LAX

Dec 14, 2021

PROJECT ID: 5160-07-71

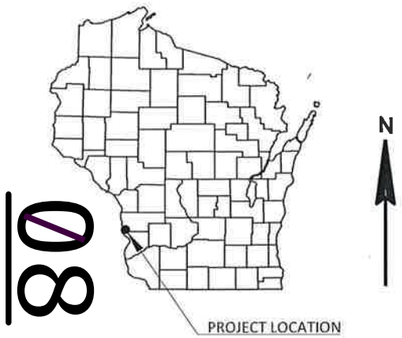
WITH: N/A

COUNTY: CRAWFORD/VERNON

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 = 208



DESIGN DESIGNATION 5160-07-01

A.A.D.T.	2022	=	4750
A.A.D.T.	2042	=	5580
D.H.V.		=	14.0
D.D.		=	60/40
T.		=	16.7%
DESIGN SPEED		=	55 MPH
ESALS		=	1,800,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (360°EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

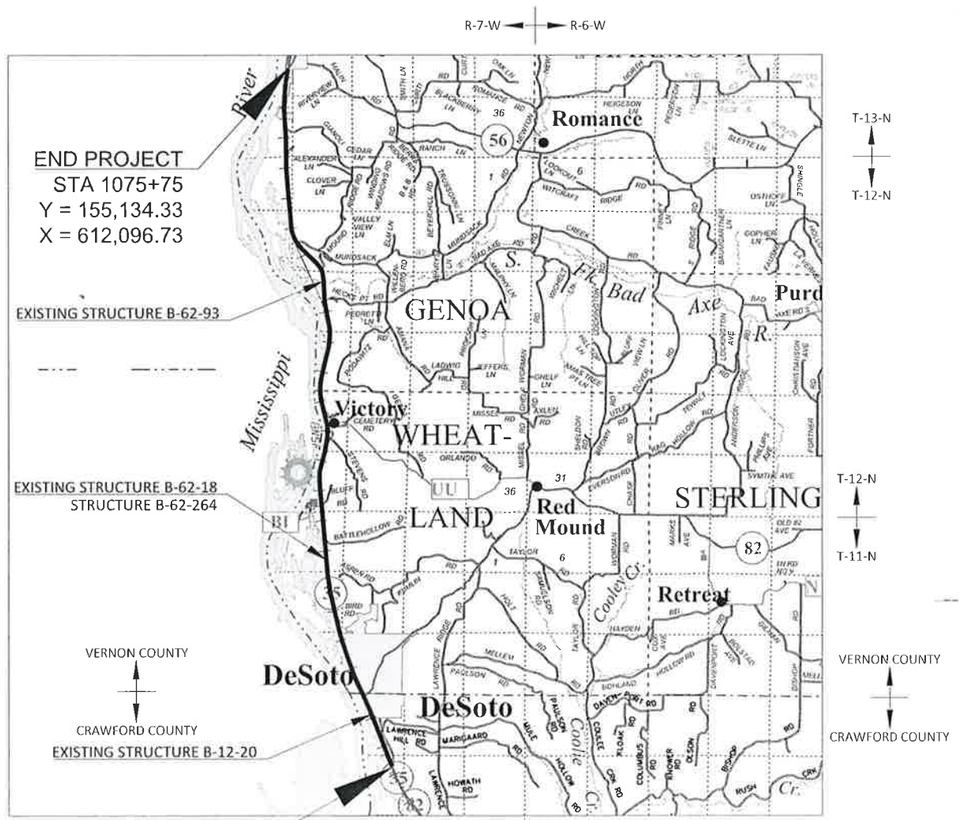
FERRYVILLE - GENOA

OLD HWY. 35 TO STH 56/B-62-93,-264

STH 35

CRAWFORD & VERNON COUNTIES

STATE PROJECT NUMBER
5160-07-71



TOTAL NET LENGTH OF CENTERLINE = 11.833 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), VERNON COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES. GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5160-07-71	WISC 2022068	1

ORIGINAL PLANS PREPARED BY

MSA

1230 SOUTH BOULEVARD, BARABOO, WI 53913
(608) 356-2771 www.msa-ps.com

WISCONSIN
BOBBI L. MAXWELL
39012-006
BARABOO
WI
PROFESSIONAL ENGINEER

Bobbi L. Maxwell 7-12-21

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC
Project Manager	CRAIG FISHER, P.E.
Regional Examiner	SW REGION
Regional Supervisor	OSCAR I. WINGER, P.E.

APPROVED FOR THE DEPARTMENT

DATE 7/12/21 Craig A. Fisher (Signature)

E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\010101-TI.DWG PLOT DATE : 7/12/2021 2:38 PM PLOT BY : BOBBI MAXWELL PLOT NAME :

2

GENERAL NOTES

MISCELLANEOUS

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS IN THE AREAS OF THE EAT'S AND CULVERT PIPES AS SHOWN ON THE PLANS ARE APPROXIMATE. IN OTHER AREAS THE UTILITIES ARE NOT SHOWN ON THE PLANS. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE MAJORITY OF THE EXISTING TOPOGRAPHY SHOWN ON THIS PLAN IS BASED ON COUNTY LIDAR DATA. VERIFY FIELD CONDITIONS PRIOR TO CONSTRUCTION.

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

ALL EXISTING SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION OPERATIONS REQUIRE THEM TO BE REMOVED/MOVED OR UNLESS THE ENGINEER APPROVES THEM TO BE REMOVED/MOVED.

REMOVALS

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

GRADING AND EROSION CONTROL

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

DO NOT STORE EQUIPMENT OR MATERIALS IN, NOR IMPACT ANY WETLANDS OR WATERWAYS OUTSIDE THE SLOPE INTERCEPTS SHOWN.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY ARE TO BE FERTILIZED, PERMANENT SEEDED, TEMPORARILY SEEDED AND MULCH OR EMAT PLACED AS DIRECTED BY THE ENGINEER.

EXCAVATION BELOW SUBGRADE (EBS) WHICH IS NOT INDICATED ON THE CROSS SECTIONS AND WHICH IS REQUIRED BY THE ENGINEER SHALL BE MEASURED AND PAID FOR AS COMMON EXCAVATION. EBS IS NOT USED TO BALANCE YARDAGE.

THE EROSION CONTROL ITEMS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER WILL DETERMINE THE EXACT LOCATION OF EROSION CONTROL ITEMS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY. REMOVE ITEMS AT ENGINEER'S DIRECTION.

FILL EXPANSION IS ESTIMATED AT 1.25.

PAVING

CURVE DATA BASED ON ARC DEFINITION.

RADII DIMENSIONS FOR THE CURB AND GUTTER ARE TO THE FLAG LINE.

EXPANSION JOINTS SHALL BE CONSTRUCTED AT ALL RADII POINTS IN CURB AND GUTTER.

HMA WEIGHT CALCULATIONS BASED ON 112 LBS/SY/IN.

APPLY TACK COAT AT A RATE OF 0.05 GAL/SY TO CIR AND BETWEEN LAYERS OF HMA PAVEMENT

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

UNLESS OTHERWISE SHOWN ON THE PLAN, SAWCUT ALL MATCHING DRIVEWAYS AND STREETS. COST OF CUTTING IS TO BE PAID FOR UNDER "SAWING ASPHALT" FOR ASPHALT PAVEMENT OR "SAWING CONCRETE" FOR CONCRETE PAVEMENT.

STORM SEWER

INLET OFFSETS GIVEN TO THE CENTER OF THE STRUCTURE.

WHERE TYING INTO EXISTING STRUCTURES OR PIPES, VERIFY EXISTING ELEVATIONS AND DIMENSIONS PRIOR TO ORDERING MATERIALS.

*BNSF RAILWAY COMPANY
ATTN: DANIEL PELTIER
80 44TH AVENUE NE
MINNEAPOLIS, MN 55421
OFFICE: 763-782-3005
*BNSF IS NOT PART OF DIGGERS HOTLINE
CONTACT BNSF CALL BEFORE YOU DIG LINE
1-800-533-2891 FOR BNSF UNDERGROUND CABLE LOCATE

*NOT A DIGGERS HOTLINE MEMBER

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

UTILITIES

ELECTRIC:
VERNON ELECTRIC COOPERATIVE
ATTN: MARK SEE
110 SAUGSTAD RD
WESTBY, WI 54667-1199
OFFICE: 608-634-3121
EMAIL: MSEE@VERNONELECTRIC.ORG

COMMUNICATION:
VERNON COMMUNICATIONS COOPERATIVE
ATTN: SCOTT FREDERICK
103 N MAIN ST
WESTBY, WI 54667
OFFICE: 608-634-3136
EMAIL: SFREDERICK@VERNONCOM.COOP

*WATER/SANITARY:
VILLAGE OF GENOA
ATTN: JERRY PEDRETTI
406 MAIN ST.
P.O. BOX 70
GENOA, WI 54632-0070
OFFICE: 608-689-2808
EMAIL: VILLAGEOFGENOACLERK@GMAIL.COM

ELECTRIC:
DAIRYLAND POWER COOPERATIVE
ATTN: ROB MALY
3200 EAST AVE S
P.O. BOX 817
LA CROSSE, WI 54602-0817
OFFICE: 608-788-4000
EMAIL: ROB.MALY@DAIRLANDPOWER.COM

ELECTRIC:
XCEL ENERGY
ATTN: JASON MCROBERTS
3215 COMMERCE STREET
LA CROSSE, WI 54603
OFFICE: 608-789-3689
EMAIL: JASON.L.MCROBERTS@XCELENERGY.COM

SECTION 2 ORDER OF SHEETS

1. GENERAL NOTES
2. PROJECT OVERVIEW
3. EXISTING TYPICAL SECTIONS
4. FINISHED TYPICAL SECTIONS
5. CONSTRUCTION DETAILS
6. PLAN ON PLAN
7. EROSION CONTROL
8. TRAFFIC CONTROL/DETOUR PLAN
9. ALIGNMENT DIAGRAMS

BORING SUMMARY

BORING NUMBER	STATION	OFFSET	EXISTING ASPHALT DEPTH	BASE DEPTH	SUBGRADE TYPE
B-1	452+22.8	6' RT	7"	7"	SAND
B-2	463+84.4	12' RT	6"	8"	SAND
B-3	476+51.6	6' RT	9"	7"	SAND
B-4	487+60.4	6' LT	7"	7"	SAND
B-5	498+69.2	6' LT	7"	8"	SAND
B-6	514+00.4	12' LT	7"	8"	SAND
B-7	526+14.8	9' RT	9"	7"	SAND
B-8	538+29.2	6' RT	8"	7"	SAND
B-9	548+85.2	15' RT	7"	7"	SAND
B-10	560+46.8	6' RT	10"	7"	SAND
B-11	571+55.6	9' LT	9"	8"	SAND
B-12	582+64.4	6' LT	8"	5"	SAND
B-13	593+20.4	15' LT	6"	7"	SAND
B-14	604+82	6' LT	8"	8"	SAND
B-15	616+96.4	9' RT	11"	5"	SAND
B-16	628+58	4' RT	5"	4" RAP/8" BAD	SAND
B-17	640+87.4	15' RT	4"	5" RAP/11" BAD	SAND
B-18	653+01.8	6' RT	8"	8"	SAND
B-19	664+63.4	6' LT	9"	8"	SAND
B-20	675+19.4	9' LT	8"	11"	SAND
B-21	687+09.6	12' LT	3"	3" RAP/10" BAD	SAND
B-22	698+18.4	6' LT	7"	7"	SAND
B-23	709+80	9' RT	7"	9"	SAND
B-24	720+88.8	6' RT	7"	7"	SAND
B-25	732+50.4	12' RT	8"	8"	SAND
B-26	742+63.4	6' RT	9"	9"	SAND
B-27	756+36.2	9' LT	8"	9"	SAND
B-28	768+50.6	6' LT	9"	9"	SILT
B-29	780+65	12' LT	9"	7"	SAND
B-30	791+73.8	6' LT	8"	7"	SAND
B-31	803+35.4	9' RT	8"	10"	SAND
B-32	814+97	6' RT	8"	11"	SAND
B-33	829+22.6	12' RT	9"	8"	SAND
B-34	842+42.6	6' RT	10"	10"	SAND
B-35	856+15.4	6' LT	9"	8"	SILT
B-36	870+12	6' LT	9"	14"	SAND
B-37	884+90.4	11' LT	8"	12"	SAND
B-38	897+57.6	6' LT	9"	6"	SAND
B-39	910+24.8	9' RT	8"	9"	SAND
B-40	925+11.8	3' RT	6"	2.5" RAP/7.5" BAD	---
B-41	938+84.6	12' RT	7"	6"	SAND
B-42	956+27	6' RT	6"	13"	SAND
B-43	973+16.6	9' LT	5"	4" RAP/9" BAD	SAND
B-44	986+89.4	4' LT	7"	2.5" RAP/9" BAD	SAND
B-45	1001+73.6	12' LT	8"	6"	SILT
B-46	1020+74.4	6' LT	7"	8"	SAND
B-47	1034+47.2	9' RT	8"	7"	SAND
B-48	1048+20	4' RT	10"	13"	SAND
B-49	1058+76	11' RT	7"	8"	SAND
B-50	1072+48.8	6' RT	7"	9"	SILT

ABBREVIATIONS

AC	ACRES
AC	ASPHALT CEMENT
AEW	APRON ENDWALL
ASPH	ASPHALT
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BAD	BASE AGGREGATE DENSE
BM	BENCHMARK
CL	CENTERLINE
CC	CENTER TO CENTER
CONC	CONCRETE
CMCP	CORRUGATED METAL CULVERT PIPE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CSCP	CORRUGATED STEEL CULVERT PIPE
CSM	CERTIFIED SURVEY MAP
CTH	COUNTY TRUNK HIGHWAY
CULV	CULVERT
CP	CULVERT PIPE
C&G	CURB & GUTTER
D	DEGREE OF CURVE
DHV	DESIGN HOURLY VOLUME
DIA	DIAMETER
DWY	DRIVEWAY
E	EAST
X	EAST GRID COORDINATE
ELEV	ELEVATION
EW	ENDWALL
ENT	ENTRANCE
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FF	FACE TO FACE
FERT	FERTILIZER
FE	FIELD ENTRANCE
FG	FINISHED GRADE
FT	FOOT
G.V.	GAS VALVE
INV	INVERT
IP	IRON PIPE
JCT	JUNCTION
LHF	LEFT HAND FORWARD
L	LENGTH
LS	LUMP SUM
NC	NORMAL CROWN
N	NORTH
Y	NORTH GRID COORDINATE
PACS	PIPE ARCH CORRUGATED STEEL
PT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PL	PROPERTY LINE
PE	PRIVATE ENTRANCE
R	RADIUS
REQ'D	REQUIRED
R/W	RIGHT-OF-WAY
RHF	RIGHT HAND FORWARD
SALV	SALVAGED
SHLDR	SHOULDER
SDD	STANDARD DETAIL DRAWING
STA	STATION
SE	SUPERELEVATION
TAN	TANGENT
TLE	TEMPORARY LIMITED EASEMENT
T	TRUCKS
TYP	TYPICAL
VERT	VERTICAL
VC	VERTICAL CURVE
VOL	VOLUME
WV	WATER VALVE
W	WELL

SHOULDER CORING LOGS

STATION	OFFSET	EXISTING ASPHALT DEPTH
456+06	15' RT	3 1/4"
532+62	15' LT	3 1/2"
569+05	15' RT	3"
666+20	18' LT	2"
721+64	15' RT	3 1/4"
821+44	18' RT	2 1/2"
868+96	15' RT	3"
966+64	16' RT	3 1/4"
1063+79	15' LT	3 1/4"

DOT DESIGN CONTACT

WISDOT SW REGION
ATTN: CRAIG FISHER, P.E.
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
OFFICE: 608-785-9946
EMAIL: CRAIG.FISHER@DOT.WI.GOV

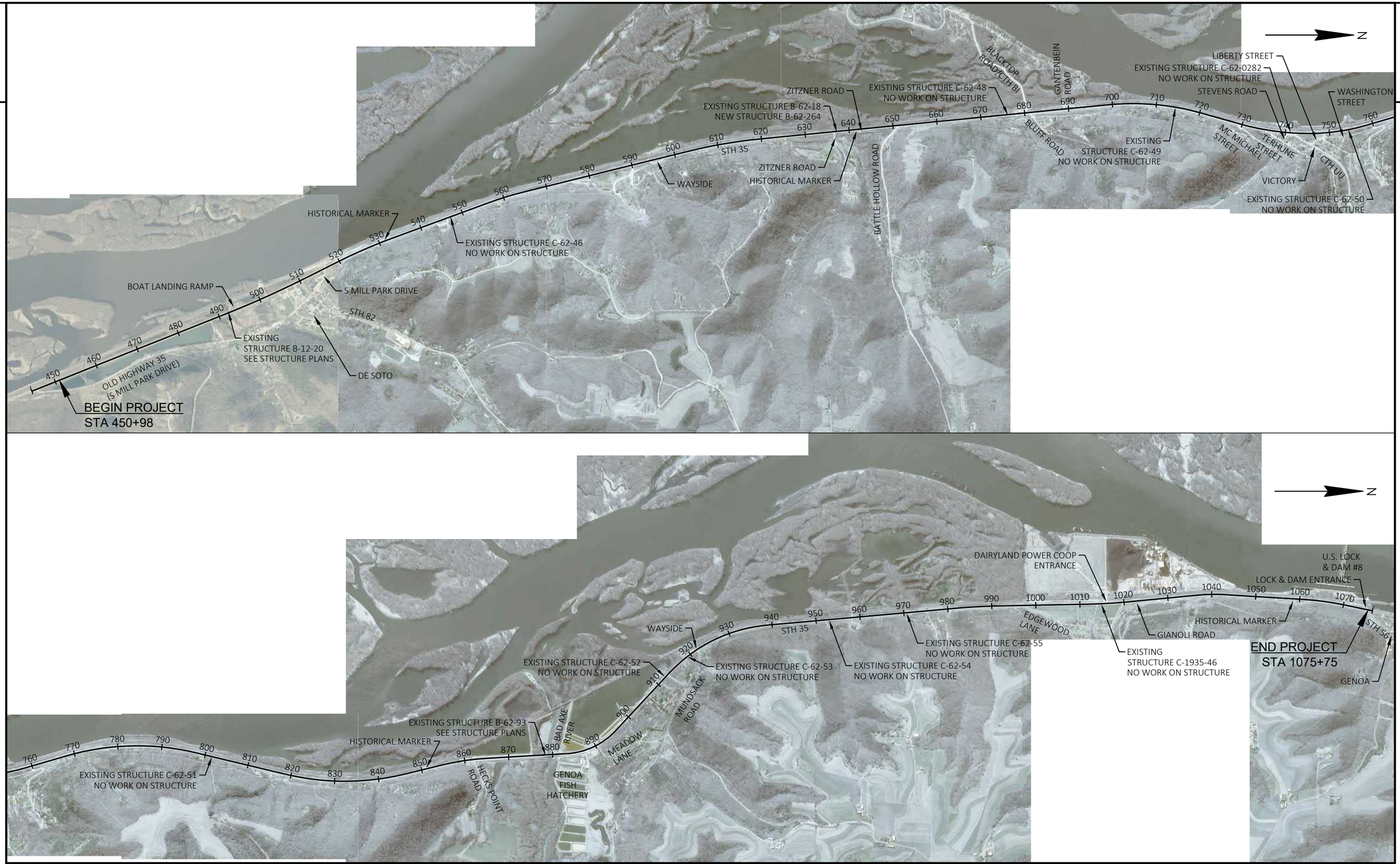
MSA DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
ATTN: BOBBI MAXWELL, P.E.
1230 SOUTH BOULEVARD
BARABOO, WI 53913
OFFICE: 608-355-8861
EMAIL: BMAXWELL@MSA-PS.COM

DNR LIAISON

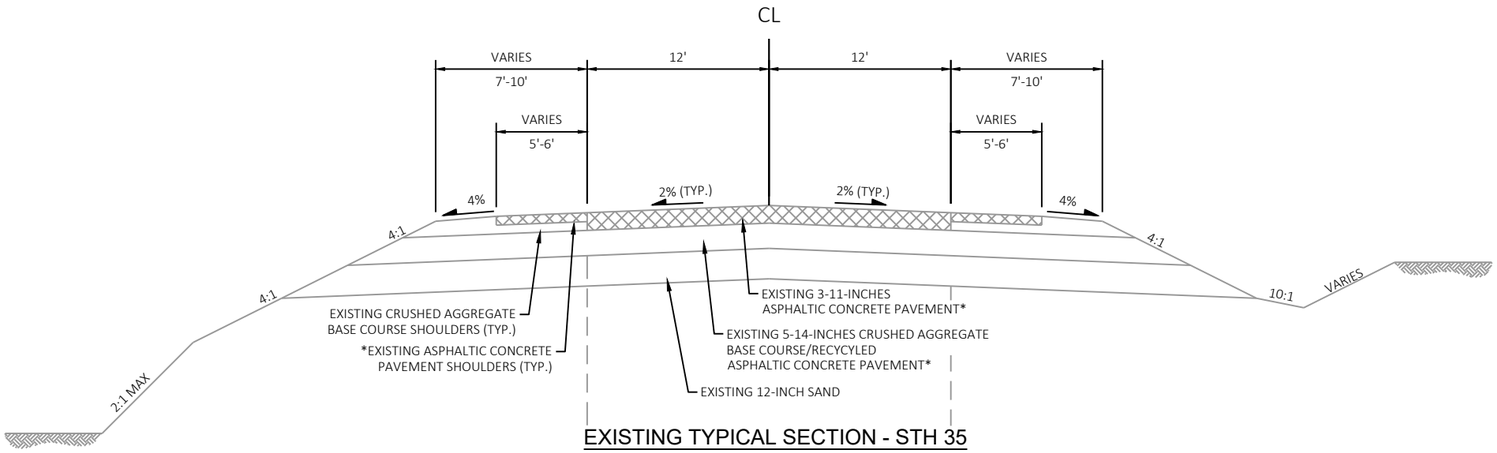
WISCONSIN DEPARMENT OF NATURAL RESOURCES
ATTN: KAREN KALVELAGE
ENVIRONMENTAL ANALYSIS & REVIEW SPECIALIST
DNR SERVICE CENTER
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
OFFICE: 608-785-9115
EMAIL: KAREN.KALVELAGE@WISCONSIN.GOV

2



PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\020201-PO.DWG
LAYOUT NAME - 020201-po
PLOT DATE : 6/25/2021 1:26 PM
PLOT BY : CONNOR GIRTEN
PLOT NAME :
PLOT SCALE : 1 IN:2000 FT
WISDOT/CADDS SHEET 42



EXISTING TYPICAL SECTION - STH 35

STA 450+98.00 - STA 880+38.55
STA 892+38.55 - STA 1075+75.00



EXISTING TYPICAL SECTION - STH 35

STA 489+81.75 - STA 496+01.08
STA 508+09.68 - STA 511+13.47
STA 644+95.45 - STA 652+11.07
STA 665+91.26 - STA 677+74.56
STA 678+40.71 - STA 693+54.05
STA 694+00.74 - STA 720+32.93
STA 793+56.94 - STA 813+82.76
STA 820+68.81 - STA 840+90.11
STA 847+41.22 - STA 877+95.04
STA 912+71.13 - STA 919+51.96
STA 919+84.11 - STA 922+23.20
STA 922+63.28 - STA 927+22.44
STA 932+21.07 - STA 942+20.08
STA 994+78.13 - STA 1005+93.27
STA 1014+00.16 - STA 1015+69.99
STA 1036+26.30 - STA 1059+14.51
STA 1059+24.91 - STA 1065+14.31
STA 1069+43.15 - STA 1073+22.72

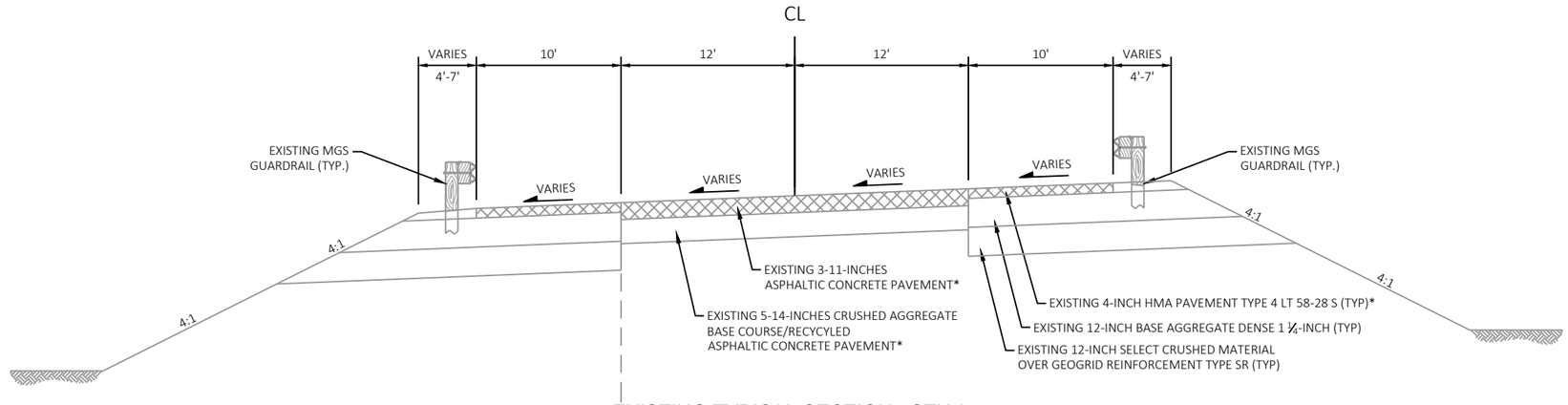
EXISTING TYPICAL SECTION - STH 35

STA 489+81.75 - STA 494+09.14
STA 593+29.27 - STA 594+48.73
STA 675+20.31 - STA 677+85.20
STA 753+89.86 - STA 755+04.55
STA 876+40.51 - STA 877+95.04
STA 1014+05.31 - STA 1016+28.48

LEGEND

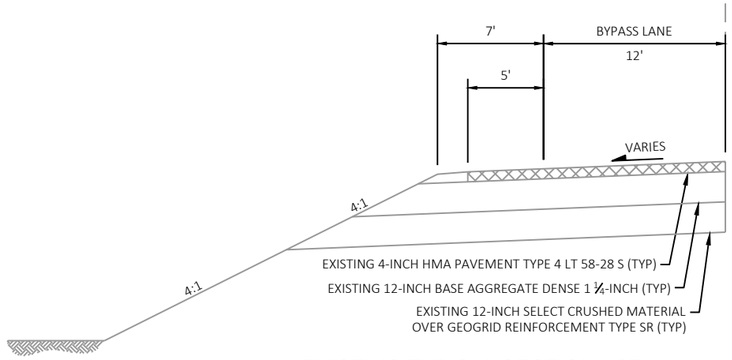
* SEE BORING SUMMARY FOR MORE INFORMATION

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EXISTING TYPICAL SECTIONS	SHEET 4	E



EXISTING TYPICAL SECTION - STH 35

STA 880+38.55 - STA 884+48.98



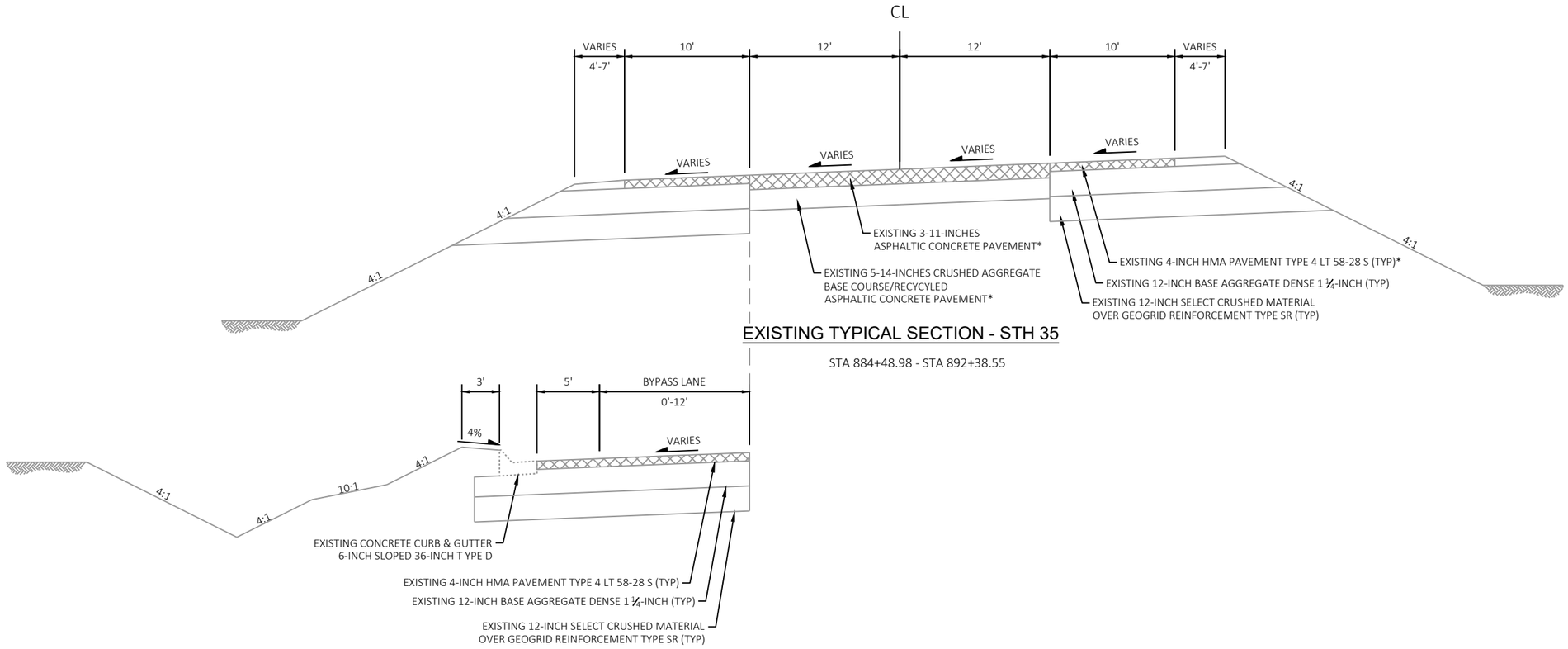
EXISTING TYPICAL SECTION - STH 35

STA 882+76.16 - STA 884+48.98 (LT)

LEGEND

* SEE BORING SUMMARY FOR MORE INFORMATION

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EXISTING TYPICAL SECTIONS	SHEET 5	E

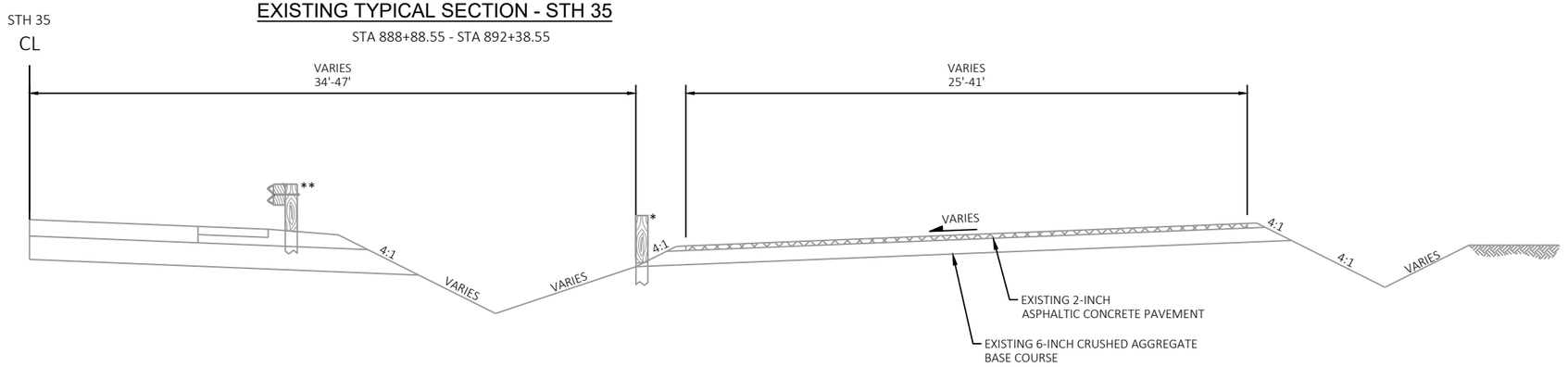


EXISTING TYPICAL SECTION - STH 35

STA 884+48.98 - STA 892+38.55

EXISTING TYPICAL SECTION - STH 35

STA 888+88.55 - STA 892+38.55



EXISTING TYPICAL SECTION - HISTORICAL MARKER/WAYSIDE

STA 529+86.54 - STA 532+82.67 REVERSED
STA 593+89.91 - STA 597+58.12
STA 641+19.59 - STA 643+05.20
STA 849+41.54 - STA 851+75.11 REVERSED
STA 919+23.86 - STA 922+83.67 REVERSED
STA 1054+32.27 - STA 1062+71.01

LEGEND

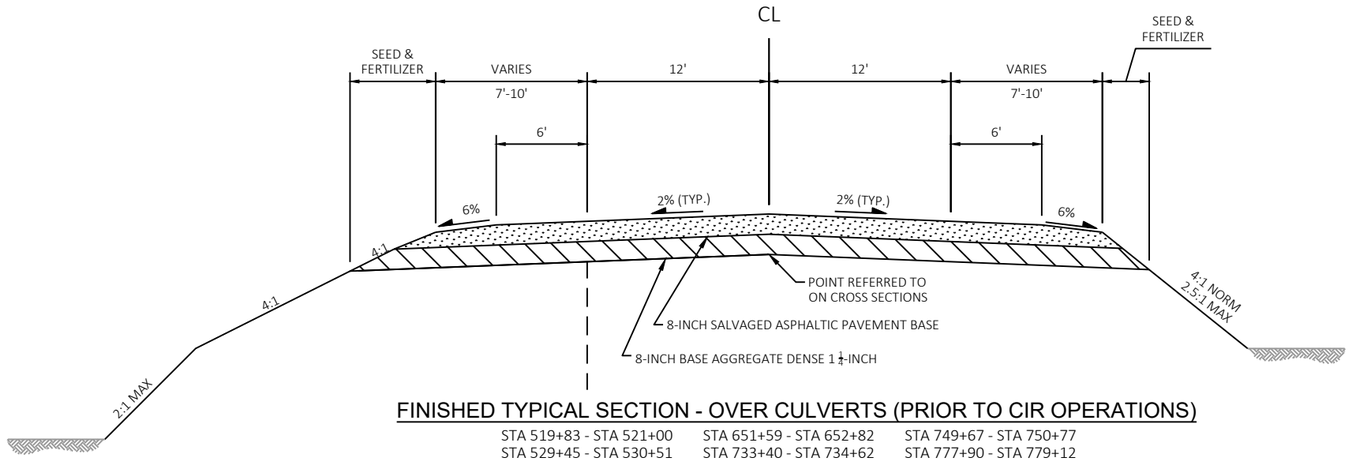
* EXISTING TIMBER GUARD POST TO REMAIN (STA 641+19.59 - STA 643+05.20)

** EXISTING GUARDRAIL AT STA 919+84.11 - STA 922+23.20 ONLY

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EXISTING TYPICAL SECTIONS	SHEET 6	E

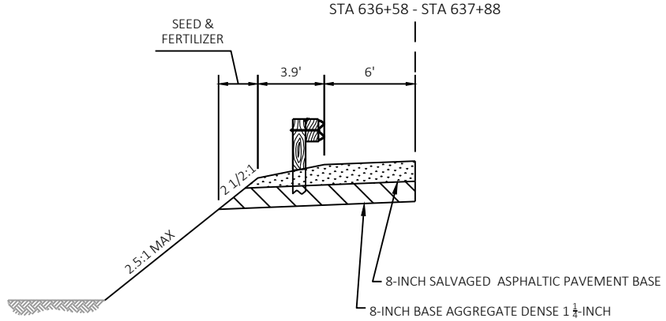
FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020303-ts
PLOT DATE : 9/15/2021 3:14 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:10 FT

2



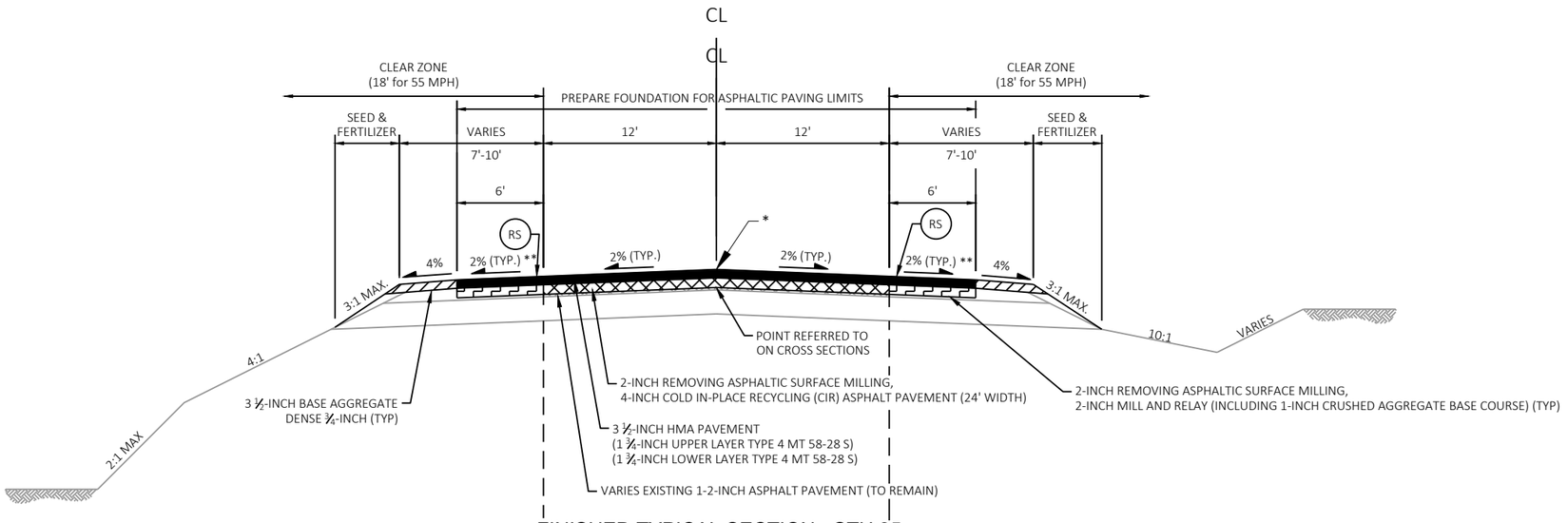
FINISHED TYPICAL SECTION - OVER CULVERTS (PRIOR TO CIR OPERATIONS)

STA 519+83 - STA 521+00
STA 529+45 - STA 530+51
STA 533+07 - STA 534+13
STA 537+68 - STA 538+74
STA 564+77 - STA 565+83
STA 586+56 - STA 587+63
STA 636+58 - STA 637+88
STA 651+59 - STA 652+82
STA 733+40 - STA 734+62
STA 739+38 - STA 740+47
STA 740+91 - STA 742+10
STA 743+45 - STA 744+55
STA 745+60 - STA 746+71
STA 749+67 - STA 750+77
STA 777+90 - STA 779+12
STA 903+20 - STA 904+28
STA 908+18 - STA 909+27
STA 1032+55 - STA 1033+75
STA 1074+59 - STA 1075+63

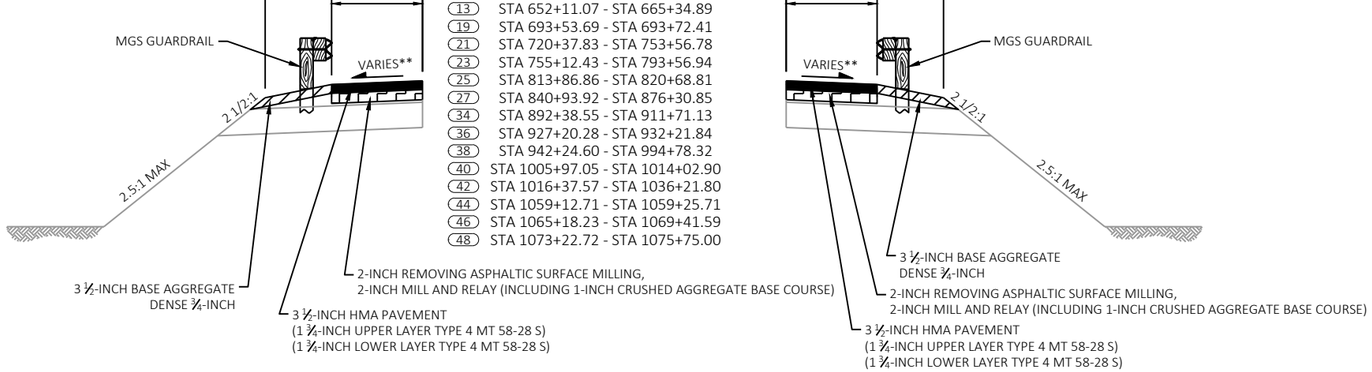


FINISHED TYPICAL SECTION - OVER CULVERTS (PRIOR TO CIR OPERATIONS)

STA 834+23 - STA 835+33
STA 1053+70 - STA 1054+77
STA 1057+62 - STA 1058+68
STA 1062+09 - STA 1063+16



FINISHED TYPICAL SECTION - STH 35



(1) STA 450+98.00 - STA 489+46.23
(5) STA 496+01.46 - STA 508+08.19
(9) STA 511+24.04 - STA 592+02.87
(11) STA 594+43.42 - STA 644+92.31
(13) STA 652+11.07 - STA 665+34.89
(19) STA 693+53.69 - STA 693+72.41
(21) STA 720+37.83 - STA 753+56.78
(23) STA 755+12.43 - STA 793+56.94
(25) STA 813+86.86 - STA 820+68.81
(27) STA 840+93.92 - STA 876+30.85
(34) STA 892+38.55 - STA 911+71.13
(36) STA 927+20.28 - STA 932+21.84
(38) STA 942+24.60 - STA 994+78.32
(40) STA 1005+97.05 - STA 1014+02.90
(42) STA 1016+37.57 - STA 1036+21.80
(44) STA 1059+12.71 - STA 1059+25.71
(46) STA 1065+18.23 - STA 1069+41.59
(48) STA 1073+22.72 - STA 1075+75.00

FINISHED TYPICAL SECTION - STH 35

(4) STA 494+94.29 - STA 496+01.46
(6) STA 508+08.19 - STA 508+54.89
(12) STA 644+92.31 - STA 652+11.07
(14) STA 665+34.89 - STA 675+16.78
(18) STA 678+50.66 - STA 693+53.69
(20) STA 693+72.41 - STA 720+37.83
(24) STA 793+56.94 - STA 813+86.86
(26) STA 820+68.81 - STA 840+93.92
(35) STA 911+71.13 - STA 927+20.28
(37) STA 932+21.84 - STA 942+24.60
(39) STA 994+78.32 - STA 1005+97.05
(43) STA 1036+21.80 - STA 1059+12.71
(45) STA 1059+25.71 - STA 1065+18.23
(47) STA 1069+41.59 - STA 1073+22.72

FINISHED TYPICAL SECTION - STH 35

(2) STA 489+46.23 - STA 489+71.15
(8) STA 511+14.76 - STA 511+24.04
(10) STA 592+02.87 - STA 594+43.42
(22) STA 753+56.78 - STA 755+12.43

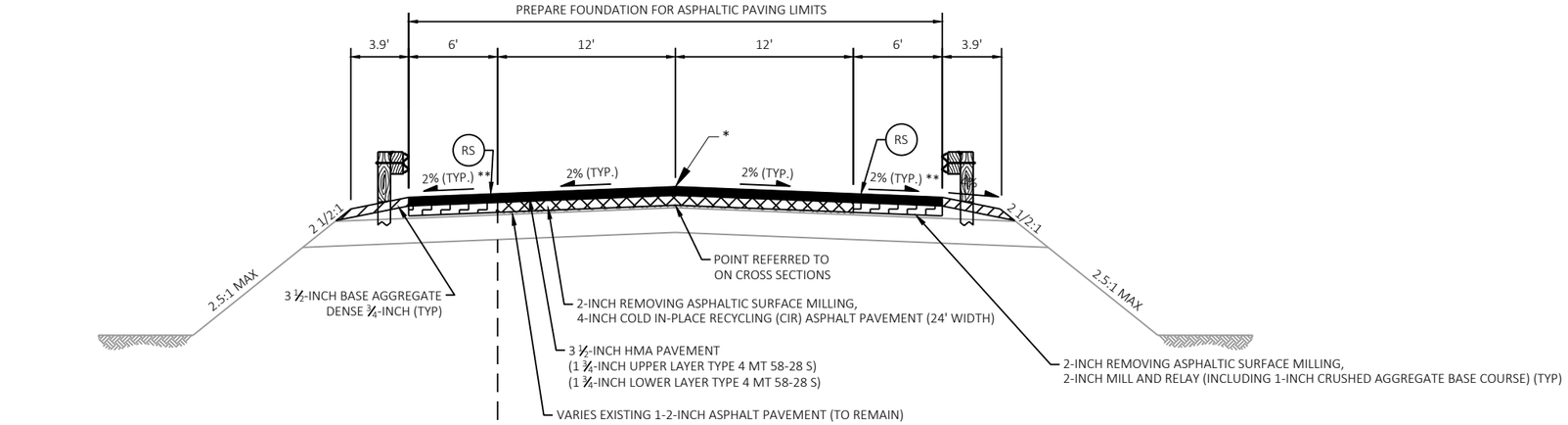
LEGEND

* ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL

** ADJUST PAVED SHOULDER CROSS SLOPE TO MATCH EXISTING SHOULDER POINT

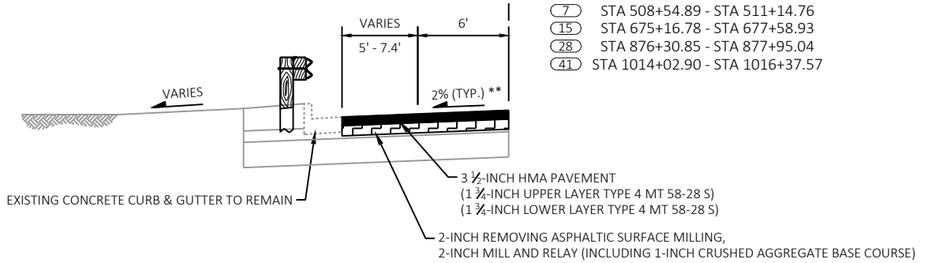
(RS) ASPHALTIC SHOULDER RUMBLE STRIP 2-LANE RURAL

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	FINISHED TYPICAL SECTIONS	SHEET 8	E



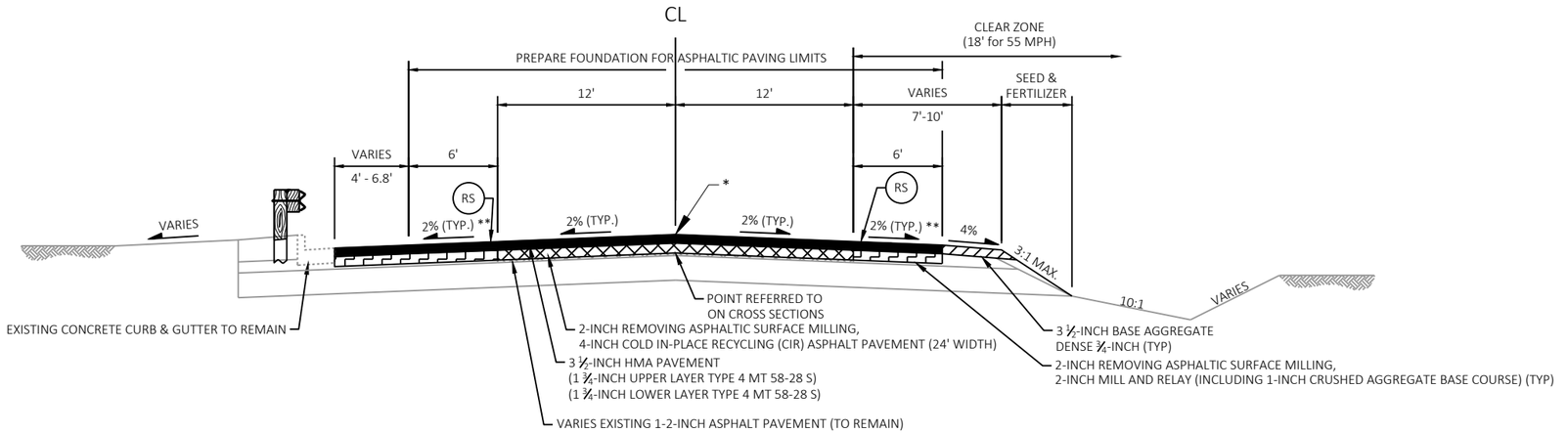
FINISHED TYPICAL SECTION - STH 35

(3) STA 489+71.15 - STA 494+94.29
(7) STA 508+54.89 - STA 511+14.76
(15) STA 675+16.78 - STA 677+58.93
(28) STA 876+30.85 - STA 877+95.04
(41) STA 1014+02.90 - STA 1016+37.57



FINISHED TYPICAL SECTION

(16) STA 677+58.93 - STA 677+85.20



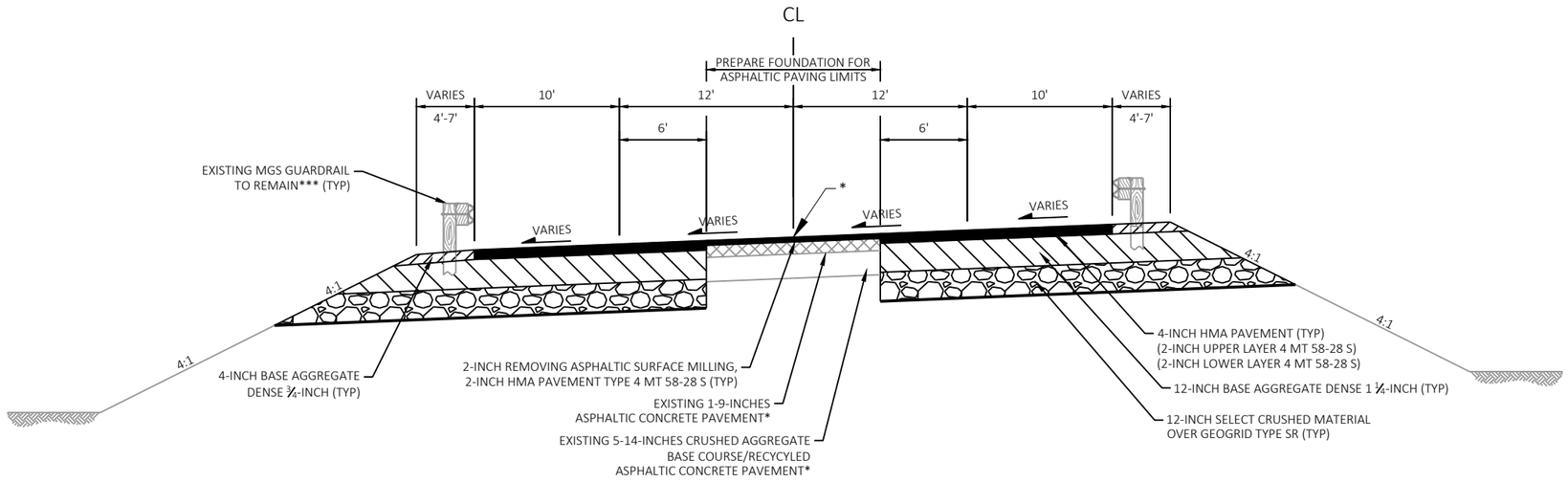
FINISHED TYPICAL SECTION - STH 35

(17) STA 677+85.20 - STA 678+50.66

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	FINISHED TYPICAL SECTIONS	SHEET 9	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020306-ts
PLOT DATE : 9/15/2021 3:14 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



FINISHED TYPICAL SECTION - STH 35 AT B-62-93

(29) STA 880+38.55 - STA 880+58.55

LEGEND

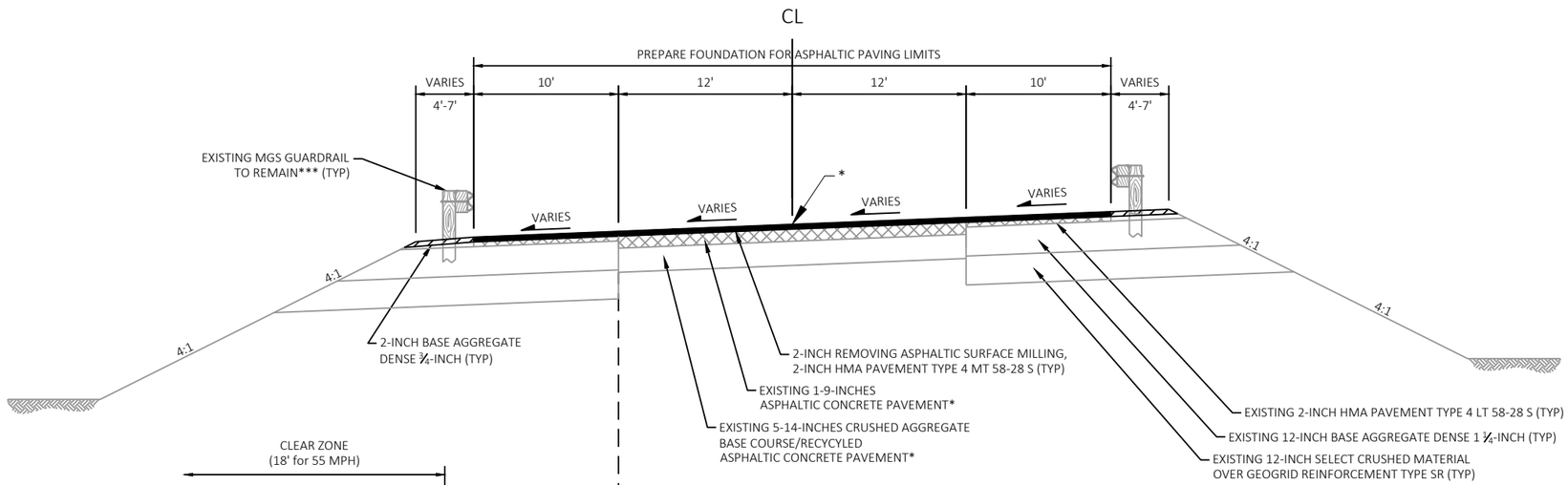
* ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL

*** GUARDRAIL TO BE SALVAGED AND REINSTALLED

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	FINISHED TYPICAL SECTIONS	SHEET 10	E

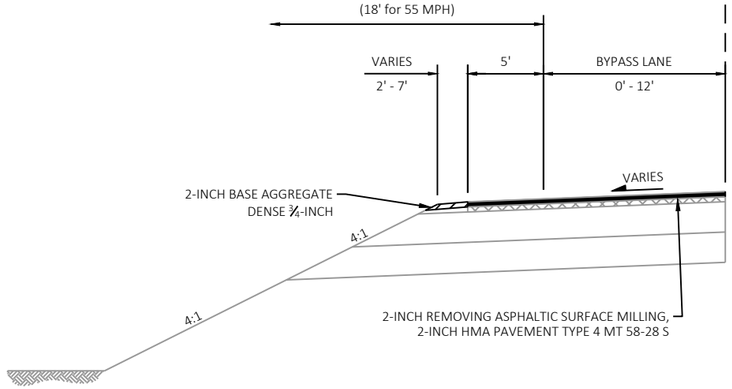
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LAYOUT NAME - 020307-ts
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PLOT BY : CONNOR GIRTEN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



FINISHED TYPICAL SECTION - STH 35

(30) STA 880+58.55 - STA 882+78.15



FINISHED TYPICAL SECTION - STH 35

(31) STA 882+78.15 - STA 884+50.76

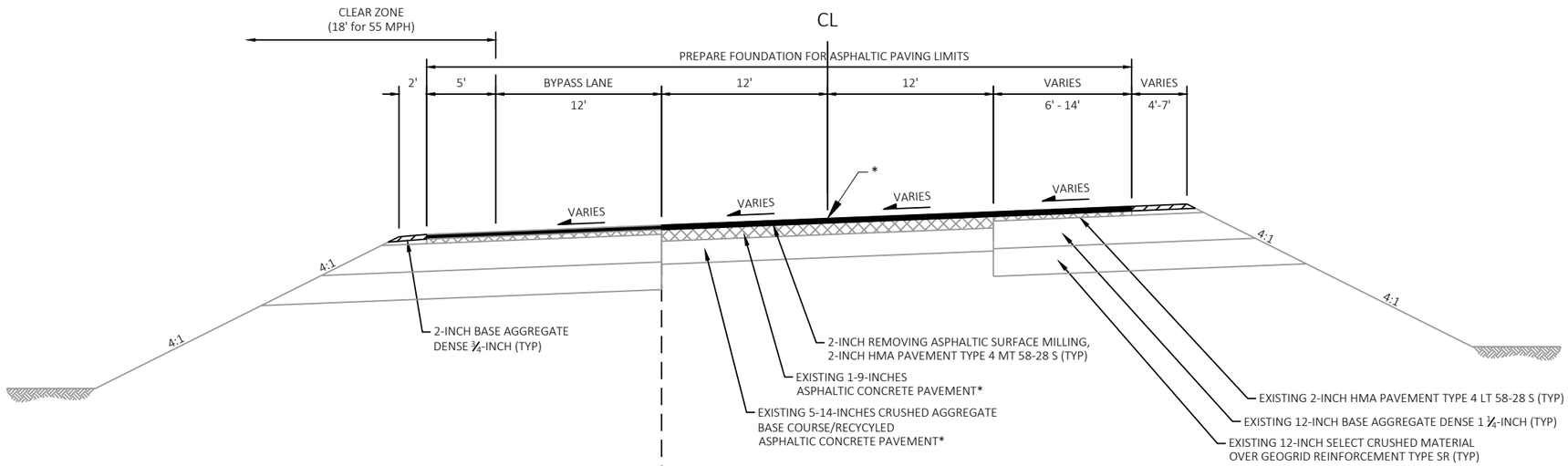
LEGEND

* ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL

*** GUARDRAIL TO BE SALVAGED AND REINSTALLED TO STA 880+85

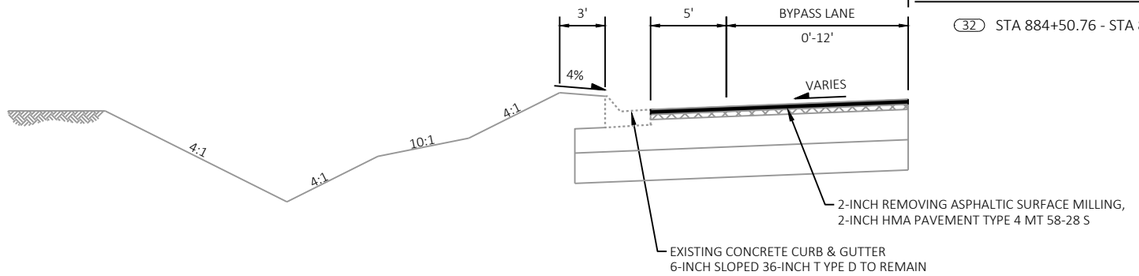
PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	FINISHED TYPICAL SECTIONS	SHEET 11	E

2



FINISHED TYPICAL SECTION - STH 35

(32) STA 884+50.76 - STA 888+88.55



FINISHED TYPICAL SECTION - STH 35

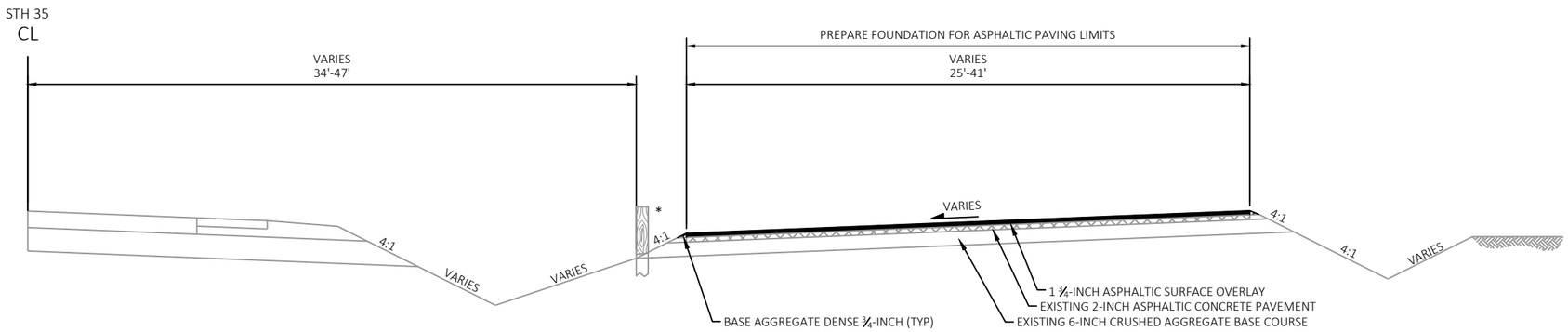
(33) STA 888+88.55 - STA 892+38.55

LEGEND

* ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	FINISHED TYPICAL SECTIONS	SHEET 12	E

2



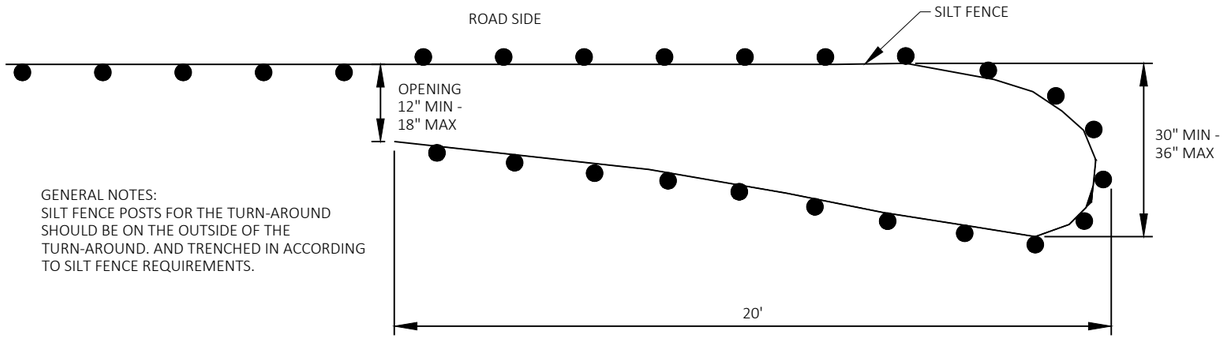
FINISHED TYPICAL SECTION - HISTORICAL MARKER/WAYSIDE

STA 529+86.54 - STA 532+82.67 REVERSED
STA 593+89.91 - STA 597+58.12
STA 641+19.59 - STA 643+05.20
STA 849+41.54 - STA 851+75.11 REVERSED
STA 1054+32.27 - STA 1062+71.01

LEGEND

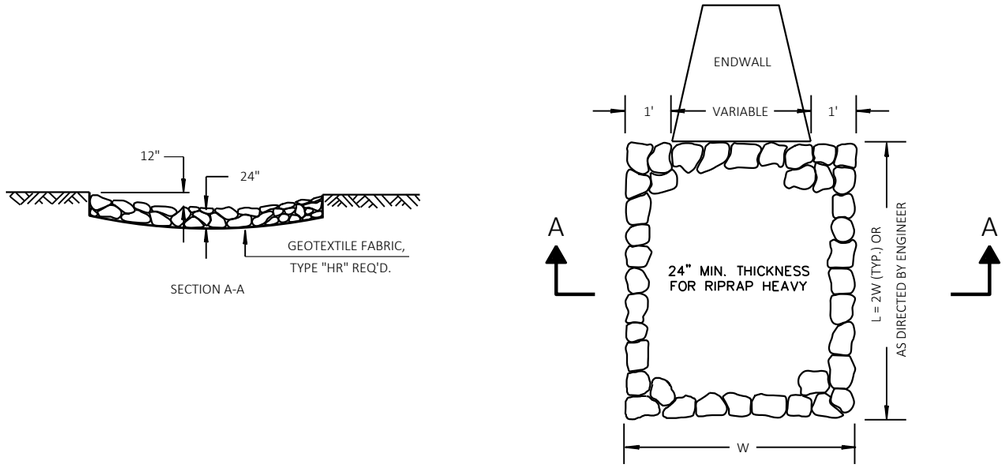
* EXISTING TIMBER GUARD POST TO REMAIN (STA 641+19.59 - STA 643+05.20)

2



PLAN VIEW

TEMPORARY SMALL ANIMAL TURN-AROUND



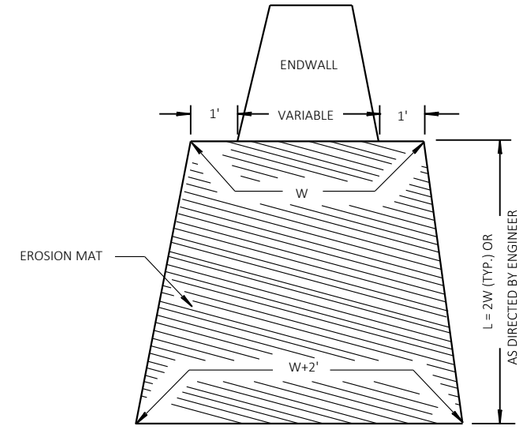
RIPRAP HEAVY TREATMENT AT CULVERTS

2

RUNOFF COEFFICIENT TABLE

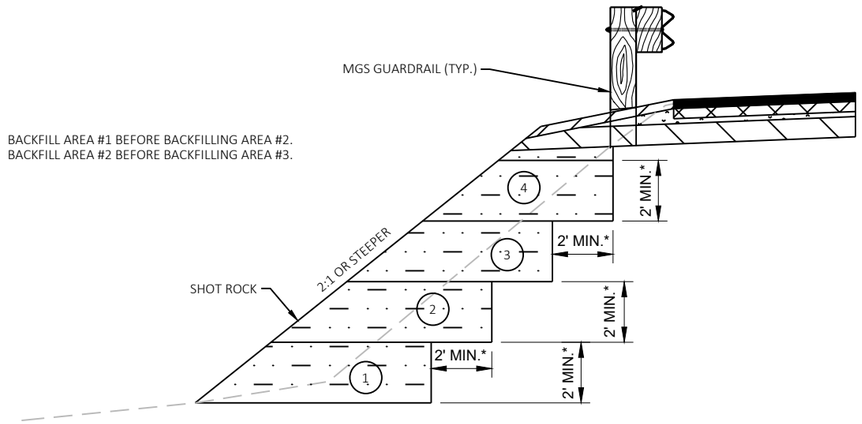
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .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 = 276 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 5.6 ACRES



EROSION MAT TREATMENT AT CULVERTS

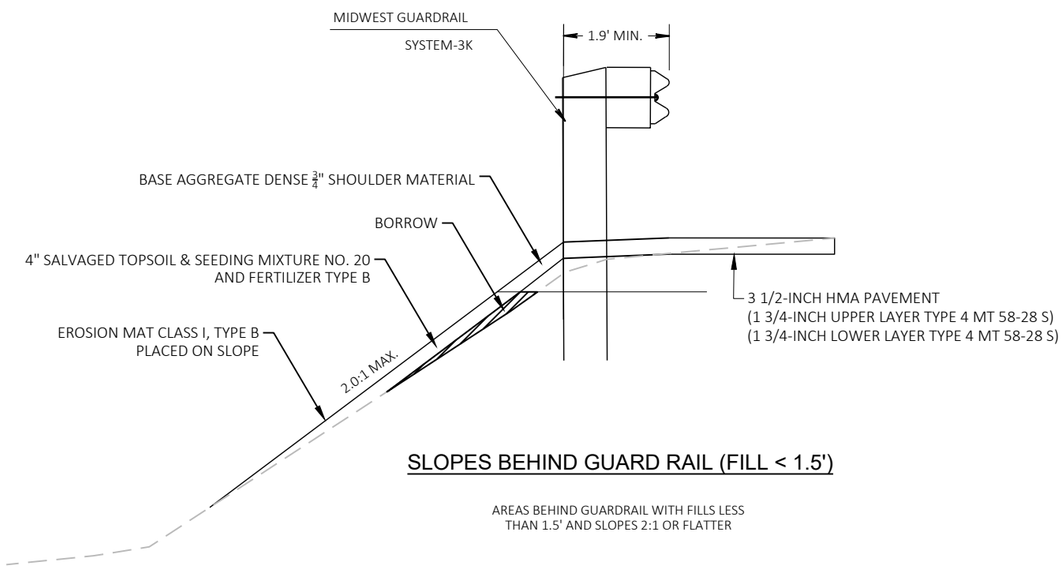
PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CONSTRUCTION DETAILS	SHEET 14	E



SHOT ROCK BENCHING DETAIL (FILL > 1.5')

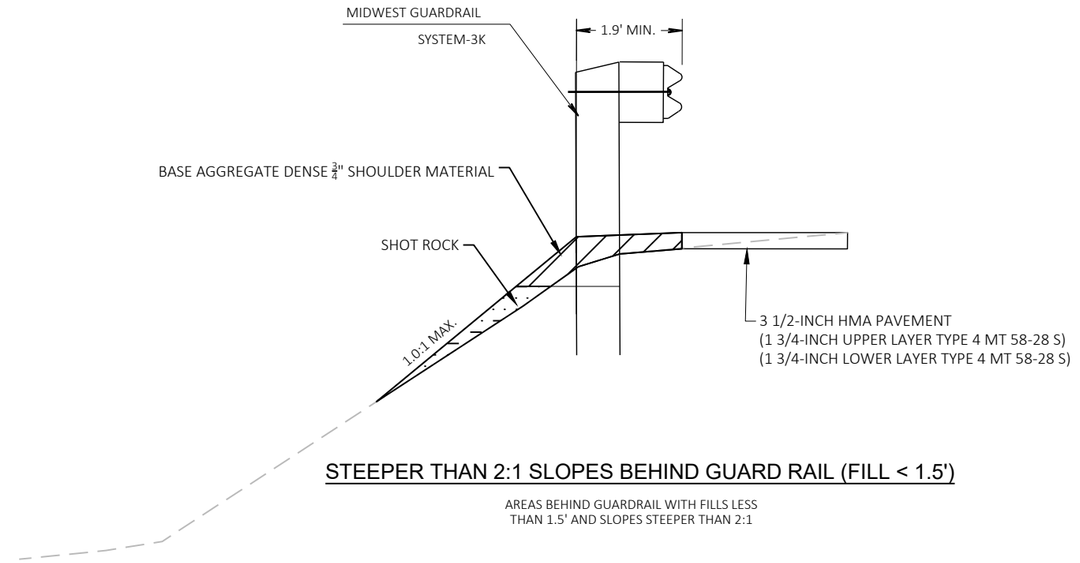
AREAS BEHIND GUARDRAIL WITH FILLS GREATER
THAN 1.5' AND SLOPES STEEPER THAN 2:1

* ADJUST TO FIT FIELD CONDITIONS



SLOPES BEHIND GUARD RAIL (FILL < 1.5')

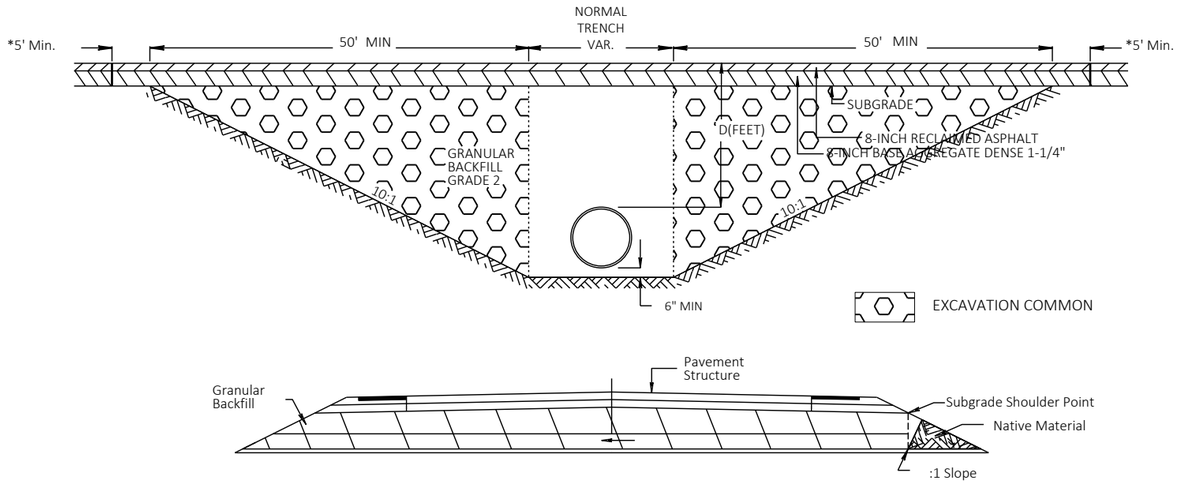
AREAS BEHIND GUARDRAIL WITH FILLS LESS
THAN 1.5' AND SLOPES 2:1 OR FLATTER



STEEPER THAN 2:1 SLOPES BEHIND GUARD RAIL (FILL < 1.5')

AREAS BEHIND GUARDRAIL WITH FILLS LESS
THAN 1.5' AND SLOPES STEEPER THAN 2:1

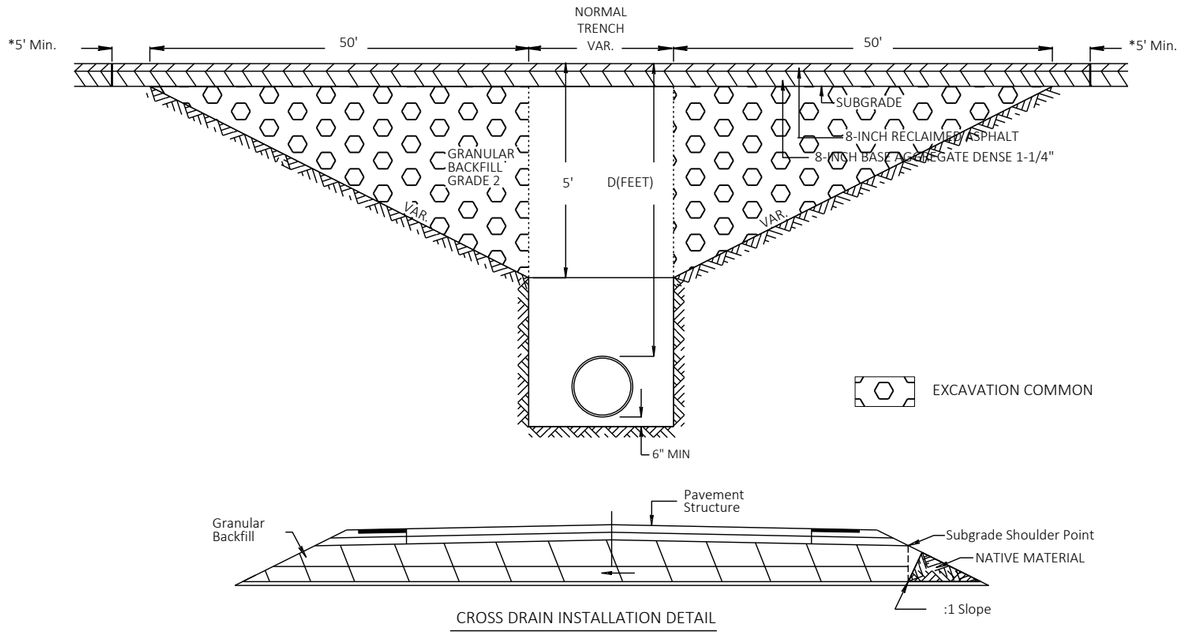
2



CROSS DRAIN INSTALLATION DETAIL

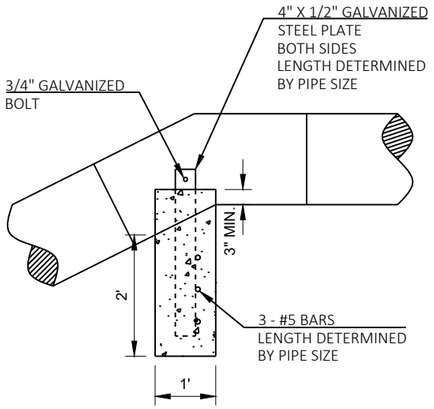
FOR D < 5'

* Pavement Removal Limits (Typical)

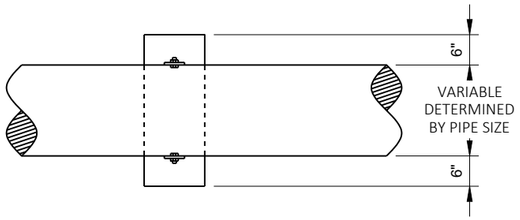


CROSS DRAIN INSTALLATION DETAIL

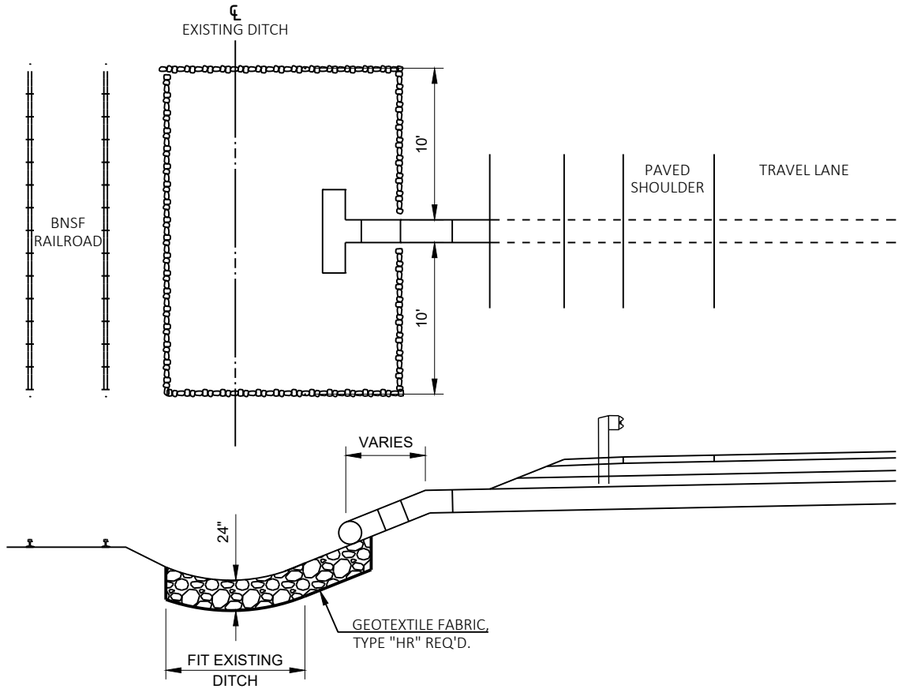
FOR D > 5'



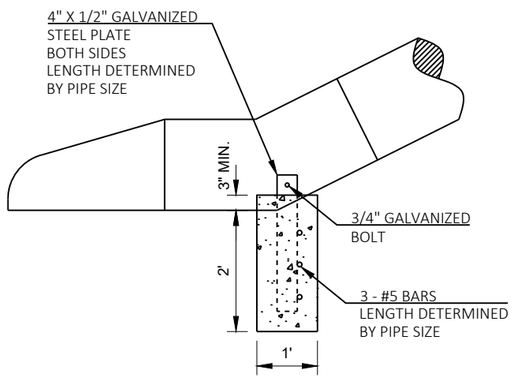
SIDE VIEW
(TOP ANCHOR)



TOP VIEW
(TOP ANCHOR)

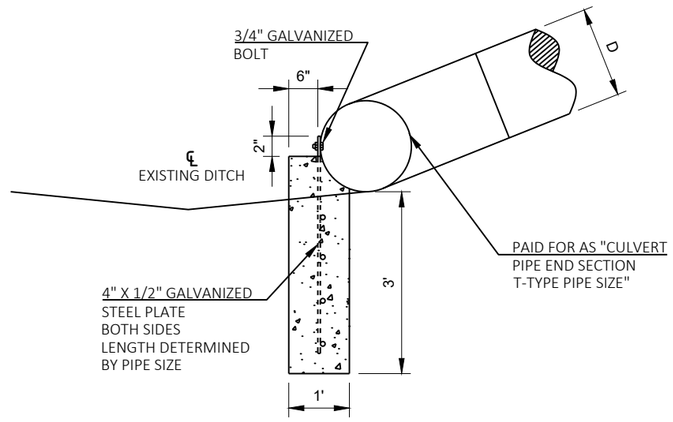


HEAVY RIPRAP DETAIL AT CROSS DRAIN

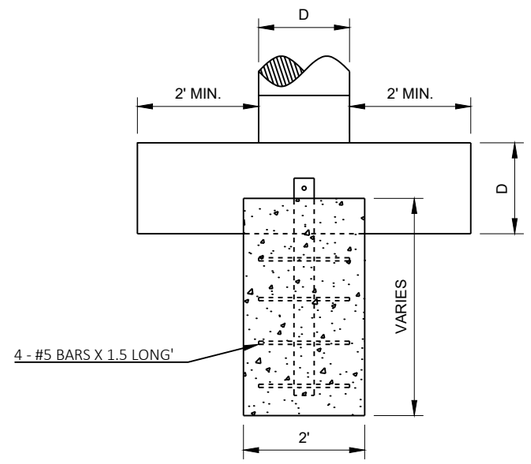


SIDE VIEW
(BOTTOM ANCHOR WITH ENDWALL)

PAID AS "CULVERT PIPE ANCHORS"



SIDE VIEW
(BOTTOM ANCHOR AND CULVERT
PIPE END SECTION, T TYPE)



FRONT VIEW
(BOTTOM ANCHOR AND CULVERT
PIPE END SECTION, T TYPE)

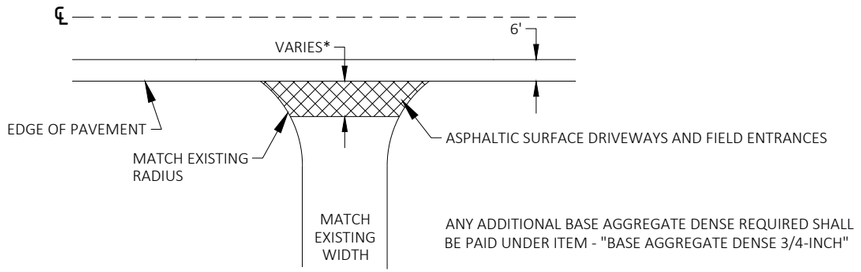
CULVERT PIPE ANCHORAGES

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CONSTRUCTION DETAILS	SHEET 17	E

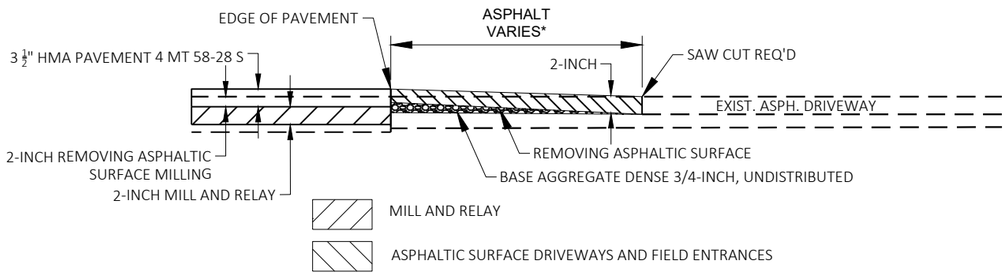
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LAYOUT NAME - 021004-cd

PLOT DATE : 7/26/2021 9:43 AM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 42



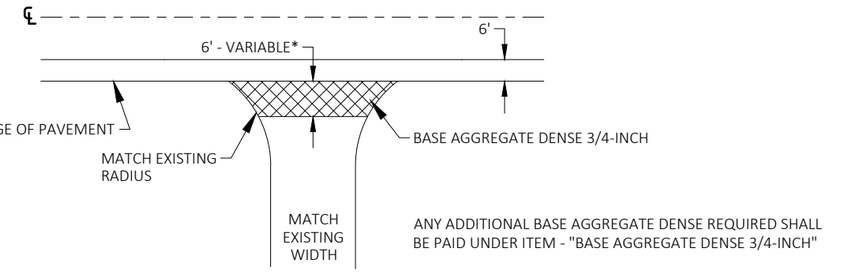
PLAN VIEW



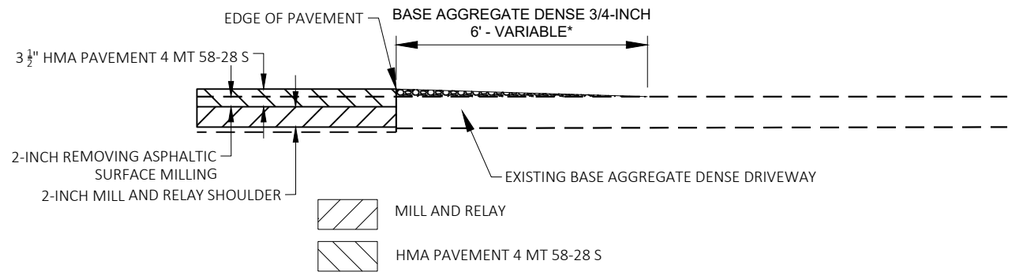
ELEVATION VIEW

ASPHALTIC DRIVEWAY DETAIL

* EXACT DIMENSIONS TO BE DETERMINED BY ENGINEER IN THE FIELD



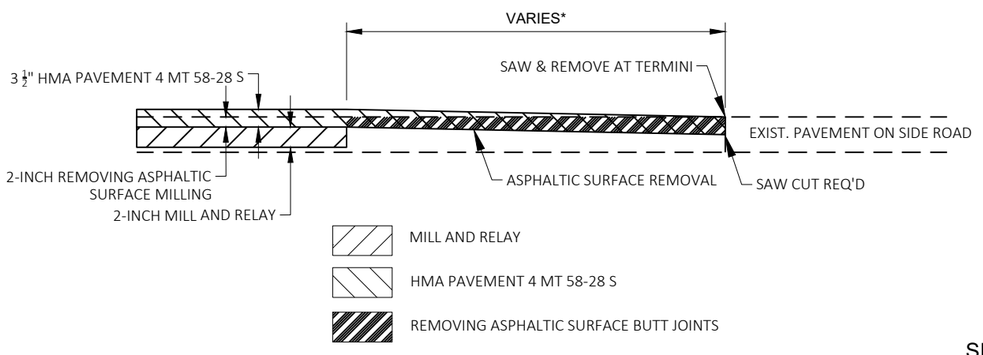
PLAN VIEW

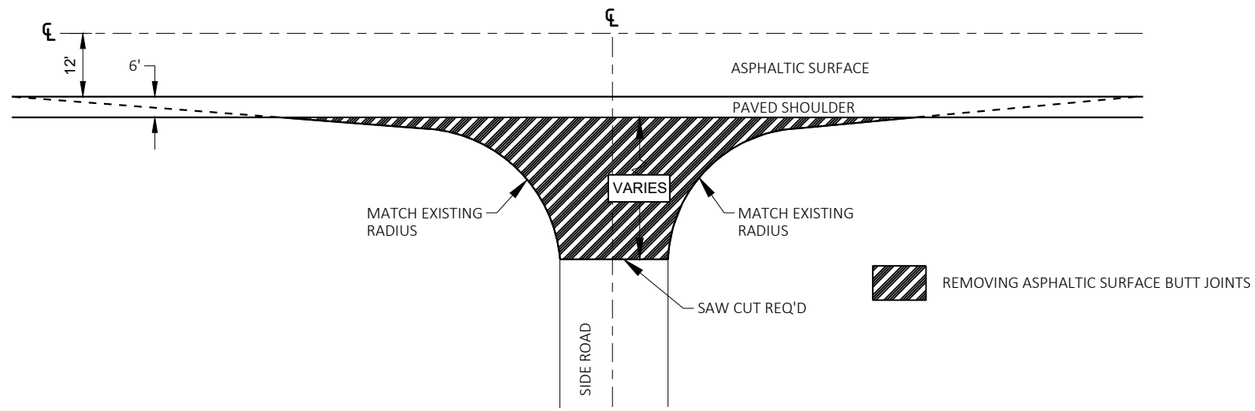


ELEVATION VIEW

BASE AGGREGATE DRIVEWAY DETAIL

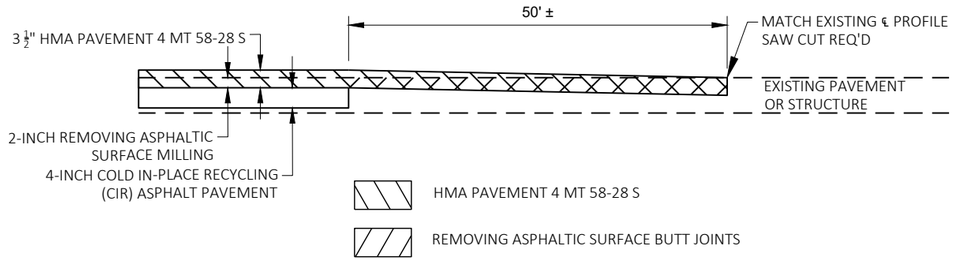
* EXACT DIMENSIONS TO BE DETERMINED BY ENGINEER IN THE FIELD





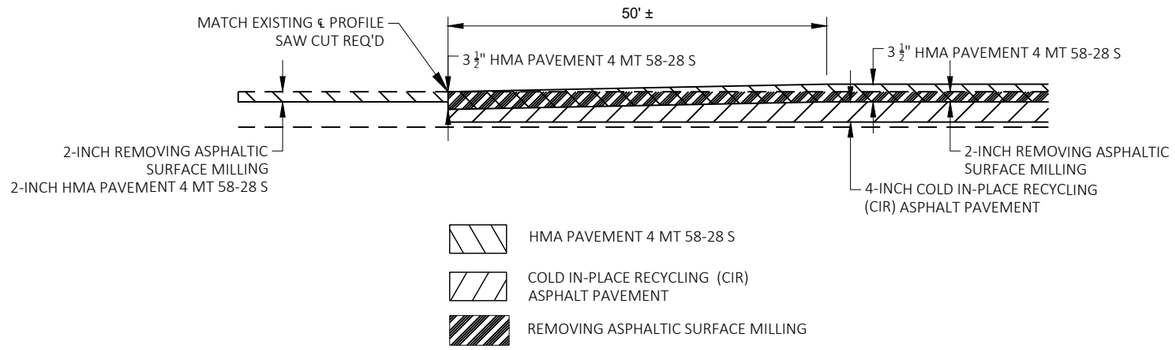
SIDE ROAD DETAIL

(PAID FOR AS "REMOVING ASPHALTIC SURFACE BUTT JOINTS")



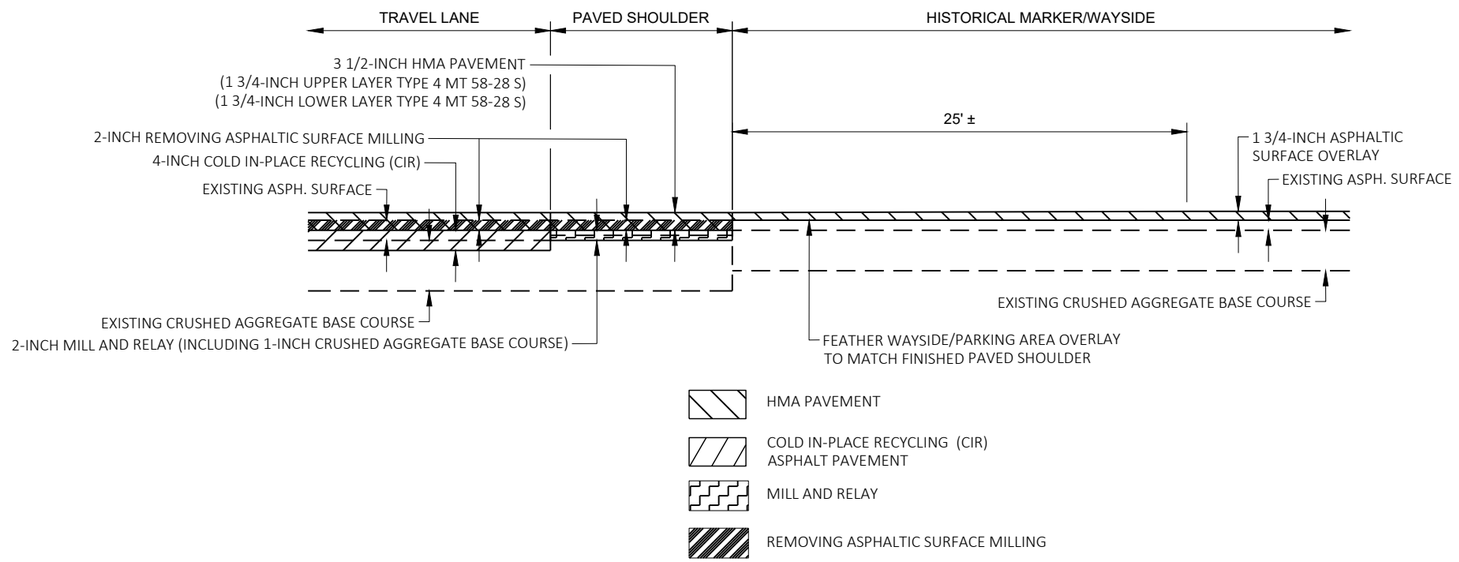
BUTT JOINT DETAIL (CIR)

STA 450+98 - STA 451+48
STA 491+32 - STA 491+82
STA 492+59 - STA 493+09
STA 877+45 - STA 877+95
STA 1075+25 - STA 1075+75



MILLING TRANSITION DETAIL

STA 892+39 - STA 892+89



HISTORICAL MARKER/WAYSIDE JOINT DETAIL

STA 529+86 - STA 530+52 LT
STA 532+23 - STA 532+83 LT
STA 593+89 - STA 594+59 RT
STA 596+87 - STA 597+58 RT
STA 641+19 - STA 642+23 RT
STA 642+63 - STA 643+06 RT
STA 849+41 - STA 850+14 LT
STA 851+18 - STA 851+76 LT
STA 1054+32 - STA 1055+05 RT
STA 1061+76 - STA 1062+71 RT

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CONSTRUCTION DETAILS	SHEET 19	E

2

BEGIN PROJECT
STA 450+98
MATCH EXISTING
SAW CUT REQ'D
BUTT JOINT REQ'D

BP: 444+25.96

PI: 446+36.69

BNSF RAILROAD R/W

BNSF RAILROAD

PI: 466+07.64

EXISTING R/W

STH 35/STH 82

445 450 455 460 465 470

MATCH LINE
STA 473+00

OLD HIGHWAY 35 (S MILL PARK DR)

STA 451+00
EXISTING PIPE TO REMAIN

EXISTING R/W

STA 464+00
EXISTING PIPE TO REMAIN

2

BNSF RAILROAD

EXISTING R/W

BNSF RAILROAD R/W

PI: 477+61.92

STA 491+83, LT
HEIGHT MODERNIZATION STATION
DO NOT DISTURB

STA 492+65 - STA 496+01 LT
REMOVE EXISTING GUARDRAIL
1-MGS THRIE BEAM TRANSITION
282.5 LF- MGS GUARDRAIL 3
75 LF- MGS GUARDRAIL SHORT RADIUS REQ'D, 16' & 50' RADIUS
1-MGS GUARDRAIL SHORT RADIUS TERMINAL

PC: 491+42.92

STA 489+71 - STA 491+76 LT
REMOVE EXISTING GUARDRAIL
1-MGS THRIE BEAM TRANSITION
112.5 LF- MGS GUARDRAIL 3
1 - MGS GUARDRAIL TERMINAL EAT REQ'D

STA 496+16
ASPH CE LT

BOAT LANDING RAMP

STA 495+52
DO NOT DISTURB
HMOD STATION DE SOTO GPS

STA 501+75
BAD CE LT

HMOD

MATCH LINE
STA 473+00

STH 35/STH 82

475 480 485 490 495 500

MATCH LINE
STA 503+00

BM
H123
NGS

STA 475+00
EXISTING PIPE TO REMAIN

EXISTING R/W

STA 489+46 - STA 491+76 RT
REMOVE EXISTING GUARDRAIL
1-MGS THRIE BEAM TRANSITION
137.5 LF- MGS GUARDRAIL 3
1-MGS GUARDRAIL TERMINAL EAT REQ'D

STRUCTURE B-12-20
STA 491+82 - STA 492+59
CONCRETE OVERLAY AND CURB REPAIR
SEE STRUCTURE PLANS

SI (TYP.)

