

PROJECT ID: 3700-50-54  
PROJECT ID: N/A

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
<del>Section No. 4</del>	<del>Right of Way Plat</del>
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
<del>Section No. 8</del>	<del>Structure Plans</del>
<del>Section No. 8</del>	<del>Computer Earthwork Data</del>
Section No. 9	Cross Sections

TOTAL SHEETS = 216



30

DESIGN DESIGNATION 3700-50-54

A.A.D.T. (2020)	=	10,000
A.A.D.T. (2040)	=	12,300
D.H.V. (2040)	=	1,425 VPH
D.D.	=	59/41
T. (% A.A.D.T.)	=	13.3%
DESIGN SPEED (MPH)	=	30
ESALS	=	N/A

CONVENTIONAL SYMBOLS

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

PROFILE

GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

ROCK	
LABEL	
E	
FO	
G	
SAN	
SS	
T	
W	
Utility Pedestal	
Telephone Pole	

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

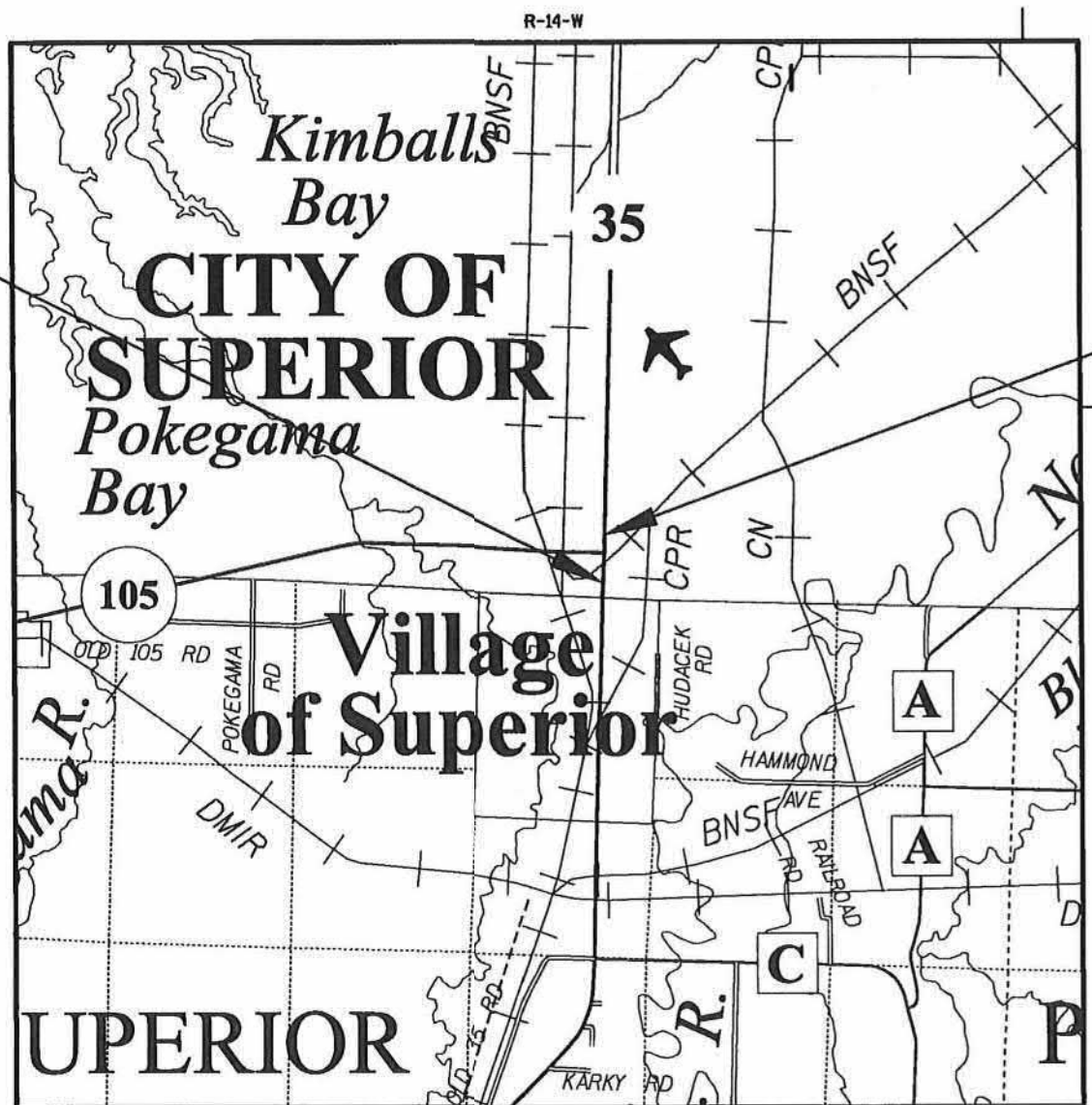
**C SUPERIOR, TOWER AVENUE**

STH 105 INTERSECTION

STH 35

DOUGLAS COUNTY

STATE PROJECT NUMBER  
3700-50-54



COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATE REFERENCE SYSTEM (WICRS) DOUGLAS COUNTY ZONE, NAD 83 (2011) ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NAVD 88 DATUM

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3700-50-54		

ACCEPTED FOR  
CITY OF SUPERIOR  
*Paul J. Works Director*  
7/20/20 (Date) (Signature & Title of Official)

ORIGINAL PLANS PREPARED BY  
**AECOM**  
KELLY J WOLF  
39796-6  
PRAIRIE DU SAC  
WIS.  
PROFESSIONAL ENGINEER  
7-15-2020 *Kelly J Wolf*  
(Date) (Signature)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PREPARED BY  
Surveyor: AECOM  
Designer: AECOM  
Project Manager: STEPHANIE KING  
Regional Examiner: JENNIFER OLDENBURG  
Regional Supervisor: WILLIAM KURTZ  
C.O. Examiner:

APPROVED FOR THE DEPARTMENT  
DATE: Stephanie J. King  
*Stephanie J. King*  
I am approving this document  
7/15/2020 10:54:52-09'07"

COUNTY: DOUGLAS

**GENERAL NOTES**

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

BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES WITHIN THE SCOPE OF THIS PROJECT MAY NOT BE LOCATED IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR LOCATING AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES.

STORM SEWER ELEVATIONS, LENGTHS, AND LOCATIONS AS SHOWN ON THE PLANS, SHALL BE ADJUSTED TO FIT THE EXISTING FIELD CONDITIONS, AS DIRECTED BY THE ENGINEER.

RADII, ELEVATIONS, AND DIMENSIONS ARE GIVEN AT THE PAVEMENT EDGES, UNLESS OTHERWISE NOTED IN THE PLANS.

THE CONTRACTOR SHALL NOT OPERATE BEYOND THE SLOPE INTERCEPTS AS SHOWN IN THE PLANS WHEN ADJACENT TO WETLANDS OR ENVIRONMENTALLY SENSITIVE AREAS.

ADJUST TRAFFIC CONTROL DEVICE LOCATIONS TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

EROSION CONTROL ITEMS SHOWN IN THE MISCELLANEOUS QUANTITIES ARE AT SUGGESTED LOCATIONS. THE ENGINEER MAY MODIFY LOCATIONS TO FIT FIELD CONDITIONS.

THE BASE AGGREGATE DENSE (BAD) CALCULATIONS ARE BASED ON A UNIT WEIGHT OF 2.1 TONS/CY OR 3/4-INCH BAD, 2.0 TONS/CY FOR 1 1/4-INCH BAD, AND 1.9 TONS/CY FOR BAOG.

RIGHT OF WAY AS SHOWN ON THESE PLANS IS APPROXIMATE.

**ABBREVIATIONS**

(100')	RECORDED AS
A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC
AC	ACRES
AP	ACCESS POINT/DRIVEWAY CONNECTION
AR	ACCESS RIGHTS
ASPH.	ASPHALTIC
ET. AL.	AND OTHERS
BAD	BASE AGGREGATE DENSE
BAOG	BASE AGGREGATE OPEN GRADE
BM	BENCH MARK
C & G	CURB AND GUTTER
CL OR CL	CENTERLINE
C.A.B.C.	CRUSHED AGGREGATE BASE COURSE
C.P.	CULVERT PIPE
C.P.C.S.	CULVERT PIPE CORRUGATED STEEL
C.P.R.C.	CULVERT PIPE REINFORCED CONCRETE
C.T.H.	COUNTY TRUNK HIGHWAY
CE	COMMERCIAL ENTRANCE
C.M.C.P.	CORRUGATED METAL CULVERT PIPE
CONC.	CONCRETE
COR.	CORNER
CSM	CERTIFIED SURVEY MAP
CWT.	HUNDREDWEIGHT
D	DEGREE OF CURVE
D.D.	DIRECTIONAL DISTRIBUTION
D.H.V.	DESIGN HOUR VOLUME
DIA.	DIAMETER
DOC.	DOCUMENT
E.	EAST
E.B.S.	EXCAVATION BELOW SUBGRADE
E.S.A.L.	EQUIVALENT SINGLE AXLE LOAD
EASE.	EASEMENT
EB	EASTBOUND
EL OR ELEV	ELEVATION
ELEC.	ELECTRIC (AL)
EXC.	EXCAVATION
EXIST.	EXISTING
F.E.	FIELD ENTRANCE
F.L. OR F/L	FLOW LINE
FT.	FOOT
H.E.	HIGHWAY EASEMENT
HMA	HOT MIX ASPHALT
INL.	INLET
INV.	INVERT
IP OR I.P.	IRON PIN
L	LENGTH OF CURVE
L.H.F.	LEFT-HAND FORWARD
L.S.	LUMP SUM
LB.	POUND
LN	LANE
LT. OR LT	LEFT
M.L. OR M/L	MATCH LINE
MATL.	MATERIAL
MAX.	MAXIMUM
MH.	MANHOLE
MIN.	MINIMUM
MON.	MONUMENT
MP	ROADWAY MILEAGE
N.	NORTH
N.C.	NORMAL CROWN
NB	NORTH BOUND
OBLIT	OBLITERATE
P.	PAGE
P.A.S.P.	PIPE ARCH STRUCTURAL PLATE
P.C.	POINT OF CURVATURE
P.C.C.	POINT OF COMPOUND CURVE
P.E.	PRIVATE ENTRANCE
P.I.	POINT OF INTERSECTION
P.L.	PROPERTY LINE
P.L.E.	PERMANENT LIMITED EASEMENT
P.T.	POINT OF TANGENCY
PAVT.	PAVEMENT
PROJ.	PROJECT
PT.	POINT
R	RADIUS
R.H.F.	RIGHT-HAND FORWARD
R OR R/L	REFERENCE LINE
R/W	RIGHT-OF-WAY
R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE

**ABBREVIATIONS CONT.**

RD.	ROAD
REBAR.	REINFORCEMENT BAR
REINF.	REINFORCING OR REINFORCEMENT
REM.	REMAINING
REQD.	REQUIRED
ROR	RELEASE OF RIGHTS
RR.	RAILROAD
RRSP	RAILROAD SPIKE
RT OR RT.	RIGHT
S.	SOUTH
S.D.D.	STANDARD DETAIL DRAWINGS
S.E.	SUPERELEVATION
S.F. OR SQ.FT.	SQUARE FEET
S.S.	STORM SEWER
S.S.P.R.C.	STORM SEWER PIPE REINFORCED CONCRETE
S.T.H.	STATE TRUNK HIGHWAYS
S.Y. OR SQ.YD.	SQUARE YARD
SALV.	SALVAGED
SB	SOUTHBOUND
SEC.	SECTION
SHLDR.	SHOULDER
SPECS.	SPECIFICATIONS
STA.	STATION
STD.	STANDARD
T	TANGENT
T. %	TRUCKS (PERCENT OF)
T.L.E.	TEMPORARY LIMITED EASEMENT
T.P.M.	TEMPORARY PAVEMENT MARKING
T.P.M.R.T.	TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE
TEL.	TELEPHONE
TEMP.	TEMPORARY
TYP.	TYPICAL
U.S.H.	UNITED STATES HIGHWAY
UG.	UNDERGROUND
V	VOLUME
V.C.	VERTICAL CURVE
W.	WEST
WB	WESTBOUND
X	EAST GRID COORDINATE
Y	NORTH GRID COORDINATE

DETAIL SHEET INDEX

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- REMOVAL DETAILS
- PAVING DETAILS
- CURB RAMP DETAILS
- EROSION CONTROL
- PERMANENT SIGNING
- LIGHTING REMOVAL PLAN
- LIGHTING PLAN
- TRAFFIC SIGNAL PLAN
- CABLE ROUTING
- PAVEMENT MARKING
- TRAFFIC CONTROL
- ALIGNMENT DIAGRAM

UTILITIES

COMMUNICATION LINE

CENTURY LINK  
RUSSELL VANCE  
135 N 21ST ST  
SUPERIOR, WI 54880  
715-392-0045  
Russel.vance@centurylink.com

CONSOLIDATED COMM  
ADAM LAWREY  
4960 MILLER TRUNK HWY 500  
HERMANTOWN, MN 55811  
218-740-6146  
Adam.Lawrey@consolidated.com

ELECTRICITY

SUPERIOR WATER LIGHT & POWER  
JAMIE MEHLE  
2915 HILL AVENUE  
SUPERIOR, WI 54880  
218-395-6288  
JMehle@swlp.com

WATER

SUPERIOR WATER LIGHT & POWER  
JAMIE MEHLE  
2915 HILL AVENUE  
SUPERIOR, WI 54880  
218-395-6288  
JMehle@swlp.com

GAS

SUPERIOR WATER LIGHT & POWER  
JAMIE MEHLE  
2915 HILL AVENUE  
SUPERIOR, WI 54880  
218-395-6288  
JMehle@swlp.com

SEWER

CITY OF SUPERIOR  
RYAN GUNDSTROM  
1316 N 14TH ST #210  
SUPERIOR, WI 54880  
(715) 395-7300  
gundstromr@ci.superior.wi.us

WISDOT

WISDOT DESIGN PROJECT MANAGER  
STEPHANIE KING  
1701 N. 4TH STREET  
SUPERIOR, WI 54880  
(715) 392-7874  
stephanie.king@dot.wi.gov

WISDNR

DNR NORTHERN REGION HEADQUARTERS  
AMY CRONK  
810 W. MAPLE STREET  
SPOONER, WI 5401  
(715) 635-4229  
(715) 520-3976  
amy.cronk@wisconsin.gov

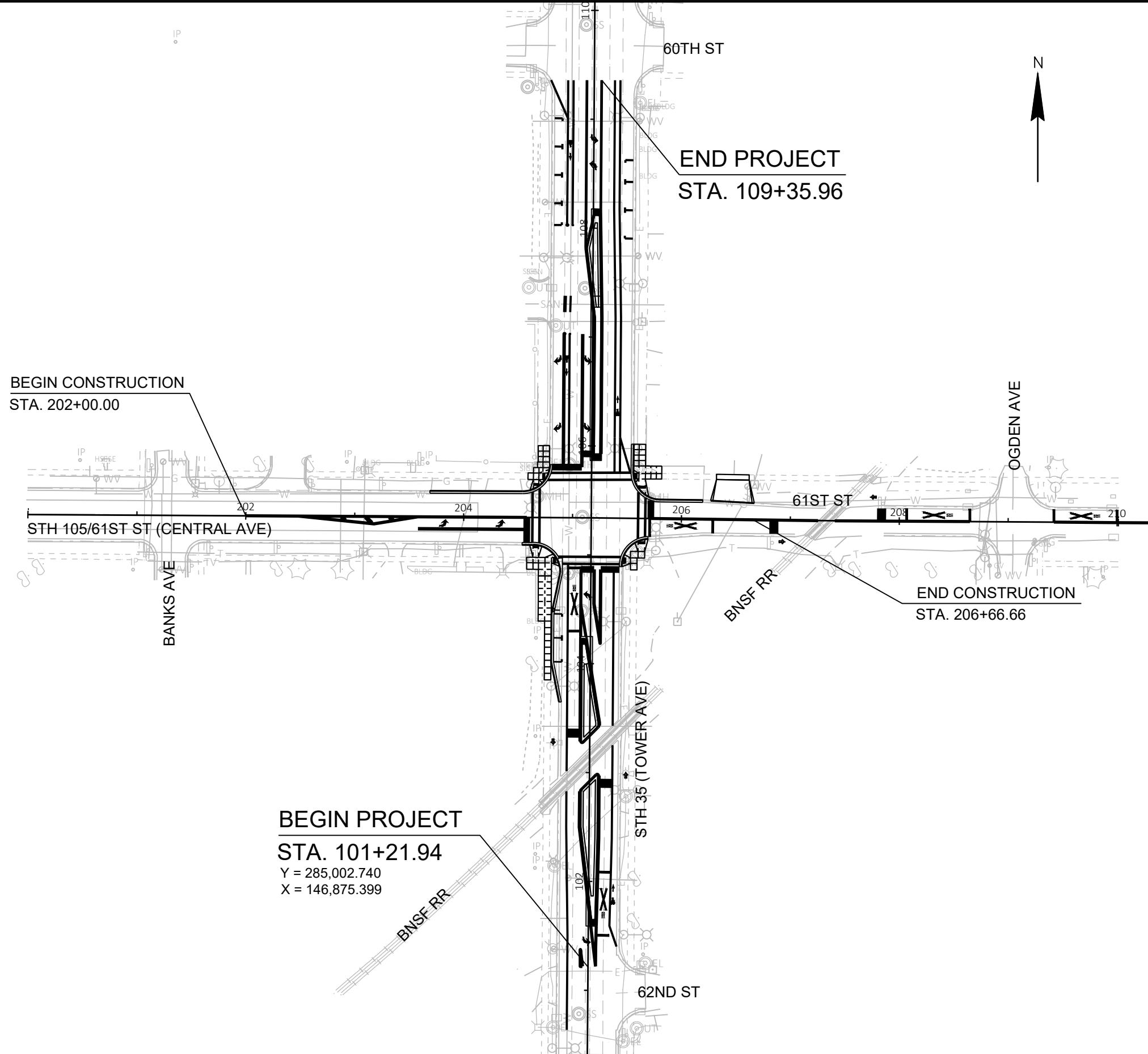
DESIGN CONTACT (ROADWAY)

AECOM  
JEFF SANDBERG, P.E.  
1350 DEMING WAY, SUITE 100  
MIDDLETON, WI 53562  
(608) 828-8161  
jeff.sandberg@aecom.com

OTHER AGENCIES

NOTE: BNSF RAILROAD UTILITIES ARE NOT  
PART OF DIGGERS HOTLINE





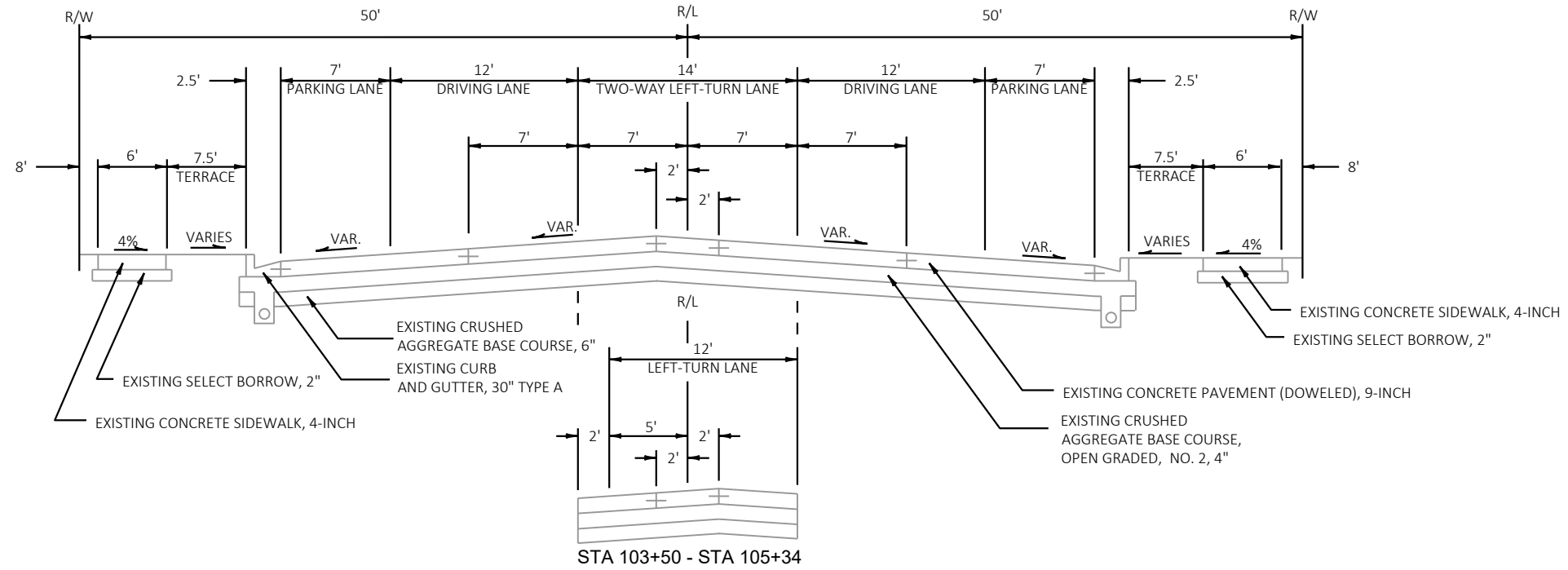
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STA. 202+00.00

END PROJECT  
STA. 109+35.96

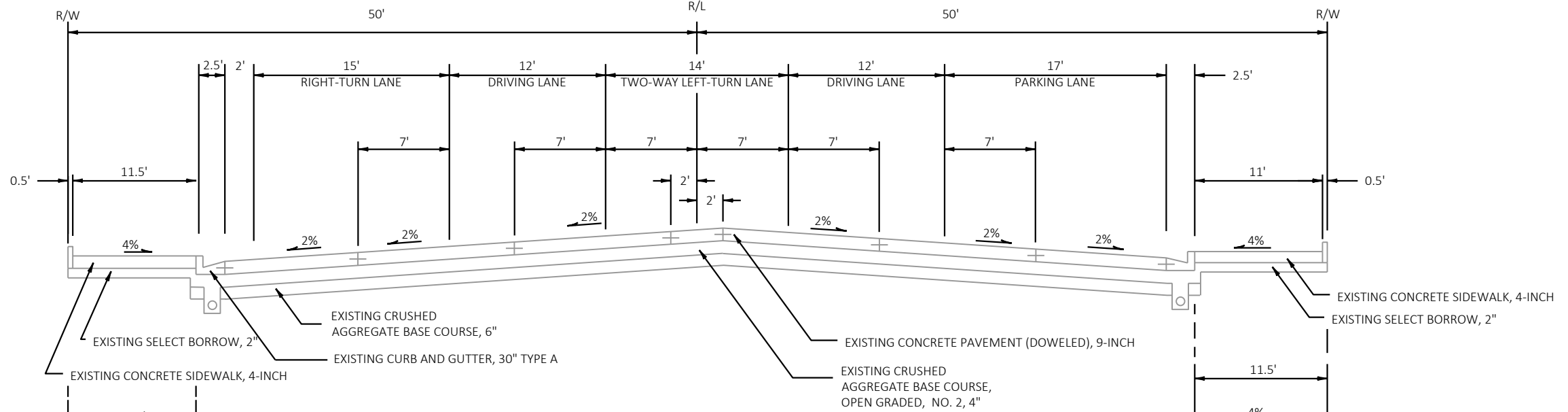
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STA. 206+66.66

BEGIN PROJECT  
STA. 101+21.94  
Y = 285,002.740  
X = 146,875.399

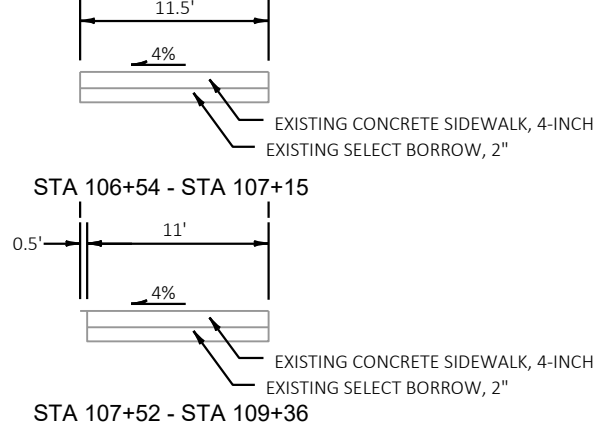
PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	PROJECT OVERVIEW	SHEET	<b>E</b>
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**EXISTING TYPICAL SECTION**  
 STA 101+22 - STA 105+34 (BNSF RR CROSSING 103+13)  
 STH 35 (TOWER AVE)

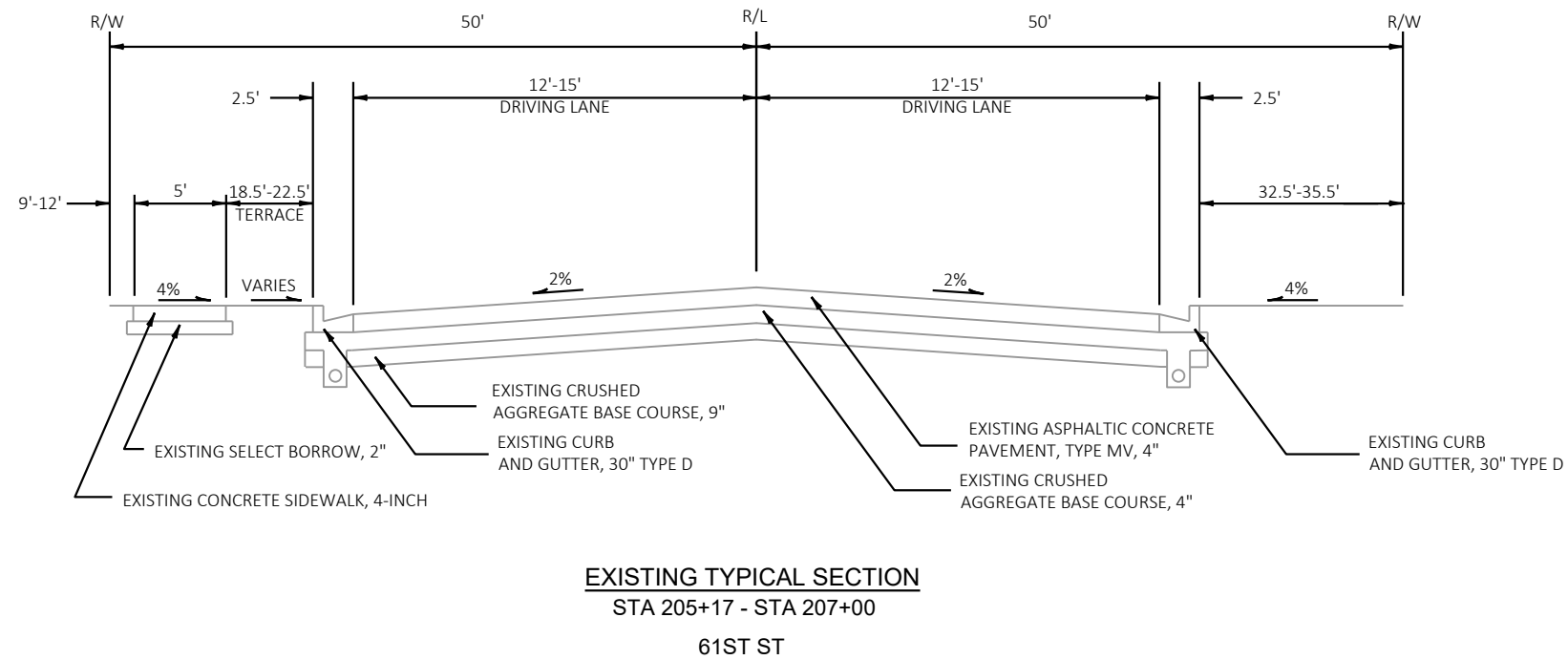
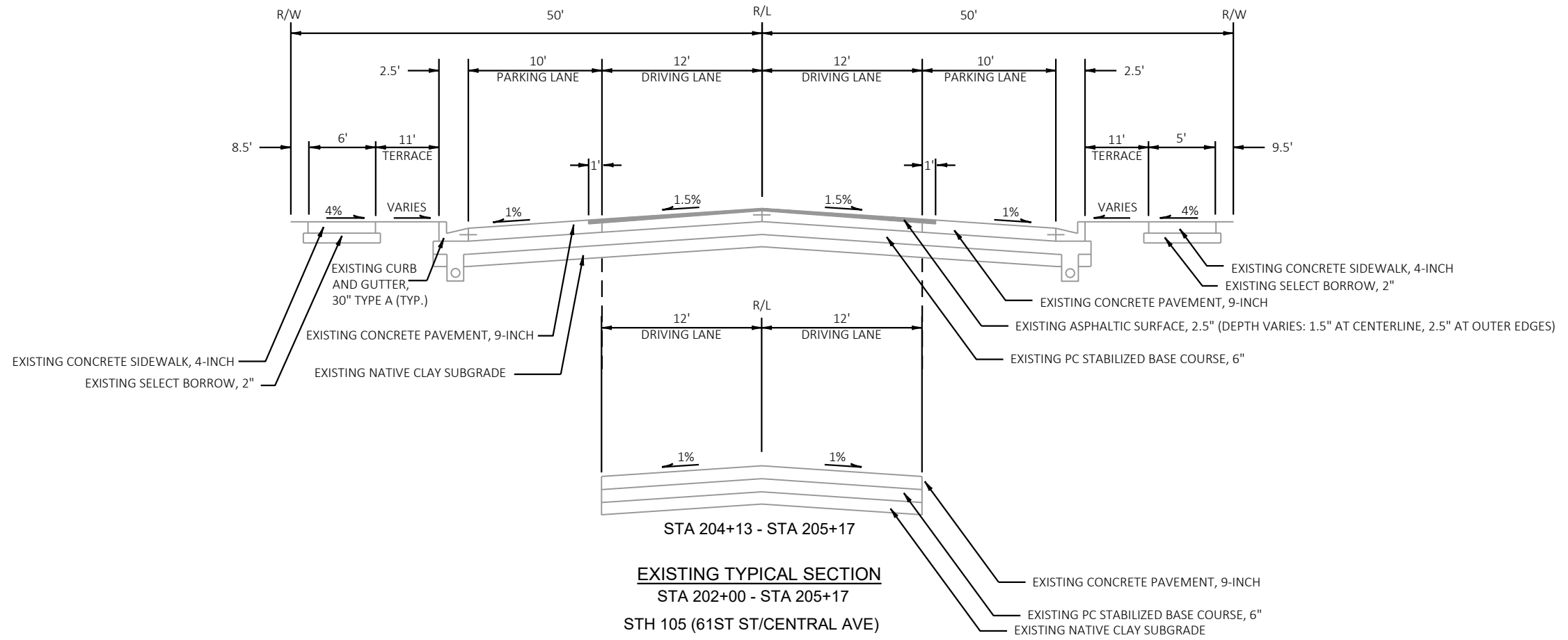


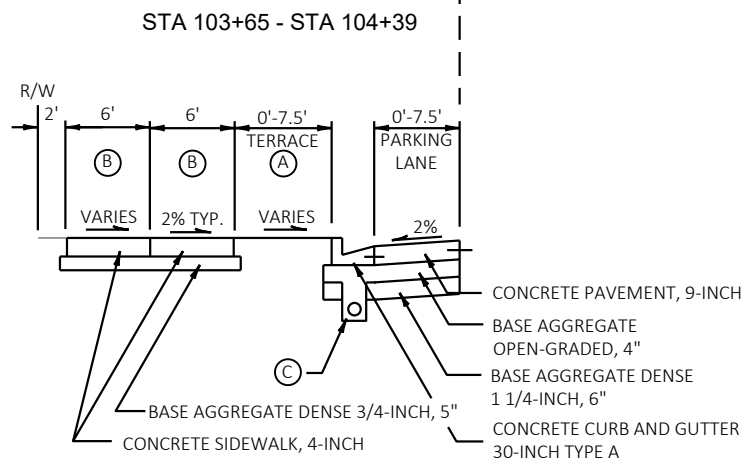
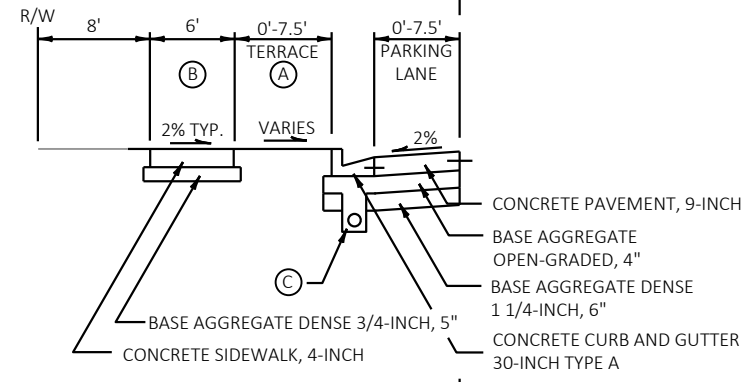
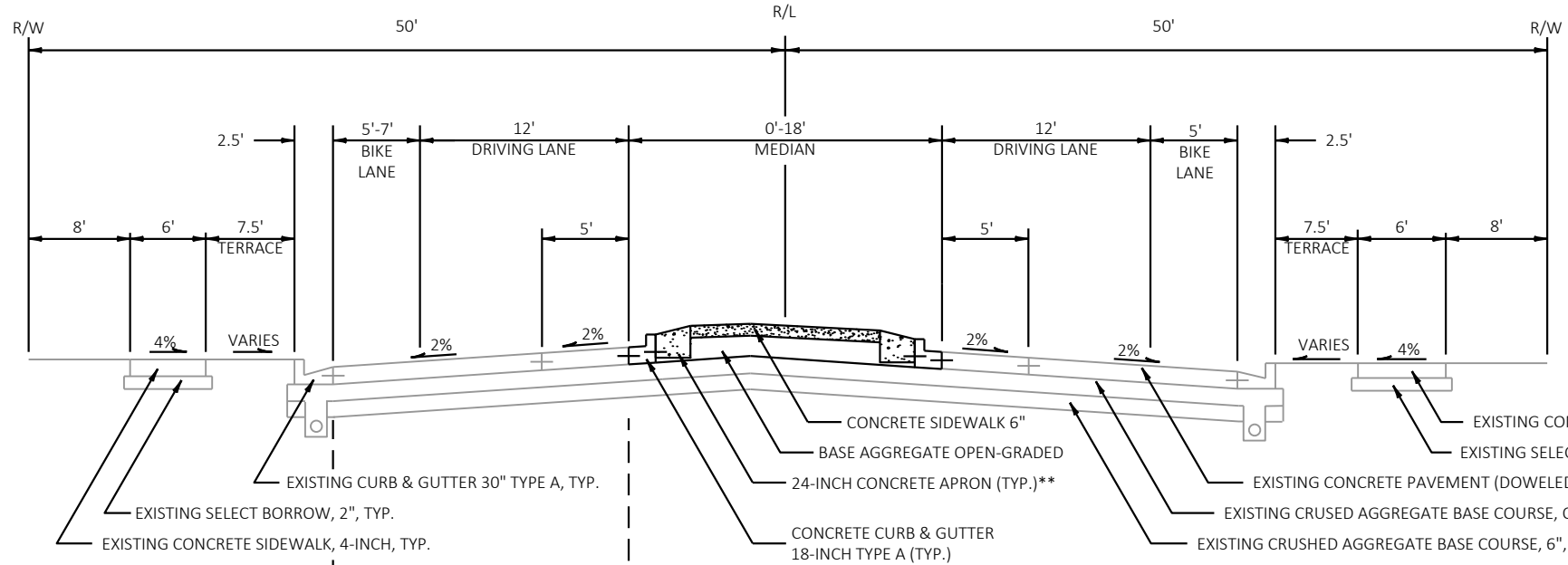
**EXISTING TYPICAL SECTION**  
 STA 105+34 - STA 109+36  
 STH 35 (TOWER AVE)



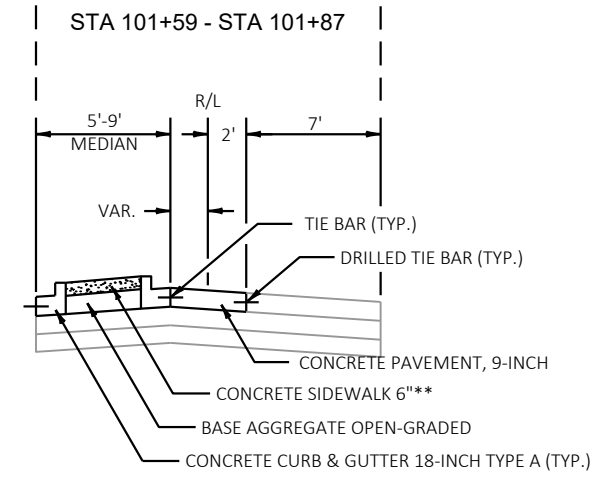
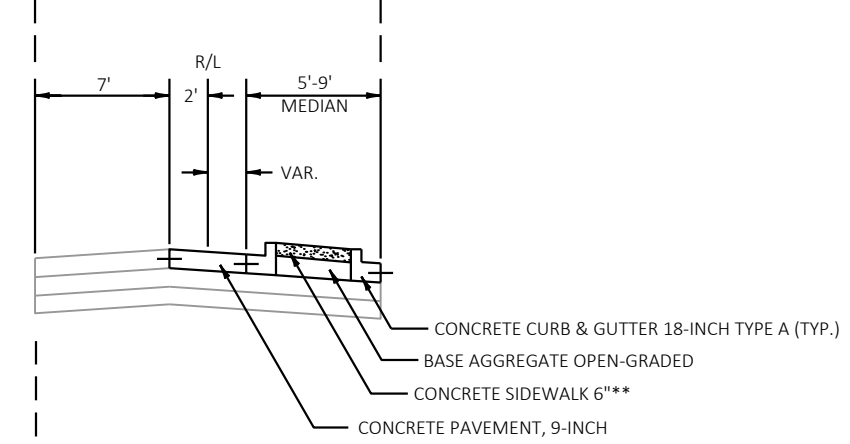
**EXISTING TYPICAL SECTION**  
 STA 107+52 - STA 109+36

**EXISTING TYPICAL SECTION**  
 STA 105+34 - STA 106+28



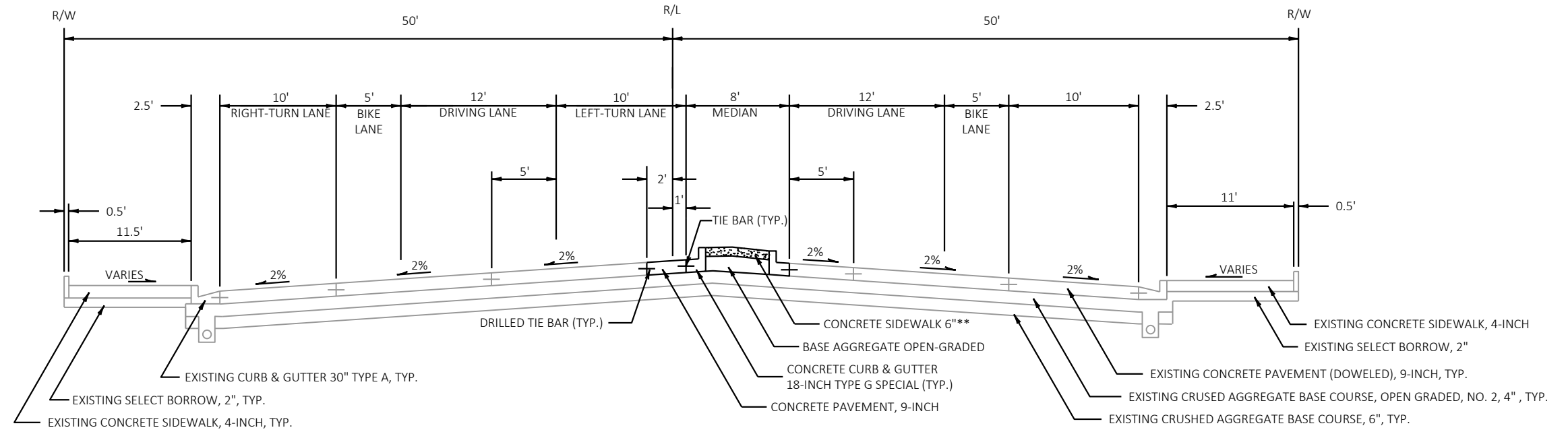


**PROPOSED TYPICAL SECTION**  
 STA 101+22 - STA 105+34  
 STH 35 (TOWER AVE)



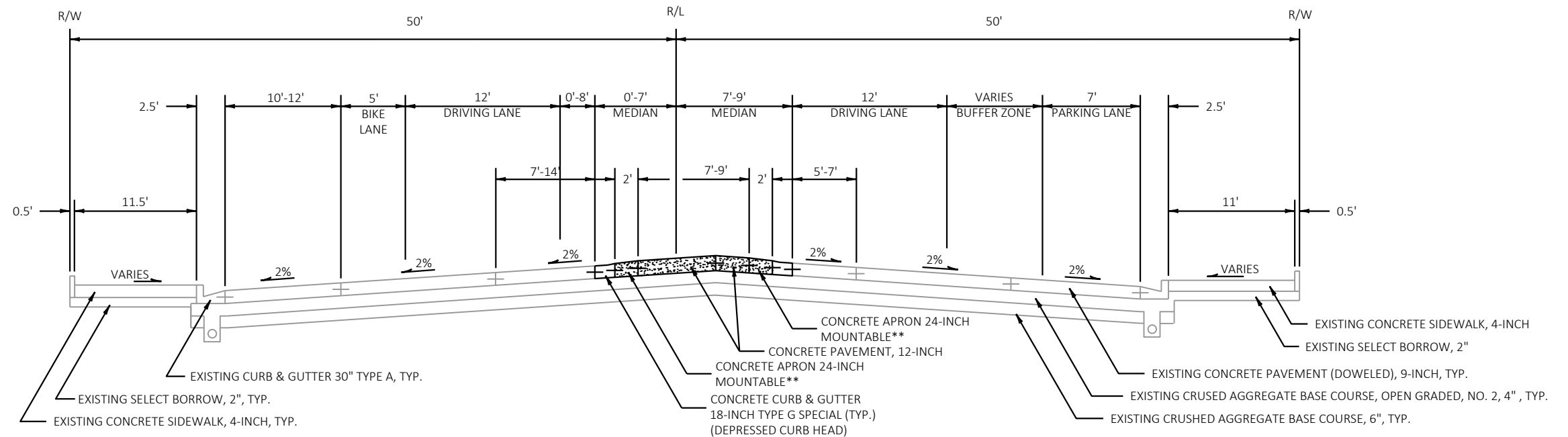
\*\* STAMPING COLORED CONCRETE WISDOT RED, SEE CONSTRUCTION DETAILS

- (A) 6" TOPSOIL, SEED, FERTILIZE, & EMAT
  - (B) STA 103+85 - STA 104+39
  - (C) PIPE UNDERDRAIN 6-INCH
- 
- (A) 6" TOPSOIL, SEED, FERTILIZE, & EMAT
  - (B) STA 104+39 - STA 104+57
  - (C) PIPE UNDERDRAIN 6-INCH



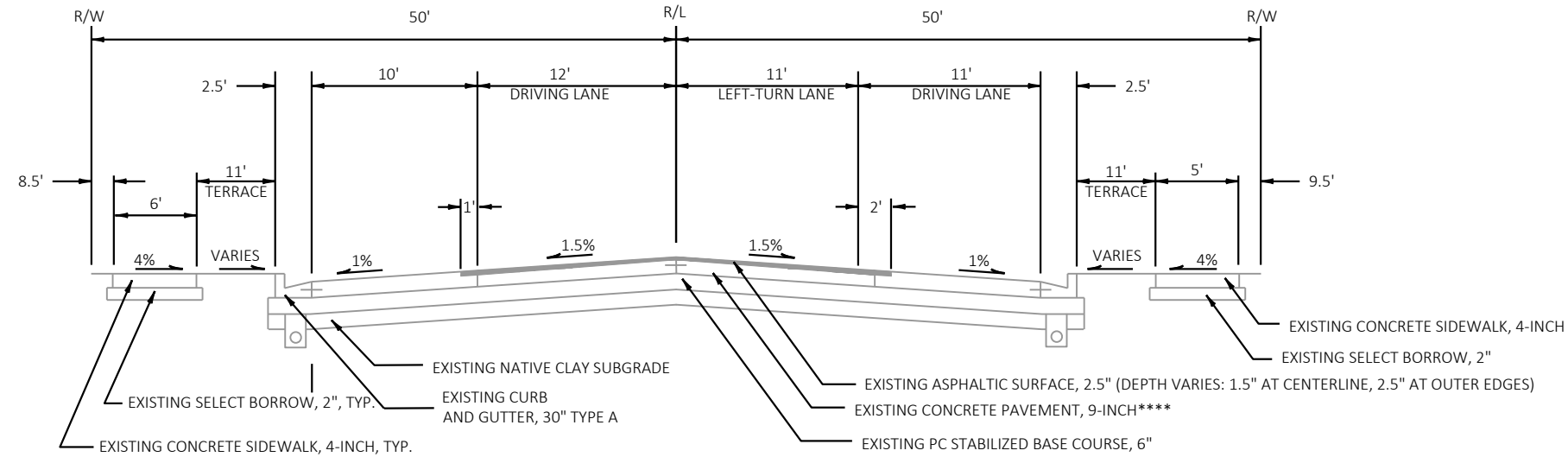
**PROPOSED TYPICAL SECTION**  
 STA 105+87 - STA 107+27  
 STH 35 (TOWER AVE)

\*\* STAMPING COLORED CONCRETE WISDOT RED, SEE CONSTRUCTION DETAILS



**PROPOSED TYPICAL SECTION**  
 STA 107+27 - STA 108+18  
 STH 35 (TOWER AVE)

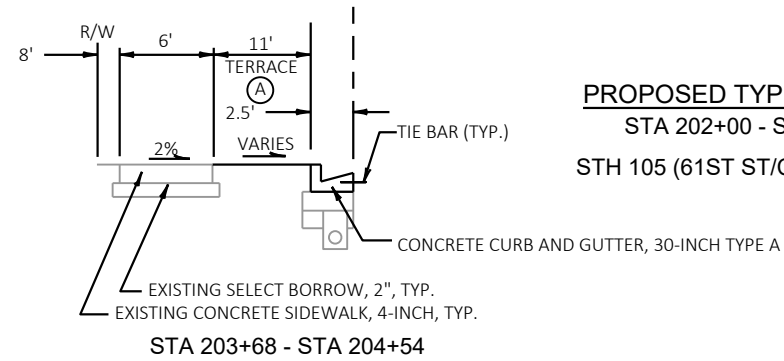




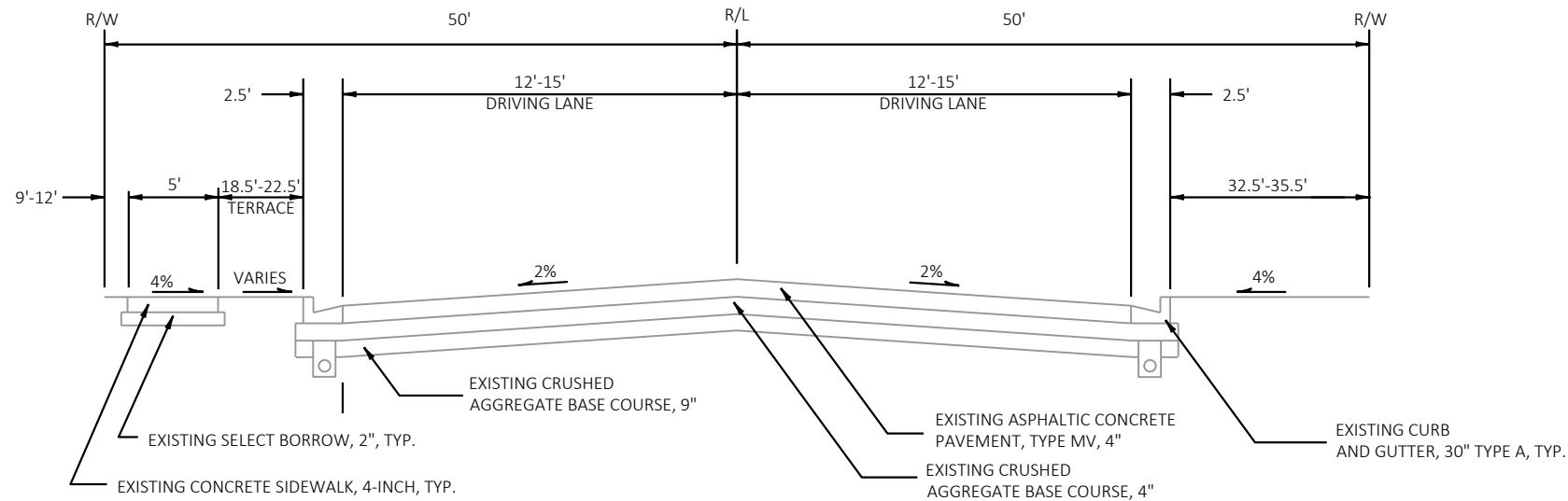
**PROPOSED TYPICAL SECTION**  
 STA 202+00 - STA 205+17  
 STH 105 (61ST ST/CENTRAL AVE)

\*\*\*\*INSIDE LANES HAVE ASPHALTIC SURFACE, 2.5" (DEPTH VARIES: 1.5" AT CENTERLINE, 2.5" AT OUTER EDGES) FROM STA 202+00 - STA 204+13.

(A) 6" TOPSOIL, SEED, FERTILIZE, & EMAT

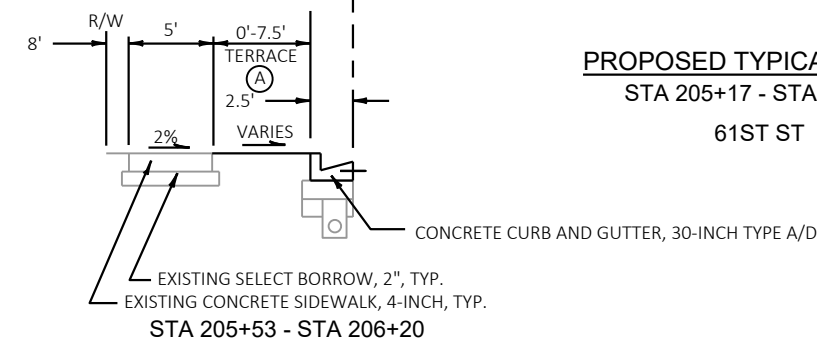


STA 203+68 - STA 204+54

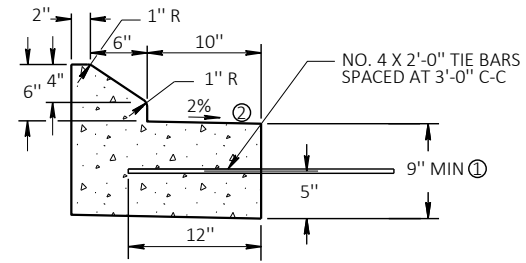


**PROPOSED TYPICAL SECTION**  
 STA 205+17 - STA 206+67  
 61ST ST

(A) 6" TOPSOIL, SEED, FERTILIZE, & EMAT

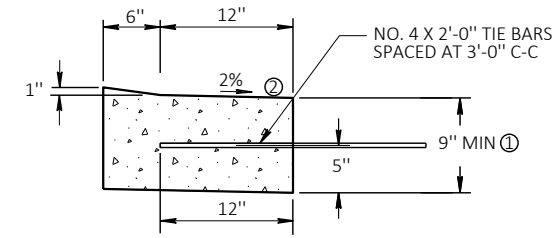


STA 205+53 - STA 206+20



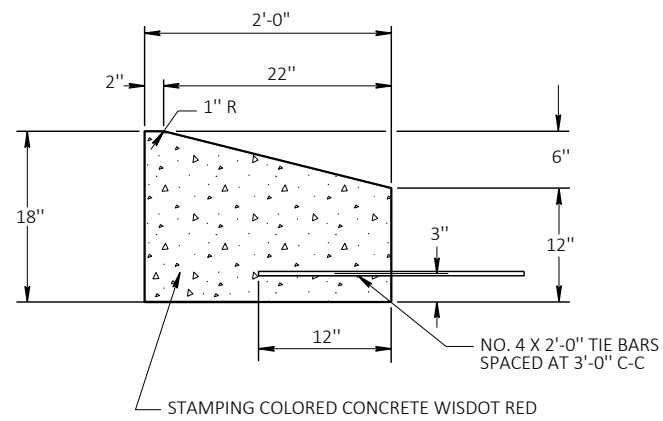
**CONCRETE CURB & GUTTER 18-INCH TYPE G SPECIAL**

NOTES:  
 1 - THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 9" MINIMUM GUTTER SLOPE THICKNESS IS MAINTAINED.  
 2 - GUTTER SLOPE TO MATCH ADJOINING PAVEMENT SLOPE.

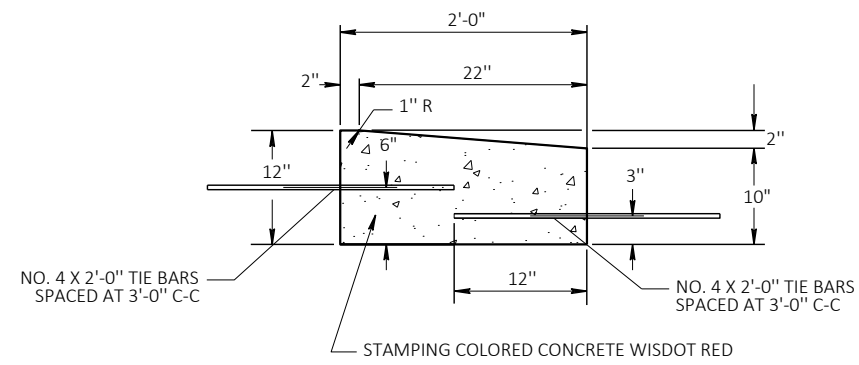


**CONCRETE CURB & GUTTER 18-INCH TYPE G SPECIAL (DEPRESSED CURB HEAD)**

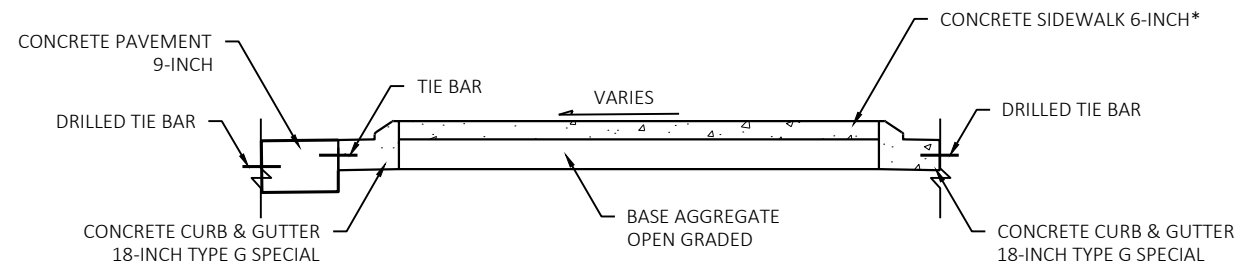
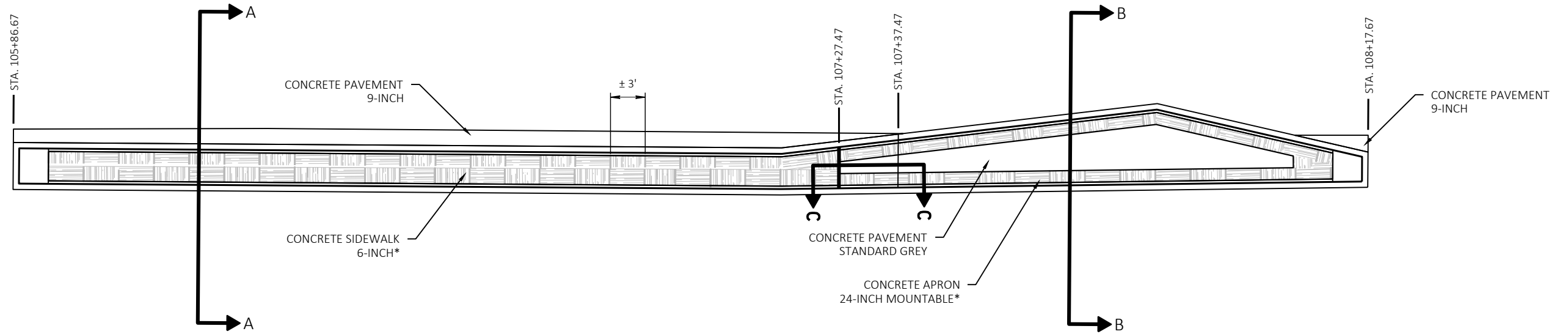
NOTES:  
 1 - THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 9" MINIMUM GUTTER SLOPE THICKNESS IS MAINTAINED.  
 2 - GUTTER SLOPE TO MATCH ADJOINING PAVEMENT SLOPE.



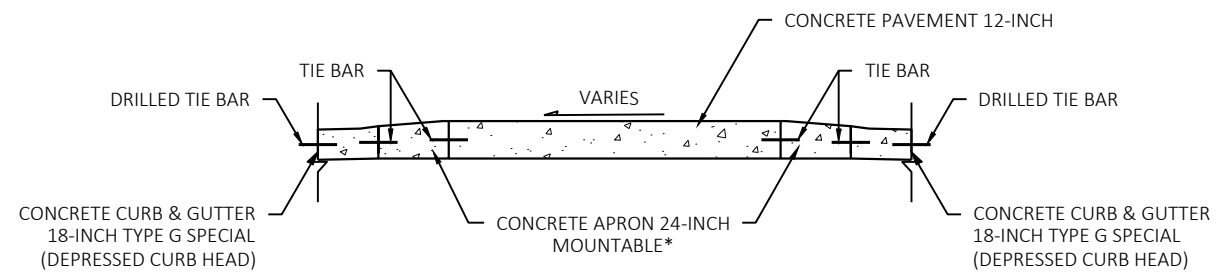
**CONCRETE APRON 24-INCH**



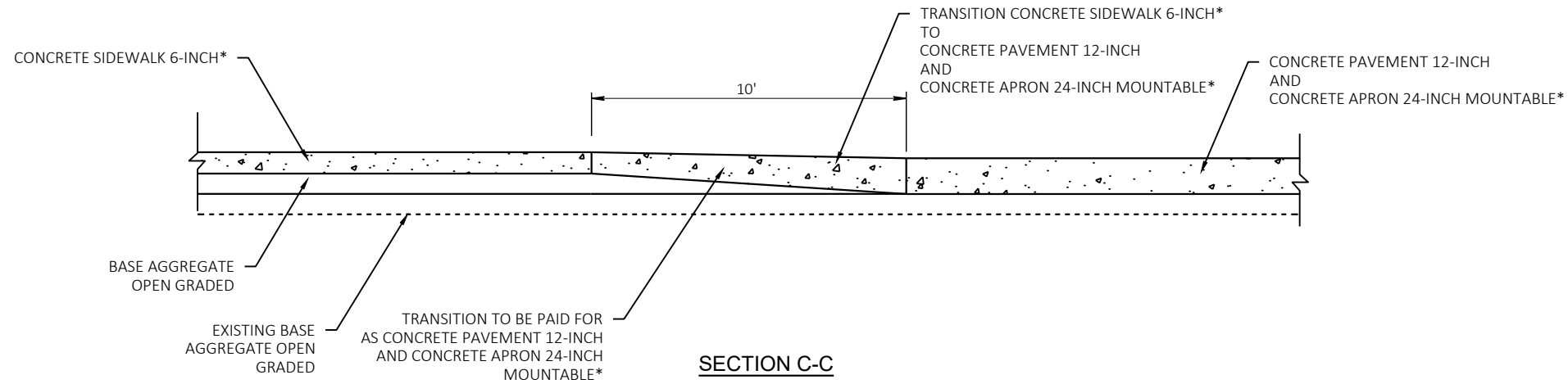
**CONCRETE APRON 24-INCH MOUNTABLE**



SECTION A-A



SECTION B-B



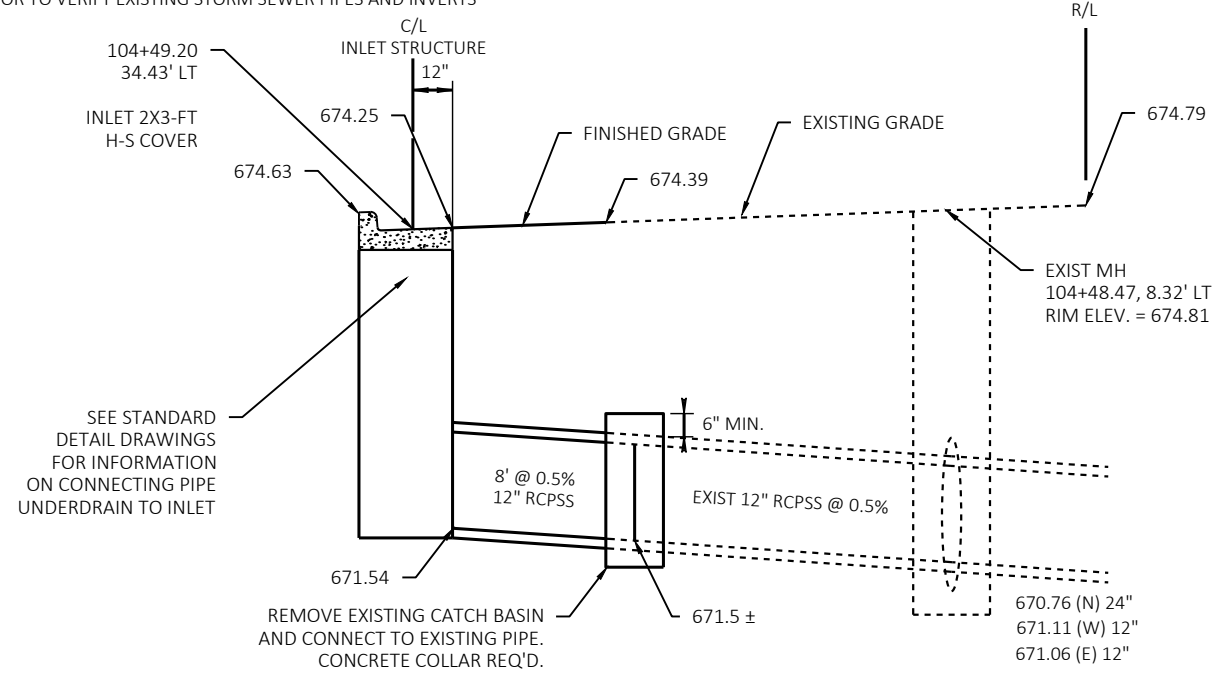
SECTION C-C

NORTHERN MEDIAN TRANSITION

STA. 105+86.67 - STA. 108+17.67

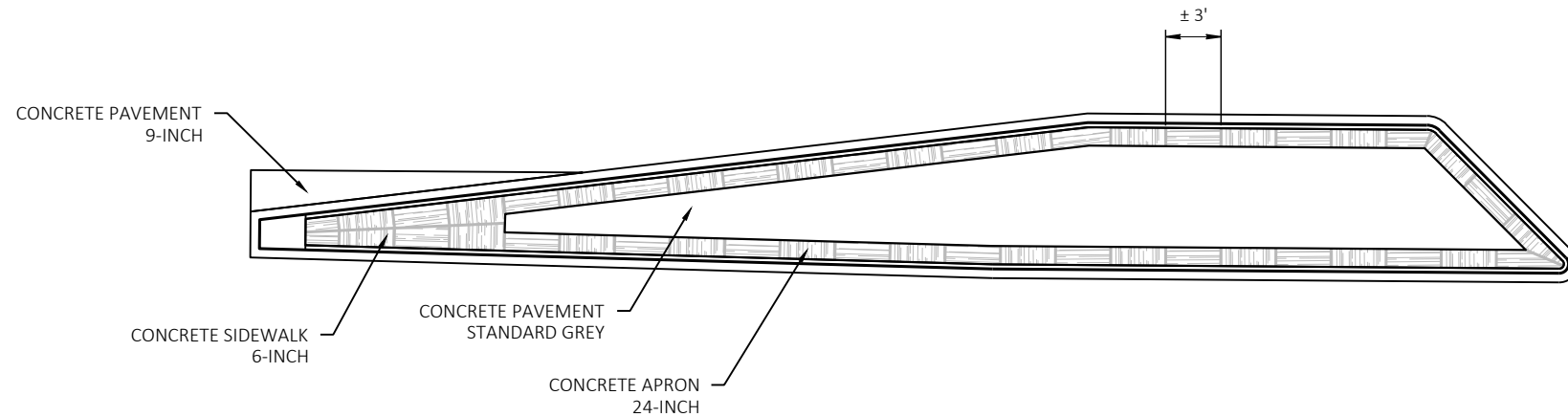
\*STAMPING COLORED CONCRETE (WISDOT RED). STAMPING TO CONSIST OF BROOM FINISH ALTERNATING FROM PARALLEL TO PERPENDICULAR.

NOTE: CONTRACTOR TO VERIFY EXISTING STORM SEWER PIPES AND INVERTS



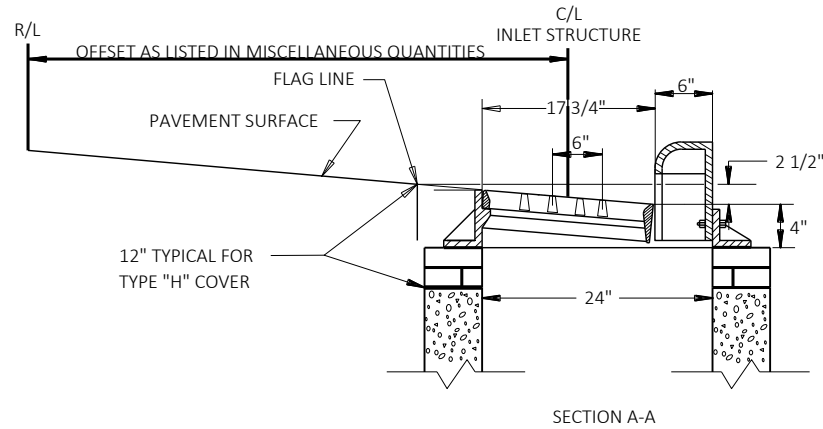
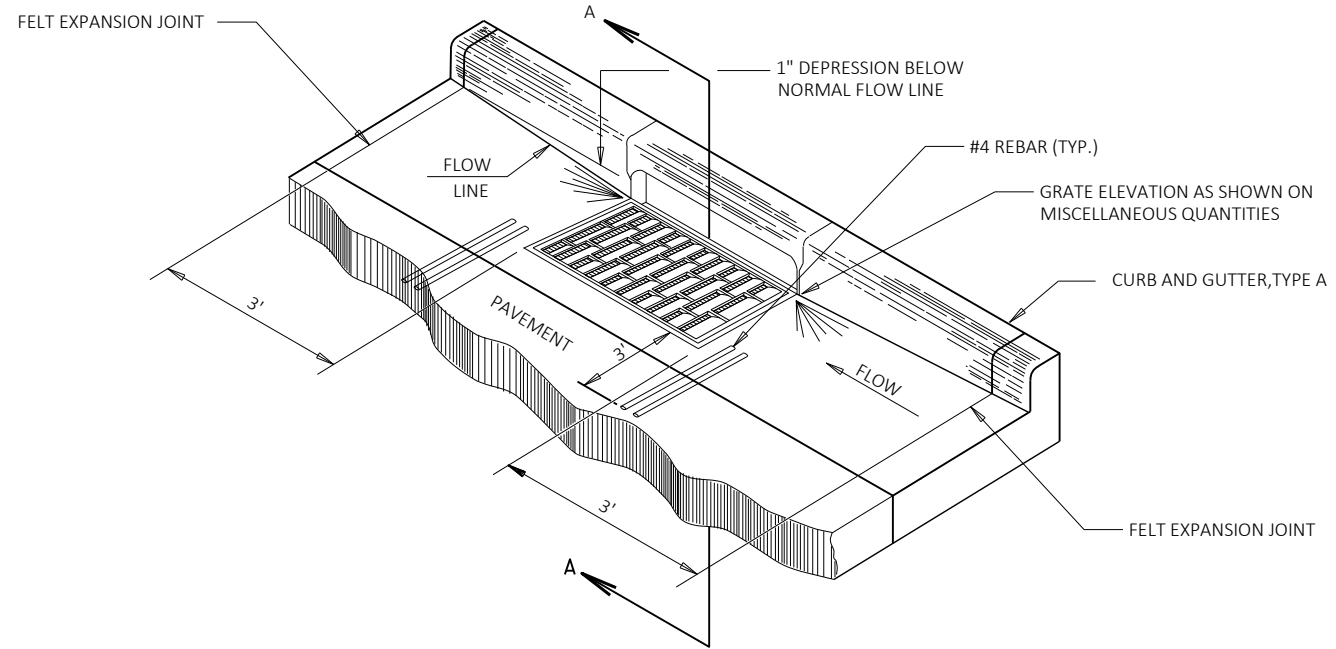
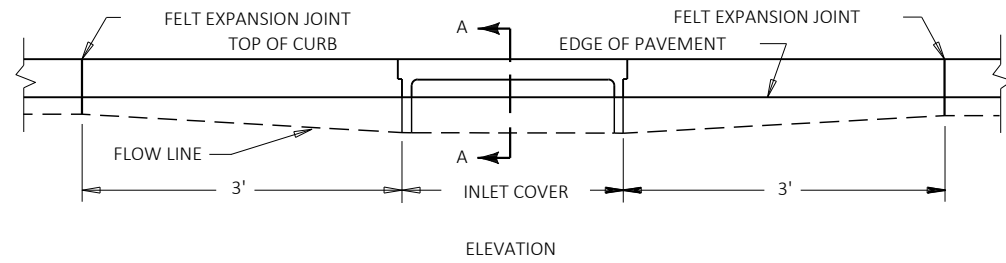
**INLET AND STORM SEWER PIPE DETAIL AT STA. 104+49**

(NOT TO SCALE)



**STAMPING COLORED CONCRETE DETAIL**

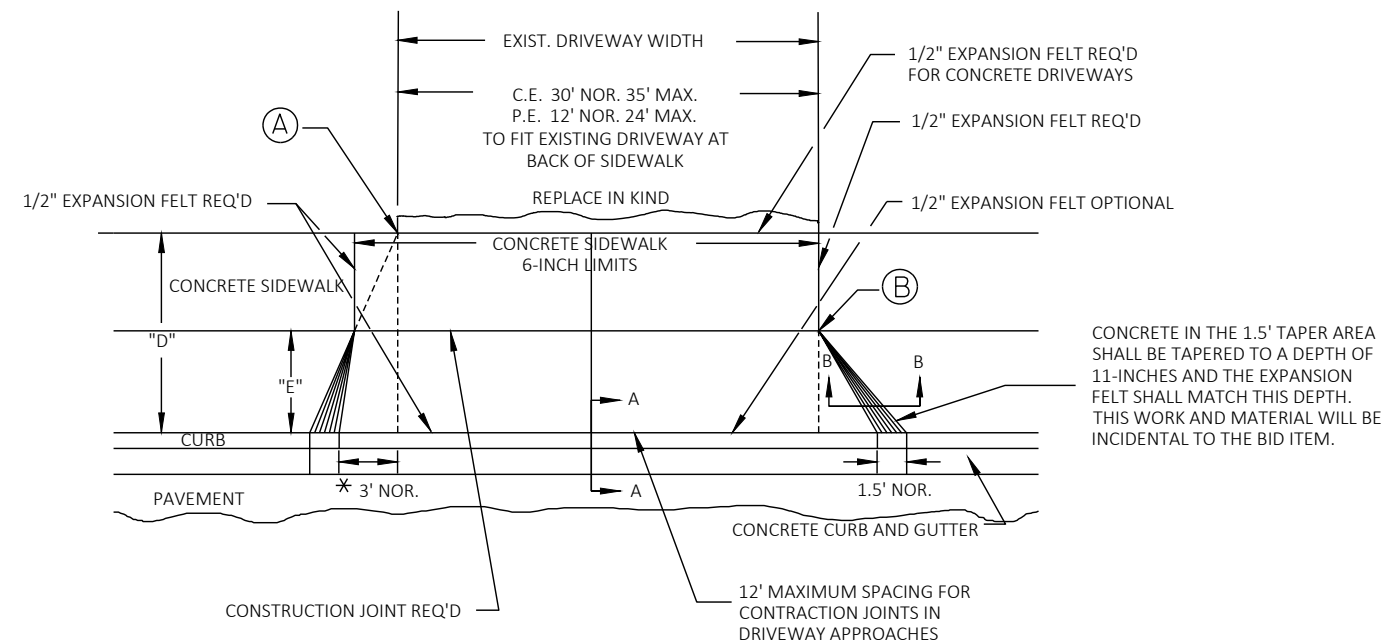
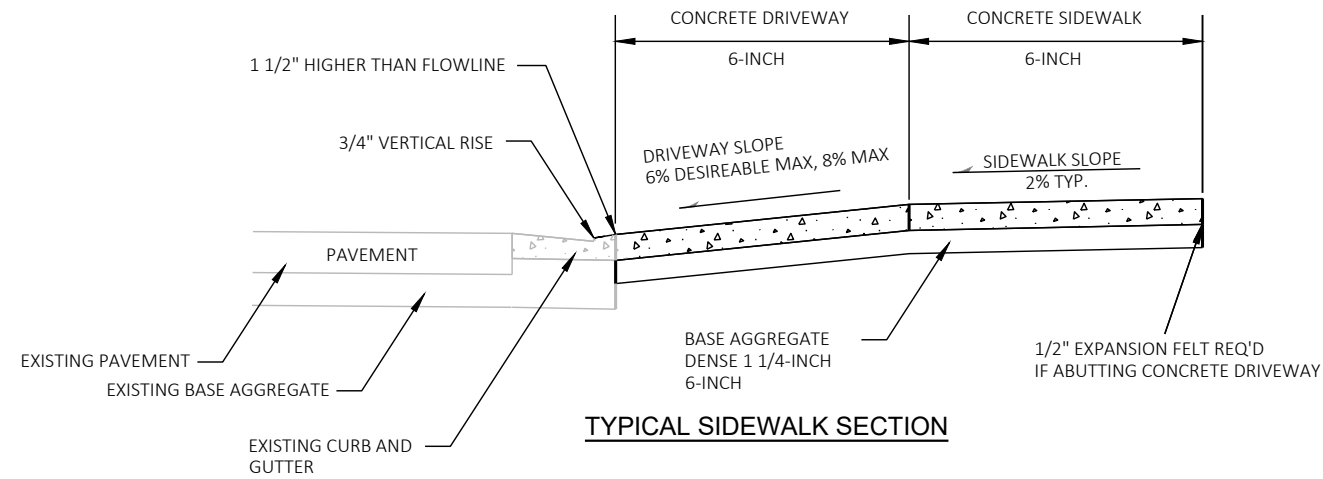
\*STAMPING COLORED CONCRETE (WISDOT RED). STAMPING TO CONSIST OF BROOM FINISH ALTERNATING FROM PARALLEL TO PERPENDICULAR.



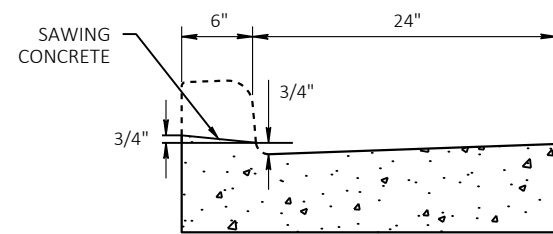
**DETAIL OF CURB AND GUTTER AT INLETS**

(NOT TO SCALE)

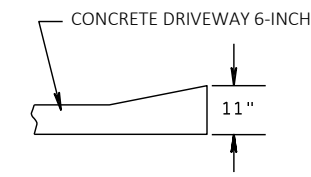
(TYPE 3-H INLET SHOWN)



CONCRETE IN THE 1.5' TAPER AREA SHALL BE TAPERED TO A DEPTH OF 11-INCHES AND THE EXPANSION FELT SHALL MATCH THIS DEPTH. THIS WORK AND MATERIAL WILL BE INCIDENTAL TO THE BID ITEM.

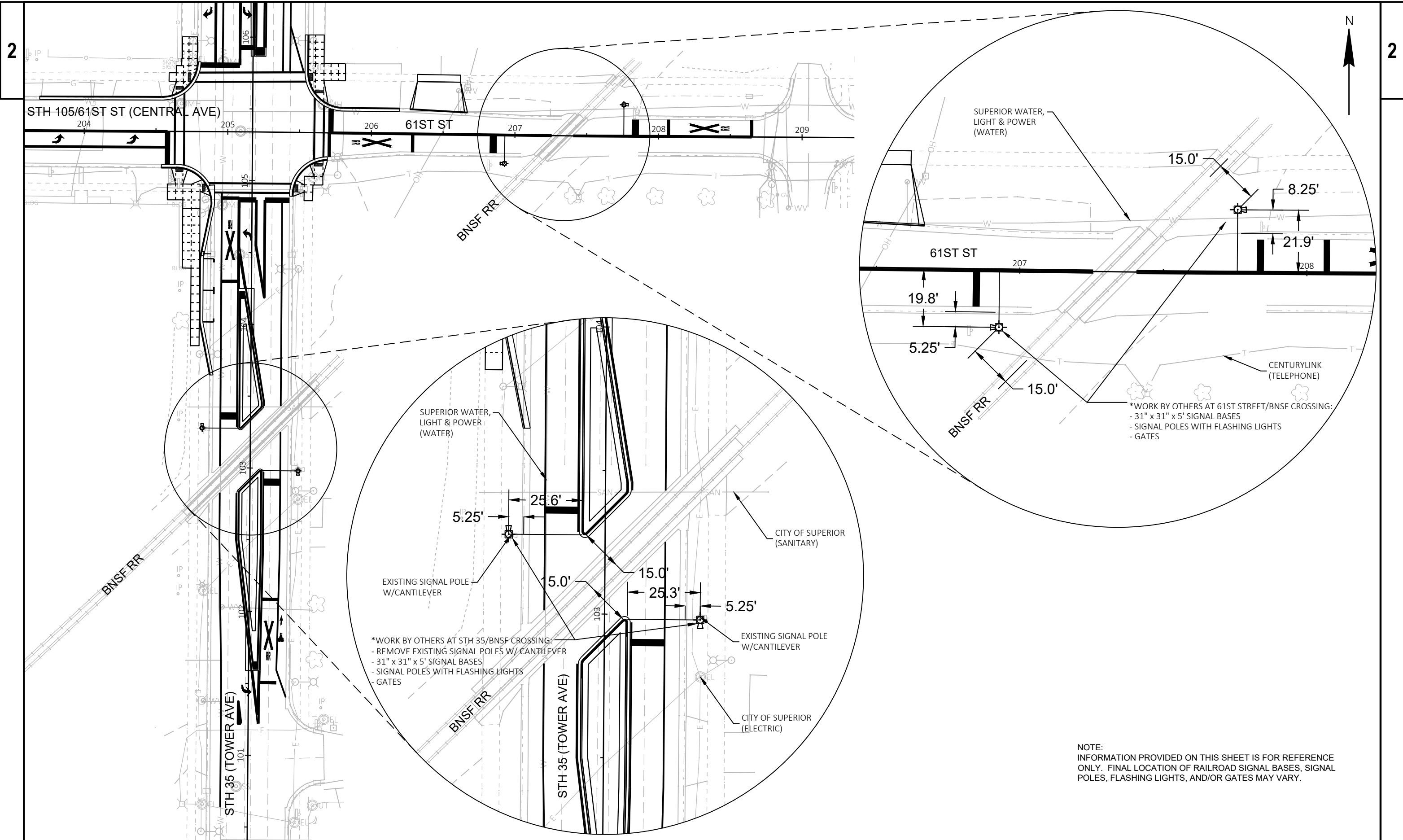


- Ⓐ WHEN "D" IS 13' OR LESS, ALIGN TAPER WITH BACK OF SIDEWALK
- Ⓑ WHEN "D" IS GREATER THAN 13', ALIGN TAPER WITH FRONT OF SIDEWALK
- ✱ WHEN "E" = 0 MAKE CURB TAPER 5'



**DRIVEWAY ENTRANCE DETAIL WITH SIDEWALK, CURB & GUTTER**

(NOT TO SCALE)



2

2

STH 105/61ST ST (CENTRAL AVE)

61ST ST

BNSF RR

STH 35 (TOWER AVE)

STH 35 (TOWER AVE)

61ST ST

BNSF RR

SUPERIOR WATER, LIGHT & POWER (WATER)

SUPERIOR WATER, LIGHT & POWER (WATER)

CITY OF SUPERIOR (SANITARY)

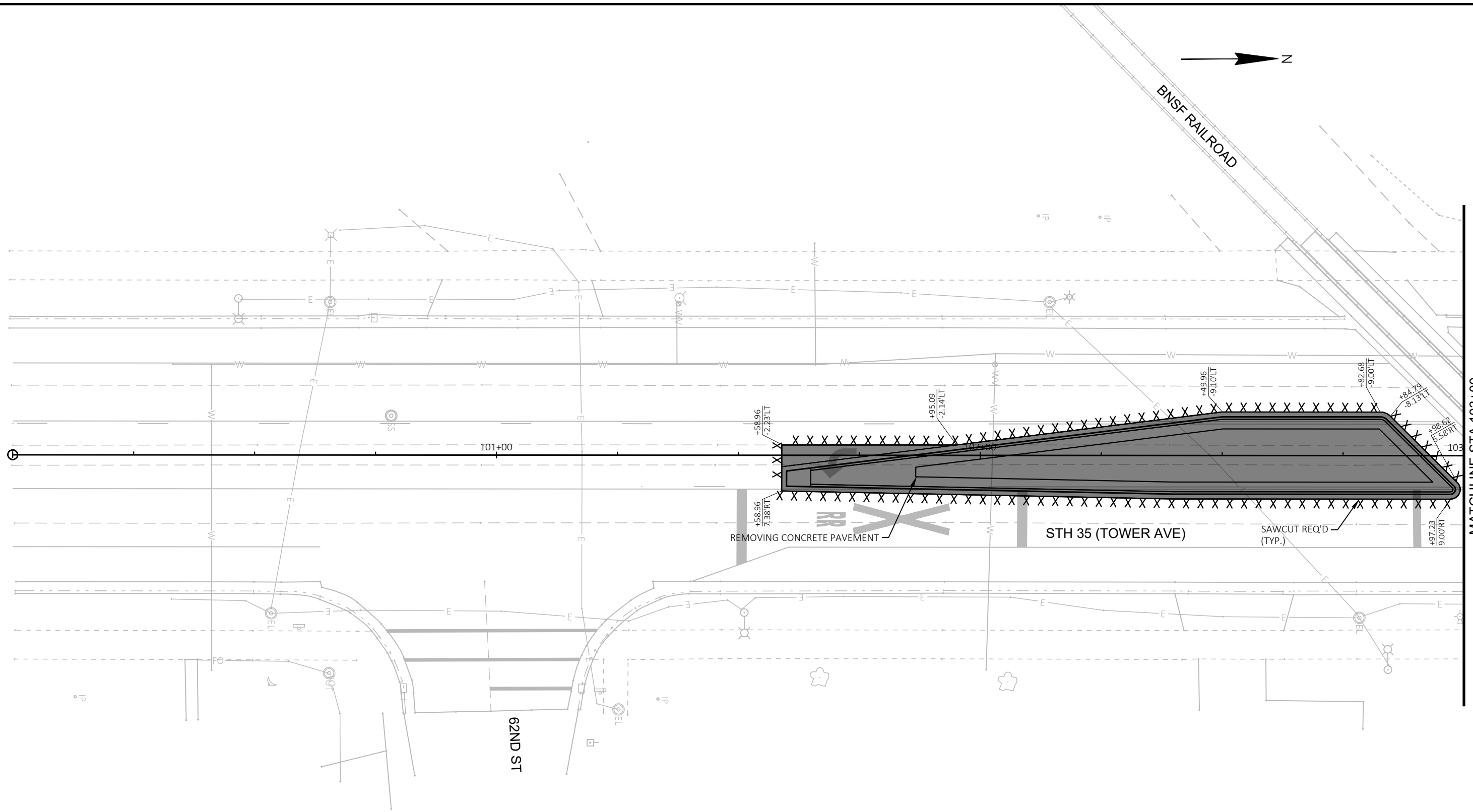
CITY OF SUPERIOR (ELECTRIC)

CENTURYLINK (TELEPHONE)

\*WORK BY OTHERS AT STH 35/BNSF CROSSING:  
 - REMOVE EXISTING SIGNAL POLES W/ CANTILEVER  
 - 31" x 31" x 5' SIGNAL BASES  
 - SIGNAL POLES WITH FLASHING LIGHTS  
 - GATES

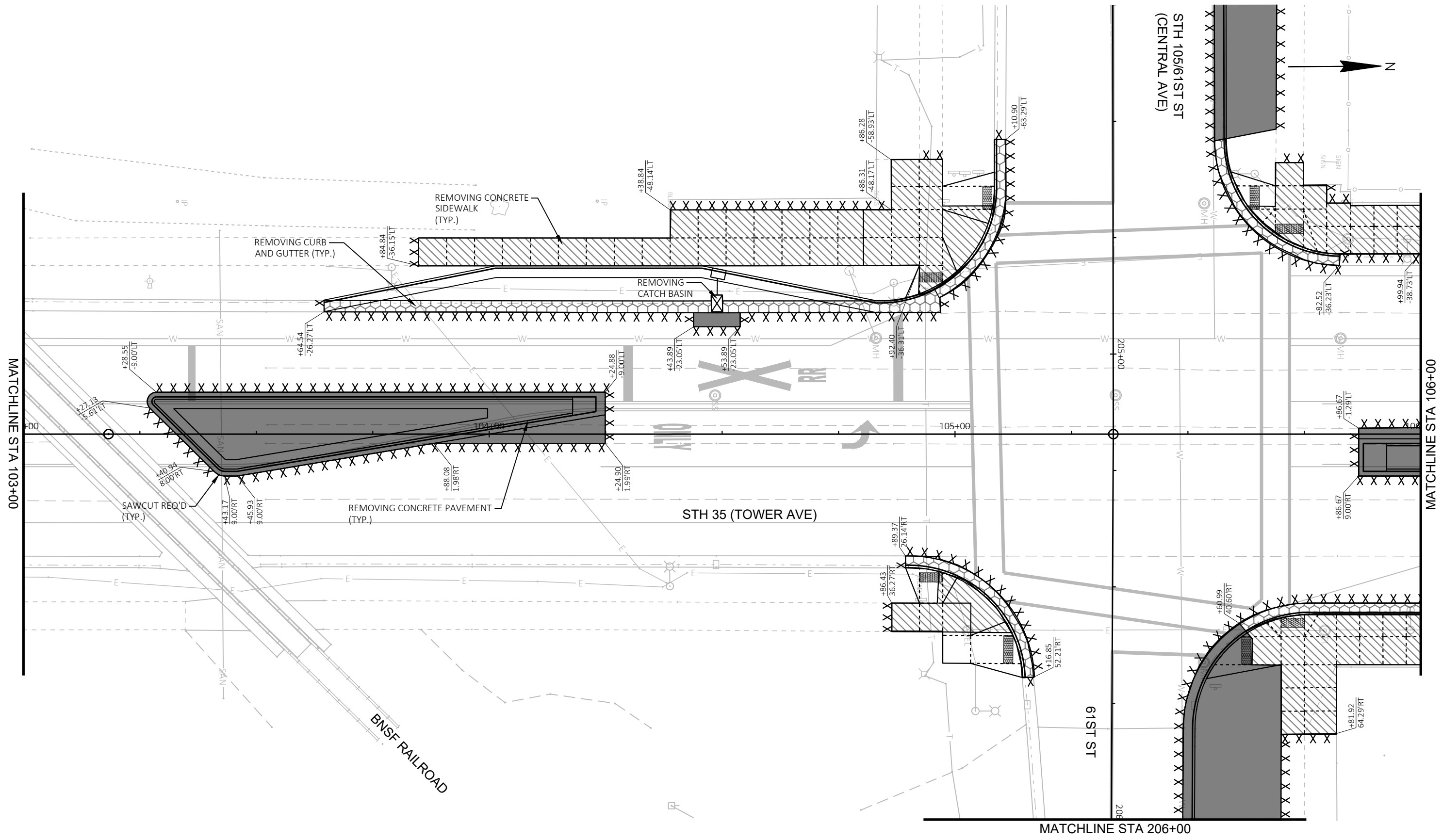
\*WORK BY OTHERS AT 61ST STREET/BNSF CROSSING:  
 - 31" x 31" x 5' SIGNAL BASES  
 - SIGNAL POLES WITH FLASHING LIGHTS  
 - GATES

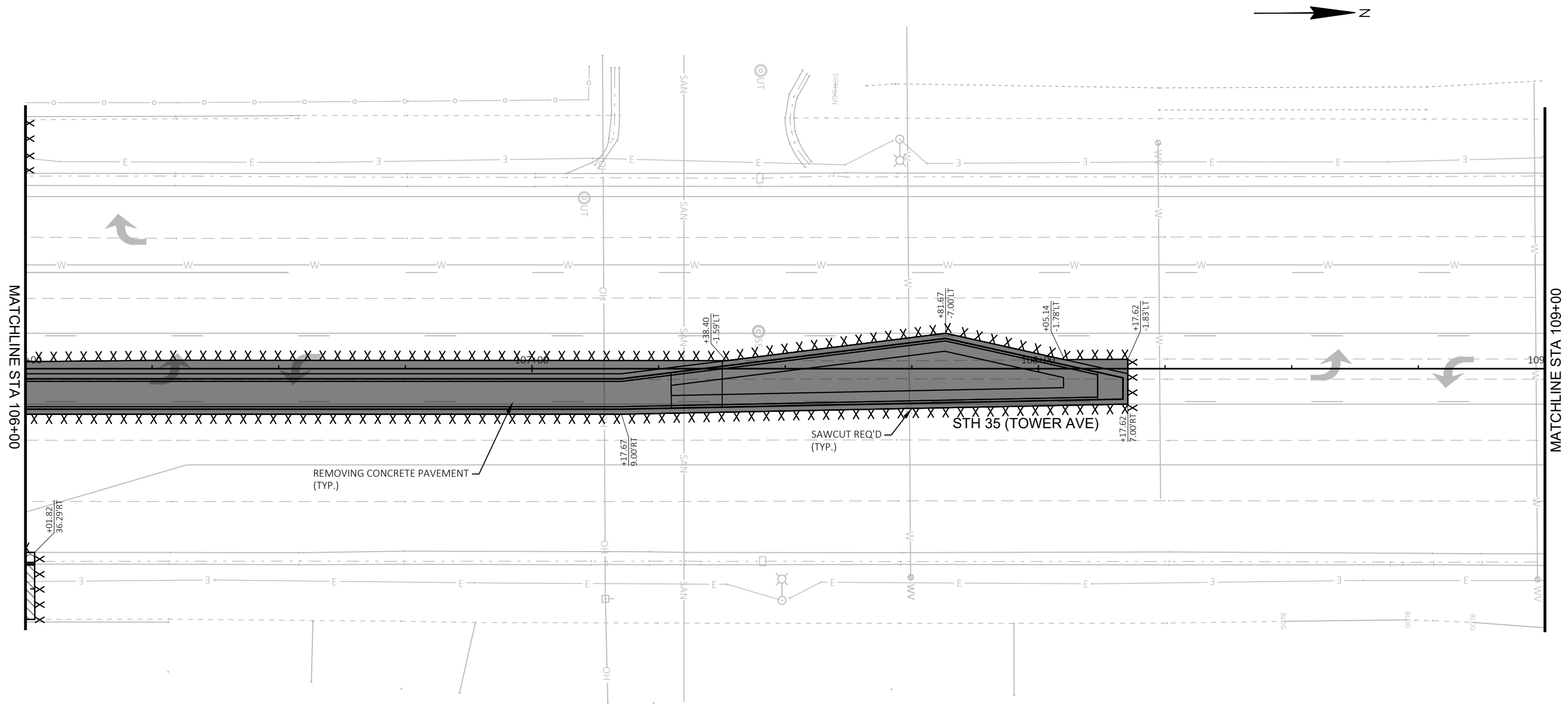
NOTE:  
 INFORMATION PROVIDED ON THIS SHEET IS FOR REFERENCE ONLY. FINAL LOCATION OF RAILROAD SIGNAL BASES, SIGNAL POLES, FLASHING LIGHTS, AND/OR GATES MAY VARY.



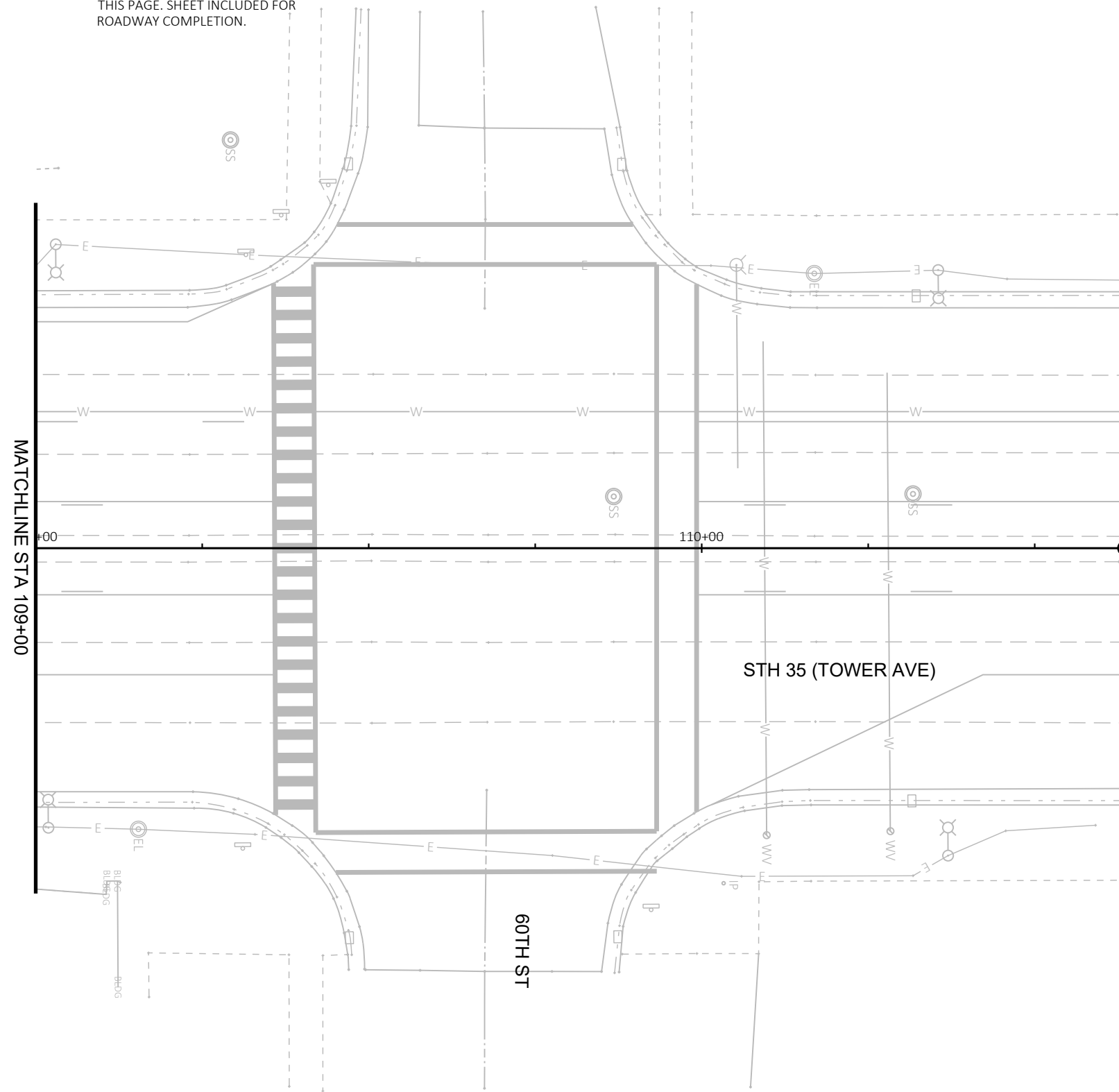
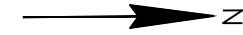
MATCHLINE STA 103+00





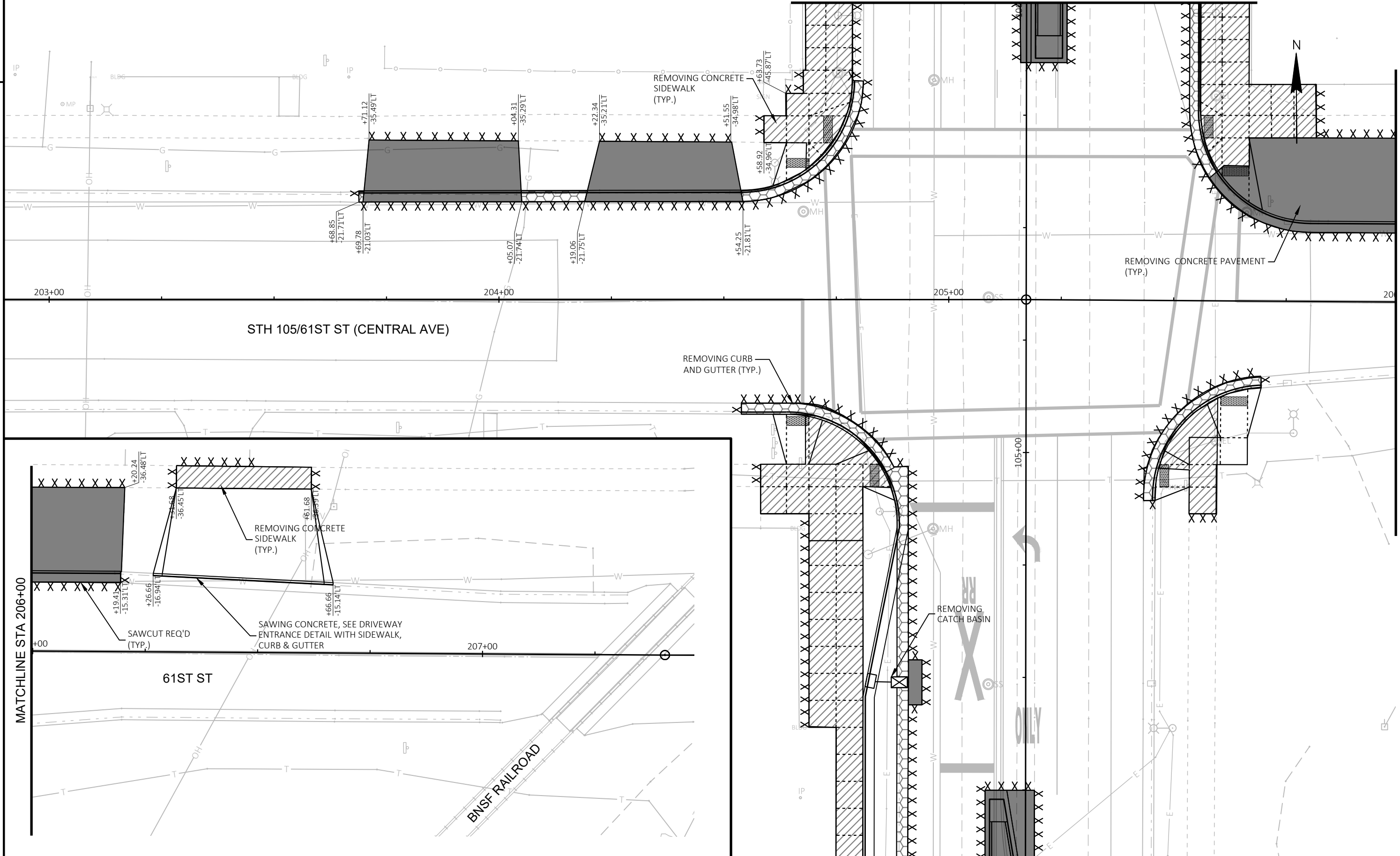


NOTE: NO REMOVAL ACTIVITIES ON THIS PAGE. SHEET INCLUDED FOR ROADWAY COMPLETION.



MATCHLINE STA 106+00

MATCHLINE STA 206+00



STH 105/61ST ST (CENTRAL AVE)

61ST ST

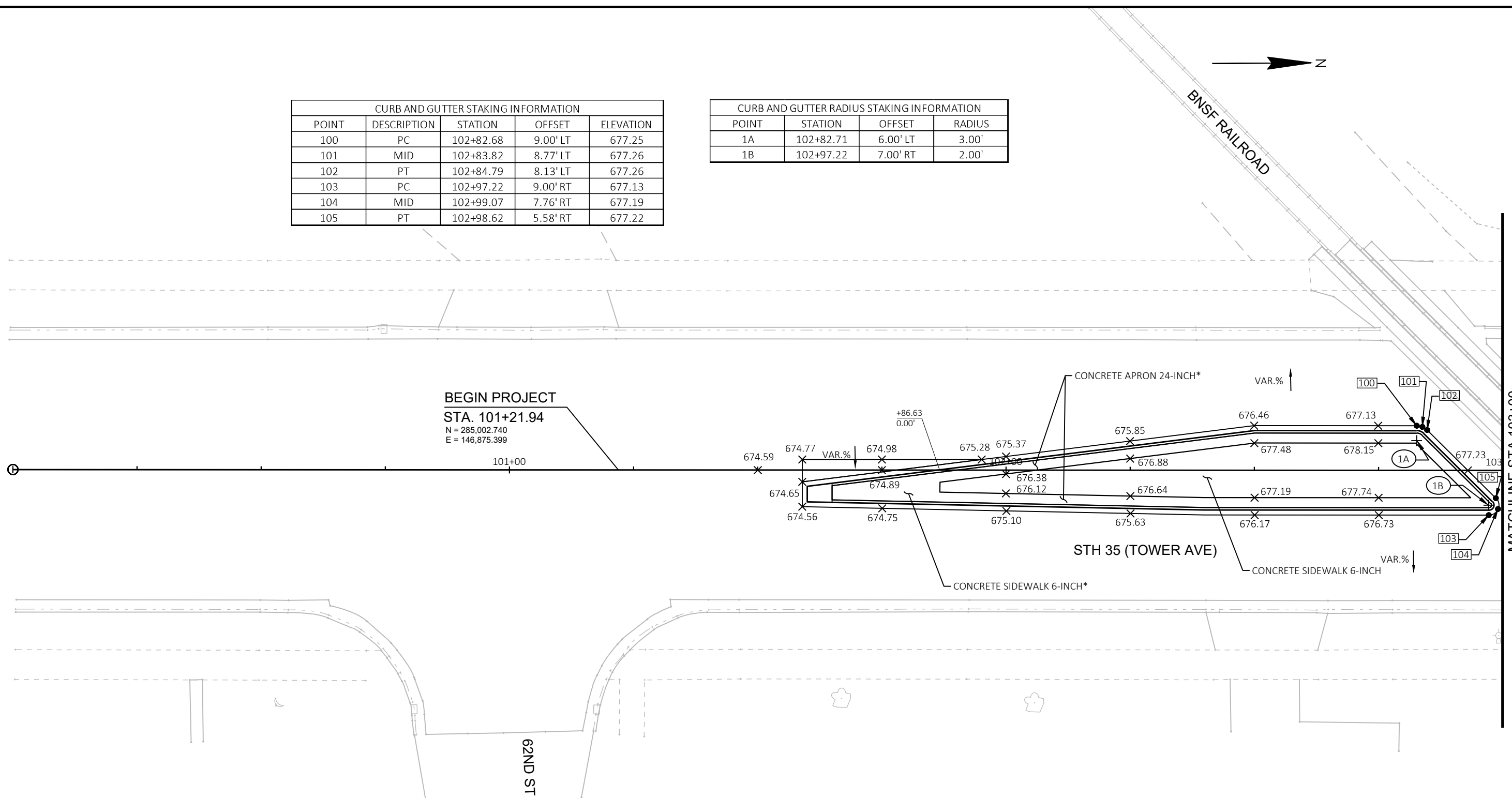
BNSF RAILROAD

MATCHLINE STA 206+00

PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	REMOVAL DETAILS	SHEET	E
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CURB AND GUTTER STAKING INFORMATION				
POINT	DESCRIPTION	STATION	OFFSET	ELEVATION
100	PC	102+82.68	9.00' LT	677.25
101	MID	102+83.82	8.77' LT	677.26
102	PT	102+84.79	8.13' LT	677.26
103	PC	102+97.22	9.00' RT	677.13
104	MID	102+99.07	7.76' RT	677.19
105	PT	102+98.62	5.58' RT	677.22

CURB AND GUTTER RADIUS STAKING INFORMATION			
POINT	STATION	OFFSET	RADIUS
1A	102+82.71	6.00' LT	3.00'
1B	102+97.22	7.00' RT	2.00'

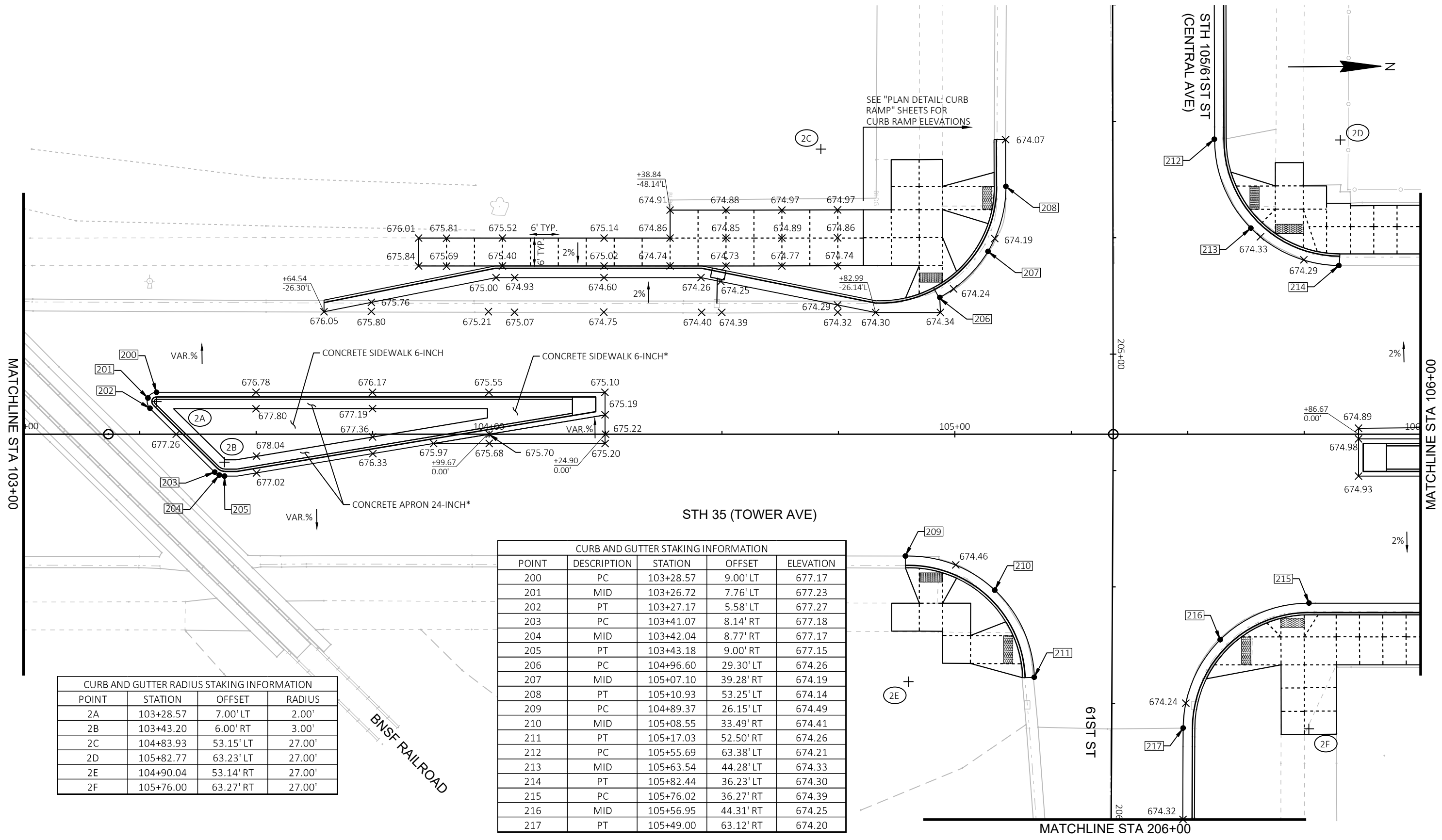


**BEGIN PROJECT**  
**STA. 101+21.94**  
 N = 285,002.740  
 E = 146,875.399

**STH 35 (TOWER AVE)**

MATCHLINE STA 103+00

\*STAMPING COLORED CONCRETE WISDOT RED

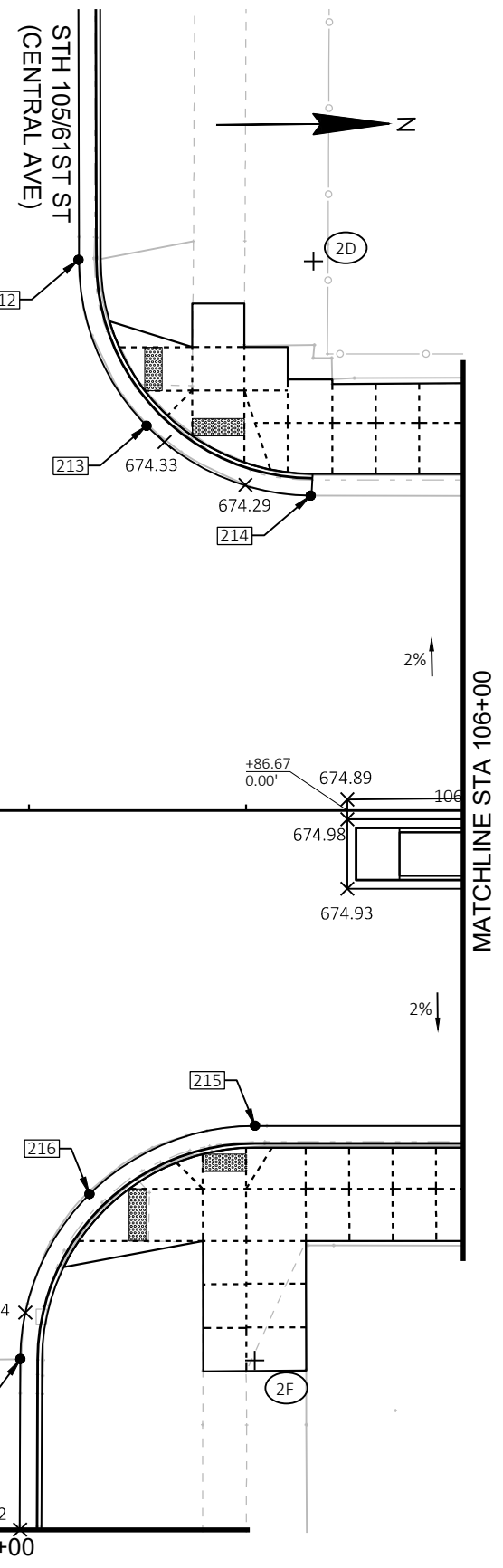


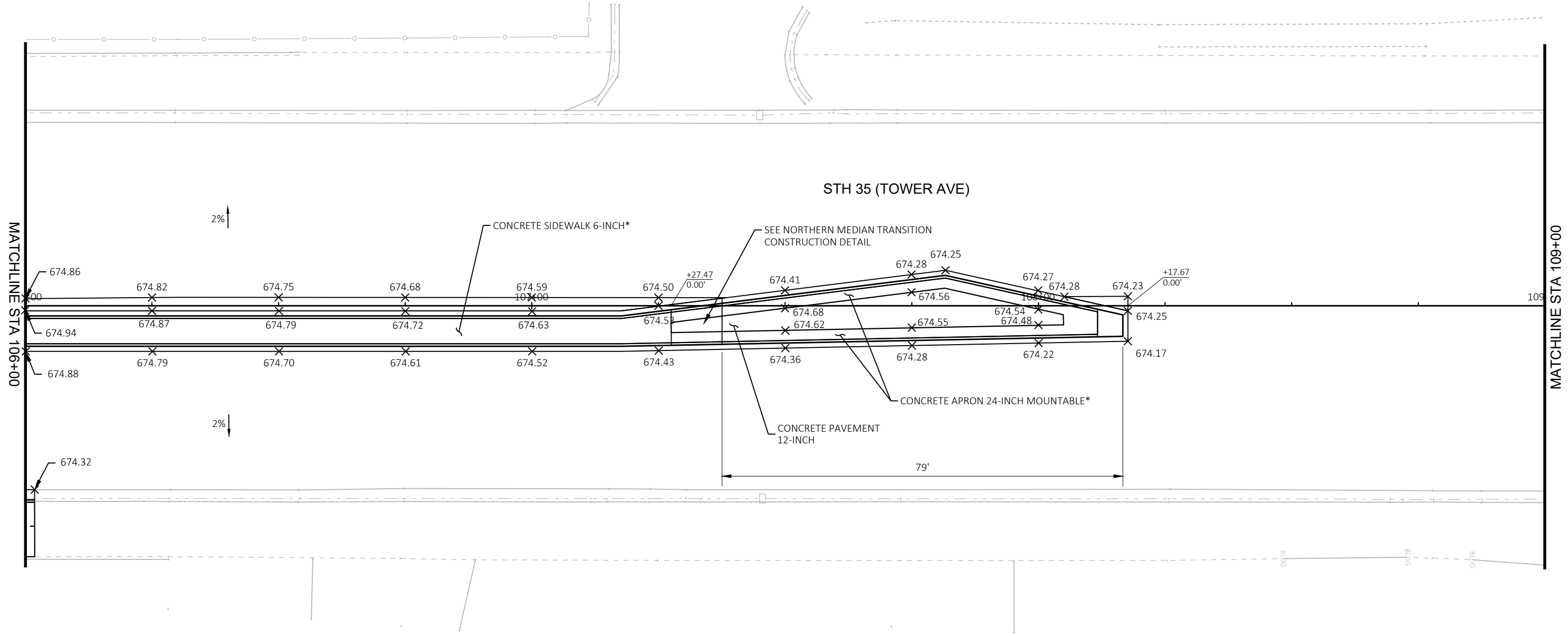
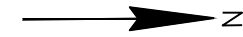
STH 35 (TOWER AVE)

CURB AND GUTTER STAKING INFORMATION				
POINT	DESCRIPTION	STATION	OFFSET	ELEVATION
200	PC	103+28.57	9.00' LT	677.17
201	MID	103+26.72	7.76' LT	677.23
202	PT	103+27.17	5.58' LT	677.27
203	PC	103+41.07	8.14' RT	677.18
204	MID	103+42.04	8.77' RT	677.17
205	PT	103+43.18	9.00' RT	677.15
206	PC	104+96.60	29.30' LT	674.26
207	MID	105+07.10	39.28' RT	674.19
208	PT	105+10.93	53.25' LT	674.14
209	PC	104+89.37	26.15' LT	674.49
210	MID	105+08.55	33.49' RT	674.41
211	PT	105+17.03	52.50' RT	674.26
212	PC	105+55.69	63.38' LT	674.21
213	MID	105+63.54	44.28' LT	674.33
214	PT	105+82.44	36.23' LT	674.30
215	PC	105+76.02	36.27' RT	674.39
216	MID	105+56.95	44.31' RT	674.25
217	PT	105+49.00	63.12' RT	674.20

CURB AND GUTTER RADIUS STAKING INFORMATION			
POINT	STATION	OFFSET	RADIUS
2A	103+28.57	7.00' LT	2.00'
2B	103+43.20	6.00' RT	3.00'
2C	104+83.93	53.15' LT	27.00'
2D	105+82.77	63.23' LT	27.00'
2E	104+90.04	53.14' RT	27.00'
2F	105+76.00	63.27' RT	27.00'

\*STAMPING COLORED CONCRETE WISDOT RED



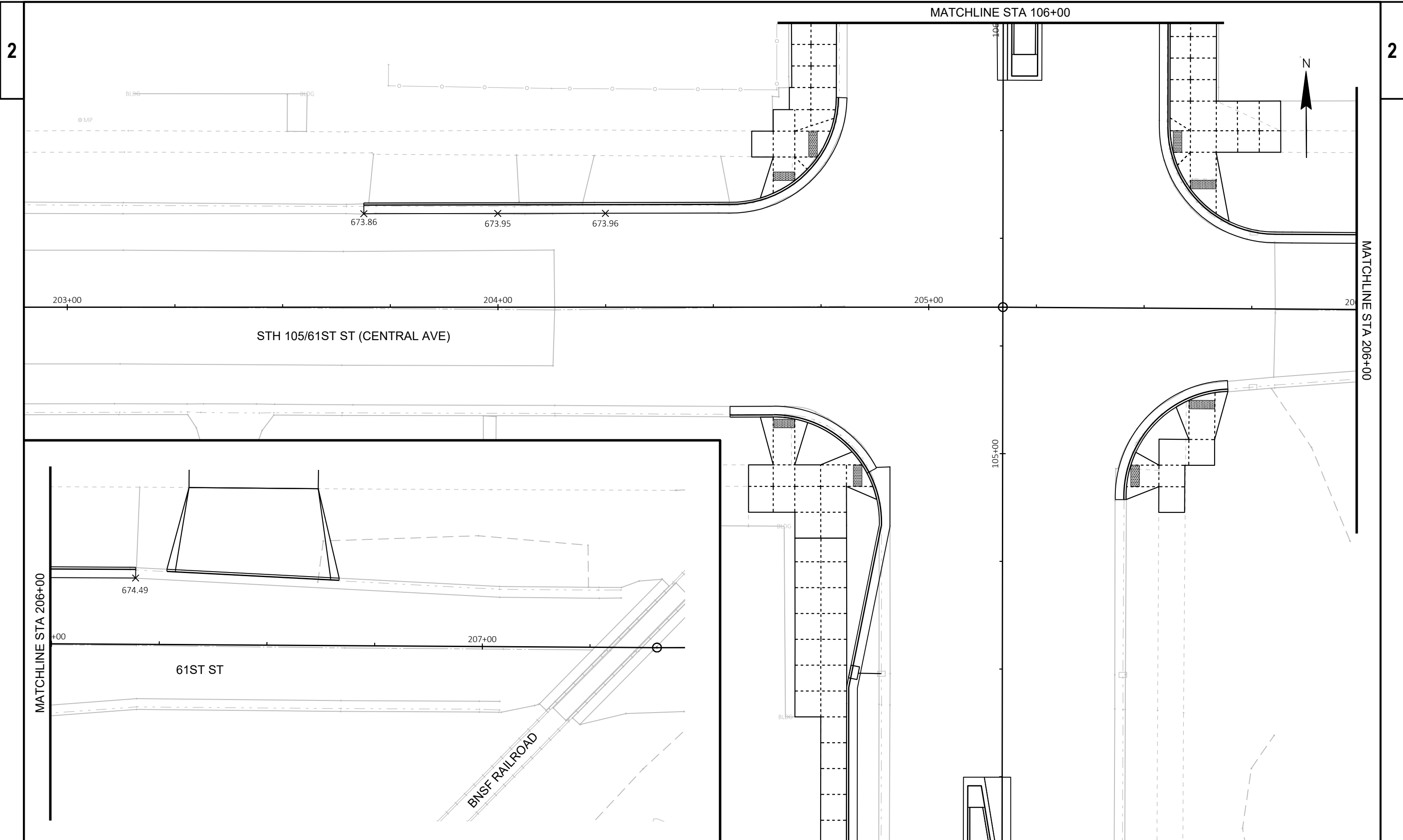


\*STAMPING COLORED CONCRETE WISDOT RED

PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	PAVING DETAILS	SHEET	<b>E</b>
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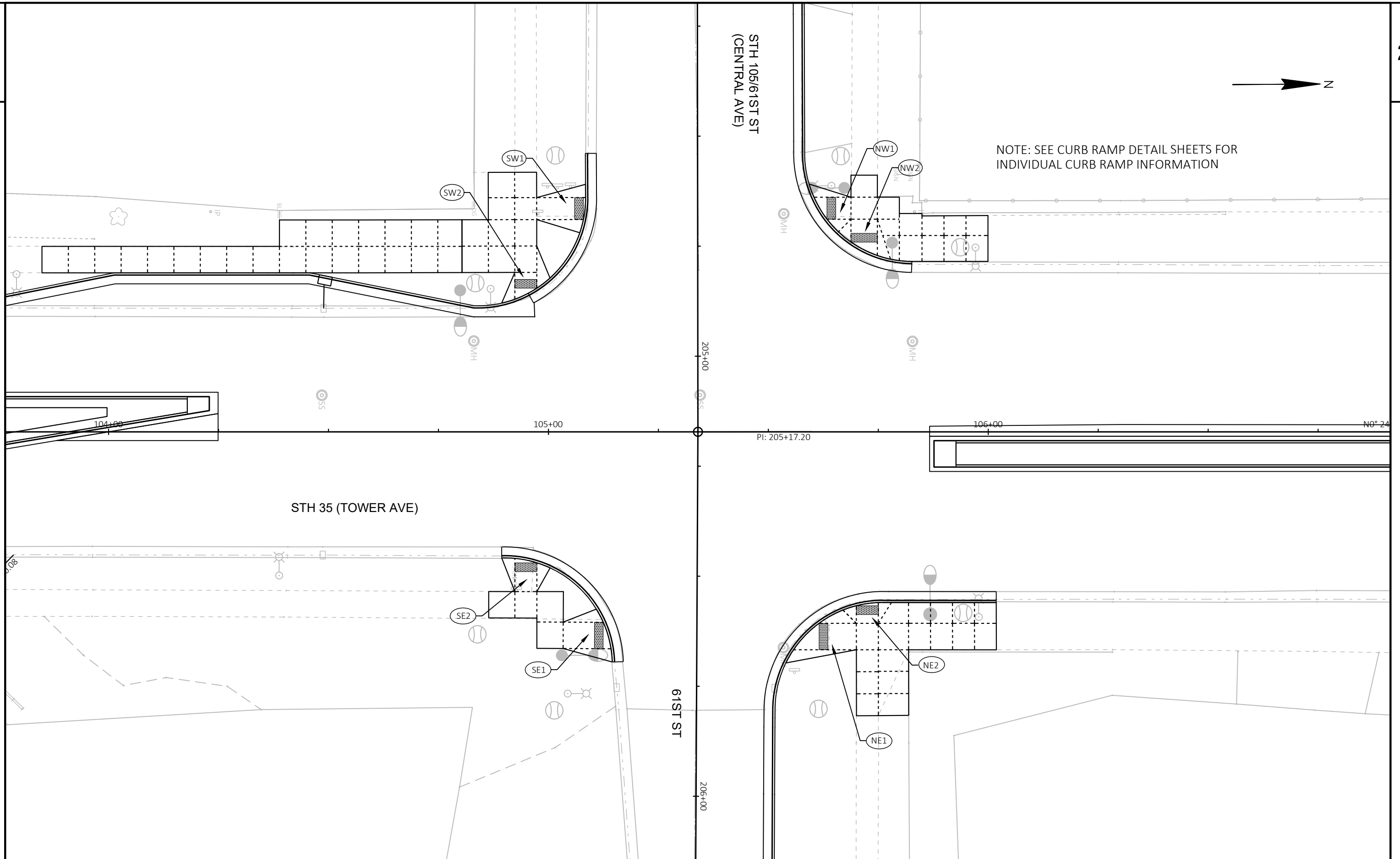




2

2

PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	PAVING DETAILS	SHEET	E
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PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	PLAN DETAIL: CURB RAMPS OVERVIEW	SHEET	<b>E</b>
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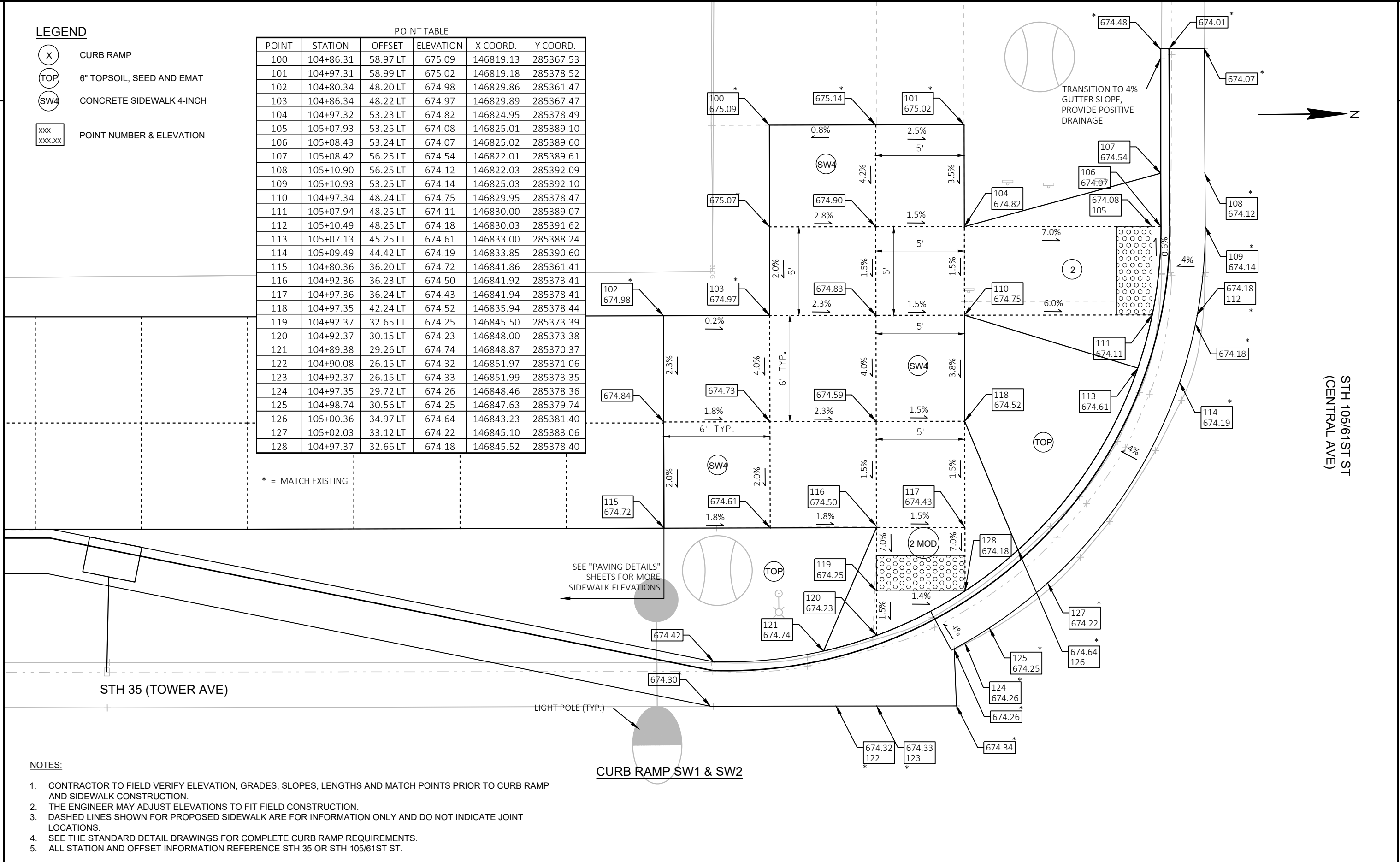
LEGEND

- (X) CURB RAMP
- (TOP) 6" TOPSOIL, SEED AND EMAT
- (SW4) CONCRETE SIDEWALK 4-INCH
- xxx  
xxx.xx POINT NUMBER & ELEVATION

POINT TABLE

POINT	STATION	OFFSET	ELEVATION	X COORD.	Y COORD.
100	104+86.31	58.97 LT	675.09	146819.13	285367.53
101	104+97.31	58.99 LT	675.02	146819.18	285378.52
102	104+80.34	48.20 LT	674.98	146829.86	285361.47
103	104+86.34	48.22 LT	674.97	146829.89	285367.47
104	104+97.32	53.23 LT	674.82	146824.95	285378.49
105	105+07.93	53.25 LT	674.08	146825.01	285389.10
106	105+08.43	53.24 LT	674.07	146825.02	285389.60
107	105+08.42	56.25 LT	674.54	146822.01	285389.61
108	105+10.90	56.25 LT	674.12	146822.03	285392.09
109	105+10.93	53.25 LT	674.14	146825.03	285392.10
110	104+97.34	48.24 LT	674.75	146829.95	285378.47
111	105+07.94	48.25 LT	674.11	146830.00	285389.07
112	105+10.49	48.25 LT	674.18	146830.03	285391.62
113	105+07.13	45.25 LT	674.61	146833.00	285388.24
114	105+09.49	44.42 LT	674.19	146833.85	285390.60
115	104+80.36	36.20 LT	674.72	146841.86	285361.41
116	104+92.36	36.23 LT	674.50	146841.92	285373.41
117	104+97.36	36.24 LT	674.43	146841.94	285378.41
118	104+97.35	42.24 LT	674.52	146835.94	285378.44
119	104+92.37	32.65 LT	674.25	146845.50	285373.39
120	104+92.37	30.15 LT	674.23	146848.00	285373.38
121	104+89.38	29.26 LT	674.74	146848.87	285370.37
122	104+90.08	26.15 LT	674.32	146851.97	285371.06
123	104+92.37	26.15 LT	674.33	146851.99	285373.35
124	104+97.35	29.72 LT	674.26	146848.46	285378.36
125	104+98.74	30.56 LT	674.25	146847.63	285379.74
126	105+00.36	34.97 LT	674.64	146843.23	285381.40
127	105+02.03	33.12 LT	674.22	146845.10	285383.06
128	104+97.37	32.66 LT	674.18	146845.52	285378.40

\* = MATCH EXISTING



NOTES:

1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION.
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
4. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
5. ALL STATION AND OFFSET INFORMATION REFERENCE STH 35 OR STH 105/61ST ST.

PROJECT NO: 3700-50-54

HWY: STH 35

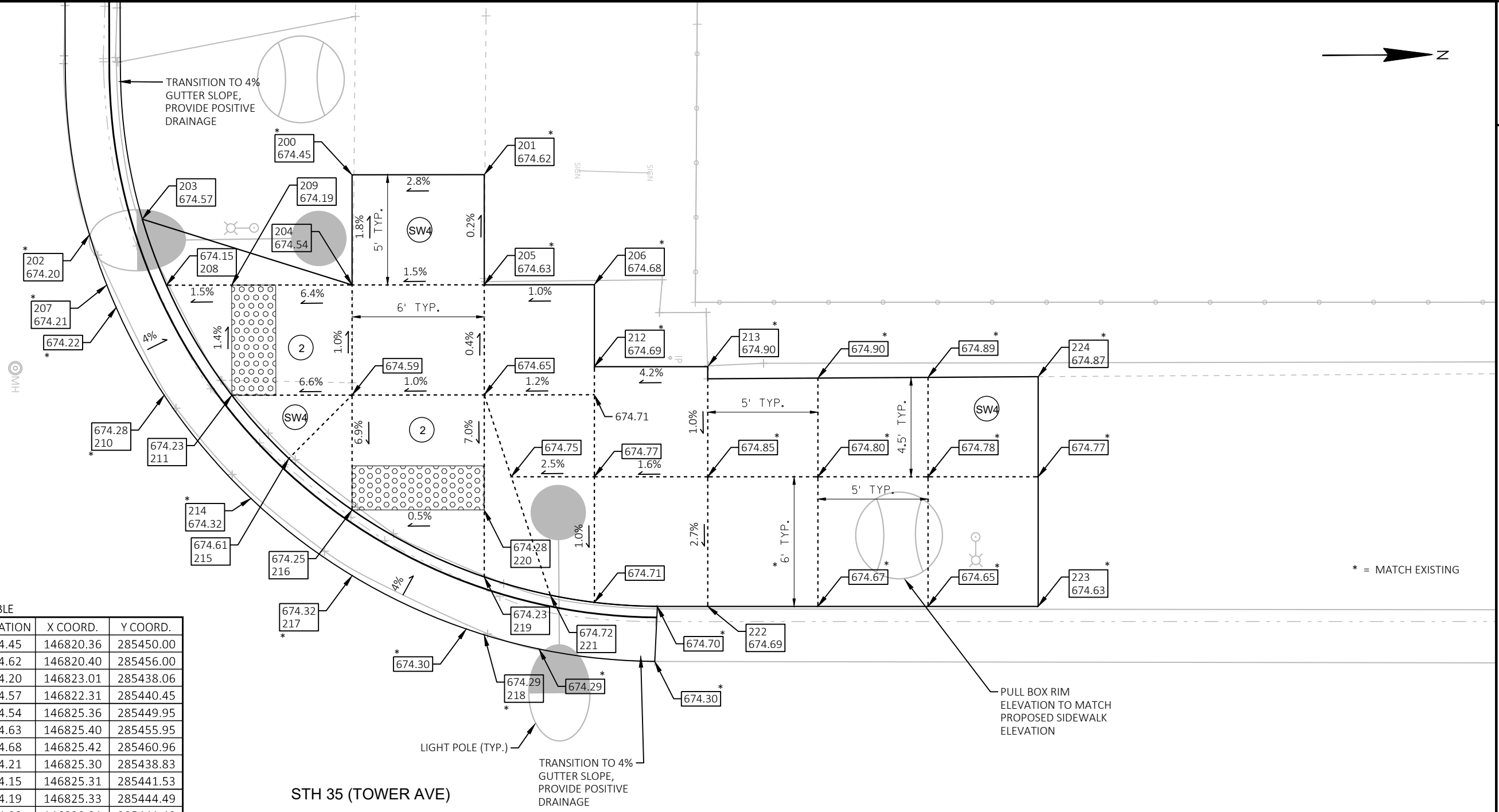
COUNTY: DOUGLAS

PLAN DETAIL: CURB RAMPS

SHEET

E

STH 105/61ST ST  
(CENTRAL AVE)



\* = MATCH EXISTING

PULL BOX RIM  
ELEVATION TO MATCH  
PROPOSED SIDEWALK  
ELEVATION

POINT TABLE

POINT	STATION	OFFSET	ELEVATION	X COORD.	Y COORD.
200	105+68.79	58.33 LT	674.45	146820.36	285450.00
201	105+74.79	58.33 LT	674.62	146820.40	285456.00
202	105+56.87	55.59 LT	674.20	146823.01	285438.06
203	105+59.27	56.32 LT	674.57	146822.31	285440.45
204	105+68.79	53.33 LT	674.54	146825.36	285449.95
205	105+74.79	53.33 LT	674.63	146825.40	285455.95
206	105+79.79	53.34 LT	674.68	146825.42	285460.96
207	105+57.66	53.31 LT	674.21	146825.30	285438.83
208	105+60.37	53.32 LT	674.15	146825.31	285441.53
209	105+63.32	53.32 LT	674.19	146825.33	285444.49
210	105+60.26	48.31 LT	674.28	146830.31	285441.40
211	105+63.33	48.32 LT	674.23	146830.33	285444.46
212	105+79.79	49.62 LT	674.69	146829.15	285460.93
213	105+84.84	49.62 LT	674.90	146829.18	285466.07
214	105+64.20	43.63 LT	674.32	146835.02	285445.30
215	105+65.92	45.45 LT	674.61	146833.22	285447.03
216	105+68.79	43.11 LT	674.25	146835.57	285449.88
217	105+68.79	40.12 LT	674.32	146838.57	285449.87
218	105+74.79	37.43 LT	674.29	146841.30	285455.83
219	105+74.79	40.07 LT	674.23	146838.66	285455.86
220	105+74.79	43.11 LT	674.28	146835.62	285455.88
221	105+77.79	39.24 LT	674.72	146839.51	285458.85
222	105+84.94	38.73 LT	674.69	146840.07	285466.00
223	105+99.94	38.73 LT	674.63	146840.18	285480.99
224	105+99.94	49.16 LT	674.87	146829.74	285481.07

STH 35 (TOWER AVE)

LEGEND

- (X) CURB RAMP
- (TOP) 6" TOPSOIL, SEED AND EMAT
- (SW4) CONCRETE SIDEWALK 4-INCH
- xxx  
xxx.xx POINT NUMBER & ELEVATION

CURB RAMP NW1 & NW2

NOTES:

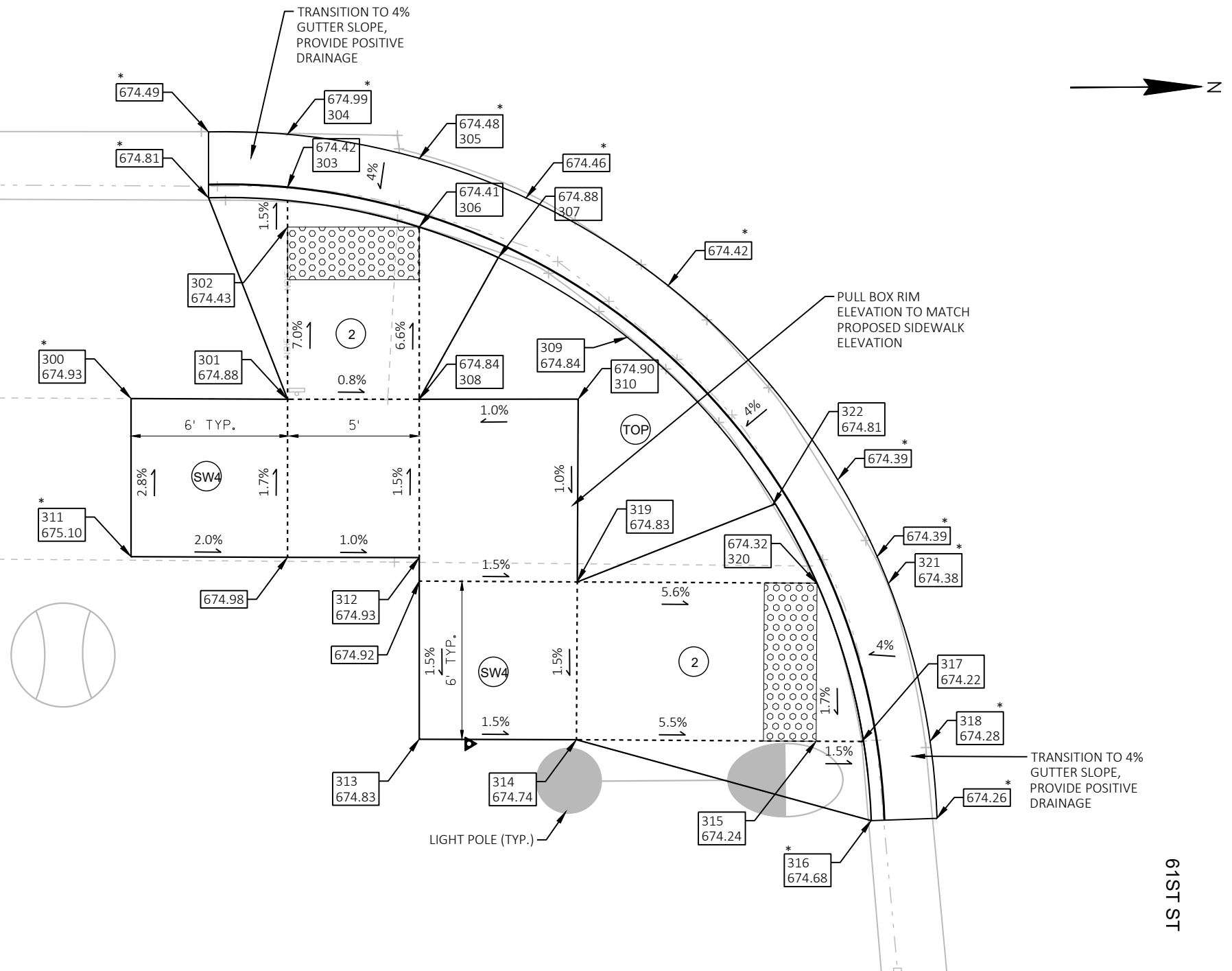
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION.
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
4. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
5. ALL STATION AND OFFSET INFORMATION REFERENCE STH 35 OR STH 105/61ST ST.

