

GRE MAR 2013

PROJECT ID: 1133-04-80
WITH: 9202-08-76

COUNTY: BROWN

ORDER OF SHEETS

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

TOTAL SHEETS = 86



DESIGN DESIGNATION NINTH STREET

A.A.D.T. 2013	•	6,800
A.A.D.T. 2033	•	7,200
D.H.V.	•	1,160
D.D.	•	59-41
T.	•	5.7%
DESIGN SPEED	•	30 MPH
ESALS	•	1,348,164

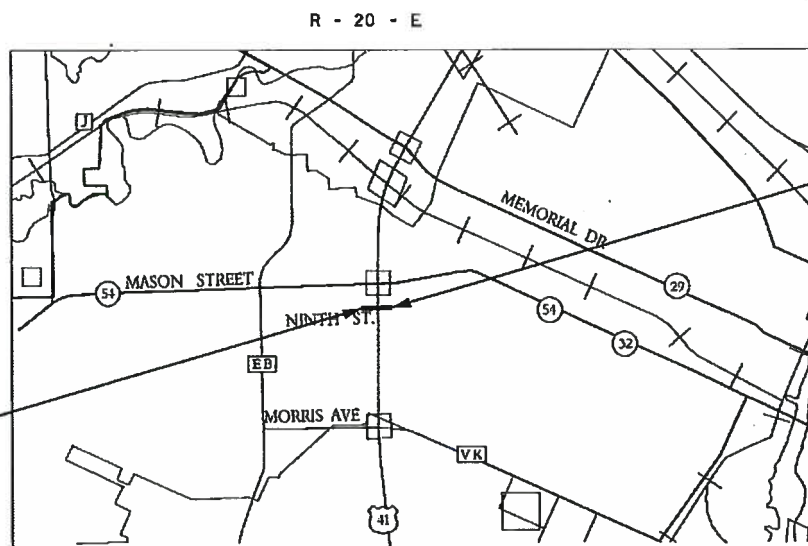
CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	////
PROPERTY LINE	PL + 58.1
LOT LINE	-----
LIMITED HIGHWAY EASEMENT	L-----
EXISTING RIGHT OF WAY	-----
PROPOSED OR NEW R/W LINE	-----
SLOPE INTERCEPT	-----
REFERENCE LINE	-----
EXISTING CULVERT	-----
PROPOSED CULVERT (Box or Pipe)	-----
COMBUSTIBLE FLUIDS	CAUTION
MARSH AREA	-----
WOODED OR SHRUB AREA	-----

PROFILE

GRADE LINE	-----
ORIGINAL GROUND	-----
MARSH OR ROCK PROFILE (To be noted as such)	ROCK
SPECIAL DITCH	LABEL
GRADE ELEVATION	55.36
CULVERT (Profile View)	-----
UTILITIES	
COMMUNICATION OVERHEAD	C-OH
COMMUNICATION UNDERGROUND	C-UG
ELECTRIC OVERHEAD	OH
ELECTRIC UNDERGROUND	E
GAS	G
SANITARY SEWER	SAN
STORM SEWER	SS
WATER	W
UTILITY PEDESTAL	-----
POWER POLE	-----
TELEPHONE POLE	-----

BEGIN PROJECT
STA 504+50.00
X=81926.391
Y=569107.886



STATE PROJECT NUMBER
1133-04-80

LAYOUT
SCALE 0 0.667 MI.
TOTAL NET LENGTH OF CENTERLINE = 0.117 MI.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD 88 (1991).
COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), BROWN COUNTY, NAD83 (1991).

STATE PROJECT

1133-04-80

FEDERAL PROJECT

PROJECT

WISC 2013273

CONTRACT

1



ORIGINAL PLANS PREPARED BY
KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
MILWAUKEE, WISCONSIN
414.751.7200



3/6/13 Prasad Narayan
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	NE REGION
Surveyor	KAPUR & ASSOCIATES
Designer	DANIELLE BLOCK
Project Manager	KATHLEEN SLATTERY
Regional Examiner	CHAD DEGRAVE
Regional Supervisor	
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 3/5/13 Daniel Block
(Signature)

E

GENERAL NOTES

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

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

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

FILL ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES WITH BACKFILL GRANULAR. BACKFILL GRANULAR MATERIAL IS INCIDENTAL TO THE REMOVAL ITEM.

WHEN THE QUANTITY OF HMA PAVEMENT OR BASE AGGREGATE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLAN IS THE MINIMUM REQUIRED AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN AND PROVIDE DOCUMENTATION TO THE ENGINEER.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ON THE PLAN MAY BE ADJUSTED BY THE ENGINEER TO FIT FIELD CONDITIONS.

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

REINFORCED CONCRETE APRON ENDWALLS AND ADJOINING TWO SECTIONS OF CONCRETE PIPE SHALL BE TIED TOGETHER AS SHOWN ON THE STANDARD DETAIL DRAWINGS. JOINT TIE COSTS ARE INCIDENTAL TO CONCRETE PIPE.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS, FLOODWAY OR FLOODPLAIN OF ANY WATERWAY.

CROSS SECTIONS SHOWN INCLUDE THE THICKNESS OF TOPSOIL WHERE REQUIRED. PLACE SALVAGED TOPSOIL TO A 4-INCH DEPTH UNLESS OTHERWISE NOTED.

PLACE EROSION CONTROL DEVICES IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS DETERMINED BY THE ENGINEER. EROSION CONTROL FEATURES ARE SHOWN AT APPROXIMATE LOCATIONS, WITH EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER. REMOVAL OF ITEMS ARE INCIDENTAL TO THE RESPECTIVE EROSION CONTROL BID ITEM COSTS.

PLACE TOPSOIL IN ALL GRADED AREAS AS DESIGNATED BY THE ENGINEER IMMEDIATELY AFTER GRADING HAS BEEN COMPLETED. SEED, MULCH AND FERTILIZE OR SOD AND FERTILIZE ALL AREAS 5 DAYS AFTER PLACEMENT OF TOPSOIL.

DO NOT USE FERTILIZER NEAR NAVIGABLE WATERWAYS OR WETLANDS.

STATIONING, DISTANCES, AND OFFSETS FOR SIGNS AND TRAFFIC CONTROL DEVICES SHOWN IN THE PLANS ARE APPROXIMATE. EXACT LOCATIONS ARE DETERMINED BY THE ENGINEER.

COVER ALL SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

STANDARD ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CONC	CONCRETE
CP	CULVERT PIPE
CPCM	CULVERT PIPE CORRUGATED METAL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
EB	EASTBOUND
FE	FIELD ENTRANCE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT-HAND FORWARD
LT	LEFT
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASMENT
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT-OF-WAY
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCE CONCRETE
REQD	REQUIRED
RHF	RIGHT-HAND FORWARD
RO	RUN OFF LENGTH
RT	RIGHT
SALV	SALVAGED
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF	SQUARE FOOT
STA	STATION
SY	SQUARE YARD
T	TANGENT
TC	TOP OF CURB
TLE	TEMPORARY LIMITED EASEMENT
WB	WESTBOUND

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

WIS. STATUTE 182.0175 (1974)
REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

AT&T WISCONSIN

MS. KAREN WELLS
205 S. JEFFERSON STREET
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PHONE: 920-433-4226
E-MAIL: KW9272@ATT.COM

BROWN COUNTY IT DEPARTMENT

MR. JOEL MIKULSKY
C/O MULTIMEDIA COMMUNICATIONS & ENGINEERING INC.
PO BOX 11064
GREEN BAY, WI 54307
PHONE: 920-676-0494
E-MAIL: JMIKULSKY@MCAE.BIZ

CITY OF GREEN BAY IT DEPARTMENT

MR. JOEL MIKULSKY
C/O MULTIMEDIA COMMUNICATIONS & ENGINEERING INC.
PO BOX 11064
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PHONE: 920-676-0494
E-MAIL: JMIKULSKY@MCAE.BIZ

CITY OF GREEN BAY

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ASSISTANT CITY ENGINEER
100 N. JEFFERSON STREET
GREEN BAY, WI 54301
PHONE: 920-448-3100
E-MAIL: KRISTINRO@CI.GREEN-BAY.WI.US

GREEN BAY WATER DEPARTMENT

MR. BRIAN POWELL
DISTRIBUTION ENGINEER
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GREEN BAY, WI 54305-1210
PHONE: 920-448-3480
E-MAIL: BRIANPO@CI.GREEN-BAY.WI.US

TIME WARNER CABLE

MR. VINCE ALBIN
CONSTRUCTION ADMINISTRATOR
3520 DESTINATION DRIVE
APPLETON, WI 54915
PHONE: 920-831-9249
E-MAIL: VINCE.ALBIN@TWCABLE.COM

UTILITY CONTACTS



**Call 811 3 Work Days Before You Dig
or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com**

WISCONSIN PUBLIC SERVICE CORPORATION

MR. JEFF PELISCHEK
ELECTRICAL DESIGN ENGINEER
PO BOX 236
TWO RIVERS, WI 54241
PHONE: 920-794-3216
E-MAIL: JSPELISCHEK@WISCONSINPUBLICSERVICE.COM

WISCONSIN PUBLIC SERVICE CORPORATION

MR. TERRY LUTTEREGGER
REGIONAL GAS ENGINEER
2850 SOUTH ASHLAND AVENUE
PO BOX 19001
GREEN BAY, WI 54307
PHONE: 920-617-5129
E-MAIL: TBLUTTENEGER@WISCONSINPUBLICSERVICE.COM

OTHER CONTACTS- FOR INFORMATION ONLY

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

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2984 SHAWANO AVENUE
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GREEN BAY, WI 54307-0448
PHONE: 920-662-5119
E-MAIL: JAMES.DOPERALSKI@WISCONSIN.GOV

WISCONSIN DEPARTMENT OF TRANSPORTATION

MR. PAUL VRANEY
USH 41 BROWN COUNTY PROJECT OFFICE
1940 WEST MASON STREET
GREEN BAY, WI 54303
PHONE: 920-492-2232
E-MAIL: PAUL.VRANEY@DOT.WI.GOV

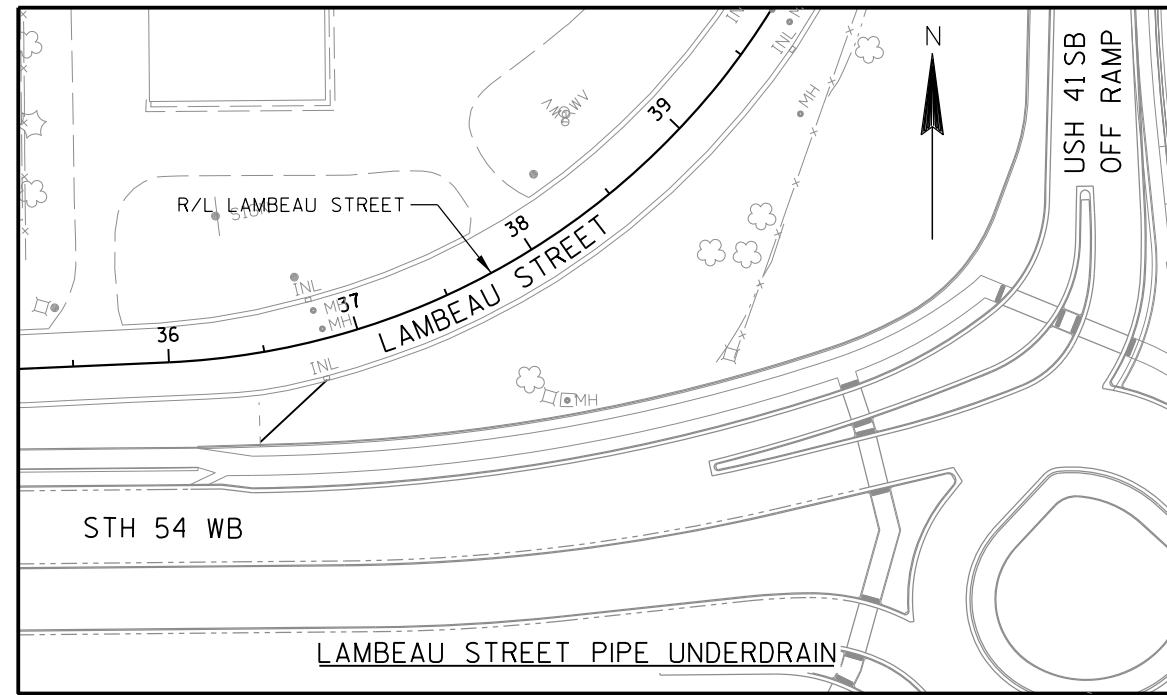
KAPUR & ASSOCIATES – DESIGN CONSULTANT

MR. PRASAD NARAYAN
7711 NORTH PORT WASHINGTON ROAD
MILWAUKEE, WI 53217
PHONE: 414-351-6668
E-MAIL: PRASAD@KAPUR-ASSOC.COM

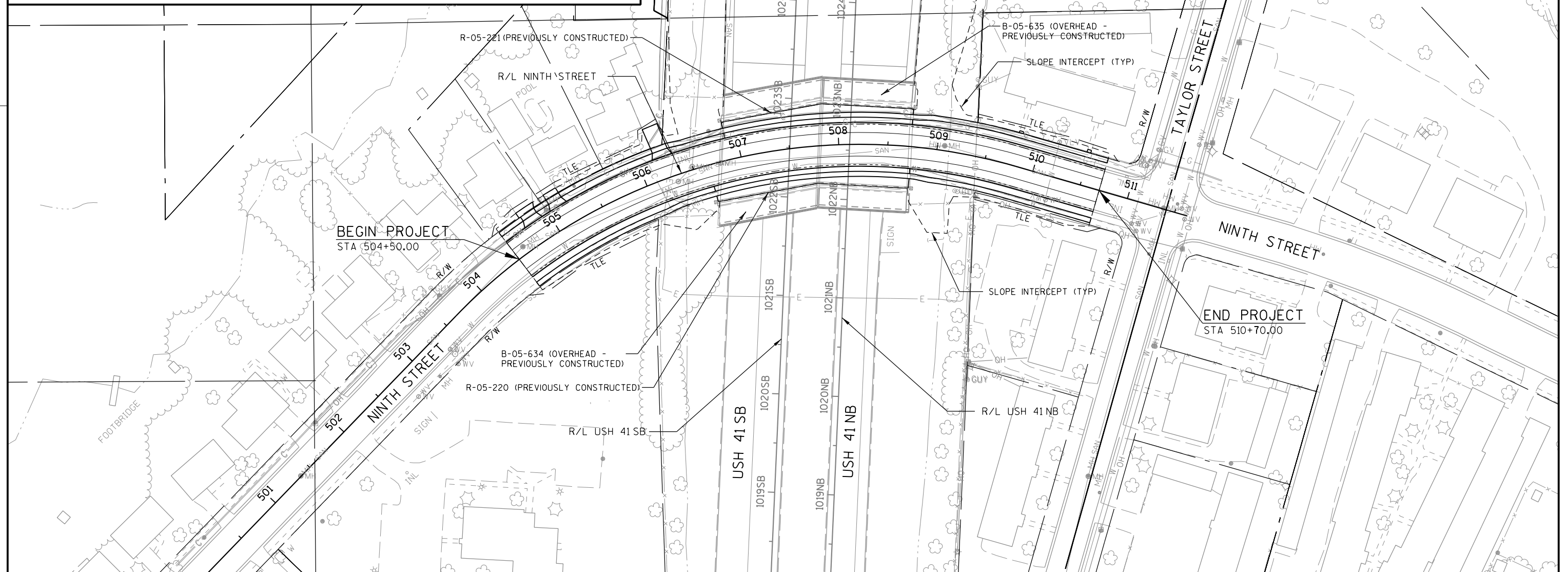
ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES
- UTILITY CONTACTS
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- REMOVAL PLAN
- PLAN DETAIL
- EROSION CONTROL PLAN
- STORM SEWER
- PAVEMENT MARKING, SIGN REMOVAL, AND PERMANENT SIGNING PLAN
- TRAFFIC CONTROL PLAN
- ALIGNMENT PLAN

2



2



PROJECT NO: 1133-04-80

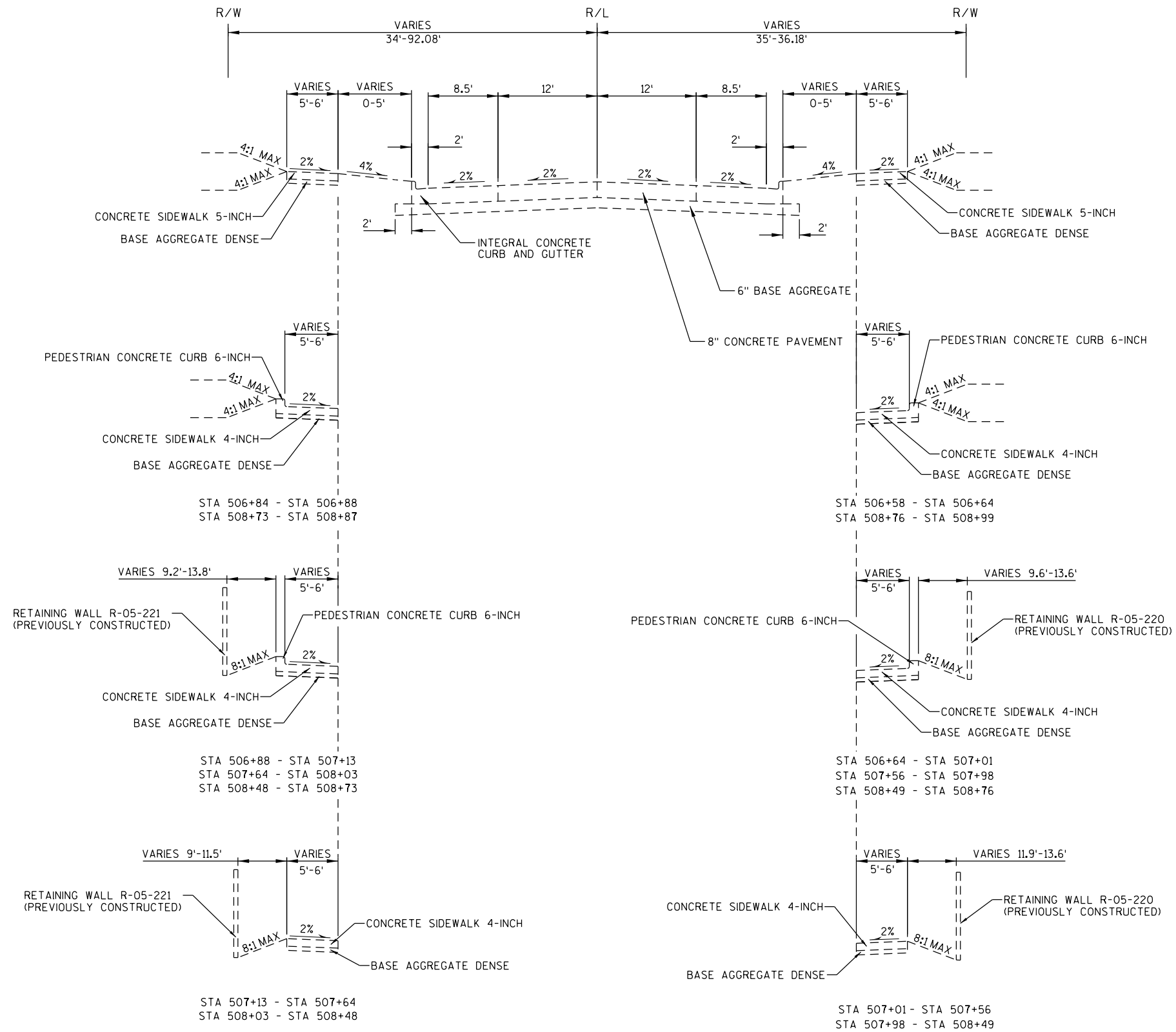
HWY: USH 41

COUNTY: BROWN

PROJECT OVERVIEW

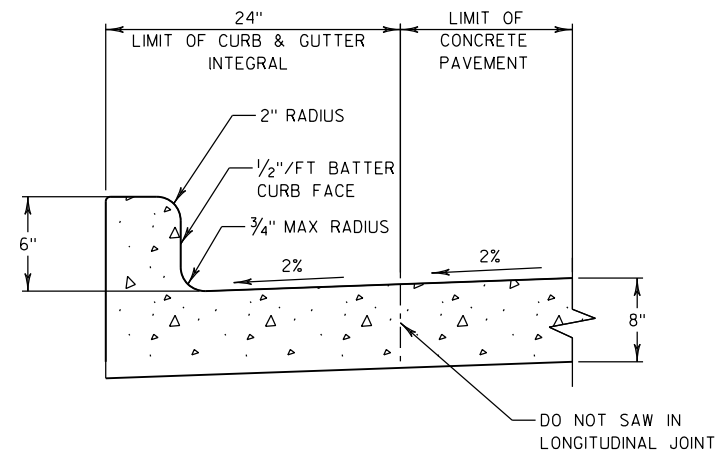
SHEET

E

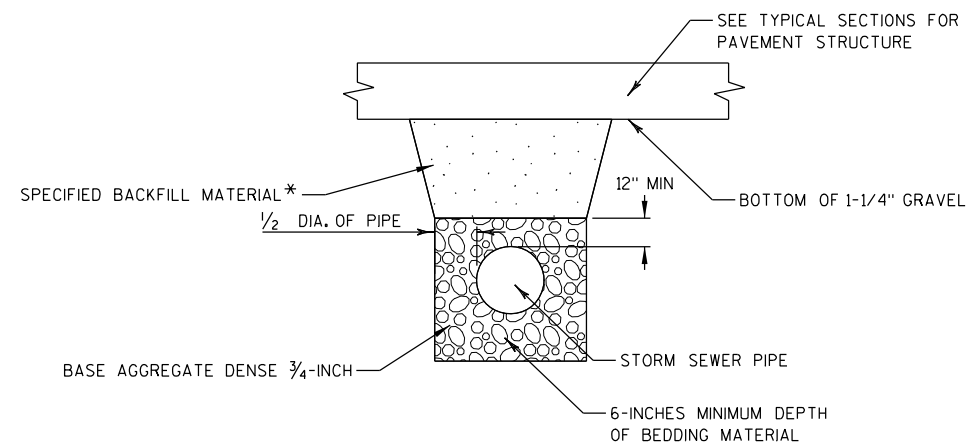




1. **Introduction**
 2. **Methodology**
 3. **Results**
 4. **Discussion**
 5. **Conclusion**



CONCRETE CURB AND GUTTER INTEGRAL 24-INCH



STORM SEWER BACKFILL
WITHIN CITY OF GREEN BAY

*INCIDENTAL TO CORRESPONDING STORM SEWER ITEM

NOTES:

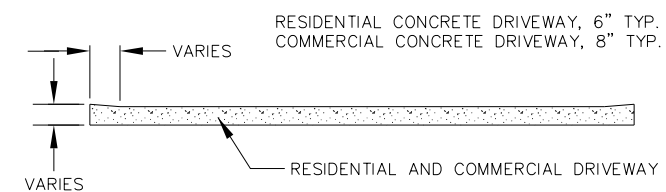
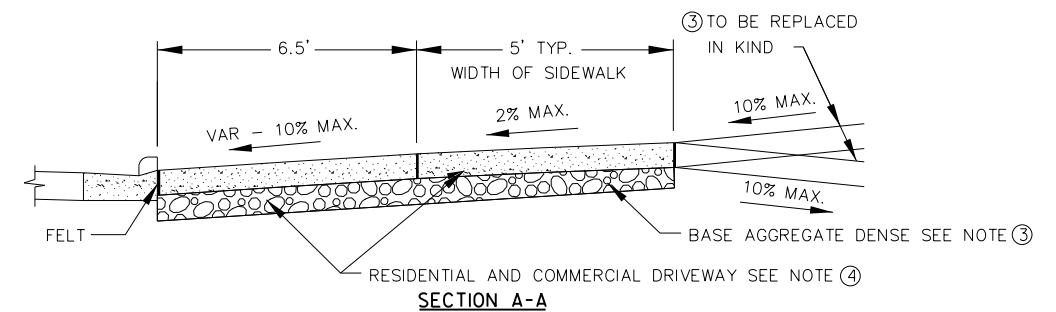
① ALL DRIVEWAYS REQUIRE A 5' CONCRETE SIDEWALK SECTION.

② ALL PARKING LOT CURBING MUST BE TAPERED TO MEET THE BACK OF THE SIDEWALK.

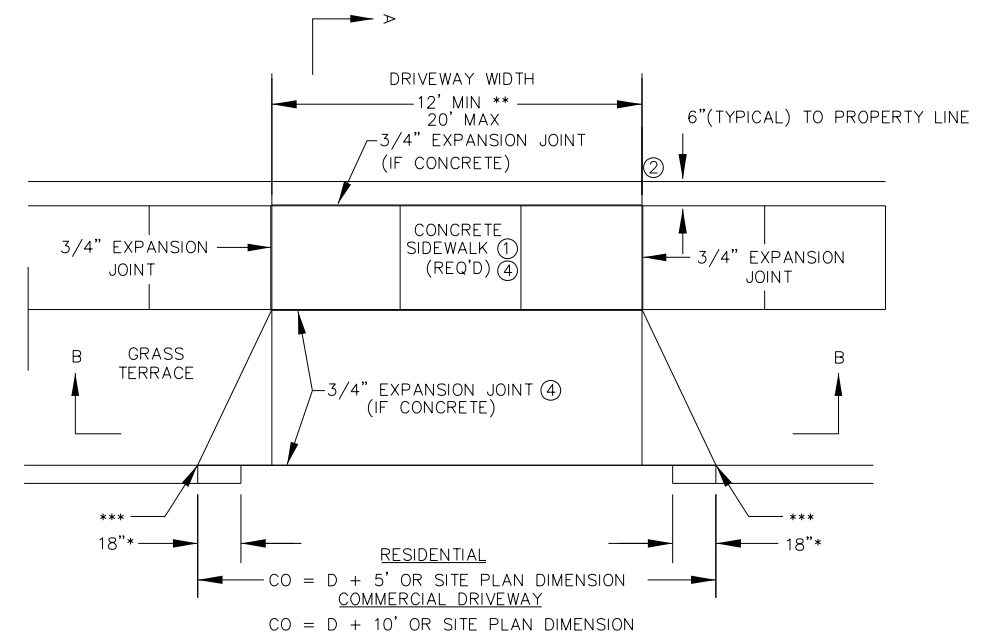
③ DRIVEWAY SURFACE BEYOND APRON TO BE REPLACED IN-KIND WITH MINIMUM SECTION OF:

ASPHALTIC SURFACE (3-INCH) DRIVEWAYS AND FIELD ENTRANCES
OVER BASE AGGREGATE DENSE 3/4-INCH (4-INCH)
OR
CONCRETE DRIVEWAY 6-INCH OVER
BASE AGGREGATE DENSE 3/4-INCH (4-INCH)

④ ALL URBAN DRIVEWAYS TO BACK OF SIDEWALK
TO BE PAID FOR AS CONCRETE DRIVEWAY 6-INCH



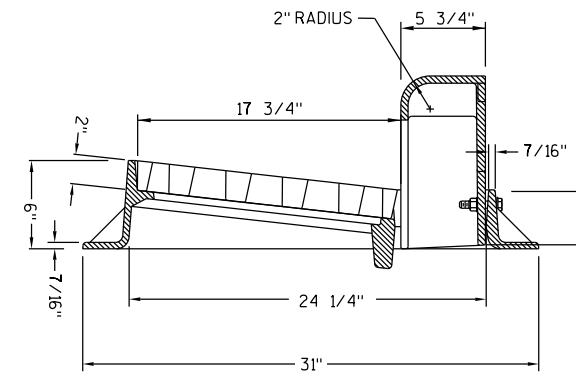
SECTION B-B



PLAN VIEW

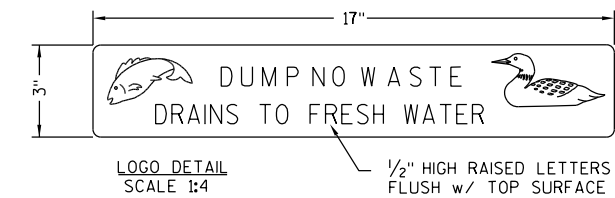
URBAN DRIVEWAY

* TAPER CURB HEAD
** SEE PAVING DETAILS FOR WIDTH REQ'D
*** STATION SHOWN ON PAVING DETAILS



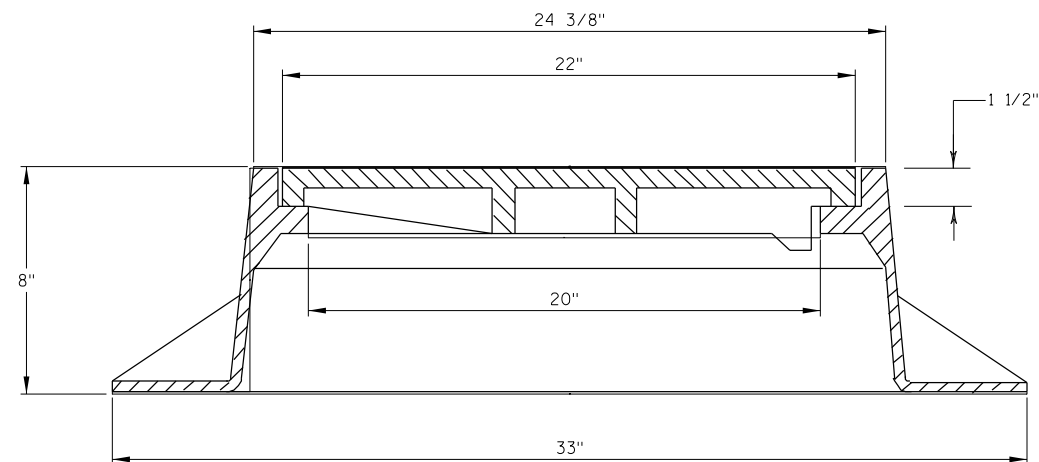
Technical drawing of a rectangular frame. The drawing shows a cross-section of the frame with a central horizontal member and a vertical member. The dimensions are as follows:

- Overall width: 43"
- Overall height: 5 3/8"
- Inner width: 36 3/16"
- Inner height: 33"
- Top flange width: 35 1/4"
- Top flange thickness: 3/4"
- Bottom flange thickness: 2" (FRAME)



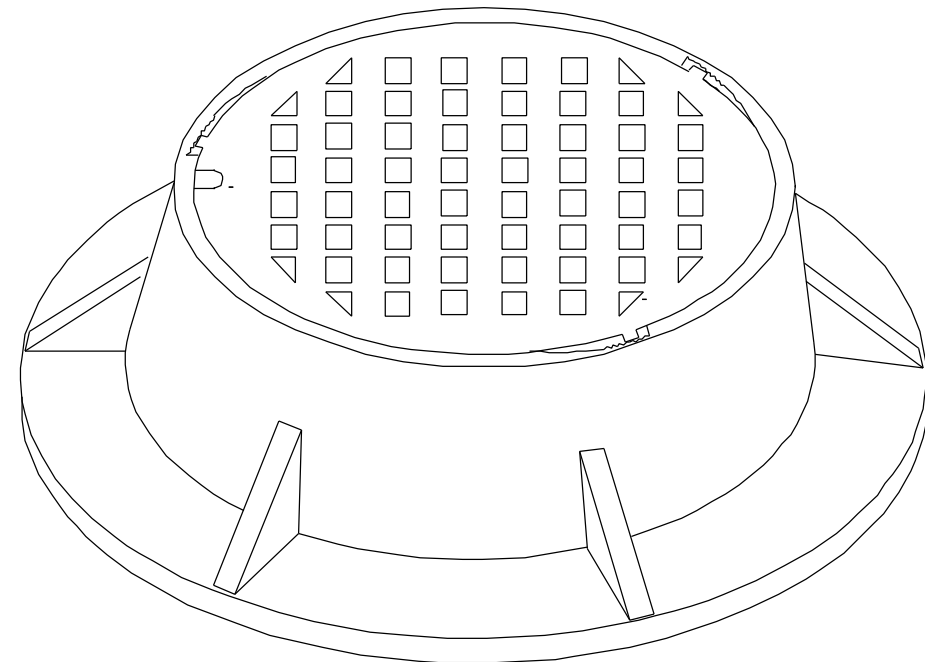
NOTE: ALL DIMENSIONS SHOWN ARE IN ENGLISH.
MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B
FINISH: NO PAINT
WEIGHT: FRAME 181*; GRATE 146*; CURB BOX 123*

INLET COVERS TYPE H-S ENV



APPROXIMATE WEIGHT 282 LBS.
FRAME.....190 LBS.
LID.....92 LBS.

TYPE "B" NON-ROCKING LOCKING
COVER WITH OPEN PICK HOLE
STORM SELF-SEAL LID



GENERAL NOTES:

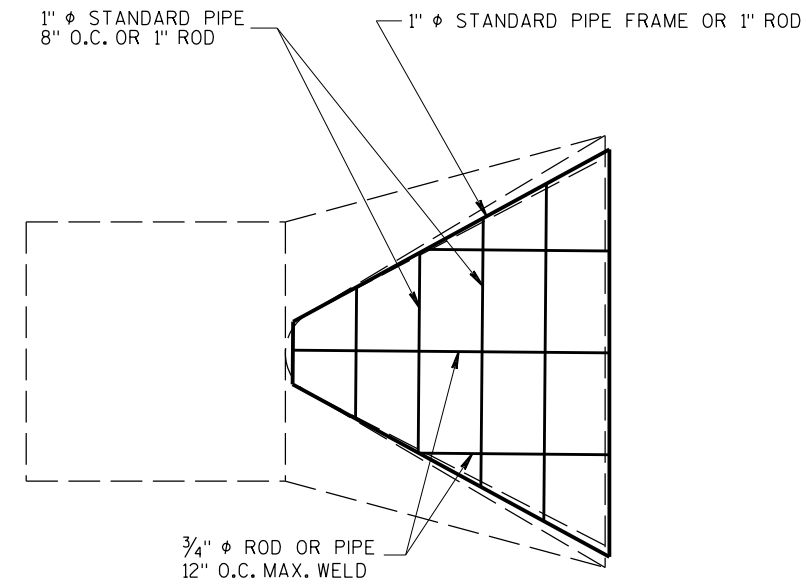
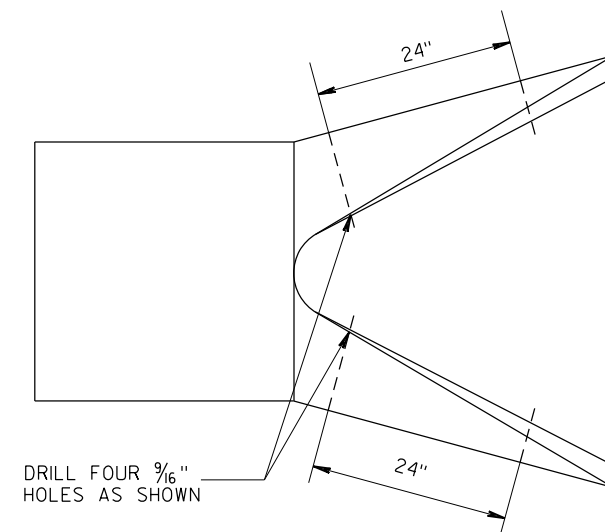
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

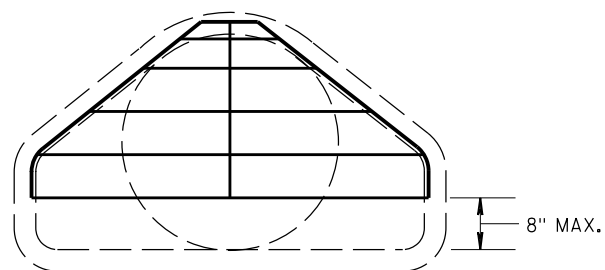
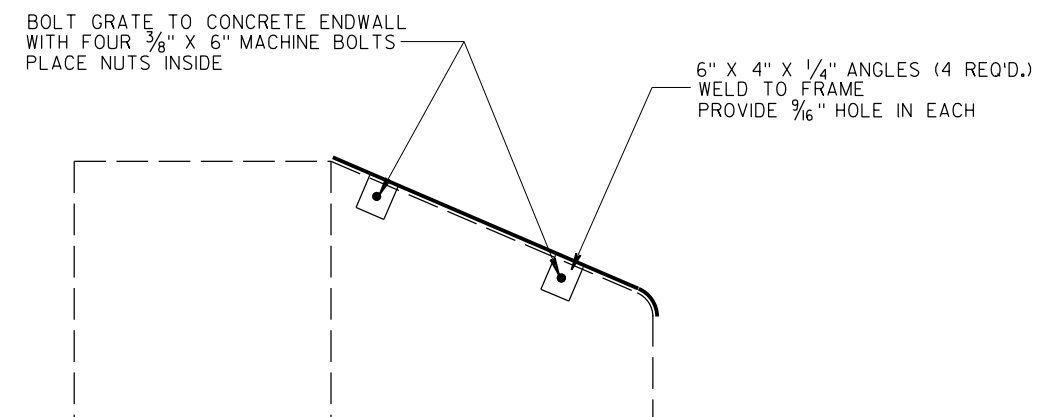
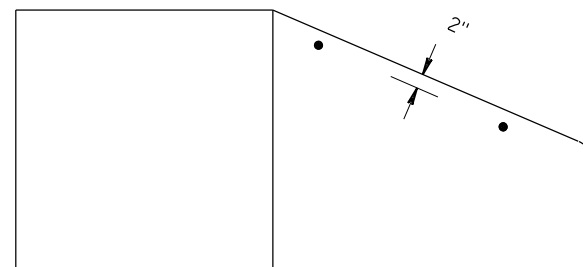
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

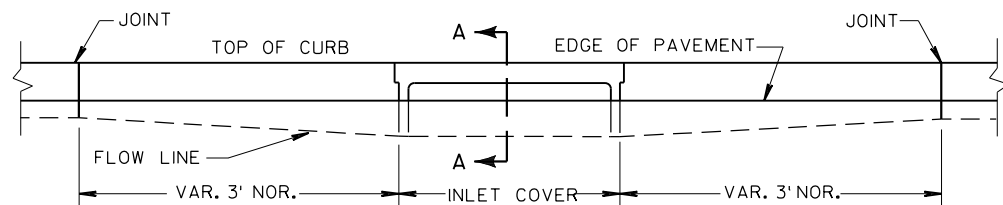
MANHOLES COVERS TYPE GB



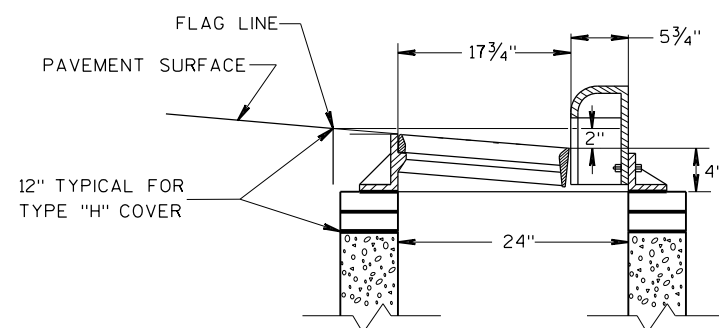
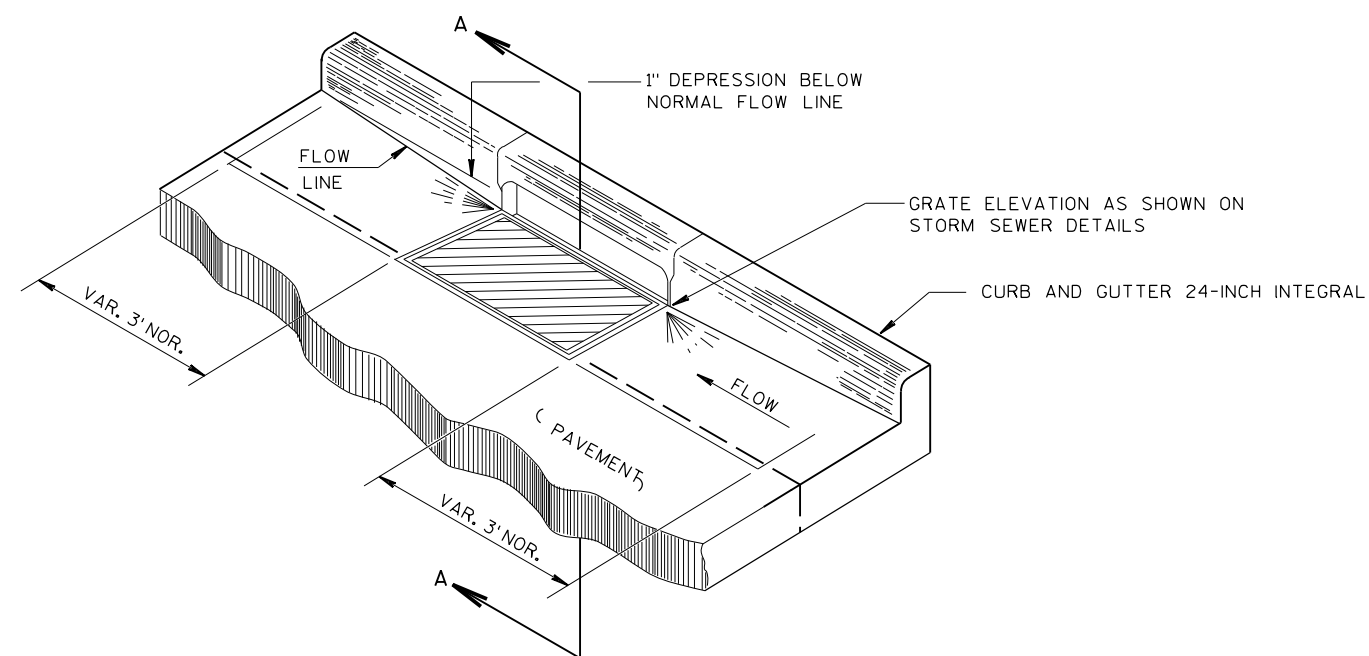
AT EACH PIPE



PIPE GRATE DETAIL

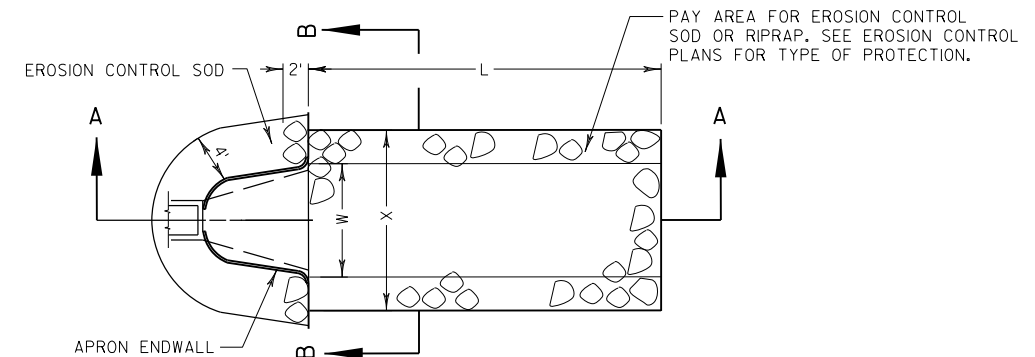


ELEVATION

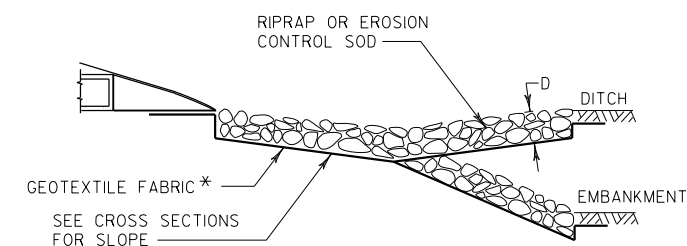


SECTION A-A

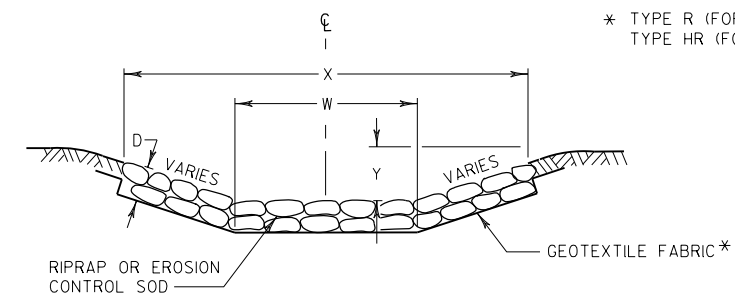
DETAIL OF CURB AND GUTTER AT INLETS
(INLET 2X3-FT WITH TYPE H-S ENV COVER SHOWN)



PLAN VIEW



SECTION A-A



SECTION B-B

SOD, RIPRAP AND GEOTEXTILE FABRIC DETAIL
AT APRON ENDWALLS
SEE EROSION CONTROL PLAN FOR LOCATIONS

$L = 3 \times W$ (NOR) OR 10' MIN
OR AS INDICATED IN THE PLANS
OR AS DIRECTED BY THE ENGINEER

$D = 12"$ FOR RIPRAP LIGHT
 $18"$ FOR RIPRAP MEDIUM
 $24"$ FOR RIPRAP HEAVY

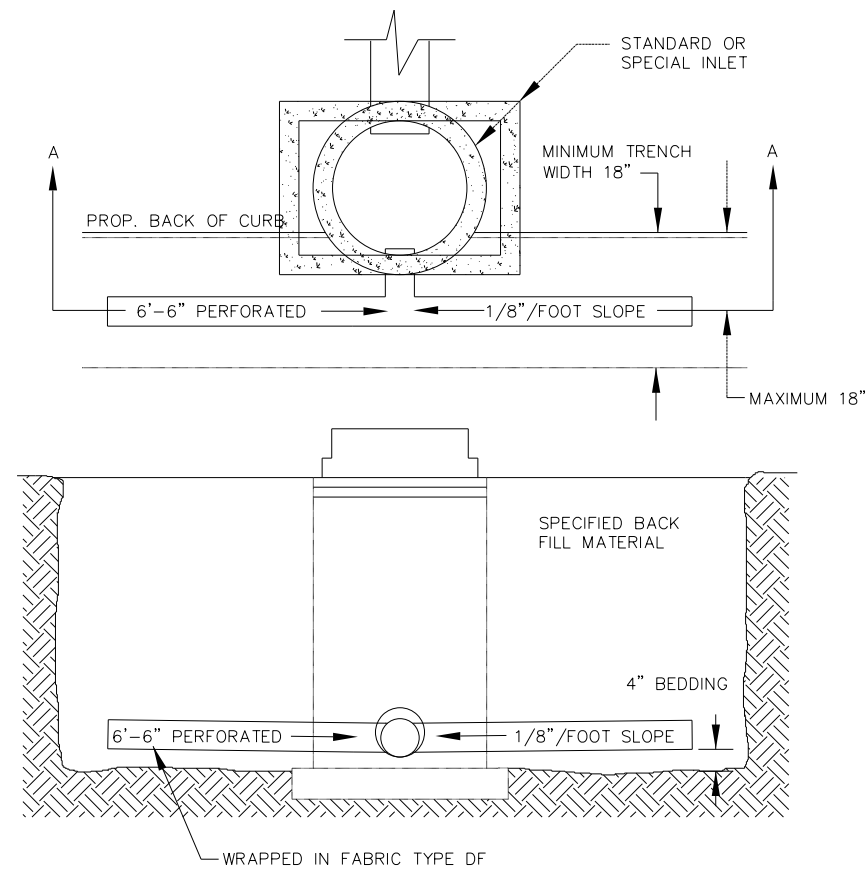
$X = W+2'$ FOR TYPICAL CULVERT
DISCHARGE INTO DITCH
 $W+5'$ FOR CULVERT DISCHARGE
DOWN EMBANKMENT SLOPE

$Y = 0'$ FOR TYPICAL CULVERT
DISCHARGE INTO DITCH
 $12"$ FOR CULVERT DISCHARGE
DOWN EMBANKMENT SLOPE

* TYPE R (FOR RIPRAP LIGHT ONLY)
TYPE HR (FOR RIPRAP HEAVY AND MEDIUM ONLY)

NOTE:
ALL INLETS IN RESIDENTIAL AREAS WILL
BE CONSTRUCTED WITH 6-INCH PERFORATED
UNDERDRAIN ATTACHED, AS SHOWN.
UNDERDRAIN TO BE INSTALLED WITH TRACER WIRE.
COST OF THE PIPE UNDERDRAIN AND TRACER WIRE
IS TO BE INCLUDED IN THE BID PRICE OF INLETS.

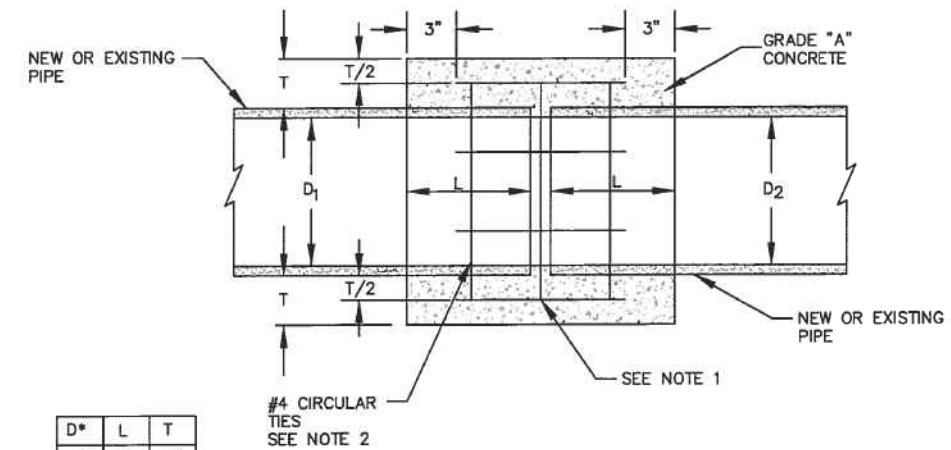
12" – COMMERCIAL/INDUSTRIAL AREAS



ALL TEES TO BE MANUFACTURED OR CORE DRILLED
NOTE: BULKHEAD ALL UNDER DRAIN AND STUBS

SECTION A-A

UNDERDRAIN FOR INLETS



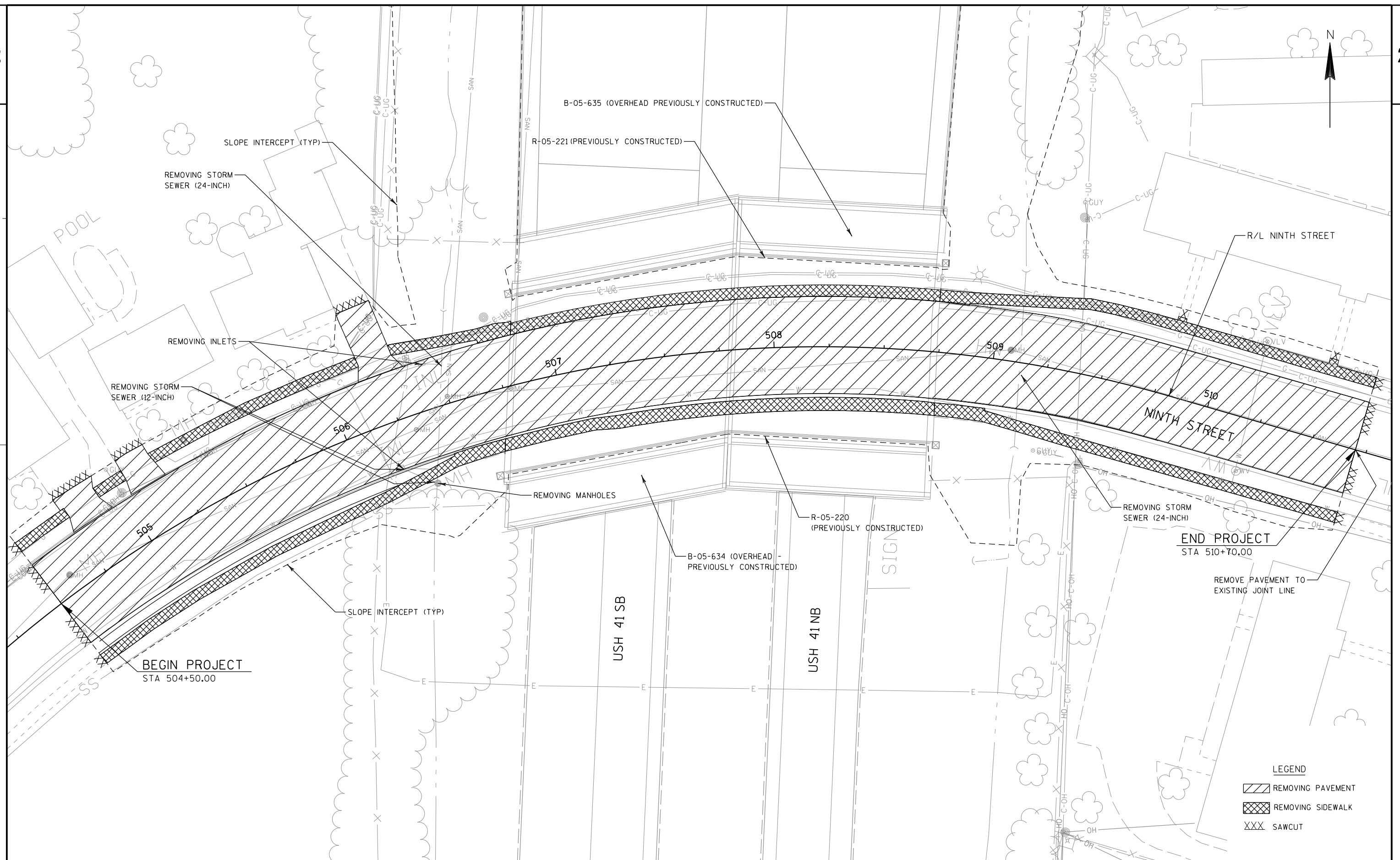
D*	L	T
12"	12"	4"
15"	12"	4"
18"	12"	5"
21"	12"	5"
24"	12"	6"
27"	12"	7"
30"	12"	7"
36"	18"	9"
42"	18"	9"
48"	18"	10"
54"	18"	10"
60"	21"	12"
66"	21"	12"

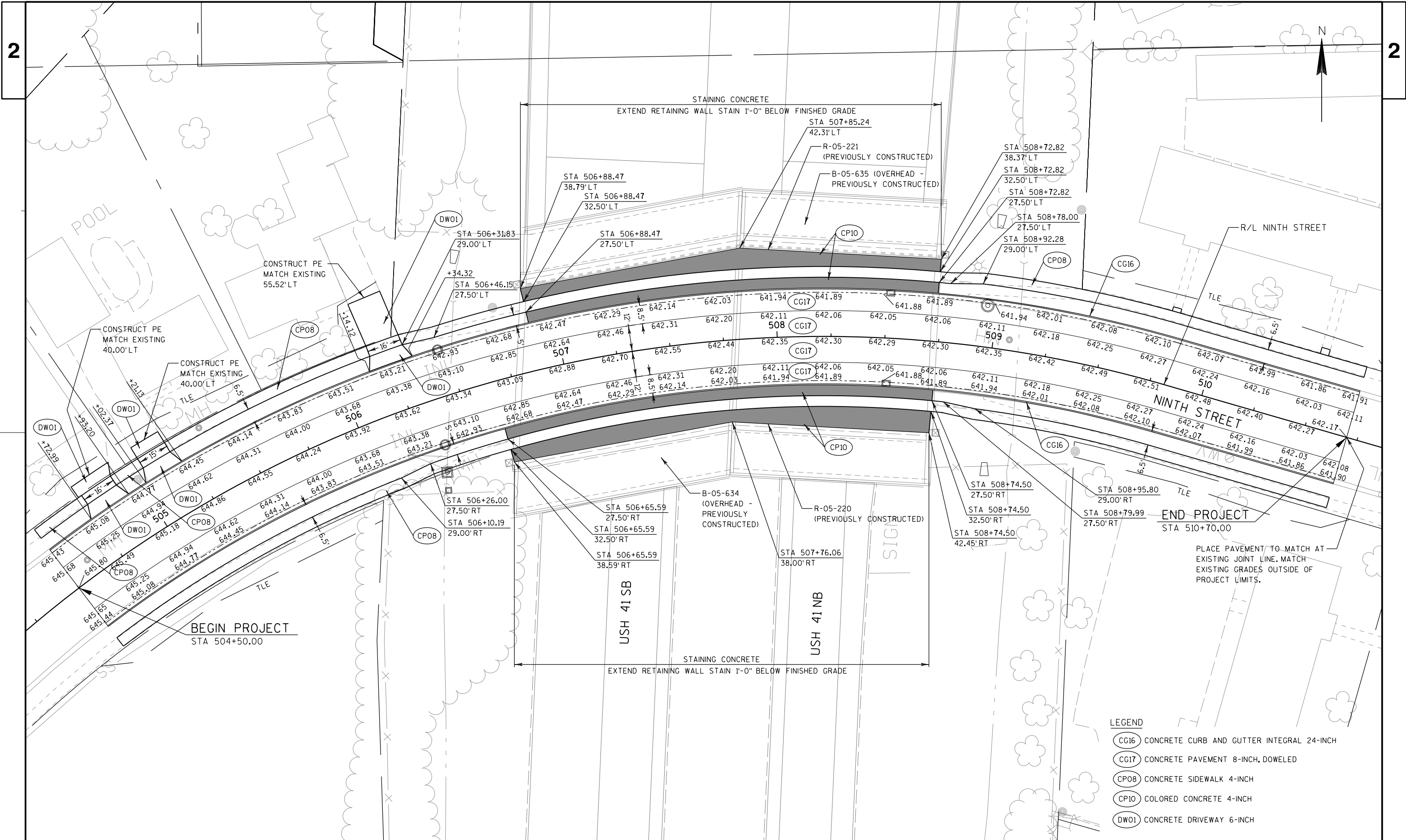
* WHERE $D/1 = D/2$
L&T SHALL BE
THOSE OF THE
LARGER PIPE

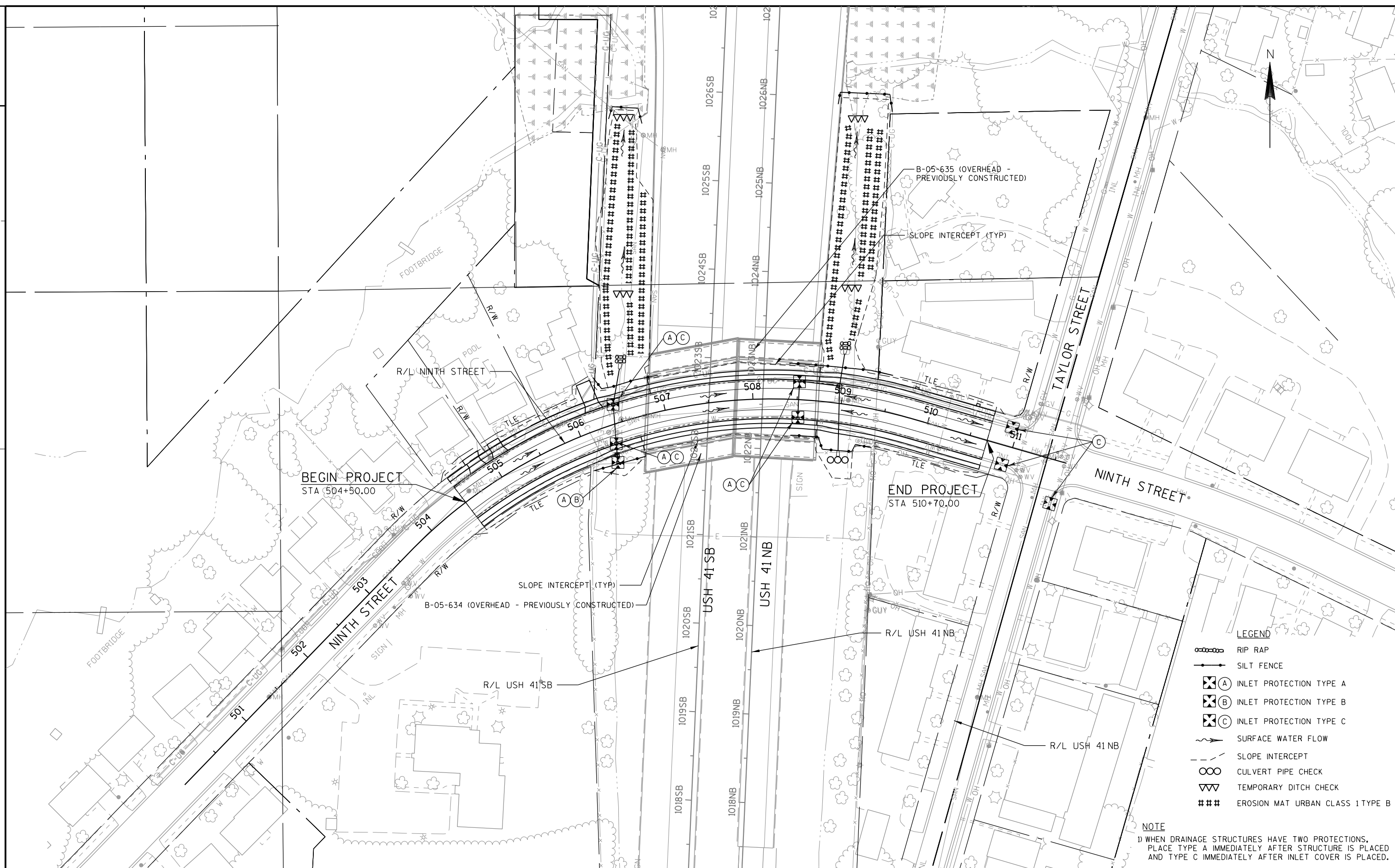
GENERAL NOTES:

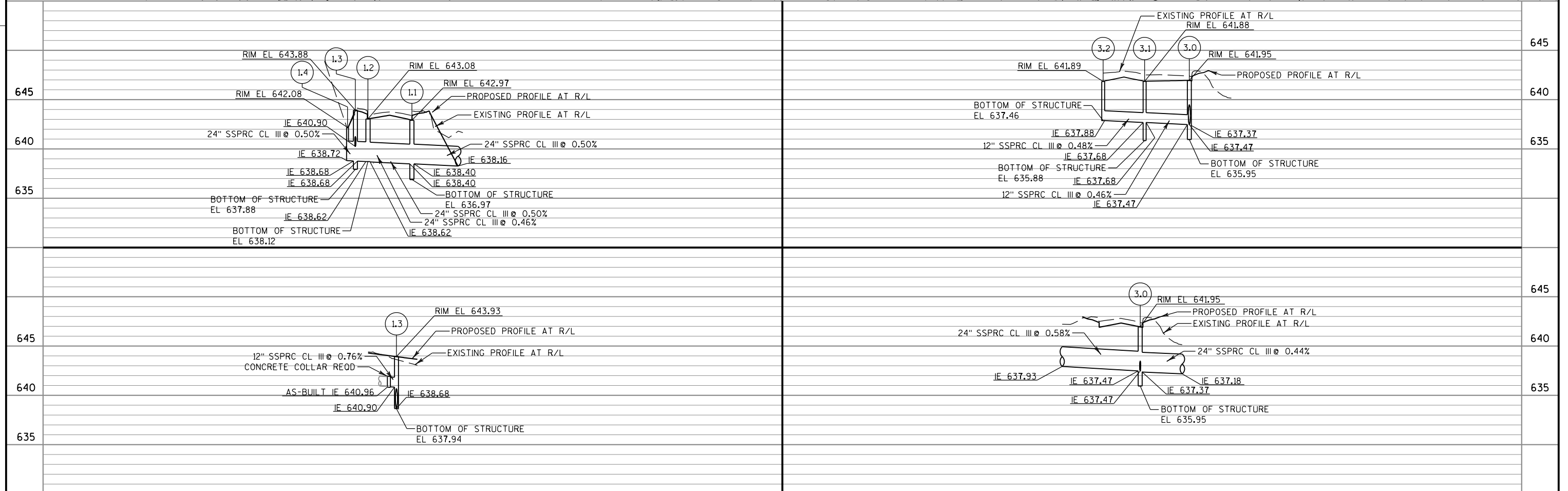
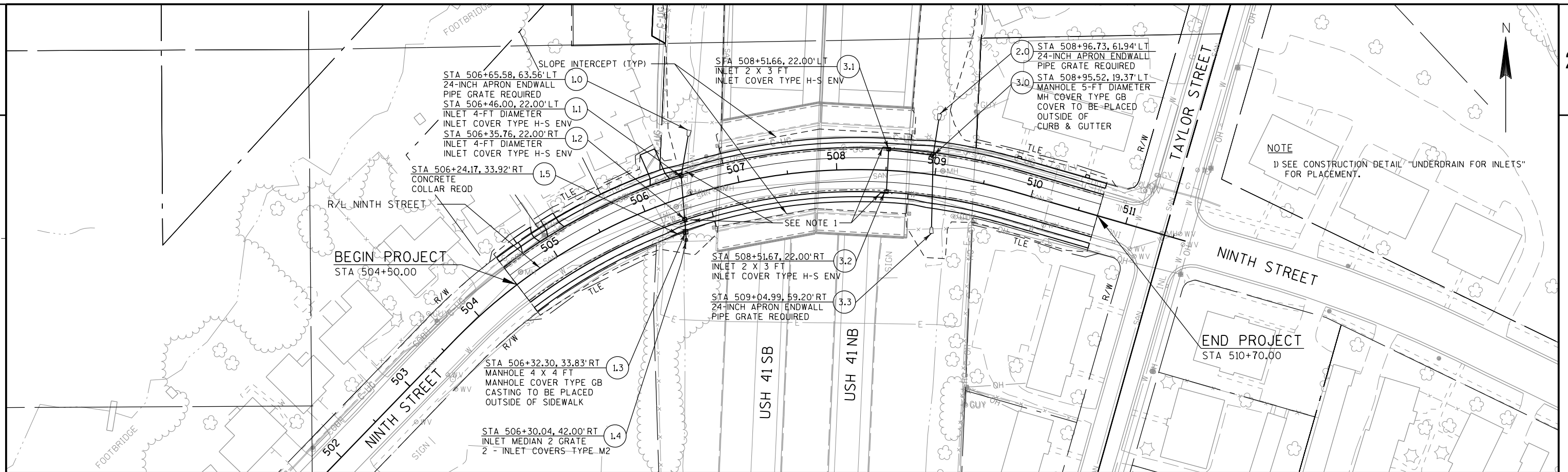
- ① WHERE THE PIPE IS LESS THAN, OR EQUAL TO, 21 INCHES IN DIAMETER, USE 4X4-4/4 WELDED WIRE FABRIC. WHEN THE PIPE IS 24 INCHES OR LARGER IN DIAMETER, USE #4 REINFORCEMENT AT 12 INCHES CENTER ON CENTER.
- ② CIRCULAR TIES SHALL MAINTAIN AN APPROXIMATE SPACING OF 6 INCHES CENTER ON CENTER FOR PIPE DIAMETER 24 INCHES OR LARGER.
- ③ CONCRETE COLLARS SHALL NOT BE CONSTRUCTED ON MAIN LINE STORM SEWER UNLESS SHOWN ON THE PLANS OR ORDERED BY THE ENGINEER.
- ④ WHEN THE PIPE IS 24 INCHES OR LARGER, A REMOVABLE INTERIOR FORM SHALL BE USED OR THE INTERIOR JOINT SHALL BE COMPLETELY FILLED WITH MORTAR AND NEATLY PAINTED.
- ⑤ ON ALL PIPES WHERE AN INTERIOR FORM IS NOT USED, THE JOINT SHALL BE SEALED AS TO PREVENT ANY CONCRETE FROM ENTERING INTO THE PIPE.

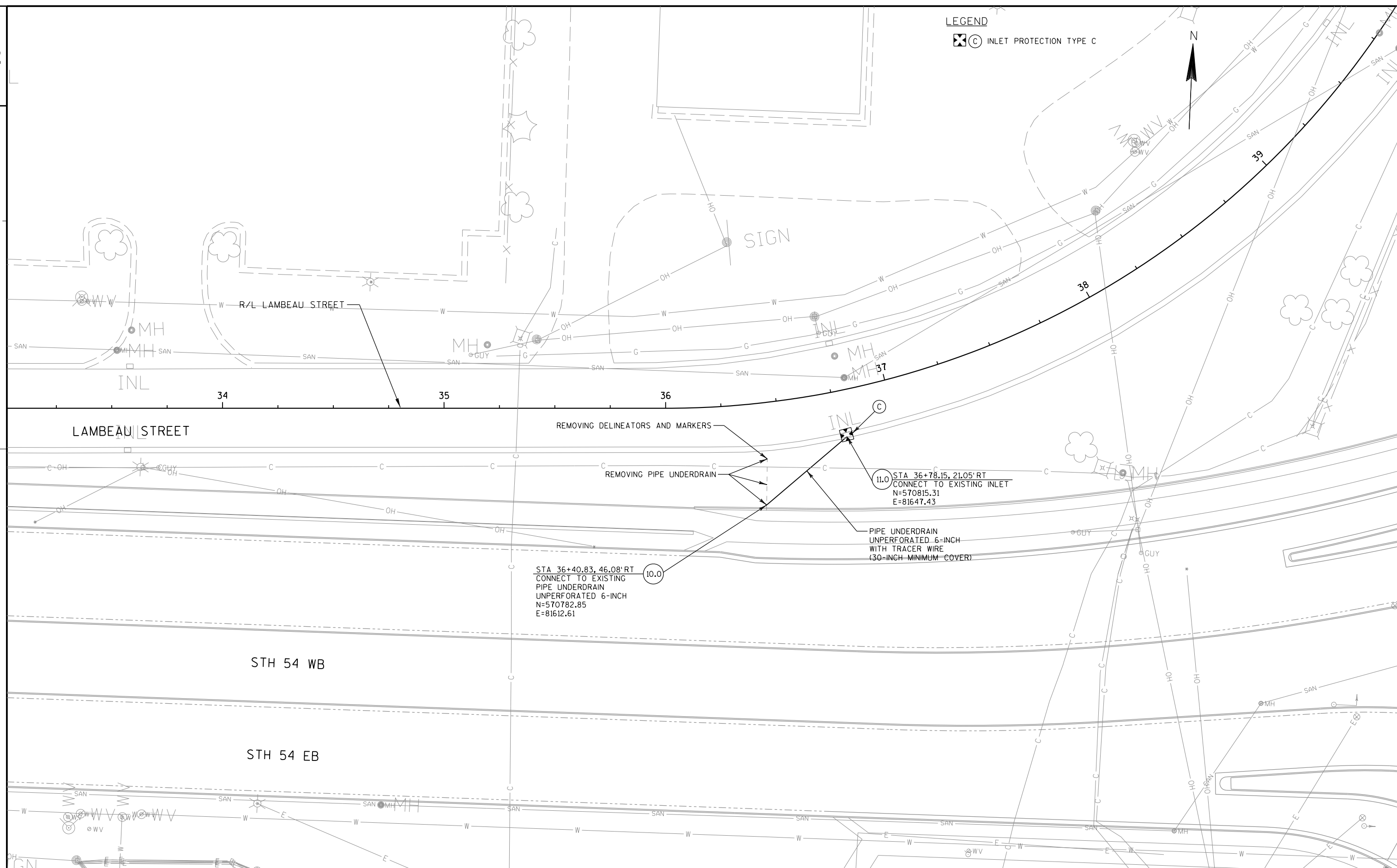
CONCRETE COLLAR











PROJECT NO: 1133-04-80

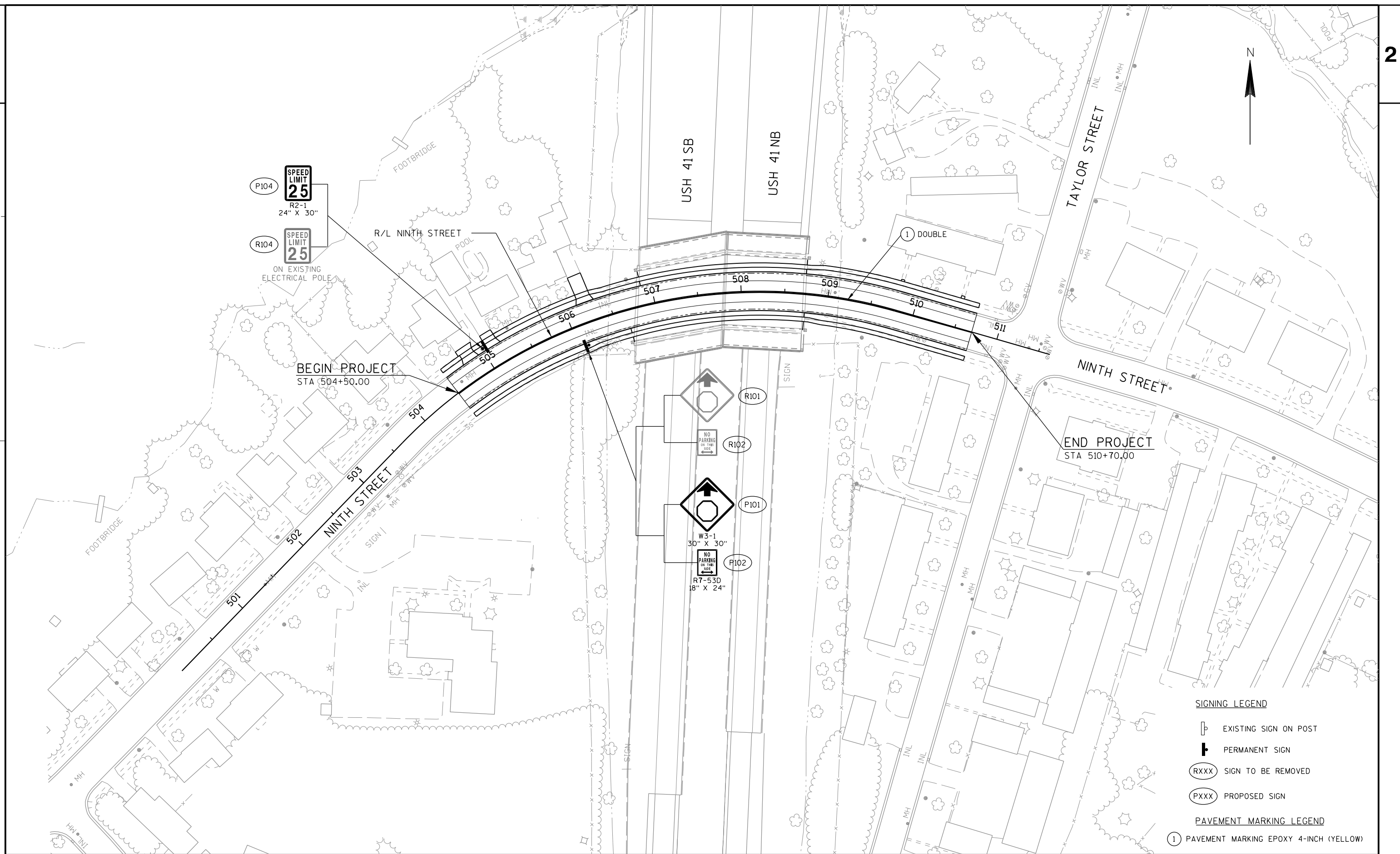
HWY: USH 41

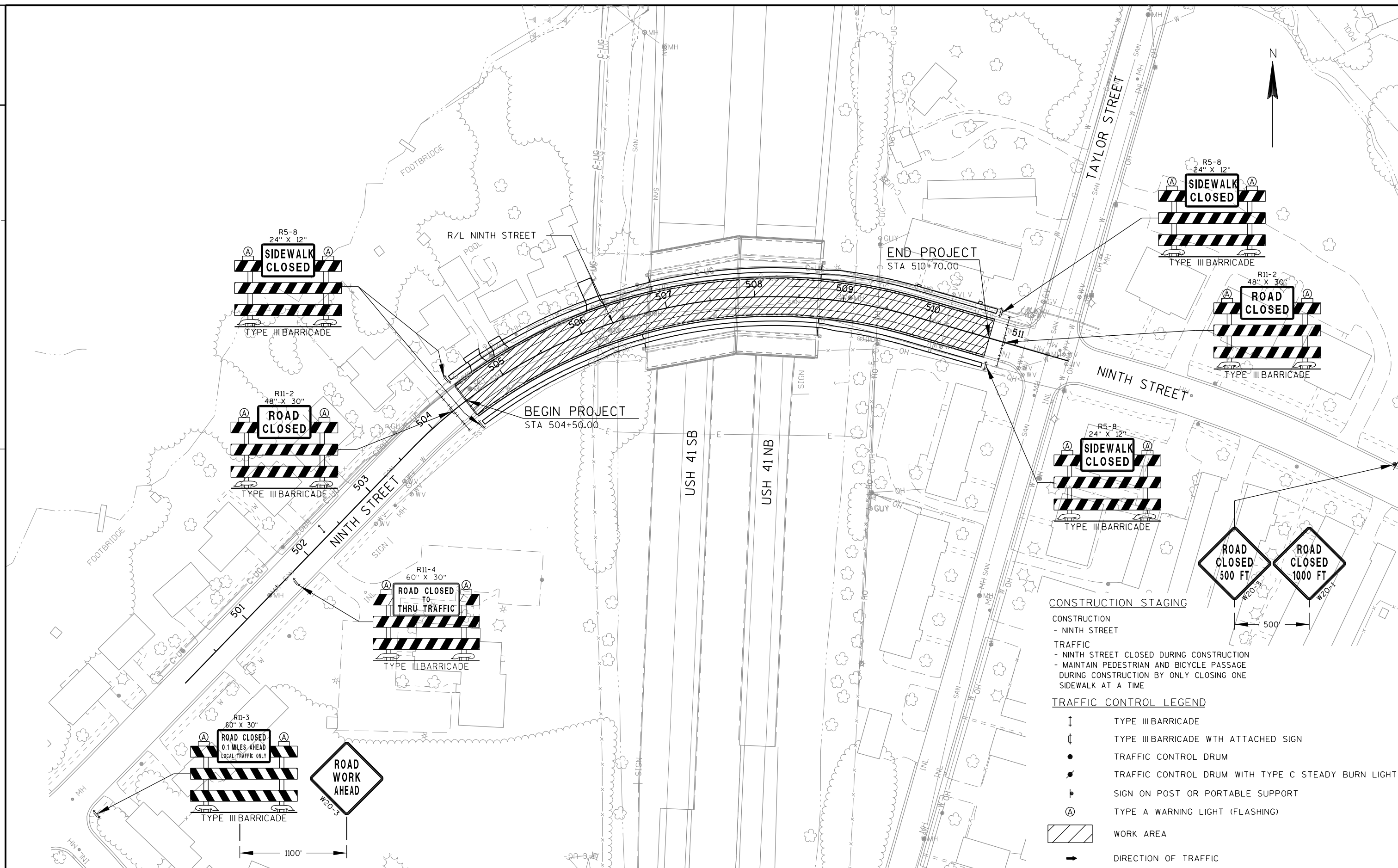
COUNTY: BROWN

STORM SEWER AND EROSION CONTROL PLAN - LAMBEAU STREET

SHEET

E



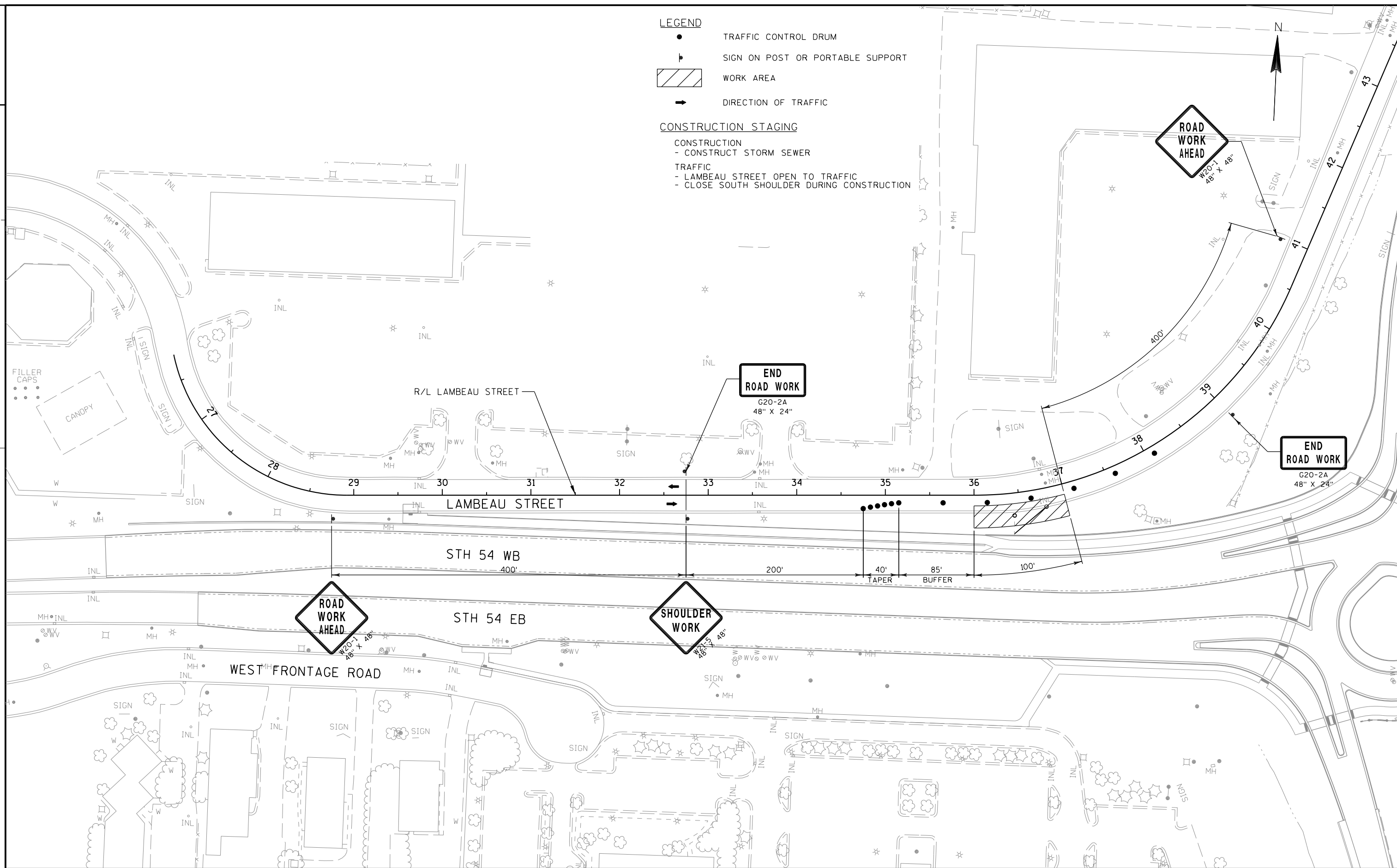


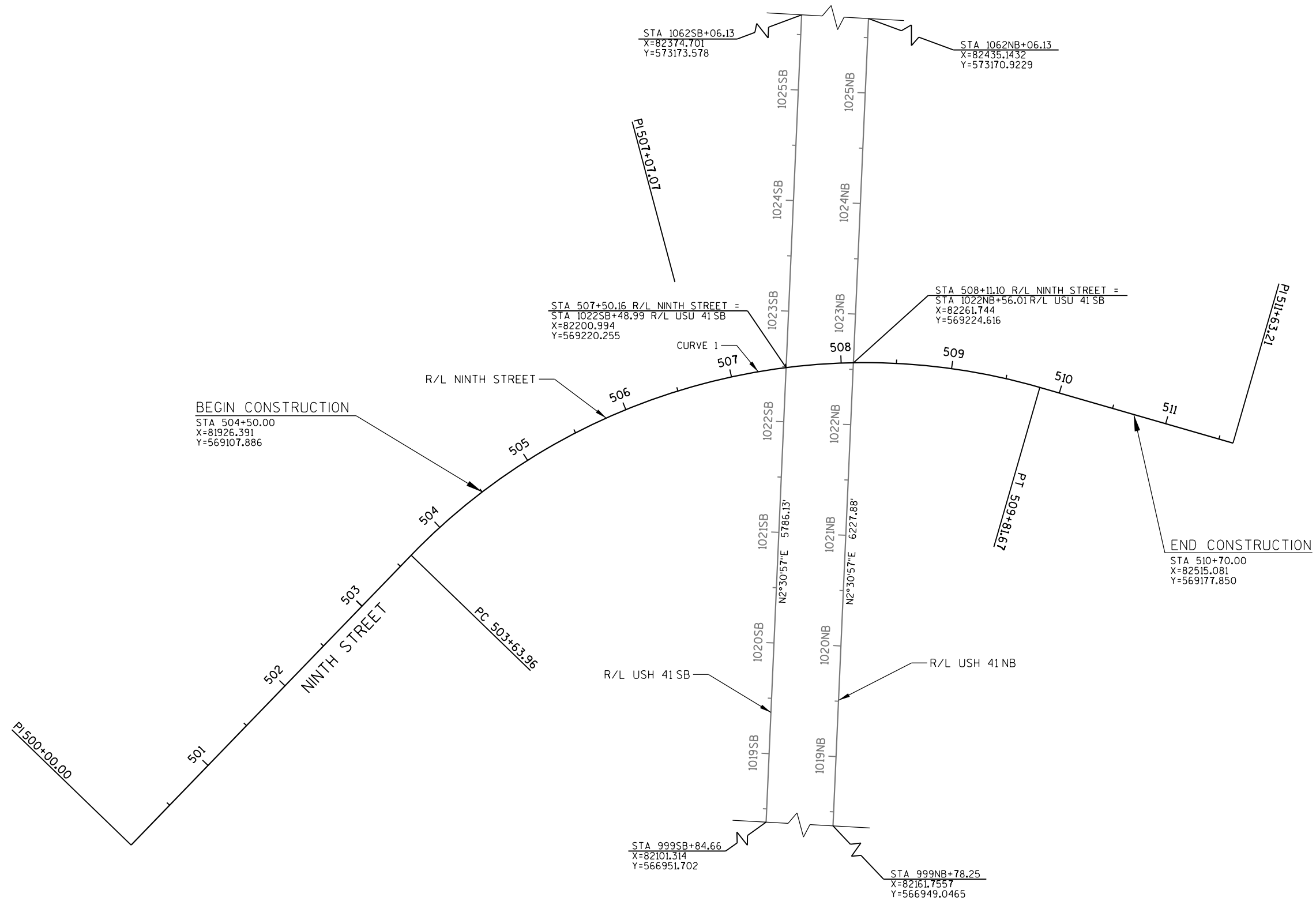
LEGEND

- TRAFFIC CONTROL DRUM
- ▬ SIGN ON POST OR PORTABLE SUPPORT
- ▨ WORK AREA
- ➔ DIRECTION OF TRAFFIC

CONSTRUCTION STAGING

- CONSTRUCTION
 - CONSTRUCT STORM SEWER
- TRAFFIC
 - LAMBEAU STREET OPEN TO TRAFFIC
 - CLOSE SOUTH SHOULDER DURING CONSTRUCTION





DATE 07MAR13		E S T I M A T E O F Q U A N T I T I E S			
LINE				1133-04-80	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	108.4400	CPM PROGRESS SCHEDULE	EACH	1.000	1.000
0050	204.0100	REMOVING PAVEMENT	SY	3,256.000	3,256.000
0070	204.0155	REMOVING CONCRETE SIDEWALK	SY	691.000	691.000
0090	204.0180	REMOVING DELINEATORS AND MARKERS	EACH	1.000	1.000
0100	204.0210	REMOVING MANHOLES	EACH	1.000	1.000
0110	204.0220	REMOVING INLETS	EACH	2.000	2.000
0120	204.0245	REMOVING STORM SEWER (SIZE) 001. 12-INCH	LF	26.000	26.000
0130	204.0245	REMOVING STORM SEWER (SIZE) 002. 24-INCH	LF	165.000	165.000
0150	204.9090.S	REMOVING (ITEM DESCRIPTION) 001. PIPE UNDERDRAIN	LF	21.000	21.000
0160	205.0100	EXCAVATION COMMON	CY	3,935.000	3,935.000
0200	213.0100	FINISHING ROADWAY (PROJECT) 001. 1133-04-80	EACH	1.000	1.000
0220	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	34.000	34.000
0230	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	1,437.000	1,437.000
0240	311.0110	BREAKER RUN	TON	550.000	550.000
0250	415.0080	CONCRETE PAVEMENT 8-INCH	SY	2,849.000	2,849.000
0260	416.0160	CONCRETE DRIVEWAY 6-INCH	SY	131.000	131.000
0270	416.0620	DRILLED DOWEL BARS	EACH	90.000	90.000
0350	520.8000	CONCRETE COLLARS FOR PIPE	EACH	1.000	1.000
0370	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	3.000	3.000
0390	602.0405	CONCRETE SIDEWALK 4-INCH	SF	6,200.000	6,200.000
0400	606.0200	RIPRAP MEDIUM	CY	10.000	10.000
0420	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	96.000	96.000
0430	608.0324	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	217.000	217.000
0440	611.0642	INLET COVERS TYPE MS	EACH	2.000	2.000
0450	611.2005	MANHOLES 5-FT DIAMETER	EACH	1.000	1.000
0460	611.2044	MANHOLES 4X4-FT	EACH	1.000	1.000
0470	611.3004	INLETS 4-FT DIAMETER	EACH	2.000	2.000
0480	611.3230	INLETS 2X3-FT	EACH	2.000	2.000
0490	611.3902	INLETS MEDIAN 2 GRATE	EACH	1.000	1.000
0500	611.9800.S	PIPE GRATES	EACH	3.000	3.000
0510	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	48.000	48.000
0550	616.0700.S	FENCE SAFETY	LF	1,240.000	1,240.000
0560	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 001. 1133-04-80	EACH	1.000	1.000
0580	619.1000	MOBILIZATION	EACH	0.600	0.600
0590	624.0100	WATER	MGAL	10.000	10.000
0600	625.0100	TOPSOIL	SY	5,342.000	5,342.000
0620	627.0200	MULCHING	SY	4,741.000	4,741.000
0630	628.1504	SILT FENCE	LF	840.000	840.000
0640	628.1520	SILT FENCE MAINTENANCE	LF	840.000	840.000
0650	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	3.000	3.000
0660	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	3.000	3.000
0680	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	3,676.000	3,676.000
0690	628.7005	INLET PROTECTION TYPE A	EACH	6.000	6.000
0700	628.7010	INLET PROTECTION TYPE B	EACH	2.000	2.000
0710	628.7015	INLET PROTECTION TYPE C	EACH	9.000	9.000
0720	628.7504	TEMPORARY DITCH CHECKS	LF	100.000	100.000
0730	628.7555	CULVERT PIPE CHECKS	EACH	12.000	12.000
0750	629.0205	FERTILIZER TYPE A	CWT	3.400	3.400
0780	630.0140	SEEDING MIXTURE NO. 40	LB	130.000	130.000

DATE 07MAR13			E S T I M A T E O F Q U A N T I T I E S		
LINE					1133-04-80
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0800	631.1000	SOD LAWN	SY	603.000	603.000
0810	631.1100	SOD EROSION CONTROL	SY	10.000	10.000
0820	633.5200	MARKERS CULVERT END	EACH	3.000	3.000
0840	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	1.000	1.000
0850	637.0202	SIGNS REFLECTIVE TYPE II	SF	14.250	14.250
0860	638.2602	REMOVING SIGNS TYPE II	EACH	3.000	3.000
0870	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	1.000	1.000
0880	643.0100	TRAFFIC CONTROL (PROJECT) 001. 1133-04-80	EACH	1.000	1.000
0900	643.0300	TRAFFIC CONTROL DRUMS	DAY	12.000	12.000
0910	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	646.000	646.000
0920	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	912.000	912.000
0930	643.0900	TRAFFIC CONTROL SIGNS	DAY	423.000	423.000
0940	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	38.000	38.000
0950	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	1,240.000	1,240.000
0980	690.0250	SAWING CONCRETE	LF	169.000	169.000
0990	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	656.000	656.000
1000	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT \$5. 00/HR	HRS	540.000	540.000
1010	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	1,200.000	1,200.000
1030	SPV.0060	SPECIAL 001. ADJUSTING MANHOLE COVERS PROJECT ID 1133-04-80	EACH	5.000	5.000
1040	SPV.0060	SPECIAL 003. ADJUSTING WATER SERVICE VALVES	EACH	2.000	2.000
1050	SPV.0060	SPECIAL 004. MANHOLE COVERS TYPE GB	EACH	2.000	2.000
1060	SPV.0060	SPECIAL 005. INLET COVERS TYPE H-S ENV	EACH	4.000	4.000
1070	SPV.0060	SPECIAL 007. EXPOSING EXISTING UTILITY	EACH	1.000	1.000
1080	SPV.0060	SPECIAL 008. ADJUSTING TRACER WIRE BOXES	EACH	3.000	3.000
1110	SPV.0090	SPECIAL 001. CONCRETE CURB & GUTTER INTEGRAL 24-INCH	LF	1,250.000	1,250.000
1120	SPV.0090	SPECIAL 002. TRACER WIRE	LF	48.000	48.000
1130	SPV.0105	SPECIAL 001. SURVEY PROJECT 1133-04-80	LS	1.000	1.000
1150	SPV.0165	SPECIAL 001. STAINING CONCRETE BRICK	SF	1,780.000	1,780.000
1160	SPV.0180	SPECIAL 001. COLORED CONCRETE 4-INCH	SY	537.000	537.000
1170	SPV.0180	SPECIAL 005. CONCRETE JOINT SEALER	SY	2,849.000	2,849.000

REMOVING PAVEMENT

204.0100
REMOVING
PAVEMENT

STATION	OFFSET	LOCATION	SY
504+50 - 510+70		NINTH ST	3,100
504+88	23 LT	NINTH ST	37
505+12	23 LT	NINTH ST	32
506+24	23 LT	NINTH ST	62
UNDISTRIBUTED		NINTH ST	25
PROJECT 1133-04-80 TOTAL			3,256

REMOVING MANHOLES

204.0210
REMOVING
MANHOLES

STATION	OFFSET	LOCATION	EACH
506+33	33.0' RT	NINTH ST	1
PROJECT 1133-04-80 TOTAL			1

REMOVING SIDEWALK

204.0155
REMOVING
CONCRETE
SIDEWALK

STATION	OFFSET	LOCATION	SY
504+50 - 510+70	LT,RT	NINTH ST	691
PROJECT 1133-04-80 TOTAL			691

FINISHING ROADWAY

213.0100
FINISHING
ROADWAY
PROJECT ID
1133-04-80

STATION	LOCATION	EACH
504+50 - 510+70	NINTH ST	1
PROJECT 1133-04-80 TOTAL		1

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

PROJECT NUMBER: 1133-04-80	HWY: USH 41	COUNTY: BROWN	MISCELLANEOUS QUANTITIES	SHEET NO:	E
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EARTHWORK SUMMARY

Location	205.0100 Excavation Common (1)		Salvaged/ Unusable Pavement Material	Available Material (4)	Unexpanded Fill	Expanded Fill (7)	Mass Ordinate +/- (8)	Waste (9)
	Cut (2)	EBS Excavation (3)				Factor 1.25		
	CY	CY	CY	CY	CY	CY	CY	CY
NINTH STREET	2146	0	689	1457	212	265	1192	
USH 41NB DITCH	770	0	0	770	0	0	770	
USH 41SB DITCH	738	0	0	738	433	542	197	
UNDISTRIBUTED	0	281	0	0	0	0	0	
Project 1133-04-80 Total	3654	281	689	2965	645	806	2159	2440
Total Excavation Common		3935						

- (1) Excavation Common => sum of the Cut and EBS Excavation columns.
(2) Salvaged/Unsuable Pavement Material => included in Cut.
(3) EBS Excavation => to be backfilled with Breaker Run.
(4) Available Material = Cut - Salvaged/Unusuable Pavement Material
(7) Expanded Fill = (Unexpanded Fill) * Fill Factor. Expanded Fill Factor = 1.25
(8) The Mass Ordinate (+ or -) = [(Cut - Salvaged/Unusable Pavement Material) - ((Fill) * Fill Factor)]
(9) Waste = Mass Ordinate + EBS Excavation
=> plus indicates an excess of material; minus indicates a shortage of material.

