
CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

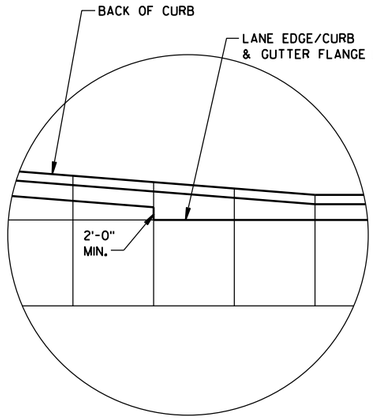
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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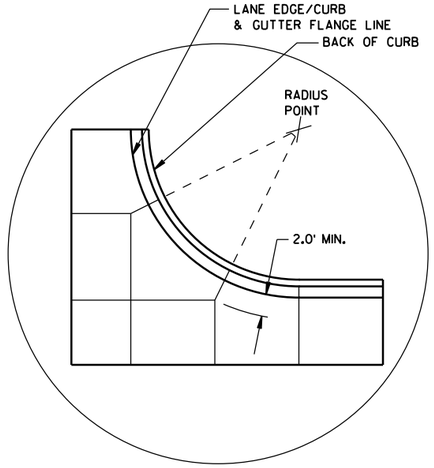
S.D.D. 13 C 9-12c



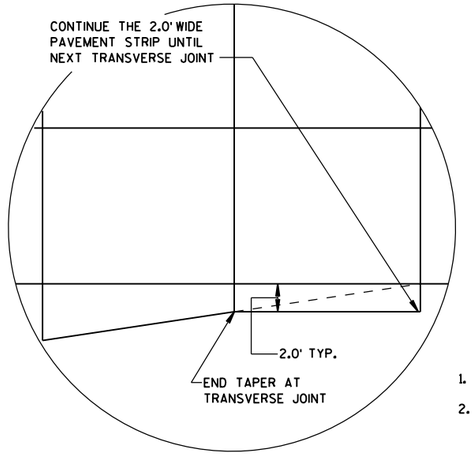
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

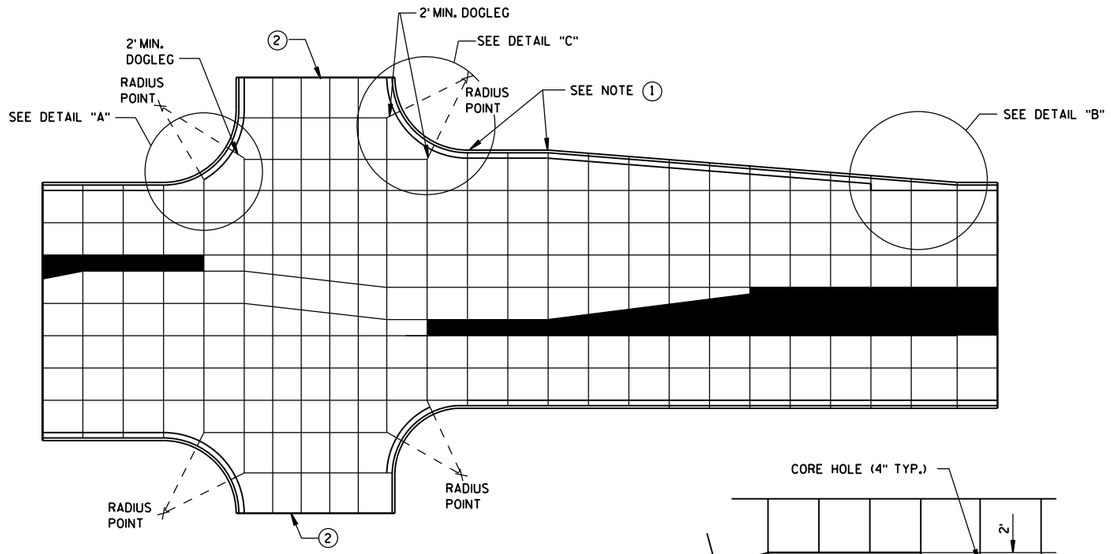
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

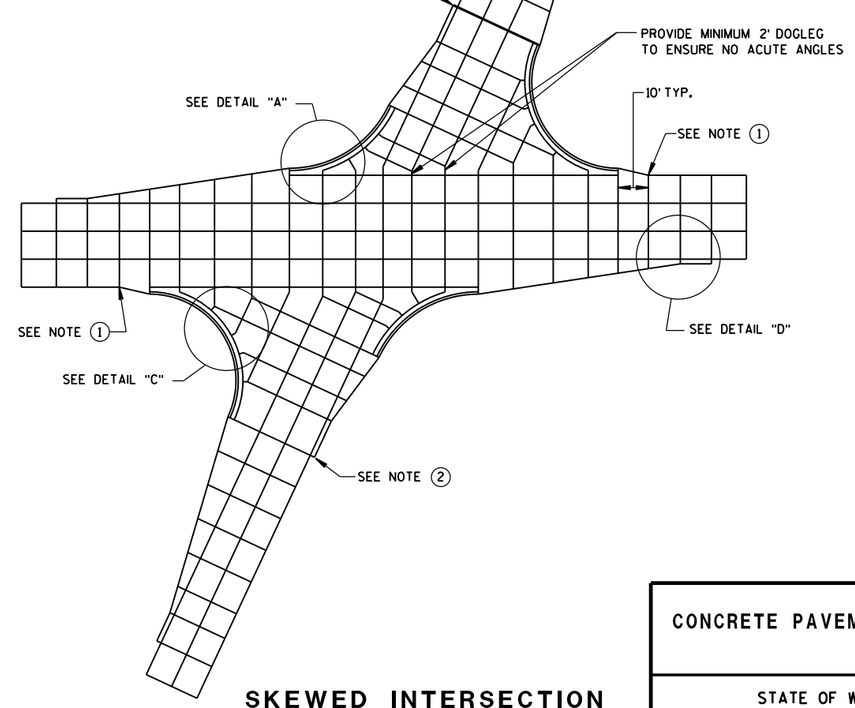
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



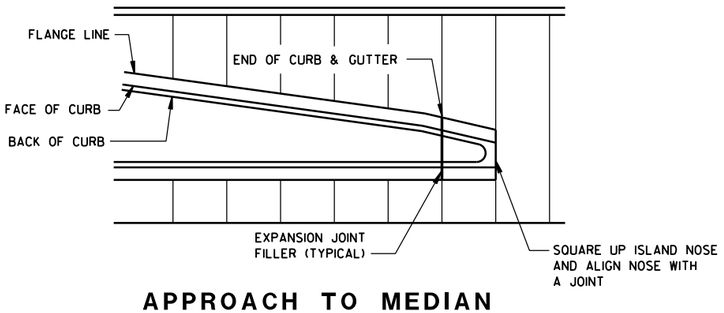
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

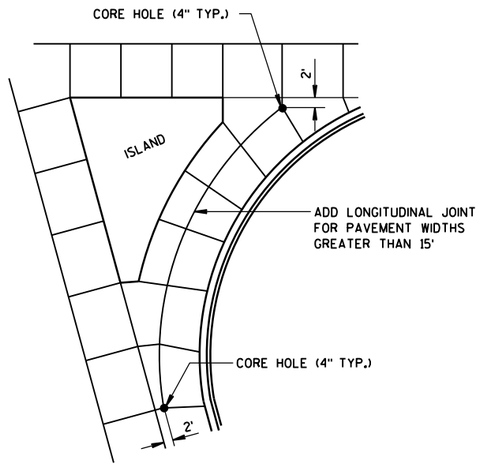
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

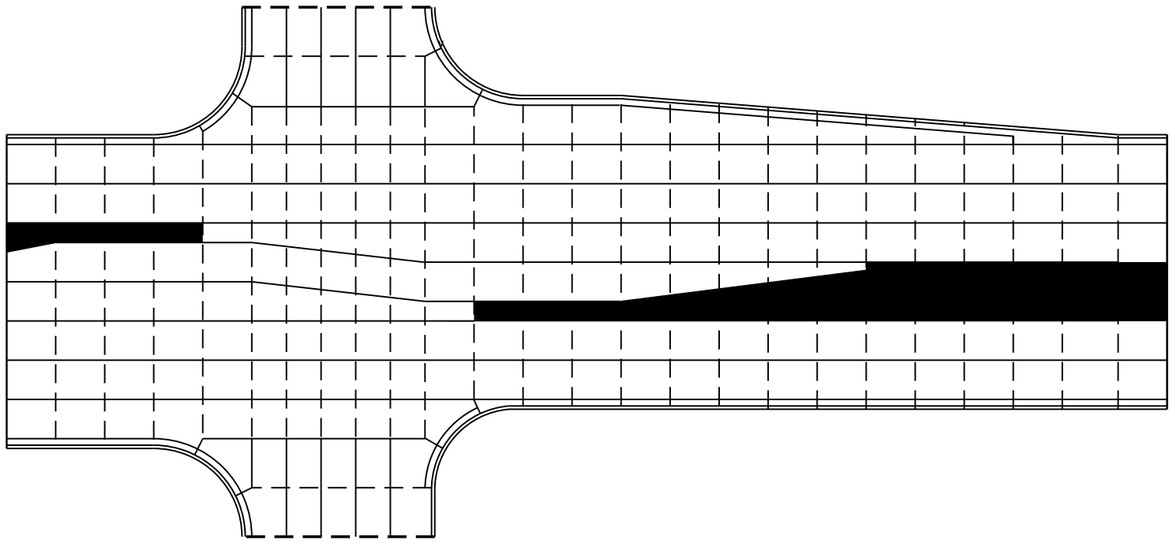
6
S.D.D. 13 C 18-3a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

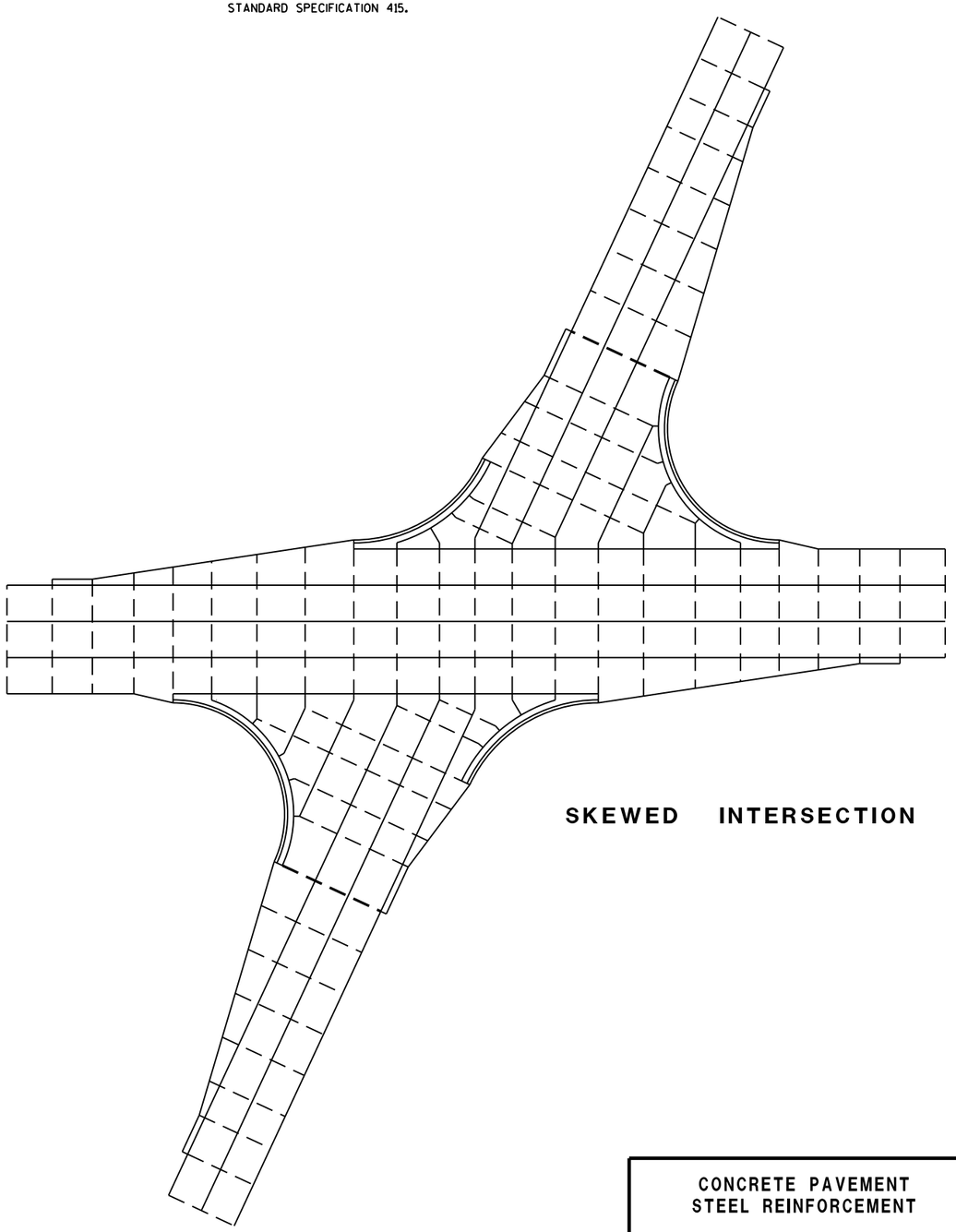
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

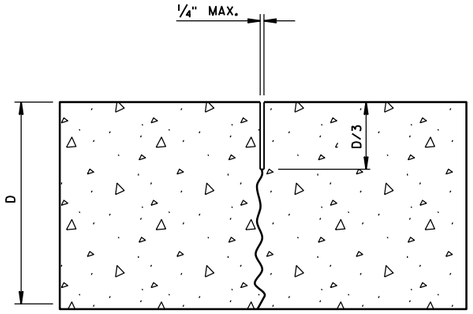
STATE OF WISCONSIN
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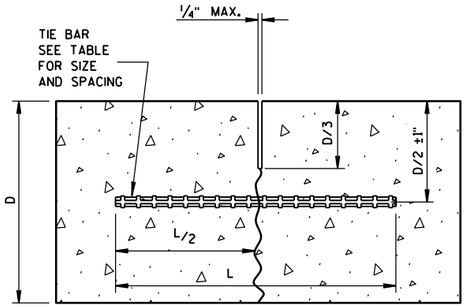
S.D.D. 13 C 18-3b

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S.D.D. 13 C 18-3b



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

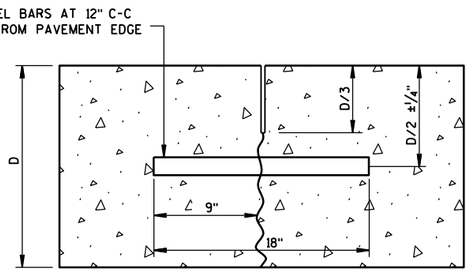
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

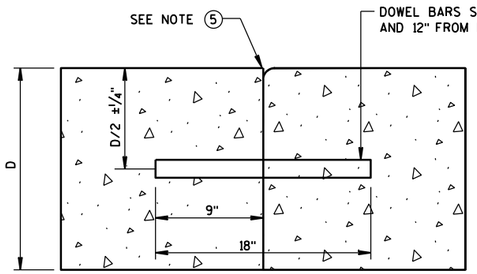
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



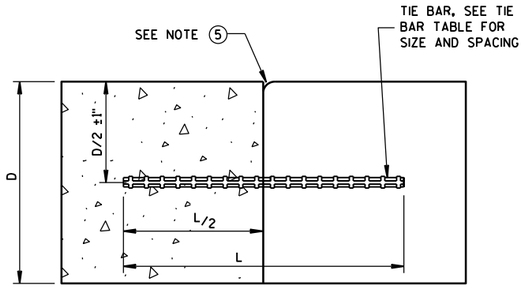
DOWELED-TRANSVERSE

CONTRACTION JOINTS

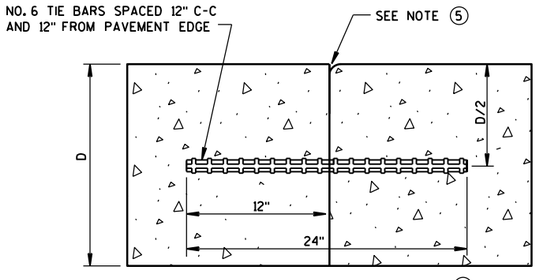
SEE NOTE (2)



DOWELED TRANSVERSE (3)

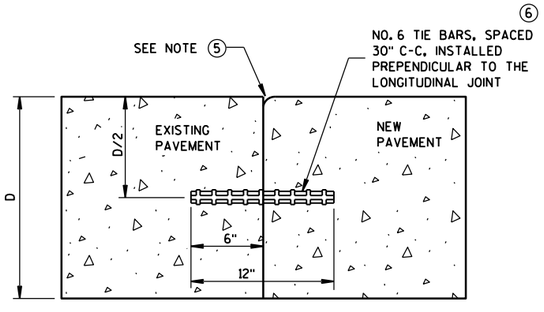


TIED LONGITUDINAL



TIED TRANSVERSE (3)

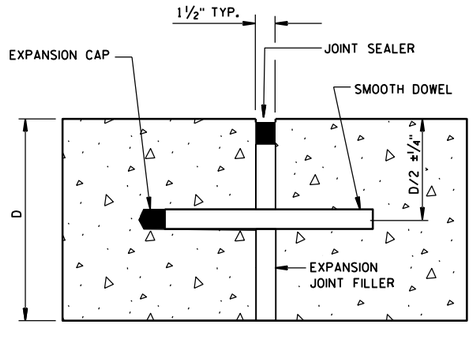
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

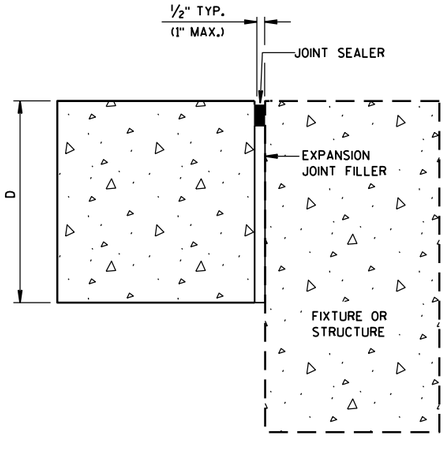
CONSTRUCTION JOINTS

SEE NOTE (4)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

6

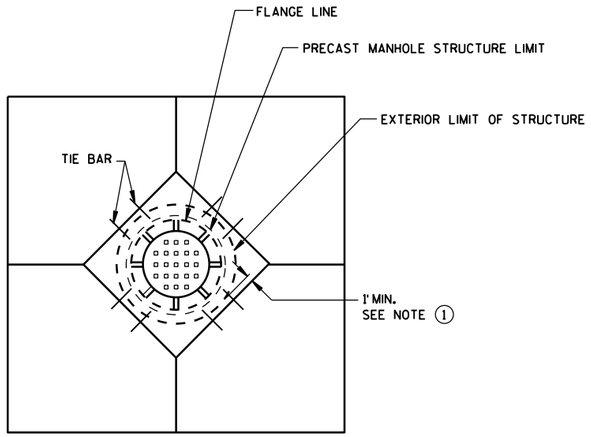
6

S.D.D. 13 C 18-3c

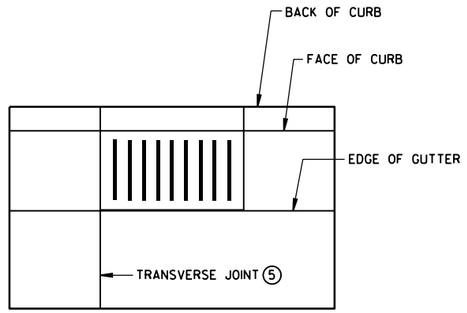
S.D.D. 13 C 18-3c

CONCRETE PAVEMENT
JOINT TYPES

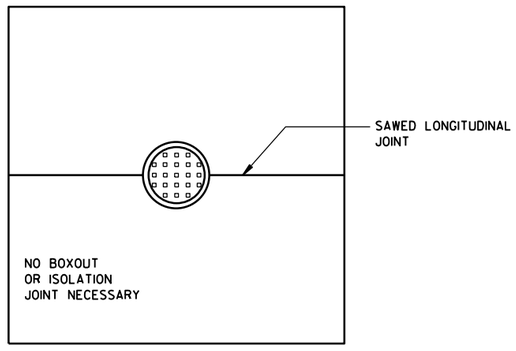
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



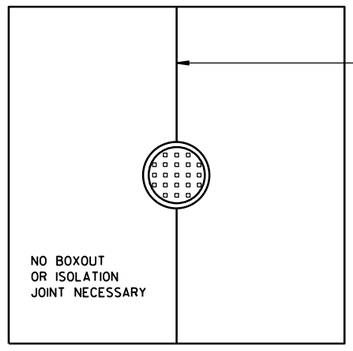
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



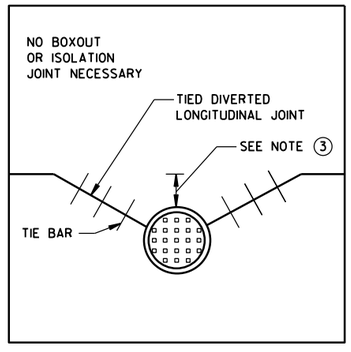
INLET WITH TRANSVERSE JOINT



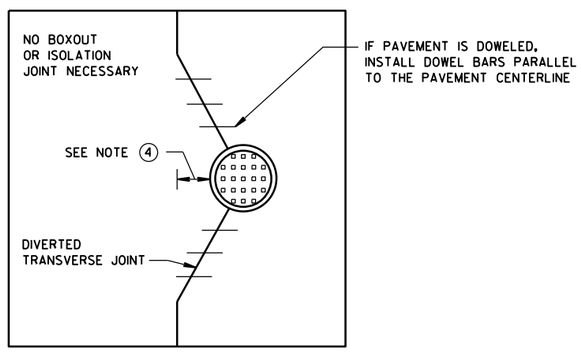
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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S.D.D. 13 C 18-3d

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) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

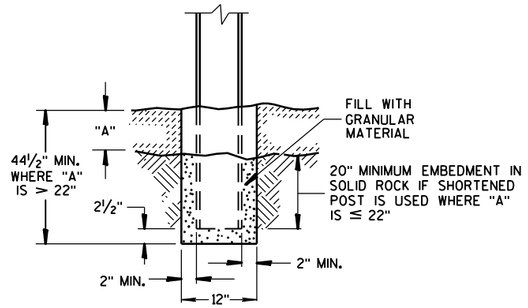
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

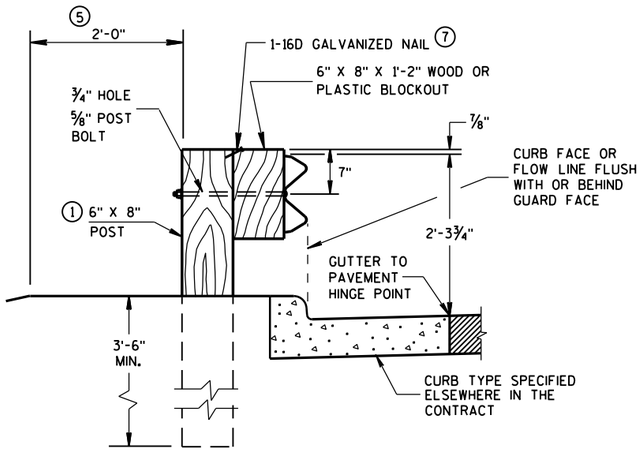
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

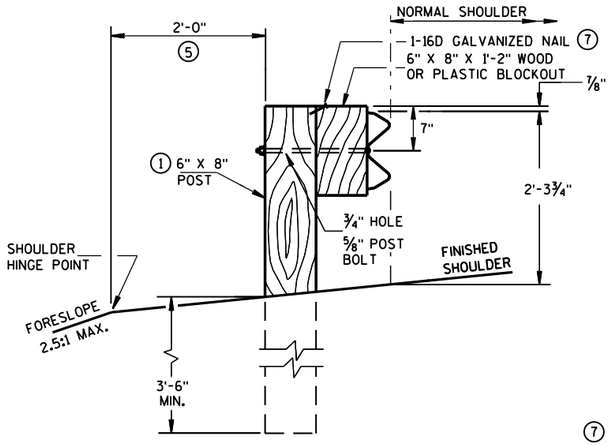
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



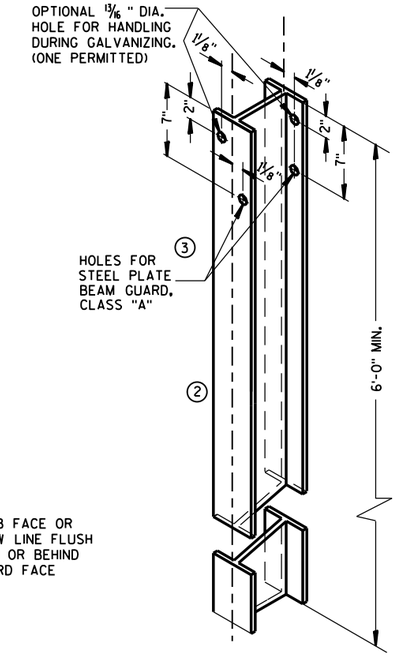
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



END VIEW
LOCATED ALONG A CURBED ROADWAY

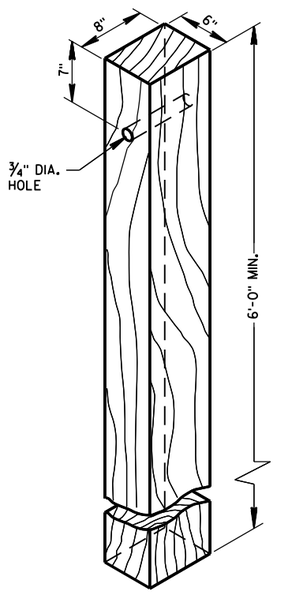


END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION

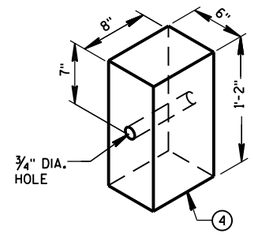


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

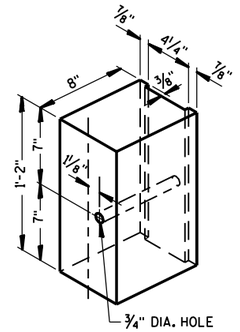
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



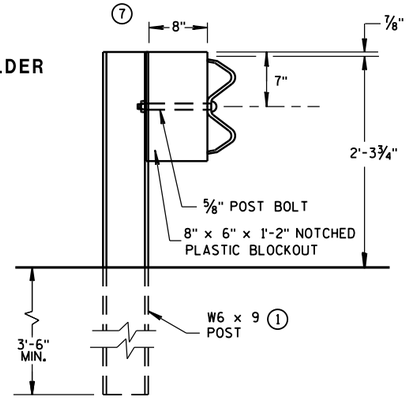
WOOD POST
(6"X8") NOMINAL



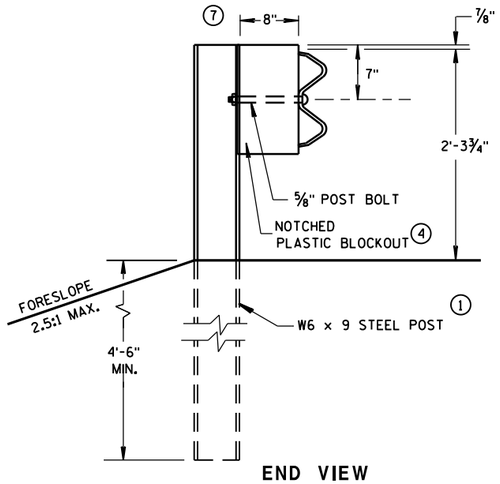
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



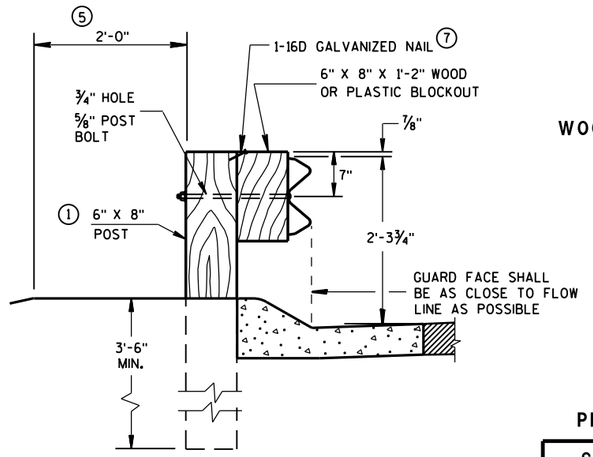
TYPICAL NOTCHED (1)
PLASTIC BLOCKOUT
FOR STEEL POSTS



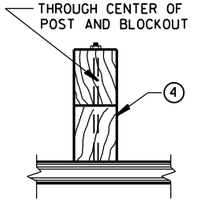
END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



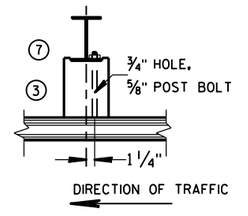
END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

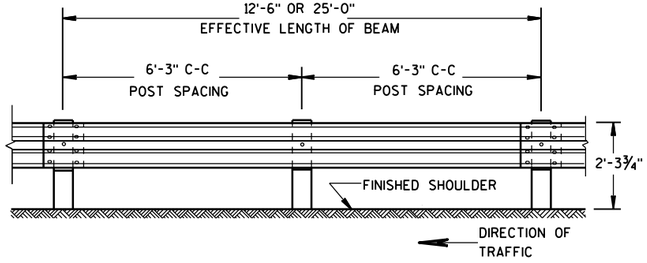
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

6

S.D.D. 14 B 15-8a

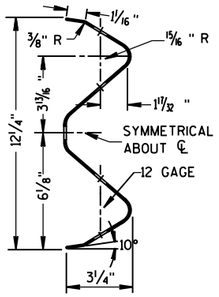
6

S.D.D. 14 B 15-8a

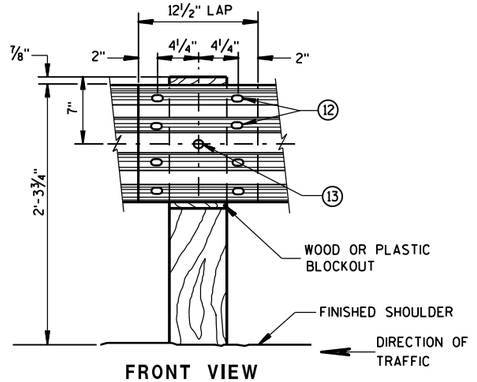


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

(8) PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

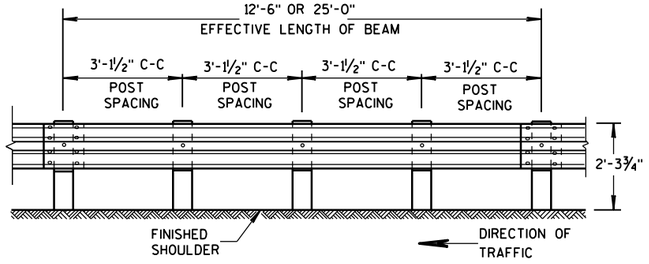
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

(10) REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

(11) PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

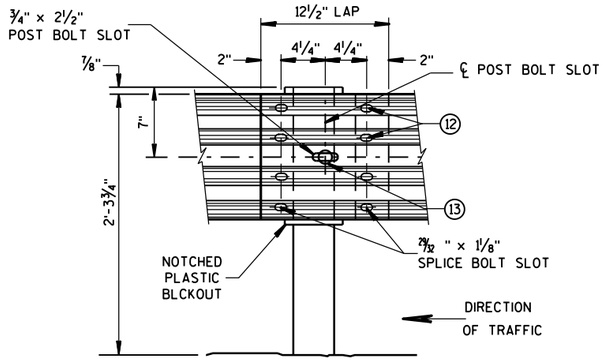
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



FRONT VIEW

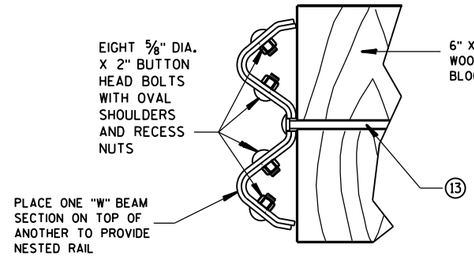
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

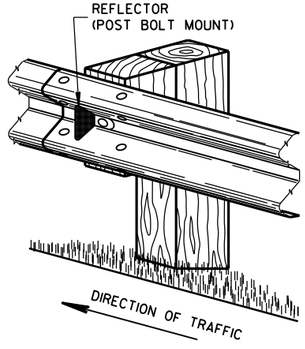


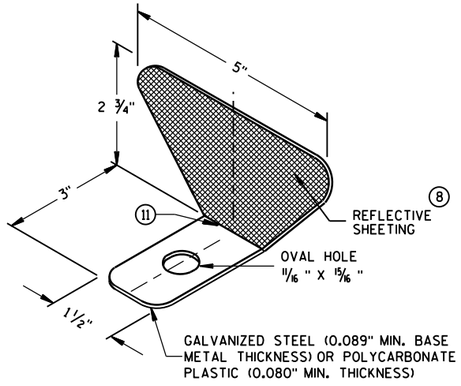
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (9)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (10)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 (11)	3
	> 200'	100' C-C	2	



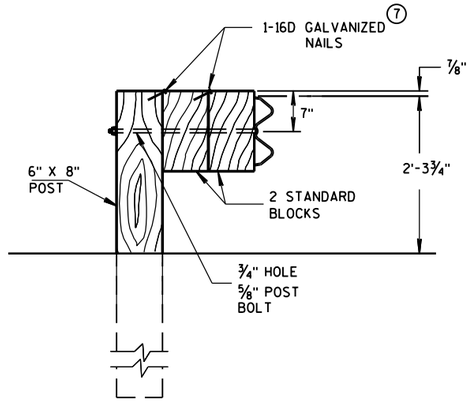


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (8)

STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

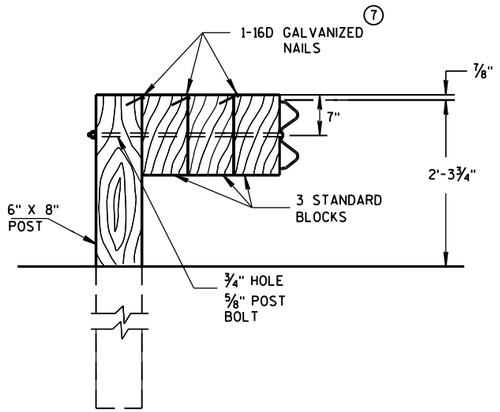
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 15-8b



DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

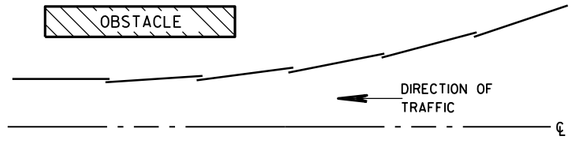


DETAIL FOR TRIPLE BLOCKS

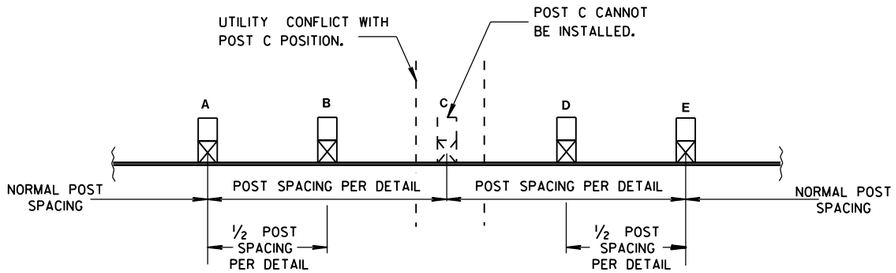
TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



PLAN VIEW
BEAM LAPPING DETAIL



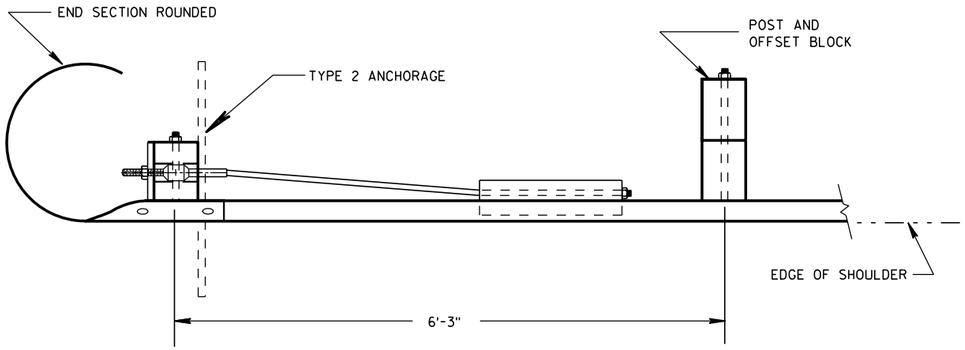
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

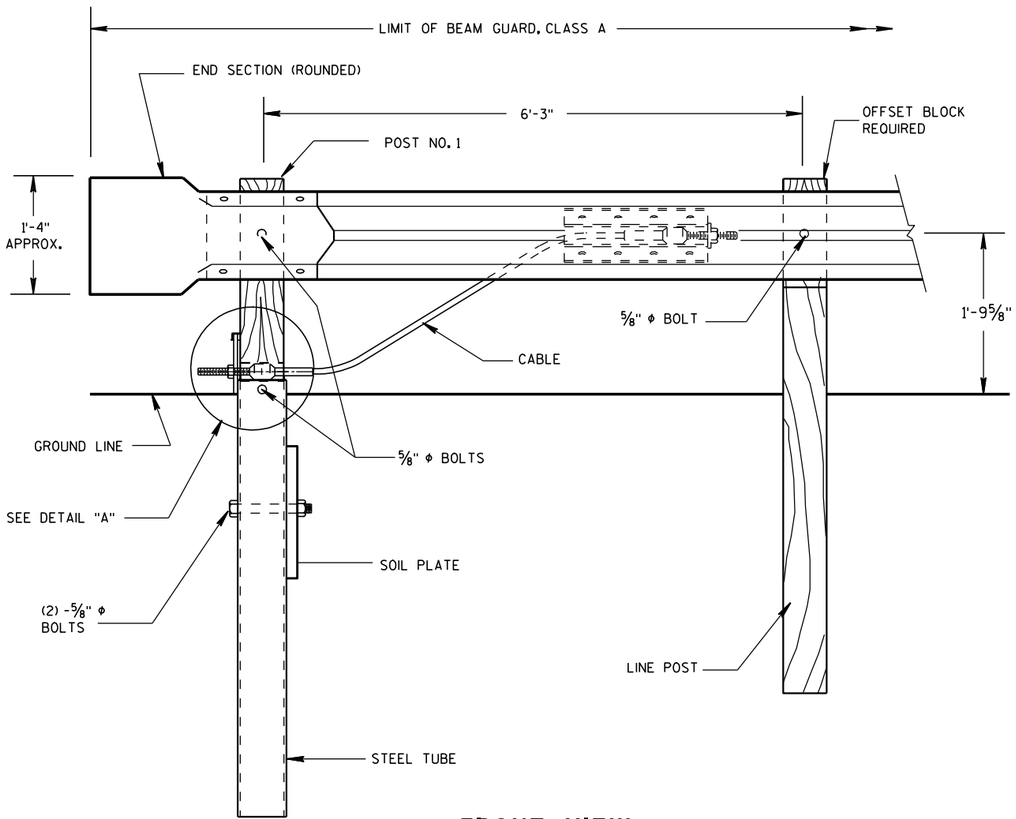
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 14 B 15-8c



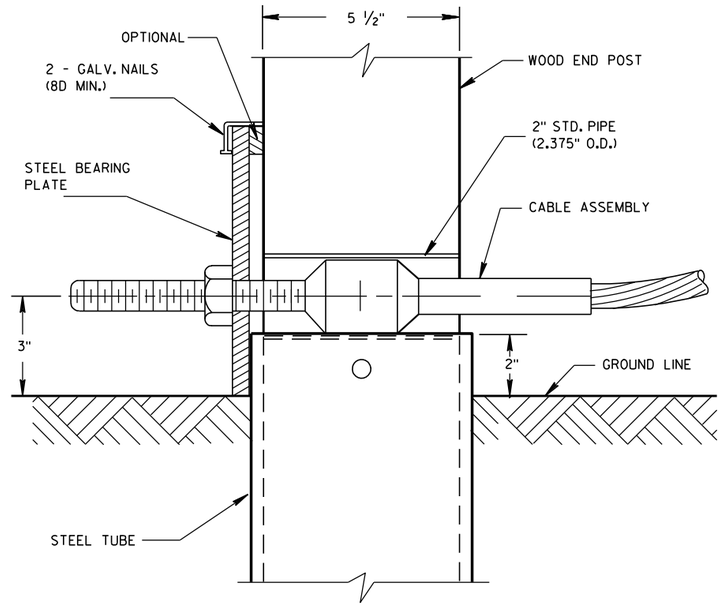
PLAN VIEW



FRONT VIEW

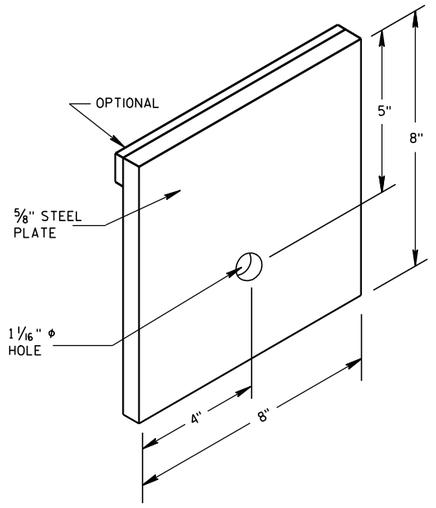
END TREATMENT WITH TYPE 2 ANCHORAGE

(USE ON ONE-WAY ROADWAYS ONLY - DEPARTING END)



DETAIL "A"

POST NO. 1



STEEL BEARING PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

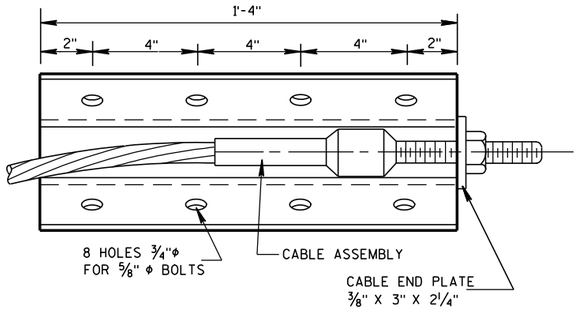
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

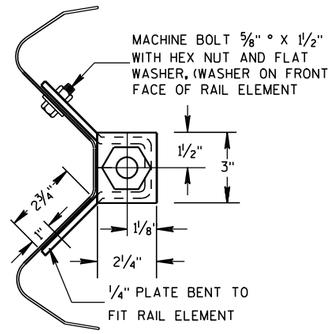
S.D.D. 14 B 16-4a

6

S.D.D. 14 B 16-4a

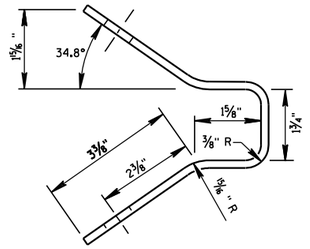


FRONT VIEW

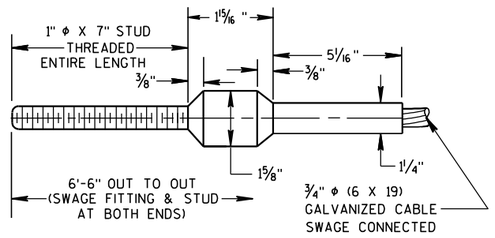


END VIEW

ANCHOR PLATE DETAIL



END VIEW OF BRACKET



CABLE ASSEMBLY

CABLE, SWAGE FITTING, STUD AND NUT SHALL DEVELOP
A MINIMUM BREAKING STRENGTH OF 40,000 LB
(TIGHTEN UNTIL TAUT)

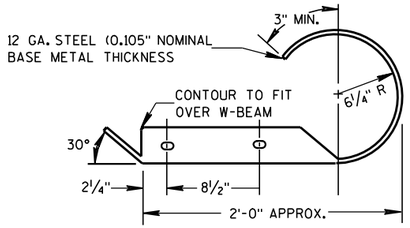
GENERAL NOTES

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

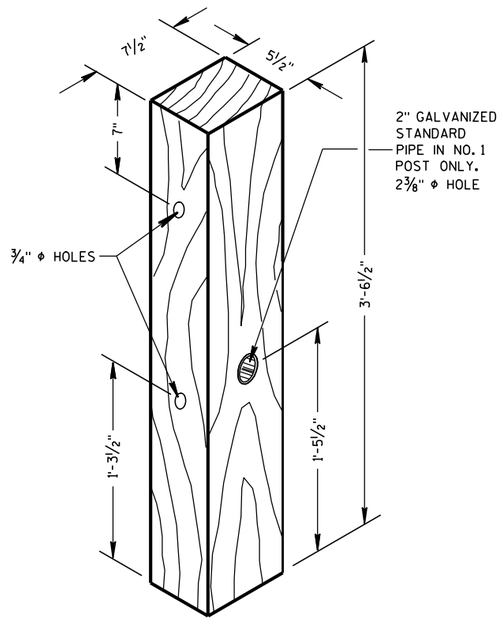
STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-500 GRADE B OR ASTM A-501.

POST NO. 1 SHALL BE WOOD BREAKAWAY POST INSERTED AND BOLTED INTO STEEL TUBE.

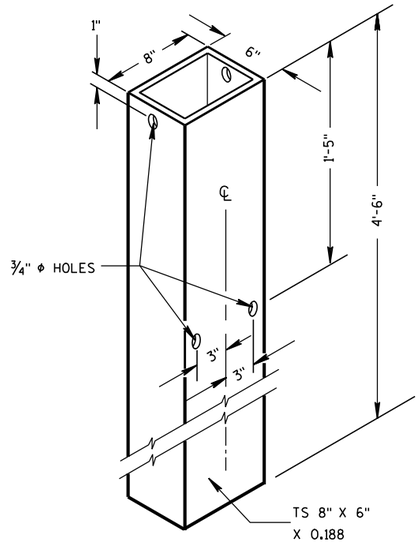
TYPE 2 ANCHORAGE SHALL CONSIST OF A STEEL TUBE, SOIL PLATE WOOD BREAKAWAY POST, BEARING PLATE, ANCHOR PLATE, CABLE ASSEMBLY AND ALL ASSOCIATED HARDWARE, ALL STEEL PARTS SHALL BE GALVANIZED.



PLAN VIEW

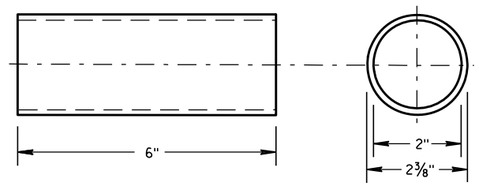


WOOD BREAKAWAY POST



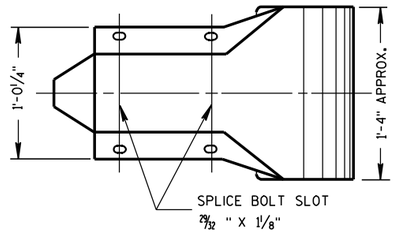
STEEL TUBE

STEEL TUBE SHALL CONFORM TO
REQUIREMENTS OF ASTM A500

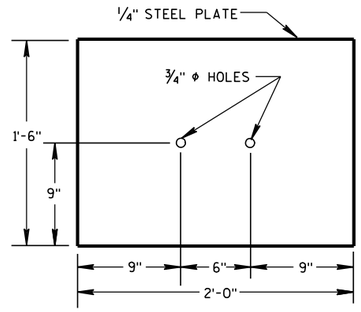


BREAKAWAY TERMINAL POST SLEEVE

GALVANIZED STANDARD STRENGTH STEEL PIPE, ASTM 53 GRADE "B"



FRONT VIEW
W BEAM END SECTION ROUNDED



SOIL PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

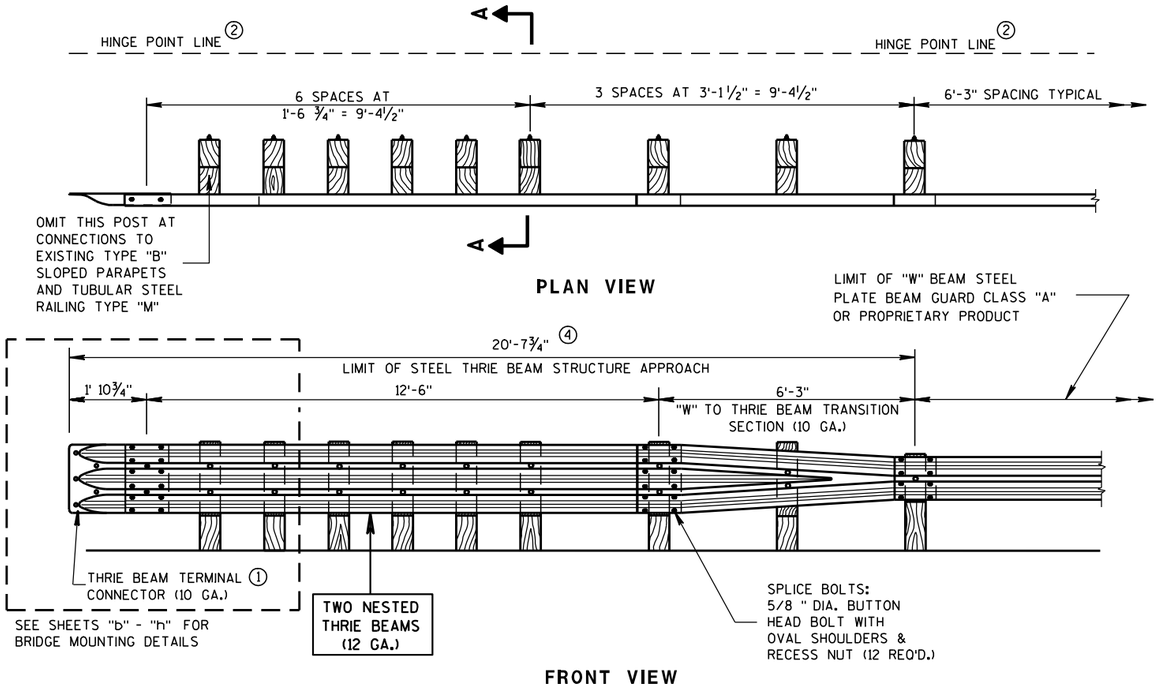
APPROVED
8/21/2007
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
220
FHWA

6

S.D.D. 14 B 16-4b

6

S.D.D. 14 B 16-4b



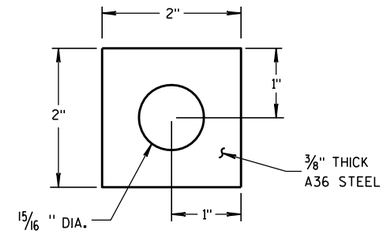


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

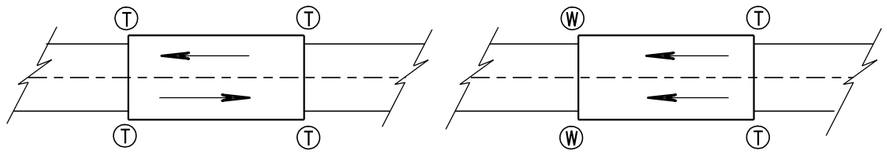
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



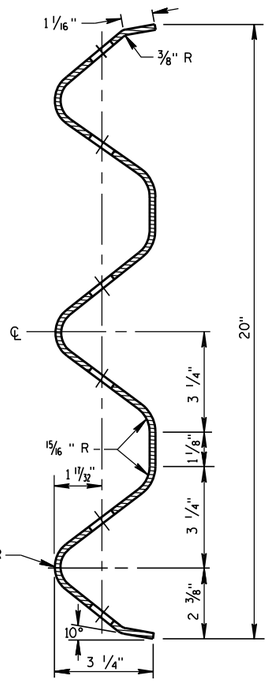
TWO WAY TRAFFIC

ONE WAY TRAFFIC

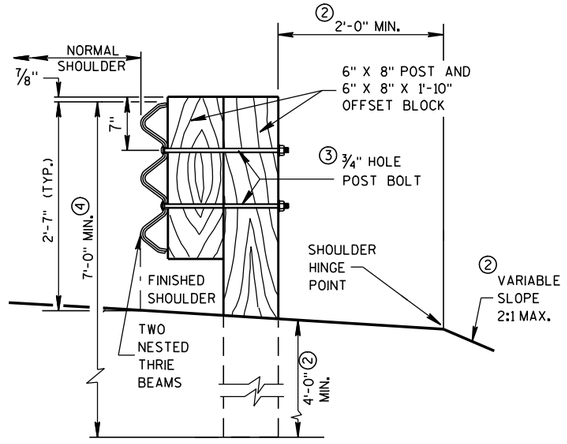
Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

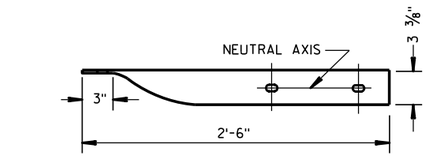
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

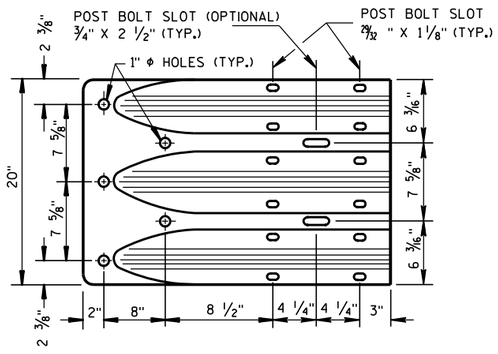


SECTION THRU THRIE BEAM RAIL ELEMENT

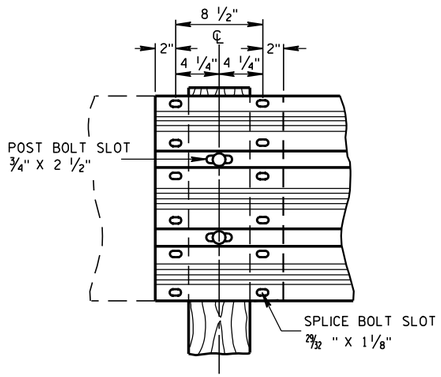


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

221

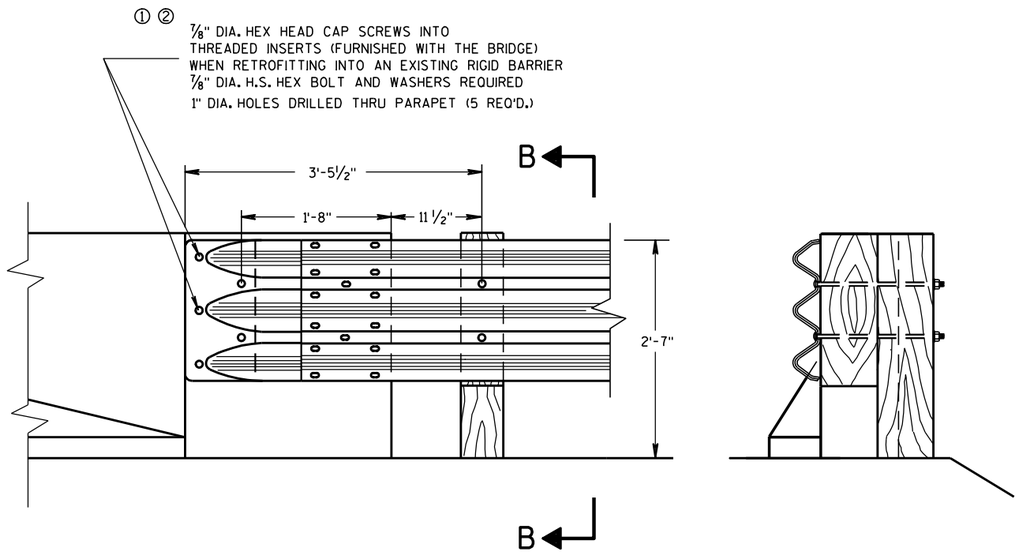
FHWA

6

S.D.D. 14 B 20-11a

6

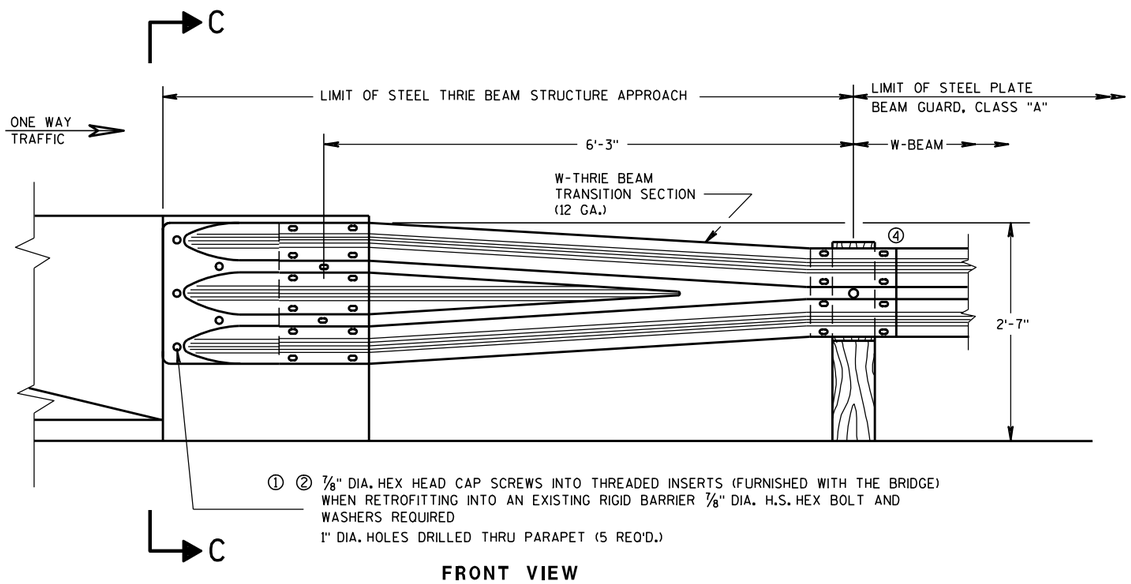
S.D.D. 14 B 20-11a



FRONT VIEW

SECTION B-B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

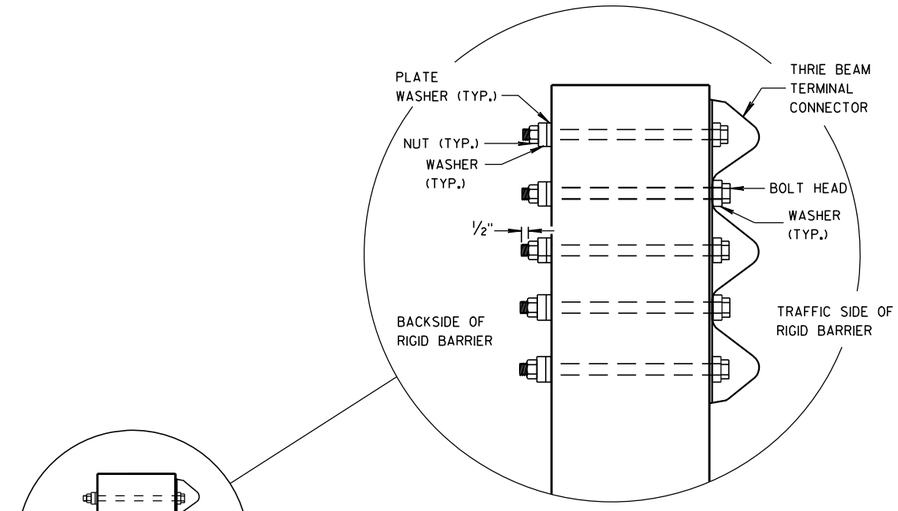
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

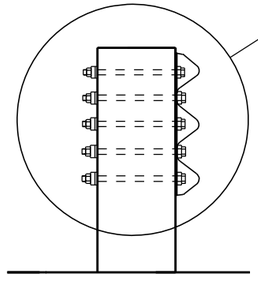
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.





SECTION C-C

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

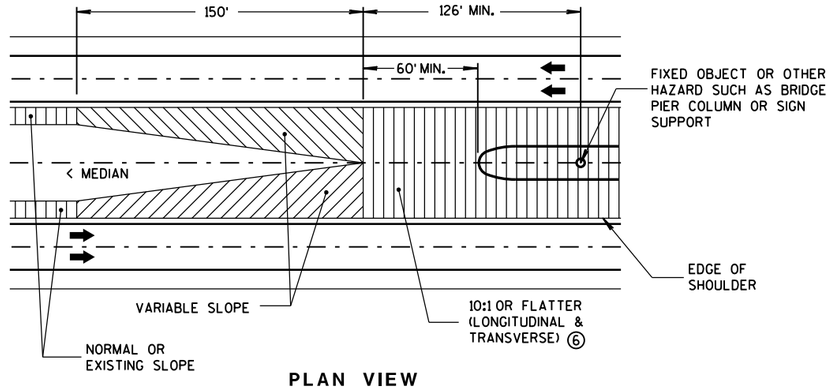
APPROVED
8/31/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [222
ENGINEER
FHWA

6

S.D.D. 14 B 20-11b

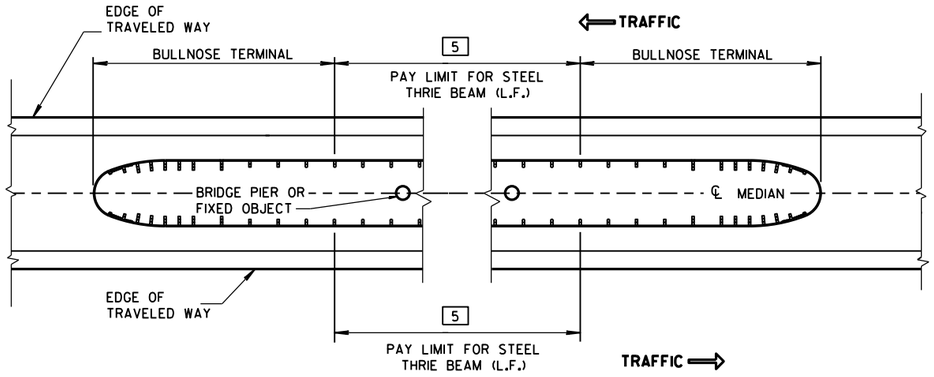
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S.D.D. 14 B 20-11b

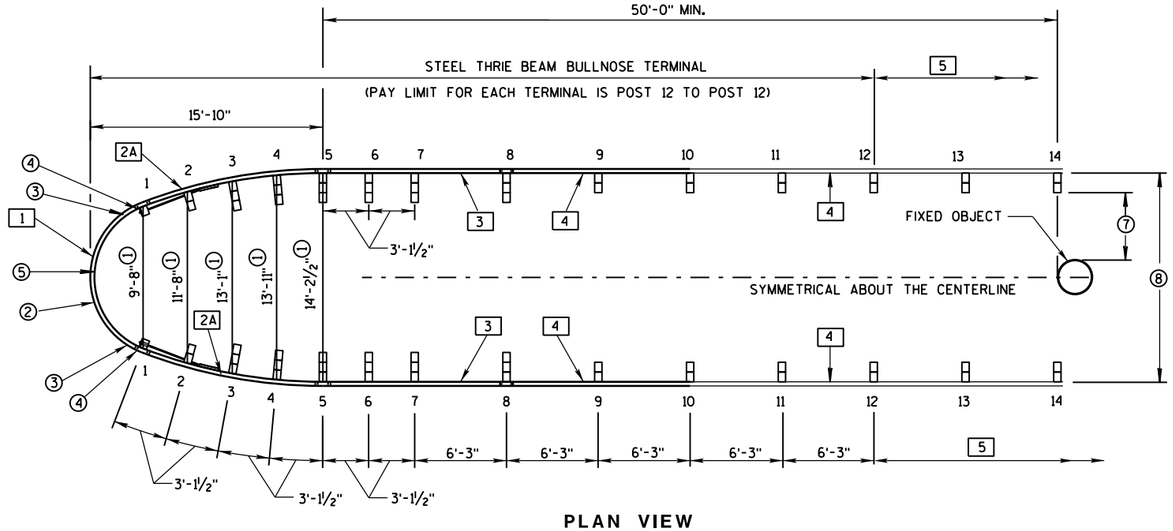


PLAN VIEW

GRADING AT BULLNOSE
(ALL INSTALLATIONS)

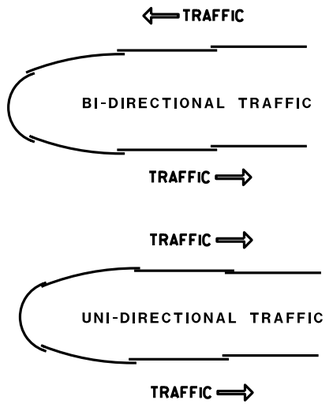


MEDIAN HAZARD PROTECTION PAY LIMITS



PLAN VIEW

TYPICAL BULLNOSE LAYOUT



LAPPING DETAIL
(ALL INSTALLATIONS)

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

PUNCHING, DRILLING, CUTTING OR WELDING IS NOT PERMITTED ON ANY GALVANIZED THRIE BEAM ACCESSORY OR TERMINAL ACCESSORY.

OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

THE USE OF STEEL POSTS ON THE BULLNOSE IS NOT ALLOWED.

BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

ALL THRIE BEAM SHALL BE 12-GAUGE.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½" AND 12" DIAMETER AROUND POST. SEE SDD 14B15 OR SDD 14B42 FOR MORE INFORMATION.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A. (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

[4] UNBENT STANDARD THRIE-BEAM RAIL NO.4. (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.

② U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.

③ NOSE CABLE W/SWAGGED END BUTTONS.

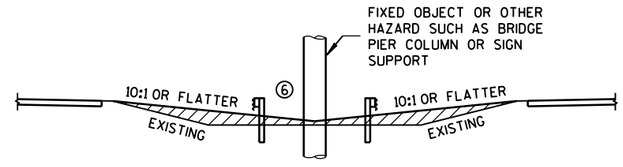
④ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).

⑤ THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.

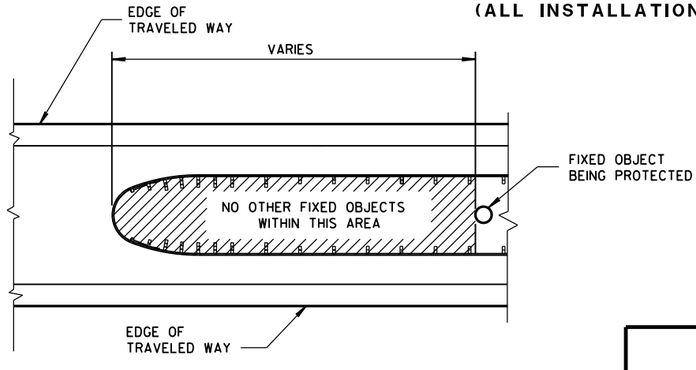
⑥ PROVIDE SUITABLE DRAINAGE WHEN MEDIAN GRADING IMPEDES NORMAL FLOW.

⑦ 2'-6" MINIMUM LATERAL DISTANCE BETWEEN BACK OF POST AND FACE OF FIXED OBJECT.

⑧ MAXIMUM WIDTH OF SYSTEM IS 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



MEDIAN GRADING SECTION
(ALL INSTALLATIONS)

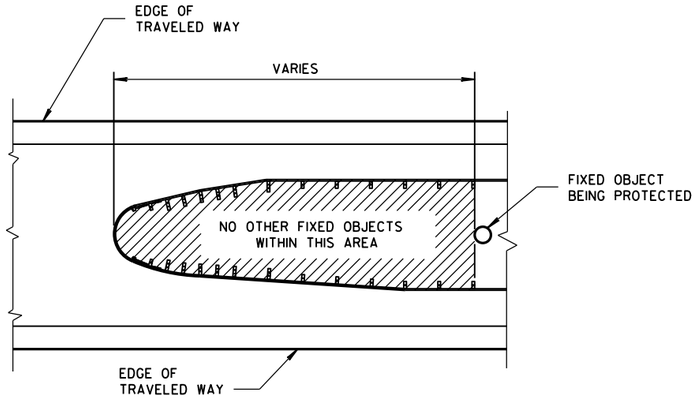


HAZARD FREE AREA INSIDE BULLNOSE

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 26-3a



HAZARD FREE
AREA INSIDE BULLNOSE

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A, (POST 1 TO POST 5)

[2B] SLOTTED THRIE BEAM RAIL NO. 2B, (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

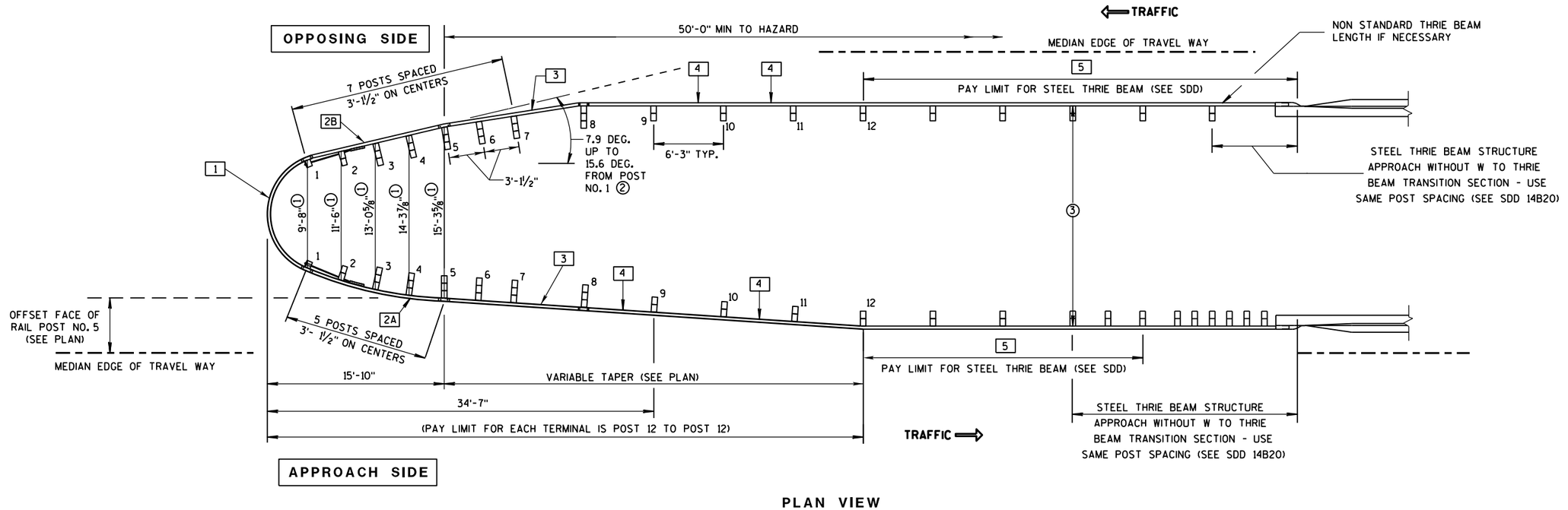
[4] UNBENT STANDARD THRIE-BEAM RAIL NO. 4, (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST.

② TAPER BEGINNING AT POST NO. 1 MUST CONTINUE TO POST NO. 5. PAST POST NO. 5 TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS. (SEE PLAN)

③ FOR MEDIANS WIDER THAN 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



PLAN VIEW

WIDENED BULLNOSE DESIGN

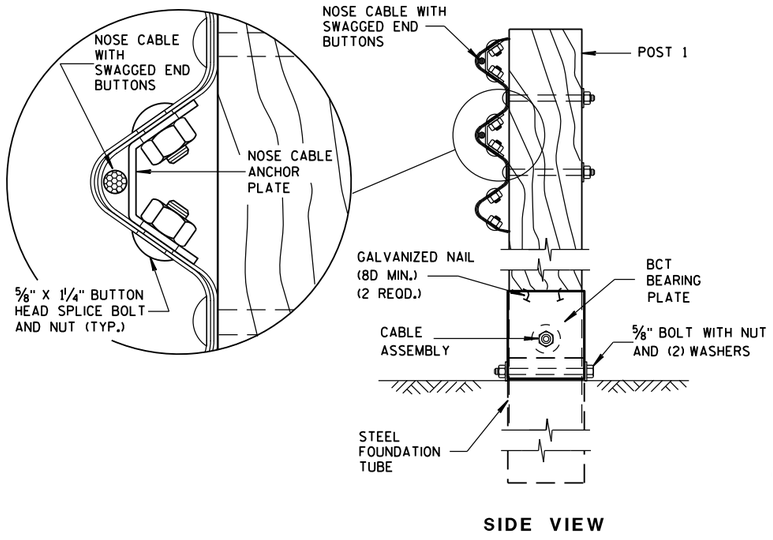
(INSTALLATION AT TWIN BRIDGES WITH BI-DIRECTIONAL TRAFFIC SHOWN)

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

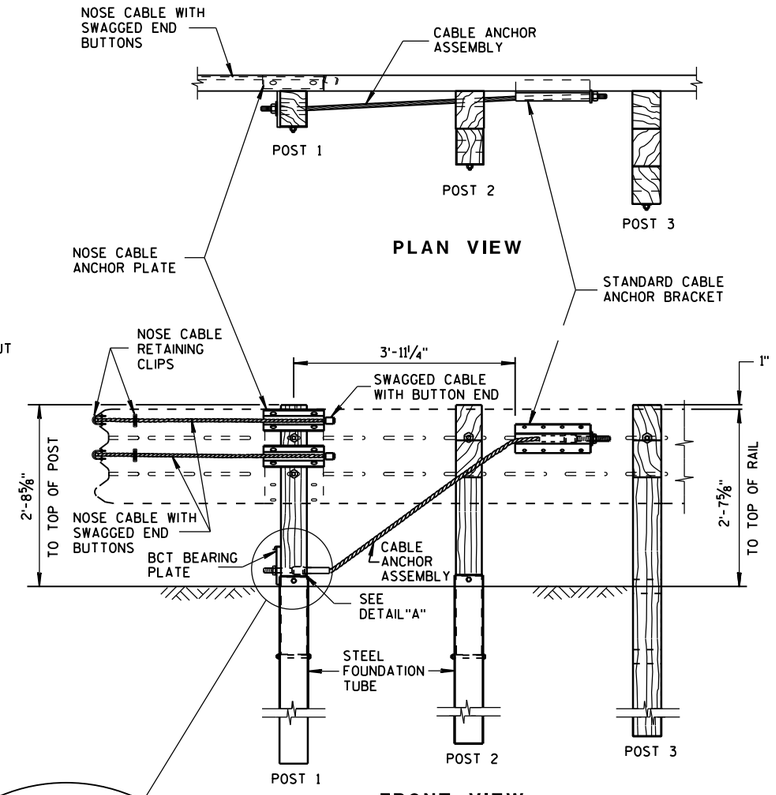
6

S.D.D. 14 B 26-3b



SIDE VIEW

NOSE CABLE ASSEMBLY AT POST NO. 1



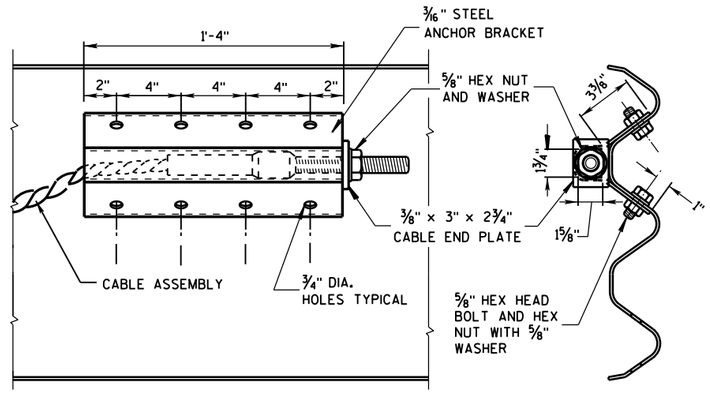
PLAN VIEW

FRONT VIEW

NOSE CABLE ANCHOR AND STANDARD BRACKET ASSEMBLY

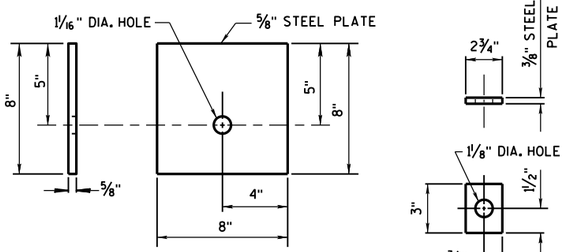
GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



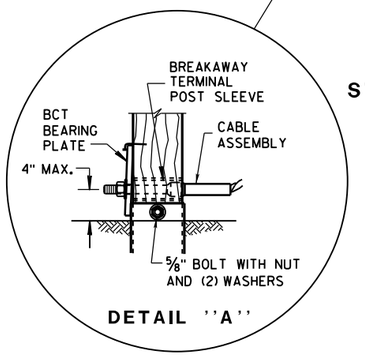
FRONT VIEW END VIEW

DETAILS OF CABLE ANCHOR BRACKET

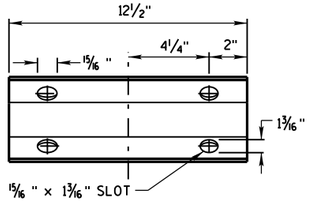


BCT BEARING PLATE

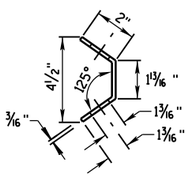
CABLE END PLATE



DETAIL ''A''



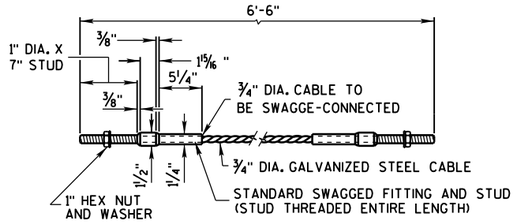
ELEVATION VIEW



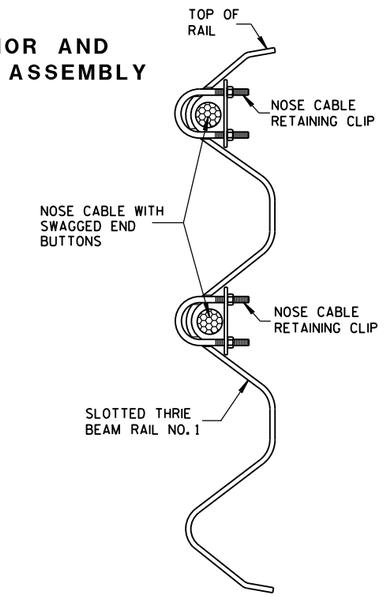
END VIEW

NOSE CABLE ANCHOR PLATE

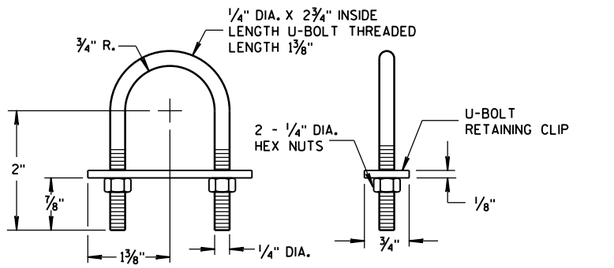
NOTE: 12 1/2" x 5 13/16" x 3/16" STEEL PLATE (A306)



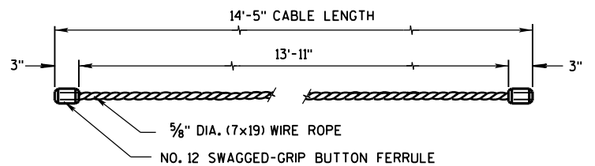
DETAILS OF CABLE ANCHOR ASSEMBLY



PLACEMENT OF NOSE CABLE RETAINING CLIP



NOSE CABLE RETAINING CLIP



NOSE CABLE WITH SWAGGED END BUTTONS

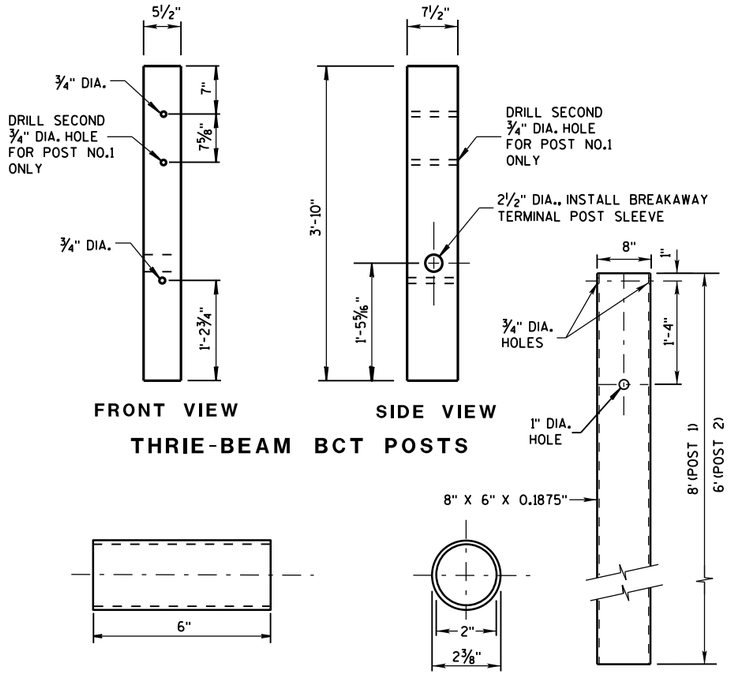
TO PULL OFF SWAGGED GRIP BUTTON FERRULE FROM WIRE ROPE REQUIRES A FORCE EQUAL TO 98% OF THE WIRE ROPE'S BREAKING STRENGHT.