STH 35 (TOWER AVE)

POINT TABLE

POINT	STATION	OFFSET	ELEVATION	X COORD.	Y COORD.
300	104+86.43	36.27 RT	674.93	146914.37	285366.96
301	104+92.37	36.29 RT	674.88	146914.44	285372.90
302	104+92.37	29.76 RT	674.43	146907.90	285372.95
303	104+92.37	28.26 RT	674.42	146906.40	285372.96
304	104+92.37	26.25 RT	674.99	146904.39	285372.97
305	104+97.37	27.15 RT	674.48	146905.33	285377.96
306	104+97.37	29.76 RT	674.41	146907.94	285377.95
307	105+00.37	30.92 RT	674.88	146909.12	285380.94
308	104+97.37	36.29 RT	674.84	146914.47	285377.90
309	105+05.26	33.94 RT	674.84	146912.18	285385.81
310	105+03.40	36.29 RT	674.90	146914.51	285383.94
311	104+86.43	42.27 RT	675.10	146920.37	285366.92
312	104+97.37	42.30 RT	674.93	146920.48	285377.86
313	104+97.37	49.20 RT	674.83	146927.37	285377.81
314	105+03.34	49.22 RT	674.74	146927.44	285383.78
315	105+12.44	49.27 RT	674.24	146927.56	285392.87
316	105+14.53	52.29 RT	674.68	146930.59	285394.95
317	105+14.24	49.28 RT	674.22	146927.58	285394.67
318	105+16.76	49.28 RT	674.28	146927.60	285397.20
319	105+03.37	43.22 RT	674.83	146921.44	285383.85
320	105+12.47	43.29 RT	674.32	146921.57	285392.95
321	105+15.17	43.28 RT	674.38	146921.58	285395.65
322	105+10.89	40.27 RT	674.81	146918.54	285391.39

\* = MATCH EXISTING



CURB RAMP SE1 & SE2

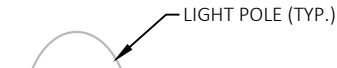
LEGEND

- CURB RAMP
- 6" TOPSOIL, SEED AND EMAT
- CONCRETE SIDEWALK 4-INCH
- POINT NUMBER & ELEVATION

NOTES:

1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION.
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
4. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
5. ALL STATION AND OFFSET INFORMATION REFERENCE STH 35 OR STH 105/61ST ST.

STH 35 (TOWER AVE)



LIGHT POLE (TYP.)  
TRANSITION TO 4%  
GUTTER SLOPE,  
PROVIDE POSITIVE  
DRAINAGE

PULL BOX RIM  
ELEVATION TO MATCH  
PROPOSED SIDEWALK  
ELEVATION

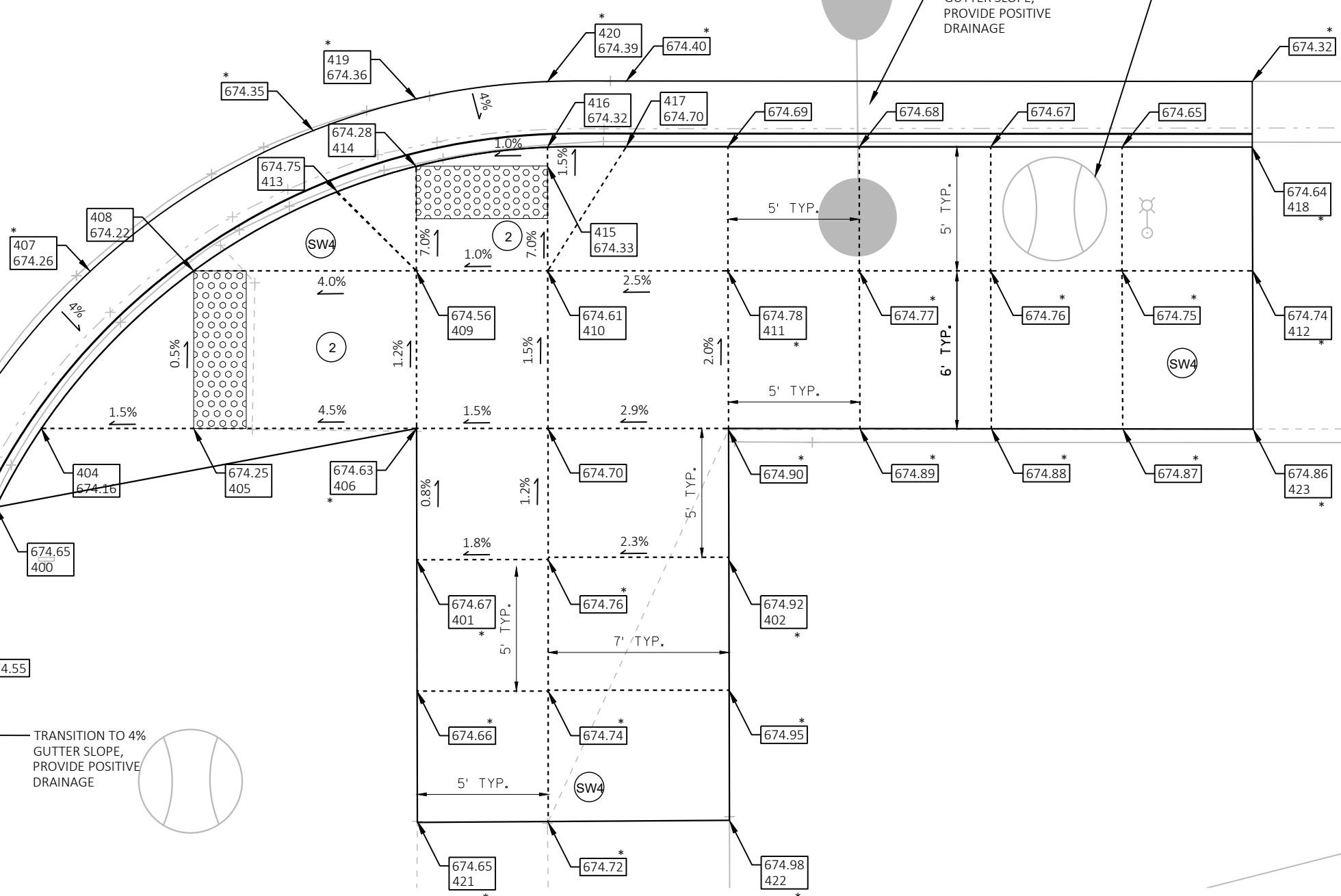


POINT TABLE

POINT	STATION	OFFSET	ELEVATION	X COORD.	Y COORD.
400	105+53.99	52.50 RT	674.65	146931.08	285434.41
401	105+70.03	54.50 RT	674.67	146933.19	285450.43
402	105+81.90	54.50 RT	674.92	146933.28	285462.30
403	105+52.78	49.50 RT	674.22	146928.07	285433.22
404	105+55.74	49.50 RT	674.16	146928.09	285436.17
405	105+61.53	49.50 RT	674.25	146928.13	285441.97
406	105+70.02	49.50 RT	674.63	146928.19	285450.45
407	105+57.58	43.50 RT	674.26	146922.11	285438.06
408	105+61.53	43.50 RT	674.22	146922.13	285442.01
409	105+70.01	43.50 RT	674.56	146922.19	285450.49
410	105+75.01	43.50 RT	674.61	146922.23	285455.49
411	105+81.87	43.50 RT	674.78	146922.28	285462.35
412	106+01.86	43.50 RT	674.74	146922.42	285482.30
413	106+67.00	40.50 RT	674.75	146919.17	285447.50
414	105+70.00	39.52 RT	674.28	146918.21	285450.51
415	105+75.00	39.51 RT	674.33	146918.24	285455.51
416	105+75.00	38.79 RT	674.32	146917.52	285455.51
417	105+78.00	38.77 RT	674.7	146917.52	285458.51
418	106+01.86	38.78 RT	674.64	146917.71	285482.33
419	105+70.00	36.95 RT	674.36	146915.64	285450.53
420	105+75.00	36.29 RT	674.39	146915.02	285455.53
421	105+70.04	64.50 RT	674.65	146943.19	285450.37
422	105+81.92	64.42 RT	674.98	146943.20	285462.25
423	106+01.86	49.52 RT	674.86	146928.44	285482.29

\* = MATCH EXISTING

CONFLICTING  
WATER MANHOLE  
DO NOT DISTURB



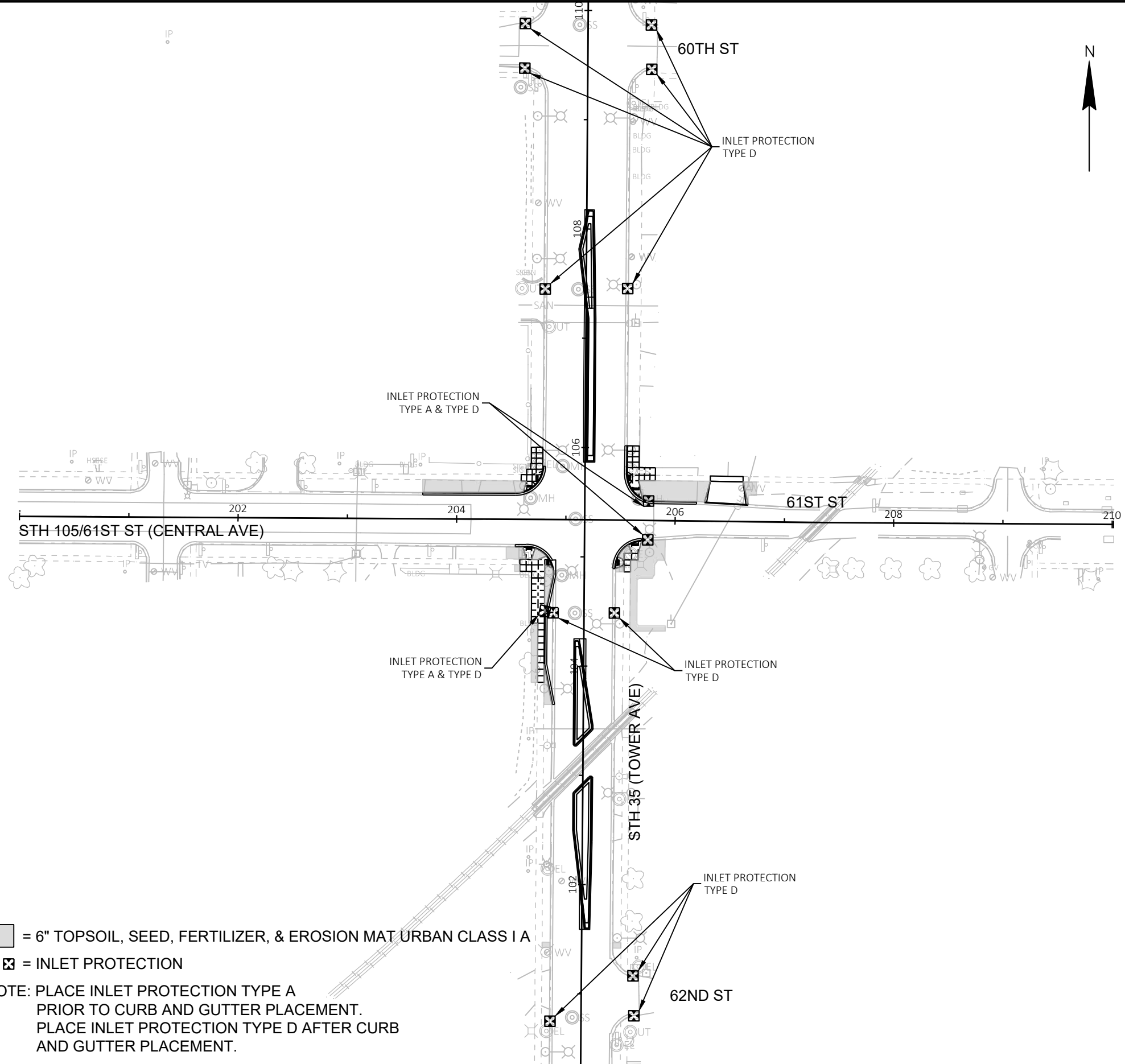
LEGEND

- (X) CURB RAMP
- (TOP) 6" TOPSOIL, SEED AND EMAT
- (SW4) CONCRETE SIDEWALK 4-INCH
- xxx  
xxx.xx POINT NUMBER & ELEVATION

CURB RAMP NE1 & NE2

NOTES:

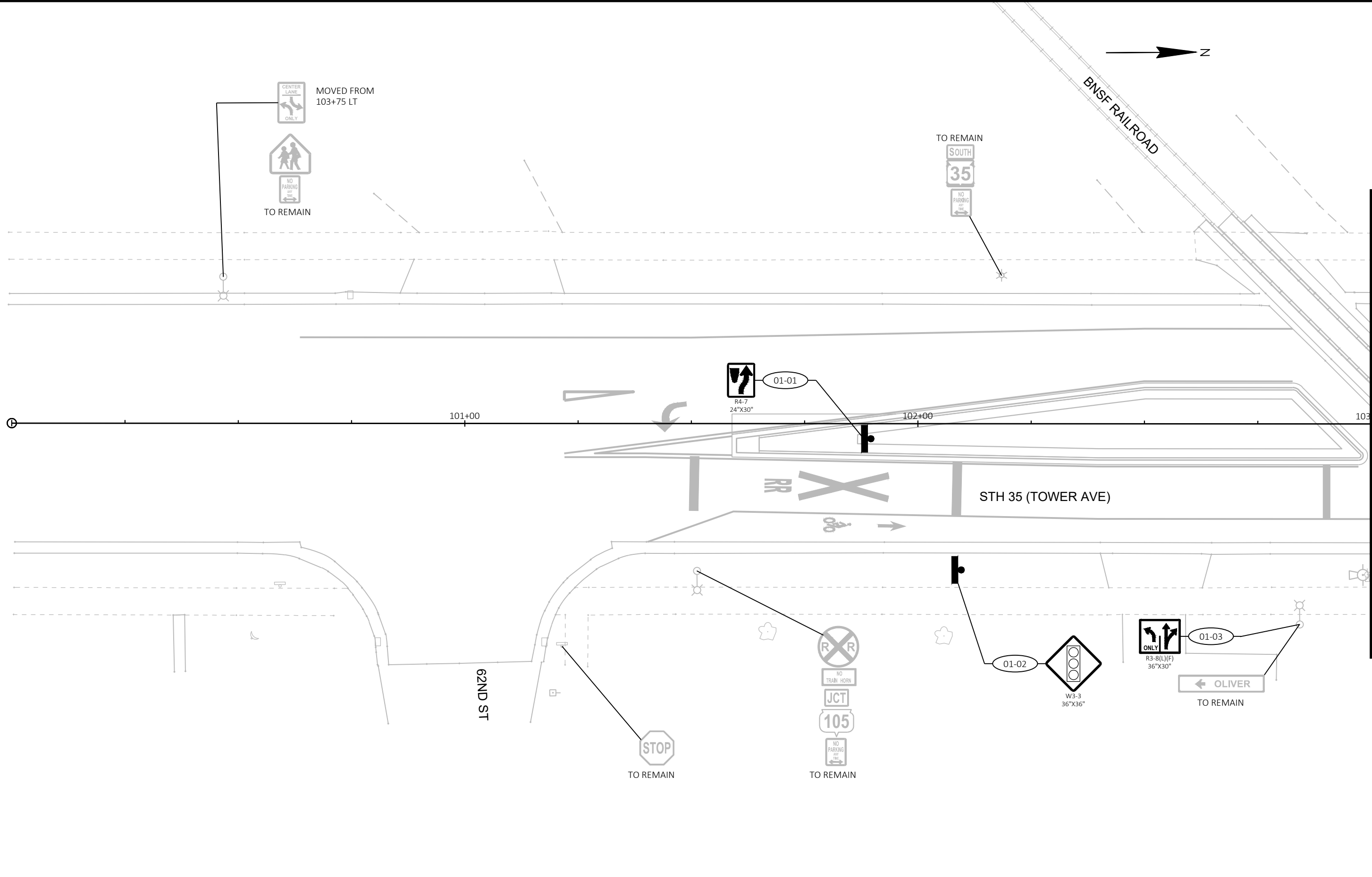
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION.
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
4. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.
5. ALL STATION AND OFFSET INFORMATION REFERENCE STH 35 OR STH 105/61ST ST.



■ = 6" TOPSOIL, SEED, FERTILIZER, & EROSION MAT URBAN CLASS I A

⊠ = INLET PROTECTION

NOTE: PLACE INLET PROTECTION TYPE A PRIOR TO CURB AND GUTTER PLACEMENT. PLACE INLET PROTECTION TYPE D AFTER CURB AND GUTTER PLACEMENT.



PROJECT NO: 3700-50-54

HWY: STH 35

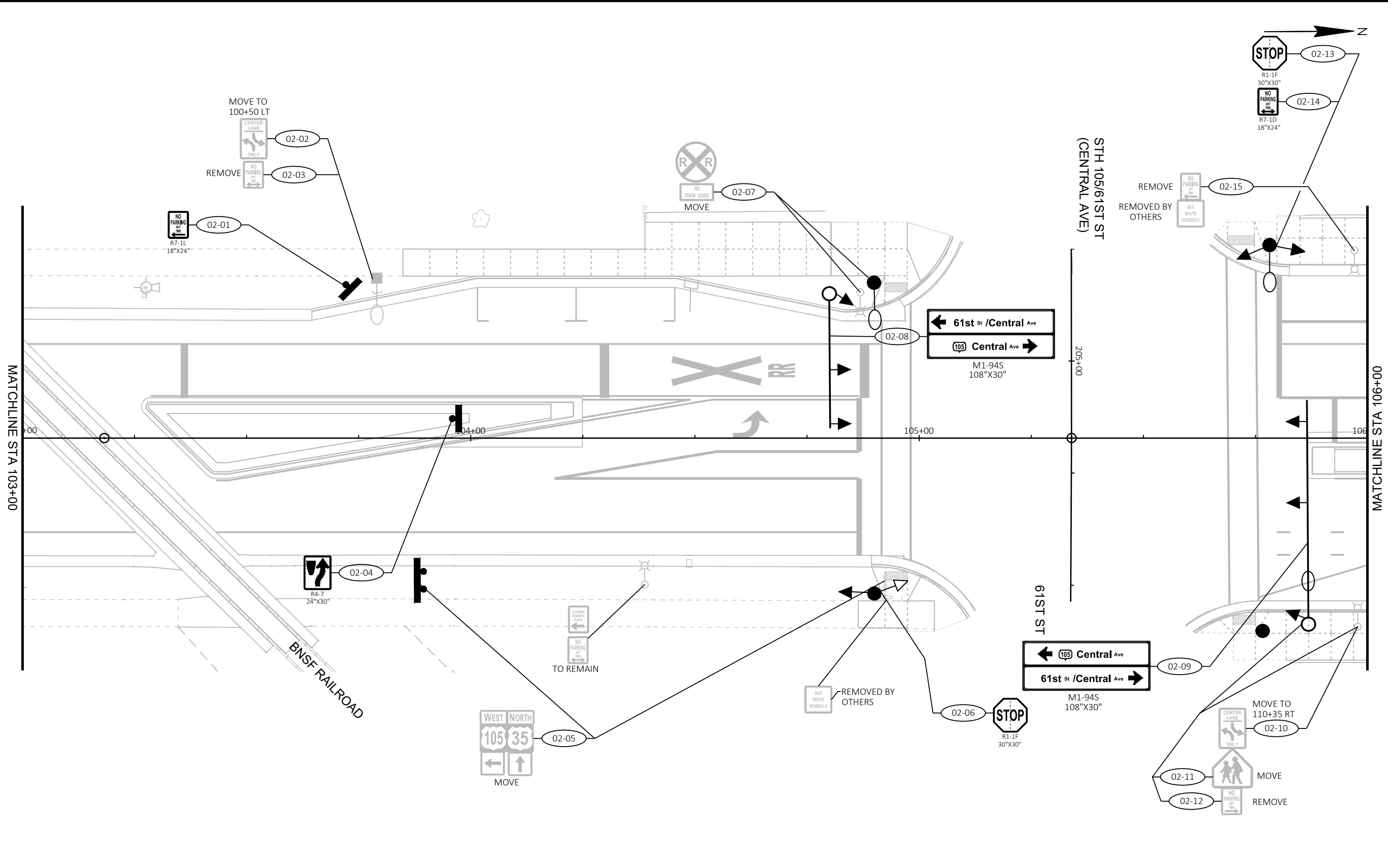
COUNTY: DOUGLAS

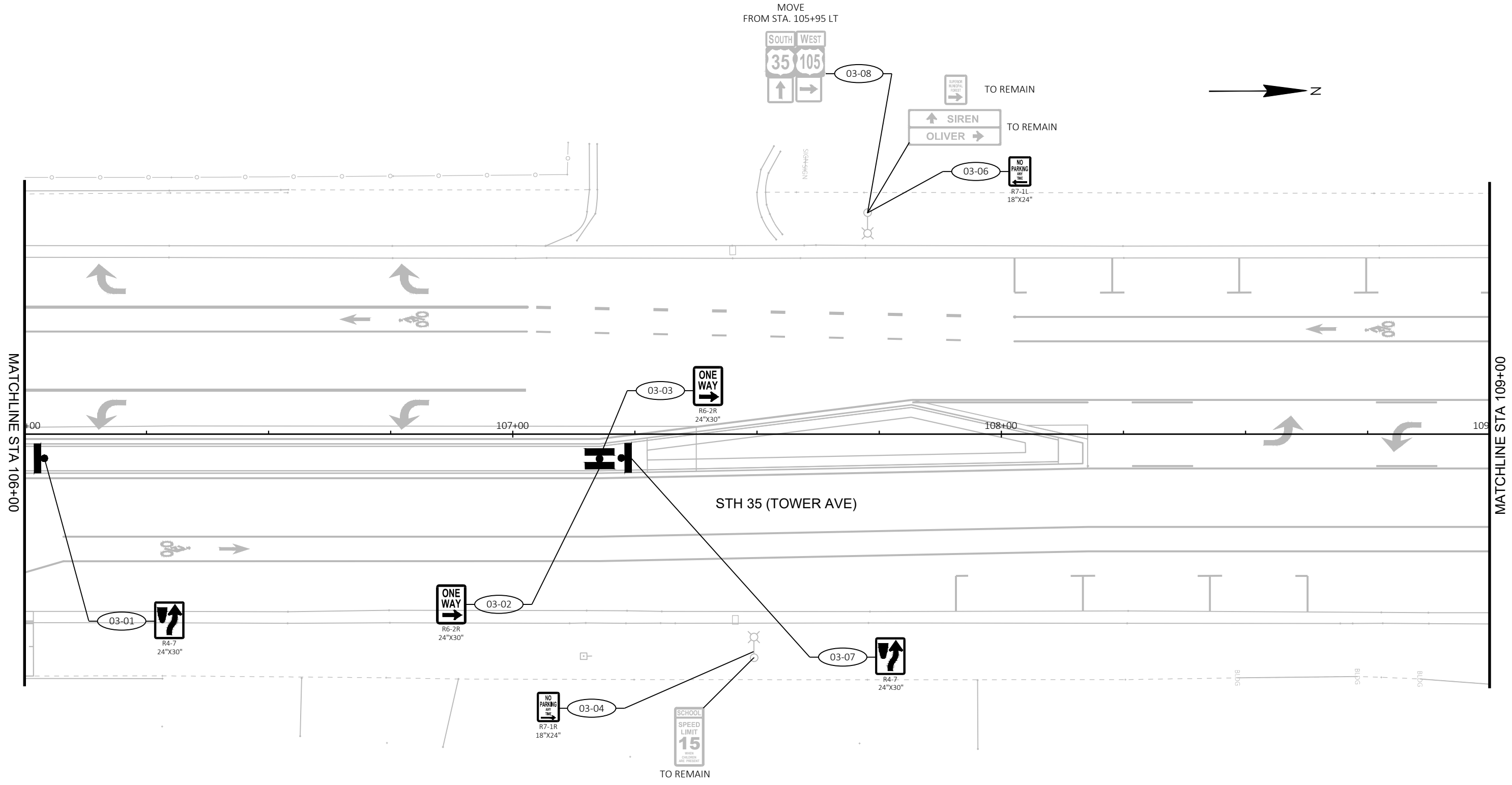
PERMANENT SIGNING

SHEET

E

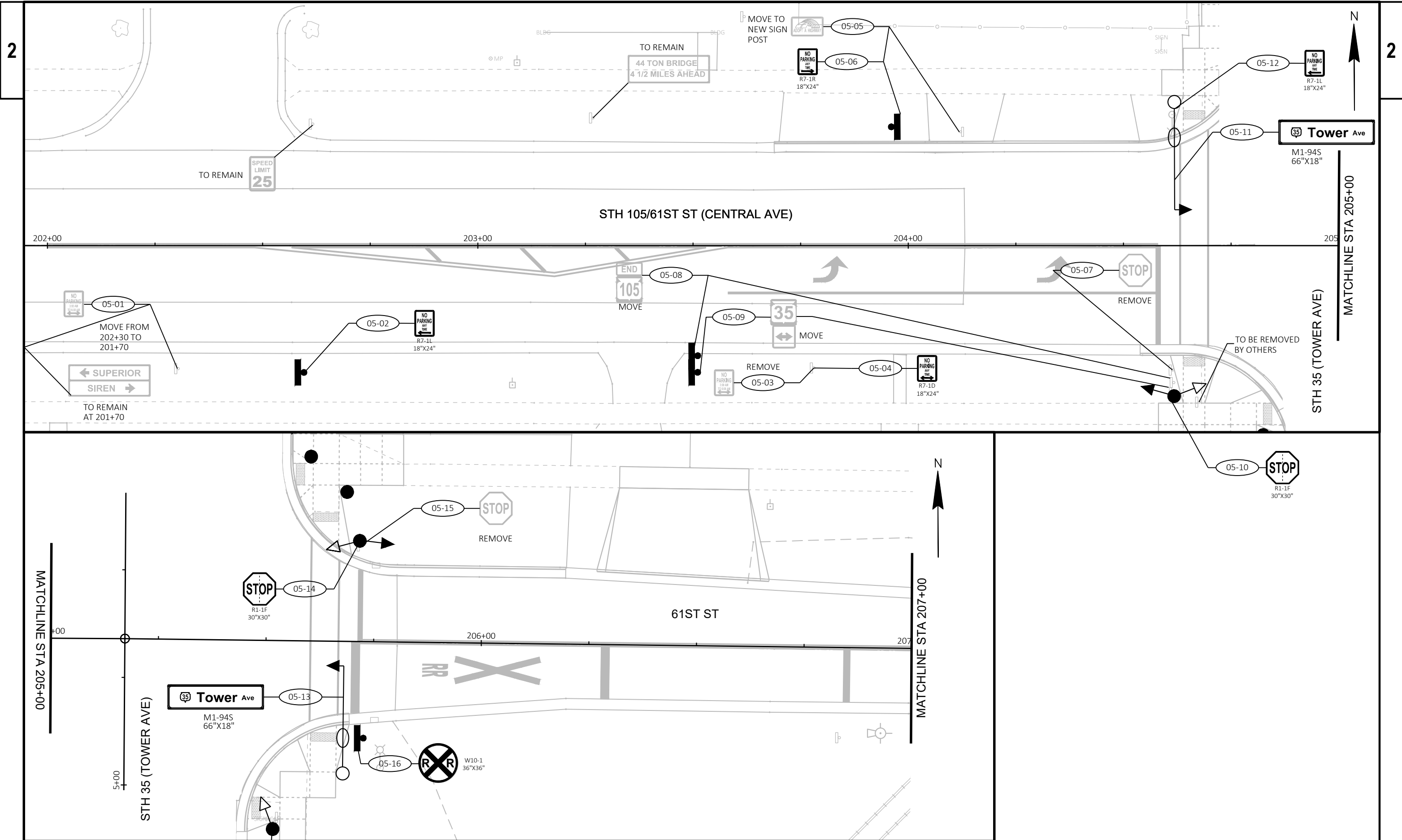






PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	PERMANENT SIGNING	SHEET	E
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PROJECT NO: 3700-50-54

HWY: STH 35

COUNTY: DOUGLAS

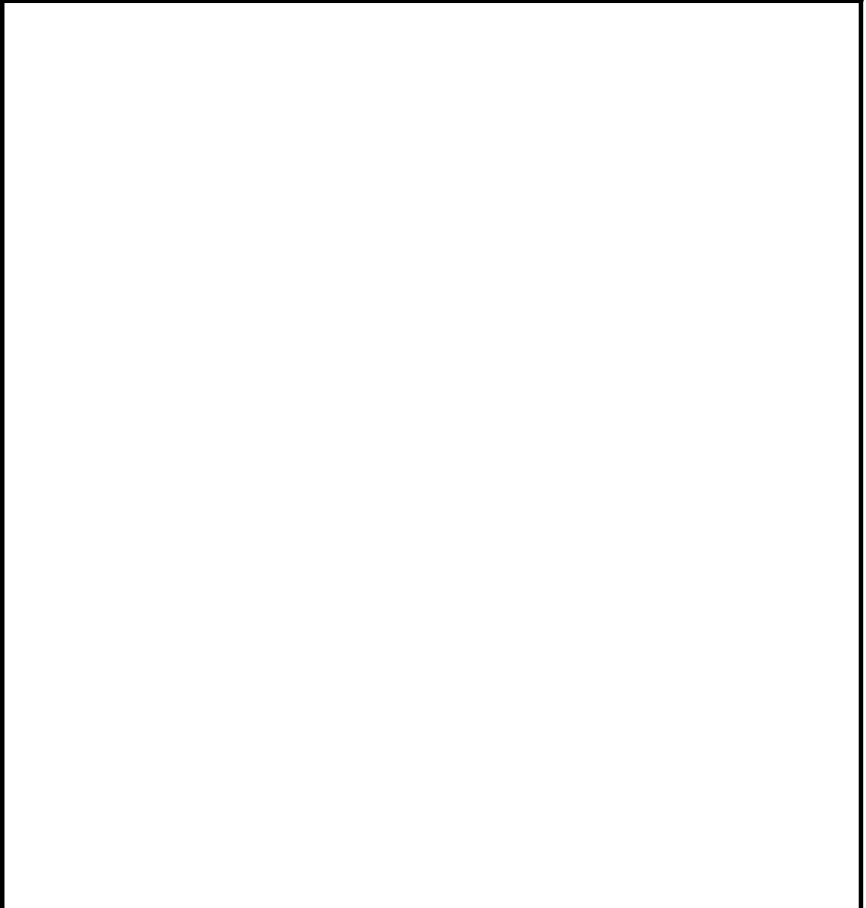
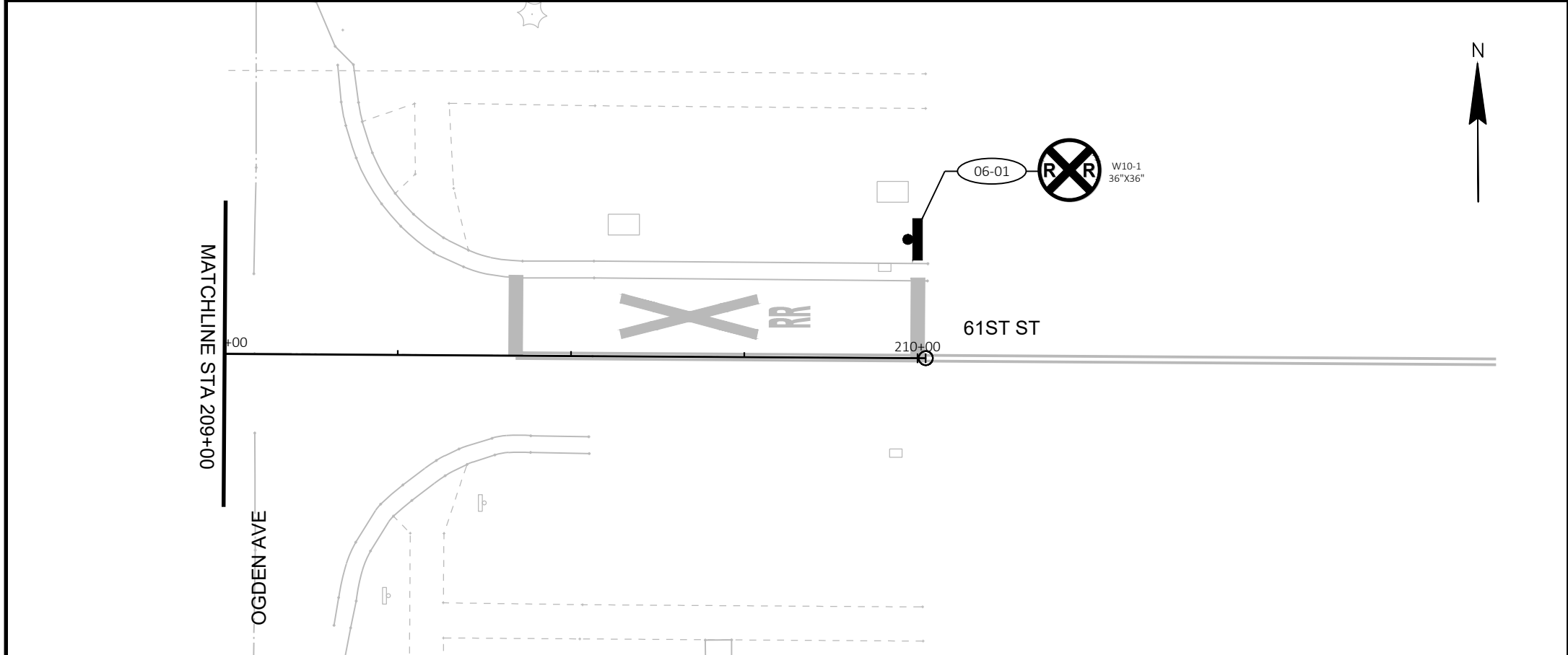
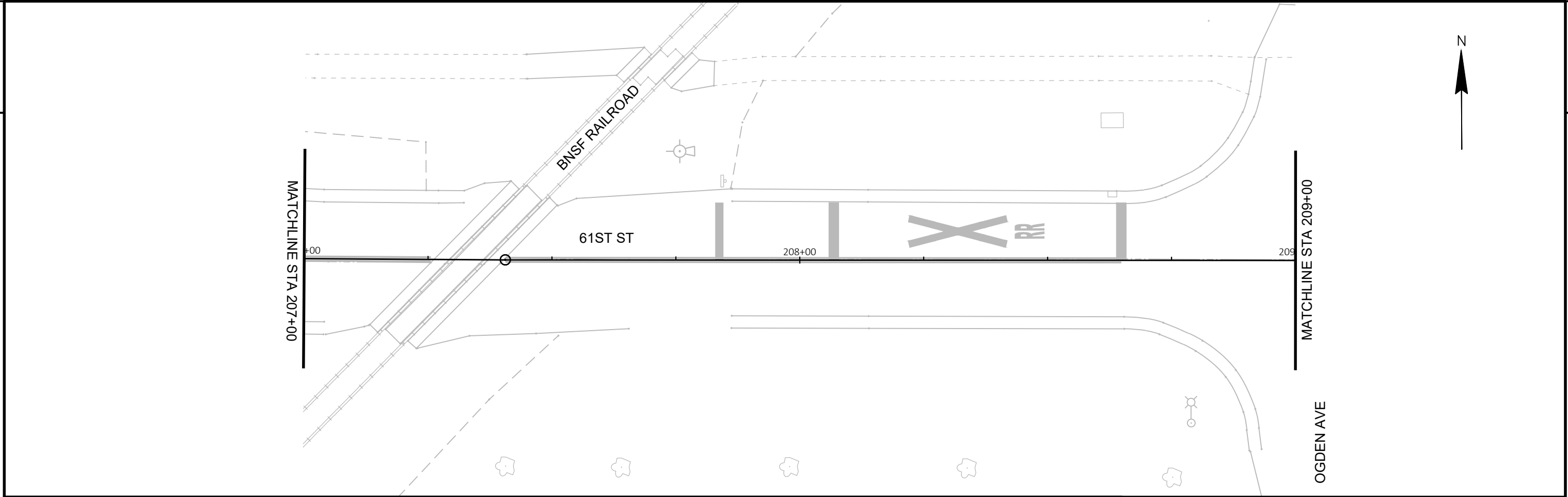
PERMANENT SIGNING

SHEET

E

2

2



PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	PERMANENT SIGNING	SHEET	<b>E</b>
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LEGEND

- EXISTING CONDUIT
- ⬤ LUMINAIRE, UNDER PERMIT TO LOCAL MUNICIPALITY
- ⊕ EXISTING LIGHTING PULL BOX
- ⊠ RAILROAD BUNGALOW

NOTE: GRAYSHADE REPRESENTS EXISTING  
 BOLD REPRESENTS ITEMS TO BE REMOVED



CONSTRUCTION NOTES:

1. REMOVE ALL LIGHTING WIRE AND GROUND WIRES FROM EXISTING CONDUIT TO BE ABANDONED.
2. EXISTING UTILITIES SHOWN ARE INDICATED IN ACCORDANCE WITH AVAILABLE RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING EXACT LOCATIONS AND THE ELEVATIONS OF ALL UTILITIES, INCLUDING SEWER AND WATER, FROM THE OWNERS OF THE RESPECTIVE UTILITIES. ALL UTILITY OWNERS SHALL BE NOTIFIED BY THE CONTRACTOR 3 WORKING DAYS PRIOR TO EXCAVATION.
3. CAP CONDUIT ENDS FOR ABANDONED CONDUITS IN EXISTING PULL BOXES TO REMAIN.
4. SALVAGE ALL ABOVE GROUND LIGHTING EQUIPMENT, INCLUDING POLE, ARM, AND LUMINAIRE.
5. THE EXISTING LIGHTING SYSTEM SHALL REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION.

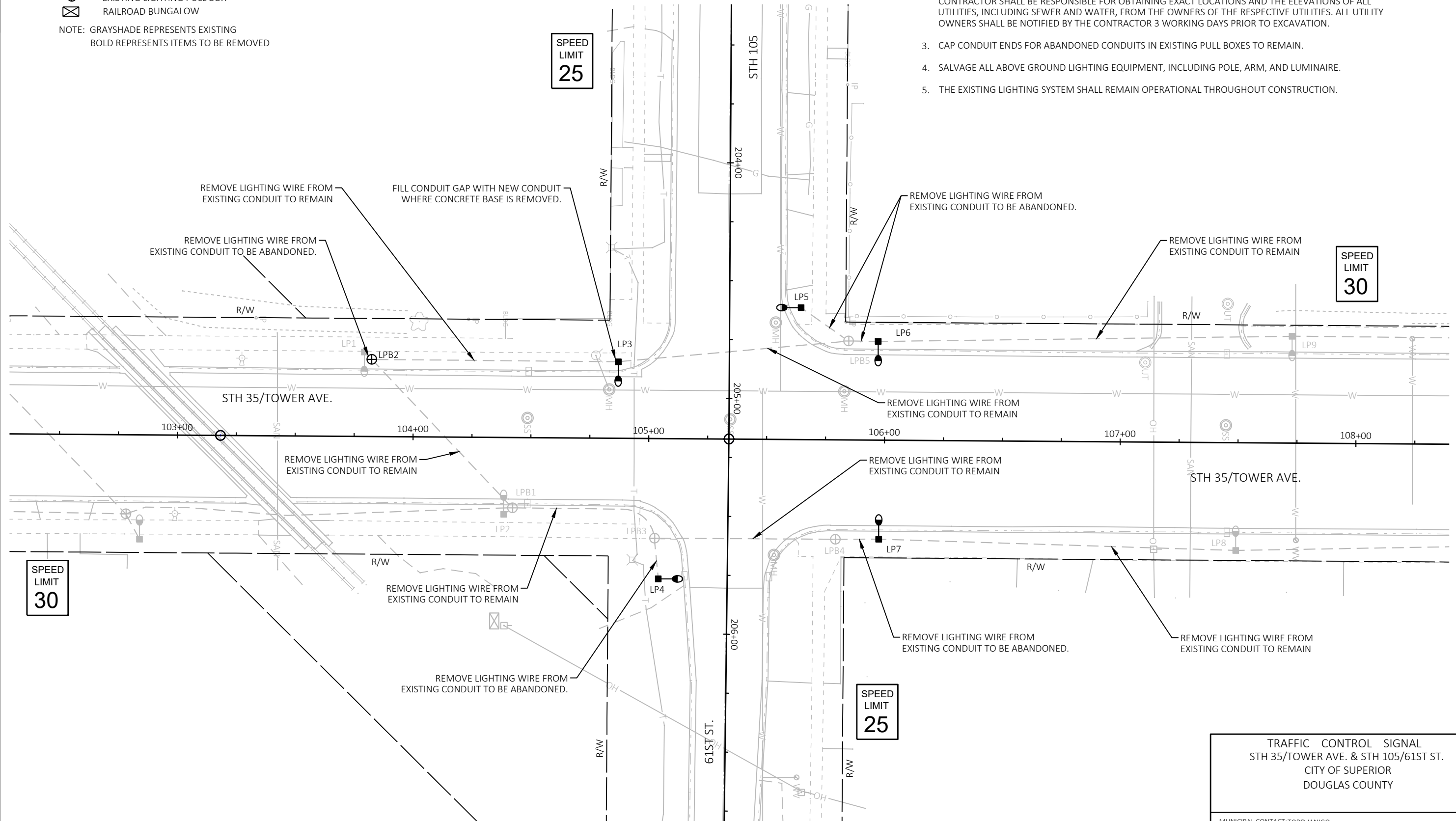


SPEED  
LIMIT  
**25**

SPEED  
LIMIT  
**30**

SPEED  
LIMIT  
**30**

SPEED  
LIMIT  
**25**



TRAFFIC CONTROL SIGNAL  
 STH 35/TOWER AVE. & STH 105/61ST ST.  
 CITY OF SUPERIOR  
 DOUGLAS COUNTY

MUNICIPAL CONTACT: TODD JANIGO  
 DESIGNED BY: AECOM  
 REVISED BY:

PAGE 1 OF 2

LEGEND

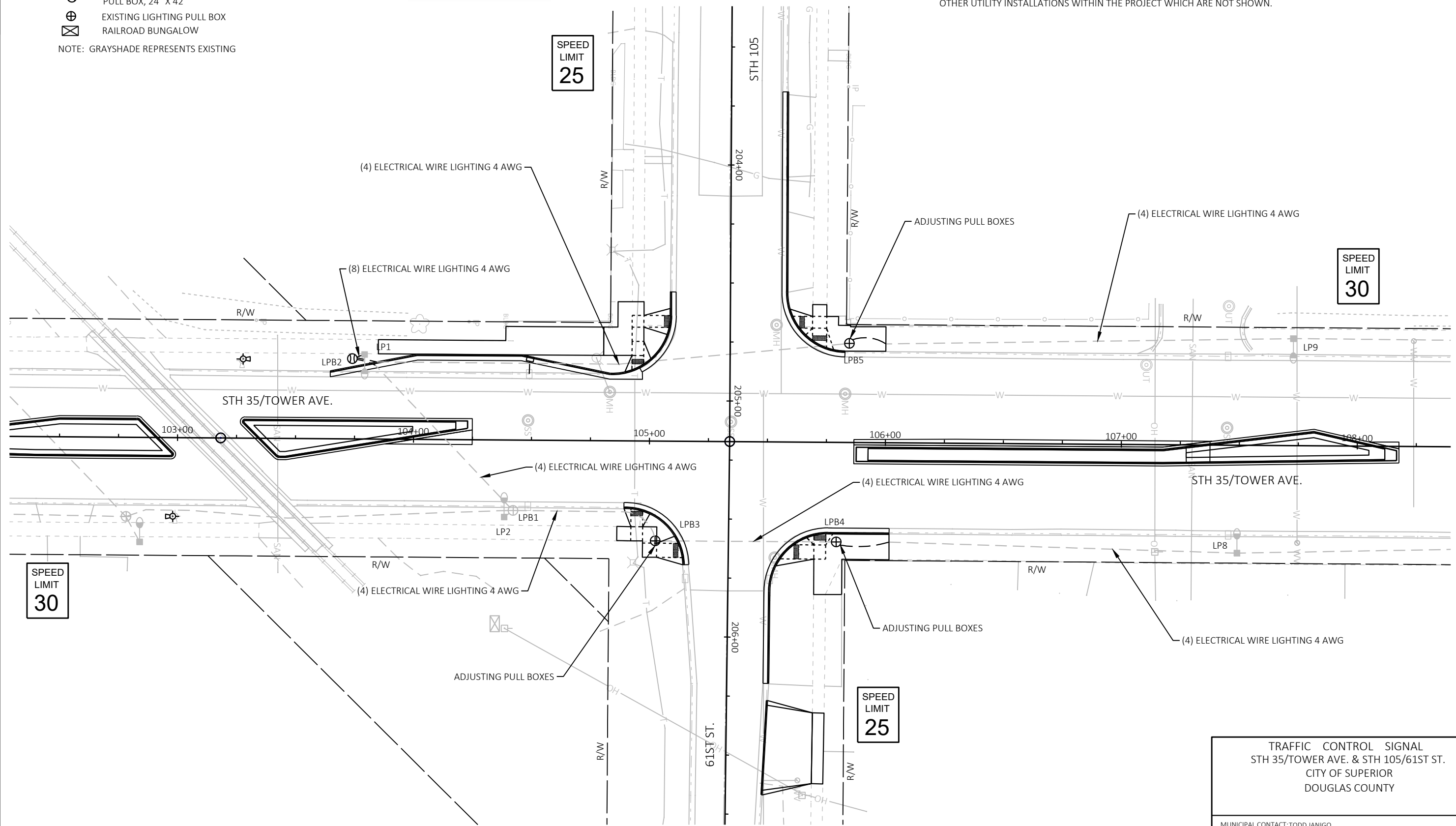
- NONMETALLIC CONDUIT 2"
- ⊕ LUMINAIRE, UNDER PERMIT TO LOCAL MUNICIPALITY
- ⊙ PULL BOX, 24" X 42"
- ⊕ EXISTING LIGHTING PULL BOX
- ⊠ RAILROAD BUNGALOW

NOTE: GRAYSHADE REPRESENTS EXISTING



CONSTRUCTION NOTES:

1. GRAYSHADE REPRESENTS EXISTING AND PROPOSED ROADWAY AND UTILITIES.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.



TRAFFIC CONTROL SIGNAL  
 STH 35/TOWER AVE. & STH 105/61ST ST.  
 CITY OF SUPERIOR  
 DOUGLAS COUNTY

MUNICIPAL CONTACT: TODD JANIGO  
 DESIGNED BY: AECOM  
 REVISED BY:

PAGE 1 OF 2



LEGEND

- CONTROL CABINET
- UNINTERRUPTIBLE POWER SUPPLY (BATTERY BACKUP UNIT)
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- CONDUIT SPECIAL 3"
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- MONOTUBE BASE, POLE, 15'-30' ARM
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE, LED B
- LUMINAIRE, STREET LIGHTING
- PULL BOX, 24" X 42"
- EXISTING LIGHTING PULL BOX
- VIDEO DETECTION AREA
- VIDEO DETECTION CAMERA
- SIGNAL HEAD NUMBER
- WALK / DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- FLASHING YELLOW ARROW
- GREEN ARROW
- PEDESTRIAN PUSH BUTTON
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- RAILROAD BUNGALOW

NOTE: ALL LENSES ARE 12-INCH GRAYSHADE REPRESENTS EXISTING

SPEED LIMIT 25

SPEED LIMIT 30

SPEED LIMIT 30

SPEED LIMIT 25

INSTALL RAILROAD PREEMPT CABLE FROM CB1 TO RB1. DO NOT ENTER THE RAILROAD BUNGALOW. LEAVE A SUFFICIENT LENGTH OF RAILROAD PREEMPT CABLE TO REACH RB1 PLUS AN ADDITIONAL 50 FEET COILED IN PULL BOX PB9. THE RAILROAD PREEMPT CABLE BETWEEN PB9 AND RB1 WILL BE INSTALLED BY OTHERS.

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE CITY OF SUPERIOR DEPARTMENT OF PUBLIC WORKS AT (715) 395-7344 AND CONTACT THE NORTHWEST REGION - EAU CLAIRE OFFICE ELECTRICAL FIELD UNIT AT (715) 225-0360.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. PROPOSED DRAINAGE STRUCTURES, DETECTABLE WARNING FIELDS, AND EXISTING ROADWAY SHOWN IN GRAYSHADE FOR PLAN CLARITY.
5. ALL LUMINAIRES ARE LED B UNLESS OTHERWISE NOTED.

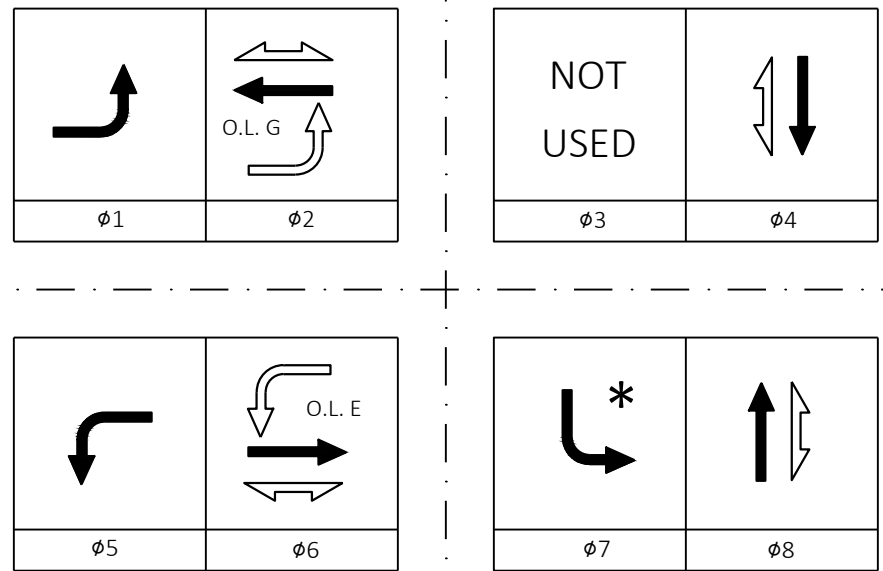
SEE LIGHTING PLAN

TRAFFIC CONTROL SIGNAL  
STH 35/TOWER AVE. & STH 105/61ST ST.  
CITY OF SUPERIOR  
DOUGLAS COUNTY

MUNICIPAL CONTACT: TODD JANIGO  
DESIGNED BY: AECOM  
REVISED BY:  
PAGE 1 OF 2



	HEAD NUMBERS	FLASH	
ø1	4,5	R	
ø2	6,7,8	R	
		-	
ø4	14,15,16	R	
ø5	9,10	R	
ø6	1,2,3	R	
ø7	15,16	-	
ø8	11,12,13	R	
ø2PED	21,22	-	
ø4PED	41,42	-	
ø6PED	61,62	-	
ø8PED	81,82	-	
OL E	9,10	R	OL ASSIGNMENTS 1 + 2
OL G	4,5	R	5 + 6



BARRIER

\* ø 7 ACTIVE ONLY DURING RAILROAD PREEMPTION

CONTROLLER LOGIC

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

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

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

OVERLAPS

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

SPECIAL OVERLAPS

	PROTECTED	PERMISSIVE
O.L. "E"	1	2
O.L. "F"		
O.L. "G"	5	6
O.L. "H"		

TYPE OF INTERCONNECT COMMUNICATION	
NONE	X
CLOSED LOOP TWISTED PAIR	
FIBER OPTIC NETWORK	
INTERSECTION ONLY (CELL MODEM)*	
*LOCATION OF CELL MODEM	
CONTROLLER NO:	S-
SIGNAL SYSTEM:	SS-

GENERAL NOTE:

1. WHEN ø4 AND ø8 ARE TIMING CONCURRENTLY THEY SHALL TERMINATE TOGETHER DUE TO PERMISSIVE LEFT TURN CONFLICT.
2. IN THE EVENT OF A RAILROAD PREEMPTION CALL, ø1 AND ø6 SHALL RECEIVE A GREEN INDICATION TO CLEAR THE SOUTH APPROACH. FOLLOWING THE TRACK CLEARANCE INTERVAL, THE CONTROLLER SHALL HOLD ON ø7, AND ALL OTHER PHASES HOLD ON ALL-RED. AT THE END OF PREEMPTION, THE CONTROLLER SHALL RETURN TO ø2 AND ø6 GREEN.
3. INCLUDE AN UNINTERRUPTIBLE POWER SUPPLY (BATTERY BACKUP UNIT) FOR THE TRAFFIC SIGNAL CABINET.

DETECTOR LOGIC

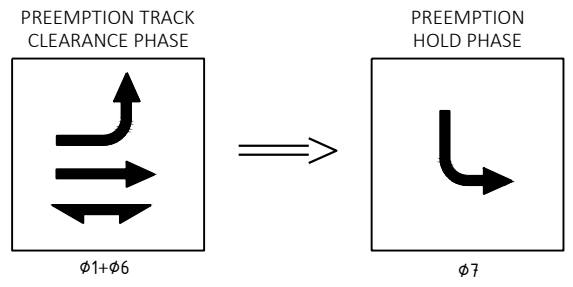
DETECTOR INPUT	3	1	7	5	11	9	15	13
DETECTOR #(S)	11	22	42	61	81			
PHASE CALLED	1	2	4	6	8			
PHASE EXTENDED	1	2	4	6	8			
DISCONNECT TIME								
CALLING DELAY	X		X		X			
EXTENSION STRETCH		X						
LOOP FUNCTION								

DETECTOR INPUT	19	17	23	21	27	25	31	29
DETECTOR #(S)								
PHASE CALLED								
PHASE EXTENDED								
DISCONNECT TIME								
CALLING DELAY								
EXTENSION STRETCH								
LOOP FUNCTION								

DETECTOR INPUT	4	2	8	6	12	10	16	14
DETECTOR #(S)	21	41	51	62				
PHASE CALLED	2	4	5	6				
PHASE EXTENDED	2	4	5	6				
DISCONNECT TIME								
CALLING DELAY								
EXTENSION STRETCH				X				
LOOP FUNCTION								

DETECTOR INPUT	20	18	24	22	28	26	32	30
DETECTOR #(S)								
PHASE CALLED								
PHASE EXTENDED								
DISCONNECT TIME								
CALLING DELAY								
EXTENSION STRETCH								
LOOP FUNCTION								

RAILROAD PREEMPTION PHASING (SEE NOTE 2)



EMERGENCY VEHICLE PREEMPTION ASSIGNMENT

EMERGENCY VEHICLE DETECTOR	A	B	C	D
PREEMPTION CHANNEL	3	4	5	6
MOVEMENT				
DIRECTION	NB	SB	EB+WB	WB+EB
PHASES	1+6	2+5	4+8	8+4

NOTES:  
FULL CLEARANCE AND MINIMUM GREEN INTERVALS SHALL ALWAYS BE PROVIDED.

TRAFFIC CONTROL SIGNAL  
STH 35/TOWER AVE. & STH 105/61ST ST.  
CITY OF SUPERIOR  
DOUGLAS COUNTY

MUNICIPAL CONTACT: TODD JANIGO  
DESIGNED BY: AECOM  
REVISED BY:

PAGE 2 OF 2

2

2

PROJECT ID:	3700-50-54
INTERSECTION:	STH 35 & STH 105

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

DATE: Jul-20

CB1 TO	AWG 14 # OF COND.	HEAD NO.	SIGNAL INDICATION WIRE COLOR								PED BUTTON	OTHER	
			RED	YELLOW	GREEN	<RED>	<YELLOW>	<FLASH YEL>	<GREEN>	DWALK			WALK
SB1	15	1	RED	ORG	GRN								
		9				RED/BLK	ORG/BLK	BLK/WHT	GRN/BLK				
		41 PB (PED)								BLK	BLU		WHT/BLK
SB2	12	7	RED	ORG	GRN								
		8	RED	ORG	GRN								
		10				RED/BLK	ORG/BLK	BLK/WHT	GRN/BLK				
SB3	5	PB (PED)										BLK	
SB4	15	12	RED	ORG	GRN								
		14	RED/BLK	ORG/BLK	GRN/BLK								
		42								BLK	BLU		
		61 PB (PED)								BLK/WHT	BLU/WHT		WHT/BLK
SB5	12	13	RED	ORG	GRN								
		62								BLK	BLU		
		PB (PED)											WHT/BLK
SB6	15	4				RED/BLK	ORG/BLK	BLK/WHT	GRN/BLK				
		6	RED	ORG	GRN								
		81								BLK	BLU		
		PB (PED)											WHT/BLK
SB7	12	2	RED	ORG	GRN								
		3	RED	ORG	GRN								
		5				RED/BLK	ORG/BLK	BLK/WHT	GRN/BLK				
SB8	5	PB (PED)										BLK	
SB9	7	21								BLK	BLU		
		82								RED	GRN		
		PB (PED)											WHT/BLK
SB10	12	11	RED	ORG	GRN								
		15	RED/BLK	ORG/BLK	GRN/BLK			BLK/WHT	GRN/BLK	BLU/BLK			
SB11	12	16	RED	ORG	GRN				ORG/BLK	GRN/BLK			
		22								BLK	BLU		
		PB (PED)											WHT/BLK

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

LIGHTING UF 12 AWG W/GROUND	
FROM	TO
CB1	SB11
SB11	SB7
SB7	SB6
CB1	SB2
SB2	SB5

EMERGENCY VEHICLE PREEMPTION		
HEAD	FROM	TO
A	CB1	SB7
B	CB1	SB2
C	CB1	SB11
D	CB1	SB5

VIDEO DETECTION		
HEAD	FROM	TO
V1	CB1	SB2
V2	CB1	SB7
V3	CB1	SB11
V4	CB1	SB5

RAILROAD PREEMPTION 12/C # 14 AWG	
FROM	TO
CB1	RB1

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








STH 35/TOWER AVE. & STH 105/62ST ST.  
CITY OF SUPERIOR  
DOUGLAS COUNTY

CONTROLLER TYPE: ECONOLITE ASC/3  
CABINET TYPE: TS2  
DATE: JULY 2020 PAGE NO. 1 OF 1

\*P:\60599679 - STH 35 & STH 105\400\_Technical\433\_Traffic\05\_Signal Design\Cable Sheet\_STH 35 & STH 105.pptx\* ORIGINATOR: BEN GIESE ORIG. DATE: FEBRUARY 2020 PLOTTED DATE: 7/16/2020 10:56 AM



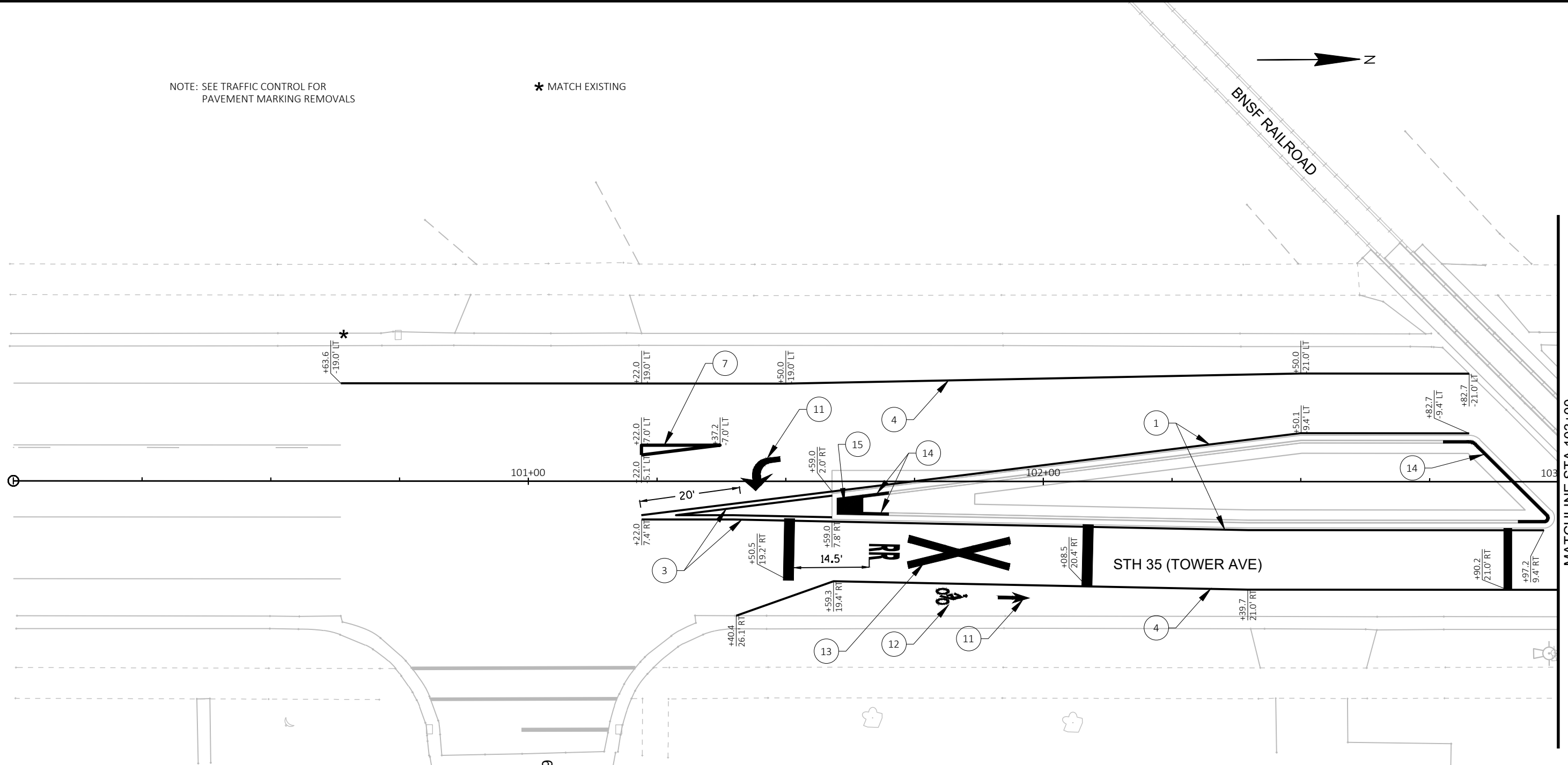
**STH 35 & STH 105 Signalization  
Permanent Traffic Signal Timing**

	Phase							
	1	2	3	4	5	6	7	8
	SBL	NBT	-	EBT	NBL	SBT	EBL	WBT
								
Min Green	6	12	-	8	6	12	*	8
Passage	1.5	1.5	-	2.5	1.5	1.5	*	2.5
Max Green	15	35	-	25	15	35	*	25
Yellow Change	3.5	3.2	-	3	3.5	3.2	*	3
Red Clearance	1	3	-	3	1	3	*	3
Detector Functions								
Delay?	No	No	-	Yes	Yes	No	-	Yes
Delay Detector Number	-	-	-	42	51	-	-	81
Delay Time (s)	-	-	-	3	3	-	-	3
Extension Stretch?	No	Yes	-	No	No	Yes	-	No
Extension Stretch Detector Number	-	22	-	-	-	62	-	-
Extend Time (s)	-	3.5	-	-	-	3.5	-	-
Density Times								
Added Initial	0	0	-	0	0	0	-	0
Max Initial	0	0	-	0	0	0	-	0
TBR	0	0	-	0	0	0	-	0
TTR	0	0	-	0	0	0	-	0
Min Gap	1.5	1.5	-	2.5	1.5	1.5	-	2.5
Pedestrian Times								
Walk	0	7	-	7	0	7	-	7
Ped Clear	0	13	-	18	0	16	-	23
Bicycle Min Green	0	0	-	0	0	0	-	0
Flashing Walk	0	0	-	0	0	0	-	0
Extended Ped Clear	0	0	-	0	0	0	-	0
Act Rest-in-walk	0	0	-	0	0	0	-	0
Recall / Locking								
Vehicle Recall	None	Min	-	None	None	Min	*	None
Ped Recall	None	None	-	None	None	None	*	None
Phase Locking	Non-Locking	Locking	-	Non-Locking	Non-Locking	Locking	*	Non-Locking

\* Phase 7 active only during railroad preemption as preemption dwell phase

NOTE: SEE TRAFFIC CONTROL FOR PAVEMENT MARKING REMOVALS

\* MATCH EXISTING

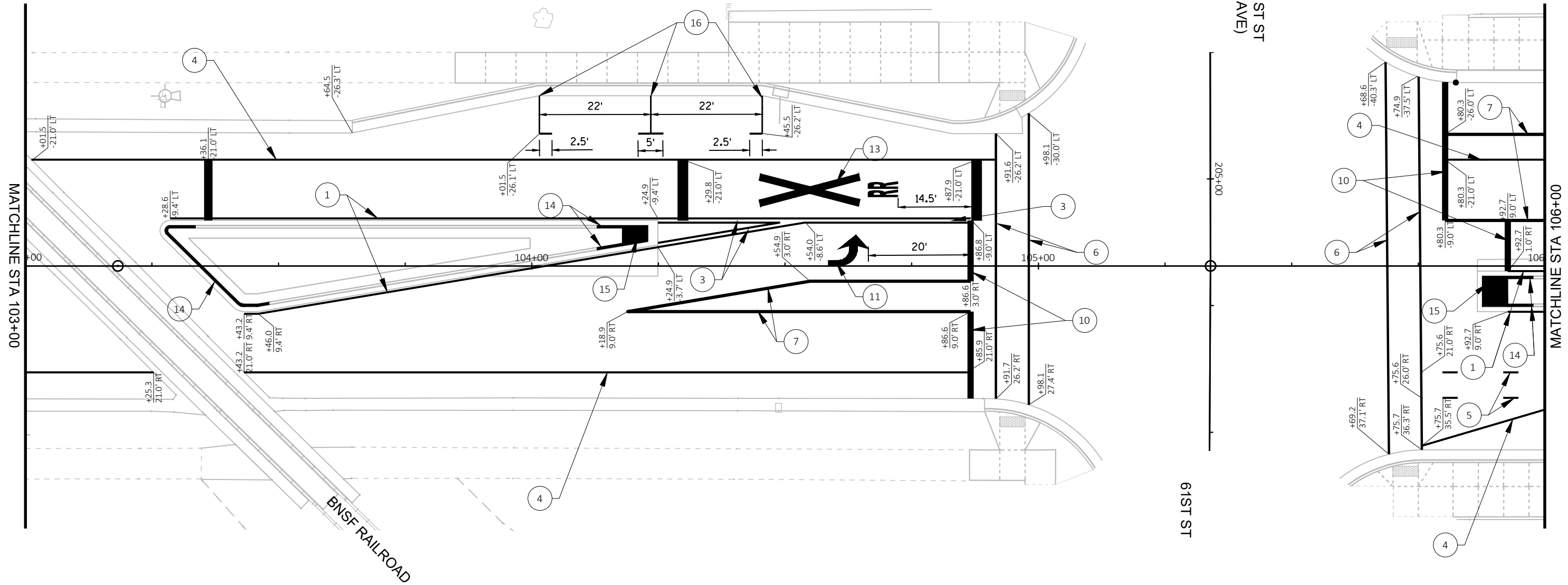


**PAVEMENT MARKING LEGEND**

- |  |   |
|--|---|
| 1 MARKING LINE EPOXY 4-INCH (YELLOW)                         | 9 MARKING DIAGONAL EPOXY 12-INCH (YELLOW)       |
| 2 MARKING LINE EPOXY 4-INCH (YELLOW) (12.5' LINE, 37.5' GAP) | 10 MARKING LINE STOP LINE EPOXY 18-INCH (WHITE) |
| 3 MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)                  | 11 MARKING ARROW EPOXY                          |
| 4 MARKING LINE EPOXY 4-INCH (WHITE)                          | 12 MARKING SYMBOL EPOXY                         |
| 5 MARKING LINE EPOXY 4-INCH (WHITE) (3' LINE, 9' GAP)        | 13 MARKING RAILROAD CROSSING EPOXY              |
| 6 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)     | 14 MARKING CURB EPOXY (YELLOW)                  |
| 7 MARKING LINE EPOXY 8-INCH (WHITE)                          | 15 MARKING NOSE EPOXY (YELLOW)                  |
| 8 MARKING LINE EPOXY 8-INCH (WHITE) (3' LINE, 9' GAP)        | 16 MARKING PARKING STALL EPOXY (WHITE)          |

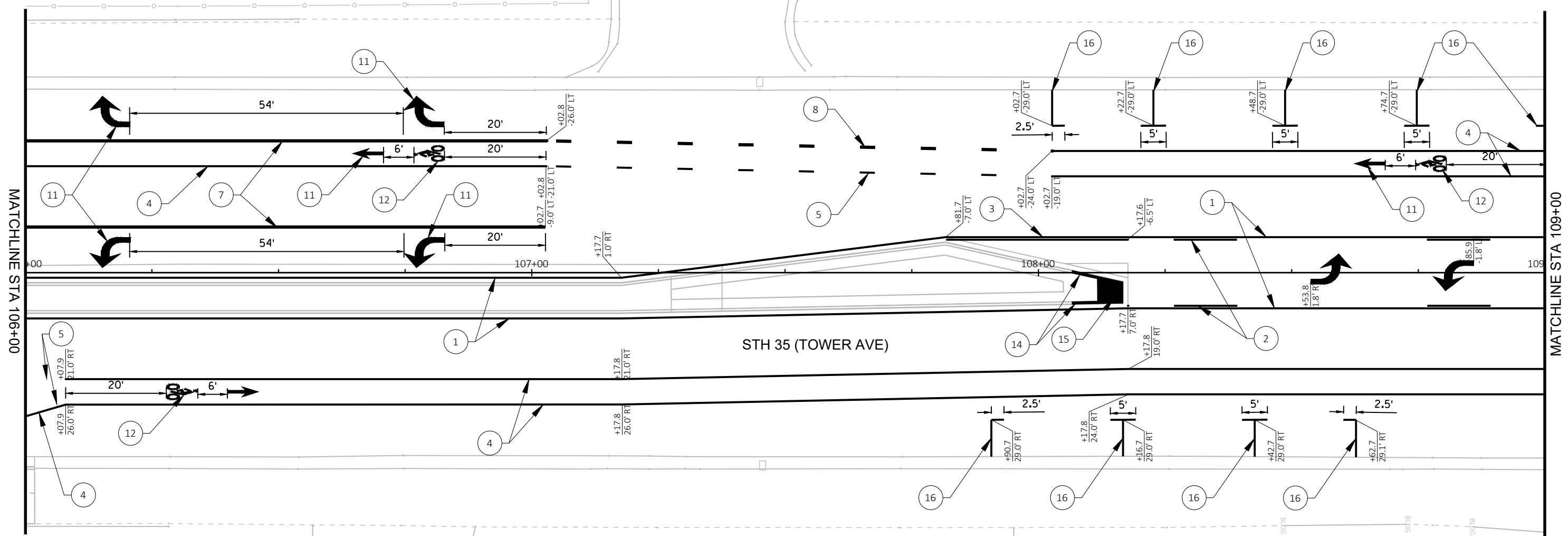
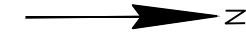
PAVEMENT MARKING LEGEND

- 1 MARKING LINE EPOXY 4-INCH (YELLOW)
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- 15 MARKING NOSE EPOXY (YELLOW)
- 16 MARKING PARKING STALL EPOXY (WHITE)



PAVEMENT MARKING LEGEND

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- 15 MARKING NOSE EPOXY (YELLOW)
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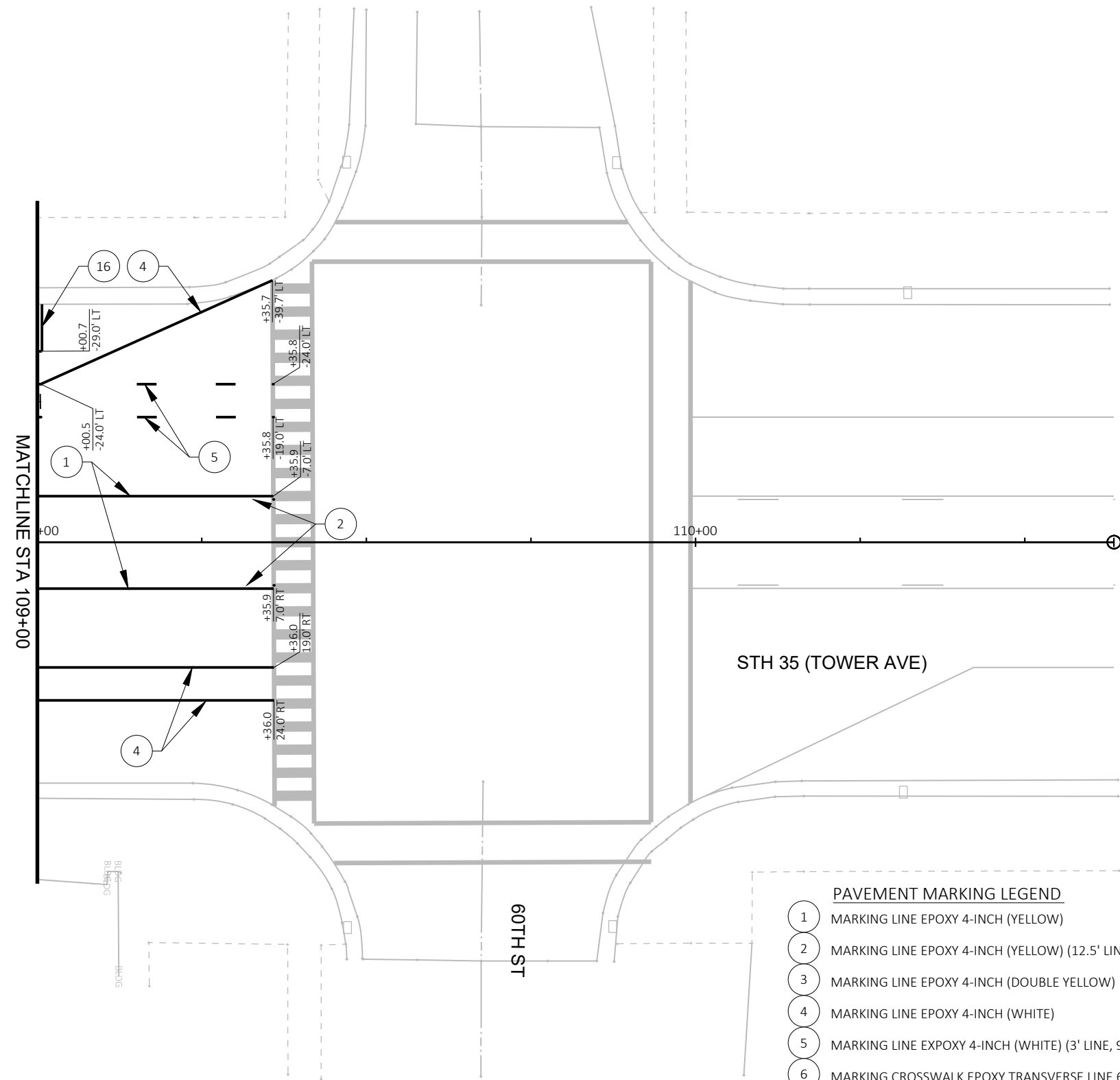


MATCHLINE STA 106+00

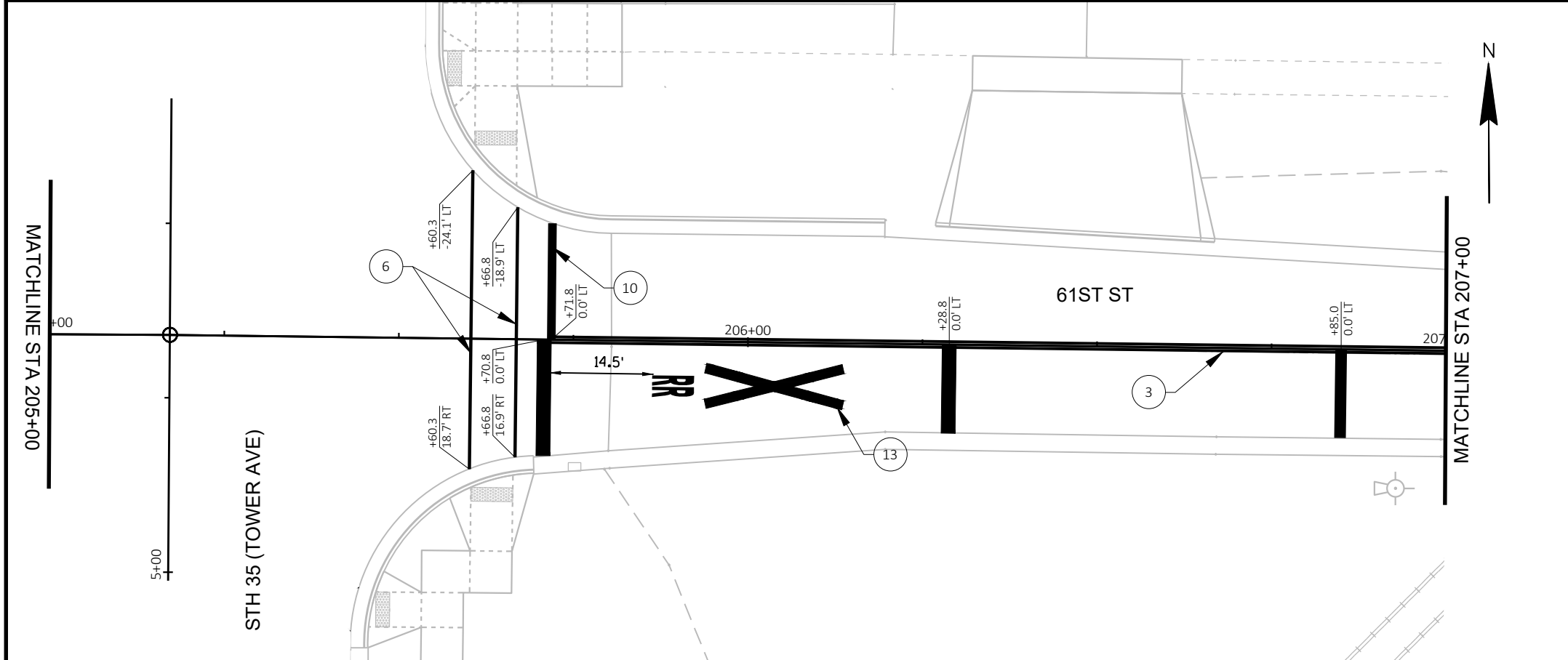
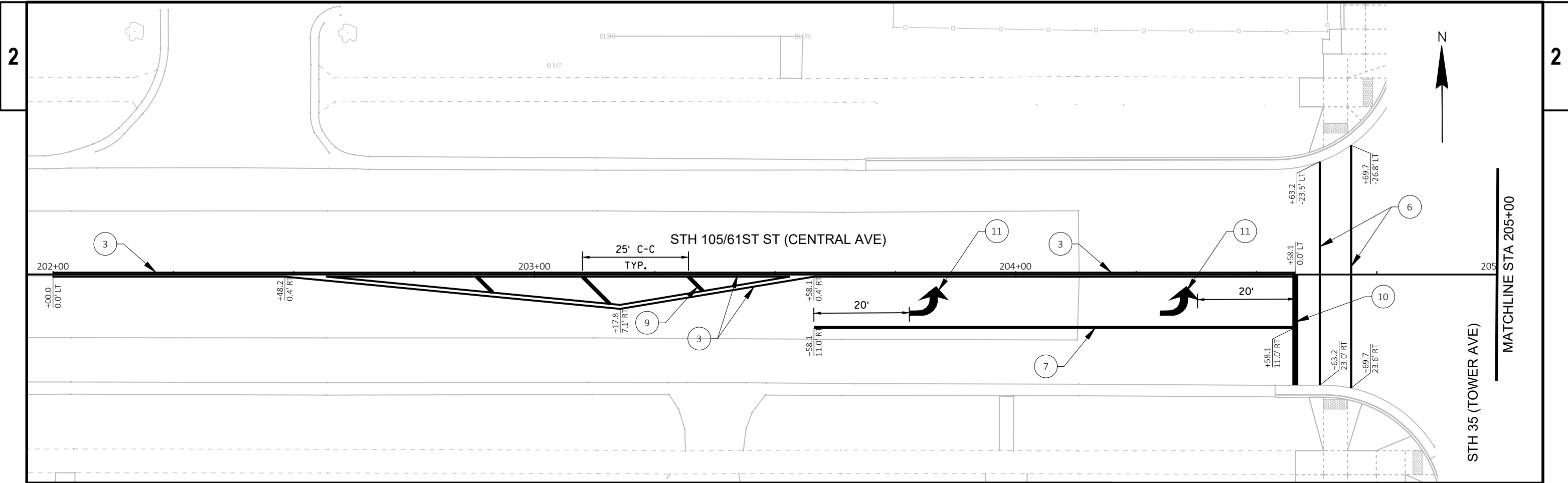
MATCHLINE STA 109+00

STH 35 (TOWER AVE)

PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	PAVEMENT MARKING	SHEET	<b>E</b>
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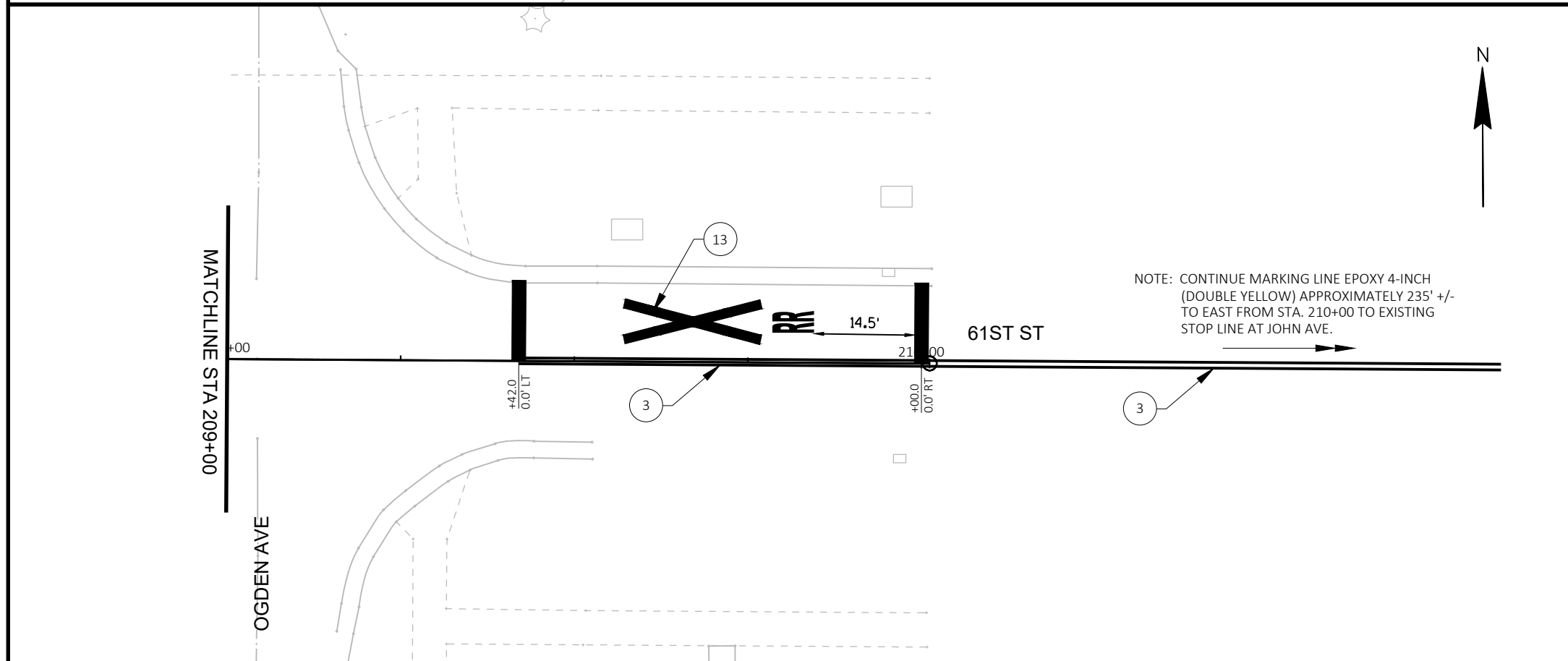
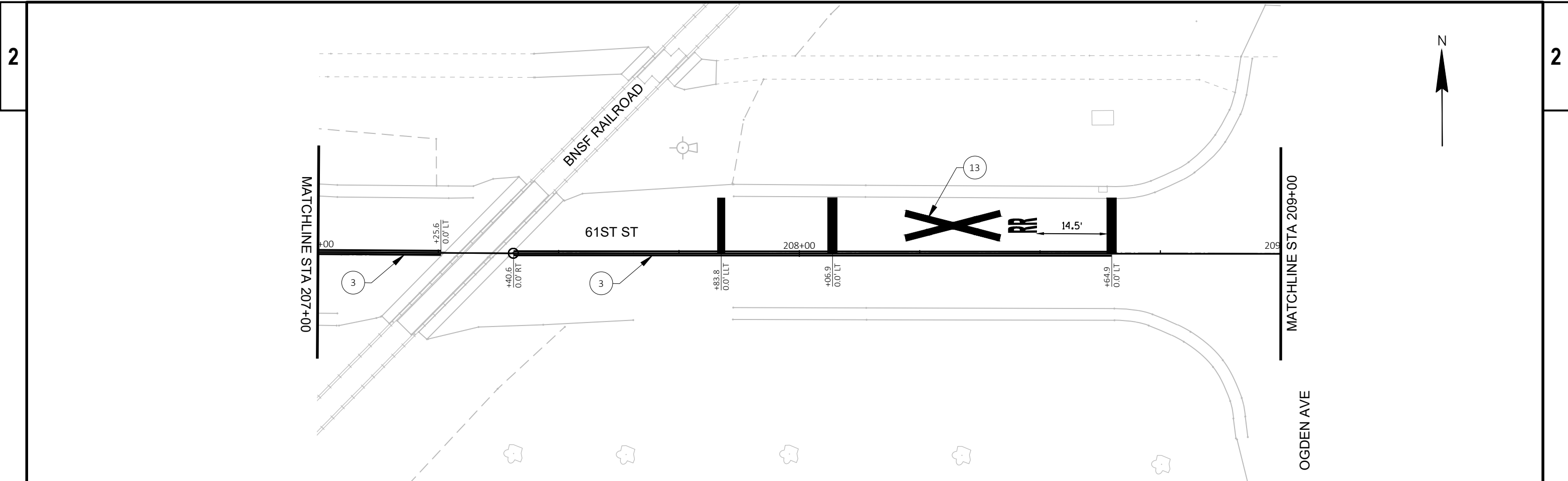
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5	MARKING LINE EXPOXY 4-INCH (WHITE) (3' LINE, 9' GAP)
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12	MARKING SYMBOL EPOXY
13	MARKING RAILROAD CROSSING EPOXY
14	MARKING CURB EPOXY (YELLOW)
15	MARKING NOSE EPOXY (YELLOW)
16	MARKING PARKING STALL EPOXY (WHITE)



**PAVEMENT MARKING LEGEND**

1	MARKING LINE EPOXY 4-INCH (YELLOW)
2	MARKING LINE EPOXY 4-INCH (YELLOW) (12.5' LINE, 37.5' GAP)
3	MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
4	MARKING LINE EPOXY 4-INCH (WHITE)
5	MARKING LINE EPOXY 4-INCH (WHITE) (3' LINE, 9' GAP)
6	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)
7	MARKING LINE EPOXY 8-INCH (WHITE)
8	MARKING LINE EPOXY 8-INCH (WHITE) (3' LINE, 9' GAP)
9	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
10	MARKING LINE STOP LINE EPOXY 18-INCH (WHITE)
11	MARKING ARROW EPOXY
12	MARKING SYMBOL EPOXY
13	MARKING RAILROAD CROSSING EPOXY
14	MARKING CURB EPOXY (YELLOW)
15	MARKING NOSE EPOXY (YELLOW)
16	MARKING PARKING STALL EPOXY (WHITE)





**PAVEMENT MARKING LEGEND**

- 1 MARKING LINE EPOXY 4-INCH (YELLOW)
- 2 MARKING LINE EPOXY 4-INCH (YELLOW) (12.5' LINE, 37.5' GAP)
- 3 MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
- 4 MARKING LINE EPOXY 4-INCH (WHITE)
- 5 MARKING LINE EPOXY 4-INCH (WHITE) (3' LINE, 9' GAP)
- 6 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)
- 7 MARKING LINE EPOXY 8-INCH (WHITE)
- 8 MARKING LINE EPOXY 8-INCH (WHITE) (3' LINE, 9' GAP)
- 9 MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- 10 MARKING LINE STOP LINE EPOXY 18-INCH (WHITE)
- 11 MARKING ARROW EPOXY
- 12 MARKING SYMBOL EPOXY
- 13 MARKING RAILROAD CROSSING EPOXY
- 14 MARKING CURB EPOXY (YELLOW)
- 15 MARKING NOSE EPOXY (YELLOW)
- 16 MARKING PARKING STALL EPOXY (WHITE)

GENERAL NOTES FOR TRAFFIC CONTROL

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

A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE WORK AREAS IF WARRANTED BY CONDITIONS OR AS DIRECTED BY THE ENGINEER.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"WO" ARE "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.




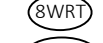
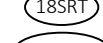
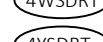
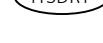
FOR NIGHTTIME OPERATION, ALL DRUMS IN TAPERS SHALL HAVE A TYPE C STEADY BURN WARNING LIGHT.

ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE "A" (LOW INTENSITY FLASHING) LIGHTS.

EXISTING AND ADVANCE WARNING TRAFFIC CONTROL SIGNS MAY REQUIRE RELOCATION DURING CONSTRUCTION STAGING, INCIDENTAL TO THE CONTRACT.

MAINTAIN LOCAL ACCESS AT ALL TIMES UNLESS OTHERWISE NOTED IN THE TRAFFIC CONTROL PLANS.

TEMPORARY PAVEMENT MARKING LEGEND

-  TEMPORARY PAVEMENT MARKING LINE REMOVABLE TAPE, 4-INCH, WHITE
-  TEMPORARY PAVEMENT MARKING LINE REMOVABLE TAPE, 4-INCH, YELLOW
-  TEMPORARY PAVEMENT MARKING LINE REMOVABLE TAPE, 4-INCH, DOUBLE YELLOW
-  TEMPORARY PAVEMENT MARKING LINE REMOVABLE TAPE, 8-INCH WHITE
-  TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE, 18-INCH
-  TEMPORARY PAVEMENT MARKING LINE REMOVABLE TAPE, 4-INCH, SKIP DASH, WHITE
-  TEMPORARY PAVEMENT MARKING LINE REMOVABLE TAPE, 4-INCH, 3' LINE, 9' GAP, YELLOW

TRAFFIC CONTROL LEGEND

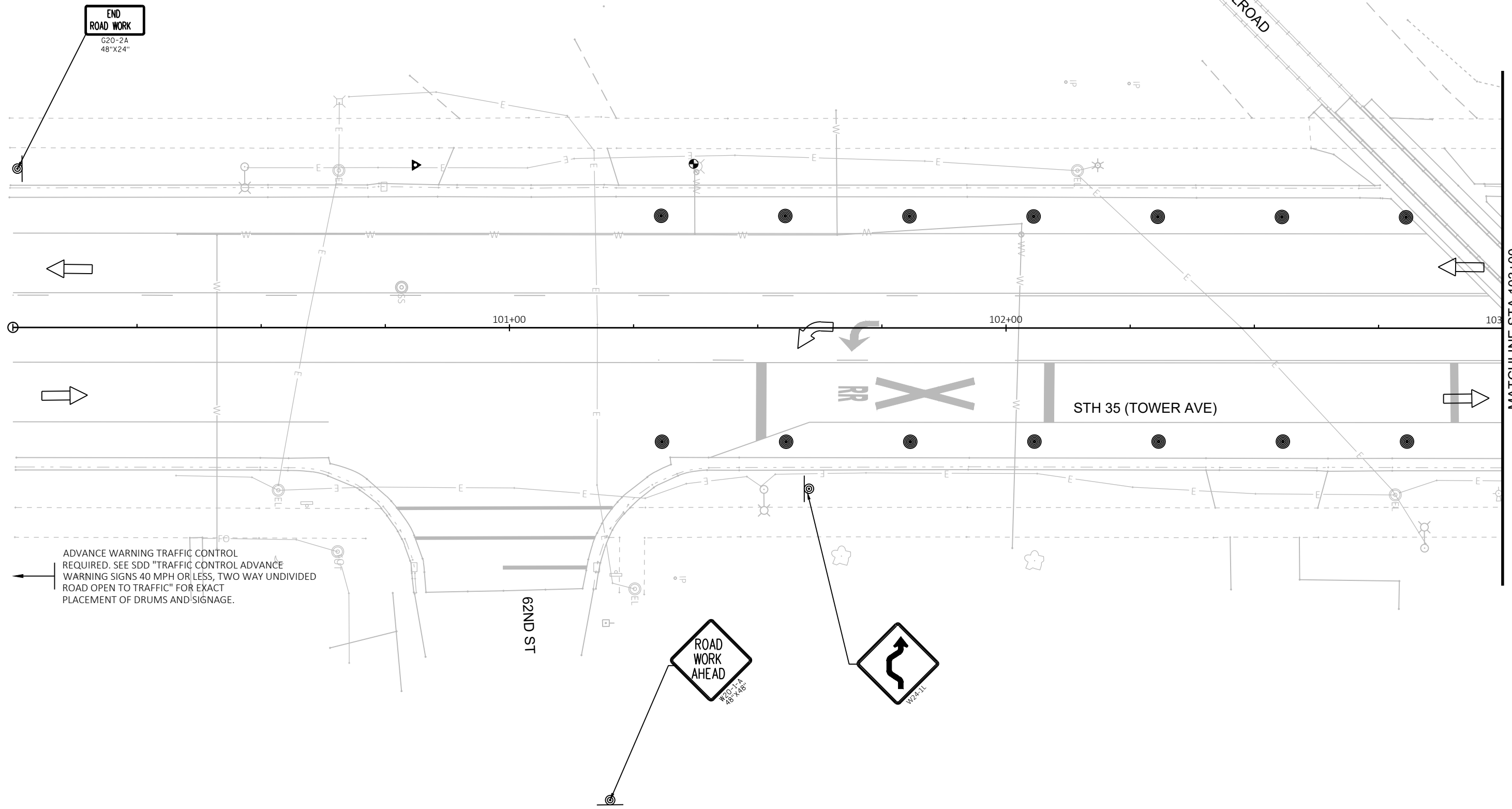
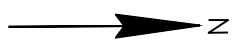
-  WORK ZONE
-  TRAFFIC FLOW ARROW
-  DRUM WITH / WITHOUT LIGHTS
-  SIGN ON PERMANENT / PORTABLE SUPPORT
-  TYPE II BARRICADE WITH / WITHOUT SIGN
-  TYPE III BARRICADE WITH / WITHOUT SIGN
-  EXISTING PAVEMENT MARKING REMOVAL (WATER BLASTING)
-  TRAFFIC CONTROL FLAGGER

NOTE: STAGE WORK AREAS TO PROVIDE ADA COMPLIANT PEDESTRIAN ACCESS AT ALL TIMES. SEE "TRAFFIC CONTROL: STAGE 1 SIDEWALK" SHEETS FOR MORE INFORMATION.

END ROAD WORK

G20-2A  
48"X24"

BNSF RAILROAD



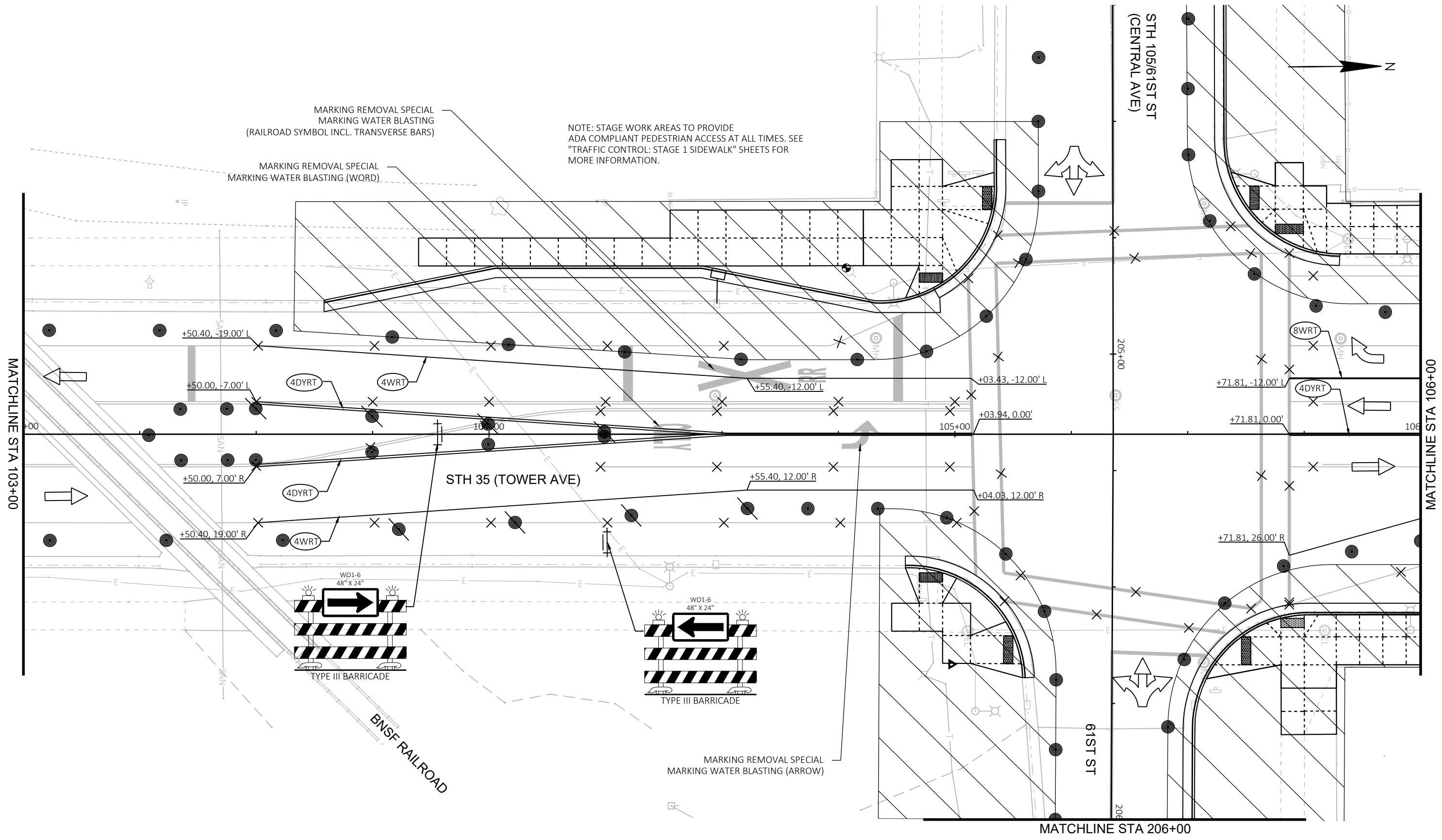
MATCHLINE STA 103+00

ADVANCE WARNING TRAFFIC CONTROL REQUIRED. SEE SDD "TRAFFIC CONTROL ADVANCE WARNING SIGNS 40 MPH OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR EXACT PLACEMENT OF DRUMS AND SIGNAGE.

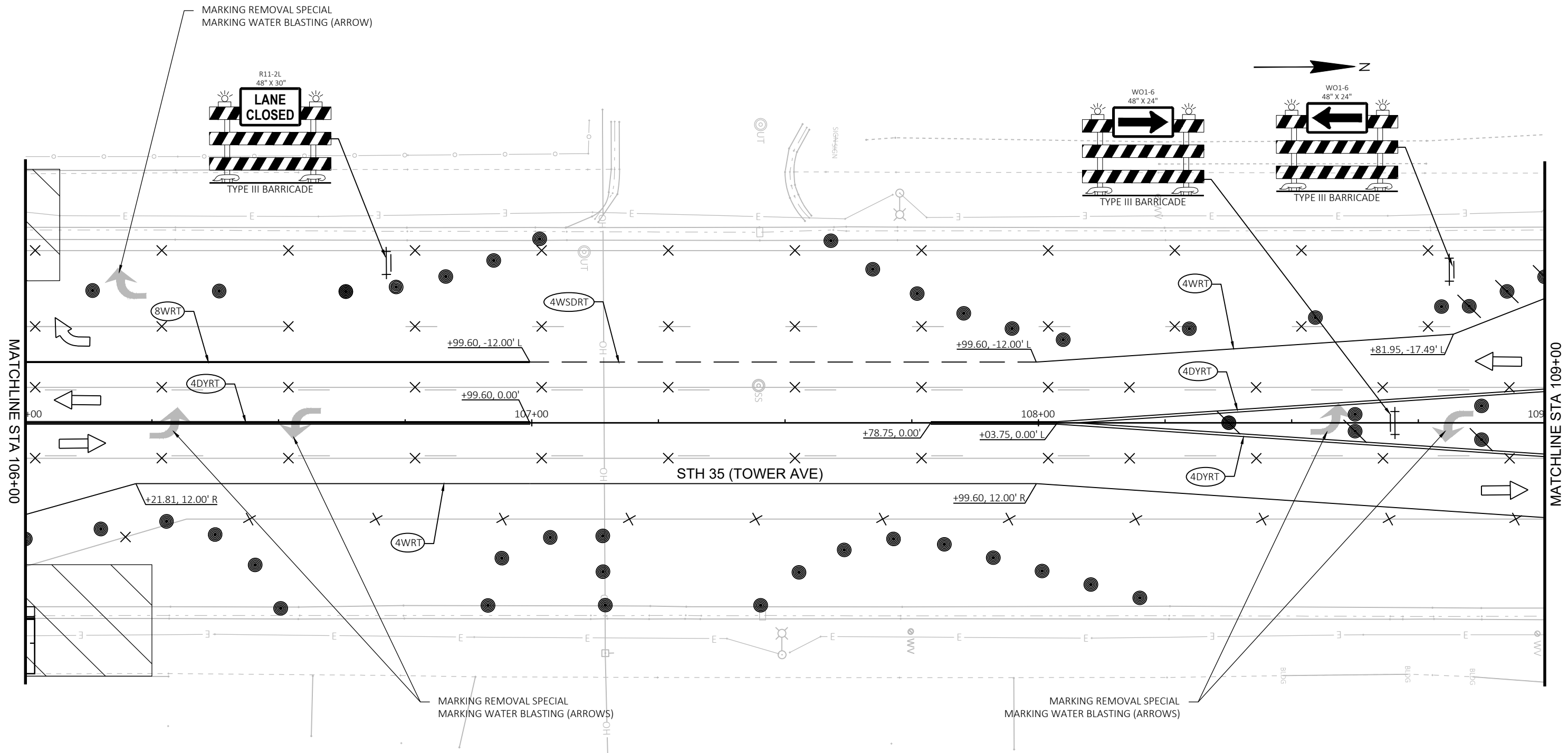
ROAD WORK AHEAD  
W20-1-7  
48"X48"

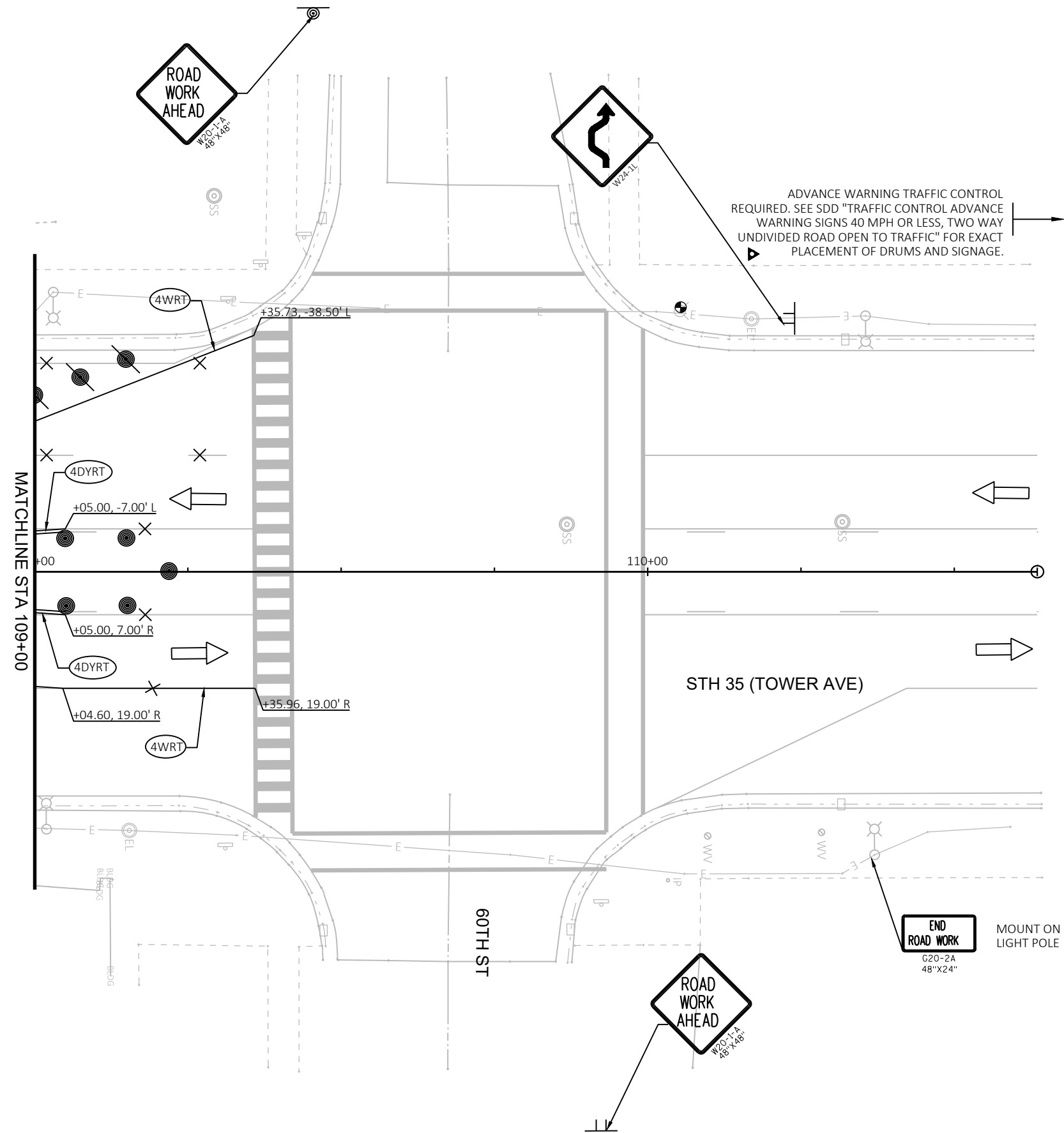
W24-1L

PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	TRAFFIC CONTROL: STAGE 1	SHEET	E
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NOTE: STAGE WORK AREAS TO PROVIDE ADA COMPLIANT PEDESTRIAN ACCESS AT ALL TIMES. SEE "TRAFFIC CONTROL: STAGE 1 SIDEWALK" SHEETS FOR MORE INFORMATION.





PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	TRAFFIC CONTROL: STAGE 1	SHEET	E
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NOTE: STAGE WORK AREAS TO PROVIDE ADA COMPLIANT PEDESTRIAN ACCESS AT ALL TIMES. SEE "TRAFFIC CONTROL: STAGE 1 SIDEWALK" SHEETS FOR MORE INFORMATION.

END ROAD WORK  
G20-2A  
48"X24"

MATCHLINE STA 106+00



MATCHLINE STA 206+00

STH 105/61ST ST (CENTRAL AVE)

ADVANCE WARNING TRAFFIC CONTROL REQUIRED. SEE SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR EXACT PLACEMENT OF DRUMS AND SIGNAGE.

ADVANCE WARNING TRAFFIC CONTROL REQUIRED. SEE SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR EXACT PLACEMENT OF DRUMS AND SIGNAGE.








61ST ST

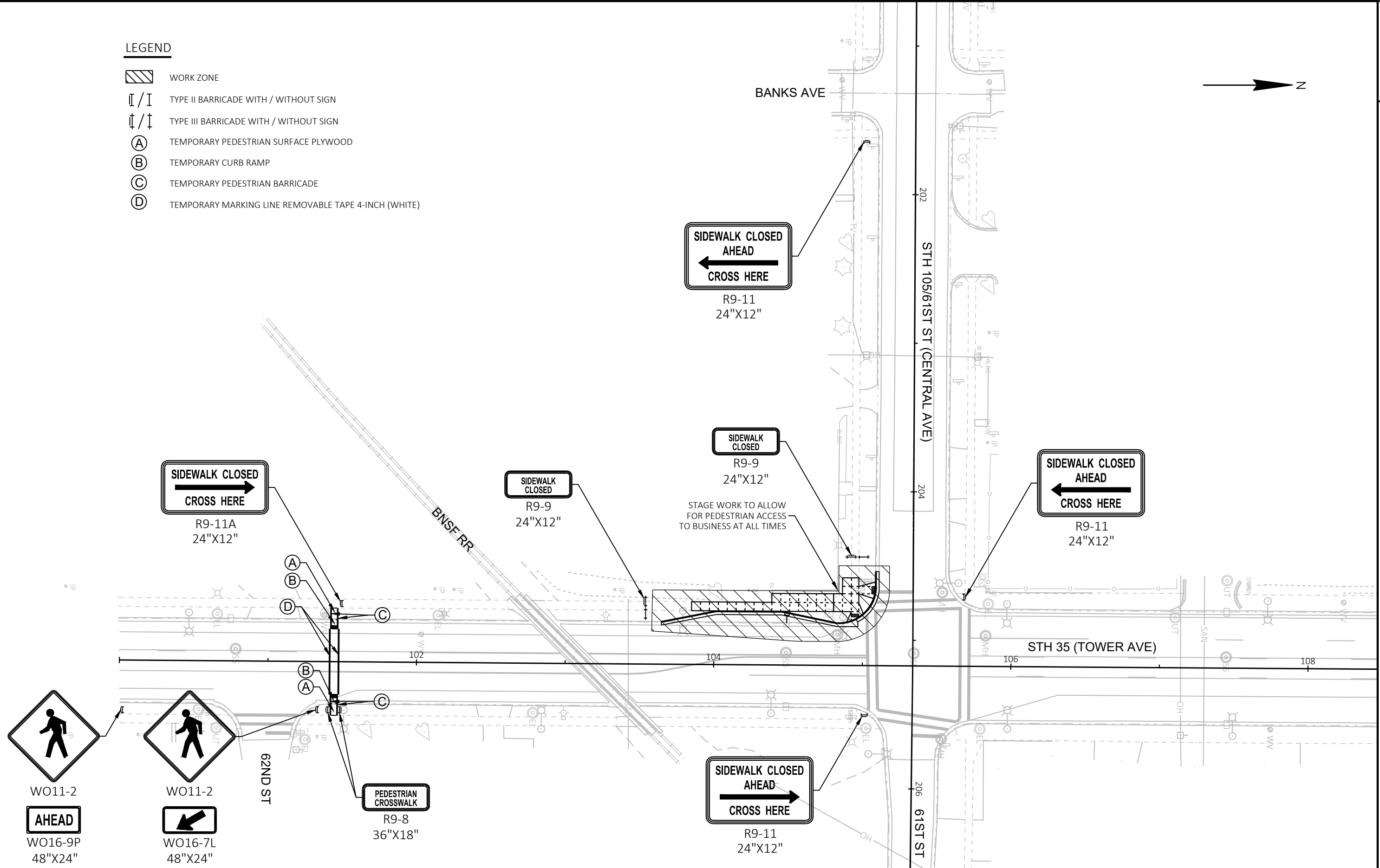
BNSF RAILROAD

END ROAD WORK  
G20-2A  
48"X24"  
STA. 208+50, RT

MATCHLINE STA 206+00

LEGEND

-  WORK ZONE
-  TYPE II BARRICADE WITH / WITHOUT SIGN
-  TYPE III BARRICADE WITH / WITHOUT SIGN
-  TEMPORARY PEDESTRIAN SURFACE PLYWOOD
-  TEMPORARY CURB RAMP
-  TEMPORARY PEDESTRIAN BARRICADE
-  TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)







WO11-2



WO16-7L  
48"X24"

PEDESTRIAN  
CROSSWALK

R9-8  
36"X18"

SIDEWALK  
CLOSED

R9-9  
24"X12"



WO11-2

AHEAD

WO16-9P  
48"X24"

SIDEWALK CLOSED  
AHEAD  
←  
CROSS HERE

R9-11  
24"X12"

SIDEWALK  
CLOSED

R9-9  
24"X12"

SIDEWALK  
CLOSED

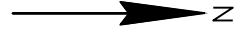
R9-9  
24"X12"

SIDEWALK CLOSED  
AHEAD  
→  
CROSS HERE

R9-11  
24"X12"








LEGEND

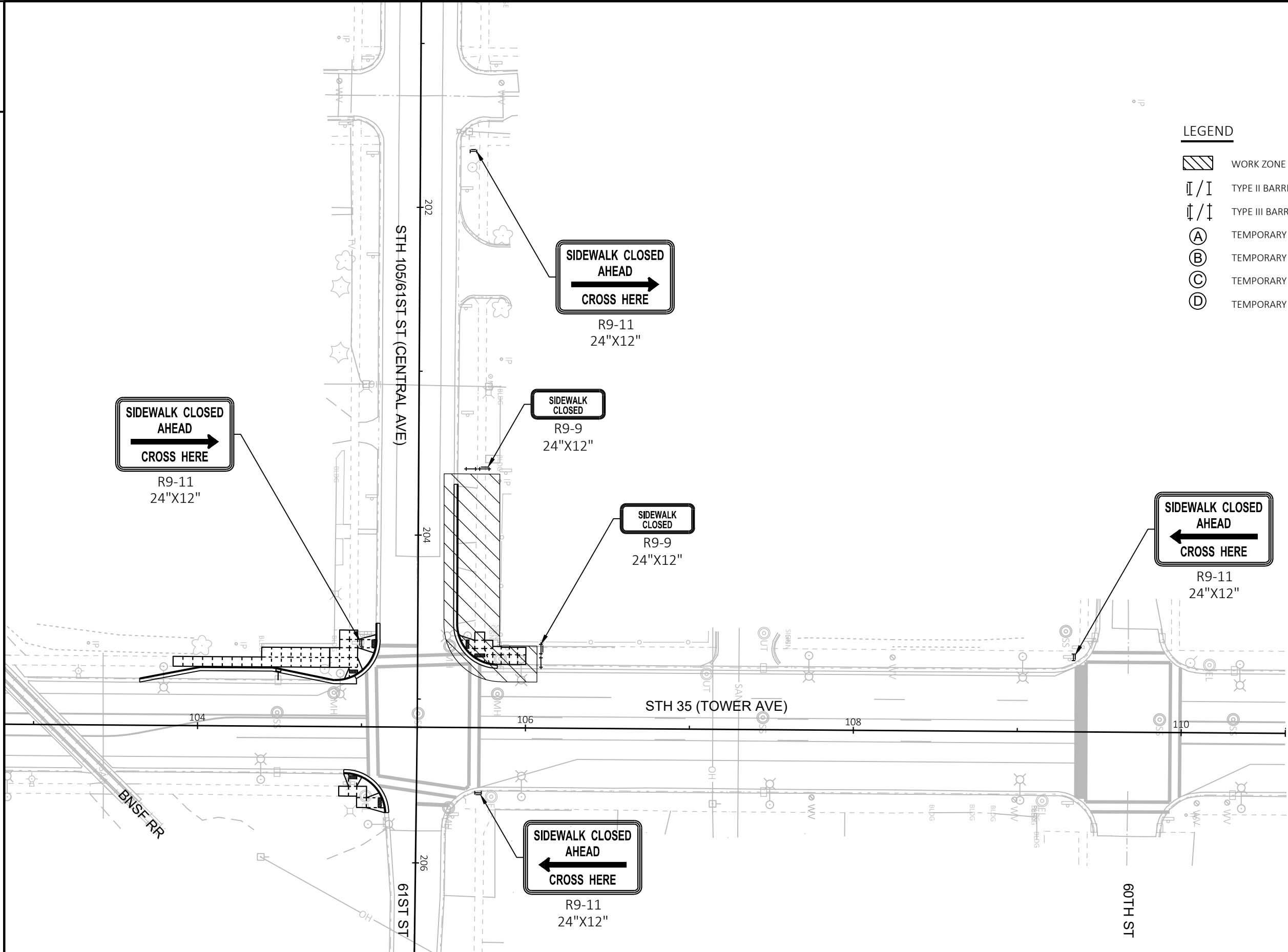
- WORK ZONE
- TYPE II BARRICADE WITH / WITHOUT SIGN
- TYPE III BARRICADE WITH / WITHOUT SIGN
- TEMPORARY PEDESTRIAN SURFACE PLYWOOD
- TEMPORARY CURB RAMP
- TEMPORARY PEDESTRIAN BARRICADE
- TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)





**LEGEND**

-  WORK ZONE
-  TYPE II BARRICADE WITH / WITHOUT SIGN
-  TYPE III BARRICADE WITH / WITHOUT SIGN
-  TEMPORARY PEDESTRIAN SURFACE PLYWOOD
-  TEMPORARY CURB RAMP
-  TEMPORARY PEDESTRIAN BARRICADE
-  TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)



**SIDEWALK CLOSED AHEAD**  
 →  
**CROSS HERE**  
 R9-11  
 24"X12"

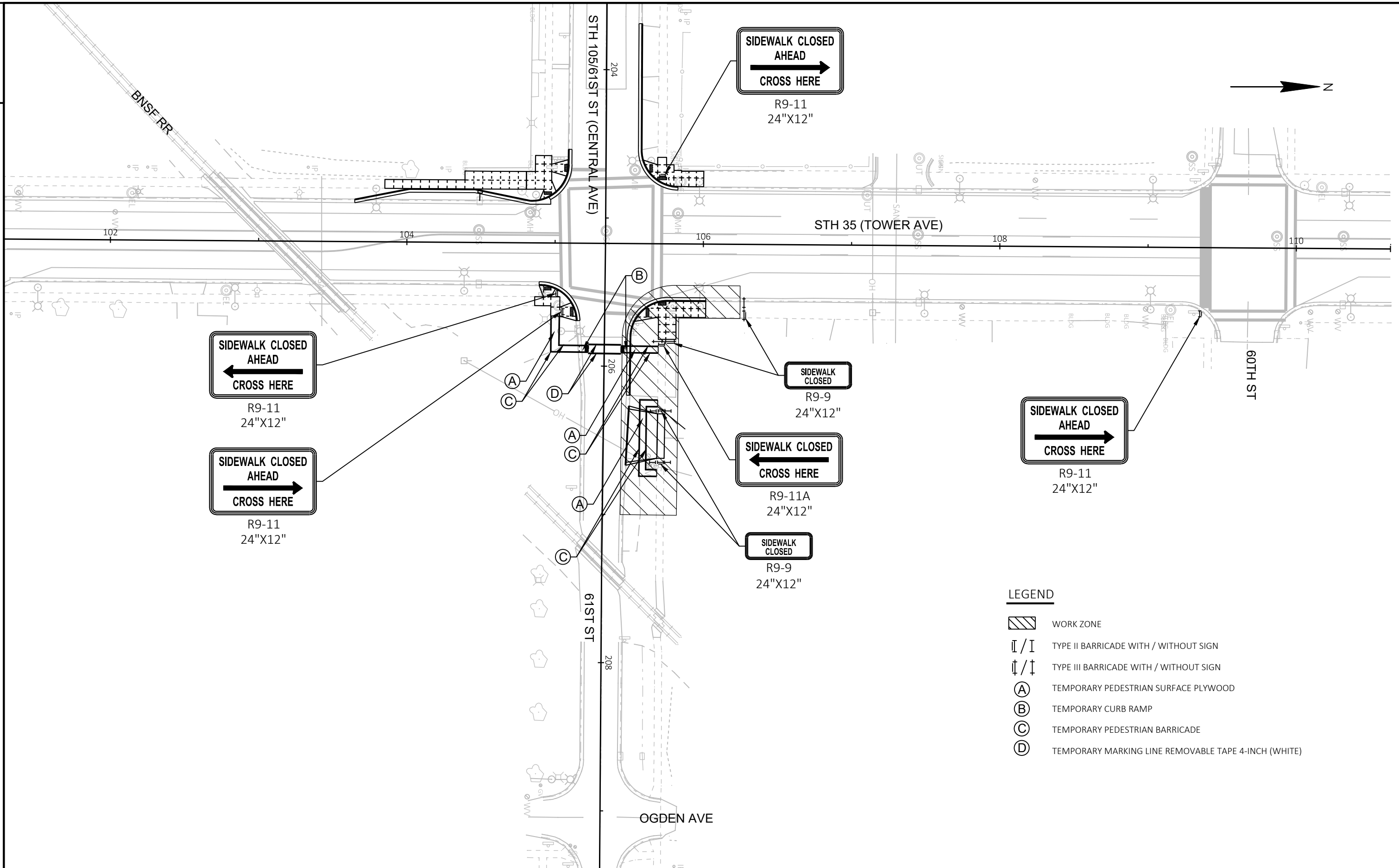
**SIDEWALK CLOSED AHEAD**  
 →  
**CROSS HERE**  
 R9-11  
 24"X12"

**SIDEWALK CLOSED**  
 R9-9  
 24"X12"

**SIDEWALK CLOSED**  
 R9-9  
 24"X12"

**SIDEWALK CLOSED AHEAD**  
 ←  
**CROSS HERE**  
 R9-11  
 24"X12"

**SIDEWALK CLOSED AHEAD**  
 ←  
**CROSS HERE**  
 R9-11  
 24"X12"



SIDEWALK CLOSED  
AHEAD  
←  
CROSS HERE  
R9-11  
24"X12"

SIDEWALK CLOSED  
AHEAD  
→  
CROSS HERE  
R9-11  
24"X12"

SIDEWALK CLOSED  
AHEAD  
→  
CROSS HERE  
R9-11  
24"X12"








SIDEWALK  
CLOSED  
R9-9  
24"X12"

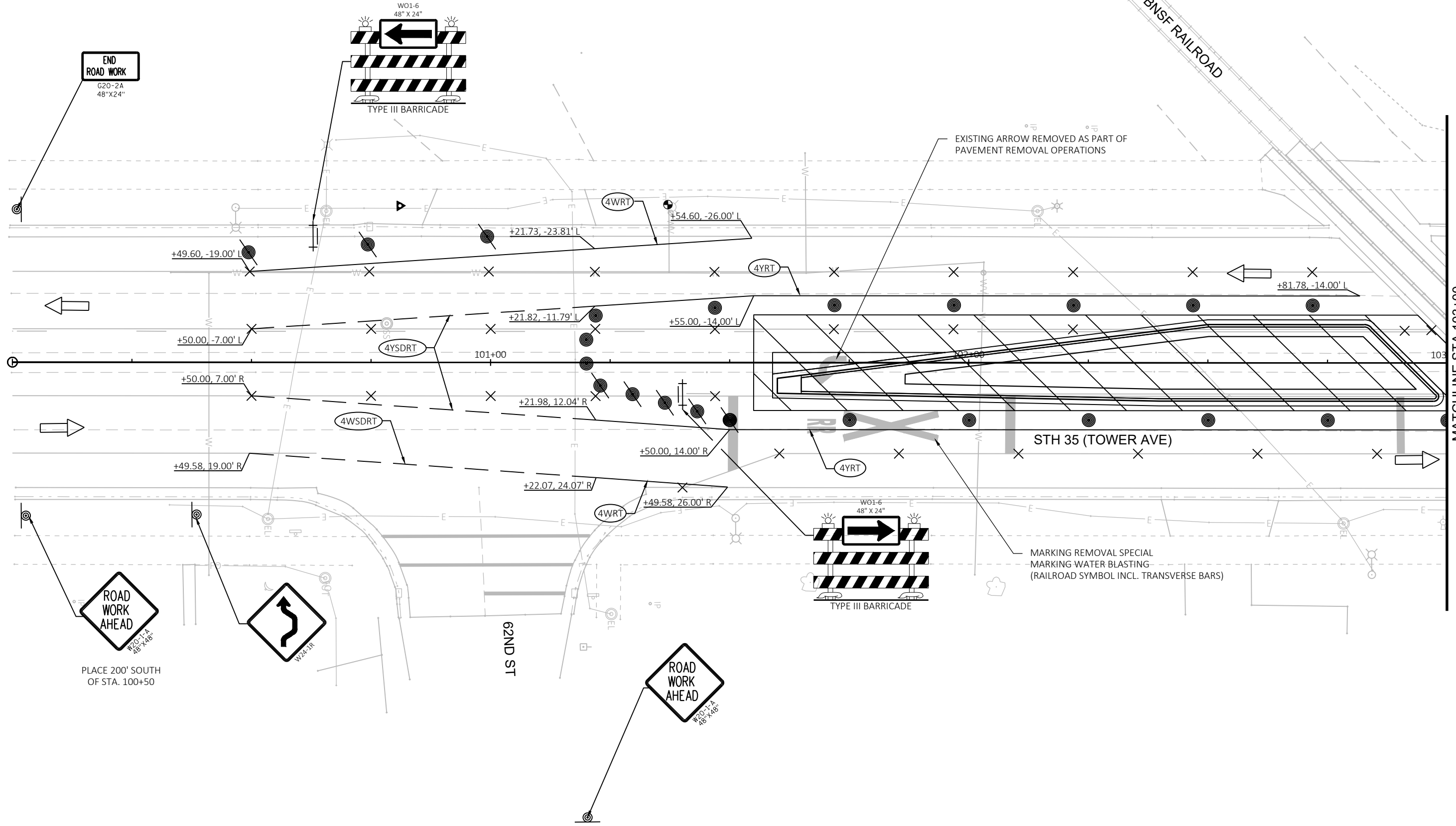
SIDEWALK CLOSED  
←  
CROSS HERE  
R9-11A  
24"X12"

SIDEWALK  
CLOSED  
R9-9  
24"X12"

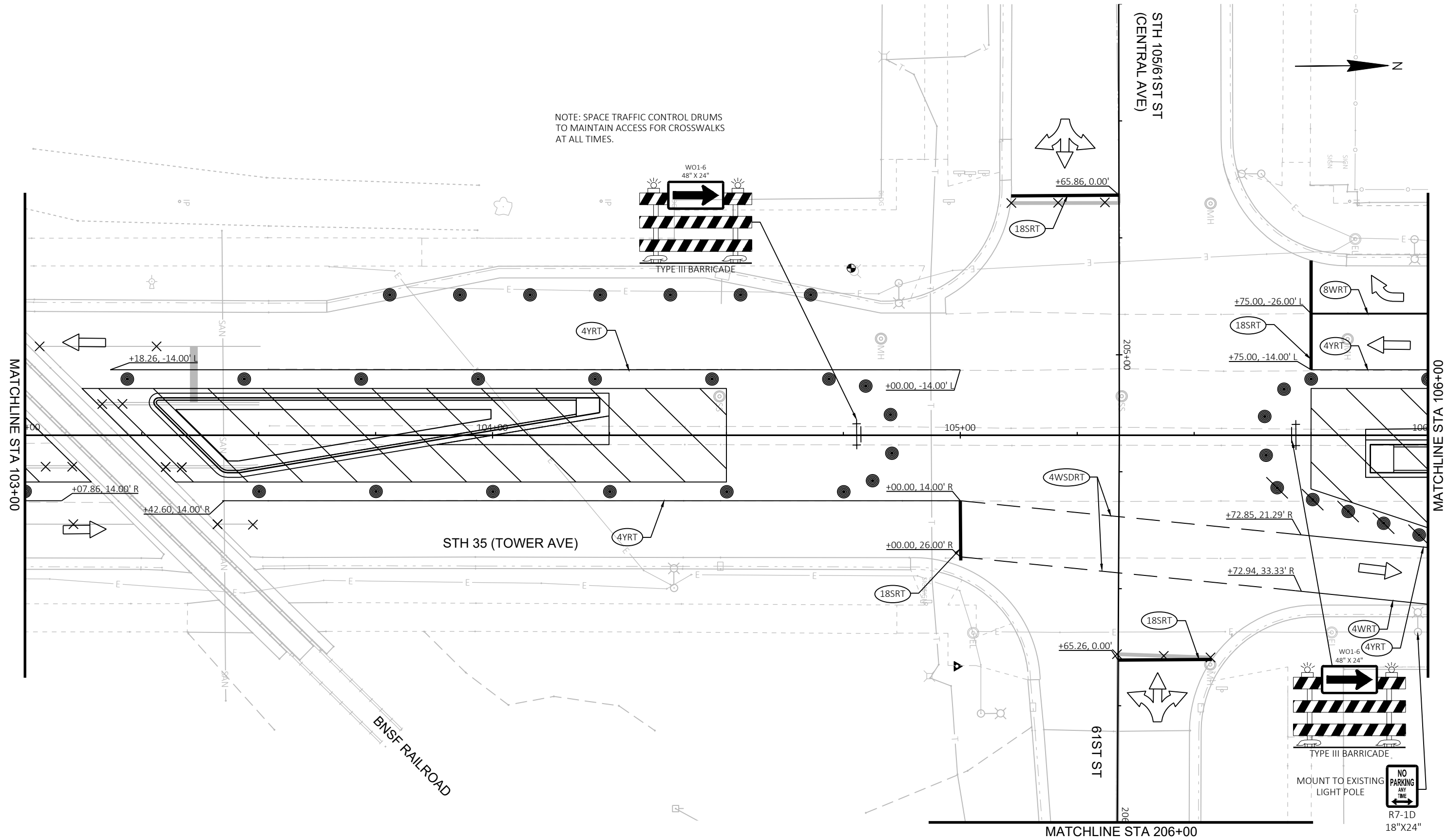
SIDEWALK CLOSED  
AHEAD  
→  
CROSS HERE  
R9-11  
24"X12"

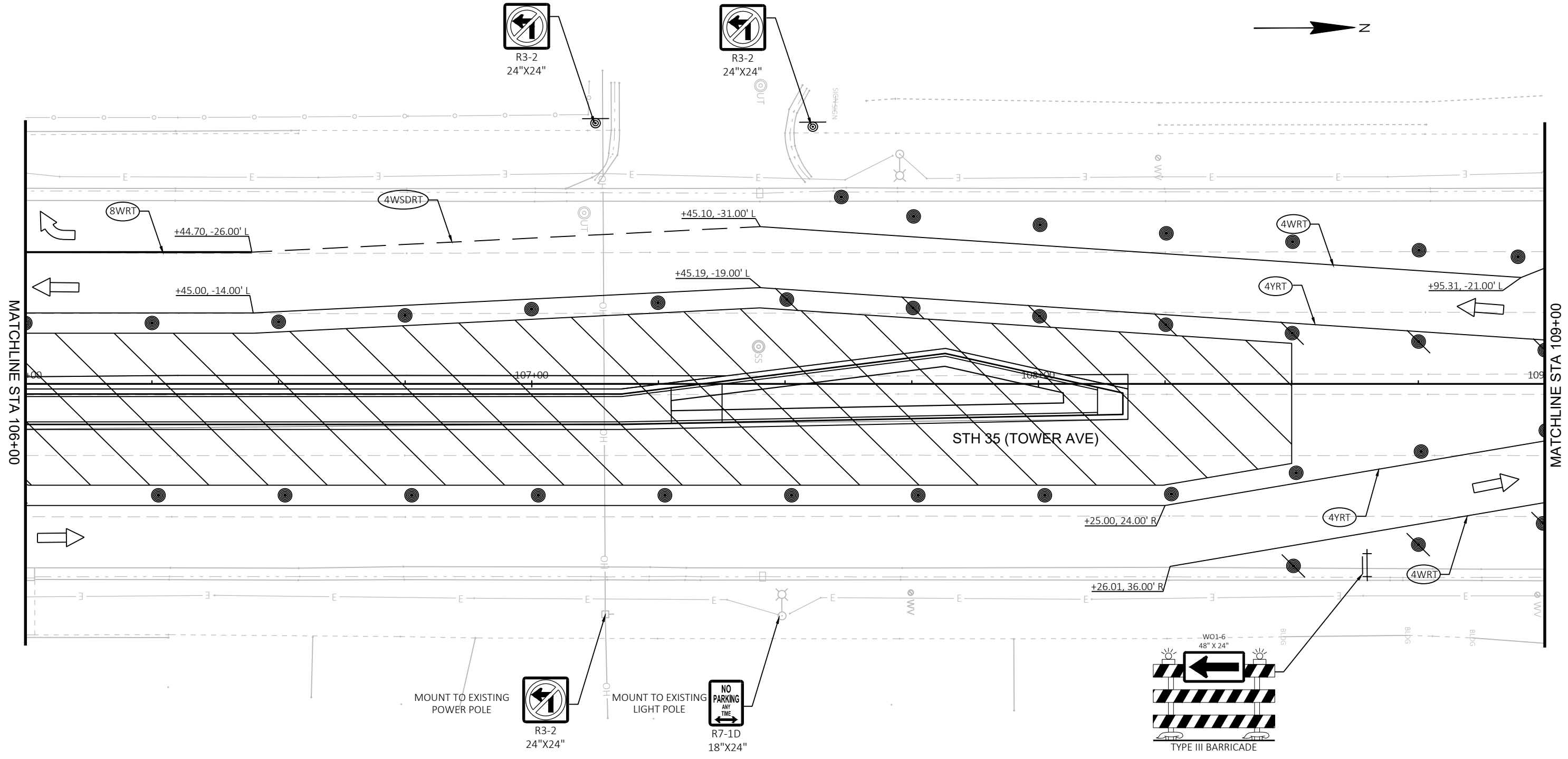
**LEGEND**

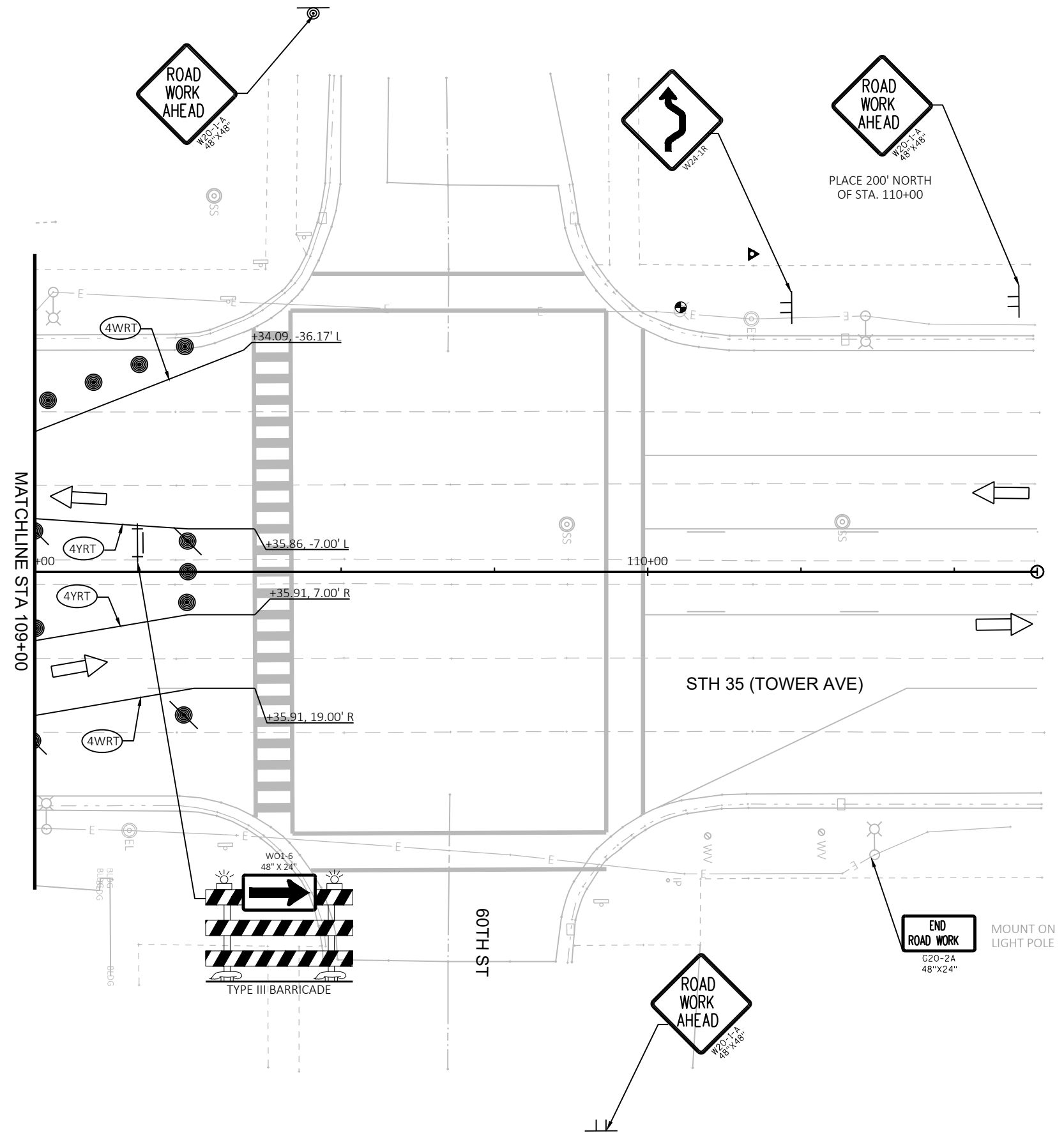
-  WORK ZONE
-  TYPE II BARRICADE WITH / WITHOUT SIGN
-  TYPE III BARRICADE WITH / WITHOUT SIGN
-  TEMPORARY PEDESTRIAN SURFACE PLYWOOD
-  TEMPORARY CURB RAMP
-  TEMPORARY PEDESTRIAN BARRICADE
-  TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)



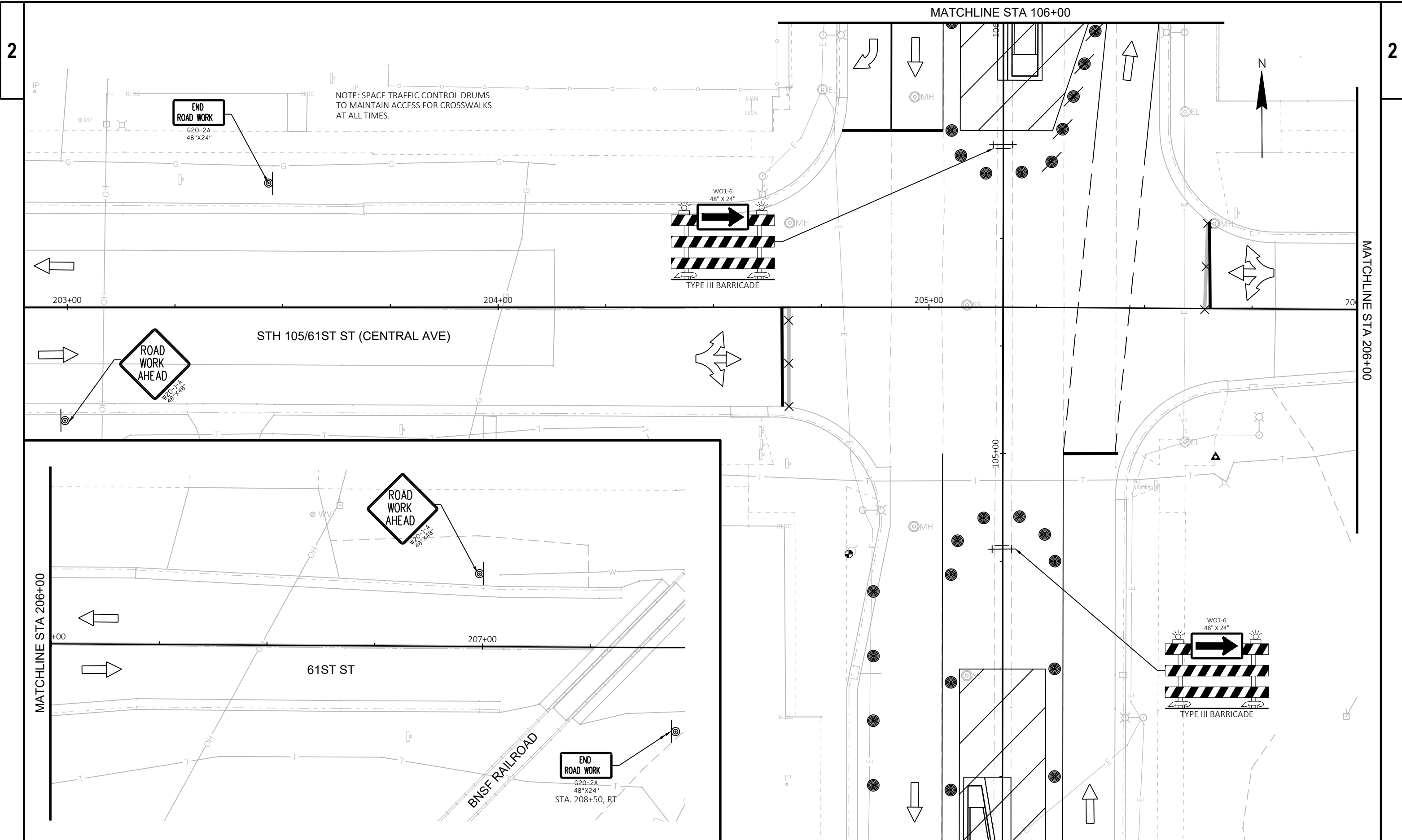
NOTE: SPACE TRAFFIC CONTROL DRUMS TO MAINTAIN ACCESS FOR CROSSWALKS AT ALL TIMES.