REMOVING INLETS

			204.0220 REMOVING INLETS EACH
STATION	OFFSET	LOCATION	
506+19	22' RT	NINTH ST	1
506+43	22' LT	NINTH ST	1
PROJECT 1133-04-80 TOTAL			2

REMOVING STORM SEWER

			204.0245.001 REMOVING STORM SEWER 12-INCH LF	204.0245.002 24-INCH LF	204.9090.S.001 REMOVING PIPE UNDERDRAIN LF
STATION	OFFSET	-	STATION	OFFSET	LOCATION
506+25	48' RT	-	506+60	50' LT	NINTH ST
506+20	21' RT	-	506+30	43' RT	NINTH ST
506+45	21' LT	-	506+50	18' LT	NINTH ST
509+10	50' LT	-	509+20	48' RT	NINTH ST
36+47.12	26' RT		36+47.51	38' RT	LAMBEAU
PROJECT 1133-04-80 TOTAL			26	165	21

AGGREGATE ITEMS

		305.0120* BASE AGGREGATE DENSE 1 1/4-INCH TON	311.0110 BREAKER RUN TON	NOTES
STATION	LOCATION			
504+50 - 510+70	NINTH ST	1295	--	
UNDISTRIBUTED	NINTH ST	--	550	TO BE USED IN AREAS OF EBS
PROJECT 1133-04-80 TOTAL		1,295	550	

AGGREGATE CONVERSION => 1 CY = 2 TON
BREAKER RUN CONVERSION => 1 CY = 1.7 TON
*- ADDITIONAL QUANTITIES SHOWN ELSEWHERE

DOWEL BARS

			416.0620 DRILLED DOWEL BARS EACH
STATION	OFFSET	LOCATION	
504+50	R/L	NINTH ST	45
510+70	R/L	NINTH ST	45
PROJECT 1133-04-80 TOTAL			90

PAVEMENT ITEMS

		415.0080 CONCRETE PAVEMENT 8-INCH SY	SPV.0180.005 CONCRETE JOINT SEALER SY
STATION	LOCATION		
504+50 - 510+70	NINTH STREET	2,824	2,824
UNDISTRIBUTED	NINTH STREET	25	25
PROJECT 1133-04-80 TOTAL		2,849	2,849

DRIVEWAY ITEMS

			305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	416.0160 CONCRETE DRIVEWAY 6-INCH SY
STATION	OFFSET	LOCATION		
504+75	LT	NINTH ST	9	37
505+15	LT	NINTH ST	9	32
506+25	LT	NINTH ST	16	62
PROJECT 1133-04-80 TOTAL			34	131

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

				STORM SEWER STRUCTURES																		
				520.8000.S	522.1024	611.9800.S	633.52	611.2044	611.2005	611.3004	611.3230	611.3902	611.0642	SPV.0060.004	SPV.0060.005							
				CONCRETE	APRON ENDWALLS	PIPE	MARKERS	MANHOLES	MANHOLES	INLETS	INLETS	INLETS	INLET	MANHOLE	INLET							
				COLLARS	FOR CULVERT PIPE	GRATES	CULVERT	4X4-FT	5-FT	4-FT	2x3-FT	MEDIAN	COVERS	COVERS	COVERS							
				FOR	REINFORCED		END		DIAMETER	DIAMETER		2 GRATE	TYPE MS	TYPE GB	TYPE H-S							
STRUCTURE				PIPE	CONCRETE 24-INCH										ENV	RIM	DEPTH	INVERT				
NUMBER	LOCATION	STATION	OFFSET	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	ELEV	FT	ELEV	NOTES			
1.0	NINTH ST	506+65.58	63.56' LT	--	1	1	1	--	--	--	--	--	--	--	--	NA	NA	638.16	E			
1.1	NINTH ST	506+46.00	22.00' LT	--	--	--	--	--	--	1	--	--	--	--	1	642.97	6.00	638.40	A, C, F			
1.2	NINTH ST	506+35.76	22.00' RT	--	--	--	--	--	--	1	--	--	--	--	1	643.08	4.46	638.62	A, C, G			
1.3	NINTH ST	506+32.30	33.83' RT	--	--	--	--	1	--	--	--	--	--	1	--	643.88	6.00	638.68	B, D, F			
1.4	NINTH ST	506+30.04	42.00' RT	--	--	--	--	--	--	--	--	1	2	--	--	642.08	3.36	638.72	B, D, G			
1.5	NINTH ST	506+24.17	33.92' RT	1	--	--	--	--	--	--	--	--	--	--	--	NA	NA	EXISTING	D			
2.0	NINTH ST	508+96.73	61.94' LT	--	1	1	1	--	--	--	--	--	--	--	--	NA	NA	637.18	E			
3.0	NINTH ST	508+95.52	19.37' LT	--	--	--	--	--	1	--	--	--	--	1	--	641.95	6.00	637.37	A, D, F			
3.1	NINTH ST	508+51.66	22.00' LT	--	--	--	--	--	--	--	1	--	--	--	1	641.88	6.00	637.68	A, C, F			
3.2	NINTH ST	508+51.67	22.00' RT	--	--	--	--	--	--	--	1	--	--	--	1	641.89	4.01	637.88	A, C, G			
3.3	NINTH ST	509+04.99	59.20' RT	--	1	1	1	--	--	--	--	--	--	--	--	NA	NA	637.93	E			
PROJECT 1133-04-80 TOTAL				1	3	3	3	1	1	2	2	1	2	2	4							

GENERAL NOTES:

A) RIM ELEVATION = FLANGE ELEVATION

B) RIM ELEVATION = CENTER OF STRUCTURE ELEVATION

C) STATION & OFFSET ARE GIVEN TO FACE OF CURB

D) STATION & OFFSET ARE GIVEN TO CENTER OF STRUCTURE

E) STATION, OFFSET AND ELEVATION ARE GIVEN AT DITCH FLOW LINE.

F) STRUCTURE HAS 6.00' MINIMUM DEPTH. FILL SUMP WITH STONE & CONCRETE (INCIDENTAL TO BID ITEM)

G) NO SUMP REQUIRED. STRUCTURE DEPTH = RIM ELEVATION - INVERT ELEVATION

STORM SEWER PIPES											
PIPE NUMBER	LOCATION (A)	STATION (A)	FLOWS FROM	FLOWS TO	FLOWS		PIPE SLOPE	608.0312	608.0324	612.0206	NOTES
					FROM	TO		STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	PIPE UNDERDRAIN UNPERFORATED 6-INCH LF	
P1.1	NINTH ST	506+63.00	1.1	1.0	638.40	638.16	0.50%	--	42	--	C
P1.2	NINTH ST	506+48.00	1.2	1.1	638.62	638.40	0.50%	--	44	--	
P1.3	NINTH ST	506+42.38	1.3	1.2	638.68	638.62	0.46%	--	13	--	
P1.4	NINTH ST	506+30.04	1.4	1.3	638.72	638.68	0.50%	--	8	--	
P1.5	NINTH ST	506+32.95	1.5	1.3	EXIST	640.90	0.76%	8	--	--	B
P3.0	NINTH ST	508+95.52	3.0	2.0	637.37	637.18	0.44%	--	37	--	C
P3.1	NINTH ST	508+51.66	3.1	3.0	637.68	637.47	0.46%	46	--	--	
P3.2	NINTH ST	508+51.67	3.2	3.1	637.88	637.68	0.48%	42	--	--	
P3.3	NINTH ST	509+04.99	3.3	3.0	637.93	637.47	0.58%	--	73	--	C
P10.0	LAMBEAU	36+40.90	10.0	11.0	EXIST	636.54	9.27%	--	--	48	D
PROJECT 1133-04-80 TOTAL								96	217	48	

- A) LOCATION AND STATION FOR "FLOWS FROM" STRUCTURE
- B) AS BUILT ELEVATION AT MATCH POINT WITH EXISTING PIPE ASSUMED TO BE 640.96. FIELD VERIFY
- C) DITCH FLOWLINE ELEVATION GIVEN AT APRON ENDWALL END OF PIPE
- D) ELEVATION AT MATCH POINT WITH EXISTING PIPE UNDERDRAIN ASSUMED TO BE 640.99. FIELD VERIFY. CONNECT INTO STRUCTURE 11.0 AT 3.0' BELOW RIM ELEVATION OF 639.54.

3

CONCRETE SIDEWALK

		602.0405 CONCRETE SIDEWALK 4-INCH		SPV.0180.001 COLORED CONCRETE 4-INCH		305.0120* BASE AGGREGATE DENSE 1 1/4-INCH	
STATION	OFFSET	LOCATION	SF	SY	TON		
504+50	510+70	LT,RT	NINTH ST	6200	--	131	
506+88	- 508+73	LT	ABUTTING RET. WALL	--	144	2	
506+85	- 508+71	LT	BC TO SIDEWALK	--	103	2	
506+66	- 508+73	RT	ABUTTING RET. WALL	--	178	5	
506+70	- 508+72	RT	BC TO SIDEWALK	--	112	2	
PROJECT 1133-04-80 TOTAL			6200	537	142		

* - ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE CURB & GUTTER

		SPV.0090.001 CONCRETE CURB & GUTTER INTEGRAL 24-INCH	
STATION	OFFSET	LOCATION	LF
504+50 - 510+70	LT	NINTH ST	641
504+50 - 510+70	RT	NINTH ST	599
UNDISTRIBUTED		NINTH ST	10
PROJECT 1133-04-80 TOTAL			1,250

3

FENCE

		616.0700.S FENCE SAFETY	
STATION	OFFSET	LOCATION	LF
UNDISTRIBUTED			1,240
PROJECT 1133-04-80 TOTAL			1,240

MAINTENANCE AND REPAIR OF
HAUL ROADS

		618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS PROJECT I.D. 1133-04-80	
LOCATION		EACH	
PROJECT 1133-04-80		1	
PROJECT 1133-04-80 TOTAL		1	

MOBILIZATION

		619.1000 MOBILIZATION EACH	
LOCATION			
PROJECT 1133-04-80		0.60	
PROJECT 1133-04-80 TOTAL		0.60	

RESTORATION

				625.0100	627.0200	629.0205	630.0140	631.1000
				TOPSOIL	MULCHING	FERTILIZER	SEEDING	SOD
						TYPE A	MIXTURE	LAWN
							NO. 40	
STATION	OFFSET	LOCATION	SY	SY	CWT	LB	SY	
504+50 - 510+70		NINTH ST	1,686	1,084	1.1	30	603	
1022+59 - 1025+75	LT	USH 41SB	1,814	1,814	1.1	50	--	
1022+94 - 1026+00	RT	USH 41NB	1,842	1,843	1.2	50	--	
PROJECT 1133-04-80 TOTAL			5,342	4,741	3.4	130	603	

WATER

		624.0100 WATER MGAL	
STATION	LOCATION		
UNDISTRIBUTED	NINTH ST	10	
PROJECT 1133-04-80 TOTAL		10	

NOTE: FOR USE IN DUST CONTROL

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

3

3

MOBILIZATIONS EROSION CONTROL					
			628.1905	628.1910	
			MOBILIZATIONS	MOBILIZATIONS	
			EROSION	EMERGENCY	
			CONTROL	EROSION CONTROL	
STATION	OFFSET	LOCATION	EACH	EACH	
UNDISTRIBUTED			3	3	
PROJECT 1133-04-80 TOTAL			3	3	

SILT FENCE					
			628.1504	628.1520	
			SILT	SILT	
			FENCE	MAINTENANCE	
			LF	LF	
STATION	OFFSET	LOCATION			
506+35 - 507+00			81	81	
506+00 - 506+80			80	80	
508+40 - 509+50			159	159	
508+45 - 509+40			155	155	
1025+50 - 1025+75			72	72	
1025+66 - 1026+00			125	125	
UNDISTRIBUTED			168	168	
PROJECT 1133-04-80 TOTAL			840	840	

RIPRAP, SOD & GEOTEXTILE FABRIC					
			606.0200	631.1100	645.0120
			RIPRAP	SOD	GEOTEXTILE
			MEDIUM	EROSION	FABRIC
				CONTROL	TYPE HR
STATION	OFFSET	LOCATION	CY	SY	SY
506+72			4	4	15
508+97			4	4	15
UNDISTRIBUTED			2	2	8
PROJECT 1133-04-80 TOTAL			10	10	38

INLET PROTECTION					
		628.7005	628.7010	628.7015	
		INLET	INLET	INLET	
		PROTECTION	PROTECTION	PROTECTION	
STATION	OFFSET	LOCATION	TYPE A	TYPE B	TYPE C
			EACH	EACH	EACH
506+71	22' LT	NINTH ST	1	--	1
506+30	42' RT	NINTH ST	1	1	--
506+48	22' RT	NINTH ST	1	--	1
508+52	22' LT	NINTH ST	1	--	1
508+52	22' RT	NINTH ST	1	--	1
510+93	22' LT	NINTH ST	--	--	1
510+93	22' RT	NINTH ST	--	--	1
36+47.51	22' RT	LAMBEAU	--	--	1
UNDISTRIBUTED			1	1	2
PROJECT 1133-04-80 TOTAL			6	2	9

EROSION CONTROL					
		628.2008	628.7504	628.7555	
		EROSION MAT	TEMPORARY	CULVERT PIPE	
		URBAN CLASS I	DITCH	CHECKS	
		TYPE B	CHECKS		
STATION	OFFSET	LOCATION	SY	LF	EACH
509+08	RT	NINTH ST	--	--	8
1023+50	LT	USH 41SB	--	20	--
1023+50	RT	USH 41NB	--	20	--
1025+70	LT	USH 41SB	--	20	--
1025+95	RT	USH 41NB	--	20	--
1022+59 - 1025+75	LT	USH 41SB	1,453	--	--
1022+94 - 1026+00	RT	USH 41NB	1,488	--	--
UNDISTRIBUTED			735	20	4
PROJECT 1133-04-80 TOTAL			3,676	100	12

PERMANENT SIGNING <table><tr><th rowspan="3">SIGN #</th><th rowspan="4">SIGN CODE</th><th rowspan="4">SIGN SIZE</th><th>634.0614</th><th>637.0202</th><th rowspan="3">SF</th><th rowspan="4">REMARKS</th></tr><tr><th>POSTS</th><th>SIGNS</th></tr><tr><th>WOOD</th><th>REFLECTIVE</th></tr><tr><th colspan="3">SIGN SIZE IN</th><th>4x6-INCH</th><th>TYPE II</th><th colspan="2"></th></tr><tr><td>P101</td><td>W3-1</td><td>(2)</td><td>30X30</td><td>1</td><td>6.25</td><td>STOP AHEAD</td></tr><tr><td>P102</td><td>R7-53D</td><td>(2)</td><td>18X24</td><td>--</td><td>3.00</td><td>ON SAME POST AS P101</td></tr><tr><td>P104</td><td>R2-1</td><td>(2)</td><td>24X30</td><td>--</td><td>5.00</td><td>SPEED LIMIT 25</td></tr><tr><td colspan="4">PROJECT 1133-04-80 TOTAL</td><td>1</td><td>14.25</td><td></td></tr></table>							SIGN #	SIGN CODE	SIGN SIZE	634.0614	637.0202	SF	REMARKS	POSTS	SIGNS	WOOD	REFLECTIVE	SIGN SIZE IN			4x6-INCH	TYPE II			P101	W3-1	(2)	30X30	1	6.25	STOP AHEAD	P102	R7-53D	(2)	18X24	--	3.00	ON SAME POST AS P101	P104	R2-1	(2)	24X30	--	5.00	SPEED LIMIT 25	PROJECT 1133-04-80 TOTAL				1	14.25	
SIGN #	SIGN CODE	SIGN SIZE	634.0614	637.0202	SF	REMARKS																																														
			POSTS	SIGNS																																																
			WOOD	REFLECTIVE																																																
SIGN SIZE IN			4x6-INCH	TYPE II																																																
P101	W3-1	(2)	30X30	1	6.25	STOP AHEAD																																														
P102	R7-53D	(2)	18X24	--	3.00	ON SAME POST AS P101																																														
P104	R2-1	(2)	24X30	--	5.00	SPEED LIMIT 25																																														
PROJECT 1133-04-80 TOTAL				1	14.25																																															
SIGN REMOVALS <table><tr><th rowspan="3">SIGN #</th><th rowspan="3">SIGN CODE</th><th>638.2602</th><th>638.3000</th><th colspan="2">SIGN</th></tr><tr><th>REMOVING SIGNS</th><th>REMOVING SMALL SIGN</th><th colspan="2">MOUNTED ON SAME</th></tr><tr><th>TYPE II</th><th>SUPPORTS</th><th>POST AS</th><th>REMARKS</th></tr><tr><td>R101</td><td>W3-1</td><td>1</td><td>1</td><td>-</td><td>* STOP AHEAD</td></tr><tr><td>R102</td><td>UNKNOWN</td><td>1</td><td>--</td><td>R101</td><td></td></tr><tr><td>R104</td><td>R2-1</td><td>1</td><td>--</td><td>-</td><td>* SPEED LIMIT 25</td></tr><tr><td colspan="2">PROJECT 1133-04-80 TOTAL</td><td>3</td><td>1</td><td colspan="2"></td></tr></table> * MOUNTED ON EXISTING ELECTRICAL POLE							SIGN #	SIGN CODE	638.2602	638.3000	SIGN		REMOVING SIGNS	REMOVING SMALL SIGN	MOUNTED ON SAME		TYPE II	SUPPORTS	POST AS	REMARKS	R101	W3-1	1	1	-	* STOP AHEAD	R102	UNKNOWN	1	--	R101		R104	R2-1	1	--	-	* SPEED LIMIT 25	PROJECT 1133-04-80 TOTAL		3	1										
SIGN #	SIGN CODE	638.2602	638.3000	SIGN																																																
		REMOVING SIGNS	REMOVING SMALL SIGN	MOUNTED ON SAME																																																
		TYPE II	SUPPORTS	POST AS	REMARKS																																															
R101	W3-1	1	1	-	* STOP AHEAD																																															
R102	UNKNOWN	1	--	R101																																																
R104	R2-1	1	--	-	* SPEED LIMIT 25																																															
PROJECT 1133-04-80 TOTAL		3	1																																																	
ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.																																																				

PROJECT NUMBER: 1133-04-80	HWY: USH 41	COUNTY: BROWN	MISCELLANEOUS QUANTITIES	SHEET NO:	E
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TRAFFIC CONTROL

643.0300

643.0420

643.0705

643.0900

TRAFFIC CONTROL

TRAFFIC CONTROL

TRAFFIC CONTROL

TRAFFIC CONTROL

DRUMS

BARRICADES

WARNING LIGHTS

SIGNS

TYPE III

TYPE A

		DURATION										REMARK
STATION	LOCATION	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	
504+50 - 510+70	NINTH ST	38	--	--	17	646	24	912	11	418		
29+00 - 40+00	LAMBEAU ST	1	12	12	--	--	--	--	5	5		
PROJECT 1133-04-80 TOTAL				12		646		912		423		

TRAFFIC CONTROL

643.0100.001

TRAFFIC

CONTROL

PROJECT ID

1133-04-80

LOCATION	EACH
PROJECT 1133-04-80	1
PROJECT 1133-04-80 TOTAL	
	1

PAVEMENT MARKING

646.0106

PAVEMENT

MARKING

EPOXY

4-INCH

(YELLOW)

STATION	OFFSET	LOCATION	LF	REMARK
504+50 - 510+70	CL	NINTH ST	1,240	DOUBLE YELLOW CENTERLINE
PROJECT 1133-04-80 TOTAL			1,240	

ADJUSTMENTS

SPV.0060.001 #

ADJUSTING

MANHOLE

COVERS

SPV.0060.003 #

ADJUSTING

WATER

SERVICE

VALVES

SPV.0060.008 #

ADJUSTING

TRACER

WIRE

BOXES

STATION	OFFSET	LOCATION	EACH	EACH	EACH	REMARKS
504+60.82	8.1' LT	NINTH ST	1	--	--	--
506+31.54	6.7' RT	NINTH ST	1	--	--	--
506+49.66	3.2' LT	NINTH ST	1	--	--	--
509+07.35	5.1' LT	NINTH ST	1	--	--	--
505+34.90	32.0' LT	NINTH ST	1	--	--	AT&T
510+17.90	36.2' LT	NINTH ST	--	1	--	--
510+20.41	24.3' RT	NINTH ST	--	1	--	--
2016 NINTH ST		NINTH ST	--	--	1	--
2030 NINTH ST		NINTH ST	--	--	1	--
2043 NINTH ST		NINTH ST	--	--	1	--
PROJECT 1133-04-80 TOTAL			5	2	3	

DENOTES CATEGORY 1700; CITY OF GREEN BAY

SAWCUTS

690.0250

SAWING

CONCRETE

STATION	OFFSET	LOCATION	LF
504+50	PROJ LIMIT	NINTH ST	45
504+50	LT,RT SIDEWALK	NINTH ST	10
504+71 - 504+95	LT DRIVEWAY	NINTH ST	21
505+00 - 505+24	LT DRIVEWAY	NINTH ST	14
506+12 - 506+36	LT DRIVEWAY	NINTH ST	16
509+76 - 509+80	LT, SIDEWALK	NINTH ST	4
510+48 - 510+52	LT, SIDEWALK	NINTH ST	4
510+70	LT,RT SIDEWALK	NINTH ST	10
510+70	PROJ LIMIT	NINTH ST	45
PROJECT 1133-04-80 TOTAL			169

SURVEY PROJECT

SPV.0105.001

SURVEY

PROJECT ID

1133-04-80

LOCATION	LS
PROJECT 1133-04-80	1
PROJECT 1133-04-80 TOTAL	
	1

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

CONCRETE STAINING

SPV.0165.001		
STAINING		
CONCRETE		
BRICK		
RETAINING WALL	LOCATION	SF
R-05-220	NINTH ST	890
R-05-221	NINTH ST	890
PROJECT 1133-04-80 TOTAL		1780

REMOVING DELINEATORS AND MARKERS

204.0180		
REMOVING		
DELINEATORS		
AND		
MARKERS		
STATION	LOCATION	EACH
36+47.12	LAMBEAU	1
PROJECT 1133-04-80 TOTAL		1

EXPOSING EXISTING UTILITY

SPV.0060.007			
EXPOSING			
EXISTING			
UTILITY			
STATION	LOCATION	EACH	NOTES
36+50	LAMBEAU STREET	1	AT&T
PROJECT 1133-04-80 TOTAL		1	

TRACER WIRE

SPV.0090.002			
TRACER			
WIRE			
STATION	LOCATION	LF	NOTE
36+47.12 - 36+83.43	LAMBEAU	48	INSTALL ON NEW PIPE UNDERDRAIN
PROJECT 1133-04-80 TOTAL		48	

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

TRANSPORTATION PROJECT PLAT NO: 1133-03-21 - 4.01

BEING PART OF LOTS 40, 41 AND 42 OF OAK PARK SUBDIVISION FIRST ADDITION, LOT "E" OF CSM NO. 506, PARCEL 1 OF CSM NO. 1001 AND PARCEL 1 OF CSM NO. 1155, ALL LOCATED IN LOT 12, SECTION 28, T24N_R20E, CITY OF GREEN BAY, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER USH 41 BROWN COUNTY

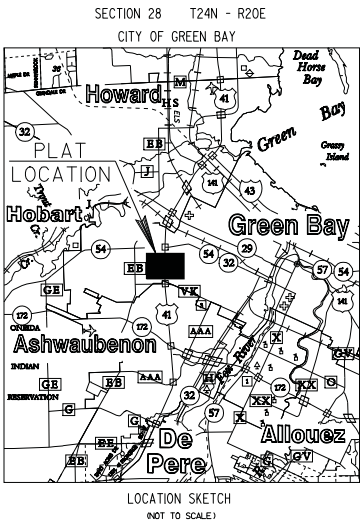
TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

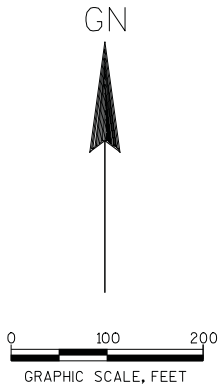
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAY OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACRES	AC	SECTION CORNER	CHORD BEARING	CH BRG	SET R/W MONUMENT W/CAP
CHORD DISTANCE	CH DIS	CH DIS	CH DIS	CH DIS	CH DIS
DEED	DOC	SET P.K. NAIL	DEED	DOC	SET P.K. NAIL
DOCUMENT	DOC	CORPORATE LIMITS	DOCUMENT	DOC	CORPORATE LIMITS
EAST BOUND	EB	EXISTING R/W	EAST BOUND	EB	EXISTING R/W
GAS VALVE	GV	SECTION LINE	GAS VALVE	GV	SECTION LINE
INLET	IL	QUARTER LINE	INLET	IL	QUARTER LINE
MANHOLE	MH	SIXTEENTH LINE	MANHOLE	MH	SIXTEENTH LINE
MONUMENT	MON	PROPOSED OR NEW R/W LINE	MONUMENT	MON	PROPOSED OR NEW R/W LINE
NORTH BOUND	NB	PROPOSED EASEMENT LINE	NORTH BOUND	NB	PROPOSED EASEMENT LINE
PAGE	PG	PROPERTY LINE	PAGE	PG	PROPERTY LINE
PERMANENT LIMITED EASEMENT	PLE	LOT, TIE AND OTHER MINOR DASHED LINES	PERMANENT LIMITED EASEMENT	PLE	LOT, TIE AND OTHER MINOR DASHED LINES
PRIVATE DRIVEWAY	PD	COMMUNICATION LINE	PRIVATE DRIVEWAY	PD	COMMUNICATION LINE
PROPERTY LINE	PL	BURIED GAS LINE	PROPERTY LINE	PL	BURIED GAS LINE
RADIUS	RAD	OVERHEAD ELECTRIC LINE	RADIUS	RAD	OVERHEAD ELECTRIC LINE
REFERENCE LINE	RL	BURIED ELECTRIC LINE	REFERENCE LINE	RL	BURIED ELECTRIC LINE
REMAINING	REM	NO ACCESS (By Acquisition)	REMAINING	REM	NO ACCESS (By Acquisition)
RIGHT OF WAY	R/W	NO ACCESS (By Statutory Authority)	RIGHT OF WAY	R/W	NO ACCESS (By Statutory Authority)
SECTION	SEC	ACCESS RESTRICTED (By Previous Project/Control)	SECTION	SEC	ACCESS RESTRICTED (By Previous Project/Control)
SECTION LINE	SL	LIMITED EASEMENT (Temporary or Permanent)	SECTION LINE	SL	LIMITED EASEMENT (Temporary or Permanent)
FOUND IRON PIPE	IP	PARCEL NUMBER	FOUND IRON PIPE	IP	PARCEL NUMBER
STATION	STA	UTILITY PARCEL NUMBER	STATION	STA	UTILITY PARCEL NUMBER
TEMPORARY LIMITED EASEMENT	TLE		TEMPORARY LIMITED EASEMENT	TLE	
TIE POINT	TIE		TIE POINT	TIE	
VOLUME	VOL		VOLUME	VOL	
ADJOINING LANDS WITH SAME OWNER			ADJOINING LANDS WITH SAME OWNER		
BUILDING TO BE RAZED			BUILDING TO BE RAZED		
FEE ACQUISITION			FEE ACQUISITION		
PROPOSED R/W			PROPOSED R/W		
BOUNDARY POINT			BOUNDARY POINT		
COMPENSABLE			COMPENSABLE		
NON-COMPENSABLE			NON-COMPENSABLE		
POWER POLE			POWER POLE		
TELEPHONE POLE			TELEPHONE POLE		
SIGN			SIGN		
TELEPHONE PEDESTAL			TELEPHONE PEDESTAL		



POINT TO POINT	BEARING	DISTANCE
SEC357 DB108	N 42°36'47" W	113.58'
DB108 DB109	N 02°30'57" E	1600.00'
DB109 SIXT169	S 48°14'41" E	521.30'
SIXT169 SIXT170	S 16°00'54" W	182.54'
SIXT170 SEC357	S 15°58'22" W	1205.99'



POINT	STATION	OFFSET	X	Y
SEC357	5403+00.00	.00'L	82259.440	568027.539
DB108	5412+48.73	287.79'L	82182.538	568111.131
TLE154	5412+51.20	271.91'L	81936.671	569071.576
TLE157	5412+80.37	235.94'L	81989.861	569100.911
TLE144	5413+06.06	328.49'L	81898.532	569130.639
TLE145	5413+16.91	326.62'L	81900.869	569141.395
TLE155	5413+22.08	160.12'L	82067.439	569139.257
TLE146	5413+34.29	310.67'L	81917.570	569158.064
TLE162	5413+37.88	275.15'R	82502.986	569135.934
TLE163	5413+41.59	255.51'R	82483.522	569140.496
TLE164	5413+42.28	288.52'R	82516.534	569139.739
TLE166	5413+55.60	207.05'R	82435.730	569156.625
TLE147	5413+64.54	267.45'L	81962.078	569186.381
TLE165	5413+65.66	159.16'R	82388.322	569168.781
SIXT170	5413+92.74	361.14'R	82591.303	569186.965
TLE149	5414+08.15	184.40'L	82046.957	569226.310
TLE158	5414+10.97	303.04'R	82534.052	569207.727
TLE150	5414+20.64	185.50'L	82046.412	569238.830
TLE161	5414+21.39	295.54'R	82527.016	569218.465
TLE160	5414+33.56	252.14'R	82484.192	569232.531
TLE151	5414+38.13	160.13'L	82072.523	569255.195
TLE159	5414+52.33	159.69'R	82392.658	569255.339
SIXT169	5415+70.24	403.76'R	82641.665	569362.425
DB109	5419+00.00	.00'R	82252.774	569709.588

PARCEL NUMBER	*OWNER	INTEREST REQUIRED	NEW R/W ACRES	P.L.E. ACRES	T.L.E. ACRES
17	TRENT PLUISTER AND JAMIE HELLER	TLE			0.024
21	LARRY & KIMBERLY CLAXTON JR	TLE			0.016
22	PETER GEISHEKER	TLE			0.012
23	THOMAS WRIGHT	TLE			0.029
24	INCARNATION LUTHERAN CHURCH OF GB A RELIGIOUS CORP.	TLE			0.028
26	GERALD & GLORIA BIGELOW	TLE			0.021
100	WISCONSIN PUBLIC SERVICE-ELEC	RELEASE OF RIGHTS			
101	AT&T WISCONSIN	RELEASE OF RIGHTS			
212	CITY OF GREEN BAY	UTILITY AGREEMENT			
213	GREEN BAY WATER DEPT	UTILITY AGREEMENT			

*OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

RESERVE FOR CLAUSES AND NOTE INFORMATION

COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE BROWN COUNTY COORDINATE SYSTEM, (ENGLISH), NAD 1983 (1993) ADJUSTMENT. ALL PLAT DISTANCES ARE GROUND LENGTHS.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

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

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

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUTES BY THE HIGHWAY COMMISSION ON JUNE 8, 1972.

EXISTING RIGHT OF WAY WAS REESTABLISHED UNDER PROJECT(S): T 02-51263.

THE REFERENCE LINE SHOWN ON THIS PLAT MAY NOT BE THE SAME AS THE REFERENCE LINE SHOWN ON THE CONSTRUCTION PLAN

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE TO PREVENT EROSION OF THE SOIL. ALL TLE'S EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

JEFFREY T. BOHRTZ, RLS-2223
PRINTED NAME
SIGNATURE
DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

NORMAN PAWELCZYK
PRINTED NAME
SIGNATURE
DATE

FILE NAME : F:\D3_11330321\040101_rw.dgn
APPRAISAL PLAT DATE :

PLOT DATE : 15-JUL-2010 09:52

PLOT BY : \$\$\$...plotuser...\$\$\$ PLOT NAME :

PLOT SCALE : 100.000000:1.000000

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1133-03-21-4.01
AMENDMENT NO:

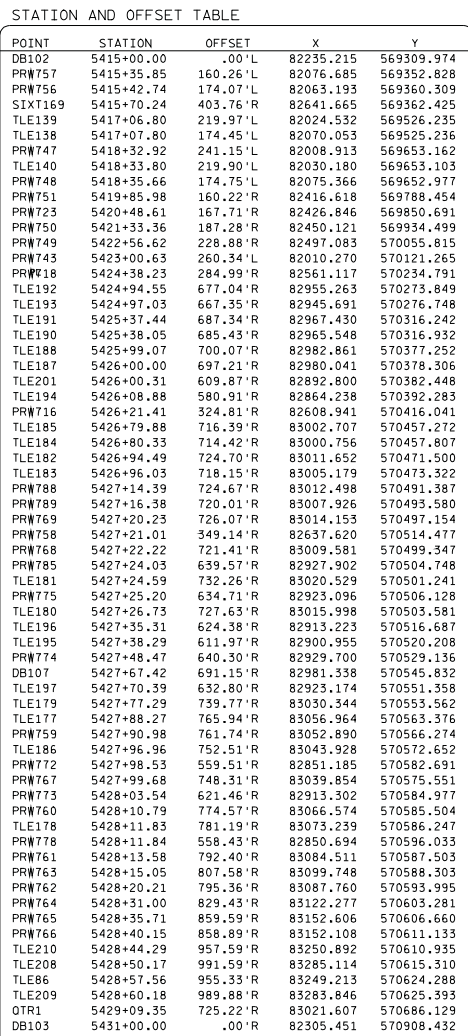
ACCEPTED FOR RECORDING AND FILING IN
THE OFFICE OF THE REGISTER OF DEEDS
IN BROWN COUNTY, WISCONSIN AT
8:15AM ON July 21, 2010
AS DOCUMENT # 2480289 AND
FILED IN Vol 1 of Transportation
Project Plats Pg 131

SIGNATURE OF REGISTER OF DEEDS

Recording information via
email from Debbie Gore,
Chief Deputy

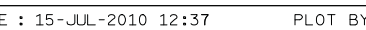
NOT OFFICIAL
A recorded copy of this
plat can be obtained
from the Register of
Deeds Office.

4



RS TABLE			
41 REFERENCE LINE			
	TO POINT	BEARING	DISTANCE
169	SIXT169	S 16°00'54" W	1377.15'
	DB102	S 82°38'49" W	409.82'
2	DB103	N 02°30'57" E	1600.00'
3	QTR1	S 72°45'18" E	749.87'

STATION AND OFFSET TABLE				
POINT	STATION	OFFSET	X	Y
DB102	5415+00.00	.00'L	82235.215	5639300.162
PRW756	5415+35.85	160.26'L	82076.685	5639352.828
PRW757	5415+42.74	174.07'L	82063.193	5639360.309
SIXT169	5415+70.24	403.76'R	82641.665	5639622.425
TE1139	5417+06.80	219.97'L	82024.532	5659256.235
TE1138	5418+00.80	219.15'L	82005.933	5659523.236
PRW747	5418+32.92	241.90'L	82008.913	5659531.972
TE1140	5418+33.80	219.15'L	82030.180	5659535.103
PRW748	5418+35.66	174.75'L	82075.366	5659522.977
PRW751	5418+55.98	160.22'R	82416.618	5679884.454
PRW723	5420+48.61	167.71'L	82426.846	569850.691
PRW750	5421+33.36	187.28'R	82450.121	569934.499
PRW749	5422+56.62	228.88'R	82497.083	570055.815
PRW743	5423+00.63	260.34'L	82010.270	570121.265
PRW718	5424+38.23	284.99'R	82551.171	570234.791
TE1192	5424+94.55	677.04'L	82969.263	570273.849
TE1193	5424+97.03	667.35'R	82945.691	570276.748
TE1191	5425+37.44	687.34'L	82967.430	570316.242
TE1190	5425+39.05	665.43'R	82965.548	570316.932
TE1188	5425+99.07	700.07'R	82982.061	570377.252
TE1187	5426+00.00	697.21'R	82980.461	570378.306
TE1201	5426+00.31	609.87'R	82892.800	570382.448
TE1194	5426+08.88	580.91'R	82864.238	570392.283
PRW716	5426+21.41	324.81'R	82608.941	570416.041
TE1185	5426+79.68	716.39'R	83002.707	570457.272
TE1184	5426+80.33	714.42'R	83003.756	570457.807
TE1182	5426+94.49	724.70'R	83011.652	570471.500
TE1183	5426+96.03	718.15'R	83005.179	570491.382
PRW788	5427+14.39	724.67'R	83012.498	570491.387
PRW789	5427+16.38	720.01'R	83007.926	570493.580
PRW790	5427+20.23	755.00'R	83001.155	570497.150
PRW758	5427+21.01	349.44'L	82637.587	570517.377
PRW768	5427+22.22	721.41'R	83009.581	570499.347
PRW785	5427+24.03	639.57'R	82977.902	570504.748
TE1181	5427+25.59	732.26'R	83020.529	570501.241
PRW775	5427+25.20	634.71'R	82923.096	570506.128
TE1180	5427+26.73	727.63'R	83015.998	570503.581
TE1196	5427+35.31	624.38'L	82913.223	570516.687
TE1195	5427+38.29	611.97'R	82900.955	570520.208
PRW774	5427+48.47	640.30'L	82929.700	570529.136
DB107	5427+67.42	691.15'R	82981.338	570545.832
PRW717	5427+70.39	632.80'R	82923.174	570551.358
TE1179	5427+77.29	739.77'R	83000.344	570553.562
PRW776	5427+80.27	765.84'R	83005.055	570556.277
PRW759	5427+90.98	761.74'R	83052.890	570566.274
TE1186	5427+96.96	752.51'R	83043.928	570572.652
PRW772	5427+98.53	559.51'R	82851.185	570582.691
PRW767	5427+99.68	748.31'R	83039.854	570575.551
PRW773	5428+03.54	621.46'R	82913.302	570584.977
PRW760	5428+10.79	774.57'R	83066.574	570585.504
TE1178	5428+11.83	781.19'R	83073.239	570586.247
PRW778	5428+11.84	558.43'R	82850.694	570596.033
PRW761	5428+13.58	792.40'R	83084.511	570587.503
PRW763	5428+15.05	807.58'R	83099.748	570588.303
PRW762	5428+20.21	759.36'R	83087.760	570593.995
TE1177	5428+20.44	752.82'R	83022.277	570593.362
PRW765	5428+35.71	859.59'R	83155.600	570600.660
PRW766	5428+35.15	858.89'R	83152.108	570611.133
TE1210	5428+44.29	957.59'R	83250.892	570610.935
TE1208	5428+50.17	991.59'R	83285.114	570615.310
TE1E86	5428+57.56	955.33'R	83249.213	570624.288
TE1209	5428+60.18	989.88'R	83283.846	570625.393
QTR1	5429+09.35	722.22'R	83021.607	570686.129
DB103	5431+00.00	.00'L	82305.451	570908.435



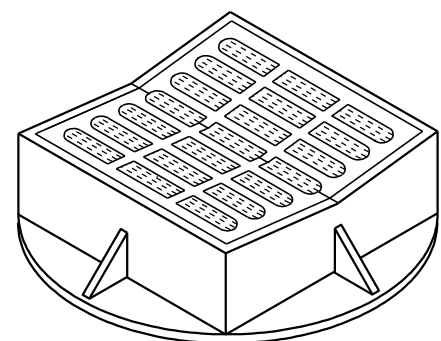
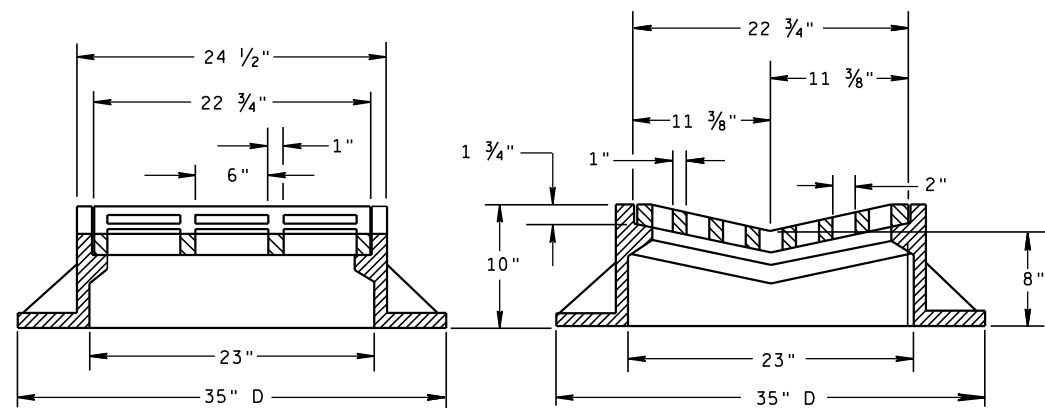
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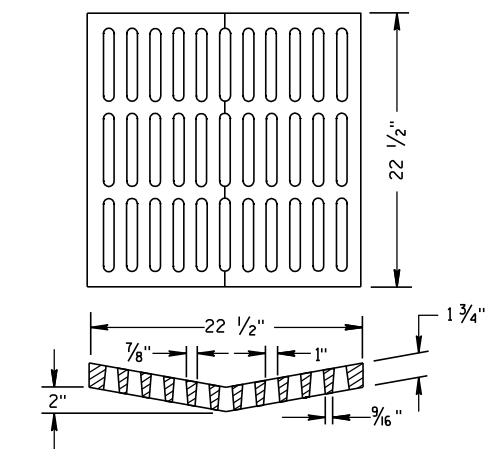
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Standard Detail Drawing List

08A05-18B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08B10-01	MANHOLES 3X3-FT, 4X4-FT, 5X5-FT AND 6X6-FT
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-07	URBAN DOWELED CONCRETE PAVEMENT
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C08-15A	PAVEMENT MARKING (MAINLINE)
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE



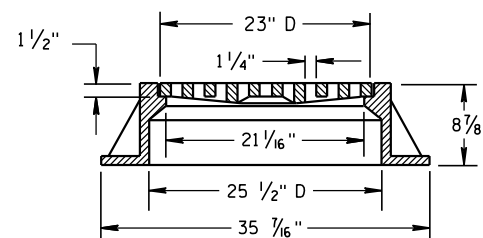
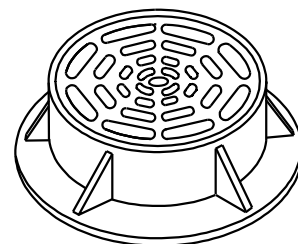
TYPE "B"
(APPROXIMATE WEIGHT 405 LBS.)
FRAME..... 294 LBS.
GRATE..... 111 LBS.



**ALTERNATIVE GRATE FOR
TYPE "B" COVER**

(APPROXIMATE GRATE WEIGHT 134 LBS.)

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"
(APPROXIMATE WEIGHT 259 LBS.)

FRAME..... 152 LBS.
GRATE..... 107 LBS.

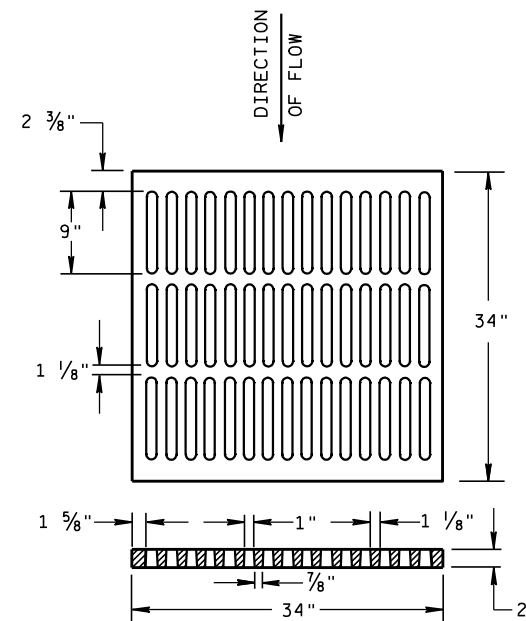
GENERAL NOTES

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.

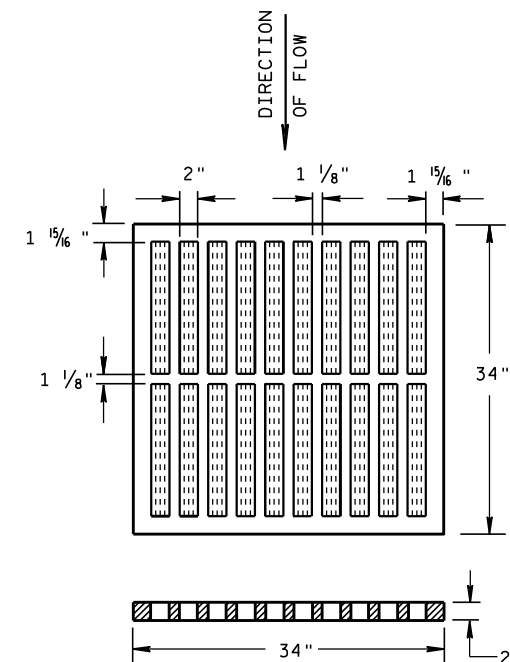
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.



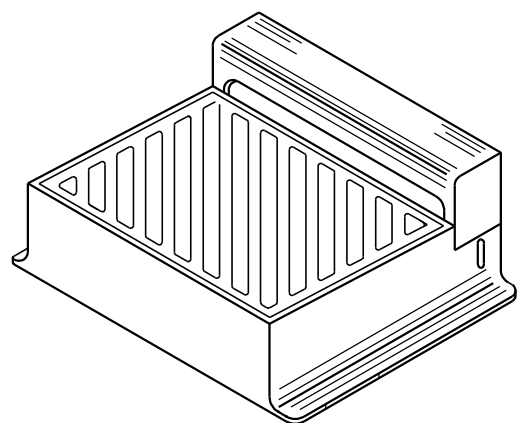
ALTERNATIVE TYPE "MS"
(APPROXIMATE GRATE WEIGHT 329 LBS.)

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



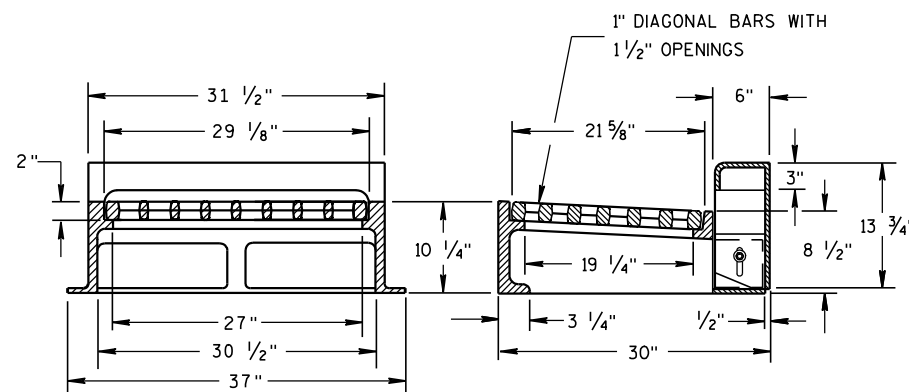
TYPE "MS"
(APPROXIMATE GRATE WEIGHT 268 LBS.)

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIRECTION
OF FLOW

DIAGONAL SLOTS, SHALL BE ORIENTED
TO THE DIRECTION OF FLOW AS ILLUSTRATED.
GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"
(APPROXIMATE WEIGHT 648 LBS.)

FRAME..... 355 LBS.
GRATE..... 156 LBS.
CURB BOX..... 137 LBS.

INLET COVERS
TYPE B, B-A, C, MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012

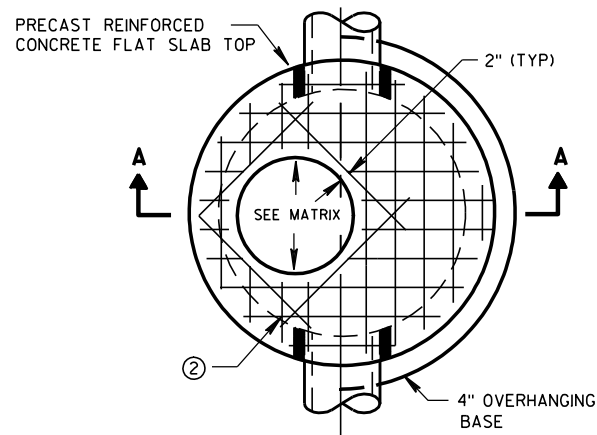
DATE

FHWA

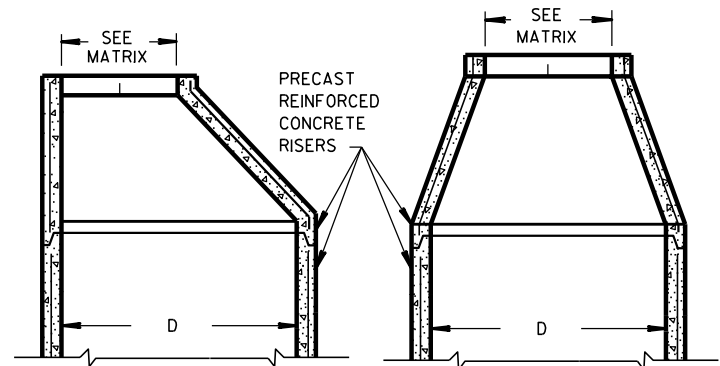
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER

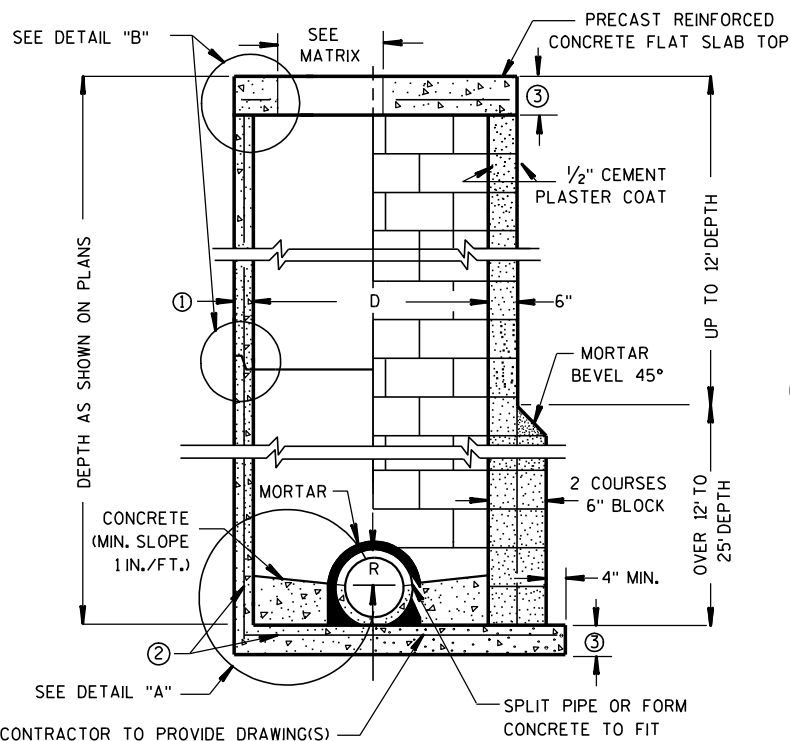


PLAN VIEW CIRCULAR OPENING



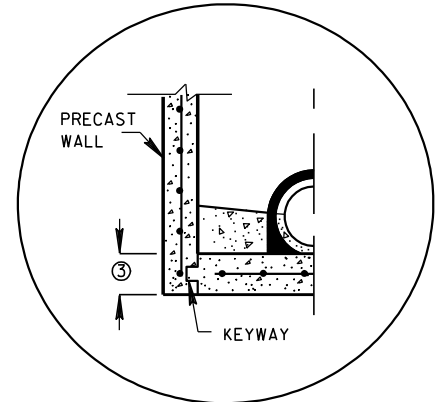
OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

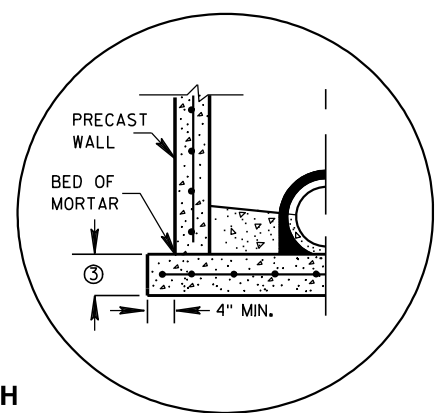


CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES

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

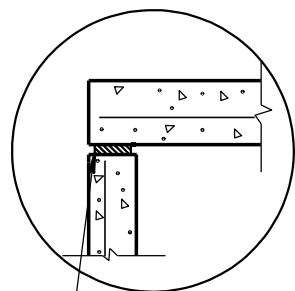


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

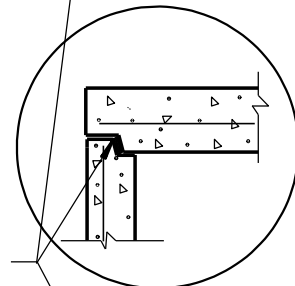


SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION
DETAIL "A"

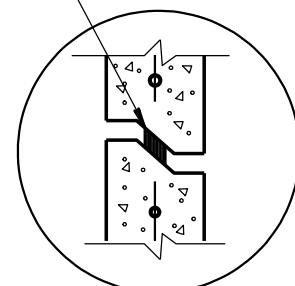
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)



TOP WITH PLAIN END JOINT

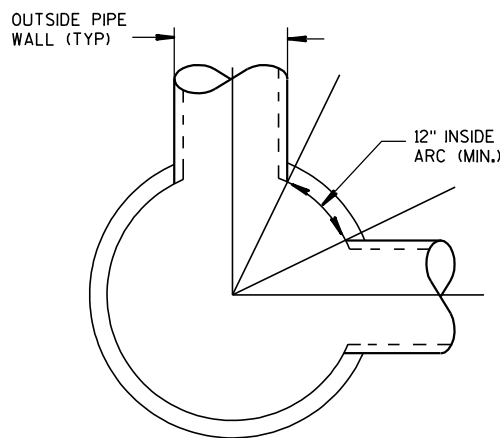


TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"



DETAIL "C"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

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

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

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED. CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPERATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.
- ② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

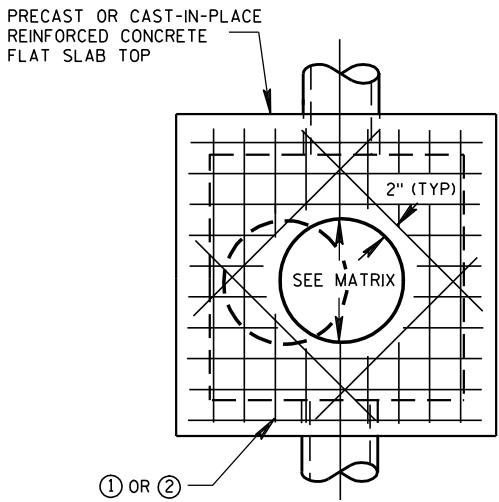
PIPE MATRIX

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

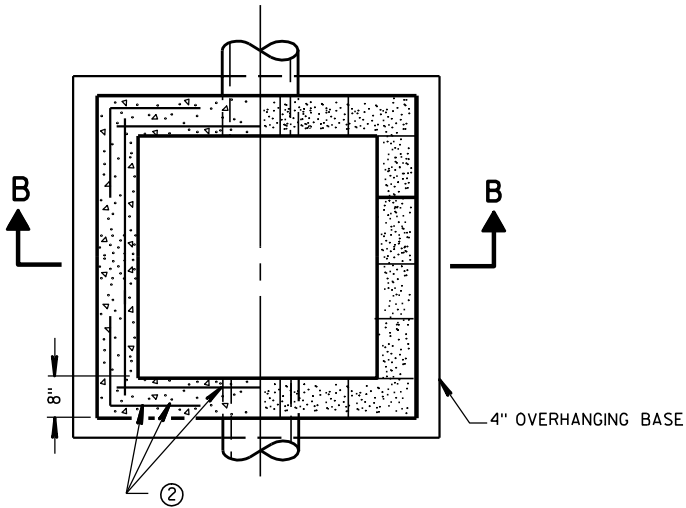
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

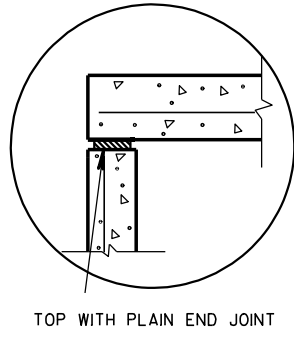
APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA ENGINEER



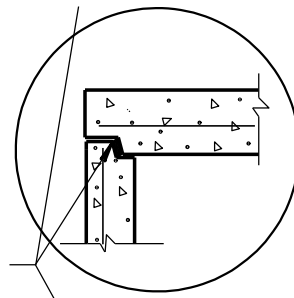
PLAN VIEW
CIRCULAR OPENING



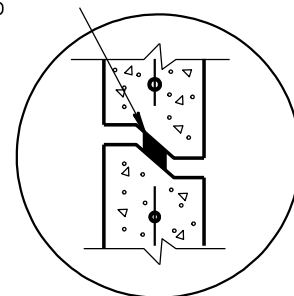
SECTION A-A
PLAN VIEW



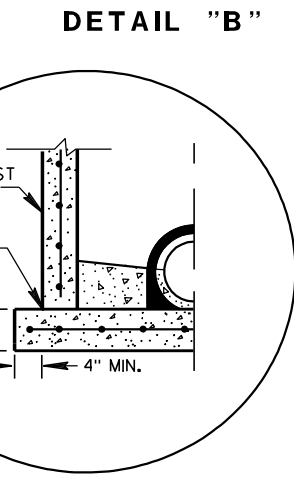
TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



DETAIL "B"



SEPERATE PRECAST REINFORCED
CONCRETE BASE OPTION

DETAIL "A"

GENERAL NOTES

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

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

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

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

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

PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2 INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN WIDTH.

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

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

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPERATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

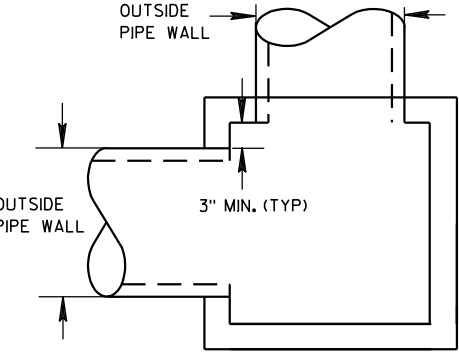
- 1 FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- 2 CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (W) (IN)	LENGTH (L) (IN)
3X3-FT	24	24
4X4-FT	30	30
5X5-FT	42	42
6X6-FT	54	54



DETAIL "C"

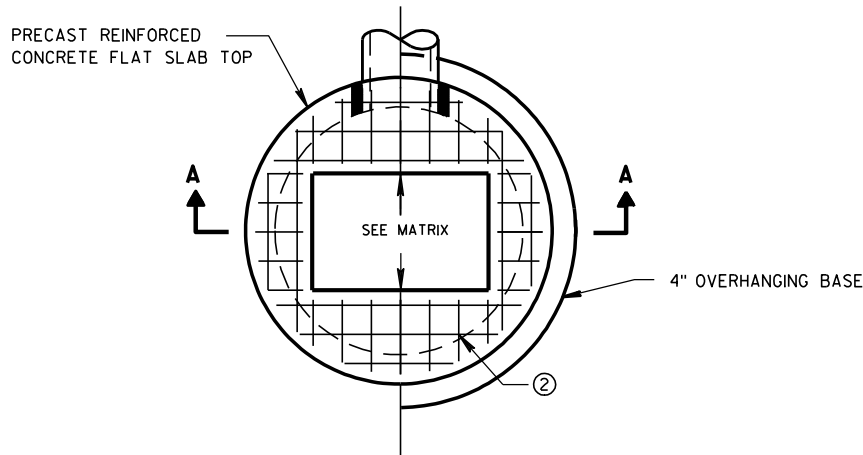
- PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE
- PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE
- CAST-IN-PLACE REINFORCED CONCRETE
- CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE

SQUARE MANHOLES W/ FLAT TOP
MANHOLES 3X3-FT, 4X4-FT, 5X5-FT AND 6X6-FT

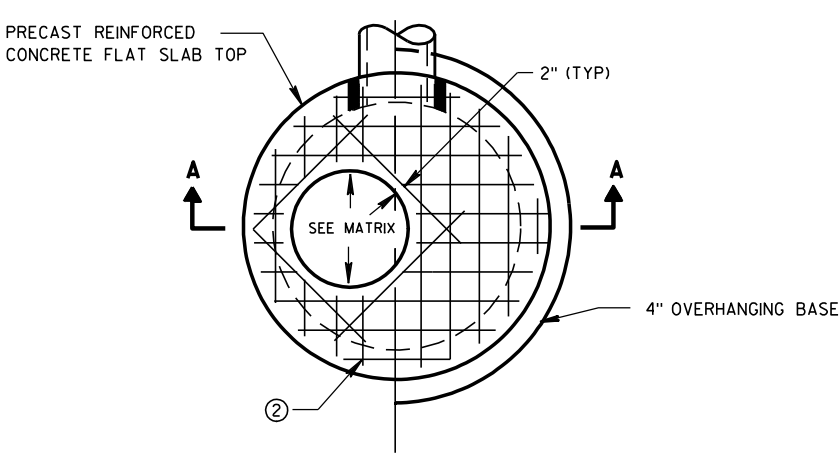
MANHOLES 3X3-FT, 4X4-FT
5X5-FT AND 6X6-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

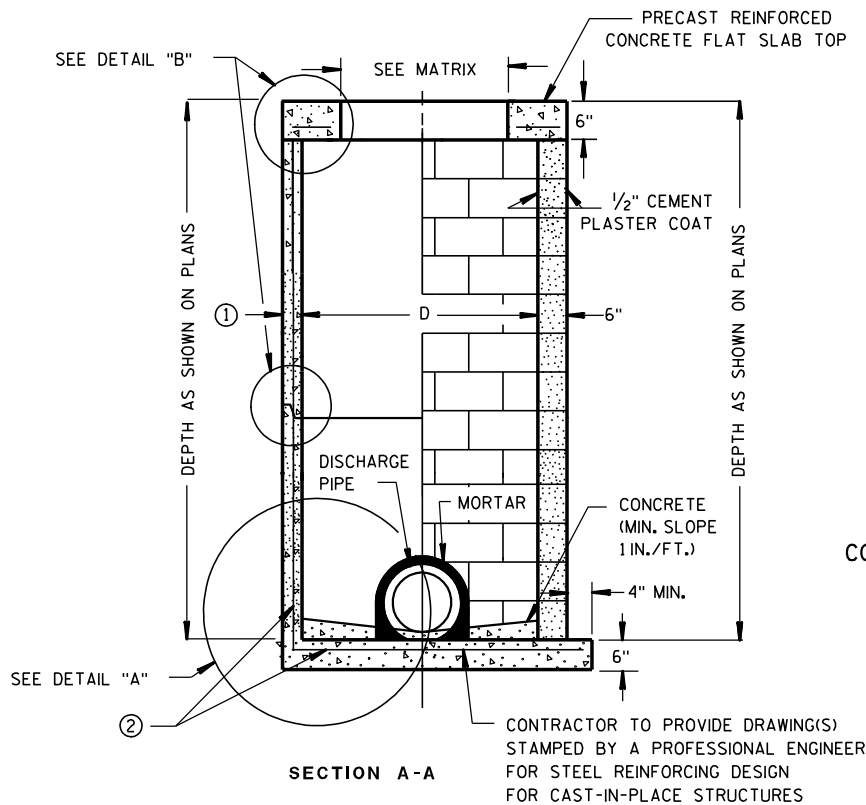
APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



PLAN VIEW RECTANGULAR OPENING

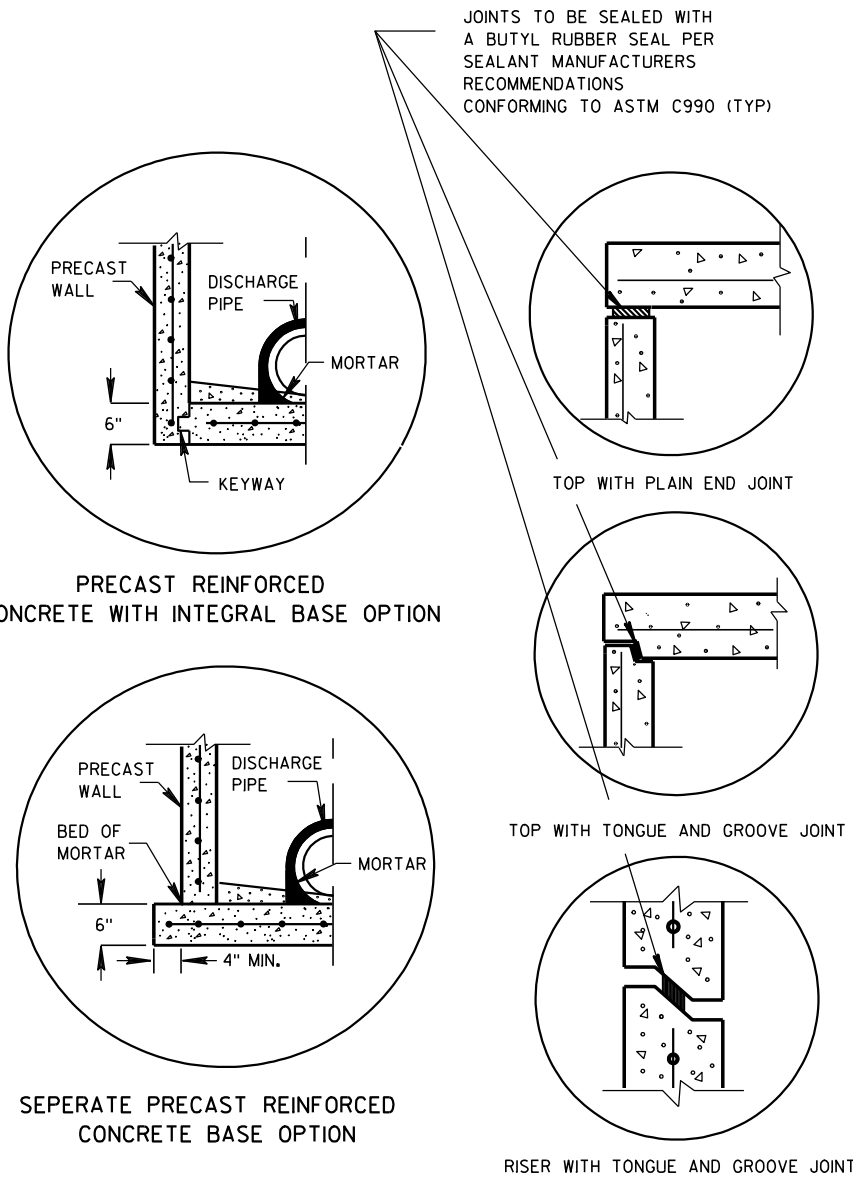


PLAN VIEW CIRCULAR OPENING



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

CIRCULAR INLETS W/ FLAT TOP



DETAIL "A"

DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER

GENERAL NOTES

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

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

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

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

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

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

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

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

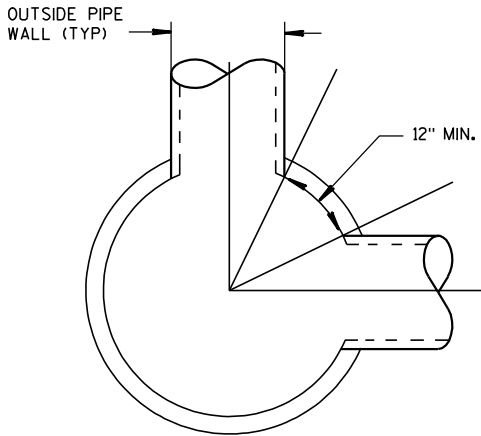
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPERATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

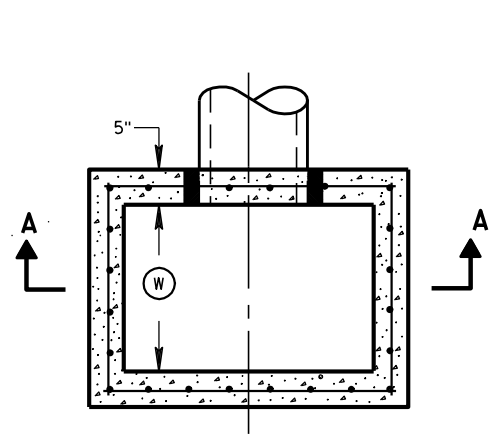
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

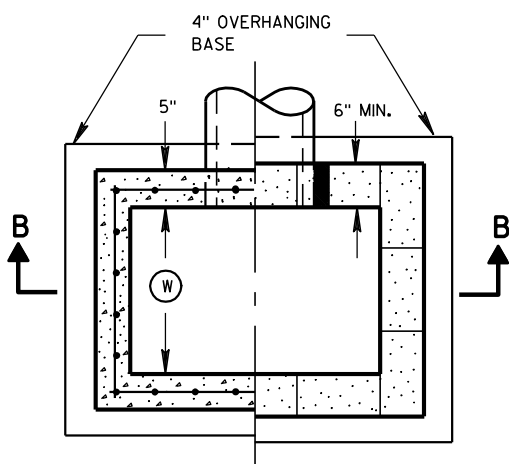
APPROVED
6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA

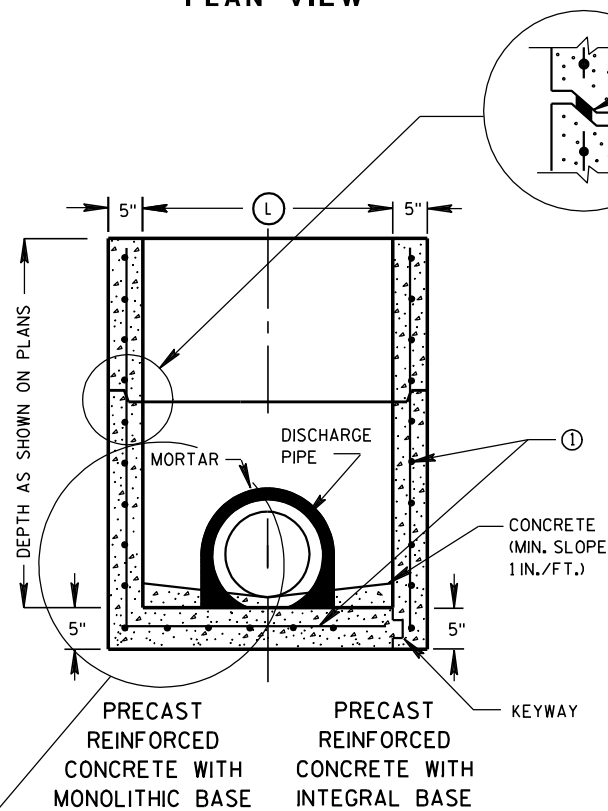


PLAN VIEW

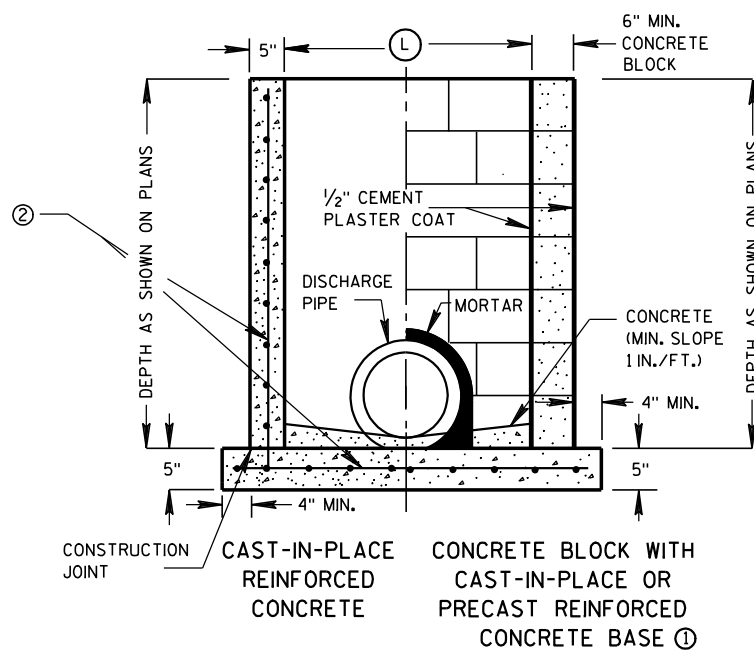


PLAN VIEW

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

SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION

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

GENERAL NOTES

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

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

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

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

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

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

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

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPERATE 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.

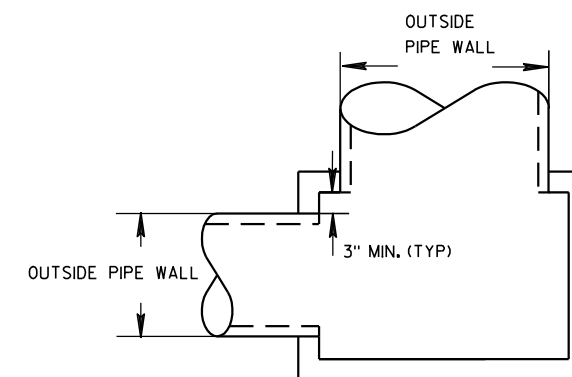
- FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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

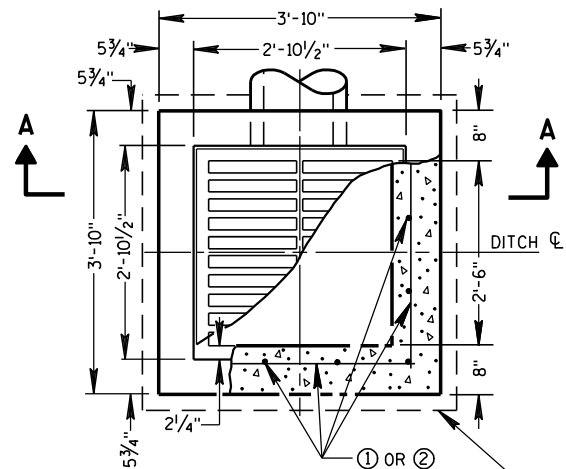


DETAIL "A"

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

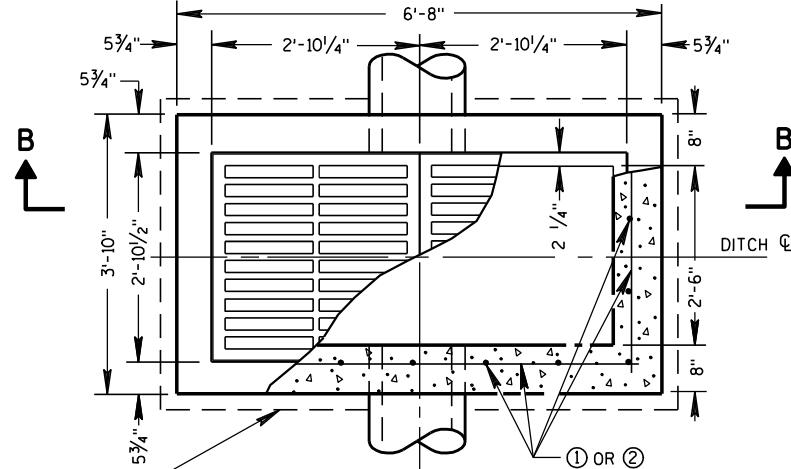
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

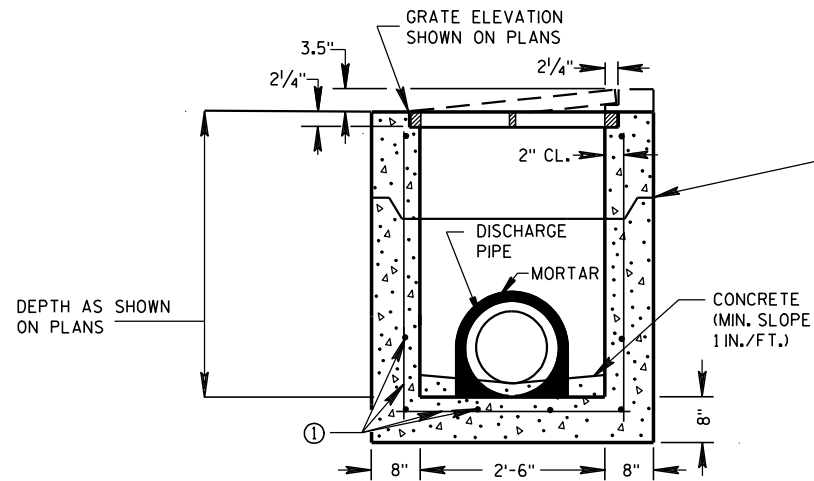


PLAN VIEW

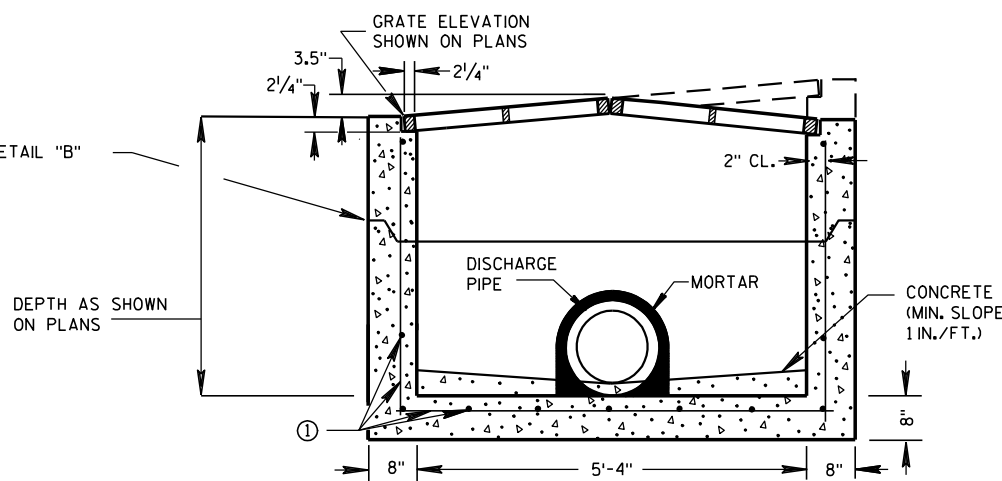
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



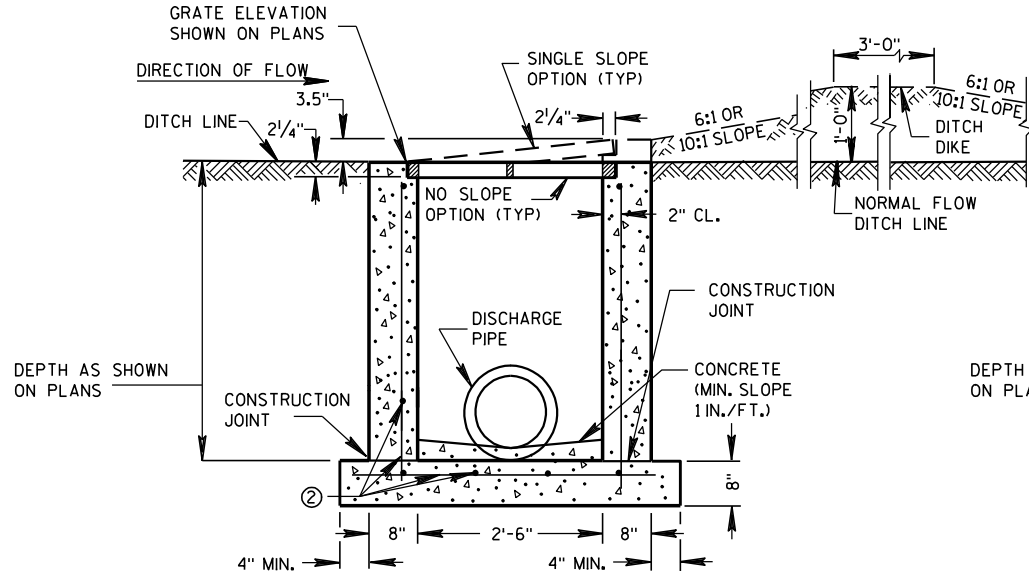
PLAN VIEW



PRECAST REINFORCED CONCRETE SECTION A-A

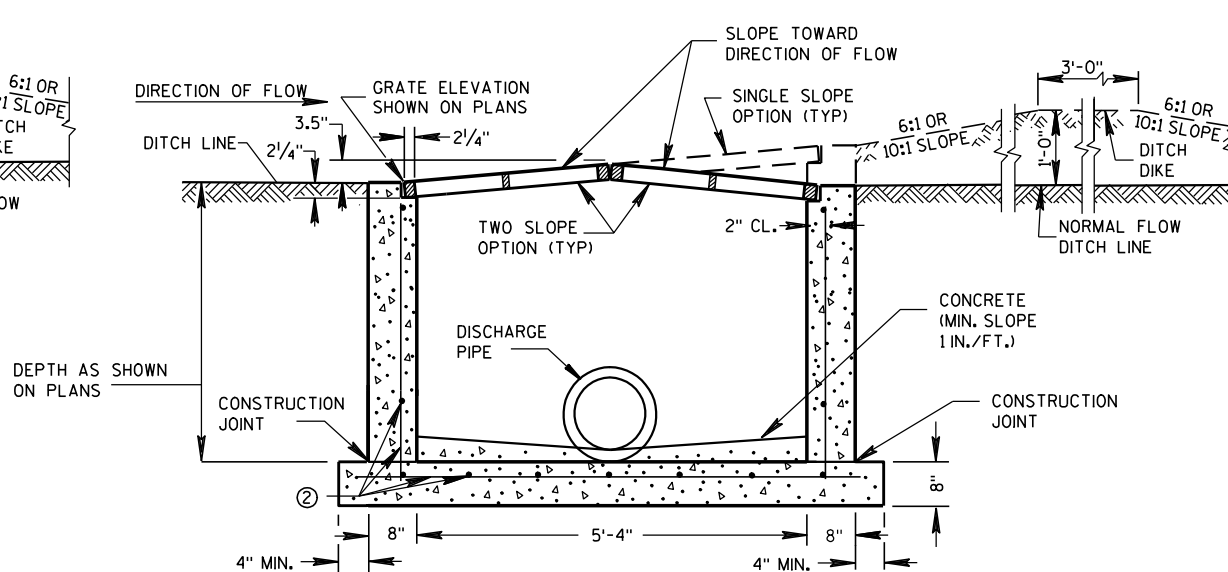


PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A

INLETS MEDIAN 1 GRATE



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

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

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, IG-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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

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

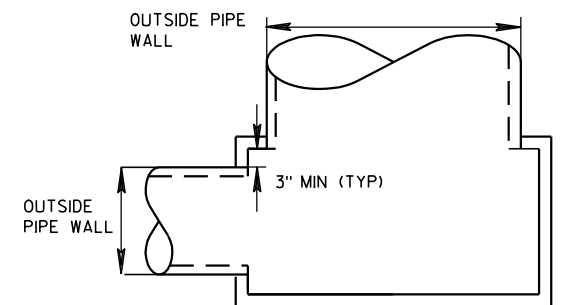
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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

- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

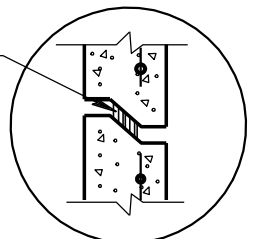
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

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



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012

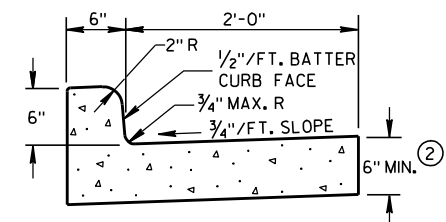
DATE

FHWA

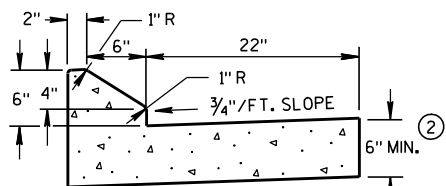
/s/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

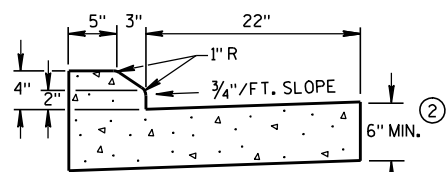
ENGINEER



TYPES A & D ①

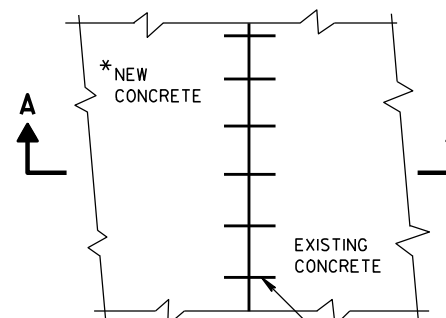


6" SLOPED CURB TYPES G & J ①



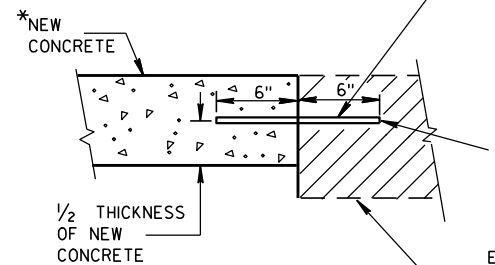
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"



PLAN VIEW

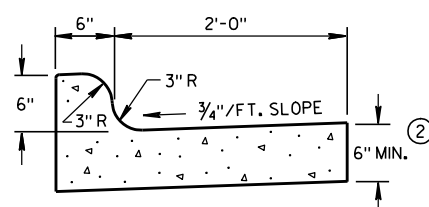
* NEW CURB & GUTTER,
SURFACE DRAINS,
CONCRETE PAVEMENT
OR OTHER NEW CONCRETE.

SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

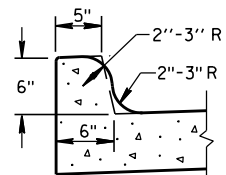
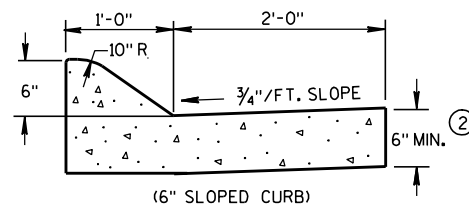
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

MAXIMUM DRILL HOLE
SIZE IS 1/8" GREATER
THAN TIE BAR DIAMETER

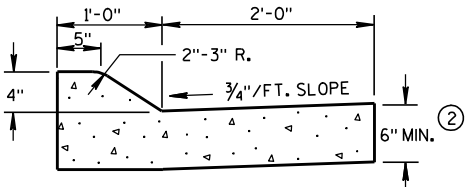
EXISTING
CONCRETE



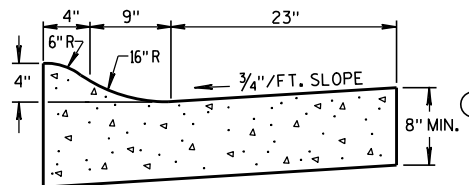
TYPES K & L ①

OPTIONAL CURB SHAPE
FOR TYPES K & L ①

(6" SLOPED CURB)

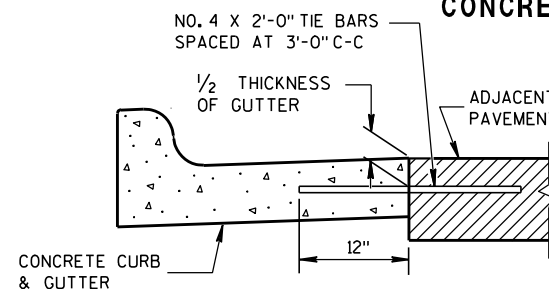


TYPES A & D ①

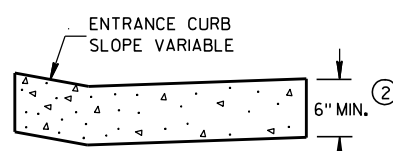


4" SLOPED CURB TYPES R & T ① ④

CONCRETE CURB & GUTTER 36"

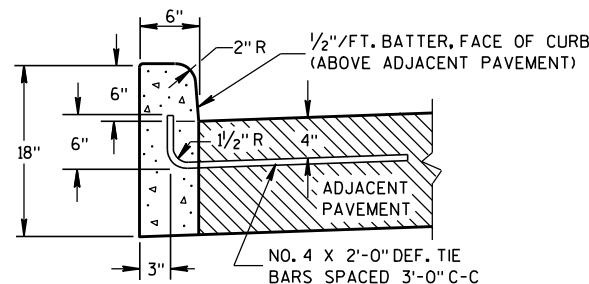


TYPICAL TIE BAR LOCATION ①



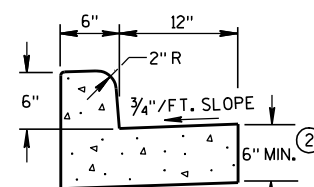
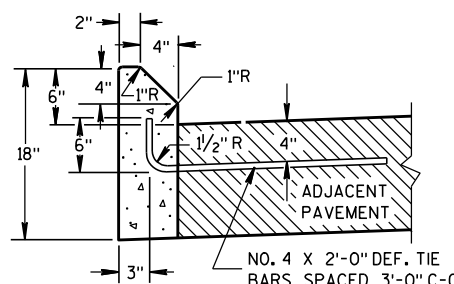
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



TYPES A & D ①

CONCRETE CURB

TYPES A & D
CONCRETE CURB & GUTTER 18"

TYPES G & J ①

GENERAL NOTES

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

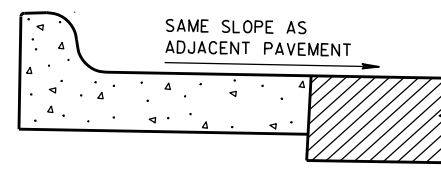
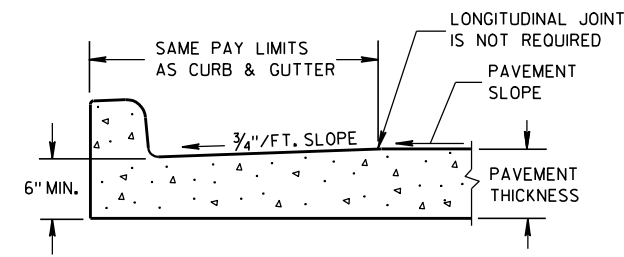
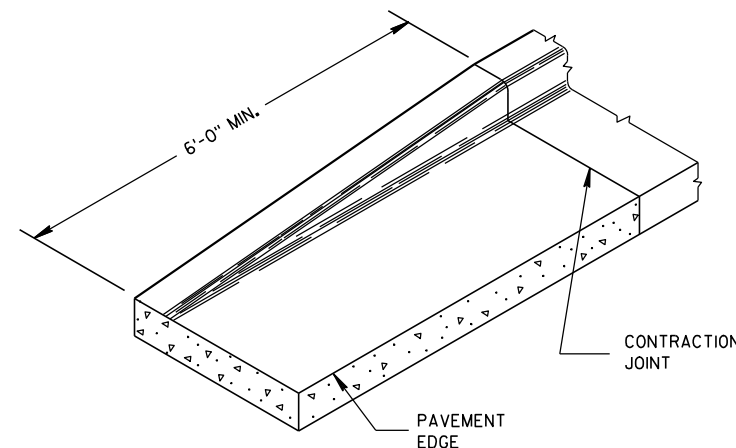
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER

END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08

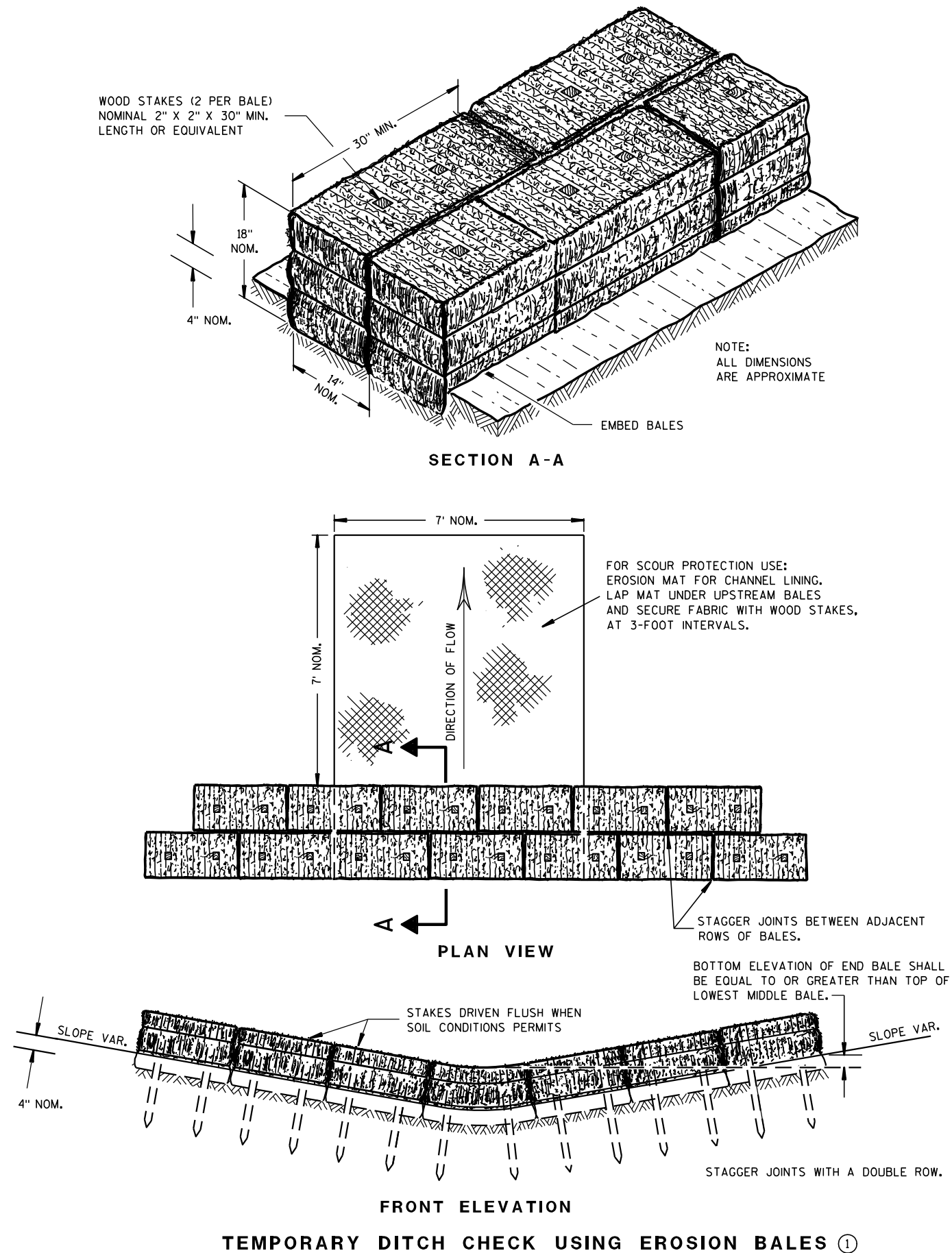
DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

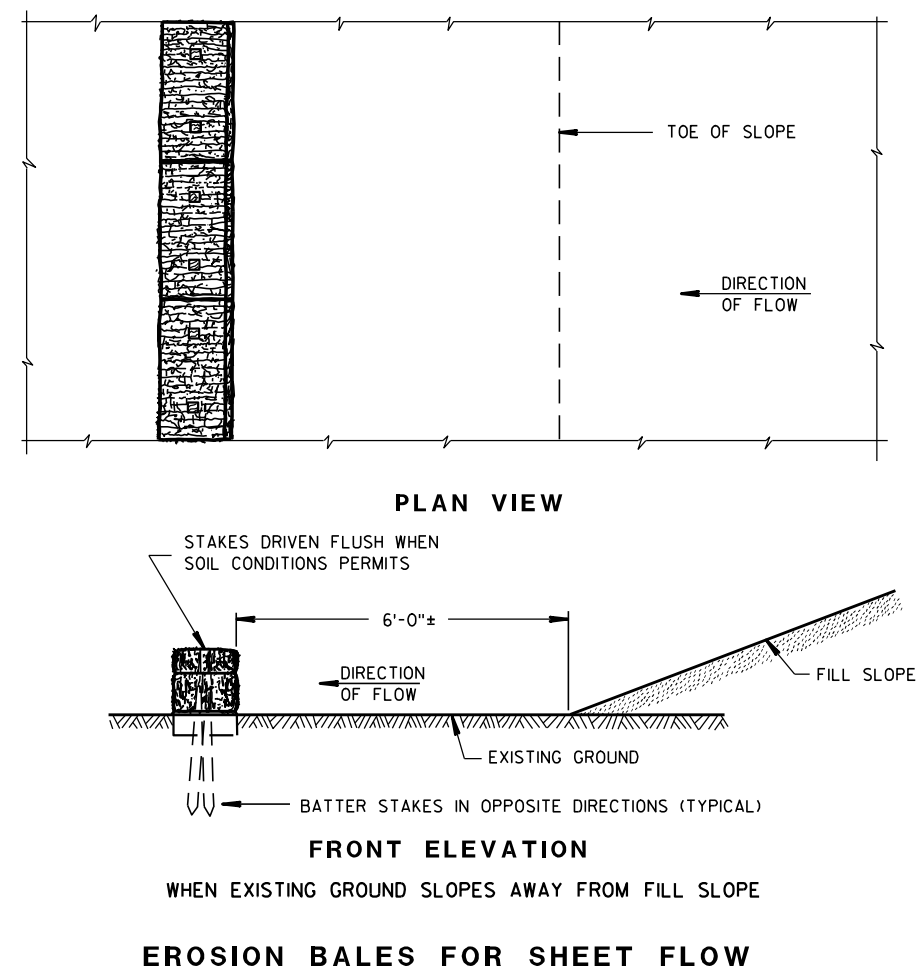
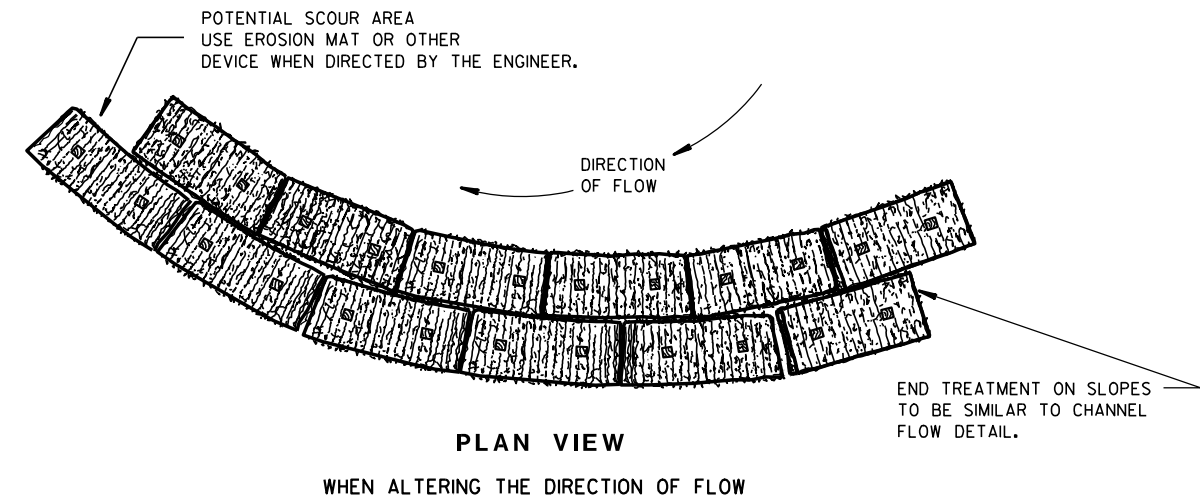
ENGINEER



GENERAL NOTES

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

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

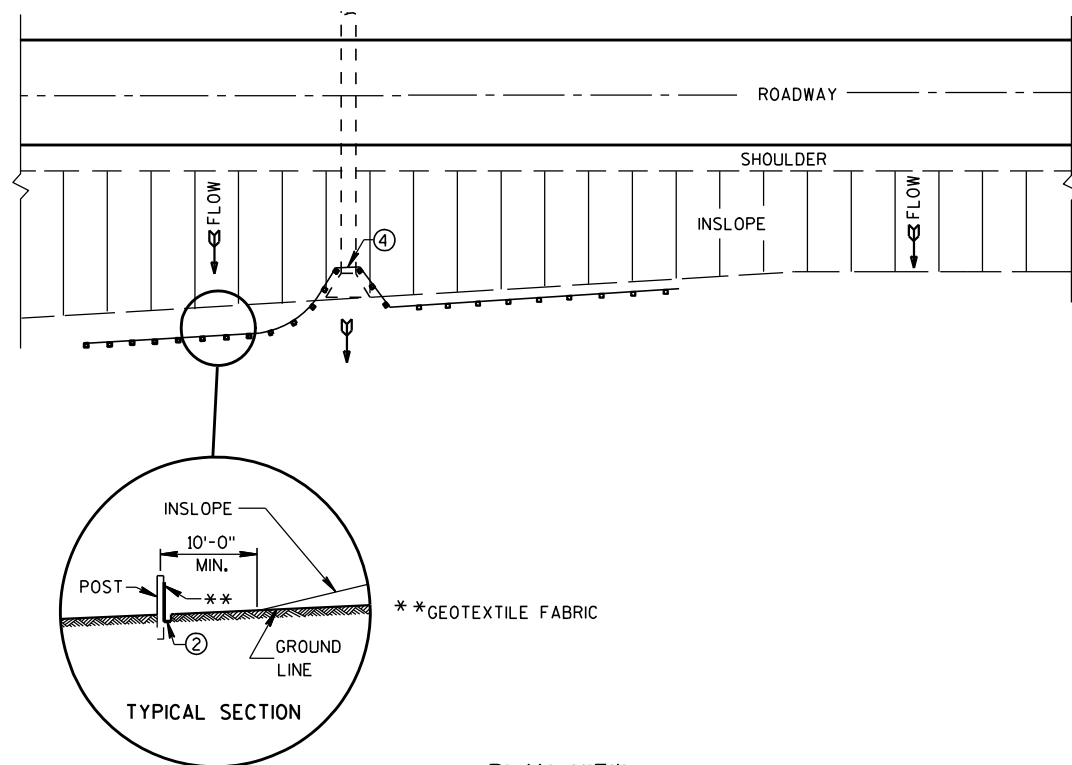
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

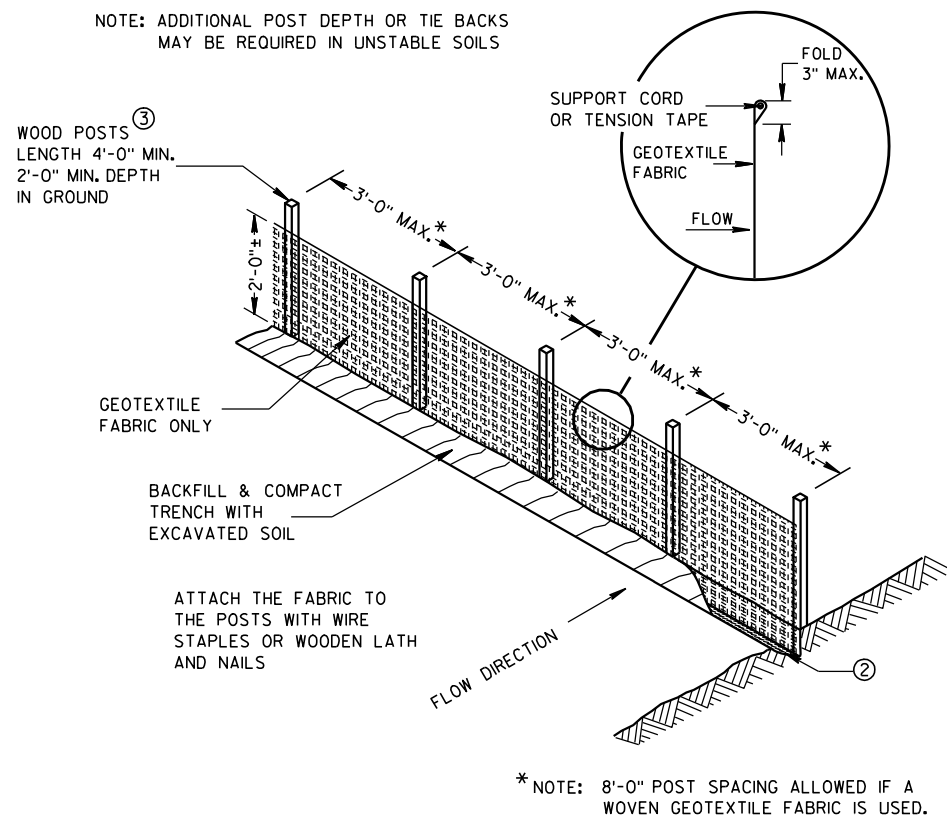
APPROVED

6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

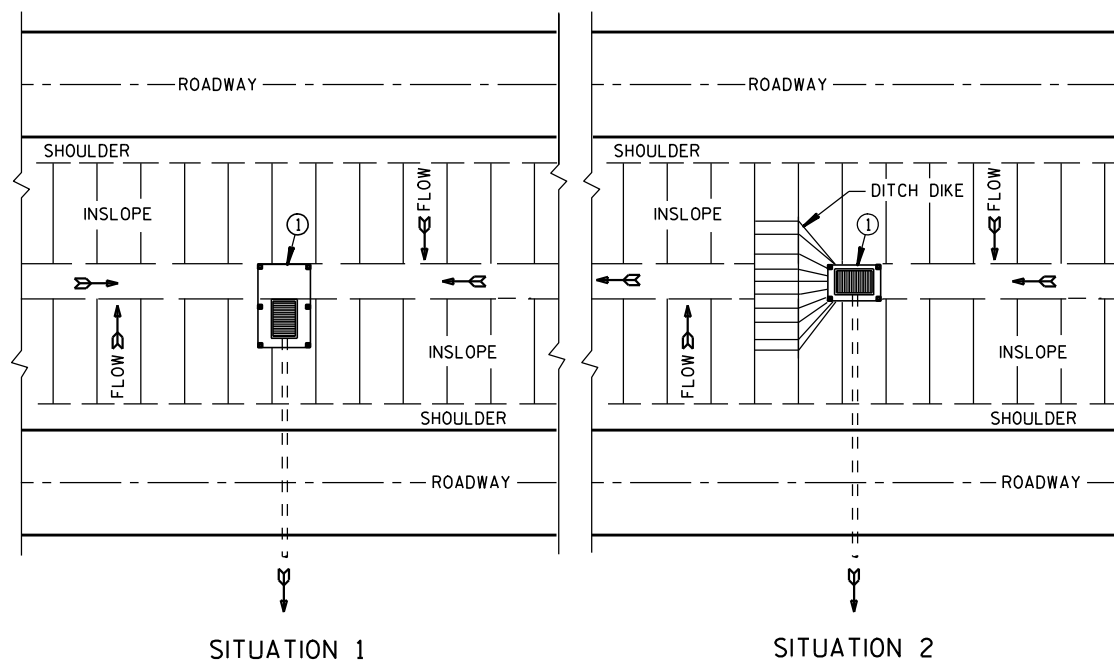
FHWA



TYPICAL APPLICATION OF SILT FENCE

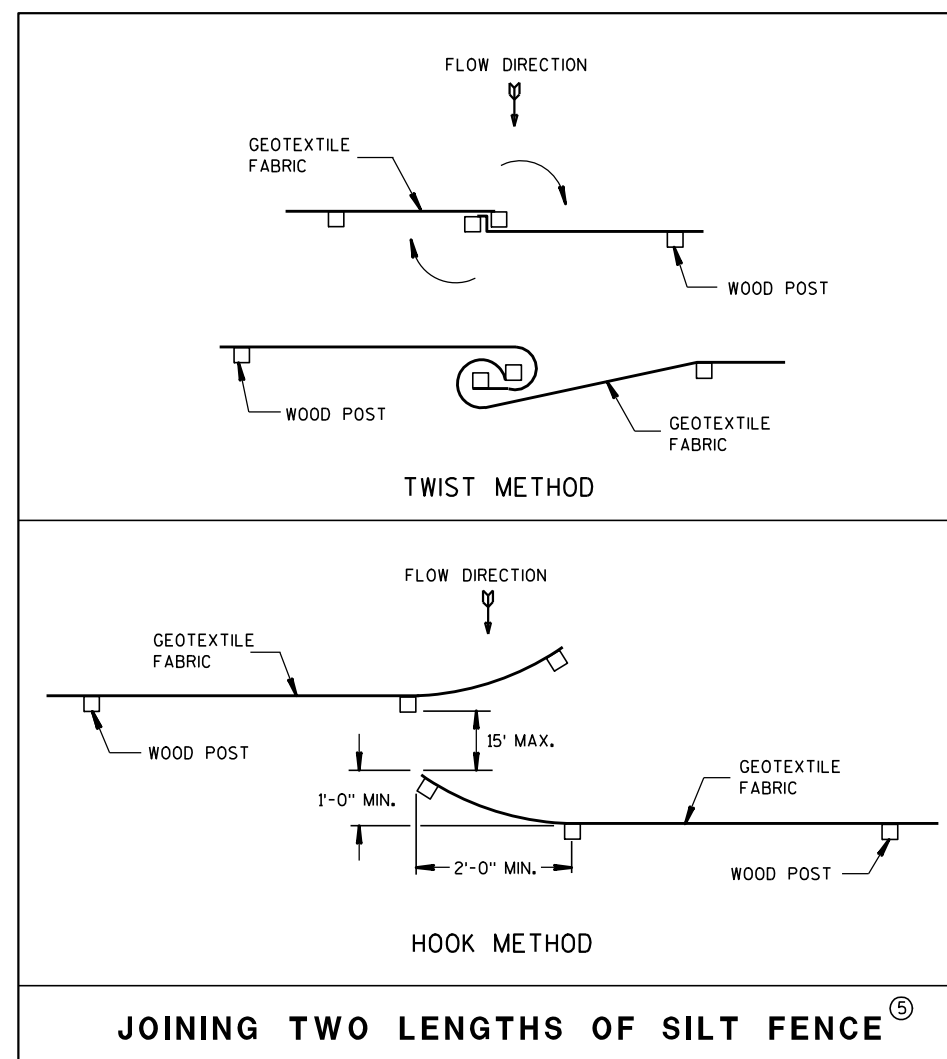


SILT FENCE



PLAN VIEW

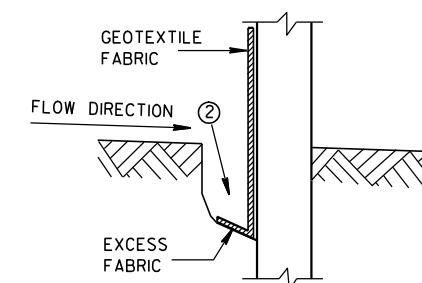
SILT FENCE AT MEDIAN SURFACE DRAINS



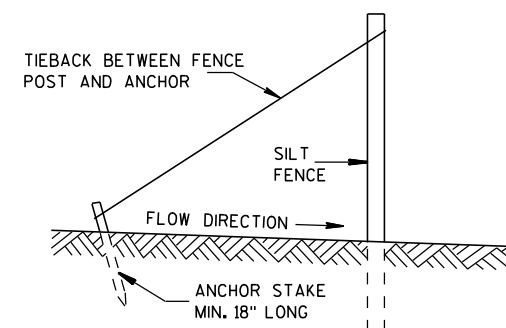
GENERAL NOTES

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

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK (WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

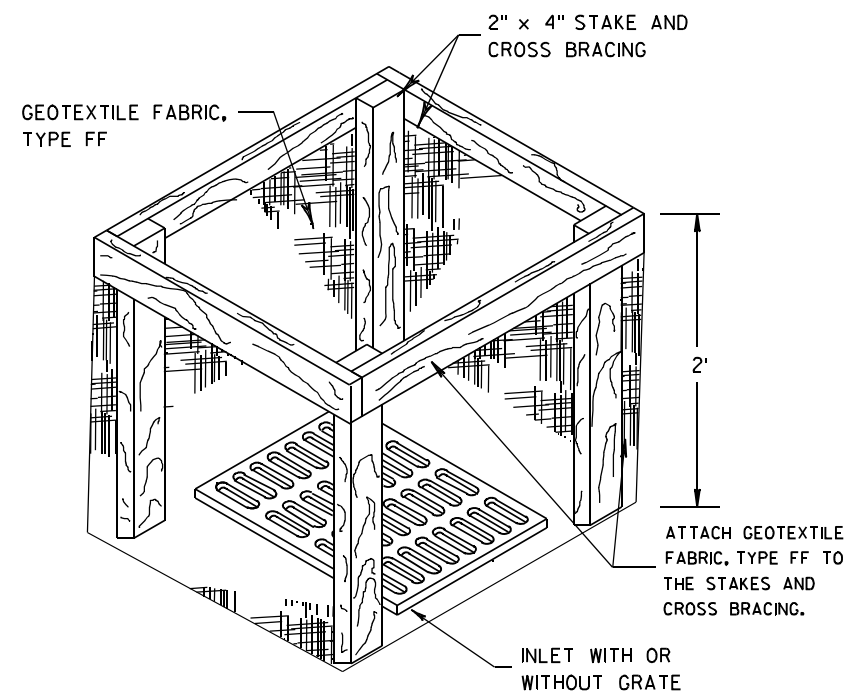
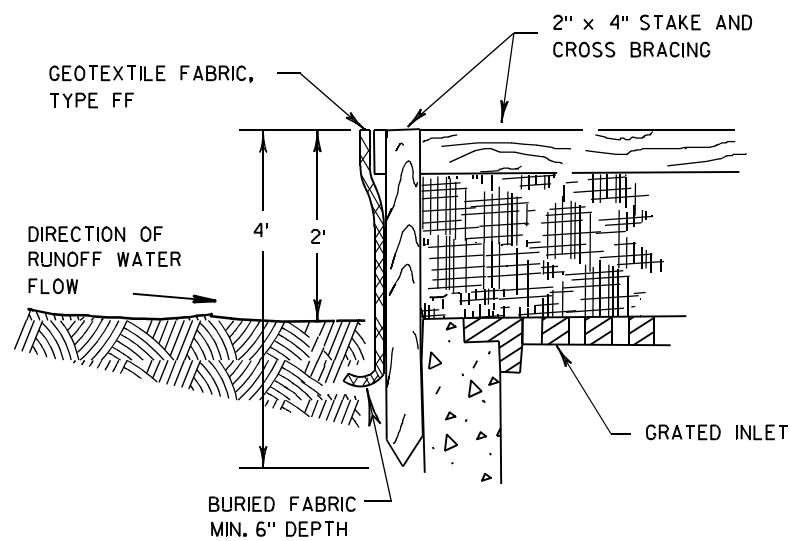
APPROVED

4-29-05

DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



INLET PROTECTION, TYPE A

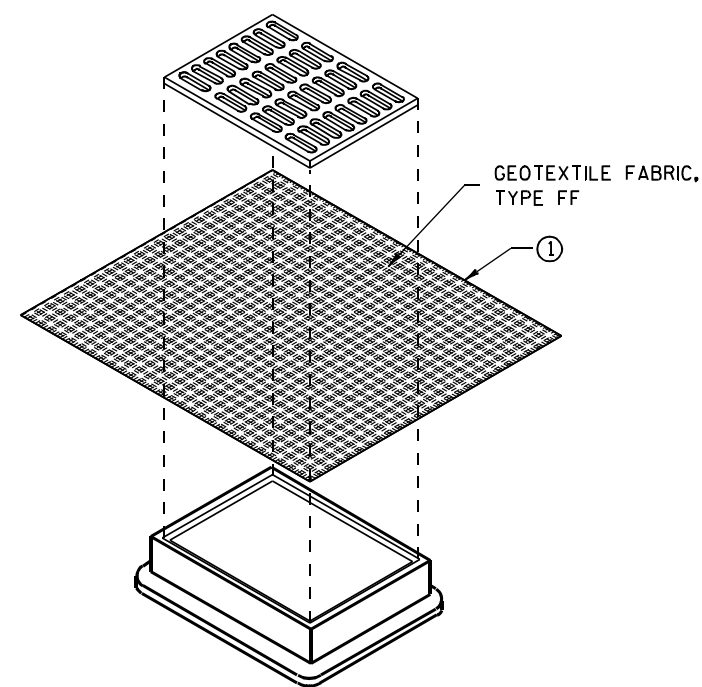
GENERAL NOTES

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.

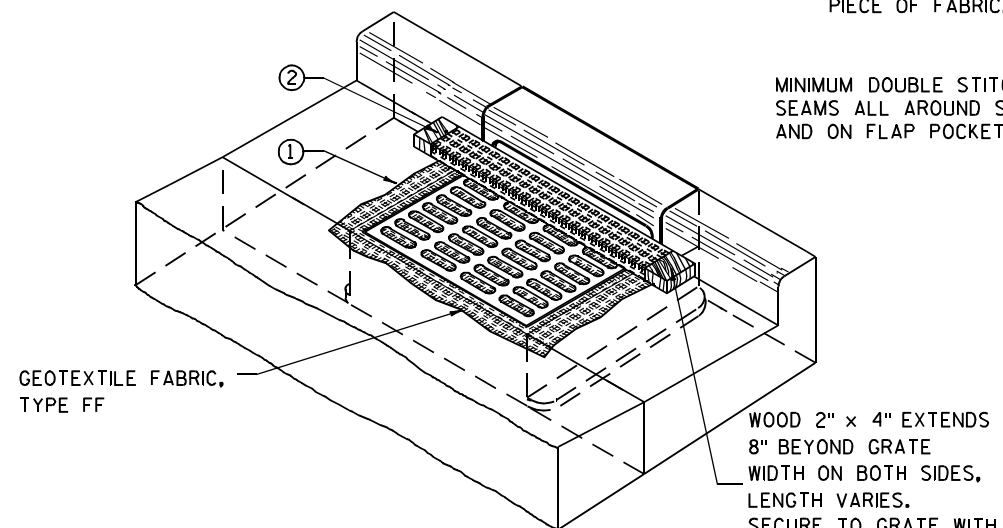
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

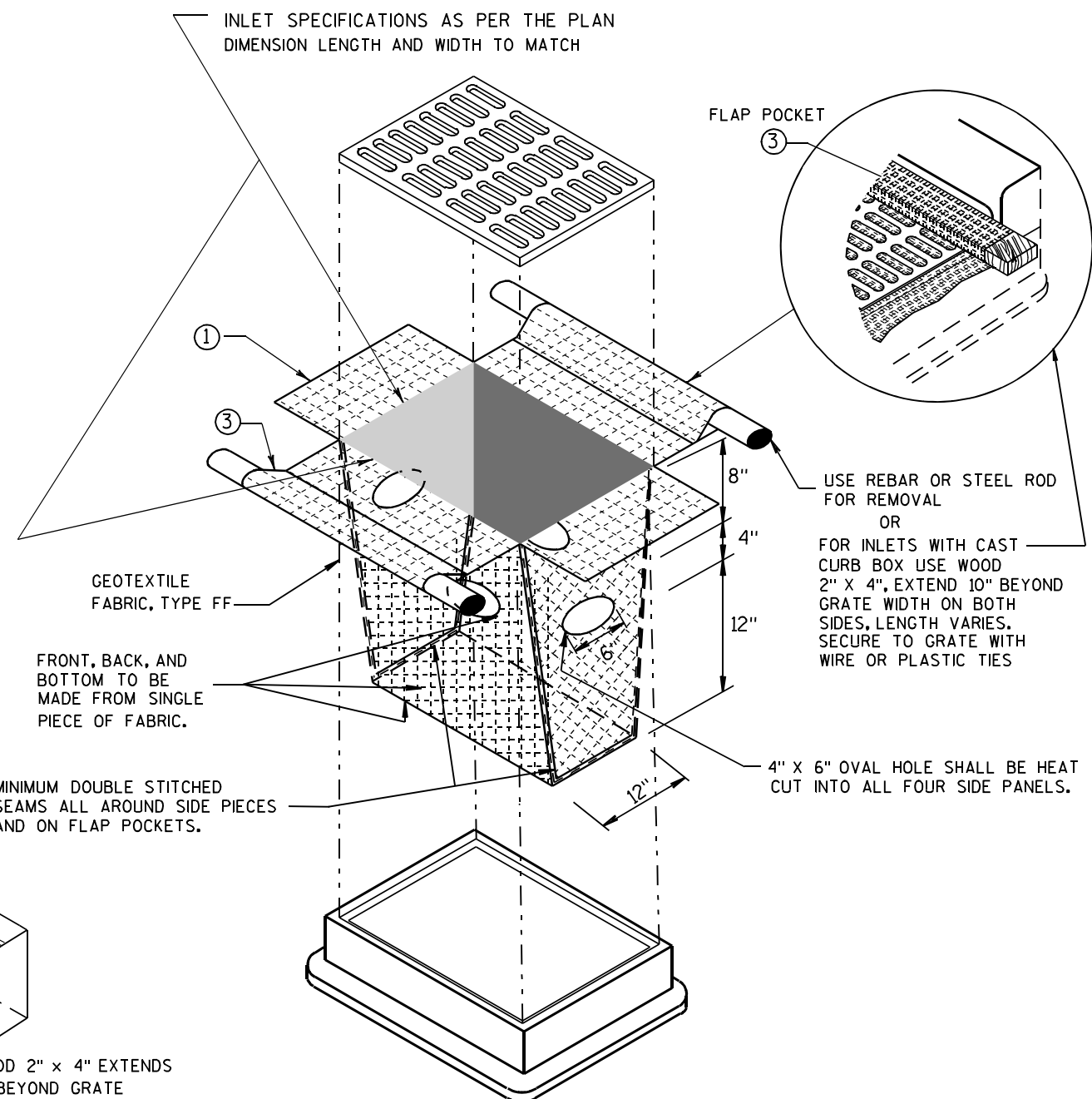
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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)

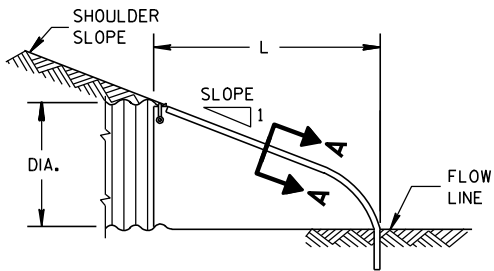
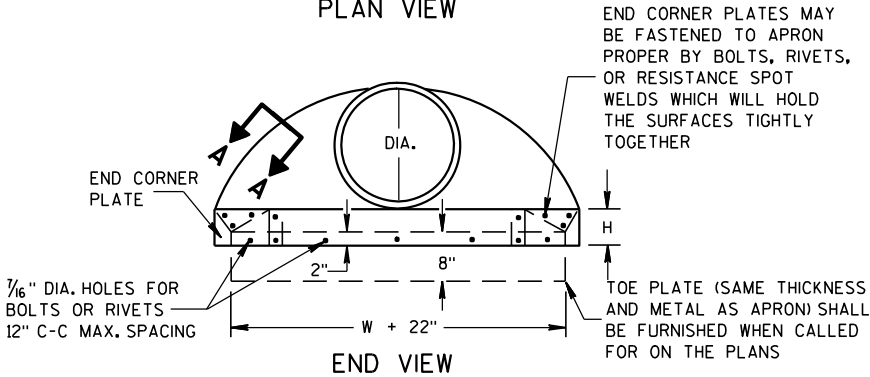
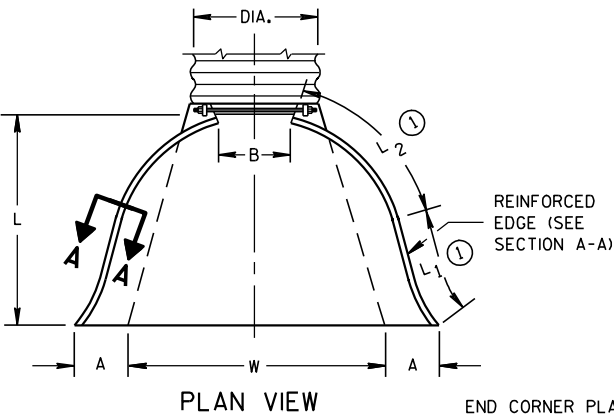
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

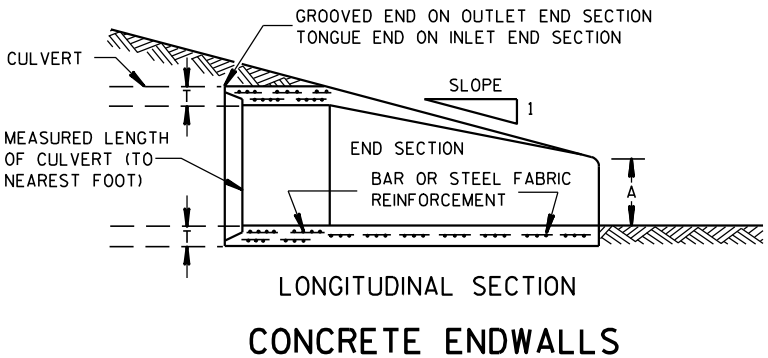
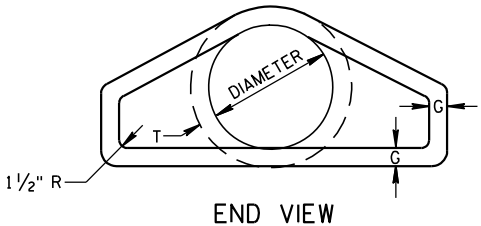
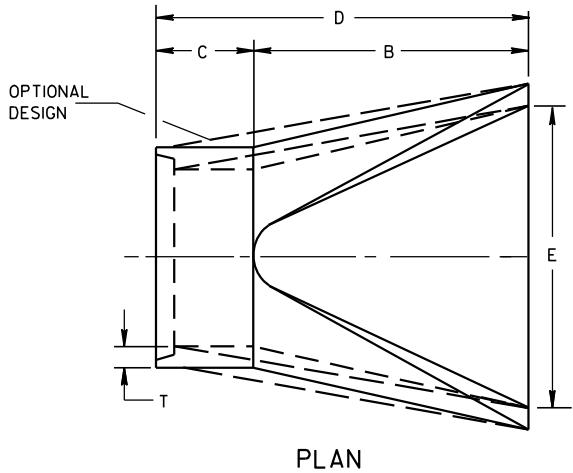
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



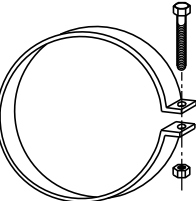
METAL ENDWALLS

REINFORCED CONCRETE APRON ENDWALLS											
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE			
	T	A	B	C	D	E	G				
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1			
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1			
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1			
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1			
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1			
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1			
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1			
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1			
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1			
48	5	24	72	26	98	84	5	3 to 1			
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 1/2 to 1			
60	6	30-35	60	39	99	96	5	2 to 1			
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1			
72	7	24-36	78	21	99	108	6	2 to 1			
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1			
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1			
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1			

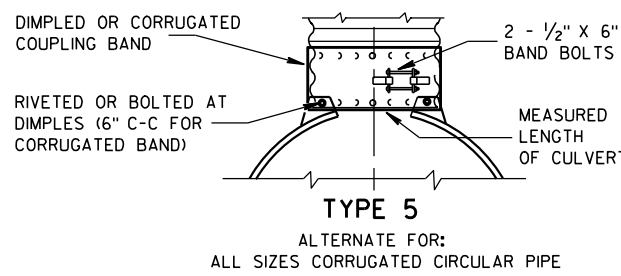
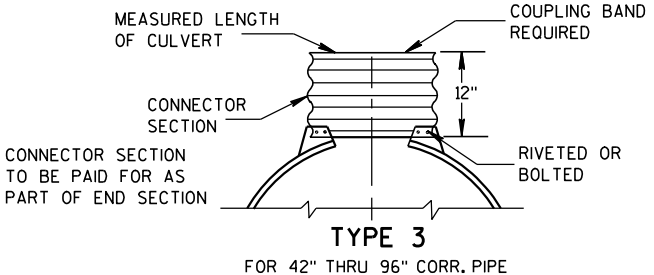
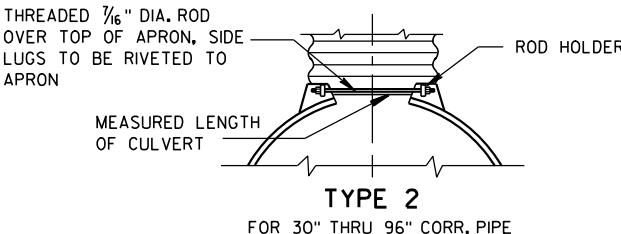
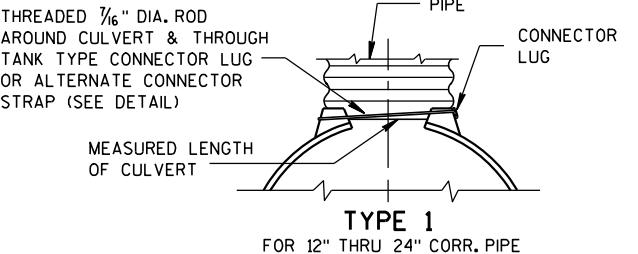
* MINIMUM
** MAXIMUM



1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



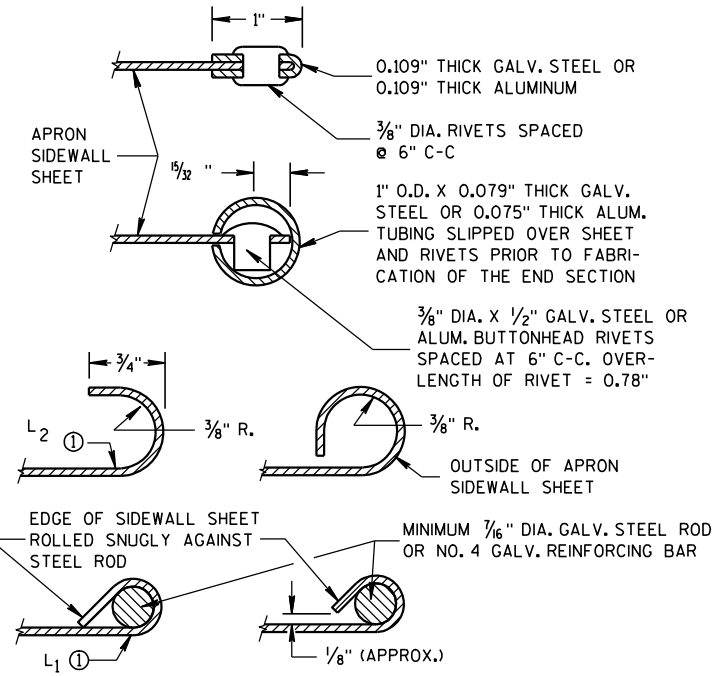
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

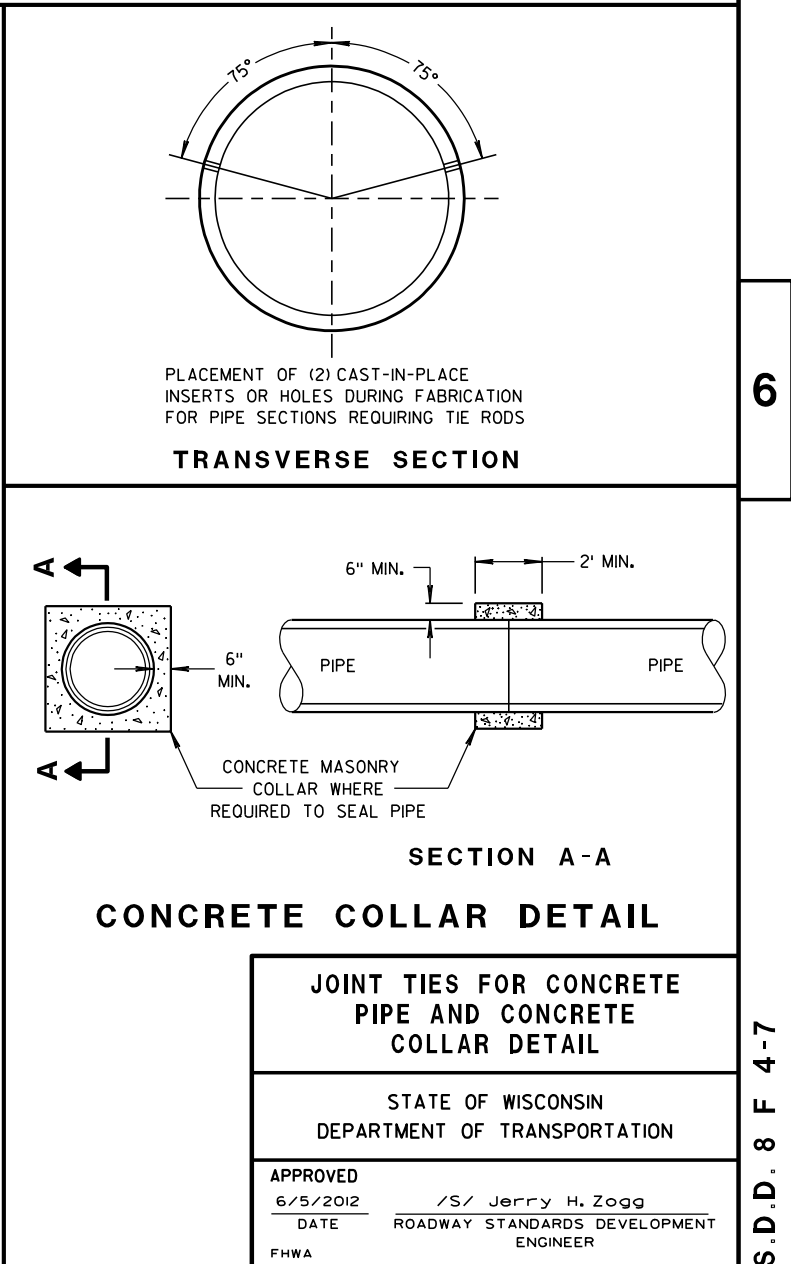
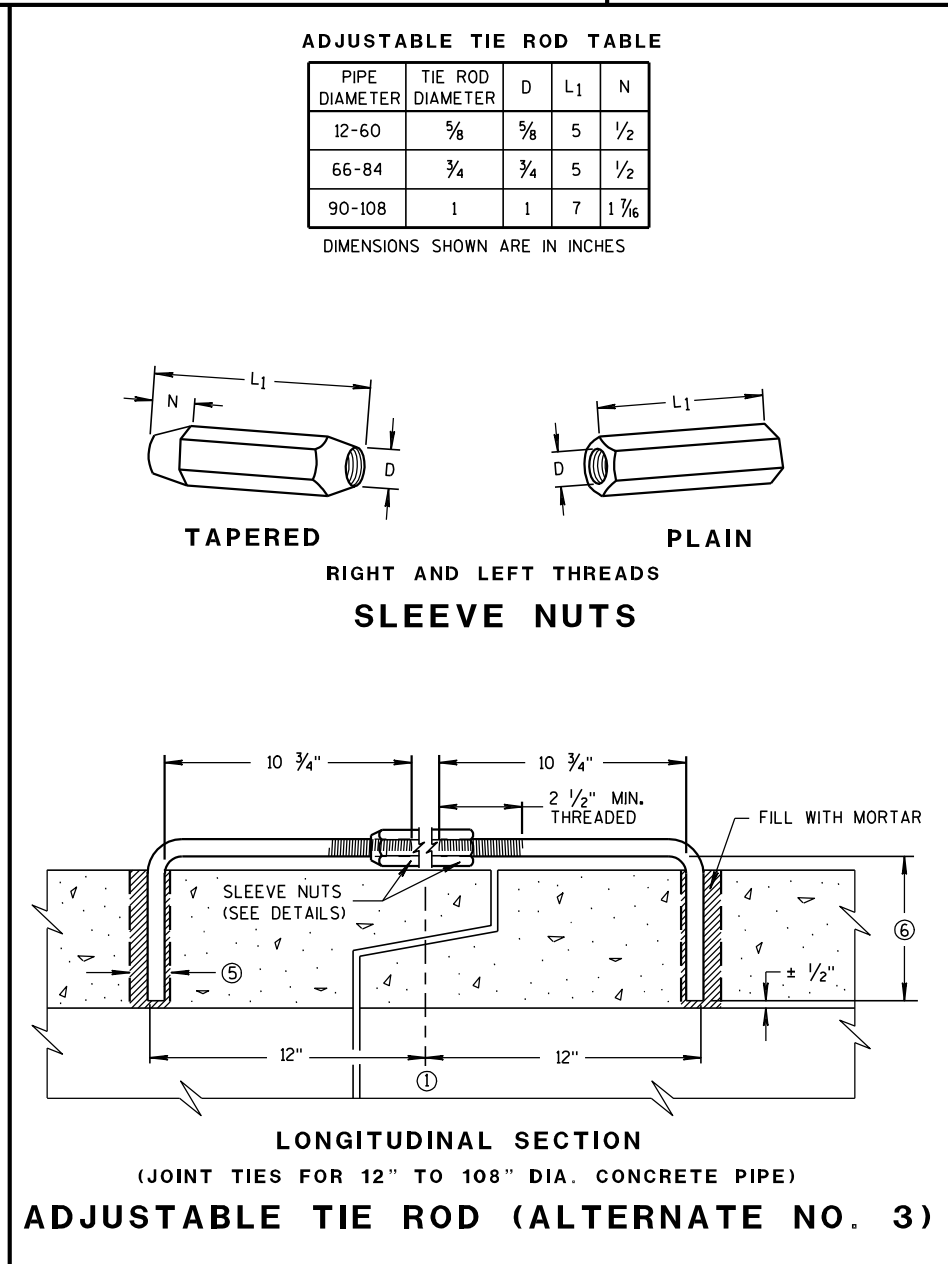
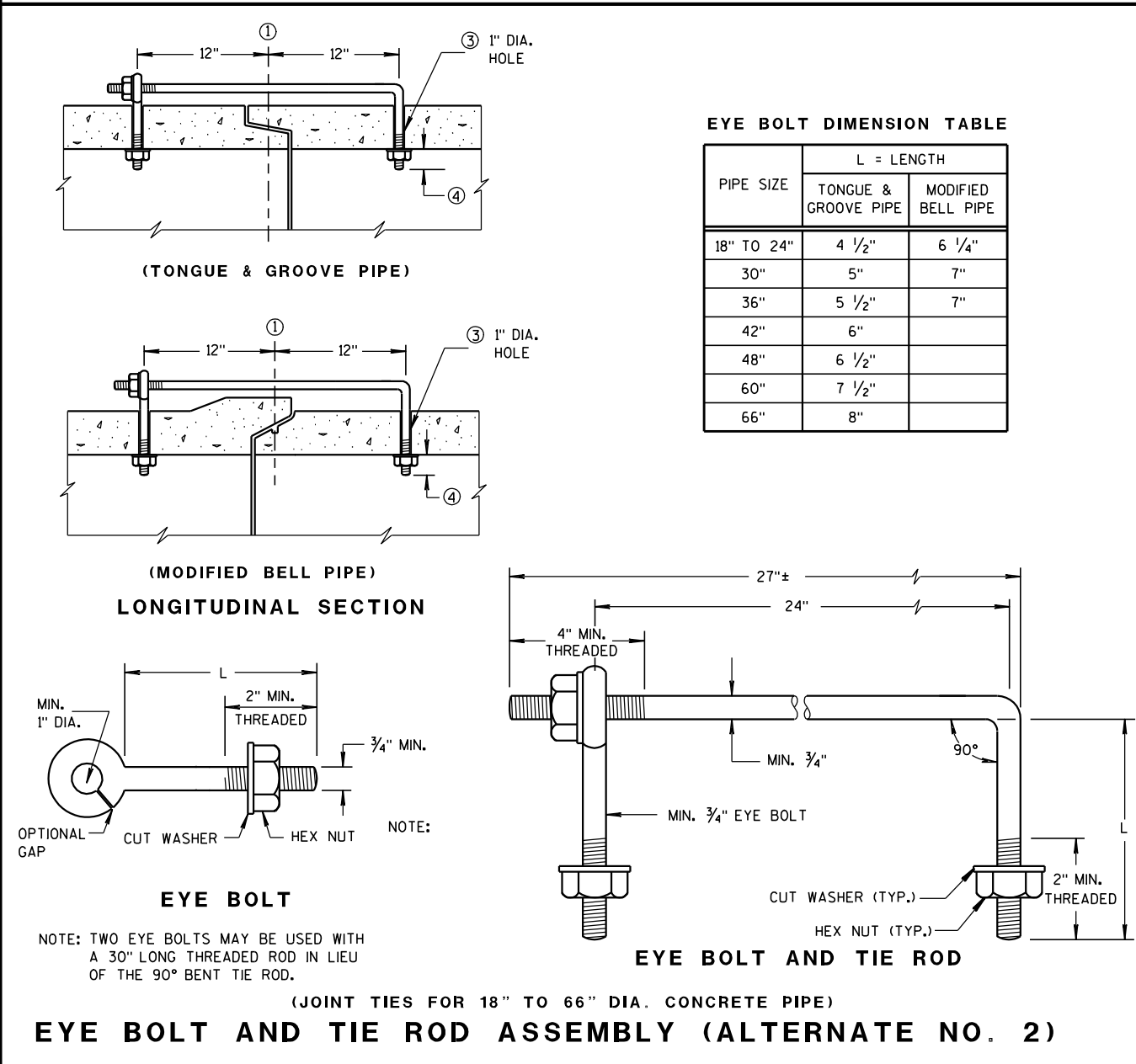
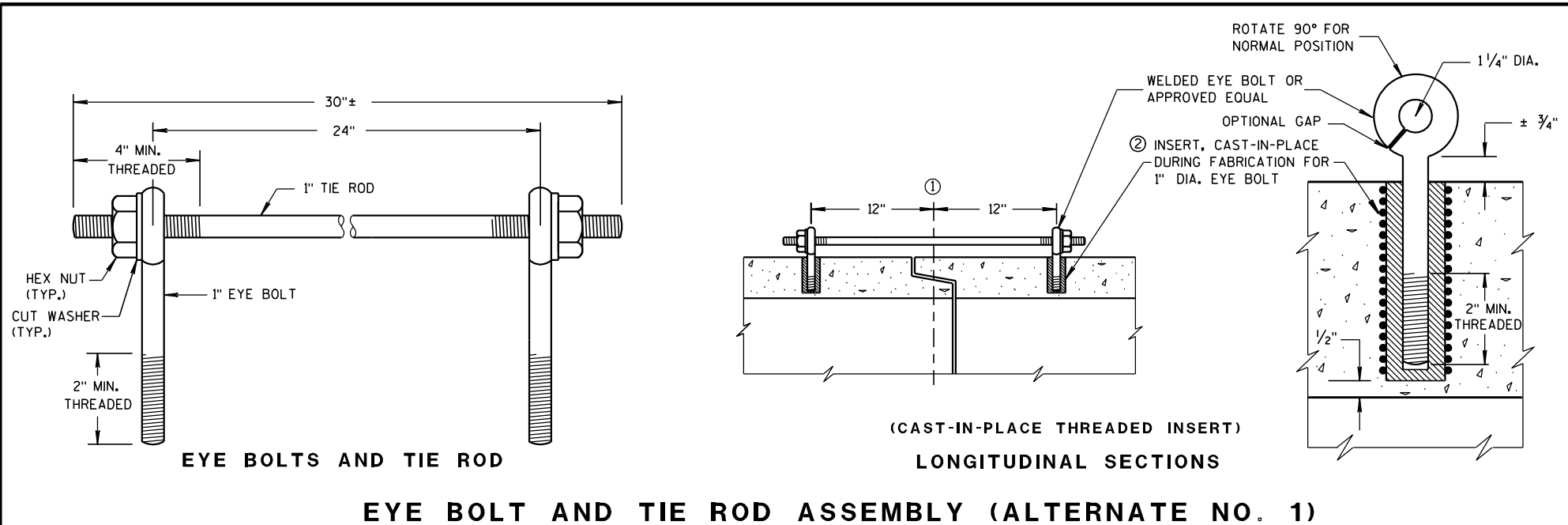
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

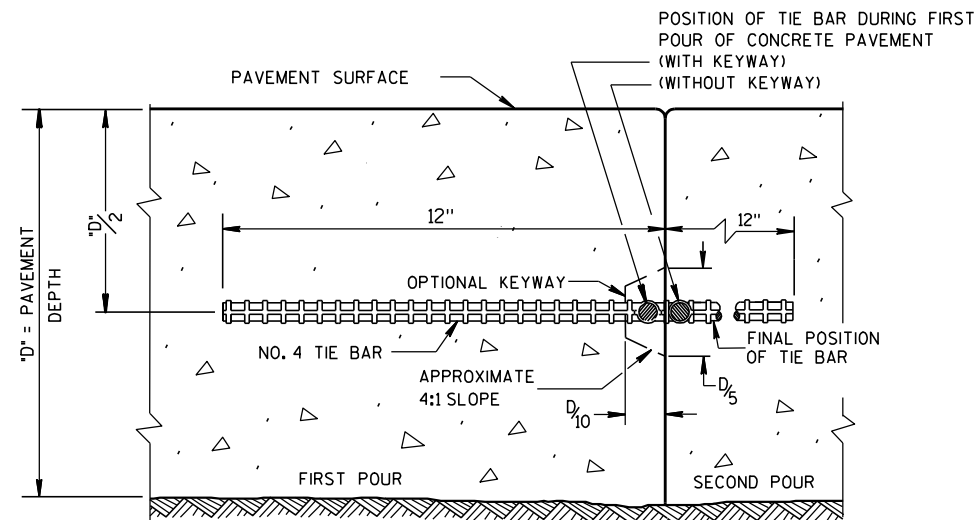
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
CULVERT PIPE

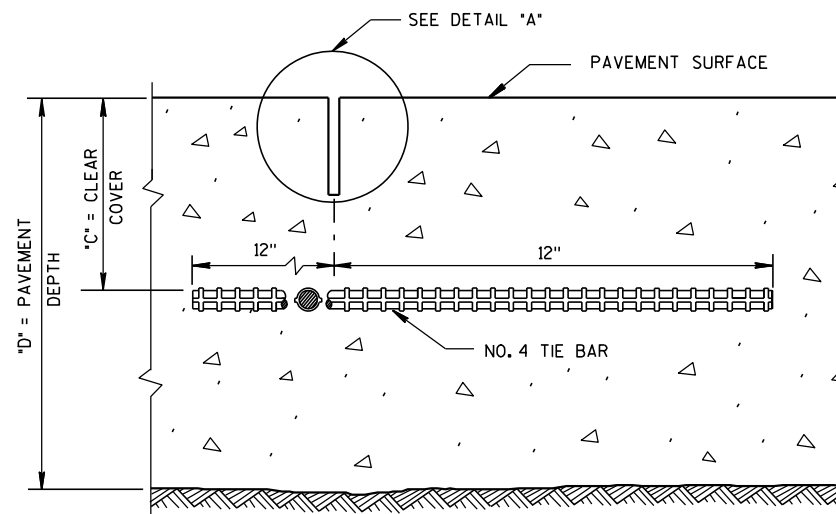
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA





CONSTRUCTION JOINT



SAWED JOINT

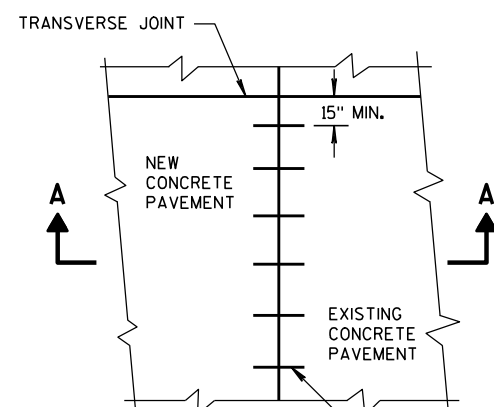
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

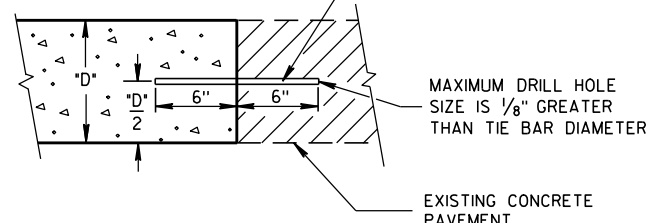
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

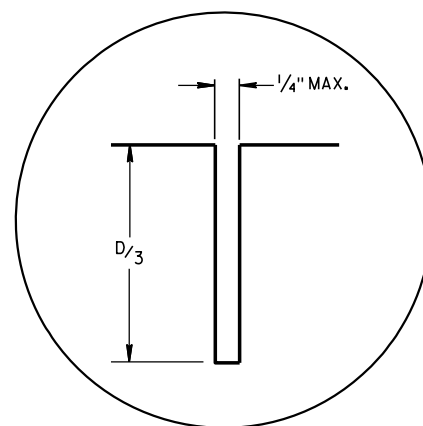


PLAN VIEW

NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①

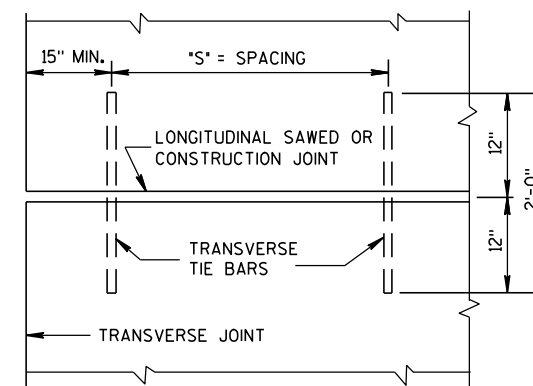


**SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT**



DETAIL "A"

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH 24' OR 26'	≥ 30'
6, 6 1/2"	3" ± 1/2"	48"	42"
7, 7 1/2"	3 1/4" ± 1"	45"	36"
8, 8 1/2"	3 3/4" ± 1"	39"	30"
9, 9 1/2"	4 1/4" ± 1"	33"	27"
10, 10 1/2"	4 3/4" ± 1"	30"	24"
11, 11 1/2"	5 1/4" ± 1"	27"	21"
12"	5 3/4" ± 1"	24"	21"



**PLAN VIEW
SHOWING LOCATION OF TIE BARS**

**CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES**

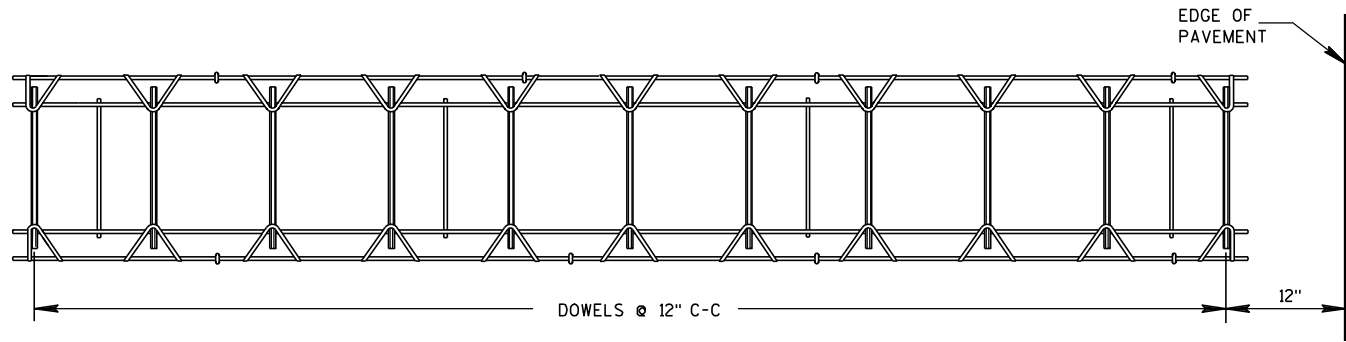
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

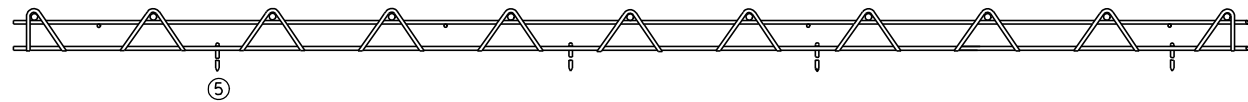
10-5-2010
DATE

FHWA

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



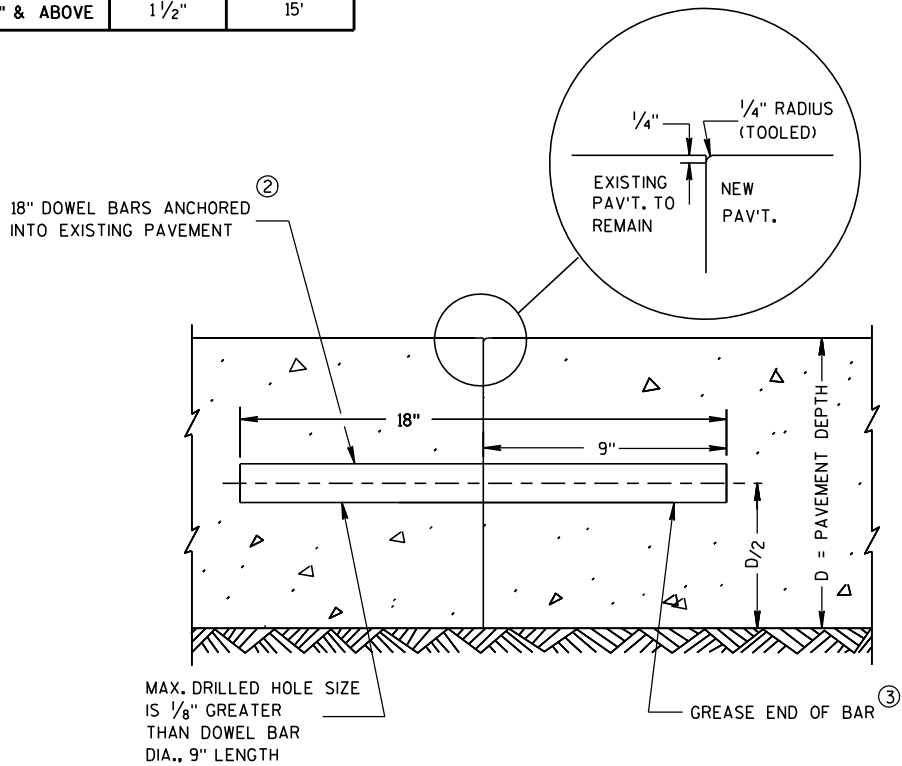
PLAN VIEW



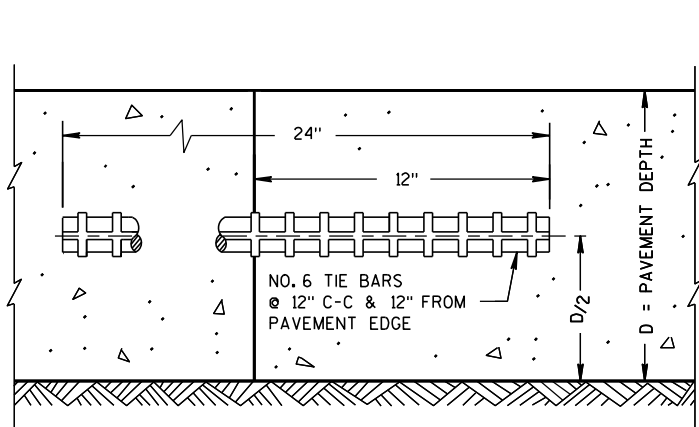
SIDE VIEW
CONTRACTION JOINT DOWEL ASSEMBLY

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

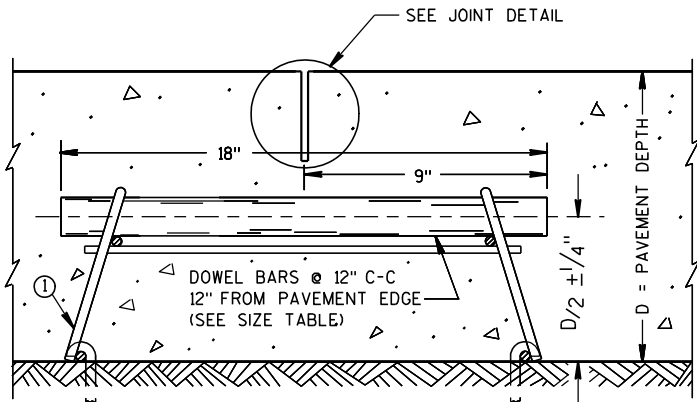
PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



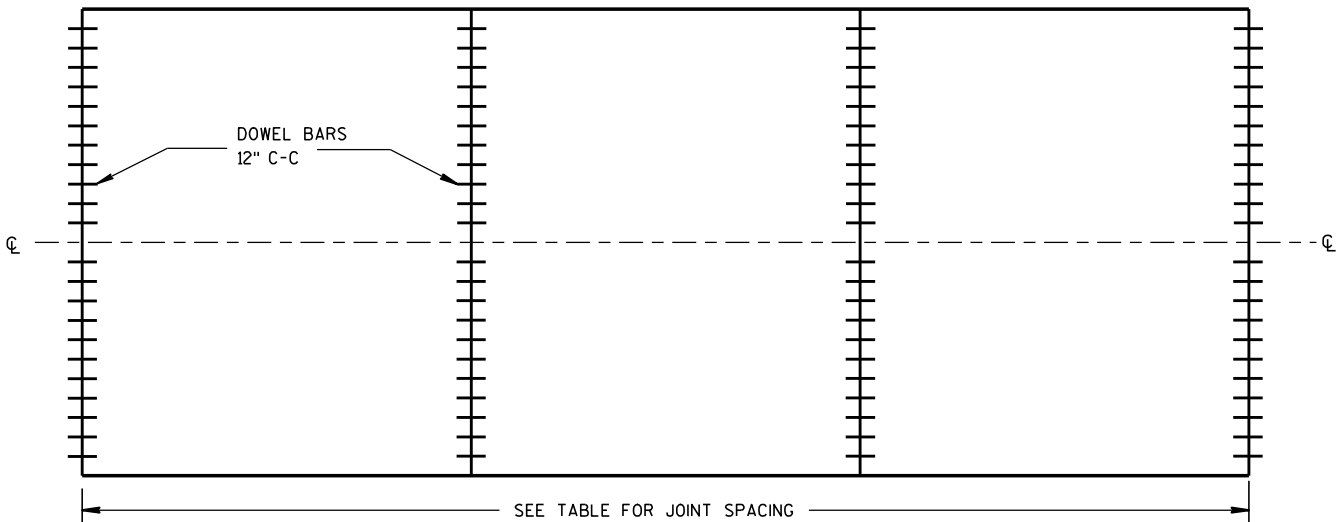
TRANSVERSE CONTRACTION JOINTS ABUTTING
EXISTING PAVEMENT
DOWEL BAR DETAIL



TRANSVERSE CONSTRUCTION JOINT



DOWELED CONTRACTION JOINT



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

FOR PAVEMENT SLABS OF VARYING WIDTHS, CENTER THE DOWEL ASSEMBLY ACROSS THE LANES. LOCATE THE INNER AND OUTER MOST DOWEL BARS SO THAT THE CENTER OF THE BARS ARE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES FROM THE LONGITUDINAL JOINT AND THE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

① THE ENGINEER MAY APPROVE THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. THE CONTRACTOR MAY USE MECHANICAL DOWEL BAR INSERTERS INSTEAD OF DOWEL ASSEMBLIES.

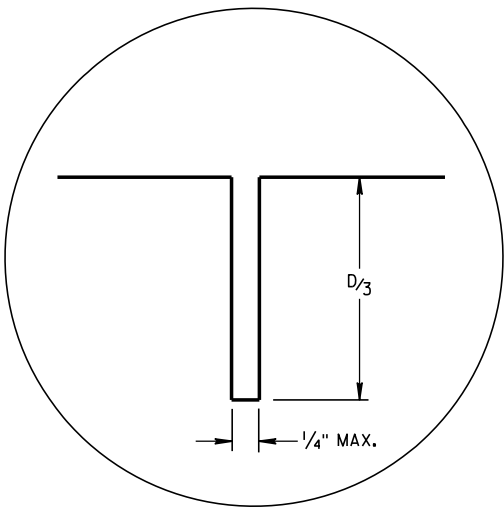
② ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

③ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.

⑤ 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.



JOINT DETAIL

URBAN DOWELED
CONCRETE PAVEMENT

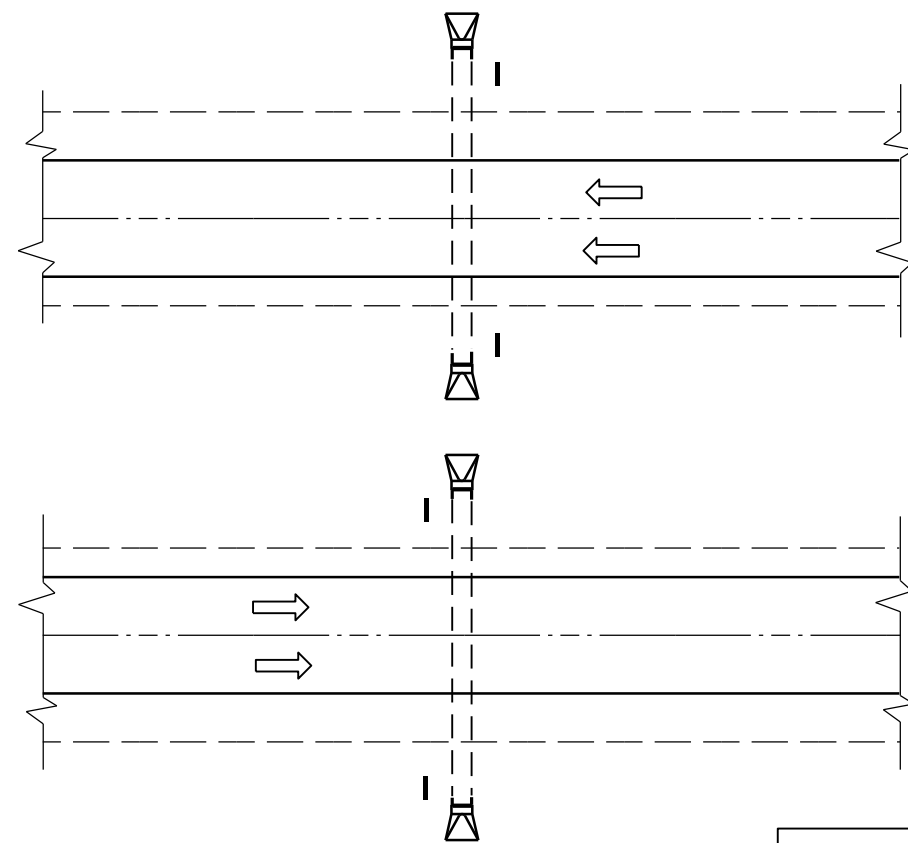
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

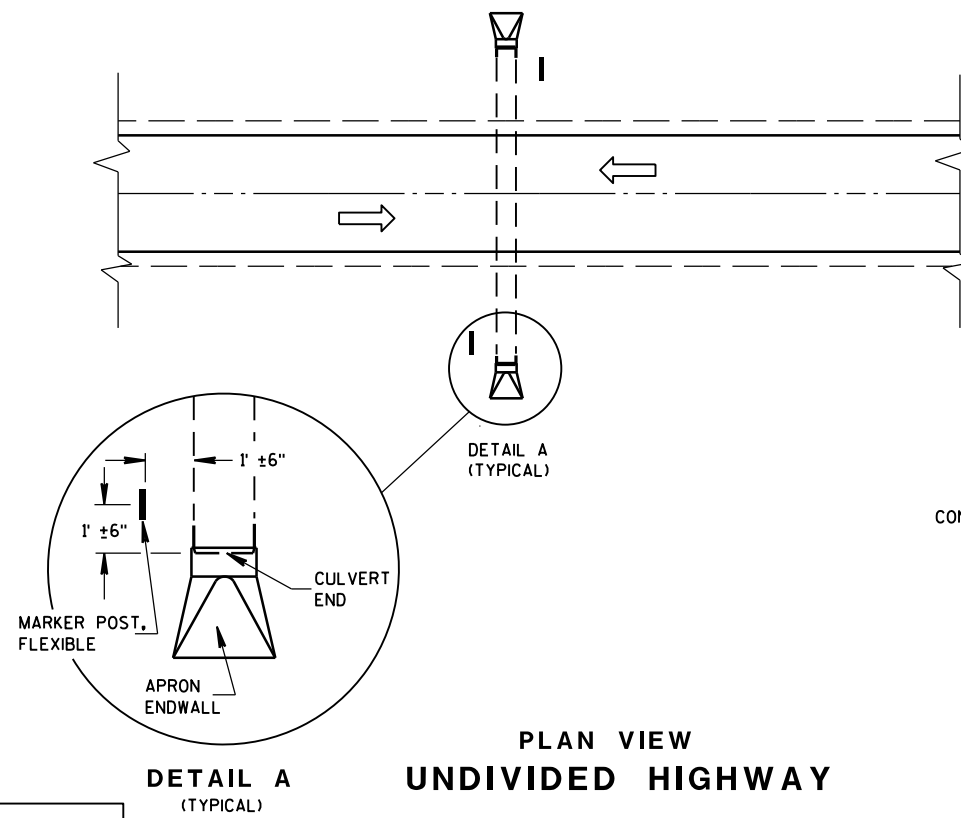
12/11/2009
DATE

FHWA

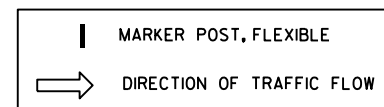
/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



PLAN VIEW
DIVIDED HIGHWAY



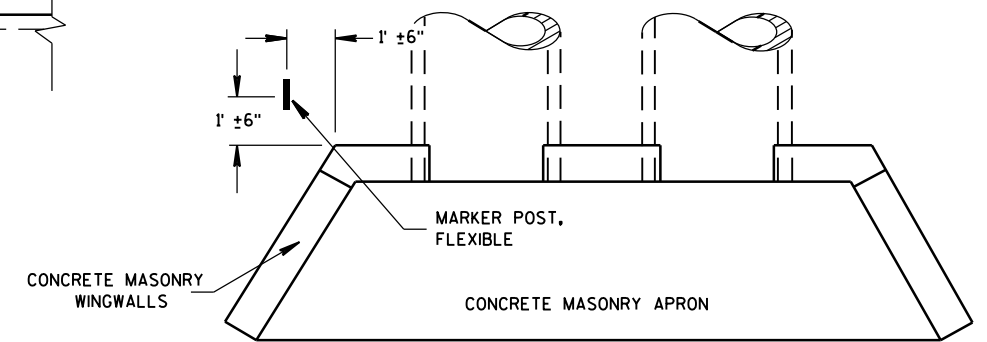
PLAN VIEW
UNDIVIDED HIGHWAY



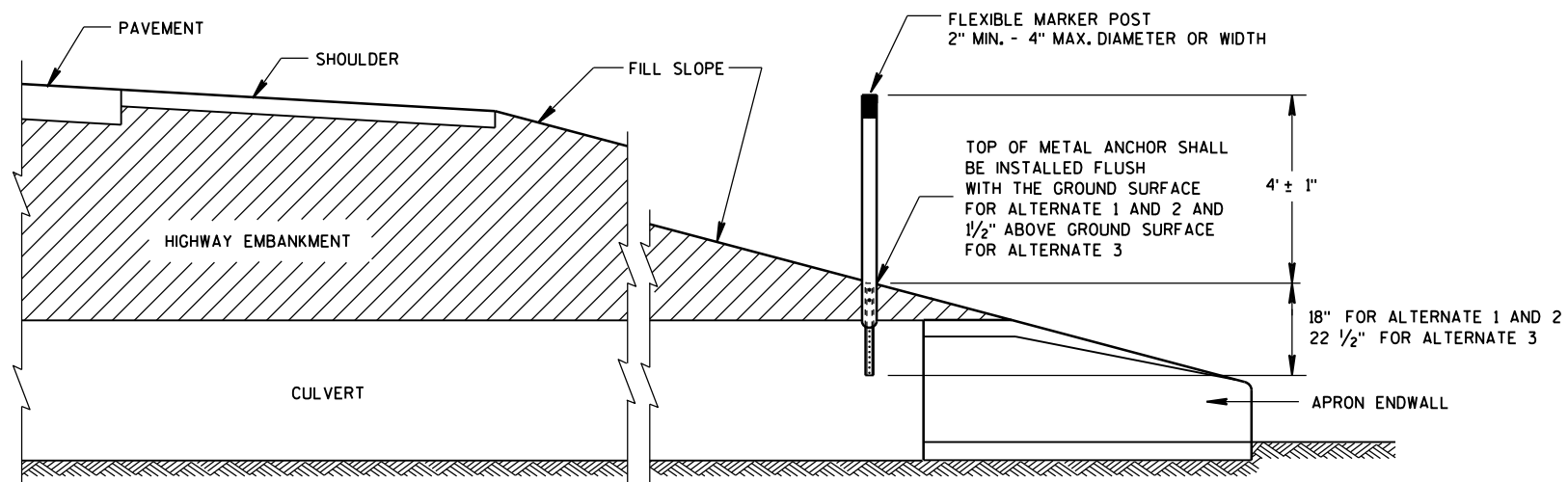
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



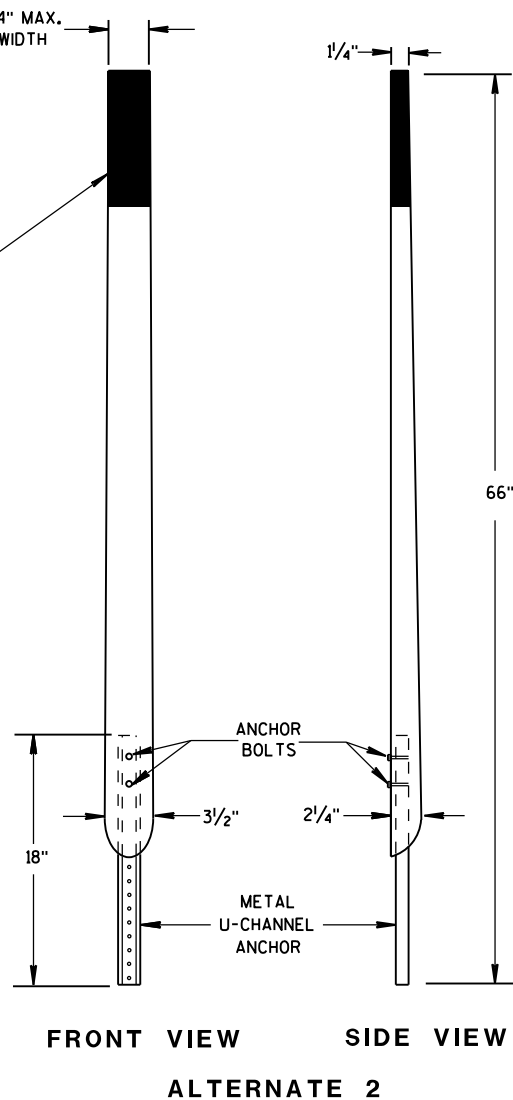
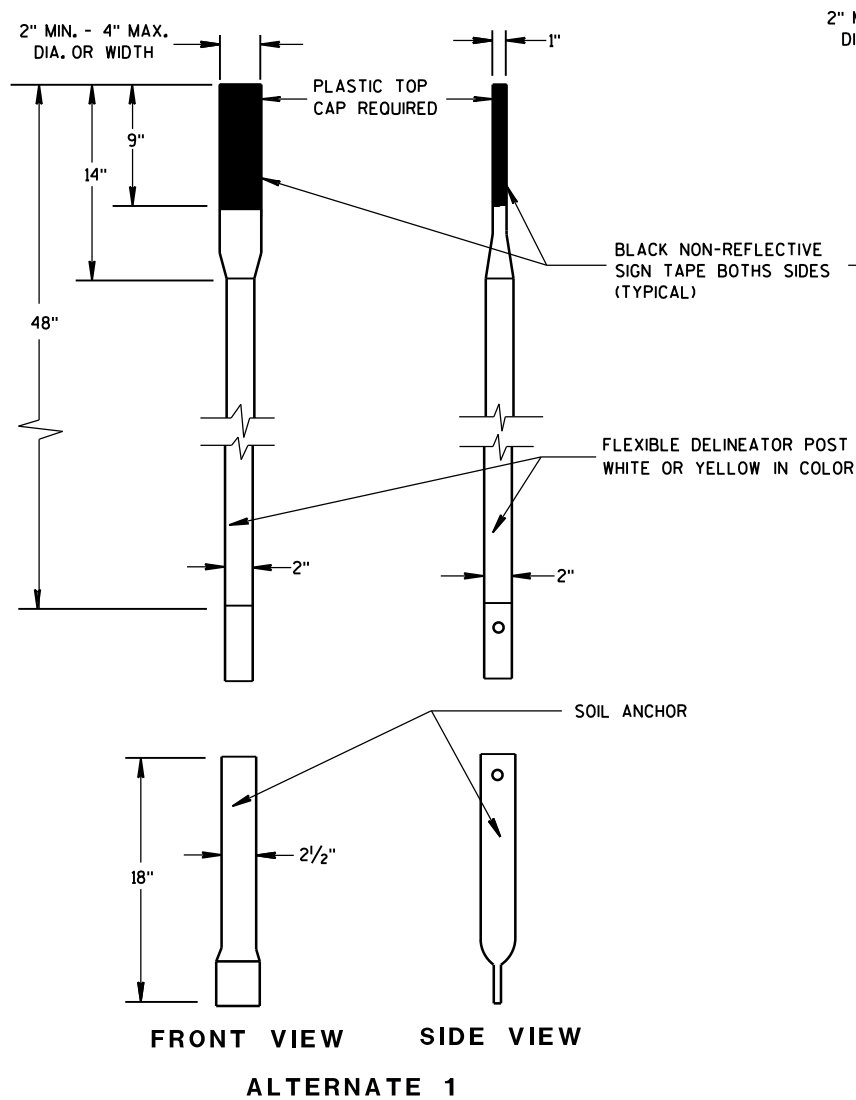
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



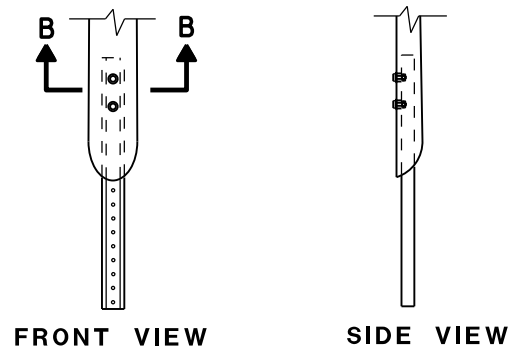
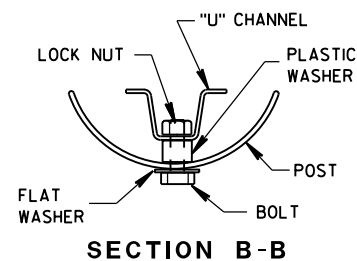
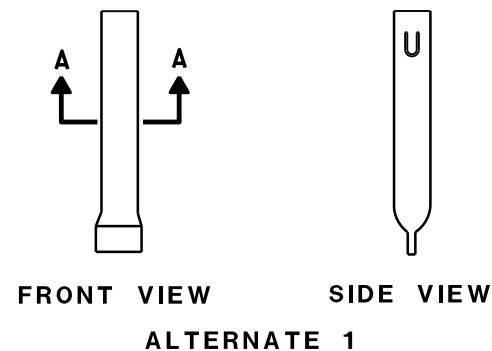
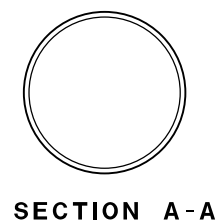
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

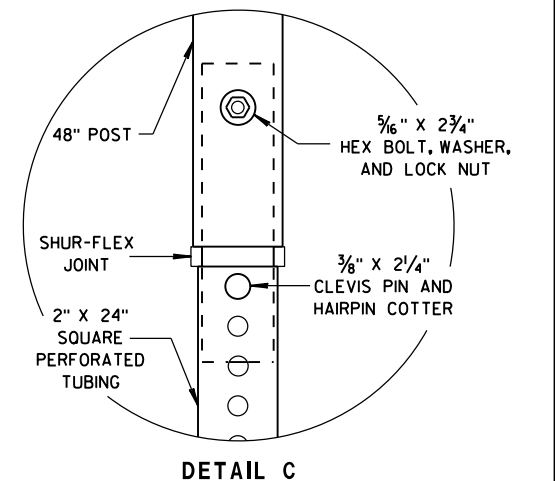
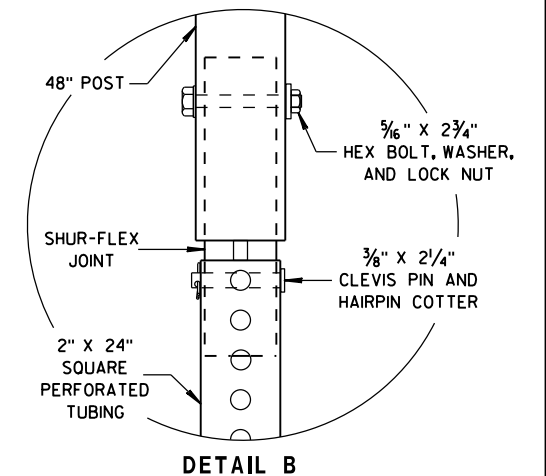
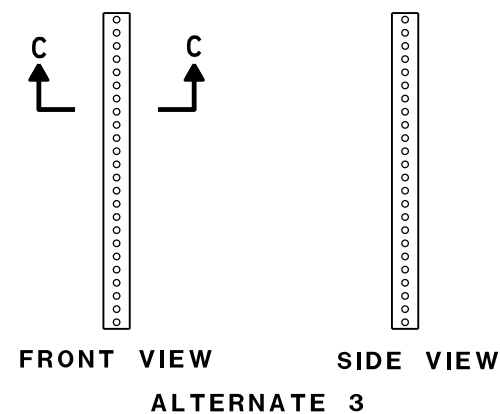
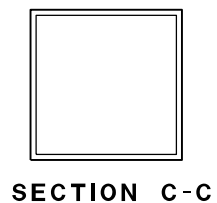
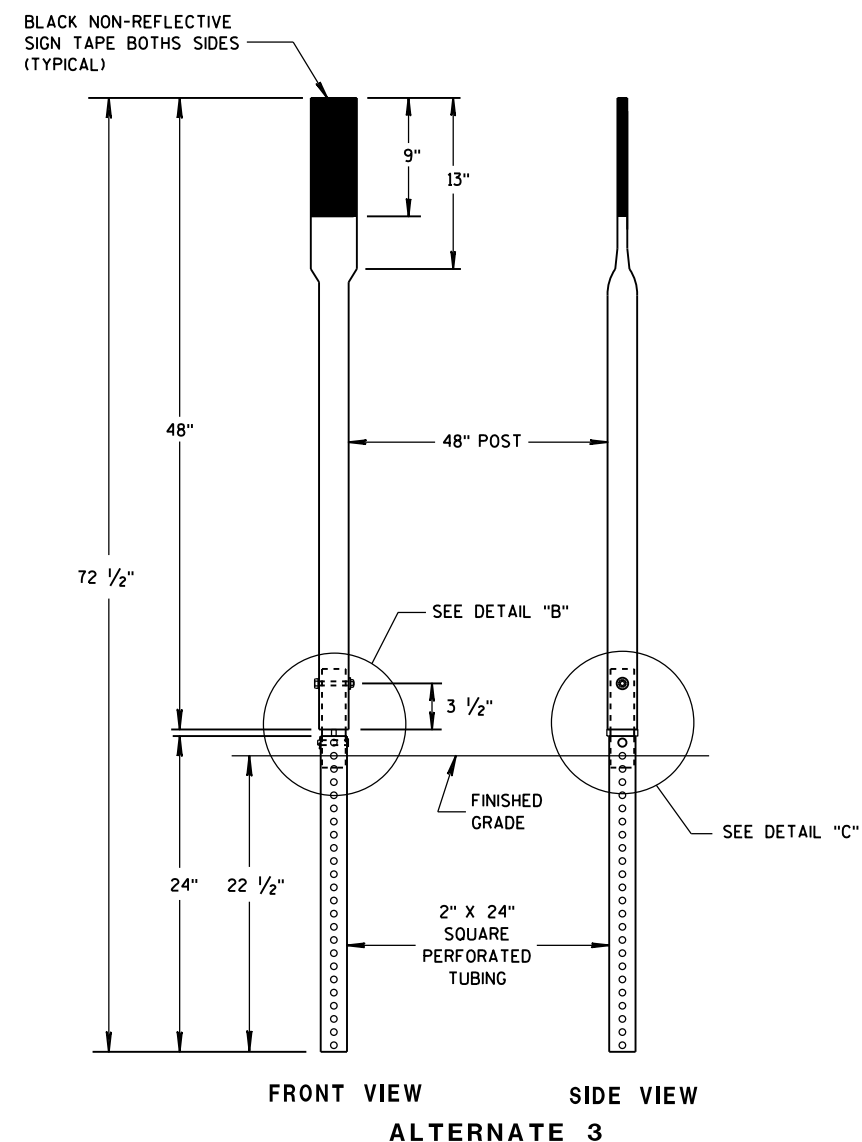
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FLEXIBLE MARKER POSTS