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
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6

S.D.D. 14 B 26-3c

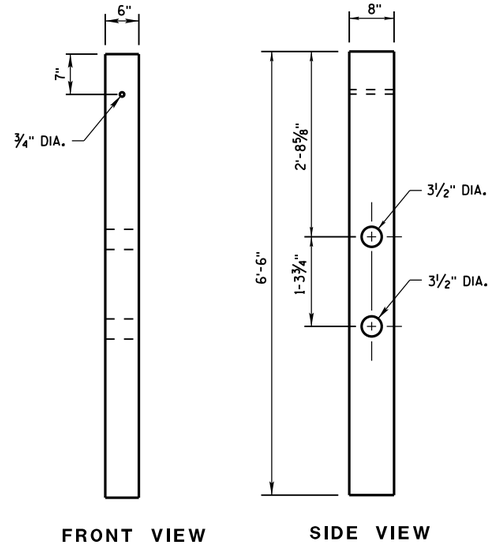


FRONT VIEW SIDE VIEW

THRIE-BEAM BCT POSTS

BREAKAWAY TERMINAL POST SLEEVE

STEEL FOUNDATION TUBE

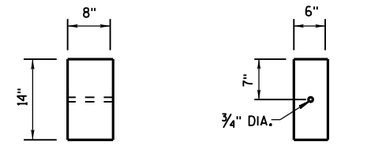


FRONT VIEW SIDE VIEW

THRIE-BEAM CRT WOOD POSTS

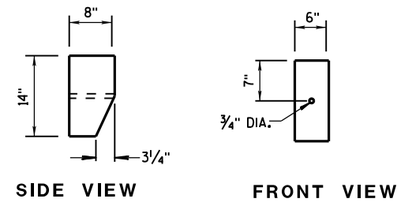
GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



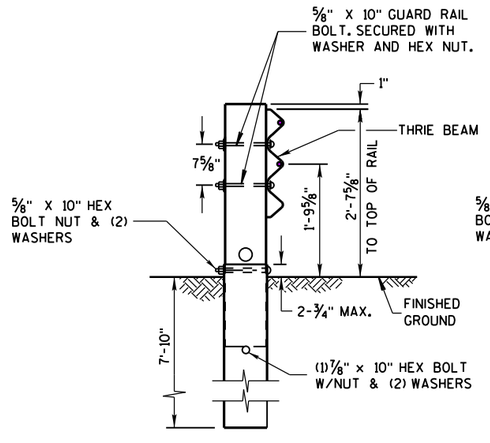
SIDE VIEW FRONT VIEW

STANDARD WOOD BLOCK



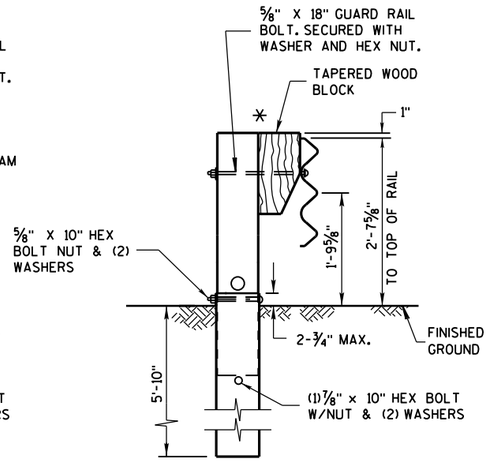
SIDE VIEW FRONT VIEW

TAPERED WOOD BLOCK



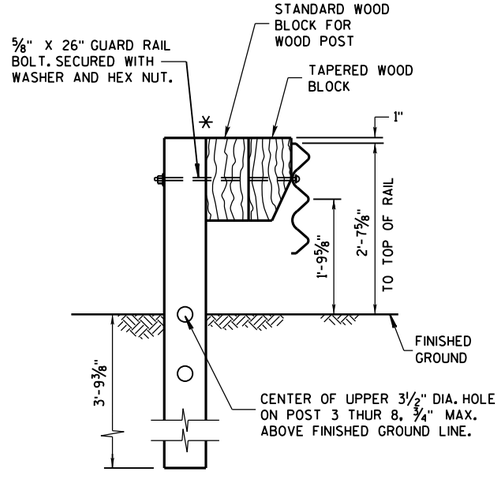
THRIE-BEAM BCT POST
(WITH 8'-0" FOUNDATION TUBE)

POST NO. 1



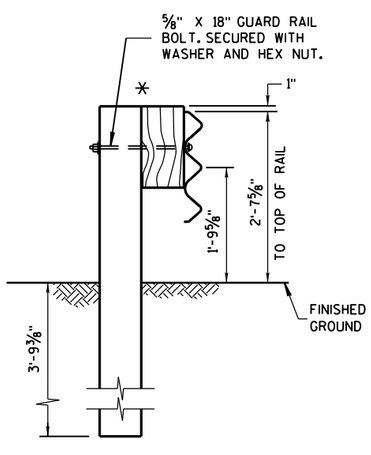
THRIE-BEAM BCT POST
(WITH 6'-0" FOUNDATION TUBE AND 1'-2" TAPERED BLOCK)

POST NO. 2



THRIE-BEAM CRT POST
(6'-6" LONG POST WITH 1'-2" BLOCK AND 1'-2" TAPERED BLOCK)

POST NO. 3,4,5,6,7, & 8



THRIE-BEAM POST
(6'-6" LONG POST WITH 1'-2" BLOCK)

POST NO. 9,10,11,& 12

(ALSO USE FOR STEEL THRIE BEAM BEYOND POST 12)

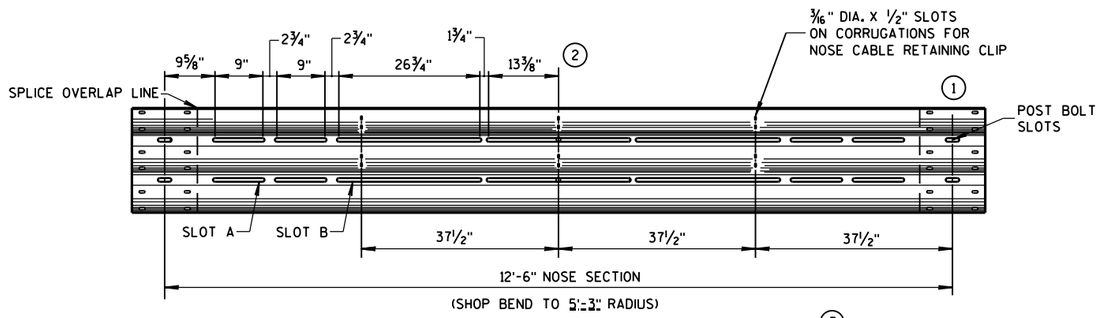
* IF NEEDED DUE TO AN UNDERGROUND OBSTACLE ADD 1 ADDITIONAL STANDARD BLOCKOUT TO POST.

STEEL THRIE BEAM BULLNOSE TERMINAL

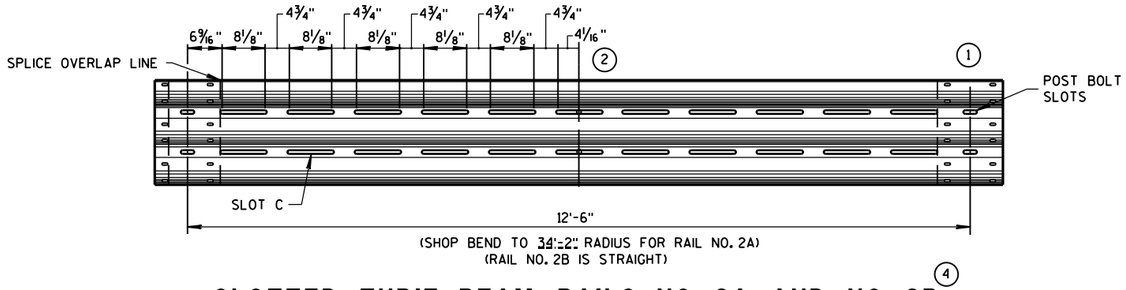
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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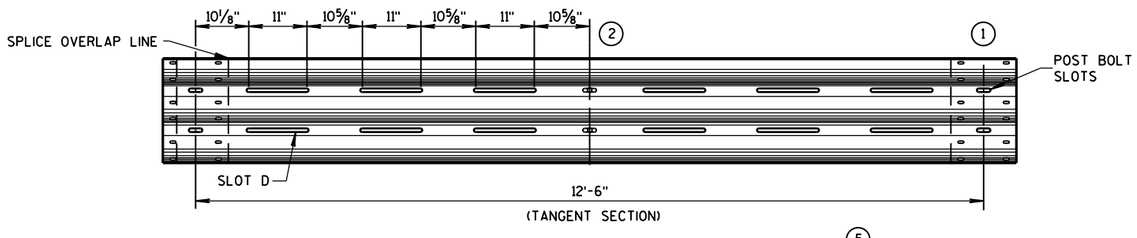
S.D.D. 14 B 26-3d



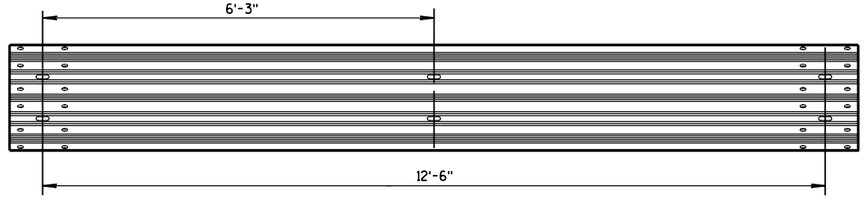
SLOTTED THRIE BEAM RAIL NO. 1 (3)



SLOTTED THRIE BEAM RAILS NO. 2A AND NO. 2B (4)



SLOTTED THRIE BEAM RAIL NO. 3 (5)



UNBENT STANDARD THRIE BEAM RAIL NO. 4 AND NO. 5

GENERAL NOTES

SEE STANADRD DETAIL DRAWINGS 14 B 26a-e.

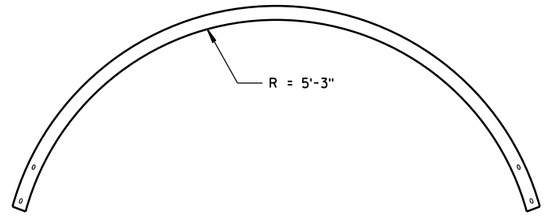
(1) SLOTTED THRIE BEAM RAIL DIMENSIONS SHOWN ARE BEFORE BENDING TO THE RADIUS SHOWN.

(2) SLOT SIZE AND SPACING SYMMETRIC.

(3) SLOTTED THRIE BEAM RAIL NO. 1, 12'-6", SHOP BEND TO R=5'-3".

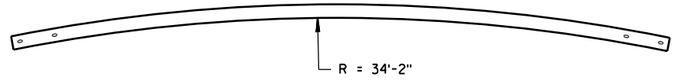
(4) SLOTTED THRIE BEAM RAIL NO. 2A, 12'-6", SHOP BEND TO R=34'-2".
SLOTTED THRIE BEAM RAIL NO. 2B, 12'-6", RAIL IS STRAIGHT.

(5) SLOTTED THRIE BEAM RAIL NO. 3, 12'-6", TANGENT.



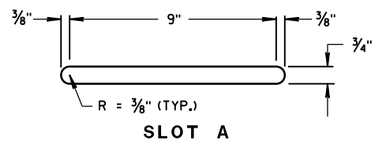
PLAN VIEW

SLOTTED THRIE BEAM RAIL NO. 1

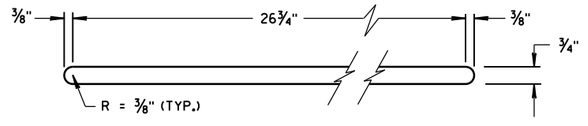


PLAN VIEW

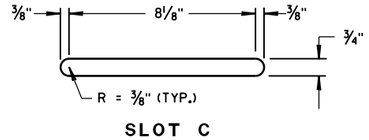
SLOTTED THRIE BEAM RAIL NO. 2A



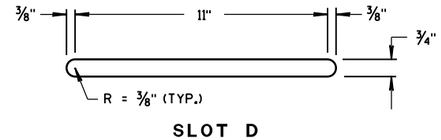
SLOT A



SLOT B



SLOT C



SLOT D

SLOT DETAILS

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

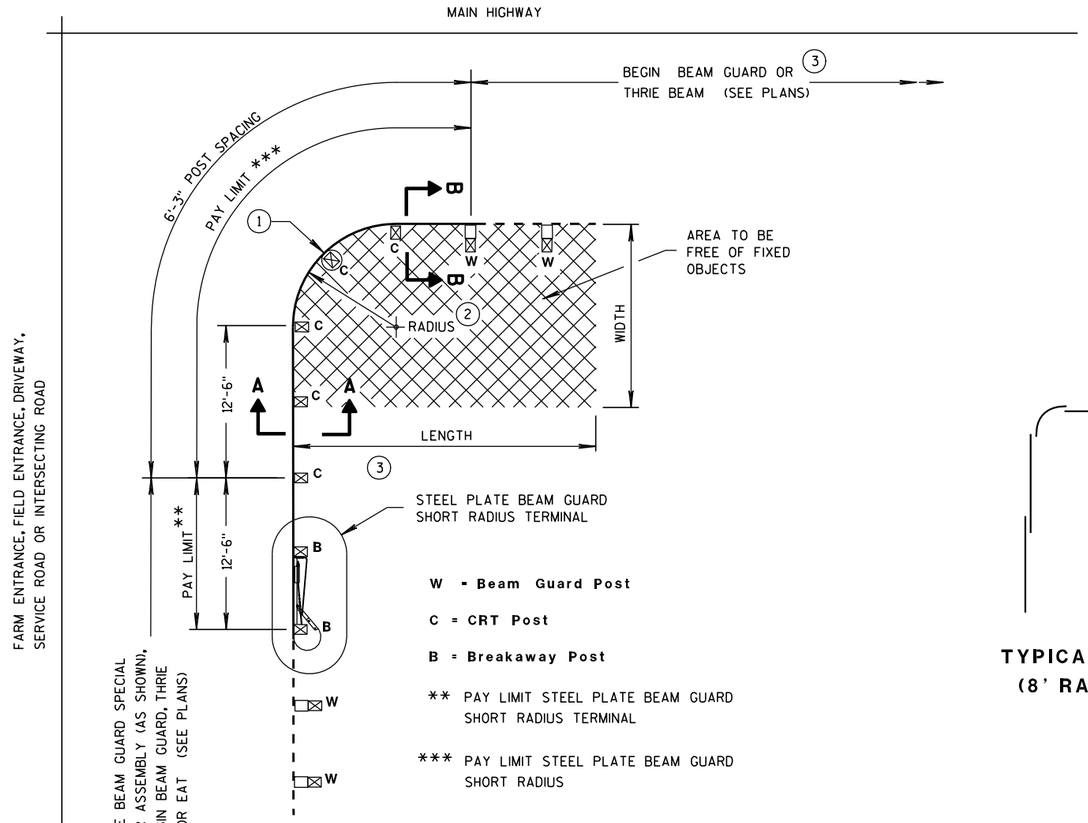
NT

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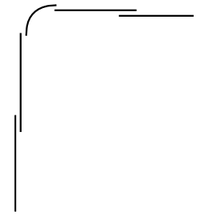
S.D.D. 14 B 26-3e

6

S.D.D. 14 B 26-3e



TYPICAL LAYOUT
(8' RADIUS SHOWN)



TYPICAL LAP SPLICES
(8' RADIUS SHOWN)

GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2. UNLESS NOTED OTHERWISE.

SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

(1) ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.

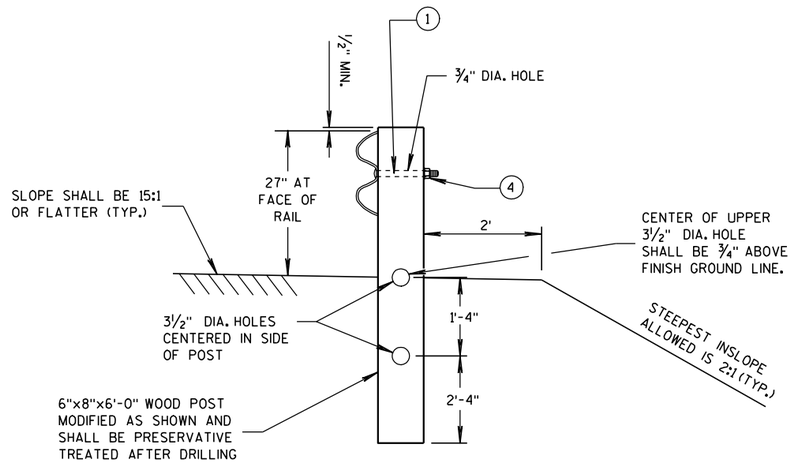
(2) RADIUS FROM 8' - 36'. SEE PLAN.

(3) HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.

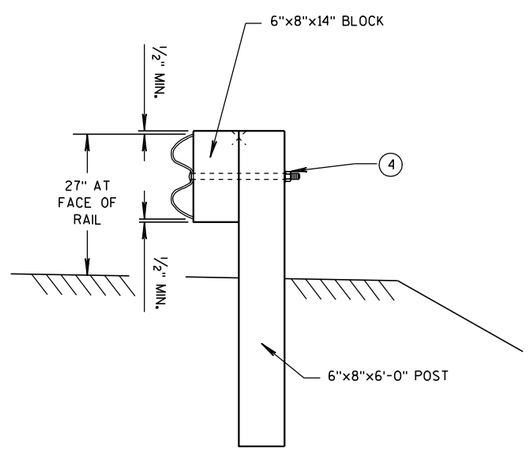
(4) 5/8" ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

RADIUS	NUMBER OF CRT POSTS	*NUMBER AND LENGTH OF CURVED RAILS	REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH x WIDTH)
8'	5	1 at 12.5'	25' x 15'
16'	7	1 at 25'	30' x 15'
24'	9	1 at 25' and 1 at 12.5'	40' x 20'
32'	11	2 at 25'	50' x 20'

* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



SECTION A-A
(CRT POST)



SECTION B-B
(BEAM GUARD POST)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

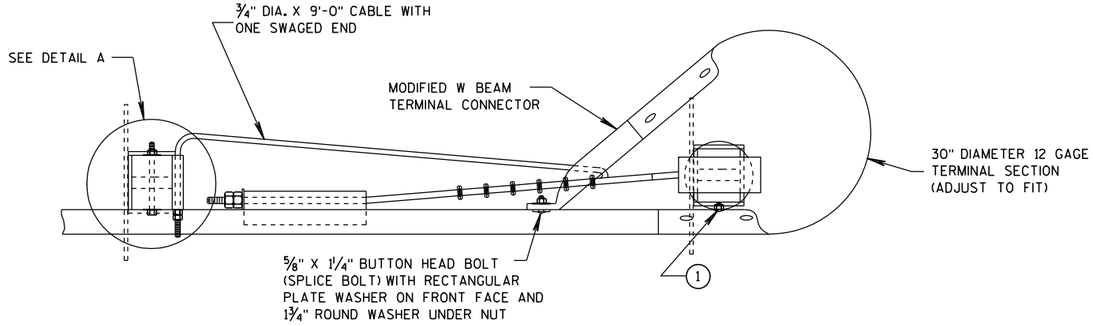
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

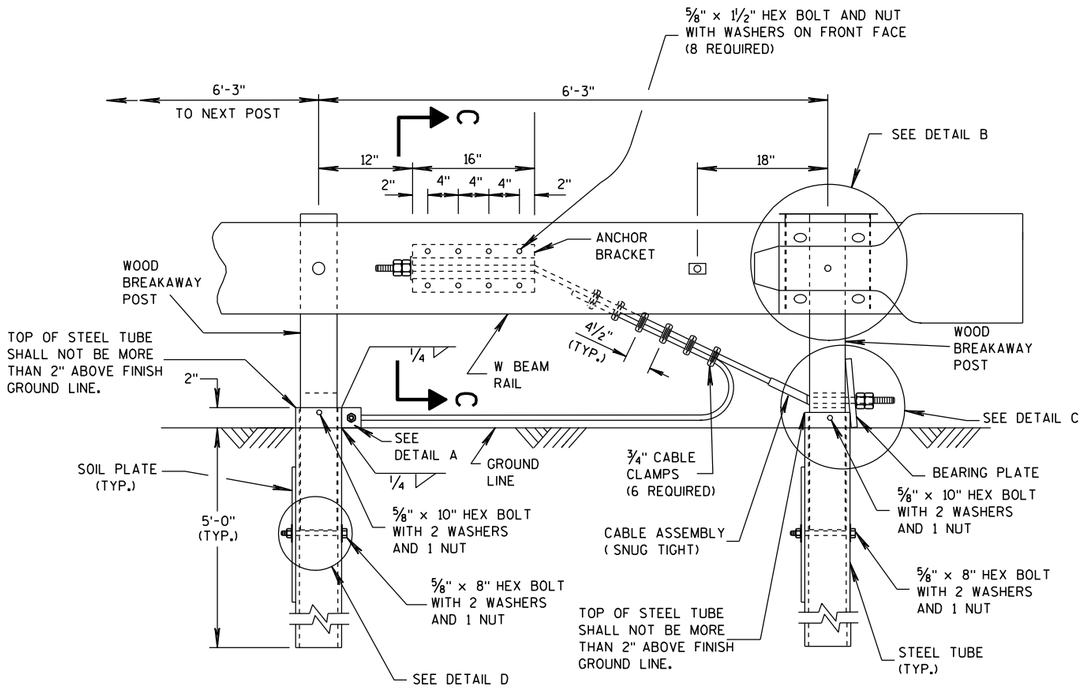
S.D.D. 14 B 27-1a

6

S.D.D. 14 B 27-1a



PLAN VIEW



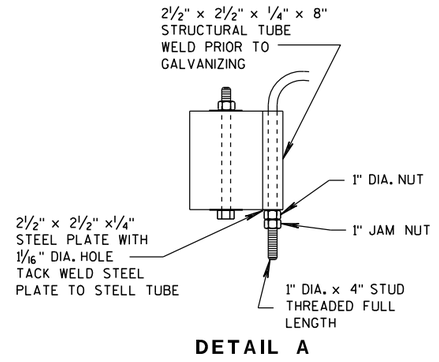
ELEVATION VIEW

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

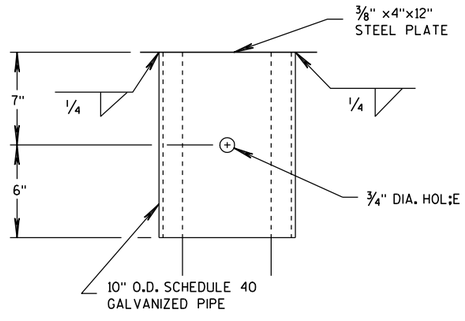
GENERAL NOTES

(1) ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A ⅝" X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.

INSTALL GALVANIZED ¾" (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED PLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



DETAIL A



DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

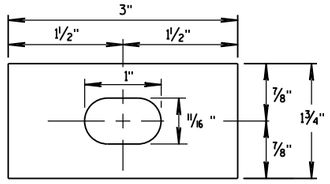
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

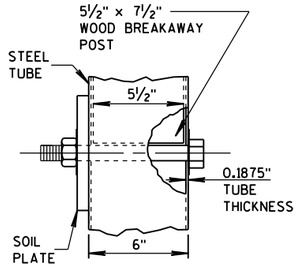
S.D.D. 14 B 27-1b

6

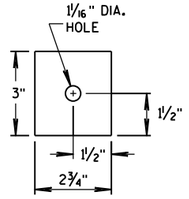
S.D.D. 14 B 27-1b



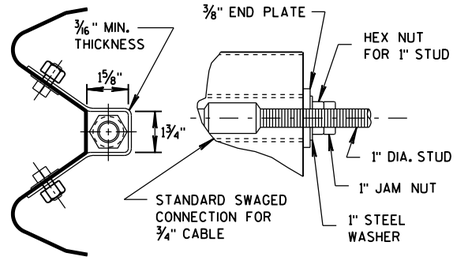
RECTANGULAR PLATE WASHER



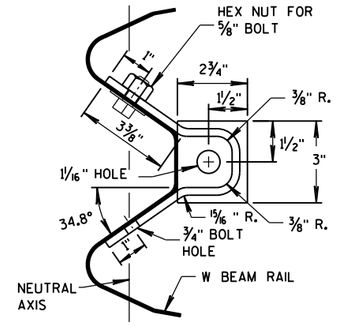
DETAIL D



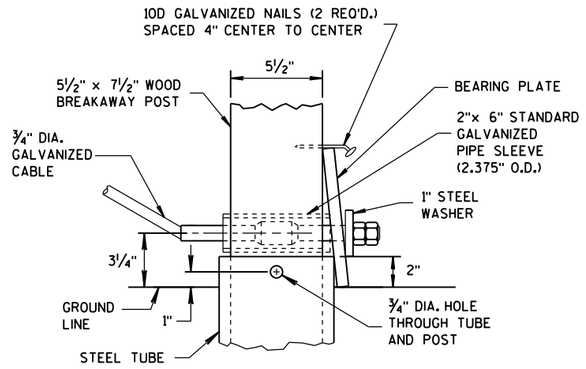
END PLATE



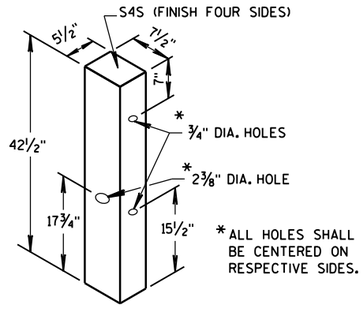
SECTION C-C
(END PLATE REMOVED)



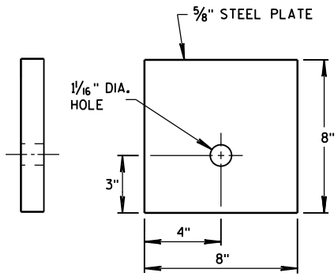
ANCHOR BRACKET



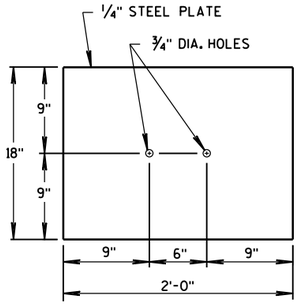
DETAIL C



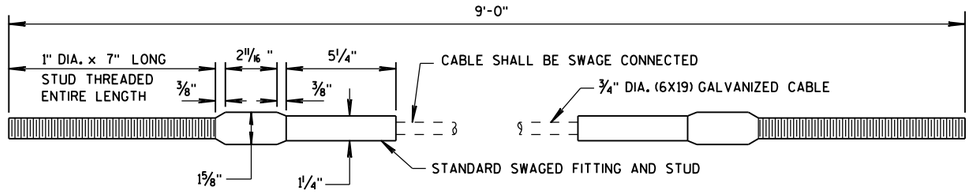
WOOD BREAKAWAY POST



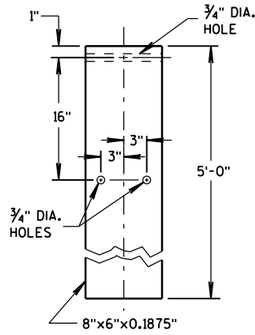
BEARING PLATE



SOIL PLATE



CABLE ASSEMBLY



STEEL TUBE

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

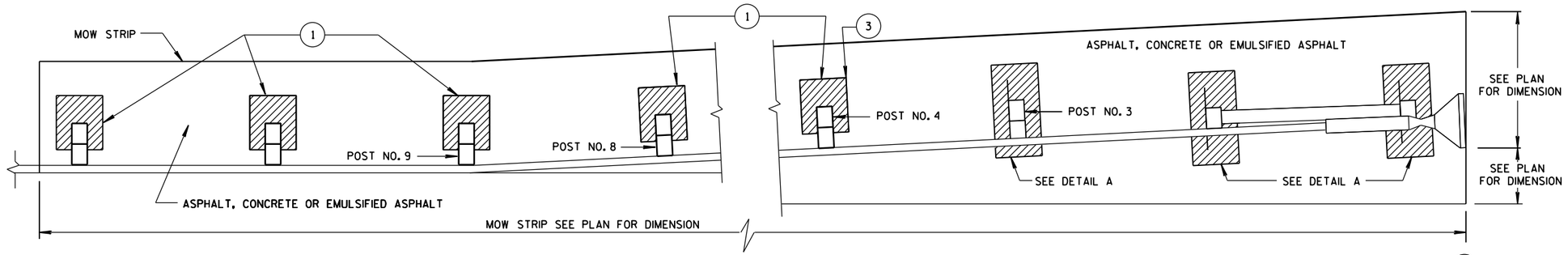
APPROVED
12/18/08 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 27-1c

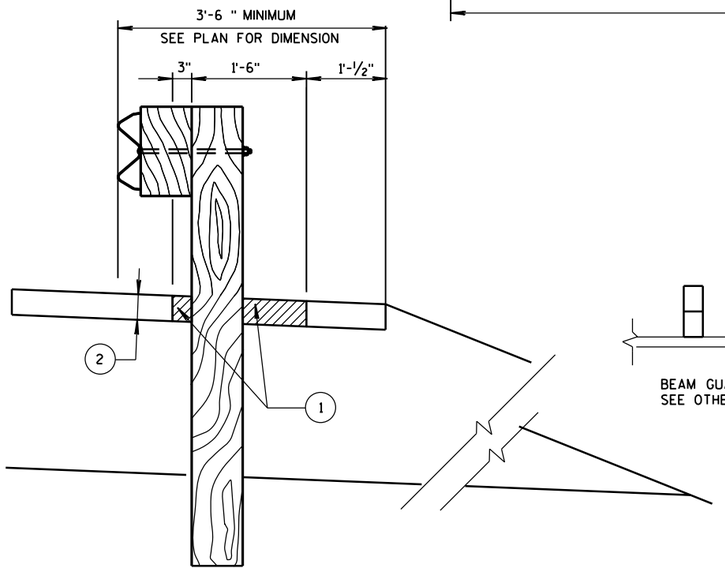
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S.D.D. 14 B 27-1c

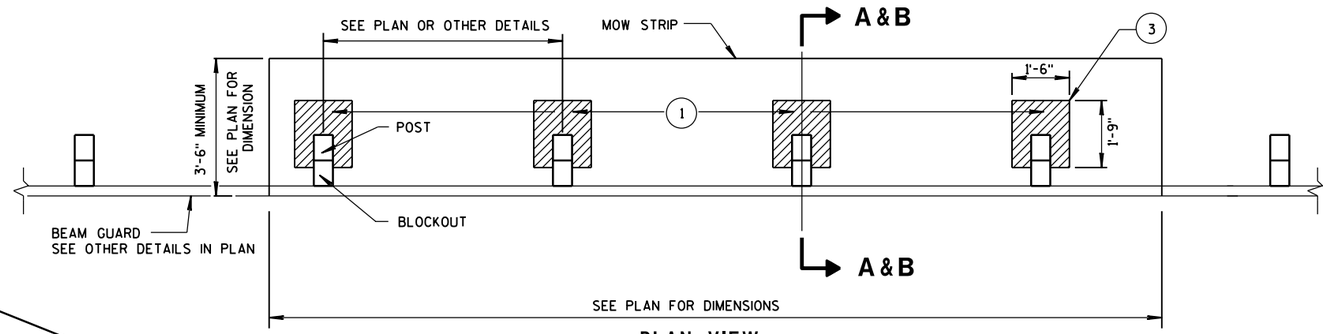


PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABORBING TERMINAL

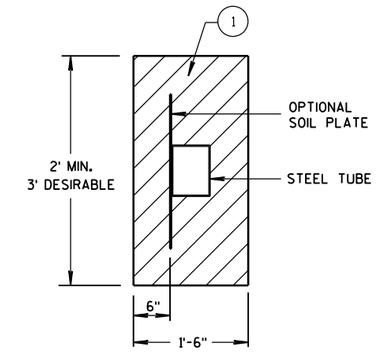


SECTION A-A

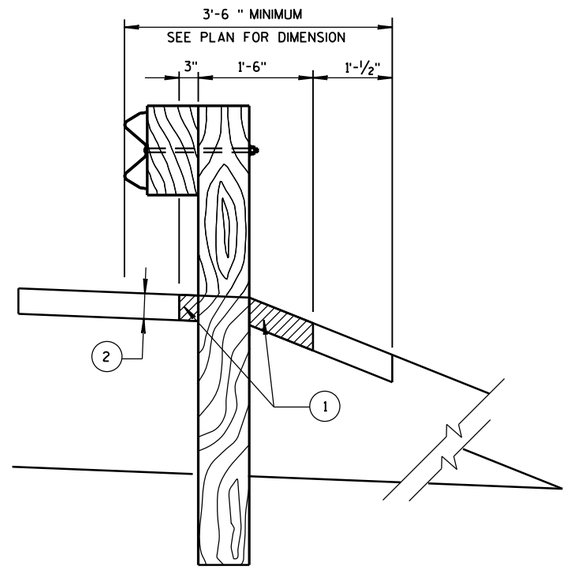


PLAN VIEW

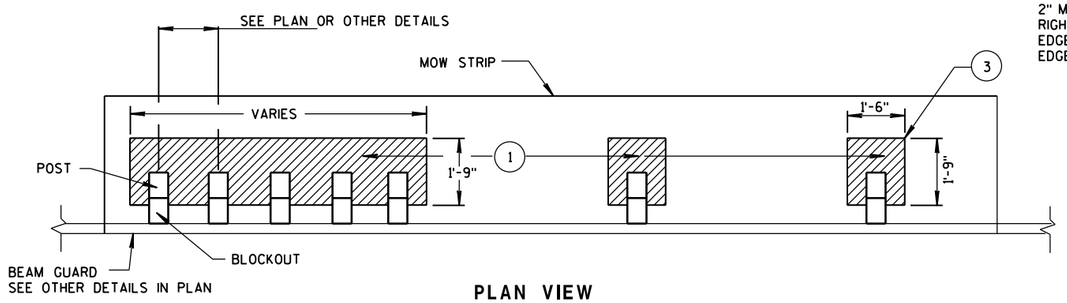
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



DETAIL A

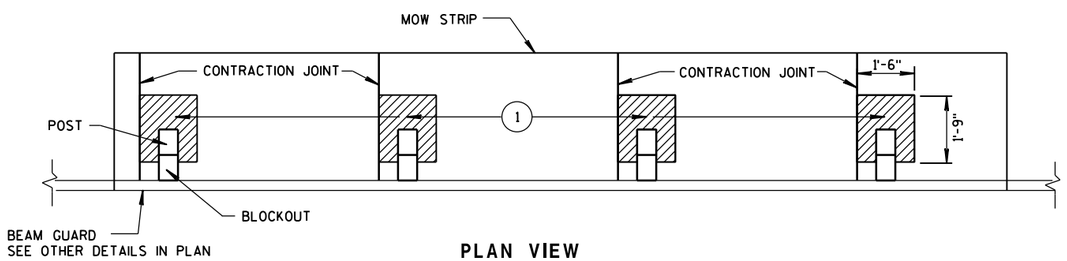


SECTION B-B



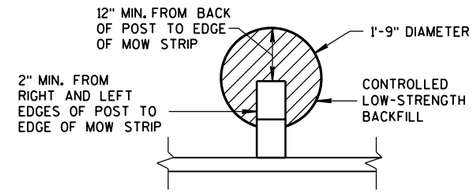
PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP



ALTERNATIVE HMA
MOW STRIP DESIGN

(1) CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.

(2) DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS

(3) FOR EMULSIFIED ASPHALT MOW STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS.)

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
231
NT
FHWA

6

S.D.D. 14 B 28-3

6

S.D.D. 14 B 28-3

GENERAL NOTES

1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

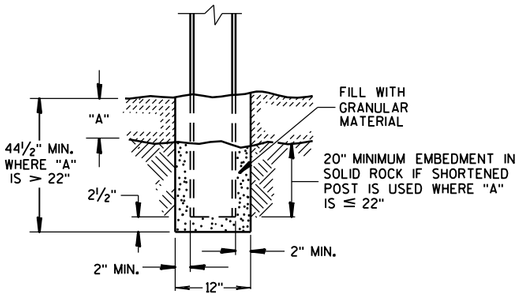
2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

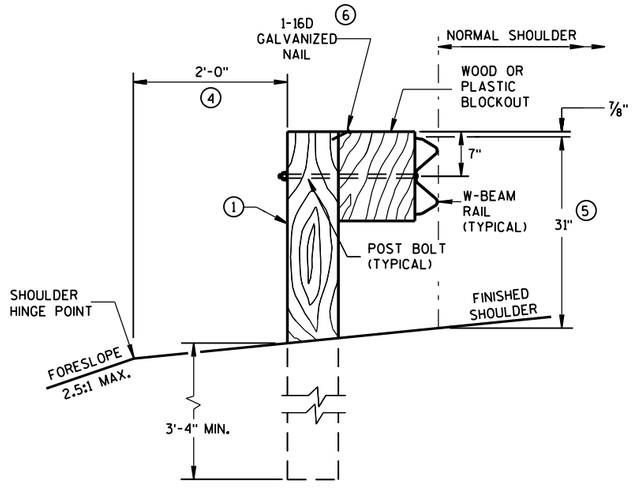
4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

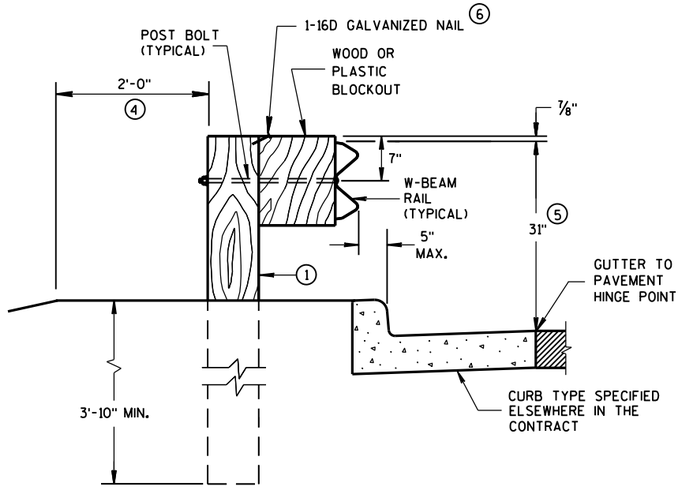
6. WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



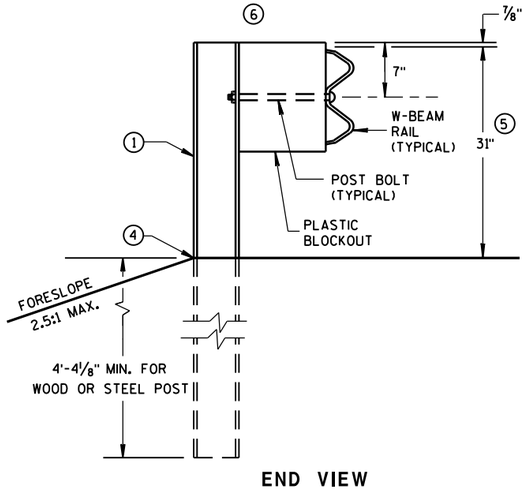
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



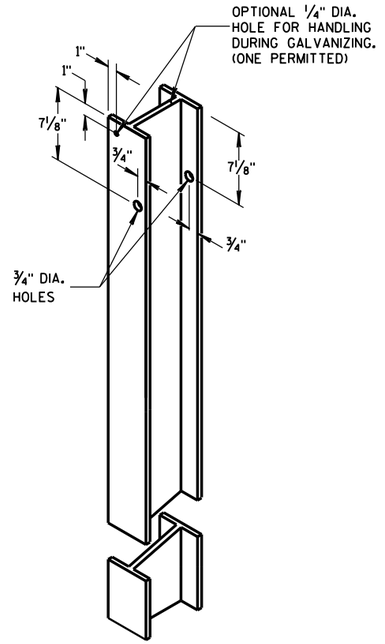
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



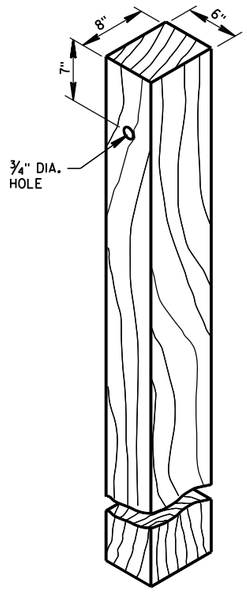
END VIEW
LOCATED ALONG A CURBED ROADWAY



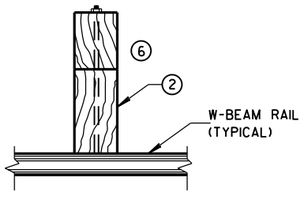
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



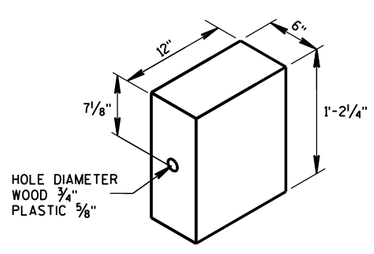
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



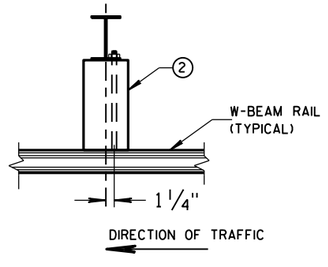
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

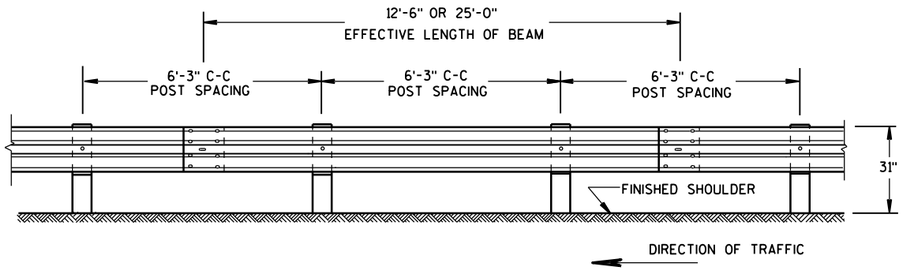


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

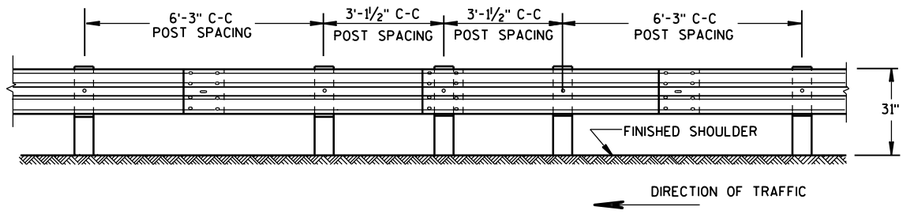
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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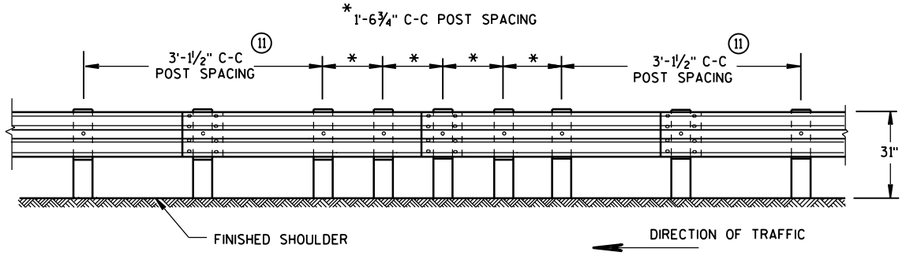
FRONT VIEW

POST SPACING STANDARD INSTALLATION



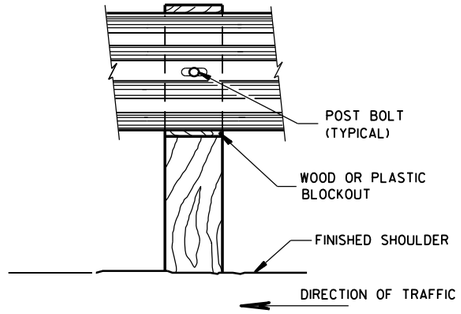
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

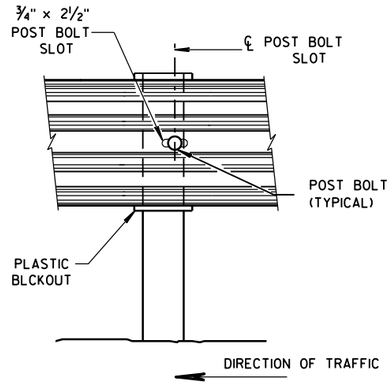


FRONT VIEW

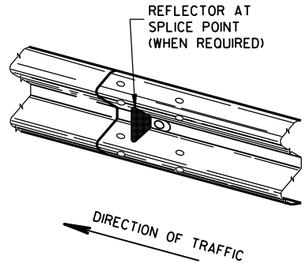
QUARTER POST SPACING (QS)

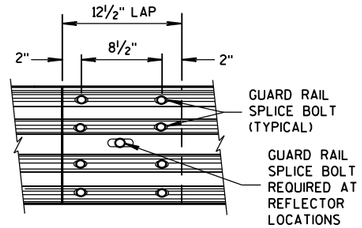


FRONT VIEW AT WOOD POST

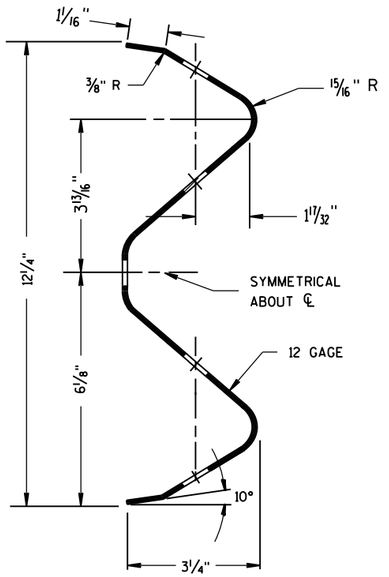


FRONT VIEW AT STEEL POST

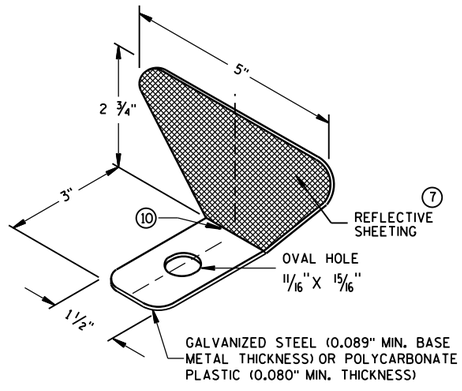




FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ⑧

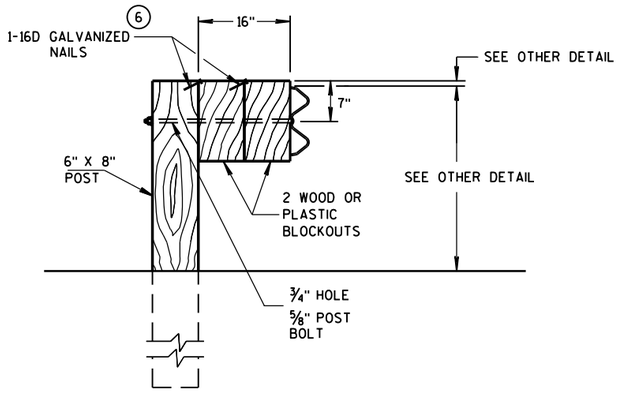
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 ⑨ 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ⑩	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
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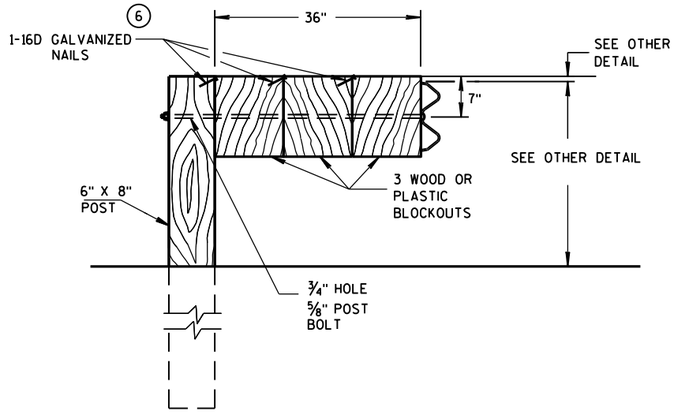
6

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DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

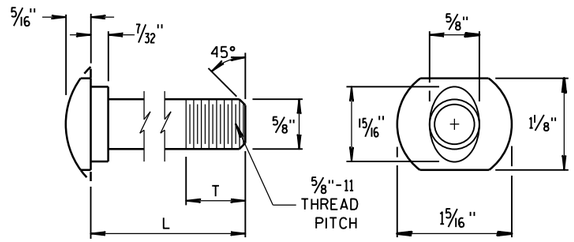


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

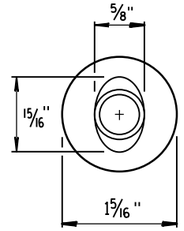
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

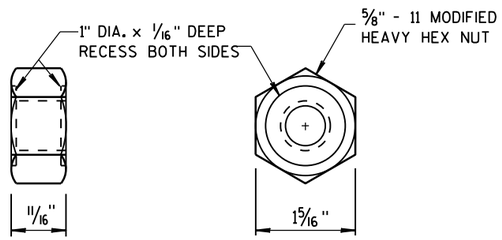


POST BOLT TABLE

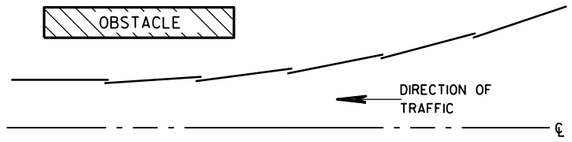
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

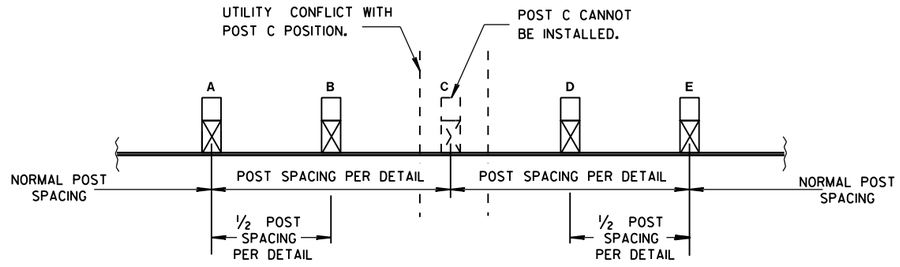


POST BOLT AND RECESS NUT

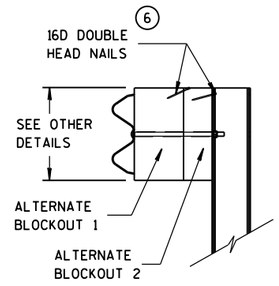


PLAN VIEW

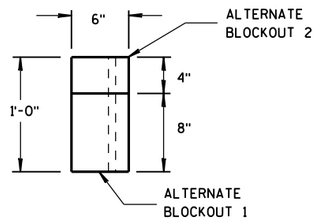
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

6
S.D.D. 14 B 42-3c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

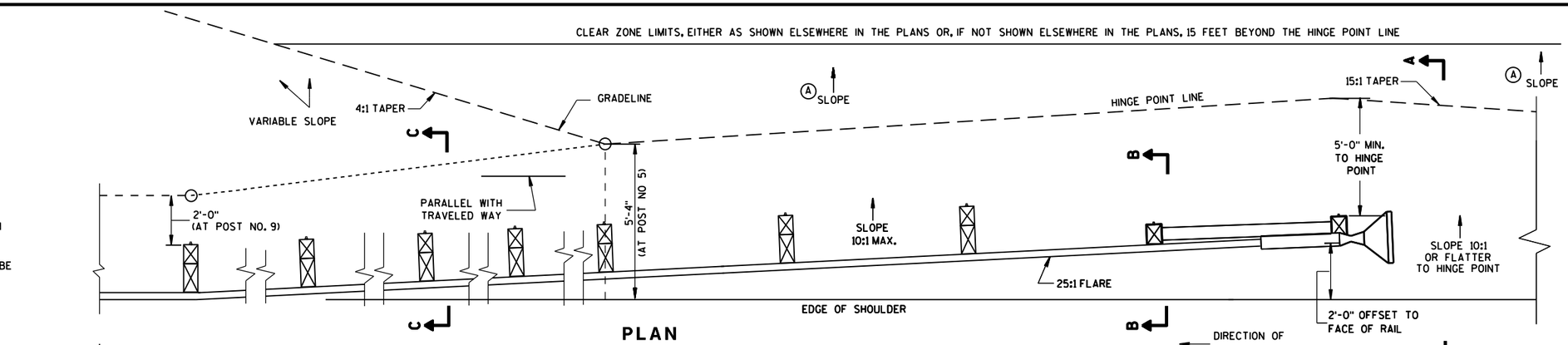
SEE SDD 14B42 FOR MORE INFORMATION.

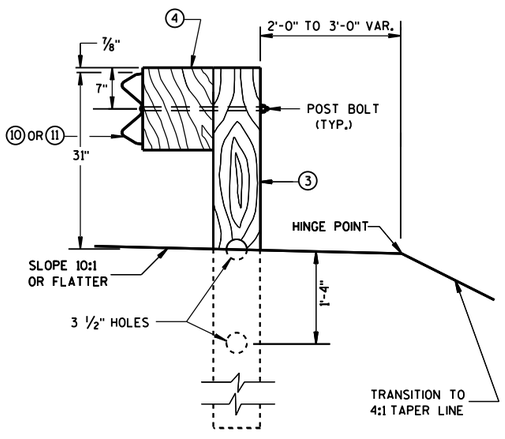
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

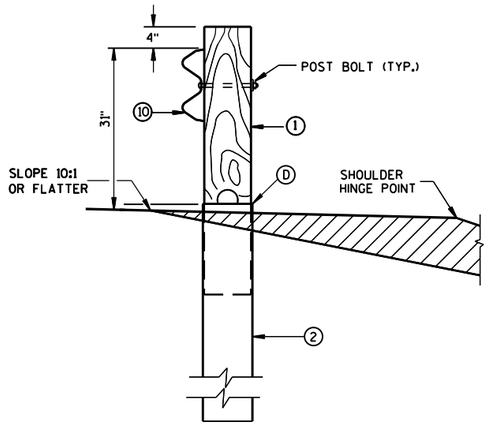
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

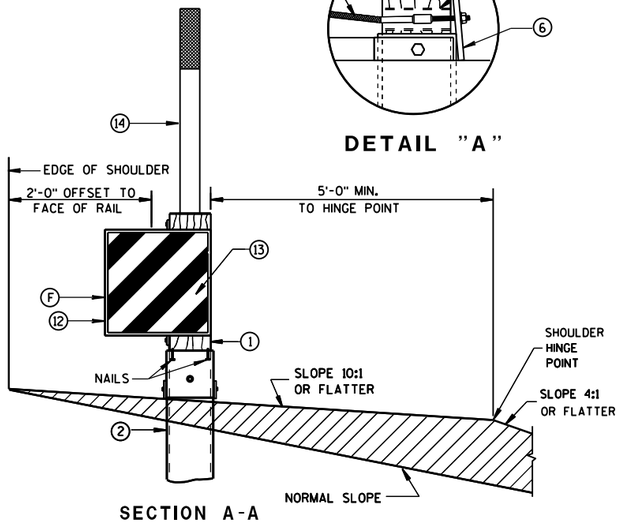




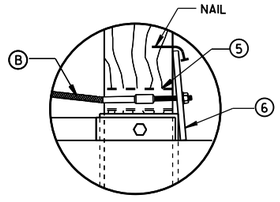
SECTION C-C
TYPICAL AT POST NOS. 3-9



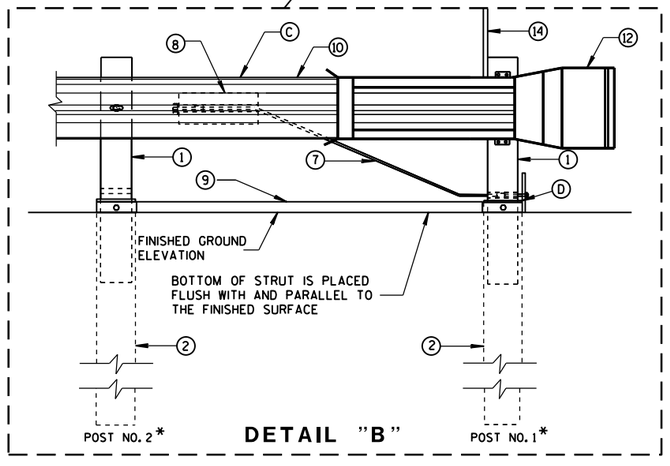
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



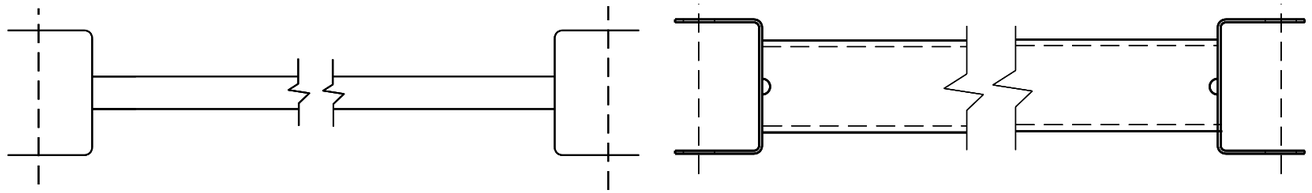
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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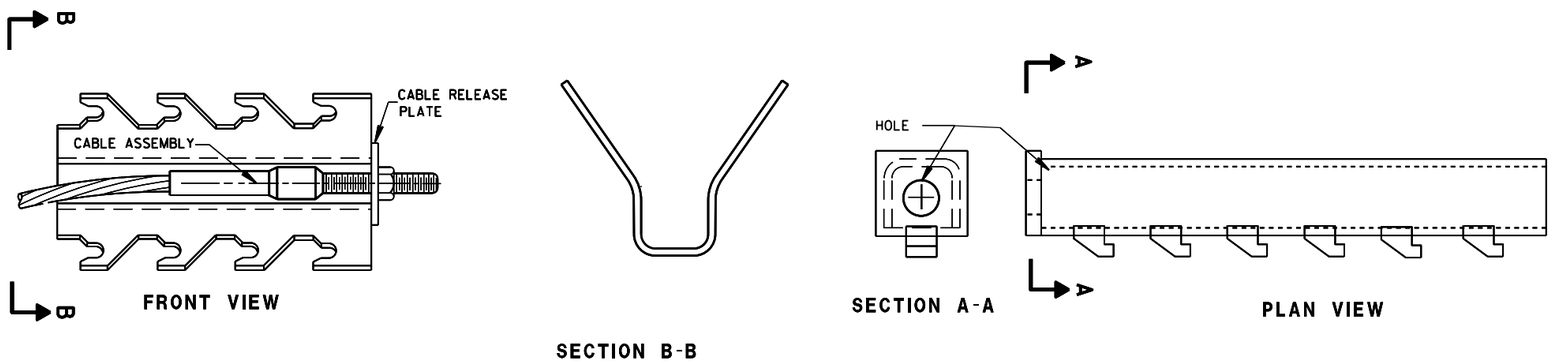
S.D.D. 14 B 44-2a



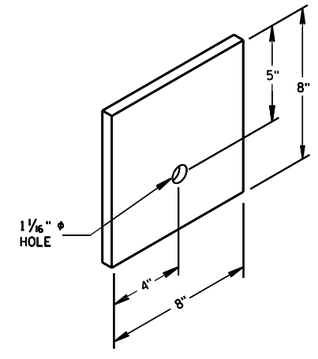
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX (8) (H)

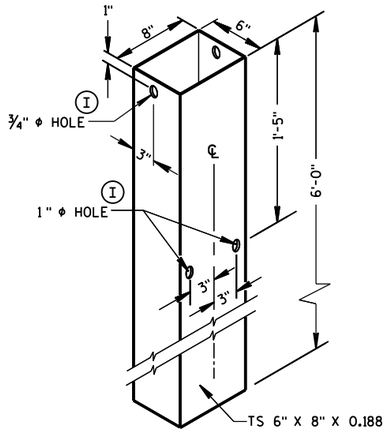


BEARING PLATE (6)

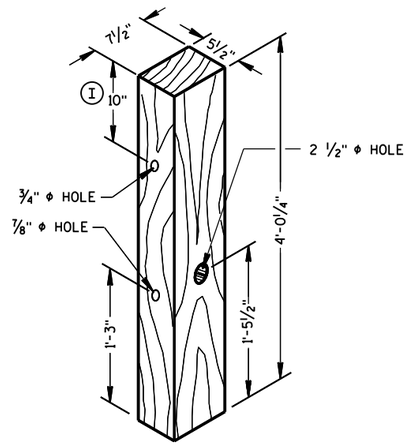
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 44-2b

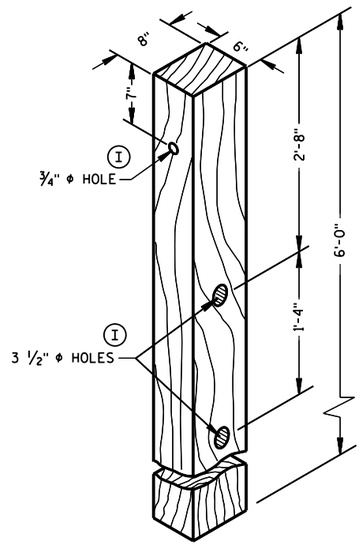


FOUNDATION TUBE (2)



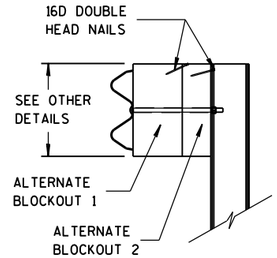
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

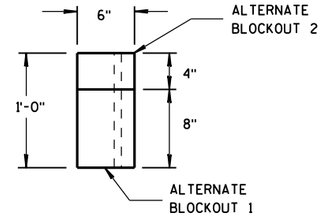


POSTS NUMBER 3-9

WOOD CRT POST (3)

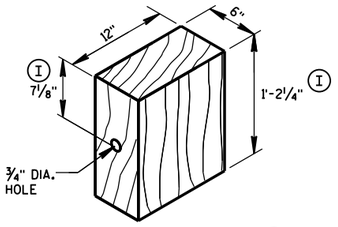


SIDE VIEW



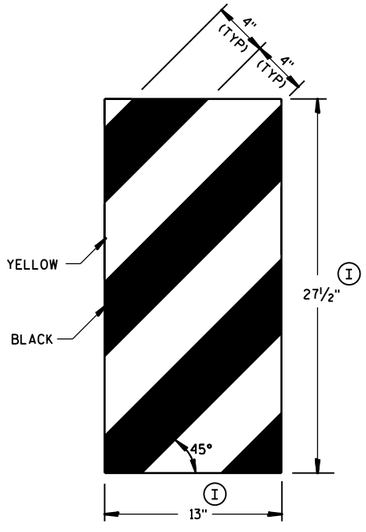
TOP VIEW

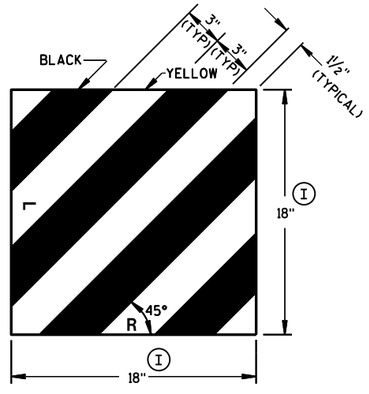
ALTERNATE WOOD BLOCKOUT DETAIL



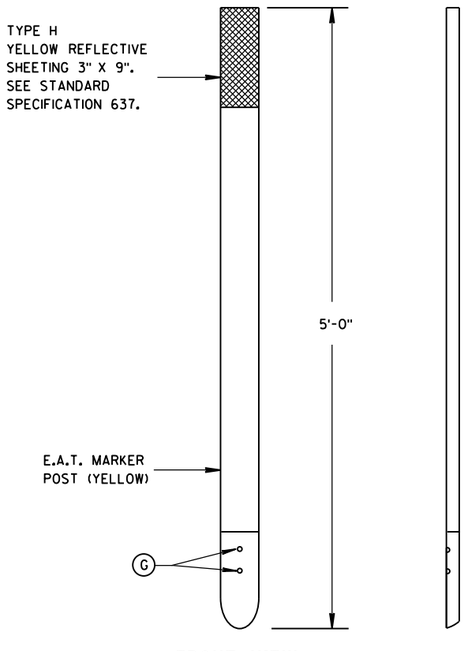
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





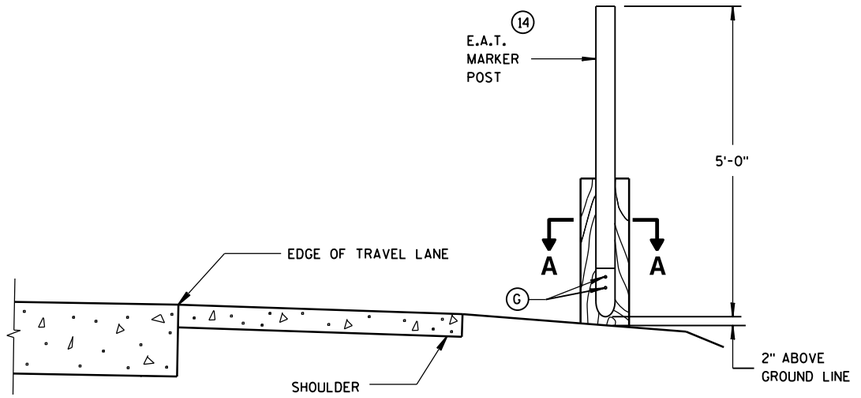
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

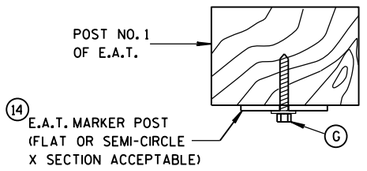
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



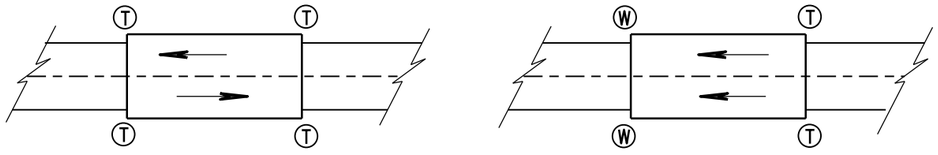
SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6
S.D.D. 14 B 44-2c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

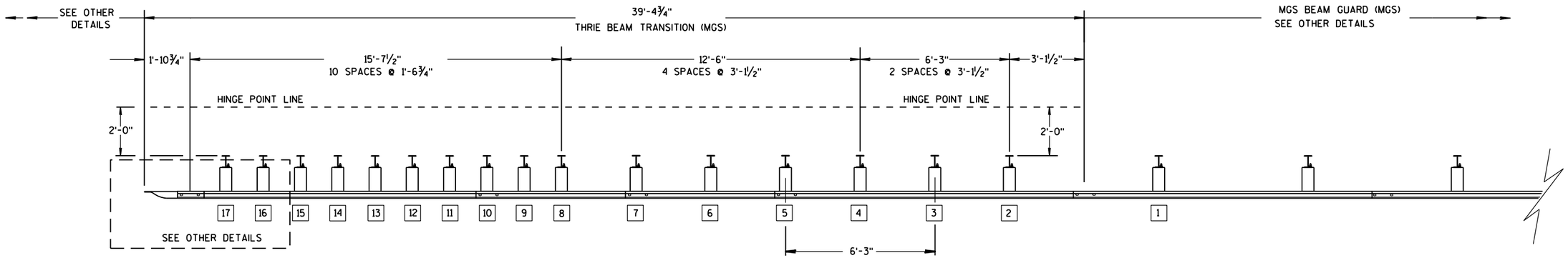
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

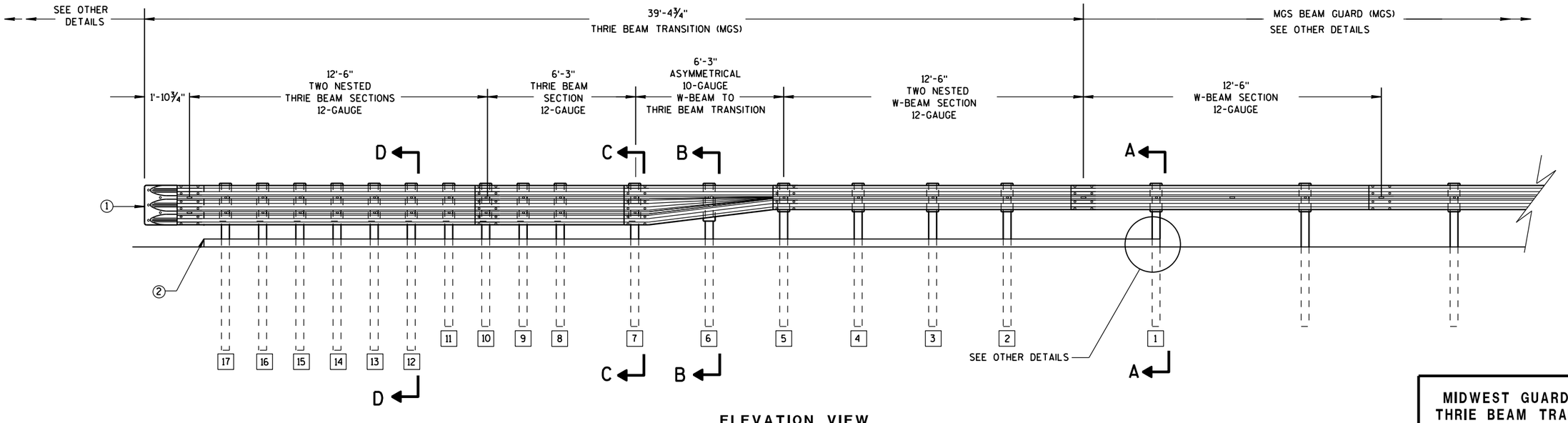
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 45-4a

6

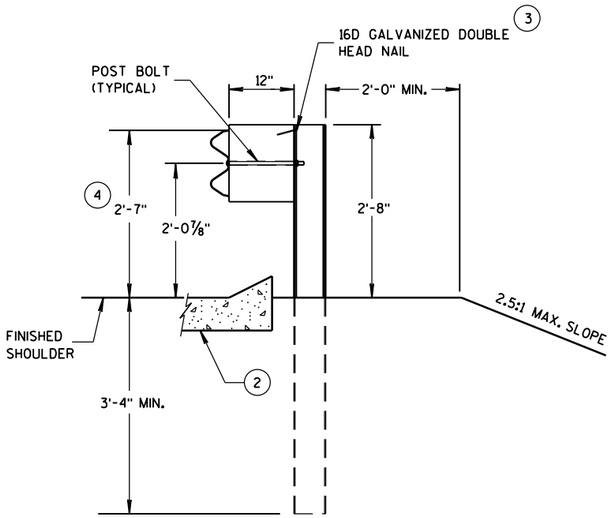
S.D.D. 14 B 45-4a

GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

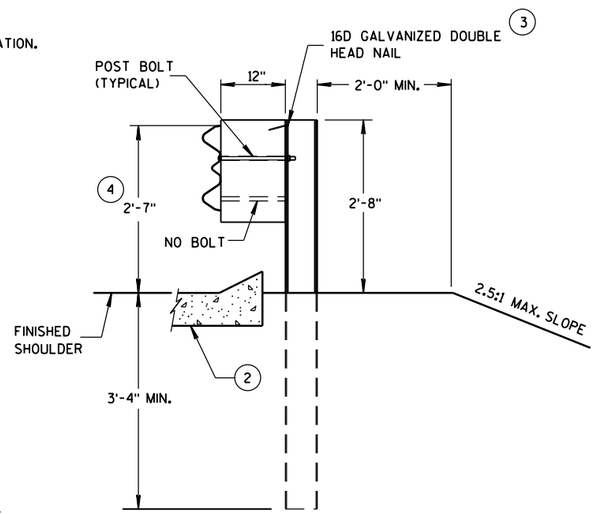
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



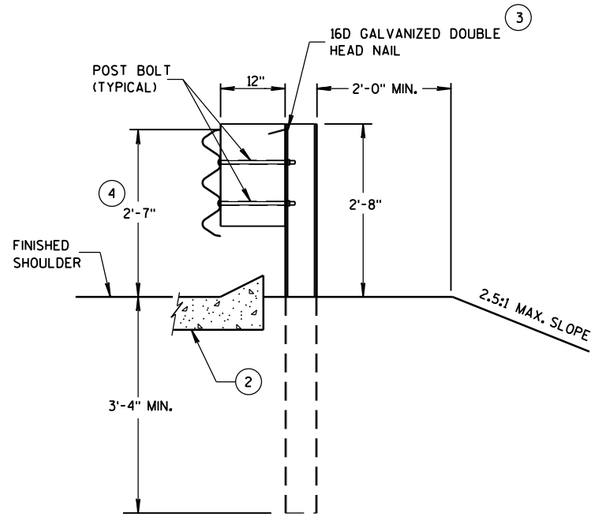
SECTION A-A

POSTS 1-5



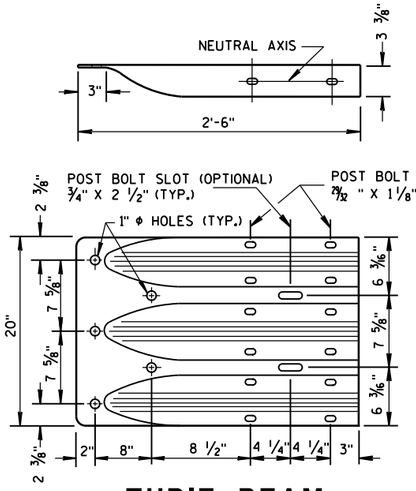
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

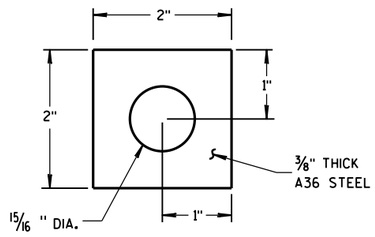
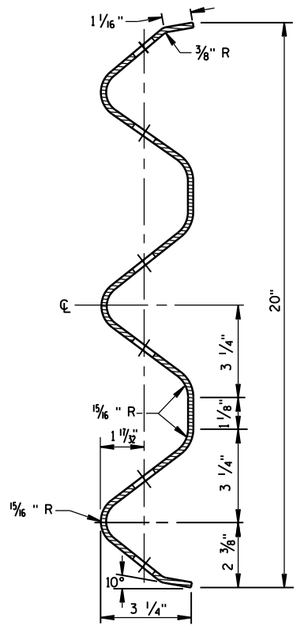
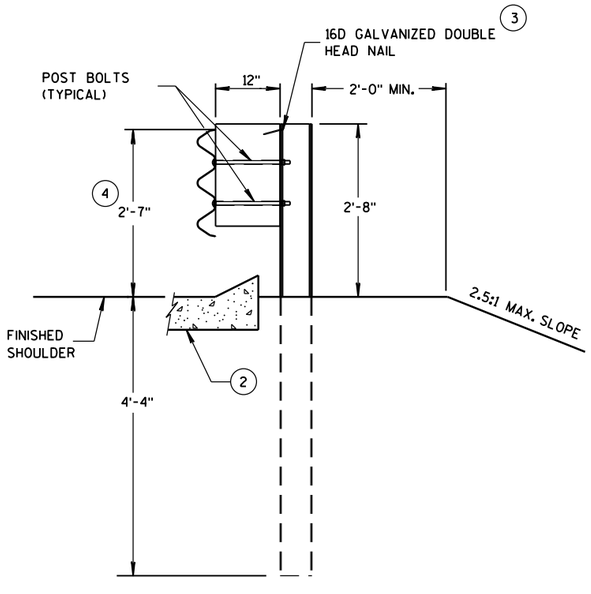