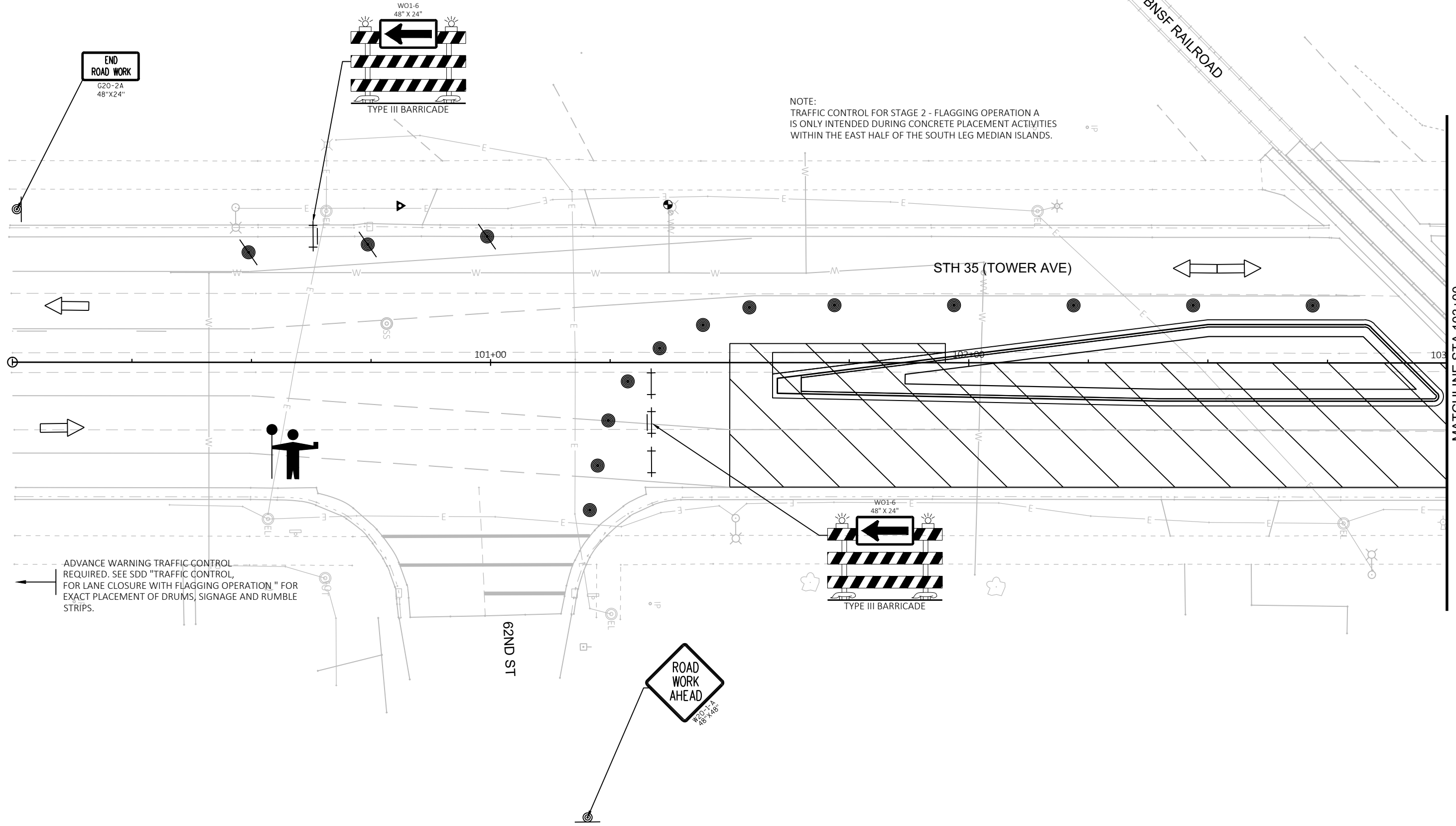


PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	TRAFFIC CONTROL: STAGE 2	SHEET	<b>E</b>
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PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	TRAFFIC CONTROL: STAGE 2	SHEET	<b>E</b>
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NOTE:  
 TRAFFIC CONTROL FOR STAGE 2 - FLAGGING OPERATION A  
 IS ONLY INTENDED DURING CONCRETE PLACEMENT ACTIVITIES  
 WITHIN THE EAST HALF OF THE SOUTH LEG MEDIAN ISLANDS.

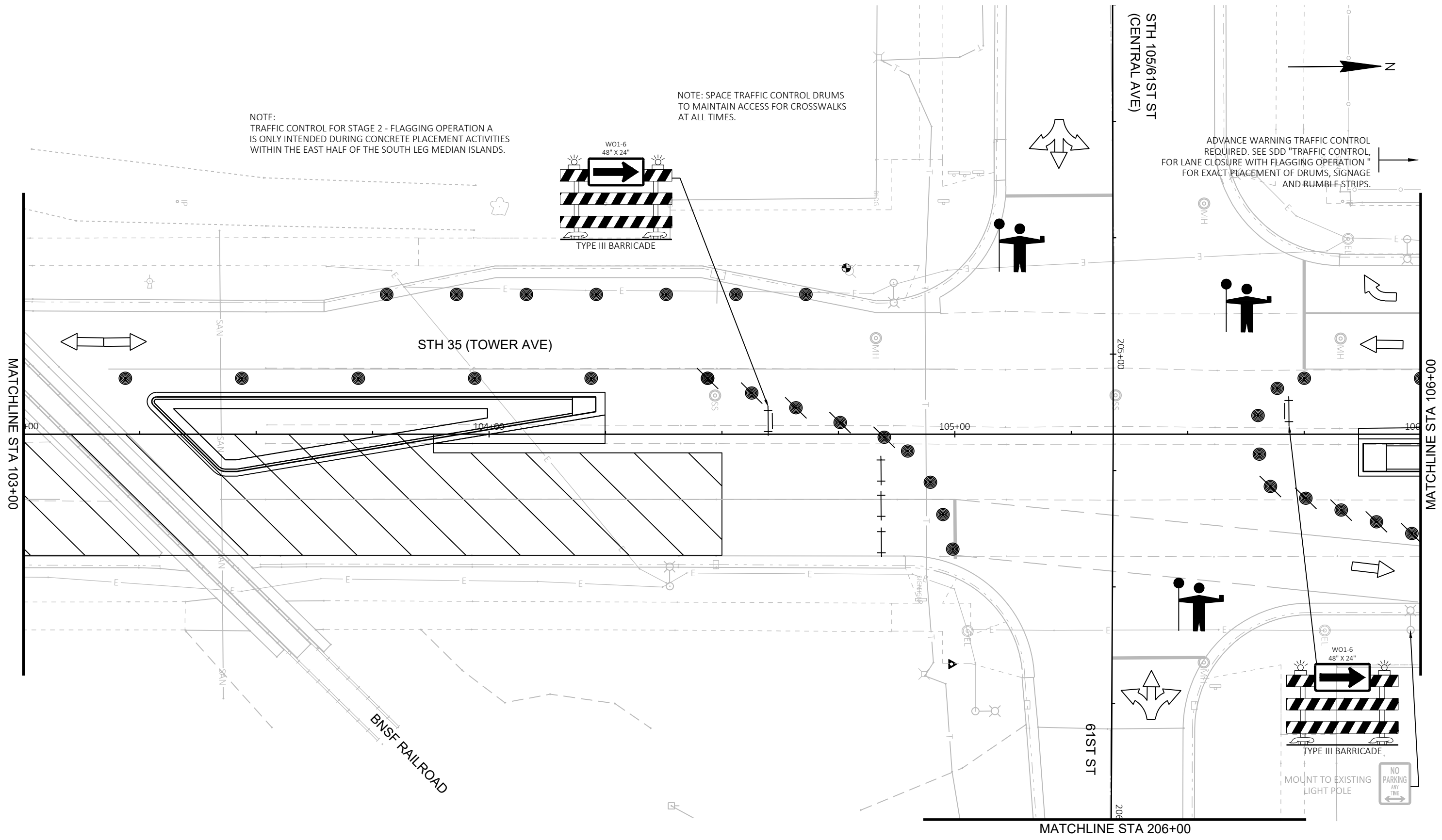
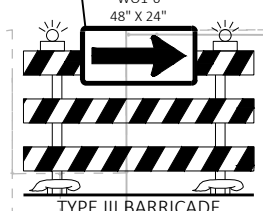
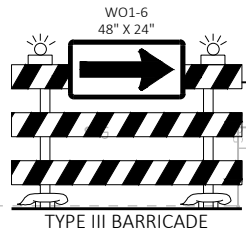
ADVANCE WARNING TRAFFIC CONTROL  
 REQUIRED. SEE SDD "TRAFFIC CONTROL,  
 FOR LANE CLOSURE WITH FLAGGING OPERATION," FOR  
 EXACT PLACEMENT OF DRUMS, SIGNAGE AND RUMBLE  
 STRIPS.

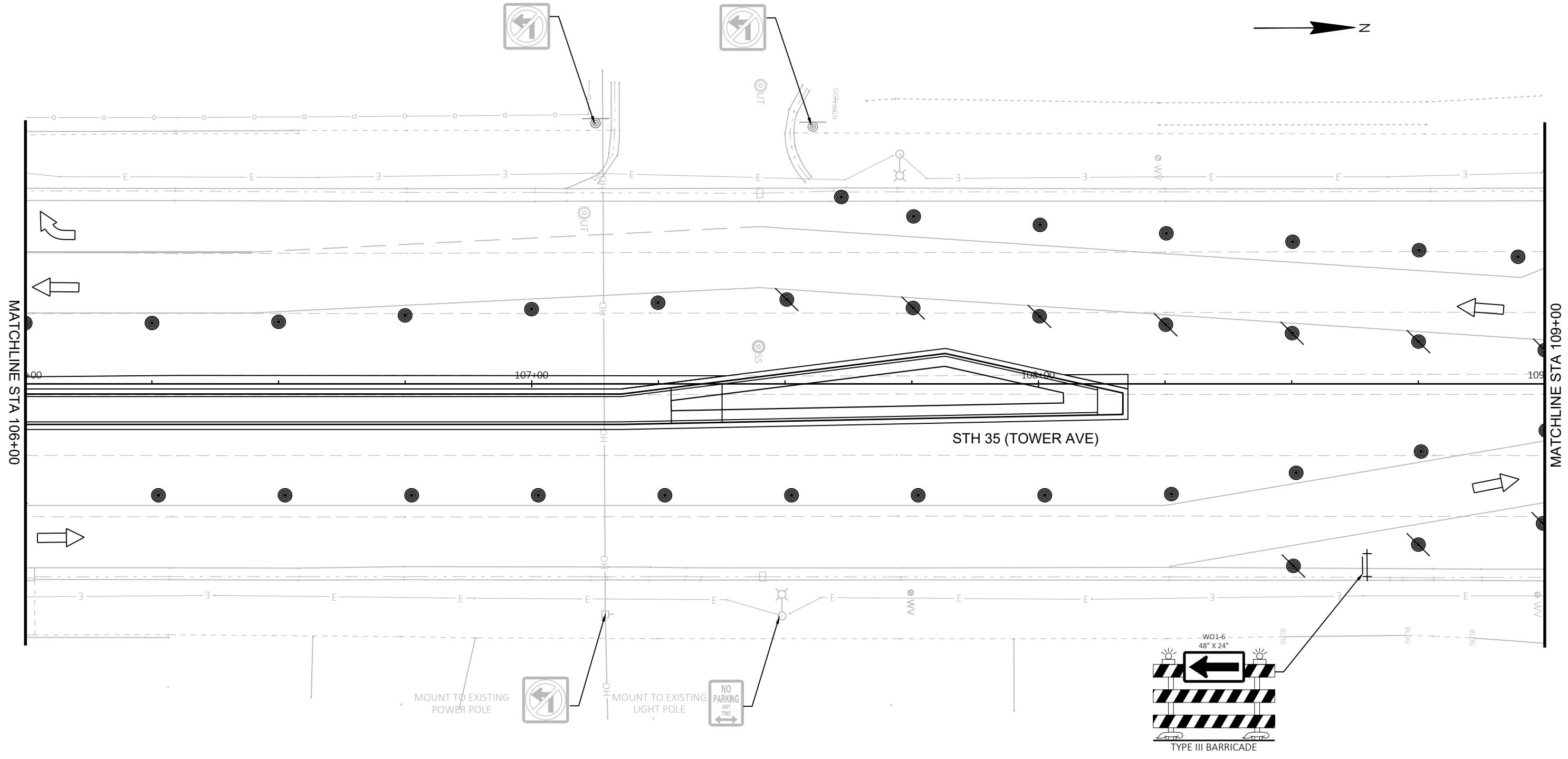
PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	TRAFFIC CONTROL: STAGE 2 - FLAGGING OPERATION A	SHEET	E
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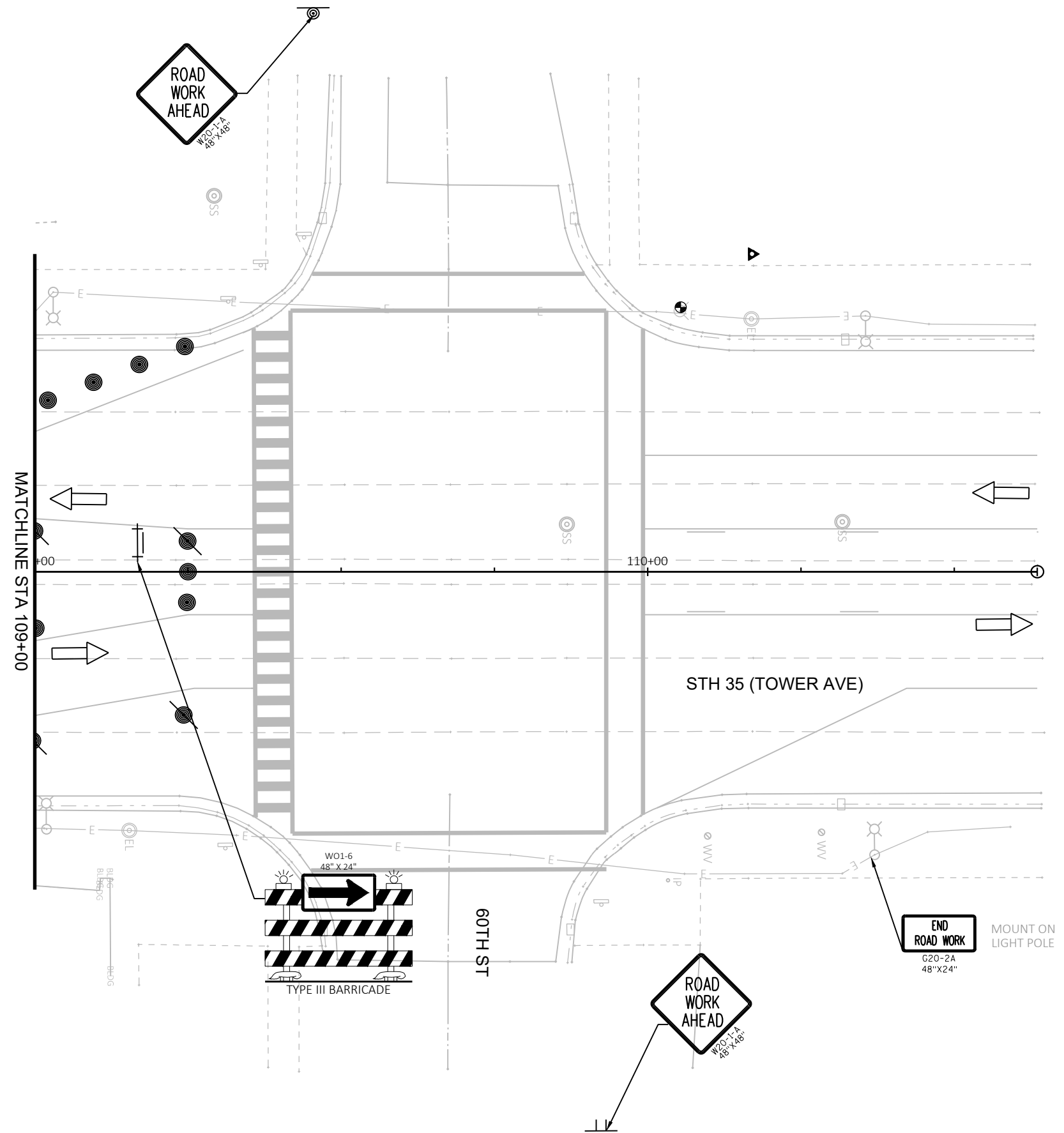
NOTE:  
TRAFFIC CONTROL FOR STAGE 2 - FLAGGING OPERATION A  
IS ONLY INTENDED DURING CONCRETE PLACEMENT ACTIVITIES  
WITHIN THE EAST HALF OF THE SOUTH LEG MEDIAN ISLANDS.

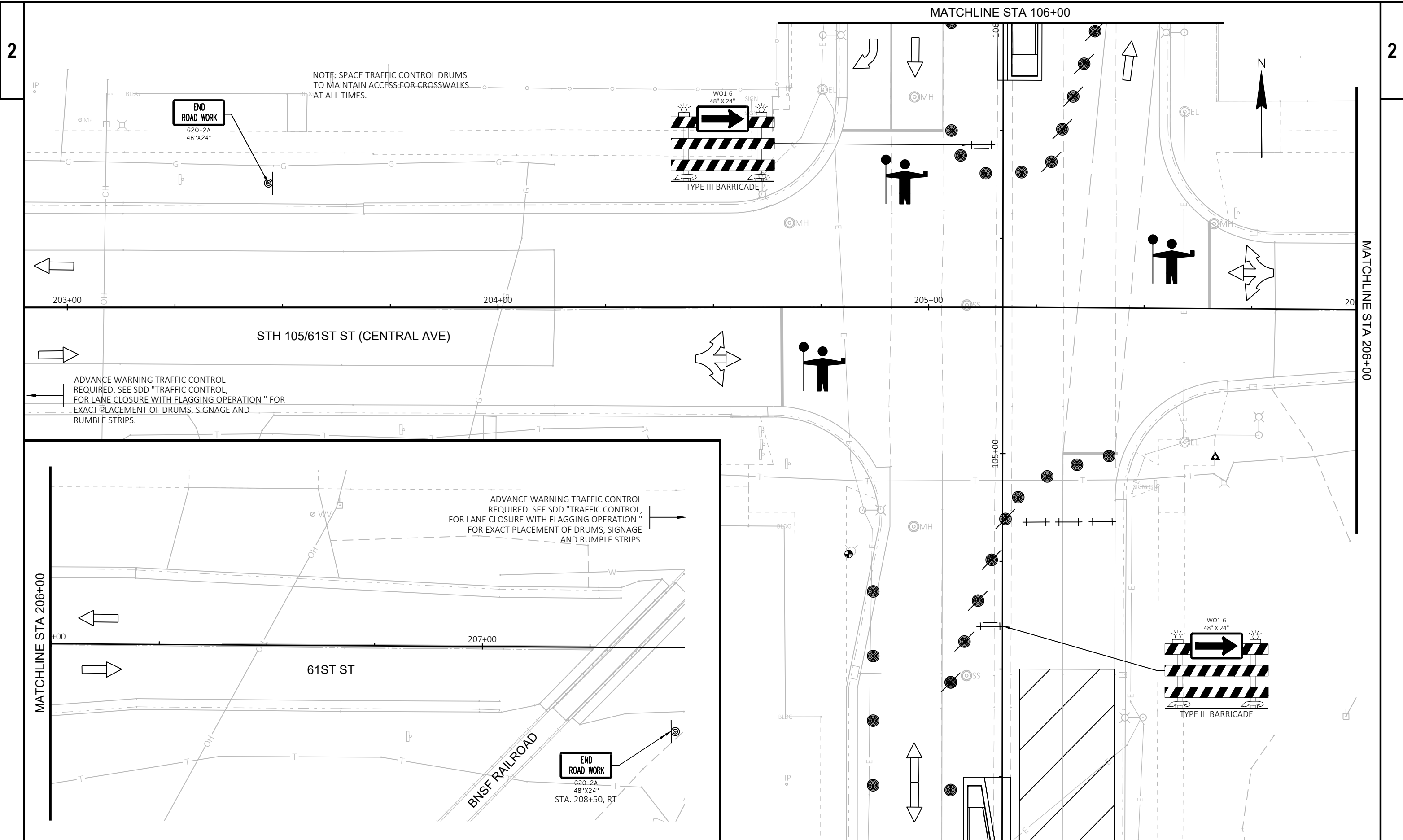
NOTE: SPACE TRAFFIC CONTROL DRUMS  
TO MAINTAIN ACCESS FOR CROSSWALKS  
AT ALL TIMES.

ADVANCE WARNING TRAFFIC CONTROL  
REQUIRED. SEE SDD "TRAFFIC CONTROL,  
FOR LANE CLOSURE WITH FLAGGING OPERATION "  
FOR EXACT PLACEMENT OF DRUMS, SIGNAGE  
AND RUMBLE STRIPS.









PROJECT NO: 3700-50-54

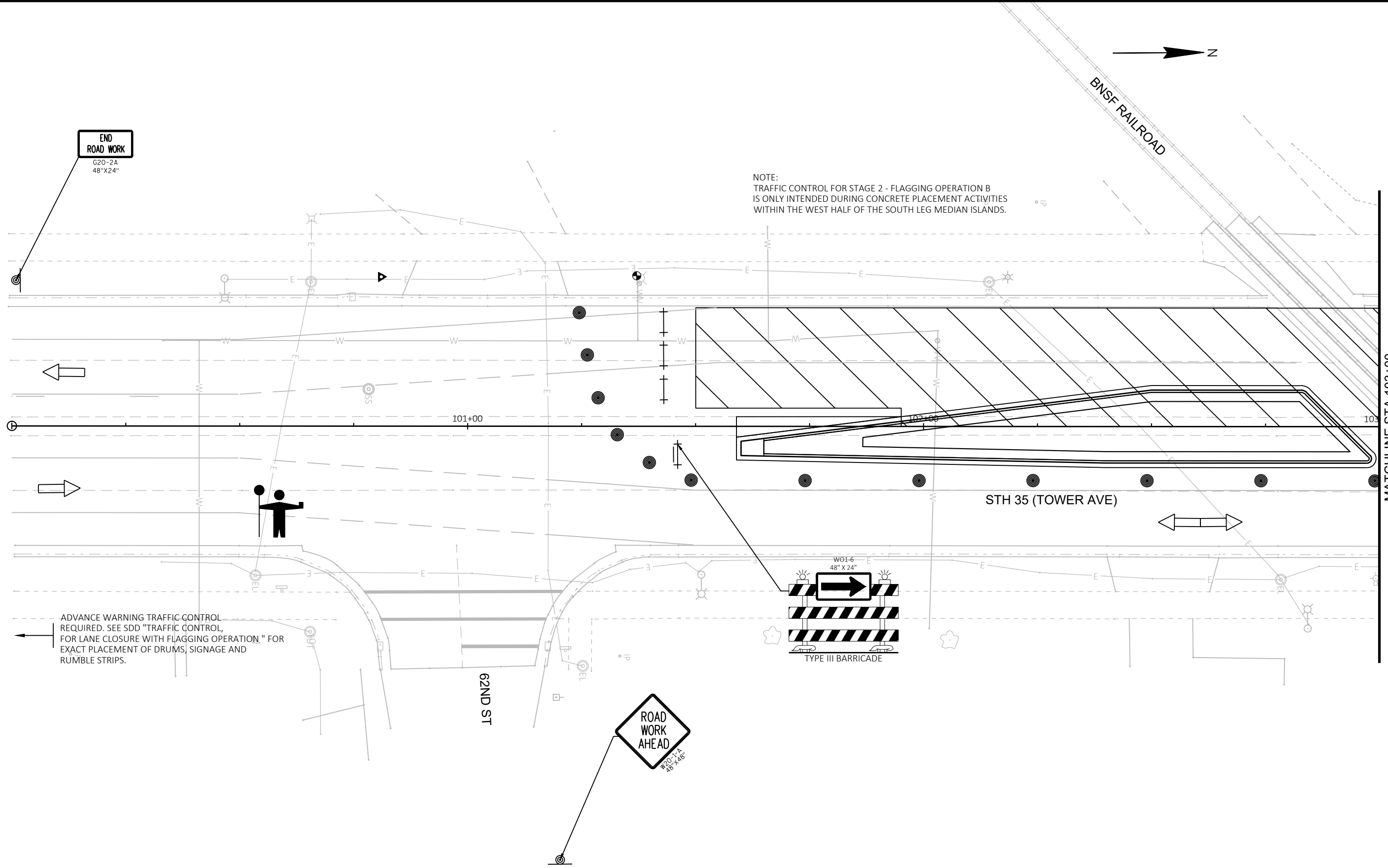
HWY: STH 35

COUNTY: DOUGLAS

TRAFFIC CONTROL: STAGE 2 - FLAGGING OPERATION A

SHEET

E



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

NOTE:  
TRAFFIC CONTROL FOR STAGE 2 - FLAGGING OPERATION B  
IS ONLY INTENDED DURING CONCRETE PLACEMENT ACTIVITIES  
WITHIN THE WEST HALF OF THE SOUTH LEG MEDIAN ISLANDS.

ADVANCE WARNING TRAFFIC CONTROL  
REQUIRED. SEE SDD "TRAFFIC CONTROL,  
FOR LANE CLOSURE WITH FLAGGING OPERATION" FOR  
EXACT PLACEMENT OF DRUMS, SIGNAGE AND  
RUMBLE STRIPS.

W01-6  
48" X 24"  
TYPE III BARRICADE

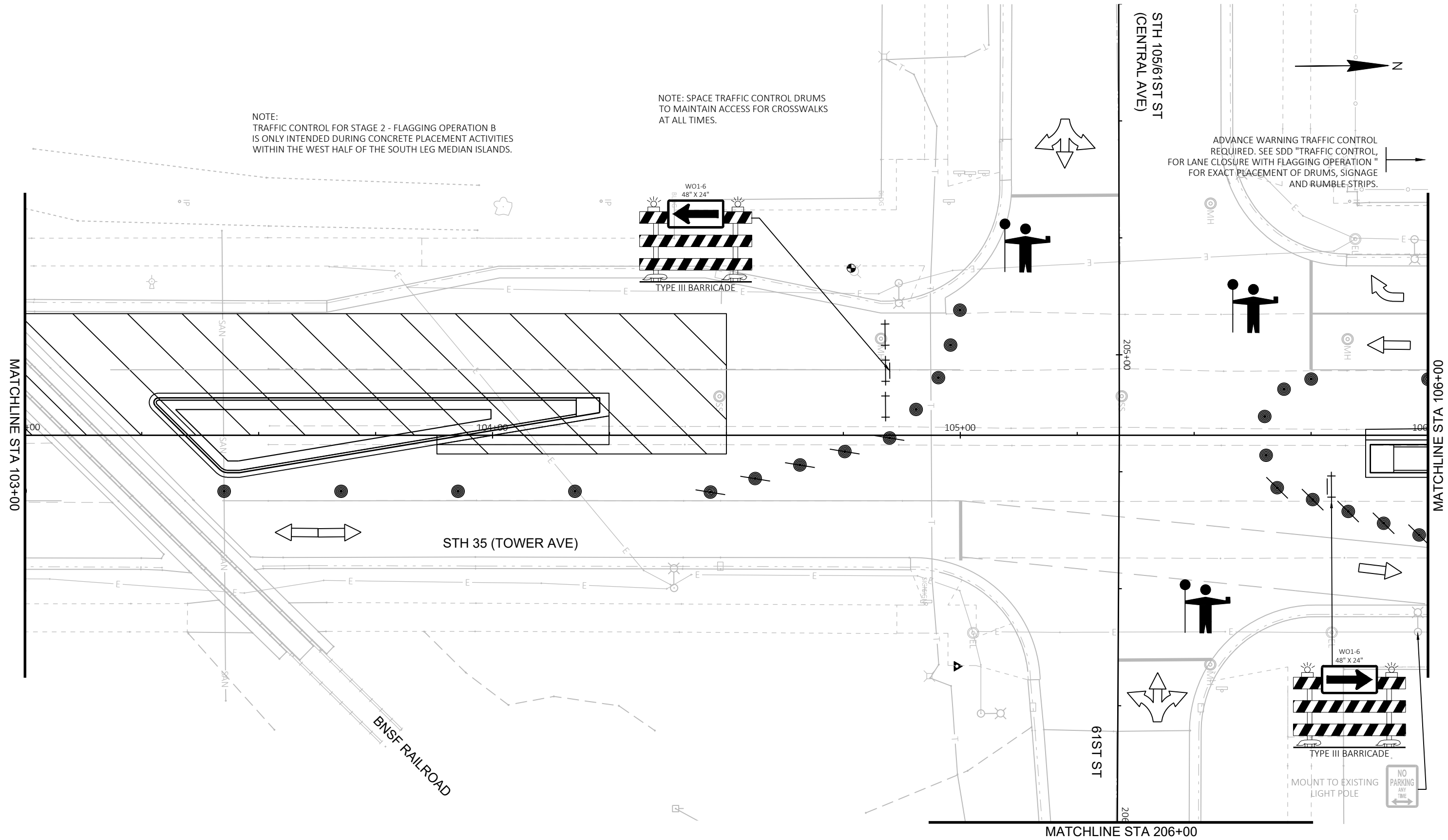
ROAD  
WORK  
AHEAD  
W25-1-7  
48" X 48"

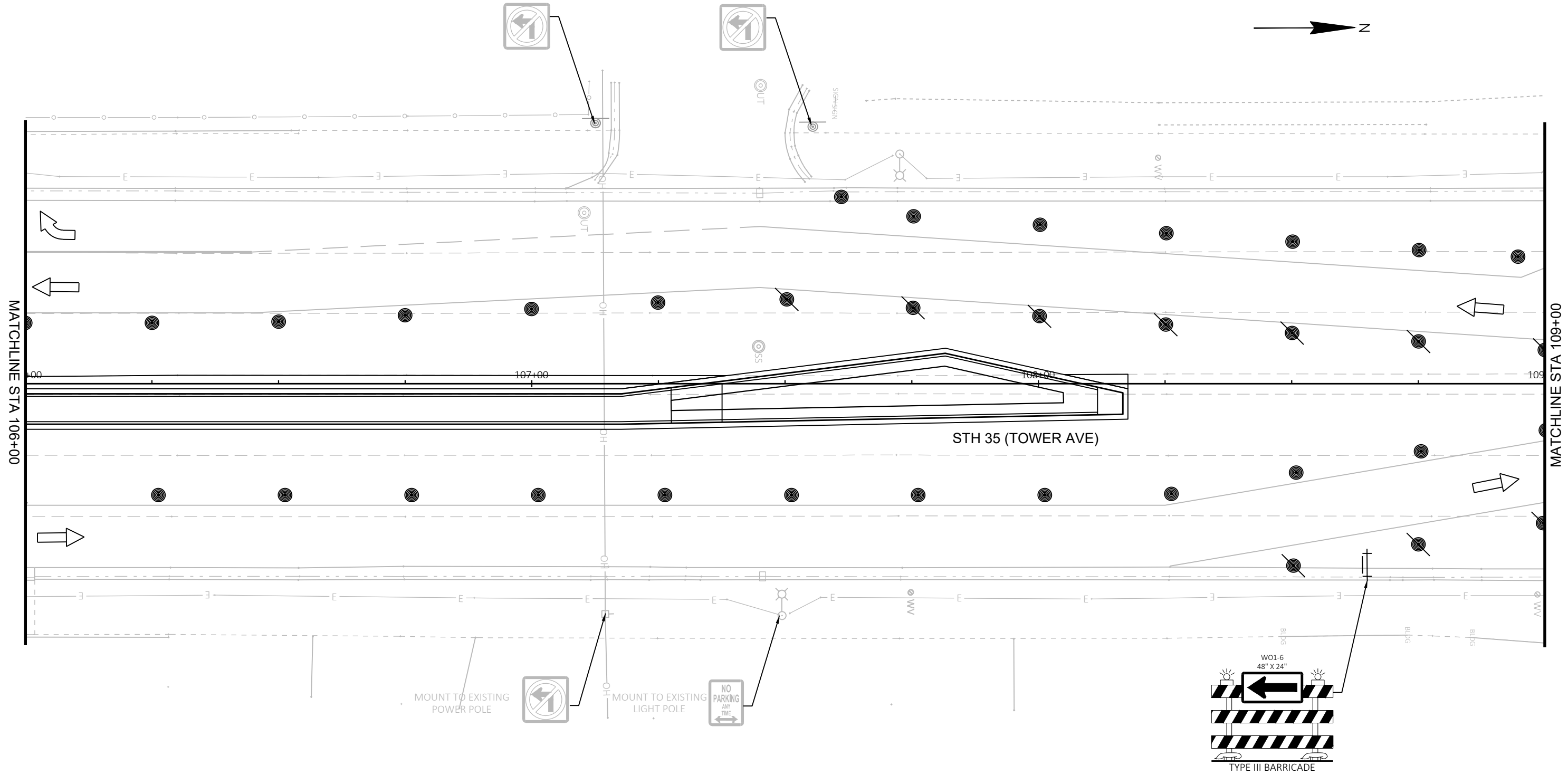
MATCHLINE STA 103+00

NOTE:  
TRAFFIC CONTROL FOR STAGE 2 - FLAGGING OPERATION B  
IS ONLY INTENDED DURING CONCRETE PLACEMENT ACTIVITIES  
WITHIN THE WEST HALF OF THE SOUTH LEG MEDIAN ISLANDS.

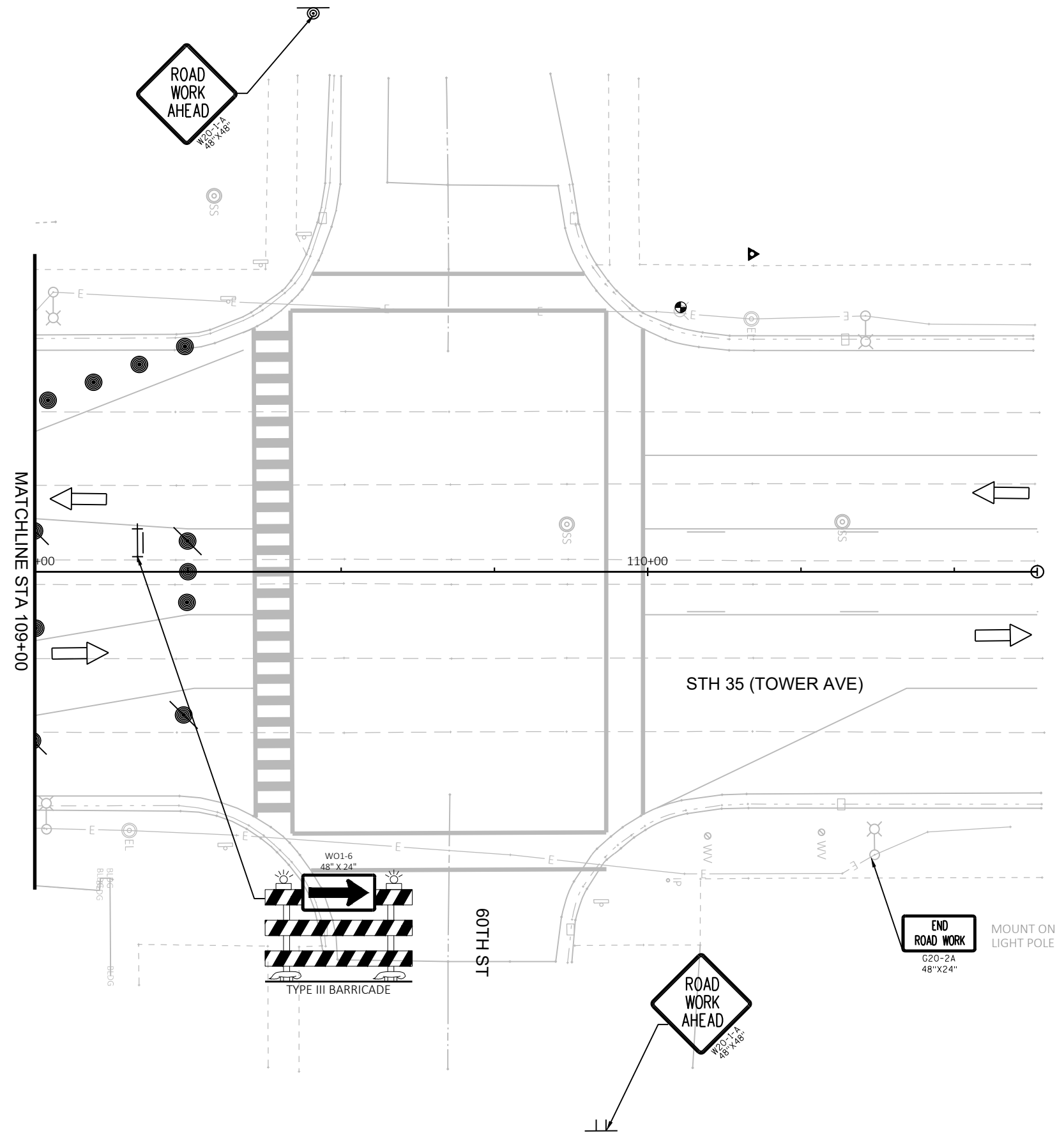
NOTE: SPACE TRAFFIC CONTROL DRUMS  
TO MAINTAIN ACCESS FOR CROSSWALKS  
AT ALL TIMES.

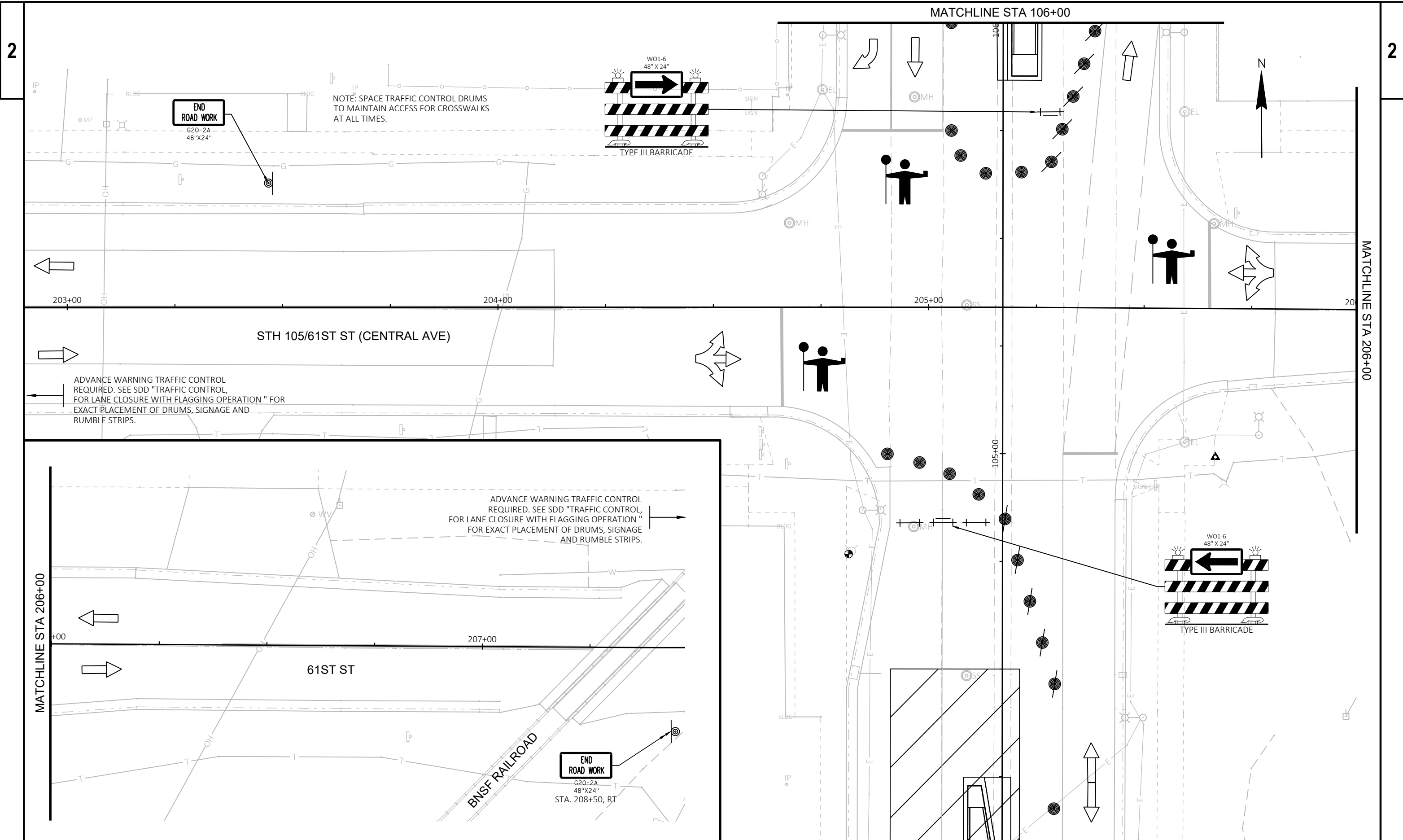
ADVANCE WARNING TRAFFIC CONTROL  
REQUIRED. SEE SDD "TRAFFIC CONTROL,  
FOR LANE CLOSURE WITH FLAGGING OPERATION "  
FOR EXACT PLACEMENT OF DRUMS, SIGNAGE  
AND RUMBLE STRIPS.











PROJECT NO: 3700-50-54

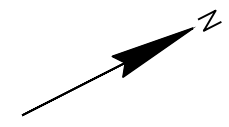
HWY: STH 35

COUNTY: DOUGLAS

TRAFFIC CONTROL: STAGE 2 FLAGGING OPERATION B

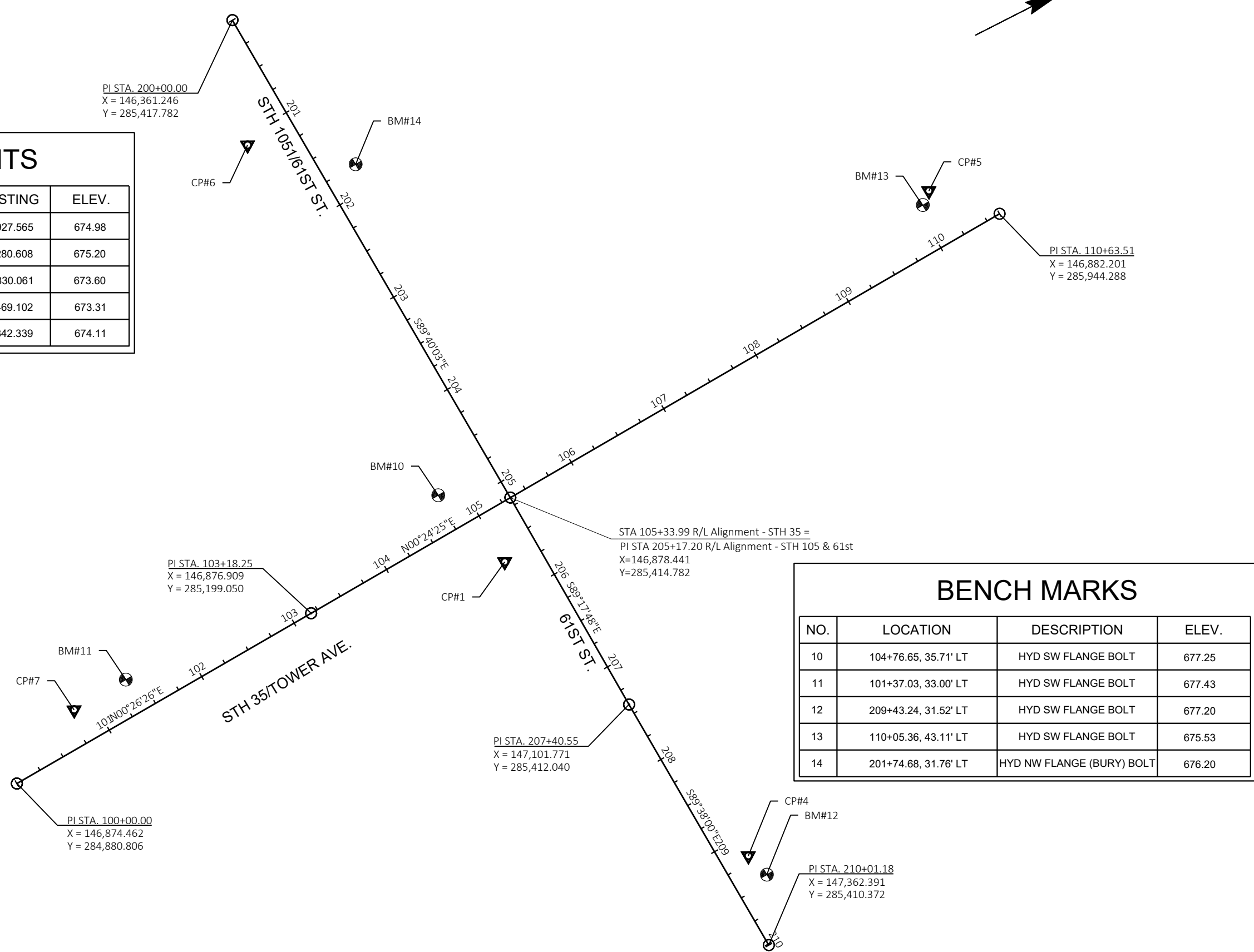
SHEET

E



### CONTROL POINTS

NO.	DESCRIPTION	NORTHING	EASTING	ELEV.
1	CP 3/4RB/CAP	285379.697	146927.565	674.98
4	CP 3MAG NAIL	285436.235	147280.608	675.20
5	CP 3/4RB/CAP	285898.145	146830.061	673.60
6	CP 3/4RB/CAP	285370.617	146469.102	673.31
7	CP 3/4RB/CAP	284962.039	146842.339	674.11



### BENCH MARKS

NO.	LOCATION	DESCRIPTION	ELEV.
10	104+76.65, 35.71' LT	HYD SW FLANGE BOLT	677.25
11	101+37.03, 33.00' LT	HYD SW FLANGE BOLT	677.43
12	209+43.24, 31.52' LT	HYD SW FLANGE BOLT	677.20
13	110+05.36, 43.11' LT	HYD SW FLANGE BOLT	675.53
14	201+74.68, 31.76' LT	HYD NW FLANGE (BURY) BOLT	676.20

## Estimate Of Quantities

3700-50-54

Line	Item	Item Description	Unit	Total	Qty
0002	204.0100	Removing Concrete Pavement	SY	863.000	863.000
0004	204.0150	Removing Curb & Gutter	LF	310.000	310.000
0006	204.0155	Removing Concrete Sidewalk	SY	290.000	290.000
0008	204.0195	Removing Concrete Bases	EACH	5.000	5.000
0010	204.0215	Removing Catch Basins	EACH	1.000	1.000
0012	205.0100	Excavation Common	CY	440.000	440.000
0014	213.0100	Finishing Roadway (project) 01. 3700-50-54	EACH	1.000	1.000
0016	305.0110	Base Aggregate Dense 3/4-Inch	TON	131.000	131.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	65.000	65.000
0020	310.0110	Base Aggregate Open-Graded	TON	104.000	104.000
0022	405.1000	Stamping Colored Concrete	CY	61.000	61.000
0024	415.0090	Concrete Pavement 9-Inch	SY	132.000	132.000
0026	415.0120	Concrete Pavement 12-Inch	SY	48.000	48.000
0028	415.5110.S	Concrete Pavement Joint Layout	LS	1.000	1.000
0030	416.0160	Concrete Driveway 6-Inch	SY	77.000	77.000
0032	416.0610	Drilled Tie Bars	EACH	472.000	472.000
0034	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000
0036	601.0405	Concrete Curb & Gutter 18-Inch Type A	LF	462.000	462.000
0038	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	400.000	400.000
0040	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	40.000	40.000
0042	602.0405	Concrete Sidewalk 4-Inch	SF	2,650.000	2,650.000
0044	602.0415	Concrete Sidewalk 6-Inch	SF	2,270.000	2,270.000
0046	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	86.000	86.000
0048	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	8.000	8.000
0050	611.0639	Inlet Covers Type H-S	EACH	1.000	1.000
0052	611.3230	Inlets 2x3-FT	EACH	1.000	1.000
0054	612.0106	Pipe Underdrain 6-Inch	LF	120.000	120.000
0056	619.1000	Mobilization	EACH	1.000	1.000
0058	620.0300	Concrete Median Sloped Nose	SF	159.000	159.000
0060	624.0100	Water	MGAL	2.700	2.700
0062	625.0100	Topsoil	SY	650.000	650.000
0064	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0066	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0068	628.2006	Erosion Mat Urban Class I Type A	SY	650.000	650.000
0070	628.7005	Inlet Protection Type A	EACH	3.000	3.000
0072	628.7020	Inlet Protection Type D	EACH	13.000	13.000
0074	629.0205	Fertilizer Type A	CWT	0.500	0.500
0076	630.0140	Seeding Mixture No. 40	LB	13.000	13.000
0078	630.0500	Seed Water	MGAL	11.000	11.000

## Estimate Of Quantities

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Line	Item	Item Description	Unit	Total	Qty
0080	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0082	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	2.000	2.000
0084	634.0811	Posts Tubular Steel 2x2-Inch X 11-FT	EACH	5.000	5.000
0086	637.2210	Signs Type II Reflective H	SF	126.750	126.750
0088	637.2215	Signs Type II Reflective H Folding	SF	20.720	20.720
0090	637.2230	Signs Type II Reflective F	SF	30.640	30.640
0092	638.2102	Moving Signs Type II	EACH	11.000	11.000
0094	638.2602	Removing Signs Type II	EACH	7.000	7.000
0096	638.3000	Removing Small Sign Supports	EACH	2.000	2.000
0098	638.4000	Moving Small Sign Supports	EACH	2.000	2.000
0100	642.5201	Field Office Type C	EACH	1.000	1.000
0102	643.0300	Traffic Control Drums	DAY	10,185.000	10,185.000
0104	643.0410	Traffic Control Barricades Type II	DAY	350.000	350.000
0106	643.0420	Traffic Control Barricades Type III	DAY	644.000	644.000
0108	643.0705	Traffic Control Warning Lights Type A	DAY	1,478.000	1,478.000
0110	643.0715	Traffic Control Warning Lights Type C	DAY	1,238.000	1,238.000
0112	643.0900	Traffic Control Signs	DAY	2,580.000	2,580.000
0114	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0116	643.5000	Traffic Control	EACH	1.000	1.000
0118	644.1420	Temporary Pedestrian Surface Plywood	SF	580.000	580.000
0120	644.1601	Temporary Pedestrian Curb Ramp	DAY	70.000	70.000
0122	644.1810	Temporary Pedestrian Barricade	LF	330.000	330.000
0124	645.0111	Geotextile Type DF Schedule A	SY	85.000	85.000
0126	646.1020	Marking Line Epoxy 4-Inch	LF	5,227.000	5,227.000
0128	646.3020	Marking Line Epoxy 8-Inch	LF	540.000	540.000
0130	646.5020	Marking Arrow Epoxy	EACH	14.000	14.000
0132	646.5220	Marking Symbol Epoxy	EACH	4.000	4.000
0134	646.5320	Marking Railroad Crossings Epoxy	EACH	5.000	5.000
0136	646.6120	Marking Stop Line Epoxy 18-Inch	LF	106.000	106.000
0138	646.7120	Marking Diagonal Epoxy 12-Inch	LF	20.000	20.000
0140	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	436.000	436.000
0142	646.8120	Marking Curb Epoxy	LF	106.000	106.000
0144	646.8220	Marking Island Nose Epoxy	EACH	4.000	4.000
0146	646.8320	Marking Parking Stall Epoxy	LF	133.000	133.000
0148	646.9010	Marking Removal Line Water Blasting 4-Inch	LF	3,550.000	3,550.000
0150	646.9110	Marking Removal Line Water Blasting 8-Inch	LF	160.000	160.000
0152	646.9210	Marking Removal Line Water Blasting Wide	LF	43.000	43.000
0154	646.9310	Marking Removal Special Marking Water Blasting	EACH	13.000	13.000
0156	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	4,161.000	4,161.000
0158	649.0250	Temporary Marking Line Removable Tape 8-Inch	LF	198.000	198.000

## Estimate Of Quantities

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Line	Item	Item Description	Unit	Total	Qty
0160	649.0850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	80.000	80.000
0162	650.4000	Construction Staking Storm Sewer	EACH	1.000	1.000
0164	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	160.000	160.000
0166	650.8500	Construction Staking Electrical Installations (project) 01. 3700-50-54	LS	1.000	1.000
0168	650.9000	Construction Staking Curb Ramps	EACH	8.000	8.000
0170	650.9910	Construction Staking Supplemental Control (project) 01. 3700-50-54	LS	1.000	1.000
0172	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	261.000	261.000
0174	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	310.000	310.000
0176	652.0615	Conduit Special 3-Inch	LF	576.000	576.000
0178	653.0164	Pull Boxes Non-Conductive 24x42-Inch	EACH	10.000	10.000
0180	653.0900	Adjusting Pull Boxes	EACH	3.000	3.000
0182	653.0905	Removing Pull Boxes	EACH	1.000	1.000
0184	654.0101	Concrete Bases Type 1	EACH	6.000	6.000
0186	654.0102	Concrete Bases Type 2	EACH	3.000	3.000
0188	654.0110	Concrete Bases Type 10	EACH	1.000	1.000
0190	654.0113	Concrete Bases Type 13	EACH	1.000	1.000
0192	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	1.000	1.000
0194	655.0230	Cable Traffic Signal 5-14 AWG	LF	730.000	730.000
0196	655.0240	Cable Traffic Signal 7-14 AWG	LF	382.000	382.000
0198	655.0260	Cable Traffic Signal 12-14 AWG	LF	950.000	950.000
0200	655.0270	Cable Traffic Signal 15-14 AWG	LF	531.000	531.000
0202	655.0305	Cable Type UF 2-12 AWG Grounded	LF	680.000	680.000
0204	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	1,071.000	1,071.000
0206	655.0610	Electrical Wire Lighting 12 AWG	LF	600.000	600.000
0208	655.0630	Electrical Wire Lighting 4 AWG	LF	4,092.000	4,092.000
0210	655.0900	Traffic Signal EVP Detector Cable	LF	865.000	865.000
0212	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. STH 35 & STH 105	LS	1.000	1.000
0214	657.0100	Pedestal Bases	EACH	6.000	6.000
0216	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	3.000	3.000
0218	657.0310	Poles Type 3	EACH	2.000	2.000
0220	657.0315	Poles Type 4	EACH	1.000	1.000
0222	657.0351	Poles Type 10-Over Height	EACH	1.000	1.000
0224	657.0361	Poles Type 13-Over Height	EACH	1.000	1.000
0226	657.0405	Traffic Signal Standards Aluminum 3.5-FT	EACH	2.000	2.000
0228	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	1.000	1.000
0230	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	2.000	2.000
0232	657.0430	Traffic Signal Standards Aluminum 10-FT	EACH	1.000	1.000

## Estimate Of Quantities

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Line	Item	Item Description	Unit	Total	Qty
0234	657.0530	Monotube Arms 30-FT	EACH	1.000	1.000
0236	657.0550	Monotube Arms 50-FT	EACH	1.000	1.000
0238	657.0595	Trombone Arms 25-FT	EACH	2.000	2.000
0240	657.0609	Luminaire Arms Single Member 4-Inch Clamp 6-FT	EACH	3.000	3.000
0242	657.0806	Luminaire Arms Steel 6-FT	EACH	2.000	2.000
0244	658.0173	Traffic Signal Face 3S 12-Inch	EACH	10.000	10.000
0246	658.0174	Traffic Signal Face 4S 12-Inch	EACH	4.000	4.000
0248	658.0175	Traffic Signal Face 5S 12-Inch	EACH	2.000	2.000
0250	658.0416	Pedestrian Signal Face 16-Inch	EACH	8.000	8.000
0252	658.0500	Pedestrian Push Buttons	EACH	8.000	8.000
0254	658.5069	Signal Mounting Hardware (location) 01. STH 35 & STH 105	LS	1.000	1.000
0256	659.1120	Luminaires Utility LED B	EACH	5.000	5.000
0258	690.0150	Sawing Asphalt	LF	17.000	17.000
0260	690.0250	Sawing Concrete	LF	1,768.000	1,768.000
0262	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0264	SPV.0090	Special 01. Concrete Curb & Gutter 18-Inch Type G Special	LF	440.000	440.000
0266	SPV.0090	Special 02. Cure and Seal Treatment, Concrete Curb and Gutter	LF	1,342.000	1,342.000
0268	SPV.0090	Special 03. Marking Removal Line Water Blasting Crosswalk 6-Inch	LF	500.000	500.000
0270	SPV.0105	Special 01. Furnish and Install Battery Back-Up System STH 35 & STH 105	LS	1.000	1.000
0272	SPV.0105	Special 02. Traffic Signal Cabinet and Controller STH 35 & STH 105	LS	1.000	1.000
0274	SPV.0105	Special 03. Furnish and Install Emergency Vehicle Preemption System STH 35 & STH 105	LS	1.000	1.000
0276	SPV.0105	Special 04. Vehicular Video Detection System STH 35 & STH 105	LS	1.000	1.000
0278	SPV.0105	Special 05. Remove and Salvage Lighting Equipment STH 35 & STH 105	LS	1.000	1.000
0280	SPV.0105	Special 06. Railroad Preemption System STH 35 & STH 105	LS	1.000	1.000
0282	SPV.0165	Special 01. Concrete Apron 24-Inch	SF	740.000	740.000
0284	SPV.0165	Special 02. Concrete Apron 24-Inch Mountable	SF	350.000	350.000
0286	SPV.0165	Special 03. Cure and Seal Treatment Concrete Sidewalk	SF	4,920.000	4,920.000
0288	SPV.0165	Special 04. Cure and Seal Treatment Concrete Apron 24-Inch	SF	740.000	740.000
0290	SPV.0165	Special 05. Cure and Seal Treatment Concrete Apron 24-Inch Mountable	SF	350.000	350.000

Estimate Of Quantities

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Line	Item	Item Description	Unit	Total	Qty
0292	SPV.0180	Special 01. Cure and Seal Treatment Concrete Pavement	SY	180.000	180.000
0294	SPV.0180	Special 02. Cure and Seal Treatment Concrete Driveway	SY	77.000	77.000
0296	SPV.0195	Special 01. Excavation, Hauling, and Disposal of Petroleum-Contaminated Soil and Managem	TON	40.900	40.900



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**REMOVING PAVEMENT**

STATION	- STATION	LOCATION	204.0100	204.0155
			REMOVING CONCRETE PAVEMENT (SY)	REMOVING CONCRETE SIDEWALK (SY)
101+59	- 102+99	LT/RT	210	--
103+27	- 104+25	LT/RT	140	--
103+85	- 104+80	LT	--	91
104+44	- 104+54	LT	3	--
104+80	105+08	LT	--	52
104+86	105+12	RT	--	22
105+62	106+02	RT	--	64
105+63	106+00	LT	--	45
105+87	- 108+18	LT/RT	280	--
203+70	- 204+05	LT	52	--
204+19	- 204+54	LT	48	--
205+58	- 206+20	LT	130	--
206+32	206+62	LT	--	16
PROJECT TOTALS			863	290

**REMOVING CURB & GUTTER**

STATION - STATION	SIDE	204.0150
		REMOVING CURB & GUTTER LF
103+65 - 105+11	LT	170
104+89 - 105+17	RT	40
105+61 - 106+02	RT	40
203+69 - 204+80	LT	60
PROJECT TOTALS		310

**REMOVING CATCH BASINS**

STATION	SIDE	204.0215
		REMOVING CATCH BASINS EACH
104+48	LT	1
PROJECT TOTALS		1

**EARTHWORK SUMMARY (PROJECT 3700-50-54)**

Division	From/To Station	Location	205.0100 Excavation Common (1) CY		Salvaged/ Unusable Pavement Material	Available Material (3)	Unexpanded Fill	Expanded Fill (4)	Mass Ordinate +/- (5)
			Cut (2)	EBS				Factor 1.3	
1	103+64 - 104+97	STH 35 PARKING	99		99	0	0	0	99
	103+85 - 104+80	STH 35 SIDEWALK	24		24				24
	104+80 - 105+11	SW QUAD	20		20				20
	104+86 - 105+17	SE QUAD	13		13				13
	105+55 - 106+00	NW QUAD	43		43				43
	105+49 - 106+02	NE QUAD	51		51				51
	206+26 - 206+67	61ST ST DRIVEWAY	32		32				32
Division 1 Subtotal			282	0	282	0	0	0	282
2	101+59 - 103+04	SOUTH MEDIAN	53		53	0	0	0	53
	103+22 - 104+25	MID MEDIAN	35		35				35
	105+87 - 108+18	NORTH MEDIAN	70		70				70
Division 2 Subtotal			158	0	158	0	0	0	158
Grand Total			440	0	440	0	0	0	440
			Total Common Exc		440				

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100.
- 2) Salvaged/Unusable Pavement Material is included in Cut and includes removal of existing pavement, curb & gutter, sidewalk, and driveways.
- 3) Available Material = Cut - Salvaged/Unusable Pavement Material.
- 4) Expanded Fill = Unexpanded Fill \* Fill Factor
- 5) Mass Ordinate + or - Quantity Calculated for the Division. Plus Quantity indicates an excess of material. Minus indicates a shortage of material.

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**BASE AGGREGATE**

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)	310.0110 BASE AGGREGATE OPEN-GRADED (TON)	624.0100 WATER (MGAL)	COMMENTS
101+87 - 102+94	LT/RT	--	--	34	--	MEDIAN
103+32 - 104+00	LT/RT	--	--	19	--	MEDIAN
103+65 - 104+83	LT	--	45	26	0.7	PARKING
103+85 - 104+80	LT	30	--	--	0.5	SIDEWALK, 5" DEPTH
104+80 - 105+08	LT	17	--	--	0.3	SIDEWALK, 5" DEPTH
104+86 - 105+14	RT	11	--	--	0.2	SIDEWALK, 5" DEPTH
105+54 - 106+02	RT	22	--	--	0.3	SIDEWALK, 5" DEPTH
105+59 - 106+00	LT	16	--	--	0.2	SIDEWALK, 5" DEPTH
105+93 - 107+18	RT	--	--	25	--	MEDIAN
206+27 - 206+67	LT	35	--	--	0.5	DRIVEWAY, 6" DEPTH
PROJECT LIMITS	--	--	20	--	--	TEMP PED SURFACE AREAS
<b>PROJECT TOTALS</b>		131	65	104	2.7	

**CONCRETE PAVEMENT JOINT LAYOUT**

PROJECT	415.5110.S CONCRETE PAVEMENT JOINT LAYOUT (LS)
3700-50-54	1
<b>PROJECT TOTALS</b>	1

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**CONCRETE PAVEMENT, SIDEWALK, CONCRETE APRON**

STATION - STATION	LOCATION	405.1000 STAMPING COLORED CONCRETE (CY)	415.0090 CONCRETE PAVEMENT 9-INCH (SY)	415.0120 CONCRETE PAVEMENT 12-INCH (SY)	416.0160 CONCRETE DRIVEWAY 6-INCH (SY)	602.0405 CONCRETE SIDEWALK 4-INCH (SF)	602.0415 CONCRETE SIDEWALK 6-INCH (SF)	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA (SF)	SPV.0165.01 CONCRETE APRON 24-INCH (SF)	SPV.0165.02 CONCRETE APRON 24-INCH MOUNTABLE (SF)
101+59 - 101+95	LT/RT	--	9	--	--	--	--	--	--	--
101+65 - 102+98	LT/RT	23	--	--	--	--	930	--	450	--
103+28 - 104+18	LT/RT	15	--	--	--	--	520	--	290	--
103+65 - 104+83	LT	--	70	--	--	--	--	--	--	--
103+88 - 104+25	LT/RT	--	13	--	--	--	--	--	--	--
103+85 - 104+80	LT	--	--	--	--	820	--	--	--	--
104+80 - 105+08	LT	--	--	--	--	460	--	22	--	--
104+86 - 105+14	RT	--	--	--	--	290	--	20	--	--
105+54 - 106+02	RT	--	--	--	--	630	--	22	--	--
105+59 - 106+00	LT	--	--	--	--	450	--	22	--	--
105+87 - 107+38	LT/RT	--	38	--	--	--	--	--	--	--
105+93 - 108+12	LT/RT	23	--	48	--	--	670	--	--	350
108+05 - 108+18	LT/RT	--	2	--	--	--	--	--	--	--
206+27 - 206+67	LT	--	--	--	77	--	150	--	--	--
<b>PROJECT TOTALS</b>		61	132	48	77	2,650	2,270	86	740	350

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**DRILLED TIE BARS**

STATION - STATION	LOCATION	416.0610 DRILLED TIE BARS (EACH)
101+59 - 102+99	LT/RT	100
103+27 - 104+25	LT/RT	72
103+65 - 105+11	LT	60
104+89 - 105+17	RT	14
105+87 - 108+18	LT/RT	161
203+69 - 204+81	LT	42
205+53 - 205+80	LT	23
<b>PROJECT TOTALS</b>		<b>472</b>

**STORM SEWER ITEMS**

ROADWAY	STATION	(1) OFFSET	LOCATION	GRATE ELEVATION	FLOOR ELEVATION	(2) DEPTH OF STRUCTURE	520.8000 CONCRETE COLLARS FOR PIPE (EACH)	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH (LF)	611.0639 INLET COVERS TYPE H-S (EACH)	611.3230 INLETS 2X3-FT (EACH)	612.0106 PIPE 6-INCH (LF)	645.0111 GEOTEXTILE TYPE DF SCHEDULE A (SY)
STH 35	103+65 - 104+83	--	LT				--	--	--	--	120	85
STH 35	104+49	34.4'	LT	674.17	671.54	1.63	1	8	1	1	--	--
<b>PROJECT TOTALS</b>							<b>1</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>120</b>	<b>85</b>

(1) OFFSET TO STRUCTURES ARE AT THE CENTER OF STRUCTURES

(2) DEPTH OF STRUCTURE = GRATE ELEVATION MINUS THE DEPTH OF FRAME AND ADJUSTING RINGS (1 FT) MINUS THE FLOOR ELEVATION

**CONCRETE CURB & GUTTER**

STATION - STATION	LOCATION	601.0405 CONCRETE CURB & GUTTER 18-INCH TYPE A (LF)	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A (LF)	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D (LF)	620.0300 CONCRETE MEDIAN SLOPED NOSE (SF)	SPV.0090.01 CONCRETE CURB & GUTTER 18-INCH TYPE G SPECIAL (LF)	SPV.0090.02 CURE AND SEAL TREATMENT CONCRETE CURB & GUTTER (LF)
101+59 - 102+98	LT/RT	274	--	--	33	--	274
103+28 - 104+25	LT/RT	188	--	--	38	--	188
103+65 - 104+83	LT	--	120	--	--	--	120
105+86 - 108+18	LT/RT	--	--	--	88	440	440
203+69 - 204+54	LT	--	85	--	--	--	85
205+80 - 206+19	LT	--	--	40	--	--	40
	NE QUAD	--	65	--	--	--	65
	NW QUAD	--	40	--	--	--	40
	SE QUAD	--	40	--	--	--	40
	SW QUAD	--	50	--	--	--	50
<b>PROJECT TOTALS</b>		<b>462</b>	<b>400</b>	<b>40</b>	<b>159</b>	<b>440</b>	<b>1,342</b>

**TOPSOIL, MULCHING, FERTILIZER, SEEDING, & TEMPORARY SEEDING**

STATION	-	STATION	LOCATION	625.0100 TOPSOIL (SY)	629.0 FERTILIZER TYPE A (CWT)	630 SEEDING MIXTURE NO. 40 (LB)	630.0500 SEED WATER (MGAL)
101+42	-	105+08	LT	110	0.1	2	1.9
101+42	-	105+15	RT	150	0.1	3	2.5
203+69	-	204+64	LT	120	0.1	2	2.0
205+66	-	206+75	LT	140	0.1	3	2.4
UNDISTRIBUTED				130	0.1	3	2.2
PROJECT TOTALS				650	0.5	13	11.0

**EROSION CONTROL ITEMS**

STATION	-	STATION	LOCATION	628.2006 EROSION MAT URBAN CLASS I TYPE A (SY)	628.7005 INLET PROTECTION TYPE A (EACH)	628.7020 INLET PROTECTION TYPE D (EACH)	628.1905 MOBILIZATIONS EROSION CONTROL (EACH)	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH)
101+42	-	105+08	LT	110	--	--	--	--
101+42	-	105+15	RT	150	--	--	--	--
		104+49	LT/RT	--	1	2	--	--
		107+65	LT/RT	--	--	2	--	--
203+69	-	204+64	LT	120	--	--	--	--
205+66	-	206+75	LT	140	--	--	--	--
		60TH ST	--	--	--	4	--	--
		61ST ST	--	--	2	2	--	--
		62ND ST	--	--	--	3	--	--
UNDISTRIBUTED				130	0	0	3	2
PROJECT TOTALS				650	3	13	3	2

**PERMANENT SIGNING**

SIGN #	SIGN CODE	SIGN SIZE INCHES	SIGN MESSAGE	637.2210	637.2215	637.2230	634.0614	634.0616	634.0811	*	REMARKS
				SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE H FOLDING SF	SIGNS TYPE II REFLECTIVE F SF	POSTS WOOD 4X6-INCH 14-FT EACH	POSTS WOOD 4X6-INCH 16-FT EACH	POSTS TUBULAR STEEL 2X2- INCH 11-FT EACH	SIGN MOUNTED ON SAME POST AS #	
01-01	R4-7	24X30	KEEP RIGHT SYMBOL	5.00	-	-	-	-	1	-	
01-02	W3-3	36X36	TRAFFIC SIGNAL AHEAD SYMBOL	-	-	9.00	-	1	-	-	
01-03	R3-8(L)(F)	36X30	VARIOUS ONLYS	-	-	7.50	-	-	-	-	MOUNT ON EXISTING LIGHT POLE
02-01	R7-1L	18X24	NO PARKING ANY TIME LEFT ARROW	3.00	-	-	1	-	-	-	
02-04	R4-7	24X30	KEEP RIGHT SYMBOL	5.00	-	-	-	-	1	-	
02-06	R1-1F	30X30	STOP (FOLDING)	-	5.18	-	-	-	-	-	MOUNT ON NEW SIGNAL POLE
02-08	M1-94S	108x30	OVERHEAD STREET SIGN W/SHIELD	22.50	-	-	-	-	-	-	
02-09	M1-94S	108x30	OVERHEAD STREET SIGN W/SHIELD	22.50	-	-	-	-	-	-	
02-13	R1-1F	30X30	STOP (FOLDING)	-	5.18	-	-	-	-	-	MOUNT ON NEW SIGNAL POLE
02-14	R7-1D	18X24	NO PARKING ANY TIME DOUBLE ARROW	3.00	-	-	-	-	-	-	MOUNT ON NEW SIGNAL POLE
03-01	R4-7	24X30	KEEP RIGHT SYMBOL	5.00	-	-	-	-	1	-	
03-02	R6-2R	24X30	ONE WAY RIGHT ARROW	5.00	-	-	-	-	1	03-03	
03-03	R6-2R	24X30	ONE WAY RIGHT ARROW	5.00	-	-	-	-	-	03-02	
03-04	R7-1R	18X24	NO PARKING ANY TIME RIGHT ARROW	3.00	-	-	-	-	-	-	MOUNT ON EXISTING LIGHT POLE
03-06	R7-1L	18X24	NO PARKING ANY TIME LEFT ARROW	3.00	-	-	-	-	-	-	MOUNT ON EXISTING LIGHT POLE
03-07	R4-7	24X30	KEEP RIGHT SYMBOL	5.00	-	-	-	-	1	-	
04-01	R3-8(L)(A)(R)	54X30	VARIOUS ONLYS	11.25	-	-	-	-	-	-	MOUNT ON EXISTING LIGHT POLE
05-02	R7-1L	18X24	NO PARKING ANY TIME LEFT ARROW	3.00	-	-	1	-	-	-	
05-04	R7-1D	18X24	NO PARKING ANY TIME DOUBLE ARROW	3.00	-	-	-	-	-	-	MOUNT ON EXISTING SIGN POST
05-06	R7-1R	18X24	NO PARKING ANY TIME RIGHT ARROW	3.00	-	-	-	1	-	05-05	
05-10	R1-1F	30X30	STOP (FOLDING)	-	5.18	-	-	-	-	-	MOUNT ON NEW SIGNAL POLE
05-11	M1-94S	66x18	OVERHEAD STREET SIGN W/SHIELD	8.25	-	-	-	-	-	-	
05-12	R7-1L	18X24	NO PARKING ANY TIME LEFT ARROW	3.00	-	-	-	-	-	-	MOUNT ON NEW SIGNAL POLE
05-13	M1-94S	66x18	OVERHEAD STREET SIGN W/SHIELD	8.25	-	-	-	-	-	-	
05-14	R1-1F	30X30	STOP (FOLDING)	-	5.18	-	-	-	-	-	MOUNT ON NEW SIGNAL POLE
05-16	W10-1	36X36	RAILROAD CROSSING	-	-	7.07	1	-	-	-	
06-01	W10-1	36X36	RAILROAD CROSSING	-	-	7.07	1	-	-	-	
PROJECT TOTALS				126.75	20.72	30.64	4	2	5		

\*FOR INFORMATION ONLY

**MOVING SIGNS TYPE II AND MOVING SMALL SIGN SUPPORTS**

STATION	LOCATION	SIGN #	638.2102 MOVING SIGNS TYPE II (EACH)	638.4000 MOVING SMALL SIGN SUPPORTS (EACH)	DESCRIPTION
103+75	LT	02-02	1	-	R3-9B MOVE TO 100+50 LT ON EXISTING POLE
104+85	LT	02-07	2	-	W10-1, W10-9P MOVE TO NEW SIGNAL POLE
104+90	RT	02-05	1	2	J2-2 MOVE TO 103+88 RT
105+95	RT	02-10	1	-	R3-9B MOVE TO 110+35 RT ON EXISTING POLE
105+95	RT	02-11	1	-	S1-1 MOVE TO NEW SIGNAL POLE
105+95	LT	03-08	1	-	J2-2 MOVE TO 107+73 LT ON EXISTING POLE
202+30	RT	05-01	1	-	R7-2 MOVE TO EXISTING SIGN POST AT 201+70 RT
204+13	LT	05-05	1	-	I55-56 MOVE TO NEW POST AT 203+97 WITH SIGN 05-06
204+60	RT	05-08	1	-	J1-1 MOVE TO 203+50 RT
204+60	RT	05-09	1	-	J13-1 MOVE TO 203+50 RT
PROJECT TOTALS			11	2	

**REMOVING SIGNS**

SIGN #	SIGN CODE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
02-03	R7-1D	1	-
02-12	R7-1R	1	-
02-15	R7-1L	1	-
04-02	R3-8	1	-
05-03	R7-2D	1	-
05-07	R1-1	1	1
05-15	R1-1	1	1
PROJECT TOTALS		7	2

NOTES:  
ALL SIGNS LOCATIONS LISTED ABOVE ARE APPROXIMATE. USE STANDARD DETAIL DRAWINGS FOR FINAL PLACEMENT

**TRAFFIC CONTROL - DRUMS, BARRICADES, WARNING LIGHTS, AND SIGNS**

ROADWAY	DAYS IN SERVICE	643.0300 TRAFFIC CONTROL DRUMS NO. (DAYS)	643.0410 TRAFFIC CONTROL BARRICADES TYPE II NO. (DAYS)	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO. (DAYS)	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A NO. (DAYS)	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C NO. (DAYS)	643.0900 TRAFFIC CONTROL SIGNS NO. (DAYS)	643.1050 TRAFFIC CONTROL PCMS NO. (DAYS)
<u>STAGE 1</u>								
ROADWAY	50	141 7,050	---	5 250	10 500	21 1,050	26 1,300	2 14
SIDEWALK - SW QUAD	15	---	8 120	4 60	12 180	---	12 180	---
SIDEWALK - SE QUAD	10	---	8 80	2 20	10 100	---	11 110	---
SIDEWALK - NW QUAD	10	---	4 40	4 40	8 80	---	6 60	---
SIDEWALK - NE QUAD	10	---	11 110	4 40	15 150	---	9 90	---
<u>STAGE 2</u>								
	25	99 2,475	---	6 150	12 300	25 0	24 600	0 0
<u>STAGE 2A</u>								
	4	88 352	---	11 44	22 88	25 100	28 112	0 0
<u>STAGE 2B</u>								
	4	77 308	---	10 40	20 80	22 88	32 128	0 0
PROJECT TOTALS		10,185	350	644	1,478	1,238	2,580	14

**TEMPORARY PEDESTRIAN ACCOMODATIONS**

STATION	LOCATION	644.1420	644.1601	644.1810	COMMENTS
		TEMPORARY PEDESTRIAN SURFACE PLYWOOD (SF)	TEMPORARY PEDESTRIAN CURB RAMP (DAYS)	TEMPORARY PEDESTRIAN BARRICADE (LF)	
101+45	LT	30	25	28	SW & SE QUADRANT CLOSURES
101+45	RT	30	25	28	SW & SE QUADRANT CLOSURES
205+90	LT	75	10	50	NE QUADRANT CLOSURE
205+90	RT	175	10	90	NE QUADRANT CLOSURE
206+25 - 206+75	LT	270	---	134	NE QUADRANT CLOSURE AT DRIVEWAY
PROJECT TOTALS		580	70	330	

**PAVEMENT MARKING**

STATION	- STATION	646.1020 MARKING LINE EPOXY 4-INCH		646.3020	646.5020	646.5220	646.5320	646.6120	646.7120	646.7420	646.8120	646.8220	646.8320
		YELLOW (LF)	WHITE (LF)	MARKING LINE EPOXY 8-INCH	MARKING ARROW EPOXY	MARKING SYMBOL EPOXY	MARKING RAILROAD CROSSING EPOXY	MARKING LINE STOP LINE EPOXY 18-INCH	MARKING DIAGONAL EPOXY 12-INCH	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH	MARKING CURB EPOXY	MARKING ISLAND NOSE EPOXY	MARKING PARKING STALL EPOXY
100+63	- 103+00	398	405	33	2	1	1	--	--	--	43	1	--
103+00	- 105+50	351	334	136	1	--	1	29	--	110	43	1	33
105+50	- 109+36	782	1,105	271	9	3	--	37	--	151	20	2	100
202+00	- 205+00	710	--	100	2	--	--	23	20	96	--	--	--
205+00	- 209+00	556	--	--	--	--	2	17	--	79	--	--	--
209+00	- JOHN AVE	586	--	--	--	--	1	--	--	--	--	--	--
PROJECT TOTALS			5,227	540	14	4	5	106	20	436	106	4	133



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**MARKING REMOVALS**

STAGE	STATION - STATION	LOCATION	646.9010	646.9110	646.9210	646.9310*	SPV.0090.03
			MARKING REMOVAL LINE WATER BLASTING 4-INCH (LF)	MARKING REMOVAL LINE WATER BLASTING 8-INCH (LF)	MARKING REMOVAL LINE WATER BLASTING WIDE (LF)	MARKING REMOVAL SPECIAL MARKING WATER BLASTING (EACH)	MARKING REMOVAL LINE WATER BLASTING CROSSWALK 6-INCH (LF)
STAGE 1	103+50 - 105+50	LT/RT	910	80	--	5	130
	105+50 - 109+36	LT/RT	1,710	80	--	5	155
	204+75	LT/RT	--	--	--	--	110
	205+50	LT/RT	--	--	--	--	105
STAGE 2	100+50 - 103+50	LT/RT	930	--	--	3	--
	204+68	RT	--	--	23	--	--
	205+64	LT	--	--	20	--	--
PROJECT TOTALS			3,550	160	43	13	500

\* REMOVING RAILROAD SYMBOL MEASURED AS 3 INDIVIDUAL SYMBOL REMOVALS AND INCLUDES TRANSVERSE LINES

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**TEMPORARY MARKING LINES**

STAGE	STATION - STATION	LOCATION	649.0150		649.025	649.0805
			TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH		TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH	TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH
			YELLOW (LF)	WHITE (LF)	WHITE (LF)	WHITE (LF)
STAGE 1	101+45	LT/RT	--	90	--	--
	103+50 - 105+50	LT/RT	505	307	--	--
	105+50 - 109+36	LT/RT	705	533	128	--
	205+88	LT/RT	--	44	--	--
STAGE 2	100+50 - 105+00	LT/RT	709	150	--	--
	105+00 - 105+75	INTERSECTION	--	36	--	80
	105+75 - 109+36	LT/RT	726	356	70	--
PROJECT TOTALS				4,161	198	80

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**CONSTRUCTION STAKING**

STATION	-	STATION	LOCATION	650.4000 CONSTRUCTION STAKING STORM SEWER (EACH)	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER (LF)	650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (3700-50-54) (LS)	650.9000 CONSTRUCTION STAKING CURB RAMPS (EACH)	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (3700-50-54) (LS)
103+65	-	104+83	LT	-	120	-	-	-
		104+49	LT	1	-	-	-	-
205+80	-	206+19	LT	-	40	-	-	-
		SW QUAD		-	-	-	2	-
		SE QUAD		-	-	-	2	-
		NW QUAD		-	-	-	2	-
		NE QUAD		-	-	-	2	-
		PROJECT		-	-	1	-	1
PROJECT TOTALS				1	160	1	8	1

**SAWING PAVEMENT**

STATION	-	STATION	LOCATION	690.0150 SAWING ASPHALT (LF)	690.0250 SAWING CONCRETE (LF)	COMMENTS
101+59	-	102+99	MEDIAN	--	296	
103+27	-	104+25	MEDIAN	--	216	
103+65	-	105+11	C&G LT	--	185	
103+85			SIDEWALK LT	--	6	
104+39	-	104+97	SIDEWALK LT	--	63	
104+86			SIDEWALK RT	--	6	
104+89	-	105+17	C&G RT	--	50	
105+63	-	106+00	SIDEWALK LT	--	42	
105+70	-	106+02	SIDEWALK RT	--	13	
105+87	-	108+18	MEDIAN	--	480	
203+69	-	204+81	C&G LT	--	132	
203+71	-	204+04	SIDEWALK LT	--	33	
204+22	-	204+52	SIDEWALK LT	--	29	
204+59			SIDEWALK LT	--	6	
205+53	-	206+19	C&G LT	--	112	
205+81	-	206+19	CONCRETE DRIVEWAY	--	49	
206+26	-	206+67	C&G LT	--	40	CURB HEAD
206+32			SIDEWALK LT	--	5	
206+32	-	206+48	DRIVEWAY LT	17	--	
206+62			SIDEWALK LT	--	5	
PROJECT TOTALS				17	1,768	

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**CURE AND SEAL TREATMENT CONCRETE**

STATION - STATION		LOCATION	SPV.0165.03 CURE AND SEAL TREATMENT CONCRETE SIDEWALK (SF)	SPV.0165.04 CURE AND SEAL TREATMENT CONCRETE APRON 24-INCH (SF)	SPV.0165.05 CURE AND SEAL TREATMENT CONCRETE APRON 24-INCH MOUNTABLE (SF)	SPV.0180.01 CURE AND SEAL TREATMENT CONCRETE PAVEMENT (SY)	SPV.0180.02 CURE AND SEAL TREATMENT CONCRETE DRIVEWAY (SY)
101+59	- 101+95	LT/RT	--	--	--	9	--
101+65	- 102+98	LT/RT	930	450	--	--	--
103+28	- 104+18	LT/RT	520	290	--	--	--
103+65	- 104+83	LT	--	--	--	70	--
103+88	- 104+25	LT/RT	--	--	--	13	--
103+85	- 104+80	LT	820	--	--	--	--
104+80	- 105+08	LT	460	--	--	--	--
104+86	- 105+14	RT	290	--	--	--	--
105+54	- 106+02	RT	630	--	--	--	--
105+59	- 106+00	LT	450	--	--	--	--
105+87	- 107+38	LT/RT	--	--	--	38	--
105+93	- 108+12	LT/RT	670	--	350	48	--
108+05	- 108+18	LT/RT	--	--	--	2	--
206+27	- 206+67	LT	150	--	--	--	77
PROJECT TOTALS			4,920	740	350	180	77

**EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL  
AND MANAGEMENT OF PETROLEUM CONTAMINATED GROUNDWATER**

SPV.0195.01  
EXCAVATION, HAULING, AND DISPOSAL  
OF PETROLEUM CONTAMINATED SOIL  
AND MANAGEMENT OF PETROLEUM  
CONTAMINATED GROUNDWATER

FROM	TO	LOCATION	(TON)	NOTES
105+56	- 106+00	LT	15.1	CURB/SIDEWALK*
PB4	- PB5	--	14.4	CONDUIT
PB4	- SB5	--	1.4	CONDUIT
PB5	- SB6	--	3.4	CONDUIT
	105+94	LT	2.2	PB5
	105+78	LT	1.1	SB6
	204+55	LT	2.2	PB4
	204+62	LT	1.1	SB5
PROJECT TOTALS			40.9	

\* ASSUMES 5-INCH DEPTH REMOVED UNDER NEW CONCRETE SIDEWALK

**CONDUIT**

LOC.	TO LOC.	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH L.F.	652.0615 CONDUIT SPECIAL 3-INCH L.F.
CB1	PB1	--	33	--
PB1	SB1	13	--	--
PB1	PB2	--	--	160
PB2	SB2	--	4	--
PB2	SB3	7	--	--
PB2	PB3	--	68	--
PB3	SB4	8	--	--
PB3	PB4	--	--	130
PB4	SB5	7	--	--
PB4	PB5	--	72	--
PB5	SB6	17	--	--
PB5	PB6	--	--	166
PB6	SB7	--	8	--
PB6	SB8	19	--	--
PB6	PB7	--	80	--
PB7	SB9	14	--	--
PB7	SB10	10	--	--
PB7	PB8	--	--	120
PB8	SB11	12	--	--
PB8	CB1	--	45	--
PB1	PB9	49	--	--
PB9	RB1	29	--	--
LPB1	LPB2	10	--	--
LPB2	LP1	5	--	--
LPB2	LPB5	21	--	--
LPB5	LP9	17	--	--
LPB4	LP8	23	--	--
<b>TOTAL</b>		<b>261</b>	<b>310</b>	<b>576</b>

**CONCRETE BASES**

SIGNAL BASE NO.	** LOCATION	654.0101 CONCRETE BASES TYPE 1 EACH	654.0102 CONCRETE BASE TYPE 2 EACH	654.0110 CONCRETE BASES TYPE 10 EACH	654.0113 CONCRETE BASES TYPE 13 EACH	654.0217 CONCRETE CONTROL CABINET BASE, TYPE 9 SPECIAL EACH
CB1	104+88, 56' RT	--	--	--	--	1
SB1	104+90, 35' RT	1	--	--	--	--
SB2	104+80, 32' LT	--	--	1	--	--
SB3	104+90, 35' LT	1	--	--	--	--
SB4	204+62, 35' RT	1	--	--	--	--
SB5	204+62, 33' LT	--	1	--	--	--
SB6	105+78, 43' LT	--	1	--	--	--
SB7	105+87, 42' RT	--	--	--	1	--
SB8	105+77, 43' RT	1	--	--	--	--
SB9	105+68, 51' RT	1	--	--	--	--
SB10	205+72, 23' LT	1	--	--	--	--
SB11	205+68, 31' RT	--	1	--	--	--
<b>TOTAL</b>		<b>6</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>

**REMOVING PULL BOXES**

PULL BOX NO.	LOCATION	653.0905 REMOVING PULL BOXES EACH
LPB2	108+82, 33' LT	1
<b>TOTAL</b>		<b>1</b>

**ELECTRICAL SERVICE METER BREAKER PEDESTAL**

SIGNAL BASE NO.	** LOCATION	656.0200.01 ELECTRICAL SERVICE METER BREAKER PEDESTAL L.S.
CB1	STH 35 & STH 105	1
<b>TOTAL</b>		<b>1</b>

**ADJUSTING PULL BOXES**

PULL BOX NO.	** LOCATION	653.0900 ADJUSTING PULL BOXES EACH
LPB3	205+60, 31' RT	1
LPB4	105+79, 42' RT	1
LPB5	105+84, 42' LT	1
<b>TOTAL</b>		<b>3</b>

**VIDEO DETECTION SYSTEM**

** LOCATION	SPV.0105.04 VEHICULAR VIDEO DETECTION SYSTEM L.S.
STH 35 & STH 105	1
<b>TOTAL</b>	<b>1</b>

**TRAFFIC SIGNAL CONTROLLER AND CABINET**

CONTROL CABINET NO.	** LOCATION	SPV.0105.01 FURNISH AND INSTALL BATTERY BACK-UP SYSTEM L.S.	SPV.0105.02 TRAFFIC SIGNAL CABINET AND CONTROLLER L.S.	SPV.0105.06 RAILROAD PREEMPTION SYSTEM L.S.
CB1	STH 35 & STH 105	1	1	1
<b>TOTAL</b>		<b>1</b>	<b>1</b>	<b>1</b>

**REMOVING CONCRETE BASES**

BASE NO.	LOCATION	204.0195 REMOVING CONCRETE BASES EACH
LP3	104+87, 33' LT	1
LP4	105+04, 60' RT	1
LP5	105+64, 56' LT	1
LP6	105+97, 42' LT	1
LP7	105+98, 42' RT	1
<b>TOTAL</b>		<b>5</b>

**REMOVE LIGHTING**

LOCATION	SPV.0105.05 REMOVE AND SALVAGE LIGHTING EQUIPMENT L.S.
STH 35 & STH 105	1
<b>TOTAL</b>	<b>1</b>

**EMERGENCY VEHICLE PREEMPTION**

** LOCATION	SPV.0105.03 FURNISH AND INSTALL EMERGENCY VEHICLE PREEMPTION SYSTEM L.S.
STH 35 & STH 105	1
<b>TOTAL</b>	<b>1</b>

**LEGEND**

\*\* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

STH 35 & STH 105 SIGNALS AND LIGHTING

**TRAFFIC SIGNAL EQUIPMENT**

SIG. BASE NO.	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0310 POLES TYPE 3 EACH	657.0315 POLES TYPE 4 EACH	657.0351 POLES TYPE 10-OVER HEIGHT EACH	657.0361 POLES TYPE 13-OVER HEIGHT EACH	657.0405 TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT EACH	657.0530 MONOTUBE ARMS 30-FT EACH	657.0550 MONOTUBE ARMS 50-FT EACH	657.0595 TROMBONE ARMS 25-FT EACH	657.0609 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT EACH	657.0806 LUMINAIRE ARMS STEEL 6-FT EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH	659.1120 LUMINAIRES UTILITY LED-B EACH
SB1	1							1								1	
SB2					1						1				1		1
SB3	1						1									1	
SB4	1							1								1	
SB5		1	1										1	1		1	1
SB6		1		1										1		1	1
SB7						1						1			1		1
SB8	1						1									1	
SB9	1									1						1	
SB10	1								1								
SB11		1	1										1	1		1	1
<b>TOTAL</b>	<b>6</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>8</b>	<b>5</b>

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**CABLE AND ELECTRICAL WIRE**

LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG L.F.	655.0305 CABLE TYPE UF 2-12 AWG GROUNDED L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
CB1	SB1		--	--	--	52	--	52	--	--	--
CB1	SB2		--	--	138	--	138	--	--	--	191
CB1	SB3		141	--	--	--	--	--	--	--	--
CB1	SB4		--	--	--	191	--	--	--	--	--
CB1	SB5		--	--	270	--	--	--	--	--	317
CB1	SB6		--	--	--	288	--	--	--	--	--
CB1	SB7		--	--	181	--	--	--	--	--	254
CB1	SB8		192	--	--	--	--	--	--	--	--
CB1	SB9		--	132	--	--	--	--	--	--	--
CB1	SB10		--	--	128	--	--	--	--	--	--
CB1	SB11		--	--	56	--	56	56	--	--	103
CB1	RB1		--	--	177	--	--	--	--	--	--
SB1	SB2		--	--	--	--	--	137	--	--	--
SB2	SB3		--	--	--	--	--	36	--	--	--
SB3	SB4		--	--	--	--	--	89	--	--	--
SB4	SB5		--	--	--	--	--	120	--	--	--
SB5	SB6		--	--	--	--	--	101	--	--	--
SB6	SB7		--	--	--	--	--	147	--	--	--
SB7	SB8		--	--	--	--	--	51	--	--	--
SB8	SB9		--	--	--	--	--	112	--	--	--

(CONTINUED ON NEXT PAGE)

**PULL BOXES**

PULL BOX NO.	** LOCATION	653.0164 PULL BOXES NON-CONDUCTIVE 24"x42" EACH
PB1	104+84, 46' RT	1
PB2	104+83, 34' LT	1
PB3	204+54, 32' RT	1
PB4	204+55, 33' LT	1
PB5	105+94, 42' LT	1
PB6	105+94, 41' RT	1
PB7	205+80, 28' LT	1
PB8	205+81, 32' RT	1
PB9	104+35, 46' RT	1
LPB2	103+74, 34' LT	1
<b>TOTAL</b>		<b>10</b>

**LEGEND**

\*\* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

STH 35 & STH 105 SIGNALS AND LIGHTING

**CABLE AND ELECTRICAL WIRE (CONTINUED)**

LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG L.F.	655.0305 CABLE TYPE UF 2-12 AWG GROUNDED L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
SB9		SB10	--	--	--	--	--	48	--	--	--
SB10		SB11	--	--	--	--	--	122	--	--	--
SB11		SB7	--	--	--	--	175	--	--	--	--
SB7		SB6	--	--	--	--	146	--	--	--	--
SB2		SB5	--	--	--	--	165	--	--	--	--
LPB1		LPB2	--	--	--	--	--	--	500	--	--
LPB2		LP1	--	--	--	--	--	--	200	--	--
LPB2		LPB5	--	--	--	--	--	--	964	--	--
LPB5		LP9	--	--	--	--	--	--	848	--	--
LPB1		LPB3	--	--	--	--	--	--	388	--	--
LPB3		LPB4	--	--	--	--	--	--	428	--	--
LPB4		LP8	--	--	--	--	--	--	764	--	--
SB1		HEAD 1	19	--	--	--	--	--	--	--	--
SB1		HEAD 9	--	22	--	--	--	--	--	--	--
SB1		HEAD 41	15	--	--	--	--	--	--	--	--
SB2		HEAD 7	44	--	--	--	--	--	--	--	--
SB2		HEAD 8	19	--	--	--	--	--	--	--	--
SB2		HEAD 10	--	57	--	--	--	--	--	--	--
SB2		LUMINAIRE	--	--	--	--	--	--	120	--	--
SB4		HEAD 12	19	--	--	--	--	--	--	--	--
SB4		HEAD 14	19	--	--	--	--	--	--	--	--
SB4		HEAD 42	15	--	--	--	--	--	--	--	--
SB4		HEAD 61	15	--	--	--	--	--	--	--	--
SB5		HEAD 13	46	--	--	--	--	--	--	--	--
SB5		LUMINAIRE	--	--	--	--	--	--	120	--	--
SB5		HEAD 62	15	--	--	--	--	--	--	--	--
SB6		HEAD 4	--	22	--	--	--	--	--	--	--
SB6		HEAD 6	19	--	--	--	--	--	--	--	--
SB6		HEAD 81	15	--	--	--	--	--	--	--	--
SB6		LUMINAIRE	--	--	--	--	--	--	120	--	--
SB7		HEAD 2	54	--	--	--	--	--	--	--	--
SB7		HEAD 3	19	--	--	--	--	--	--	--	--
SB7		HEAD 5	--	73	--	--	--	--	--	--	--
SB7		LUMINAIRE	--	--	--	--	--	--	120	--	--
SB9		HEAD 21	15	--	--	--	--	--	--	--	--
SB9		HEAD 82	15	--	--	--	--	--	--	--	--
SB10		HEAD 11	19	--	--	--	--	--	--	--	--
SB10		HEAD 15	--	23	--	--	--	--	--	--	--
SB11		HEAD 16	--	53	--	--	--	--	--	--	--
SB11		HEAD 22	15	--	--	--	--	--	--	--	--
SB11		LUMINAIRE	--	--	--	--	--	--	120	--	--
<b>TOTAL</b>			<b>730</b>	<b>382</b>	<b>950</b>	<b>531</b>	<b>680</b>	<b>1071</b>	<b>4092</b>	<b>600</b>	<b>865</b>

**TRAFFIC SIGNAL FACES**

SIG. HEAD NO.	SIG. BASE NO.	658.0173 TRAFFIC SIGNAL FACE 3S 12-INCH EACH	658.0174 TRAFFIC SIGNAL FACE 4S 12-INCH EACH	658.0175 TRAFFIC SIGNAL FACE 5S 12-INCH EACH	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH EACH
1	SB1	1	--	--	--
2	SB7	1	--	--	--
3	SB7	1	--	--	--
4	SB6	--	1	--	--
5	SB7	--	1	--	--
6	SB6	1	--	--	--
7	SB2	1	--	--	--
8	SB2	1	--	--	--
9	SB1	--	1	--	--
10	SB2	--	1	--	--
11	SB10	1	--	--	--
12	SB4	1	--	--	--
13	SB5	1	--	--	--
14	SB4	1	--	--	--
15	SB10	--	--	1	--
16	SB11	--	--	1	--
21	SB9	--	--	--	1
22	SB11	--	--	--	1
41	SB1	--	--	--	1
42	SB4	--	--	--	1
61	SB4	--	--	--	1
62	SB5	--	--	--	1
81	SB6	--	--	--	1
82	SB9	--	--	--	1
<b>TOTAL</b>		<b>10</b>	<b>4</b>	<b>2</b>	<b>8</b>

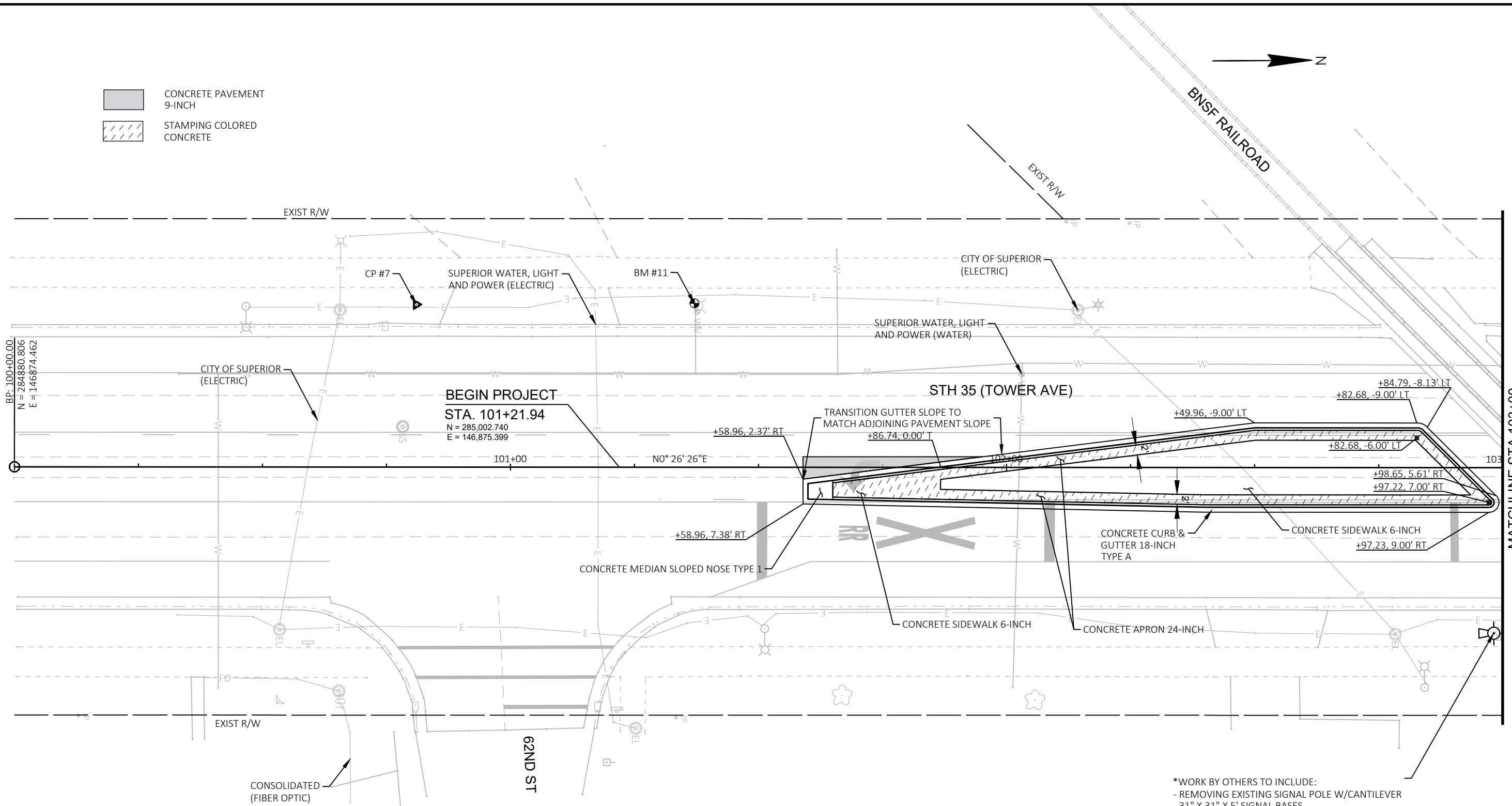
**SIGNAL MOUNTING HARDWARE**

658.5069.01 SIGNAL MOUNTING HARDWARE L.S.	LOCATION
1	STH 35 & STH 105
<b>TOTAL 1</b>	

**ALL ITEMS ON THIS SHEET ARE CATEGORY 0010**

**STH 35 & STH 105 SIGNALS AND LIGHTING**

- CONCRETE PAVEMENT  
9-INCH
- STAMPING COLORED  
CONCRETE



**BEGIN PROJECT**  
**STA. 101+21.94**  
 N = 285,002.740  
 E = 146,875.399

**STH 35 (TOWER AVE)**

**NOTE:**  
 ALL STATION/OFFSETS ON SHEET ARE  
 TO STH 35/TOWER AVE ALIGNMENT



**\*WORK BY OTHERS TO INCLUDE:**  
 - REMOVING EXISTING SIGNAL POLE W/CANTILEVER  
 - 31" X 31" X 5' SIGNAL BASES  
 - SIGNAL POLES WITH FLASHING LIGHTS  
 - GATES

5

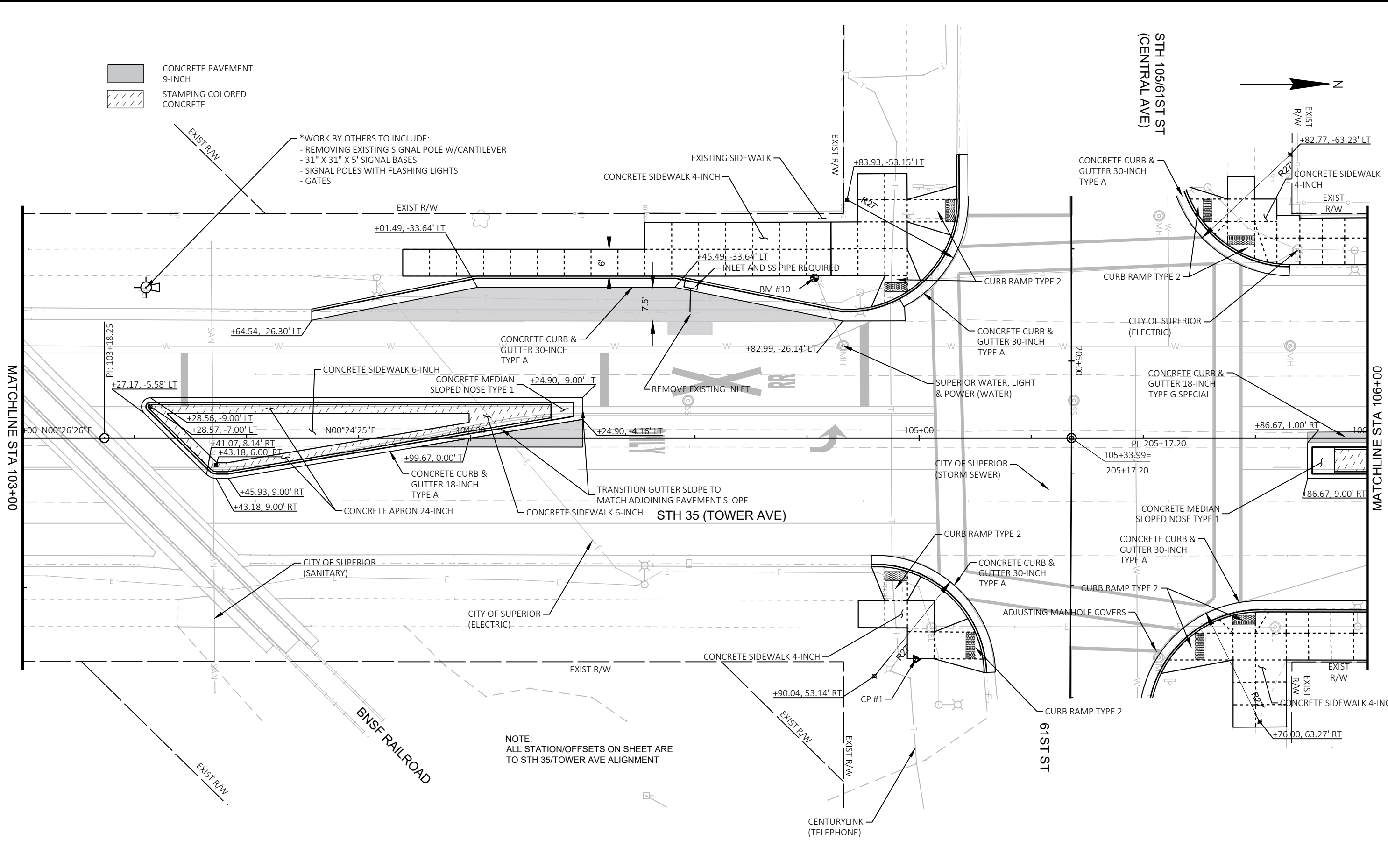
5

MATCHLINE STA 103+00

PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	PLAN SHEETS: STH 35	SHEET	<b>E</b>
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-  CONCRETE PAVEMENT  
9-INCH
-  STAMPING COLORED  
CONCRETE

\*WORK BY OTHERS TO INCLUDE:  
 - REMOVING EXISTING SIGNAL POLE W/CANTILEVER  
 - 31" X 31" X 5' SIGNAL BASES  
 - SIGNAL POLES WITH FLASHING LIGHTS  
 - GATES



NOTE:  
 ALL STATION/OFFSETS ON SHEET ARE  
 TO STH 35/TOWER AVE ALIGNMENT

PROJECT NO: 3700-50-54

HWY: STH 35



COUNTY: DOUGLAS

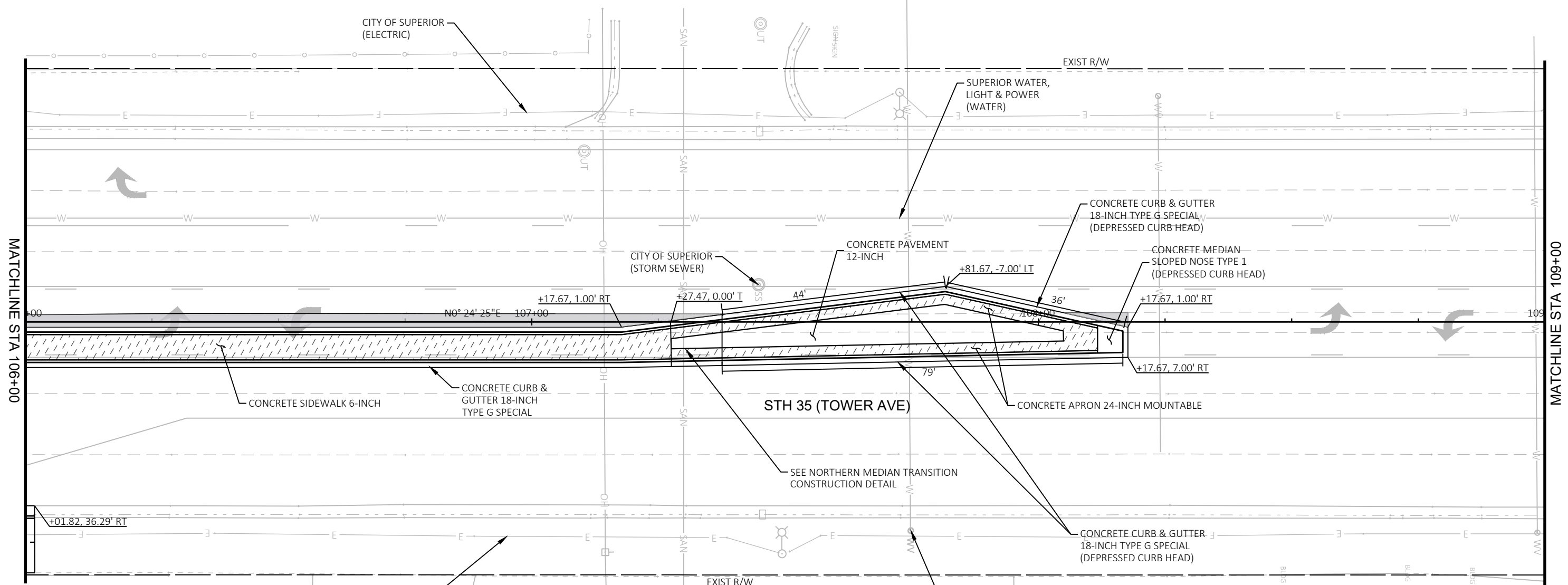
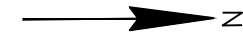
PLAN SHEETS: STH 35

SHEET

E



-  CONCRETE PAVEMENT  
9-INCH
-  STAMPING COLORED  
CONCRETE



NOTE:  
ALL STATION/OFFSETS ON SHEET ARE  
TO STH 35/TOWER AVE ALIGNMENT

CITY OF SUPERIOR  
(ELECTRIC)

SUPERIOR WATER,  
LIGHT & POWER  
(OVERHEAD)

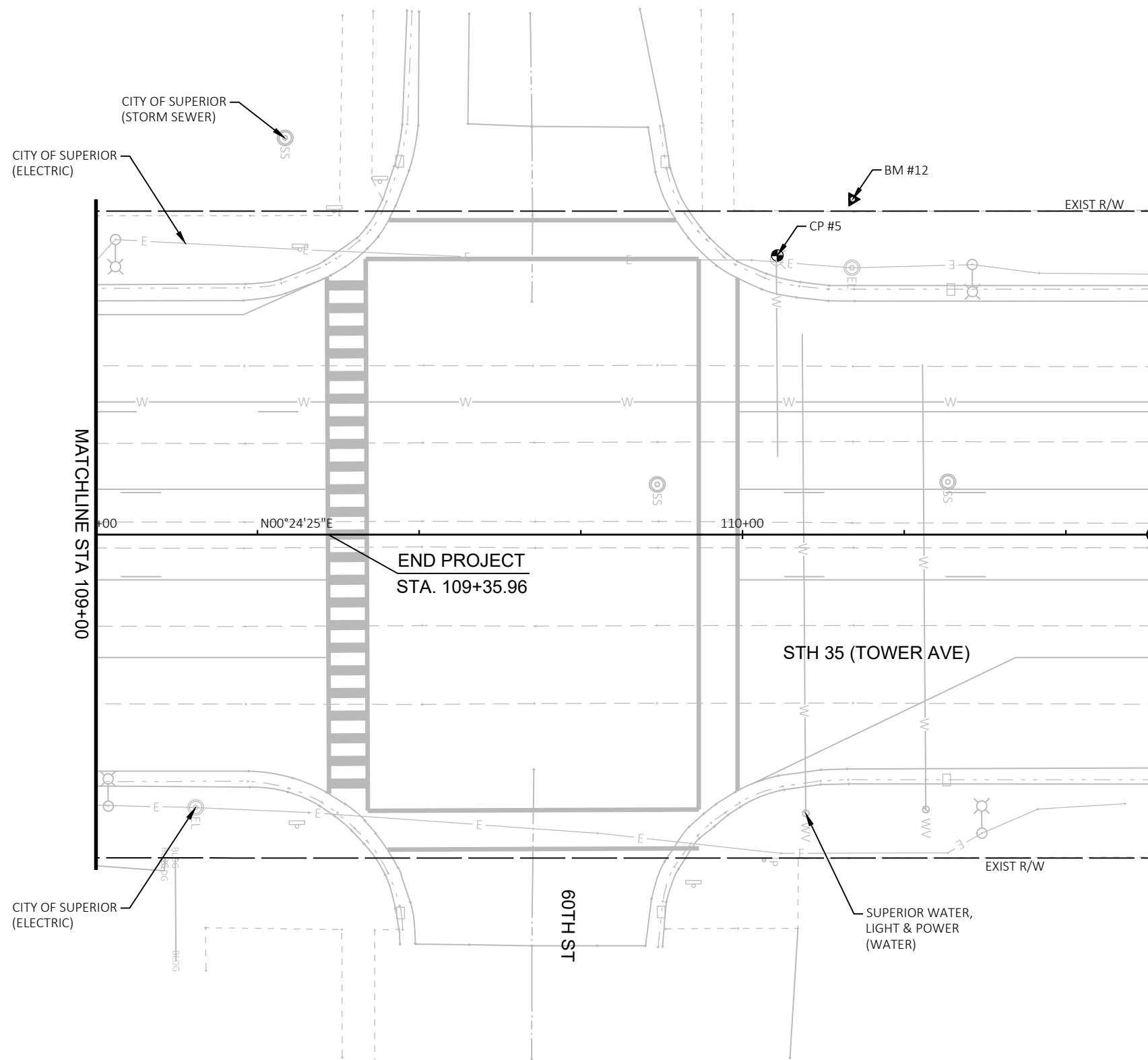
CITY OF SUPERIOR  
(SANITARY SEWER)

EXIST R/W

SUPERIOR WATER,  
LIGHT & POWER  
(WATER)

5

5



NOTE:  
 ALL STATION/OFFSETS ON SHEET ARE  
 TO STH 35/TOWER AVE ALIGNMENT

PROJECT NO: 3700-50-54

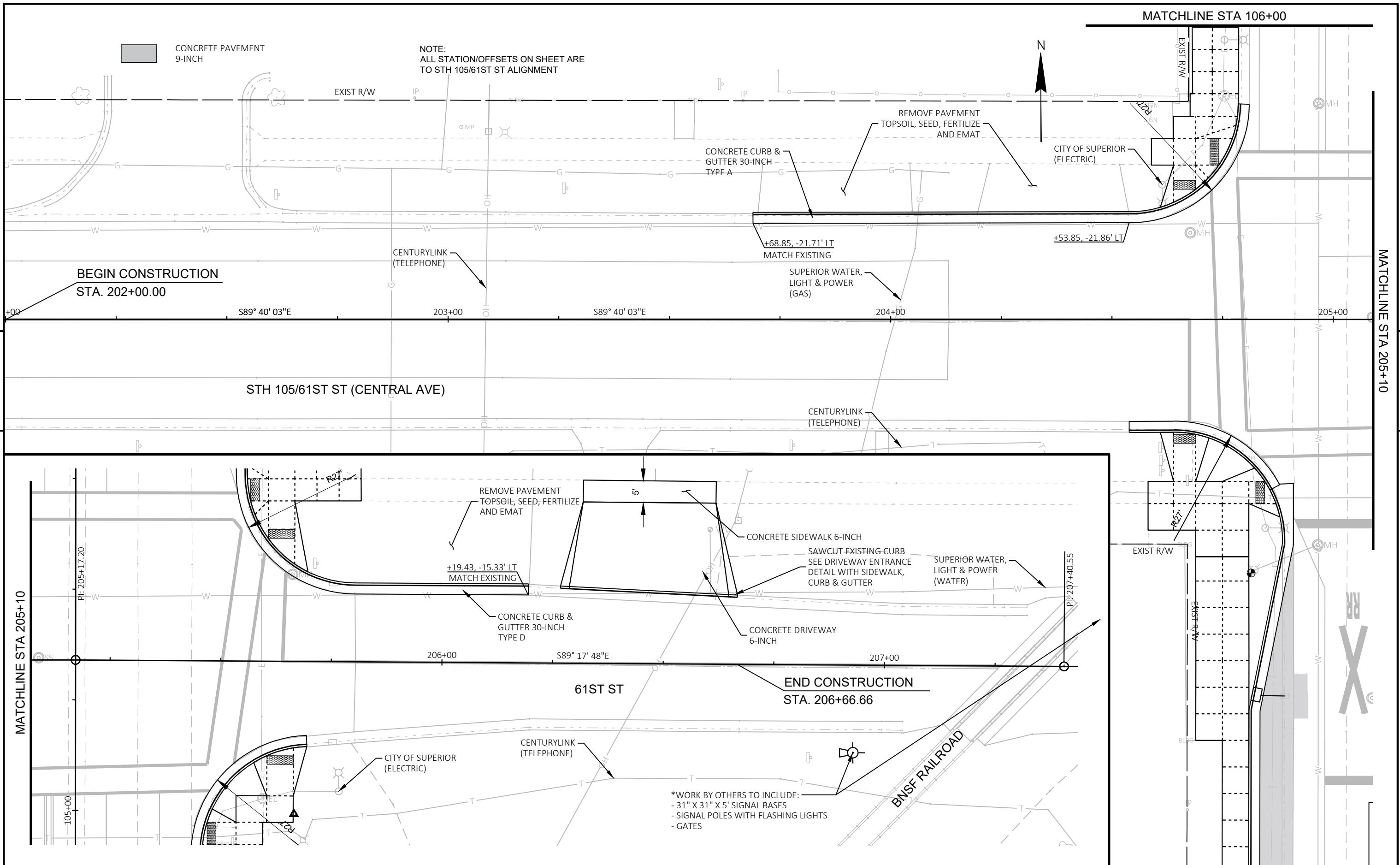
HWY: STH 35

COUNTY: DOUGLAS

PLAN SHEETS: STH 35

SHEET

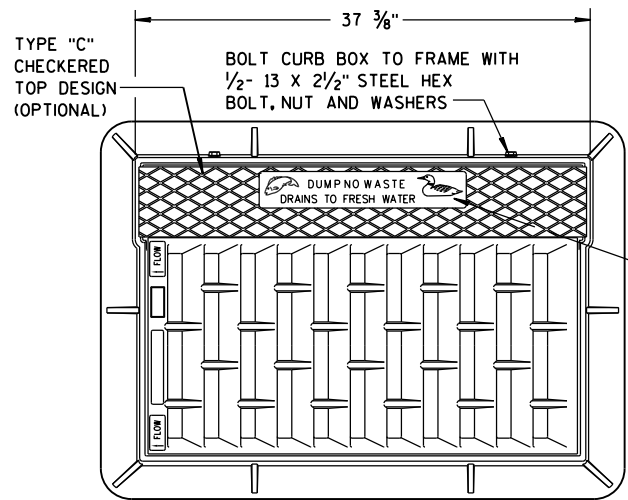
E



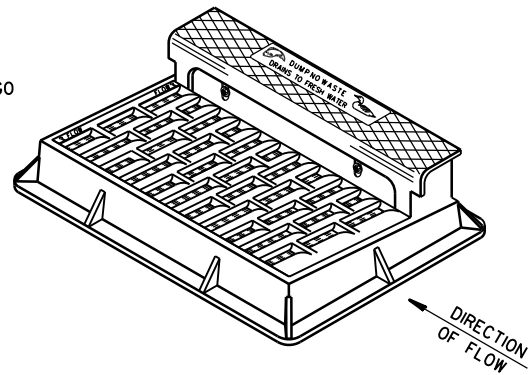
PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	PLAN SHEETS: STH 105/61ST ST	SHEET	<b>E</b>
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## Standard Detail Drawing List

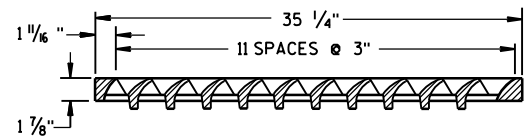
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-21A	CONCRETE CURB & GUTTER
08D01-21B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-20A	CURB RAMPS TYPES 1 AND 1-A
08D05-20B	CURB RAMPS TYPES 2 AND 3
08D05-20C	CURB RAMPS TYPES 4A AND 4A1
08D05-20D	CURB RAMPS TYPE 4B AND 4B1
08D05-20E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-20F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-20G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D15-05A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08D15-05B	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08D19-02	DRIVEWAY AND SIDEWALK RAMPS TYPE Z
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-10	CONDUIT
09B16-01	PULL BOX NON-CONDUCTIVE
09C02-09	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C11-10	CONCRETE BASE TYPE 10
09C12-09A	CONCRETE BASE TYPE 13
09C12-09B	CONCRETE BASE TYPE 13
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09E01-15B	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)
09E01-15C	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4
09E01-15G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-06	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-06	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E12-01B	OVER HEIGHT TYPE 10 POLE 15' -30' MONOTUBE ARM
09E12-01D	OVER HEIGHT TYPE 13 POLE 35' -55' MONOTUBE ARM
09E12-01E	GENERAL NOTES AND HARDWARE DETAILS FOR OVER HEIGHT TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
11B02-02	CONCRETE MEDIAN NOSE
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-09	URBAN DOWELED CONCRETE PAVEMENT
13C18-07A	CONCRETE PAVEMENT JOINTING
13C18-07B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-07C	CONCRETE PAVEMENT JOINT TYPES
13C18-07D	CONCRETE PAVEMENT JOINT TYPES AT UTILITY FIXTURES
13C18-07F	CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-15C	PAVEMENT MARKING ARROWS
15C07-15E	PAVEMENT MARKING FOR BIKE LANES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C08-20B	PAVEMENT MARKING (TURN LANES)
15C08-20C	PAVEMENT MARKING (TURN LANES)
15C09-11A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-04	MEDIAN ISLAND MARKING
15C27-03B	PAVEMENT MARKING (ISLANDS)
15C29-07A	BICYCLE LANE MARKING
15C29-07B	PAVEMENT MARKING FOR SHARED LANE 35 MPH OR LESS
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C36-01	PARKING STALL MARKING
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-06A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-06B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-06C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D40-01	TRAFFIC CONTROL, LANE SHIFT, MULTI LANE DIVIDED OR ONE WAY ROAD



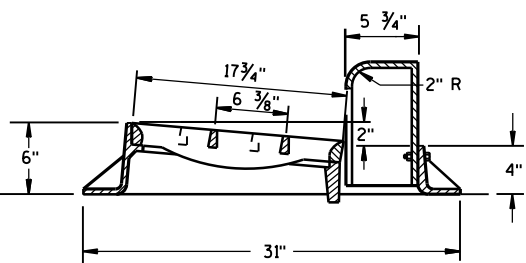
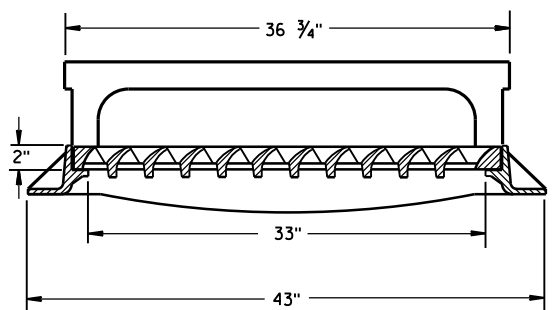
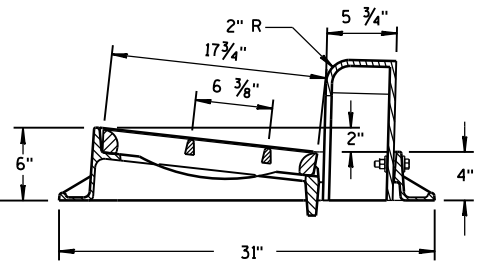
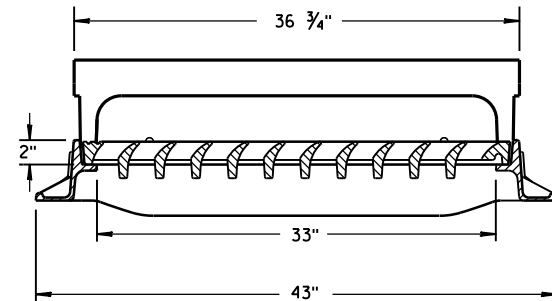
**NOTE:  
GRATE IS REVERSIBLE.**



SEE LOGO  
DETAIL

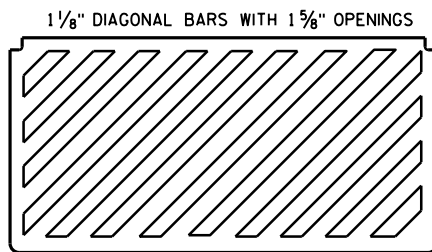


**NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"**



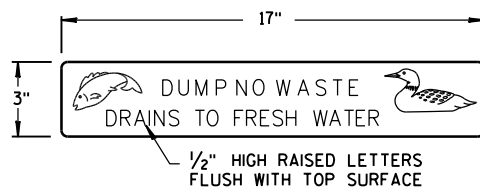
**TYPE "H"**

**NOTE: EITHER CASTING IS ACCEPTABLE**

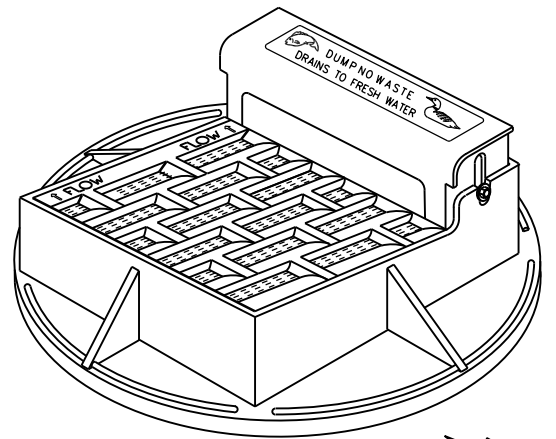


**SPECIAL GRATE FOR  
TYPE "H" COVER**

(MEASURES 35 1/4" X 17 3/4" X 2")  
(NOTED AS TYPE H-S ON DRAINAGE TABLE)

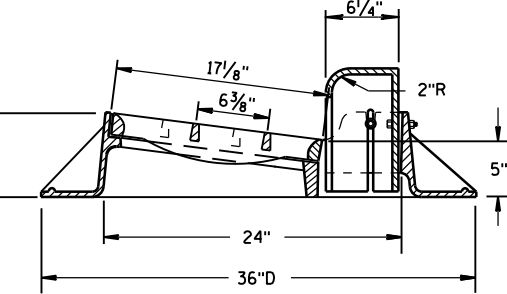
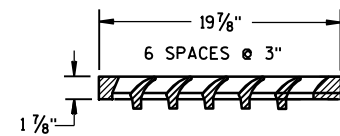
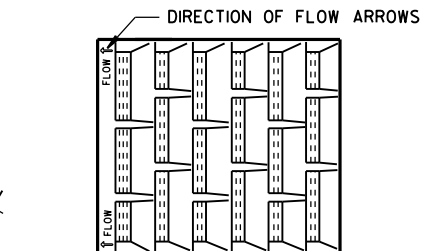
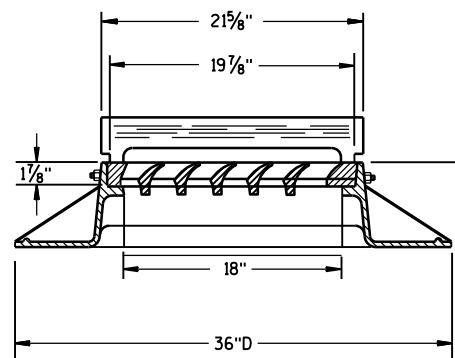


**LOGO DETAIL**

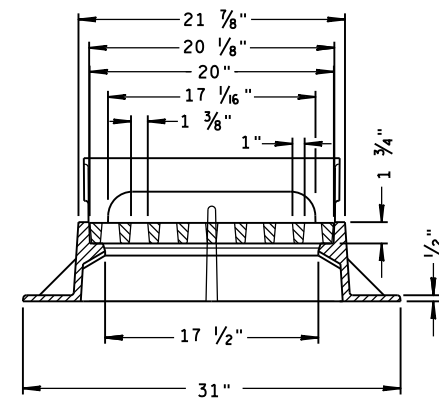
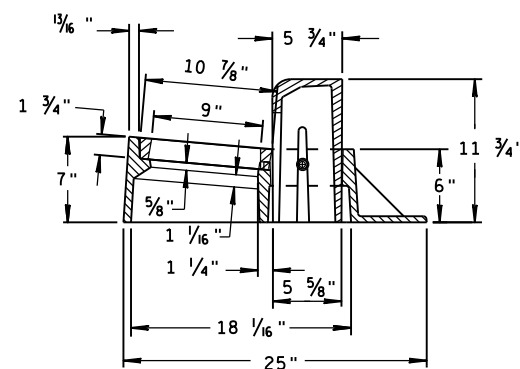


**NOTE: CURB BOX ADJUSTABLE 4" TO 9"**

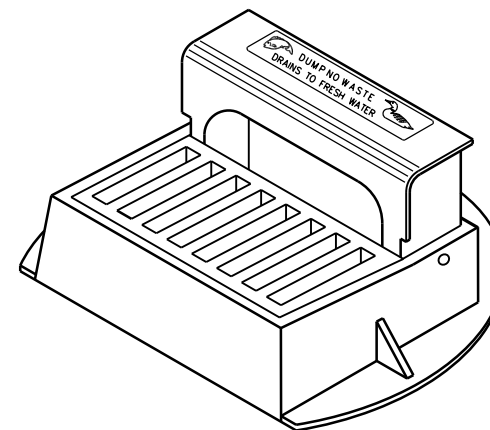
**NOTE:  
GRATE IS REVERSIBLE.**



**TYPE "A"**



**TYPE "Z"**



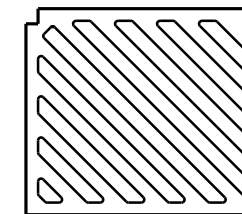
**GENERAL NOTES**

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

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

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

1" DIAGONAL BARS  
WITH 1 1/2" OPENINGS



**SPECIAL GRATE FOR  
TYPE "A" COVER**

(MEASURES 19 3/4" X 17" X 1 1/8")  
(NOTED AS TYPE A-S ON DRAINAGE TABLE)

6

6

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

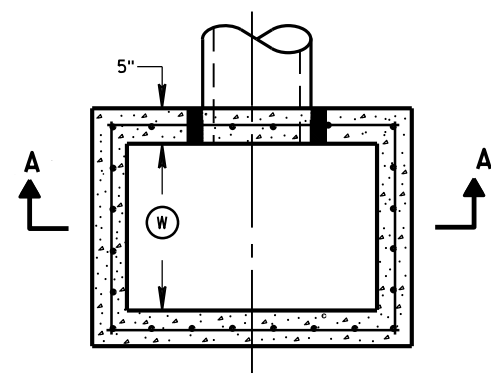
S.D.D. 8 A 5-19a

**INLET COVERS  
TYPE A, H, A-S, H-S & Z**

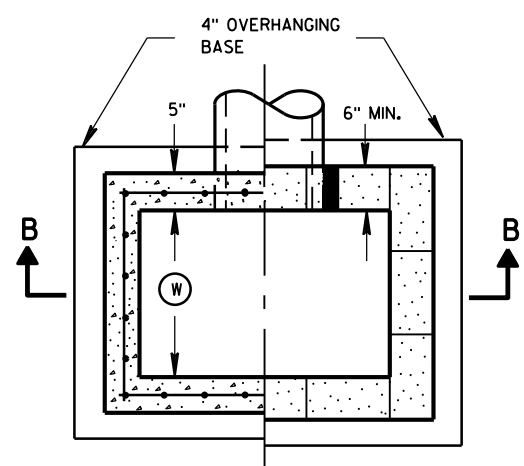
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
11-27-13  
DATE  
FHWA

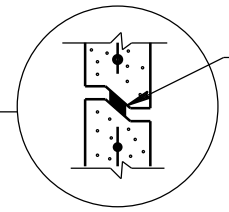
/s/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER



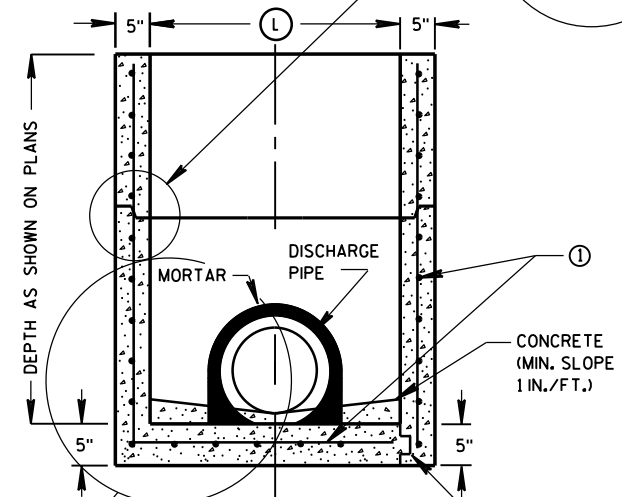
PLAN VIEW



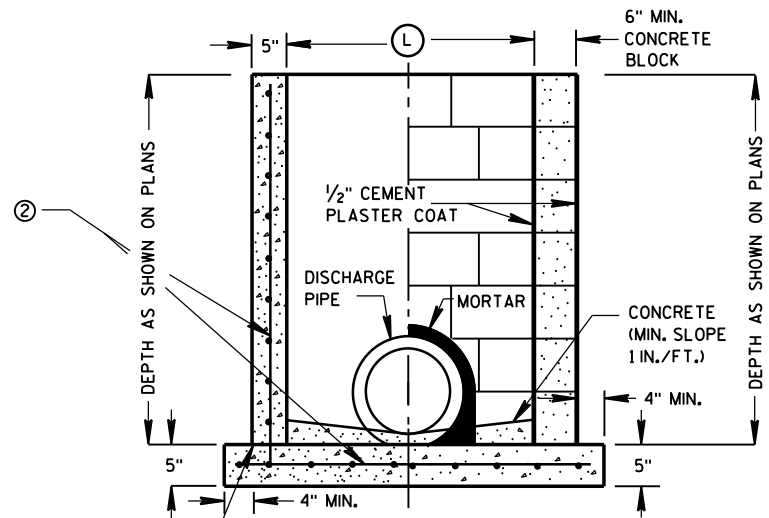
PLAN VIEW



RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



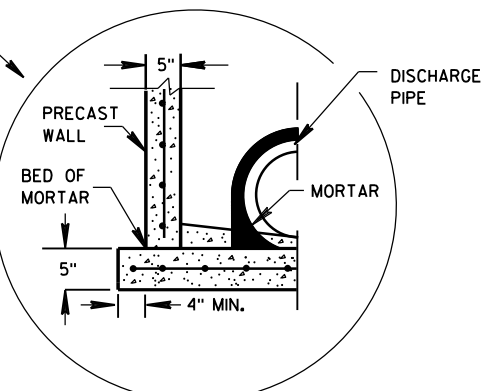
SECTION A-A



SECTION B-B

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE  
 PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE  
 KEYWAY

CONSTRUCTION JOINT  
 CAST-IN-PLACE REINFORCED CONCRETE  
 CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ①



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

**GENERAL NOTES**

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

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

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

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

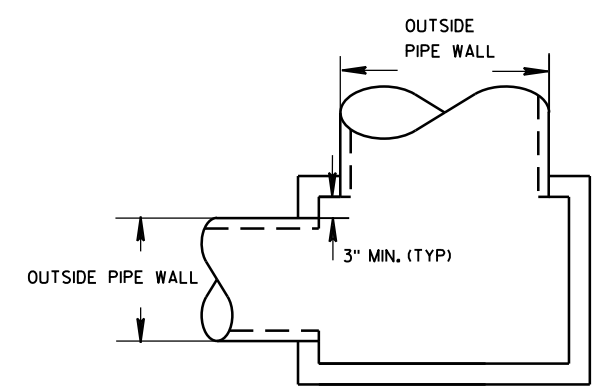
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

**INLET COVER MATRIX**

INLET SIZE	INLET COVER TYPE		ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

**PIPE MATRIX**

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



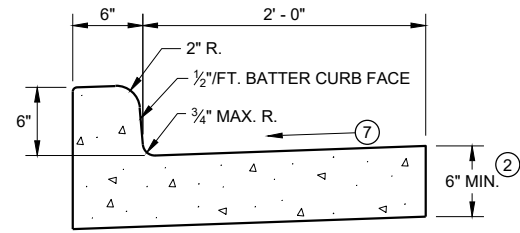
DETAIL "A"

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

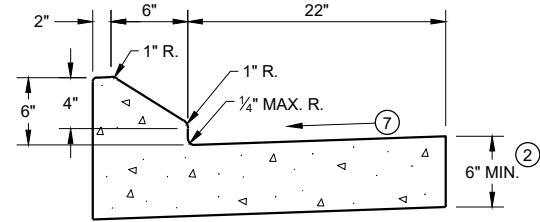
**INLETS 2X2-FT, 2X2.5-FT,  
2X3-FT AND 2.5X3-FT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

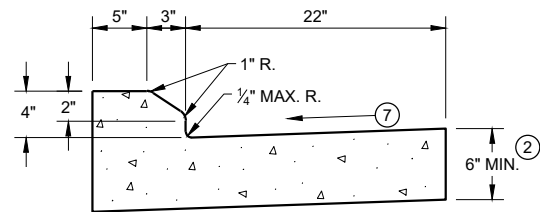
APPROVED  
 Sept., 2016 /S/ Rodney Taylor  
 DATE ROADWAY STANDARDS DEVELOPMENT  
 FHWA UNIT SUPERVISOR



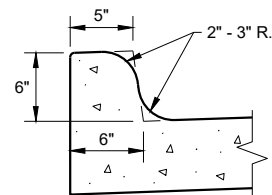
TYPES A<sup>①</sup> & D



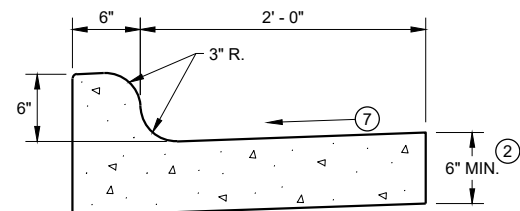
6" SLOPED CURB TYPES G<sup>①</sup> & J



4" SLOPED CURB TYPES G<sup>①</sup> & J

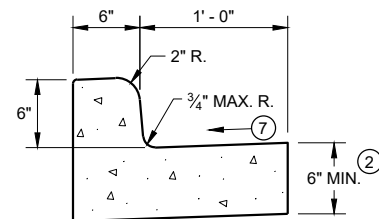


TYPES K<sup>①</sup> & L  
(OPTIONAL CURB SHAPE)



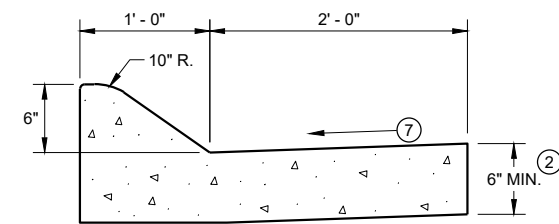
TYPES K<sup>①</sup> & L

CONCRETE CURB AND GUTTER 30"

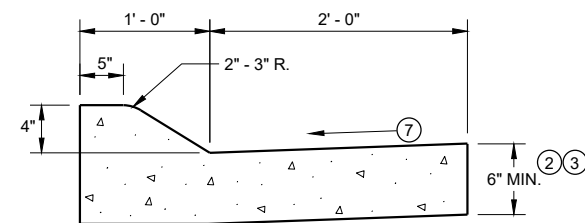


TYPES A<sup>①</sup> & D

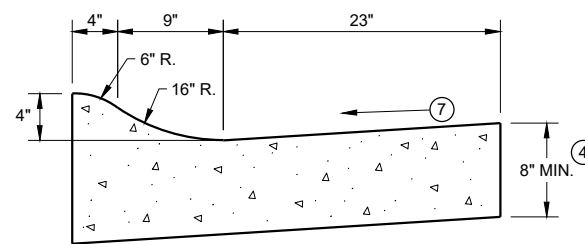
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A<sup>①</sup> & D



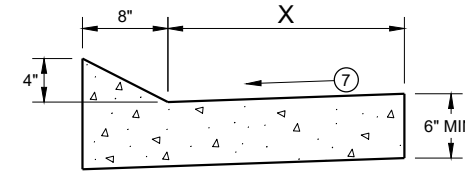
4" SLOPED CURB TYPES A<sup>①</sup> & D



4" SLOPED CURB TYPES R<sup>①</sup> & T<sup>⑤</sup>

CONCRETE CURB AND GUTTER 36"

TBT & TBTT	X
30"	22"
36"	28"

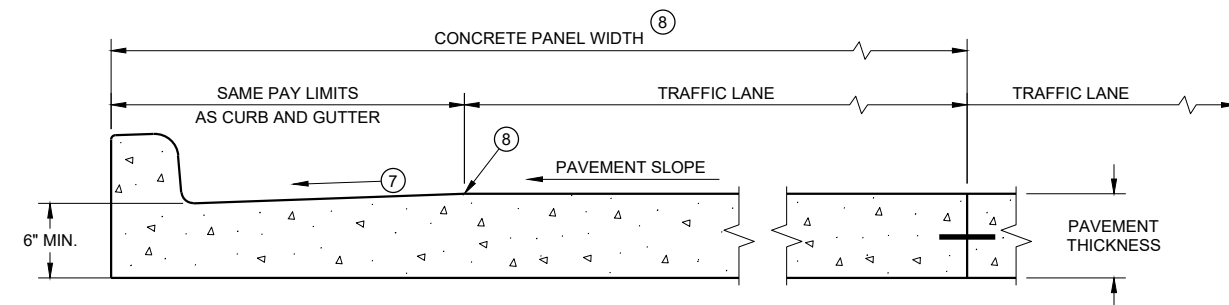


TYPES TBT & TBTT<sup>①</sup>

CONCRETE CURB AND GUTTER

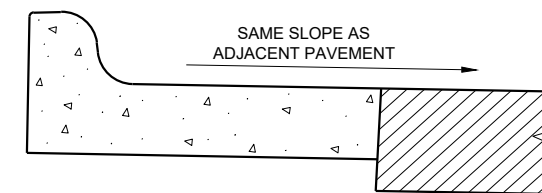
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT \*  
WITH INTEGRAL CURB AND GUTTER

\* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER<sup>⑥</sup>  
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

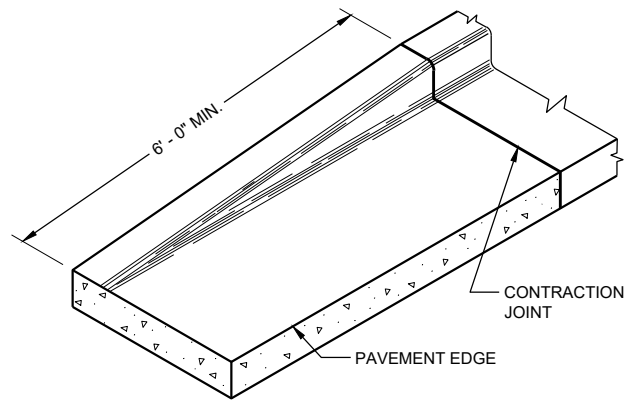
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

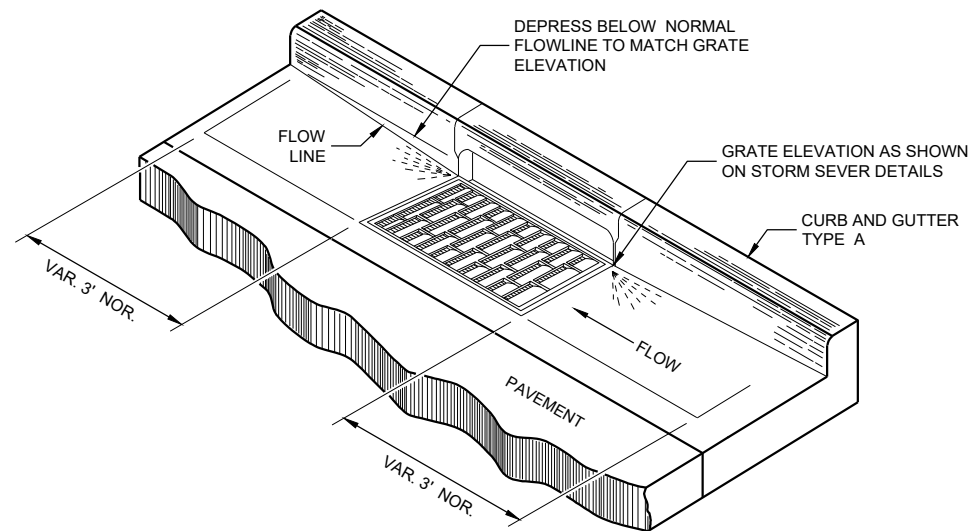
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.