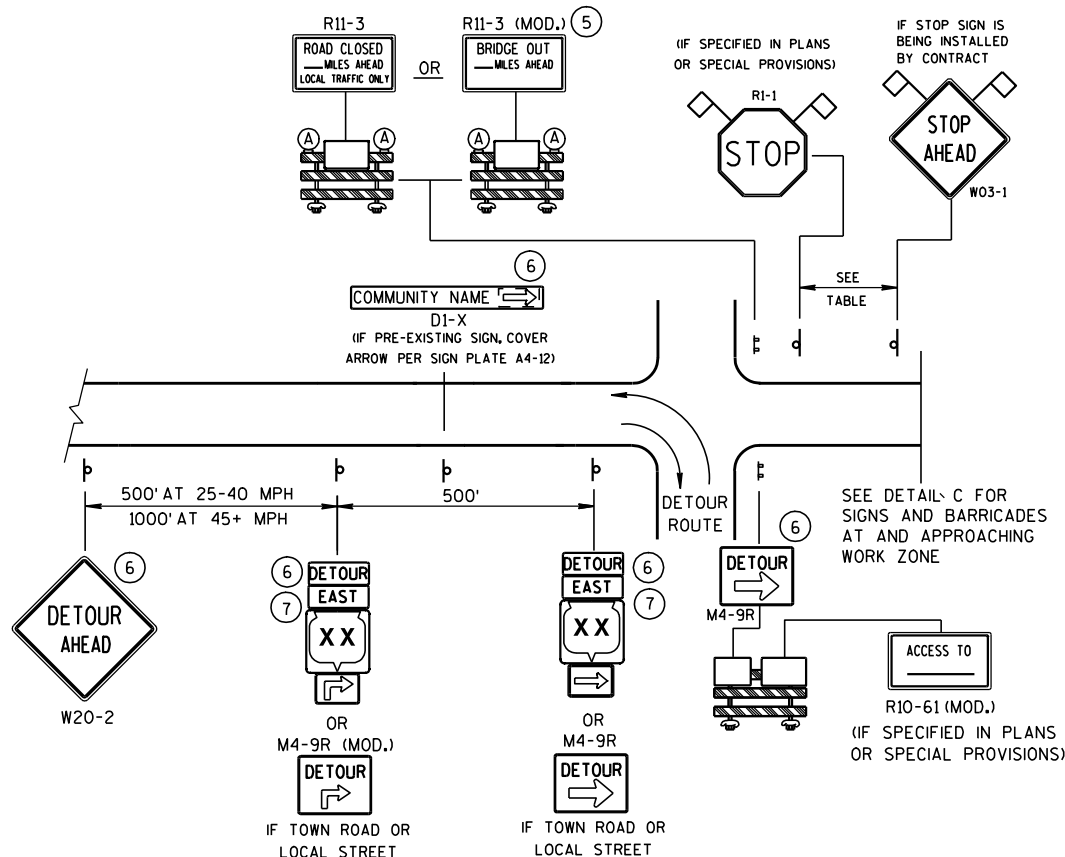
FLEXIBLE MARKER POST ANCHORS



FLEXIBLE MARKER POST FOR CULVERT END

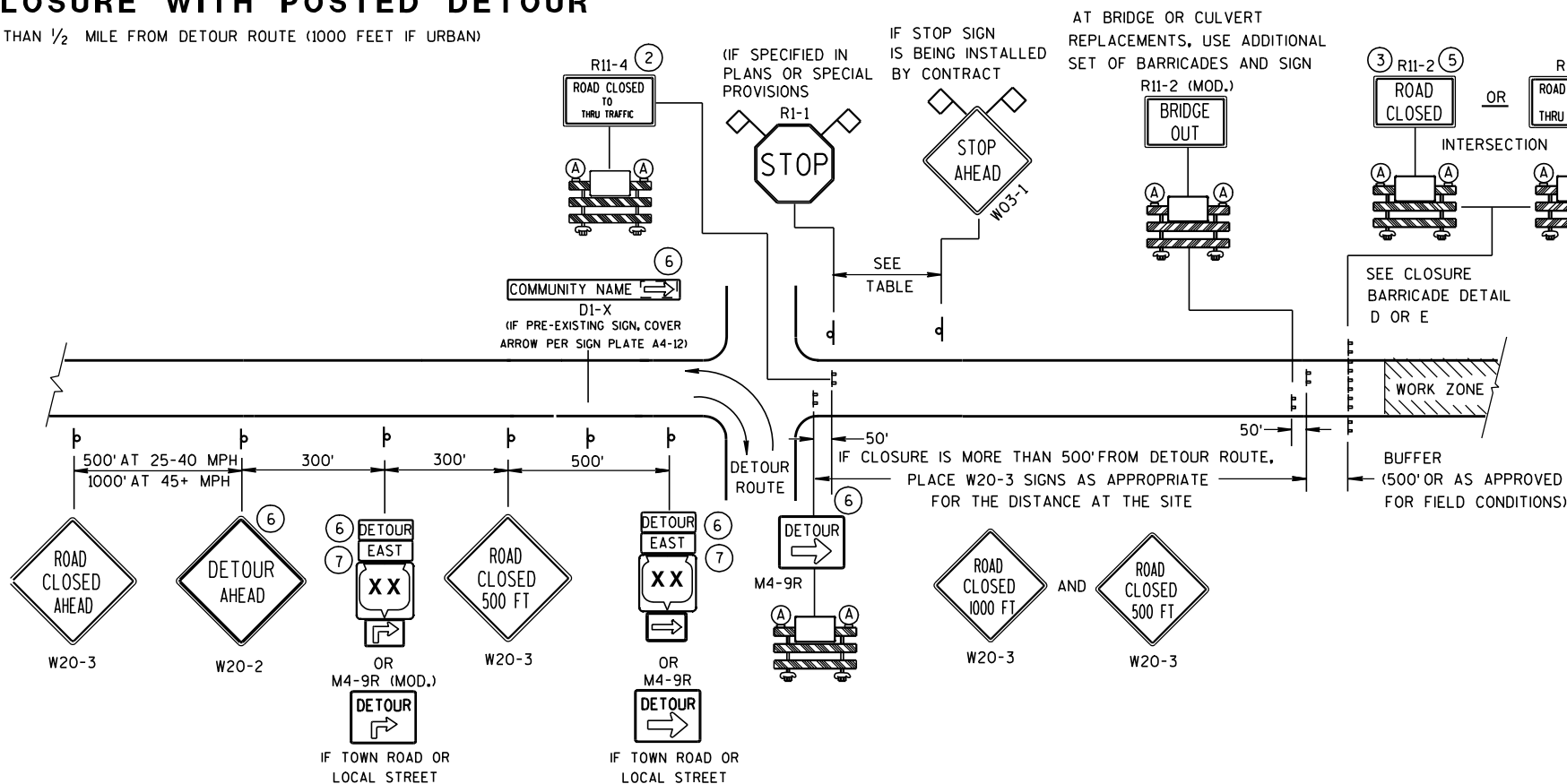
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



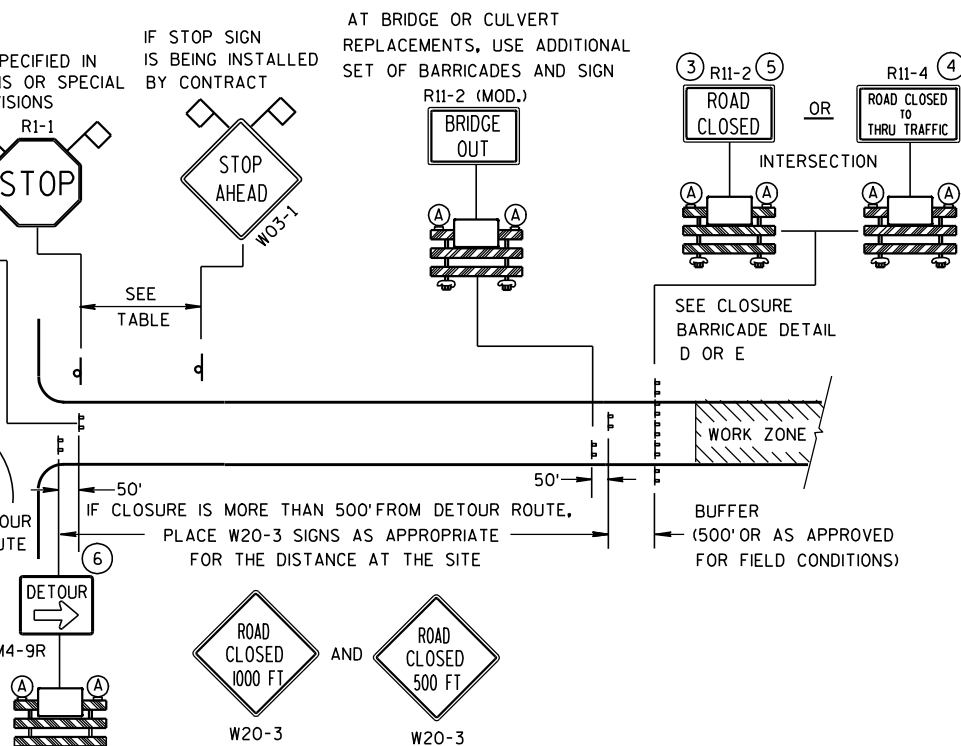
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

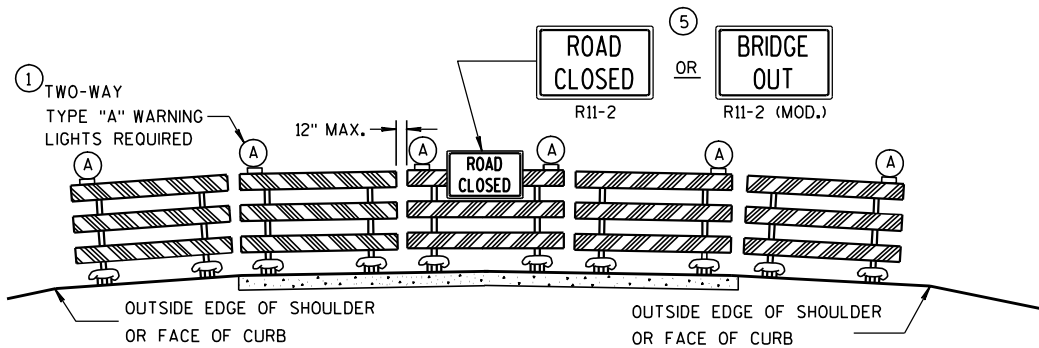
SEE SDD 15C2-4b
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

LEGEND

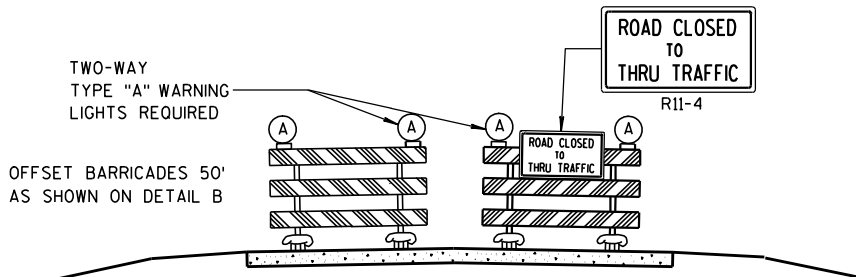
- POST MOUNTED SIGN
- TYPE III BARRICADES
- TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK ZONE
- DETOUR EAST M4-8 M3-X
- MI-4 OR MI-5A OR MI-6
- MO5-1 OR MO6-1
- FLAGS, 16" X 16" MIN., (ORANGE)

**BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-4a FOR LEGEND

GENERAL NOTES

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

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

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

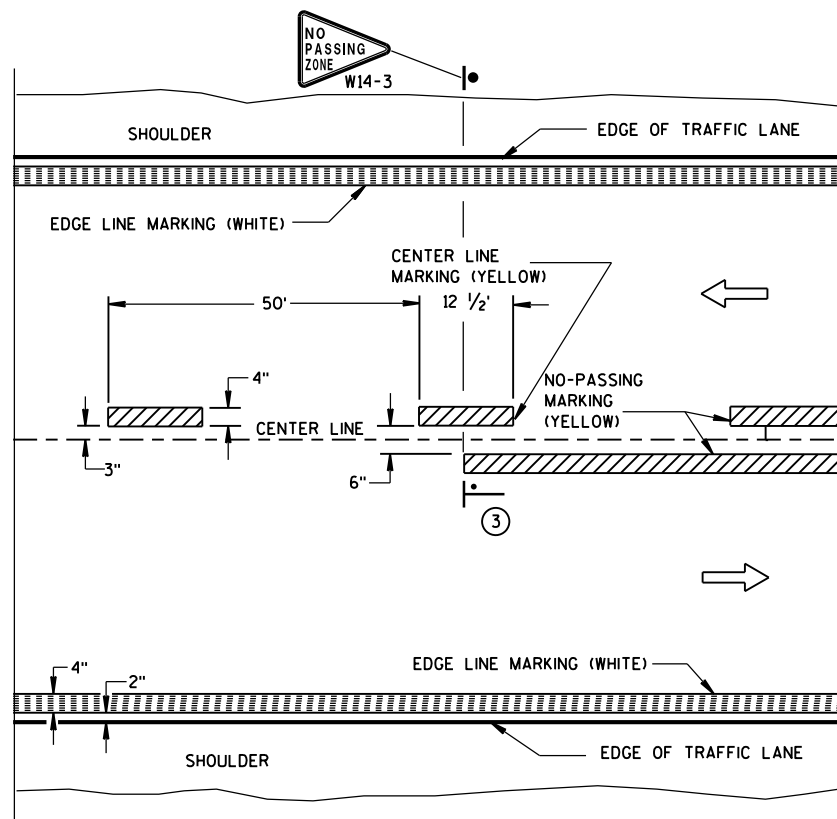
"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

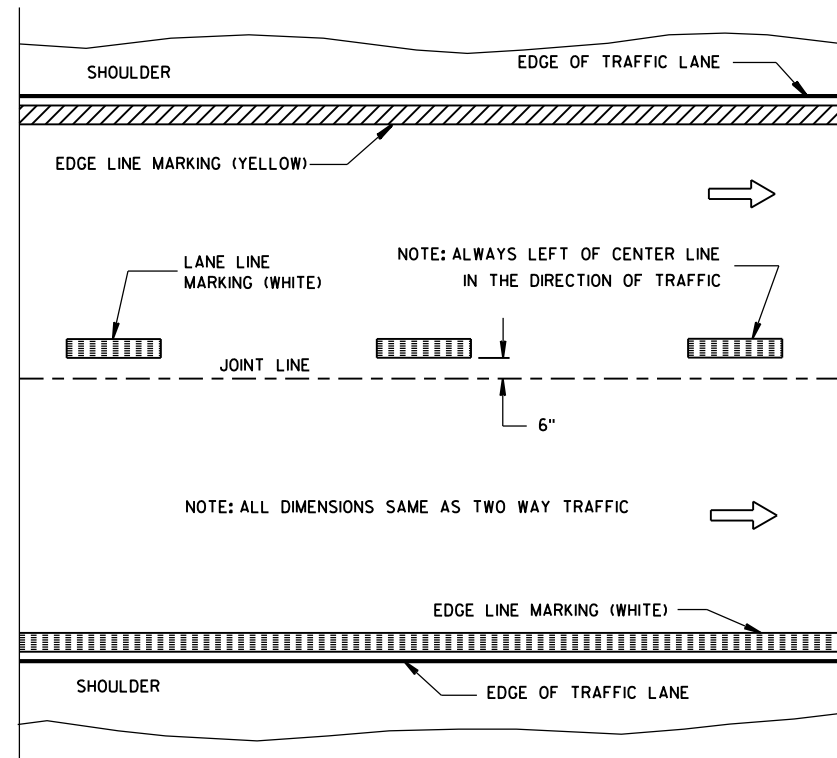
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
9/16/03 DATE	/S/ Thomas N. Notbohm CHIEF SIGNS AND MARKING ENGINEER
FHWA	

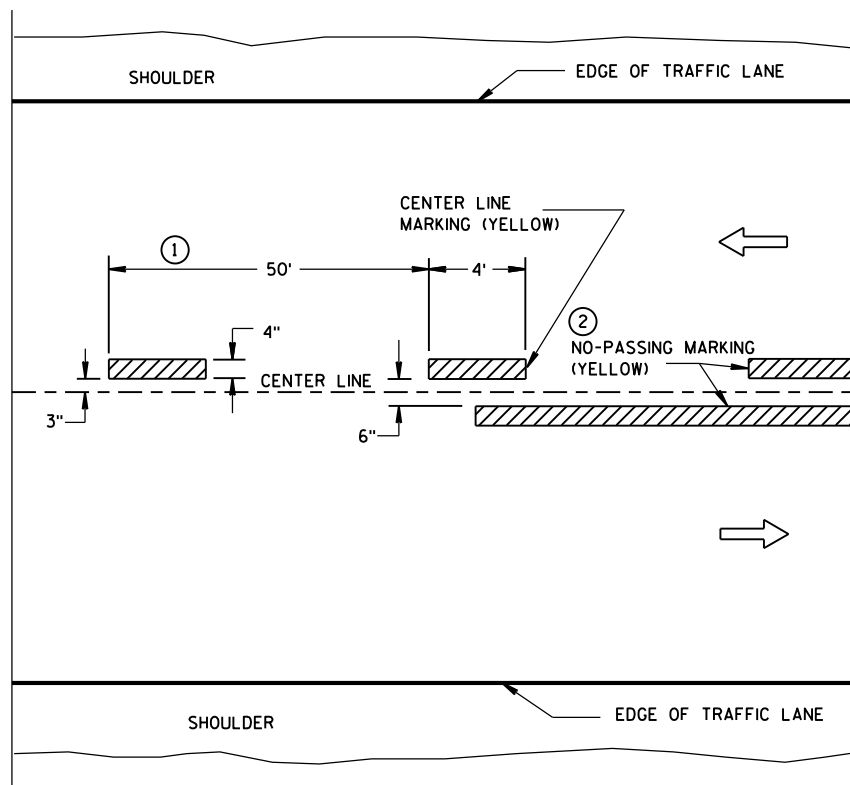


TWO WAY TRAFFIC

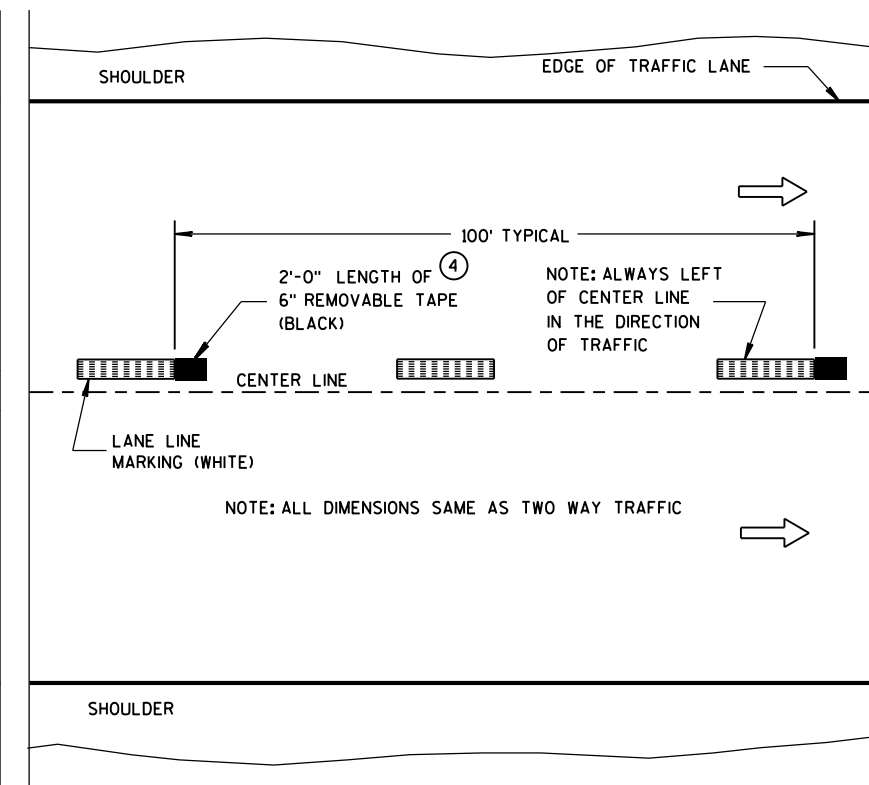


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

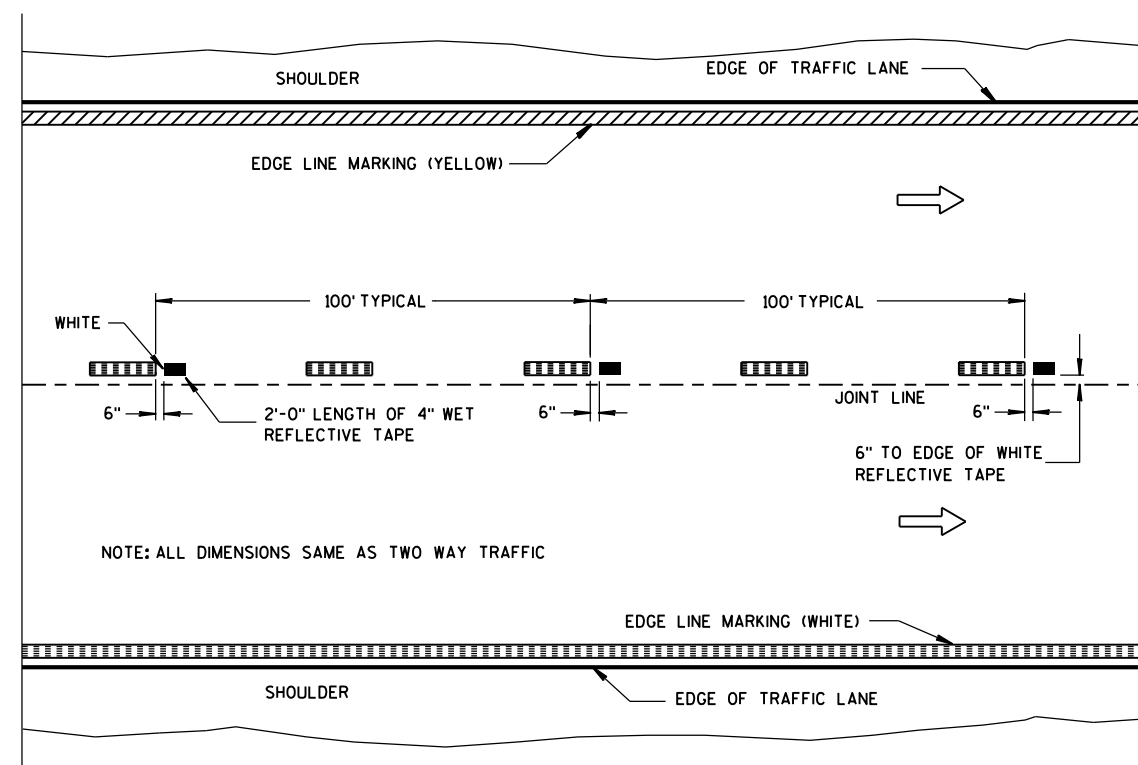
GENERAL NOTES

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

- 1 HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- 2 NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- 3 NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- 4 CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

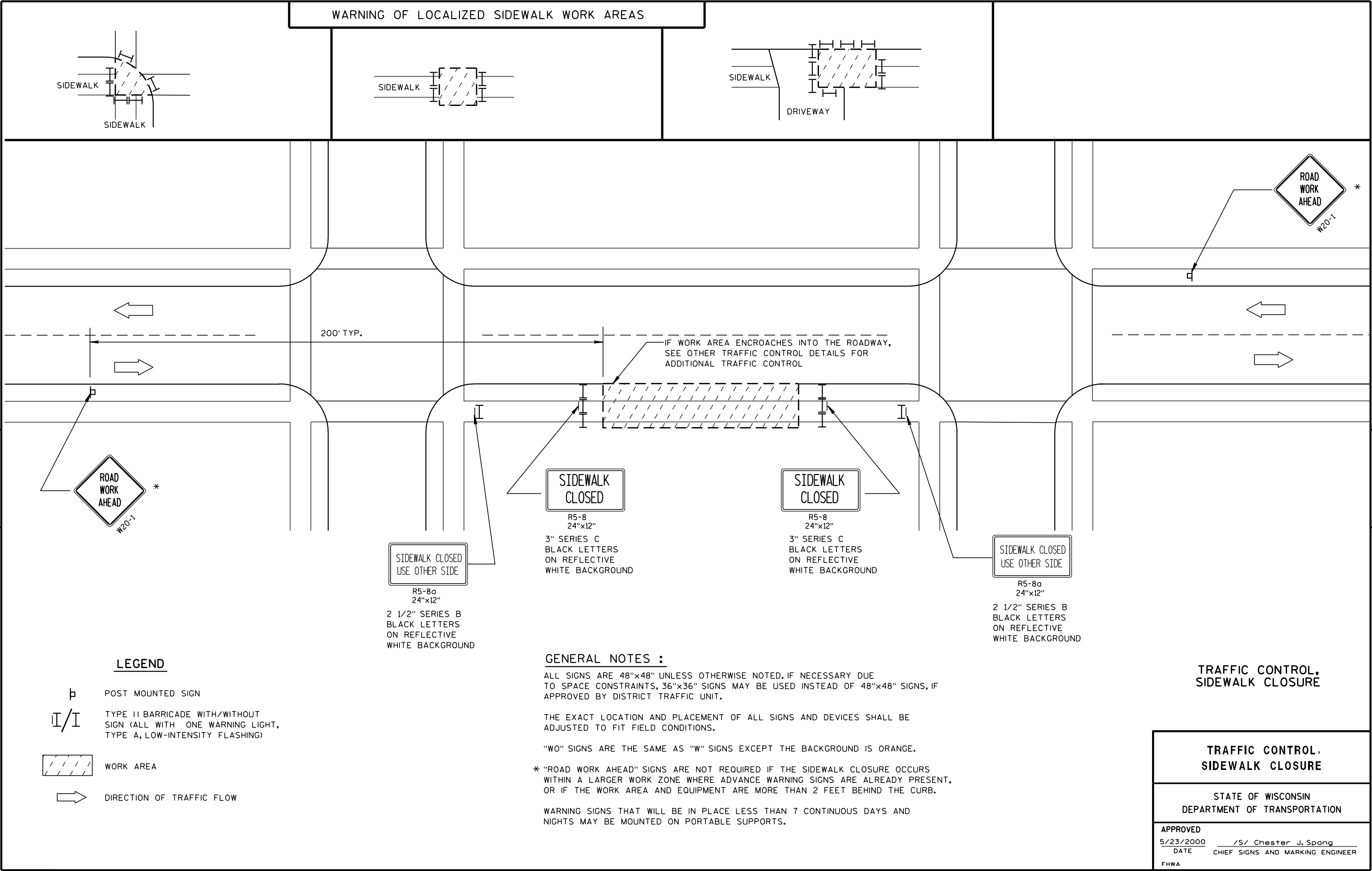
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-1-2012 /S/ Travis Fettes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



7

VERITCAL DIMENSION ⇄

HORIZONTAL DIMENSION ⇄

	2.5 ft.	3 ft.	3.5 ft.	4 ft.	4.5 ft.	5 ft.	5.5 ft.	6 ft.	6.5 ft.	7 ft.	7.5 ft.	8 ft.	8.5 ft.	9 ft.	9.5 ft.	10 ft.	10.5 ft.	11 ft.	11.5 ft.	12 ft.	12.5 ft.	13 ft.	13.5 ft.	14 ft.	14.5 ft.	15 ft.	15.5 ft.	16 ft.		
10 ft.	25 Sq. Ft	30 Sq. Ft	35 Sq. Ft	40 Sq. Ft	45 Sq. Ft	50 Sq. Ft	55 Sq. Ft	60 Sq. Ft	65 Sq. Ft	70 Sq. Ft	75 Sq. Ft	80 Sq. Ft	85 Sq. Ft	90 Sq. Ft	95 Sq. Ft	100 Sq. Ft	105 Sq. Ft	110 Sq. Ft	115 Sq. Ft	120 Sq. Ft	125 Sq. Ft	130 Sq. Ft	135 Sq. Ft	140 Sq. Ft	145 Sq. Ft	150 Sq. Ft	155 Sq. Ft	160 Sq. Ft		
11 ft.	27.5 Sq. Ft	33 Sq. Ft	38.5 Sq. Ft	44 Sq. Ft	49.5 Sq. Ft	55 Sq. Ft	60.5 Sq. Ft	66 Sq. Ft	71.5 Sq. Ft	77 Sq. Ft	82.5 Sq. Ft	88 Sq. Ft	93.5 Sq. Ft	99 Sq. Ft	104.5 Sq. Ft	110 Sq. Ft	115.5 Sq. Ft	121 Sq. Ft	126.5 Sq. Ft	132 Sq. Ft	137.5 Sq. Ft	143 Sq. Ft	148.5 Sq. Ft	154 Sq. Ft	159.5 Sq. Ft	165 Sq. Ft	170.5 Sq. Ft	176 Sq. Ft		
12 ft.	30 Sq. Ft	36 Sq. Ft	42 Sq. Ft	48 Sq. Ft	54 Sq. Ft	60 Sq. Ft	66 Sq. Ft	72 Sq. Ft	78 Sq. Ft	84 Sq. Ft	90 Sq. Ft	96 Sq. Ft	102 Sq. Ft	108 Sq. Ft	114 Sq. Ft	120 Sq. Ft	126 Sq. Ft	132 Sq. Ft	138 Sq. Ft	144 Sq. Ft	150 Sq. Ft	156 Sq. Ft	162 Sq. Ft	168 Sq. Ft	174 Sq. Ft	180 Sq. Ft	186 Sq. Ft	192 Sq. Ft		
13 ft.	32.5 Sq. Ft	39 Sq. Ft	45.5 Sq. Ft	52 Sq. Ft	58.5 Sq. Ft	65 Sq. Ft	71.5 Sq. Ft	78 Sq. Ft	84.5 Sq. Ft	91 Sq. Ft	97.5 Sq. Ft	104 Sq. Ft	110.5 Sq. Ft	117 Sq. Ft	123.5 Sq. Ft	130 Sq. Ft	136.5 Sq. Ft	143 Sq. Ft	149.5 Sq. Ft	156 Sq. Ft	162.5 Sq. Ft	169 Sq. Ft	175.5 Sq. Ft	182 Sq. Ft	188.5 Sq. Ft	195 Sq. Ft	201.5 Sq. Ft	208 Sq. Ft		
14 ft.	35 Sq. Ft	42 Sq. Ft	49 Sq. Ft	56 Sq. Ft	63 Sq. Ft	70 Sq. Ft	77 Sq. Ft	84 Sq. Ft	91 Sq. Ft	98 Sq. Ft	105 Sq. Ft	112 Sq. Ft	119 Sq. Ft	126 Sq. Ft	133 Sq. Ft	140 Sq. Ft	147 Sq. Ft	154 Sq. Ft	161 Sq. Ft	168 Sq. Ft	175 Sq. Ft	182 Sq. Ft	189 Sq. Ft	196 Sq. Ft	203 Sq. Ft	210 Sq. Ft	217 Sq. Ft	224 Sq. Ft		
15 ft.	37.5 Sq. Ft	45 Sq. Ft	52.5 Sq. Ft	60 Sq. Ft	67.5 Sq. Ft	75 Sq. Ft	82.5 Sq. Ft	90 Sq. Ft	97.5 Sq. Ft	105 Sq. Ft	112.5 Sq. Ft	120 Sq. Ft	127.5 Sq. Ft	135 Sq. Ft	142.5 Sq. Ft	150 Sq. Ft	157.5 Sq. Ft	165 Sq. Ft	172.5 Sq. Ft	180 Sq. Ft	187.5 Sq. Ft	195 Sq. Ft	202.5 Sq. Ft	210 Sq. Ft	217.5 Sq. Ft	225 Sq. Ft	232.5 Sq. Ft	240 Sq. Ft		
16 ft.	40 Sq. Ft	48 Sq. Ft	56 Sq. Ft	64 Sq. Ft	72 Sq. Ft	80 Sq. Ft	88 Sq. Ft	96 Sq. Ft	104 Sq. Ft	112 Sq. Ft	120 Sq. Ft	128 Sq. Ft	136 Sq. Ft	144 Sq. Ft	152 Sq. Ft	160 Sq. Ft	168 Sq. Ft	176 Sq. Ft	184 Sq. Ft	192 Sq. Ft	200 Sq. Ft	208 Sq. Ft	216 Sq. Ft	224 Sq. Ft	232 Sq. Ft	240 Sq. Ft	248 Sq. Ft	256 Sq. Ft		
17 ft.	42.5 Sq. Ft	51 Sq. Ft	59.5 Sq. Ft	68 Sq. Ft	76.5 Sq. Ft	85 Sq. Ft	93.5 Sq. Ft	102 Sq. Ft	110.5 Sq. Ft	119 Sq. Ft	127.5 Sq. Ft	136 Sq. Ft	144.5 Sq. Ft	153 Sq. Ft	161.5 Sq. Ft	170 Sq. Ft	178.5 Sq. Ft	187 Sq. Ft	195.5 Sq. Ft	204 Sq. Ft	212.5 Sq. Ft	221 Sq. Ft	229.5 Sq. Ft	238 Sq. Ft	246.5 Sq. Ft	255 Sq. Ft	263.5 Sq. Ft	272 Sq. Ft		
18 ft.	45 Sq. Ft	54 Sq. Ft	63 Sq. Ft	72 Sq. Ft	81 Sq. Ft	90 Sq. Ft	99 Sq. Ft	108 Sq. Ft	117 Sq. Ft	126 Sq. Ft	135 Sq. Ft	144 Sq. Ft	153 Sq. Ft	162 Sq. Ft	171 Sq. Ft	180 Sq. Ft	189 Sq. Ft	198 Sq. Ft	207 Sq. Ft	216 Sq. Ft	225 Sq. Ft	234 Sq. Ft	243 Sq. Ft	252 Sq. Ft	261 Sq. Ft	270 Sq. Ft	279 Sq. Ft	288 Sq. Ft		
19 ft.	47.5 Sq. Ft	57 Sq. Ft	66.5 Sq. Ft	76 Sq. Ft	85.5 Sq. Ft	95 Sq. Ft	104.5 Sq. Ft	114 Sq. Ft	123.5 Sq. Ft	133 Sq. Ft	142.5 Sq. Ft	152 Sq. Ft	161.5 Sq. Ft	171 Sq. Ft	180.5 Sq. Ft	190 Sq. Ft	199.5 Sq. Ft	209 Sq. Ft	218.5 Sq. Ft	228 Sq. Ft	237.5 Sq. Ft	247 Sq. Ft	256.5 Sq. Ft	266 Sq. Ft	275.5 Sq. Ft	285 Sq. Ft	294.5 Sq. Ft	304 Sq. Ft		
20 ft.	50 Sq. Ft	60 Sq. Ft	70 Sq. Ft	80 Sq. Ft	90 Sq. Ft	100 Sq. Ft	110 Sq. Ft	120 Sq. Ft	130 Sq. Ft	140 Sq. Ft	150 Sq. Ft	160 Sq. Ft	170 Sq. Ft	180 Sq. Ft	190 Sq. Ft	200 Sq. Ft	210 Sq. Ft	220 Sq. Ft	230 Sq. Ft	240 Sq. Ft	250 Sq. Ft	260 Sq. Ft	270 Sq. Ft	280 Sq. Ft	290 Sq. Ft	300 Sq. Ft	310 Sq. Ft	320 Sq. Ft		
21 ft.	52.5 Sq. Ft	63 Sq. Ft	73.5 Sq. Ft	84 Sq. Ft	94.5 Sq. Ft	105 Sq. Ft	115.5 Sq. Ft	126 Sq. Ft	136.5 Sq. Ft	147 Sq. Ft	157.5 Sq. Ft	168 Sq. Ft	178.5 Sq. Ft	189 Sq. Ft	199.5 Sq. Ft	210 Sq. Ft	220.5 Sq. Ft	231 Sq. Ft	241.5 Sq. Ft	252 Sq. Ft	262.5 Sq. Ft	273 Sq. Ft	283.5 Sq. Ft	294 Sq. Ft	304.5 Sq. Ft	315 Sq. Ft	325.5 Sq. Ft	336 Sq. Ft		
Type "A" (2 Posts) 1.2 CY Conc. 68 LBs Bar Steel					Type "B" (2 Posts) 1.6 CY Conc. 98 LBs Bar Steel										Type "C" (2 Posts) 1.8 CY Conc. 100 LBs Bar Steel					Type "D" (2 Posts) 1.8 CY Conc. 112 LBs Bar Steel					Type "C" (3 Posts) 2.7 CY Conc. 150 LBs Bar Steel					
STEEL POST SIZE "A" - W10" x 12" "B" - W12" x 16" "C" - W12" x 19" "D" - W12 x 22"																														

7

DETERMINATION OF HIGH STRENGTH
STRUCTURAL STEEL SIGN SUPPORT TYPE

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer

DATE 3/03/10 PLATE NO. A3-2.2

PROJECT NO:

SHEET NO:

E

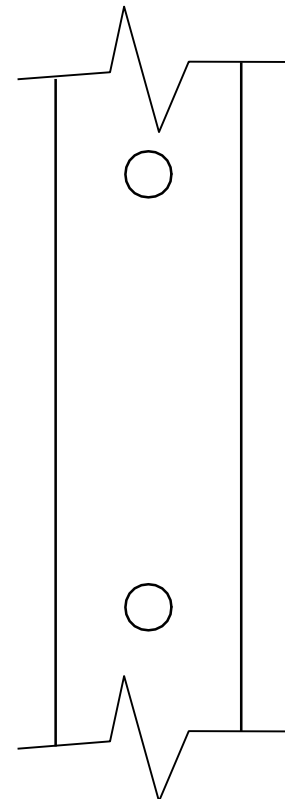
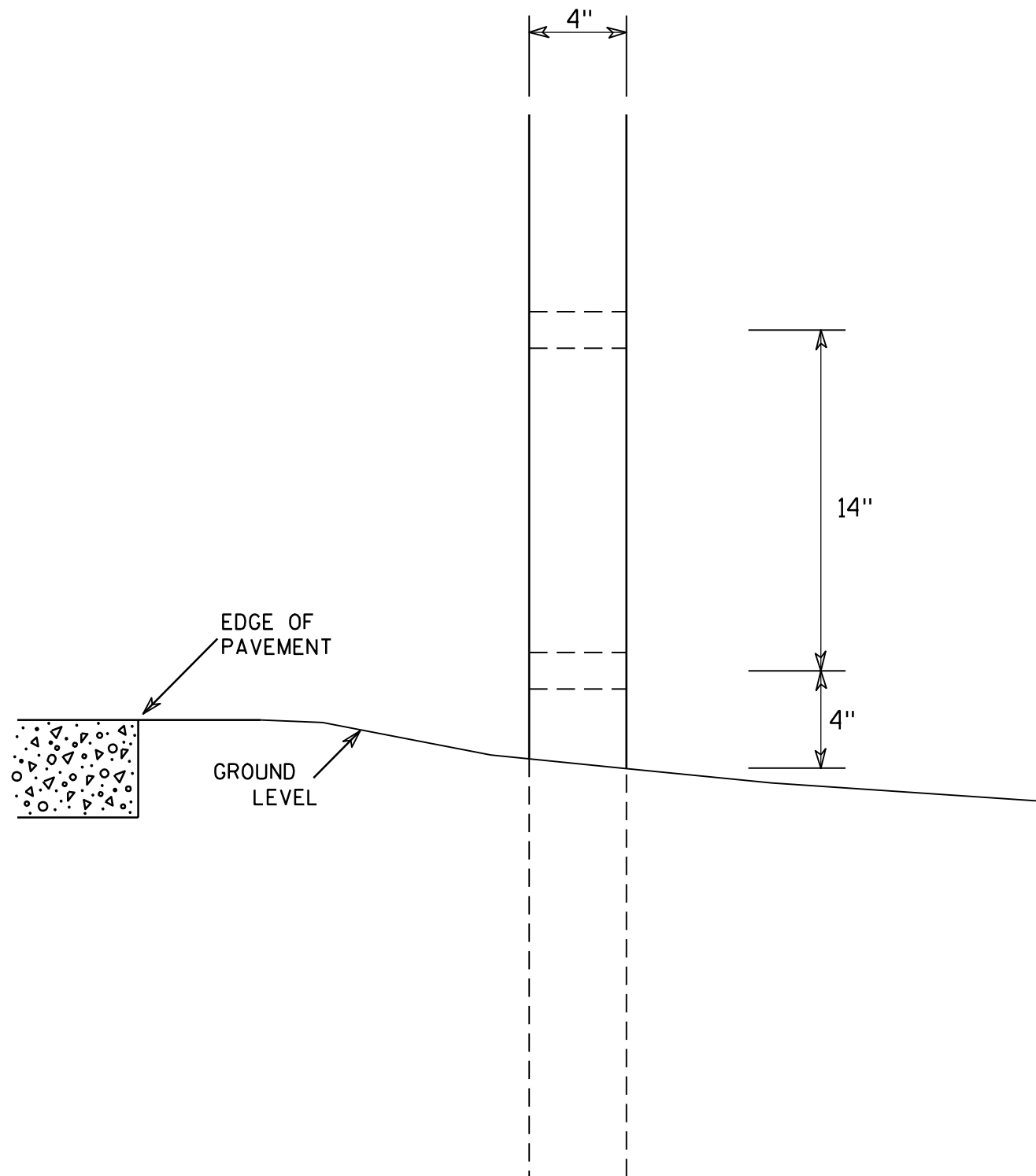
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PLOT DATE : 05-MAR-2010 10:10

PLOT BY : di+jph

WISDOT/CADDs SHEET 42

7



SIDE VIEW

GENERAL NOTES

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

7

4 X 6 WOOD POST
MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

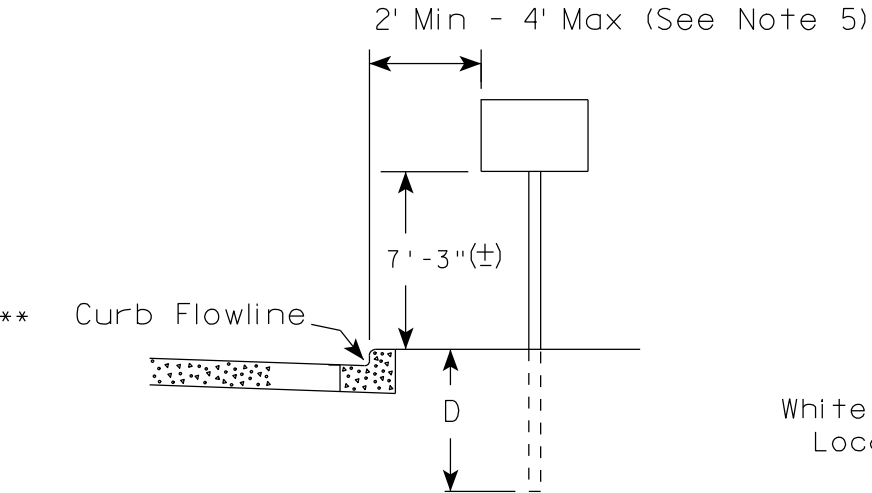
HWY:

COUNTY:

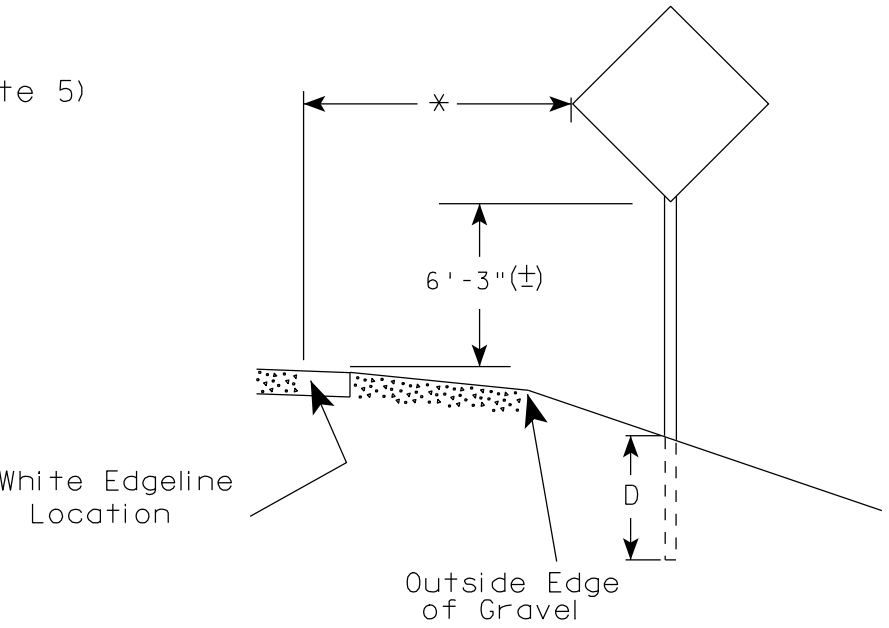
SHEET NO:

E

URBAN AREA



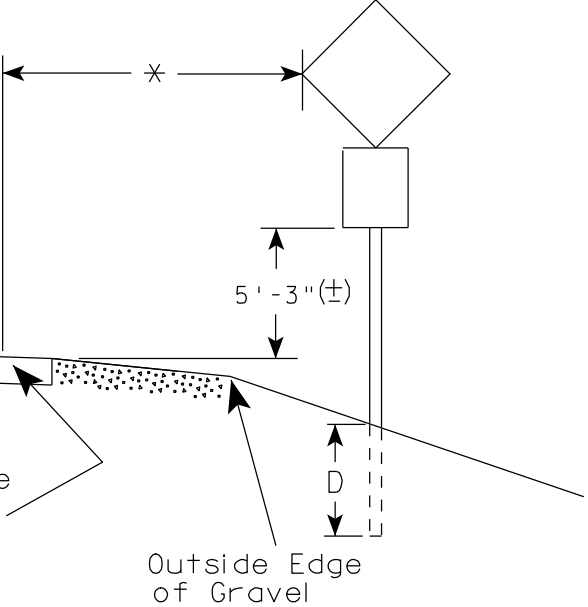
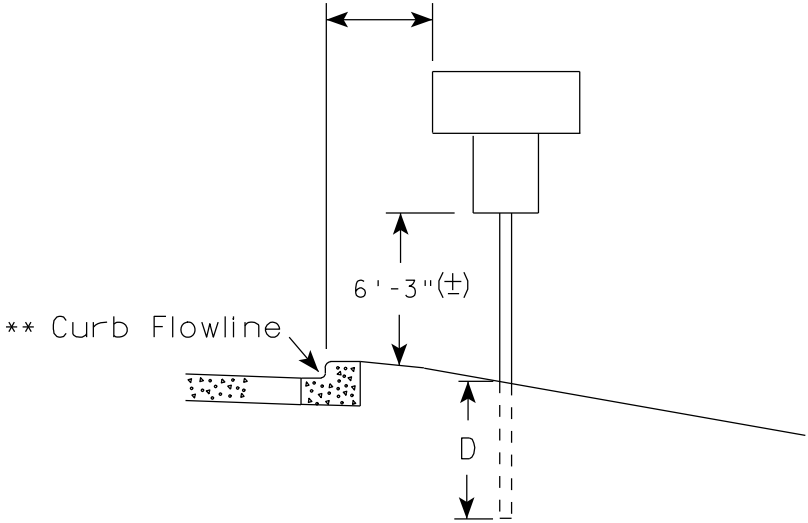
RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

2' Min - 4' Max (See Note 5)



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 9/21/2011 PLATE NO. A4-3.16

GENERAL NOTES

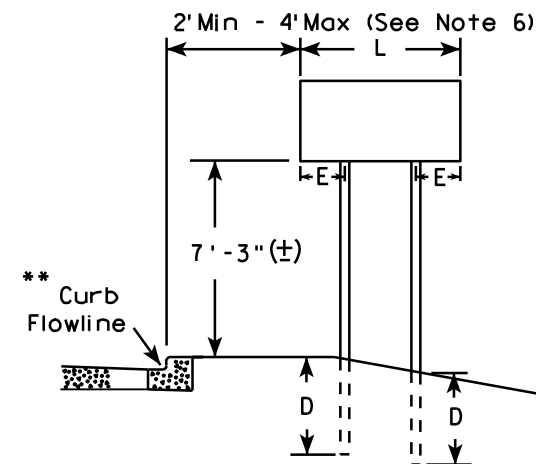
- For multiple post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4"-3" (±).

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

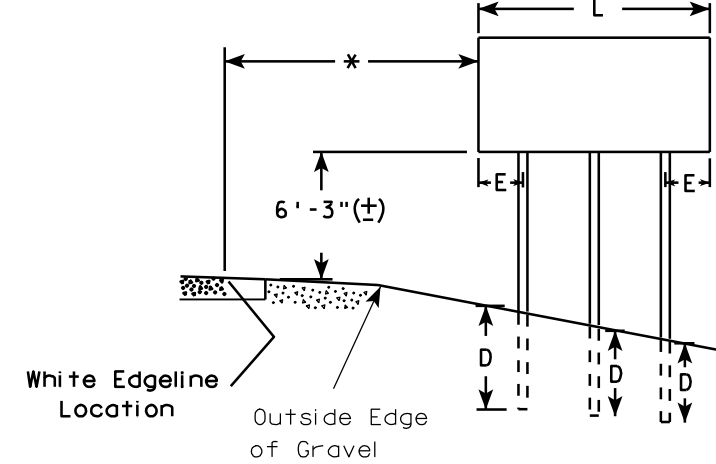
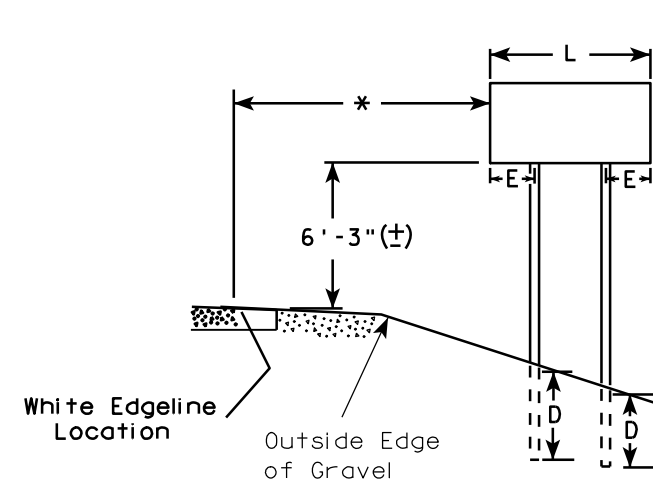
** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width or 20 S.F. or less in area.

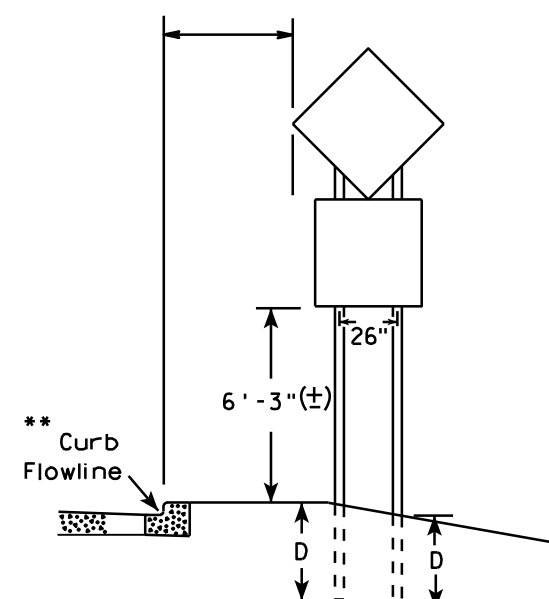
URBAN AREA



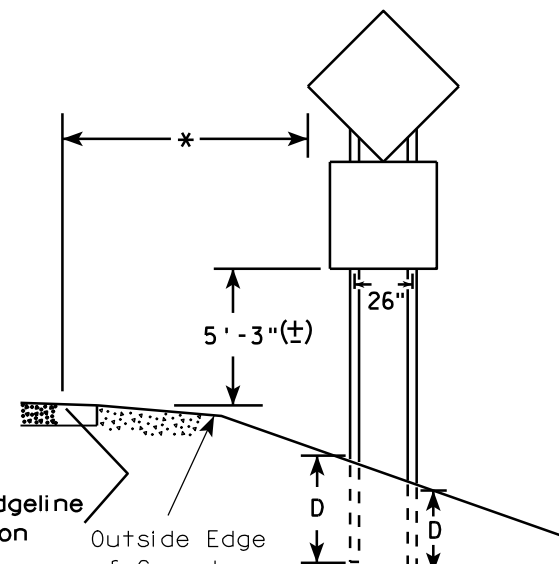
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)

L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)

L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)

L	E
168" and greater	12"

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 9/21/2011 PLATE NO. A4-4.11

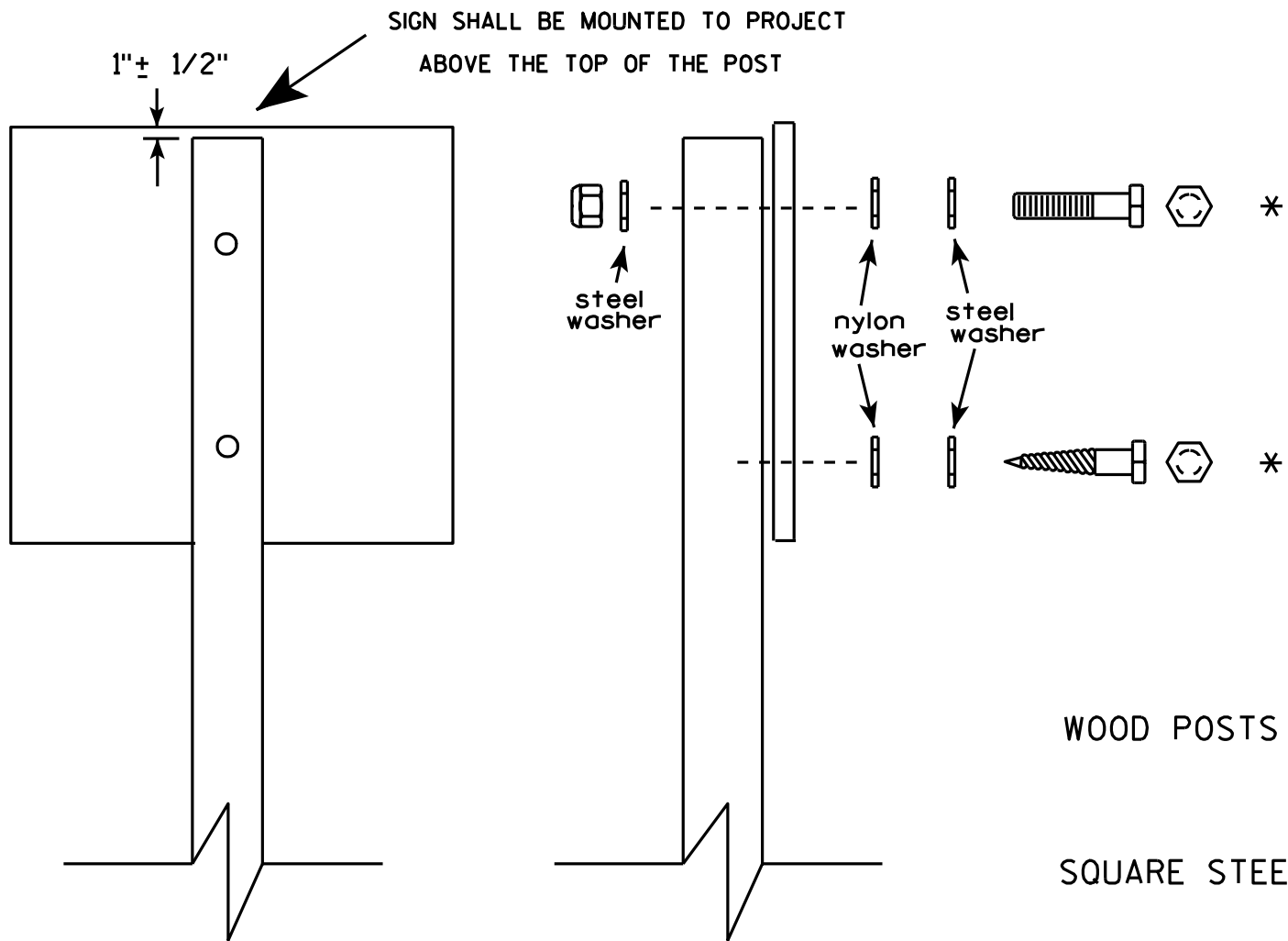
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

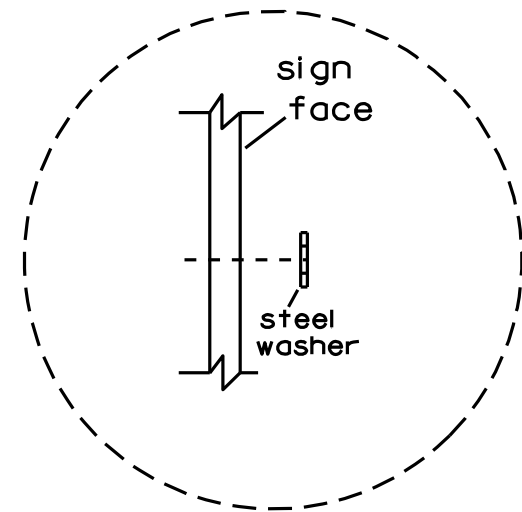


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

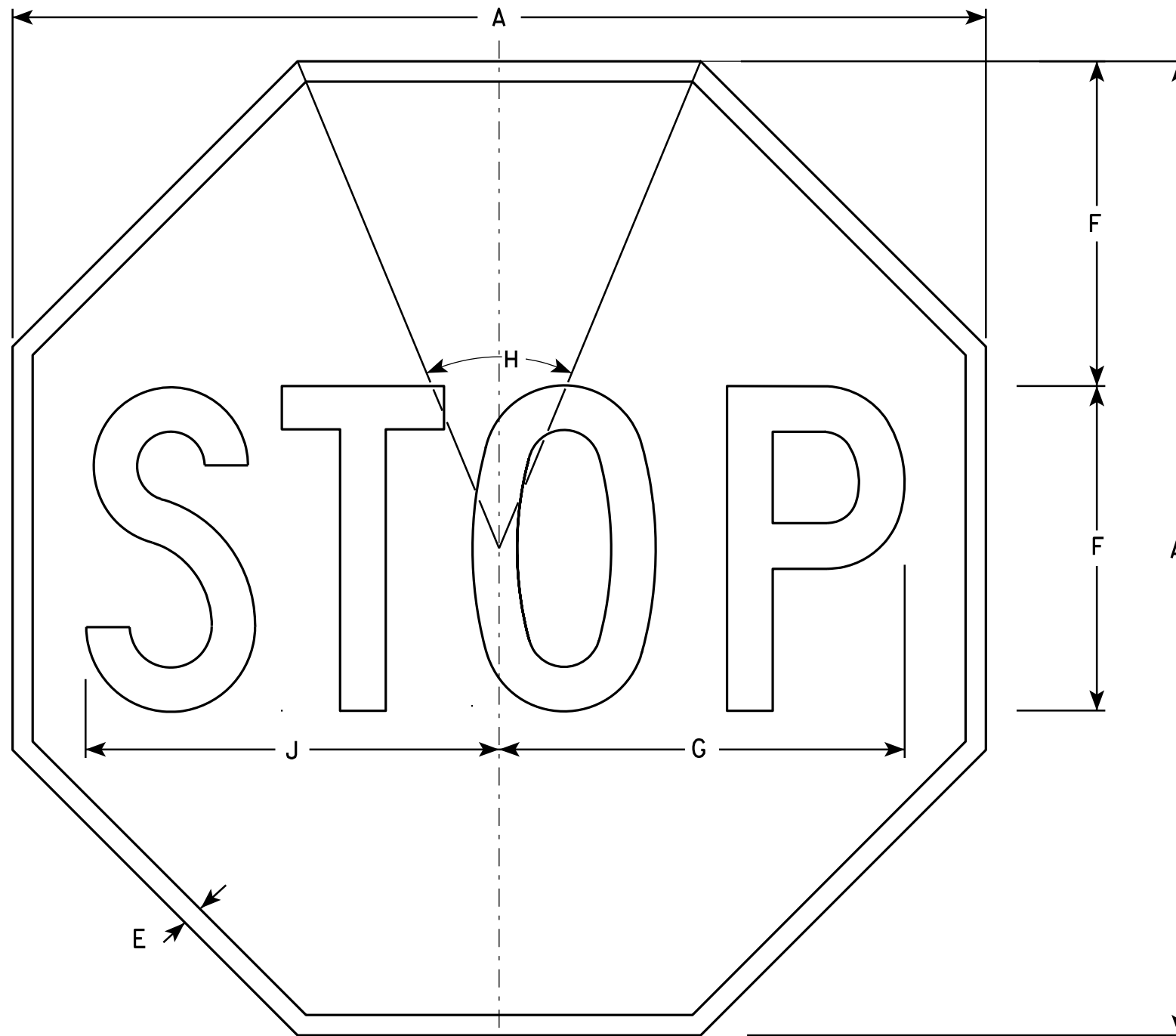
- WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



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

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - Red
 - Message - White
- 3. Message Series - C

R1-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

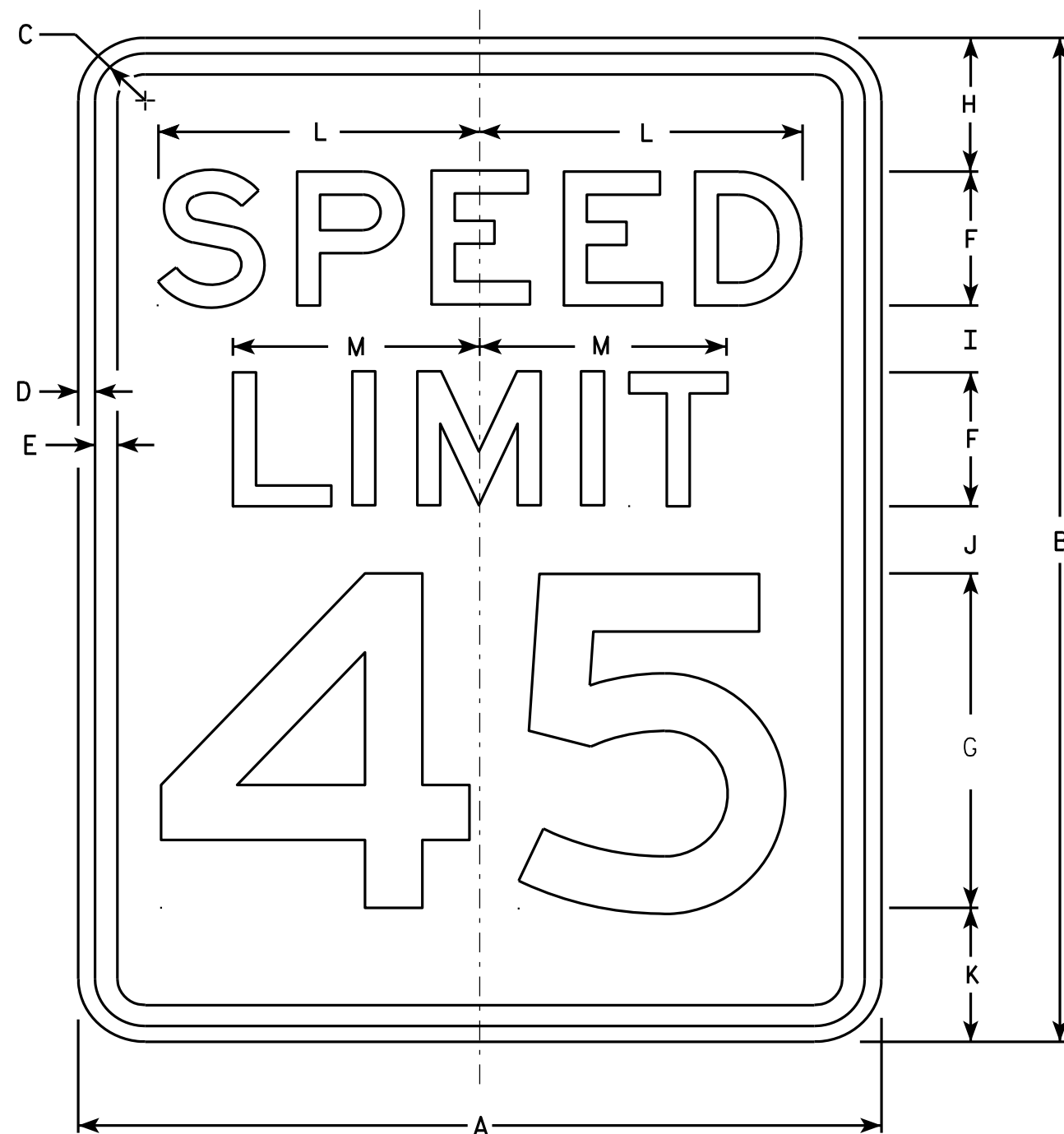
STANDARD SIGN
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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R2-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN R2-1

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/10 PLATE NO. R2-1.13

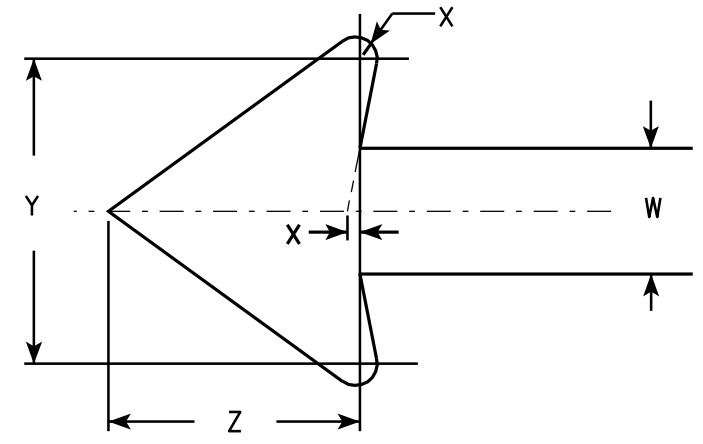
PROJECT NO: HWY: COUNTY: SHEET NO: E



R7-53

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. R7-53D (double arrow)
R7-53L (left arrow)
R7-53R (right arrow)

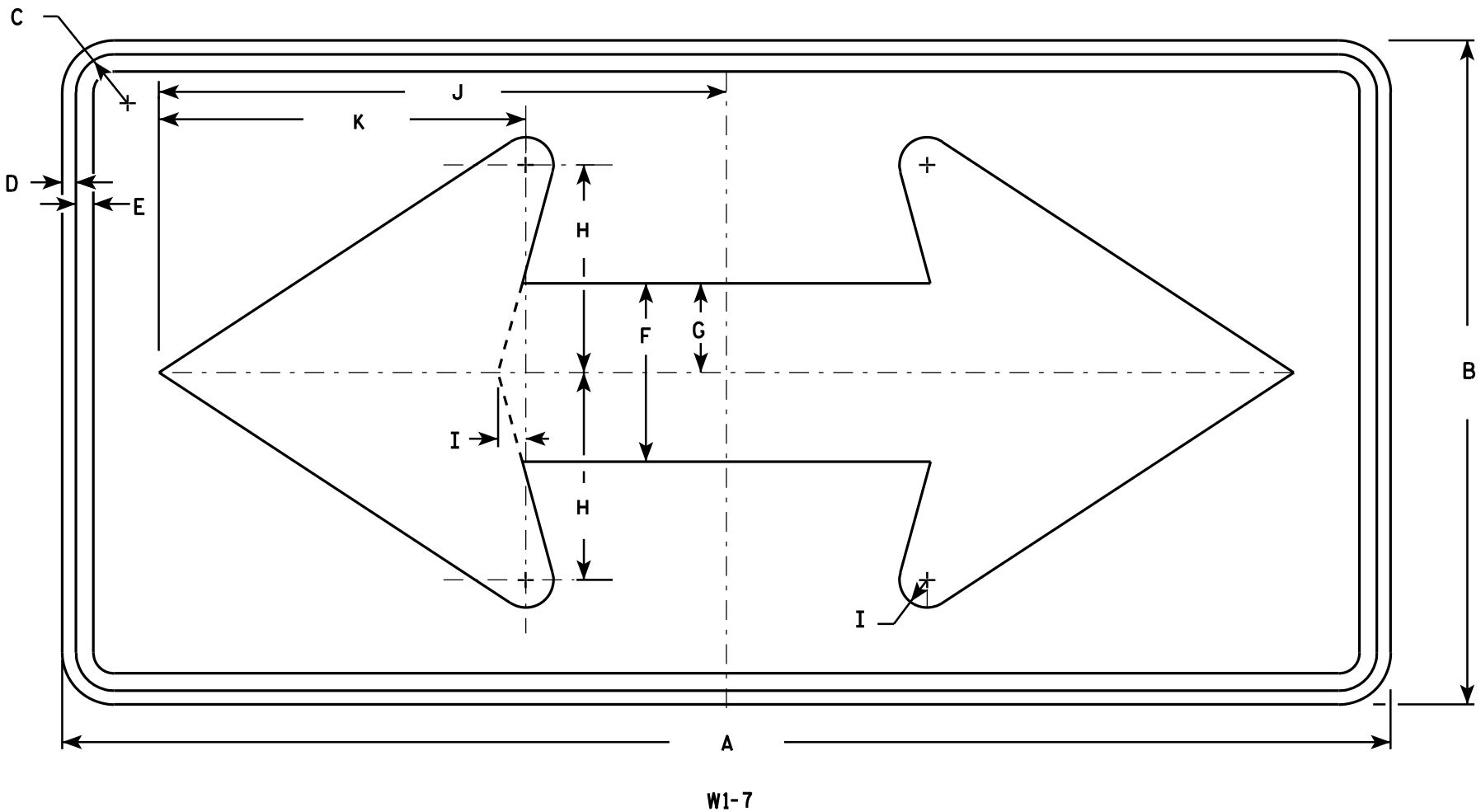


ARROW DETAIL

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	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 5/8	1 3/4	1/4	4 1/2	2 3/8	3 7/8	3/4	1/8	1 3/4	1 1/2	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	3 3/8	1 1/2	5/8	5 3/8	3	5 7/8	1 1/8	1/4	2 5/8	2 1/4	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	4	2	5/8	6 5/8	3 5/8	7 3/4	1 1/2	1/4	3 1/2	3	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	4	2	5/8	6 5/8	3 5/8	7 3/4	1 1/2	1/4	3 1/2	3	5.0
4																											
5																											

STANDARD SIGN R7-53	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/31/2011	PLATE NO. R7-53.6

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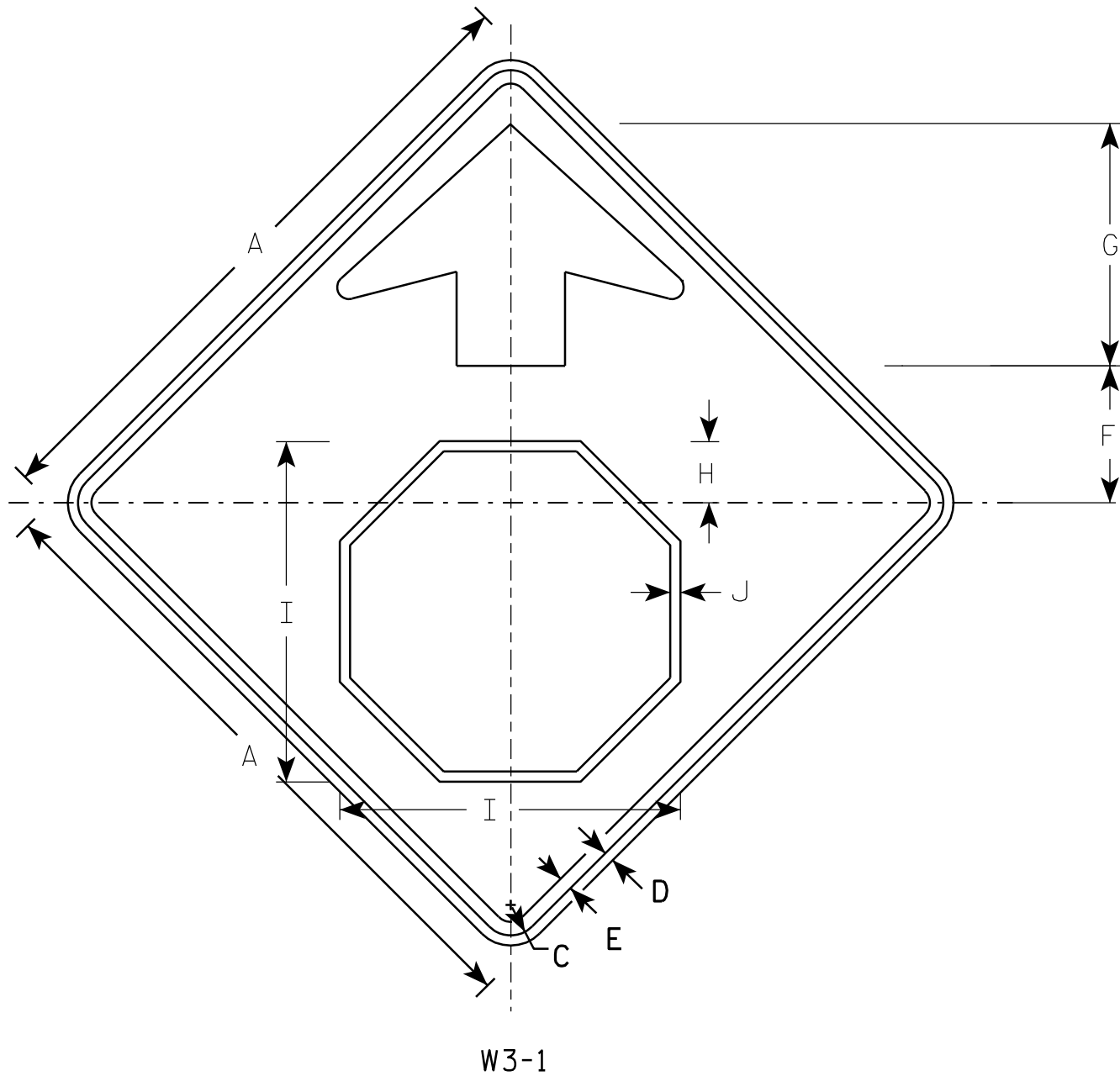
NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

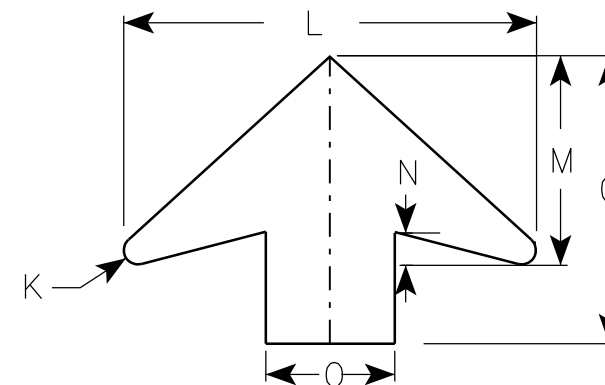
STANDARD SIGN	
W1 - 7	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 6/7/10	PLATE NO. W1-7.7

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

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Arrow & Border - BLACK
Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

PROJECT NO:

STANDARD SIGN
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W3-1.12

SHEET NO:

E

NINTH STREET

Station Distance		AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Salvaged /Unusable			Salvaged /Unusable			Expanded		
		Cut	Pavement Material	Fill	Cut	Pavement Material	Fill	Cut	Fill	
					Note 1	Note 2	Note 1		Note 3	
504+50		71	0	1	0	0	0	0	0	0
505+00	50	64	0	1	124	0	2	124	3	121
505+50	50	72	0	0	126	0	2	251	5	246
506+00	50	86	0	0	147	0	0	397	5	392
506+50	50	94	0	23	167	0	21	564	31	533
507+00	50	116	0	0	194	0	21	758	58	701
507+50	50	125	0	0	223	0	0	981	58	923
508+00	50	132	0	0	237	0	0	1218	58	1161
508+50	50	123	0	0	235	0	0	1453	58	1396
509+00	50	92	0	89	199	0	83	1652	161	1492
509+50	50	78	0	0	158	0	83	1810	264	1546
510+00	50	73	0	0	140	0	0	1950	264	1686
510+50	50	77	0	0	138	0	0	2089	264	1824
510+70	20	78	0	0	57	0	0	2146	265	1881
					2146	689	212			

NOTES:
1) Cut includes Salvaged/Unusable Pavement material.
2) Not shown in cross-sections.
3) [(Cut - Salvaged/Unusable Pavement Material) - (Fill * Fill Factor)]

USH 41NB DITCH

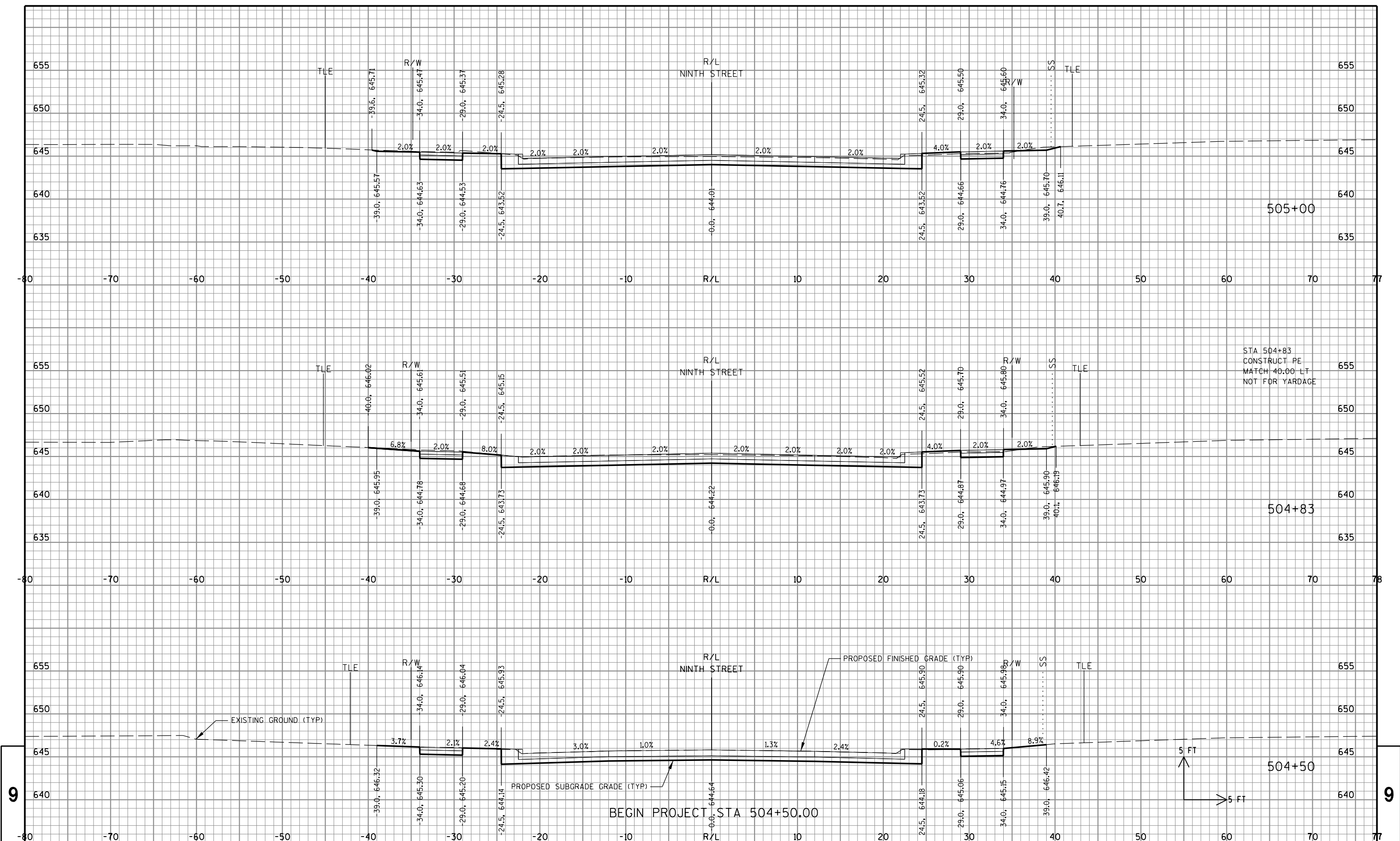
Station Distance		AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Salvaged /Unusable			Salvaged /Unusable			Expanded		
		Cut	Pavement Material	Fill	Cut	Pavement Material	Fill	Cut	Fill	
								1.00	1.25	
					Note 1	Note 2	Note 1		Note 3	
1021+70		0	0	0	0	0	0	0	0	
1022+00	30	102	0	0	57	0	0	57	0	
NINTH STREET										
1023+21		81	0	0	0	0	0	57	0	57
1023+50	29	62	0	0	77	0	0	134	0	134
1024+00	50	64	0	0	116	0	0	250	0	250
1024+50	50	70	0	0	124	0	0	374	0	374
1025+00	50	102	0	0	160	0	0	533	0	533
1025+50	50	57	0	0	147	0	0	681	0	681
1026+00	50	39	0	0	89	0	0	770	0	770
					770	0	0			

- NOTES:
- 1) Cut includes Salvaged/Unusable Pavement material.
 - 2) Not shown in cross-sections.
 - 3) [(Cut - Salvaged/Unusable Pavement Material) - (Fill * Fill Factor)]

USH 41SB DITCH

Station Distance		AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Salvaged /Unusable			Salvaged /Unusable			Expanded		
		Cut	Pavement Material	Fill	Cut	Pavement Material	Fill	Cut	Fill	
								1.00	1.25	
					Note 1	Note 2		Note 1		Note 3
1022+89		83	0	39	0	0	0	0	0	0
1023+00	11	74	0	45	32	0	17	32	21	11
1023+50	50	83	0	50	145	0	88	177	131	46
1024+00	50	86	0	59	156	0	101	333	257	76
1024+50	50	81	0	69	154	0	118	487	405	82
1025+00	50	65	0	25	134	0	87	621	513	108
1025+50	50	35	0	0	92	0	23	713	542	172
1025+75	25	19	0	0	25	0	0	738	542	197
					738	0	433			

- NOTES:
- 1) Cut includes Salvaged/Unusable Pavement material.
 - 2) Not shown in cross-sections.
 - 3) [(Cut - Salvaged/Unusable Pavement Material) - (Fill * Fill Factor)]



STATE PROJECT NO: 1133-04-80

HWY: USH 41

COUNTY: BROWN

CROSS SECTIONS: NINTH STREET

SHEET NO: .