STA 492+65 - STA 494+94 RT
REMOVE EXISTING GUARDRAIL
1-MGS THRIE BEAM TRANSITION
177.5 LF- MGS GUARDRAIL 3
1-MGS GUARDRAIL TERMINAL EAT REQ'D

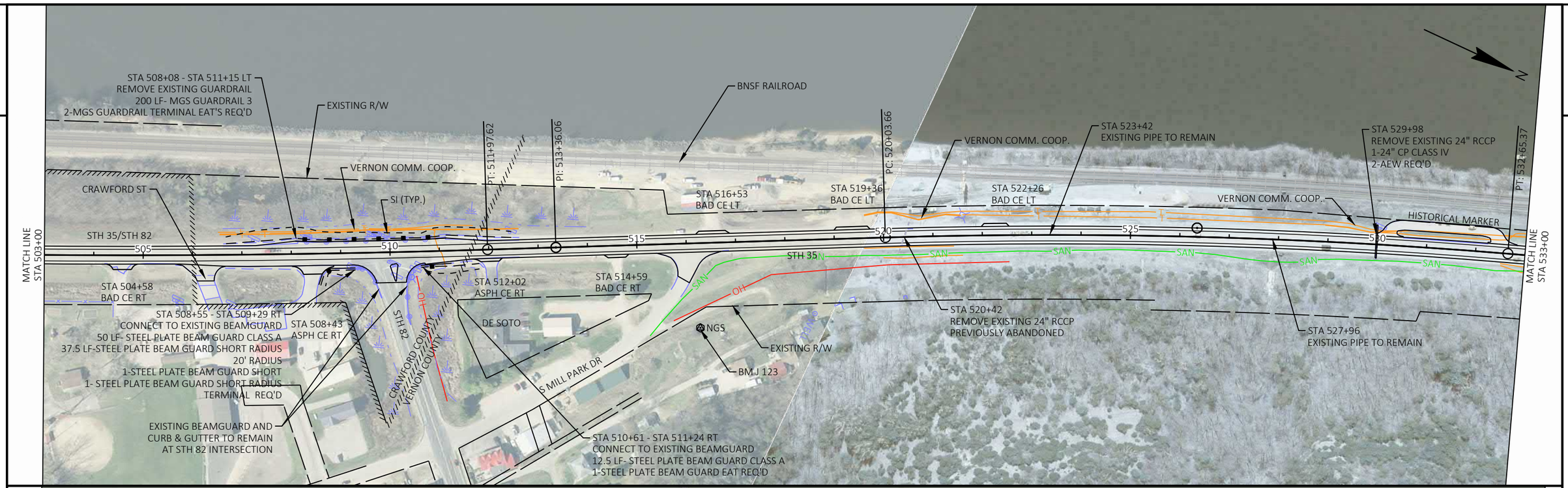
XCEL

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
H 123	491+82.73	637.764	16.54' LT ; H 123

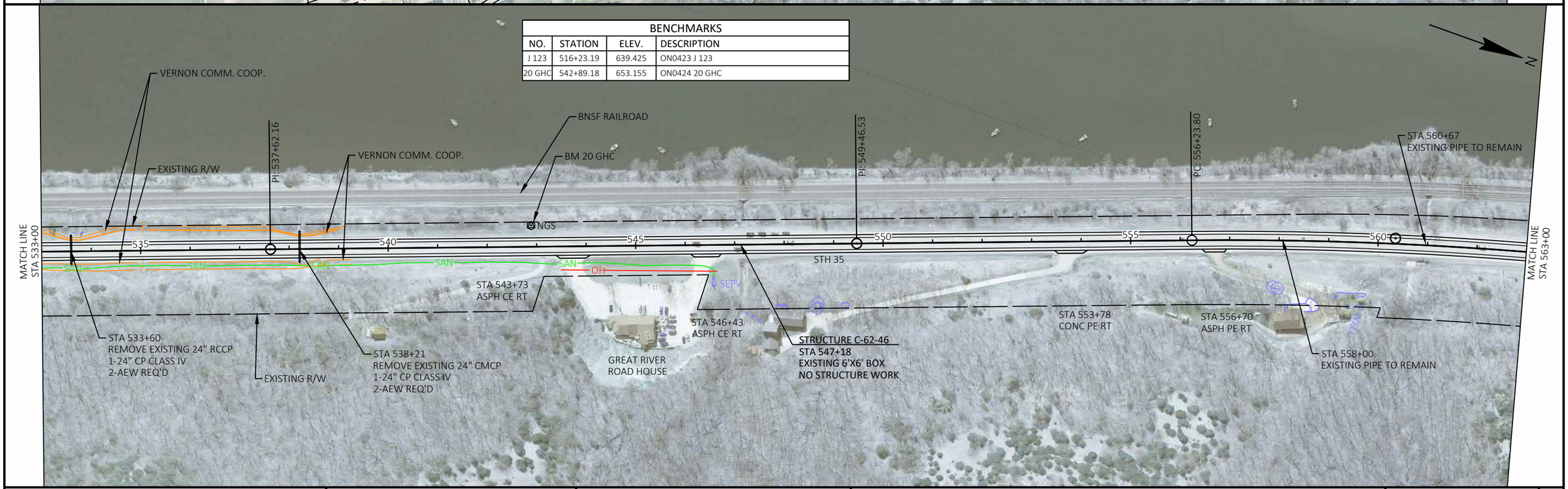
PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	PLAN - STH 35	SHEET 20	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050201-pn

PLOT DATE : 7/14/2021 4:13 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:200 FT



BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
J 123	516+23.19	639.425	ON0423 J 123
20 GHC	542+89.18	653.155	ON0424 20 GHC

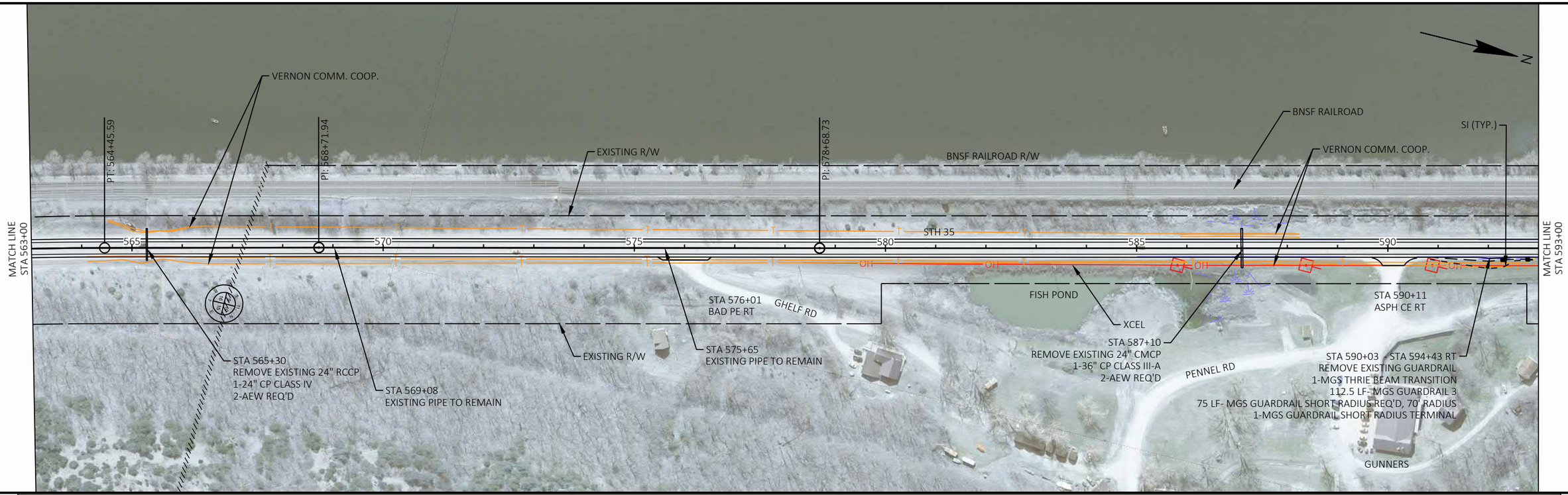


PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	PLAN - STH 35	SHEET 21	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050202-pn

PLOT DATE : 7/14/2021 4:14 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:200 FT

2



BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
K 123	593+94.26	632.476	ON0426 K 123

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	PLAN - STH 35	SHEET 22 E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050203-pn

PLOT DATE : 7/14/2021 4:14 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:200 FT

CONTROL POINTS					
NO.	STATION	ELEV.	X	Y	DESCRIPTION
902	634+29.23	639.024	615,859.9	112,415.6	3/4-INCH IRON ROD
901	639+31.20	639.462	615,814.0	112,885.2	3/4-INCH IRON ROD

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
L 123	636+90.82	637.561	ON0427 L 123
L 57	676+21.88	636.600	ON0430 L 57

MATCH LINE STA 623+00

MATCH LINE STA 653+00

STA 623+00 BAD PE RT

STA 625+43 ASPH PE RT

EXISTING R/W

VERNON COMM. COOP.

BM L 123 NGS

CP 902

XCEL

ZITZNER ROAD

CP 901

EXISTING STRUCTURE B-62-18
NEW STRUCTURE B-62-264
STA 637+24
REPLACE BOX
SEE STRUCTURE PLANS

BNSF RAILROAD

EXISTING R/W

STH 35

HISTORICAL MARKER

STA 644+92 - STA 652+11 LT
REMOVE EXISTING GUARDRAIL
612.5 LF- MGS GUARDRAIL 3
2-MGS GUARDRAIL TERMINAL EAT REQ'D

PI: 649+94.40

BNSF RAILROAD R/W

SI (TYP.)

STA 651+00
EXISTING PIPE TO REMAIN

BATTLE HOLLOW RD

STA 652+20
REMOVE EXISTING 24" RCCP
1-24" CP CLASS IV
2-AEW'S REQ'D

MATCH LINE STA 653+00

MATCH LINE STA 683+00

STA 665+34 - 687+07 LT
REMOVE EXISTING GUARDRAIL
275 LF - MGS GUARDRAIL 3
900 LF - MGS GUARDRAIL 3K
1-MGS GUARDRAIL TERMINAL EAT REQ'D
31.25 LF - MGS GUARDRAIL SHORT RADIUS REQ'D, 40' RADIUS
1-MGS GUARDRAIL SHORT RADIUS TERMINAL REQ'D

STA 678+48 - STA 693+53 LT
REMOVE EXISTING GUARDRAIL
1400 LF - MGS GUARDRAIL 3
1-MGS GUARDRAIL TERMINAL EAT REQ'D

EXISTING CURB & GUTTER TO REMAIN

ASPHALT ROAD / CTH BI

BNSF RAILROAD R/W

BNSF RAILROAD

XCEL

EXISTING R/W

PI: 668+26.08

STA 667+50

MGS 3

MGS 3K

SI (TYP.)

VERNON COMM. COOP.

BM L 57 NGS

STA 676+50

MGS 3K

MGS 3

PI: 679+72.74

VERNON ELEC. COOP.

STH 35

EXISTING R/W

VERNON COMM. COOP.

STA 675+16 - STA 677+85 RT
REMOVE EXISTING GUARDRAIL
162.5 LF - MGS GUARDRAIL 3
2-MGS GUARDRAIL TERMINAL EAT REQ'D

STRUCTURE C-62-48
STA 676+15
EXISTING 8'X12' CONCRETE BOX
NO STRUCTURE WORK

XCEL

BLUFF ROAD

STA 678+28 BAD PE RT

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	PLAN - STH 35	SHEET 23	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050204-pn

PLOT DATE : 7/14/2021 4:14 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

N

STA 693+72 - STA 720+38 LT
REMOVE EXISTING GUARDRAIL
2594 LF - MGS GUARDRAIL 3
6 LF - MGS GUARDRAIL SHORT RADIUS REQ'D, 8' RADIUS
1 - MGS GUARDRAIL SHORT RADIUS TERMINAL REQ'D

STA 693+53 LT
1-MGS GUARDRAIL TERMINAL EAT REQ'D

GANTENBEIN ROAD

PI: 686+12.64

PI: 693+84.75

PC: 699+20.41

BNSF RAILROAD R/W

BNSF RAILROAD

VERNON COMM. COOP.
(OH AND BURIED)

SI (TYP.)

NGS

STA 703+28
EXISTING PIPE TO REMAIN

EXISTING R/W

MATCH LINE
STA 683+00

685 690 695 700 705 710

STH 35

OH

XCEL

STA 684+26
EXISTING PIPE TO REMAIN

STA 694+62, LT (21 GHC)
HEIGHT MODERNIZATION STATION
DO NOT DISTURB

VERNON ELEC. COOP.

STA 699+02
EXISTING PIPE TO REMAIN

EXISTING R/W

STA 708+15
ASPH PE RT

STA 710+37
EXISTING PIPE TO REMAIN

STA 712+15
ASPH PE RT

MATCH LINE
STA 713+00

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
21GHC	694+62.30	657.778	ON0432 21 GHC
M123	740+48.16	645.316	ON0434 M 123
952	741+40.01	637.217	CUT SQ. HEADWALL

N

VERNON COMM. COOP.

STA 720+38 LT
1-MGS GUARDRAIL TERMINAL EAT REQ'D

PI: 720+19.31

SI (TYP.)

BNSF RAILROAD R/W

BNSF RAILROAD

EXISTING R/W

PC: 729+61.62

STA 741+51
REMOVE EXISTING 24" RCCP
1-24" CP CLASS IV
2-AEW'S REQ'D

EXISTING STRUCTURE C-62-0282
STA 740+92
NO WORK ON STRUCTURE
CLEANING BOX CULVERT, 5'X10', STA. 740+92

STA 740+72
BAD CE LT

VERNON COMM. COOP. (BURIED)

VERNON ELEC. COOP.

BM 952

MATCH LINE
STA 713+00

715 720 725 730 735 740

STH 35

CTH UU

STA 715+76
ASPH PE RT

STRUCTURE C-62-49
STA 714+56
EXISTING 4'X6' CONCRETE BOX
NO WORK ON STRUCTURE

STA 721+45
EXISTING PIPE TO REMAIN

STA 722+12
BAD PE RT

STA 729+37
BAD PE RT

EXISTING R/W

STA 727+09
EXISTING PIPE TO REMAIN

MC MICHAEL ST

STA 734+01
REMOVE EXISTING 24" RCCP
1-24" CP CLASS IV
2-AEW'S REQ'D

CP 904

TERHUNE ST

STEVENS RD

STA 738+39
ASPH PE RT

STA 739+92
REMOVE EXISTING 36" RCCP
1-36" CP CLASS IV
2-AEW'S REQ'D

BM M123

VICTORY

MATCH LINE
STA 743+00

CONTROL POINTS					
NO.	STATION	ELEV.	X	Y	DESCRIPTION
904	738+16.53	639.902	615,843.3	122,664.0	3/4-INCH IRON ROD

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	PLAN - STH 35	SHEET 24	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050205-pn

PLOT DATE : 7/14/2021 4:14 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:200 FT

CONTROL POINTS					
NO.	STATION	ELEV.	X	Y	DESCRIPTION
903	743+32.07	638.587	615,879.9	123,180.3	3/4-INCH IRON ROD

STA 744+00
REMOVE EXISTING 24" CMCP
1-24" CP CLASS III-A
2-AEW'S REQ'D

PC: 745+70.68

STA 746+16
REMOVE EXISTING 24" CMCP
1-24" CP CLASS III-A
2-AEW'S REQ'D

STA 750+22
REMOVE EXISTING 36" CMCP
1-36" CP CLASS III-A
2-AEW'S REQ'D

EXISTING R/W

PT: 758+54.80

BNSF RAILROAD

PC: 768+04.20

MATCH LINE
STA 743+00

745 750 755 760 765 770

CP 903

VERNON COMM. COOP.
STA 753+57 - STA 755+12 RT
REMOVE EXISTING GUARDRAIL
50 LF - MGS GUARDRAIL 3
2-MGS GUARDRAIL TERMINAL EAT'S REQ'D

SI (TYP.)

STH 35

WASHINGTON ST

EXISTING R/W

STA 766+04
BAD PE RT

STA 767+39
BAD PE RT

STA 771+79
BAD PE RT

MATCH LINE
STA 773+00

CTH UU

LIBERTY ST

WASHINGTON ST

VERNON ELEC. COOP.

VICTORY

STRUCTURE C-62-50
STA 754+36
EXISTING TWIN 8'X9'
CONCRETE BOX
NO WORK ON STRUCTURE

STA 793+57 - 813+87 LT
REMOVE EXISTING GUARDRAIL
750 LF - MGS GUARDRAIL 3
1175 LF - MGS GUARDRAIL 3K
1-MGS GUARDRAIL TERMINAL EAT REQ'D

EXISTING R/W

SI (TYP.)

VERNON COMM. COOP.

BNSF RAILROAD R/W

BNSF RAILROAD

STA 784+60
EXISTING PIPE TO REMAIN

STA 795+00

MGS 3

MGS 3K

PT: 797+80.43

785 790 795 800

STH 35

BM
N 123
NGS

775 780

BM
206B
NGS

BM
206C
NGS

STA 778+51
REMOVE EXISTING 24" RCCP
1-24" CP CLASS IV
2-AEW'S REQ'D

EXISTING R/W

STA 797+08
EXISTING PIPE TO REMAIN

STA 799+03
ASPH PE RT

STRUCTURE C-62-51
STA 801+55
EXISTING 6'X6' CONCRETE BOX
NO WORK ON STRUCTURE

STA 802+77
ASPH PE RT

MATCH LINE
STA 773+00

MATCH LINE
STA 803+00

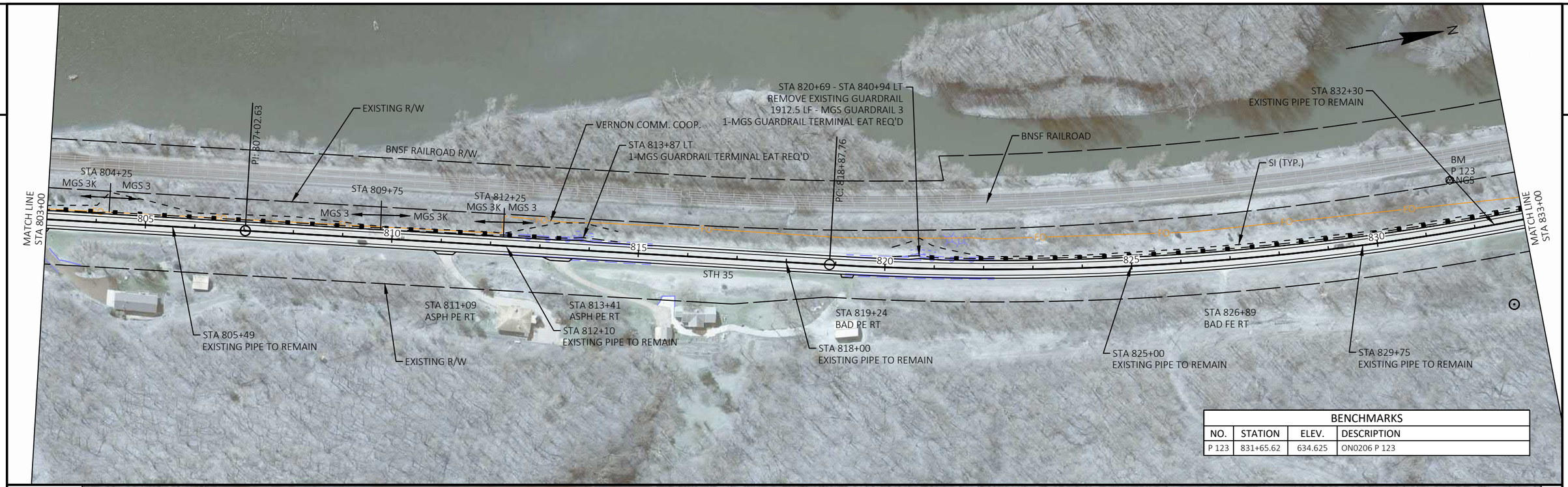
BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
N 123	773+95.84	638.529	ON0435 N 123
206C	777+62.26	642.151	ON0436 206 CAP
206B	777+80.56	638.129	ON0437 206 BOLT

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	PLAN - STH 35	SHEET 25	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050206-pn

PLOT DATE : 7/14/2021 4:15 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:200 FT

2



BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
P 123	831+65.62	634.625	ON0206 P 123



PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	PLAN - STH 35	SHEET 26	E

2

BNSF RAILROAD R/W

BNSF RAILROAD

PT: 865+10.20

EXISTING R/W

PI: 872+77.20

STA 876+31 - STA 877+86 LT
REMOVE EXISTING GUARDRAIL
1-MGS THRIE BEAM TRANSITION
62.5 LF - MGS GUARDRAIL 3
1-MGS GUARDRAIL TERMINAL EAT REQ'D

SALVAGE, SAWCUT, AND REINSTALL THRIE BEAM TRANSITION

VERNON ELEC. COOP.

STA 892+39
END MILL AND OVERLAY

STA 890+90 LT
EXISTING DRIVEWAY
TO REMAIN

MATCH LINE
STA 863+00

STA 875+24
ASPH PE LT

VERNON COMM. COOP.

PC: 883+15.83

MATCH LINE
STA 893+00

EXISTING CURB & GUTTER TO REMAIN

865

870

875

880

885

890

STH 35

OH

SI (TYP.)

STA 876+31 - STA 877+86 RT
REMOVE EXISTING GUARDRAIL
1-MGS THRIE BEAM TRANSITION
62.5 LF - MGS GUARDRAIL 3
1-MGS GUARDRAIL TERMINAL EAT REQ'D

BAD AXE RIVER

EXISTING GUARD RAIL TO REMAIN

STA 880+39
BEGIN MILL AND OVERLAY

STA 887+75 RT
EXISTING DRIVEWAY
TO REMAIN

GENOA NATIONAL FISH
HATCHERY ADMIN
BUILDING

MEADOW LN

STRUCTURE B-62-93
STA 877+95 - STA 880+39
EXISTING 3-SPAN 45"PRESTRESSED GIRDER
REPLACE WING TOPS N ABUT
TIE BACK WINGS
SEE STRUCTURE PLANS

N

BNSF RAILROAD R/W

BNSF RAILROAD

STRUCTURE C-62-52
STA 912+79
EXISTING 6'X6'
CONCRETE BOX
NO STRUCTURE WORK

STRUCTURE C-62-53
STA 919+33
EXISTING 6'X6'
CONCRETE BOX
NO STRUCTURE WORK

OBLITERATE
WAYSIDE

VERNON COMM.
COOP.

PI: 906+09.45

PC: 913+54.70

STA 911+71 - STA 927+20 LT
REMOVE EXISTING GUARDRAIL
1050 LF - MGS GUARDRAIL 3
400 LF - MGS GUARDRAIL 3K
1-MGS GUARDRAIL TERMINAL EAT REQ'D

STA 917+70 - STA 918+20
CLEARING AND GRUBBING

SI (TYP.)

GENOA NATIONAL FISH
HATCHERY

STA 902+43
ASPH CE LT

EXISTING R/W

STA 898+58
ASPH CE LT

VERNON COMM. COOP.

STA 913+00
MGS 3

MGS 3K

STA 917+00
MGS 3K

MGS 3

PT: 895+74.84

STA 899+11
BAD CE LT

OH

MATCH LINE
STA 893+00

895

900

905

910

915

920

STH 35

WAYSIDE

STA 899+21
BAD PE RT

VERNON ELEC. COOP.

STA 896+24
EXISTING PIPE TO REMAIN

STA 903+74
REMOVE EXISTING 36" RCCP
1-36" CP CLASS III-A
2-AEW'S REQ'D

STA 906+27
ASPH PE RT

STA 906+82
ASPH PE RT

STA 908+73
REMOVE EXISTING 36" RCCP
1-36" CP CLASS III-A
2-AEW'S REQ'D

STA 910+76
BAD PE RT

STA 913+01
BAD PE RT

STA 917+44
ASPH PE RT

REMOVE WAYSIDE
PLACE BEAMGUARD ACROSS WAYSIDE

STA 918+56
ASPH PE RT

MUNDSACK RD

MATCH LINE
STA 923+00

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	PLAN - STH 35	SHEET 27	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050208-pn

PLOT DATE : 7/14/2021 4:15 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

2

2

STA 927+20 LT
1-MGS GUARDRAIL TERMINAL EAT REQ'D

BNSF RAILROAD

STA 932+22 - STA 942+25 LT
REMOVE EXISTING GUARDRAIL
375 LF - MGS GUARDRAIL 3
525 LF - MGS GUARDRAIL 3K
2-MGS GUARDRAIL TERMINAL EAT'S REQ'D

SI (TYP.)

PI: 938+91.65

STA 942+19 - STA 943+05
CLEARING AND GRUBBING

BNSF RAILROAD R/W

VERNON COMM. COOP.

STA 935+00

MGS 3

MGS 3K

STA 940+25

MGS 3K

MGS 3

VERNON COMM. COOP.

PI: 944+60.79

EXISTING R/W

PI: 951+96.22

BM
R 123
NGS

930

935

940

945

950

975

STH 35

MATCH LINE
STA 923+00

EXISTING R/W

STA 938+74
EXISTING PIPE TO REMAIN

STA 952+35
ASPH PE RT

MATCH LINE
STA 953+00

STRUCTURE C-62-54
STA 952+69
EXISTING 8'X8'
CONCRETE BOX
NO STRUCTURE WORK

N

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
R 123	924+77.76	638.798	ON0208 R 123
37FDR	953+11.05	643.460	ON0211 37 FDR

EXISTING R/W

BNSF RAILROAD R/W

BNSF RAILROAD

PI: 959+48.26

PI: 977+42.88

PC: 982+59.08

STA 958+40
BAD PE LT

955

960

965

970

975

980

STH 35

MATCH LINE
STA 953+00

NGS
BM
37 FDR

STA 958+34
ASPH PE RT

STA 958+89
EXISTING PIPE TO REMAIN

EXISTING R/W

STRUCTURE C-62-55
STA 971+06
EXISTING 8'X10'
CONCRETE BOX
NO STRUCTURE WORK

STA 971+81
BAD PE RT

STA 975+50
ASPH PE RT

STA 980+64
ASPH PE RT

MATCH LINE
STA 983+00

N

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	PLAN - STH 35	SHEET 28	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050209-pn

PLOT DATE : 7/14/2021 4:15 PM

PLOT BY : CONNOR GIRTEN

PLOT NAME :

PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

2

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
L 54	998+27.89	633.293	ON0212 L 54
S 123	1033+24.53	638.001	ON0214 S 123

N

STA 994+78 - STA 1005+97LT
REMOVE EXISTING GUARDRAIL
487.5 LF - MGS GUARDRAIL 3
525 LF - MGS GUARDRAIL 3K
2-MGS GUARDRAIL TERMINAL EAT'S REQ'D

BNSF RAILROAD

VERNON COMM. COOP.

PT: 990+77.71

SI (TYP.)

STA 998+00

BM
L 54
NGS

MGS 3K

MGS 3

EXISTING R/W

BNSF RAILROAD R/W

STA 1003+25
MGS 3K
MGS 3

PI: 1004+73.61

PC: 1011+52.91

MATCH LINE
STA 983+00

985 990 995 1000 1005 1010

STH 35

STA 998+04
EXISTING PIPE TO REMAIN

STA 995+13
BAD PE RT

EDGEWOOD LN

EXISTING R/W

STA 1009+58
ASPH PE RT

STA 989+51
EXISTING PIPE TO REMAIN

STA 998+94
EXISTING PIPE TO REMAIN

MATCH LINE
STA 1013+00

N

STA 1014+02 - STA 1015+70 LT
ADJUSTING STEEL PLATE BEAM GUARD

DAIRYLAND POWER COOP
ENTRANCE

STA 1013+45
BAD PE LT

XCEL

STA 1016+08
ASPH CE LT

VERNON COMM. COOP.

PT: 1021+12.19

BNSF RAILROAD

BNSF RAILROAD R/W

PI: 1030+62.04

DAIRYLAND POWER COOP

BM
S 123
NGS

EXISTING R/W

STA 1036+22 - STA 1059+13 LT
REMOVE EXISTING GUARDRAIL
1862.5 LF - MGS GUARDRAIL 3
325 LF - MGS GUARDRAIL 3K
1-MGS GUARDRAIL TERMINAL EAT REQ'D

PC: 1036+70.26

STA 1042+95
EXISTING PIPE TO REMAIN

VERNON COMM. COOP.

MATCH LINE
STA 1013+00

1015 1020 1025 1030 1035 1040

STH 35

GIANOLI RD

DAIRYLAND POWER

STA 1019+73
ASPH PE RT

STA 1013+95
ASPH PE RT

SI (TYP.)

STRUCTURE C-1935-46
STA 1015+04
EXISTING 7.5'X16'
CONCRETE BOX
NO WORK ON STRUCTURE

STA 1013+92 - STA 1016+38 RT
REMOVE EXISTING GUARDRAIL
150 LF - MGS GUARDRAIL 3
1-MGS GUARDRAIL SHORT RADIUS TERMINAL REQ'D
37.5 LF - MGS GUARDRAIL SHORT RADIUS REQ'D, 34' RADIUS
1-MGS GUARDRAIL TERMINAL EAT REQ'D

EXISTING R/W

STA 1029+48
EXISTING PIPE TO REMAIN

STA 1033+15
REMOVE EXISTING 48" CMCP
1-48" CP CLASS IV
2-AEW'S REQ'D

STA 1038+62
EXISTING PIPE TO REMAIN

VERNON ELEC. COOP

MATCH LINE
STA 1043+00

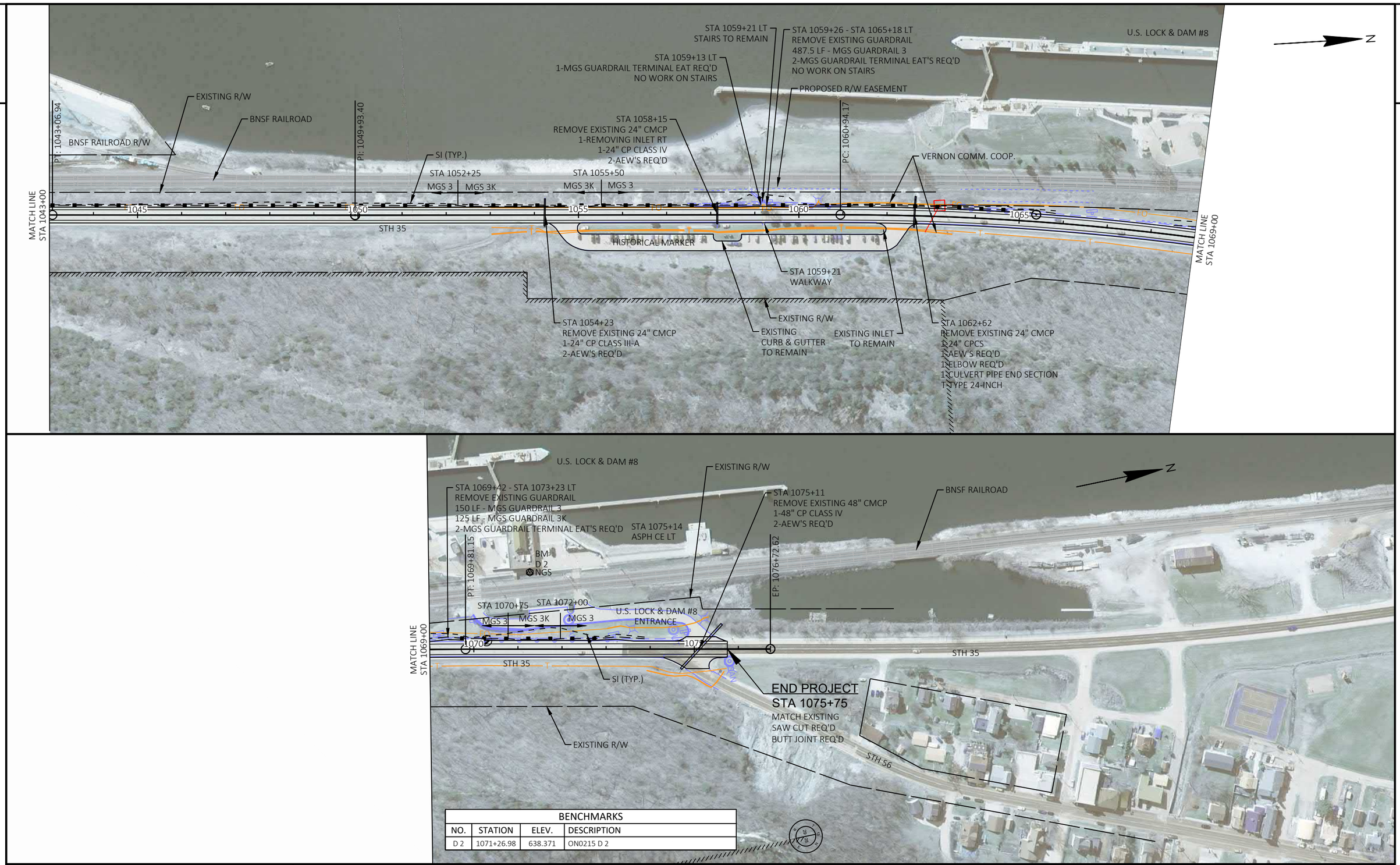
PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	PLAN - STH 35	SHEET 29	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050210-pn

PLOT DATE : 7/28/2021 11:53 AM PLOT BY : BOBBI MAXWELL PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

2



BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
D 2	1071+26.98	638.371	ON0215 D 2

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	PLAN - STH 35	SHEET 30	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050211-pn
PLOT DATE : 7/14/2021 4:16 PM
PLOT BY : CONNOR GIRTEN
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44

2

BNSF RAILROAD

EXISTING R/W

PI: 446+36.69

446 448 450 452 454 456 458 460

STH 35

STA 451+00
EXISTING PIPE TO REMAIN

MATCH LINE 461+00.00

EXISTING R/W

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

MATCH LINE 476+00.00

BNSF RAILROAD

EXISTING R/W

PI: 466+07.64

462 464 466 468 470 472 474

STH 35

STA 464+00
EXISTING PIPE TO REMAIN

STA 475+00
EXISTING PIPE TO REMAIN

MATCH LINE 461+00.00

EXISTING R/W

2

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 31	E

2

EXISTING R/W

PI: 477+61.92

WETLANDS TYPE AB

TEMPORARY SMALL ANIMAL TURN-AROUND

SI

476 478 480 482 484 486 488 490

STH 35

MATCH LINE 476+00.00

MATCH LINE 491+00.00

EXISTING R/W

SI

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

BNSF RAILROAD

MATCH LINE 506+00.00

EXISTING R/W

TEMPORARY SMALL ANIMAL TURN-AROUND

STA 491+80.79 - STA 492+55.91
B-12-20
CONCRETE OVERLAY AND CURB REPAIR
SEE STRUCTURE PLANS

TEMPORARY SMALL ANIMAL TURN-AROUND

PC: 491+42.92

SI

492 494 496 498 500 502 504

STH 35

SI

TEMPORARY SMALL ANIMAL TURN-AROUND

MATCH LINE 491+00.00

TEMPORARY SMALL ANIMAL TURN-AROUND

EXISTING R/W

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 32	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (2)

PLOT DATE : 7/14/2021 4:31 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

TEMPORARY SMALL ANIMAL TURN-AROUND

WETLANDS TYPE AB

SI

PT: 511+97.62

PI: 513+36.06

BNSF RAILROAD

EXISTING R/W

PC: 520+03.66

MATCH LINE 521+00.00

2

506

508

510

512

514

516

518

520

STH 35

TEMPORARY SMALL ANIMAL TURN-AROUND

TEMPORARY SMALL ANIMAL TURN-AROUND

SI

WETLANDS TYPE M

MATCH LINE 506+00.00

CRAWFORD STREET

WETLANDS TYPE M

STH 82

TEMPORARY SMALL ANIMAL TURN-AROUND

S MILL PARK DRIVE

NGS

STA 520+42

REMOVE EXISTING 24" RCCP

PREVIOUSLY ABANDONED

EXISTING R/W

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

STA 533+60

REMOVE EXISTING 24" RCCP

1 - 24" CPRC

1 - AEW REQ'D RT

MATCH LINE 536+00.00

BNSF RAILROAD

EXISTING R/W

PT: 532+65.37

HISTORICAL MARKER

522

524

526

528

530

532

534

STH 35

STA 523+42

EXISTING PIPE TO REMAIN

STA 527+96

EXISTING PIPE TO REMAIN

STA 529+98

REMOVE EXISTING 24" RCCP

1 - 24" CPRC

1 - AEW REQ'D RT

EXISTING R/W

MATCH LINE 521+00.00

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 33	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (3)

PLOT DATE : 7/14/2021 4:32 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

MATCH LINE 536+00.00

PI: 537+62.16

BNSF RAILROAD

EXISTING R/W

NGS

536 538 540 542 544 546 548 550

STH 35

SAN SAN SAN SAN SAN SAN SAN SAN SAN

POST POST

HO HO

SEPV

STA 538+21
REMOVE EXISTING 24" CMCP
1 - 24" CPRC
1 - AEW REQ'D RT

STA 547+18
C-62-46
EXISTING 6'X6' BOX
NO STRUCTURE WORK

EXISTING R/W

POST

MATCH LINE 551+00.00

PI: 549+46.53

MATCH LINE 551+00.00

EXISTING R/W

PC: 556+23.80

BNSF RAILROAD

552 554 556 558 560 562 564

STH 35

POST POST POST POST POST POST

STA 558+00
EXISTING PIPE TO REMAIN

STA 560+67
EXISTING PIPE TO REMAIN

WELL

PT: 564+45.59

STA 565+30
REMOVE EXISTING 24" RCCP
1 - 24" CPRC
1 - AEW REQ'D

EXISTING R/W

MATCH LINE 566+00.00

2

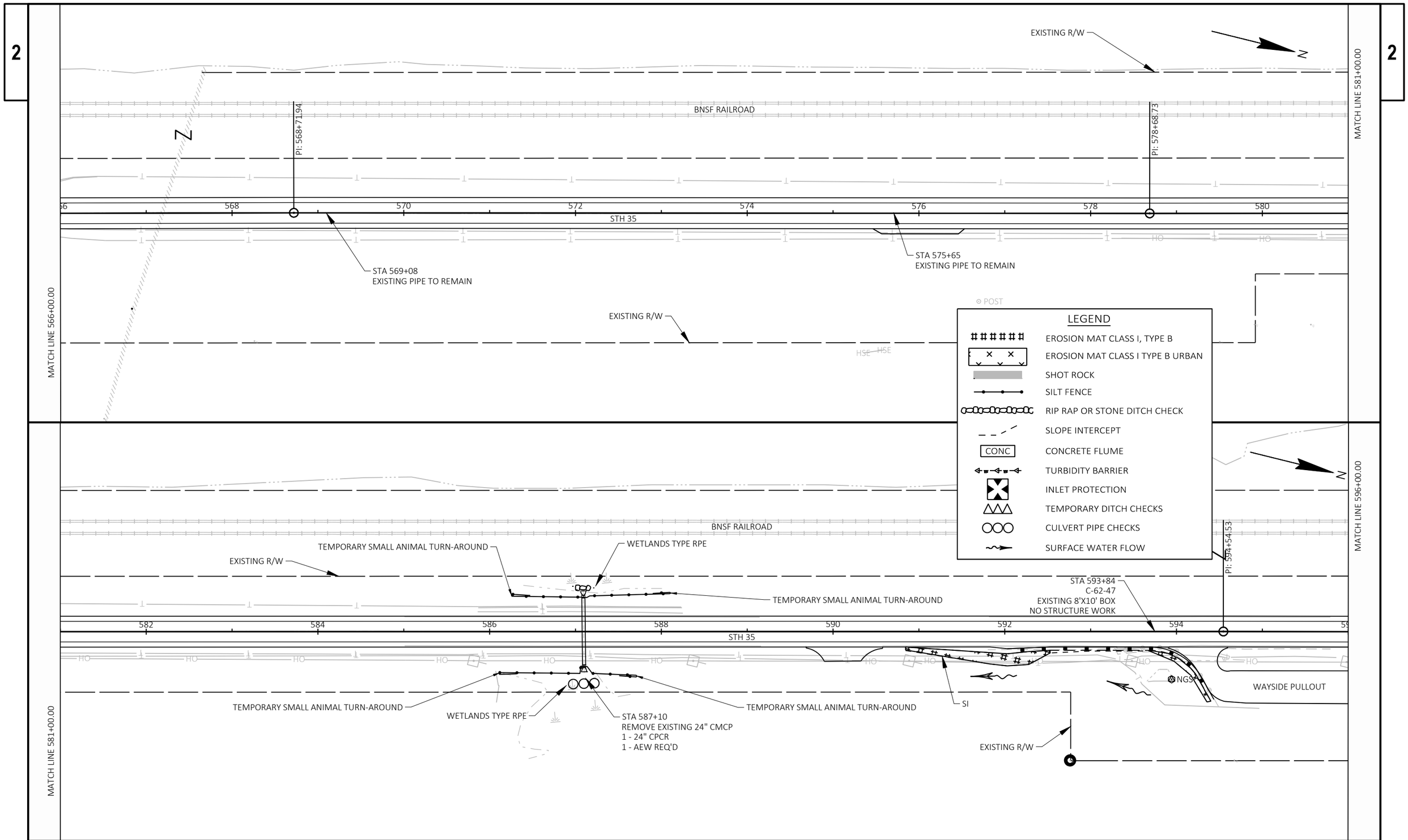
LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 34	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (4)

PLOT DATE : 7/14/2021 4:32 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT



PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 35	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (5)

PLOT DATE : 7/14/2021 4:32 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

N

BNSF RAILROAD

EXISTING R/W

PC: 603+21.71

598 600 602 604 606 608 610

STH 35

STA 597+65
EXISTING PIPE TO REMAIN

STA 608+22
EXISTING PIPE TO REMAIN

MATCH LINE 596+00.00

MATCH LINE 611+00.00

HO

EXISTING R/W

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

2

N

BNSF RAILROAD

PT: 619+73.00

EXISTING R/W

612 614 616 618 620 622 624

STH 35

MATCH LINE 611+00.00

MATCH LINE 626+00.00

EXISTING R/W

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 36	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (6)

PLOT DATE : 7/14/2021 4:32 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

MATCH LINE 626+00.00

BNSF RAILROAD

EXISTING R/W

WETLANDS TYPE AB

TEMPORARY SMALL ANIMAL TURN-AROUND

NGS

SI

TEMPORARY SMALL ANIMAL TURN-AROUND

626 628 630 632 634 636 638 640

STH 35

TEMPORARY SMALL ANIMAL TURN-AROUND

ZITZNER ROAD

TEMPORARY SMALL ANIMAL TURN-AROUND

WETLANDS TYPE AB

STA 637+24
EXISTING STRUCTURE B-62-18
NEW STRUCTURE B-62-264
REPLACE BOX
SEE STRUCTURE PLANS

EXISTING R/W

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

MATCH LINE 641+00.00

MATCH LINE 656+00.00

2

BNSF RAILROAD

PI: 649+94.40

SI

SI

EXISTING R/W

642 644 646 648 650 652 654

STH 35

HISTORICAL MARKER

STA 651+00
EXISTING PIPE TO REMAIN

STA 652+00
REMOVE EXISTING 24" RCCP
1 - 24" CPRC
2 - AEW'S REQ'D

BATTLE HOLLOW ROAD

EXISTING R/W

POST

MATCH LINE 641+00.00

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 37	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (7)

PLOT DATE : 7/14/2021 4:32 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

BNSF RAILROAD

EXISTING R/W

PI: 668+26.08

SI

MATCH LINE 671+00.00

N

656 658 660 662 664 666 668 670

STH 35

MATCH LINE 656+00.00

EXISTING R/W

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

WETLANDS TYPE M

BNSF RAILROAD

TEMPORARY SMALL ANIMAL TURN-AROUND

NGS

TEMPORARY SMALL ANIMAL TURN-AROUND

PI: 679+72.74

ASPHALT ROAD / CTH BI

EXISTING R/W

SI

672 674 676 678 680 682 684

STH 35

SI

EXISTING R/W

WETLAND TYPE M

TEMPORARY SMALL ANIMAL TURN-AROUND

STA 676+15
EXISTING 8'X12' CONCRETE BOX
NO STRUCTURE WORK

TEMPORARY SMALL ANIMAL TURN-AROUND

BLUFF ROAD

MATCH LINE 686+00.00

MATCH LINE 671+00.00

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 38	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (8)

PLOT DATE : 7/14/2021 4:32 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

MATCH LINE 686+00.00

PI: 686+72.64

PI: 693+64.75

PC: 699+20.41

MATCH LINE 701+00.00

2

EXISTING R/W

SI

GANTENBEIN ROAD

NGS

BNSF RAILROAD

GUY

HO

OH

686 688 690 692 694 696 698 700

STH 35

STA 699+02
EXISTING PIPE TO REMAIN

EXISTING R/W

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

MATCH LINE 701+00.00

BNSF RAILROAD

EXISTING R/W

SI

GUY

HO

OH

702 704 706 708 710 712 714

STH 35

STA 703+28
EXISTING PIPE TO REMAIN

STA 710+37
EXISTING PIPE TO REMAIN

EXISTING R/W

STA 714+56
C-62-49
EXISTING 4'X6' CONCRETE BOX
NO WORK ON STRUCTURE

MATCH LINE 716+00.00

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 39	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (9)

PLOT DATE : 7/14/2021 4:32 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

MATCH LINE 731+00.00

EXISTING R/W

PT: 720+19.31

SI

BNSF RAILROAD

PC: 729+61.62

MATCH LINE 731+00.00

2

718 720 722 724 726 728 730

STH 35

STA 721+45
EXISTING PIPE TO REMAIN

STA 727+09
EXISTING PIPE TO REMAIN

MC MICHAEL STREET

MATCH LINE 716+00.00

EXISTING R/W

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

MATCH LINE 731+00.00

EXISTING R/W

732 734 736 738 740 742 744

STH 35

BNSF RAILROAD

STA 740+92
C-62-0282
NO WORK ON STRUCTURE
CLEANING BOX CULVERT, 5'X10', STA 740+92

STA 744+00
REMOVE EXISTING 24" CMCP
1 - 24" CPRC
2 - AEW'S REQ'D

PC: 745+70.98

MATCH LINE 746+00.00

EXISTING R/W

MATCH INTO EXISTING
CONCRETE LINED DITCH

STA 734+01
REMOVE EXISTING 24" RCCP
1 - 24" CPRC
2 - AEW'S REQ'D

TERHUNE STREET

STA 739+92
REMOVE EXISTING 36" RCCP
1 - 36" CPRC
2 - AEW'S REQ'D

STEVENS ROAD

SI

CTH UU

STA 741+51
REMOVE EXISTING 24" RCCP
1 - 24" CPRC
2 - AEW'S REQ'D

MC MICHAEL STREET

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 40	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (10)

PLOT DATE : 7/14/2021 4:32 PM

PLOT BY : CONNOR GIRTEN

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

STA 746+16
REMOVE EXISTING 24" CMCP
1 - 24" CPRC
2 - AEW'S REQ'D

BNSF RAILROAD

WETLANDS TYPE RPE

EXISTING R/W

PT: 758+54.80

MATCH LINE 761+00.00

746

748

750

752

754

756

758

760

STH 35

SI

LIBERTY STREET

TEMPORARY SMALL
ANIMAL TURN-AROUND

WASHINGTON STREET

STA 750+22
REMOVED EXISTING 36" CMCP
1 - 36" CPRC
2 - AEW'S REQ'D

EXISTING R/W

WETLANDS TYPE RPE

STA 754+36
C-62-50
EXISTING TWIN 8'X9'
CONCRETE BOX
NO WORK ON STRUCTURE

TEMPORARY SMALL ANIMAL TURN-AROUND

WASHINGTON STREET

MATCH LINE 746+00.00

N

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

BNSF RAILROAD

PC: 768+04.20

EXISTING R/W

762

764

766

768

STH 35

770

772

774

MATCH LINE 761+00.00

WASHINGTON STREET

EXISTING R/W

MATCH LINE 776+00.00

N

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 41	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (11)

PLOT DATE : 7/14/2021 4:32 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

BNSF RAILROAD

N

EXISTING R/W

STA 784+60
EXISTING PIPE TO REMAIN

778 780 782 784 786 788 790

STH 35

MATCH LINE 791+00.00

STA 778+51
REMOVE EXISTING 24" RCCP
1 - 24" CPRC
2 - AEW'S REQ'D

NGS

MATCH LINE 776+00.00

EXISTING R/W

NGS

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

N

BNSF RAILROAD

SI

PT: 797+80.43

EXISTING R/W

SI

792 794 796 798 800 802 804

STH 35

STA 797+08
EXISTING PIPE TO REMAIN

STA 801+55
C-62-51
EXISTING 6'X6' CONCRETE BOX
NO WORK ON STRUCTURE

STA 805+49
EXISTING PIPE TO REMAIN

EXISTING R/W

MATCH LINE 791+00.00

MATCH LINE 806+00.00

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 42	E

2

2

N

BNSF RAILROAD

PI: 807+02.63

SI

EXISTING R/W

PI: 818+87.76

SI

MATCH LINE 821+00.00

FO

806 808 810 812 814 816 818 820

STH 35

STA 812+10
EXISTING PIPE TO REMAIN

STA 818+00
EXISTING PIPE TO REMAIN

EXISTING R/W

MATCH LINE 806+00.00

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

N

BNSF RAILROAD

EXISTING R/W

NGS

MATCH LINE 836+00.00

SI

FO

822 824 826 828 830 832 834

STH 35

STA 825+00
EXISTING PIPE TO REMAIN

STA 829+75
EXISTING PIPE TO REMAIN

STA 832+30
EXISTING PIPE TO REMAIN

STA 834+78
REMOVE EXISTING 48" CMCP
1 - 48" CPRC
1 - AEW REQ'D
1 - ELBOW REQ'D
1 - CULVERT PIPE END SECTION T-TYPE 48-INCH

EXISTING R/W

MATCH LINE 821+00.00

N

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 43	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (13)

PLOT DATE : 7/14/2021 4:32 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

MATCH LINE 836+00.00

MATCH LINE 851+00.00

MATCH LINE 851+00.00

MATCH LINE 866+00.00

BNSF RAILROAD

BNSF RAILROAD

SI

EXISTING R/W

EXISTING R/W

EXISTING R/W

PT: 846+13.49

PC: 854+58.39

PT: 865+10.20

HISTORICAL MARKER

STH 35

STH 35

836

838

840

842

844

846

848

850

852

854

856

858

860

862

864

STA 840+76
EXISTING PIPE TO REMAIN

STA 844+06
EXISTING PIPE TO REMAIN

STA 853+00
EXISTING PIPE TO REMAIN

STA 858+00
EXISTING PIPE TO REMAIN

HECKS POINT ROAD

FO

HO

N

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 44	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (14)

PLOT DATE : 7/14/2021 4:33 PM

PLOT BY : CONNOR GIRTEN

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

2

N

STA 878+87 - STA 879+50
B-62-93
EXISTING 3-SPAN 45" PRESTRESSED GIRDER
REPLACE WING TOPS N ABUT
TIE BACK WINGS
SEE STRUCTURE PLANS

EXISTING R/W

WETLANDS TYPE RPF

SF

TEMPORARY SMALL ANIMAL TURN-AROUND

PI: 872+77.20

866 868 870 872 874 876 878 880

STH 35

SF

TEMPORARY SMALL ANIMAL TURN-AROUND

MATCH LINE 881+00.00

MATCH LINE 866+00.00

EXISTING R/W

BAD AXE RIVER

OH HO BLDG POST WELL T

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

MATCH LINE 896+00.00

PT: 895+74.84

PC: 883+15.83

EXISTING R/W

882 884 886 888 890 892 894

STH 35

MATCH LINE 881+00.00

EXISTING R/W

MEADOW LANE

BLDG

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 45	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (15)

PLOT DATE : 7/14/2021 4:33 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

MATCH LINE 896+00.00

STA 896+24
EXISTING PIPE TO REMAIN

EXISTING R/W

STA 903+74
REMOVE EXISTING 30" RCCP
1 - 30" CPRC
2 - AEW REQ'D

PI: 906+09.45

STA 908+73
REMOVE EXISTING 36" RCCP
1 - 36" CPRC
2 - AEW'S REQ'D

TEMPORARY SMALL
ANIMAL TURN-AROUND

MATCH LINE 911+00.00

2

896 898 900 902 904 906 908 910

STH 35

EXISTING R/W

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

MATCH LINE 911+00.00

WETLANDS TYPE RPE

SI

PC: 913+54.70

EXISTING R/W

TEMPORARY SMALL
ANIMAL TURN-AROUND

912 914 916 918 920 922 924

STH 35

SI

STA 919+33
C-62-53
EXISTING 6'X6' CONCRETE BOX
NO STRUCTURE WORK

BNSF RAILROAD

NGS

MATCH LINE 926+00.00

EXISTING R/W

MUNDSACK ROAD

STA 912+35
C-62-52
EXISTING 6'X6' CONCRETE BOX
NO STRUCTURE WORK

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 46	E

2

BNSF RAILROAD

SI

SI

SI

EXISTING R/W

PT: 938+91.65

MATCH LINE 941+00.00

928 930 932 934 936 938 940

STH 35

STA 938+74
EXISTING PIPE TO REMAIN

MATCH LINE 926+00.00

EXISTING R/W

N

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

N

MATCH LINE 956+00.00

BNSF RAILROAD

SI

PI: 944+60.79

PI: 951+66.22

EXISTING R/W

942 944 946 948 950 952 954

STH 35

NGS

STA 952+69
C-62-54
EXISTING 8'X8' CONCRETE BOX
NO STRUCTURE WORK

MATCH LINE 941+00.00

EXISTING R/W

N

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 47	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (17)

PLOT DATE : 7/14/2021 4:33 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

MATCH LINE 956+00.00

MATCH LINE 971+00.00

N

BNSF RAILROAD

EXISTING R/W

PI: 959+48.26

956 958 960 962 964 966 968 970

STH 35

STA 958+89
EXISTING PIPE TO REMAIN

EXISTING R/W

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

MATCH LINE 971+00.00

MATCH LINE 986+00.00

N

BNSF RAILROAD

EXISTING R/W

PI: 977+42.88

PC: 982+59.08

972 974 976 978 980 982 984

STH 35

STA 971+06
C-62-55
EXISTING 8'X10' CONCRETE BOX
NO STRUCTURE BOX

HSE HSE HSE

BLDG BLDG

EXISTING R/W

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 48	E

2

2

N

BNSF RAILROAD

EXISTING R/W

PT: 990+77.71

SI

NGS

STA 998+94
EXISTING PIPE TO REMAIN

988 990 992 994 996 998 1000

STH 35

STA 989+51
EXISTING PIPE TO REMAIN

STA 998+04
EXISTING PIPE TO REMAIN

EDGEWOOD LANE

EXISTING R/W

MATCH LINE 986+00.00

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

STA 1015+04
C-1935-46
EXISTING 7.5'X16'
CONCRETE BOX
NO WORK ON STRUCTURE

N

BNSF RAILROAD

MATCH LINE 1016+00.00

EXISTING R/W

SI

PI: 1004+73.61

PC: 1011+52.91

1002 1004 1006 1008 1010 1012 1014

STH 35

SI

EXISTING R/W

MATCH LINE 1001+00.00

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 49	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (19)

PLOT DATE : 7/28/2021 8:32 PM PLOT BY : BOBBI MAXWELL PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

MATCH LINE 1016+00.00

MATCH LINE 1031+00.00

N

PT: 1021+12.19

PI: 1030+62.04

BNSF RAILROAD

EXISTING R/W

1016

1018

1020

1022

1024

1026

1028

1030

STH 35

SI

EXISTING R/W

GIANOLI ROAD

STA 1029+48
EXISTING PIPE TO REMAIN

SEPV

SEPV

SEPV

FO

HO

BLDG

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

N

NGS

MATCH LINE 1031+00.00

MATCH LINE 1046+00.00

PC: 1036+70.26

SI

PT: 1043+06.94

BNSF RAILROAD

EXISTING R/W

1032

1034

1036

1038

1040

1042

1044

STH 35

STA 1033+15
REMOVE EXISTING 48" CMCP
1 - 48" CPRC
2 - AEW'S REQ'D

STA 1038+62
EXISITING PIPE TO REMAIN

STA 1042+95
EXISTING PIPE TO REMAIN

EXISTING R/W

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 50	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (20)

PLOT DATE : 7/14/2021 4:33 PM

PLOT BY : CONNOR GIRTEN

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

MATCH LINE 1046+00.00

STA 1054+25
REMOVE EXISTING 24" CMCP
1 - 24" CPRC
2 - AEW'S REQ'D

EXISTING R/W

SI

PI: 1049+93.40

BNSF RAILROAD

1046 1048 1050 1052 1054 1056 1058 1060

STH 35

HISTORICAL MARKER

EXISTING R/W

STA 1058+15
REMOVE EXISTING 24" CMCP
1 - REMOVING INLET RT
1 - 24" CPRC
2 - AEW'S REQ'D

MATCH LINE 1061+00.00

2

LEGEND

- EROSION MAT CLASS I, TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SHOT ROCK
- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- CONC — CONCRETE FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

MATCH LINE 1061+00.00

STA 1062+62
REMOVING EXISTING 24" CMCP
1 - 24" CPRC
1 - AEW REQ'D
1 - ELBOW REQ'D
1 - CULVERT PIPE END SECTION
T-TYPE 24-INCH

MATCH RIP RAP 1-FT
FROM EXISTING R/W

SI

1062 1064 1066 1068 1070 1072 1074

STH 35

PI: 1069+81.15

NGS

BNSF RAILROAD

EXISTING R/W

SI

U.S. LOCK & DAM
#8 ENTRANCE

STH 56

STA 1075+11
REMOVE EXISTING 48" CMCP
1 - 48" CPRC
2 - AEW'S REQ'D

EXISTING INLET TO REMAIN

EXISTING R/W

MATCH LINE 1061+00.00

MATCH LINE 1076+00.00

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	EROSION CONTROL	SHEET 51	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - (21)

PLOT DATE : 7/14/2021 4:33 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

DETOUR ROUTE

PCMS MESSAGE:

1ST LINE: HWY 35
2ND LINE: TO CLOSE
3RD LINE: X/XX/XX

PHASE 1
OVERALL DETOUR ROUTE
STH 27 - STH 56
65.1 MILES
(PRAIRIE DU CHIEN - GENOA)

PHASE 2
LOCALIZED, DETOUR ROUTE I.D. 5160-07-70
STH 27 - STH 171
32.0 MILES
(PRAIRIE DU CHIEN - FERRYVILLE)

PHASE 2
LOCALIZED, DETOUR ROUTE I.D. 5160-07-71
STH 82 - STH 27 - STH 56
44.5 MILES
(DE SOTO - GENOA)

NOTE: DURING EACH PHASE, COVER PROPOSED TRAFFIC CONTROL SIGNS THAT ARE NOT APPLICABLE TO THAT PHASE.

NOTE:

* UTILIZE S.D.D. "BARRICADES & SIGNS FOR MAINLINE CLOSURES" AT PROJECT ENDS.

** UTILIZE S.D.D. "BARRICADES & SIGNS FOR SIDEROAD CLOSURES" AT SIDEROADS WITHIH THE PROJECT LIMITS.

SEE TRAFFIC CONTROL DETOUR DETAIL 1 FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 2 FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 3 FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 4 FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 5 FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 6 FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 7 FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 8 FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 9 FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 10 FOR TRAFFIC CONTROL IN THIS AREA

PAID UNDER I.D. 5160-07-71

PAID UNDER I.D. 5160-07-70

PAID UNDER I.D. 5160-07-71

PAID UNDER I.D. 5160-07-70

PAID UNDER I.D. 5160-07-71

Prairie du Chien
Eastman
Lynxville
Ferryville
Mt. Sterling
Gays Mills
Bell Center
DeSoto
Victory
Genoa
Chaseburg
Viroqua
Westby

Mississippi River
Wisconsin River
Picatee Cr.
Ducharme Cr.
Flowage
Crawford County
Vernon County
S. Fk. Bad Axe R.
Bad Axe R.
Bad Fork
Springville Br.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TYPE A WARNING LIGHT (FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- 35 — EXISTING SIGN
- 35 — EXISTING SIGN TO BE COVERED

DETOUR SOUTH 35 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24" — (1)

DETOUR NORTH 35 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24" — (2)

TRAFFIC CONTROL SIGNING GENERAL NOTES

1. DRAWINGS SHOW TRAFFIC CONTROL DETOUR FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON SITE CONDITIONS AS DIRECTED BY THE ENGINEER. ALL CHANGES TO THE TRAFFIC CONTROL DETOUR PLAN SHALL BE REVIEWED WITH THE PROJECT ENGINEER.

2. TRAFFIC CONTROL PLANS ARE NOT TO SCALE.

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

4. COVER, REMOVE, OR ALTER ANY EXISTING OR PROPOSED SIGNS THAT DISPLAY A CONFLICTING MESSAGE WITH THE PROPOSED DETOUR ROUTE FOR THE PHASE THAT IS ACTIVE.

5. MAINTAIN ACCESS TO DRIVEWAYS AND DEAD END SIDE ROADS AT ALL TIMES.

ROAD CLOSED	ROAD CLOSED	ROAD CLOSED	ROAD CLOSED	ROAD CLOSED	ROAD CLOSED
7 1/3 MILES AHEAD LOCAL TRAFFIC ONLY	8 1/10 MILES AHEAD LOCAL TRAFFIC ONLY	9 1/3 MILES AHEAD LOCAL TRAFFIC ONLY	6 1/4 MILES AHEAD LOCAL TRAFFIC ONLY	13 MILES AHEAD LOCAL TRAFFIC ONLY	2 1/3 MILES AHEAD LOCAL TRAFFIC ONLY
R11-3 60"X30"	R11-3 60"X30"	R11-3 60"X30"	R11-3 60"X30"	R11-3 60"X30"	R11-3 60"X30"
(80)	(81)	(82)	(83)	(84)	(85)

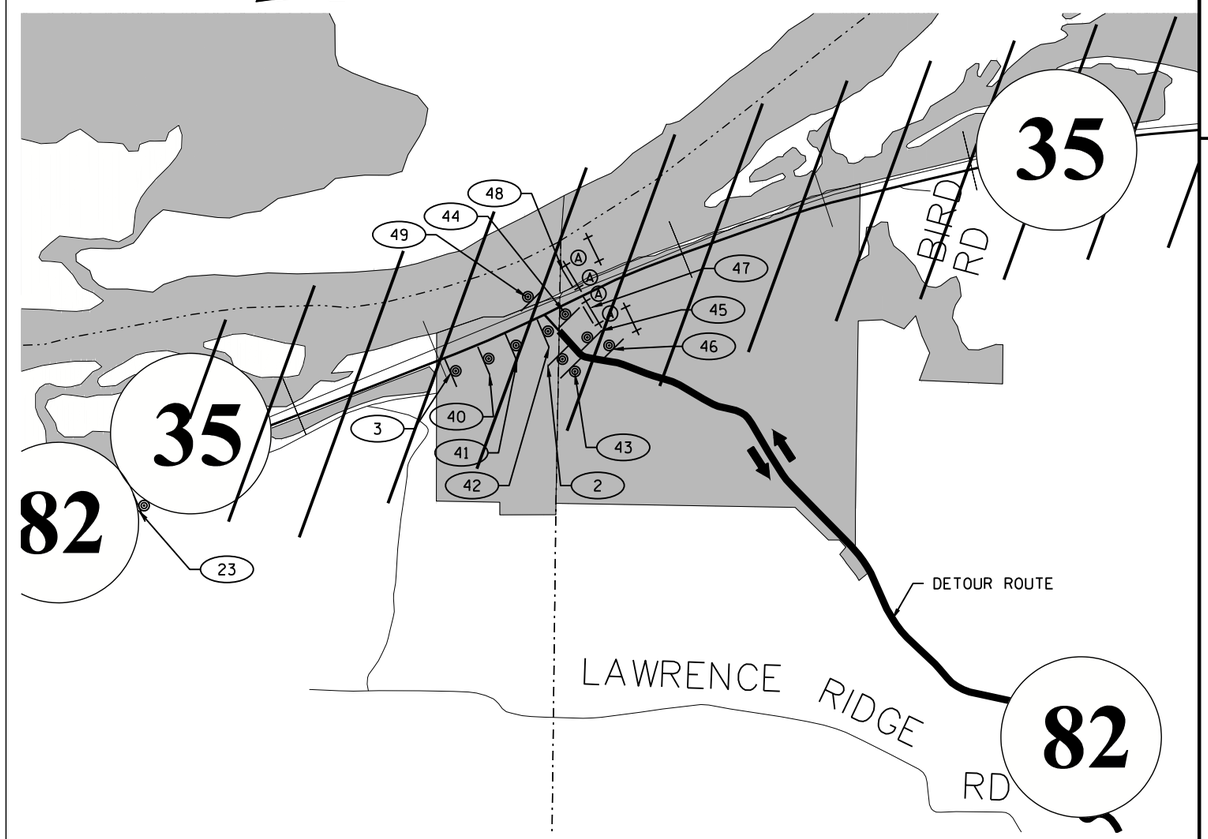
PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	TRAFFIC CONTROL DETOUR	SHEET 52	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027001-dt

PLOT DATE : 7/16/2021 11:11 AM PLOT BY : BOBBI MAXWELL PLOT NAME : PLOT SCALE : 1 IN:3 MI

WISDOT/CADDS SHEET 42

TRAFFIC CONTROL DETOUR DETAIL 6

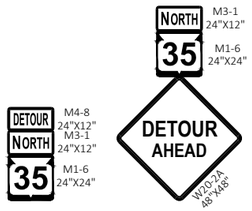


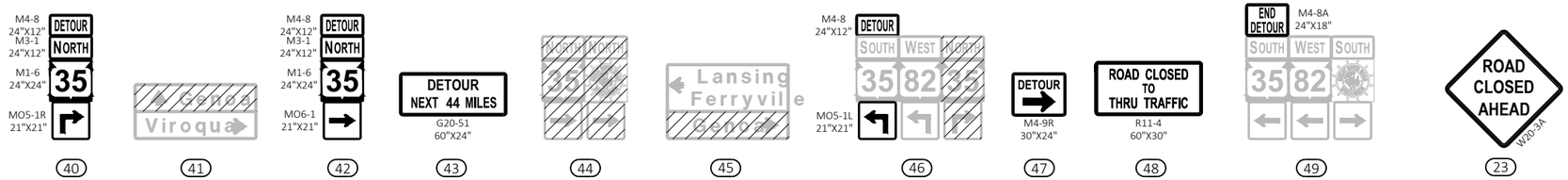
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TYPE A WARNING LIGHT (FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- EXISTING SIGN
- EXISTING SIGN TO BE COVERED

NOTES:

SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
SEE SDD "DETOUR SIGNING FOR MAINLINE CLOSURES"



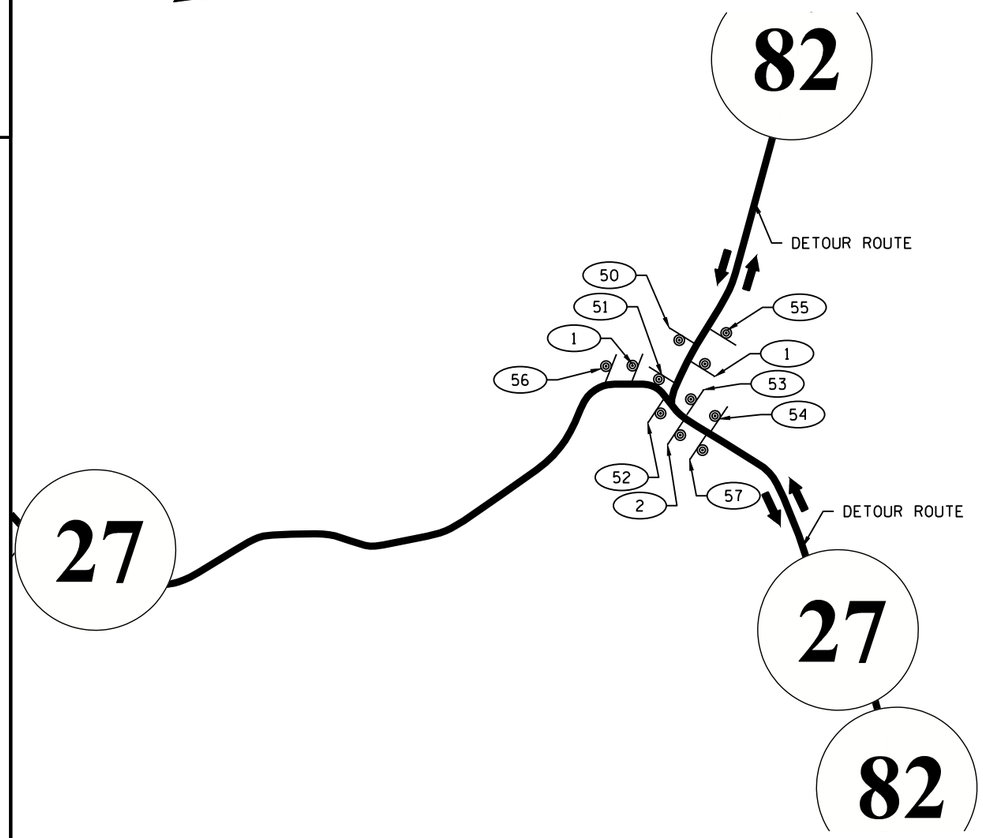


PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	TRAFFIC CONTROL DETOUR	SHEET 53	E

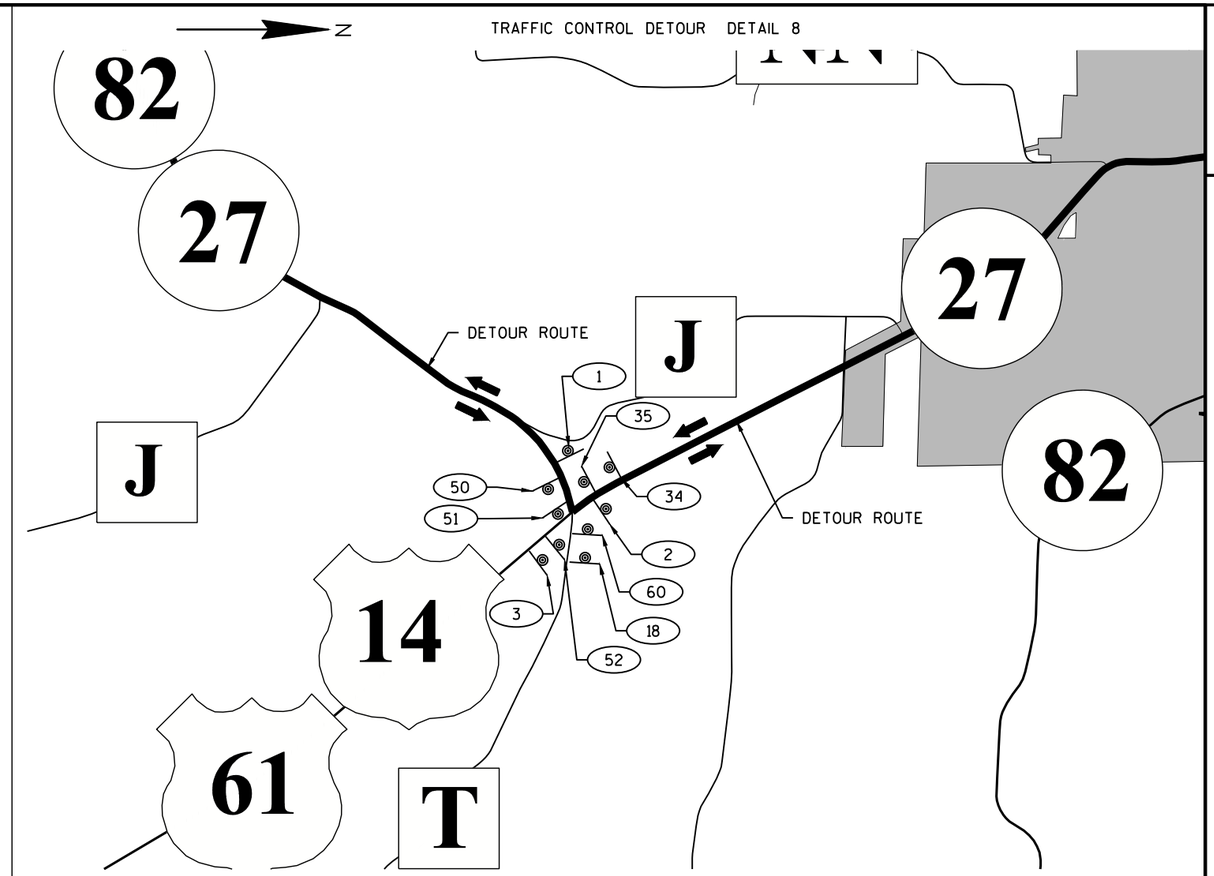
FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027004-dt

PLOT DATE : 7/16/2021 11:11 AM PLOT BY : BOBBI MAXWELL PLOT NAME : PLOT SCALE : 1 IN:0.5 MI

TRAFFIC CONTROL DETOUR DETAIL 7



TRAFFIC CONTROL DETOUR DETAIL 8

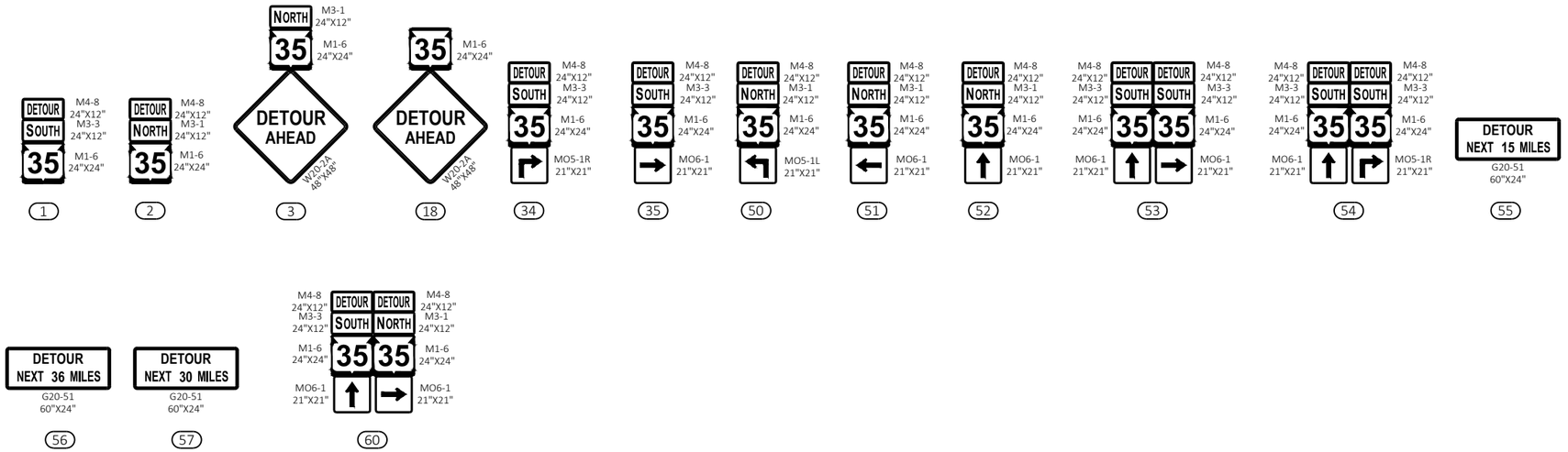


LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TYPE A WARNING LIGHT (FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- 35 — EXISTING SIGN
- 35 — EXISTING SIGN TO BE COVERED

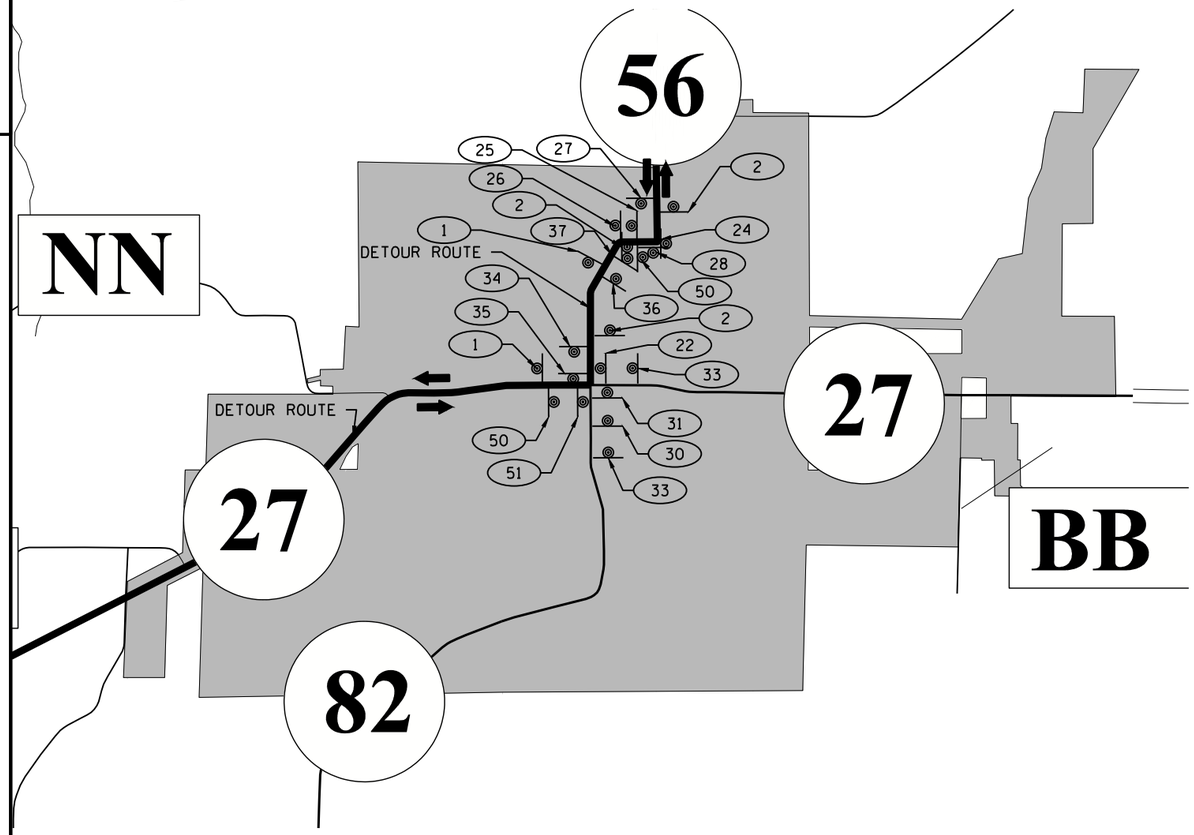
NOTES:

SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
SEE SDD "DETOUR SIGNING FOR MAINLINE CLOSURES"

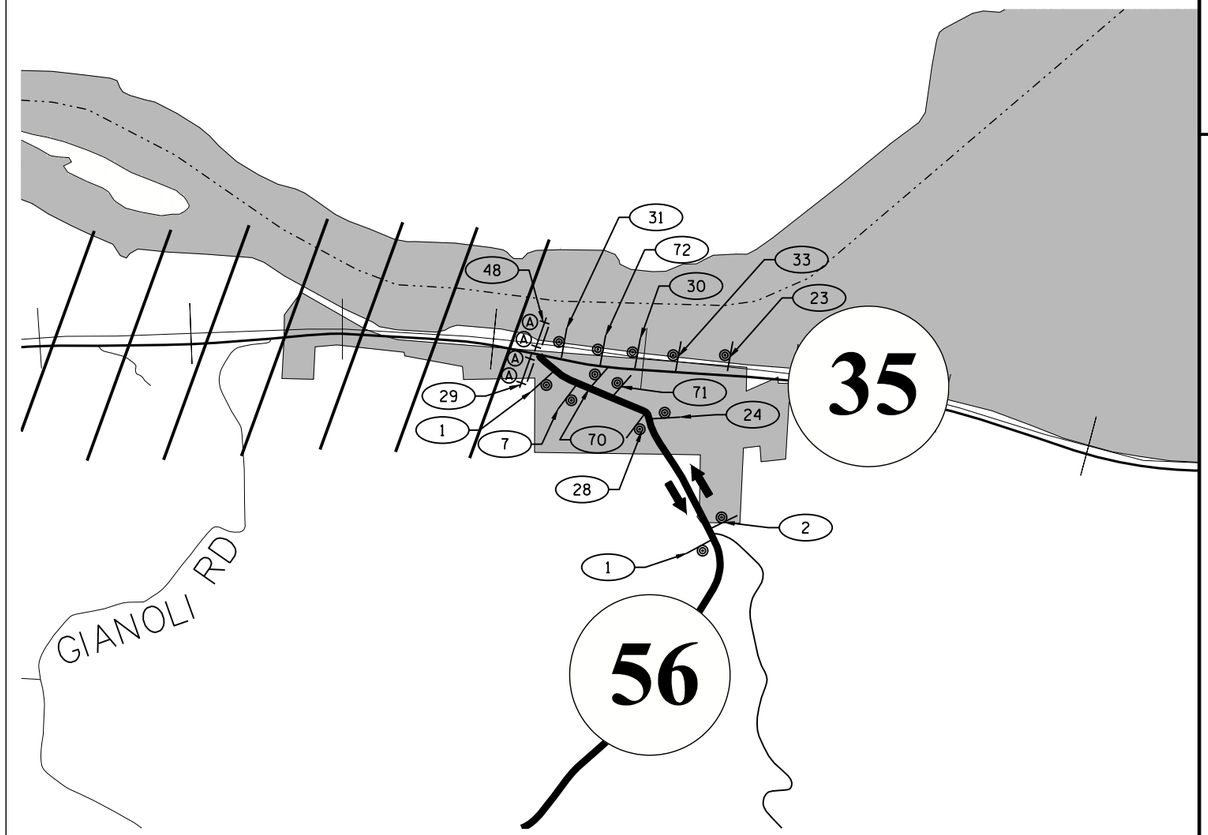


PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	TRAFFIC CONTROL DETOUR	SHEET 54	E