**END SECTION CURB AND GUTTER**



**DETAIL OF CURB AND GUTTER AT INLETS**  
(TYPICAL H INLET COVER SHOWN)

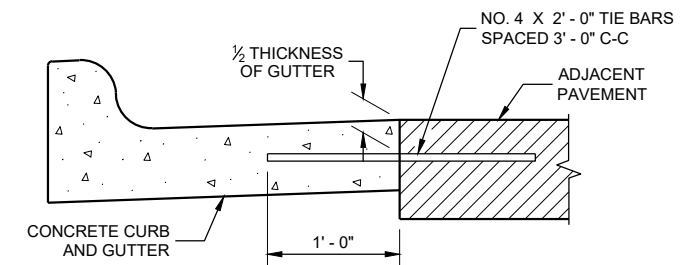
**GENERAL NOTES**

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

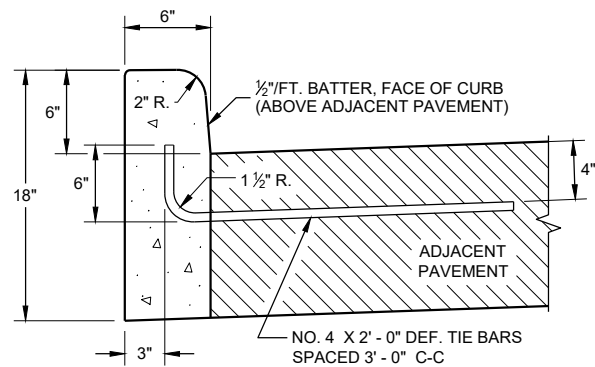
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

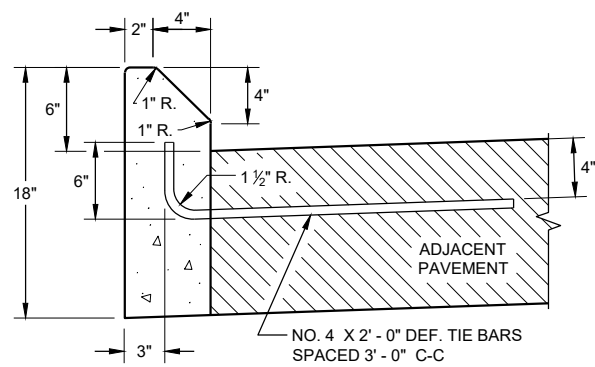
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑨ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



**TYPICAL TIE BAR LOCATION** ①

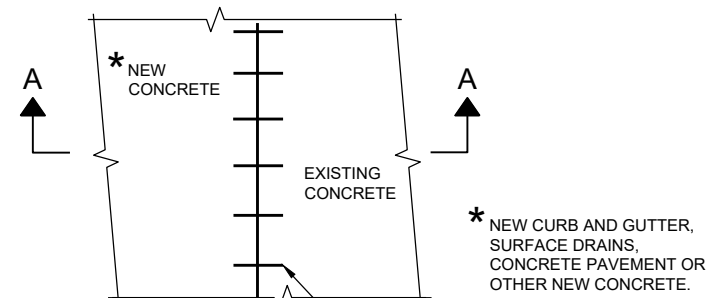


**TYPES A ① & D**

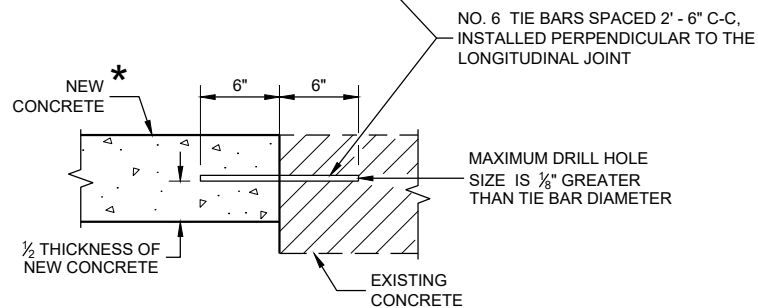


**TYPES G ① & J**

**CONCRETE CURB**

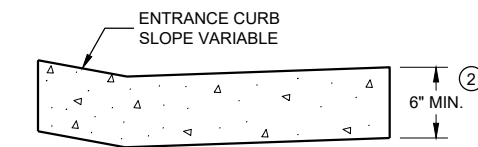


**PLAN VIEW**



**SECTION A - A**

**TIE BARS DRILLED INTO EXISTING PAVEMENT**



**DRIVEWAY ENTRANCE CURB** ⑨  
(WHEN DIRECTED BY THE ENGINEER)

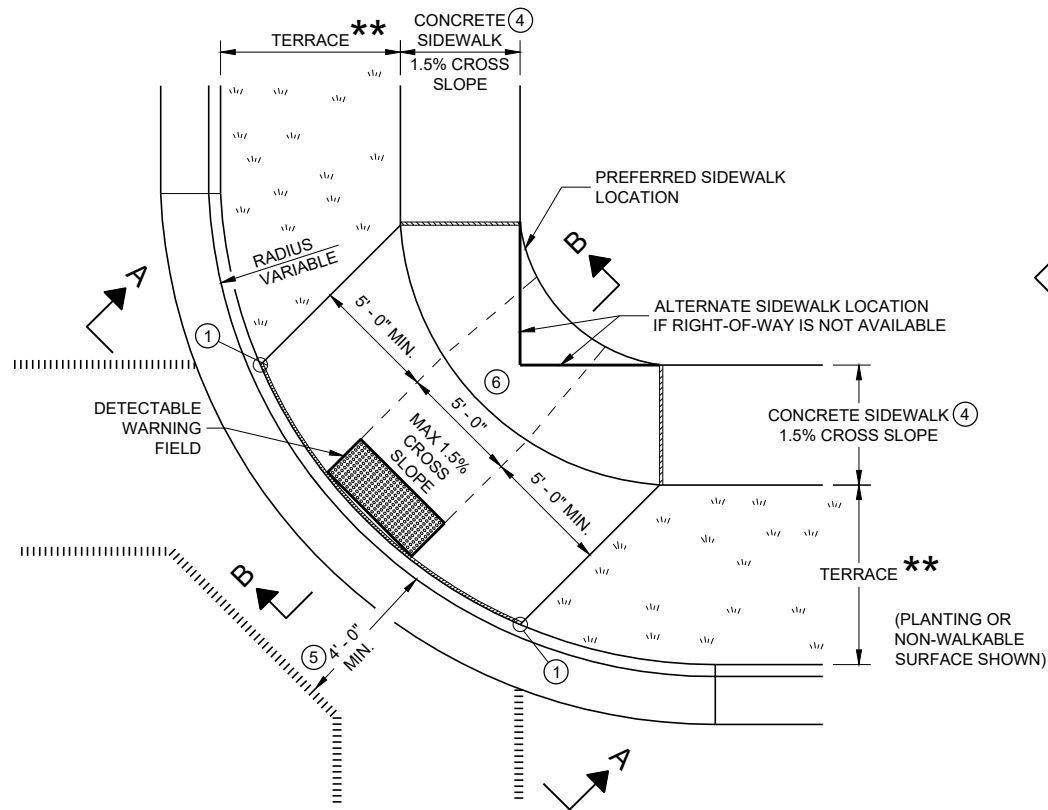
**CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

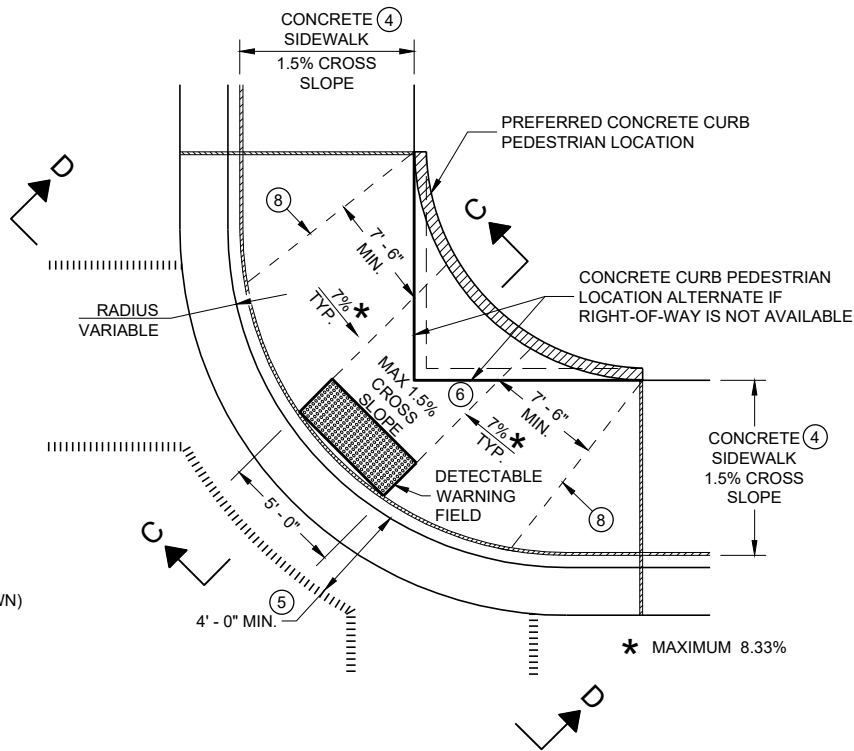
APPROVED  
February 2020 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

FHWA

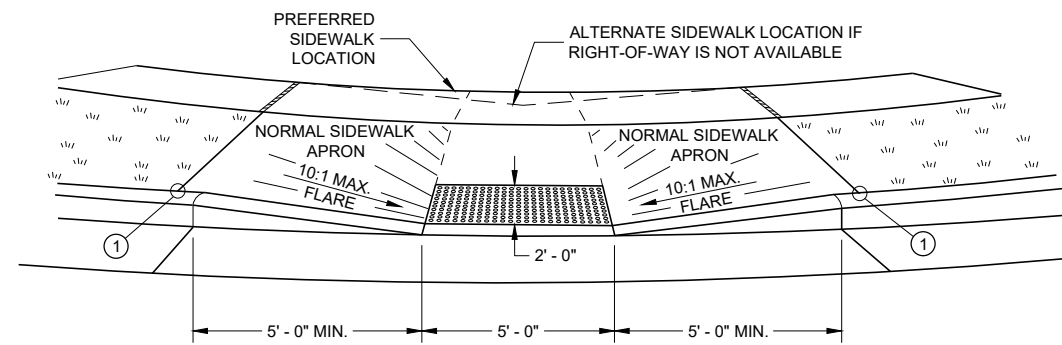




**PLAN VIEW  
CURB RAMP TYPE 1  
(CENTER OF CORNER RADIUS)**

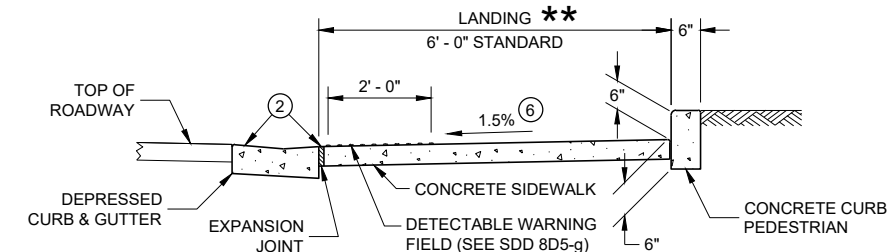


**PLAN VIEW  
CURB RAMP TYPE 1 - A  
(NO TERRACE)**



**VIEW A - A FOR TYPE 1**

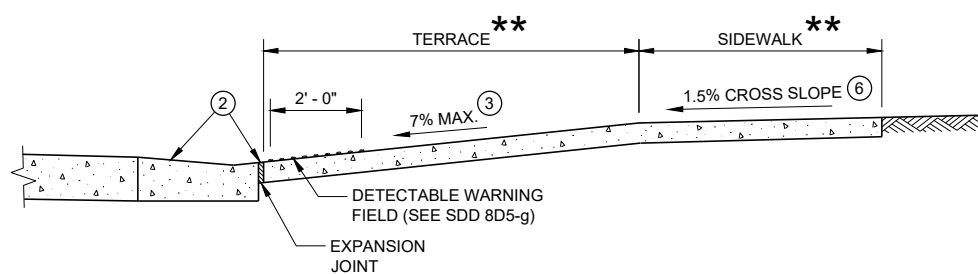
\*\* WIDTH SHOWN ELSEWHERE  
IN THE PLANS



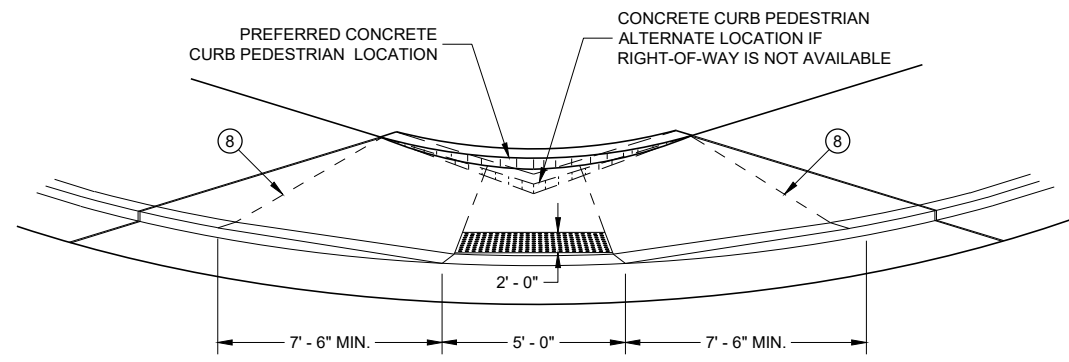
**SECTION C - C FOR TYPE 1 - A**

**LEGEND**

- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



**SECTION B - B FOR TYPE 1**



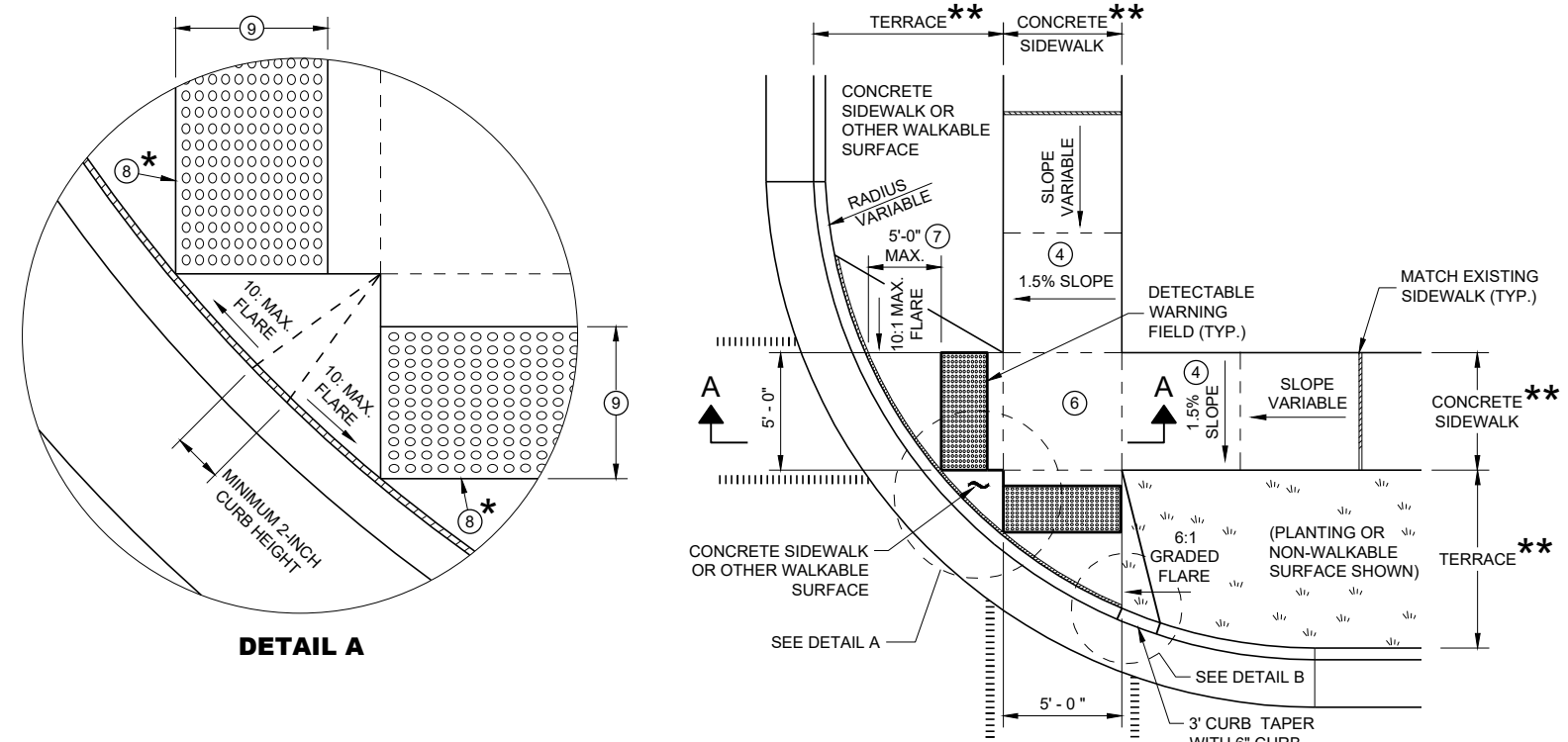
**VIEW D - D FOR TYPE 1 - A**

**GENERAL NOTES**

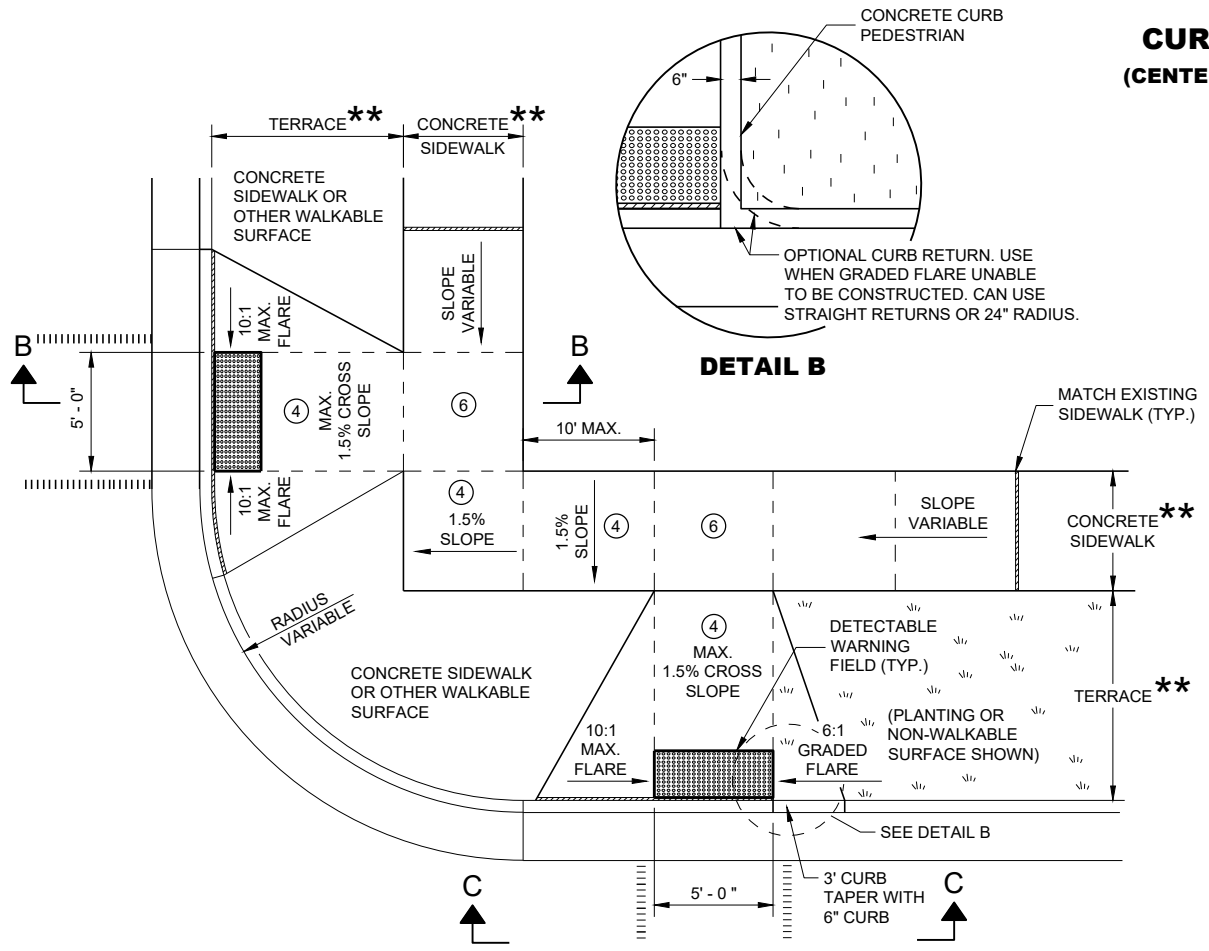
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.
- TYPE 1 CURB RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.
- DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAR FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.
- SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD"
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
  - ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
  - ③ MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
  - ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
  - ⑤ PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.
  - ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
  - ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

**CURB RAMPS  
TYPE 1 AND 1-A**

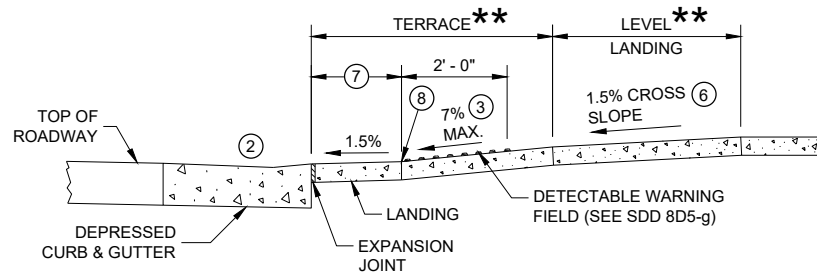
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



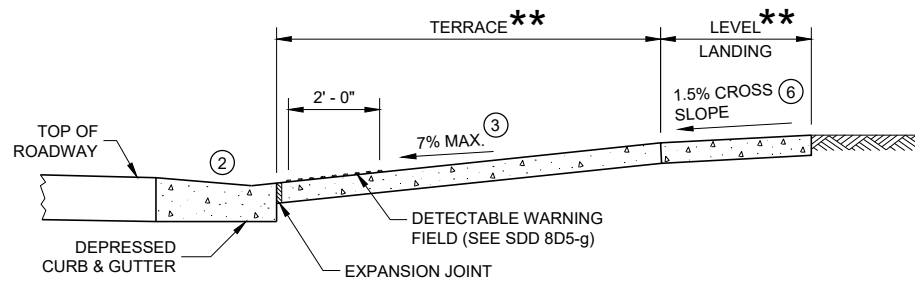
**PLAN VIEW CURB RAMP TYPE 2 (CENTER OF CORNER RADIUS)**



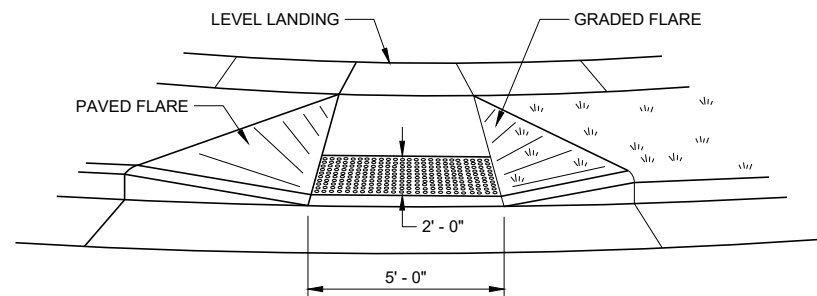
**PLAN VIEW CURB RAMP TYPE 3 (OUTSIDE OF CROSSWALK AREA)**



**SECTION A - A FOR TYPE 2**



**SECTION B - B FOR TYPE 3**



**VIEW C - C FOR TYPE 3**

**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.
- ⑦ WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑨ WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

\* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

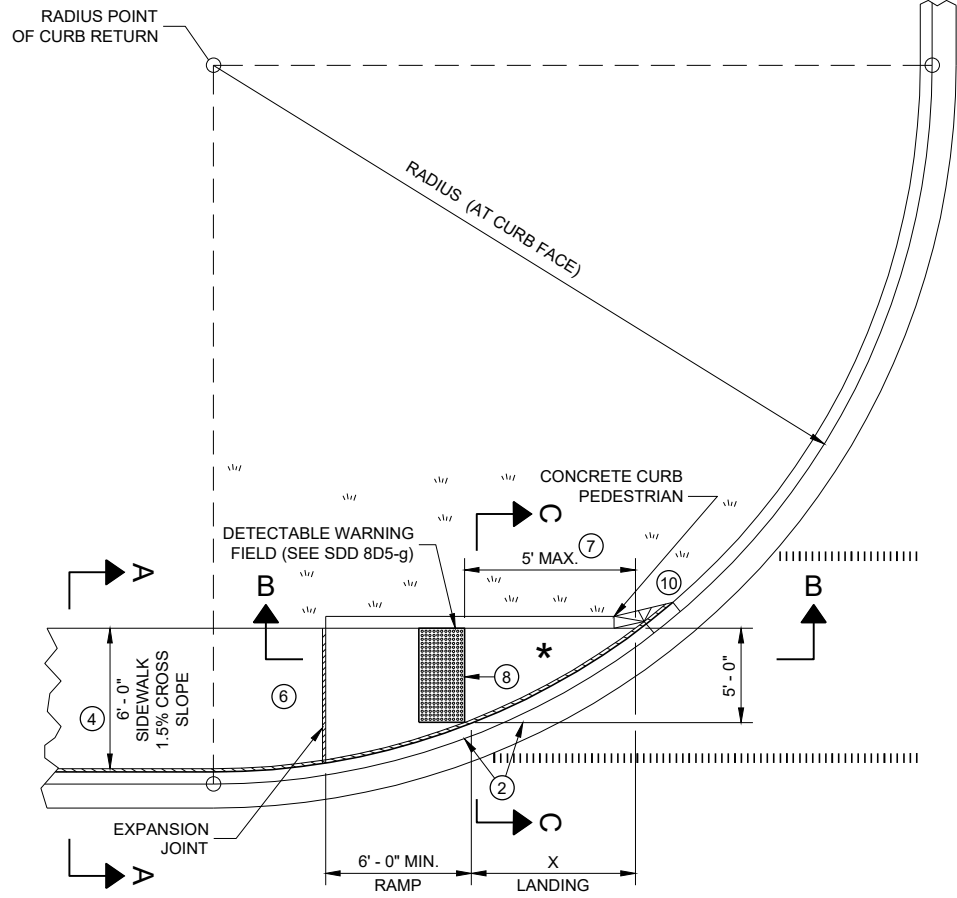
\*\* WIDTH SHOWN ELSEWHERE IN THE PLANS

**LEGEND**

- 1/2" EXPANSION JOINT SIDEWALK
- - - CONTRACTION JOINT SIDEWALK
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS TYPE 2 AND 3**

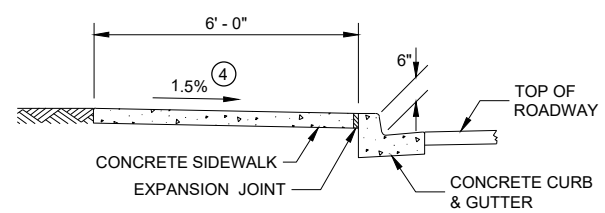
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**PLAN VIEW  
CURB RAMP TYPE 4A**

RADIUS (AT CURB FACE)	X
10 FEET	4' - 7"
15 FEET	6' - 5 1/2"

INTERMEDIATE RADII CAN BE INTERPOLATED



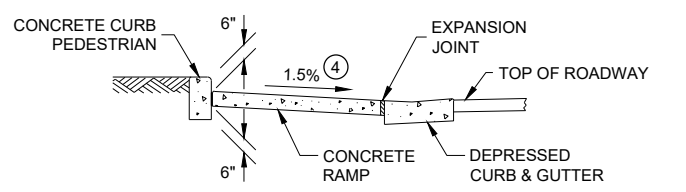
**SECTION A - A FOR TYPE 4A**

**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

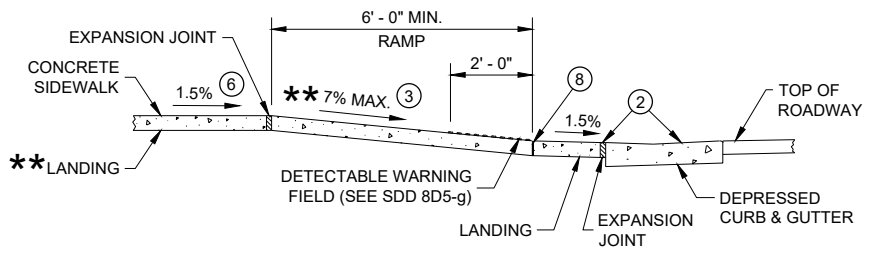
**LEGEND**

- 1/2" EXPANSION JOINT SIDEWALK
- - - CONTRACTION JOINT SIDEWALK
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)



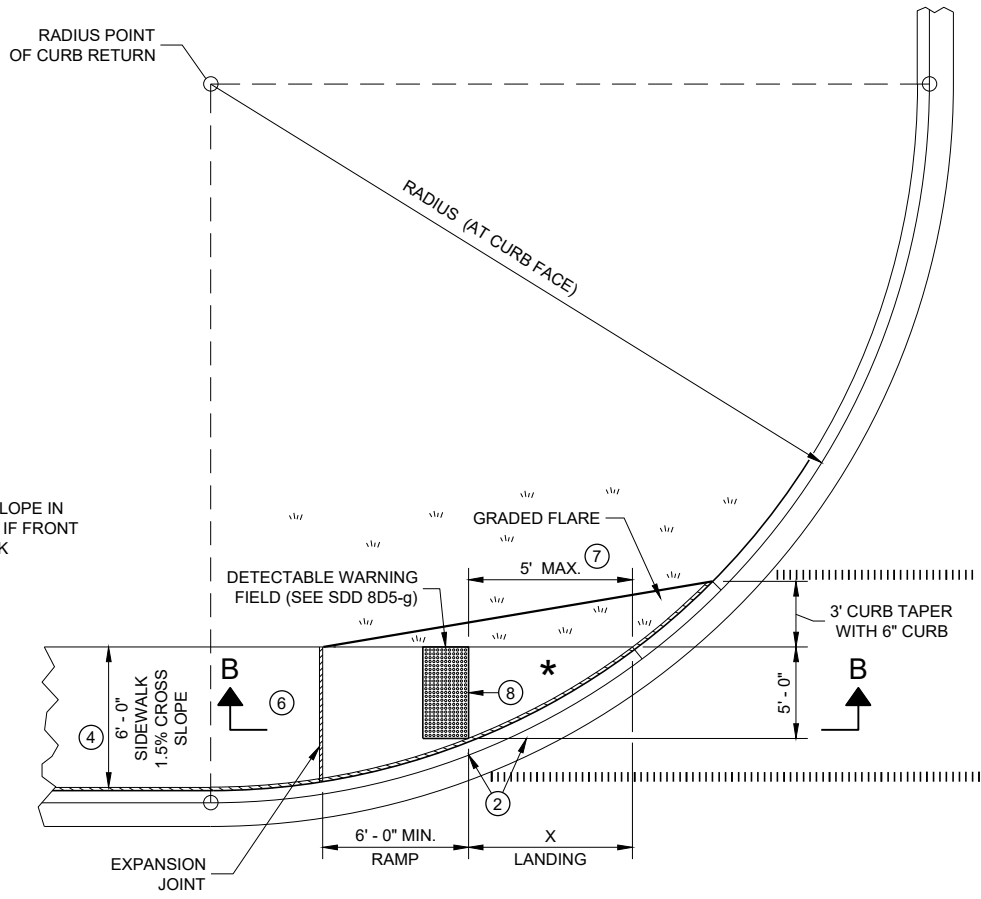
**SECTION C - C FOR TYPE 4A**

\* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

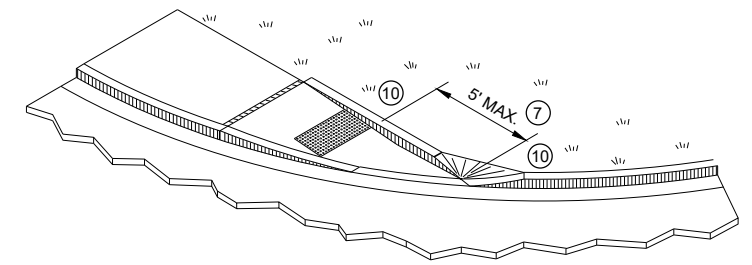


**SECTION B - B FOR  
TYPE 4A AND TYPE 4A1**

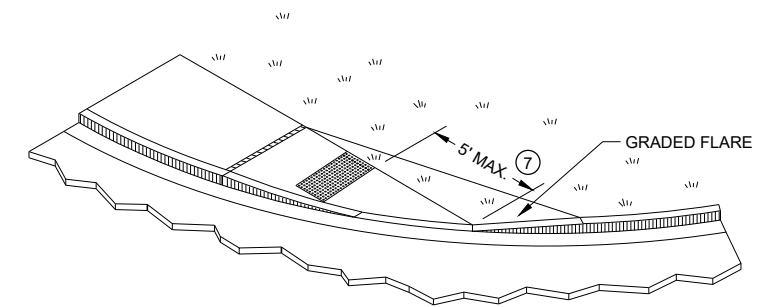
\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED



**PLAN VIEW  
CURB RAMP TYPE 4A1**



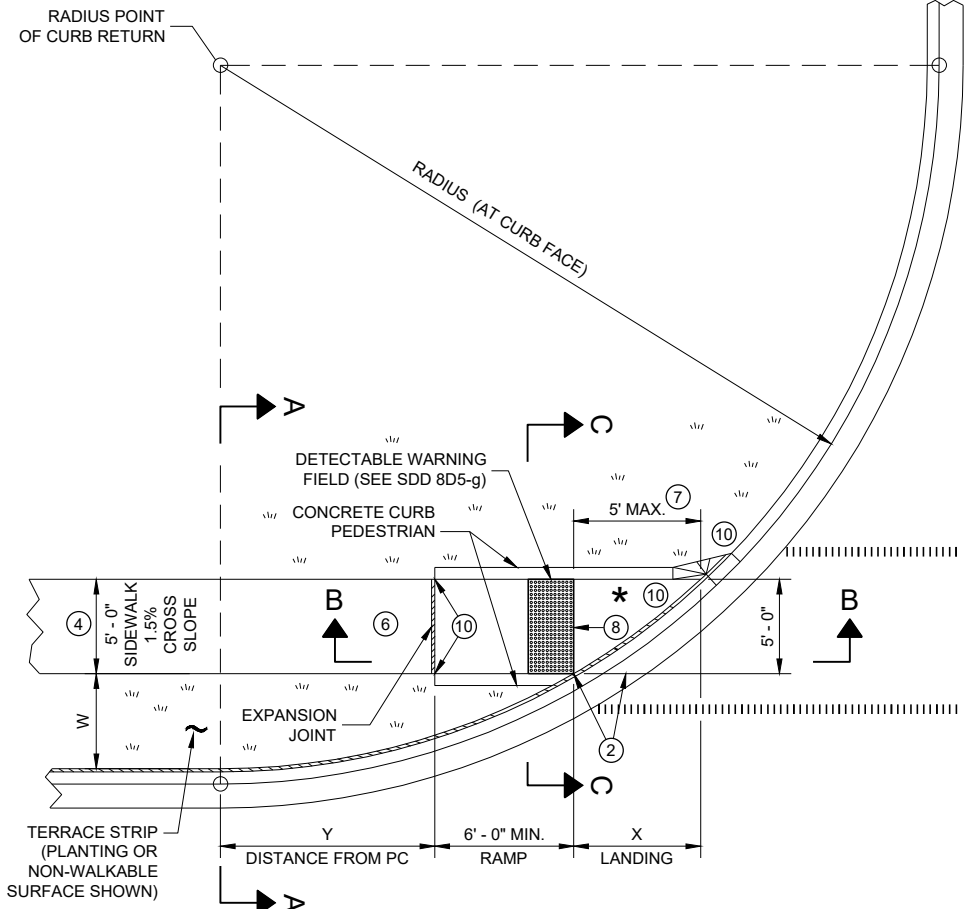
**ISOMETRIC VIEW FOR TYPE 4A**



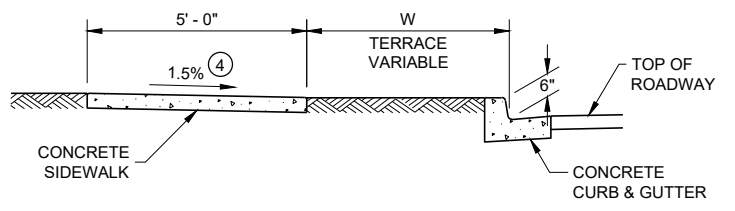
**ISOMETRIC VIEW FOR TYPE 4A1**

**CURB RAMPS  
TYPE 4A AND 4A1**

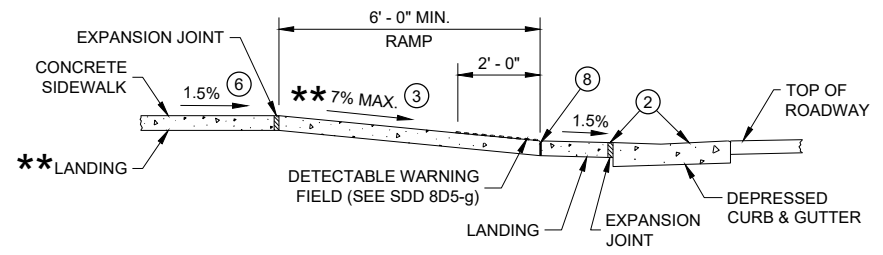
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**PLAN VIEW  
CURB RAMP TYPE 4B**



**SECTION A - A FOR TYPE 4B**

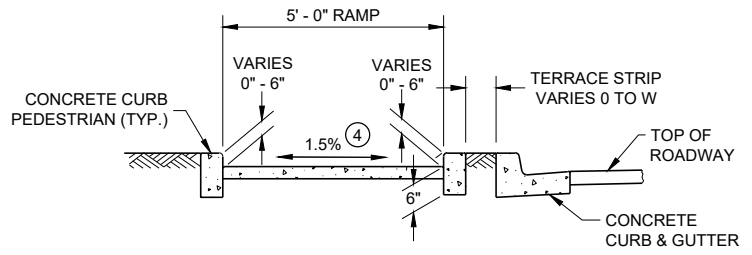


**SECTION B - B FOR  
TYPE 4B AND TYPE 4B1**

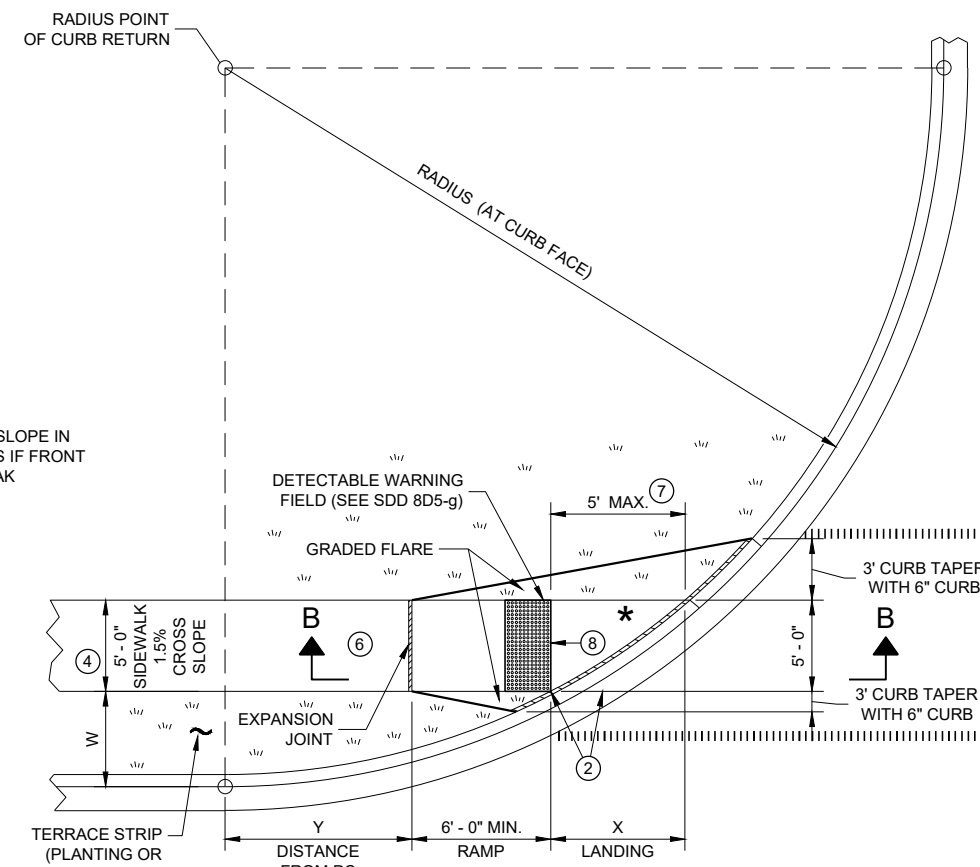
\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 1/4"	0' - 5"	2' - 1"	1' - 4 1/2"	1' - 5"	2' - 1"	0' - 10"	2' - 7 1/2"	0' - 3 1/4"	3' - 0 1/4"						
15 FEET	4' - 6 3/4"	2' - 1 3/4"	3' - 9"	3' - 5 3/4"	3' - 1 1/4"	4' - 6"	2' - 6 3/4"	5' - 4 1/2"	2' - 1"	6' - 1"	1' - 8"	6' - 8 1/2"	1' - 3 1/4"	7' - 2 1/2"	0' - 10 3/4"	7' - 7 1/4"
20 FEET	5' - 9 3/4"	3' - 6 1/2"	4' - 11 1/2"	5' - 1 3/4"	4' - 3 1/4"	6' - 5 1/2"	3' - 8 3/4"	7' - 7"	3' - 3"	8' - 6 1/2"	2' - 10"	9' - 4 1/2"	2' - 5 1/2"	10' - 1 1/4"	2' - 1 1/4"	10' - 9"
30 FEET			6' - 9 1/4"	7' - 11 1/4"	6' - 0 1/4"	9' - 8"	5' - 5"	11' - 1 3/4"	4' - 10 3/4"	12' - 5 3/4"	4' - 5 1/2"	13' - 7 3/4"	4' - 0 3/4"	14' - 8 1/2"	3' - 8 1/2"	15' - 8 1/4"
40 FEET									6' - 1 3/4"	15' - 8 1/2"	5' - 8"	17' - 2"	5' - 3"	18' - 5 3/4"	4' - 10 3/4"	19' - 8 1/4"
50 FEET															5' - 10 1/4"	23' - 2"

INTERMEDIATE RADII CAN BE INTERPOLATED  
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH  
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH



**SECTION C - C FOR TYPE 4B**



**PLAN VIEW  
CURB RAMP TYPE 4B1**

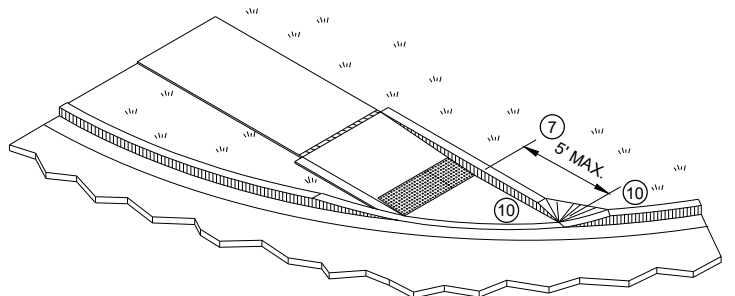
\* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

**LEGEND**

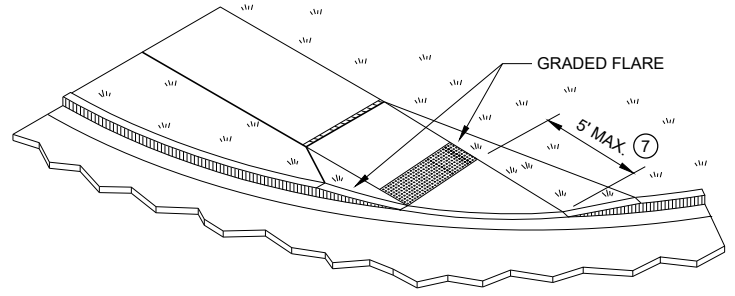
- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/8" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



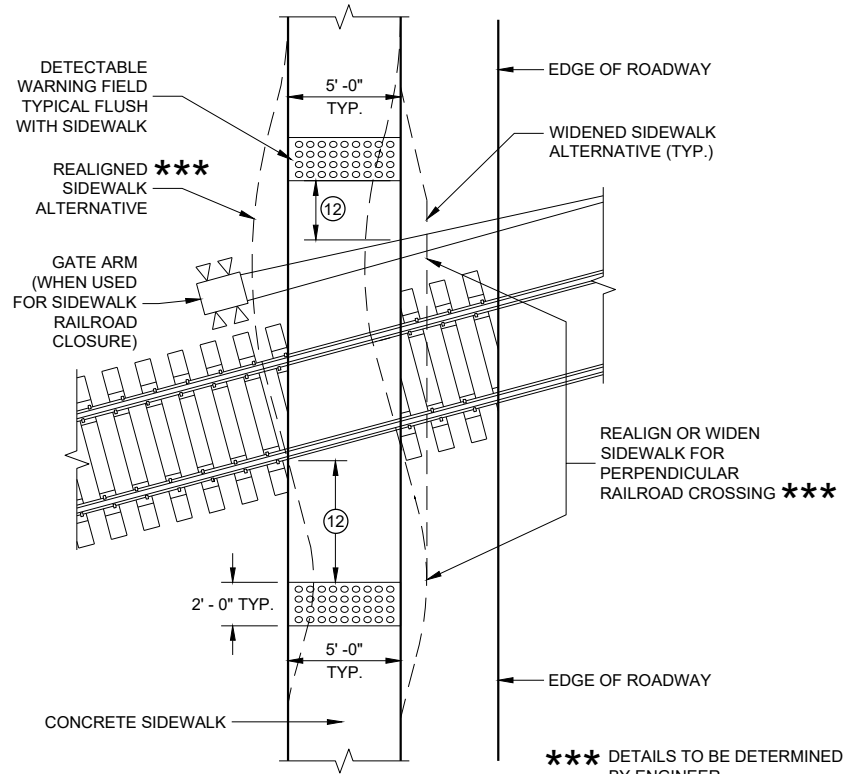
**ISOMETRIC VIEW FOR TYPE 4B**



**ISOMETRIC VIEW FOR TYPE 4B1**

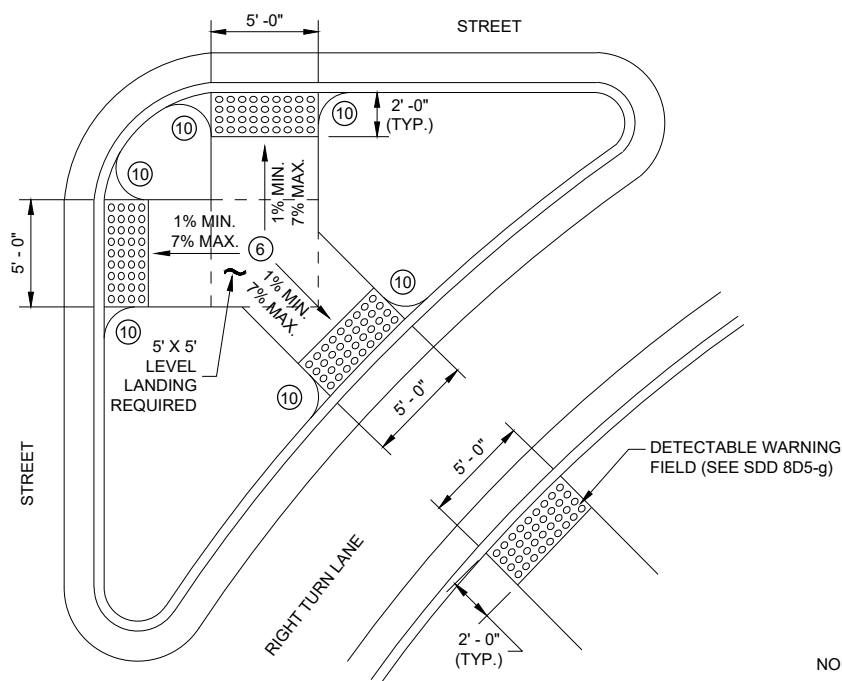
**CURB RAMPS  
TYPE 4B AND 4B1**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**CURB RAMP TYPE 8**

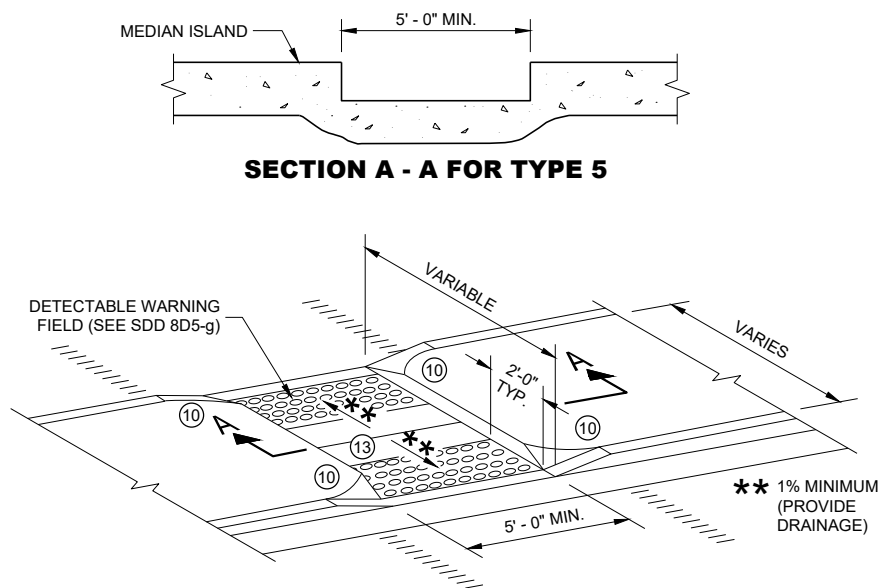
**DETECTABLE WARNINGS AT RAILROAD CROSSING**



**CURB RAMP TYPE 6**

**DETECTABLE WARNING AT ISLANDS**

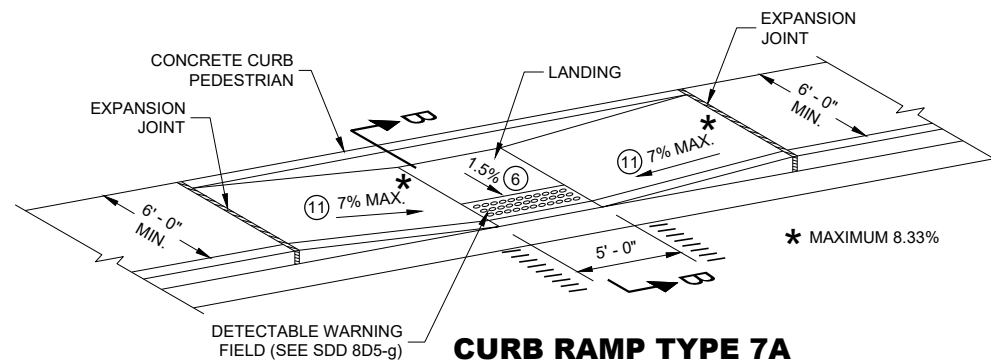
REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



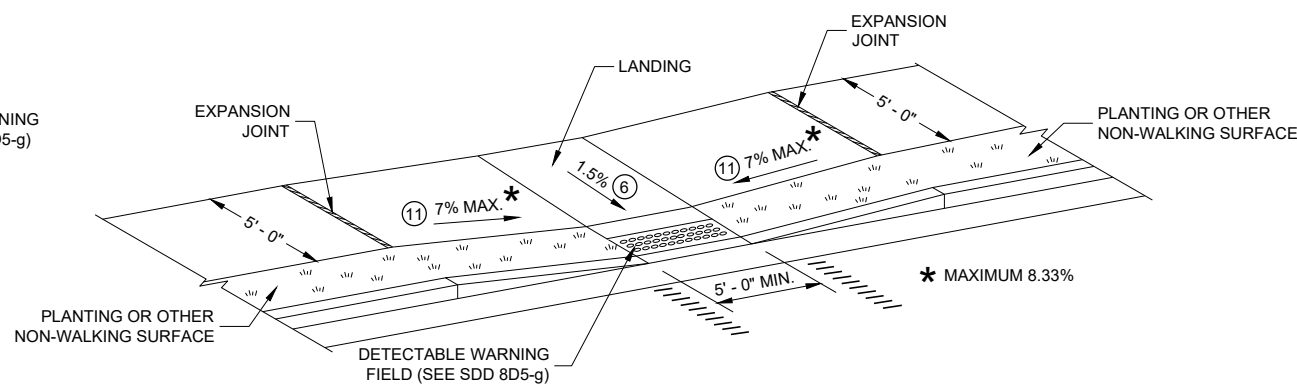
**SECTION A - A FOR TYPE 5**

**CURB RAMP TYPE 5**

**MEDIAN ISLAND  
NON-ELEVATED PEDESTRIAN CROSSING**



**CURB RAMP TYPE 7A  
MID BLOCK CROSSING**



**CURB RAMP TYPE 7B  
MID BLOCK CROSSING**

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

**GENERAL NOTES**

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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

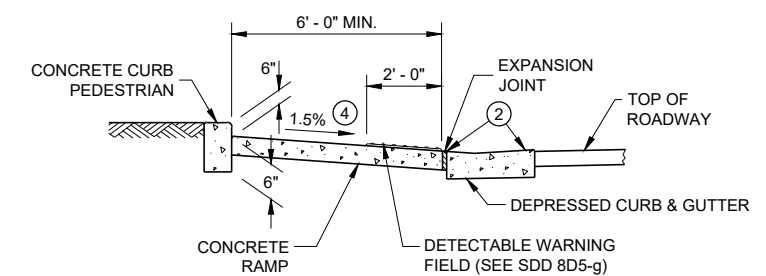
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- (2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- (3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- (4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- (6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- (10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.
- (11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- (12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- (13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STREET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

**LEGEND**

- ===== 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)

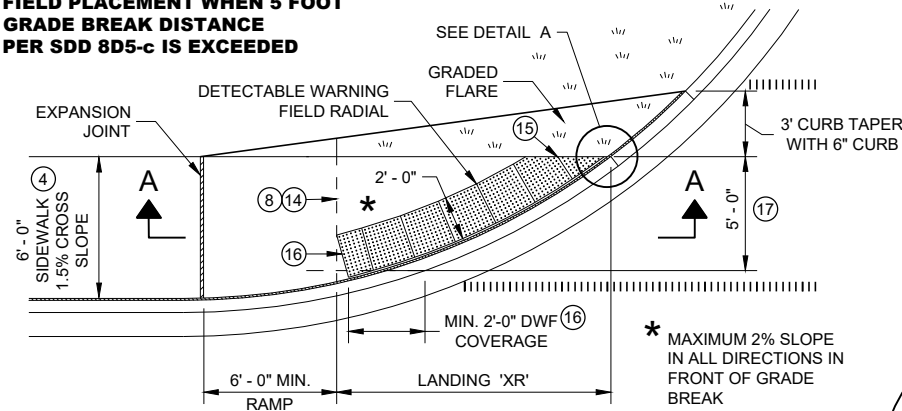


**SECTION B - B FOR TYPE 7A**

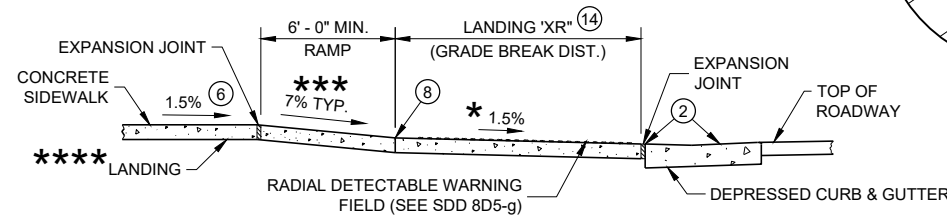
**CURB RAMPS  
TYPE 5, 6, 7A, 7B & 8**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-c IS EXCEEDED**



**PLAN VIEW  
CURB RAMP TYPE 4A1  
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**

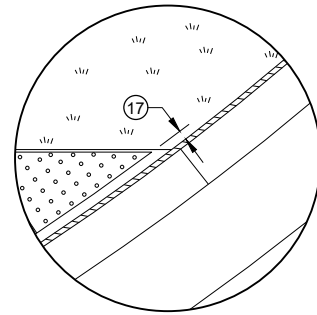


**SECTION A - A FOR TYPE 4A1**

\*\*\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

\*\*\* MAXIMUM 8.33%

- LEGEND**
- 1/2" EXPANSION JOINT SIDEWALK
  - - - - - CONTRACTION JOINT SIDEWALK
  - ||||| PAVEMENT MARKING CROSSWALK (WHITE)

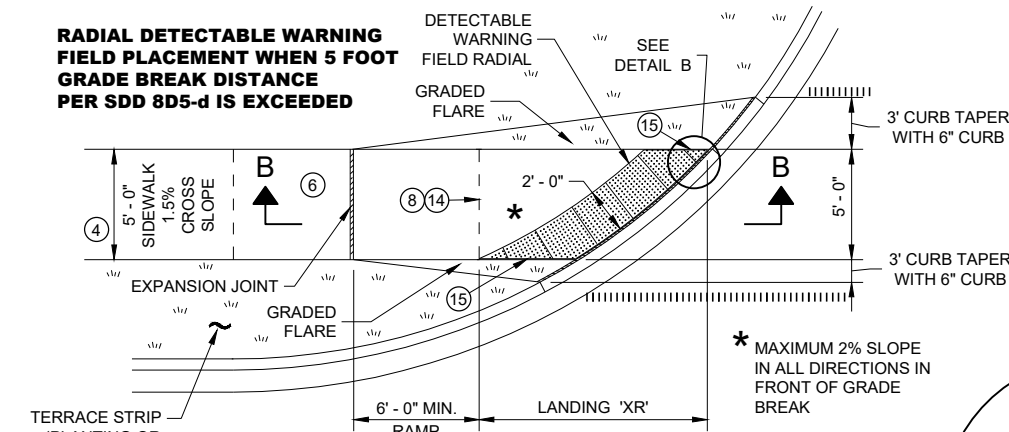


**DETAIL A**

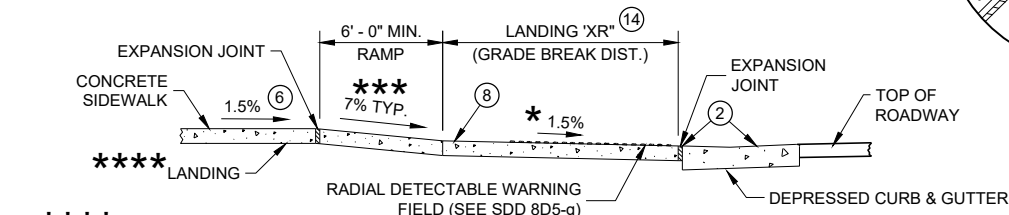
**GENERAL NOTES**

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B RAMPS ARE NOT SHOWN.
- REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.
- FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.
- DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.
- 2 GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
  - 3 AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
  - 4 ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
  - 6 PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.
  - 8 PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
  - 14 CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.
  - 15 FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.
  - 16 USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.
  - 17 A MAXIMUM 3 INCH CONCRETE BORDER WITH IS ALLOWABLE IN FROM OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

**RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-d IS EXCEEDED**



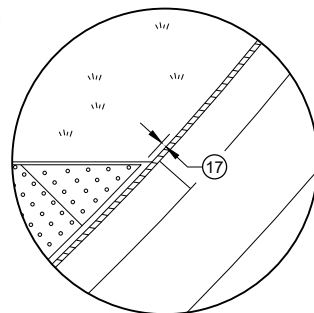
**PLAN VIEW  
CURB RAMP TYPE 4B1  
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**



**SECTION B - B FOR TYPE 4B1**

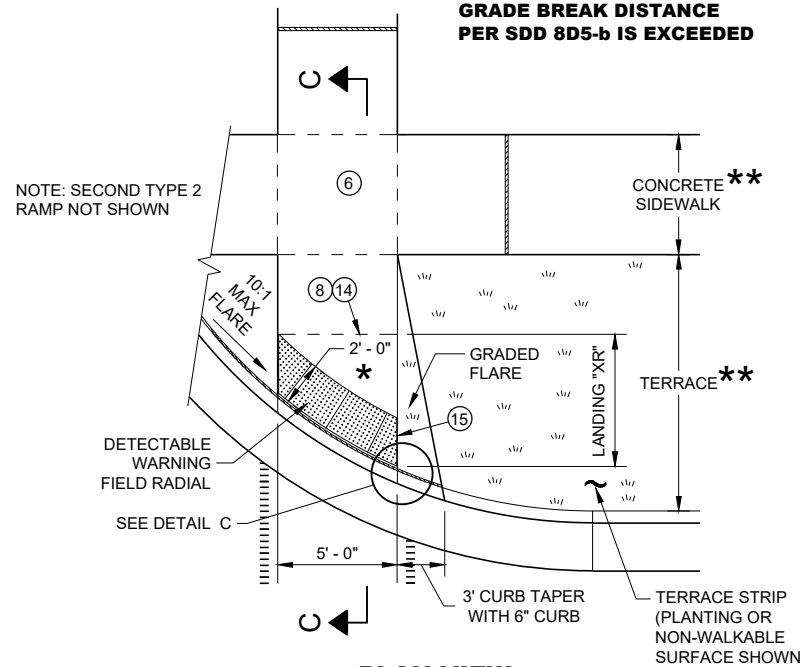
\*\*\*\* IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

\*\*\* MAXIMUM 8.33%



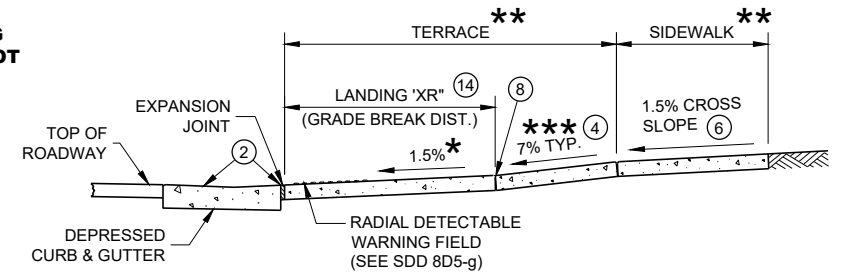
**DETAIL B**

**RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-b IS EXCEEDED**



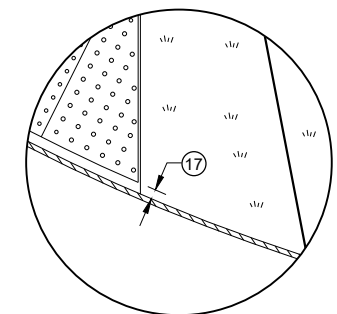
**PLAN VIEW  
CURB RAMP TYPE 2  
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)  
(ON LINE WITH SIDEWALK)**

NOTE: SECOND TYPE 2 RAMP NOT SHOWN



**SECTION C - C FOR TYPE 2**

- \* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK
- \*\* WIDTH SHOWN ELSEWHERE IN THE PLANS
- \*\*\* MAXIMUM 8.33%



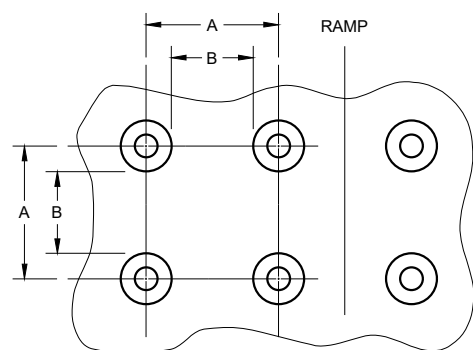
**DETAIL C**

**CURB RAMPS  
RADIAL DETECTABLE WARNING  
FIELD APPLICATIONS**

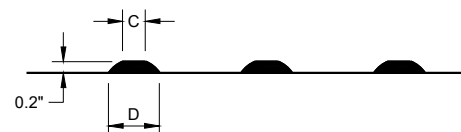
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

\* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

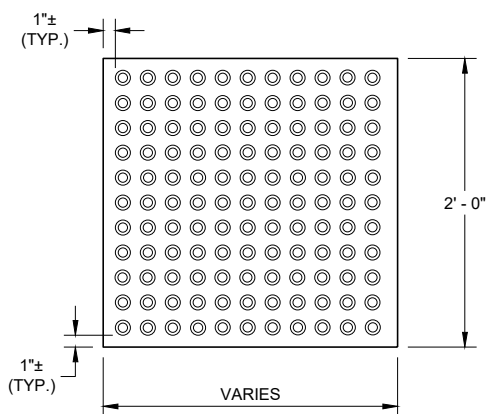


PLAN VIEW

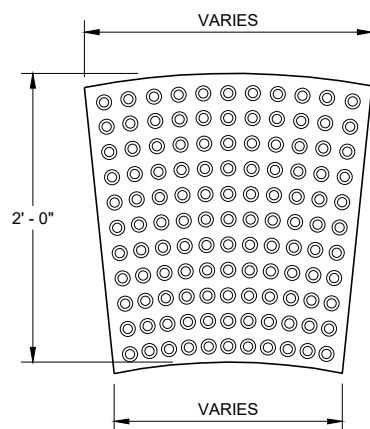


ELEVATION VIEW

**TRUNCATED DOMES  
DETECTABLE WARNING PATTERN DETAIL**

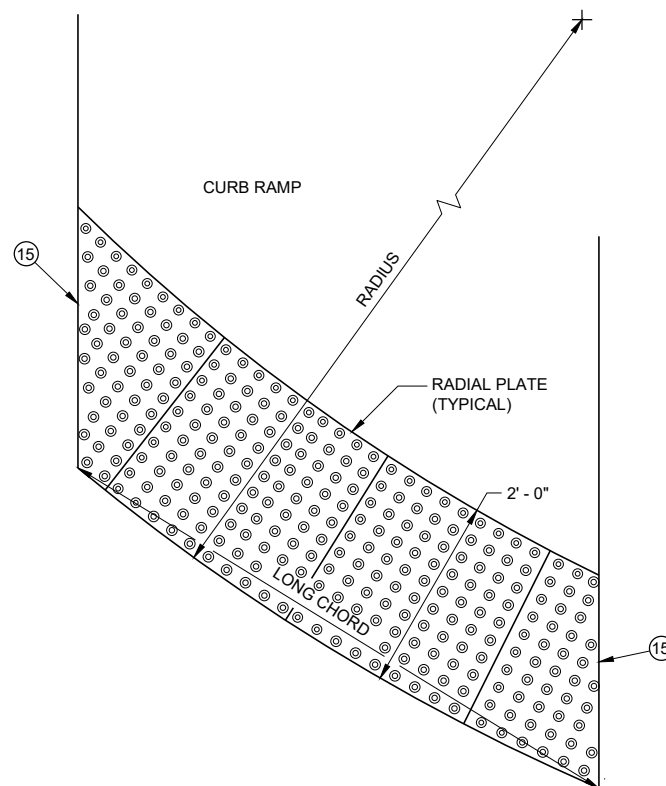


RECTANGULAR  
PLATES

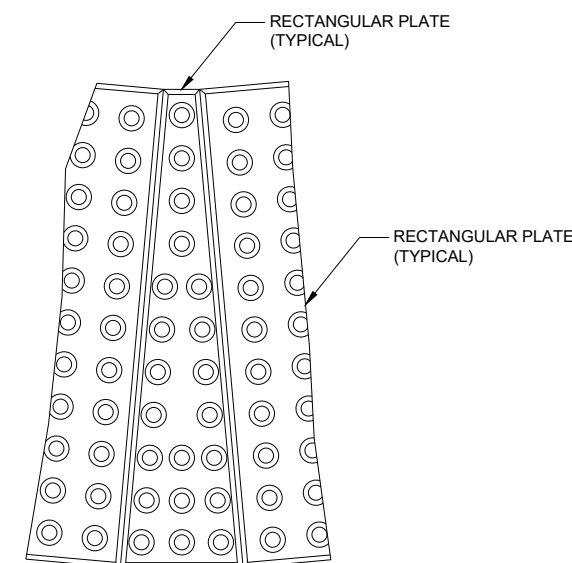


RADIAL  
PLATES

PLAN VIEW  
DETECTABLE WARNING FIELDS (TYPICAL)



PLAN VIEW  
RADIAL DETECTABLE  
WARNING FIELD ATTRIBUTES



PLAN VIEW  
RADIAL WEDGE PLATE  
CONNECTION DETAIL

**GENERAL NOTES**

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

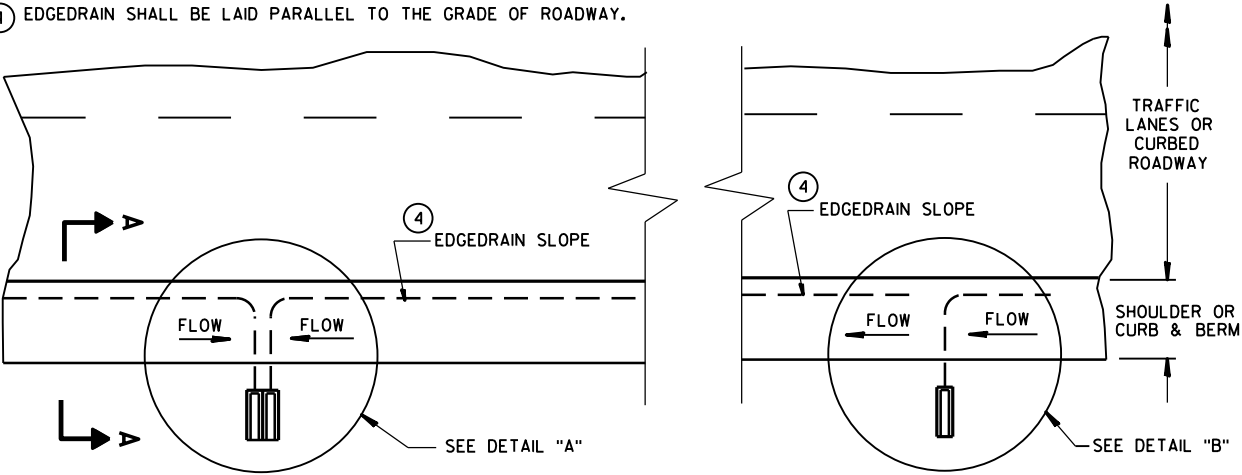
15 FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

<b>CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
<small>FHWA</small>	

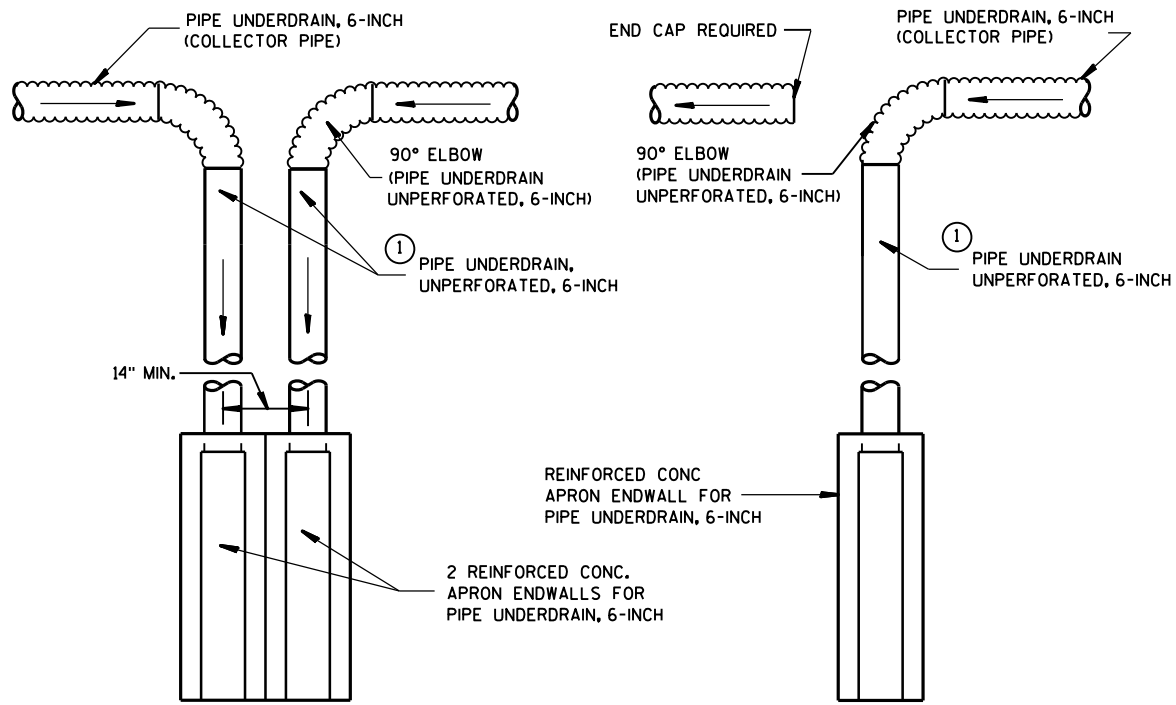
**GENERAL NOTES**

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

- ① UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:  
 POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.  
 TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.
- ② MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.
- ③ EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.
- ④ EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.

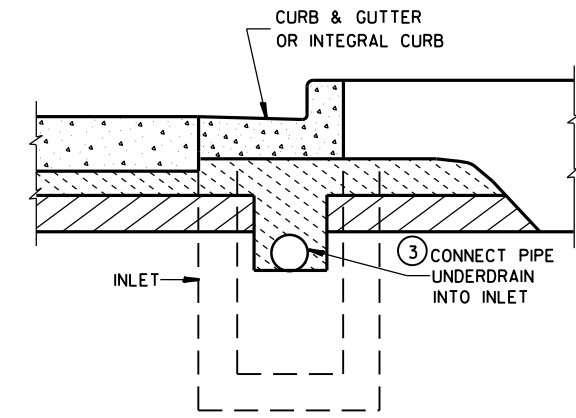


**PLAN VIEW  
ROADWAY WITH SHOULDERS OR CURBS  
(EDGEDRAIN OUTLETS TO ROADSIDE) ②**

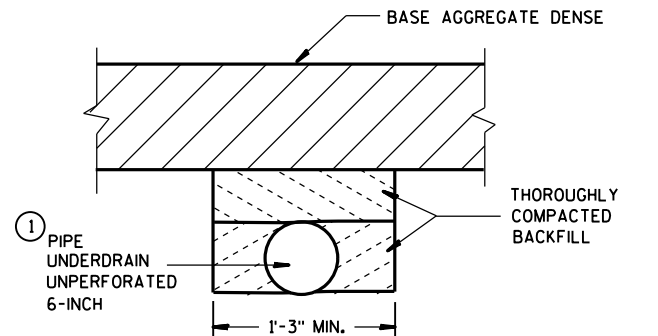


**DETAIL "A" TO BE USED AT LOW POINT LOCATIONS**  
**DETAIL "B" TO BE USED AT INTERMEDIATE LOCATIONS**

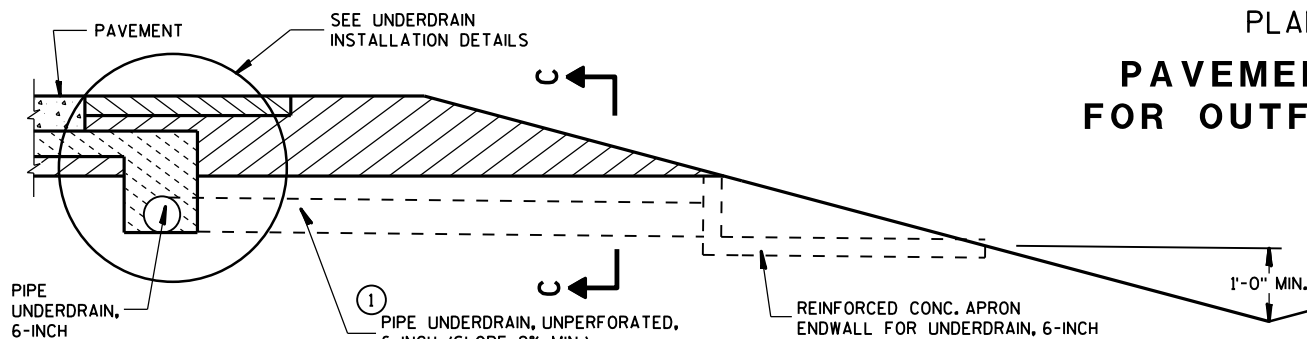
**TYPICAL DRAIN OUT DETAILS**



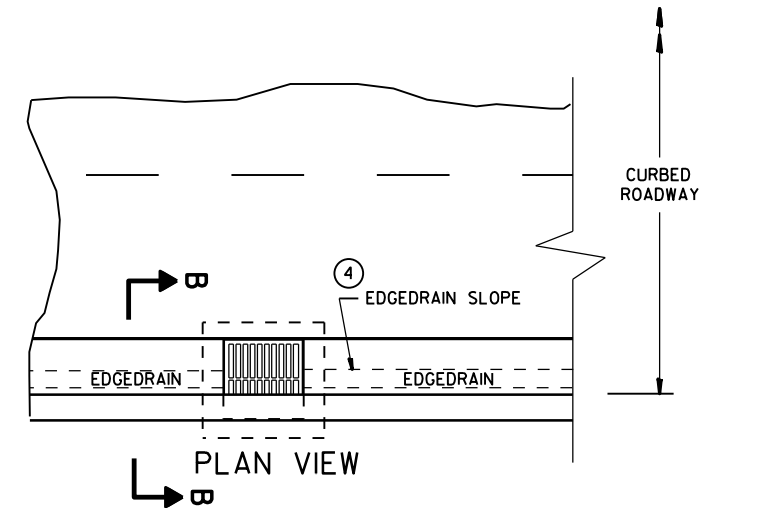
**SECTION B-B  
URBAN CROSS SECTION**



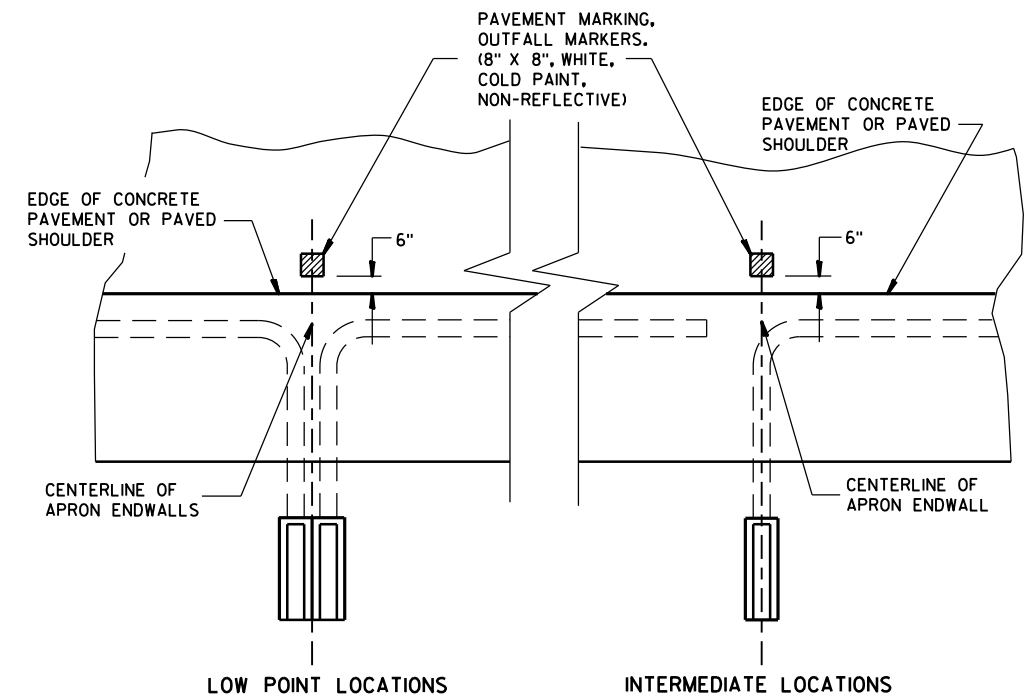
**SECTION C-C  
(TRENCH FOR OUTFALL PIPE)**



**SECTION A-A  
RURAL CROSS SECTION**



**ROADWAY WITH CURBS  
(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)**



**PLAN VIEW  
PAVEMENT MARKING  
FOR OUTFALL MARKERS**

**EDGEDRAIN OUTLET  
AND OUTFALL MARKERS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

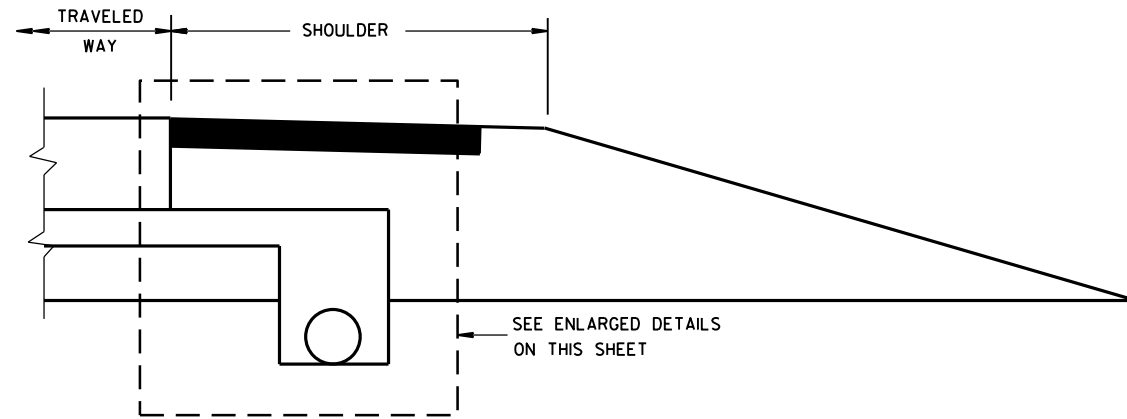
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S.D.D. 8 D 15-5a

S.D.D. 8 D 15-5a





**RURAL CROSS SECTION**

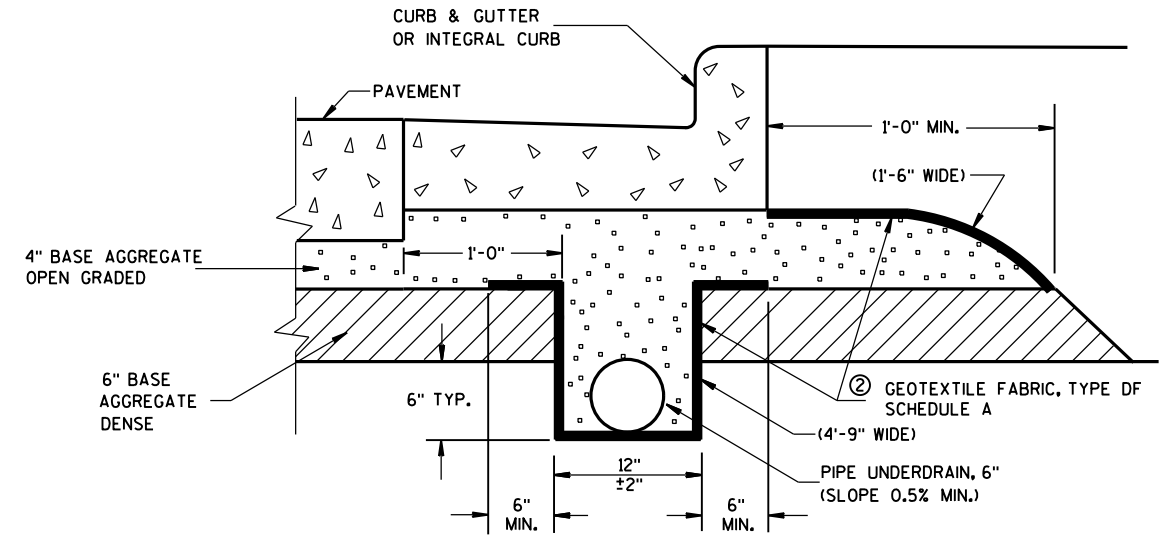
**GENERAL NOTES**

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

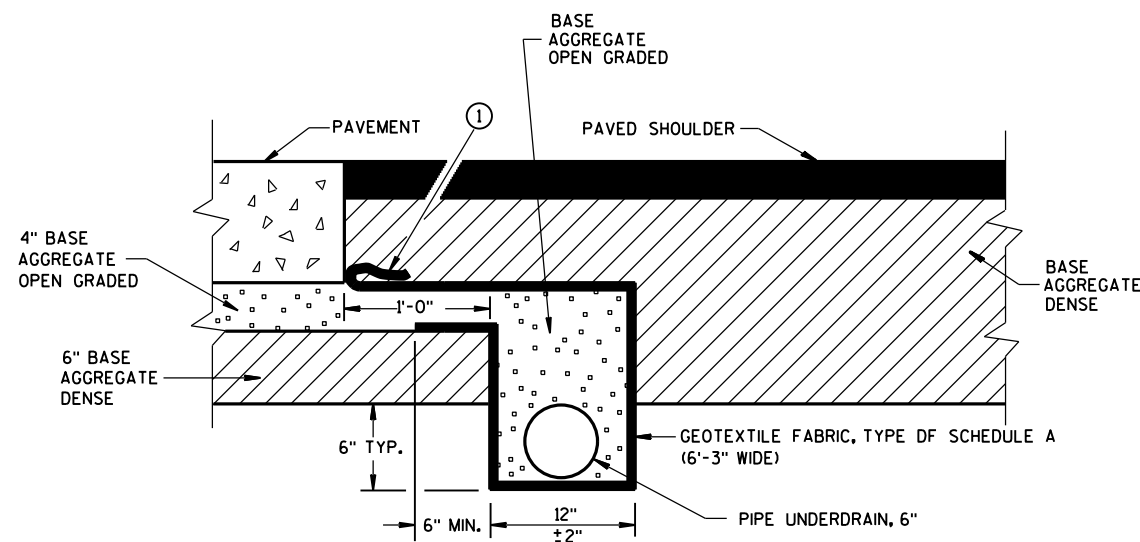
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.

① FOLD OVER EXCESS GEOTEXTILE FABRIC AT THIS LOCATION.

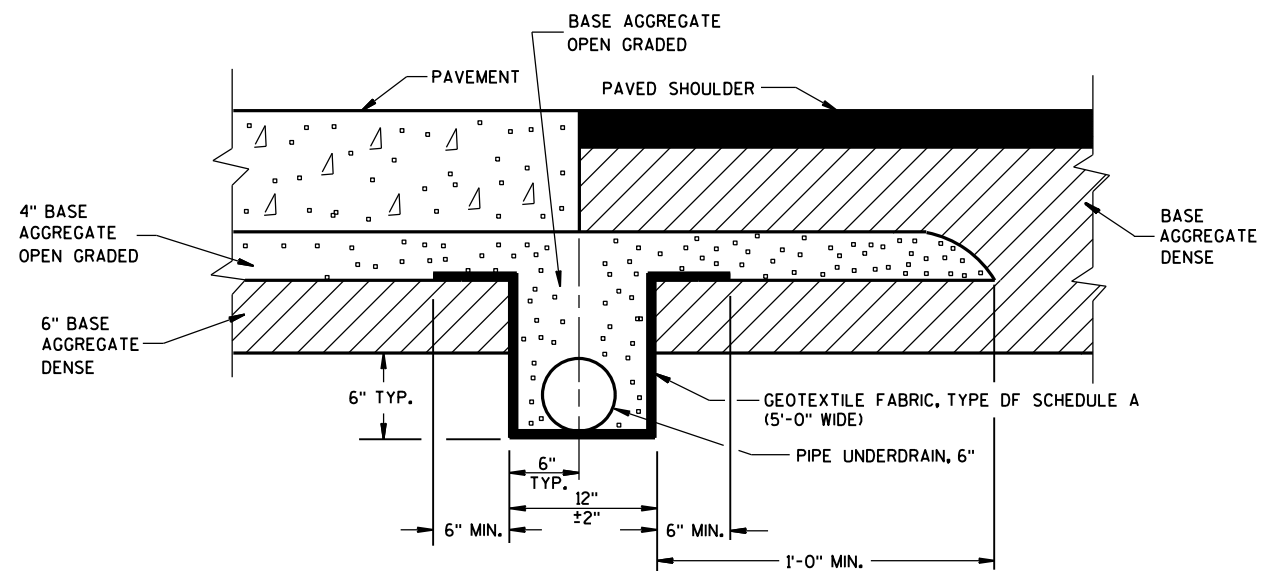
② TOTAL FABRIC WIDTH IS 6'-3" FOR PAYMENT.



**EDGEDRAIN IN URBAN ROADWAY**



**POST PAVING INSTALLATION**  
(QUANTITIES ARE BASED ON THIS DETAIL)



**PRE-PAVING INSTALLATION ALTERNATE**

**EDGEDRAIN IN RURAL ROADWAY**

**EDGEDRAIN AND BASE AGGREGATE OPEN GRADED**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

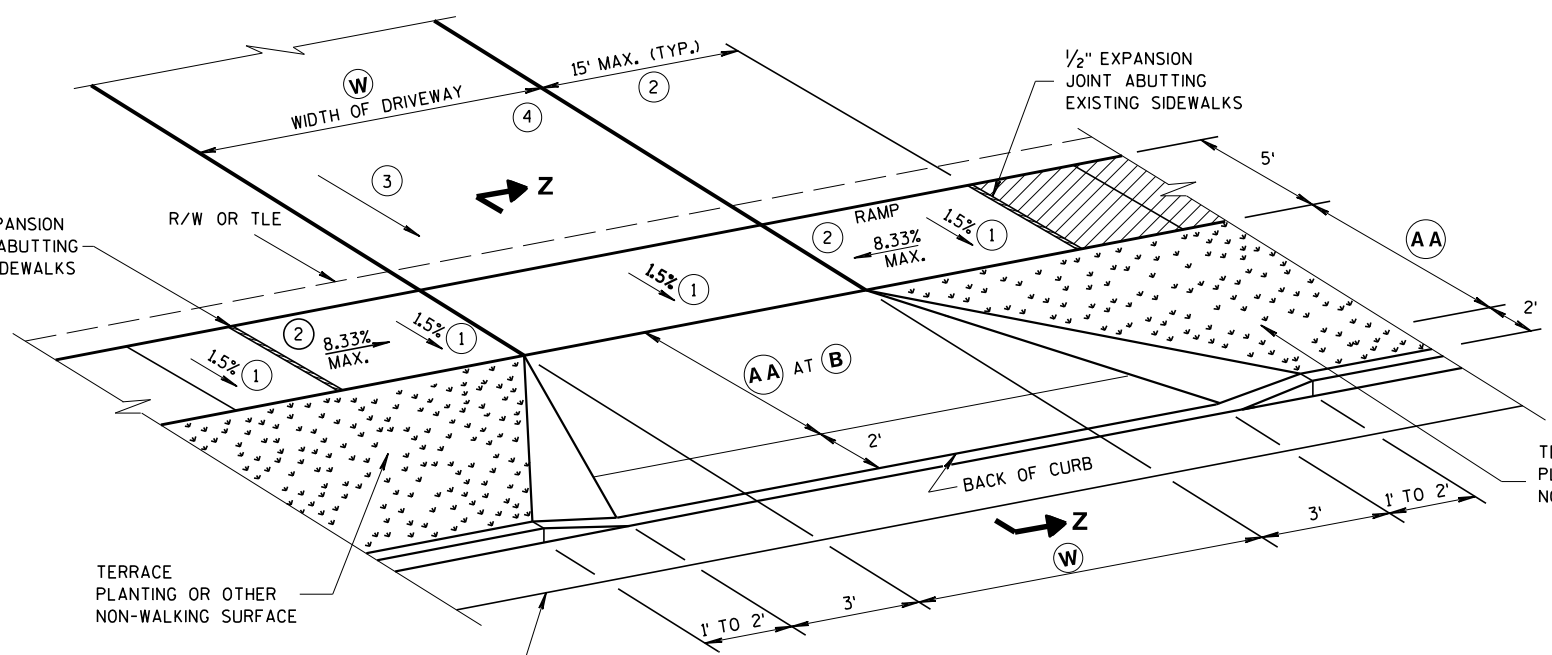
APPROVED  
DATE: Sept. 2015 /S/ Peter Kemp, P.E.  
PAVEMENT SUPERVISOR  
FHWA

6

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S.D.D. 8 D 15-5b

S.D.D. 8 D 15-5b



**TABLE Z**

AA FEET	B %	B %
	6.25% GUTTER	4% GUTTER
4.5'	11.5%	9% TO 11.5%
5.5'	9% TO 11.5%	8% TO 11.5%
6.5'	8% TO 11.5%	6% TO 11.5%
7.5'	7% TO 11.5%	6% TO 11.5%
8.5'	6% TO 11.5%	5% TO 11.5%
9.5'	5% TO 11.5%	4% TO 11.5%

**GENERAL NOTES**

PROVIDE CONSTRUCTION JOINTS ALONG THE CENTER OF THE CONCRETE FOR DRIVEWAYS UNDER 20 FEET IN WIDTH AND AT THE THIRD POINTS OVER 20 FEET IN WIDTH.

(W) IS SHOWN ON PLAN AND PROFILE SHEETS.

OFFSETS, ELEVATIONS, AND PERCENT GRADE ARE SHOWN ON THE CROSS SECTIONS.

(1) CONSTRUCTION TOLERANCE OF 0.5% ± FOR SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

(2) THE SIDEWALK RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAXIMUM LENGTH, THE RUNNING SLOPE OF THE SIDEWALK SHALL BE AS FLAT AS FEASIBLE AND NOT EXCEED THE LONGITUDINAL GRADE OF THE ROADWAY.

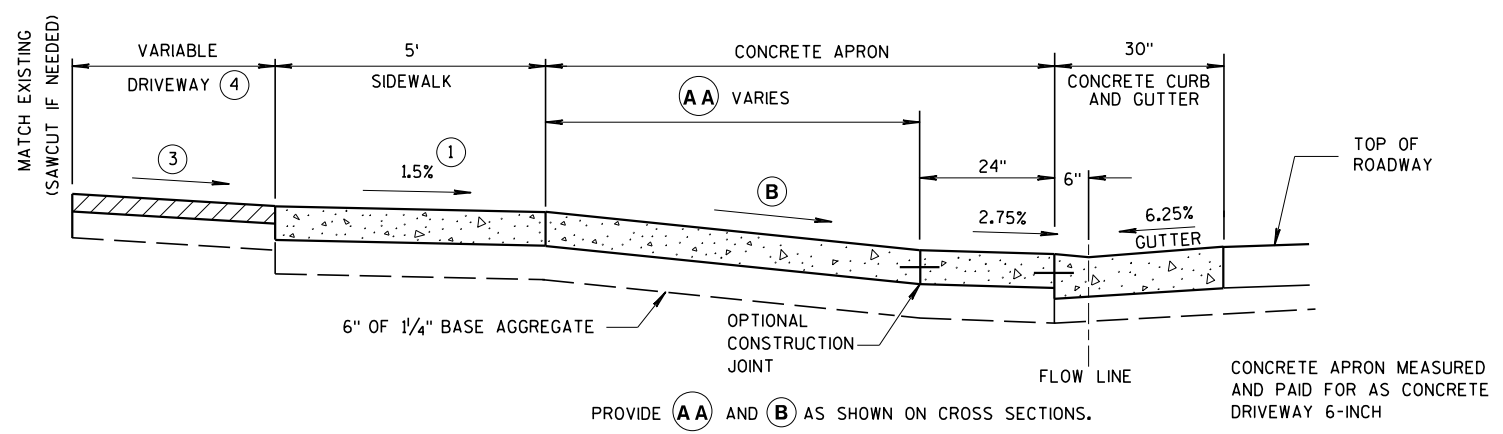
(3) DRIVEWAY SLOPES: DESIRABLE MAXIMUM  
 10.5% UP AWAY FROM SIDEWALK (SAG)  
 8.5% DOWN AWAY FROM SIDEWALK (CREST)  
 ABSOLUTE MAXIMUM 15% FOR BOTH CREST AND SAG

(4) DRIVEWAY TYPES

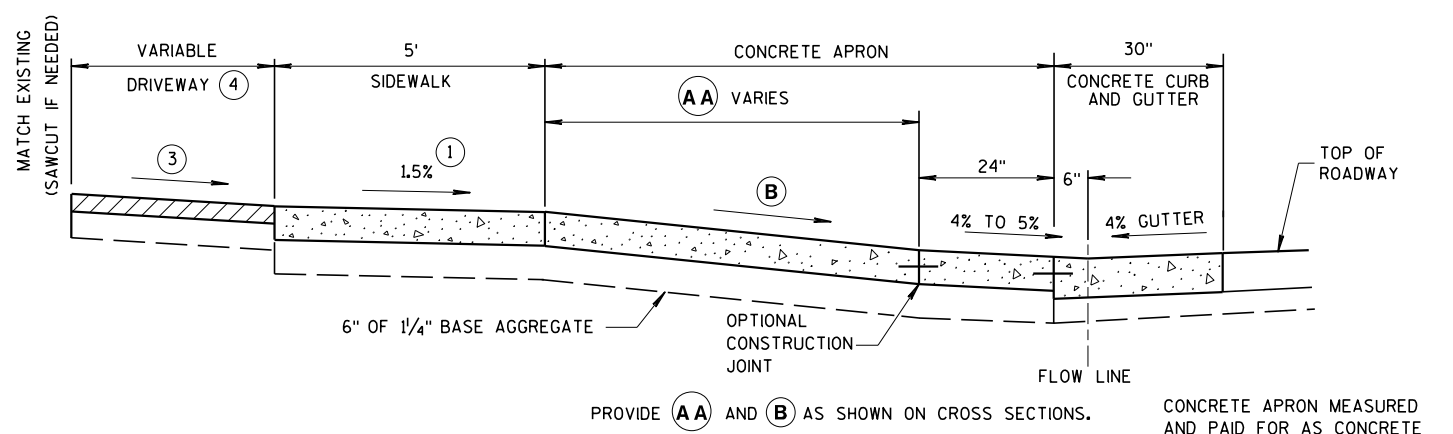
- 6-INCH CONCRETE DRIVEWAY PAVEMENT OVER 6-INCH BASE AGGREGATE
- 2-INCH TO 3-INCH ASPHALTIC SURFACE OVER 6-INCH BASE AGGREGATE
- 6-INCH BASE AGGREGATE (MAY BE INCREASED FOR CLAY SUBGRADES)

**TYPE Z  
 SIDEWALK WITH WIDER TERRACE  
 TERRACE VARIES 7 TO 12 FEET**

(W): 12' MIN. - 24' MAX. RESIDENTIAL AND NON-COMMERCIAL (PE & FE)  
 16' MIN. - 35' MAX. COMMERCIAL (CE)



**6.25% GUTTER SLOPE**



**4% GUTTER SLOPE**

NOTE: SIDEWALK MAY BE DEPRESSED IN DRIVEWAY AREAS FOR B VALUES NOT SHOWN IN TABLE Z.  
 SIDEWALK WITHIN THE LIMITS OF THE DRIVEWAY PAID FOR AS CONCRETE DRIVEWAY 6-INCH.  
 SEPARATE PAYMENT FOR BASE AGGREGATE WILL BE MADE.

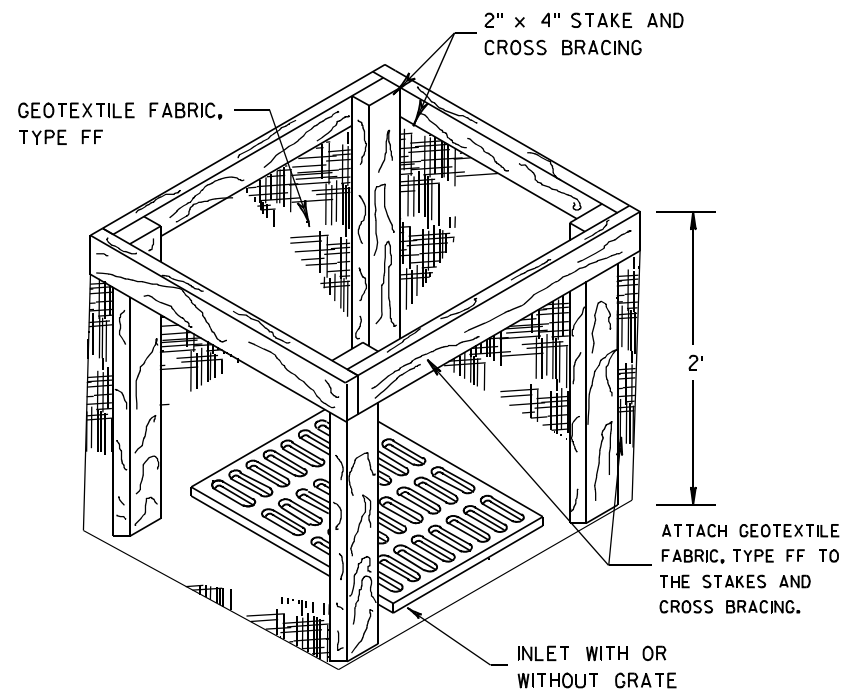
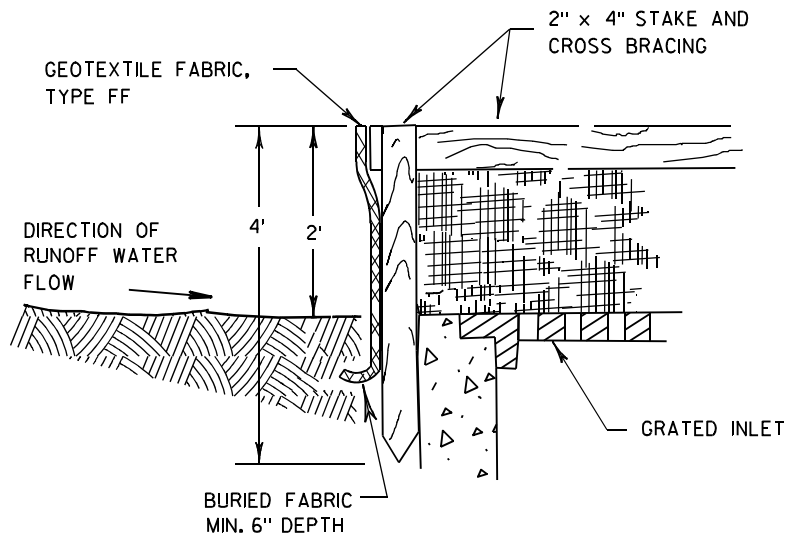
**SECTION Z-Z  
 DRIVEWAY DETAIL WITH CONCRETE CURB & GUTTER  
 (URBAN AND SUBURBAN)**

NOT TO SCALE

**DRIVEWAY AND SIDEWALK RAMP TYPE Z**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED  
 March 2018 /S/ Rodney Taylor  
 DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR  
 FHWA



**INLET PROTECTION, TYPE A**

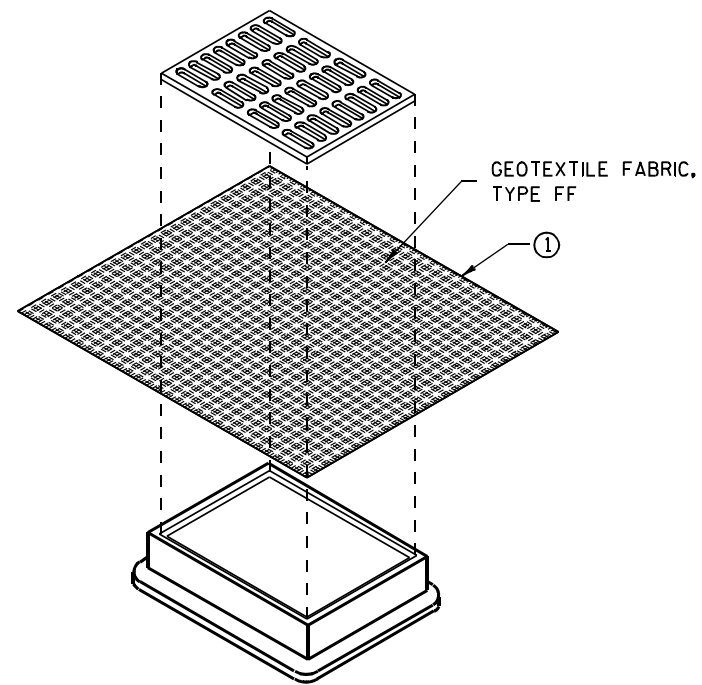
**GENERAL NOTES**

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

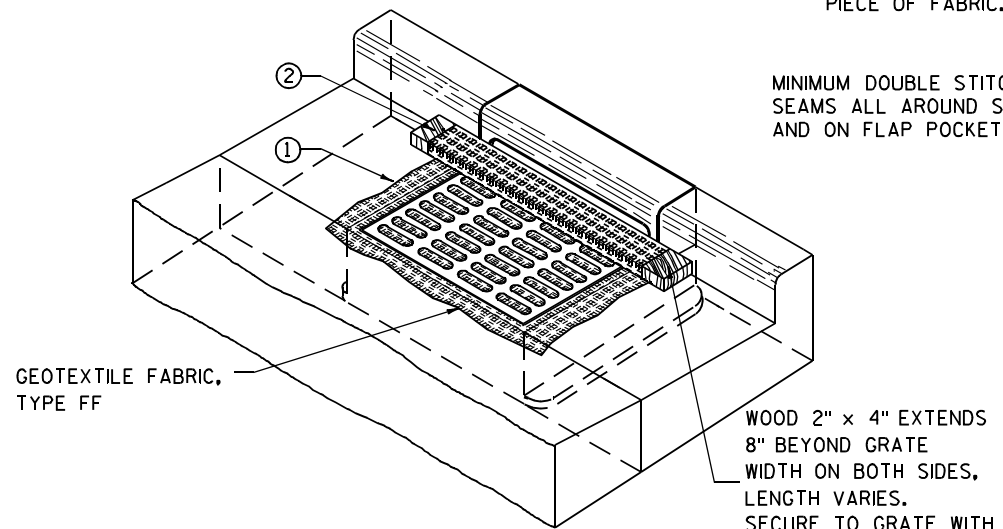
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B  
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



**INLET PROTECTION, TYPE C (WITH CURB BOX)**

**INSTALLATION NOTES**

**TYPE B & C**

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

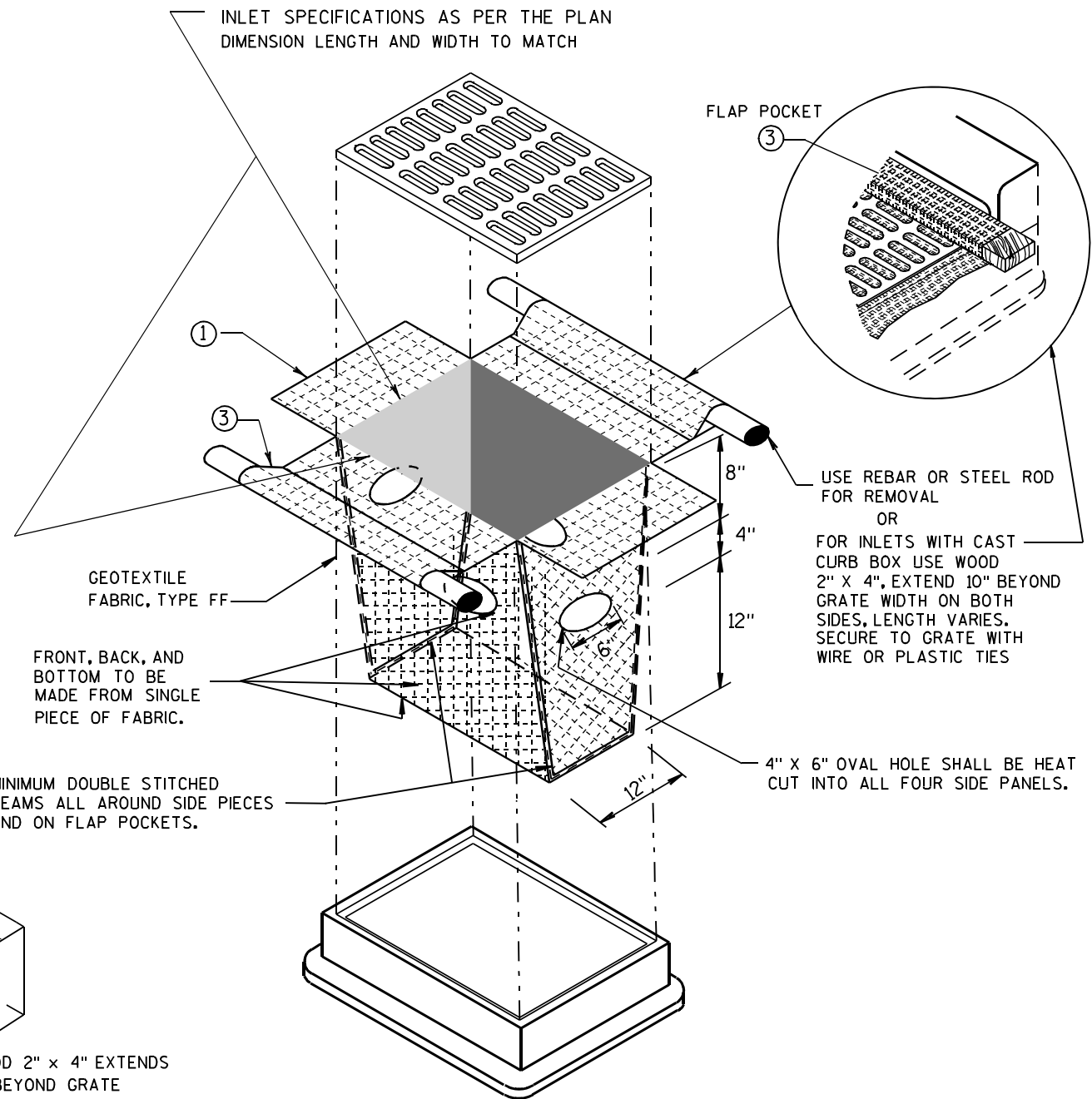
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**TYPE D**

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

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



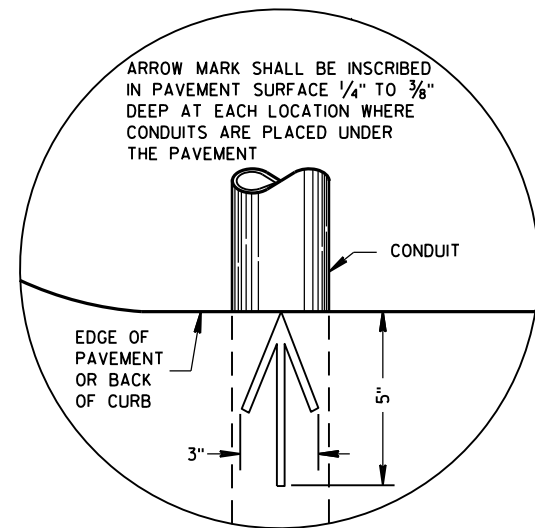
**INLET PROTECTION, TYPE D**

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

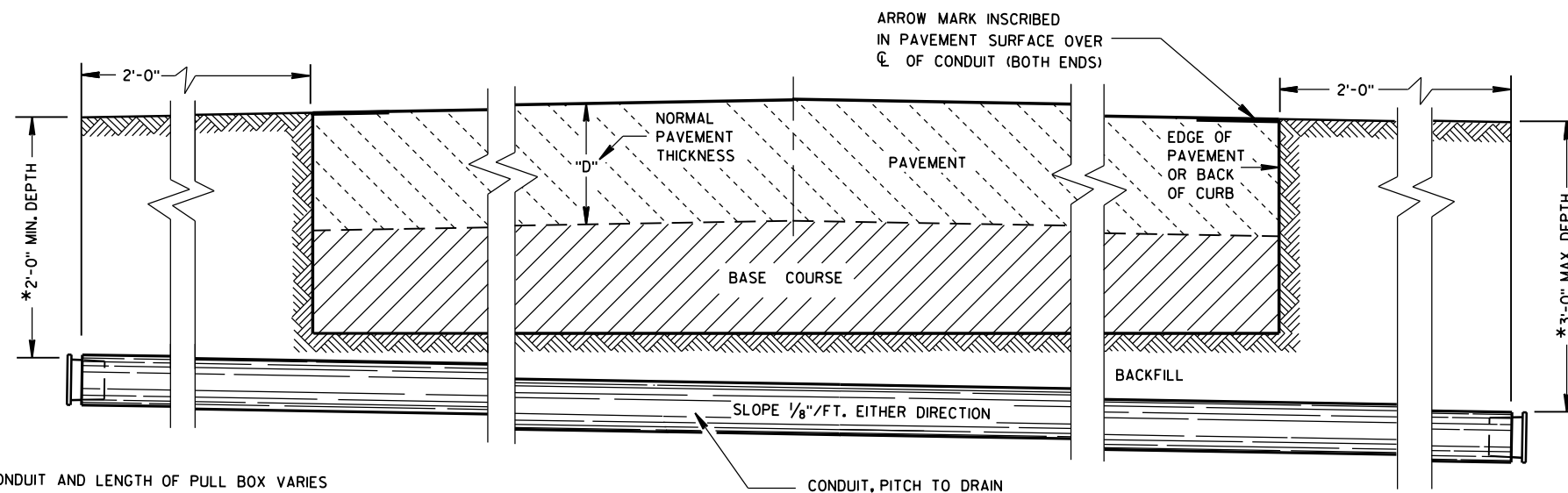
**INLET PROTECTION  
TYPE A, B, C, AND D**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW  
ARROW MARK



SIDE ELEVATION  
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

\*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

### 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 EMERSON 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.

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S.D.D. 9 B 2-10

S.D.D. 9 B 2-10

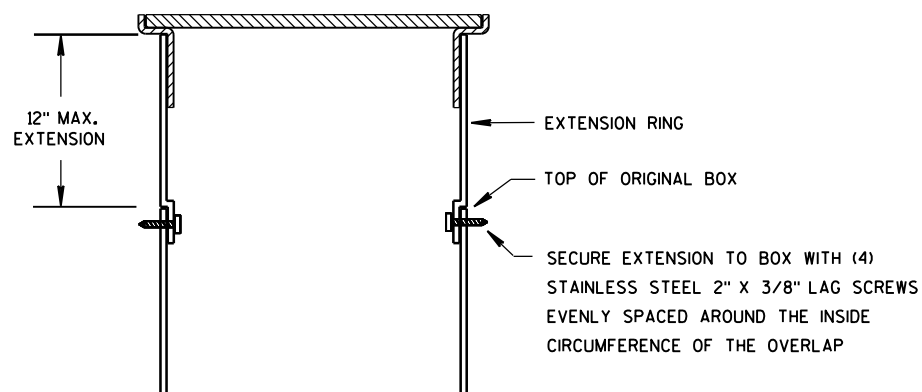
<b>CONDUIT</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March, 2017 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

**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
<b>WEIGHT IN POUNDS *</b>			
COVER		50	50
BOX ONLY		75	85

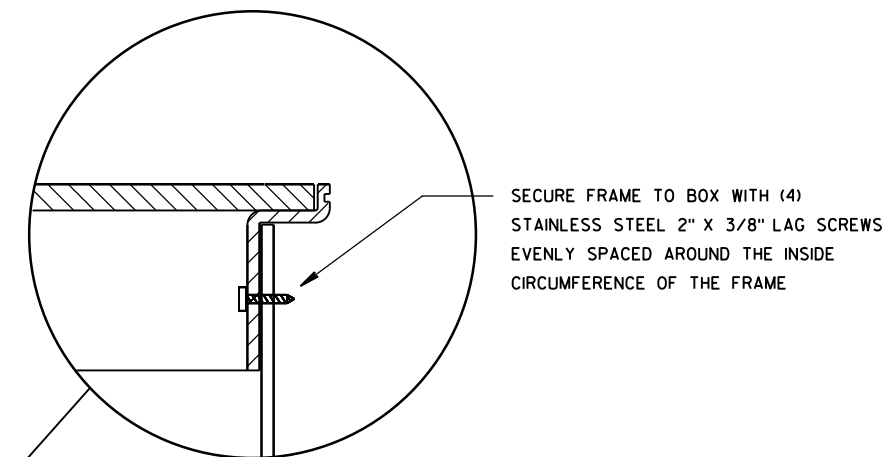
\* THE ACTUAL WEIGHT OF THE COVER OR BOX ONLY MAY VARY NOT TO EXCEED 100 LBS INDIVIDUALLY.

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



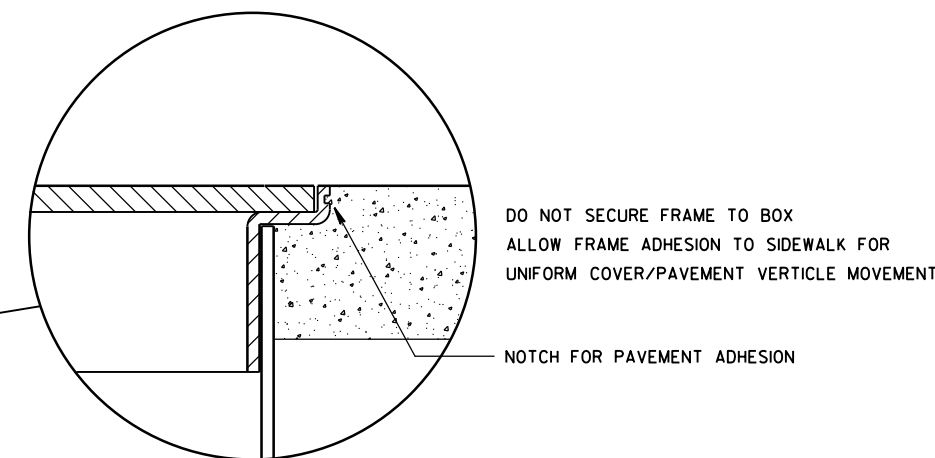
**BOX EXTENSION**

**INSTALLED IN SOD OR CRUSHED AGGREGATE**

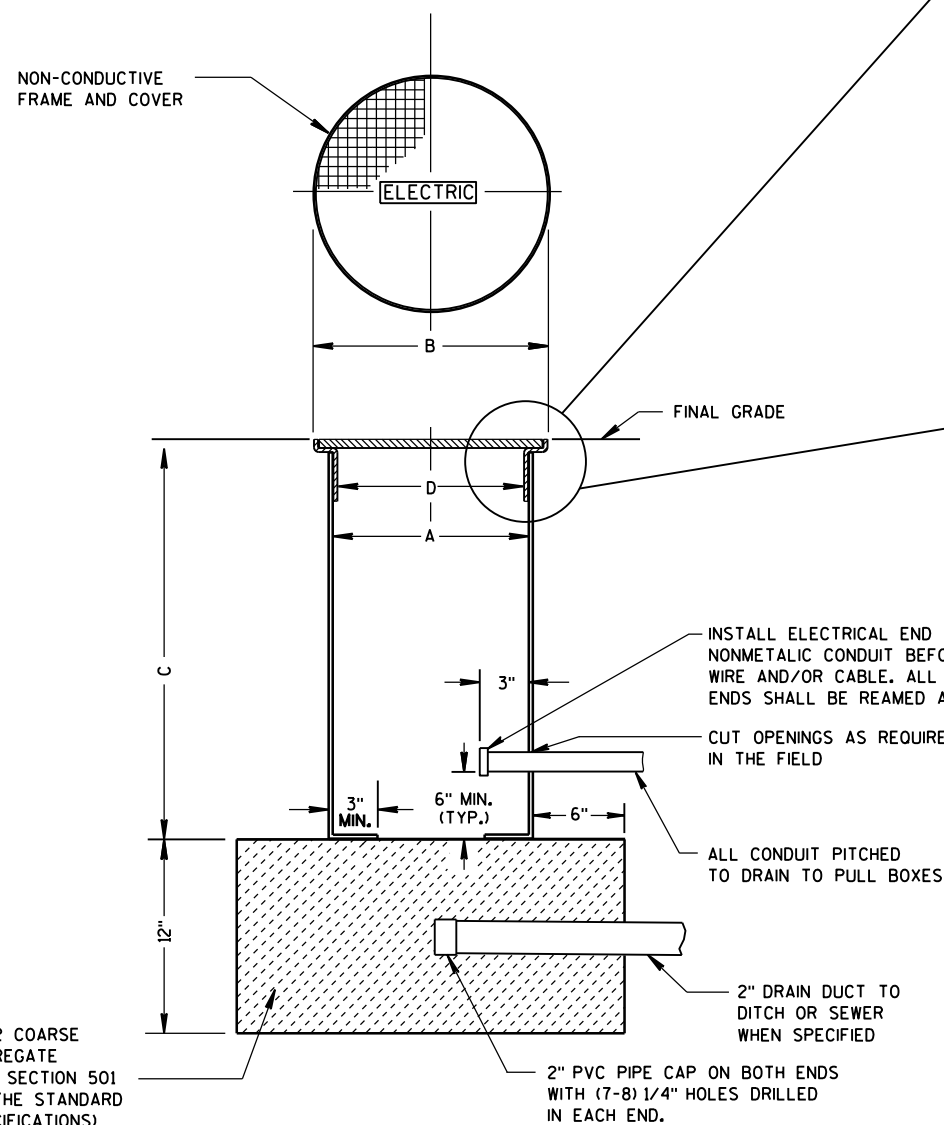


SECURE FRAME TO BOX WITH (4) STAINLESS STEEL 2" X 3/8" LAG SCREWS EVENLY SPACED AROUND THE INSIDE CIRCUMFERENCE OF THE FRAME

**INSTALLED IN SIDEWALK**



DO NOT SECURE FRAME TO BOX ALLOW FRAME ADHESION TO SIDEWALK FOR UNIFORM COVER/PAVEMENT VERTICLE MOVEMENT



**NON-CONDUCTIVE PULL BOX**

**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".

COVER SHALL BE MAGNETICALLY LOCATABLE.

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.

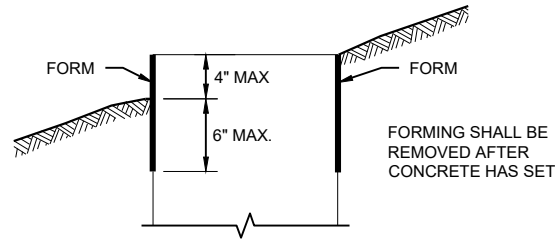
ENTIRE BOX MUST BE CONSTRUCTED OF NON-CONDUCTIVE MATERIALS WITH THE EXCEPTION OF STAINLESS STEEL FASTENERS AND MAGNETIC LOCATABLE DEVICE.

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 AND LIGHTING SYSTEMS, "WISDOT ITS" FOR COMMUNICATIONS AND ITS EQUIPMENT SYSTEMS.

<b>PULL BOX NON-CONDUCTIVE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE FHWA	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER

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 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.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6X 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 NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION.

WHEN REQUIRED TO CONNECT NON-METALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2, TYPE 5 AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER ALL BASE TYPES 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.

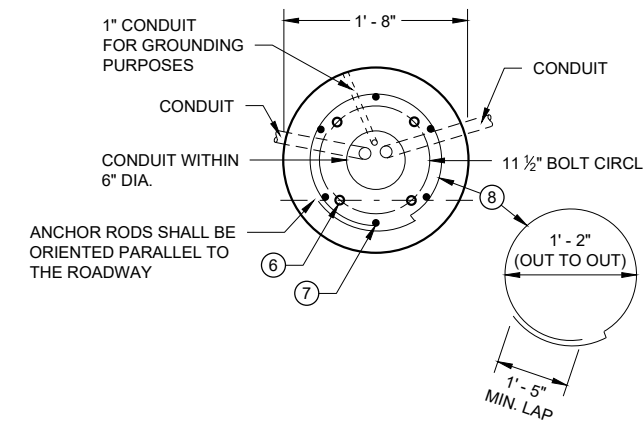
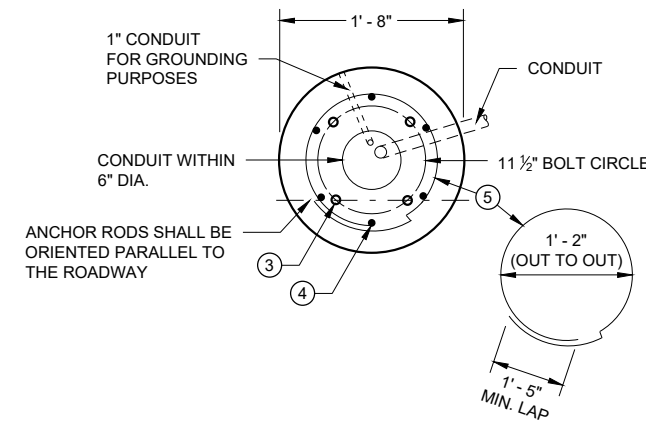
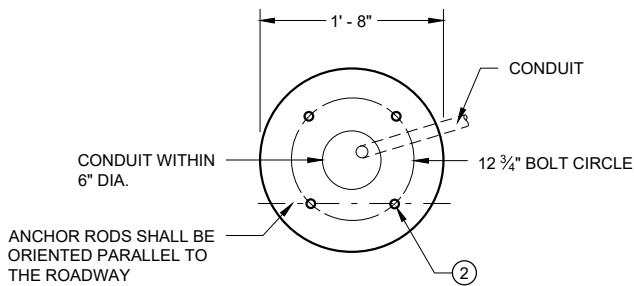
WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4 INCH "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

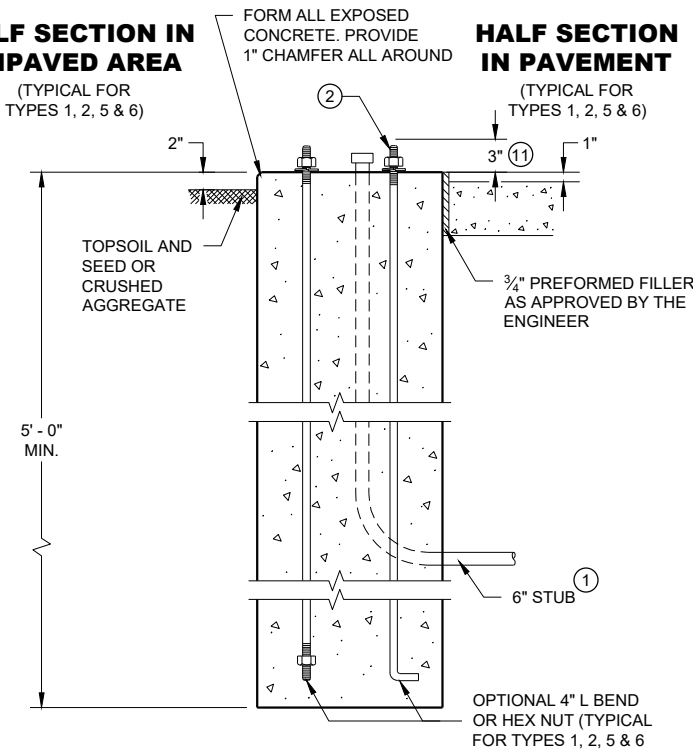
WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

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 OF 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.
- ⑨ EXOTHERMIC CONNECTION TO EQUIPMENT GROUNDING CONDUCTOR
- ⑩ 5/8" DIA. X 8' - 0" COPPERCLAD EQUIPMENT GROUNDING ELECTRODE REQUIRED
- ⑪ ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.
- ⑫ FOR NON - BREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

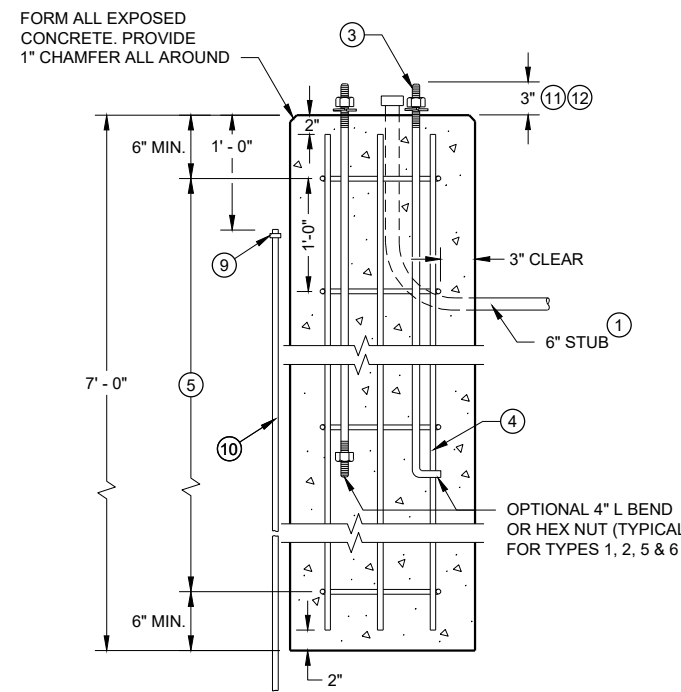


**HALF SECTION IN UNPAVED AREA**

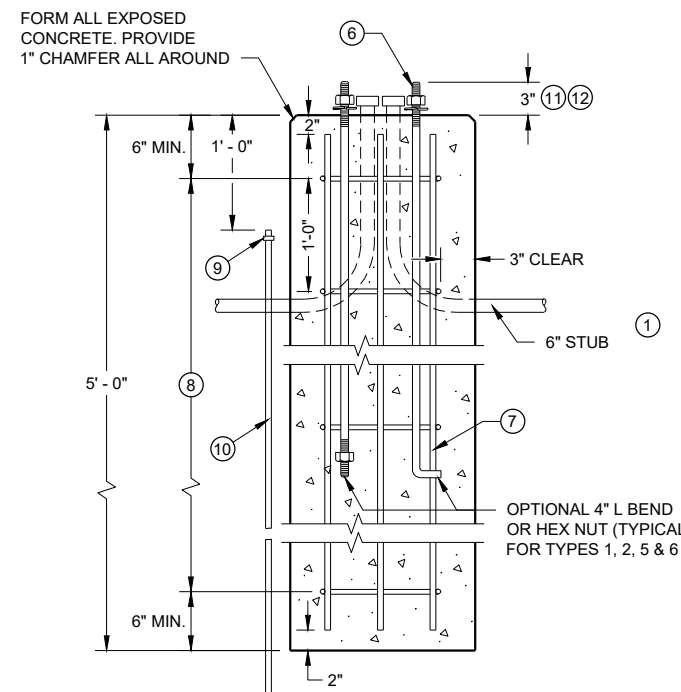


**TYPE 1**

**HALF SECTION IN PAVEMENT**



**TYPE 2**



**TYPE 5 & 6**

**CONCRETE BASES**

**CONCRETE BASES  
TYPES 1, 2, 5, & 6**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2019 /S/ Ahmet Demirelek  
DATE STATE ELECTRICAL ENGINEER

FHWA

**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.

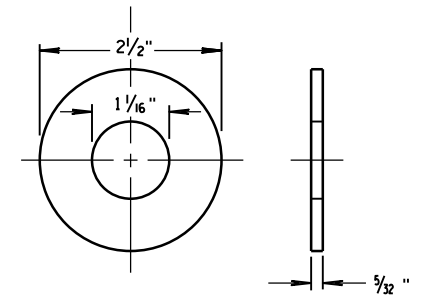
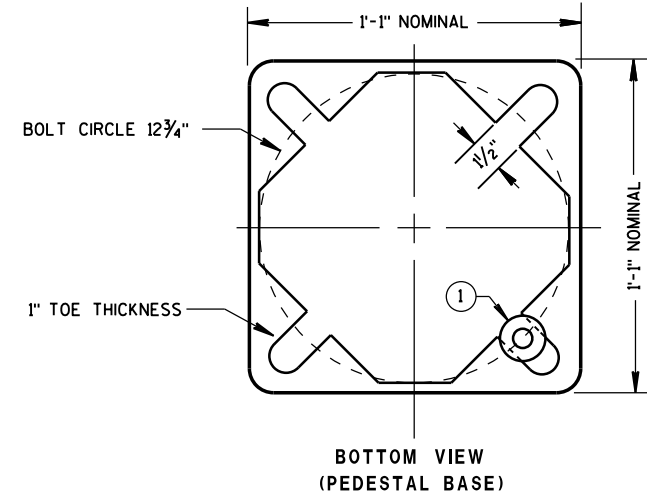
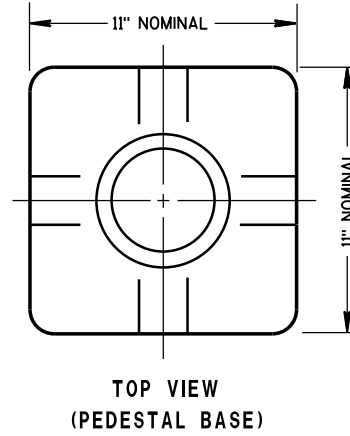
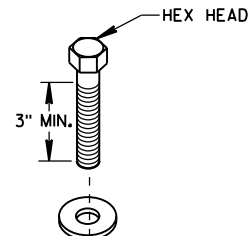
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

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.