E

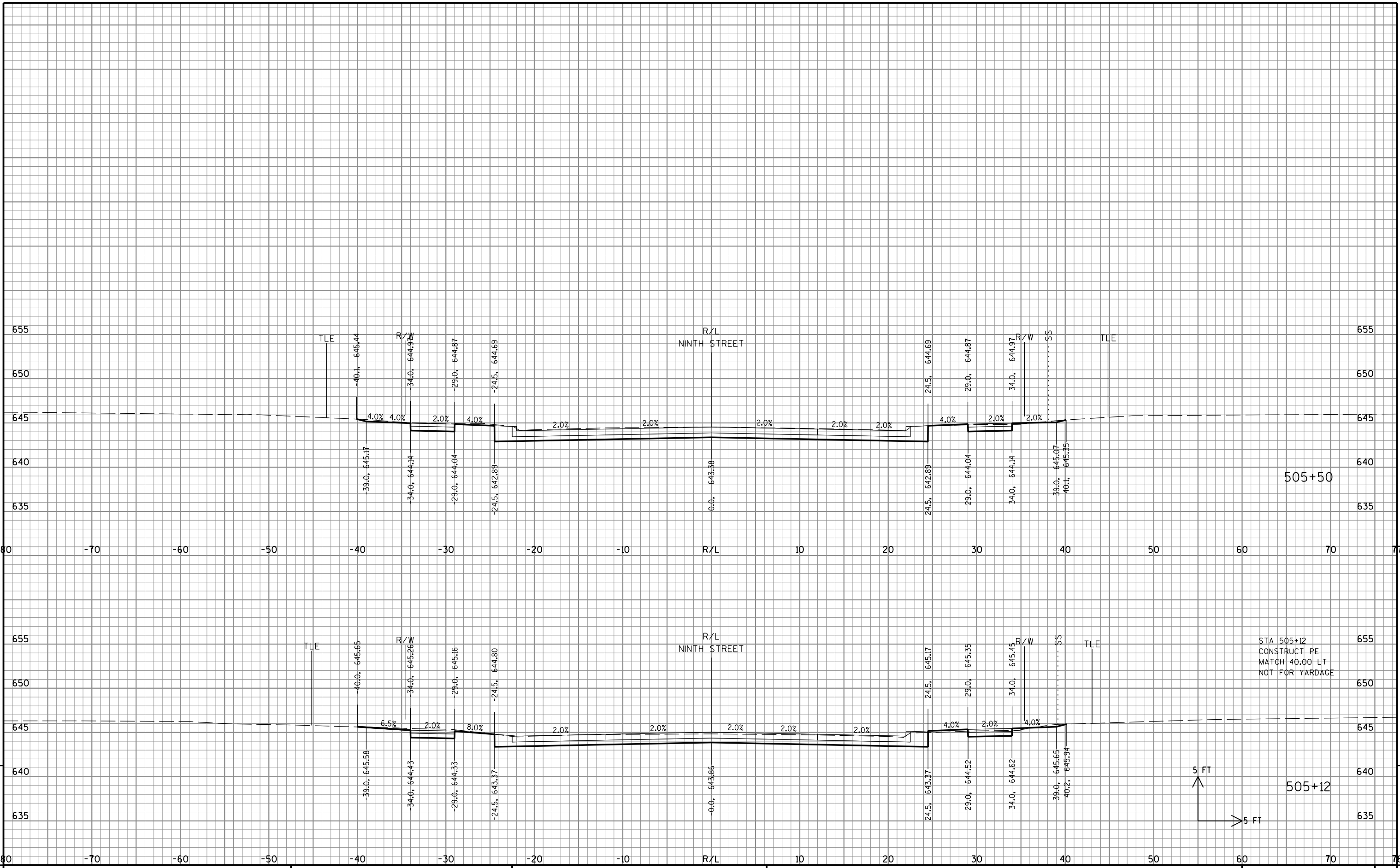
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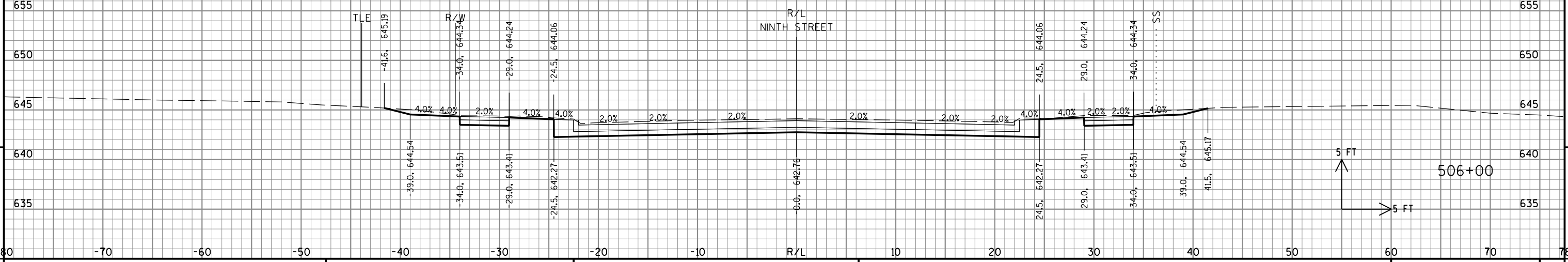
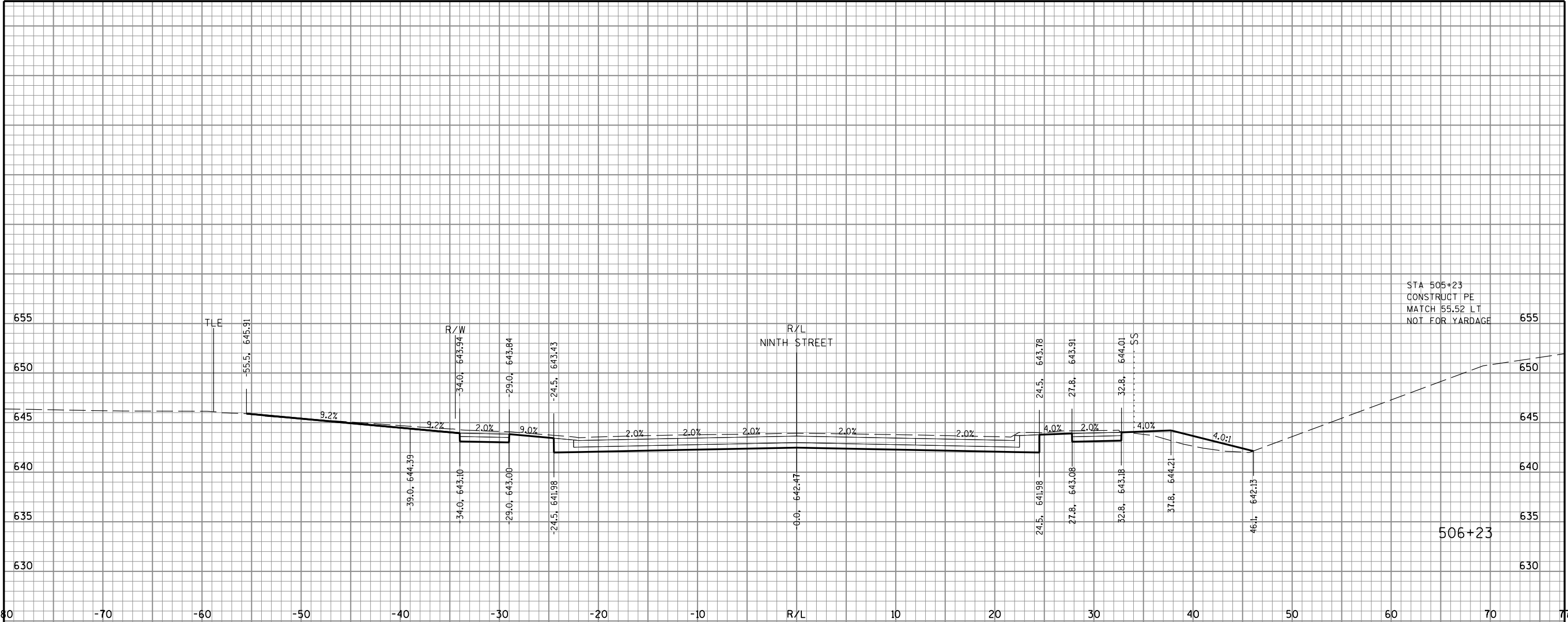
PLOT DATE : 1/31/2013

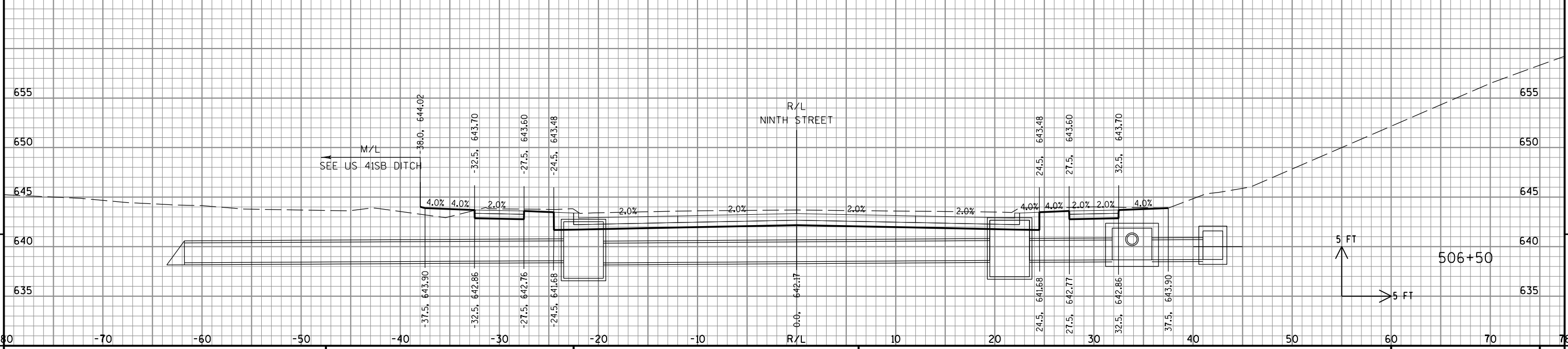
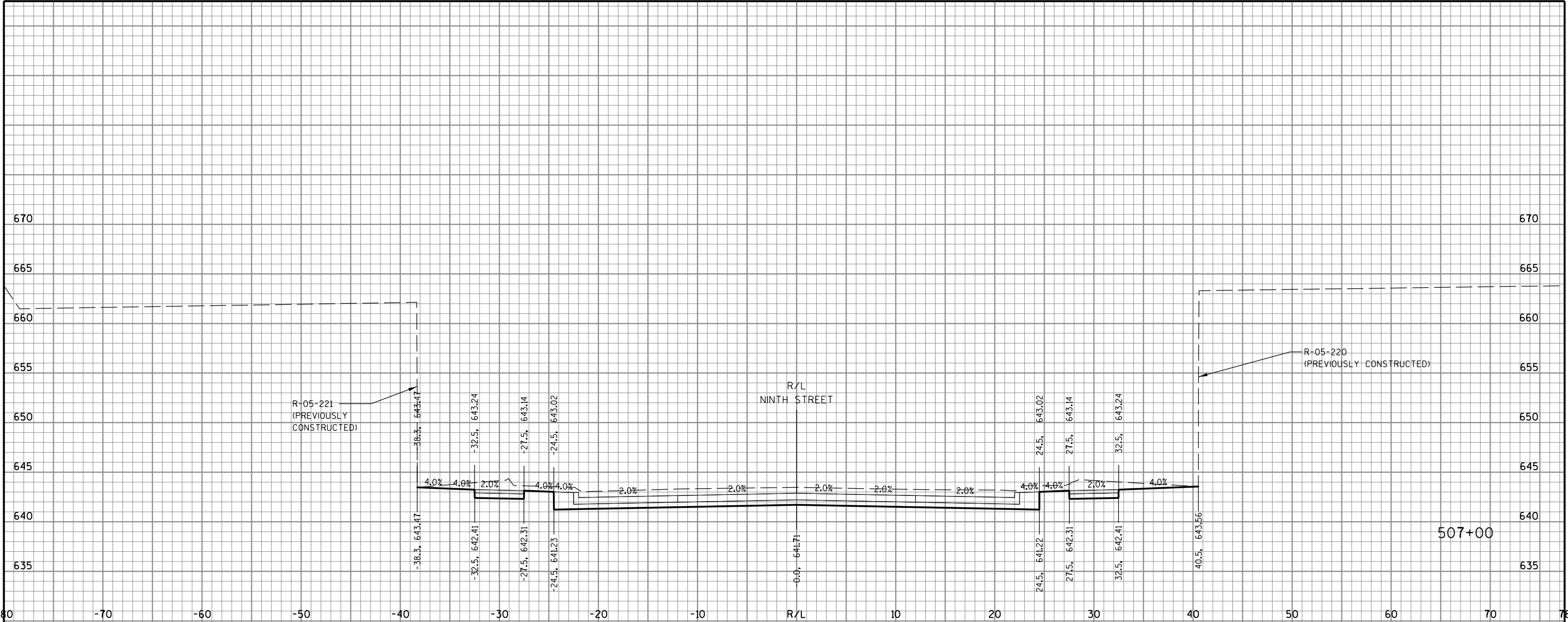
PLOT BY : wally_w

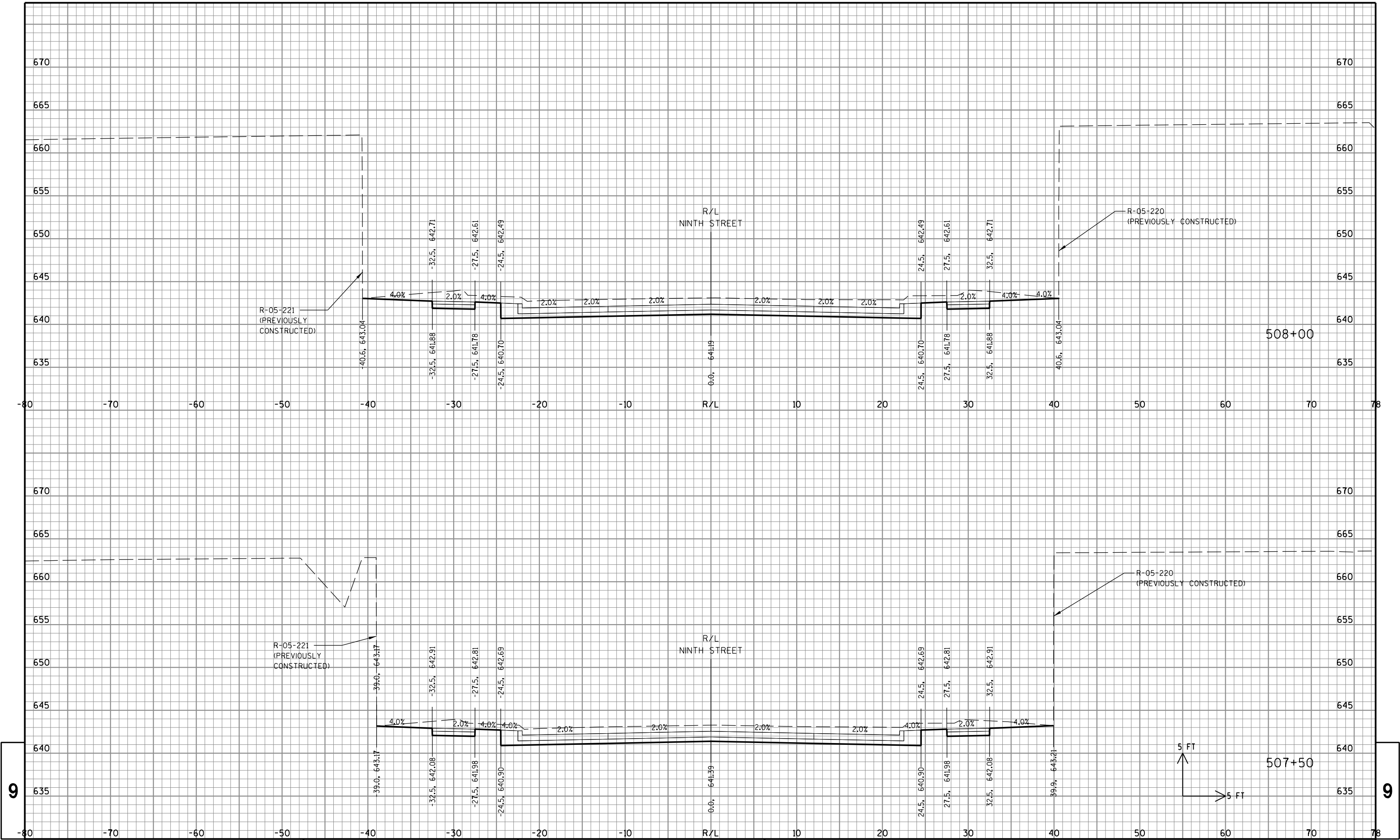
PLOT NAME :

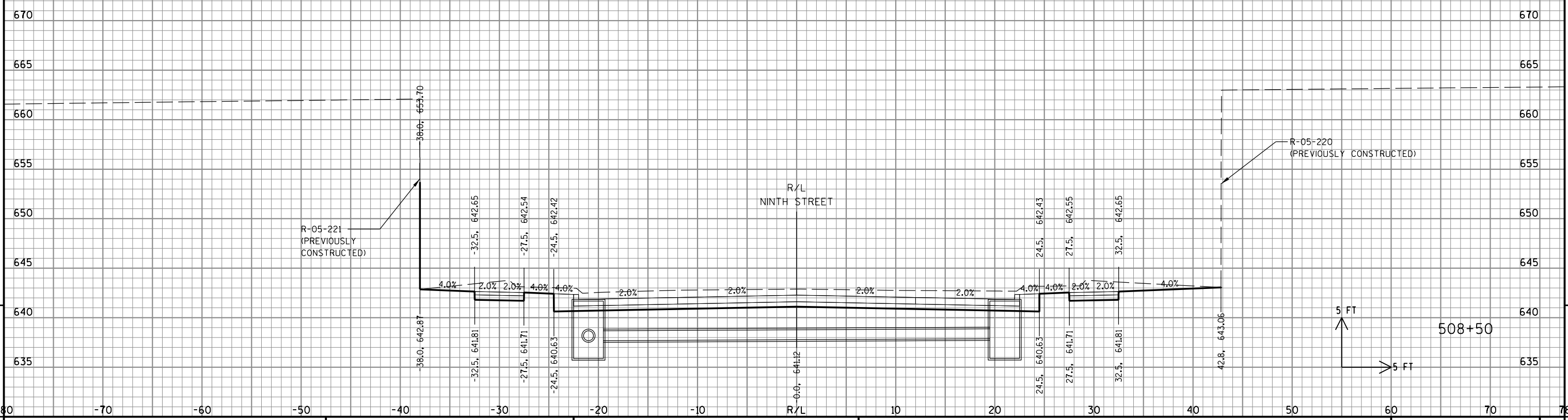
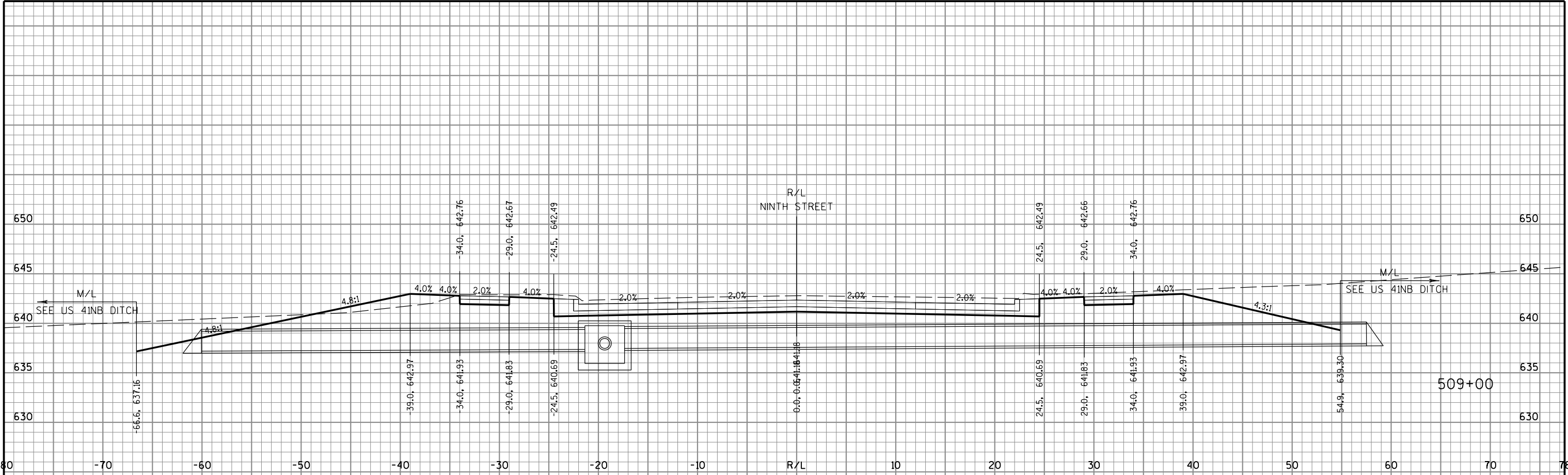
PLOT SCALE : 1:10

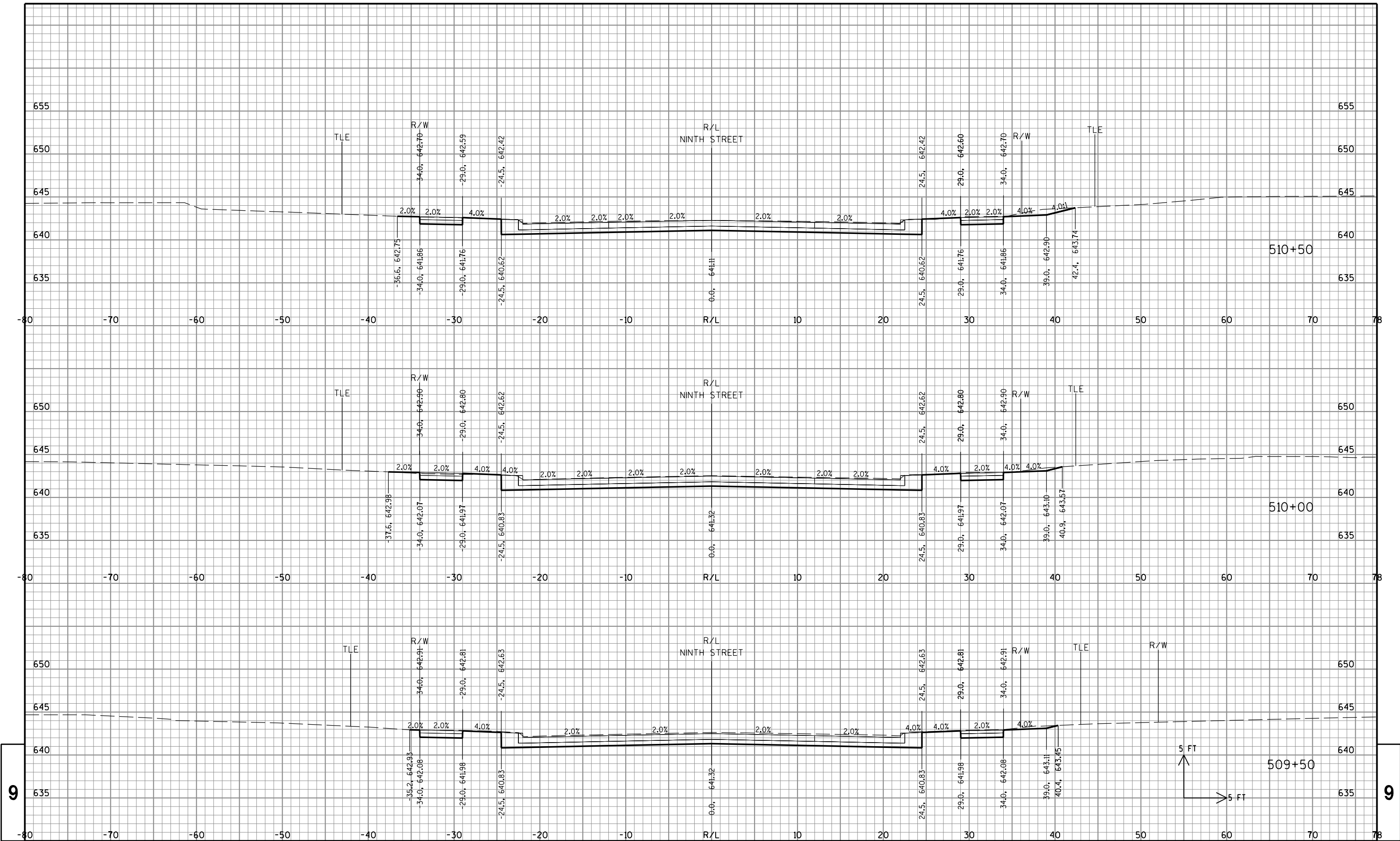


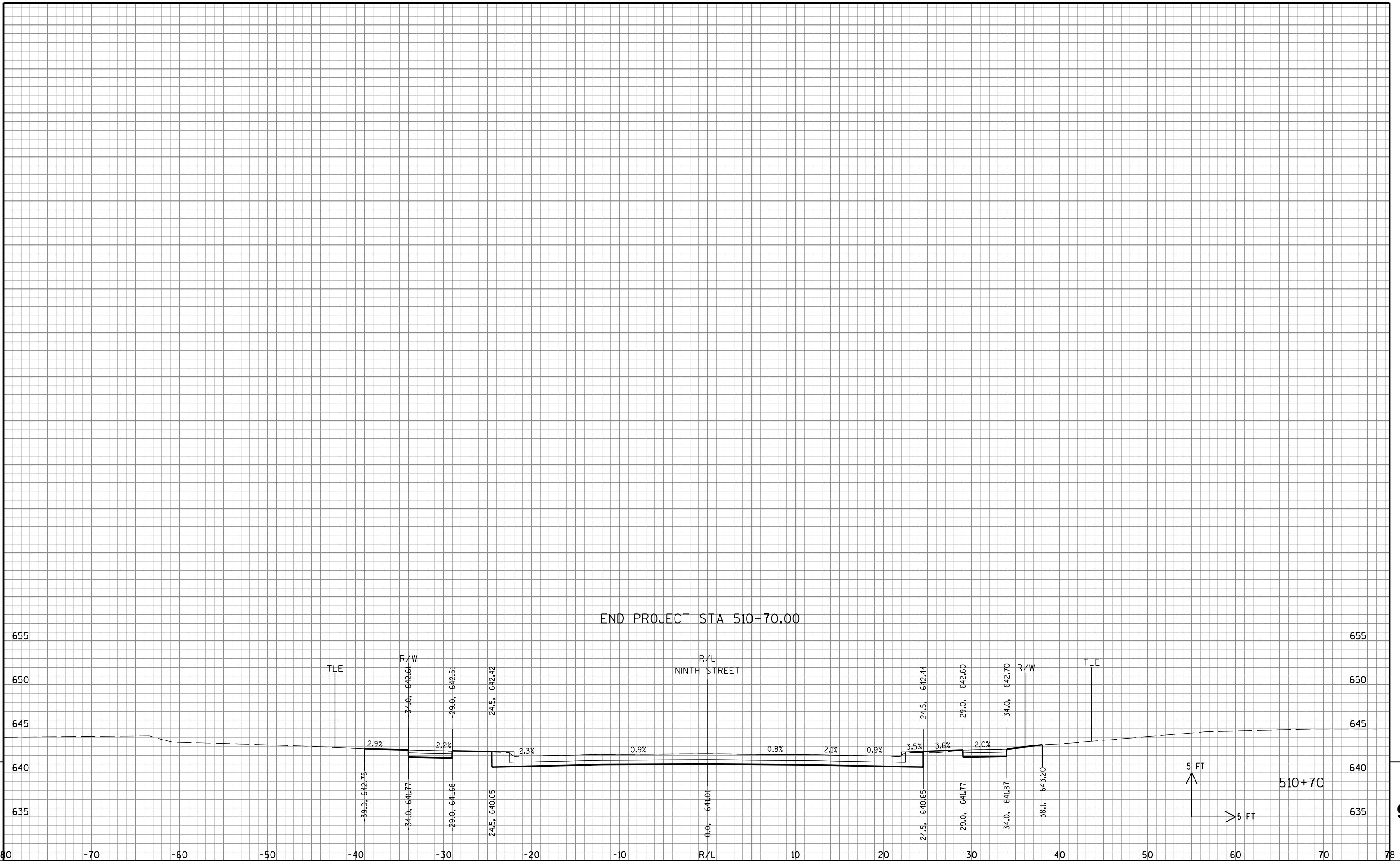


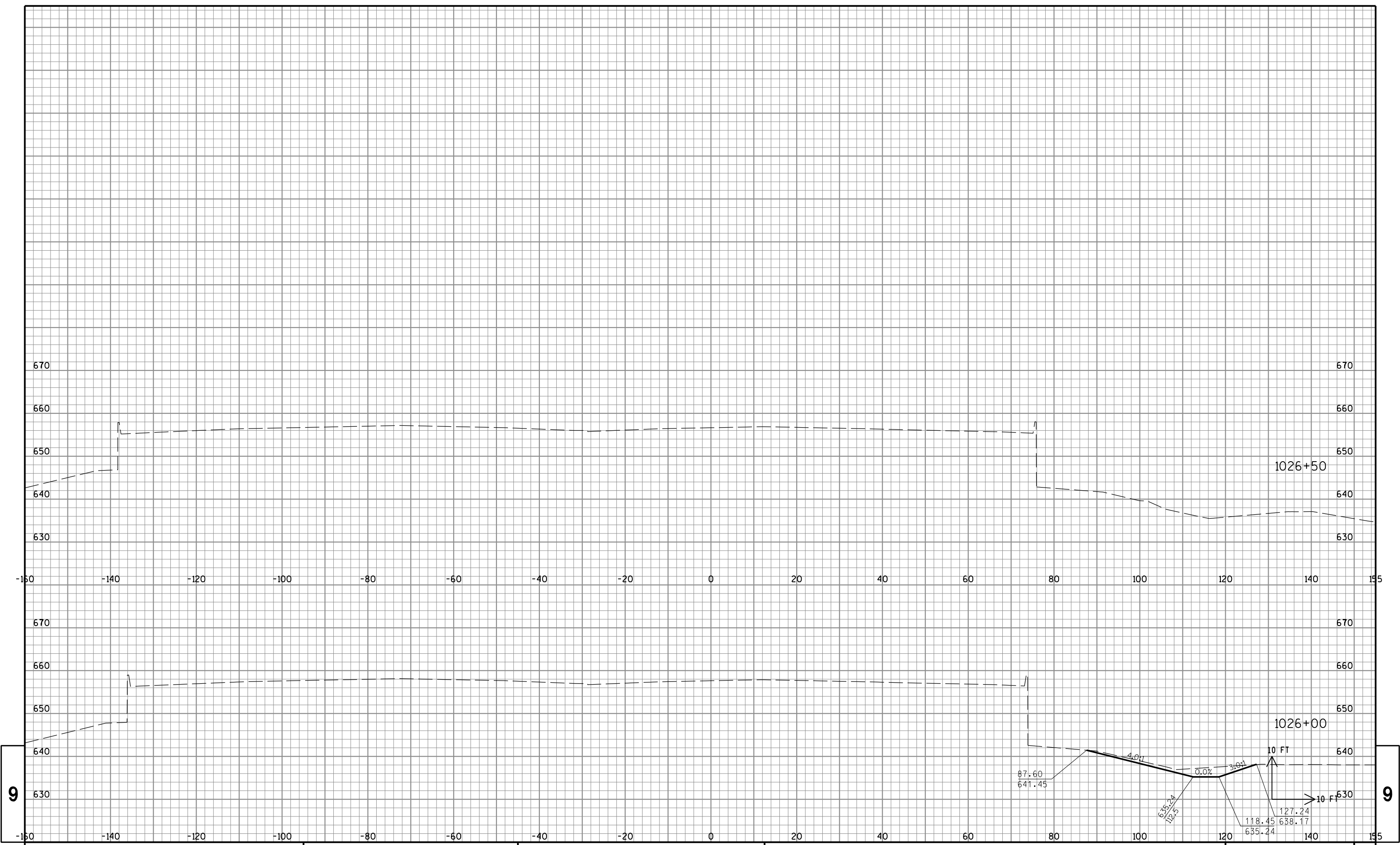


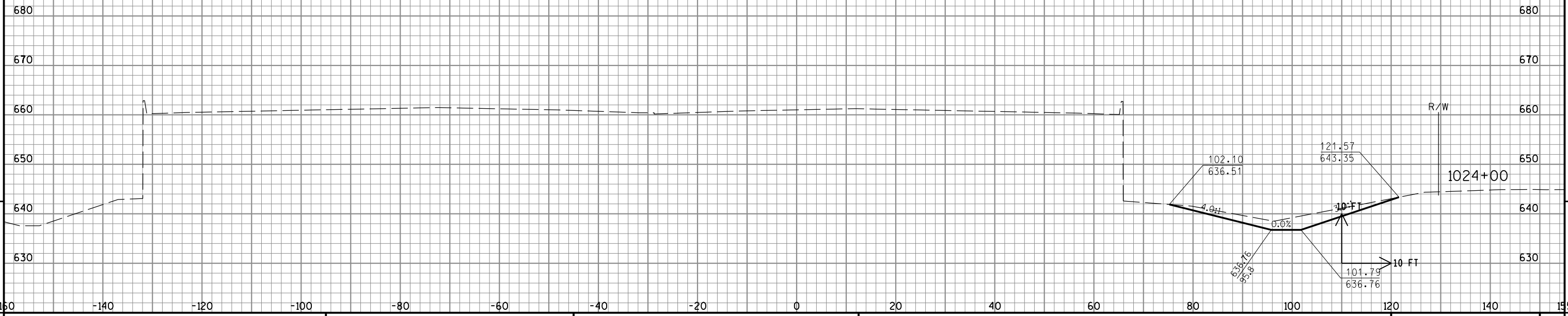
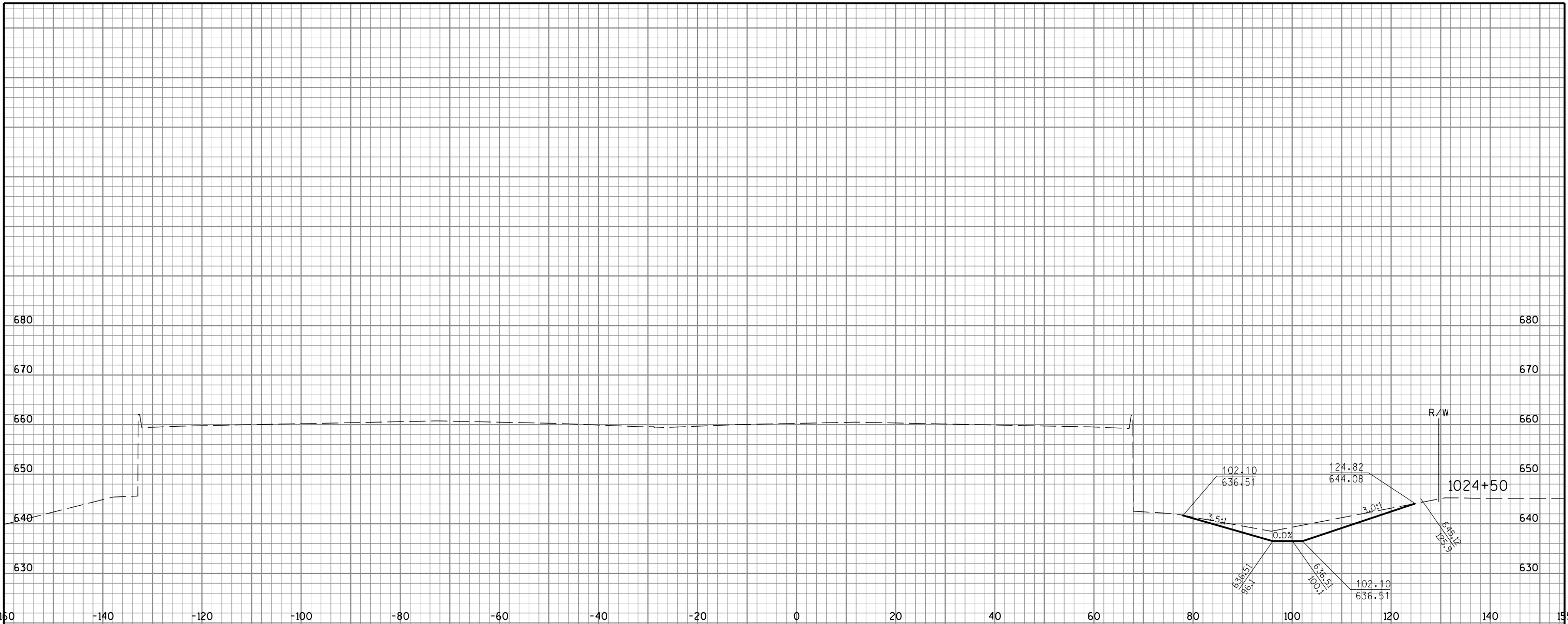






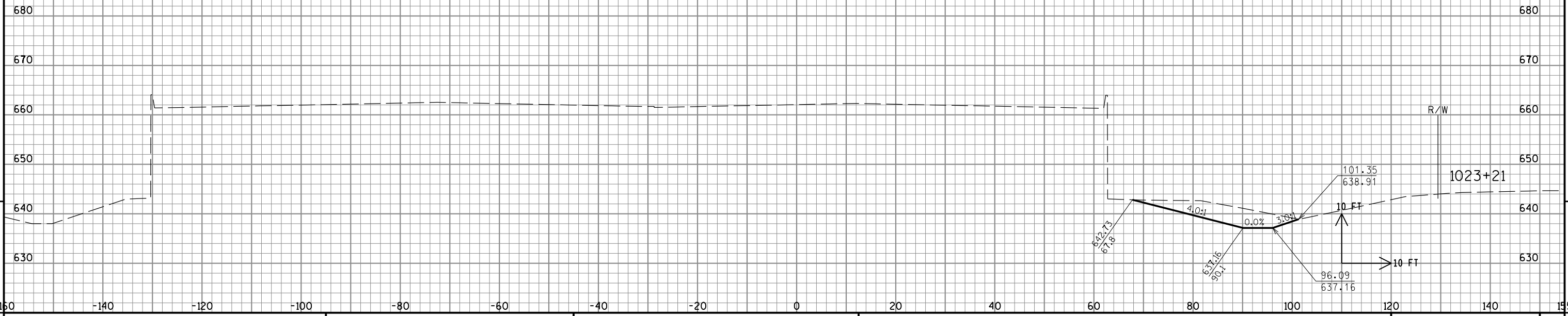
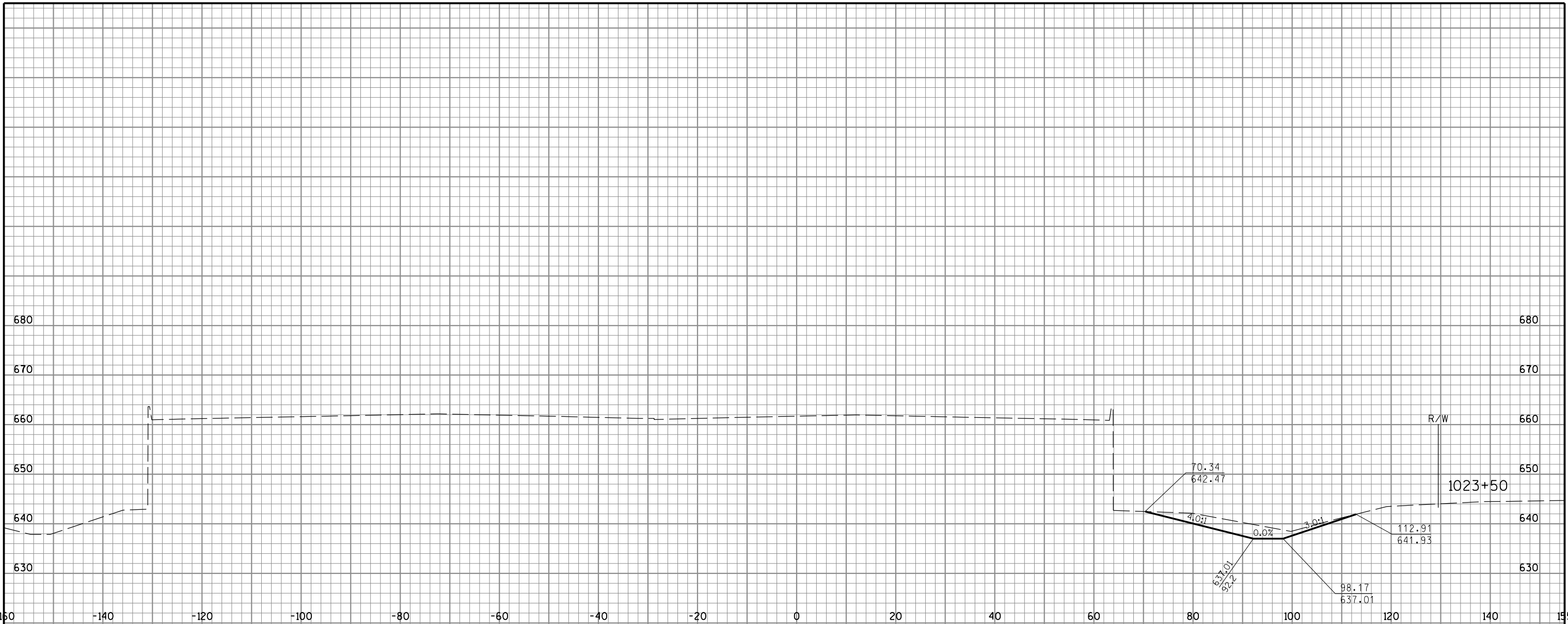






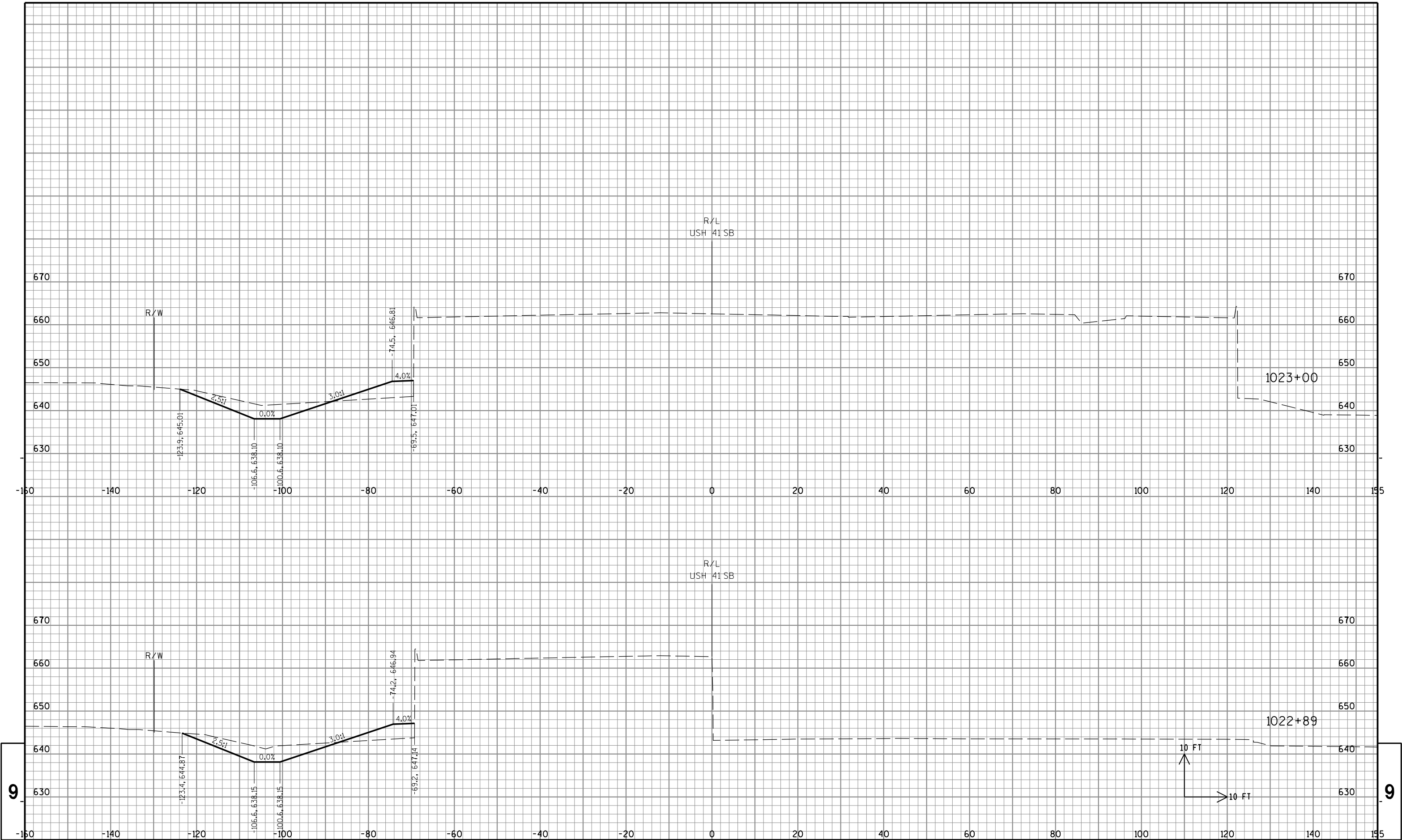
STATE PROJECT NO: 1133-04-80	HWY: USH 41	COUNTY: BROWN	CROSS SECTIONS: USH 41 NB DITCH	SHEET NO: .	E
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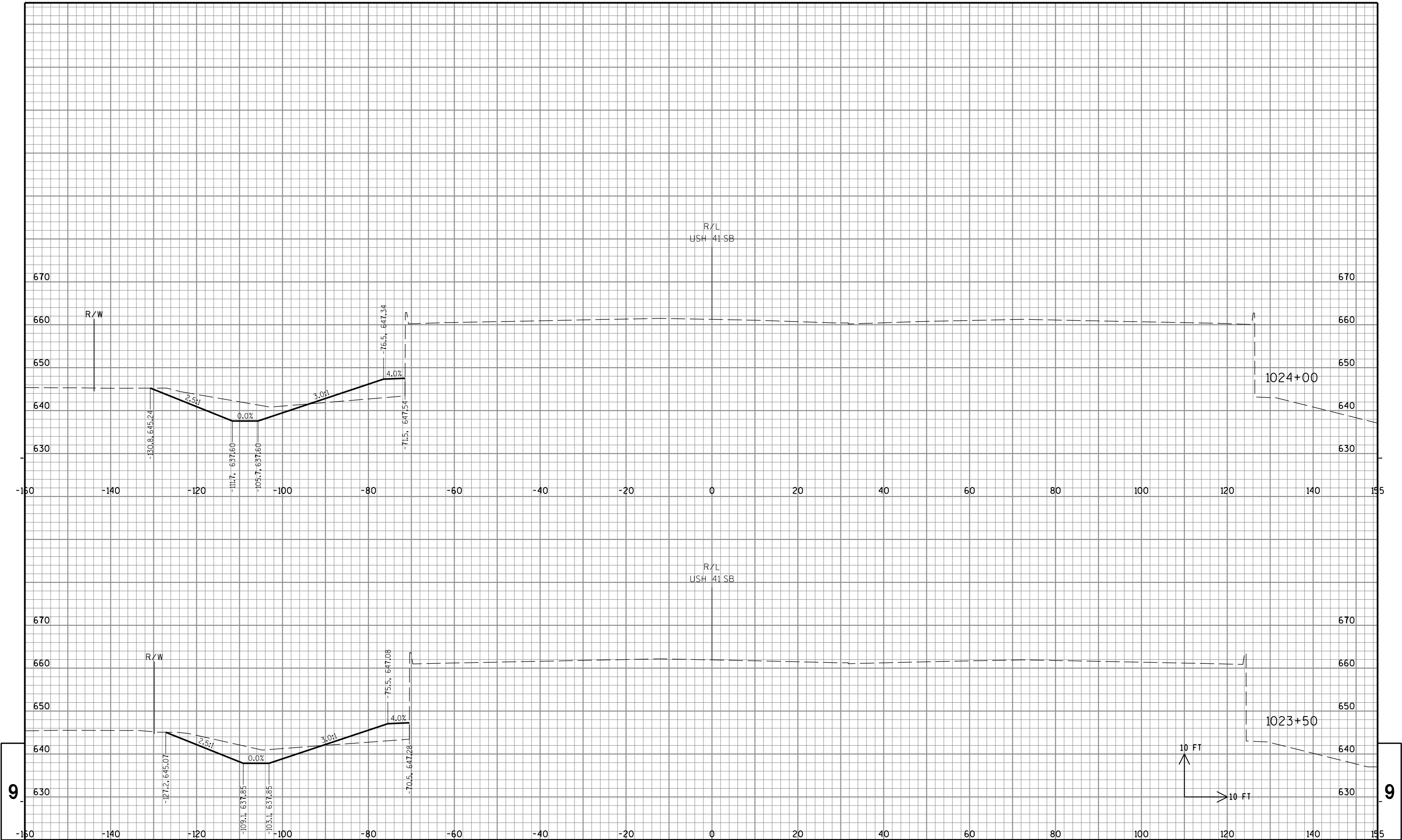
FILE NAME : S:\DOT\DOT_NE\100061-41.29\41-29.Phase 2\1133-04-80_Ninth Street\DGN Files\Plan Sheets\090202.XS.dgn PLOT DATE : 1/31/2013 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

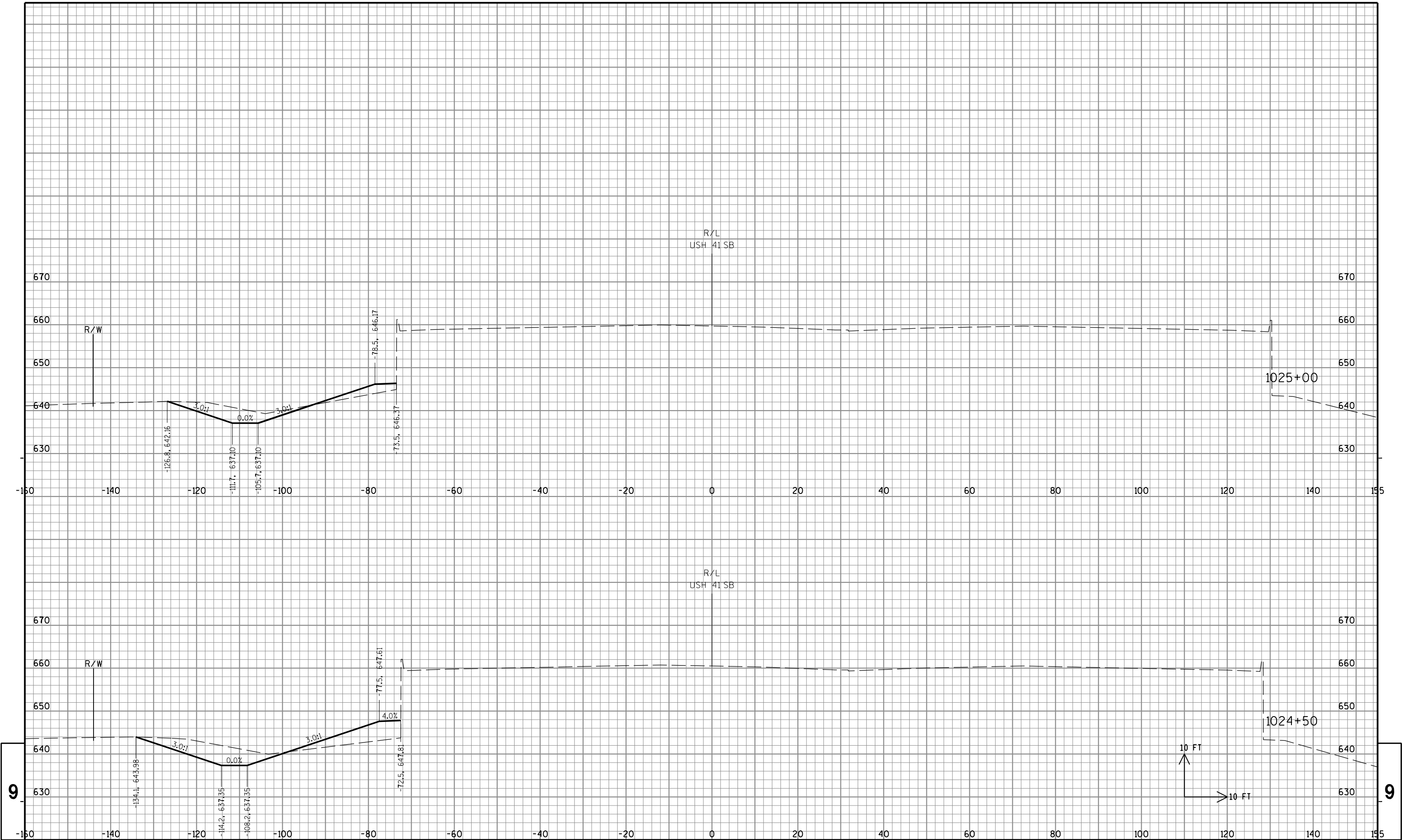


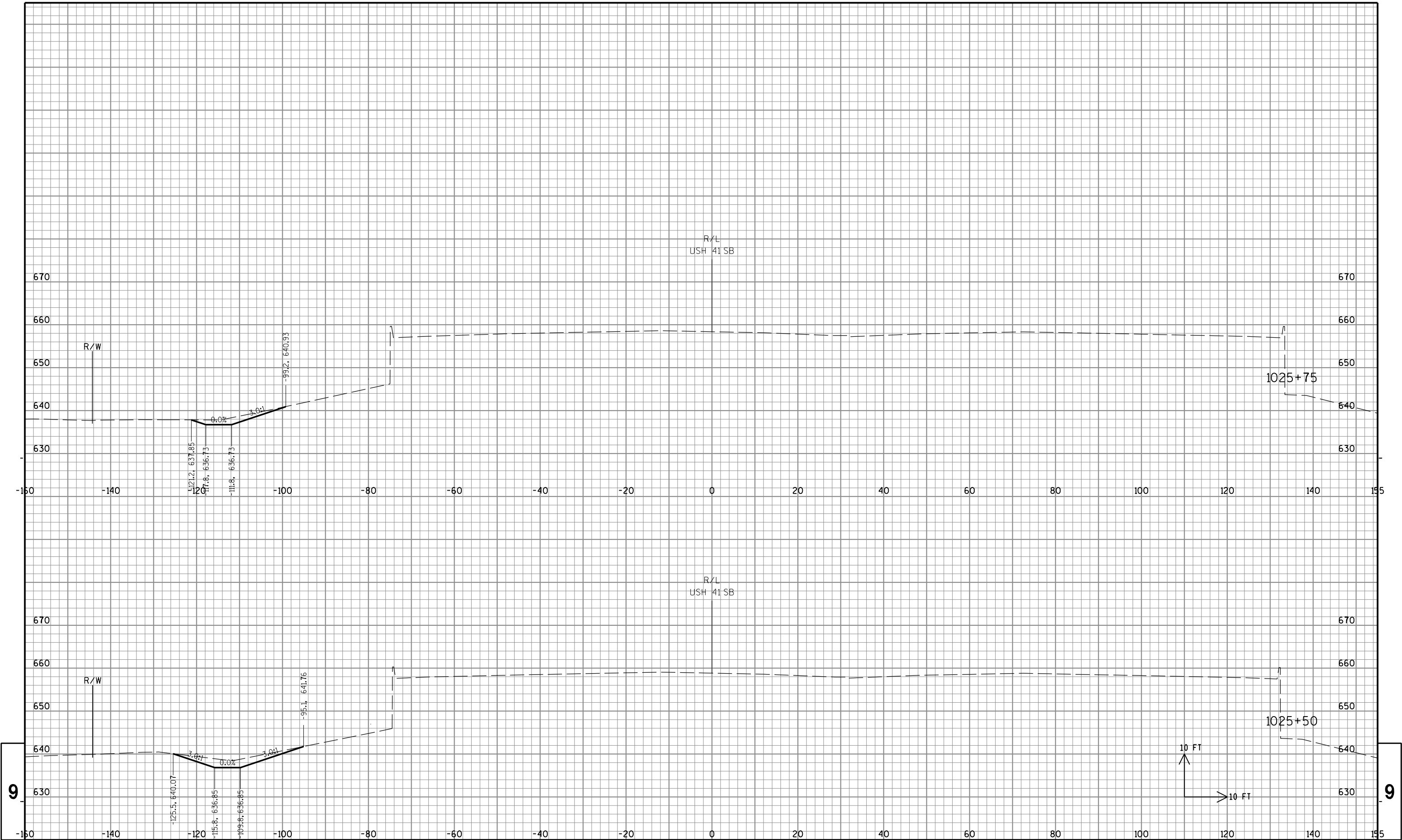
STATE PROJECT NO: 1133-04-80 HWY: USH 41 COUNTY: BROWN CROSS SECTIONS: USH 41 NB DITCH SHEET NO: . E

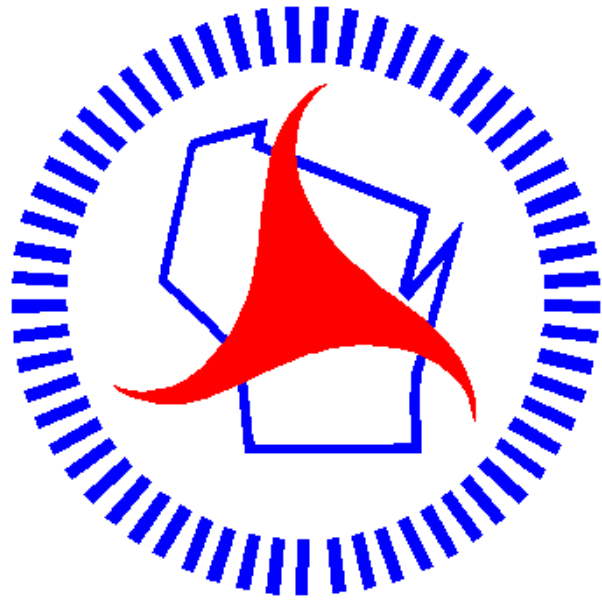
FILE NAME : S:\DOT\DOT_NE\100061-41.29\41-29.Phase 2\1133-04-80_Ninth Street\DGN Files\Plan Sheets\090202.XS.dgn PLOT DATE : 1/31/2013 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20











Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

<http://www.dot.wisconsin.gov>

GRE MAR 2013
PROJECT ID: 9202-08-76
WITH: 1133-04-80
COUNTY: BROWN

ORDER OF SHEETS

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

TOTAL SHEETS = 66



DESIGN DESIGNATION

A.A.D.T. (2005)	= 800
A.A.D.T. (2025)	= 1000
D.H.V.	= 50
D.D.	= 50/50
T.	= 1%
DESIGN SPEED	= 30 MPH
ESALS	= 5

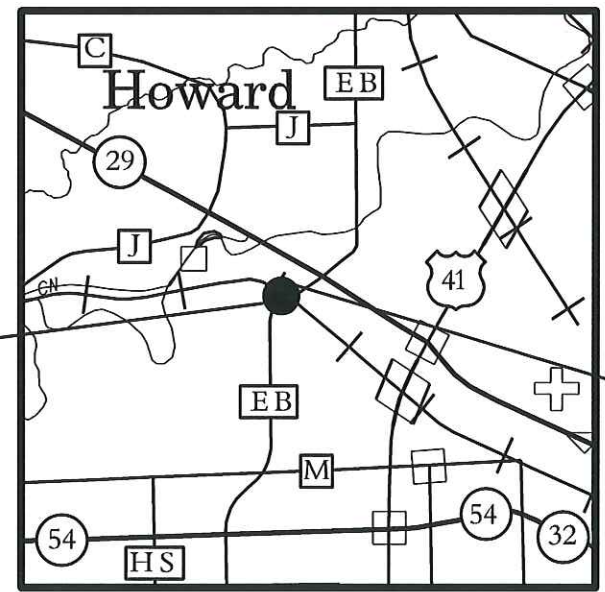
CONVENTIONAL SYMBOLS

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

PROFILE

GRADE LINE	---
ORIGINAL GROUND	---
MARSH OR ROCK PROFILE (To be noted as such)	ROCK
SPECIAL DITCH	LABEL
GRADE ELEVATION	95.36
CULVERT (Profile View)	0
UTILITIES	
COMMUNICATION OVERHEAD	C-OH
COMMUNICATION UNDERGROUND	C-UG
ELECTRIC OVERHEAD	OH
ELECTRIC UNDERGROUND	E
GAS	G
SANITARY SEWER	SAN
STORM SEWER	SS
WATER	W
UTILITY PEDESTAL	+
POWER POLE	+
TELEPHONE POLE	+

BEGIN PROJECT ID 9202-08-76
STA 74SMN+72.37
X= 79,360.788
Y=577,498.357



END PROJECT ID 9202-08-76
STA 78SMN+38.51
X= 79,721.728
Y=577,547.498

LAYOUT
SCALE 0 0.5 MI.
TOTAL NET LENGTH OF CENTERLINE = 0.069 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), BROWN COUNTY, NAD 83 (1991).
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE VERTICAL DATUM OF 1988, NAVD 88 (1991).

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
DE PERE - SUAMICO
WIS 29 RELOCATION US 41 - CTH J
S MEMORIAL DR ACCESS TO PARKSIDE CT
(LOCAL STREET)
BROWN COUNTY

STATE PROJECT NUMBER
9202-08-76

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9202-08-76	WISC 2013282	1



ORIGINAL PLANS PREPARED BY
JT ENGINEERING, INC.
Professional Engineering Services

ANDREW W. BLOCK
E-41224-6
APPLETON WI.

3/4/2013
(Date)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor
Designer
Project Manager
Regional Examiner
Regional Supervisor
C.O. Examiner

WISDOT NE REGION
JT ENGINEERING, INC.
DANIELLE BLOCK
KATHLEEN SLATTERY
CHAD DEGRAVE

APPROVED FOR THE DEPARTMENT
DATE: 3/5/2013
(Signature)

E

GENERAL NOTES

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

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

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

FILL ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES WITH BACKFILL GRANULAR. BACKFILL GRANULAR MATERIAL IS INCIDENTAL TO THE REMOVAL ITEM.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS, FLOODWAY OR FLOODPLAIN OF ANY WATERWAY.

PLACE EROSION CONTROL DEVICES IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS DETERMINED BY THE ENGINEER. EROSION CONTROL FEATURES IN PLAN ARE SHOWN AT APPROXIMATE LOCATIONS, WITH EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER. REMOVAL OF ITEMS ARE INCIDENTAL TO THE RESPECTIVE EROSION CONTROL BID ITEM COSTS.

DO NOT USE FERTILIZER NEAR NAVIGABLE WATERWAYS OR WETLANDS. CROSS SECTIONS SHOWN INCLUDE THE THICKNESS OF TOPSOIL WHERE REQUIRED. PLACE TOPSOIL TO A 6-INCH DEPTH UNLESS OTHERWISE NOTED.

PLACE TOPSOIL IN ALL GRADED AREAS AS DESIGNATED BY THE ENGINEER IMMEDIATELY AFTER GRADING HAS BEEN COMPLETED. SEED, FERTILIZE AND MULCH OR EMAT ALL AREAS 5 DAYS AFTER PLACEMENT OF TOPSOIL.

STATIONING, DISTANCES, AND OFFSETS FOR SIGNS AND TRAFFIC CONTROL DEVICES SHOWN IN THE PLANS ARE APPROXIMATE. EXACT LOCATIONS ARE DETERMINED BY THE ENGINEER.

COVER ALL SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE EXACT LOCATION AND WIDTH OF TEMPORARY ACCESS FOR DRIVEWAYS TO BE DETERMINED BY THE ENGINEER.

RESHAPING AND SEEDING OF ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS OUTSIDE OF THE ENGINEER DETERMINED CONSTRUCTION LIMITS ARE INCIDENTAL TO THE CONTRACT.

DISTRUBED AREAS WITHIN THE RIGHT-OF-WAY ARE TO BE TOPSOILED AND TREATED AS SHOWN ON THE EROSION CONTROL PLANS OR AS DIRECTED BY THE ENGINEER.

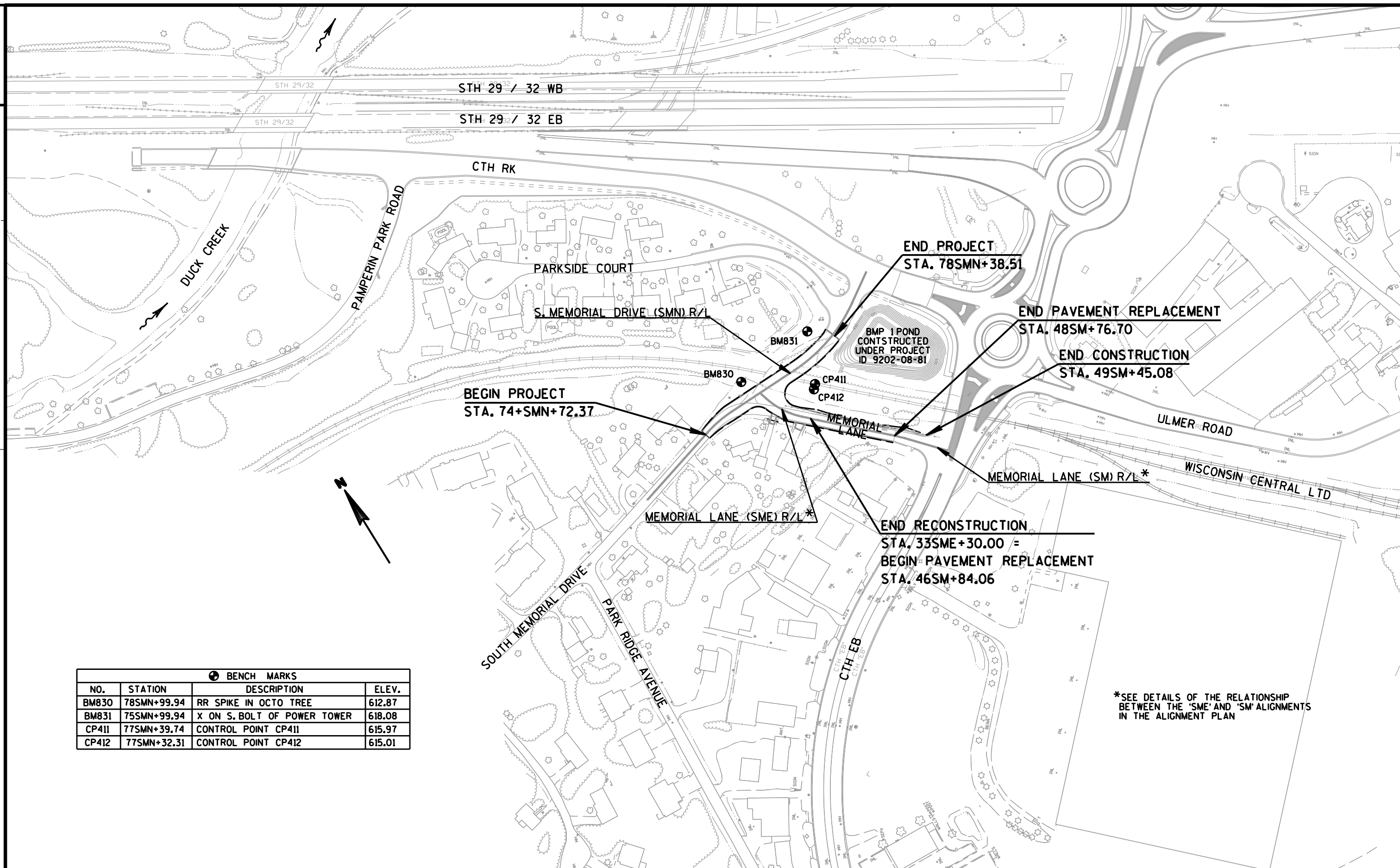
RIGHT-OF-WAY LINES SHOWN ON THE CROSS SECTIONS ARE APPROXIMATE.

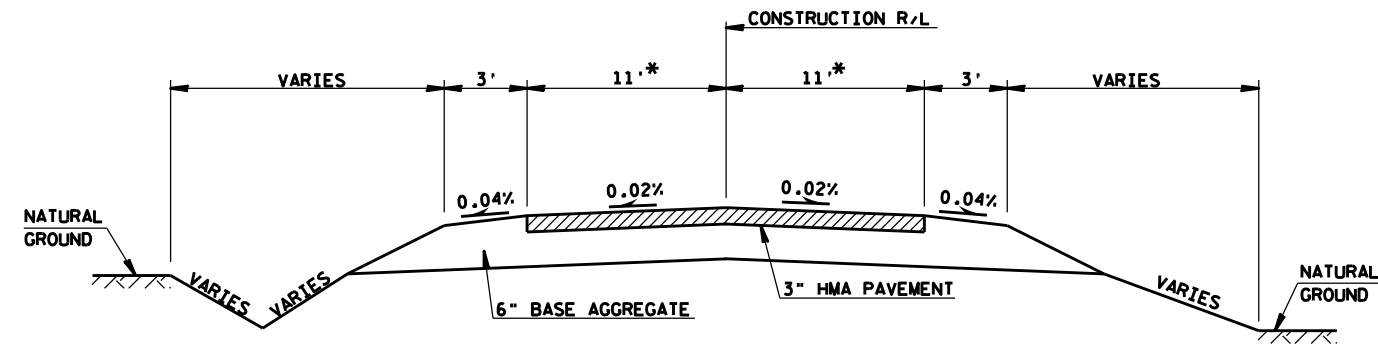
THE FACTOR USED FOR EXPANDING THE FILLS TO COMPUTE THE VOLUME OF MATERIAL REQUIRED IS 1.15.

INFORMATION PERTAINING TO THE PROPOSED WORK TO BE COMPLETED UNDER PROJECT ID 9202-07-72 AND 9202-08-81, AS REFERENCE IN THIS PLAN, WAS OBTAINED FROM THE PROPOSED WORK PLANS PREPARED FOR THOSE PROJECT ID'S.

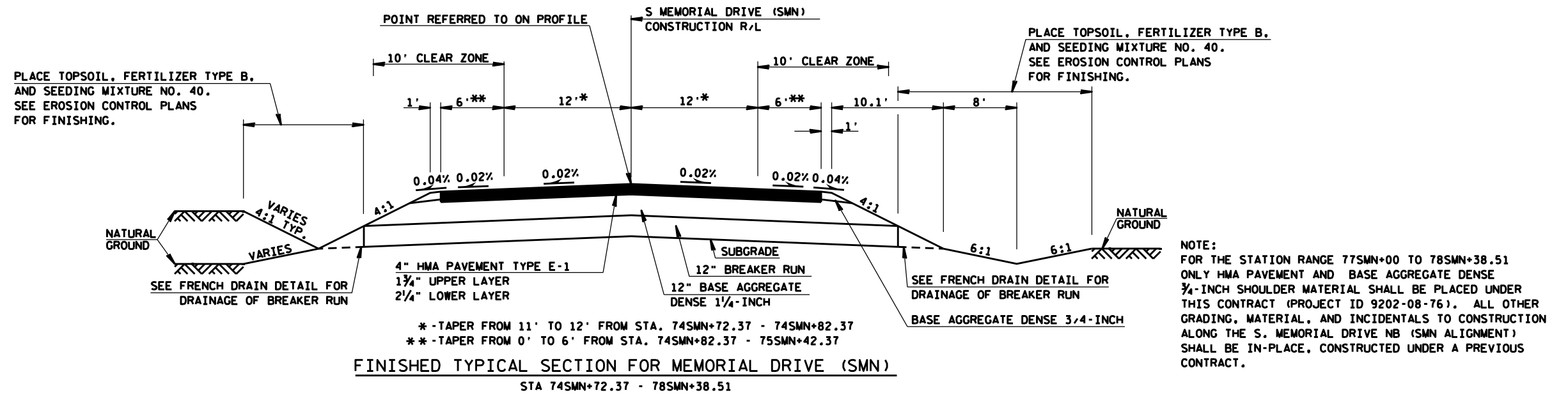
STANDARD ABBREVIATIONS

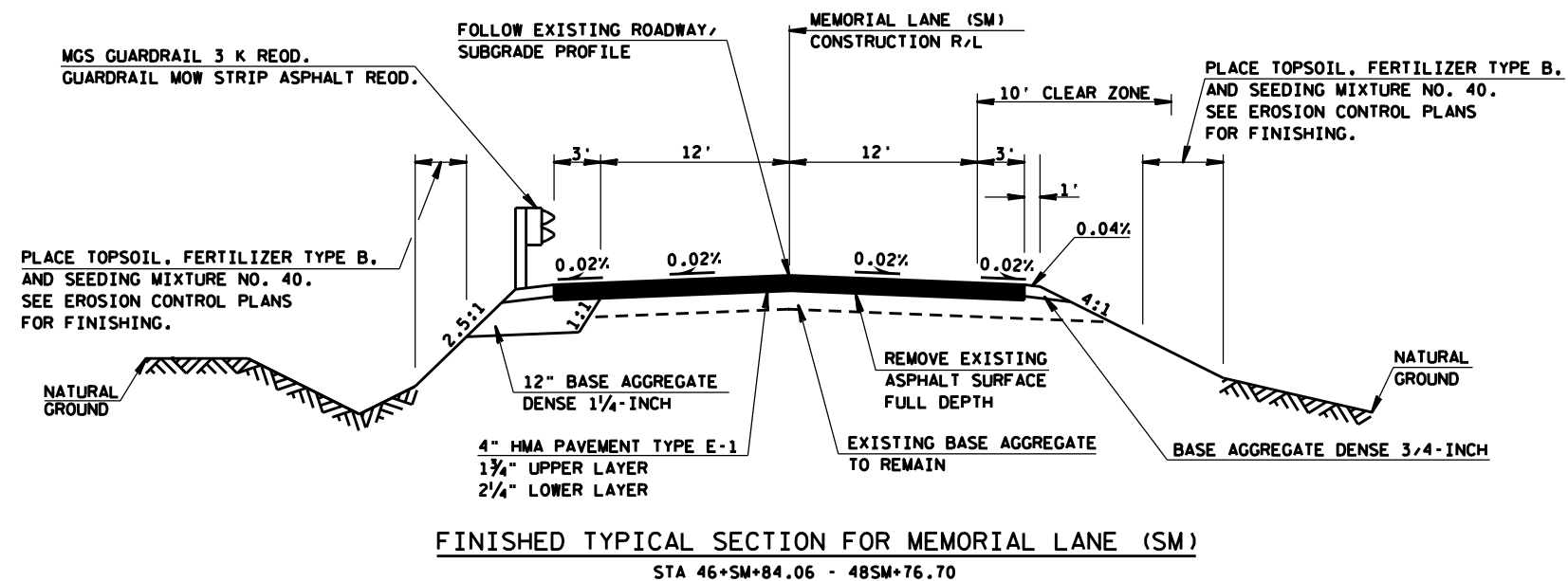
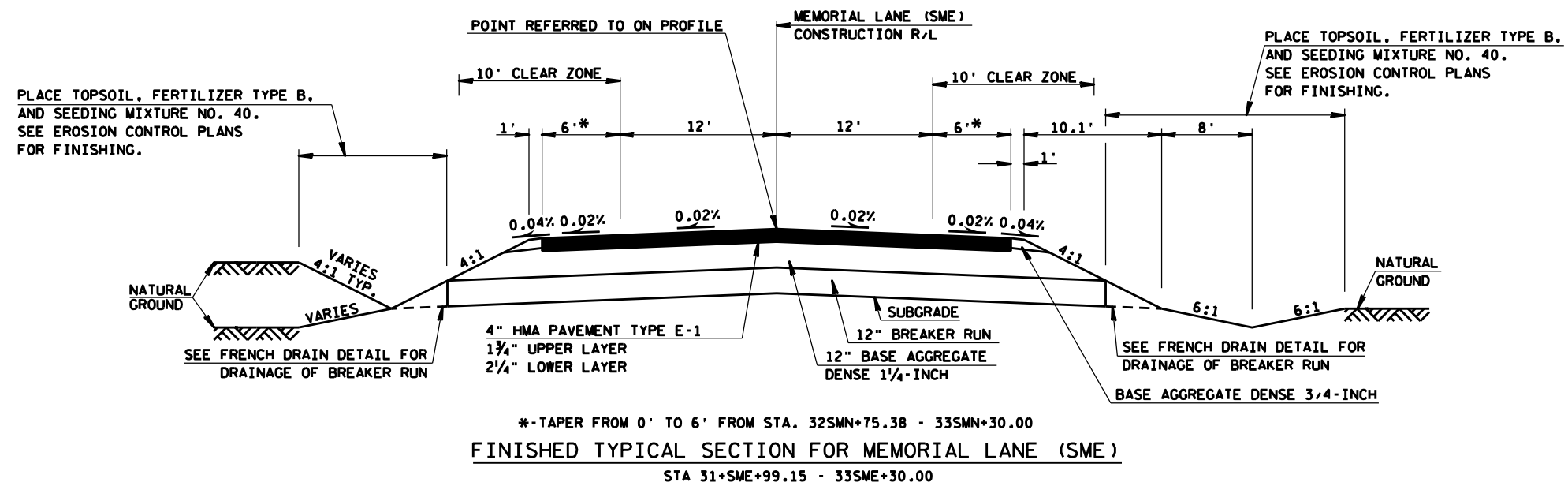
AEW	APRON END WALL
BAD	BASE AGGREGATE DENSE
BM	BENCHMARK
C/L	CENTERLINE
CL	CLASS
CONC	CONCRETE
CPCM	CULVERT PIPE CORRUGATED METAL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CY	CUBIC YARD
D	DEGREE OF CURVE
DISCH	DISCHARGE
FE	FIELD ENTRANCE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LT	LEFT
MIN	MINIMUM
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PT	POINT OF TANGENCY
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT-OF-WAY
RCAEW	APRON END WALL FOR CULVERT PIPE REINFORCED CONCRETE
REQD	REQUIRED
RT	RIGHT
SALV	SALVAGED
SDD	STANDARD DETAIL DRAWING
SF	SQUARE FOOT
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH

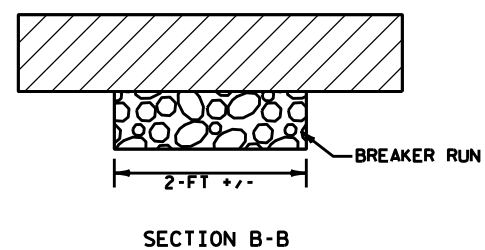
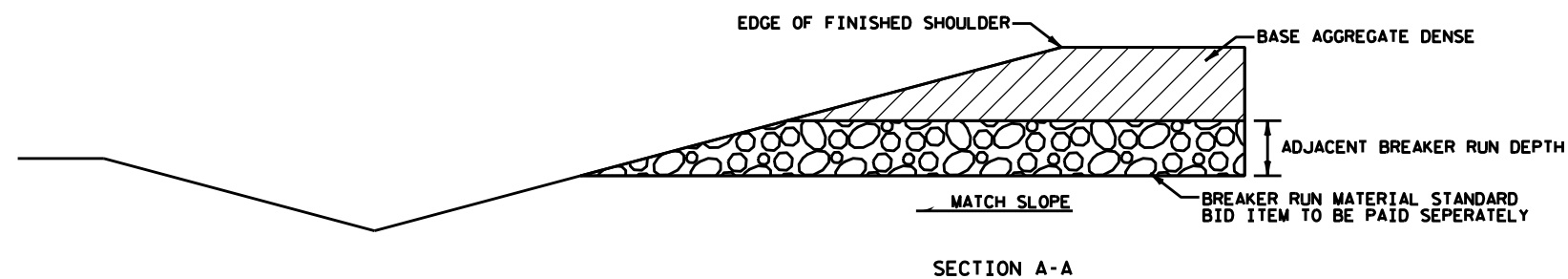
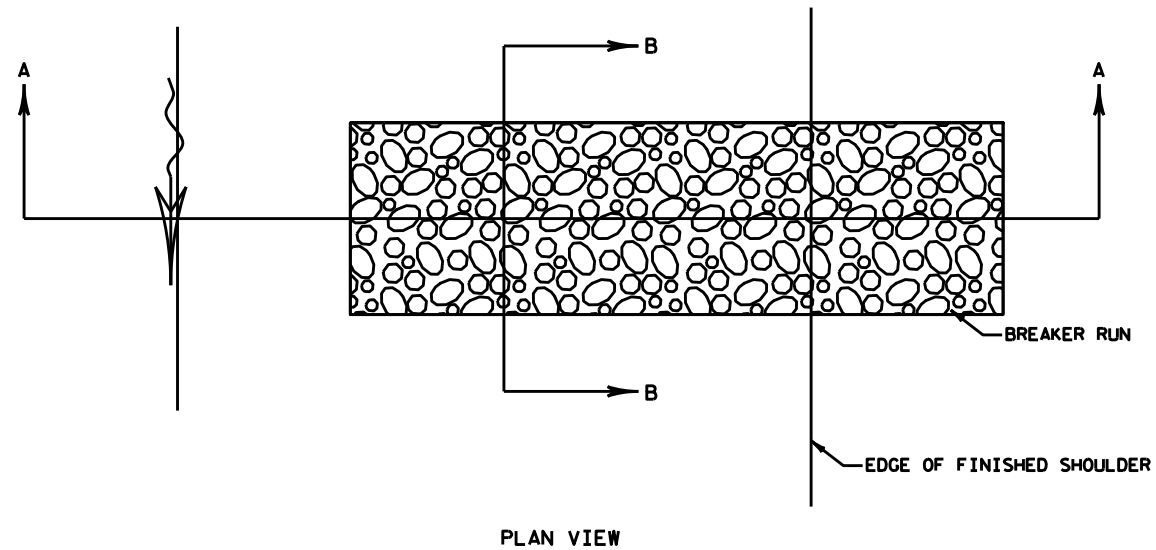




*-12' EXISTING LANE WIDTH ALONG SME ALIGNMENT
EXISTING TYPICAL SECTION FOR MEMORIAL DRIVE



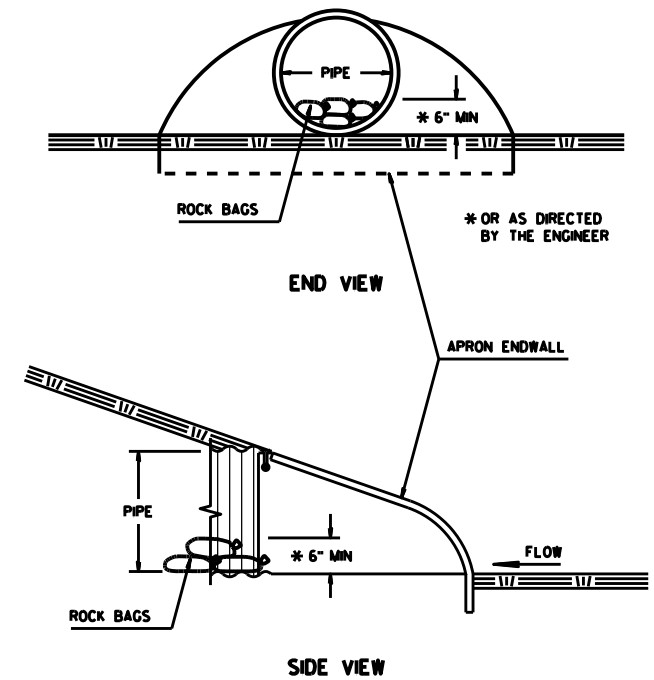




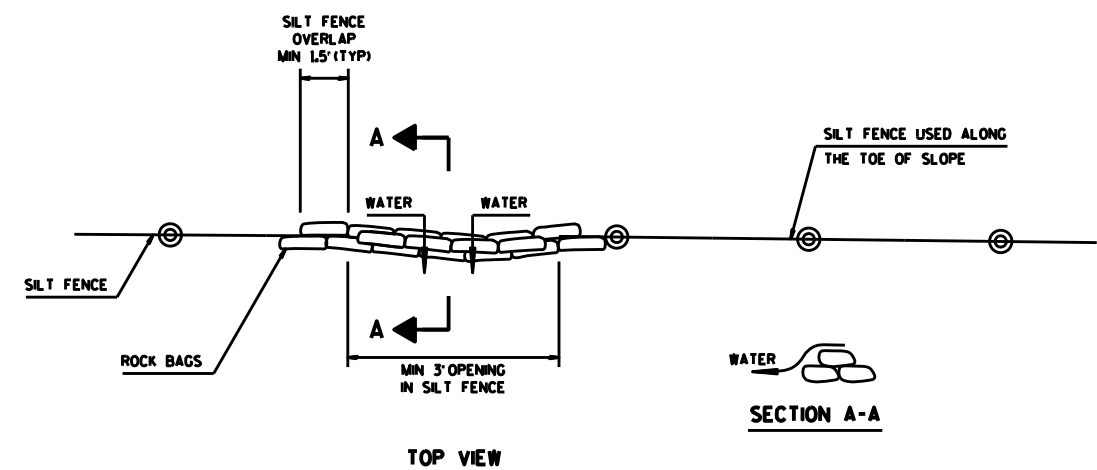
FRENCH DRAIN DETAIL

NOTE:

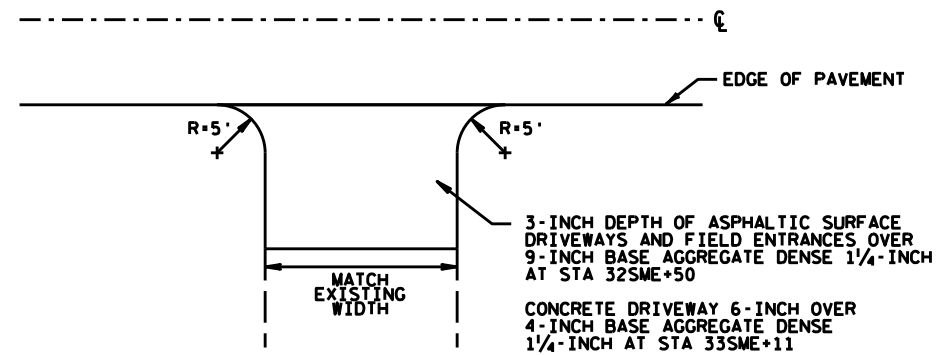
- 1) FRENCH DRAINS WILL BE PAID AT THE CONTRACT UNIT PRICES FOR ITEMS:
COMMON EXCAVATION AND BREAKER RUN.
- 2) LOCATE FRENCH DRAINS EVERY 200 - 300-FT AND AT LOW POINTS, AS APPROVED BY THE ENGINEER IN THE FIELD.



CULVERT PIPE CHECKS



ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL
PAID AS ROCK BAGS

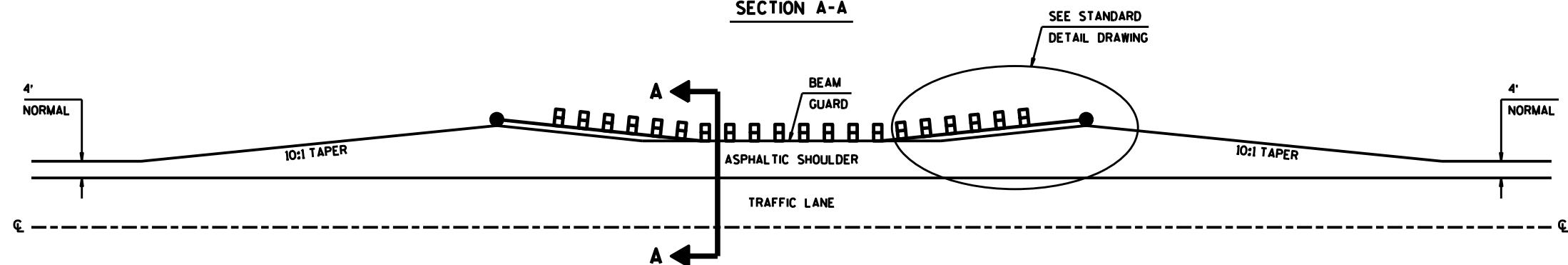
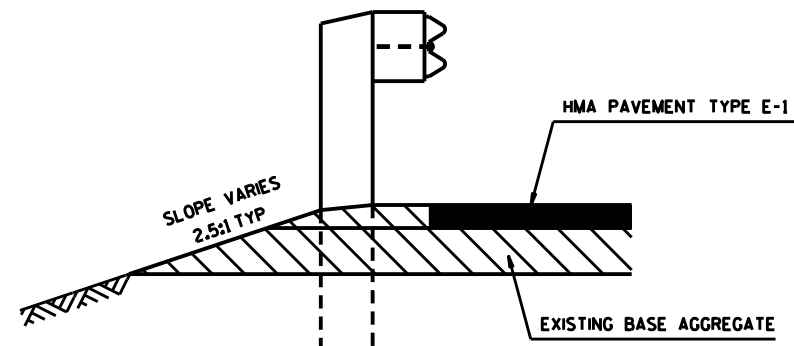


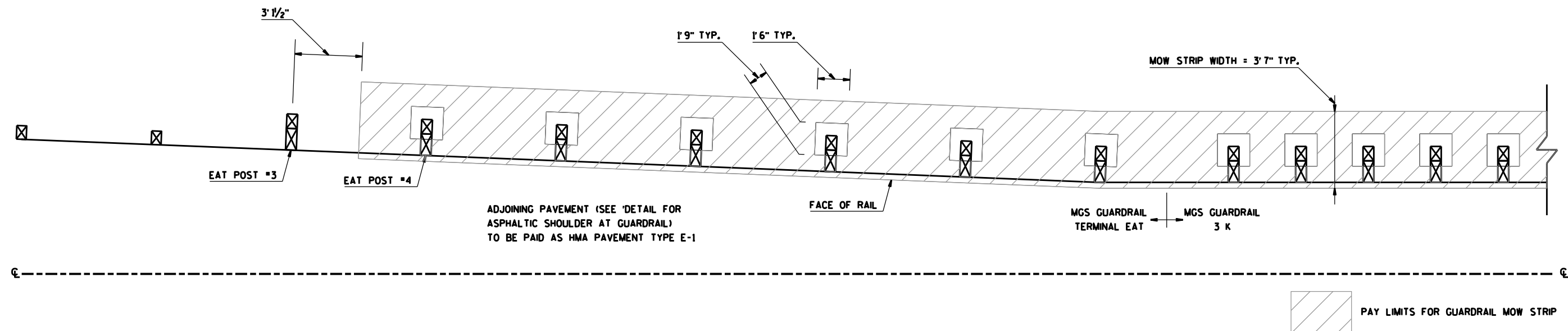
DRIVEWAY DETAIL

RUNOFF COEFFICIENT TABLE

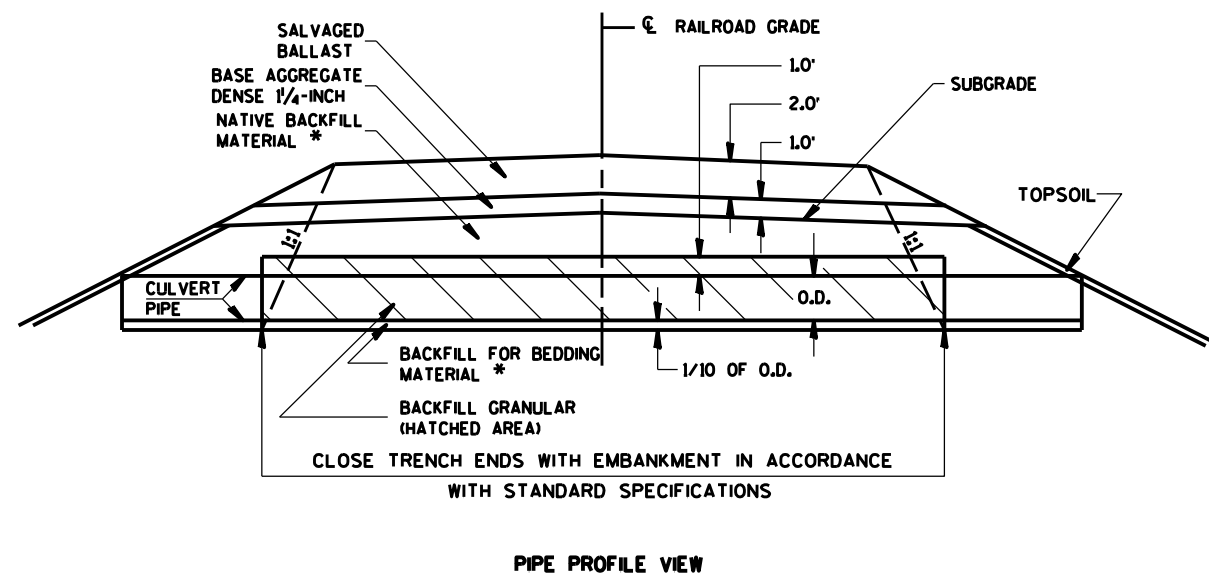
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 0.987 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.987 ACRES





DETAIL FOR GUARDRAIL MOW STRIP ASPHALT

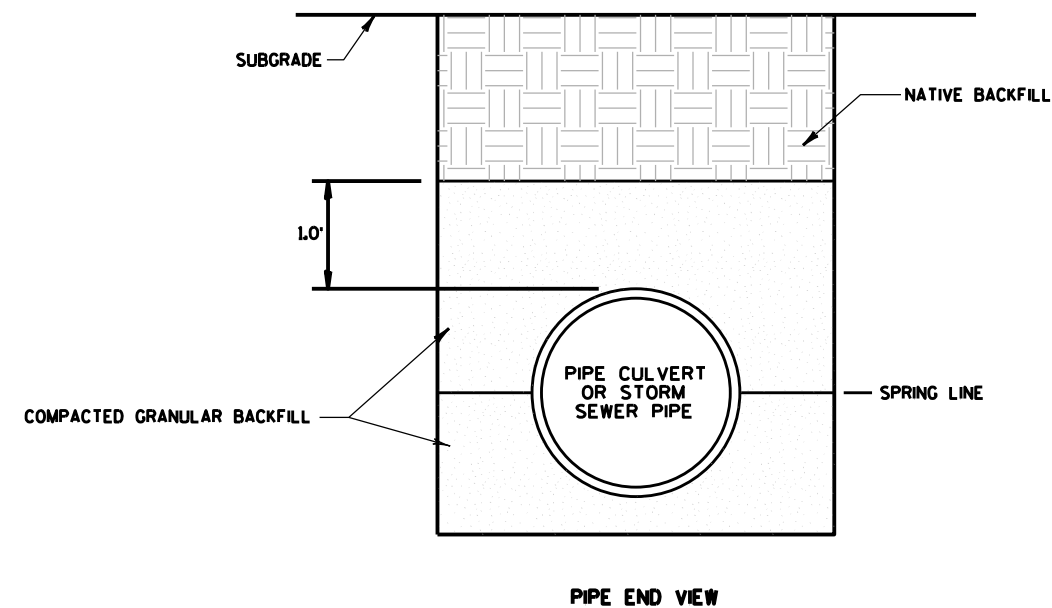


* INCIDENTAL TO CULVERT PIPE

NOTE:

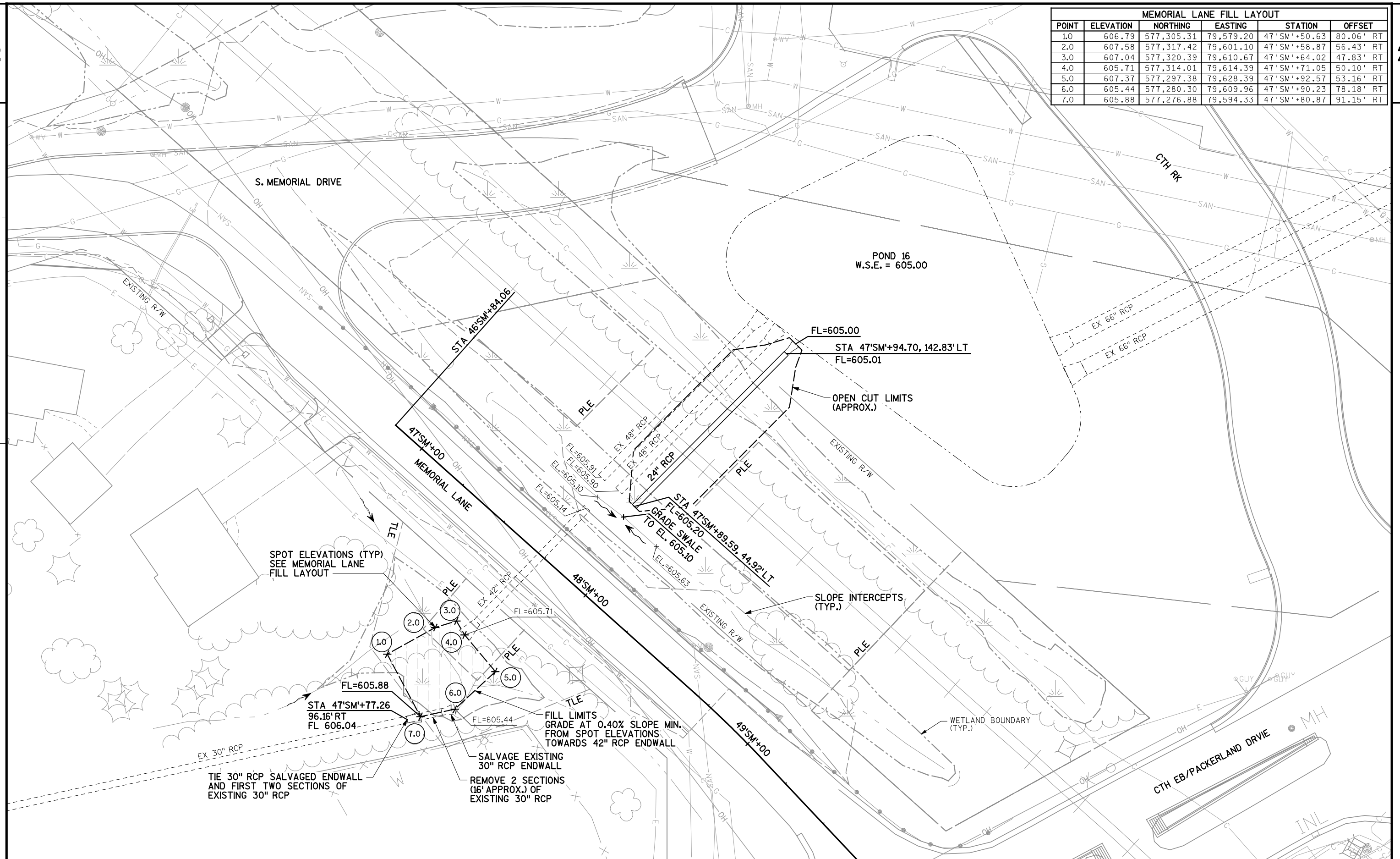
SHAPE MATERIALS USED FOR CULVERT
PIPE BACKFILL CONSISTENT WITH EXISTING/
ADJACENT RAILROAD GRADE

NATIVE BACKFILL SHALL BE FREE OF
LARGE LUMPS, CLODS, OR ROCK



DETAIL FOR CULVERT BACKFILL AT RAILROAD GRADE

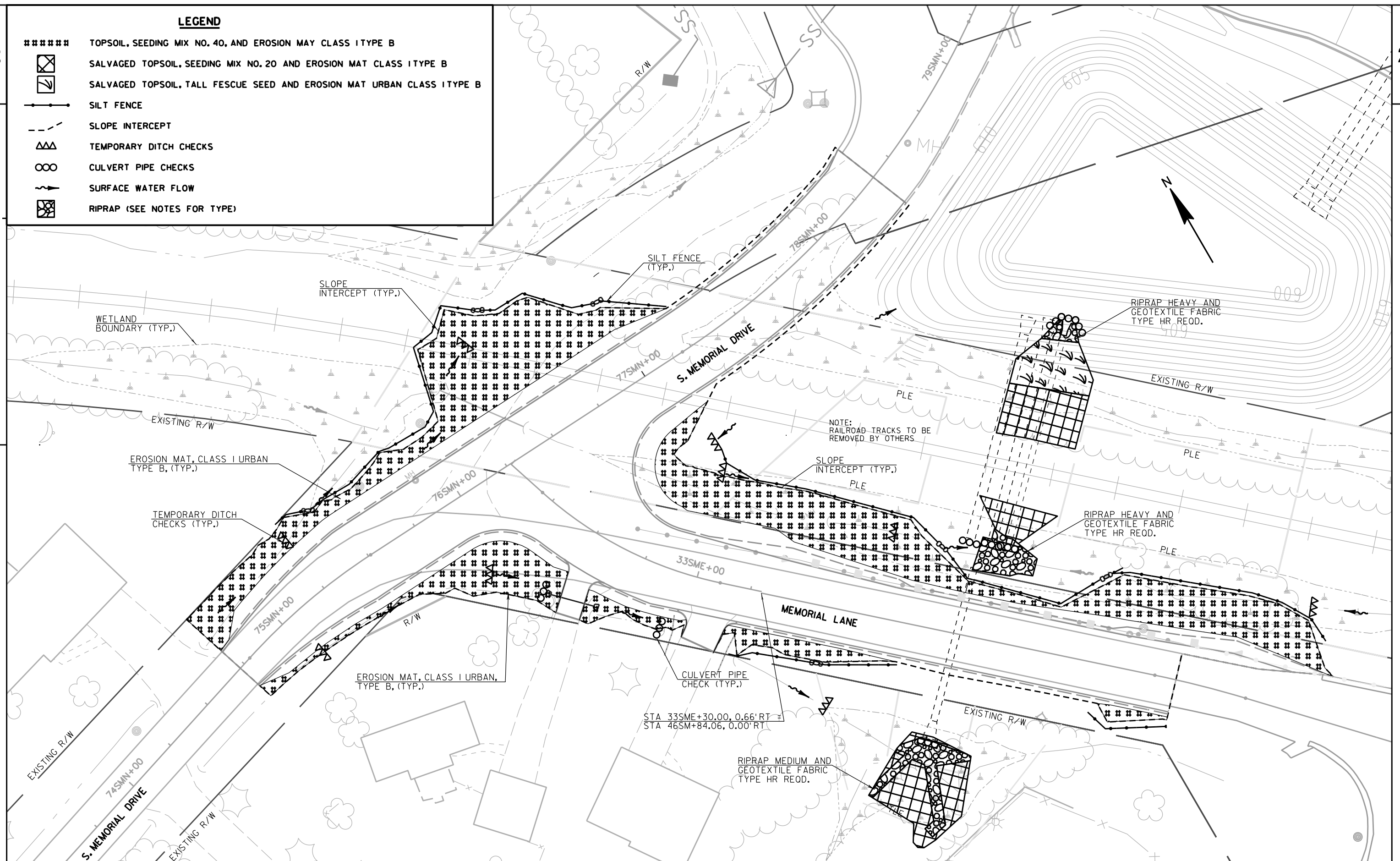




MEMORIAL LANE FILL LAYOUT					
POINT	ELEVATION	NORTHING	EASTING	STATION	OFFSET
1.0	606.79	577,305.31	79,579.20	47'SM'+50.63	80.06' RT
2.0	607.58	577,317.42	79,601.10	47'SM'+58.87	56.43' RT
3.0	607.04	577,320.39	79,610.67	47'SM'+64.02	47.83' RT
4.0	605.71	577,314.01	79,614.39	47'SM'+71.05	50.10' RT
5.0	607.37	577,297.38	79,628.39	47'SM'+92.57	53.16' RT
6.0	605.44	577,280.30	79,609.96	47'SM'+90.23	78.18' RT
7.0	605.88	577,276.88	79,594.33	47'SM'+80.87	91.15' RT

LEGEND

- ##### TOPSOIL, SEEDING MIX NO. 40, AND EROSION MAT CLASS I TYPE B
-  SALVAGED TOPSOIL, SEEDING MIX NO. 20 AND EROSION MAT CLASS I TYPE B
-  SALVAGED TOPSOIL, TALL FESCUE SEED AND EROSION MAT URBAN CLASS I TYPE B
-  SILT FENCE
-  SLOPE INTERCEPT
-  TEMPORARY DITCH CHECKS
-  CULVERT PIPE CHECKS
-  SURFACE WATER FLOW
-  RIPRAP (SEE NOTES FOR TYPE)



PROJECT NO: 9202-08-76

HWY: STH 29/USH 41

COUNTY: BROWN

EROSION CONTROL PLAN

SHEET

E

FILE NAME : X:\Projects\Brown\92020876 S. Memorial\Plans\Plan DGNs\Erosion Control\022001.ec.dgn

PLOT DATE : 1/18/2013

PLOT BY : ss...plotuser...ss PLOT NAME :

PLOT SCALE : ss.....plotscale.....ss WISDOT/CADDs SHEET 42

LEGEND

- SIGN AND POST (IF APPLICABLE) - REMOVE
- SIGN AND POST - NEW

W1-7
48" X 24"

4



2



1

R1-1
30" X 30"

3

W3-1
36" X 36"

5

SPEED
LIMIT
25
REMOVE

6

SPEED
LIMIT
25
R2-1

24" X 30"

7

SIGNING NOTES

THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRAFFIC UNIT, (920) 492-5653, A MINIMUM OF TWO WEEKS PRIOR TO THE NEED FOR SIGN PLACEMENT TO ALLOW FOR STAKING.