PLATE WASHER DETAIL

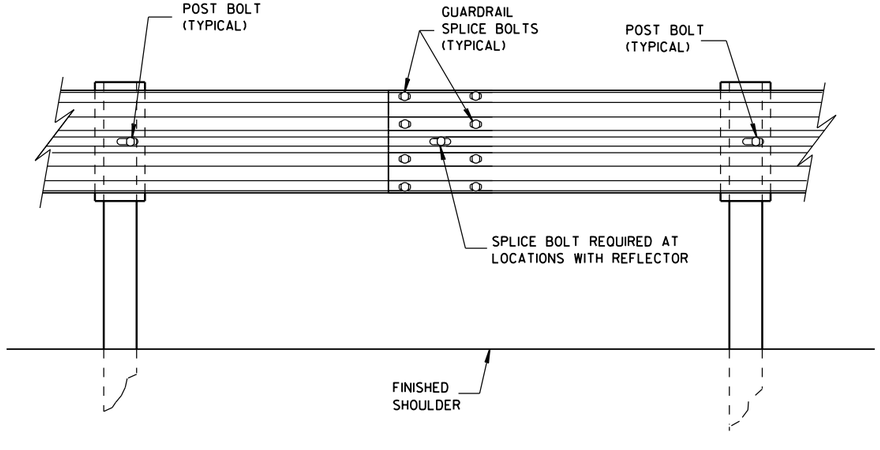


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



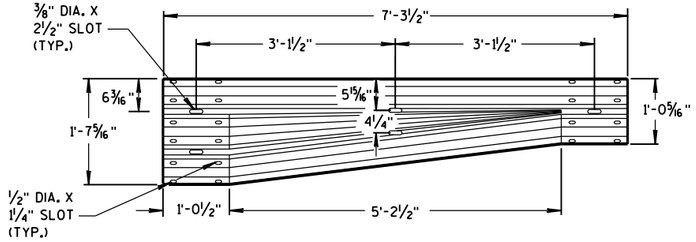
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

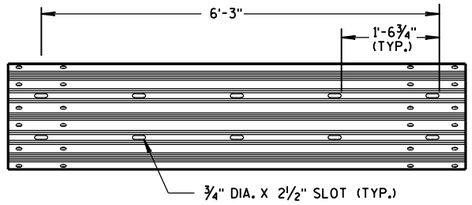
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

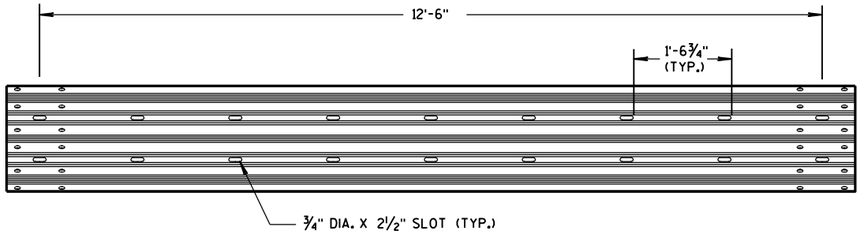
S.D.D. 14 B 45-4b



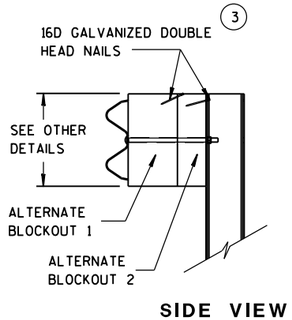
W-BEAM TO THRIE BEAM TRANSITION SECTION



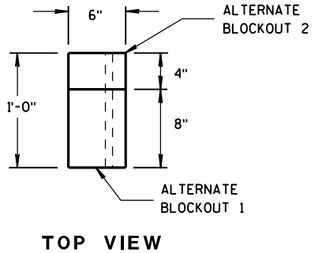
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

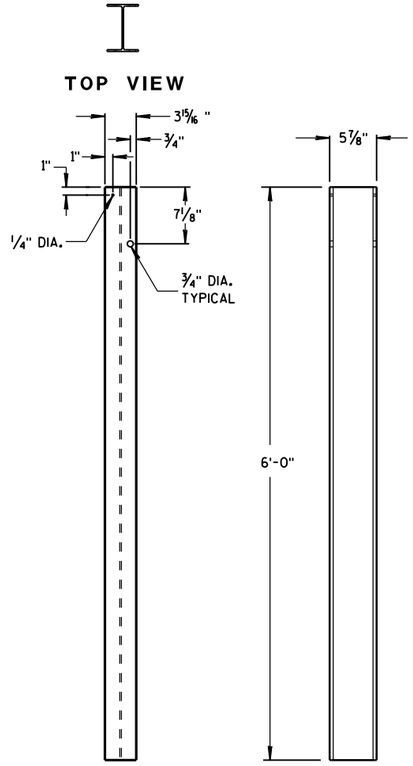


SIDE VIEW



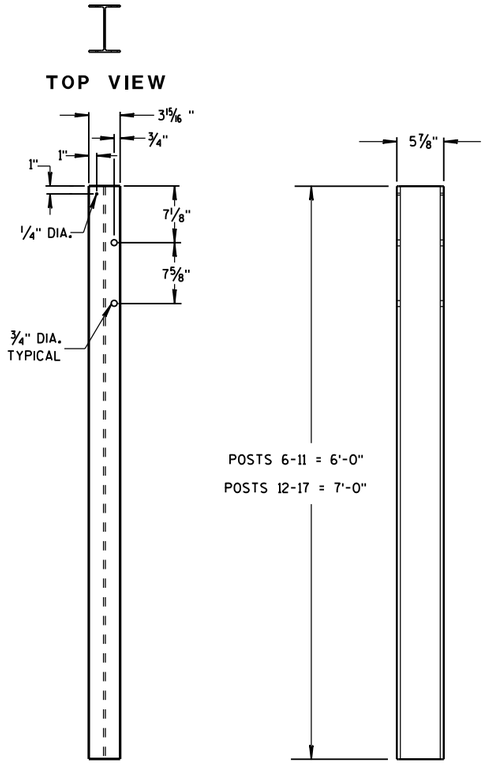
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



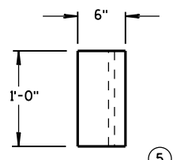
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5

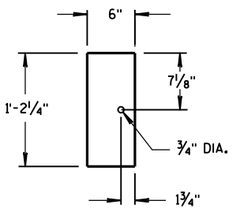


FRONT VIEW SIDE VIEW

STEEL POSTS 6-17

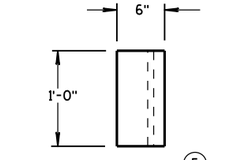


TOP VIEW

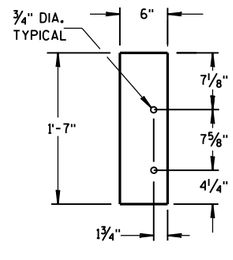


FRONT VIEW

BLOCKOUT POSTS 1-5



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

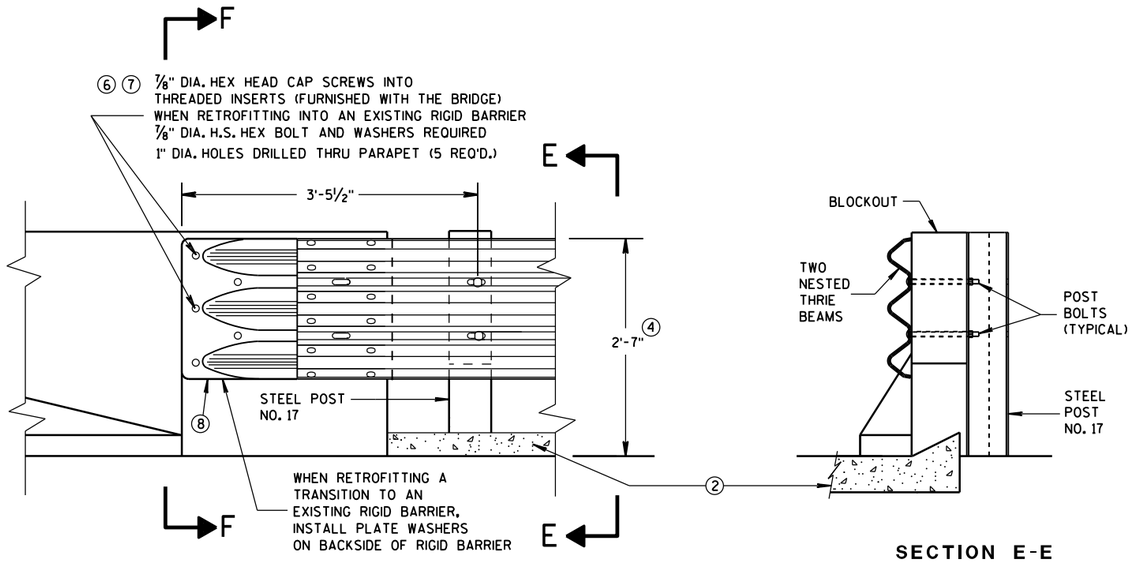
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-4c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

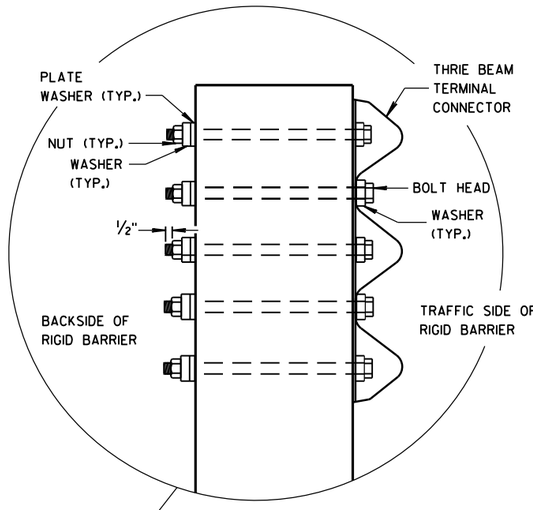
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

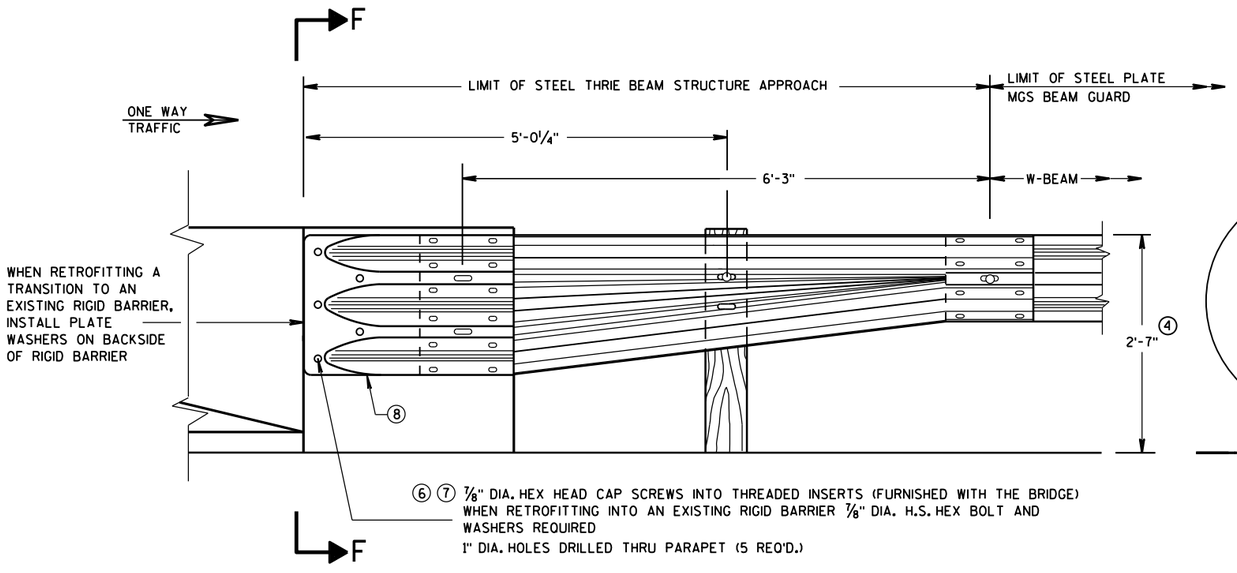
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

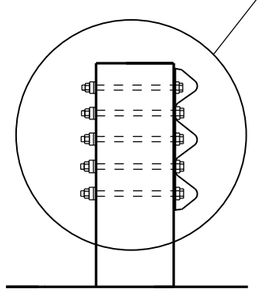
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

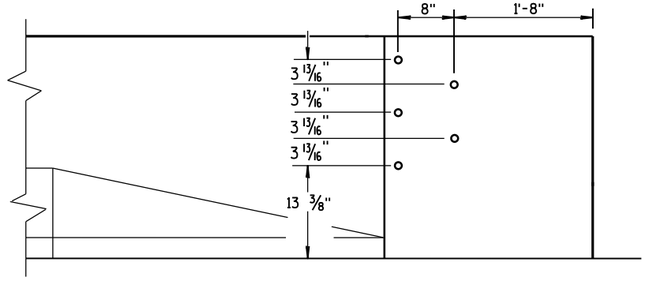




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

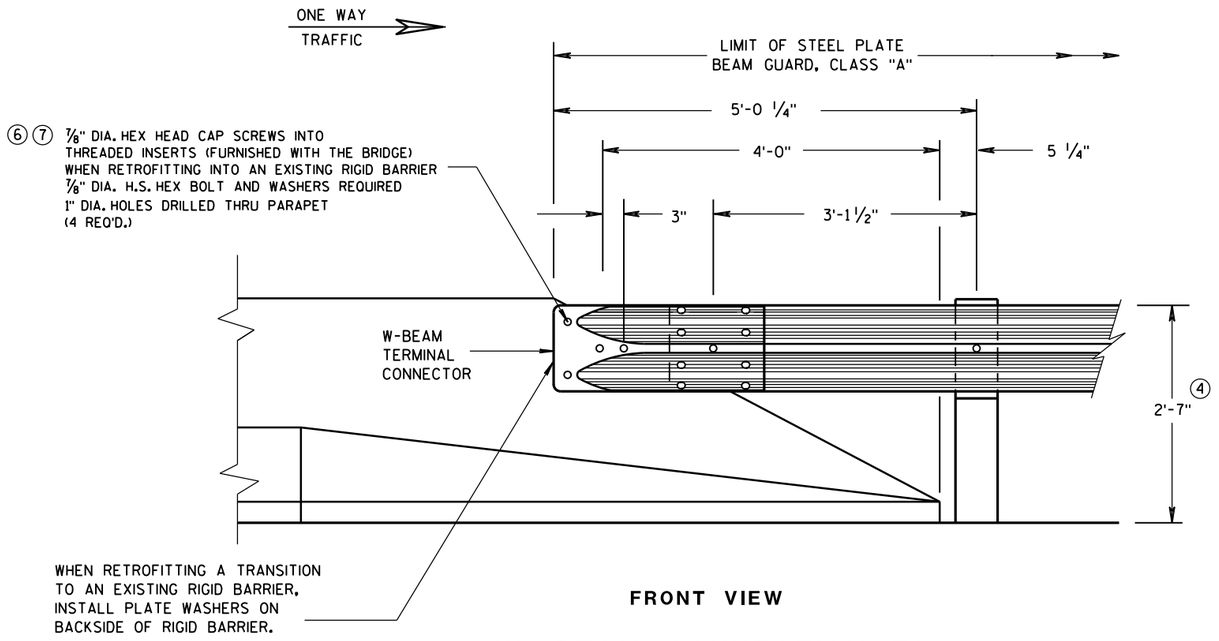
APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA
NT

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S.D.D. 14 B 45-4d

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S.D.D. 14 B 45-4d



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

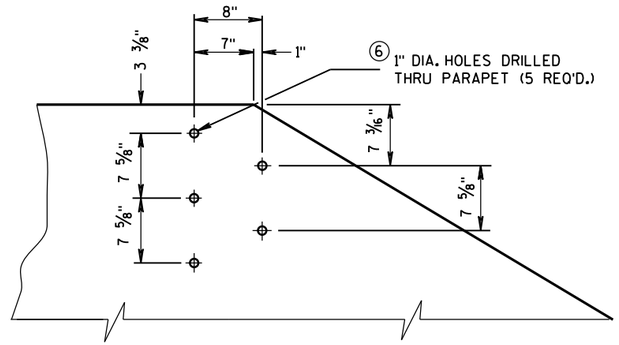
GENERAL NOTES

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

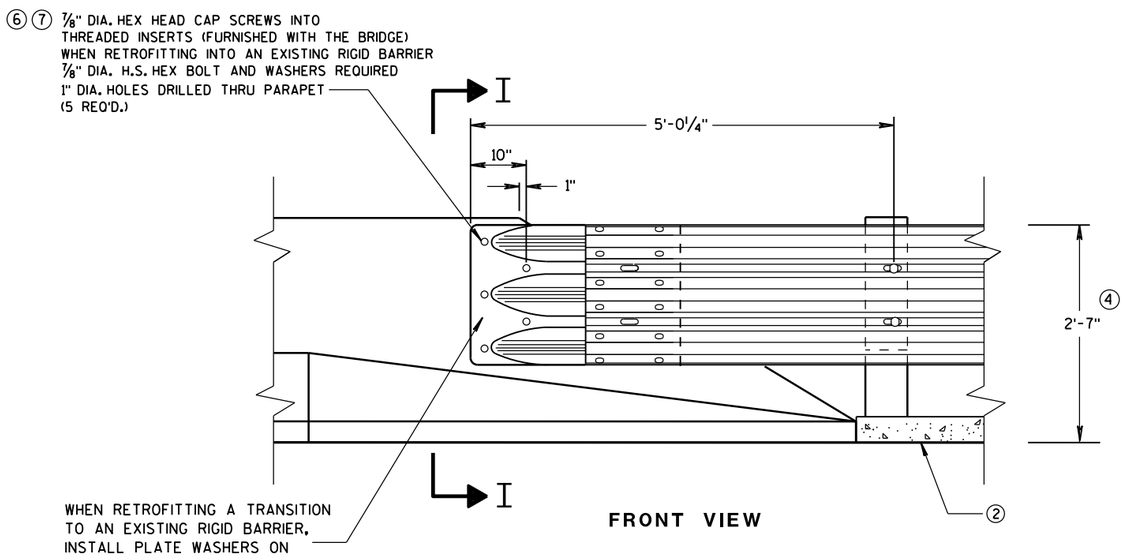
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

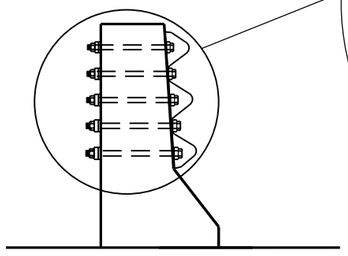
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



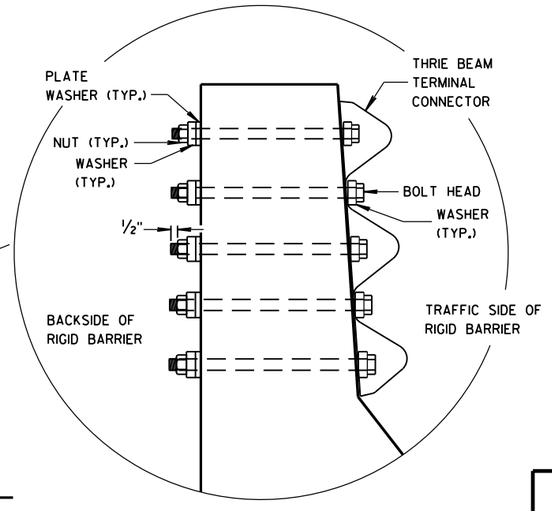
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 14 B 45-4f

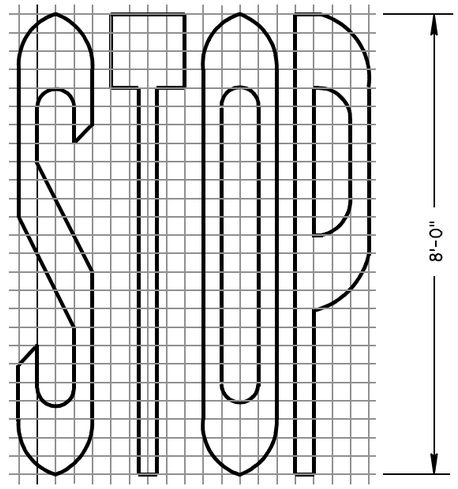
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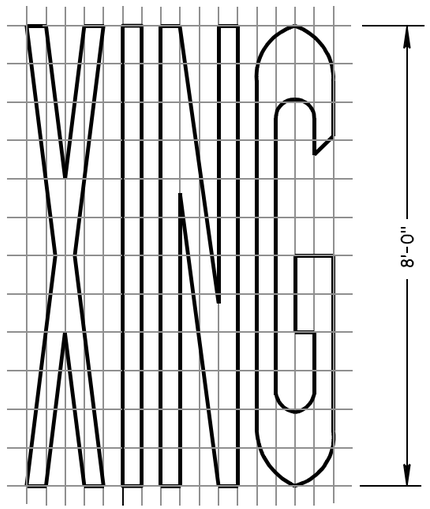
S.D.D. 14 B 45-4f

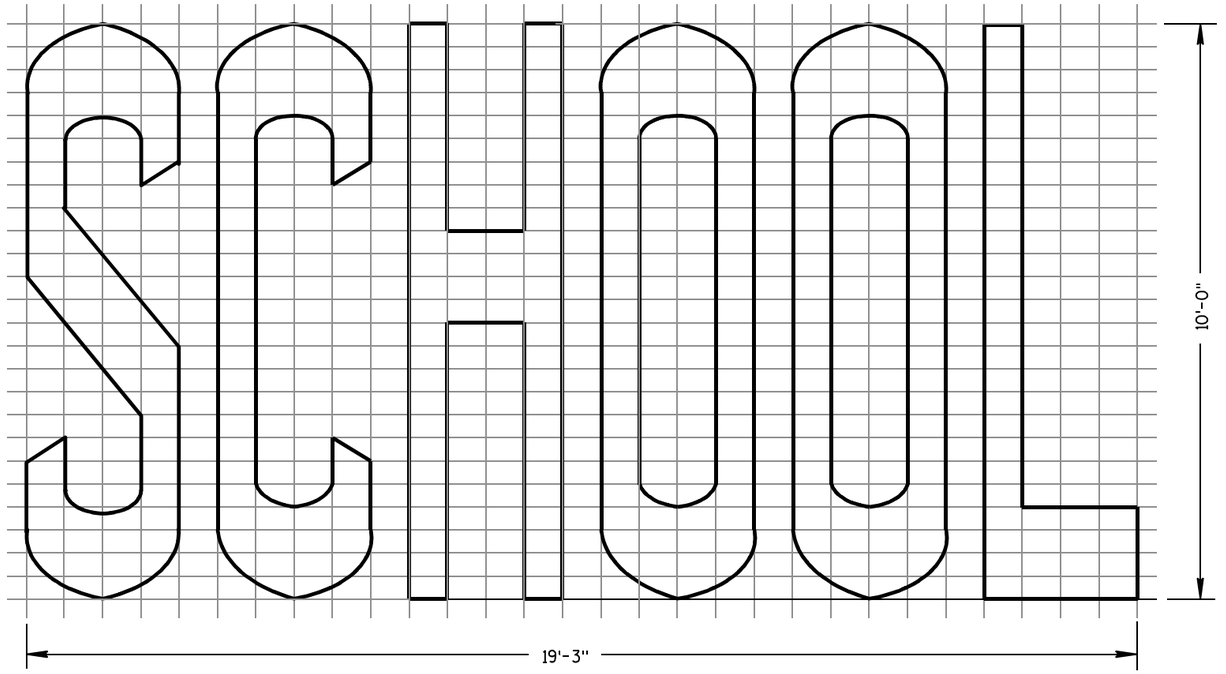
GENERAL NOTES

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

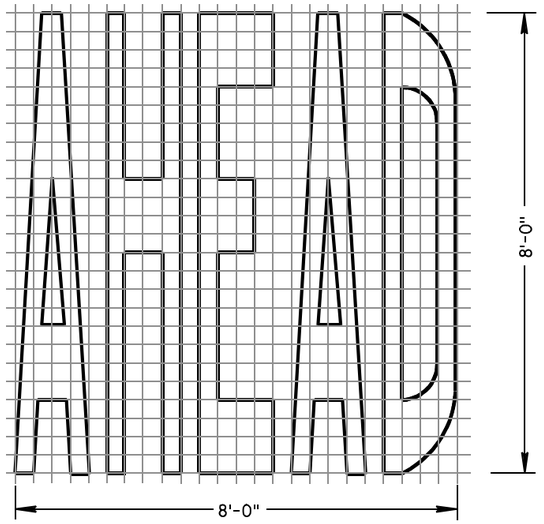
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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

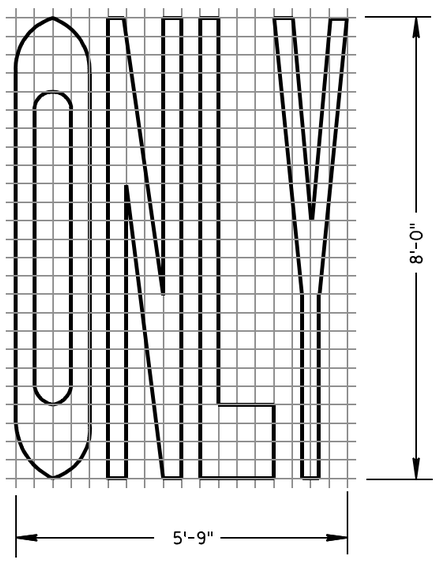


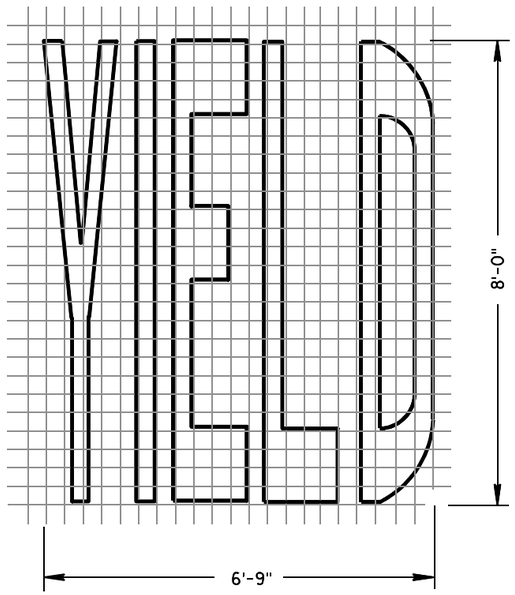


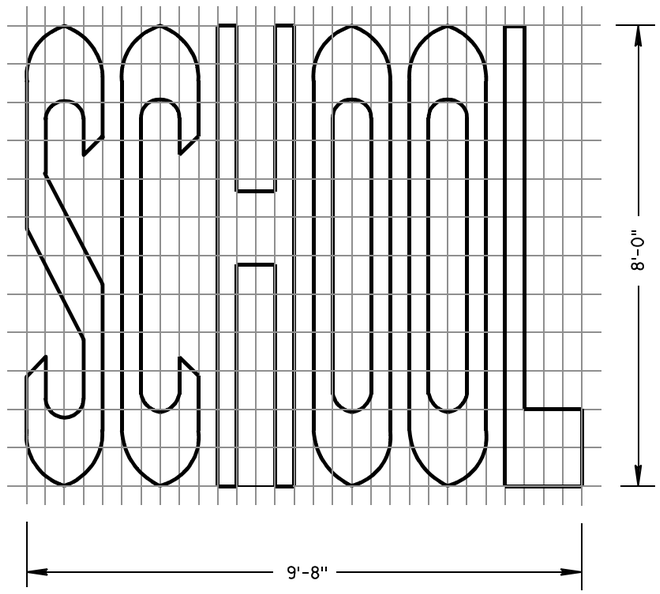


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 DATE — /S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER

FHWA

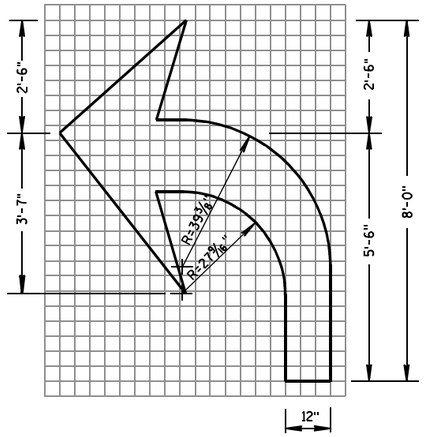
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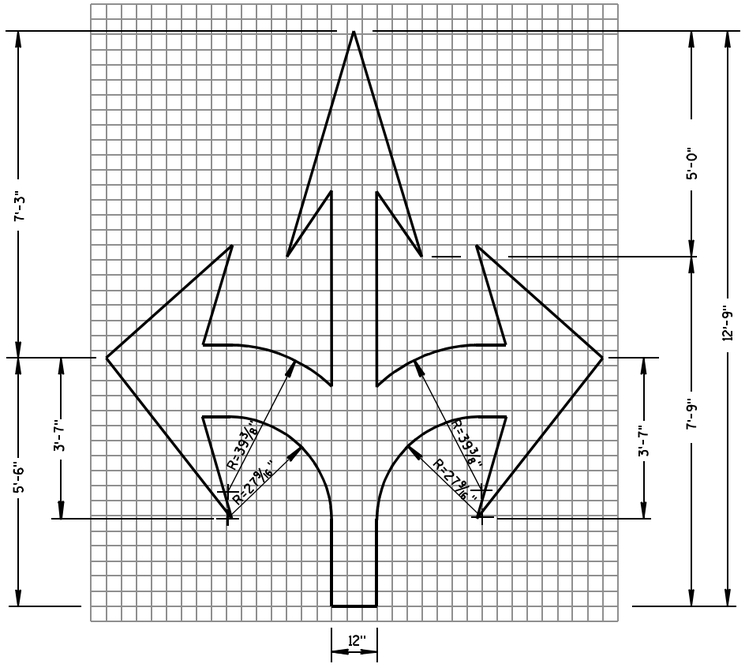
S.D.D. 15 C 7-12b

6

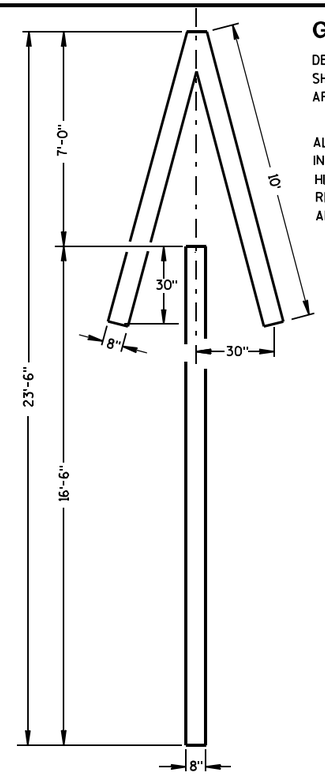
S.D.D. 15 C 7-12b



TYPE 2



TYPE 6

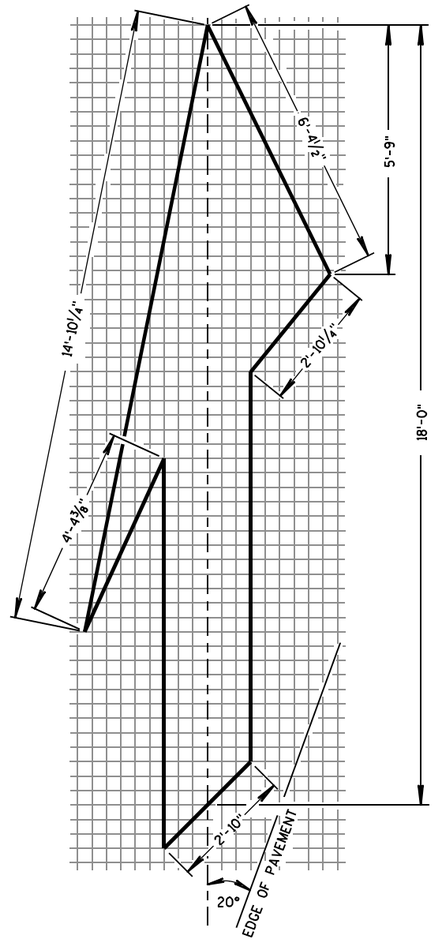


TYPE 4

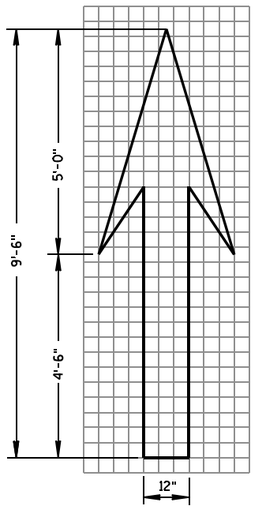
GENERAL NOTES

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.

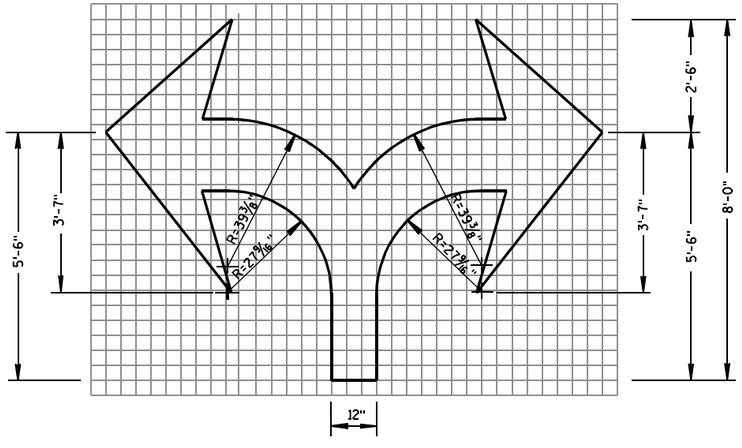
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



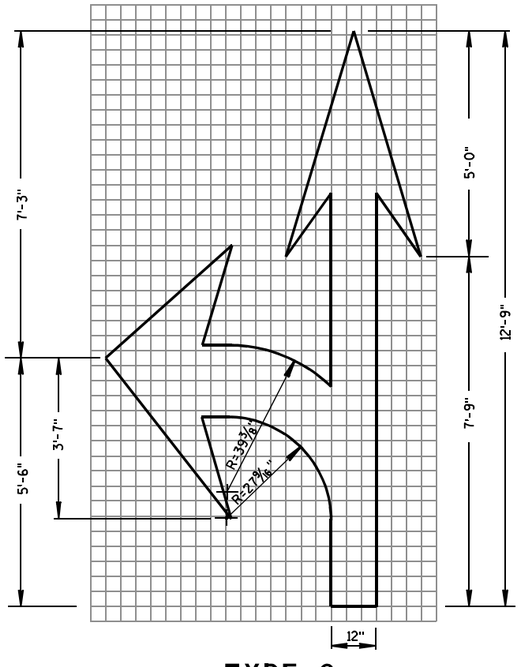
TYPE 5 LANE DROP ARROW



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

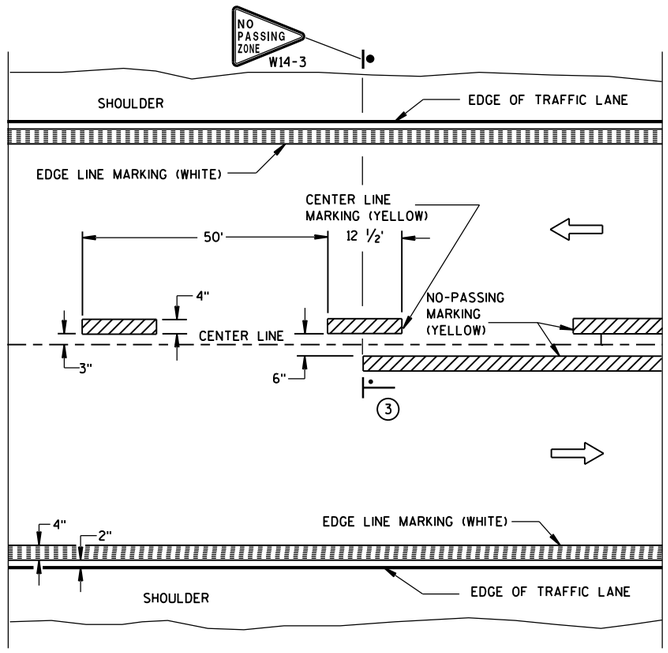
FHWA

6

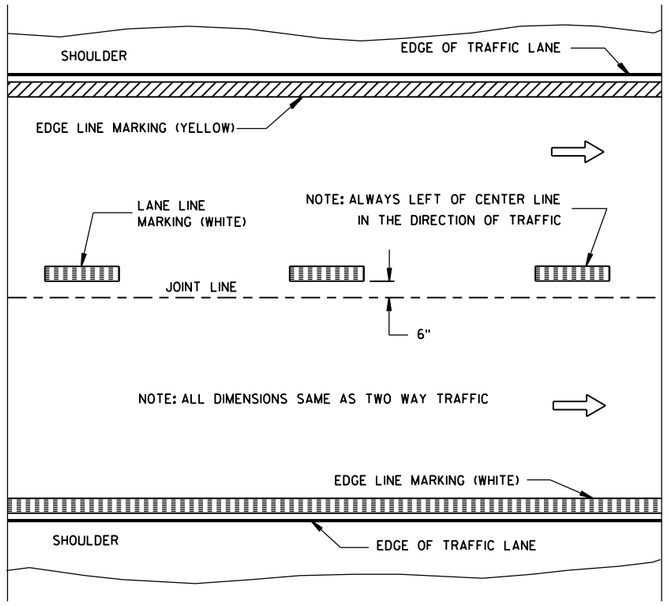
S.D.D. 15 C 7-12c

6

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

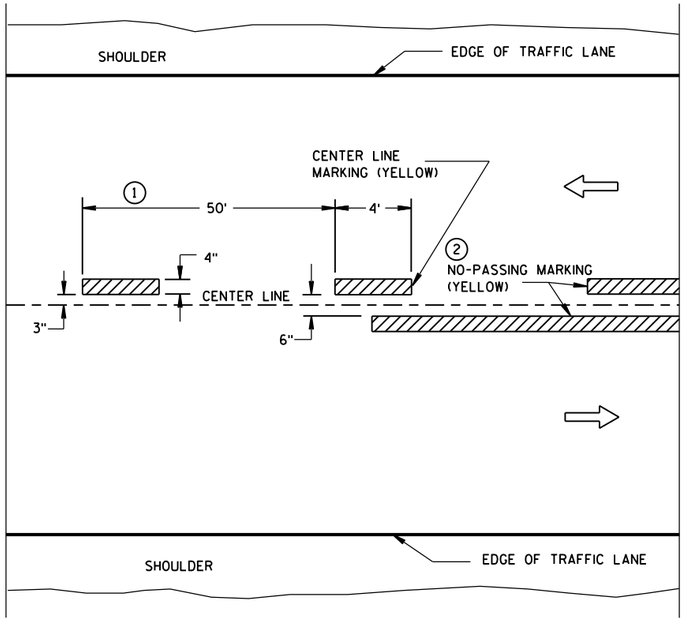


TWO WAY TRAFFIC

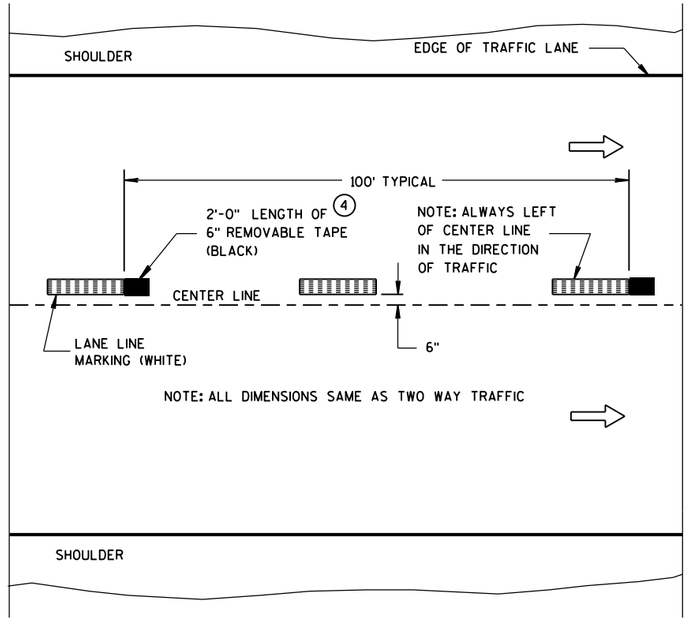


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

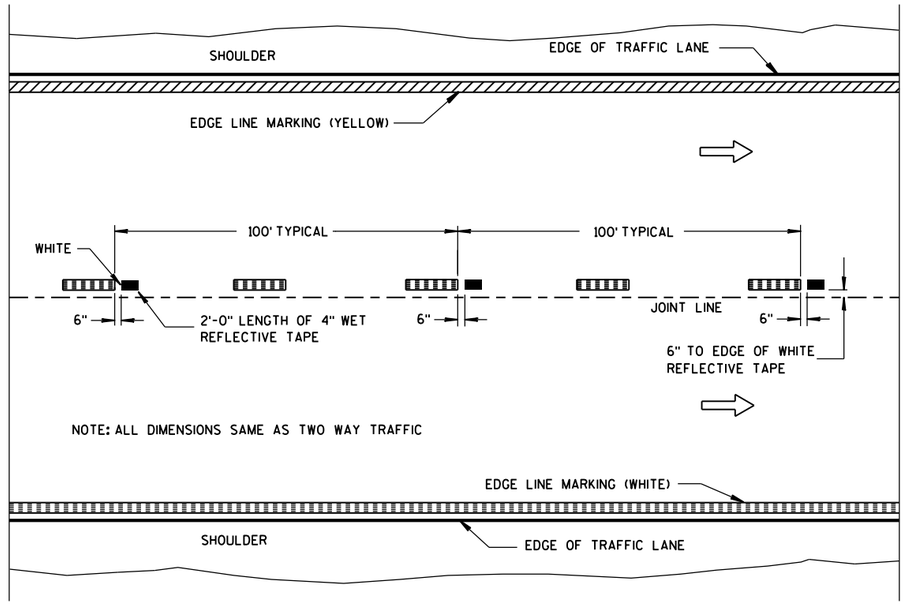
GENERAL NOTES

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

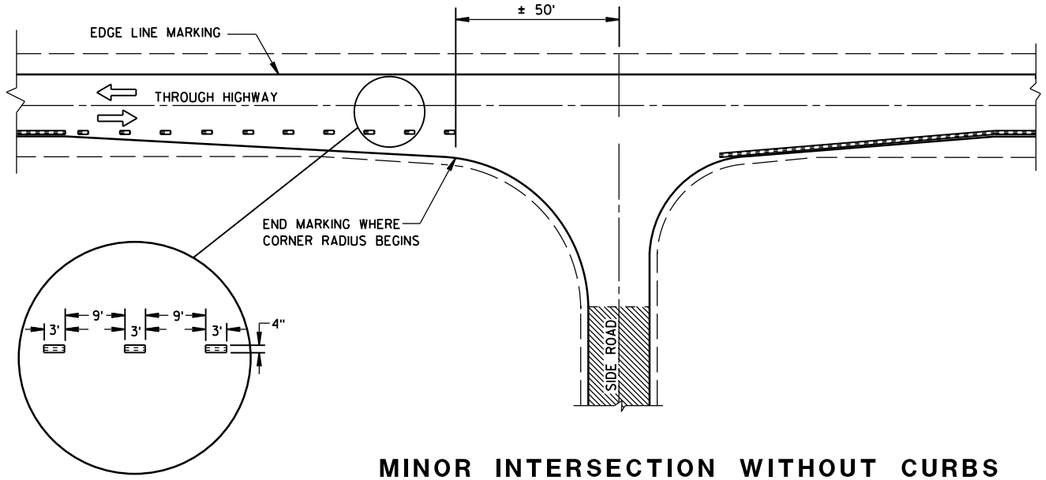
FHWA

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.

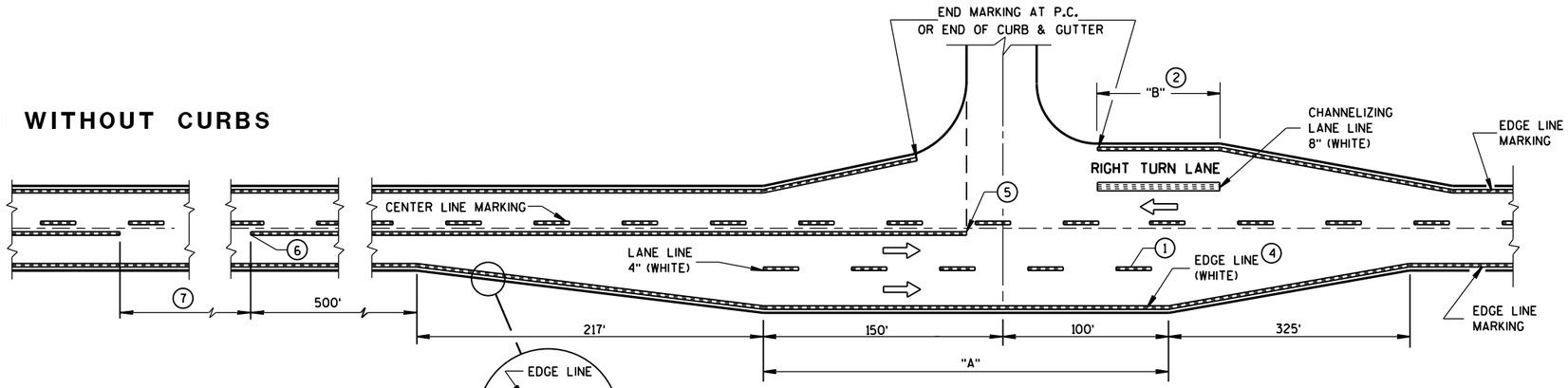
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

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

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

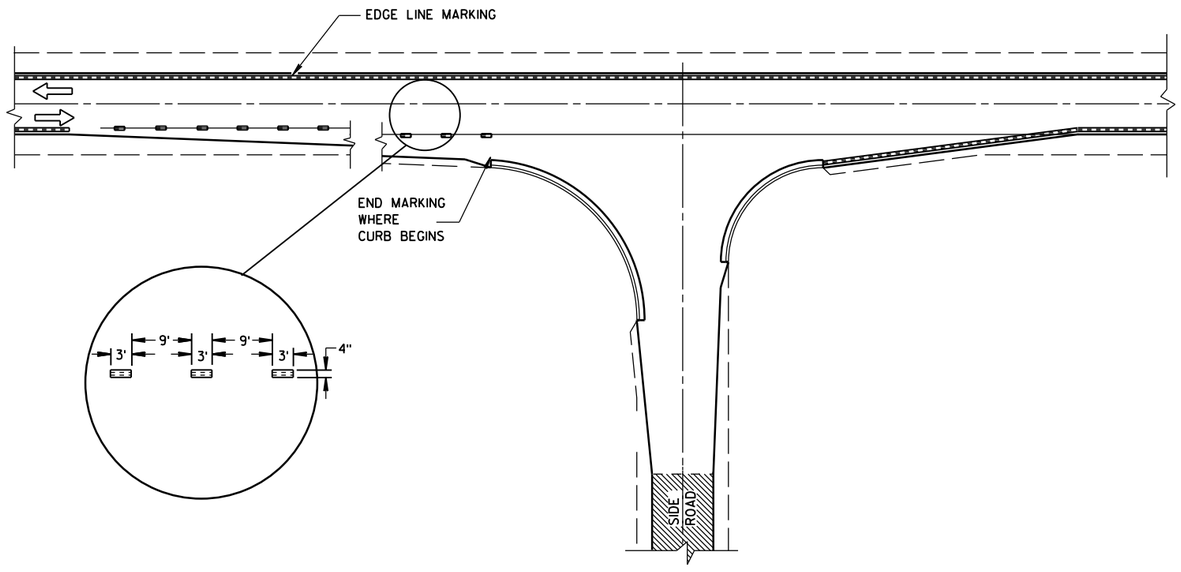
(7)

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



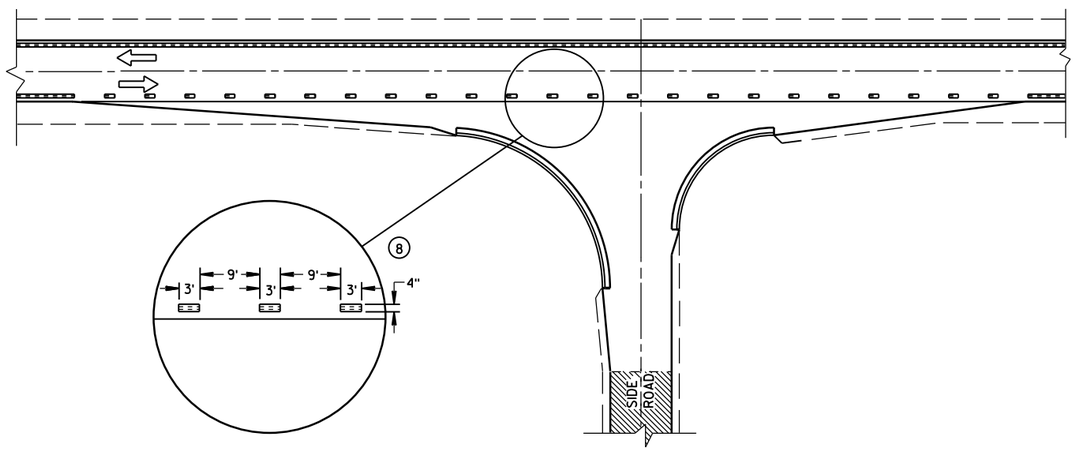
MAJOR INTERSECTIONS

(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)

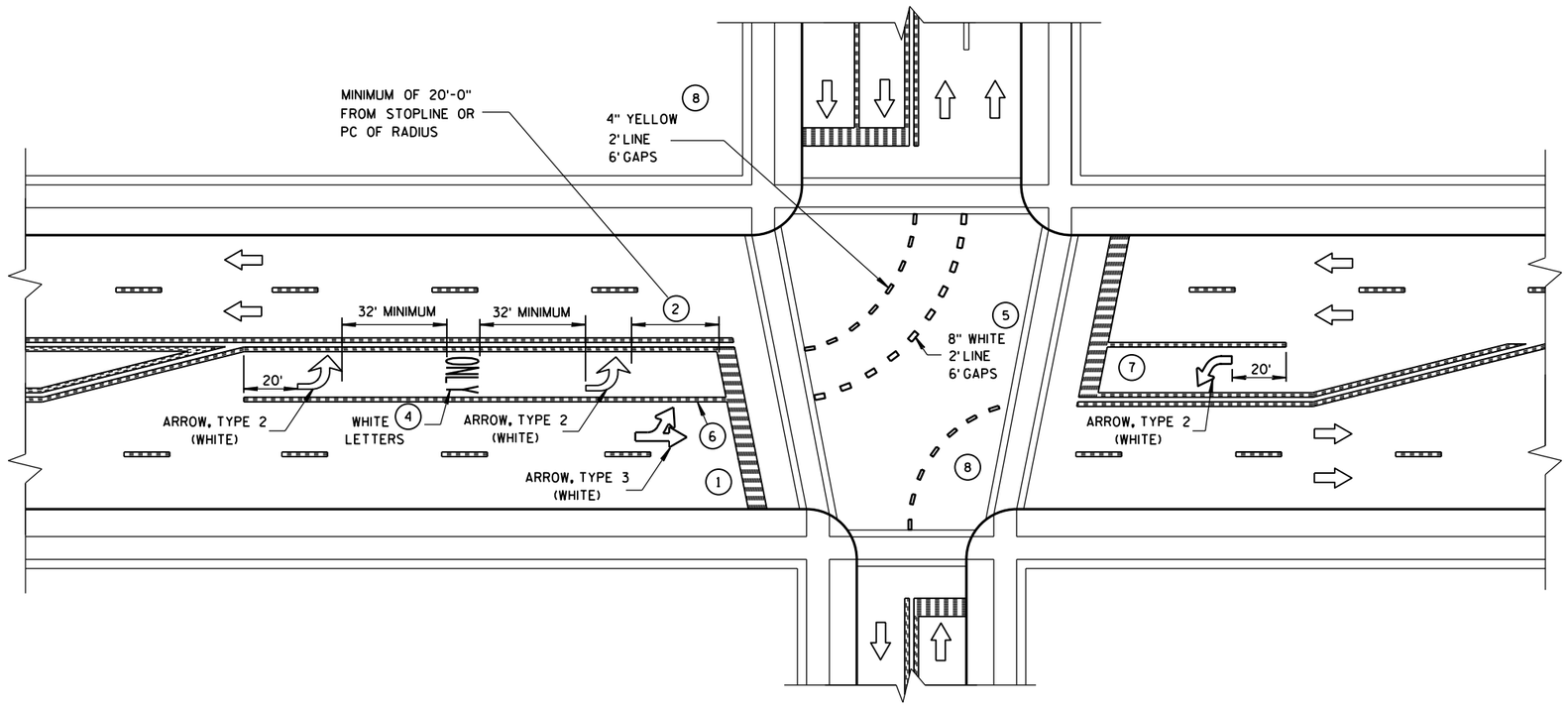
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

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

6

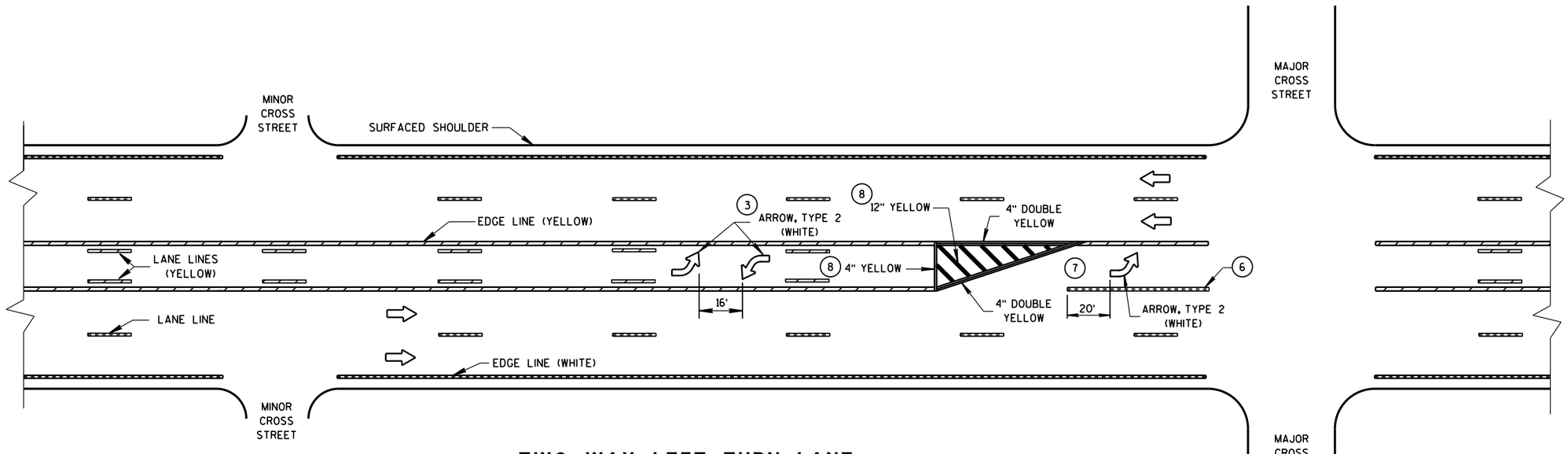
S.D.D. 15 C 8-16b



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

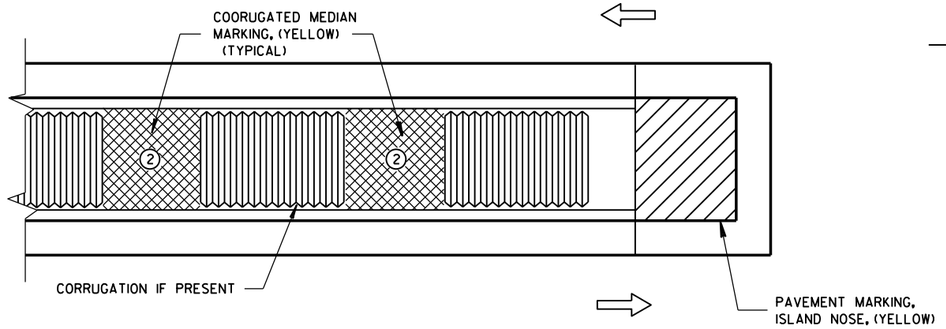
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

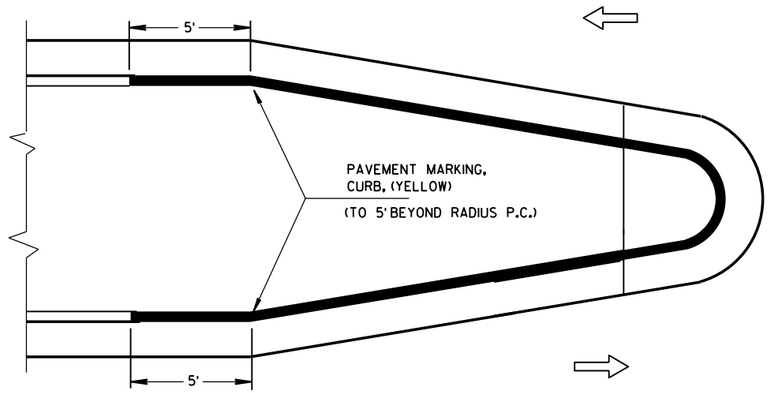
S.D.D. 15 C 8-16e

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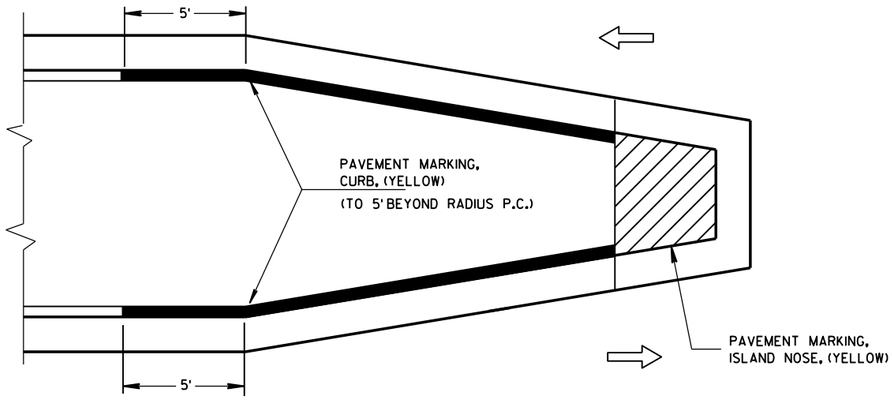
S.D.D. 15 C 8-16e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

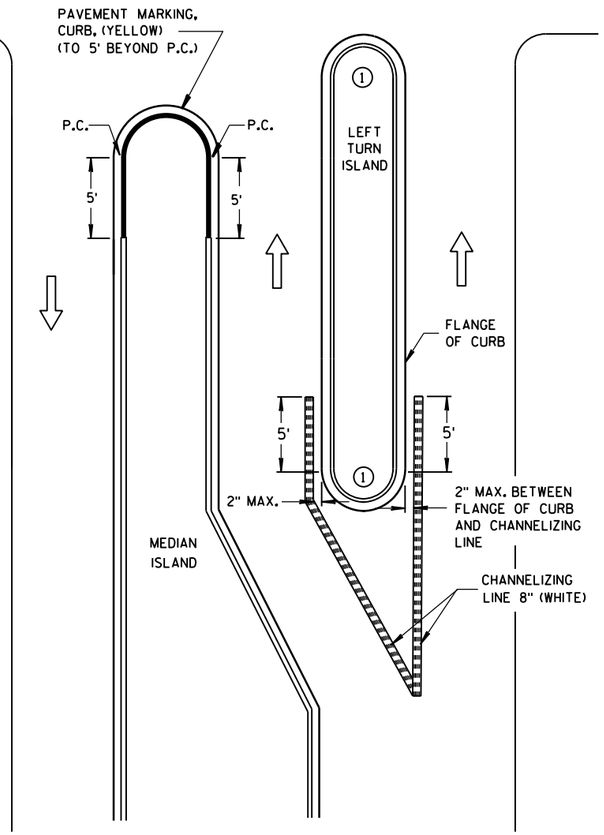


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

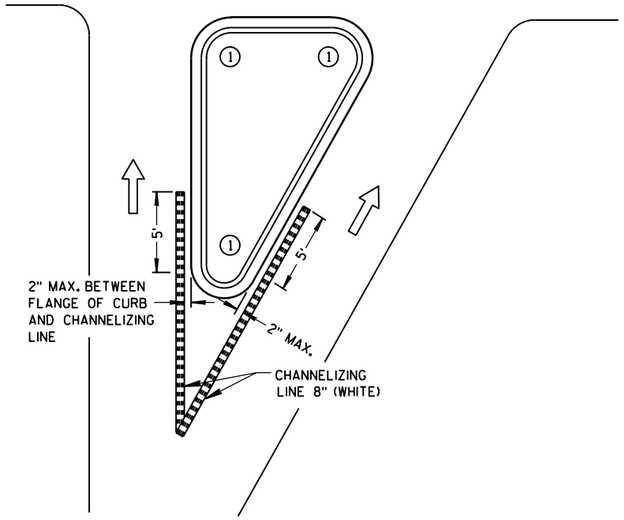


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

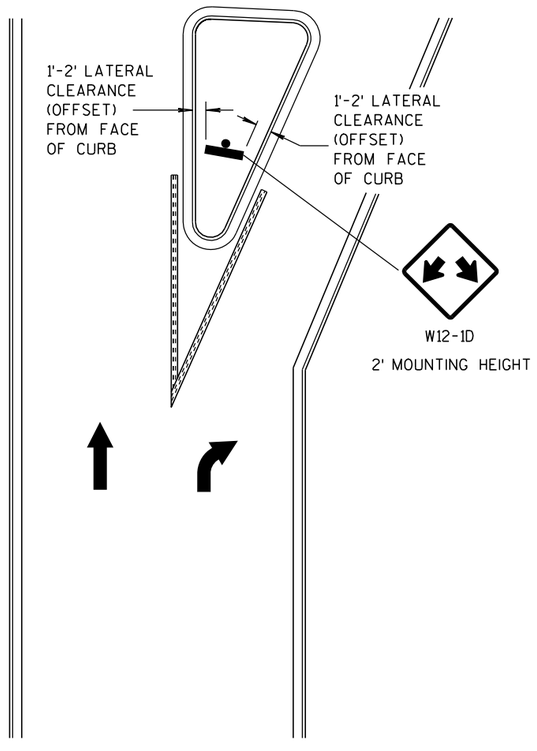
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S.D.D. 15 C 8-16f

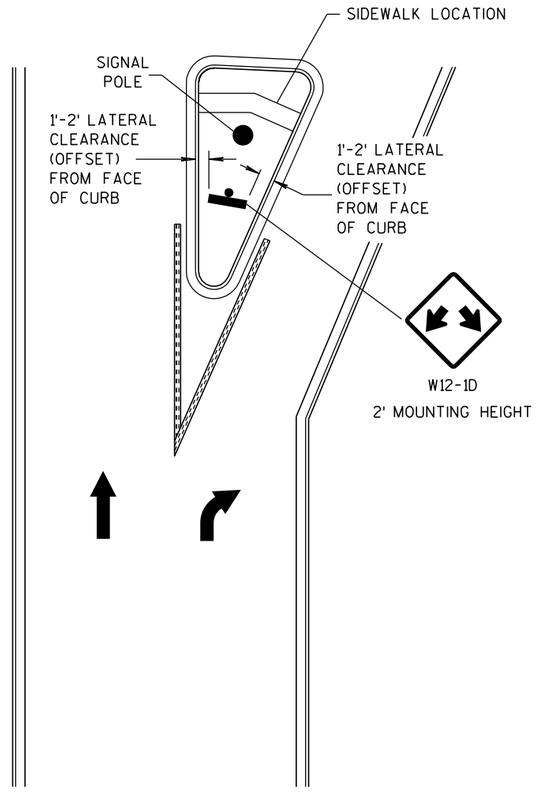
GENERAL NOTE

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

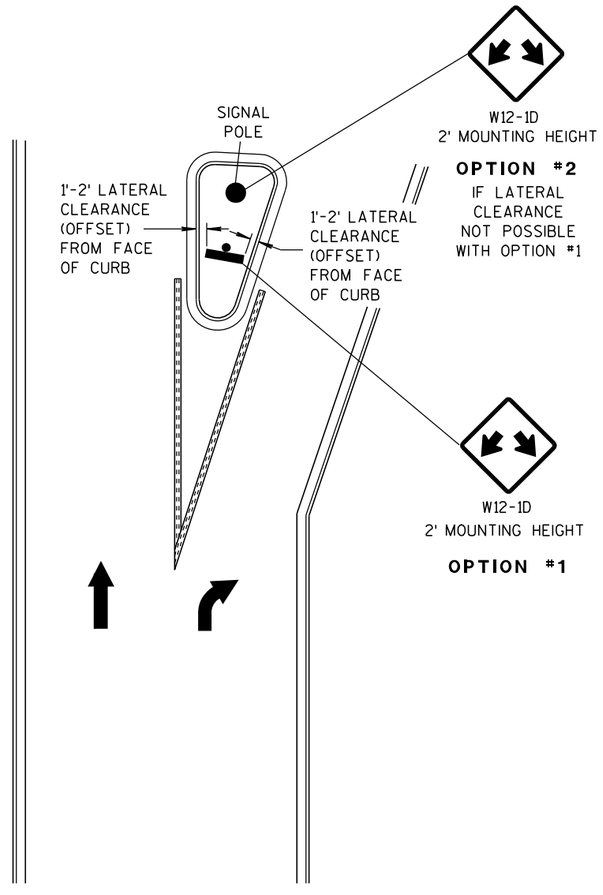
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.



LARGE RIGHT TURN ISLAND



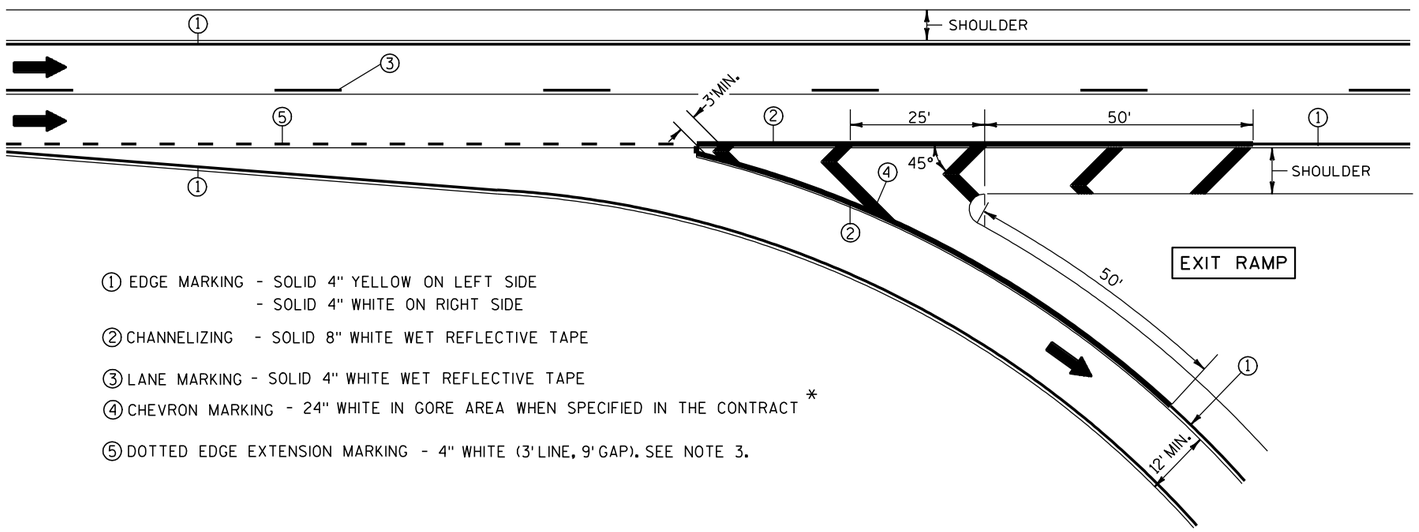
LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE



SMALL RIGHT TURN ISLAND

DOUBLE ARROW WARNING SIGN PLACEMENT

DOUBLE ARROW WARNING SIGN PLACEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
10-22-08 DATE	/S/ Thomas N. Nothem STATE TRAFFIC ENGINEER 249 IGN
FHWA	



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

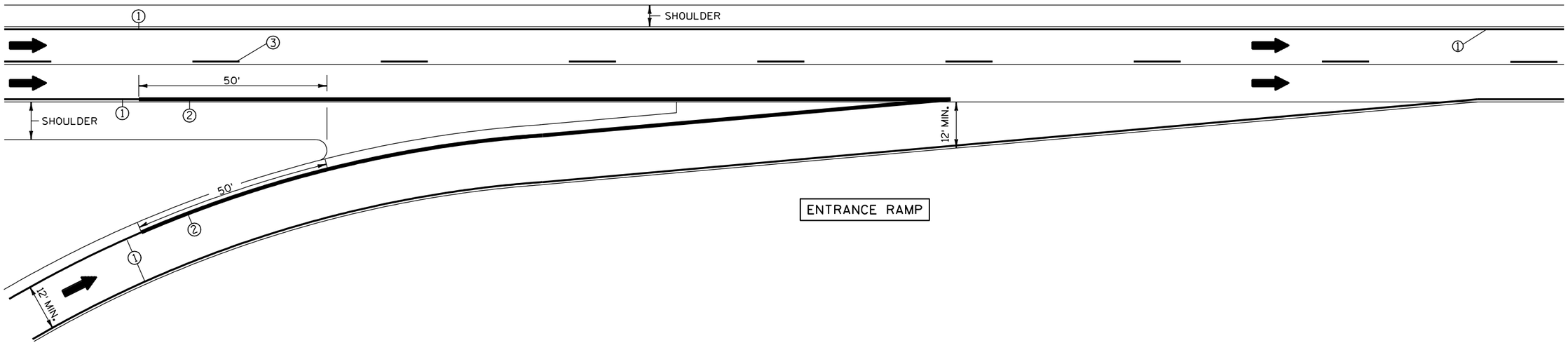
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

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

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



6

S.D.D. 15 C 31-1a

PAVEMENT MARKING
(RAMPS AND GORES)

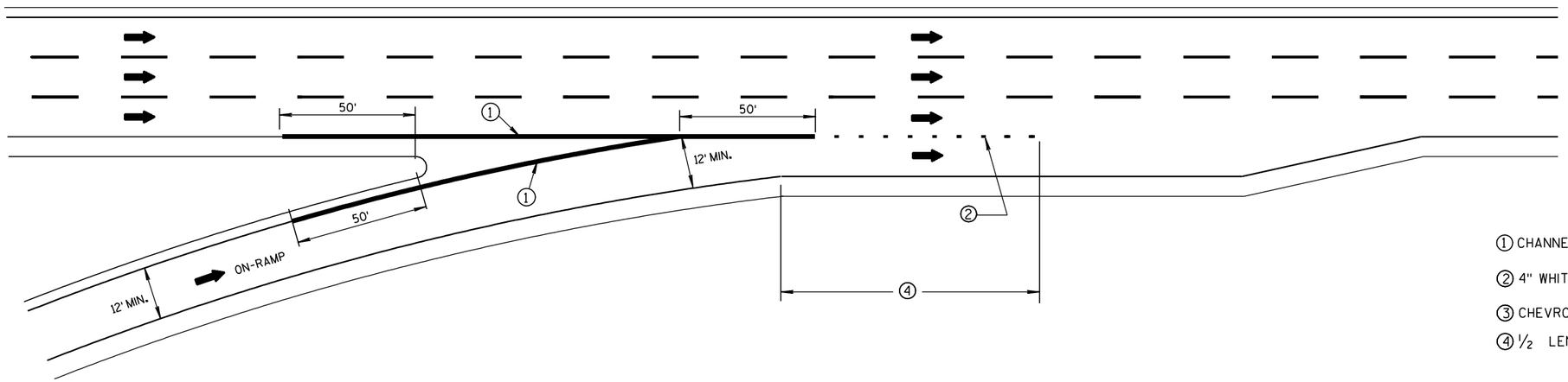
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 15 C 31-1a

NOTES:

1. AHEAD ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.
3. RETRACE EXISTING DIAGONAL MARKINGS.



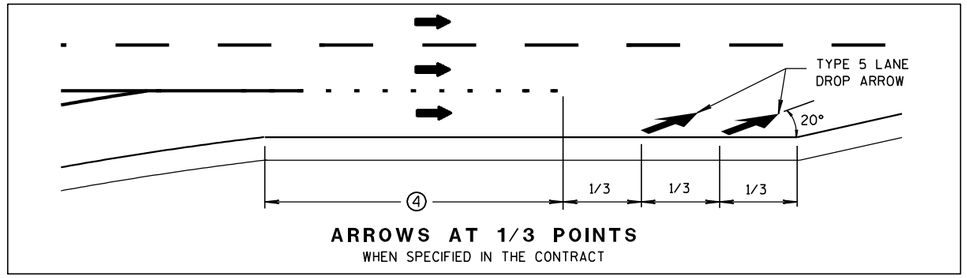
① CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE IN GORE AREA.

② 4" WHITE (3' LINE, 9' GAP).

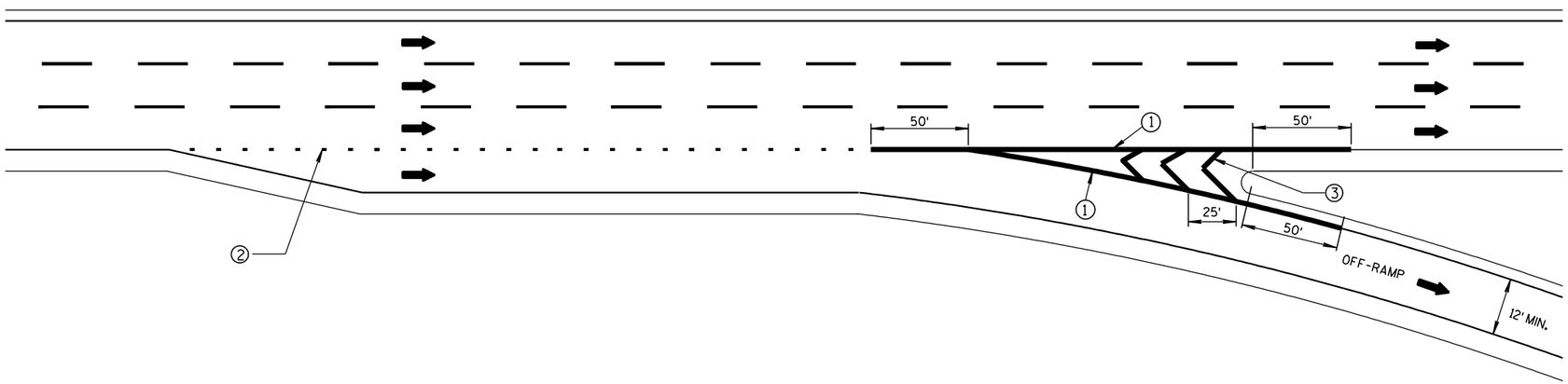
③ CHEVRON MARKING - 24" WHITE WHEN SPECIFIED IN THE CONTRACT.

④ ½ LENGTH OF FULL WIDTH ACCELERATION LANE.

SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE-RAMP



ARROWS AT 1/3 POINTS
WHEN SPECIFIED IN THE CONTRACT



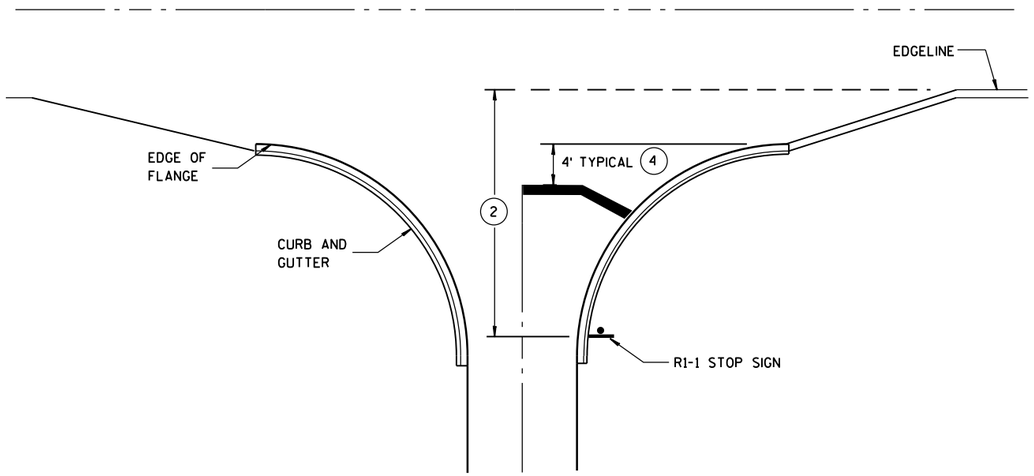
SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP

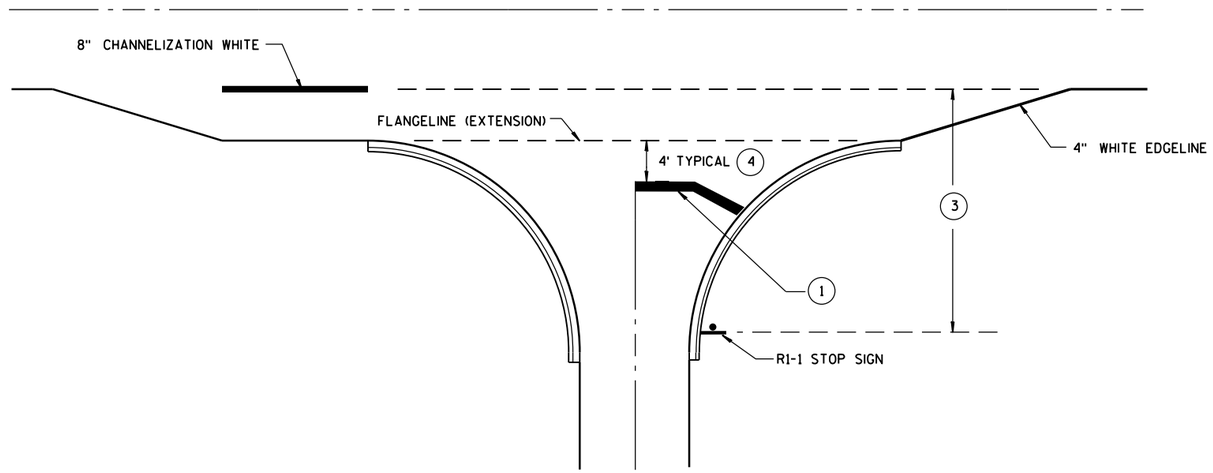
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/23/2011 DATE
/S/ Thomas N. Nothem STATE TRAFFIC ENGINE 251 SIGN
FHWA

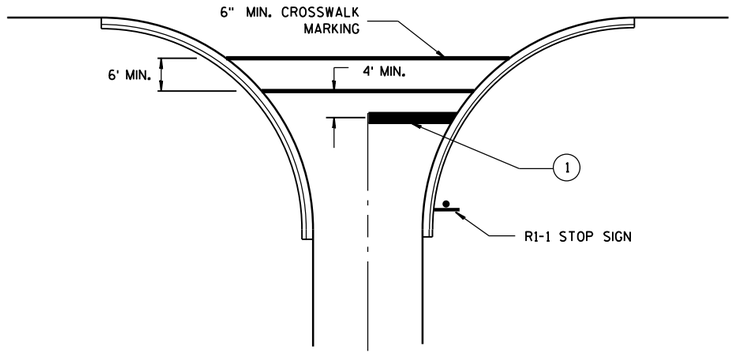
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S.D.D. 15 C 31-1d



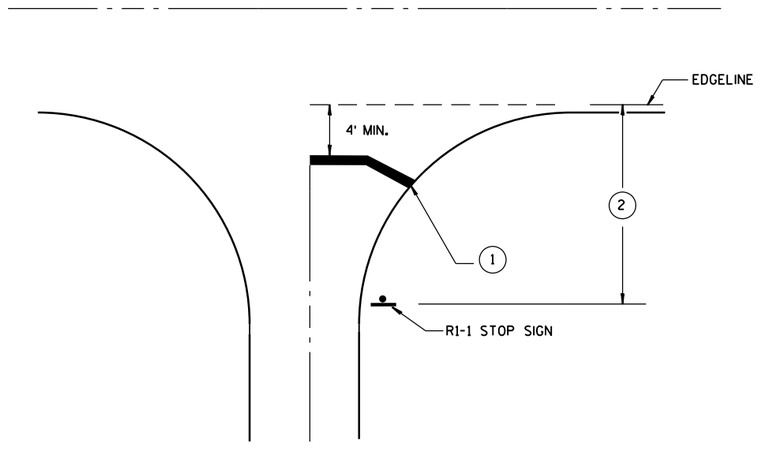
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



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

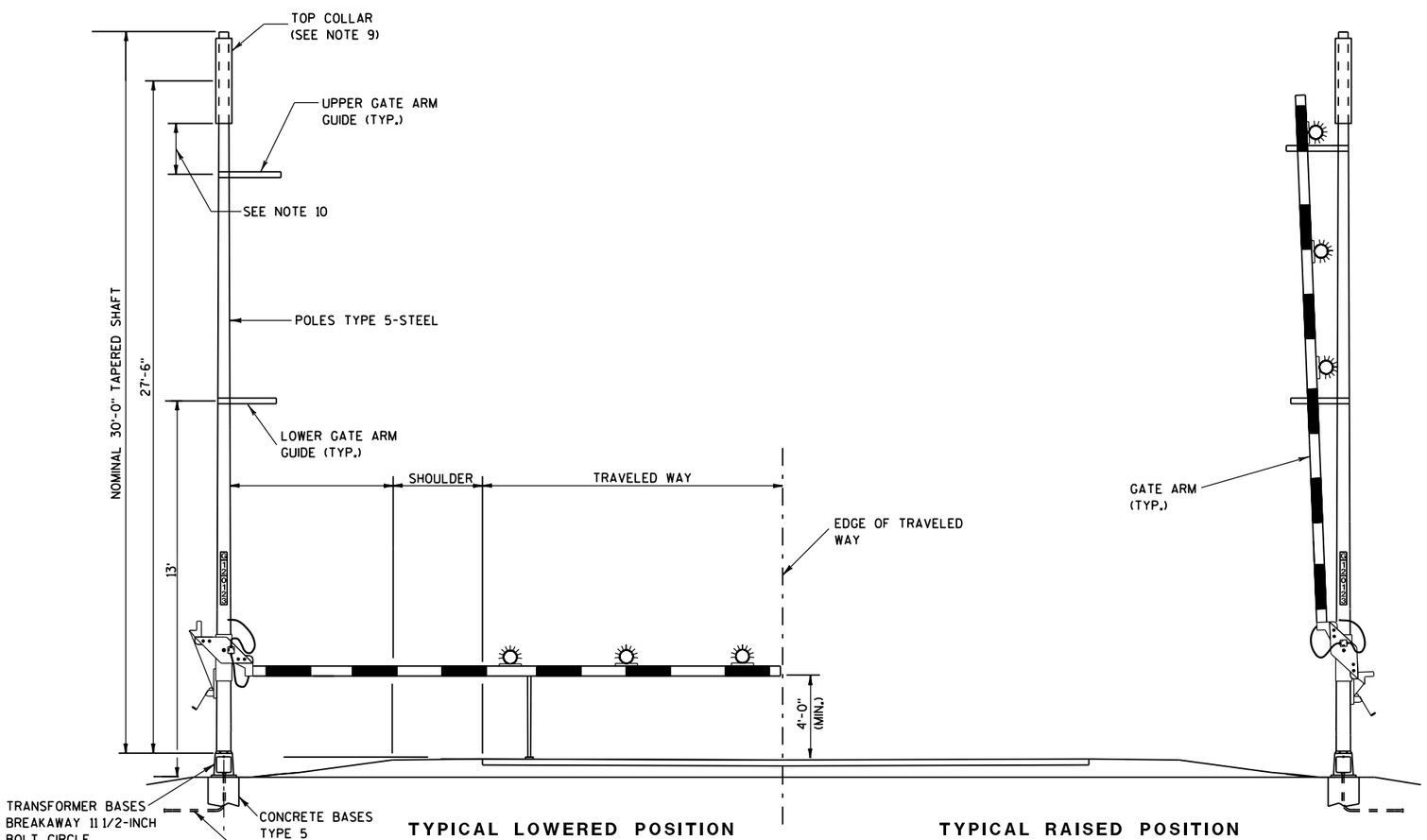
4/30/2013
DATE

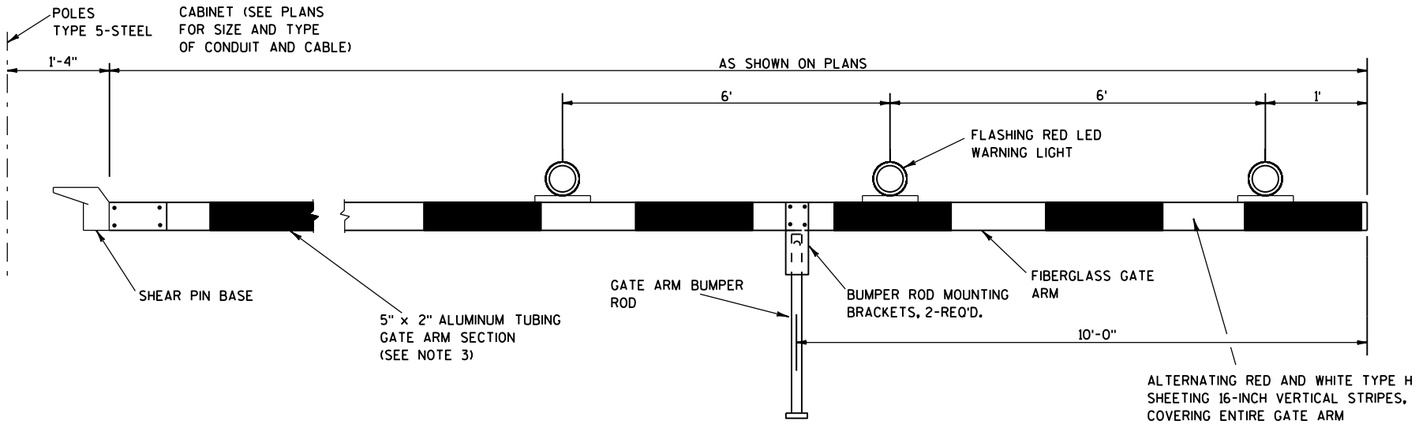
/S/ Travis Feltes
STATE TRAFFIC EI

FHWA

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S.D.D. 15 C 33-1



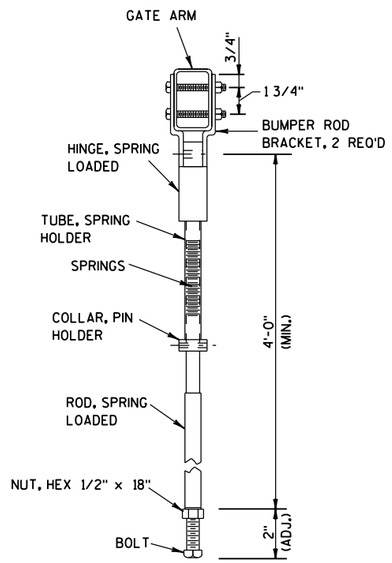


GATE DETAIL

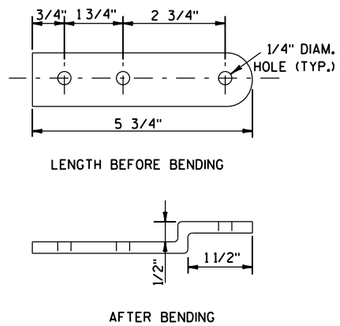
(SOLAR POWER OPTION)

GENERAL NOTES

1. THE LOCATION OF RAMP CLOSURE GATES AND MOUNTING HEIGHT OF GATE ARM PIVOT SHALL BE VERIFIED BY THE ENGINEER.
2. HEIGHT OF GATE ARM GUIDES MAY BE VARIED AS REQUIRED FOR WARNING LIGHT CLEARANCE.
3. FIBERGLASS/ALUMINUM GATE ARM AND SHEAR PIN BASE SHALL BE SUPPLIED BY THE SAME VENDOR.
4. GATE ARM TO BE MOUNTED ON PROPOSED POLE AS INDICATED ON THE PLANS. PROPOSED POLE SHALL BE TYPE 5 POLE.
5. LOCATION OF THE CONCRETE BASE AND LENGTH OF THE GATE ARM WILL BE VERIFIED BY THE ENGINEER TO ENSURE ADEQUATE COVERAGE OF THE TRAVELED LANE.
6. GATE PIVOTS, SUPPORTS AND GUIDES, AND ALL ASSOCIATED HARDWARE SHALL BE GALVANIZED. ALL ROUGH EDGES AND BURRS SHALL BE GROUND SMOOTH PRIOR TO GALVANIZING.
7. ALL EXPOSED BOLT THREADS SHALL BE PAINTED WITH TWO COATS OF ZINC RICH PAINT CONFORMING WITH THE REQUIREMENTS OF ASTM A 780.
8. ANY FIELD DAMAGE TO THE GALVANIZING SHALL BE REPAIRED WITH TWO COATS OF ZINC RICH PAINT CONFORMING WITH THE REQUIREMENTS OF ASTM A 780.
9. A STANDARD LIGHTING LUMINAIRE ARM MAY BE MOUNTED TO THE TYPE 5 POLE IN LIEU OF THE TOP COLLAR.
10. UPPER GATE ARM GUIDE IS TO BE INSTALLED 6 TO 12-INCHES BELOW THE BOTTOM OF THE TOP COLLAR.



GATE ARM BUMPER ROD DETAIL



BUMPER ROD MOUNTING BRACKET DETAIL

RAMP GATE
SOLAR POWER

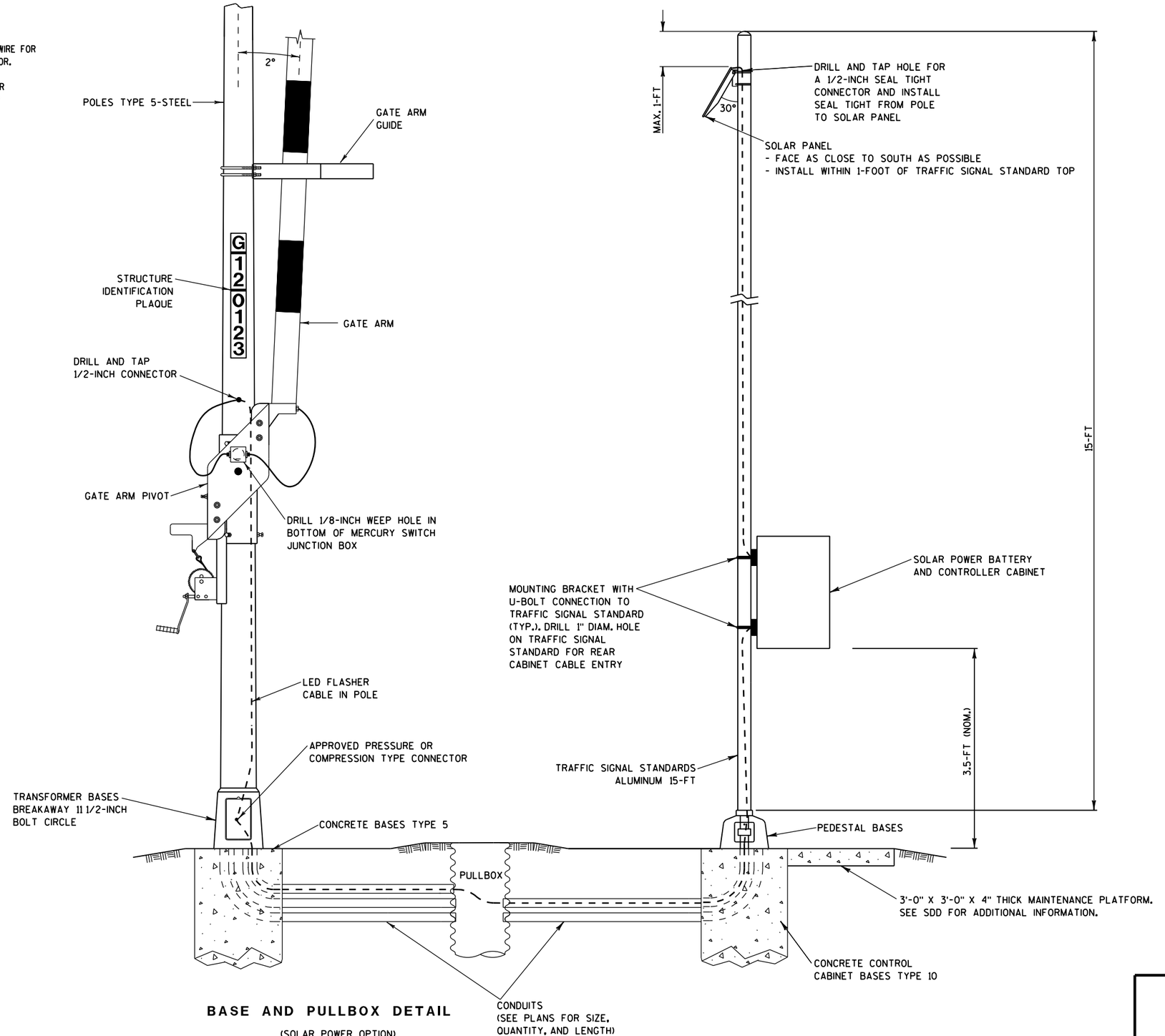
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 15 D 34-2a

WIRING NOTES

1. WIRING FROM SOLAR PANEL TO CABINET SHALL BE BLUE #10 XLP WIRE FOR POSITIVE CONDUCTOR AND WHITE #10 XLP FOR NEGATIVE CONDUCTOR.

2. WIRING FROM CABINET TO GATE ARM SHALL BE WHITE #10 XLP FOR COMMON, RED #10 XLP FOR FLASHER CIRCUIT 1, AND BLUE #10 XLP FOR FLASHER CIRCUIT 2.



BASE AND PULLBOX DETAIL

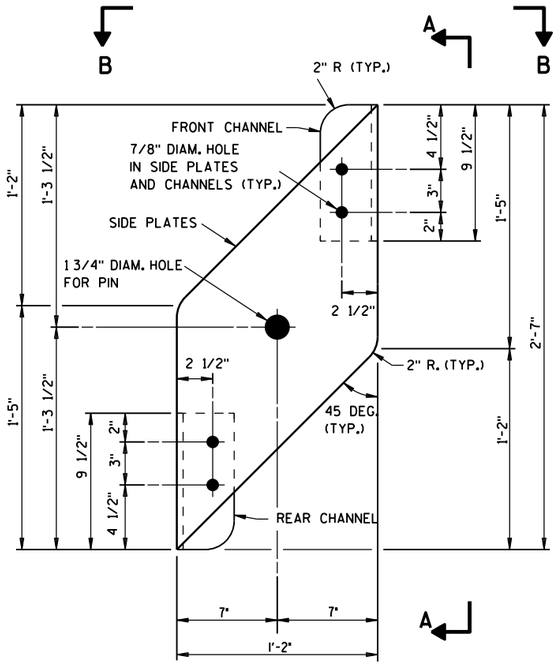
(SOLAR POWER OPTION)

RAMP GATE
SOLAR POWER

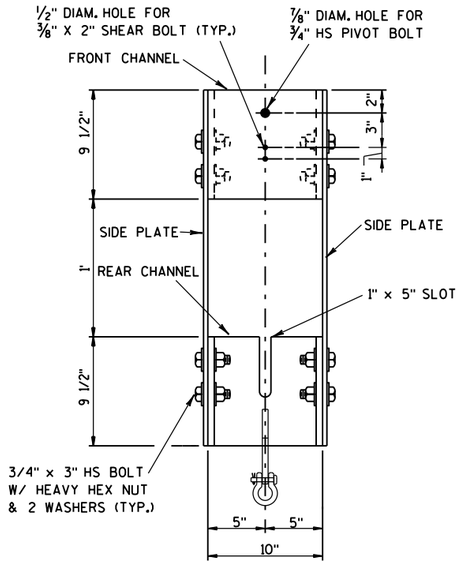
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

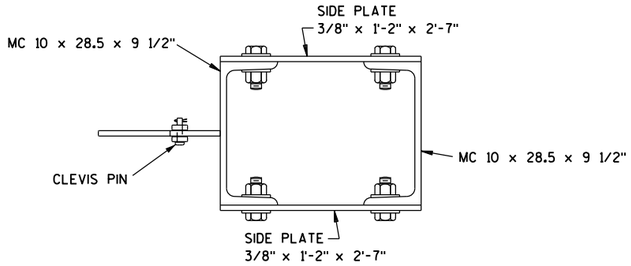
S.D.D. 15 D 34-2b



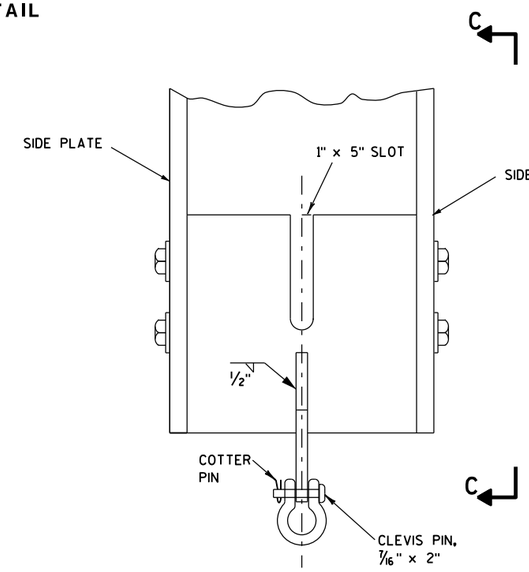
SIDE PLATE DETAIL



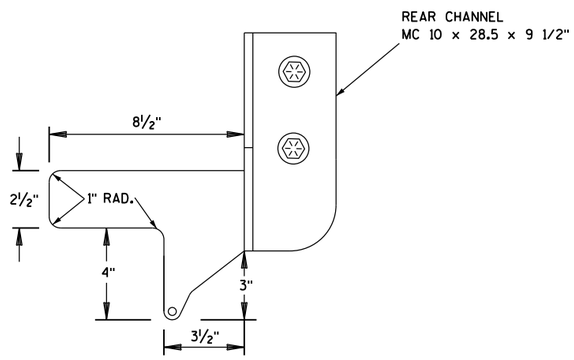
SECTION A-A



SECTION B-B



YOKE ASSEMBLY DETAIL



SECTION C-C

RAMP GATE
SOLAR POWER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 34-2c

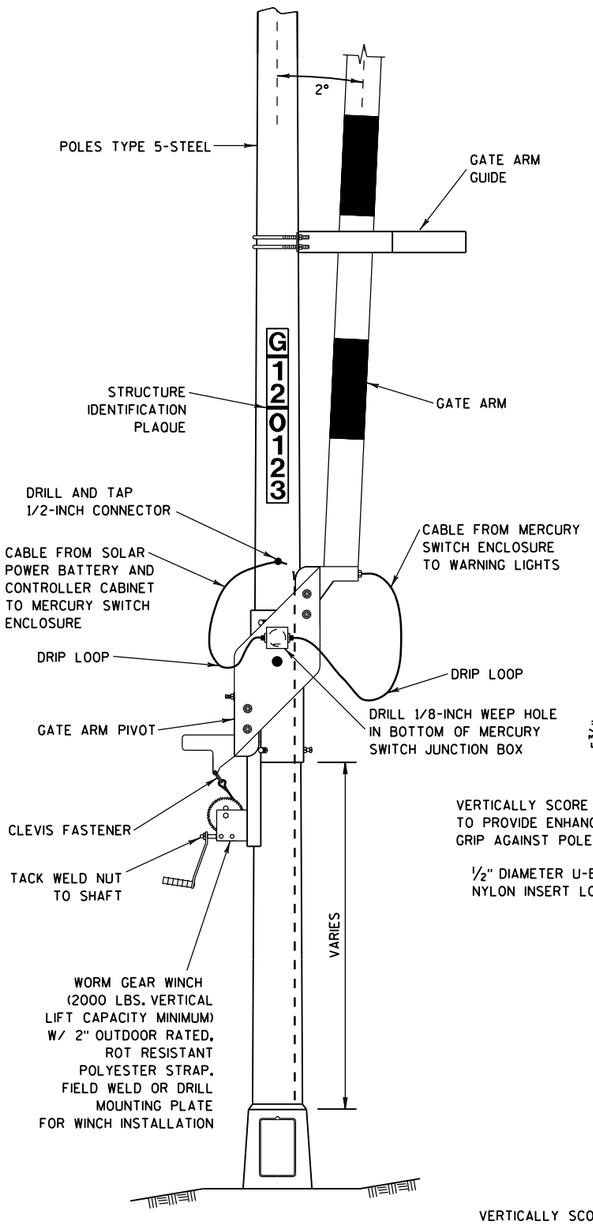
GENERAL NOTES

1. WHEN THE GATE IS FULLY RAISED, THE NUT AND WASHER SHALL BE PLACED SNUGLY AGAINST THE OUTSIDE OF THE REAR CHANNEL.

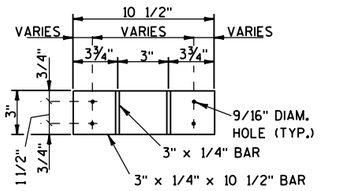
2. WHEN THE GATE IS FULLY LOWERED, THE NUT AND WASHER SHALL BE PLACED SNUGLY AGAINST THE INSIDE OF THE REAR CHANNEL.

3. ANTI-SEIZE LUBRICATING MATERIAL SHALL BE USED ON ALL BOLT THREADS BEFORE INSTALLATION.

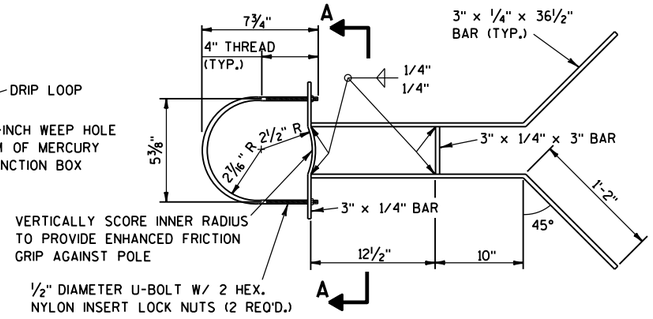
4. ALL BOLTS SHALL BE GALVANIZED AND CONFORM TO ASTM A307, GRADE A, UNLESS DESIGNATED AS HS (HIGH STRENGTH), WHICH SHALL CONFORM TO ASTM A325. BOLTS OF 1/2" NOMINAL DIAMTER OR LESS MAY BE STAINLESS STEEL.



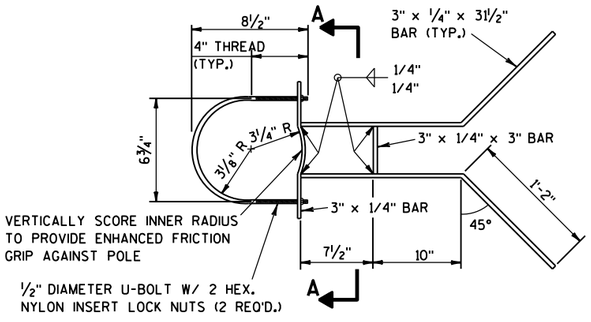
GATE PIVOT ASSEMBLY



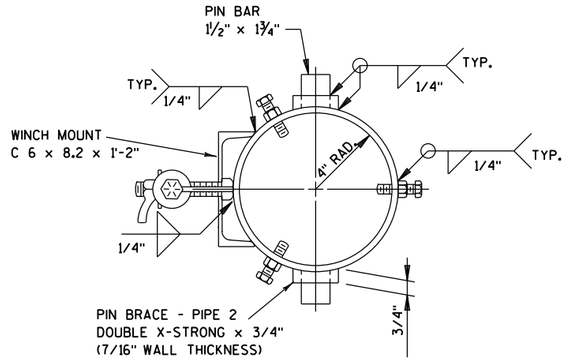
SECTION A-A
U-BOLTS NOT SHOWN



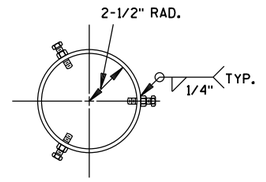
UPPER GATE ARM GUIDE DETAIL



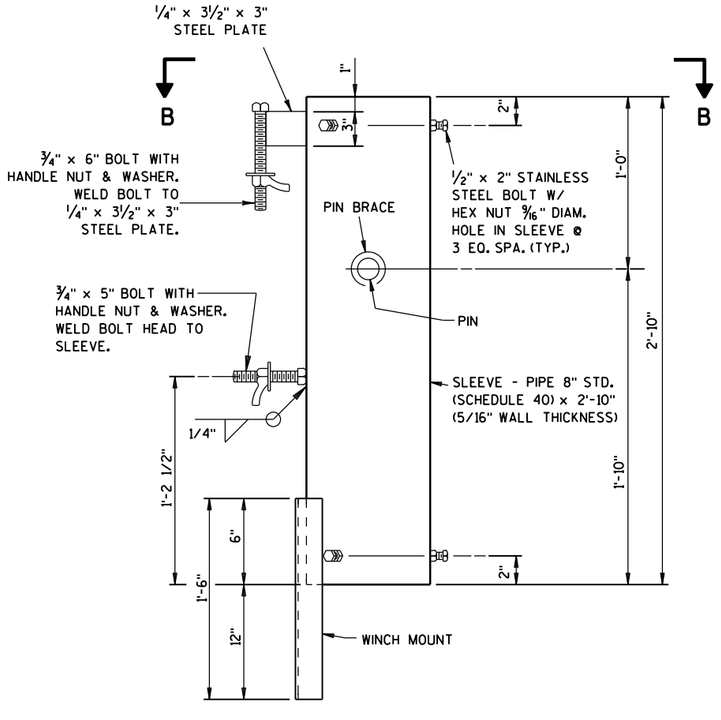
LOWER GATE ARM GUIDE DETAIL



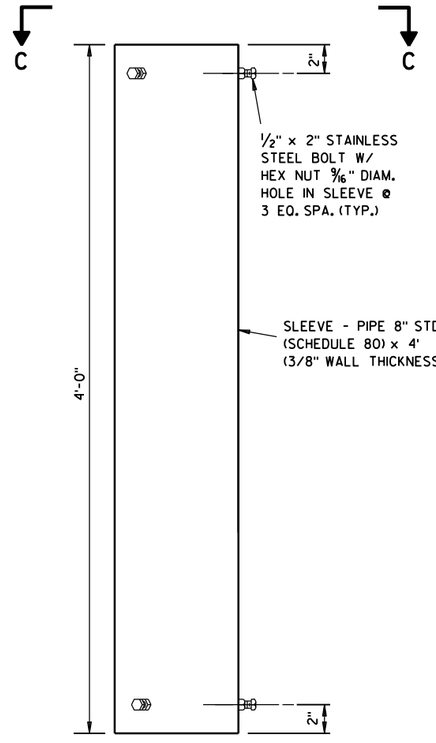
SECTION B-B



SECTION C-C



PIVOT SLEEVE DETAIL



TOP COLLAR

RAMP GATE
SOLAR POWER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

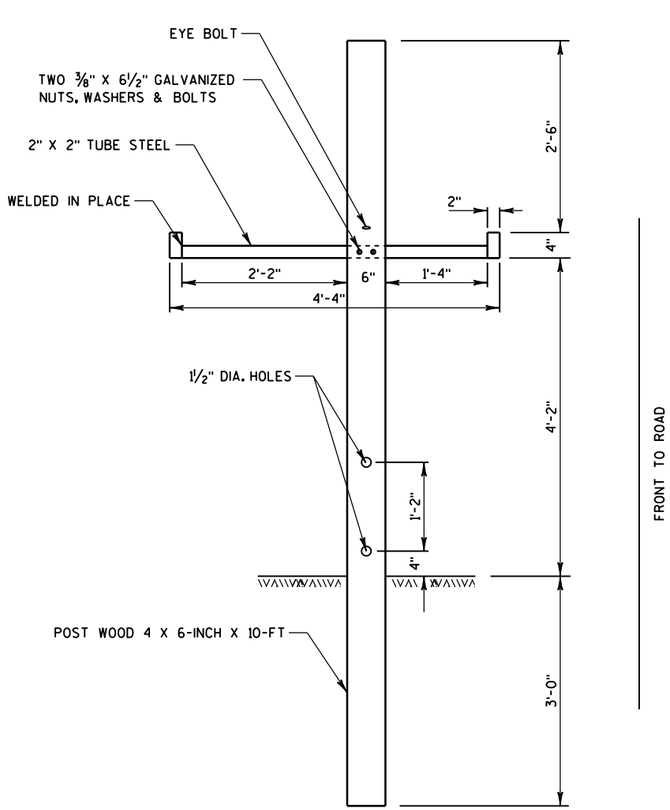
APPROVED
11/2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRCIAL
FHWA

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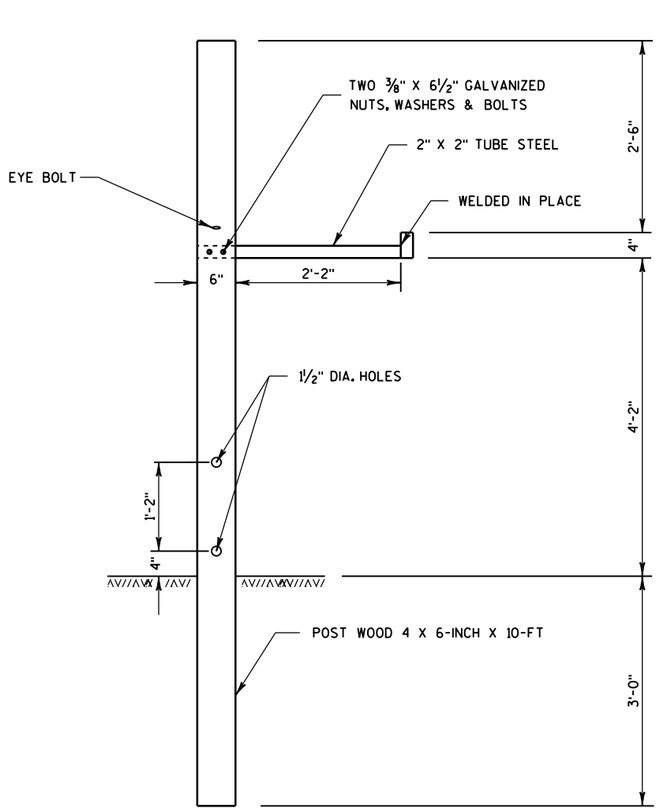
S.D.D. 15 D 34-2d

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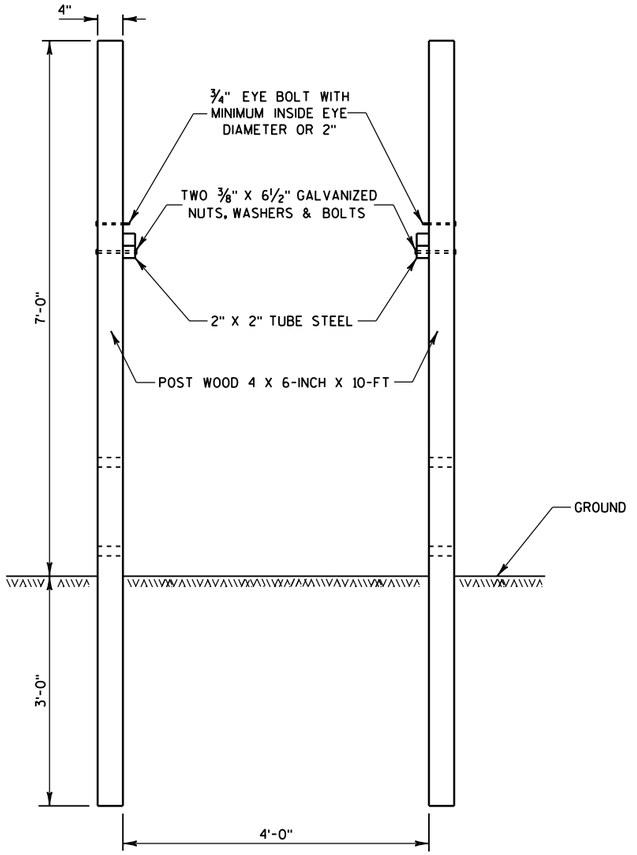
S.D.D. 15 D 34-2d



SIDE VIEW
(3 BARRICADE SYSTEM)



SIDE VIEW
(2 BARRICADE SYSTEM)



FRONT VIEW

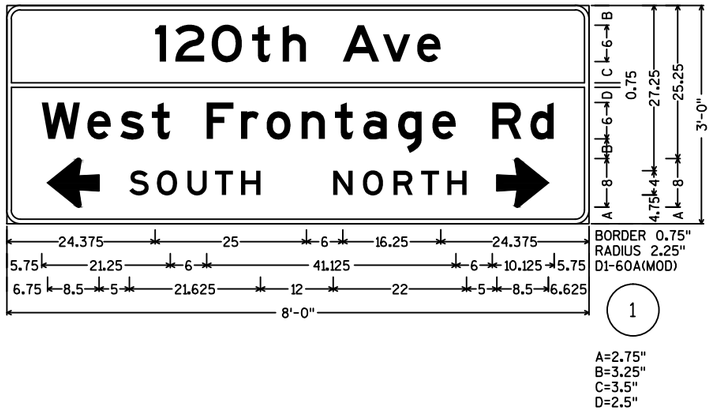
BARRICADE RACK

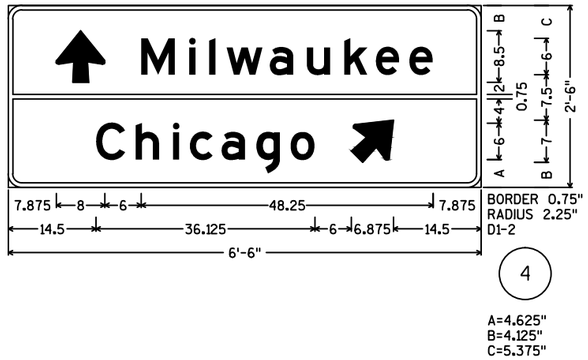
* LOCATE OUTSIDE CLEAR ZONE AS DIRECTED BY ENGINEER

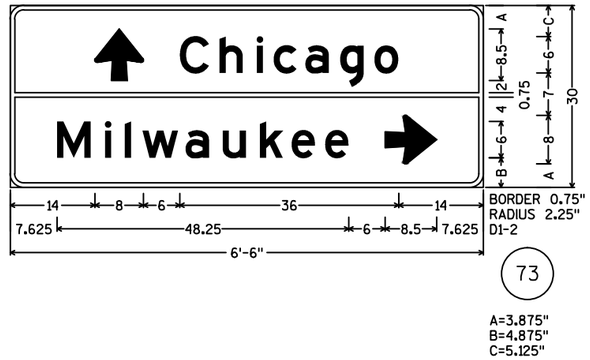
BARRICADE RACK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-30-2013 DATE FHWA	/S/ Bill Wondrachek STATE TRAFFIC ENGINEER MANAGEMENT EN

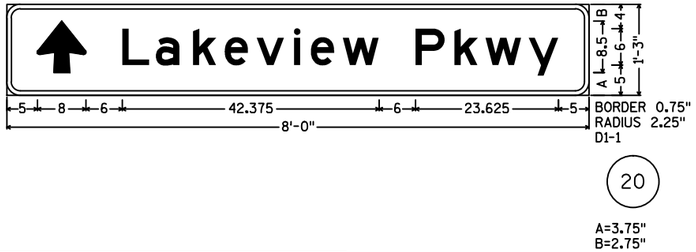
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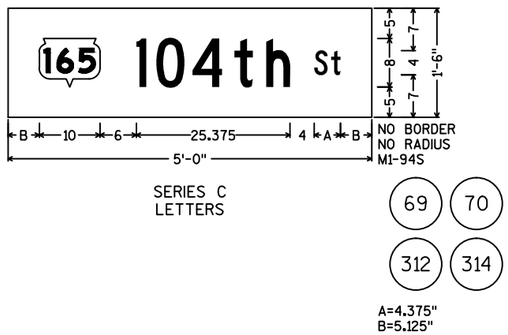
S.D.D. 15 D 36-1

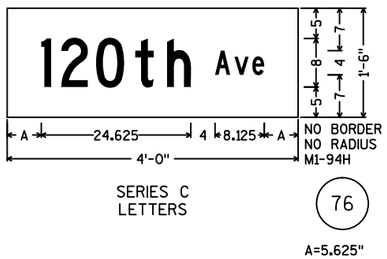


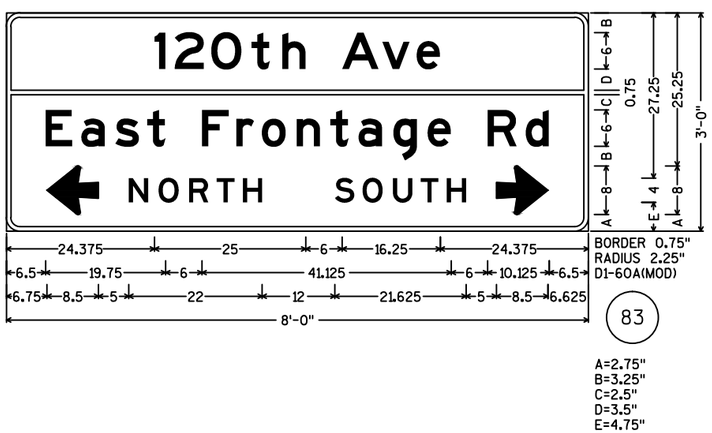


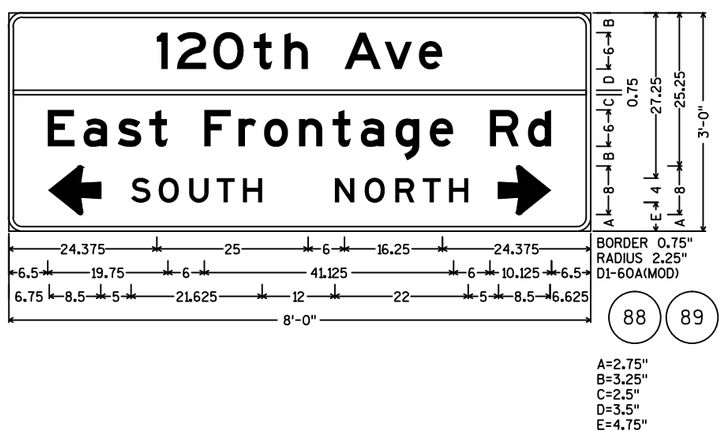






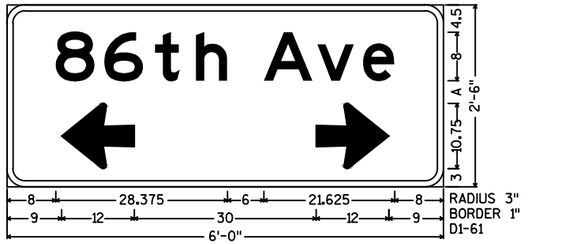






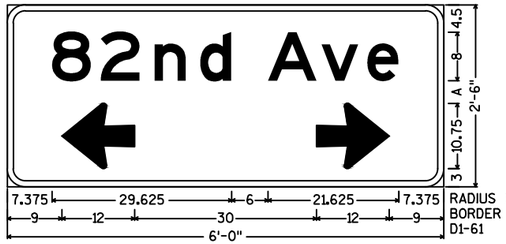
GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".
3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE "TYPE SH REFLECTIVE SHEETING".
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
5. TYPE II SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E". ALL LOWERCASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E".
6. TYPE I SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E MODIFIED". ALL LOWER CASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E MODIFIED". ALL CAP WORDS ARE "SERIES E".
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "SERIES C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE "SERIES E" PER PLATES A11-7 AND A11-10.
11. DO NOT SCALE.



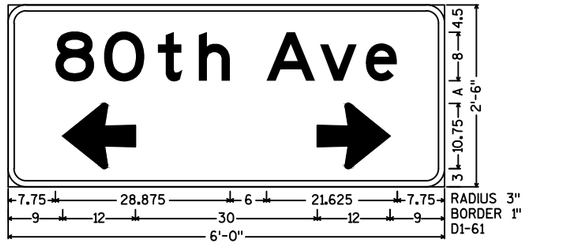
178 179 187 188

A=3.75"



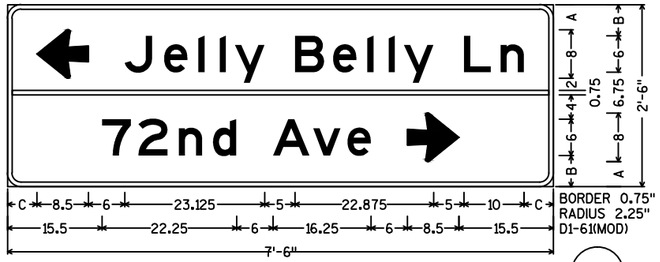
195 196 207 208

A=3.75"



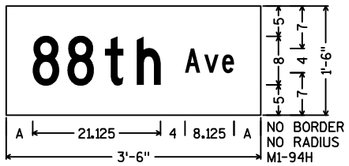
211 212 246 247

A=3.75"



256

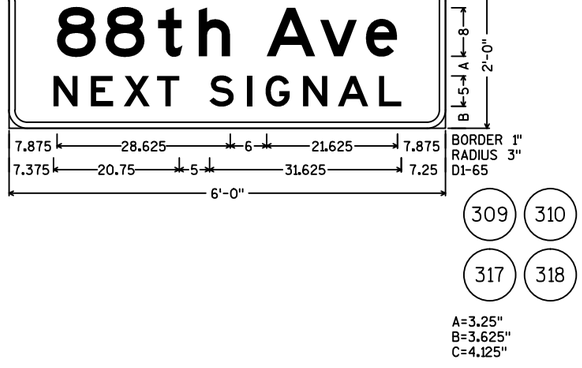
A=4.125"
B=5.125"
C=4.75"



SERIES C LETTERS

311 313

A=4.375"

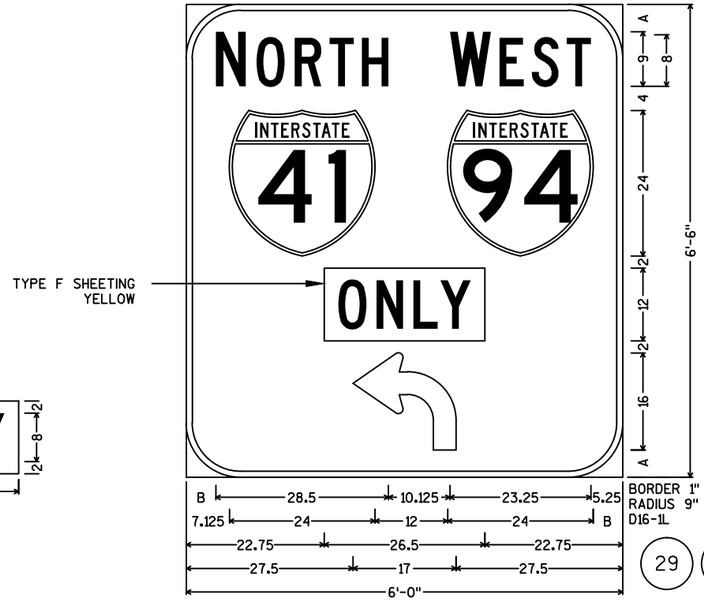


309 310 317 318

A=3.25"
B=3.625"
C=4.125"

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".
3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE "TYPE SH REFLECTIVE SHEETING".
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
5. TYPE II SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E". ALL LOWERCASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E".
6. TYPE I SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E MODIFIED". ALL LOWER CASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E MODIFIED". ALL CAP WORDS ARE "SERIES E".
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "SERIES C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE "SERIES E" PER PLATES A11-7 AND A11-10.
11. DO NOT SCALE.



SERIES C
LETTERS
TYPE I SIGN

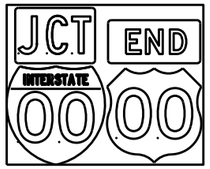
GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE I".
3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE "TYPE SH REFLECTIVE SHEETING".
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
5. TYPE II SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E". ALL LOWERCASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E".
6. TYPE I SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E MODIFIED". ALL LOWER CASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E MODIFIED". ALL CAP WORDS ARE "SERIES E".
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "SERIES C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE "SERIES E" PER PLATES A11-7 AND A11-10.
11. DO NOT SCALE.

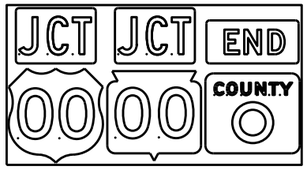
TYPICAL ASSEMBLIES



J1-1



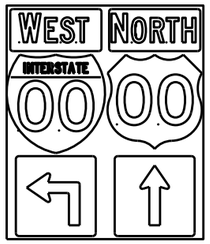
J1-2



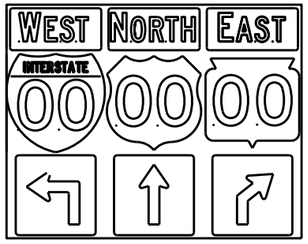
J1-3



J2-1



J2-2

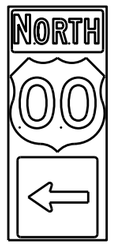


J2-3

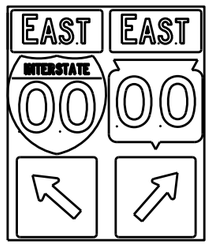


JV

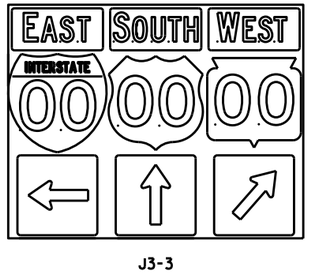
(Typical Vertical J-Assembly
See Note 10 and 11)



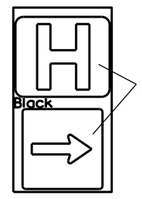
J3-1



J3-2



J3-3

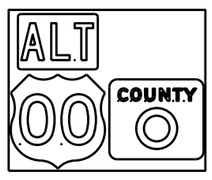


Blue Background

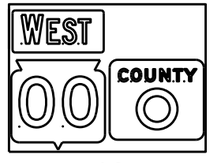
JH-1



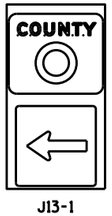
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

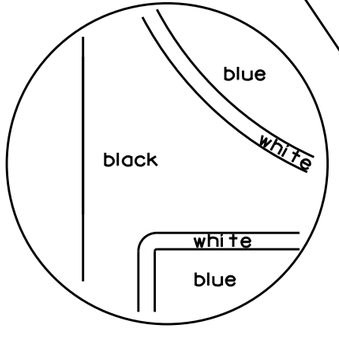


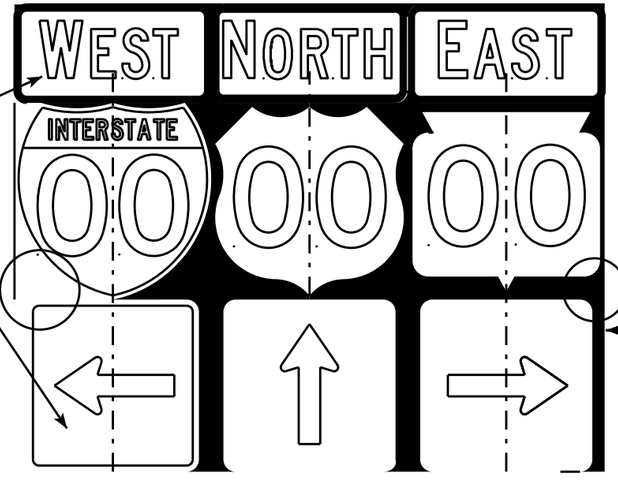
J23-1

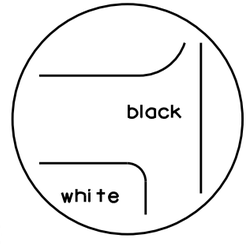


J22-1

[blue background with interstate]







[black background]

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PL... A2-1S.8

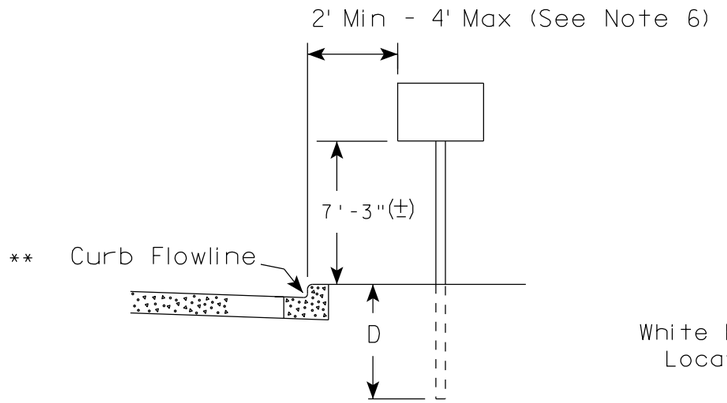
PROJECT NO:

SHEET NO: E

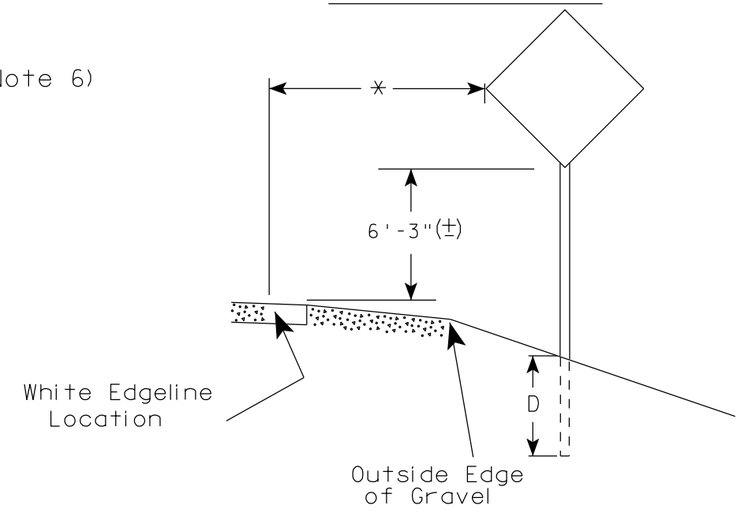
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

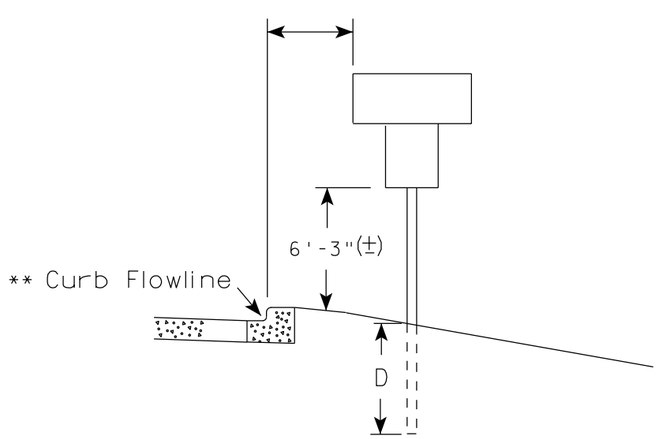
WISDOT/CADDS SHEET 42

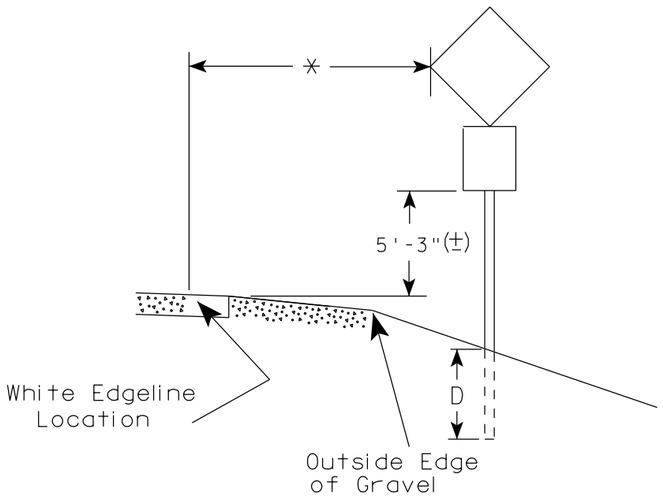
URBAN AREA



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.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 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 (A2-1S) 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 signs shall be mounted at a height of 5'-3" (±) or as directd 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

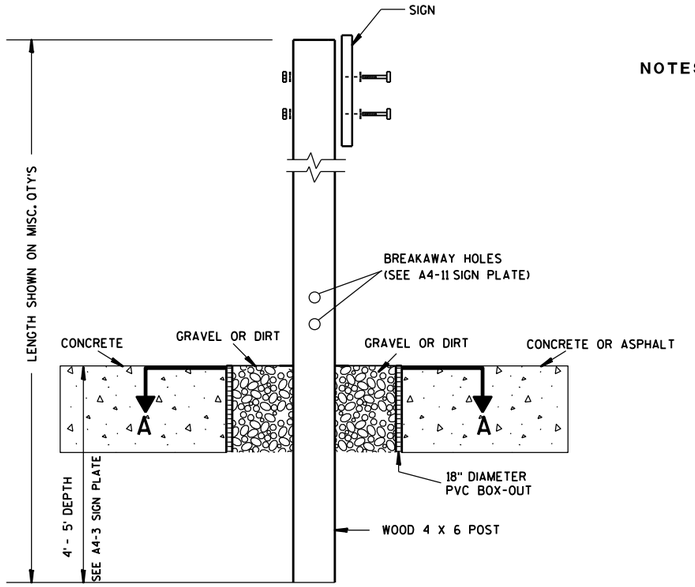
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

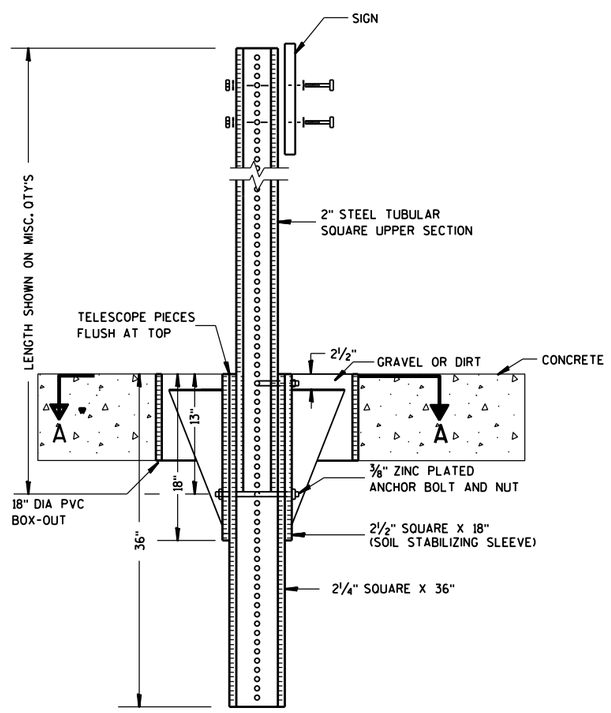
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

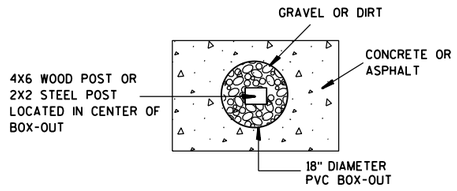
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

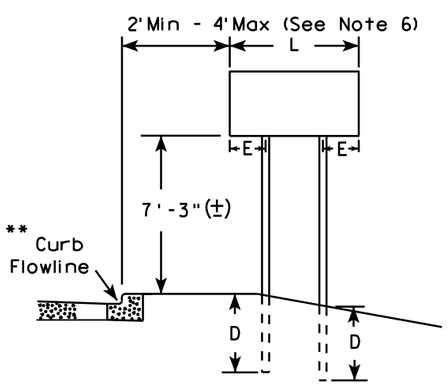
APPROVED Matthew R Rauch
for State Traffic Engineer

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

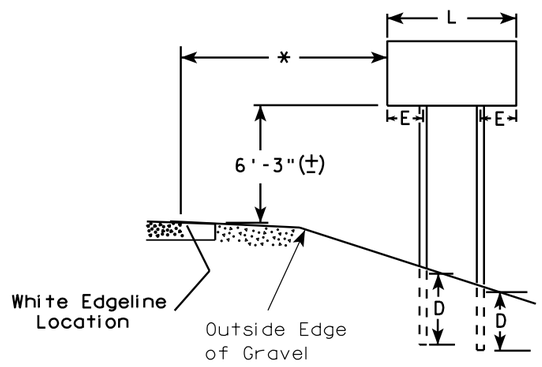
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

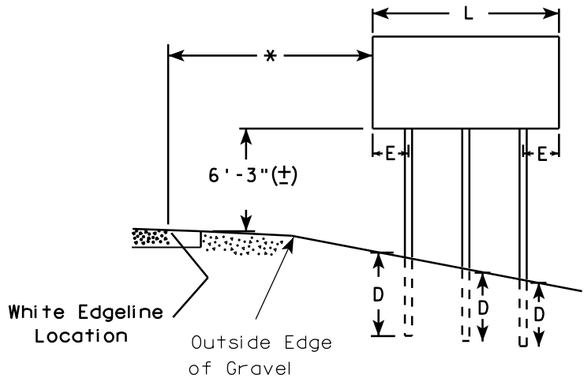
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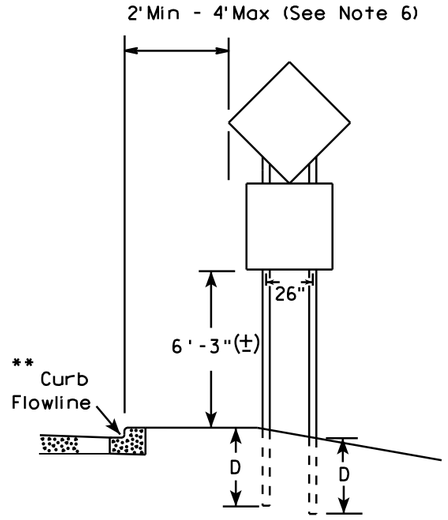
URBAN AREA



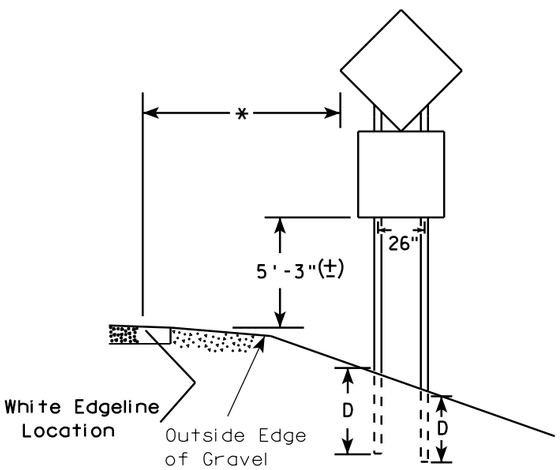
RURAL AREA (See Note 3)







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 (A2-1S) 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 signs 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) 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 and 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'

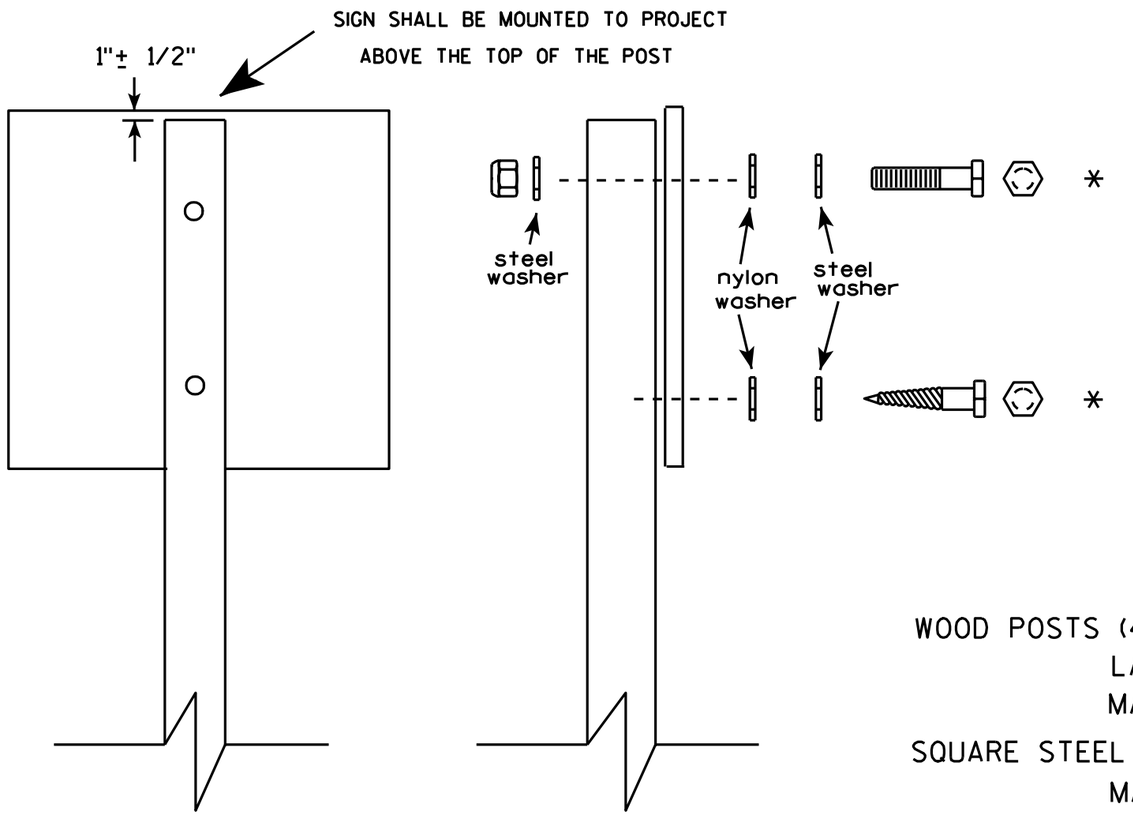
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 14

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

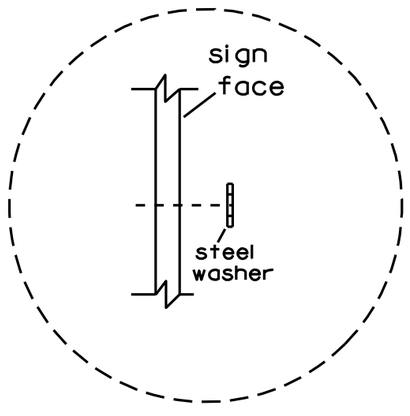
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

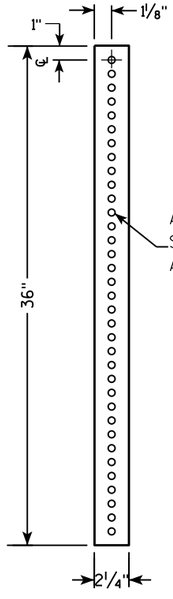
7

PROJECT NO:

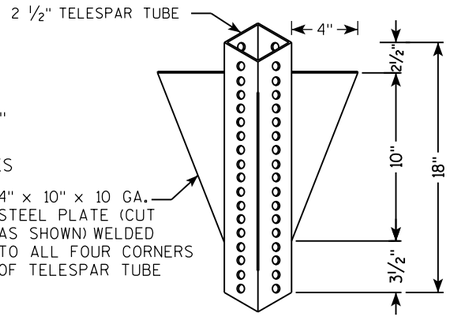
SHEET NO: 265 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

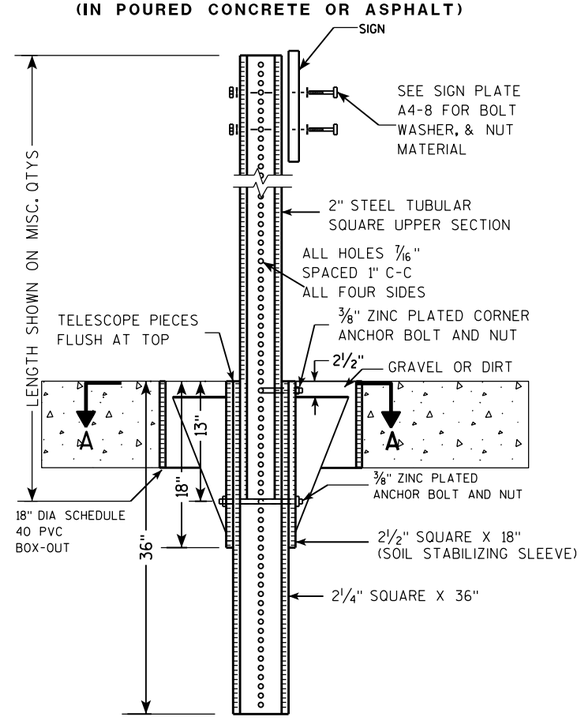
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



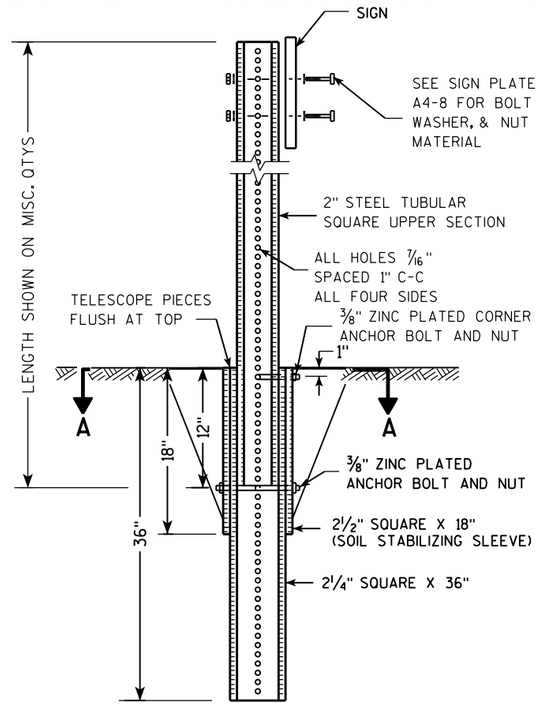
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

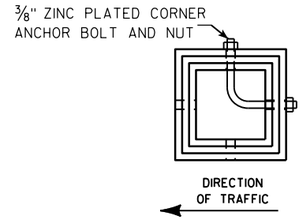


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

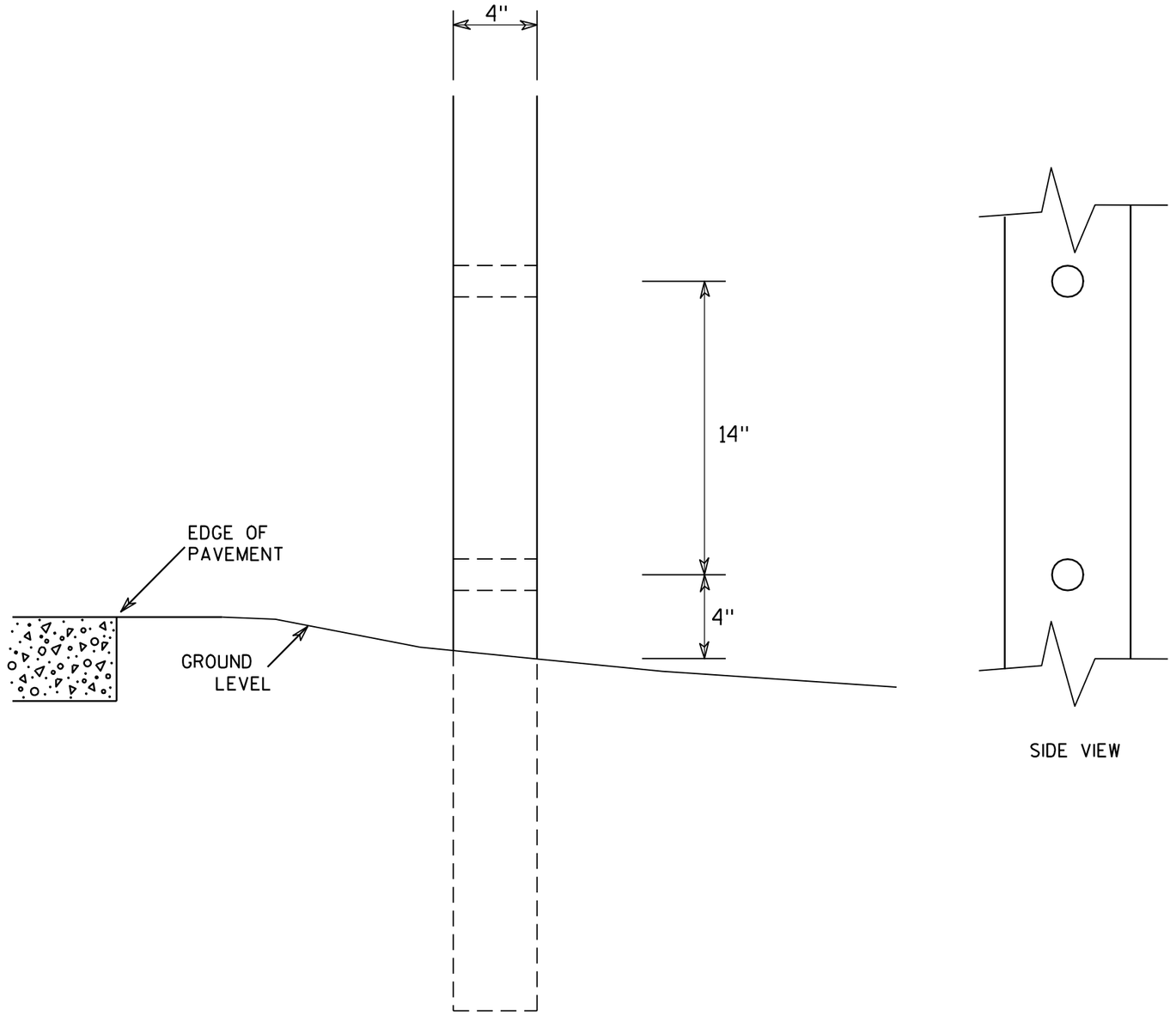
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 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.

