

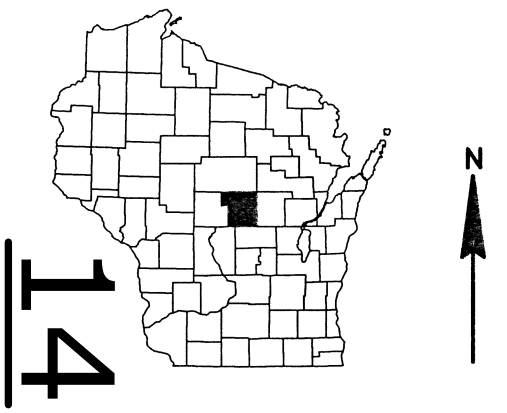
PROJECT ID: 1166-08-84

COUNTY: PORTAGE

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 = 76



DESIGN DESIGNATION

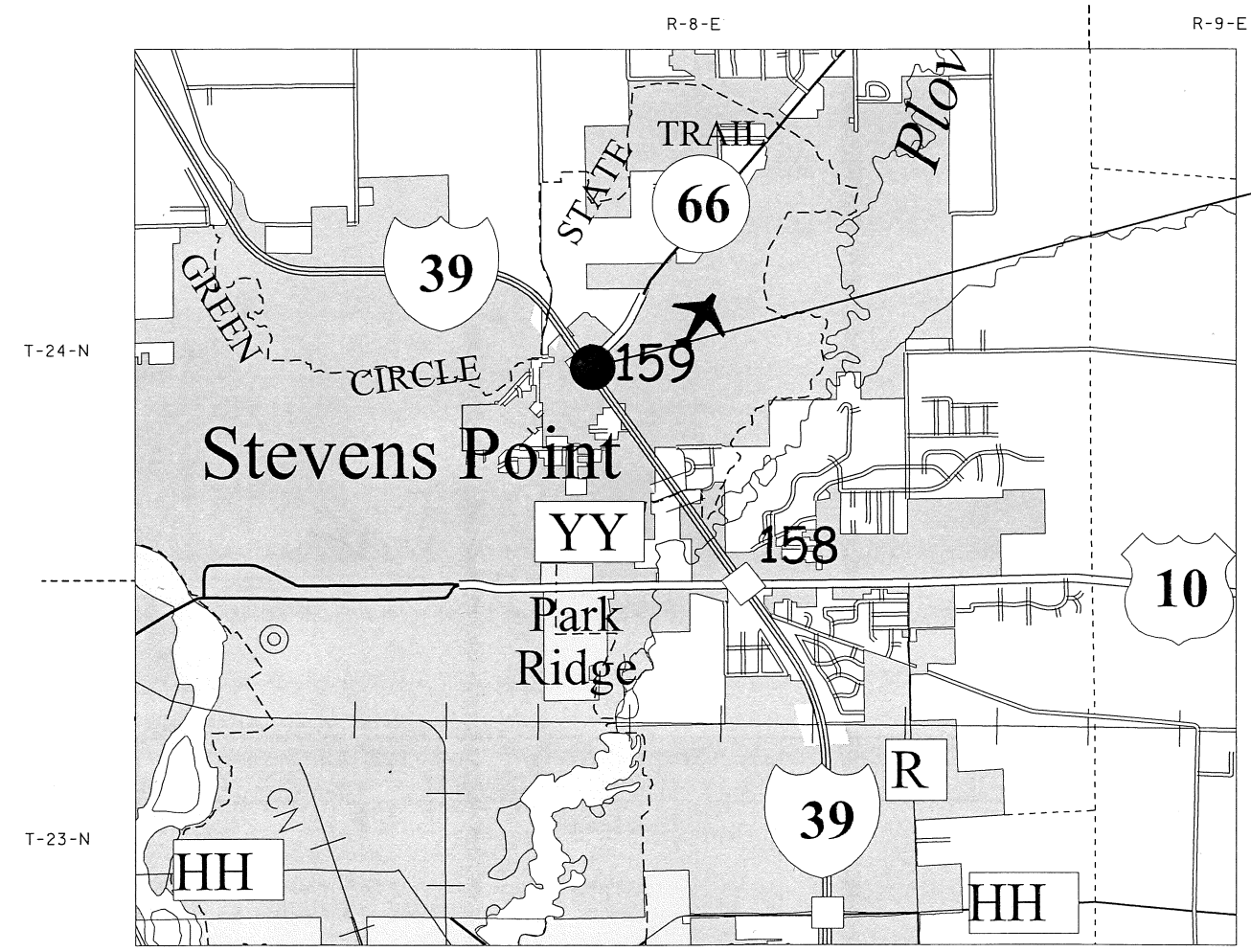
A.A.D.T.	2017	=	9,060
A.A.D.T.	2025	=	9,700
D.H.V.	2016	=	1,183
D.D.		=	59/41
T.		=	18.2%
DESIGN SPEED		=	45 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS	////	GRADE LINE	—
PROPERTY LINE	---	ORIGINAL GROUND	~
LOT LINE	---	MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT	---	SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY	---	GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE	---	CULVERT (Profile View)	—
SLOPE INTERCEPT	---	UTILITIES	—
REFERENCE LINE	---	ELECTRIC	— E —
EXISTING CULVERT	—	FIBER OPTIC	— FO —
PROPOSED CULVERT (Box or Pipe)	—	GAS	— G —
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	— SAN —
		STORM SEWER	— SS —
MARSH AREA	—	TELEPHONE	— T —
		WATER	— W —
WOODED OR SHRUB AREA	—	UTILITY PEDESTAL	—
		POWER POLE	—
		TELEPHONE POLE	—

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY REHABILITATION-MAINTENANCE PROJECT  
**C STEVENS POINT, STANLEY STREET**  
STANLEY ST BR OVERHEIGHT DETECTION  
IH 39  
PORTAGE COUNTY

STATE PROJECT NUMBER
1166-08-84



LAYOUT  
SCALE 0 1 MILE  
TOTAL NET LENGTH OF CENTERLINE = N/A

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1166-08-84		

PROJECT 1166-08-84  
OVERHEIGHT VEHICLE DETECTION

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	NORTH CENTRAL REGION
Designer	ANDREW CASPER
Project Manager	MARK STEIDL
Regional Examiner	CHERYL SIMON
Regional Supervisor	MIKE KRETSCHMER

APPROVED FOR THE DEPARTMENT  
DATE: 11/22/16 *Clark Smith* (Signature)  
E

GENERAL NOTES

CONTRACTOR WILL BE RESPONSIBLE TO RESTORE AREAS DISTURBED FOR CONSTRUCTION OUTSIDE OF CONDUIT AND BASE INSTALLATION ARE TO BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER, AND SEED AND MULCH IN COMPLIANCE WITH STANDARD SPECIFICATIONS AND AS APPROVED BY THE ENGINEER.

CONTRACTOR WILL BE RESPONSIBLE TO RESTORE ALL AREAS DISTURBED FOR CONSTRUCTION TO THE ORIGINAL CONDITION.

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.

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

PLACE ALL PROPOSED INFRASTRUCTURE 18-INCHES OR MORE AWAY FROM EXISTING UTILITIES, INSTALL CONDUIT SO IT WILL BE OVER OR UNDER EXISTING UTILITY FACILITIES.

PURSUANT TO CHAPTER 59 OF THE WISCONSIN STATUTES, THE CONTRACTOR SHALL CAREFULLY MAKE A SEARCH FOR EVIDENCE OF A LANDMARK IN ALL AREAS WHERE SUCH A LANDMARK MAY EXIST. NOTIFY THE ENGINEER THE RESULTS OF THE SEARCH.

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.



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

CITY OF STEVENS POINT-AIRPORT FACILITY

JOEL LEMKE  
300 BLISS AVE  
STEVENS POINT, WI 54481  
PHONE: (715)345-5266 WORK  
E-MAIL: jlemke@Stevenspoint.COM

AT&T WISCONSIN-COMMUNICATION LINE

CHUCK BARTELT  
70 E. DIVISION ST.  
FOND DU LAC, WI 54935  
PHONE: (920)929-1013 WORK  
E-MAIL: Cb1461@ATT.COM

CHARTER COMMUNICATIONS - COMMUNICATION LINE

RUDI RUDIGER  
5024 HEFFRON ST.  
STEVENS POINT, WI 54481  
PHONE: (715) 204-5339 WORK  
E-MAIL: rudiger@charter.com

CITY OF STEVENS POINT-COMMUNICATION LINE

LANCE MUSACK  
1515 STRONGS AVE  
STEVENS POINT, WI 54481  
PHONE: (715) 346-1560 WORK  
E-MAIL: lmusack@stevenspoint.com

PACKERLAND BROADBAND - COMMUNICATION LINE

RANDY SIMMS  
PO BOX 185  
IRON MOUNTAIN, MI 49801  
PHONE: (906) 282-3802 MOBILE  
E-MAIL: simms@ccisystems.com

UTILITIES

WISCONSIN PUBLIC SERVICE CORPORATION-ELECRICITY

DON LUTZOW  
PO BOX 1166  
WAUSAU WI, 54402  
PHONE: (715) 848-7487 WORK  
PHONE: (715) 493-7802 MOBILE  
E-MAIL: dalutzow@wisconsinpublicservice.com

WISCONSIN PUBLIC SERVICE CORPORATION-GAS/PETROLEUM

DAVID RETZLAFF  
2850 ASHLAND AVE  
GREEN BAY, WI 54304  
PHONE: (920)617-5106 WORK  
E-MAIL: dpretzlaff@wisconsinpublicService.com

CITY OF STEVENS POINT-SEWER

JOEL LEMKE  
300 BLISS AVE  
STEVENS POINT, WI 54481  
PHONE: (715)345-5266 WORK  
E-MAIL: jlemke@Stevenspoint.COM

CITY OF STEVENS POINT-STREET LIGHTING

LANCE MUSACK  
1515 STRONGS AVE  
STEVENS POINT, WI 54481  
PHONE: (715) 346-1560 WORK  
E-MAIL: lmusack@stevenspoint.com

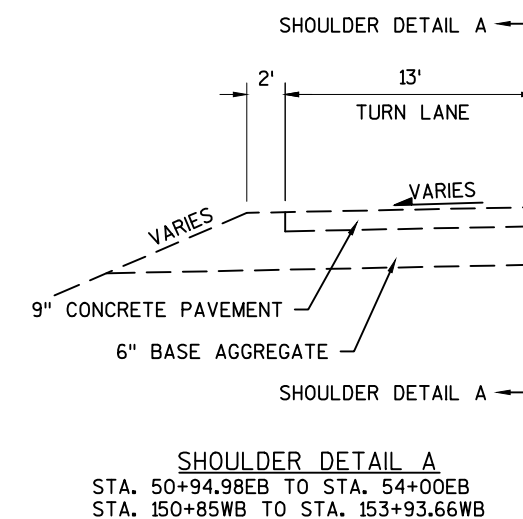
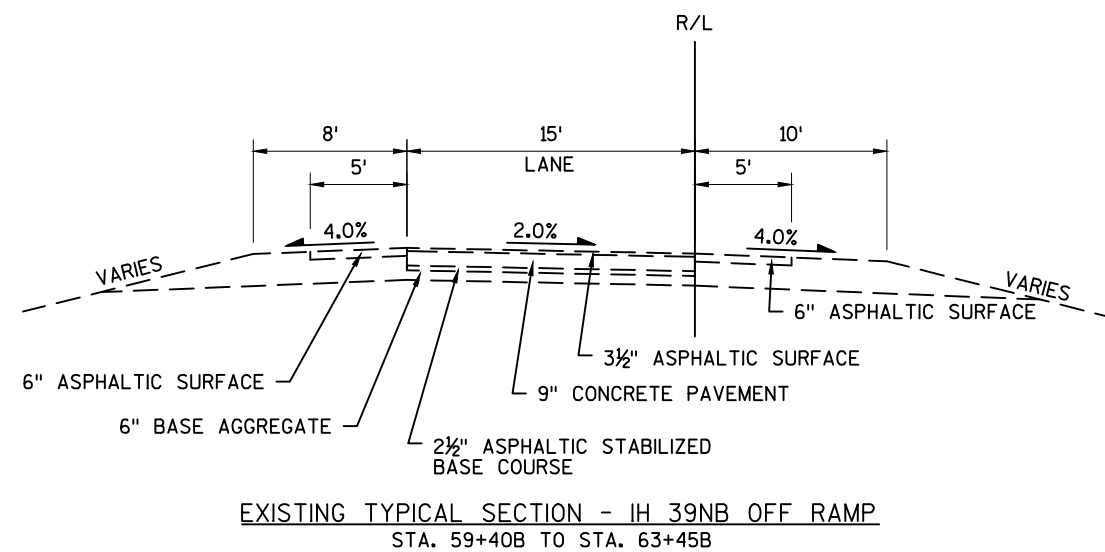
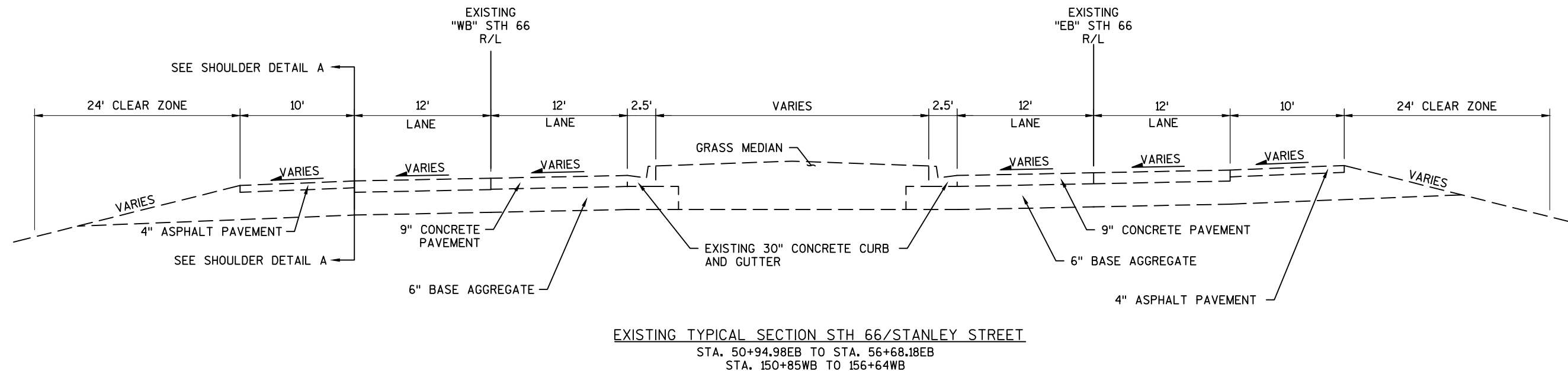
CITY OF STEVENS POINT-WATER

JOEL LEMKE  
300 BLISS AVE  
STEVENS POINT, WI 54481  
PHONE: (715)345-5266 WORK  
E-MAIL: jlemke@Stevenspoint.COM

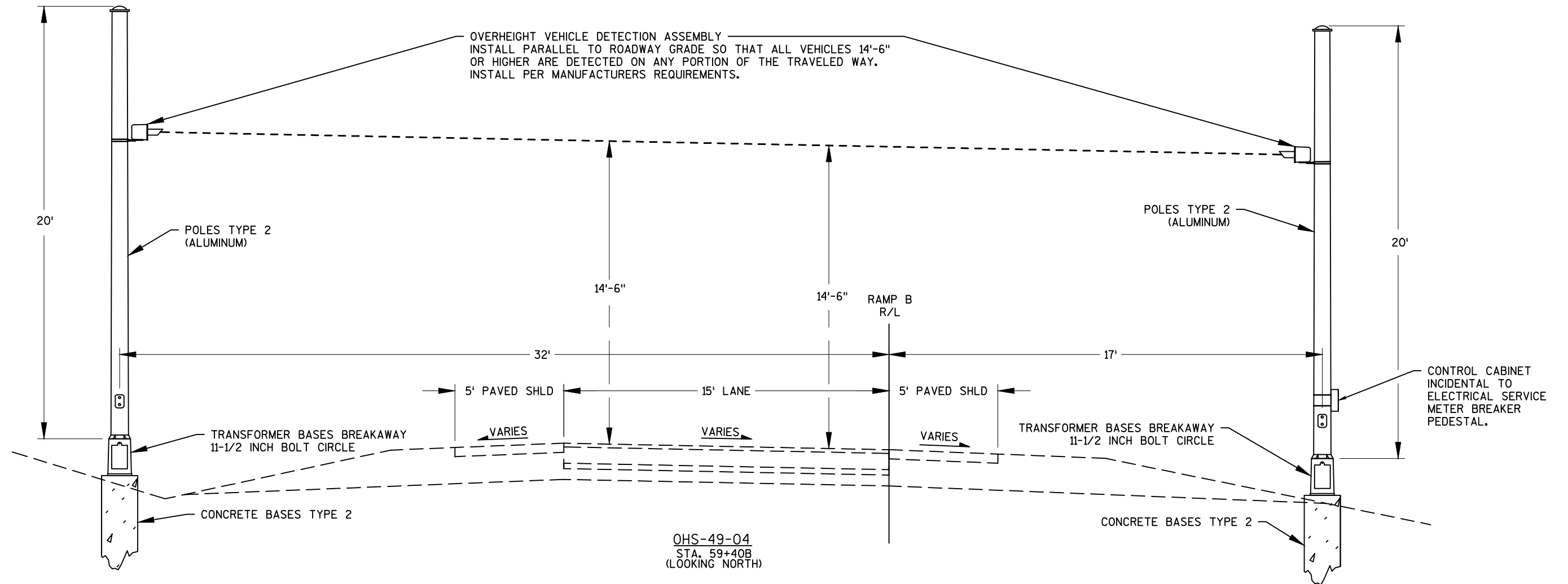
DNR

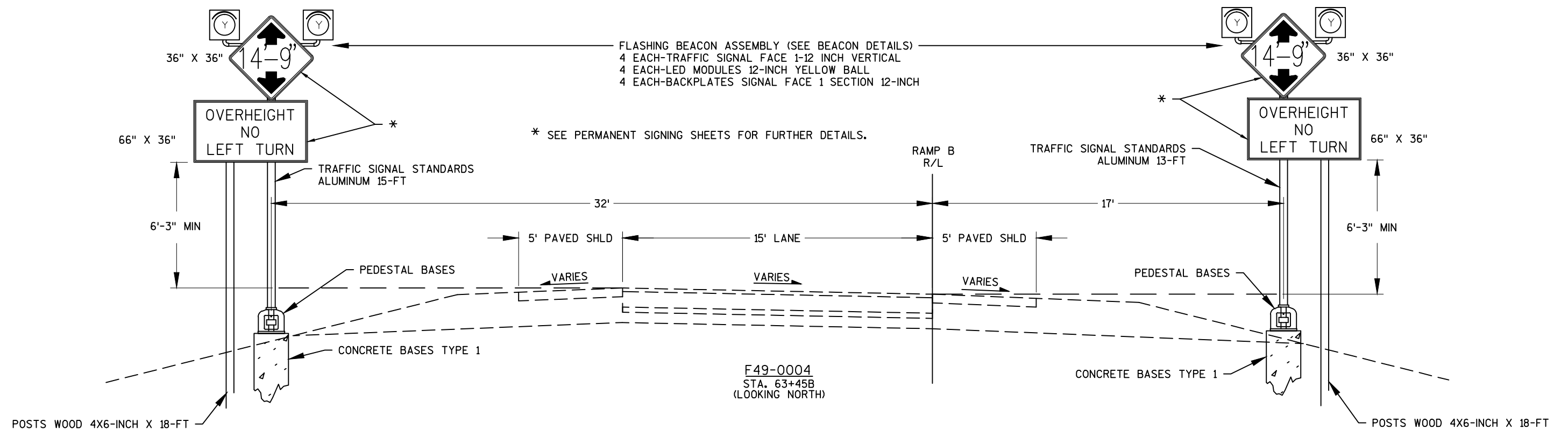
DNR LIAISON  
MARC HERSHFIELD  
DNR SERVICE CENTER  
473 GRIFFITH DRIVE  
PHONE: (715) 421-7867

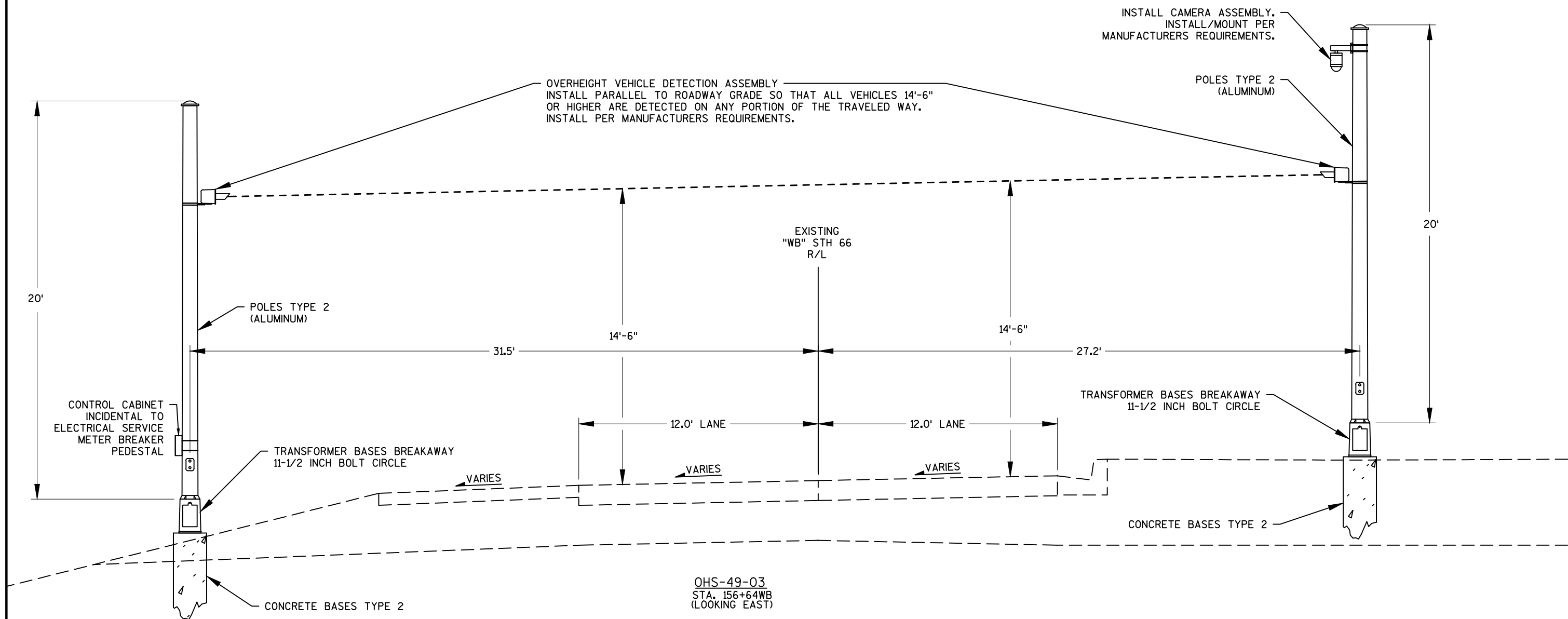


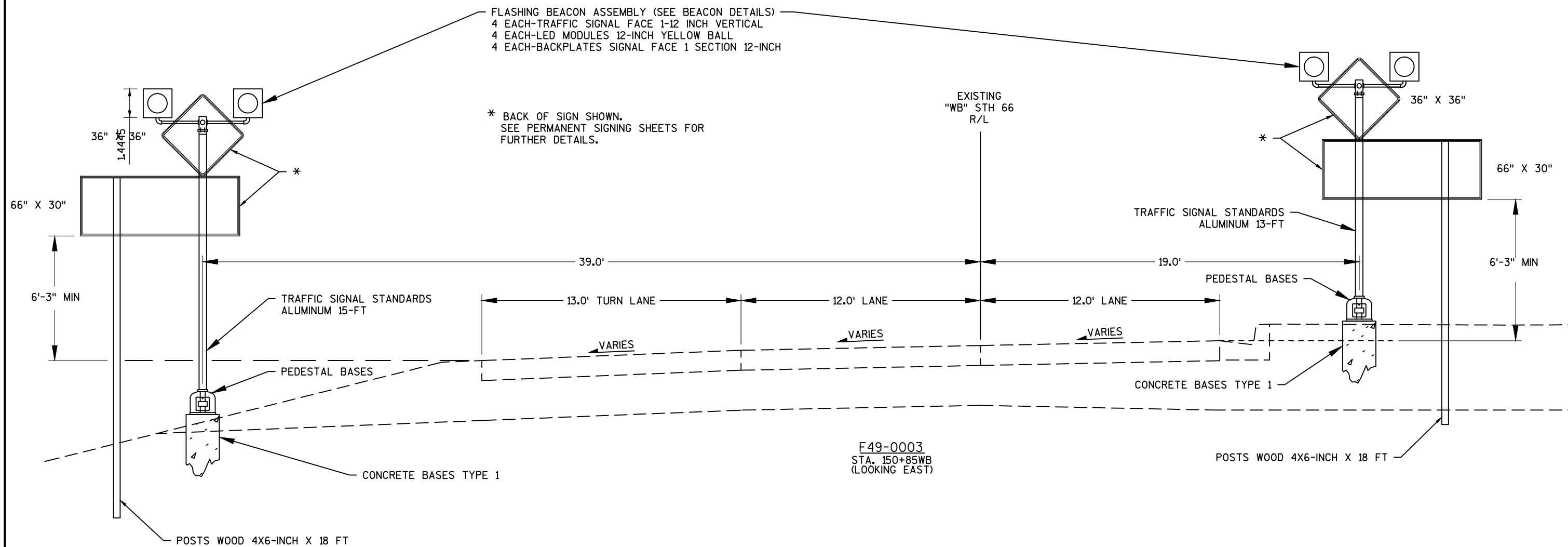


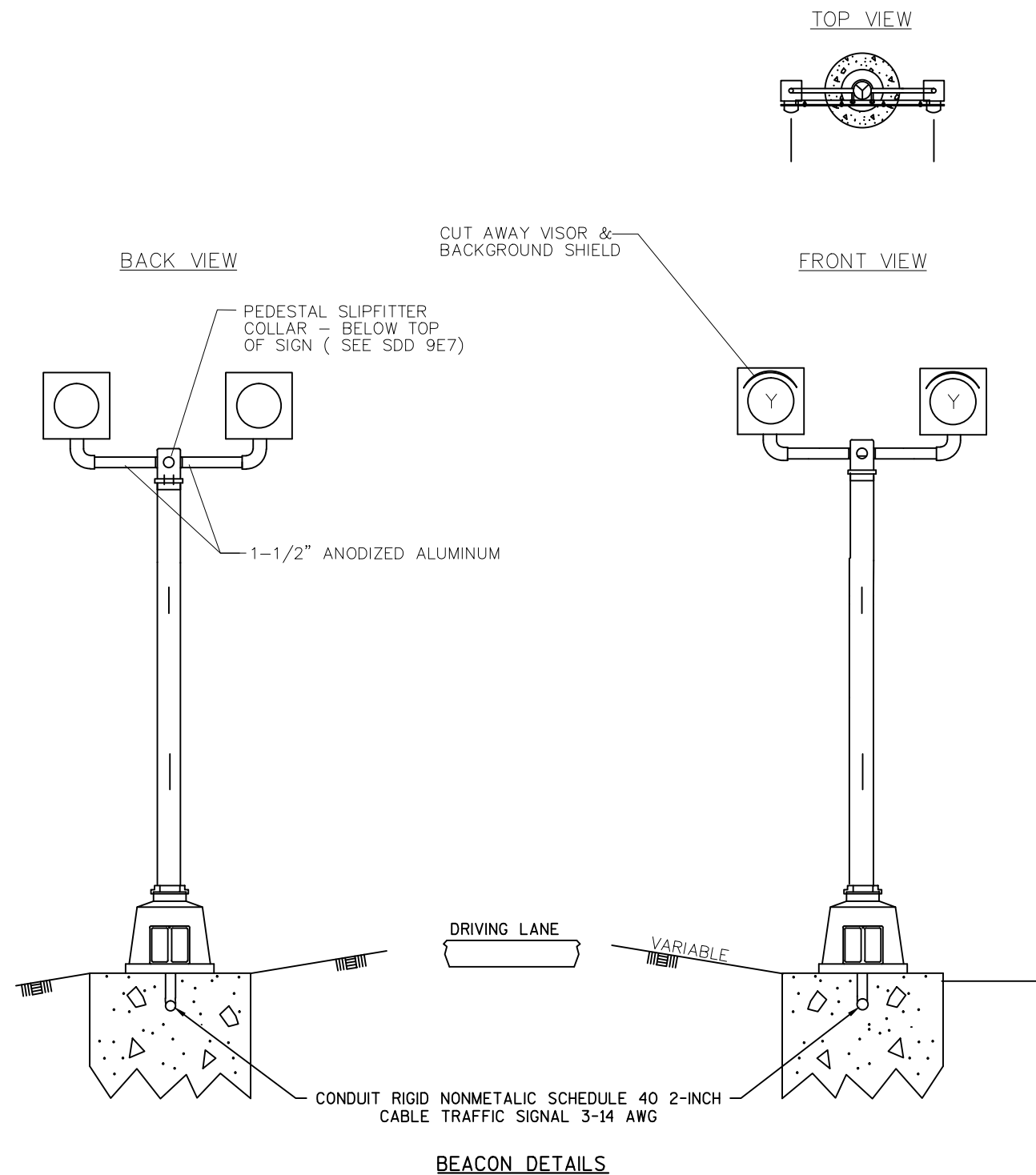














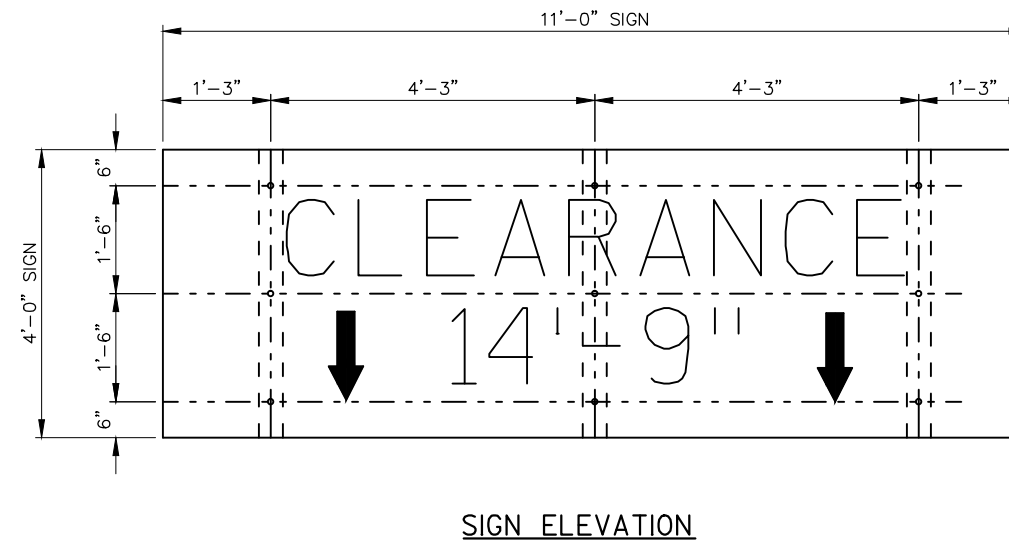
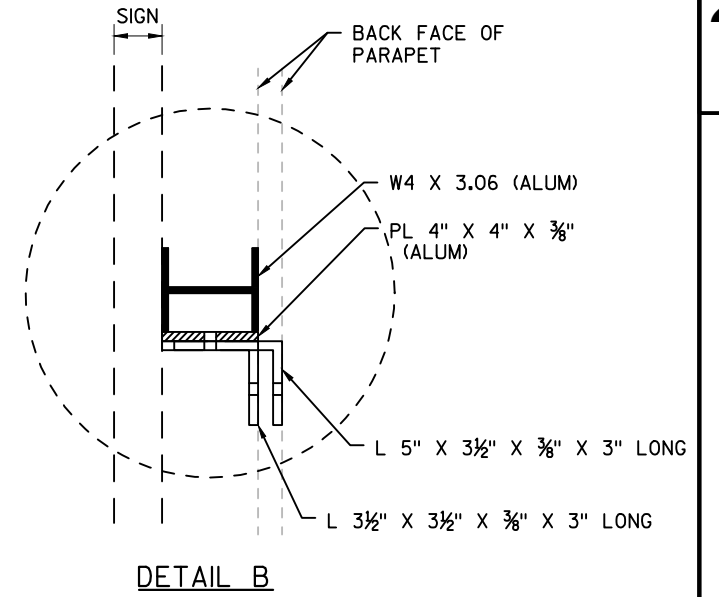


TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		NON-CONDUCTIVE PULL BOX	
BOX DIAMETER ** (INSIDE)	A	24	24
BOX OVERALL OUTSIDE DIAMETER	B	27	27
BOX LENGTH	C	36	42
FRAME OPENING	D	22 1/2	22 1/2
WEIGHT IN POUNDS *			
COVER		50	50
BOX ONLY		75	85

\* THE ACTUAL WEIGHT OF THE COVER OR BOX ONLY  
MAY VARY NOT TO EXCEED 100 LBS INDIVIDUALLY.

\*\* DIAMETER VARIES FROM TOP TO BOTTOM  
WITH THE DIAMETER LARGER AT THE BOTTOM  
TO PREVENT FROST HEAVE

## GENERAL NOTES

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

ALL BOXES, FRAMES AND COVERS SHALL BE SUITABLE FOR TIER 15 LOADING  
AS SPECIFIED IN ANSI/SCTE 77.

PROVIDE AN OPENING FOR TOOL ASSISTED COVER REMOVAL NOT LARGE ENOUGH TO PERMIT  
PASSAGE OF A SPHERE MORE THAN 1/2" DIAMETER

ENSURE COVER SURFACE IS SKID RESISTANT WITH A COEFFICIENT OF FRICTION OF  
AT LEAST 0.5 AND VERTICAL SURFACE DISCONTINUITIES LESS THAN 1/4".

BOXES AND EXTENSIONS ARE TRIMMABLE FOR CUSTOM LENGTHS.  
TRIMMED PIECES SHALL MAINTAIN A UNIFORM LENGTH.

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".

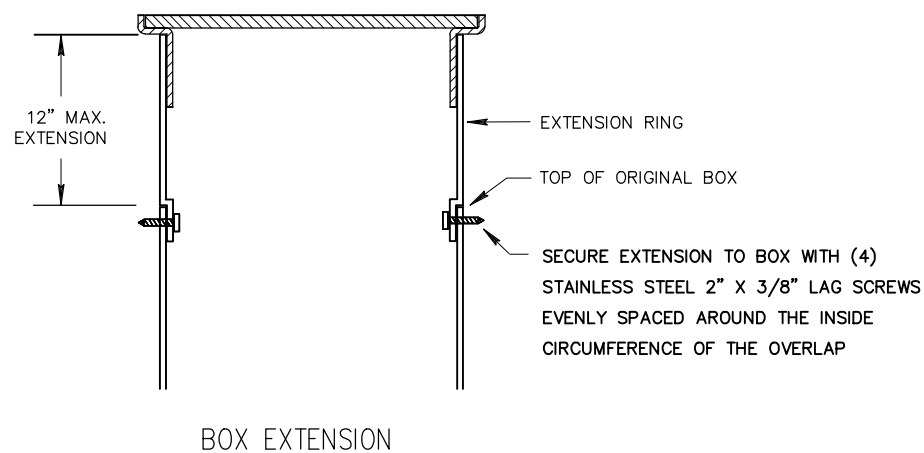
THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS  
INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED,  
SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

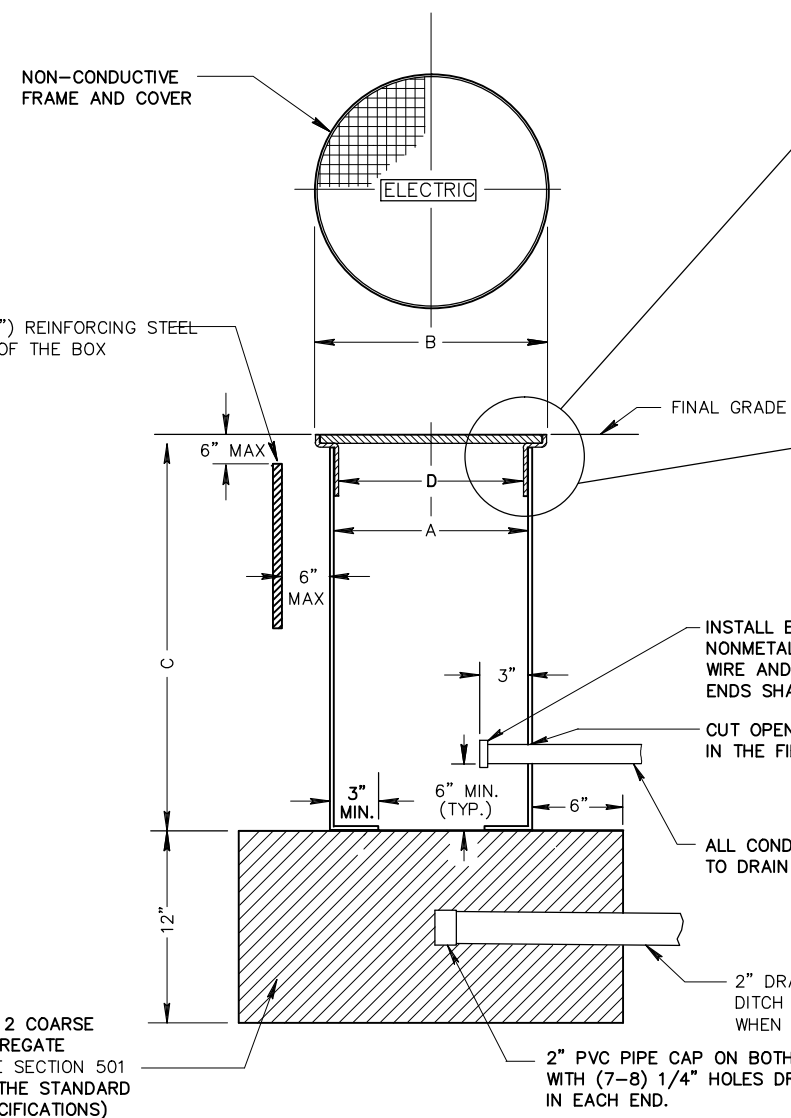
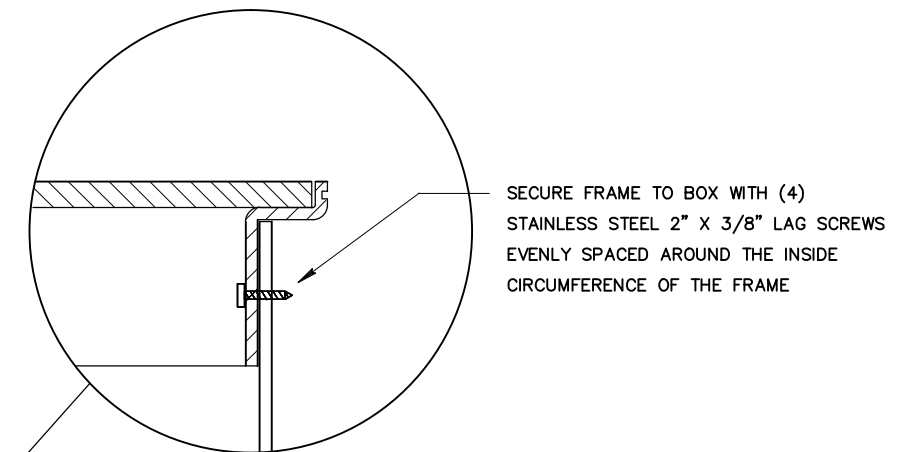
ENTIRE BOX MUST BE CONSTRUCTED OF NON-CONDUCTIVE MATERIALS  
WITH THE EXCEPTION OF STAINLESS STEEL FASTENERS.