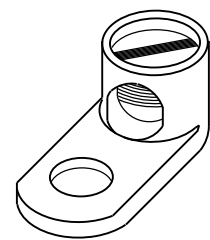
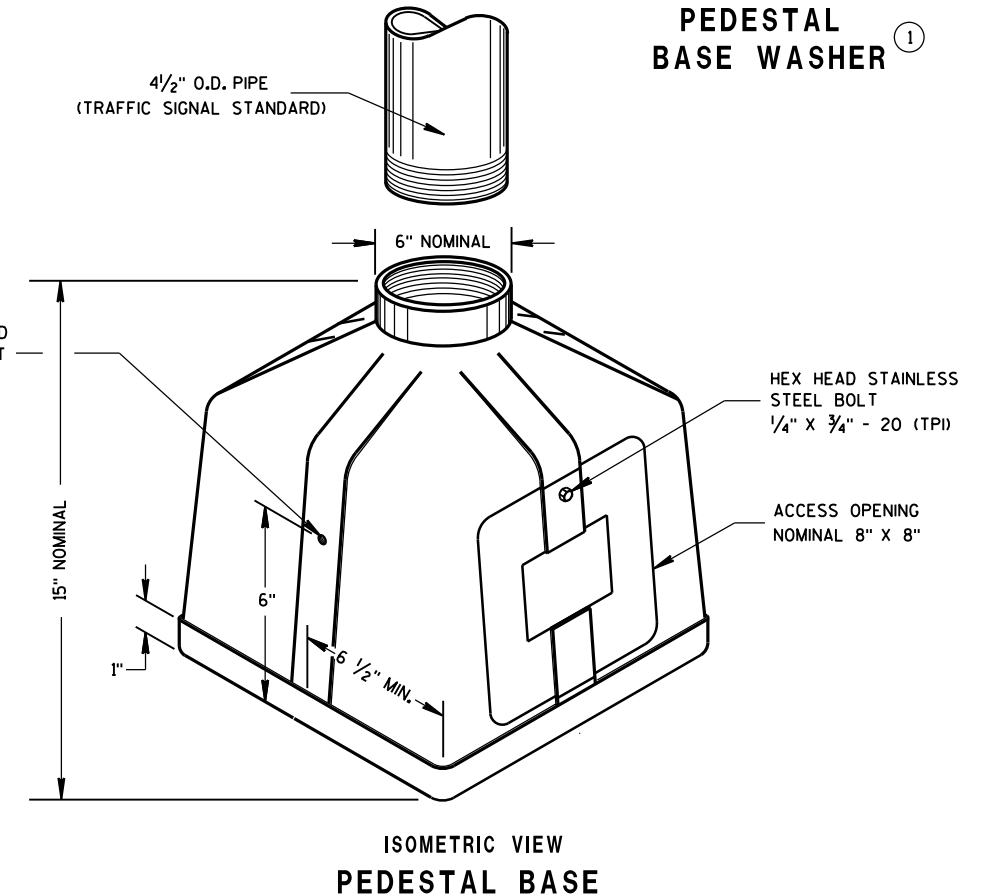
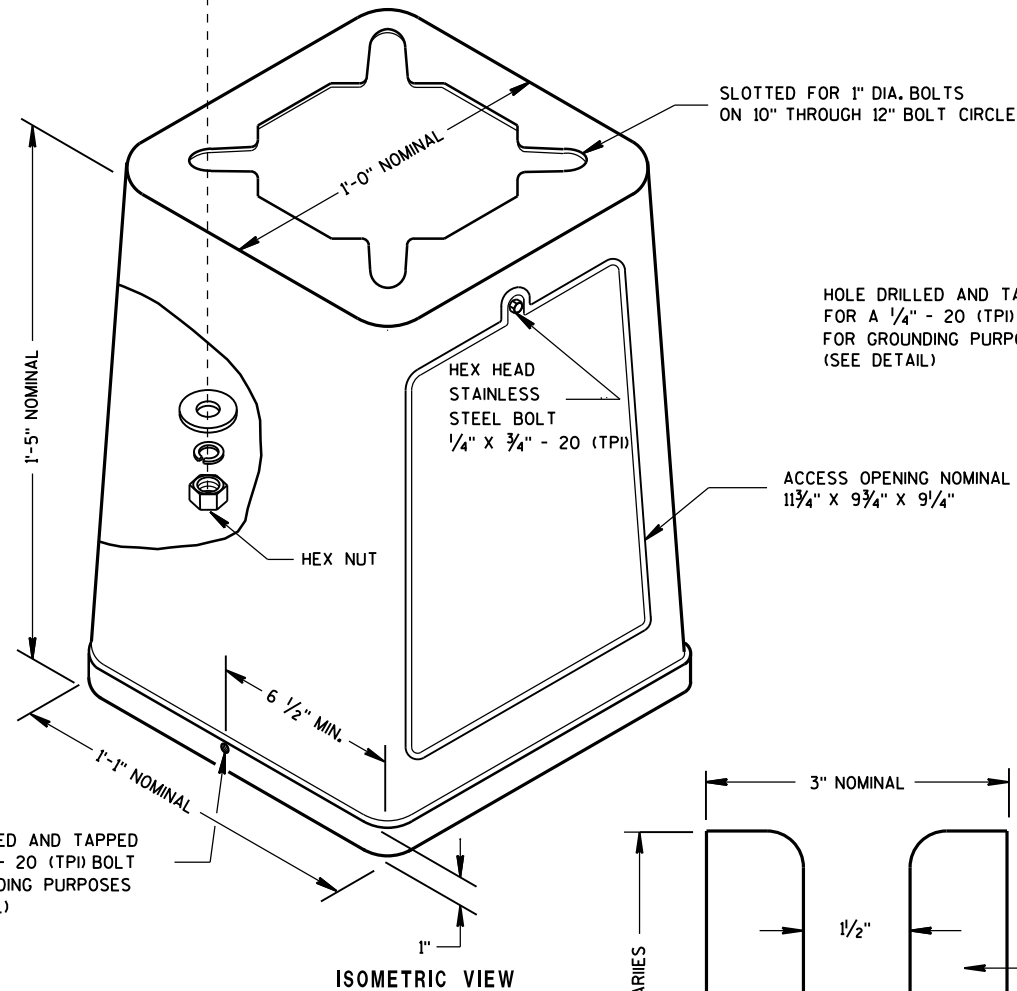
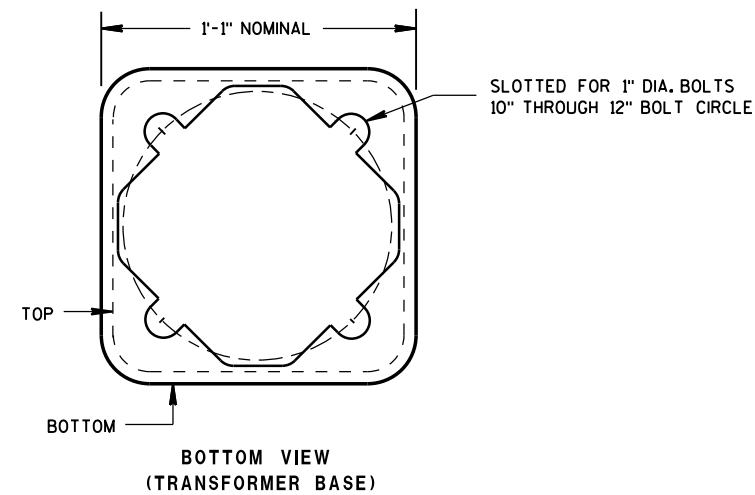
PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

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.

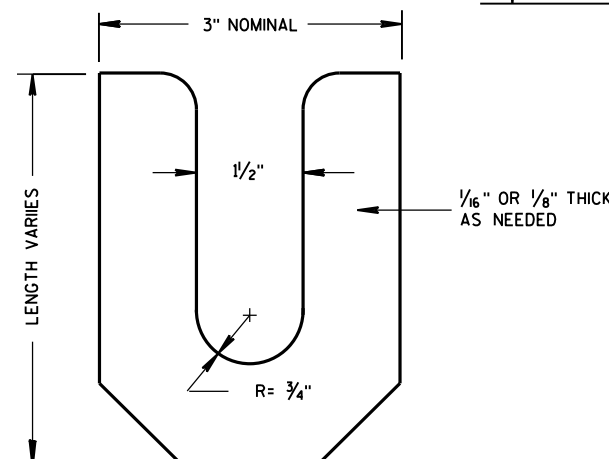


ZINC COATED STEEL WASHER TO BE PROVIDED BY THE CONTRACTOR  
**PEDESTAL BASE WASHER** ①



**TYPICAL MECHANICAL CONNECTOR LUG**  
TO BE FURNISHED WITH EACH BASE

**TRANSFORMER BASE**  
INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



**LEVELING SHIM**

<b>TRANSFORMER/PEDESTAL BASES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

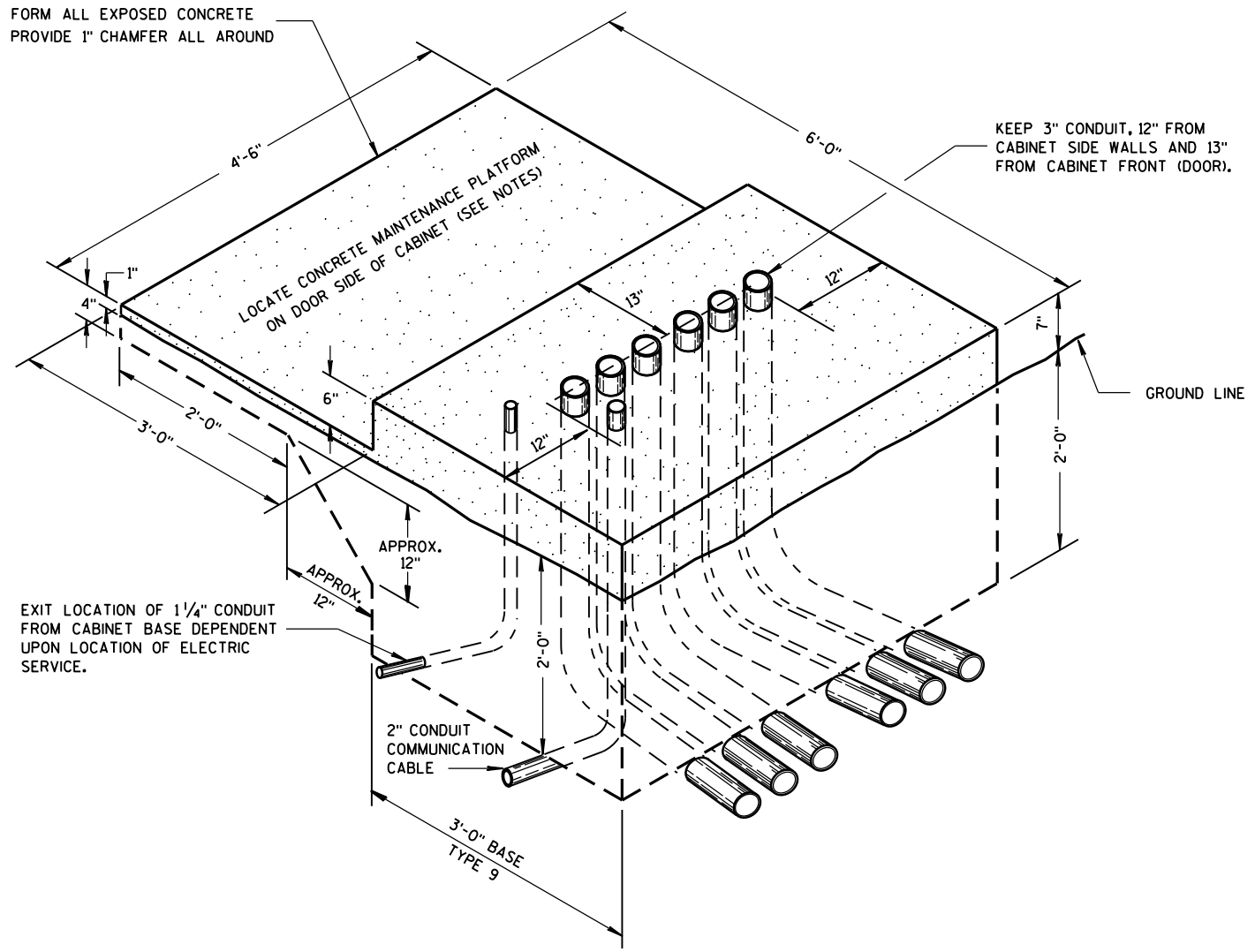
6

6

S.D.D. 9 C 3-4

S.D.D. 9 C 3-4

FORM ALL EXPOSED CONCRETE  
PROVIDE 1" CHAMFER ALL AROUND

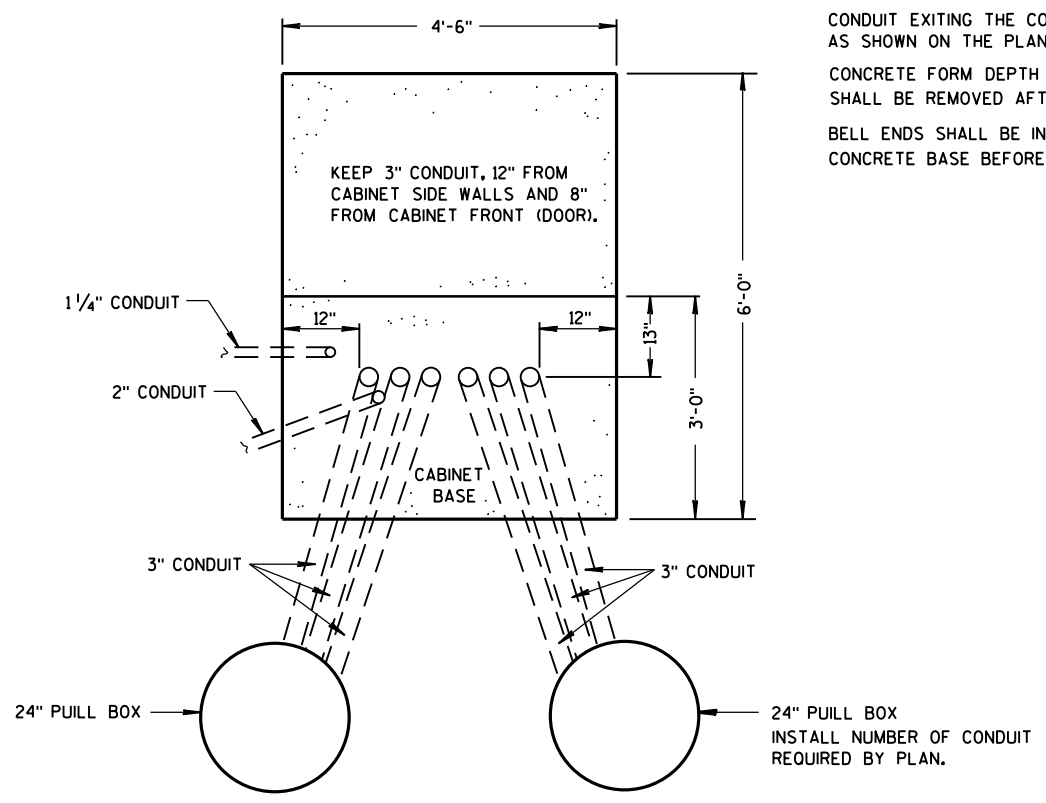


KEEP 3" CONDUIT, 12" FROM  
CABINET SIDE WALLS AND 13"  
FROM CABINET FRONT (DOOR).

GROUND LINE

EXIT LOCATION OF 1/4" CONDUIT  
FROM CABINET BASE DEPENDENT  
UPON LOCATION OF ELECTRIC  
SERVICE.

**ISOMETRIC VIEW**  
**TYPE 9, SPECIAL**  
(C.Y. CONCRETE = APPROX. 1.56)



**PLAN VIEW**

**CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL**

**GENERAL NOTES**

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- INSTALL FOUR 1/2 INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.
- WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.
- CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.
- DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.
- DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.
- ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.
- CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.
- MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.
- MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.
- MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.
- ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.
- CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.
- PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.
- ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.
- CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.
- CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.
- BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

6

6

S.D.D. 9 C 6-7

S.D.D. 9 C 6-7

<b>CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 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.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4 INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL END INSTALLED. ALL CONDUIT SHALL BE SLOPED TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUIT IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL ENTER THE BASE THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

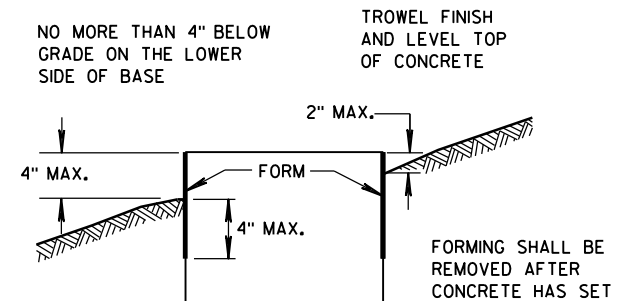
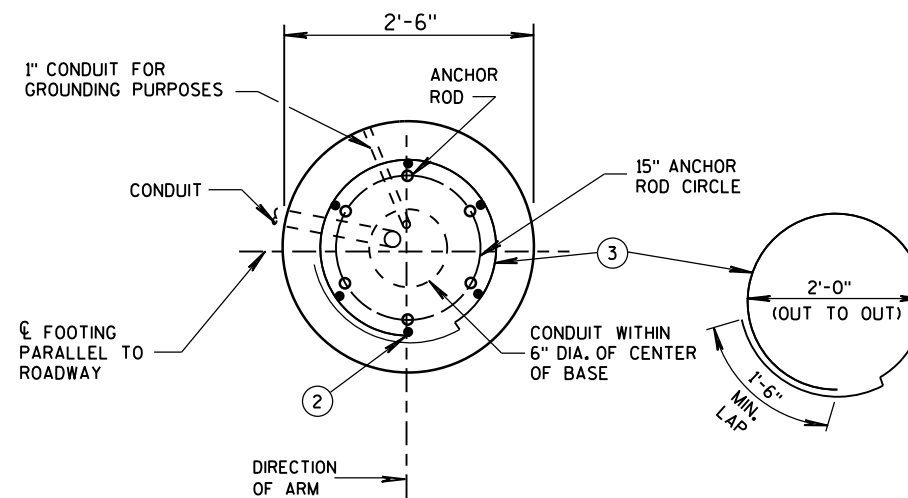
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

① THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES, (GREATER THAN 36 INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

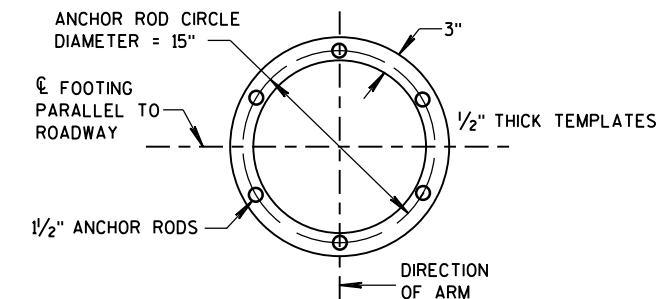
② (6) NO. 6 X 13'-7" BAR STEEL REINFORCEMENT.

③ (2) NO. 5 X 7'-10" BAR STEEL REINFORCEMENT @ 8" MAX. C-C.

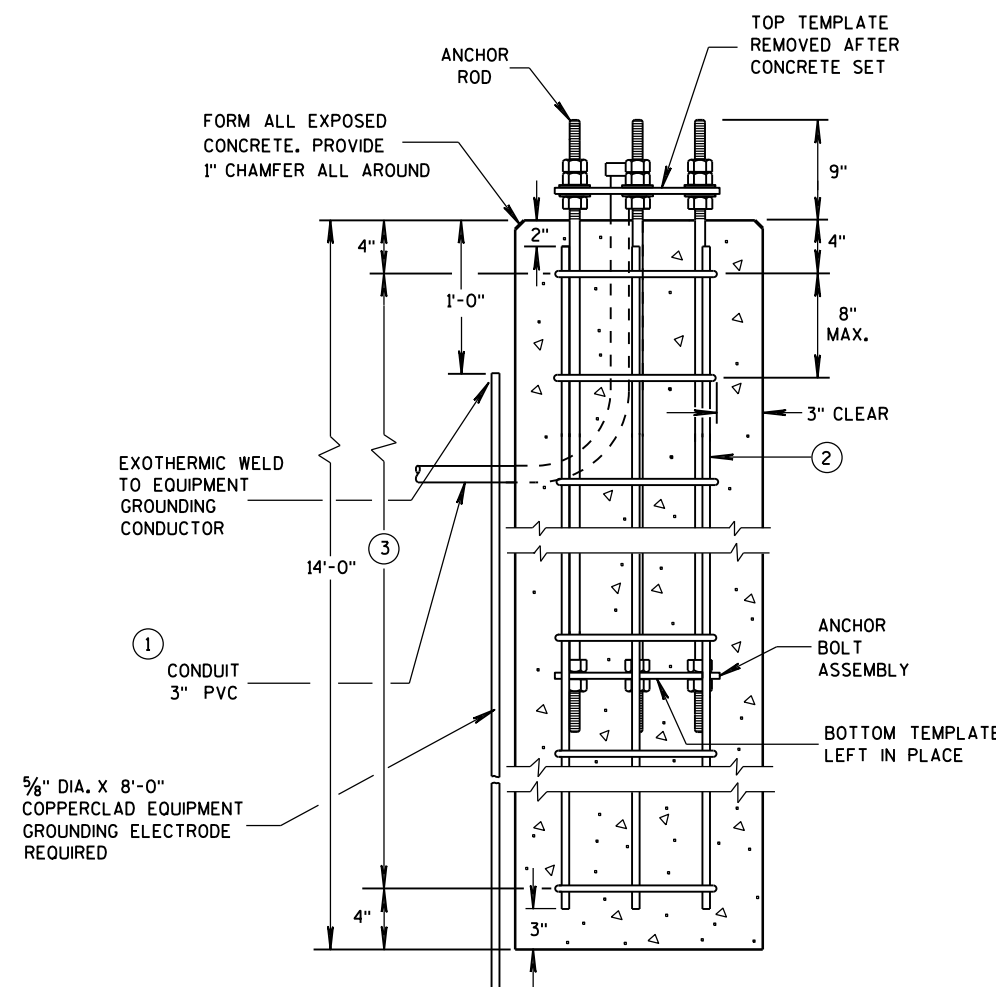
CONCRETE MASONRY .....	$f_c=3,500$ p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 .....	$f_y=60,000$ p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 641.2.2.3 OF THE STANDARD SPECIFICATION) .....	$f_y=55,000$ p.s.i.
TEMPLATES, ASTM, A709 GRADE 36 .....	$f_y=36,000$ p.s.i.



FORMING DETAIL



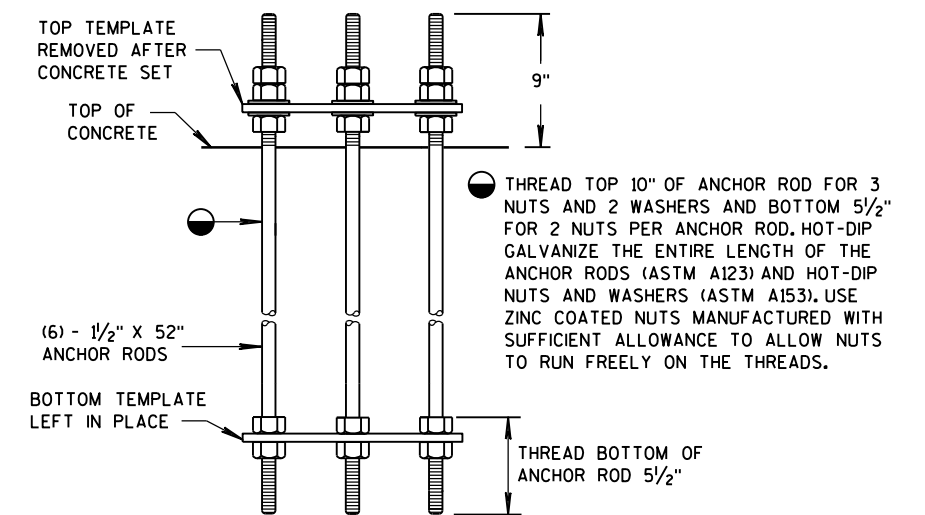
TOP AND BOTTOM TEMPLATES



## CONCRETE BASE TYPE 10

(FOR TYPE 9 & 10 & OVER HEIGHT (OH) POLES)

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



ANCHOR BOLT ASSEMBLY DETAIL

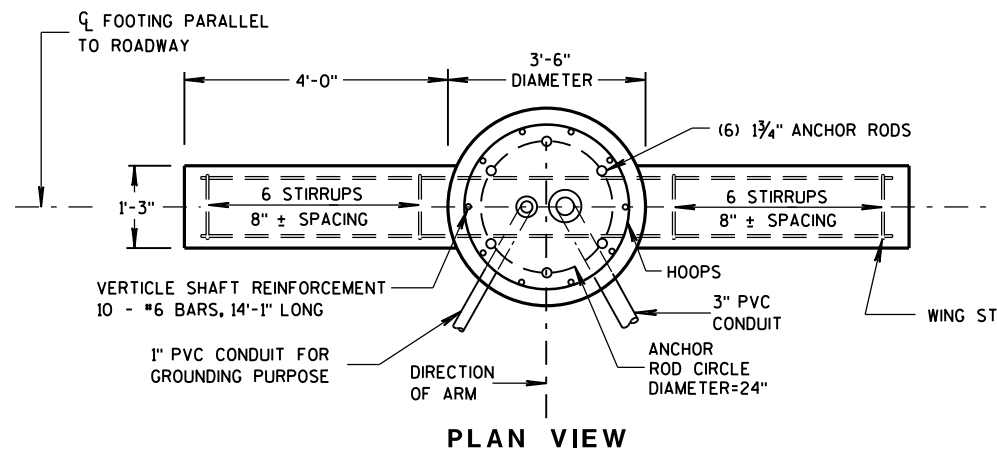
## CONCRETE BASE TYPE 10 ANCHOR ASSEMBLY

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	2.5
LBS. OF HOOP BAR STEEL	172
LBS. OF VERTICAL BAR STEEL	122

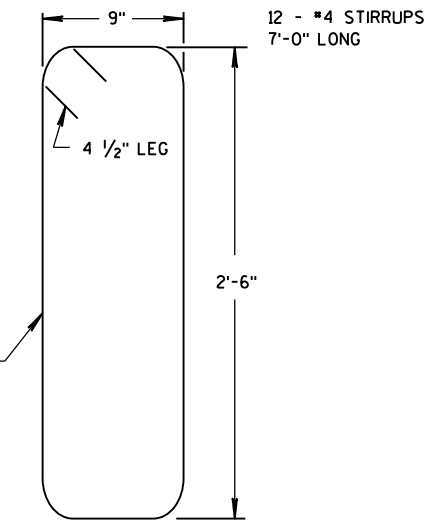
## CONCRETE BASE TYPE 10

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

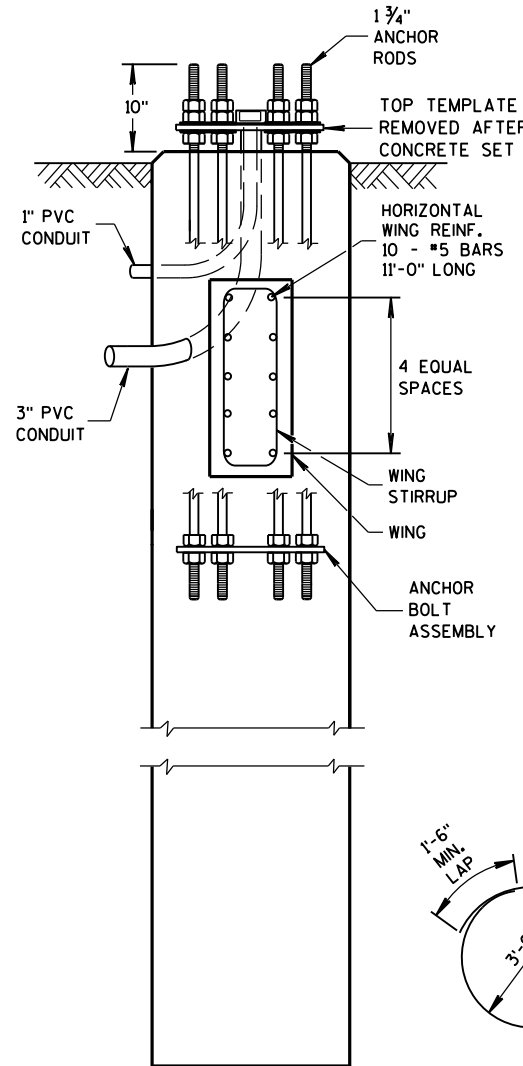
APPROVED  
May 2017 /S/ Ahmet Demirbilek  
DATE STATE ELECTRICAL ENGINEER  
FHWA



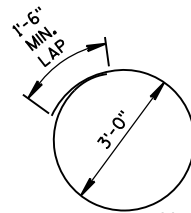
**PLAN VIEW**



**WING STIRRUP**



**SIDE VIEW \*\***



**HOOP DETAIL**

**GENERAL NOTES**

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.
- BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.
- USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.
- THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
- WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.
- BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, 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.
- TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.
- CONDUIT SIZE AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.
- MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.
- CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4 1/2" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.
- ALL CONDUIT ENDS AT THE TOP OF THE 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.
- BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.
- WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, UL LISTED FOR ELECTRICAL USE, SHALL BE USED.
- A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).
- THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE THROUGH A 1-INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4-FOOT COIL OF WIRE ABOVE THE CONCRETE BASE, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.
- BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS.
- THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL WAY SHALL BE 24-INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18-INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36-INCHES, (GREATER THAN 36-INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.
- ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 641.2.2.3 OF THE STANDARD SPECIFICATIONS	fy=55,000 p.s.i.
TEMPLATES, ASTM A709 GRADE 36	fy=36,000 p.s.i.

**ELEVATION VIEW\***

\* CONDUITS ARE NOT SHOWN ON THIS VIEW FOR CLARITY

\*\* HOOPS AND VERTICAL SHAFT REINFORCEMENT NOT SHOWN ON THIS VIEW FOR CLARITY

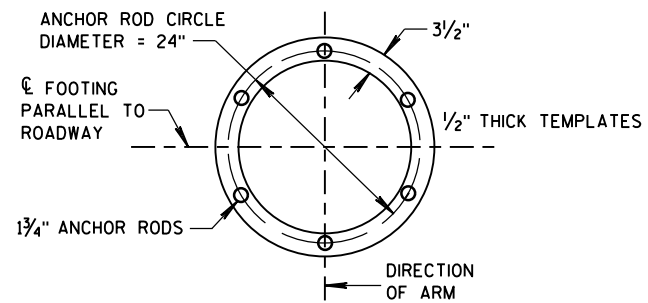
**(FOR TYPE 12 & 13 & OVER HEIGHT (OH) POLES)**

CONCRETE = 6.3 C.Y.  
H.S. REINFORCEMENT = 635 LBS.

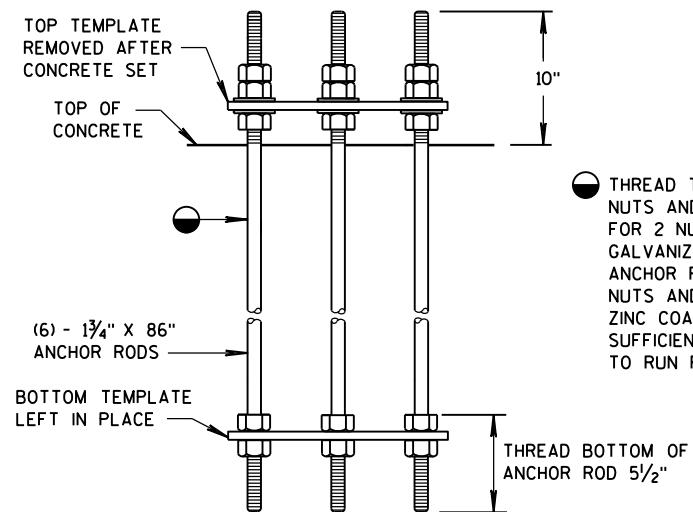
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.  
SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

**CONCRETE BASE TYPE 13**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

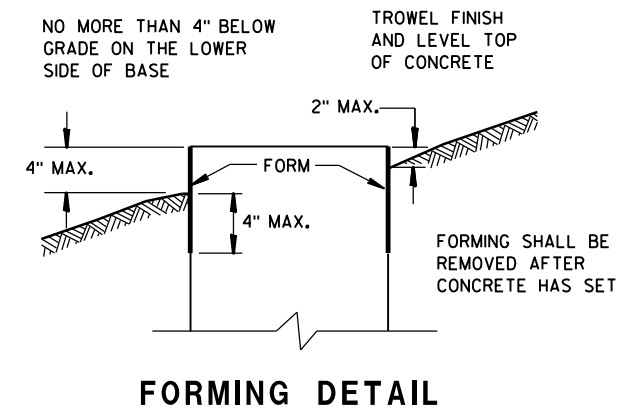


TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

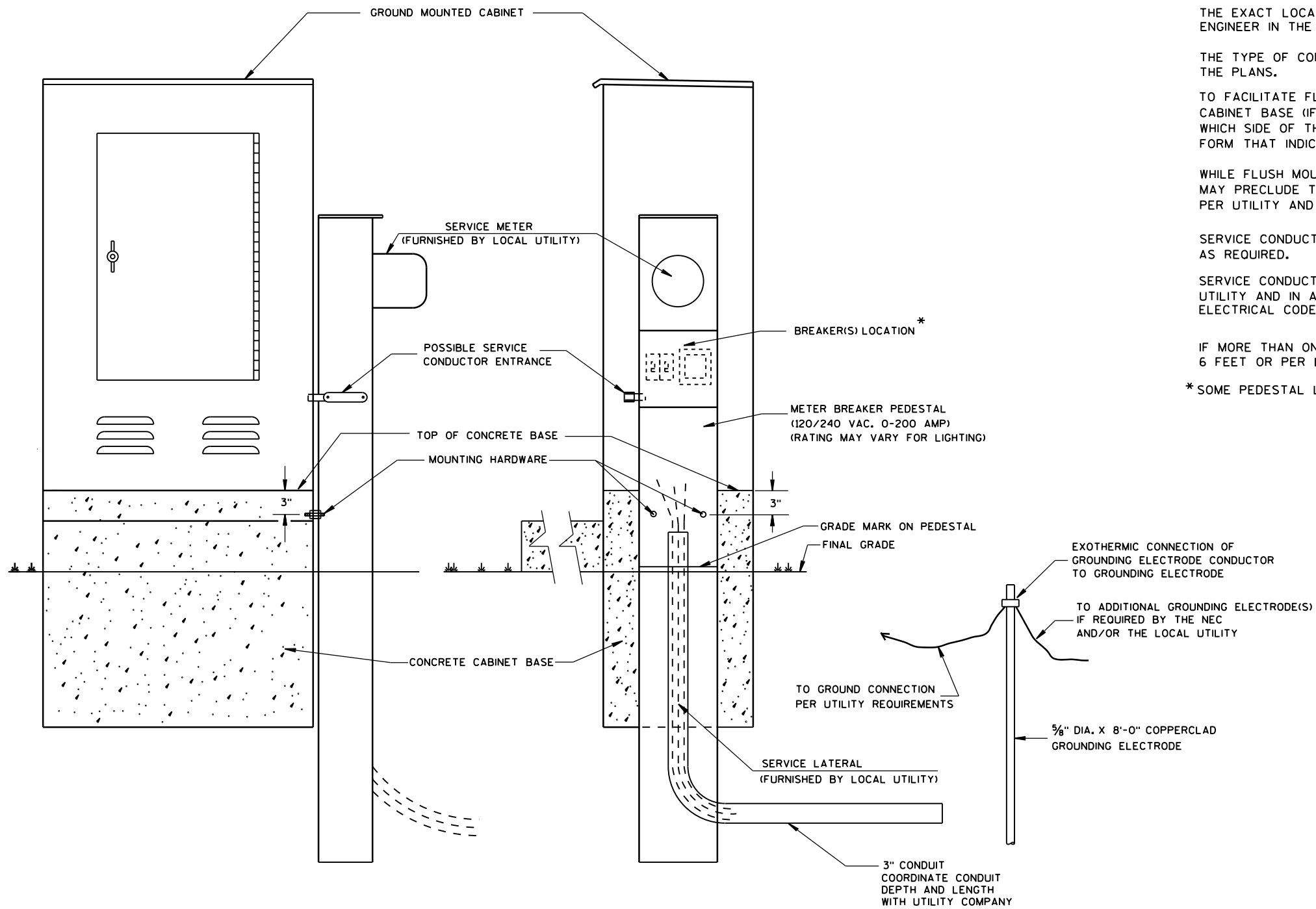
CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY



6

6

CONCRETE BASE TYPE 13	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE May 2017	/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.

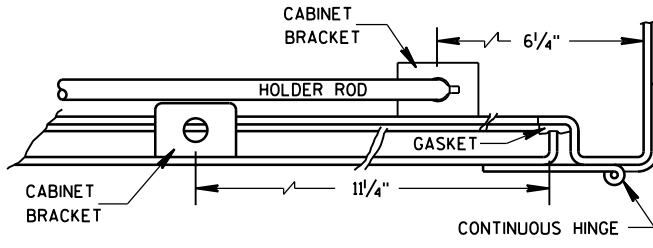
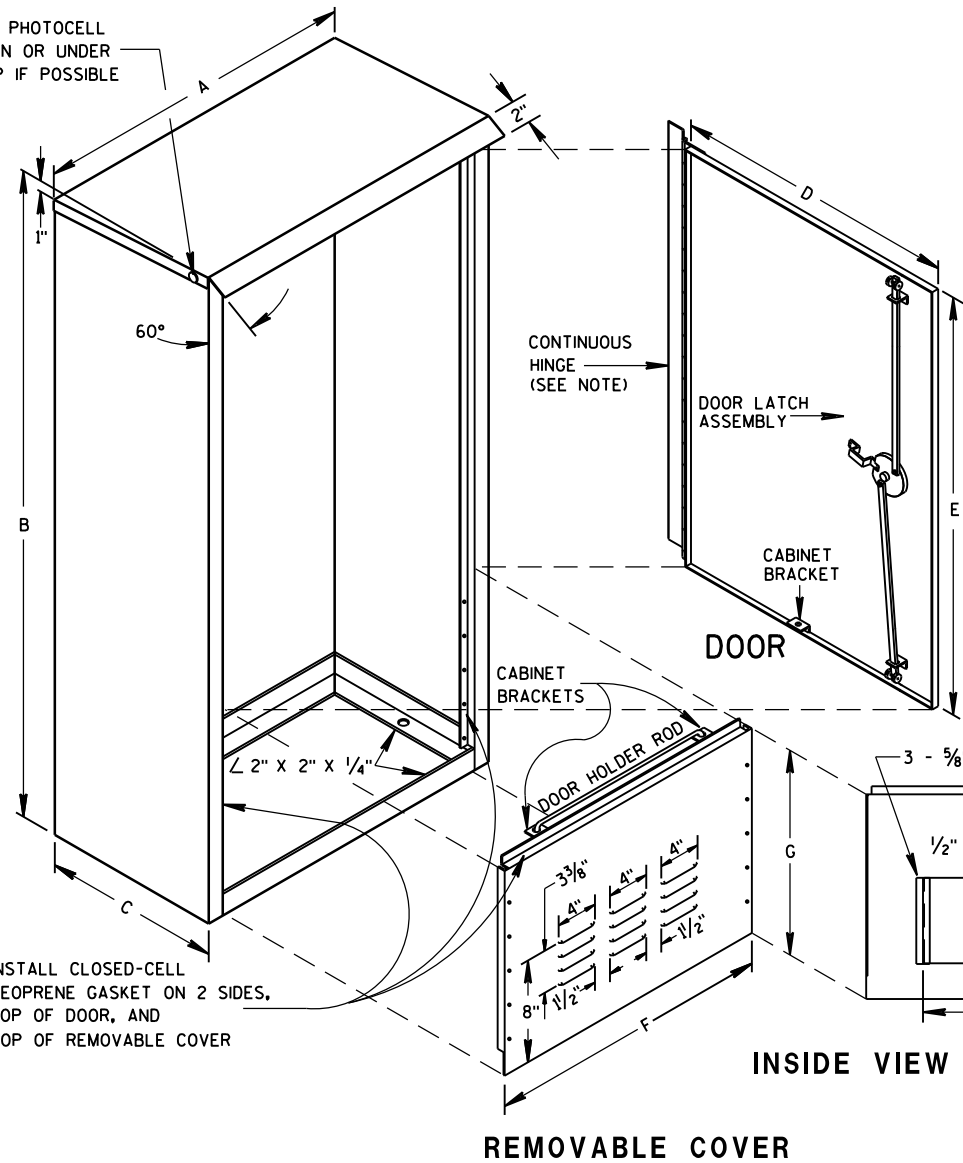
SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

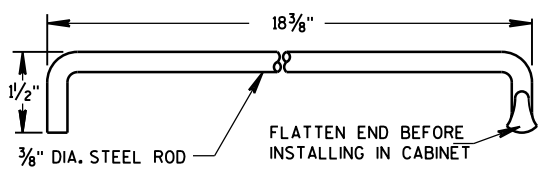
\* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

<b>CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

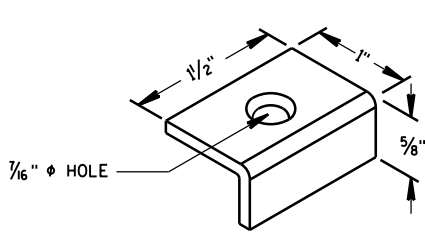
TYPICAL PHOTOCELL LOCATION OR UNDER DRIP LIP IF POSSIBLE



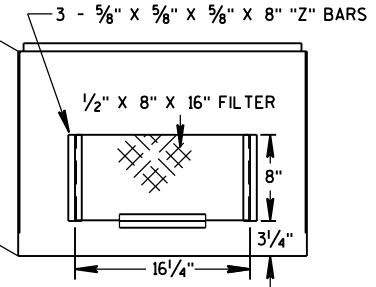
**HINGE & DOOR HOLDER**



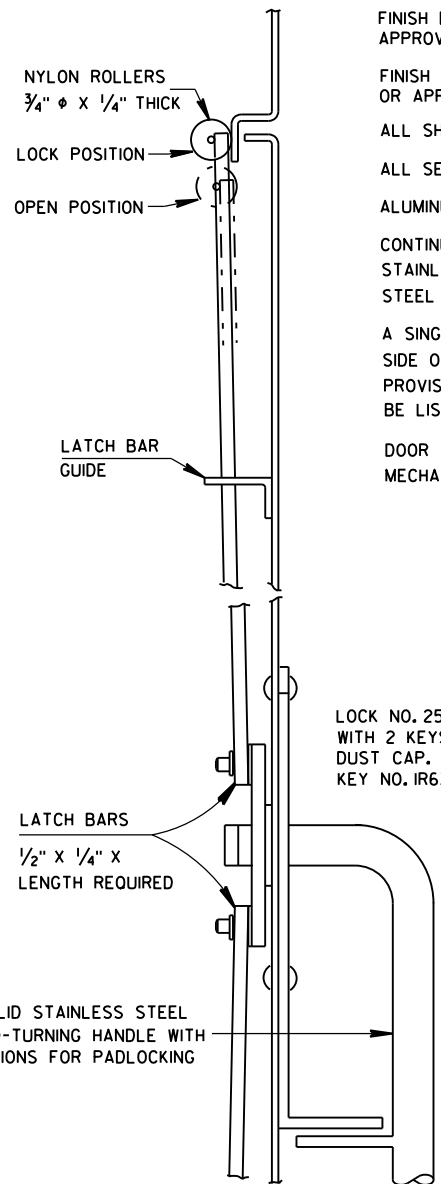
**HOLDER ROD**



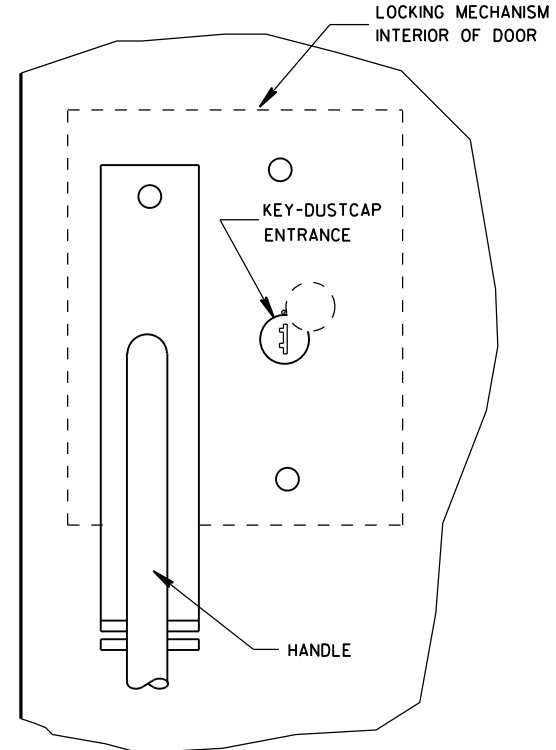
**CABINET BRACKET**



**INSIDE VIEW SHOWING FILTER**

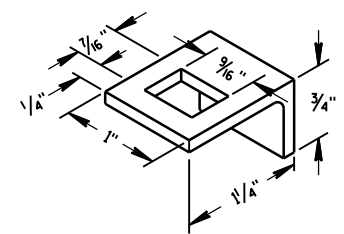


**SIDE VIEW**



**FRONT VIEW**

**LATCH ASSEMBLY**



**LATCH BAR GUIDE**

**GENERAL NOTES**

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

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4\"/>

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST.

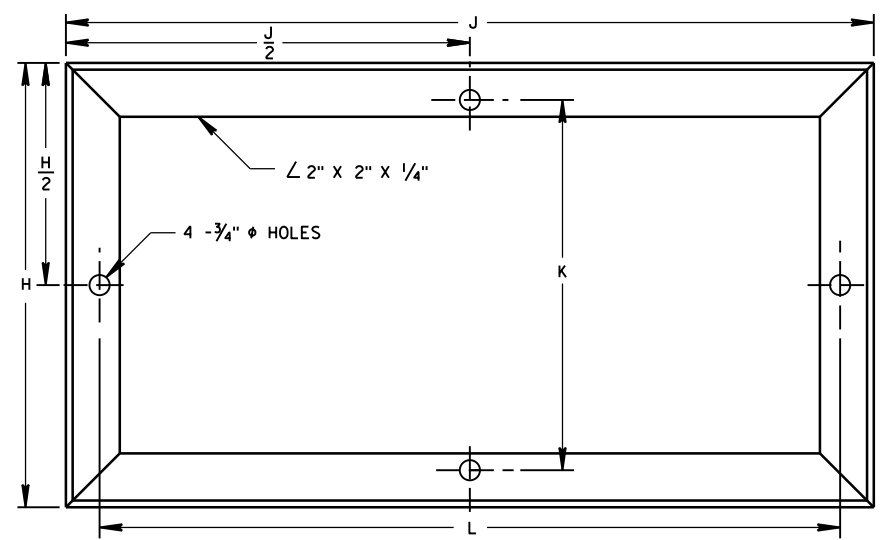
DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.

6

6

**TABLE OF DIMENSIONS (INCHES)**

MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2



**MOUNTING BASE**

**SIGNAL CONTROL CABINET**

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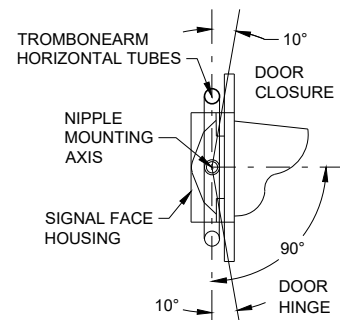
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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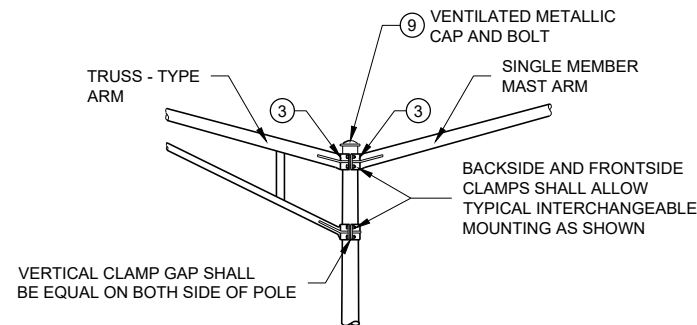
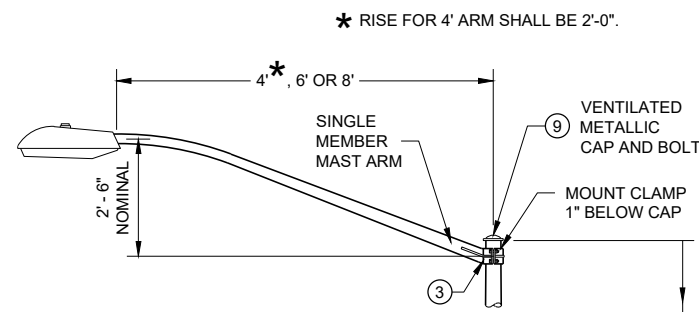
APPROVED  
 Sept. 2014 /S/ Ahmet Demirbilek  
 DATE STATE ELECTRICAL ENGINEER  
 FHWA

S.D.D. 9 D 2-3

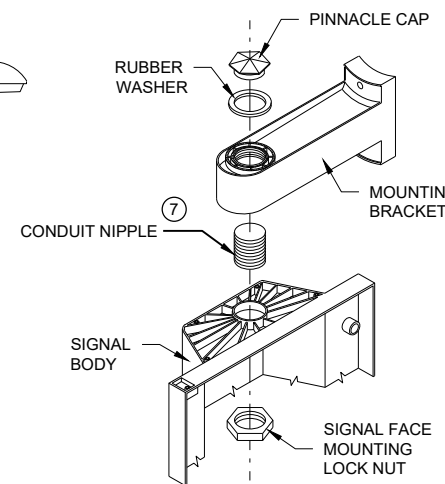
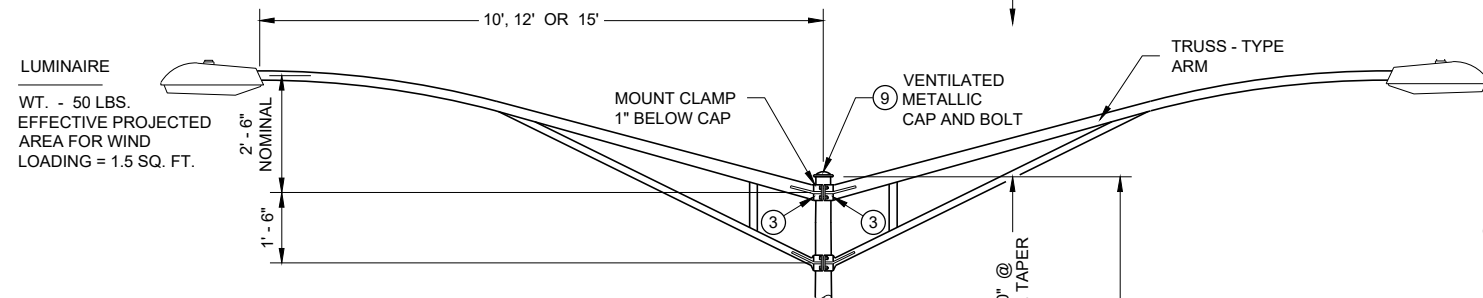
S.D.D. 9 D 2-3



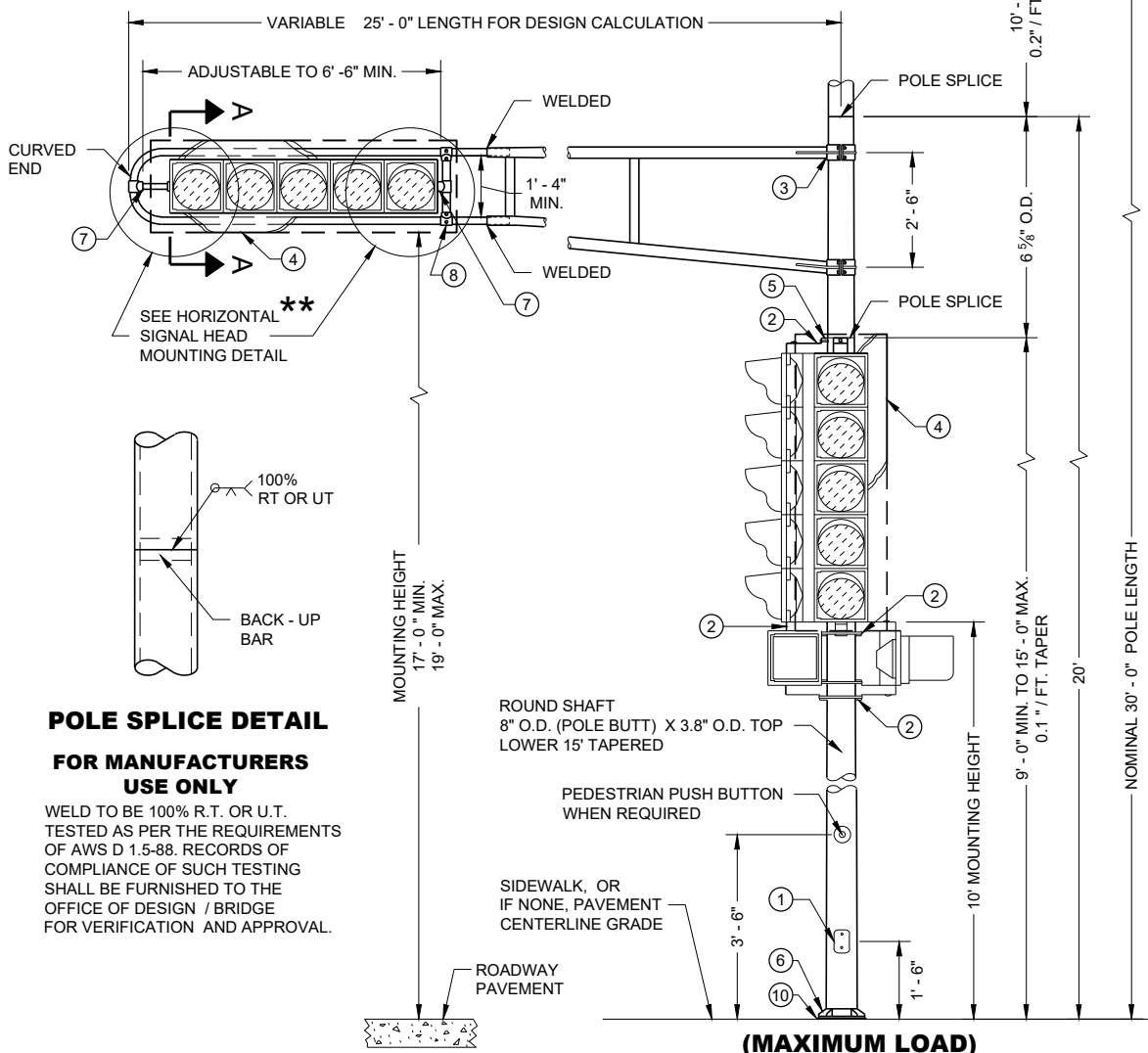
**SECTION A-A**



**INTERCHANGEABLE MOUNTING DETAIL**



**SIGNAL FACE MOUNTING DETAIL (BANDED)**



**POLE SPLICE DETAIL FOR MANUFACTURERS USE ONLY**

WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN / BRIDGE FOR VERIFICATION AND APPROVAL.

MOUNTING HEIGHT 17'-0" MIN. 19'-0" MAX.

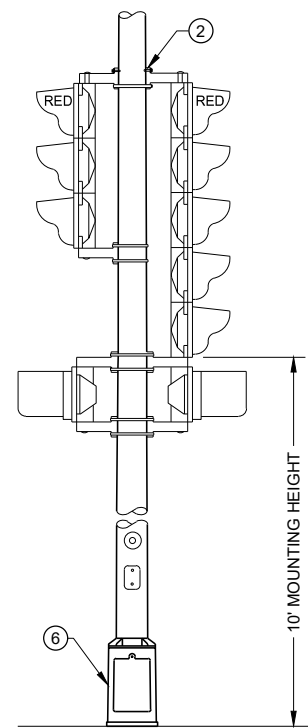
ROUND SHAFT 8" O.D. (POLE BUTT) X 3.8" O.D. TOP LOWER 15' TAPERED

PEDESTRIAN PUSH BUTTON WHEN REQUIRED

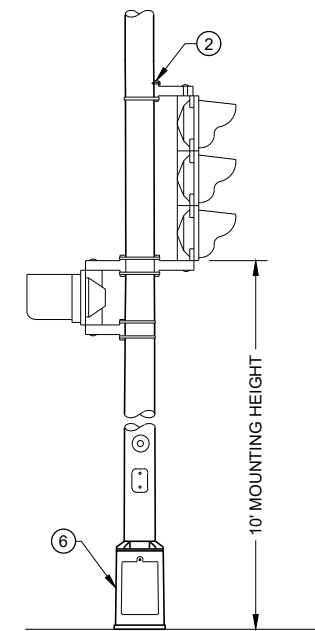
SIWALK, OR IF NONE, PAVEMENT CENTERLINE GRADE



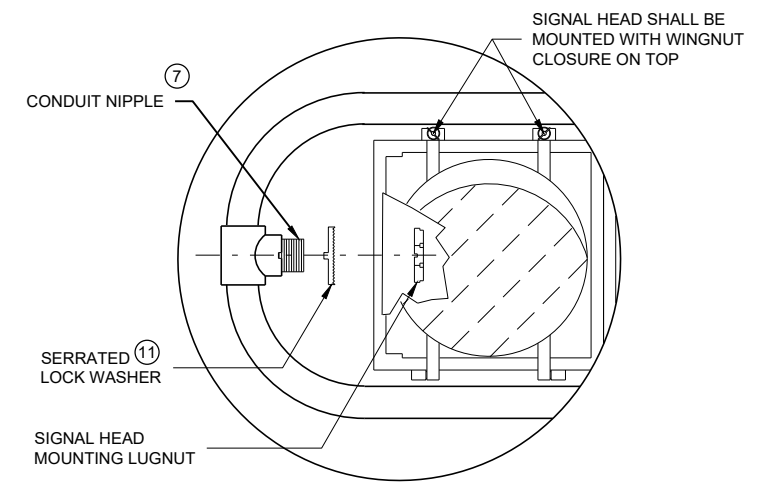
**(MAXIMUM LOAD)**



**TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES**



**TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE**



**HORIZONTAL SIGNAL HEAD MOUNTING DETAIL**

\*\* SIGNAL HEAD ATTACHMENT ALSO APPLIES TO MOUNTING AT CROSS BAR

**GENERAL NOTES**

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

ALL TYPE 3 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL.

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE / ROPE SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8 INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

- ① 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) 1/2" X 3/4" - 20 TPI, STAINLESS STEEL, HEX HEAD BOLTS.
- ② SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING.
- ③ GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 1/2" HOLE IN POLE SHAFT FOR WIRING.
- ④ SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.
- ⑤ POLE MOUNTED SIGNAL FACES SHALL REQUIRE ONE OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.
- ⑥ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED. UNDER MAX LOADING, TYPE 3 POLE SHALL BE MOUNTED DIRECTLY TO ITS CONCRETE BASE.
- ⑦ USE 1 1/2" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 1/2" OPENING IN SIGNAL FACES AND BRACKET ENDS.
- ⑧ VERTICAL STRUT (ADJUSTABLE), ONE (1) SET SCREW (1/2" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.
- ⑨ FURNISH AND INSTALL VENTILATED, CAST METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/2" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑩ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.
- ⑪ USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.

**POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS TYPE 3 (HEAVY DUTY)**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

### GENERAL NOTES

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

ALL TYPE 4 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL WITH A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

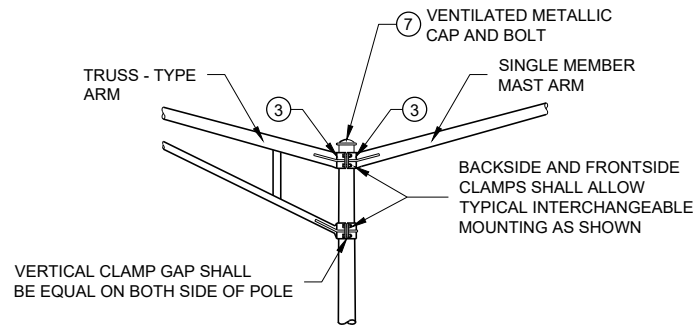
SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE / ROPE SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8 INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

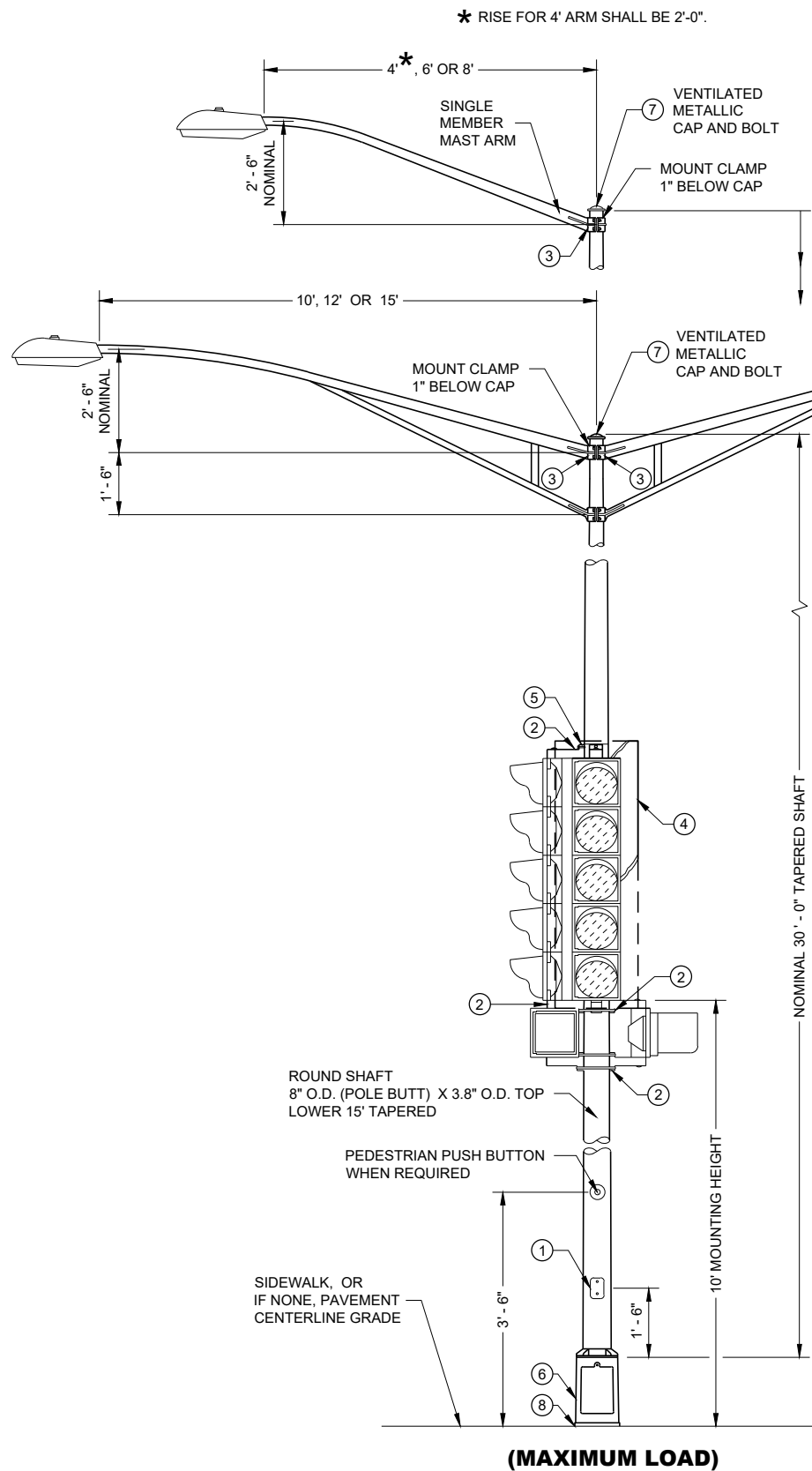
WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

- ① 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) 1/2" X 3/4" - 20 TPI, STAINLESS STEEL, HEX HEAD BOLTS.
- ② SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING.
- ③ GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.
- ④ SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.
- ⑤ POLE MOUNTED SIGNAL FACES SHALL REQUIRE ONE OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.
- ⑥ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- ⑦ FURNISH AND INSTALL VENTILATED, CAST METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/2" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑧ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.
- ⑨ USE 1 1/2" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 1/2" OPENING IN SIGNAL FACES AND BRACKET ENDS.

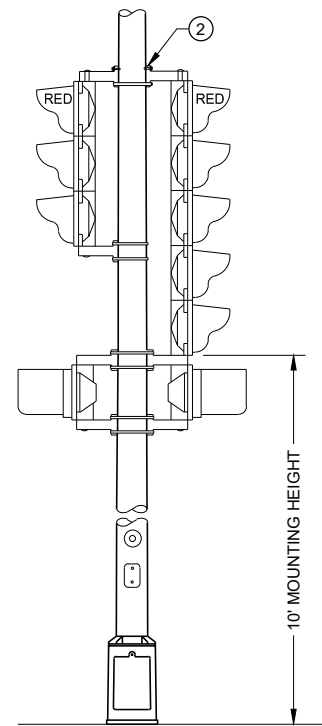


### INTERCHANGEABLE MOUNTING DETAIL

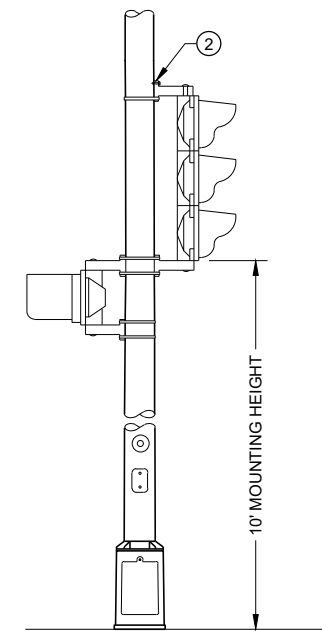
LUMINAIRE  
WT. - 50 LBS.  
EFFECTIVE PROJECTED AREA  
FOR WIND LOADING = 1.5 SQ. FT.



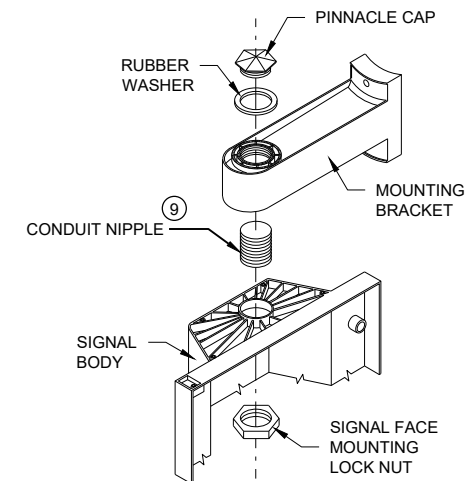
(MAXIMUM LOAD)



TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE

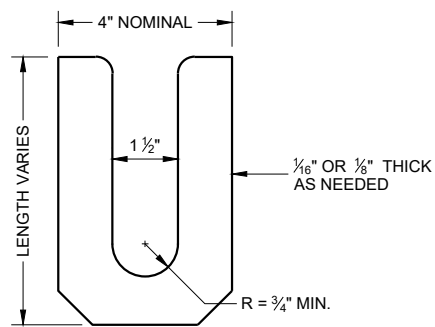


SIGNAL FACE MOUNTING DETAIL (BANDED)

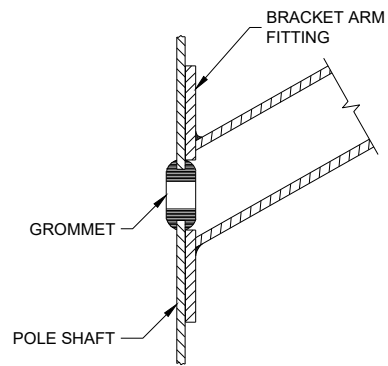
**POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

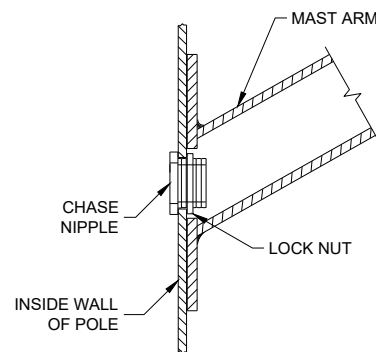
### TYPE 4 POLE MOUNTING CONFIGURATION



**LEVELING SHIM**  
SHALL BE ALUMINUM



**TYPICAL APPLICATION OF GROMMET IN POLE SHAFT**



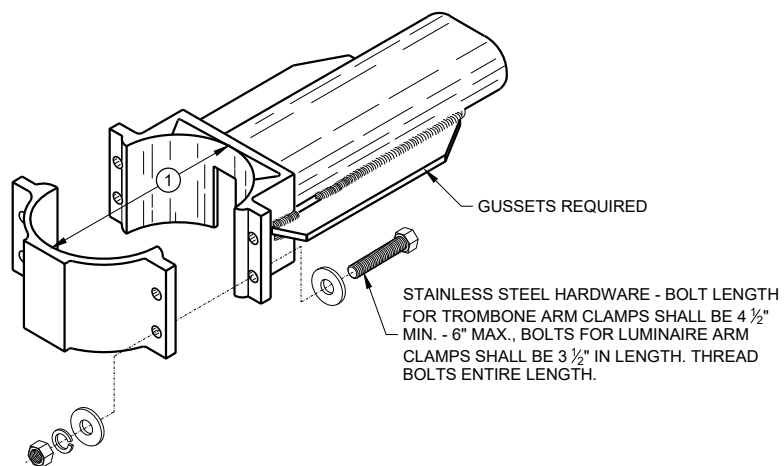
**TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT**

**GENERAL NOTES**

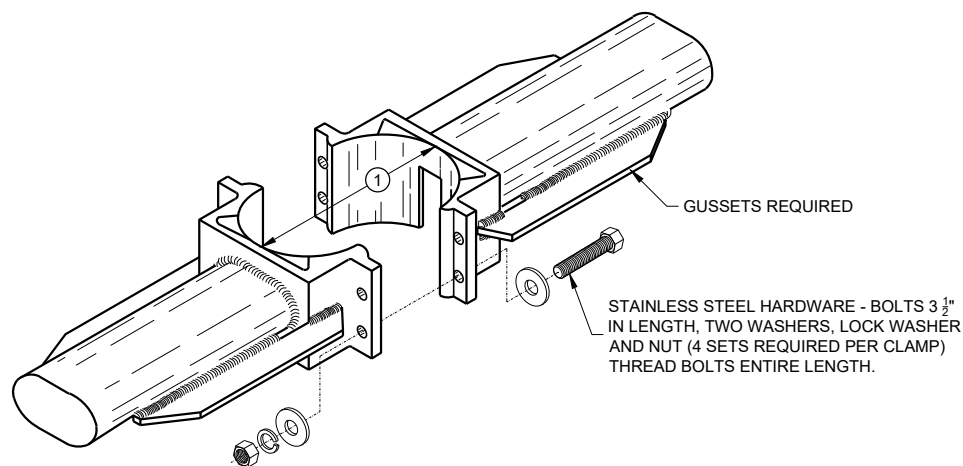
CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

- ① 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP. 6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
- ② INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
- ③ BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.
- ④ LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

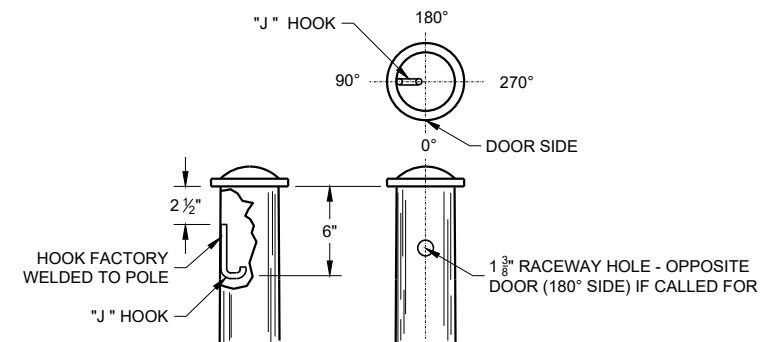
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



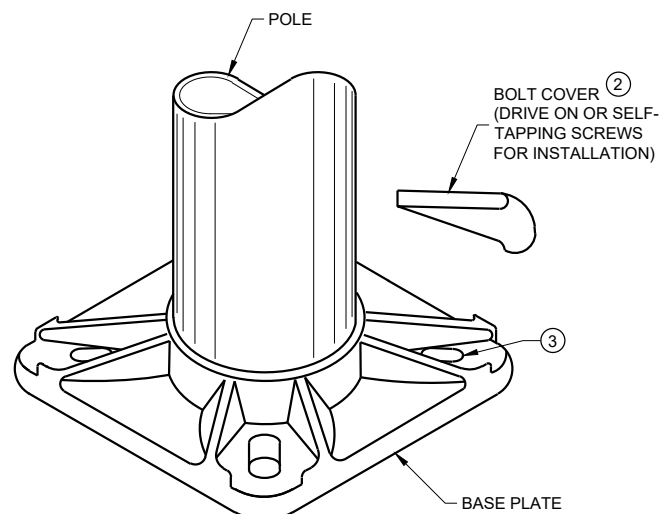
**TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP**



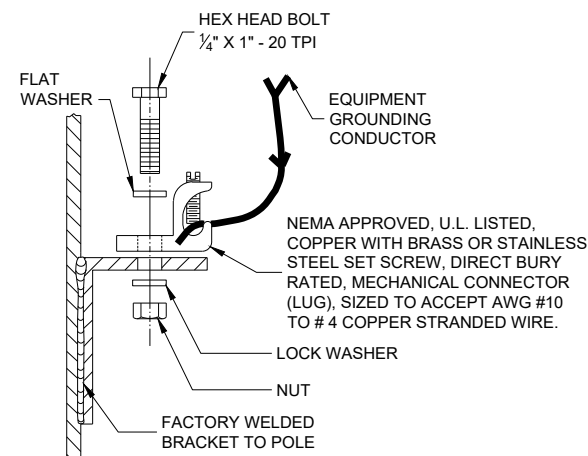
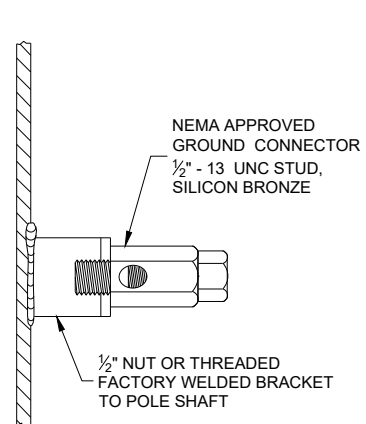
**TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS**



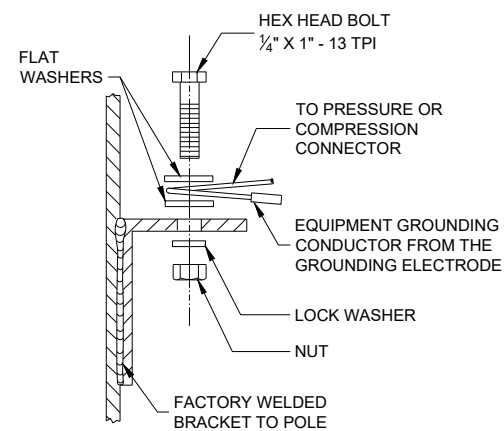
**TYPICAL "J" HOOK LOCATION**



**BASE PLATE**



**TYPICAL GROUNDING CONNECTIONS**  
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



**HARDWARE DETAILS FOR POLE MOUNTING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2018 /S/ Ahmet Demirbilek  
DATE STATE ELECTRICAL ENGINEER

FHWA

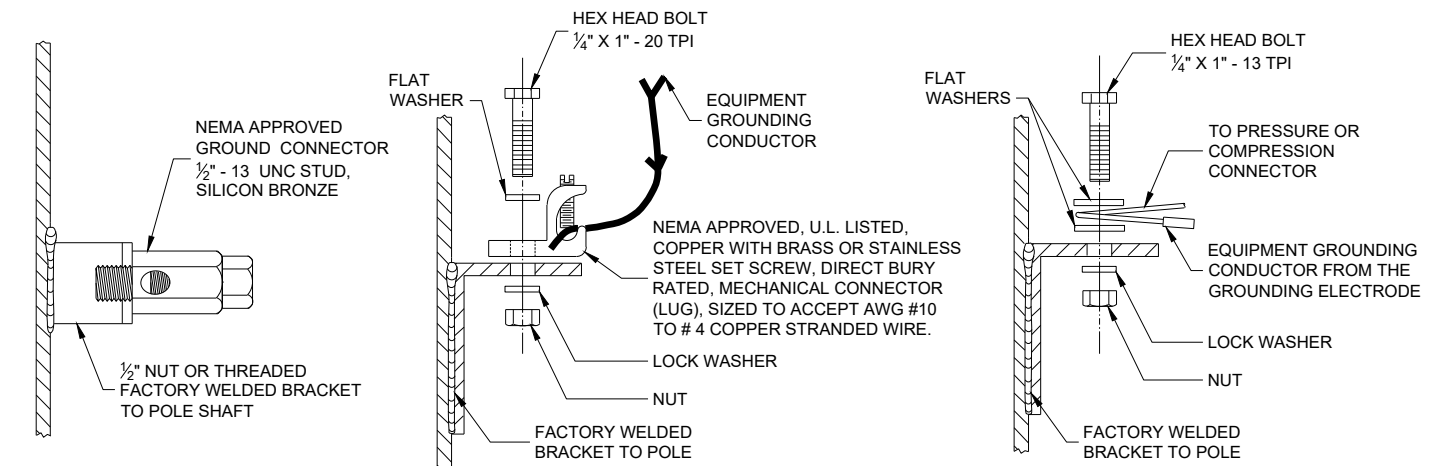
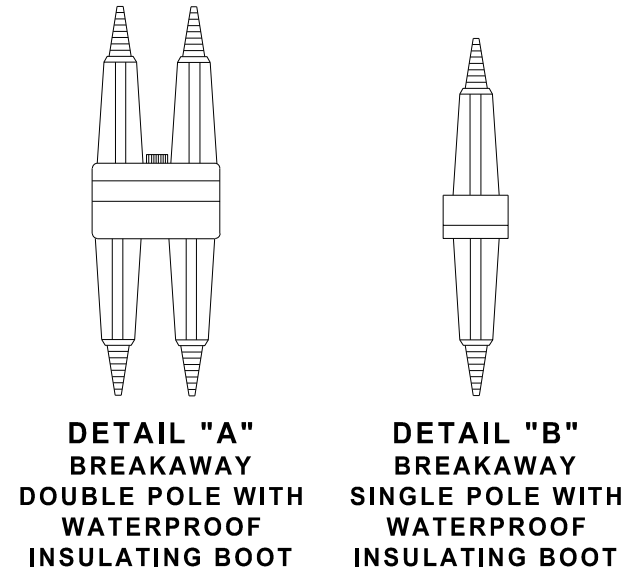
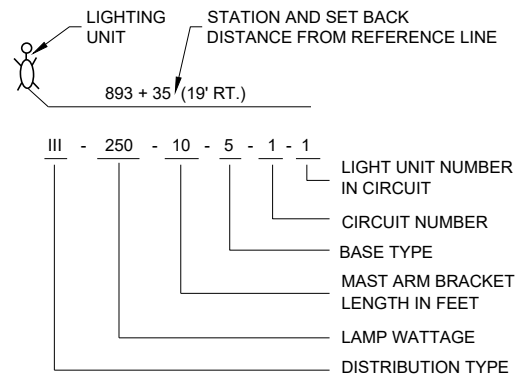


**GENERAL NOTES**

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

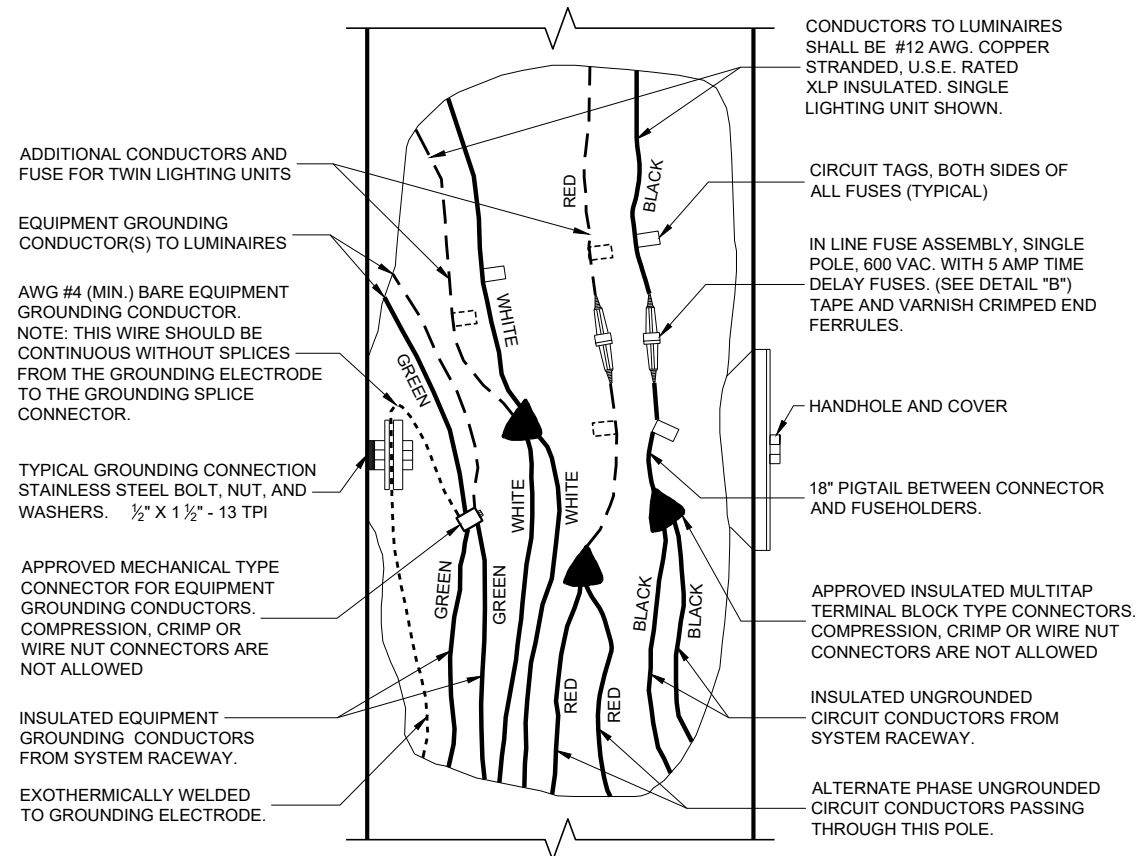
THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

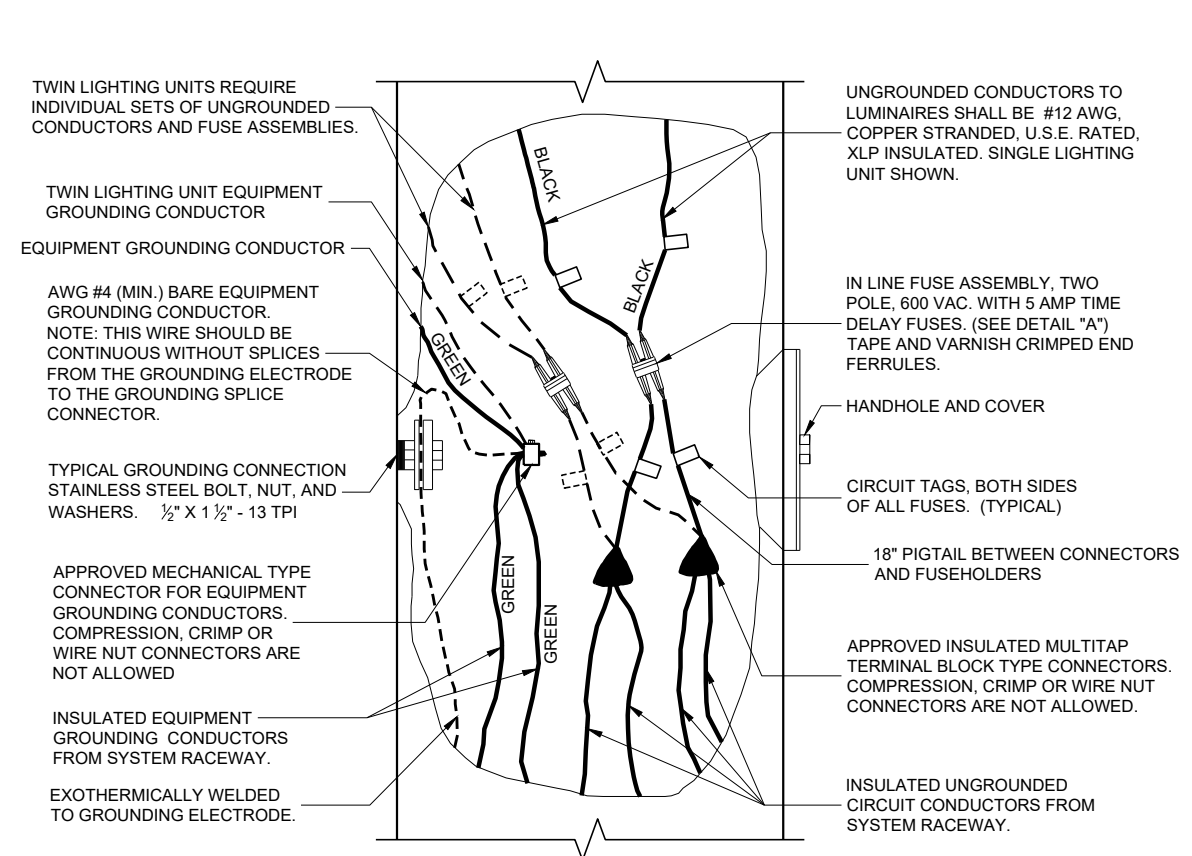


**TYPICAL GROUNDING CONNECTIONS**  
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

**LIGHTING UNIT CODE (TYPICAL)**



**3 WIRE - 120, 240 OR 480 VAC (UNGROUNDING CONDUCTORS) WITH GROUNDING CONDUCTOR AND EQUIPMENT GROUNDING CONDUCTOR**



**2 WIRE - 240 OR 480 VAC (UNGROUNDING CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR**

**NON - FREEWAY LIGHTING UNIT POLE WIRING**

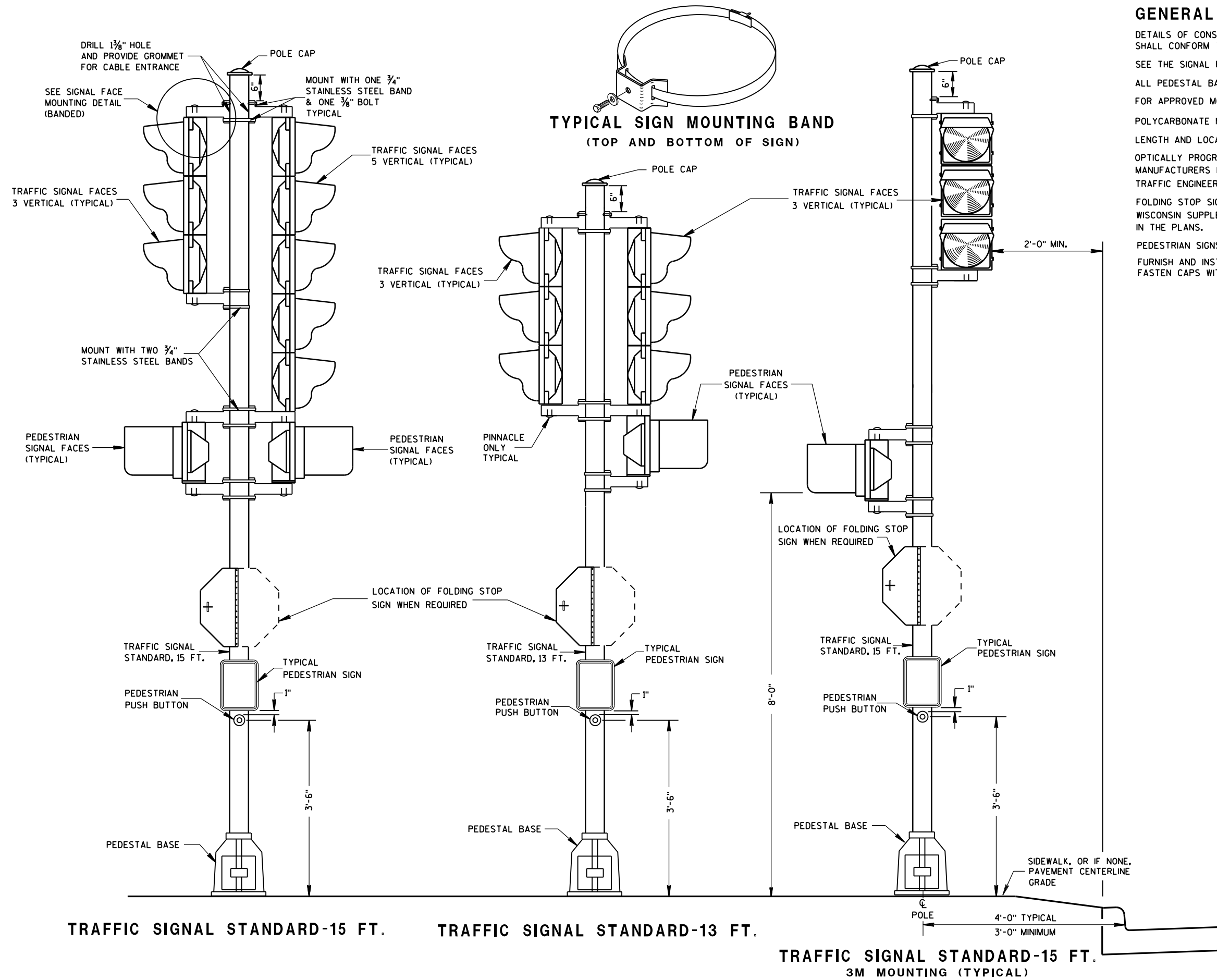
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2018 /S/ Ahmet Demirelek  
DATE STATE ELECTRICAL ENGINEER

FHWA

6

6



### GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

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

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

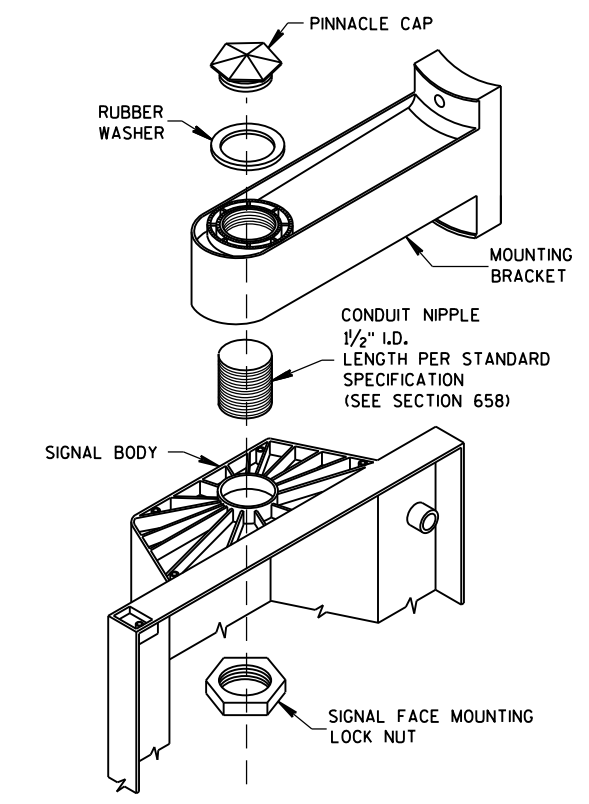
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

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



**SIGNAL FACE MOUNTING DETAIL (BANDED)**

<b>TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2/28/2013 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

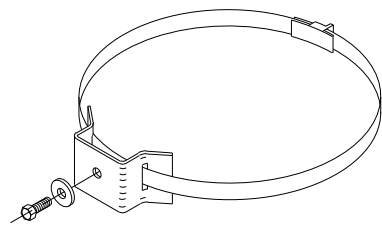
S.D.D. 9 E 6-5

S.D.D. 9 E 6-5

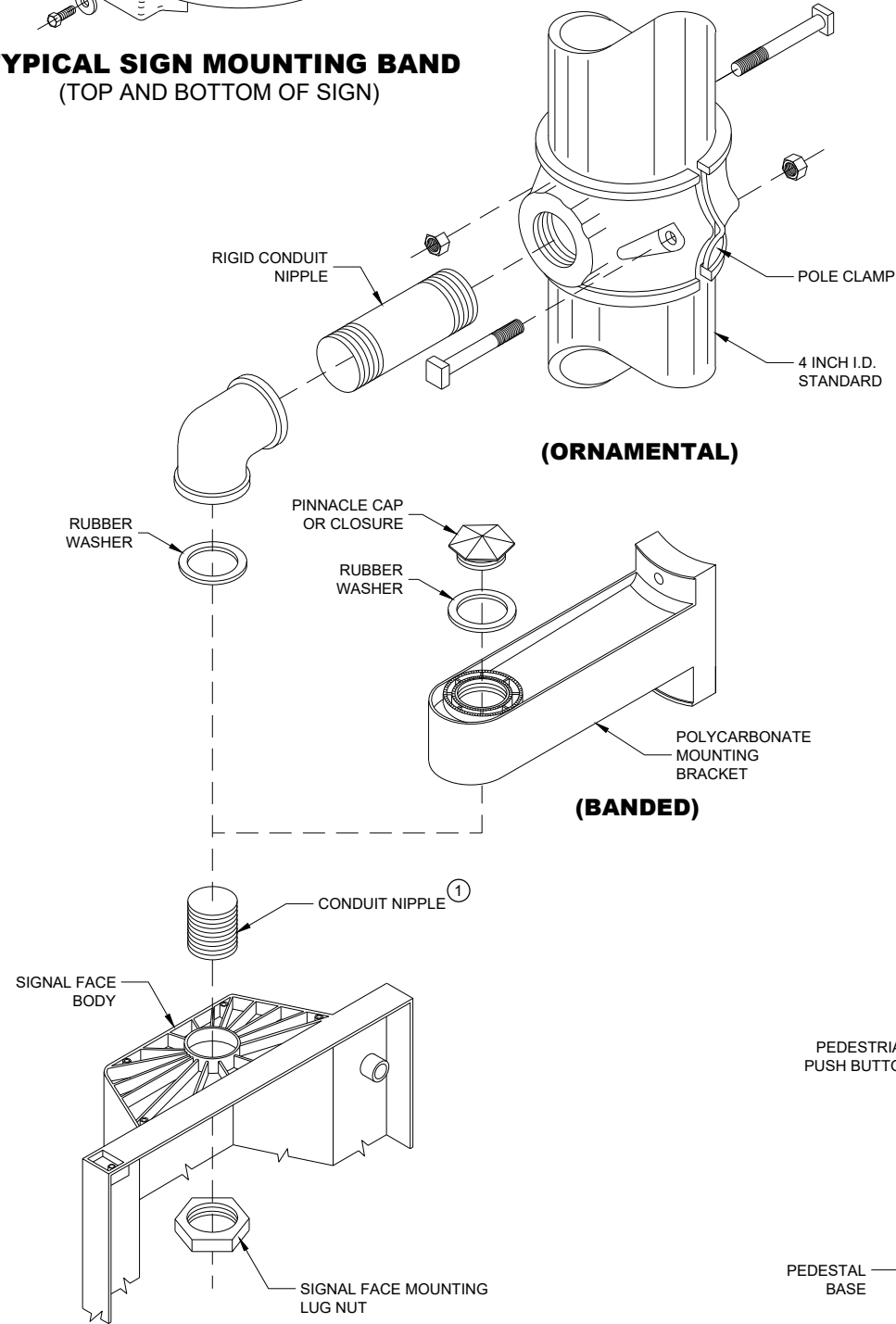
**TRAFFIC SIGNAL STANDARD-15 FT.**

**TRAFFIC SIGNAL STANDARD-13 FT.**

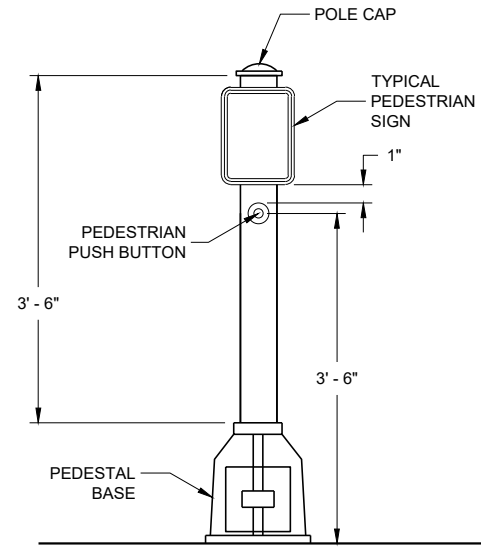
**TRAFFIC SIGNAL STANDARD-15 FT.  
3M MOUNTING (TYPICAL)**



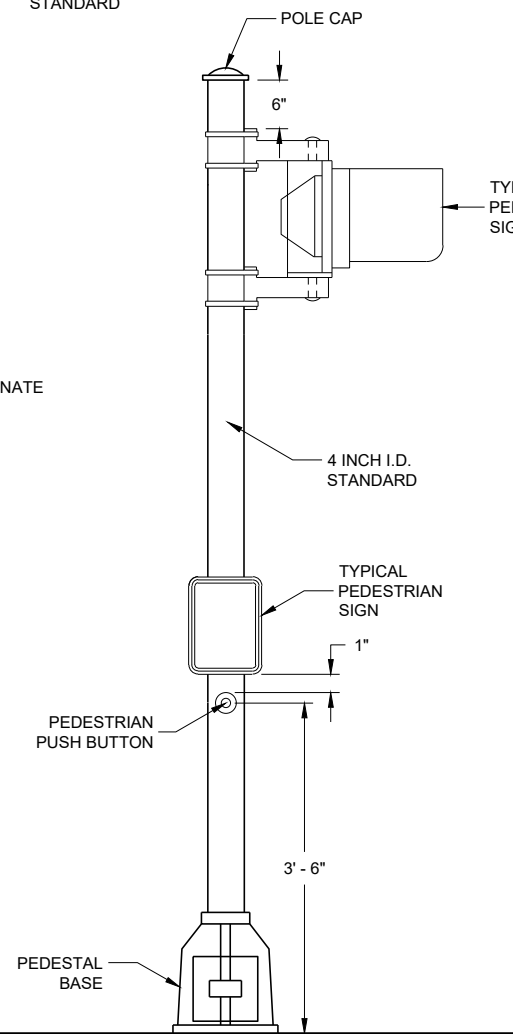
**TYPICAL SIGN MOUNTING BAND**  
(TOP AND BOTTOM OF SIGN)



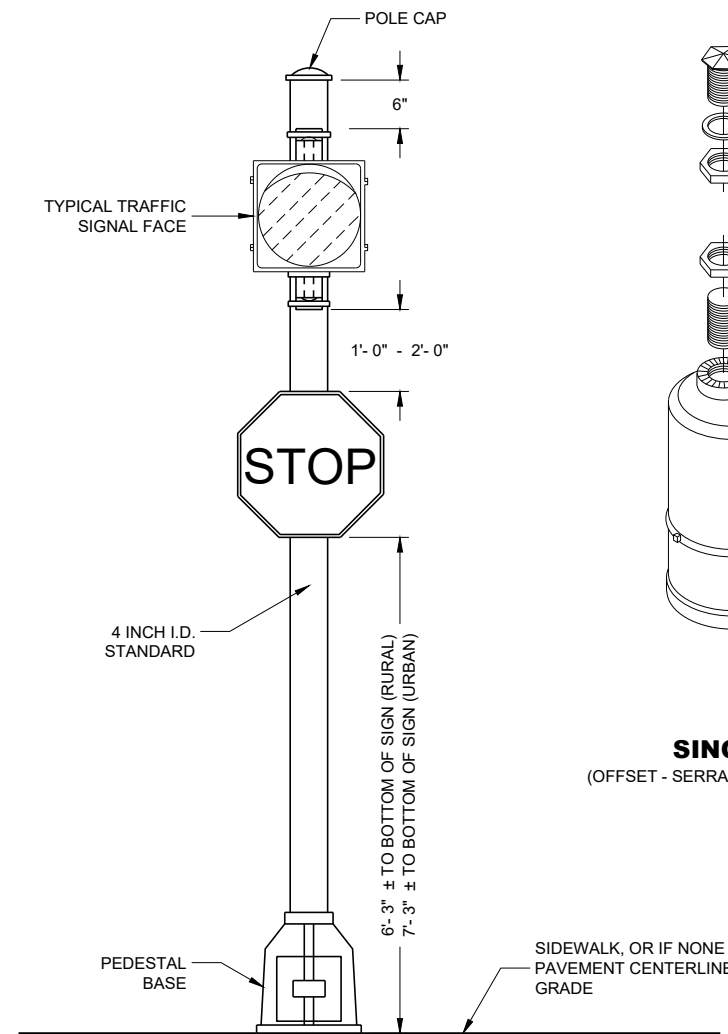
**SIGNAL FACE MOUNTING DETAILS**



**PEDESTRIAN PUSH BUTTON**  
**TYPICAL MOUNTING**



**PEDESTRIAN FACE STANDARD - 10 FT.**  
(WALK - DON'T WALK)



**STANDARD FLASHER**  
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED

**GENERAL NOTES**

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS, UNLESS APPROVED BY THE ENGINEER IN THE FIELD.

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.

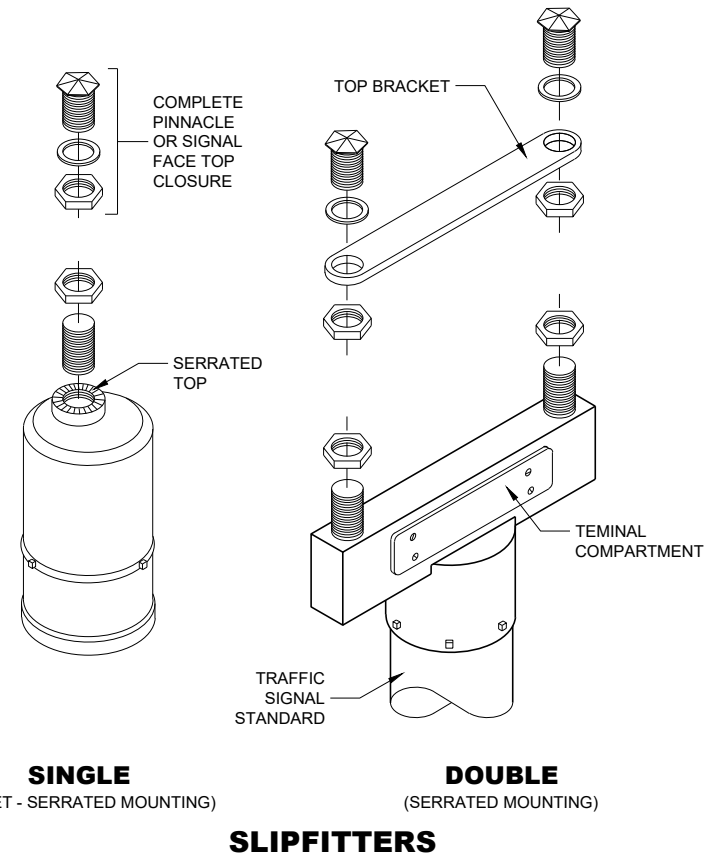
LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE REGION 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) 1/2" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

① USE 1 1/2" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 1/2" OPENING IN SIGNAL FACES AND BRACKET ENDS.

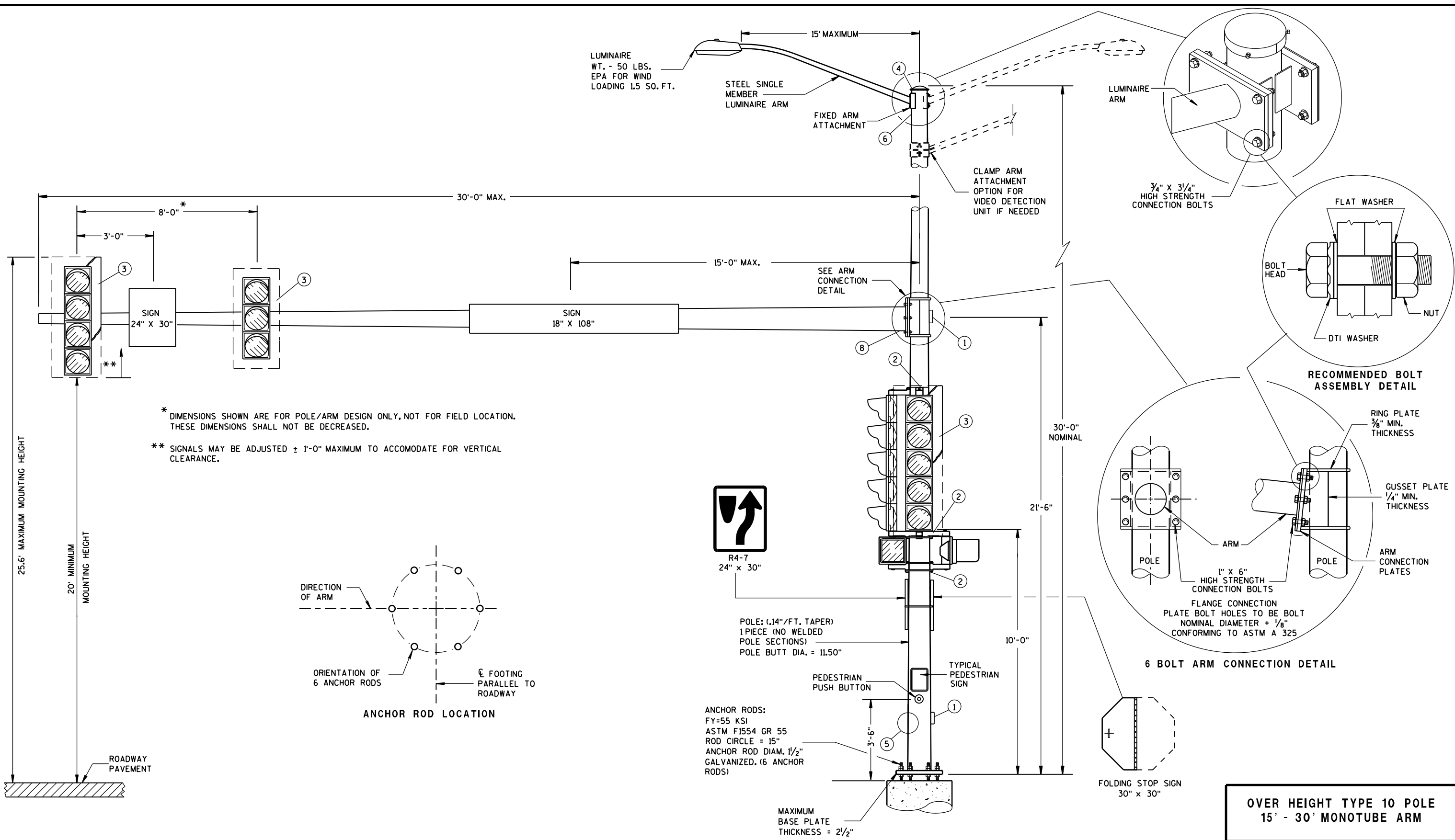


**SLIPFITTERS**

**TRAFFIC SIGNAL STANDARD**  
**PEDESTRIAN AND FLASHER**  
**TYPICAL MOUNTING DETAILS**

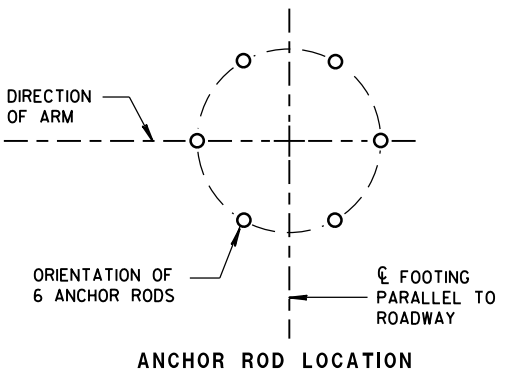
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2018 /S/ Ahmet Demirelek  
DATE STATE ELECTRICAL ENGINEER  
FHWA



\* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

\*\* SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMMODATE FOR VERTICAL CLEARANCE.



POLE: (.14"/FT. TAPER)  
 1 PIECE (NO WELDED  
 POLE SECTIONS)  
 POLE BUTT DIA. = 11.50"

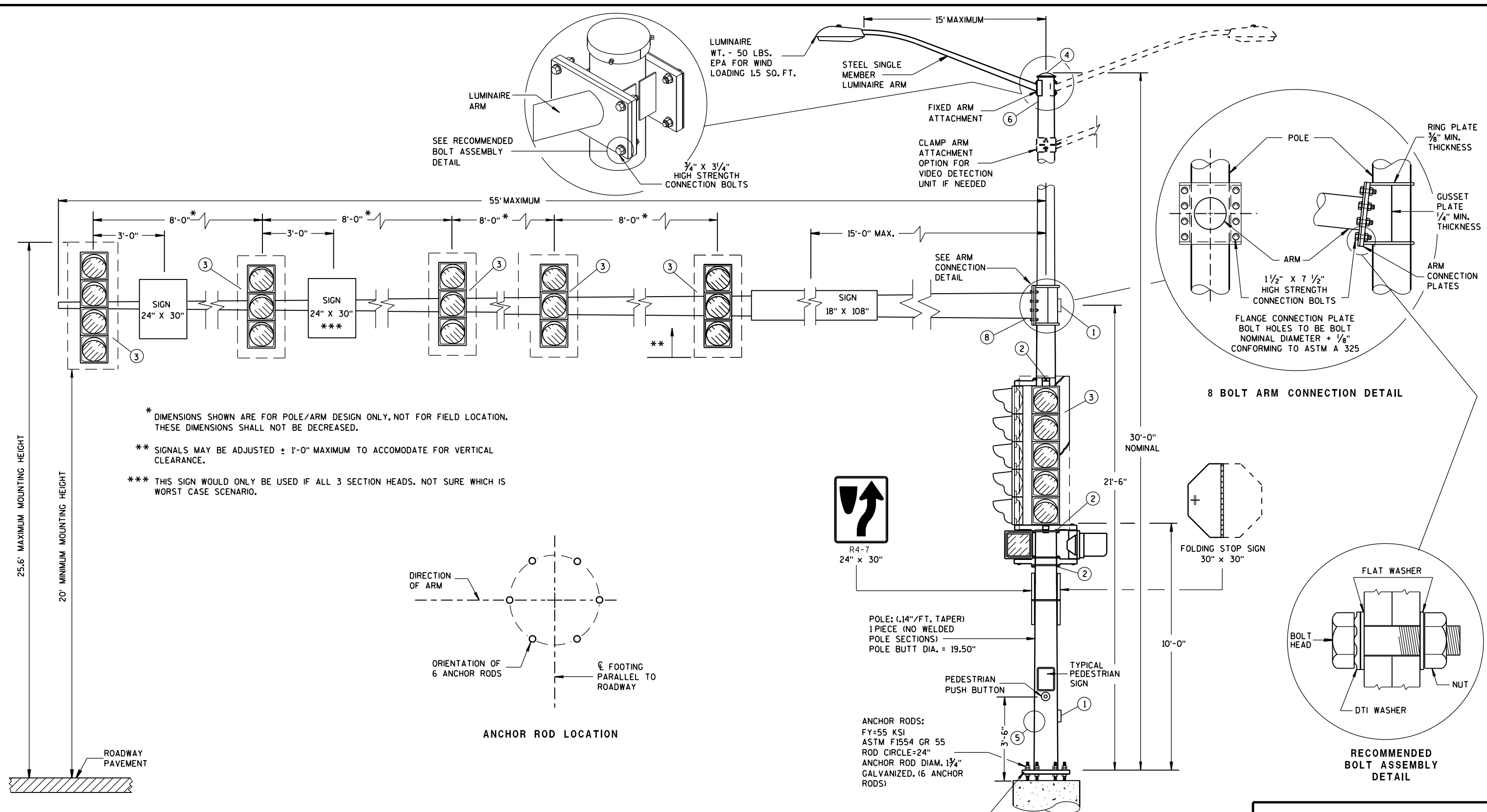
ANCHOR RODS:  
 FY=55 KSI  
 ASTM F1554 GR 55  
 ROD CIRCLE = 15"  
 ANCHOR ROD DIAM. 1 1/2"  
 GALVANIZED. (6 ANCHOR  
 RODS)

MAXIMUM  
 BASE PLATE  
 THICKNESS = 2 1/2"

FOLDING STOP SIGN  
 30" x 30"

(MAXIMUM LOAD)  
**OVER HEIGHT TYPE 10 POLE  
 15' - 30' MONOTUBE ARM**

<b>OVER HEIGHT TYPE 10 POLE 15' - 30' MONOTUBE ARM</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May, 2017 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	



(MAXIMUM LOAD)  
**OVER HEIGHT TYPE 13 POLE**  
**35' - 55' MONOTUBE ARM**

<b>OVER HEIGHT TYPE 13 POLE</b>	
<b>35' - 55' MONOTUBE ARM</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May, 2017 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

## GENERAL NOTES

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

OVER HEIGHT POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

OVER HEIGHT POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35-FOOT TO 55-FOOT.

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

RING-STIFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 ¼ ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNAL 2015 1ST EDITION (INCLUDING 2017 INTERIM REVISIONS) AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS ( AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS ( AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" S.S. BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS AT SAME ELEVATION.

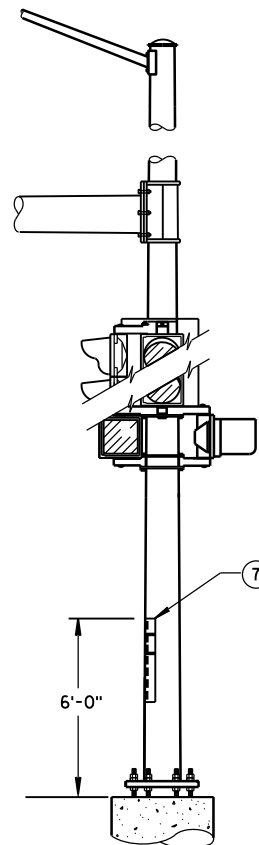
SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

- ① DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.
- ② SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).
- ③ SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.
- ④ THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.
- ⑤ FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.
- ⑥ FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.
- ⑦ INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

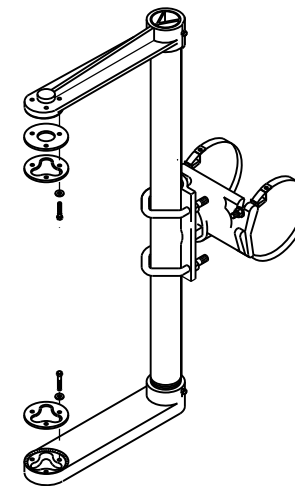
STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

MOUNTING HEIGHT SHALL BE 6'-0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

- ⑧ FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

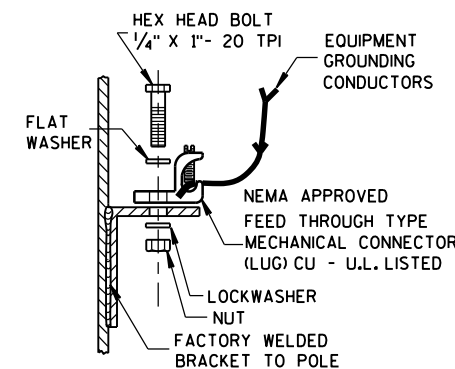


STRUCTURAL IDENTIFICATION  
PLAQUE PLACEMENT



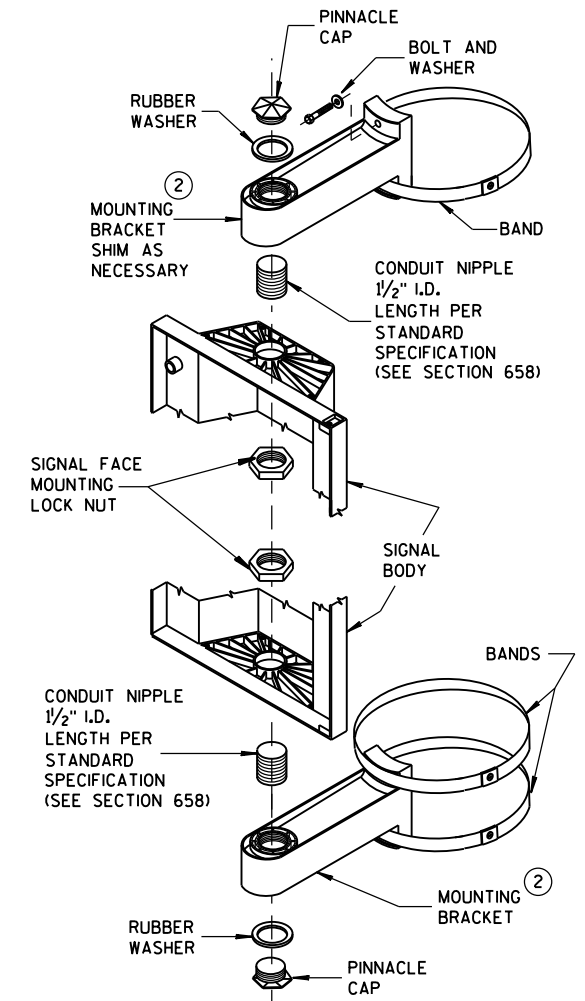
SIGNAL FACE MOUNTING BRACKET  
DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

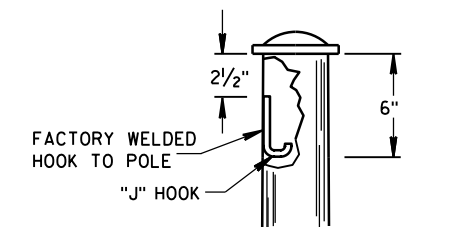


TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL  
BE STAINLESS STEEL



SIGNAL FACE  
VERTICAL MOUNTING DETAIL

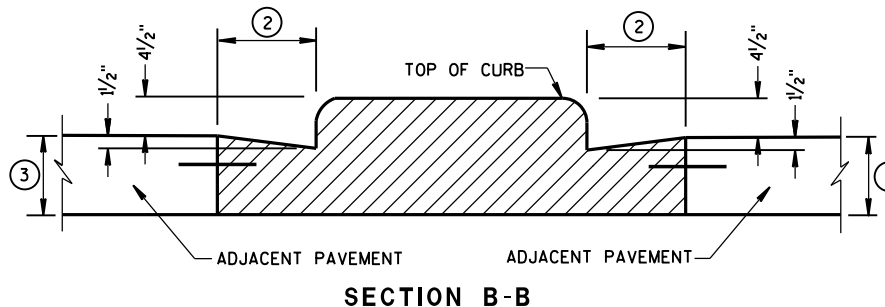
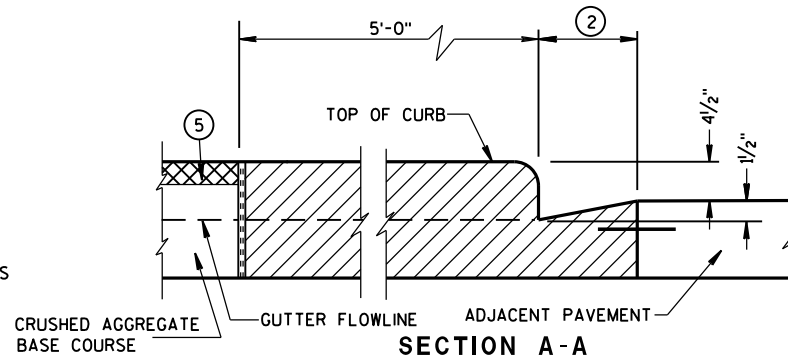
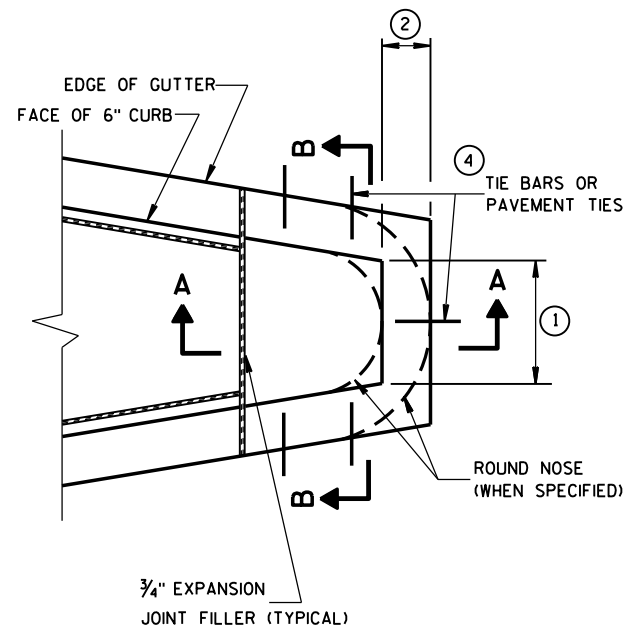
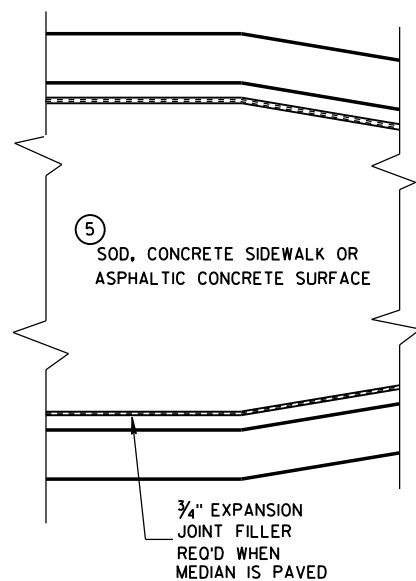


"J" HOOK WIRE SUPPORT

GENERAL NOTES AND HARDWARE  
DETAILS FOR OVER HEIGHT  
TYPE 9, 10, 12 & 13 POLES  
WITH MONOTUBE ARMS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2017 /S/ Ahmet Demirbilek  
DATE STATE ELECTRICAL ENGINEER  
FHWA

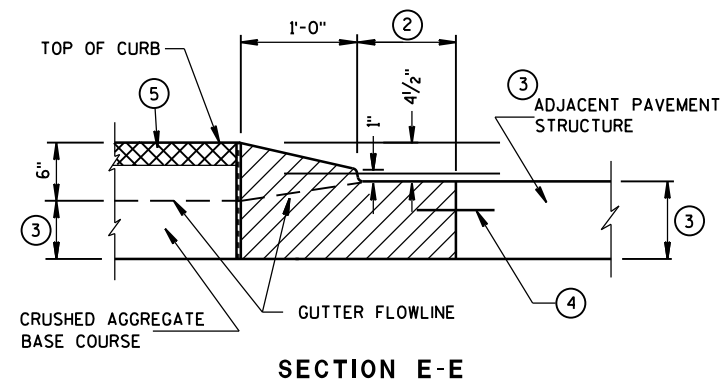
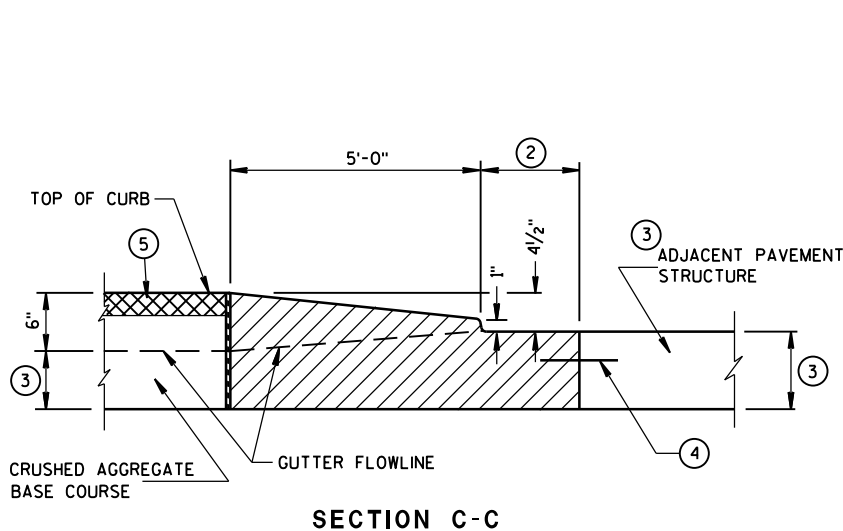
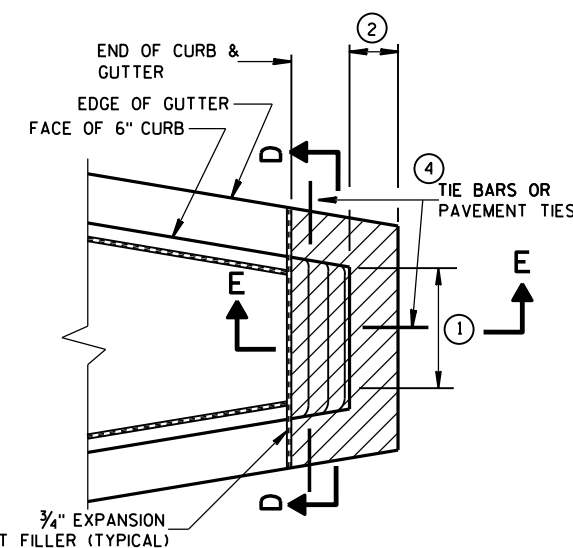


CONCRETE MEDIAN BLUNT NOSE DETAIL

**GENERAL NOTES**

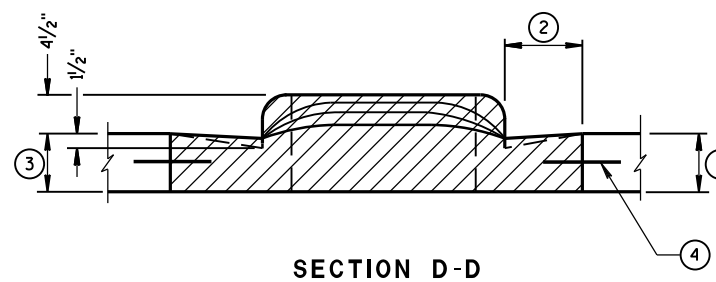
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
  - (1) NEW OR EXISTING CONCRETE PAVEMENT.
  - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
  - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.
- ④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.
- PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.
- ⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.