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

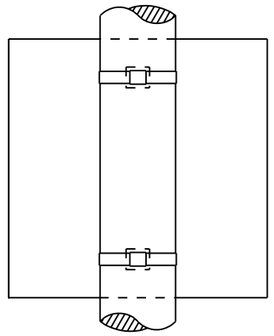
APPROVED Chester J Spang for State Traffic Engineer

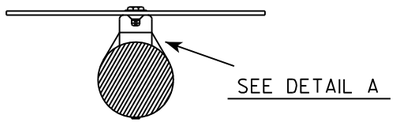
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 267	E

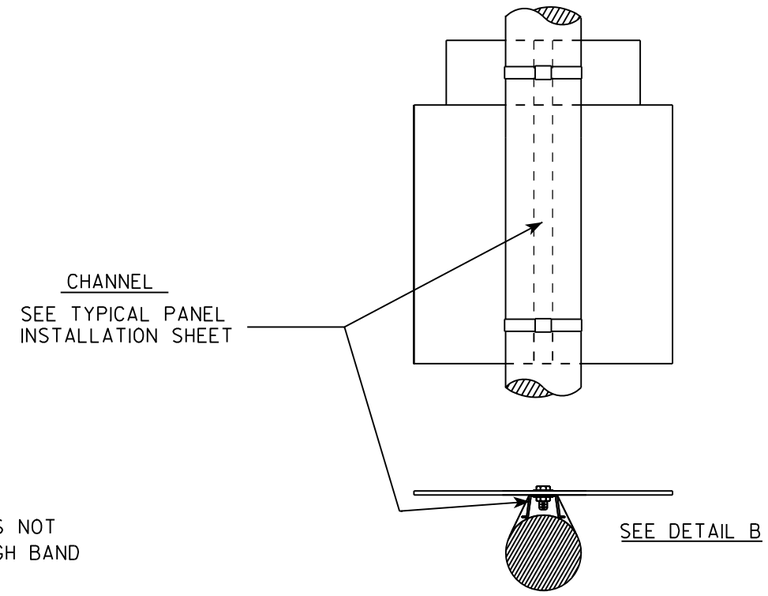
BANDING

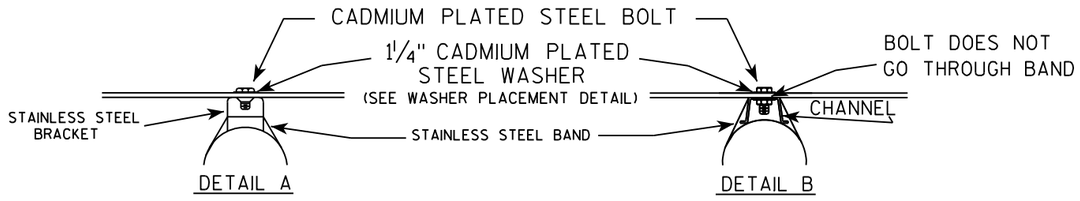
SINGLE SIGN



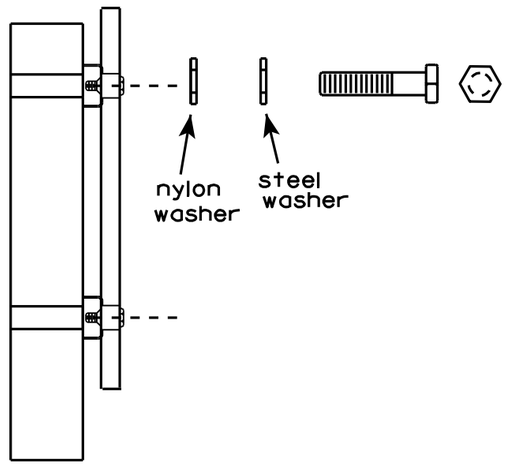


"J" ASSEMBLY





WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

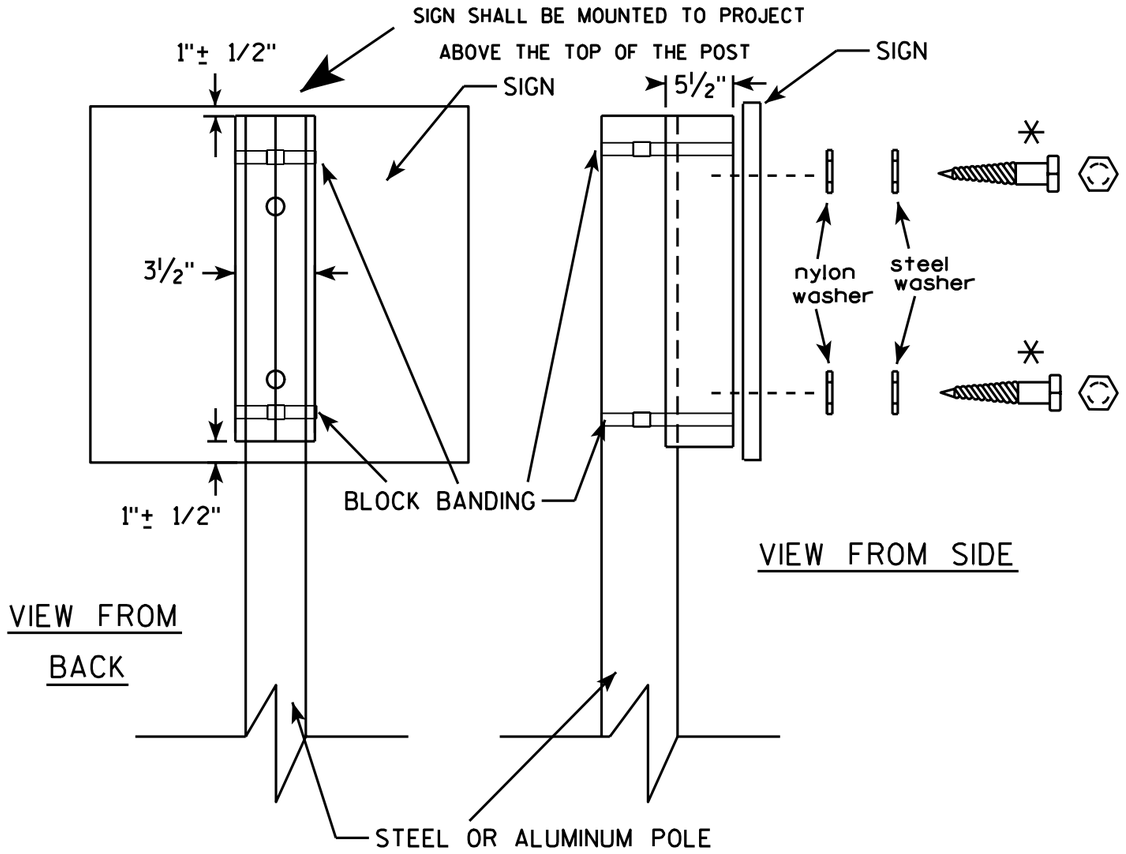
STANDARD SIGN
SIGN BANDING DETAILS

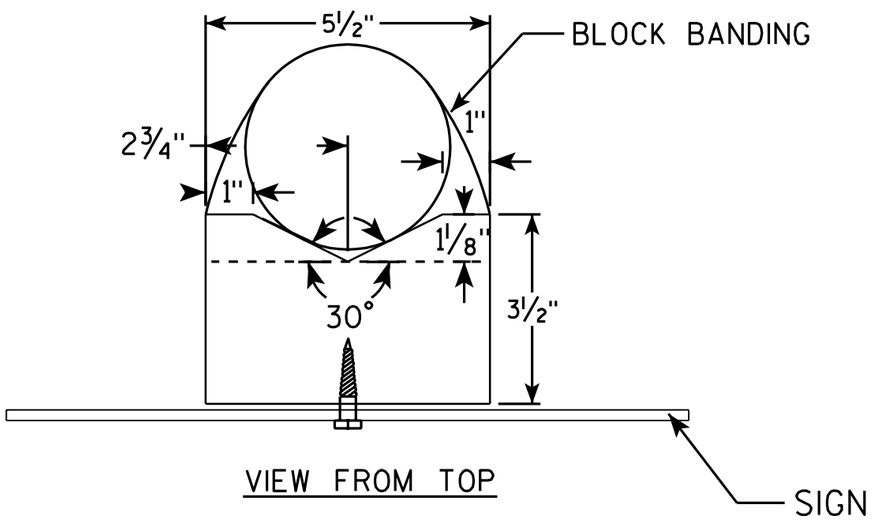
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 268	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

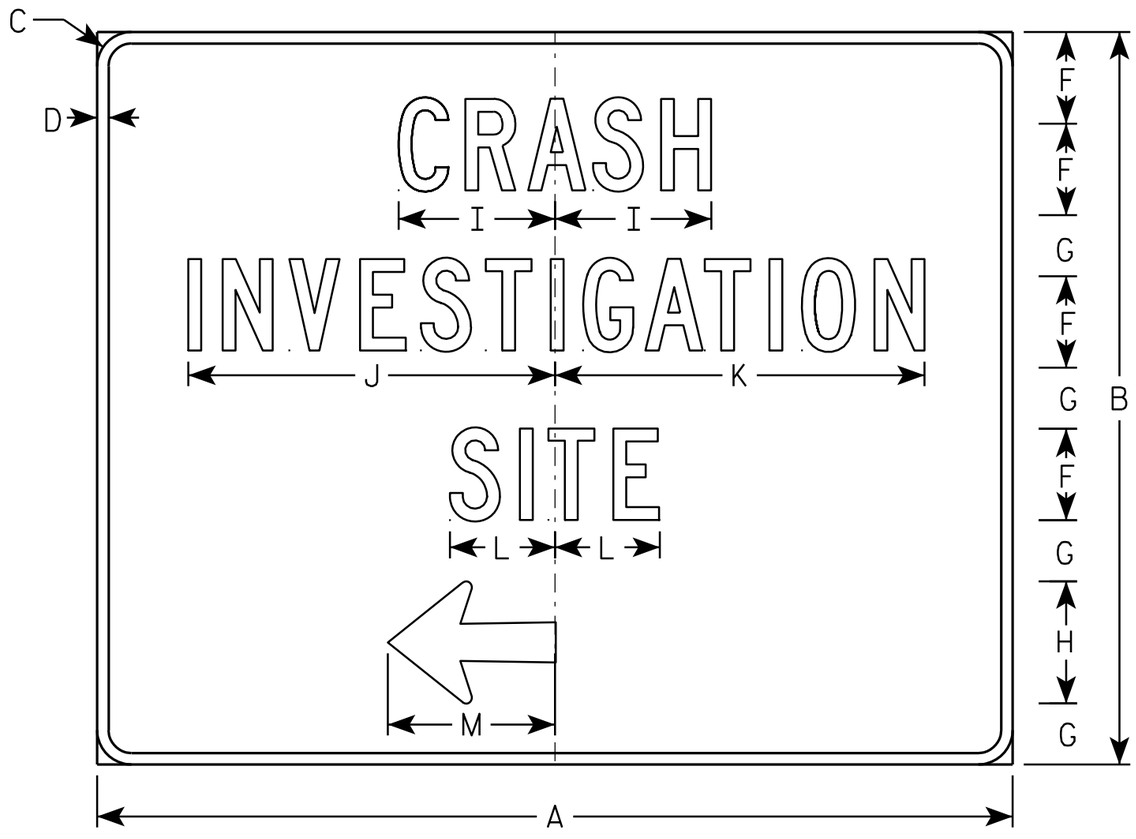
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

SHEET NO: 269 E



D4-54L

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - BLUE
   Message - WHITE
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.
5. D4-54R is same as D4-54L except arrow is reversed.
6. Arrow is from A1-2 Lower Case 4½ Series D & E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	60	48	2 1/4	3/4		6	4	8	10 1/4	24	24 1/4	6 7/8	11														20.0
3																											
4																											
5																											

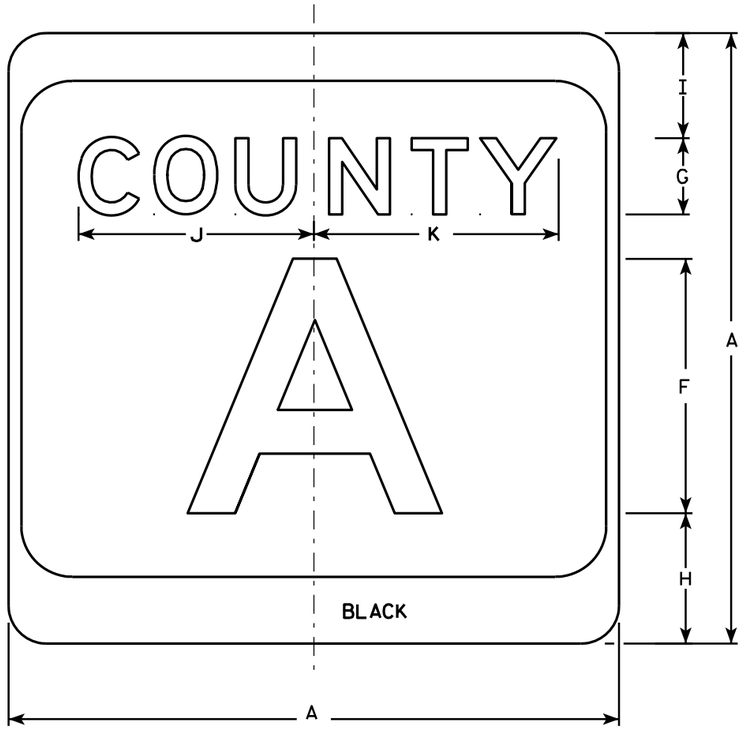
STANDARD SIGN
D4-54 L & R

WISCONSIN DEPT OF TRANSPORTATION

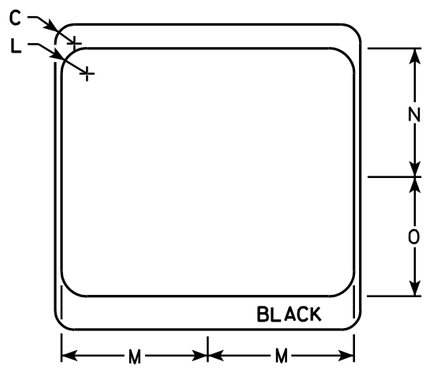
APPROVED Matthew R Rauch
for State Traffic Engineer

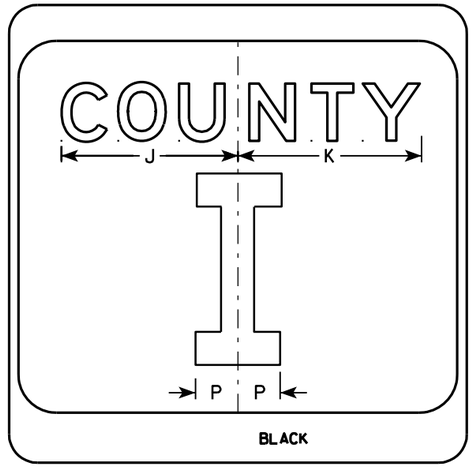
DATE 1/24/2011 PLATE NO. D4-54.1

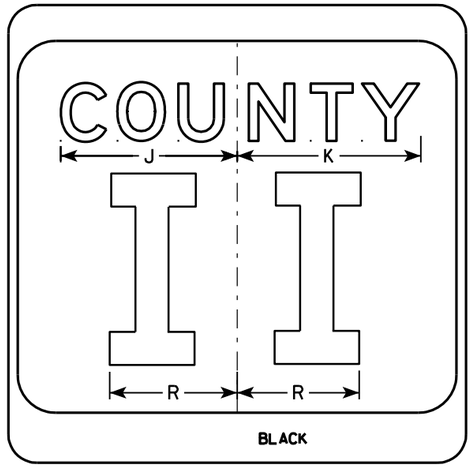
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 270	E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

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																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

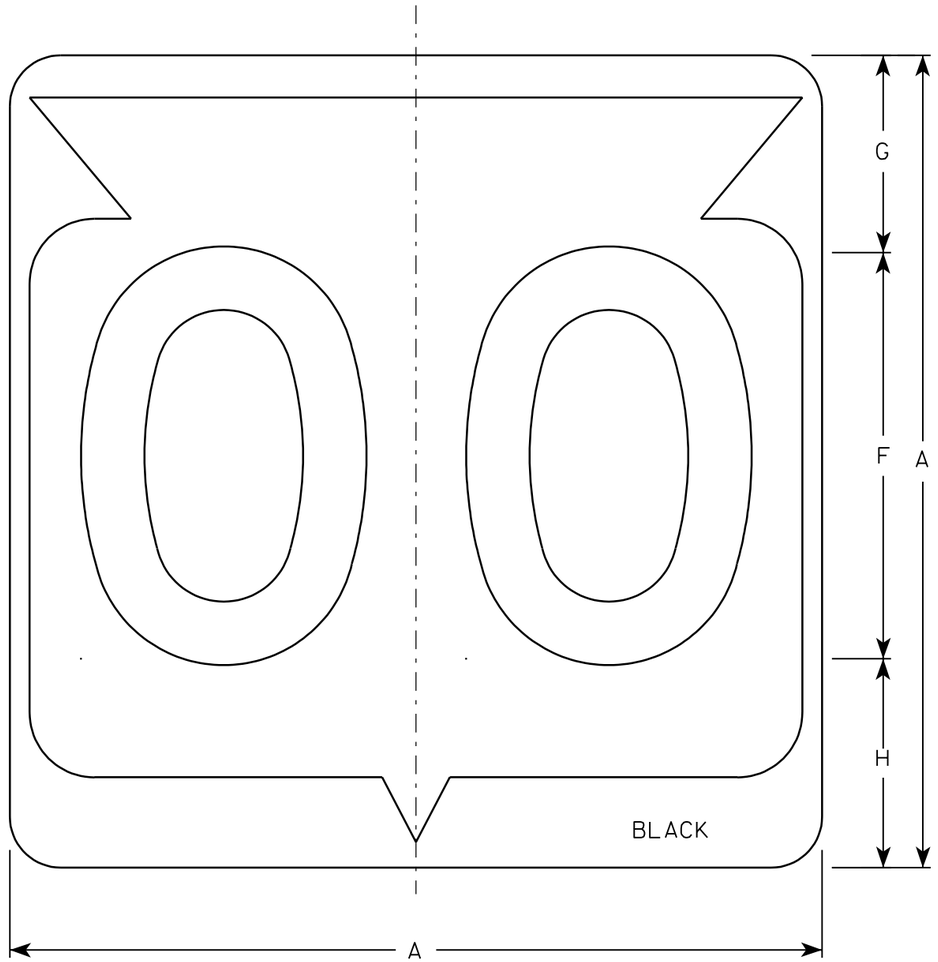
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

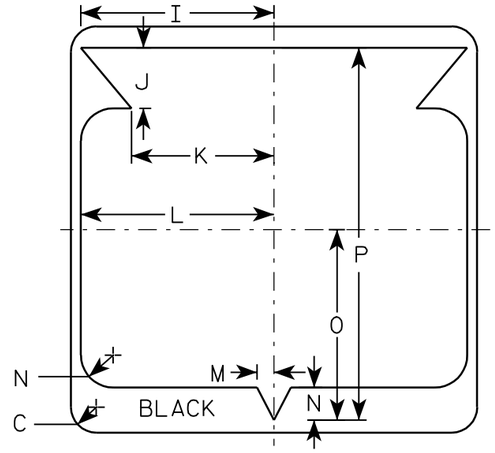
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 271	E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

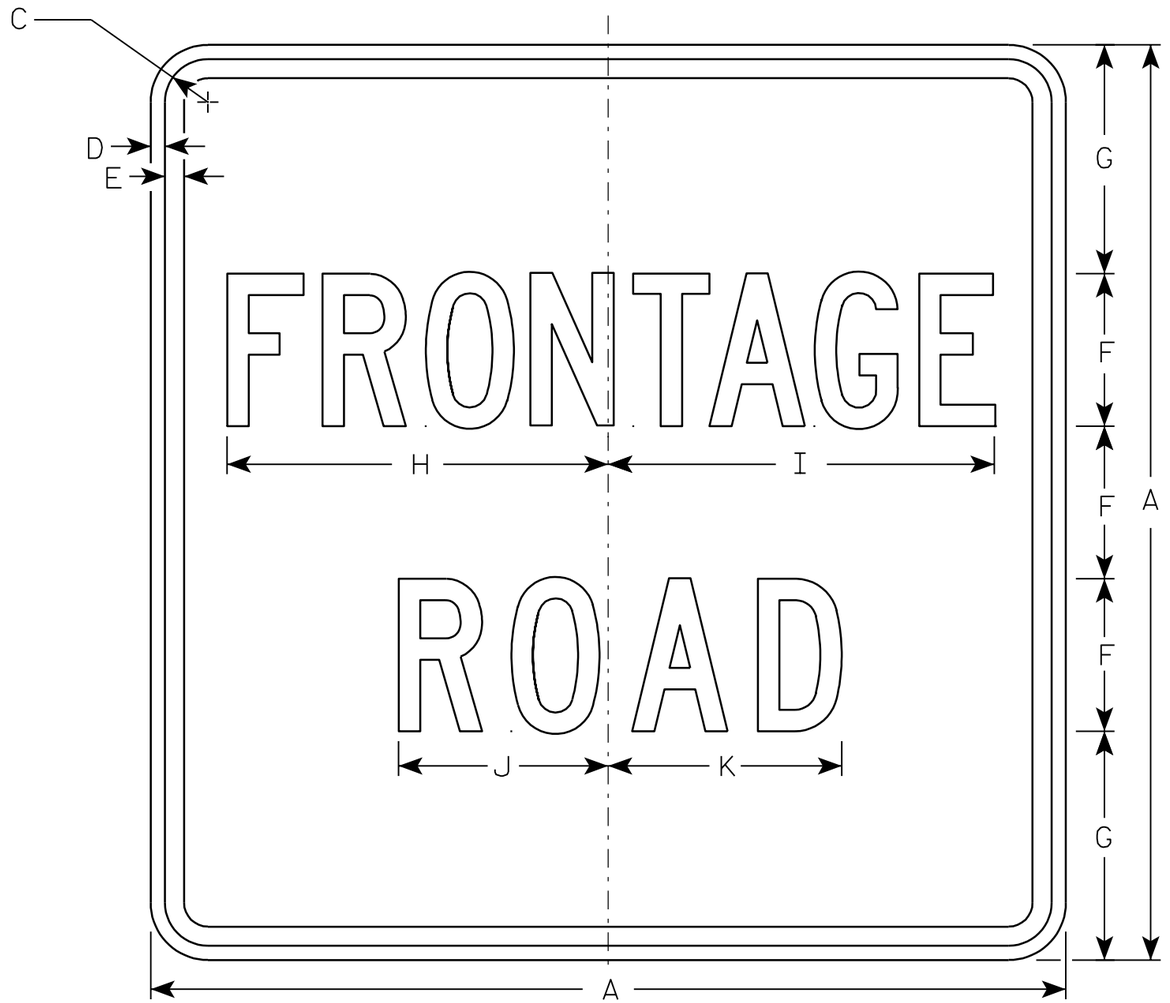
STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 272	E



M1-95

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

SIZE	
1	600 mm X 600 mm
2	600 mm X 600 mm
3	
4	900 mm X 900 mm
5	

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	24		1 1/8	3/8	1/2	4	6	10	10 1/8	5 1/2	6 1/8																4.0	0.36
2	24		1 1/8	3/8	1/2	4	6	10	10 1/8	5 1/2	6 1/8																4.0	0.36
3																												
4	36		1 3/8	1/2	5/8	6	9	15	15 1/4	8 1/4	9 1/8																9.0	0.81
5																												

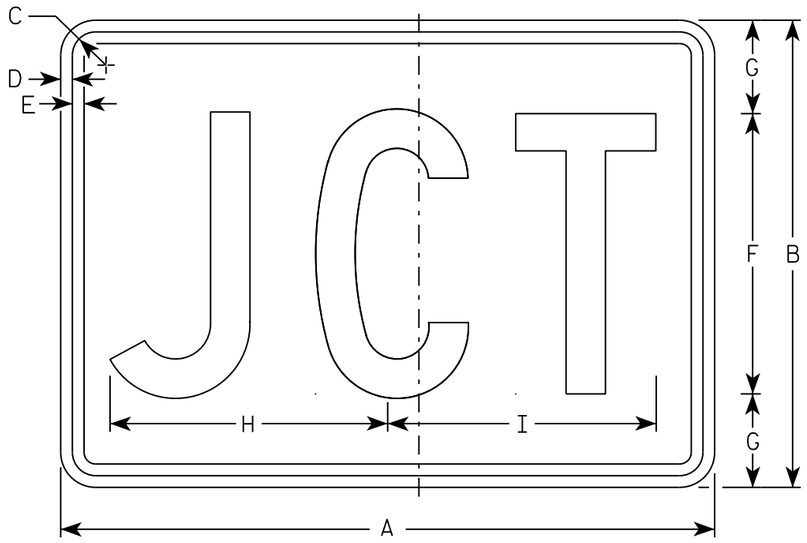
STANDARD SIGN
M1-95

WISCONSIN DEPT OF TRANSPORTATION

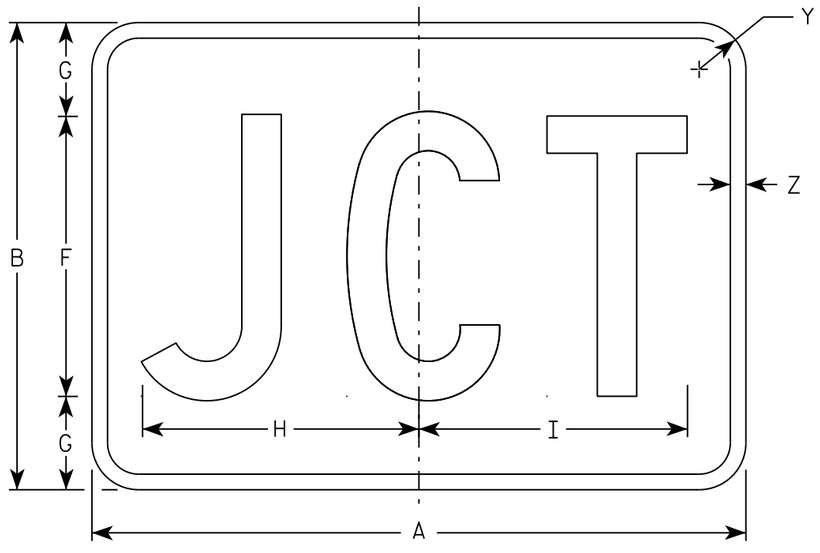
APPROVED Chester J Spange for State Traffic Engineer

DATE 1/30/02 PLATE NO. M1-95.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 273 | E



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
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.
5. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MP2-1 Background - White
   Message - Blue
   MR2-1 Background - Brown
   Message - Yellow

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																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

STANDARD SIGN
M2-1

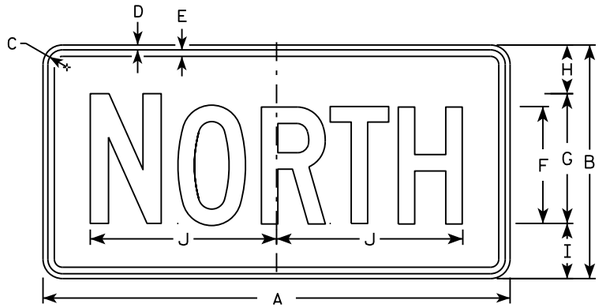
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

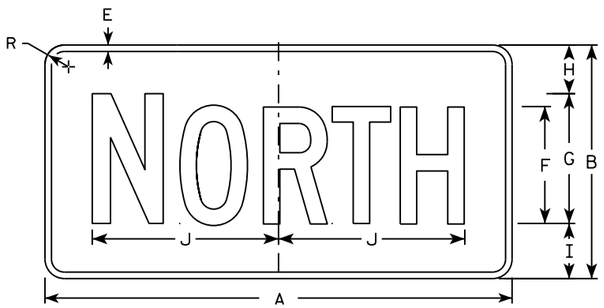
DATE 10/15/15 PLATE 274 12-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M21.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.864603:1.000000



M3-1
MM3-1
MP3-1



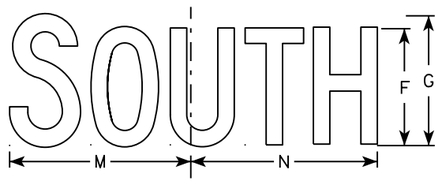
MB3-1
MK3-1
MN3-1



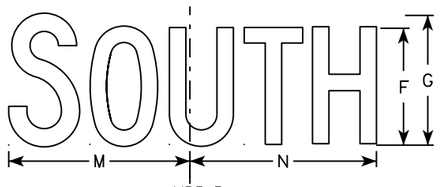
M3-2
MM3-2
MP3-2



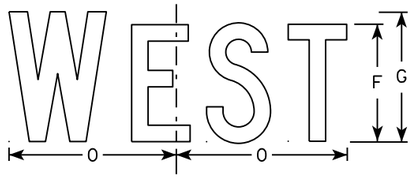
MB3-2
MK3-2
MN3-2



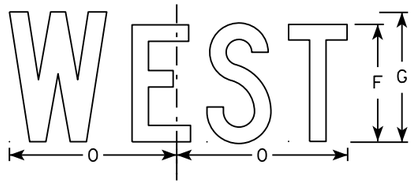
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
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.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

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																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

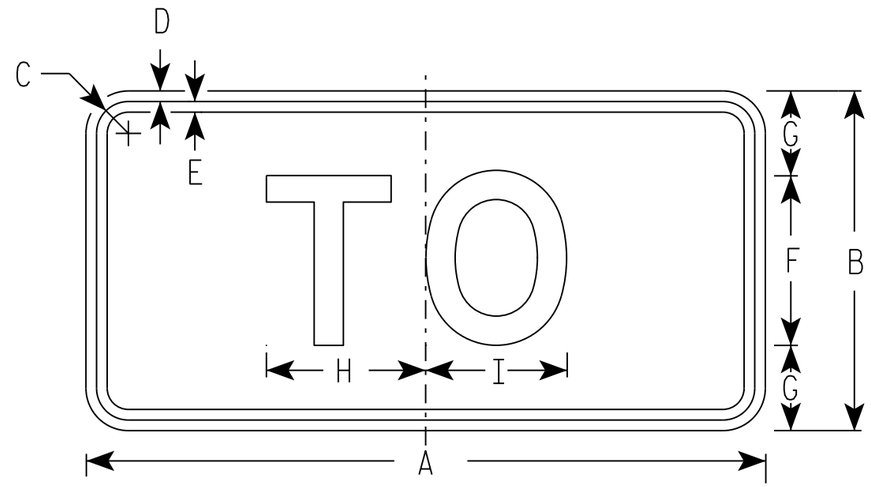
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

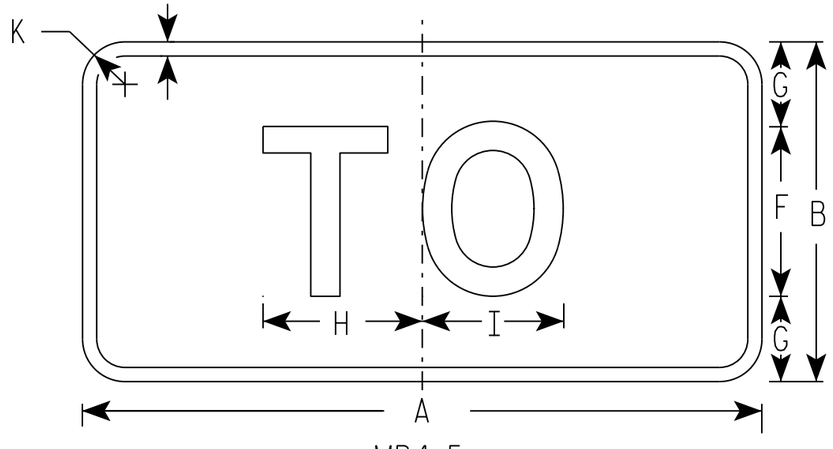
DATE 10/15/15 PLATE NO M3-1.14

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



M4-5
MM4-5
MP4-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

   MP4-5 Background - White
   Message - Blue

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																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5

STANDARD SIGN
M4-5

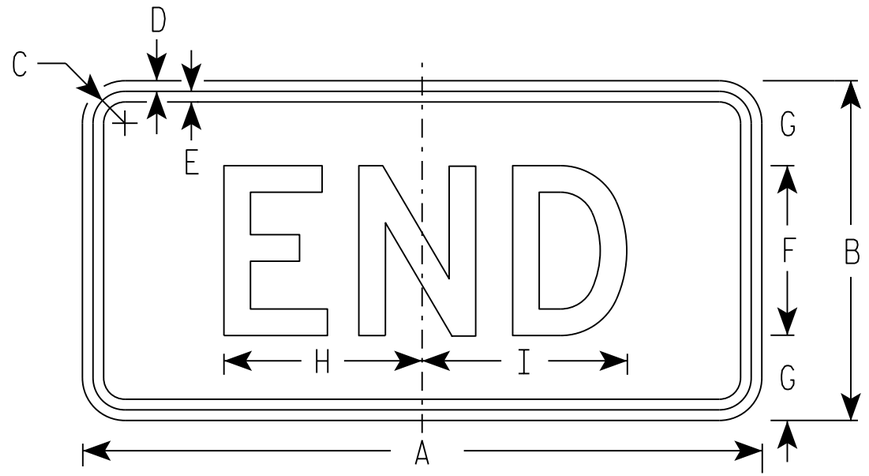
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

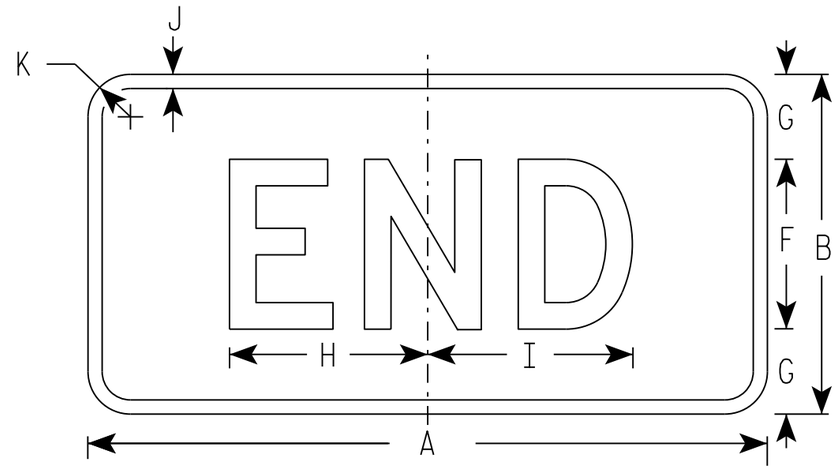
DATE 10/15/15 PLATE 276 M4-5.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M45.DGN PLOT DATE : 01-DEC-2015 17:55 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.351066:1.000000



M4-6
MM4-6
MP4-6



MB4-6
MK4-6
MN4-6
MR4-6

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-6 Background - White
   Message - Black

   MB4-6 Background - Blue
   Message - White

   MK4-6 Background - Green
   Message - White

   MM4-6 Background - White
   Message - Green

   MN4-6 Background - Brown
   Message - White

   MP4-6 Background - White
   Message - Blue

   MR4-6 Background - Brown
   Message - Yellow

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																											
2	24	12	1 1/8	3/8	3/8	6	3	7	7 1/4	1/2	1 1/2																2.00
3	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
4	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
5	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5

STANDARD SIGN
M4-6

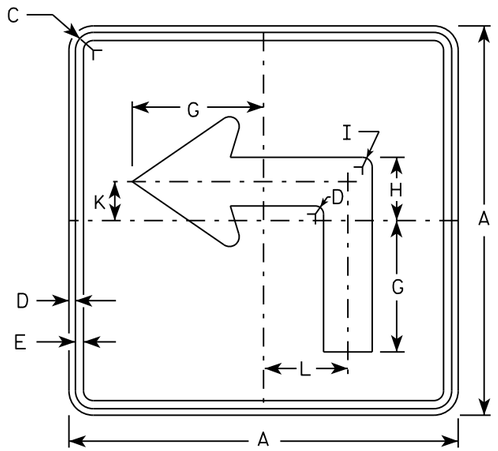
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

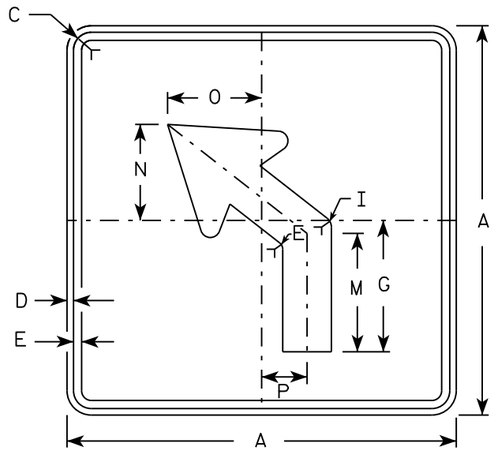
DATE 10/15/15 PLATE 277 '14-7.9

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

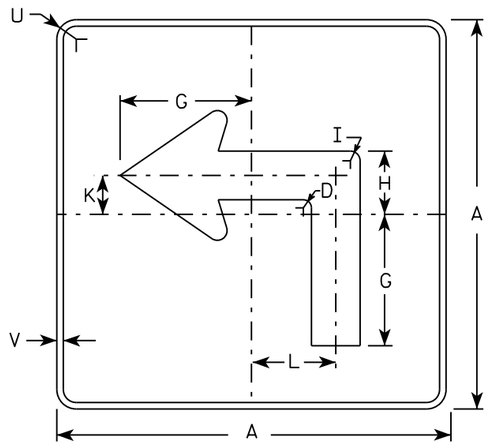
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M46.DGN PLOT DATE : 01-DEC-2015 17:55 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.351066:1.000000



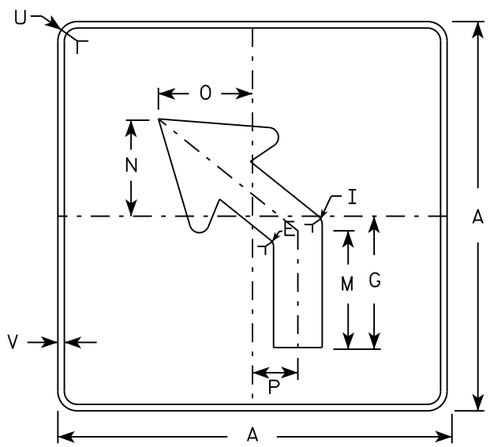
M5-1L
MM5-1L
MO5-1L
MP5-1L



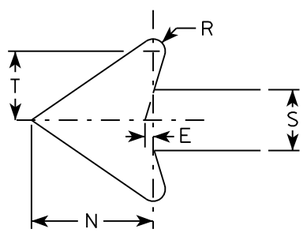
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   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. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

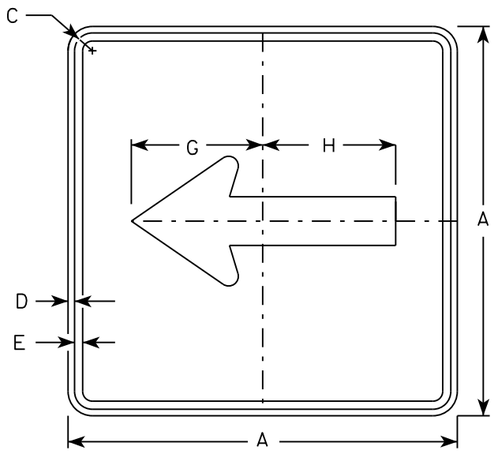
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

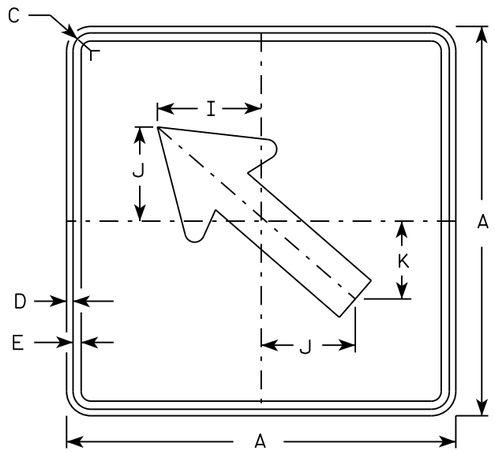
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



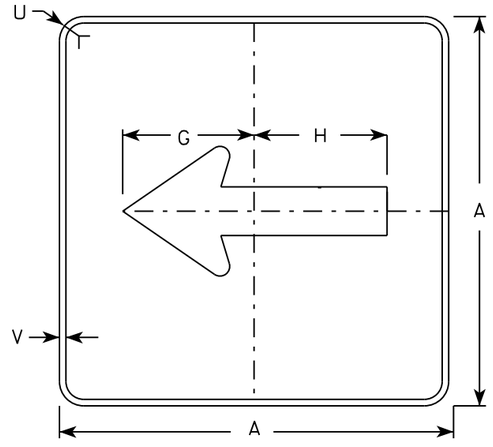
M6-1
MM6-1
MO6-1
MP6-1



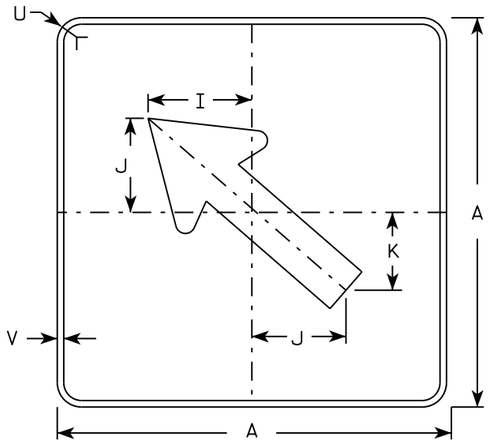
M6-2
MM6-2
MO6-2
MP6-2

NOTES

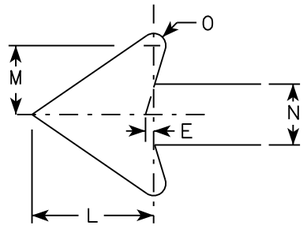
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



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																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

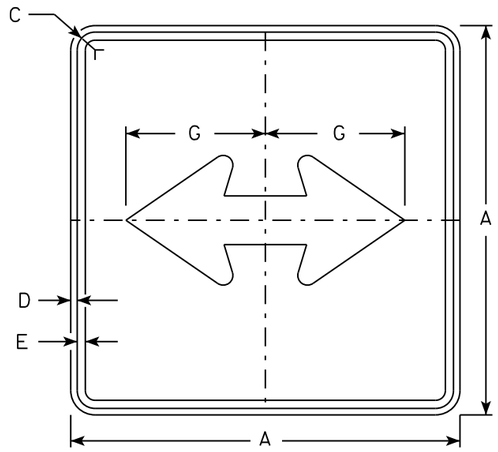
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

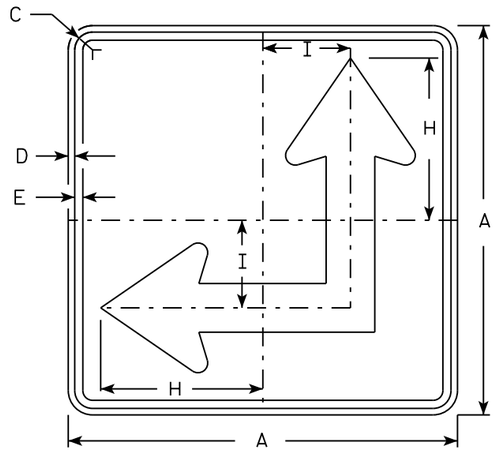
DATE 10/15/15 PLATE 279 M6-1.15

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



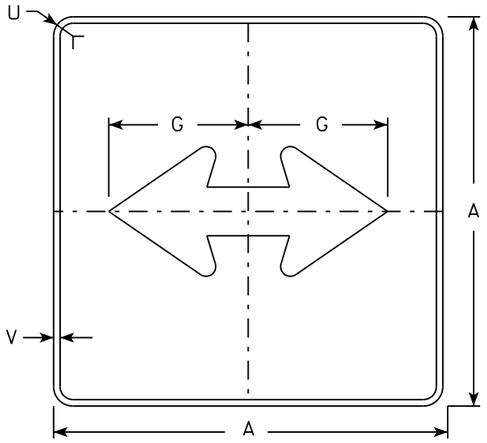
M6-4
MM6-4
MO6-4
MP6-4



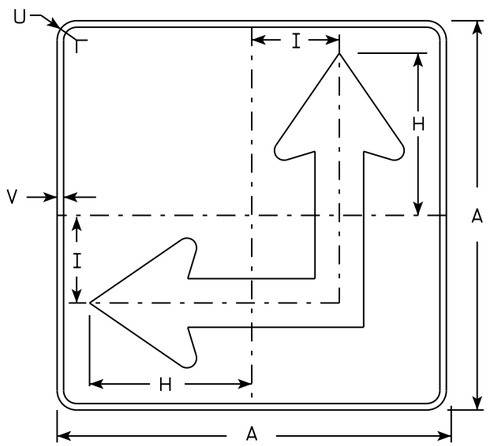
M6-6
MM6-6
MO6-6
MP6-6

NOTES

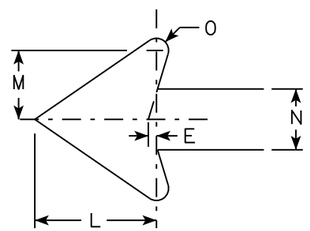
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.



MB6-4
MK6-4
MN6-4
MR6-4



MB6-6
MK6-6
MN6-6
MR6-6



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN
M6-4 & M6-6
SERIES

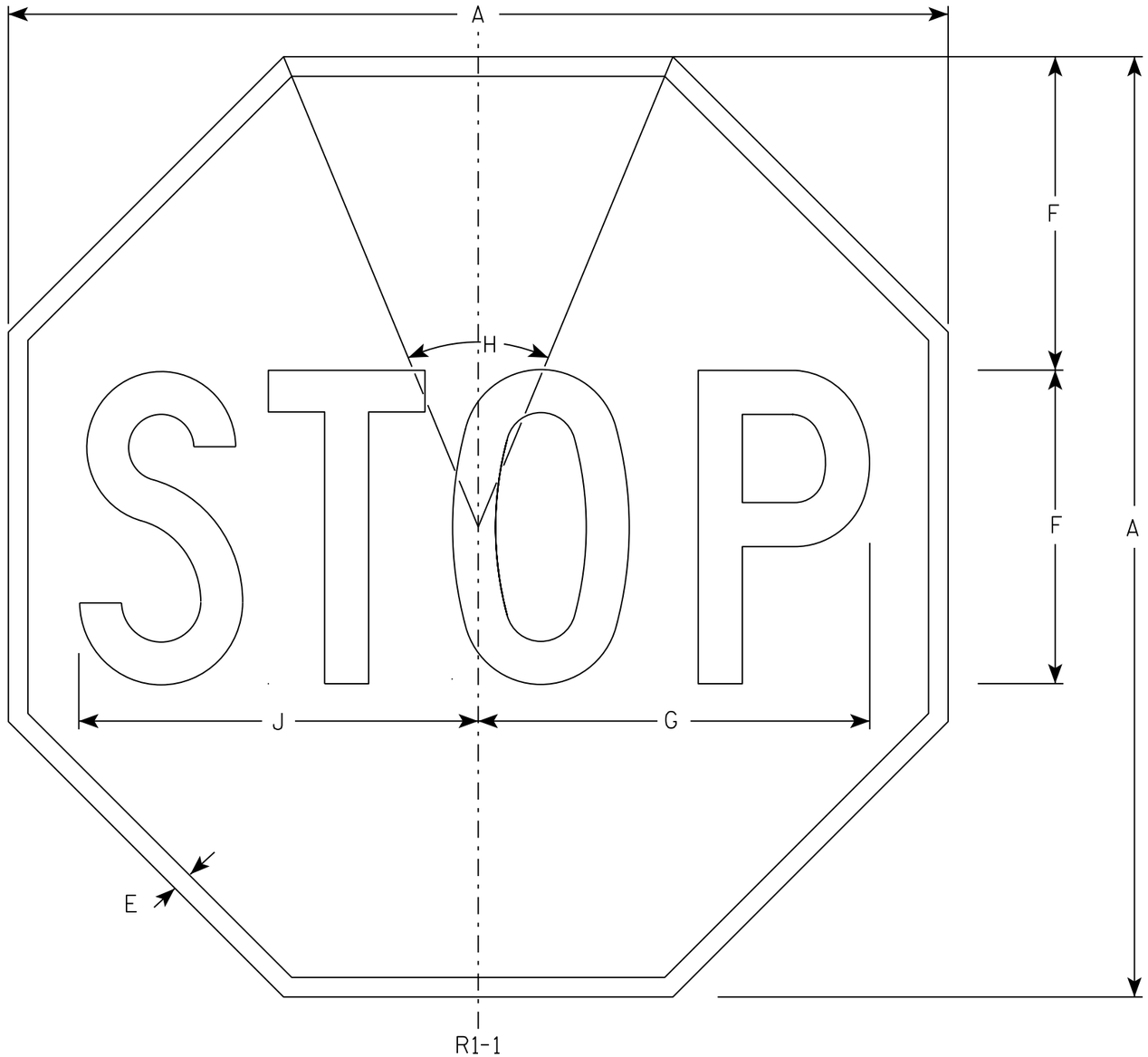
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 280 M6-4.10

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M64.DGN PLOT DATE : 01-DEC-2015 17:58 PLOT BY : $$ platuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



R1-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - 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	30				5/8	10	12 1/2	45°		12 3/4																	5.18
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

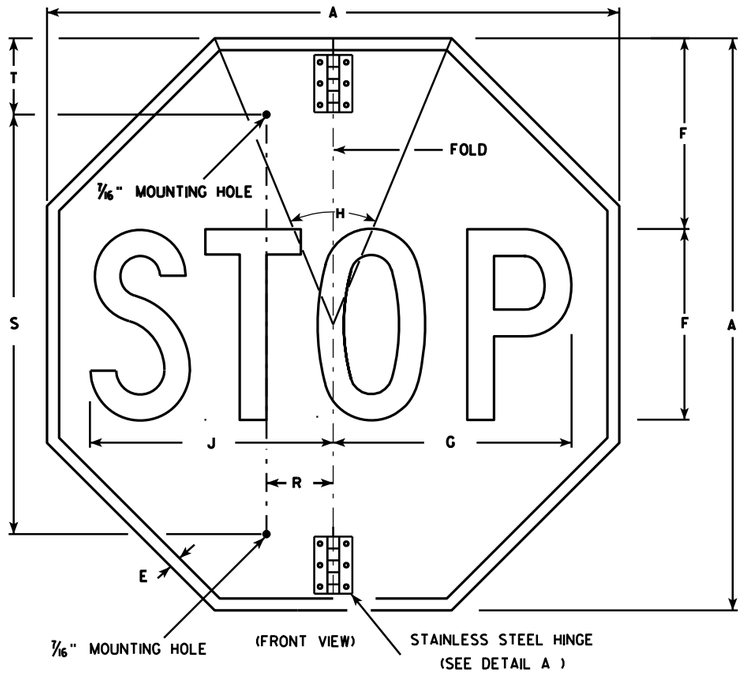
WISCONSIN DEPT OF TRANSPORTATION

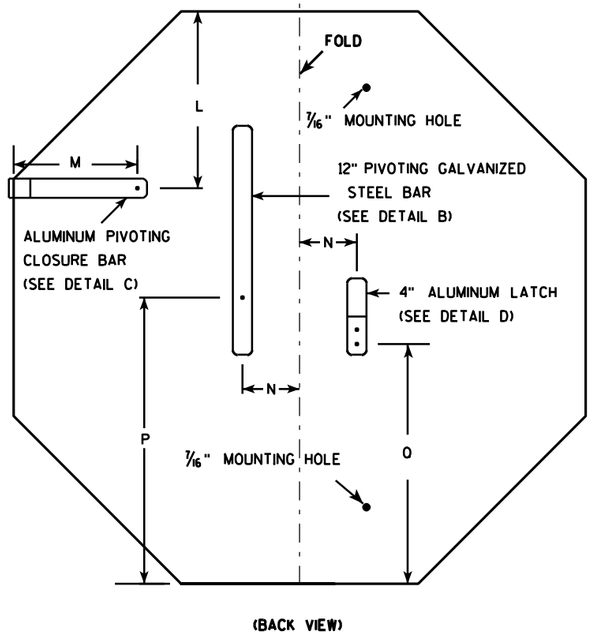
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE 281 R1-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: E

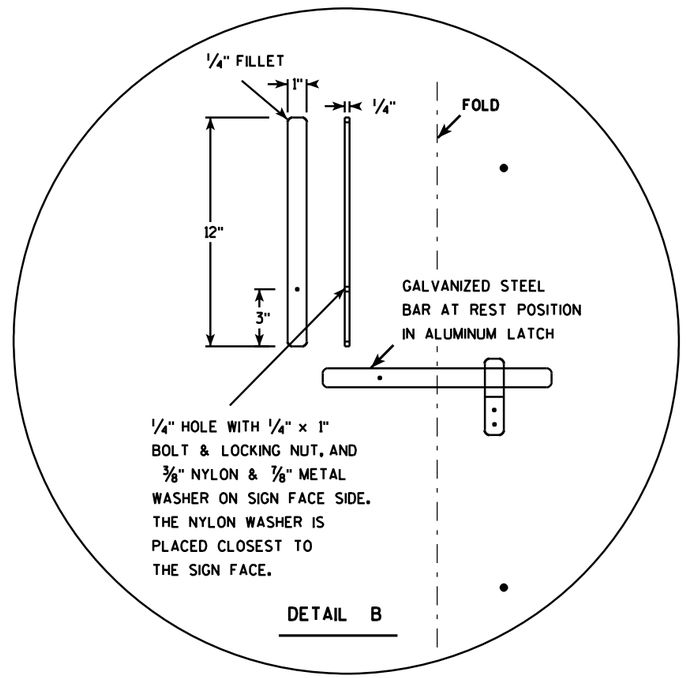
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R11.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.378143:1.000000

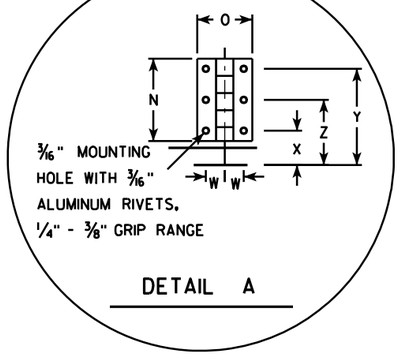


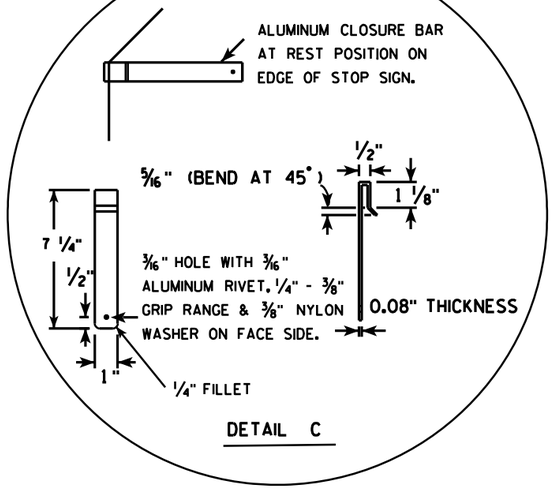


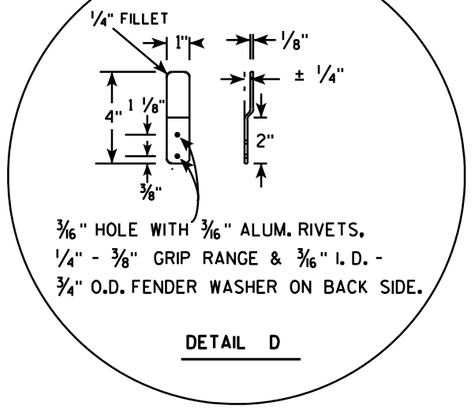
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.









SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

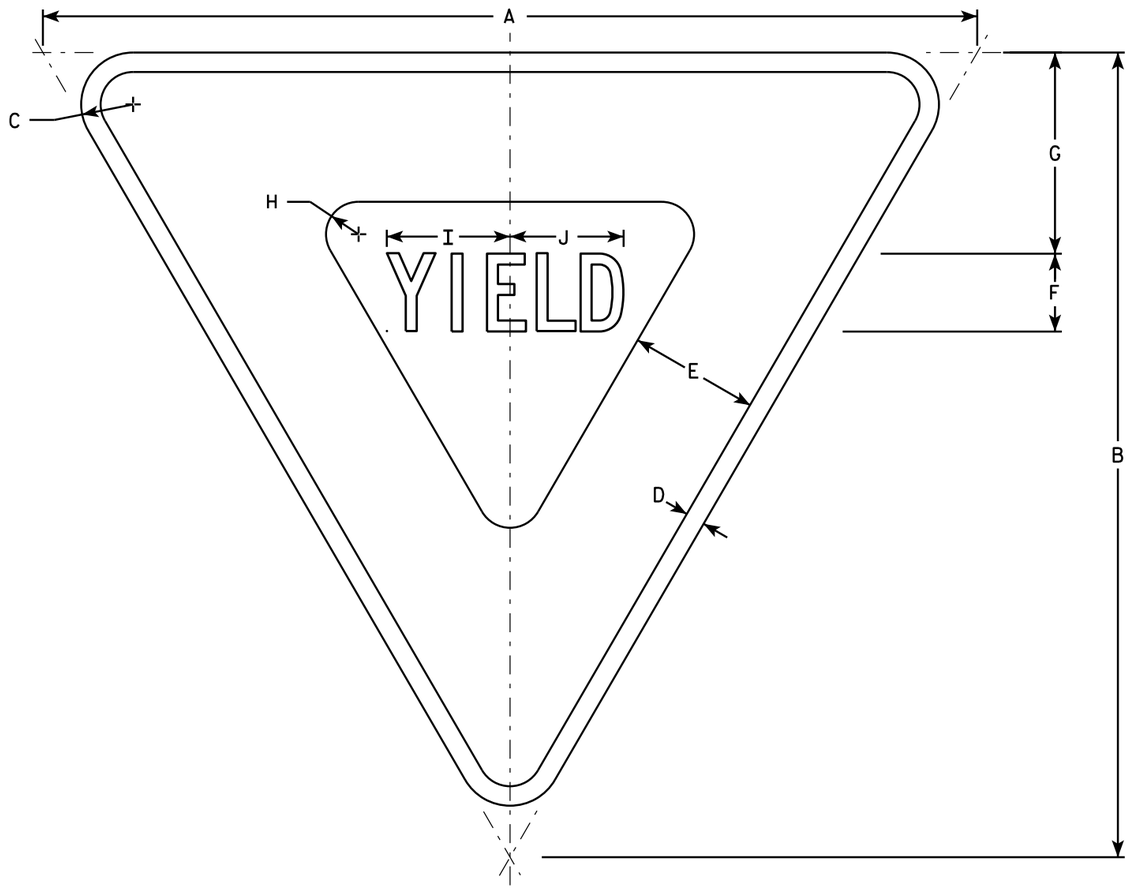
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 282	E



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 5
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.
5. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

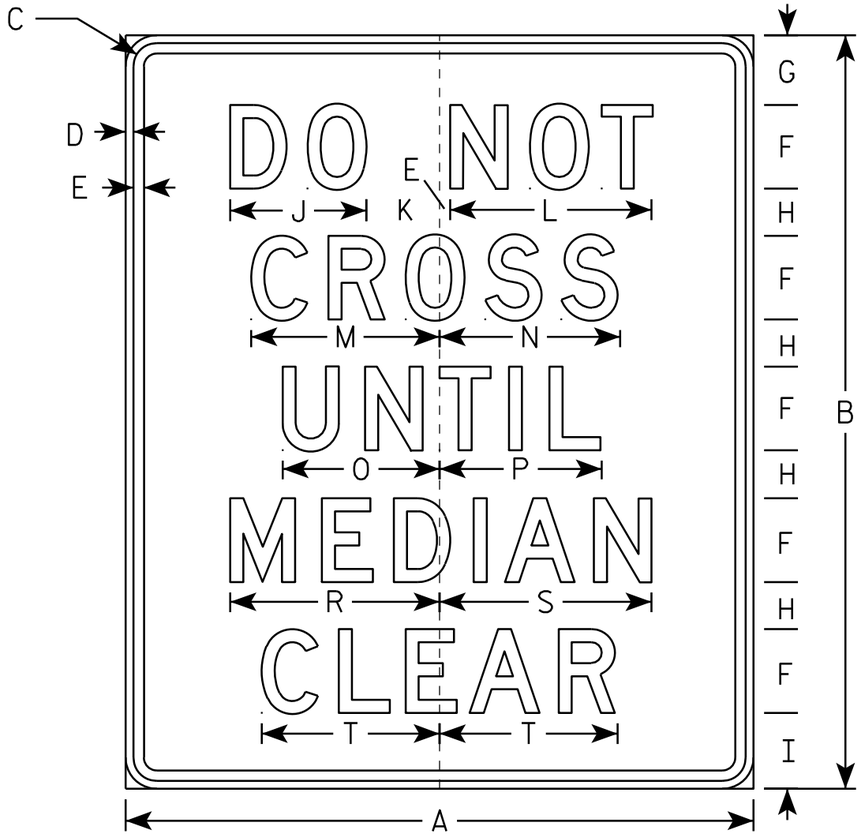
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



R1-55

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.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 1/8	3/8	1/2	4	3 3/8	2 1/4	3 5/8	6 1/2	3 1/2	9 5/8	9	8 5/8	7 1/2	7 3/4		10	10 1/8	8 1/2							7.5
2M	30	36	1 1/8	3/8	1/2	4	3 3/8	2 1/4	3 5/8	6 1/2	3 1/2	9 5/8	9	8 5/8	7 1/2	7 3/4		10	10 1/8	8 1/2							7.5
3																											
4																											
5																											

STANDARD SIGN
R1-55

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-55.2

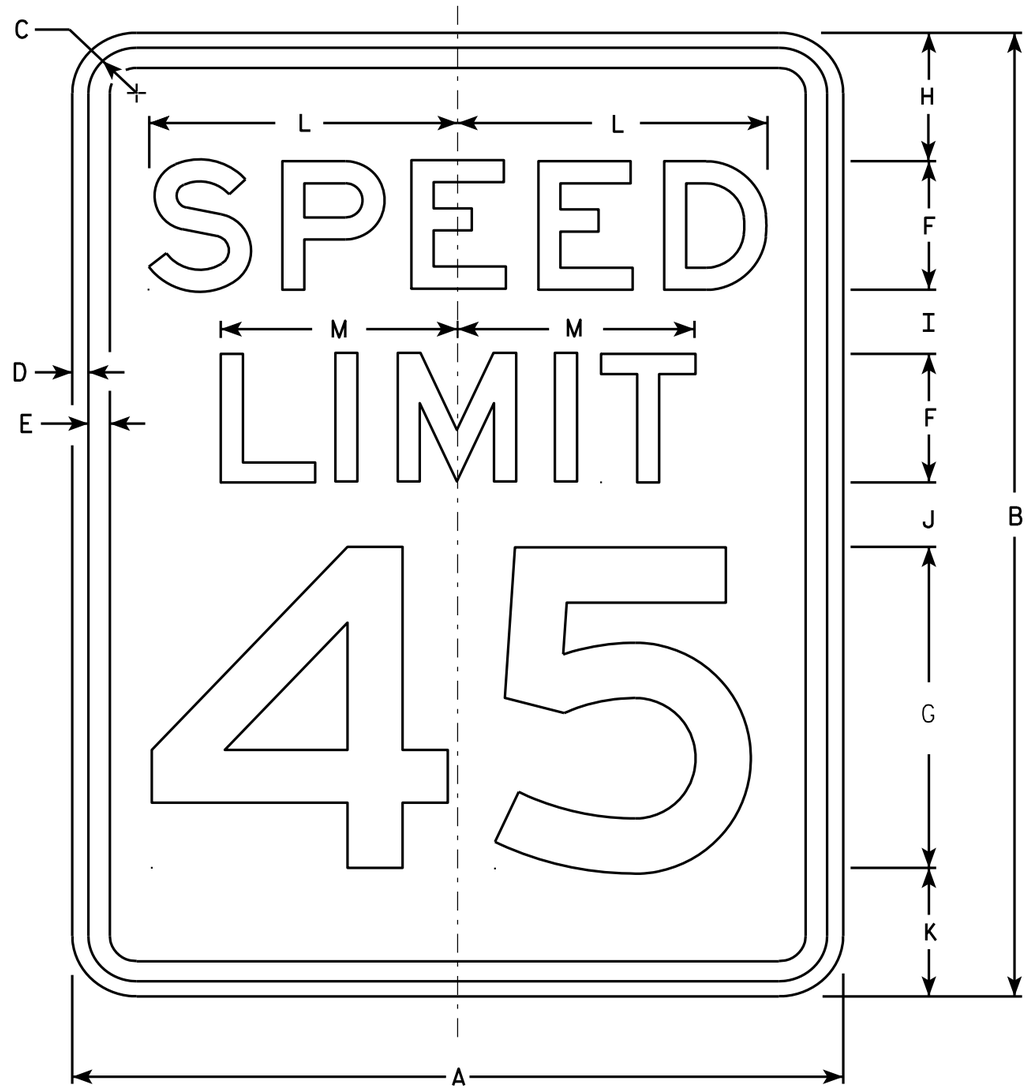
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 284 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R155.DGN PLOT DATE : 03-DEC-2010 09:44 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 7.240236:1.000000

WISDOT/CADDS SHEET 42

7

7



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

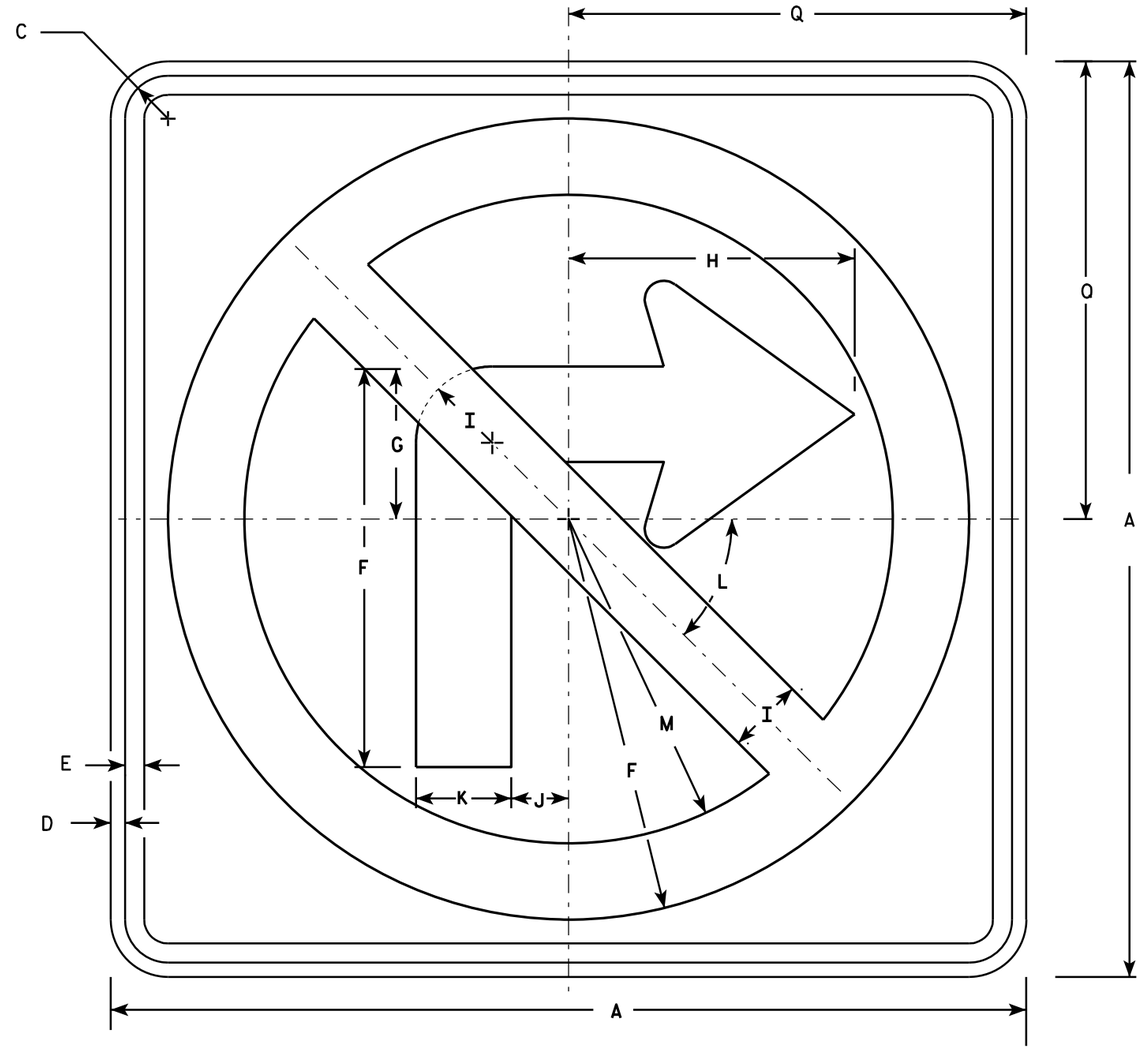
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 285 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000

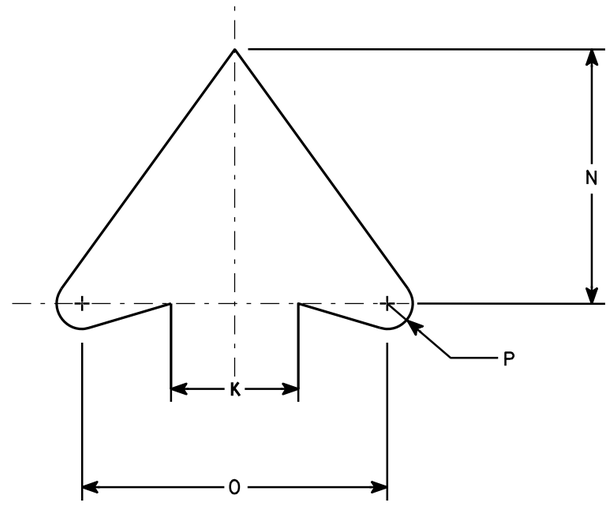
WISDOT/CADDS SHEET 42



R3-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

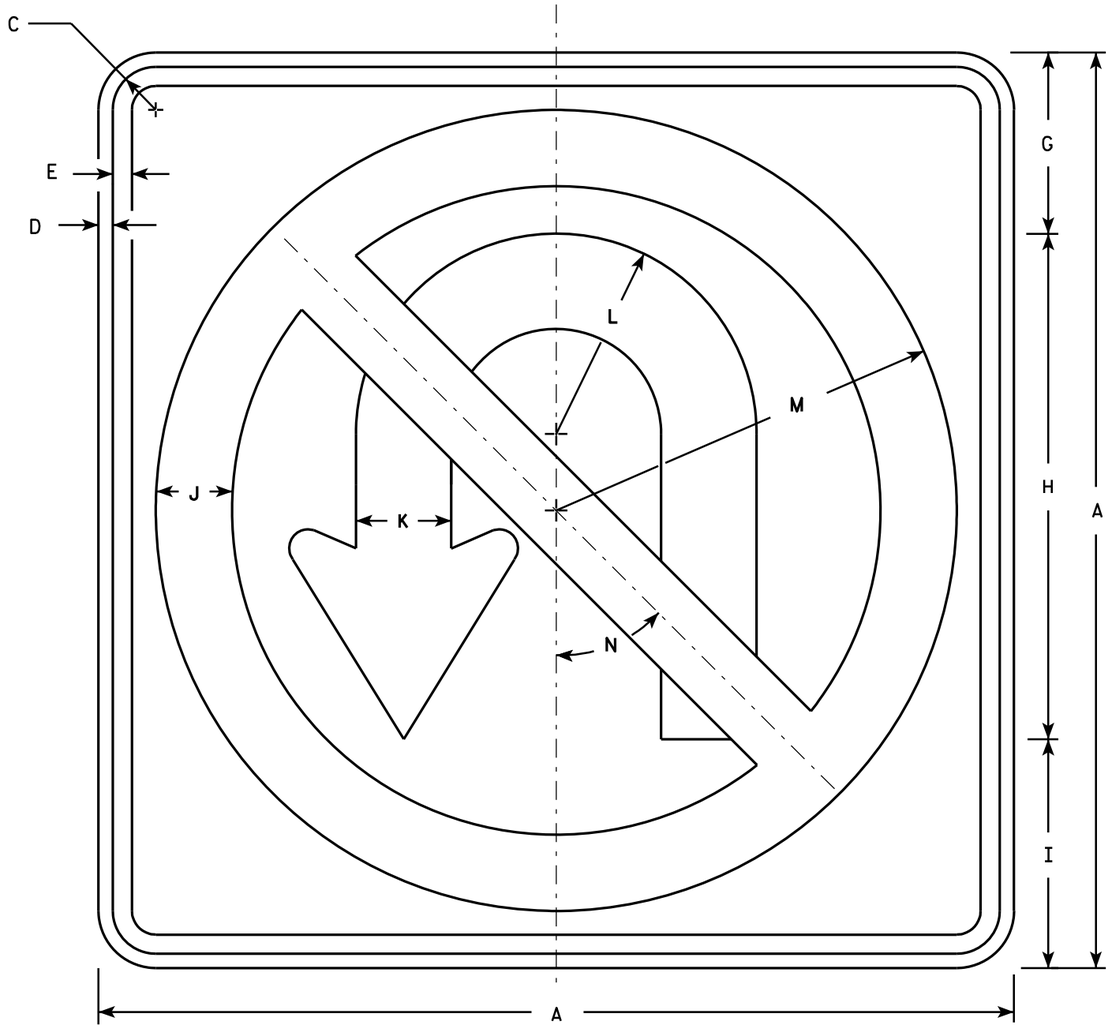
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

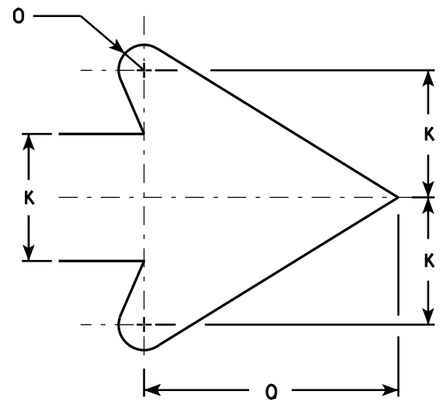
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 286	E



R3-4

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	24		1 1/8	3/8	1/2		4 3/4	13 1/4	6	2	2 1/2	5 1/4	10 1/2	45°	1/2		5										4.0
2M	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
3	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
4	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
5	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0

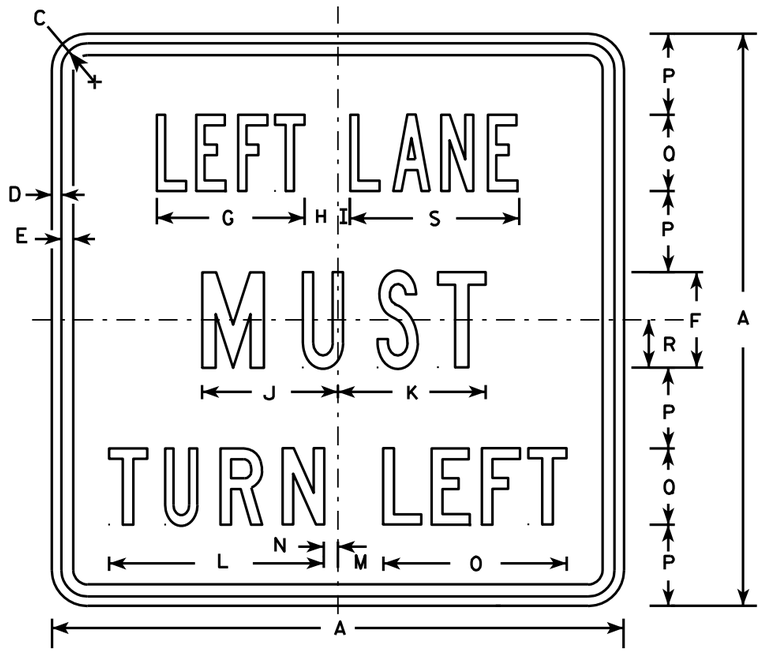
STANDARD SIGN
R3-4

WISCONSIN DEPT OF TRANSPORTATION

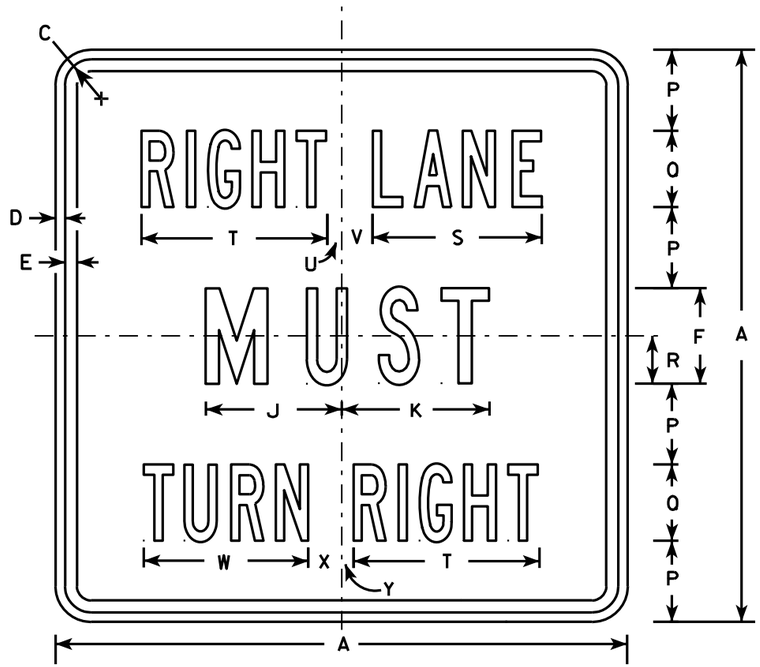
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 287	E



R3-7L



R3-7R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - Line 1 is Series B.
   Line 2 is Series C.
   Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

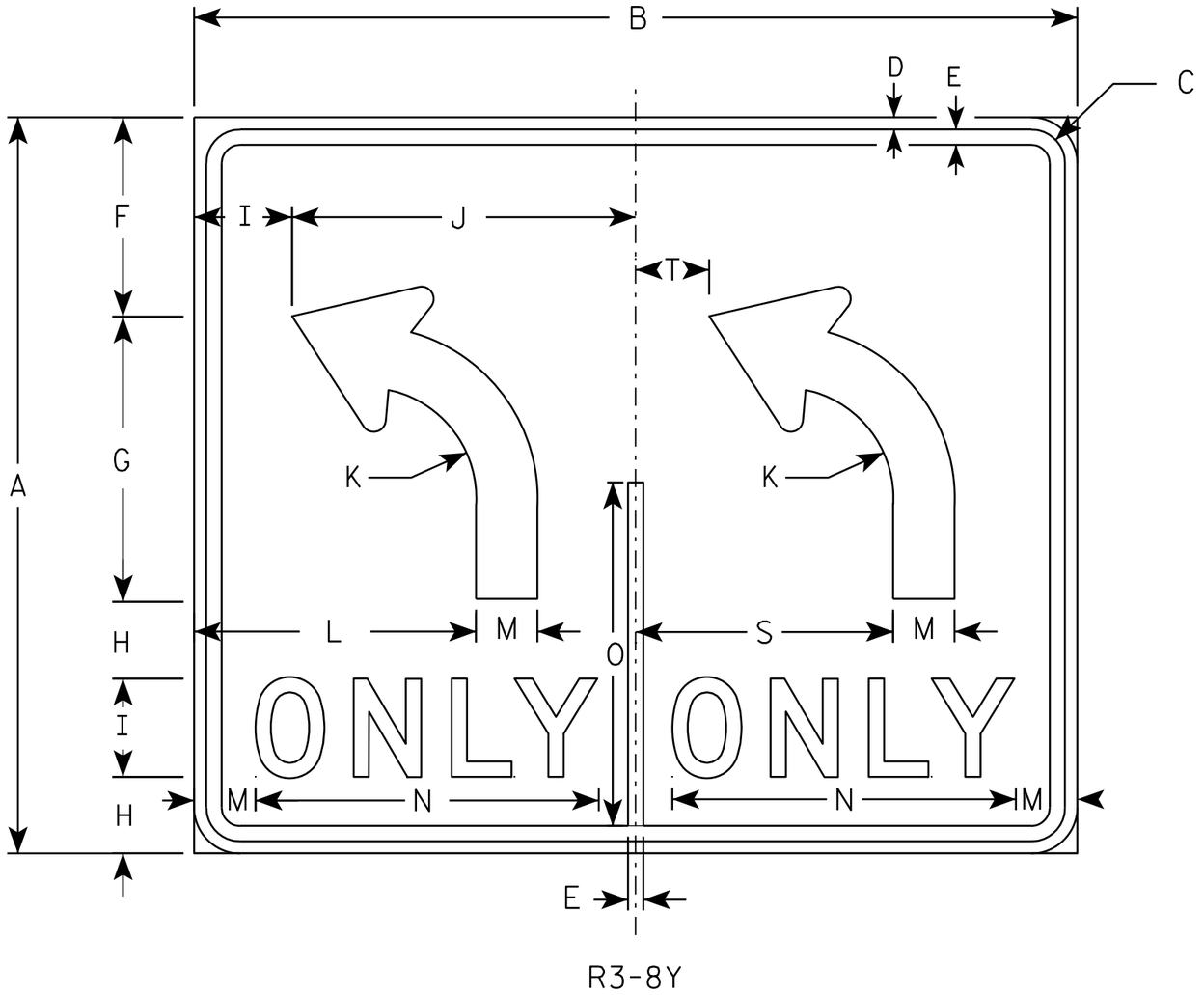
STANDARD SIGN
R3-7L & R3-7R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-7.3

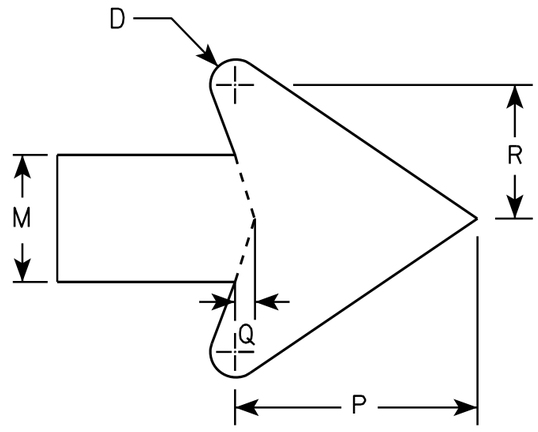
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 288 | E



R3-8Y

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - WHITE
   Message - BLACK
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	14	4 1/2	11 1/2	2 1/2	14	14	4 3/4	3/8	2 5/8	10 1/2	3							7.5
2M	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	14	4 1/2	11 1/2	2 1/2	14	14	4 3/4	3/8	2 5/8	10 1/2	3							7.5
3																											
4	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	21	7 1/4	17 1/4	3 3/4	20 5/8	22 3/8	7 1/8	5/8	4	15 3/4	4 1/2							18.0
5	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	21	7 1/4	17 1/4	3 3/4	20 5/8	22 3/8	7 1/8	5/8	4	15 3/4	4 1/2							18.0

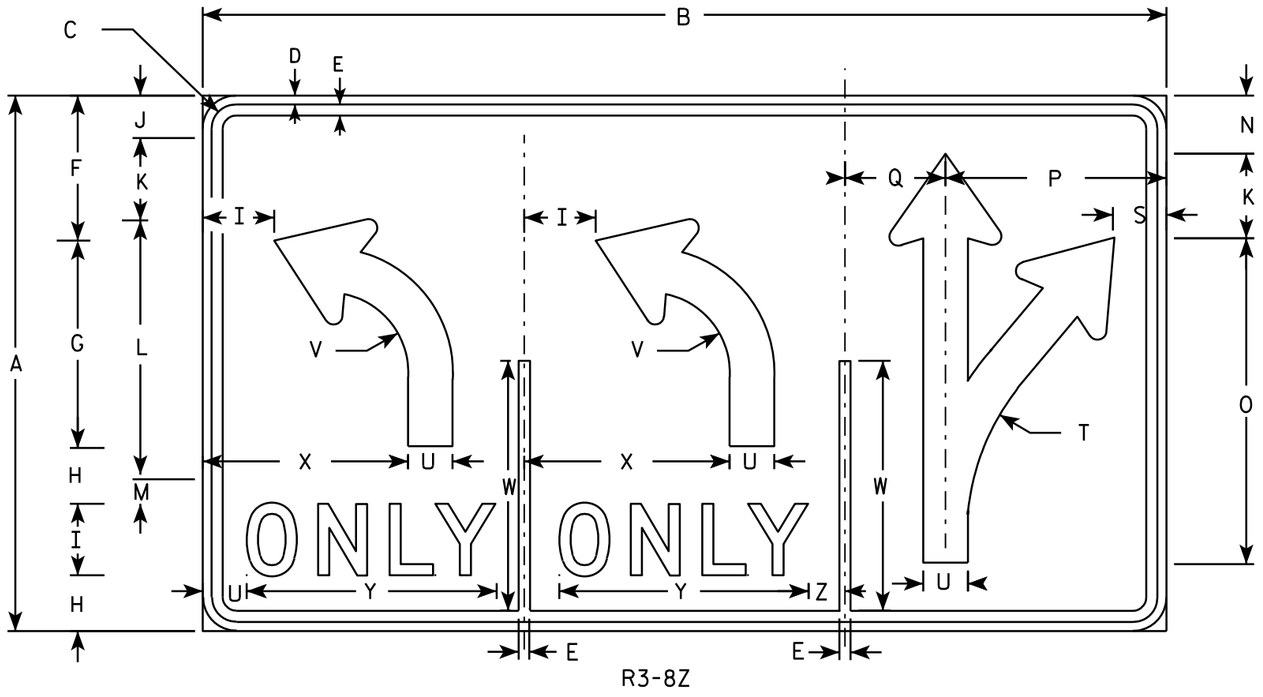
STANDARD SIGN
R3-8Y

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-8Y.2

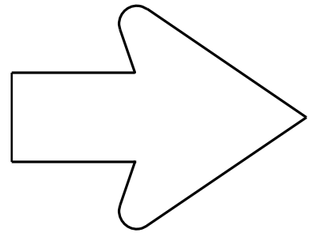
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 289 | E



R3-8Z

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.