TRAFFIC CONTROL DETOUR DETAIL 9



TRAFFIC CONTROL DETOUR DETAIL 10

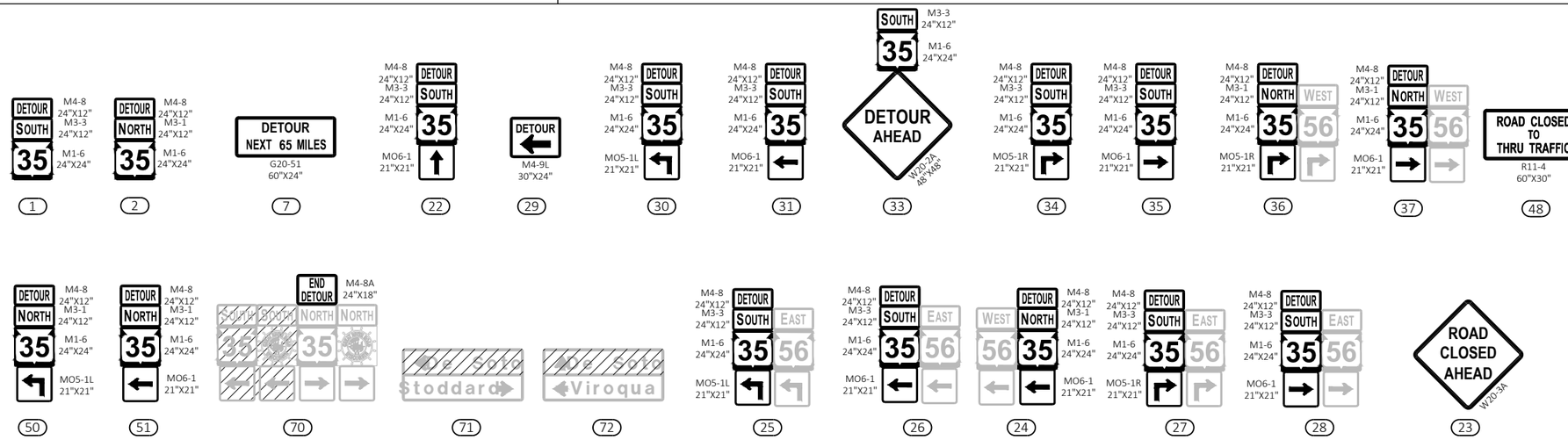


LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TYPE A WARNING LIGHT (FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC
- PORTABLE CHANGEABLE MESSAGE BOARD
- EXISTING SIGN
- EXISTING SIGN TO BE COVERED

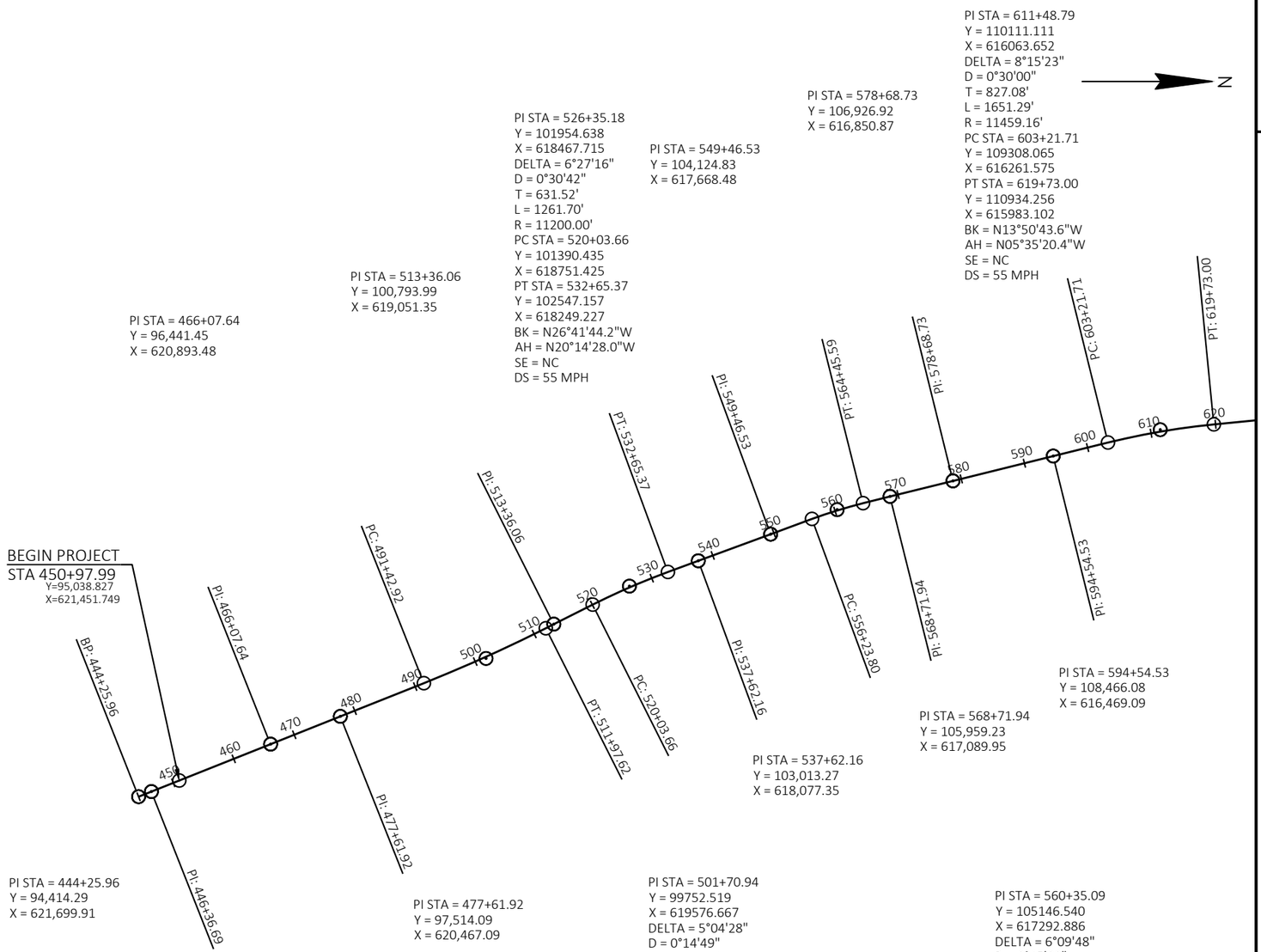
NOTES:

SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
SEE SDD "DETOUR SIGNING FOR MAINLINE CLOSURES"



PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	TRAFFIC CONTROL DETOUR	SHEET 55	E

2



PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	ALIGNMENT DIAGRAM	SHEET 56	E

2

N

PI STA = 668+26.08
Y = 115,764.20
X = 615,509.89

PI STA = 686+72.64
Y = 117,601.92
X = 615,329.35

PI STA = 737+71.48
Y = 122609.859
X = 615866.015
DELTA = 16°05'26"
D = 1°00'00"
T = 809.86'
L = 1609.06'
R = 5729.58'
PC STA = 729+61.62
Y = 121830.039
X = 615647.493
PT STA = 745+70.68
Y = 123419.694
X = 615859.844
BK = N15°39'14.3"E
AH = N00°26'11.8"W
SE = MATCH EXISTING
DS = 55 MPH

PI STA = 807+02.63
Y = 129,436.14
X = 615,548.02

PI STA = 859+85.78
Y = 134621.523
X = 615489.865
DELTA = 10°31'05"
D = 1°00'00"
T = 527.39'
L = 1051.82'
R = 5729.58'
PC STA = 854+58.39
Y = 134109.319
X = 615615.513
PT STA = 865+10.20
Y = 135148.056
X = 615459.829
BK = N13°46'58.9"W
AH = N03°15'53.5"W
SE = MATCH EXISTING
DS = 55 MPH

PI STA = 906+09.45
Y = 138,768.03
X = 614,076.75

PI STA = 926+83.26
Y = 140180.591
X = 612558.416
DELTA = 42°01'06"
D = 1°39'23"
T = 1328.55'
L = 2536.94'
R = 3459.36'
PC STA = 913+54.70
Y = 139275.655
X = 613531.118
PT STA = 938+91.65
Y = 141503.991
X = 612441.499
BK = N47°04'01.1"W
AH = N05°02'55.4"W
SE = MATCH EXISTING
DS = 55 MPH

PT: 619+73.00
PI: 649+94.40
PI: 668+26.08
PI: 679+72.74
PI: 686+72.64
PI: 693+64.75
PC: 699+20.41
PT: 720+19.31
PC: 729+61.62
PC: 745+71.98
PT: 745+70.68
PT: 758+54.80
PC: 768+04.20
PT: 797+80.43
PC: 818+87.76
PI: 807+02.63
PT: 846+13.49
PC: 854+58.39
PT: 865+10.20
PI: 872+77.20
PC: 883+15.83
PI: 906+09.45
PC: 913+54.70
PT: 895+74.84
PT: 938+91.65

PI STA = 649+94.40
Y = 113,941.29
X = 615,688.84

PI STA = 679+72.74
Y = 116,905.45
X = 615,398.60

PI STA = 693+64.75
Y = 118,290.77
X = 615,262.31

PI STA = 709+81.97
Y = 119900.499
X = 615106.796
DELTA = 21°10'20"
D = 1°00'31"
T = 1061.55'
L = 2098.89'
R = 5680.00'
PC STA = 699+20.41
Y = 118843.864
X = 615208.876
PT STA = 720+19.31
Y = 120922.678
X = 615393.232
BK = N05°31'05.4"W
AH = N15°39'14.3"E
SE = MATCH EXISTING
DS = 55 MPH

PI STA = 783+26.71
Y = 127058.498
X = 614979.354
DELTA = 29°45'44"
D = 1°00'00"
T = 1522.50'
L = 2976.23'
R = 5729.58'
PC STA = 768+04.20
Y = 125597.275
X = 615406.961
PT STA = 797+80.43
Y = 128539.239
X = 615333.508
BK = N16°18'40.9"W
AH = N13°27'03.4"E
SE = MATCH EXISTING
DS = 55 MPH

PI STA = 832+76.92
Y = 131939.590
X = 616147.768
DELTA = 27°15'19"
D = 1°00'00"
T = 1389.16'
L = 2725.73'
R = 5730.00'
PC STA = 818+87.76
Y = 130588.655
X = 615824.128
PT STA = 846+13.49
Y = 133288.750
X = 615816.806
BK = N13°28'20.3"E
AH = N13°46'58.9"W
SE = MATCH EXISTING
DS = 55 MPH

PI STA = 872+77.20
Y = 135,913.81
X = 615,416.15

PI STA = 889+77.77
Y = 137611.543
X = 615318.047
DELTA = 43°43'07"
D = 3°28'21"
T = 661.93'
L = 1259.00'
R = 1650.00'
PC STA = 883+15.83
Y = 136950.711
X = 615356.232
PT STA = 895+74.84
Y = 138062.765
X = 614833.738
BK = N03°18'25.3"W
AH = N47°01'32.1"W
SE = MATCH EXISTING
DS = 55 MPH

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	ALIGNMENT DIAGRAM	SHEET 57	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 027202-ad
PLOT DATE : 6/25/2021 2:19 PM
PLOT BY : CONNOR GIRTEN
PLOT NAME :
PLOT SCALE : 1 IN:2000 FT
WISDOT/CADDS SHEET 42

2

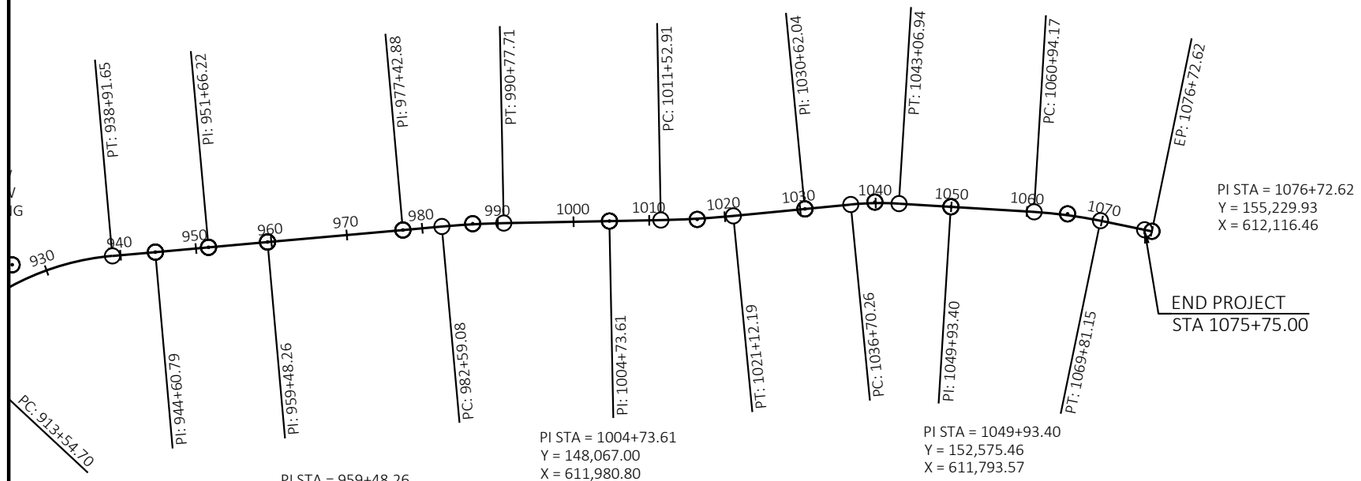
N

PI STA = 951+66.22
Y = 142,773.52
X = 612,328.26

PI STA = 977+42.88
Y = 145,340.02
X = 612,099.57

PI STA = 1030+62.04
Y = 150,649.06
X = 611,821.58

PI STA = 1039+89.28
Y = 151571.907
X = 611731.457
DELTA = 9°07'11"
D = 1°25'57"
T = 319.01'
L = 636.68'
R = 4000.00'
PC STA = 1036+70.26
Y = 151254.405
X = 611762.464
PT STA = 1043+06.94
Y = 151890.311
X = 611751.164
BK = N05°34'40.4"W
AH = N03°32'30.6"E
SE = MATCH EXISTING
DS = 55 MPH



PI STA = 1076+72.62
Y = 155,229.93
X = 612,116.46

PI STA = 944+60.79
Y = 142,070.92
X = 612,391.41

PI STA = 959+48.26
Y = 143,552.49
X = 612,258.97

PI STA = 1004+73.61
Y = 148,067.00
X = 611,980.80

PI STA = 1049+93.40
Y = 152,575.46
X = 611,793.57

PI STA = 986+68.56
Y = 146261.970
X = 612016.572
DELTA = 4°00'32"
D = 0°29'23"
T = 409.48'
L = 818.63'
R = 11700.00'
PC STA = 982+59.08
Y = 145854.139
X = 612053.287
PT STA = 990+77.71
Y = 146671.371
X = 612008.459
BK = N05°08'39.1"W
AH = N01°08'07.1"W
SE = NC
DS = 55 MPH

PI STA = 1016+32.79
Y = 149225.983
X = 611959.343
DELTA = 4°28'07"
D = 0°27'57"
T = 479.89'
L = 959.29'
R = 12300.00'
PC STA = 1011+52.91
Y = 148746.179
X = 611968.226
PT STA = 1021+12.19
Y = 149703.636
X = 611913.104
BK = N01°03'38.5"W
AH = N05°31'45.2"W
SE = NC
DS = 55 MPH

PI STA = 1065+38.42
Y = 154117.658
X = 611886.916
DELTA = 8°11'48"
D = 0°55'27"
T = 444.25'
L = 886.98'
R = 6200.00'
PC STA = 1060+94.17
Y = 153674.222
X = 611860.077
PT STA = 1069+81.15
Y = 154552.737
X = 611976.704
BK = N03°27'49.3"E
AH = N11°39'37.8"E
SE = MATCH EXISTING
DS = 55 MPH

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	ALIGNMENT DIAGRAM	SHEET 58	E

5160-07-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	4.000	4.000
0004	201.0205	Grubbing	STA	4.000	4.000
0006	203.0100	Removing Small Pipe Culverts	EACH	21.000	21.000
0008	203.0220	Removing Structure (structure) 01. B-62-18	EACH	1.000	1.000
0010	203.0220	Removing Structure (structure) 02.B-62-93	EACH	1.000	1.000
0012	203.0335	Debris Containment Over Waterway (structure) 01.B-12-20	EACH	1.000	1.000
0014	204.0100	Removing Concrete Pavement	SY	39.000	39.000
0016	204.0110	Removing Asphaltic Surface	SY	1,371.000	1,371.000
0018	204.0115	Removing Asphaltic Surface Butt Joints	SY	4,390.000	4,390.000
0020	204.0120	Removing Asphaltic Surface Milling	SY	239,726.000	239,726.000
0022	204.0165	Removing Guardrail	LF	19,343.000	19,343.000
0024	204.0220	Removing Inlets	EACH	1.000	1.000
0026	204.0245	Removing Storm Sewer (size) 01. 24-Inch	LF	59.000	59.000
0028	205.0100	Excavation Common	CY	7,655.000	7,655.000
0030	206.1000	Excavation for Structures Bridges (structure) 01.B-62-93	LS	1.000	1.000
0032	206.2000	Excavation for Structures Culverts (structure) 01.B-62-264	LS	1.000	1.000
0034	206.5000	Cofferdams (structure) 01. B-62-264	LS	1.000	1.000
0036	208.0100	Borrow	CY	3,108.000	3,108.000
0038	209.2500	Backfill Granular Grade 2	TON	14,992.000	14,992.000
0040	210.1500	Backfill Structure Type A	TON	60.000	60.000
0042	210.2500	Backfill Structure Type B	TON	2,005.000	2,005.000
0044	211.0700.S	Prepare Foundation for CIR Base Layer (project) 01. 5160-07-71	EACH	1.000	1.000
0046	211.0800.S	Base Repair for CIR Layer	CY	361.000	361.000
0048	213.0100	Finishing Roadway (project) 01. 5160-07-71	EACH	1.000	1.000
0050	214.0100	Obliterating Old Road	STA	3.600	3.600
0052	305.0110	Base Aggregate Dense 3/4-Inch	TON	9,753.000	9,753.000
0054	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	6,832.000	6,832.000
0056	311.0110	Breaker Run	TON	328.000	328.000
0058	312.0110	Select Crushed Material	TON	1,453.000	1,453.000
0060	327.1000.S	CIR Asphaltic Base Layer	SY	161,887.000	161,887.000
0062	330.0100	Mill and Relay	SY	83,531.000	83,531.000
0064	374.1010.S	QMP Mill and Relay Compaction	SY	83,531.000	83,531.000
0066	416.0160	Concrete Driveway 6-Inch	SY	39.000	39.000
0068	455.0605	Tack Coat	GAL	25,850.000	25,850.000
0070	455.0770.S	Asphalt Stabilizing Agent	TON	727.000	727.000
0072	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0074	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0076	460.2005	Incentive Density PWL HMA Pavement	DOL	16,291.000	16,291.000
0078	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	48,770.000	48,770.000
0080	460.2010	Incentive Air Voids HMA Pavement	DOL	16,681.000	16,681.000
0082	460.6224	HMA Pavement 4 MT 58-28 S	TON	49,648.000	49,648.000
0084	465.0105	Asphaltic Surface	TON	625.000	625.000
0086	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	191.000	191.000
0088	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	105,671.000	105,671.000
0090	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	55,035.000	55,035.000
0092	502.0100	Concrete Masonry Bridges	CY	22.000	22.000
0094	502.3200	Protective Surface Treatment	SY	250.000	250.000
0096	502.3210	Pigmented Surface Sealer	SY	70.000	70.000
0098	502.3215	Protective Surface Treatment Reseal	SY	45.000	45.000

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Line	Item	Item Description	Unit	Total	Qty
0100	502.4205	Adhesive Anchors No. 5 Bar	EACH	38.000	38.000
0102	502.4206	Adhesive Anchors No. 6 Bar	EACH	144.000	144.000
0104	504.0100	Concrete Masonry Culverts	CY	303.000	303.000
0106	505.0400	Bar Steel Reinforcement HS Structures	LB	43,090.000	43,090.000
0108	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	6,830.000	6,830.000
0110	509.0301	Preparation Decks Type 1	SY	12.000	12.000
0112	509.0302	Preparation Decks Type 2	SY	5.000	5.000
0114	509.0505.S	Cleaning Decks to Reapply Concrete Masonry Overlay	SY	240.000	240.000
0116	509.1200	Curb Repair	LF	180.000	180.000
0118	509.1500	Concrete Surface Repair	SF	106.000	106.000
0120	509.2000	Full-Depth Deck Repair	SY	2.000	2.000
0122	509.2500	Concrete Masonry Overlay Decks	CY	20.000	20.000
0124	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 01. B-12-20	SY	240.000	240.000
0126	511.1200	Temporary Shoring (structure) 02. B-62-93	SF	336.000	336.000
0128	516.0500	Rubberized Membrane Waterproofing	SY	35.000	35.000
0130	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	25.000	25.000
0132	520.1036	Apron Endwalls for Culvert Pipe 36-Inch	EACH	10.000	10.000
0134	520.1048	Apron Endwalls for Culvert Pipe 48-Inch	EACH	5.000	5.000
0136	520.3324	Culvert Pipe Class III-A 24-Inch	LF	201.000	201.000
0138	520.3336	Culvert Pipe Class III-A 36-Inch	LF	362.000	362.000
0140	520.4124	Culvert Pipe Class IV 24-Inch	LF	559.000	559.000
0142	520.4136	Culvert Pipe Class IV 36-Inch	LF	55.000	55.000
0144	520.4148	Culvert Pipe Class IV 48-Inch	LF	209.000	209.000
0146	521.3124	Culvert Pipe Corrugated Steel 24-Inch	LF	72.000	72.000
0148	521.3148	Culvert Pipe Corrugated Steel 48-Inch	LF	101.000	101.000
0150	606.0300	Riprap Heavy	CY	314.000	314.000
0152	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	55.000	55.000
0154	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	6.000	6.000
0156	614.0305	Steel Plate Beam Guard Class A	LF	62.500	62.500
0158	614.0345	Steel Plate Beam Guard Short Radius	LF	38.000	38.000
0160	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	1.000	1.000
0162	614.0390	Steel Plate Beam Guard Short Radius Terminal	EACH	1.000	1.000
0164	614.0400	Adjusting Steel Plate Beam Guard	LF	180.000	180.000
0166	614.2300	MGS Guardrail 3	LF	13,466.500	13,466.500
0168	614.2330	MGS Guardrail 3 K	LF	3,975.000	3,975.000
0170	614.2350	MGS Guardrail Short Radius	LF	226.000	226.000
0172	614.2500	MGS Thrie Beam Transition	LF	236.400	236.400
0174	614.2610	MGS Guardrail Terminal EAT	EACH	35.000	35.000
0176	614.2630	MGS Guardrail Short Radius Terminal	EACH	5.000	5.000
0178	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5160-07-71	EACH	1.000	1.000
0180	619.1000	Mobilization	EACH	1.000	1.000
0182	624.0100	Water	MGAL	449.000	449.000
0184	625.0100	Topsoil	SY	8,946.000	8,946.000
0186	625.0500	Salvaged Topsoil	SY	2,124.000	2,124.000
0188	627.0200	Mulching	SY	24,676.000	24,676.000
0190	628.1504	Silt Fence	LF	8,670.000	8,670.000
0192	628.1520	Silt Fence Maintenance	LF	8,670.000	8,670.000
0194	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0196	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000

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Line	Item	Item Description	Unit	Total	Qty
0198	628.2004	Erosion Mat Class I Type B	SY	16,640.000	16,640.000
0200	628.2008	Erosion Mat Urban Class I Type B	SY	8,669.000	8,669.000
0202	628.6005	Turbidity Barriers	SY	216.000	216.000
0204	628.7504	Temporary Ditch Checks	LF	160.000	160.000
0206	628.7555	Culvert Pipe Checks	EACH	125.000	125.000
0208	629.0210	Fertilizer Type B	CWT	7.700	7.700
0210	630.0120	Seeding Mixture No. 20	LB	759.000	759.000
0212	630.0400	Seeding Nurse Crop	LB	200.000	200.000
0214	630.0500	Seed Water	MGAL	616.000	616.000
0216	633.5200	Markers Culvert End	EACH	40.000	40.000
0218	642.5201	Field Office Type C	EACH	1.000	1.000
0220	643.0300	Traffic Control Drums	DAY	13,800.000	13,800.000
0222	643.0420	Traffic Control Barricades Type III	DAY	9,170.000	9,170.000
0224	643.0705	Traffic Control Warning Lights Type A	DAY	10,542.000	10,542.000
0226	643.0900	Traffic Control Signs	DAY	59,545.000	59,545.000
0228	643.0920	Traffic Control Covering Signs Type II	EACH	19.000	19.000
0230	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0232	643.5000	Traffic Control	EACH	1.000	1.000
0234	645.0105	Geotextile Type C	SY	575.000	575.000
0236	645.0120	Geotextile Type HR	SY	710.000	710.000
0238	645.0220	Geogrid Type SR	SY	112.000	112.000
0240	646.1020	Marking Line Epoxy 4-Inch	LF	54,109.000	54,109.000
0242	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	123,393.000	123,393.000
0244	646.6020	Marking Stop Line Epoxy 12-Inch	LF	45.000	45.000
0246	646.6464	Cold Weather Marking Epoxy 4-Inch	LF	177,502.000	177,502.000
0248	648.0100	Locating No-Passing Zones	MI	11.800	11.800
0250	649.0105	Temporary Marking Line Paint 4-Inch	LF	44,776.000	44,776.000
0252	649.0120	Temporary Marking Line Epoxy 4-Inch	LF	54,109.000	54,109.000
0254	650.4500	Construction Staking Subgrade	LF	40.000	40.000
0256	650.5000	Construction Staking Base	LF	2,615.000	2,615.000
0258	650.6000	Construction Staking Pipe Culverts	EACH	21.000	21.000
0260	650.8000	Construction Staking Resurfacing Reference	LF	62,156.000	62,156.000
0262	650.9910	Construction Staking Supplemental Control (project) 01. 5160-07-71	LS	1.000	1.000
0264	650.9920	Construction Staking Slope Stakes	LF	2,575.000	2,575.000
0266	690.0150	Sawing Asphalt	LF	2,135.000	2,135.000
0268	690.0250	Sawing Concrete	LF	50.000	50.000
0270	715.0502	Incentive Strength Concrete Structures	DOL	2,818.000	2,818.000
0272	740.0440	Incentive IRI Ride	DOL	45,992.000	45,992.000
0274	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,500.000	2,500.000
0276	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	4,000.000	4,000.000
0278	SPV.0060	Special 01. Cleaning Box Culvert, 5'x10', STA. 740+92	EACH	1.000	1.000
0280	SPV.0060	Special 02. Strapping B-62-93	EACH	4.000	4.000
0282	SPV.0060	Special 03. Culvert Pipe End Section T-Type 24-Inch	EACH	1.000	1.000
0284	SPV.0060	Special 04. Culvert Pipe End Section T-Type 48-Inch	EACH	1.000	1.000
0286	SPV.0060	Special 05. Culvert Pipe Anchors	EACH	4.000	4.000
0288	SPV.0060	Special 06. Embedded Galvanic Anodes Structure B-12-20	EACH	62.000	62.000
0290	SPV.0060	Special 07. Temporary Water Diversion Structure B-62-0264	EACH	1.000	1.000
0292	SPV.0070	Special 01. Sprayed Asphaltic Surface Treatment	GAL	3,904.000	3,904.000
0294	SPV.0090	Special 01. Remove Existing Thrie Beam and Wood Posts B-12-20	LF	180.000	180.000

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Line	Item	Item Description	Unit	Total	Qty
0296	SPV.0090	Special 02. Removing Steel Railing B-12-20	LF	31.000	31.000
0298	SPV.0090	Special 03. Salvage, Sawcut, and Reinstall Thrie Beam Transition	LF	79.000	79.000
0300	SPV.0195	Special 01. Salvaged Asphaltic Pavement	TON	5,755.000	5,755.000
0302	SPV.0195	Special 02. Salvaged Asphaltic Pavement Base	TON	5,755.000	5,755.000
0304	SPV.0195	Special 03. Shot Rock	TON	1,272.000	1,272.000

CLEARING AND GRUBBING

CATEGORY	STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
0010	917+50	-	918+50	LT	1	1
0010	942+00	-	943+00	LT	1	1
0010	UNDISTRIBUTED				2	2
				TOTAL 0010	4	4

REMOVING CULVERTS

CATEGORY	STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	REMARKS
0010	520+42		1	24" RCCP X 64'
0010	529+98		1	24" RCCP X 72'
0010	533+60		1	24" RCCP X 64'
0010	538+21		1	24" CMCP X 70'
0010	565+30		1	24" RCCP X 69'
0010	587+10		1	24" CMCP X 97'
0010	652+20		1	24" RCCP X 61'
0010	734+01		1	24" RCCP X 77'
0010	739+92		1	36" RCCP X 61'
0010	741+51		1	24" RCCP X 121'
0010	744+00		1	24" CMCP X 84'
0010	746+16		1	24" CMCP X 80'
0010	750+22		1	36" CMCP X 100'
0010	778+51		1	24" RCCP X 59'
0010	834+78		1	48" CMCP X 102'
0010	903+74		1	30" RCCP X 102'
0010	908+73		1	36" RCCP X 106'
0010	1033+15		1	48" CMCP X 76'
0010	1054+23		1	24" CMCP X 70'
0010	1062+62		1	24" CMCP X 72'
0010	1075+11		1	48" CMCP X 141'
		TOTAL 0010	21	

REMOVING ASPHALTIC SURFACE ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	REMARKS
0010	450+98	-	451+48	MAINLINE	200	---	
0010	481+50	-	491+31	MAINLINE	---	4,230	
0010	491+31	-	491+81	MAINLINE	154	---	
0010	492+56	-	493+06	MAINLINE	156	---	
0010	493+06	-	877+45	MAINLINE	---	155,548	
0010	495+89	-	496+82	LT	118	---	BOAT LANDING
0010	505+64	-	506+67	RT	190	---	CRAWFORD STREET
0010	509+22	-	510+71	RT	286	---	STH 82
0010	515+40	-	516+71	RT	324	---	S MILL PARK DRIVE
0010	636+33	-	637+06	RT	160	---	ZITZNER ROAD
0010	650+46	-	651+48	RT	175	---	BATTLE HOLLOW ROAD
0010	677+73	-	678+40	LT	105	---	CTH BI
0010	680+63	-	682+13	RT	181	---	BLUFF ROAD
0010	693+53	-	694+01	LT	107	---	GANTENBEIN ROAD
0010	734+60	-	736+17	RT	171	---	TERHUNE STREET
0010	740+15	-	740+65	RT	60	---	STEVENS ROAD
0010	741+95	-	742+56	RT	88	---	CTH UU
0010	748+54	-	749+14	RT	74	---	WASHINGTON STREET S
0010	759+56	-	760+44	RT	142	---	WASHINGTON STREET N
0010	861+12	-	863+03	RT	252	---	HECKS POINT ROAD
0010	877+45	-	877+95	MAINLINE	245	---	
0010	880+39	-	880+59	MAINLINE	---	27	
0010	880+59	-	892+39	MAINLINE	---	5,945	
0010	890+05	-	890+98	RT	193	---	MEADOW LANE
0010	892+39	-	892+89	MAINLINE	---	200	MILLING TRANSITION
0010	892+89	-	1075+25	MAINLINE	---	73,776	
0010	921+39	-	922+70	RT	258	---	MUNDSACK ROAD
0010	997+47	-	998+53	RT	204	---	EDGEWOOD LANE
0010	1027+49	-	1028+65	RT	110	---	GIANOLI ROAD
0010	1074+31	-	1075+75	RT	237	---	STH 56
0010	1075+25	-	1075+75	MAINLINE	200	---	
				TOTAL 0010	4,390	239,726	

REMOVING GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
0010	489+81	-	491+83	RT	200
0010	489+81	-	491+83	LT	200
0010	492+57	-	496+01	LT	352
0010	492+58	-	494+10	RT	151
0010	508+10	-	511+13	LT	303
0010	593+29	-	594+49	RT	155
0010	644+95	-	652+12	LT	716
0010	665+91	-	667+90	LT	1,204
0010	675+20	-	677+86	RT	266
0010	678+40	-	693+55	LT	1,514
0010	694+00	-	720+33	LT	2,640
0010	753+89	-	755+05	RT	116
0010	793+56	-	813+83	LT	2,028
0010	820+68	-	840+91	LT	2,015
0010	876+41	-	877+89	LT	148
0010	876+40	-	877+88	RT	148
0010	912+71	-	919+52	LT	690
0010	919+84	-	922+24	LT	241
0010	922+63	-	927+23	LT	466
0010	932+21	-	942+20	LT	1,003
0010	994+78	-	1005+94	LT	1,116
0010	1014+00	-	1015+70	LT	178
0010	1014+05	-	1016+29	RT	229
0010	1036+26	-	1059+15	LT	2,292
0010	1059+24	-	1065+15	LT	592
0010	1069+43	-	1073+23	LT	380
				TOTAL 0010	19,343

REMOVING CONCRETE

CATEGORY	STATION	LOCATION	204.0100 REMOVING CONCRETE PAVEMENT SY
0010	553+78	RT	39
		TOTAL 0010	39

REMOVING INLETS

CATEGORY	STATION	LOCATION	204.0220 REMOVING INLETS EACH
0010	1058+15	RT	1
		TOTAL 0010	1

REMOVING STORM SEWER

CATEGORY	STATION	LOCATION	204.0245.01 REMOVING STORM SEWER (SIZE) (01. 24-INCH) LF
0010	1058+15		59
		TOTAL 0010	59

3

REMOVING ASPHALTIC SURFACE

CATEGORY	STATION	TO	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	214.0100 OBLITERATING OLD ROAD STA
0010	508+01	-	508+85	RT	107	---
0010	511+64	-	512+28	RT	31	---
0010	543+39	-	544+09	RT	41	---
0010	546+11	-	546+73	RT	37	---
0010	556+44	-	556+94	RT	30	---
0010	589+69	-	590+58	RT	111	---
0010	621+92	-	622+19	RT	15	---
0010	625+19	-	625+67	RT	29	---
0010	707+86	-	708+23	RT	22	---
0010	711+99	-	712+33	RT	20	---
0010	715+51	-	715+98	RT	26	---
0010	738+08	-	738+76	RT	68	---
0010	798+86	-	799+23	RT	22	---
0010	802+46	-	803+06	RT	37	---
0010	810+86	-	811+31	RT	26	---
0010	813+06	-	813+67	RT	33	---
0010	833+38	-	833+76	RT	20	---
0010	836+91	-	837+18	RT	16	---
0010	838+02	-	838+28	RT	15	---
0010	899+32	-	899+86	LT	33	---
0010	902+15	-	902+74	LT	36	---
0010	906+07	-	906+46	RT	24	---
0010	906+63	-	907+02	RT	23	---
0010	917+25	-	917+65	RT	24	---
0010	918+38	-	918+74	RT	20	---
0010	919+24	-	922+84	LT	---	3.6
0010	952+16	-	952+53	RT	23	---
0010	958+18	-	958+57	RT	24	---
0010	975+23	-	975+77	RT	33	---
0010	980+43	-	980+84	RT	24	---
0010	1009+19	-	1009+95	RT	44	---
0010	1013+71	-	1014+18	RT	51	---
0010	1015+13	-	1016+88	LT	160	---
0010	1019+32	-	1020+17	RT	49	---
0010	1074+57	-	1075+72	LT	97	---
				TOTAL 0010	1,371	3.6

BACKFILL

CATEGORY	STATION	LOCATION	209.2500 BACKFILL GRANULAR GRADE 2 TON
0010	529+98	CROSS DRAINS	711
0010	533+59	CROSS DRAINS	590
0010	538+21	CROSS DRAINS	799
0010	565+30	CROSS DRAINS	595
0010	587+09	CROSS DRAINS	899
0010	652+20	CROSS DRAINS	495
0010	734+00	CROSS DRAINS	479
0010	739+92	CROSS DRAINS	332
0010	741+51	CROSS DRAINS	673
0010	745+00	CROSS DRAINS	894
0010	746+15	CROSS DRAINS	799
0010	750+21	CROSS DRAINS	877
0010	778+51	CROSS DRAINS	282
0010	834+78	CROSS DRAINS	935
0010	903+74	CROSS DRAINS	947
0010	908+72	CROSS DRAINS	915
0010	1033+15	CROSS DRAINS	867
0010	1054+23	CROSS DRAINS	826
0010	1058+15	CROSS DRAINS	770
0010	1062+62	CROSS DRAINS	473
0010	1075+10	CROSS DRAINS	835
		TOTAL 0010	14,992

PREPARE FOUNDATION FOR CIR BASE LAYER

CATEGORY	STATION	TO	STATION	LOCATION	211.0700.S.01 PREPARE FOUNDATION FOR CIR BASE LAYER (PROJECT) (01. 5160-07-71) EACH	REMARKS
0010	---	-	---	PROJECT 5160-07-71	1	
0010	450+98	-	491+82	DRIVING LANES	---	FOR INFORMATION ONLY
0010	492+58	-	877+95	DRIVING LANES	---	FOR INFORMATION ONLY
0010	892+38	-	1075+75	DRIVING LANES	---	FOR INFORMATION ONLY
				TOTAL 0010	1	

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1) CUT (2)	205.0100 COMMON EXCAVATION (1) EXCAVATION (3)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR 1.25	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW
DIVISION 1											
EWK-STH 35 N-90%	488+46.986/1075+10.676	STH 35	60	0	0	60	8,610	10,763	-10,703	0	10,703
CULVERTS	CROSS DRAIN DETAIL	STH 35	7,595	0	0	7,595	0	0	7,595	7,595	-7,595
DIVISION 1 SUBTOTAL			7,655	0	0	7,655	8,610	10,763	-3,108	7,595	3,108
GRAND TOTAL			7,655	0	0	7,655	8,610	10,763	-3,108	7,595	3,108
TOTAL COMMON EXC			7,655								

NOTES:

(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100

(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.

(3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT BORROW MATERIAL. NOTE: THIS IS DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL.

(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL

5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL

(13) EXPANDED FILL FACTOR = 1.25

(14) 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.

BASE AGGREGATE DENSE

CATEGORY	STATION	TO	STATION	LOCATION	* 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	* 624.0100 WATER MGAL	650.5000 CONSTRUCTION STAKING BASE LF	REMARKS
0010	450+98	-	488+94	LT	260	---	3.9	---	SHOULDER
0010	450+98	-	488+47	RT	257	---	3.9	---	SHOULDER
0010	488+47	-	496+13	RT	75	---	1.2	---	BEAMGUARD SHOULDER
0010	488+94	-	496+01	LT	77	---	1.2	---	BEAMGUARD SHOULDER
0010	496+13	-	508+10	RT	74	---	1.2	---	SHOULDER
0010	496+81	-	506+68	LT	64	---	1	---	SHOULDER
0010	506+68	-	512+47	LT	64	---	1	---	BEAMGUARD SHOULDER
0010	508+58	-	509+30	RT	10	---	1	---	BEAMGUARD SHOULDER
0010	510+62	-	511+80	RT	14	---	1	---	BEAMGUARD SHOULDER
0010	512+23	-	590+84	RT	507	---	8	---	SHOULDER
0010	512+47	-	529+92	LT	106	---	2	---	SHOULDER
0010	519+83	-	521+00	PIPE REPLACEMENT	---	285	5	117	
0010	529+45	-	530+51	PIPE REPLACEMENT	---	258	4	106	
0010	530+39	-	644+25	LT	776	---	12	---	SHOULDER
0010	533+07	-	534+13	PIPE REPLACEMENT	---	258	4	106	
0010	537+68	-	538+74	PIPE REPLACEMENT	---	258	4	106	
0010	564+77	-	565+83	PIPE REPLACEMENT	---	258	4	106	
0010	586+56	-	587+63	PIPE REPLACEMENT	---	260	4	107	
0010	590+84	-	594+40	RT	40	---	1	---	BEAMGUARD SHOULDER
0010	594+59	-	641+20	RT	301	---	5	---	SHOULDER
0010	636+58	-	637+88	PIPE REPLACEMENT	---	316	5	130	
0010	641+67	-	674+43	RT	214	---	4	---	SHOULDER
0010	644+25	-	652+68	LT	94	---	2	---	BEAMGUARD SHOULDER
0010	651+59	-	652+82	PIPE REPLACEMENT	---	299	5	123	
0010	652+68	-	664+70	LT	83	---	2	---	SHOULDER
0010	664+70	-	678+04	LT	152	---	3	---	BEAMGUARD SHOULDER
0010	674+43	-	678+09	RT	41	---	1	---	BEAMGUARD SHOULDER
0010	678+38	-	693+54	LT	168	---	3	---	BEAMGUARD SHOULDER
0010	678+49	-	752+78	RT	459	---	7	---	SHOULDER
0010	693+75	-	721+14	LT	305	---	5	---	BEAMGUARD SHOULDER
0010	721+14	-	792+80	LT	486	---	8	---	SHOULDER
0010	733+40	-	734+62	PIPE REPLACEMENT	---	297	5	122	
0010	739+38	-	740+47	PIPE REPLACEMENT	---	265	4	109	
0010	740+91	-	742+10	PIPE REPLACEMENT	---	290	5	119	
0010	743+45	-	744+55	PIPE REPLACEMENT	---	268	5	110	
0010	745+60	-	746+71	PIPE REPLACEMENT	---	270	5	111	
0010	749+67	-	750+77	PIPE REPLACEMENT	---	268	5	110	
0010	752+78	-	756+30	RT	39	---	1	---	BEAMGUARD SHOULDER
0010	756+30	-	875+16	RT	765	---	12	---	SHOULDER
0010	777+90	-	779+12	PIPE REPLACEMENT	---	297	5	122	
0010	792+80	-	814+57	LT	241	---	4	---	BEAMGUARD SHOULDER
0010	814+57	-	820+13	LT	39	---	1	---	SHOULDER
0010	820+13	-	841+74	LT	239	---	4	---	BEAMGUARD SHOULDER
0010	834+23	-	835+33	PIPE REPLACEMENT	---	268	5	110	
0010	841+74	-	849+70	LT	55	---	1	---	SHOULDER
0010	850+05	-	875+04	LT	167	---	3	---	SHOULDER
0010	875+39	-	877+86	LT	28	---	1	---	BEAMGUARD SHOULDER
0010	875+16	-	877+86	RT	30	---	1	---	BEAMGUARD SHOULDER
0010	880+39	-	880+59	LT	5	33	1	20	RECONSTRUCT SHLD
0010	880+39	-	880+59	RT	5	33	1	20	RECONSTRUCT SHLD
0010	892+39	-	1013+71	RT	768	---	12	---	SHOULDER
0010	892+39	-	910+86	LT	117	---	2	---	SHOULDER
0010	903+20	-	904+28	PIPE REPLACEMENT	---	263	4	108	
0010	908+18	-	909+27	PIPE REPLACEMENT	---	265	4	109	
0010	910+86	-	928+05	LT	191	---	3	---	BEAMGUARD SHOULDER

CONTINUED IN NEXT COLUMN

CONTINUED FROM PREVIOUS COLUMN

BASE AGGREGATE DENSE

CATEGORY	STATION	TO	STATION	LOCATION	* 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	* 624.0100 WATER MGAL	650.5000 CONSTRUCTION STAKING BASE LF	REMARKS
0010	928+05	-	931+60	LT	25	---	1	---	SHOULDER
0010	931+60	-	943+05	LT	127	---	2	---	BEAMGUARD SHOULDER
0010	943+05	-	994+19	LT	347	---	6	---	SHOULDER
0010	994+19	-	1006+77	LT	140	---	3	---	BEAMGUARD SHOULDER
0010	1006+77	-	1013+21	LT	45	---	1	---	SHOULDER
0010	1013+66	-	1015+74	LT	30	---	1	---	BEAMGUARD SHOULDER
0010	1013+92	-	1017+63	RT	44	---	1	---	BEAMGUARD SHOULDER
0010	1016+80	-	1035+43	LT	128	---	2	---	SHOULDER
0010	1017+63	-	1054+41	RT	240	---	4	---	SHOULDER
0010	1032+55	-	1033+75	PIPE REPLACEMENT	---	292	5	120	
0010	1035+43	-	1065+82	LT	336	---	6	---	BEAMGUARD SHOULDER
0010	1053+70	-	1054+77	PIPE REPLACEMENT	---	260	4	107	
0010	1057+62	-	1058+68	PIPE REPLACEMENT	---	258	4	106	
0010	1062+09	-	1063+16	PIPE REPLACEMENT	---	260	4	107	
0010	1054+98	-	1075+75	RT	128	---	2	---	SHOULDER
0010	1065+82	-	1068+49	LT	19	---	1	---	SHOULDER
0010	1068+49	-	1073+87	LT	60	---	1	---	BEAMGUARD SHOULDER
0010	1073+87	-	1074+70	LT	6	---	1	---	SHOULDER
0010	1074+59	-	1075+63	PIPE REPLACEMENT	---	253	4	104	
				UNDISTRIBUTED	600	500	17	---	
				TOTAL 0010	9,591	6,832	277	2,615	

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

3

DRIVEWAY ITEMS

CATEGORY	STATION	LOCATION	* 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	416.0160 CONCRETE DRIVEWAY 6-INCH SY	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
0010	496+16	LT	---	---	14
0010	501+75	LT	5	---	---
0010	504+58	RT	7	---	---
0010	508+43	RT	---	---	13
0010	512+02	RT	---	---	4
0010	514+59	RT	4	---	---
0010	516+53	LT	5	---	---
0010	519+36	LT	6	---	---
0010	522+26	LT	4	---	---
0010	543+73	RT	---	---	5
0010	546+43	RT	---	---	5
0010	553+78	RT	---	39	---
0010	556+70	RT	---	---	4
0010	576+01	RT	8	---	---
0010	590+11	RT	---	---	13
0010	622+06	RT	---	---	2
0010	622+99	RT	3	---	---
0010	625+43	RT	---	---	4
0010	678+28	RT	8	---	---
0010	708+15	RT	---	---	3
0010	712+15	RT	---	---	3
0010	715+76	RT	---	---	3
0010	722+12	RT	3	---	---
0010	729+37	RT	5	---	---
0010	738+39	RT	---	---	8
0010	740+72	LT	6	---	---
0010	766+04	RT	3	---	---
0010	767+39	RT	2	---	---
0010	771+79	RT	3	---	---
0010	799+03	RT	---	---	3
0010	802+77	RT	---	---	5
0010	811+09	RT	---	---	3
0010	813+41	RT	---	---	4
0010	819+24	RT	2	---	---
0010	826+89	RT	2	---	---
0010	833+56	RT	---	---	3
0010	837+05	RT	---	---	2
0010	838+16	RT	---	---	2
0010	840+56	RT	3	---	---
0010	875+24	LT	---	---	8
0010	899+11	LT	4	---	---
0010	899+21	RT	3	---	---
0010	899+58	LT	---	---	4
0010	902+43	LT	---	---	5
0010	906+27	RT	---	---	3
0010	906+82	RT	---	---	3
0010	910+76	RT	3	---	---
0010	913+01	RT	5	---	---
0010	917+44	RT	---	---	3
0010	918+56	RT	---	---	3

CONTINUED IN NEXT COLUMN

CONTINUED FROM PREVIOUS COLUMN

DRIVEWAY ITEMS

CATEGORY	STATION	LOCATION	* 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	416.0160 CONCRETE DRIVEWAY 6-INCH SY	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
0010	952+35	RT	---	---	3
0010	958+34	RT	---	---	3
0010	958+40	LT	4	---	---
0010	971+81	RT	3	---	---
0010	975+50	RT	---	---	4
0010	980+64	RT	---	---	3
0010	995+13	RT	3	---	---
0010	1009+58	RT	---	---	5
0010	1013+45	LT	4	---	---
0010	1013+95	RT	---	---	6
0010	1016+08	LT	---	---	18
0010	1019+73	RT	---	---	6
0010	1075+14	LT	---	---	11
0010	UNDISTRIBUTED		54	---	---
		TOTAL 0010	162	39	191

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

CIR PAVEMENT ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	211.0800.S BASE REPAIR FOR CIR LAYER CY	327.1000.S CIR ASPHALTIC BASE LAYER SY	455.0770.S ASPHALT STABILIZING AGENT TON
0010	451+48	-	491+32	MAINLINE	24	10,625	48
0010	493+09	-	877+45	MAINLINE	228	102,498	460
0010	892+39	-	1075+25	MAINLINE	109	48,764	219
				TOTAL 0010	361	161,887	727

SELECT CRUSHED MATERIAL AND GEOGRID

CATEGORY	STATION	TO	STATION	LOCATION	312.0110 SELECT CRUSHED MATERIAL TON	645.0220 GEOGRID TYPE SR SY	650.4500 CONSTRUCTION STAKING SUBGRADE LF
0010	880+39	-	880+59	LT	34	56	20
0010	880+39	-	880+59	RT	34	56	20
				TOTAL 0010	68	112	40

MILL AND RELAY ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	330.0100 MILL AND RELAY SY	374.1010.S QMP MILL AND RELAY COMPACTION SY	* 624.0100 WATER MGAL
0010	451+48	-	491+32	LT	2,649	2,649	6
0010	451+48	-	491+32	RT	2,632	2,632	6
0010	493+08	-	877+45	LT	26,522	26,522	54
0010	493+08	-	877+45	RT	26,514	26,514	54
0010	892+38	-	1075+25	LT	12,671	12,671	26
0010	892+38	-	1075+25	RT	12,543	12,543	26
				TOTAL 0010	83,531	83,531	172

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

HMA PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	THICKNESS	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	465.0105 ASPHALTIC SURFACE TON	REMARKS
0010	450+98	-	491+82	LOWER LAYER	1.75	813	1,594	---	MAINLINE
0010	450+98	-	491+82	UPPER LAYER	1.75	813	1,594	---	MAINLINE
0010	492+59	-	877+95	LOWER LAYER	1.75	7,798	15,284	---	MAINLINE
0010	492+59	-	877+95	UPPER LAYER	1.75	7,798	15,284	---	MAINLINE
0010	505+65	-	506+67	LOWER LAYER	1.75	10	19	---	CRAWFORD STREET
0010	505+65	-	506+67	UPPER LAYER	1.75	10	19	---	CRAWFORD STREET
0010	509+22	-	510+71	LOWER LAYER	1.75	15	30	---	STH 82
0010	509+22	-	510+71	UPPER LAYER	1.75	15	30	---	STH 82
0010	515+40	-	516+71	LOWER LAYER	1.75	---	32	---	S MILL PARK DRIVE
0010	515+40	-	516+71	UPPER LAYER	1.75	17	32	---	S MILL PARK DRIVE
0010	529+86	-	532+83	LT	1.75	45	---	62	HISTORICAL MARKER
0010	593+89	-	597+58	RT	1.75	101	---	141	WAYSIDE
0010	636+34	-	637+06	LOWER LAYER	1.75	8	16	---	ZITZNER ROAD
0010	636+34	-	637+06	UPPER LAYER	1.75	8	16	---	ZITZNER ROAD
0010	641+19	-	643+05	RT	1.75	31	---	43	HISTORICAL MARKER
0010	650+46	-	651+47	LOWER LAYER	1.75	9	18	---	BATTLE HOLLOW ROAD
0010	650+46	-	651+47	UPPER LAYER	1.75	9	18	---	BATTLE HOLLOW ROAD
0010	677+73	-	678+40	LOWER LAYER	1.75	6	11	---	CTH BI
0010	677+73	-	678+40	UPPER LAYER	1.75	6	11	---	CTH BI
0010	680+63	-	682+12	LOWER LAYER	1.75	10	18	---	BLUFF ROAD
0010	680+63	-	682+12	UPPER LAYER	1.75	10	18	---	BLUFF ROAD
0010	693+54	-	694+01	LOWER LAYER	1.75	6	11	---	GANTENBEIN ROAD
0010	693+54	-	694+01	UPPER LAYER	1.75	6	11	---	GANTENBEIN ROAD
0010	734+60	-	736+16	LOWER LAYER	1.75	9	17	---	TERHUNE STREET
0010	734+60	-	736+16	UPPER LAYER	1.75	9	17	---	TERHUNE STREET
0010	740+15	-	740+65	LOWER LAYER	1.75	3	6	---	STEVENS STREET
0010	740+15	-	740+65	UPPER LAYER	1.75	3	6	---	STEVENS STREET
0010	741+95	-	742+56	LOWER LAYER	1.75	5	9	---	CTH UU
0010	741+55	-	742+56	UPPER LAYER	1.75	5	9	---	CTH UU
0010	748+55	-	749+14	LOWER LAYER	1.75	4	8	---	WASHINGTON STREET SOUTH
0010	748+55	-	749+14	UPPER LAYER	1.75	4	8	---	WASHINGTON STREET SOUTH
0010	759+56	-	760+43	LOWER LAYER	1.75	8	14	---	WASHINGTON STREET NORTH
0010	759+56	-	760+43	UPPER LAYER	1.75	8	14	---	WASHINGTON STREET NORTH
0010	849+42	-	851+75	LT	1.75	40	---	55	HISTORICAL MARKER
0010	861+12	-	863+02	LOWER LAYER	1.75	13	25	---	HECKS POINT ROAD
0010	861+12	-	863+02	UPPER LAYER	1.75	13	25	---	HECKS POINT ROAD
0010	880+39		880+59	LOWER LAYER	2.00	5	7	---	OUTSIDE LANE, SHLD
0010	880+39	-	892+39	UPPER LAYER	2.00	424	677	---	MILL AND OVERLAY
0010	890+05	-	890+98	LOWER LAYER	1.75	10	19	---	MEADOW LANE
0010	890+05	-	890+98	UPPER LAYER	1.75	10	19	---	MEADOW LANE
0010	892+39	-	1075+75	LOWER LAYER	1.75	3,709	7,270	---	MAINLINE
0010	892+39	-	1075+75	UPPER LAYER	1.75	3,709	7,270	---	MAINLINE
0010	921+39	-	922+70	LOWER LAYER	1.75	13	26	---	MUNDSACK ROAD
0010	921+39	-	922+70	UPPER LAYER	1.75	13	26	---	MUNDSACK ROAD
0010	997+47	-	998+52	LOWER LAYER	1.75	11	20	---	EDGEWOOD LANE
0010	997+47	-	998+52	UPPER LAYER	1.75	11	20	---	EDGEWOOD LANE
0010	1027+49	-	1028+65	LOWER LAYER	1.75	6	11	---	EDGEWOOD LANE
0010	1027+49	-	1028+65	UPPER LAYER	1.75	6	11	---	EDGEWOOD LANE
0010	1054+32	-	1062+71	RT	1.75	231	---	324	HISTORICAL MARKER
0010	1074+31	-	1075+75	LOWER LAYER	1.75	12	24	---	STH 56
0010	1074+31	-	1075+75	UPPER LAYER	1.75	12	24	---	STH 56
				TOTAL 0010		25,850	49,648	625	

PERCENT WITHIN LIMITS (PWL) MIXTURE USE TABLE

LOCATION	STATION	MIXTURE USE:	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS (INCHES)	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: MIXTURE ACCEPTANCE	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: DENSITY ACCEPTANCE
12 FOOT DRIVING LANE	450+98 TO 491+81 ; 492+59 TO 877+95 ; 892+39 TO 1075+75	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	15,930	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
12 FOOT DRIVING LANE	450+98 TO 491+81 ; 492+59 TO 877+95 ; 892+39 TO 1075+75	LOWER LAYER	CIR PAVEMENT	4 MT 58-28 S	15,930	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
VARYING SHOULDER WIDTH	450+98 TO 491+81 ; 492+59 TO 877+95 ; 892+39 TO 1075+75	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	8,218	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
VARYING SHOULDER WIDTH	450+98 TO 491+81 ; 492+59 TO 877+95 ; 892+39 TO 1075+75	LOWER LAYER	MILL AND RELAYED MATERIAL	4 MT 58-28 S	8,218	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
12 FOOT DRIVING LANE	880+39 TO 892+39	UPPER LAYER	MILLED SURFACE	4 MT 58-28 S	359	2	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
VARYING SHOULDER WIDTH	880+39 TO 892+39	UPPER LAYER	MILLED SURFACE	4 MT 58-28 S	293	2	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE

RUMBLE STRIPS

CATEGORY	STATION	TO	STATION	LOCATION	465.0425 ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL LF	465.0475 ASPHALT CENTERLINE RUMBLE STRIPS 2-LANE RURAL LF
0010	450+98	-	491+57	CENTERLINE	---	4,060
0010	450+98	-	491+57	LT	4,060	---
0010	450+98	-	491+57	RT	4,060	---
0010	492+84	-	877+70	CENTERLINE	---	34,375
0010	492+84	-	877+70	LT	36,759	---
0010	492+84	-	877+70	RT	31,083	---
0010	880+64	-	1073+08	CENTERLINE	---	16,600
0010	880+64	-	1073+08	LT	13,504	---
0010	880+64	-	1073+08	RT	16,205	---
				TOTAL 0010	105,671	55,035

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CULVERT PIPE ITEMS

CATEGORY	STATION	LOCATION	MINIMUM THICKNESS (INCHES) STEEL	MINIMUM THICKNESS (INCHES) ALUM.	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH EACH	520.1036 APRON ENDWALLS FOR CULVERT PIPE 36-INCH EACH	520.1048 APRON ENDWALLS FOR CULVERT PIPE 48-INCH EACH	520.3324 CULVERT PIPE CLASS III-A 24-INCH LF	520.3336 CULVERT PIPE CLASS III-A 36-INCH LF	520.4124 CULVERT PIPE CLASS IV 24-INCH LF	520.4136 CULVERT PIPE CLASS IV 36-INCH LF	520.4148 CULVERT PIPE CLASS IV 48-INCH LF	521.3124 CULVERT PIPE CORRUGATED STEEL 24-INCH LF	521.3148 CULVERT PIPE CORRUGATED STEEL 48-INCH LF	633.5200 MARKERS CULVERT END EACH	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH
0010	529+98	STH 35	0.064	0.075	2	---	---	---	---	67	---	---	---	---	2	1
0010	533+60	STH 35	0.064	0.075	2	---	---	---	---	59	---	---	---	---	2	1
0010	538+21	STH 35	0.064	0.075	2	---	---	---	---	63	---	---	---	---	2	1
0010	565+30	STH 35	0.064	0.075	2	---	---	---	---	64	---	---	---	---	2	1
0010	587+10	STH 35	0.079	0.105	---	2	---	---	78	---	---	---	---	---	2	1
0010	652+20	STH 35	0.064	0.075	2	---	---	---	---	56	---	---	---	---	2	1
0010	734+01	STH 35	0.064	0.075	2	---	---	---	---	72	---	---	---	---	2	1
0010	739+92	STH 35	0.079	0.105	---	2	---	---	---	---	55	---	---	---	2	1
0010	741+51	STH 35	0.064	0.075	2	---	---	---	---	76	---	---	---	---	2	1
0010	744+00	STH 35	0.064	0.075	2	---	---	70	---	---	---	---	---	---	2	1
0010	746+16	STH 35	0.064	0.075	2	---	---	68	---	---	---	---	---	---	2	1
0010	750+22	STH 35	0.079	0.105	---	2	---	---	95	---	---	---	---	---	2	1
0010	778+51	STH 35	0.064	0.075	2	---	---	---	---	54	---	---	---	---	2	1
0010	834+78	STH 35	0.109	-	---	---	1	---	---	---	---	---	---	101	1	1
0010	903+74	STH 35	0.079	0.105	---	2	---	---	95	---	---	---	---	---	2	1
0010	908+73	STH 35	0.079	0.105	---	2	---	---	94	---	---	---	---	---	2	1
0010	1033+15	STH 35	0.109	0.105	---	---	2	---	---	---	---	72	---	---	2	1
0010	1054+23	STH 35	0.064	0.075	2	---	---	63	---	---	---	---	---	---	2	1
0010	1058+15	STH 35	0.064	0.075	2	---	---	---	---	48	---	---	---	---	2	1
0010	1062+62	STH 35	0.064	-	1	---	---	---	---	---	---	---	72	---	1	1
0010	1075+11	STH 35	0.109	0.105	---	---	2	---	---	---	---	137	---	---	2	1
		TOTAL 0010			25	10	5	201	362	559	55	209	72	101	40	21

RIPRAP ITEMS

CATEGORY	STATION	LOCATION	606.0300 RIPRAP HEAVY CY	645.0120 GEOTEXTILE TYPE HR SY
0010	538+21	LT	4	11
0010	587+10	LT	6	16
0010	739+92	LT	10	25
0010	744+00	LT	6	16
0010	750+22	LT	10	25
0010	834+78	LT	55	107
0010	903+74	LT	8	21
0010	908+73	LT	10	25
0010	1033+06	RT	12	30
0010	1033+26	LT	5	15
0010	1054+25	LT	4	13
0010	1058+15	LT	6	16
0010	1062+62	LT	26	55
0010	1075+67	LT	12	30
		TOTAL 0010	174	405

STEEL PLATE BEAM GUARD ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	614.0305 STEEL PLATE BEAM GUARD CLASS A LF	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS LF	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL EACH	614.0390 STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL EACH
0010	508+54	-	509+29	RT	50	38	---	1
0010	510+61	-	511+24	RT	12.5	---	1	---
				TOTAL 0010	62.5	38	1	1

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EROSION CONTROL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	628.2004 EROSION MAT CLASS I TYPE B SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH
0010	488+47	-	491+80	RT	---	774	---	---
0010	488+95	-	491+00	LT	---	670	---	---
0010	493+03	-	494+45	LT	---	216	---	---
0010	493+03	-	496+13	RT	---	785	---	---
0010	506+68	-	512+46	LT	---	1,051	---	---
0010	508+58	-	509+30	RT	---	66	---	---
0010	510+62	-	511+80	RT	---	155	---	---
0010	529+98	-	---	LT & RT	16	---	---	3
0010	533+60	-	---	LT & RT	18	---	---	3
0010	538+21	-	---	RT	10	---	---	3
0010	565+30	-	---	LT & RT	19	---	---	3
0010	587+10	-	---	RT	---	---	---	3
0010	590+84	-	592+53	RT	187	---	---	---
0010	593+68	-	594+40	RT	53	---	---	---
0010	636+48	-	637+75	LT	---	305	---	---
0010	636+93	-	637+95	RT	---	166	---	---
0010	644+24	-	652+69	LT	1,165	---	---	---
0010	652+10	-	---	RT	10	---	---	3
0010	652+34	-	---	LT	10	---	---	---
0010	664+69	-	671+00	LT	413	---	---	---
0010	674+43	-	675+90	RT	---	629	---	---
0010	674+96	-	676+00	LT	---	102	---	---
0010	676+84	-	677+84	LT	---	41	---	---
0010	687+99	-	693+50	LT	507	---	---	---
0010	718+94	-	721+14	LT	257	---	---	---
0010	733+88	-	---	RT	10	---	---	3
0010	734+17	-	---	LT	10	---	---	---
0010	739+92	-	---	RT	16	---	---	7
0010	741+38	-	---	LT	10	---	---	---
0010	741+59	-	---	RT	10	---	---	3
0010	743+95	-	---	RT	---	---	---	3
0010	746+16	-	---	LT & RT	19	---	---	3
0010	750+22	-	---	RT	---	32	---	7
0010	752+38	-	756+31	RT	---	669	---	---
0010	778+39	-	---	RT	10	---	---	3
0010	778+63	-	---	LT	10	---	---	---
0010	792+79	-	798+00	LT	390	---	---	---
0010	802+00	-	814+57	LT	1,815	---	---	---
0010	820+13	-	841+75	LT	2,246	---	---	---
0010	834+78	-	---	RT	20	---	---	10
0010	875+16	-	877+86	RT	---	144	---	---
0010	875+66	-	877+86	LT	---	190	---	---
0010	880+39		880+92	LT & RT	121	---	---	---
0010	903+74	-	---	RT	13	---	---	7
0010	908+73	-	---	RT	16	---	---	7
0010	910+52	-	912+36	LT	---	940	---	---
0010	916+00	-	919+11	LT	775	---	---	---
0010	931+59	-	933+86	LT	208	---	---	---
0010	938+00	-	943+05	LT	1,324	---	---	---
0010	994+18	-	996+00	LT	352	---	---	---
0010	1003+25	-	1006+77	LT	1,320	---	---	---
0010	1013+66	-	1015+60	LT	151	---	---	---
0010	1013+99	-	1017+63	RT	300	---	---	---
0010	1033+06	-	---	RT	---	---	---	10
0010	1035+43	-	1038+48	LT	604	---	---	---
0010	1054+25	-	---	RT	10	---	---	3
0010	1058+00	-	1059+00	LT	125	---	---	---

CONTINUED IN NEXT COLUMN

CONTINUED FROM PREVIOUS COLUMN

EROSION CONTROL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	628.2004 EROSION MAT CLASS I TYPE B SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH
0010	1058+15	-	---	RT	10	---	---	3
0010	1059+63	-	1060+00	LT	54	---	---	---
0010	1062+62	-	---	RT	10	---	---	3
0010	1068+48	-	1073+88	LT	668	---	---	---
0010	1074+64	-	---	RT	20	---	---	10
0010				UNDISTRIBUTED	3,328	1,734	160	25
				TOTAL 0010	16,640	8,669	160	125

MGS GUARDRAIL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	614.0400 ADJUSTING STEEL PLATE BEAM GUARD LF	614.2300 MGS GUARDRAIL 3 LF	614.2330 MGS GUARDRAIL 3 K LF	614.2350 MGS GUARDRAIL SHORT RADIUS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2630 MGS GUARDRAIL SHORT RADIUS TERMINAL EACH
0010	489+46	-	491+76	RT	---	137.5	---	---	39.4	1	---
0010	489+71	-	491+76	LT	---	112.5	---	---	39.4	1	---
0010	492+65	-	496+01	LT	---	282.5	---	75	39.4	---	1
0010	492+65	-	494+94	RT	---	177.5	---	---	39.4	1	---
0010	508+08	-	511+15	LT	---	200.0	---	---	---	2	---
0010	592+03	-	594+43	RT	---	112.5	---	75	---	1	1
0010	644+92	-	652+11	LT	---	612.5	---	---	---	2	---
0010	665+34	-	678+07	LT	---	275.0	900	32	---	1	1
0010	675+16	-	677+85	RT	---	162.5	---	---	---	2	---
0010	678+47	-	693+53	LT	---	1,400.0	---	---	---	2	---
0010	693+72	-	720+38	LT	---	2,594.0	---	6	---	1	1
0010	753+57	-	755+12	RT	---	50.0	---	---	---	2	---
0010	793+57	-	813+87	LT	---	750.0	1,175	---	---	2	---
0010	820+69	-	840+94	LT	---	1,912.5	---	---	---	2	---
0010	876+30	-	877+86	LT	---	62.5	---	---	39.4	1	---
0010	876+30	-	877+86	RT	---	62.5	---	---	39.4	1	---
0010	911+71	-	927+20	LT	---	1,050.0	400	---	---	2	---
0010	932+22	-	942+25	LT	---	375.0	525	---	---	2	---
0010	994+78	-	1005+97	LT	---	487.5	525	---	---	2	---
0010	1013+92	-	1016+38	RT	---	150.0	---	38	---	1	1
0010	1014+02	-	1015+70	LT	180	---	---	---	---	---	---
0010	1036+22	-	1059+13	LT	---	1,862.5	325	---	---	2	---
0010	1059+26	-	1065+18	LT	---	487.5	---	---	---	2	---
0010	1069+42	-	1073+23	LT	---	150.0	125	---	---	2	---
				TOTAL 0010	180.0	13,466.5	3,975	226	236.4	35	5

SILT FENCE

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
0010	487+84	-	492+00	RT	484	484
0010	488+27	-	491+98	LT	446	446
0010	492+49	-	496+46	RT	460	460
0010	492+66	-	495+15	LT	295	295
0010	506+26	-	512+95	LT	724	724
0010	508+56	-	509+64	RT	179	179
0010	510+42	-	511+90	RT	264	264
0010	586+11	-	587+72	RT	215	215
0010	586+25	-	588+11	LT	231	231
0010	636+25	-	637+93	LT	170	170
0010	636+82	-	638+33	RT	149	149
0010	673+85	-	678+15	RT	505	505
0010	674+62	-	677+86	LT	372	372
0010	749+41	-	756+93	RT	836	836
0010	749+54	-	750+85	LT	171	171
0010	874+70	-	878+34	RT	379	379
0010	875+57	-	878+11	LT	304	304
0010	880+27	-	881+25	LT	122	122
0010	880+37	-	881+37	RT	119	119
0010	909+79	-	914+15	LT	511	511
0010	UNDISTRIBUTED				1,734	1,734
				TOTAL 0010	8,670	8,670

MOBILIZATIONS EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	450+98	-	1075+75		6	4
				TOTAL 0010	6	4

TURBIDITY BARRIER

CATEGORY	STATION	TO	STATION	LOCATION	628.6005 TURBIDITY BARRIERS SY	REMARKS
0010	636+55	-	637+29	LT	102	B-62-264
0010	637+12	-	638+05	RT	114	B-62-264
				TOTAL 0010	216	

RESTORATION ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0400 SEEDING NURSE CROP LB	630.0500 SEED WATER MGAL
0010	488+47	-	509+66	RT	1,535	69	830	0.6	44	12	37
0010	488+94	-	512+57	LT	747	270	1,286	0.7	56	15	47
0010	510+60	-	739+78	RT	529	288	1,438	0.6	43	12	36
0010	529+94	-	734+24	LT	1,572	---	3,544	1.2	96	26	80
0010	741+31	-	877+86	LT	---	---	4,807	1.6	130	35	108
0010	741+57	-	877+86	RT	867	---	908	0.3	25	7	21
0010	903+69	-	1074+67	RT	2,205	300	---	0.2	10	3	9
0010	910+52	-	1073+88	LT	---	843	7,750	2.5	228	56	175
0010				UNDISTRIBUTED	1,491	354	4,113	0.0	127	34	103
				TOTAL 0010	8,946	2,124	24,676	7.7	759	200	616

TRAFFIC CONTROL ITEMS

CATEGORY	LOCATION	PHASE	DAYS	TRAFFIC CONTROL DRUMS EACH	643.0300 TRAFFIC CONTROL DRUMS DAY	TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	REMARKS
0010	SOUTH END NEAR OLD HWY 35	1	168	---	---	5	840	6	1,008	RD CLOSURE
0010	NORTH END NEAR STH 56	1	168	---	---	5	840	6	1,008	RD CLOSURE
	DETOUR ROUTE	1	168	---	---	6	1,008	12	2,016	OVERVIEW
0010	DETOUR AT DE SOTO, STH 82/STH 35	1	168	---	---	4	672	4	672	DETAIL 6
0010	DETOUR AT STH 56/STH 35	1	168	---	---	2	336	4	672	DETAIL 10
0010	DETOUR AT SIDEROADS (14)	1	168	---	---	28	4,704	28	4,704	CRAWFORD, S MILL PARK, BATTLE HOLLOW, BLACKTOP, BLUFF, TERHUNE ST, STEVENS, CTH UU, WASHINGTON ST (2), HECKS POINT, MEADOW LANE, MUNDSACK, GIANOLI,
0010	WORK ZONE FOR GUARDRAIL	2	61	100	6,100	---	---	---	---	
0010	UNDISTRIBUTED	2	77	100	7,700	10	770	6	462	
			TOTAL 0010		13,800		9,170		10,542	

NOTE: SEE SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES
SEE SDD BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
SEE SDD TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER UNDIVIDED ROAD OPEN TO TRAFFIC
SEE SDD TRAFFIC CONTROL FOR LAN CLOSURE WITH FLAGGING OPERATION
SEE SDD TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

TRAFFIC CONTROL SIGN ITEMS

CATEGORY	LOCATION	PHASE	DAYS	TRAFFIC CONTROL SIGNS EACH	643.0900 TRAFFIC CONTROL SIGNS DAY	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	NUMBER OF CYCLES EACH	NUMBER OF SIGNS EACH	TRAFFIC CONTROL SIGNS PCMS EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	REMARKS
0010	DETOUR OVERVIEW	1	168	84	14,112	---	---	---	---	---	
0010	OLD HWY 35 & STH 56	1	7	---	---	---	---	---	2	14	
0010	SOUTH END AT OLD HWY 35	1	168	1	168	---	---	---	---	---	ROAD CLOSURE, R11-2
0010	NORTH END AT STH 56	1	168	1	168	---	---	---	---	---	ROAD CLOSURE, R11-2
0010	DETOUR AT STH 82 / STH 35	1	168	21	3,528	11	1	11	---	---	DETAIL 6
0010	DETOUR AT STH 27 / STH 82	1	168	40	6,720	---	---	---	---	---	DETAIL 7
0010	DETOUR AT USH 61/14 / STH 27/82	1	168	39	6,552	---	---	---	---	---	DETAIL 8
0010	DETOUR AT STH 27 / STH 56	1	168	81	13,608	---	---	---	---	---	DETAIL 9
0010	DETOUR AT STH 56 / STH 35	1	168	33	5,544	8	1	8	---	---	DETAIL 10
0010	DETOUR AT SIDEROADS (14)	1	168	42	7,056	---	---	---	---	---	W20-3A,W20-3D,R11-4
0010	SOUTH END	2	77	---	---	---	---	---	---	---	W20-1A,W20-1C,W20-1D,G20-1,G20-2A
0010	NORTH END	2	77	---	---	---	---	---	---	---	W20-1A,W20-1C,W20-1D,G20-1,G20-2A
0010	SIDEROADS (14)	2	77	14	1,078	---	---	---	---	---	W20-1A
0010	WORK ZONE FOR PAVING/DROP OFF	2	30	6	180	---	---	---	---	---	W8-11
0010	SHLD CLOSURE	2	61	1	61	---	---	---	---	---	W21-5
0010	UNDISTRIBUTED	2	77	10	770	---	---	---	---	---	
			TOTAL 0010		59,545	19				14	

3

PAVEMENT MARKINGS

CATEGORY	STATION	TO	STATION	LOCATION	***** 646.1020 MARKING LINE EPOXY 4-INCH LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH LF	646.6020 MARKING STOP LINE EPOXY 12-INCH LF	646.6464 COLD WEATHER MARKING EPOXY 4-INCH LF	*** 649.0105 TEMPORARY MARKING LINE PAINT 4-INCH LF	**** 649.0120 TEMPORARY MARKING LINE EPOXY 4-INCH LF	REMARKS
0010	450+98	-	491+82	CENTERLINE	1,022	---	---	1,022	327	1,022	BOTH PASSING
0010	450+98	-	491+82	LT	---	4,085	---	4,085	---	---	EDGELINES
0010	450+98	-	491+82	RT	---	4,085	---	4,085	---	---	EDGELINES
0010	492+58	-	496+82	CENTERLINE	106	---	---	106	34	106	BOTH PASSING
0010	492+58	-	877+95	LT	---	38,331	---	38,331	---	---	EDGELINES
0010	492+58	-	877+95	RT	---	38,302	---	38,302	---	---	EDGELINES
0010	496+82	-	509+64	CENTERLINE	1,604	---	---	1,604	1,386	1,604	SB PASSING
0010	509+64	-	517+22	CENTERLINE	948	---	---	948	819	948	NB PASSING
0010	509+83	-	510+41	RT	---	---	45	---	---	---	STH 82
0010	517+22	-	549+94	CENTERLINE	818	---	---	818	262	818	BOTH PASSING
0010	549+94	-	556+02	CENTERLINE	761	---	---	761	658	761	SB PASSING
0010	556+02	-	564+05	CENTERLINE	201	---	---	201	65	201	BOTH PASSING
0010	564+05	-	569+74	CENTERLINE	711	---	---	711	614	711	NB PASSING
0010	569+74	-	643+09	CENTERLINE	1,834	---	---	1,834	587	1,834	BOTH PASSING
0010	643+09	-	650+44	CENTERLINE	920	---	---	920	795	920	SB PASSING
0010	650+44	-	655+81	CENTERLINE	135	---	---	135	43	135	BOTH PASSING
0010	655+81	-	663+34	CENTERLINE	942	---	---	942	814	942	NB PASSING
0010	663+34	-	670+09	CENTERLINE	169	---	---	169	55	169	BOTH PASSING
0010	670+09	-	679+18	CENTERLINE	1,138	---	---	1,138	983	1,138	SB PASSING
0010	679+18	-	695+44	CENTERLINE	407	---	---	407	131	407	BOTH PASSING
0010	695+44	-	707+14	CENTERLINE	1,463	---	---	1,463	1,264	1,463	SB PASSING
0010	707+14	-	716+55	CENTERLINE	1,283	---	---	1,283	1,283	1,283	NO PASSING
0010	716+55	-	726+49	CENTERLINE	1,618	---	---	1,618	1,398	1,618	NB PASSING
0010	726+49	-	730+55	CENTERLINE	102	---	---	102	33	102	BOTH PASSING
0010	730+55	-	742+75	CENTERLINE	1,526	---	---	1,526	1,319	1,526	SB PASSING
0010	742+75	-	752+54	CENTERLINE	1,959	---	---	1,959	1,959	1,959	NO PASSING
0010	752+54	-	764+99	CENTERLINE	1,556	---	---	1,556	1,345	1,556	NB PASSING
0010	764+99	-	777+31	CENTERLINE	1,541	---	---	1,541	1,331	1,541	SB PASSING
0010	777+31	-	791+64	CENTERLINE	2,867	---	---	2,867	2,867	2,867	NO PASSING
0010	791+64	-	805+00	CENTERLINE	1,670	---	---	1,670	1,443	1,670	NB PASSING
0010	805+00	-	811+15	CENTERLINE	154	---	---	154	50	154	BOTH PASSING
0010	811+15	-	825+49	CENTERLINE	1,793	---	---	1,793	1,549	1,793	SB PASSING
0010	825+49	-	840+07	CENTERLINE	2,916	---	---	2,916	2,916	2,916	NO PASSING
0010	840+07	-	854+77	CENTERLINE	1,838	---	---	1,838	1,588	1,838	NB PASSING
0010	854+77	-	871+75	CENTERLINE	425	---	---	425	136	425	BOTH PASSING
0010	871+75	-	877+95	CENTERLINE	776	---	---	776	670	776	SB PASSING
0010	880+38	-	1075+75	LT	---	19,540	---	19,540	---	---	EDGELINES
0010	880+38	-	1075+75	RT	---	19,050	---	19,050	---	---	EDGELINES
0010	880+39	-	885+43	CENTERLINE	631	---	---	631	545	631	SB PASSING
0010	885+43	-	891+41	CENTERLINE	1,197	---	---	1,197	1,197	1,197	NO PASSING
0010	891+41	-	901+58	CENTERLINE	1,272	---	---	1,272	1,099	1,272	NB PASSING
0010	901+58	-	904+57	CENTERLINE	75	---	---	75	24	75	BOTH PASSING
0010	904+57	-	917+94	CENTERLINE	1,672	---	---	1,672	1,445	1,672	SB PASSING
0010	917+94	-	929+35	CENTERLINE	2,281	---	---	2,281	2,281	2,281	NO PASSING
0010	929+35	-	942+40	CENTERLINE	1,632	---	---	1,632	1,410	1,632	NB PASSING
0010	942+40	-	1004+12	CENTERLINE	1,543	---	---	1,543	494	1,543	BOTH PASSING
0010	1004+12	-	1034+09	CENTERLINE	3,746	---	---	3,746	3,237	3,746	SB PASSING
0010	1034+09	-	1039+71	CENTERLINE	141	---	---	141	45	141	BOTH PASSING
0010	1039+71	-	1047+35	CENTERLINE	956	---	---	956	826	956	NB PASSING
0010	1047+35	-	1052+85	CENTERLINE	138	---	---	138	44	138	BOTH PASSING
0010	1052+85	-	1065+64	CENTERLINE	1,599	---	---	1,599	1,382	1,599	SB PASSING
0010	1065+64	-	1075+75	CENTERLINE	2,023	---	---	2,023	2,023	2,023	NO PASSING
				TOTAL 0010	54,109	123,393	45	177,502	44,776	54,109	

NOTES:

*** TO BE PLACED FOLLOWING CENTERLINE RUMBLE STRIP MILLING

**** TO BE PLACED FOLLOWING LOWER LAYER OF PAVEMENT

***** TO BE PLACE FOLLOWING UPPER LAYER OF PAVEMENT

SAWING

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	REMARKS
0010	450+98	-	---	MAINLINE	36	---	ROADWAY
0010	496+02	-	496+30	LT	28	---	BOAT LANDING
0010	506+09	-	506+44	RT	35	---	CRAWFORD STREET
0010	508+24	-	508+62	RT	38	---	DRIVEWAY
0010	509+70	-	510+32	RT	62	---	STH 82
0010	511+83	-	512+21	RT	38	---	DRIVEWAY
0010	515+81	-	516+04	RT	27	---	S MILL PARK DRIVE
0010	543+47	-	543+99	RT	52	---	DRIVEWAY
0010	546+18	-	546+67	RT	49	---	DRIVEWAY
0010	553+53	-	554+03	RT	---	50	DRIVEWAY
0010	556+51	-	556+90	RT	39	---	DRIVEWAY
0010	589+90	-	590+33	RT	43	---	DRIVEWAY
0010	621+98	-	622+14	RT	16	---	DRIVEWAY
0010	625+25	-	625+62	RT	37	---	DRIVEWAY
0010	636+54	-	636+77	RT	23	---	ZITZNER ROAD
0010	650+71	-	651+07	RT	36	---	BATTLE HOLLOW ROAD
0010	677+99	-	678+36	LT	37	---	CTH BI
0010	681+54	-	681+77	RT	23	---	BLUFF ROAD
0010	693+43	-	693+49	LT	16	---	GANTENBEIN ROAD
0010	707+92	-	708+19	RT	27	---	DRIVEWAY
0010	712+02	-	712+28	RT	26	---	DRIVEWAY
0010	715+61	-	715+92	RT	31	---	DRIVEWAY
0010	735+62	-	736+01	RT	39	---	DRIVEWAY
0010	738+20	-	738+58	RT	38	---	DRIVEWAY
0010	740+30	-	740+60	RT	30	---	STEVENS STREET
0010	741+98	-	742+49	RT	51	---	CTH UU
0010	748+71	-	748+93	RT	22	---	WASHINGTON STREET S
0010	759+90	-	760+14	RT	24	---	WASHINGTON STREET N
0010	798+90	-	799+16	RT	26	---	DRIVEWAY
0010	802+53	-	803+02	RT	49	---	DRIVEWAY
0010	810+94	-	811+25	RT	31	---	DRIVEWAY
0010	813+22	-	813+60	RT	38	---	DRIVEWAY
0010	833+46	-	833+68	RT	22	---	DRIVEWAY
0010	836+96	-	837+15	RT	19	---	DRIVEWAY
0010	838+08	-	838+25	RT	17	---	DRIVEWAY
0010	862+08	-	862+35	RT	27	---	HECKS POINT ROAD
0010	875+10		875+34	LT	25	---	DRIVEWAY
0010	880+39	-	880+59	LT	33	---	ROADWAY
0010	880+39	-	880+59	RT	33	---	ROADWAY
0010	890+45	-	890+65	RT	20	---	MEADOW LANE
0010	899+35	-	899+81	LT	46	---	DRIVEWAY
0010	902+19	-	902+67	LT	48	---	DRIVEWAY
0010	906+12	-	906+43	RT	31	---	DRIVEWAY
0010	906+68	-	906+96	RT	28	---	DRIVEWAY
0010	917+29	-	917+59	RT	30	---	DRIVEWAY
0010	918+44	-	918+68	RT	24	---	DRIVEWAY
0010	921+78	-	922+04	RT	26	---	MUNDSACK ROAD
0010	952+21	-	952+50	RT	29	---	DRIVEWAY
0010	958+21	-	958+51	RT	30	---	DRIVEWAY
0010	975+28	-	975+71	RT	43	---	DRIVEWAY
0010	980+49	-	980+80	RT	31	---	DRIVEWAY
0010	997+90	-	998+35	RT	45	---	EDGEWOOD LANE
0010	1009+31	-	1009+86	RT	55	---	DRIVEWAY
0010	1013+82	-	1014+08	RT	26	---	DRIVEWAY
0010	1015+53	-	1016+62	LT	108	---	DRIVEWAY
0010	1019+42	-	1020+06	RT	64	---	DRIVEWAY

CONTINUED IN NEXT COLUMN

CONTINUED FROM PREVIOUS COLUMN

SAWING

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	REMARKS
0010	1027+65	-	1028+16	RT	51	---	GIANOLI RD
0010	1074+81	-	1075+49	LT	68	---	DRIVEWAY
0010	1074+82	-	1075+35	RT	53	---	STH 56
0010	1075+75	-	---	MAINLINE	36	---	ROADWAY
				TOTAL 0010	2,135	50	

STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF	650.9910.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 5160-07-71) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	450+98	-	491+82	STH 35	4,084	1	---
0010	492+59	-	877+95	STH 35	38,536	---	---
0010	880+39	-	892+39	STH 35	1,200	---	---
0010	892+39	-	1075+75	STH 35	18,336	---	---
0010	519+83	-	521+00	STH 35	---	---	117
0010	529+45	-	530+51	STH 35	---	---	106
0010	533+07	-	534+13	STH 35	---	---	106
0010	537+68	-	538+74	STH 35	---	---	106
0010	564+77	-	565+83	STH 35	---	---	106
0010	586+56	-	587+63	STH 35	---	---	107
0010	636+58	-	637+88	STH 35	---	---	130
0010	651+59	-	652+82	STH 35	---	---	123
0010	733+40	-	734+62	STH 35	---	---	122
0010	739+38	-	740+47	STH 35	---	---	109
0010	740+91	-	742+10	STH 35	---	---	119
0010	743+45	-	744+55	STH 35	---	---	110
0010	745+60	-	746+71	STH 35	---	---	111
0010	749+67	-	750+77	STH 35	---	---	110
0010	777+90	-	779+12	STH 35	---	---	122
0010	834+23	-	835+33	STH 35	---	---	110
0010	903+20	-	904+28	STH 35	---	---	108
0010	908+18	-	909+27	STH 35	---	---	109
0010	1032+55	-	1033+75	STH 35	---	---	120
0010	1053+70	-	1054+77	STH 35	---	---	107
0010	1057+62	-	1058+68	STH 35	---	---	106
0010	1062+09	-	1063+16	STH 35	---	---	107
0010	1074+59	-	1075+63	STH 35	---	---	104
				TOTAL 0010	62,156	1	2,575

LOCATING NO-PASSING ZONES

CATEGORY	STATION	TO	STATION	LOCATION	648.0100 LOCATING NO-PASSING ZONES MI
0010	450+98	-	1075+75		11.8
				TOTAL 0010	11.8

TEMPORARY WATER DIVERSION

CATEGORY	LOCATION	SPV.0060.07 SPECIAL (07. TEMPRARY WATER DIVERSION STRUCTURE B-62-0264) EACH
0010	B-62-0264	1
	TOTAL 0010	1

SALVAGE, SAWCUT, AND REINSTALL THRIE BEAM TRANSITION

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0090.03 SPECIAL (03. SALVAGE, SAWCUT, AND REINSTALL THRIE BEAM TRANSITION) LF
0010	880+45	-	880+85	RT	39
0010	880+45	-	880+85	LT	39
				TOTAL 0010	79

SPRAYED ASPHALTIC SURFACE

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0070.01 SPECIAL (01. SPRAYED ASPHALTIC SURFACE TREATMENT) GAL
0010	489+46	-	491+76	RT	45
0010	489+71	-	491+76	LT	40
0010	492+58	-	496+01	LT	67
0010	492+58	-	494+94	RT	46
0010	508+08	-	511+15	LT	60
0010	508+54	-	509+29	RT	15
0010	510+61	-	511+24	RT	13
0010	592+02	-	594+43	RT	47
0010	644+92	-	652+11	LT	140
0010	665+34	-	678+07	LT	248
0010	675+16	-	677+85	RT	53
0010	678+47	-	693+53	LT	293
0010	693+72	-	720+38	LT	519
0010	753+56	-	755+13	RT	31
0010	793+56	-	813+87	LT	395
0010	820+68	-	840+94	LT	394
0010	876+30	-	877+86	LT	31
0010	876+30	-	877+86	RT	31
0010	911+71	-	927+21	LT	302
0010	932+21	-	942+25	LT	196
0010	994+78	-	1005+97	LT	218
0010	1013+92	-	1016+38	RT	48
0010	1014+02	-	1015+77	LT	35
0010	1036+21	-	1059+13	LT	446
0010	1059+25	-	1065+19	LT	116
0010	1069+41	-	1073+23	LT	75
				TOTAL 0010	3,904