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

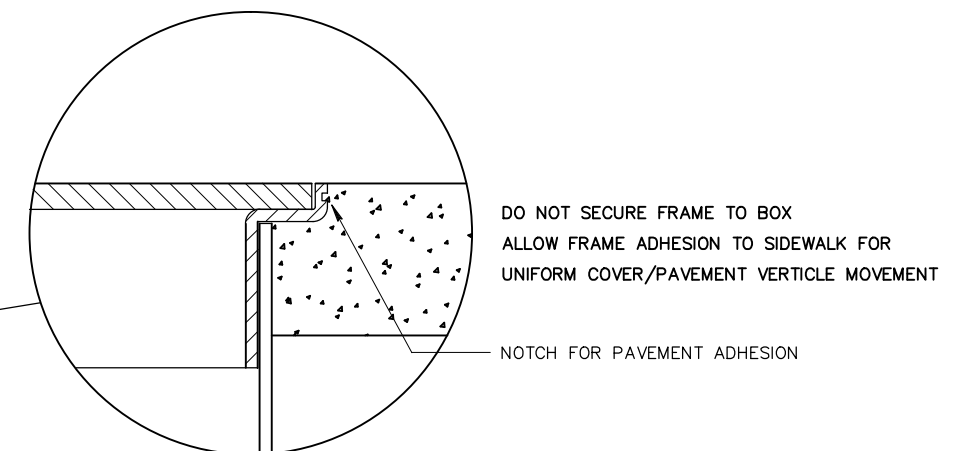
LABEL ON COVER SHALL READ "ELECTRIC" FOR SIGNAL OR LIGHTING SYSTEMS.



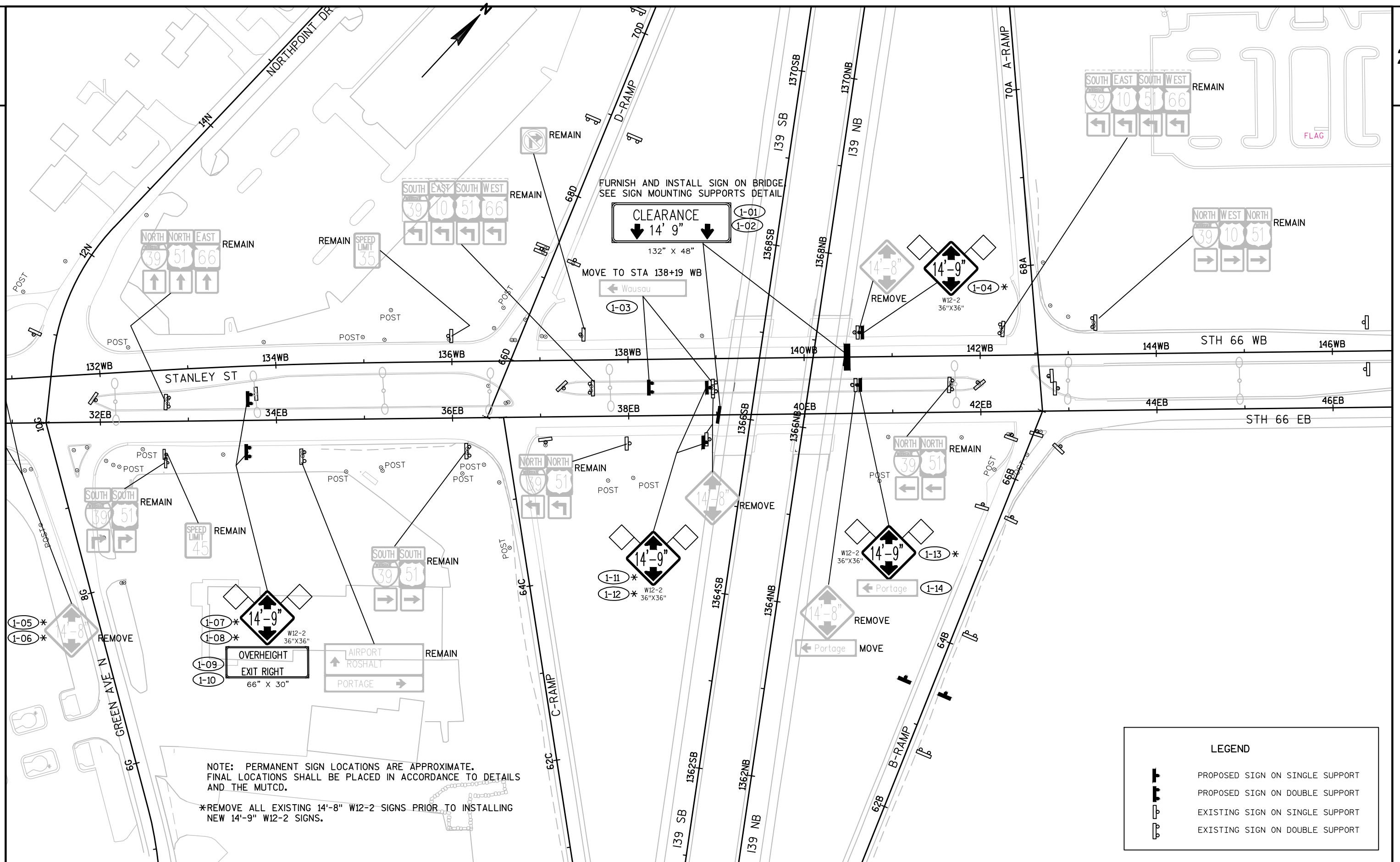
INSTALLED IN SOD OR CRUSHED AGGREGATE

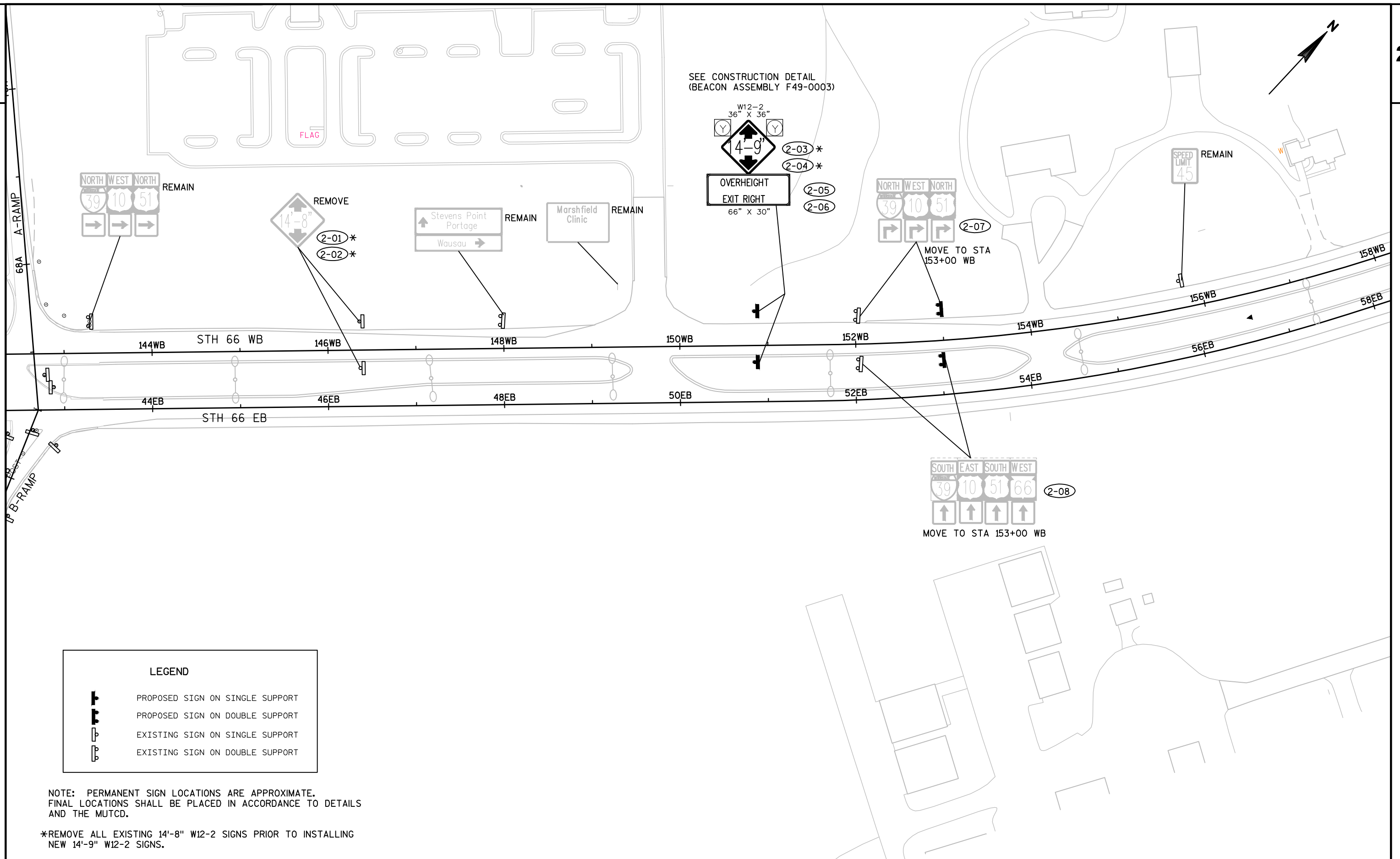


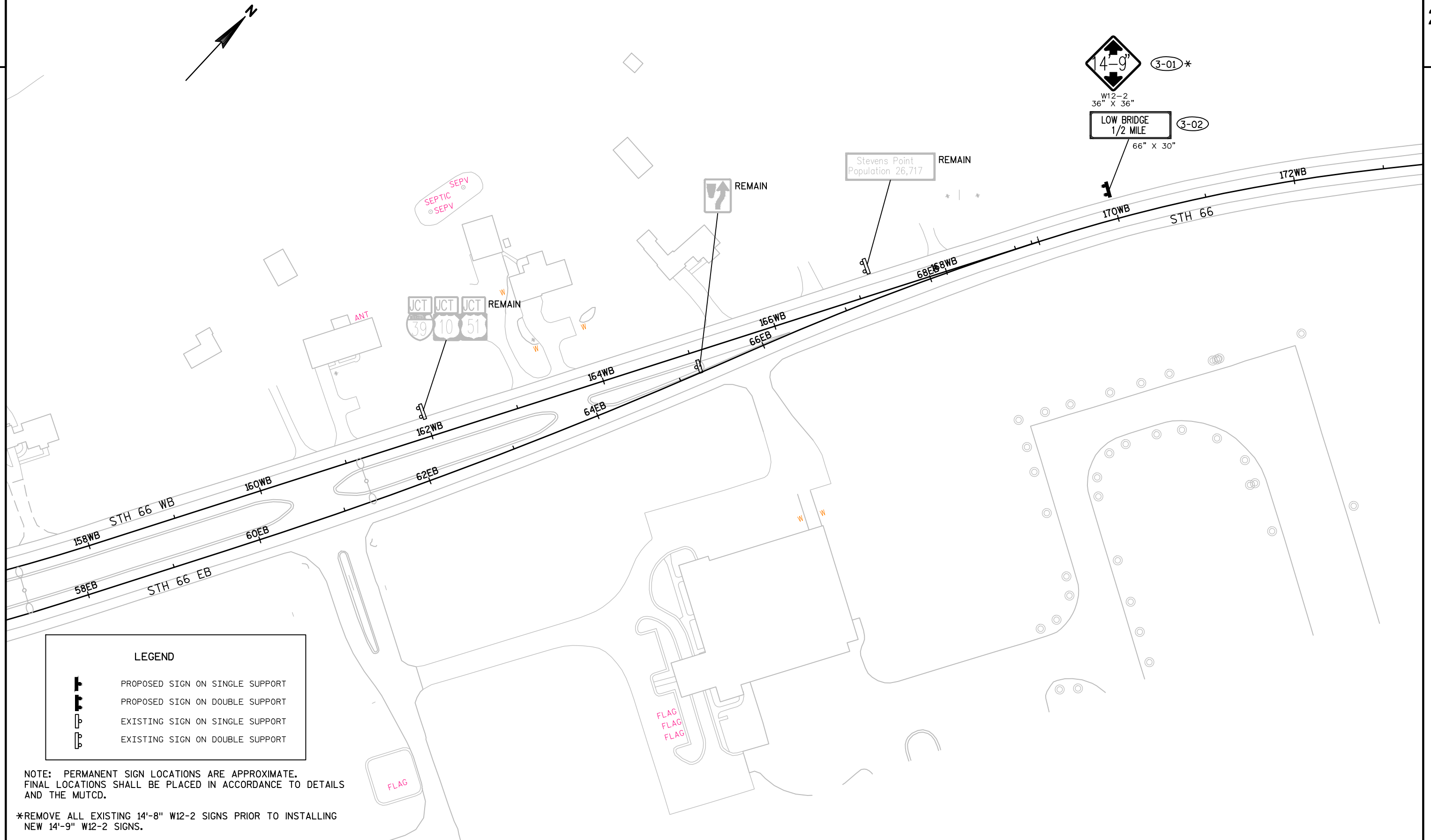
INSTALLED IN SIDEWALK



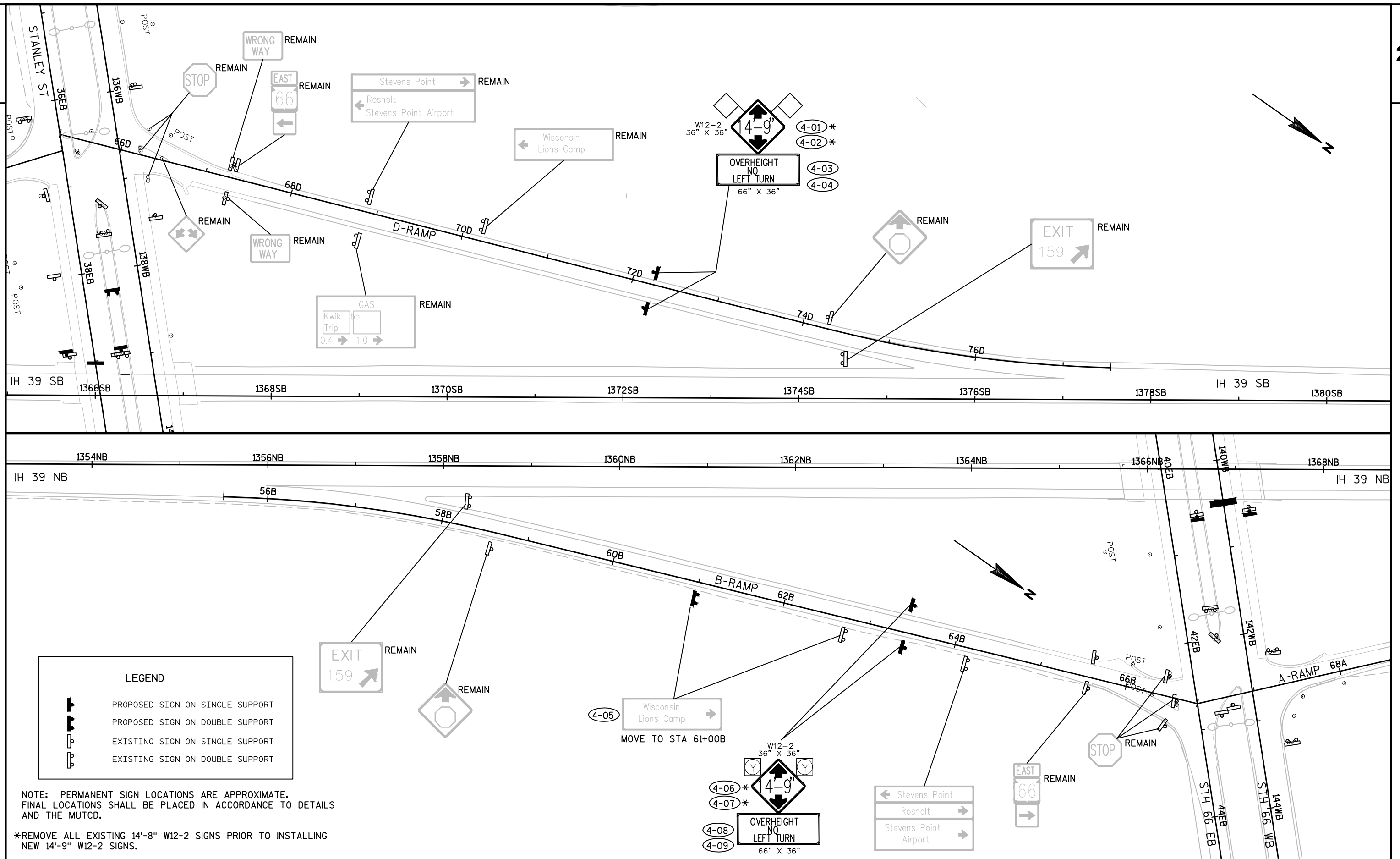
NON-CONDUCTIVE PULL BOX







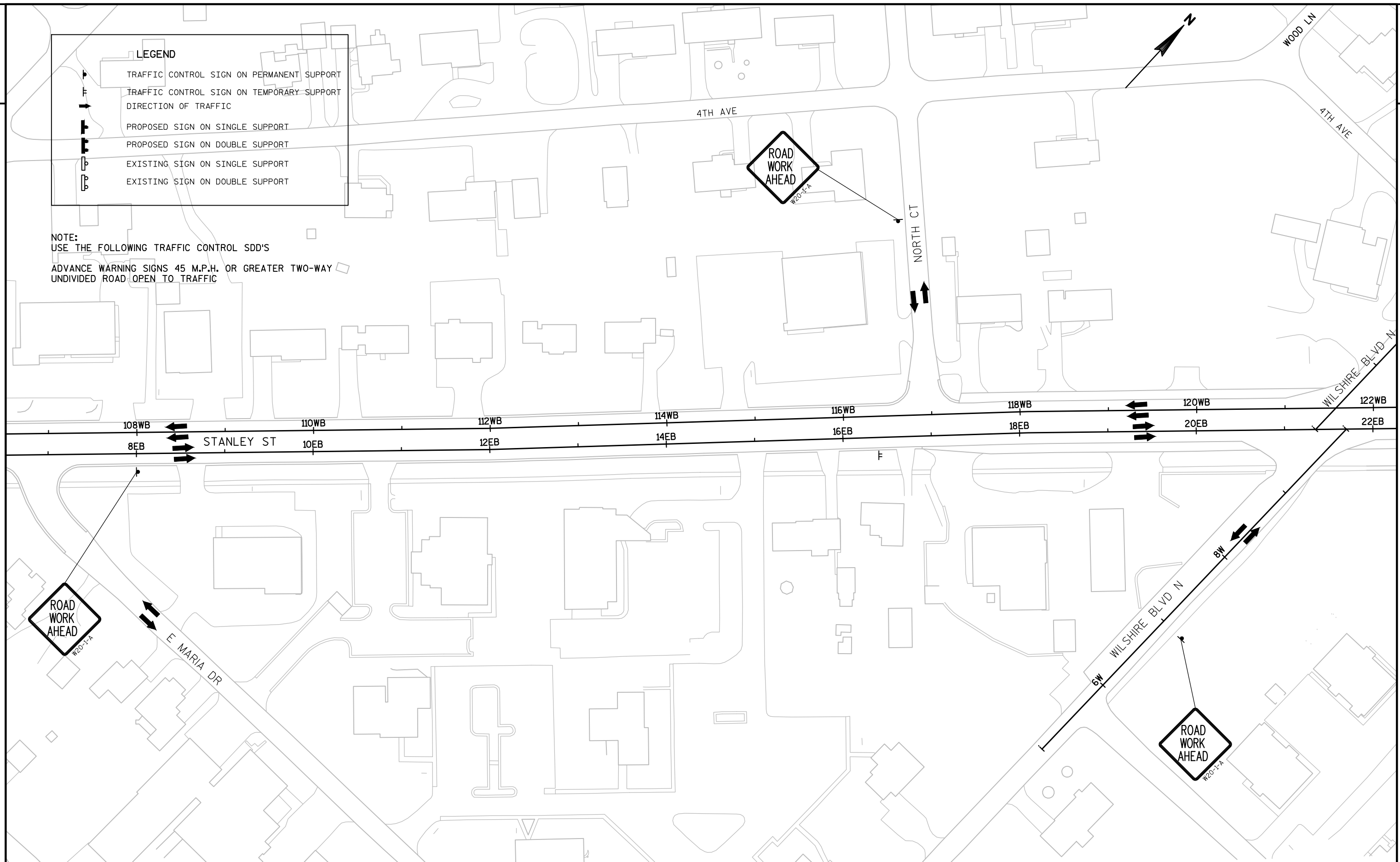


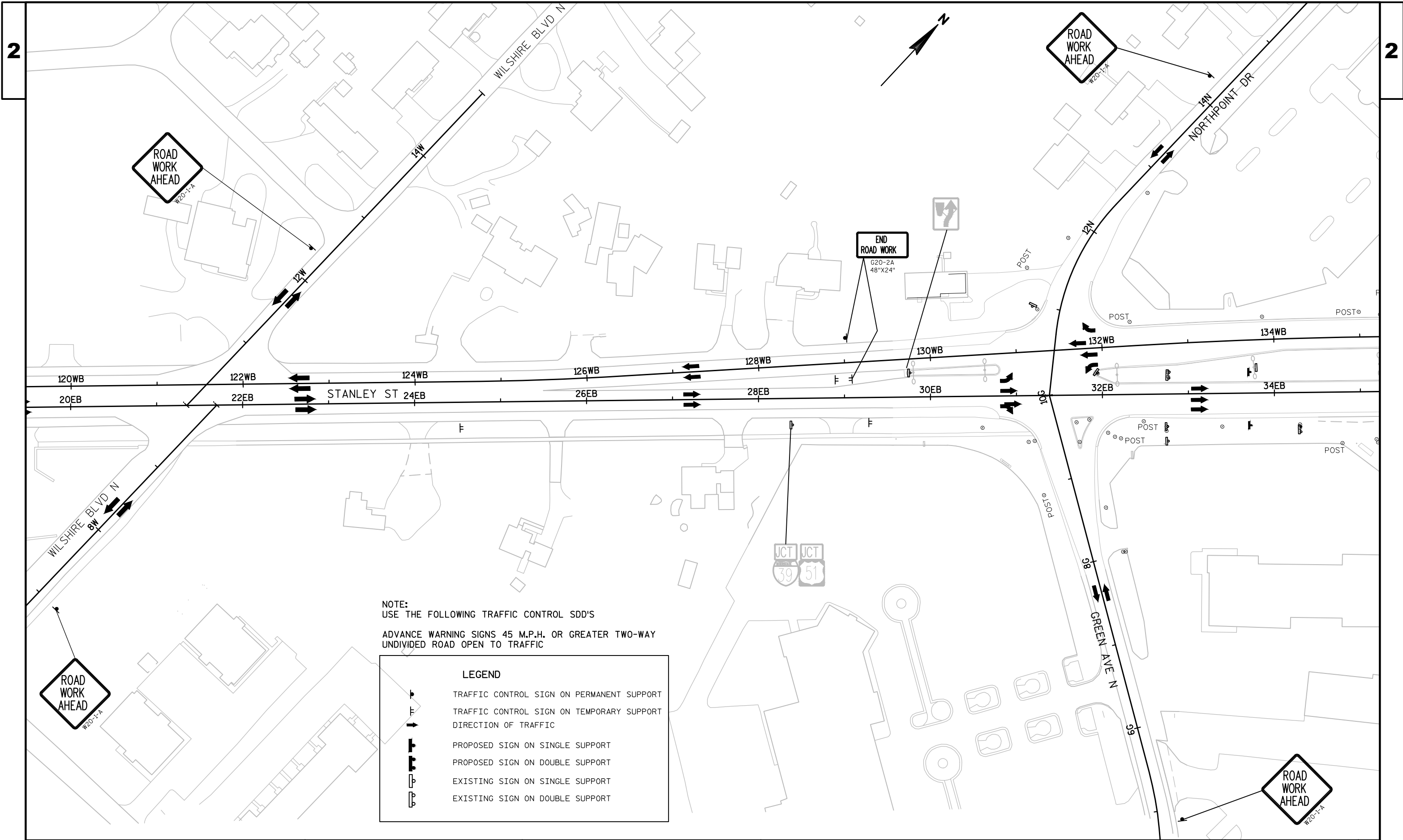


LEGEND








- TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- PROPOSED SIGN ON SINGLE SUPPORT
- PROPOSED SIGN ON DOUBLE SUPPORT
- EXISTING SIGN ON SINGLE SUPPORT
- EXISTING SIGN ON DOUBLE SUPPORT

NOTE:  
USE THE FOLLOWING TRAFFIC CONTROL SDD'S  
ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC



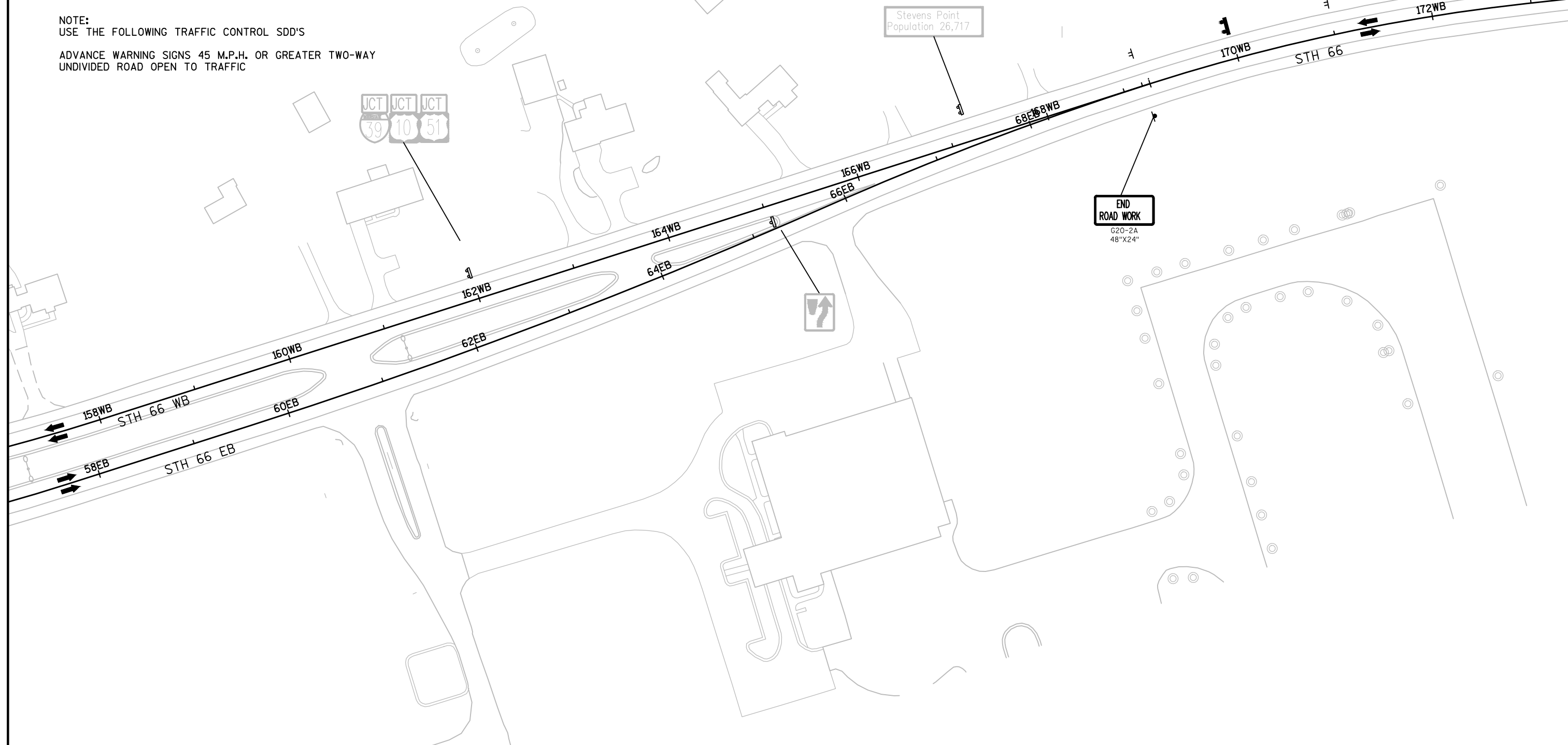


## LEGEND

-  TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  PROPOSED SIGN ON SINGLE SUPPORT
-  PROPOSED SIGN ON DOUBLE SUPPORT
-  EXISTING SIGN ON SINGLE SUPPORT
-  EXISTING SIGN ON DOUBLE SUPPORT

NOTE:  
USE THE FOLLOWING TRAFFIC CONTROL SDD'S

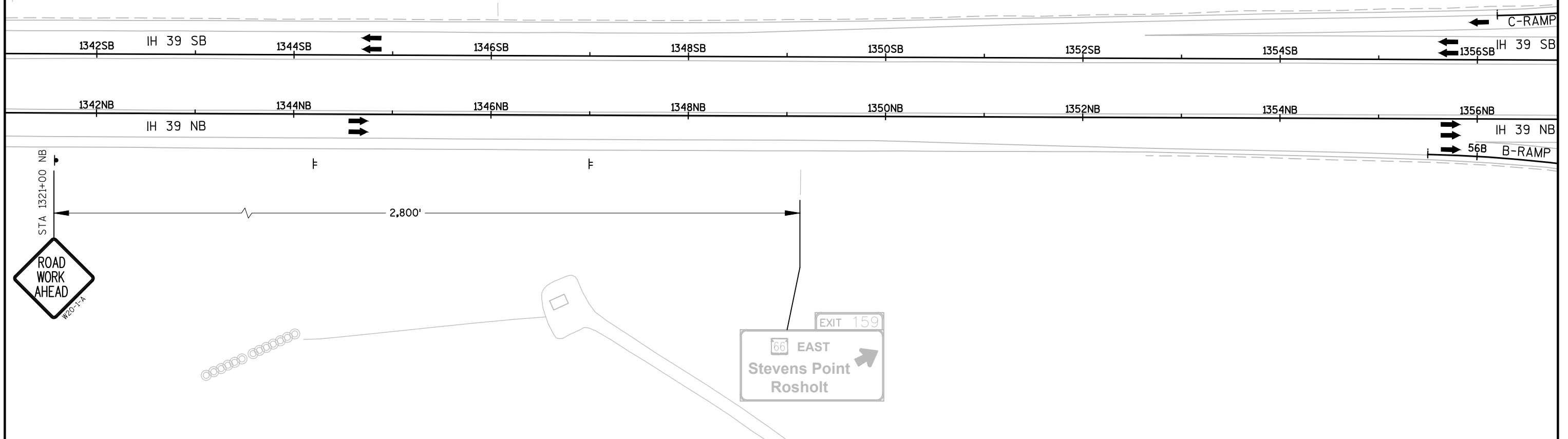
ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC



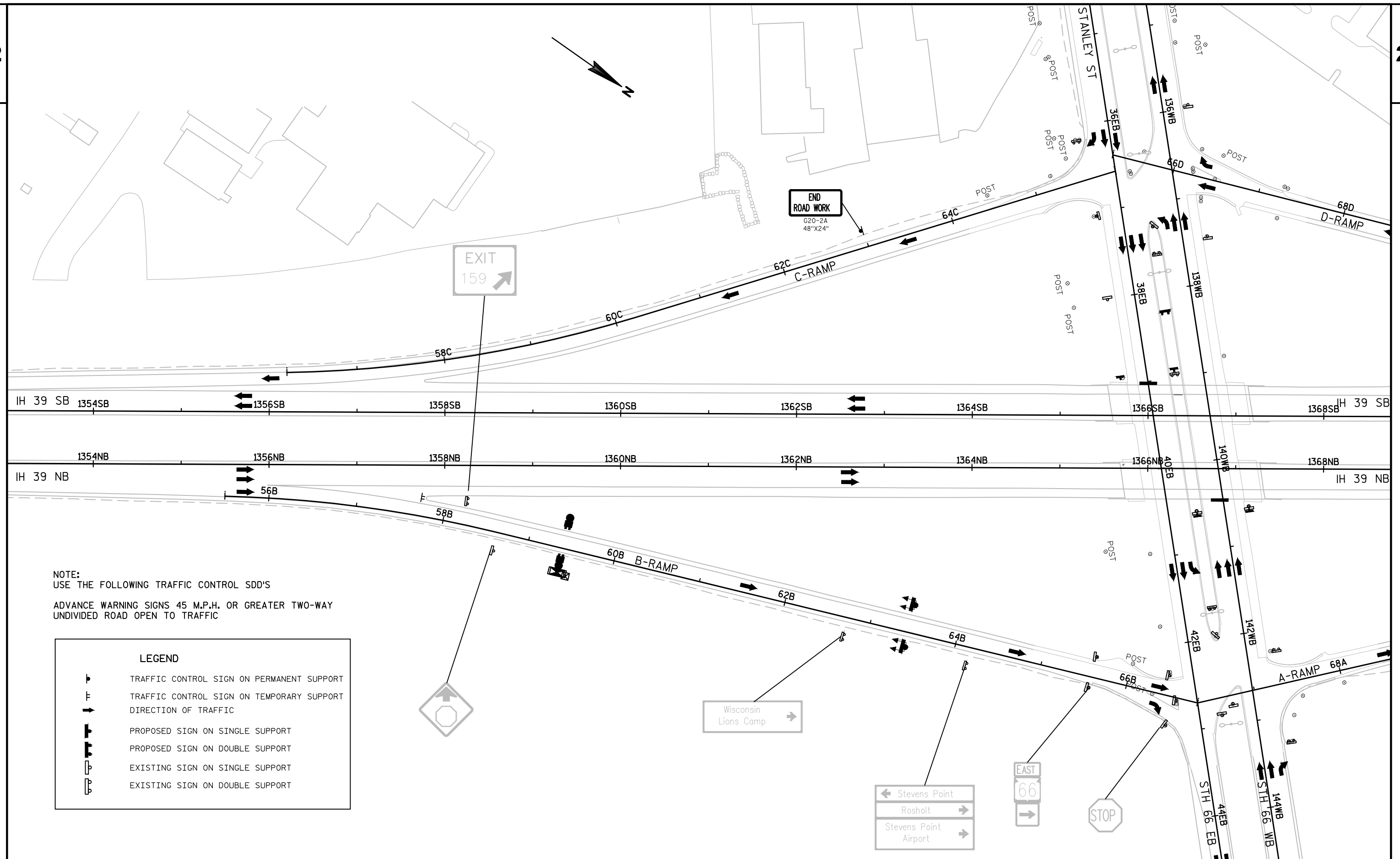
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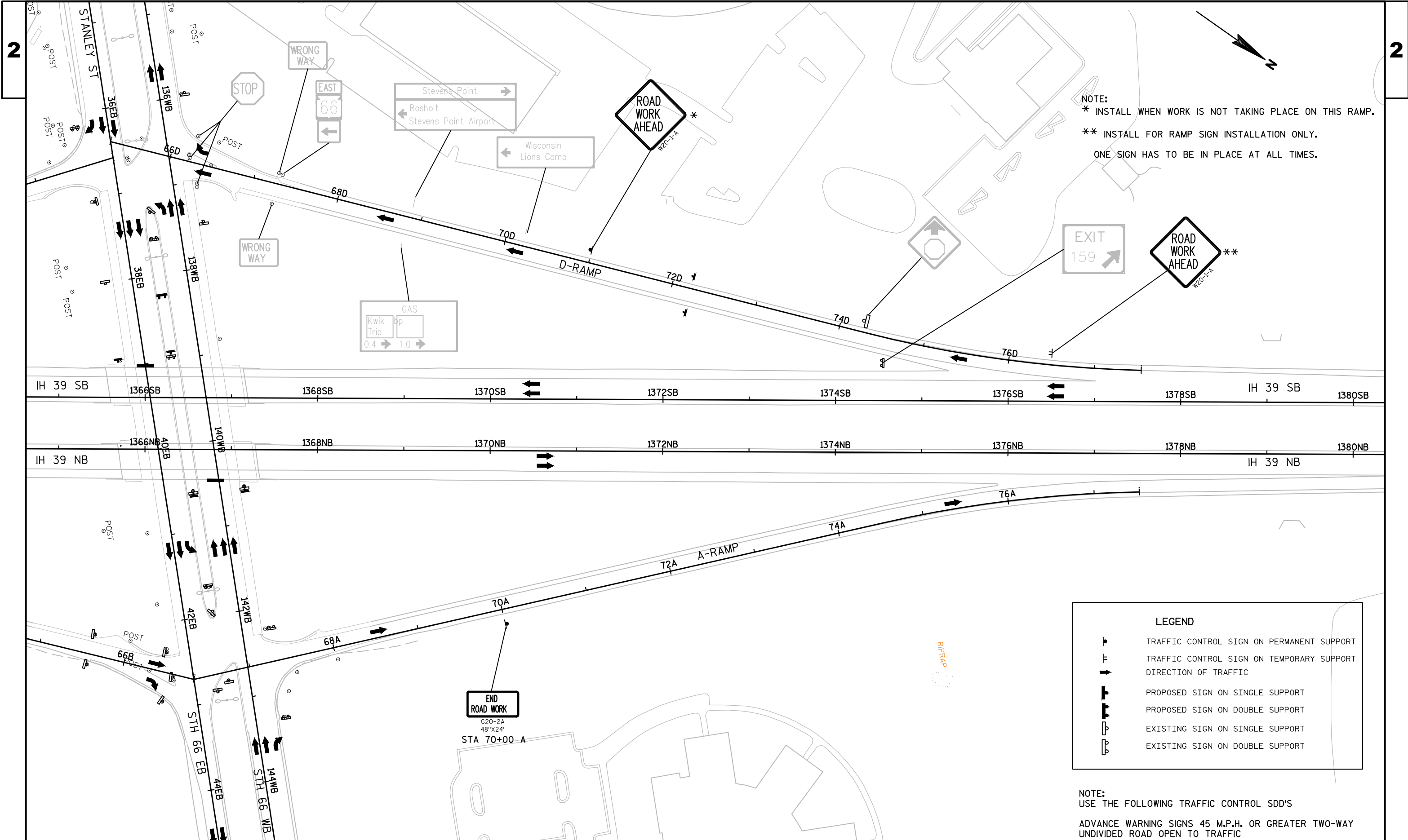
- TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- PROPOSED SIGN ON SINGLE SUPPORT
- PROPOSED SIGN ON DOUBLE SUPPORT
- EXISTING SIGN ON SINGLE SUPPORT
- EXISTING SIGN ON DOUBLE SUPPORT

NOTE:  
USE THE FOLLOWING TRAFFIC CONTROL SDD'S  
  
ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC









NOTE:  
\* INSTALL WHEN WORK IS NOT TAKING PLACE ON THIS RAMP.  
\*\* INSTALL FOR RAMP SIGN INSTALLATION ONLY.  
ONE SIGN HAS TO BE IN PLACE AT ALL TIMES.