SEE R3-8 FOR 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	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	3 1/4	18 1/4	12 3/8	5 5/8		3	13 1/4	2 1/2	4 1/2	14	11 1/2	14	2	11.25
2M	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	3 1/4	18 1/4	12 3/8	5 5/8		3	13 1/4	2 1/2	4 1/2	14	11 1/2	14	2	11.25
3																											
4	48	84	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7	29 1/8	2 7/8	5 1/4	29 1/8	18 5/8	8 3/4		4 3/8	21 7/8	3 3/4	7 1/4	22 3/8	17 1/4	20 5/8	3 1/4	28.0
5	48	84	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7	29 1/8	2 7/8	5 1/4	29 1/8	18 5/8	8 3/4		4 3/8	21 7/8	3 3/4	7 1/4	22 3/8	17 1/4	20 5/8	3 1/4	28.0

STANDARD SIGN
R3-8Z

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-8Z.2

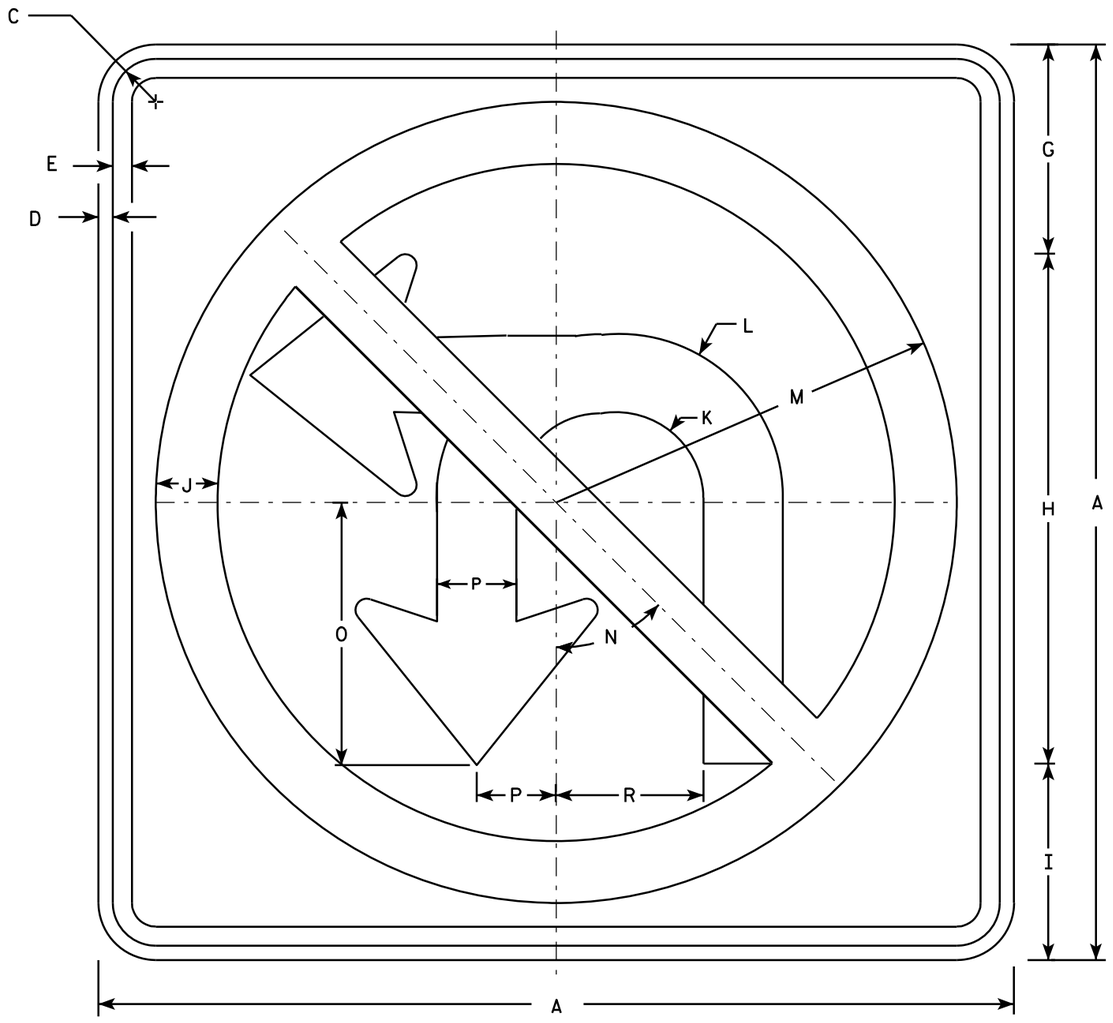
PROJECT NO: | SHEET NO: 290 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R38Z.DGN PLOT DATE : 24-MAR-2011 10:48 PLOT BY : mscsja PLOT NAME :

WISDOT/CADDS SHEET 42

7

7



R3-18

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.

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	3/8	1/2		5 1/2	13 3/8	5 1/8	1 5/8	2 1/4	4 1/4	10 1/2	45°	6 7/8	2 1/8		3 7/8									4.0
2M	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45°	10 3/8	3 1/8		5 3/4									9.0
3	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45	10 3/8	3 1/8		5 3/4									9.0
4	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45	10 3/8	3 1/8		5 3/4									9.0
5	48		2 1/4	3/4	1		11	26 3/4	10 1/4	3 1/4	4 5/8	8 5/8	21	45°	13 3/4	4 1/8		7 3/4									16.0

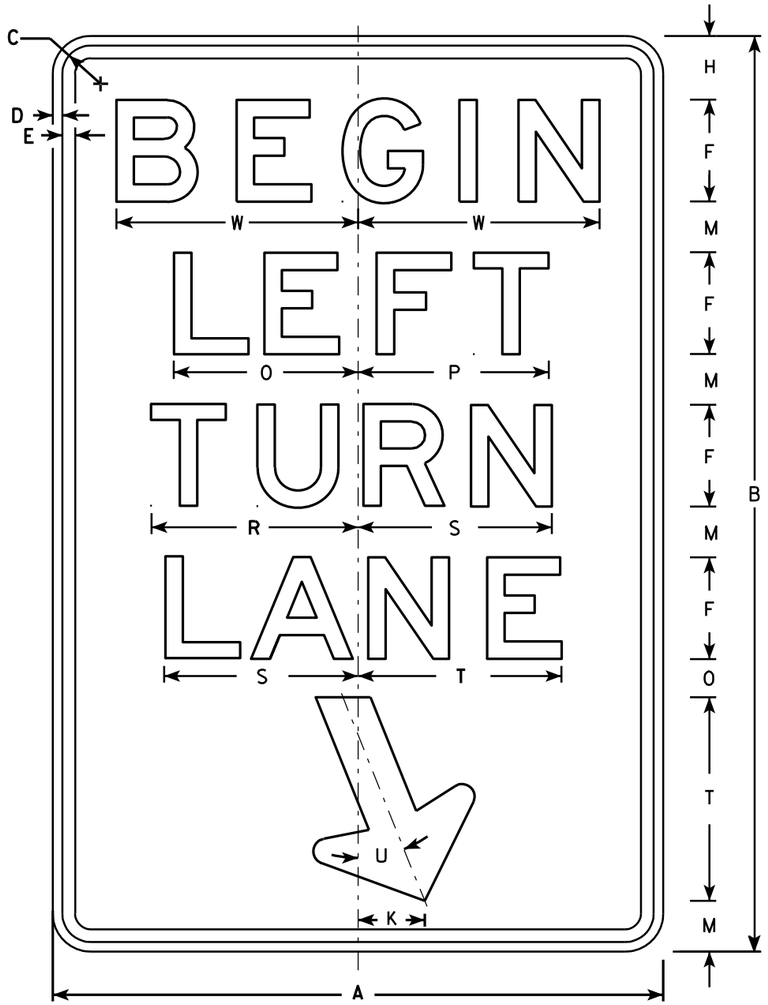
STANDARD SIGN
R3-18

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/21/10 PLATE NO. R3-18.2

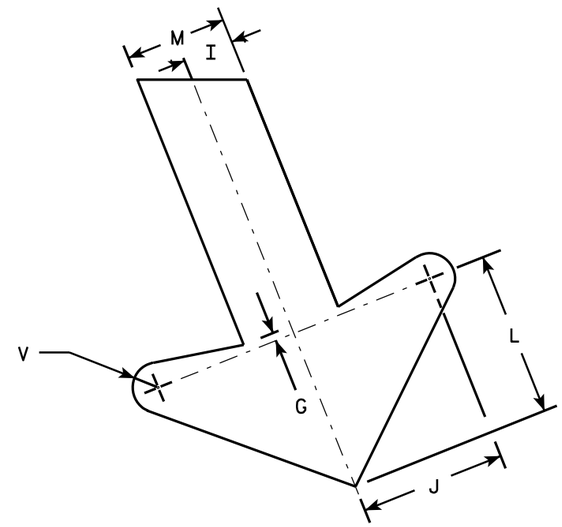
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 291	E



R3-20L

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

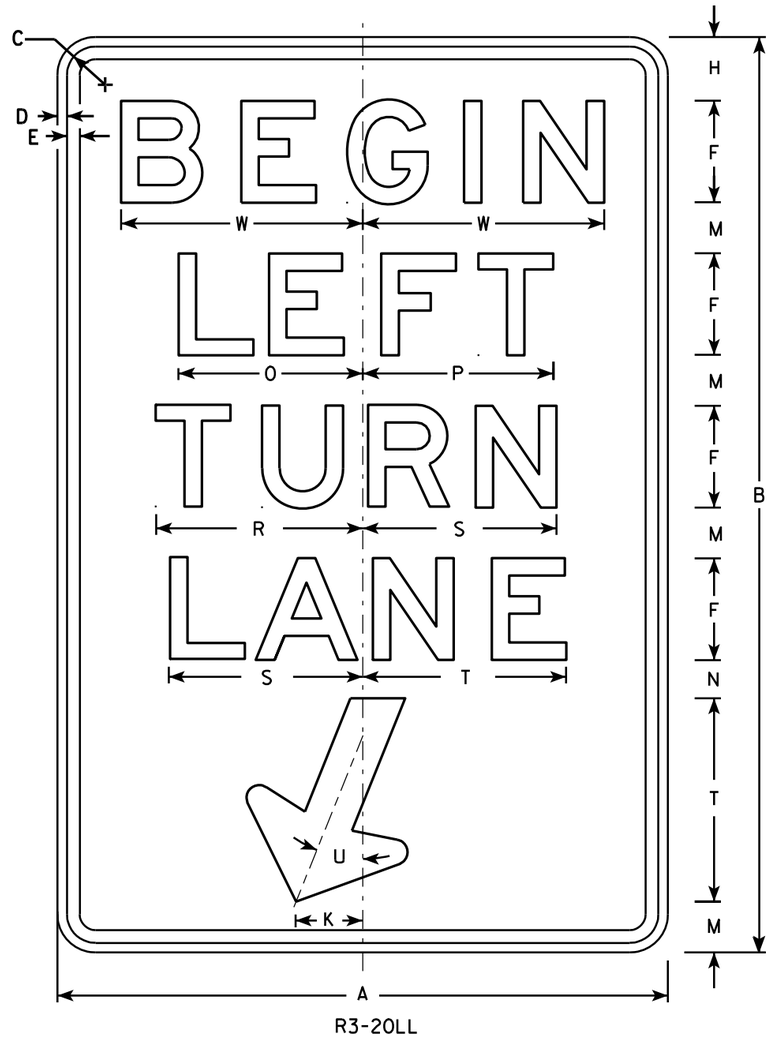
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

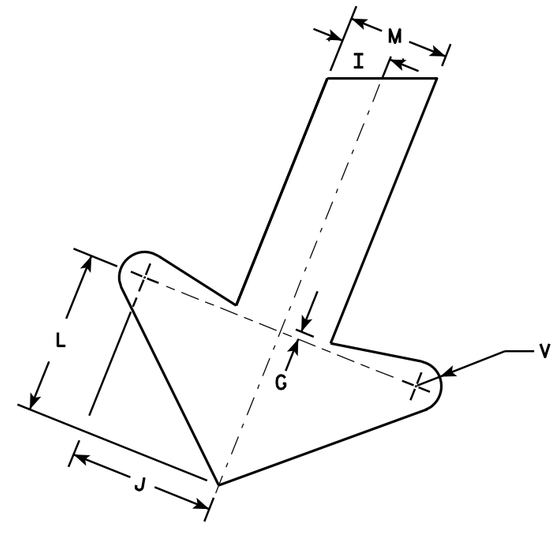
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 292 | E



R3-20LL

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

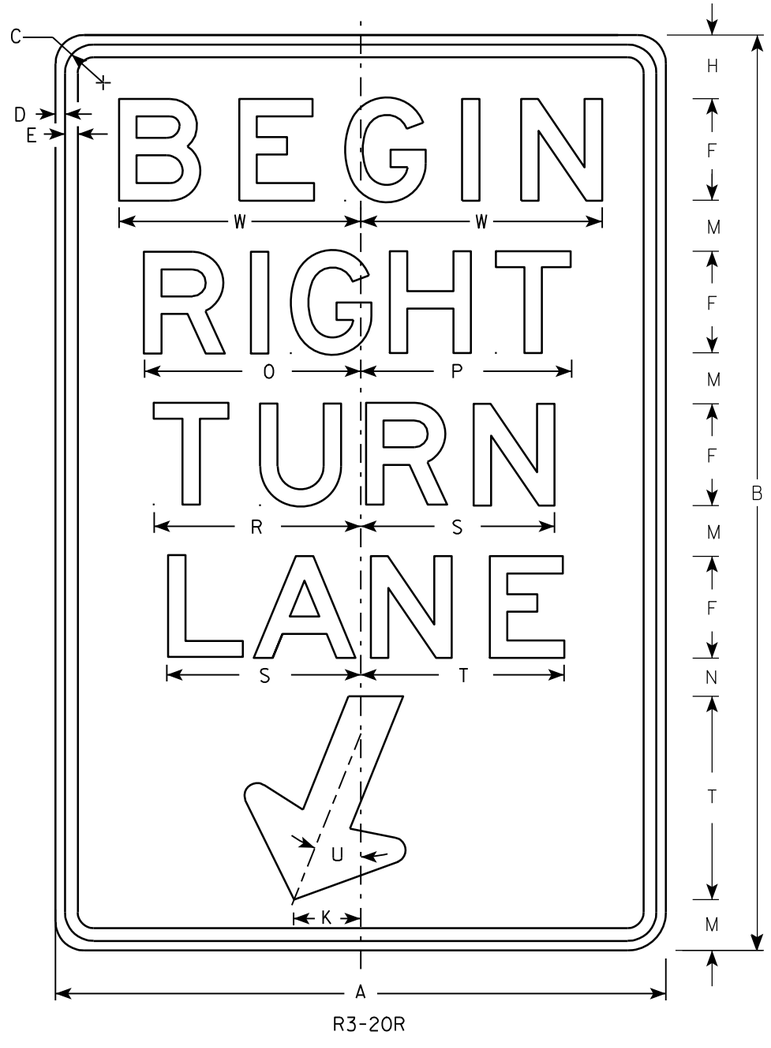
STANDARD SIGN
R3-20LL

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20LL.1

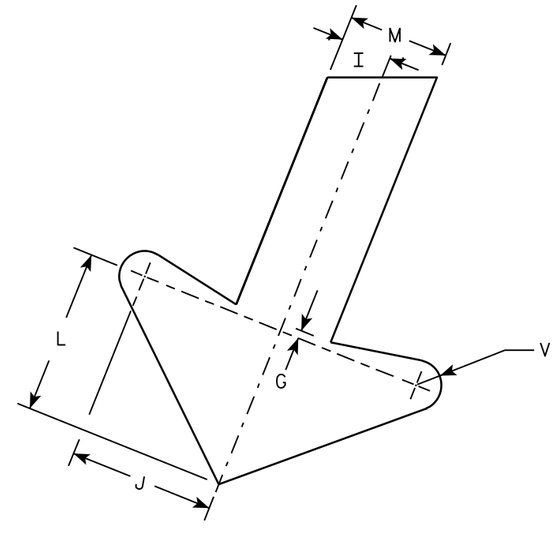
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 293 | E



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																											

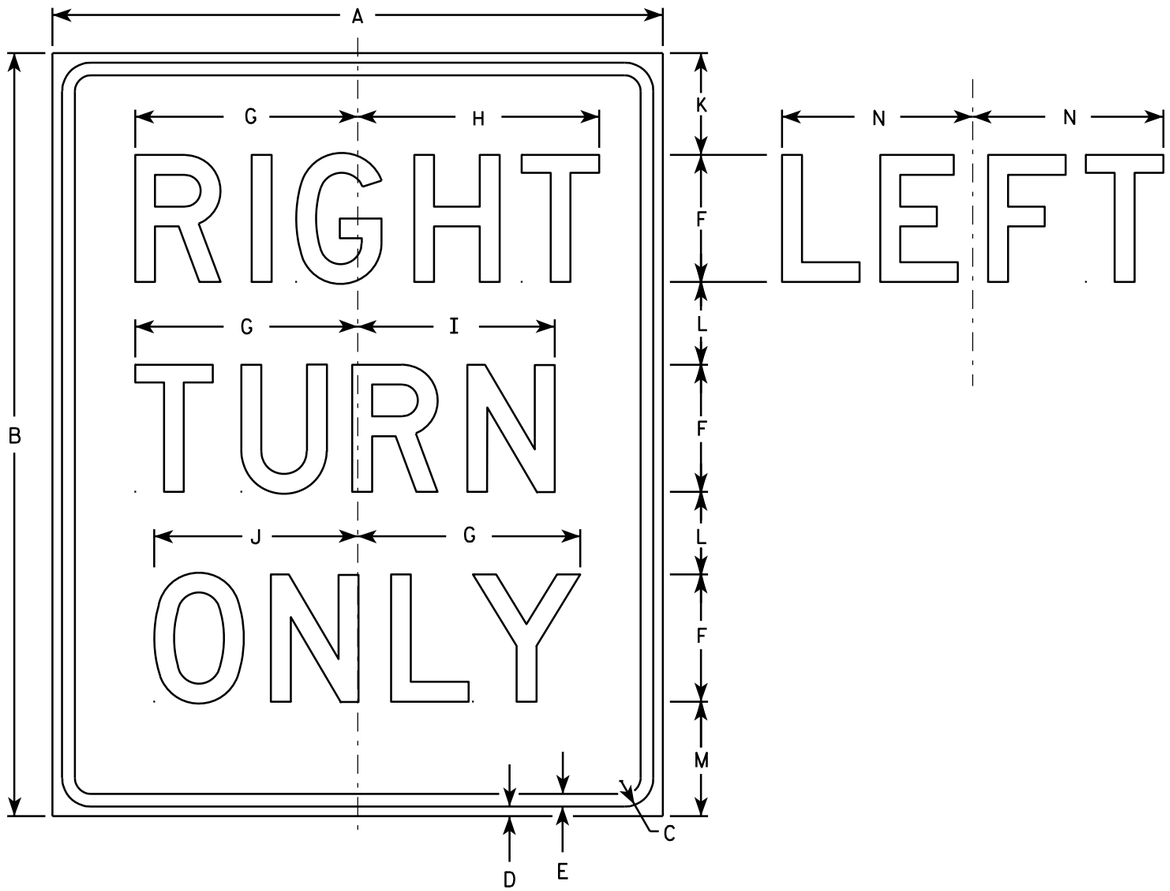
STANDARD SIGN
R3-20R

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: 294 | E



R3-53R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R3-53L same as R3-53R except LEFT is substituted for RIGHT.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
2M	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
3	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
4																											
5																											

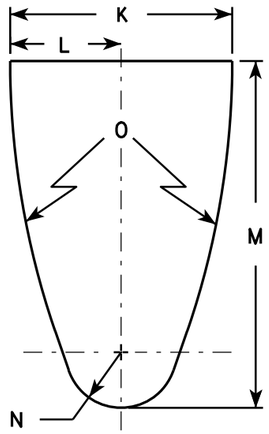
STANDARD SIGN
R3-53

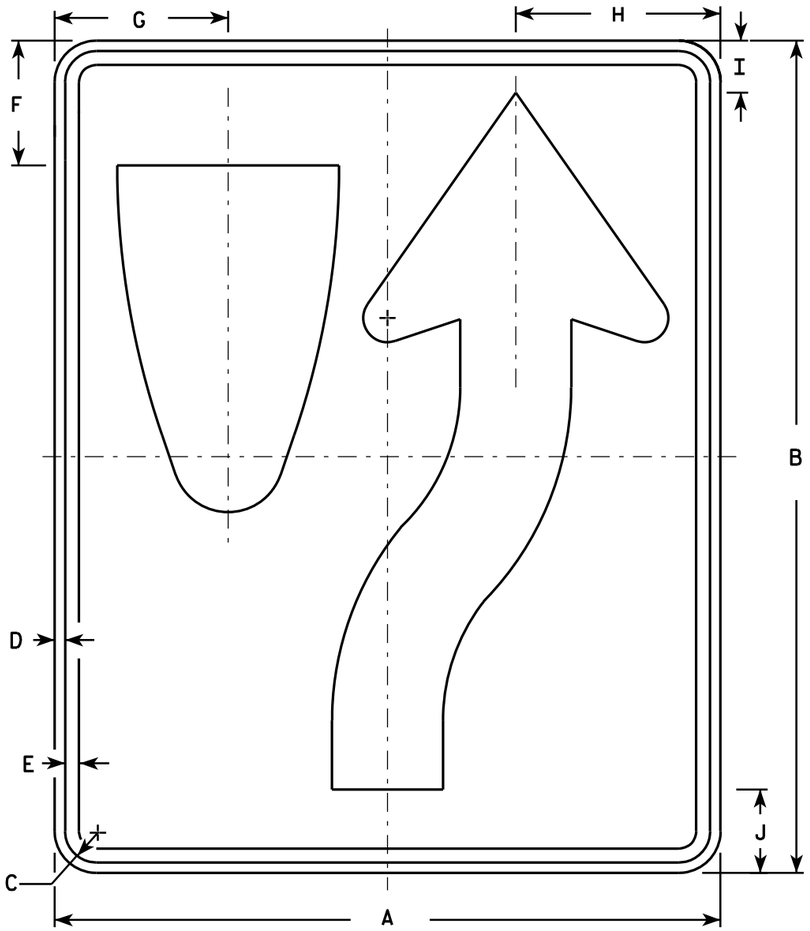
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-53.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 295	E

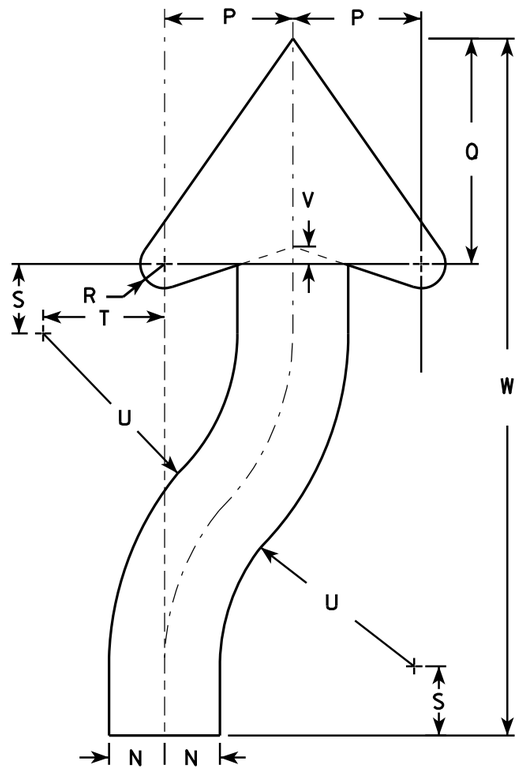




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

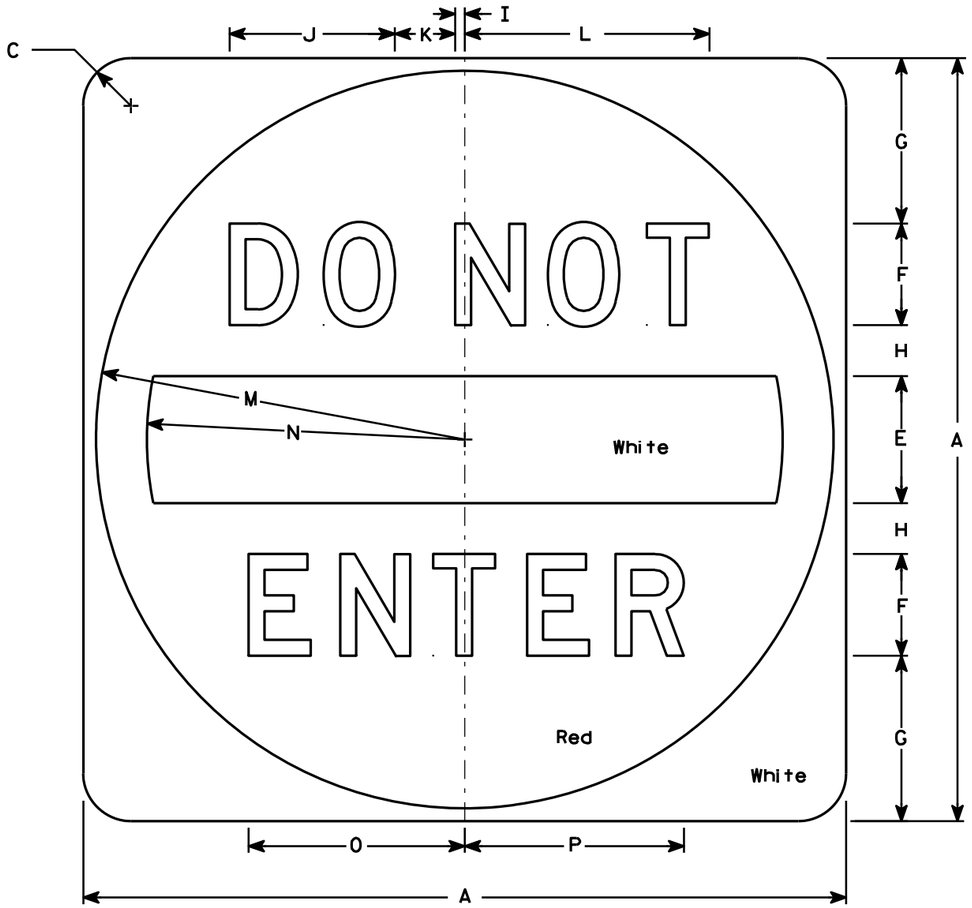
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 296	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See detail
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the cornors shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

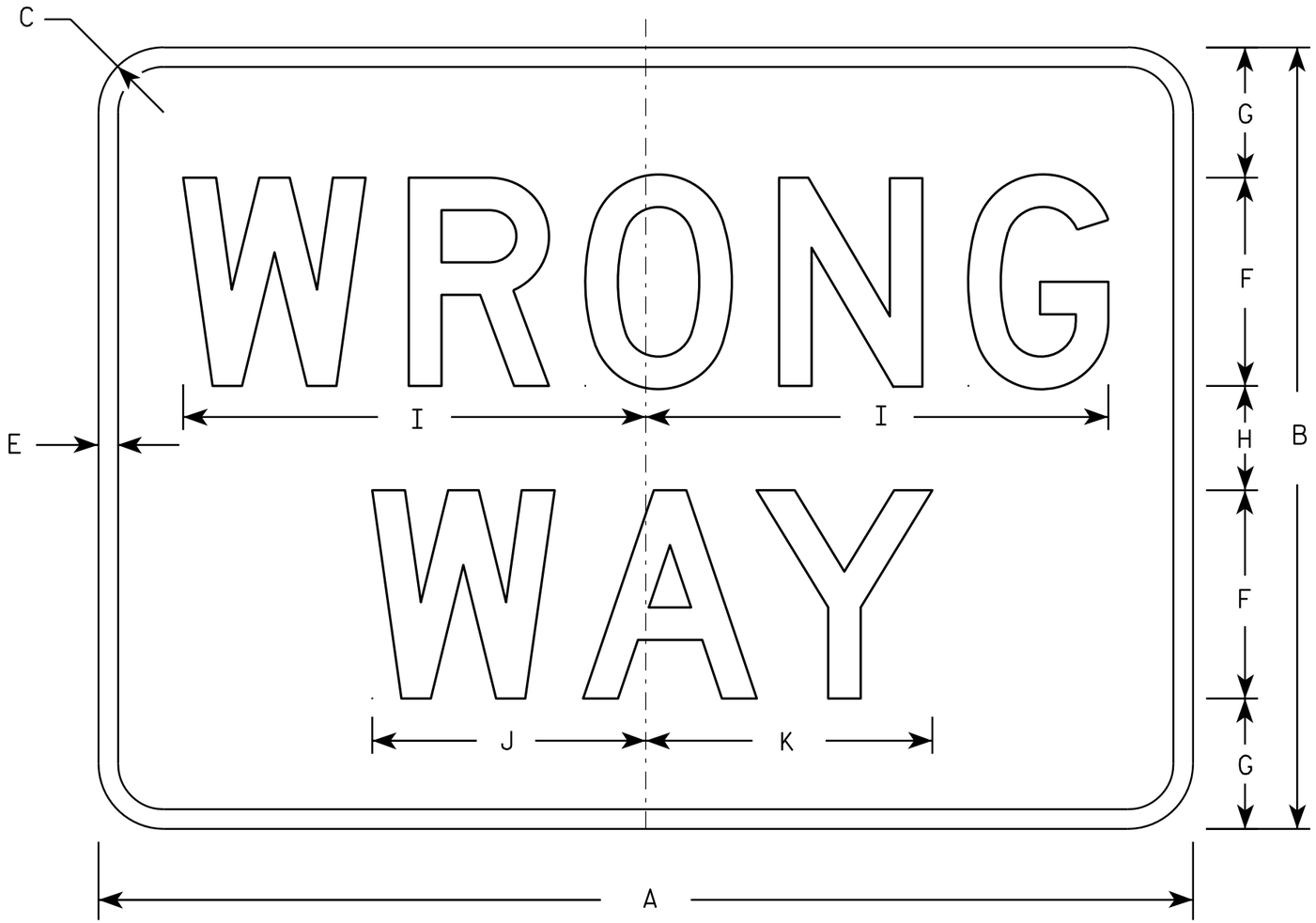
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 297 | E



R5-1A

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

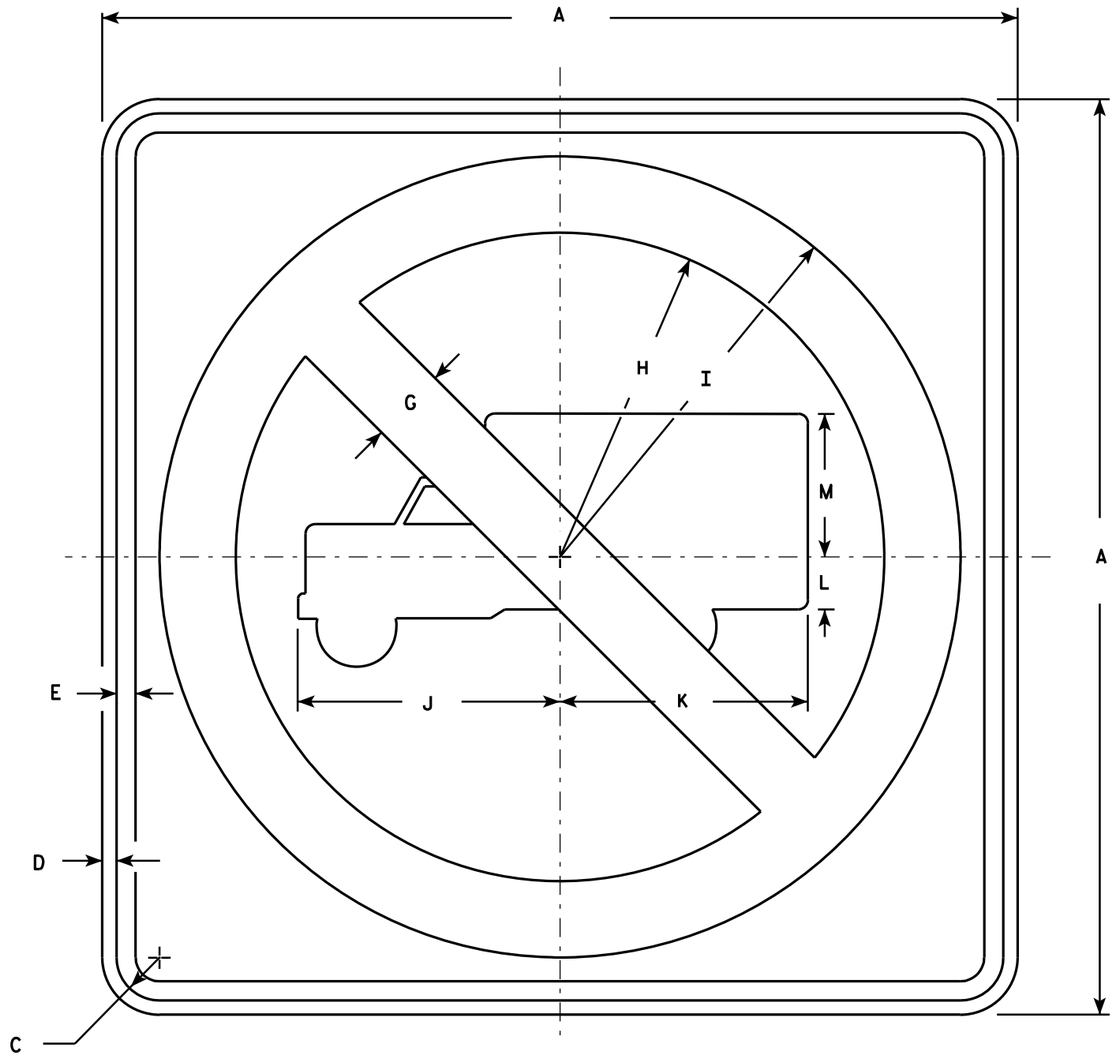
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 298 | E



R5-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Circle & Diagonal - Reflective red.
   Truck Symbol & Border - Non-reflective black.

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	3/8	1/2		2	8 1/2	10 1/2	6 7/8	6 1/2	1 3/8	3 3/4														4.0
2M	24		1 1/8	3/8	1/2		2	8 1/2	10 1/2	6 7/8	6 1/2	1 3/8	3 3/4														4.0
3	30		1 3/8	1/2	5/8		2 1/2	10 5/8	13 1/8	8 1/2	8 1/8	1 5/8	4 3/4														6.25
4	36		1 5/8	5/8	3/4		3	12 3/4	15 3/4	10 1/4	9 3/4	2	5 3/4														9.0
5	48		2 1/4	3/4	1		4	17	21	13 5/8	13	2 5/8	7 5/8														16.0

STANDARD SIGN
R5-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-2.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 299	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R52.DGN PLOT DATE : 29-MAR-2011 11:02 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.959043:1.000000

WISDOT/CADDS SHEET 42

7

7



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

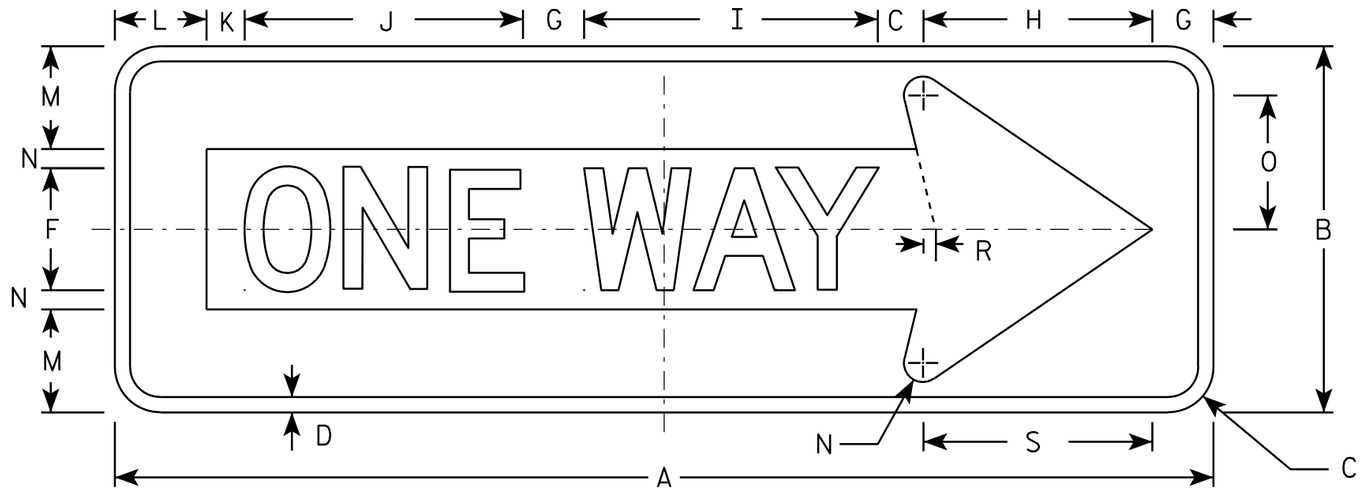
STANDARD SIGN
R5-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

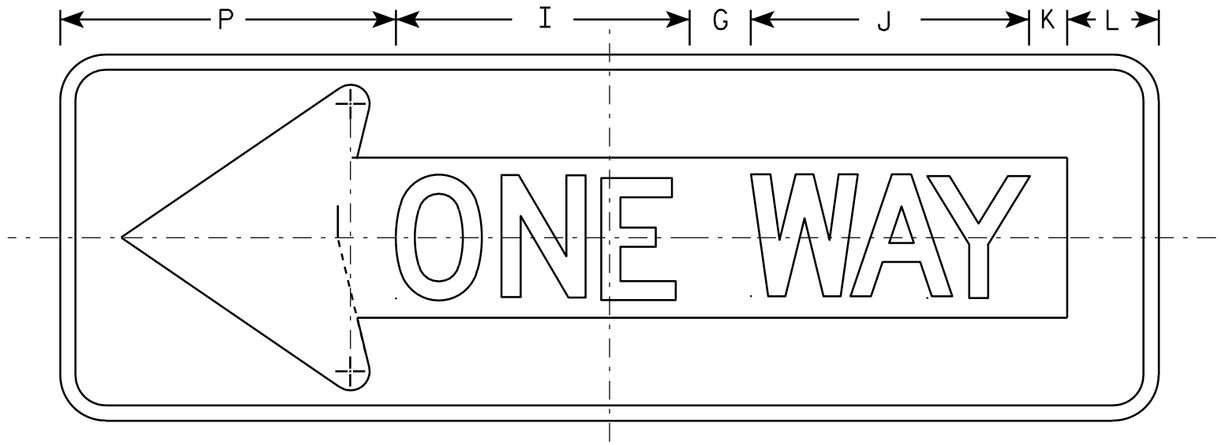
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 300 | E



R6-1R

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.



R6-1L

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 ½	½		4	2	7 ½	9 ⅝	9 ⅛	1 ¼	3	3 ⅜	⅝	4 ⅜	11		⅜	7 ½								3.0
2M	54	18	2 ¼	¾		6	3	11 ¼	14 ½	13 ⅝	1 ⅞	4 ½	5	1	6 ½	16 ½		⅝	11 ¼								6.75
3	54	18	2 ¼	¾		6	3	11 ¼	14 ½	13 ⅝	1 ⅞	4 ½	5	1	6 ½	16 ½		⅝	11 ¼								6.75
4	54	18	2 ¼	¾		6	3	11 ¼	14 ½	13 ⅝	1 ⅞	4 ½	5	1	6 ½	16 ½		⅝	11 ¼								6.75
5																											

STANDARD SIGN
R6-1 L & R

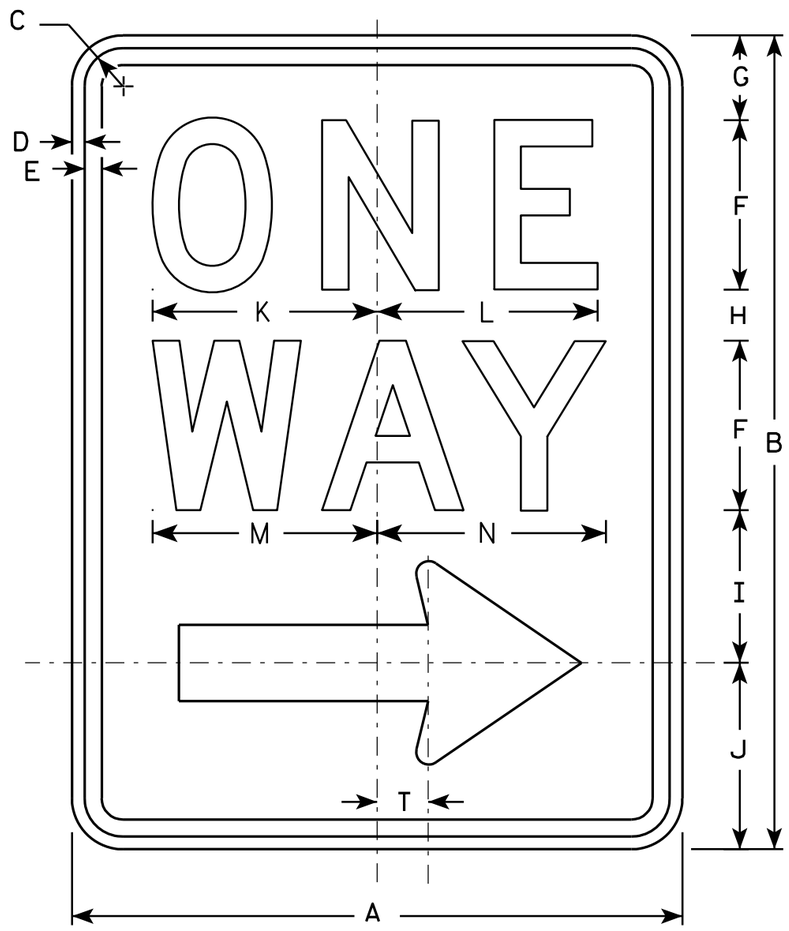
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

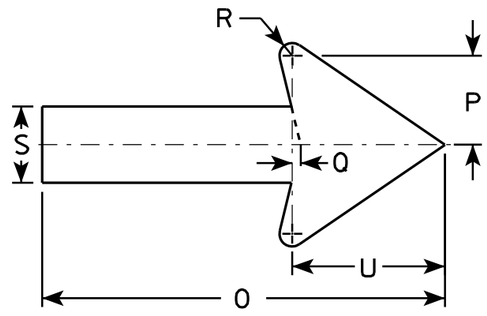
SHEET NO: 301 E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



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
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

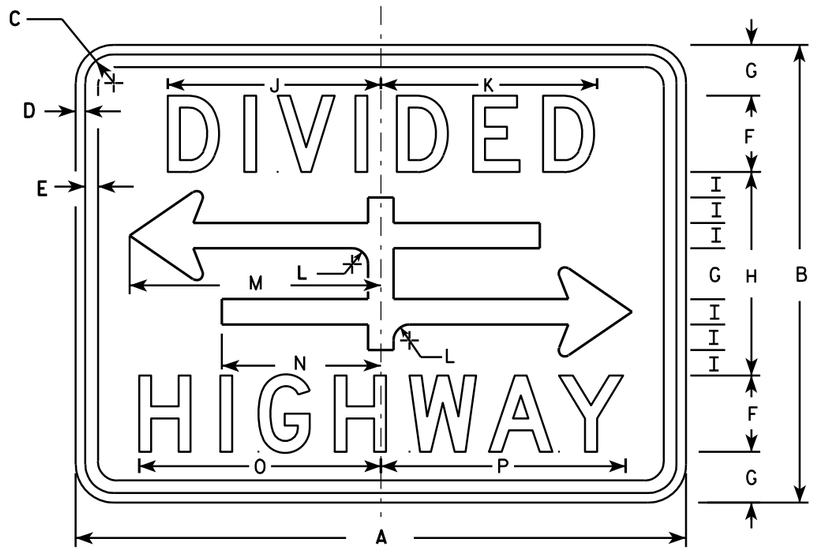
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

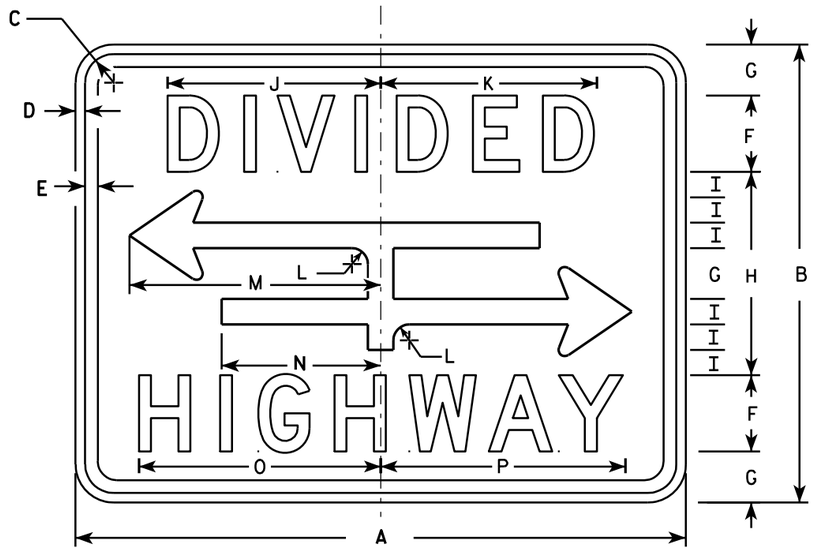
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 302	E



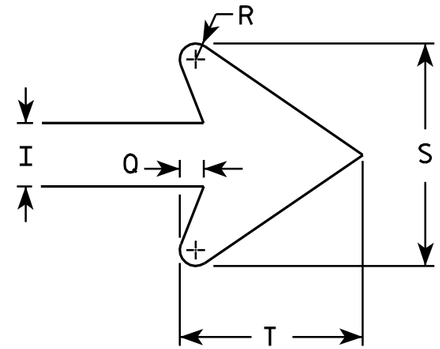
R6-3

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

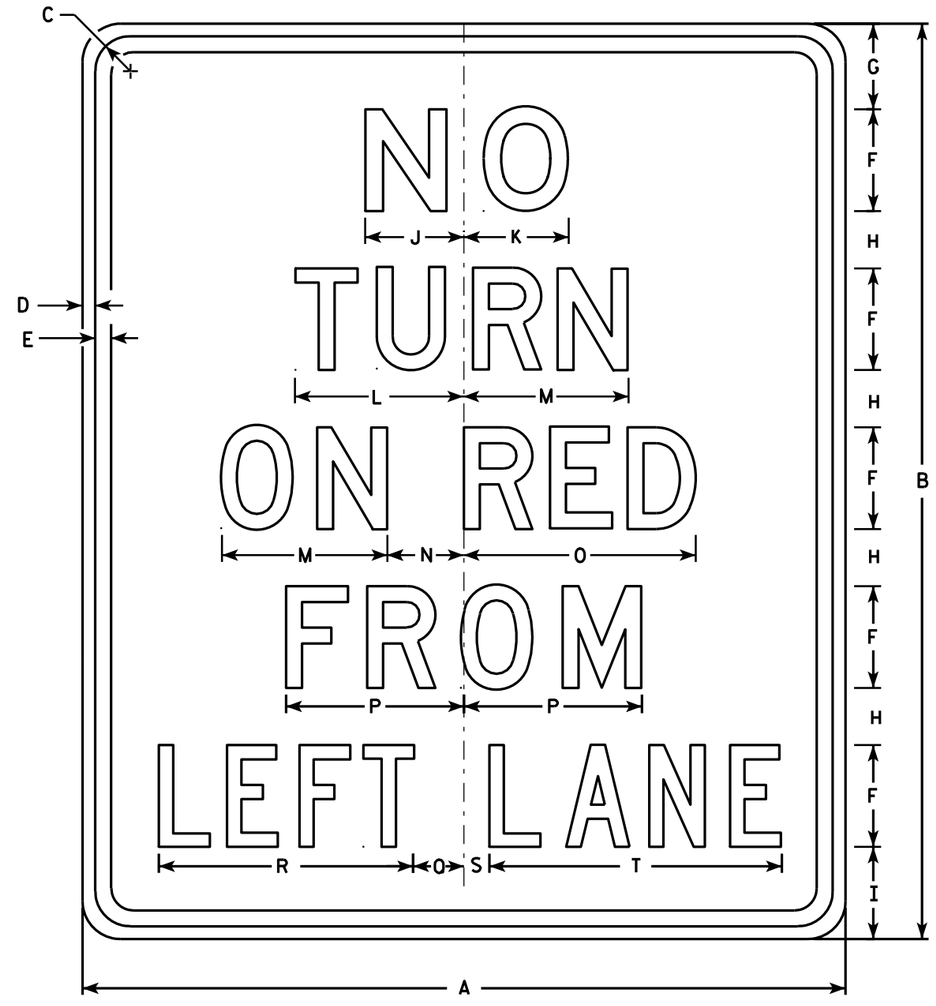
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 303 E



R10-11F

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 - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series E.
   Lines 2, 3 and 4 are Series D.
   Line 5 is 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																											
2S	30	36	1 3/8	1/2	5/8	4	3 3/8	2 1/4	3 5/8	3 7/8	4 1/8	6 5/8	6 1/2	3	9 1/8	7	2	10	1	11 1/2							7.5
2M	30	36	1 3/8	1/2	5/8	4	3 3/8	2 1/4	3 5/8	3 7/8	4 1/8	6 5/8	6 1/2	3	9 1/8	7	2	10	1	11 1/2							7.5
3																											
4																											
5																											

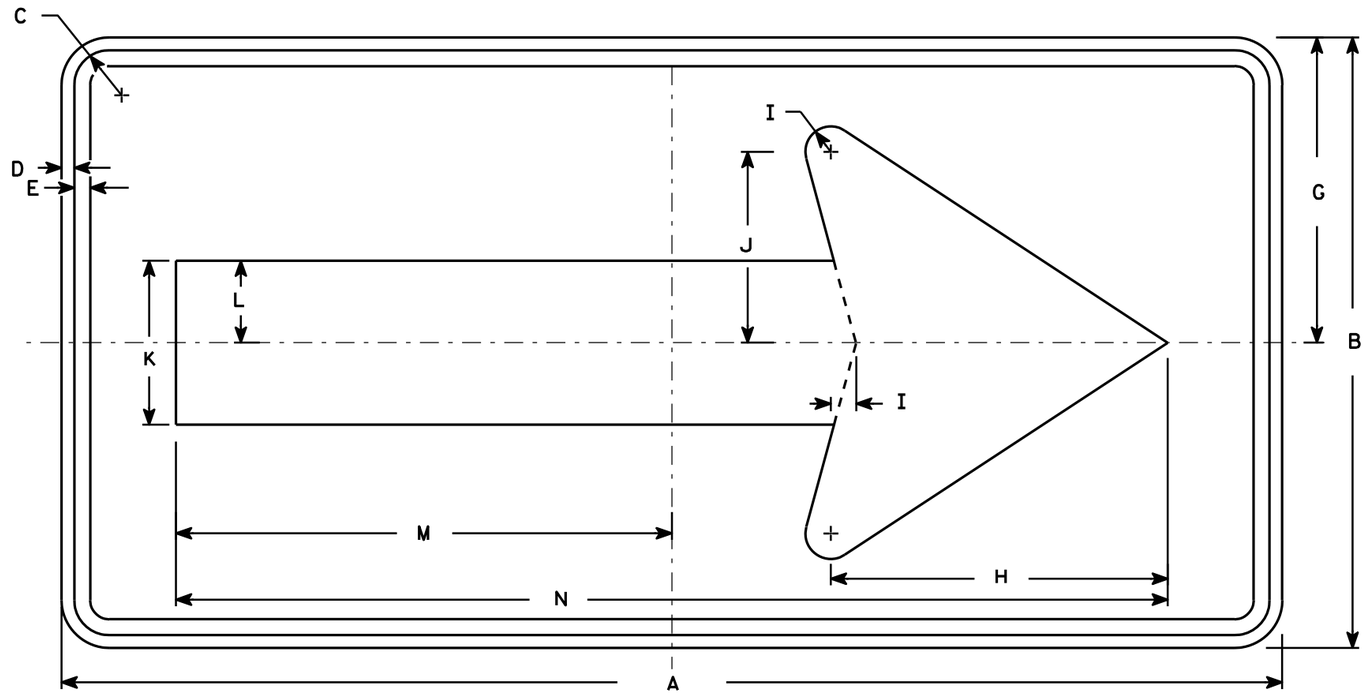
STANDARD SIGN
R10-11F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-11F.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 304	E



W1-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

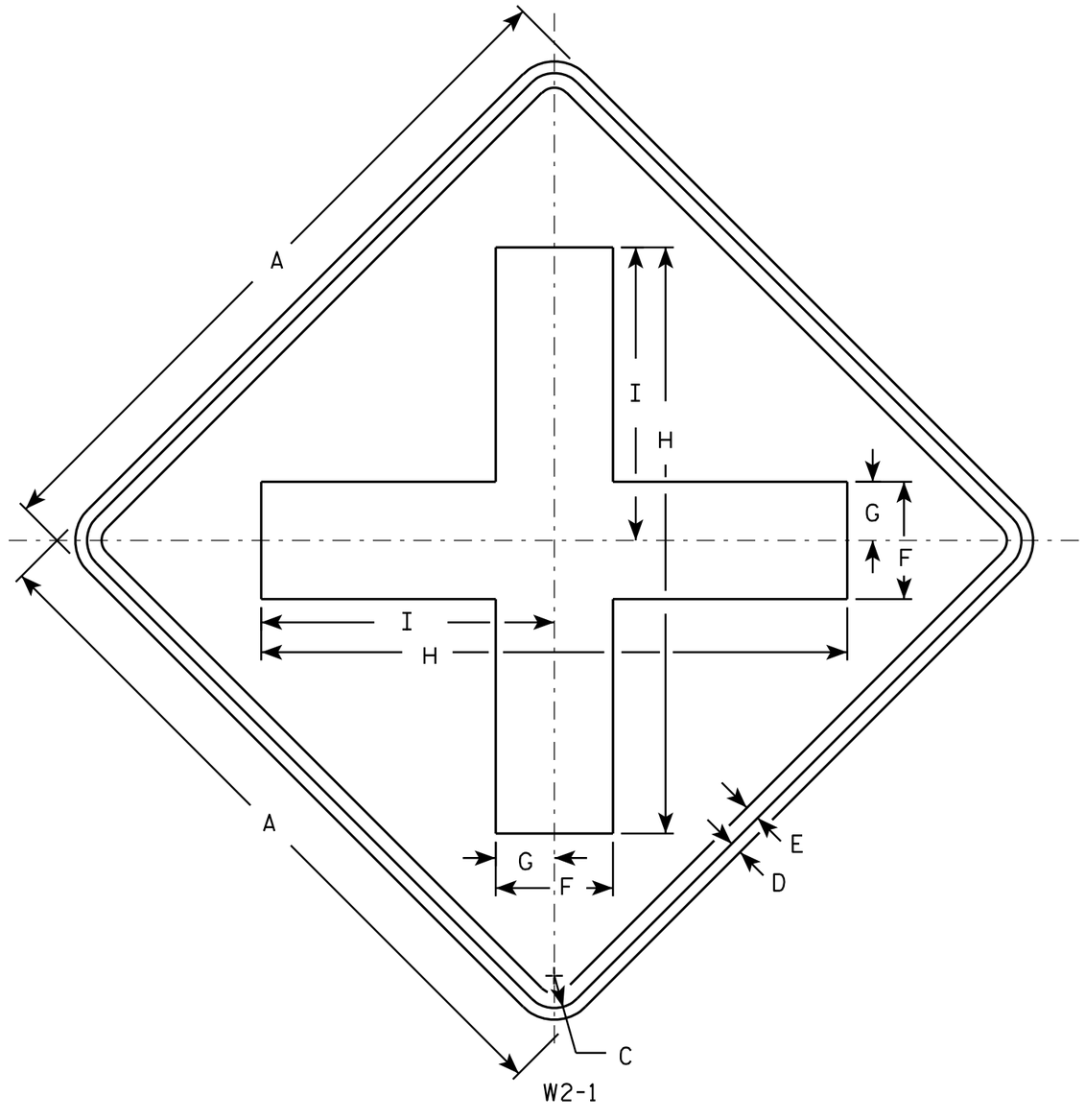
STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 305



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	4	2	20	10																		4.0
2S	30		1 3/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3	30	15																		9.0
4	48		2 1/4	3/4	1	8	4	40	20																		16.0
5																											

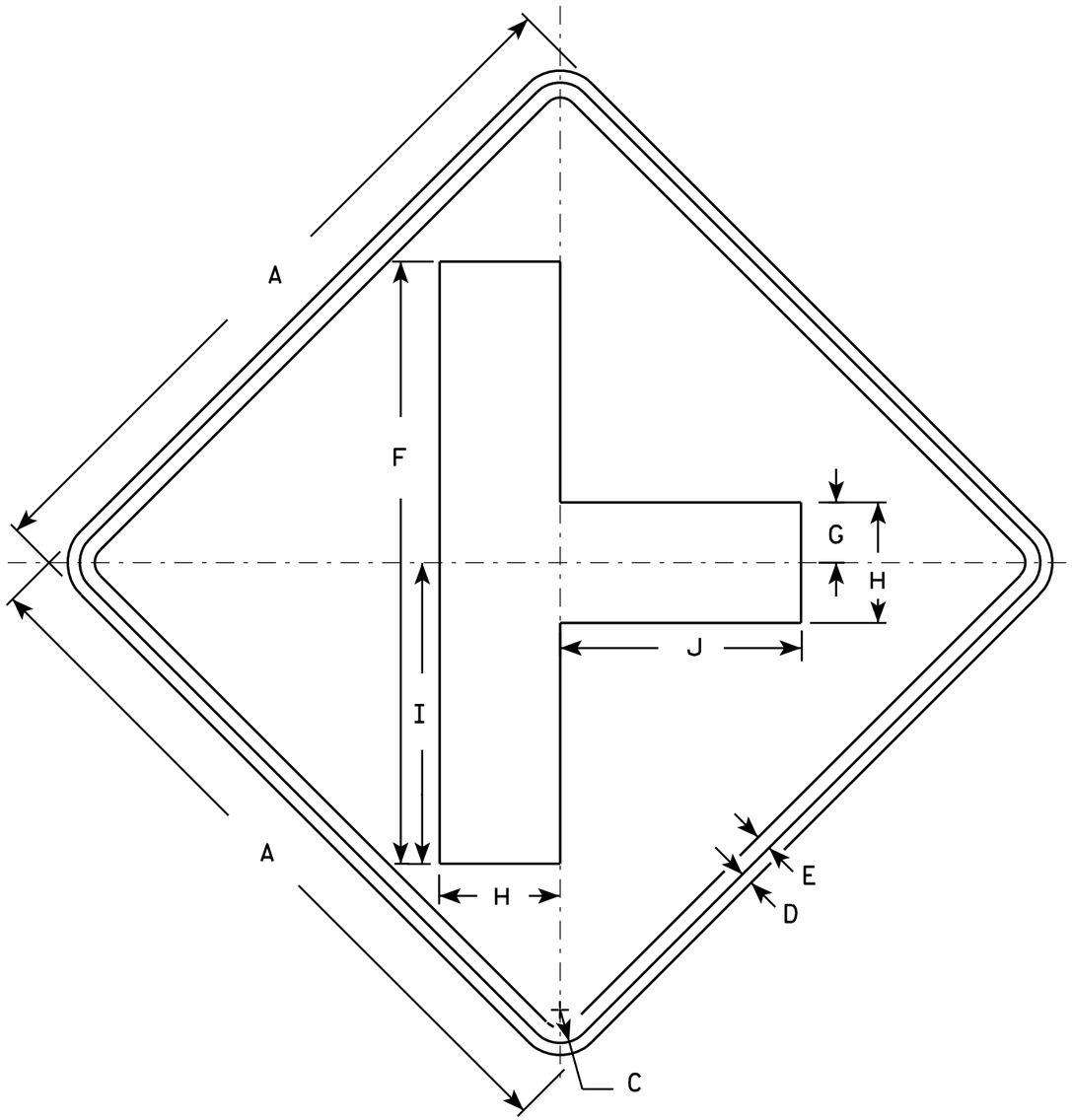
STANDARD SIGN
W2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W2-1.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 306	E



W2-2

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. 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	20	2	4	10	8																	4.0
2S	30		1 3/8	1/2	5/8	25	2 1/2	5	12 1/2	10																	6.25
2M	30		1 3/8	1/2	5/8	25	2 1/2	5	12 1/2	10																	6.25
3	36		1 5/8	5/8	3/4	30	3	6	15	12																	9.0
4	48		2 1/4	3/4	1	40	4	8	20	16																	16.0
5																											

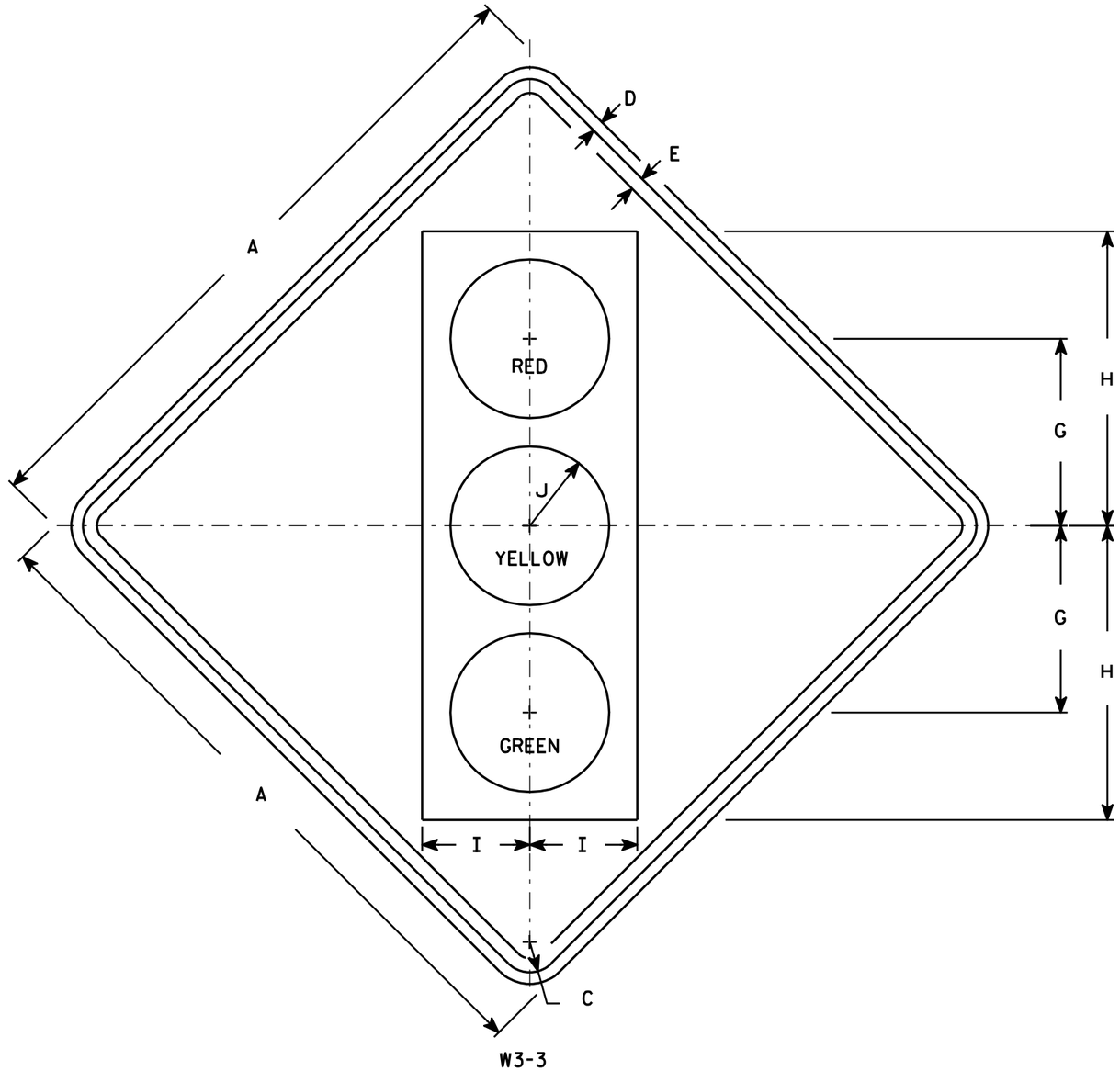
STANDARD SIGN
W2-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/29/12 PLATE NO. W2-2.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 307 | 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 - 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. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

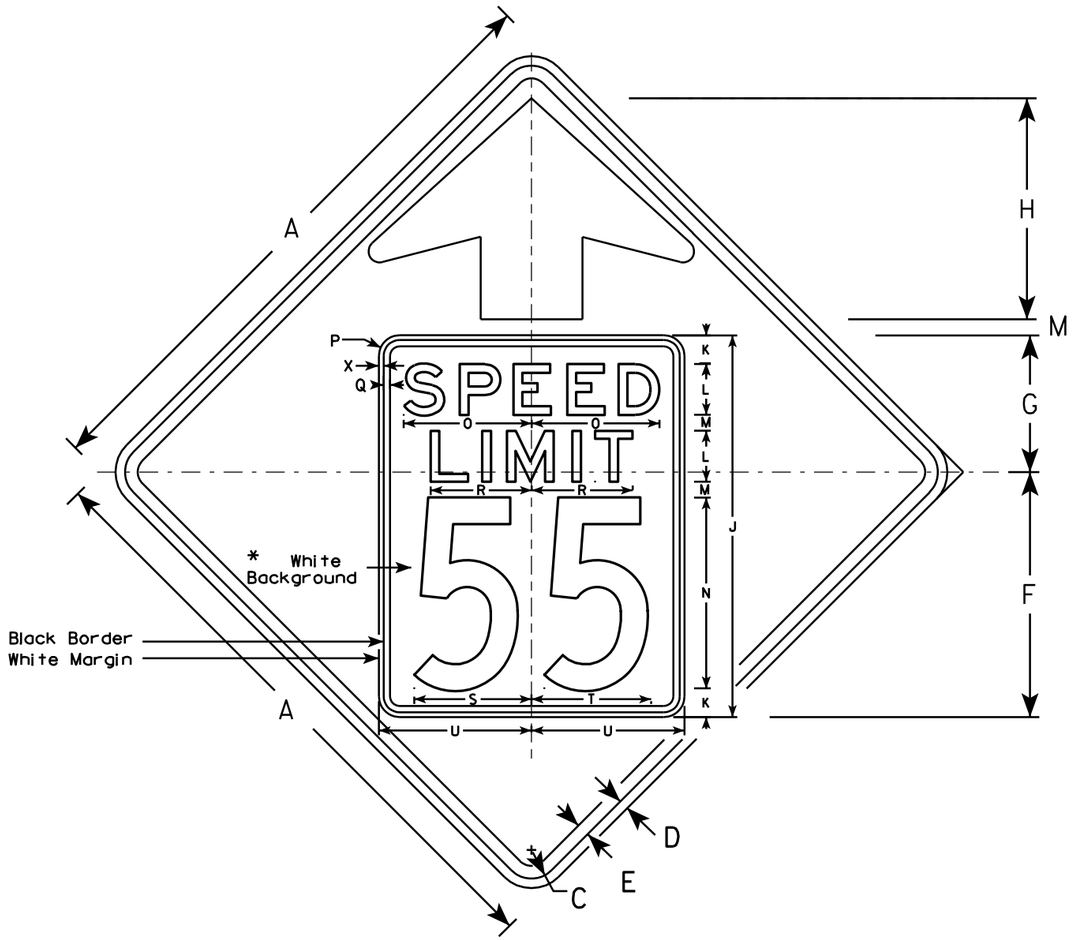
STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 308 | E

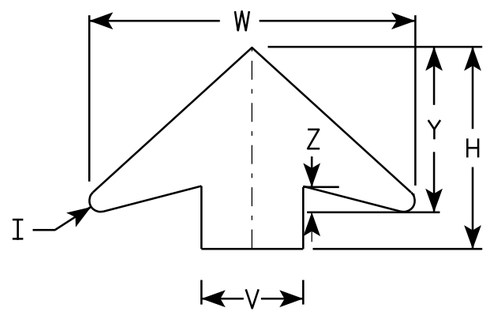


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - YELLOW*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W3-5

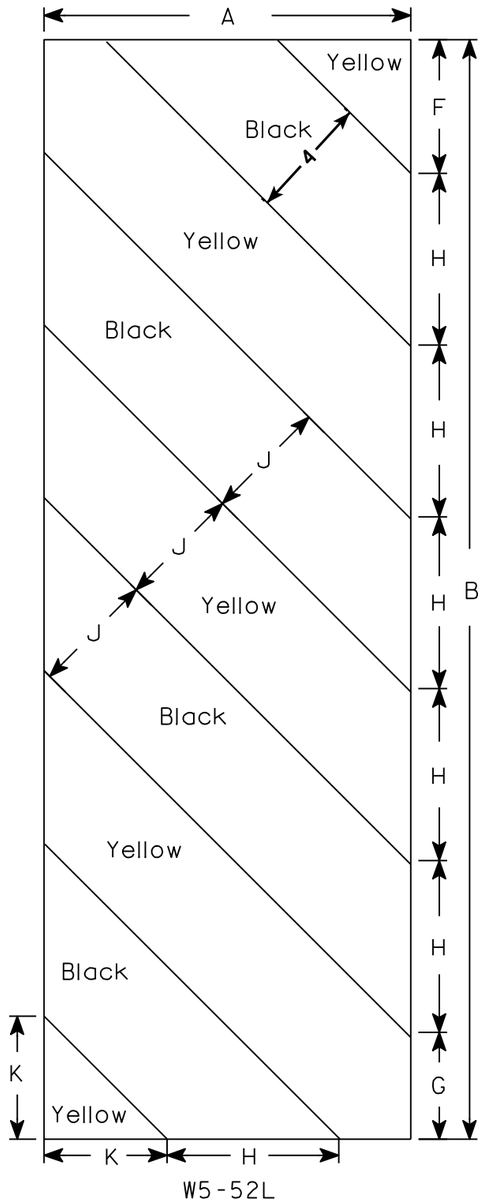
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

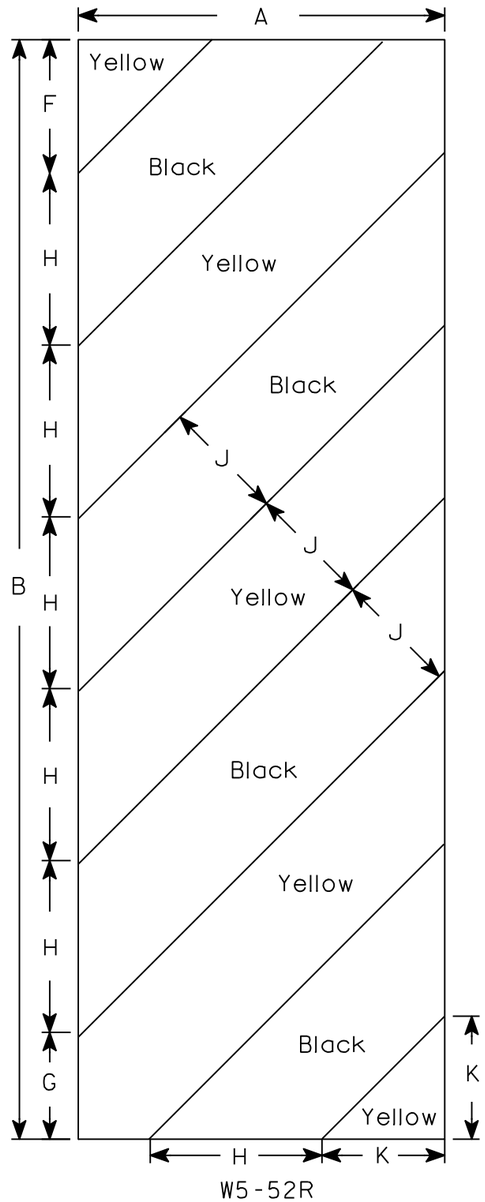
DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 309 E



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

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	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

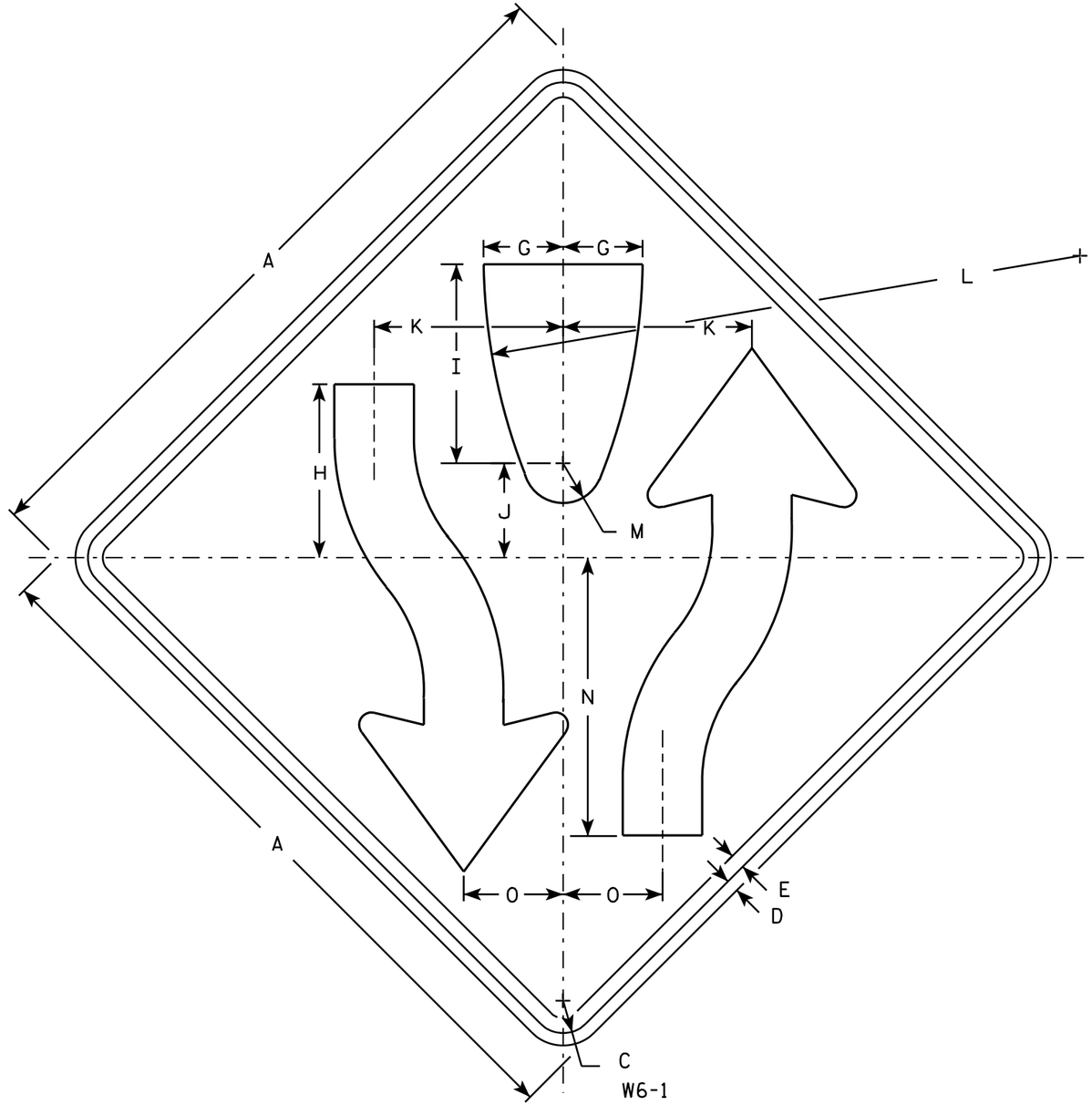
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

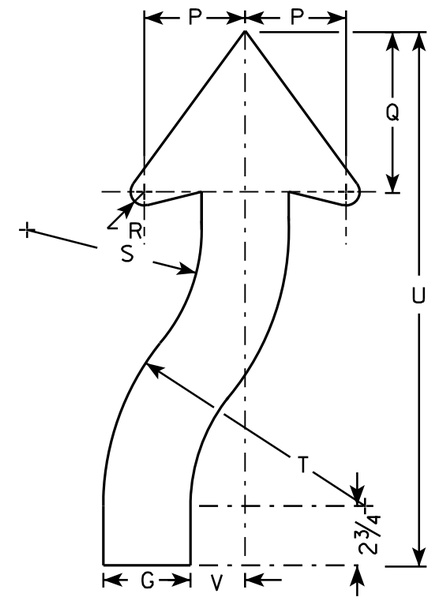
DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 310	E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W6-2 same as W6-1 but is rotated 180° when mounted.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3 1/4	8	8 1/4	4 1/8	7 7/8	25	1 3/4	11 5/8	4 1/8	3 7/8	6 3/4	5/8	6 5/8	9 7/8	21 5/8	2					6.25
2S	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2M	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
3																											
4	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W6-1 & W6-2

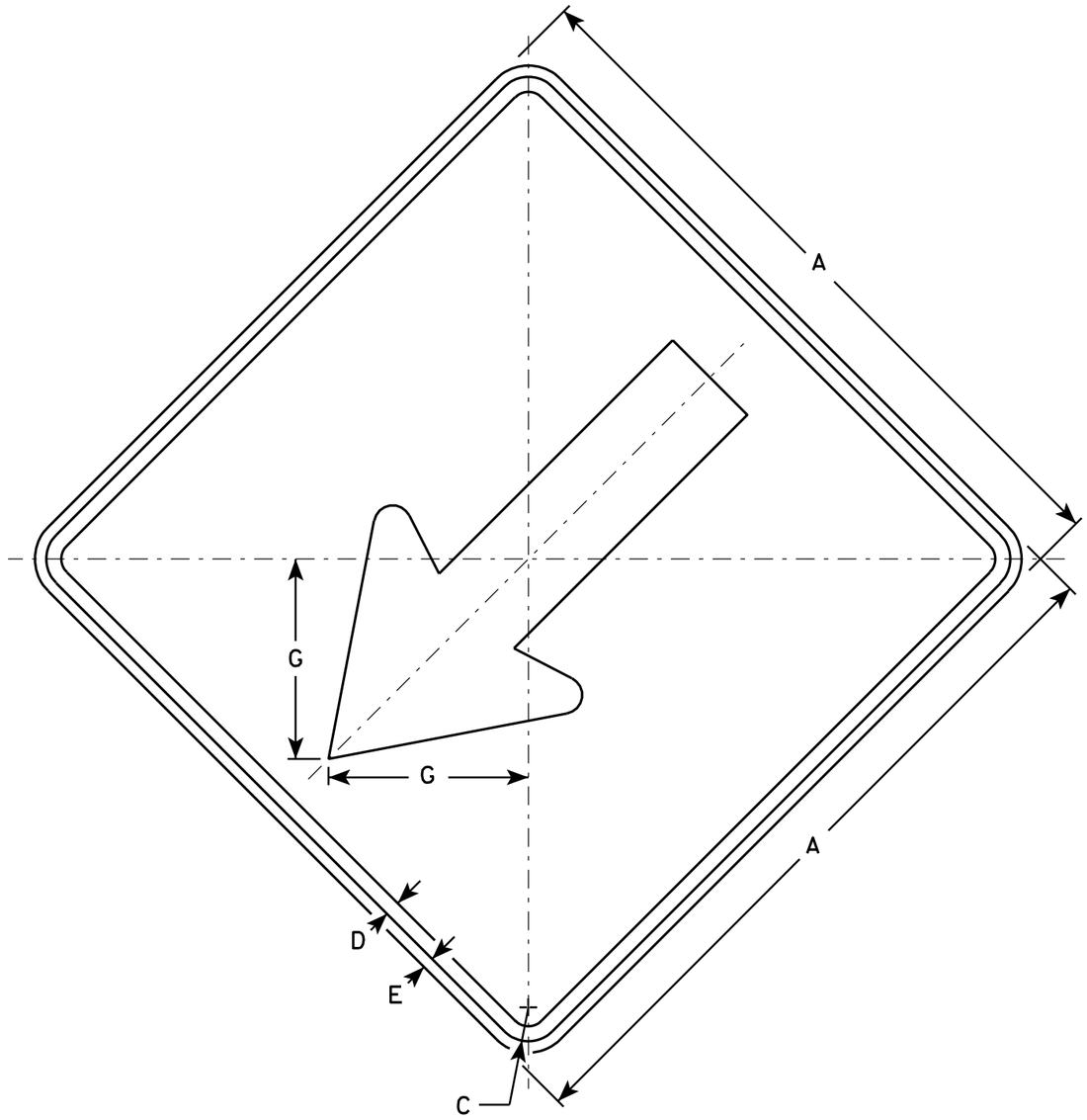
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W6-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 311	E