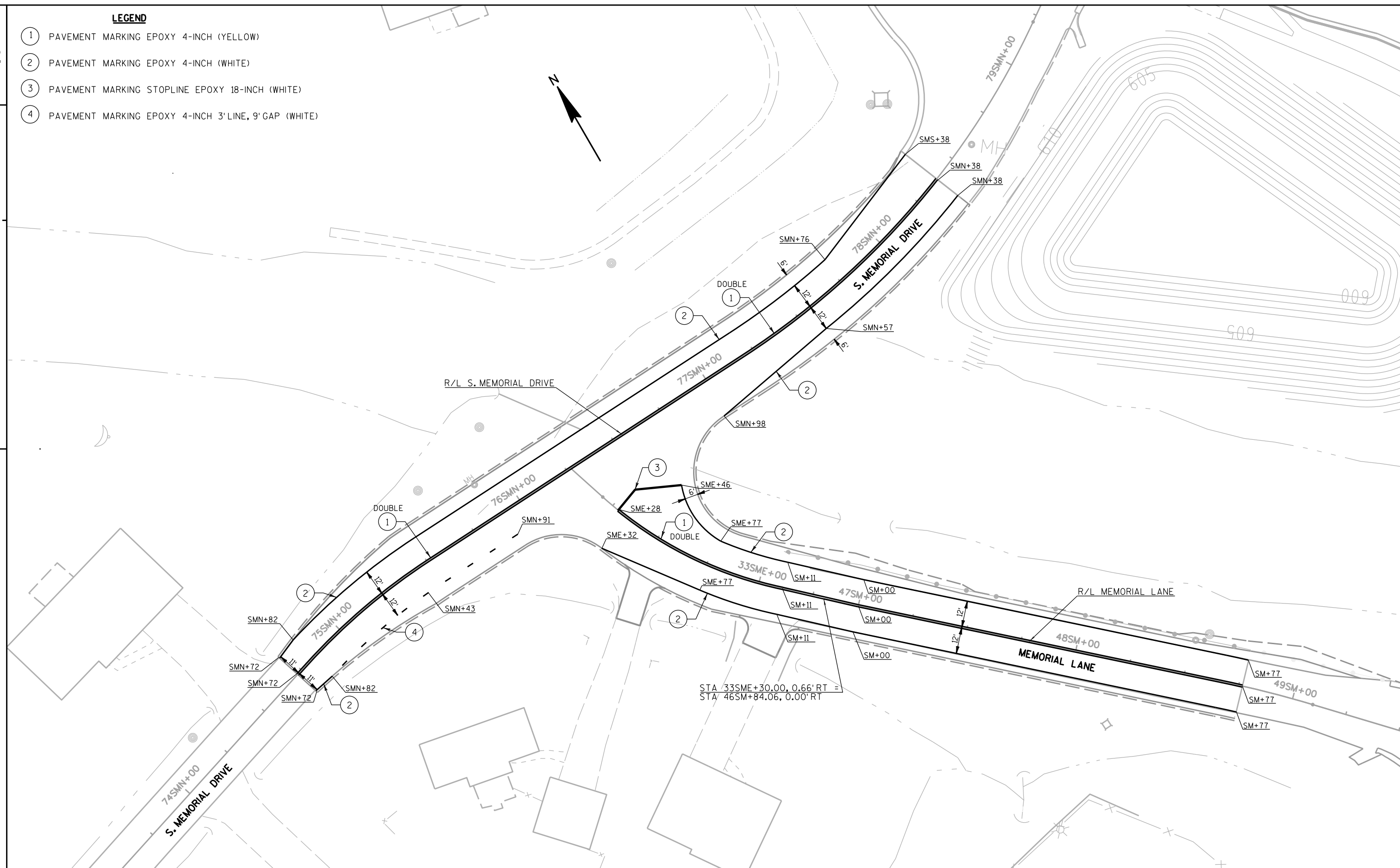
TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THEIR SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT, (920) 492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

STA 33SME+30.00, 0.66' RT =
STA 46SM+84.06, 0.00' RT

LEGEND

- ① PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- ② PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- ③ PAVEMENT MARKING STOPLINE EPOXY 18-INCH (WHITE)
- ④ PAVEMENT MARKING EPOXY 4-INCH 3' LINE, 9' GAP (WHITE)



PROJECT NO: 9202-08-76

HWY: STH 29/USH 41

COUNTY: BROWN

PAVEMENT MARKING PLAN

SHEET

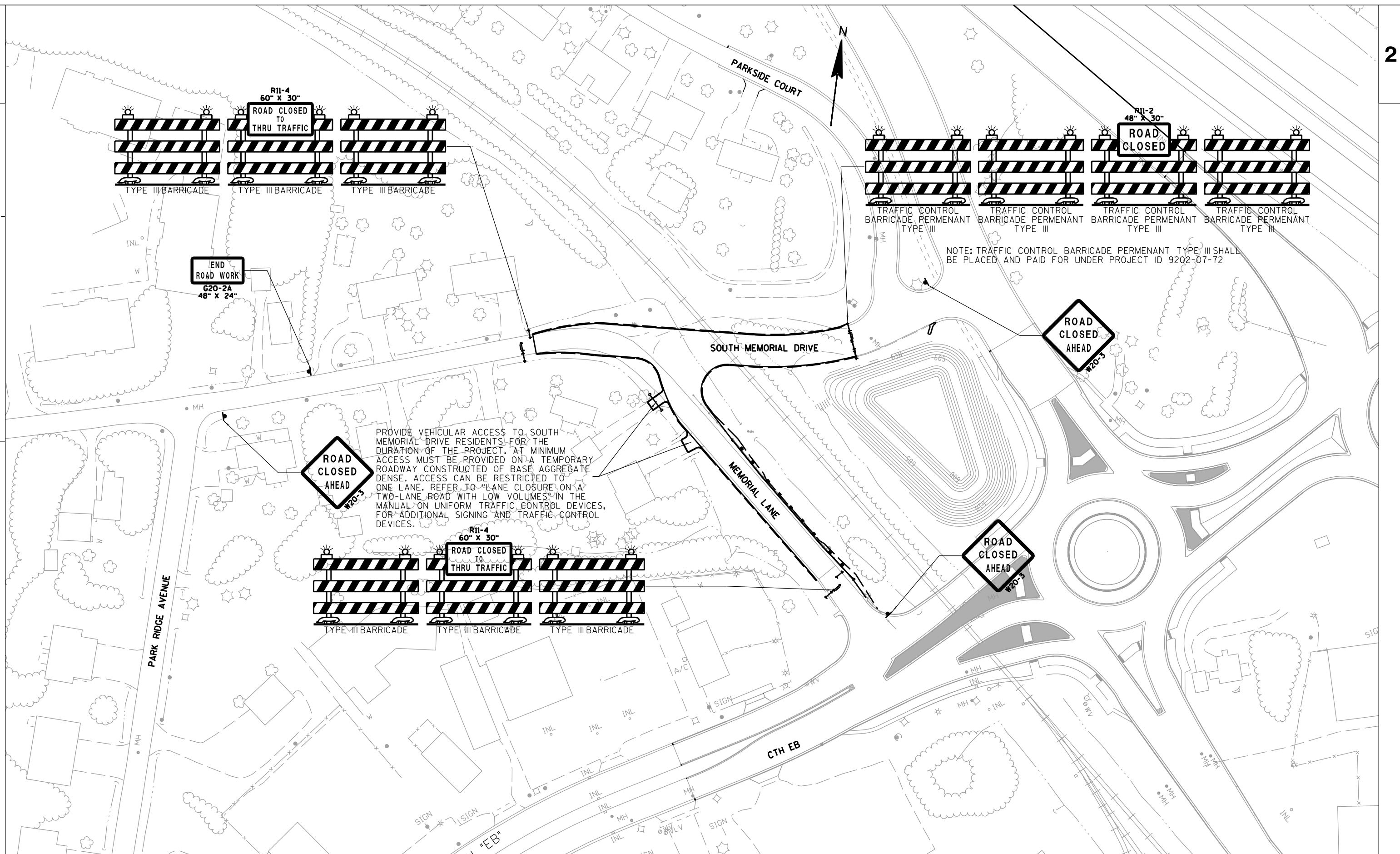
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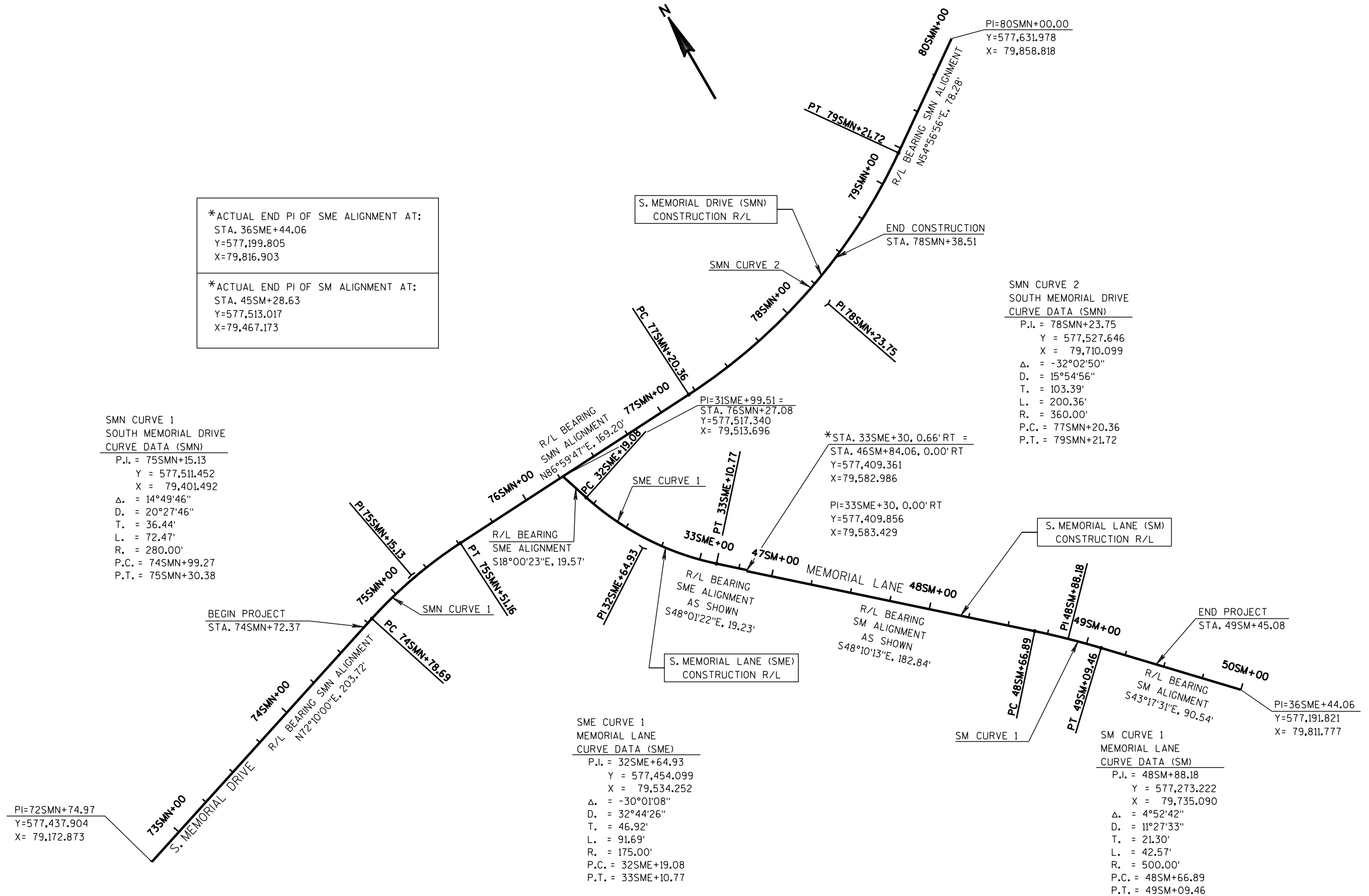
FILE NAME : X:\Projects\Brown\92020876 S. Memorial\Plans\Plan DGNs\Pavement Marking\024501.pm.dgn

PLOT DATE : 1/18/2013

PLOT BY : ss...plotuser...ss PLOT NAME :

PLOT SCALE : ss.....plotscale.....ss WISDOT/CADDs SHEET 42





DATE 07MAR13		E S T I M A T E O F Q U A N T I T I E S			
LINE		9202-08-76			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0020	201.0120	CLEARING	ID	10.000	10.000
0030	201.0220	GRUBBING	ID	10.000	10.000
0040	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	2.000	2.000
0050	204.0100	REMOVING PAVEMENT	SY	20.000	20.000
0060	204.0110	REMOVING ASPHALTIC SURFACE	SY	525.000	525.000
0080	204.0165	REMOVING GUARDRAIL	LF	415.000	415.000
0140	204.0245	REMOVING STORM SEWER (SIZE) 003. 30-INCH	LF	16.000	16.000
0160	205.0100	EXCAVATION COMMON	CY	1,598.000	1,598.000
0170	209.0100	BACKFILL GRANULAR	CY	64.000	64.000
0180	211.0100	PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) 002. PROJECT 9202-08-76	LS	1.000	1.000
0190	211.0400	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS	STA	6.000	6.000
0210	213.0100	FINISHING ROADWAY (PROJECT) 002. PROJECT 9202-08-76	EACH	1.000	1.000
0220	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	75.000	75.000
0230	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	1,300.000	1,300.000
0240	311.0110	BREAKER RUN	TON	1,695.000	1,695.000
0260	416.0160	CONCRETE DRIVEWAY 6-INCH	SY	30.000	30.000
0280	455.0105	ASPHALTIC MATERIAL PG58-28	TON	32.000	32.000
0290	455.0605	TACK COAT	GAL	70.000	70.000
0300	460.1101	HMA PAVEMENT TYPE E-1	TON	575.000	575.000
0310	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	370.000	370.000
0320	465.0120	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	TON	5.000	5.000
0330	520.0112	CULVERT PIPE CLASS III 12-INCH	LF	20.000	20.000
0340	520.1012	APRON ENDWALLS FOR CULVERT PIPE 12-INCH	EACH	2.000	2.000
0360	522.0524	CULVERT PIPE REINFORCED CONCRETE CLASS V 24-INCH	LF	98.000	98.000
0370	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	1.000	1.000
0380	524.0630	APRON ENDWALLS FOR CULVERT PIPE SALVAGED 30-INCH	EACH	1.000	1.000
0400	606.0200	RIPRAP MEDIUM	CY	29.000	29.000
0410	606.0300	RIPRAP HEAVY	CY	32.000	32.000
0520	614.0396	GUARDRAIL MOW STRIP ASPHALT	SY	60.000	60.000
0530	614.2330	MGS GUARDRAIL 3 K	LF	100.000	100.000
0540	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	2.000	2.000
0570	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 002. PROJECT 9202-08-76	EACH	1.000	1.000
0580	619.1000	MOBILIZATION	EACH	0.400	0.400
0590	624.0100	WATER	MGAL	11.000	11.000
0600	625.0100	TOPSOIL	SY	1,540.000	1,540.000
0610	625.0500	SALVAGED TOPSOIL	SY	325.000	325.000
0630	628.1504	SILT FENCE	LF	435.000	435.000
0640	628.1520	SILT FENCE MAINTENANCE	LF	435.000	435.000
0650	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000	2.000
0660	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	1.000	1.000
0670	628.2004	EROSION MAT CLASS I TYPE B	SY	1,920.000	1,920.000
0680	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	100.000	100.000
0720	628.7504	TEMPORARY DITCH CHECKS	LF	165.000	165.000
0730	628.7555	CULVERT PIPE CHECKS	EACH	32.000	32.000
0740	628.7570	ROCK BAGS	EACH	100.000	100.000
0760	629.0210	FERTILIZER TYPE B	CWT	1.000	1.000
0770	630.0120	SEEDING MIXTURE NO. 20	LB	7.000	7.000

DATE 07MAR13			E S T I M A T E O F Q U A N T I T I E S		
LINE			9202-08-76		
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0780	630.0140	SEEDING MIXTURE NO. 40	LB	27.800	27.800
0790	630.0200	SEEDING TEMPORARY	LB	20.700	20.700
0820	633.5200	MARKERS CULVERT END	EACH	2.000	2.000
0830	634.0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	3.000	3.000
0840	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	1.000	1.000
0850	637.0202	SIGNS REFLECTIVE TYPE II	SF	27.180	27.180
0860	638.2602	REMOVING SIGNS TYPE II	EACH	3.000	3.000
0870	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	1.000	1.000
0890	643.0100	TRAFFIC CONTROL (PROJECT) 002. PROJECT 9202-08-76	EACH	1.000	1.000
0900	643.0300	TRAFFIC CONTROL DRUMS	DAY	1,020.000	1,020.000
0910	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	408.000	408.000
0920	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	816.000	816.000
0930	643.0900	TRAFFIC CONTROL SIGNS	DAY	408.000	408.000
0940	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	117.000	117.000
0950	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	2,460.000	2,460.000
0960	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	34.000	34.000
0970	690.0150	SAWING ASPHALT	LF	99.000	99.000
0980	690.0250	SAWING CONCRETE	LF	17.000	17.000
1000	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	HRS	1,200.000	1,200.000
1010	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	480.000	480.000
1020	SPV.0035	SPECIAL 001. SALVAGED BALLAST	CY	60.000	60.000
1090	SPV.0060	SPECIAL 150. SEDIMENTATION BASIN	EACH	1.000	1.000
1100	SPV.0085	SPECIAL 150. TALL FESCUE SEED	LB	5.000	5.000
1140	SPV.0105	SPECIAL 002. SURVEY PROJECT 9202-08-76	LS	1.000	1.000

3

CLEARING AND GRUBBING					
		201.0120	201.0220		
		CLEARING	GRUBBING		
STATION	LOCATION	ID	ID	REMARKS	
33+00	SME	MEMORIAL LANE, LT	10	10	
TOTAL		10	10		

REMOVING SMALL PIPE CULVERTS				
203.0100				
STATION	LOCATION		EACH	REMARKS
76+30	SMN	S. MEMORIAL DR., LT	1	18" CMCP - 42 LF
32+60	SME	MEMORIAL LANE, RT	1	12" CMCP - 18 LF
TOTAL			2	

REMOVING STORM SEWER 30-INCH					
204.0245					
STATION	OFFSET	LOCATION	LF	REMARKS	
47+87	SM	83'	16	REINFORCED CONCRETE PIPE, 30-INCH	
TOTAL			16		

3

REMOVING PAVEMENT				
204.0100				
STATION	LOCATION	SY	REMARKS	
33+07	SME	MEMORIAL LANE, RT	20	EXISTING DRIVEWAY
TOTAL		20		

REMOVING ASPHALTIC SURFACE					
204.0110					
STATION TO	STATION	LOCATION	SY	REMARKS	
46+84	SM - 48+77	SM	MEMORIAL LANE	525	
TOTAL			525		

REMOVING GUARDRAIL					
204.0165					
STATION TO	STATION	LOCATION	LF	REMARKS	
32+65	SME - 50+00	SM	MEMORIAL LANE, LT	415	
TOTAL			415		

EARTHWORK SUMMARY										
STATION TO STATION	LOCATION	205.0100		SALVAGED/UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL	UNEXPANDED FILL	EXPANDED FILL	MASS ORDNATE +/-	WASTE	REMARKS
		CUT	EBS EXCAV.				(6)			
		(2)	(3)				FACTOR			
		1.15		(2)	(4)	CY	CY	(7)	CY	
74'SMN'+72 - 77'SMN'+00	S. MEMORIAL DR.	865	0	30	835	75	86	749	749	
77'SMN'+00 - 78'SMN'+38.51	S. MEMORIAL DR.	0	0	0	0	0	0	0	0	
32+09'SME'+00 - 33'SME'+30	MEMORIAL LANE	345	0	35	310	250	288	23	23	
46'SM'+84 - 49'SM'+45	MEMORIAL LANE (ROADWAY)	85	0	45	40	230	265	-225	0	
47'SM'+50 - 47'SM'+95	MEMORIAL LANE RT	0	0	0	0	25	29	-29	0	
47'SM'+75 - 48'SM'+05	MEMORIAL LANE LT	3	0	0	3	0	0	3	3	
PROJECT	UNDISTRIBUTED	0	300	0	300	0	0	300	300	
SUBTOTALS:		1,298	300		1,488	580	667	821	1,074	
TOTALS:			1,598		1,488	580	374	821	1,074	
1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100 2) Salvaged/Unsuable Pavement Material is included in Cut. 4) Available Material = Cut - Salvaged/Unusuable Pavement Material 6) Expanded Fill. Factor = 1.15 7) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.										

NOTE: ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE NOTED

AGGREGATE SUMMARY																	
				209.0100		305.0110		305.0120		311.0110		624.0100		SPV.0035.001			
				BACKFILL		BASE		BASE		BREAKER		WATER		SALVAGED			
				GRANULAR		AGGREGATE		AGGREGATE		RUN				BALLAST			
						DENSE		DENSE									
						3/4-INCH		1 1/4-INCH									
STATION		STATION		LOCATION		TON		TON		TON		MGAL		CY		REMARKS	
74+72	SMN	-	77+00	SMN	S. MEMORIAL DR.	---	20	680	730	5	---	---	---	---			
77+00	SMN	-	78+39	SMN	S. MEMORIAL DR.	---	15	20	---	1	---	---	---	---			
32+12	SME	-	33+30	SME	MEMORIAL LANE	---	15	470	430	4	---	---	---	---			
46+84	SM	-	49+27	SM	MEMORIAL LANE	---	25	45	---	1	---	---	---	---			
47+70	SM	-	48+15	SM	MEMORIAL LANE	64	---	60	---	---	---	---	60		CULVERT IN RAILROAD EMBANKMENT		
					DRIVEWAYS	---	---	25	---	---	---	---	---	---			
PROJECT					UNDISTRIBUTED	---	---	---	535	---	---	---	---	---	ESTIMATE 4 FRENCH DRAINS		
TOTALS						64	75	1,300	1,695	11	60						

DRIVEWAY SUMMARY				
		416.0160	465.0120	
		CONCRETE	ASPHALTIC SURFACE	
		DRIVEWAY	DRIVEWAYS AND	
		6-INCH	FIELD ENTRANCES	
STATION	LOCATION	SY	TON	REMARKS
32+57	MEMORIAL LANE, RT	---	5	
33+07	MEMORIAL LANE, RT	30	---	
TOTALS		30	5	

HMA SUMMARY																							
211.0100						211.0400			455.0105		455.0605		460.1101										
PREPARE FOUNDATION						PREPARE FOUNDATION			ASPHALTIC		TACK		HMA										
FOR ASPHALTIC PAVING						FOR ASPHALTIC			MATERIAL		COAT		PAVEMENT										
PROJECT 9202-08-76						SHOULDERS			PG58-28				TYPE E-1										
STATION		STATION		LOCATION		LS		STA		TON		GAL		TON		REMARKS							
32+09	SME	-	33+30	SME	MEMORIAL LANE	---		---		6.4		15		115									
46+84	SM	-	48+77	SM	MEMORIAL LANE	0.5		6		8.0		19		145									
74+72	SMN	-	77+00	SMN	S. MEMORIAL DR.	---		---		10.6		22		190									
77+00	SMN	-	78+38	SMN	S. MEMORIAL DR.	0.5		---		7.0		14		125									
TOTALS												1		6		32		70		575			

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CULVERT PIPE SUMMARY															
						520.0112	520.1012	522.0524	522.1024	524.0630	633.5200				
						CULVERT PIPE	APRON ENDWALLS	CPRC	APRON ENDWALLS	APRON ENDWALLS	MARKERS	MINIMUM			
						CLASS III	FOR CULVERT PIPE	CLASS V	FOR CPRC	FOR CULVERT PIPE	CULVERT	THICKNESS			
INLET			DISCHARGE			12-INCH	12-INCH	24-INCH	24-INCH	SALVAGED 30-INCH	END	INCHES			
STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION	LOCATION	LF	EACH	LF	EACH	EACH	EACH	STEEL	ALUM	REMARKS
32+44.20	31.6' RT	613.04	32+63.5	29.4' RT	612.73	MEMORIAL LANE, RT	20	2	---	---	---	---	0.064	0.060	
47+89.59	44.92' LT	605.20	47+94.70	42.83' L	605.01	MEMORIAL LANE, LT	---	---	98	1	---	1	---	---	AEW AND MARKER AT DISCHARGE
---	---	---	47+80.87	91.15' RT	605.88	MEMORIAL LANE, RT	---	---	---	---	1	1	---	---	
TOTALS							20	2	98	1	1	2			

RIP RAP AND GEOTEXTILE FABRIC SUMMARY						
			606.0200	606.0300	645.0120	
			RIPRAP	RIPRAP	GEOTEXTILE	
			MEDIUM	HEAVY	FABRIC	
					TYPE HR	
STATION	LOCATION		CY	CY	SY	REMARKS
47+70	SM	MEMORIAL LANE, RT	29		60	AT EXISTING 30-INCH CULVERT
47+90	SM	MEMORIAL LANE, LT	---	25	45	INLET OF 24-INCH CULVERT
47+95	SM	MEMORIAL LANE, LT	---	7	12	DISCHARGE OF 24-INCH CULVERT
TOTALS			29	32	117	

MGS GUARDRAIL									
				614.0396	614.2330	614.2610			
				GUARDRAIL	MGS	MGS			
				MOW STRIP	GUARDRAIL	GUARDRAIL			
				ASPHALT	3K	TERMINAL EAT			
STATION		STATION		LOCATION	SY	EACH	EACH	REMARKS	
46+93.94	SM	-	48+98.55	SM	MEMORIAL LANE, LT	60	100	2	
TOTALS					60	100	2		

TOPSOIL AND SALVAGED TOPSOIL									
625.0500 625.0100									
STATION		STATION		LOCATION		SY	SY	REMARKS	
74+72	SMN	-	77+00	SMN	S. MEMORIAL DR., LT	---	515	ROADWAY	
74+72	SMN	-	76+10	SMN	S. MEMORIAL DR., RT	---	160	ROADWAY	
32+09	SME	-	33+30	SME	MEMORIAL LANE, LT	---	140	ROADWAY	
32+09	SME	-	33+30	SME	MEMORIAL LANE, RT	---	45	ROADWAY	
46+84	SM	-	48+77	SM	MEMORIAL LANE, LT	---	470	ROADWAY	
46+84	SM	-	48+77	SM	MEMORIAL LANE, RT	---	60	ROADWAY	
47+50	SM	-	47+95	SM	MEMORIAL LANE, RT	110	---	AT EXISTING 30-INCH CULVERT	
47+70	SM	-	48+10	SM	MEMORIAL LANE, LT	40	---	INLET OF 24-INCH CULVERT	
47+75	SM	-	48+15	SM	MEMORIAL LANE, LT	175	---	DISCHARGE OF 24-INCH CULVERT	
UNDISTRIBUTED					PROJECT	---	150		
TOTAL						325	1,540		

<u>EROSION CONTROL MOBILIZATIONS</u>		
	628.1905	628.1910
	MOBILIZATIONS	MOBILIZATIONS
	EROSION	EMERGENCY
	CONTROL	EROSION CONTROL
LOCATION	EACH	EACH
PROJECT	2	1
TOTAL	2	1

NOTE: ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE NOTED

EROSION CONTROL SUMMARY													
						628.1504	628.1520	628.2004	628.2008	628.7504	628.7555	*675.7570	SPV.0060.150
						SILT	SILT	EROSION MAT	EROSION MAT	TEMPORARY	CULVERT	ROCK	SEDIMENTATION
						FENCE	FENCE	CLASS I	URBAN CLASS I	DITCH	PIPE	BAGS	BASIN
						MAINTENANCE		TYPE B	TYPE B	CHECKS	CHECKS		
STATION		STATION		LOCATION	LF	LF		SY	SY	LF	EACH	EACH	EACH
74+72	SMN	-	77+00	SMN	S. MEMORIAL DR., LT	180	180	515	---	30	---	35	---
74+72	SMN	-	76+10	SMN	S. MEMORIAL DR., RT	---	---	160	---	45	---	---	---
30+70	SME	-	33+30	SME	MEMORIAL LANE, LT	---	---	140	---	30	---	---	---
30+70	SME	-	33+30	SME	MEMORIAL LANE, RT	---	---	45	---	30	4	---	---
46+84	SM	-	48+77	SM	MEMORIAL LANE, LT	100	100	470	---	15	20	25	---
46+84	SM	-	48+77	SM	MEMORIAL LANE, RT	115	115	60	---	---	8	15	---
47+50	SM	-	47+95	SM	MEMORIAL LANE, RT	---	---	110	---	---	---	---	---
47+70	SM	-	48+10	SM	MEMORIAL LANE, LT	---	---	40	---	---	---	---	---
47+75	SM	-	48+15	SM	MEMORIAL LANE, LT	---	---	180	100	---	---	---	---
PROJECT				UNDISTRIBUTED	40	40		200	---	15	---	25	1
TOTALS						435	435	1,920	100	165	32	100	1

*ASSUMES 24" x 12" x 6" BAG SIZE

LANDSCAPING SUMMARY						
		629.0210	630.0120	630.0140	630.0200	SPV.0085.150
		FERTILIZER	SEEDING	SEEDING	SEEDING	TALL
		TYPE B	MIXTURE	MIXTURE	TEMPORARY	FESCUE
			NO. 20	NO. 40		SEED
LOCATION	CWT	LB	LB	LB	LB	REMARKS
S MEMORIAL DR, LT	0.3	---	9.3	7.0	---	ROADWAY
S MEMORIAL DR, RT	0.1	---	2.9	2.2	---	ROADWAY
MEMORIAL LANE, LT	0.4	---	11.0	8.2	---	ROADWAY
MEMORIAL LANE, RT	0.1	---	1.9	1.3	---	ROADWAY
MEMORIAL LANE, RT	---	3.0	---	---	---	AT EXISTING 30-INCH CULVERT
MEMORIAL LANE, LT	---	1.0	---	---	---	INLET OF 24-INCH CULVERT
MEMORIAL LANE, LT	---	3.0	---	---	5.0	DISCHARGE OF 24-INCH CULVERT
UNDISTRIBUTED	0.1	---	2.7	2.0	---	
TOTALS	1.00	7.0	27.8	20.7	5.0	

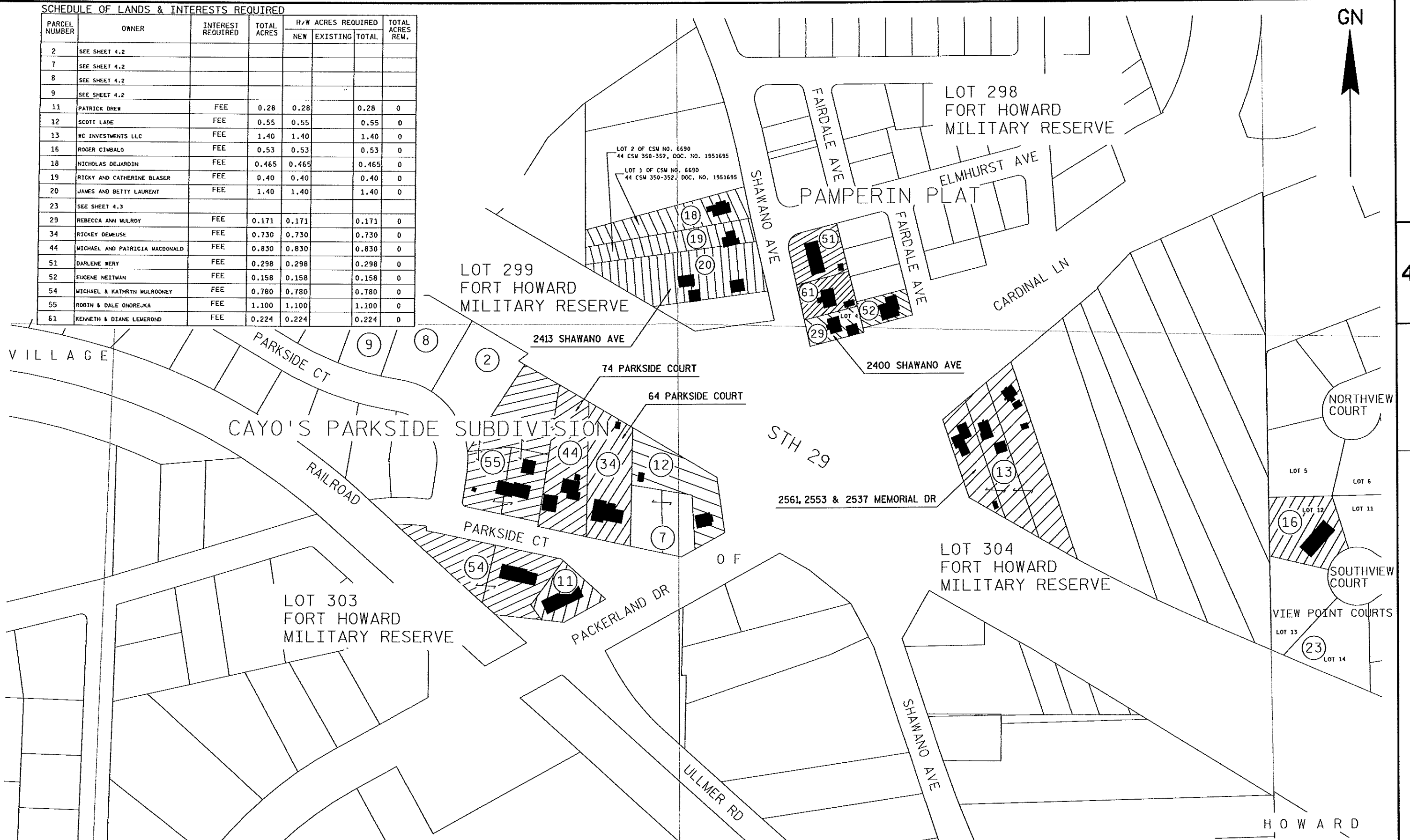
PAVEMENT MARKING SUMMARY							
						646.0106	647.0566
						PAVEMENT	PAVEMENT
						MARKING EPOXY	MARKING STOP
						4-INCH	LINE EPOXY, 18-INCH
STATION		STATION		LOCATION	LF	LF	REMARKS
74+72	SMN	-	78+38	SMN	S. MEMORIAL DR., LT	365	---
74+72	SMN	-	75+91	SMN	S. MEMORIAL DR., RT	40	---
76+98	SMN	-	78+38	SMN	S. MEMORIAL DR., RT	145	---
74+72	SMN	-	78+38	SMN	S. MEMORIAL DR., CL	735	---
32+32	SME	-	33+30	SME	MEMORIAL LANE, RT	105	---
32+46	SME	-	33+30	SME	MEMORIAL LANE, LT	85	---
32+28	SME	-	33+30	SME	MEMORIAL LANE, CL	205	---
32+28	SME		---	SME	MEMORIAL LANE, LT	---	34
46+84	SM		48+77	SM	MEMORIAL LANE, LT	195	---
46+84	SM		48+77	SM	MEMORIAL LANE, RT	195	---
46+84	SM		48+77	SM	MEMORIAL LANE, CL	390	---
TOTALS						2,460	34

NOTE: ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE NOTED

ERECTION OF TYPE II SIGNS AND SUPPORTS									
						637.0202	634.0612	634.0614	
						SIGNS	POSTS	POSTS	
						REFLECTIVE	WOOD	WOOD	
						TYPE II	4X6X12	4X6X14	
SIGN NO.	LOCATION	SIGN CODE	W X H			SF	EACH	EACH	REMARKS
3	MEMORIAL LANE, LT	R1-1	30"	X	30"	5.18	1	---	
4	S. MEMORIAL DR., LT	W1-7	48"	X	24"	8.00	1	---	
5	S. MEMORIAL DR., LT	W3-1	36"	X	36"	9.00	---	1	
7	MEMORIAL LANE, LT	R2-1	24"	X	30"	5.00	1	---	
SUBTOTAL						27.18	3	1	

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	TOTAL ACRES	R/W ACRES REQUIRED			TOTAL ACRES REM.
				NEW	EXISTING	TOTAL	
2	SEE SHEET 4.2						
7	SEE SHEET 4.2						
8	SEE SHEET 4.2						
9	SEE SHEET 4.2						
11	PATRICK DREW	FEE	0.28	0.28		0.28	0
12	SCOTT LADE	FEE	0.55	0.55		0.55	0
13	MC INVESTMENTS LLC	FEE	1.40	1.40		1.40	0
16	ROGER CIMBALO	FEE	0.53	0.53		0.53	0
18	NICHOLAS DEJARDIN	FEE	0.465	0.465		0.465	0
19	RICKY AND CATHERINE BLASER	FEE	0.40	0.40		0.40	0
20	JAMES AND BETTY LAURENT	FEE	1.40	1.40		1.40	0
23	SEE SHEET 4.3						
29	REBECCA ANN MULROY	FEE	0.171	0.171		0.171	0
34	RICKEY DEMEUSE	FEE	0.730	0.730		0.730	0
44	MICHAEL AND PATRICIA MACDONALD	FEE	0.830	0.830		0.830	0
51	DARLENE WERY	FEE	0.298	0.298		0.298	0
52	EUGENE HEITMAN	FEE	0.158	0.158		0.158	0
54	MICHAEL & KATHRYN MULROONEY	FEE	0.780	0.780		0.780	0
55	ROBIN & DALE ONDREJKA	FEE	1.100	1.100		1.100	0
61	KENNETH & DIANE LEVEROND	FEE	0.224	0.224		0.224	0



REVISION DATE 4-15-2008 9-16-2009	DATE 8-10-2000	SCALE, FEET 0 100 200	HWY: STH 29	STATE R/W PROJECT NUMBER 9202-07-22	PLAT SHEET NO: 4.6
	GRID FACTOR N/A		COUNTY: BROWN	CONSTRUCTION PROJECT NUMBER 9202-07-77	PS&E SHEET NO: E

TRANSPORTATION PROJECT PLAT NO: 9202-07-23-4.05

PART OF LOT 13, BEING PART OF CAYO'S PARKSIDE SUBDIVISION WITHIN LOT 299 IN THE FORT HOWARD MILITARY RESERVE (FHMR); AND PART OF LOT 2 AND ALL OF LOT 1 BEING PART OF CAYO'S PARKSIDE SUBDIVISION, AND PART OF LOT 1, CSM #5464, AND PART OF LOT 2, CSM #507, AND PART OF LOT 2, CSM #1977 LOCATED IN AND INCLUDING UNPLATTED LANDS WITHIN LOT 303 IN THE FHMR; ALL OF LOT 1, CSM #5296, AND ALL OF LOT 1, CSM #1625 LOCATED IN AND INCLUDING UNPLATTED LANDS OF LOT 304 OF THE FHMR; ALL LOCATED WITHIN, VILLAGE OF HOWARD, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER STH 29 BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP	SECTION CORNER	SC
ACCESS RIGHTS	AR	(MATERIAL AS NOTED)	
ACRES	CH BRG	SET R/W MONUMENT W/CAP	
CHORD BEARING	CH DIS	(1-1/4" OUTSIDE DIA. X18"	
CHORD DISTANCE	(D)	IRON PIPE 1.13 LBS./FT)	
DEED	DOC	SET P.K. NAIL	
DOCUMENT	EB	PROPOSED R/W	PRW000
EAST BOUND	GV	BOUNDARY POINT	
GAS VALVE	D.L.		
INLET	MCN	CORPORATE LIMITS	
LENGTH OF CURVE	NB	EXISTING R/W	
MANHOLE	PC	SECTION LINE	
NORTH BOUND	PERM	QUARTER LINE	
PAGE	PLE	SIXTEENTH LINE	
PERMANENT	PO	PROPOSED OR NEW R/W LINE	
PERMANENT LIMITED EASEMENT	PL	PROPOSED EASEMENT LINE	
PRIVATE DRIVEWAY	PL	PARCEL NUMBER	
PROPERTY LINE	PL		
RADIUS	PL		
REFERENCE LINE	PL		
REMAINING	PL		
RIGHT OF WAY	PL		
SECTION	PL		
SECTION LINE	PL		
STATION	PL		
TEMPORARY LIMITED EASEMENT	PL		
TIE POINT	PL		
VOLUME	PL		
ADJOINING LANDS	PL		
WITH SAME OWNER	PL		
PARALLEL TO LINE	PL		
BUILDING TO BE RAZED	PL		
FEE ACQUISITION	PL		

RESERVE FOR CLAUSES AND NOTE INFORMATION

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

RIGHT OF WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.

AREAS SHOWN IN THE TOTAL ACRES COLUMN OF THE SCHEDULE OF LANDS & INTEREST TABLE MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

COORDINATES AS SHOWN ARE NOT INTENDED TO BE USED FOR RETRACEMENT PURPOSES AND MUST BE VERIFIED WITH THE COUNTY SURVEY DEPARTMENT.

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, BROWN COUNTY, (ENGLISH, NAD OF 1983 (999) ADJUSTMENT, ALL PLAT DISTANCES ARE GROUND LENGTH.

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

EXISTING RIGHT OF WAY WAS ACQUIRED FROM PROJECT(S):

F 020 319, 9202-02-21, 9202-07-21, 9202-02-22, & COUNTY MAPS

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT(S):

F 020 319, 9202-02-22

RIGHT OF WAY REFERENCE LINE MAY NOT BE THE SAME AS THE CONSTRUCTION REFERENCE LINE.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE TO PREVENT EROSION OF THE SOIL. ALL TLES ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE TO PREVENT EROSION OF THE SOIL, BUT WITHOUT PREJUDICE TO THE OWNERS RIGHT TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

A HIGHWAY EASEMENT (HE) IS AN EASEMENT FOR HIGHWAY PURPOSES, AS LONG AS SO USED INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE.

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO DEPARTMENT OF TRANSPORTATION.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

JON L. HERBEL
PRINTED NAME
SIGNATURE
DATE 6/8/2010

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

NORMAN PAWELCZYK
PRINTED NAME
SIGNATURE
DATE 6/8/2010

FHMR LOT 302

POINT TO POINT	BEARING	DISTANCE
HE "A"		
PC155	S 62°21'39" W	802.04'
PRW743	S 48°05'57" E	202.64'
PRW753	S 78°03'27" W	124.05'
PRW754	N 48°11'52" W	167.02'
PRW755	N 62°24'36" E	107.25'
HE "B"		
RW1841	S 25°23'49" W	783.23'
RW1842	S 61°00'44" W	105.90'
RW1843	N 48°11'52" W	70.56'
RW1844	S 48°10'15" E	114.15'
HE "C"		
PC155	S 18°15'39" W	819.50'
RW1996	S 48°10'54" E	26.25'
RW1997	S 48°11'46" W	26.25'
RW1998	N 61°01'31" E	105.94'

POINT TO POINT	BEARING	DISTANCE
PC155	S 00°24'36" E	90.95'
DB119	N 59°56'47" W	754.22'
DB121	S 30°03'13" W	261.22'
PRW679	S 53°59'35" E	70.56'
PRW678	S 44°20'45" W	111.33'
PRW677	S 19°14'13" W	58.75'
PRW611	N 24°51'04" E	30.92'
PRW610	S 08°43'13" W	21.00'
PRW612	S 21°59'09" E	133.46'
PRW613	S 48°10'15" E	85.88'
PRW743	S 62°24'36" E	107.25'
RW1843	S 26°04'46" W	88.62'
PRW742	S 86°28'18" W	40.95'
RW1841	S 48°12'36" E	332.80'
RW1847	S 63°14'30" W	230.71'
RW1997	S 48°11'46" W	26.25'
RW1998	N 61°01'31" E	105.94'
PRW745	S 60°01'00" W	295.29'
PRW746	N 00°55'02" E	99.32'
PRW747	N 00°55'02" E	64.80'
PRW748	S 81°26'59" W	10.22'
PRW749	N 00°53'23" E	63.12'
PRW750	N 75°39'35" E	50.50'
RW134	N 36°10'38" W	657.05'

POINT STATION	OFFSET	COORDINATES
CL2	0+00.00	Y 580785.346 X 752622.259
PRW679	50+22.70	Y 578044.424 X 79478.869
DB121	50+22.70	Y 578270.528 X 79609.692
PRW677	50+92.88	Y 578002.342 X 79535.950
PRW678	50+00.11	Y 577923.328 X 79613.166
PRW611	52+11.13	Y 577867.860 X 79594.410
RW1843	52+44.76	Y 577562.020 X 79456.300
PRW742	52+50.30	Y 577482.420 X 79417.340
PRW610	52+81.35	Y 577789.980 X 79630.480
PRW741	52+87.54	Y 577479.900 X 79458.210
PRW612	52+88.99	Y 577769.223 X 79627.296
PRW743	53+02.15	Y 577611.690 X 79551.350
PRW615	53+94.22	Y 577645.470 X 79677.260
RW1847	56+13.46	Y 577250.070 X 79172.000
PC155	57+30.81	Y 577983.755 X 80261.865
DB119	57+76.92	Y 577892.805 X 80262.516
RW1997	58+43.78	Y 577154.200 X 78912.407
PRW745	58+69.48	Y 577136.700 X 79931.970
PRW744	59+23.99	Y 577188.020 X 80024.640
PRW750	61+00.59	Y 577266.200 X 80273.900
PRW749	61+31.34	Y 577203.090 X 80272.920
PRW748	61+39.33	Y 577204.610 X 80283.030
PRW747	61+70.52	Y 577139.760 X 80282.000
PRW746	62+19.28	Y 577052.400 X 81672.420
RW734	63+78.24	Y 577362.440 X 80650.360
CL3	70+07.27	Y 577276.640 X 81327.450
CL4	74+21.71	Y 577052.400 X 81672.420
CL5	92+51.44	Y 575967.580 X 83149.410
CL6	100+72.96	Y 575393.520 X 83733.100
CL7	109+28.60	Y 574791.610 X 84792.000
CL8	113+79.60	Y 574448.380 X 84614.290
CL1	122+88.68	Y 574060.924 X 85436.662

COURSE TABLE	CH DISTANCE	CH BEARING	RADIUS	ARC LENGTH	PI COORDINATES
CL200	414.25'	S 56°50'17" E	3819.72'	414.45'	Y 577172.76 X 81506.99
CL201	818.68'	S 45°28'35" E	2851.60'	821.52'	Y 575722.88 X 83482.89
CL202	945.70'	S 50°59'53" E	1145.92'	551.00'	Y 574568.11 X 84360.15

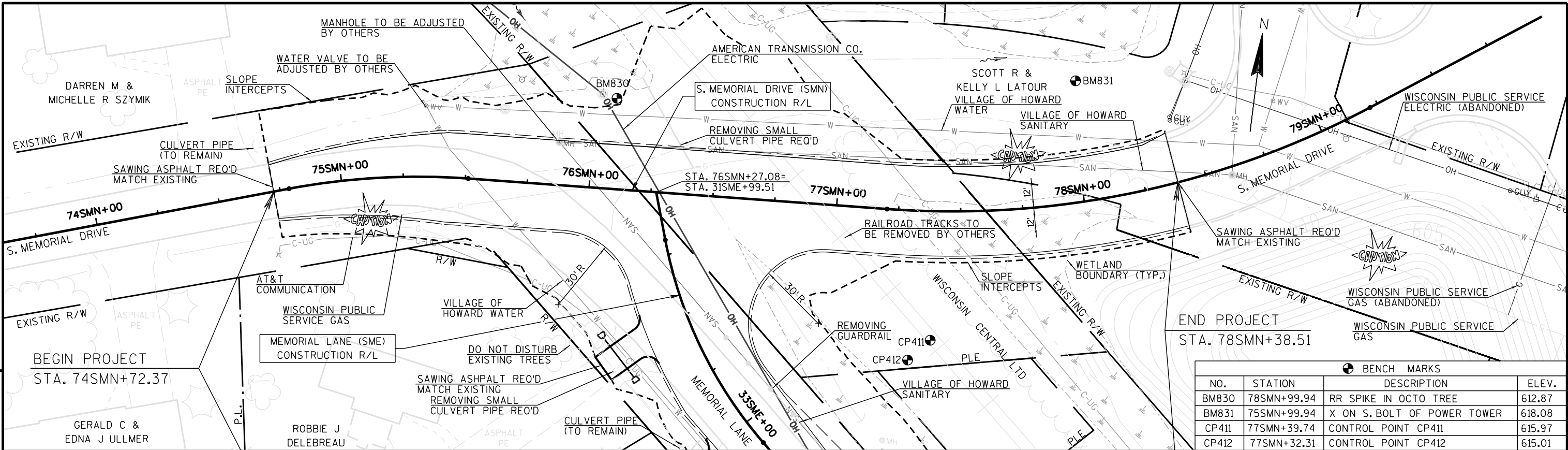
POINT TO POINT	BEARING	DISTANCE
PLE "A"		
PC155	S 42°54'23" W	911.24'
PLE14	S 42°57'36" W	31.39'
PLE16	N 48°20'18" W	33.91'
PLE17	N 40°18'52" E	30.12'
PLE15	S 48°28'03" E	35.31'

CURVE TABLE	CH DISTANCE	CH BEARING	RADIUS	ARC LENGTH	PI COORDINATES
CL2	CL3	S 59°56'47" E	7007.27'		
CL3	CL4	S 57°02'40" E	8167.22'		
CL4	CL5	S 53°43'47" E	1829.73'		
CL5	CL6	SEE CURVE CL201			
CL6	CL7	S 37°13'23" E	755.64'		
CL7	CL8	SEE CURVE CL202			
CL8	CL1	S 64°46'23" E	909.07'		

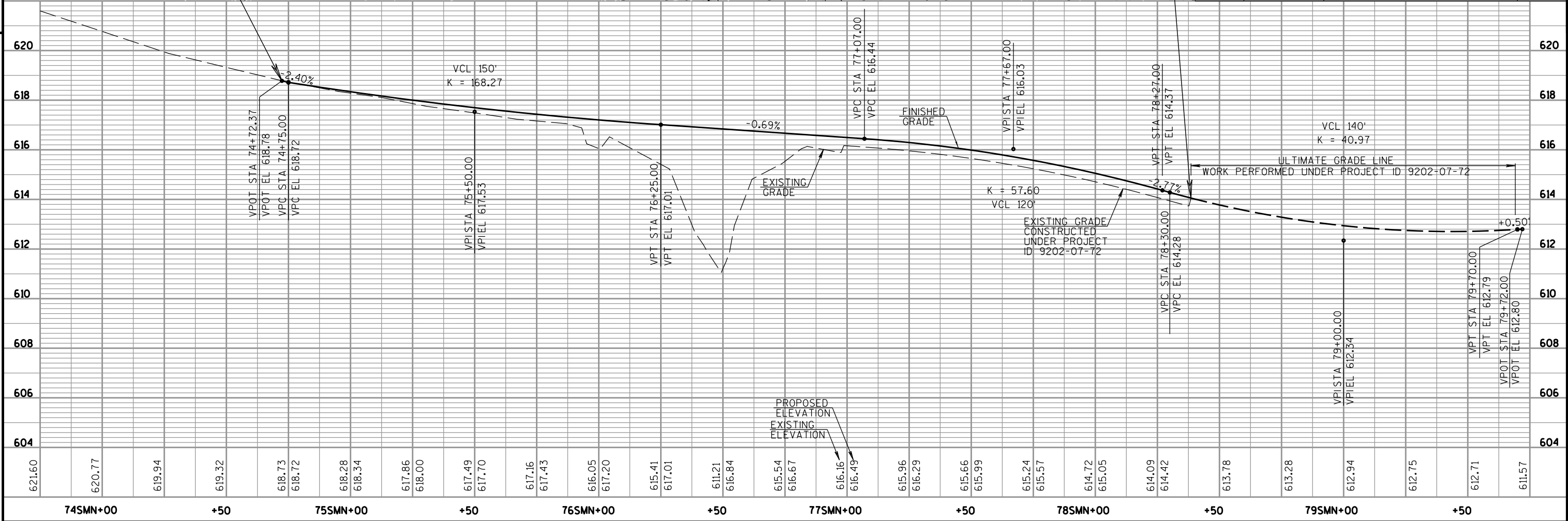
POINT TO POINT	BEARING	DISTANCE
PLE "B"		
PRW753	S 47°48'21" W	755.45'
PRW755	S 48°12'14" E	186.07'
PLE40	S 43°22'02" W	25.06'
PLE39	N 48°11'49" W	101.31'
PLE38	S 44°48'50" W	50.07'
PLE37	S 48°11'51" E	102.56'
PRW756	S 43°22'48" W	25.01'
PRW754	N 48°11'49" W	256.67'
PLE33	N 78°02'55" E	31.00'
PLE34	S 48°11'54" E	72.49'
PLE35	N 44°49'19" E	50.06'
PLE36	N 48°11'36" W	38.46'
PRW753	N 78°4'00" E	31.05'

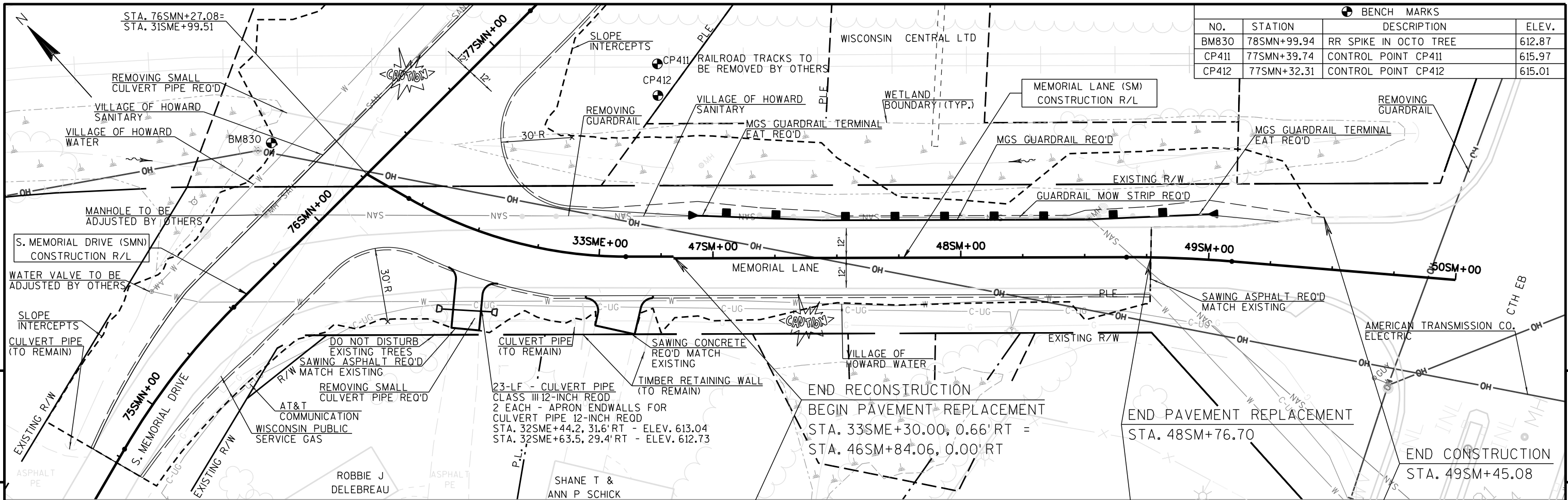
FHMR CORNER MONUMENT
PC155
Y=576662.758
X=80271.318

RESERVE FOR REGISTER OF DEEDS
PROJECT NUMBER 9202-07-23 - 4.05
AMENDMENT NUMBER:
ACCEPTED FOR RECORDING AND FILING IN THE
OFFICE OF THE REGISTER OF DEEDS IN
BROWN COUNTY, WISCONSIN
ON 12-09-2010 ON June 14, 2010
AS DOCUMENT # 8474978
AND
FILED IN 11-1-2010 Project Page 105
SIGNATURE OF REGISTER OF DEEDS

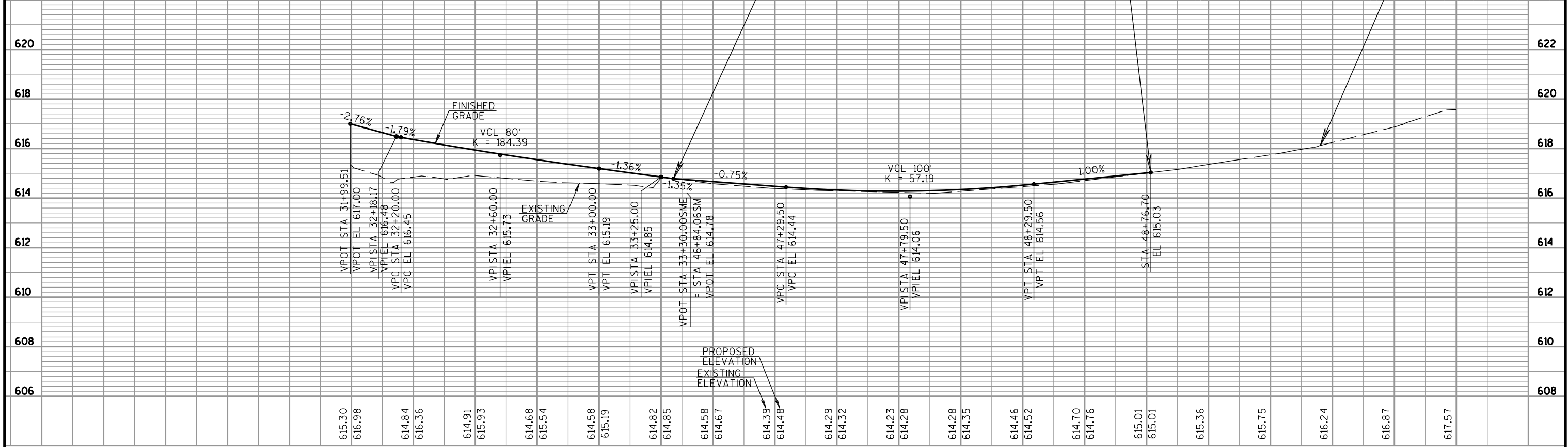


BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
BM830	78SMN+99.94	RR SPIKE IN OCTO TREE	612.87
BM831	75SMN+99.94	X ON S. BOLT OF POWER TOWER	618.08
CP411	77SMN+39.74	CONTROL POINT CP411	615.97
CP412	77SMN+32.31	CONTROL POINT CP412	615.01





BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
BM830	78SMN+99.94	RR SPIKE IN OCTO TREE	612.87
CP411	77SMN+39.74	CONTROL POINT CP411	615.97
CP412	77SMN+32.31	CONTROL POINT CP412	615.01

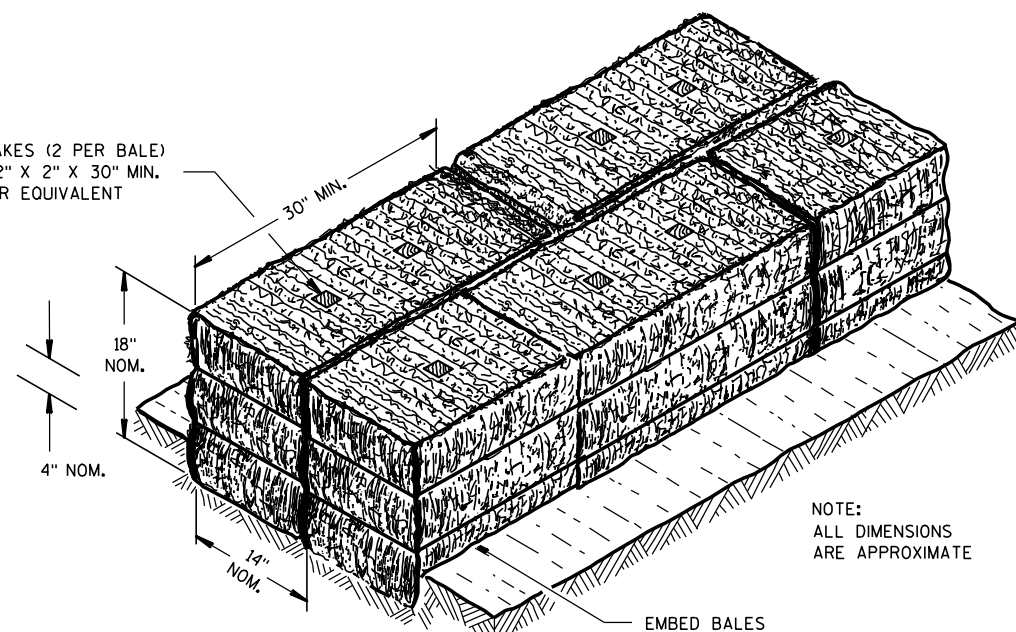


31SME+00	+50	32SME+00	+50	33SME+00	47SM+00	+50	48SM+00	+50	49SM+00	+50	50SM+00
PROJECT NO: 9202-08-76			HWY: STH 29/USH 41		COUNTY: BROWN		PLAN & PROFILE: MEMORIAL LANE			SHEET	

Standard Detail Drawing List

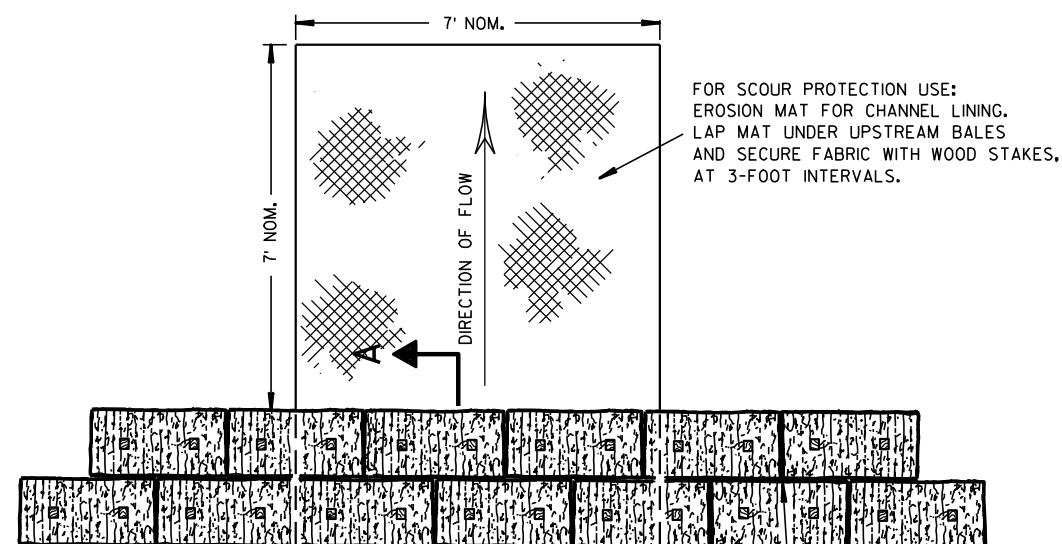
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
14B28-02	GUARDRAIL MOW STRIP
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C05-01	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-15A	PAVEMENT MARKING (MAINLINE)
15C08-15B	PAVEMENT MARKING (INTERSECTIONS)
15C08-15F	PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)
15D28-01	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



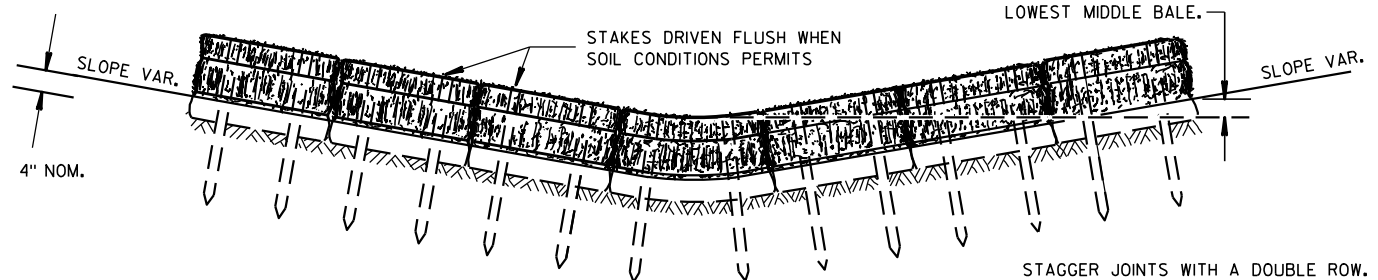
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

SECTION A-A



FOR SCOUR PROTECTION USE:
EROSION MAT FOR CHANNEL LINING.
LAP MAT UNDER UPSTREAM BALES
AND SECURE FABRIC WITH WOOD STAKES,
AT 3-FOOT INTERVALS.

PLAN VIEW



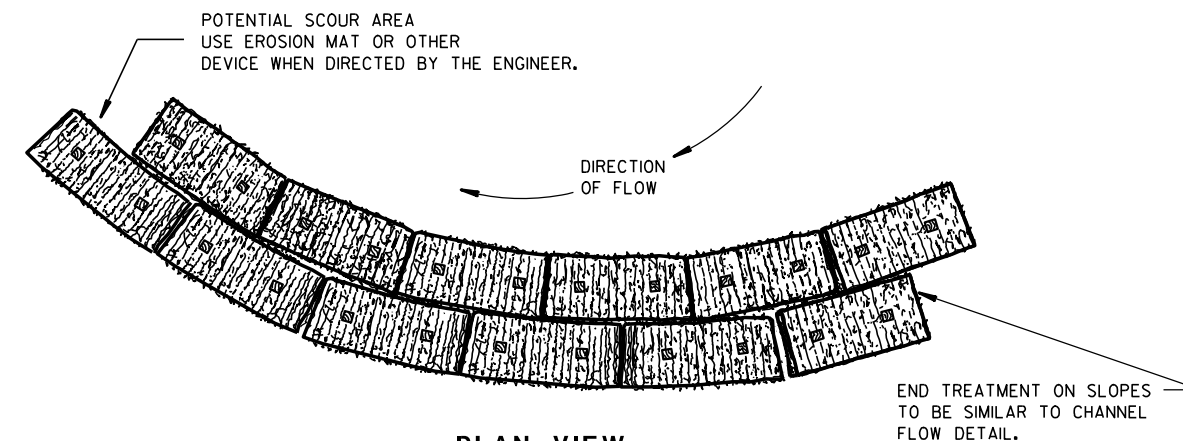
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

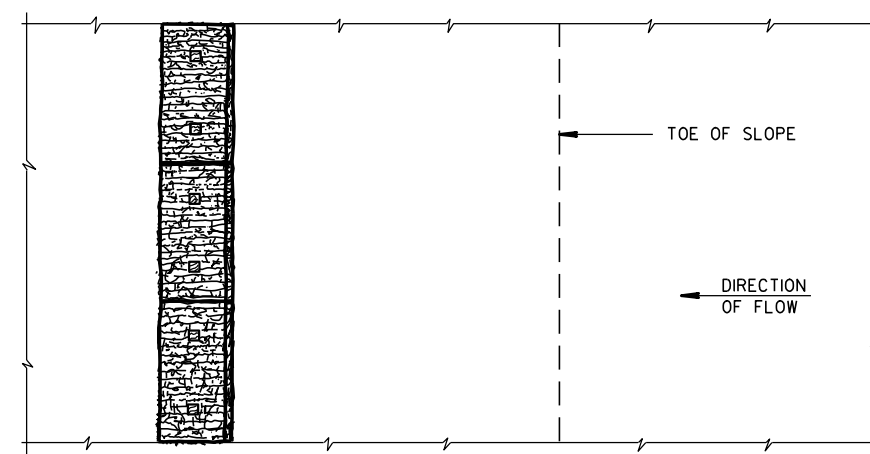
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

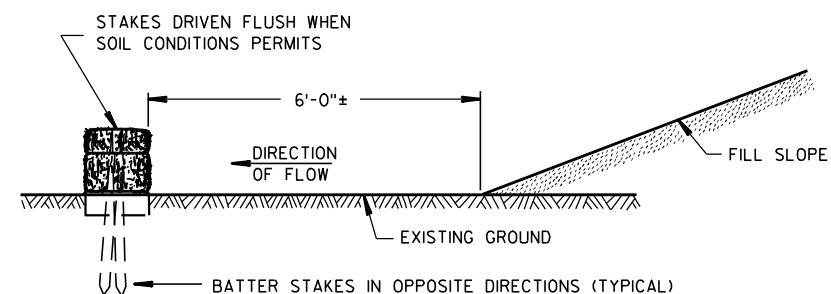


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

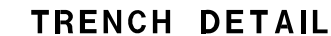
6/04/02
DATE

FHWA

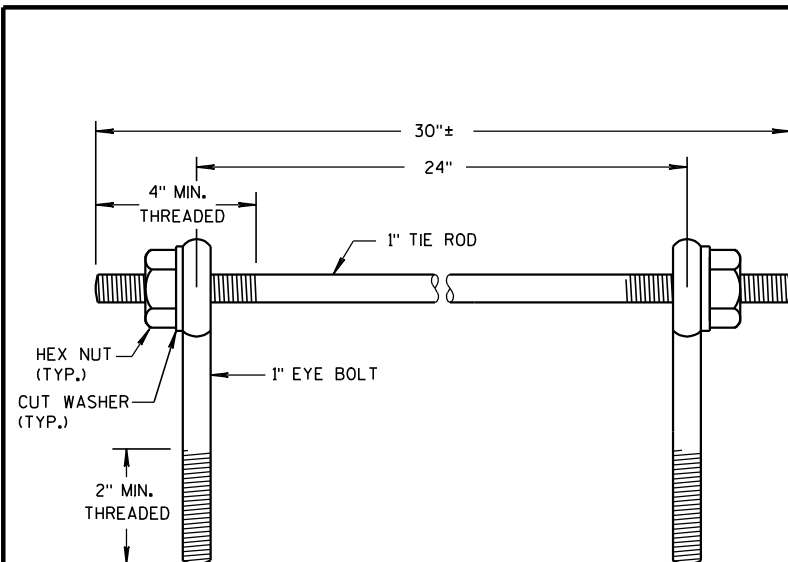
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

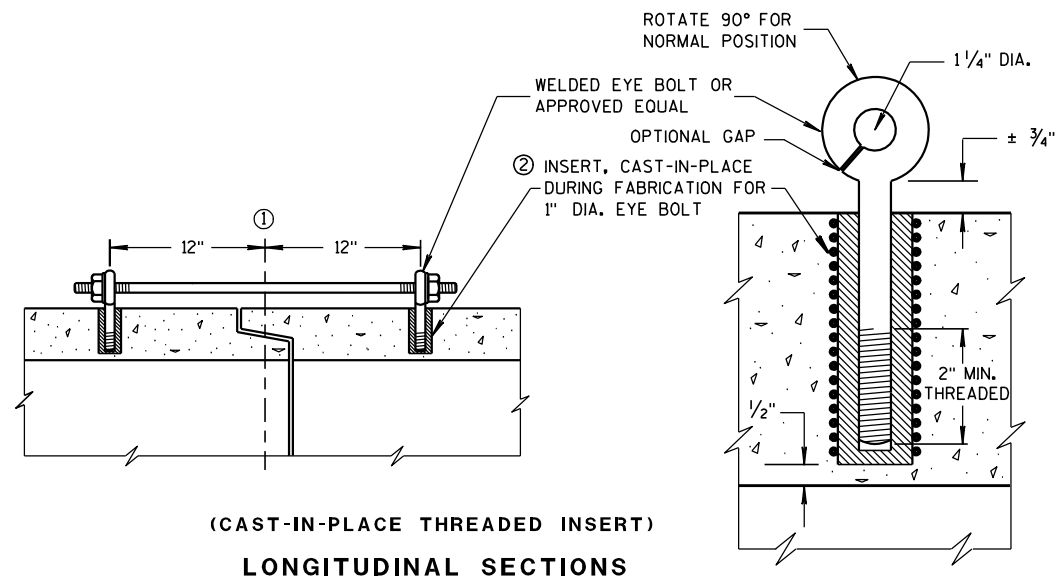


SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>4-29-05</u> <u>DATE</u>	<u>/S/ Beth Canestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

(CAST-IN-PLACE THREADED INSERT)
LONGITUDINAL SECTIONS

GENERAL NOTES

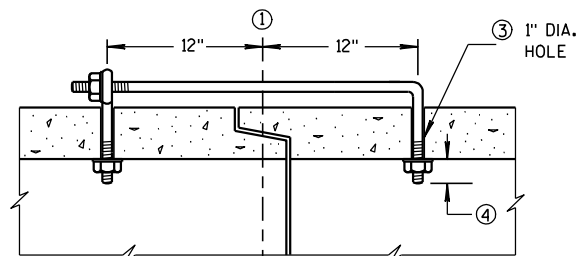
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

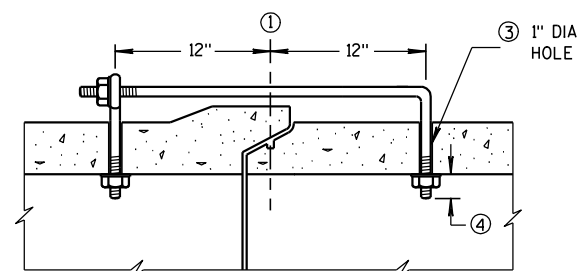
DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- ① ϕ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ϕ OF TONGUE AND GROOVE.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN $\frac{1}{2}$ INCH OF THE INNER SURFACE OF THE PIPE.

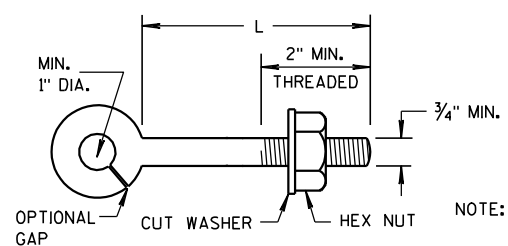


(TONGUE & GROOVE PIPE)

(MODIFIED BELL PIPE)
LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	

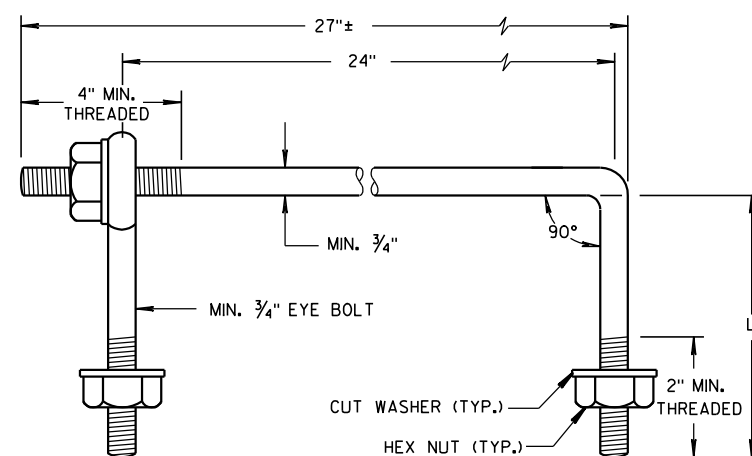


EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.

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

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

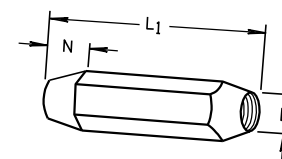


EYE BOLT AND TIE ROD

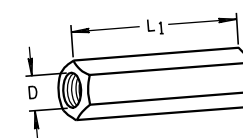
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



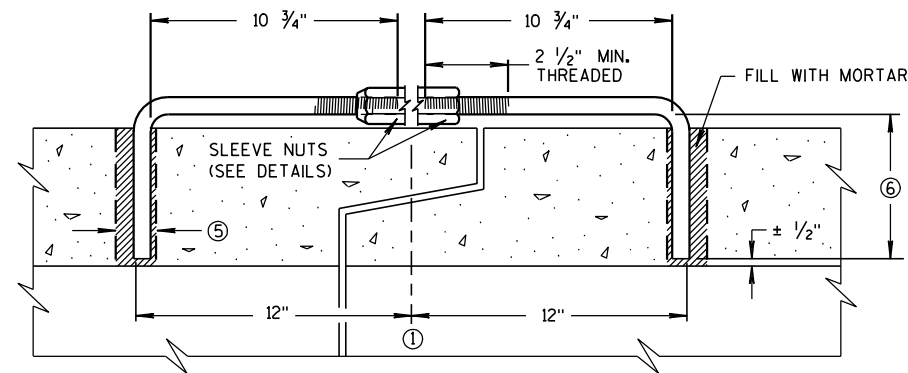
TAPERED



PLAIN

RIGHT AND LEFT THREADS

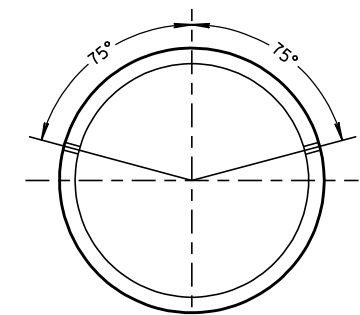
SLEEVE NUTS



LONGITUDINAL SECTION

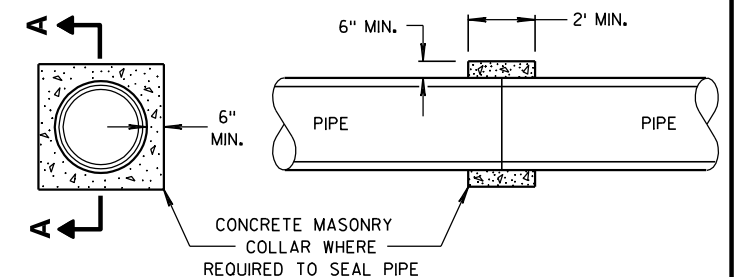
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE
PIPE AND CONCRETE
COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

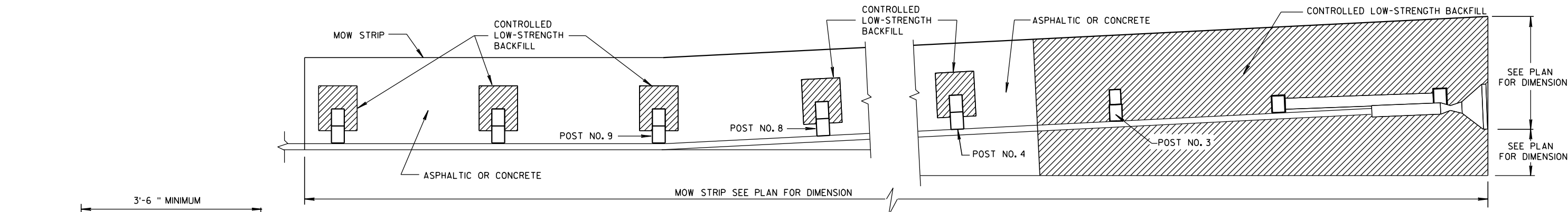
APPROVED

6/5/2012

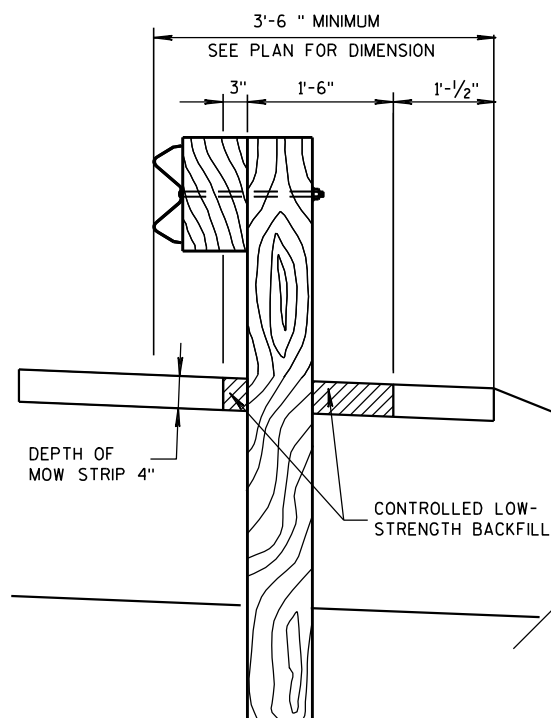
DATE

FHWA

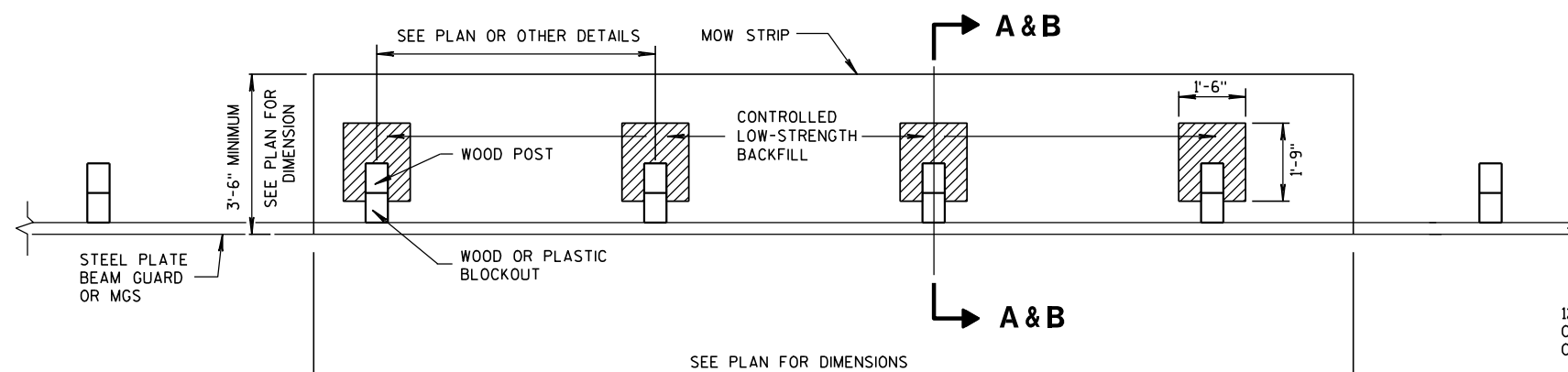
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



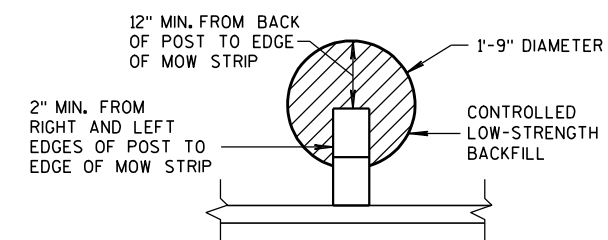
PLAN VIEW
MOW STRIP FOR STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL



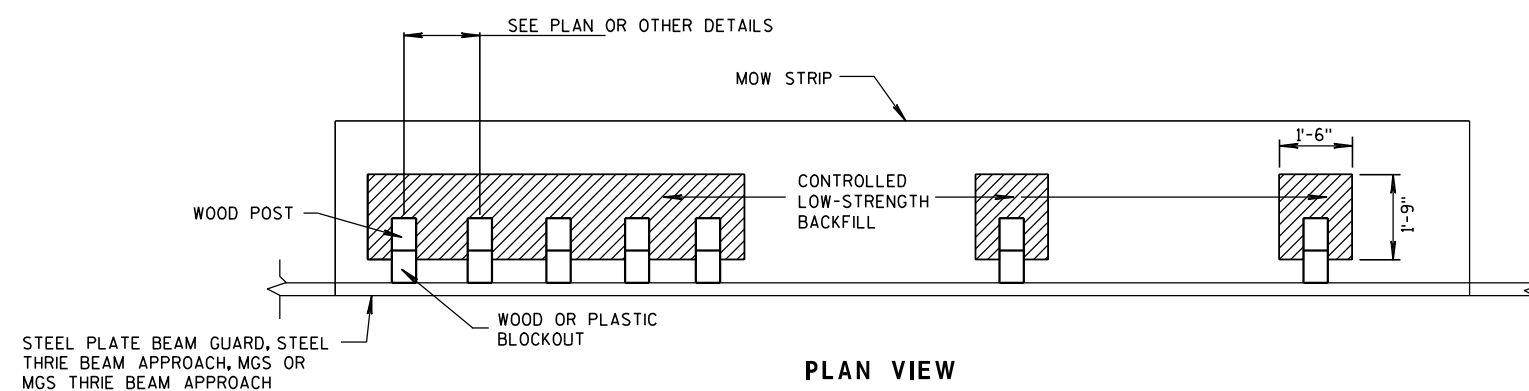
SECTION A-A



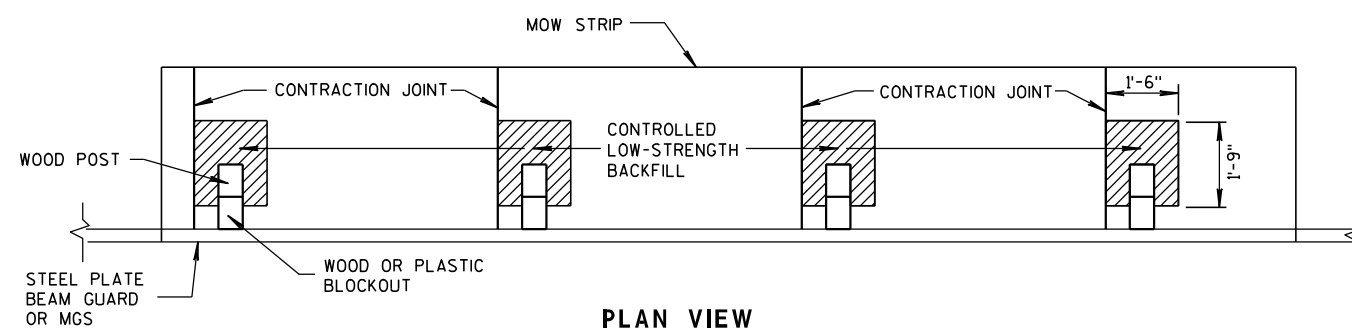
PLAN VIEW
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