LEGEND

TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

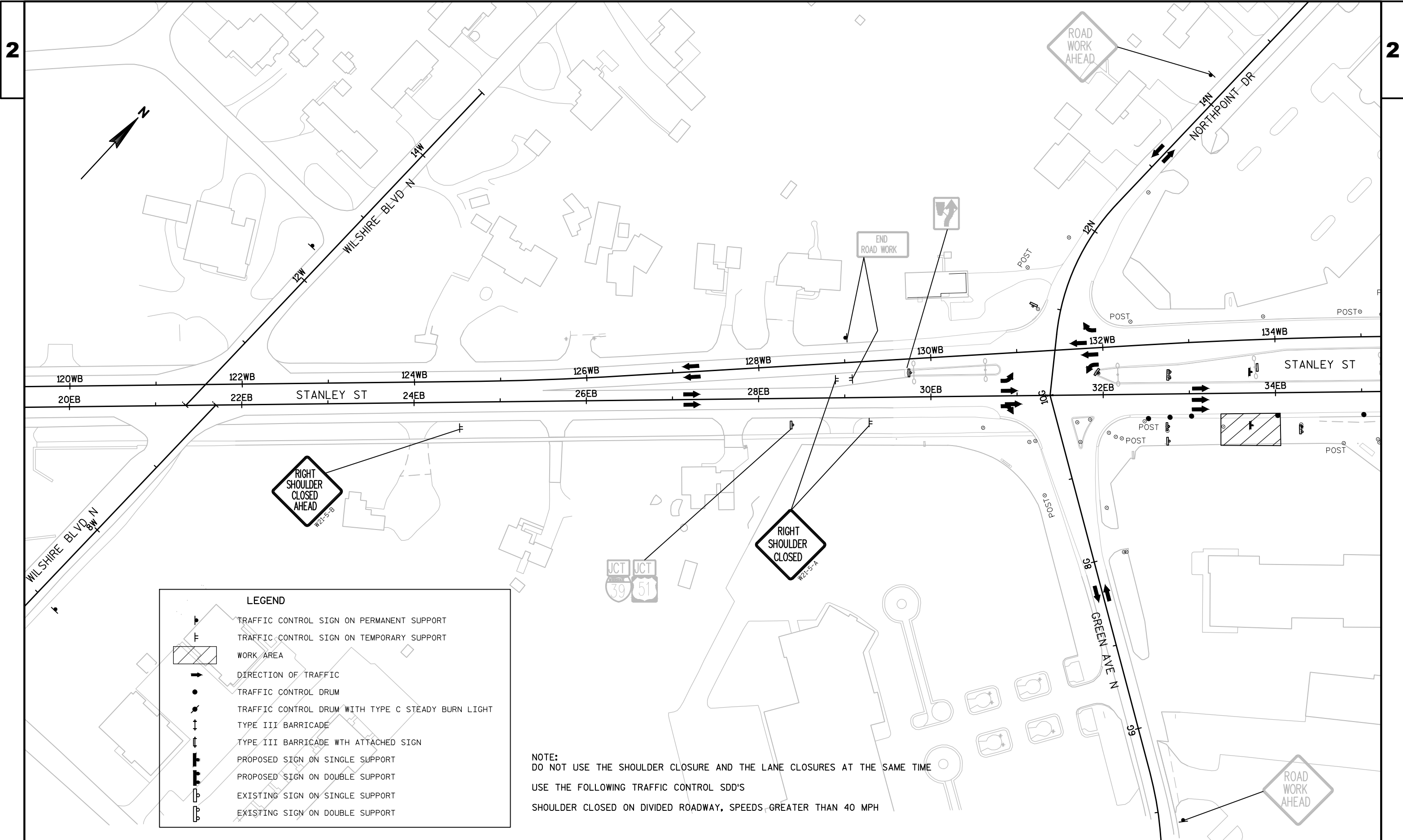
PROPOSED SIGN ON SINGLE SUPPORT

PROPOSED SIGN ON DOUBLE SUPPORT

EXISTING SIGN ON SINGLE SUPPORT

EXISTING SIGN ON DOUBLE SUPPORT

NOTE:  
USE THE FOLLOWING TRAFFIC CONTROL SDD'S  
ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC



PROJECT NO:1166-08-84

HWY:IH 39

COUNTY:PORTAGE

TRAFFIC CONTROL (SHOULDER CLOSURE) STH 66

SHEET

E

FILE NAME : N:\PDS\C3D\11660814\SHEETPLAN\025001-TC.DWG  
LAYOUT NAME - \*\*\*\*\*

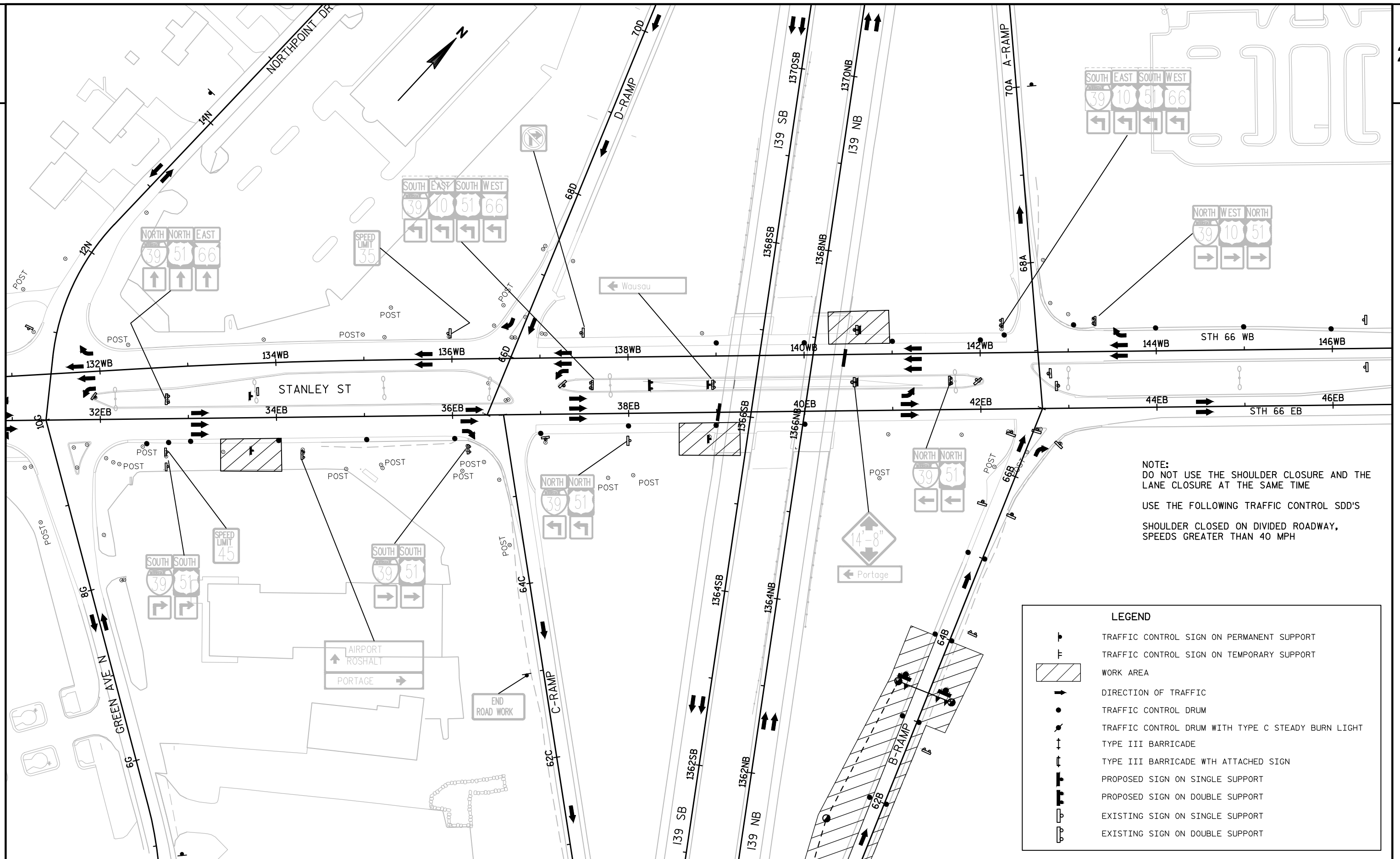
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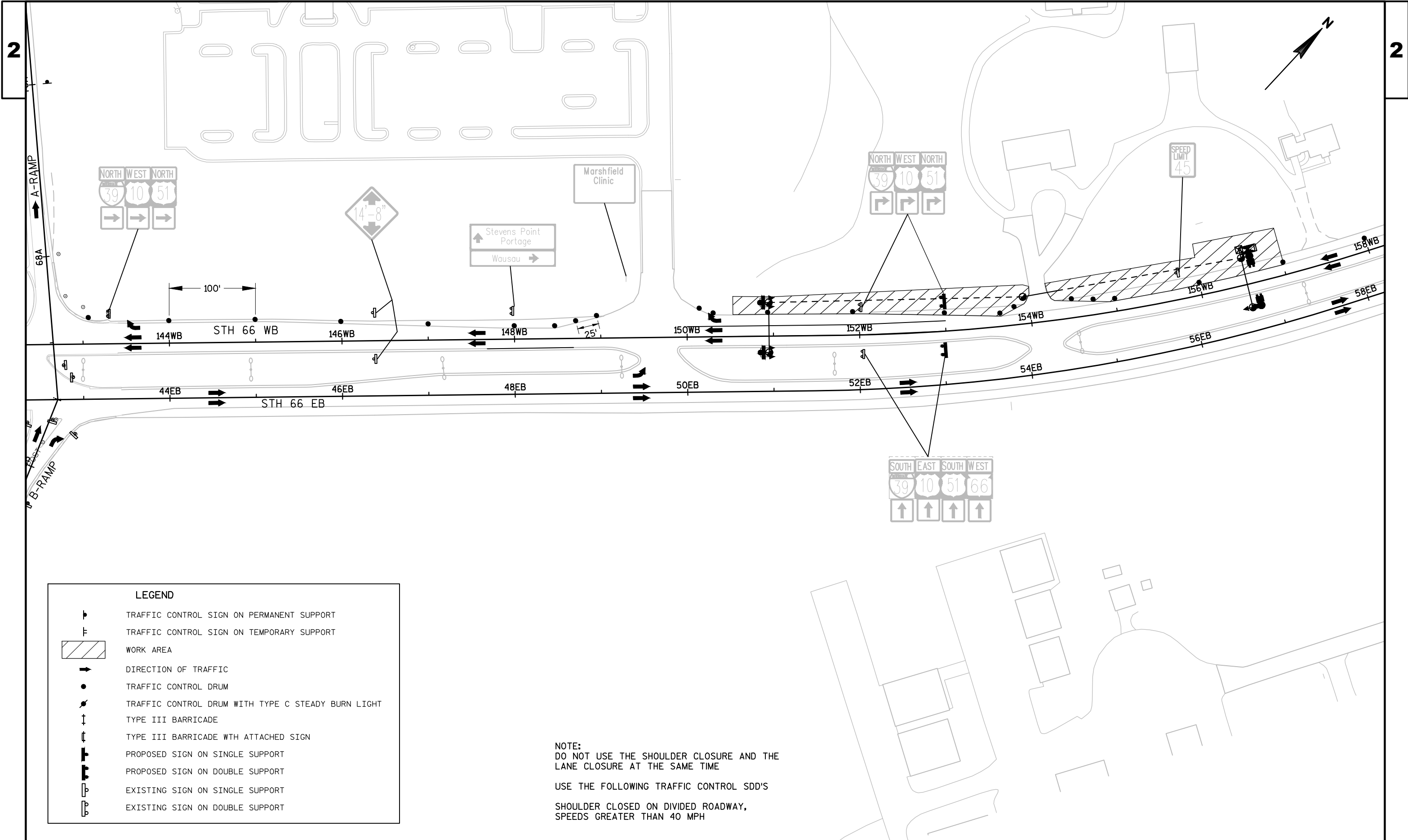
PLOT BY : CASPER, ANDREW P

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

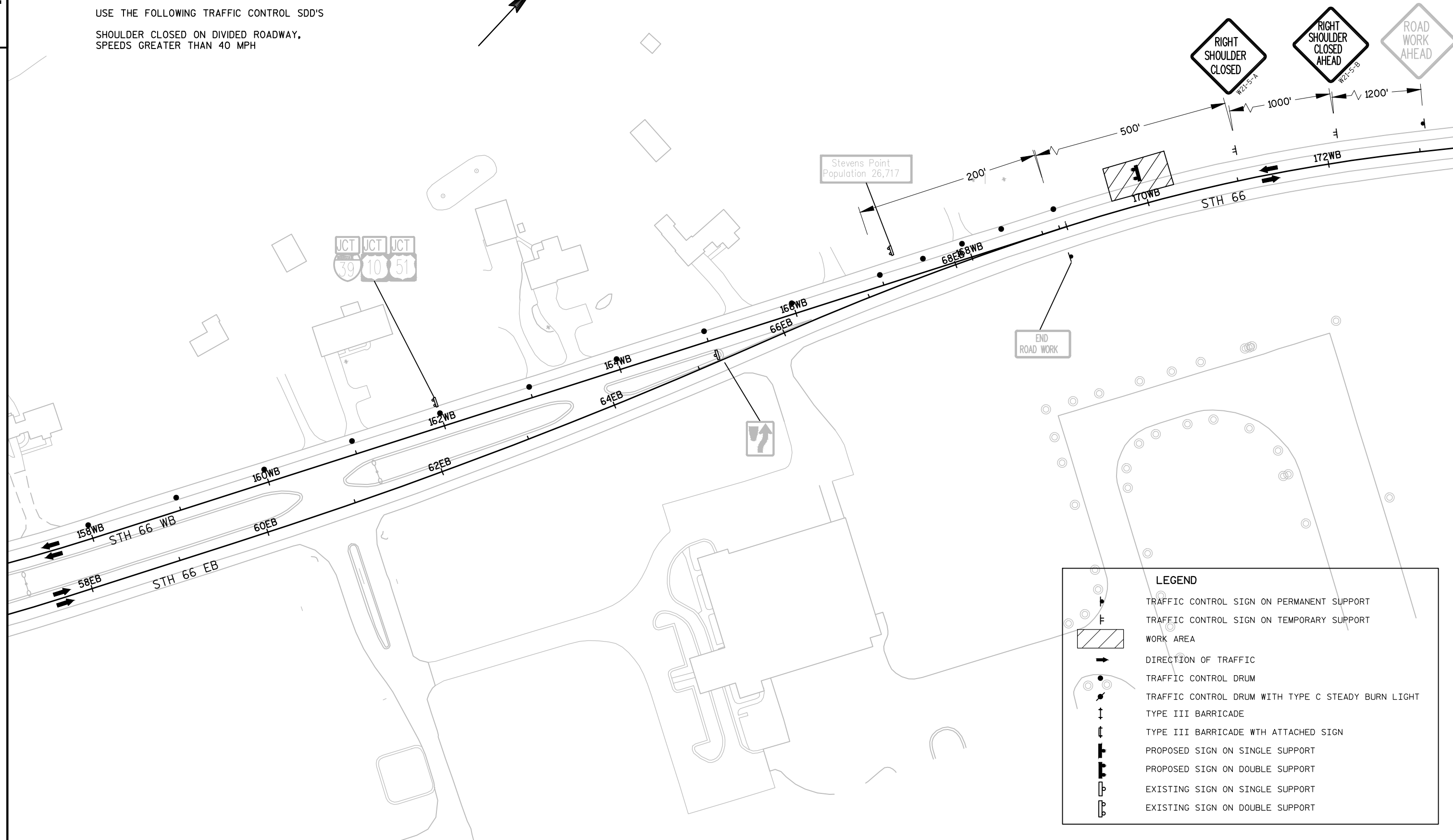
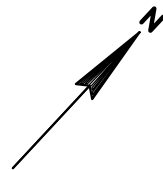
WISDOT/CADDs SHEET 42



















NOTE:  
DO NOT USE THE SHOULDER CLOSURE AND THE  
LANE CLOSURE AT THE SAME TIME  
  
USE THE FOLLOWING TRAFFIC CONTROL SDD'S  
  
SHOULDER CLOSED ON DIVIDED ROADWAY,  
SPEEDS GREATER THAN 40 MPH



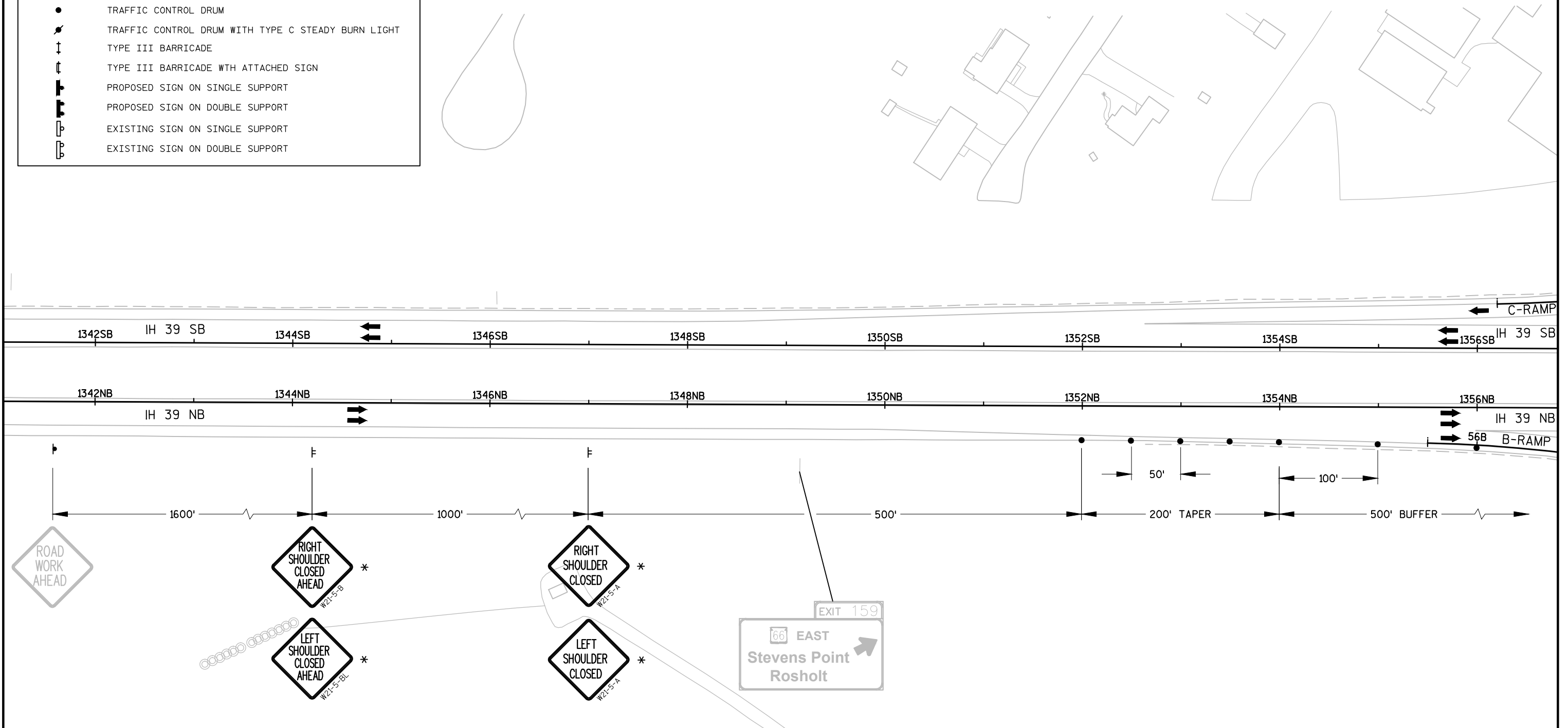
## LEGEND

	TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
	TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
	WORK AREA
	DIRECTION OF TRAFFIC
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	TYPE III BARRICADE
	TYPE III BARRICADE WTH ATTACHED SIGN
	PROPOSED SIGN ON SINGLE SUPPORT
	PROPOSED SIGN ON DOUBLE SUPPORT
	EXISTING SIGN ON SINGLE SUPPORT
	EXISTING SIGN ON DOUBLE SUPPORT

NOTE:  
DO NOT USE THE SHOULDER CLOSURE AND THE  
LANE CLOSURE AT THE SAME TIME

USE THE FOLLOWING TRAFFIC CONTROL SDD'S

SHOULDER CLOSED ON DIVIDED ROADWAY,  
SPEEDS GREATER THAN 40 MPH

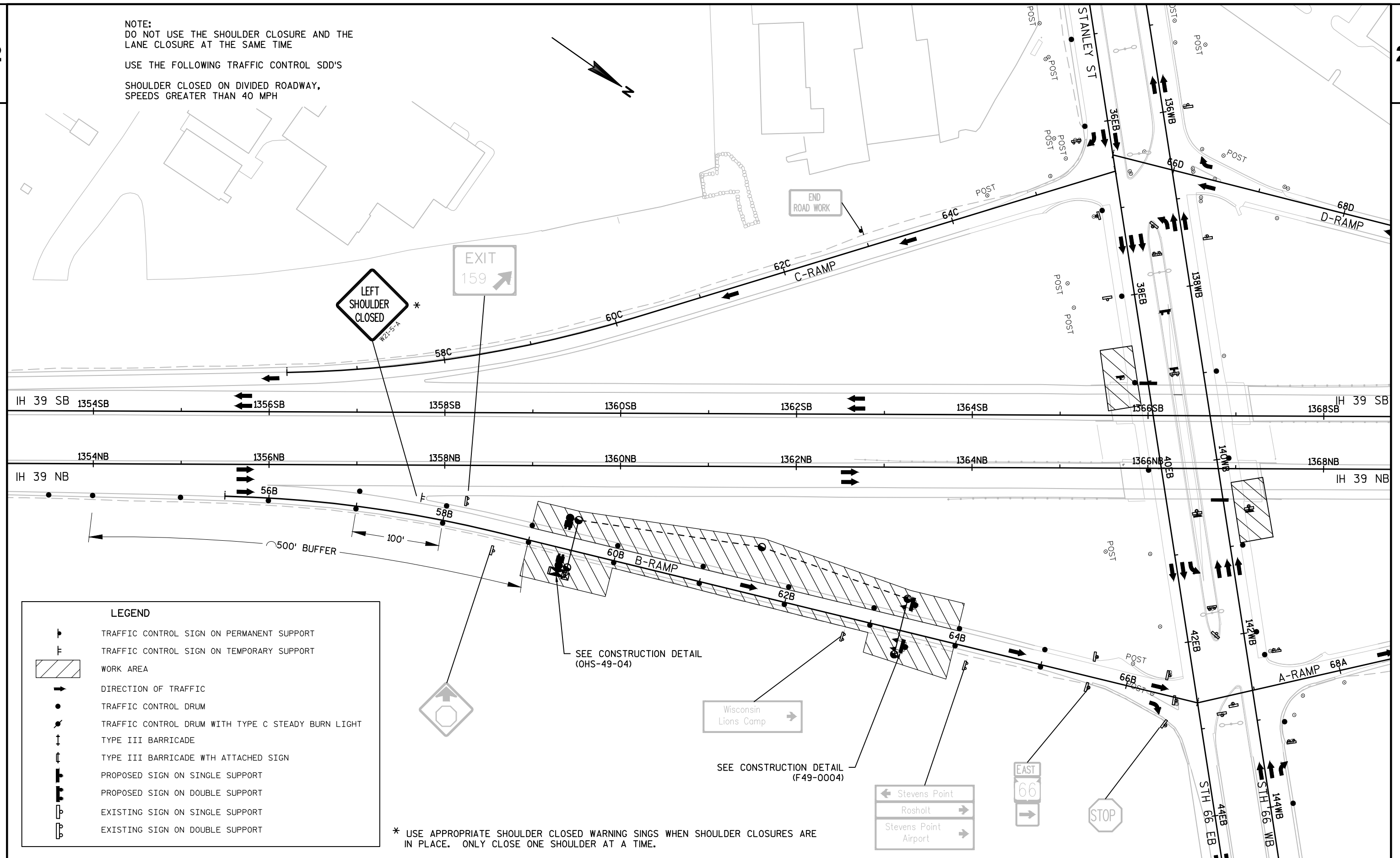


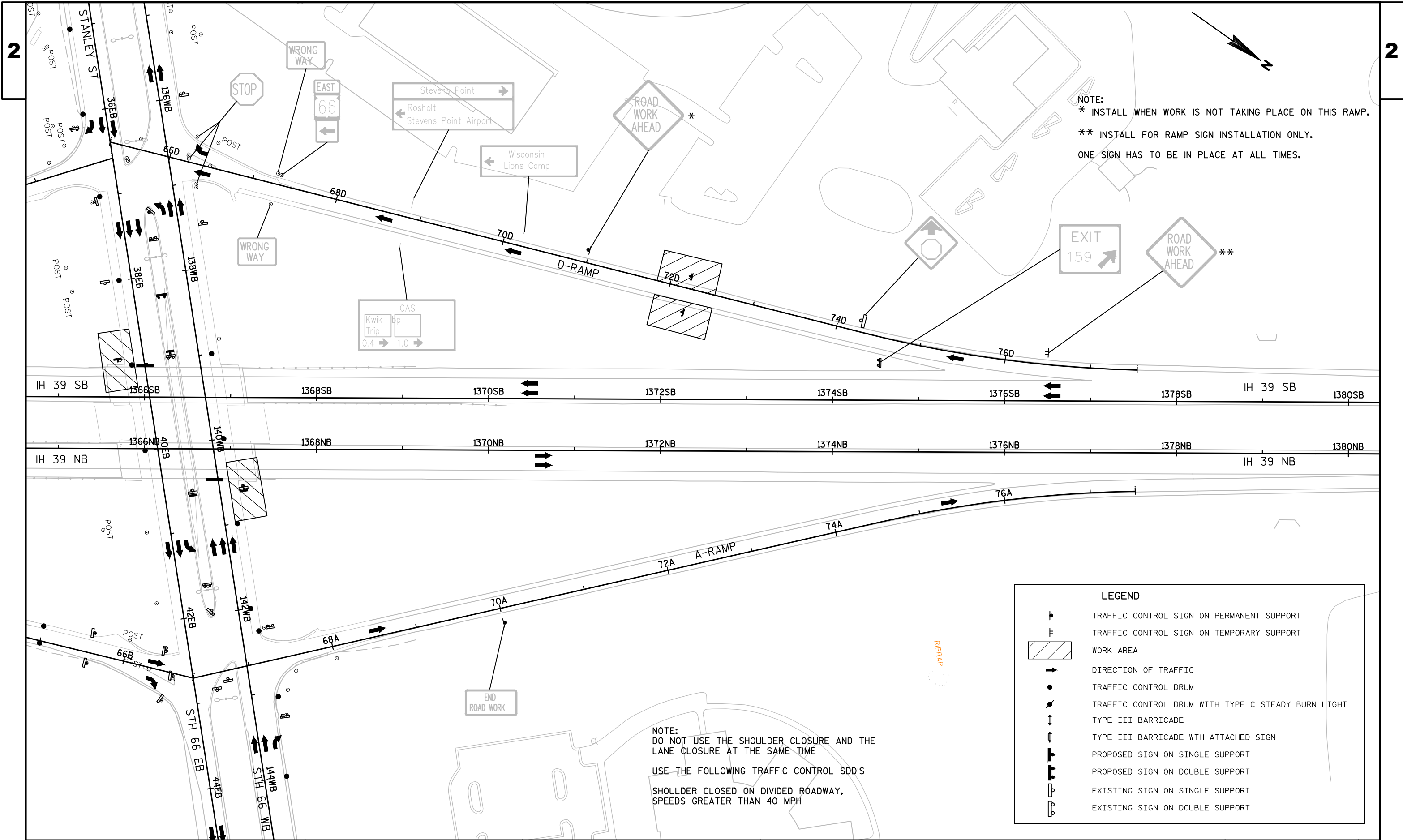
\* USE APPROPRIATE SHOULDER CLOSED WARNING SINGS WHEN SHOULDER CLOSURES ARE  
IN PLACE. ONLY CLOSE ONE SHOULDER AT A TIME.

NOTE:  
DO NOT USE THE SHOULDER CLOSURE AND THE  
LANE CLOSURE AT THE SAME TIME

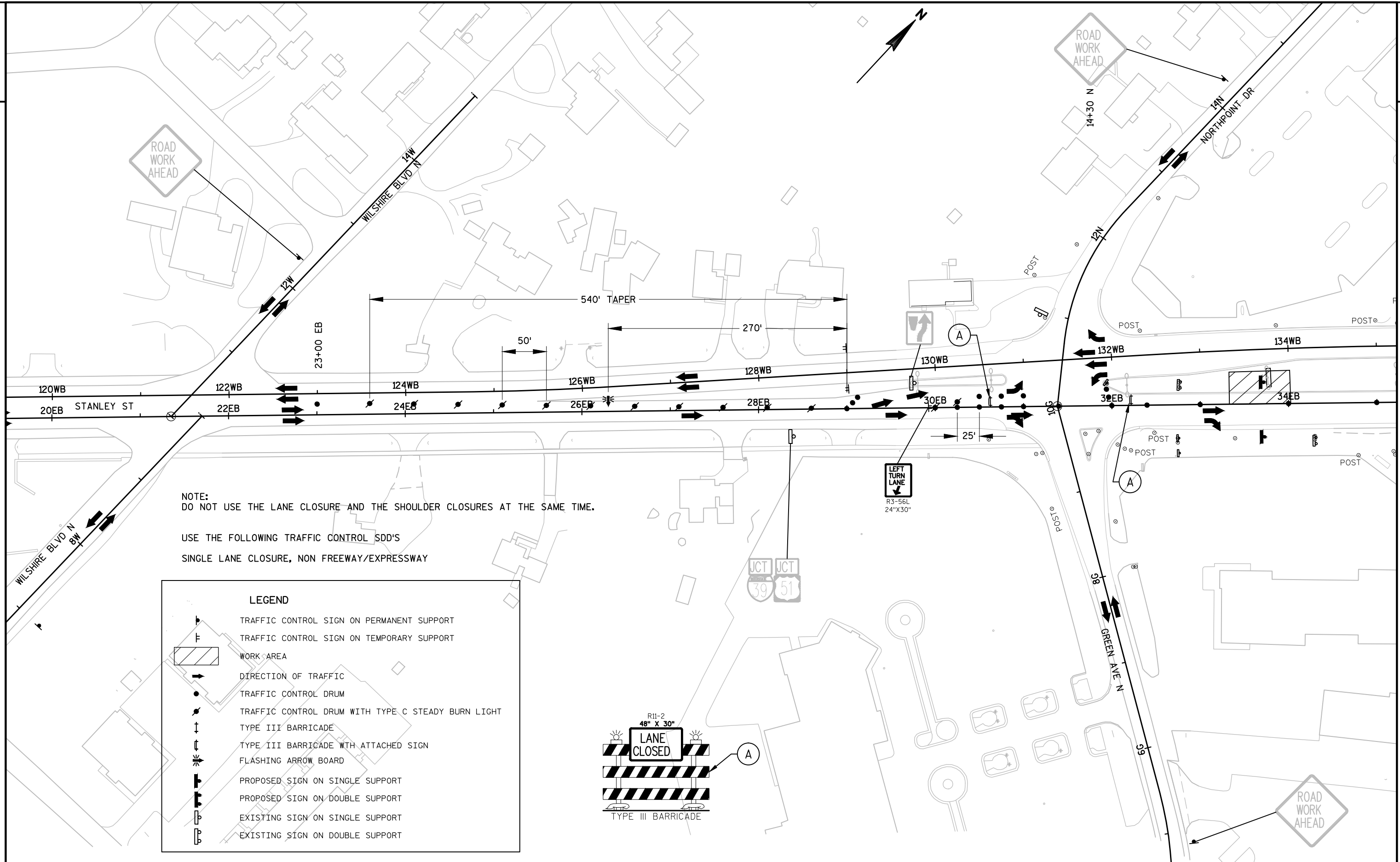
USE THE FOLLOWING TRAFFIC CONTROL SDD'S

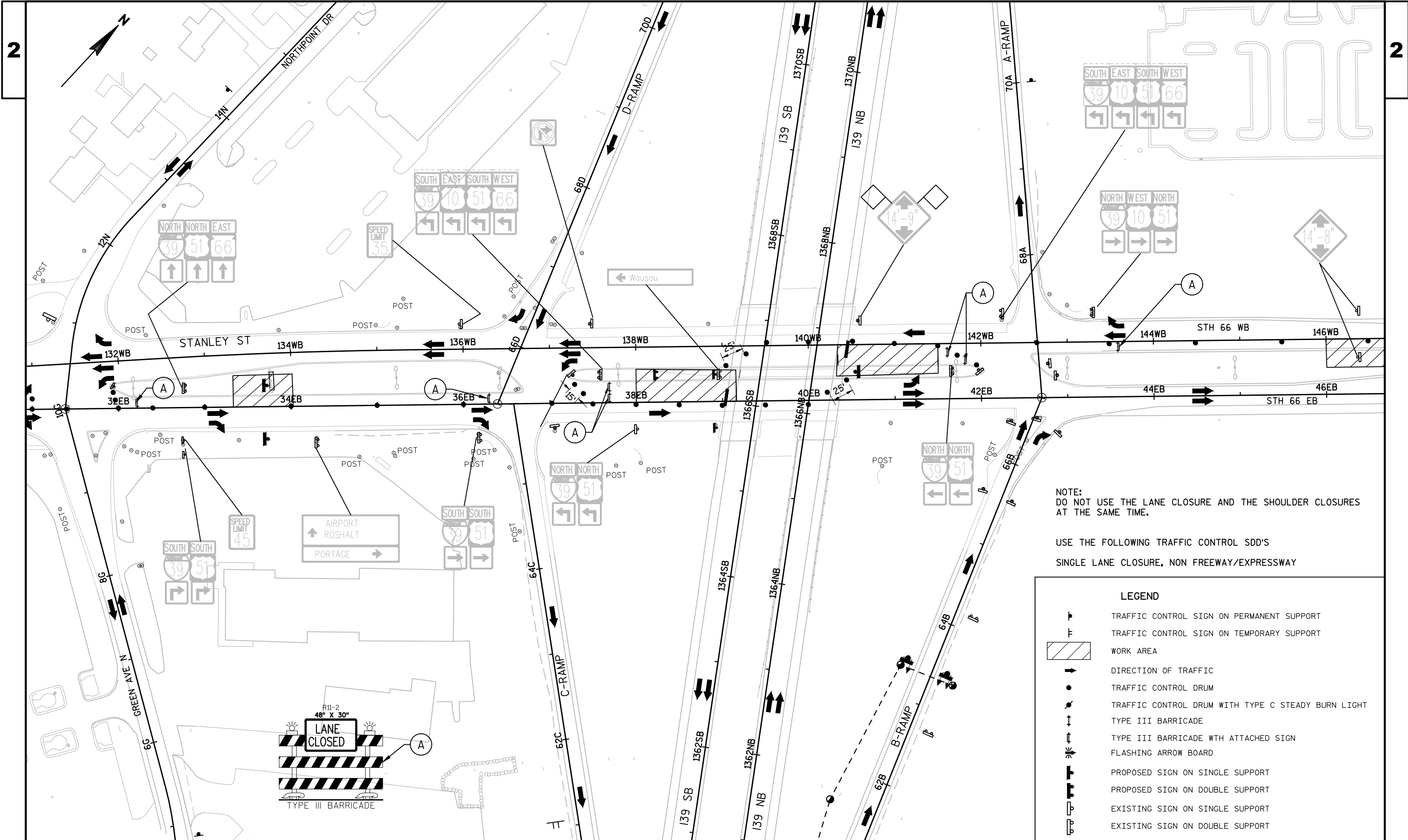
SHOULDER CLOSED ON DIVIDED ROADWAY,  
SPEEDS GREATER THAN 40 MPH







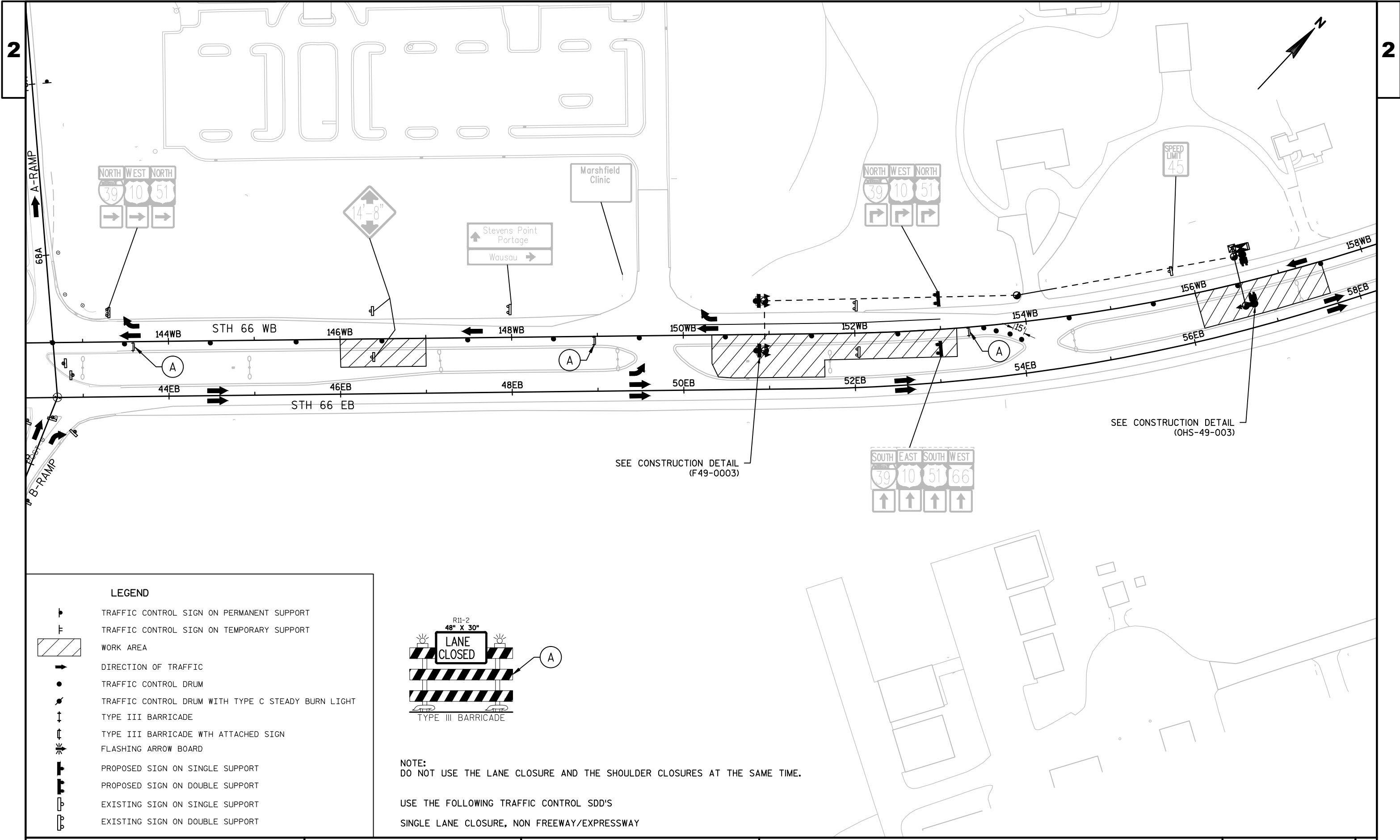




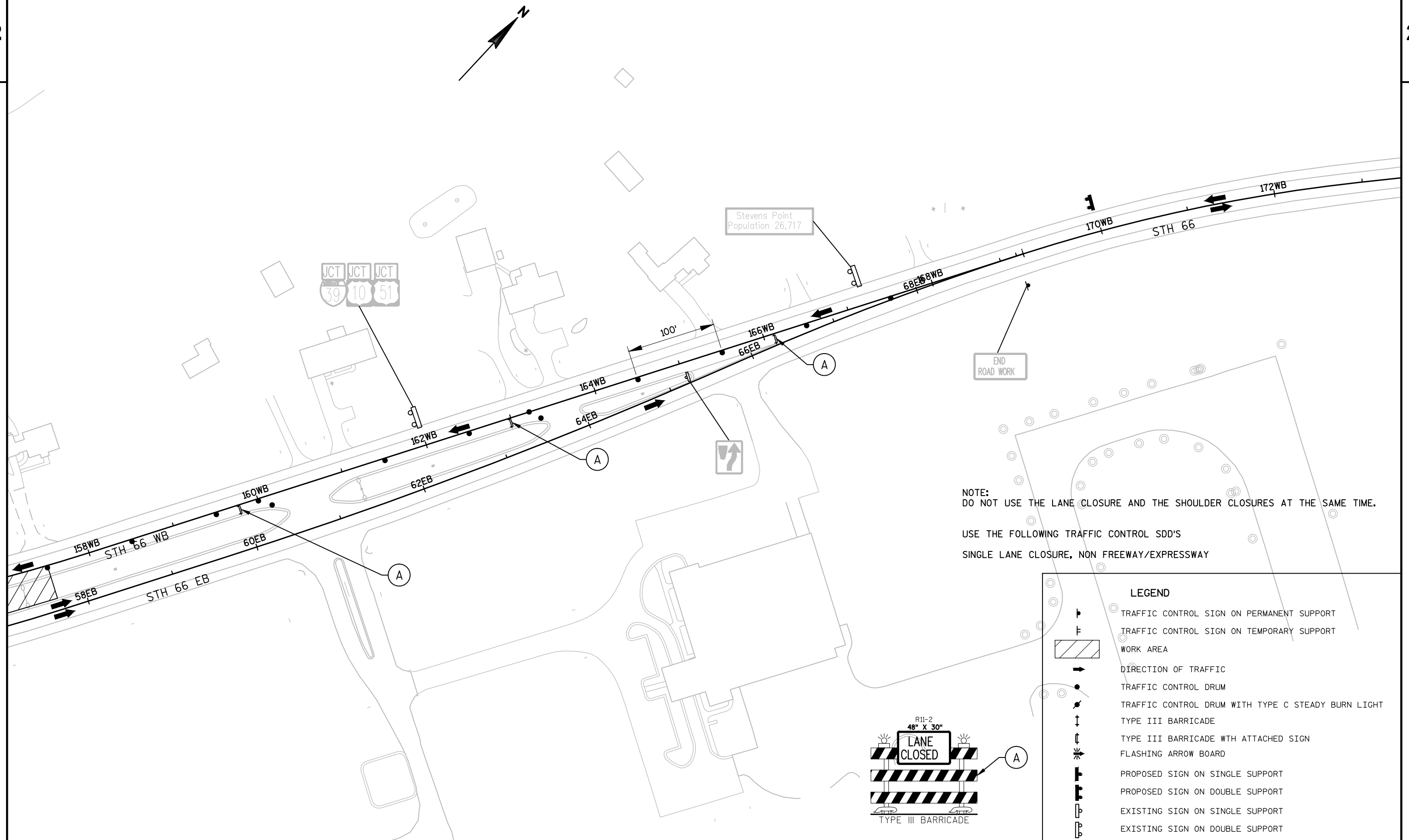
NOTE:  
DO NOT USE THE LANE CLOSURE AND THE SHOULDER CLOSURES  
AT THE SAME TIME.