CULVERT PIPE END SECTIONS

CATEGORY	STATION	LOCATION	SPV.0060.03 SPECIAL (03. CULVERT PIPE END SECTION T-TYPE 24-INCH) EACH	SPV.0060.04 SPECIAL (04. CULVERT PIPE END SECTION T-TYPE 48-INCH) EACH	SPV.0060.05 SPECIAL (05. CULVERT PIPE ANCHORS) EACH
0010	834+78	LT	---	1	2
0010	1062+62	LT	1	---	2
		TOTAL 0010	1	1	4

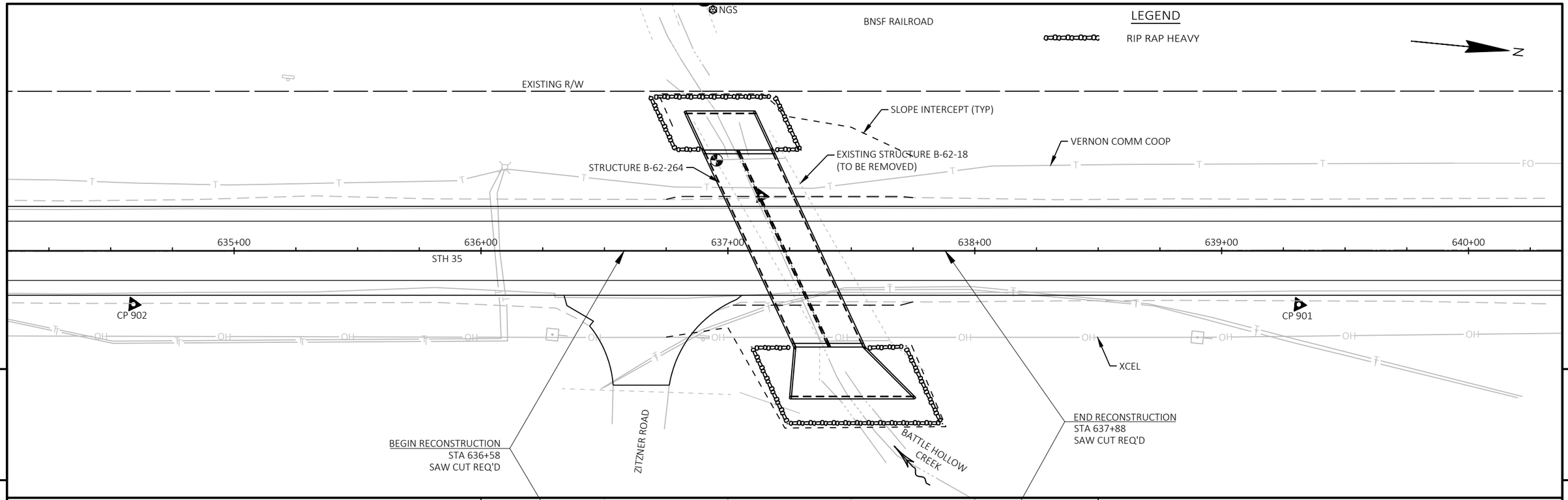
SALVAGED ASPHALTIC PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0195.01 SPECIAL (01. SALVAGED ASPHALTIC PAVEMENT) TON	SPV.0195.02 SPECIAL (02. SALVAGED ASPHALTIC PAVEMENT BASE) TON	REMARKS
0010	451+48	-	481+50	MAINLINE**	1,298	---	MILL 2" ONLY
0010	519+83	-	521+00	PIPE REPLACEMENT	203	261	MILL FULL DEPTH
0010	529+45	-	530+51	PIPE REPLACEMENT	184	237	MILL FULL DEPTH
0010	533+07	-	534+13	PIPE REPLACEMENT	184	237	MILL FULL DEPTH
0010	537+68	-	538+74	PIPE REPLACEMENT	184	237	MILL FULL DEPTH
0010	564+77	-	565+83	PIPE REPLACEMENT	184	237	MILL FULL DEPTH
0010	586+56	-	587+63	PIPE REPLACEMENT	185	239	MILL FULL DEPTH
0010	636+58	-	637+88	BOX CULVERT	141	290	MILL FULL DEPTH
0010	651+59	-	652+82	PIPE REPLACEMENT	213	275	MILL FULL DEPTH
0010	733+40	-	734+62	PIPE REPLACEMENT	211	273	MILL FULL DEPTH
0010	739+38	-	740+47	PIPE REPLACEMENT	205	244	MILL FULL DEPTH
0010	740+91	-	742+10	PIPE REPLACEMENT	283	266	MILL FULL DEPTH
0010	743+45	-	744+55	PIPE REPLACEMENT	218	246	MILL FULL DEPTH
0010	745+60	-	746+71	PIPE REPLACEMENT	192	248	MILL FULL DEPTH
0010	749+67	-	750+77	PIPE REPLACEMENT	191	246	MILL FULL DEPTH
0010	777+90	-	779+12	PIPE REPLACEMENT	211	273	MILL FULL DEPTH
0010	834+23	-	835+33	PIPE REPLACEMENT	191	246	MILL FULL DEPTH
0010	903+20	-	904+28	PIPE REPLACEMENT	187	241	MILL FULL DEPTH
0010	908+18	-	909+27	PIPE REPLACEMENT	189	244	MILL FULL DEPTH
0010	1032+55	-	1033+75	PIPE REPLACEMENT	208	268	MILL FULL DEPTH
0010	1053+70	-	1054+77	PIPE REPLACEMENT	185	239	MILL FULL DEPTH
0010	1057+62	-	1058+68	PIPE REPLACEMENT	184	237	MILL FULL DEPTH
0010	1062+09	-	1063+16	PIPE REPLACEMENT	162	239	MILL FULL DEPTH
0010	1074+59	-	1075+63	PIPE REPLACEMENT	162	232	MILL FULL DEPTH
				TOTAL 0010	5,755	5,755	

** USE THIS MATERIAL TO SUPPLEMENT THE CULVERT PIPE REPLACEMENT AREAS

SHOT ROCK

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0195.03 SPECIAL (03. SHOT ROCK) TON
0010	1053+50	-	1054+50	LT	910
0010	1059+00	-	1059+63	LT	362
				TOTAL 0010	1,272



PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	PLAN AND PROFILE: STH 35 - B-62-264	SHEET 76	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\050102-PP.DWG
LAYOUT NAME - 050102-pp

PLOT DATE : 6/25/2021 1:51 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

Standard Detail Drawing List

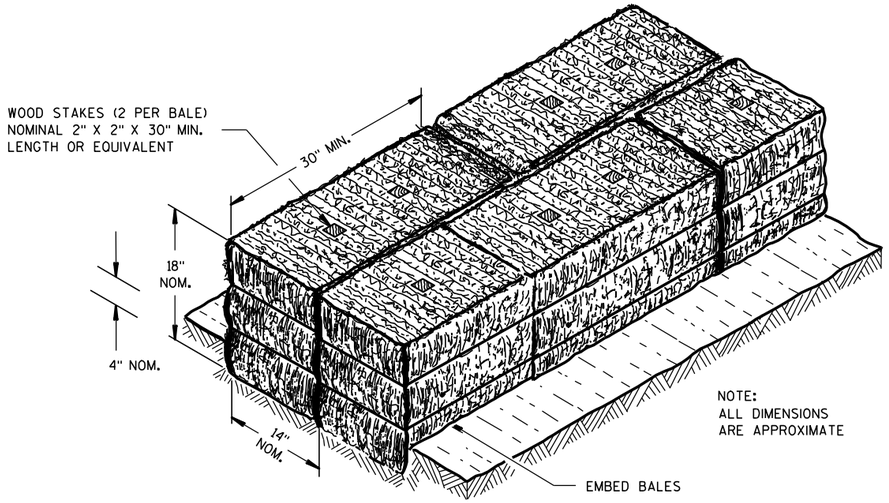
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
13A10-02A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02B	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B16-04A	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B16-04B	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B53-01A	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01B	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01C	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01D	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01E	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01F	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01G	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01H	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01I	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-09A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-06A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-04A	PAVEMENT MARKING (INTERSECTIONS)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

6

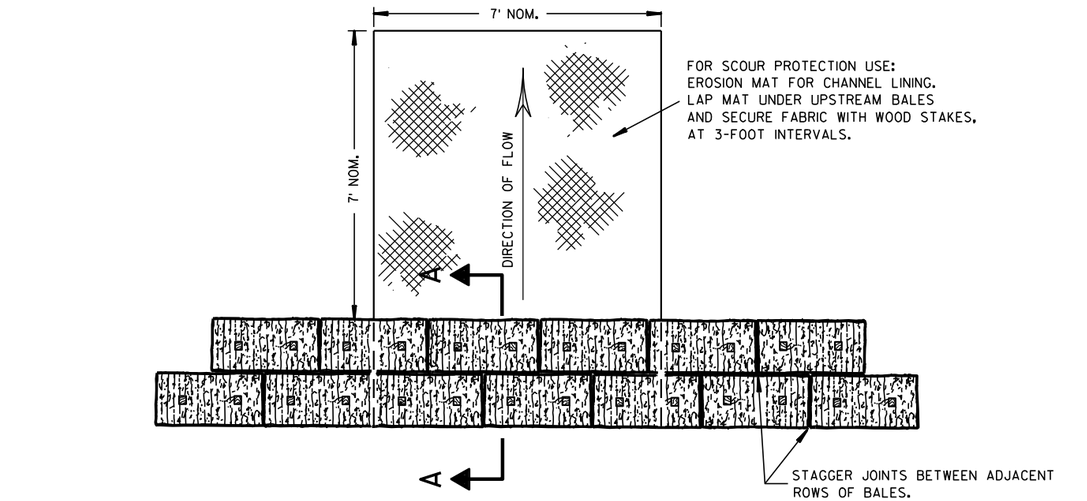
Standard Detail Drawing List

15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

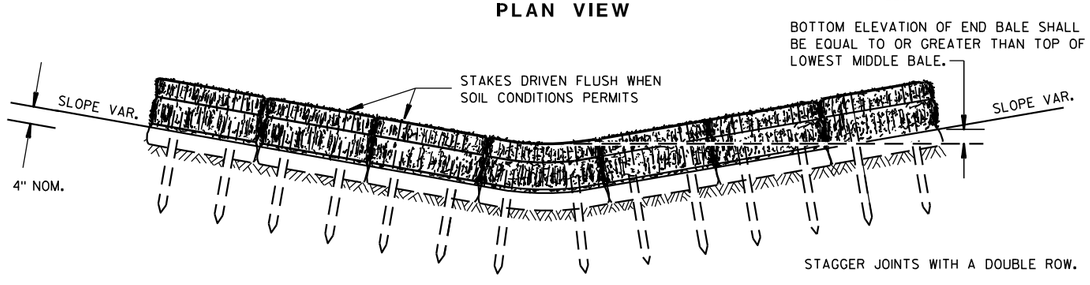
6



SECTION A-A



PLAN VIEW



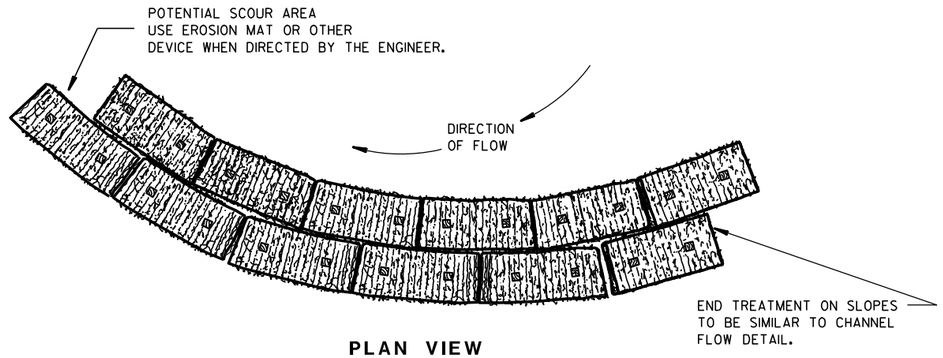
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

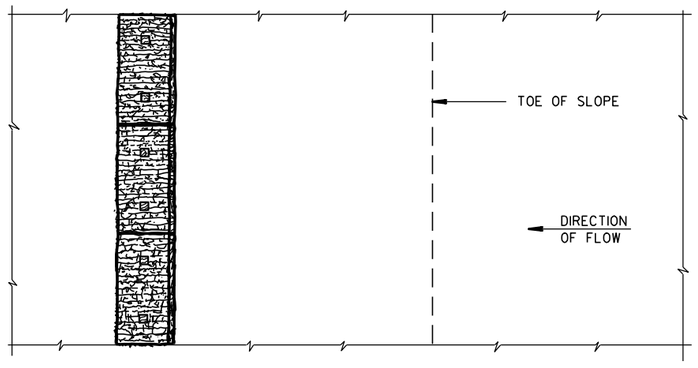
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

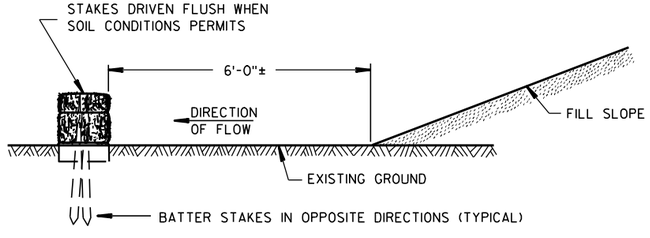


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

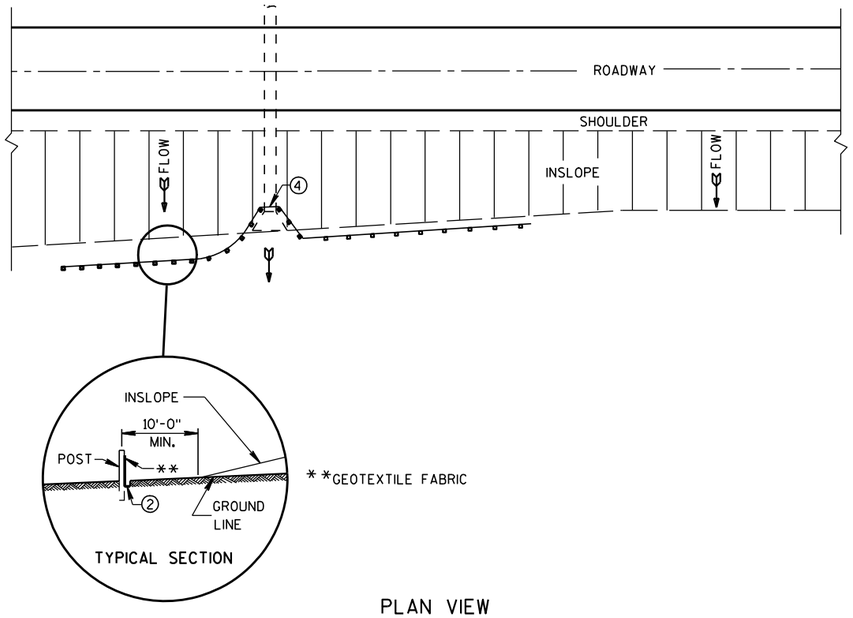
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

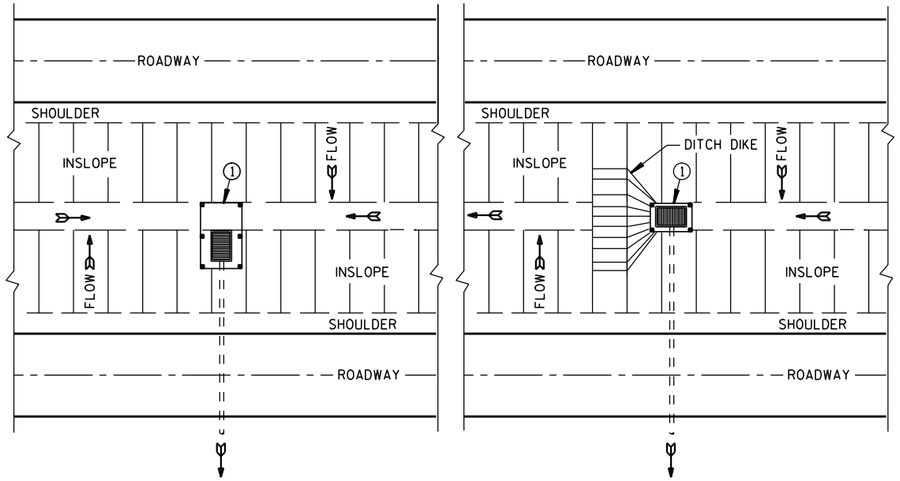
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



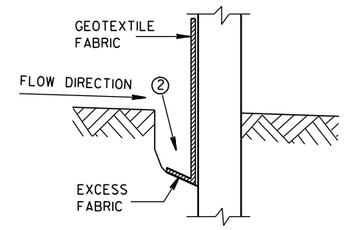
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

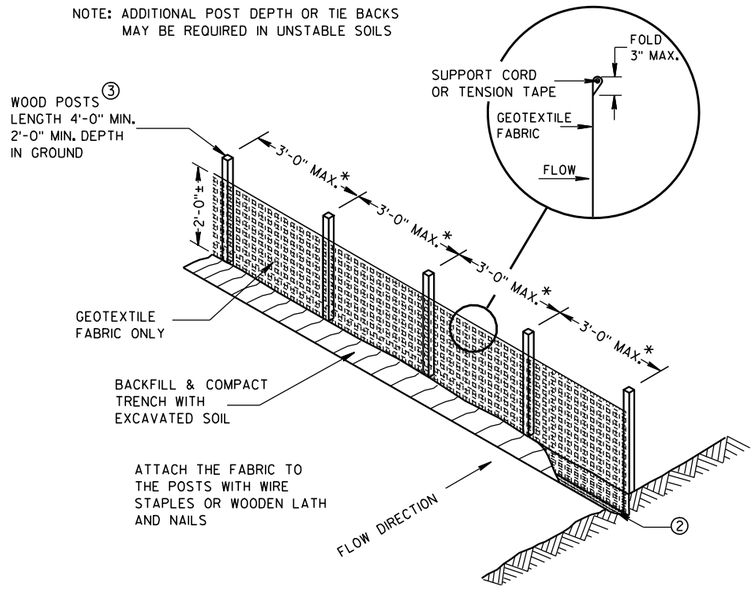
GENERAL NOTES

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

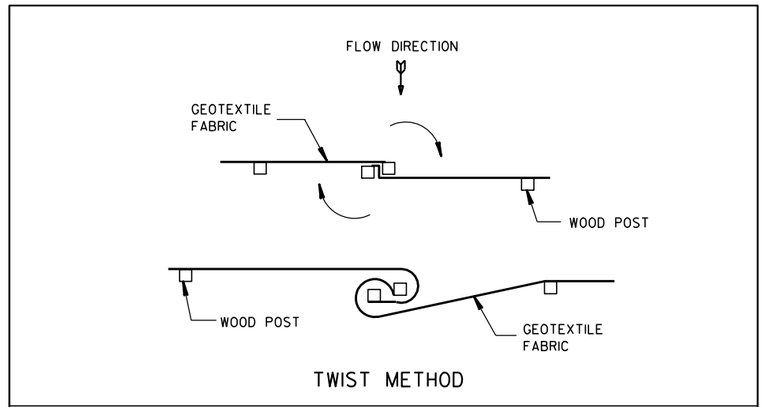
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



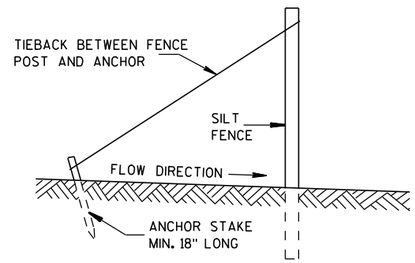
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

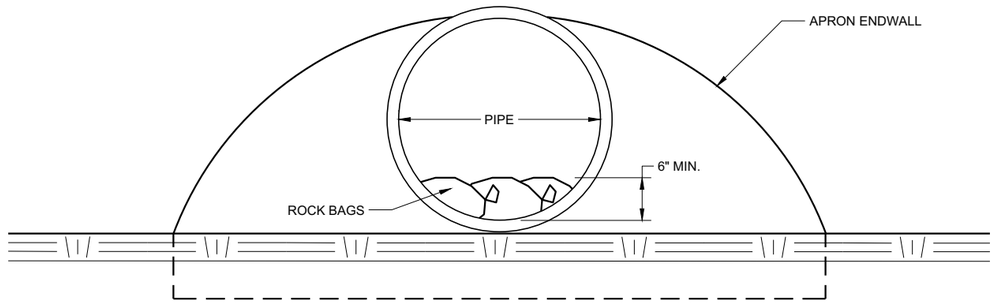
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

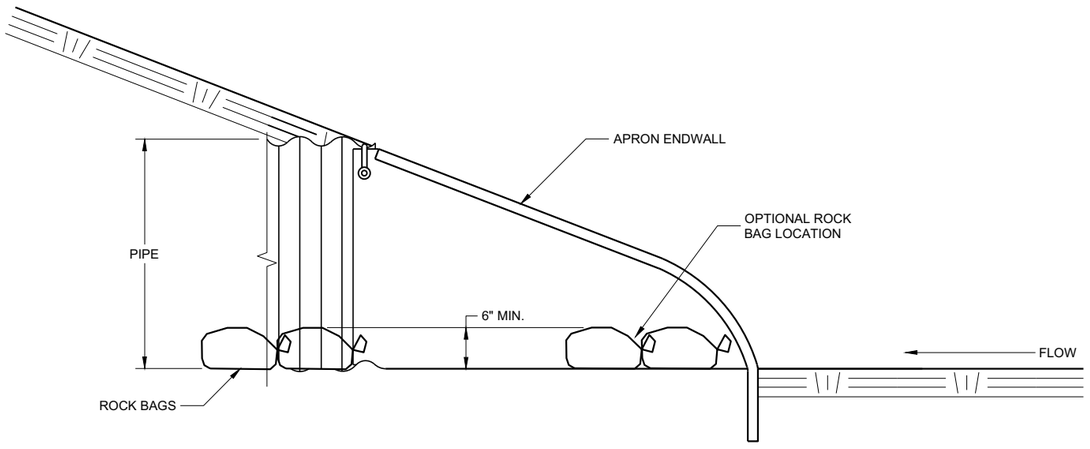
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 E 9-6



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI
FHWA	

6

SDD 08E15 - 01

METAL APRON ENDWALLS

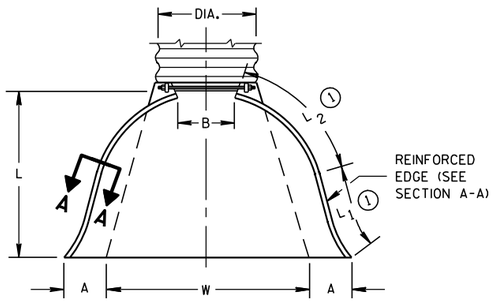
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

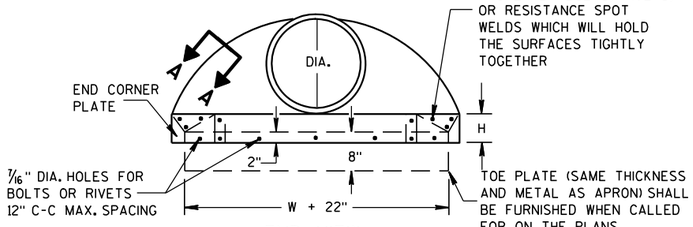
REINFORCED CONCRETE APRON ENDWALLS

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

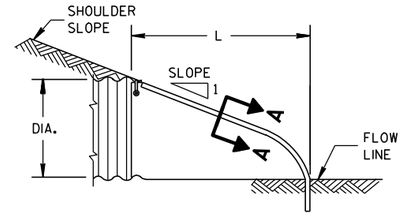
*MINIMUM
**MAXIMUM



PLAN VIEW

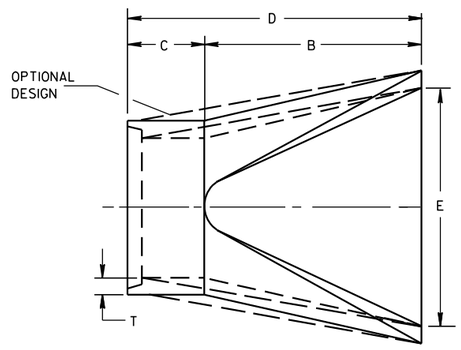


END VIEW

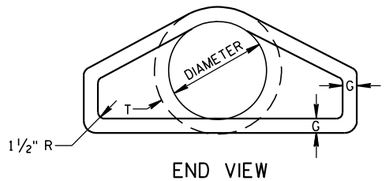


SIDE ELEVATION

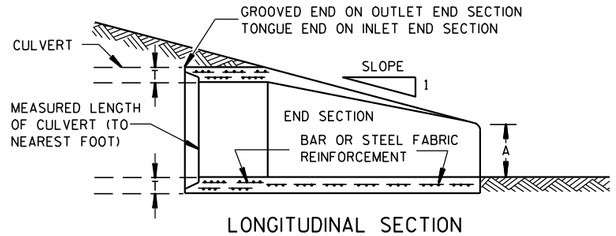
METAL ENDWALLS



PLAN

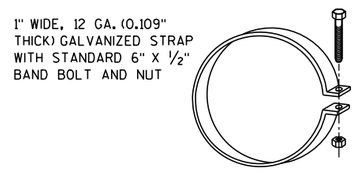


END VIEW



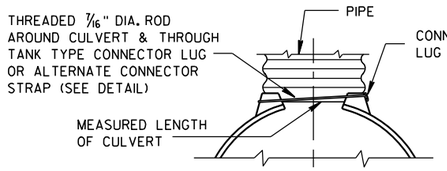
LONGITUDINAL SECTION

CONCRETE ENDWALLS

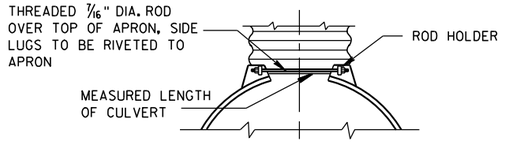


ALTERNATE FOR TYPE 1 CONNECTION

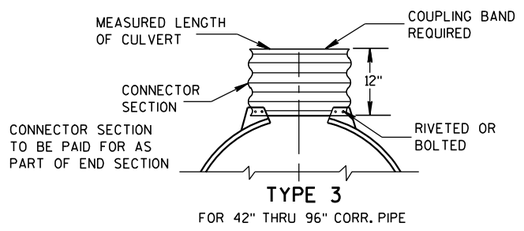
END SECTION CONNECTOR STRAP



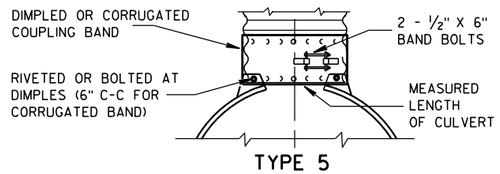
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

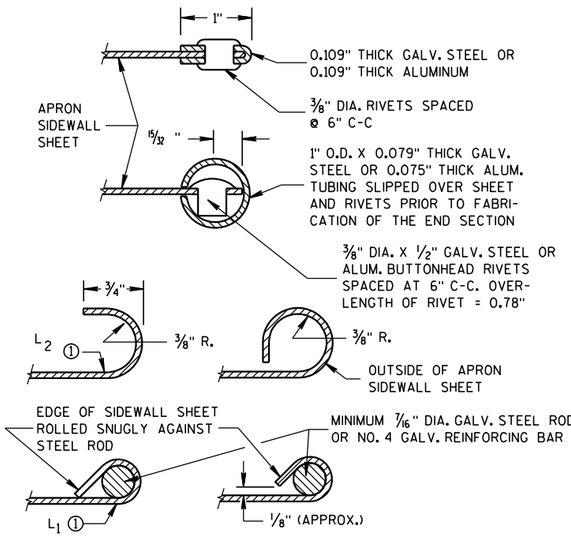
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

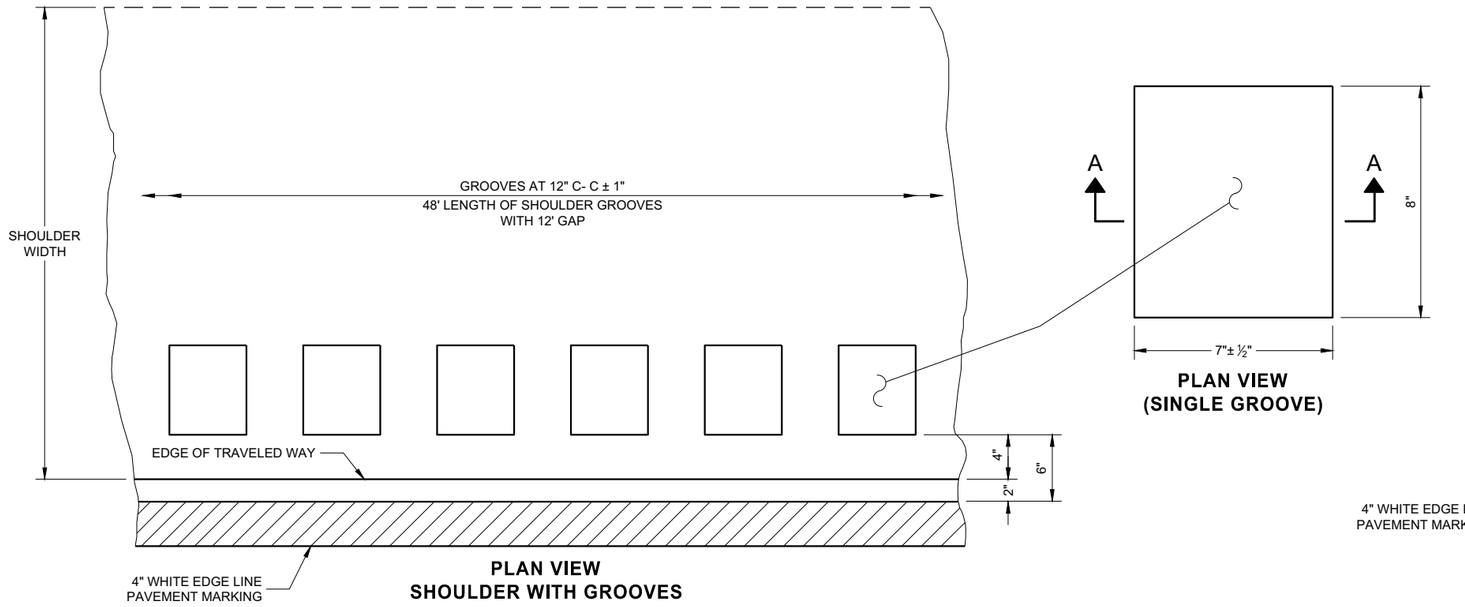
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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S.D.D. 8 F 1-11

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S.D.D. 8 F 1-11



PLAN VIEW
SHOULDER WITH GROOVES

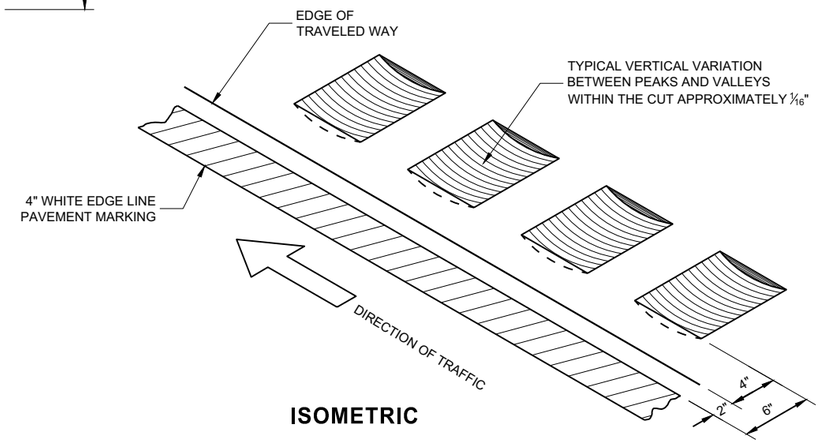
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

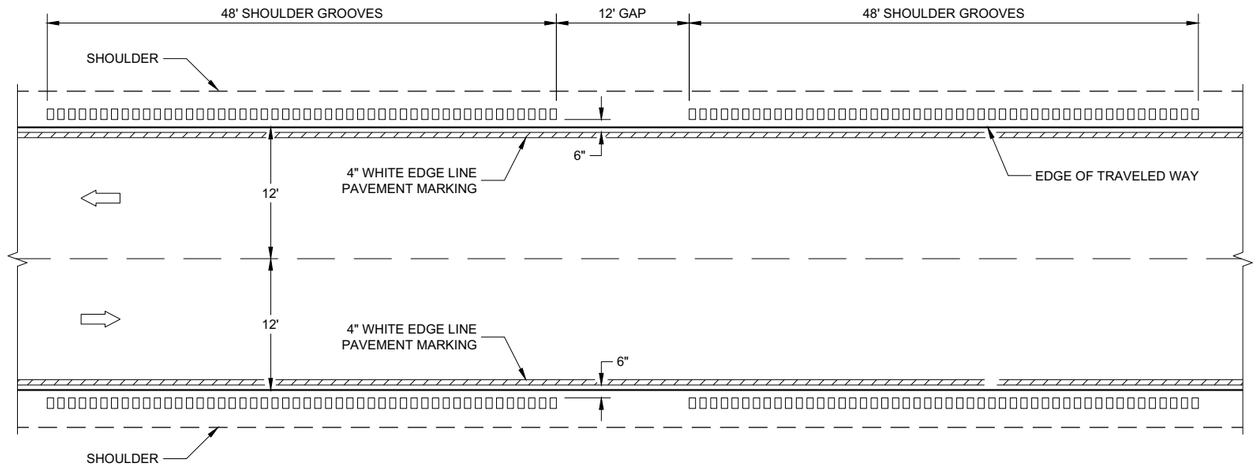
DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

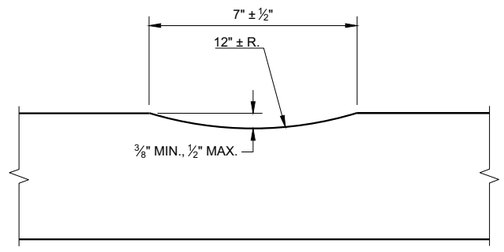


ISOMETRIC

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



TYPE 1
2 - LANE SHOULDER RUMBLE STRIP



SECTION A - A

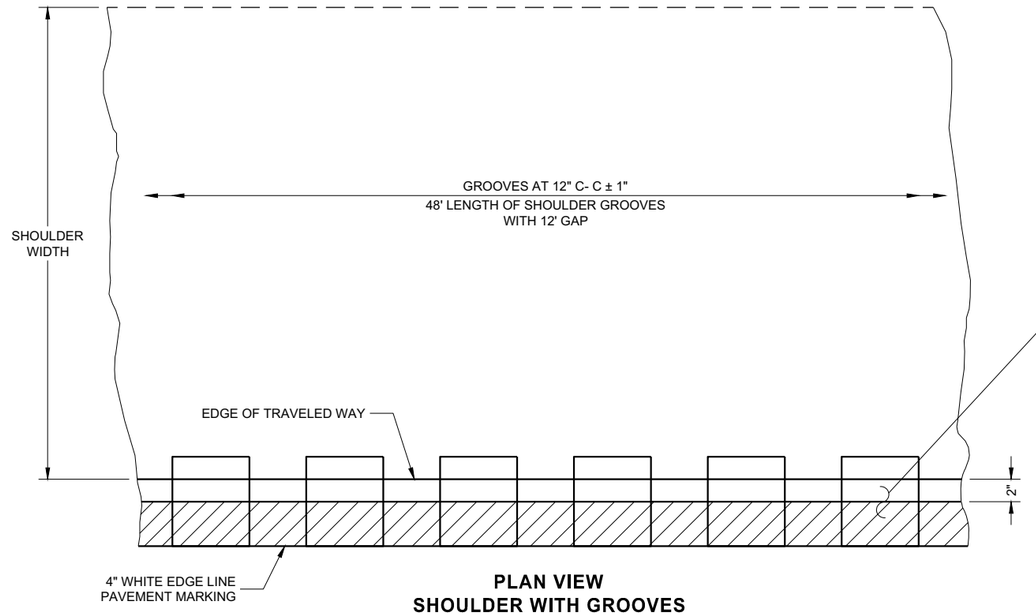
2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

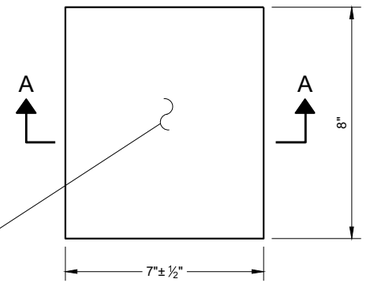
SDD 13A10 - 02a

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SDD 13A10 - 02a



PLAN VIEW
SHOULDER WITH GROOVES



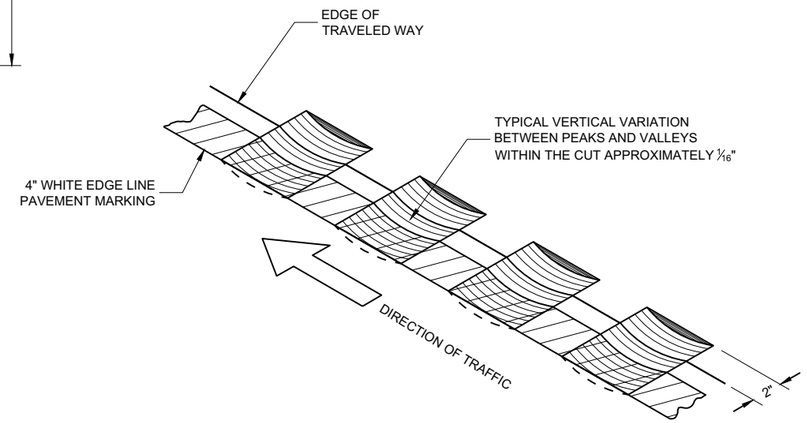
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

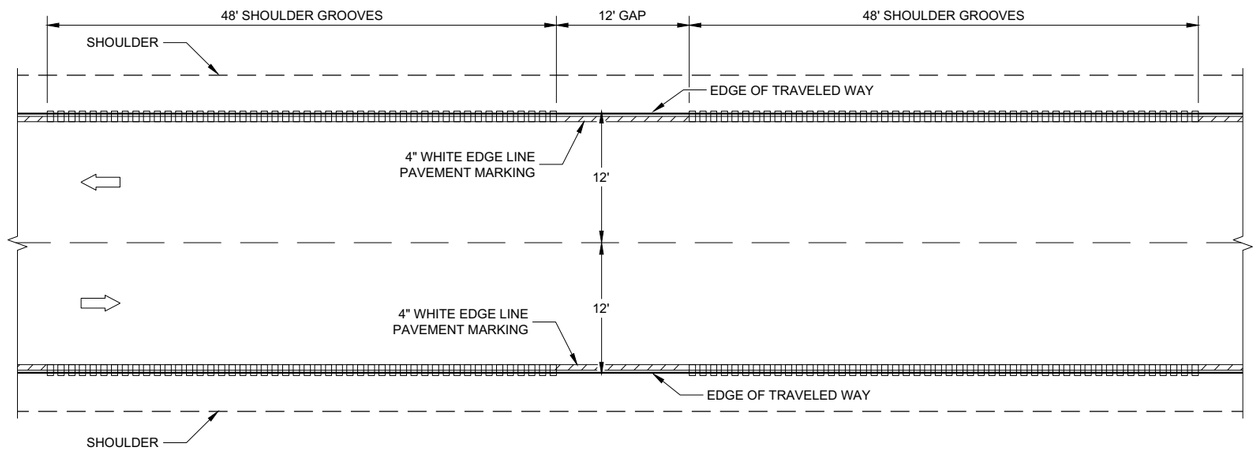
DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

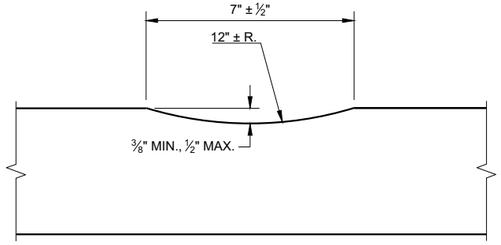


ISOMETRIC

PLACEMENT DETAIL FOR TYPE 2 MILLED RUMBLE STRIP



TYPE 2
2 - LANE SHOULDER RUMBLE STRIP

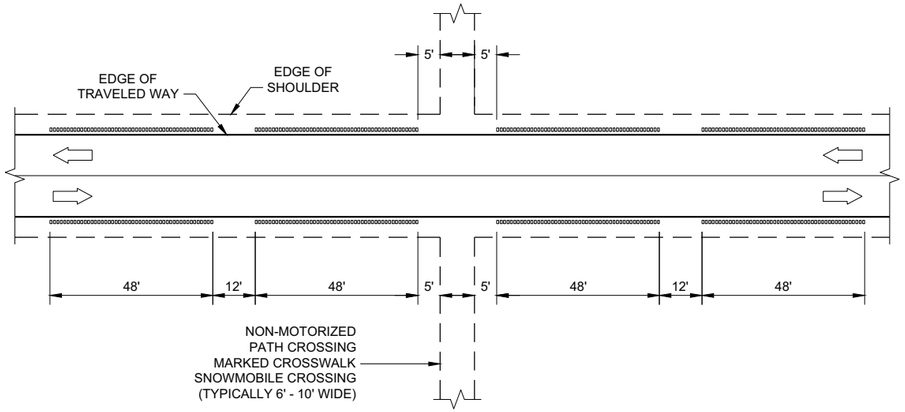


SECTION A - A

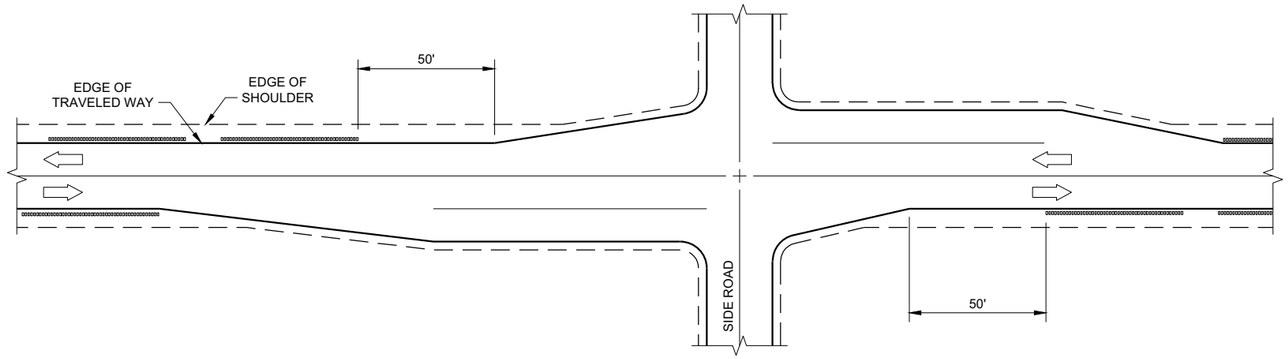
2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

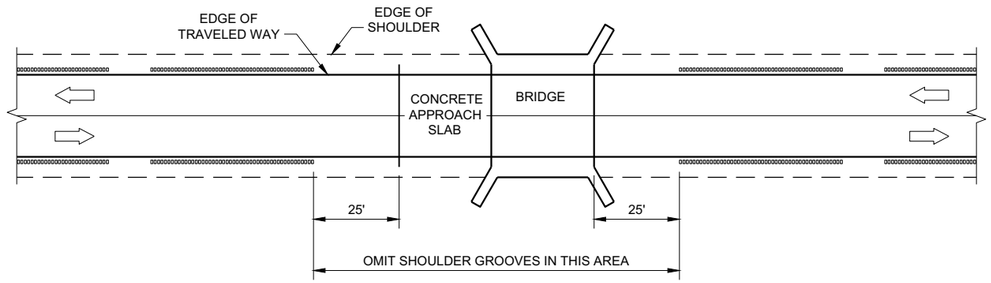
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6
SDD 13A10 - 02b
SDD13A10 - 02b



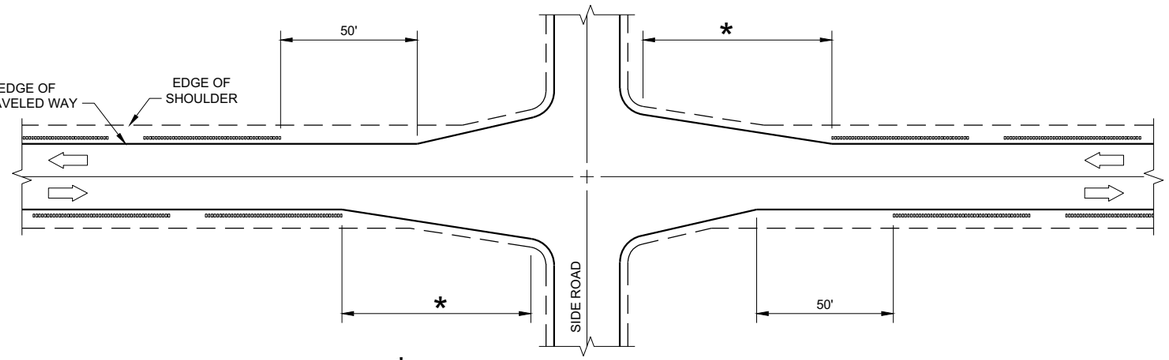
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



SHOULDER GROOVES AT RIGHT TURN LANE

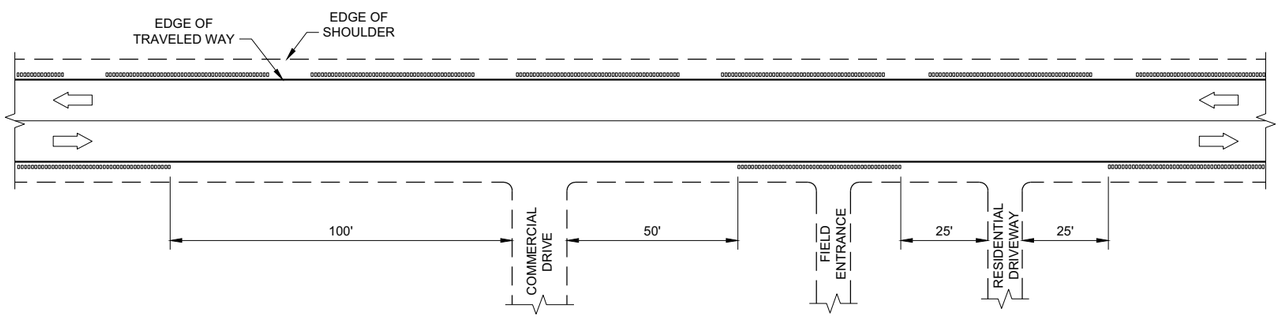


SHOULDER GROOVES AT BRIDGES



* GREATER OF 100' OR APPROACH TAPER LENGTH

SHOULDER GROOVES AT INTERSECTIONS WITH APPROACH TAPER



SHOULDER GROOVES AT DRIVEWAYS (1)

GENERAL NOTES

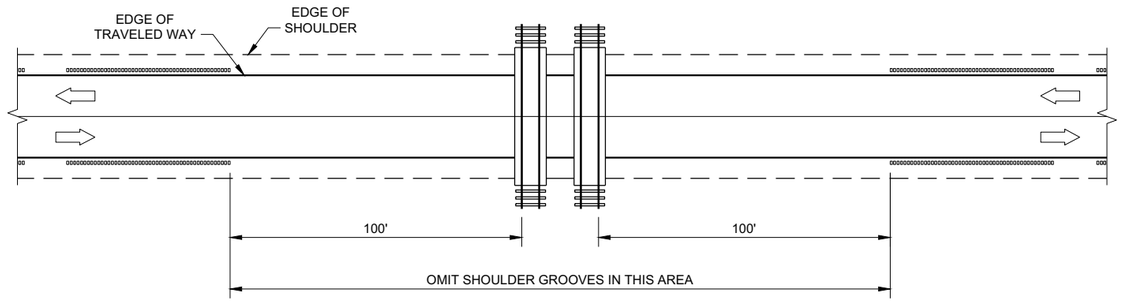
(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

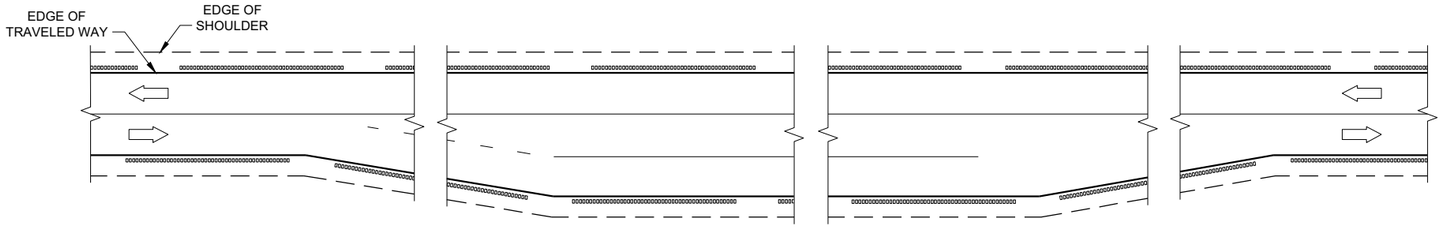
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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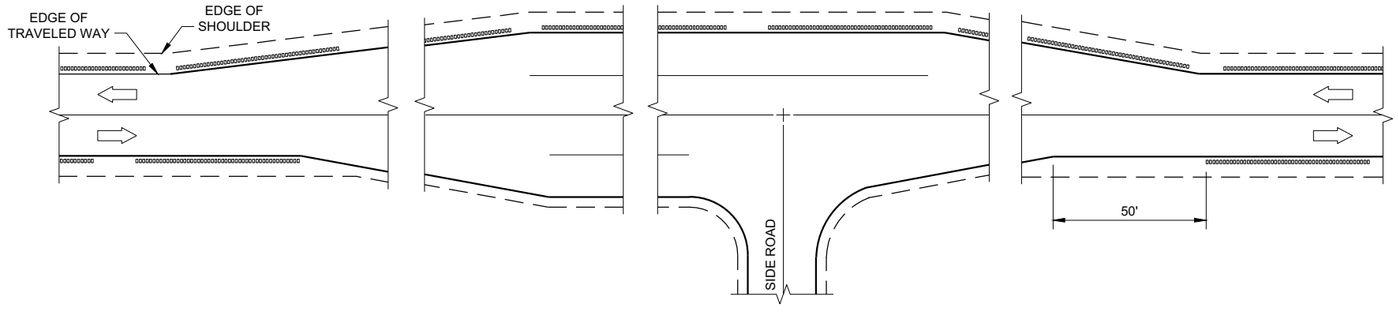
SDD 13A10 - 02c



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

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SDD 13A10 - 02d

SDD13A10 - 02d

2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

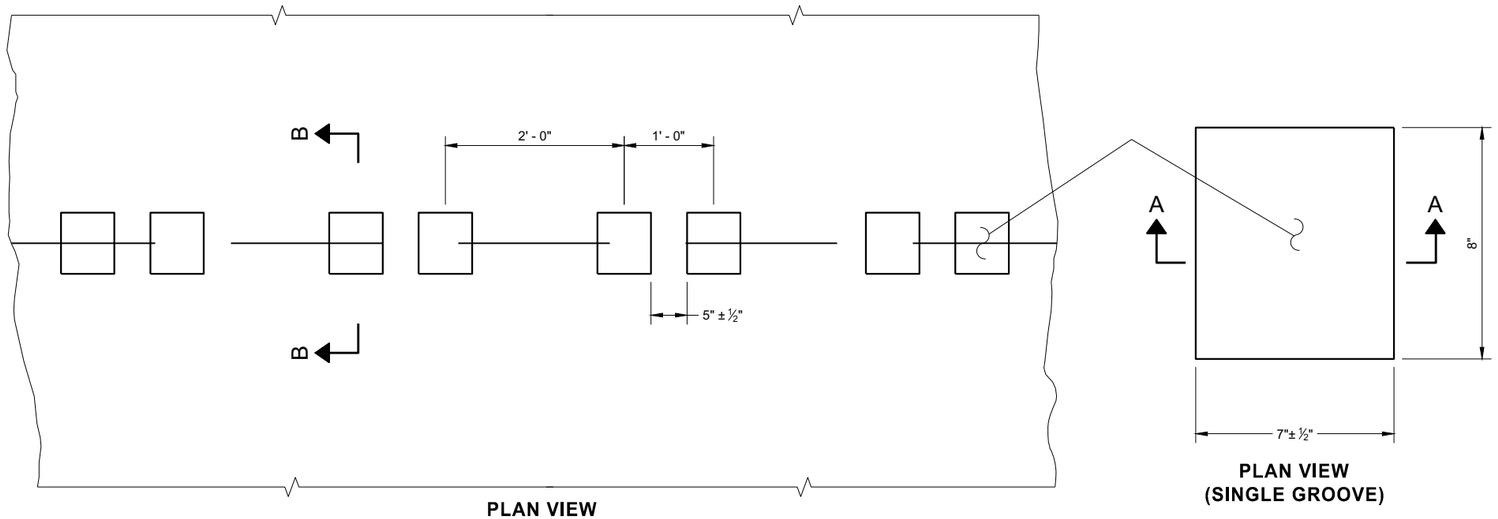
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

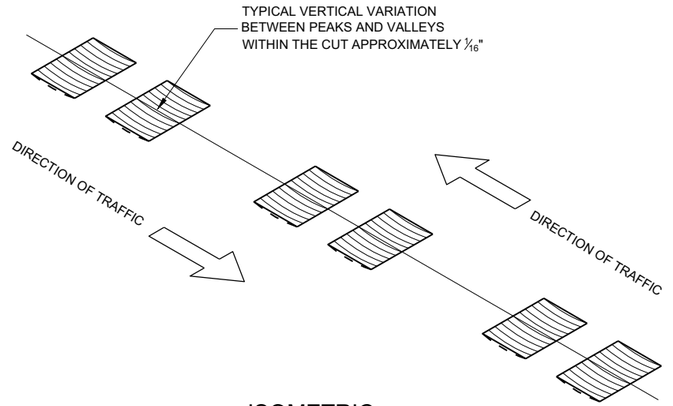
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTERLINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

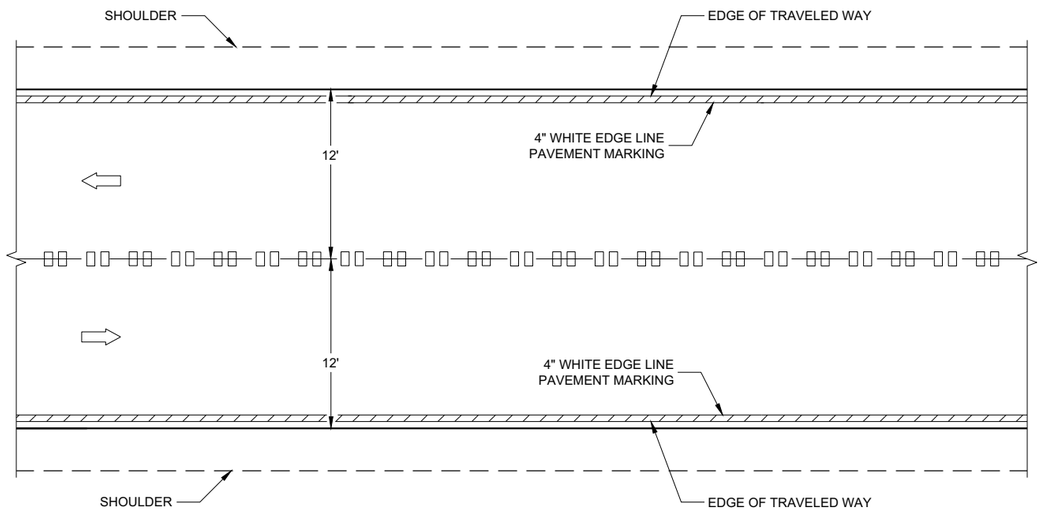
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

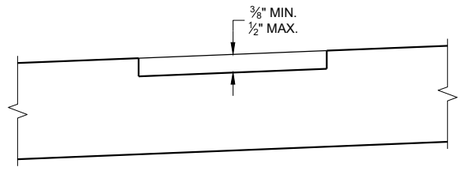
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



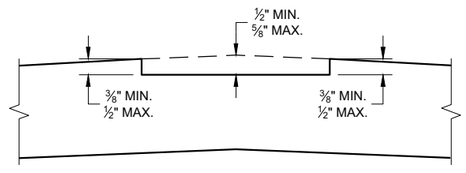
ISOMETRIC



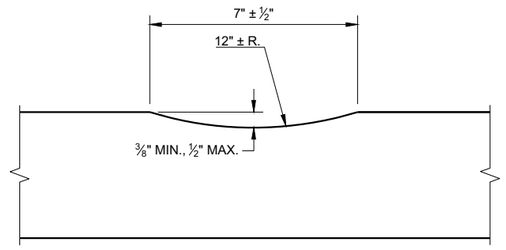
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



SECTION B - B
CROWNED ROADWAY



SECTION A - A

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

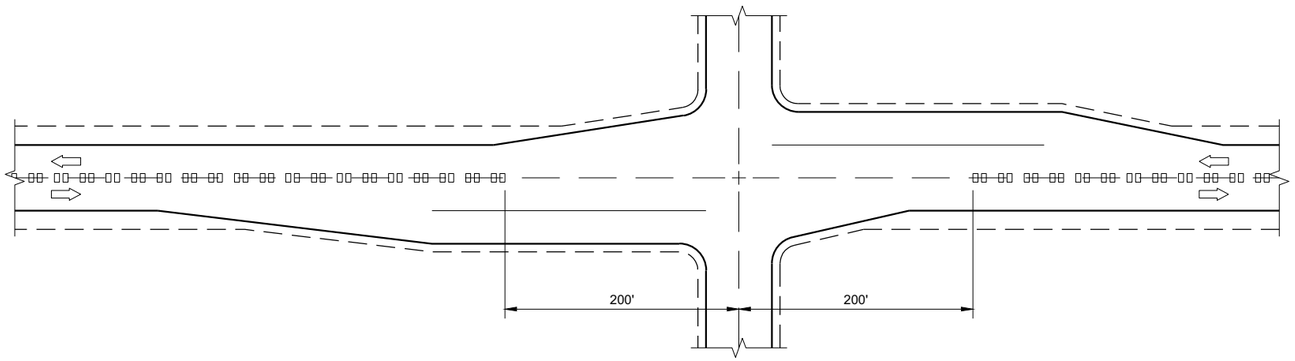
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

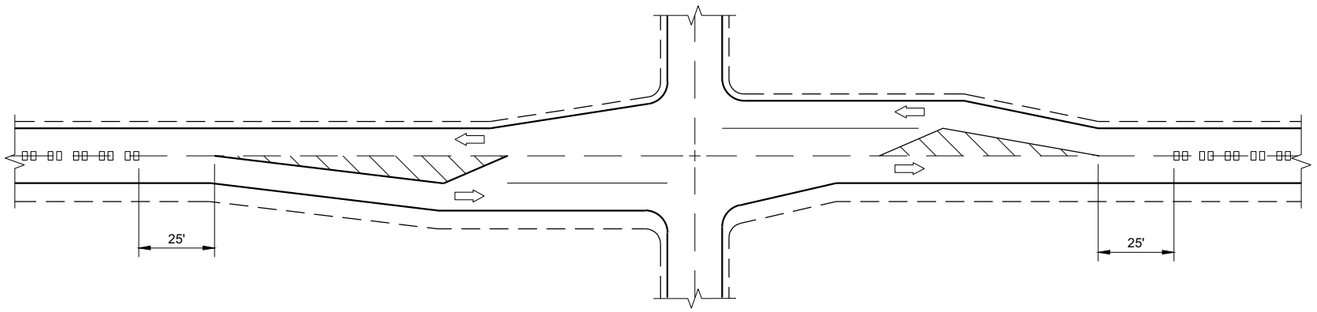
SDD 13A11 - 03a

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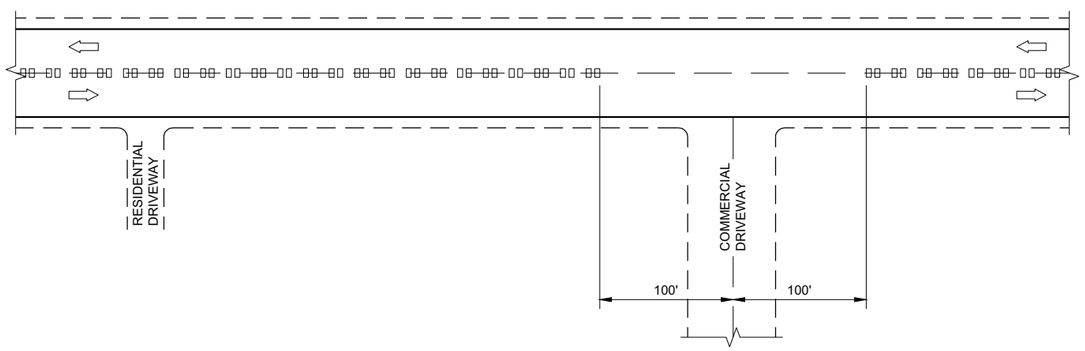
SDD 13A11 - 03a



CENTERLINE GROOVES AT INTERSECTIONS



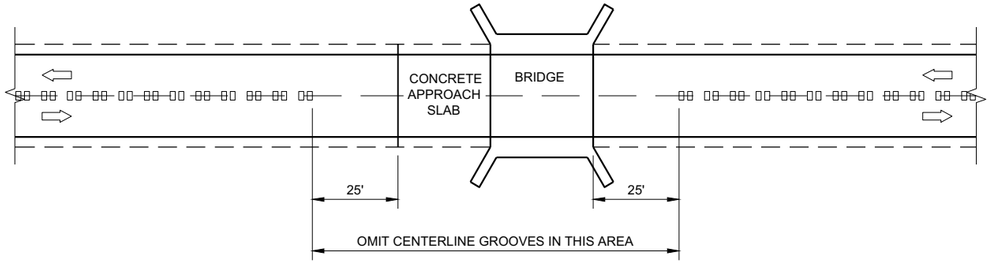
CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



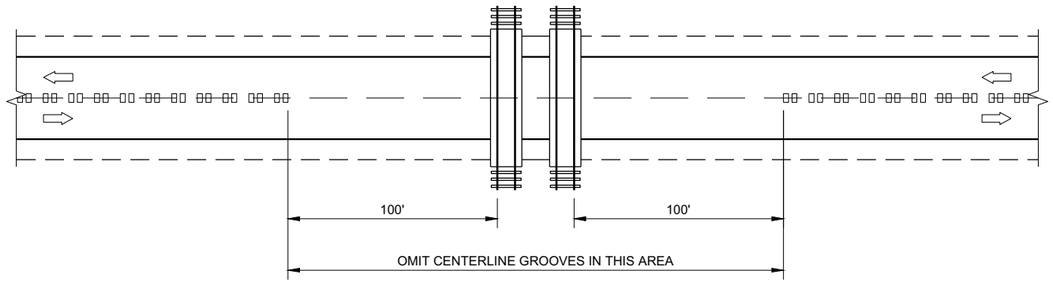
CENTERLINE GROOVES AT DRIVEWAYS (1)

GENERAL NOTES

(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT RAILROADS

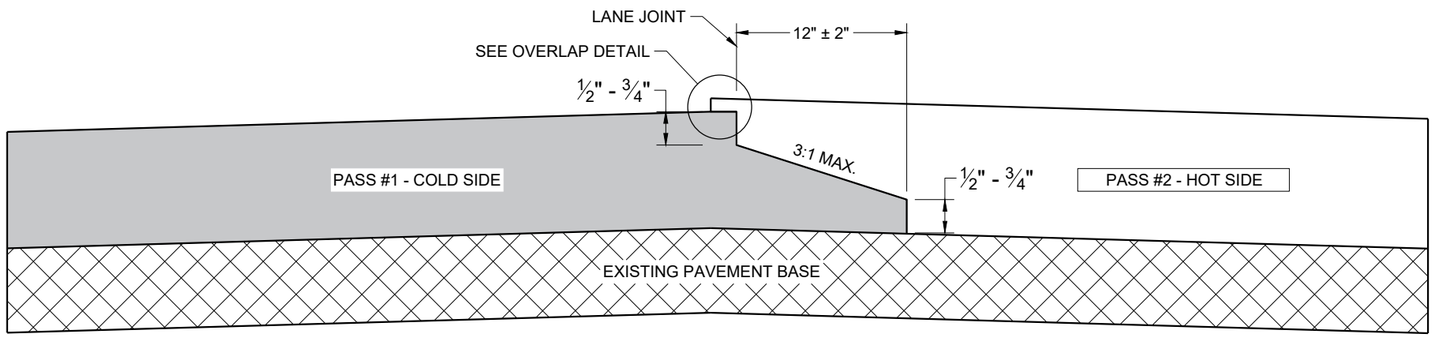
2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

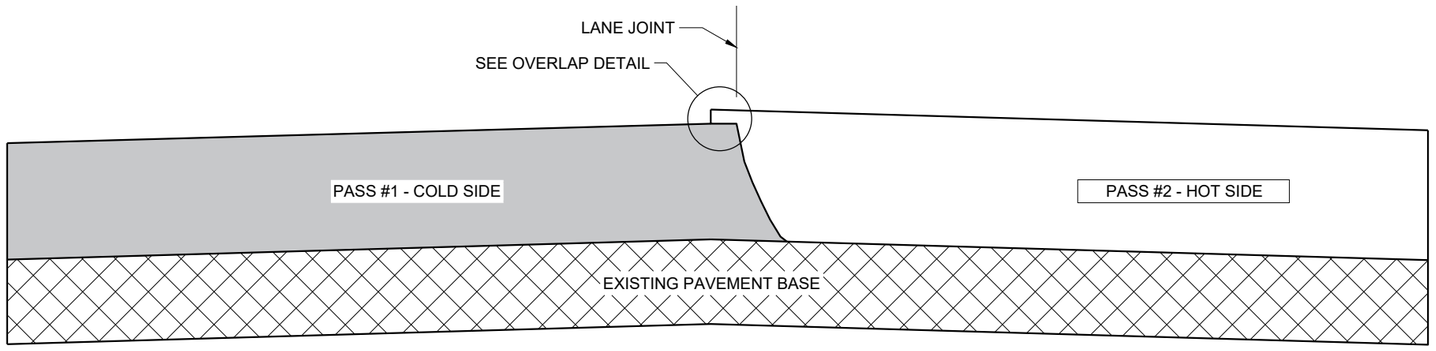
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

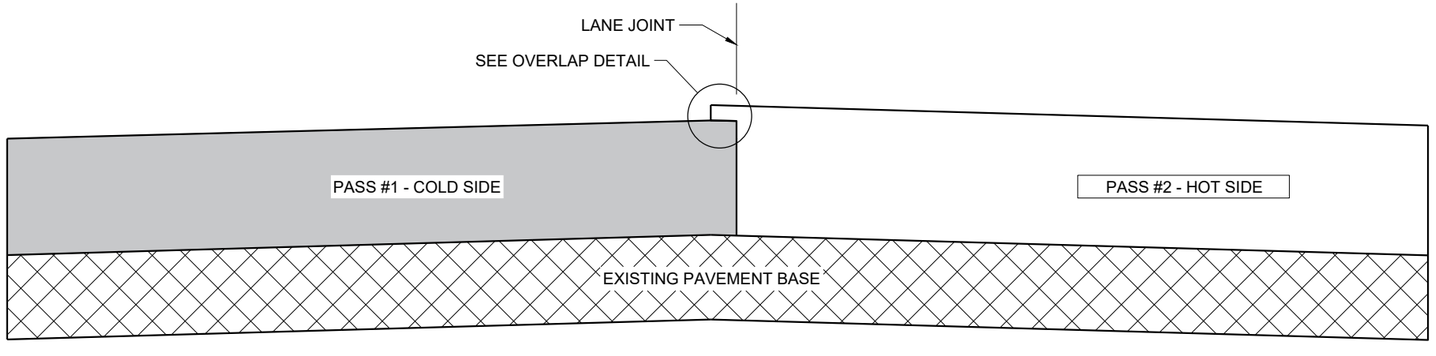
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SDD 13A11 - 03b



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

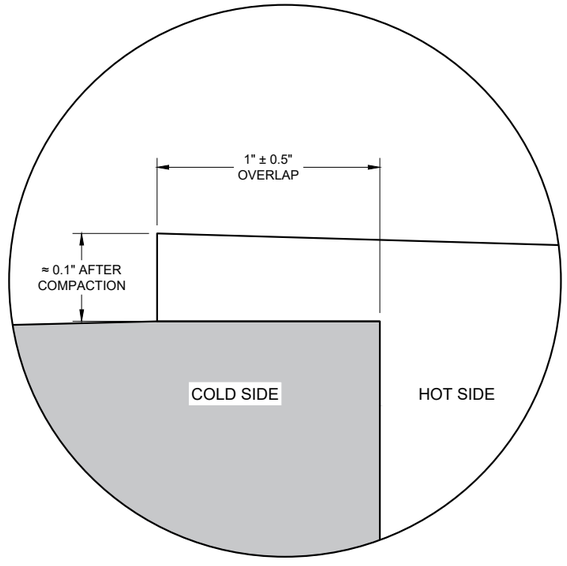
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGIN

FHWA

6

SDD 13C19 - 03

6

SDD 13C19 - 03

GENERAL NOTES

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

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

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

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

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

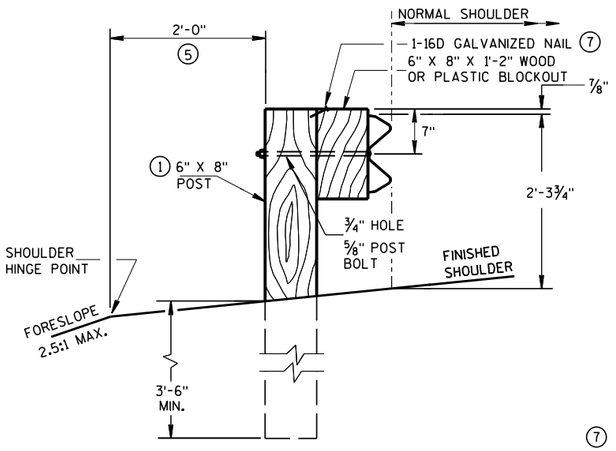
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

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

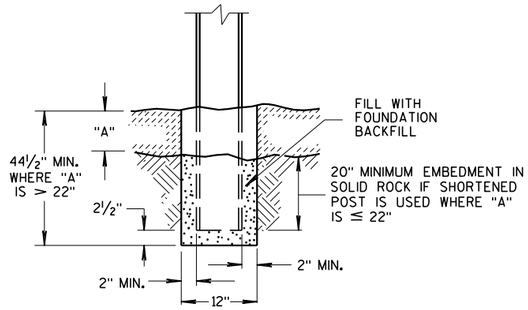
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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

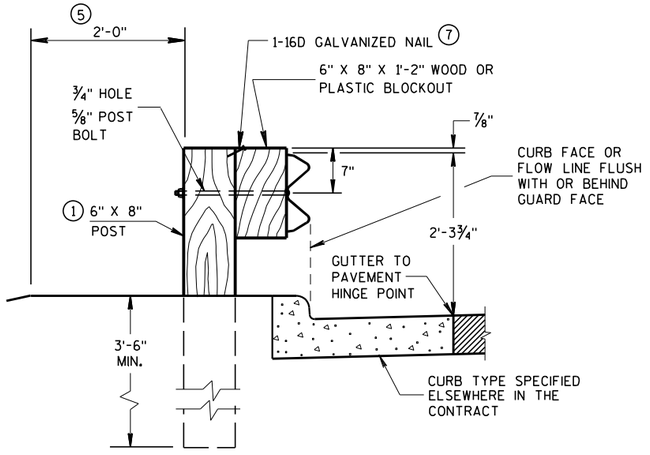
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



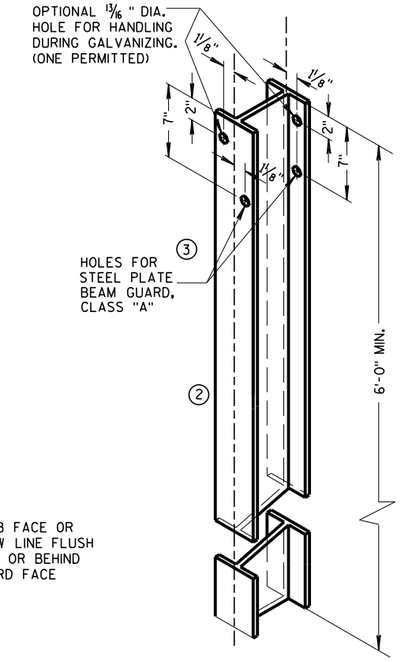
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



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

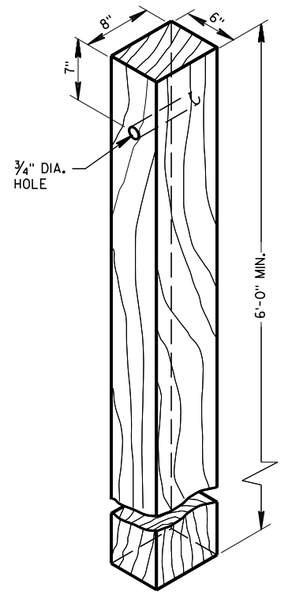


END VIEW
LOCATED ALONG A CURBED ROADWAY

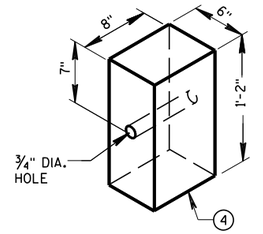


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

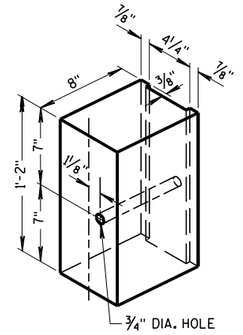
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



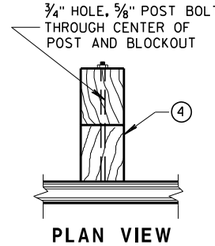
WOOD POST
(6"X8") NOMINAL



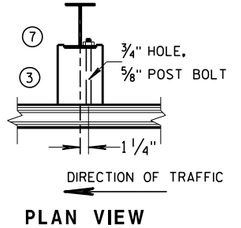
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



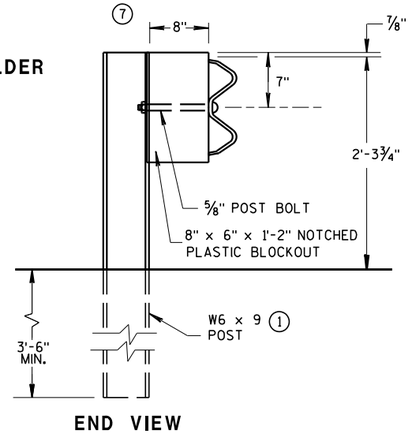
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS (1)



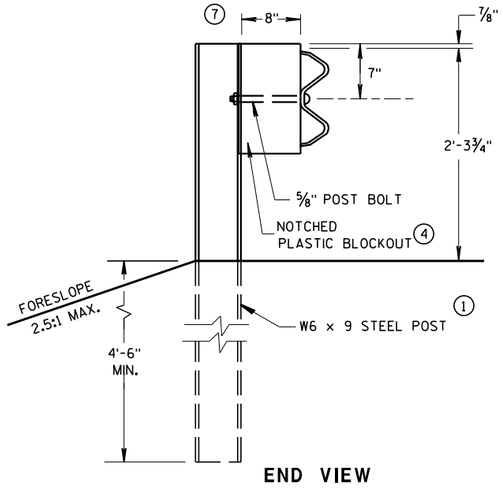
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



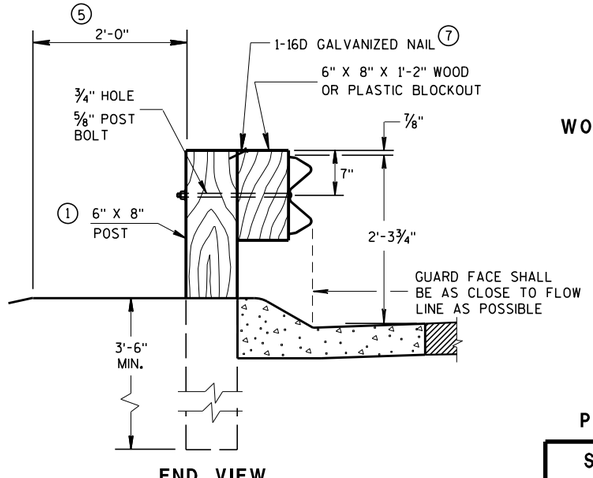
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



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



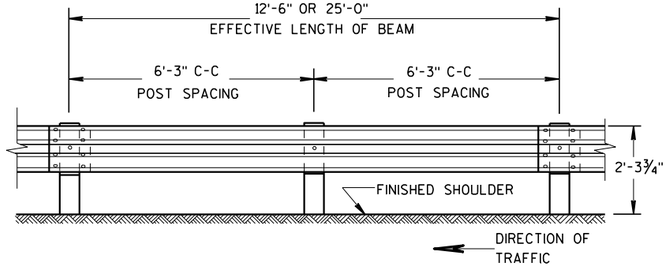
END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

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

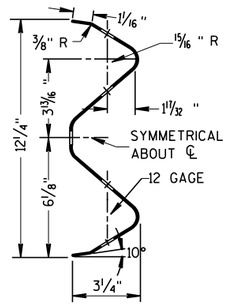
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 15-11a

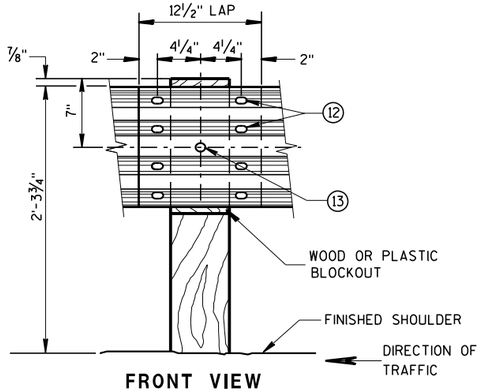


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

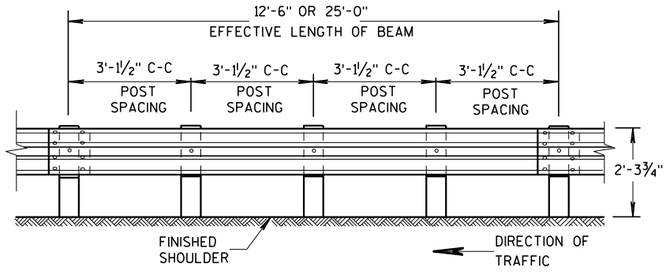
GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

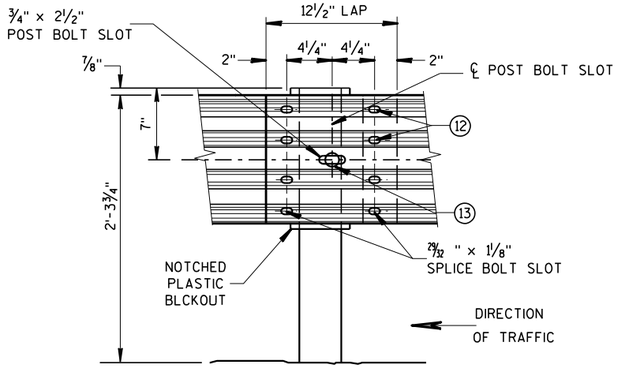
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

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



FRONT VIEW

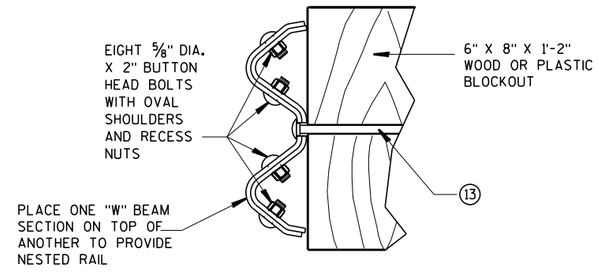
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

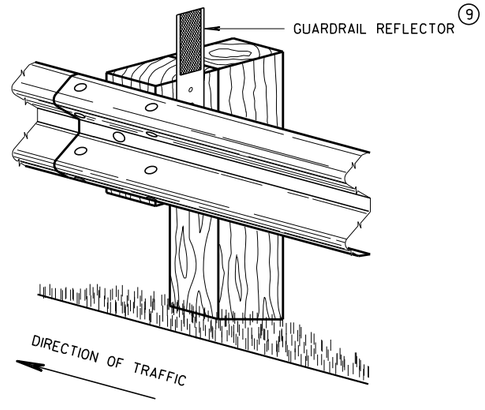
TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD



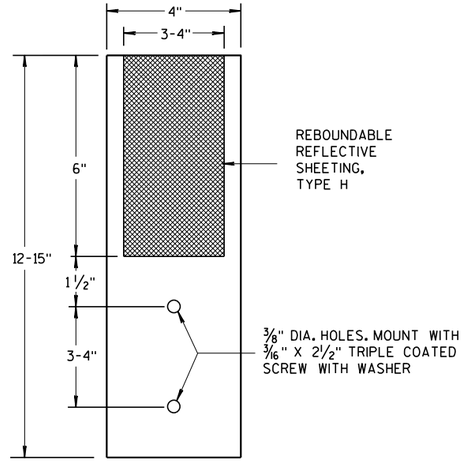
NESTED W BEAM (NW)

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

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

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

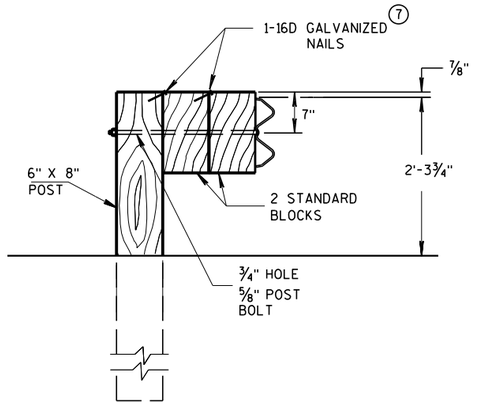
STATE OF WISCO 91
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 15-11b

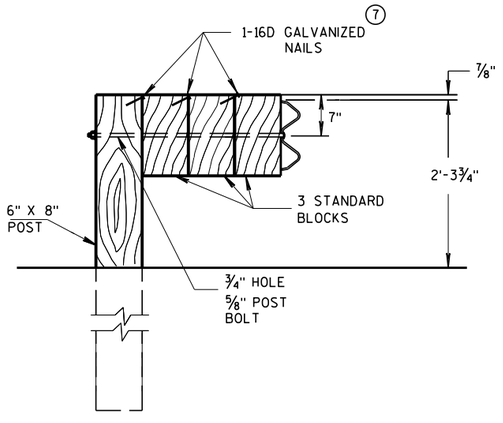
6

S.D.D. 14 B 15-11b



DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

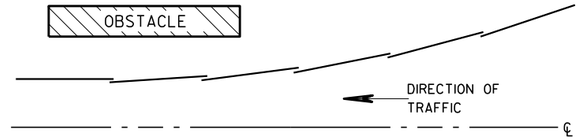


DETAIL FOR TRIPLE BLOCKS

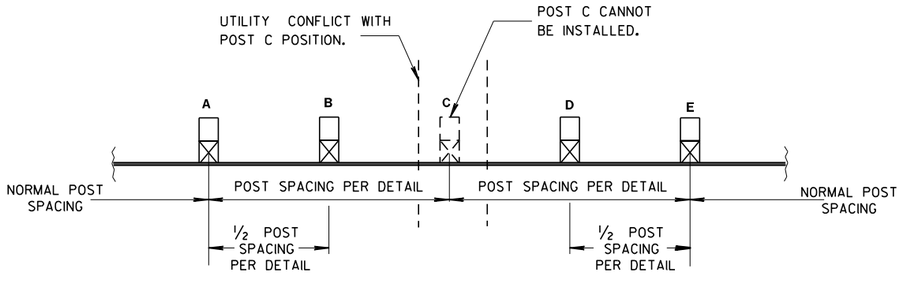
TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

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



PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

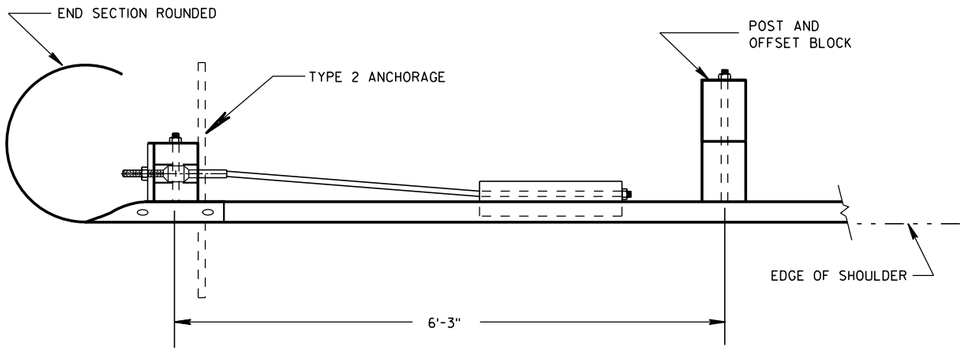
APPROVED
June 2017 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
92
FHWA

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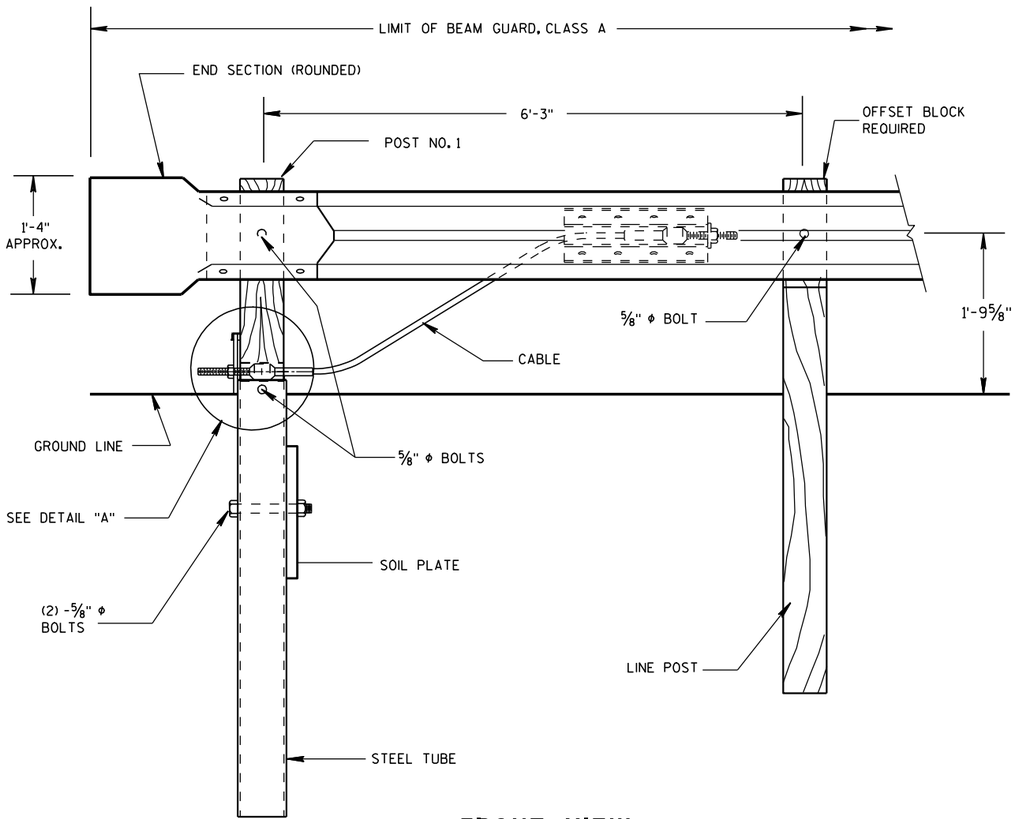
S.D.D. 14 B 15-11c

6

S.D.D. 14 B 15-11c



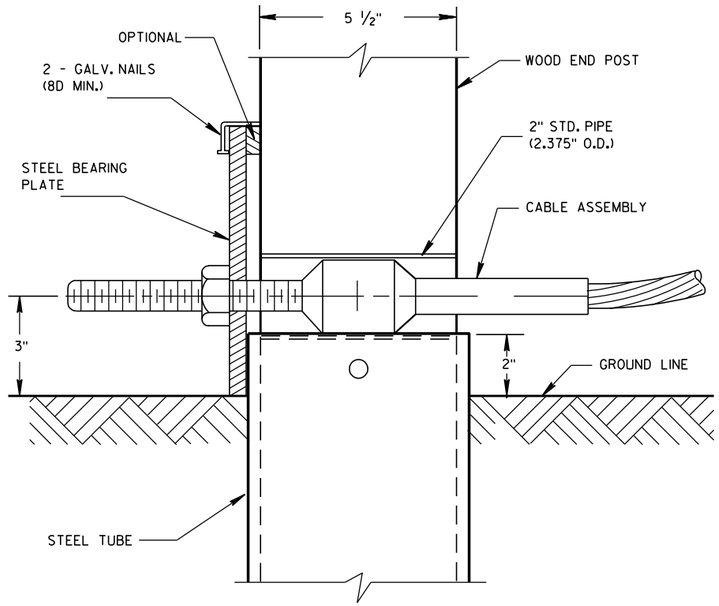
PLAN VIEW



FRONT VIEW

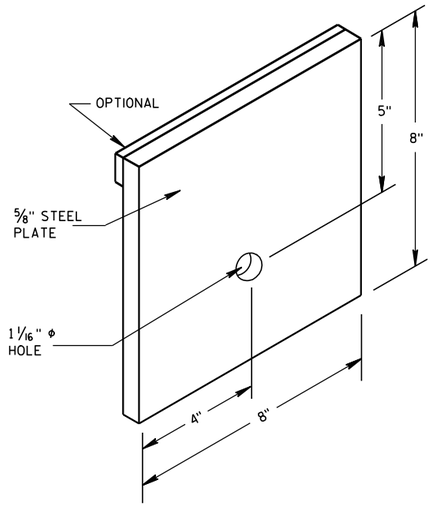
END TREATMENT WITH TYPE 2 ANCHORAGE

(USE ON ONE-WAY ROADWAYS ONLY - DEPARTING END)



DETAIL "A"

POST NO. 1



STEEL BEARING PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

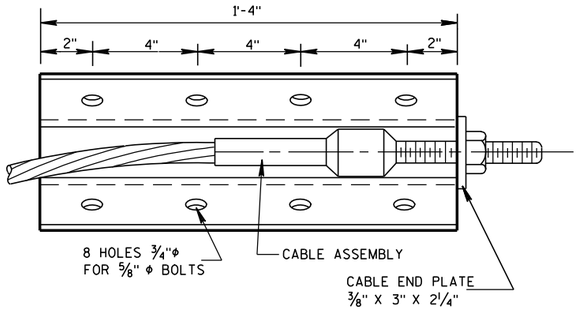
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

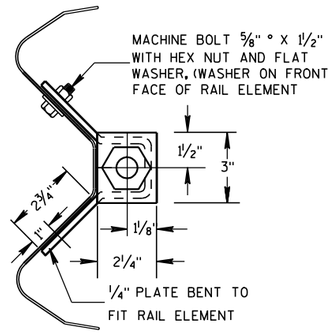
S.D.D. 14 B 16-4a

6

S.D.D. 14 B 16-4a

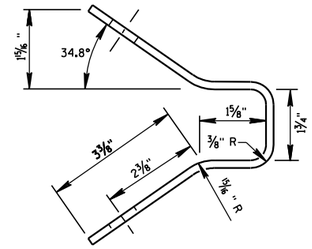


FRONT VIEW

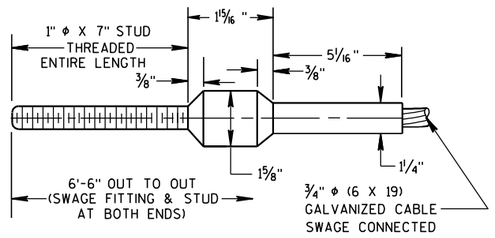


END VIEW

ANCHOR PLATE DETAIL



END VIEW OF BRACKET



CABLE ASSEMBLY

CABLE, SWAGE FITTING, STUD AND NUT SHALL DEVELOP
A MINIMUM BREAKING STRENGTH OF 40,000 LB
(TIGHTEN UNTIL TAUT)

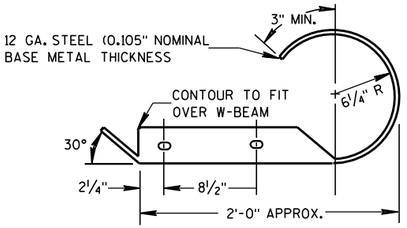
GENERAL NOTES

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

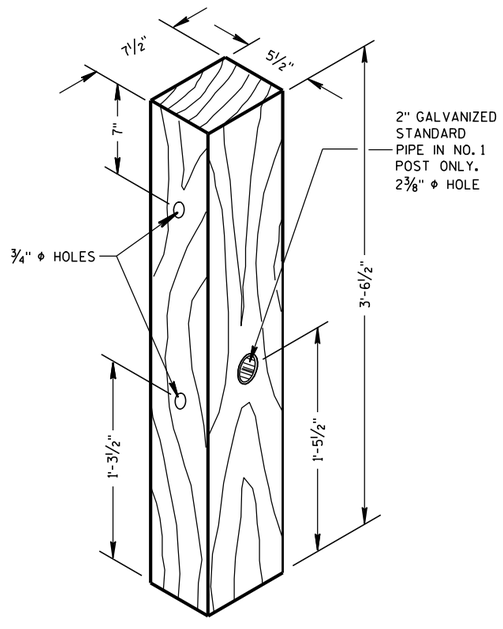
STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-500 GRADE B OR ASTM A-501.