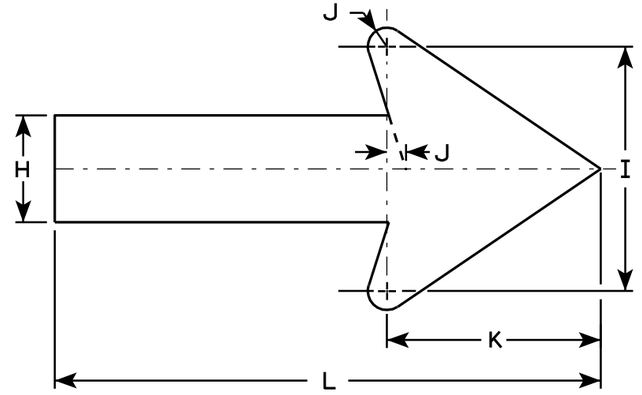
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W61.DGN PLOT DATE : 12-MAR-2013 14:02 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.946657:1.000000
WISDOT/CADDS SHEET 42



W12-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



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		6 5/8	3 1/2	8	5/8	7	18															4
2M	24		1 1/8	1/2	3/8		6 5/8	3 1/2	8	5/8	7	18															4
3	30		1 3/8	5/8	1/2		8 1/4	4 3/8	10	3/4	8 3/4	22 3/8															6.25
4	36		1 3/4	3/4	5/8		10 3/8	5 1/2	12 1/2	1	11	27 7/8															9.0
5	48		2 1/4	3/4	1		12 1/2	6 5/8	15	1 1/4	13 1/4	33 1/2															16

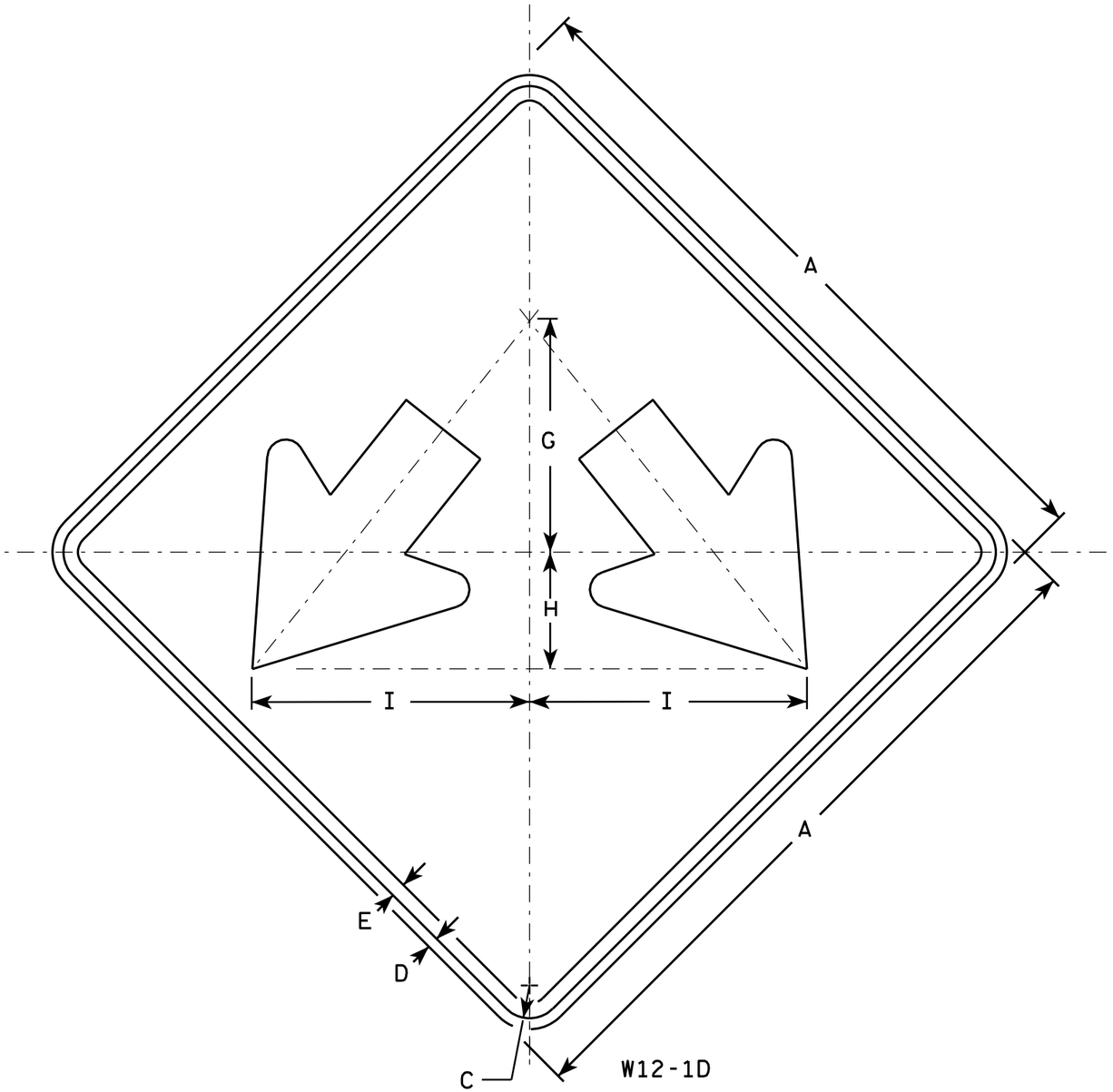
STANDARD SIGN
W12-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

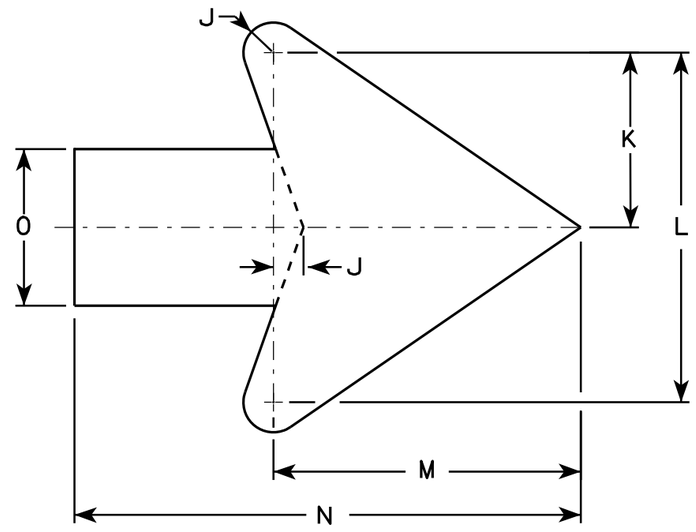
DATE 3/13/13 PLATE NO. W12-1.12

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 312 | 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

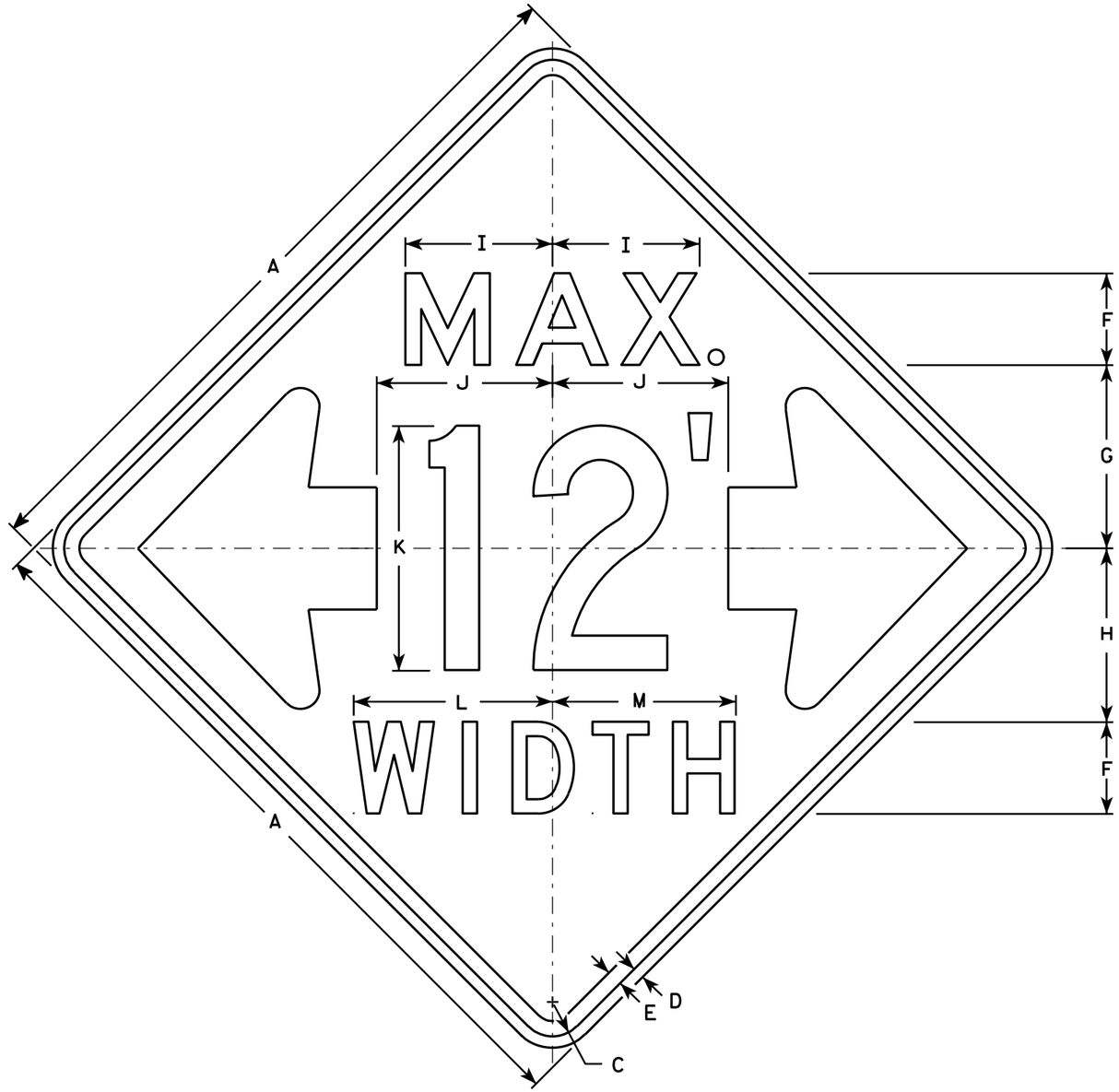
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 313	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W121D.DGN PLOT DATE : 13-MAR-2013 13:26 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 4.713802:1.000000

WISDOT/CADDS SHEET 42

7

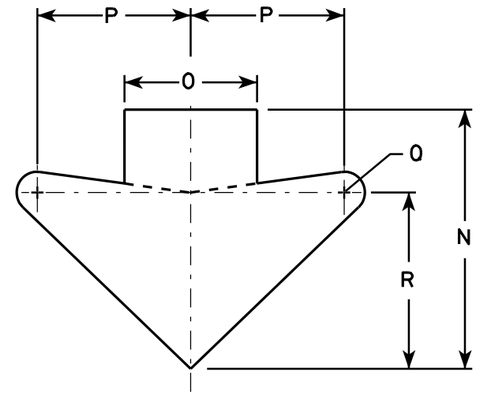
7



W12-52

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.



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	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

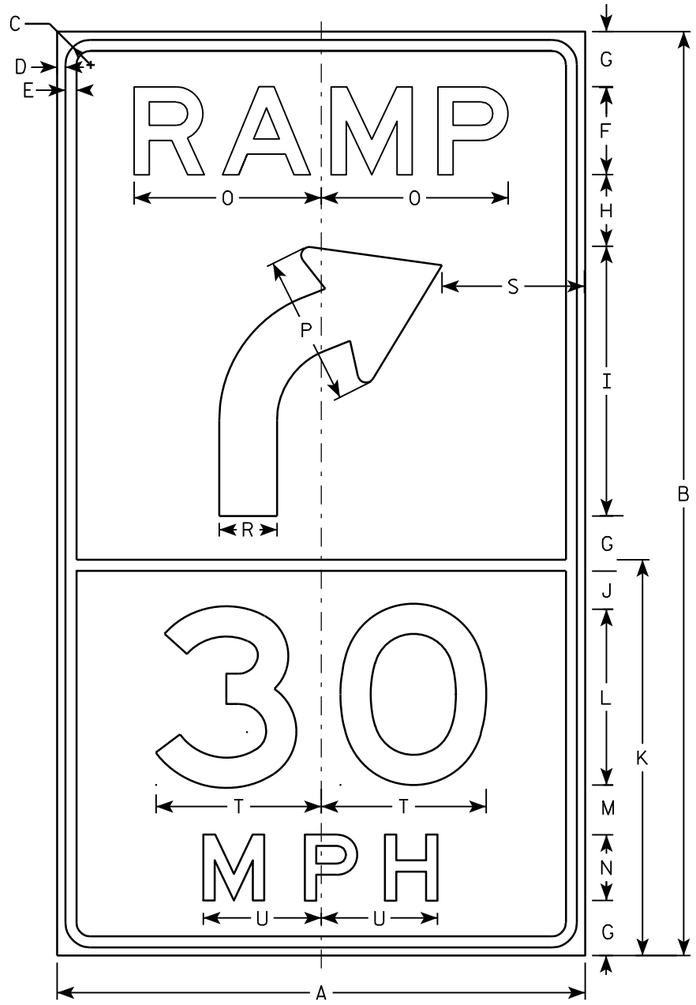
STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 314	E



W13-3C

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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	60	1 5/8	3/4	5/8	6	3 1/2	4 1/2	17 1/2	3 1/2	25 3/4	10	3	5	12 3/4	9 3/4		4	9 3/4	10	8 1/2						15.0
2M	36	60	1 5/8	3/4	5/8	6	3 1/2	4 1/2	17 1/2	3 1/2	25 3/4	10	3	5	12 3/4	9 3/4		4	9 3/4	10	8 1/2						15.0
3																											
4	48	84	2 1/4	3/4	1	8	5	6 1/2	24 1/2	3 1/2	36	16	4 1/2	6	17	13 5/8		5 1/4	13	15	10 3/4						28.0
5	48	84	2 1/4	3/4	1	8	5	6 1/2	24 1/2	3 1/2	36	16	4 1/2	6	17	13 5/8		5 1/4	13	15	10 3/4						28.0

STANDARD SIGN
W13-3C

WISCONSIN DEPT OF TRANSPORTATION

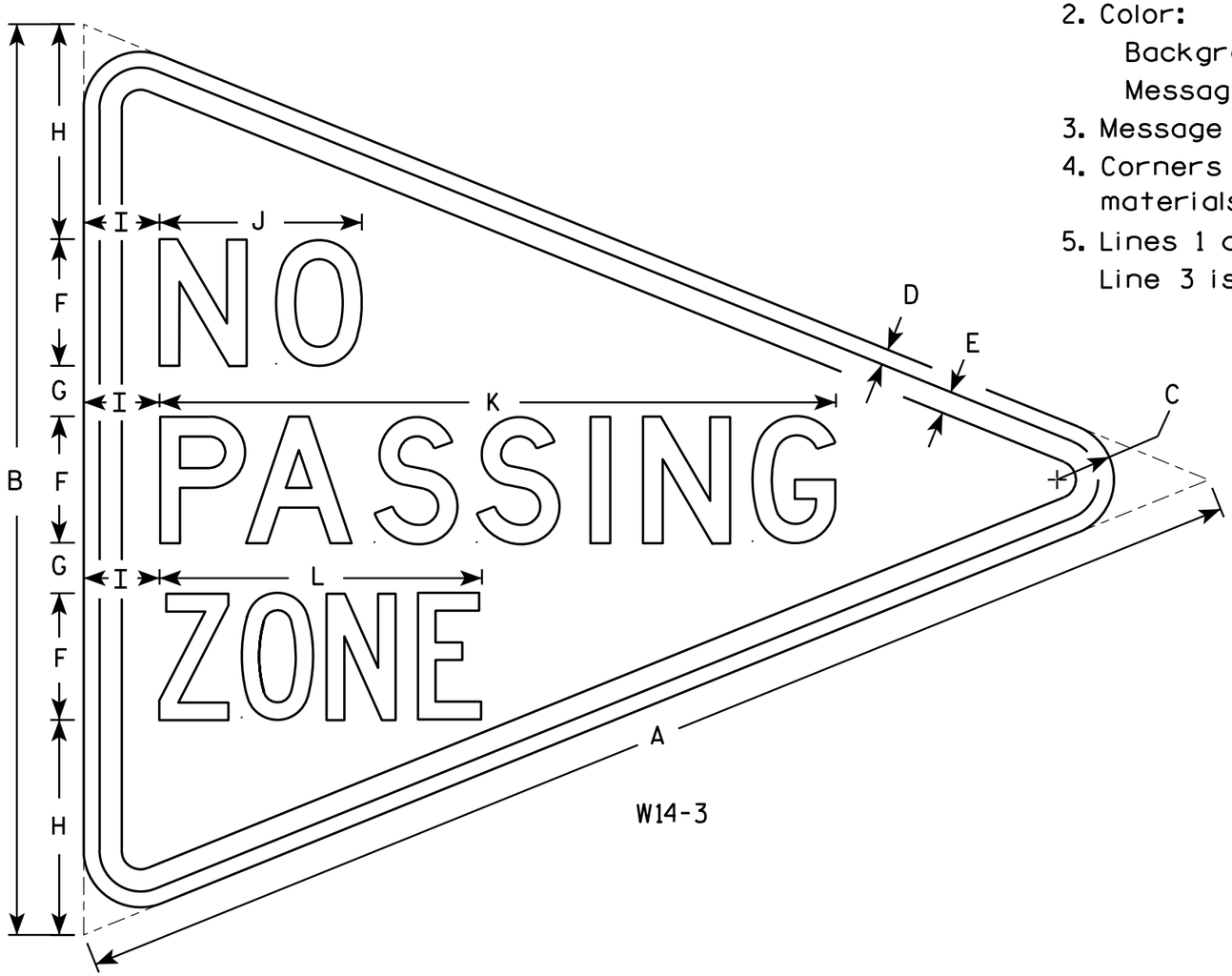
APPROVED Matthew L Rauch
for State Traffic Engineer

DATE 2/14/13 PLATE NO. W13-3C.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 315 | E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners and borders shall be rounded on all base materials for this sign.
5. Lines 1 and 2 are Series D.
   Line 3 is series C.



W14-3

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

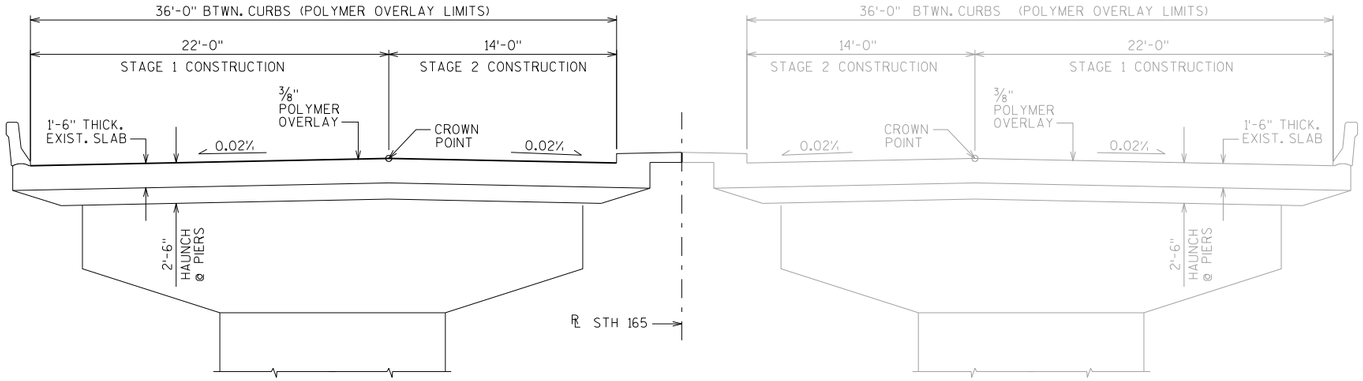
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W14-3.9

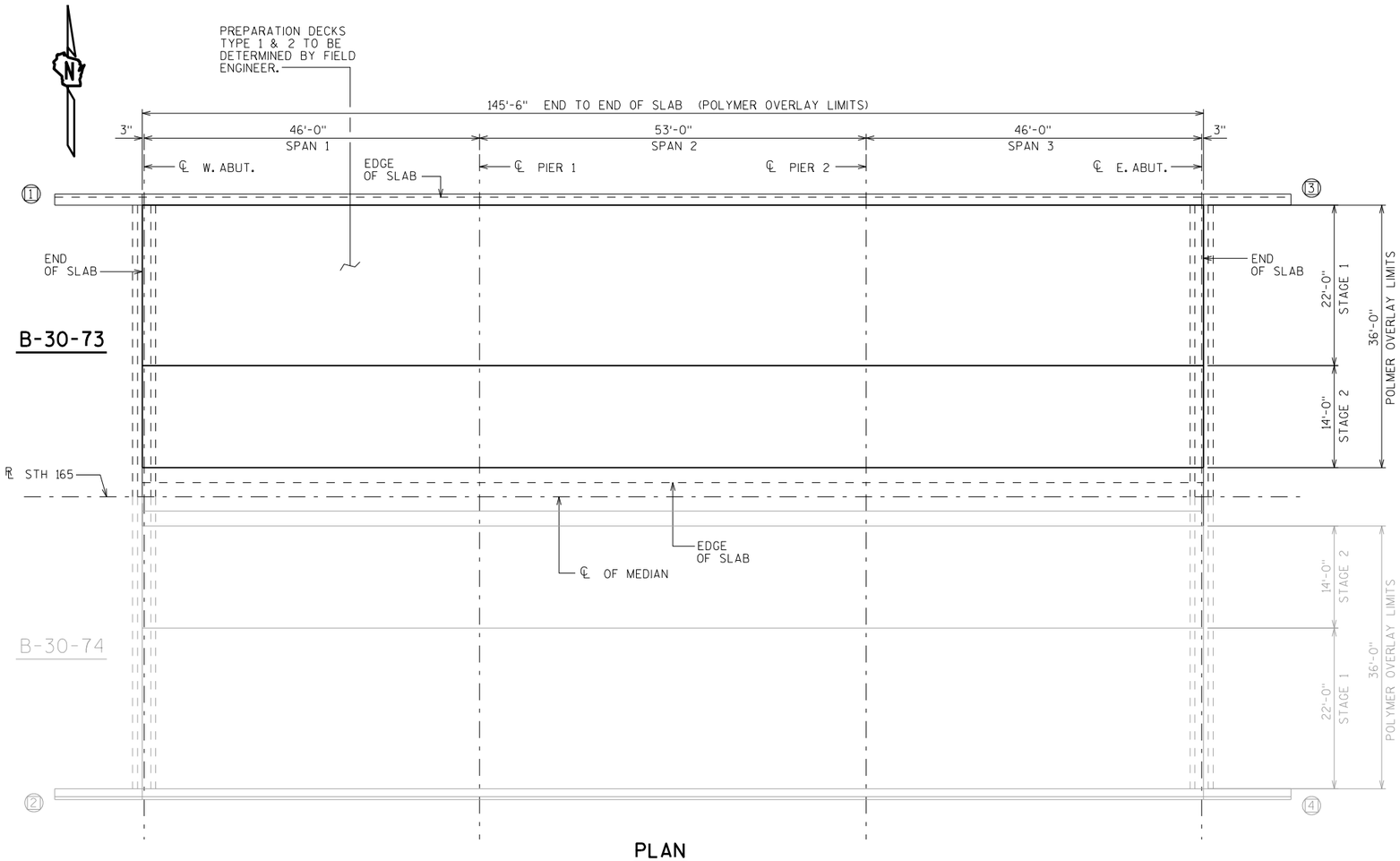
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 316	E



B-30-73
(STH 165 WB)

B-30-74
(STH 165 EB)

CROSS SECTION THRU SLABS
(LOOKING EAST)



PLAN

INDICATES WING NUMBER

DESIGN DATA

LIVE LOAD:

DESIGN RATING; HS-20
INVENTORY RATING; HS-25
OPERATIONAL RATING; HS-42
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SLAB — f'c = 4,000 P.S.I. ALL OTHER — f'c = 3,500 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

DEFINE LIMITS OF "PREPARATION DECKS TYPE 1" WITH A 1/2" DEEP SAW CUT BEFORE REMOVING THE DETERIORATED CONCRETE. THE SAW CUT IS INCLUDED IN "SAWING PAVEMENT DECK PREPARATION AREAS".

BLAST CLEAN THE ENTIRE SURFACE AND ALL EXPOSED REINFORCING STEEL OF ALL "PREPARATION DECKS TYPE 1 & 2" AREAS BY MECHANICALLY DISLODGING CONTAMINATION OR DEBRIS AND REMOVING LOOSE PARTICLES AND DUST WITH HIGH PRESSURE WATER OR AIR. ENSURE THAT NO FREE-STANDING WATER REMAINS BEFORE PLACING GROUT AND THAT CLEANING WATER CONFORMS TO 501.2.4 CLEANING OF EXPOSED AREAS IS INCIDENTAL TO "PREPARATION DECKS TYPE 1".

CONCRETE FOR BID ITEM "CONCRETE MASONRY OVERLAY DECKS" SHALL MEET THE REQUIREMENTS OF THE SECTION 509.2(4) OF THE STANDARD SPECIFICATIONS.

TOTAL ESTIMATED QUANTITIES

509.0301	PREPARATION DECKS TYPE 1	21	SY
509.0302	PREPARATION DECKS TYPE 2	8	SY
** 509.2500	CONCRETE MASONRY OVERLAY DECKS	3	CY
509.5100.S	POLYMER OVERLAY	582	SY
SPV.0090	SAWING PAVEMENT DECK PREPARTION AREAS	210	LF

** BID ITEM INCLUDES CONCRETE FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2".

TRAFFIC VOLUME

STH 165 WB
A.D.T.=9,150-10,200 (2035)
R.D.S.=45 M.P.H.

STH 165 EB
A.D.T.=9,150-10,200 (2035)
R.D.S.=45 M.P.H.

STRUCTURE DESIGN CONTACT:
STEVE REVELLO (608) 266-5095
LAURA SHADEWALD (608) 267-9592

STATE PROJECT NUMBER
3738-06-60

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES
ACCEPTED William C. Dreher LLS — CHIEF STRUCTURES DESIGN ENGINEER — 3/22/16 DATE

STRUCTURE B-30-73

STH 165 WB OVER UNION PACIFIC R.R.

COUNTY	KENOSHA	~~TOWN/CITY~~ VILLAGE	PLEASANT PRAIRIE
DESIGN SPEC.	REHABILITATION		N/A

DESIGNED BY	SDR	DESIGN CK'D.	ARC	DRAWN BY	WWR	PLANS CK'D.	SDR

POLYMER OVERLAY

SHEET 1 OF 1

317

I.D. 3738-06-31

DATE: **JULY 2013**

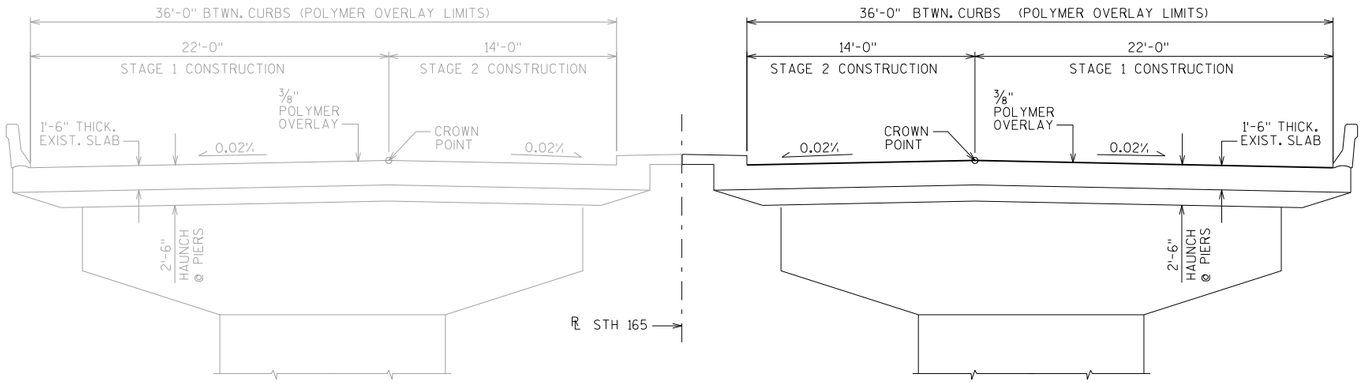
SCALE =

8

8

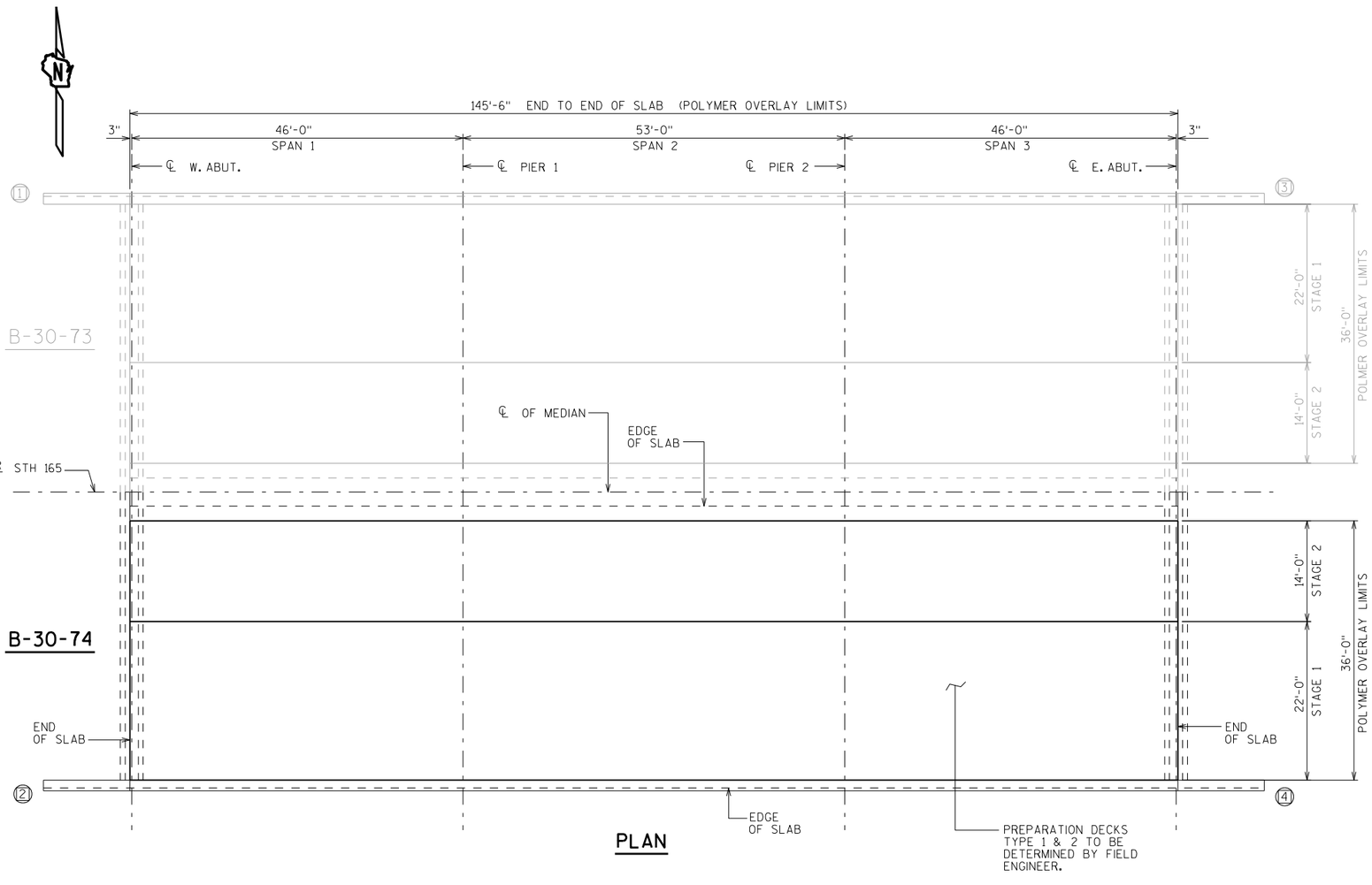
STATE PROJECT NUMBER

3738-06-60



CROSS SECTION THRU SLABS

(LOOKING EAST)



PLAN

DESIGN DATA

LIVE LOAD:

DESIGN RATING; HS-20
INVENTORY RATING; HS-25
OPERATIONAL RATING; HS-42
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SLAB — f'c = 4,000 P.S.I. ALL OTHER — f'c = 3,500 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

DEFINE LIMITS OF "PREPARATION DECKS TYPE 1" WITH A ½" DEEP SAW CUT BEFORE REMOVING THE DETERIORATED CONCRETE. THE SAW CUT IS INCLUDED IN "SAWING PAVEMENT DECK PREPARATION AREAS".

BLAST CLEAN THE ENTIRE SURFACE AND ALL EXPOSED REINFORCING STEEL OF ALL "PREPARATION DECKS TYPE 1 & 2" AREAS BY MECHANICALLY DISLODGING CONTAMINATION OR DEBRIS AND REMOVING LOOSE PARTICLES AND DUST WITH HIGH PRESSURE WATER OR AIR. ENSURE THAT NO FREE-STANDING WATER REMAINS BEFORE PLACING GROUT AND THAT CLEANING WATER CONFORMS TO 501.2.4 CLEANING OF EXPOSED AREAS IS INCIDENTAL TO "PREPARATION DECKS TYPE 1".

CONCRETE FOR BID ITEM "CONCRETE MASONRY OVERLAY DECKS" SHALL MEET THE REQUIREMENTS OF THE SECTION 509.2(4) OF THE STANDARD SPECIFICATIONS.

TOTAL ESTIMATED QUANTITIES

	509.0301	PREPARATION DECKS TYPE 1	21	SY
	509.0302	PREPARATION DECKS TYPE 2	8	SY
**	509.2500	CONCRETE MASONRY OVERLAY DECKS	3	CY
	509.5100.S	POLYMER OVERLAY	582	SY
	SPV.0090	SAWING PAVEMENT DECK PREPARTION AREAS	210	LF

** BID ITEM INCLUDES CONCRETE FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2".

TRAFFIC VOLUME

STH 165 WB
A.D.T.=9,150-10,200 (2035)
R.D.S.=45 M.P.H.

STH 165 EB
A.D.T.=9,150-10,200 (2035)
R.D.S.=45 M.P.H.

STRUCTURE DESIGN CONTACT:

STEVE REVELLO (608) 266-5095
LAURA SHADEWALD (608) 267-9592

INDICATES WING NUMBER

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 3/22/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-30-74

STH 165 EB OVER UNION PACIFIC R.R.

COUNTY: KENOSHA	~~TOWN/CITY~~/VILLAGE: PLEASANT PRAIRIE
DESIGN SPEC.: REHABILITATION	N/A
DESIGNED BY: SDR	DESIGN CK'D.: ARC
DRAWN BY: WWR	PLANS CK'D.: SDR

POLYMER OVERLAY

SHEET 1 OF 1

318

8

8

SCALE =

I.D. 3738-06-31

DATE: **JULY 2013**

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 2	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.11	Mass Ordinate Note 3
559+86.47	55986.47	0.00	7.30	1.50	1.72	0	0	0	0	0	0.00
560+00	56000.00	13.53	11.06	1.50	1.34	5	1	1	5	1	3.00
560+50	56050.00	50.00	26.77	1.50	0.67	35	3	2	40	3	33.18
560+64.19	56064.19	14.19	32.78	1.50	0.39	16	1	0	55	3	47.73
560+64.2	56064.20	0.01	32.78	1.50	0.39	0	0	0	55	3	47.74
561+00	56100.00	35.80	42.06	1.50	0.08	50	2	0	105	4	95.03
561+50	56150.00	50.00	51.93	6.08	0.00	87	7	0	192	4	174.96
561+77.49	56177.49	27.49	57.07	8.73	0.00	55	8	0	247	4	222.91
561+77.5	56177.50	0.01	57.07	8.73	0.00	0	0	0	247	4	222.93
562+00	56200.00	22.50	58.19	10.90	0.00	48	8	0	295	4	262.77
562+50	56250.00	50.00	54.58	15.74	0.00	104	25	0	400	4	342.51
563+00	56300.00	50.00	49.54	20.54	0.00	96	34	0	496	4	405.32
563+11.13	56311.13	11.13	50.48	21.00	0.00	21	9	0	517	4	417.38
563+11.15	56311.15	0.01	6.02	21.00	0.00	0	0	0	517	4	417.38
563+25.3	56325.30	14.15	5.99	4.50	0.00	3	7	0	520	4	413.85
						520	103	3			

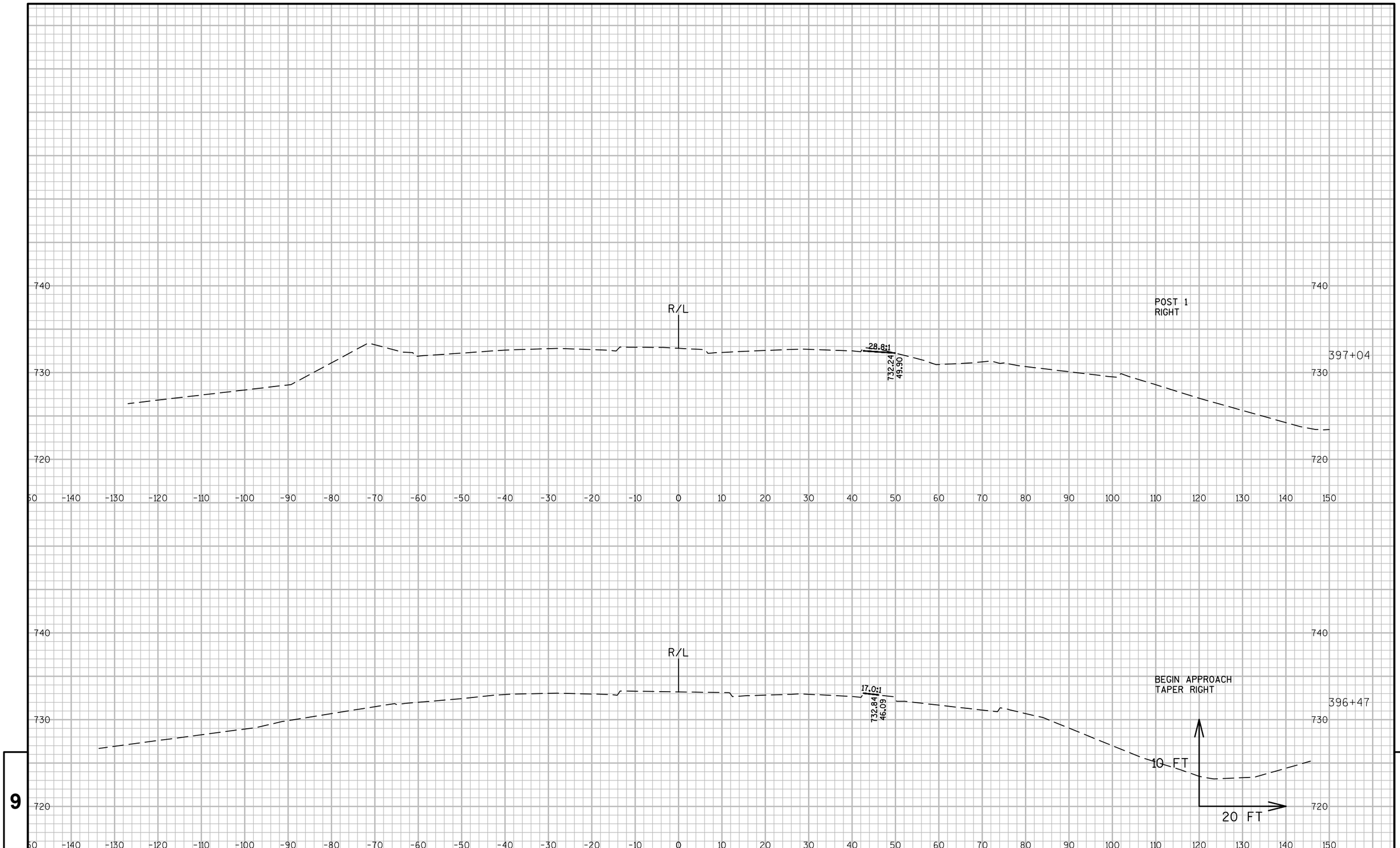
1) Salvaged/Unusable Pavement Material is included in Cut.
2) Fill does not include unusable pavement excavation volume
3) Mass Ordinate = Cut - Unusable Pavement Exc - (Fill*Fill Factor)

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
			Cut	Salvaged / Unusable Pavement Material	Fill	Cut	Salvaged / Unusable Pavement Material Note 1	Fill Note 2	Cut 1.00 Note 1	Expanded Fill 1.11	Note 3
568+05.53	56805.53	0.00	25.12	10.63	0.06	0	0	0	0	0	0.00
568+25	56825.00	19.47	25.07	10.51	0.08	18	8	0	18	0	10.42
568+50	56850.00	25.00	25.44	9.73	0.08	23	9	0	41	0	24.35
568+75	56875.00	25.00	25.63	9.10	0.11	24	9	0	65	0	39.18
569+00	56900.00	25.00	25.69	8.24	0.37	24	8	0	89	0	54.66
569+25	56925.00	25.00	26.19	7.62	0.32	24	7	0	113	1	70.98
569+50	56950.00	25.00	26.47	6.80	0.26	24	7	0	137	1	88.39
570+00	57000.00	50.00	23.80	4.96	1.42	47	11	2	184	3	122.31
570+12.22	57012.22	12.22	23.29	4.52	0.00	11	2	0	194	3	130.47
570+50	57050.00	37.78	22.51	3.76	1.25	32	6	1	227	4	155.74
571+00	57100.00	50.00	22.22	2.39	1.00	41	6	2	268	7	189.14
571+03.28	57103.28	3.28	22.33	2.30	1.05	3	0	0	271	7	191.42
571+03.29	57103.29	0.01	18.58	1.26	1.05	0	0	0	271	7	191.43
571+50	57150.00	46.71	16.37	0.81	3.17	30	2	4	301	11	215.82
572+00	57200.00	50.00	12.21	0.84	1.62	26	2	4	327	16	235.84
572+03	57203.00	3.00	12.44	0.85	1.66	1	0	0	329	16	236.91
572+03.29	57203.29	0.29	13.18	0.85	1.67	0	0	0	329	16	237.02
572+50	57250.00	46.71	10.72	0.88	2.67	21	1	4	350	20	252.03
573+00	57300.00	50.00	10.13	0.86	5.59	19	2	8	369	28	261.24
573+50	57350.00	50.00	8.78	0.74	4.55	18	1	9	386	39	266.85
574+00	57400.00	50.00	8.16	0.75	2.27	16	1	6	402	46	274.16
574+31.46	57431.46	31.46	7.43	0.90	0.36	9	1	2	411	48	280.58
						411	83	43			

1) Salvaged/Unusable Pavement Material is included in Cut.
2) Fill does not include unusable pavement excavation volume
3) Mass Ordinate = Cut - Unusable Pavement Exc - (Fill*Fill Factor)

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 1	Incremental Vol (CY) (Unadjusted) Fill Note 2	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.11	Mass Ordinate Note 3
132+70.5	13270.50	0.00	0.00	1.50	0.00	0	0	0	0	0	0.00
133+00	13300.00	29.50	14.33	1.50	0.00	8	2	0	8	0	6.19
133+50	13350.00	50.00	23.55	1.50	0.43	35	3	0	43	0	38.04
134+00	13400.00	50.00	35.59	1.50	0.01	55	3	0	98	1	89.57
134+50	13450.00	50.00	49.28	1.50	0.00	79	3	0	176	1	165.37
135+00	13500.00	50.00	61.73	1.50	0.00	103	3	0	279	1	265.37
135+34.93	13534.93	34.93	62.27	1.50	0.00	80	2	0	359	1	343.64
135+50	13550.00	15.07	61.99	1.50	0.00	35	1	0	394	1	377.48
136+00	13600.00	50.00	57.93	2.54	0.00	111	4	0	505	1	484.78
136+50	13650.00	50.00	50.92	6.32	0.00	101	8	0	606	1	577.37
137+00	13700.00	50.00	43.48	9.59	0.00	87	15	0	693	1	650.05
137+50	13750.00	50.00	40.79	12.93	0.00	78	21	0	771	1	707.22
137+62.02	13762.02	12.02	40.37	13.53	0.00	18	6	0	789	1	719.41
141+14.44	14114.44	0.00	41.04	13.50	0.00	0	0	0	789	1	719.41
141+50	14150.00	35.56	40.61	12.30	0.00	54	17	0	843	1	756.19
142+00	14200.00	50.00	42.47	8.48	0.00	77	19	0	920	1	813.87
142+50	14250.00	50.00	45.40	4.50	0.00	81	12	0	1,001	1	883.22
142+93.01	14293.01	43.01	52.60	1.50	0.00	78	5	0	1,079	1	956.50
143+00	14300.00	6.99	42.70	1.50	0.01	12	0	0	1,092	1	968.45
143+43.55	14343.55	43.55	31.95	1.50	0.46	60	2	0	1,152	1	1,025.81
143+50	14350.00	6.45	36.23	1.50	0.64	8	0	0	1,160	1	1,033.45
144+00	14400.00	50.00	24.71	1.50	6.70	56	3	7	1,216	9	1,079.55
144+17.02	14417.02	17.02	28.97	1.50	0.69	17	1	2	1,233	12	1,092.94
144+50	14450.00	32.98	15.69	1.50	0.34	27	2	1	1,261	12	1,117.69
144+89.26	14489.26	39.26	7.27	1.50	0.98	17	2	1	1,277	13	1,131.13
						1,277	133	12			

1) Salvaged/Unusable Pavement Material is included in Cut.
2) Fill does not include unusable pavement excavation volume
3) Mass Ordinate = Cut - Unusable Pavement Exc - (Fill*Fill Factor)



9

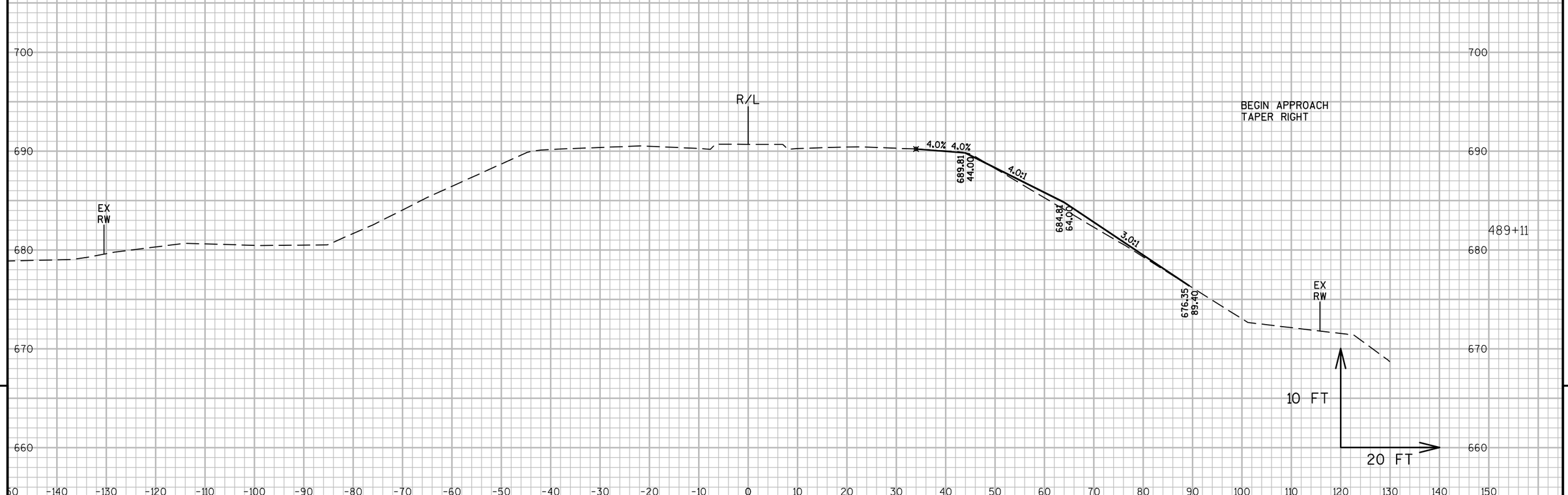
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 322	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (41)

PLOT DATE : 7/28/2015 12:34 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



9

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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 323	E



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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 324	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (43)

PLOT DATE : 7/28/2015 12:35 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 325 E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (44)

PLOT DATE : 7/28/2015 12:35 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



9

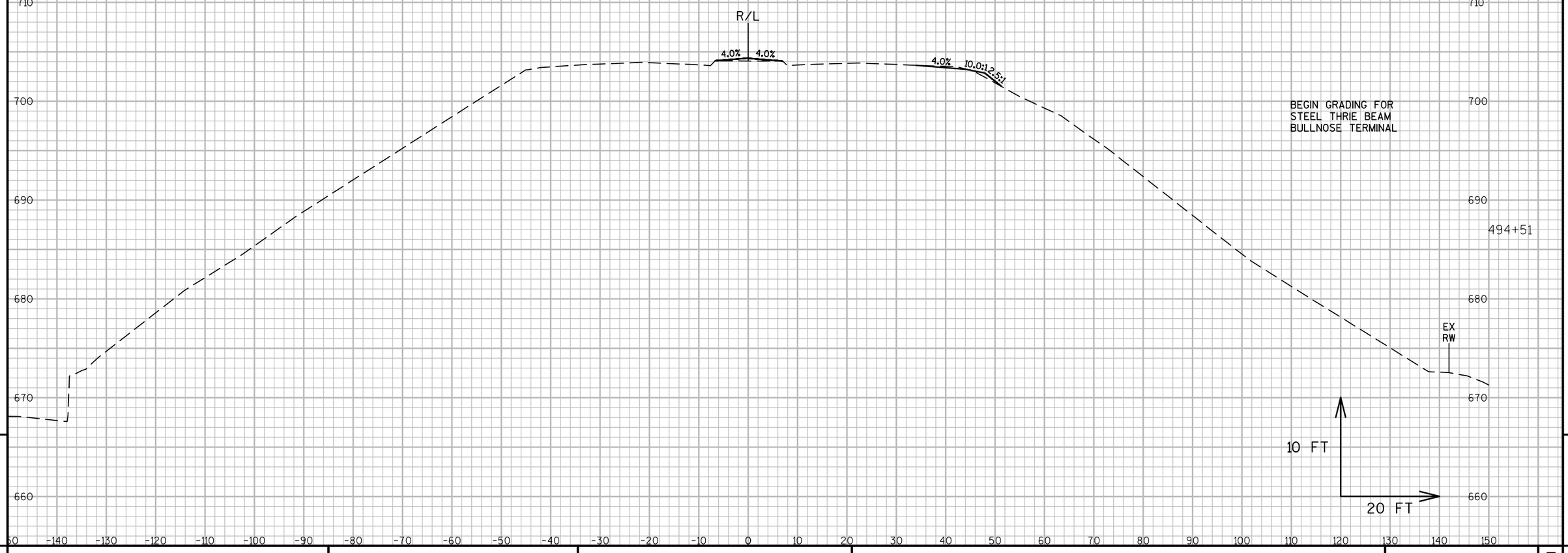
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 326	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (45)

PLOT DATE : 7/28/2015 12:35 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

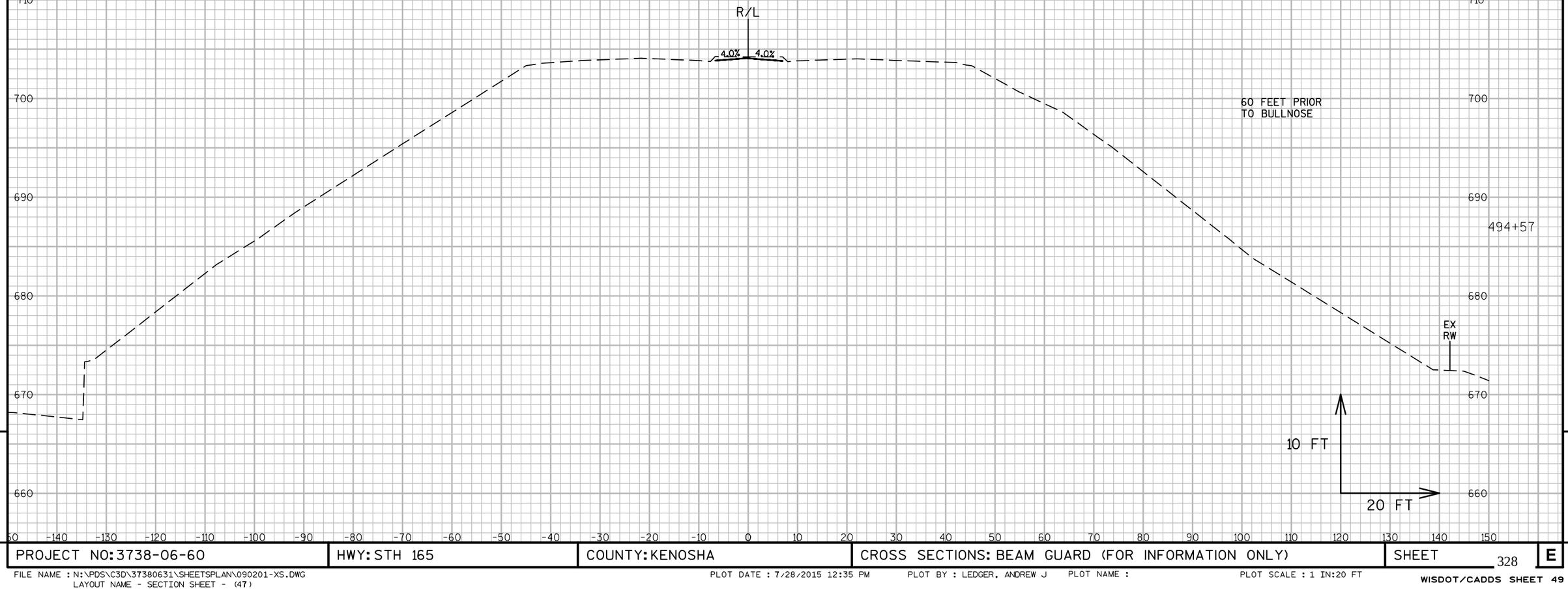
WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 327	E



9

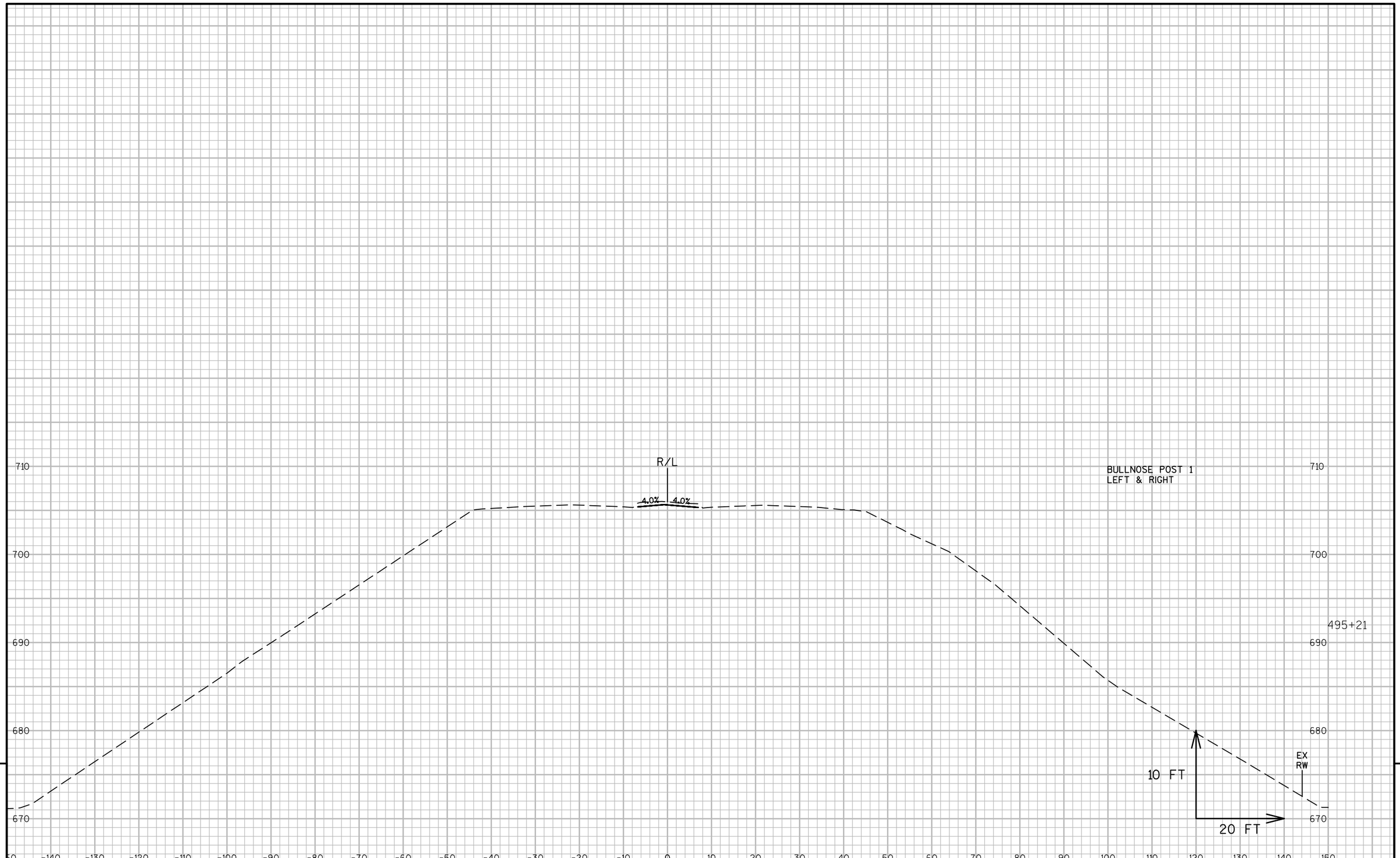
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 328	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (47)

PLOT DATE : 7/28/2015 12:35 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



9

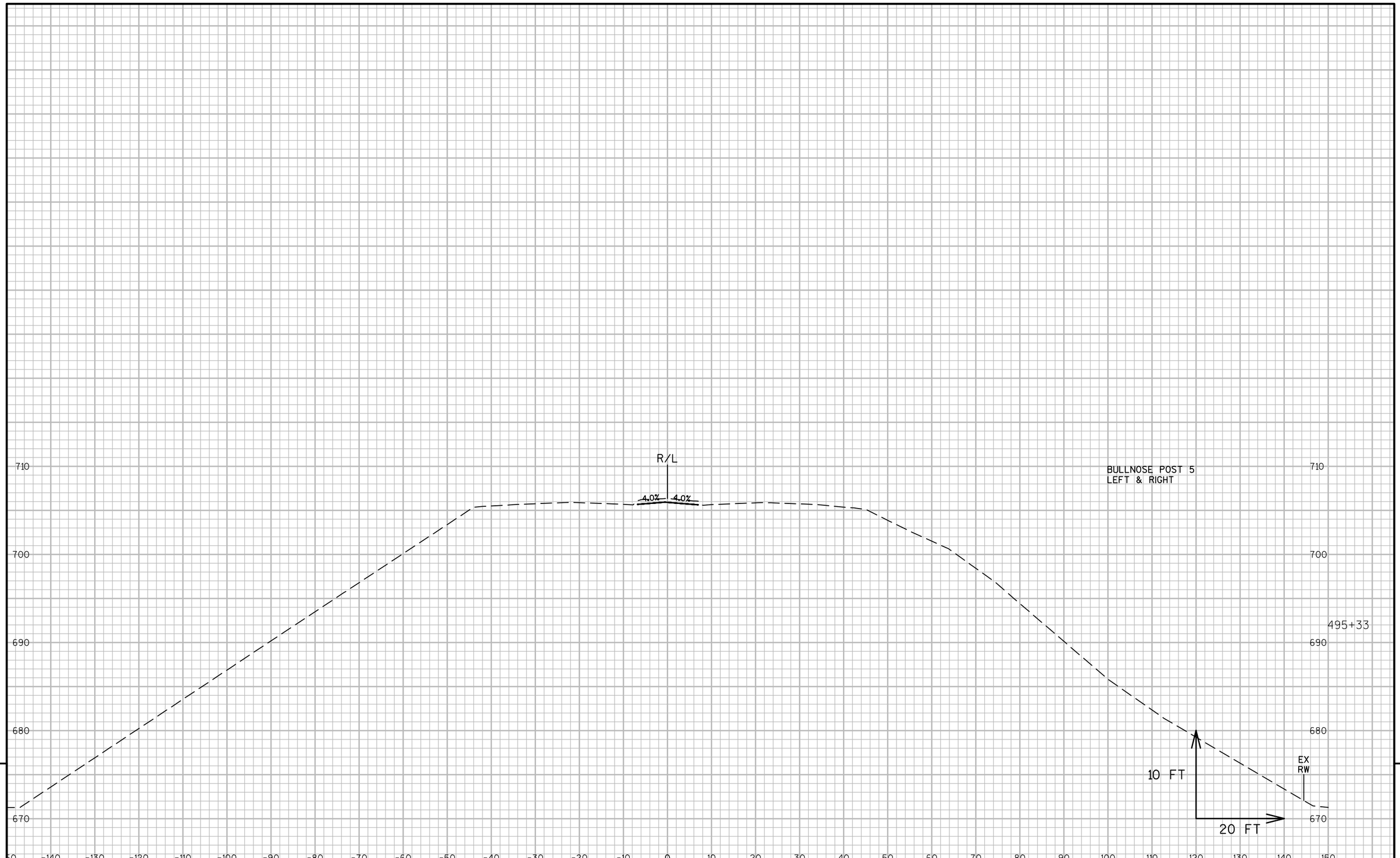
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 329	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (48)

PLOT DATE : 7/28/2015 12:35 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 330	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (49)
PLOT DATE : 7/28/2015 12:35 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 49

BULLNOSE AT
FIXED OBJECT

R/L

4.0% 4.0%

720 710 700 690 680 670

496+89

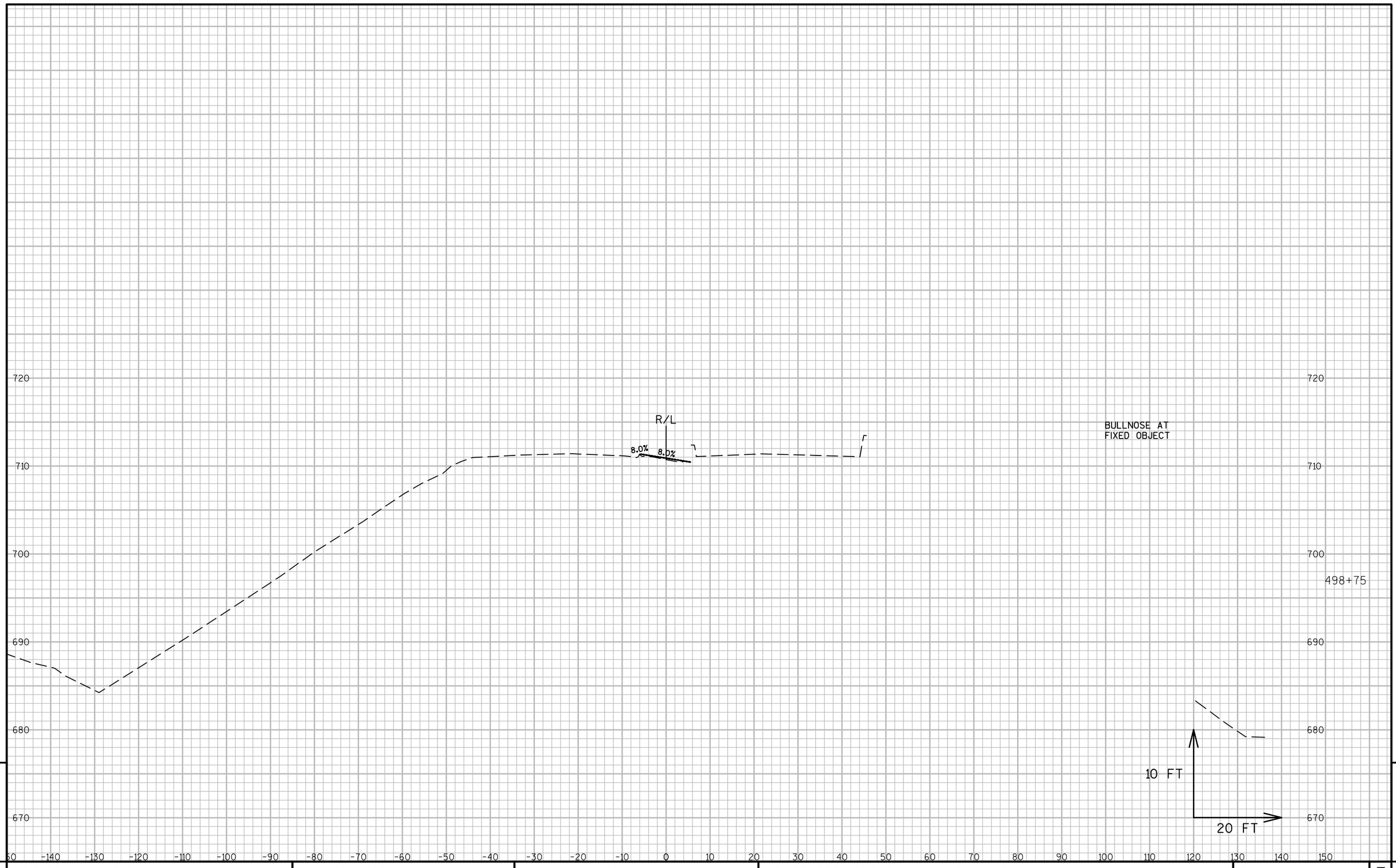
10 FT

20 FT

-150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

9 9

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 331	E



9

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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 332	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (51)

PLOT DATE : 7/28/2015 12:35 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT



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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 333	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (52)

PLOT DATE : 7/28/2015 12:35 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

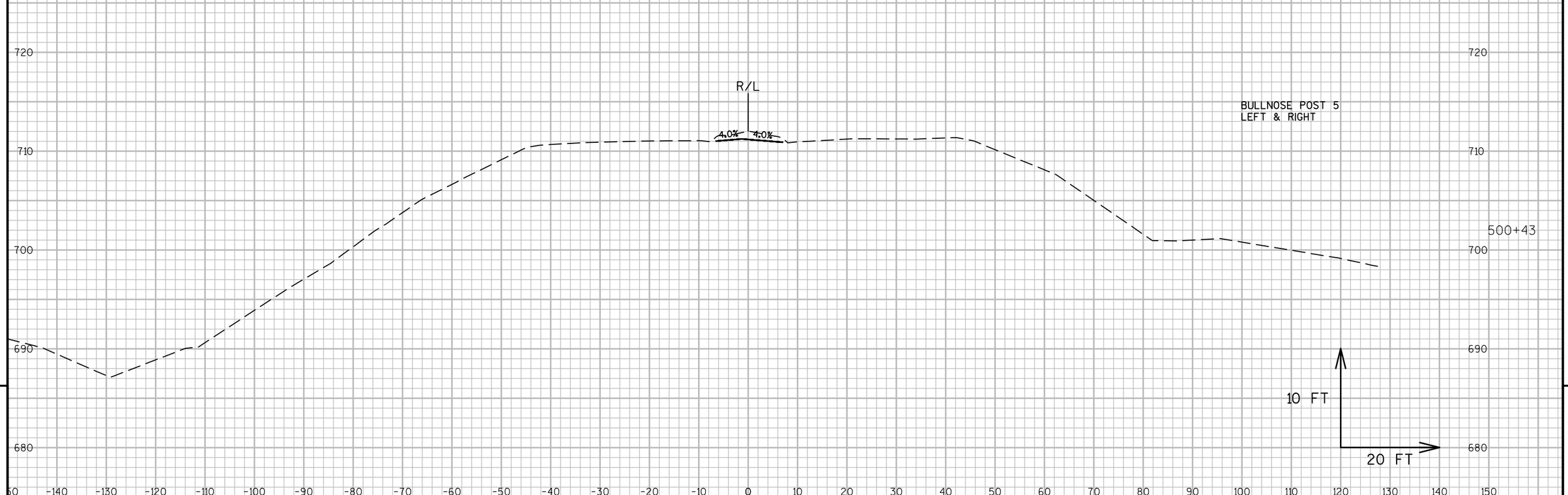


PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 334 E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (53)

PLOT DATE : 7/28/2015 12:36 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 335	E



9

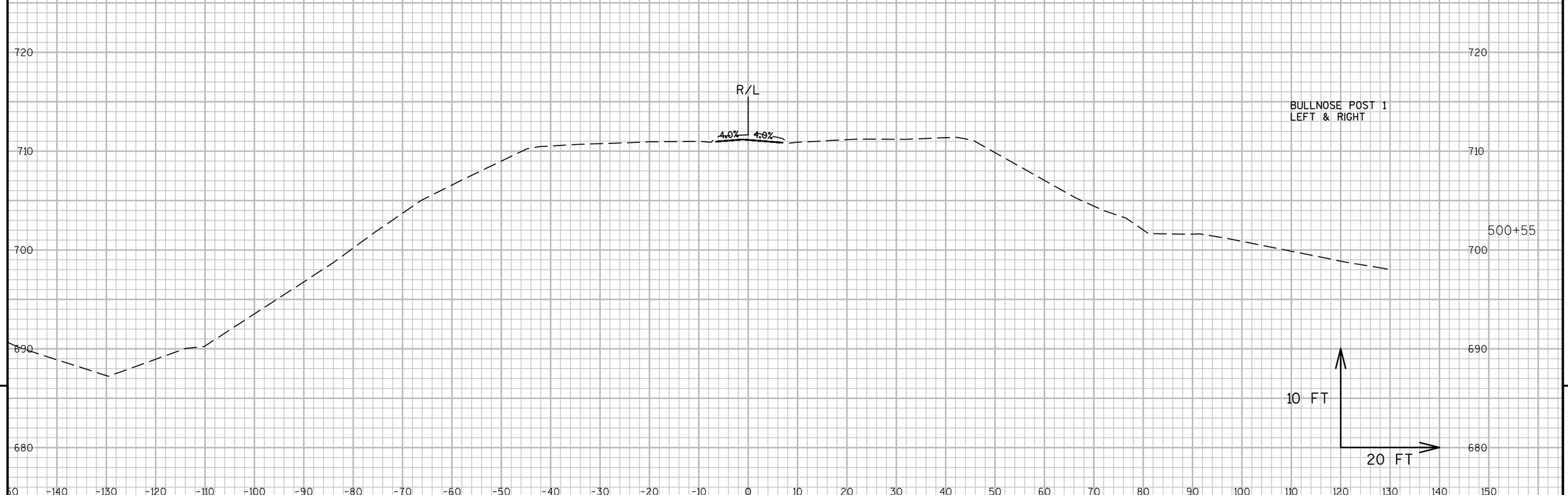
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 336	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (55)

PLOT DATE : 7/28/2015 12:36 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



9

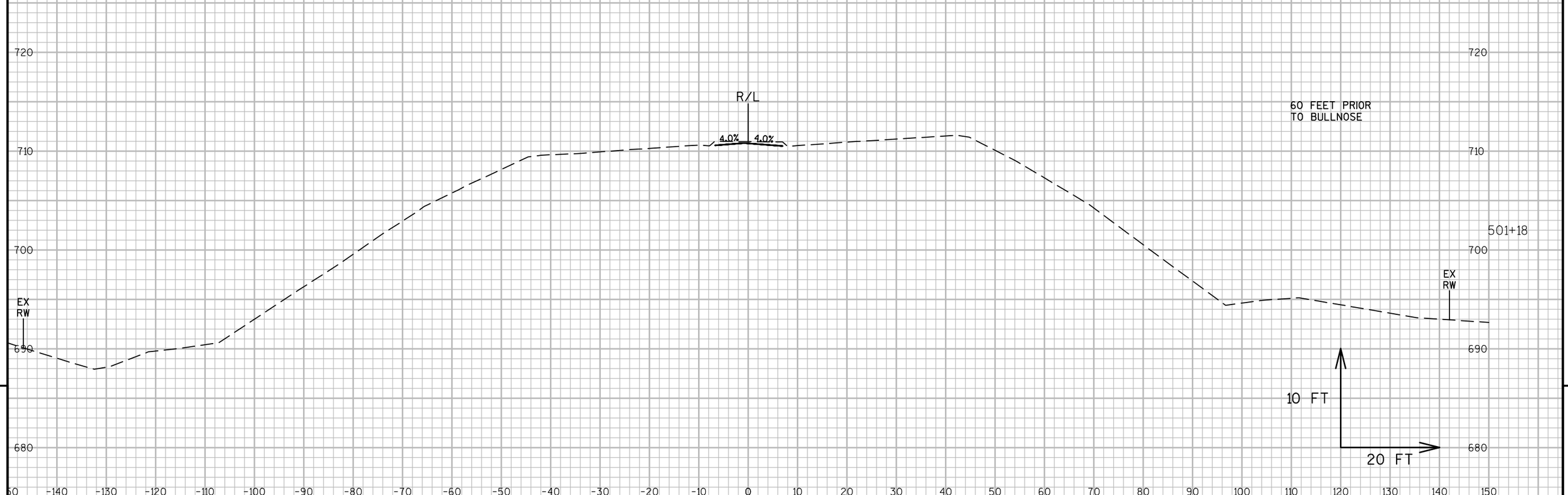
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 337	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (56)

PLOT DATE : 7/28/2015 12:36 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49

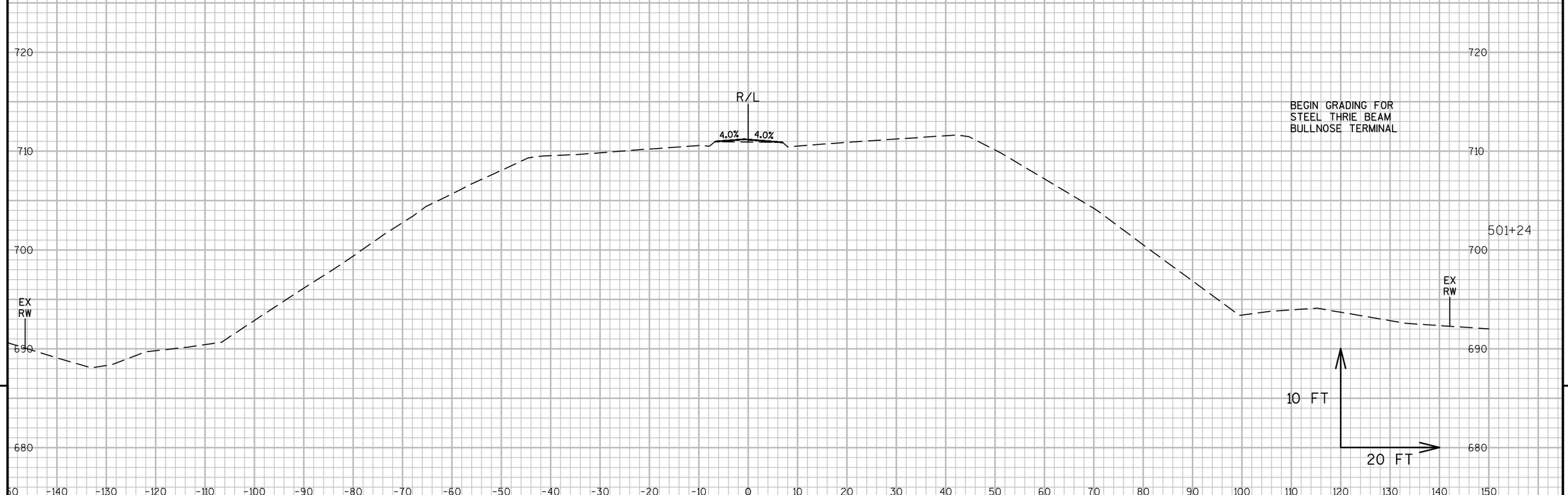


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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 338	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (57)
PLOT DATE : 7/28/2015 12:36 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 339	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (58)

PLOT DATE : 7/28/2015 12:36 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT



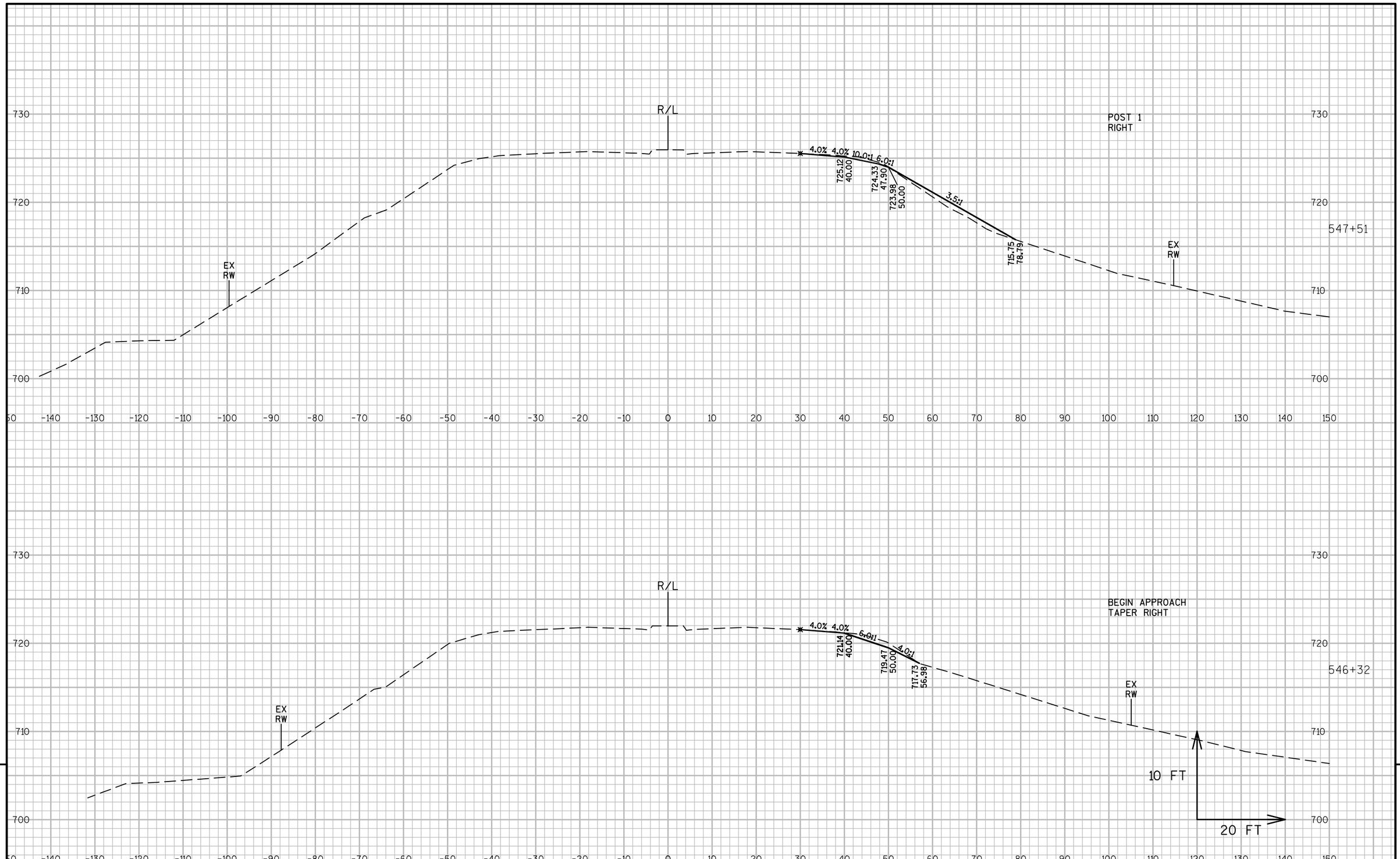
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 340	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (59)