USE THE FOLLOWING TRAFFIC CONTROL SDD'S  
SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY

LEGEND	
	TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
	TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
	WORK AREA
	DIRECTION OF TRAFFIC
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	TYPE III BARRICADE
	TYPE III BARRICADE WITH ATTACHED SIGN
	FLASHING ARROW BOARD
	PROPOSED SIGN ON SINGLE SUPPORT
	PROPOSED SIGN ON DOUBLE SUPPORT
	EXISTING SIGN ON SINGLE SUPPORT
	EXISTING SIGN ON DOUBLE SUPPORT







Estimate Of Quantities

1166-08-84

Line	Item	Item Description	Unit	Total	Qty
0010	213.0100	Finishing Roadway (project) 01. 1166-08-84	EACH	1.000	1.000
0020	619.1000	Mobilization	EACH	1.000	1.000
0030	625.0100	Topsoil	SY	144.000	144.000
0040	627.0200	Mulching	SY	144.000	144.000
0050	628.1504	Silt Fence	LF	10.000	10.000
0060	628.1520	Silt Fence Maintenance	LF	10.000	10.000
0070	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0080	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0090	629.0210	Fertilizer Type B	CWT	0.100	0.100
0100	630.0130	Seeding Mixture No. 30	LB	3.000	3.000
0110	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	10.000	10.000
0120	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	9.000	9.000
0130	637.0620	Sign Flags Permanent Type II	EACH	16.000	16.000
0140	637.2230	Signs Type II Reflective F	SF	340.000	340.000
0150	638.2102	Moving Signs Type II	EACH	5.000	5.000
0160	638.2602	Removing Signs Type II	EACH	8.000	8.000
0170	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0180	638.4000	Moving Small Sign Supports	EACH	7.000	7.000
0190	643.0100	Traffic Control (project) 01. 1166-08-84	EACH	1.000	1.000
0200	643.0300	Traffic Control Drums	DAY	2,352.000	2,352.000
0210	643.0420	Traffic Control Barricades Type III	DAY	78.000	78.000
0220	643.0705	Traffic Control Warning Lights Type A	DAY	156.000	156.000
0230	643.0715	Traffic Control Warning Lights Type C	DAY	78.000	78.000
0240	643.0800	Traffic Control Arrow Boards	DAY	6.000	6.000
0250	643.0900	Traffic Control Signs	DAY	746.000	746.000
0260	650.8500	Construction Staking Electrical Installations (project) 01. 1166-08-84	LS	1.000	1.000
0270	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	1,002.000	1,002.000
0280	652.0605	Conduit Special 2-Inch	LF	281.000	281.000
0290	654.0101	Concrete Bases Type 1	EACH	4.000	4.000
0300	654.0102	Concrete Bases Type 2	EACH	4.000	4.000
0310	655.0210	Cable Traffic Signal 3-14 AWG	LF	3,053.000	3,053.000
0320	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	3,664.000	3,664.000
0330	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. 59+40B 17FT RT.	LS	1.000	1.000
0340	656.0200	Electrical Service Meter Breaker Pedestal (location) 02. 156+64WB 31.5FT LT.	LS	1.000	1.000
0350	657.0100	Pedestal Bases	EACH	4.000	4.000
0360	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	4.000	4.000
0370	657.0305	Poles Type 2	EACH	4.000	4.000

Estimate Of Quantities

1166-08-84

Line	Item	Item Description	Unit	Total	Qty
0380	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	2.000	2.000
0390	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	2.000	2.000
0400	658.0103	Traffic Signal Face 1-12 Inch Vertical	EACH	8.000	8.000
0410	658.0210	Backplates Signal Face 1 Section 12-Inch	EACH	8.000	8.000
0420	658.0605	Led Modules 12-Inch Yellow Ball	EACH	8.000	8.000
0430	658.5069	Signal Mounting Hardware (location) 01. IH39 & Stanley St/STH 66 Interchange	LS	1.000	1.000
0440	670.0100	Field System Integrator	LS	1.000	1.000
0450	670.0200	ITS Documentation	LS	1.000	1.000
0460	677.0200	Install Camera Assembly	EACH	1.000	1.000
0470	SPV.0060	Special 01. Overheight Vehicle Detection Assembly	EACH	2.000	2.000
0480	SPV.0060	Special 02. Pull Boxes Non-Conductive 24x42-Inch	EACH	10.000	10.000
0490	SPV.0060	Special 03. Sign Mounting Supports	EACH	2.000	2.000



TOPSOIL, MULCHING, FERTILIZER, AND SEEDING

STATION - STATION	LOCATION	625.0100	627.0200	629.0210	630	REMARKS
		TOPSOIL	MULCHING	FERTILIZER	SEEDING	
		SY	SY	TYPE B	MIXTURE	
				CWT	NO. 30	
					LB	
UNDISTRIBUTED	1-FT WIDE ABOVE CONDUIT LINES	144	144	0.1	3	
TOTALS		144	144	0.1	3	

EROSION CONTROL

STATION	LOCATION	628.1504	628.152	628.1905	628.191	REMARKS
		SILT	SILT	MOBILIZATION	MOBILIZATION	
		FENCE	FENCE	EROSION	EROSION	
		LF	LF	CONTROL	CONTROL	
				EACH	EACH	
UNDISTRIBUTED		10	10	1	1	
TOTALS		10	10	1	1	

SIGN LISTING

SIGN NO.	SIGN CODE	MESSAGE	SIZE	WOOD POSTS 4" X 6"		637.0620	637.2230	638.2102	638.2602	638.3000	638.4000	SPV.0060.03	REMARKS
				634.0616	634.0618	SIGN FLAGS	SIGNS	MOVING	REMOVING	REMOVING	MOVING	SIGN MOUNTING	
				16-FT	18-FT	PERMANENT	TYPE II	SIGNS	SIGNS	SMALL	SMALL	SIGN	
				EACH	EACH	TYPE II	REFLECTIVE F	TYPE II	TYPE II	SUPPORTS	SUPPORTS	SUPPORTS	
						EACH	SF	EA	EA	EA	EA	EACH	
1-01	---	CLEARANCE DOWN ARROWS 14'-9"	132"X48"	---	---	---	44	---	---	---	---	1	ATTACHED TO BRIDGE
1-02	---	CLEARANCE DOWN ARROWS 14'-9"	132"X48"	---	---	---	44	---	---	---	---	1	ATTACHED TO BRIDGE
1-03	---	LEFT ARROW, WAUSAU		1	---	---	---	1	---	---	1	---	STH 66 EB, MEDIAN
1-04	W12-2	14'-9"	36"X36"	1	---	2	9	---	1	1	---	---	STH 66, WB
1-05	---	14'-8"	36"X36"	---	---	---	---	---	1	---	---	---	ATTACHED TO LIGHT POLE
1-06	---	14'-8"	36"X36"	---	---	---	---	---	1	1	---	---	STANLEY ST, EB
1-07	W12-2	14'-9"	36"X36"	1	1	2	9	---	---	---	---	---	STANLEY ST, EB
1-08	W12-2	14'-9"	36"X36"	1	1	2	9	---	---	---	---	---	STANLEY ST, EB
1-09	---	OVERHEIGHT, EXIT RIGHT	66"X30"	---	---	---	13.8	---	---	---	---	---	SHARE POST WITH SIGN 1-05
1-10	---	OVERHEIGHT, EXIT RIGHT	66"X30"	---	---	---	13.8	---	---	---	---	---	SHARE POST WITH SIGN 1-06
1-11	W12-2	14'-9"	36"X36"	1	---	2	9	---	1	1	---	---	STANLEY ST, EB
1-12	W12-2	14'-9"	36"X36"	1	---	2	9	---	1	1	---	---	STANLEY ST, EB
1-13	W12-2	14'-9"	36"X36"	1	---	2	9	---	1	1	---	---	STH 66 , WB, MEDIAN
1-14	---	LEFT ARROW, PORTAGE	-	---	---	---	---	1	---	---	---	---	SHARE POST WITH SIGN 1-11
2-01	W12-2	14'-8"	36"X36"	---	---	---	---	---	1	1	---	---	STH 66 WB
2-02	W12-2	14'-8"	36"X36"	---	---	---	---	---	1	1	---	---	STH 66 WB
2-03	W12-2	14'-9"	36"X36"	---	---	---	9	---	---	---	---	---	BEACON ASSEMBLY F49-0003
2-04	W12-2	14'-9"	36"X36"	---	---	---	9	---	---	---	---	---	BEACON ASSEMBLY F49-0003
2-05	---	OVERHEIGHT EXIT RIGHT	66"X30"	---	1	---	13.8	---	---	---	---	---	BEACON ASSEMBLY F49-0003
2-06	---	OVERHEIGHT EXIT RIGHT	66"X30"	---	1	---	13.8	---	---	---	---	---	BEACON ASSEMBLY F49-0003
2-07	J2-3	NORTH 39, WEST 10, NORTH 51	--	---	---	---	---	1	---	---	2	---	STH 66 WB
2-08	J2-4	SOUTH 39, EAST 10, SOUTH 51, WEST 66	--	---	---	---	---	1	---	---	2	---	STH 66 WB
3-01	W12-2	14'-9"	36"X36"	1	1	---	9	---	---	---	---	---	STH 66 WB
3-02	---	LOW BRIDGE 1/2 MILE	66"X30"	---	---	---	13.8	---	---	---	---	---	SHARE POST WITH SIGN 3-01
4-01	W12-2	14'-9"	36"X36"	1	1	2	9	---	---	---	---	---	D-RAMP
4-02	W12-2	14'-9"	36"X36"	1	1	2	9	---	---	---	---	---	D-RAMP
4-03	---	OVERHEIGHT NO LEFT TURN	66"X36"	---	---	---	16.5	---	---	---	---	---	SHARE POST WITH SIGN 4-01
4-04	---	OVERHEIGHT NO LEFT TURN	66"X36"	---	---	---	16.5	---	---	---	---	---	SHARE POST WITH SIGN 4-02
4-05	---	WISCONSIN LIONS CAMP	---	---	---	---	---	1	---	---	2	---	MOVE TO STA 61+00B
4-06	W12-2	14'-9"	36"X36"	---	---	---	9	---	---	---	---	---	B-RAMP (F49-0004)
4-07	W12-2	14'-9"	36"X36"	---	---	---	9	---	---	---	---	---	B-RAMP (F49-0004)
4-08	---	OVERHEIGHT NO LEFT TURN	66"X36"	---	1	---	16.5	---	---	---	---	---	B-RAMP (F49-0004)
4-09	---	OVERHEIGHT NO LEFT TURN	66"X36"	---	1	---	16.5	---	---	---	---	---	B-RAMP (F49-0004)
	---	---	---	---	---	---	---	---	---	---	---	---	
	---	---	---	---	---	---	---	---	---	---	---	---	

TOTALS 10.00 9.00 16.00 340 5.00 8.00 7.00 7.00 2.00

TRAFFIC CONTROL

643.0100 TRAFFIC CONTROL (project) 01. 1166-08-84																
643.0300 DRUMS																
643.0420 BARRICADES TYPE III																
643.0705 WARNING LIGHTS TYPE A																
643.0715 WARNING LIGHTS TYPE C																
643.0800 ARROW BOARDS																
643.0900 SIGNS																
LOCATION	# OF DAYS	EACH	QTY	DAYS	QTY	DAYS	QTY	DAYS	QTY	DAYS	QTY	DAYS	QTY	DAYS	QTY	REMARKS
A-RAMP	32	-	-	-	-	-	-	-	-	-	-	-	-	1	32	ADVANCED WARNING
IH-39 NB	32	-	-	-	-	-	-	-	-	-	-	-	-	1	32	ADVANCED WARNING, B-RAMP
C-RAMP	32	-	-	-	-	-	-	-	-	-	-	-	-	1	32	ADVANCED WARNING
D-RAMP	32	-	-	-	-	-	-	-	-	-	-	-	-	1	32	ADVANCED WARNING
NORTH CT	32	-	-	-	-	-	-	-	-	-	-	-	-	1	32	ADVANCED WARNING
WILSHIRE BLVD N	32	-	-	-	-	-	-	-	-	-	-	-	-	2	64	ADVANCED WARNING
GREEN AVE N	32	-	-	-	-	-	-	-	-	-	-	-	-	1	32	ADVANCED WARNING
NORTHPOINT DR	32	-	-	-	-	-	-	-	-	-	-	-	-	1	32	ADVANCED WARNING
STH 66 EB	32	-	-	-	-	-	-	-	-	-	-	-	-	2	64	ADVANCED WARNING
STH 66 WB	32	-	-	-	-	-	-	-	-	-	-	-	-	3	96	ADVANCED WARNING
STH 66 EB	28	-	10	280	-	-	-	-	-	-	-	-	---	3	84	SHOULDER CLOSED
STH 66 WB	28	-	40	1120	-	-	-	-	-	-	-	-	---	2	56	SHOULDER CLOSED
B-RAMP	28	-	16	448	-	-	-	-	-	-	-	-	---	2	56	LT & RT SHOULDER CLOSED
STH 66 EB	6	-	44	264	5	30	10	60	13	78	1	6	5	48		LANE CLOSED
STH 66 WB	6	-	40	240	8	48	16	96	0	0	0	0	9	54		LANE CLOSED
-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTALS		1	150	2352	13	78	26	156	13	78	1	6	35	746		

CONDUIT

		652.0225 RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0605 SPECIAL 2-INCH LF	REMARKS
FROM	TO			
METER PEDESTAL	PB1	10	---	
OHS-49-04	PB1	10	---	
PB1	PB2	---	55.5	
PB2	OHS-49-04	10	---	
PB2	PB3	211	---	
PB3	PB4	176	---	
PB4	F49-0004	11.5	---	
PB4	PB5	---	65	
PB5	F49-0004	15	---	
PB6	F49-0003	10	---	
PB6	PB7	---	58	
PB7	F49-0003	10	---	
PB7	PB8	294.5	---	
PB8	154+36.55 (33.74LT.)	---	43	
154+36.55 (33.74LT.)	PB9	214	---	
PB9	METER PEDESTAL	10	---	
PB9	OHS-49-03	10	---	
PB9	PB10	---	59	
PB10	OHS-49-03	10	---	
TOTAL		1002	281	

CONCRETE BASES

			654.0101	654.0102	
			BASES	BASES	
			TYPE 1	TYPE 2	
STATION	OFFSET	ITEM ID	EACH	EACH	REMARKS
59+40 B	32', LT	OHS-49-04	---	1	B-RAMP
59+40 B	17', RT	OHS-49-04	---	1	B-RAMP
63+45 B	32', LT	F49-0004	1	---	B-RAMP
63+45 B	17', RT	F49-0004	1	---	B-RAMP
156+64 WB	31.5', LT	OHS-49-03	---	1	STH 66 WB
156+64 WB	27.2', RT	OHS-49-03	---	1	STH 66 WB
150+85 WB	39', LT	F49-0003	1	---	STH 66 WB
150+85 WB	19', RT	F49-0003	1	---	STH 66 WB
TOTALS			4	4	

CONSTRUCTION STAKING

650.8500 ELECTRICAL INSTALLATIONS (PROJECT 1166-08-84)		
STATION	LS	REMARKS
UNDISTRIBUTED	1	
TOTALS	<u>1</u>	

PULL BOXES

SPV.0060.02 NON-CONDUCTIVE 24x42-INCH				
STATION	OFFSET	ITEM ID	EACH	REMARKS
59+50 B	20', RT	PB1	1	B-RAMP
59+50 B	35.5', LT	PB2	1	B-RAMP
61+59.93 B	54.87', LT	PB3	1	B-RAMP
63+35 B	37', LT	PB4	1	B-RAMP
63+35 B	28', RT	PB5	1	B-RAMP
150+95 WB	19', RT	PB6	1	STH 66 WB
150+95 WB	39', LT	PB7	1	STH 66 WB
153+93 WB	31.5', LT	PB8	1	STH 66 WB
156+54 WB	31.5', LT	PB9	1	STH 66 WB
156+54 WB	27.2', RT	PB10	1	STH 66 WB
TOTALS			10	



ELECTRICAL WIRE TRAFFIC SIGNALS

FROM	TO	655.0210	655.0515	REMARKS
		3-14 AWG LF	10 AWG (GREEN) LF	
METER PEDESTAL	PB1	88	106	
OHS-49-04	PB1	42	50	
PB1	PB2	203	243	
PB2	OHS-49-04	42	50	
PB2	PB3	446	535	
PB3	PB4	376	451	
PB4	F49-0004	34	40	
PB4	PB5	77	92	
PB5	F49-0004	37	44	
PB6	F49-0003	32	38	
PB6	PB7	70	84	
PB7	F49-0003	32	38	
PB7	PB8	613	736	
PB8	154+36.55 (33.74FT LT.)	110	132	
154+36.55 (33.74FT LT.)	PB9	452	542	
PB9	METER PEDESTAL	110	132	
PB9	OHS-49-03	42	50	
PB9	PB10	142	170	
PB10	OHS-49-03	84	101	
VIDEO CAMERA	OHS-49-03	22	26	
TOTALS		3053	3664	

ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION)

STATION	LOCATION	656.0200 LS	REMARKS
59+40 B	17FT RT.	1	B - RAMP
156+64 WB	31.5FT LT.	1	STH 66 WB
TOTALS		2	

ITS DEVICES

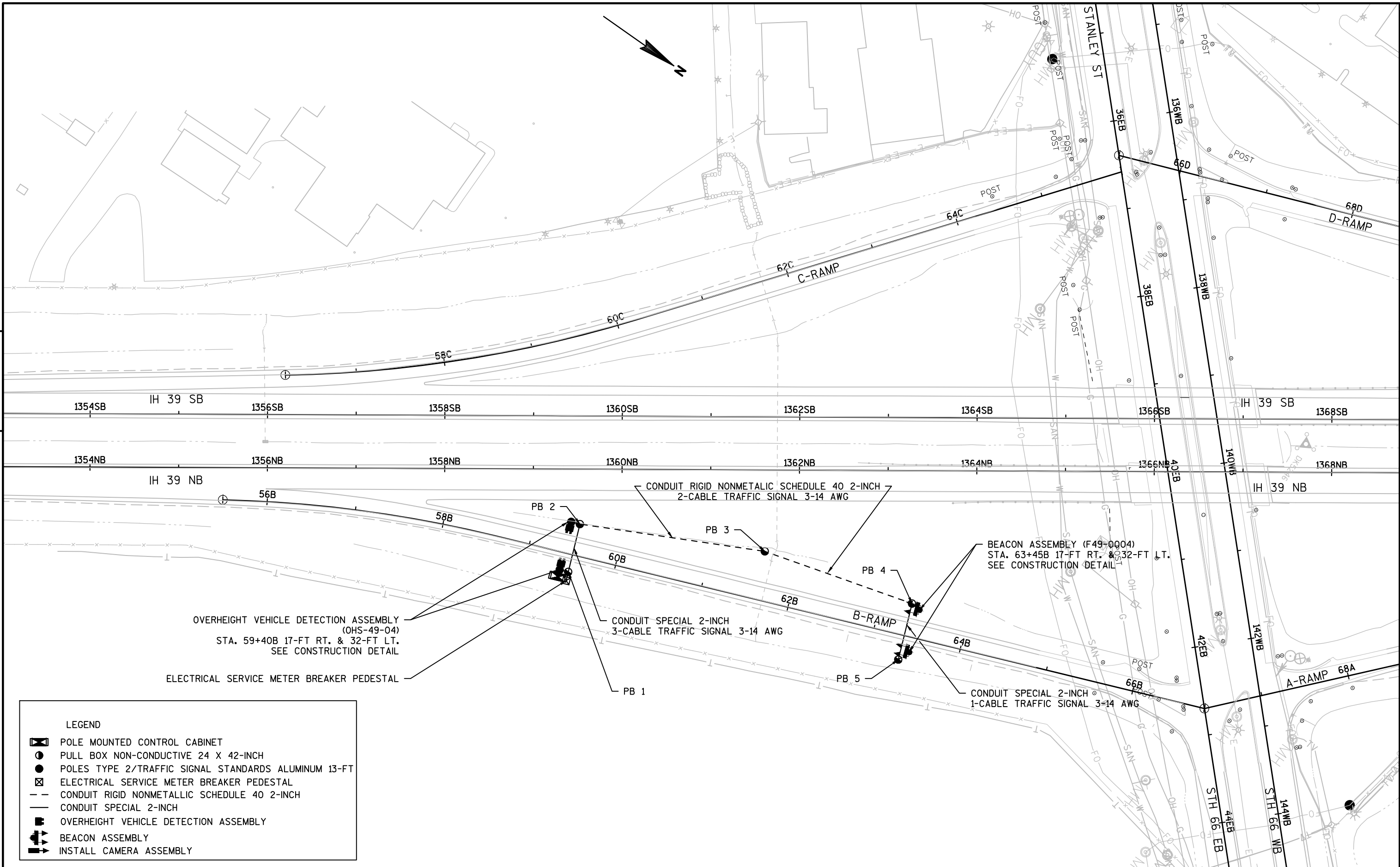
STATION	OFFSET	ITEM ID	657.0100	657.0255	657.0305	657.0420	657.0425	REMARKS
			PEDESTAL BASES EACH	TRANSFORMER BASES BREAKAWAY 11 1/2 BOLT CIRCLE EACH	POLES TYPE 2 ALUMINUM EACH	STANDARDS ALUMINUM 13-FT EACH	STANDARDS ALUMINUM 15-FT EACH	
59+40B	17FT RT.	OHS-49-04	---	1	1	---	---	B - RAMP
59+40B	32FT LT.	OHS-49-04	---	1	1	---	---	B - RAMP
63+45B	17FT RT.	F49-0004	1	---	---	1	---	B - RAMP
63+45B	32FT LT.	F49-0004	1	---	---	---	1	B - RAMP
156+64WB	27.2FT RT.	OHS-49-03	---	1	1	---	---	STH 66 WB
156+64WB	31.5FT LT.	OHS-49-03	---	1	1	---	---	STH 66 WB
150+85WB	19FT RT.	F49-0003	1	---	---	1	---	STH 66 WB
150+85WB	39FT LT.	F49-0003	1	---	---	---	1	STH 66 WB
TOTALS			4	4	4	2	2	

ITS DEVICES

		658.0103	658.0210	658.0605		
		TRAFFIC	BACKPLATES	LED		
		SIGNAL	SIGNAL FACE	MODULES		
		FACE 1-12 INCH	1 SECTION	12-IN		
		VERTICAL	12-INCH	YELLOW BALL		
STATION	OFFSET	ITEM ID	EACH	EACH	EACH	REMARKS
63+45B	17FT RT.	F49-0004	2	2	2	
63+45B	32FT LT.	F49-0004	2	2	2	
150+85WB	19FT RT.	F49-0003	2	2	2	
150+85WB	39FT LT.	F49-0003	2	2	2	
TOTALS			8	8	8	

ITS DEVICES

		658.5069	670.0100	670.0200	677.0200	SPV.0060.01		
		SIGNAL	FIELD	ITS	INSTALL	OVERHEIGHT		
		MOUNTING	SYSTEM	DOCUMENTATION	CAMERA	VEHICLE		
		HARDWARE	INTEGRATOR		ASSEMBLY	DETECTION		
		(location) .01	LS	LS	LS	ASSEMBLY		
		IH39 & Stanley St/STH 66						
		Interchange						
STATION	LOCATION	ITEM ID	LS	LS	LS	EACH	EACH	REMARKS
UNDISTRIBUTED	-	-	1	1	1	0	0	
STA 59+40 B	LT & RT	OHS-49-04	0	0	0	0	1	B-RAMP
STA 156+64 WB	LT & RT	OHS-49-03	0	0	0	1	1	STH 66 WEST BOUND
TOTALS			1	1	1	1	2	



LEGEND

POLE MOUNTED CONTROL CABINET

PULL BOX NON-CONDUCTIVE 24 X 42-INCH

POLES TYPE 2/TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT

ELECTRICAL SERVICE METER BREAKER PEDESTAL

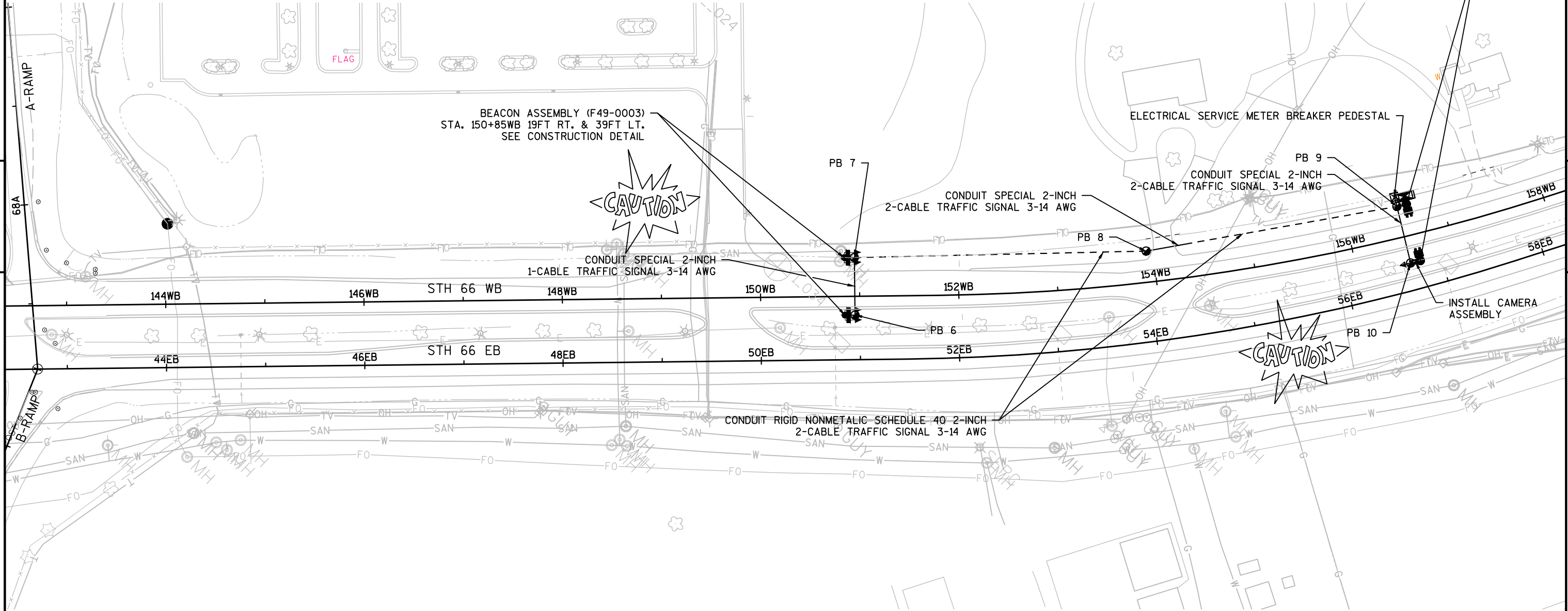
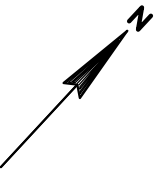
CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH

CONDUIT SPECIAL 2-INCH

OVERHEIGHT VEHICLE DETECTION ASSEMBLY

BEACON ASSEMBLY

INSTALL CAMERA ASSEMBLY



Standard Detail Drawing List

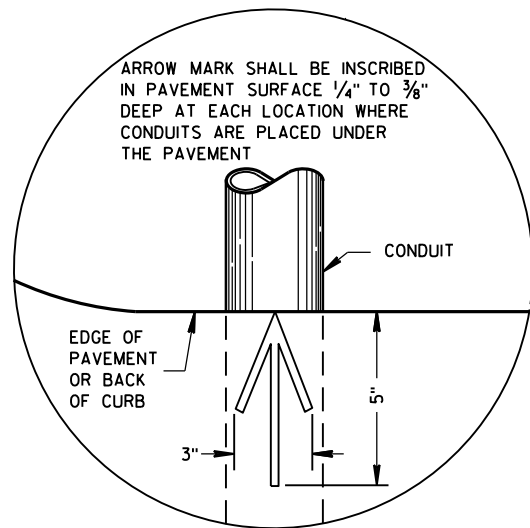
08E09-06	SILT FENCE
09B02-09	CONDUIT
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09E07-05	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09H11-01	IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15D12-06A	TRAFFIC CONTROL, LANE CLOSURE
15D20-03	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH



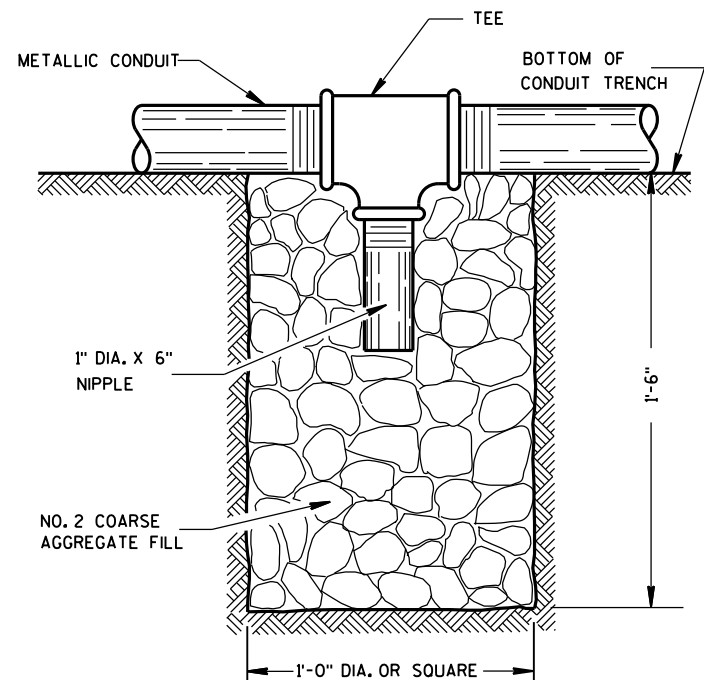
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" 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.



<p style="text-align: center;"><b>SILT FENCE</b></p>	
<p style="text-align: center;"><b>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</b></p>	
<p><b>APPROVED</b></p> <p><u>4-29-05</u></p> <p><b>DATE</b></p>	<p><u>/S/ Beth Cannestra</u></p> <p><b>CHIEF ROADWAY DEVELOPMENT ENGINEER</b></p>
<p><b>FHWA</b></p>	

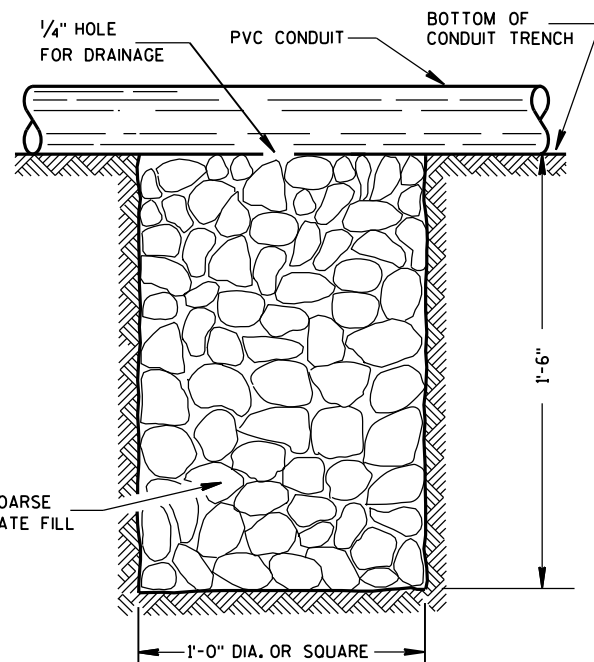


PLAN VIEW  
ARROW MARK



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.

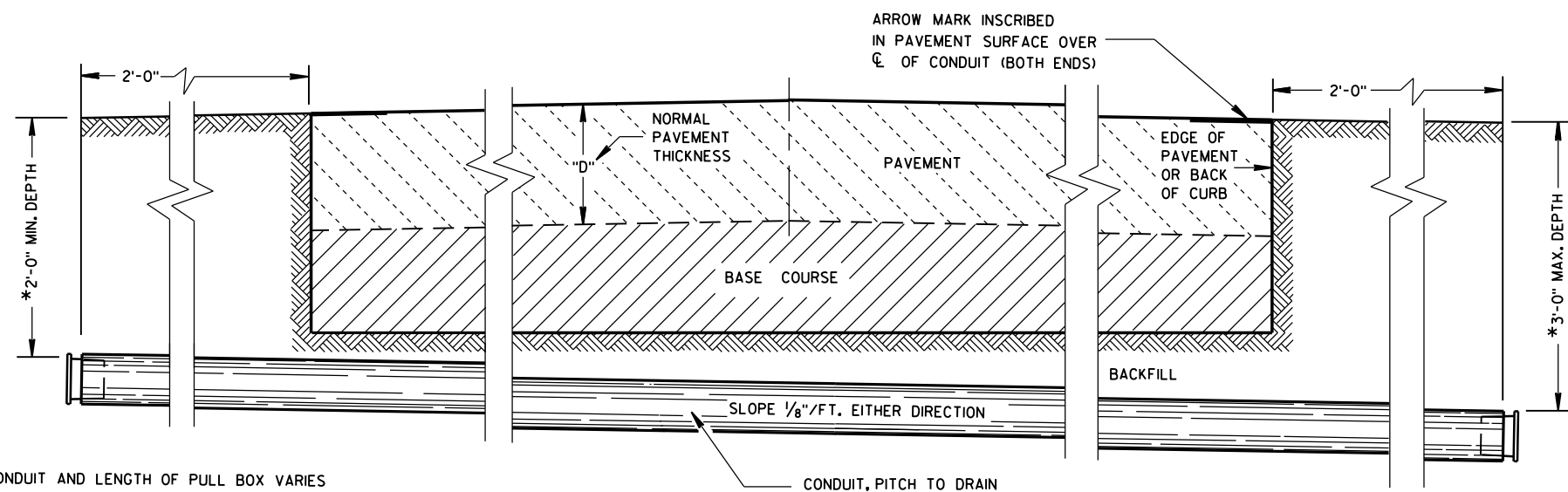
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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 /S/ Ahmet Demirbilek  
DATE STATE ELECTRICAL ENGINEER  
FHWA

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.