POST NO. 1 SHALL BE WOOD BREAKAWAY POST INSERTED AND BOLTED INTO STEEL TUBE.

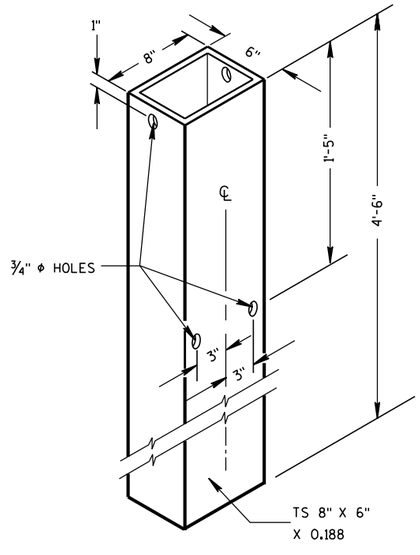
TYPE 2 ANCHORAGE SHALL CONSIST OF A STEEL TUBE, SOIL PLATE WOOD BREAKAWAY POST, BEARING PLATE, ANCHOR PLATE, CABLE ASSEMBLY AND ALL ASSOCIATED HARDWARE, ALL STEEL PARTS SHALL BE GALVANIZED.



PLAN VIEW

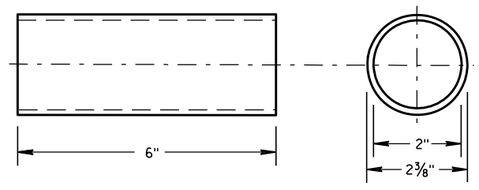


WOOD BREAKAWAY POST



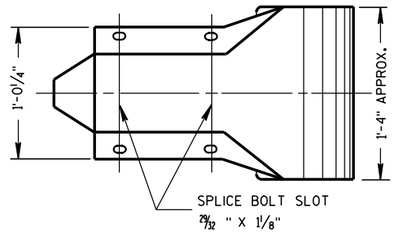
STEEL TUBE

STEEL TUBE SHALL CONFORM TO
REQUIREMENTS OF ASTM A500

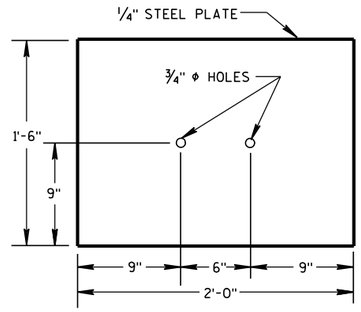


BREAKAWAY TERMINAL POST SLEEVE

GALVANIZED STANDARD STRENGTH STEEL PIPE, ASTM 53 GRADE "B"



FRONT VIEW
W BEAM END SECTION ROUNDED



SOIL PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

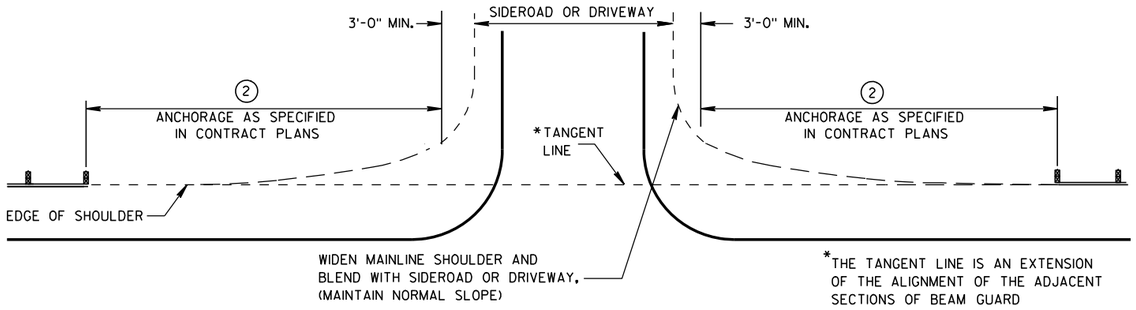
APPROVED
8/21/2007
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
94
ENT
FHWA

6

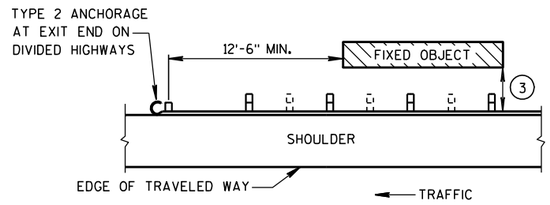
S.D.D. 14 B 16-4b

6

S.D.D. 14 B 16-4b



BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

GENERAL NOTES

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

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

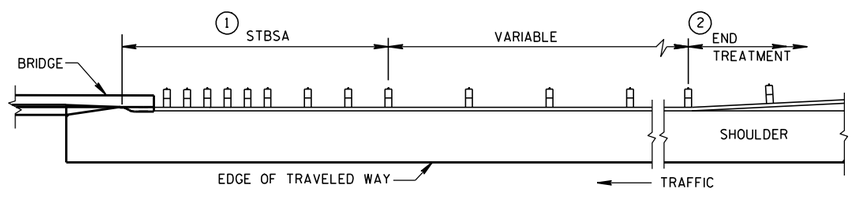
THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

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

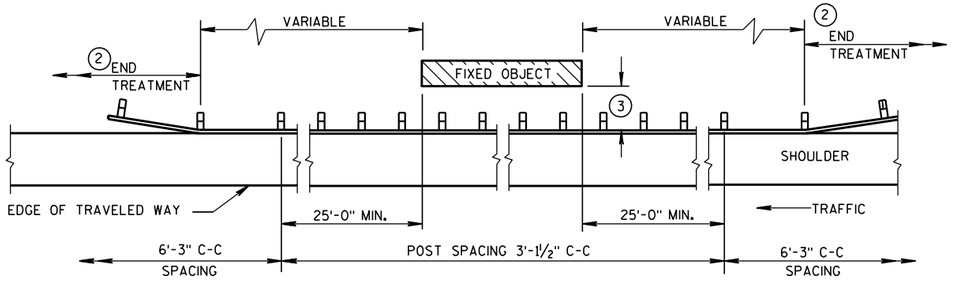
(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

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

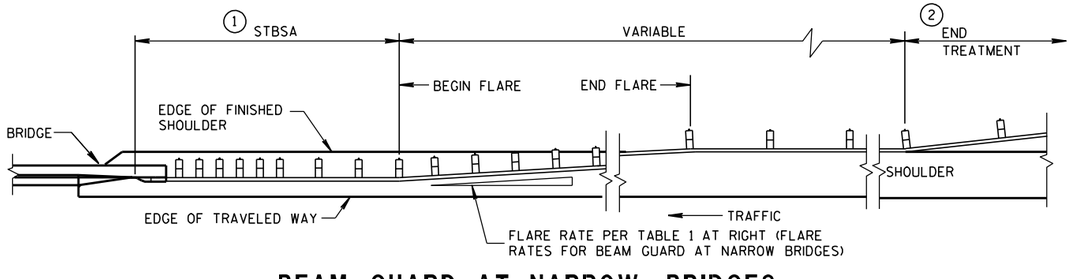


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

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



BEAM GUARD AT NARROW BRIDGES
(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 14 B 18-6a

BILL OF MATERIALS

NOTE NO.	DESCRIPTION
①	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
②	STEEL TUBE TS 8" X 6" X 0.188", 6'-0"
④	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
⑦	BEARING PLATE
⑧	BCT CABLE ASSEMBLY
⑨	CABLE ANCHOR BOX
⑩	STRUT & YOKE
⑪	STEEL PLATE BEAM, END PANEL 12 GA.
⑫	STEEL PLATE BEAM: 12 GA. 13'-6½"
⑬	IMPACT HEAD
⑭	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 AND 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

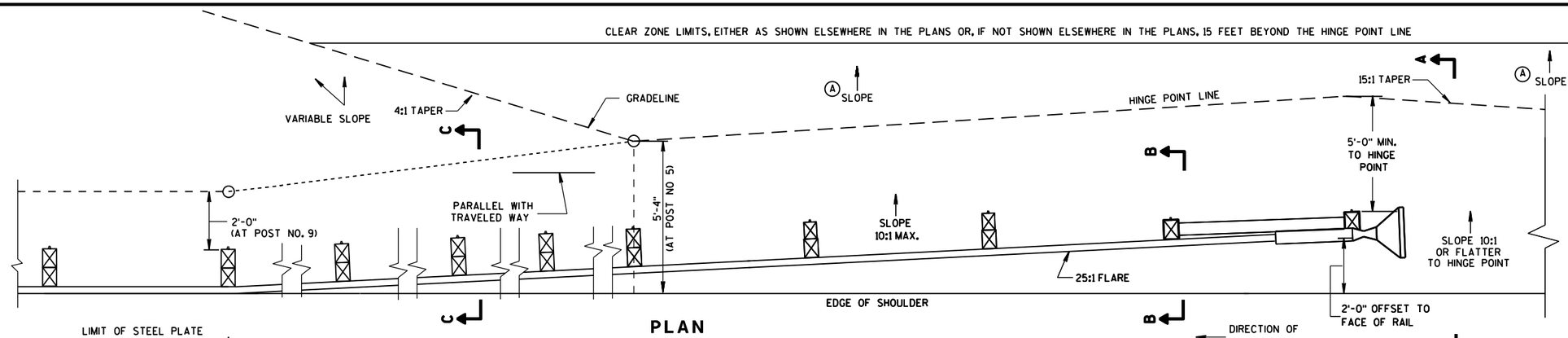
(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

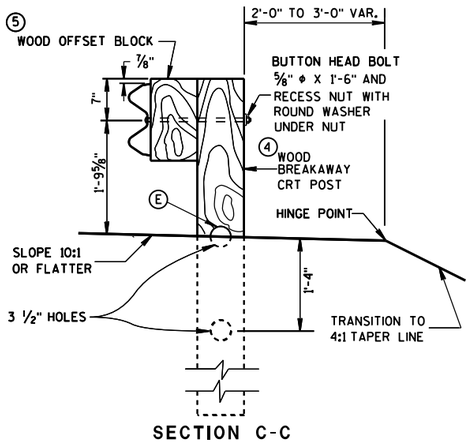
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

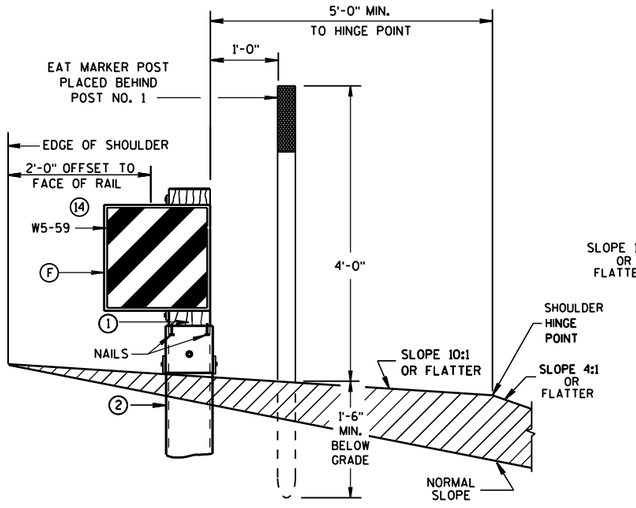
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

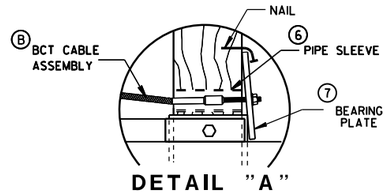




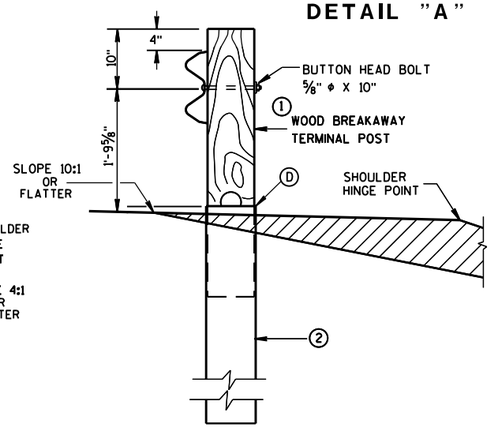
SECTION C-C
TYPICAL AT POST NOS. 6, 8



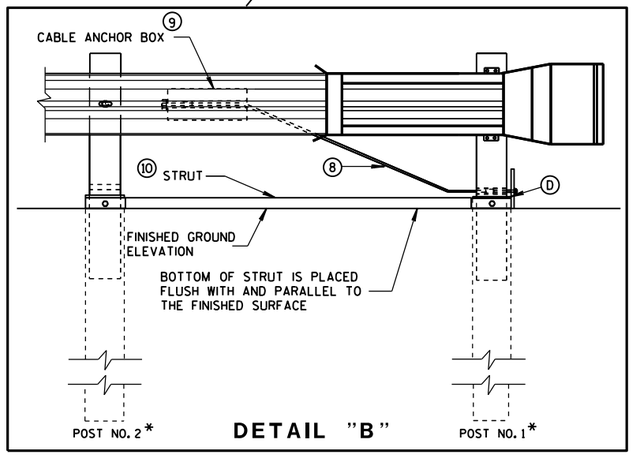
SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



SECTION B-B
TYPICAL AT POST NO. 2*



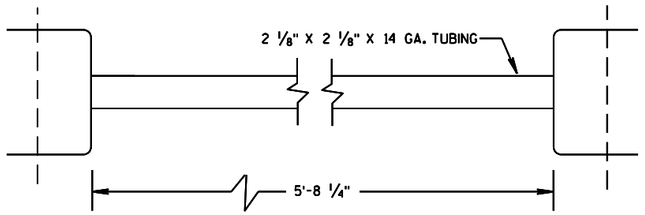
DETAIL "B"

STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

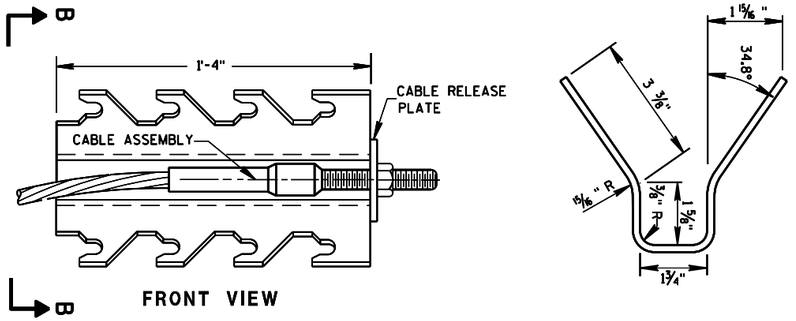
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

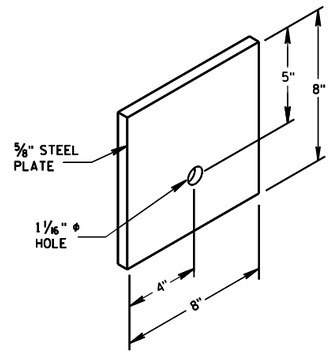
S.D.D. 14 B 24-9a



⑩ STRUT DETAIL



⑨ CABLE ANCHOR BOX



⑦ STEEL BEARING PLATE

6

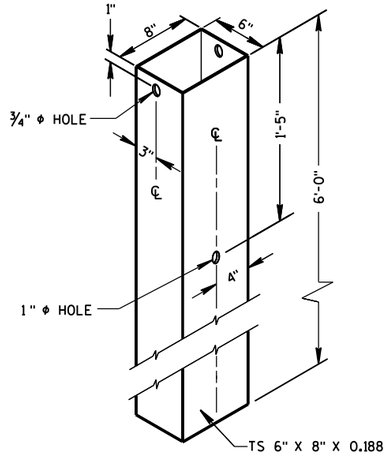
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S.D.D. 14 B 24-9b

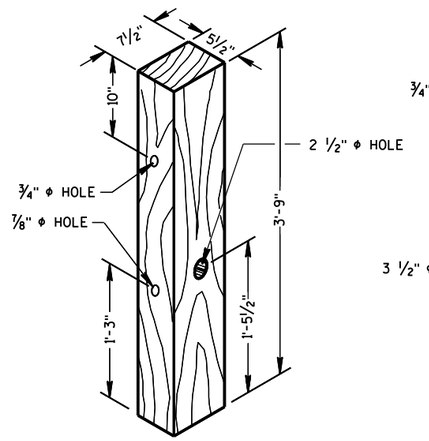
S.D.D. 14 B 24-9b

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

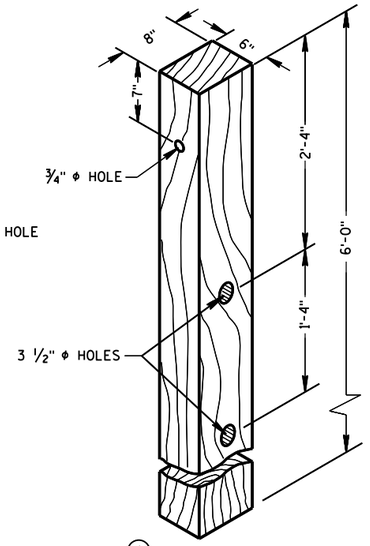
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



② 72" STEEL TUBE
(POSTS NO. 1-2



① TERMINAL POST

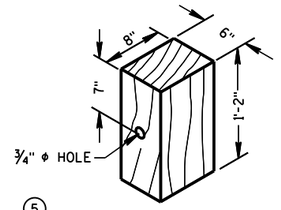


④ CRT POST
(POSTS NO'S 5-8

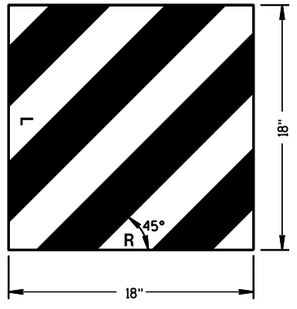
WOOD BREAKAWAY POSTS

GENERAL NOTES

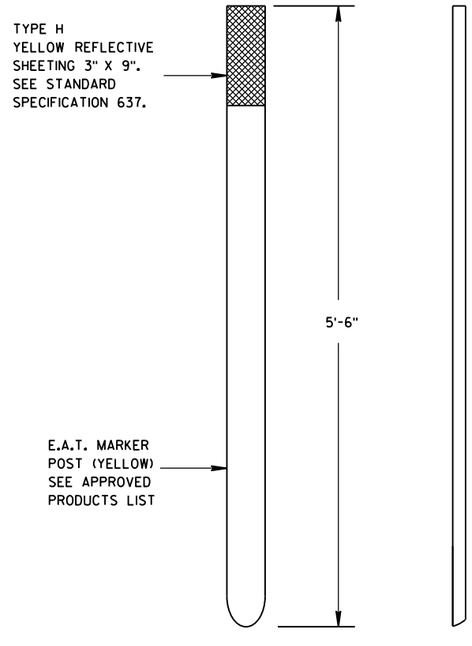
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.



⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



⑭ REFLECTIVE SHEETING DETAILS



E.A.T. MARKER POST

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV.
98
ENT

6

S.D.D. 14 B 24-9c

6

S.D.D. 14 B 24-9c

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

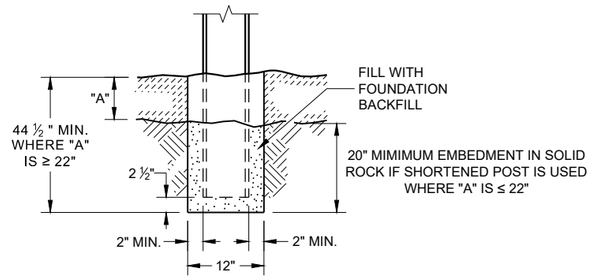
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

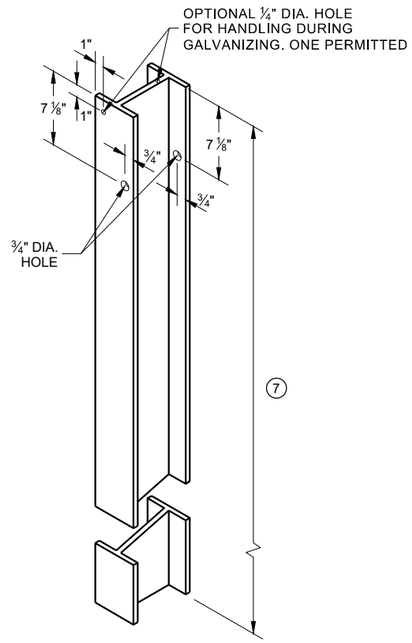
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

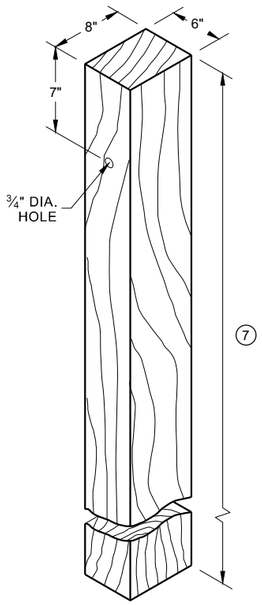
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



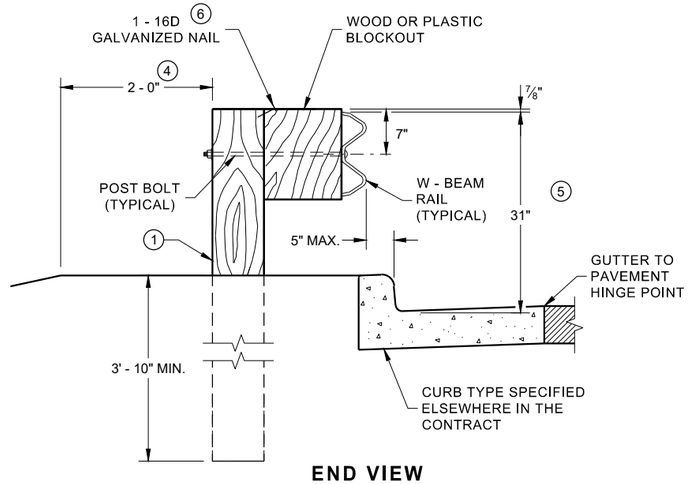
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



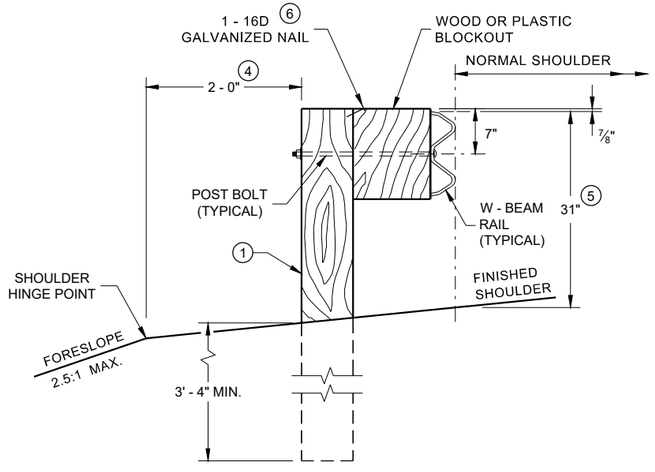
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



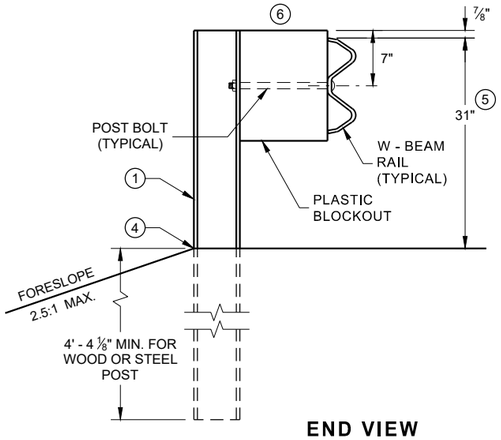
WOOD POST (6" X 8") NOMINAL (1)



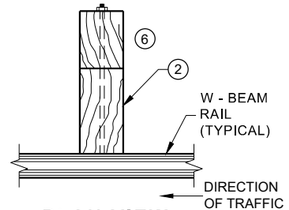
END VIEW
LOCATED ALONG A CURBED ROADWAY



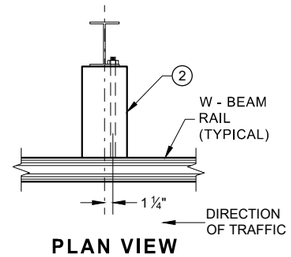
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



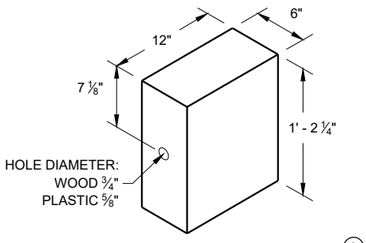
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

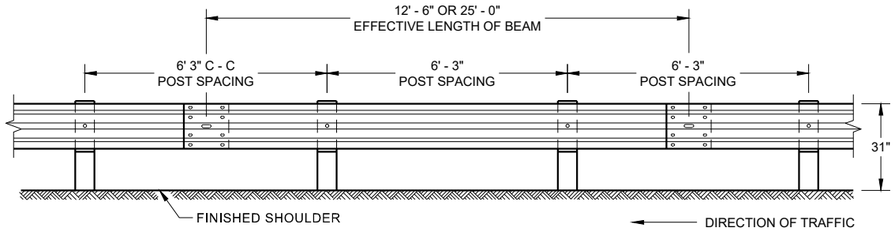
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

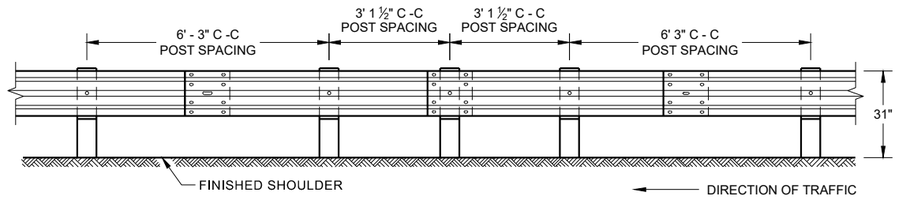
SDD 14B42 - 07a

6

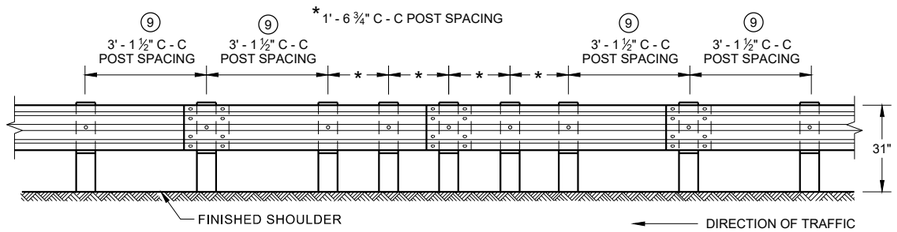
SDD 14B42 - 07a



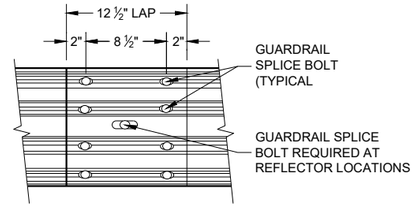
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

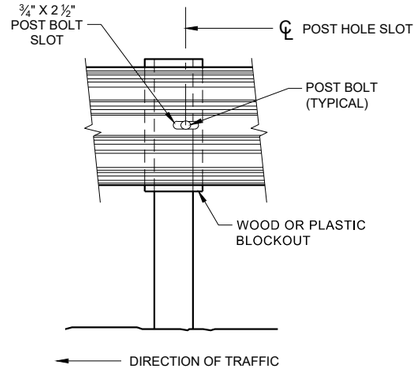
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

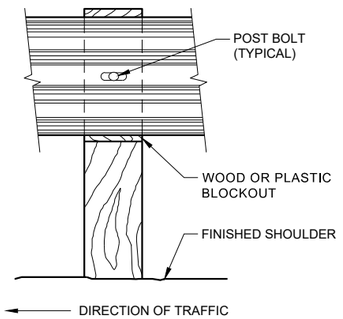
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

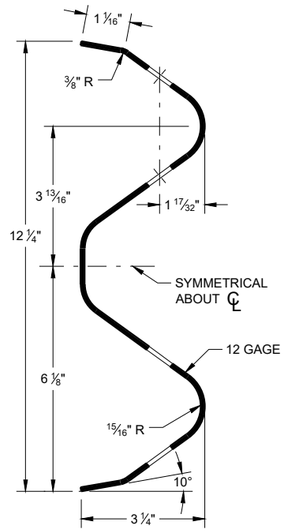
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



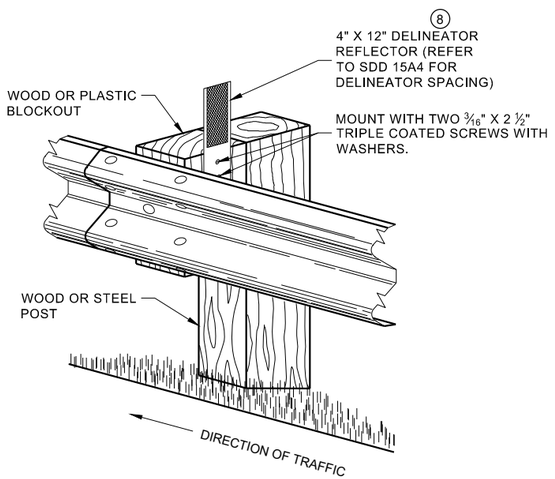
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



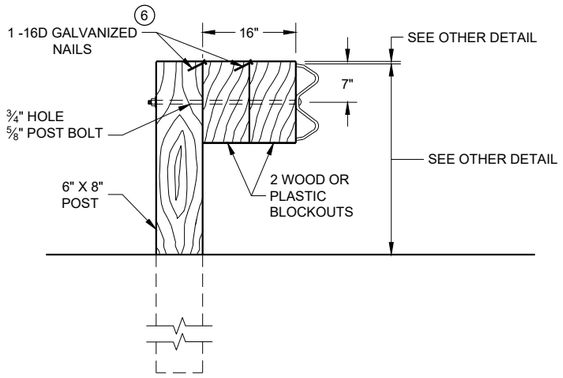
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

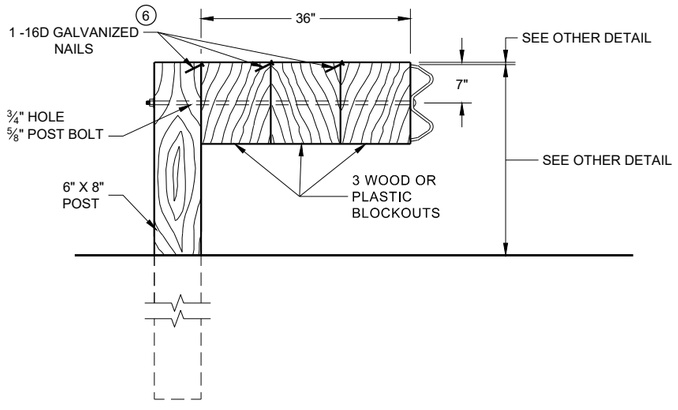
6

SDD 14B42 - 07b
SDD 14B42 - 07b



DETAIL FOR 16" BLOCKOUT DEPTH

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



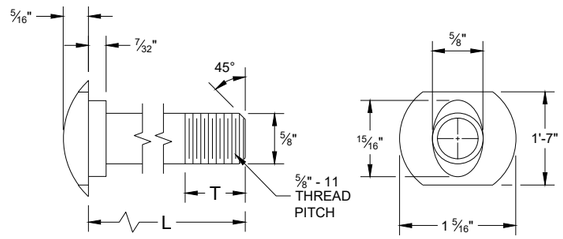
DETAIL FOR 36" BLOCKOUT DEPTH

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

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

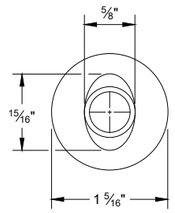
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

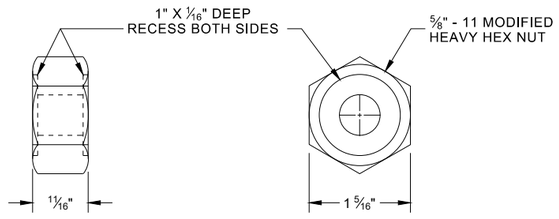


POST BOLT TABLE

L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"

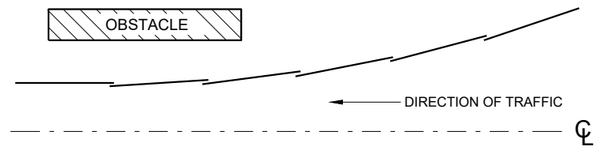


ALTERNATE BOLT HEAD

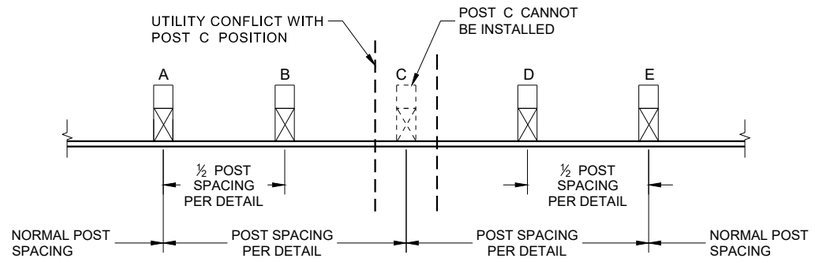


POST BOLT, SPLICE BOLT AND RECESS NUT

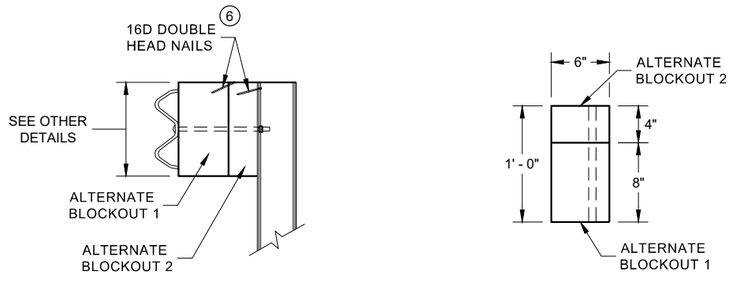
(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW

PLAN VIEW

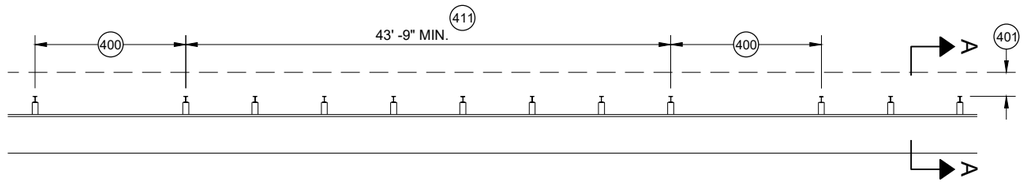
ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

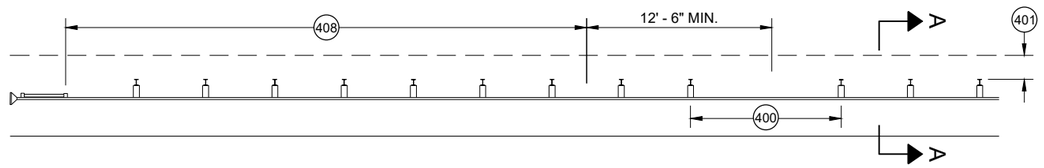
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

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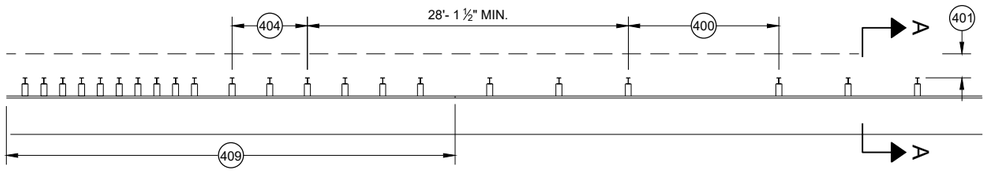
SDD 14B42 - 07c



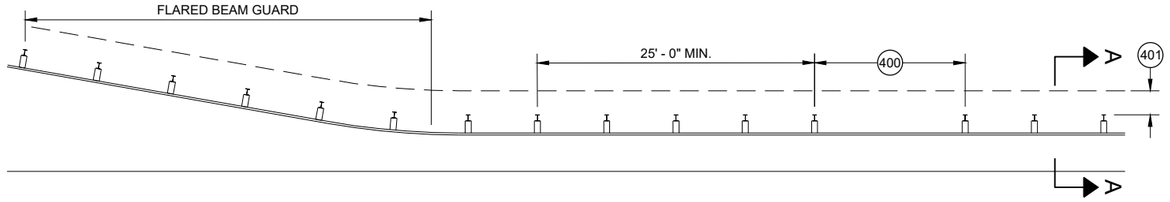
MISSING POST IN MGS GUARDRAIL



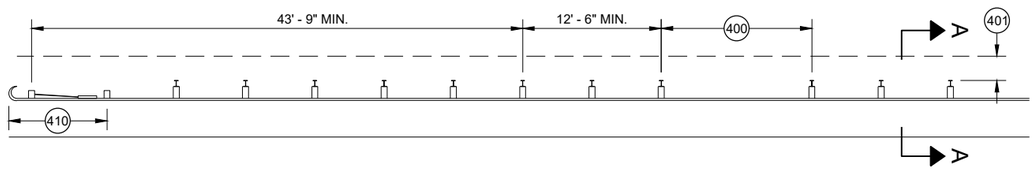
MISSING POST IN MGS GUARDRAIL NEAR EAT



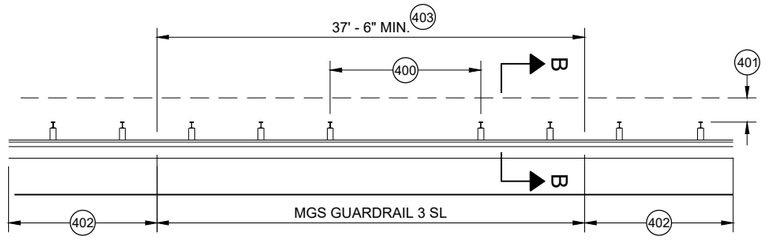
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

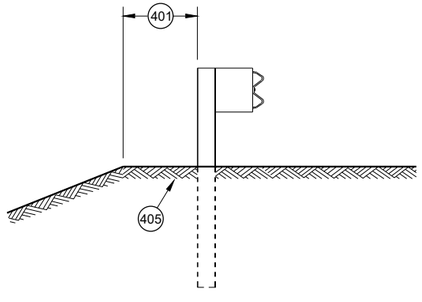


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

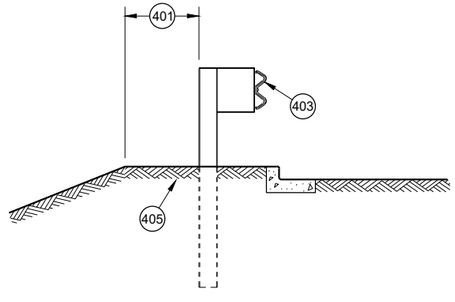


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(400) MAX SPAN 12' - 6"
(401) 2' MIN.
(402) MGS GUARDRAIL 3
(403) NESTING BEAM GUARD
(404) ASYMMETRIC TRANSITION
(405) SOIL WELL DRAINED AND COMPACTED
(406) SEE OTHER DRAWINGS IN THIS SDD
(407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
(408) SEE SDD 14B44
(409) SEE SDD 14B45
(410) SEE SDD 14B47
(411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

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SDD 14B42 - 07d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

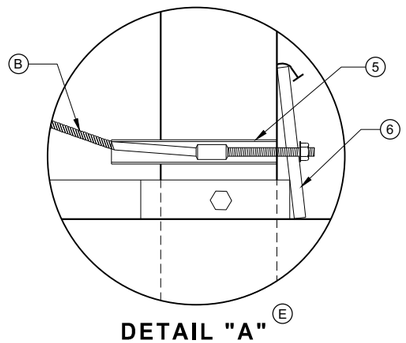
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

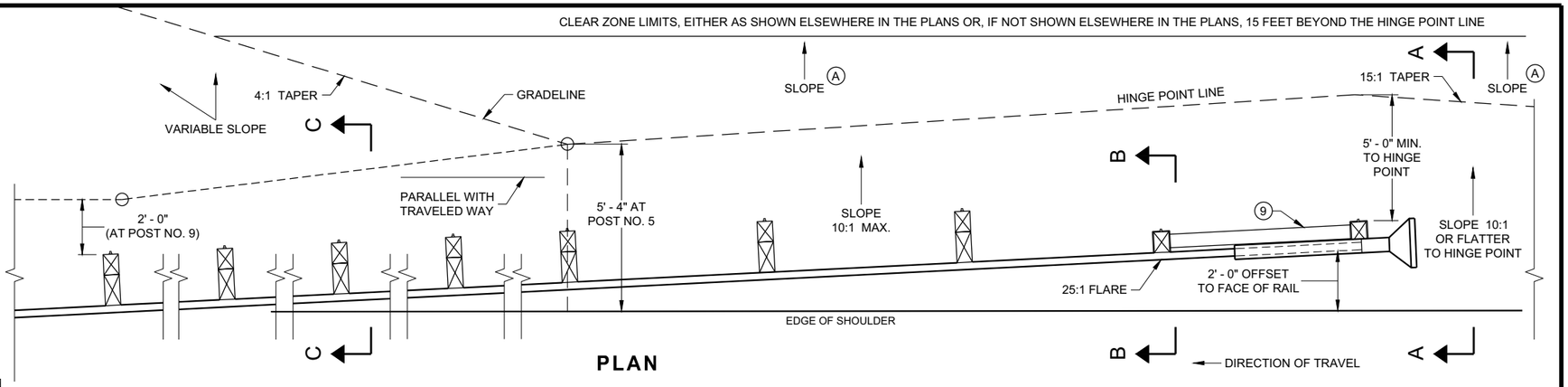
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

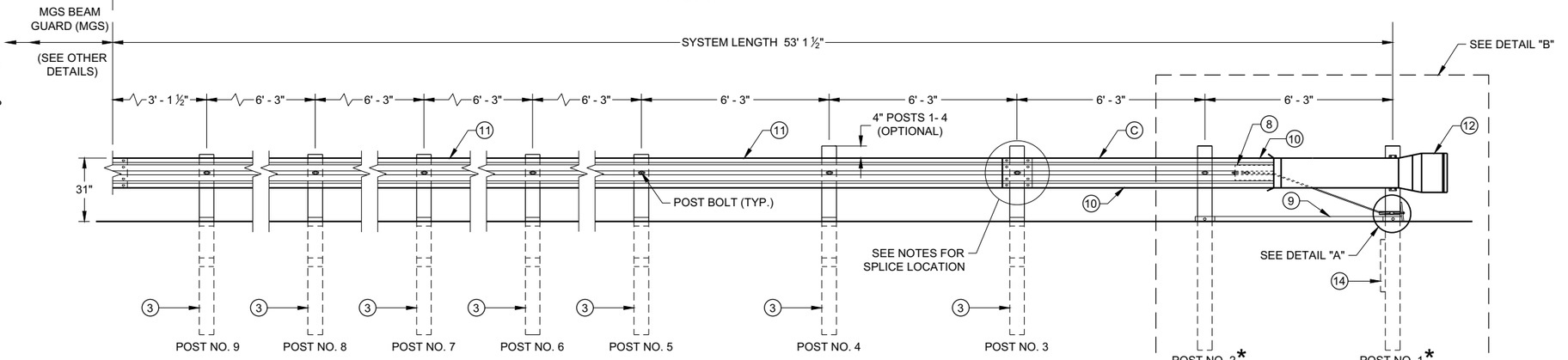
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



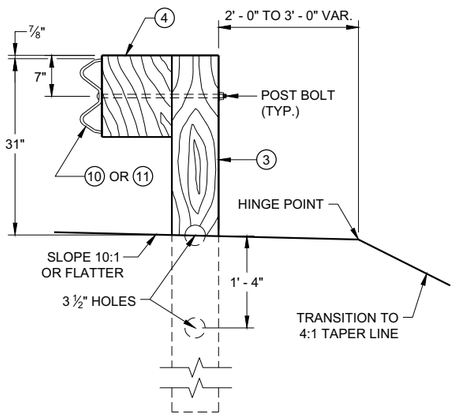
DETAIL "A" (E)



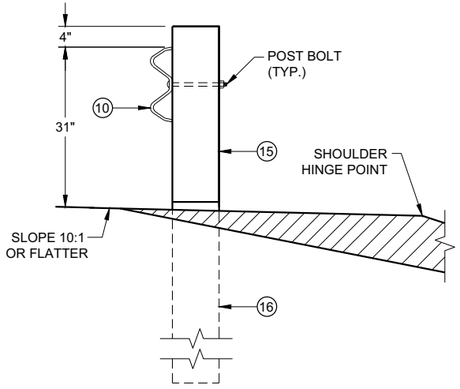
PLAN



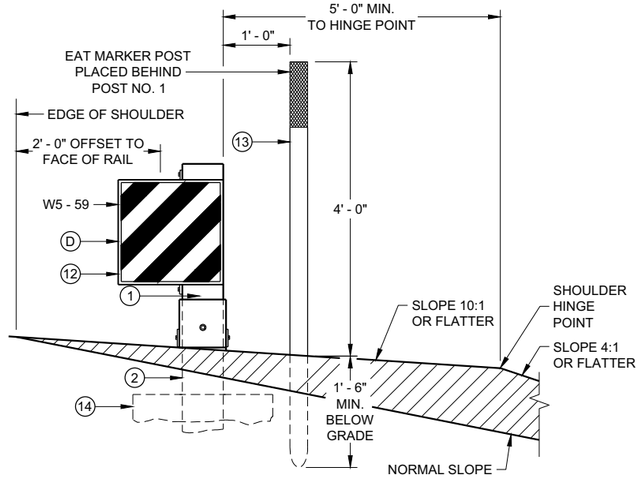
ELEVATION



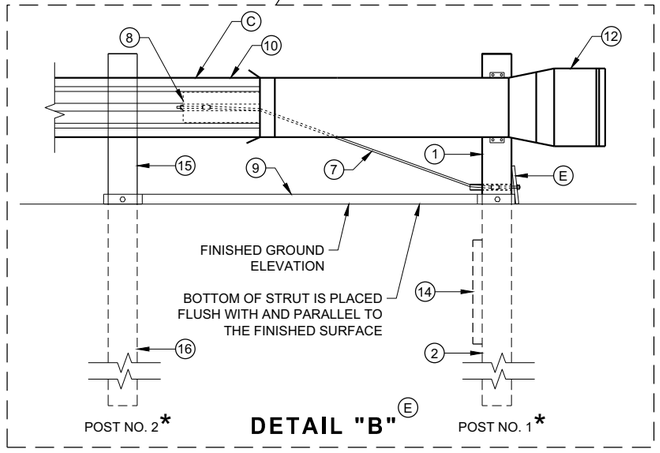
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



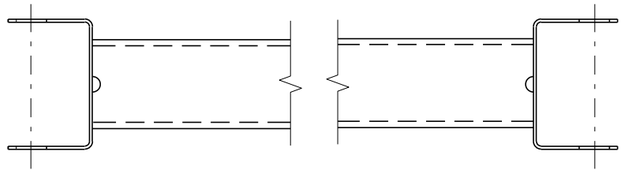
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

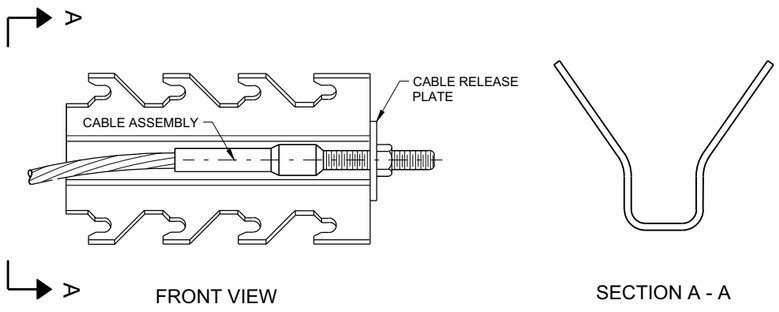
SDD 14B44 - 04a



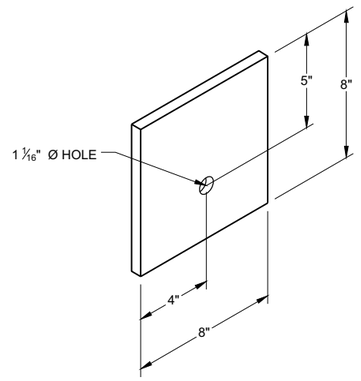
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
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	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

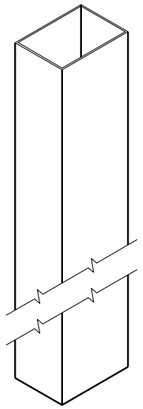
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SDD 14B44 - 04b

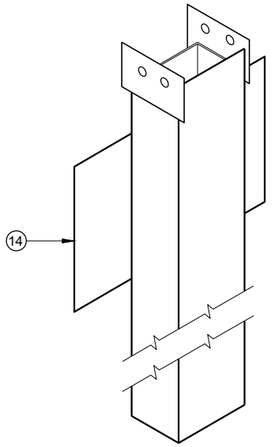
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

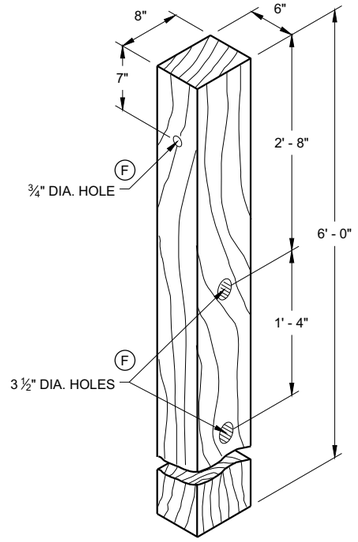
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



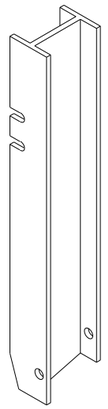
UPPER POST NO. 1 (1) (E)



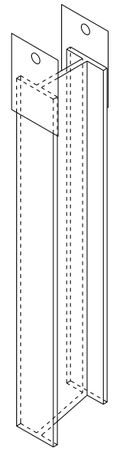
LOWER POST NO. 1 (2) (E)



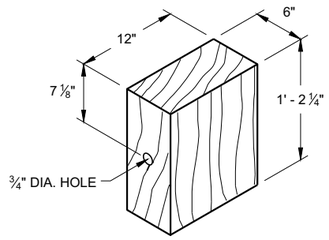
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



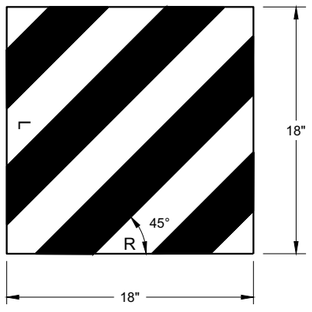
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

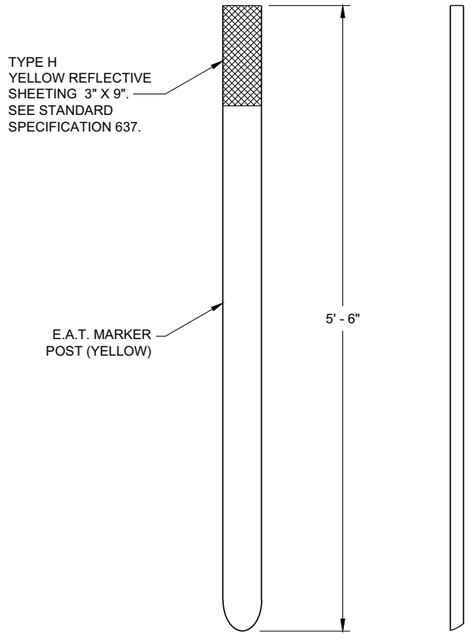


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



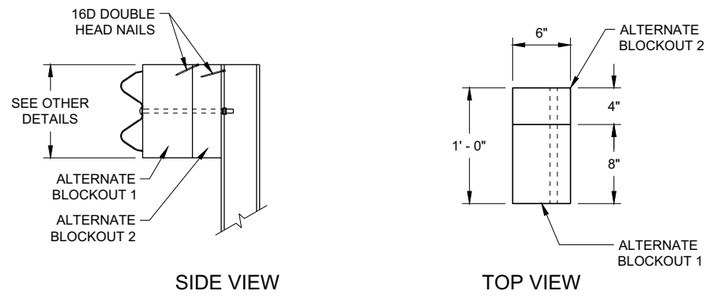
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

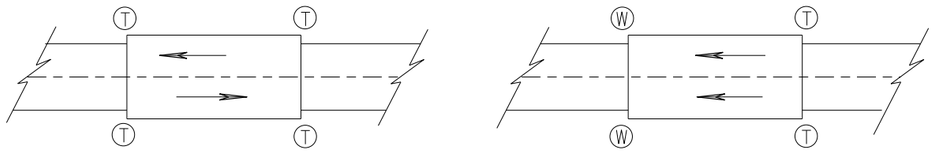
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

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SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

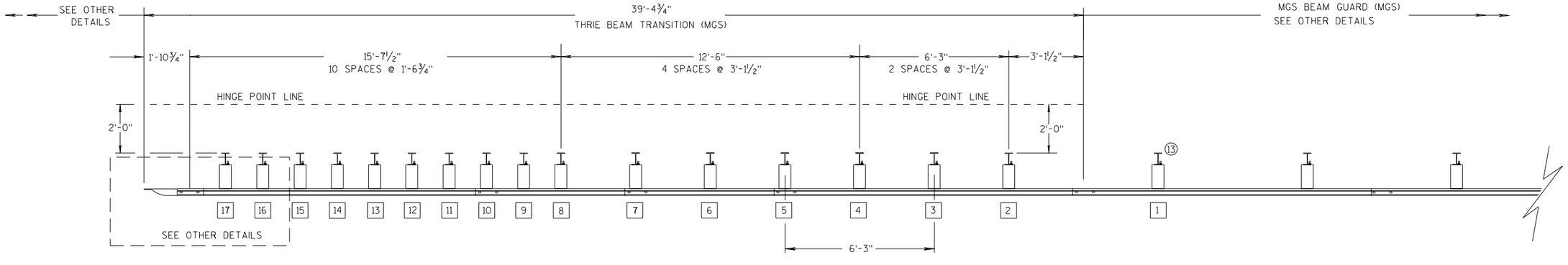
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

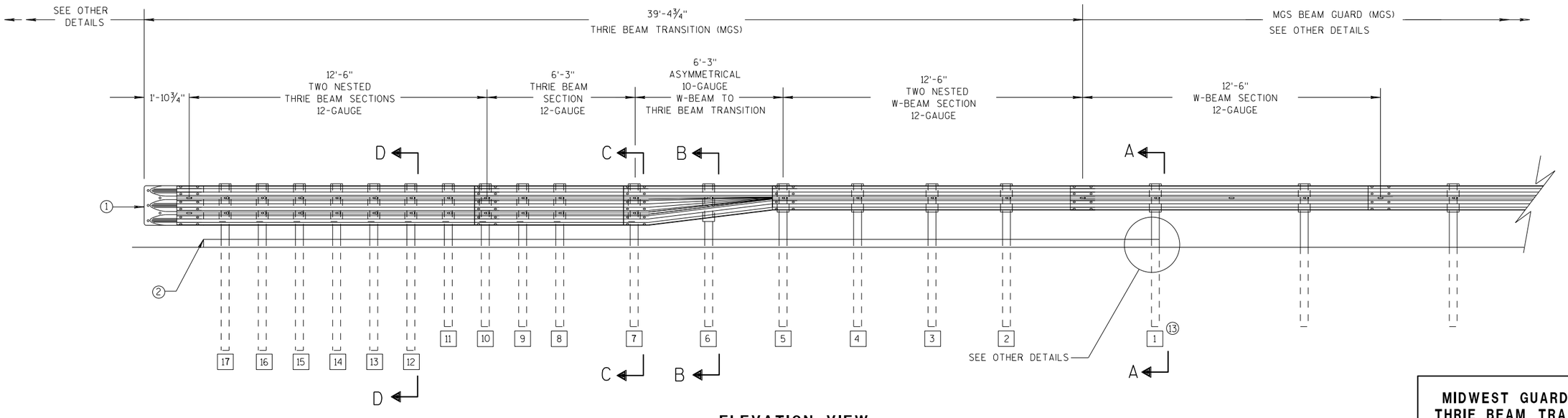
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 14 B 45-5a

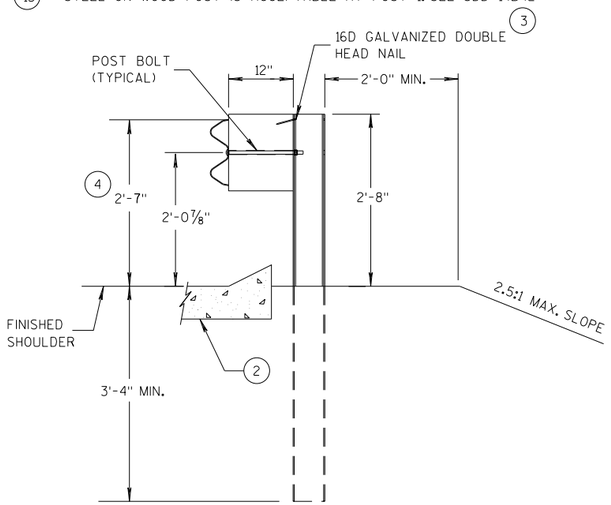
GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

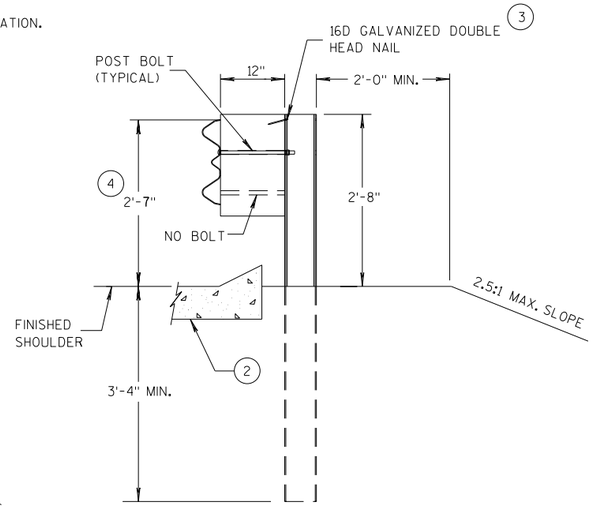
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



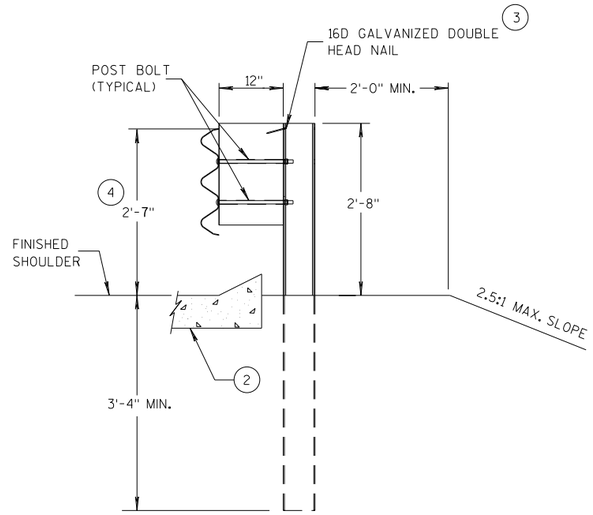
SECTION A-A (13)

POSTS 1-5



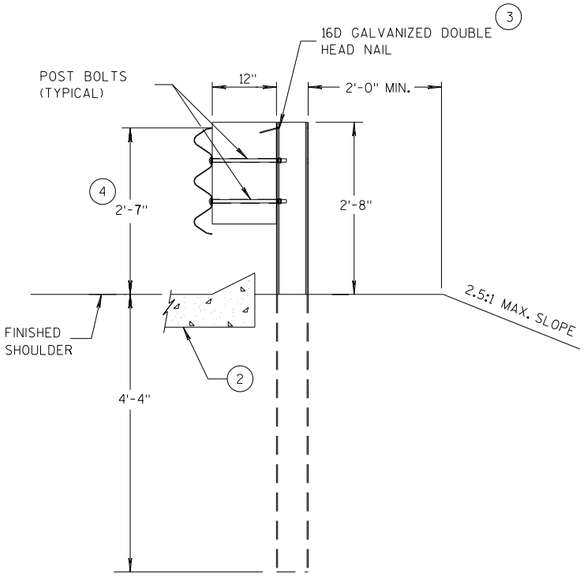
SECTION B-B

POST 6



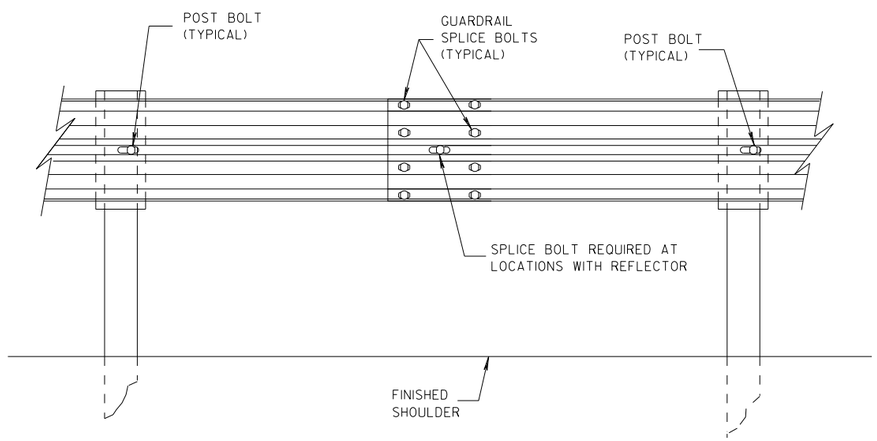
SECTION C-C

POSTS 7-11



SECTION D-D

POSTS 12-17



SPLICE DETAIL

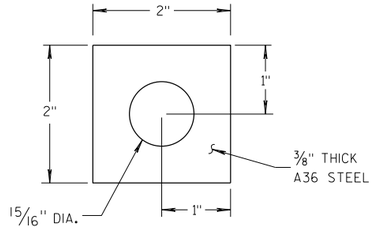
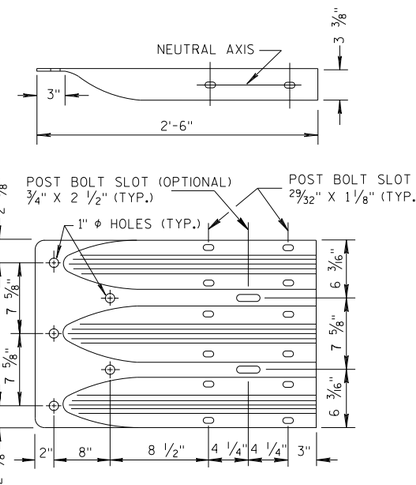
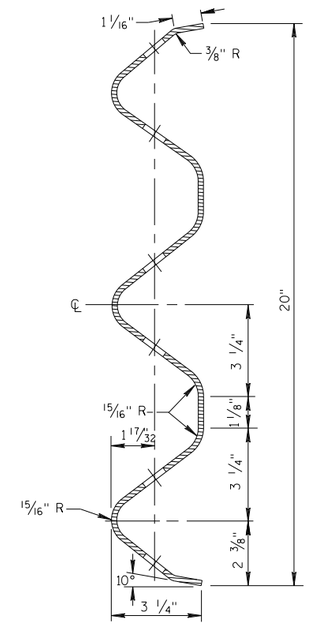


PLATE WASHER DETAIL



THRIE BEAM TERMINAL CONNECTOR



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

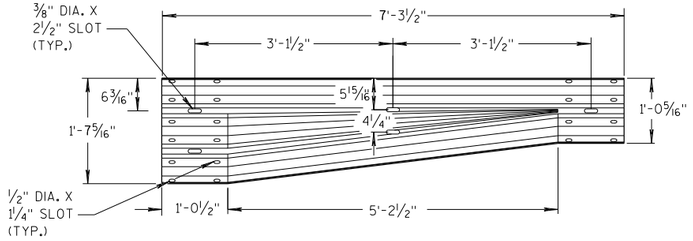
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 107

6

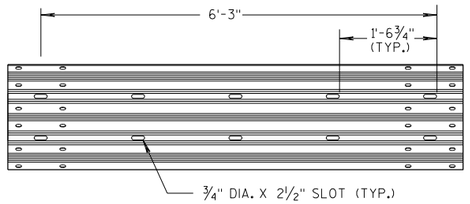
S.D.D. 14 B 45-5b

6

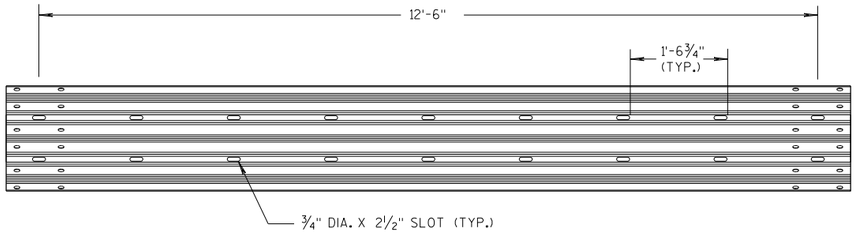
S.D.D. 14 B 45-5b



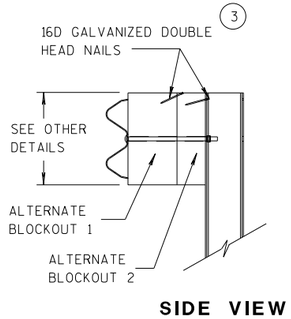
W-BEAM TO THRIE BEAM TRANSITION SECTION



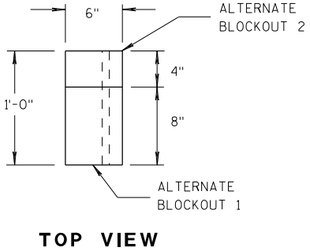
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

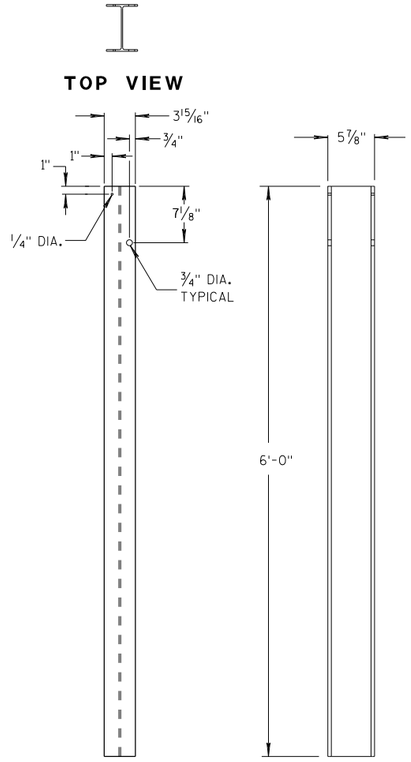


SIDE VIEW



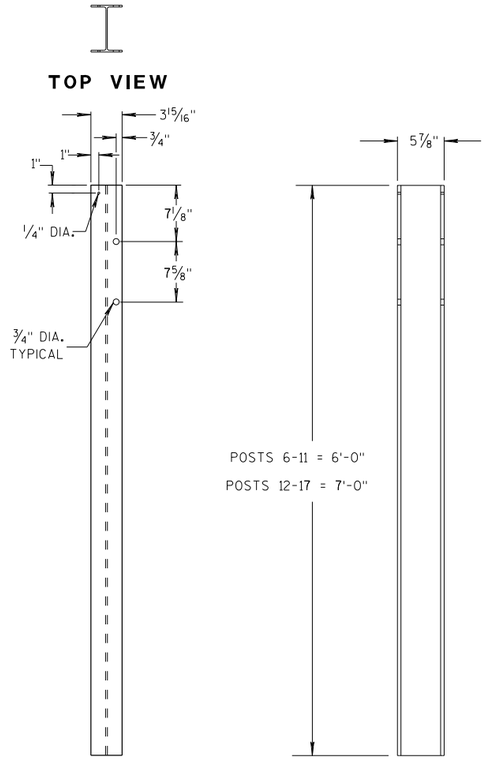
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



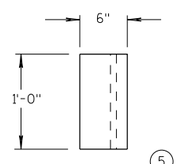
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

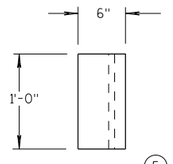


FRONT VIEW SIDE VIEW

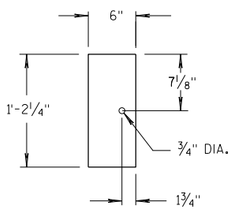
STEEL POSTS 6-17



TOP VIEW (5)

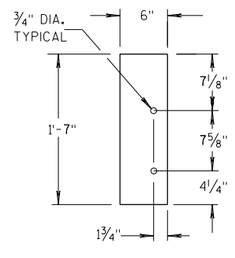


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

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

(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

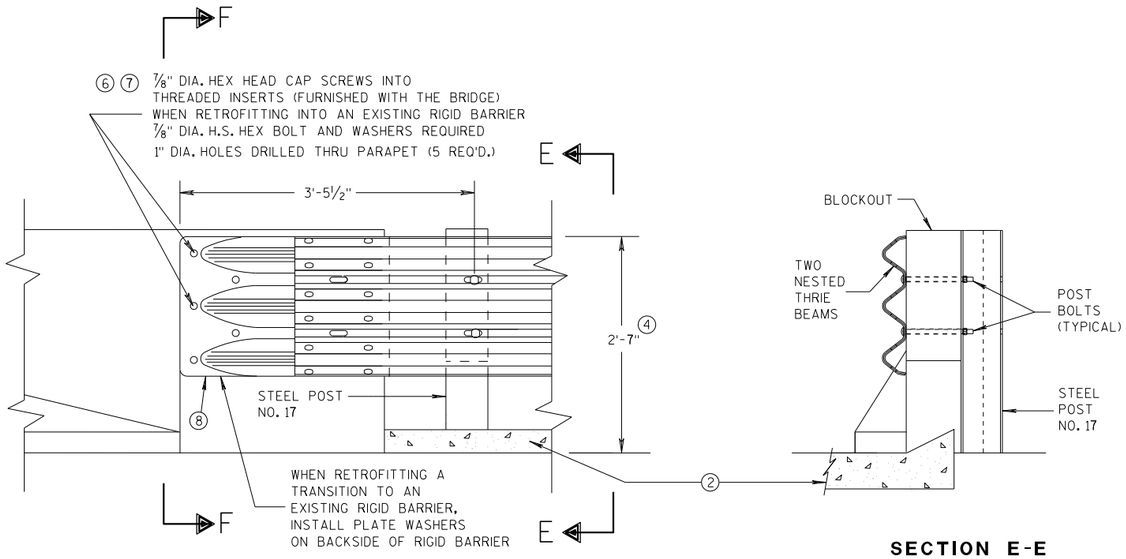
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

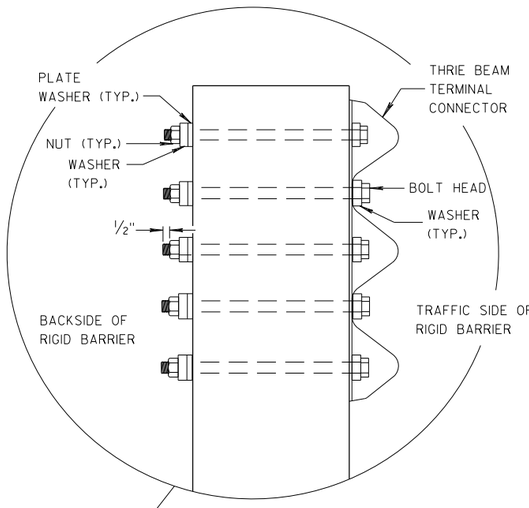
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

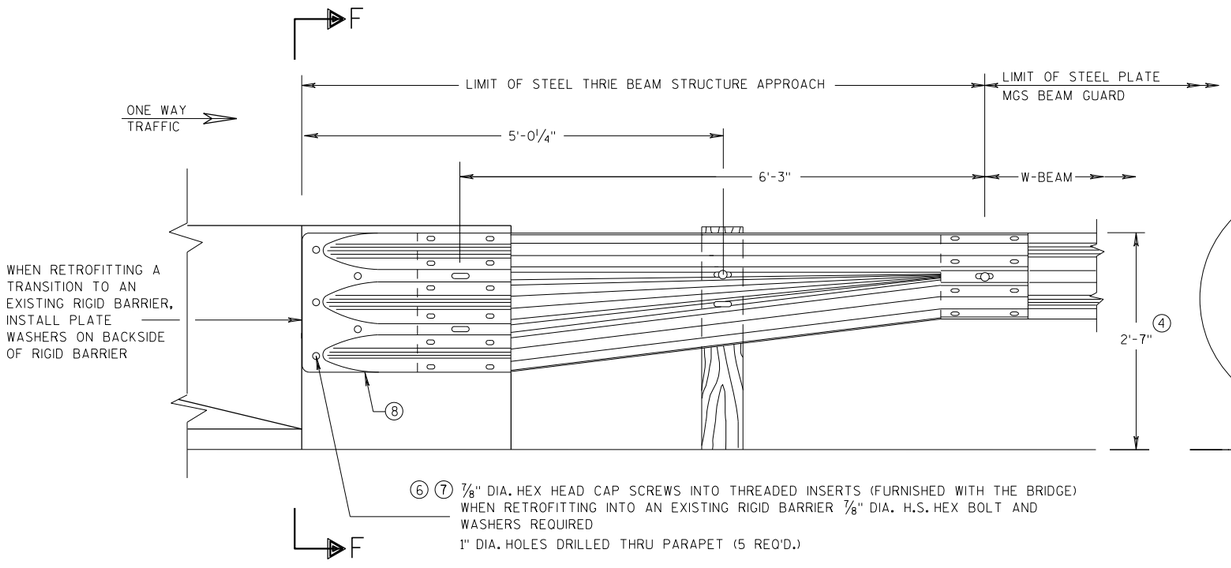
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

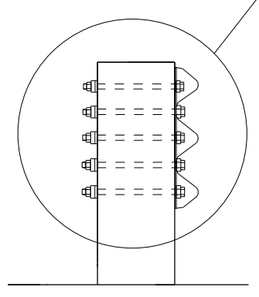
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

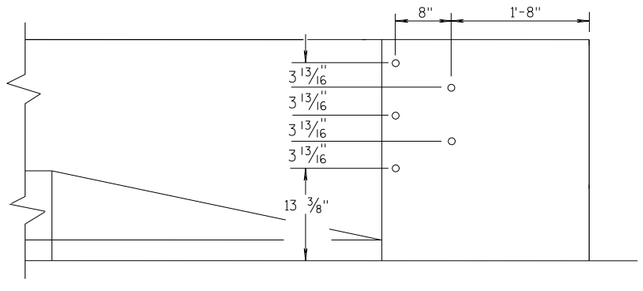




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D UNIT SUPERVIS ...NT
FHWA

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S.D.D. 14 B 45-5d

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S.D.D. 14 B 45-5d

GENERAL NOTES

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

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

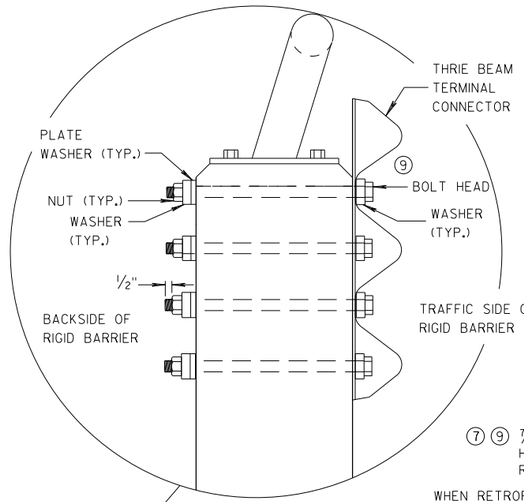
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

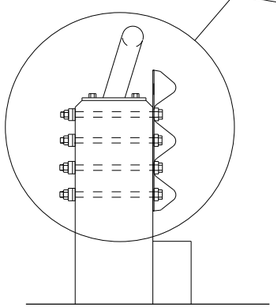
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

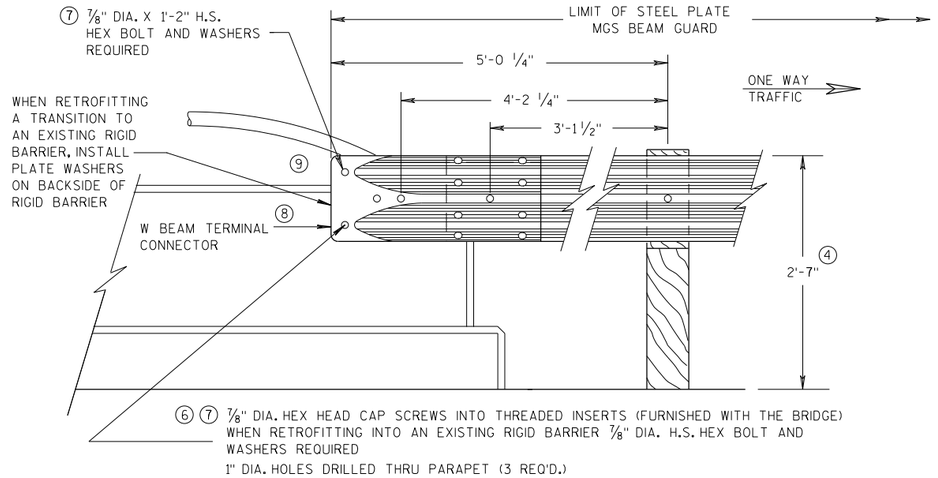
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.