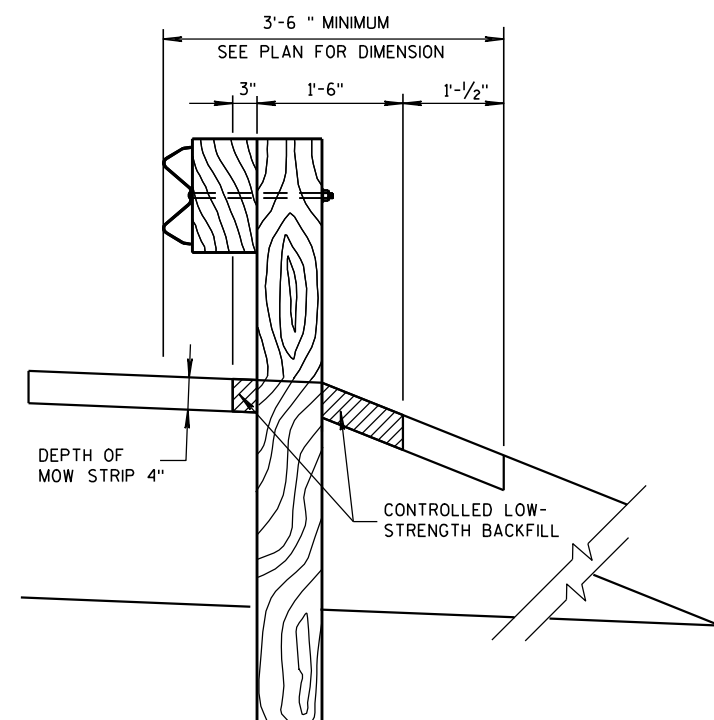
ALTERNATIVE HMA
MOW STRIP DESIGN



PLAN VIEW
MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW
JOINT PLACEMENT FOR CONCRETE MOW STRIP



SECTION B-B

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

1/27/12

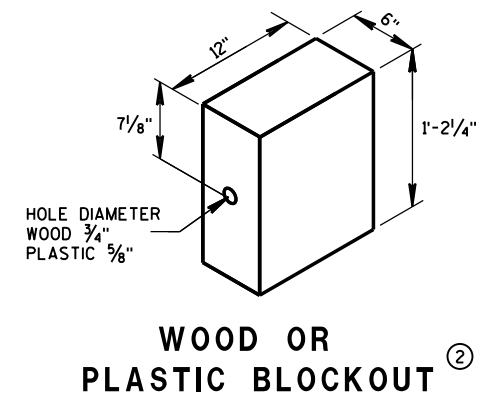
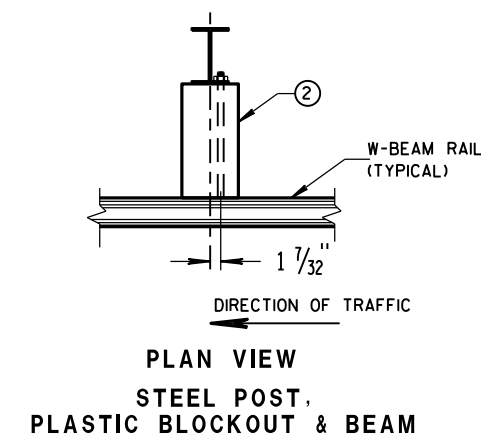
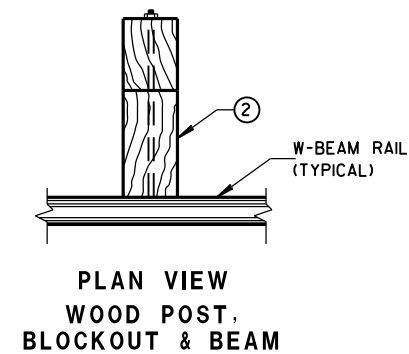
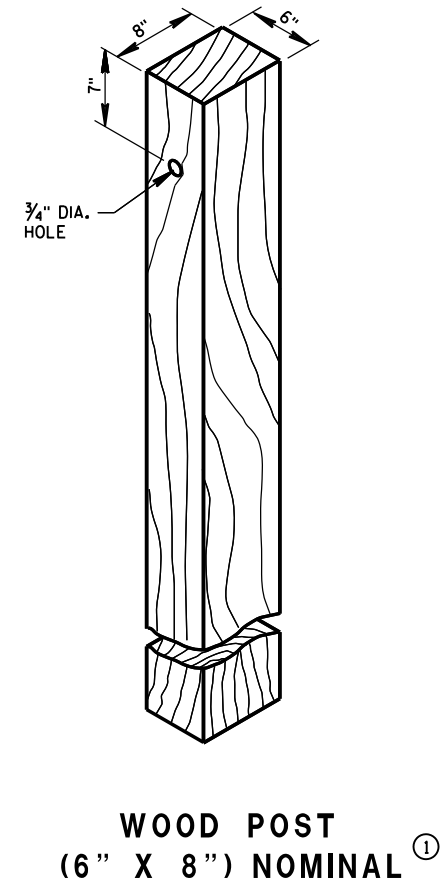
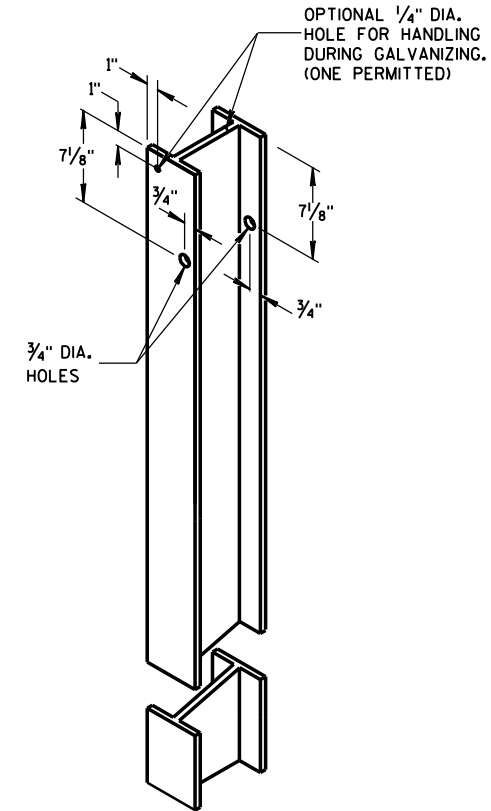
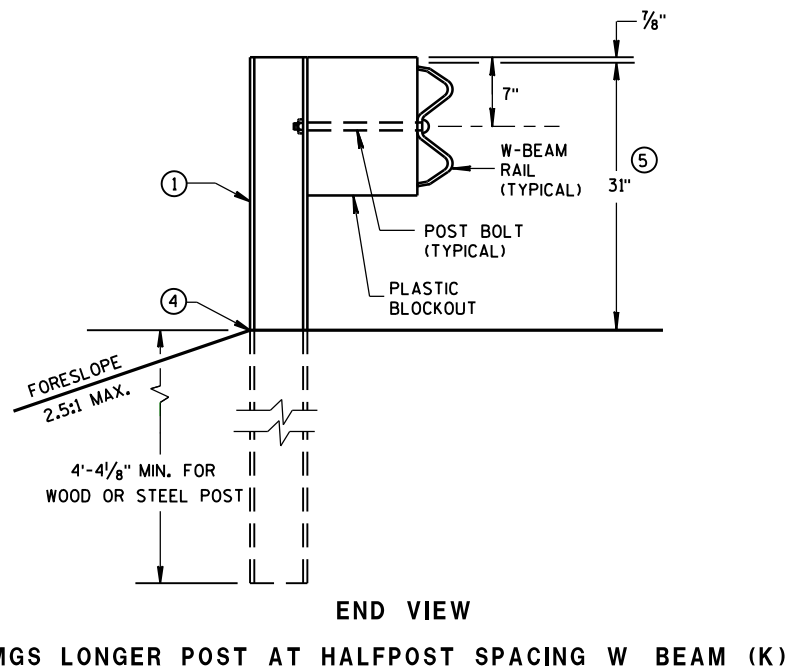
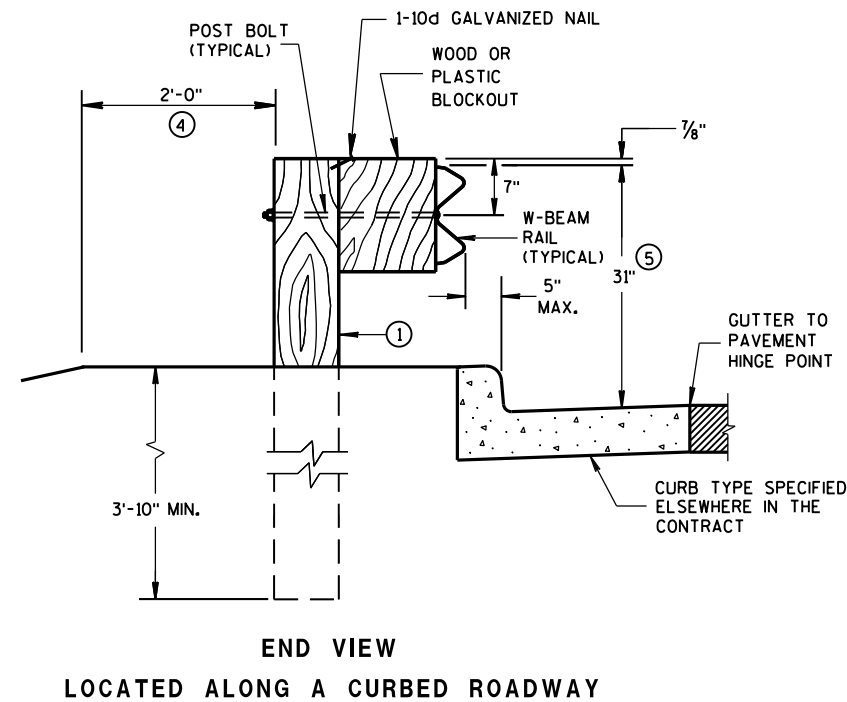
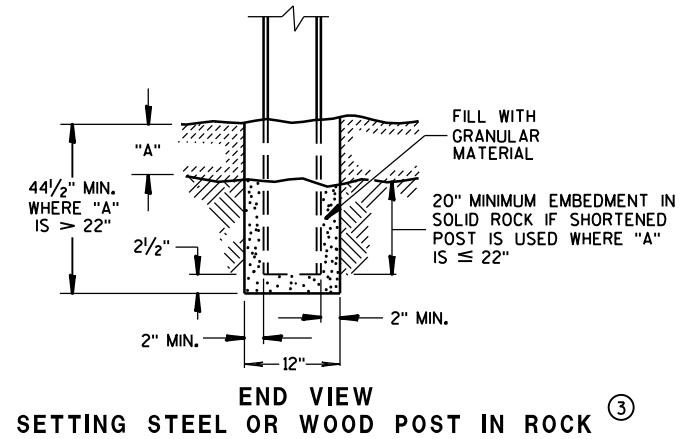
DATE

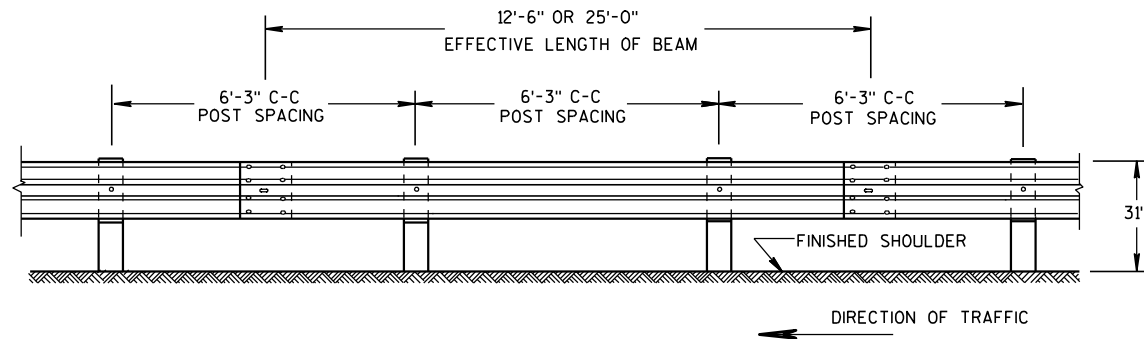
FHWA

/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

6

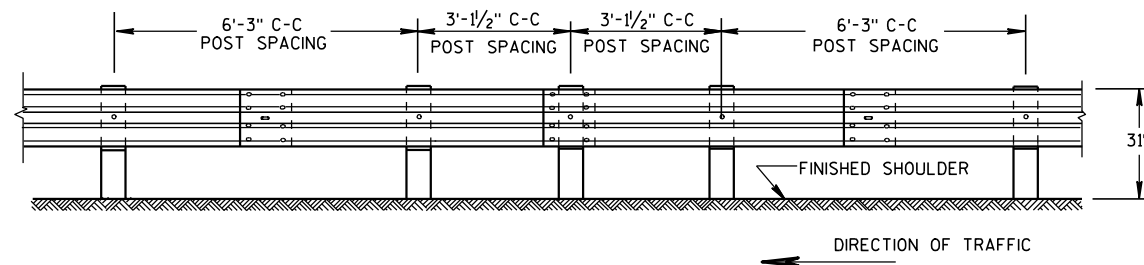
- S.D.D. 14 B 42-2a**





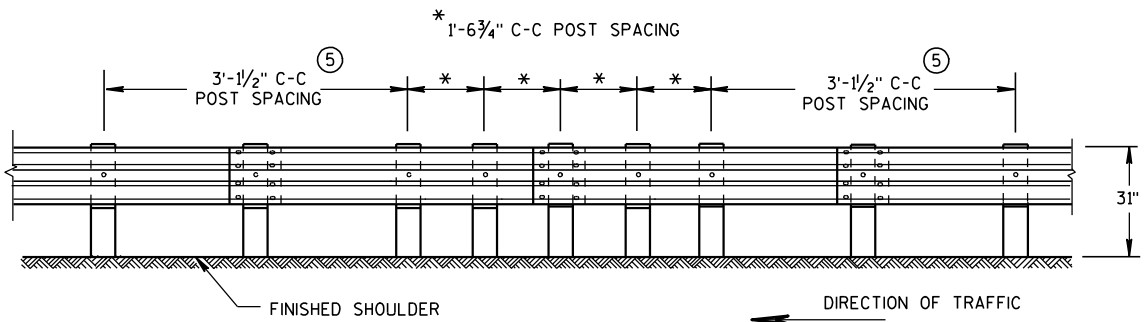
FRONT VIEW

POST SPACING STANDARD INSTALLATION



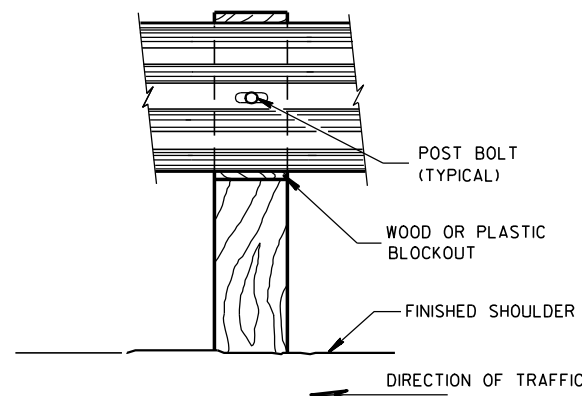
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

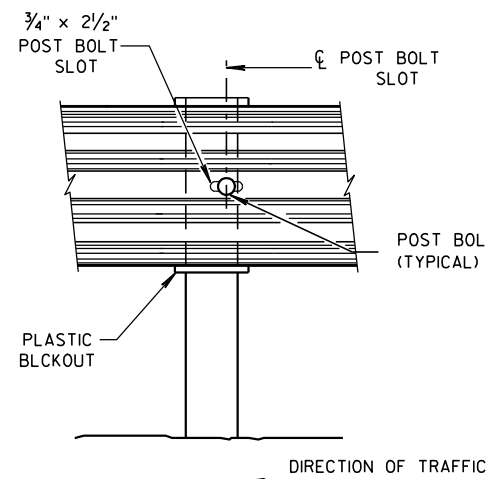


FRONT VIEW

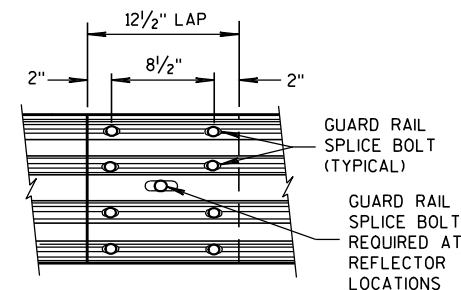
QUARTER POST SPACING (QS)



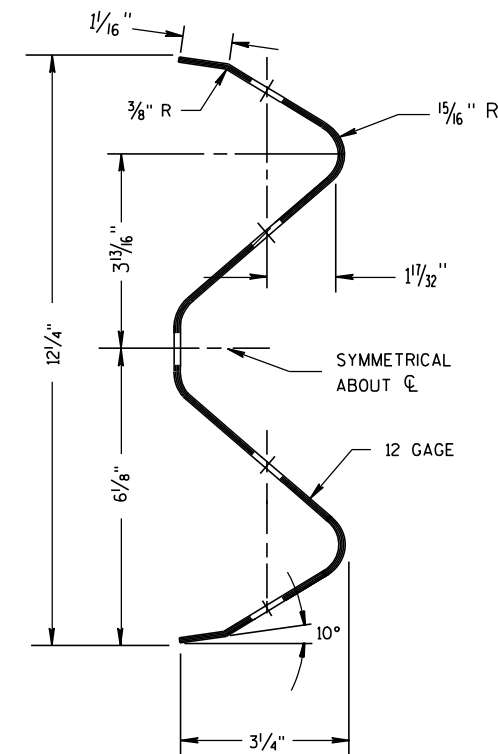
FRONT VIEW AT WOOD POST



FRONT VIEW AT STEEL POST



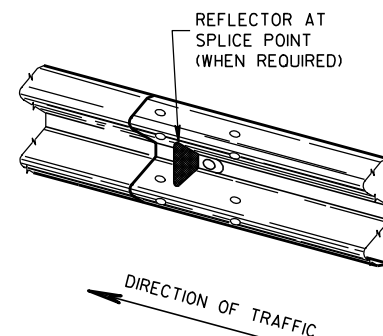
FRONT VIEW
MID-SPAN BEAM SPLICE



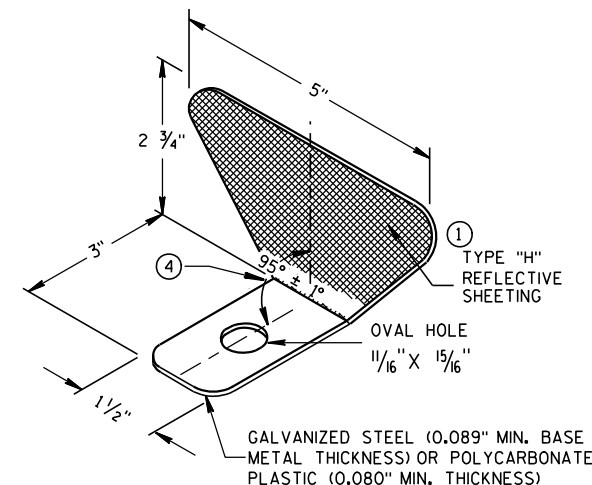
SECTION THRU W-BEAM RAIL

REFLECTOR SPACING

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ③	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ④	3
	> 200'	100' C-C	2	



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION



GENERAL NOTES

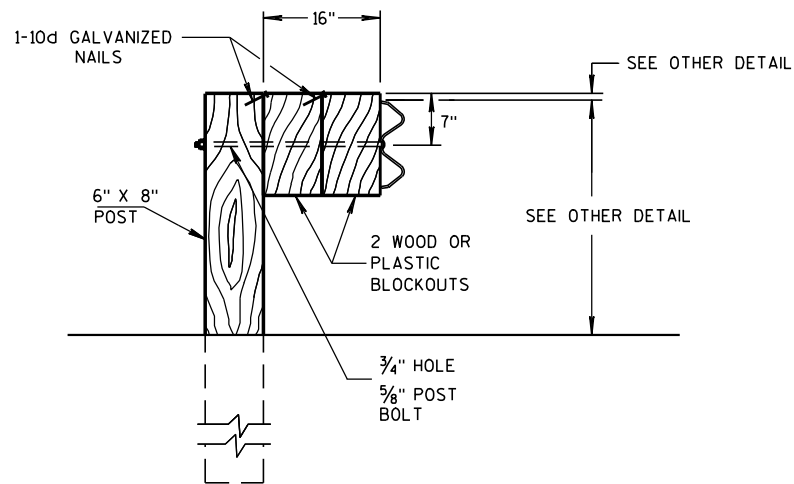
- ① PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
- ② DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
- ③ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- ④ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
- ⑤ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

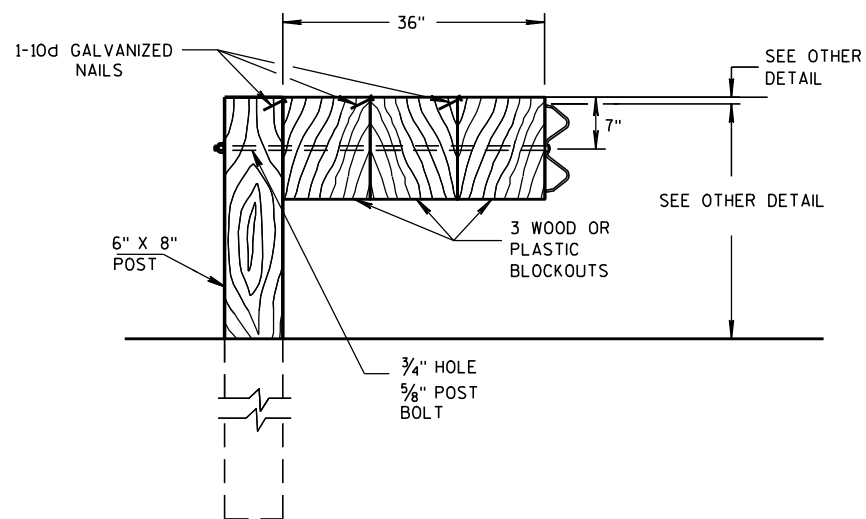
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

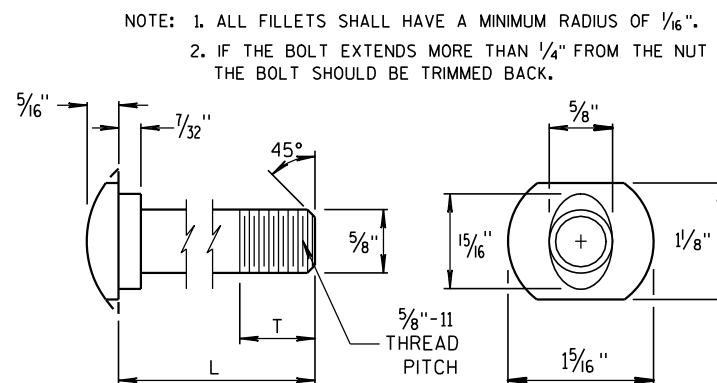
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



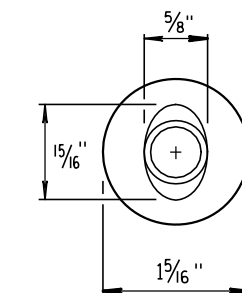
DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

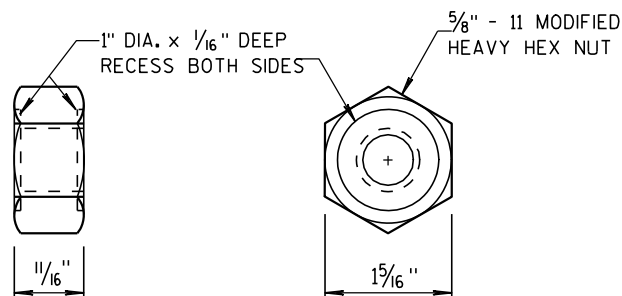
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



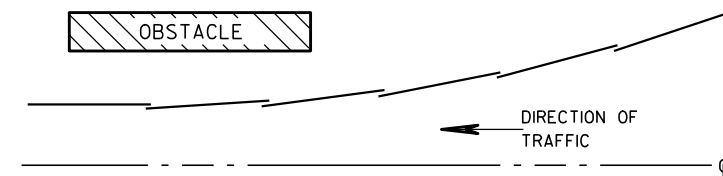
POST BOLT TABLE



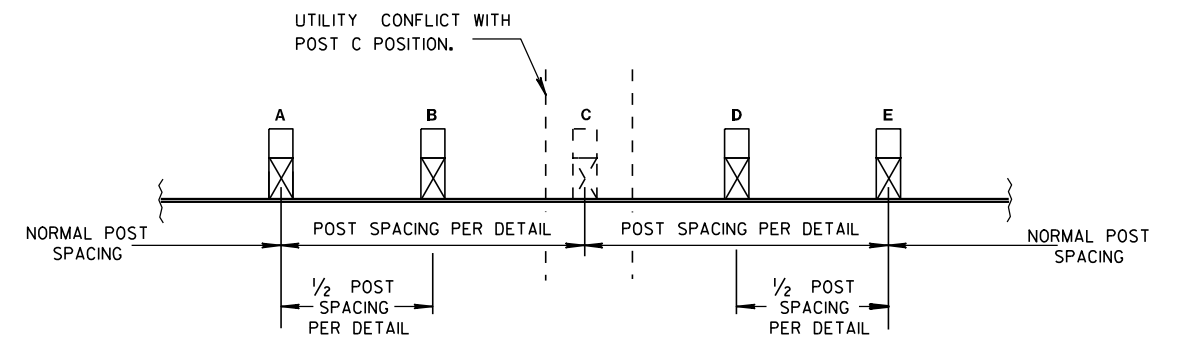
ALTERNATE BOLT HEAD



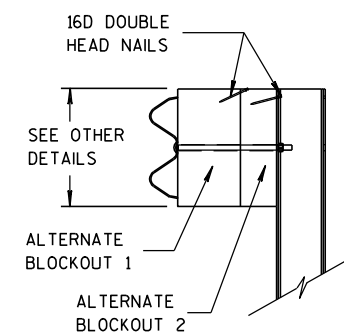
POST BOLT AND RECESS NUT



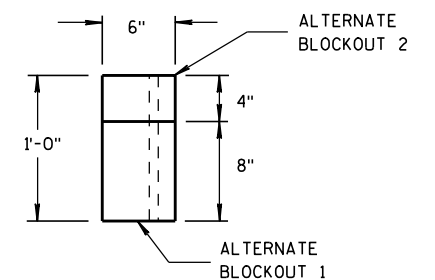
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011
DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.
- (F) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (G) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (H) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

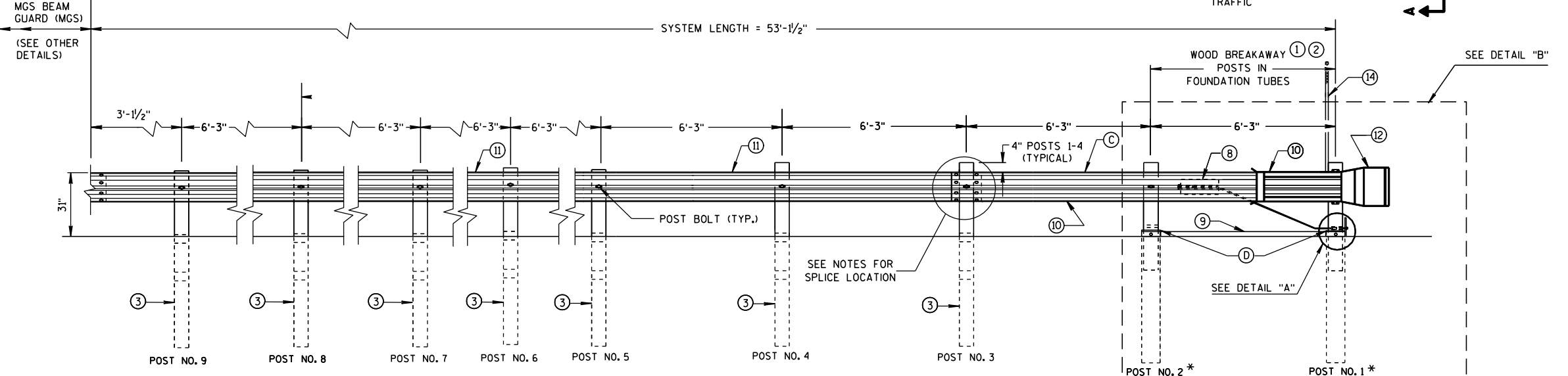
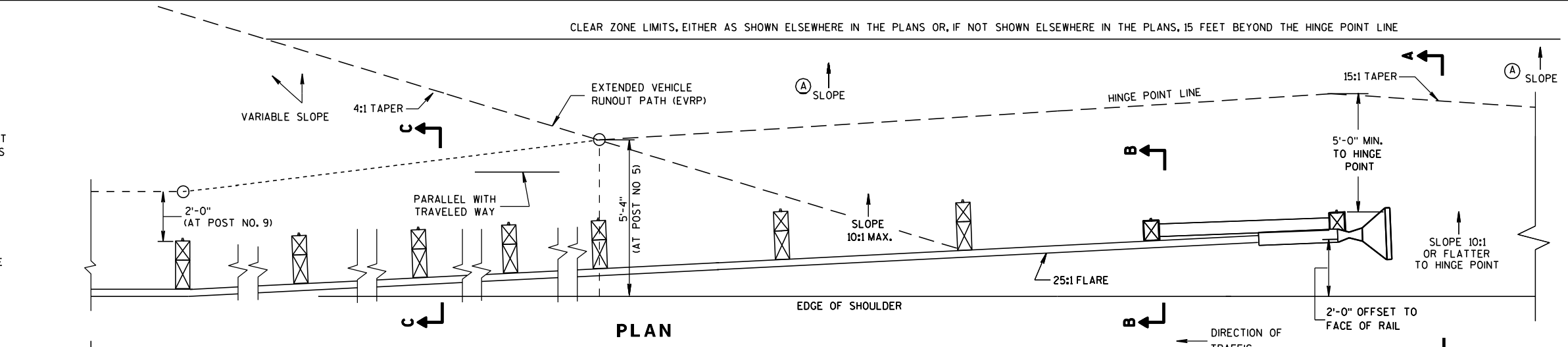
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

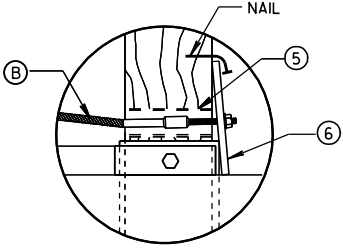
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

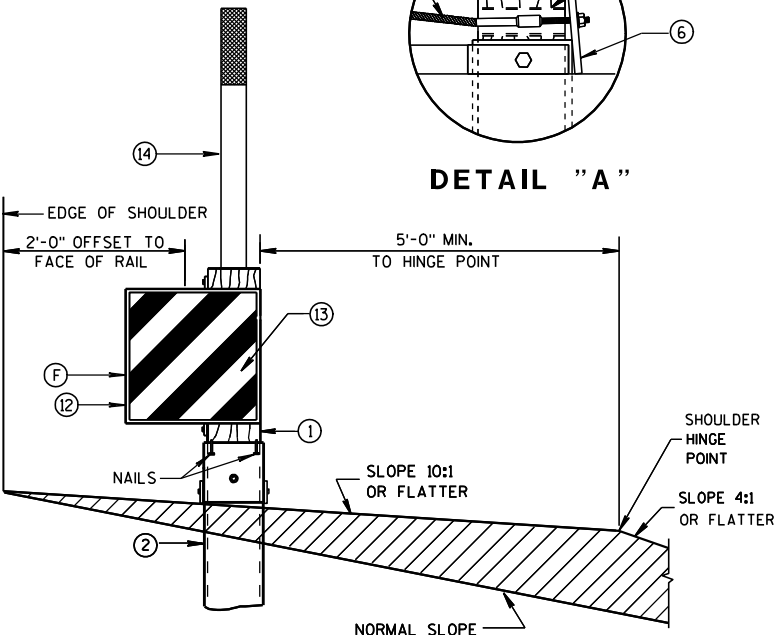
THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE ($\pm \frac{3}{4}$ ")



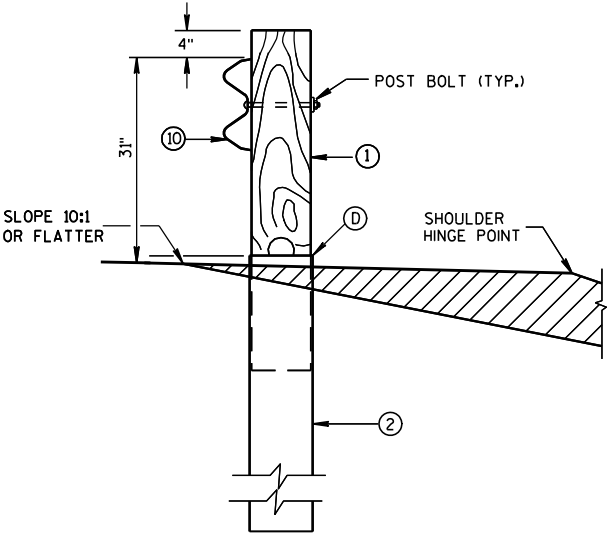
ELEVATION



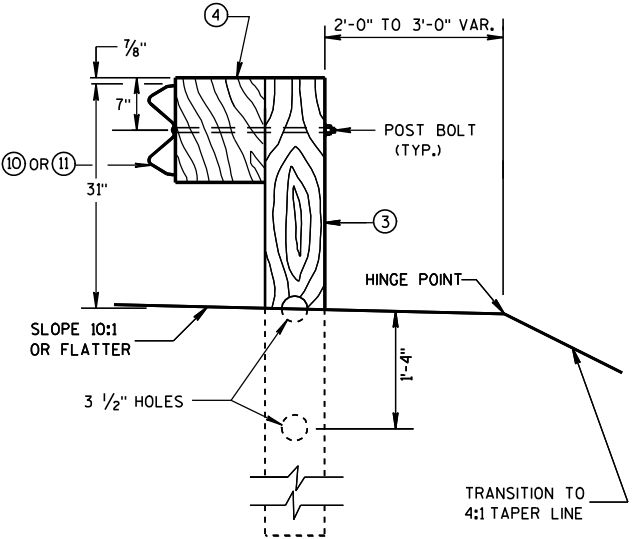
DETAIL "A"



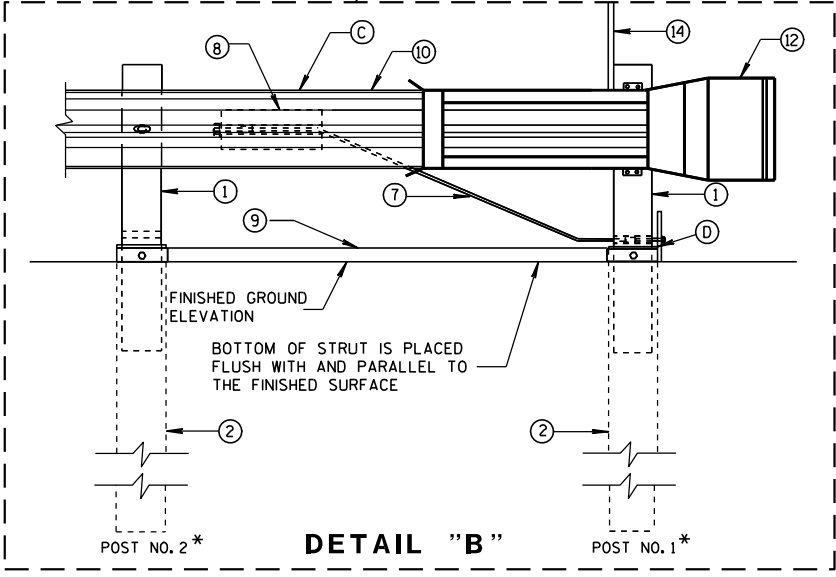
SECTION A-A
TYPICAL AT POST NO. 1*



SECTION B-B
TYPICAL AT POST NO. 2*



SECTION C-C
TYPICAL AT POST NOS. 3-9

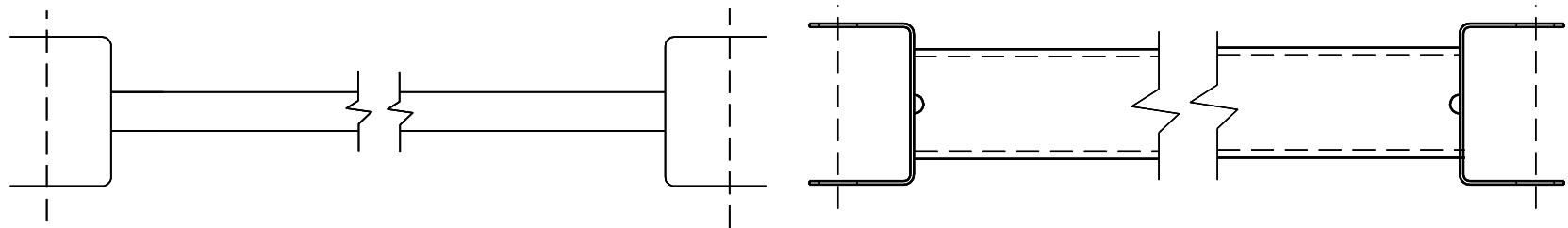


DETAIL "B"

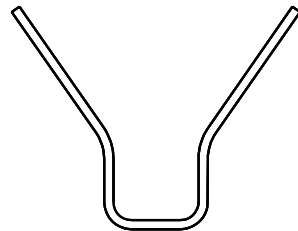
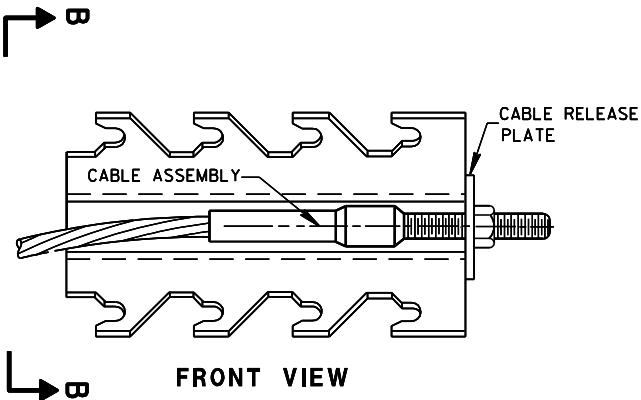
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

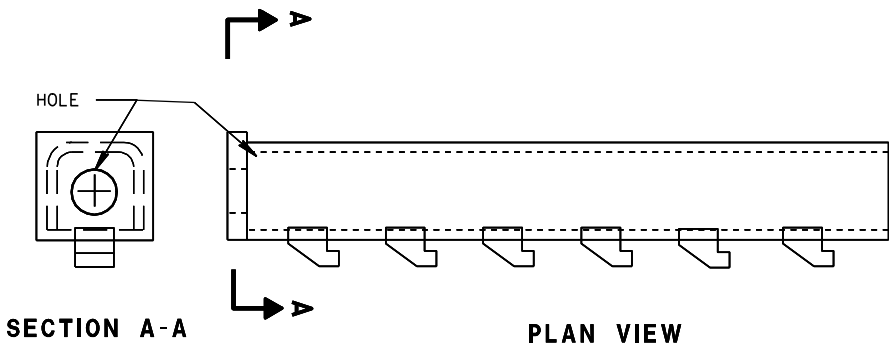
BILL OF MATERIALS	
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL, MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



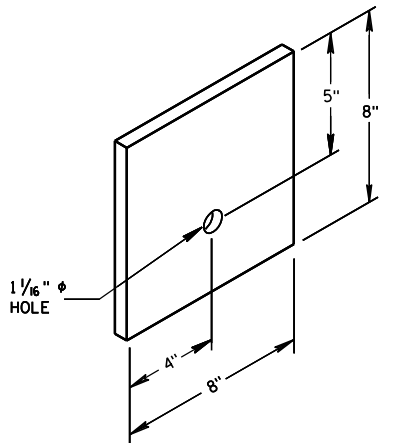
⑨ ⑨
GENERIC GROUND STRUT



SECTION B-B



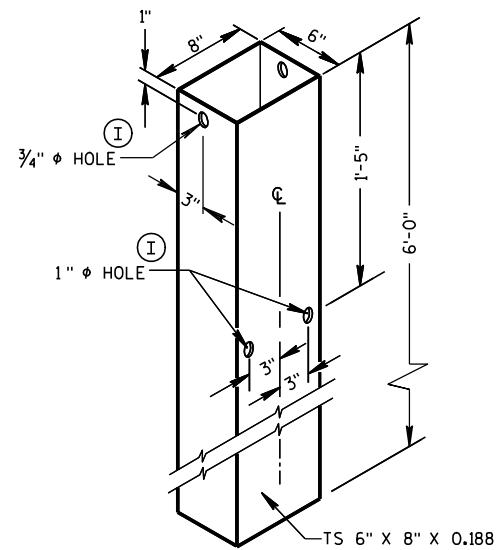
⑧ ⑧
GENERIC ANCHOR CABLE BOX



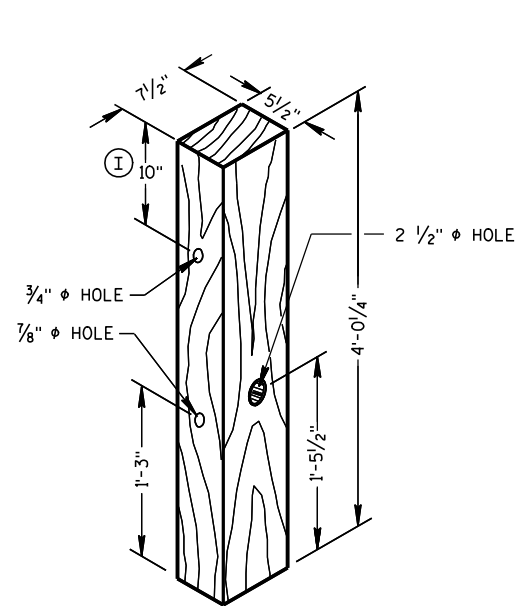
⑥
BEARING PLATE

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

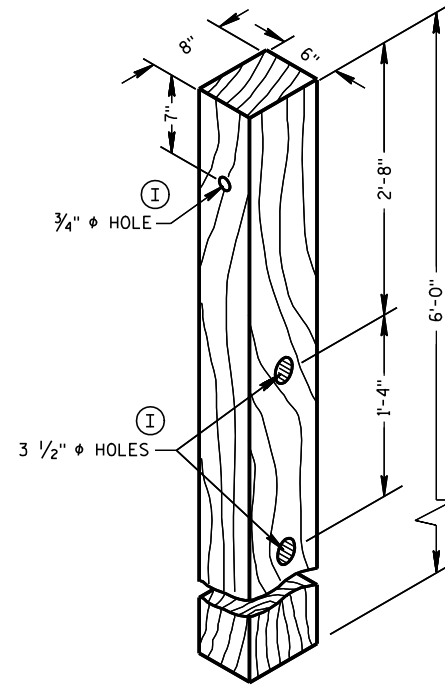
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



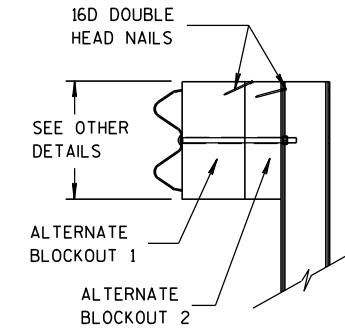
FOUNDATION TUBE ②



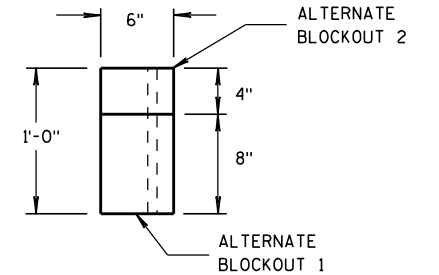
POSTS NUMBER 1 AND 2
WOOD BREAKAWAY POST ①



POSTS NUMBER 3-9
WOOD CRT POST ③

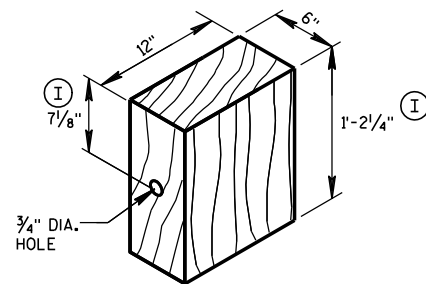


SIDE VIEW



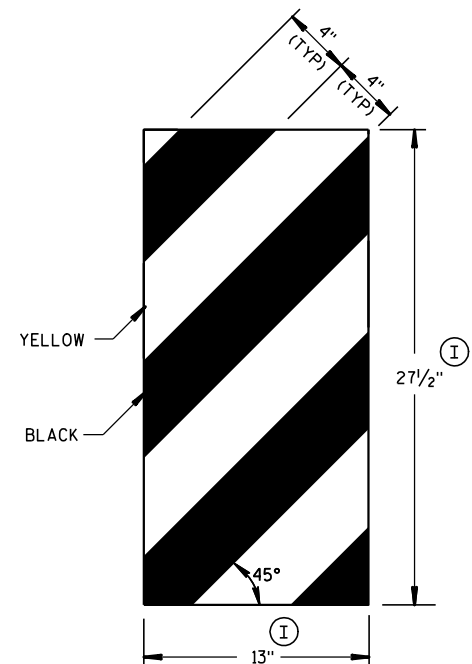
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

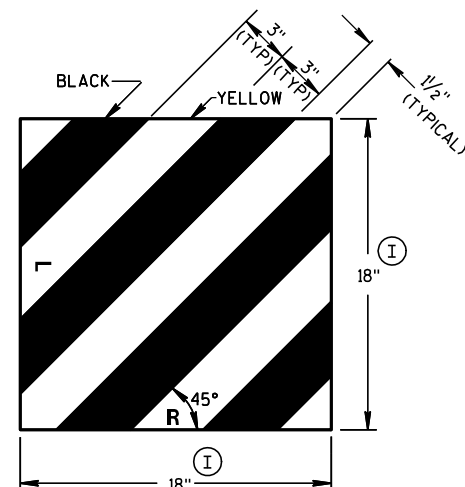


WOOD BLOCKOUT ④
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

YELLOW REFLECTIVE TAPE
3" X 9" TYPE H
REFLECTIVE SHEETING



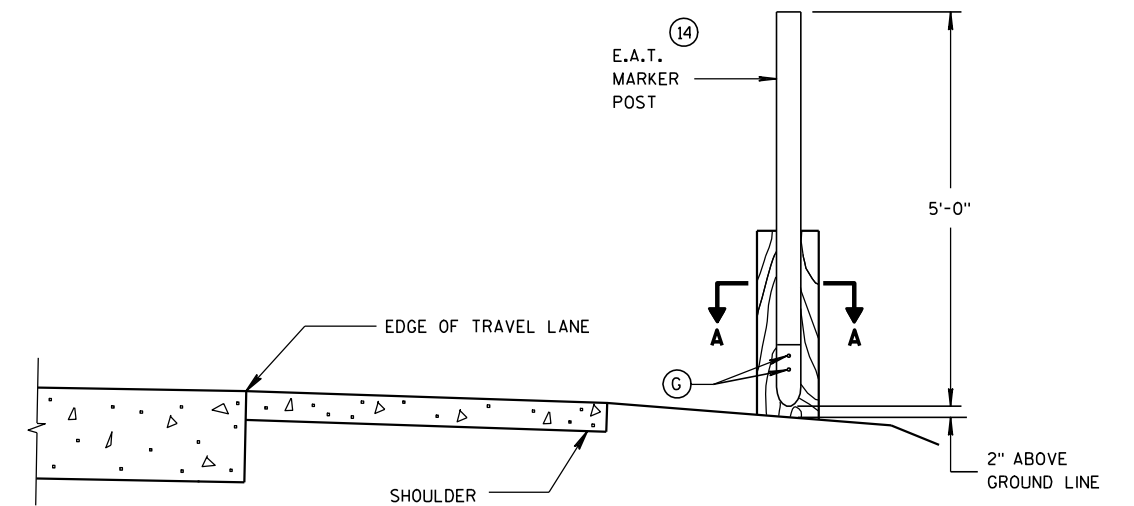
GENERIC REFLECTIVE SHEETING ⑬ ④



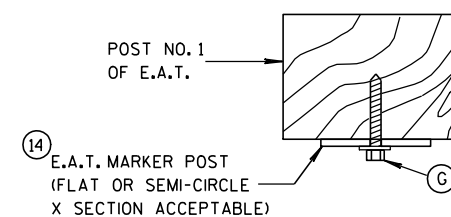
FRONT VIEW

SIDE VIEW

E.A.T. MARKER POST ⑭



TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

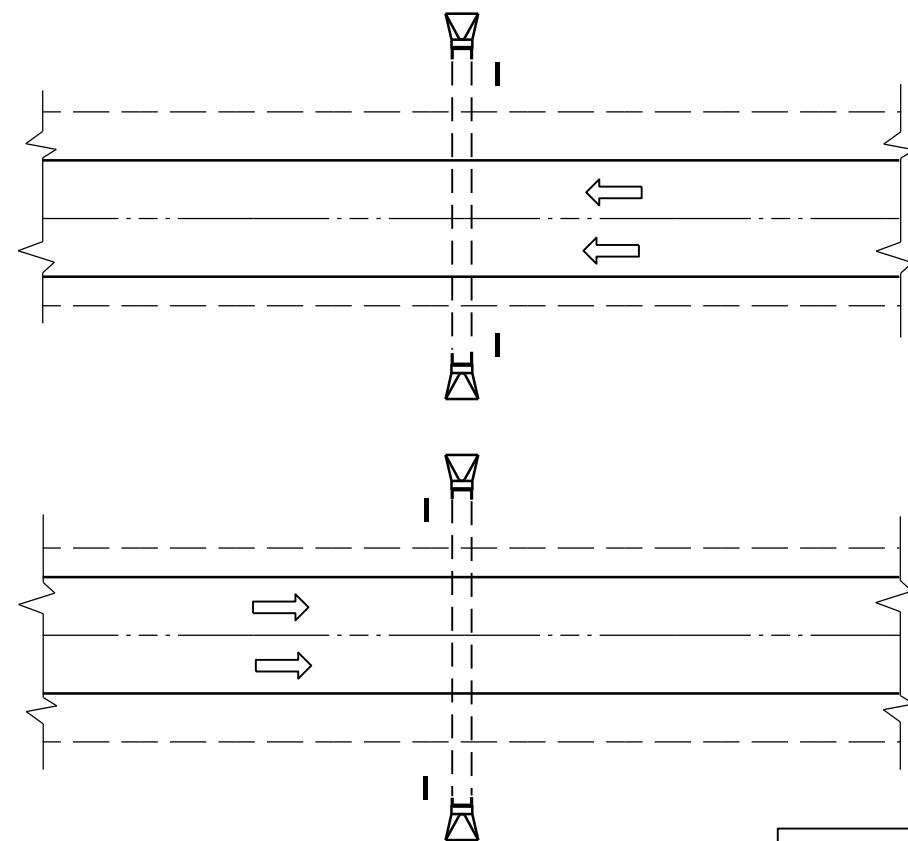
APPROVED

5/23/2011

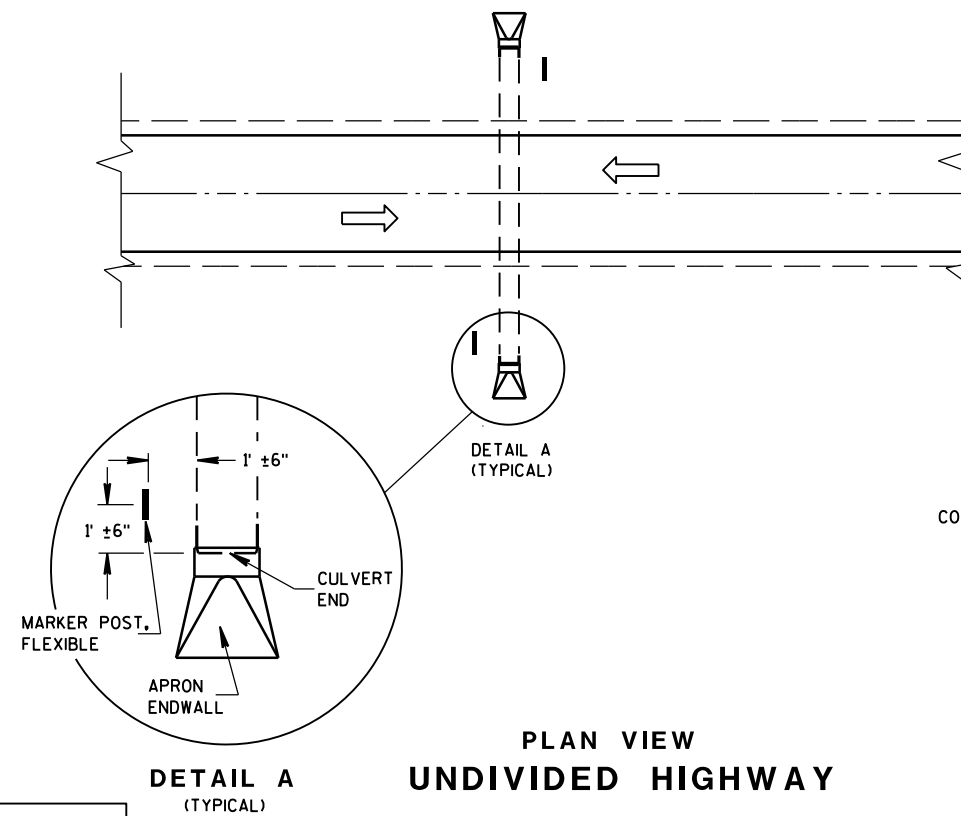
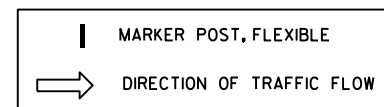
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



PLAN VIEW
DIVIDED HIGHWAY

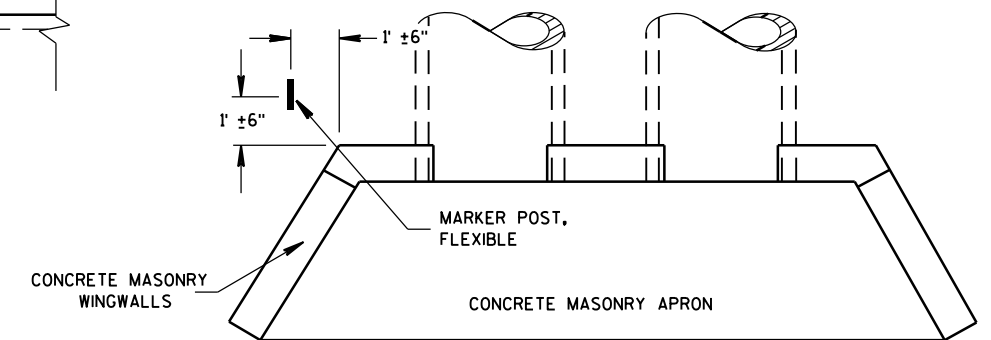


PLAN VIEW
UNDIVIDED HIGHWAY

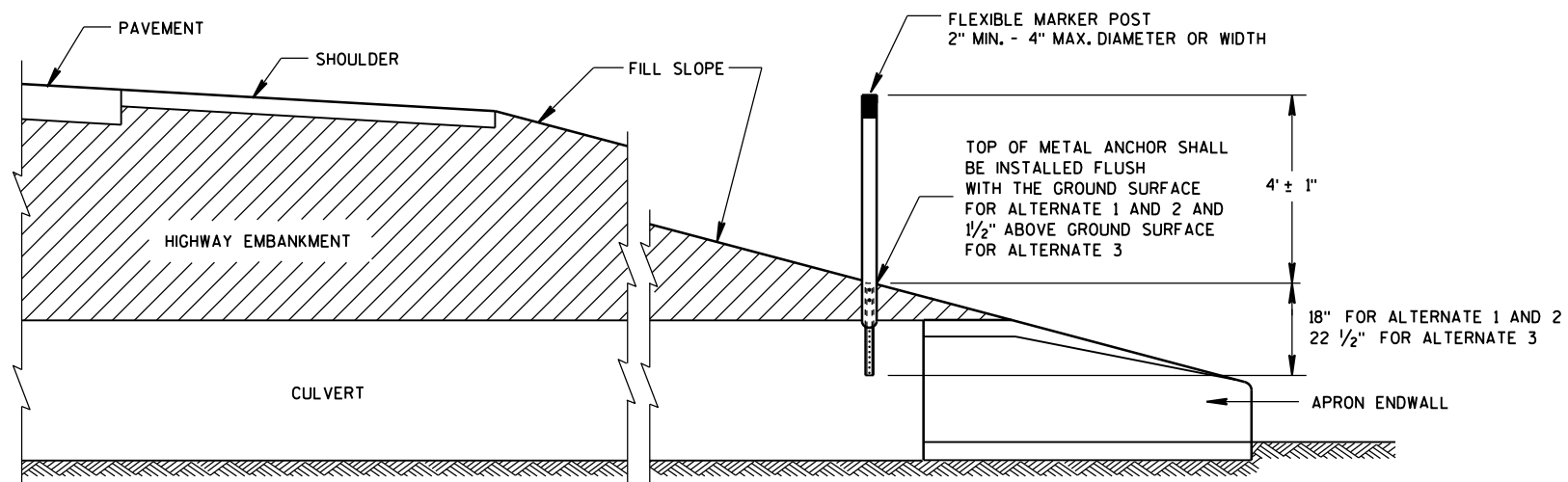
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



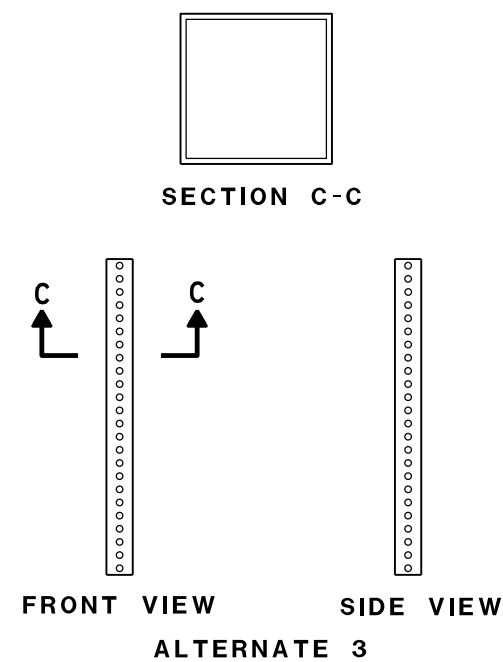
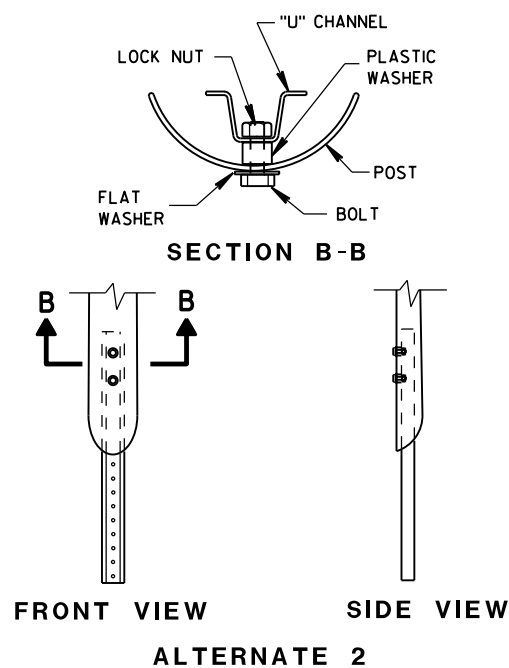
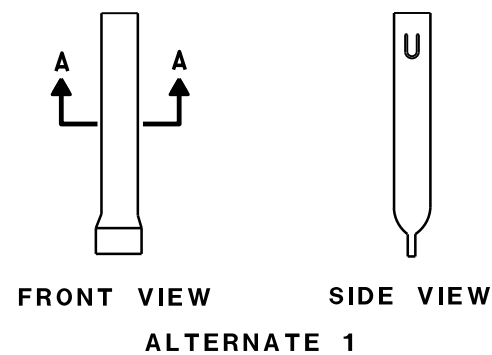
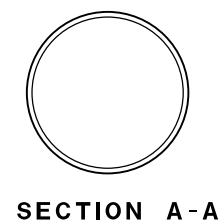
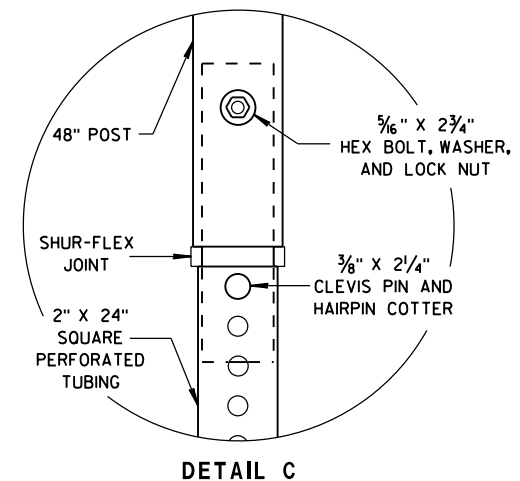
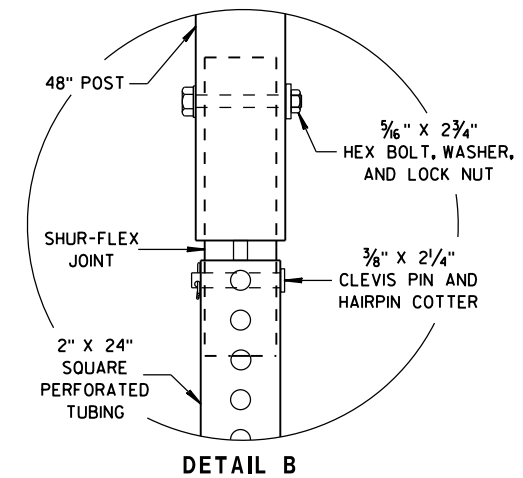
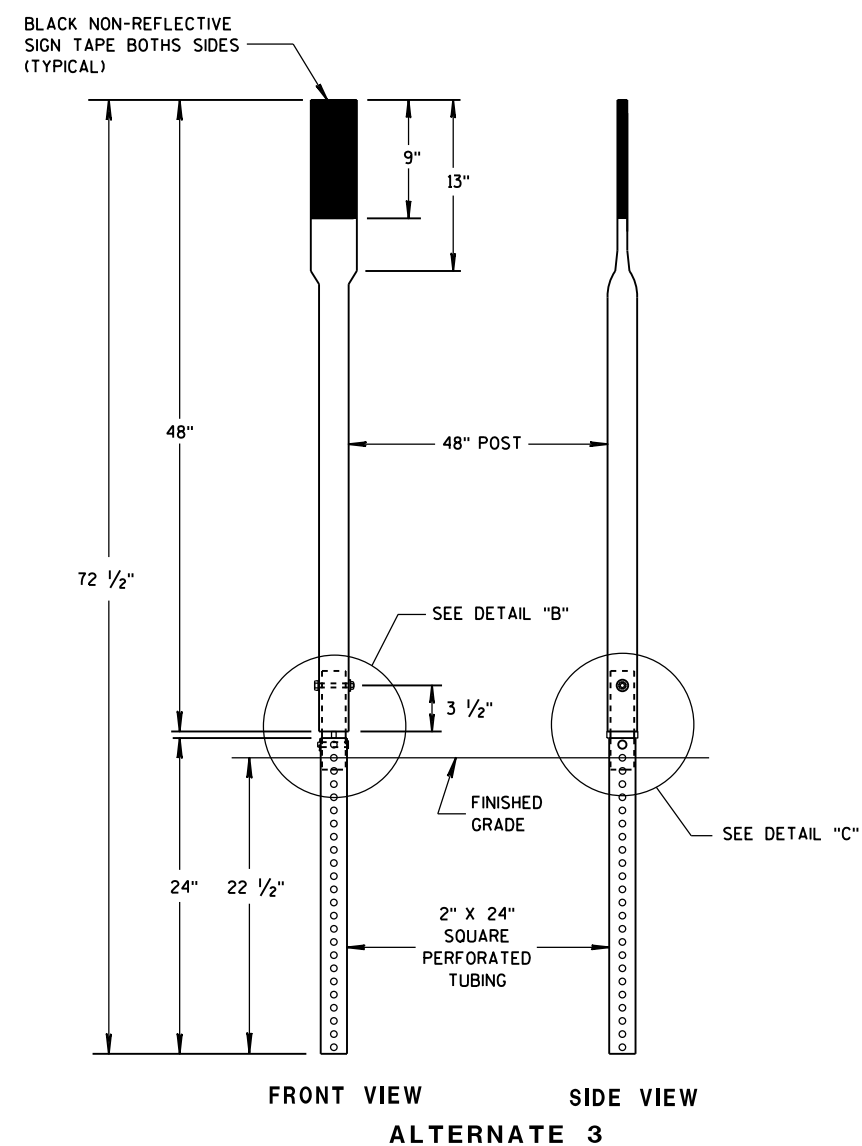
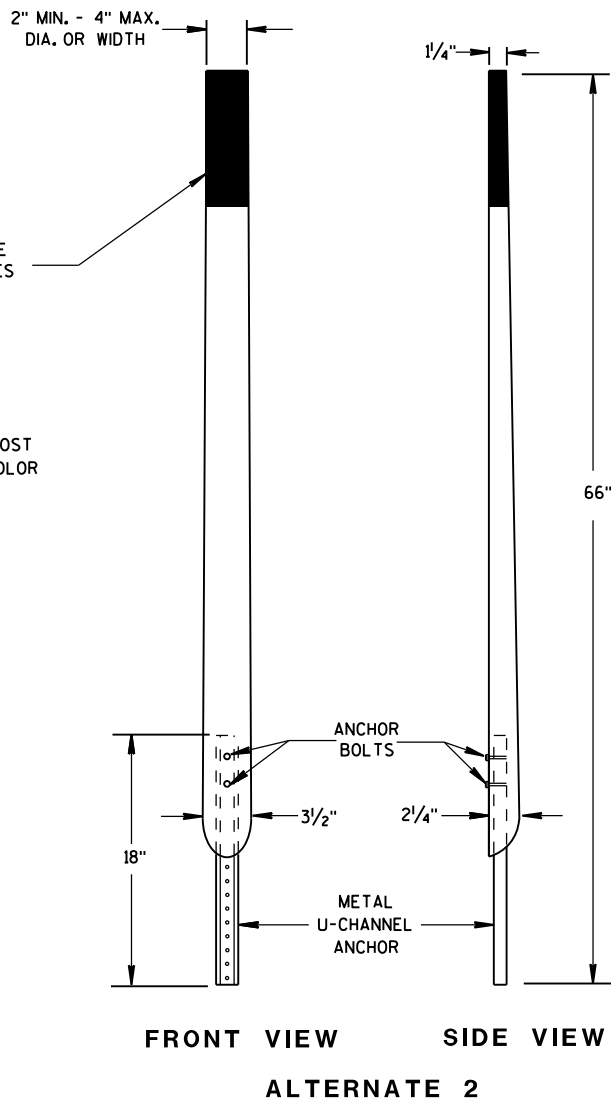
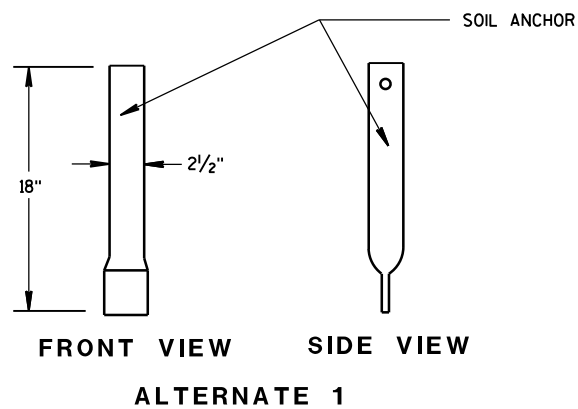
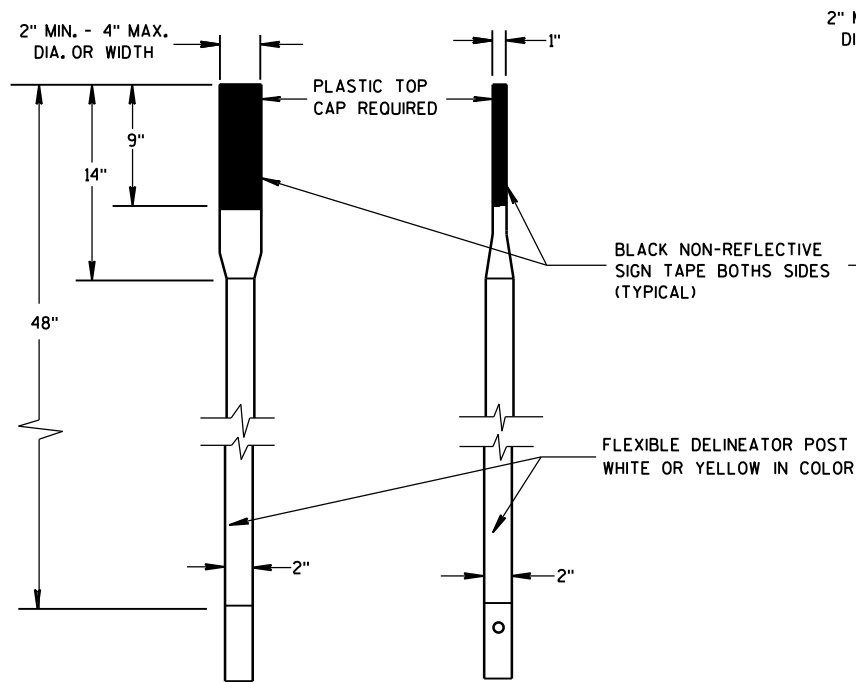
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

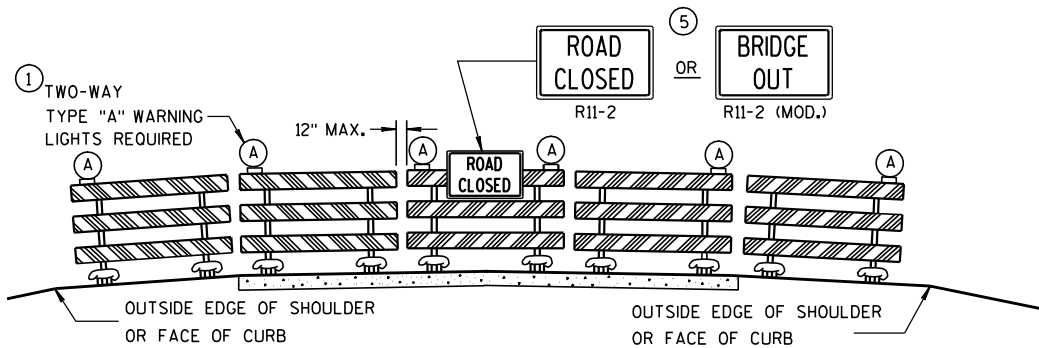


FLEXIBLE MARKER POST FOR CULVERT END

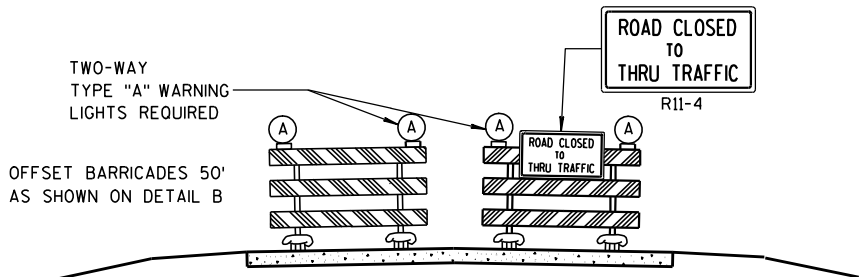
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012
DATE
FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-4a FOR LEGEND

GENERAL NOTES

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

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

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

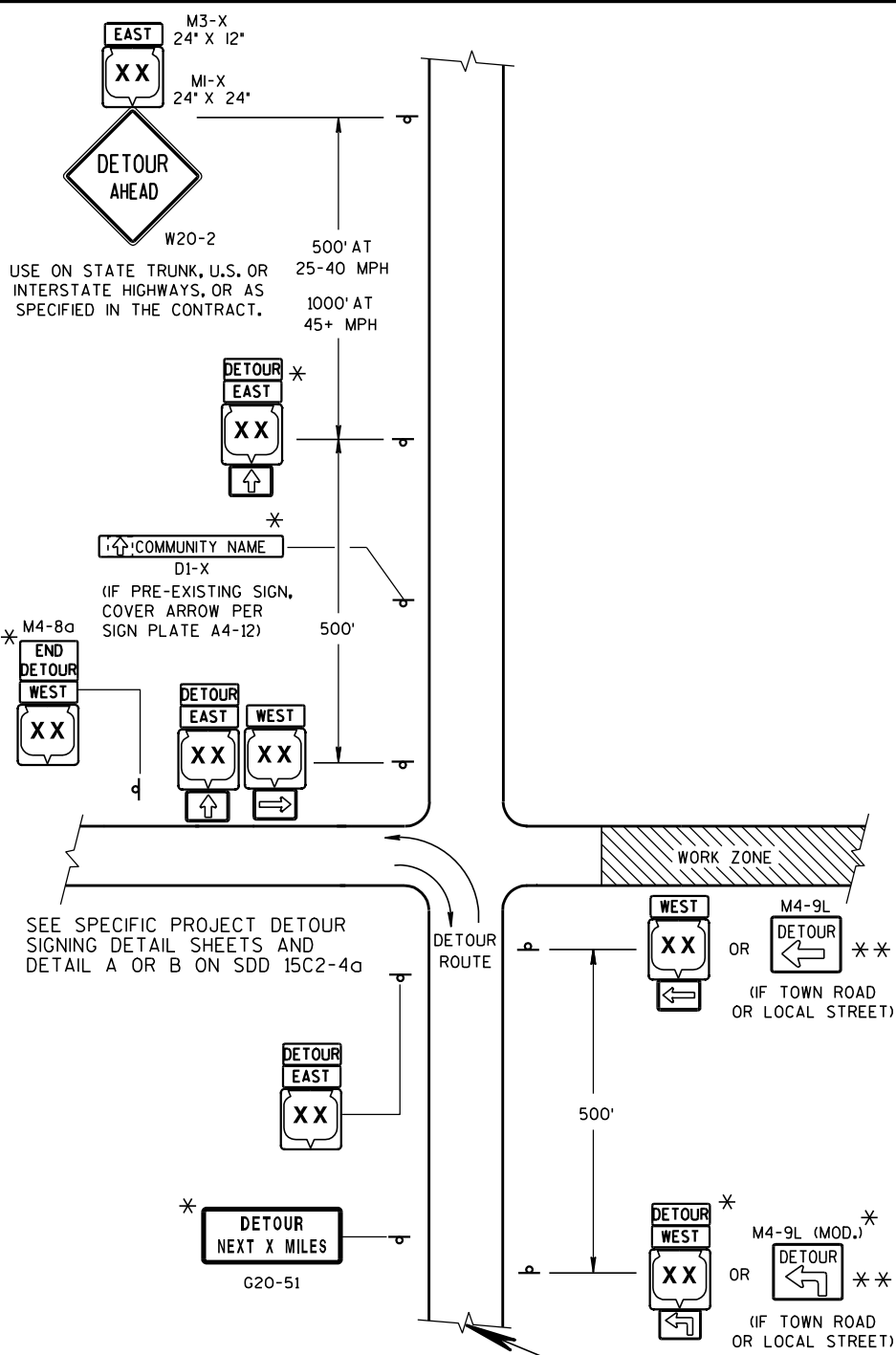
"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
9/16/03 DATE	/S/ Thomas N. Notbohm CHIEF SIGNS AND MARKING ENGINEER
FHWA	



LEGEND

POST MOUNTED SIGN

WORK ZONE

DETOUR EAST M4-8 M3-X

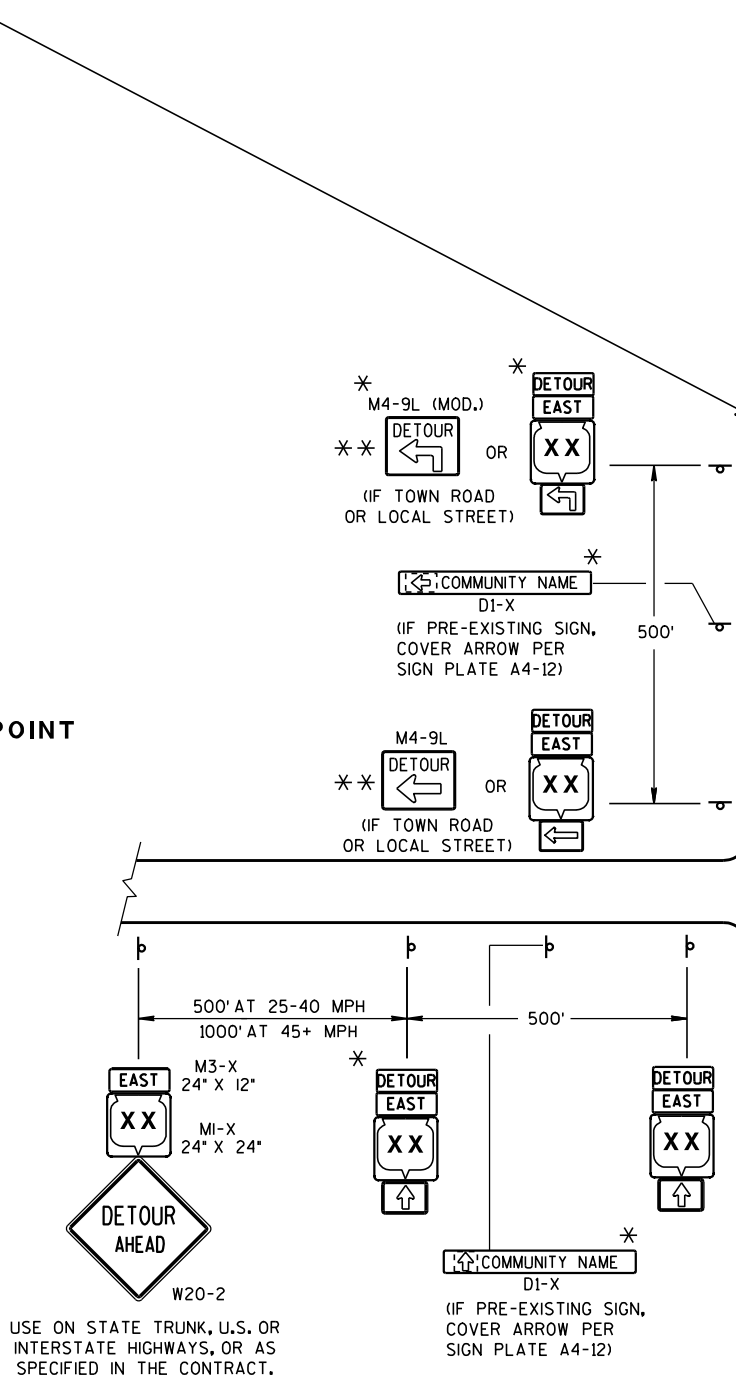
M1-4 OR COUNTY M1-5A OR M1-6

M05-1 OR M06-1 OR M06-1

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

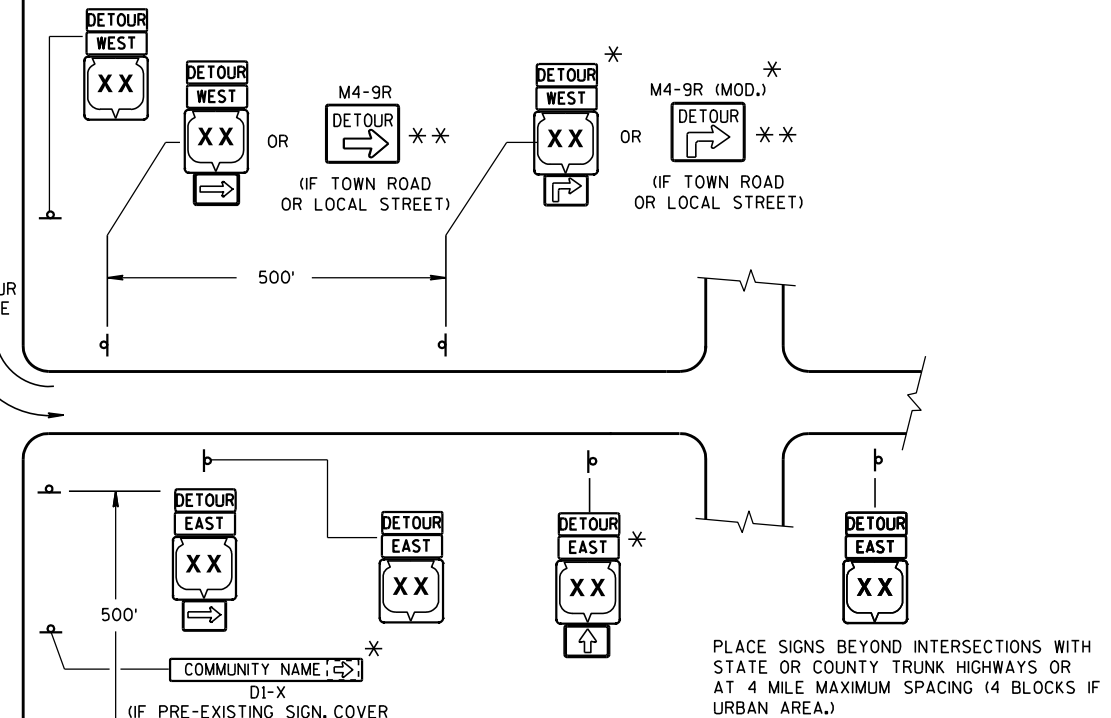
MATCH POINT

DETAIL F
DETOUR SIGNING



GENERAL NOTES

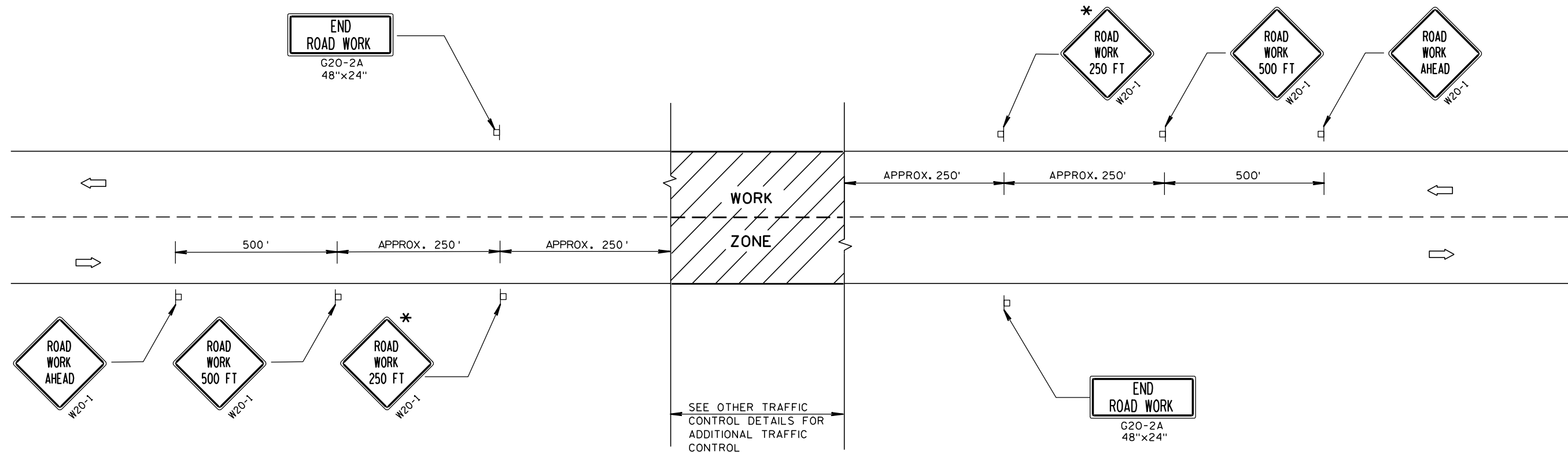
- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOWS:
- M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-9 SHALL BE 30" X 24".
 - M4-8a SHALL BE 24" X 18".
 - G20-51 SHALL BE 60" X 24".
 - W20-2 SHALL BE 48" X 48".
 - D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-16-03 DATE /S/ Thomas N. Notbohm
CHIEF SIGNS AND MARKING ENGINEER
FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

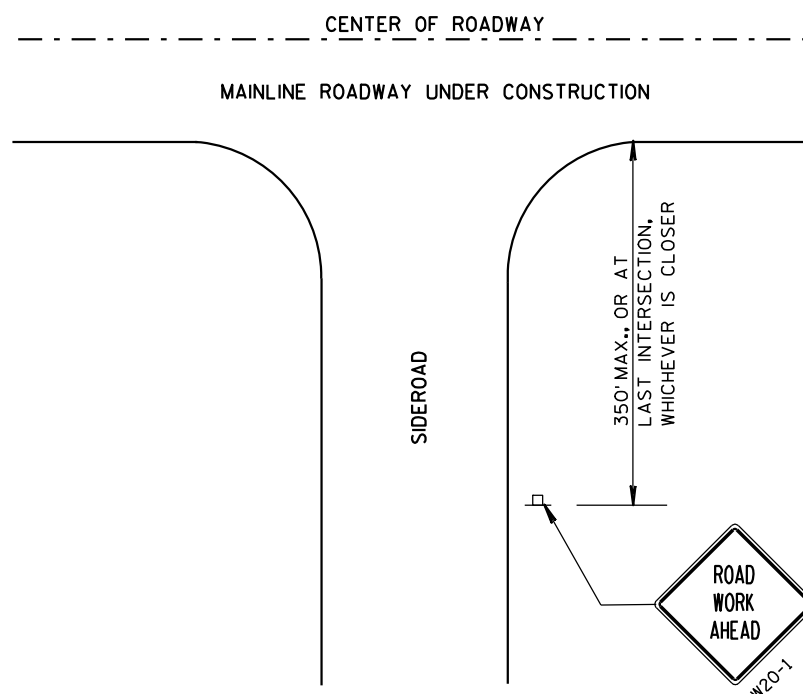
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

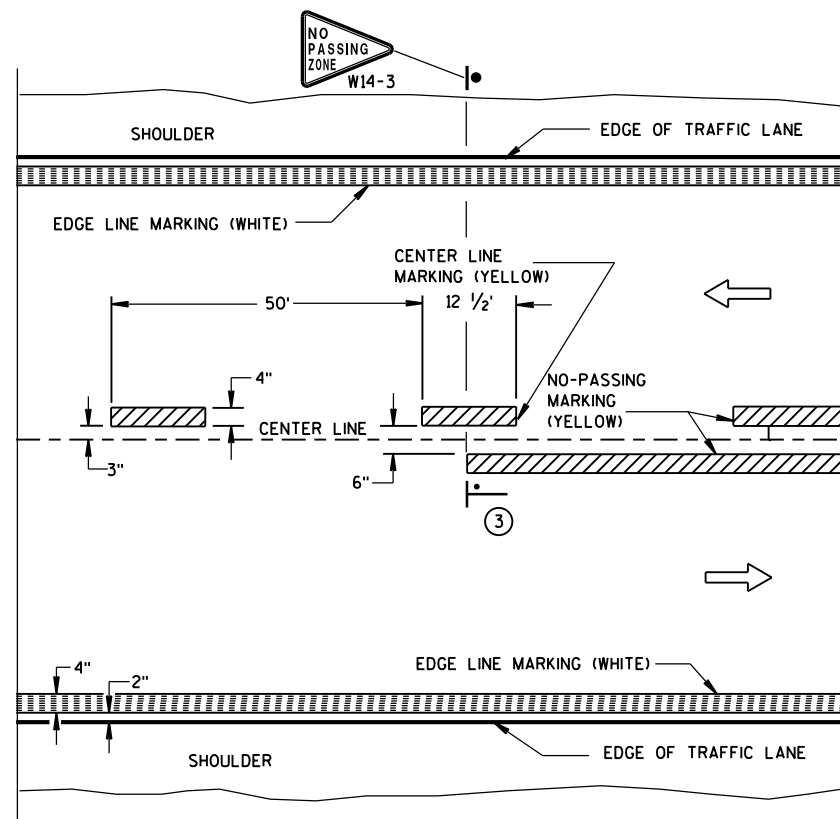
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



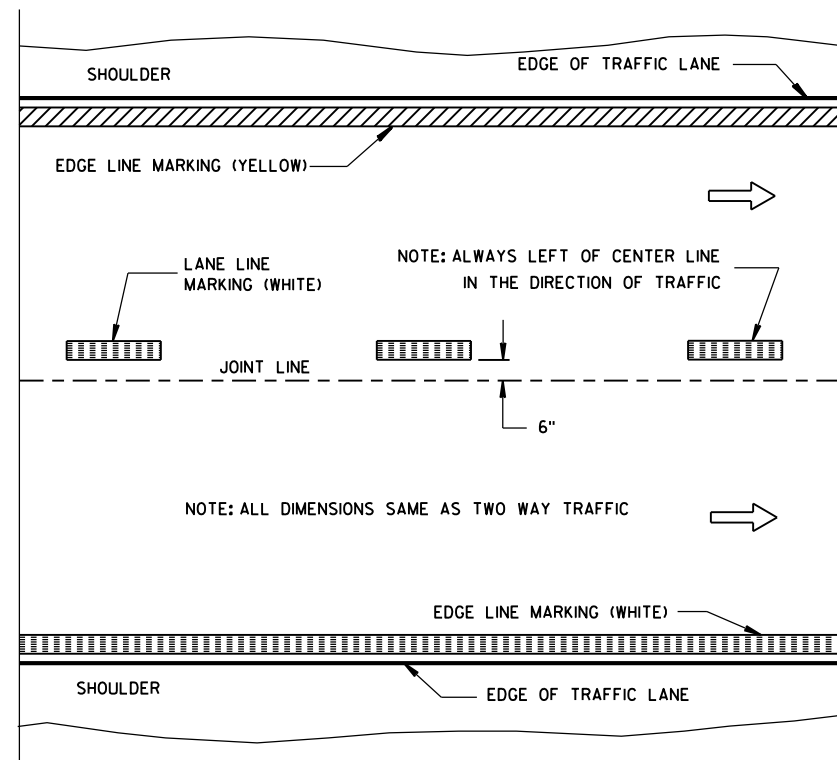
LEGEND

- POST MOUNTED SIGN
- ➡ DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/23/00 DATE	/S/ Chester J. Spang CHIEF SIGNS AND MARKING ENGINEER
FHWA	

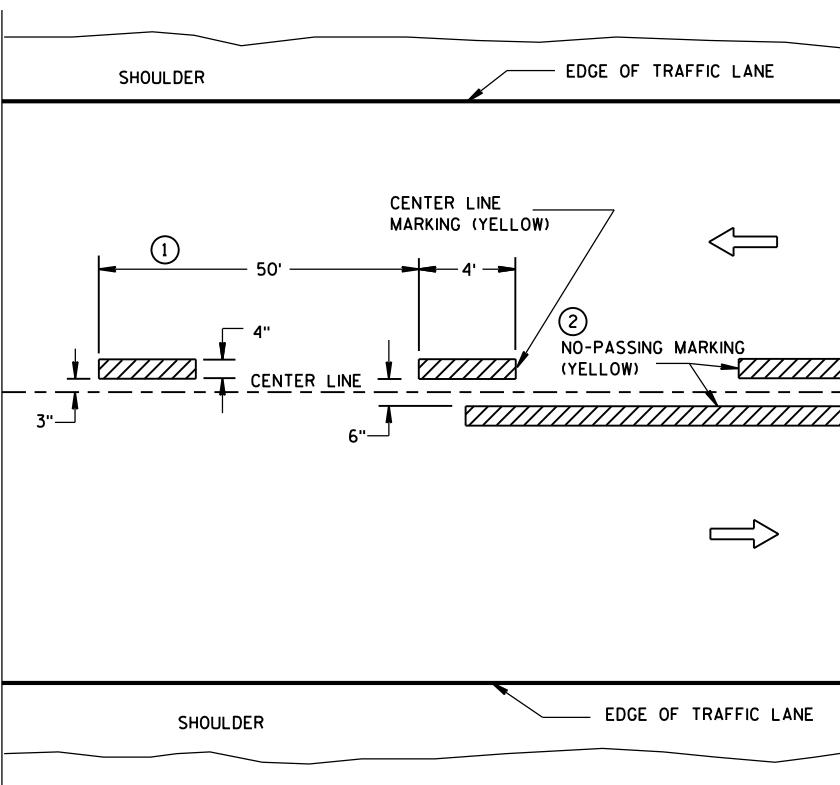


TWO WAY TRAFFIC

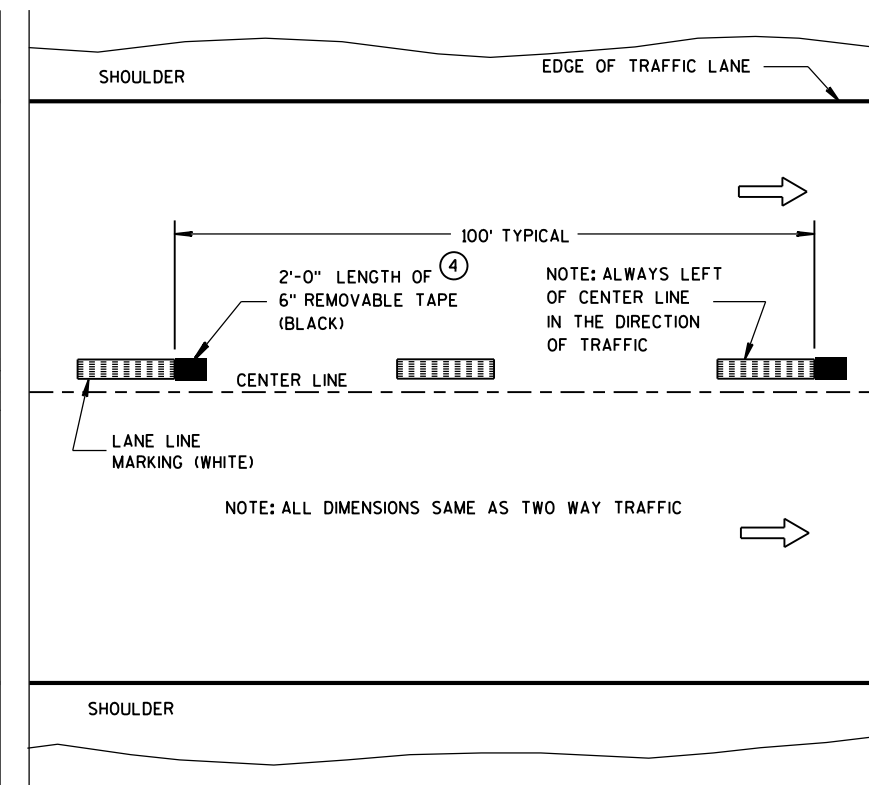


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

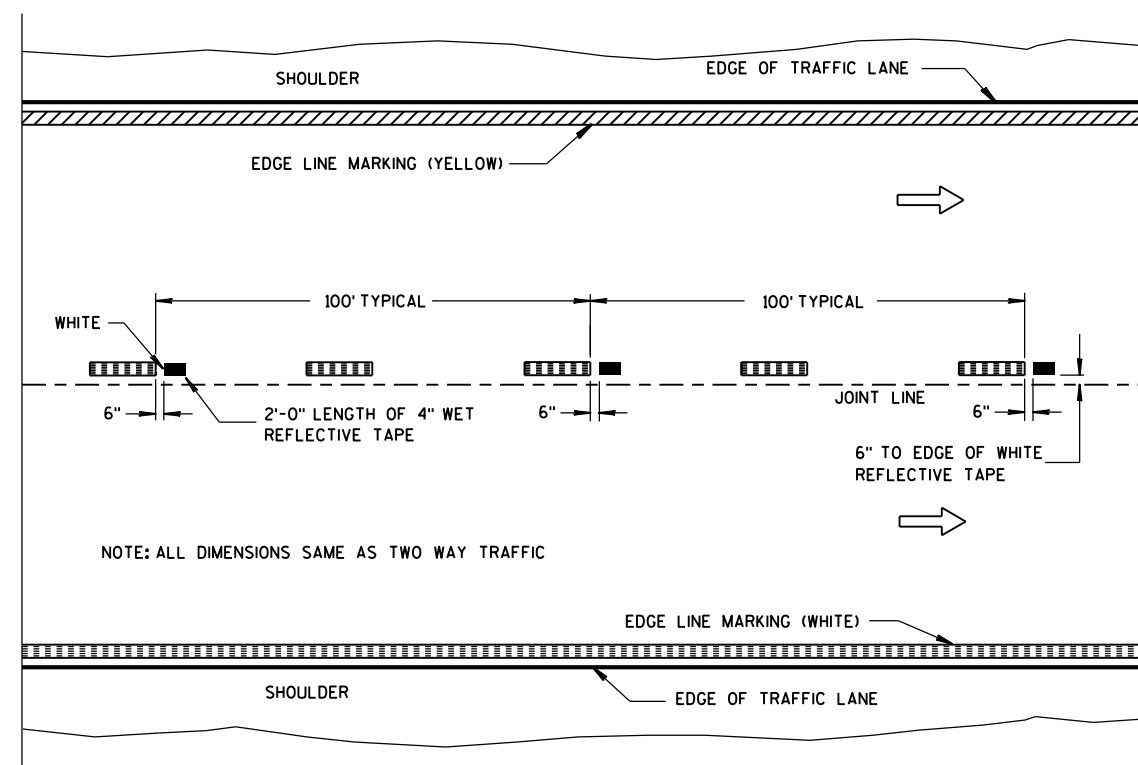
GENERAL NOTES

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

- ① HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

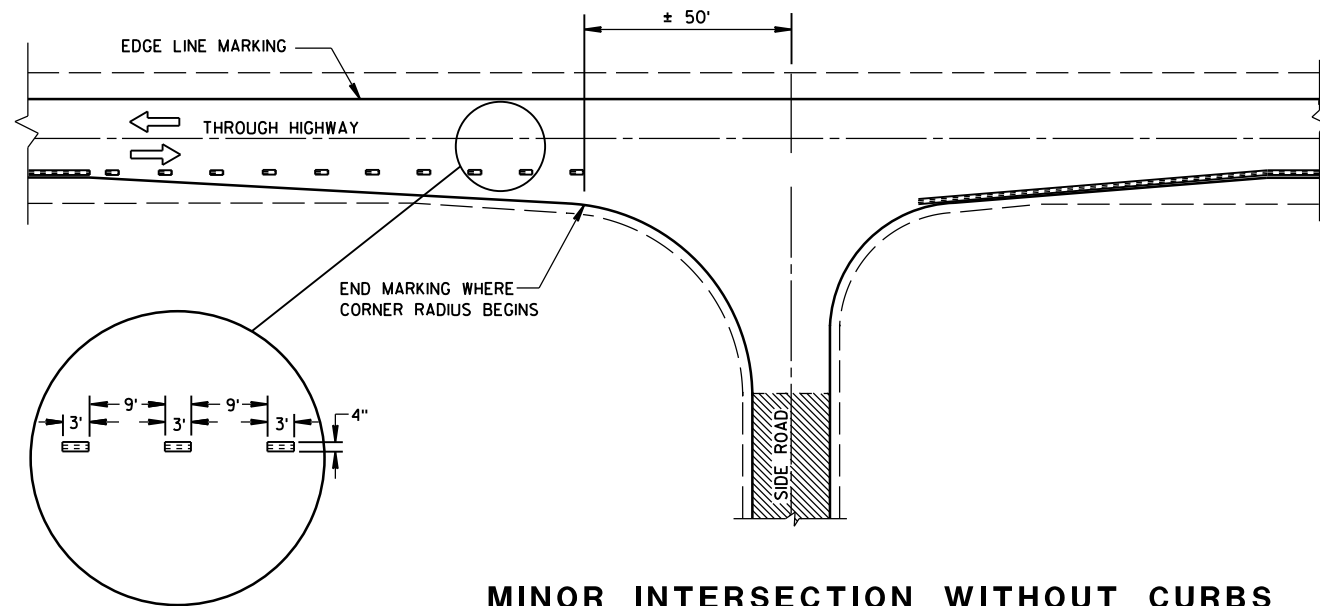
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