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.

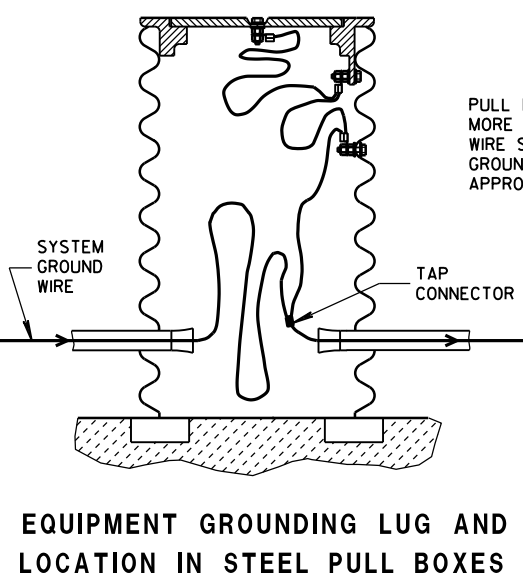
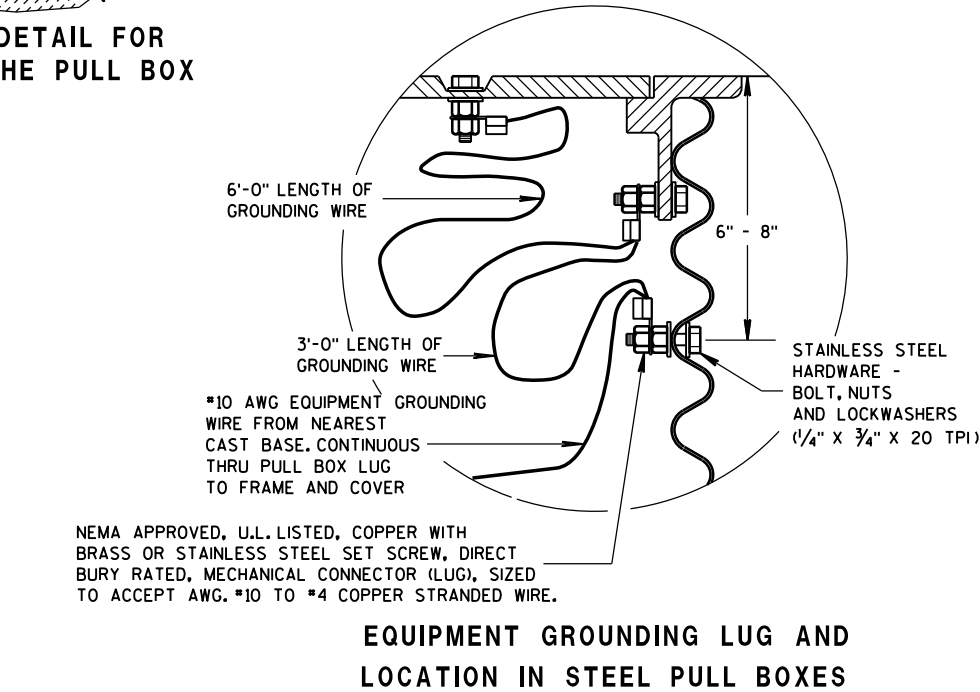
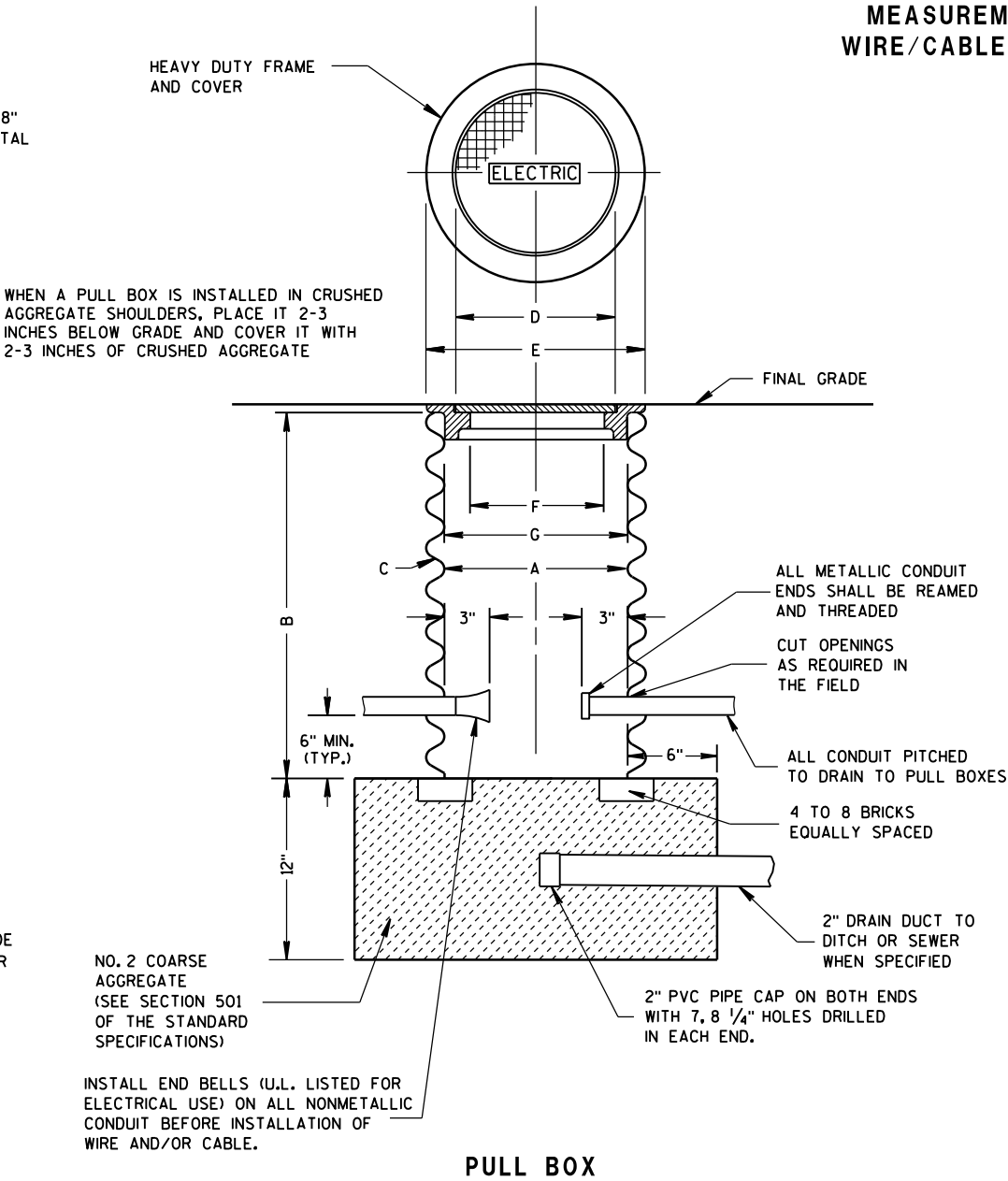
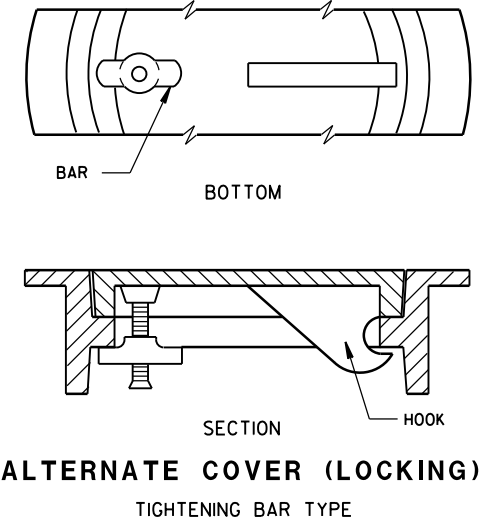
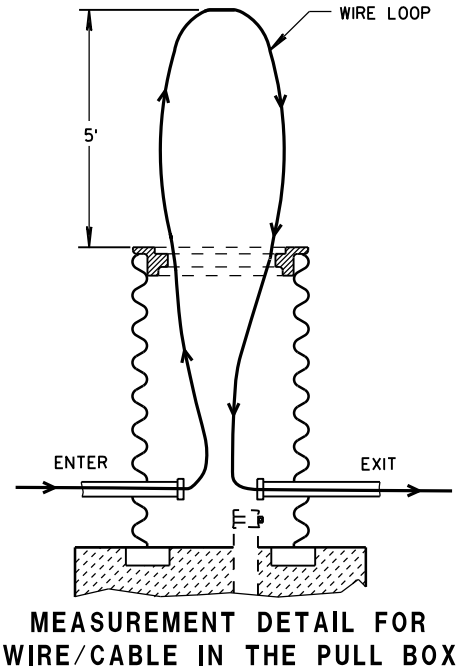
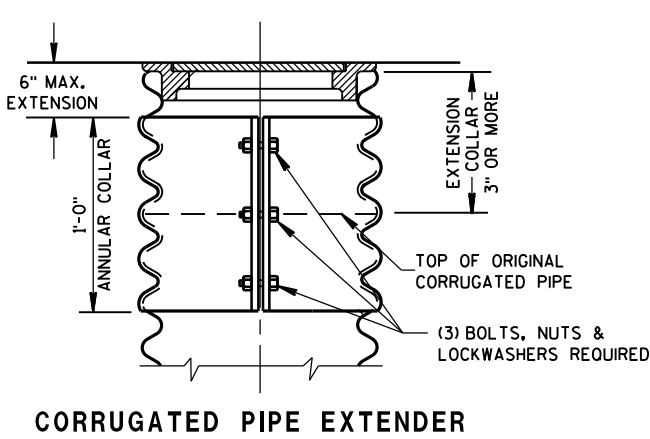
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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.

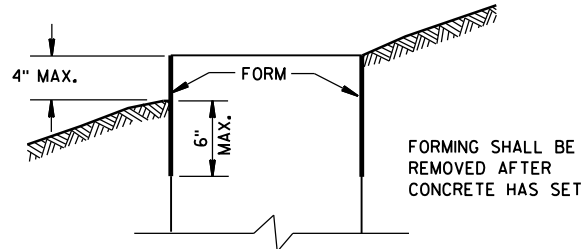
WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	



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.

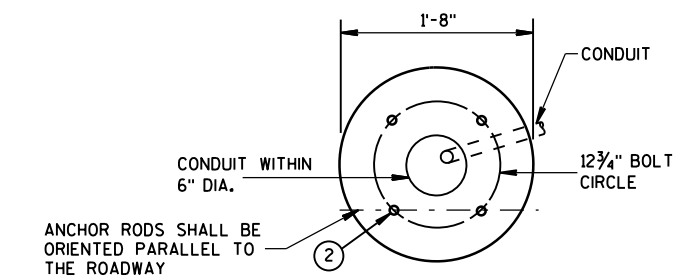
4 (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

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

6 (4) 1" DIA. X 3'-6" ANCHOR RODS.

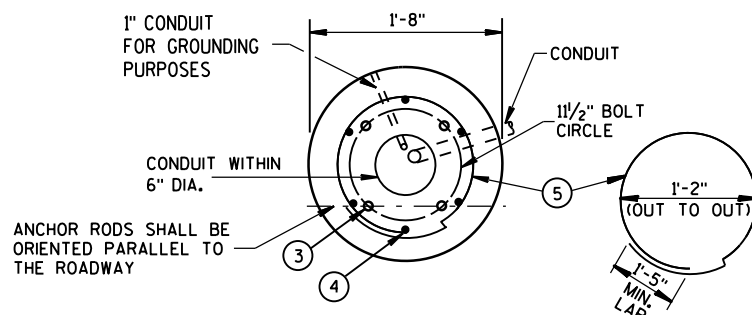
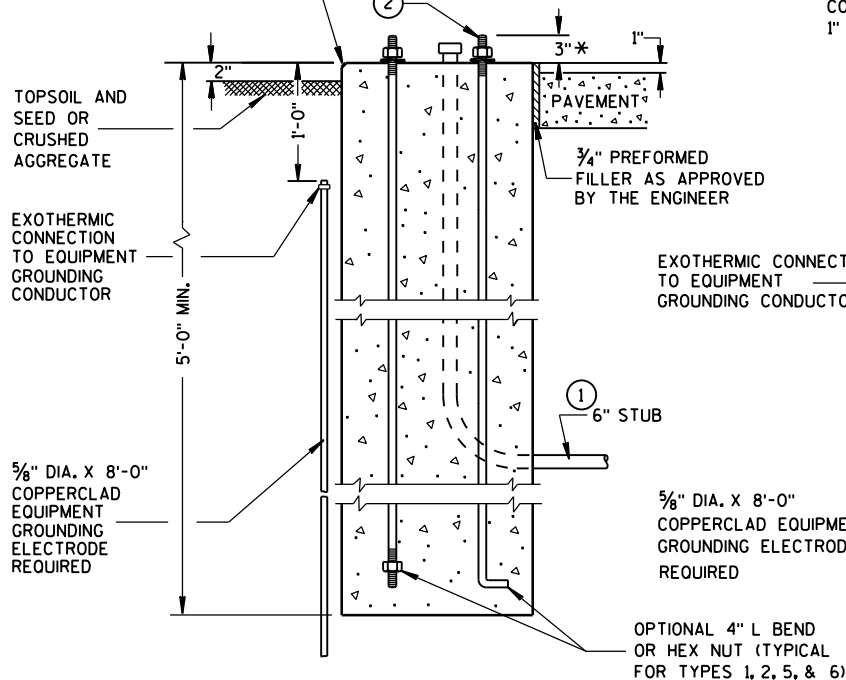
7 (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.

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

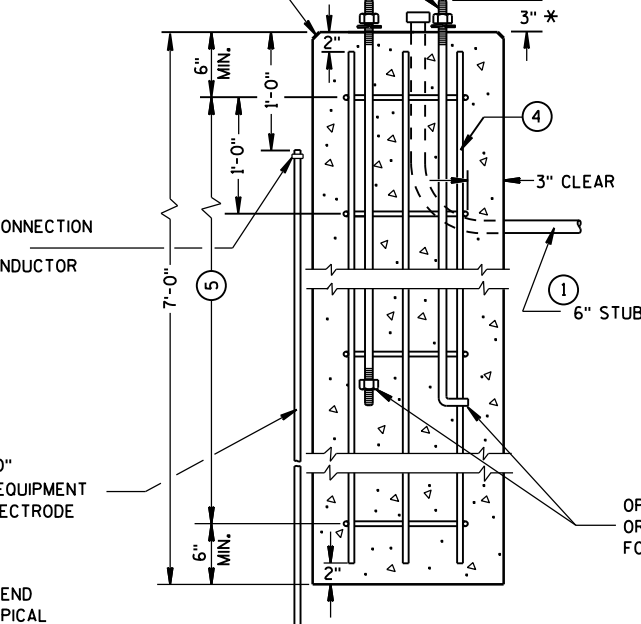


FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

## HALF SECTION IN UNPAVED AREA (TYPICAL FOR TYPES 1, 2, 5, & 6)

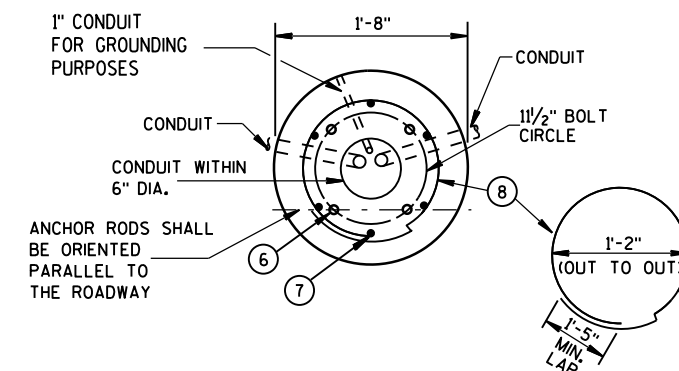


FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

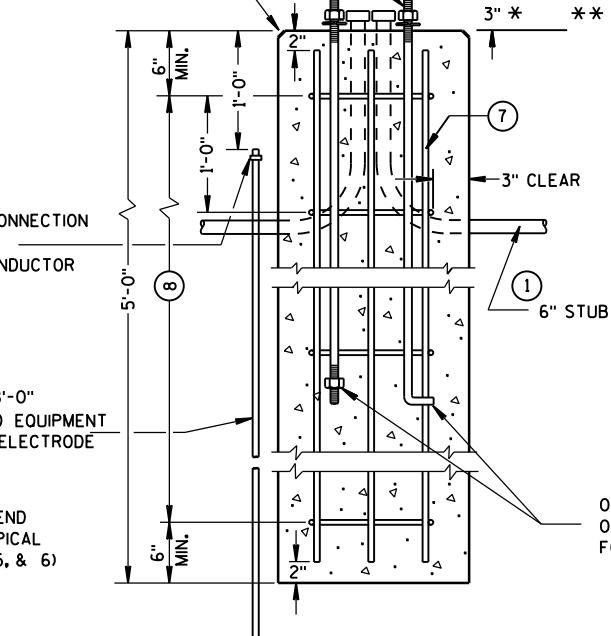


## TYPE 2

## CONCRETE BASES



FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



## TYPE 5 & 6

\* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 3/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

\*\* FOR NONBREAKAWAY INSTALLATIONS, 4 1/2" ± 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

FHWA

/S/ Ahmet Demirbilek

STATE ELECTRICAL ENGINEER

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.

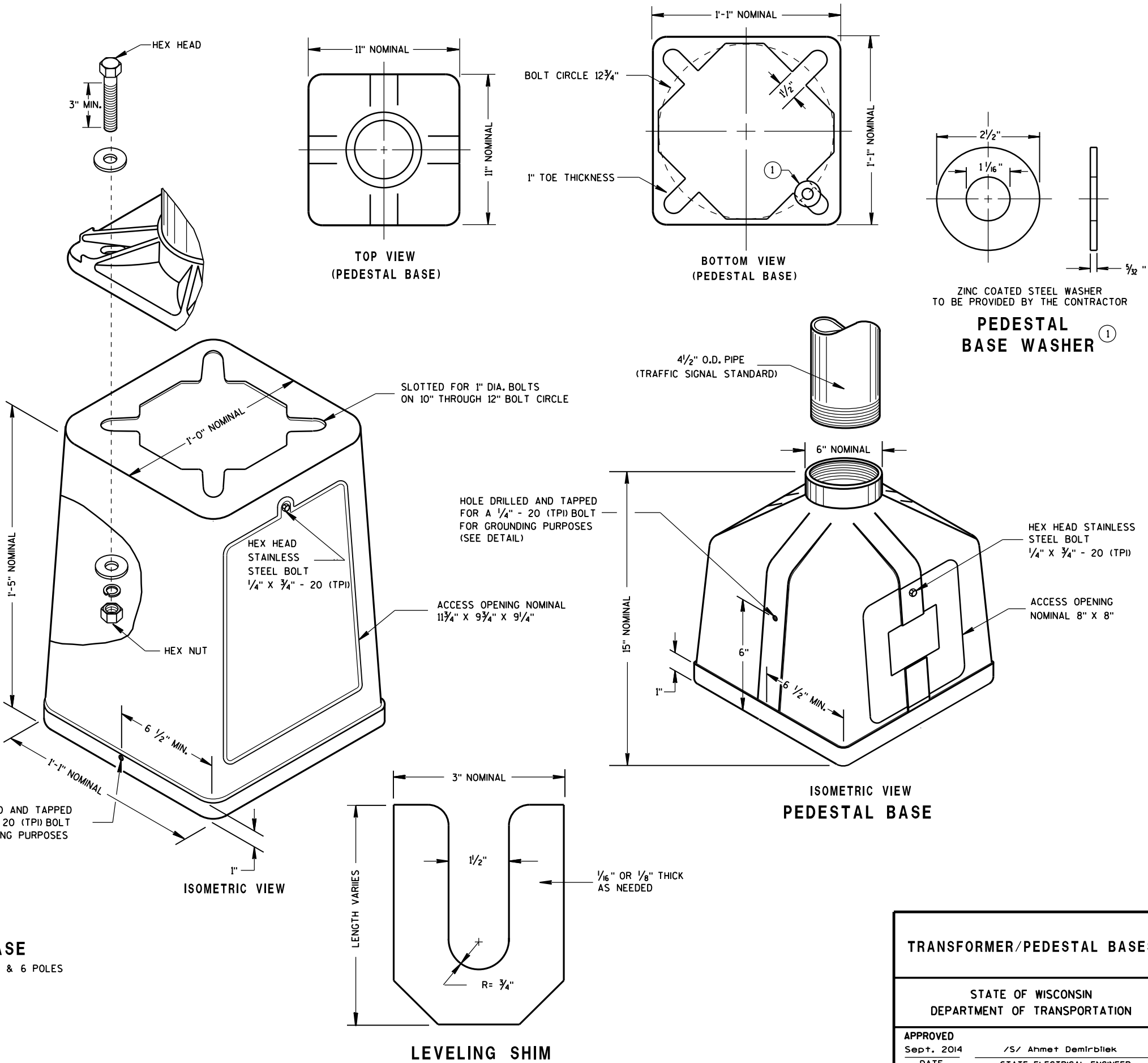
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

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 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



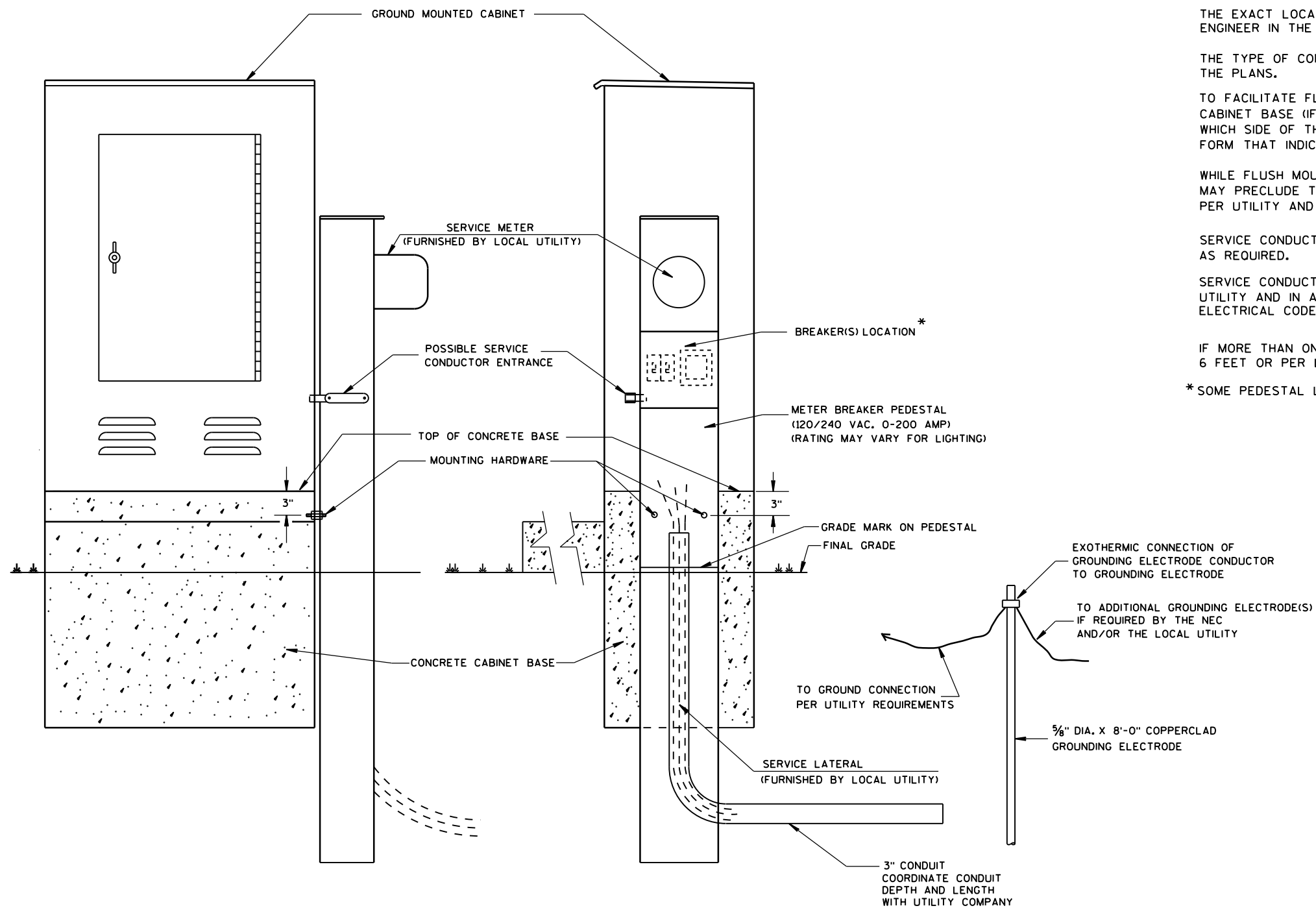
TYPICAL MECHANICAL CONNECTOR LUG TO BE FURNISHED WITH EACH BASE

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 ENGINEER FHWA



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.

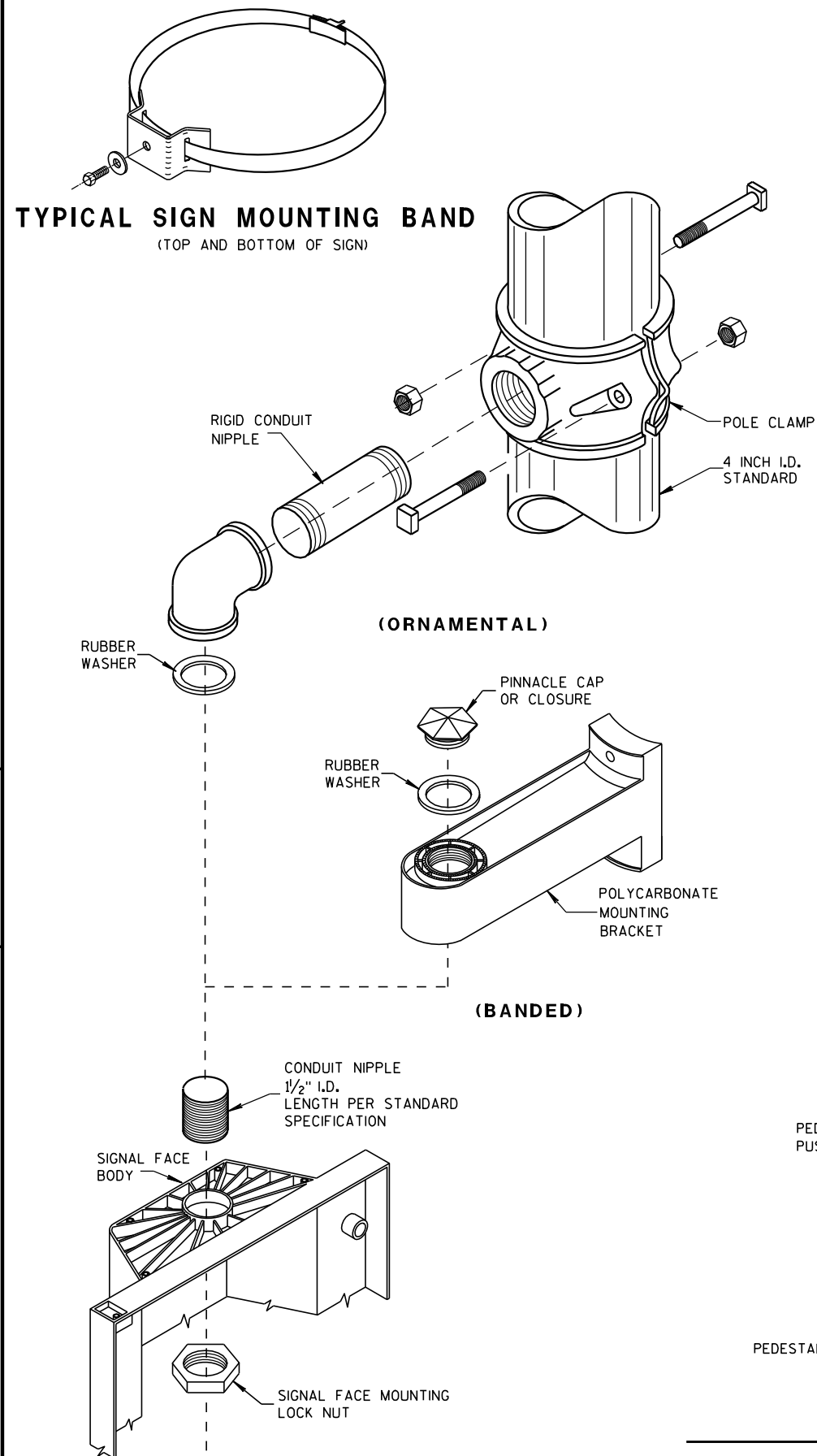
CABINET SERVICE INSTALLATION  
(METER BREAKER PEDESTAL)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

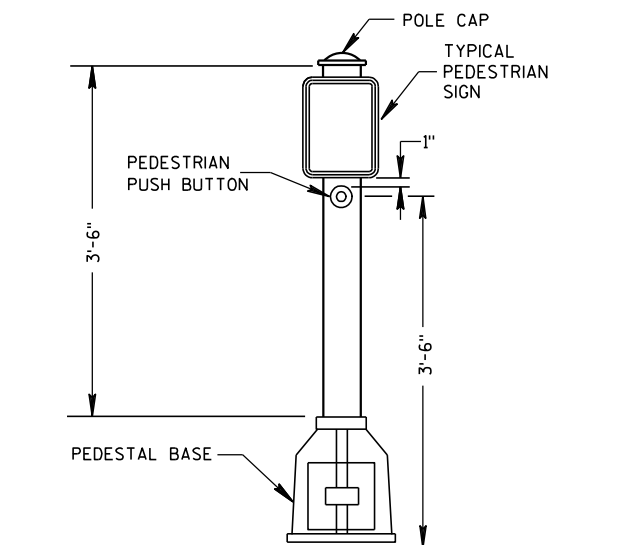
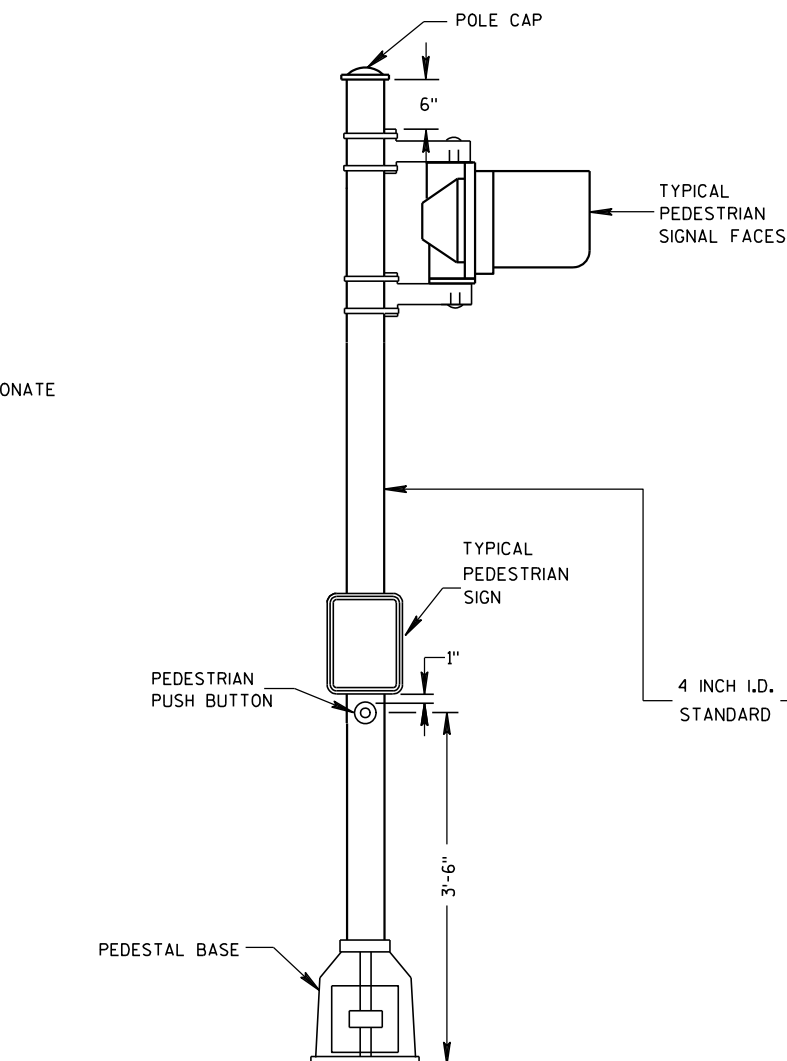
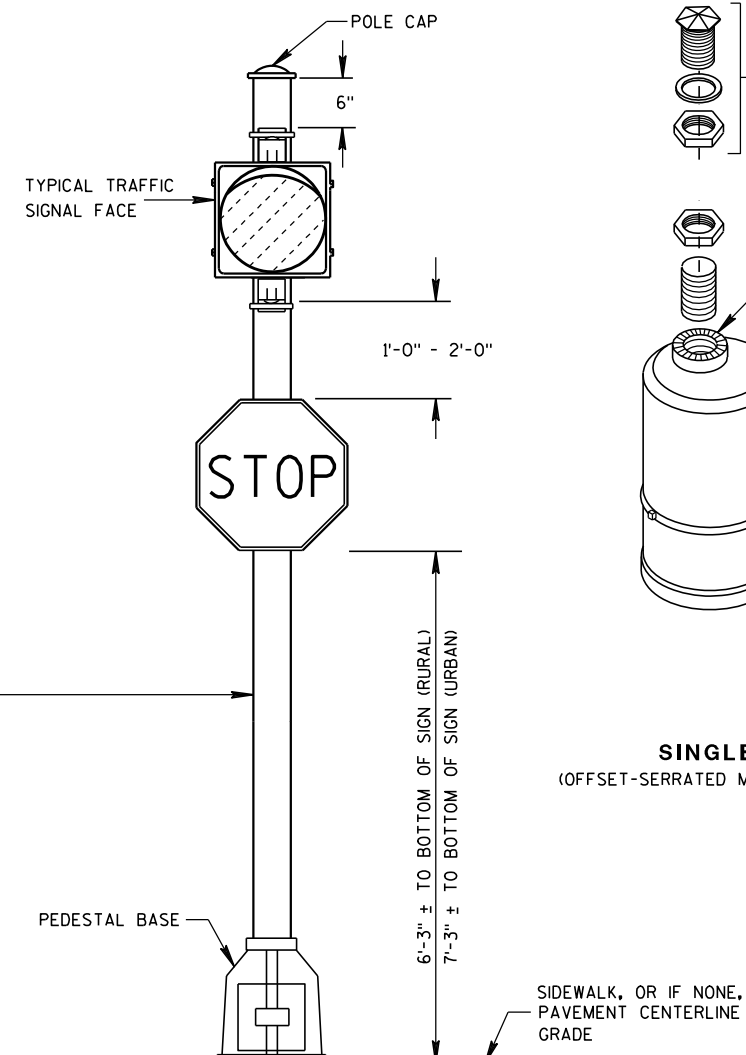
APPROVED  
Sept. 2014  
DATE

/S/ Ahmet Demirbilek  
STATE ELECTRICAL ENGINEER

FHWA



SIGNAL FACE MOUNTING DETAILS

PEDESTRIAN PUSH BUTTON  
TYPICAL MOUNTINGPEDESTRIAN FACE STANDARD-10 FT.  
(WALK-DON'T WALK)STANDARD FLASHER.  
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED

## GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

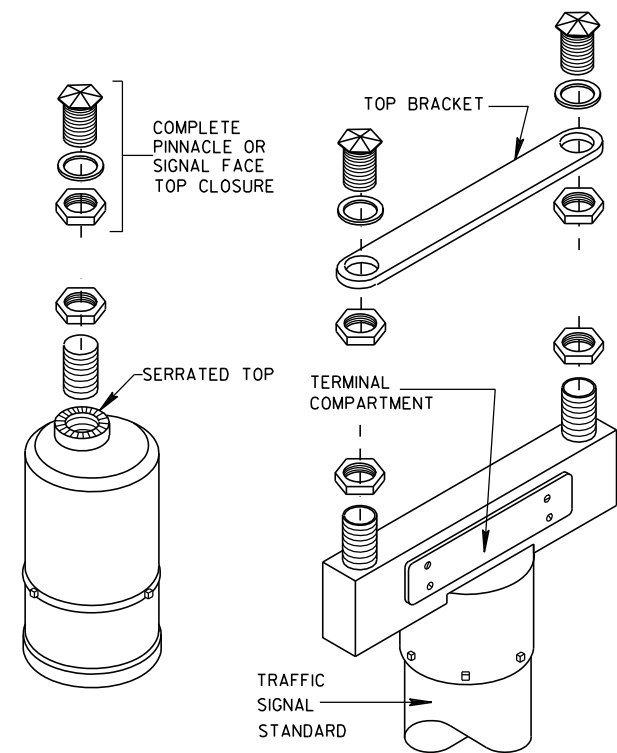
POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE DISTRICT TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

SINGLE  
(OFFSET-SERRATED MOUNTING)DOUBLE  
(SERRATED MOUNTING)