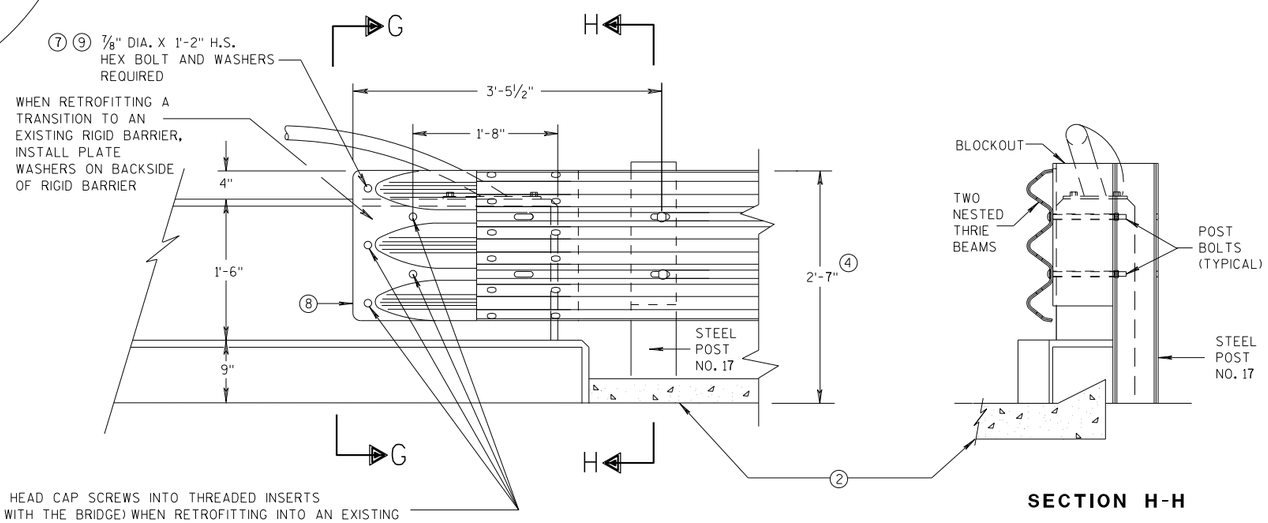
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

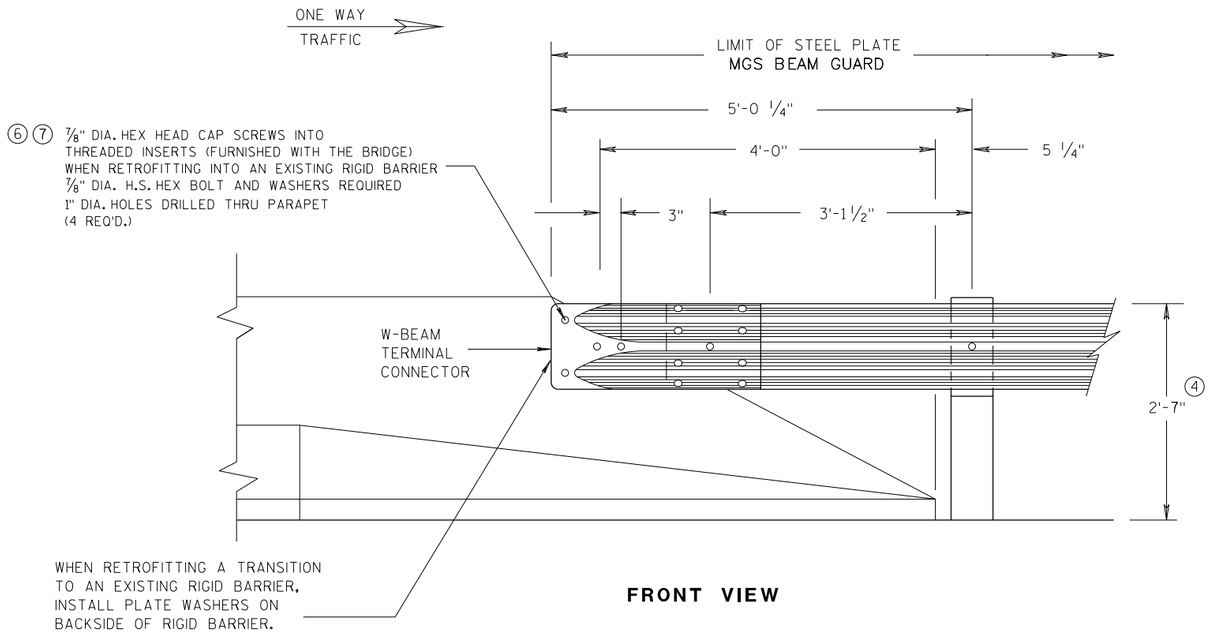
APPROVED
07/2018 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D[illegible] UNIT SUPERVIS[illegible]
FHWA

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S.D.D. 14 B 45-5e

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S.D.D. 14 B 45-5e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

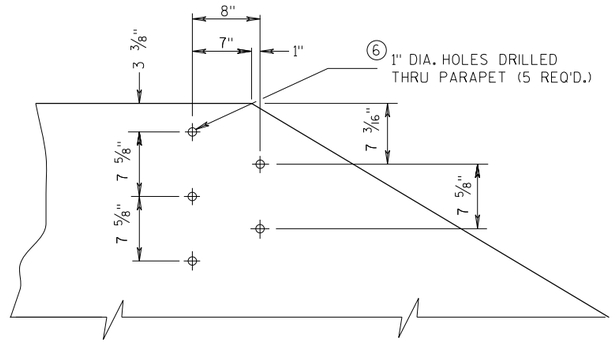
GENERAL NOTES

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

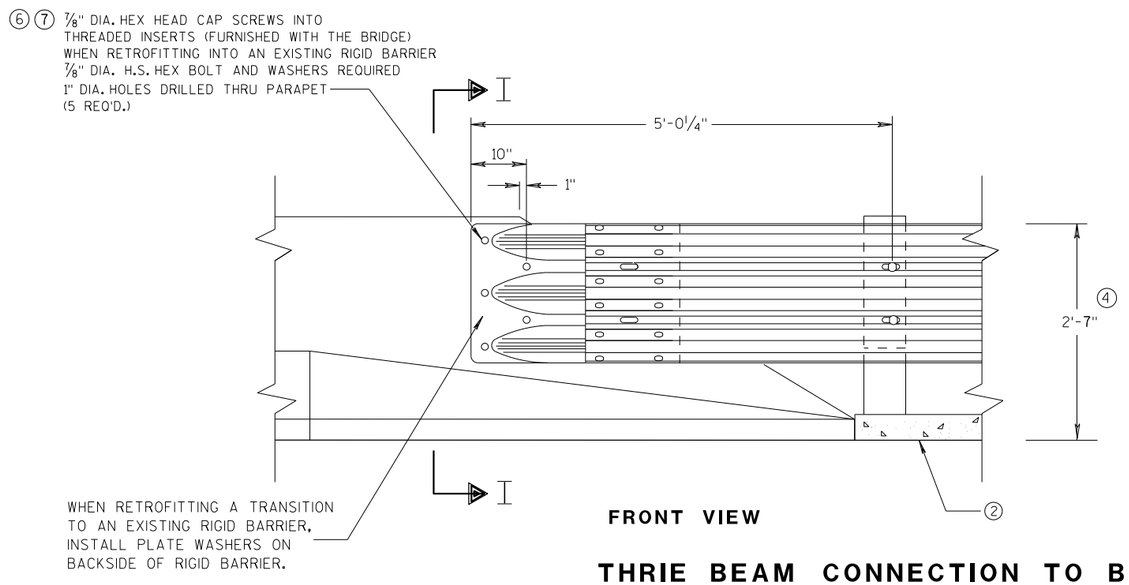
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

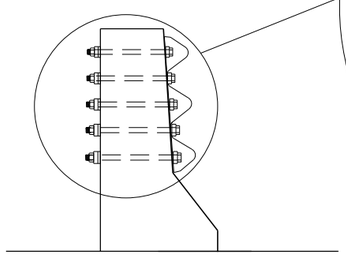
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



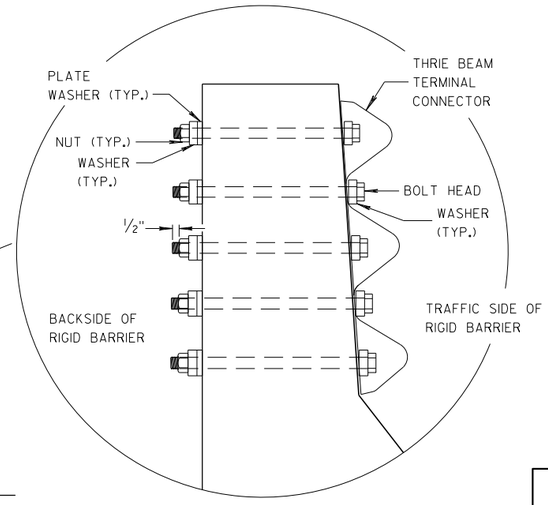
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

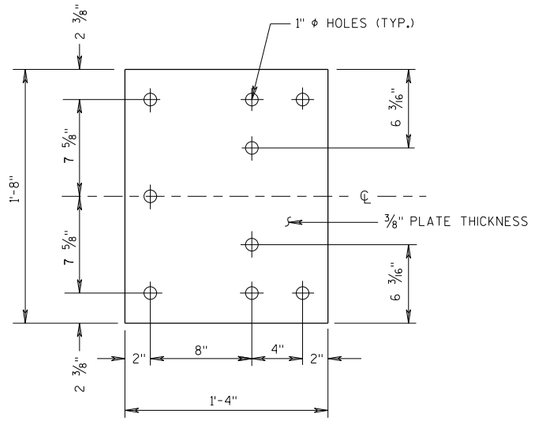
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

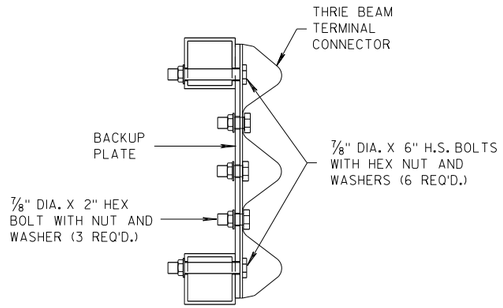
APPROVED
07/2018 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS [illegible] UNIT SUPERVI[illegible]ENT
FHWA

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S.D.D. 14 B 45-5f



BACK-UP PLATE DETAIL

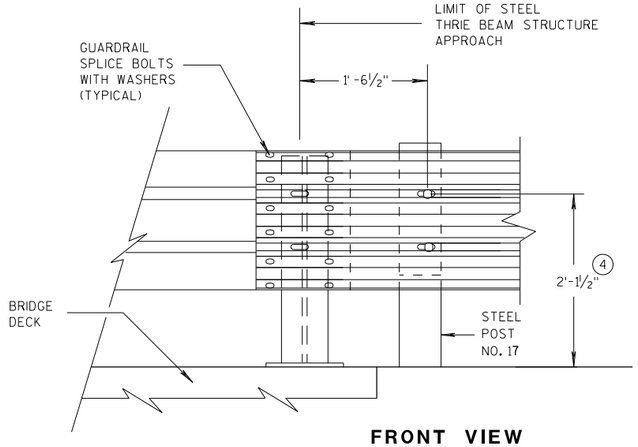


SECTION J-J

GENERAL NOTES

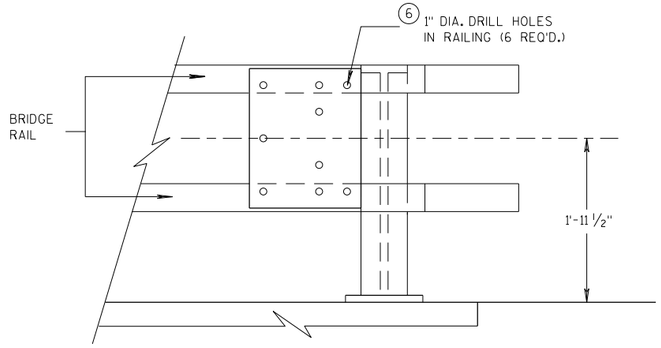
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(6) DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

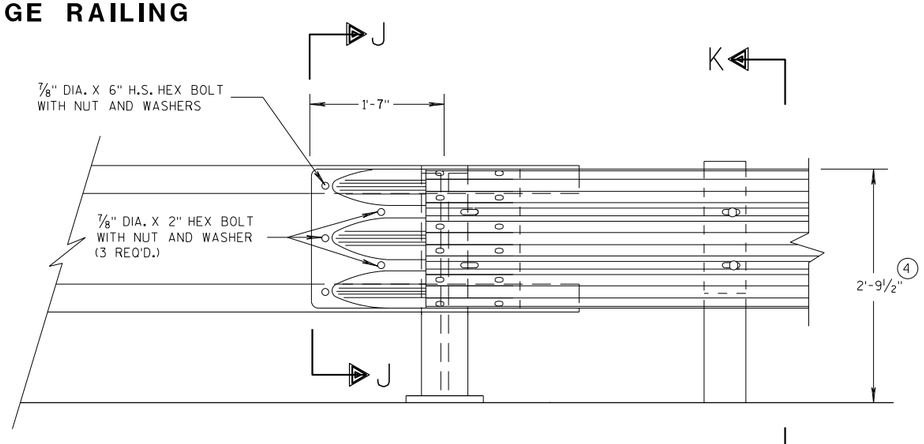


FRONT VIEW

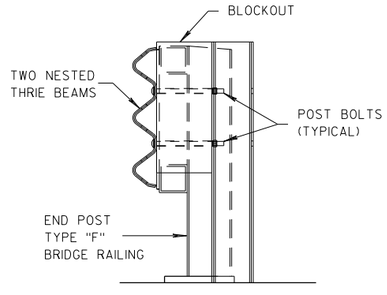
THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE
FHWA

/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

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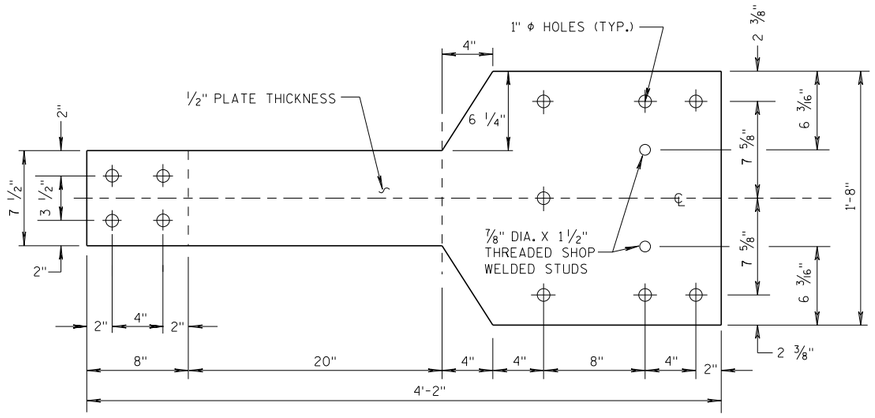
S.D.D. 14 B 45-5g

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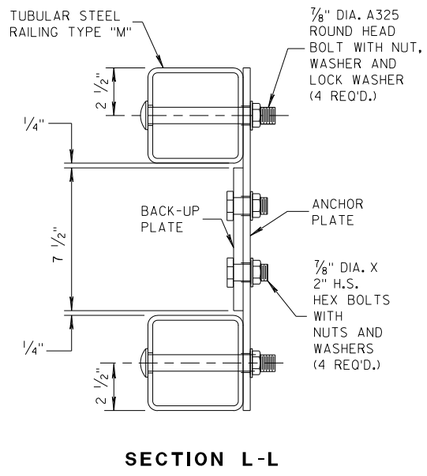
S.D.D. 14 B 45-5g

GENERAL NOTES

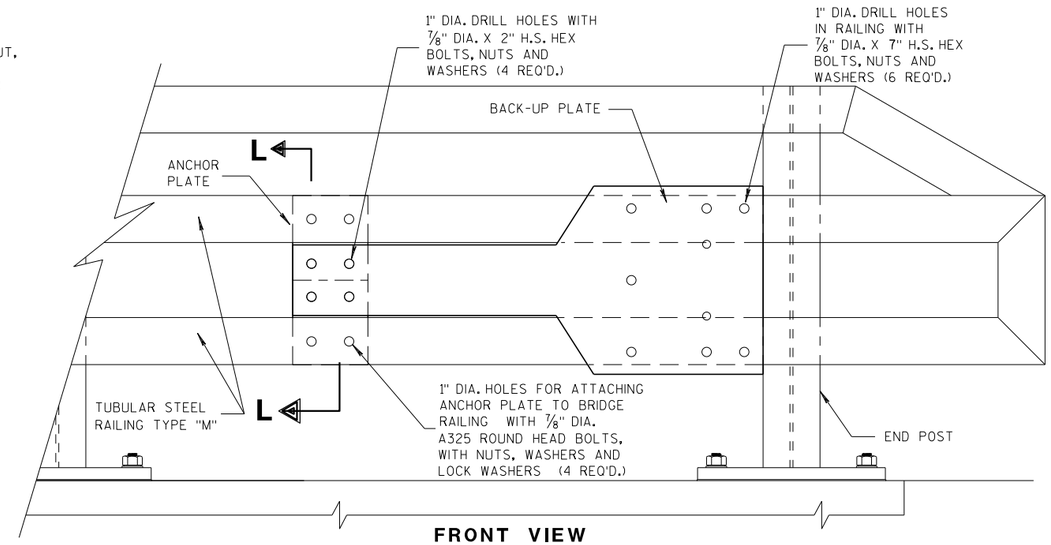
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



FRONT VIEW

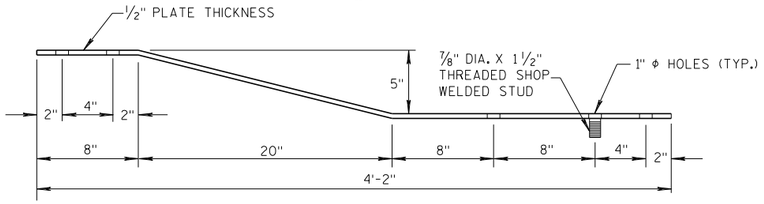


SECTION L-L



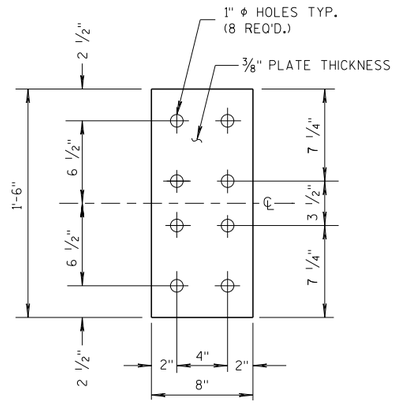
FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



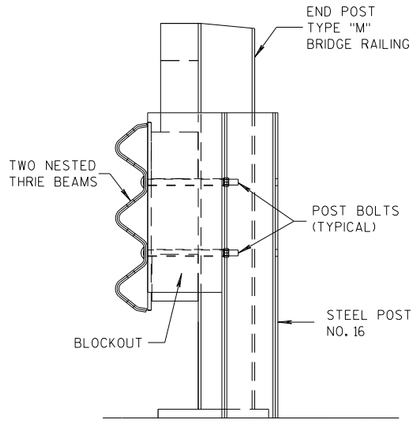
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

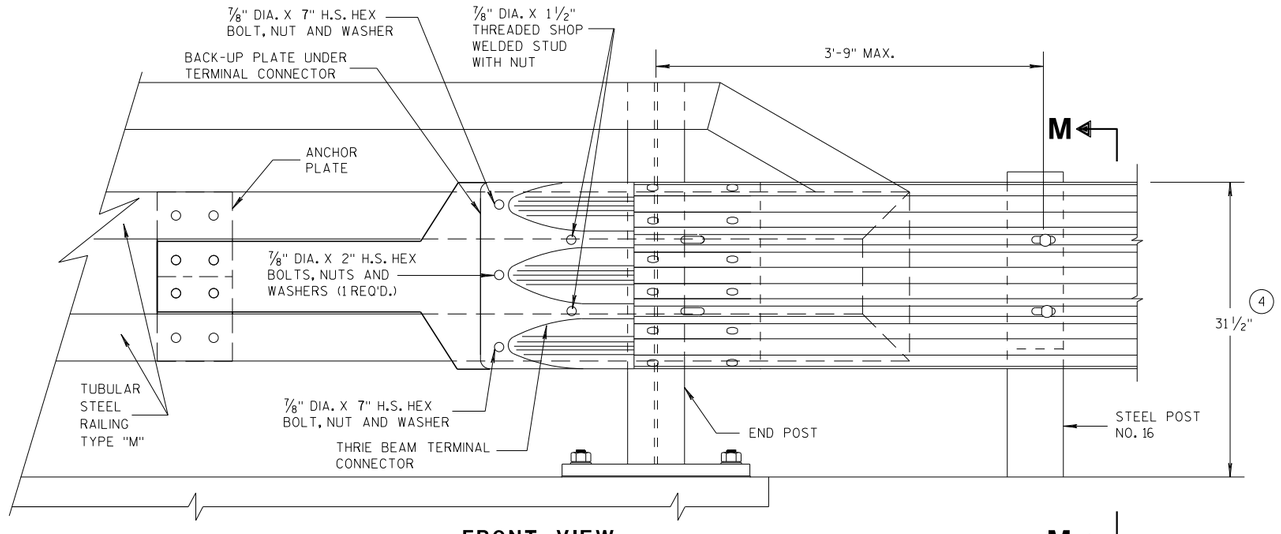


FRONT VIEW

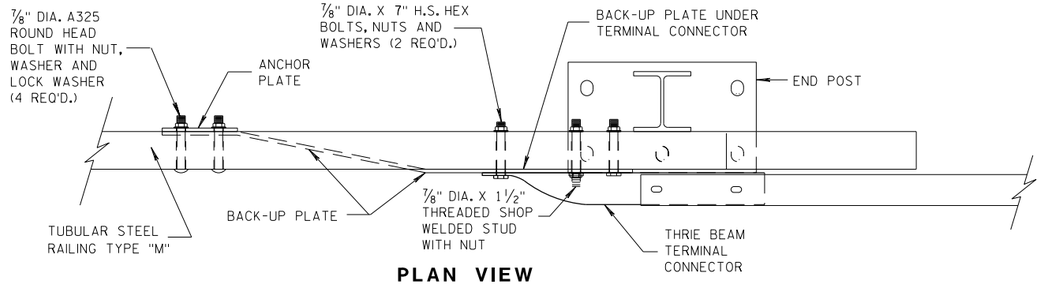
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

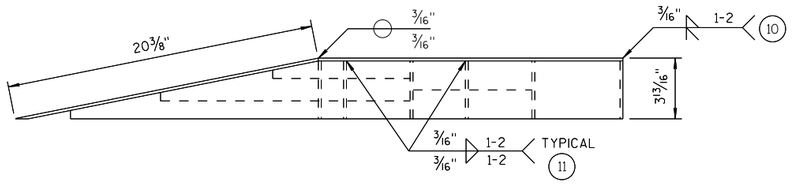
APPROVED
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/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

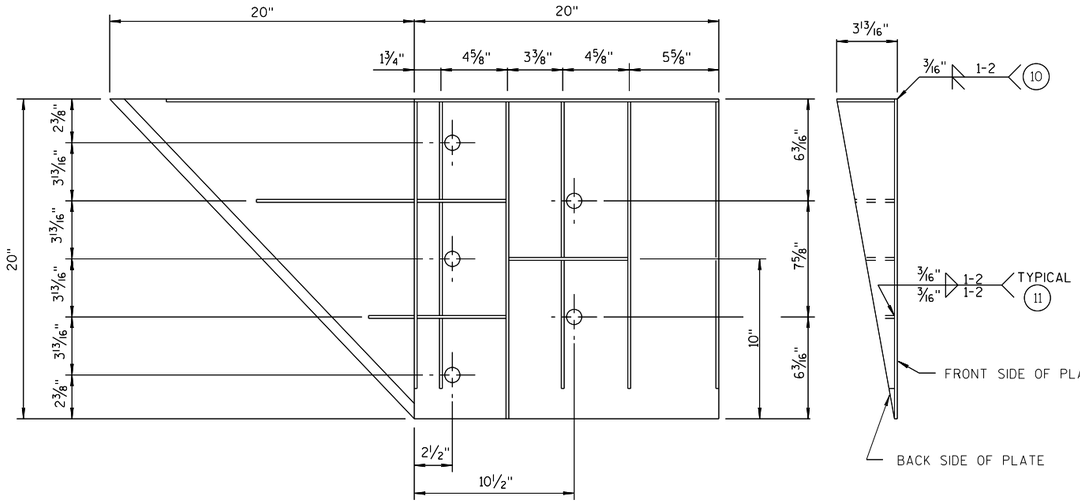
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S.D.D. 14 B 45-5h

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S.D.D. 14 B 45-5h





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

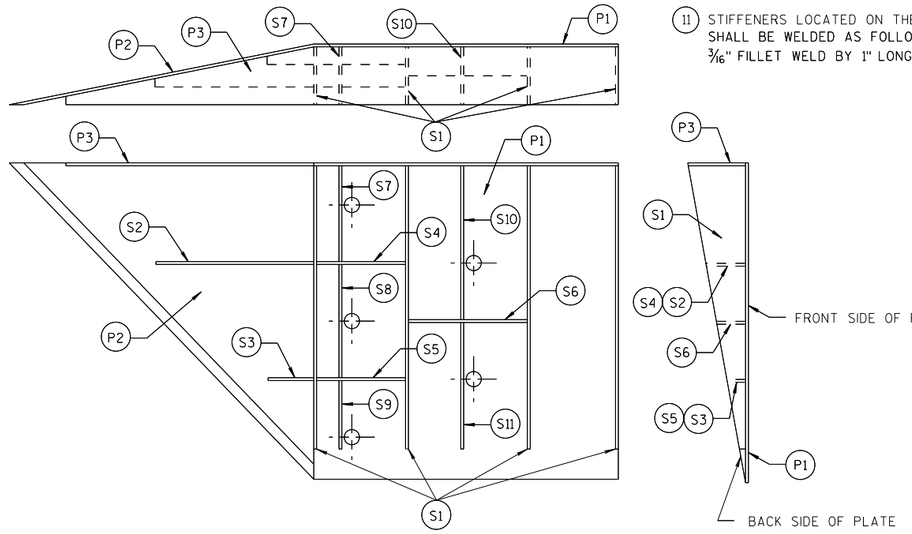


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

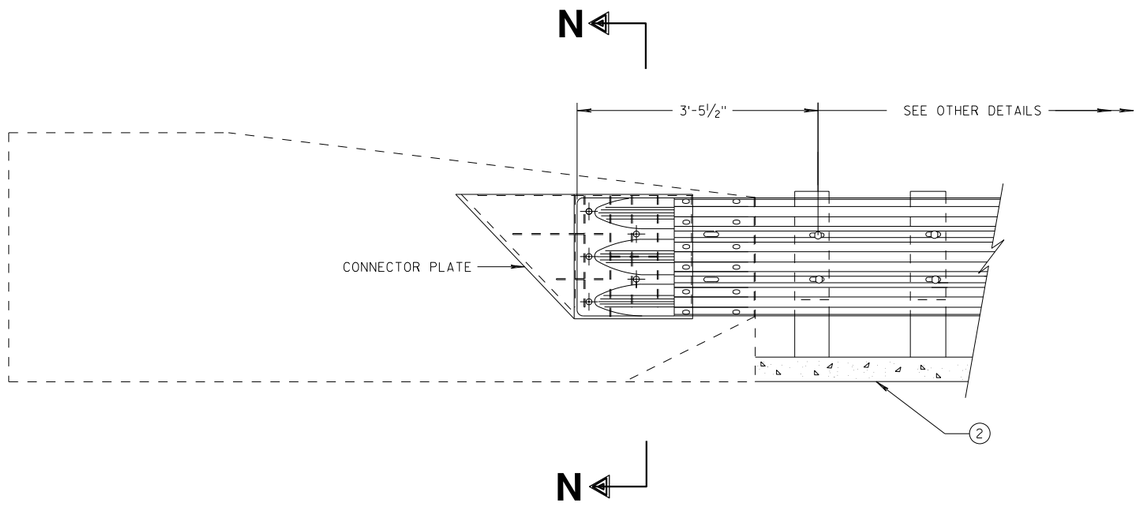
/S/ Rodney Taylor
ROADWAY STANDARDS I
UNIT SUPERVI ENT

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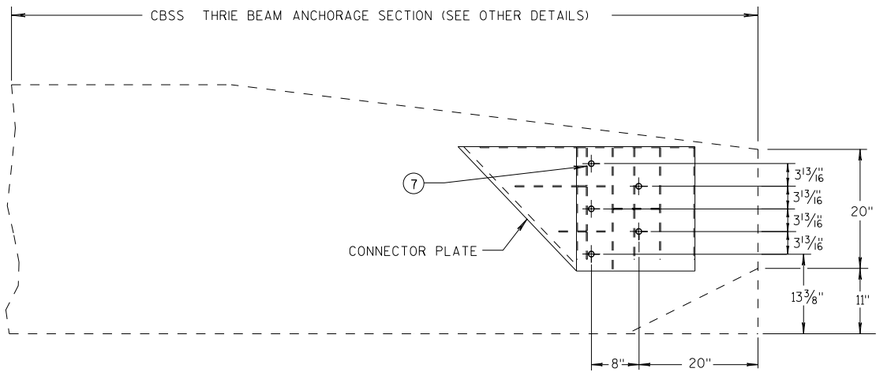
S.D.D. 14 B 45-5i

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S.D.D. 14 B 45-5i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



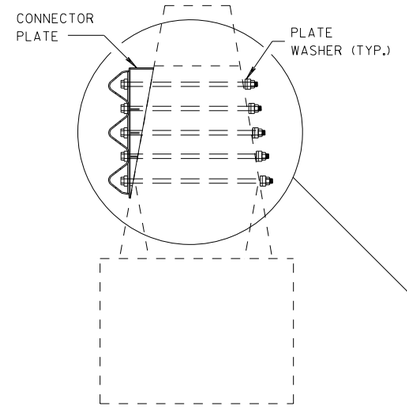
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

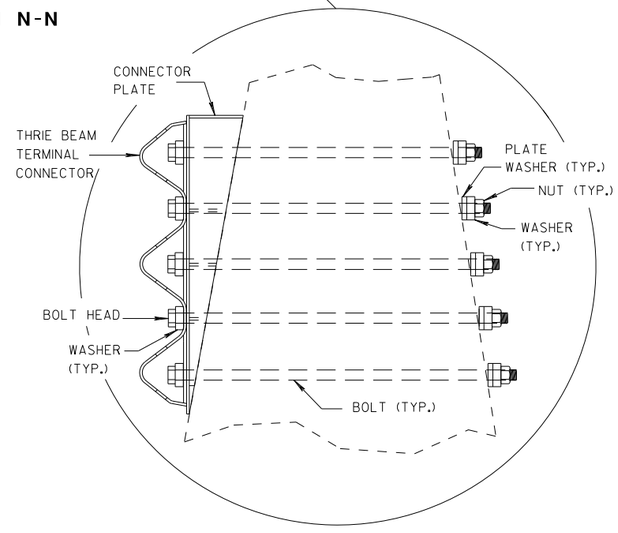
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

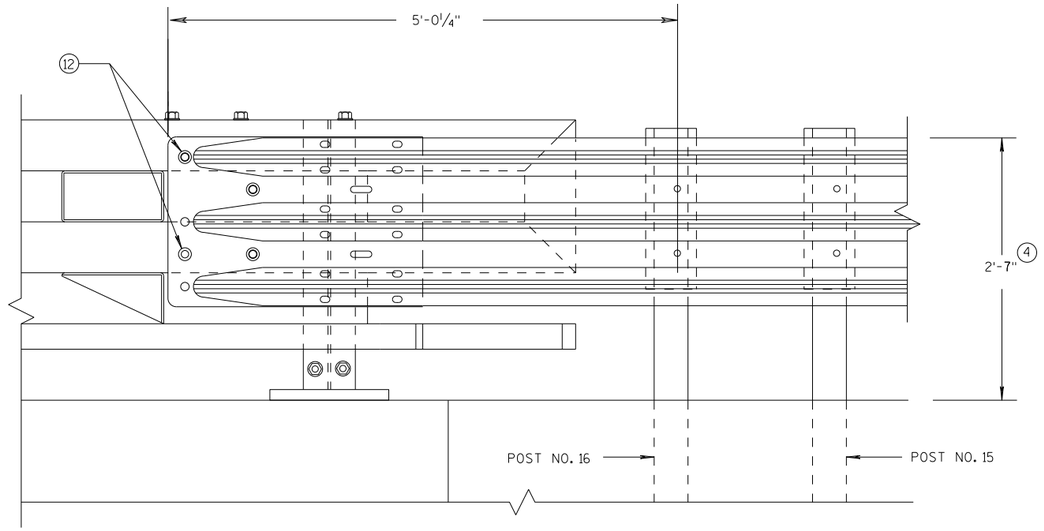
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DI[illegible]NT
UNIT SUPERVIS

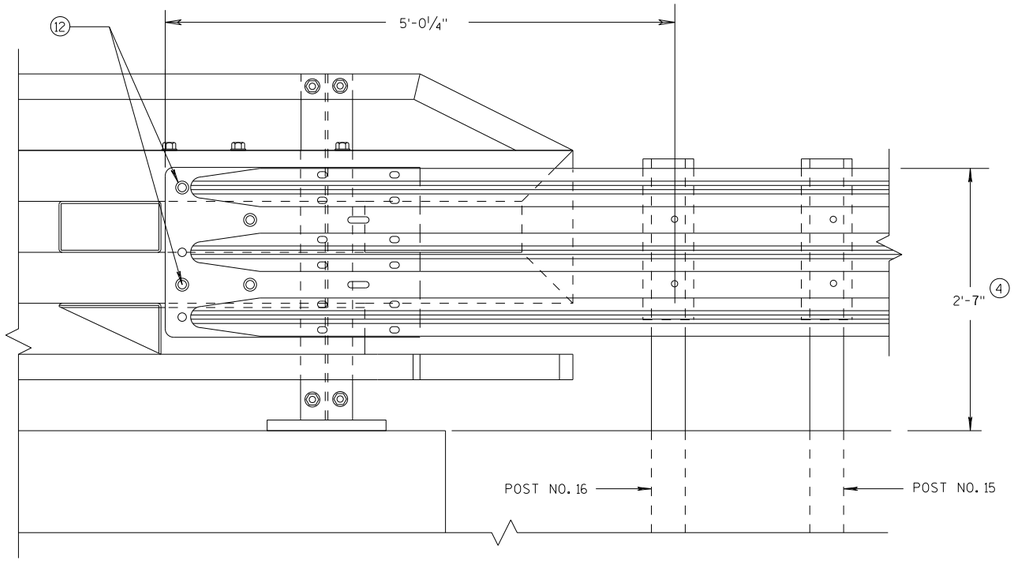
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S.D.D. 14 B 45-5j



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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7/2018
DATE
FHWA

/S/ Rodney Taylor
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UNIT SUPERVIS

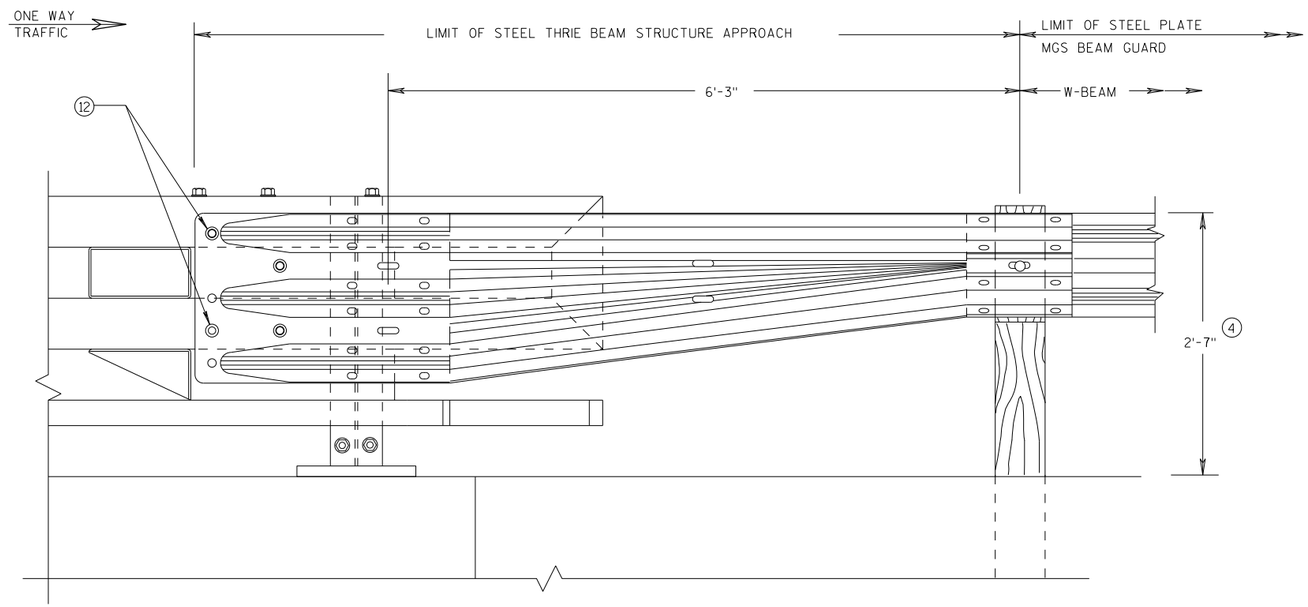
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S.D.D. 14 B 45-5k

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S.D.D. 14 B 45-5k



FRONT VIEW

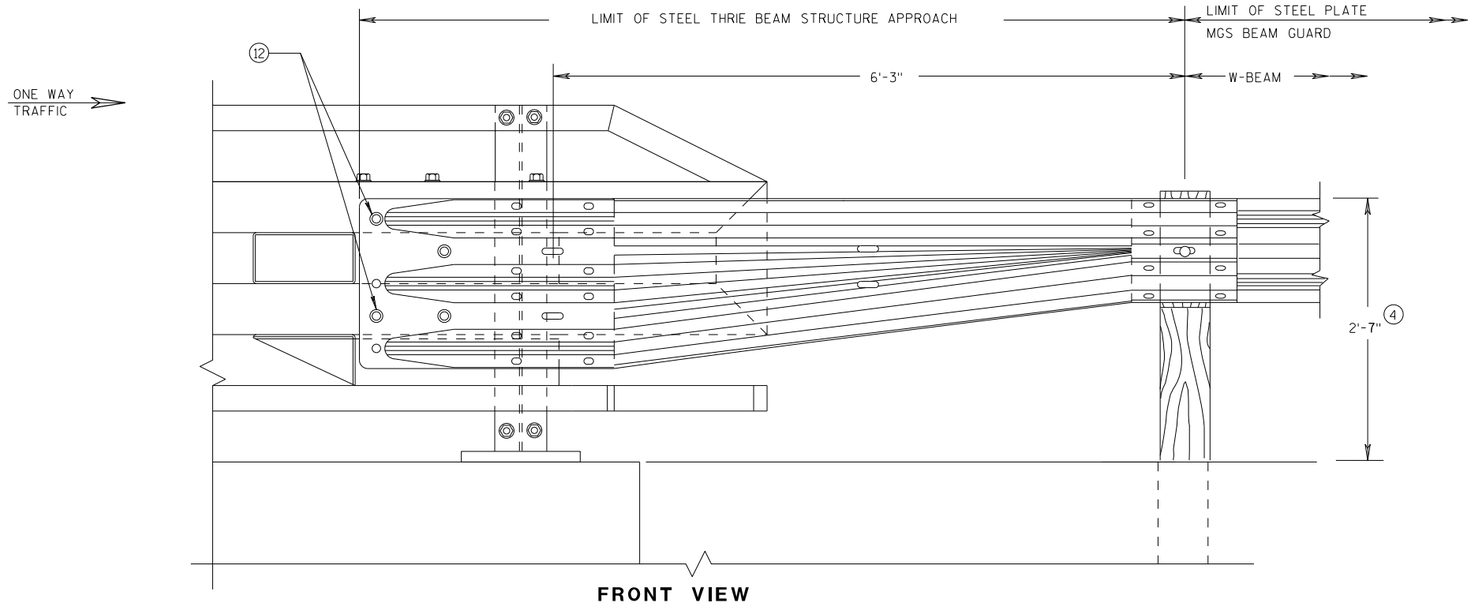
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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APPROVED
7/2018 DATE
FHWA

/S/ Rodney Taylor
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UNIT SUPERVIS

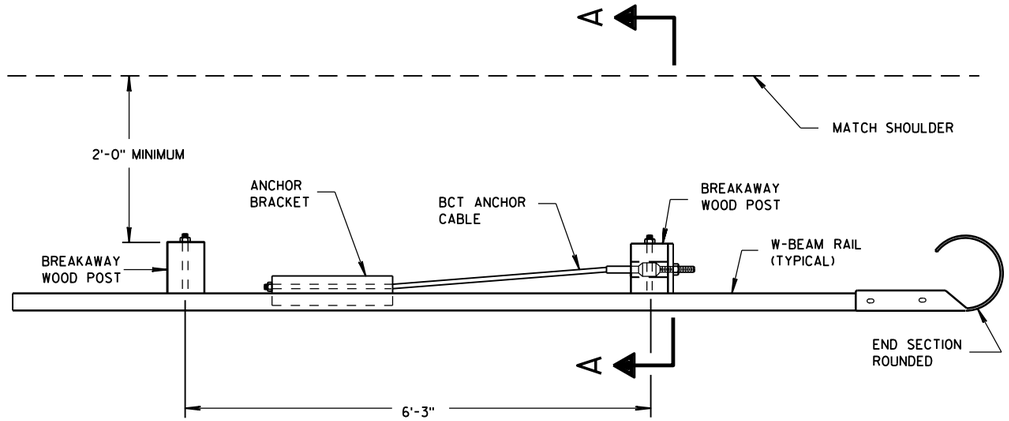
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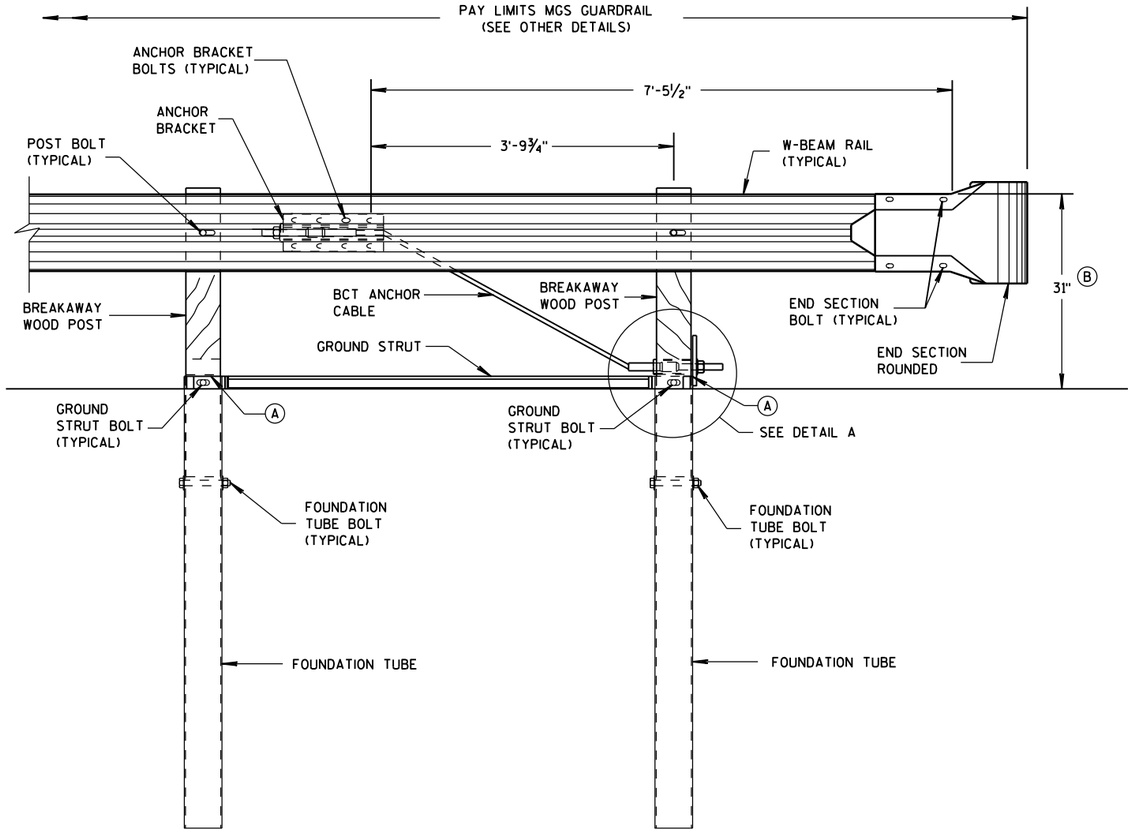
S.D.D. 14 B 45-5L

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S.D.D. 14 B 45-5L

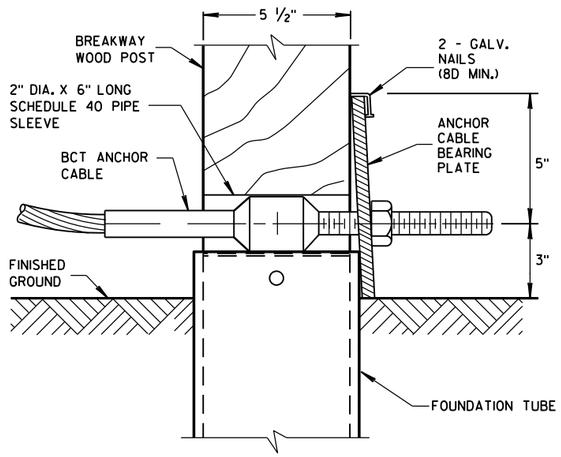


PLAN VIEW



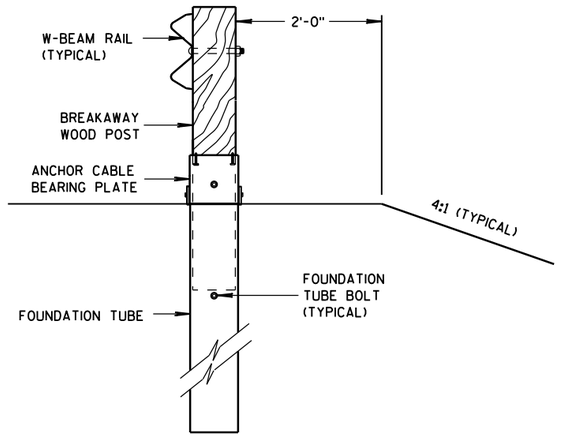
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

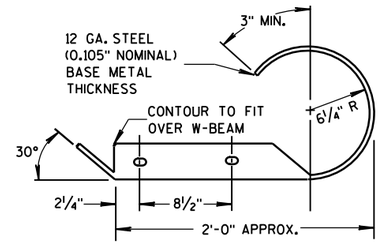
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A ⅝" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

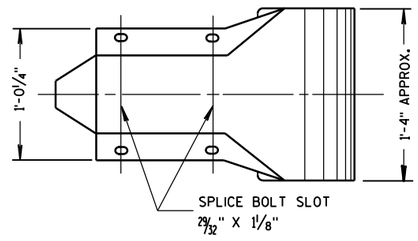
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



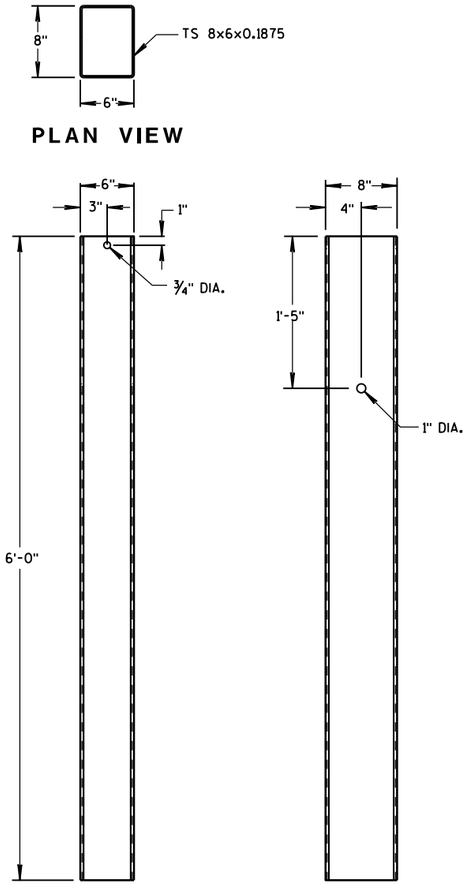
FRONT VIEW

W BEAM END SECTION ROUNDED

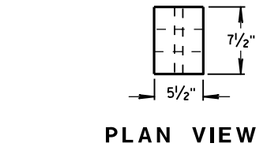
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

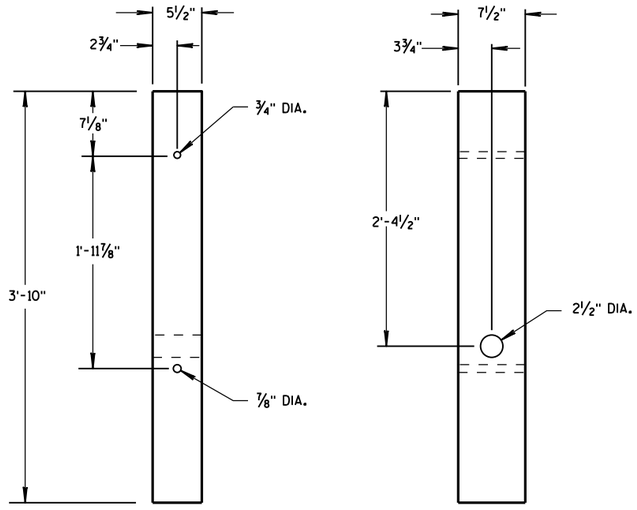
STATE OF WISCONSIN
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S.D.D. 14 B 47-2a



FOUNDATION TUBE

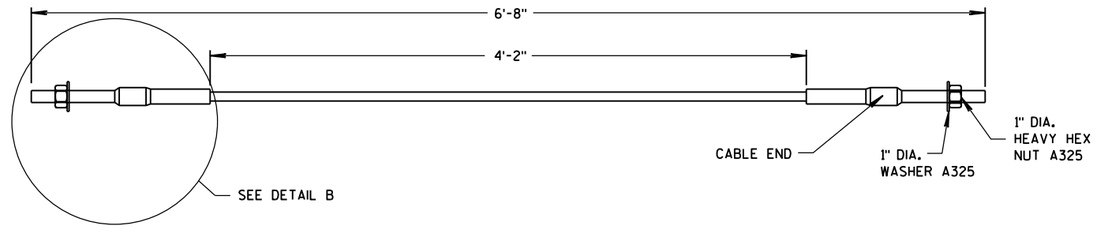




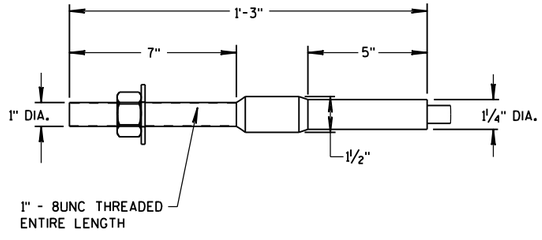
BREAKAWAY WOOD POST

GENERAL NOTES

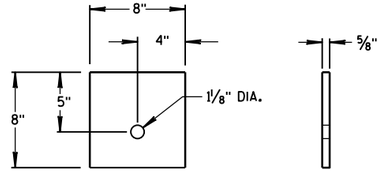
BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.



BCT ANCHOR CABLE



DETAIL B



ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

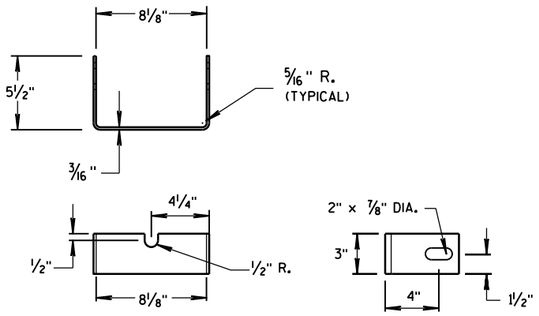
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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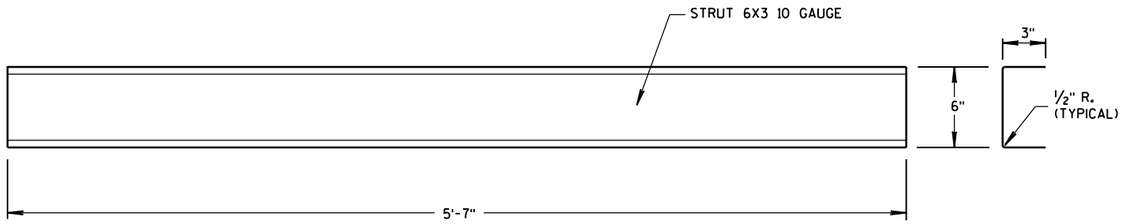
S.D.D. 14 B 47-2b

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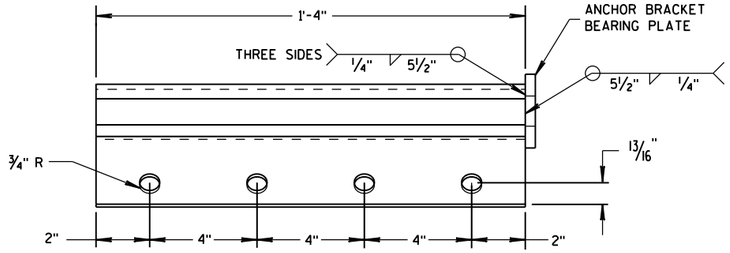
S.D.D. 14 B 47-2b

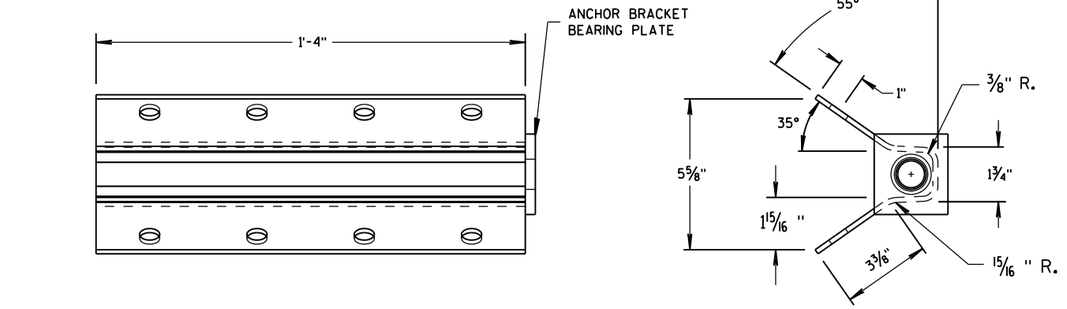


YOKE DETAIL

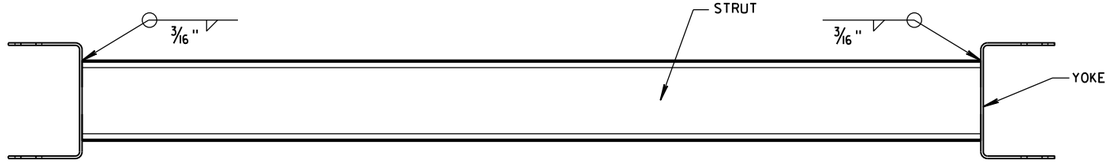


STRUT DETAIL

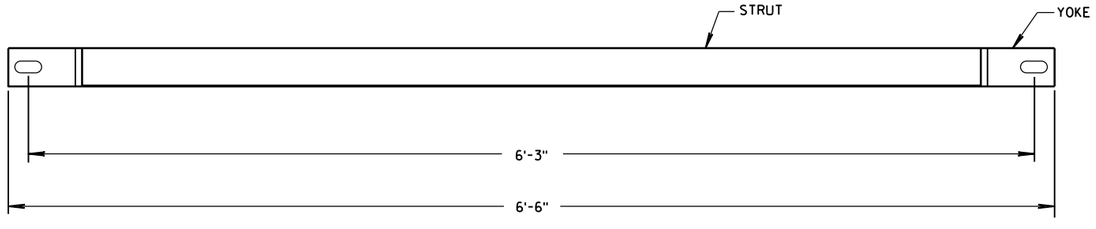




ANCHOR BRACKET

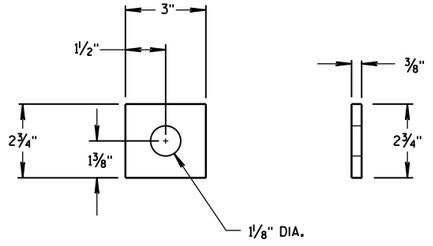


PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL



ANCHOR BRACKET BEARING PLATE

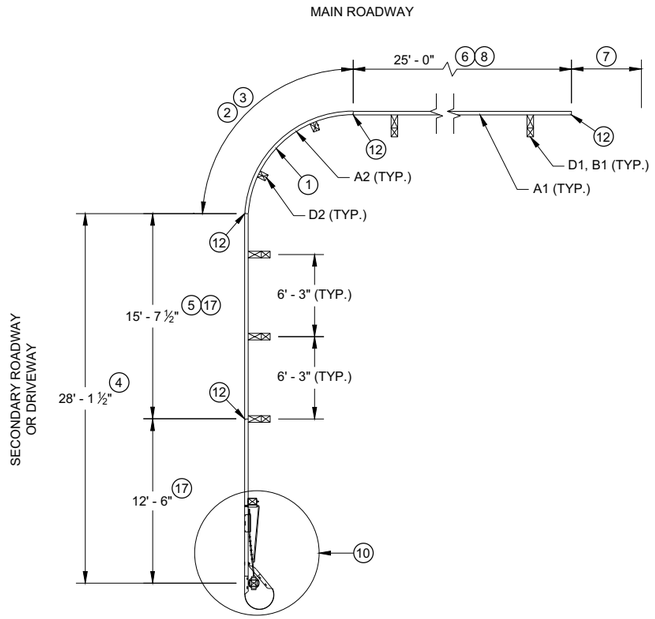
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

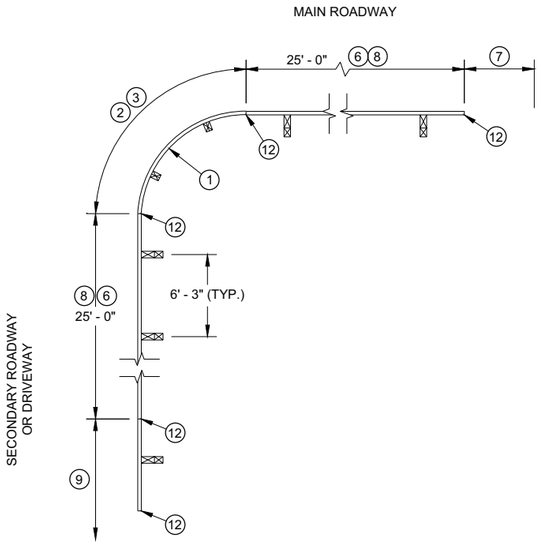
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S.D.D. 14 B 47-2c



PLAN VIEW

SHORT RADIUS BEAM GUARD WITH SHORT RADIUS TERMINAL ON SECONDARY ROAD OR DRIVEWAY

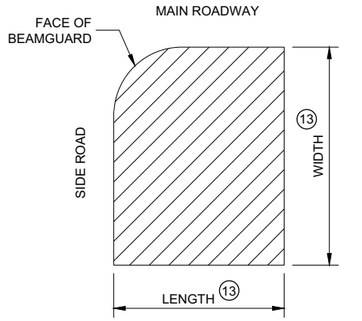


PLAN VIEW

SHORT RADIUS BEAM GUARD WITH EAT, ADDITIONAL BEAM GUARD OR TRANSITION TO RIGID BARRIER ON SECONDARY ROAD OR DRIVEWAY

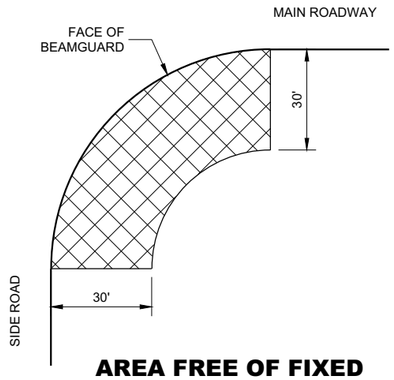
TABLE FOR RADIUS OF 32' AND LESS

RADIUS (FT)	LENGTH (FT)	WIDTH (FT)
8	25	15
16	30	15
24	40	20
32	50	30

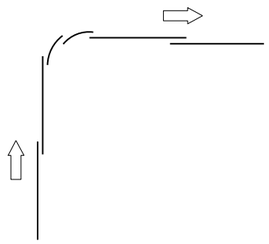


AREA FREE OF FIXED OBJECTS FOR RADIUS 32' AND LESS

16



AREA FREE OF FIXED OBJECTS FOR RADIUS GREATER THAN 32'



LAP SPLICE DETAIL

GENERAL NOTES

SEE PLANS FOR OTHER BARRIER SYSTEM AND LOCATION SPECIFICS.

SEE SDD 14B42 FOR MORE INFORMATION ON BEAM GUARD INSTALLATION, PARTS, MATERIALS, AND INSTALLATION INFORMATION.

GALVANIZE PARTS AFTER FABRICATION.

WELDING TO FOLLOW CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI / AWS D1.1.

UNLESS NOTED OTHERWISE, ALL PLATES ARE FLAT AND FREE OF WARP.

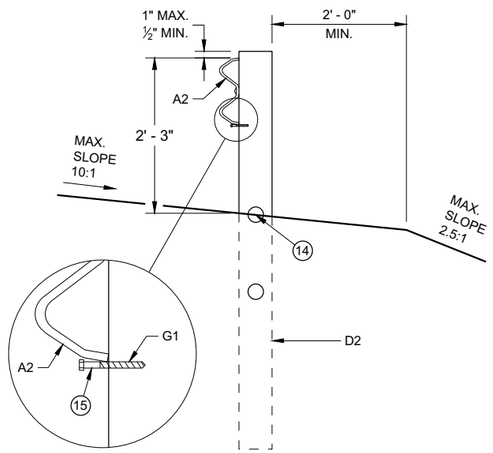
UNLESS NOTED OTHERWISE, ALL EDGES ARE SMOOTH, STRAIGHT AND VERTICAL.

ALL CUTS AND HOLES, EXCEPT IN BEAM GUARD RAIL ARE TO BE MACHINED OR MACHINE FLAME CUT.

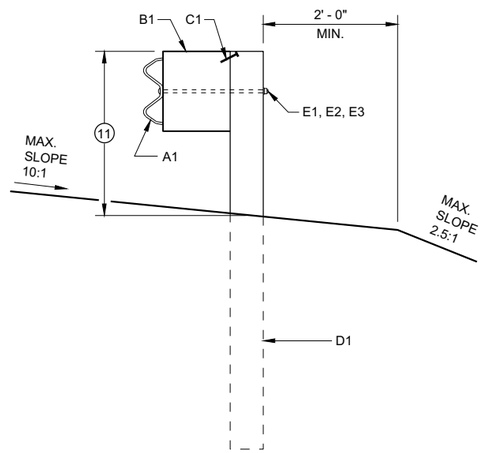
UNLESS NOTED OTHERWISE, CUT OR PROVIDE BOLTS THAT ARE ¼" TO ½" BEYOND THE NUT.

DRAWINGS ARE NOT TO SCALE.

1. RADIUS MEASURE FROM INSIDE OF RAIL. LENGTH OF BEAM GUARD SHORT RADIUS GUARD MEASURED ALONG TRAFFIC SIDE OF RAIL. RADIUS BETWEEN 8 FEET TO 150 FEET. SEE PLAN FOR REQUIRED RADIUS. BEAM GUARD RAIL IN RADIUS IS SHOP BENT. ODD RAIL LENGTH OR FIELD CUTS MAY BE REQUIRED.
2. CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE USED IN THE RADIUS. CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE SPACED 6' - 3". SEE PLAN FOR NUMBER OF CONTROLLED RELEASE (CRT) POSTS.
3. WITHIN RADIUS BEAM GUARD RAILS ARE NOT BOLTED TO POSTS. BEAM GUARD RAIL IS RESTED ON TOP OF LAG SCREW.
4. MINIMUM LENGTH OF BEAM GUARD ALONG SIDE ROAD OR DRIVEWAY TO INSTALL SHORT RADIUS TERMINAL. BEAM GUARD IS PAID WITH BEAM GUARD ITEM.
5. ODD LENGTH OF BEAM GUARD REQUIRED TO INSTALL SHORT RADIUS TERMINAL.
6. MINIMUM AMOUNT OF BEAM GUARD TO BE INSTALLED PRIOR TO TRANSITION TO RIGID BARRIER. ADDITIONAL BEAM GUARD, OR EAT. BEAM GUARD PAID FOR WITH BEAM GUARD ITEM. SEE PLANS FOR MORE DETAIL.
7. BEAM GUARD, EAT, OR TRANSITION TO RIGID BARRIER. SEE PLAN.
8. TOP OF BEAM GUARD BY THE RADIUS IS 27". HEIGHT OF BEAM GUARD IS 31" BY TRANSITION TO RIGID BARRIER, ADDITIONAL BEAM GUARD OR EAT.
9. ADDITIONAL BEAM GUARD, EAT OR TRANSITION TO RIGID BARRIER. BEAM GUARD SHOWN. SEE PLAN FOR DETAILS.
10. SHORT RADIUS TERMINAL (SEE OTHER DETAILS).
11. HEIGHT VARIES. SEE NOTE 8 AND 8 .
12. BEAM GUARD RAIL SPLICE LOCATION. SPLICE LOCATION REQUIRES PART F1 AND F2. SEE SDD 14B42 FOR DETAILS.
13. SEE TABLE FOR VALUES.
14. MAXIMUM HEIGHT FOR CENTER OF HOLE IS ¾" ABOVE FINISHED GROUND ±1".
15. DRILL POST $^{15}/_{64}$" DIA. PILOT HOLE. DO NOT HAMMER LAG SCREW INTO POST.
16. SMALL SIGNS ON BREAKAWAY HARDWARE ARE ACCEPTABLE.
17. TOP OF RAIL HEIGHT IS 27" WHEN USING A SHORT RADIUS TERMINAL (CRT).



CONTROLLED RELEASE TERMINAL POST (CRT) IN RADIUS



BEAM GUARD POSTS IN HEIGHT TRANSITION

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

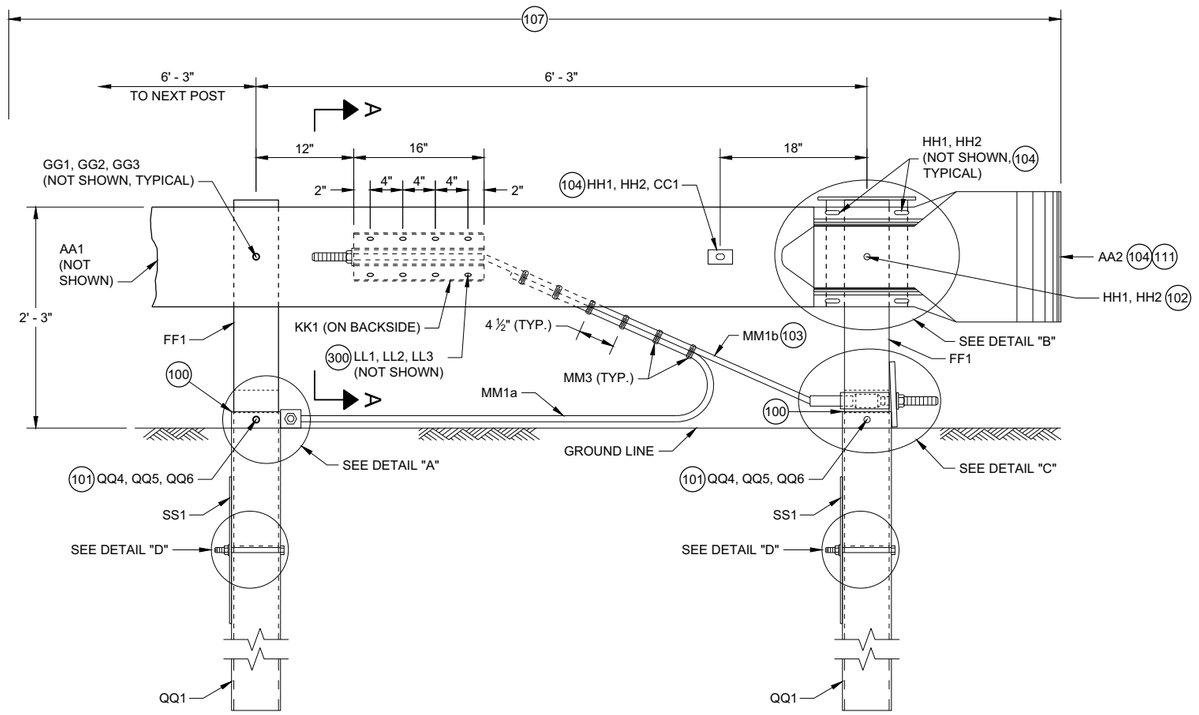
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B53 - 01a

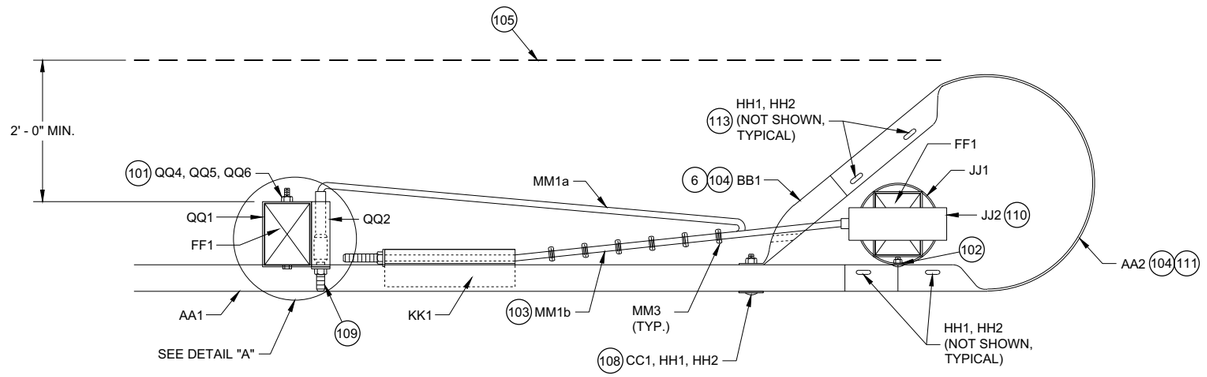
6

SDD 14B53 - 01a



PROFILE VIEW

SHORT RADIUS TERMINAL



TOP VIEW

SHORT RADIUS TERMINAL

GENERAL NOTES

100 TOP OF FOUNDATION TUBE 2 INCHES MAXIMUM ABOVE FINISHED GROUND.

101 WASHERS REQUIRED BETWEEN BOLT HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

102 SPLICE BOLT AND NUT CONNECTS BEAM GUARD RAIL, W-BEAM SECTION BUFFER, AND STEEL PIPE ASSEMBLY. NO WASHER REQUIRED. SEE DETAIL "B".

103 CABLE IS TAUT.

104 ADJUST AA2 AND BB1 TO FIT.

105 BREAK POINT OF SHOULDER.

106 TACK WELD CABLE CONNECTOR TUBE PLATE TO CABLE CONNECTION TUBE. SEE DETAIL "A" PROFILE VIEW.

107 PAY LIMIT FOR BEAM GUARD.

108 SQUARE WASHER BETWEEN HEAD OF BOLT AND TRAFFIC FACE OF BEAM GUARD. ROUND WASHER REQUIRED BETWEEN NUT AND BB1.

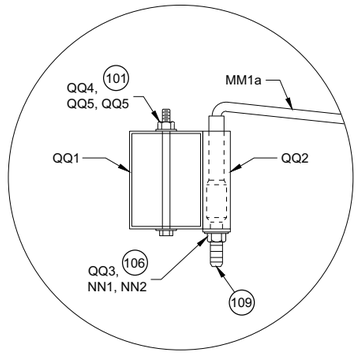
109 CUT OR PROVIDE THREADED STUD THAT IS FLUSH WITH FACE OF BEAM GUARD RAIL KK1 (PLUS OR MINUS ½" TOLERANCE). DEBURR AFTER CUTTING.

110 SEE STEEL PIPE ASSEMBLY DETAILS.

111 ATTACH UU2 WITH UU3. SHOP APPLY UU1 TO UU2.

112 FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA1 TO AA2.

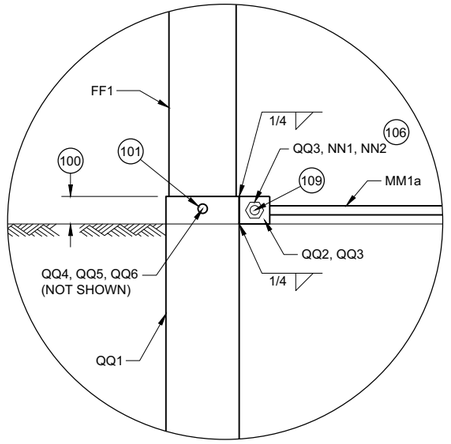
113 FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA2 TO BB1.



TOP VIEW

DETAIL "A"

(WOOD BREAKAWAY AND BEAM GUARD RAIL POSTS NOT SHOWN)



PROFILE VIEW

DETAIL "A"

6

SDD 14B53 - 01b

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

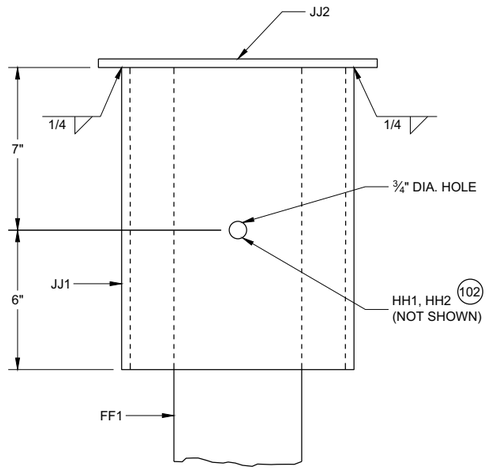
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B53 - 01b

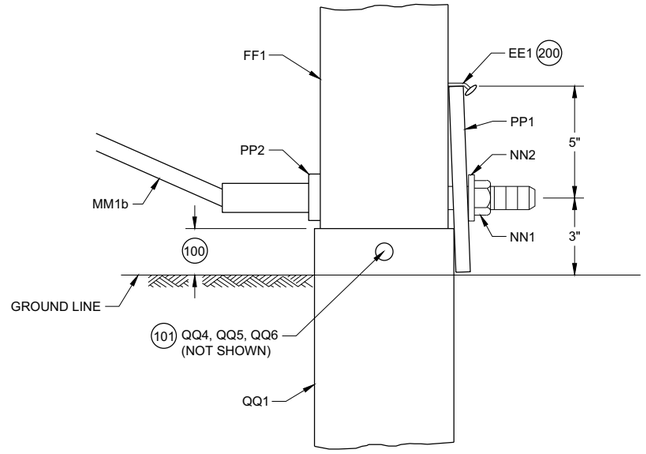
GENERAL NOTES

(200) TWO (2) NAILS SPACED 4 INCHES CENTER TO CENTER.



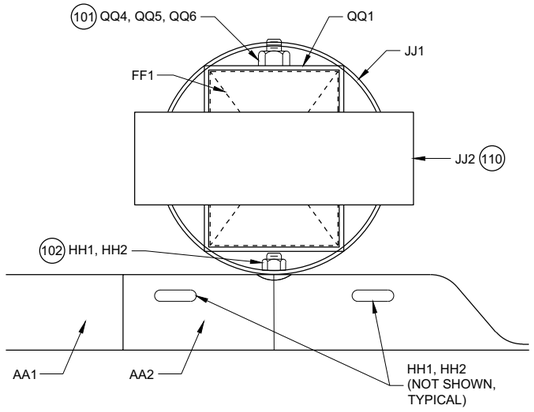
PROFILE VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY
(BEAM GUARD AND W BEAM END SECTION NOT SHOWN)



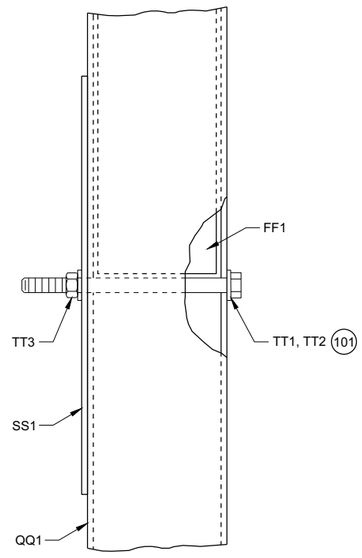
PROFILE VIEW

DETAIL "C"



PLAN VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY



PROFILE VIEW

DETAIL "D"

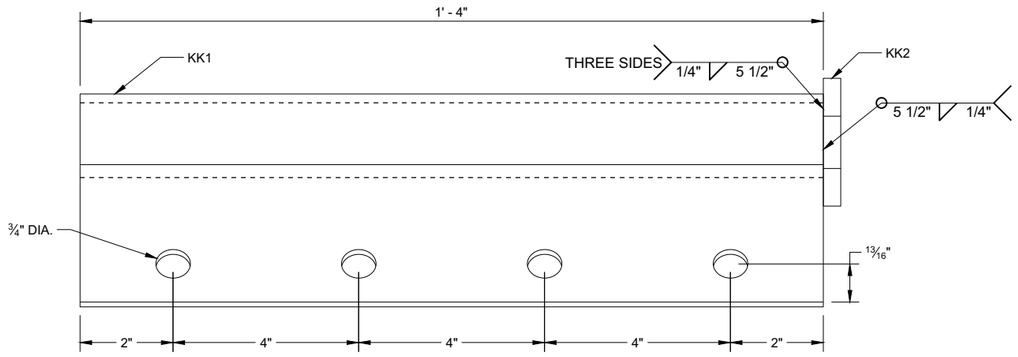
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

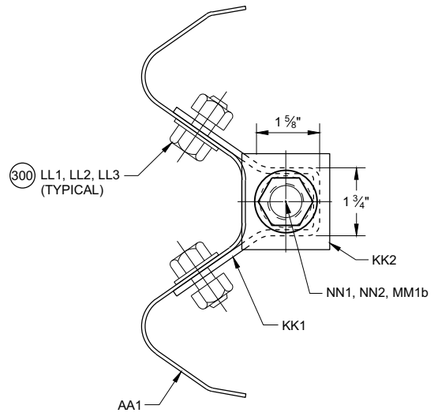
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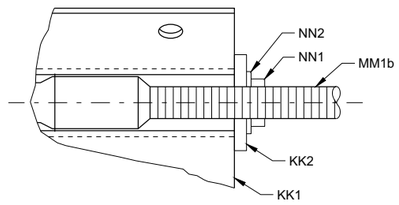
SDD 14B53 - 01c

GENERAL NOTES

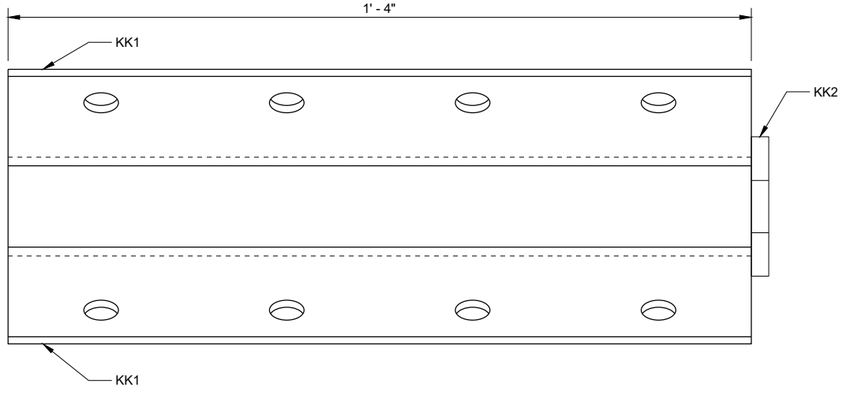
(300) WASHERS REQUIRED BETWEEN BOLT HEAD AND BEAM GUARD RAIL AND BETWEEN NUT AND ANCHOR BRACKET. EIGHT (8) LL1 AND LL3 REQUIRED. SIXTEEN (16) LL2 REQUIRED.

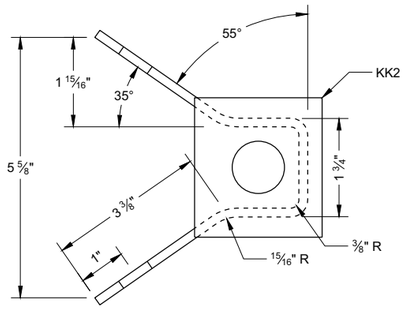




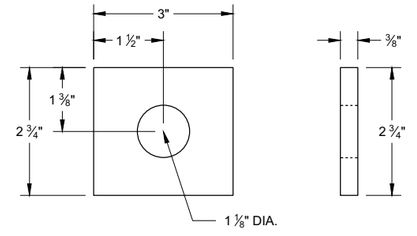


SECTION A - A





ANCHOR BRACKET (KK1, KK2)



ANCHOR BRACKET BEARING PLATE (KK2)

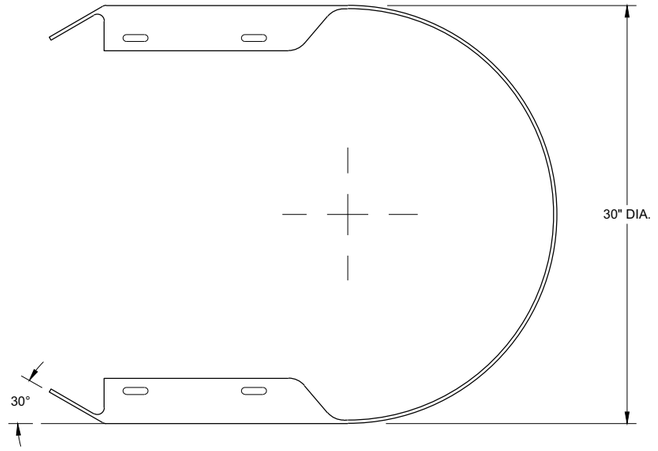
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

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SDD 14B53 - 01d

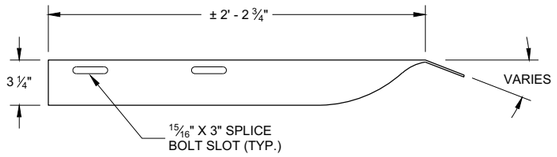
GENERAL NOTES

(400) CROSS SECTION OF PART IS TO FIT OVER AA1 .

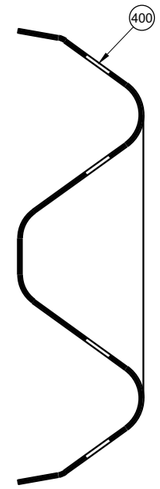
(401) CROSS SECTION OF PART IS TO FIT OVER OR UNDER AA1 .



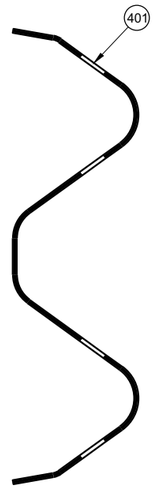
TOP VIEW



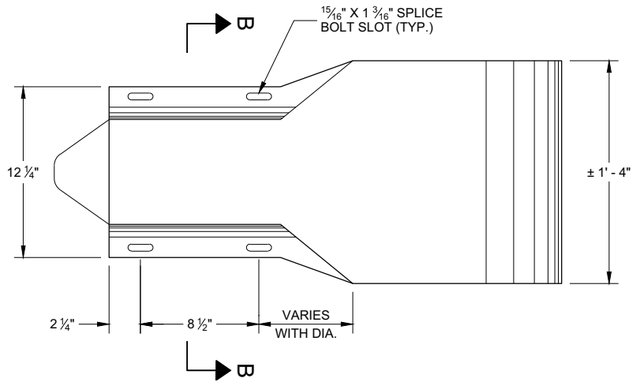
TOP VIEW



SECTION B -B

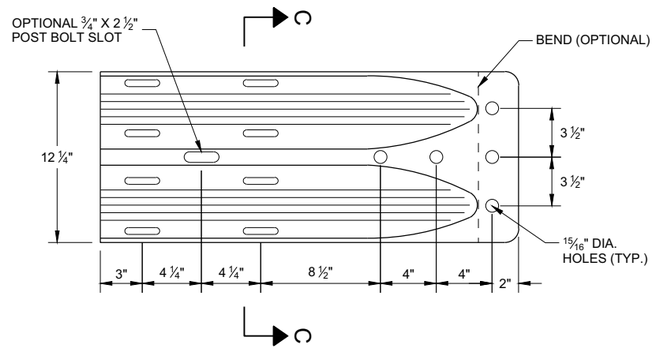


SECTION C -C



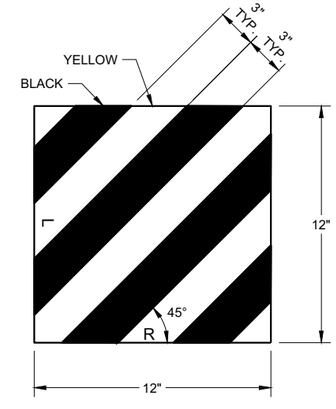
PROFILE VIEW

W BEAM
END SECTION BUFFER (AA2)



PROFILE VIEW

W BEAM
TERMINAL CONNECTOR (BB1)

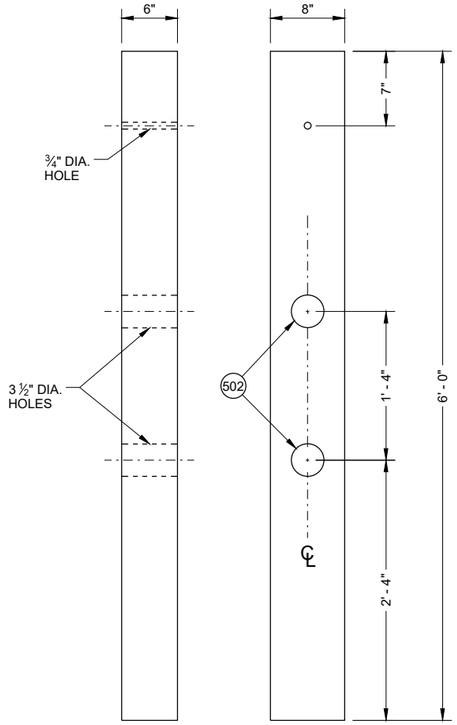


REFLECTIVE SHEETING (UU1, UU2)

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

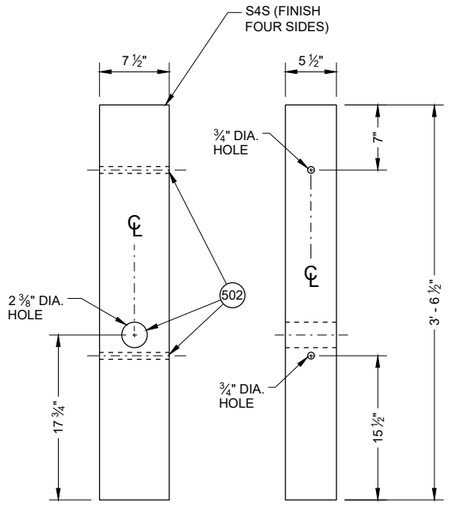
SDD 14B53 - 01e

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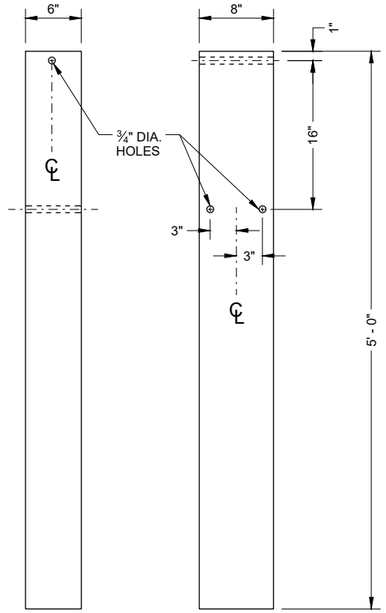
FRONT VIEW SIDE VIEW

CONTROLLED RELEASE POST (CRT) (DD2)



FRONT VIEW SIDE VIEW

WOOD BREAKAWAY POST (FF1)



FRONT VIEW SIDE VIEW

FOUNDATION TUBE (QQ1) 500

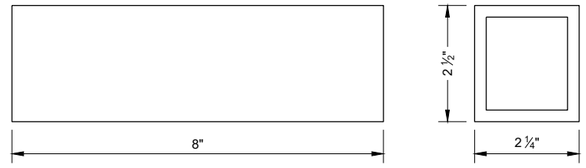
GENERAL NOTES

500 SEE DETAIL "D" FOR LOCATION AND ATTACHMENT OF SS1.

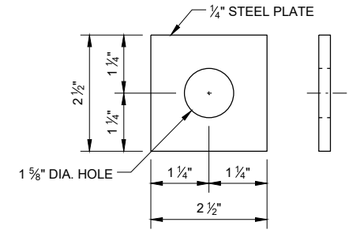
501 FOR MM1a THREADED STUD ONLY REQUIRED ON ONE END. SWAGED FITTING REQUIRED.

502 LOCATE HOLES ON THE CENTERLINE OF THE SIDE OF THE POST.

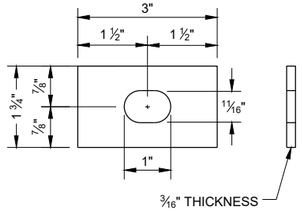
503 MM1a MAY HAVE ONE THREADED STUD 4 INCHES LONG. SEE NOTE 109.