PLOT DATE : 7/28/2015 12:36 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT



9

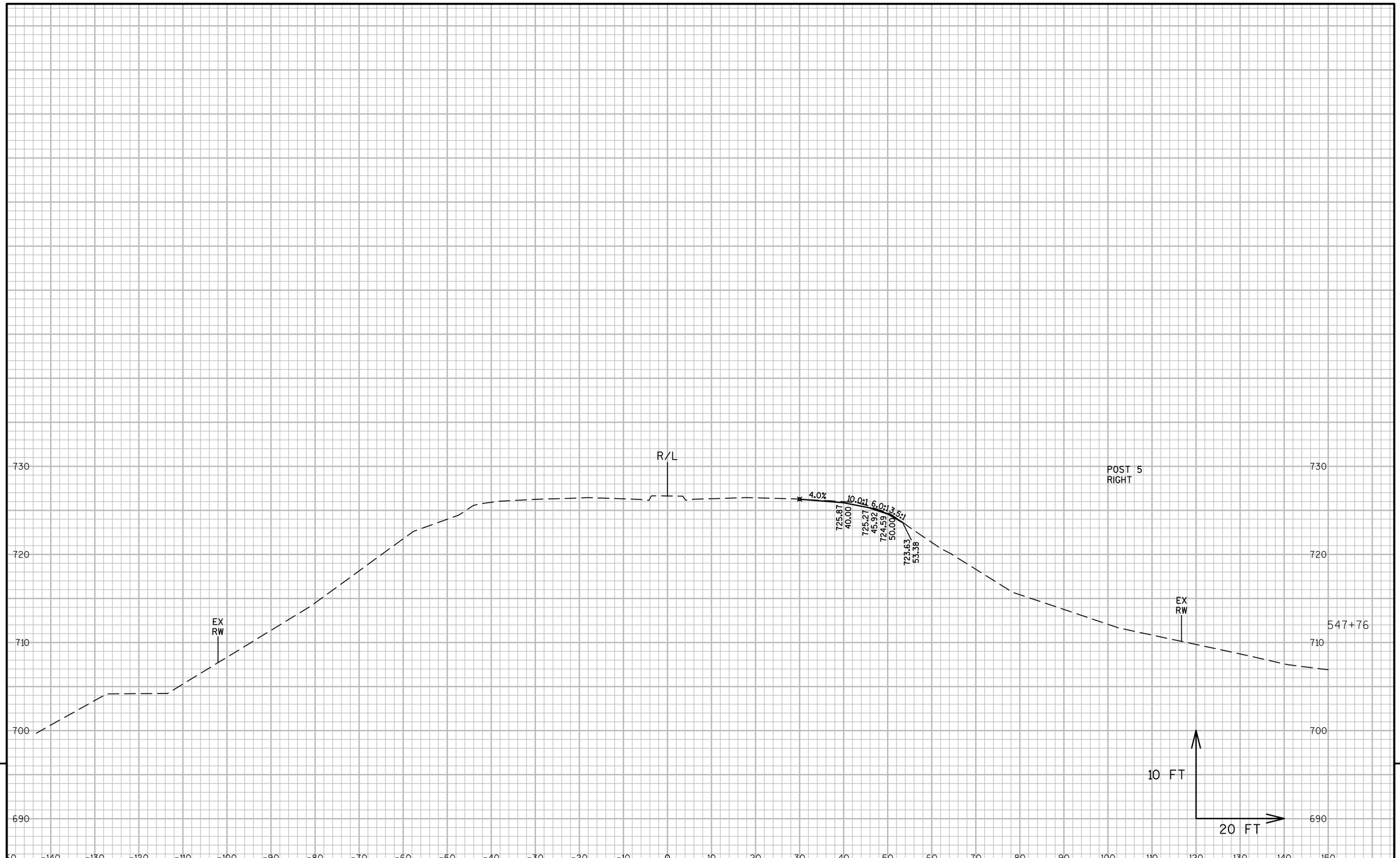
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 341	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (60)

PLOT DATE : 7/28/2015 12:36 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



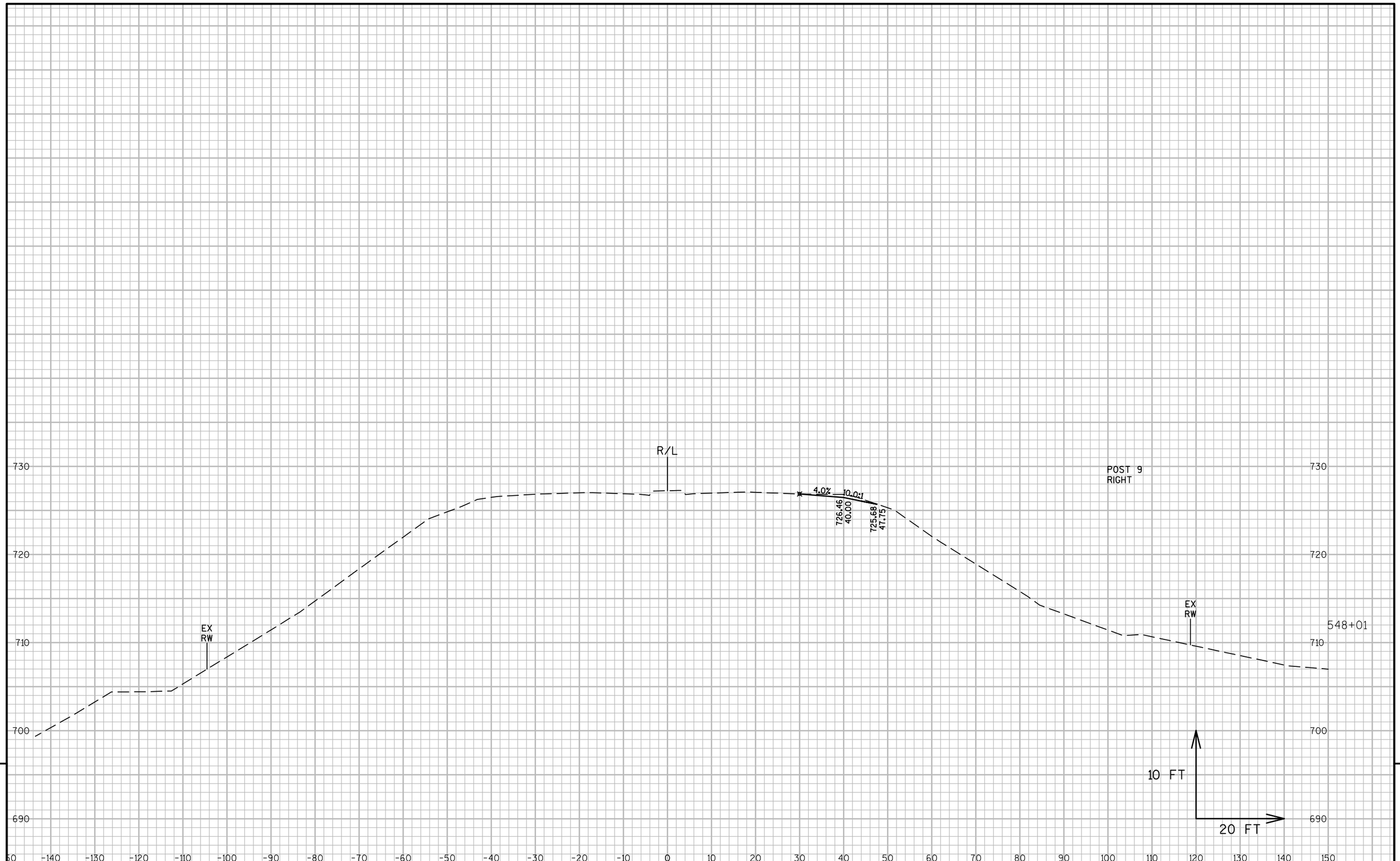
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 342	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (61)

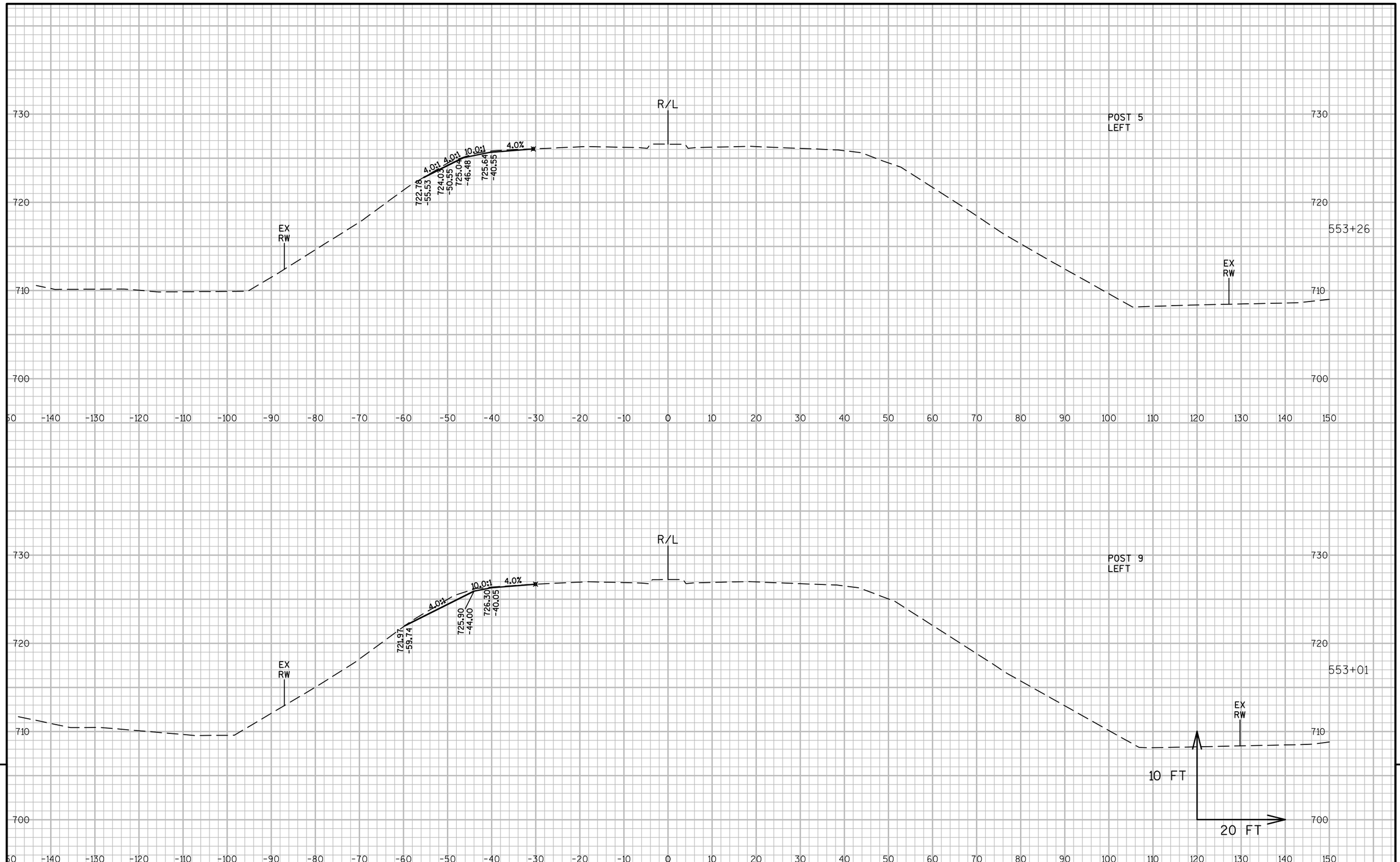
PLOT DATE : 7/28/2015 12:36 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT



9

9

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 343	E



9

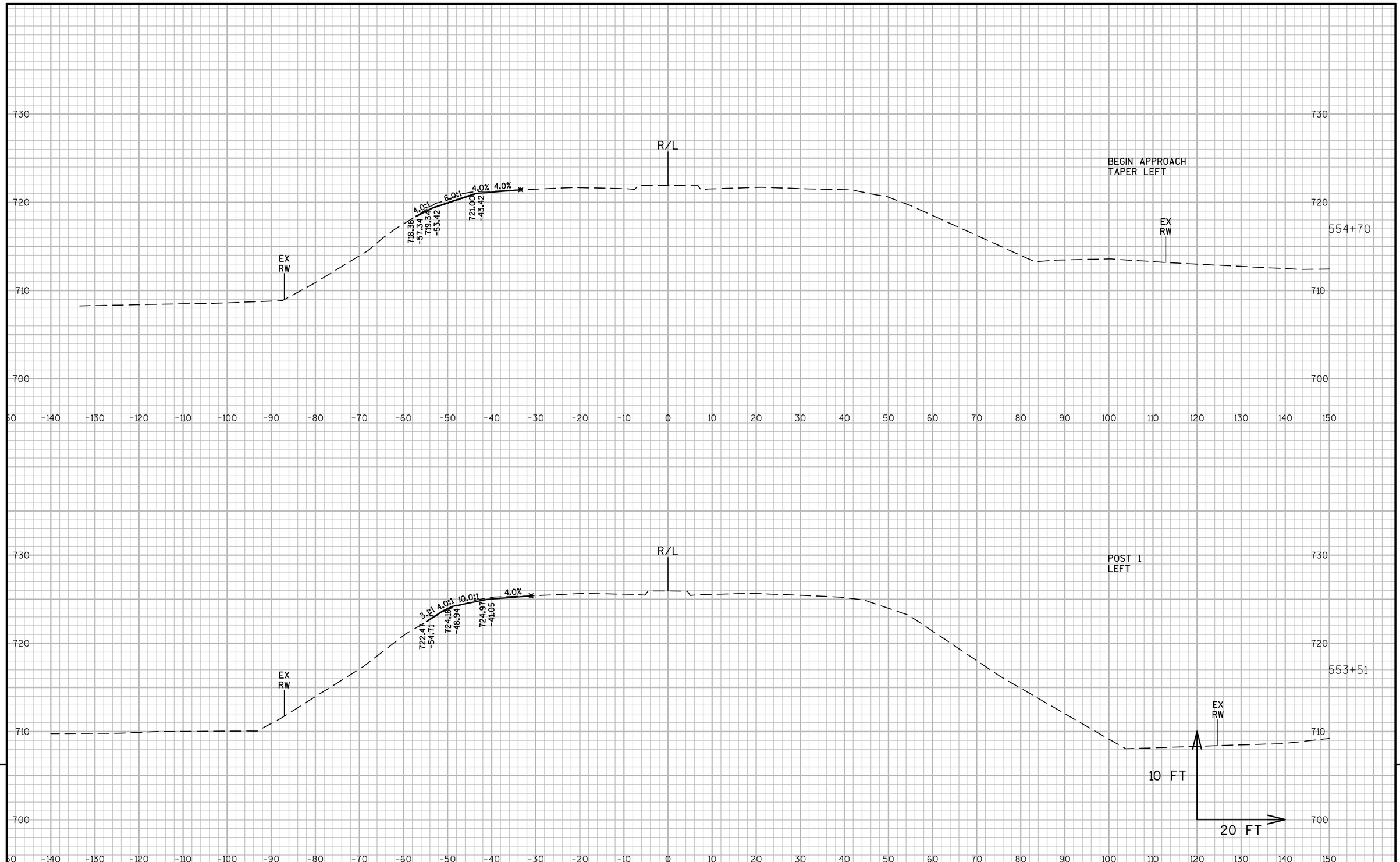
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 344	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (63)

PLOT DATE : 7/28/2015 12:36 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



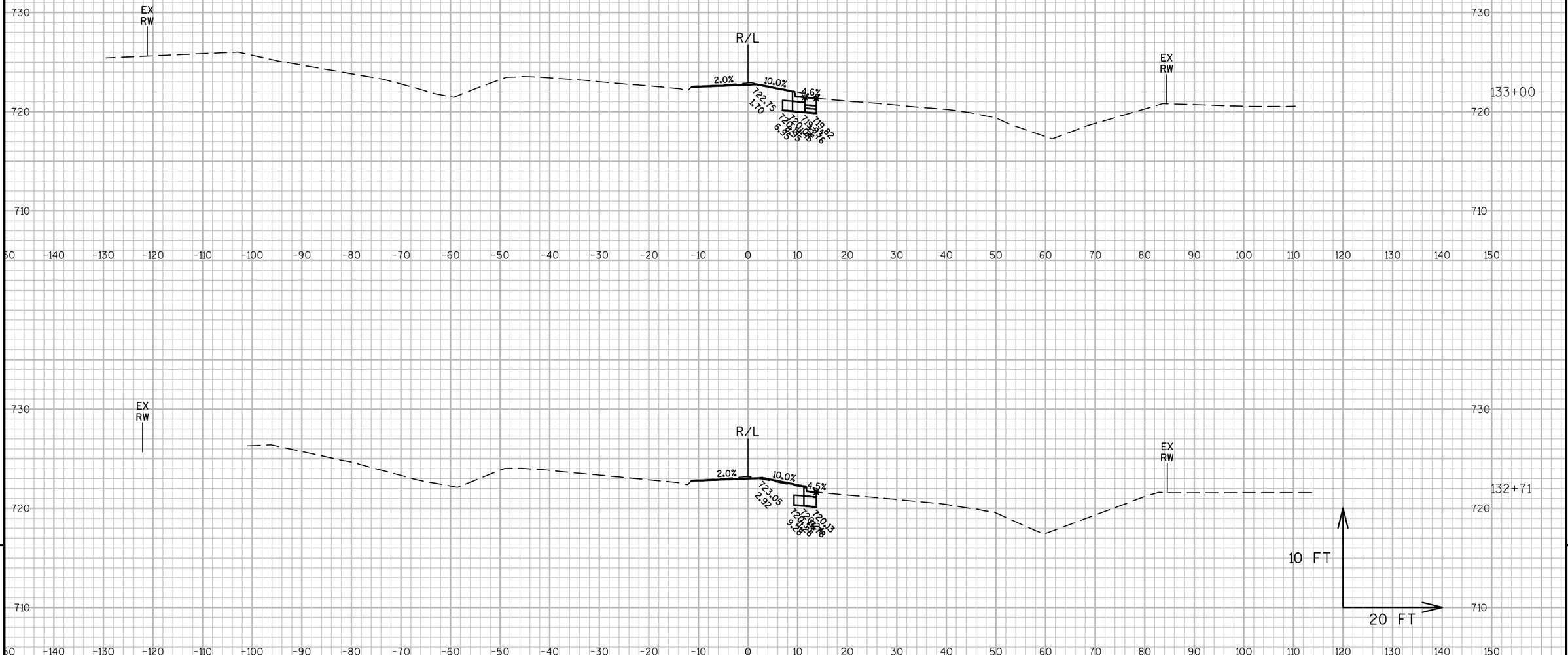
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PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: BEAM GUARD (FOR INFORMATION ONLY)	SHEET 345	E

9

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - SECTION SHEET - (64)

PLOT DATE : 7/28/2015 12:37 PM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

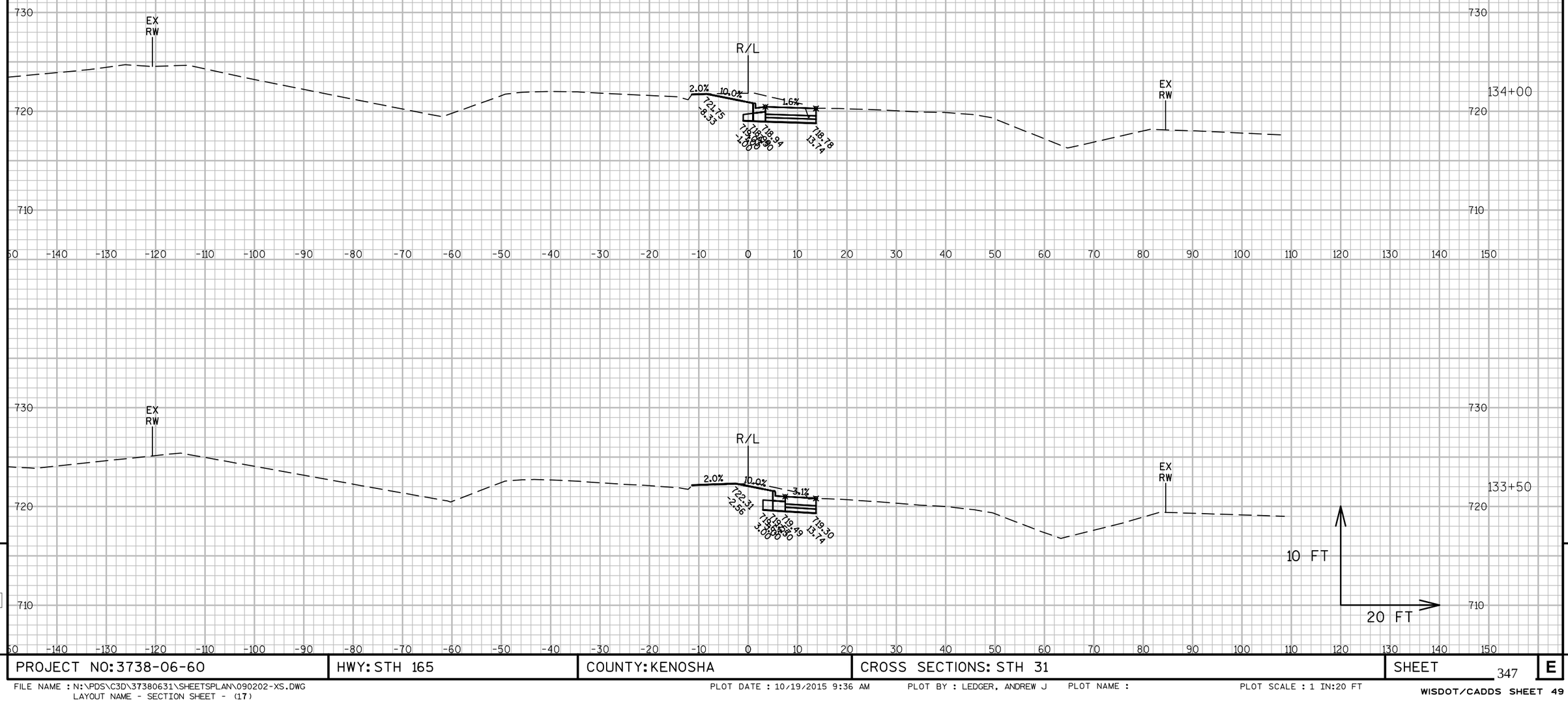


PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 31	SHEET 346	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (16)

PLOT DATE : 10/19/2015 9:36 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49

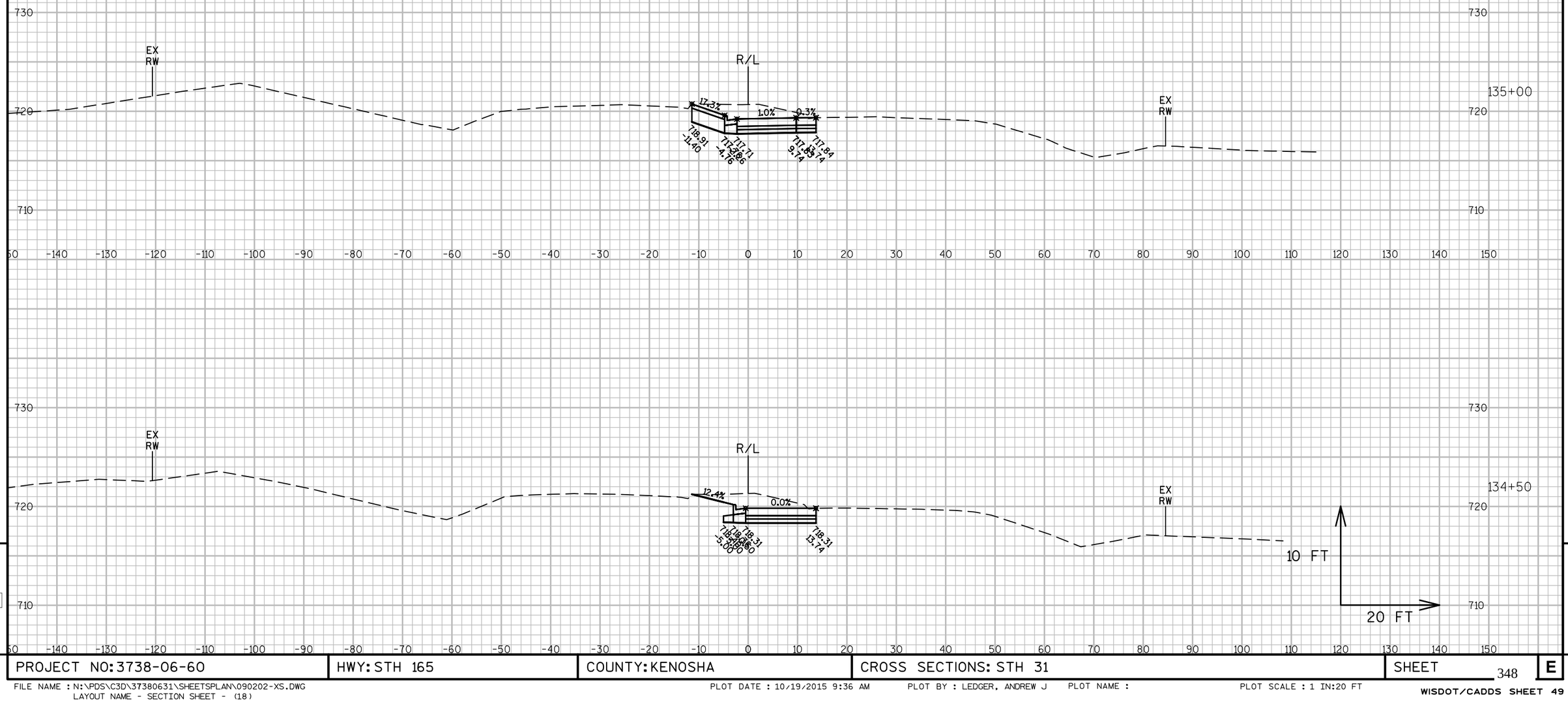


PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 31	SHEET 347 E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (17)

PLOT DATE : 10/19/2015 9:36 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49

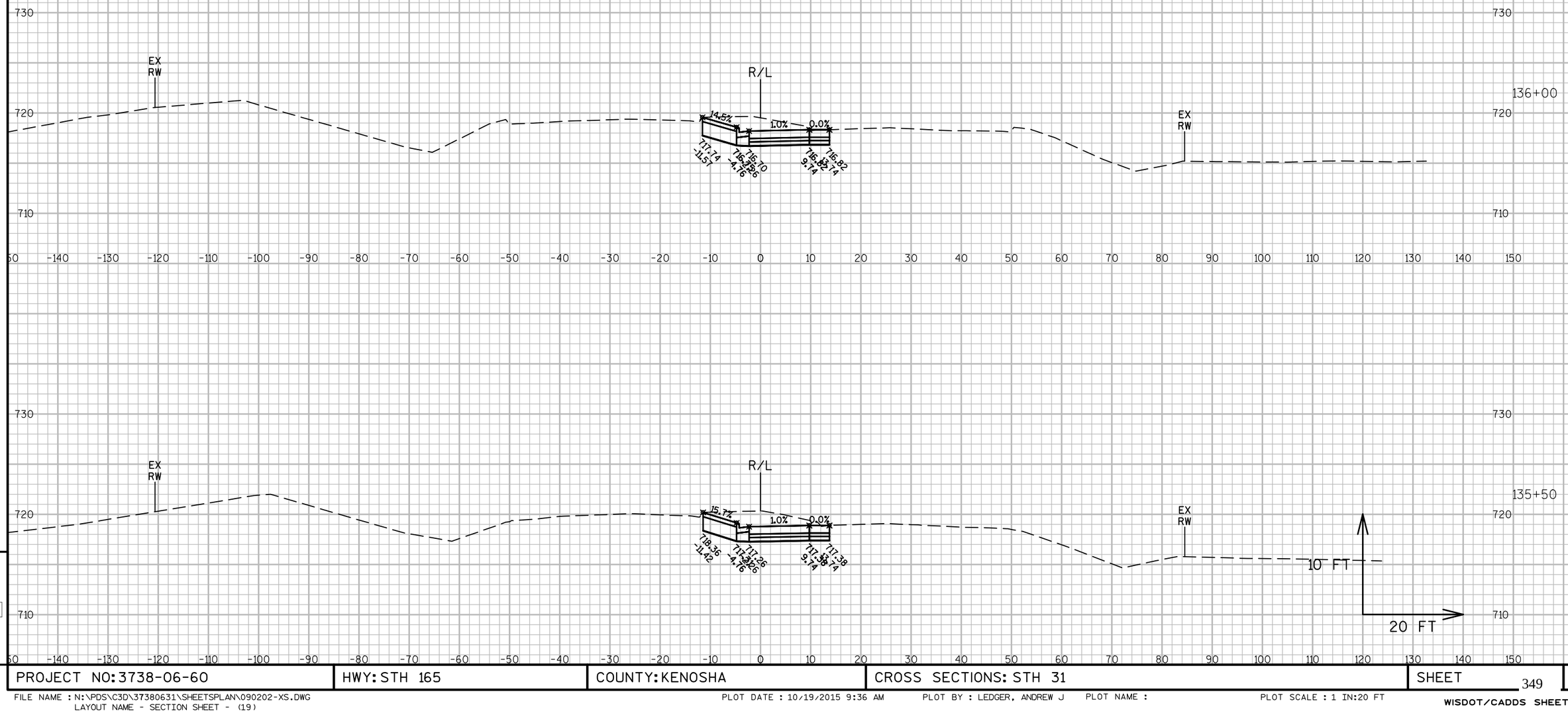


PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 31	SHEET 348	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (18)

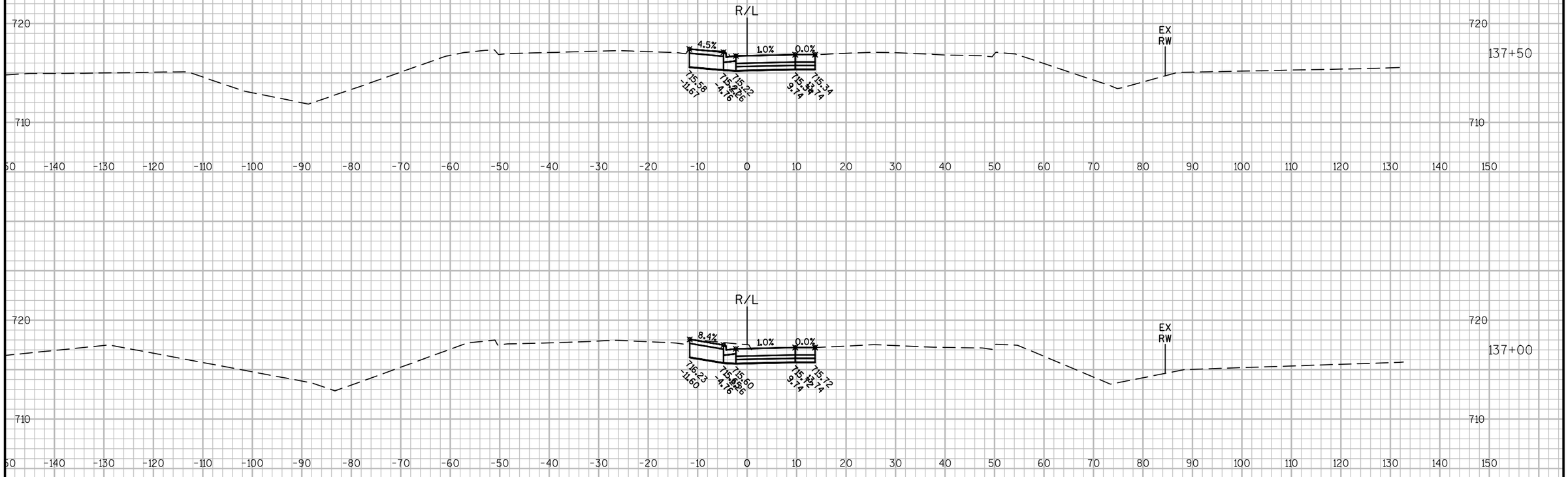
PLOT DATE : 10/19/2015 9:36 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

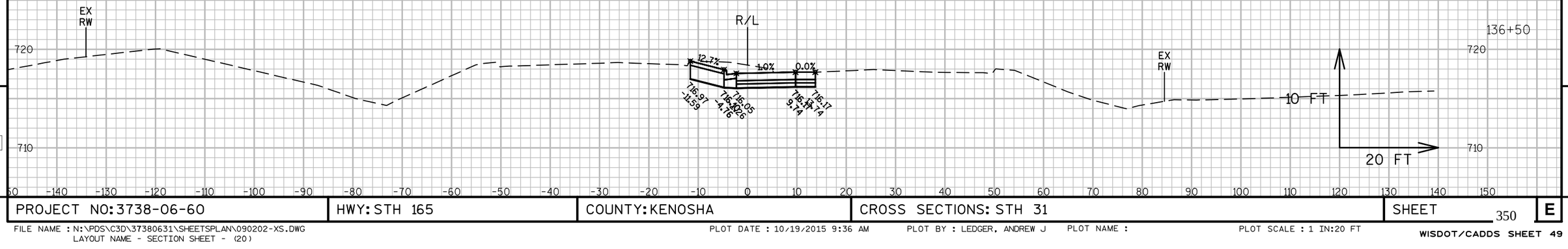
WISDOT/CADDS SHEET 49



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 31	SHEET 349	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (19)
PLOT DATE : 10/19/2015 9:36 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 49

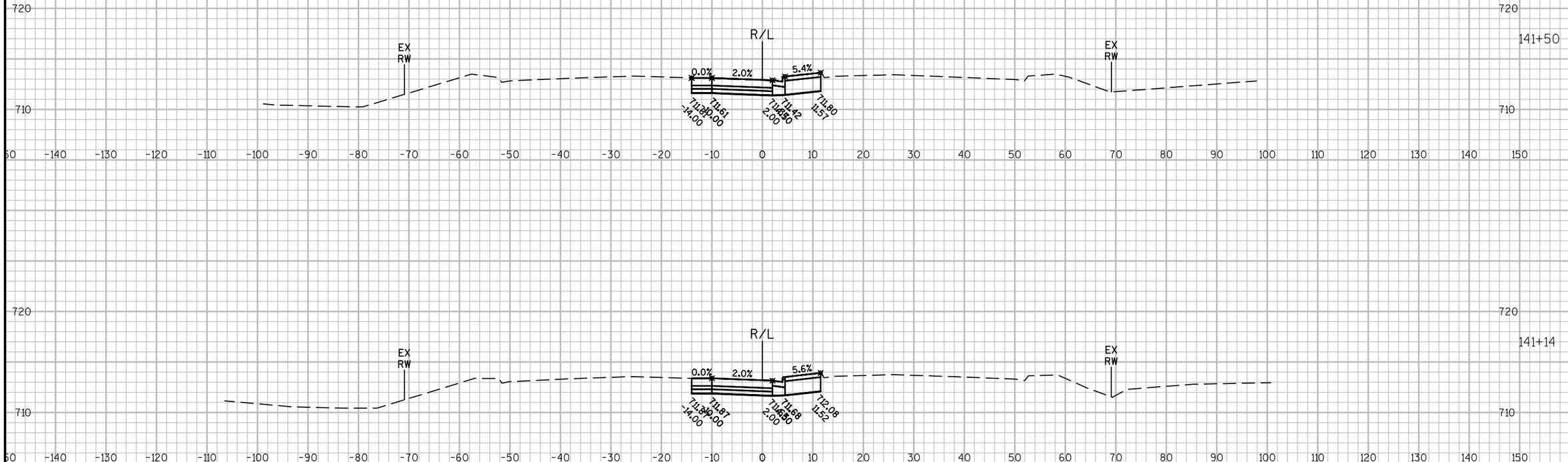




PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 31	SHEET 350	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (20)

PLOT DATE : 10/19/2015 9:36 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

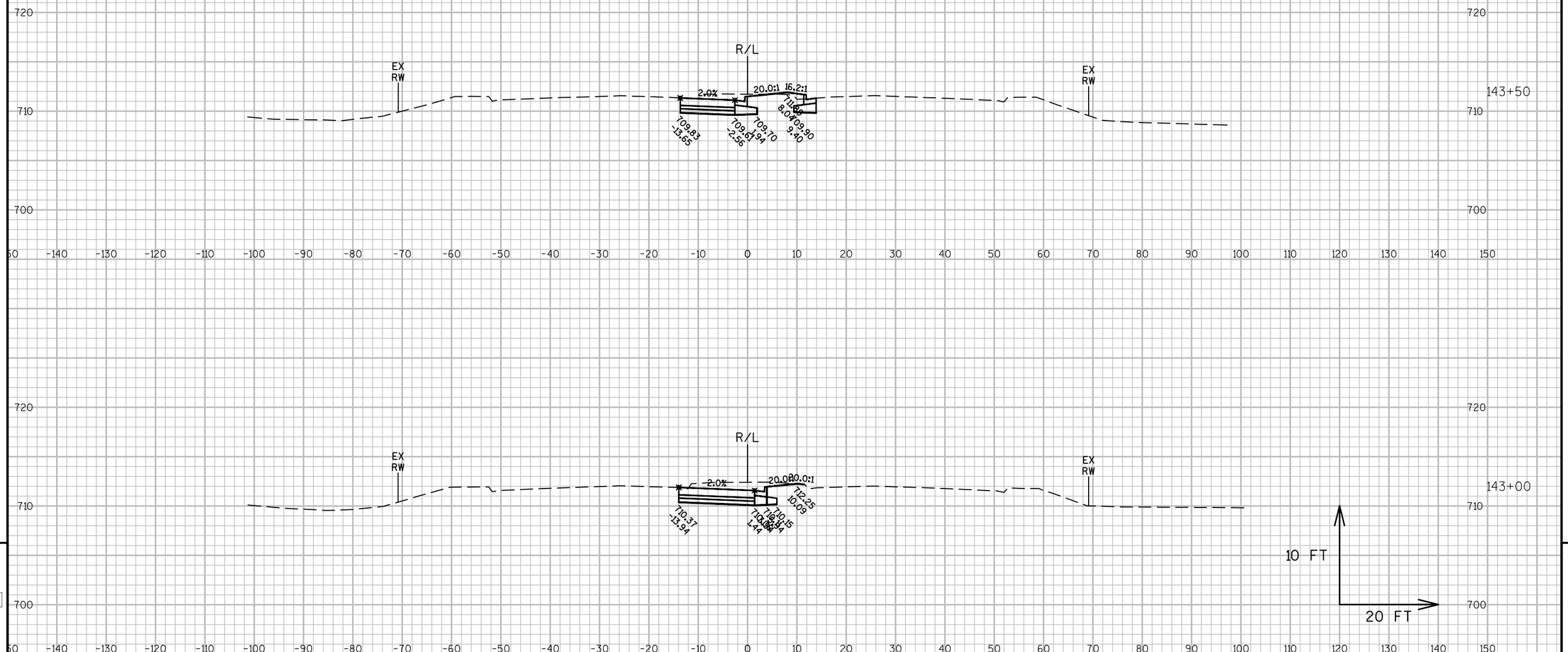


PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 31	SHEET 351	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (21)

PLOT DATE : 10/19/2015 9:36 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

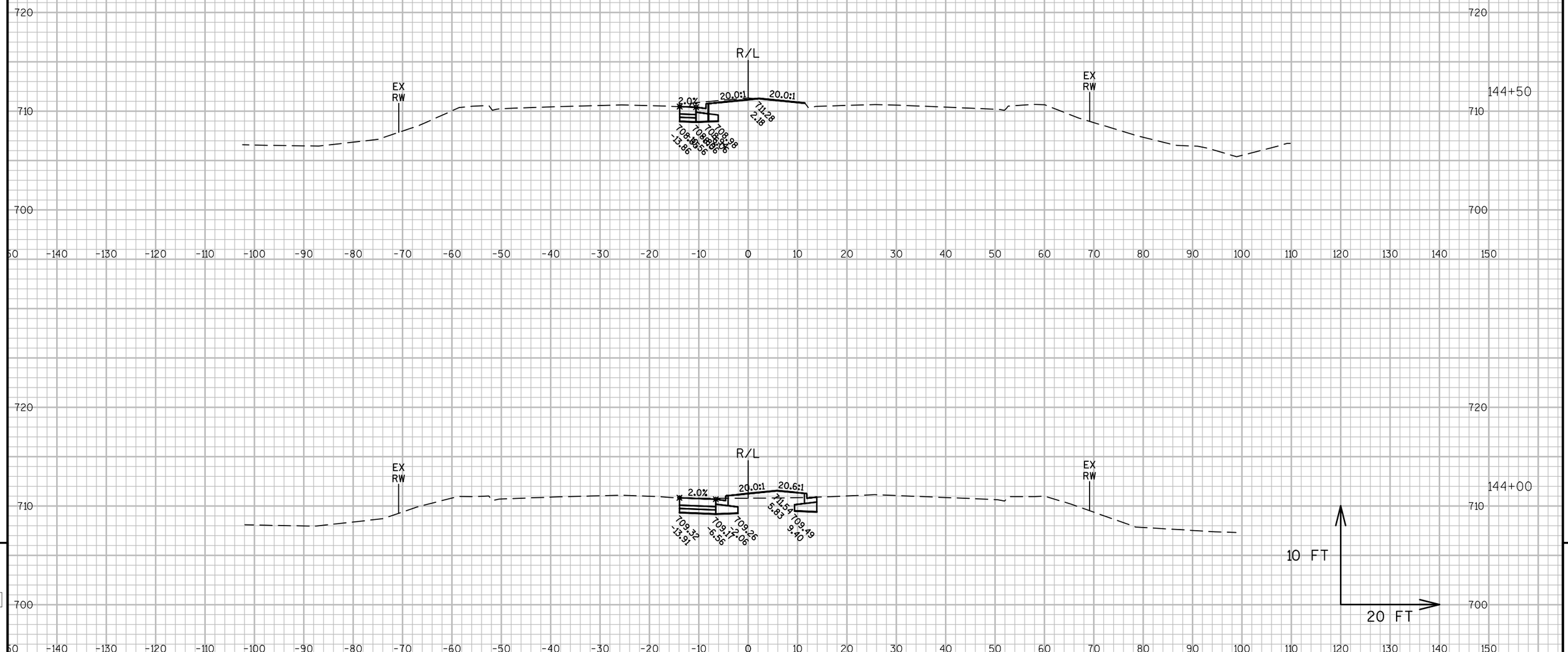
PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 31	SHEET 352	E



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 31	SHEET 353 E

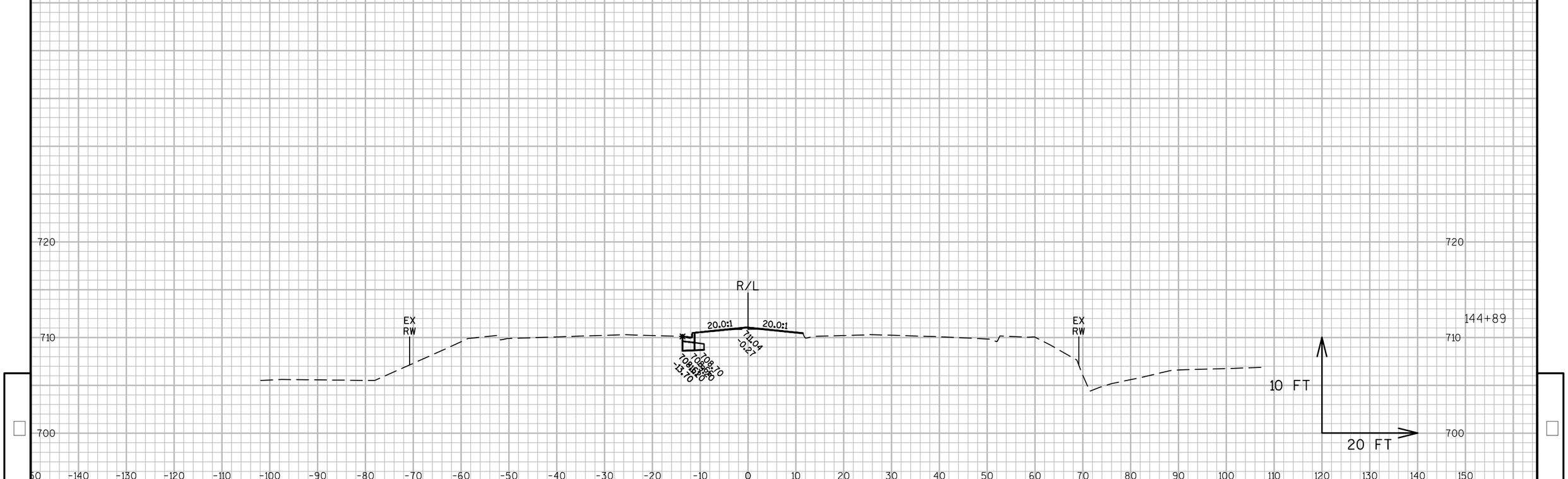
FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (23)

PLOT DATE : 10/19/2015 9:36 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 31	SHEET 354	E

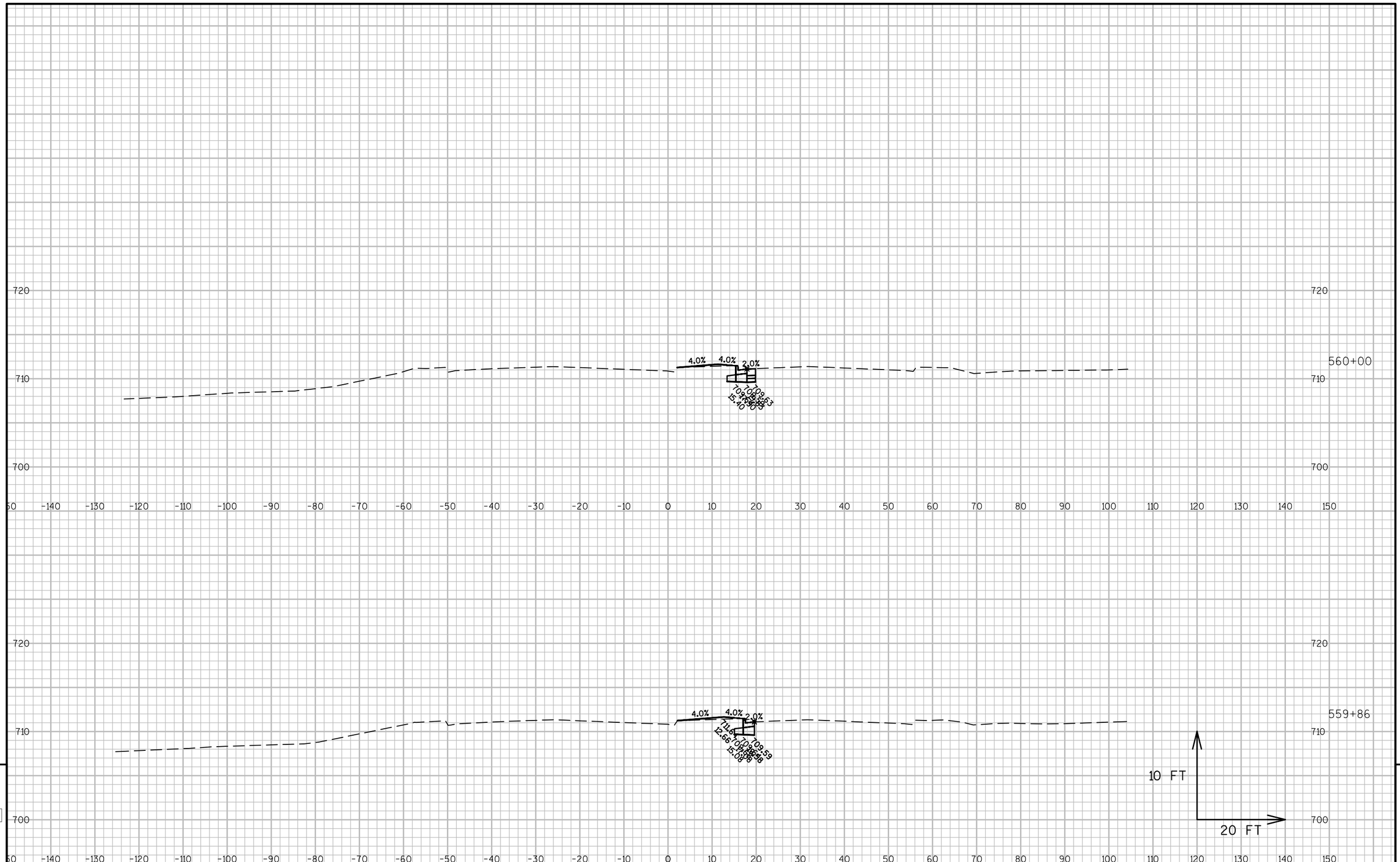
FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (24)
PLOT DATE : 10/19/2015 9:37 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 49



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 31	SHEET 355	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (25)

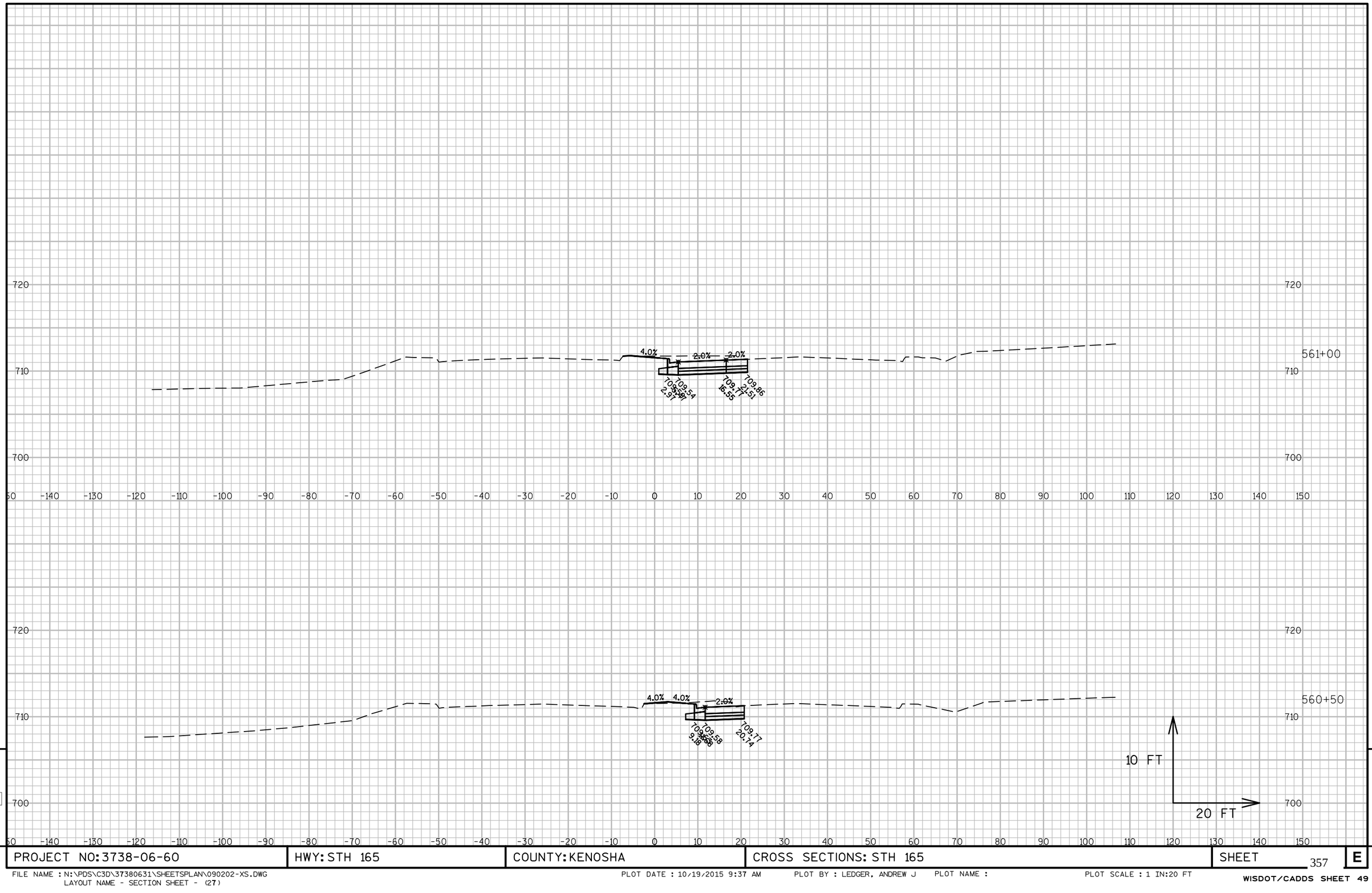
PLOT DATE : 10/19/2015 9:37 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 356	E

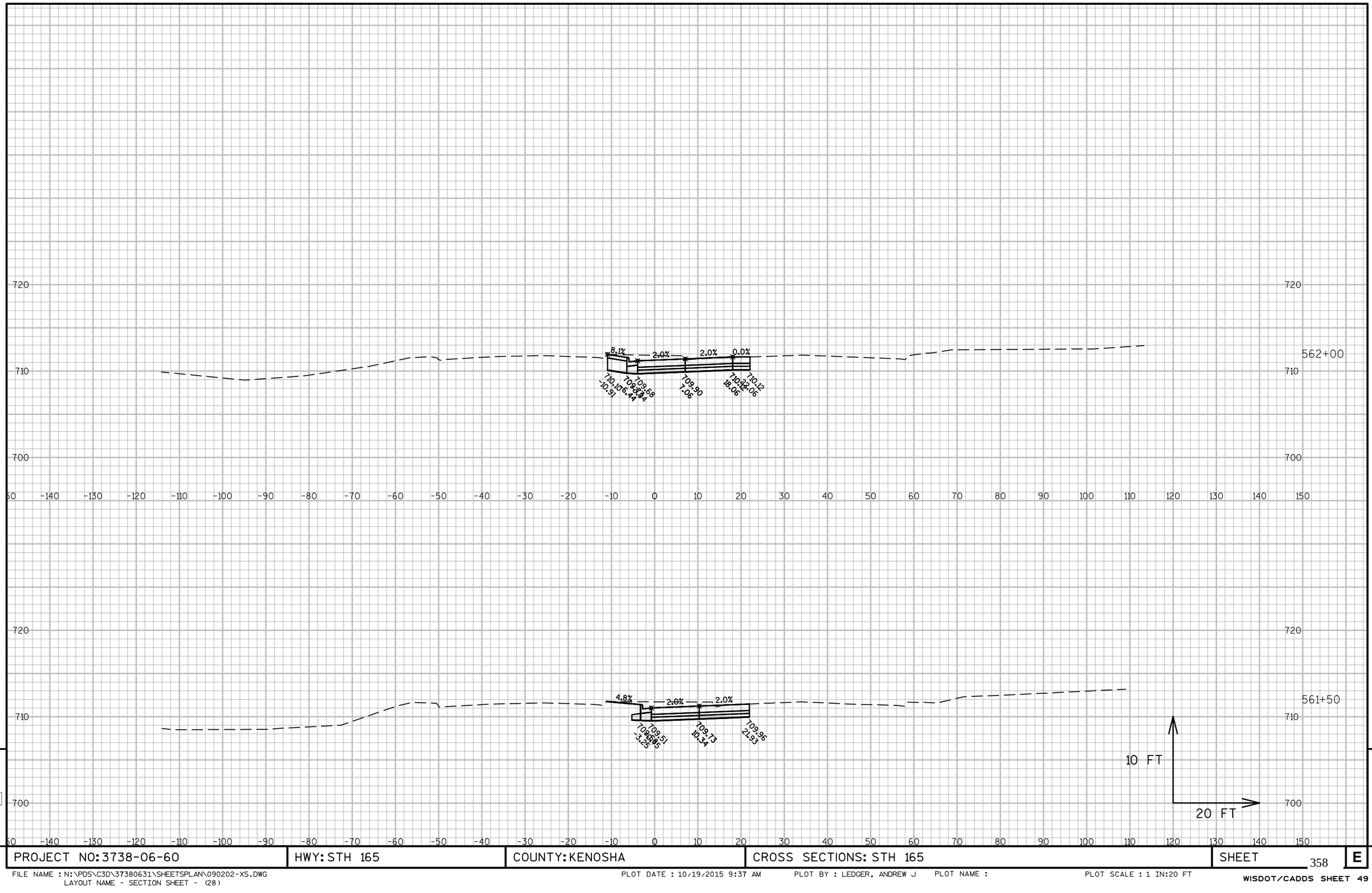
FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (26)

PLOT DATE : 10/19/2015 9:37 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 357	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (27)
PLOT DATE : 10/19/2015 9:37 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 49

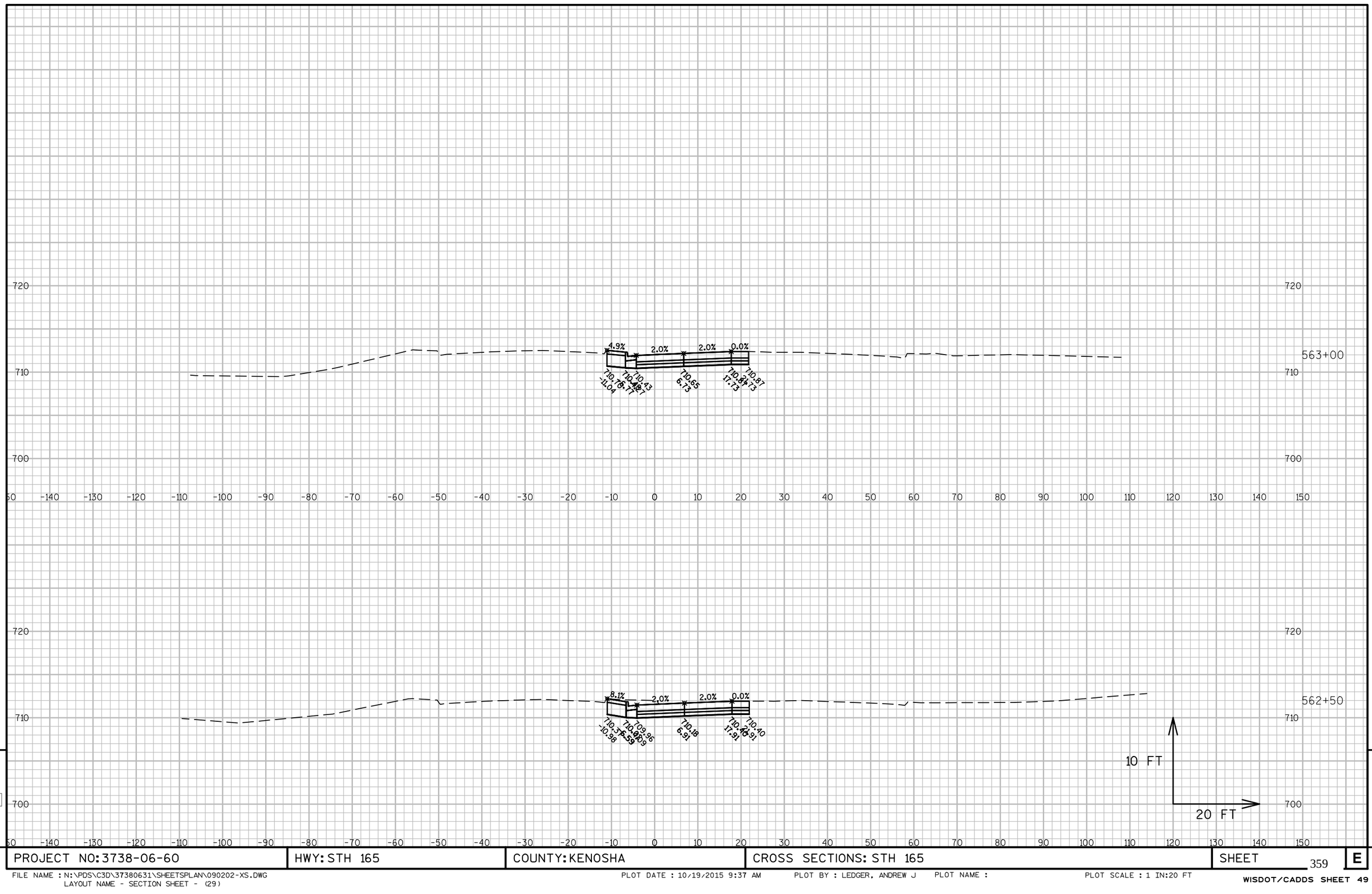


PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 358	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (28)

PLOT DATE : 10/19/2015 9:37 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 359	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (29)

PLOT DATE : 10/19/2015 9:37 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49

568+50

4.0:1 2.0%

715.62 -23.48 715.86 -23.48 715.49 -39.99

568+06

4.0:1 2.0%

715.23 -33.73 715.47 -25.57

563+25

0.6%

711.15 -24.75

10 FT

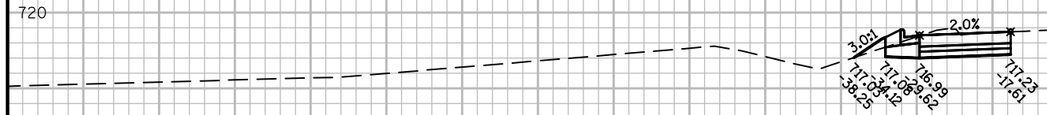
20 FT

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 360	E

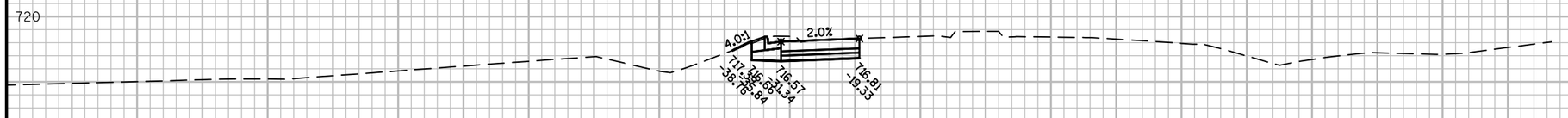
FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (30)

PLOT DATE : 10/19/2015 9:37 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

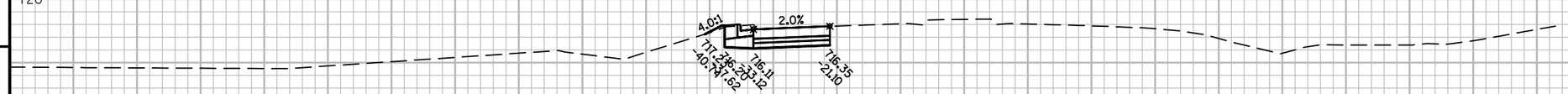
WISDOT/CADDS SHEET 49



720
710
570+00



720
710
569+50



720
710
569+00

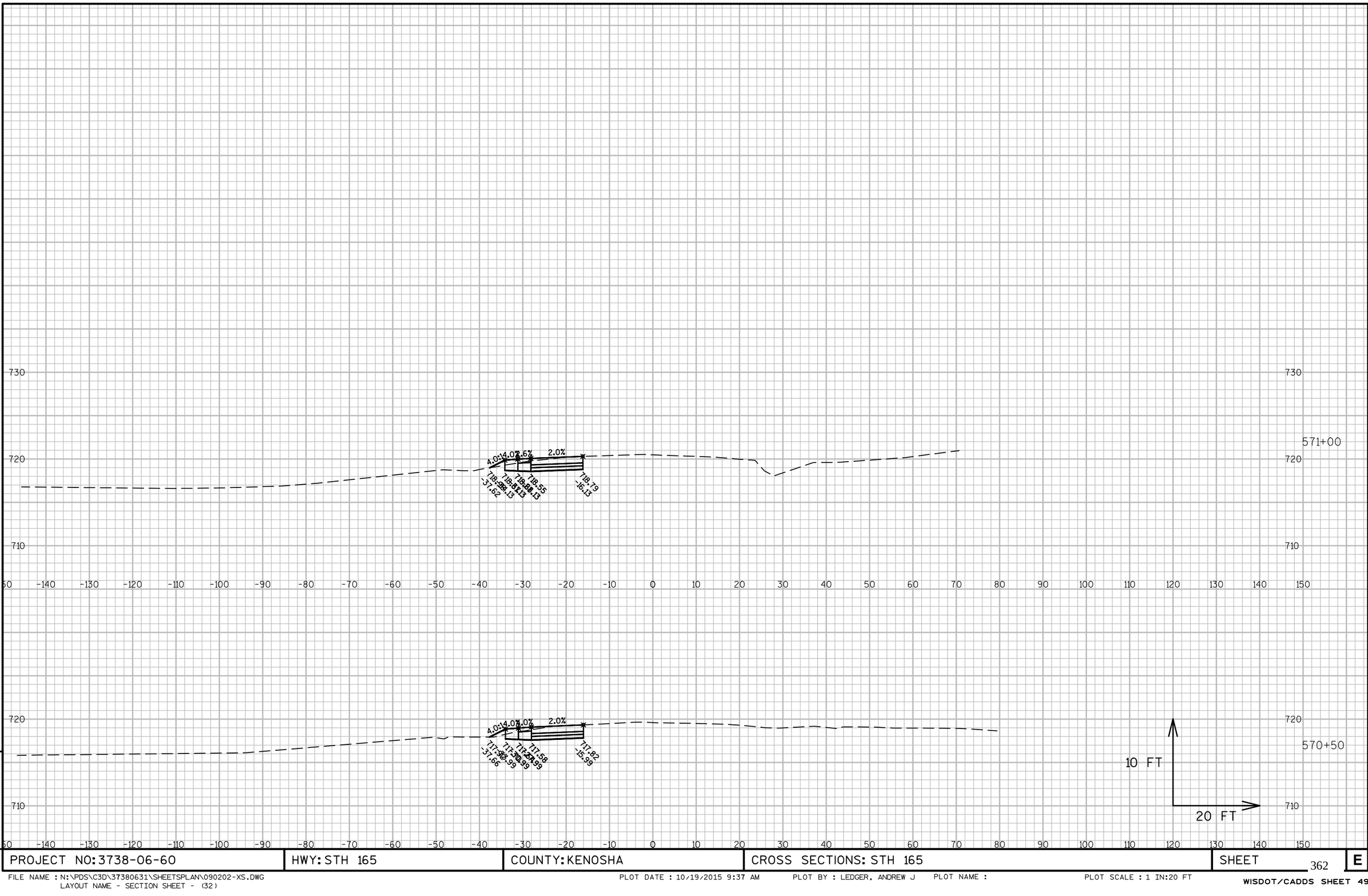
10 FT
20 FT

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 361	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (31)

PLOT DATE : 10/19/2015 9:37 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

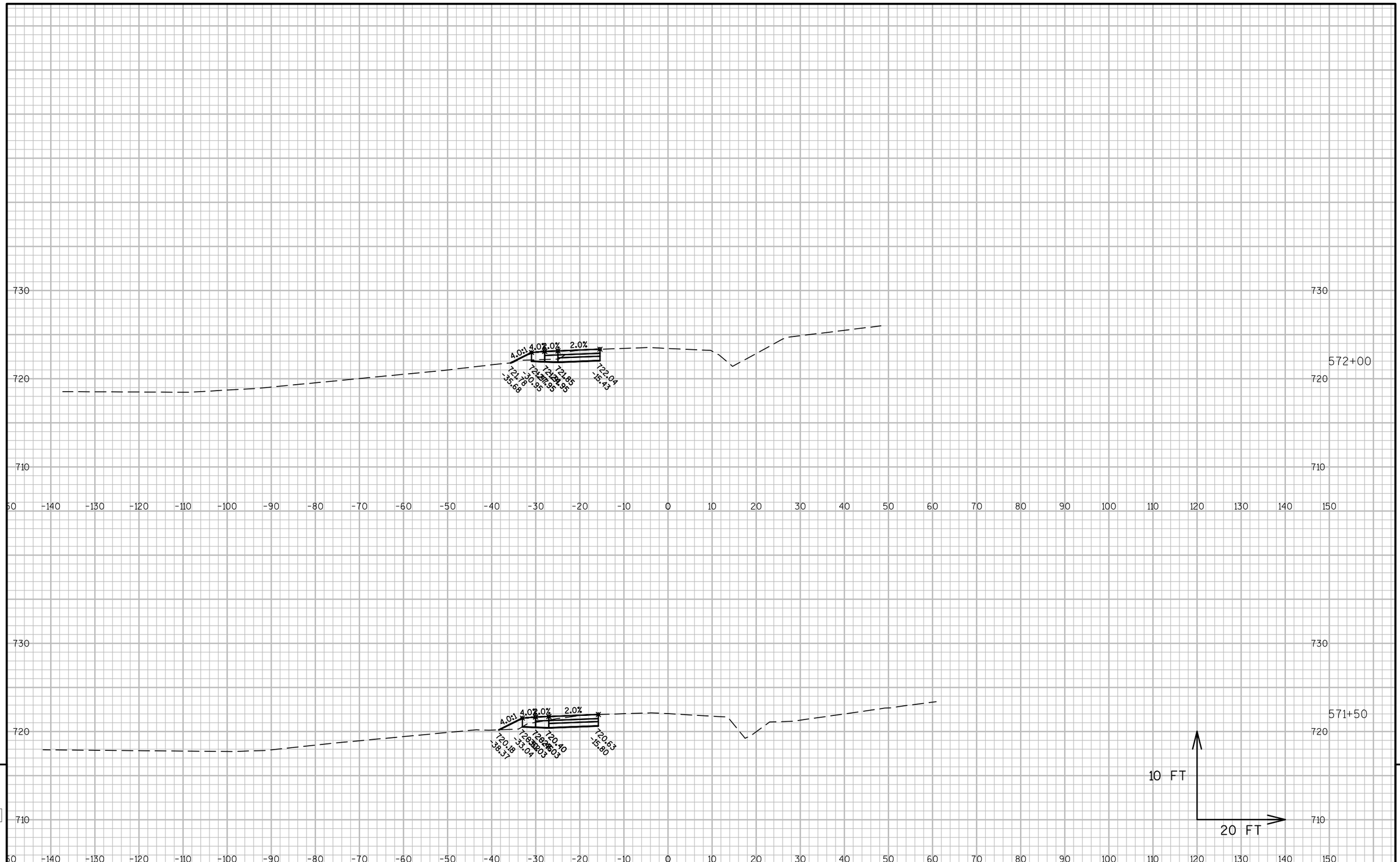
WISDOT/CADDS SHEET 49



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 362	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (32)

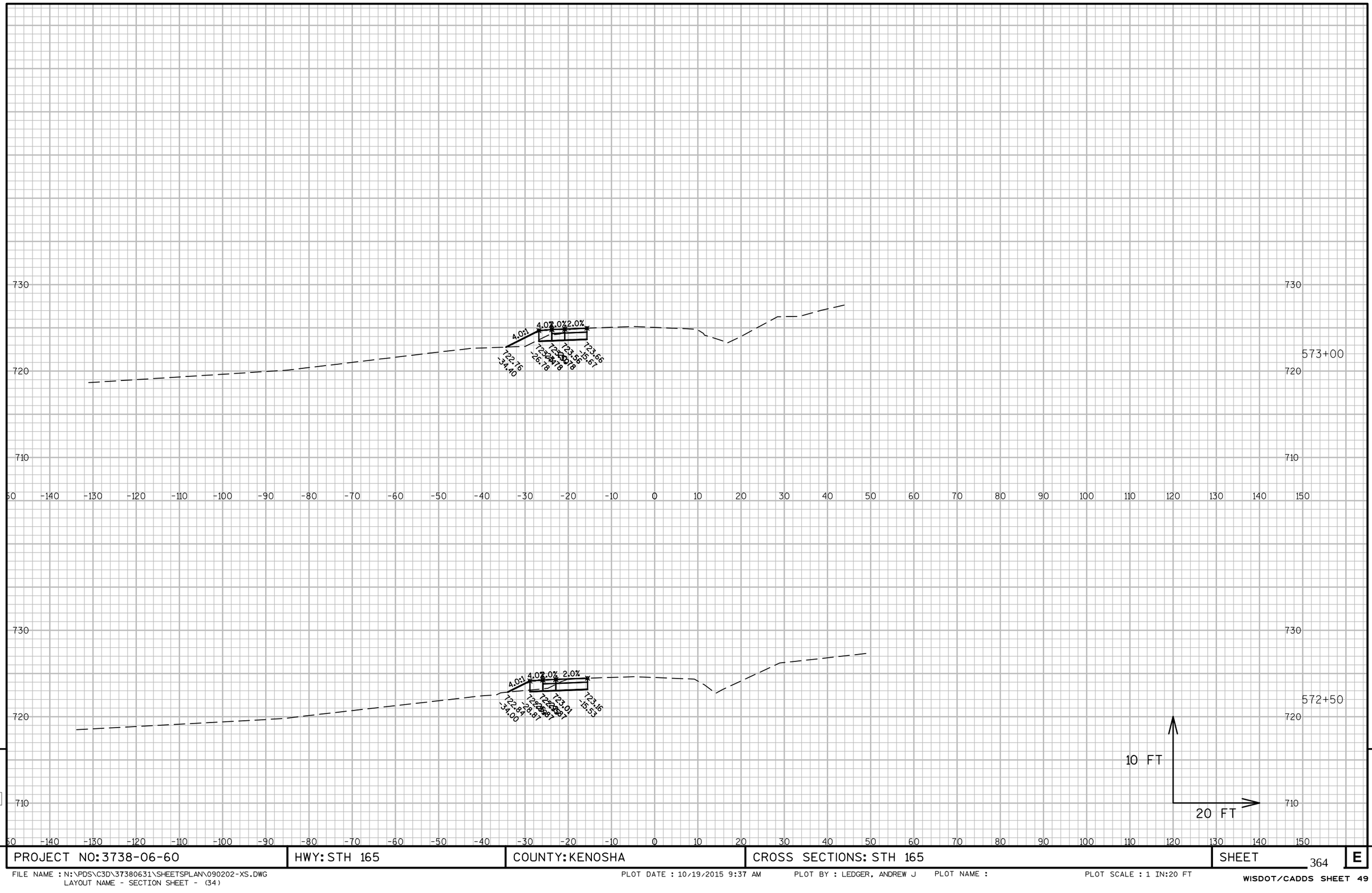
PLOT DATE : 10/19/2015 9:37 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 363	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (33)

PLOT DATE : 10/19/2015 9:37 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 364	E

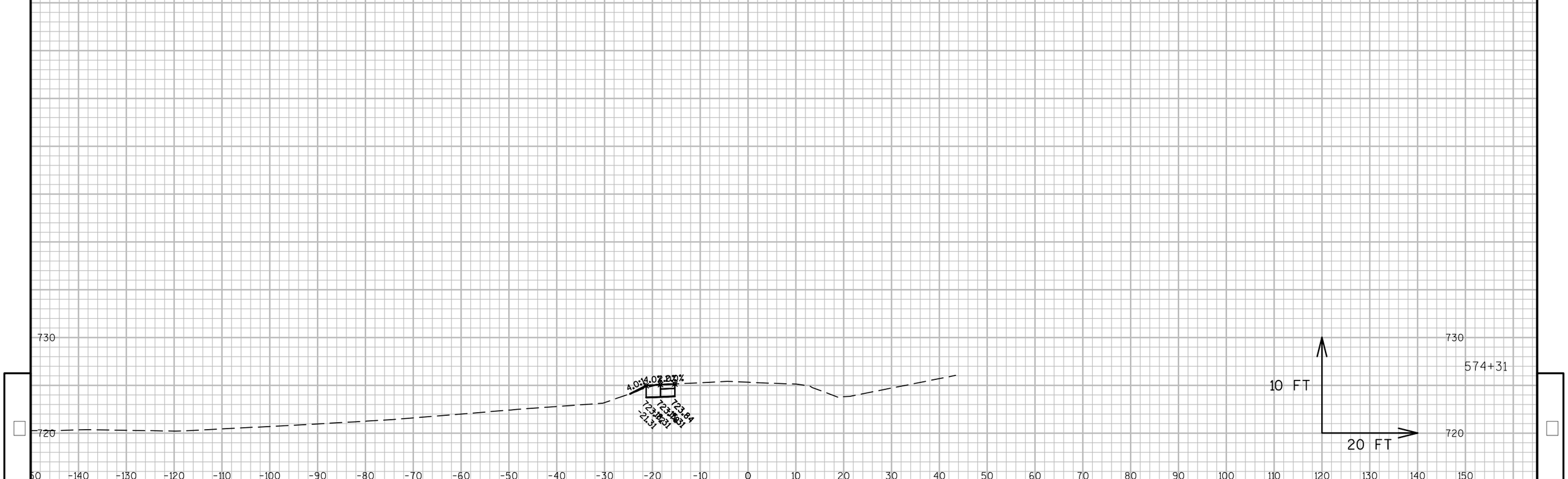
FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (34)
PLOT DATE : 10/19/2015 9:37 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 49

730
720
710
730
720
710
574+00
4.0:1
4.0%
723.28
729.48
723.90
722.62
723.84
723.10
731.88
724.70
723.80
573+50
10 FT
20 FT
-150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 365	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (35)

PLOT DATE : 10/19/2015 9:37 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT



PROJECT NO: 3738-06-60	HWY: STH 165	COUNTY: KENOSHA	CROSS SECTIONS: STH 165	SHEET 366	E

FILE NAME : N:\PDS\C3D\37380631\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - SECTION SHEET - (36)

PLOT DATE : 10/19/2015 9:37 AM PLOT BY : LEDGER, ANDREW J PLOT NAME : PLOT SCALE : 1 IN:20 FT

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
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http://www.dot.wisconsin.gov