CONCRETE MEDIAN SLOPED NOSE TYPE 2

CONCRETE MEDIAN SLOPED NOSE TYPE 1



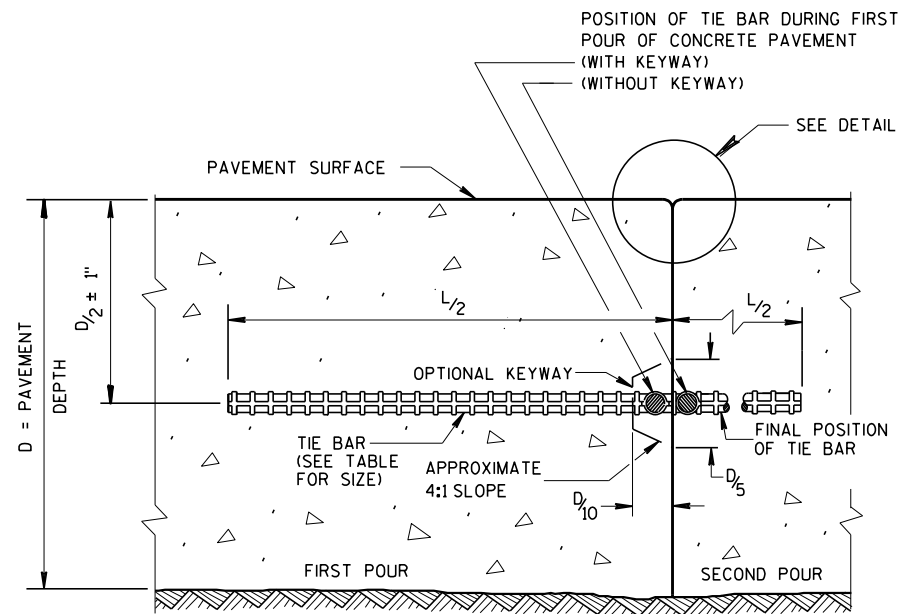
<b>CONCRETE MEDIAN NOSE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/8/2006 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

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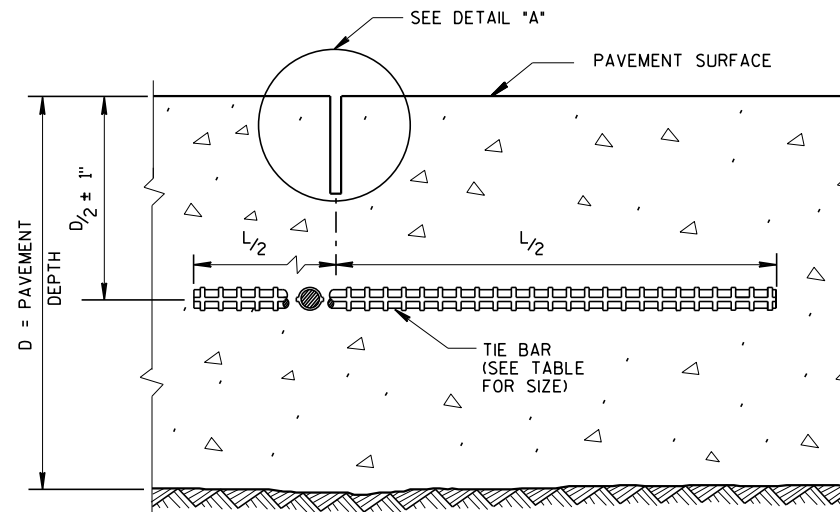
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S.D.D. 11 B 2-2

S.D.D. 11 B 2-2



**CONSTRUCTION JOINT**



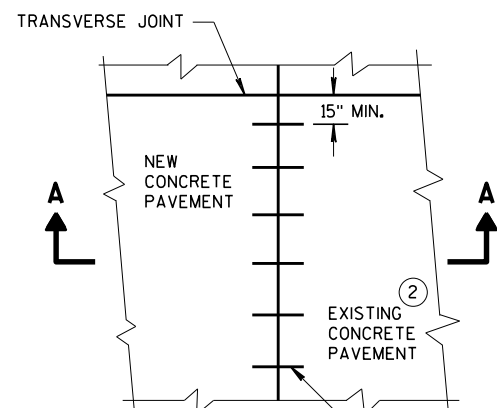
**SAWED JOINT**

**GENERAL NOTES**

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

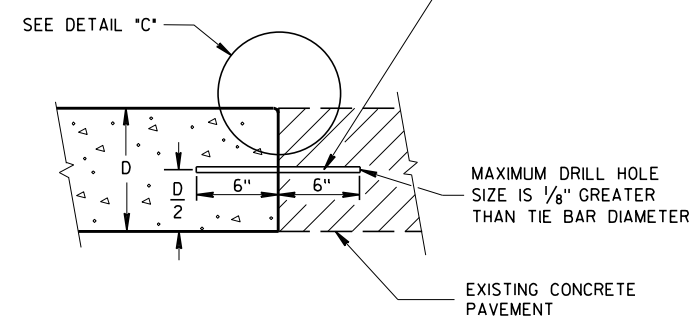
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

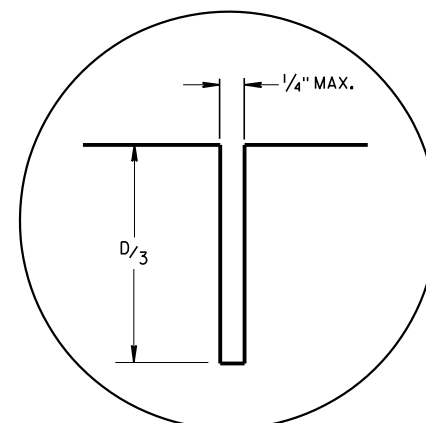


**PLAN VIEW**

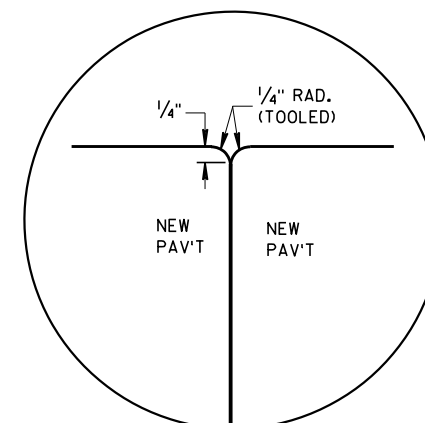
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



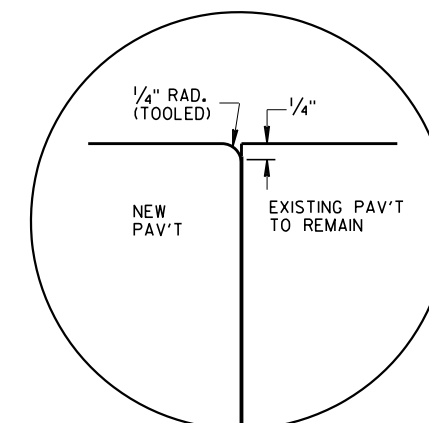
**SECTION A-A  
LONGITUDINAL CONSTRUCTION JOINT  
TIE BARS ANCHORED  
INTO EXISTING PAVEMENT**



**DETAIL "A"**



**DETAIL "B"**



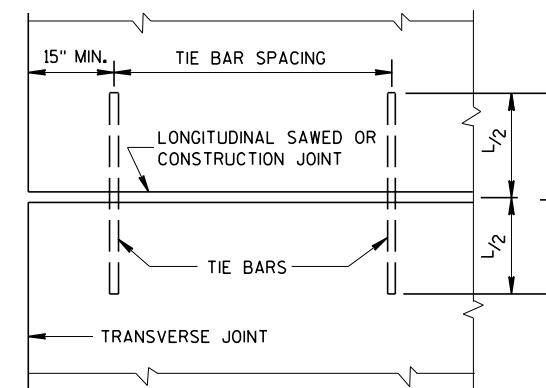
**DETAIL "C"**

**TIE BAR TABLE**

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

\* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

\*\* CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



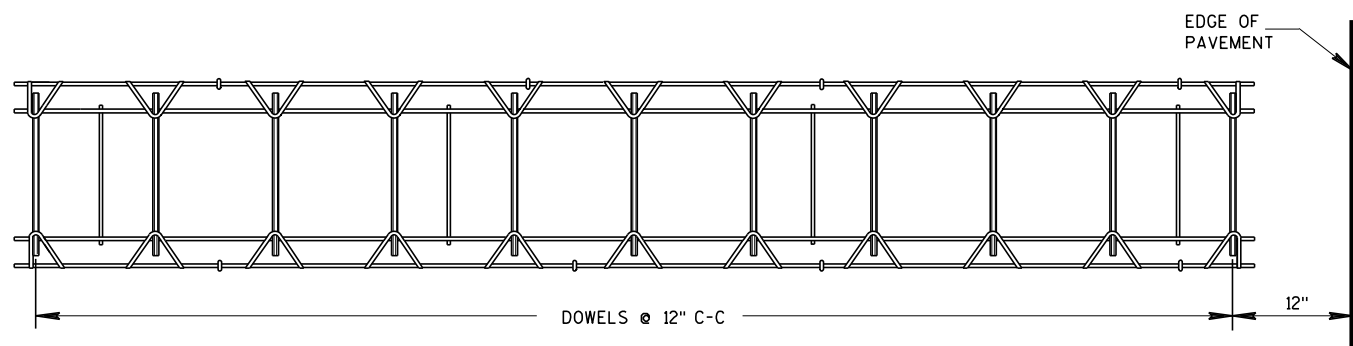
**PLAN VIEW  
SHOWING LOCATION OF TIE BARS**

**CONCRETE PAVEMENT  
LONGITUDINAL JOINTS AND TIES**

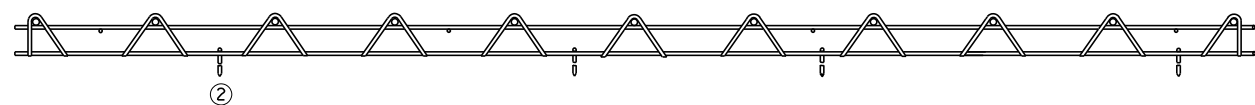
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
March 2018 /S/ Peter Kemp, P.E.  
DATE PAVEMENT SUPERVISOR  
FHWA





PLAN VIEW



SIDE VIEW  
CONTRACTION JOINT DOWEL ASSEMBLY

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

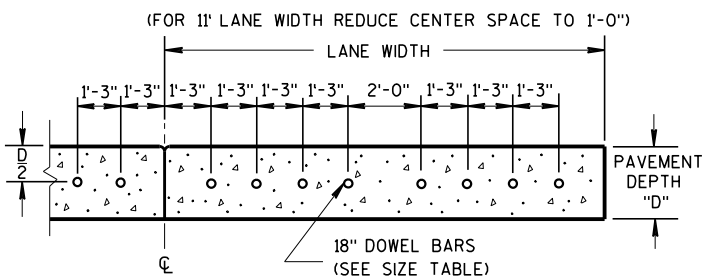
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

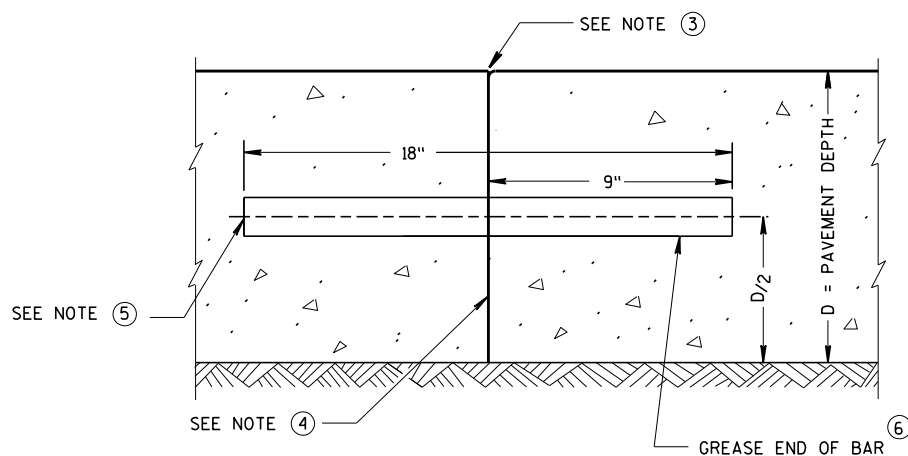
CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

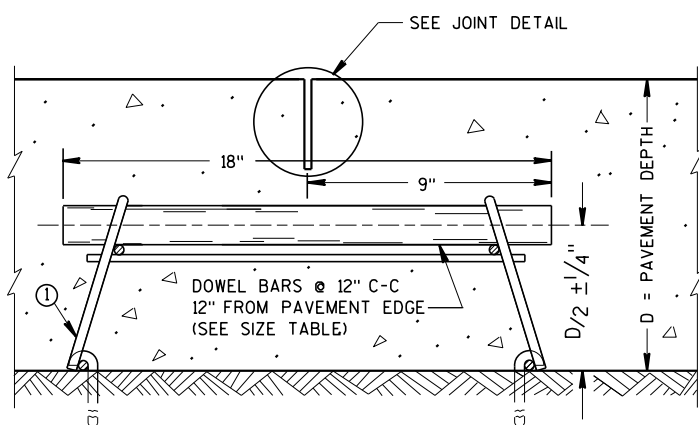
- ① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.
- ② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- ③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.
- ④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- ⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO DRILLED DOWEL BAR CONSTRUCTION JOINT DETAIL.
- ⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



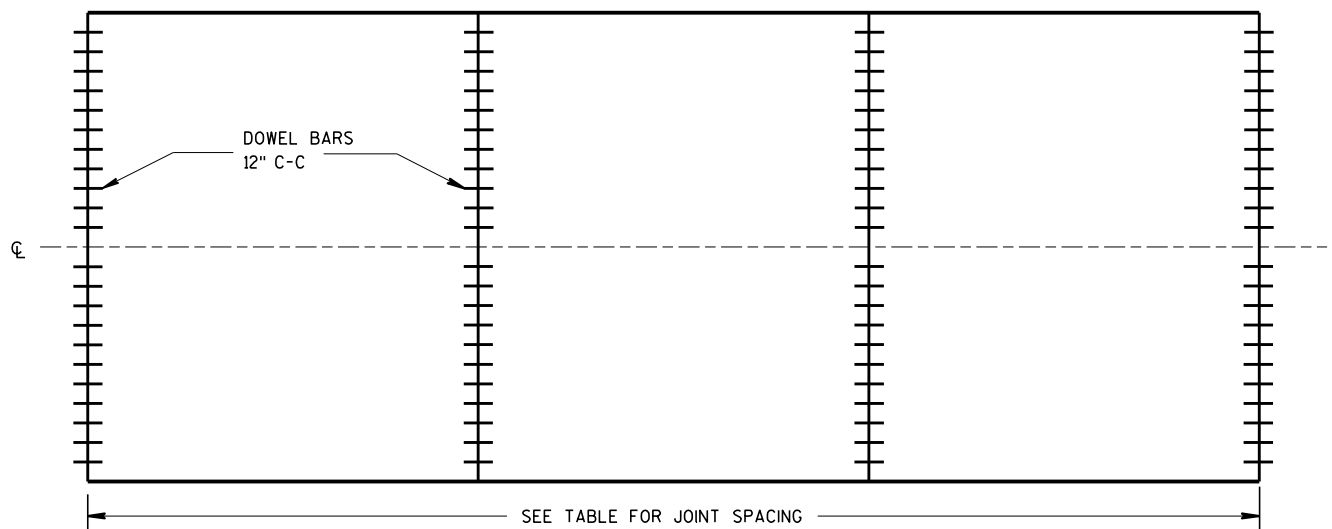
DRILLED DOWEL BAR CONSTRUCTION JOINT



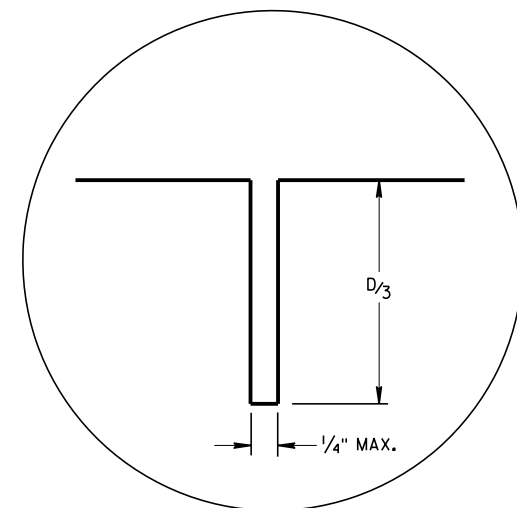
TRANSVERSE CONSTRUCTION JOINT



DOWELED CONTRACTION JOINT



CONTRACTION JOINT LOCATIONS

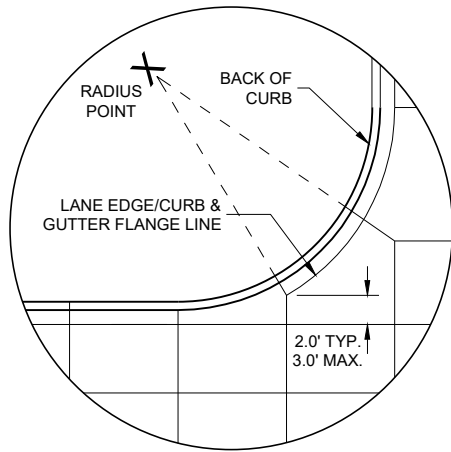


JOINT DETAIL

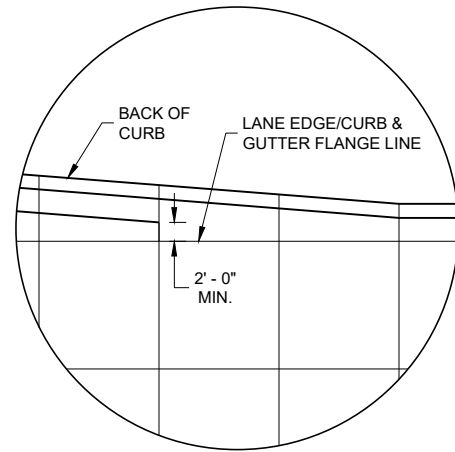
URBAN DOWELED  
CONCRETE PAVEMENT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

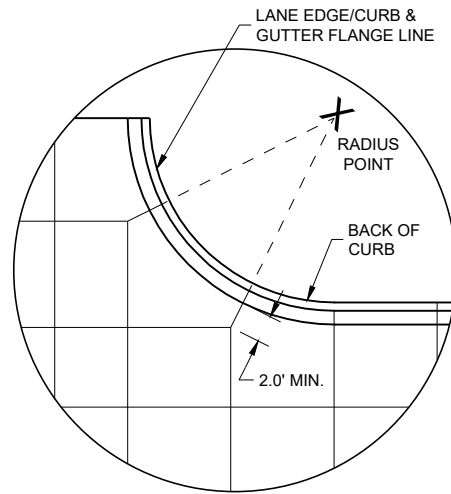
APPROVED  
March 2018 /S/ Peter Kemp, P.E.  
DATE PAVEMENT SUPERVISOR  
FHWA



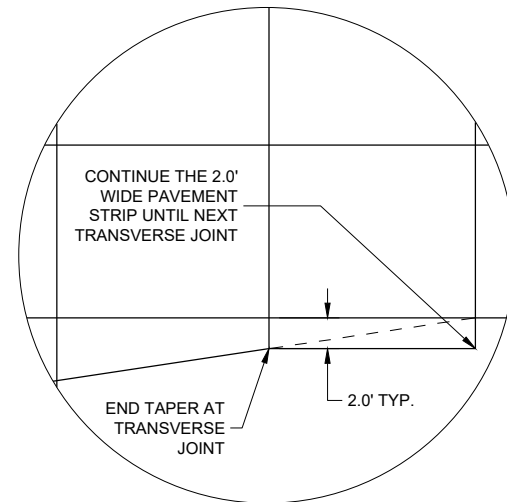
DETAIL "A"



DETAIL "B"



DETAIL "C"

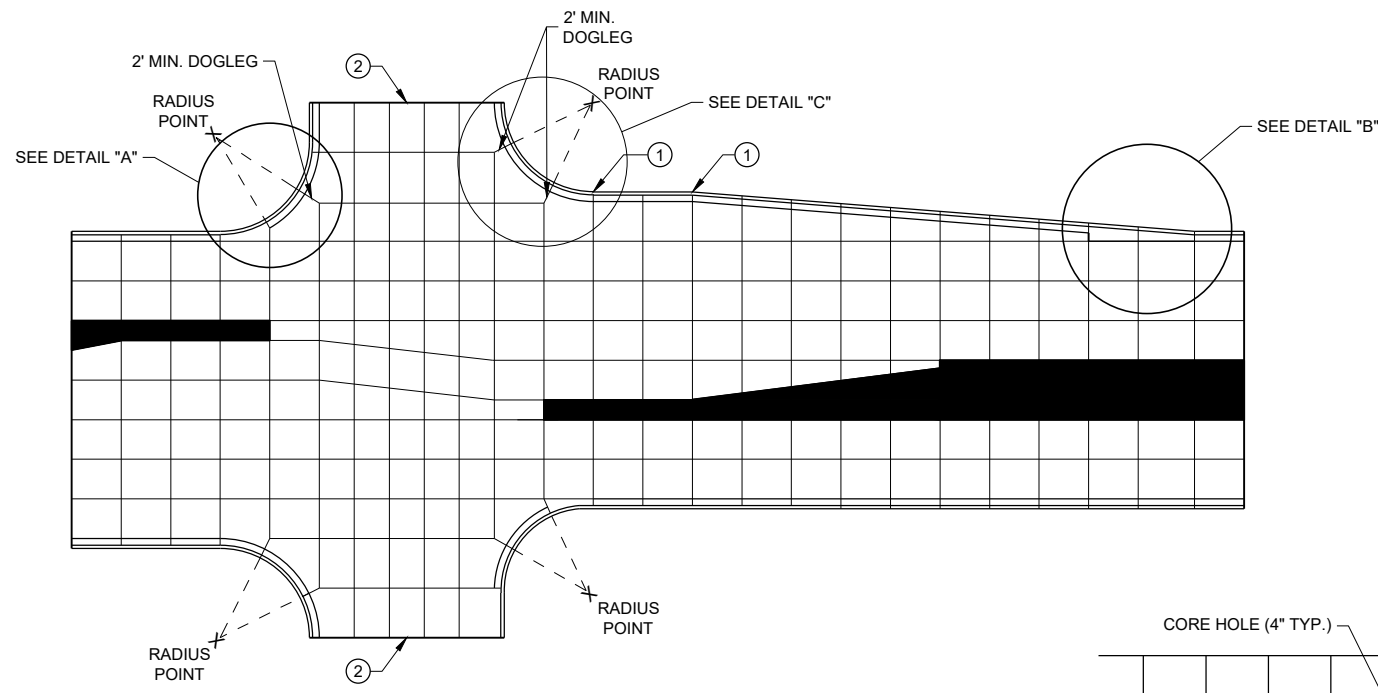


DETAIL "D"

**GENERAL NOTES**

- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
- ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
- CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
- ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.
- AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.
- SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.
- AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

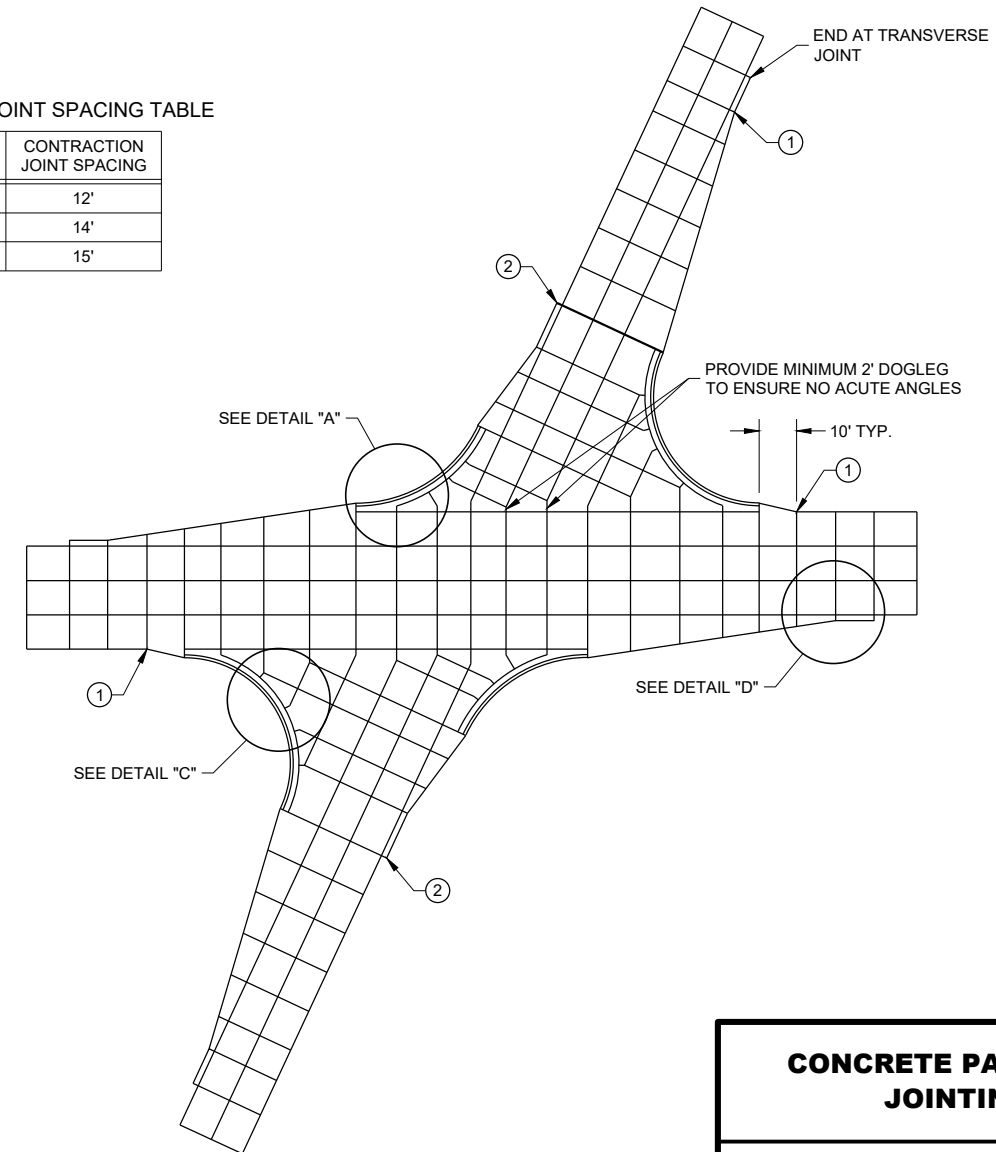
- ① PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
- ② CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
- ③ THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



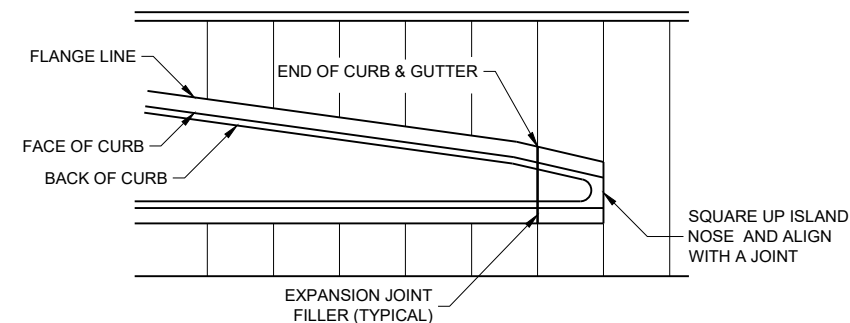
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

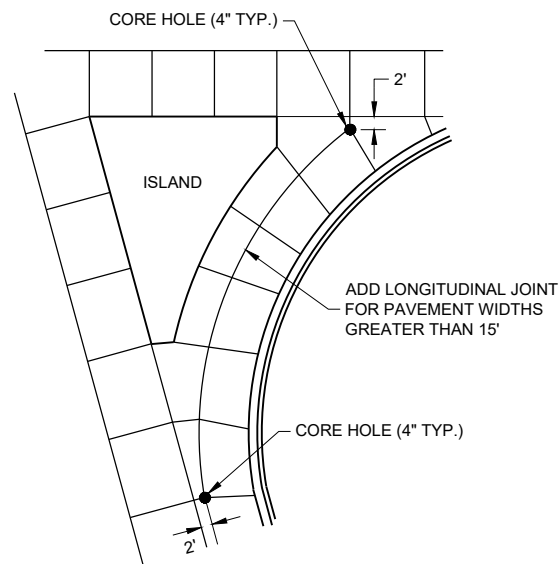
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

**CONCRETE PAVEMENT JOINTING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

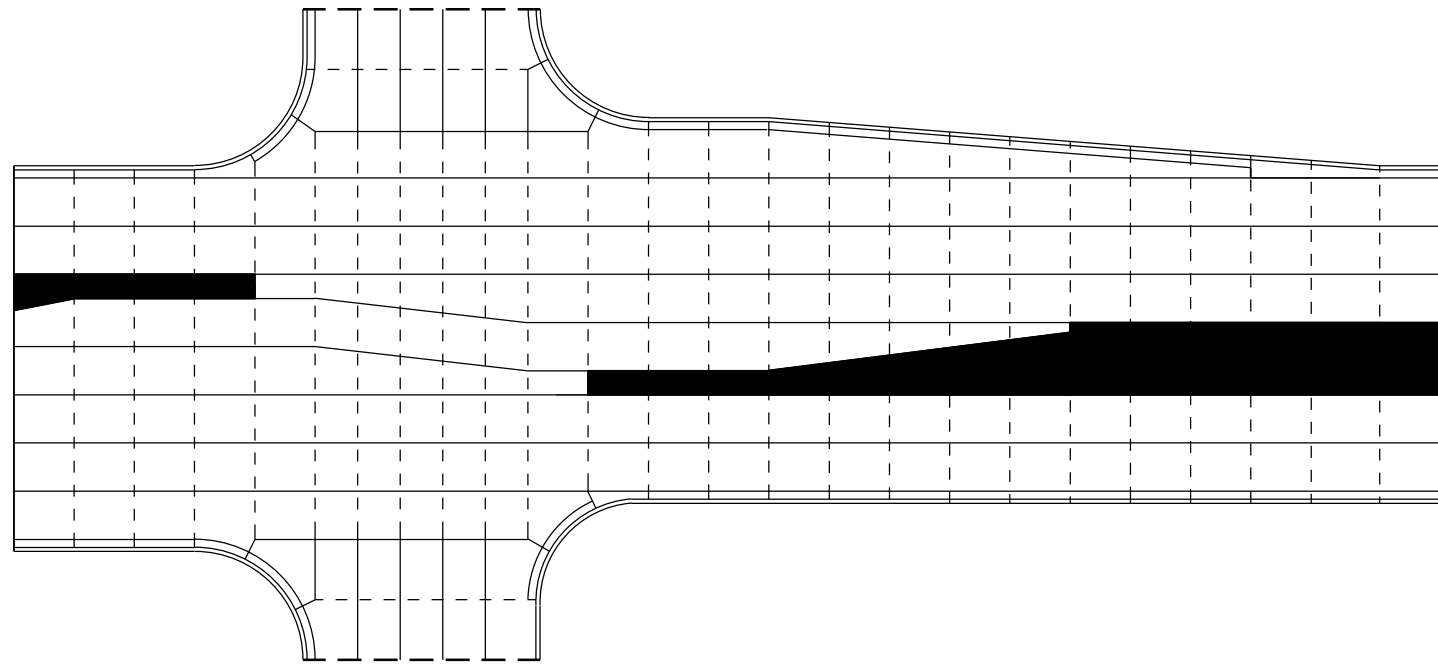
**LEGEND**

- - - - - POTENTIAL DOWELED EXPANSION JOINT
- - - - - DOWELED JOINT
- TIED JOINT

**GENERAL NOTES**

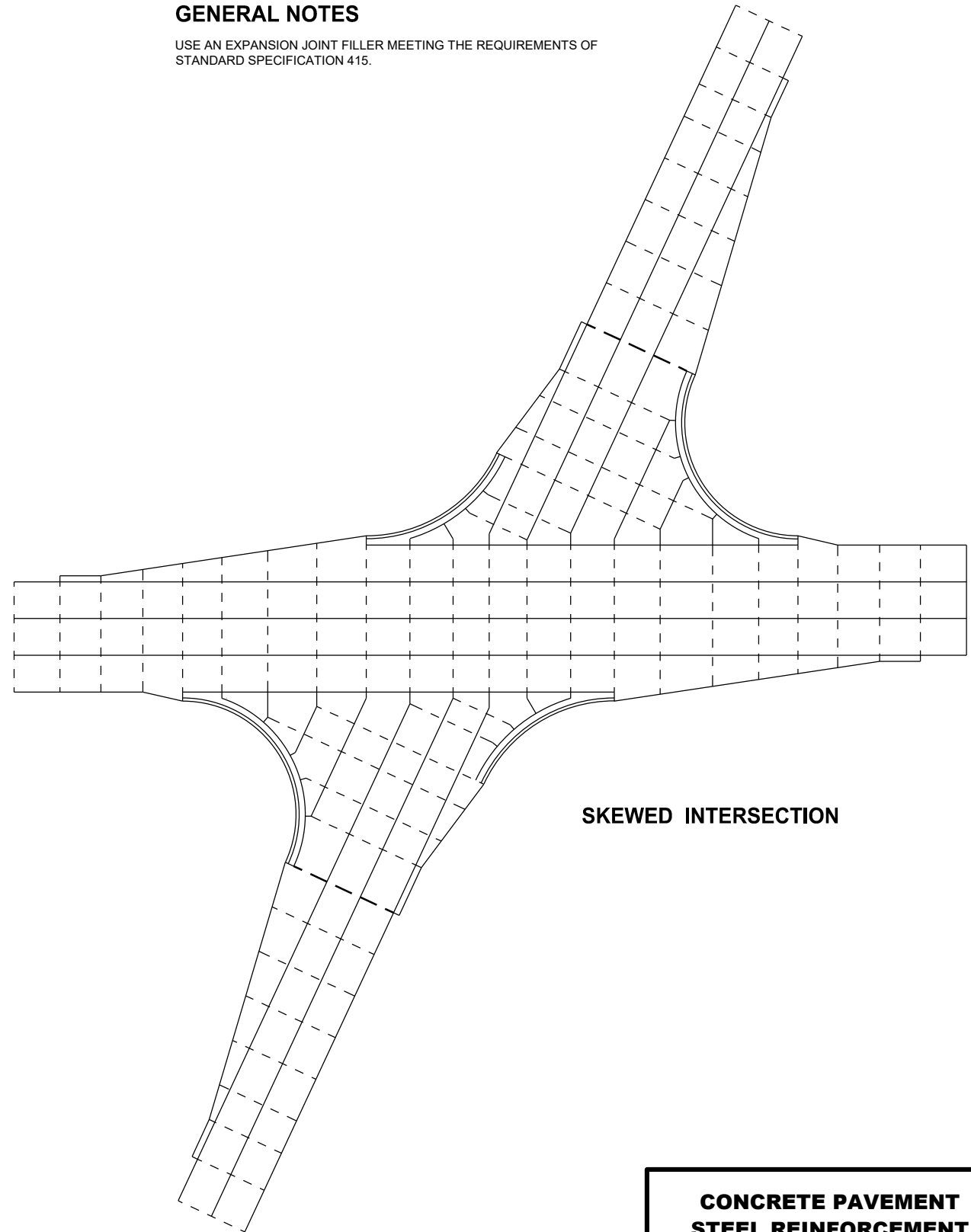
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.

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**STANDARD INTERSECTION**

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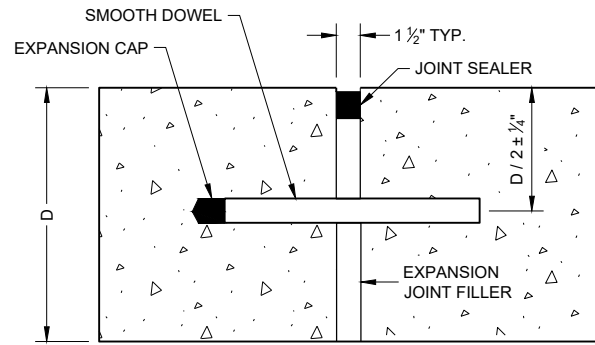
**SKEWED INTERSECTION**

**SDD 13C18 - 07b**

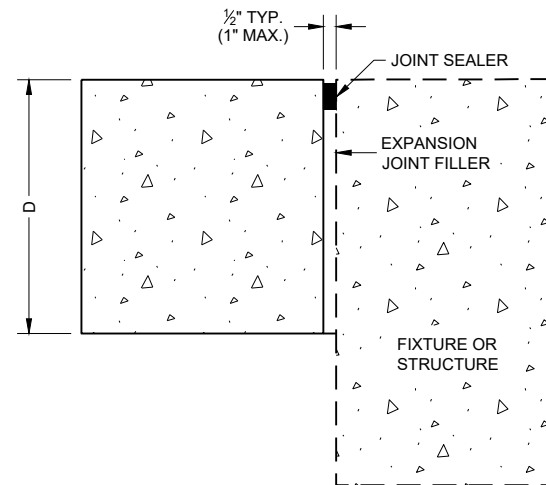
**SDD 13C18 - 07b**

**CONCRETE PAVEMENT  
STEEL REINFORCEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**DOWELED TRANSVERSE** ①



**UNTIED - LONGITUDINAL**

**EXPANSION JOINTS**

**TIE BAR TABLE**

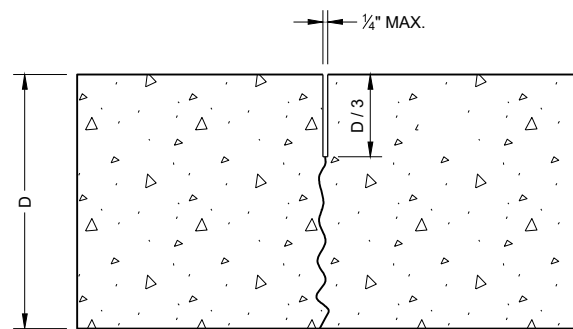
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24" **

\* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

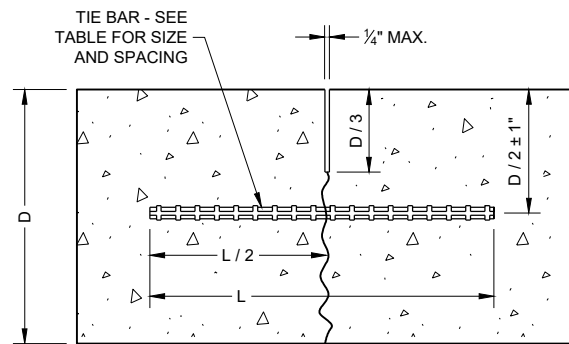
\*\* CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

**GENERAL NOTES**

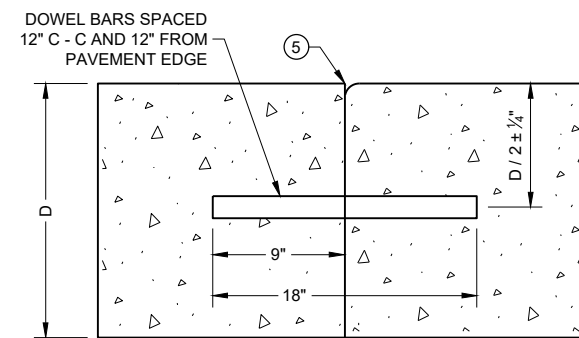
- ① USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
- ② SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
- ③ LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
- ④ CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
- ⑤ IF JOINT IS FORMED, PROVIDE A 1/4" RADIUS.
- ⑥ ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



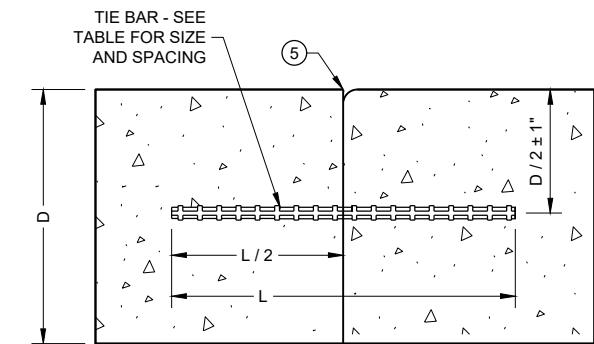
**UNDOWELED TRANSVERSE**



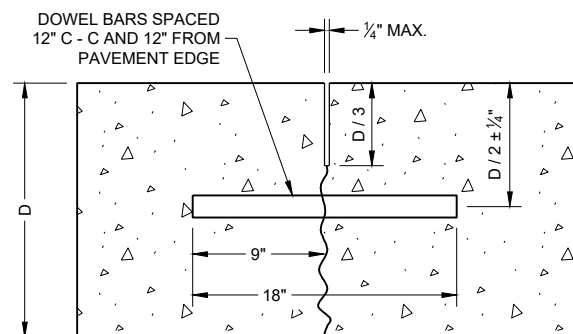
**TIED LONGITUDINAL**



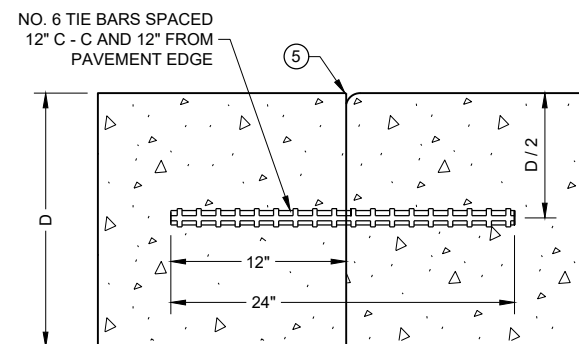
**DOWELED TRANSVERSE** ③



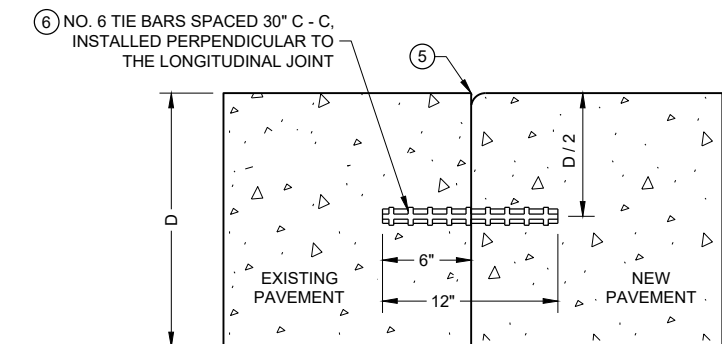
**TIED LONGITUDINAL**



**DOWELED TRANSVERSE**



**TIED TRANSVERSE** ③  
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



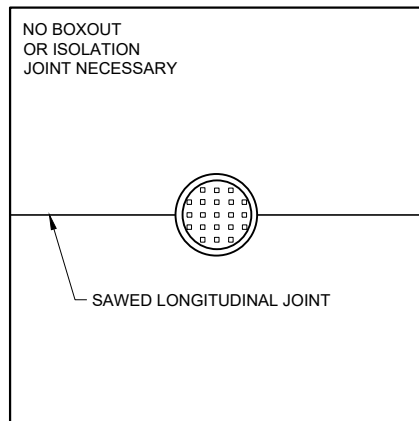
**TIED LONGITUDINAL TO EXISTING**

**CONTRACTION JOINTS** ②

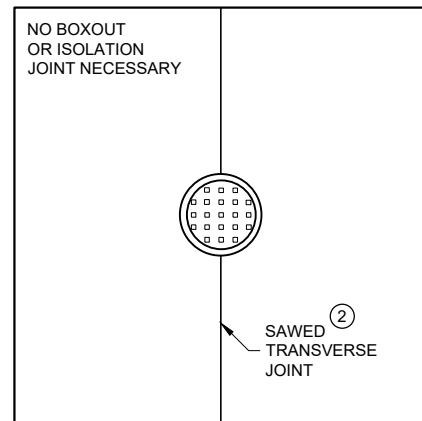
**CONSTRUCTION JOINTS** ④

**CONCRETE PAVEMENT JOINT TYPES**

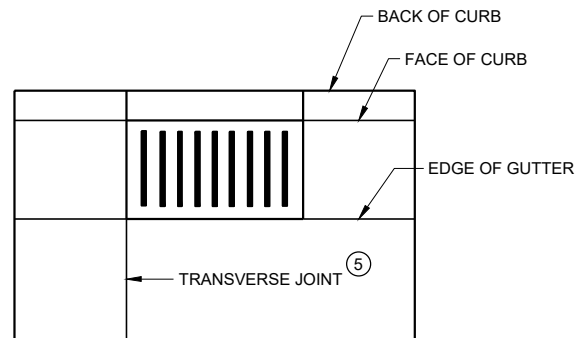
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**MANHOLE WITH LONGITUDINAL JOINT**



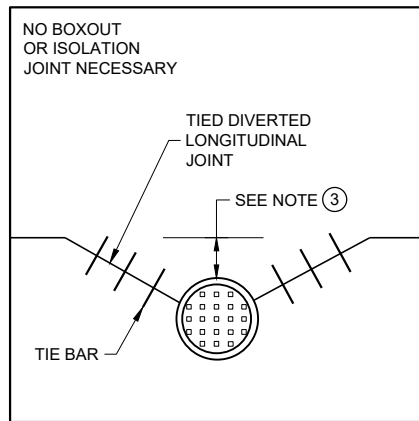
**MANHOLE WITH TRANSVERSE JOINT**



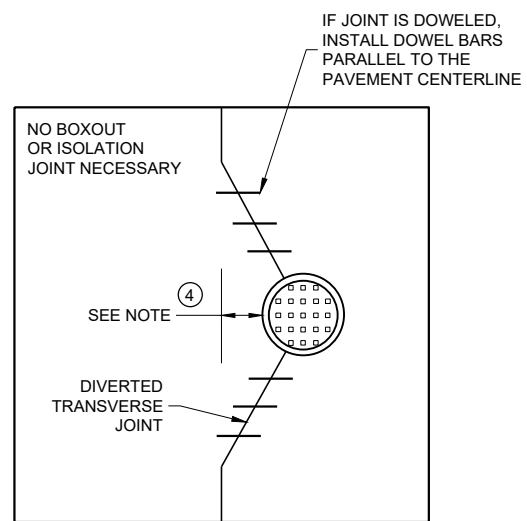
**INLET WITH TRANSVERSE JOINT**

**GENERAL NOTES**

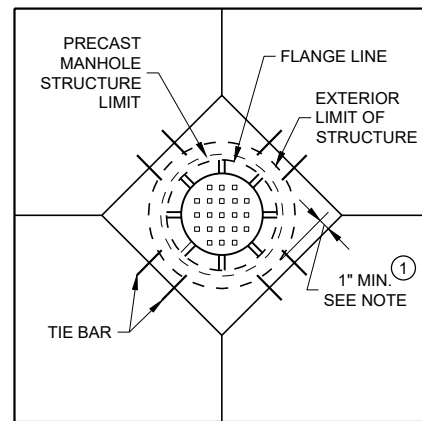
- ① USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
- ② ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
- ③ IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
- ④ IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS LESS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
- ⑤ ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.



**MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT**



**MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT**



**DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS**

**CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

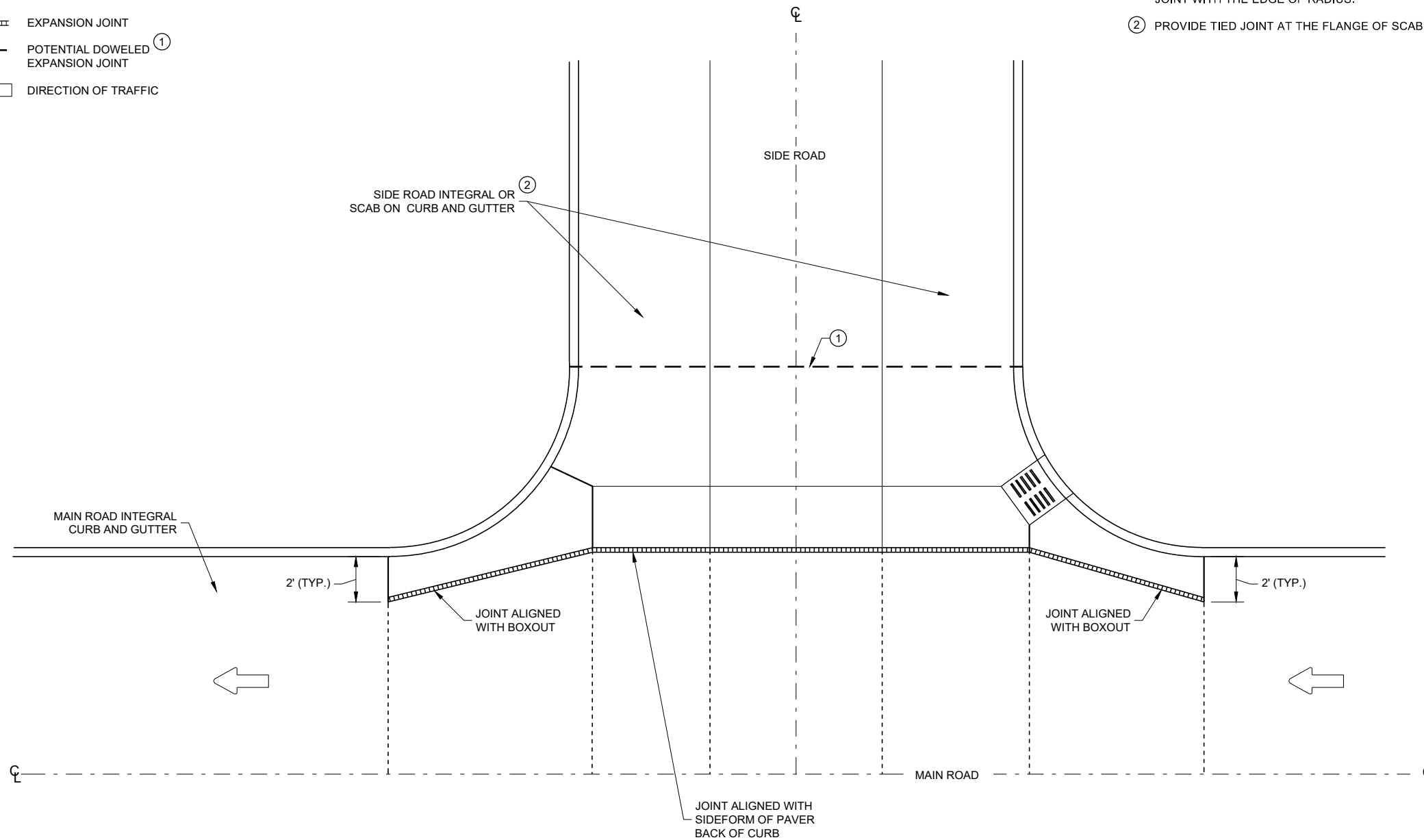
APPROVED  
 November 2018 /S/ Peter Kemp P.E.  
 DATE PAVEMENT SUPERVISOR  
 FHWA

**LEGEND**

- DOWELED JOINT
- TIED JOINT
- ▨▨▨▨ EXPANSION JOINT
- — — — POTENTIAL DOWELED <sup>①</sup> EXPANSION JOINT
- ← DIRECTION OF TRAFFIC

**GENERAL NOTES**

- ① CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH THE EDGE OF RADIUS.
- ② PROVIDE TIED JOINT AT THE FLANGE OF SCAB ON CURB IF SCAB ON CURB AND GUTTER IS USE.



**INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER**

<b>CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2018 DATE	/S/ Peter Kemp P.E. ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

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SDD 13C18 - 07f

SDD 13C18 - 07f

**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" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

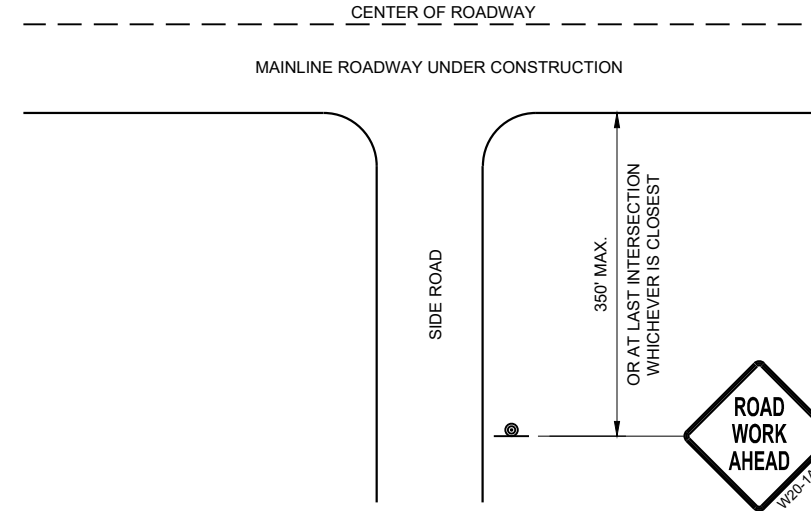
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 REESTABLISHED.

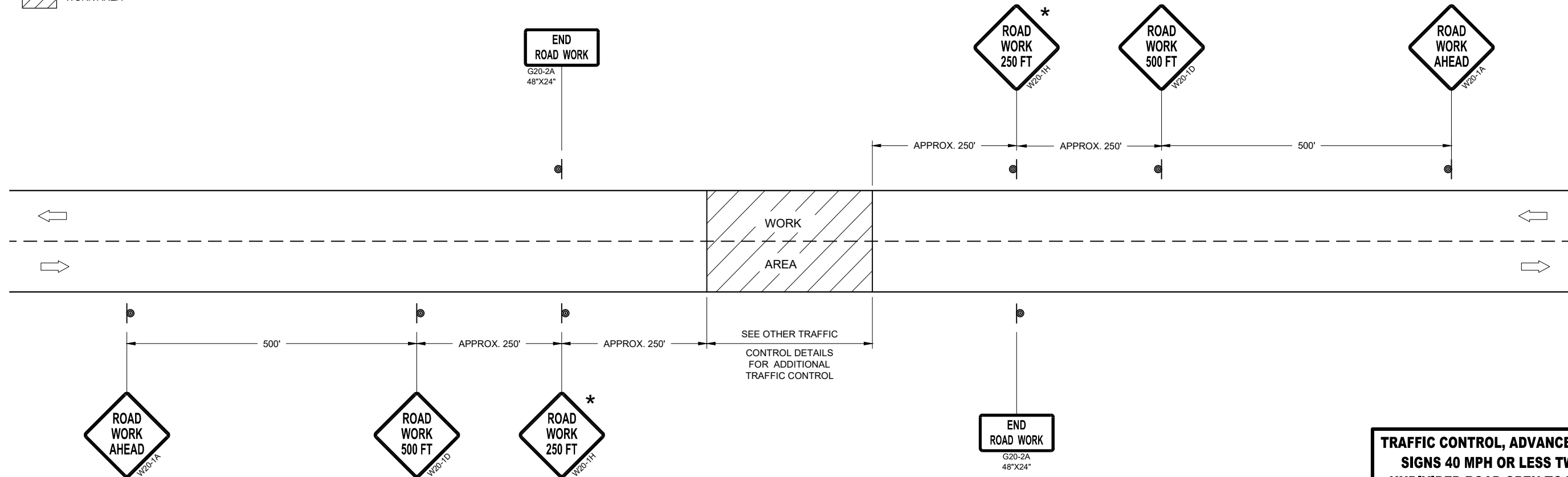
\* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

**LEGEND**

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



**TYPICAL SIDE ROAD APPROACH  
WARNING SIGN DETAIL**



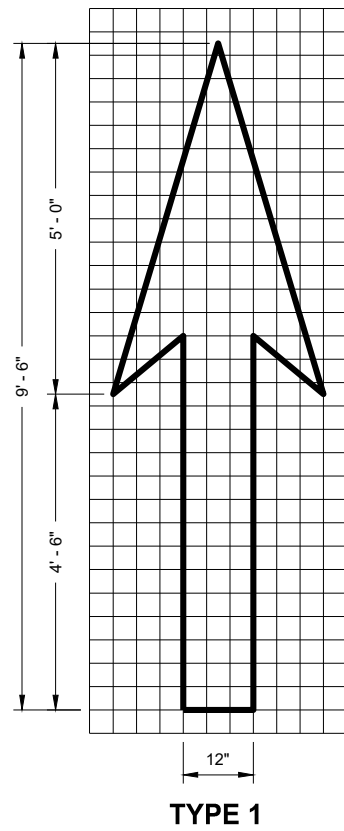
**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS**

**TRAFFIC CONTROL, ADVANCE WARNING  
SIGNS 40 MPH OR LESS TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFICE**

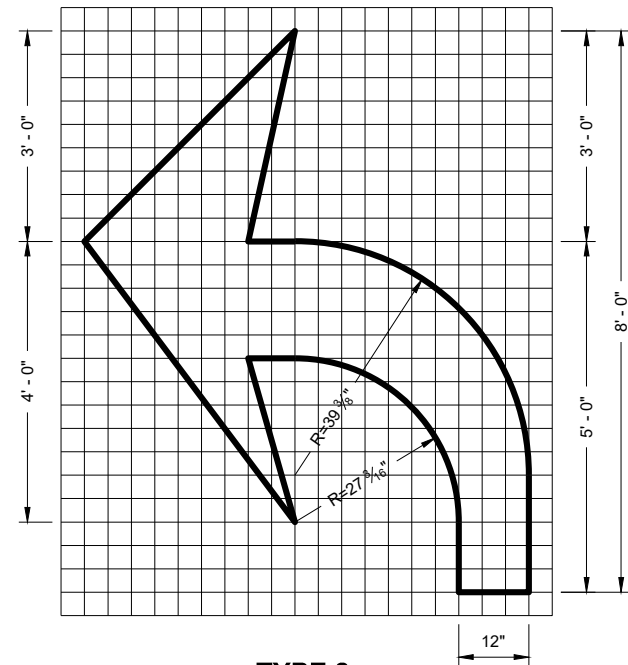
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE July 2018 /S/ Andrew Heidtke  
WORK ZONE ENGINEER

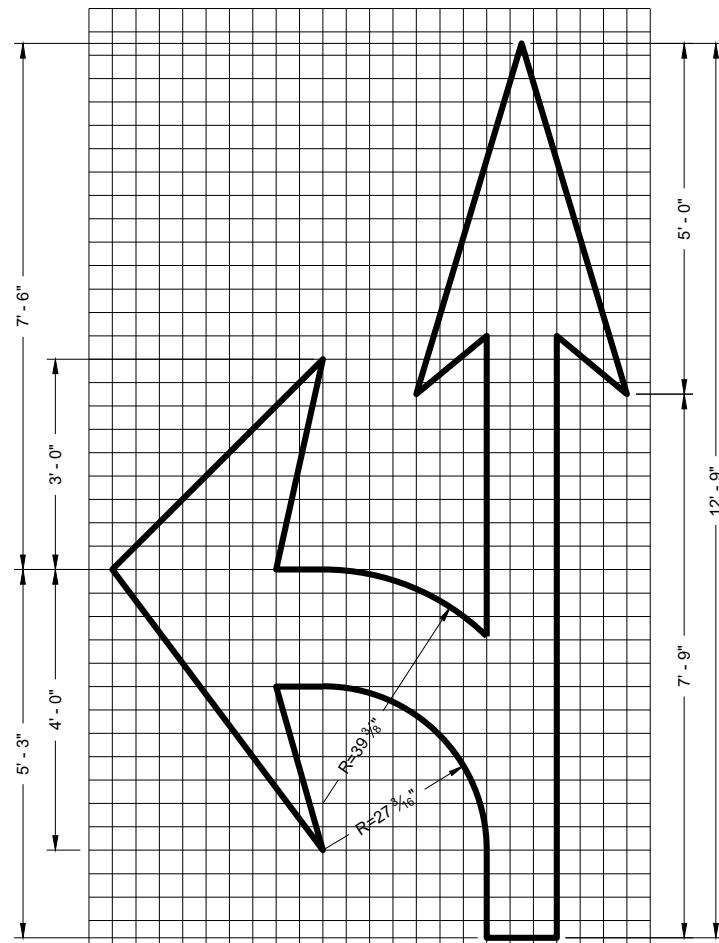
FHWA



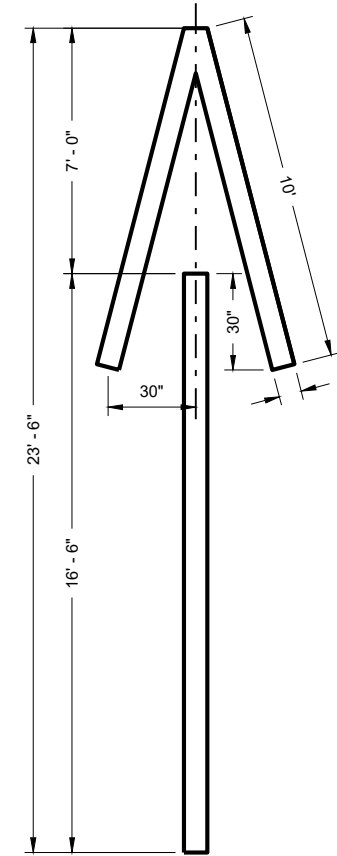
TYPE 1



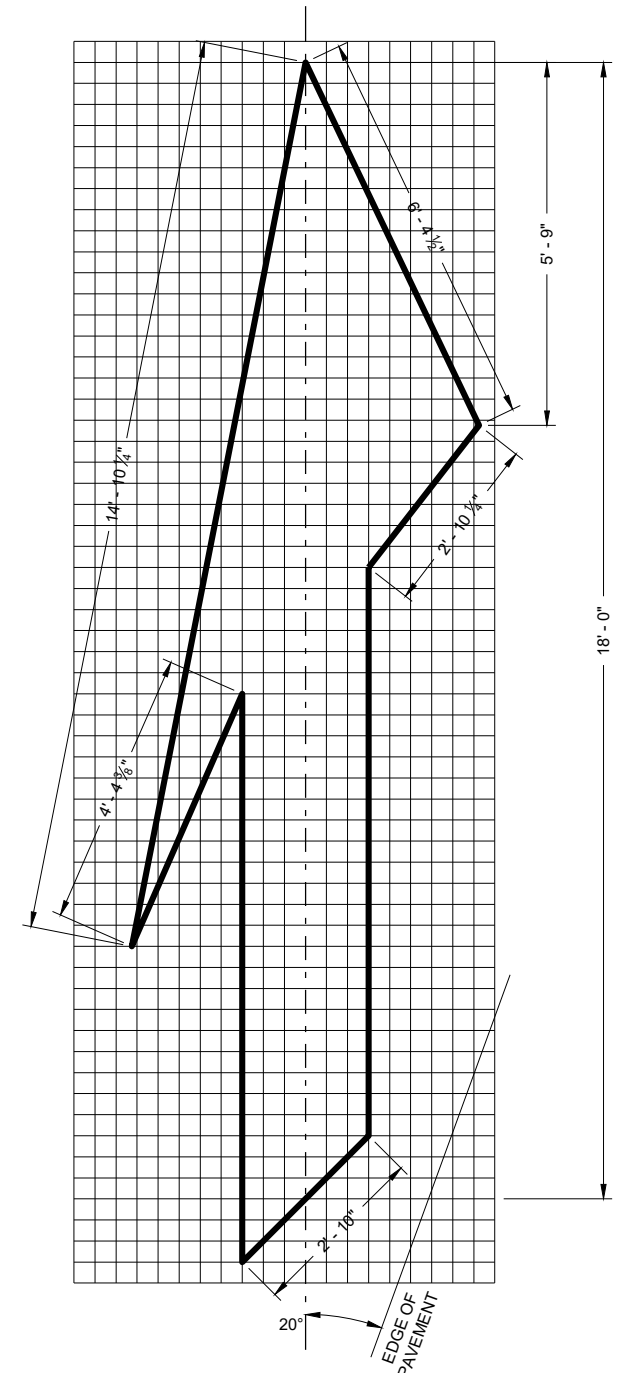
TYPE 2



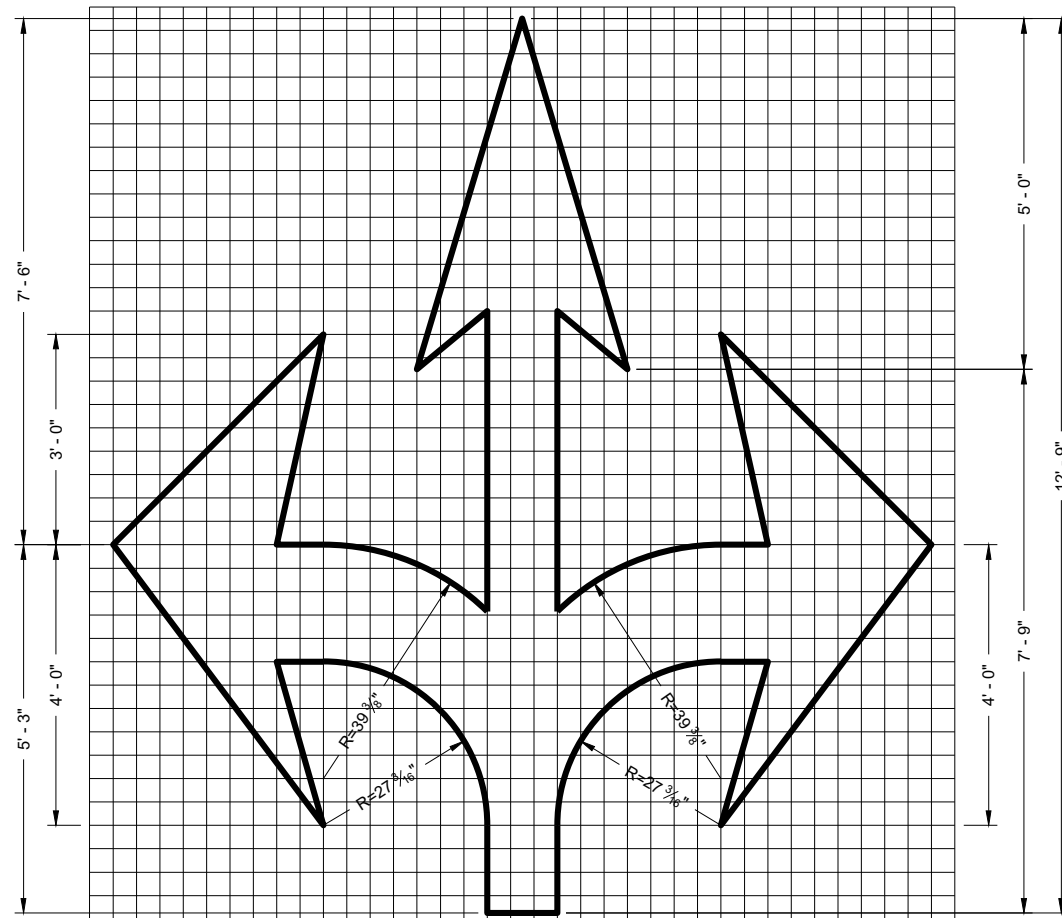
TYPE 3



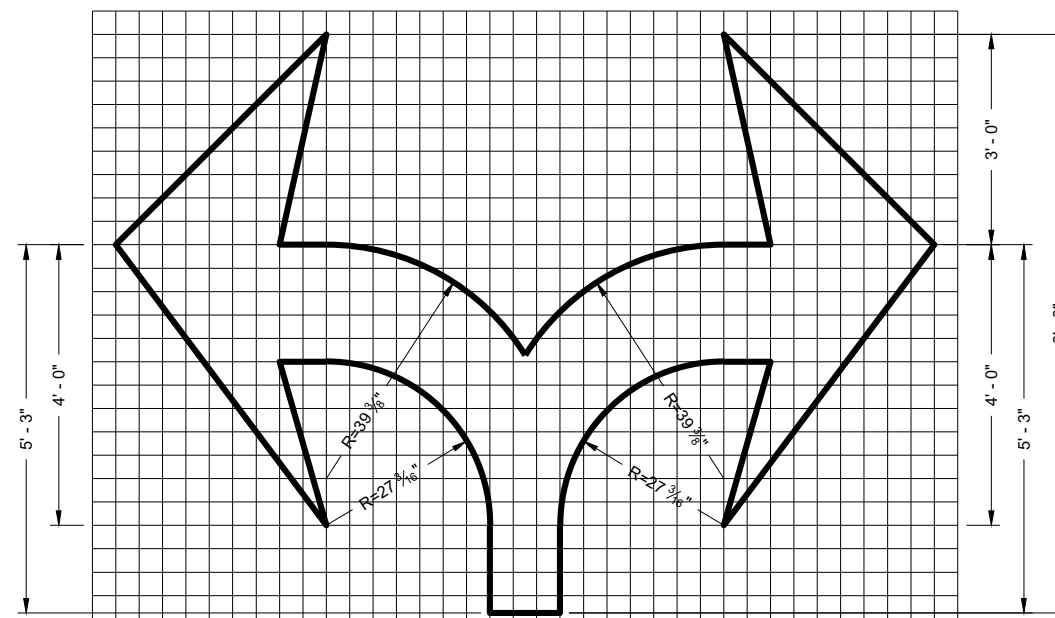
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

GENERAL NOTES

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

PAVEMENT MARKING ARROWS

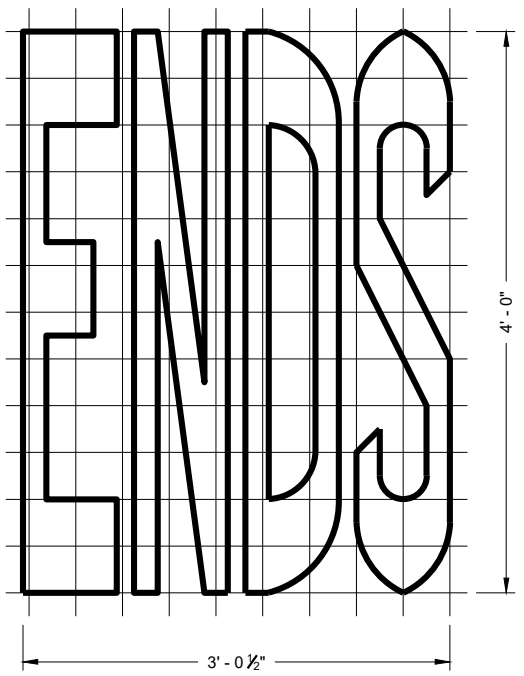
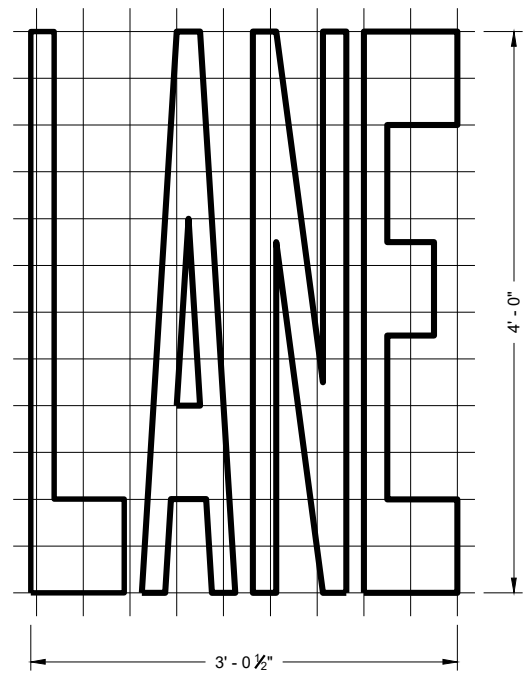
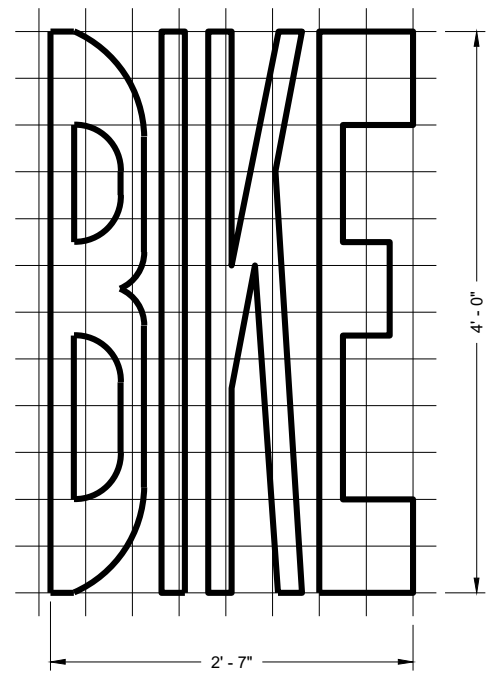
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2019  
DATE /S/ Matthew Rauch  
STATE SIGNING AND MARKING  
ENGINEER  
FHWA





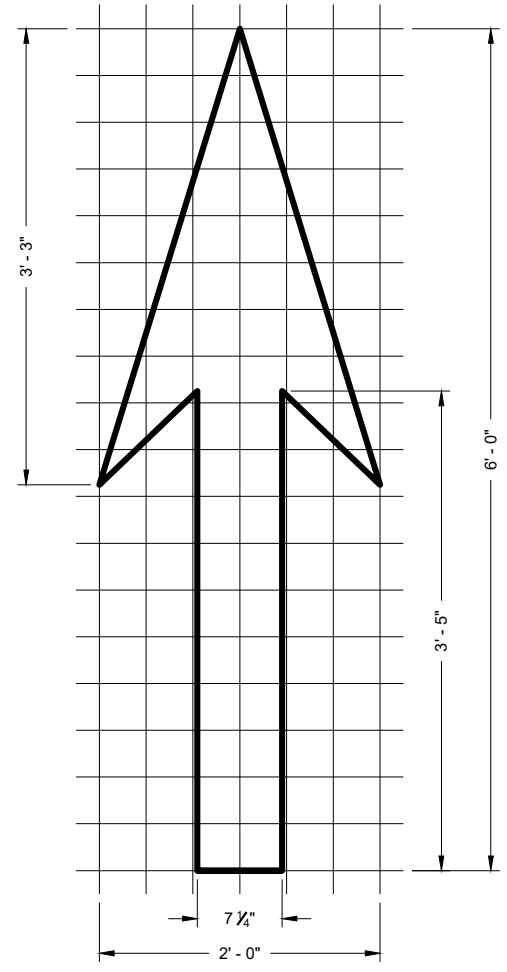
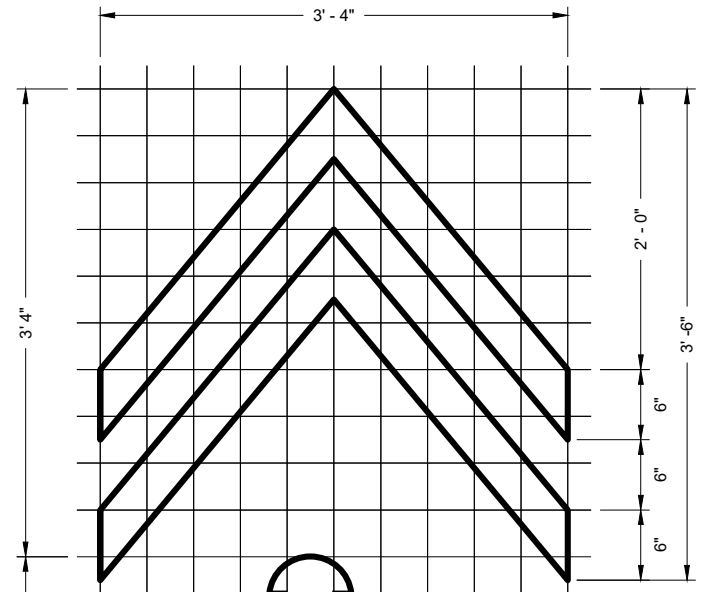
# SDD 15C7-e Pavement Marking For Bike Lanes



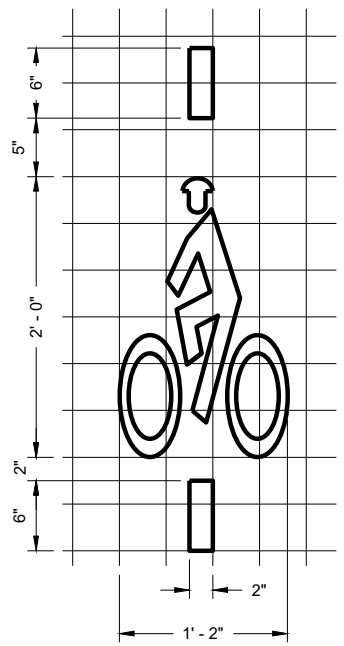
BIKE LANE WORDS

### GENERAL NOTES

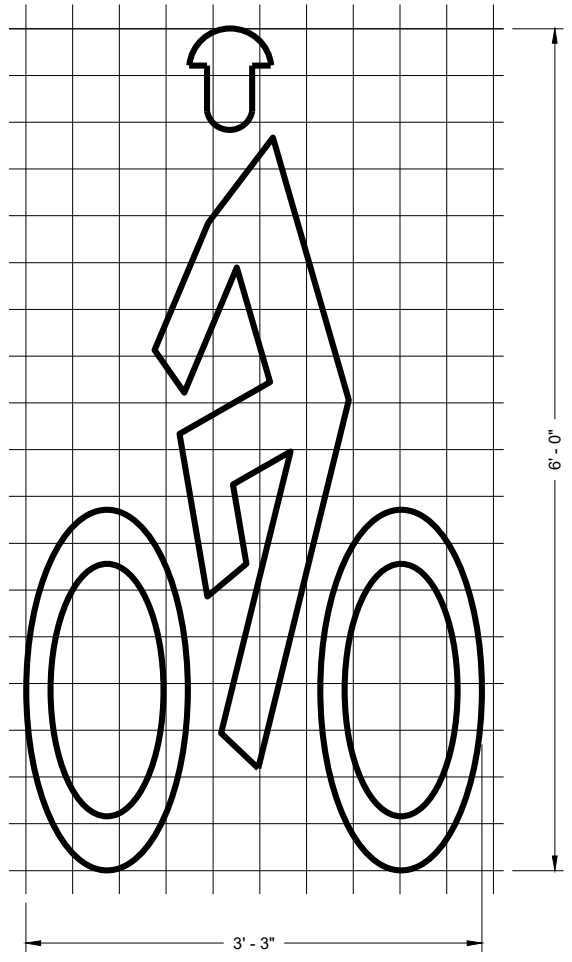
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



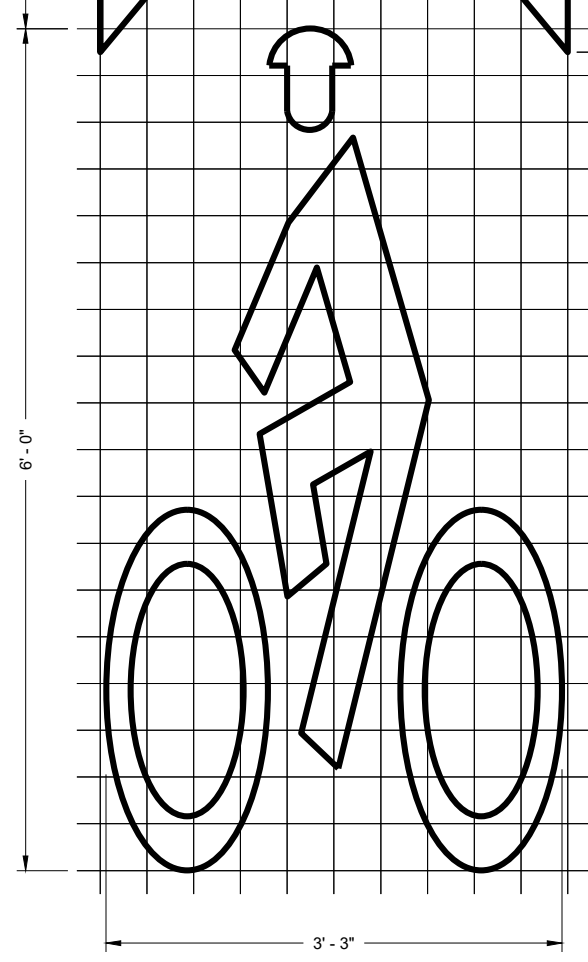
BIKE LANE ARROW



BICYCLE DETECTOR PAVEMENT MARKING



BIKE LANE SYMBOL



BIKE LANE SYMBOL FOR SHARED LANE

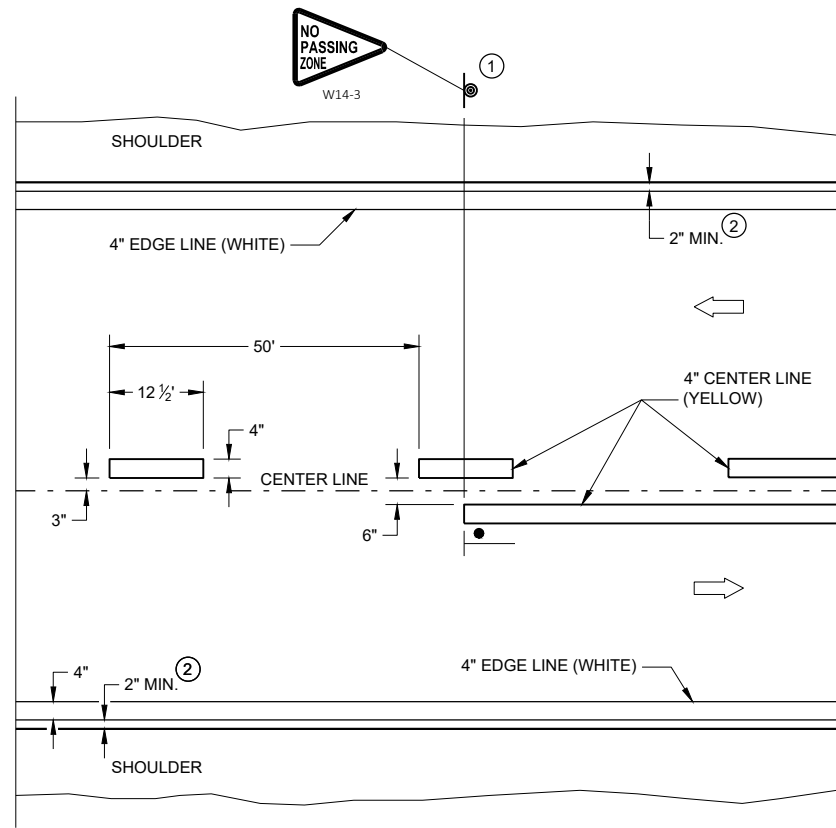
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6

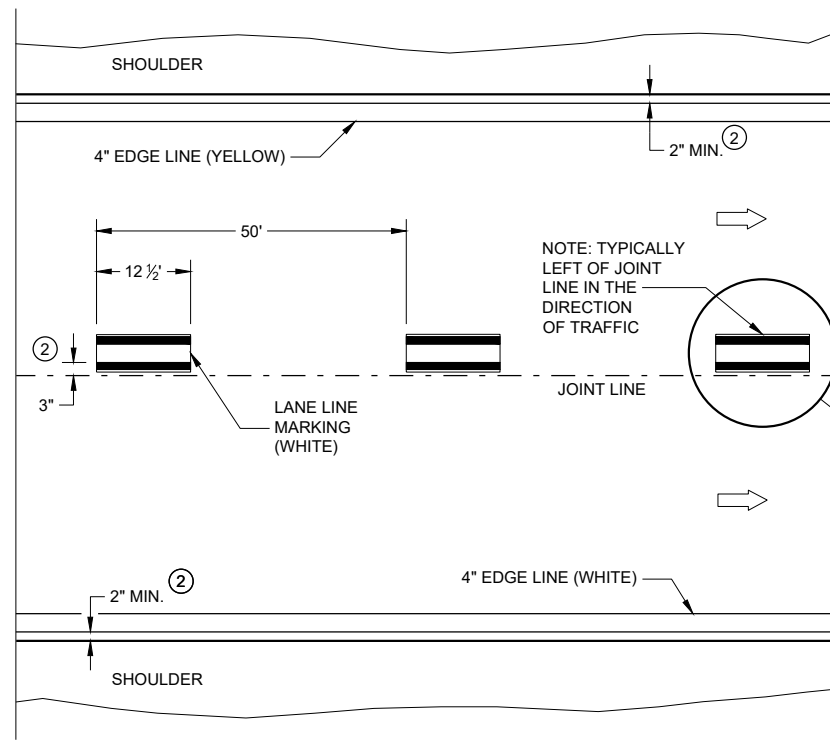
SDD 15C07 - 15e

SDD 15C07 - 15e

<b>PAVEMENT MARKING FOR BIKE LANES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2019 DATE	/s/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	

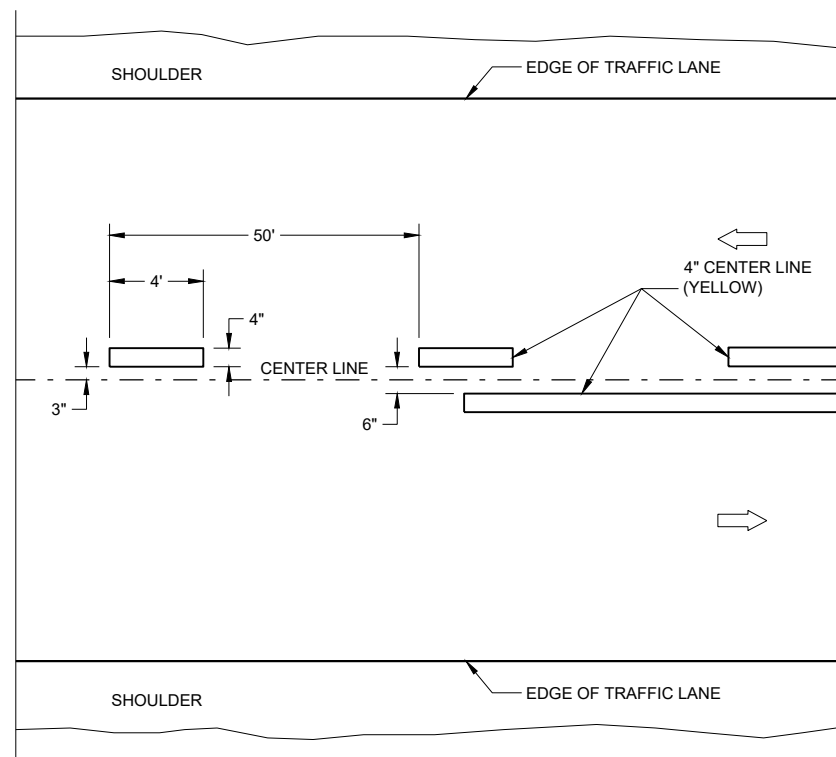


**TWO WAY TRAFFIC**

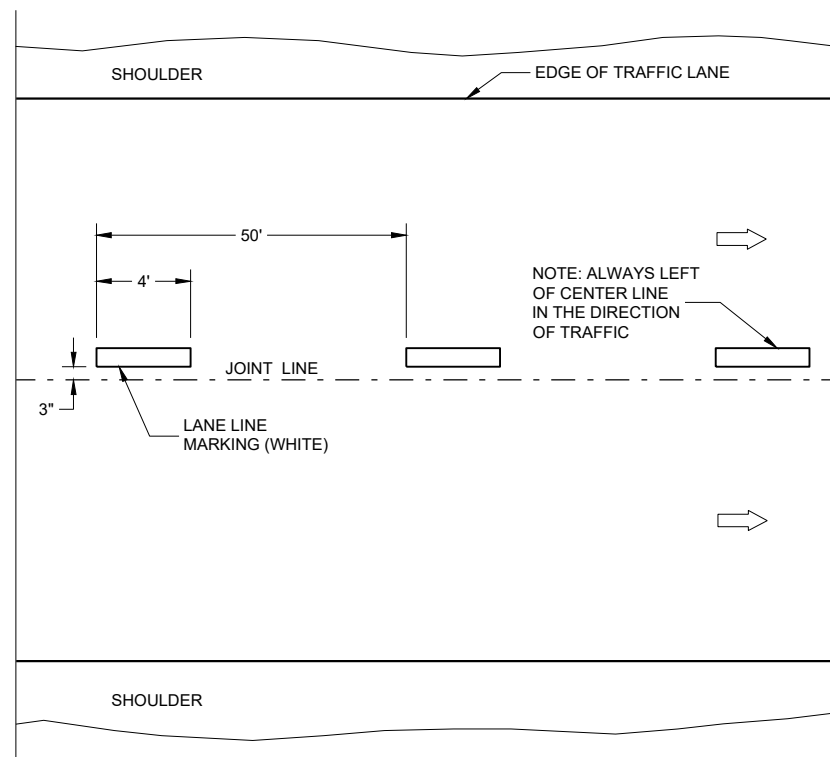


**ONE WAY TRAFFIC**

**PERMANENT PAVEMENT MARKING**



**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**

**TEMPORARY PAVEMENT MARKING**

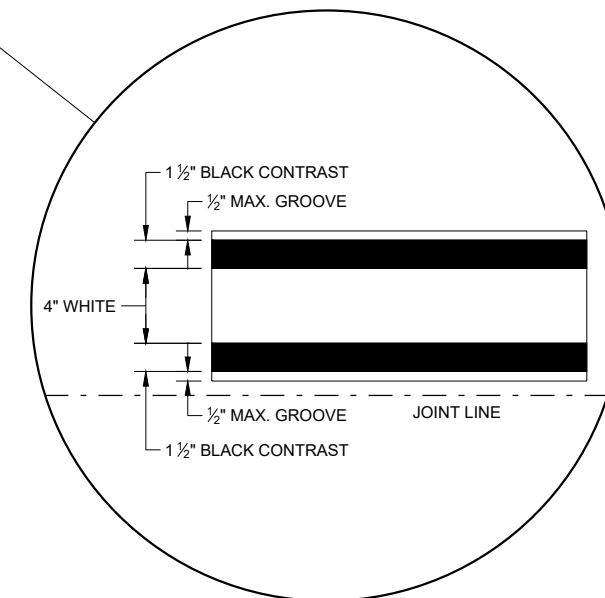
**GENERAL NOTES**

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

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

**LEGEND**

- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC



**LONGITUDINAL MARKING  
(MAINLINE)**

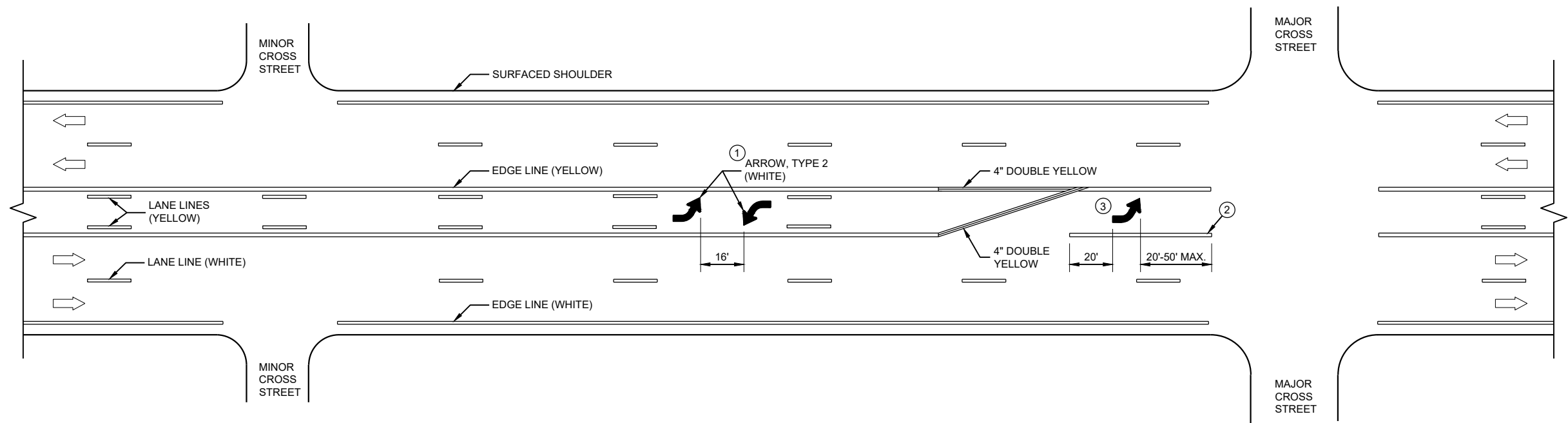
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2020 /S/ Matthew Rauch  
DATE STATEWIDE SIGNING AND MARKING  
ENGINEER

**GENERAL NOTES**

- ① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ② 8" WHITE
- ③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

➡ DIRECTION OF TRAFFIC



**TWO WAY LEFT TURN LANE**

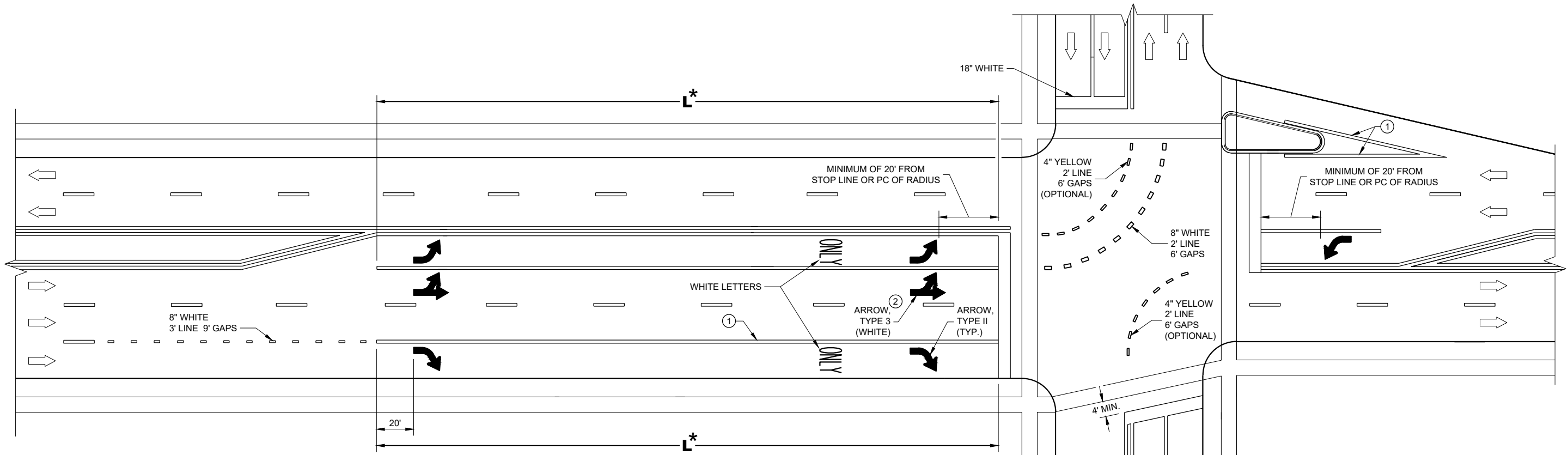
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SDD 15C08 - 20b

SDD 15C08 - 20b

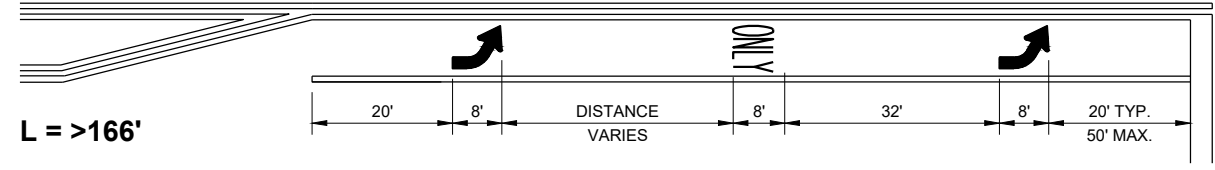
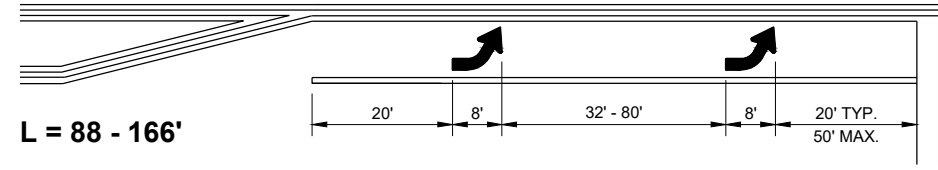
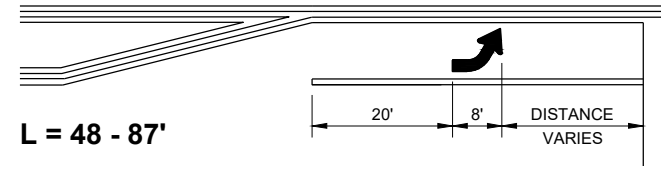
<p><b>PAVEMENT MARKING (TURN LANES)</b></p>
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>



\*(SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

**TURN LANE OPTIONS**

LENGTH OF TURN BAY ( **L** ) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



**GENERAL NOTES**

- ① 8" WHITE
- ② QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

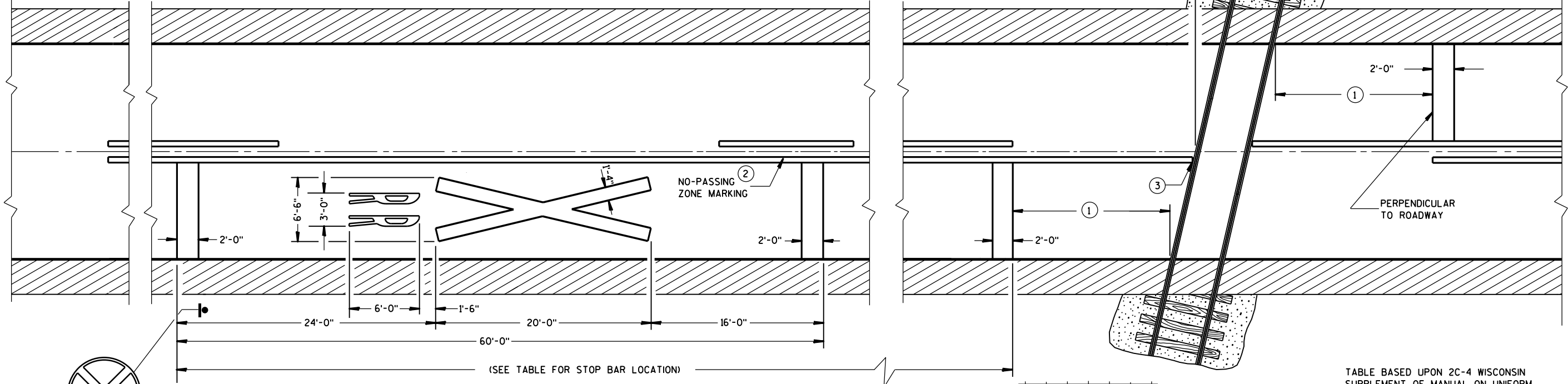
➡ DIRECTION OF TRAFFIC  
**L** = LENGTH OF TURN BAY

<b>PAVEMENT MARKING (TURN LANES)</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



W14-3

500' MIN.



W10-1

### PAVEMENT MARKING

#### GENERAL NOTES

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

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

RETRACE EXISTING SYMBOL WHERE EXISTING SYMBOLS ARE PLACED.

- ① MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.
- ② 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
- ③ FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

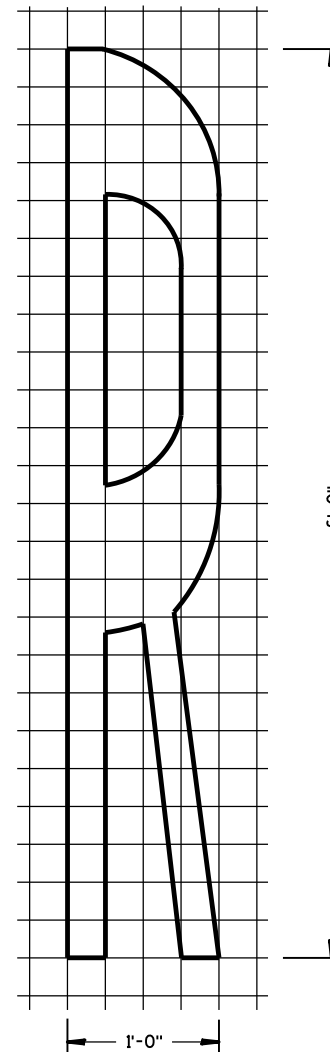


TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

Posted Speed (M.P.H.)	Dimension Range (Feet)
25	150* - 250
30	200* - 300
35	250* - 450
40	300* - 500
45	400* - 650
50	550* - 800
55	750* - 1000
60	1000* - 1250
65	1000* - 1250

\* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSE PROXIMITY OF DRIVEWAYS, BRIDGES, SIDEROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.

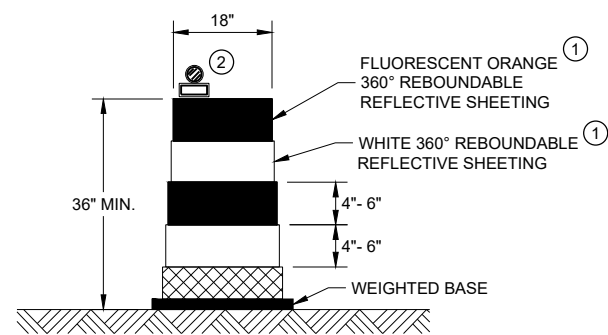
#### SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

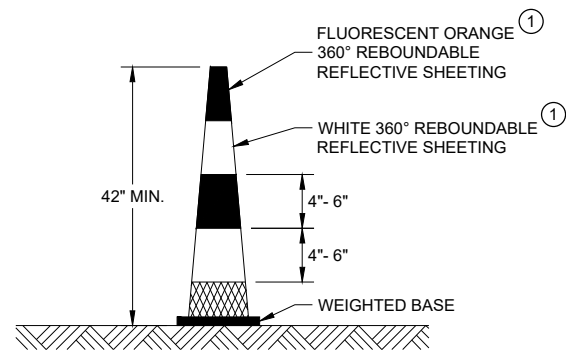
APPROVED

Sept., 2017 /S/ Matthew R. Rauch  
DATE STATE SIGNING AND MARKING ENGINEER

FHWA

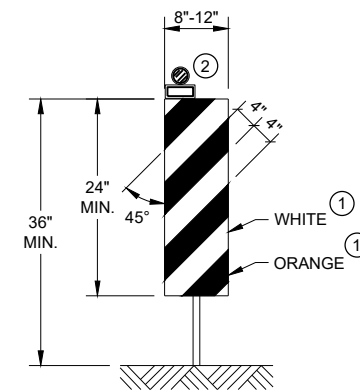


**DRUM**



**42" CONE**

DO NOT USE IN TAPERS  
 1/2 SPACING OF DRUMS

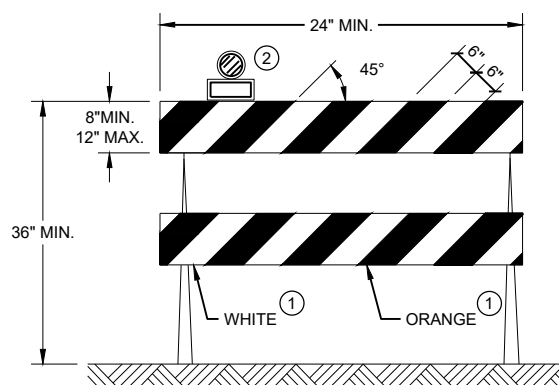


**VERTICAL PANEL**

THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.

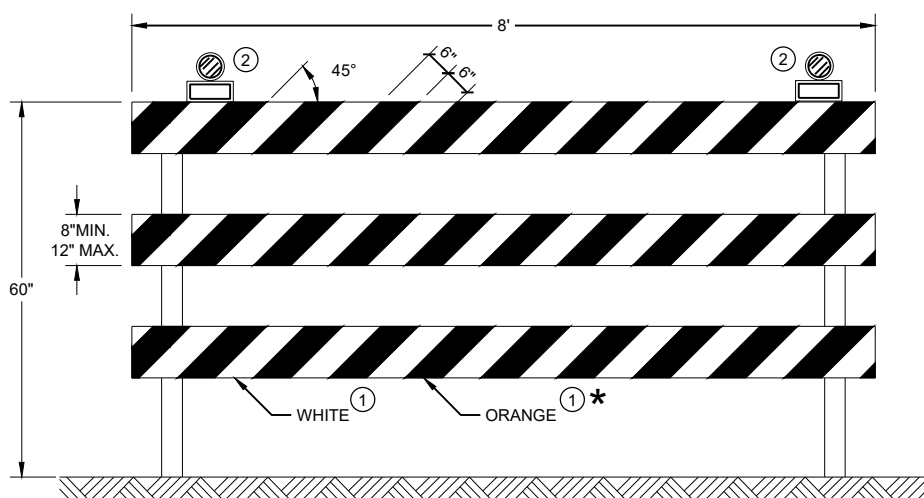
**GENERAL NOTES**

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



**TYPE II BARRICADE**

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.








**TYPE III BARRICADE**

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

\* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

<b>CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
<small>FHWA</small>	

**LEGEND**

-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

**GENERAL NOTES**

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

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

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

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

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

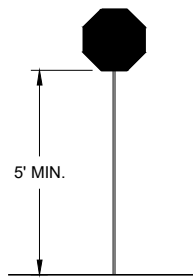
WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

**FLAGGING**

- FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.
- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
  - ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

**TEMPORARY PORTABLE RUMBLE STRIPS**

- UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.
- INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.
- DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



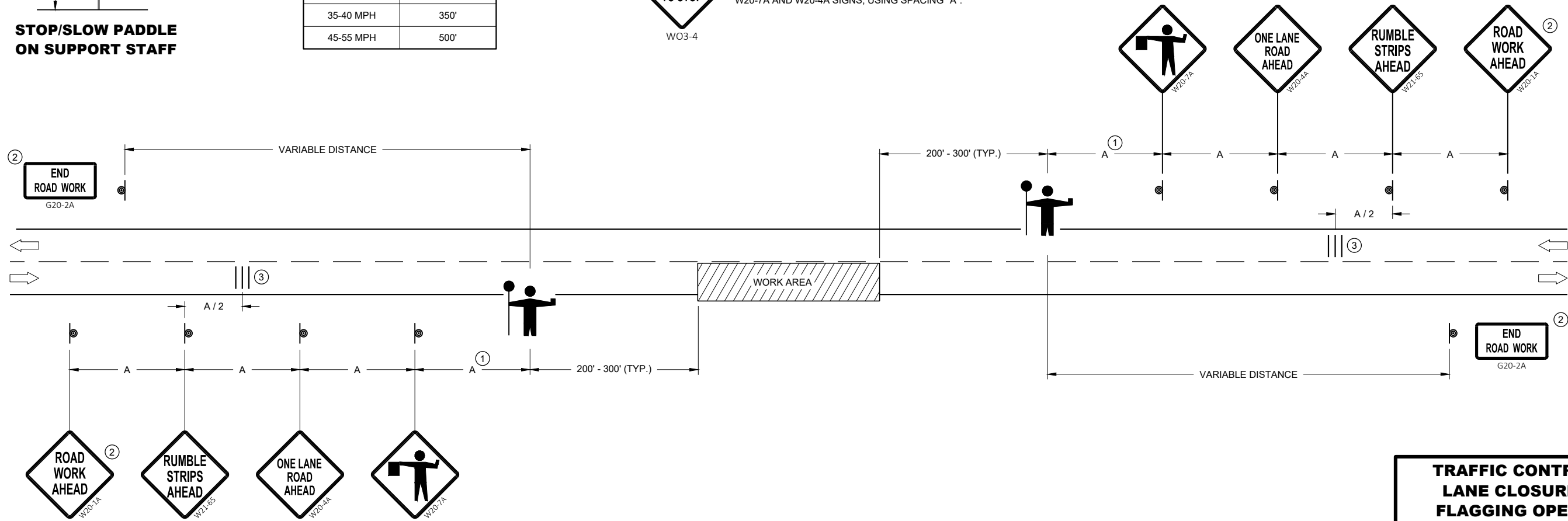
**STOP/SLOW PADDLE ON SUPPORT STAFF**

**SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE**

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



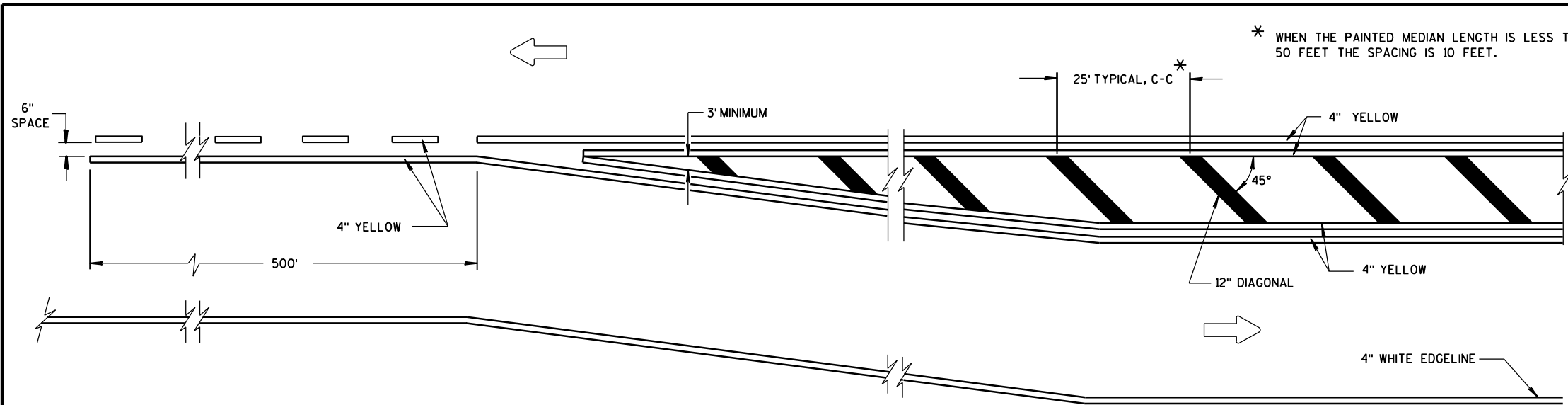
**TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION**

**TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE May 2019 /S/ Andrew Heidtke  
WORK ZONE ENGINEER

FHWA

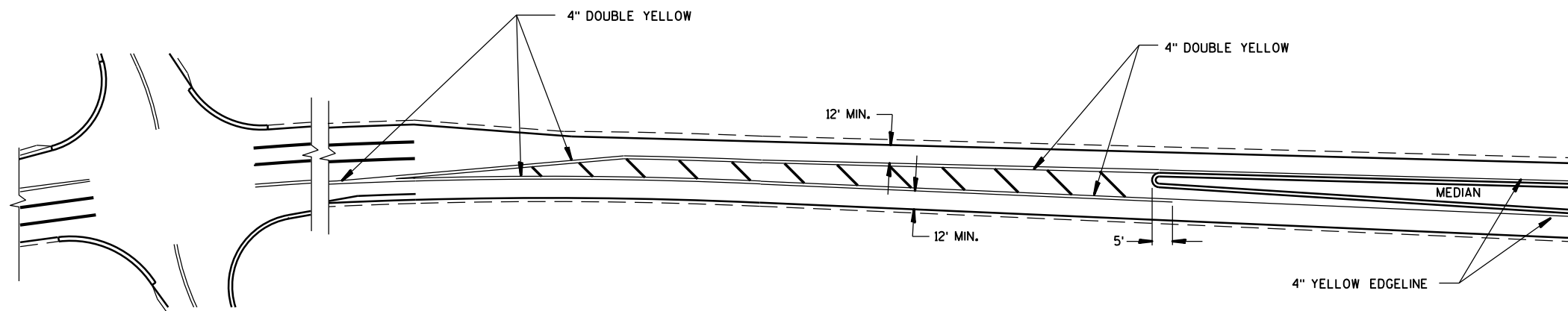


**MEDIAN ISLAND DETAIL**

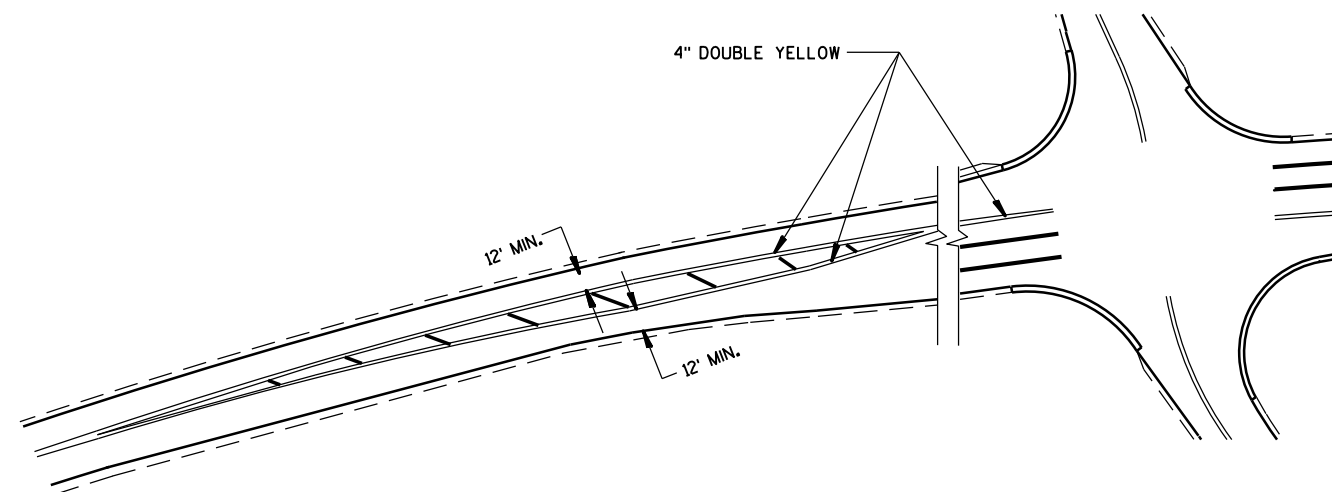
**GENERAL NOTE**

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

➔ DIRECTION OF TRAVEL



**APPROACH MARKINGS FOR OTHER MEDIAN TYPES**



**NON APPROACH MARKINGS**

6

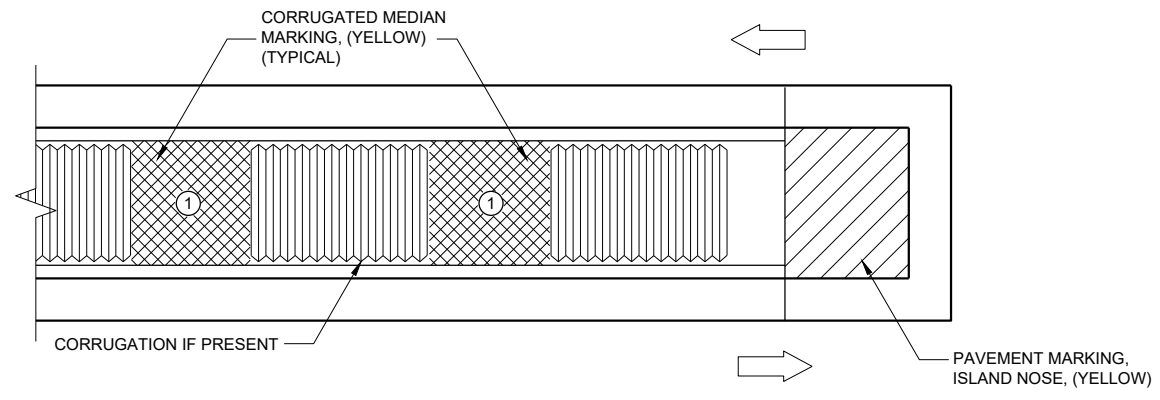
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S.D.D. 15 C 18-4

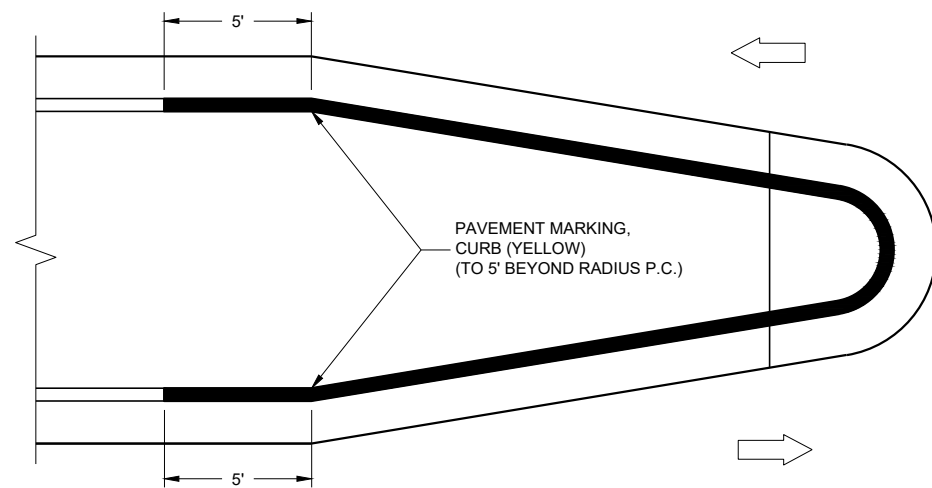
S.D.D. 15 C 18-4

<b>MEDIAN ISLAND MARKING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER FHWA

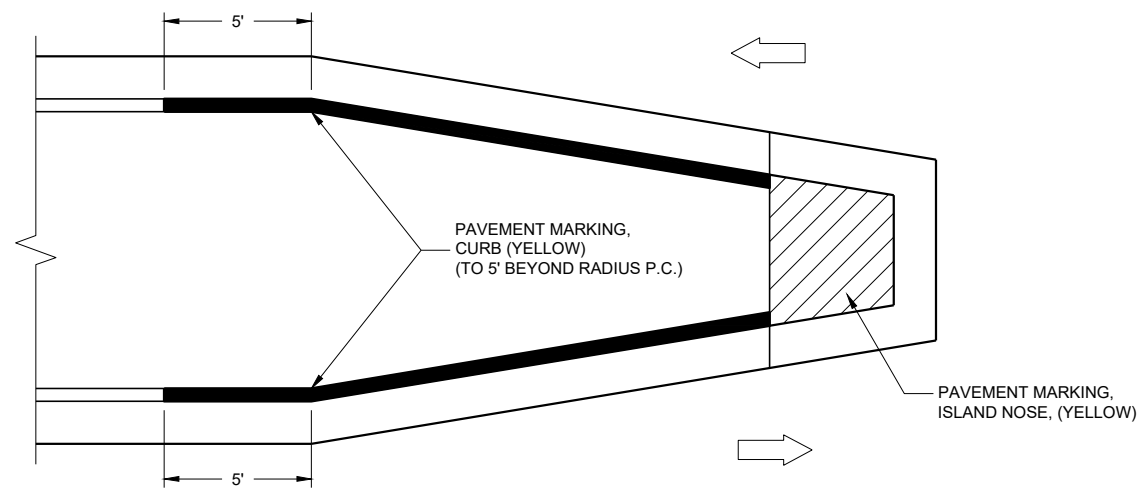




MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE







MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

-  ISLAND NOSE MARKING
-  CURB MARKING
-  CORRUGATED MEDIAN MARKING
-  DIRECTION OF TRAVEL

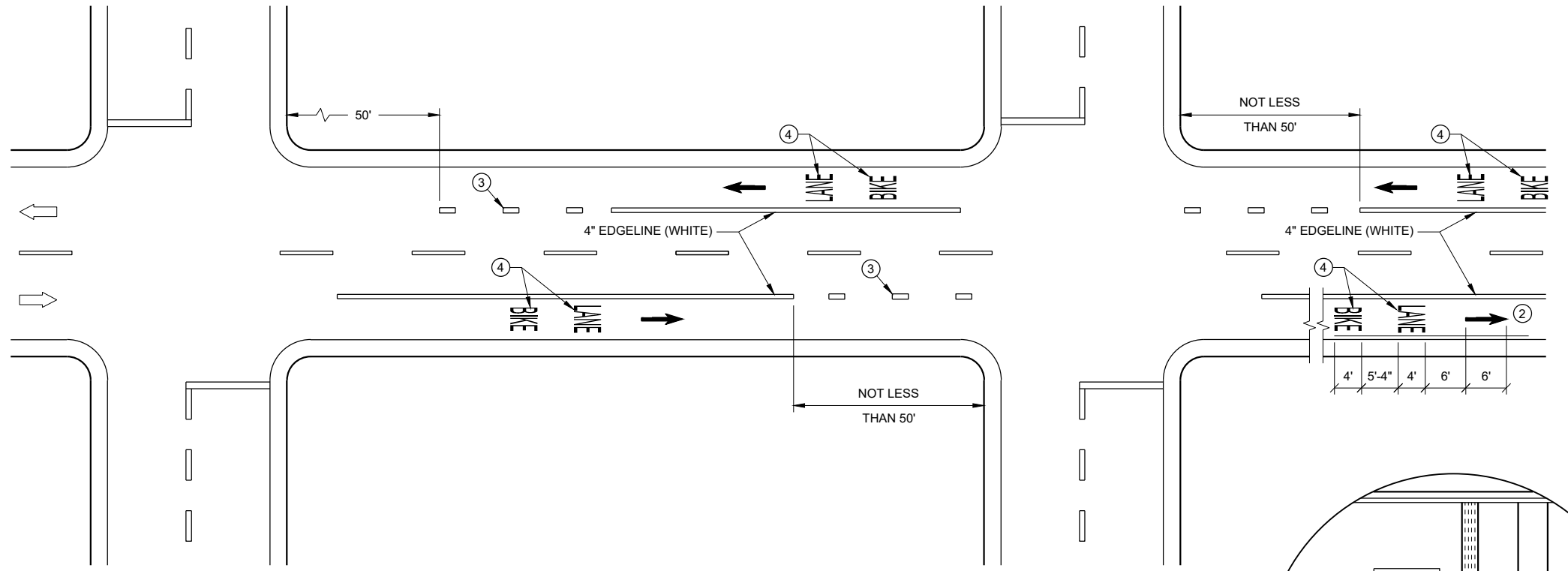
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SDD 15C27 - 03b

SDD 15C27 - 03b

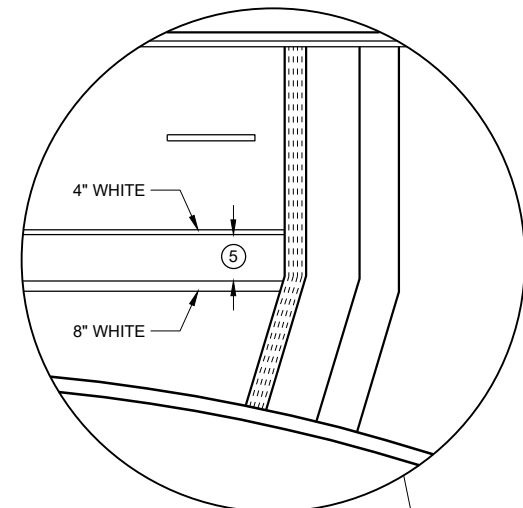
PAVEMENT MARKINGS (ISLANDS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 7/2018	/S/ Matthew R. Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	



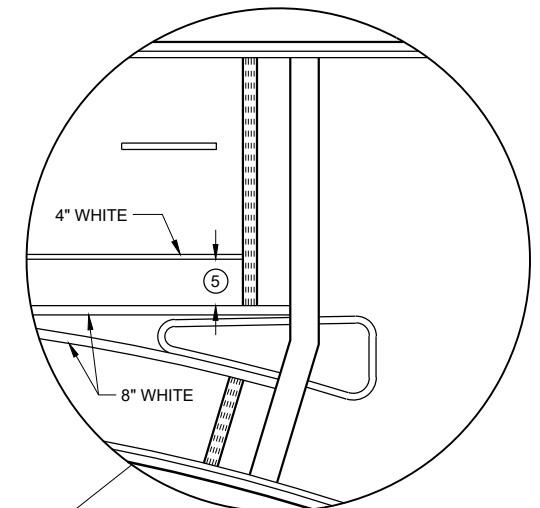
**DESIGNATED BIKE LANE - NO PARKING**

- GENERAL NOTES**
- ① DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
  - ② MINIMUM OF ONE PER BLOCK. MAXIMUM OF 250 FEET.
  - ③ DOTTED LINES (3' LINE, 9' GAP) SHOULD BE USED 50 FEET TO 200 FEET IN ADVANCE OF AN INTERSECTION WHERE THERE IS NO RIGHT TURN ONLY LANE AND THERE IS HEAVY RIGHT TURN TRAFFIC OR THERE IS A NEAR-SIDE BUS STOP. AT OTHER INTERSECTIONS WHERE RIGHT TURN TRAFFIC IS LIGHT TO MODERATE, A SOLID LINE CAN BE USED UP TO THE INTERSECTION.
  - ④ BIKE SYMBOLS OR WORDS MAY BE USED.
  - ⑤ BIKE ACCOMMODATION IS TYPICAL 5 FEET WIDE AND MINIMUM OF 4 FEET FROM A LONGITUDINAL JOINT. USE 5 FEET AT  $\geq 45$  MPH.
  - ⑥ OMIT THESE MARKINGS FOR WIDER TURN LANE APPLICATIONS (MINIMUM OF 15 FOOT WIDE TURN LANE).
  - ⑦ REFER TO CONTRACT PLANS FOR LANE WIDTH.

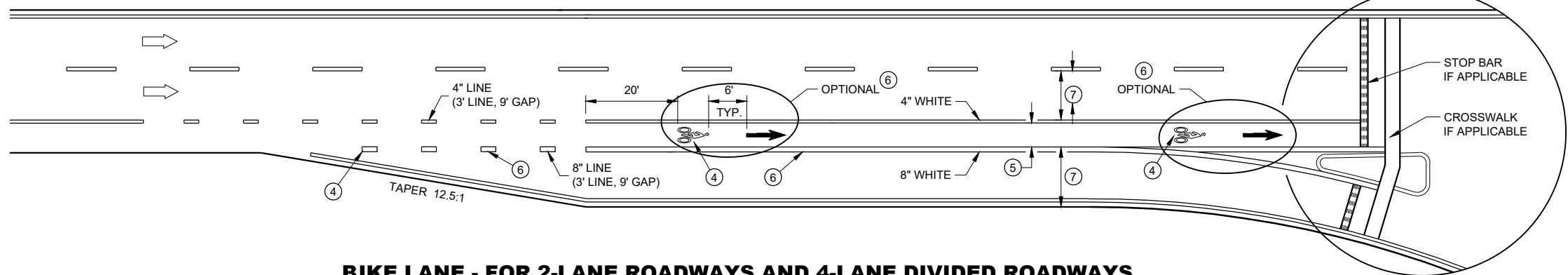
➔ DIRECTION OF TRAVEL



**4 LANE DIVIDED WITHOUT ISLAND**



**4 LANE DIVIDED WITH ISLAND**



**BIKE LANE - FOR 2-LANE ROADWAYS AND 4-LANE DIVIDED ROADWAYS  
(4-LANE DIVIDED WITH RIGHT TURN LANE SHOWN)**

<b>BIKE LANE MARKING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2020 DATE	/S/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
<small>FHWA</small>	

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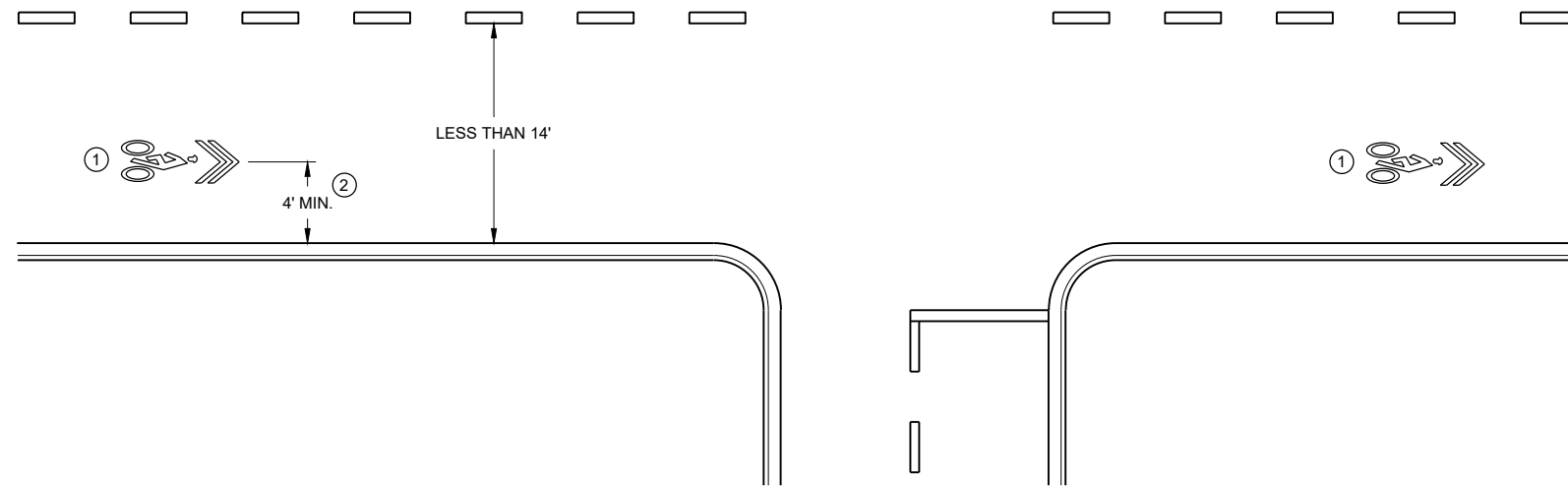
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SDD 15C29 - 07a

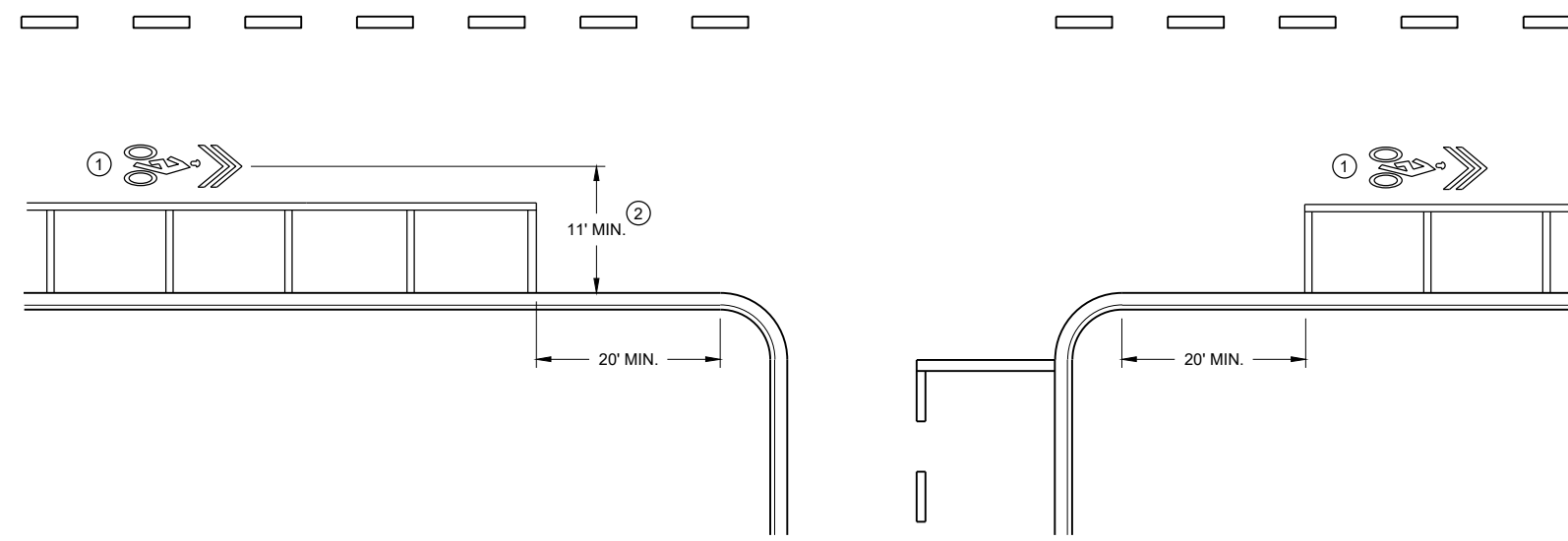
SDD 15C29 - 07a

**GENERAL NOTES**

- ① MINIMUM OF ONE PER BLOCK, MAXIMUM OF 250 FEET.
- ② OR TO EDGE OF PAVEMENT WITHOUT CURB.



**WITHOUT PARKING**



**WITH PARKING**

6

6

SDD 15C29 - 07b

SDD 15C29 - 07b

**PAVEMENT MARKING  
FOR SHARED LANE  
35 MPH OR LESS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

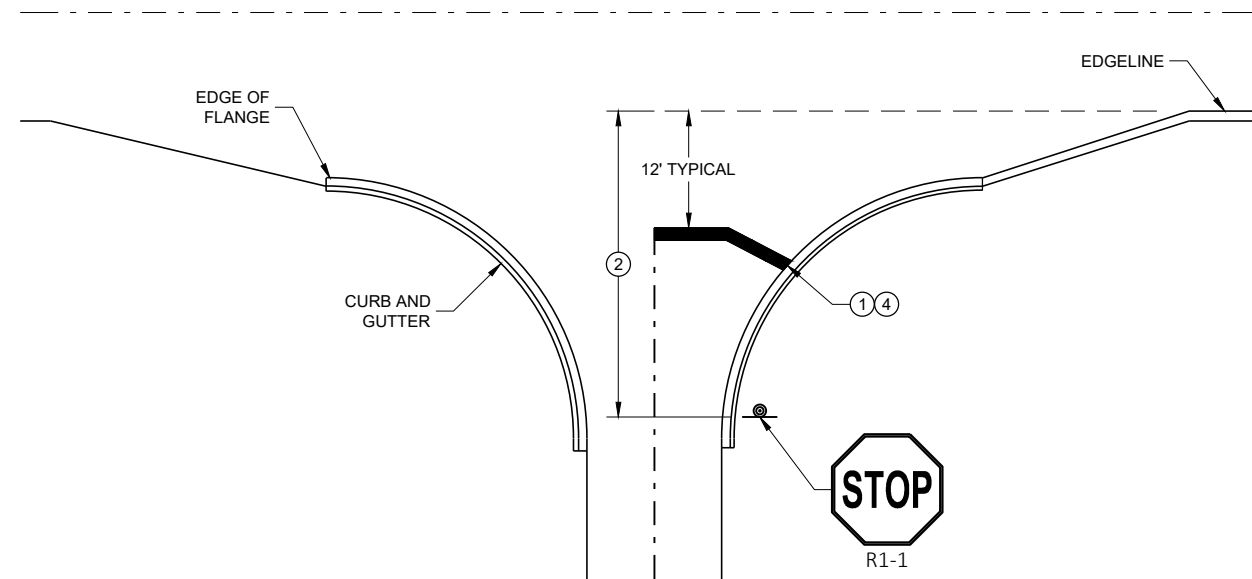
APPROVED  
May 2020 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING  
ENGINEER

FHWA

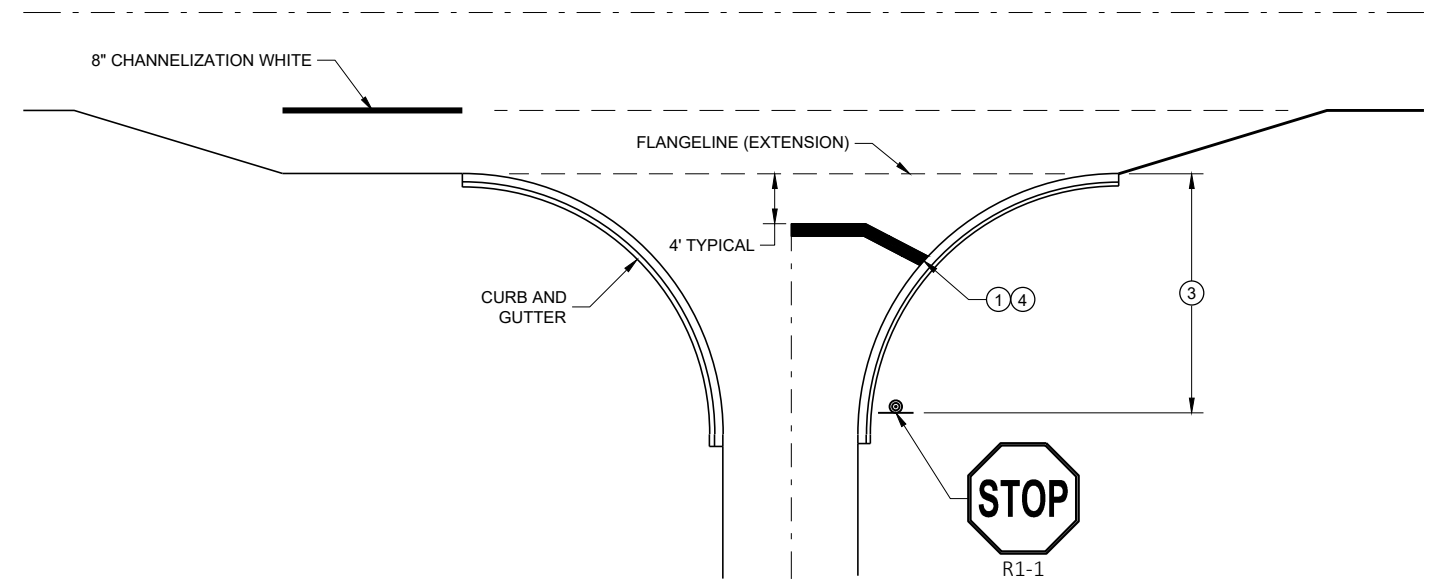
**GENERAL NOTES**

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

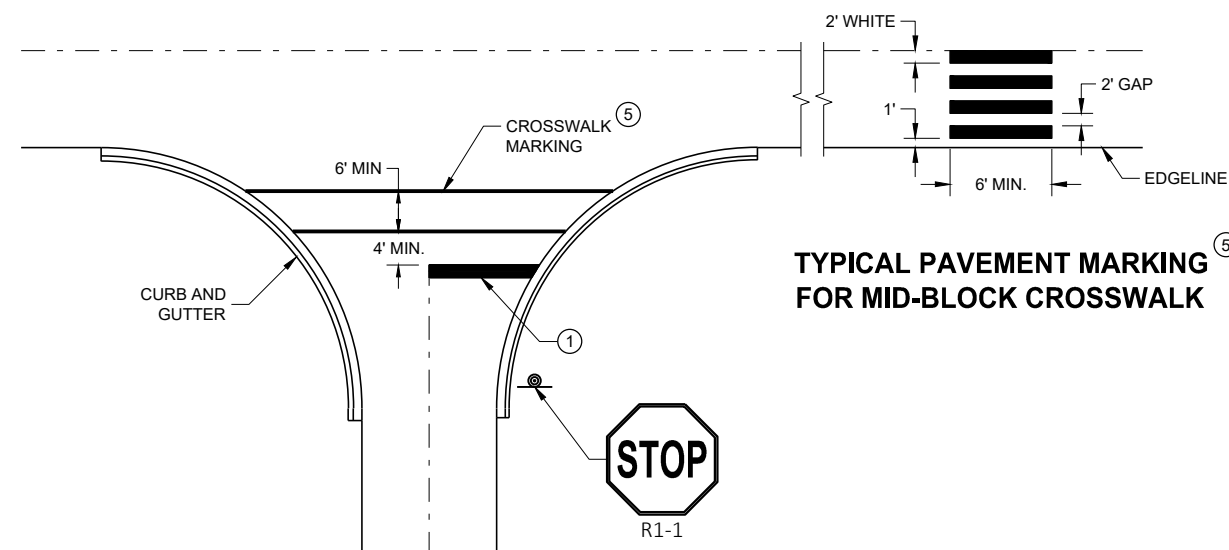
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
- ④ MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
- ⑤ LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



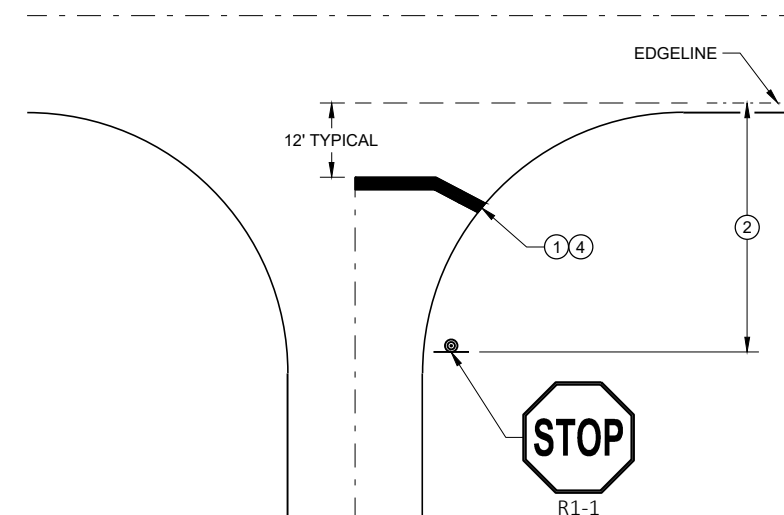
**TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER**



**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE**

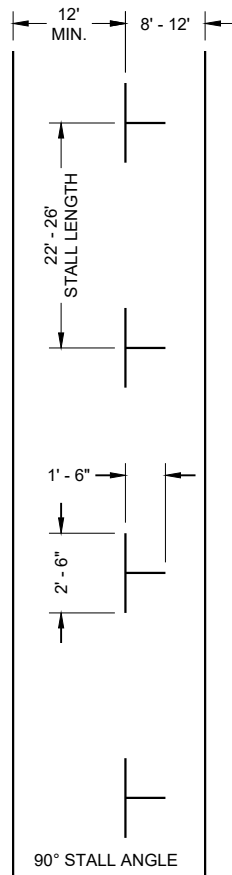


**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING**

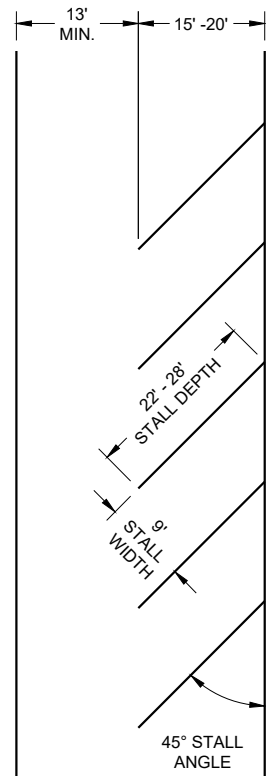


**TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER**

<b>STOP LINE AND CROSSWALK PAVEMENT MARKING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2019 DATE	/s/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	

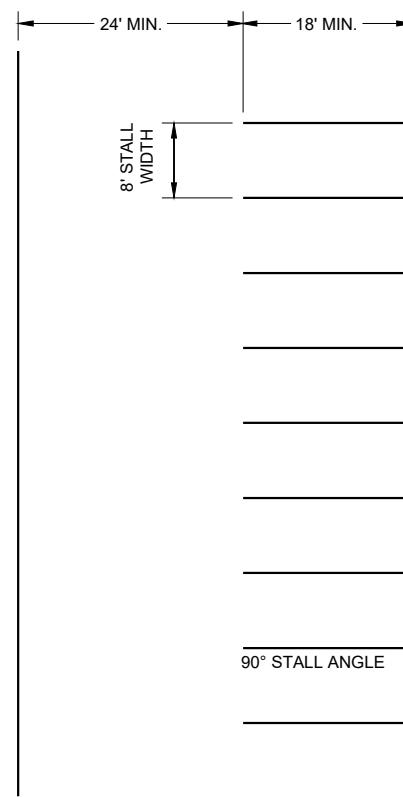
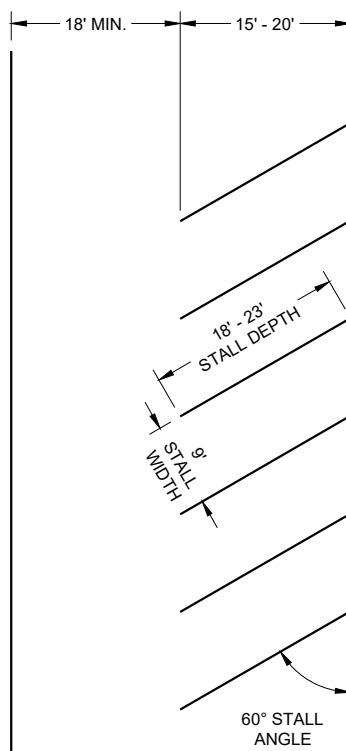


**PARALLEL PARKING**



**ANGLED PARKING**

(ANGLED PARKING IS NOT ALLOWED ON STATE HIGHWAYS UNLESS A DESIGN JUSTIFICATION HAS BEEN COMPLETED.)



**PARKING LOTS**

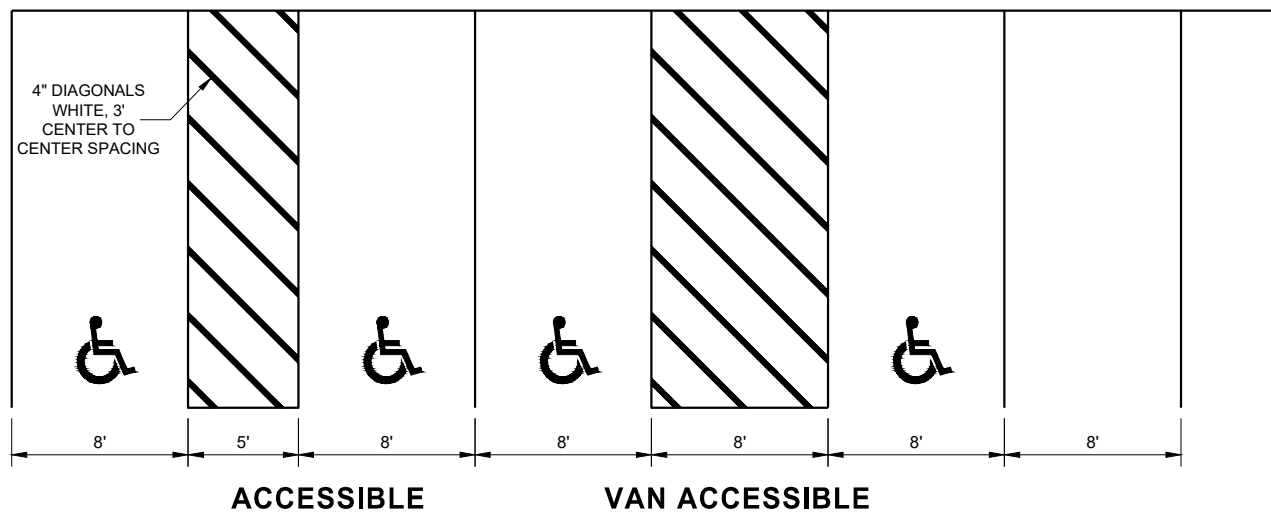
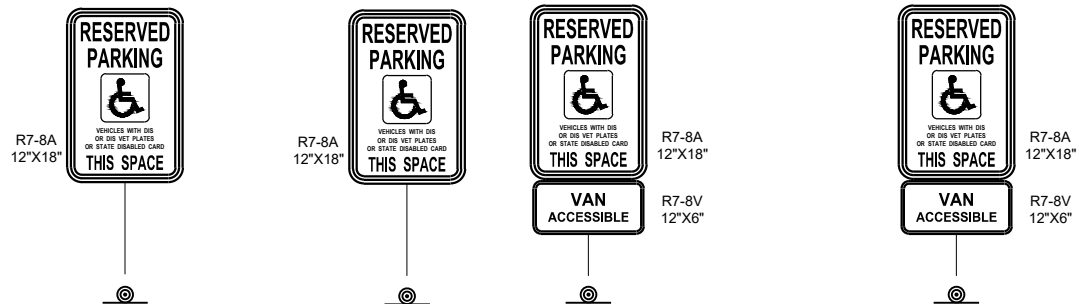
**GENERAL NOTES**

ALL LINES 4" WHITE (UNLESS OTHERWISE NOTED)

LAST PARKING STALL IS A MINIMUM OF 15' FROM THE CROSSWALK.





**LEGEND**

⊙ SIGN ON PERMANENT SUPPORT



<b>PARKING STALL MARKING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2019 DATE	/s/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
<small>FHWA</small>	

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

**GENERAL NOTES**

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 THE REGIONAL TRAFFIC UNIT.

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

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

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

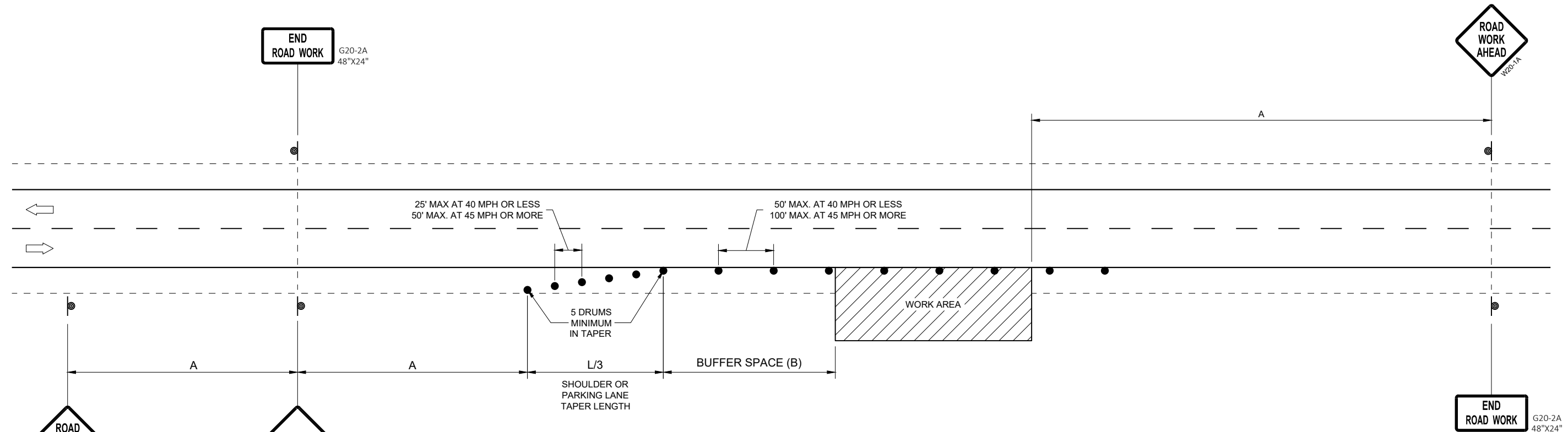
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

6

6



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

OR  
IF TRAFFIC CONTROL DEVICES  
ENCROACH ONTO TRAVELED WAY, USE



**TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

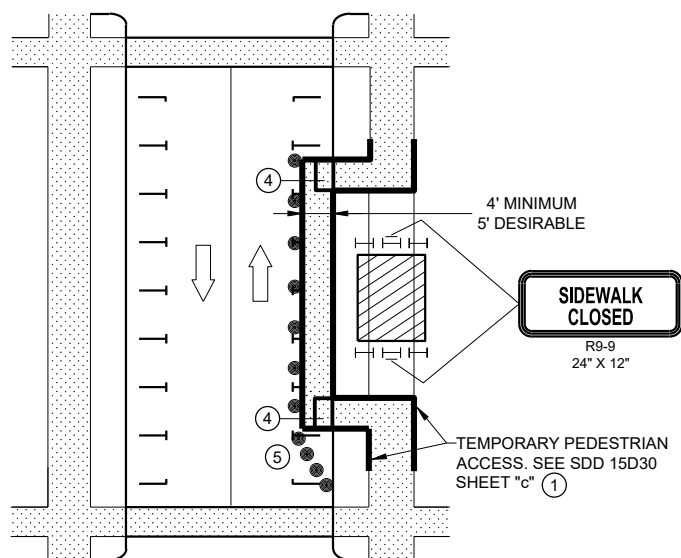
APPROVED  
May 2020 /S/ Andrew Heidtke  
DATE STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

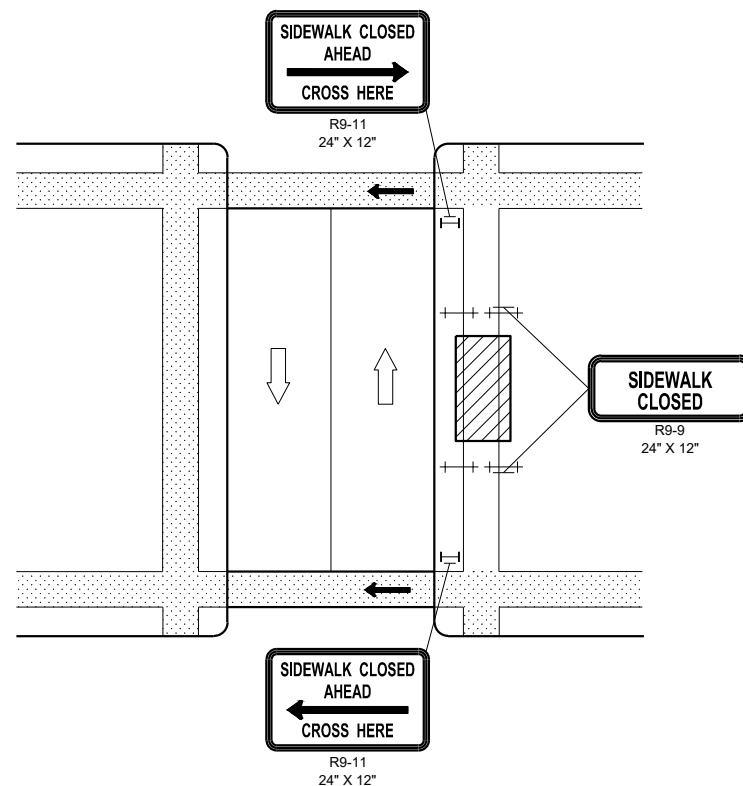
SDD 15D28 - 04

SDD 15D28 - 04

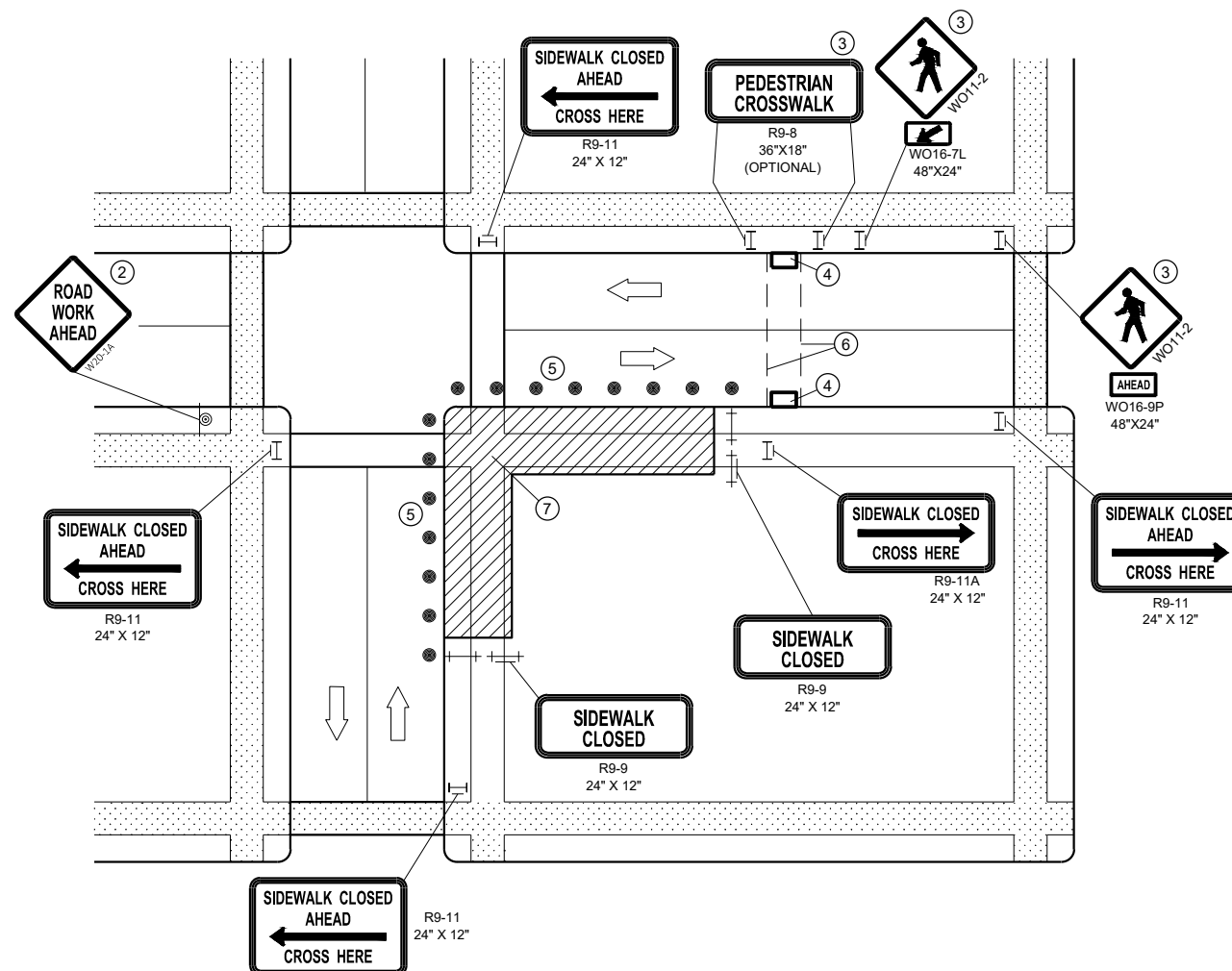
NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.



**MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE**

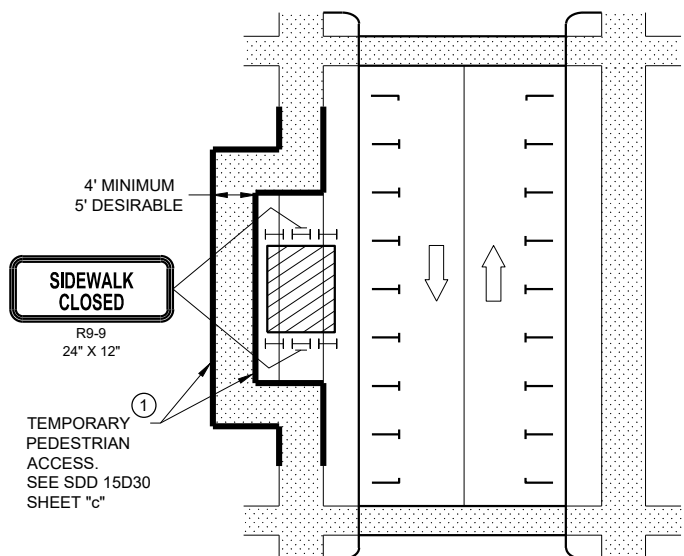


**MID-BLOCK SIDEWALK CLOSURE**



**CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK**

NOTE: LAYOUT SAME AS ABOVE.



**SIDEWALK DIVERSION**

**GENERAL NOTES**

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

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

FOR NIGHTTIME CLOSURE, USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

- ① IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE
- ② "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.
- ③ IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND WO11-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.
- ④ TEMPORARY CURB RAMPS. SEE SDD 15D30 SHEET "b".
- ⑤ DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.
- ⑥ TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.
- ⑦ LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- DIRECTION OF TRAFFIC

**TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION**

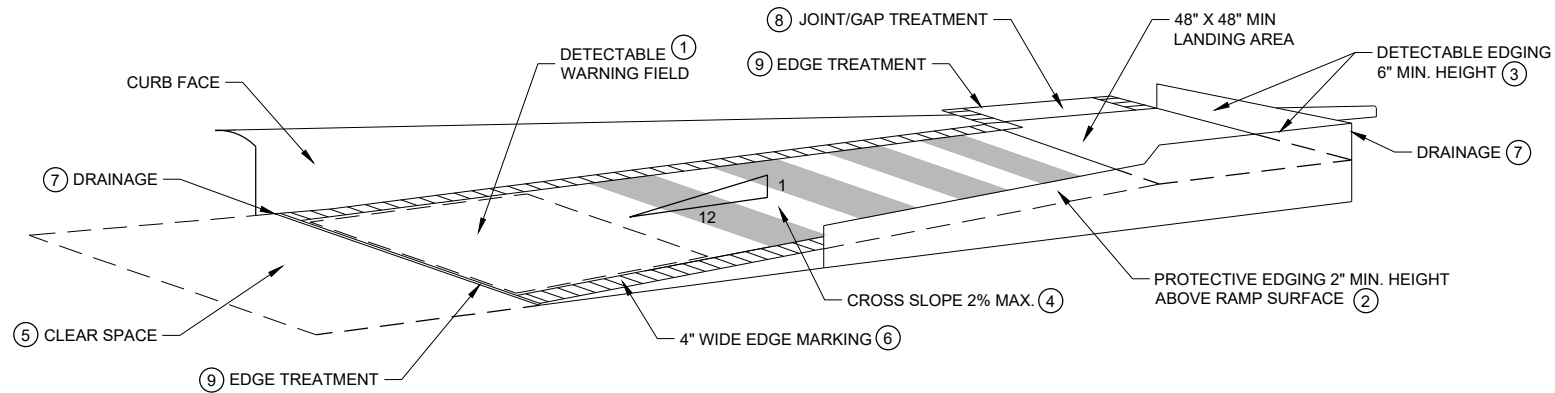
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

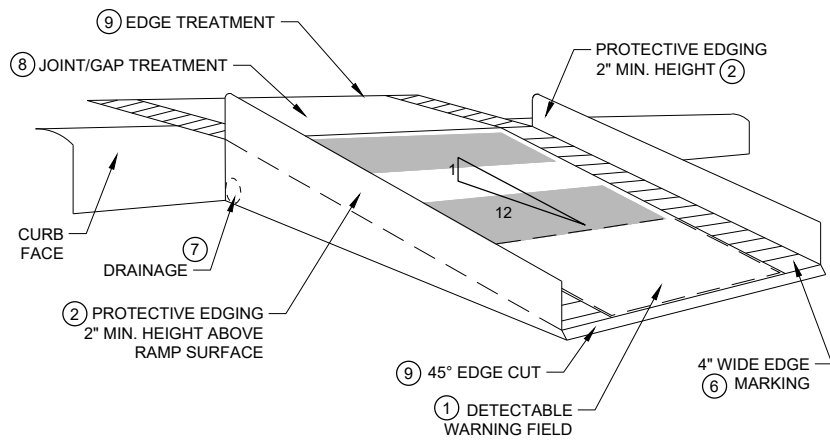
NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

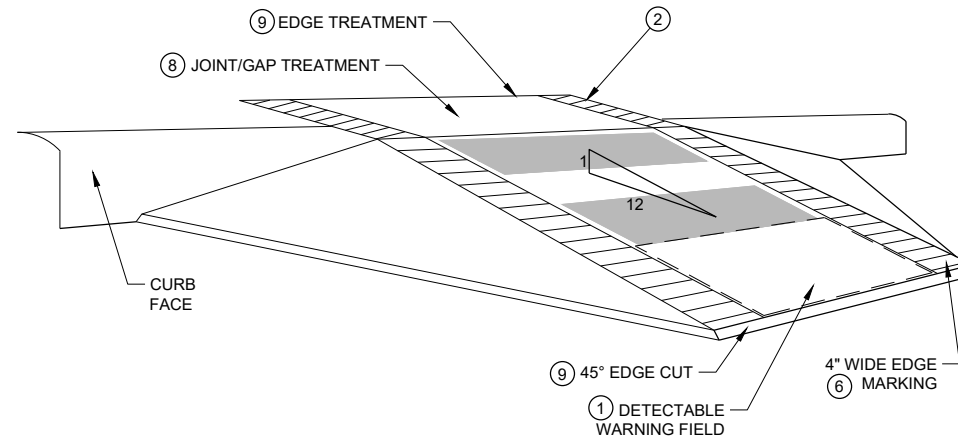
- ① CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 08D05, SHEET "e".
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.
- ⑤ CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
- ⑥ THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.
- ⑦ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ⑧ LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
- ⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHALL BE VERTICAL UP TO 1/4" HIGH AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".
- ⑩ 5" WIDE MIN. WITH PEDESTRIAN SAFETY BARRICADE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY BARRICADE.



**TEMPORARY CURB RAMP PARALLEL TO CURB**

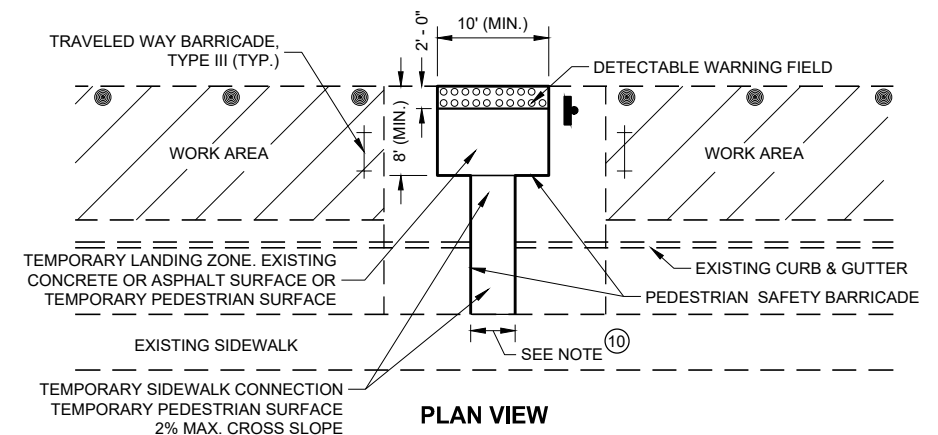


**WITH PROTECTIVE EDGE**

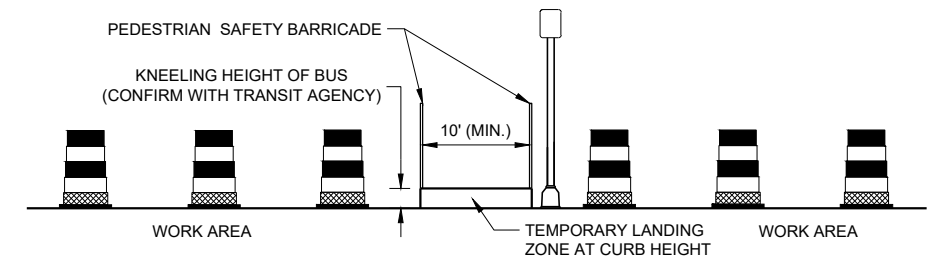


**WITH SIDE APRON**

**TEMPORARY CURB RAMP PERPENDICULAR TO CURB**



**PLAN VIEW**



**PROFILE VIEW**

**TEMPORARY BUS STOP PAD**

**LEGEND**

- TRAFFIC CONTROL DRUM
- ⊥ TYPE III BARRICADE
- ▨ WORK AREA

**TRAFFIC CONTROL,  
PEDESTRIAN ACCOMMODATION**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

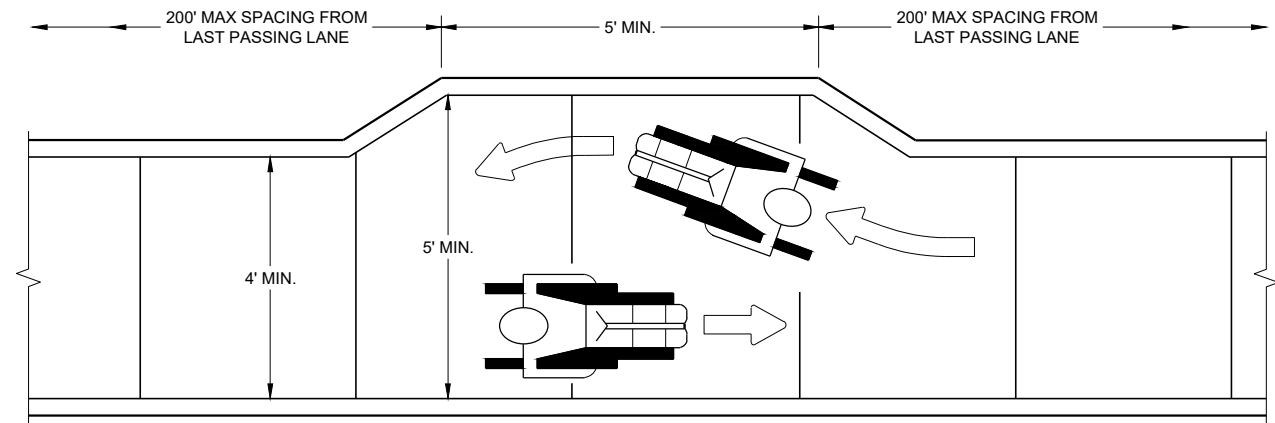
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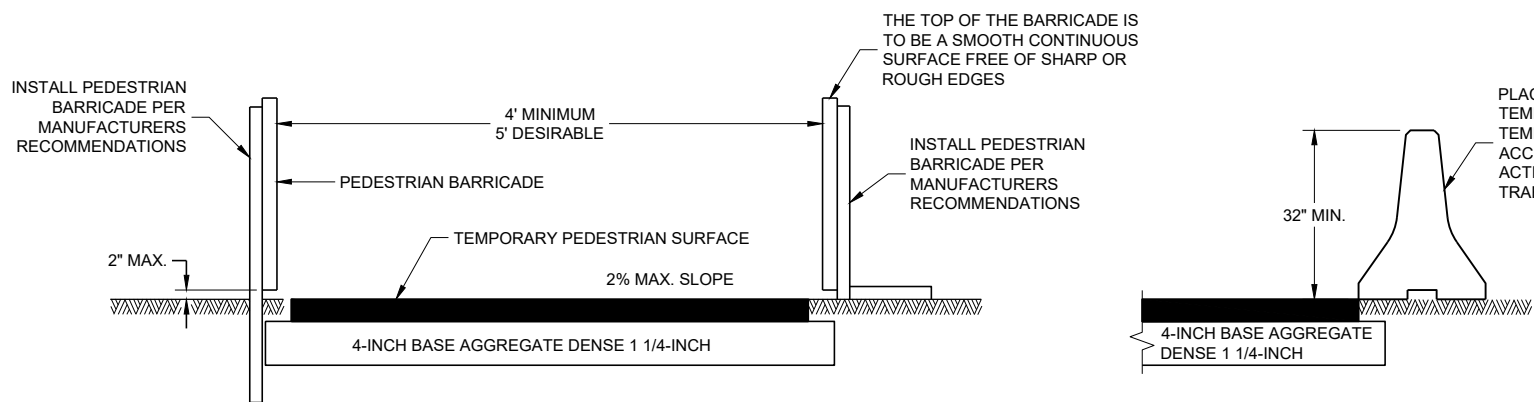
SDD 15D30 - 06b

SDD 15D30 - 06b

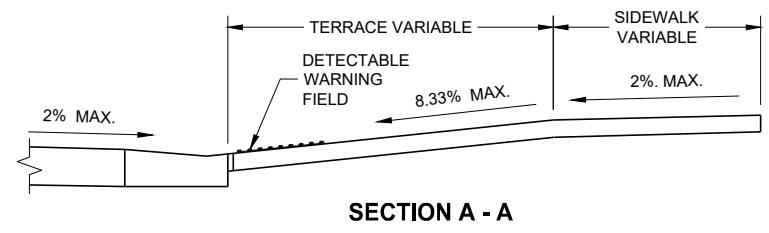




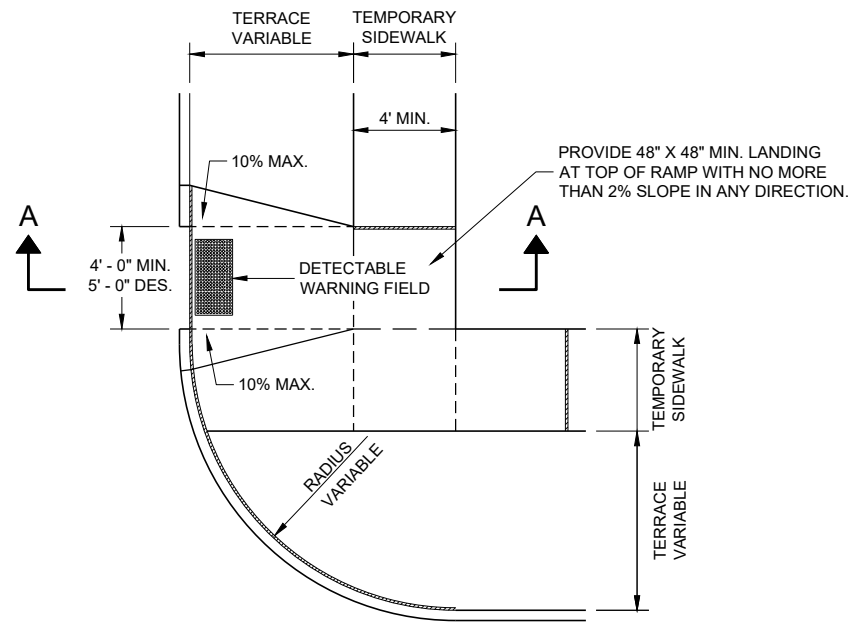
**NARROW SIDEWALK PASSING DETAIL**



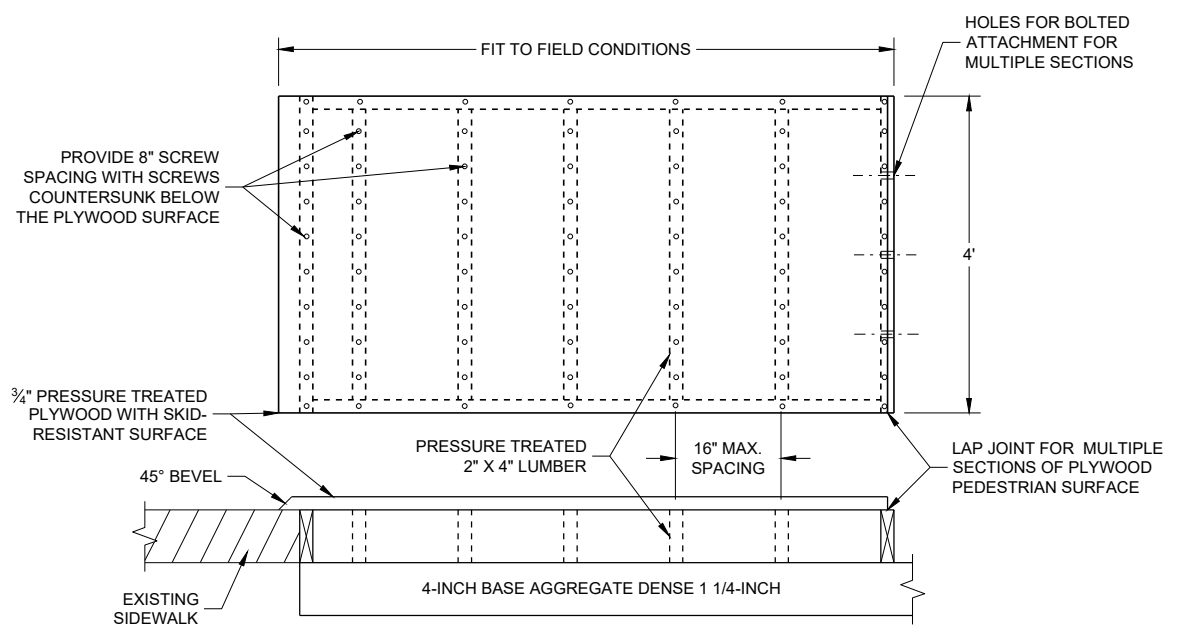
**TEMPORARY PEDESTRIAN ACCESS**



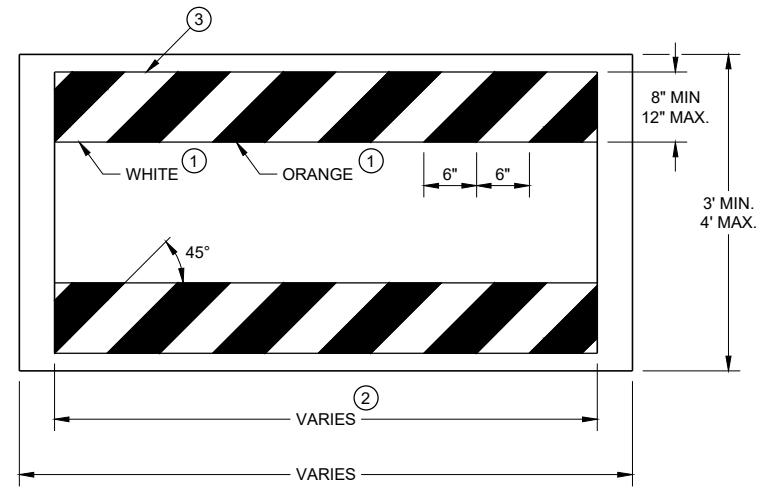
**SECTION A - A**



**PLAN VIEW  
TEMPORARY TYPE 3 RAMP  
(OUTSIDE OF CROSSWALK AREA)**



**TEMPORARY PEDESTRIAN SURFACE PLYWOOD**

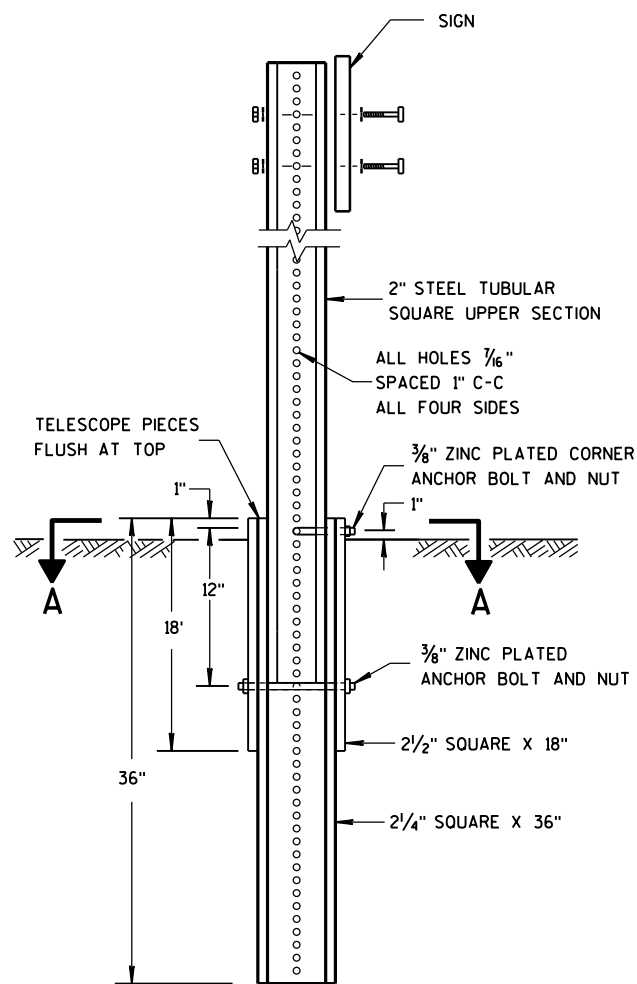


**TEMPORARY PEDESTRIAN BARRICADE \***

**GENERAL NOTES**

- BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.
- ③ PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.
- \* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.

<b>TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2019 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



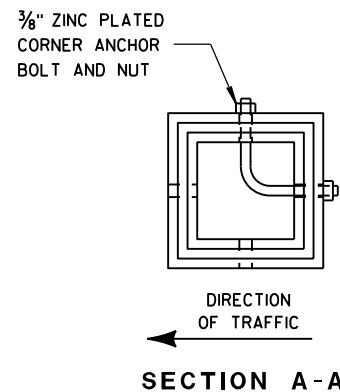
**DETAIL OF TUBULAR STEEL SIGN POST**

**TUBULAR STEEL POSTS**

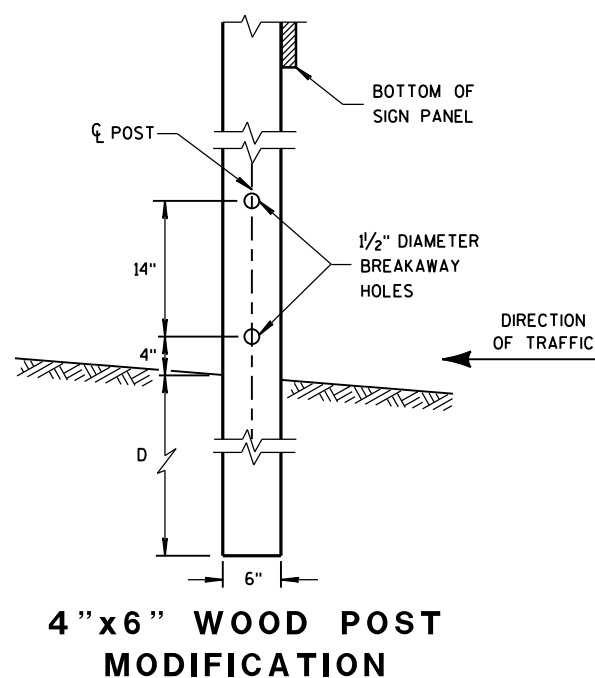
AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

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

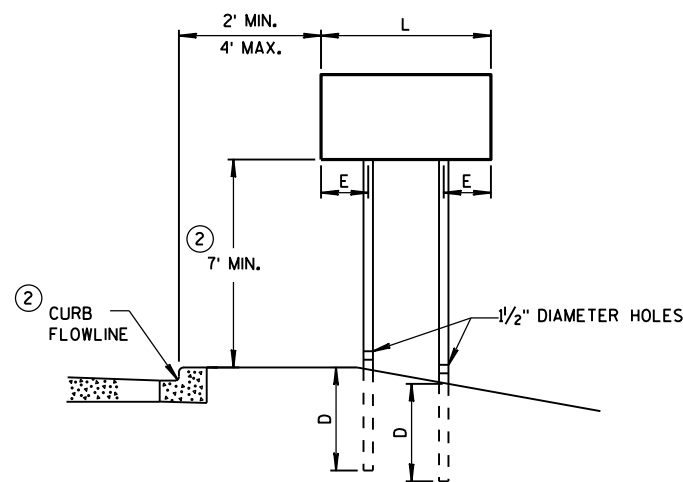
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.



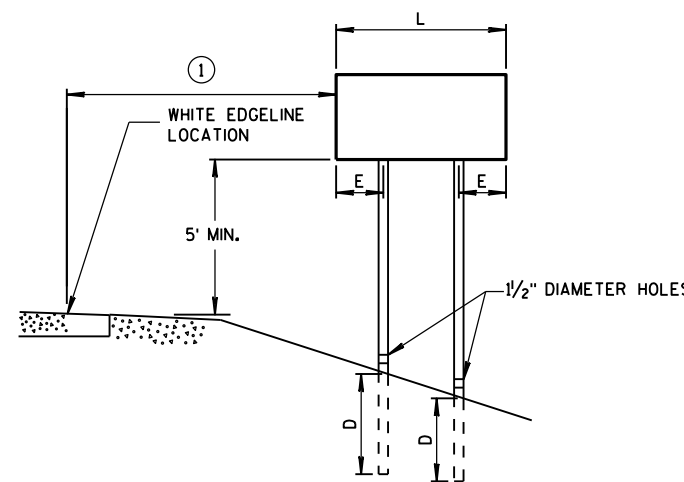
**SECTION A-A**



**4" X 6" WOOD POST MODIFICATION**



**URBAN AREA**



**RURAL AREA**

**POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS**

**WOOD POST EMBEDMENT DEPTH**

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

**4" X 6" WOOD POST**

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

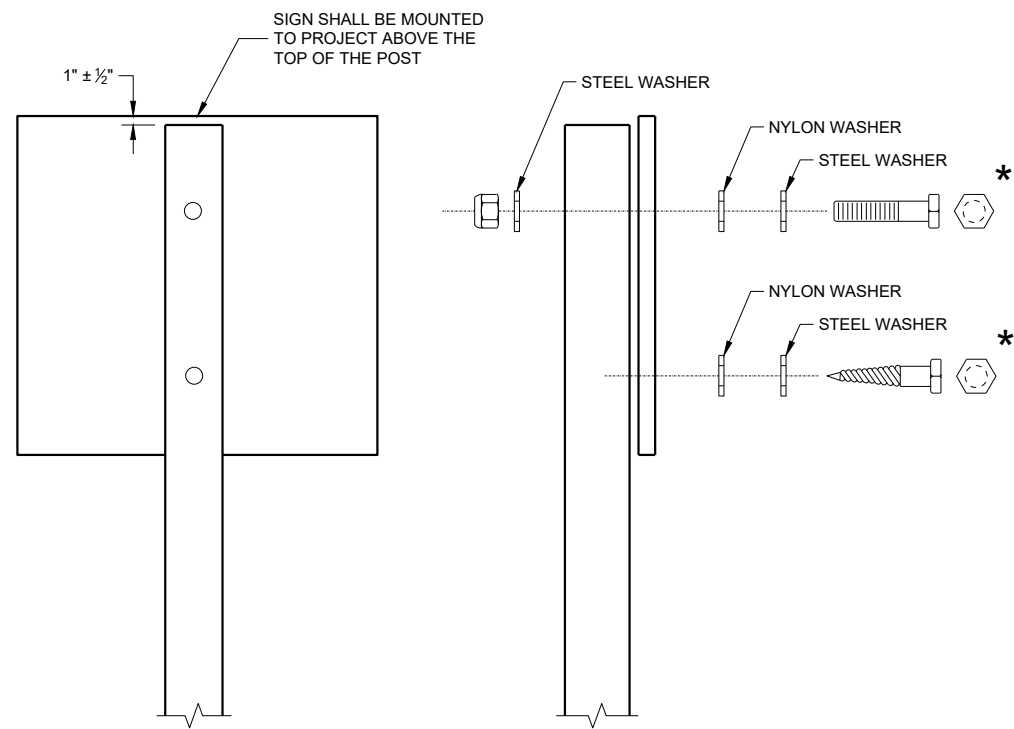
SEE NOTE ③

**GENERAL NOTES**

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

**TEMPORARY TRAFFIC CONTROL SIGN MOUNTING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POST (4" x 6")  
 LAG SCREWS - 3/8" x 3"  
 MACHINE BOLTS - 5/16" x 6 1/2" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")  
 MACHINE BOLTS - 3/8" x 3 1/4" LENGTH W/NUTS  
 RIVETS - 3/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM  
 BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH,  
 GRIP RANGE 0.042 - 0.375 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 0.080 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

<b>ATTACHMENT OF SIGNS TO POSTS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

# GENERAL NOTES

## LEGEND

-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  REMOVING PAVEMENT MARKING (SEE 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 SHIFTING RIGHT LANE - REVERSE FOR SHIFTING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

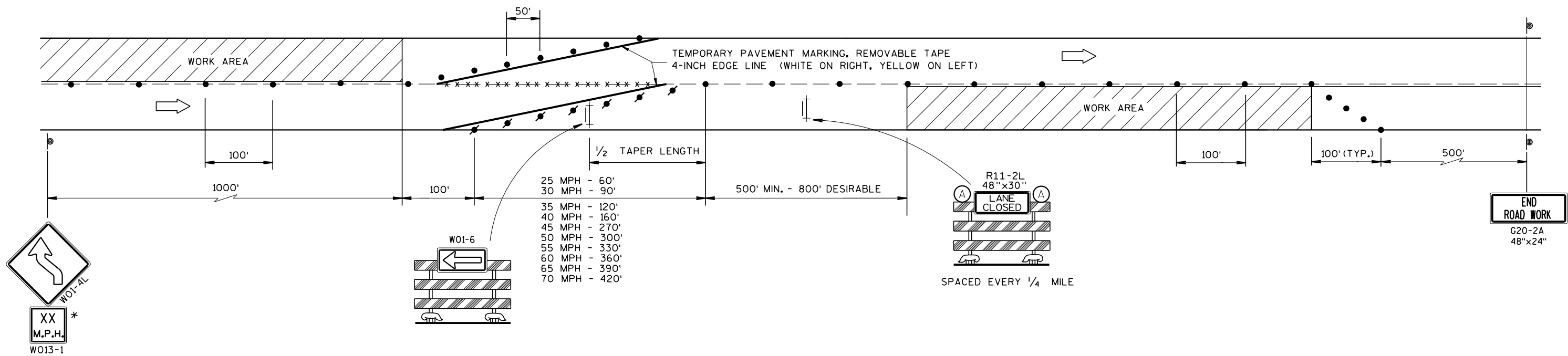
FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST 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.



## LANE SHIFT MULTI-LANE DIVIDED OR ONE WAY ROAD

\* USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED

**TRAFFIC CONTROL,  
LANE SHIFT, MULTI-LANE  
DIVIDED OR ONE WAY ROAD**

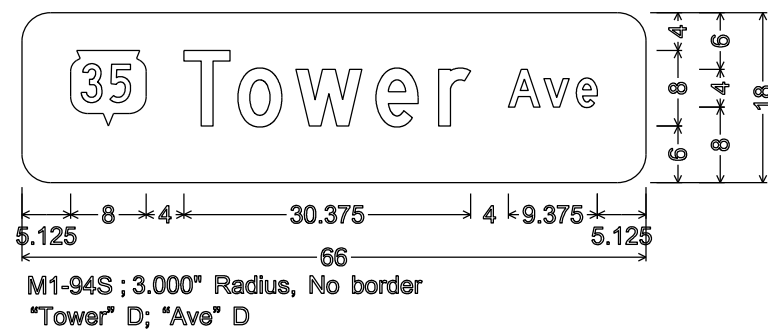
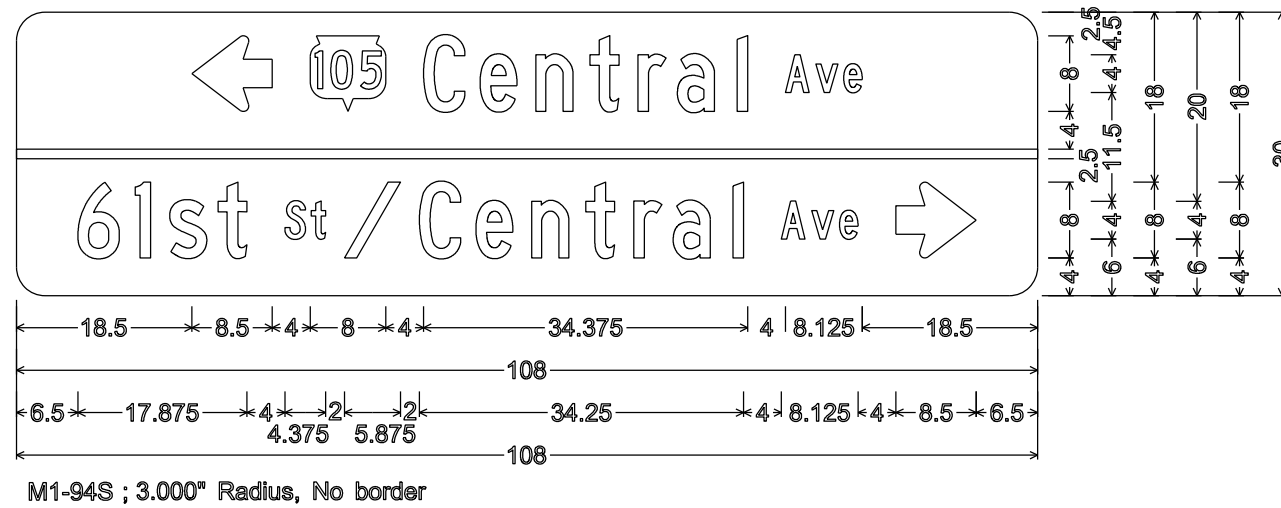
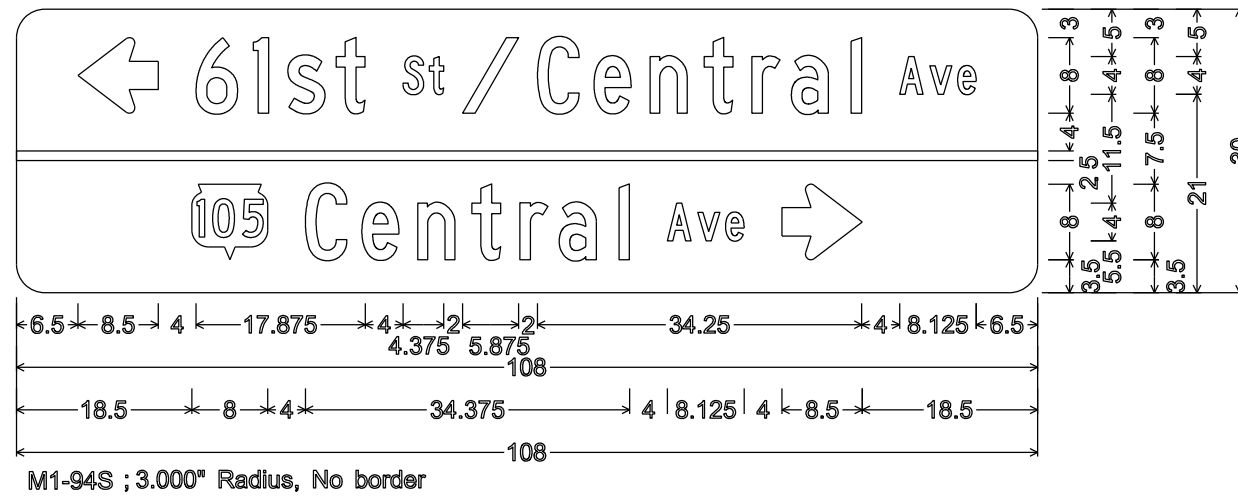
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
March 2018 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA

NOTES

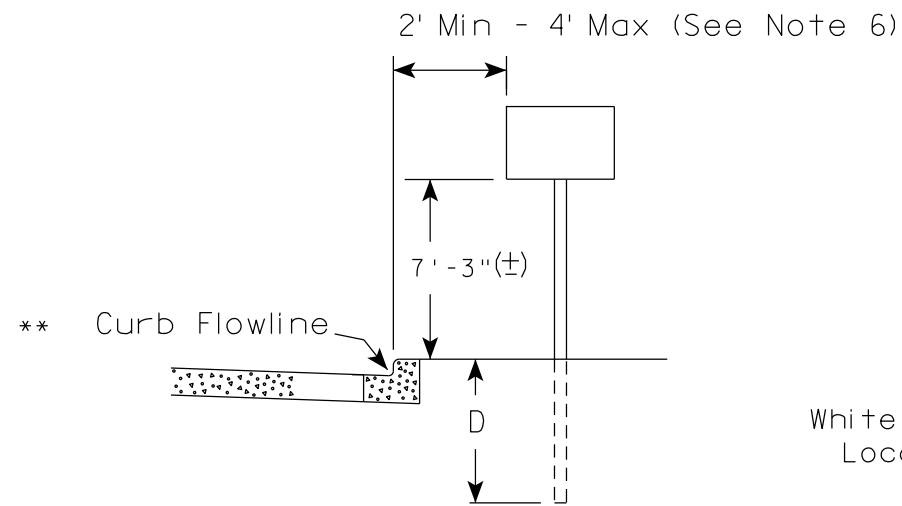
1. All Signs Type II - Type H Reflective
2. Color:  
Background - Green  
Message - White
3. Message Series - C except as noted.



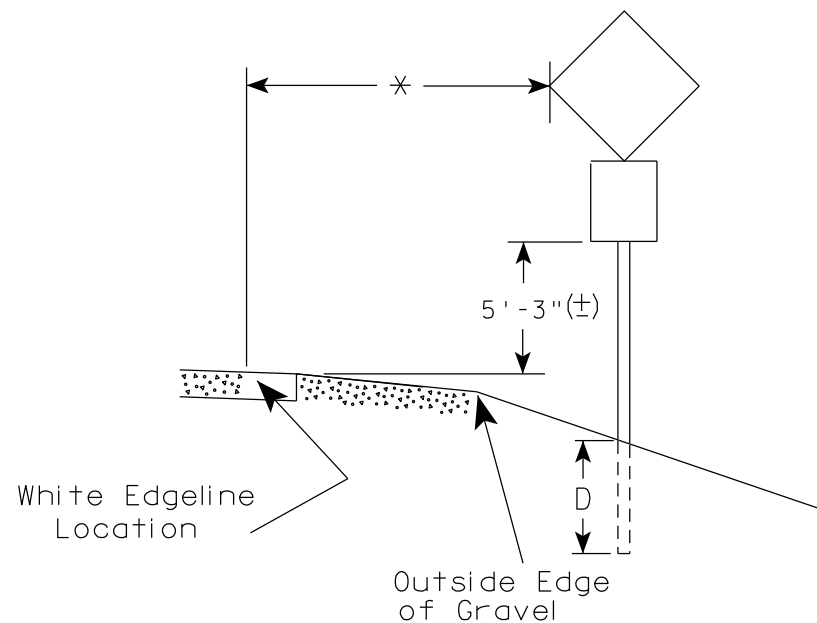
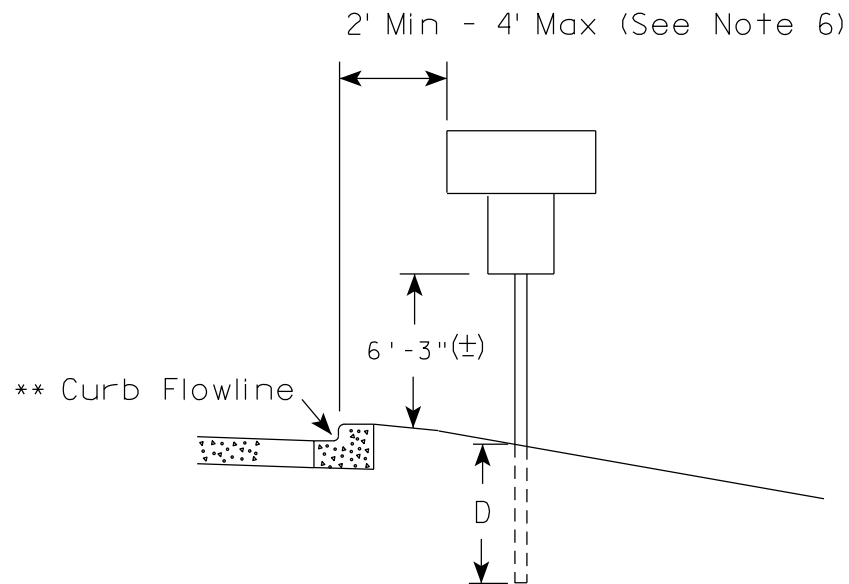
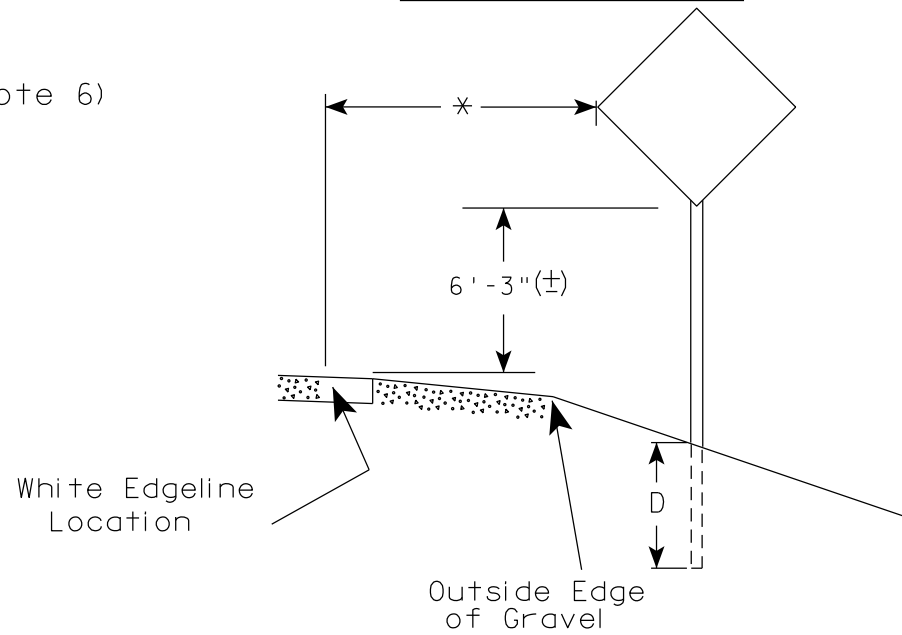
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URBAN AREA



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 or behind barrier wall, see A4-10 sign plate.  
The Double Arrow sign (W12-1D) 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" (±).
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 signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.

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.

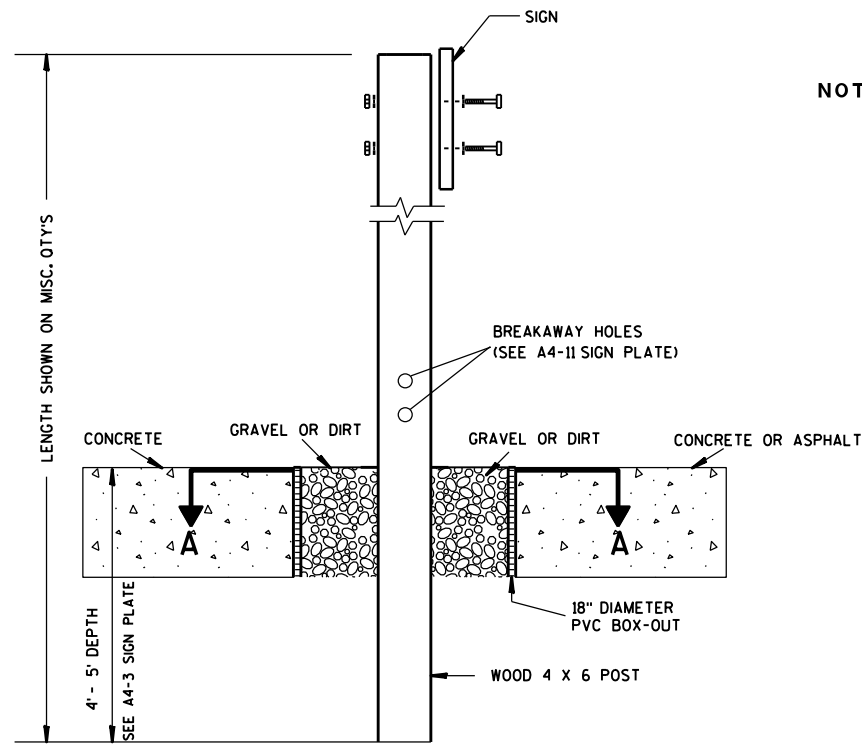
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

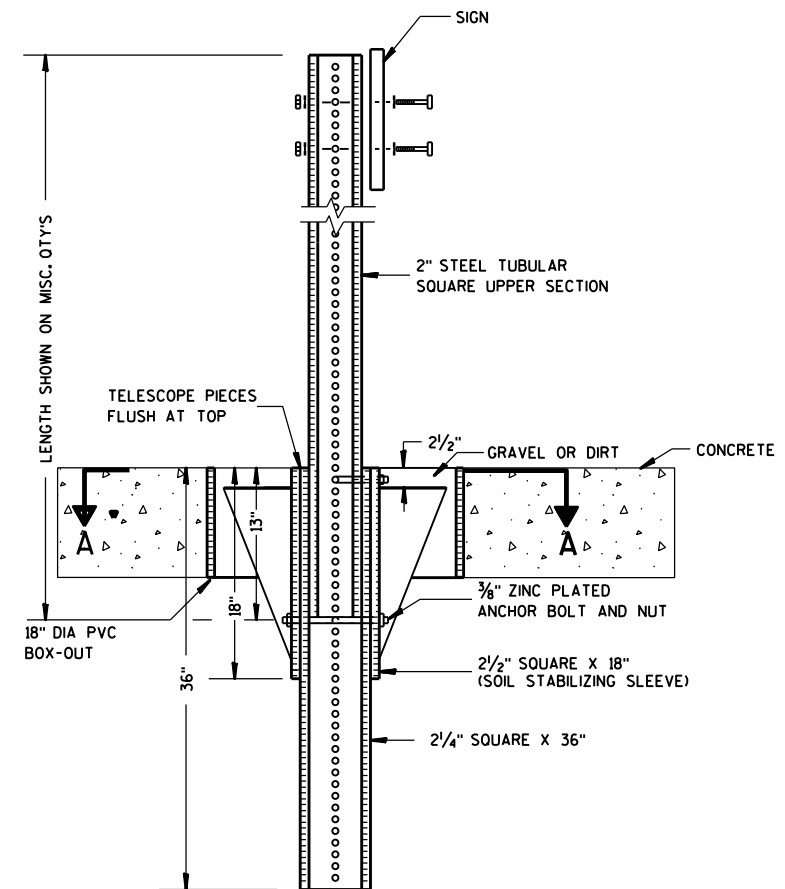
DATE 5/13/2020 PLATE NO. A4-3.22



**ELEVATION VIEW**

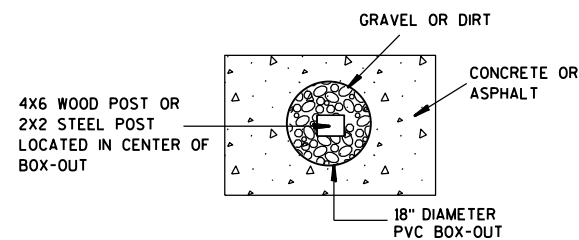
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

- 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**

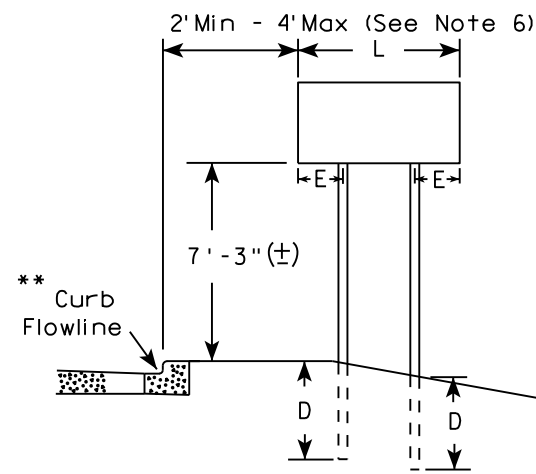
**FOR NEW CONCRETE/ ASPHALT INSTALLATIONS**

SIGN POST BOX-OUTS A4-3B	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED <i>Matthew R. Rauch</i> for State Traffic Engineer	
DATE 1/27/14	PLATE NO. A4-3B.1

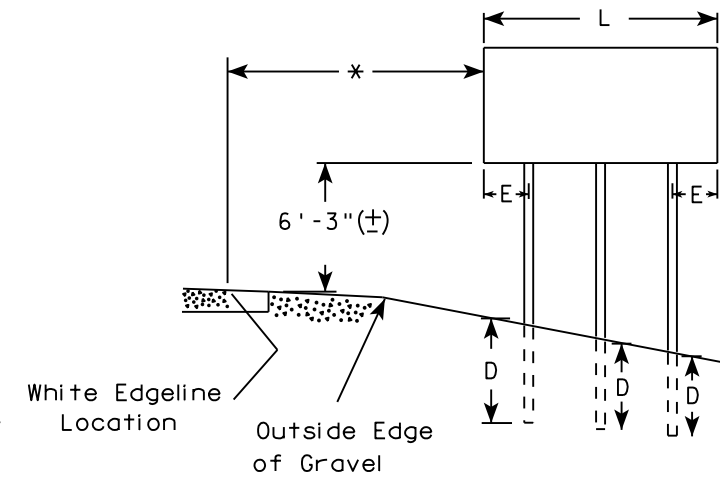
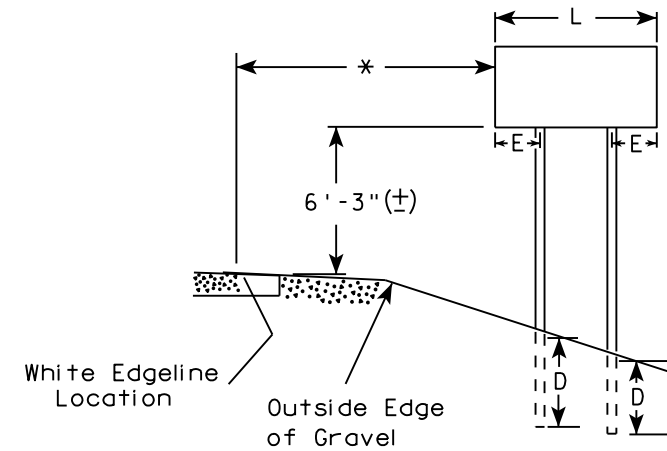
GENERAL NOTES

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. J-Assemblies are considered to be one sign for mounting height.
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" (±).

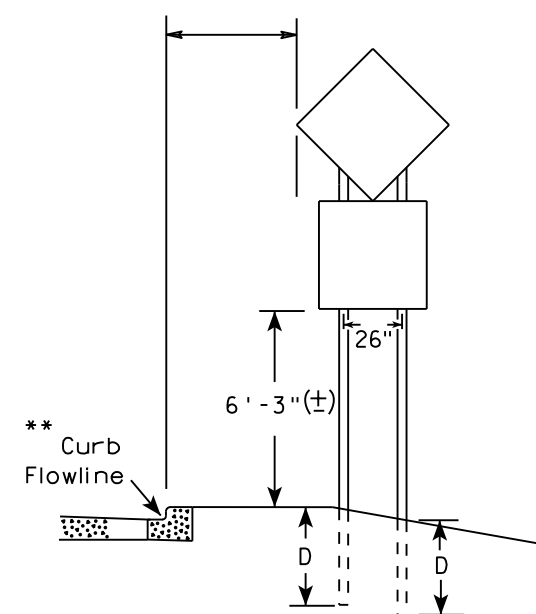
URBAN AREA



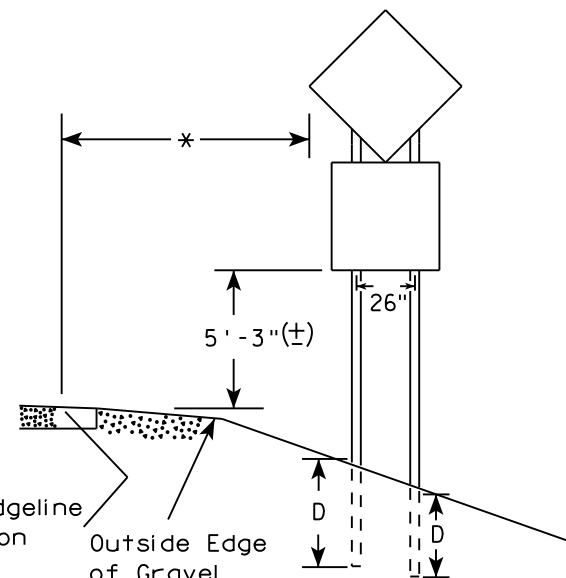
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

\* 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 108"	L/5

\*\*\*

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

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

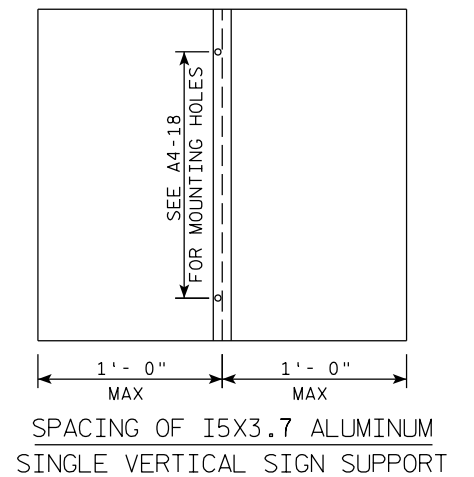
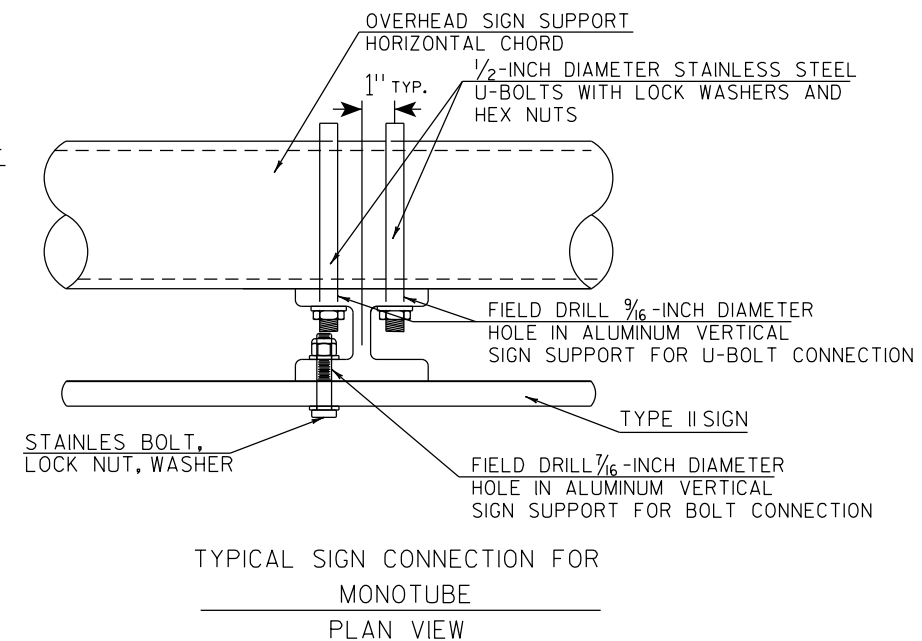
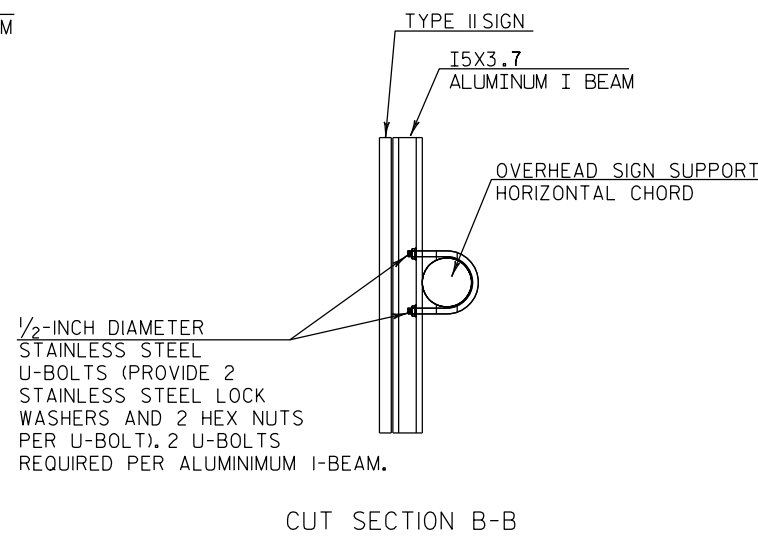
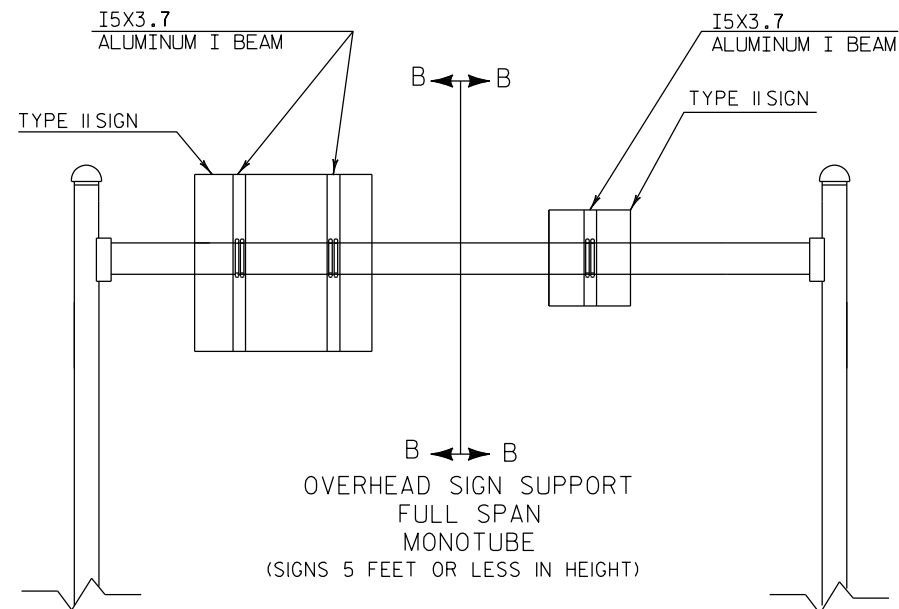
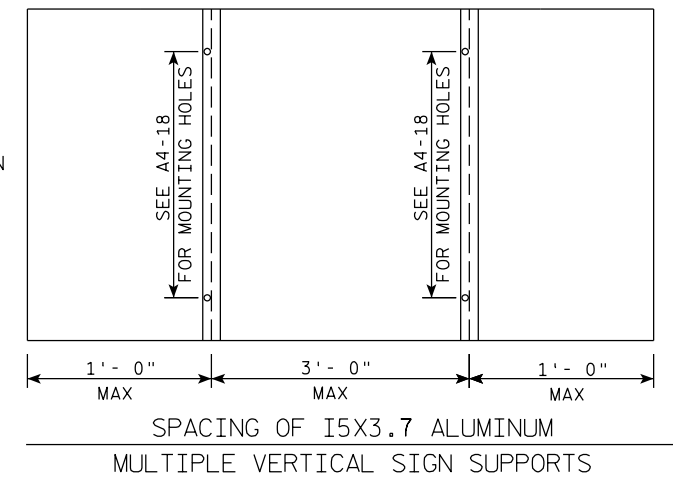
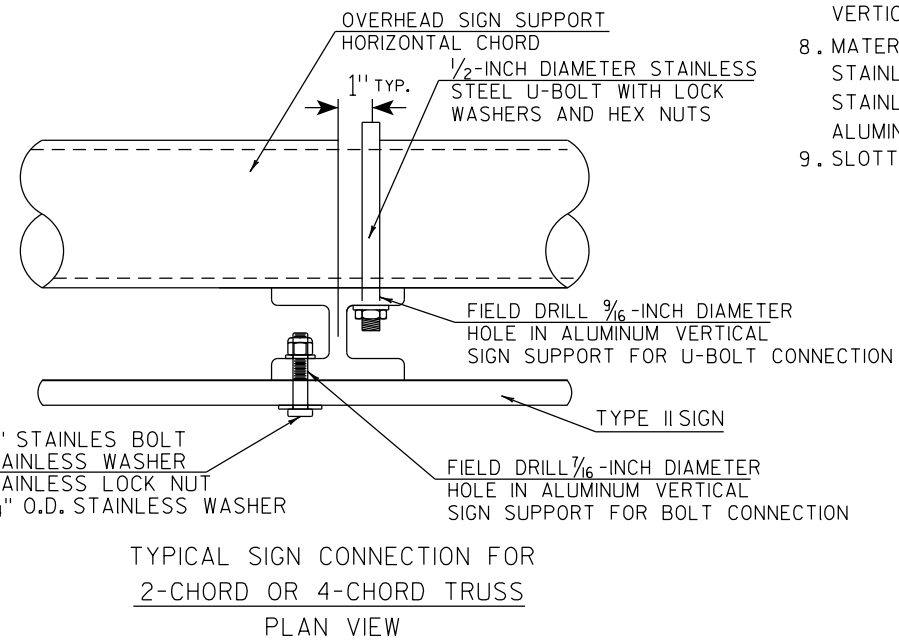
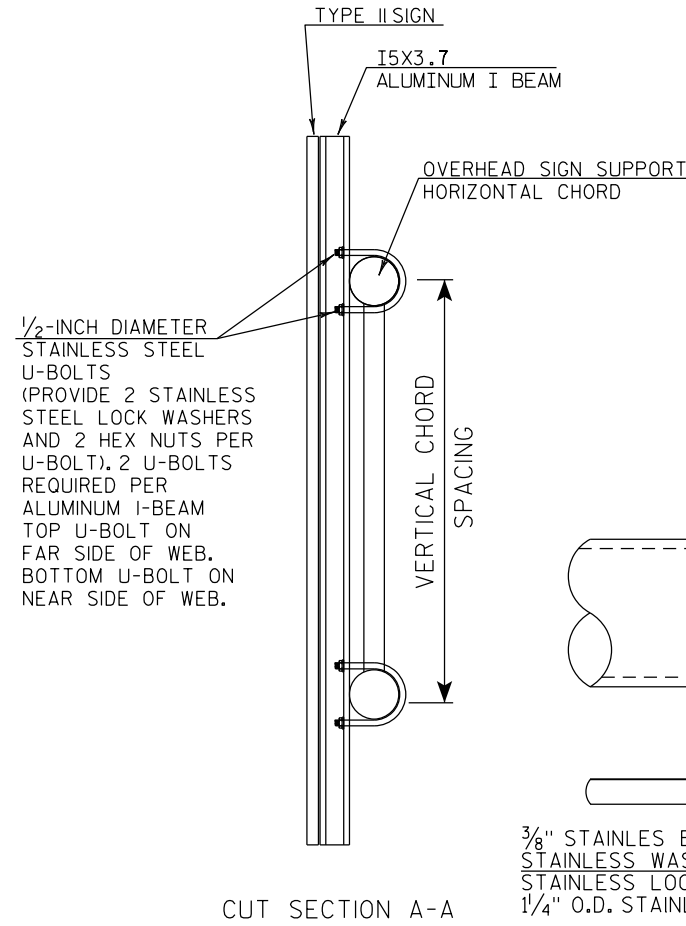
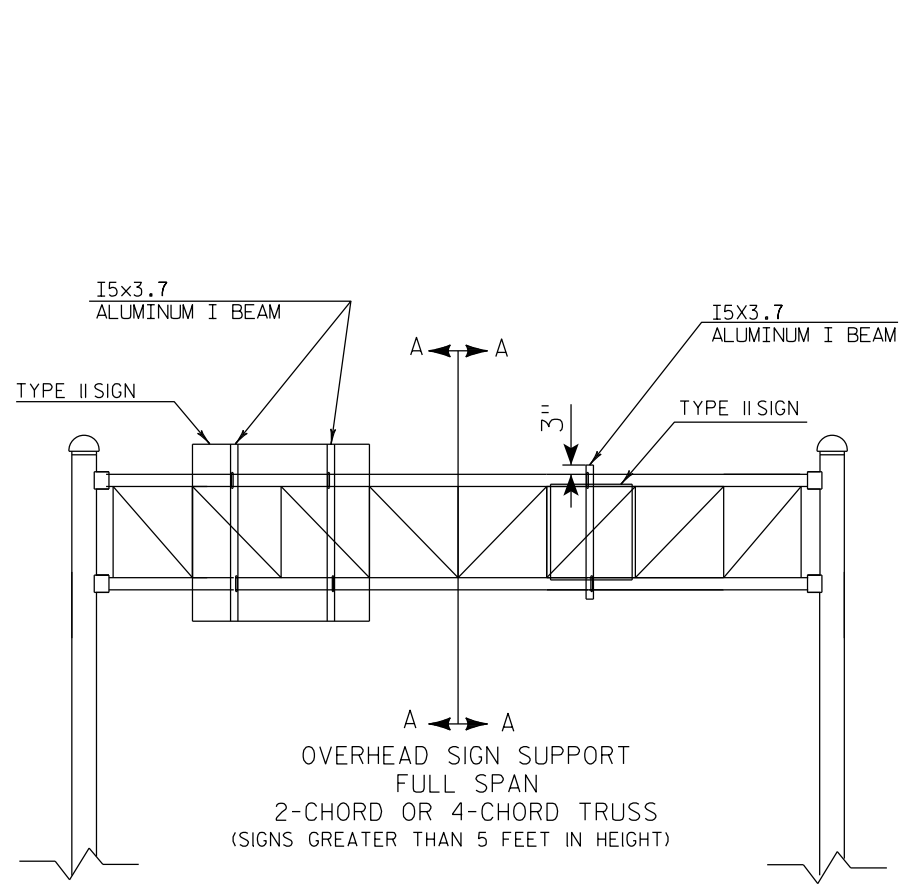
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION  
 APPROVED *Matthew R. Rauch*  
 For State Traffic Engineer  
 DATE 8/21/17 PLATE NO. A4-4.15



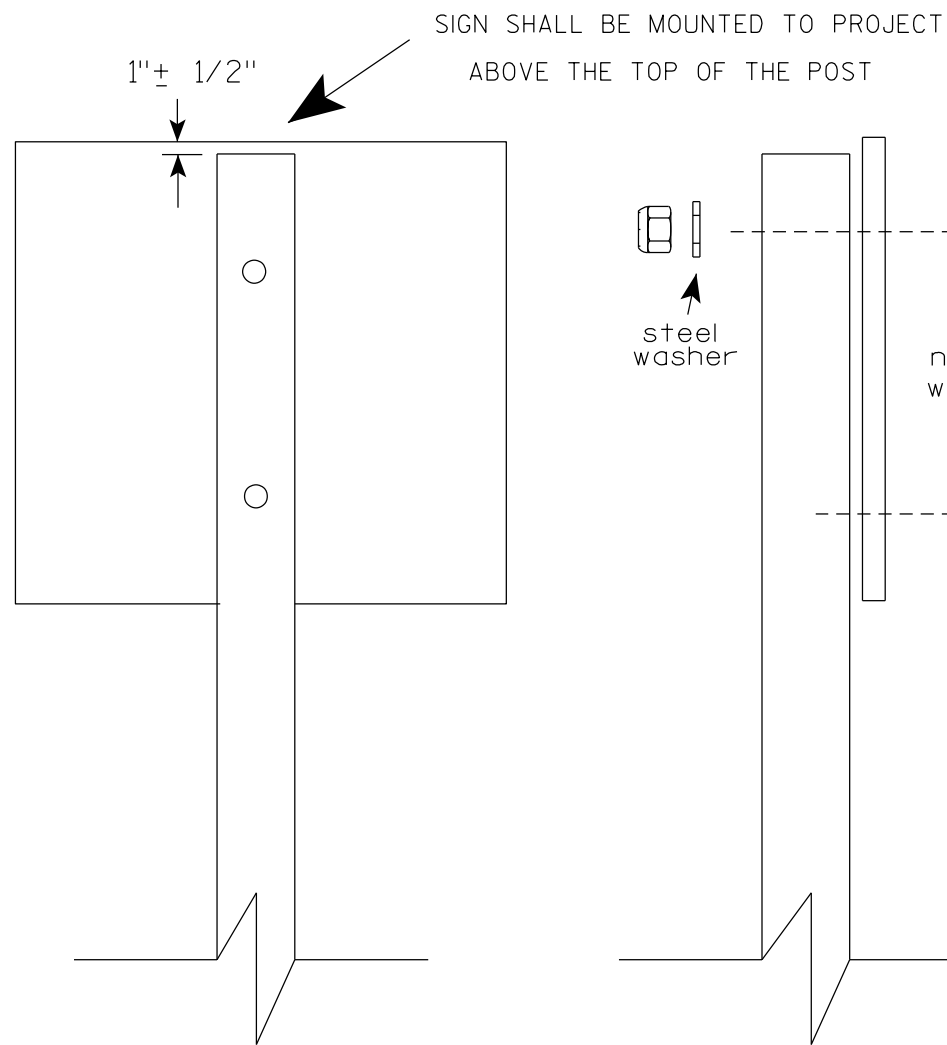
GENERAL NOTES

1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE STAINLESS BOLTS AT BOLT HOLES IN SIGN PANEL PER SIGN PLATE A4-18.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:  
STAINLESS STEEL U-BOLTS, BOLTS, AND LOCKWASHERS ASTM 304.  
STAINLESS STEEL HEX NUTS ASTM A276.  
ALUMINUM I-BEAMS ARE 6061-T6.
9. SLOTTED HOLES IN I-BEAMS ARE NOT ALLOWED



TYPE II SIGN CONNECTION  
TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION  
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer  
DATE 1/07/20 PLATE NO. A4-7B.1



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 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

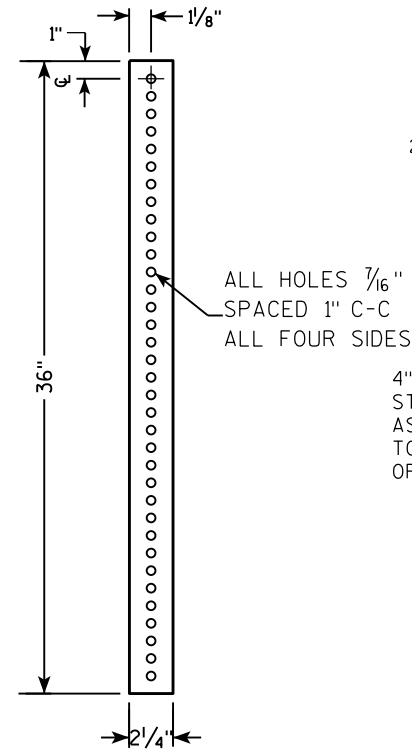
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
For State Traffic Engineer

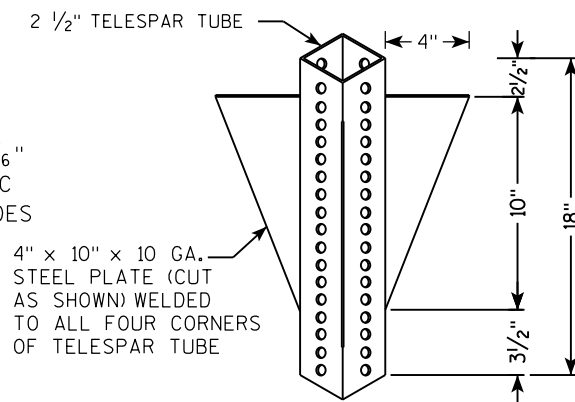
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

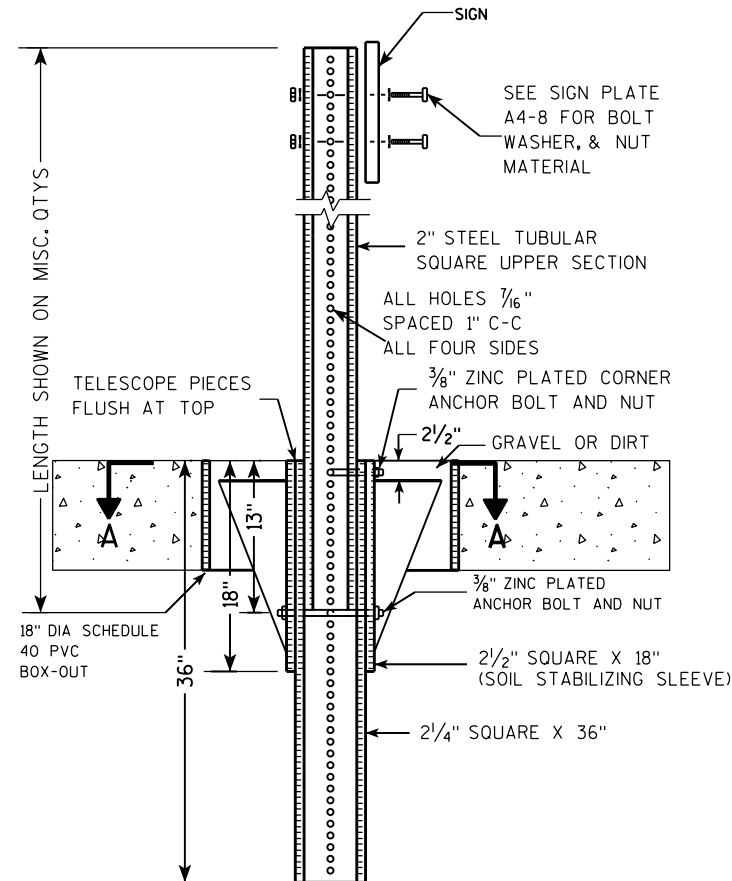
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



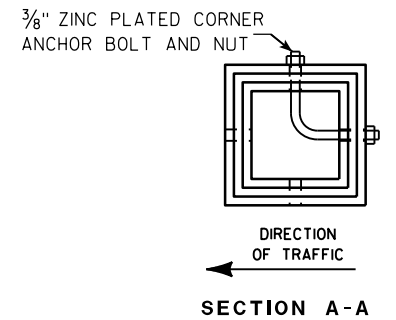
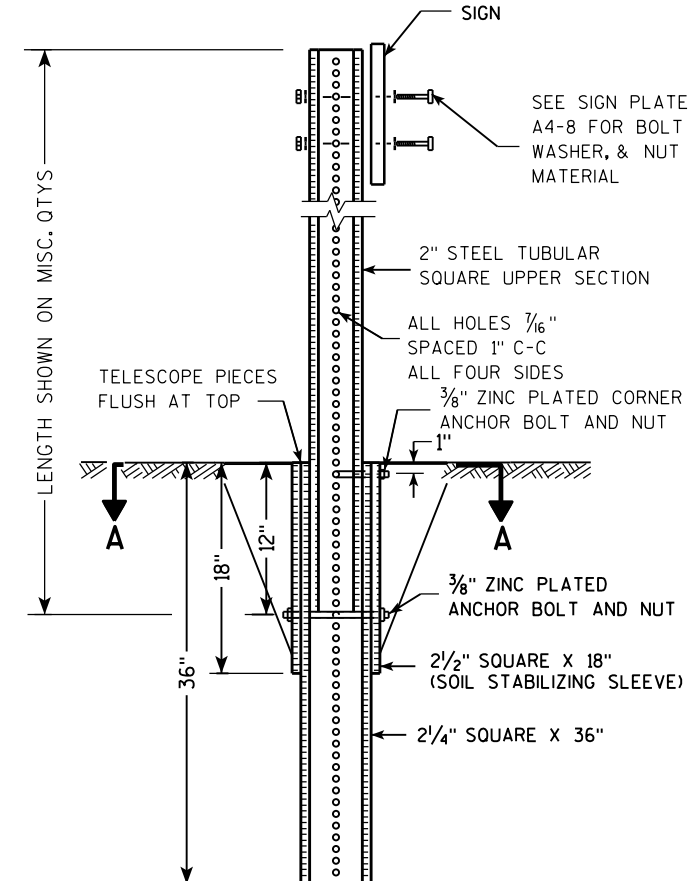
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



**DETAIL OF TUBULAR STEEL SIGN POST  
(IN POURED CONCRETE OR ASPHALT)**



**DETAIL OF TUBULAR STEEL SIGN POST  
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**



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

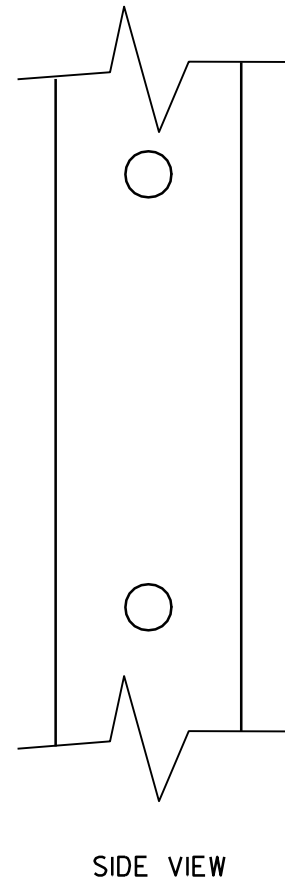
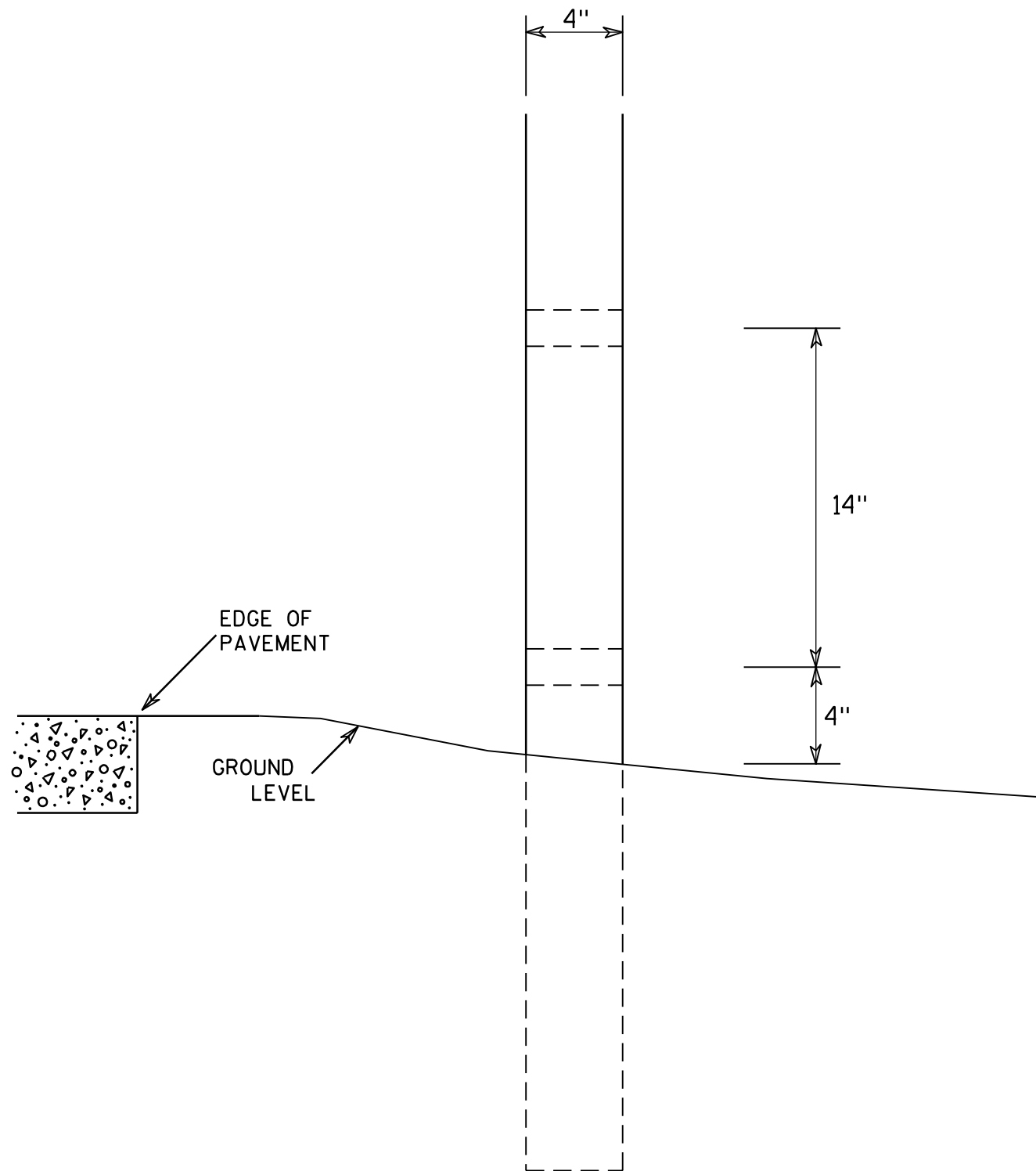
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**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



GENERAL NOTES

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

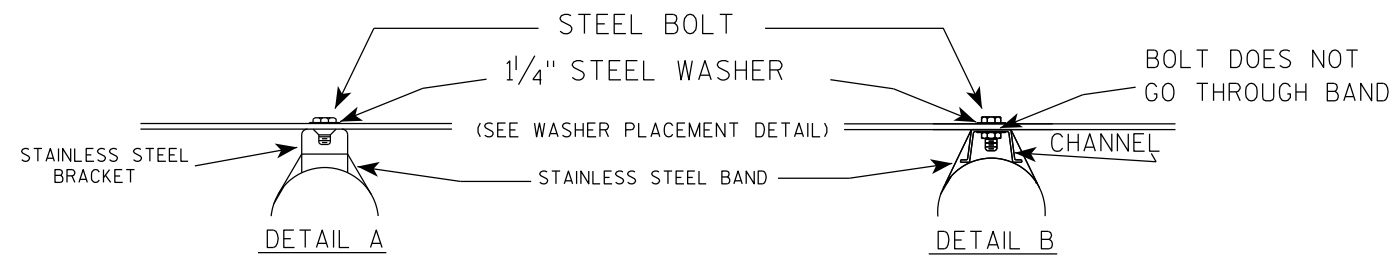
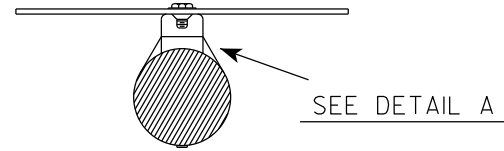
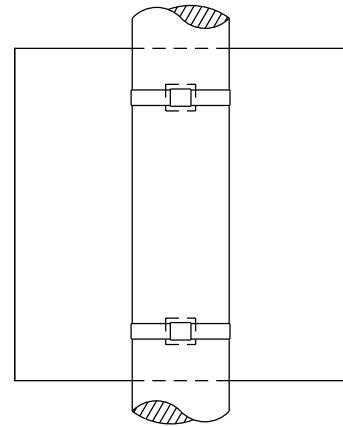
7

7

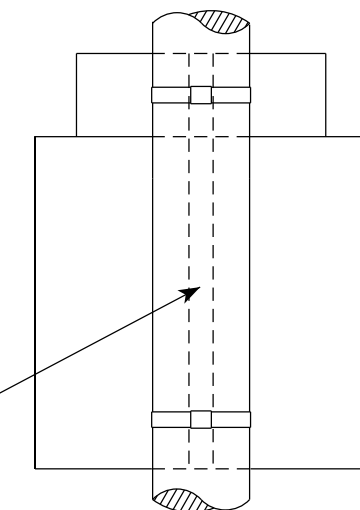
<b>4 X 6 WOOD POST MODIFICATIONS</b>	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J. Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

# BANDING

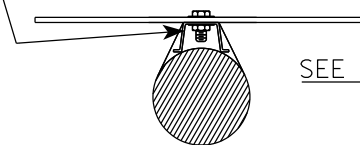
SINGLE SIGN



"J" ASSEMBLY

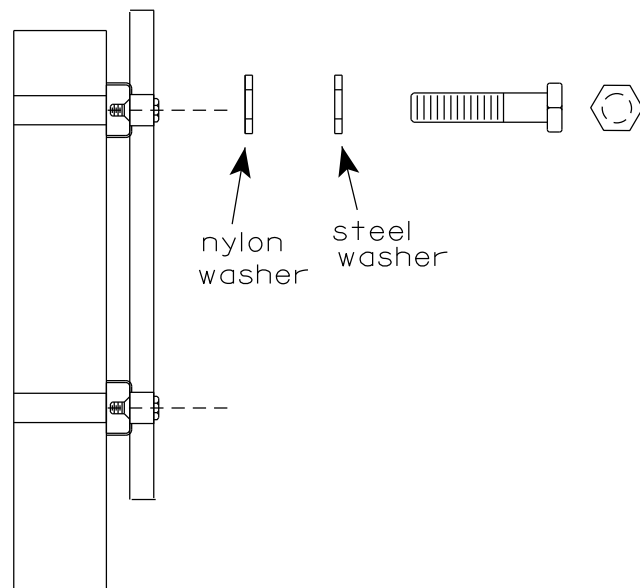


CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



- 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.
  4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
    - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
    - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

WASHER PLACEMENT



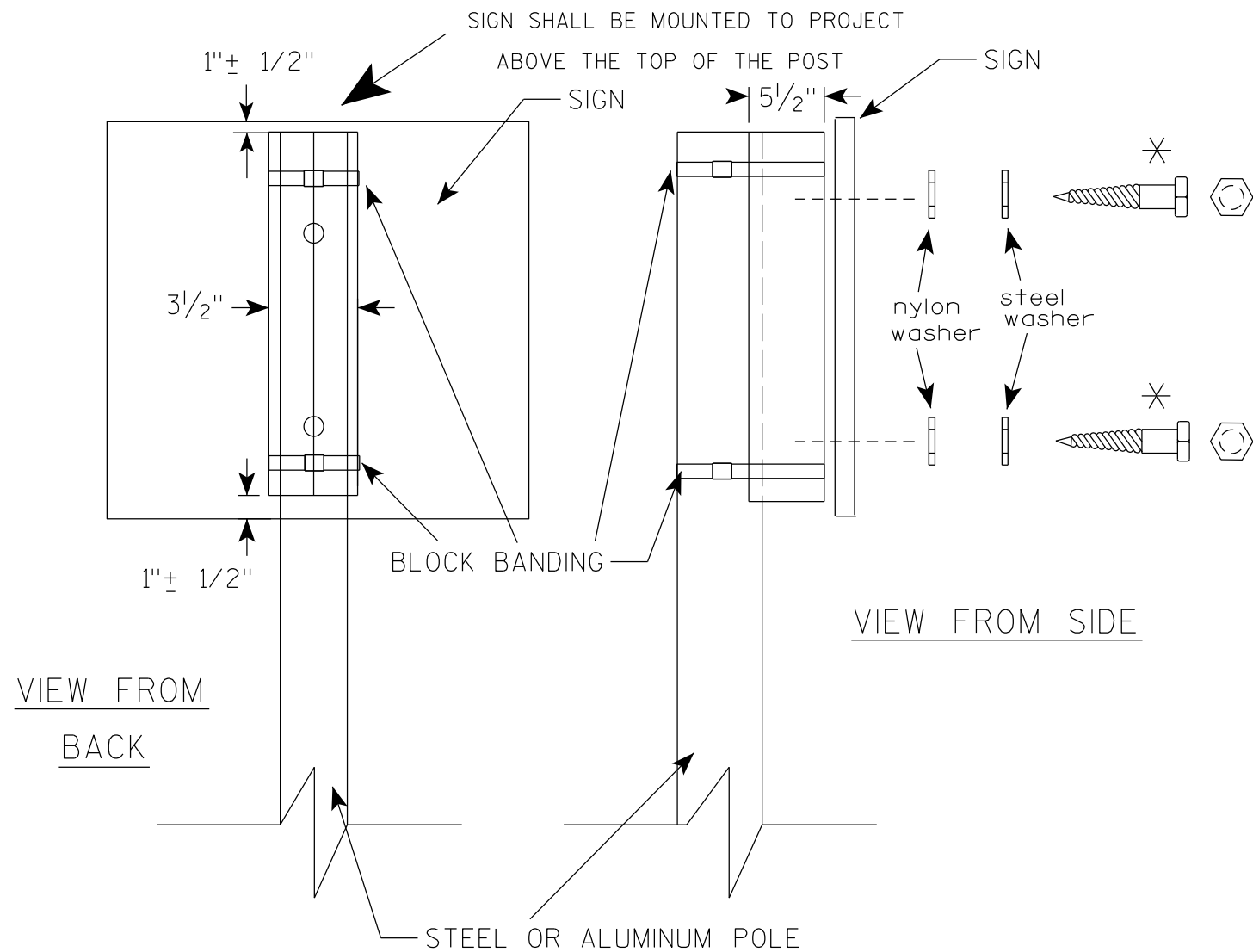
WASHERS (ALL POSTS) -  
 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
 1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
 FOR ALL TYPE H SIGNS

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

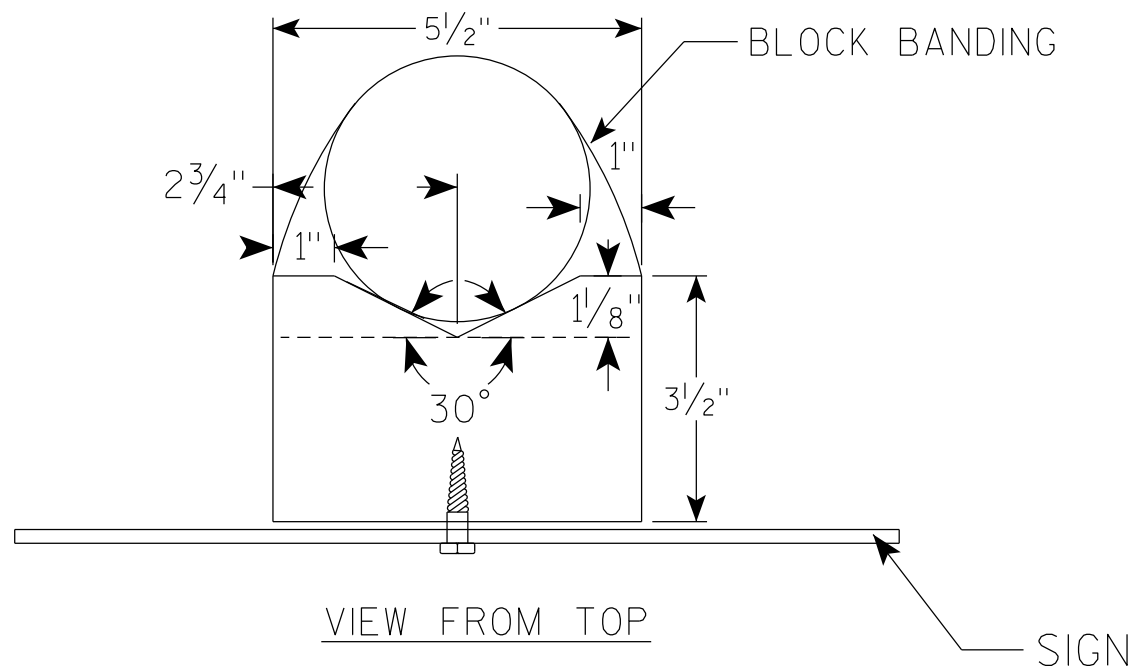
DATE 6/10/19 PLATE NO. A5-9.4



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, 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
  - b. 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 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

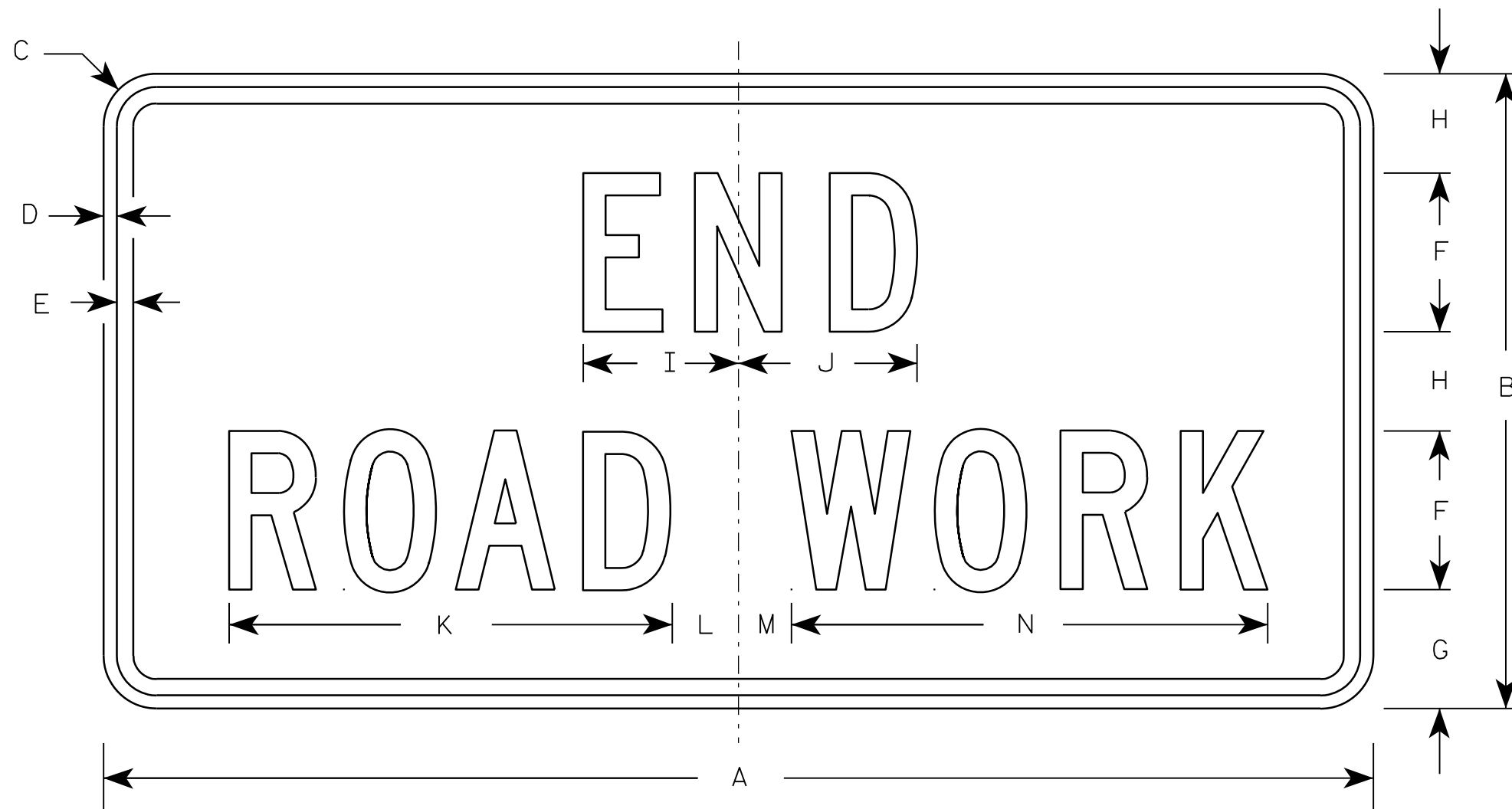
✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"



BLOCK BANDING DETAIL ( V-BLOCK OPTION )	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> for State Traffic Engineer
DATE 6/10/19	PLATE NO. A5-10.2

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - 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.



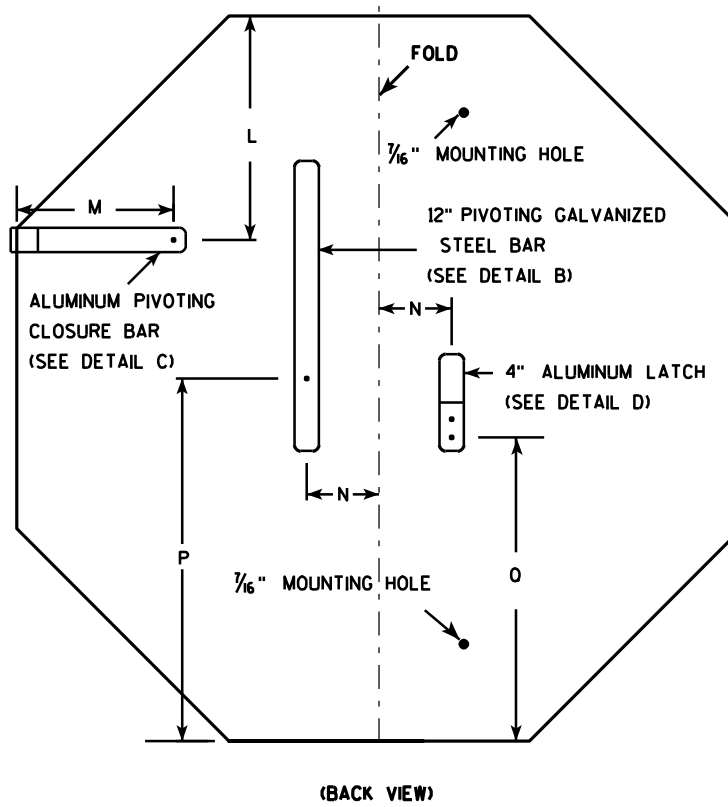
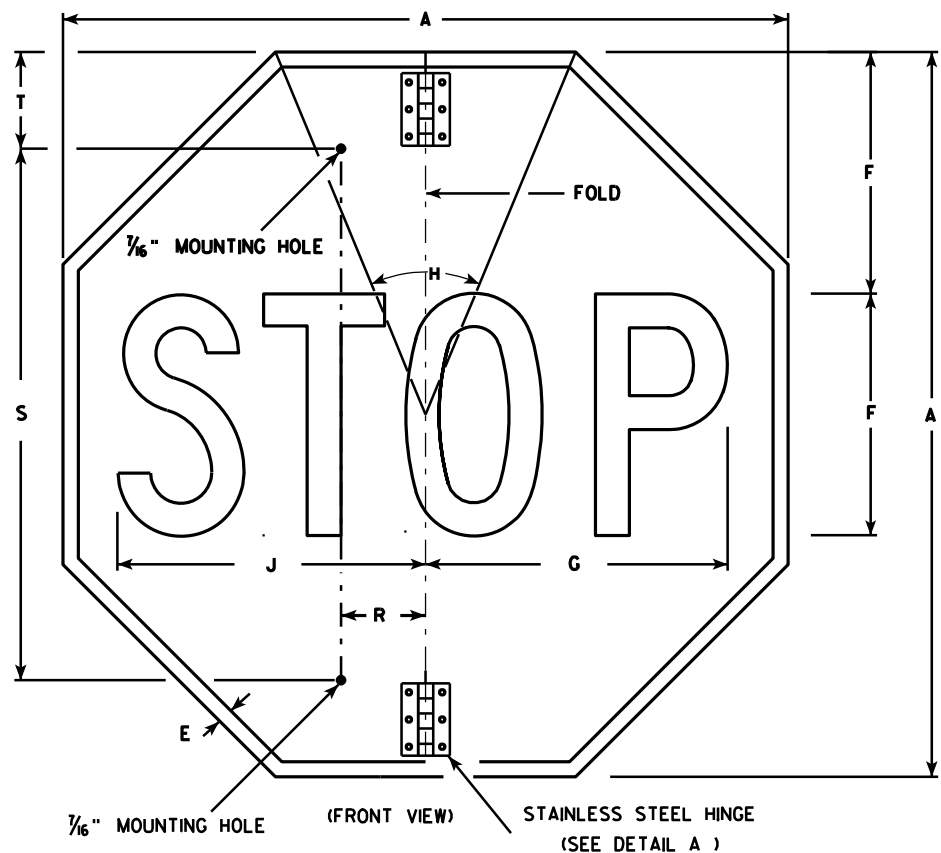
G20-2A

Metric equivalent  
for this sign is:

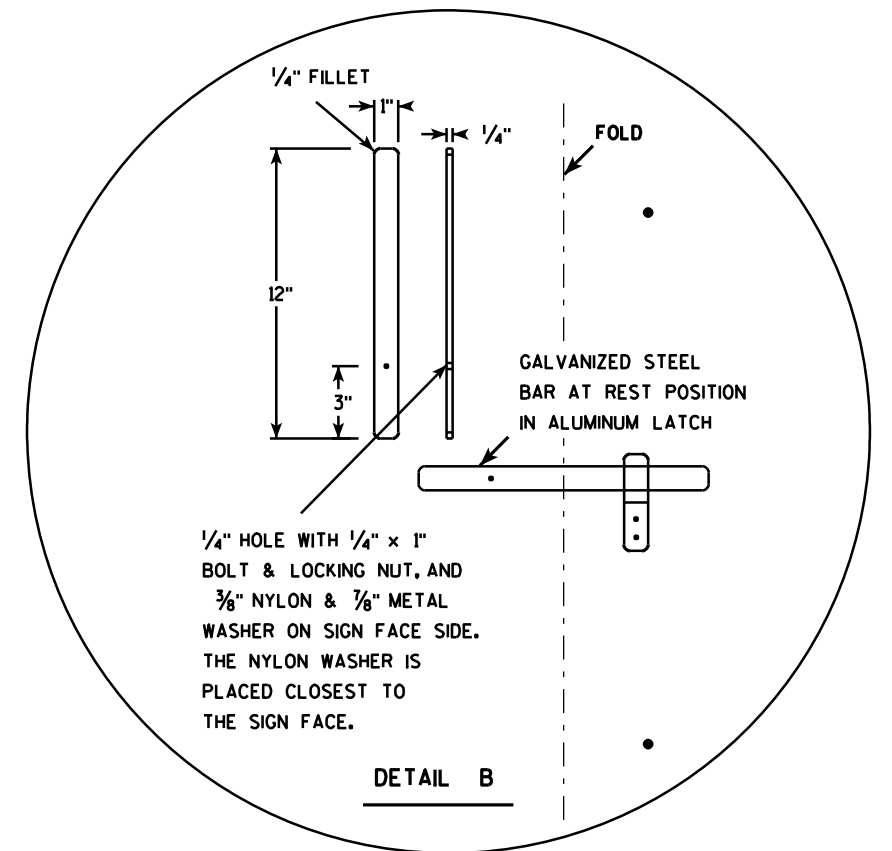
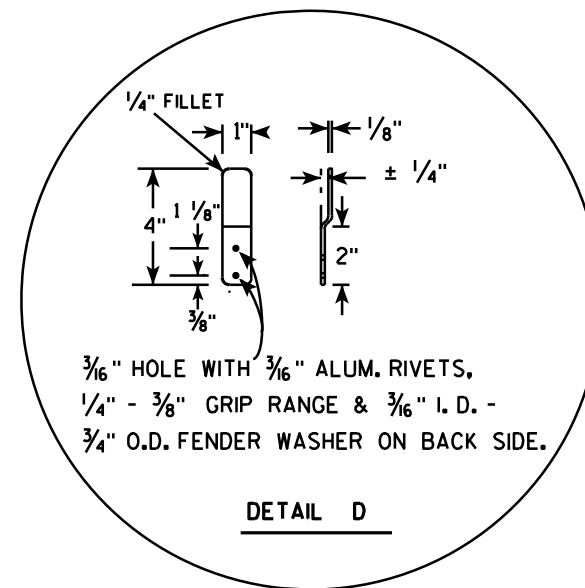
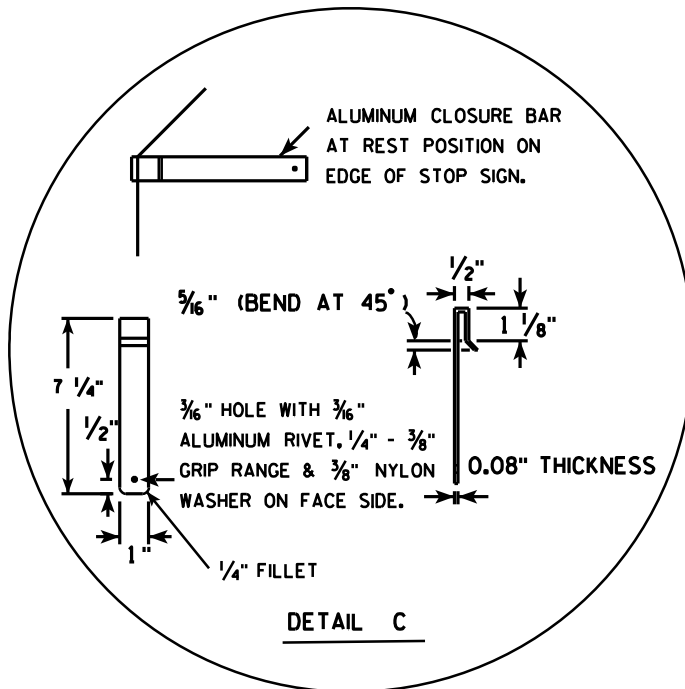
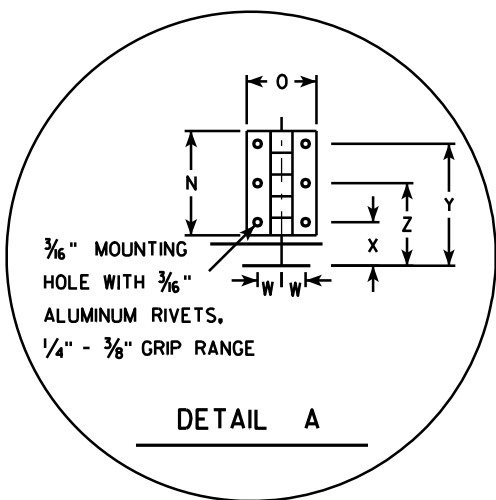
SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

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 sq.
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	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 9/30/09	PLATE NO. G20-2A.8



- NOTES**
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
  2. Color:  
Background - Red  
Message - White
  3. Message Series - C
  4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			1 1/8	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			1 1/8	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			1 1/8	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

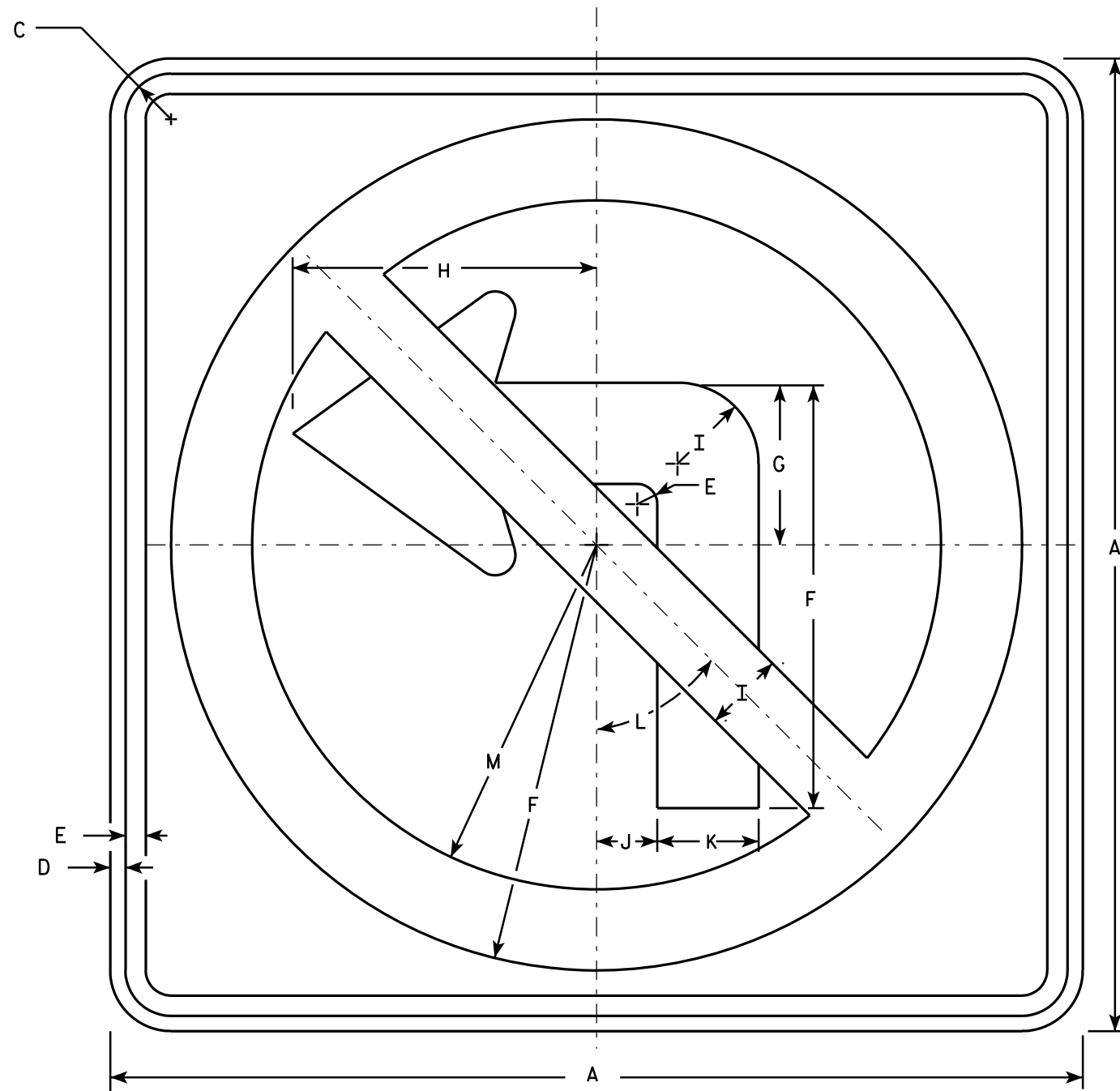
STANDARD SIGN  
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

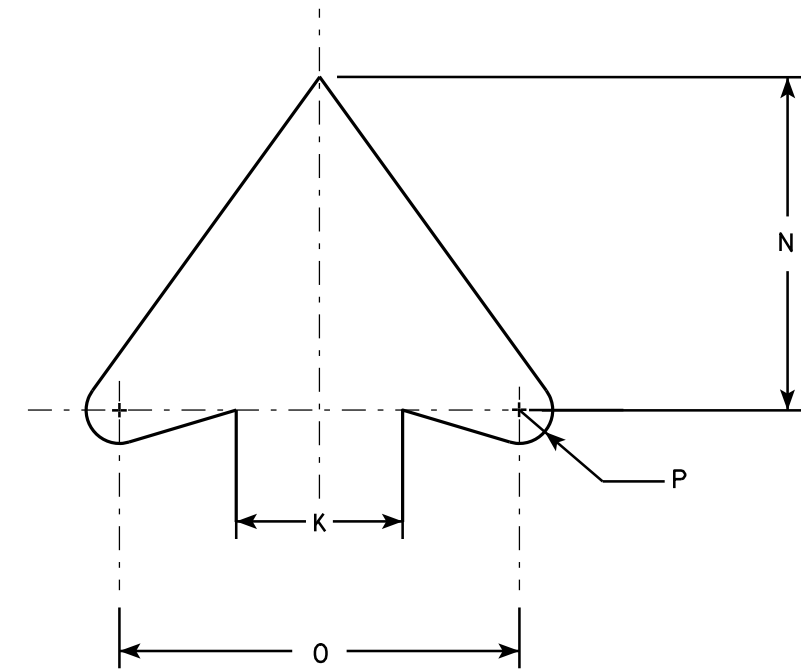




R3-2

**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. Ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

**STANDARD SIGN**  
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**

NOTES

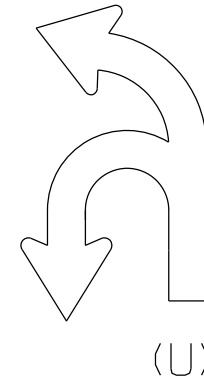
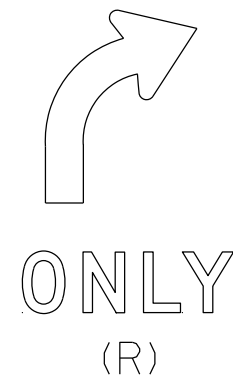
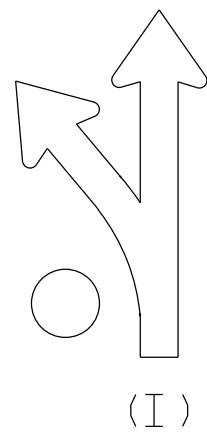
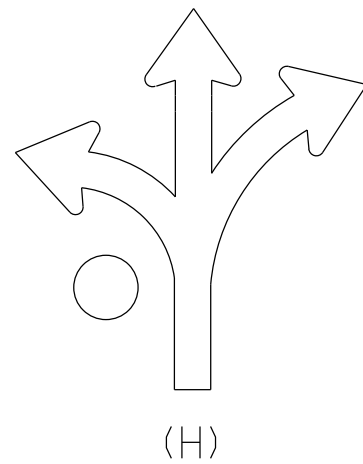
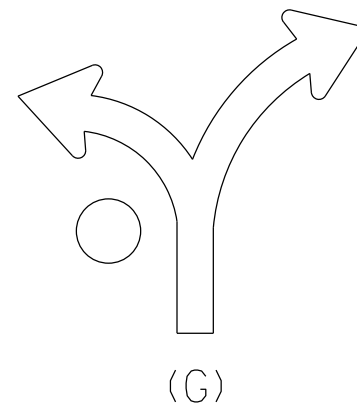
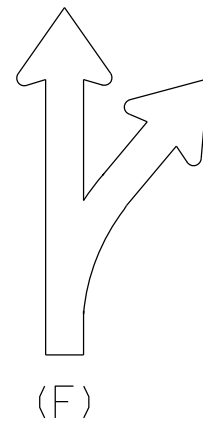
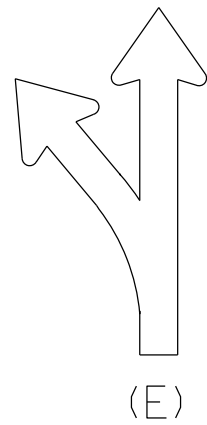
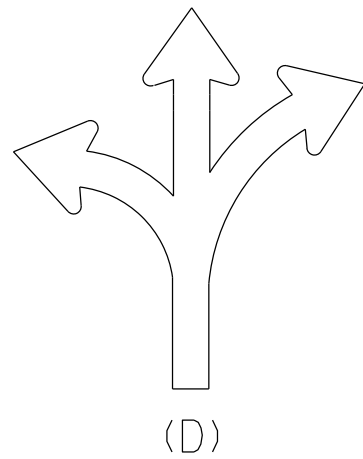
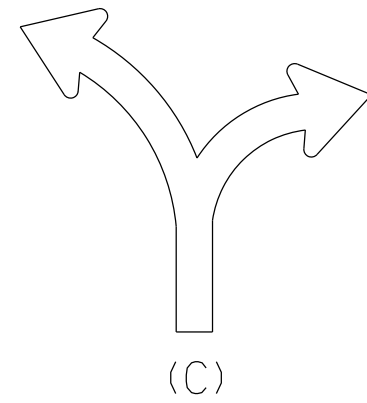
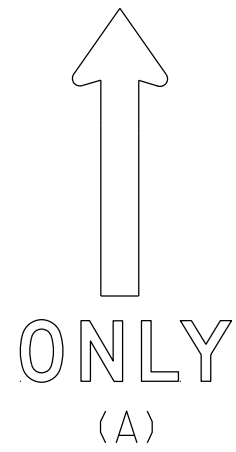
1. Signs are Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - D
4. Use appropriate Letter for Sign Code  
Each letter added makes sign wider. Example R3-8EAR
5. Square footage of sign varies by letters

- |             |                            |
|-------------|----------------------------|
| 1 Letter =  | 3.75 sq ft for Size 2      |
|             | 6.0 sq ft for Size 3       |
|             | 10.0 sq ft for Size 4 or 5 |
| 2 Letters = | 7.5 sq ft for Size 2       |
|             | 12.0 sq ft for Size 3      |
|             | 20.0 sq ft for Size 4 or 5 |
| 3 Letters = | 11.25 sq ft for Size 2     |
|             | 18.0 sq ft for Size 3      |
|             | 30.0 sq ft for Size 4 or 5 |
| 4 Letters = | 15.0 sq ft for Size 2      |
|             | 24.0 sq ft for Size 3      |
|             | 40.0 sq ft for Size 4 or 5 |
| 5 Letters = | 18.75 sq ft for Size 2     |
|             | 30.0 sq ft for Size 3      |
|             | 50.0 sq ft for Size 4 or 5 |
| 6 Letters = | 22.5 sq ft for Size 2      |
|             | 36.0 sq ft for Size 3      |
|             | 60.0 sq ft for Size 4 or 5 |

6. When letters C,D,G,H are used on the Left or Right end of the sign the Sq.Ft. changes.

Add the amounts when these letters are used:

- 1.25 sq ft for Size 2
- 1.5 sq ft for Size 3
- 2.0 sq ft for Size 4 or 5



STANDARD SIGN  
R3-8 Series

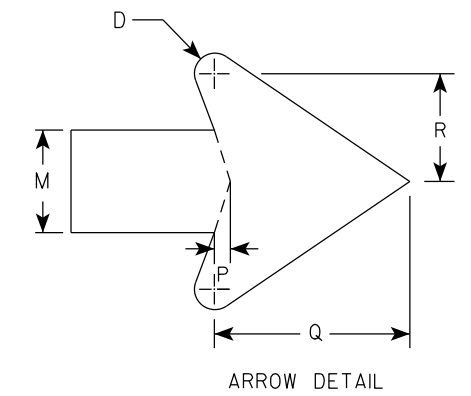
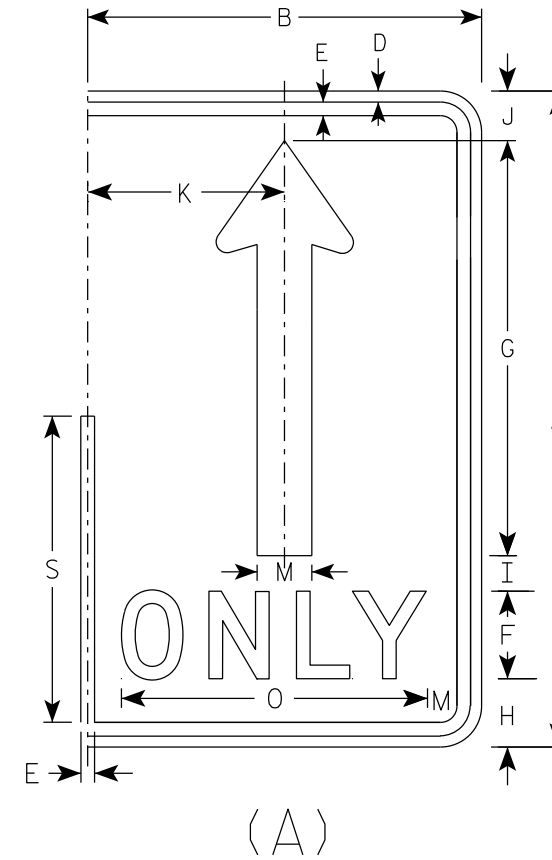
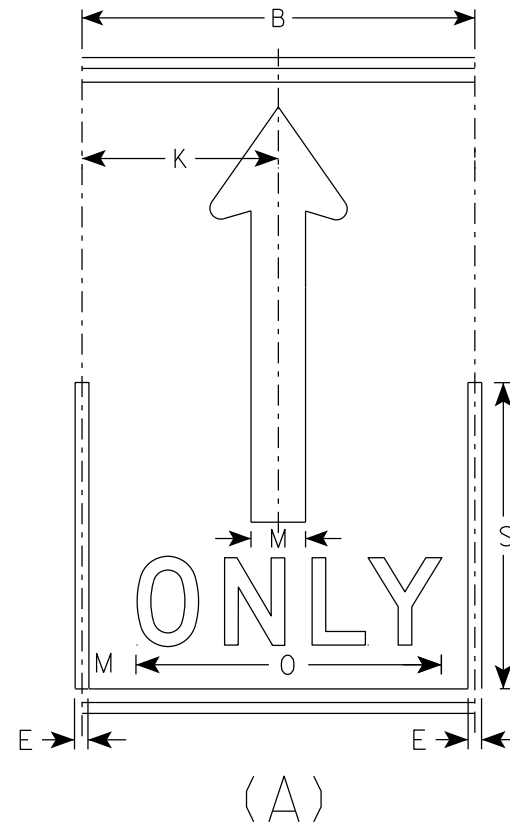
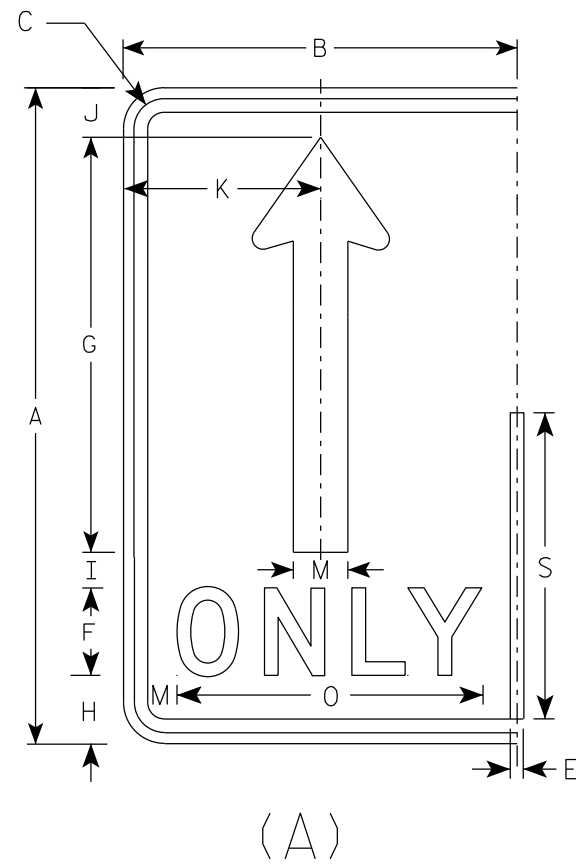
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - D



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8	5	22 3/4	3 3/4	1 3/4	2 3/4	12		3		17 5/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN  
R3-8 (A) Arrow

WISCONSIN DEPT OF TRANSPORTATION

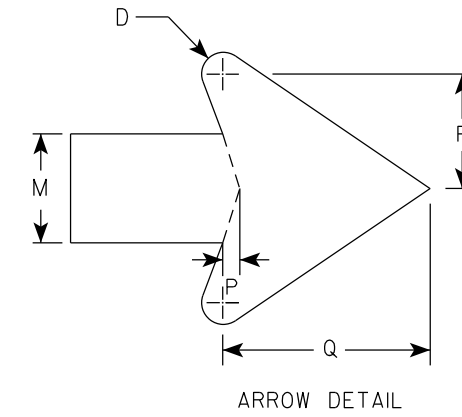
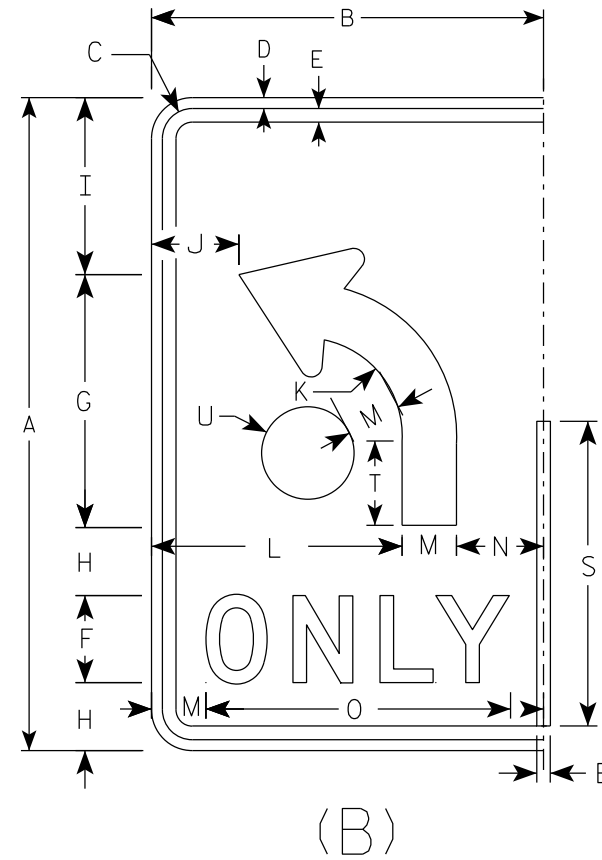
APPROVED *Matthew R Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO: HWY: COUNTY: SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
  - Background - White
  - Message - Black
  - Message Series - D



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8	2 1/8						3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8	2 1/8						3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8	2 1/2						6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4	3 3/8						10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4	3 3/8						10.0

STANDARD SIGN  
R3-8 (B) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO:

SHEET NO:

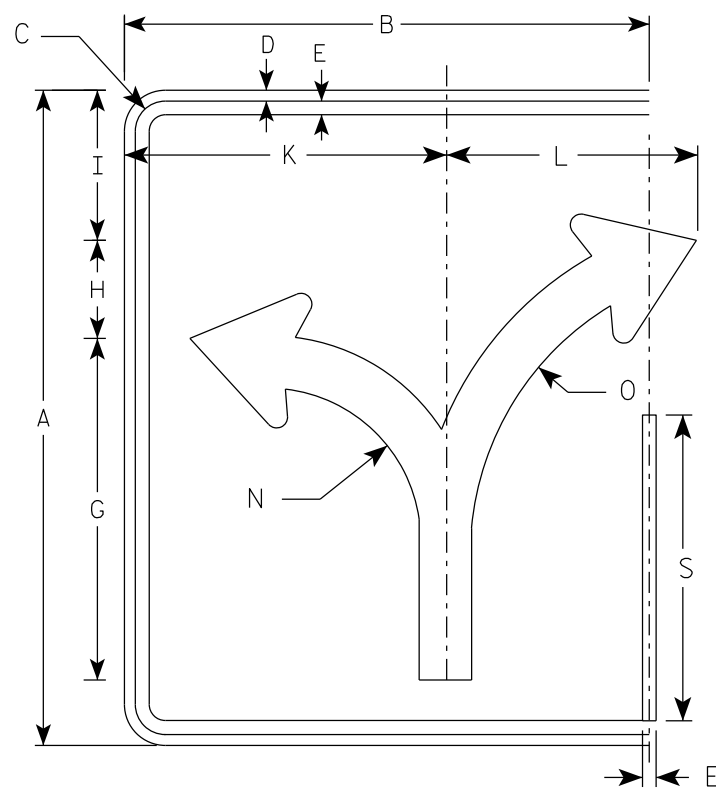
E

7

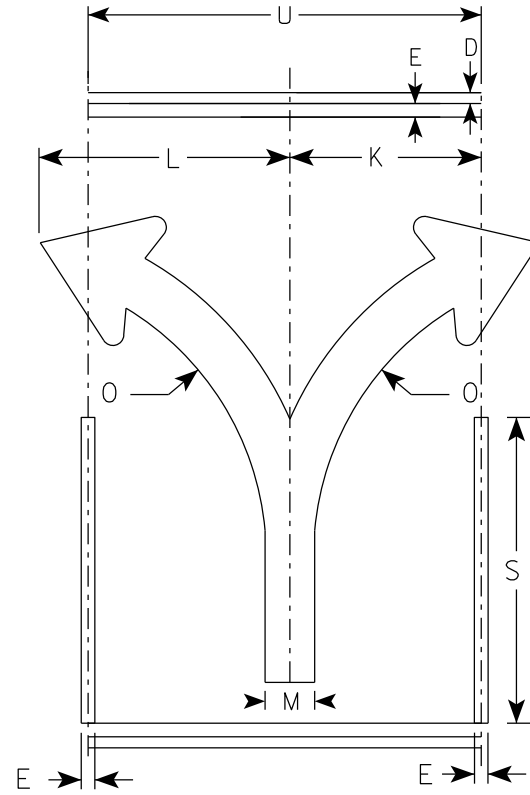
7

NOTES

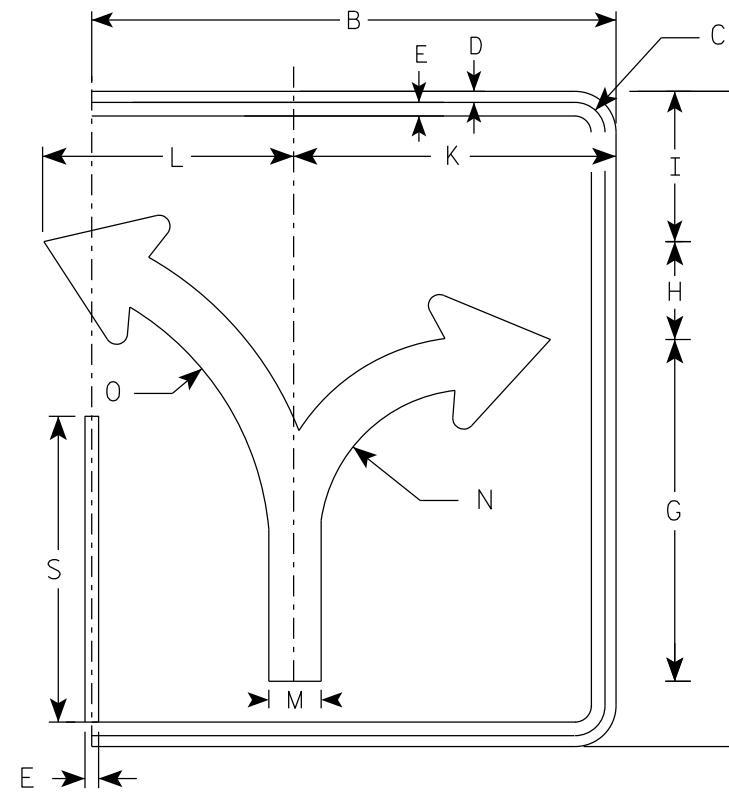
1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - None



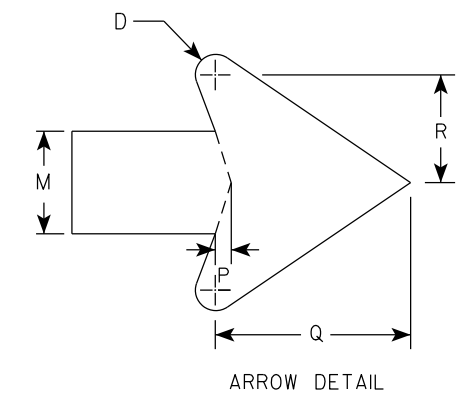
(C)



(C)



(C)



7

7

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	ENDS	MIDDLE
																											Area sq. ft.	Area sq. ft.
1																												
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	8 1/4		17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24						7.5	6.0
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0

STANDARD SIGN  
R3-8 (C) Arrow

WISCONSIN DEPT OF TRANSPORTATION

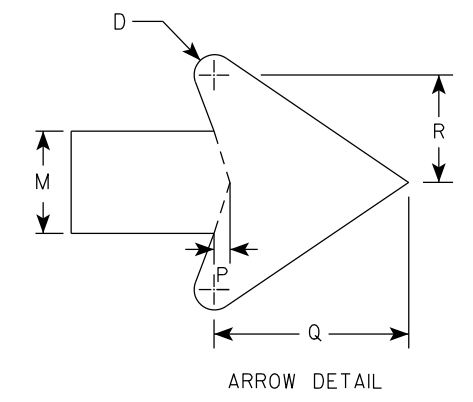
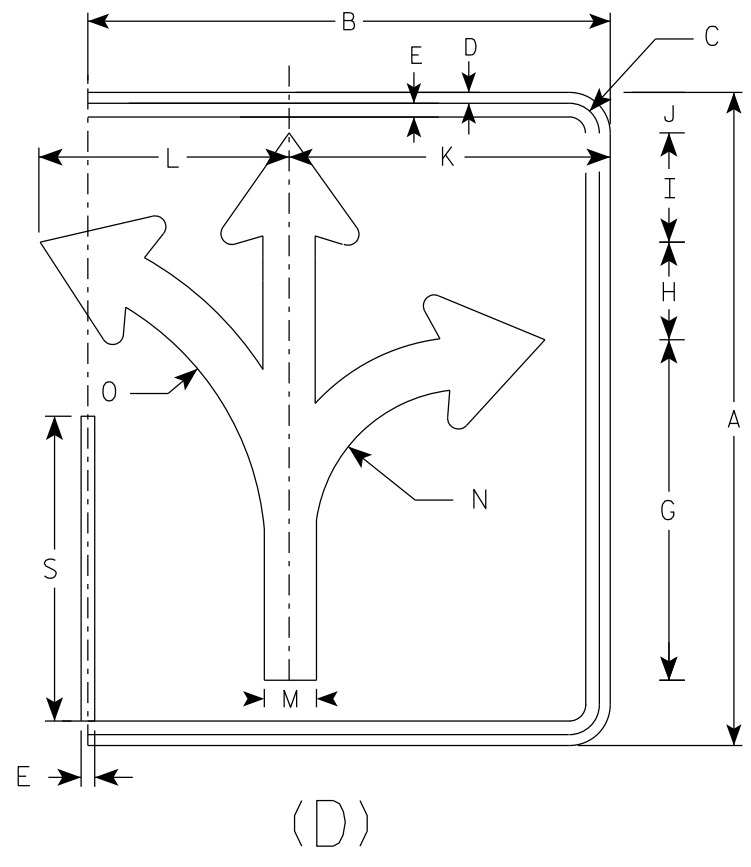
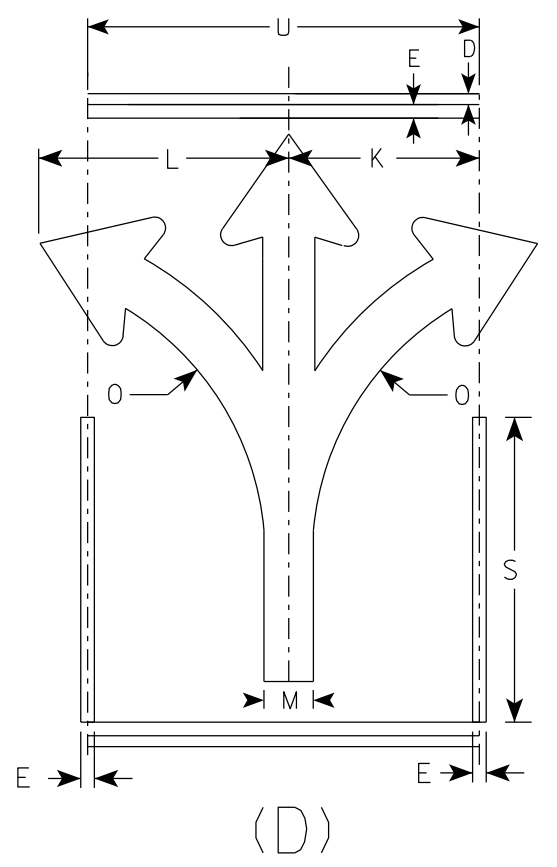
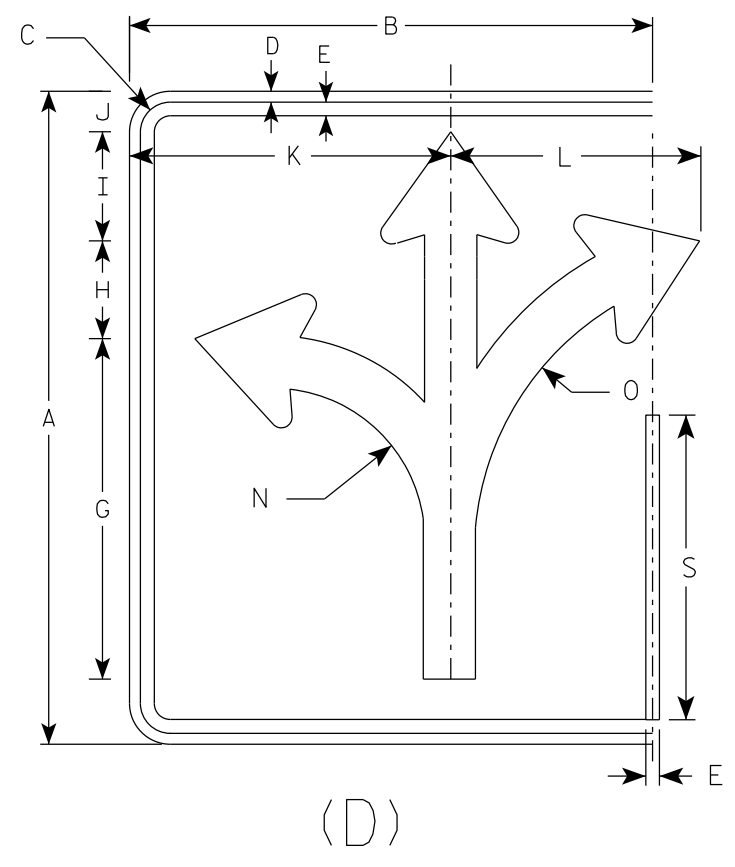
APPROVED *Matthew R Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - None