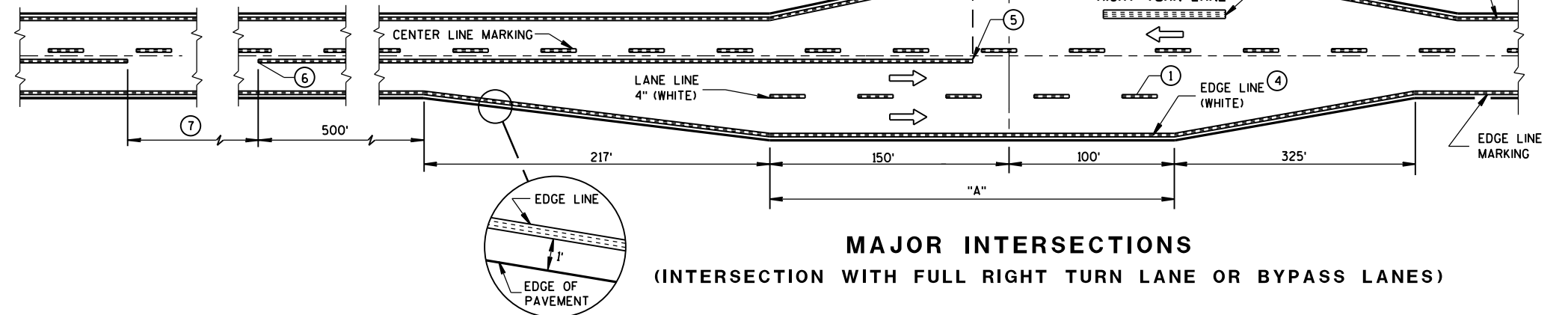
APPROVED
10-1-2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



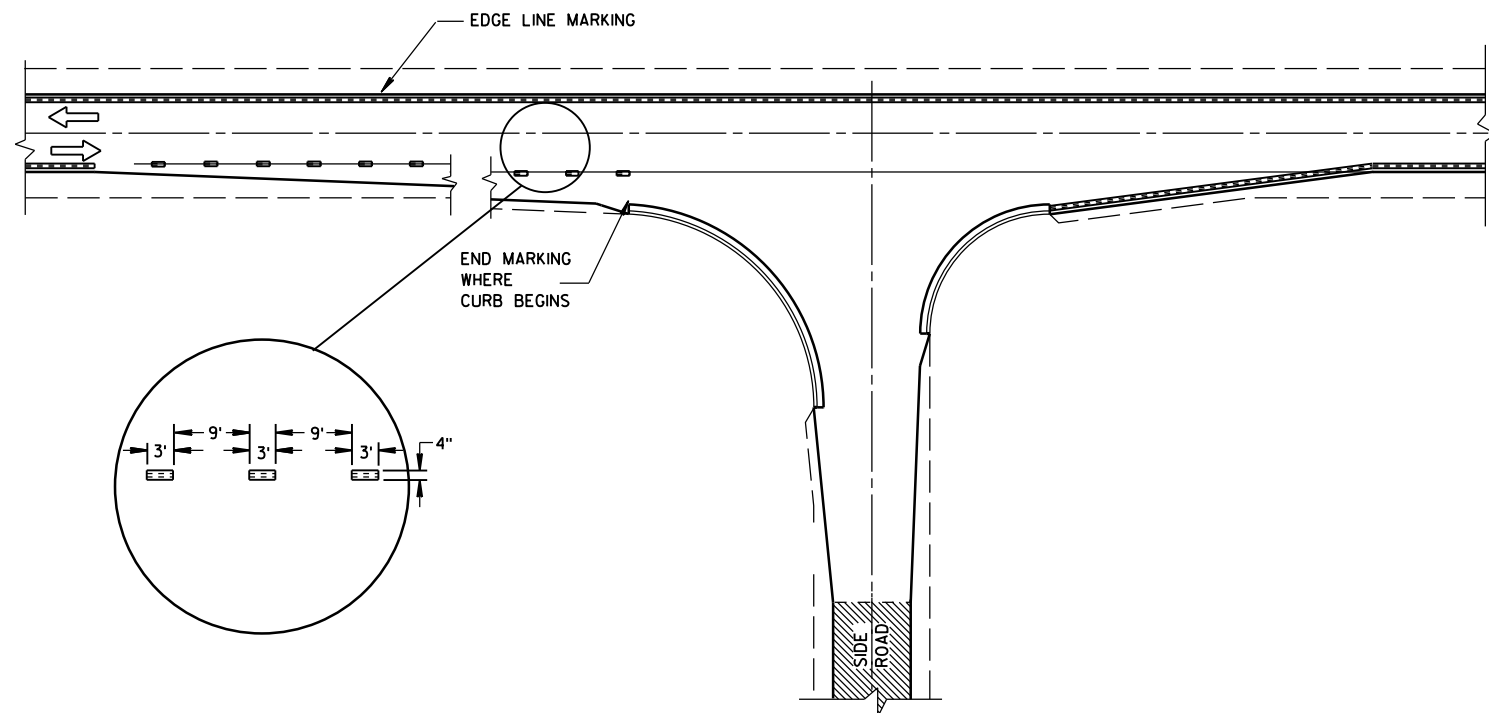
MINOR INTERSECTION WITHOUT CURBS

⑦

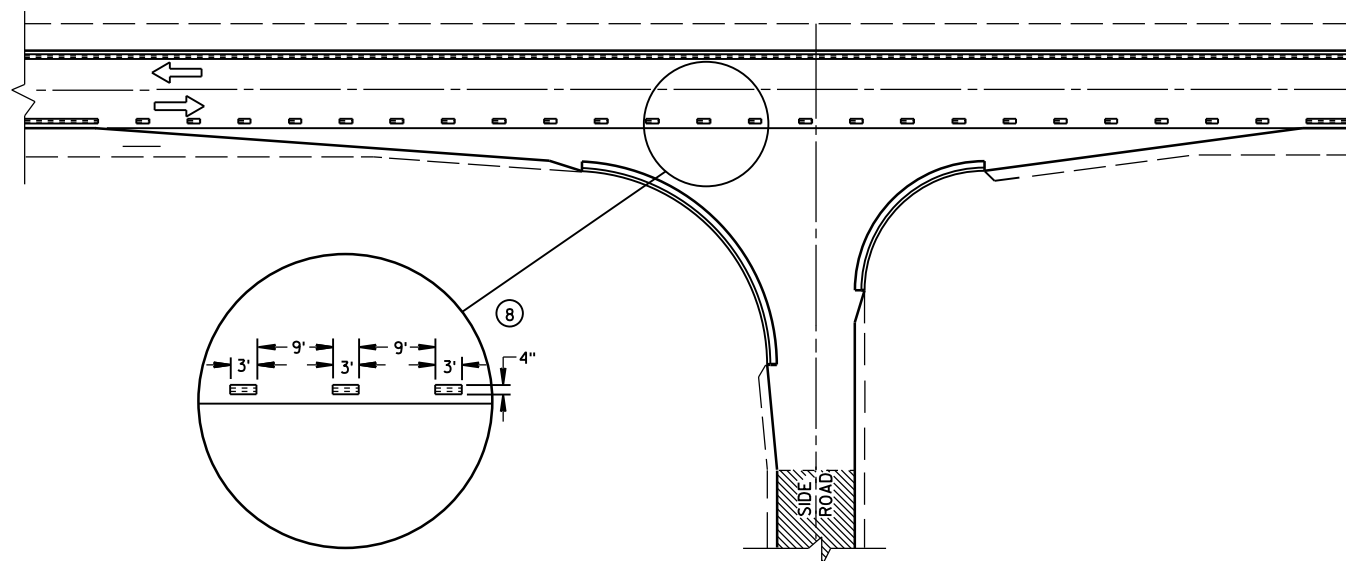
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

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

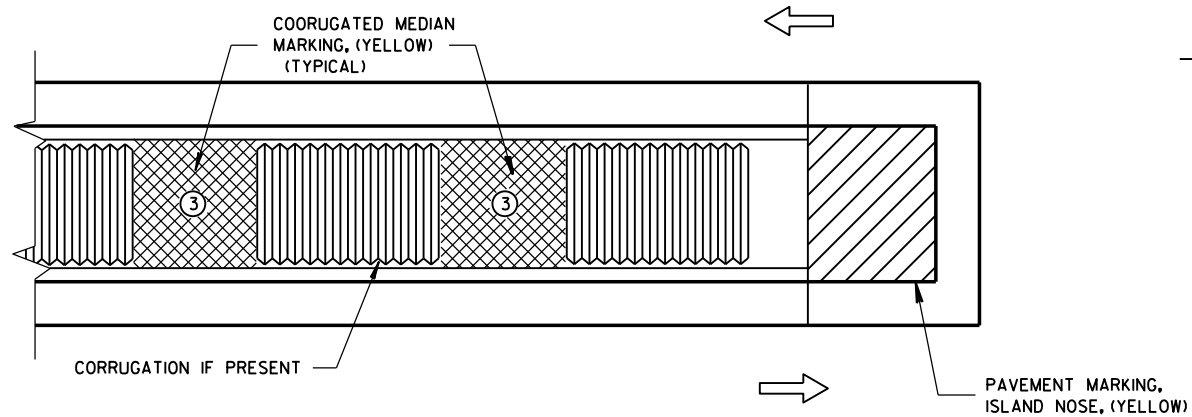
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
- ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

- ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
- ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
- ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

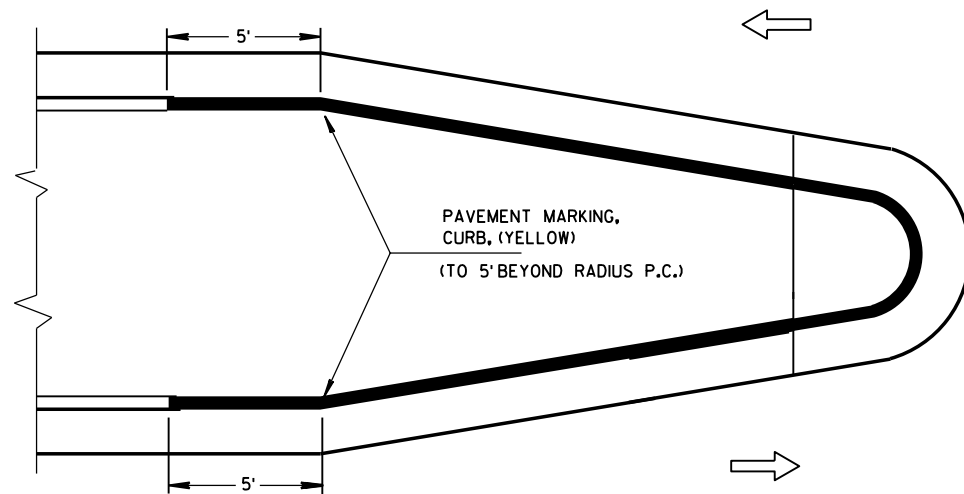
ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

PAVEMENT MARKING
(INTERSECTIONS)

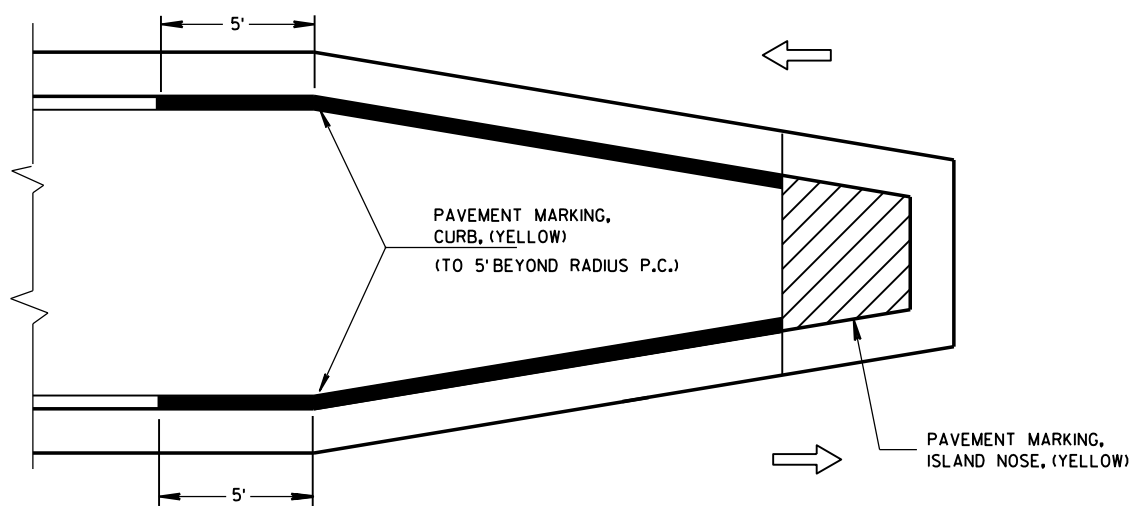
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

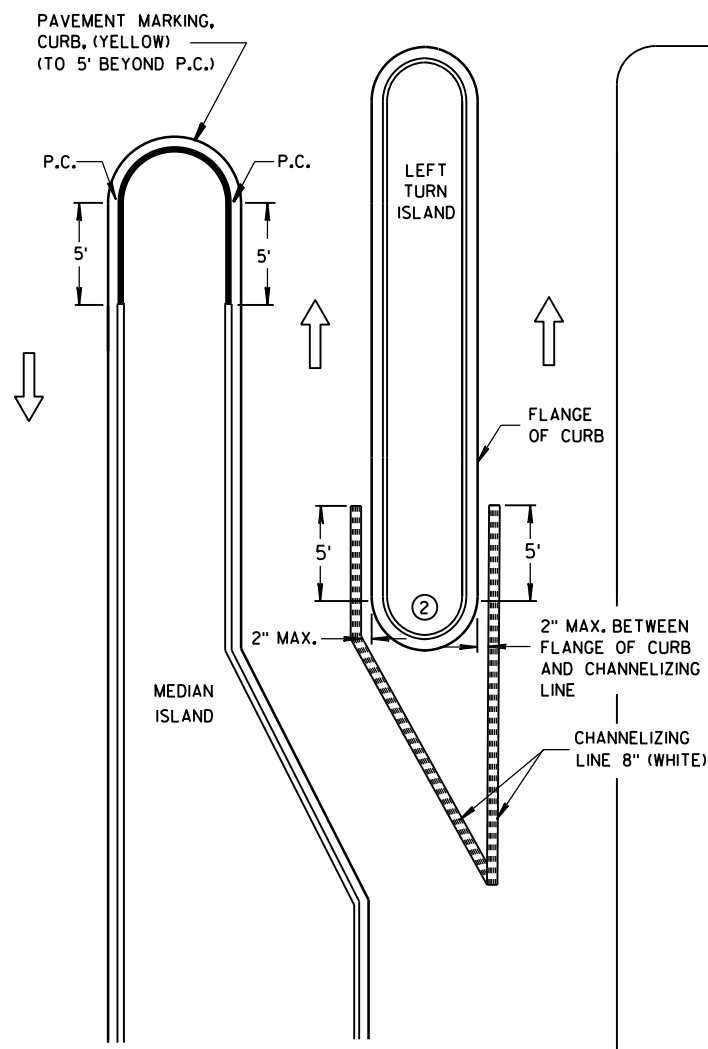


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

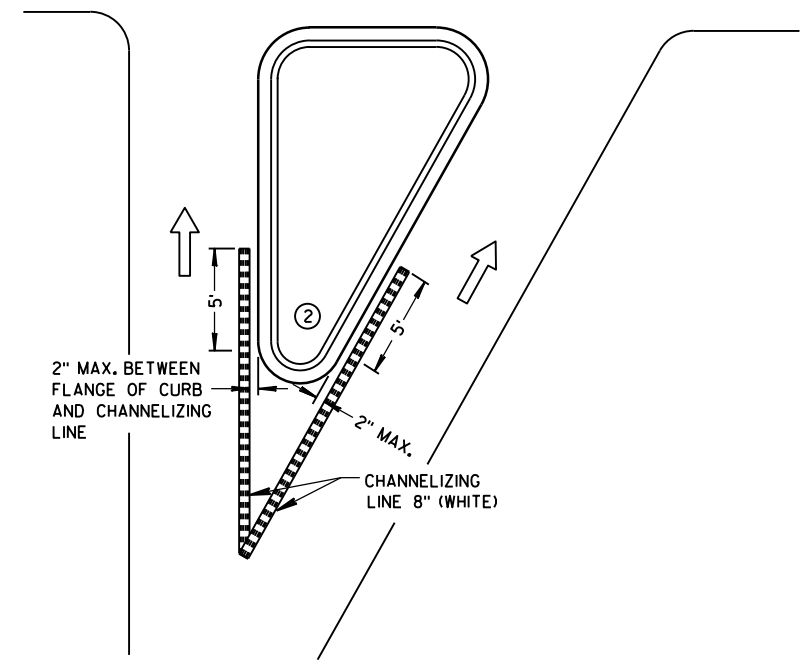
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



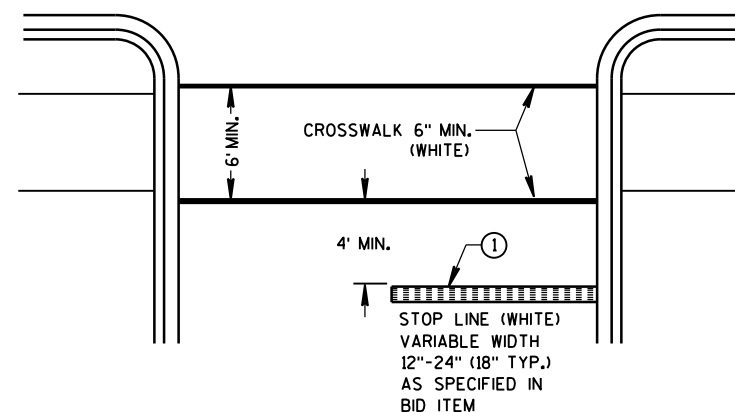
LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

- ① STOP LINE IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- ② DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
- ③ 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.



RIGHT TURN ISLAND



STOP LINE AND CROSSWALK

LEGEND

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

PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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

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

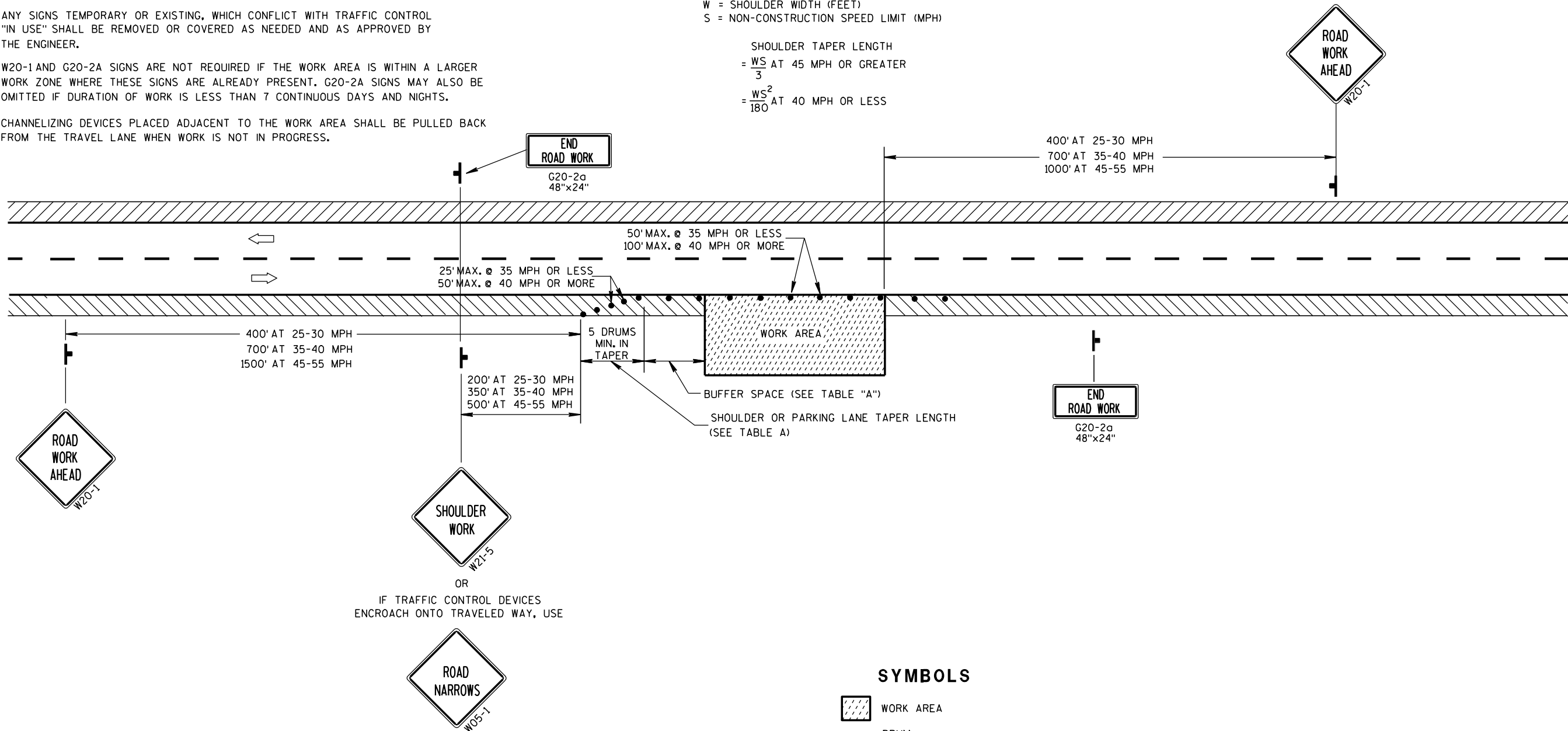
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

S \ W		SHOULDER TAPER LENGTH (FEET)				BUFFER SPACE (FEET)
		4	6	8	10	
30	20	30	40	50		85
35	30	45	55	70		120
40	40	55	75	90		170
45	60	90	120	150		220
50	70	100	135	170		280
55	75	110	150	185		335

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

SHOULDER TAPER LENGTH
= $\frac{WS}{3}$ AT 45 MPH OR GREATER
= $\frac{WS^2}{180}$ AT 40 MPH OR LESS



SYMBOLS

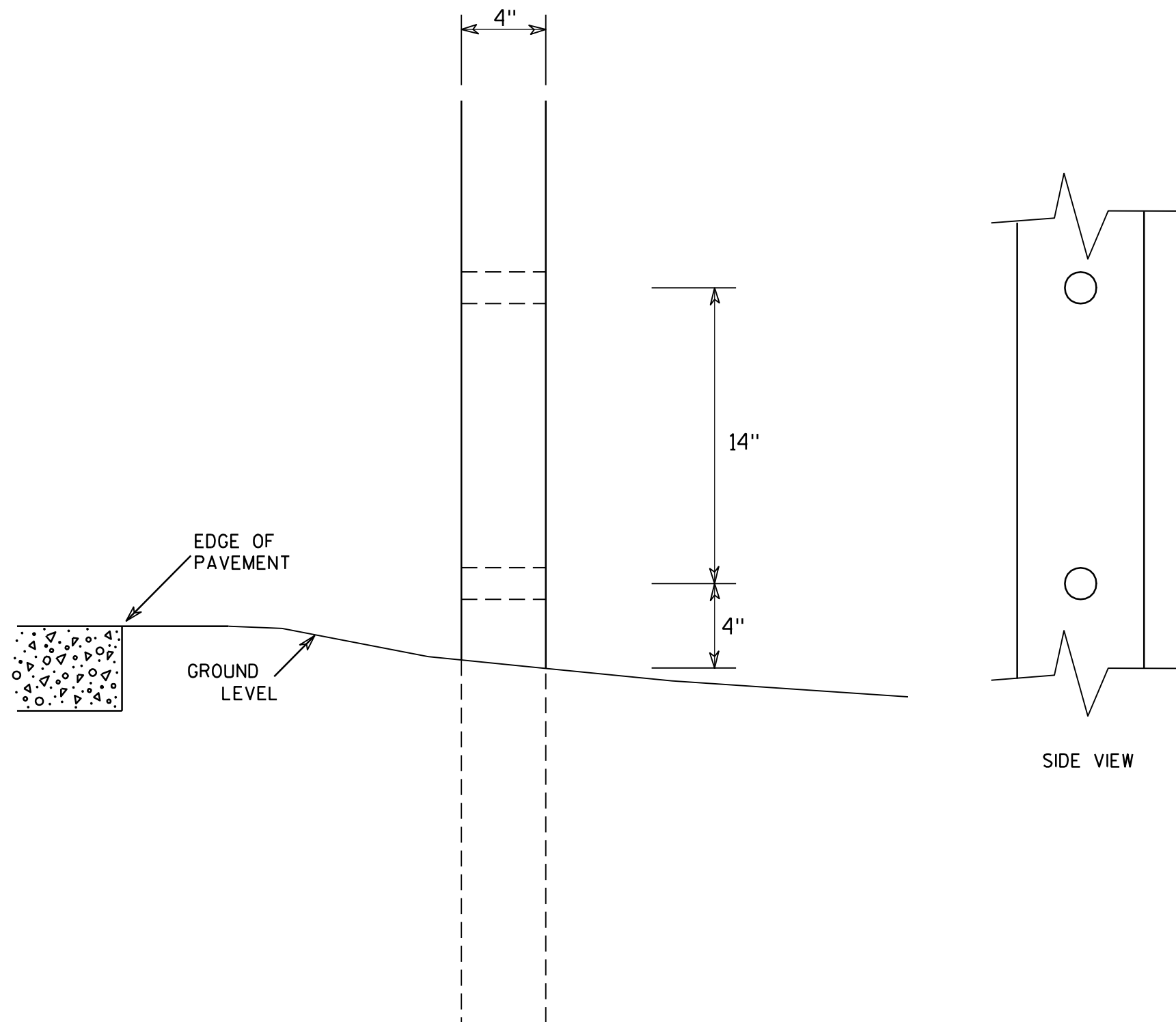
- WORK AREA
- DRUM
- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 /S/ Chester J. Spang
DATE CHIEF SIGNS AND MARKING ENGINEER
FHWA

7

GENERAL NOTES

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

7

**4 X 6 WOOD POST
MODIFICATIONS**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

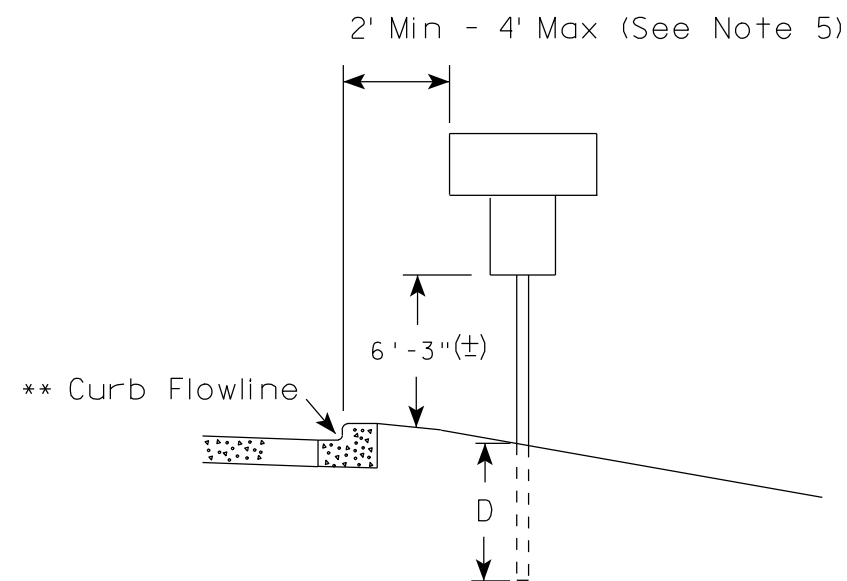
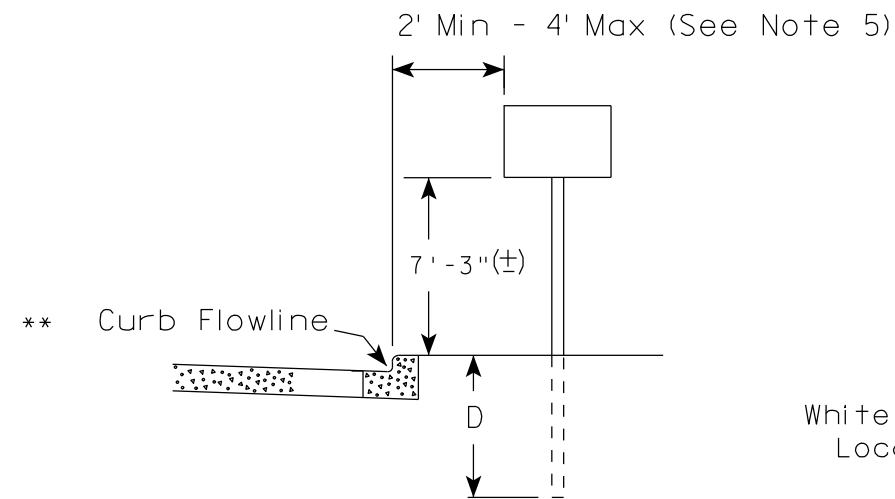
HWY:

COUNTY:

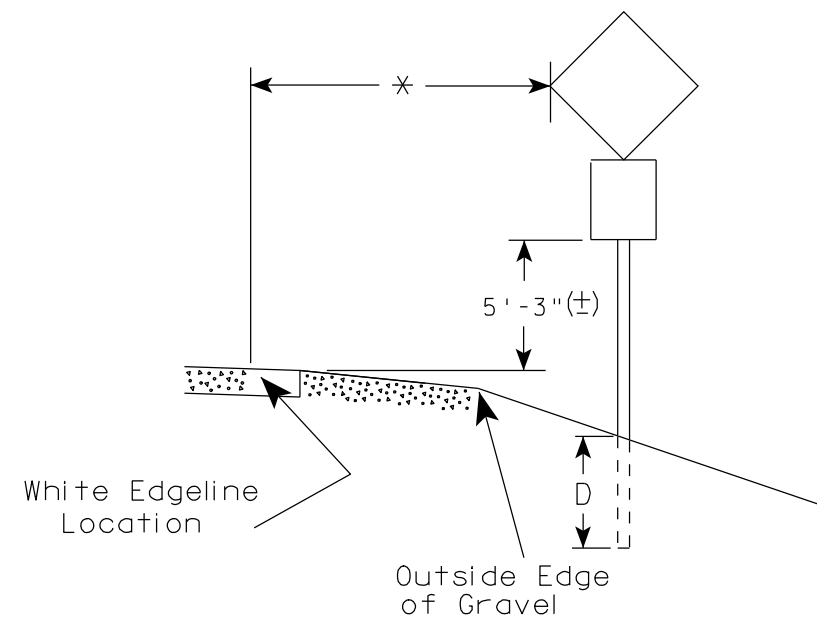
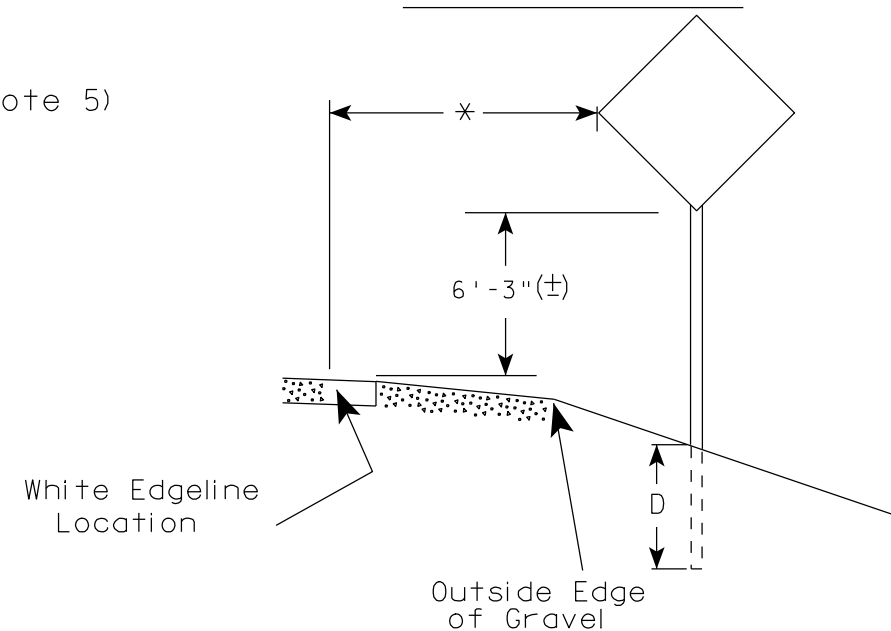
SHEET NO:

E

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'-3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

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 9/21/2011 PLATE NO. A4-3.16

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

GENERAL NOTES

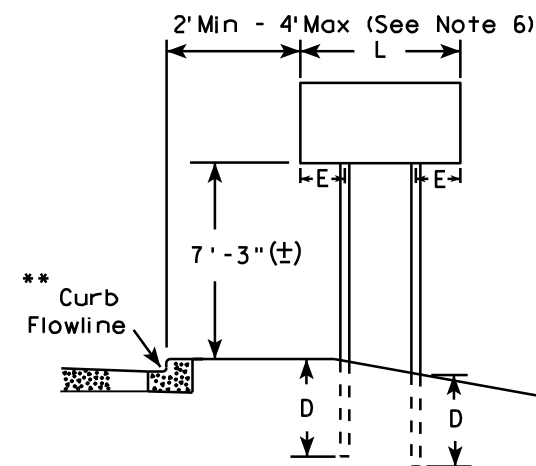
- For multiple post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4"-3" (±).

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

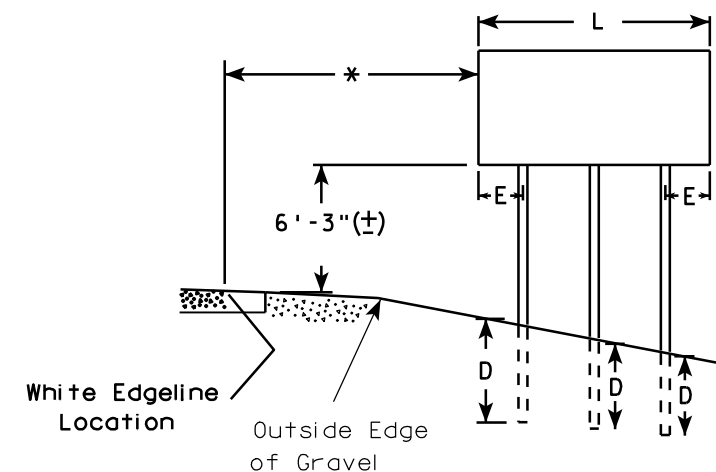
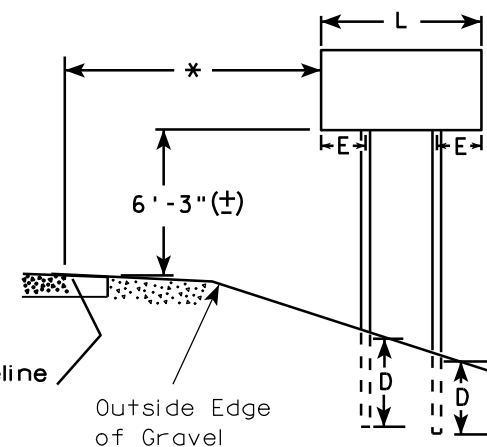
** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width or 20 S.F. or less in area.

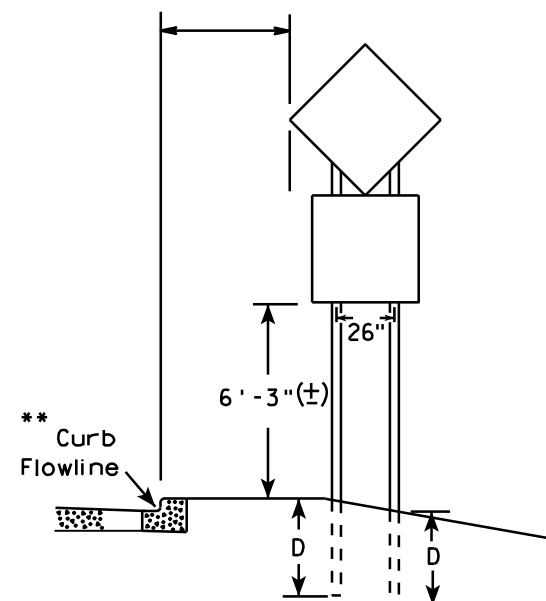
URBAN AREA



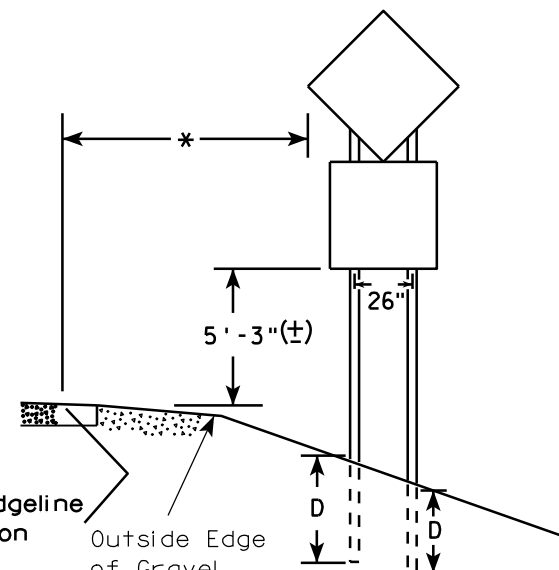
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)

L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)

L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)

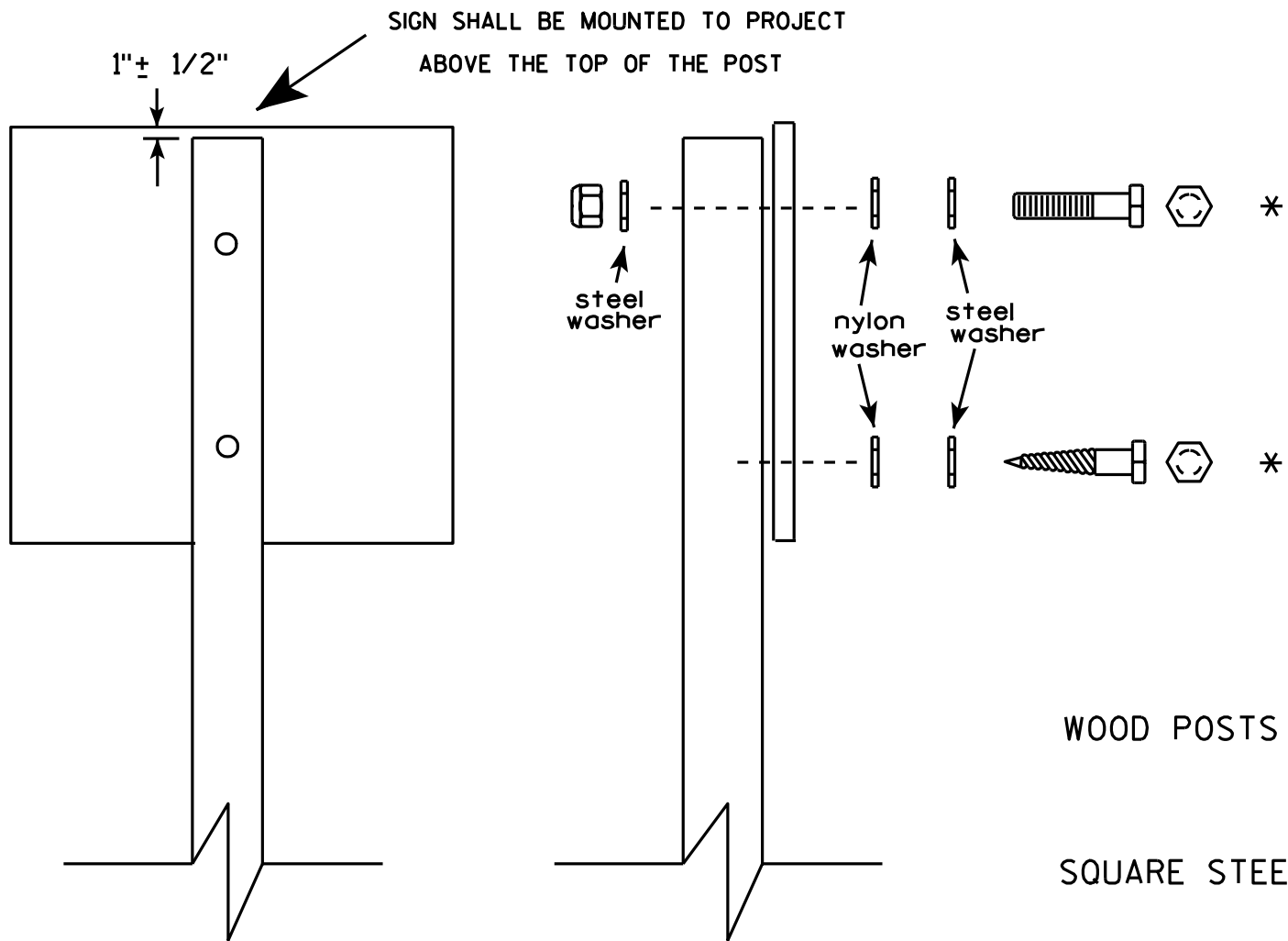
L	E
168" and greater	12"

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 9/21/2011 PLATE NO. A4-4.11

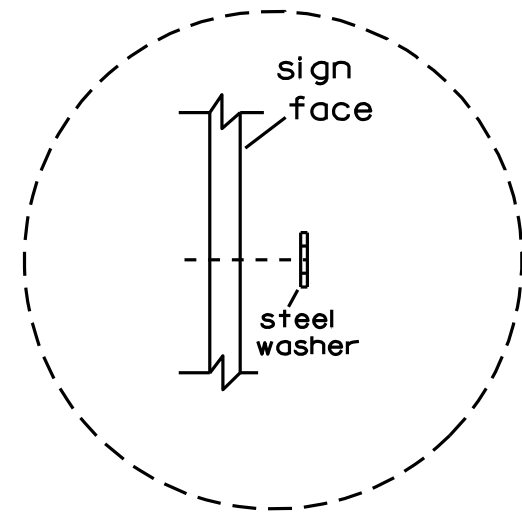


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

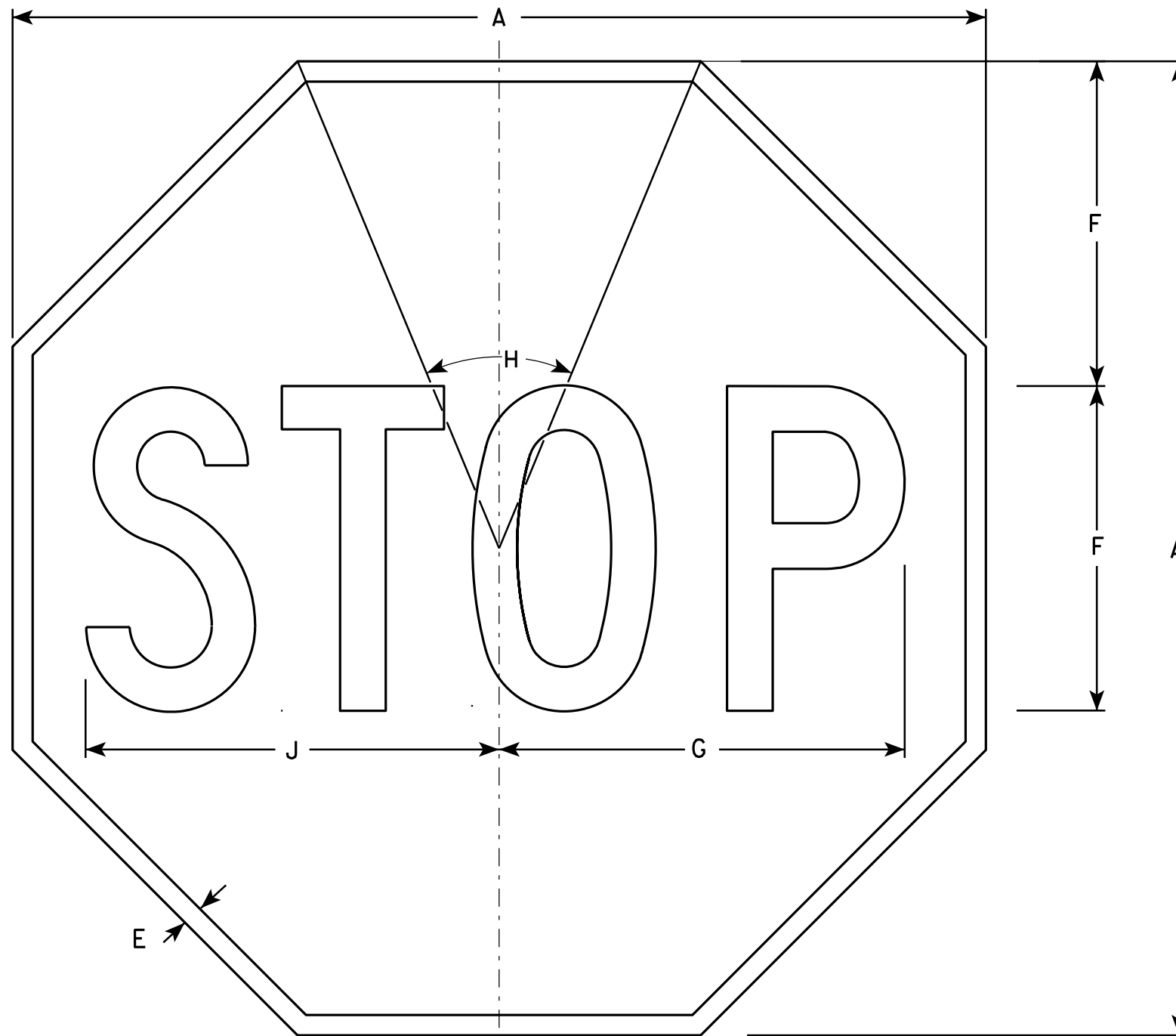
- WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



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

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Red
Message - White
3. Message Series - C

R1-1

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

STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

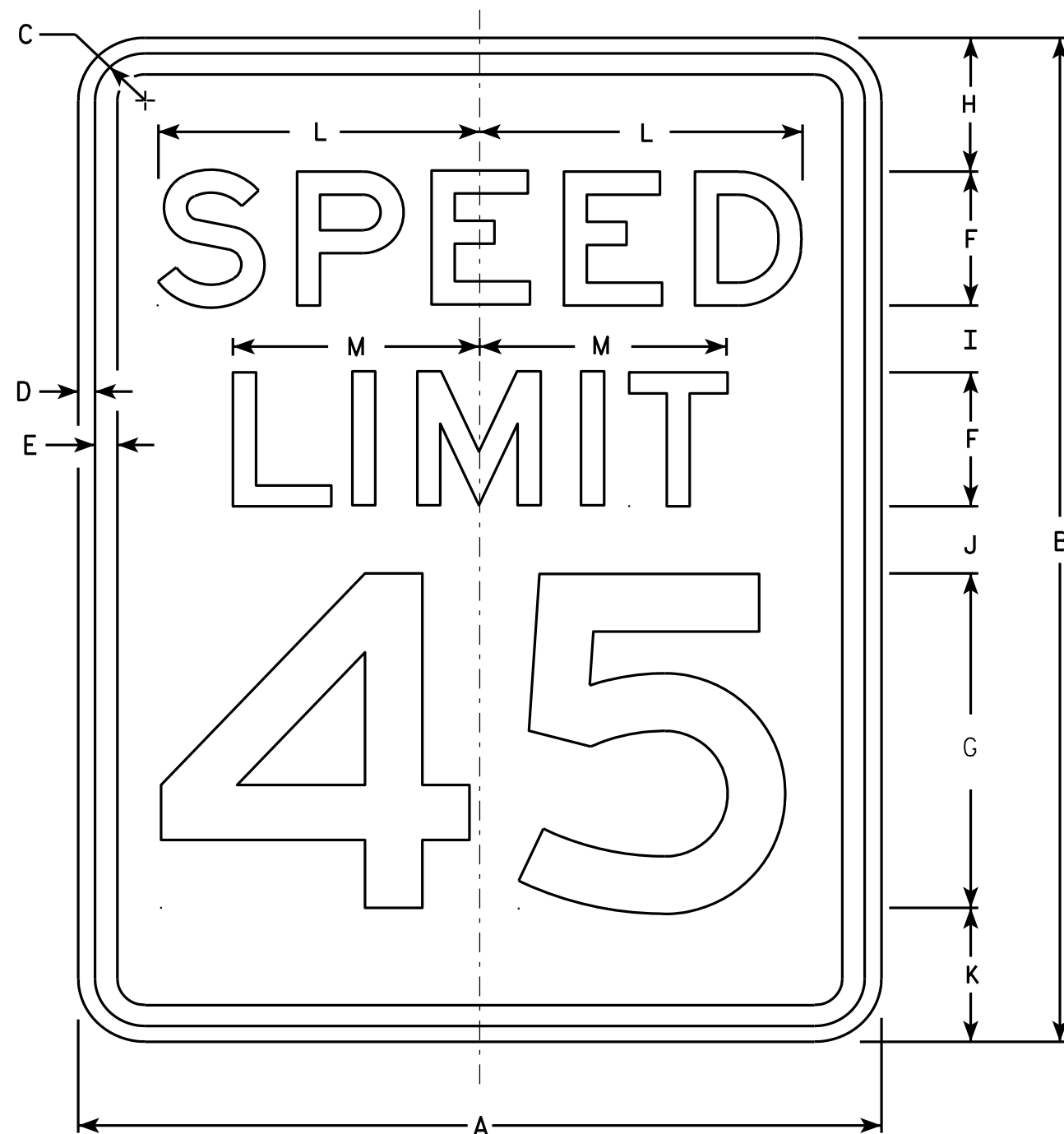
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



R2-1

NOTES

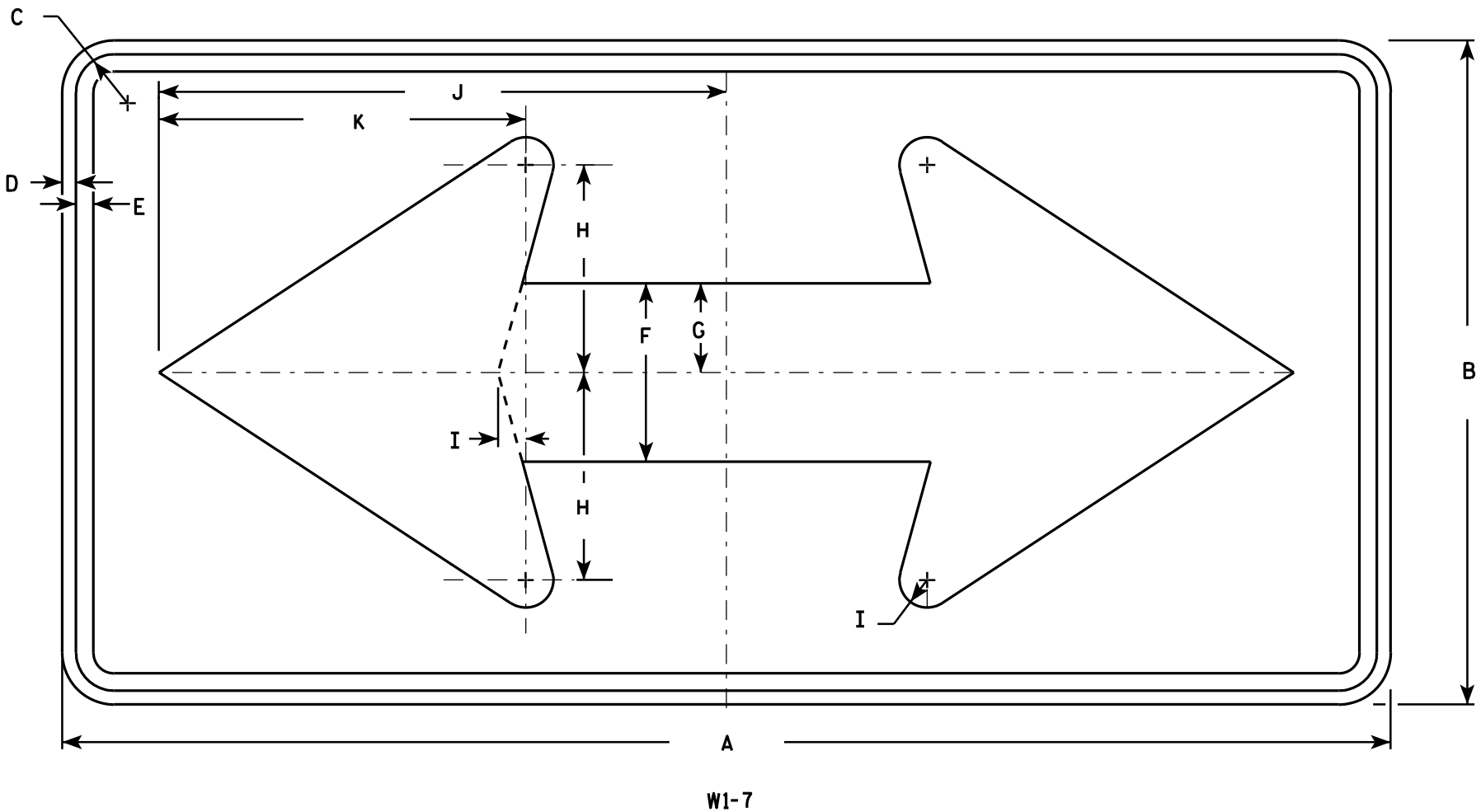
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN R2-1

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: E



NOTES

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

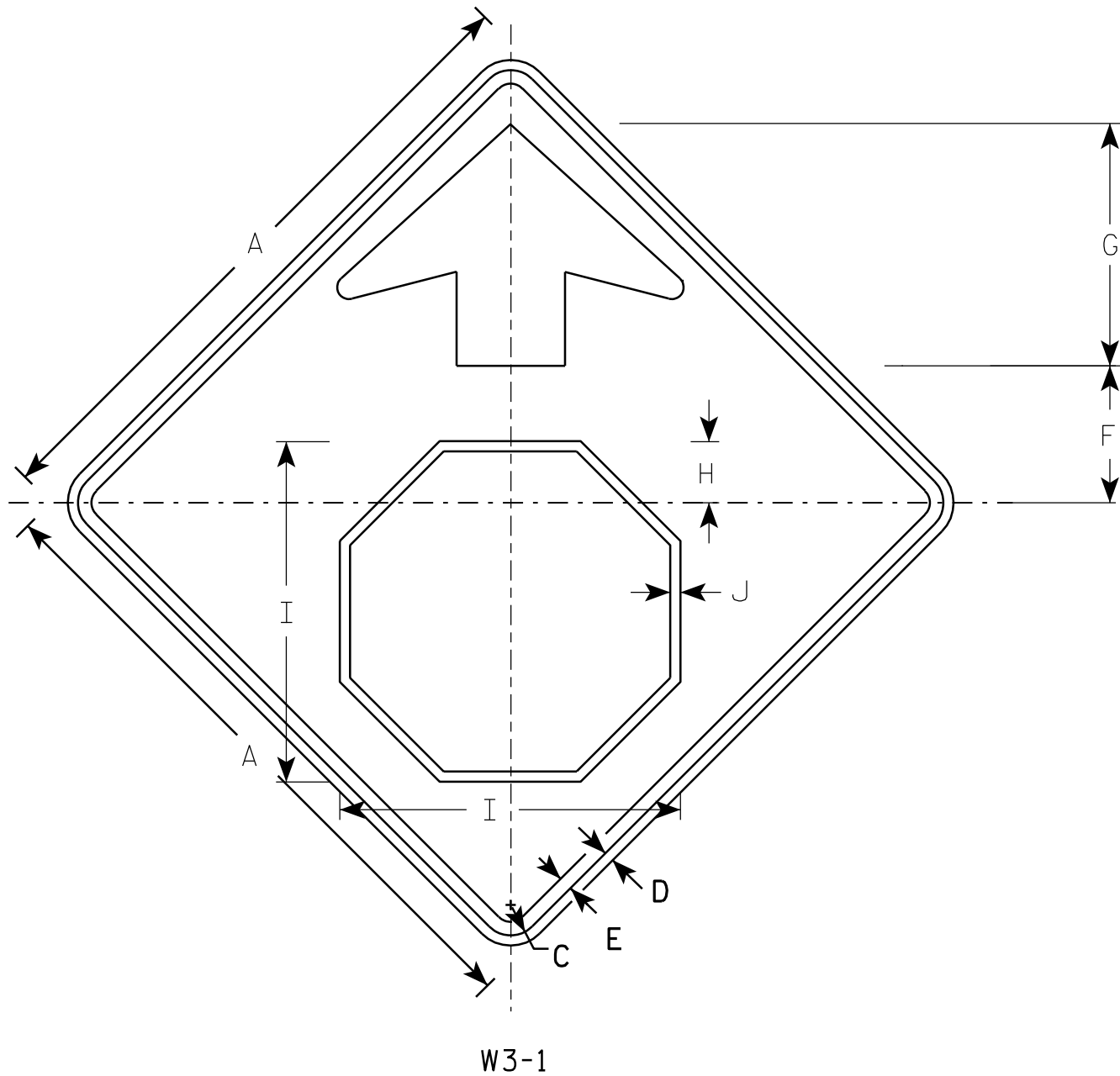
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

STANDARD SIGN
W1 - 7

WISCONSIN DEPT OF TRANSPORTATION

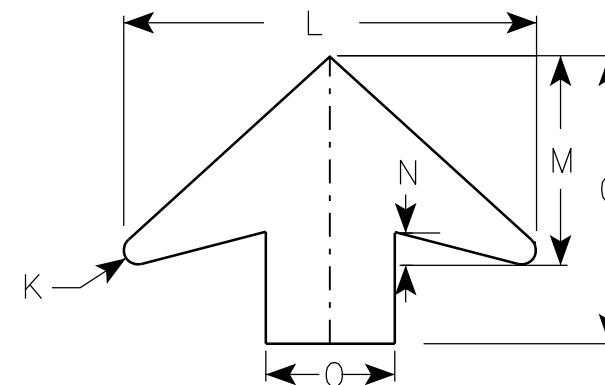
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7



NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Arrow & Border - BLACK
Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

PROJECT NO:

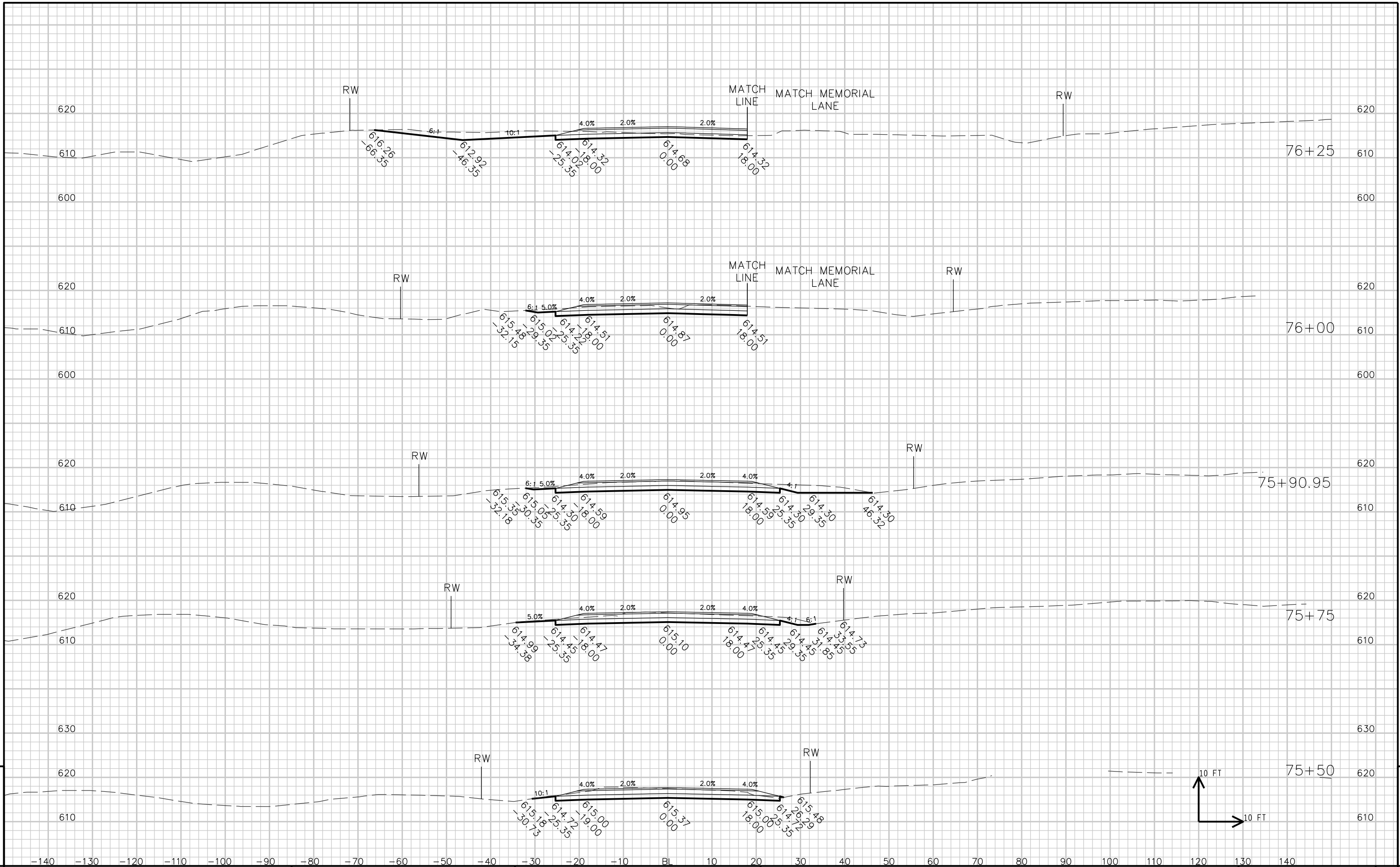
STANDARD SIGN
W3-1

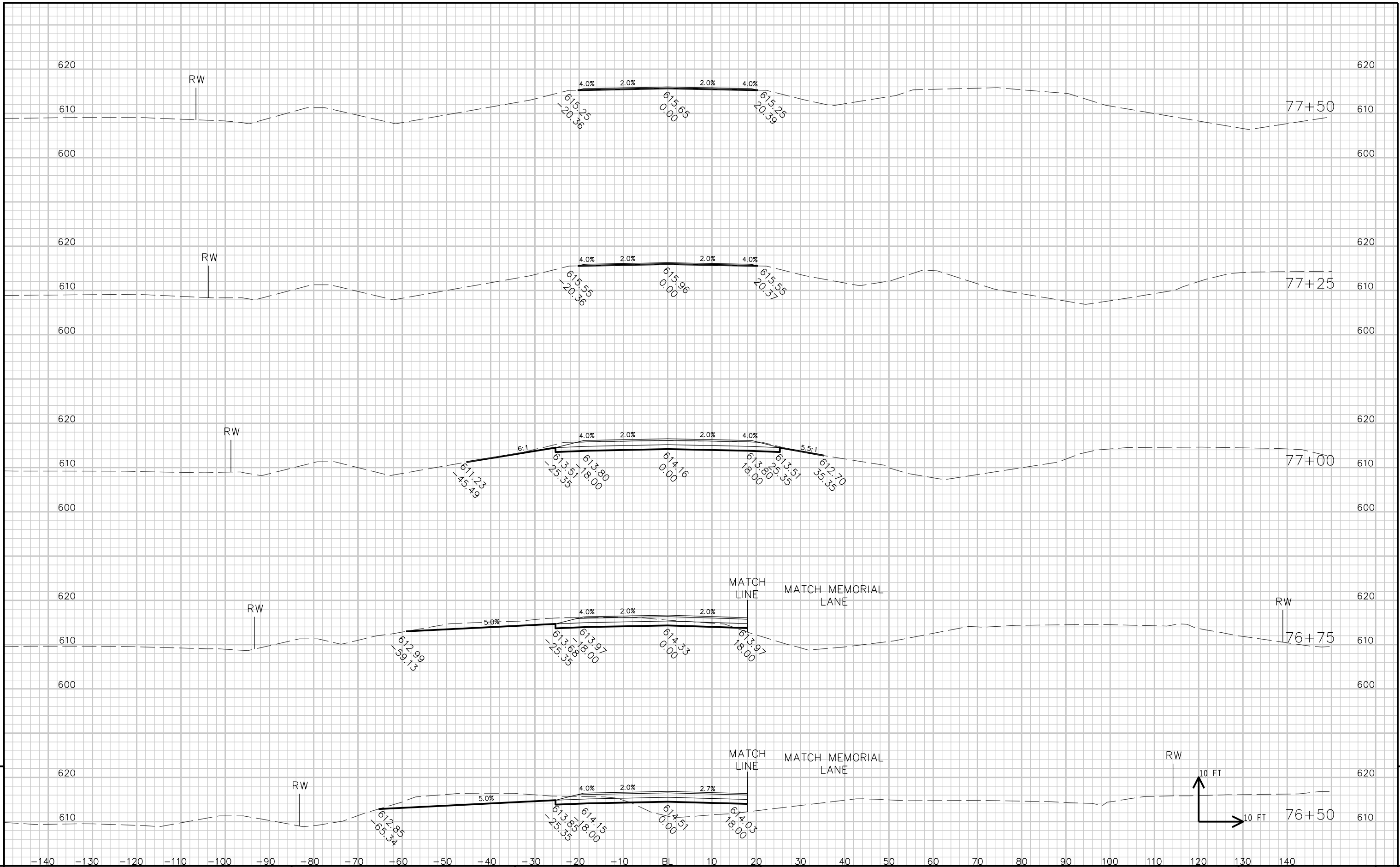
WISCONSIN DEPT OF TRANSPORTATION

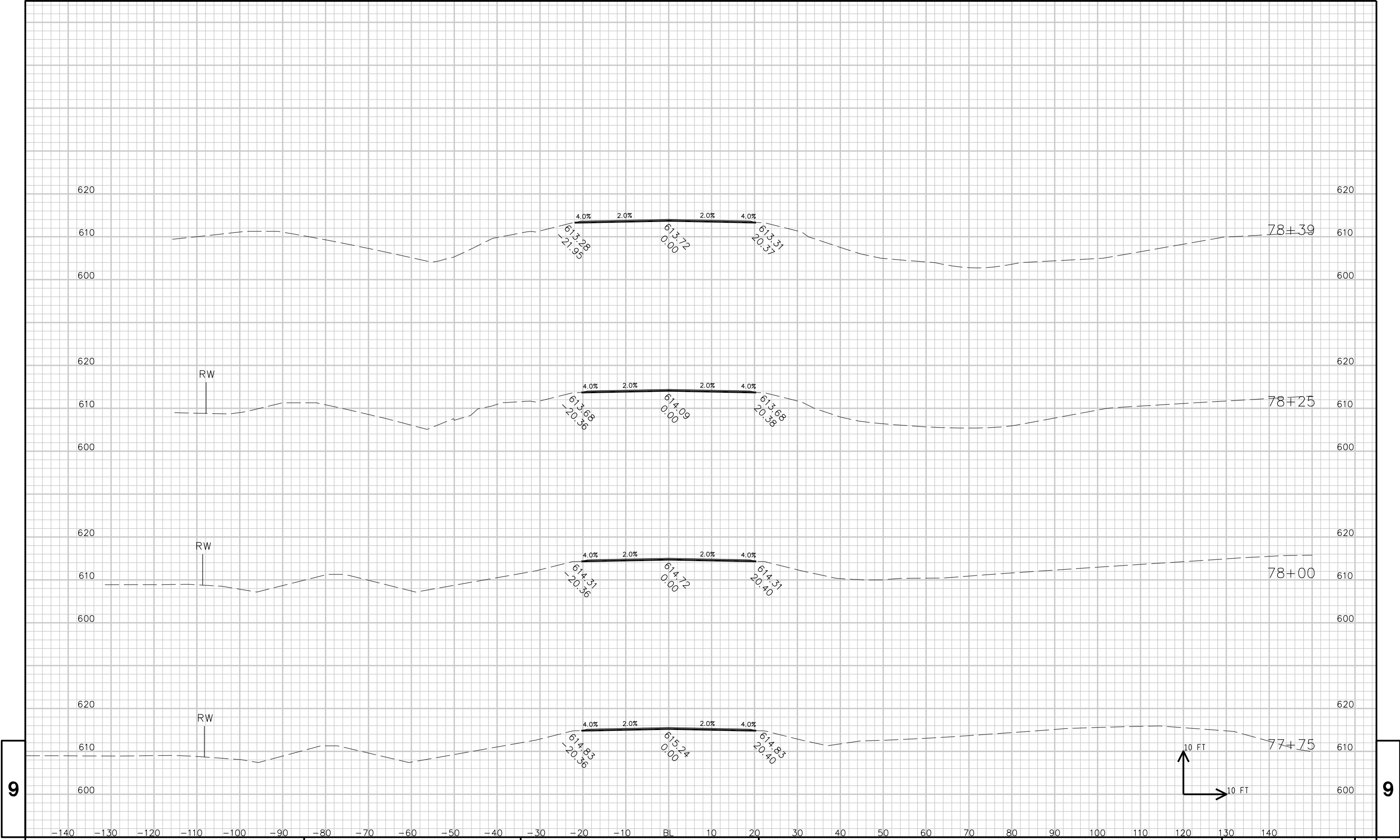
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W3-1.12

SHEET NO:

E

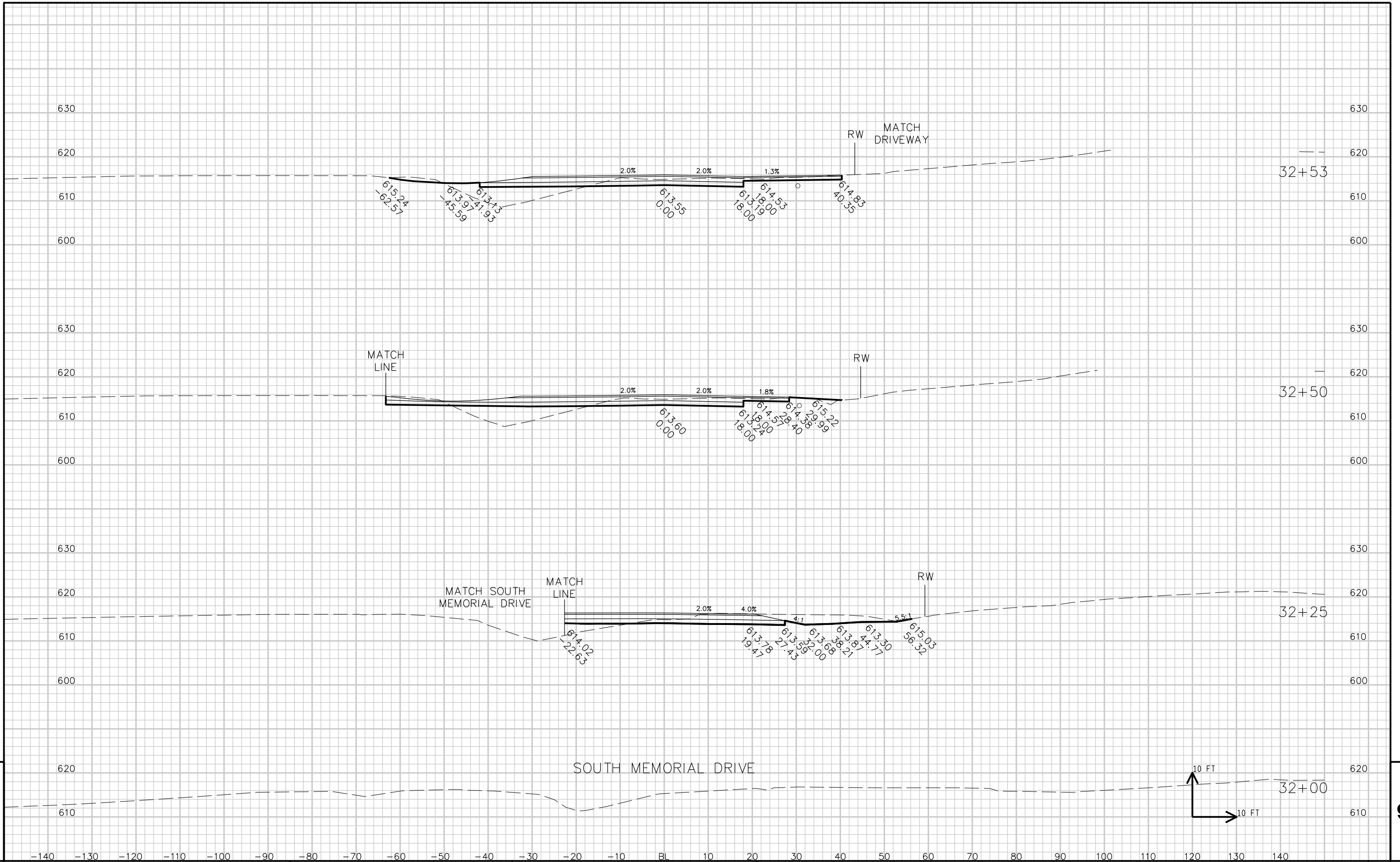


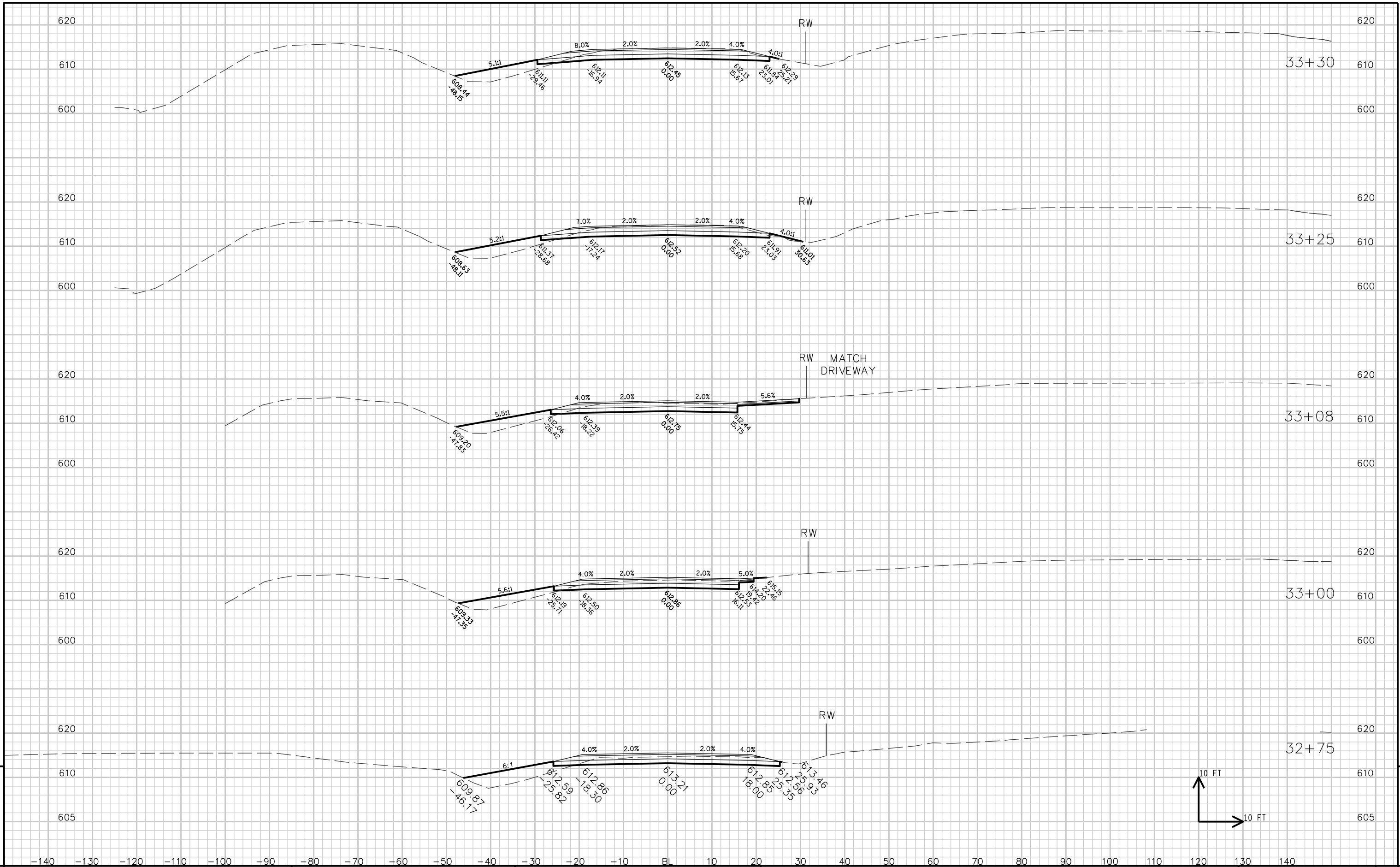




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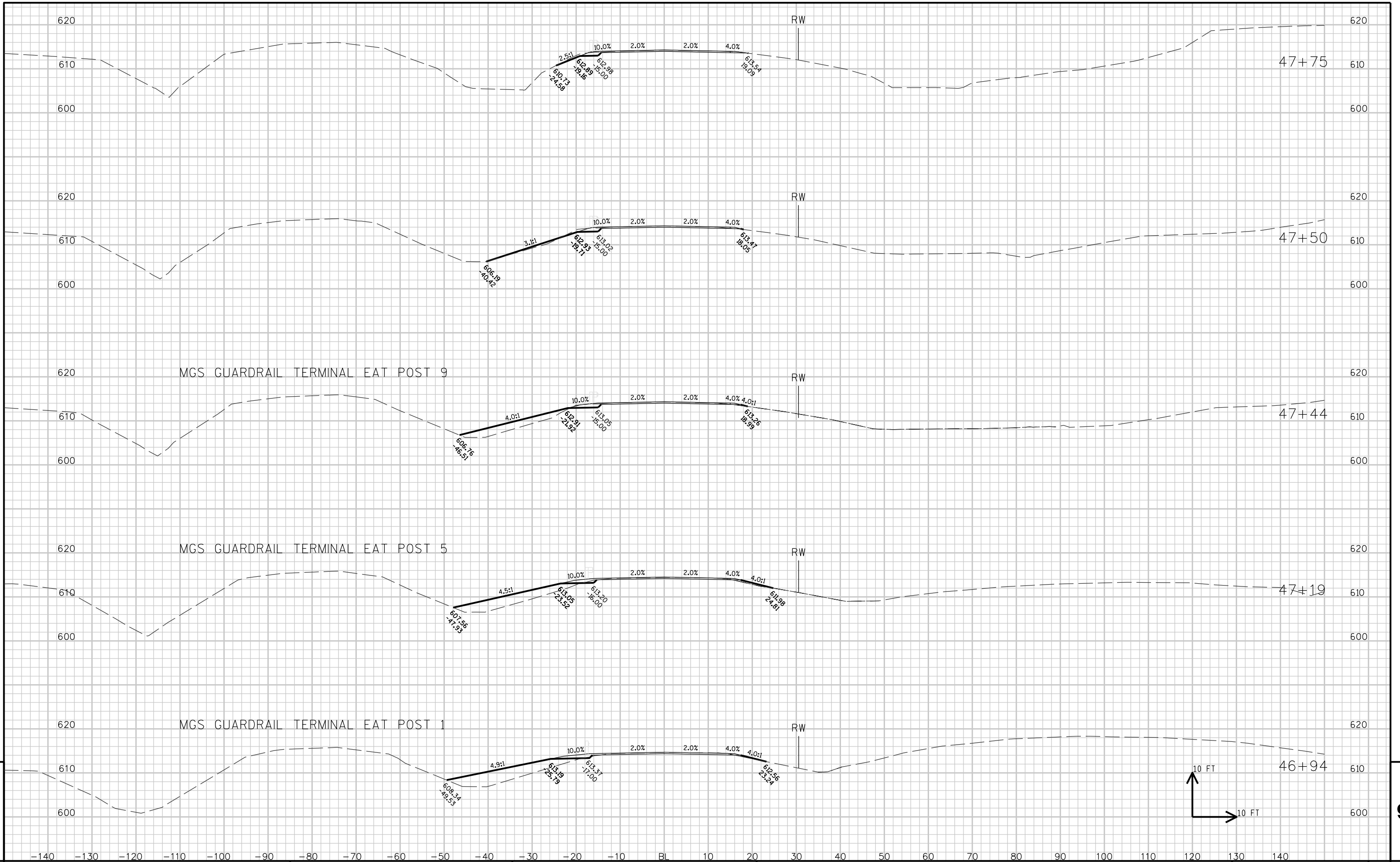
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9

9



PROJECT NO: 9202-08-76

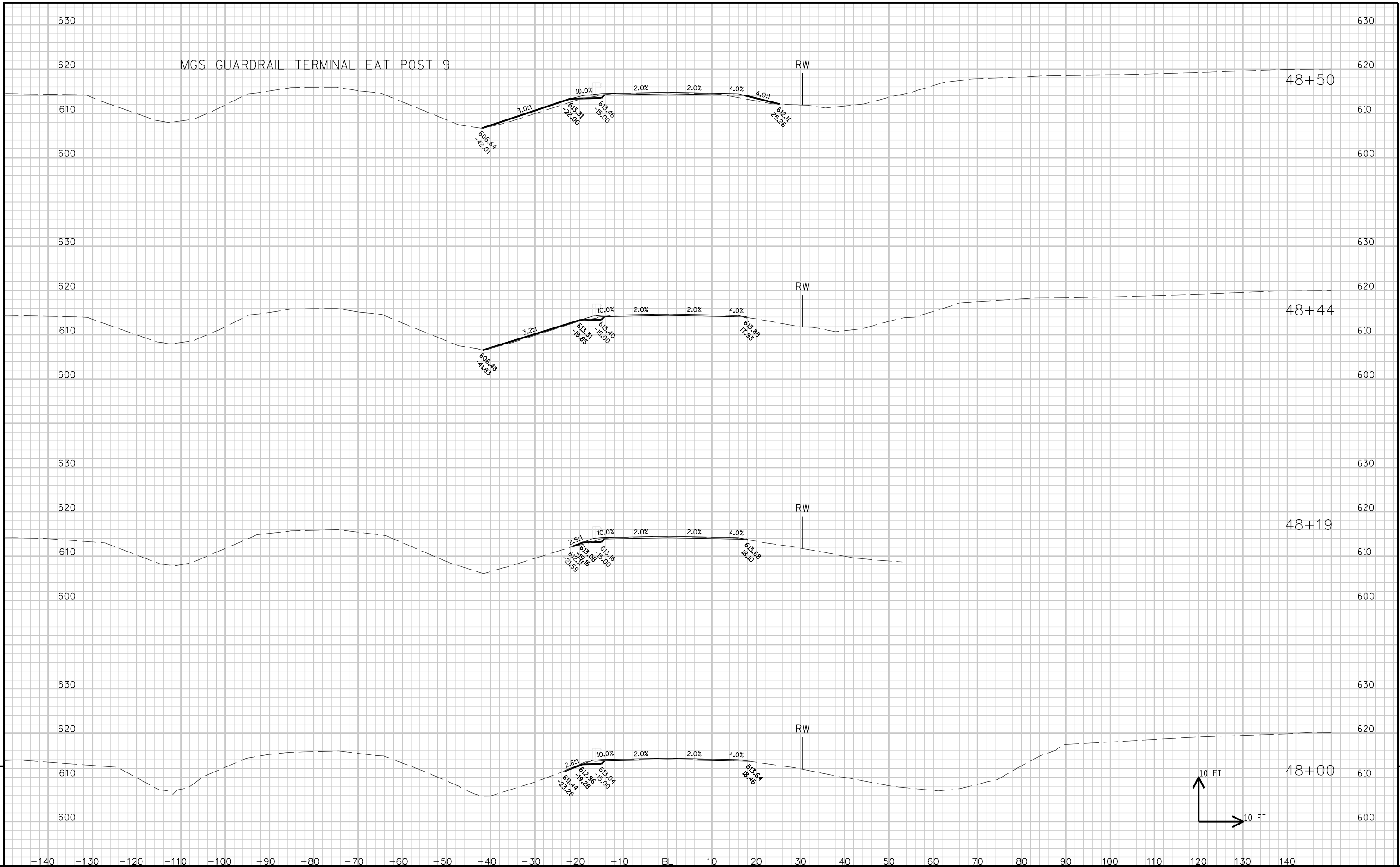
HWY: STH 29/USH 41

COUNTY: BROWN

CROSS SECTIONS: MEMORIAL LANE (SM)

SHEET

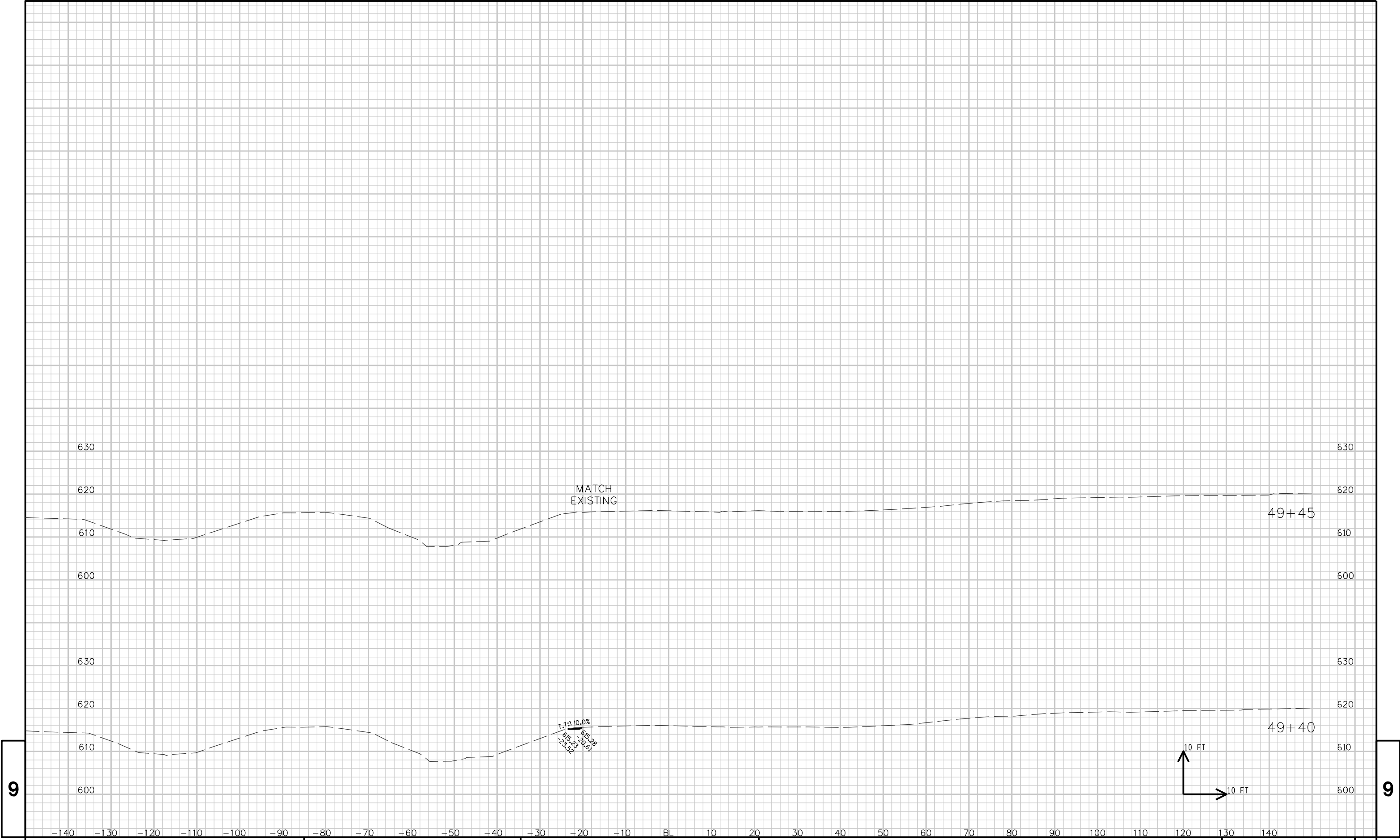
E

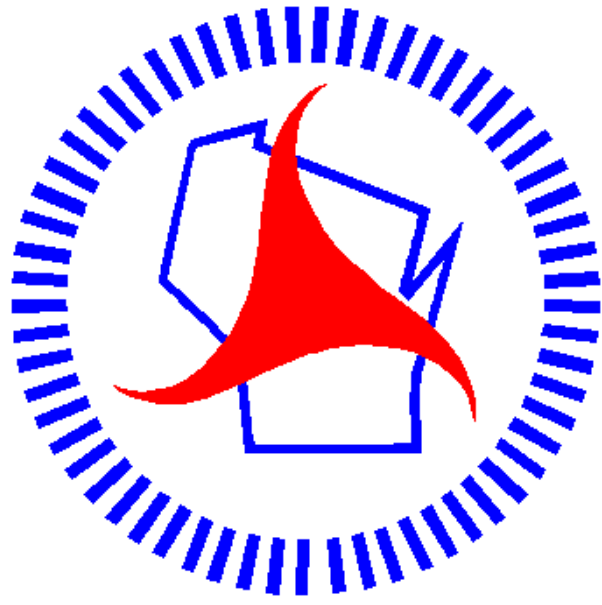


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9







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