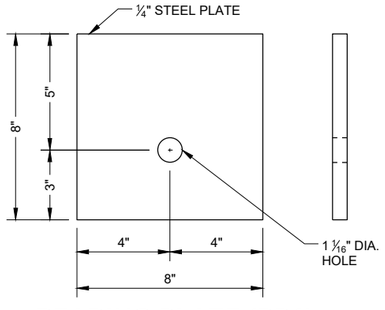
FOUNDATION TUBE - ANCHOR CABLE TUBE (QQ2)



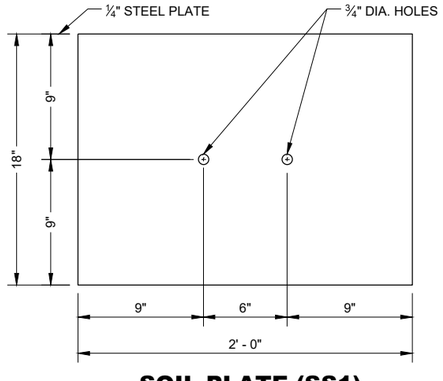
ANCHOR CABLE TUBE END PLATE (QQ3)



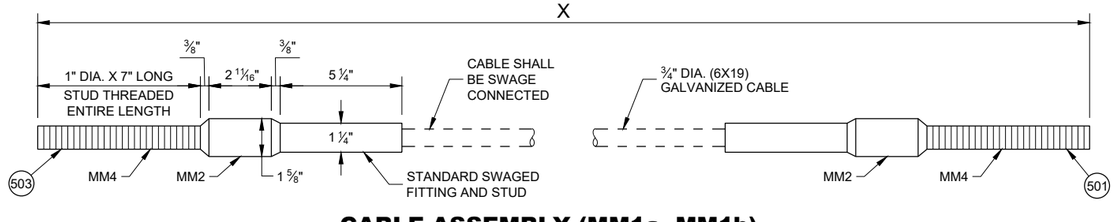
RECTANGULAR PLATE WASHER (CC1)



BEARING PLATE (PP1)



SOIL PLATE (SS1)



CABLE ASSEMBLY (MM1a, MM1b)

"X" LENGTH

MM1b	9' - 0"
MM1b	6' - 8"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B53 - 01f

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	BEAM GUARD RAIL	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
A2	BEAM GUARD RAIL - SHOP BENT	INDICATE ON BACK OF RAIL THE RADIUS THAT RAIL WAS BENT TO. SHOP BEND RADIUS IS TO THE NEAREST FOOT. FOLLOW AASHTO M180 ON HOW TO MARK RADIUS INFORMATION.	
		AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
B1	BLOCK - WOOD	WISDOT SPEC. 614	SEE SDD 14B42
C1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEAD)	
D1	POST-STRONG POST-WOOD	WISDOT SPEC. 614	SEE SDD 14B42
D2	POST-CRT-WOOD	WISDOT SPEC. 614	
E1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
E2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	5/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
E3	POST BOLT - NUT	AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
F1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
F2	SPLICE BOLT - NUT	ASTM A563 GRADE A	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
G1	LAG SCREW	ASTM A308 GRADE A ASTM A153 CLASS D	1/2" DIA. 6" LONG
H1	DELINEATOR - BEAM GUARD		SEE SDD 14B42 FOR MORE INFORMATION
H2	DELINEATION - SHEETING	YELLOW OR WHITE	
		WISDOT SPEC 637 TYPE SH	
		APPROVED PRODUCT LIST	
J1	FOUNDATION BACKFILL	STANDARD SPEC. 614	
AA1	BEAM GUARD RAIL - PUNCHED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
AA2	BEAM GUARD RAIL - END SECTION BUFFER	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
BB1	BEAM GUARD RAIL - TERMINAL CONNECTOR MODIFIED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
CC1	SHORT RADIUS - SQUARE WASHER	AASHTO M180	
		GALV. AASHTO M111 / ASTM A123	
EE1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)	
FF1	POST - BCT - WOOD	S4S FINISH ON 4 SIDES	
		WISDOT SPEC. 614	
GG1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	3/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		UNC	
GG2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	3/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C/ASTM A153 CLASS C / ASTM F2329	

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SDD 14B53 - 01g

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
GG3	POST BOLT - NUT	ASTM A563 GRADE A	⅜" DIA. SEE 14B42 FOR GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
HH1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180 HEAD GEOMETRY	
HH2	SPLICE BOLT - NUT	ASTM A563 GRADE A	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
JJ1	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	10" O.D.
JJ2	TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS ⅜" X 4" X 1' - 0"
		GALV. AASHTO M111 / ASTM A123	
KK1	ANCHOR BRACKET	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
KK2	ANCHOR BRACKET - BEARING PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
LL1	ANCHOR BRACKET - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	⅝" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
LL2	ANCHOR BRACKET - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	⅝" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
LL3	ANCHOR BRACKET - NUT	ASTM A563 GRADE A	⅝" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
MM1a	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM1b	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM2	ANCHOR CABLE - SWAGE FITTING	ASTM A576 GRADE 1035	
		SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. WITH A BREAKING STRENGTH 40,000 LBS.	
		GALV. AASHTO M111 / ASTM A123	
		ASME B30.26 FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING INTO CONNECTION: NAME OF MANUFACTURER OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE.	
MM3	WIRE ROPE CABLE CLAMPS	FF-C-450D TYPE 1 CLASS 1	¾"
		ASTM A153 HOT DIP CLASS D	
MM4	ANCHOR CABLE - SWAGE FITTING - STUD	ASTM F3125 GRADE A325 TYPE 1 OR SAE GRADE 5 OR ASTM A449 TYPE 1 HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
NN1	ANCHOR CABLE - NUT	ASTM A563 GRADE A	1" DIA.
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
NN2	ANCHOR CABLE - NUT - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	1" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B53 - 01h

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
PP1	BEARING PLATE AT POST	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
PP2	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	2" DIA. x 6" LONG
QQ1	FOUNDATION TUBE	ASTM A500 GRADE B	8" X 6" X 3/16"
		GALV. AASHTO M111 / ASTM A123	
QQ2	SHORT RADIUS - FOUNDATION TUBE - ANCHOR CABLE - TUBE	ASTM A500 GRADE B	DIMENSIONS 2 1/2" X 2 1/4" X 1/4" X 8"
		GALV. AASHTO M111 / ASTM A123	
QQ3	SHORT RADIUS - SOIL TUBE - ANCHOR CABLE - TUBE - END PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS 2 1/2" X 2 1/2" X 1/4"
		GALV. AASHTO M111 / ASTM A123	
QQ4	GROUND STRUT AND YOKE - BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
		ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	
		UNC	
QQ5	GROUND PLATE AND YOKE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
QQ6	GROUND STRUT AND YOKE - NUT	HEAVY HEX	5/8 DIA.
		UNC	
		ASTM A563 GRADE A	
		OVER TAPPED NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
SS1	SOIL PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / A123	
TT1	SOIL PLATE - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	5/8 DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
TT2	SOIL PLATE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
TT3	SOIL PLATE - NUT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
UU1	OBJECT MARKER - SHEETING	MUTCD / WISDOT OBJECT MARKER TYPE 3	PATTERN AND COLOR FOR SHEETING. SHEETING TYPE FOR MARKER.
		WISDOT SPEC 637 TYPE F	
		APPROVED PRODUCT LIST	
UU2	OBJECT MARKER - ALUMINUM PLATE	WISDOT SPEC 637 ALUMINUM PLATE	MATERIAL AND THICKNESS OF MATERIALS
UU3	OBJECT MARKER - SCREWS	STAINLESS SELF-TAPPING SCREWS	
VV1	FOUNDATION BACKFILL	WISDOT SPEC 614	

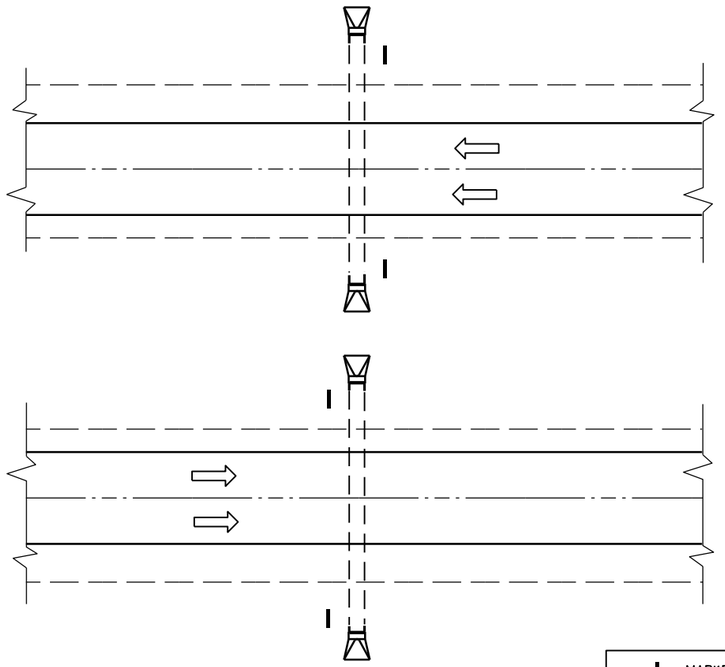
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

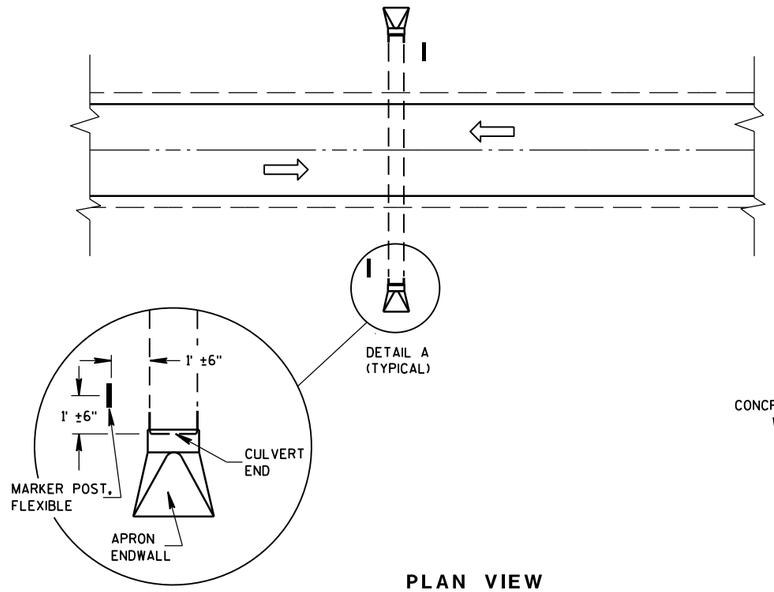
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SDD 14B53 - 01i



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

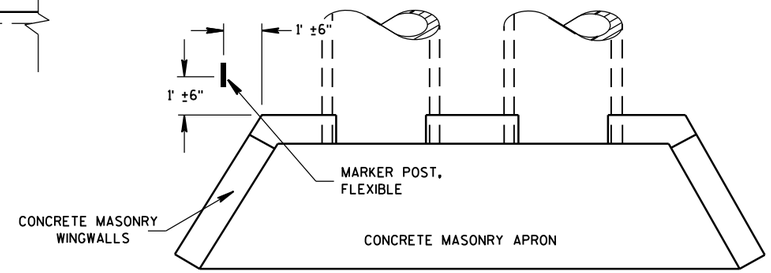
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

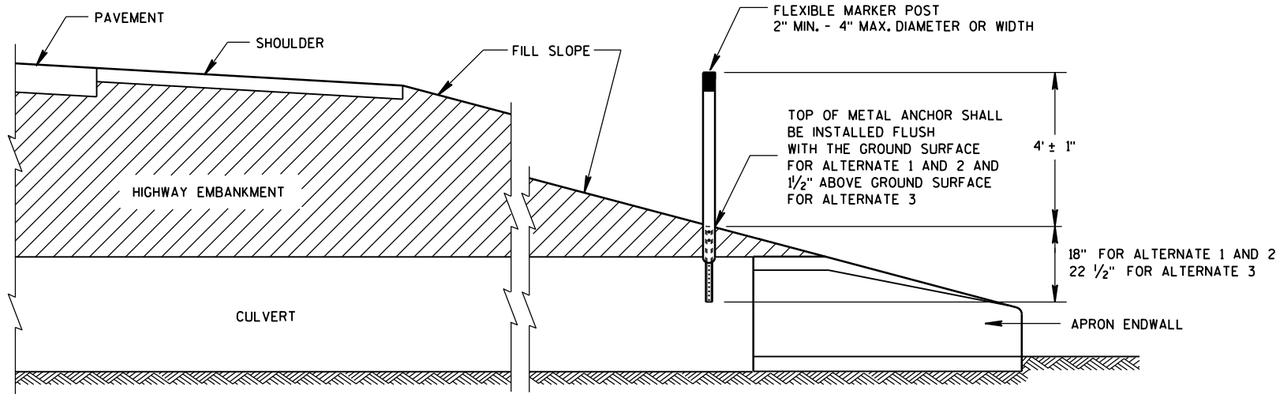
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

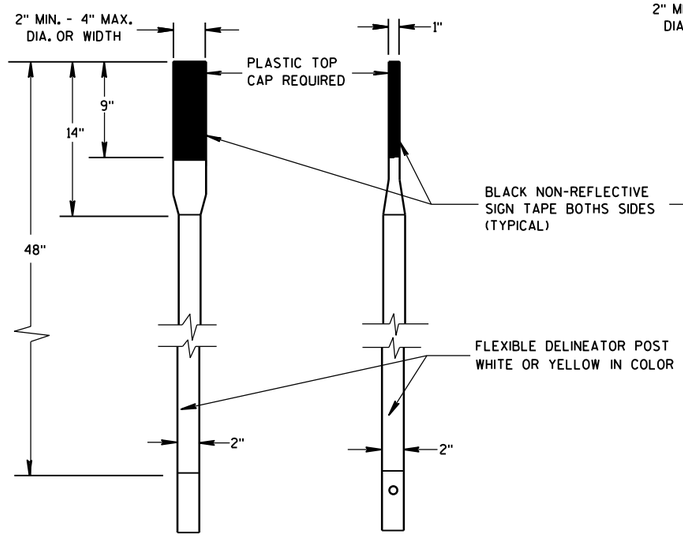
FLEXIBLE MARKER POST

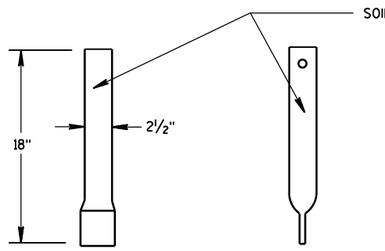
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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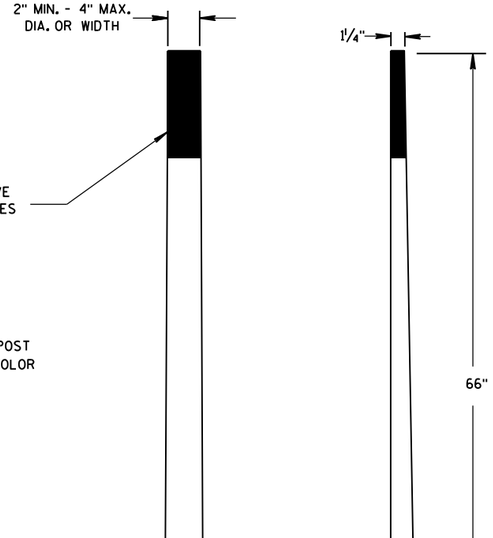
S.D.D. 15 A 3-2a





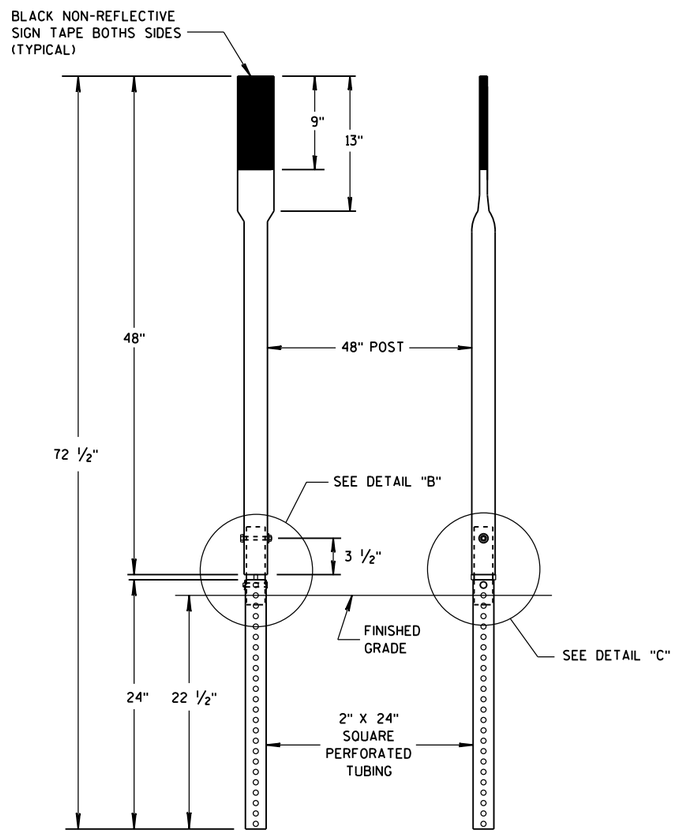
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

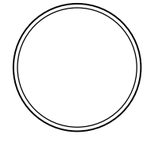
ALTERNATE 2



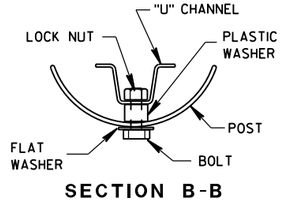
FRONT VIEW SIDE VIEW

ALTERNATE 3

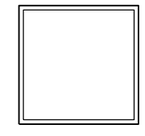
FLEXIBLE MARKER POSTS



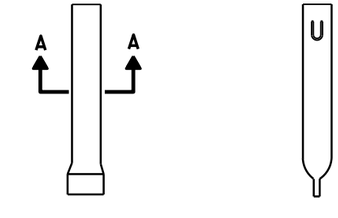
SECTION A-A



SECTION B-B

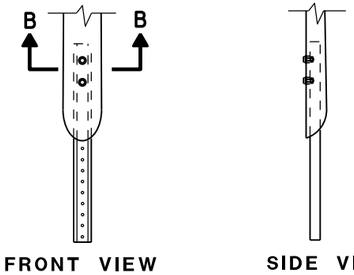


SECTION C-C



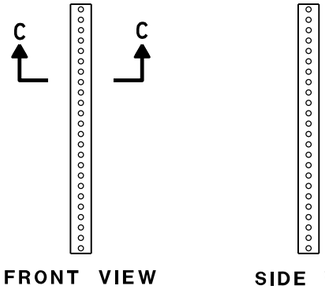
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

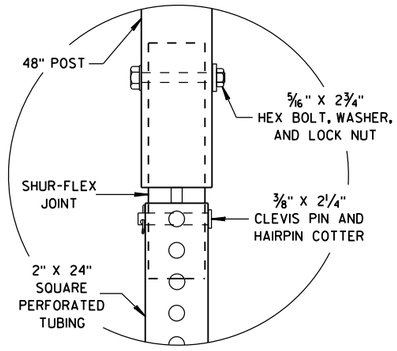
ALTERNATE 2



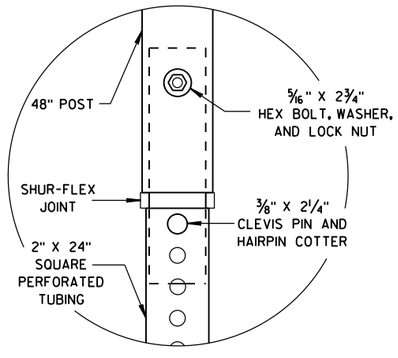
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

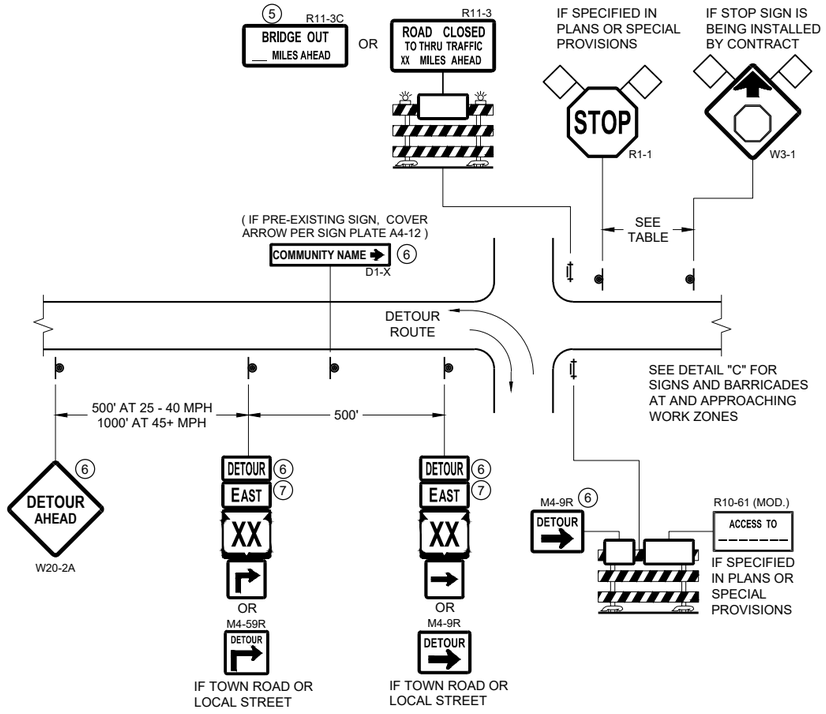
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

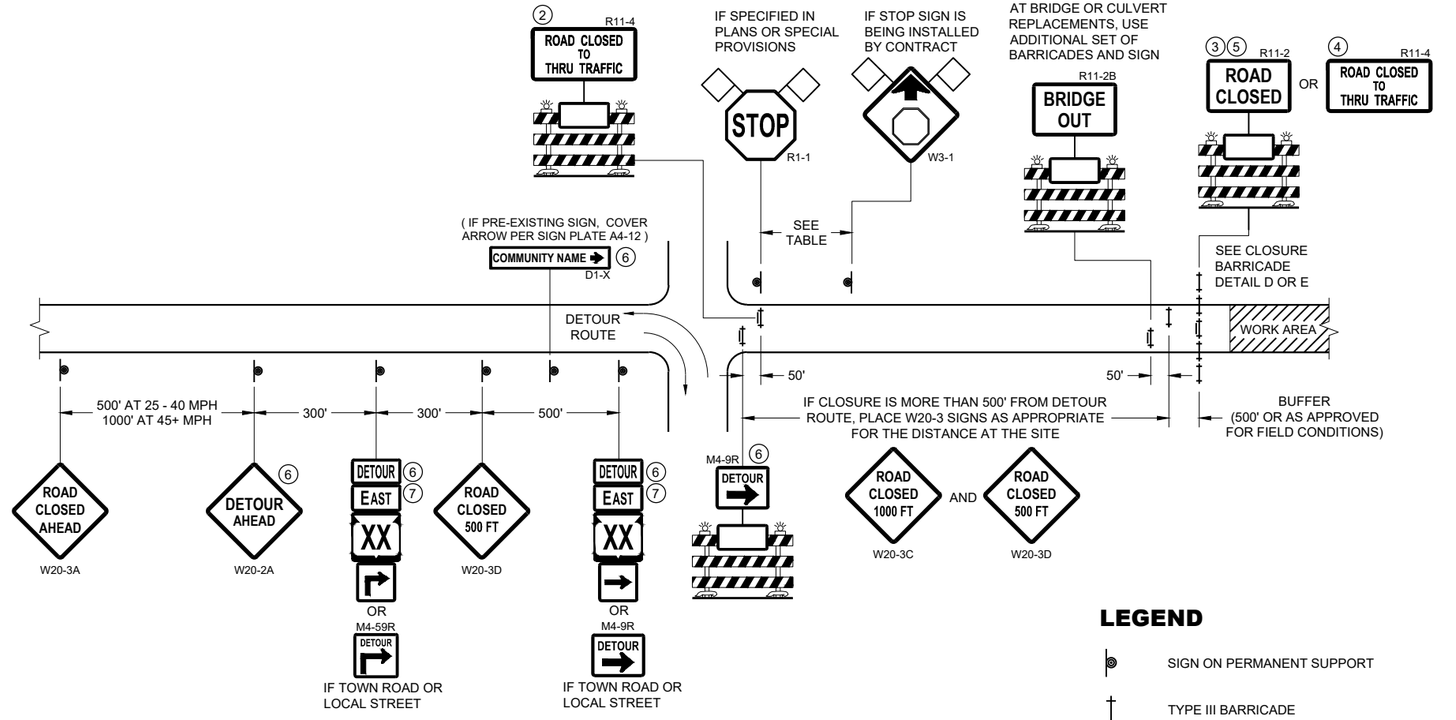
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S.D.D. 15 A 3-2b

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



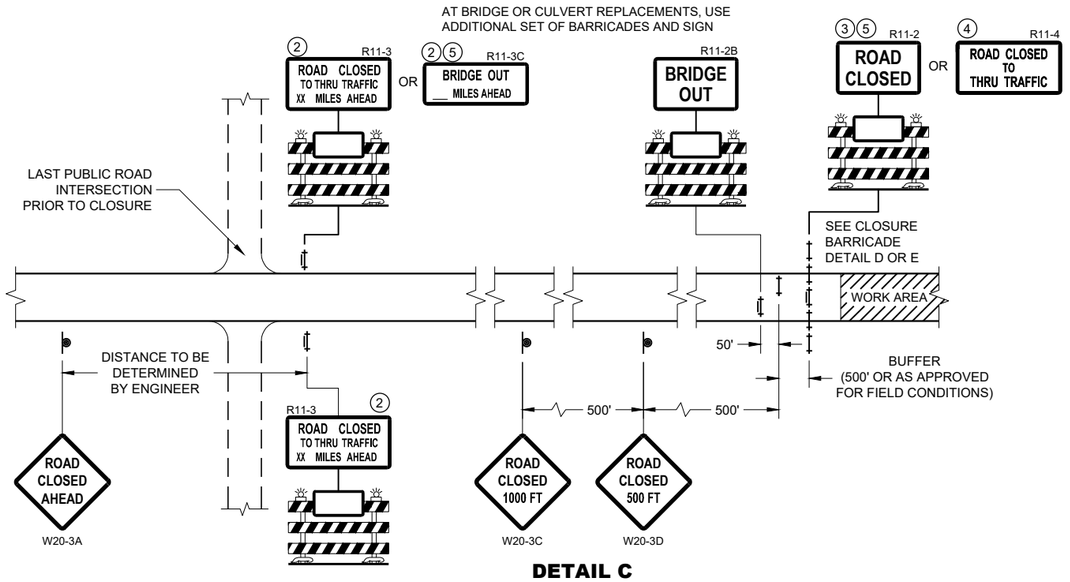


DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ 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-SHEET "b" FOR GENERAL NOTES AND FOOTNOTES ① THROUGH ⑦

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

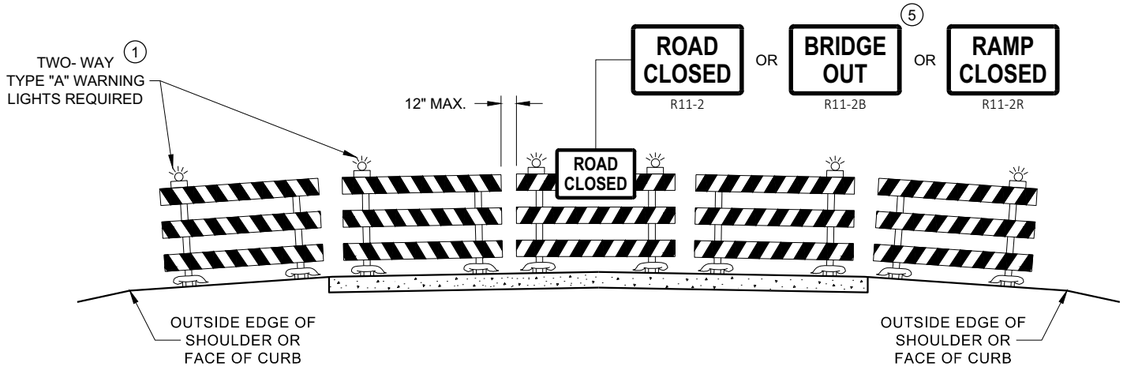
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

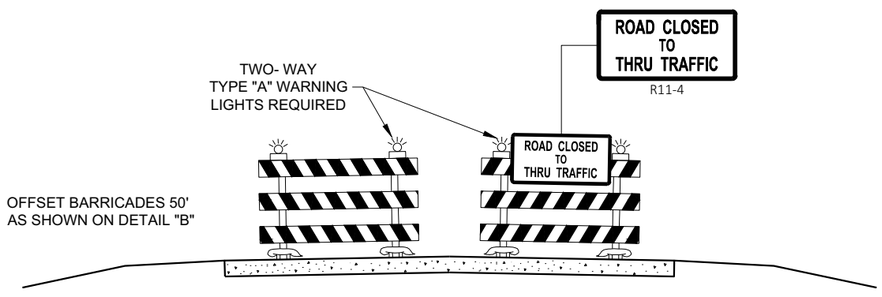
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SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" 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 THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"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 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" 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)
- MO5 - 1 AND MO6 - 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 AN 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 ROAD 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 VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

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SDD 15C02 - 08b

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SDD 15C02 - 08b

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

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.

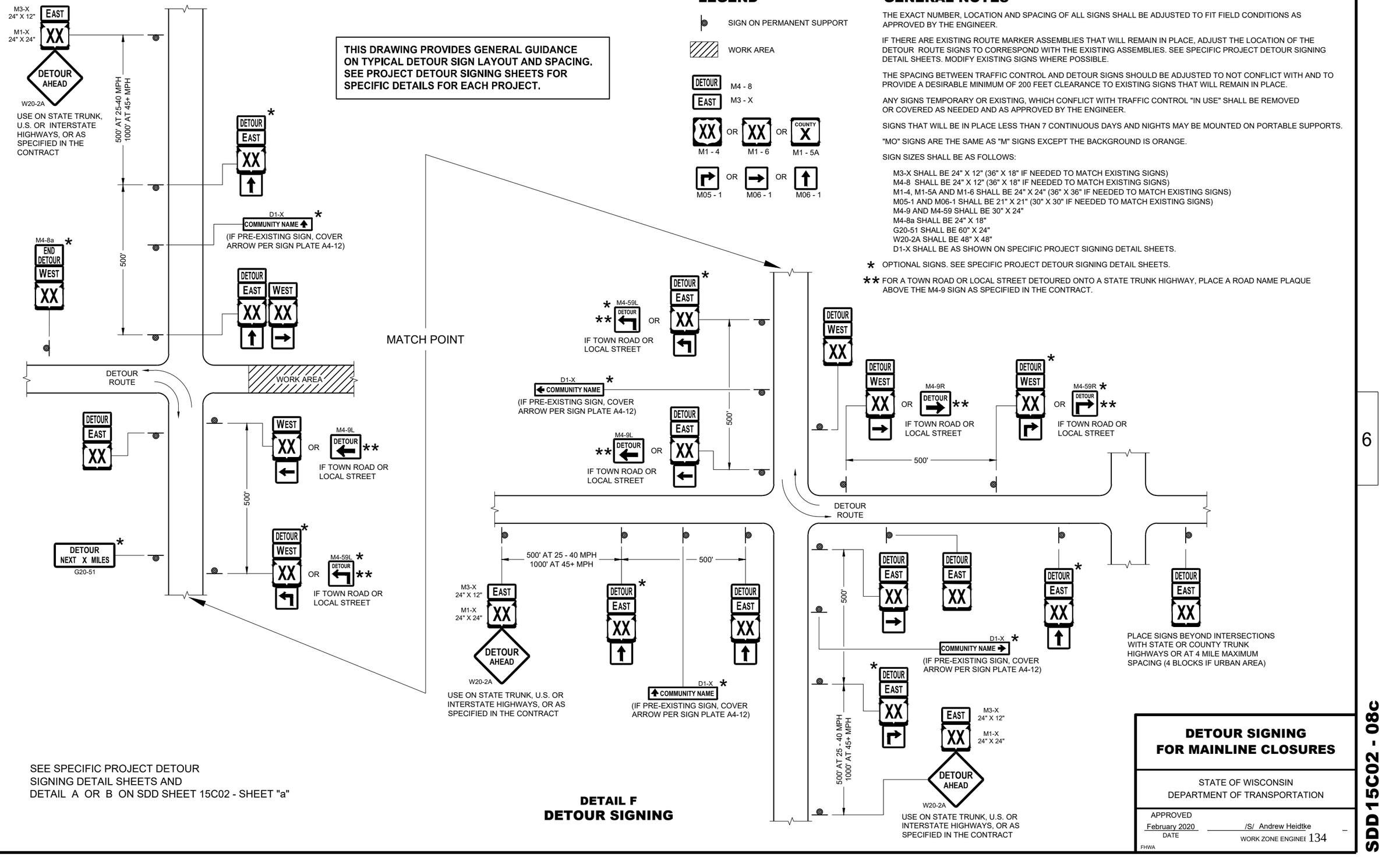
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" 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 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A 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.



SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

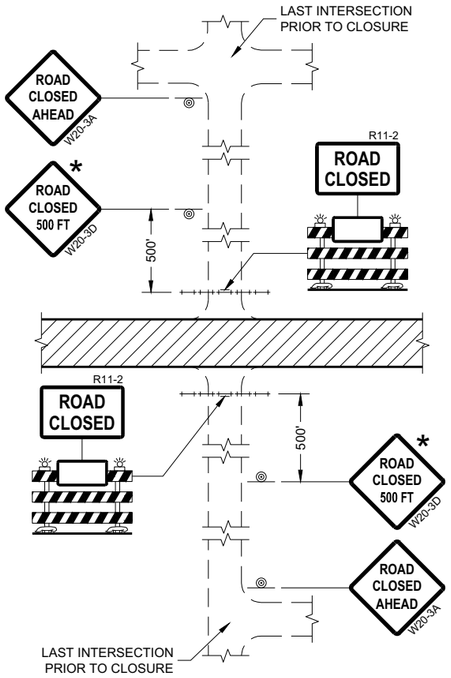
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

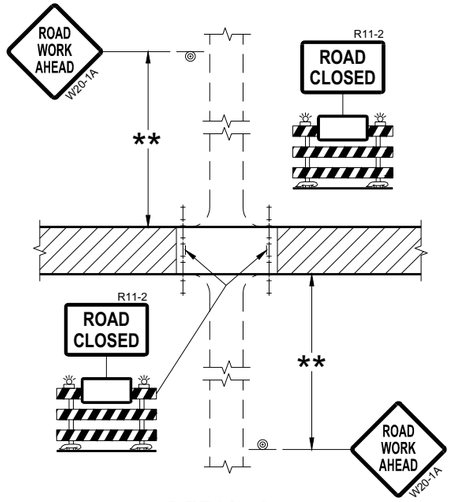
SDD 15C02 - 08c

SDD 15C02 - 08c

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DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)

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 (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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.

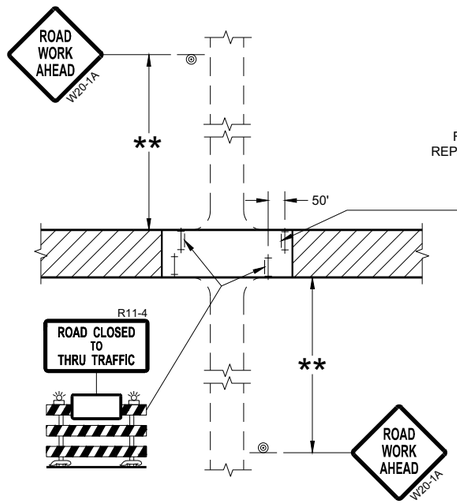
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, AND R11-4 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.

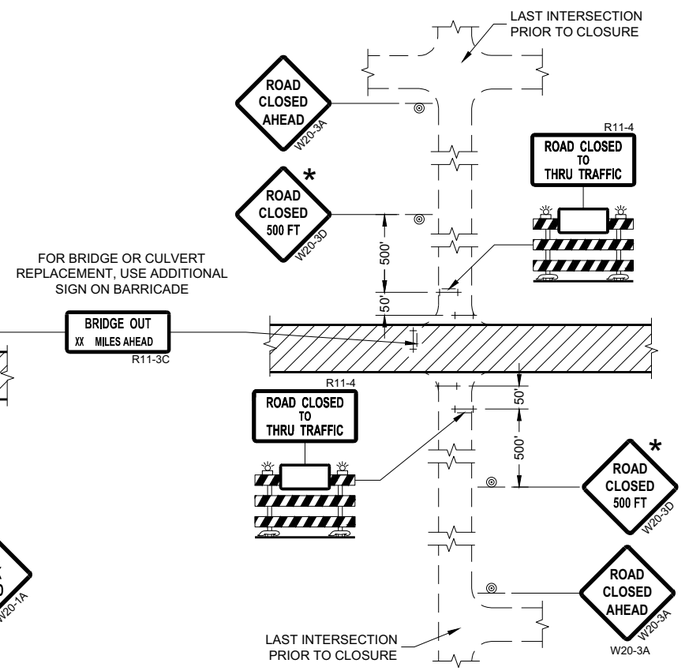
ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C03 - 05

SDD 15C03 - 05

GENERAL NOTES

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

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

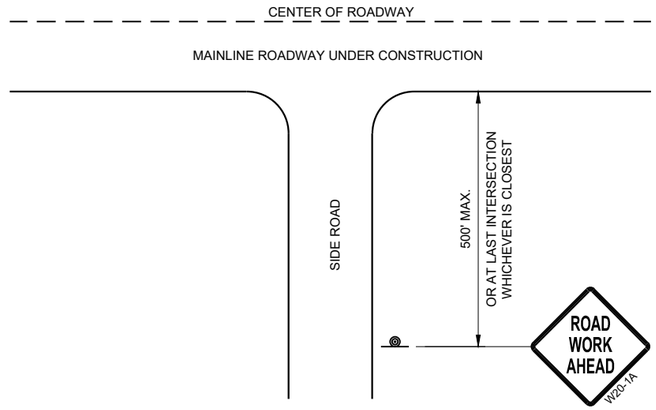
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS

** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



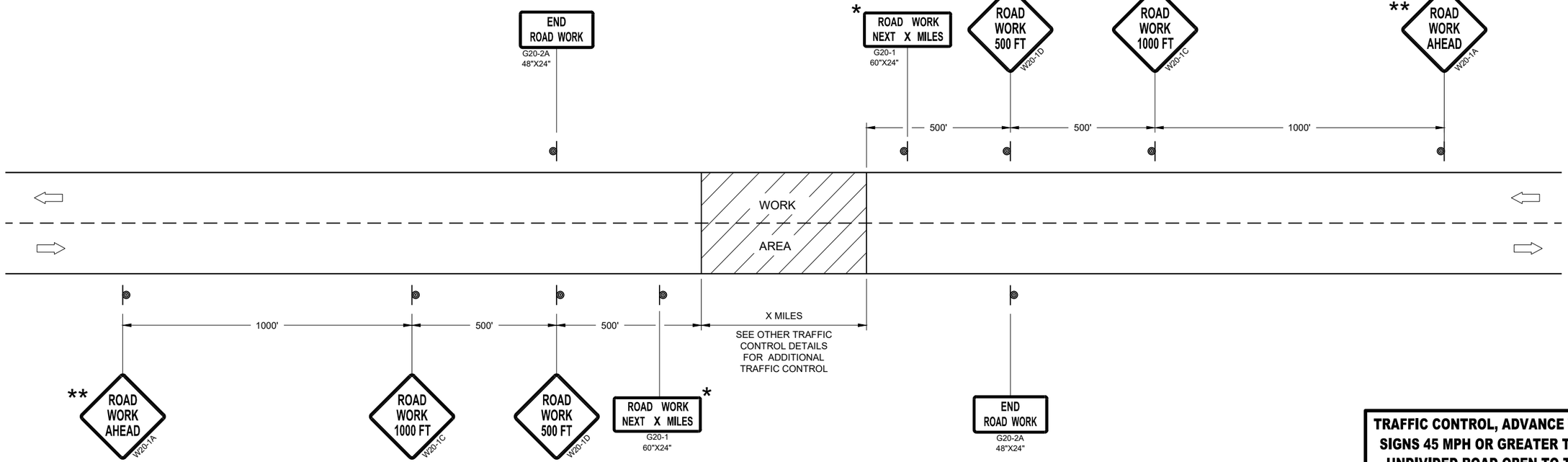
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

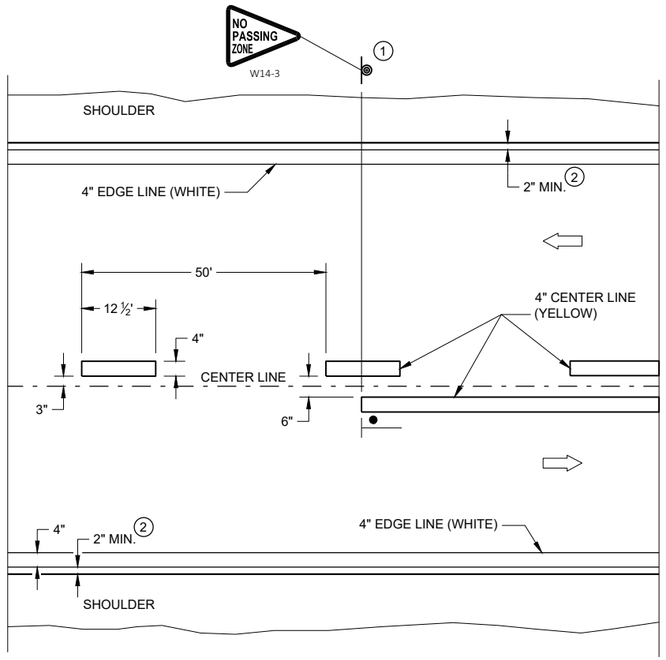
APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

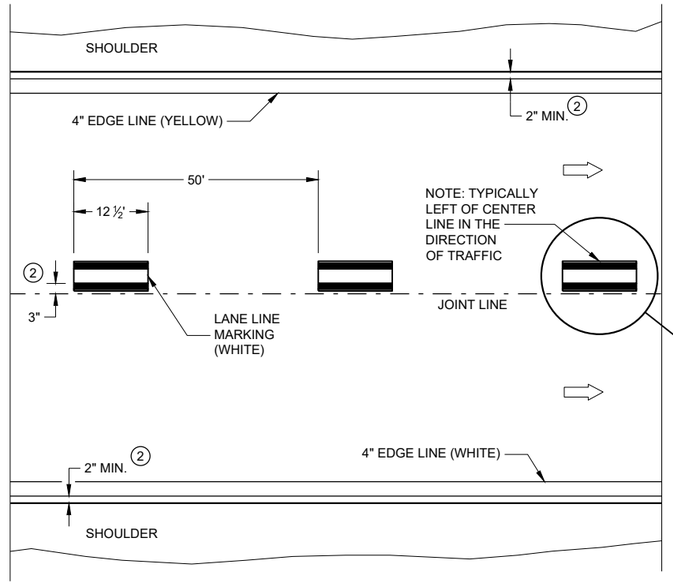
FHWA

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SDD 15C04 - 05

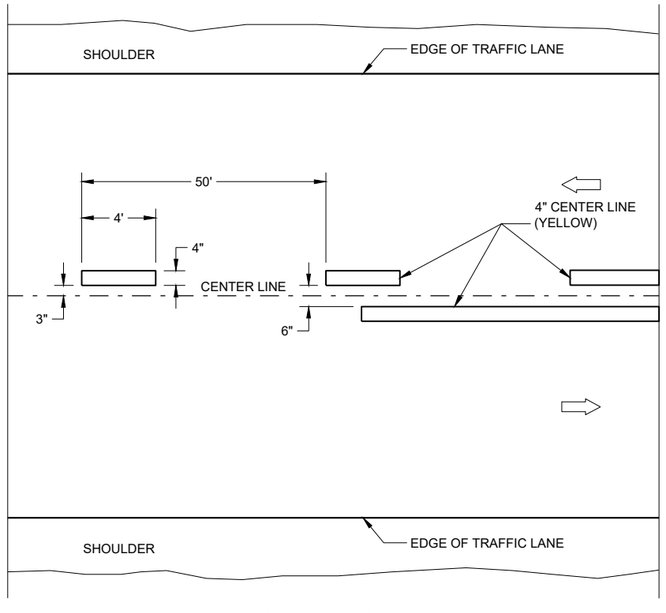


TWO WAY TRAFFIC

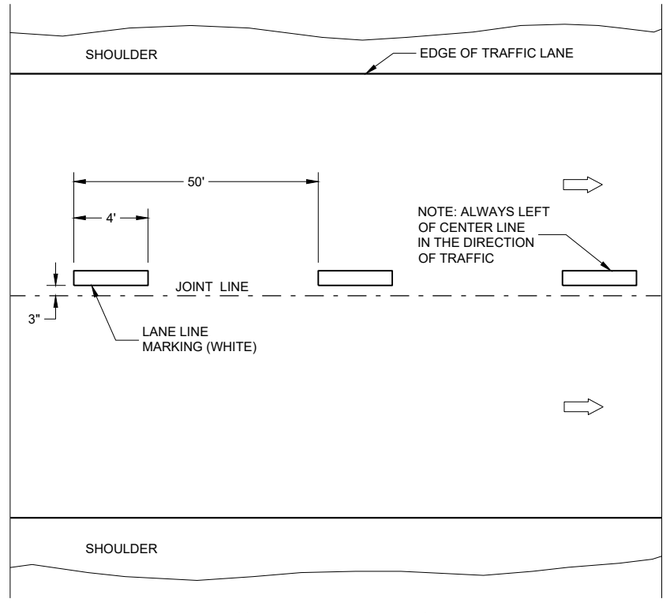


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

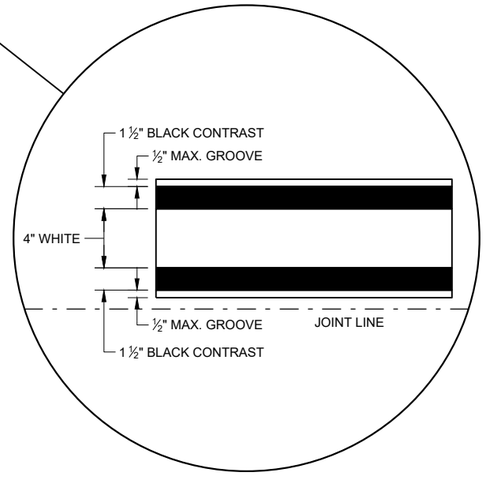
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

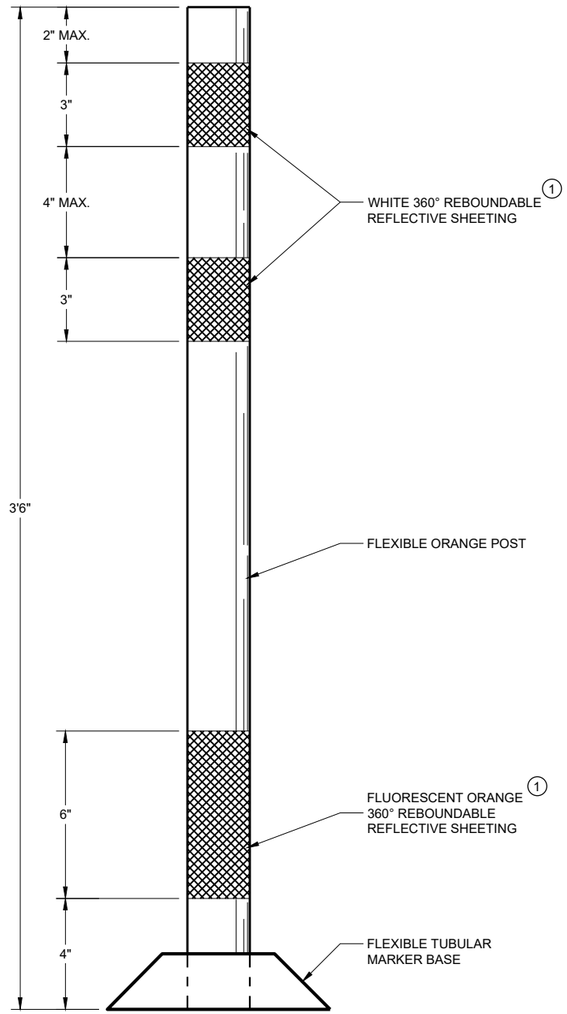
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

SDD 15C08 - 20a

SDD 15C08 - 20a



FLEXIBLE TUBULAR MARKER POST WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

6

CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST

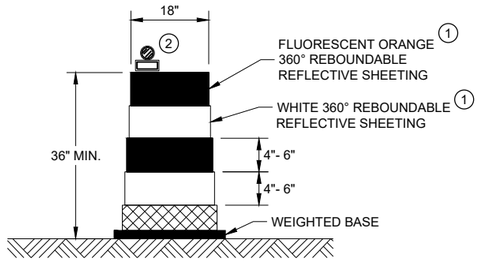
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

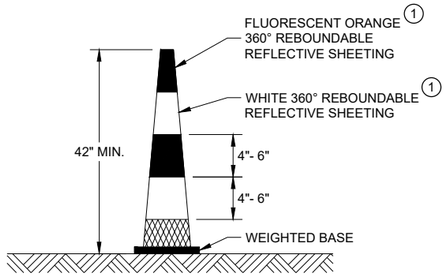
SDD 15C11 - 09a

GENERAL NOTES

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

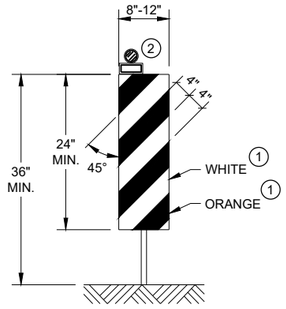


DRUM



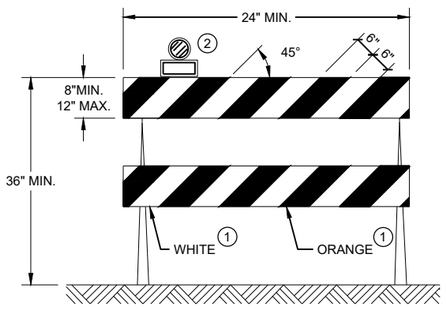
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



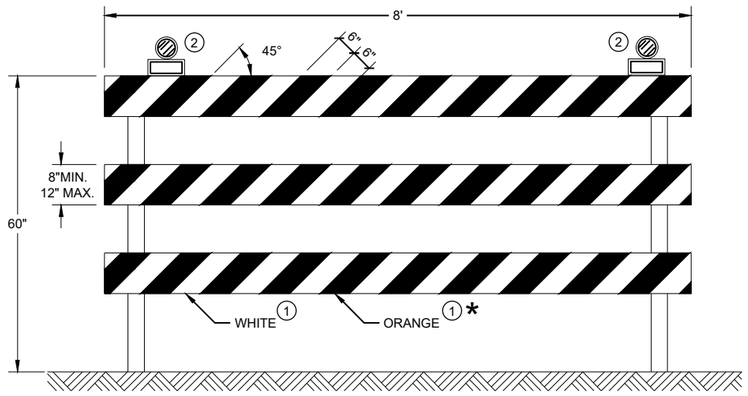
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

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

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

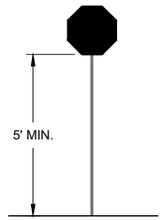
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



STOP/SLOW PADDLE ON SUPPORT STAFF

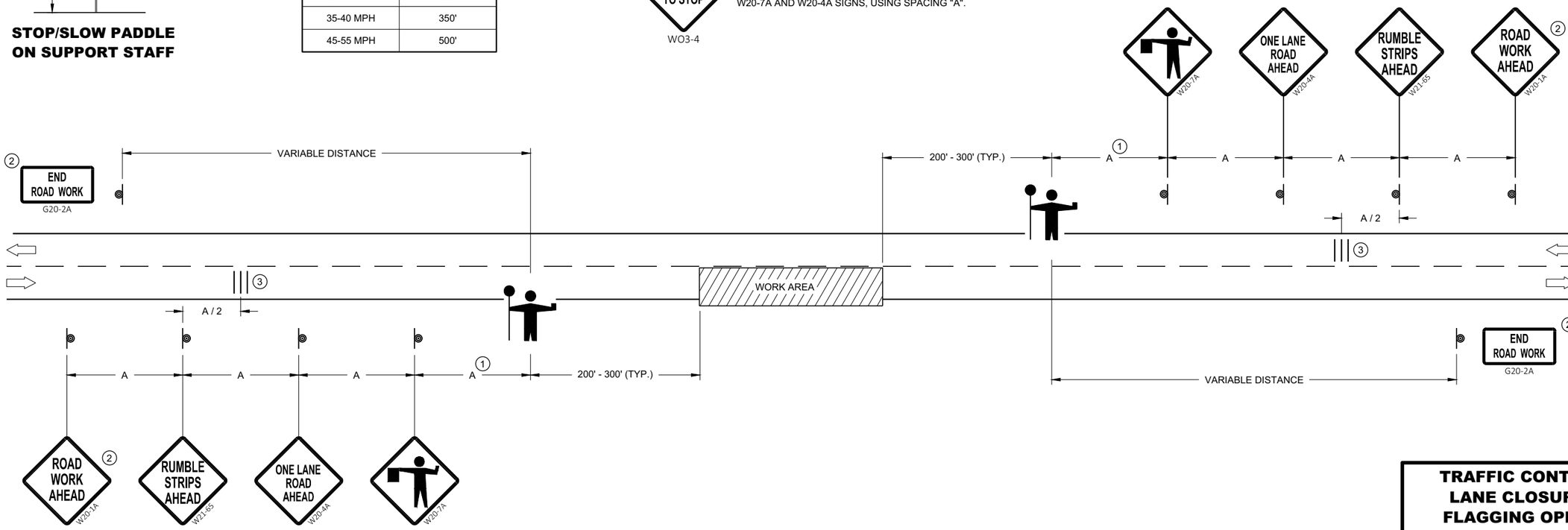
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C12 - 07

LEGEND

V1 LEAD VEHICLE

V2 MARKING VEHICLE

V3 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

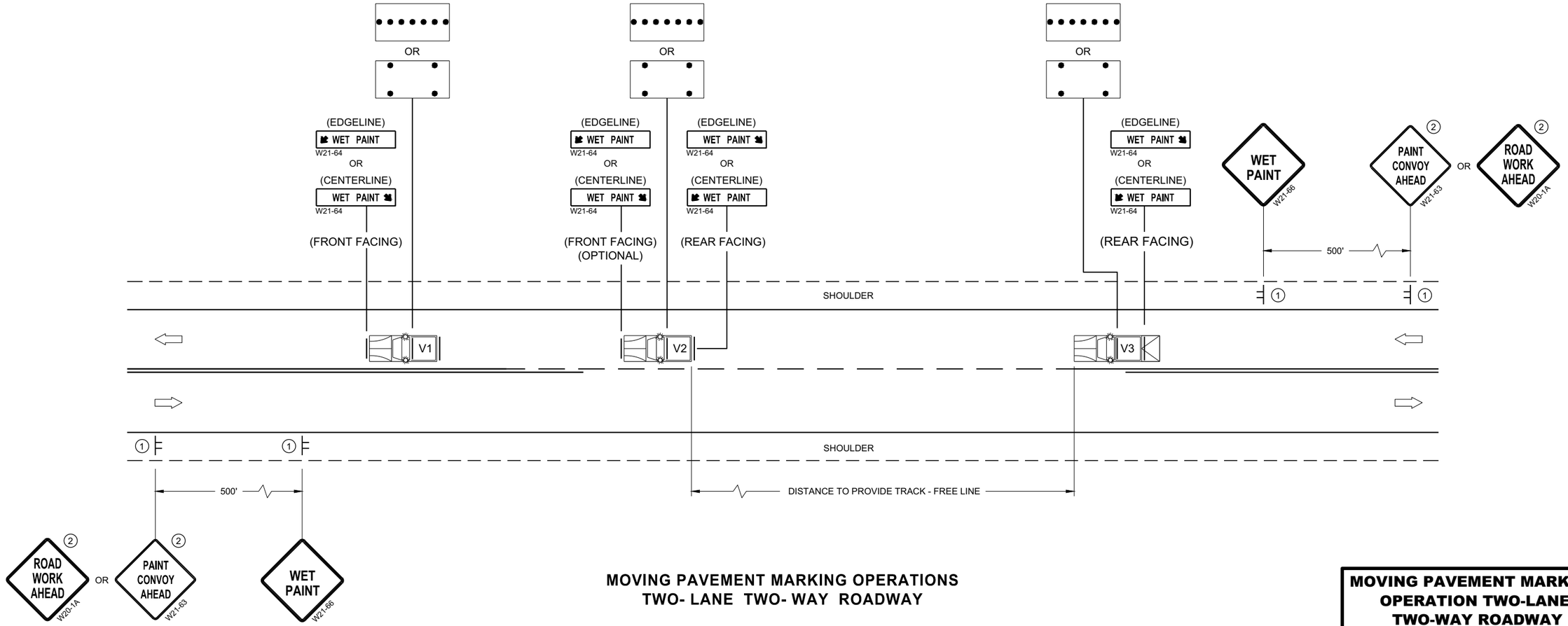
WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 18" FOR WET PAVEMENT MARKING .

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(2) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.



MOVING PAVEMENT MARKING OPERATIONS TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C19 - 06a

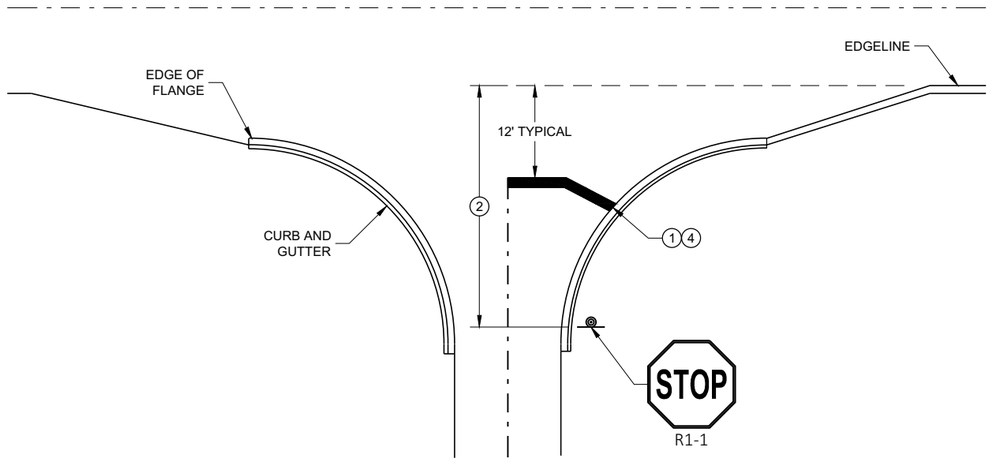
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SDD 15C19 - 06a

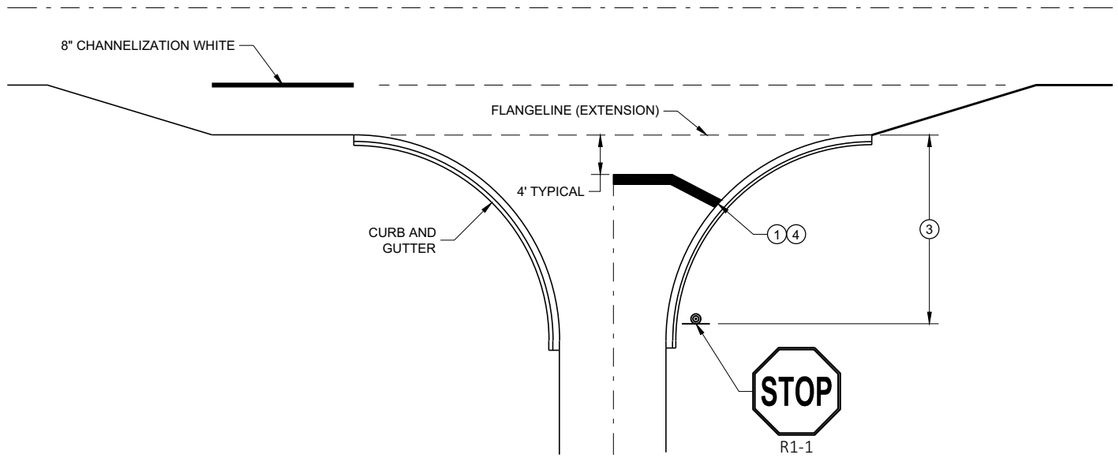
GENERAL NOTES

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

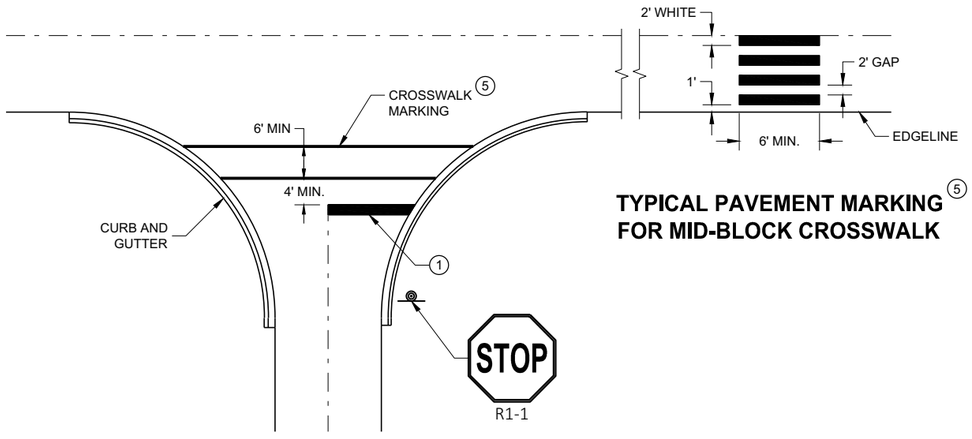
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE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



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

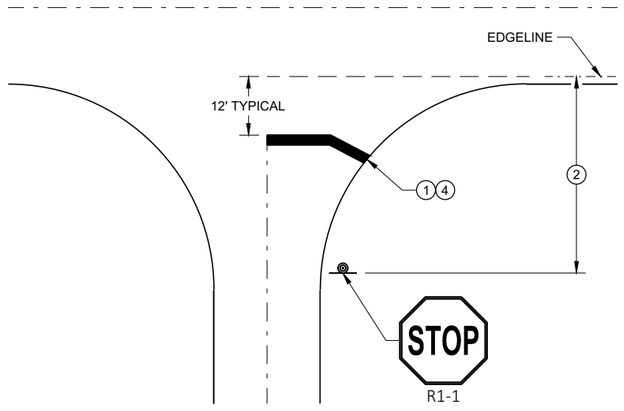


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MARKING ENGINEER

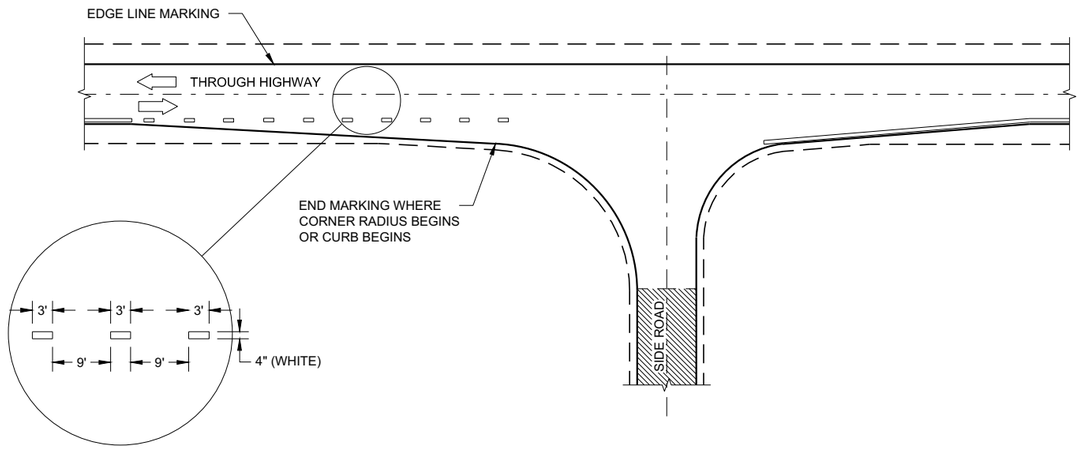
FHWA

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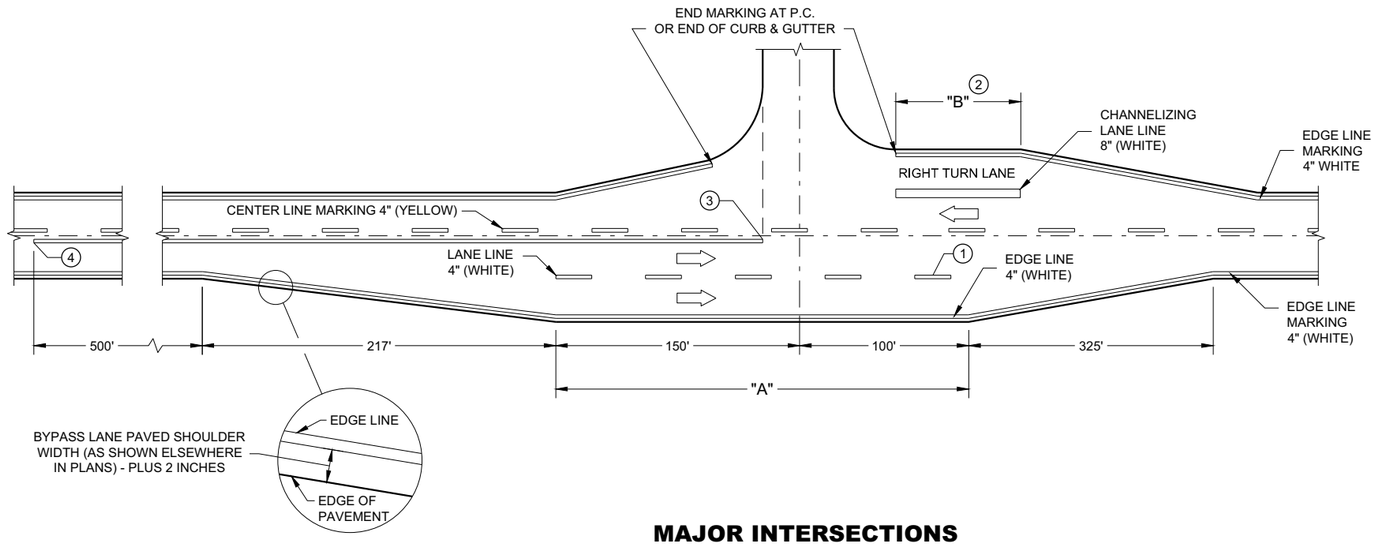
SDD 15C33 - 04

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SDD 15C33 - 04



MINOR INTERSECTION



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

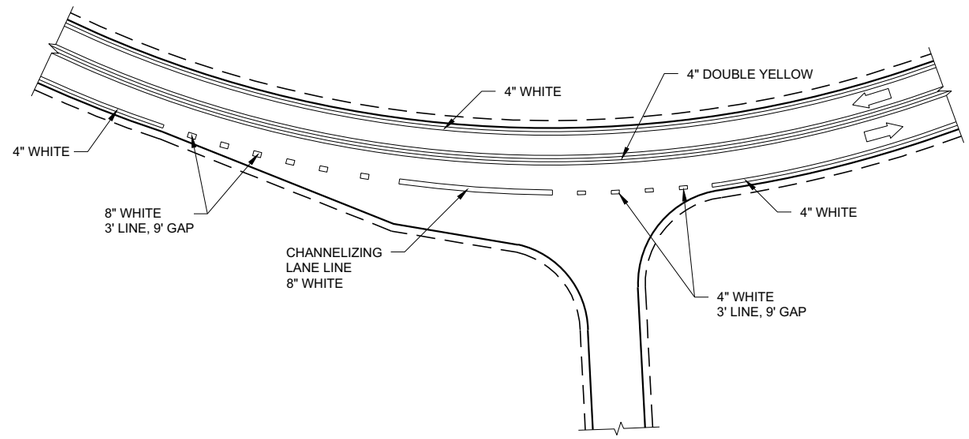
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES 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. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

LEGEND

DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15C35 - 04a

6

SDD 15C35 - 04a

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

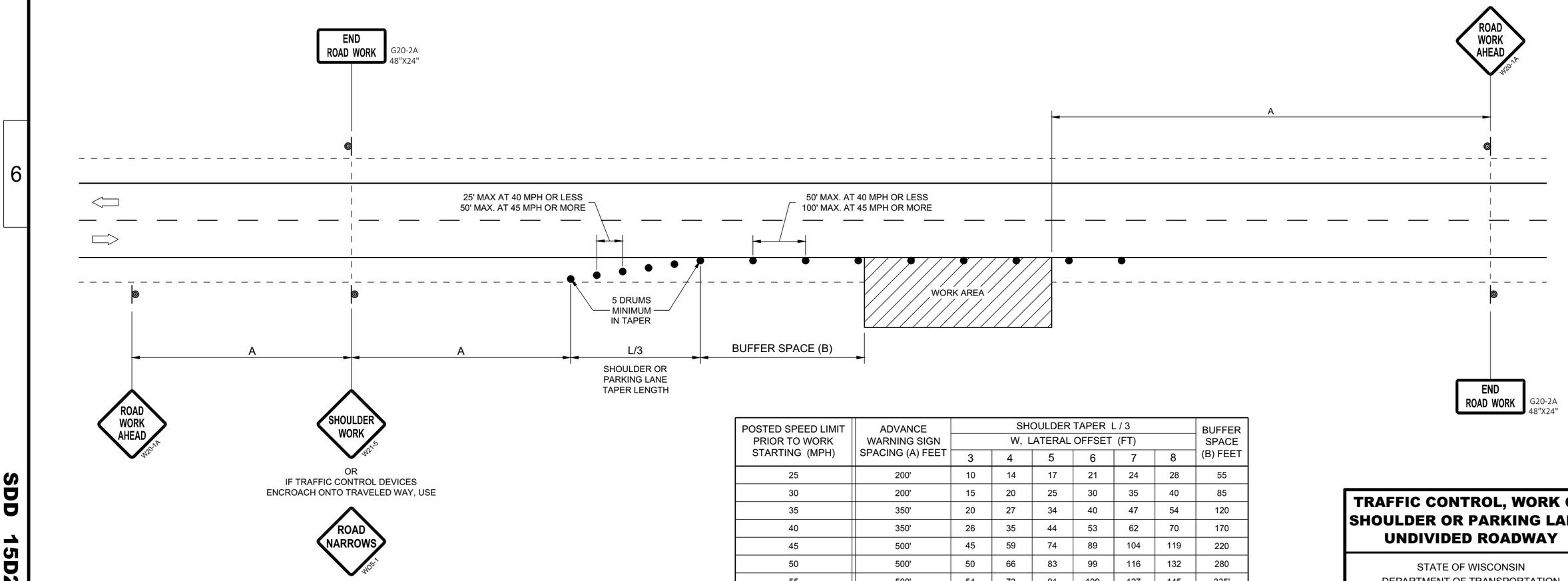
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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

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



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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

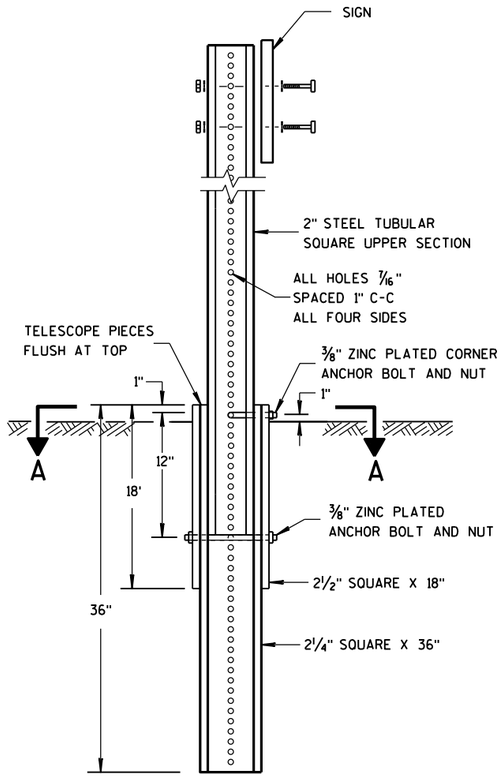
APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

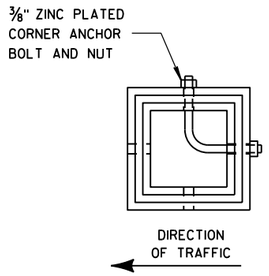
FHWA

SDD 15D28 - 04

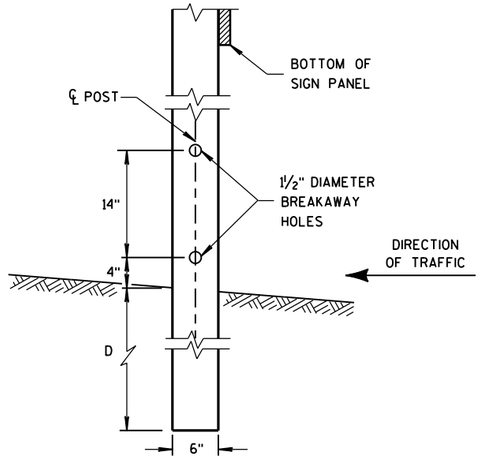
SDD 15D28 - 04



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



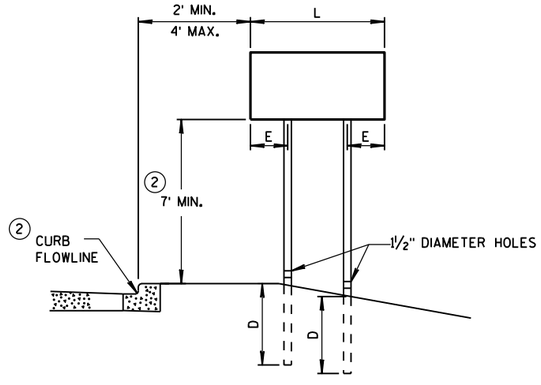
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

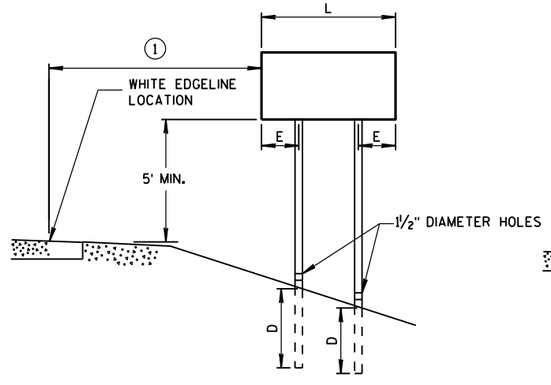
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

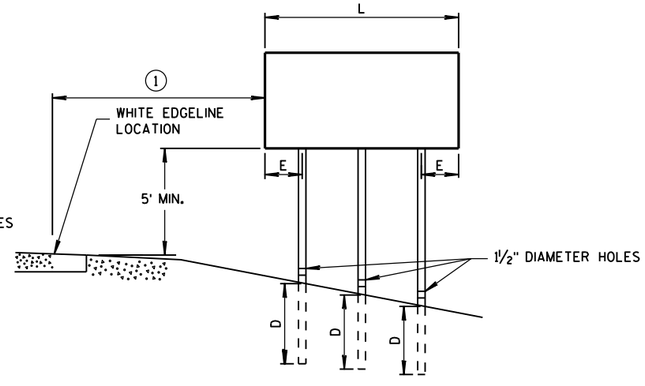
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

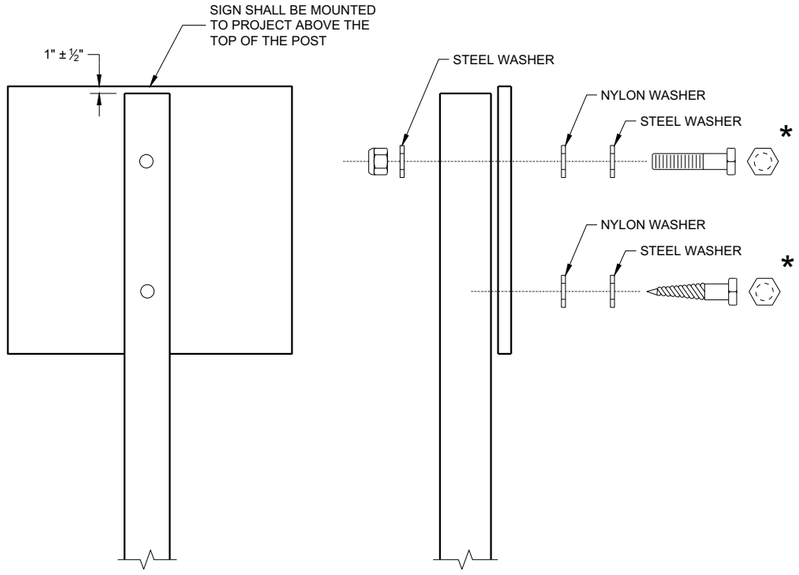
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 D 38-2a



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

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

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

WOOD POST (4" x 6")
LAG SCREWS - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH, GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 NYLON

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

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SDD 15D38 - 02b

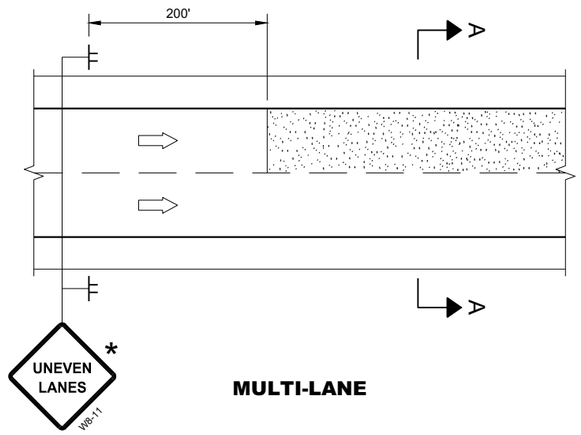
SDD 15D38 - 02b

ATTACHMENT OF SIGNS TO POSTS

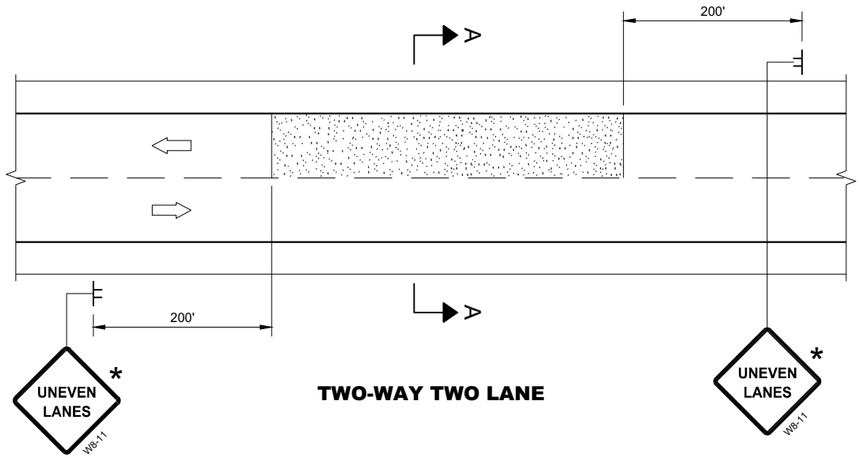
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA



MULTI-LANE



TWO-WAY TWO LANE

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

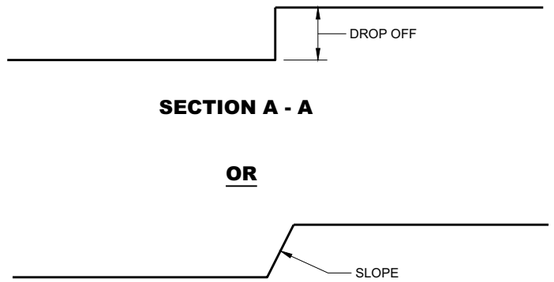
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

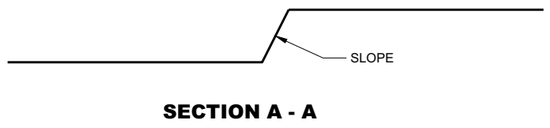
LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

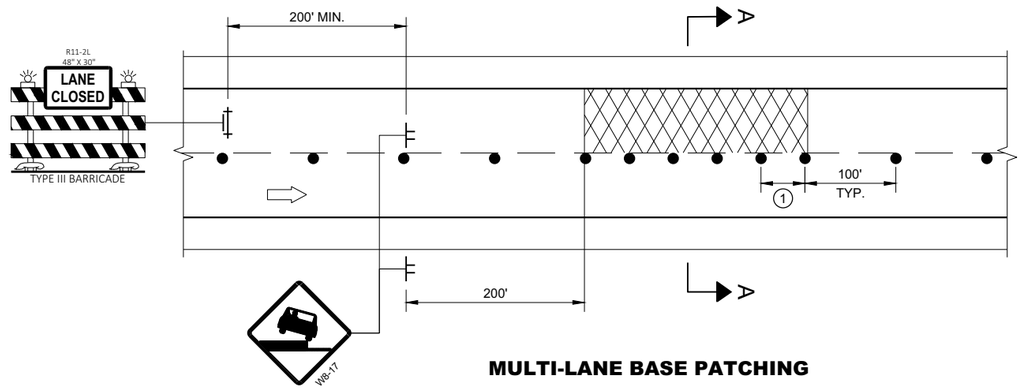


SECTION A - A

OR

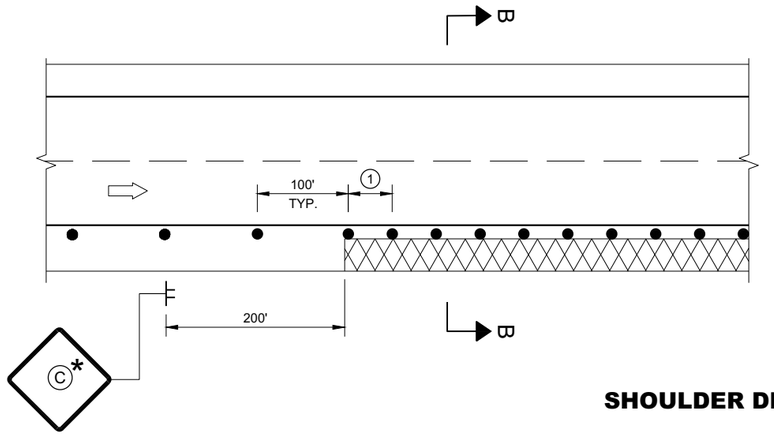


SECTION A - A

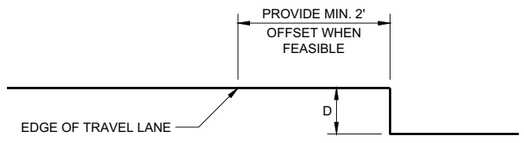


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15D39 - 02

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SDD 15D39 - 02

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

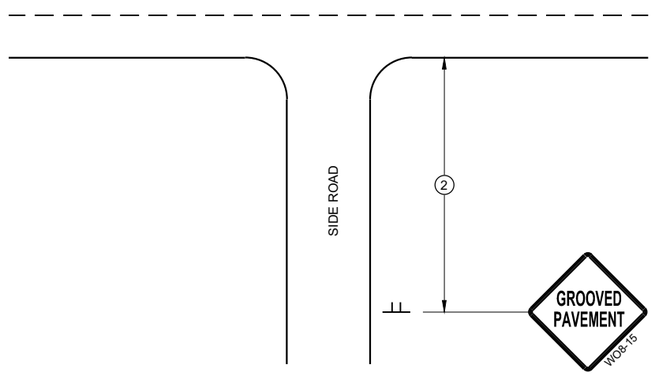
(1) PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

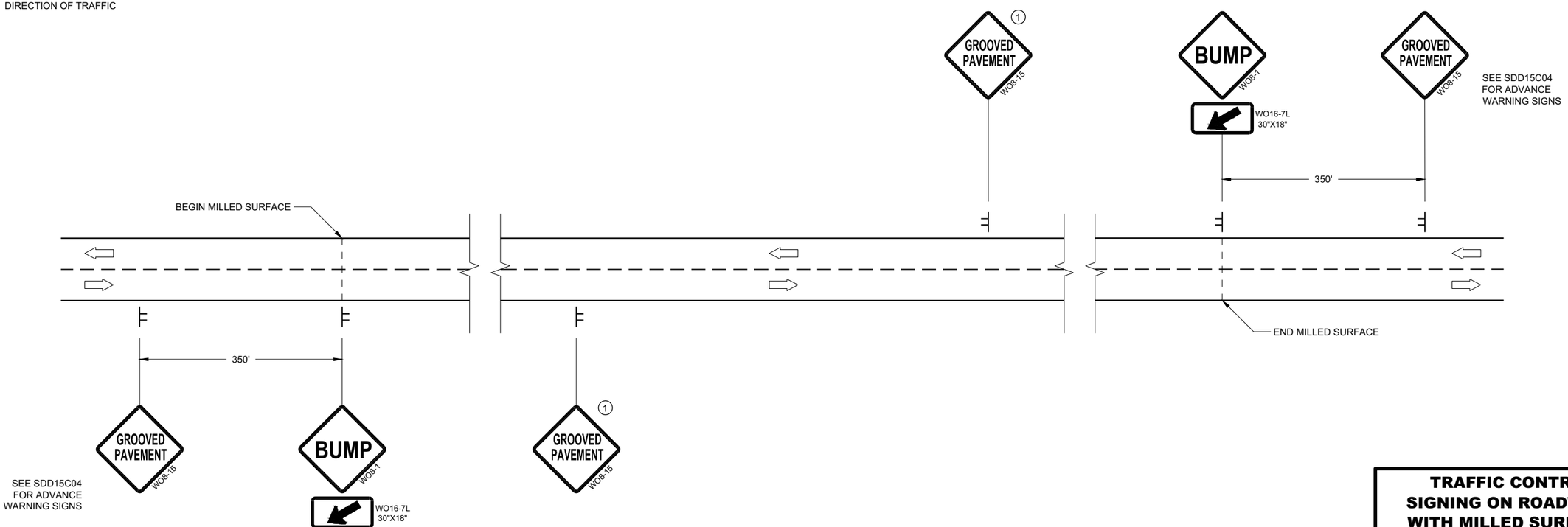
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

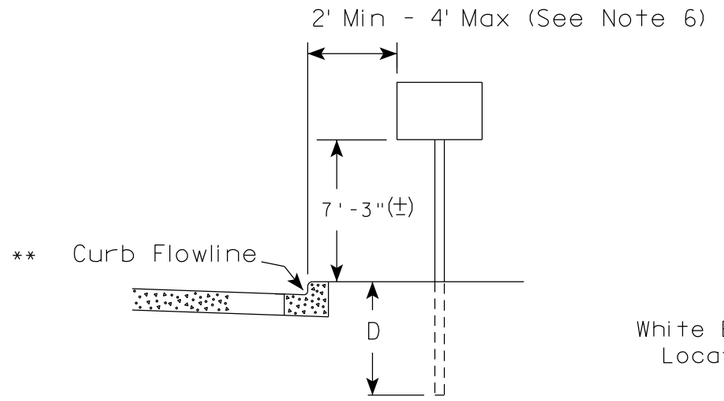
APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

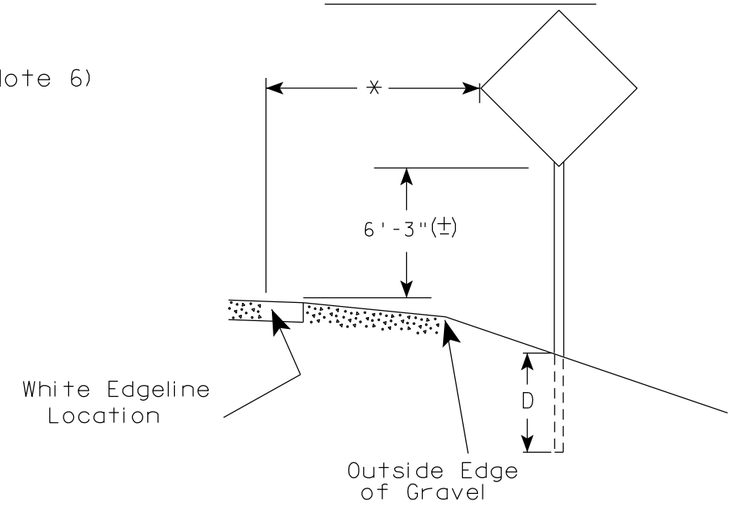
FHWA

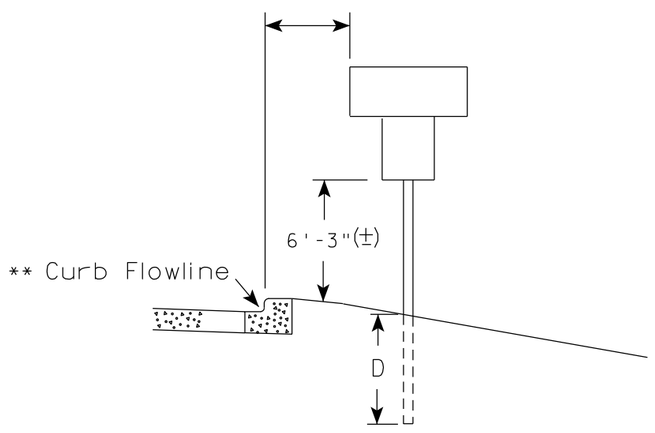
6
SDD 15D44 - 02

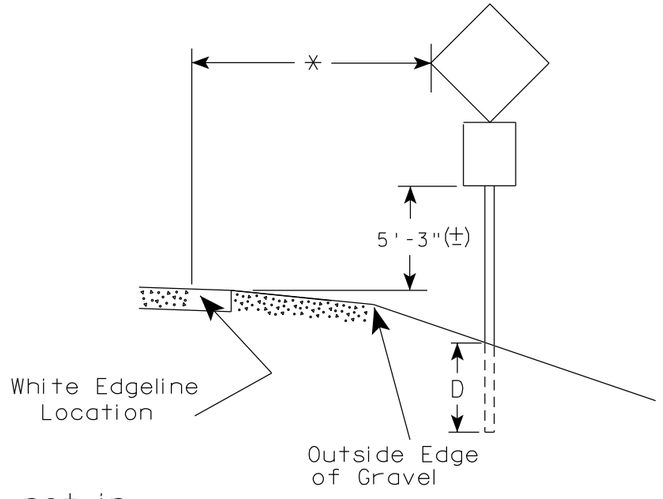
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.