7

7

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	ENDS	MIDDLE
																											Area sq. ft.	Area sq. ft.
1																												
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18					5.0	3.75	
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	6	2 1/4	17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24					7.5	6.0	
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30					12.0	10.0	
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30					12.0	10.0	

STANDARD SIGN  
R3-8 (D) Arrow

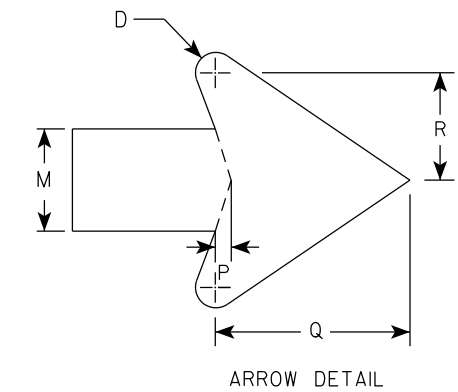
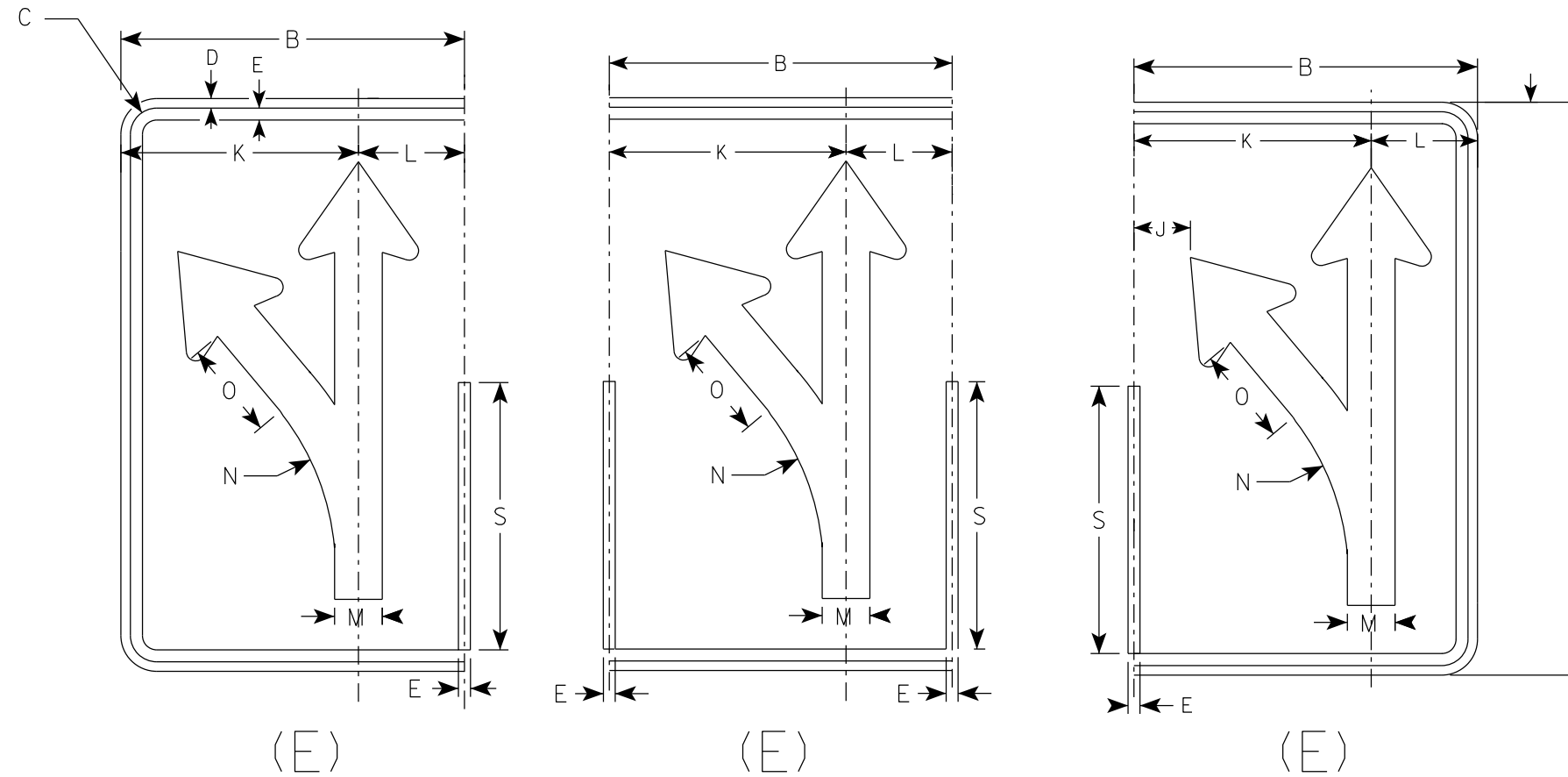
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
  - Background - White
  - Message - Black
3. Message Series - None



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN  
R3-8 (E) Arrow

WISCONSIN DEPT OF TRANSPORTATION

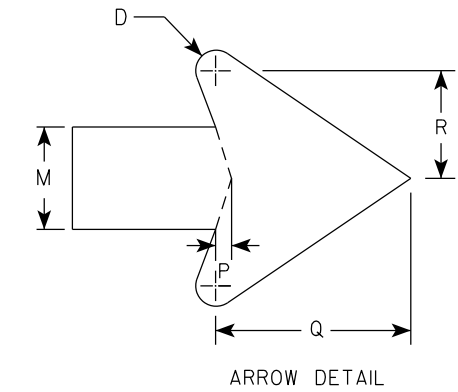
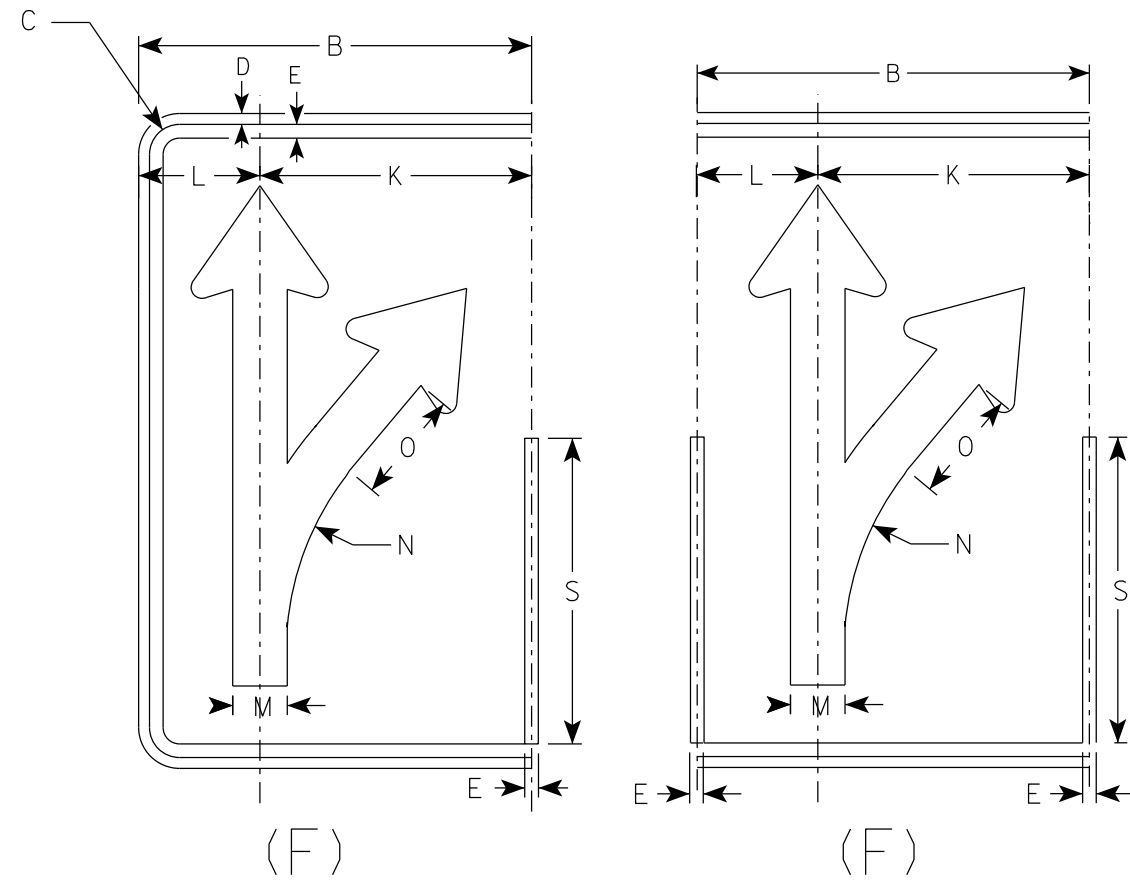
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - None



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN  
R3-8 (F) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

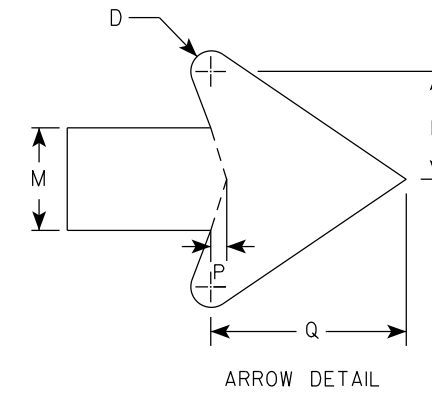
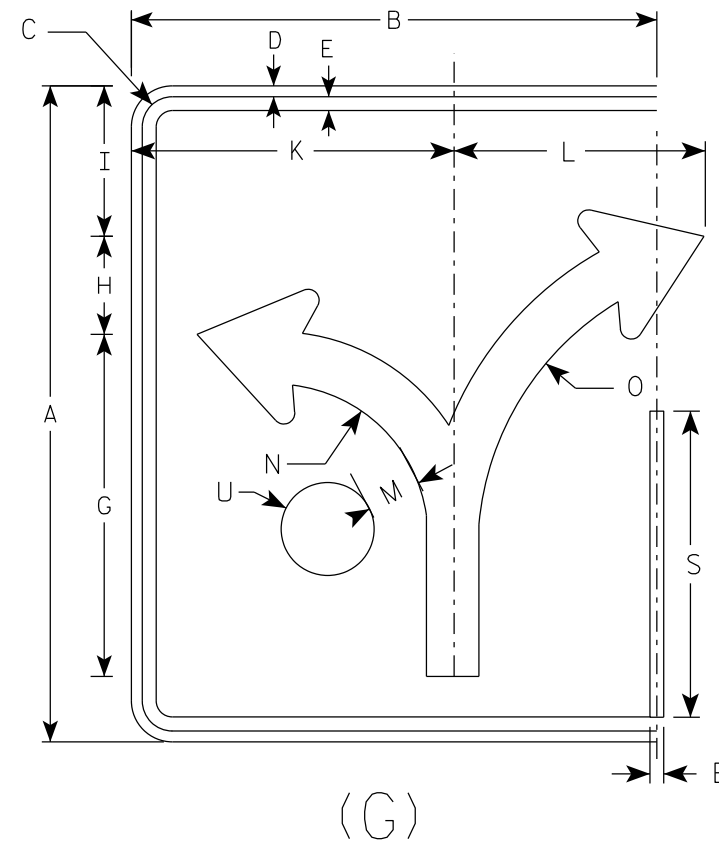
DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	8 1/4		17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		2 1/2						7.5
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0

STANDARD SIGN  
R3-8 (G) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

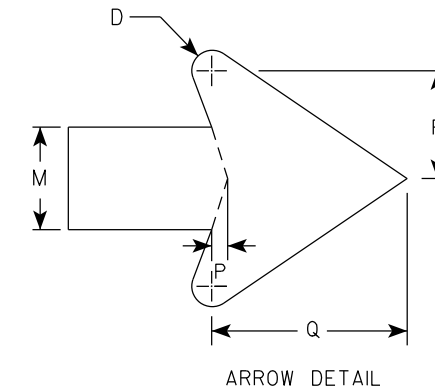
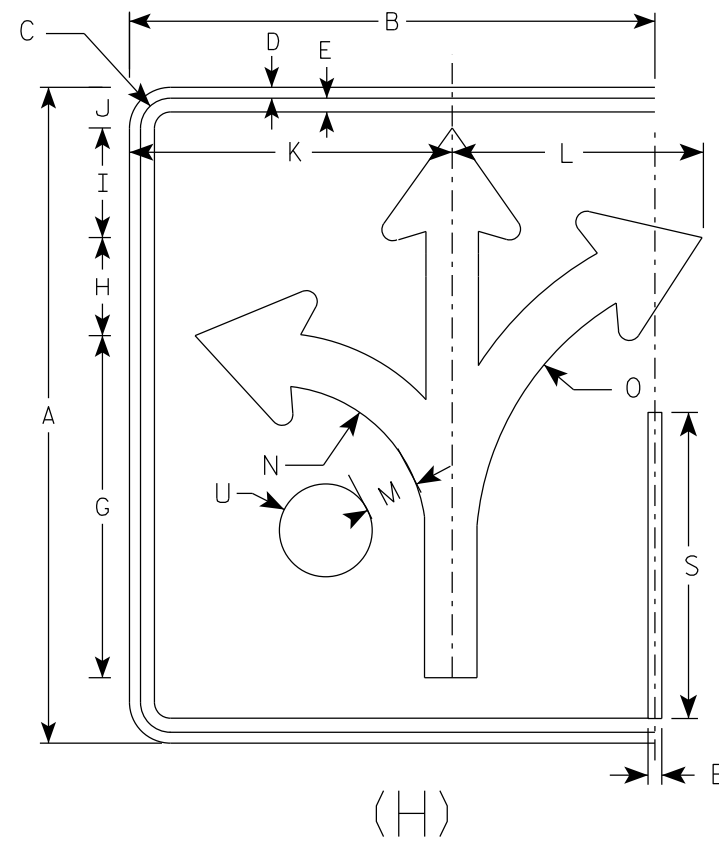
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

7

7

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - None



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	6	3 1/8	17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		2 1/2						7.5
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0

STANDARD SIGN  
R3-8 (H) Arrow

WISCONSIN DEPT OF TRANSPORTATION

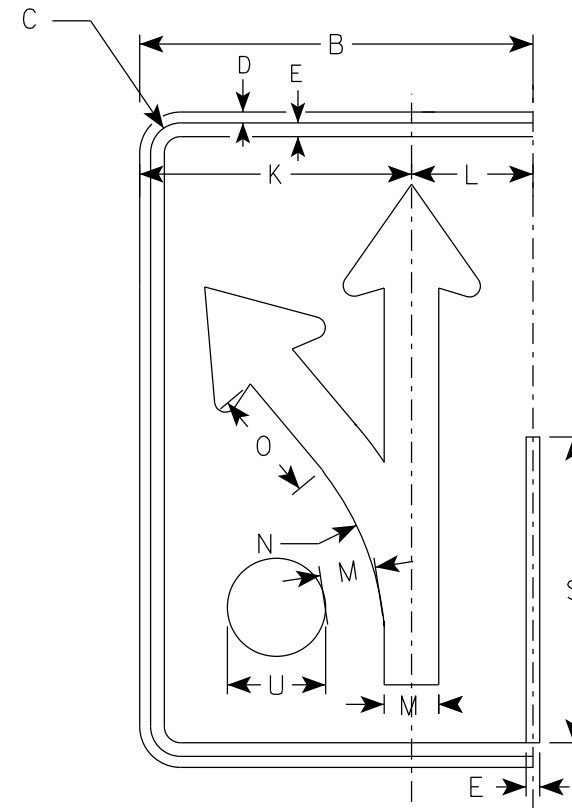
APPROVED *Matthew R Rauch*  
For State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

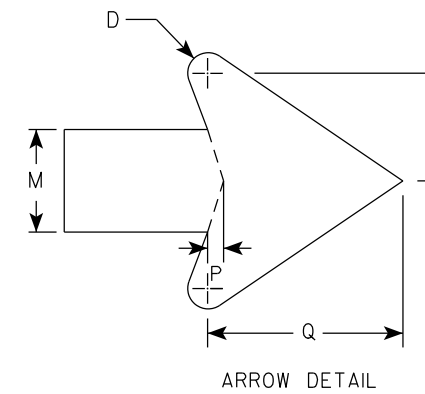
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - None



( I )



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14		2 1/8						3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14		2 1/8						3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4		2 1/2						6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8		3 3/8						10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8		3 3/8						10.0

STANDARD SIGN  
R3-8 (I) Arrow

WISCONSIN DEPT OF TRANSPORTATION

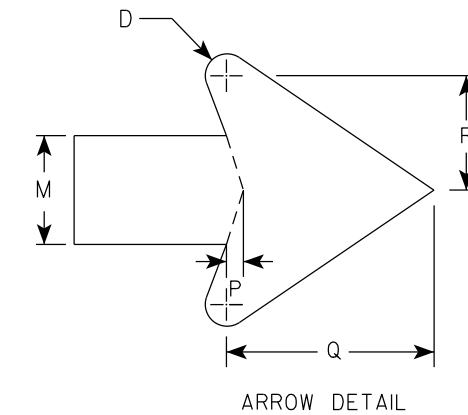
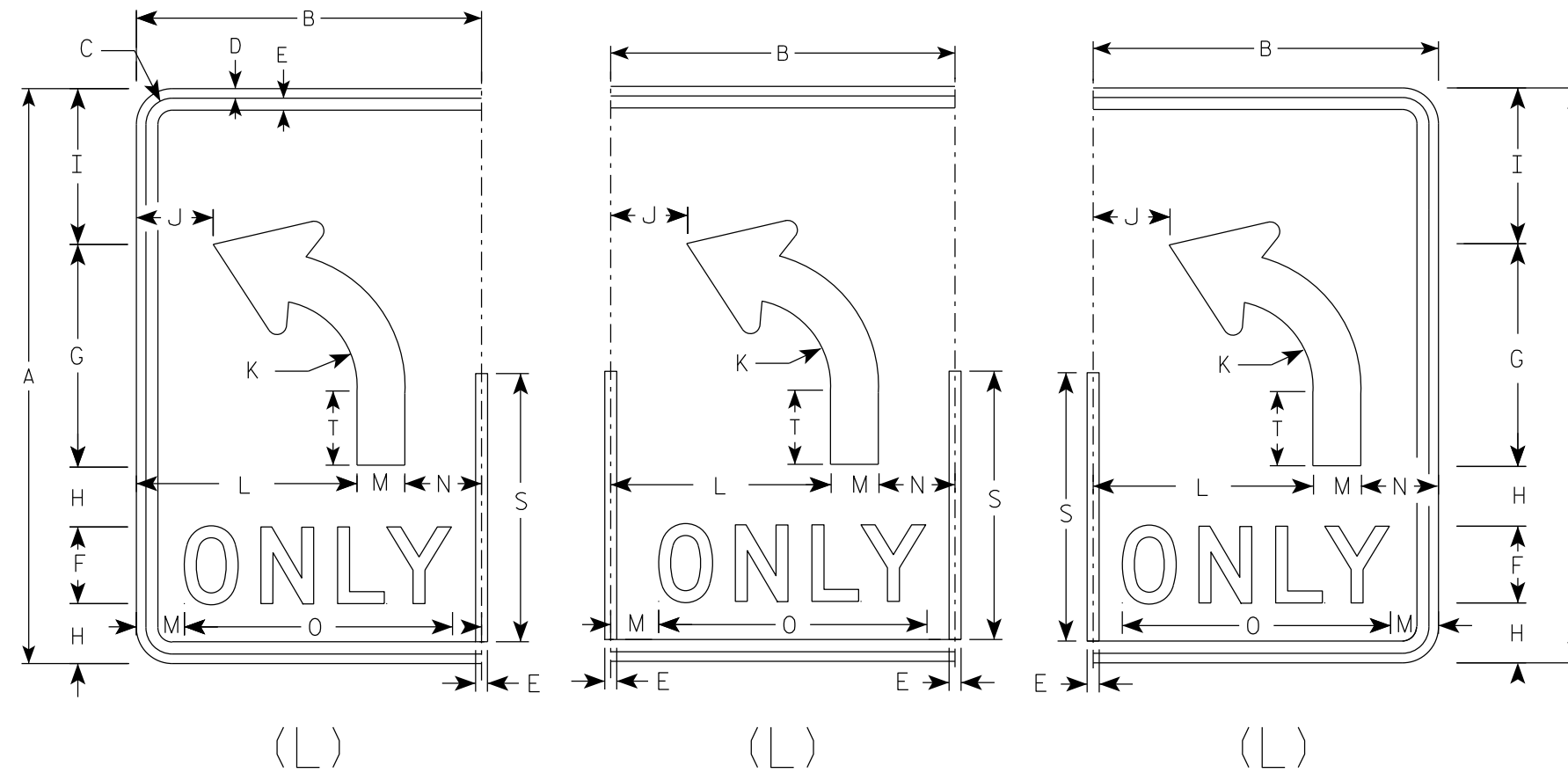
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - D



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4		5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

STANDARD SIGN  
R3-8 (L) Arrow

WISCONSIN DEPT OF TRANSPORTATION

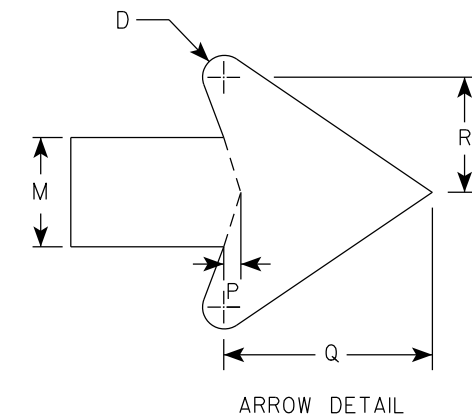
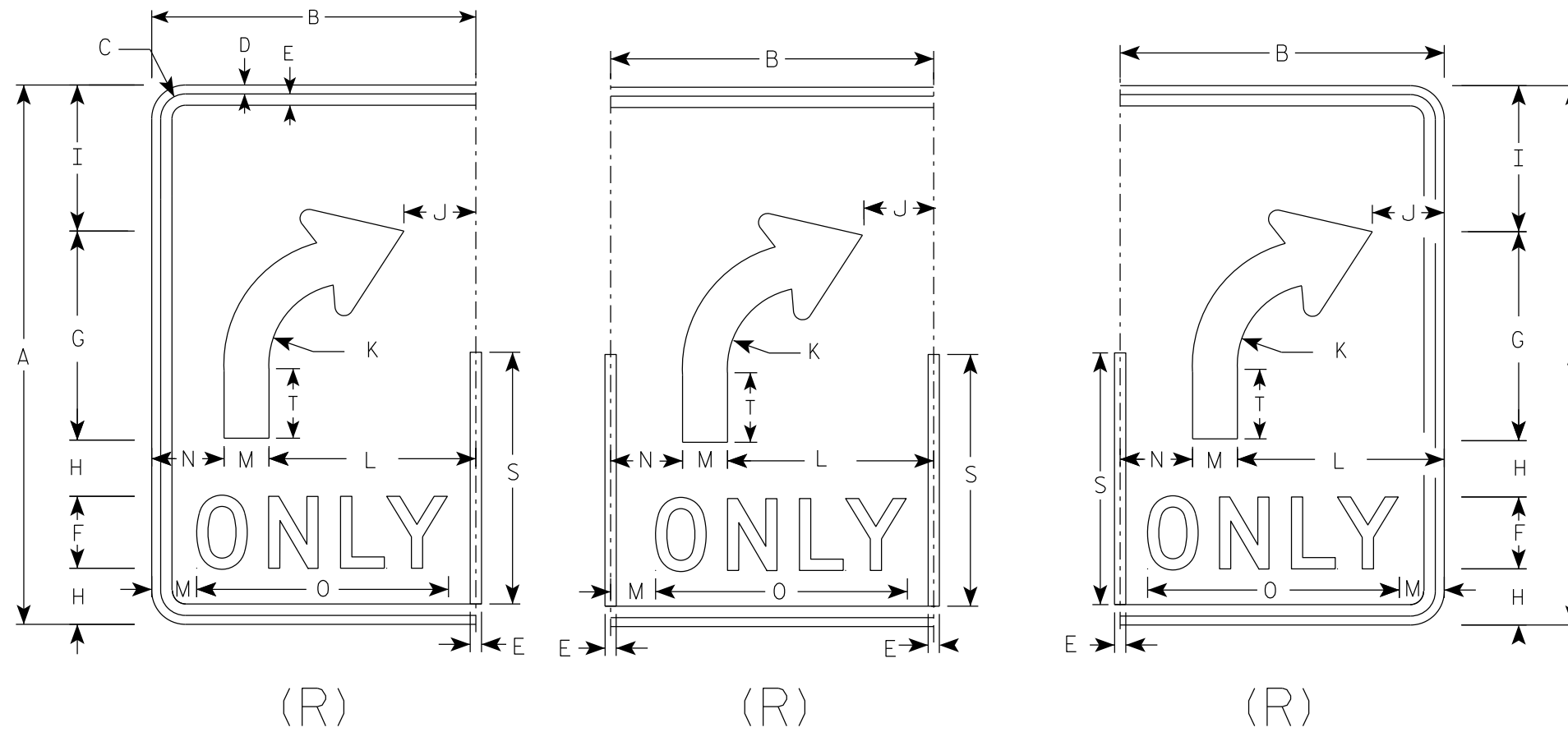
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO: SHEET NO: E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - D



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

STANDARD SIGN  
R3-8 (R) Arrow

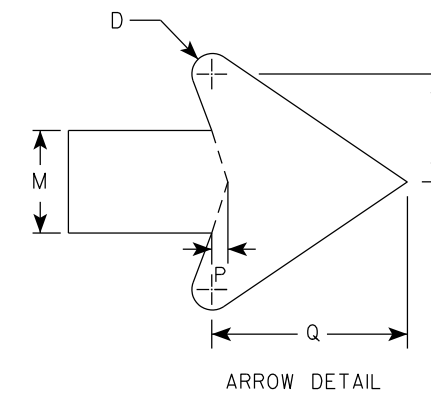
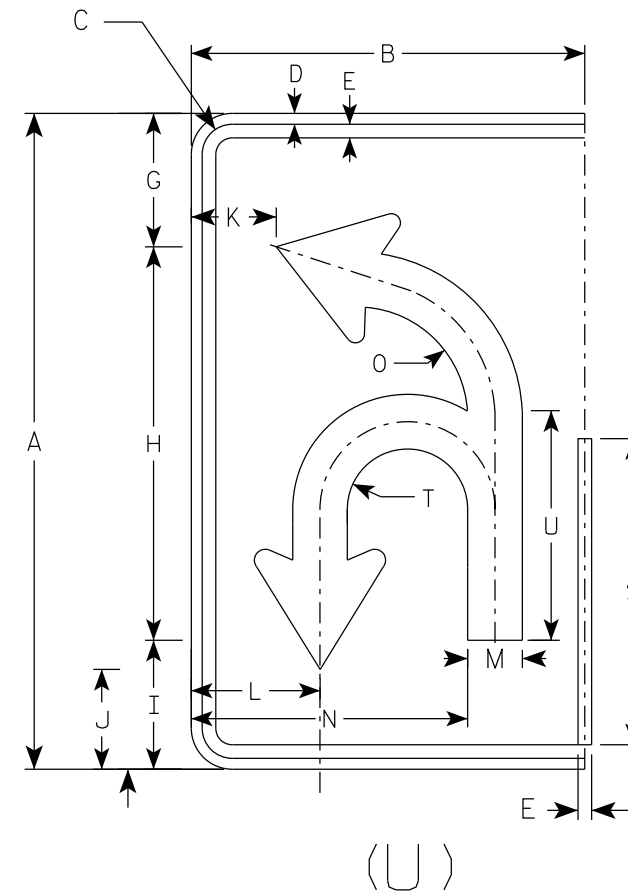
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		6 1/8	18	5 7/8	4 5/8	3 7/8	5 7/8	2 1/2	12 5/8	5 1/8	3/8	4 3/4	2 5/8	14	2 3/4	10 1/2						3.75
2M	30	18	1 3/8	1/2	5/8		6 1/8	18	5 7/8	4 5/8	3 7/8	5 7/8	2 1/2	12 5/8	5 1/8	3/8	4 3/4	2 5/8	14	2 3/4	10 1/2						3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	21 5/8	7 1/8	5 1/2	5 7/8	8 1/4	3	16 3/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4	3 1/4	12 5/8						6.0
4	48	30	2 1/4	3/4	1		29 1/8	28 3/4	9 3/8	7 1/4	6 7/8	10	4	20 7/8	8 1/8	5/8	7 5/8	4 1/4	22 3/8	4 3/8	16 3/4						10.0
5	48	30	2 1/4	3/4	1		29 1/8	28 3/4	9 3/8	7 1/4	6 7/8	10	4	20 7/8	8 1/8	5/8	7 5/8	4 1/4	22 3/8	4 3/8	16 3/4						10.0

STANDARD SIGN  
R3-8 (U) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

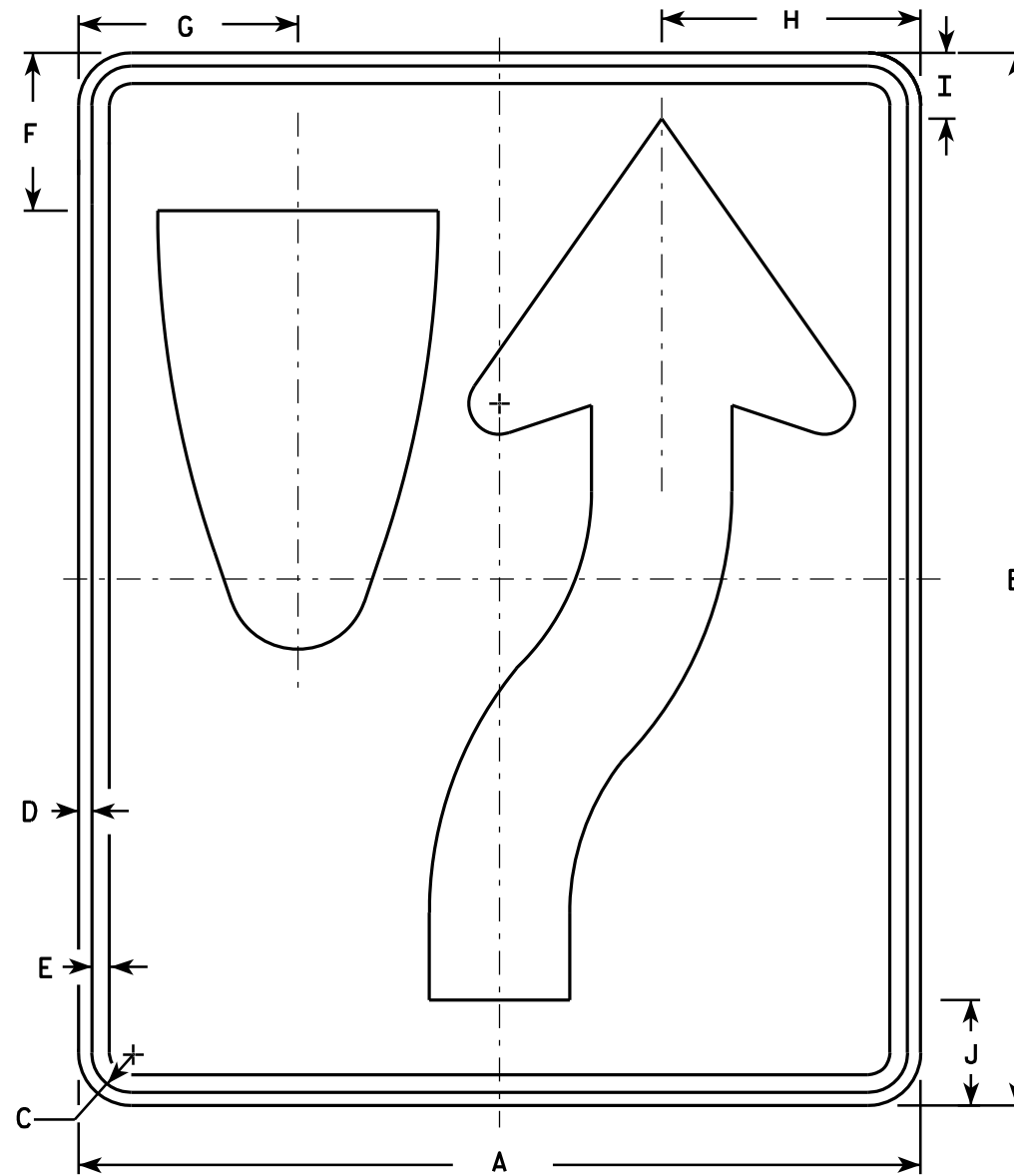
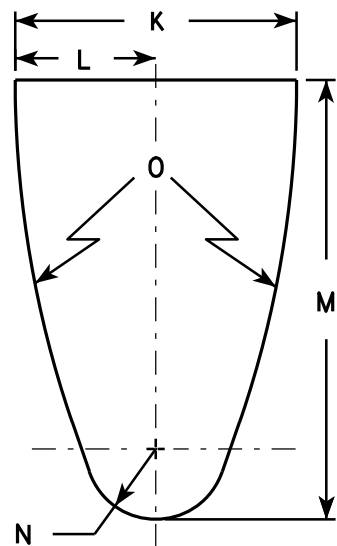
PROJECT NO: HWY: COUNTY: SHEET NO: **E**

7

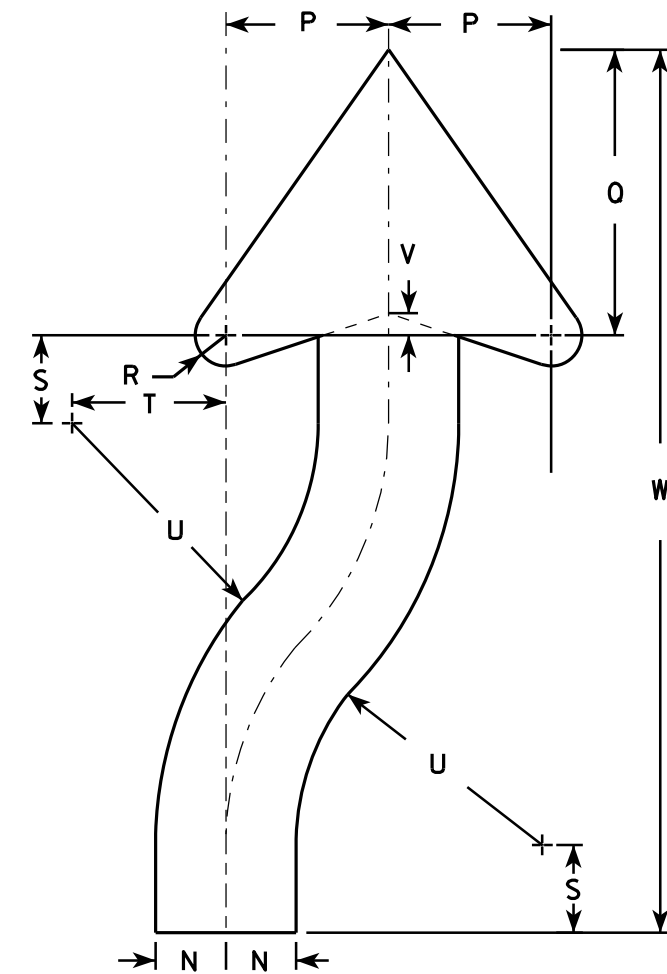
7

**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:  
Background - White  
Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



R4-7



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

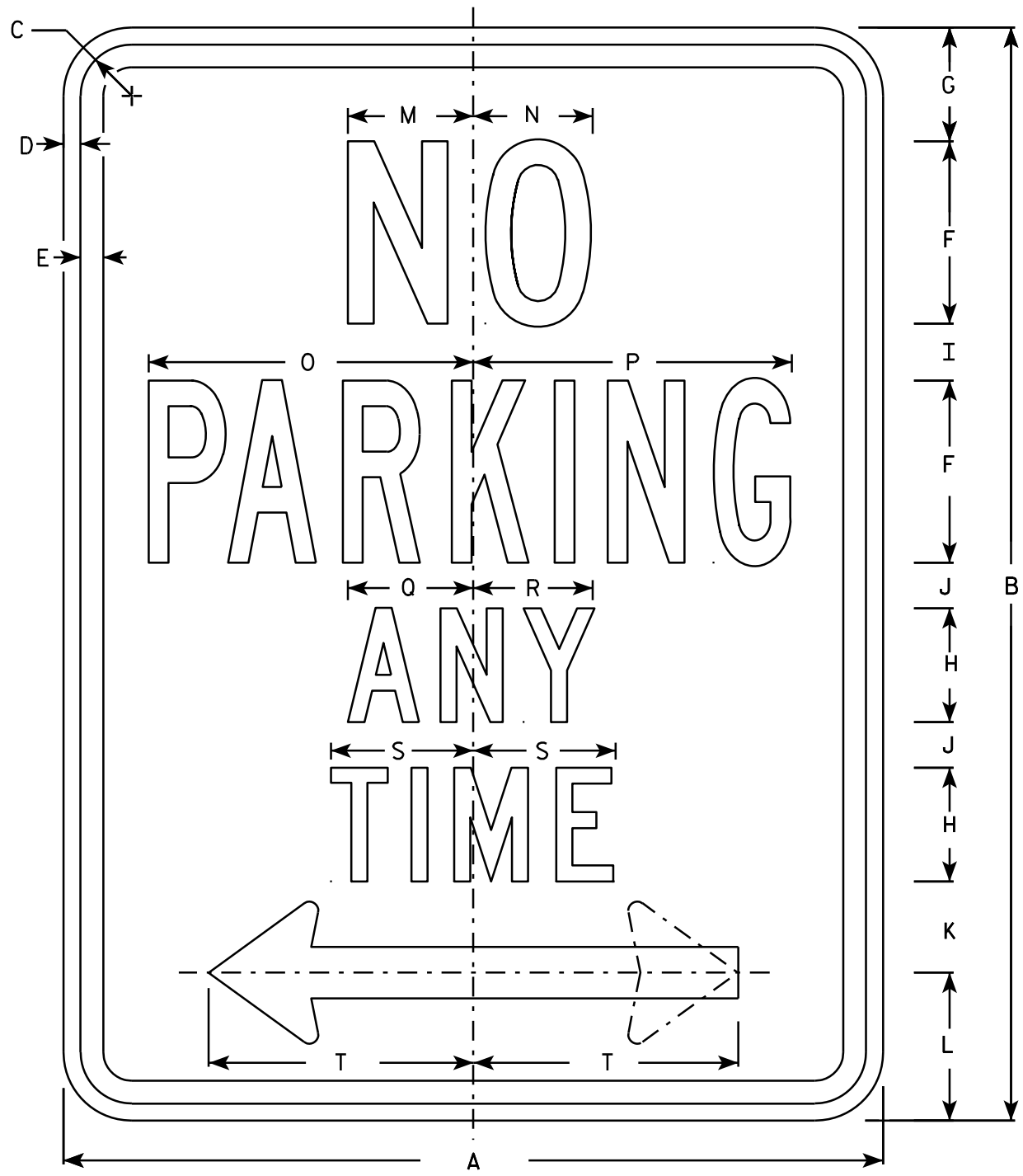
**STANDARD SIGN**  
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

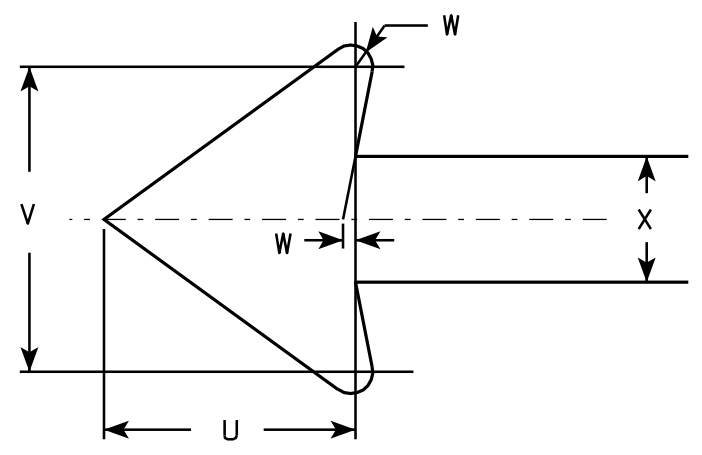
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



R7-1

**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Red
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. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)  
R7-1L (left arrow)  
R7-1R (right arrow)



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

**STANDARD SIGN**  
R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

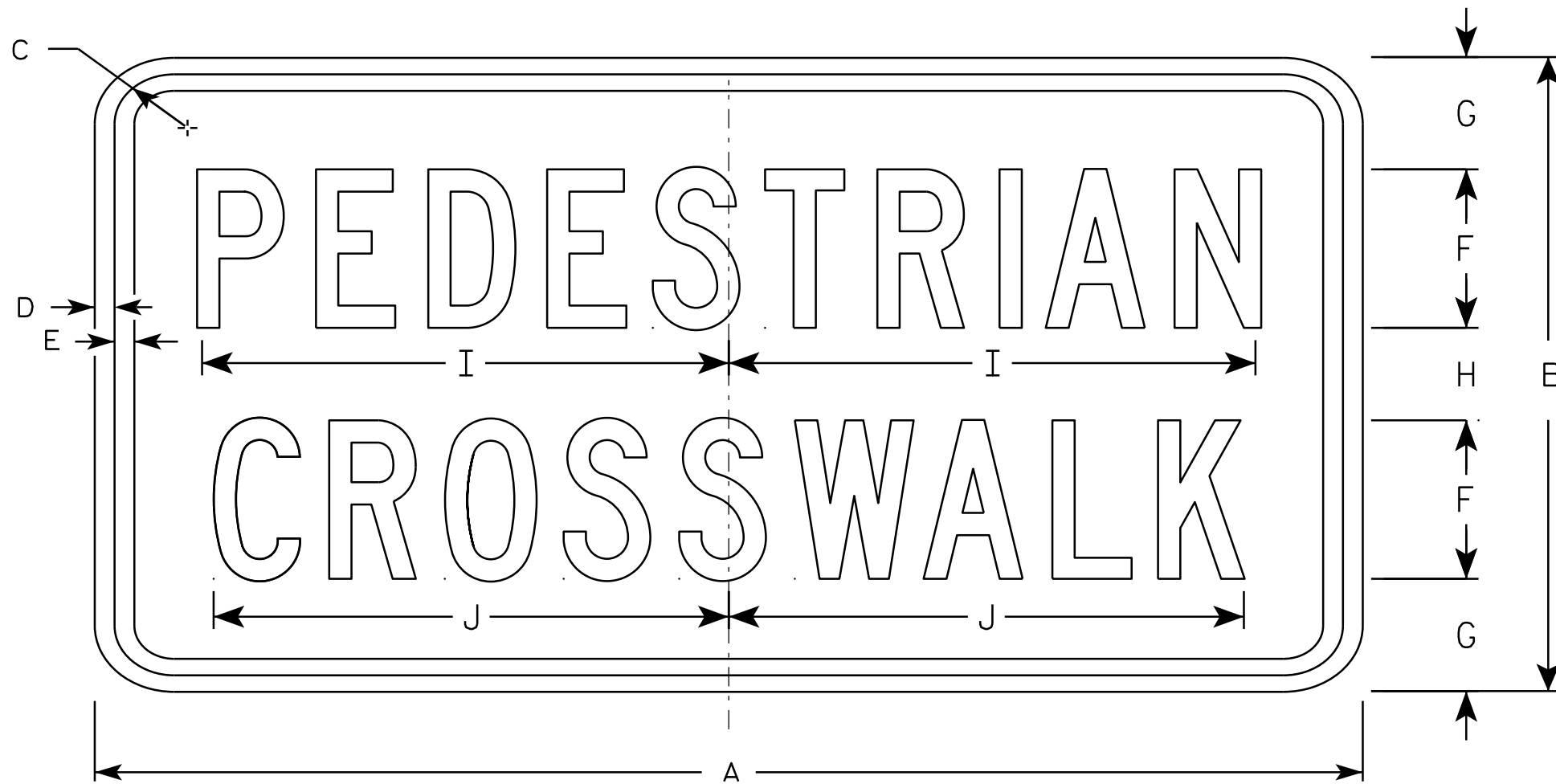
DATE 3/31/2011 PLATE NO. R7-1.9

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



**NOTES**

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



R9-8

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	9 3/4																	2.0
2M	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	9 3/4																	2.0
3	30	18	1 3/4	1/2	1/2	4	3 1/2	3	13	13																	3.75
4																											
5																											

**STANDARD SIGN**  
R9-8

WISCONSIN DEPT OF TRANSPORTATION

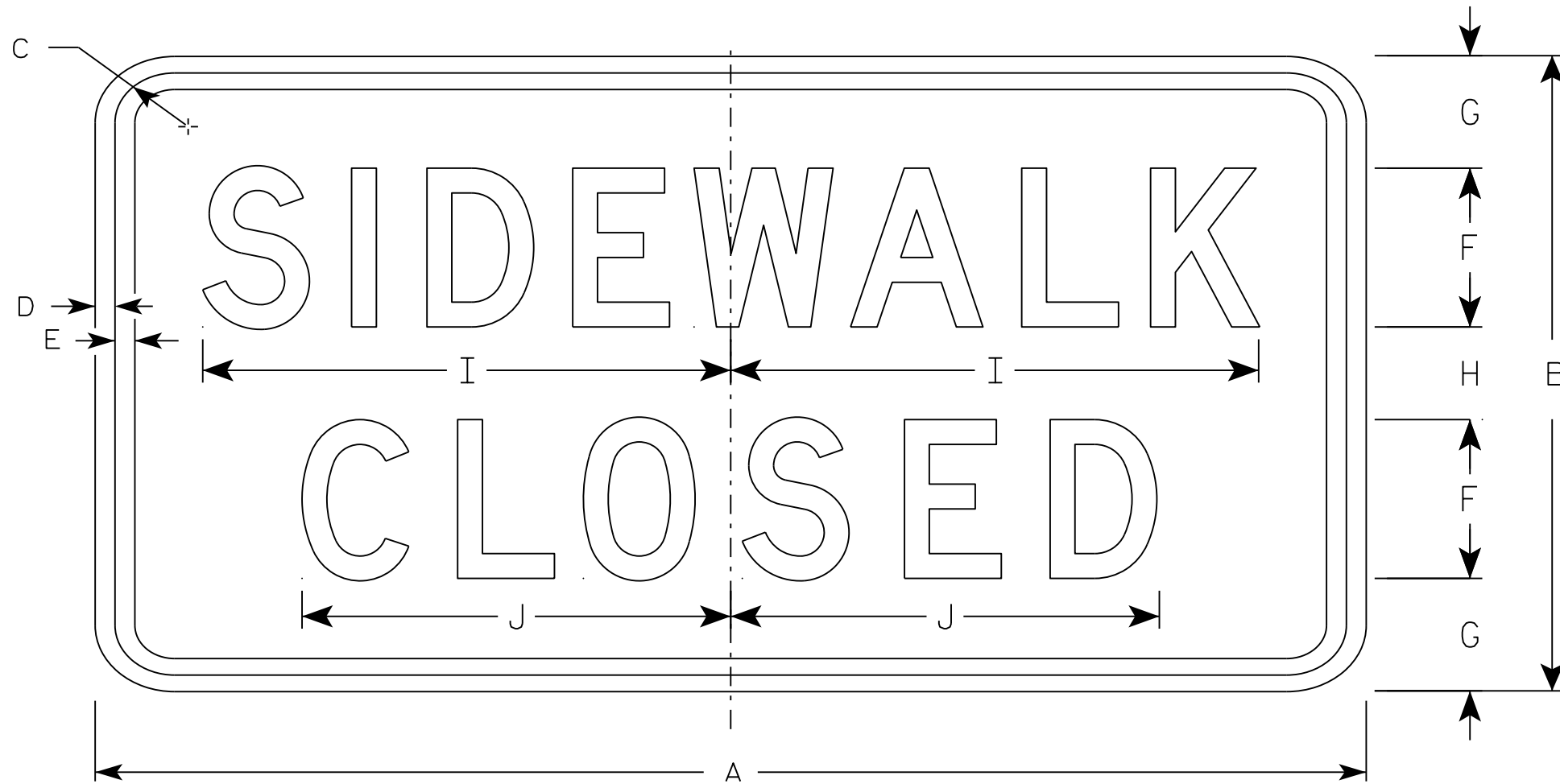
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/17/16 PLATE NO. R9-8.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

NOTES

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



R9-9

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
2M	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
3	30	18	1 3/4	1/2	1/2	4	3 1/2	3	12 1/2	10 1/4																	3.75
4																											
5																											

STANDARD SIGN  
R9-9

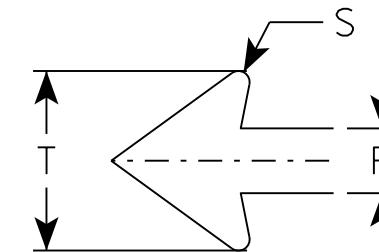
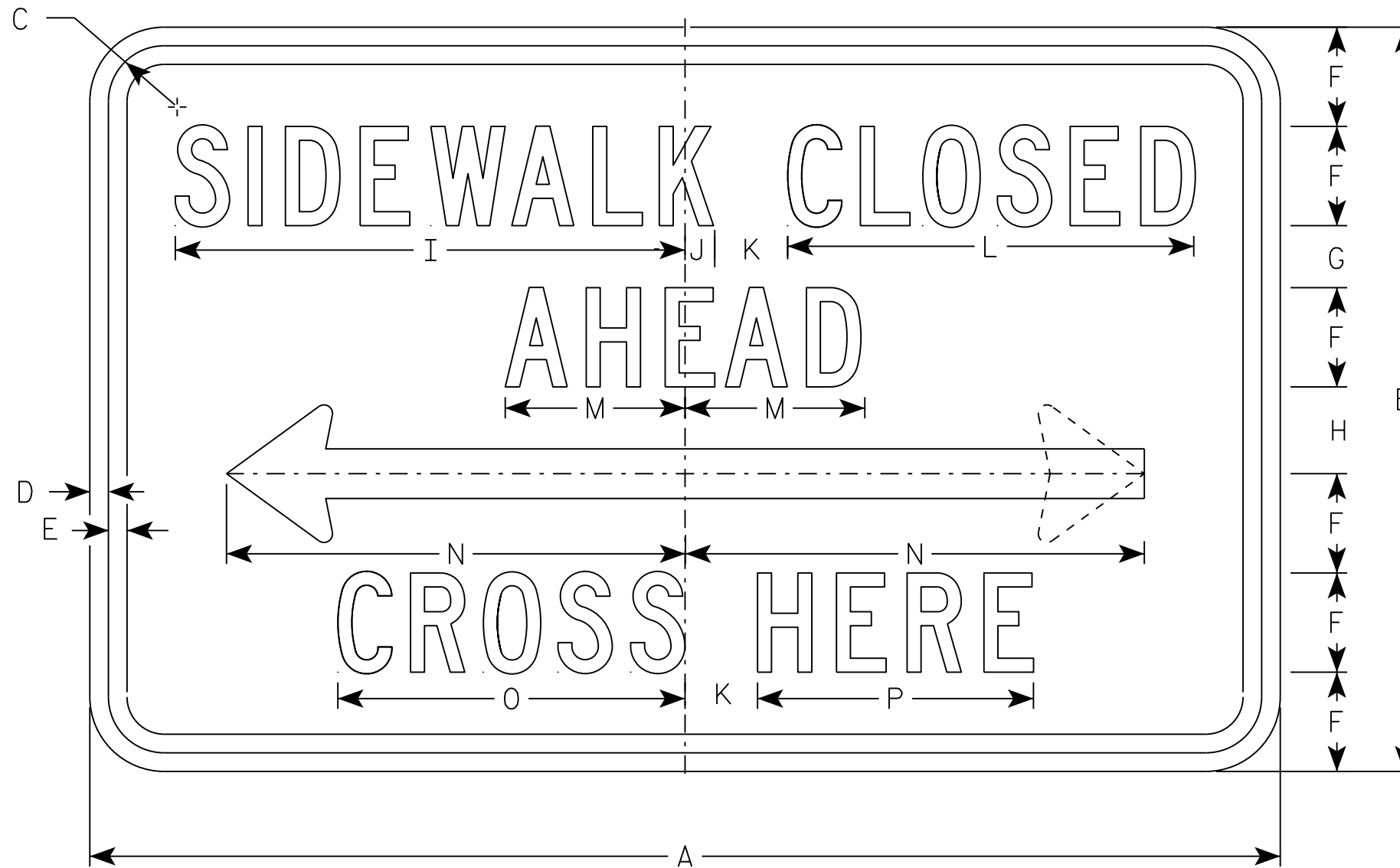
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 8/11/16 PLATE NO. R9-9.6

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - C except Size 1 is Series D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.



R9-11

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
2M	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
3	30	15	1 1/8	3/8	1/2	2	1 1/2	1 1/2	13	3/4	2	10 1/4	4 5/8	12 3/8	8 7/8	6 7/8		1 1/4	1/4	3 5/8							3.125
4																											
5																											

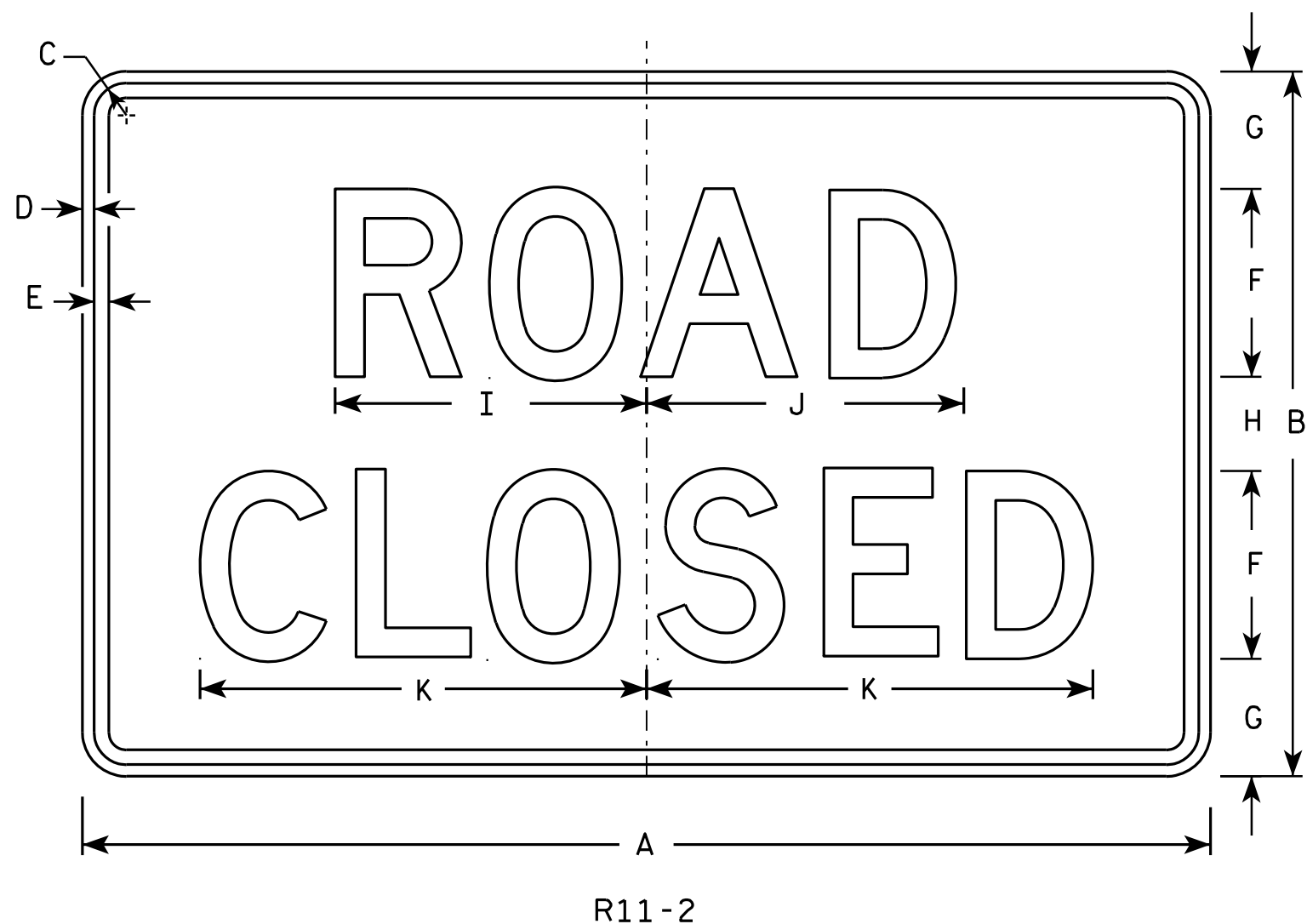
STANDARD SIGN  
R9-11

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

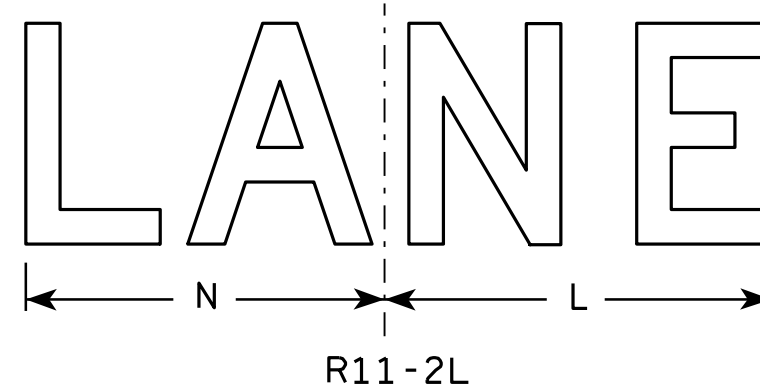
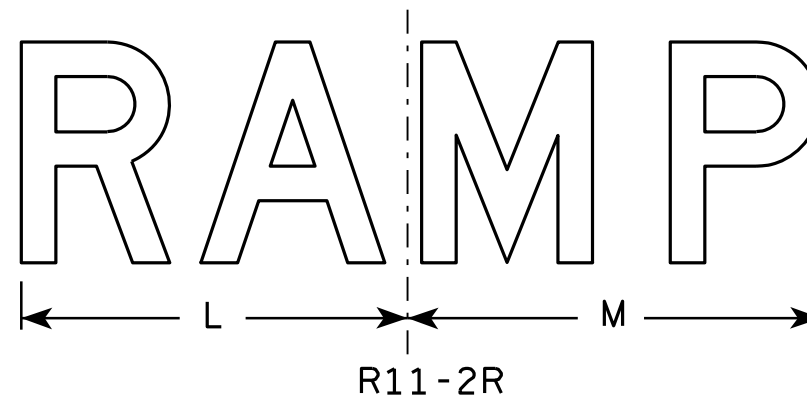
DATE 11/29/16 PLATE NO. R9-11.3

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - 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.



7

7

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	

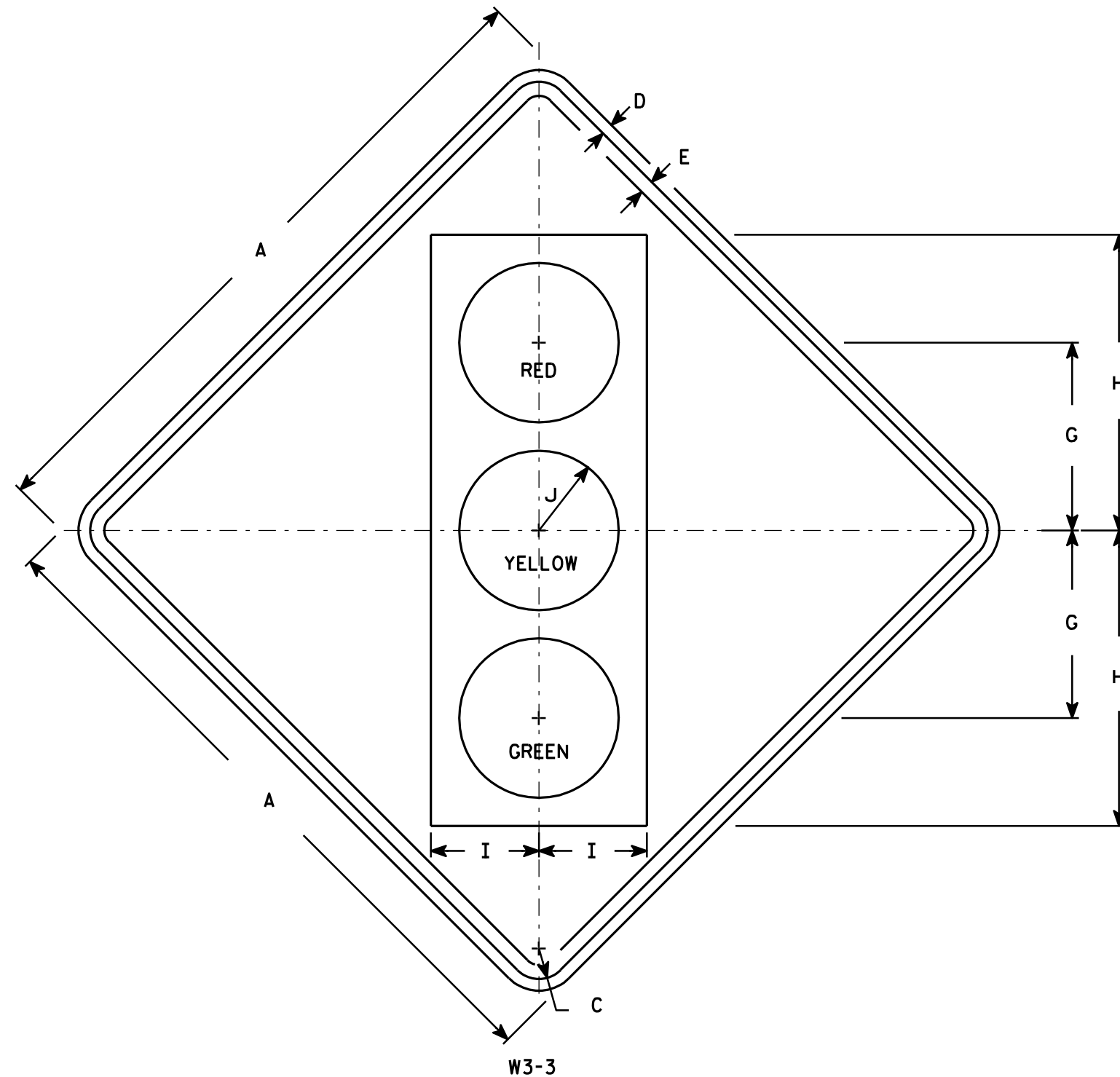
**STANDARD SIGN**  
R11-2

*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 - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.  
     Top circle - Type H Reflectorized Red  
     Center circle - Same as background  
     Bottom circle - Type H Reflectorized Green

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

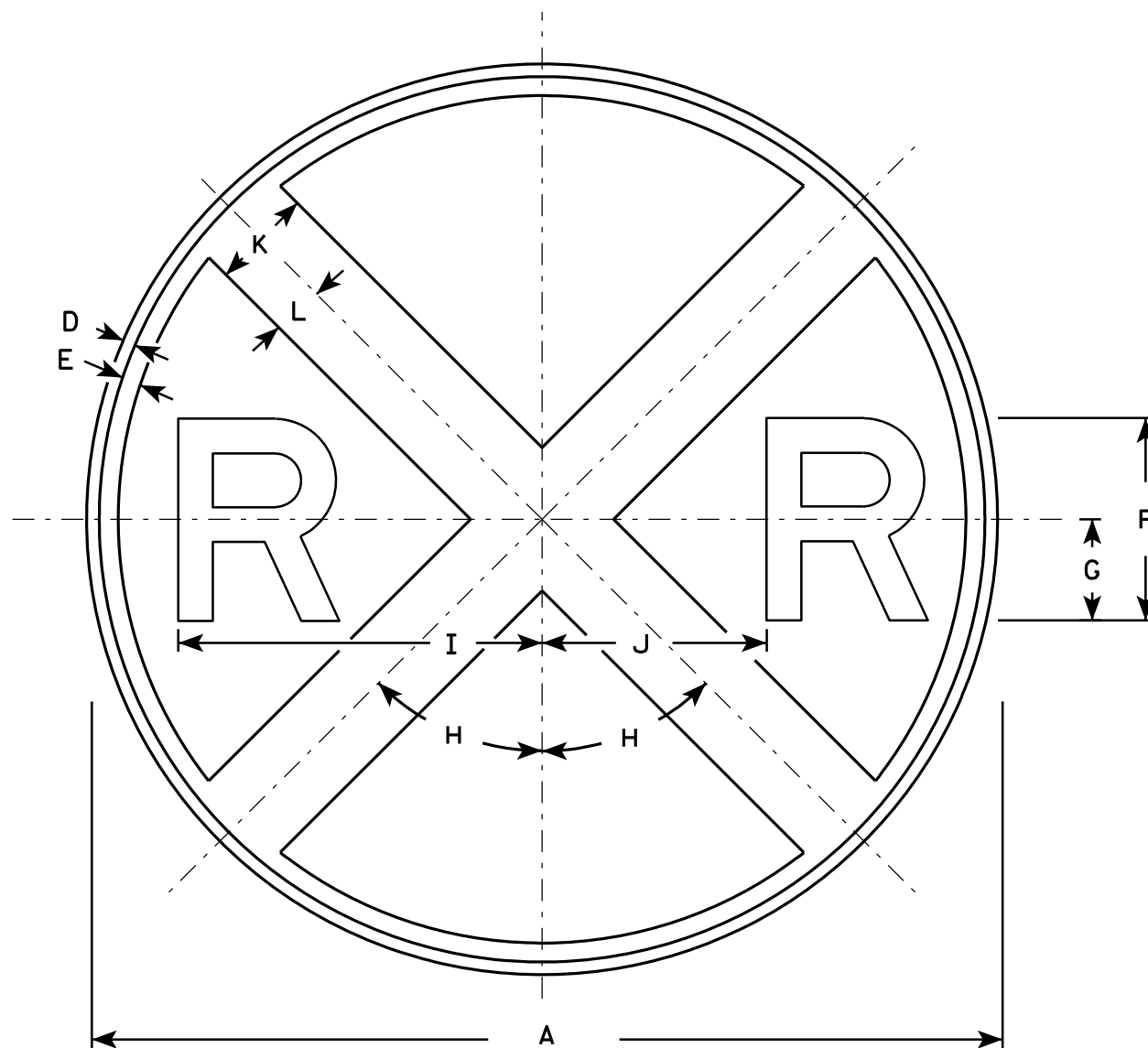
**STANDARD SIGN**  
W3-3

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



W10-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Message Series - E

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30			3/8	5/8	7	3 1/2	45°	12 3/8	7 1/8	3	1 1/2															4.91
2S	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
2M	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
3																											
4	48			3/4	1 1/4	10	5	45°	18 3/8	11 5/8	5	2 1/2															12.57
5																											

**STANDARD SIGN**  
W10-1

WISCONSIN DEPT OF TRANSPORTATION

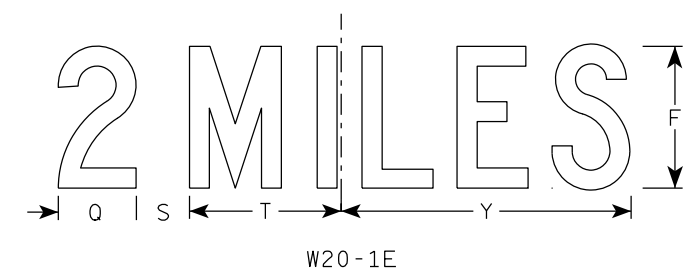
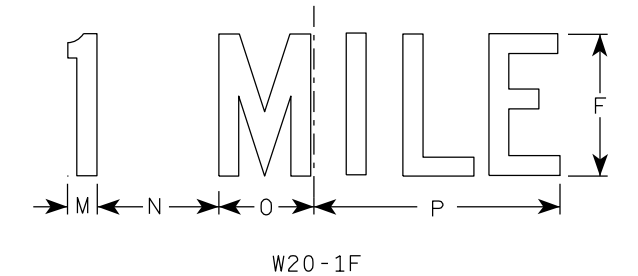
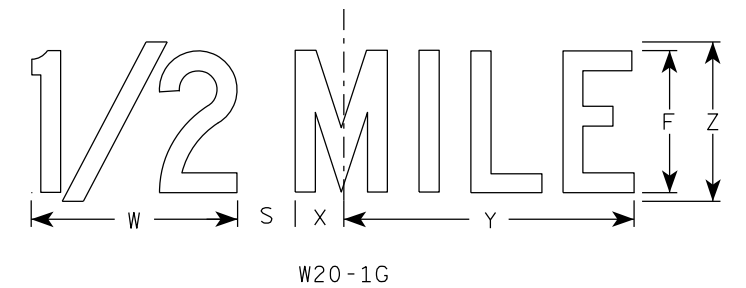
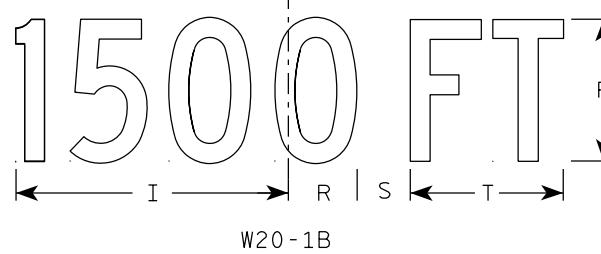
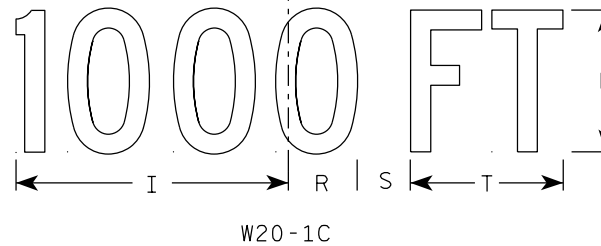
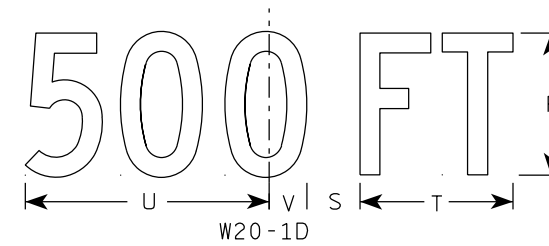
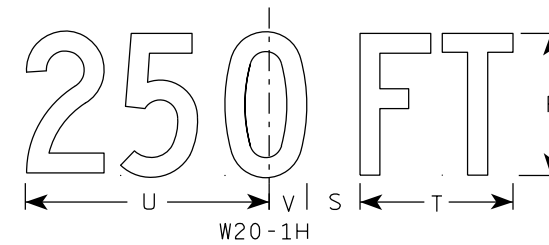
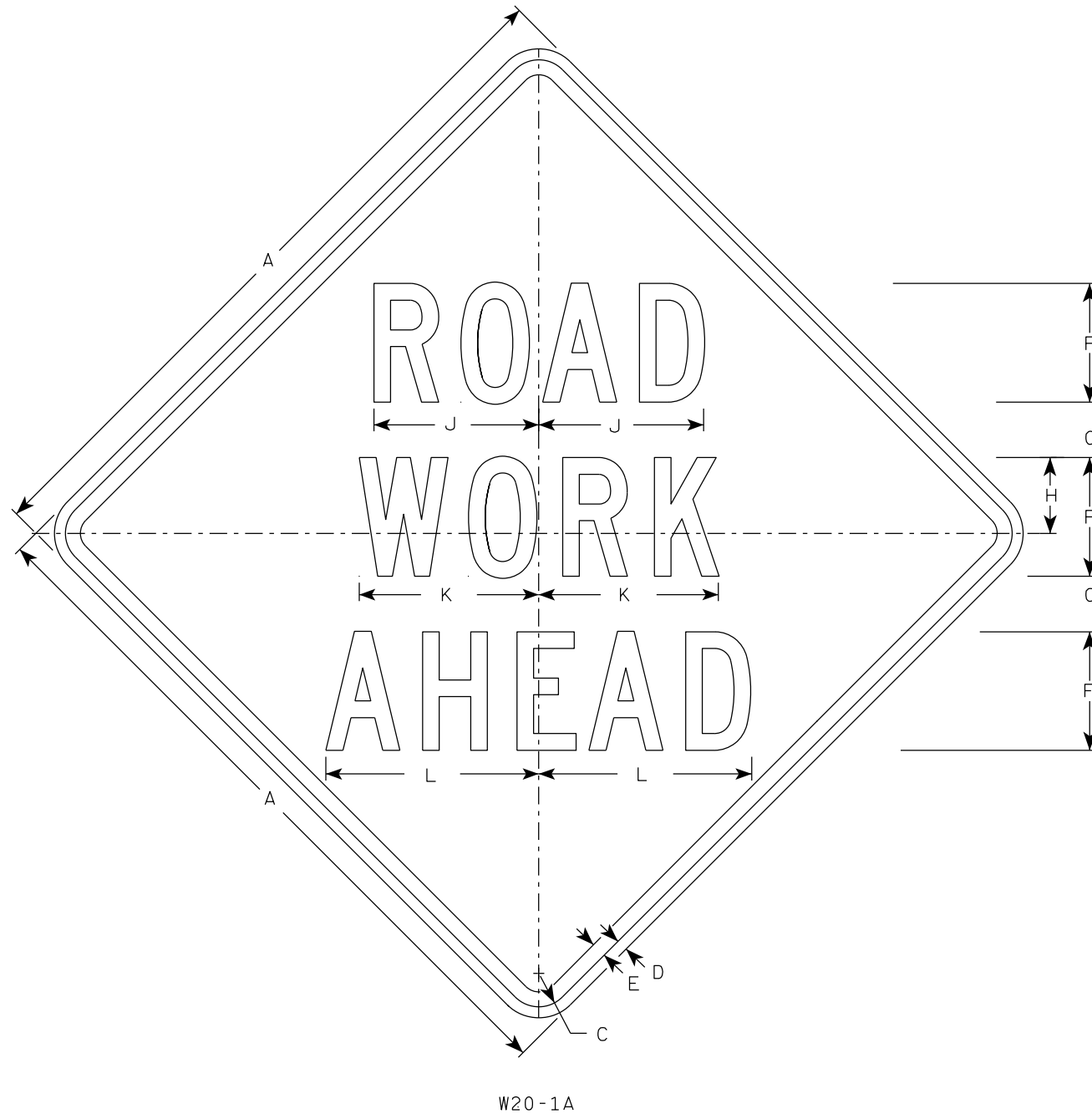
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W10-1.8

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

**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 5/8	5/8	3/4	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	3 1/4	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, E, F, G & H

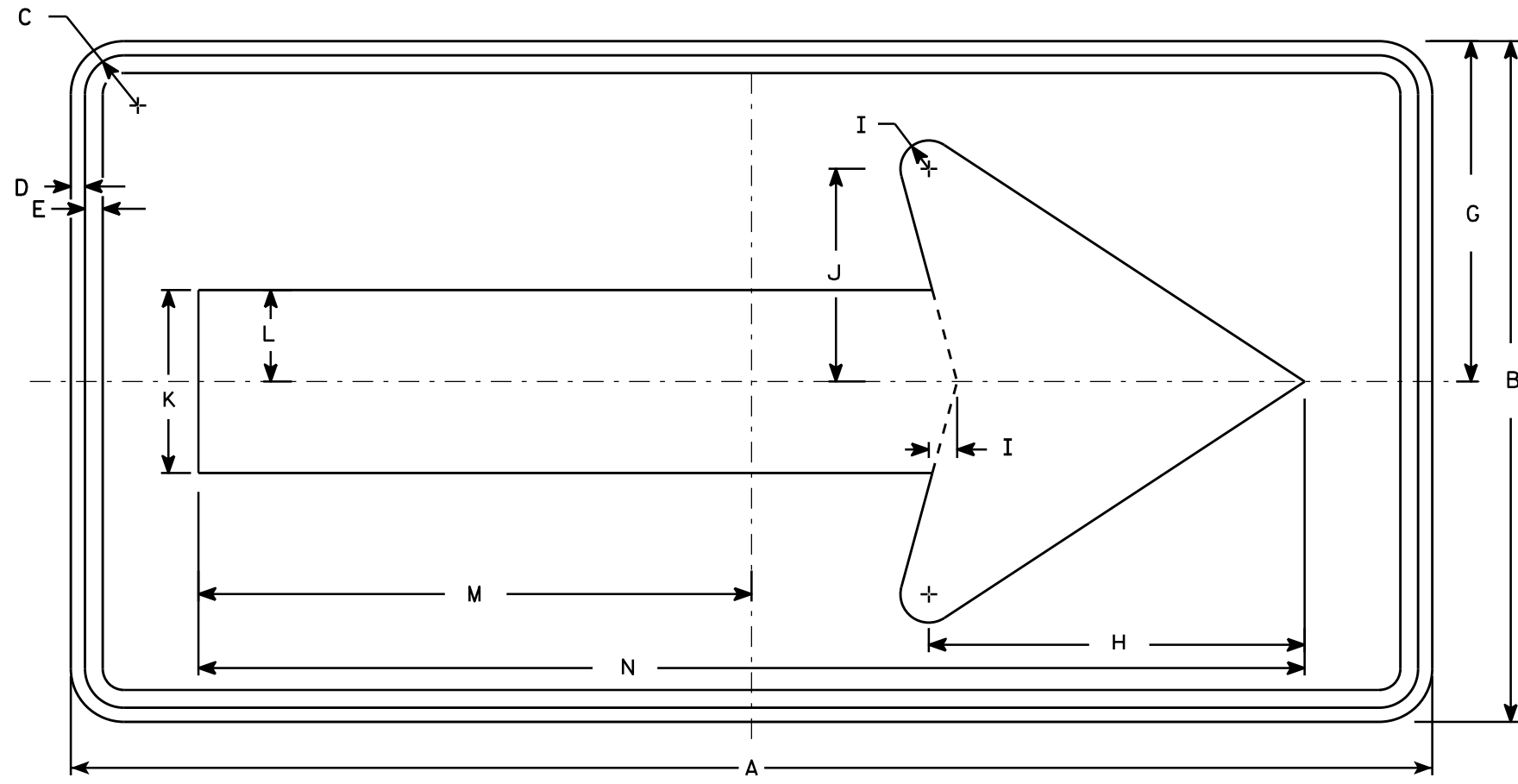
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/25/2020 PLATE NO. W20-1.11

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.



W01-6

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

**STANDARD SIGN**  
**W01-6**

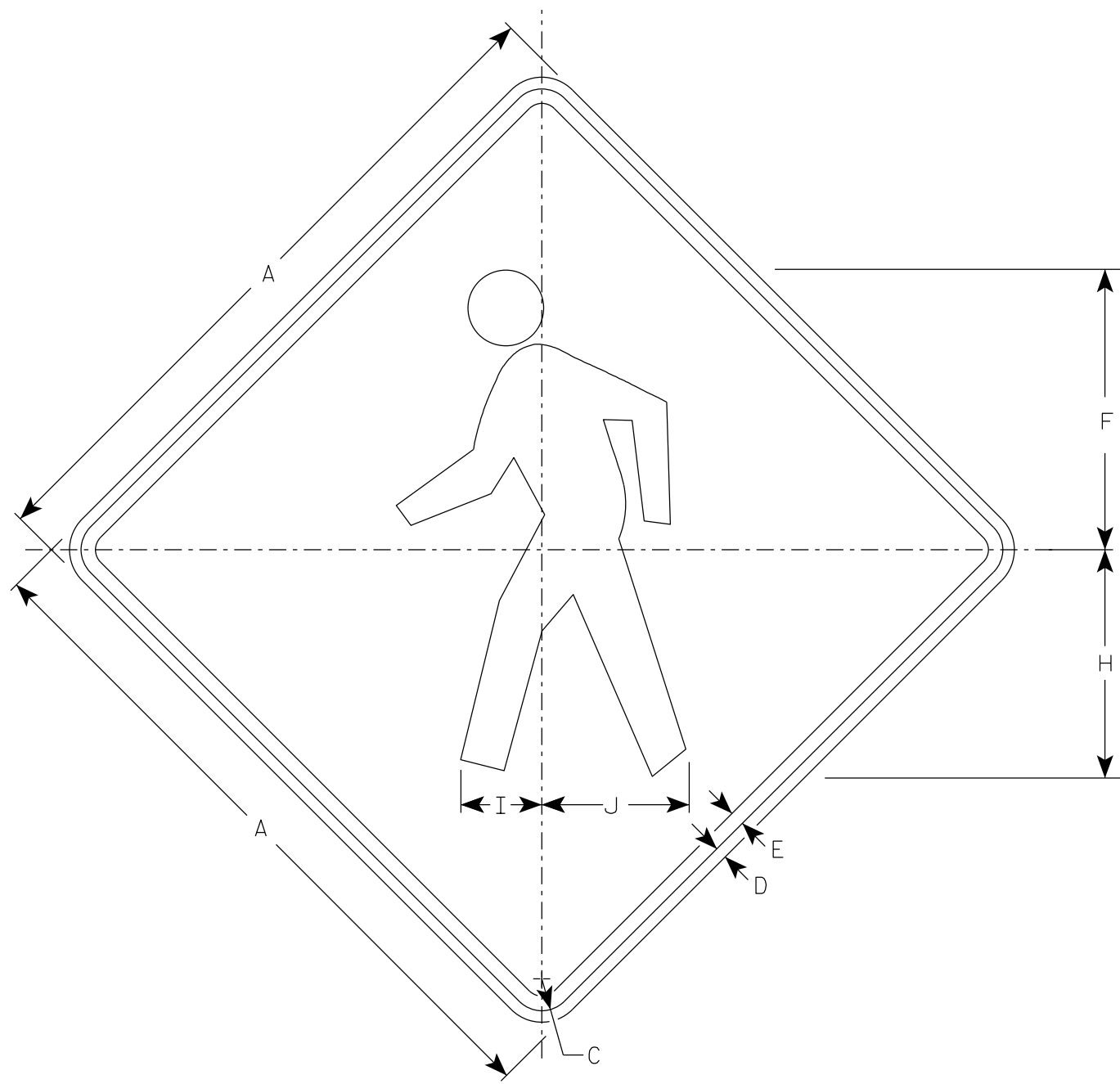
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**





W011-2

NOTES

1. Sign is Type II - Type F Reflective
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.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
2S	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
2M	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
3	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
4	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

STANDARD SIGN  
W011-2

WISCONSIN DEPT OF TRANSPORTATION

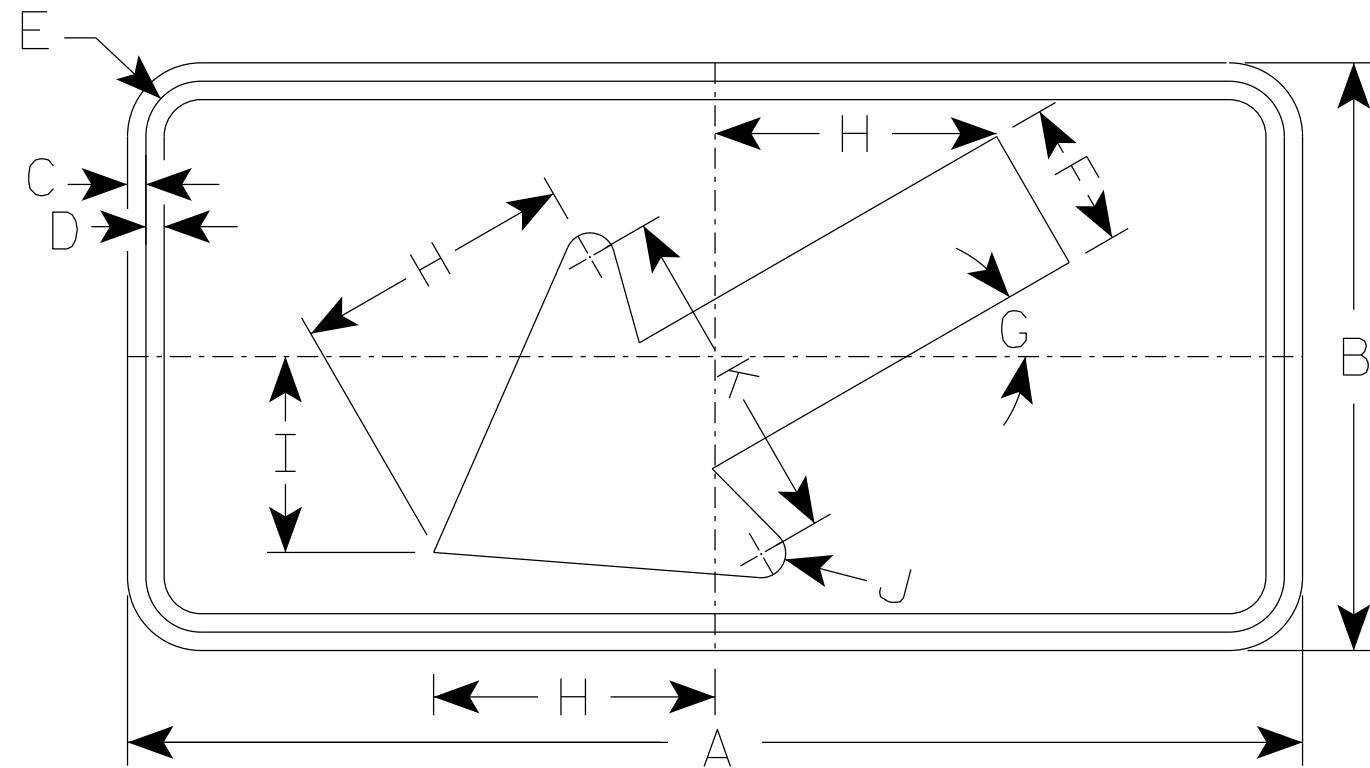
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 4/8/2020 PLATE NO. W011-2.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded but corners shall be rounded when base material is metal.
4. W016-7R is the same as W016-L except the arrow is reversed along the vertical centerline.



W016-7L

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
2S	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0
2M	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0
3	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0
4	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0
5	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0

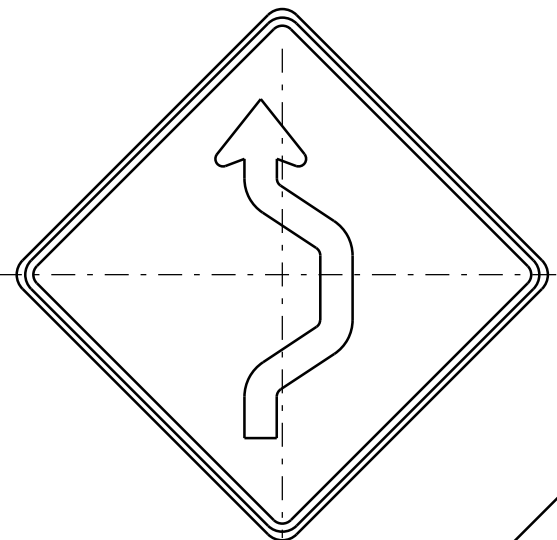
STANDARD SIGN  
W016-7

WISCONSIN DEPT OF TRANSPORTATION

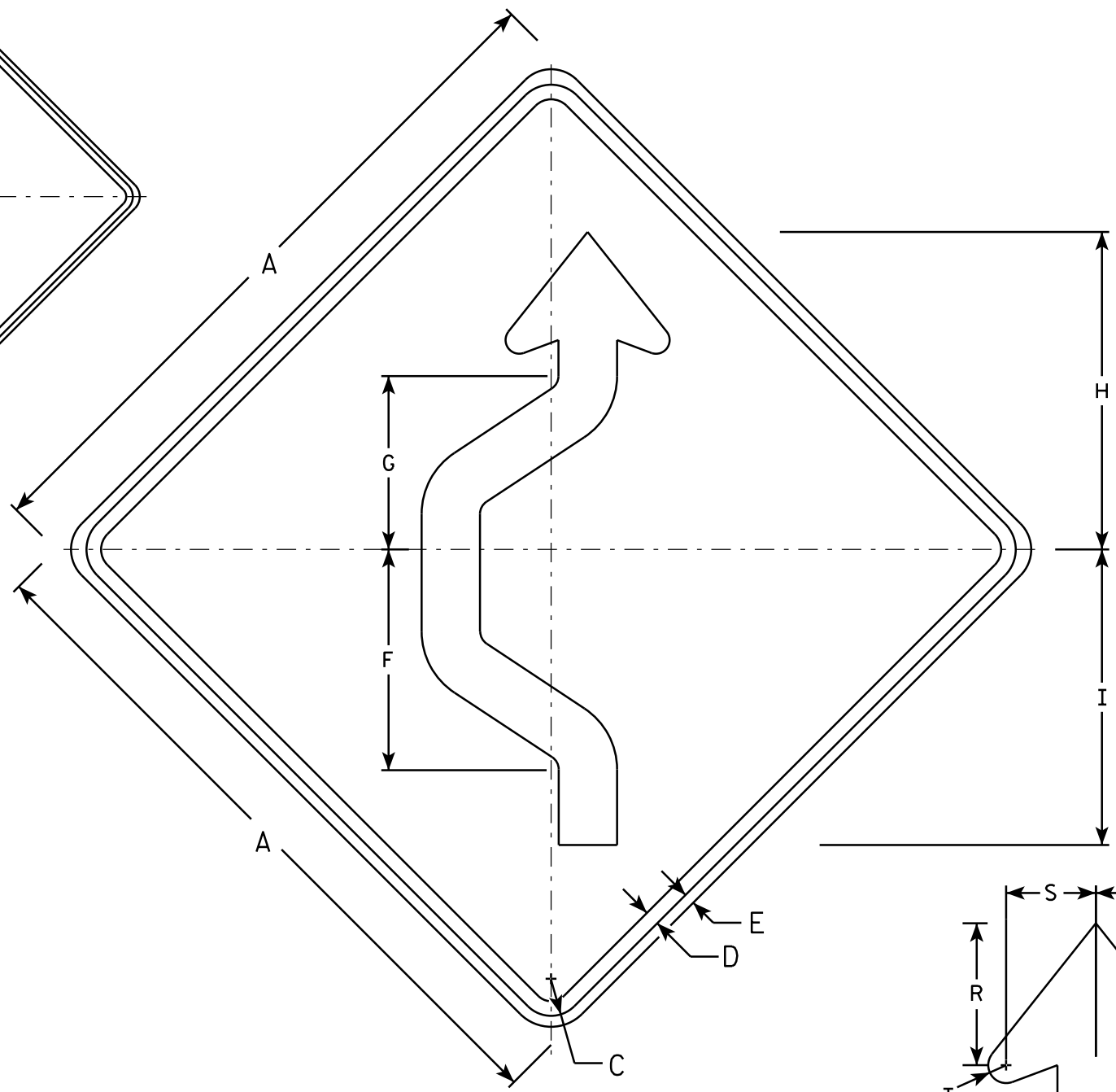
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 7/11/18 PLATE NO. W016-7.1

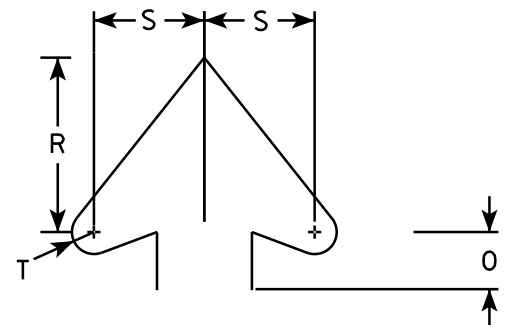
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**



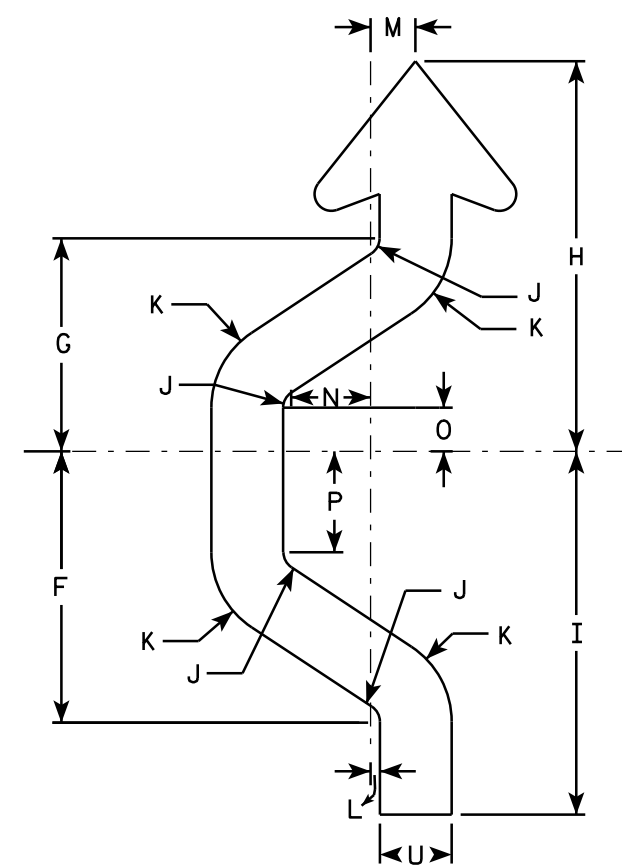
W024-1R



W024-1L



Arrowhead Detail



Arrow Detail

**NOTES**

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W024-1R is the same as W024-1L except reversed along the vertical centerline.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	5/8	1/2	11 3/8	8 7/8	16 3/8	15 1/4	3/4	3 3/4	3/8	2	3 3/8	1 7/8	4 1/4		5 1/2	3 1/2	5/8	3						9
2S	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
2M	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
3	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
4	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
5	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16

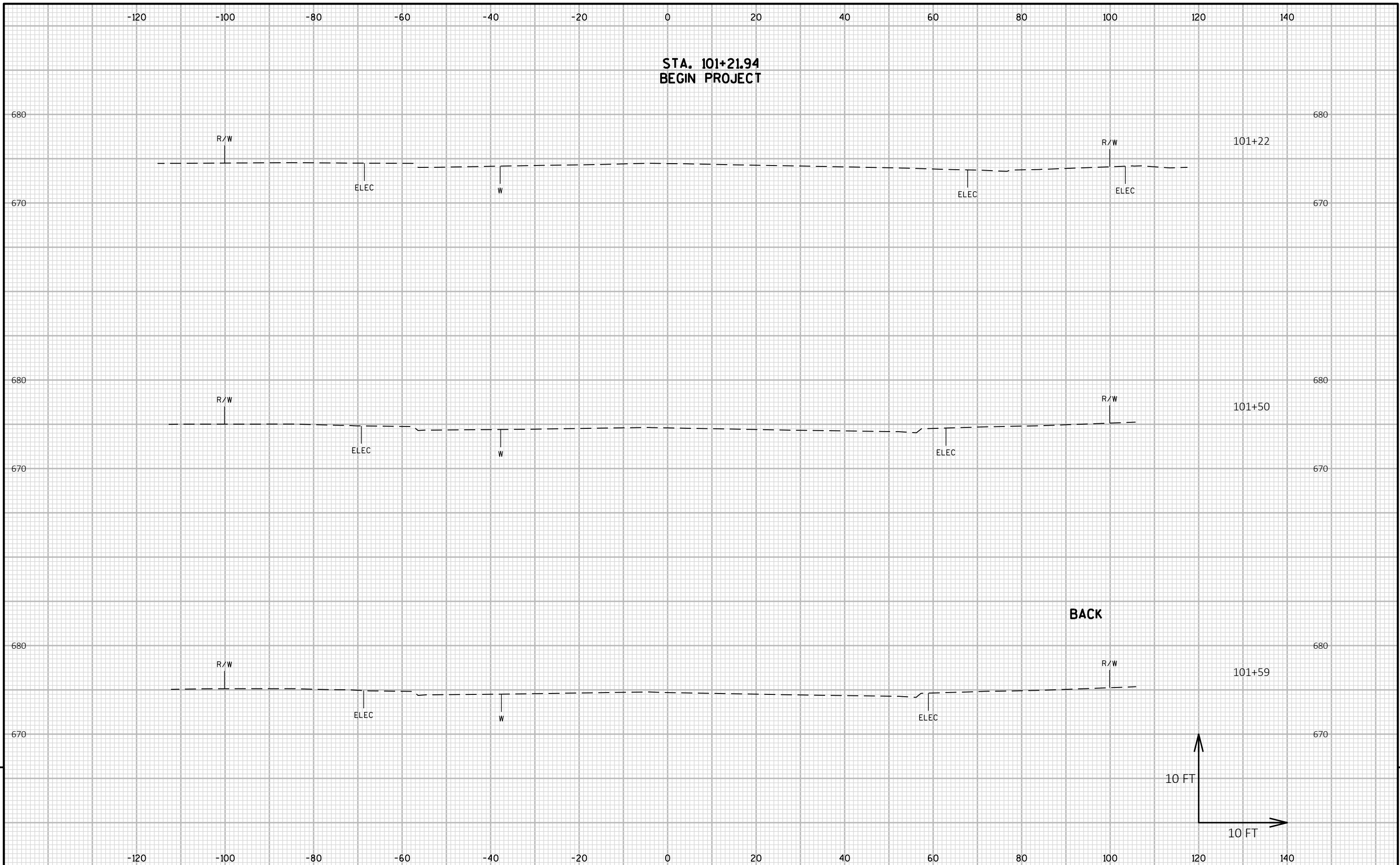
**STANDARD SIGN**  
**W024-1 L & R**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 9/25/2013 PLATE NO. W024-1.1

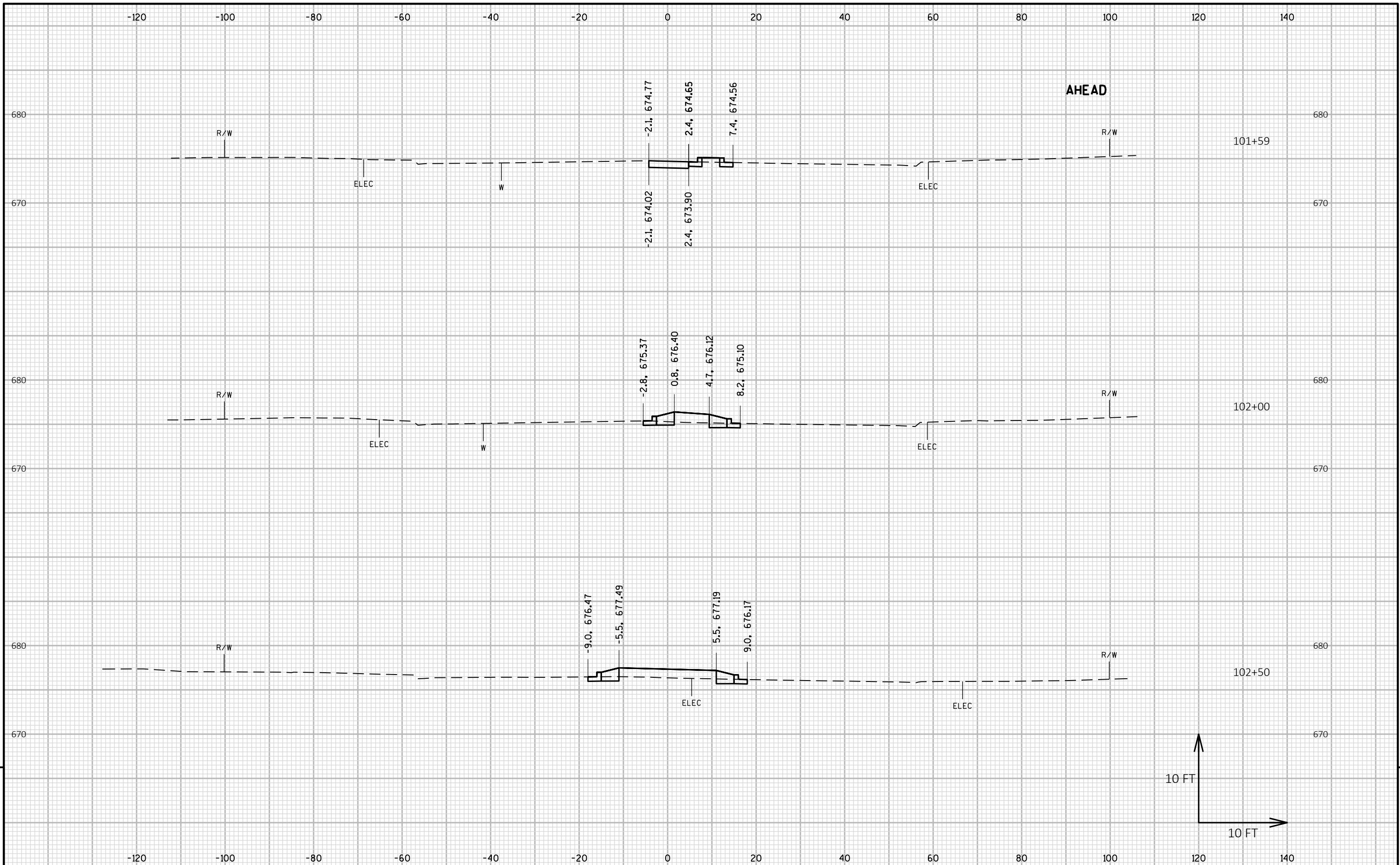
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	CROSS SECTIONS: STH 35	SHEET	<b>E</b>
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9

9



PROJECT NO: 3700-50-54

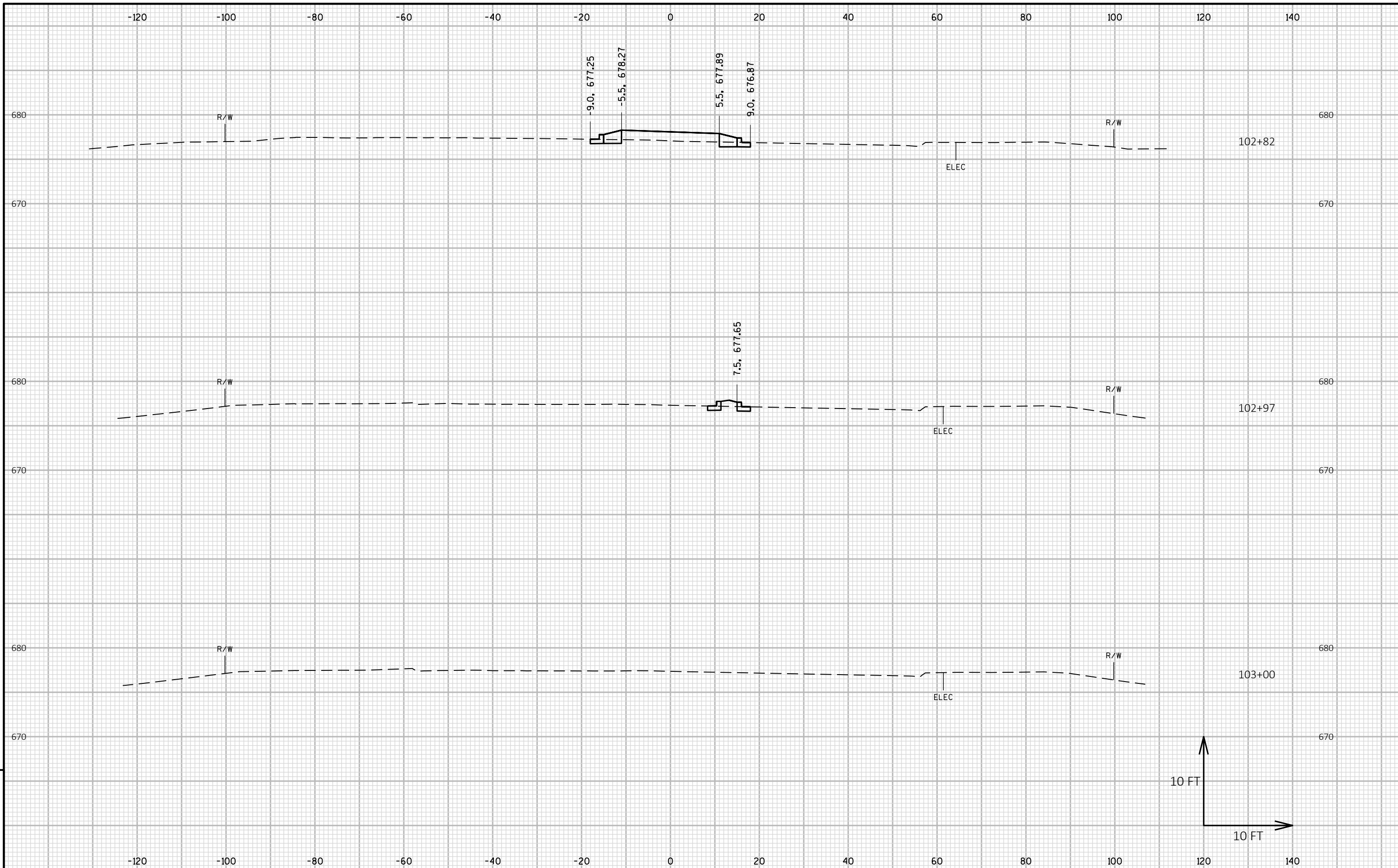
HWY: STH 35

COUNTY: DOUGLAS

CROSS SECTIONS: STH 35

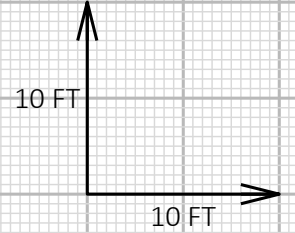
SHEET

E

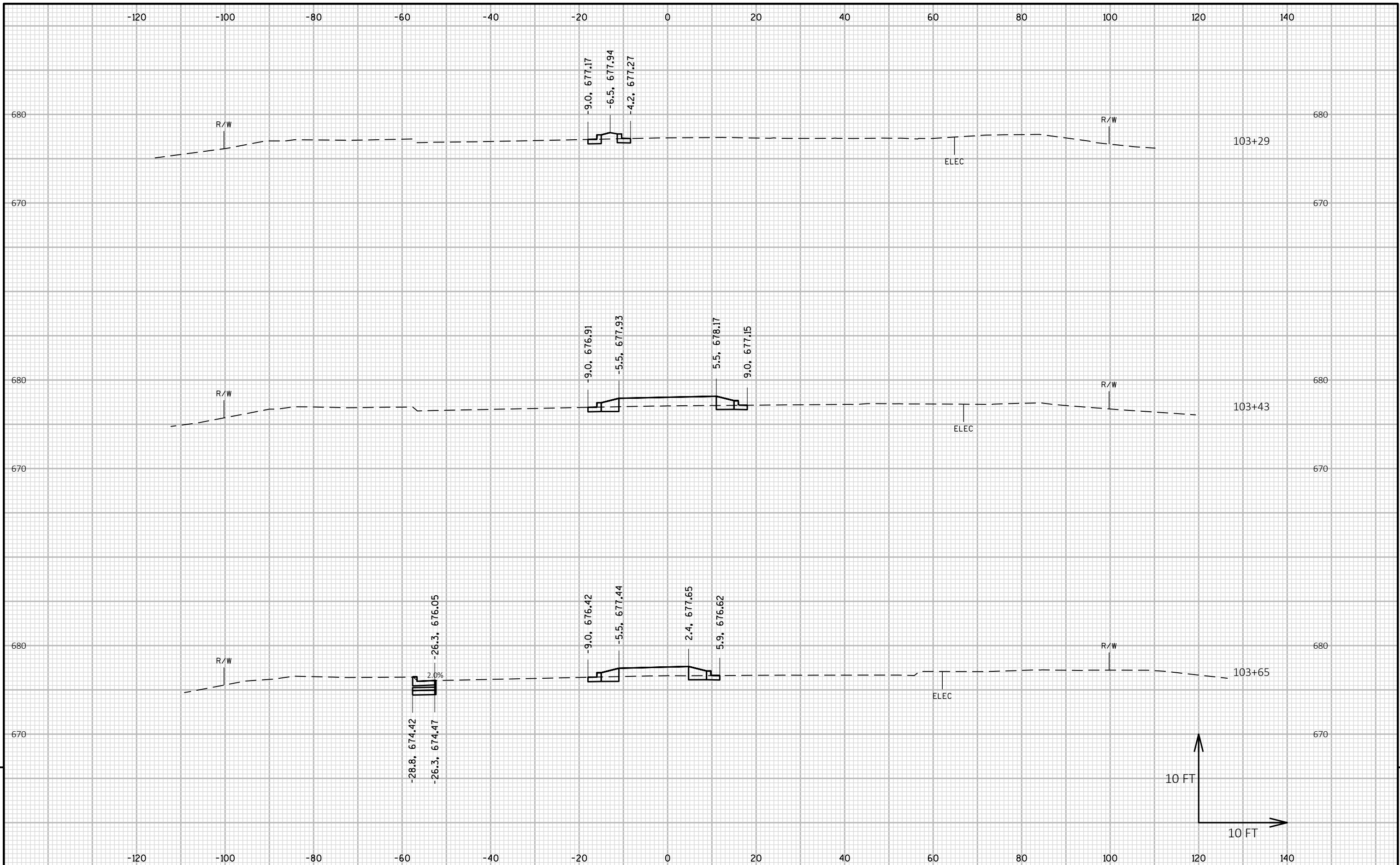


9

9



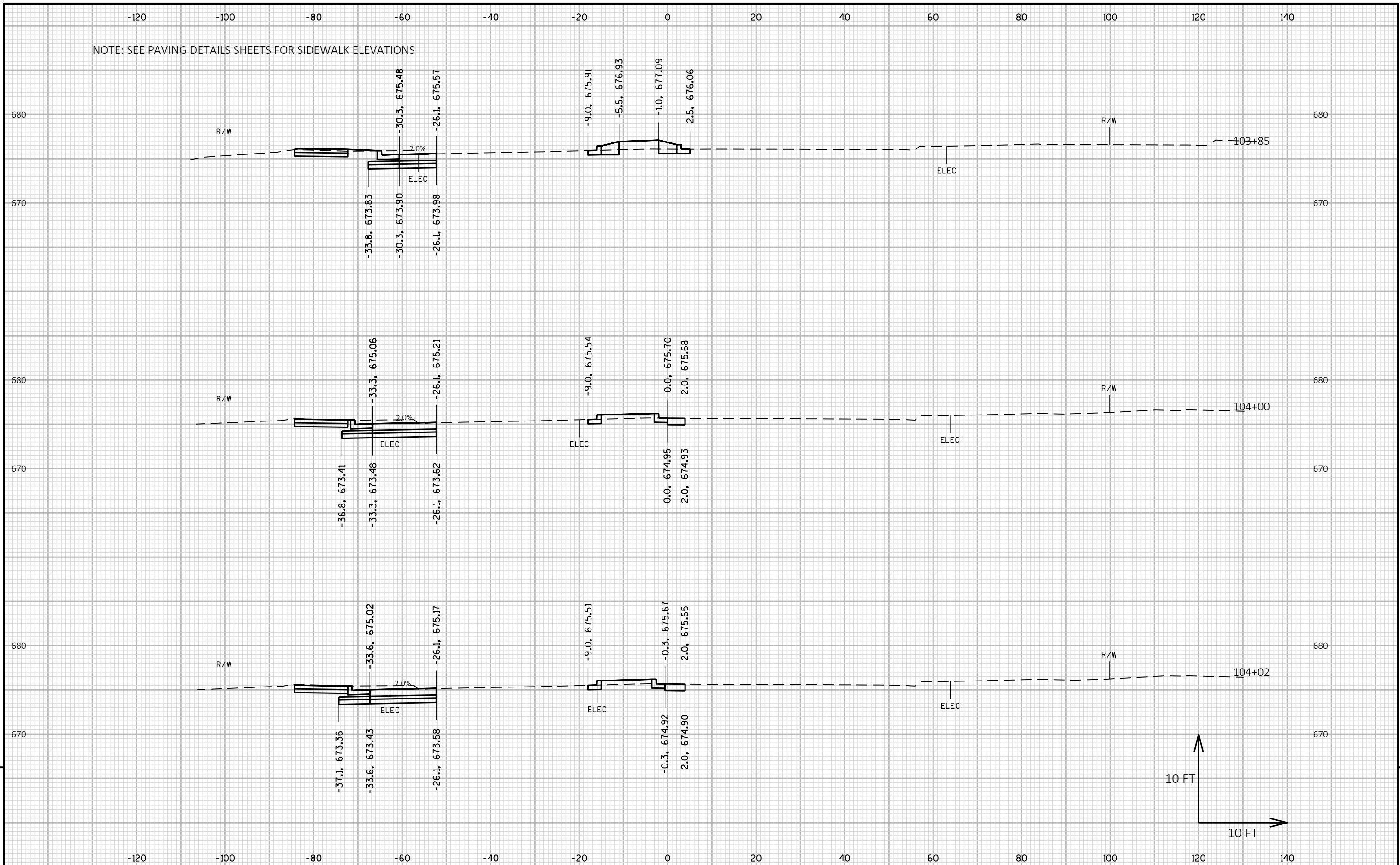
PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	CROSS SECTIONS: STH 35	SHEET	E
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9

9

PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	CROSS SECTIONS: STH 35	SHEET	E
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9

9

PROJECT NO: 3700-50-54      HWY: STH 35      COUNTY: DOUGLAS      CROSS SECTIONS: STH 35      SHEET      E

FILE NAME: \\USMSN1\F5001\PROD\DATA\PROJECTS\60599679 - STH 35 & STH 105\900\_CAD\_GIS\910\_CAD\20-SHEETS\090201\_XS\_200604.DWG      PLOT DATE: 6/4/2020 11:54 AM      PLOT BY: OLSON, JOSHUA      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT\CADD\ SHEET 49

LAYOUT NAME - 5

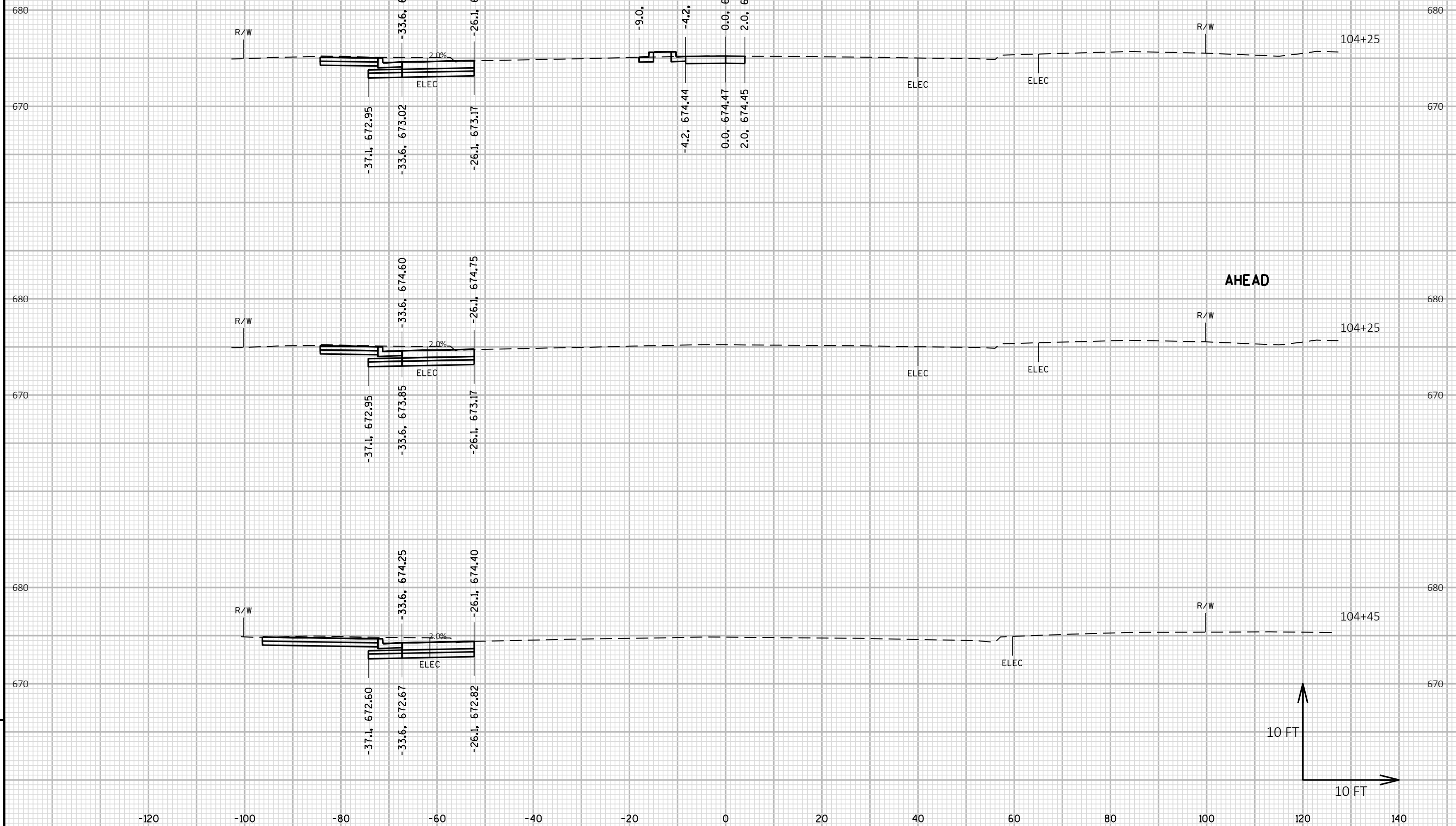


-120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140

NOTE: SEE PAVING DETAILS SHEETS FOR SIDEWALK ELEVATIONS

BACK

AHEAD



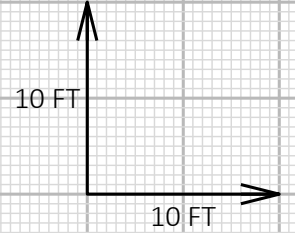
9

9

PROJECT NO: 3700-50-54      HWY: STH 35      COUNTY: DOUGLAS      CROSS SECTIONS: STH 35      SHEET      E

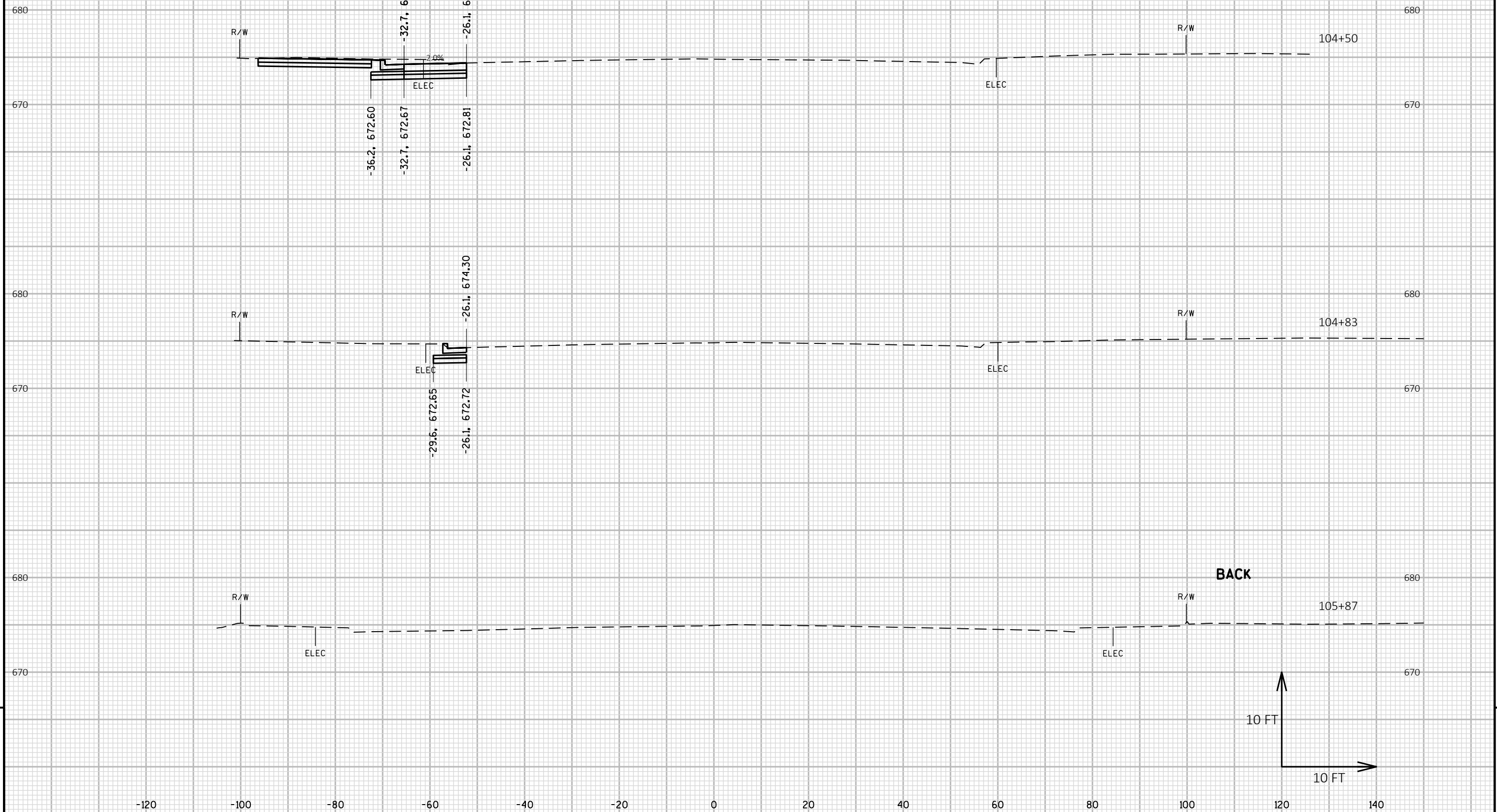
FILE NAME: \\USMSN1\F5001\PROD\DATA\PROJECTS\60599679 - STH 35 & STH 105\900\_CAD\_GIS\910\_CAD\20-SHEETS\090201\_XS\_200604.DWG      PLOT DATE: 6/4/2020 11:54 AM      PLOT BY: OLSON, JOSHUA      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - 6



-120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140

NOTE: SEE PAVING DETAILS SHEETS FOR SIDEWALK ELEVATIONS



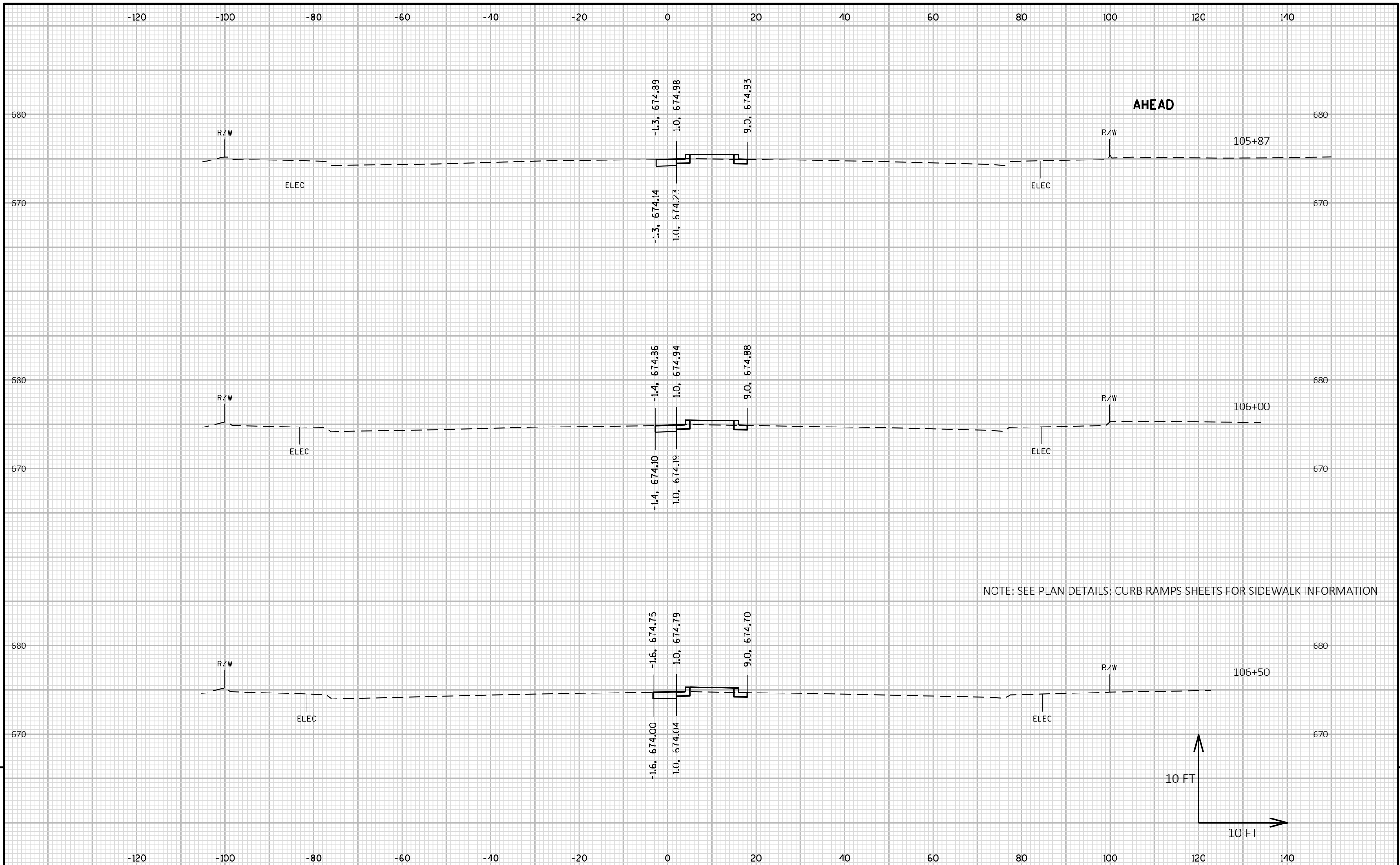
9

9

PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	CROSS SECTIONS: STH 35	SHEET	E
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FILE NAME : \\USMSN1\F5001\PROD\DATA\PROJECTS\60599679 - STH 35 & STH 105\900\_CAD\_GIS\910\_CAD\20-SHEETS\090201\_XS\_200604.DWG PLOT DATE : 6/4/2020 11:54 AM PLOT BY : OLSON, JOSHUA PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

LAYOUT NAME - 7



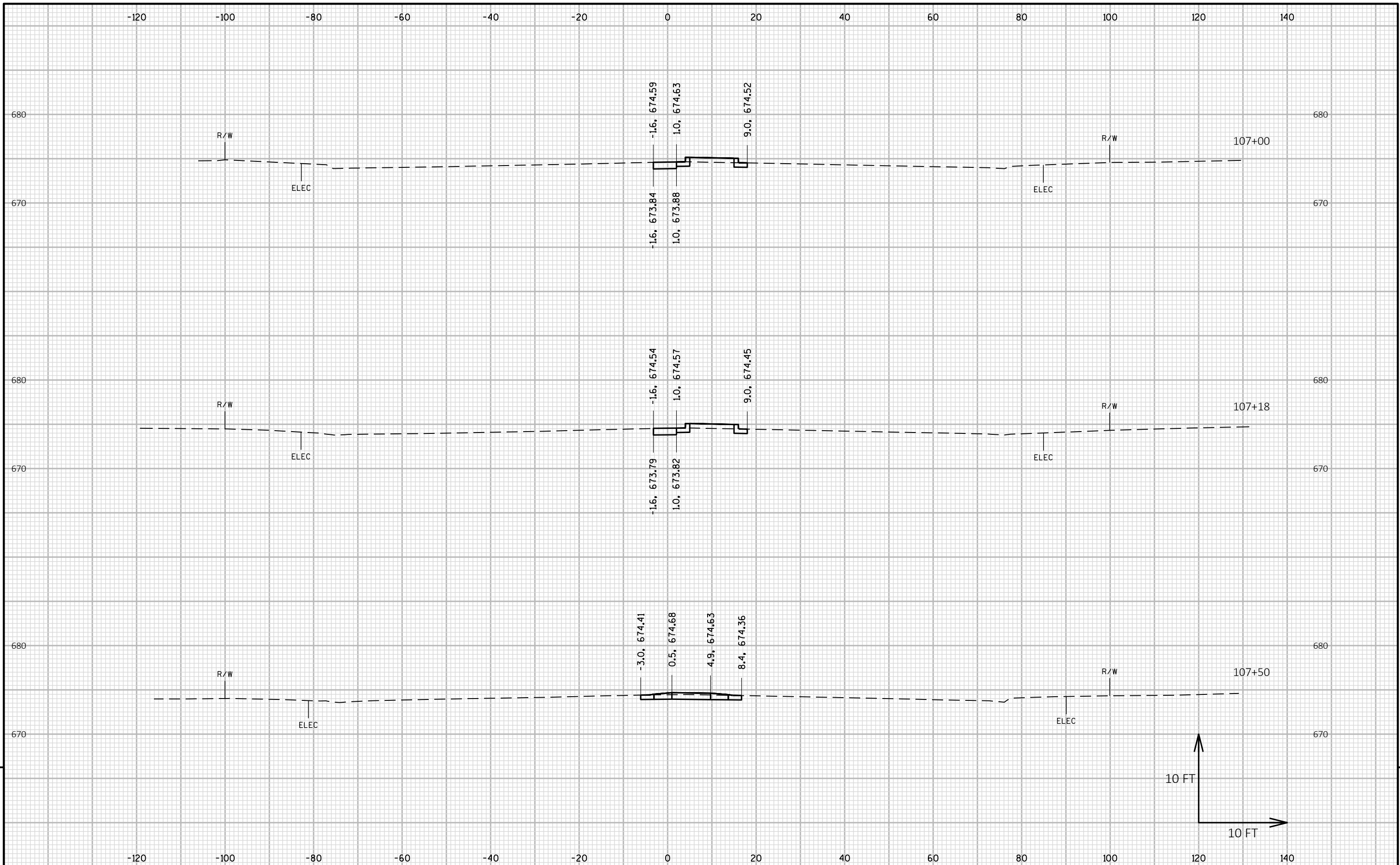
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PROJECT NO: 3700-50-54      HWY: STH 35      COUNTY: DOUGLAS      CROSS SECTIONS: STH 35      SHEET      E

FILE NAME: \\USMSN1\F5001\PROD\DATA\PROJECTS\60599679 - STH 35 & STH 105\900\_CAD\_GIS\910\_CAD\20-SHEETS\090201\_XS\_200604.DWG      PLOT DATE: 6/4/2020 11:54 AM      PLOT BY: OLSON, JOSHUA      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - 8



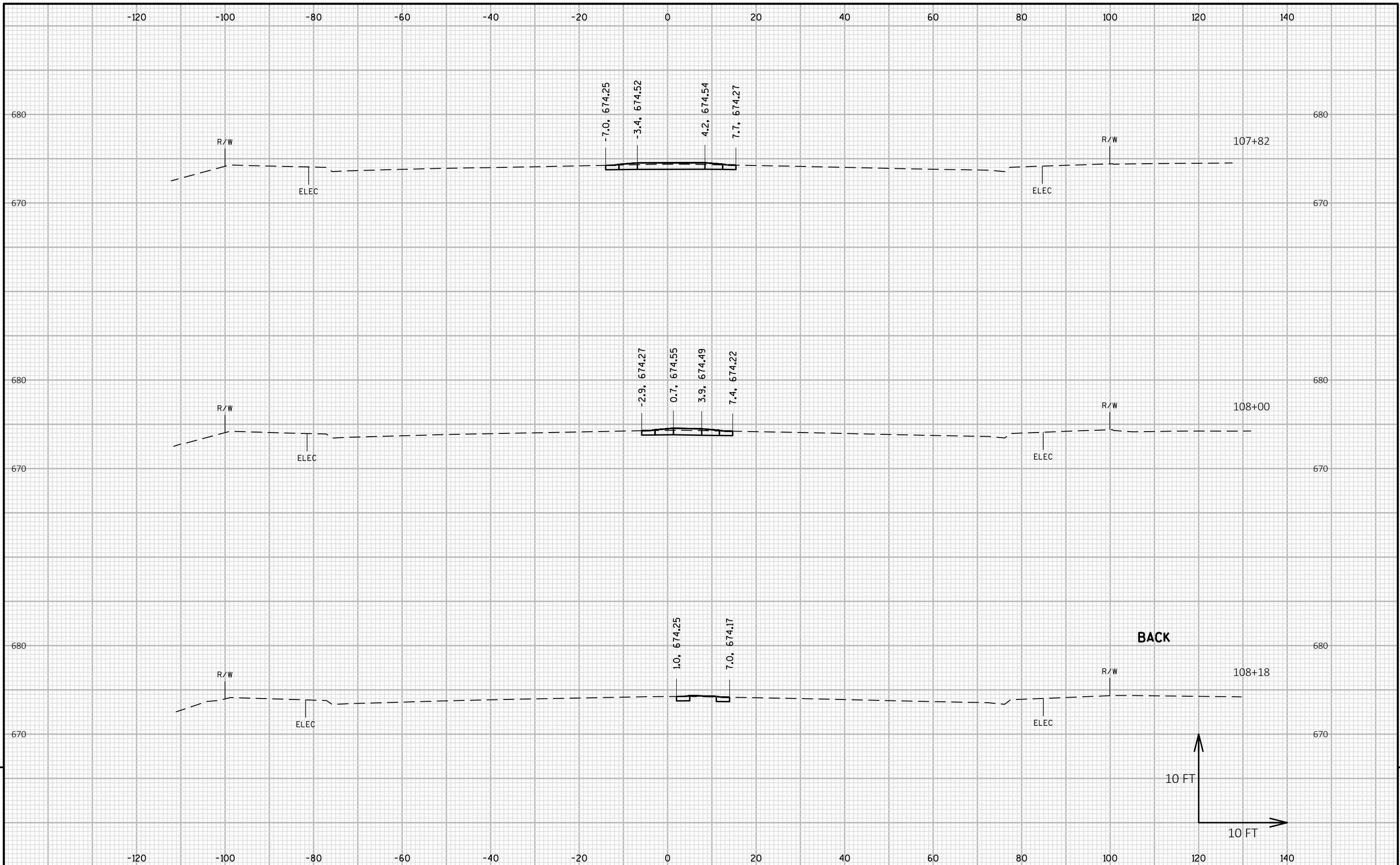
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PROJECT NO: 3700-50-54      HWY: STH 35      COUNTY: DOUGLAS      CROSS SECTIONS: STH 35      SHEET      E

FILE NAME: \\USMSN1\F5001\PROD\DATA\PROJECTS\60599679 - STH 35 & STH 105\900\_CAD\_GIS\910\_CAD\20-SHEETS\090201\_XS\_200604.DWG      PLOT DATE: 6/4/2020 11:54 AM      PLOT BY: OLSON, JOSHUA      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

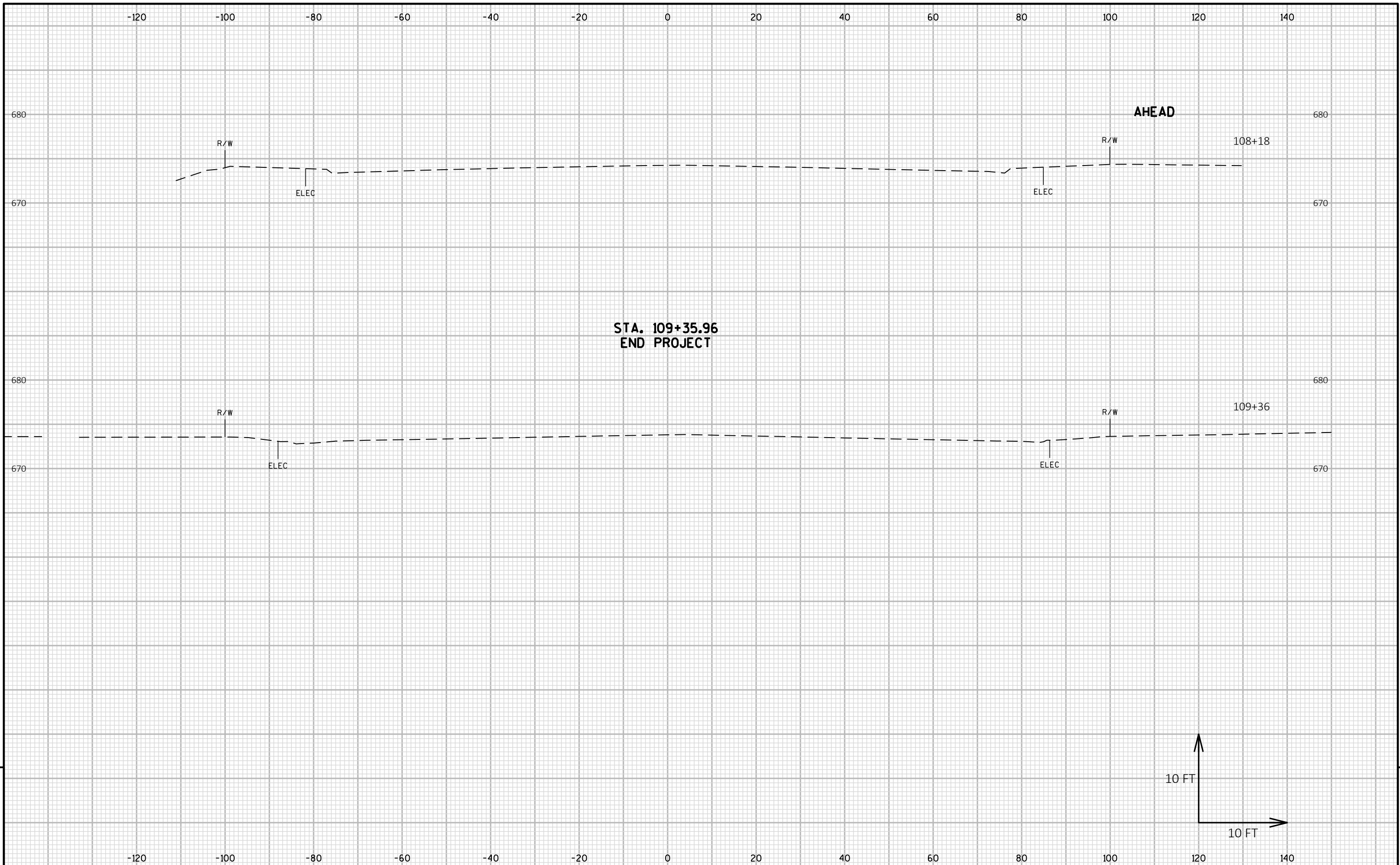
LAYOUT NAME - 9



9

9

PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	CROSS SECTIONS: STH 35	SHEET	E
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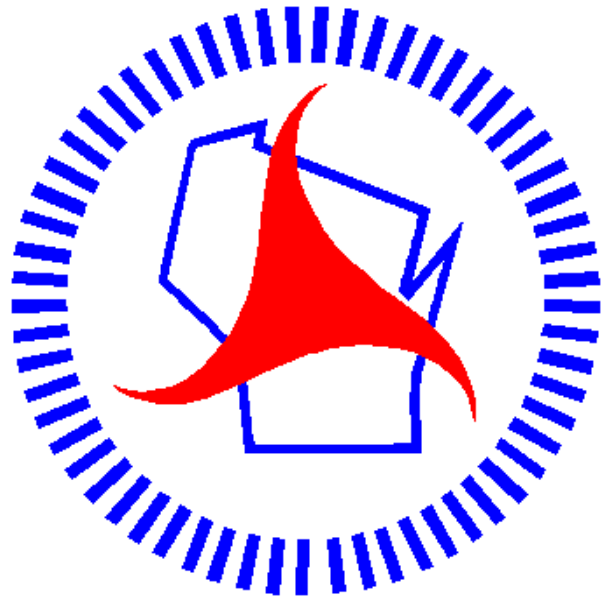


9

9

PROJECT NO: 3700-50-54	HWY: STH 35	COUNTY: DOUGLAS	CROSS SECTIONS: STH 35	SHEET	E
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Notes



## *Wisconsin Department of Transportation*

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