## SLIPFITTERS

TRAFFIC SIGNAL STANDARD  
PEDESTRIAN AND FLASHER  
TYPICAL MOUNTING DETAILS

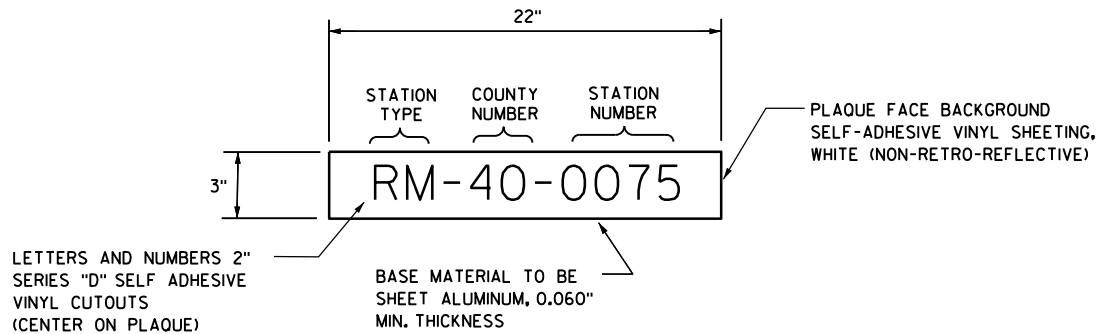
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

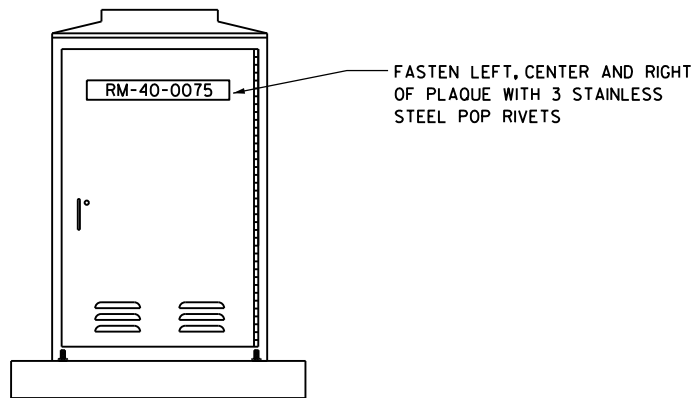
5/11/10  
DATE

FHWA

/S/ John Corbin  
STATE ELECTRICAL ENGINEER FOR HWYS

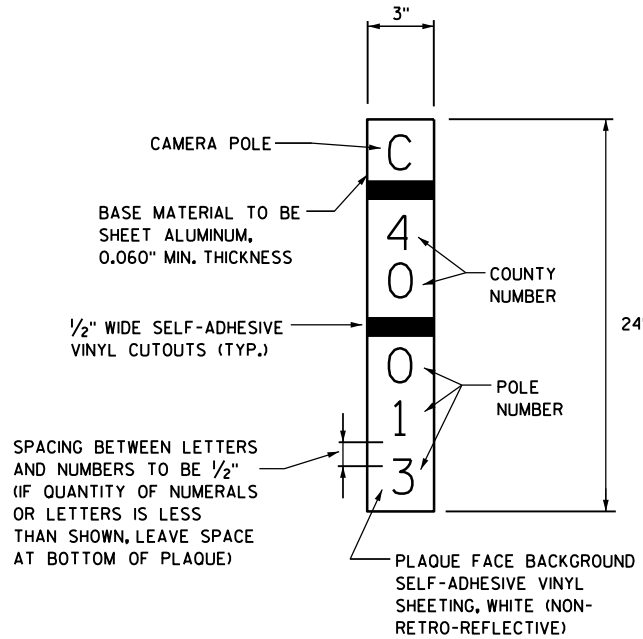


CONTROL CABINET  
IDENTIFICATION PLAQUE DETAIL

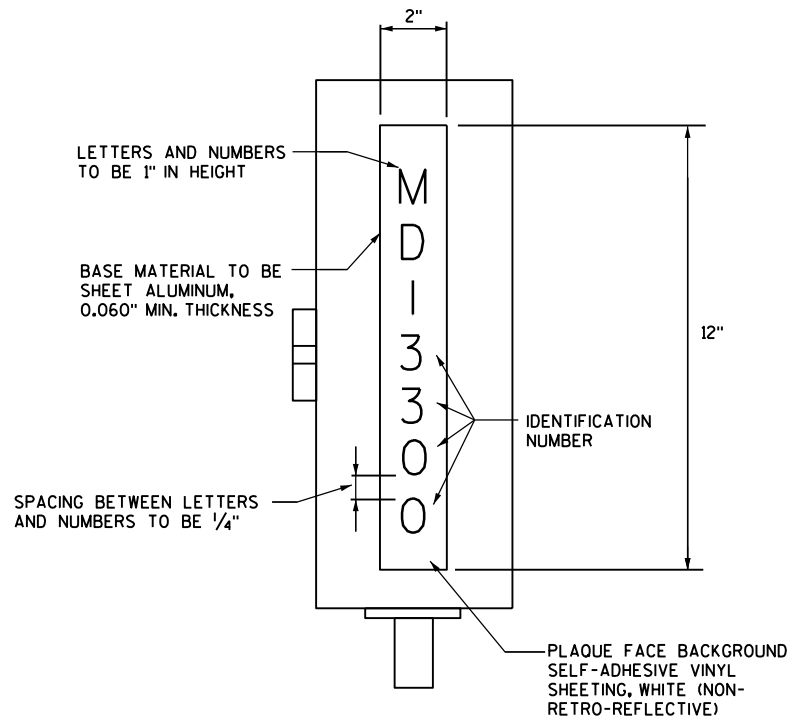


CONTROL CABINET IDENTIFICATION  
PLAQUE REQUIREMENTS AND PLACEMENTS

(TYPICAL ALL CONTROL CABINETS)



POLE IDENTIFICATION  
PLAQUE DETAIL



MICROWAVE DETECTOR FIELD  
CABINET IDENTIFICATION PLAQUE DETAIL

GENERAL NOTES

- ① TWO PLAQUES PER CABINET REQUIRED ON CONTROL CABINET.
- ② FASTEN ONE PLAQUE ON FRONT DOOR, UPPER HALF.
- ③ FASTEN ONE PLAQUE ON SIDE FACING LOCAL STREET. IF NO LOCAL STREET NEARBY, OR IF SUCH LOCATION COINCIDES WITH LOCATION OF PLAQUE IN NOTE ②, FASTEN PLAQUE ON REAR OF CABINET, UPPER HALF.
- ④ COUNTY NUMBER NOT REQUIRED ON RAMP METER CABINETS.

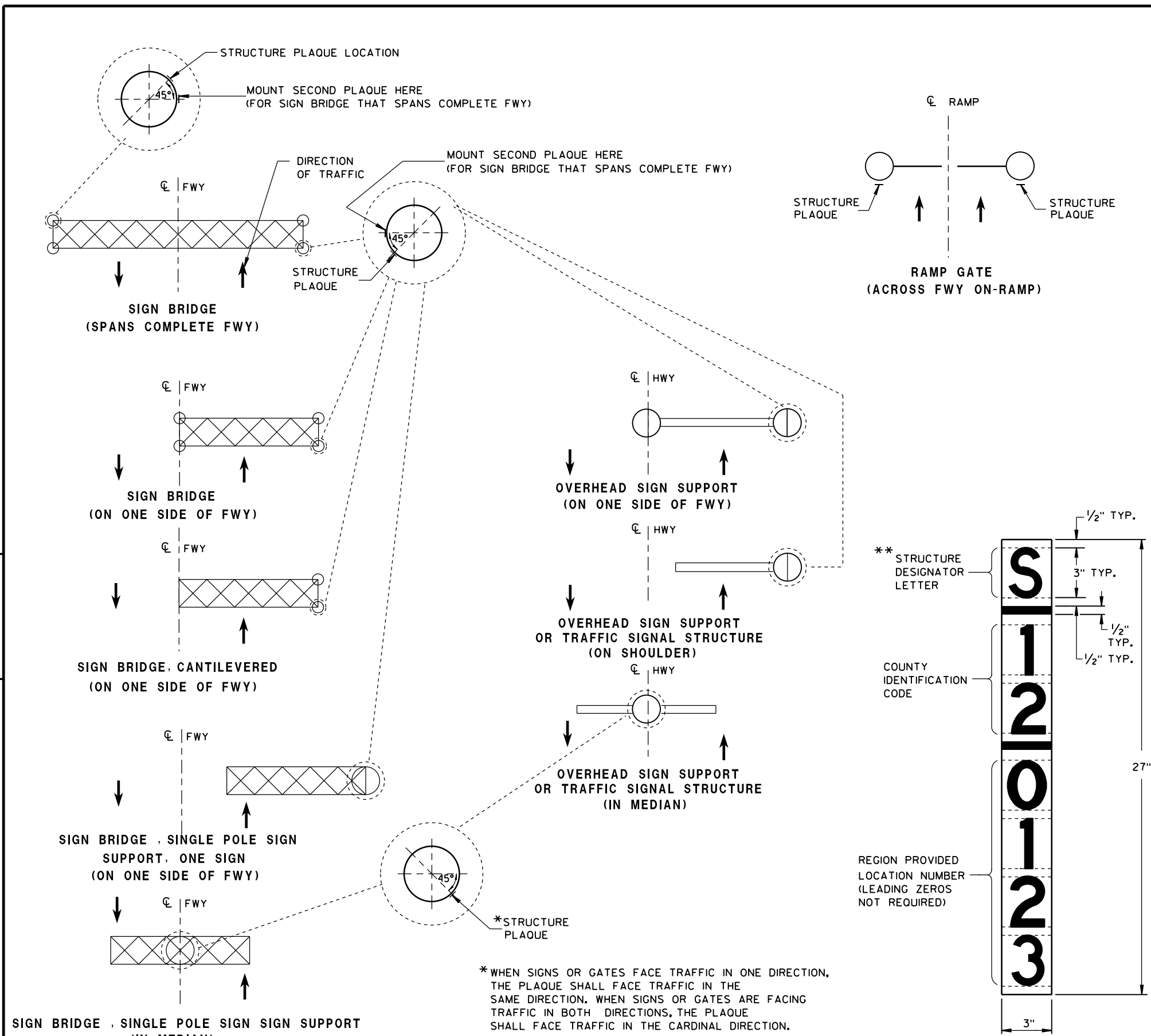
LEGEND STATION TYPE

- RM - RAMP METER  
CCTV - CLOSED CIRCUIT TELEVISION  
ATR - AUTOMATIC TRAFFIC RECORDER  
SDS - SYSTEM DETECTOR STATION  
MD - MICROWAVE DETECTOR

IDENTIFICATION PLAQUE  
REQUIREMENTS AND PLACEMENTS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE: Sept. 2014 /S/ Ahmet Demirbilek  
STATE ELECTRICAL ENGINEER  
FHWA



LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES

RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

- GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS
- A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS
- ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

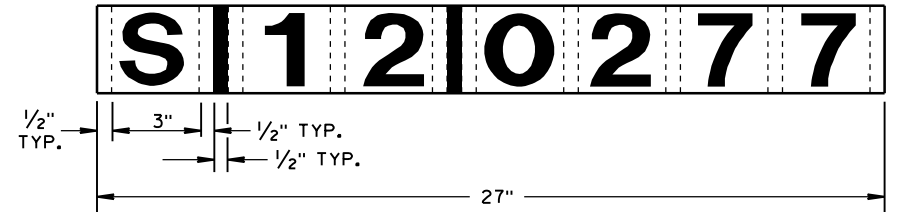
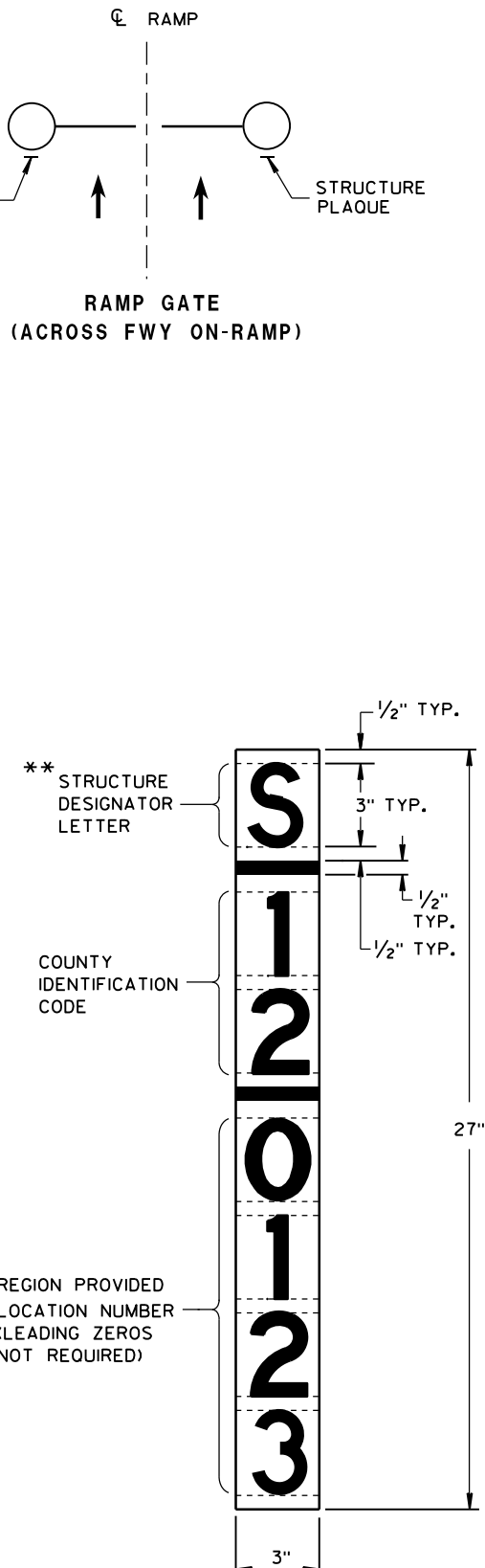
MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

- BASE - SHEET ALUMINUM, 0.060" THICK.
- FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE
- LINES - BLACK, 1/2" 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.

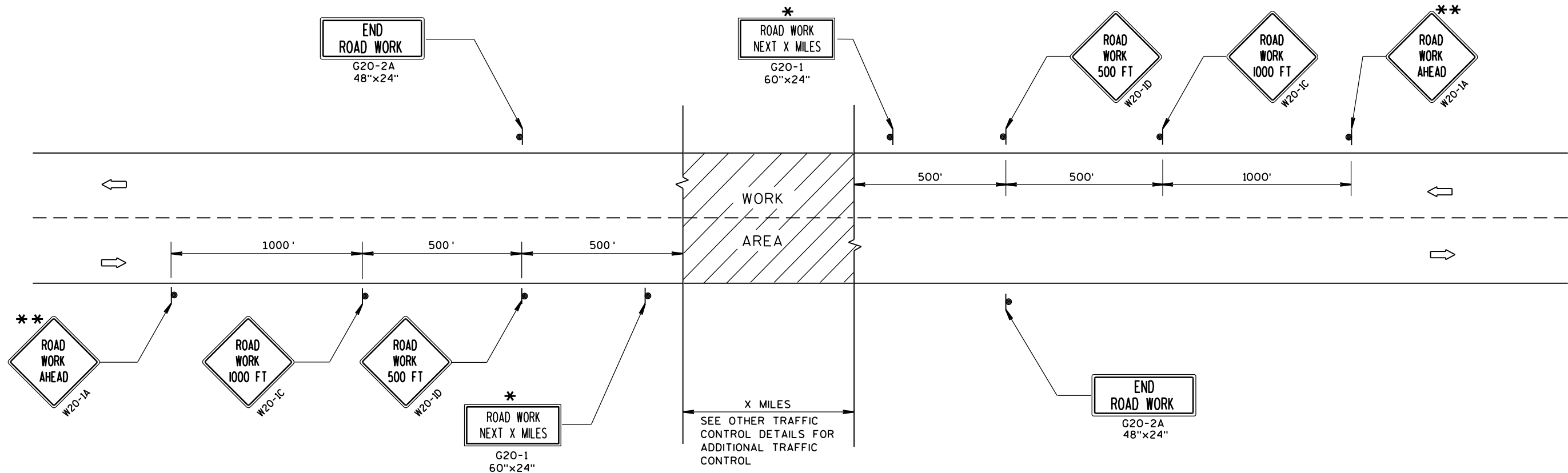
WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.



IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

\*\* LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

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 OF DESIGN
FHWA	



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

## GENERAL NOTES

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

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

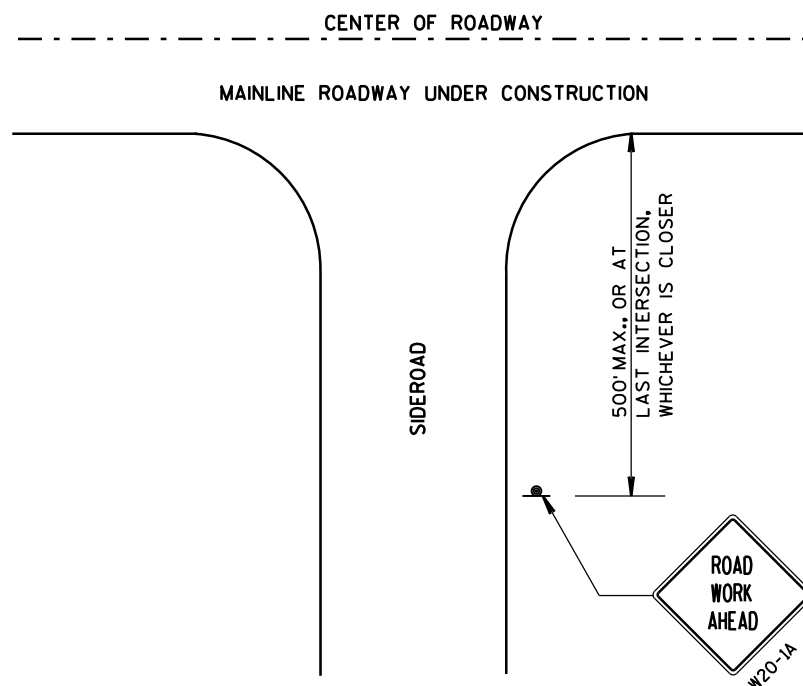
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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 /S/ Peter Amokobe Atepe  
DATE STATEWIDE WORK ZONE TRAFFIC  
FHWA SAFETY ENGINEER

LEGEND

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

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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

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

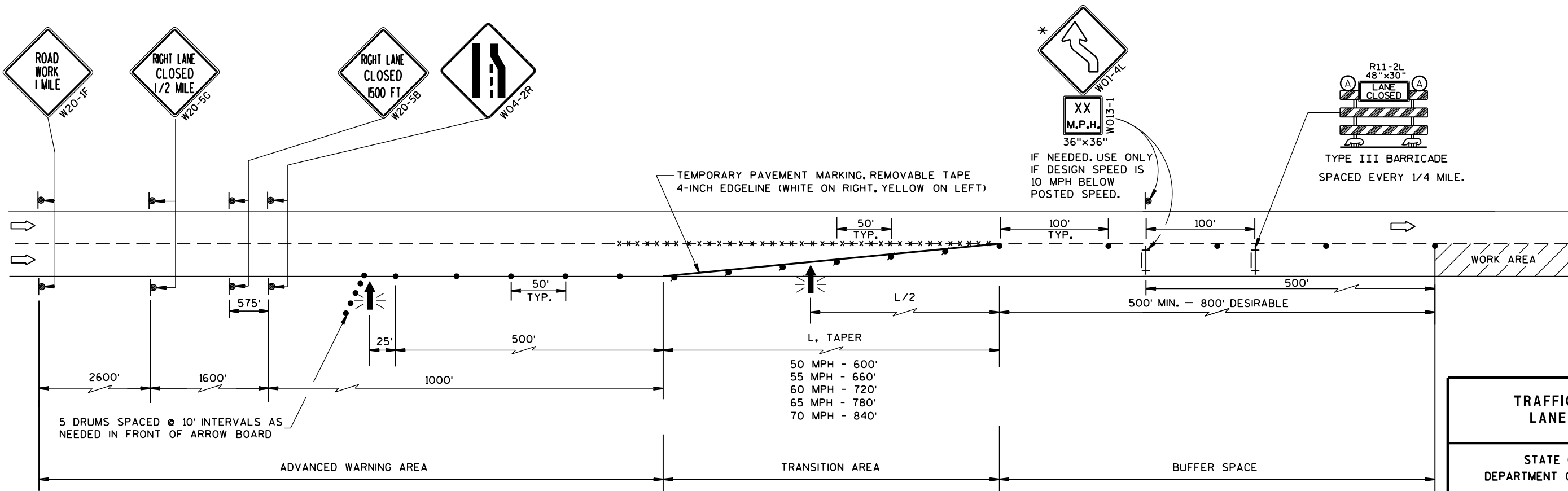
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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

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

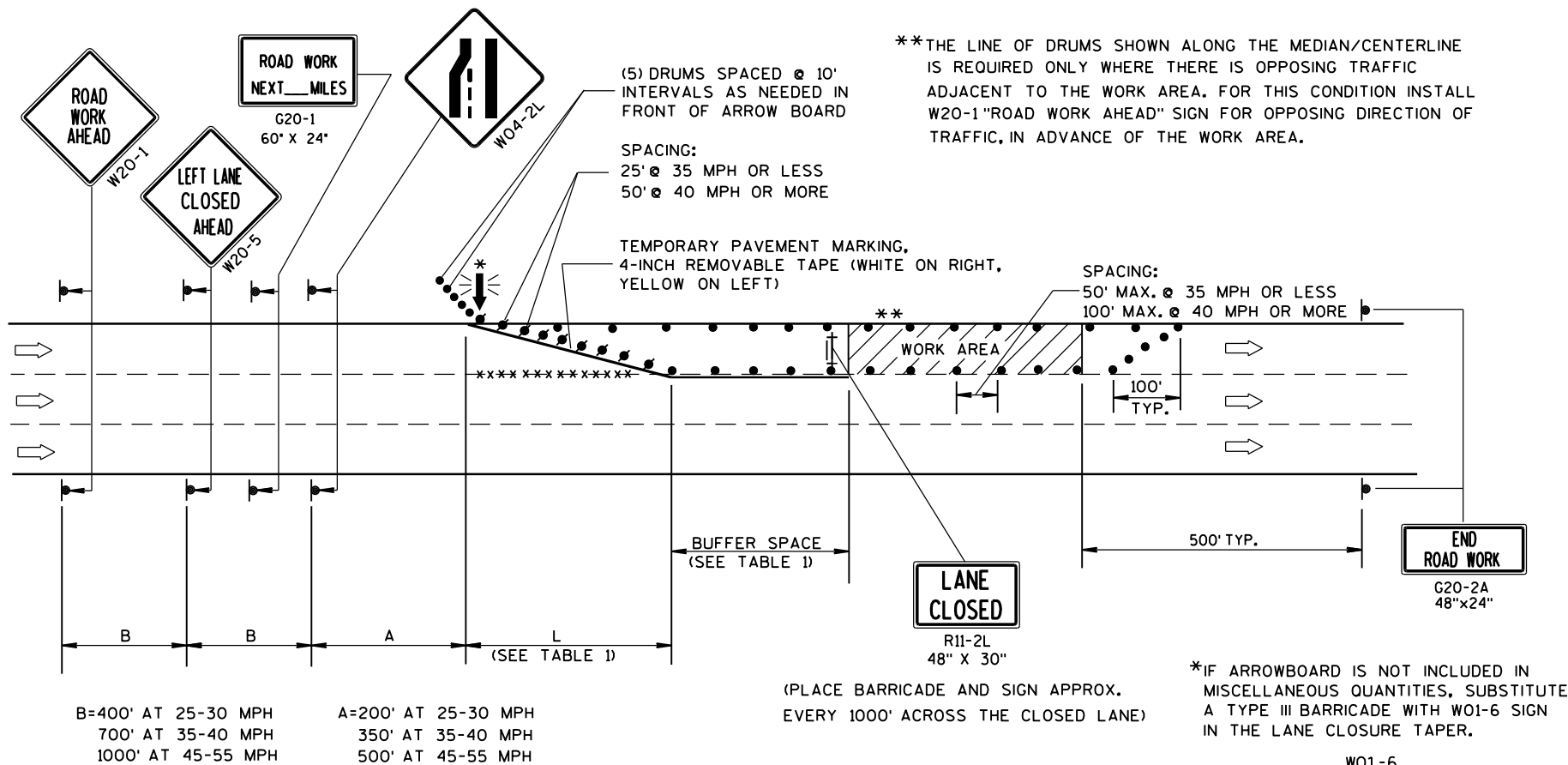
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN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

\* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2016 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	





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.

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

TRAFFIC CONTROL,  
SINGLE LANE CLOSURE,  
NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
Feb. 2015 /S/ Travis Feltes  
DATE STATE TRAFFIC ENGINEER OF DESIGN  
FHWA

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.

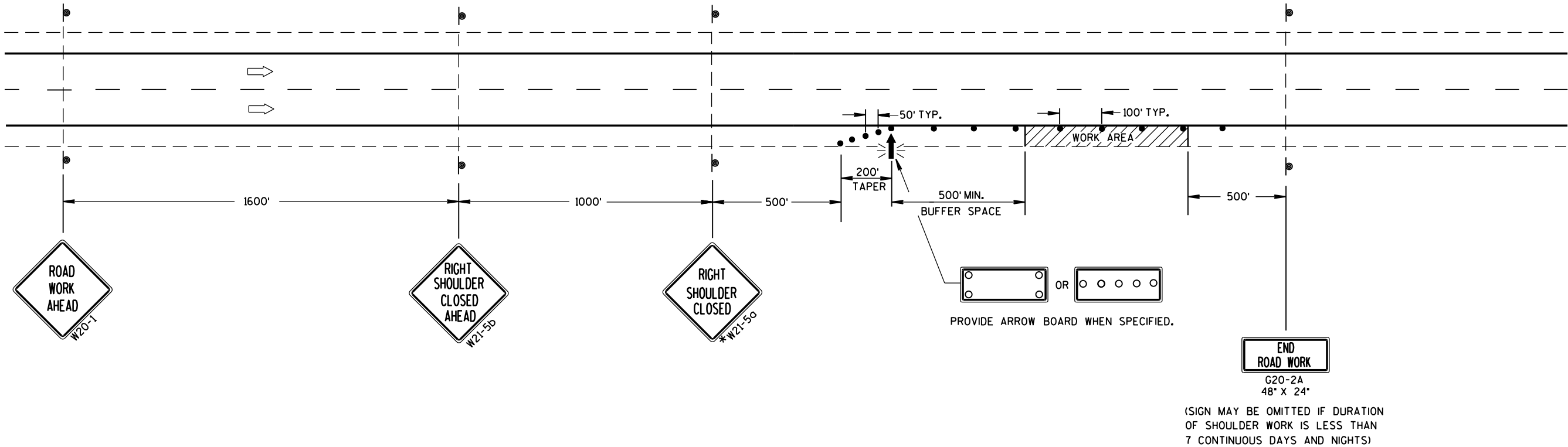
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

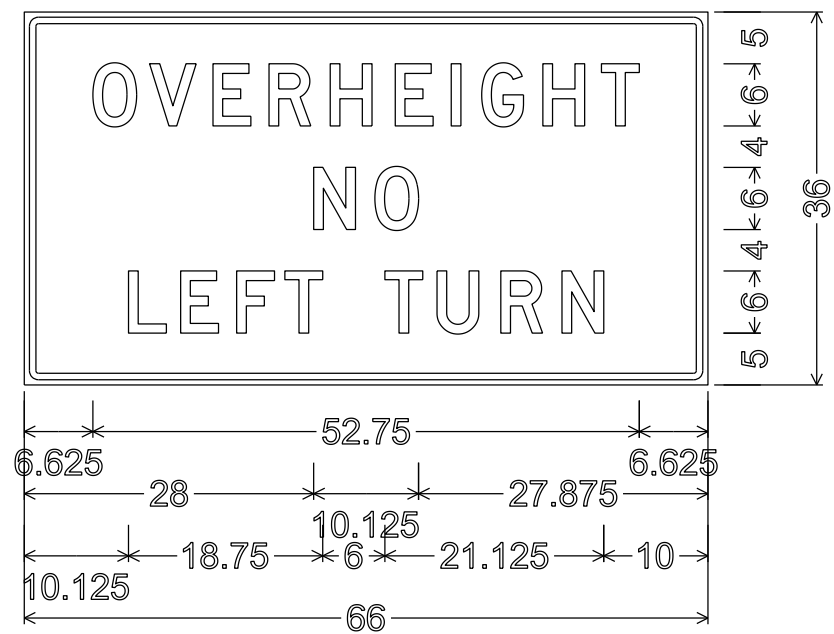
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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.

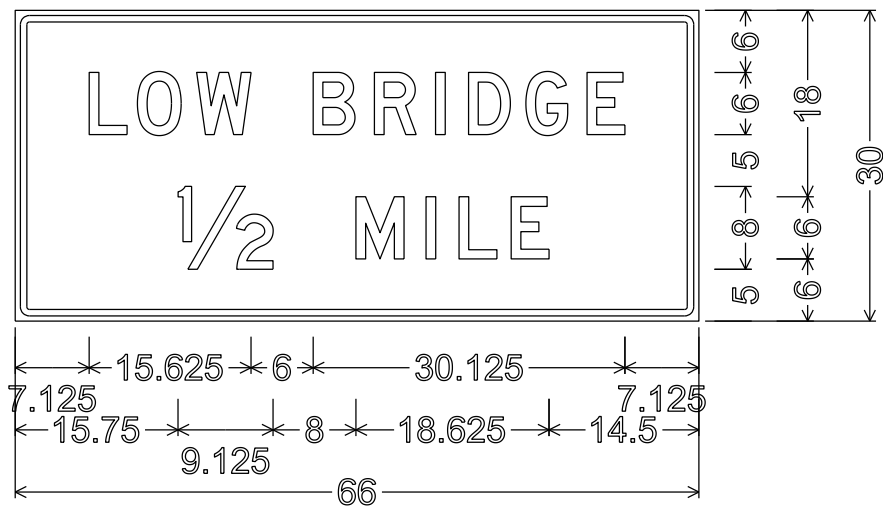
\*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



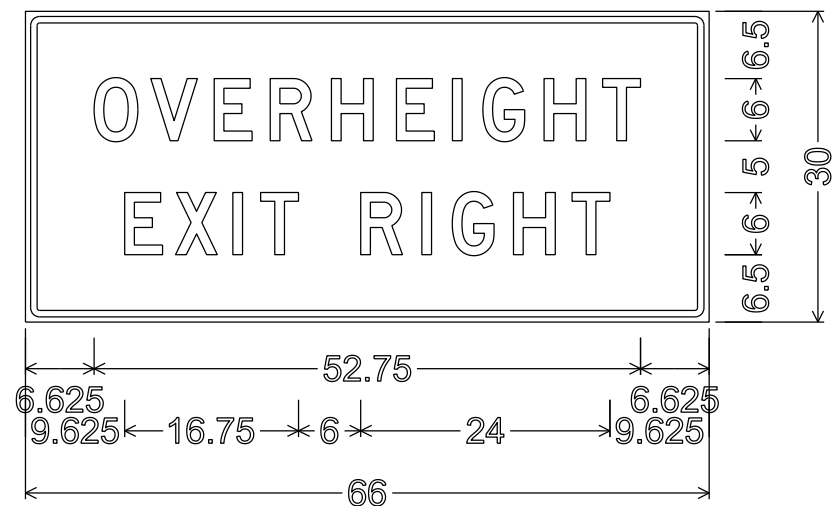
TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltz STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



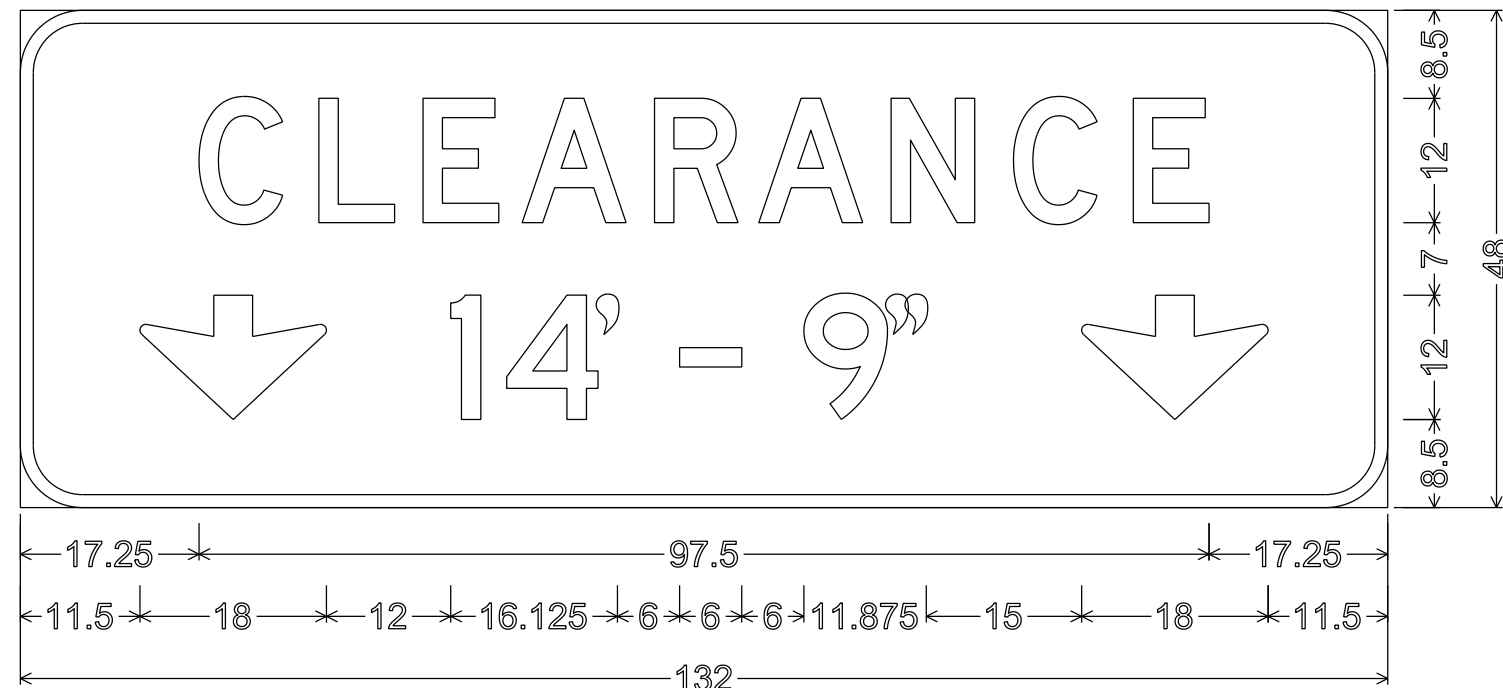
1.375" Radius, 0.625" Border, 0.500" Indent, Black on Yellow;  
"OVERHEIGHT" D; "NO" D; "LEFT" D;  
"TURN" D;



1.375" Radius, 0.625" Border, 0.500" Indent, Black on Yellow;  
"LOW" D; "BRIDGE" D; "1/2" D;  
"MILE" D;



1.375" Radius, 0.625" Border, 0.500" Indent, Black on Yellow;  
"OVERHEIGHT" D; "EXIT" D;  
"RIGHT" D;

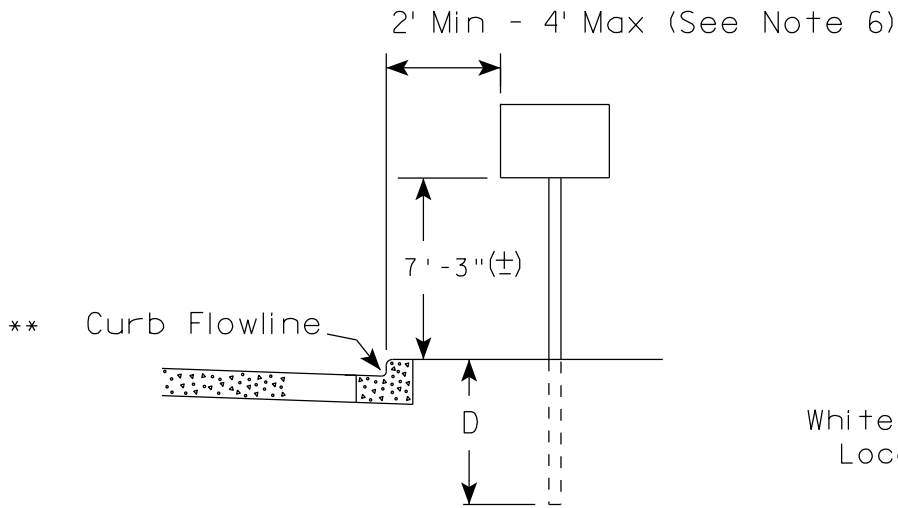


6.000" Radius, 1.250" Border, Black on Yellow;  
"CLEARANCE" D; Down Arrow Custom - 16.000" 270° Black; "14'" D; "-" D;  
"9\"" D; Down Arrow Custom - 16.000" 270° Black;

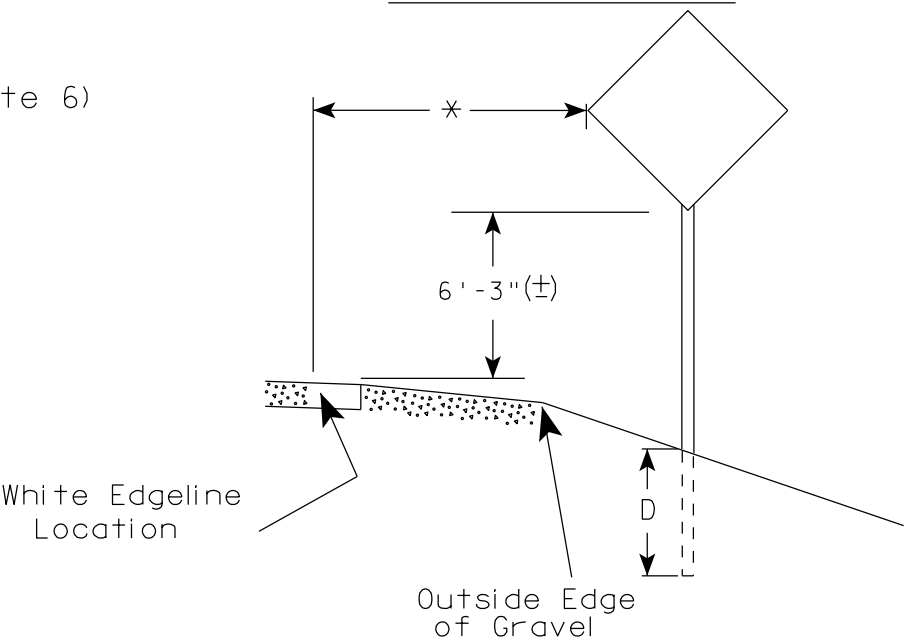
NOTES

- 1. All Signs Type II - Type F Reflective
- 2. Color:  
Background - YELLOW  
Message - BLACK
- 3. Message Series - D

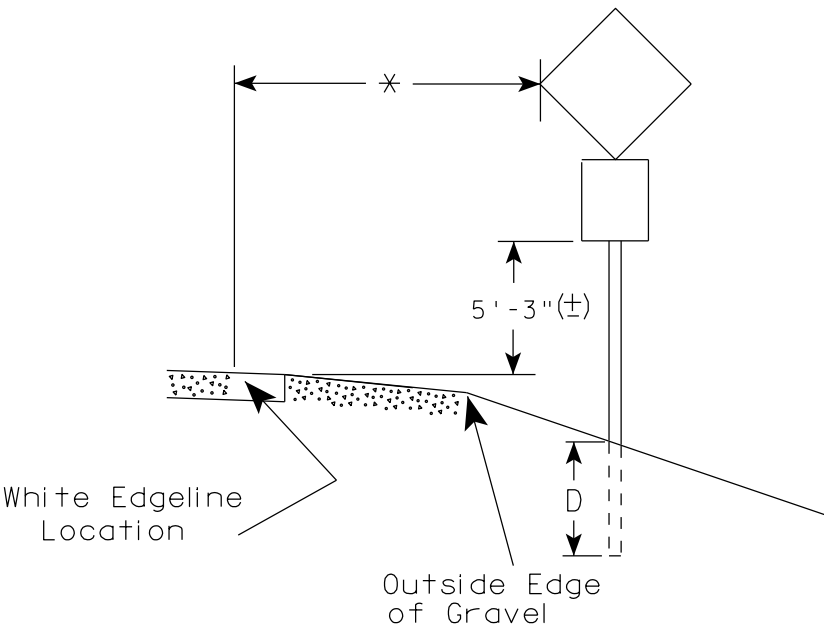
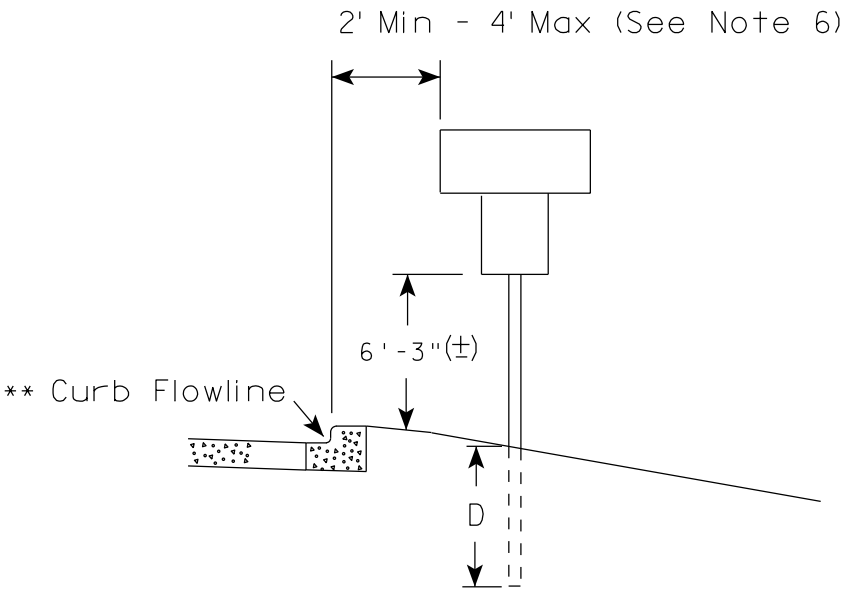
URBAN AREA



RURAL AREA (See Note 2)



- 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 directed by the Engineer.
  9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).



POST EMBEDMENT DEPTH

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

\* \* 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.

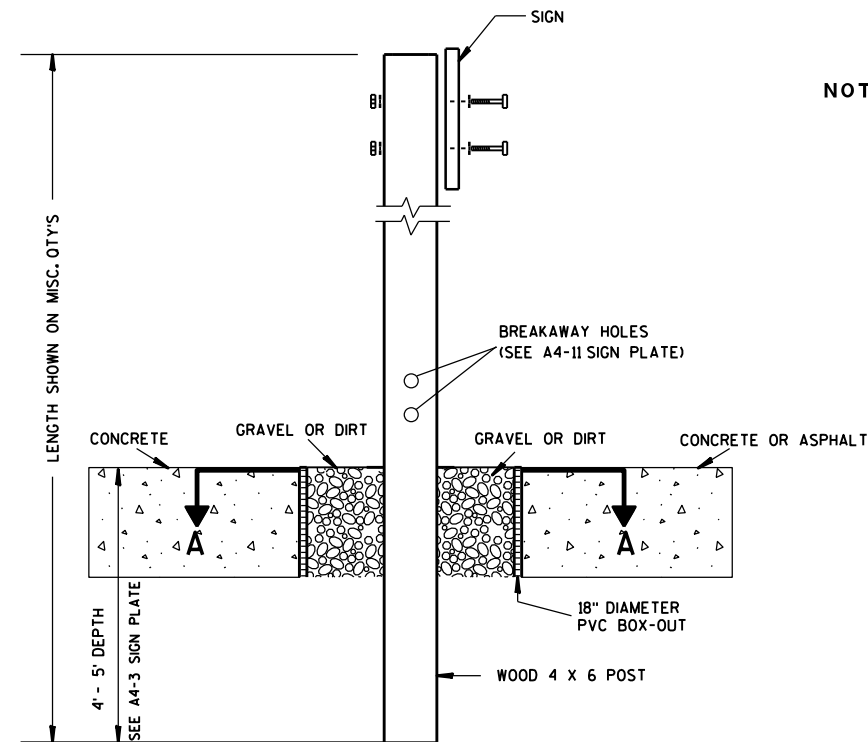
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED  
*Matthew R. Rauch*  
for State Traffic Engineer

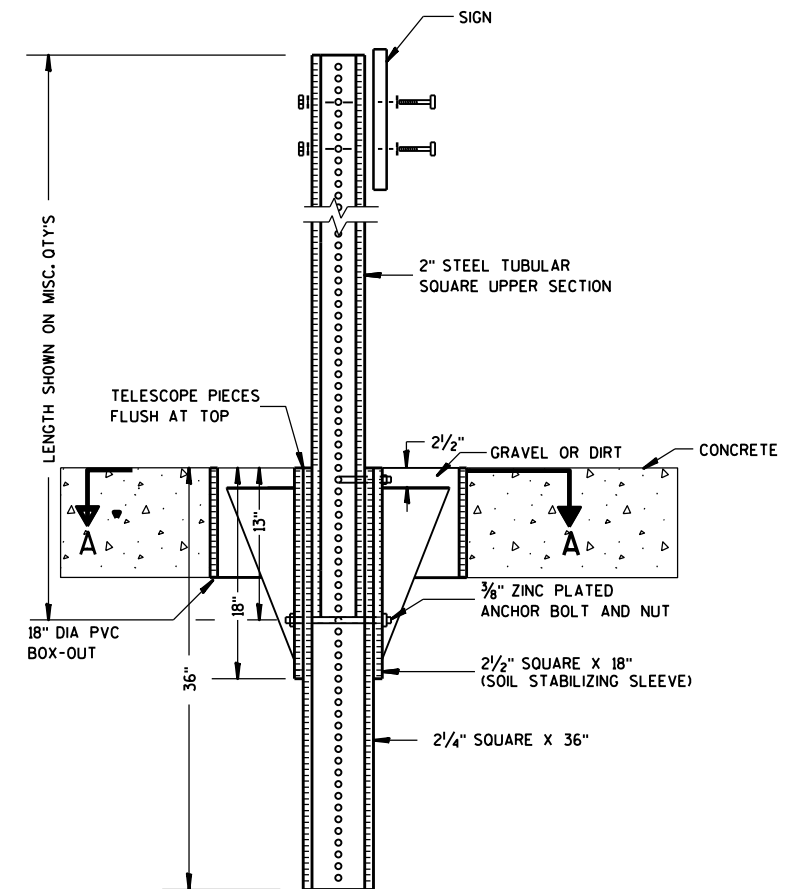
DATE 7/23/15 PLATE NO. A4-3.20



### ELEVATION VIEW

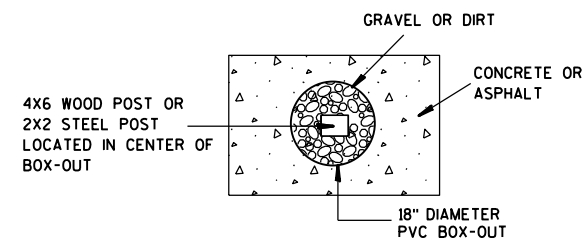
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

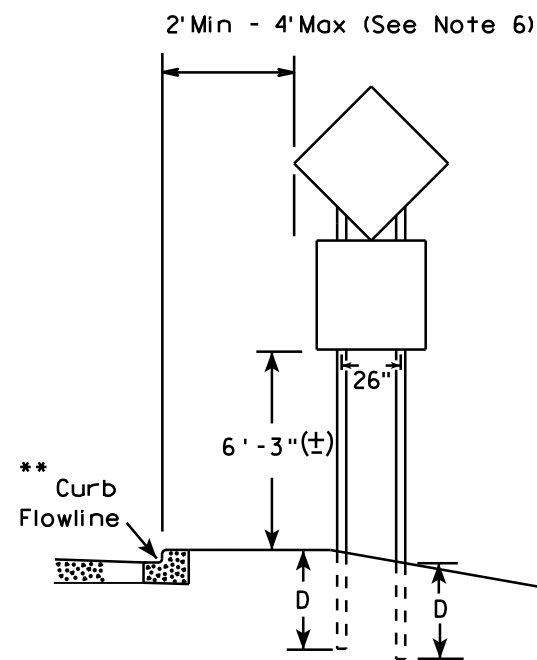
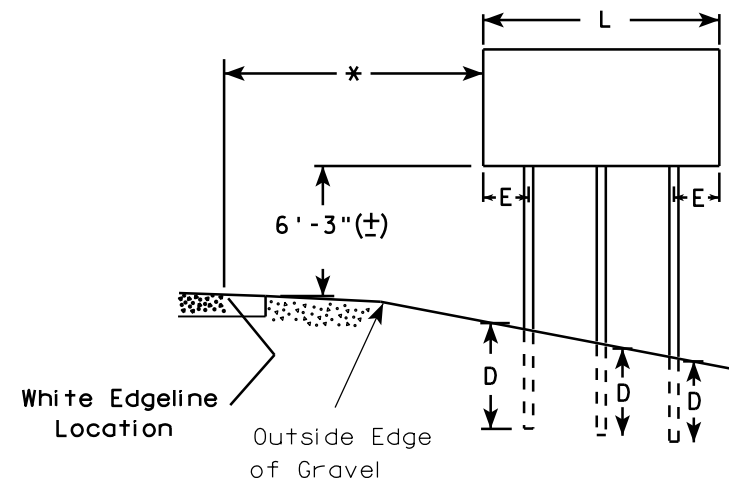
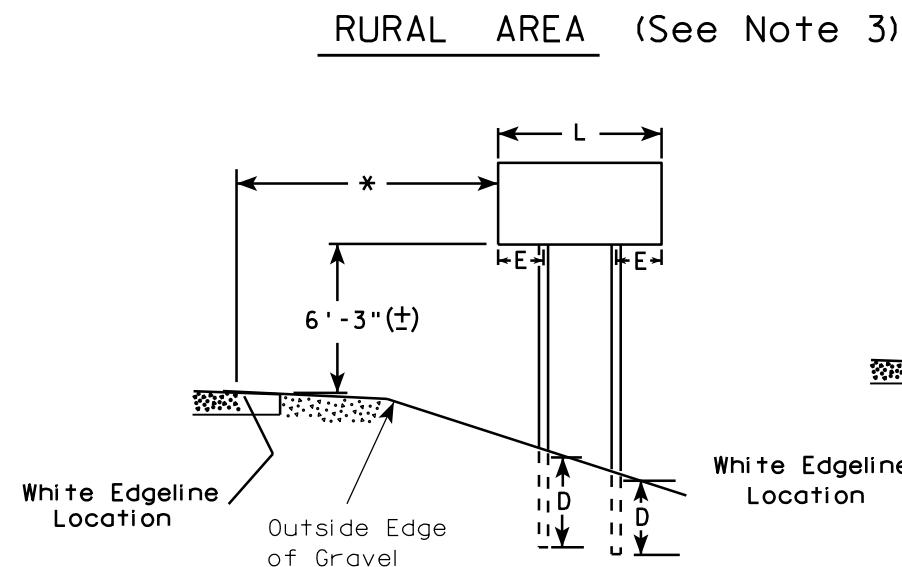
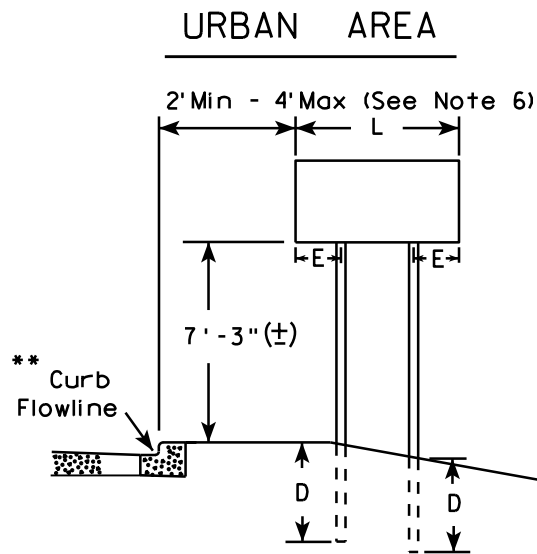
PROJECT NO:

HWY:

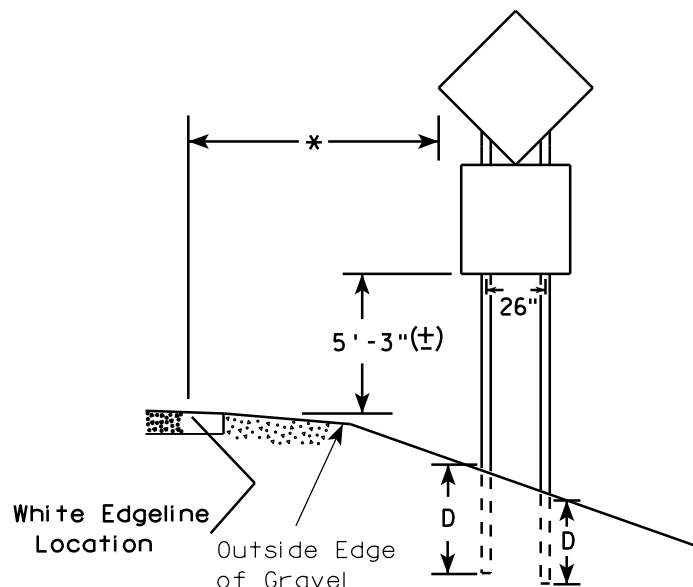
COUNTY:

SHEET NO:

E



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

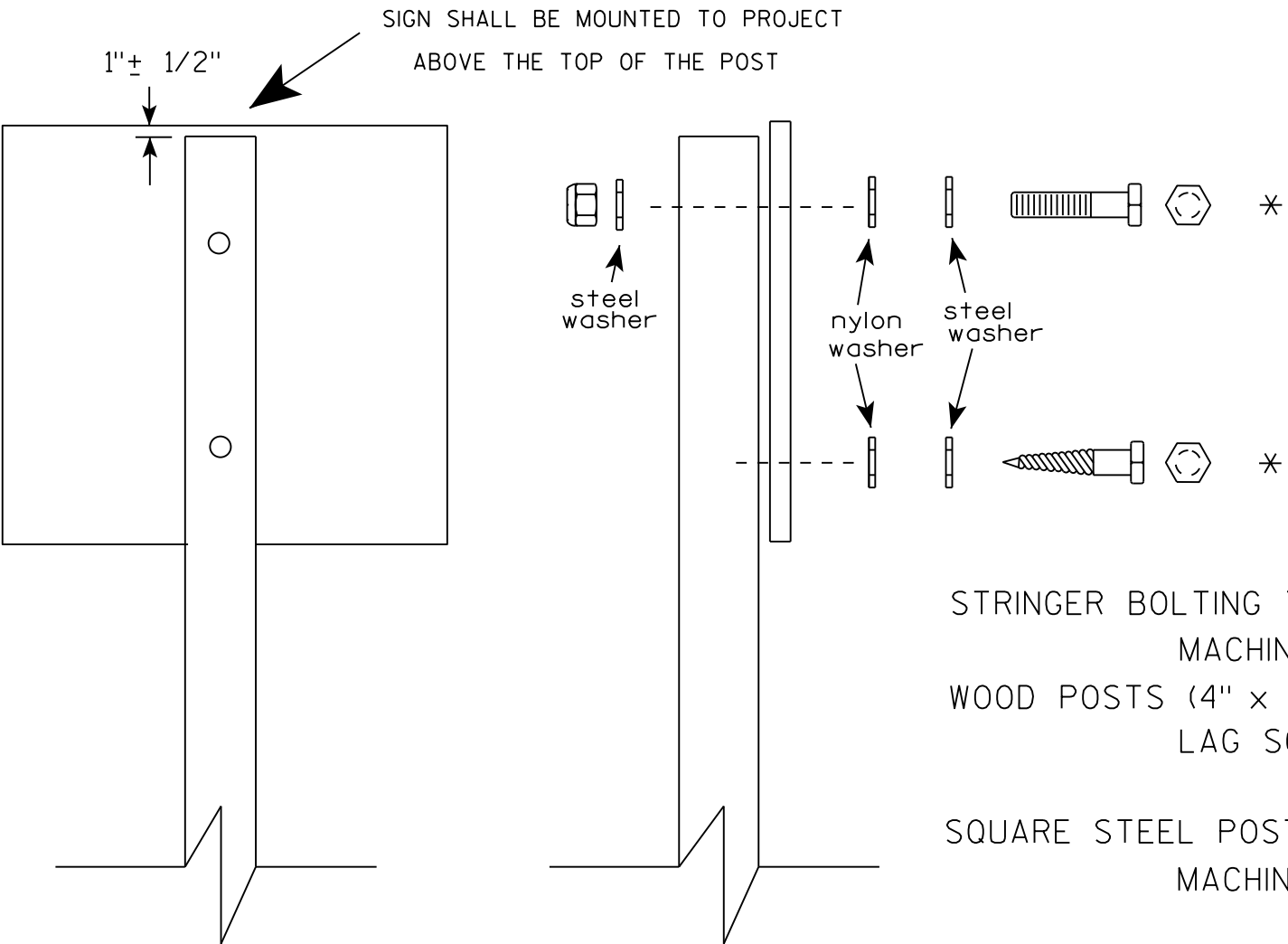
Area of Sign Installation ( Sq. Ft. )	D ( Min )
20 or Less	4'
Greater than 20	5'

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



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.

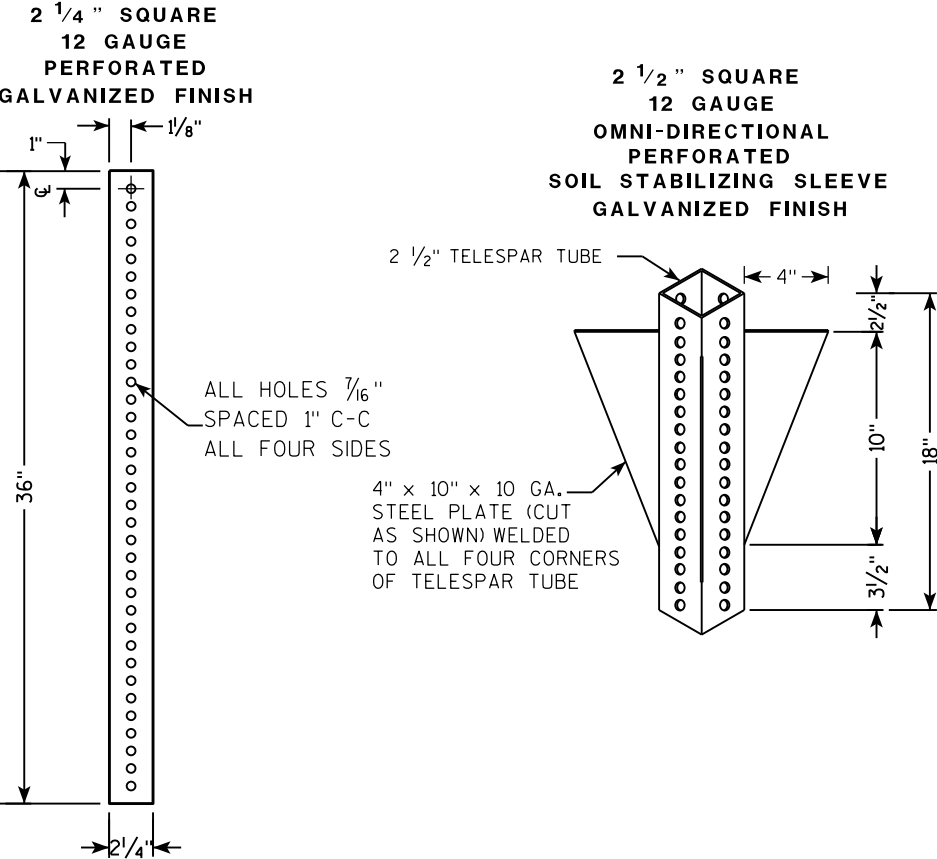
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
  - 3/8" X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
  - 3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- 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

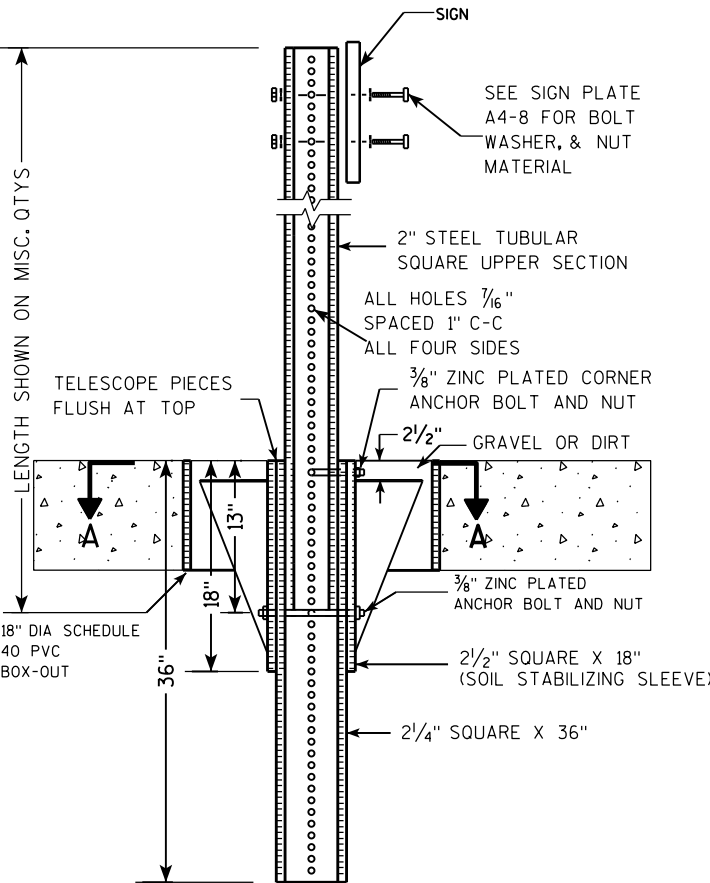
\* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 8/11/16	PLATE NO. A4-8.8

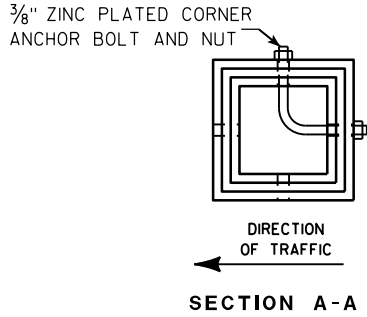
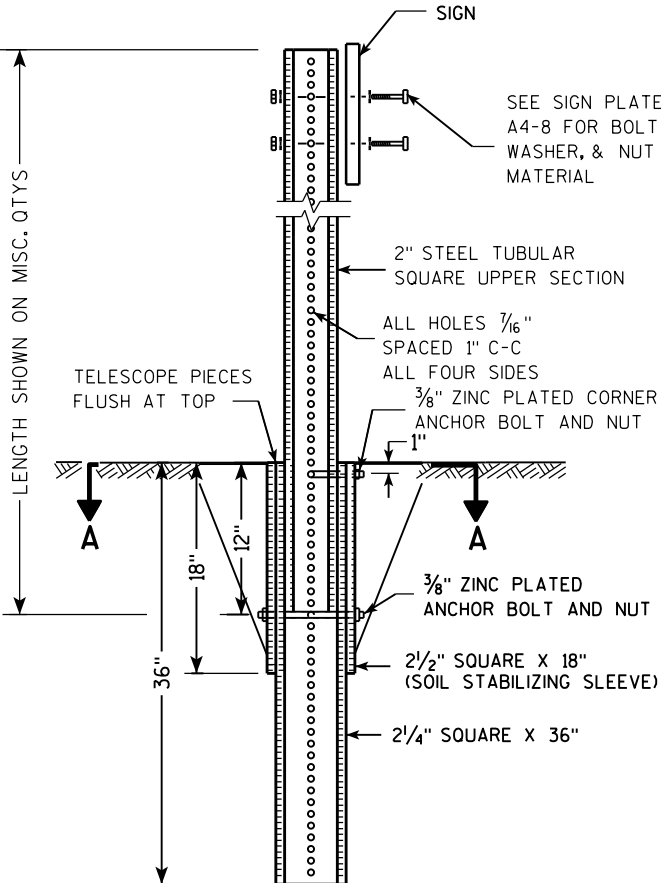
TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM



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)



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

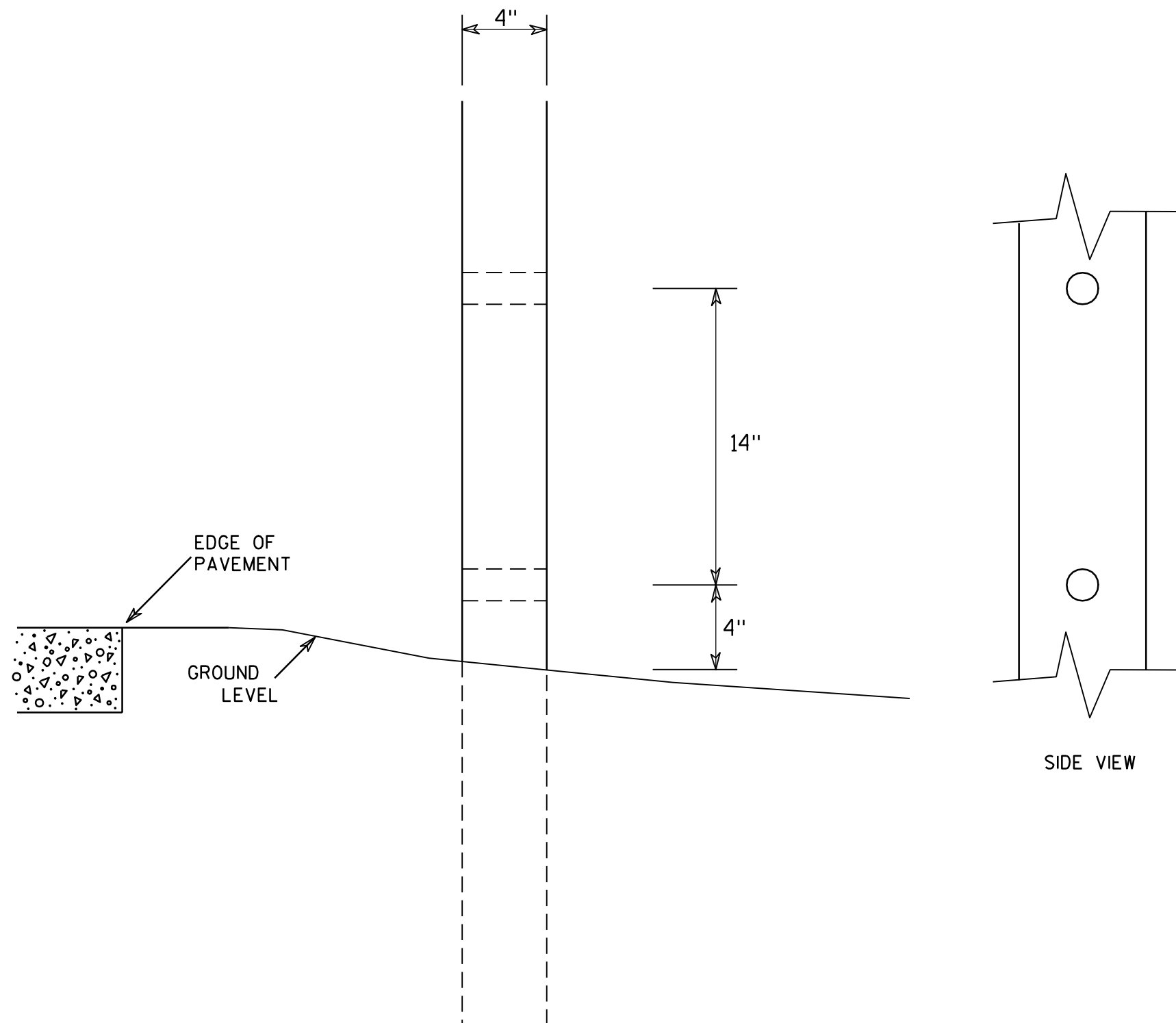
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9



7



### 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

### 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:

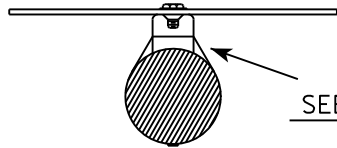
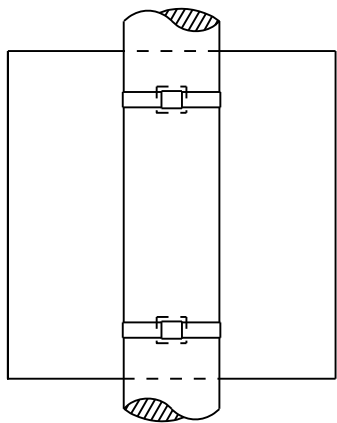
COUNTY:

SHEET NO:

E

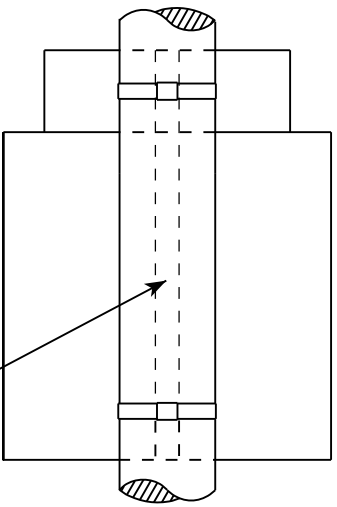
BANDING

SINGLE SIGN

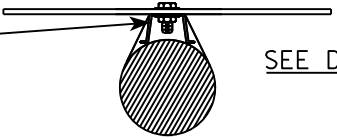


SEE DETAIL A

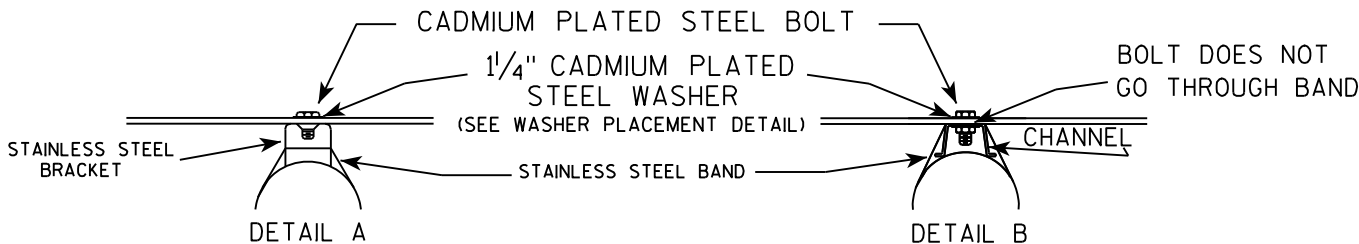
"J" ASSEMBLY



CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



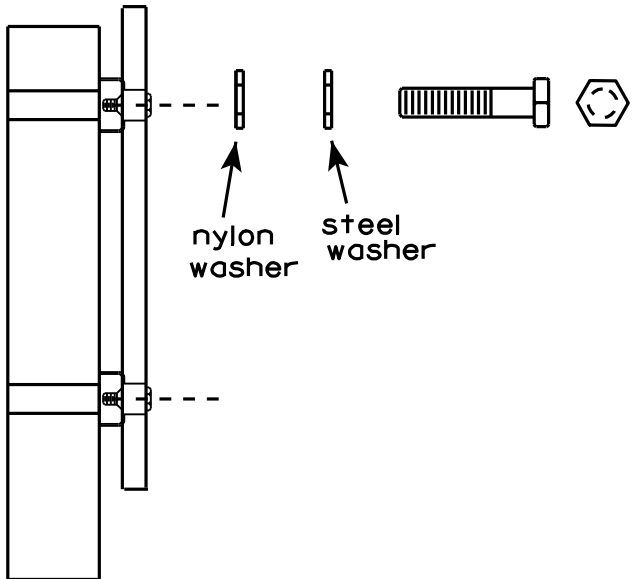
SEE DETAIL B



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  $\frac{3}{4}$ " in width and 0.025" thickness.

WASHER PLACEMENT



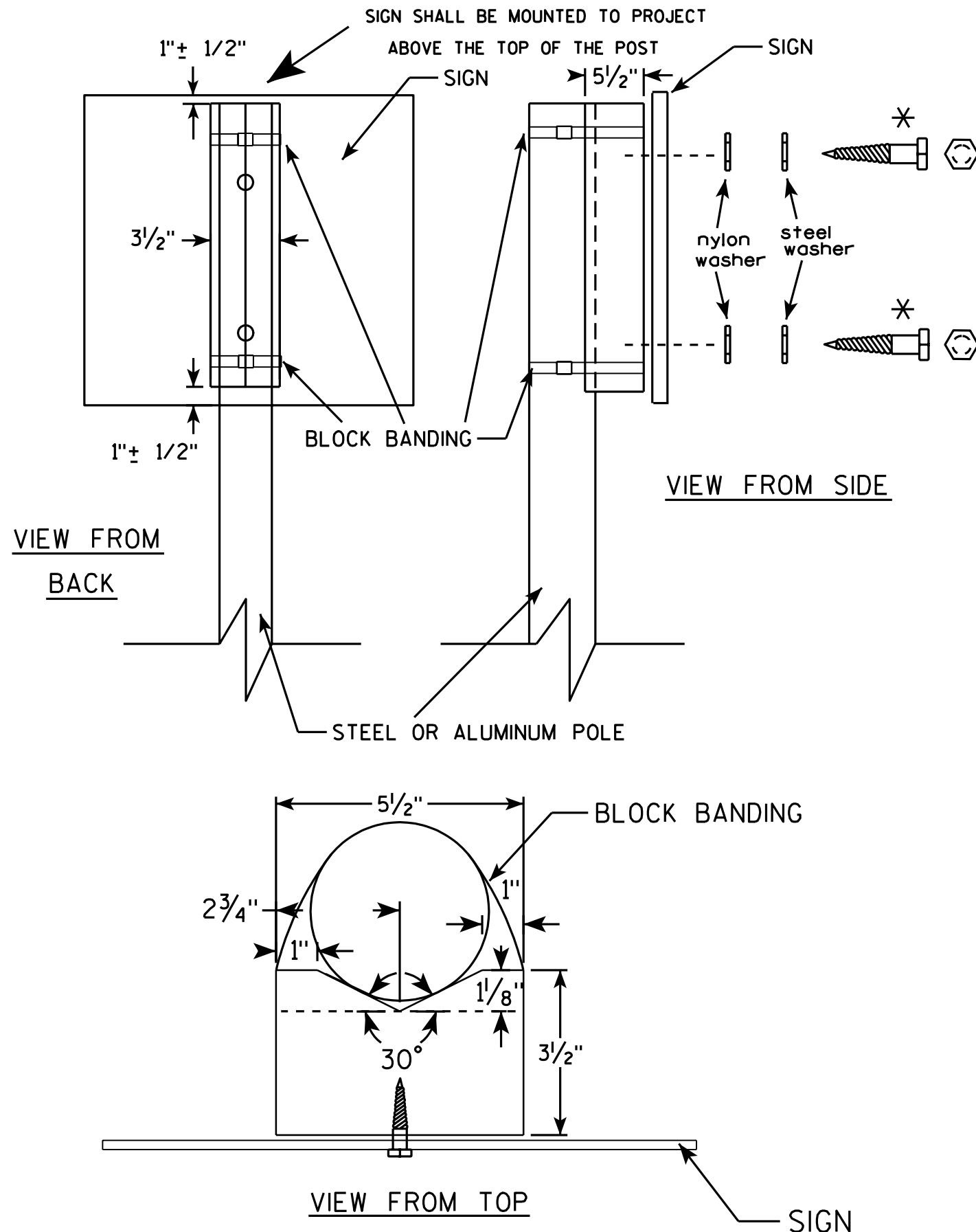
WASHERS (ALL POSTS) -  
1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ " STEEL  
1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

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



## 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,  $\frac{3}{4}$ " 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 NORMALLY 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  $\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE  $\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE  $\frac{3}{8}$ " X  $2\frac{1}{2}$ "

## BLOCK BANDING DETAIL ( V-BLOCK OPTION )

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

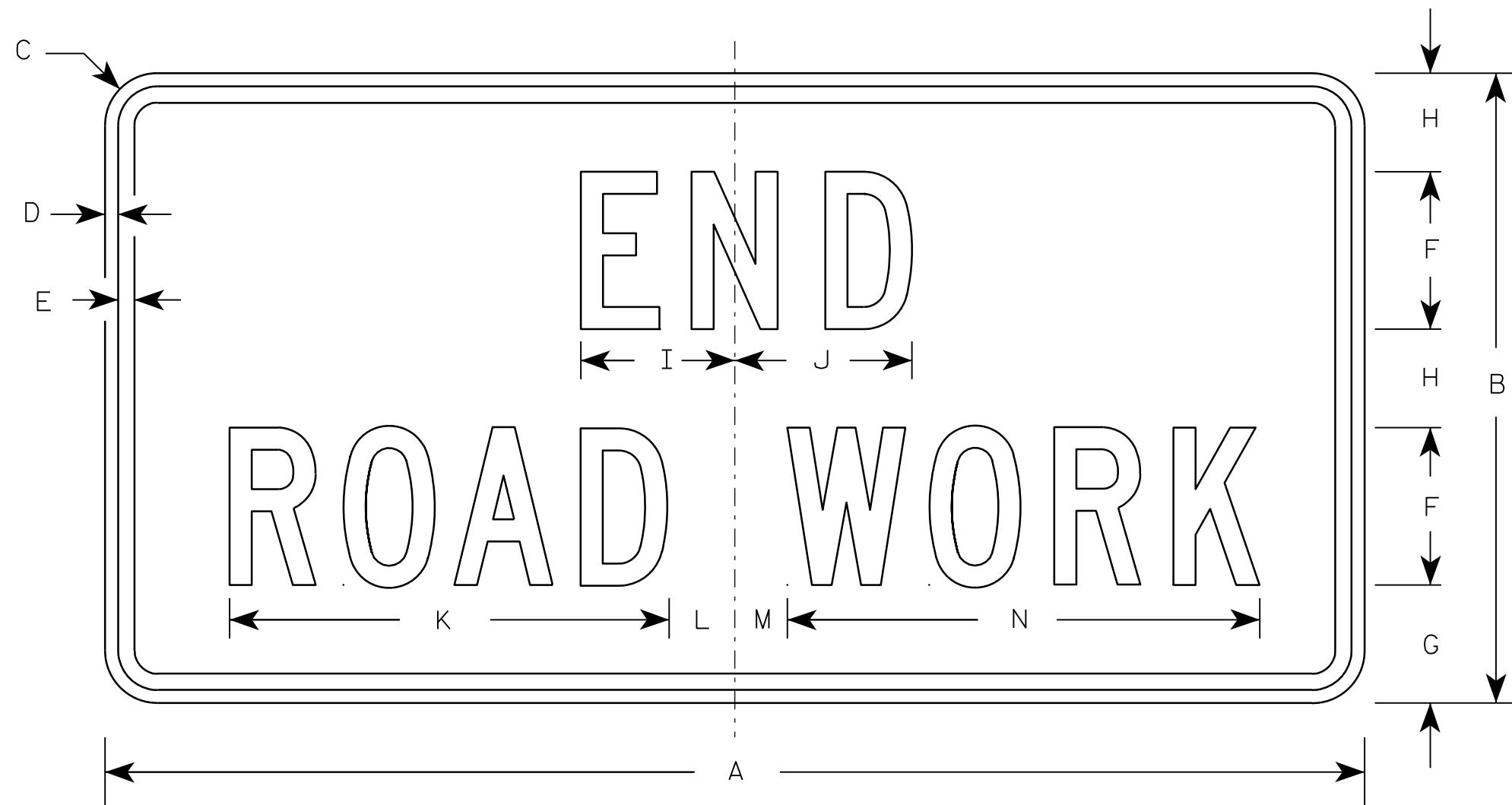
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

SHEET NO:

E

7



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent  
for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m <sup>2</sup>
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

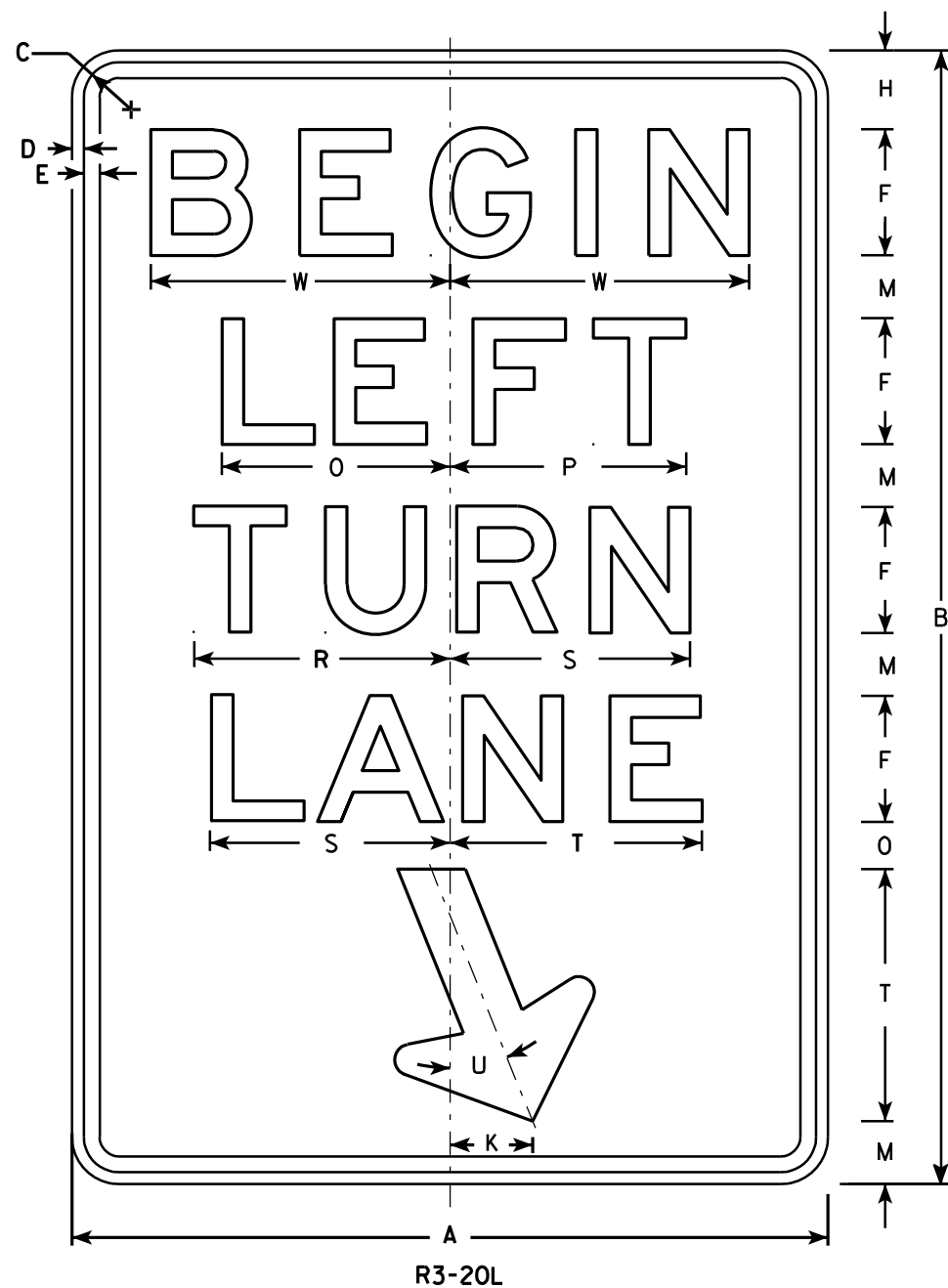
STANDARD SIGN  
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

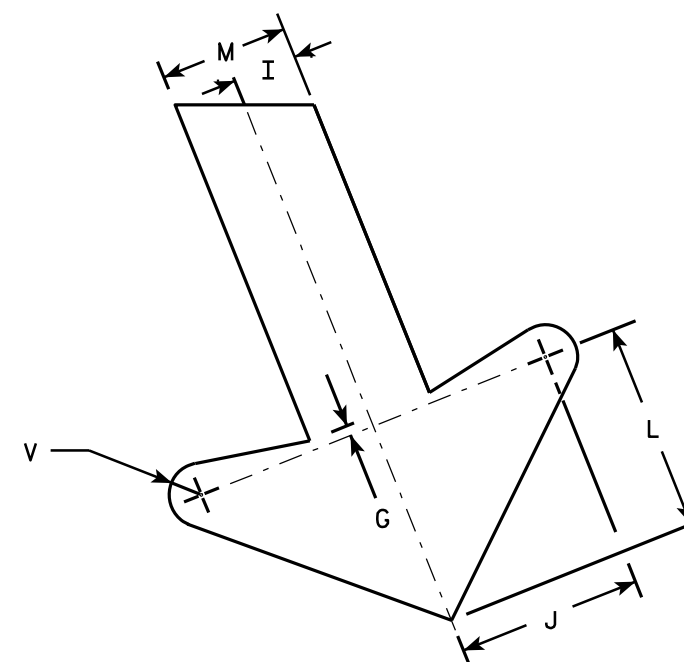
DATE 9/30/09 PLATE NO. G20-2A.8

7



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.

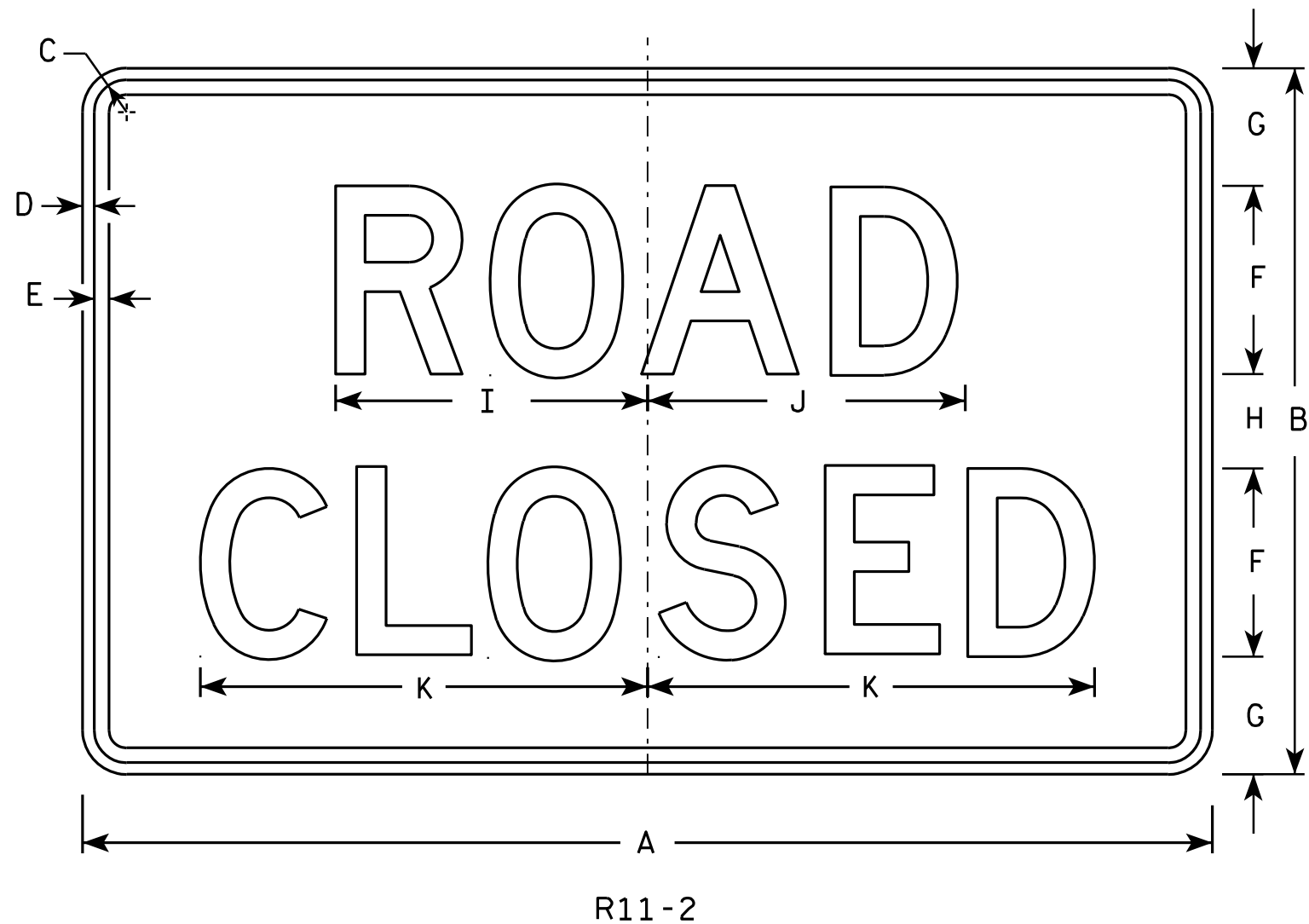


ARROW DETAIL

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																											

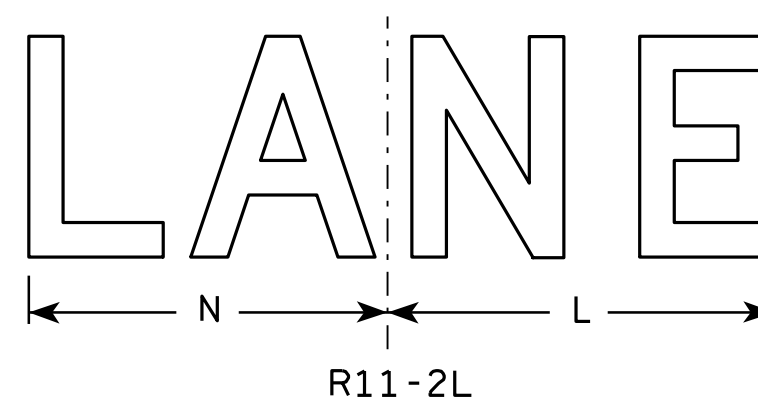
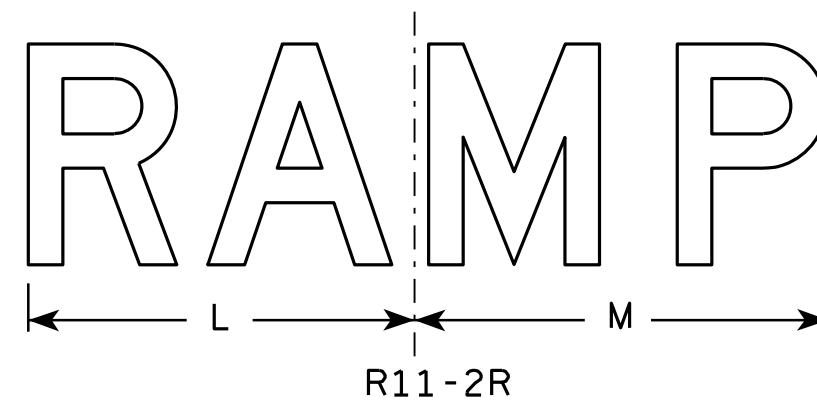
STANDARD SIGN R3-20L	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 10/18/10	PLATE NO. R3-20L.7

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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### NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
4	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
5	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0

### STANDARD SIGN R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

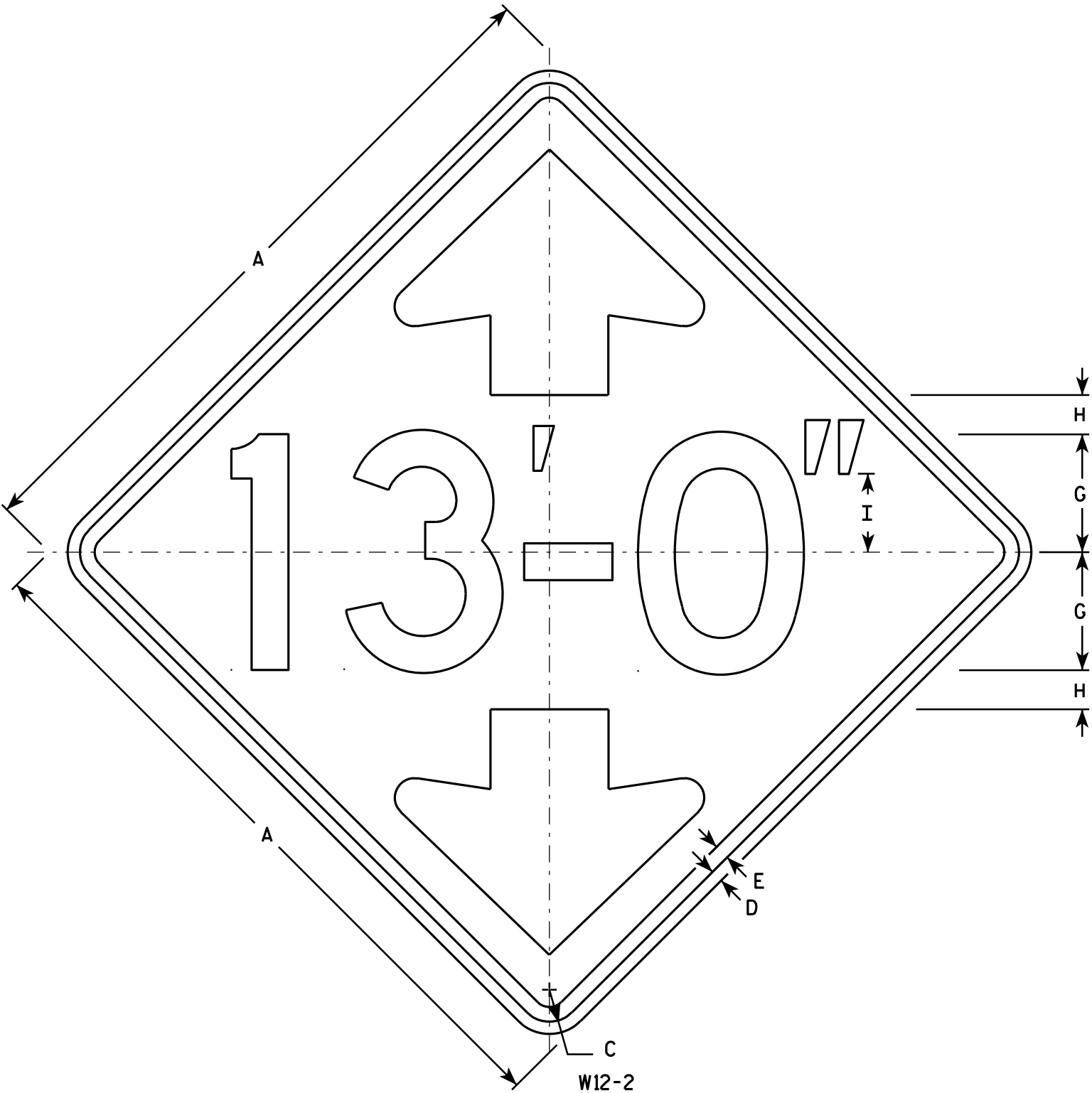
PROJECT NO:

HWY:

COUNTY:

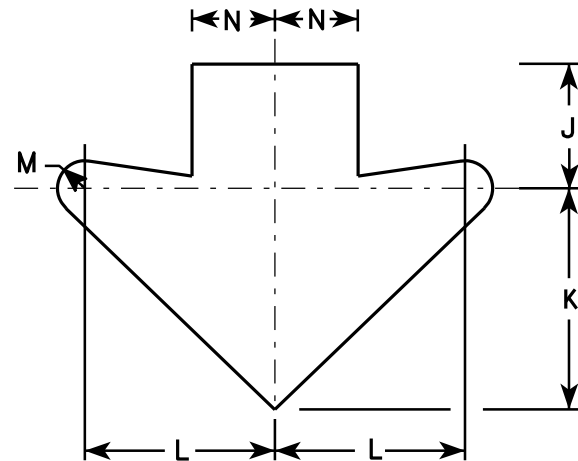
SHEET NO:

E

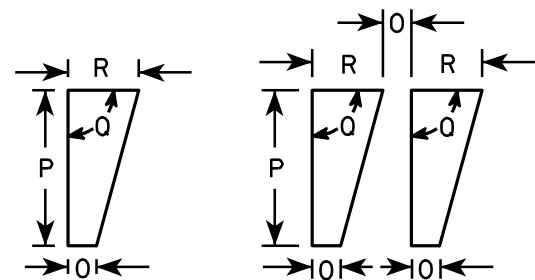


### NOTES

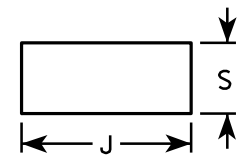
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing of numerals, hyphen, foot & inch marks to achieve proper balance.



Arrow Detail



Foot Mark & Inch Mark Detail



Hyphen 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		5	1 5/8	3 3/8	3 3/4	6 5/8	5 3/4	3/4	2 1/2	1/2	2 1/4	90°	1	1 5/8								6.25
2S	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
2M	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
3	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
4	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
5	48		2 1/4	3/4	1		8	2 5/8	5 1/2	5 7/8	10 5/8	9 1/4	1 3/8	4	5/8	3 5/8	90°	1 5/8	2 1/2								16.00

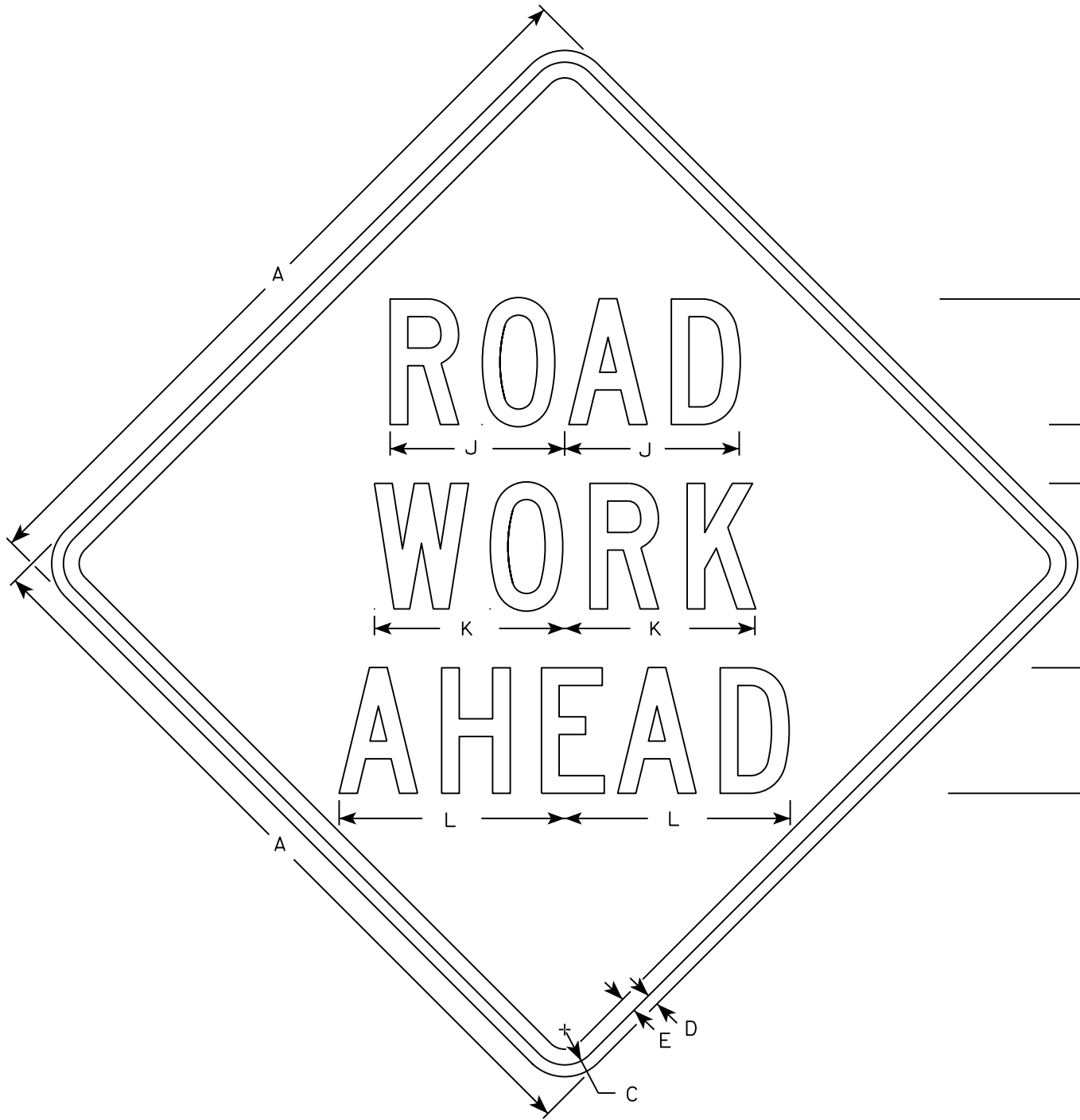
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN  
W12-2

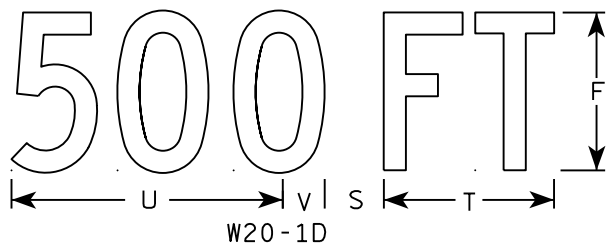
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

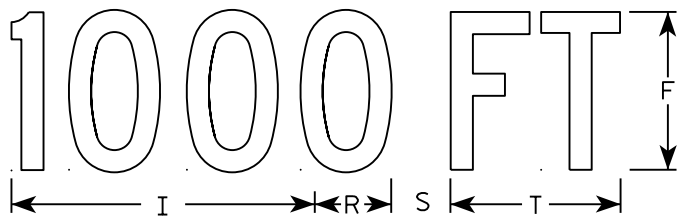
DATE 3/13/13 PLATE NO. W12-2.9



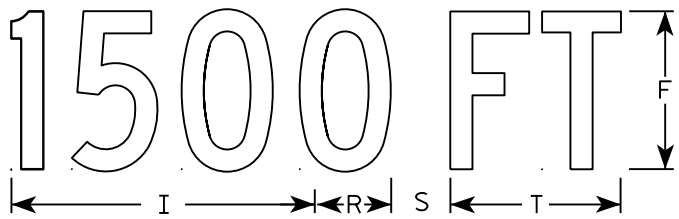
W20-1A



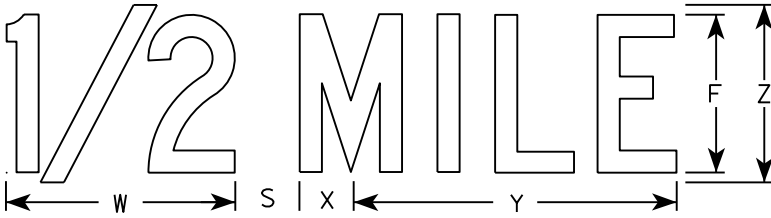
W20-1D



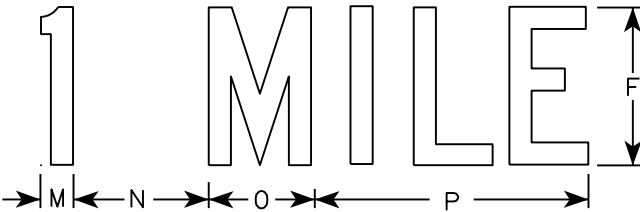
W20-1C



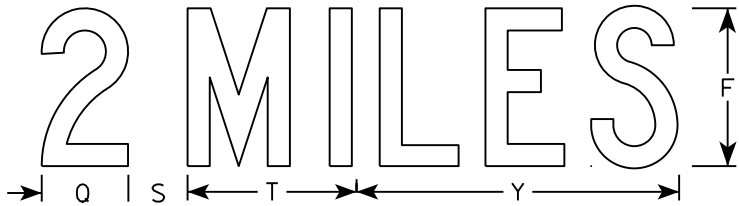
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:  
Background - Orange  
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN  
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

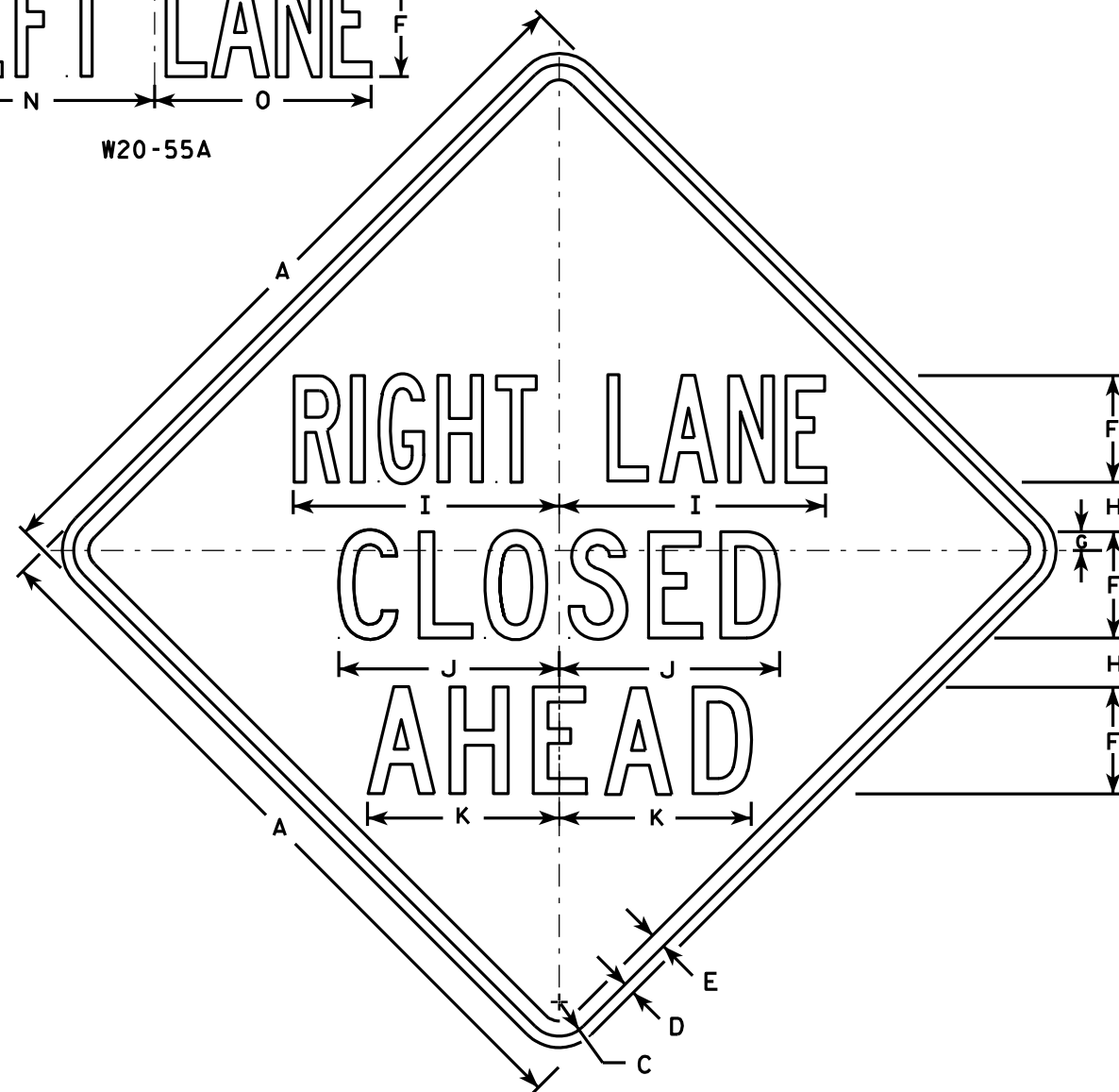


CENTER LANE

W20-56A

LEFT LANE

W20-55A



W20-5A

500 FT

W20-5D

1000 FT

W20-5C

1500 FT

W20-5B

1/2 MILE

W20-5G

1 MILE

W20-5F

### 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. "----- LANE" is Series B.  
All other copy 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	36	6	1 5/8	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

PROJECT NO:

HWY:

COUNTY:

STANDARD SIGN  
W20-5A, B, C, D, F & G

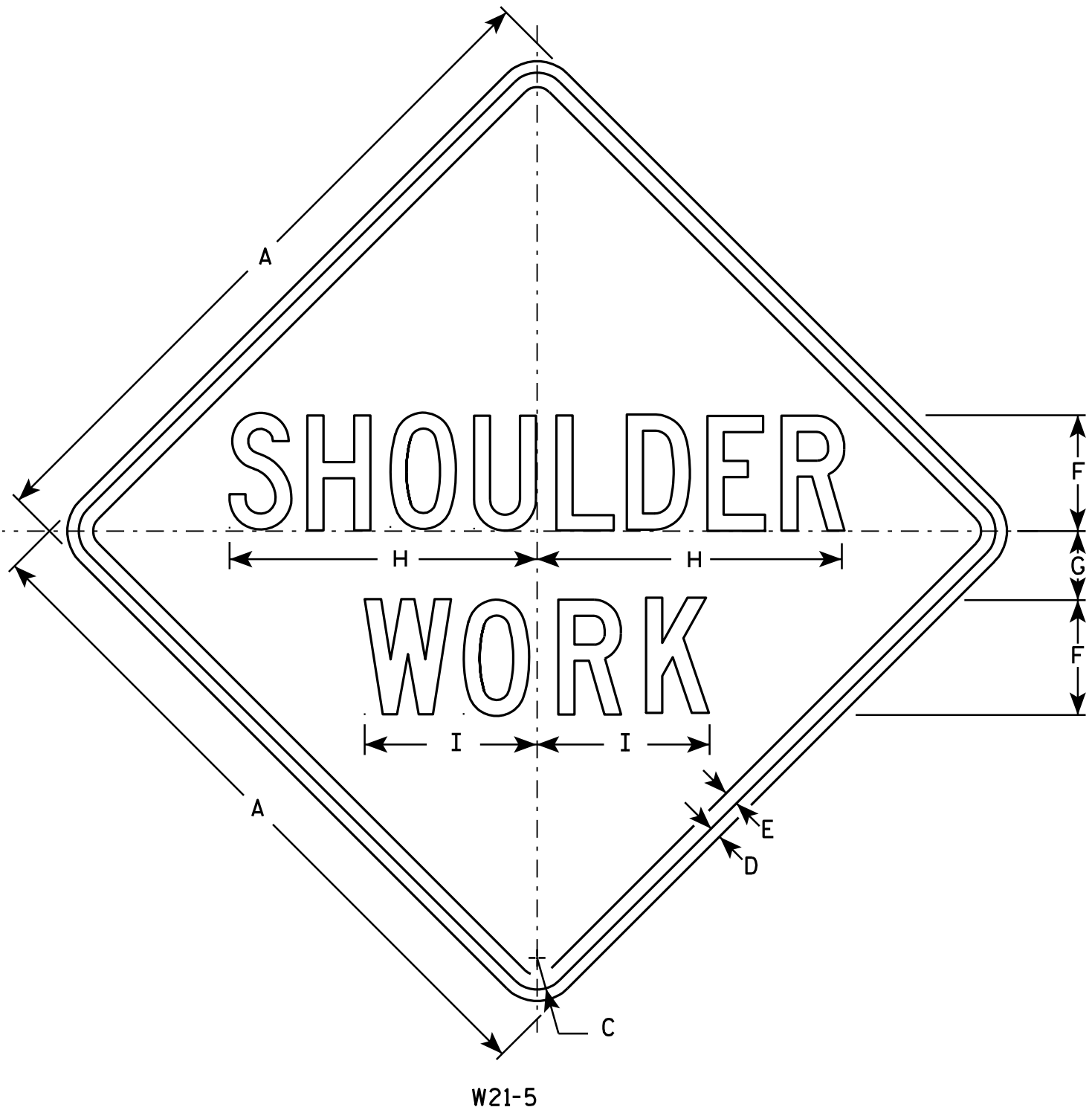
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

SHEET NO:

E



NOTES

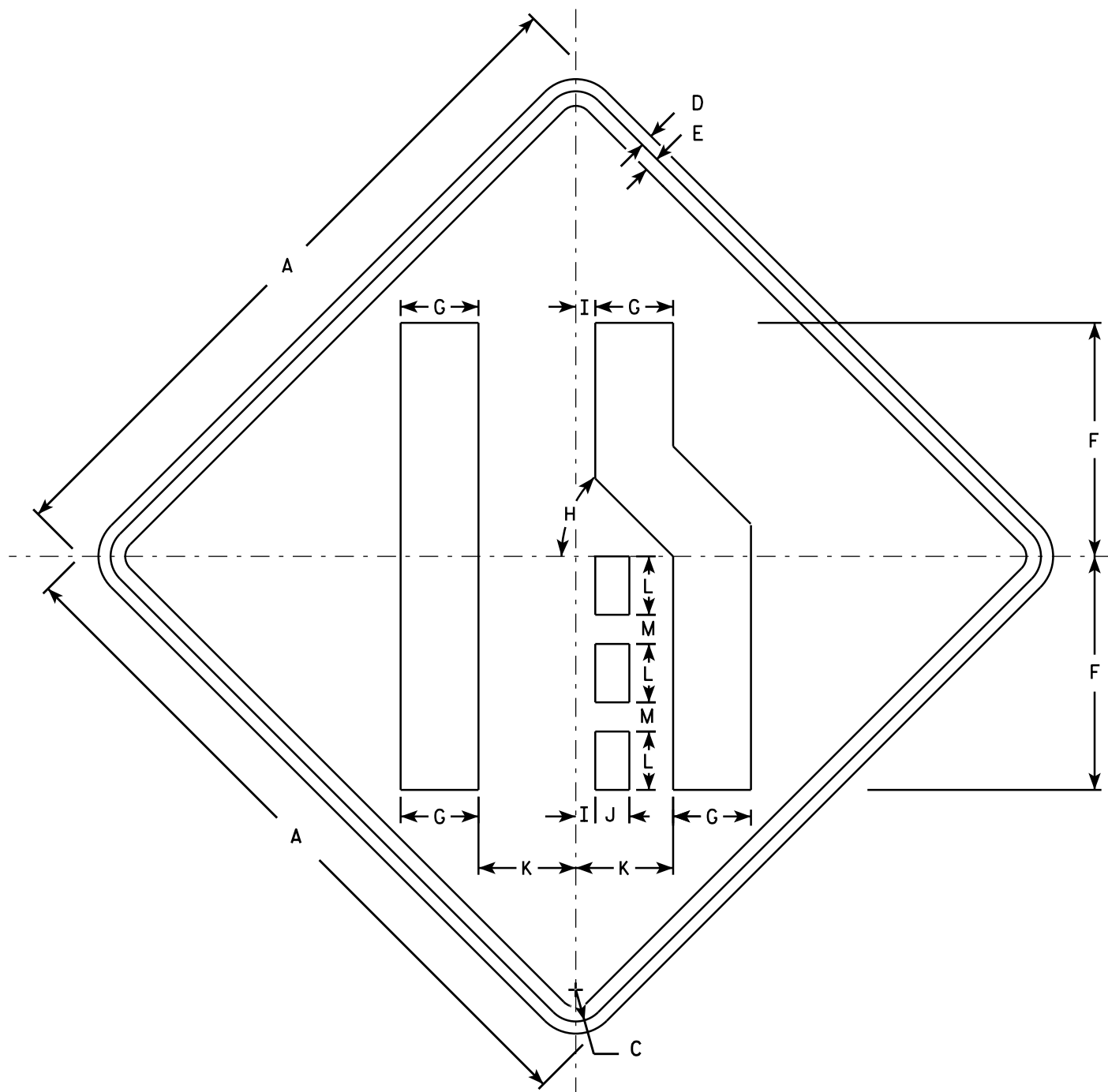
- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:  
Background - Orange  
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	4	2 1/2	10 3/4	6																		4.0
2S	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3 1/2	16	9																		9.0
4	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0

STANDARD SIGN  
W21-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 3/21/11 PLATE NO. W21-5.5



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

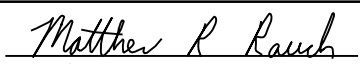
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN

W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED


  
*Matthew R. Rauch*  
 For State Traffic Engineer

DATE 11/20/13

PLATE NO. W04-2.1



## ***Wisconsin Department of Transportation***

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