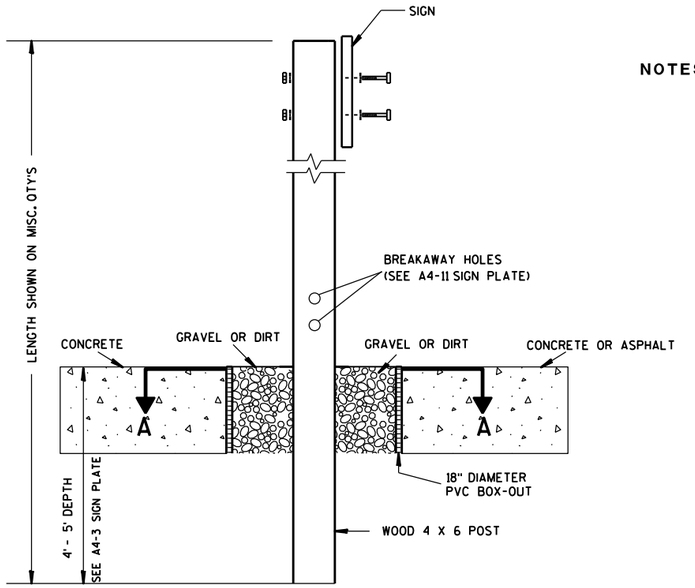
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

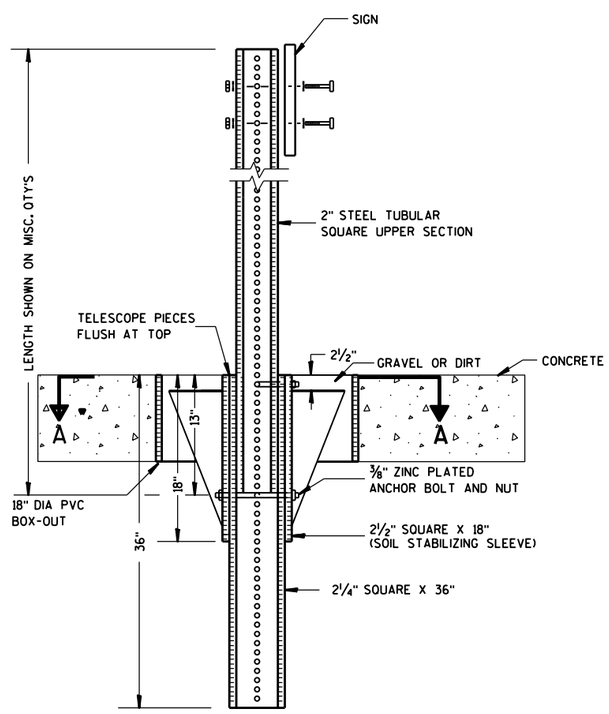
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 149	E



ELEVATION VIEW

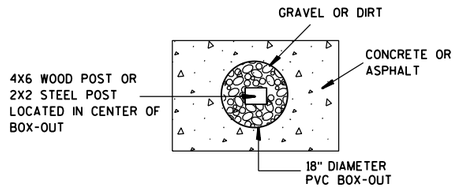
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

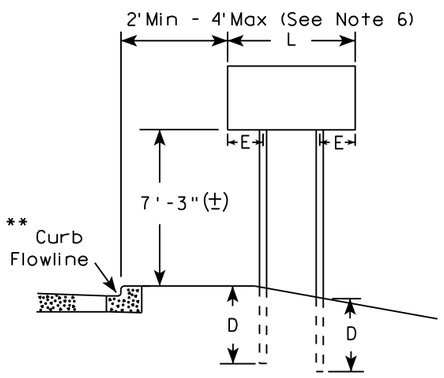
APPROVED Matthew R Rauch
for State Traffic Engineer

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

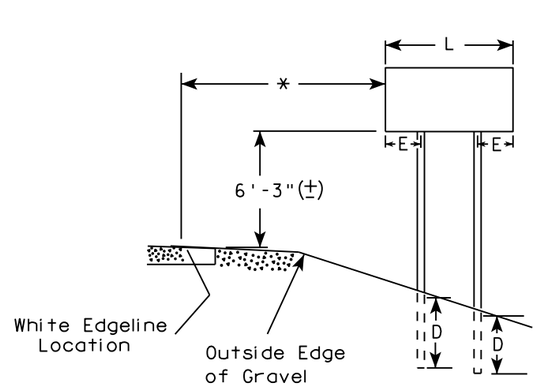
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

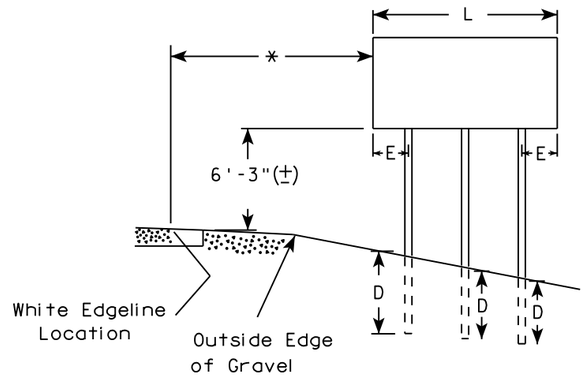
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

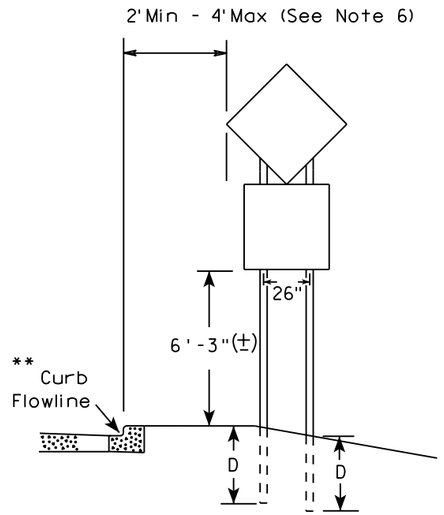
URBAN AREA



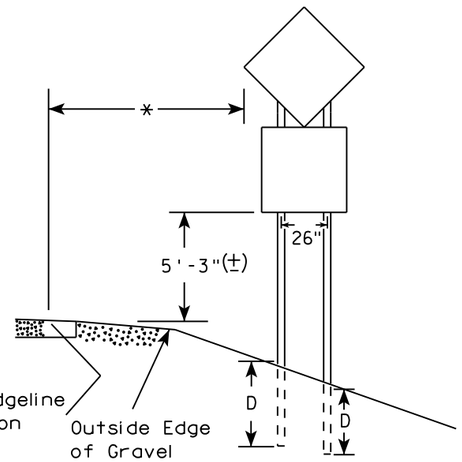
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)		
	L	E
***	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

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

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

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

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

POST EMBEDMENT DEPTH

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

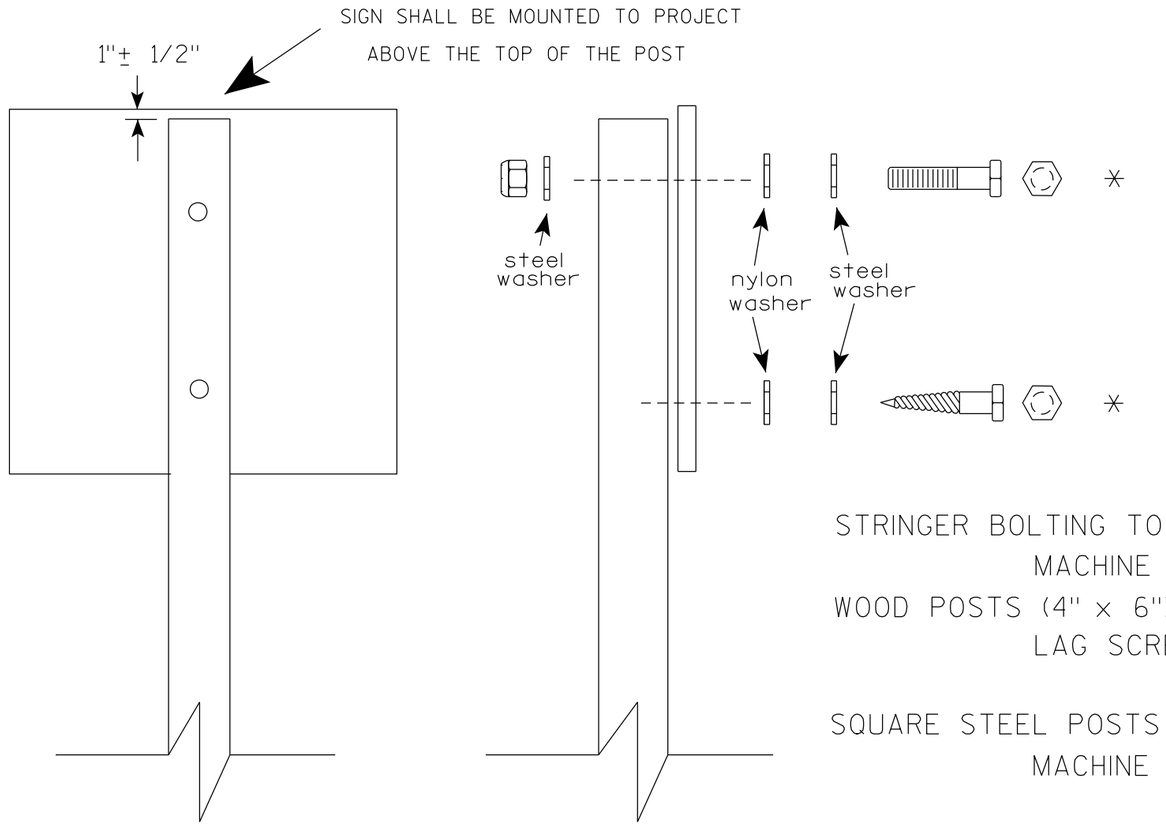
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 151	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.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

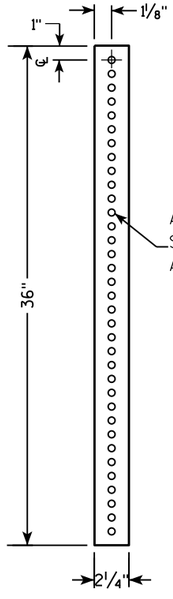
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

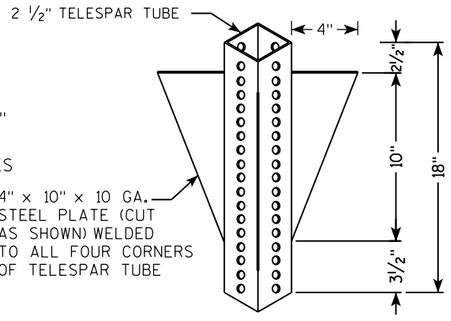
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

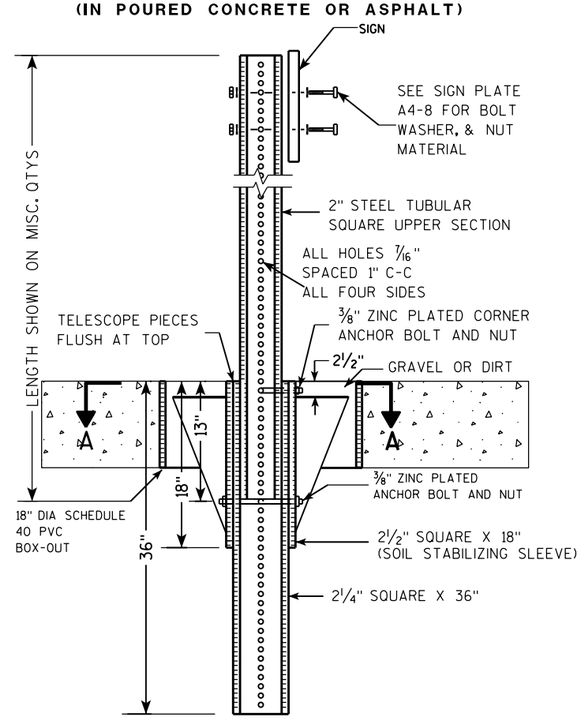
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



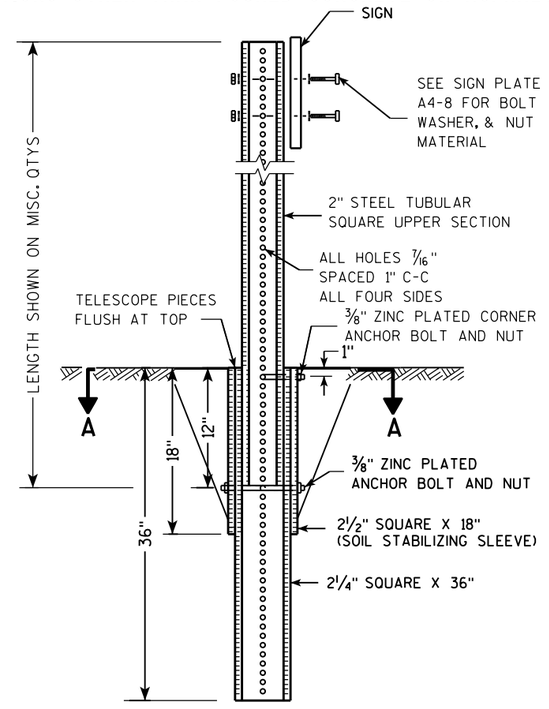
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

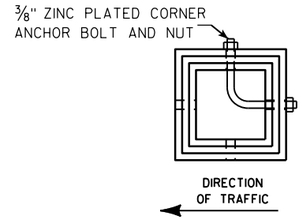


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

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

TUBULAR STEEL
SIGN POST
A4-9

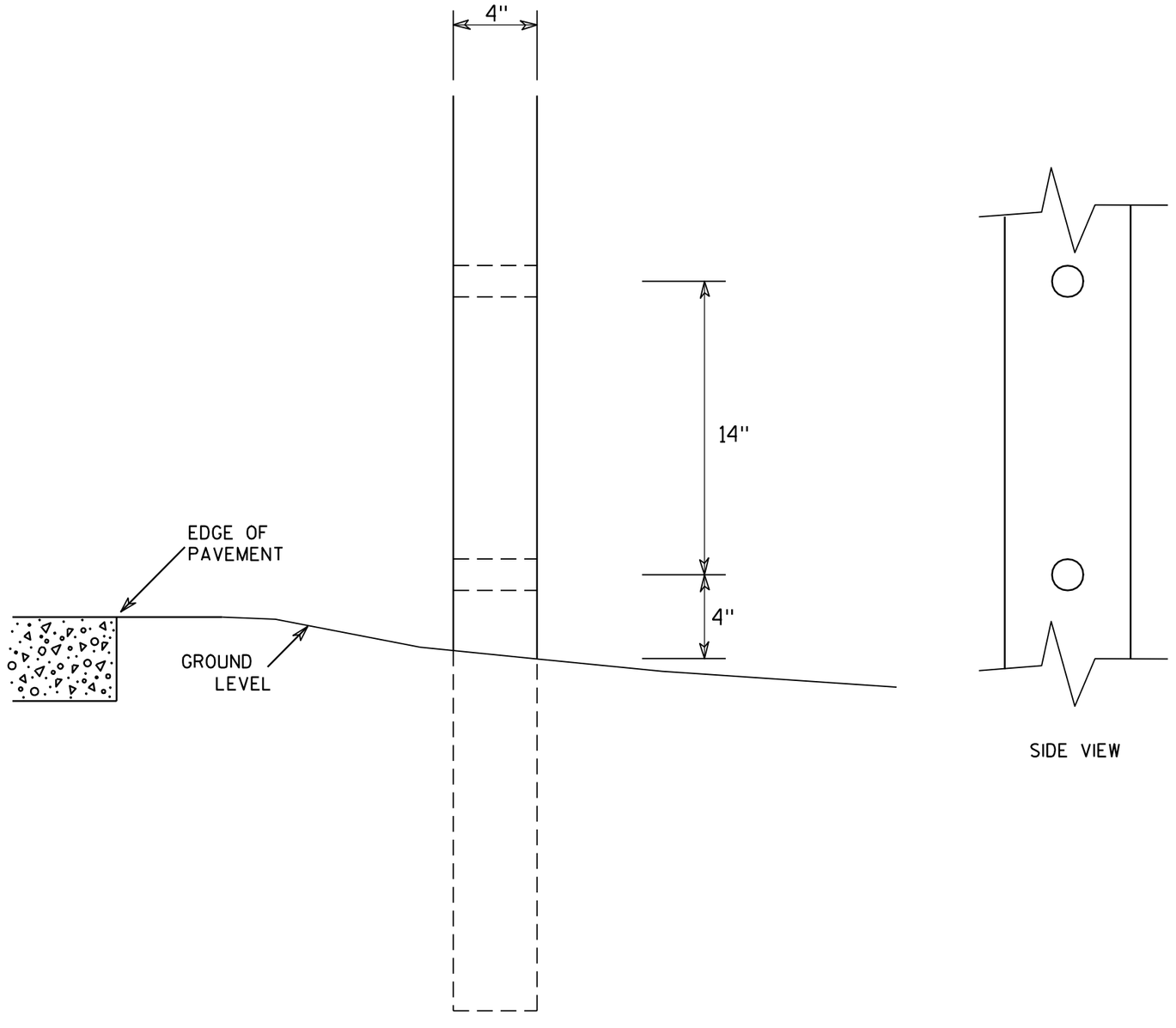
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

7

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4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

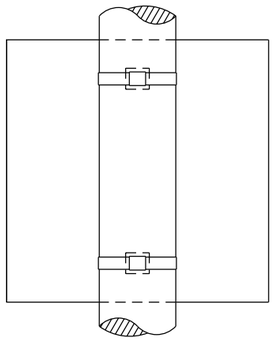
APPROVED Chester J Spang for State Traffic Engineer

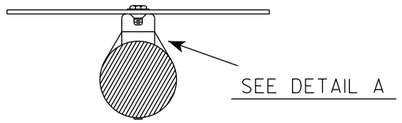
DATE 3/27/97 PLATE NO. A4-11.2

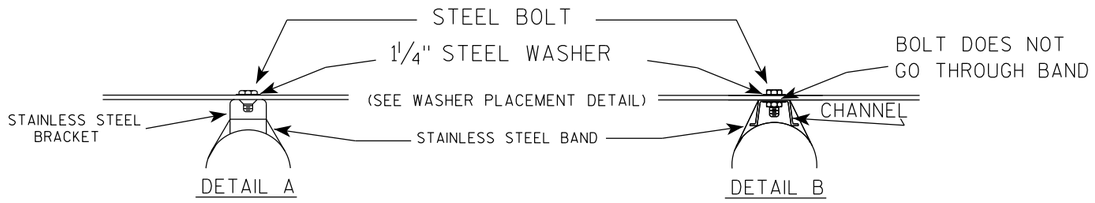
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 154	E

BANDING

SINGLE SIGN



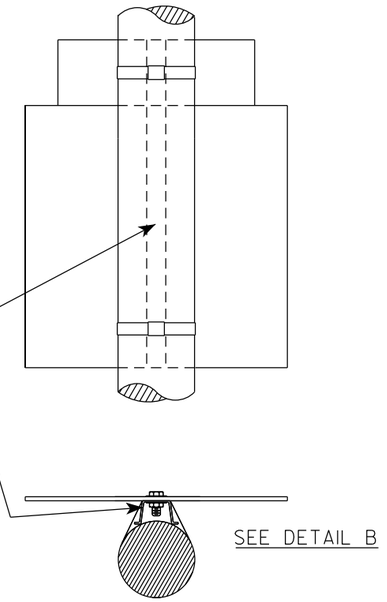




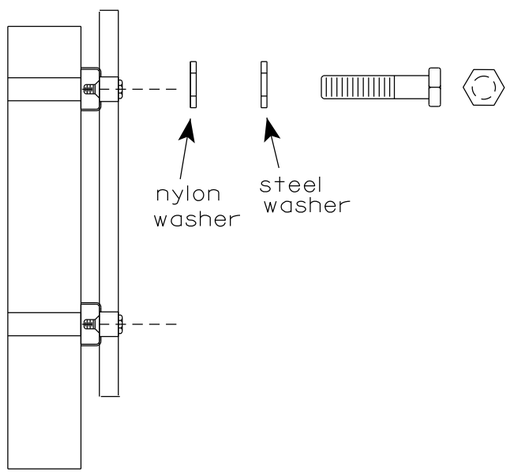
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

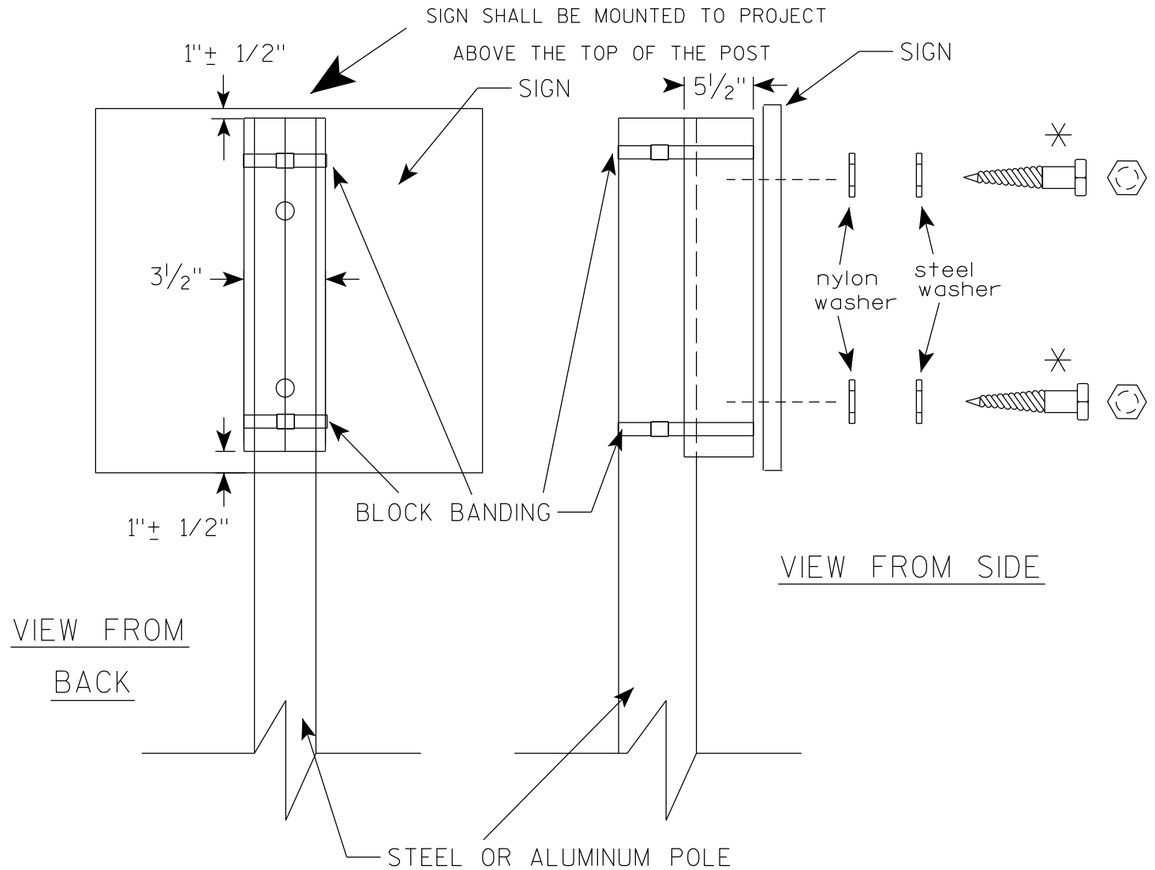
DATE 6/10/19 PLATE NO. A5-9.4

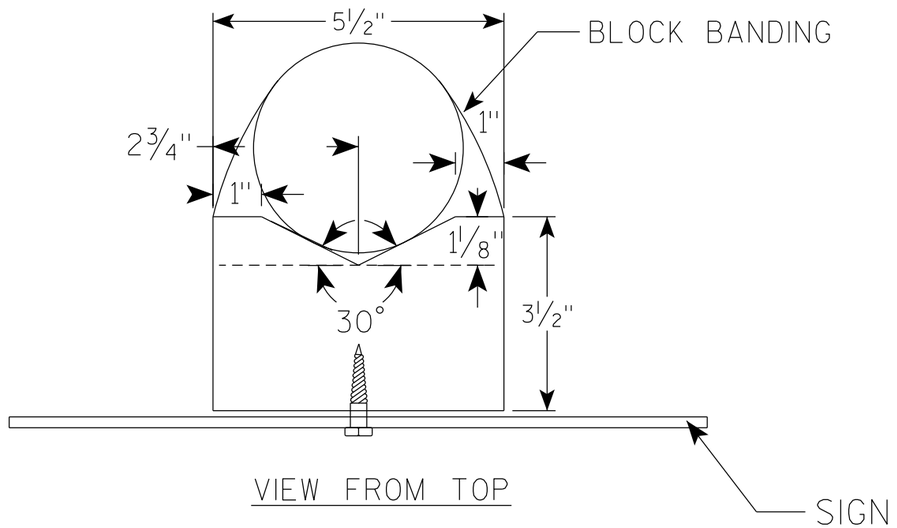
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 155	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

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GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

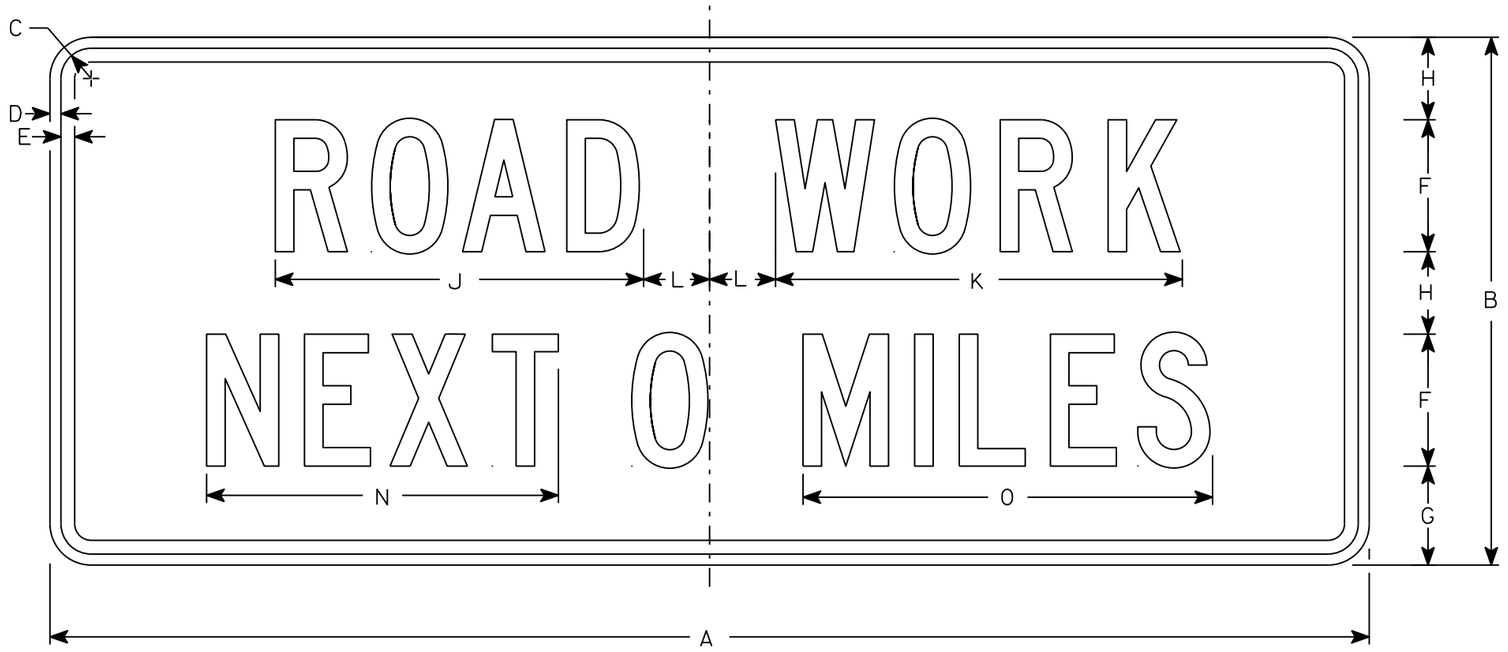
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO:				SHEET NO: 156	E



G20-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Round distance to nearest whole Mile and 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																											
2	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10
3																											
4	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10
5																											

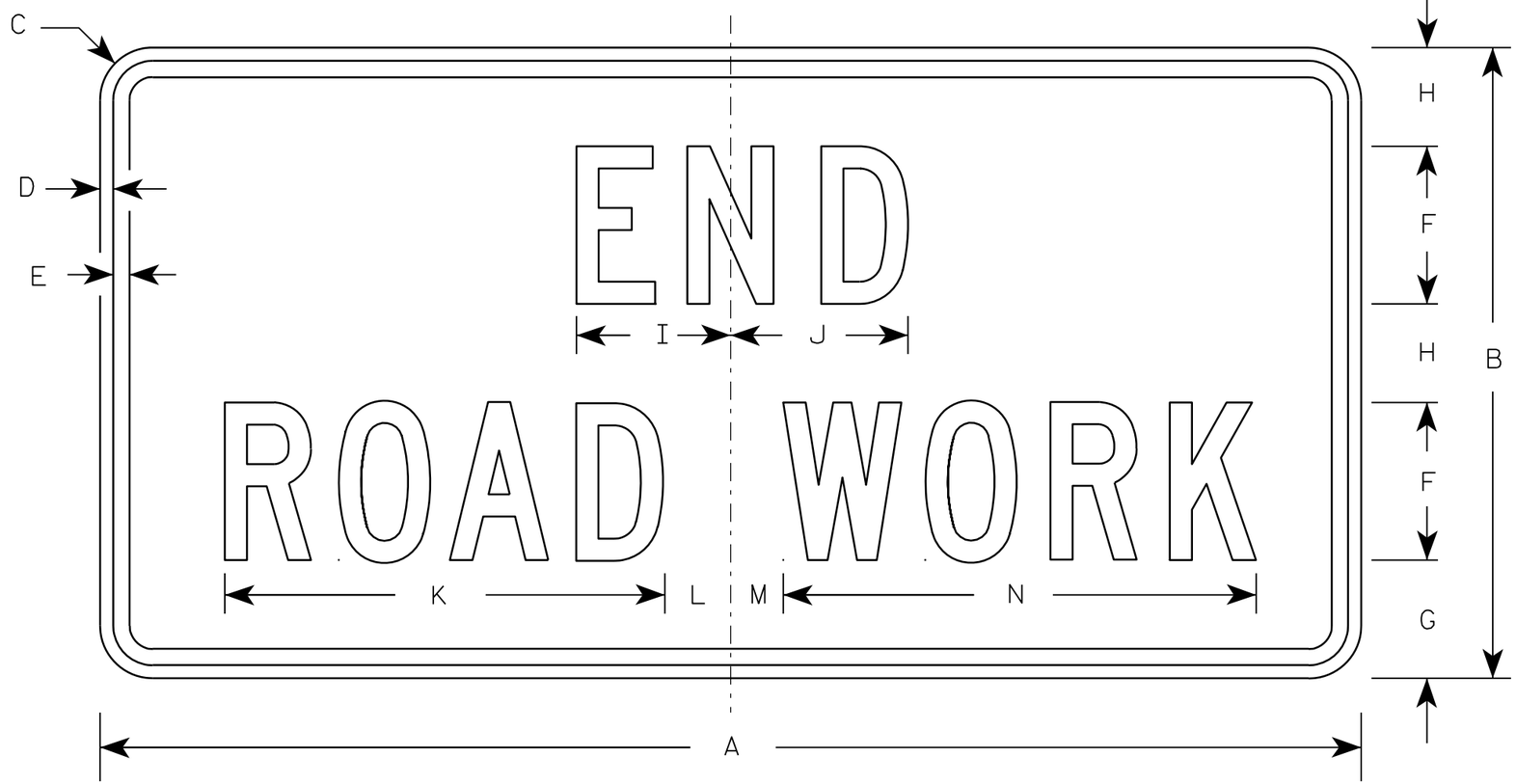
STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/14/17 PLATE NO. G20-1.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 157 | E



G20-2A

NOTES

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

Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

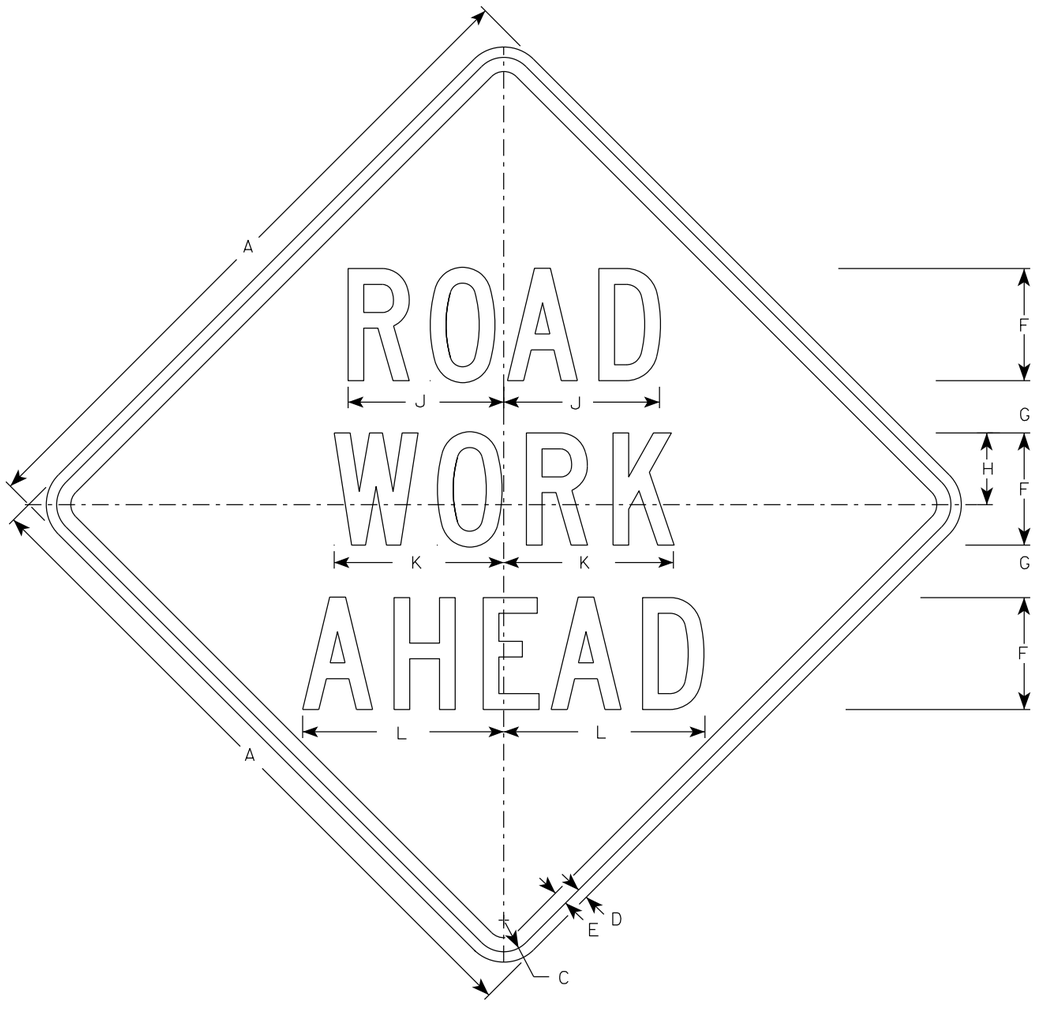
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

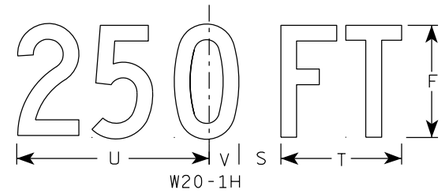
APPROVED Matthew R Rauch
for State Traffic Engineer

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

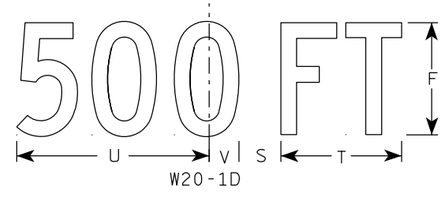
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 158	E



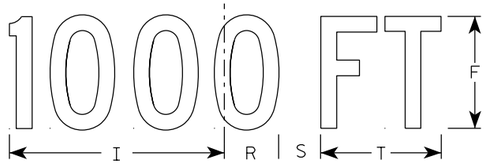
W20-1A



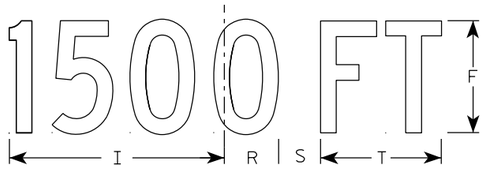
W20-1H



W20-1D



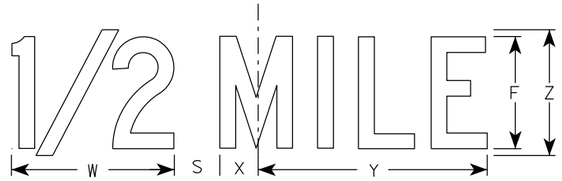
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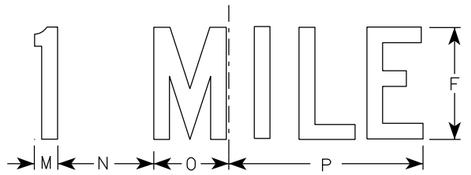
W20-1B

NOTES

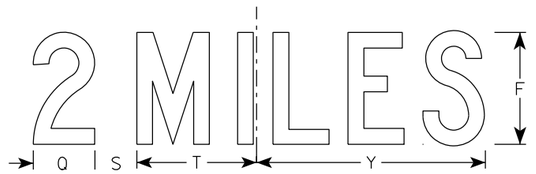
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



W20-1F



W20-1E

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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2020 PLATE NO. W20-1.11

PROJECT NO:

SHEET NO: E

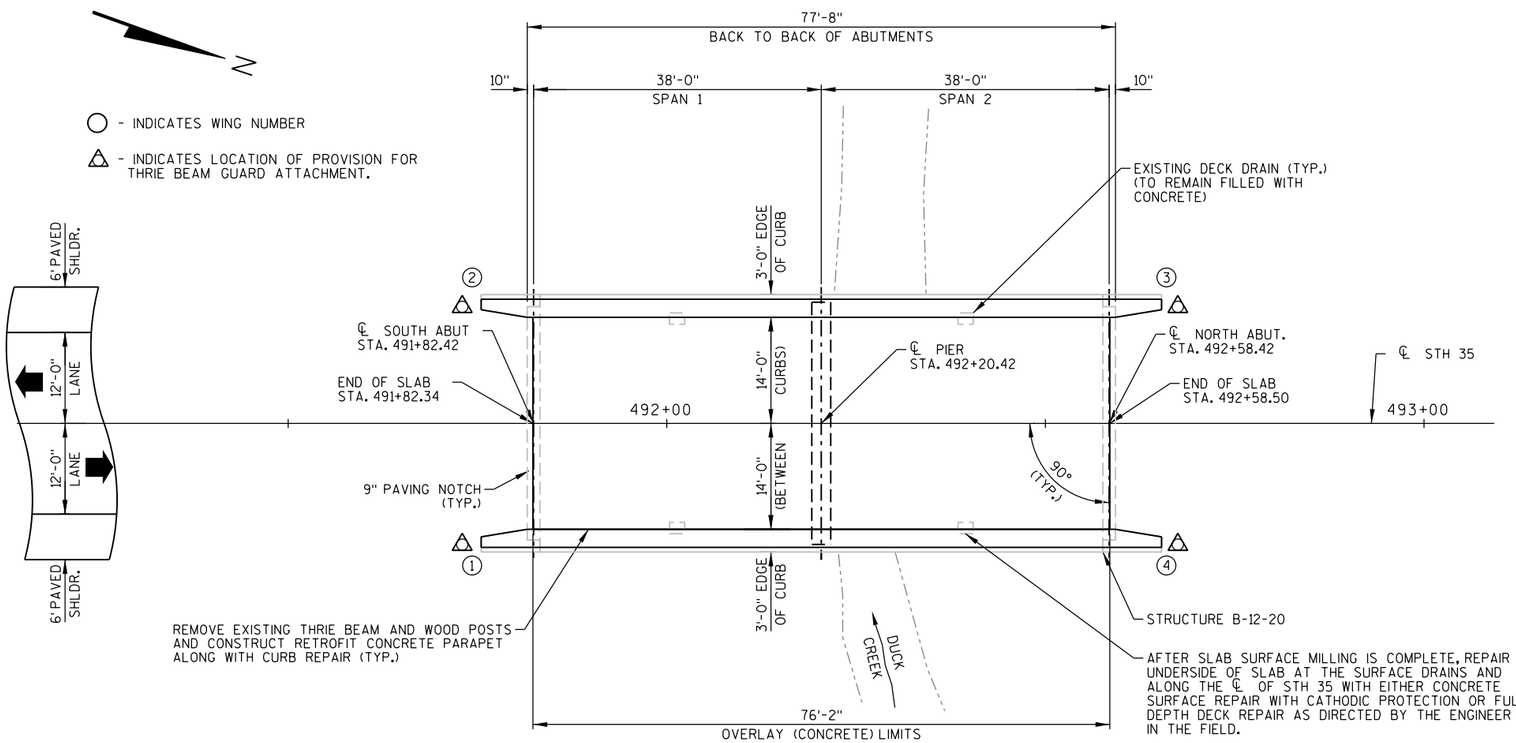
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WISDOT/CADDS SHEET 42

7

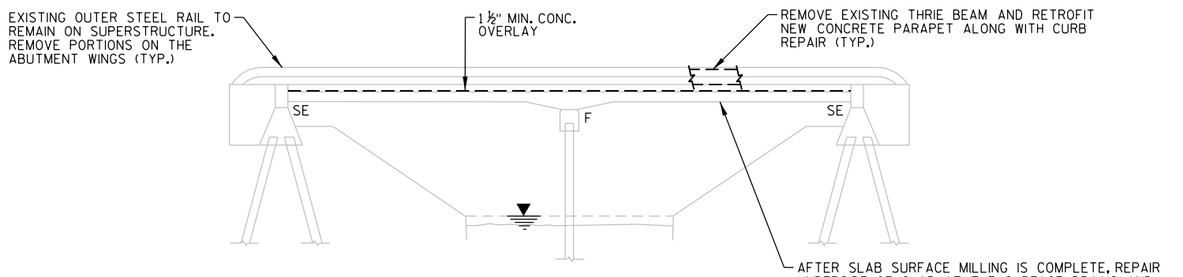
7

STATE PROJECT NUMBER
5160-07-71



PLAN

(REHAB - CONCRETE OVERLAY ON EXISTING TWO SPAN CONCRETE HAUNCHED SLAB)



ELEVATION

(LOOKING WEST)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING ———— H20
INVENTORY RATING (LFR) ———— HS17
OPERATIONAL RATING (LFR) ———— HS29
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) ———— 250 KIPS

TRAFFIC DATA:

A.A.D.T. (2022) = 4,325
A.A.D.T. (2042) = 5,045

MATERIAL PROPERTIES:

CONCRETE MASONRY - OVERLAY DECKS ———— f'c = 4,000 P.S.I.
CONCRETE MASONRY, PARAPET ———— f'c = 4,000 P.S.I.
HIGH-STRENGTH BAR STEEL
REINFORCEMENT, GRADE 60 ———— fy = 60,000 P.S.I.

LIST OF DRAWINGS

1. REHAB GENERAL PLAN
2. CROSS SECTION, QUANTITIES, DETAILS & NOTES
3. RETROFIT CONCRETE PARAPET DETAILS

CONSULTANT DESIGN CONTACT:
LEAH RHODES
(608) 355-8945

BRIDGE OFFICE CONTACT:
AARON BONK
(608) 261-0261

WISCONSIN
KYLE H. BUSCH
E-46187
MADISON
WI
PROFESSIONAL ENGINEER

7/29/2021

NO.	DATE	REVISION	BY

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1230 SOUTH BLVD., BARABOO WI 53913
(608) 356-2771 www.msa-ps.com
© MSA Professional Services, Inc.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 08/03/21
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-12-20

STH 35 OVER DUCK CREEK

COUNTY	~~TOWN/CITY~~/VILLAGE
CRAWFORD	DE SOTO

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JZ	LJR	CAR	JZ

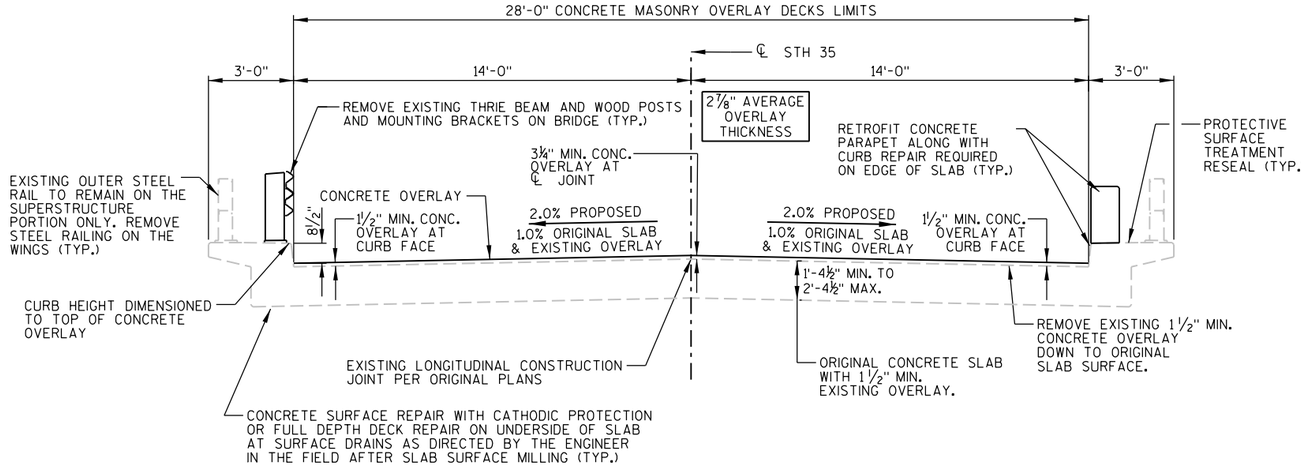
REHAB GENERAL PLAN

SHEET 1 OF 3
160

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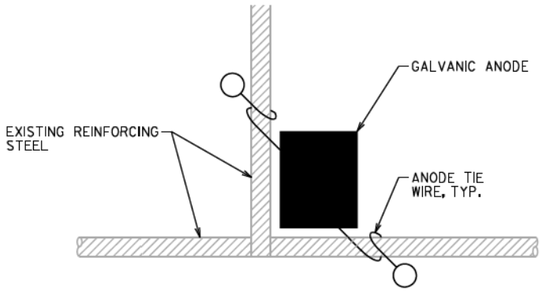
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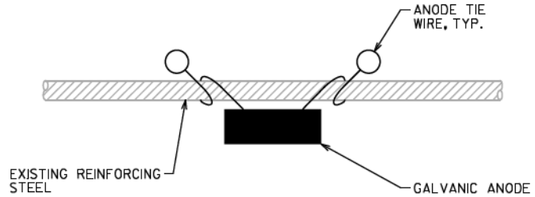


CROSS SECTION THRU BRIDGE

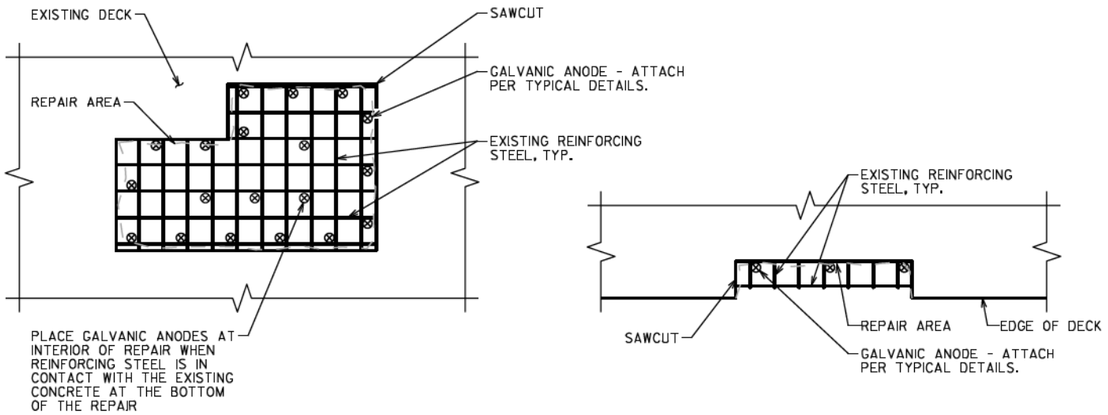
LOOKING NORTH



CATHODIC PROTECTION TYPICAL INSTALLATION AT BAR STEEL INTERSECTION



CATHODIC PROTECTION TYPICAL INSTALLATION AT BAR STEEL



CATHODIC PROTECTION PART. PLAN TYPICAL REPAIR DETAIL

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

IMPROVEMENTS INCLUDE A CONCRETE DECK OVERLAY OF THE BRIDGE SLAB, CONCRETE SURFACE REPAIR ON UNDERSIDE OF SLAB, CURB REPAIR, PREPARATION DECKS TYPES 1 & 2, FULL DEPTH DECK REPAIR, REMOVAL OF EXISTING THRIE BEAM TYPE W RAIL AND WOOD POSTS AND INSTALLATION OF RETROFIT CONCRETE PARAPET.

ALL DIMENSIONS SHOWN ARE BASED ON EXISTING PLANS. ORIGINAL 1959 PLANS AND 1987 OVERLAY PLANS ARE AVAILABLE FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

THIS PROJECT WILL REHABILITATE THE EXISTING STRUCTURE, B-12-20. A TWO SPAN, 77.7' CONCRETE HAUNCHED SLAB BRIDGE SET ON CONCRETE SILL ABUTMENTS AND A PILE BENT PIER WITH CONCRETE CAP.

SEE THE ROAD PLAN AND PROFILE SHEETS FOR THE APPROXIMATE LOCATIONS OF EXISTING AND PROPOSED UTILITYINSTALLATIONS. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE EXISTING CONCRETE OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER THE BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY B-12-20".

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY AND TO THE CURB FACE.

PROTECTIVE SURFACE TREATMENT RESEAL SHALL BE APPLIED TO THE TOP AND EDGE OF DECK OUTSIDE THE RETROFIT CONCRETE PARAPET AFTER IT IS INSTALLED. SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "PROTECTIVE SURFACE TREATMENT RESEAL".

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE FACES, THE TOP FACES, AND THE ENDS OF THE PARAPETS.

SEAL OVERLAY CONSTRUCTION JOINTS ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATIONS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS"

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" AT THE EAST AND WEST OVERLAY EDGES AND MINIMUM OVERLAY THICKNESS OF 3 ¼" AT THE CENTERLINE PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. THE MINUMUM OVERLAY THICKNESS ACCOUNTS FOR THE CROSS SLOPE CORRECTION FROM THE EXISTING CROSS SLOPE OF 1.0% TO THE PROPOSED CROSS SLOPE OF 2.0%. EXPECTED AVERAGE OVERLAY THICKNESS IS 2 ⅞". THE AVERAGE OVERLAY INCLUDES AN ADDITIONAL 1/2-INCH TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

ASBESTOS CONTAINING MATERIAL (ACM) WAS PRESUMED PRESENT IN THE BITUMINOUS GASKET MATERIAL BETWEEN THE CENTER PIER AND THE DECK ON STRUCTURE B-12-020. THIS MATERIAL WAS OBSERVED ON THE AS-BUILT DRAWINGS BUT WAS NOT EXPOSED AND COULD NOT BE SAMPLED. THE BITUMINOUS GASKET MATERIAL IS CLASSIFIED AS CATEGORY II NON-FRIABLE ACM AND COULD REMAIN IN PLACE IF NOT DISTURBED DURING RENOVATION ACTIVITIES.

THE CURB REPAIR SHOULD BE COMPLETED WITH THE RETROFIT CONCRETE PARAPET. THIS SHOULD NOT BE A SEPARATE OPERATION. IF THE CURB IS REPAIRED/RESURFACED AS A SEPARATE OPERATION, THE PATCH AREA MUST BE CURED ENOUGH SO THAT WHEN DRILLED FOR ANCHORS FOR THE NEW CONCRETE PARAPET, IT CAN RESIST THE DRILLING OPERATION.

DEBRIS CONTAINMENT IS TO BE USED FOR FULL DEPTH DECK REPAIR AND CONCRETE SURFACE REPAIRS OVER THE WATERWAY.

⚹ QUANTITY LISTED FOR PREPARATION DECKS TYPE 1 AND TYPE 2 AND FULL DEPTH DECK REPAIR IS TENTATIVE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL DECK REPAIR LOCATIONS WITH THE ENGINEER. DECK PREPARATION REPAIRS AND FULL DEPTH DECK REPAIR SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

⚹⚹ CONCRETE SURFACE REPAIR WITH CATHODIC PROTECTION REQUIRED ON UNDERSIDE OF SLAB AT SURFACE DRAINS AND ALONG CENTERLINE AS DESIGNATED BY THE ENGINEER. QUANTITY LISTED IS TENTATIVE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL SURFACE REPAIR LOCATIONS WITH THE ENGINEER.

SURFACE REPAIR AREAS WITH CATHODIC PROTECTION ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. THE PLAN QUANTITY FOR THE BID ITEM "EMBEDDED GALVANIC ANODES" IS BASED ON A MAXIMUM SPACING OF 24-INCHES AROUND THE SURFACE REPAIR PERIMETER, THE ACTUAL QUANTITY SHALL BE BASED ON THE FIELD CONDITIONS AND AS RECOMMENDED BY THE GALVANIC ANODE SUPPLIER.

SURFACE REPAIRS SHALL BE FILLED WITH REPAIR MATERIALS COMPATIBLE WITH CATHODIC PROTECTION, AS RECOMMENDED BY THE ANODE SUPPLIER.

EXISTING REINFORCING STEEL TO BE COMPLETELY CLEANED OF CORRODED MATERIAL AND CONCRETE TO PROVIDE SUFFICIENT ELECTRICAL CONNECTION AND BOND. CATHODIC PROTECTION PREPARATIONS ARE INCLUDED IN THE BID ITEM "EMBEDDED GALVANIC ANODES."

ANODES NEAREST TO EDGE OF REPAIR TO BE WITHIN 6" OF EDGE.

AFTER PLACEMENT, GALVANIC ANODES SHOULD MAINTAIN A MINIMUM TOP COVER OF 1½" AND A MINIMUM BOTTOM COVER OF ¾"

ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEM	UNIT	TOTAL
	203.0335.01	DEBRIS CONTAINMENT OVER WATERWAY B-12-20	EACH	1
	502.0100	CONCRETE MASONRY BRIDGES	CY	14
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	250
	502.3210	PIGMENTED SURFACE SEALER	SY	60
	502.3215	PROTECTIVE SURFACE TREATMENT RESEAL	SY	45
	502.4206	ADHESIVE ANCHORS NO. 6 BAR	EACH	144
	505.0600	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	2100
⚹	509.0301	PREPARATION DECKS TYPE 1	SY	12
⚹	509.0302	PREPARATION DECKS TYPE 2	SY	5
	509.0505.S	CLEANING DECKS TO REAPPLY CONCRETE MASONRY OVERLAY	SY	240
	509.1200	CURB REPAIR	LF	180
⚹⚹	509.1500	CONCRETE SURFACE REPAIR	SF	88
⚹	509.2000	FULL DEPTH DECK REPAIR	SY	2
	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	20
	509.9005.S.01	REMOVING CONCRETE MASONRY DECK OVERLAY B-12-20	SY	240
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4
	SPV.0060.06	EMBEDDED GALVANIC ANODES STRUCTURE B-12-20	EACH	62
	SPV.0090.01	REMOVING EXISTING THRIE BEAM AND WOOD POSTS B-12-20	LF	180
	SPV.0090.02	REMOVING STEEL RAILING B-12-20	LF	31

STATE PROJECT NUMBER

5160-07-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-20

DRAWN BY CAR | PLANS CK'D. JZ

CROSS SECTION, QUANTITIES, DETAILS & NOTES

SHEET 2 OF 3

161

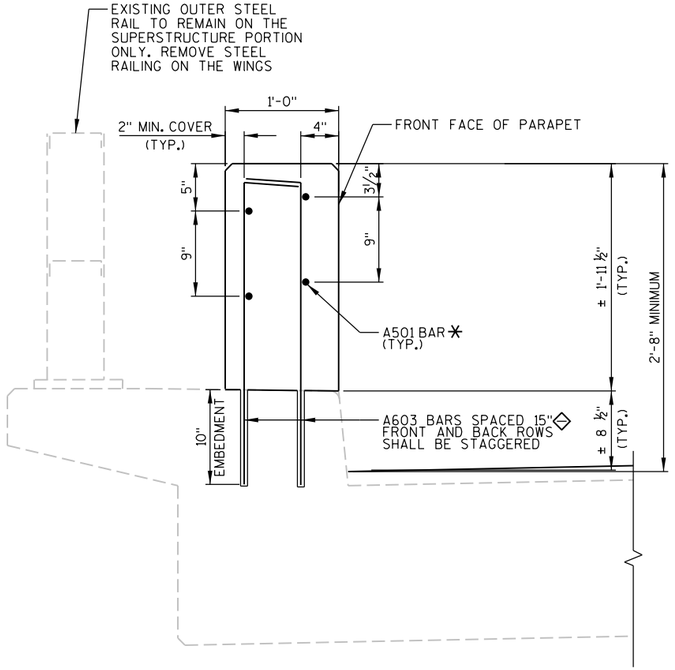
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STATE PROJECT NUMBER
5160-07-71



SECTION A-A

✳ - OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.

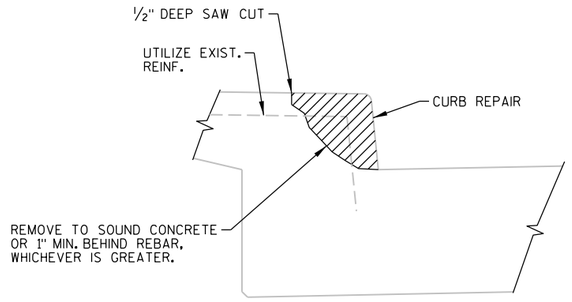
⊕ - CONTRACTION JOINTS IN THE PARAPETS SHALL BE USED AT 12' MAX SPACING. DEFINE CONTRACTION JOINT WITH A ¾" - 'V' GROOVE.

◇ - ADHESIVE ANCHORS NO. 6 BARS. PLACE ONE ANCHOR AS SHOWN WITH EACH A603 PARAPET BAR. DISPLACELONGITUDINALLY AS NEEDED TO AVOID CONFLICT WITH EXISTING RAILING POST ANCHORAGE BOLTS WHICH MAY REMAIN.

NOTE: TOP OF CURB ON WING IS SIMILAR TO SECTION A-A, EXCEPT WIDTH VARIES AS SHOWN IN PLAN BELOW



A501

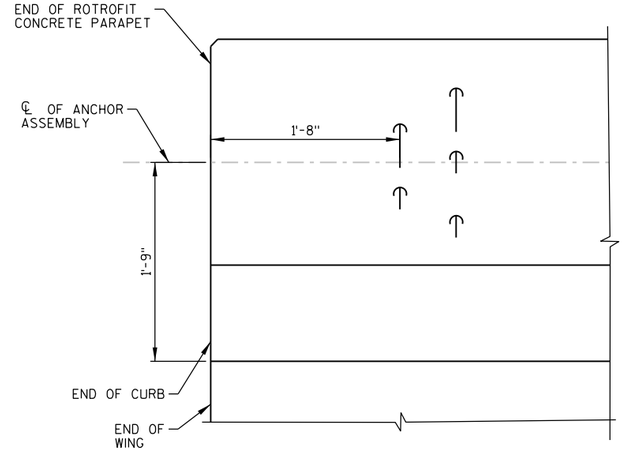


CURB REPAIR DETAIL

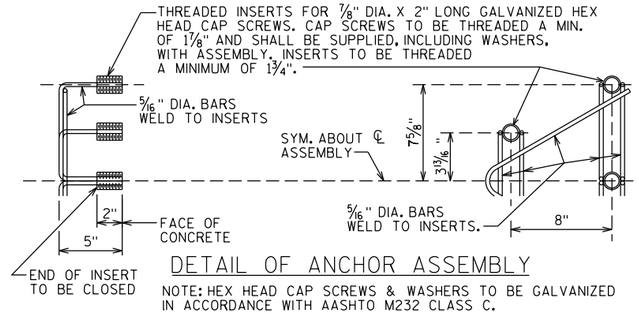
BILL OF BARS (COATED) 1050 LBS.

MARK	NUMBER REQ'D	LENGTH	BENT	LOCATION
A501	8	40'-0"		PARAPET - LONGITUDINAL
A502	8	5'-10"		WING PARAPET - LONGIT.
◇ A603	144	3'-1"	X	PARAPET - VERTICAL

WEST PARAPET SHOWN, EAST PARAPET SIMILAR



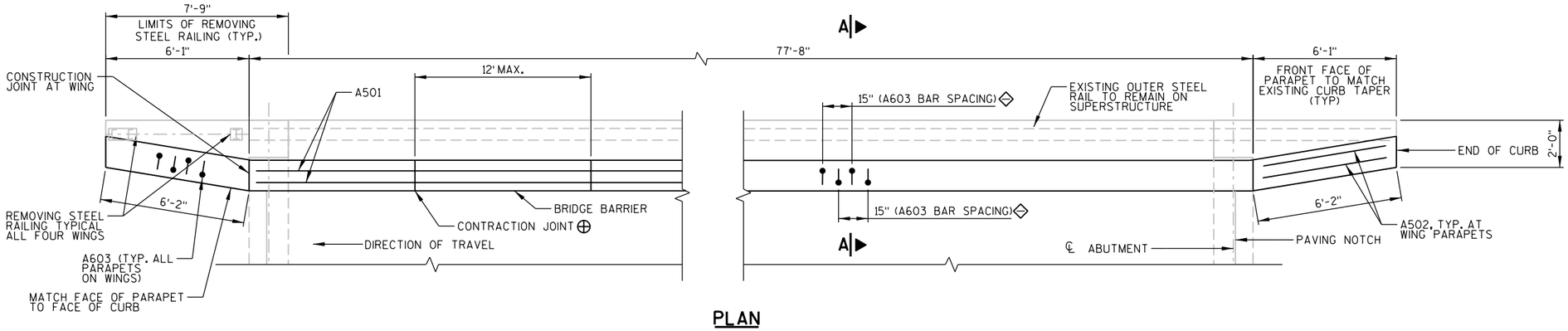
ANCHOR ASSEMBLY FOR STEEL PLATE BEAM GUARD



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY BID ITEM SHALL BE "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-20

DRAWN BY CAR | PLANS CK'D. JZ

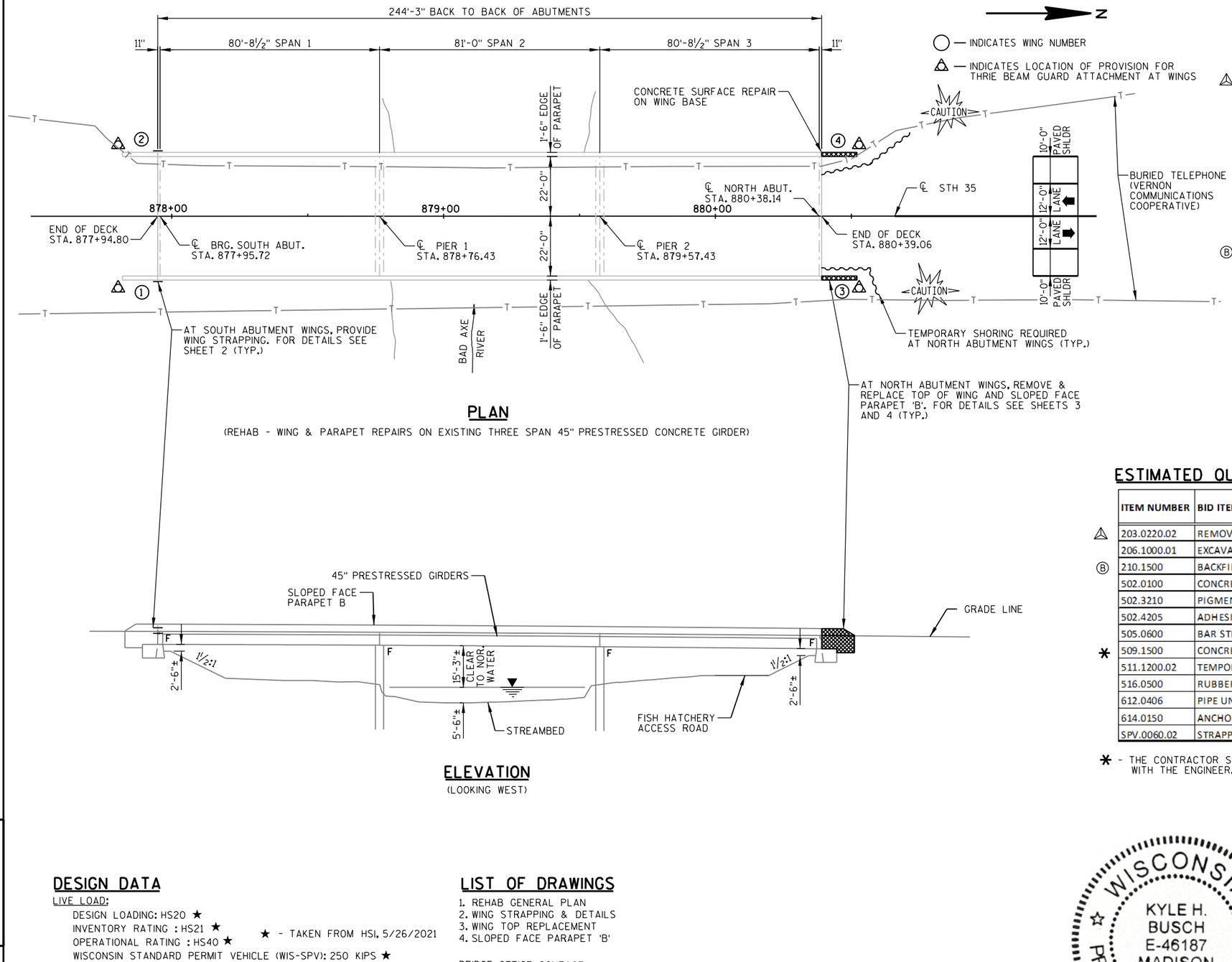
RETROFIT CONCRETE PARAPET DETAILS

SHEET 3 OF 3
162

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DATE= 7/29/2021

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8



PLAN

(REHAB - WING & PARAPET REPAIRS ON EXISTING THREE SPAN 45" PRESTRESSED CONCRETE GIRDER)

ELEVATION

(LOOKING WEST)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

VERTICAL CLEARANCES TAKEN FROM AS BUILT PLANS.

△ IMPROVEMENTS INCLUDE STRAPPING OF THE SOUTH ABUTMENT WINGS, REMOVAL AND REPLACEMENT OF THE NORTH ABUTMENT WING TOPS AND PARAPETS, AND WING 4 BASE REPAIR. REMOVAL OF PORTIONS OF THE NORTH ABUTMENT WINGS IS PAID FOR UNDER THE BID ITEM "REMOVING OLD STRUCTURE B-62-93".

THIS PROJECT WILL REHABILITATE THE EXISTING STRUCTURE, B-62-93, A THREE SPAN, 244.3'LONG 45" PRESTRESSED CONCRETE GIRDER BRIDGE SET ON CONCRETE SILL ABUTMENTS AND CONCRETE PILE ENCASED PIERS. ABUTMENT AND PIERS ARE FOUNDED ON CIP CONCRETE PILING.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

Ⓑ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO "EXCAVATION FOR STRUCTURES". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR. SEE DETAIL, SHEET 2.

AT THE BACK FACE OF WING ALL VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE TYPE A".

APPLY PIGMENTED SURFACE SEALER TO THE TOP AND ROADWAY FACE OF THE NEW PARAPET.

THE EXISTING SHOULDER PAVEMENT SURFACE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE WING. FINISHING EARTH SLOPES AT F.F. OF WING AT 2:1 SLOPE TO WING TIP IS INCLUDED WITH EXCAVATION FOR STRUCTURES.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

VERNON COMMUNICATIONS COOPERATIVE HAS ONE EXISTING 6" UTILITY CONDUIT SUSPENDED BETWEEN GIRDERS 1 AND 2. COORDINATION WILL BE NECESSARY DURING DRIVING OF TEMPORARY SHORING AND REPLACEMENT OF NORTH WING TOPS.

ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	NORTH ABUT.	SUPER	TOTAL
△	203.0220.02	REMOVING OLD STRUCTURE B-62-93	EACH	-	-	-	1
	206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES B-62-93	LS	-	1	-	1
Ⓑ	210.1500	BACKFILL STRUCTURE TYPE A	TON	-	60	-	60
	502.0100	CONCRETE MASONRY BRIDGES	CY	-	6	2	8
	502.3210	PIGMENTED SURFACE SEALER	SY	-	-	10	10
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	-	38	-	38
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	-	870	480	1350
*	509.1500	CONCRETE SURFACE REPAIR	SF	-	18	-	18
	511.1200.02	TEMPORARY SHORING B-62-93	SF	-	336	-	336
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	4	-	4
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-	55	-	55
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	-	-	2	2
	SPV.0060.02	STRAPPING B-62-93	EACH	2	-	2	4

* - THE CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION OF ALL SURFACE REPAIR LOCATIONS WITH THE ENGINEER.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS20 ★
INVENTORY RATING : HS21 ★
OPERATIONAL RATING : HS40 ★
★ - TAKEN FROM HSI, 5/26/2021
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS ★

TRAFFIC DATA:

A.A.D.T. (2022) = 4,750 A.A.D.T. (2042) = 5,580

MATERIAL PROPERTIES:

CONCRETE MASONRY, PARAPET ——— f'c = 4,000 P.S.I.
ALL OTHER ——— f'c = 3,500 P.S.I.

HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ——— fy = 60,000 P.S.I.

STRUCTURAL STEEL, ASTM A36, GRADE 36 ——— fy = 36,000 P.S.I.

LIST OF DRAWINGS

1. REHAB GENERAL PLAN
2. WING STRAPPING & DETAILS
3. WING TOP REPLACEMENT
4. SLOPED FACE PARAPET 'B'

BRIDGE OFFICE CONTACT:
AARON BONK
(608) 261-0261

DESIGN CONTACT:
LEAH RHODES
(608) 355-8945

WISCONSIN
KYLE H. BUSCH
E-46187
MADISON
WI
PROFESSIONAL ENGINEER
5/27/2021

NO.	DATE	REVISION	BY

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1230 SOUTH BLVD., BARABOO WI 53913
(608) 356-2771 www.msa-ps.com
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED SDR 08/18/21
CHIEF STRUCTURES DESIGN ENGINEER DATE

STATE PROJECT NUMBER
5160-07-71

STRUCTURE B-62-93

STH 35 OVER BAD AXE RIVER

COUNTY VERNON
TOWN/~~CITY/VILLAGE~~ GENOA

DESIGN SPEC.
REHABILITATION - N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JZ	KHB	RLR	JZ

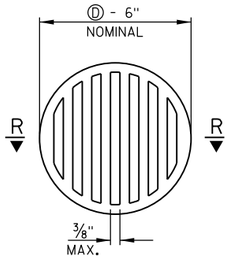
REHAB GENERAL PLAN

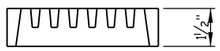
SHEET 1 OF 4
163

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STATE PROJECT NUMBER
5160-07-71





SECTION R-R

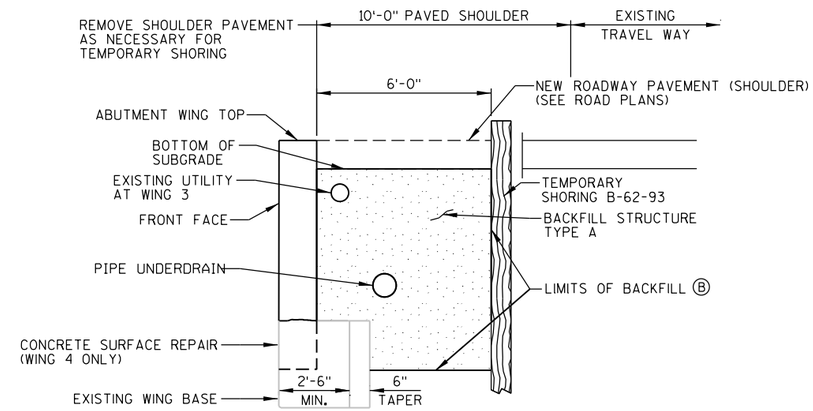
RODENT SHIELD DETAIL

Ⓓ - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

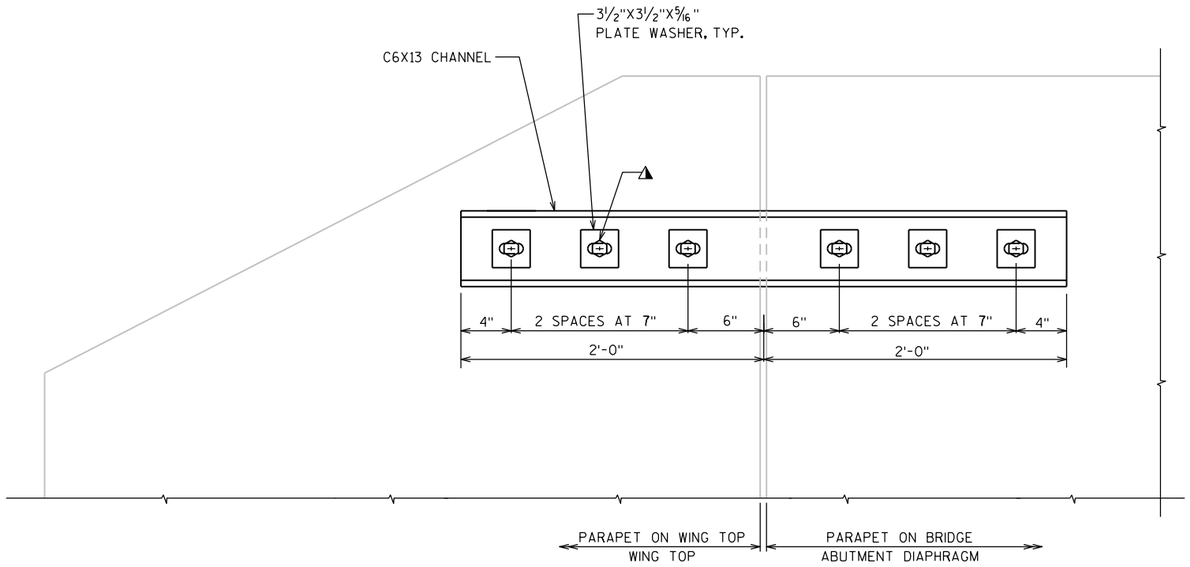
RODENT SHIELD NOTES:

ORIENT SHIELD SO SLOTS ARE VERTICAL.

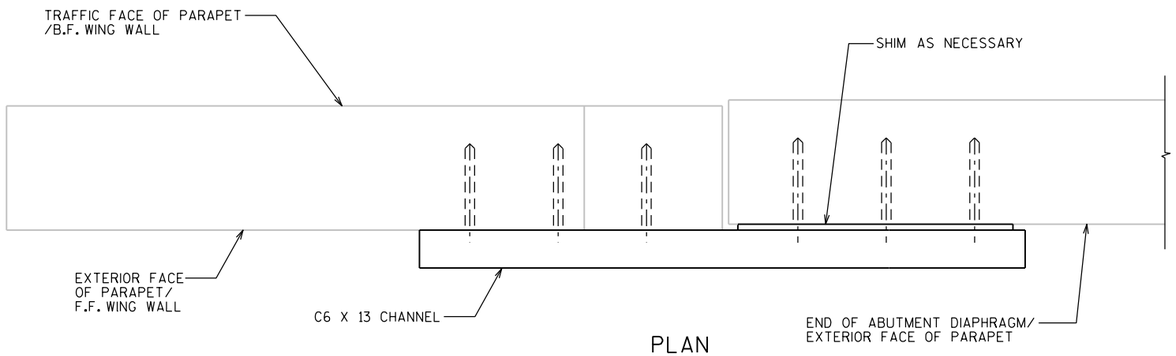
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM, "PIPE UNDERDRAIN WRAPPED 6-INCH".



STRUCTURE BACKFILL DETAIL (WINGS 3 & 4)



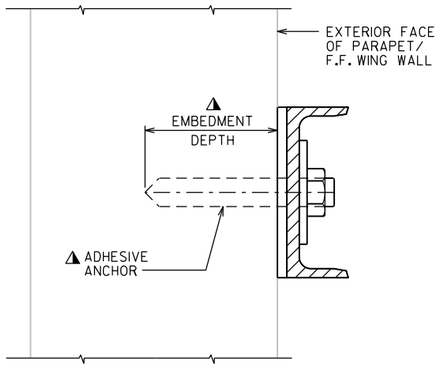
WING ELEVATION
(WINGS 1 & 2)



PLAN
(WINGS 1 & 2)

▲ ADHESIVE ANCHOR 1-INCH. EMBED 10" IN CONCRETE. SEE DETAIL "A"

USE 1 1/16" X 2 1/2" LONG SLOTTED HOLES



DETAIL "A"
SECTION THRU CHANNEL

WING STRAPPING NOTES

PLACE 2 WING STRAPS AT EACH WING LOCATION (WINGS 1 & 2). PLACE ONE STRAP ON BACK FACE OF THE PARAPET AND ONE STRAP ON THE WING TOP/ABUTMENT DIAPHRAGM.

BID ITEM SHALL BE "STRAPPING B-62-93" WHICH INCLUDES ALL ITEMS SHOWN.

ALL PROVIDED STEEL MATERIAL SHALL CONFORM TO ASTM A709 GRADE 36.

ALL STRUCTURAL STEEL SHOWN SHALL BE GALVANIZED. THREADED RODS, MASONRY ANCHORS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C.

CUTTING AND DRILLING OF CHANNEL SHALL BE DONE IN FABRICATION SHOP, PRIOR TO GALVANIZING.

ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.

CAULK AROUND PERIMETER OF CHANNEL AND FILL PORTION OF HOLE AROUND ANCHOR BOLT AND SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-93

DRAWN BY RLR | PLANS CK'D. JZ

WING STRAPPING & DETAILS

SHEET 2 OF 4
164

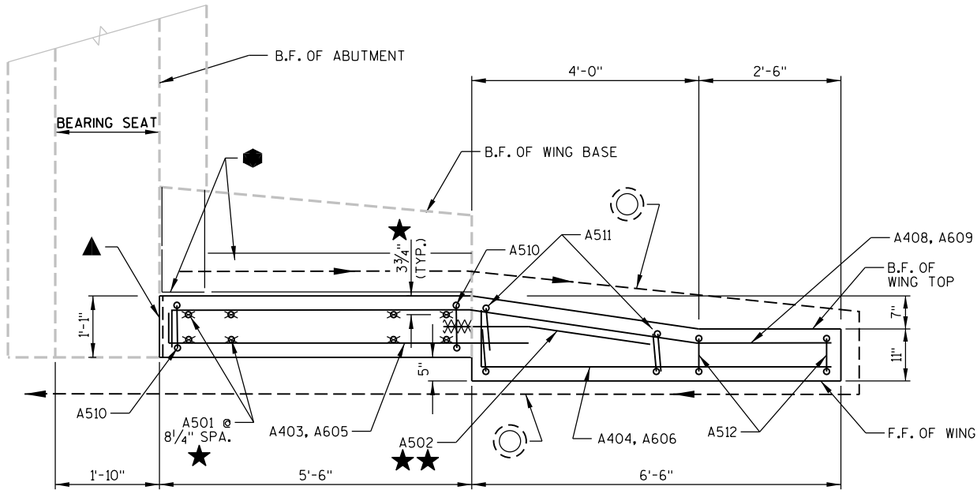
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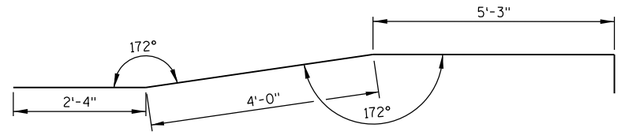
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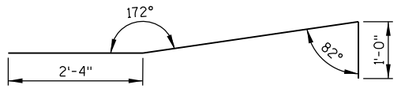
STATE PROJECT NUMBER
5160-07-71



PLAN WING 3 ◨



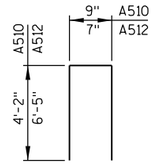
A408, A609



A407



MARK	A
A403	8"
A605	
A404	1'-0"
A606	
A511	10"



A510, A512

WING 3 SHOWN
WING 4 MIRROR IMAGE

BILL OF BARS - WING 3 435 LBS. (COATED)

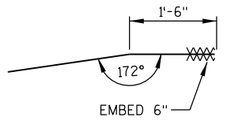
MARK	NUMBER REQ'D.	LENGTH	BENT	LOCATION
A501	16	3'-9"		WING 3 - F.F. & B.F. - VERT. ANCHOR
A502	3	3'-2"	X	WING 3 - HORIZ. ANCHOR
A403	3	6'-11"	X	WING 3 - F.F. - HORIZ.
A404	5	7'-1"	X	WING 3 - F.F. - HORIZ.
A605	1	6'-10"	X	WING 3 - F.F. - TOP - HORIZ.
A606	1	7'-0"	X	WING 3 - F.F. - TOP - HORIZ.
A407	4	7'-1"	X	WING 3 - B.F. - HORIZ.
A408	6	12'-2"	X	WING 3 - B.F. - HORIZ.
A609	1	12'-1"	X	WING 3 - B.F. - TOP - HORIZ.
A510	8	8'-10"	X	WING 3 - STIRRUP - VERT.
A511	10	7'-2"	X	WING 3 - F.F. & B.F. - VERT.
A512	4	13'-2"	X	WING 3 - STIRRUP - VERT.
A413	13	1'-9"		WING 3 - TOP - DOWEL - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

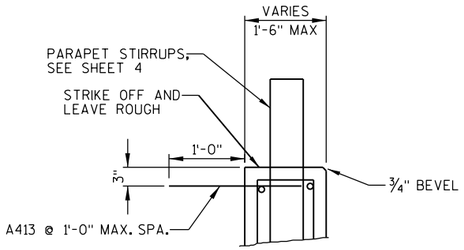
EPOXY COAT ALL BARSTEEL REINFORCEMENT.

◨ DETAILS AND BILL OF BARS FOR WING 3 ARE SHOWN. WING TOP REPLACEMENT AT WING 4 IS SIMILAR.

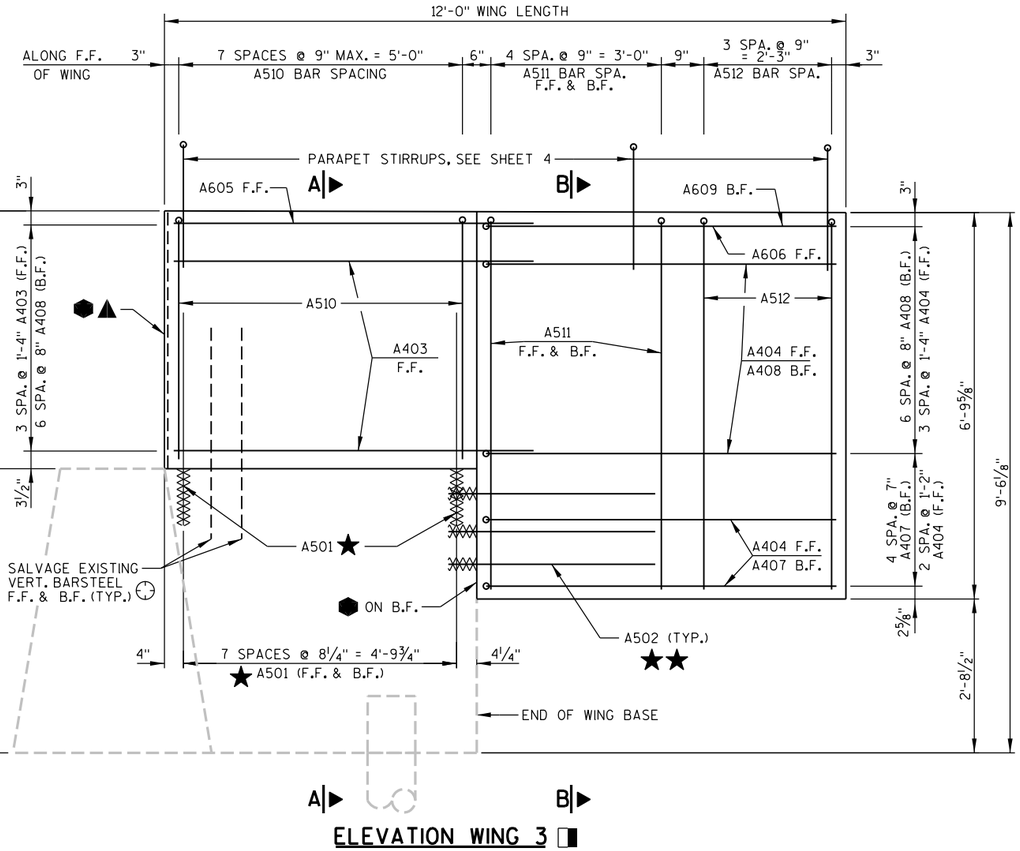
LABEL AND BUNDLE WING 4 BARS WITH B MARK (B501 THRU B413).



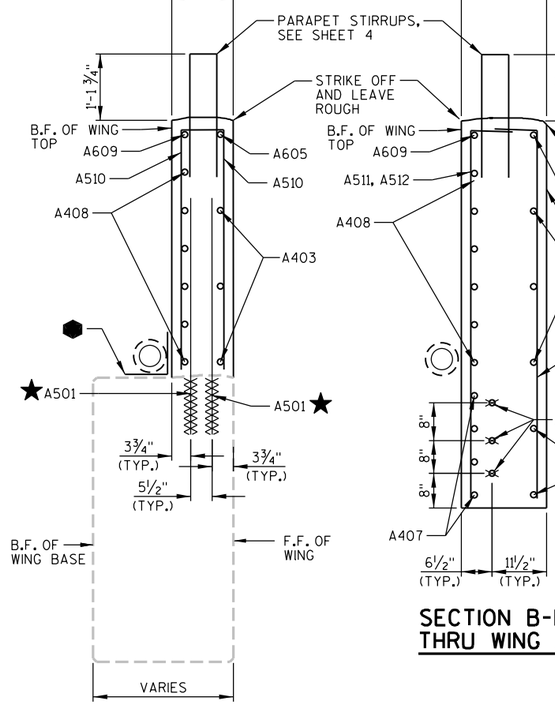
A502



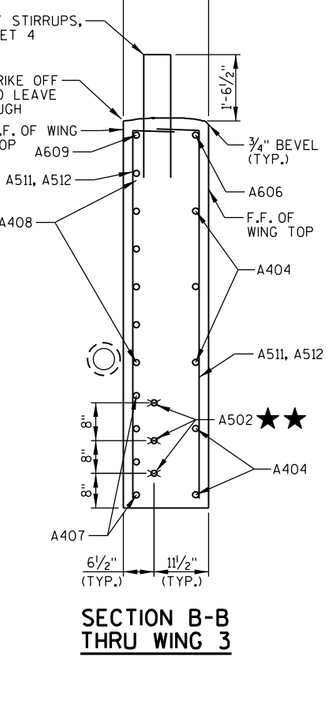
TOP OF WING DETAIL



ELEVATION WING 3 ◨



SECTION A-A THRU WING 3



SECTION B-B THRU WING 3

LEGEND

- ▲ — ½" FILLER (INCLUDED IN WING LENGTH). SEAL ALL EXPOSED HORIZONTAL & VERTICAL SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1"8" BELOW SURFACE OF CONCRETE).
- ◯ — PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT END OF PIPE UNDERDRAIN. SEE DETAIL, SHEET 2.
- ★ — ADHESIVE ANCHORS NO. 5 BAR. EMBED 12" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- ★★ — ADHESIVE ANCHORS NO. 6 BAR. EMBED 6" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- ⬢ — 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERTICAL JOINTS AT B.F.
- ⊕ — EXISTING BAR STEEL IS UNCOATED. COAT EXPOSED BAR STEEL WITH EPOXY IN ACCORDANCE WITH SECTION 505.2.4.2 OF THE STANDARD SPECIFICATION. INCIDENTAL TO CONCRETE MASONRY BRIDGES.

F.F. - FRONT FACE B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-93

DRAWN BY RLR | PLANS CK'D. JZ

WING TOP REPLACEMENT

SHEET 3 OF 4
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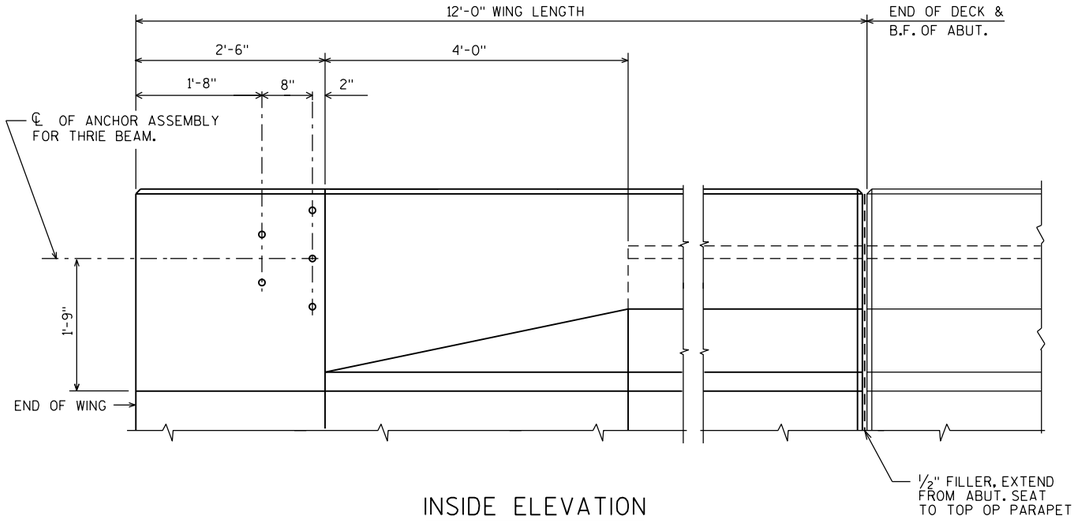
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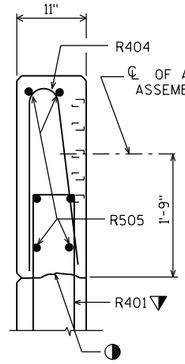
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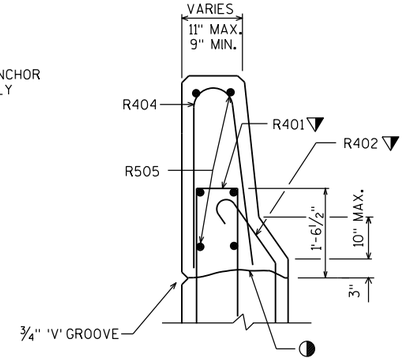
INSIDE ELEVATION

◑ CONST. JOINT - STRIKE OFF AS SHOWN.

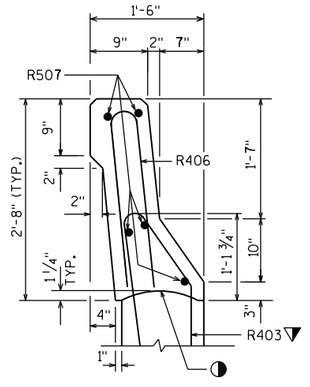
▽ R401, R402, AND R403 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.



SECTION A



SECTION B



SECTION C

BILL OF BARS
PARAPET AT WING 3

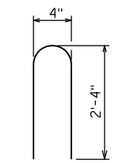
240 LBS. (COATED)

MARK	NO. REQ'D	LENGTH	BENT	LOCATION
R401	15	5'-10"	X	PARAPET BOTTOM - STIRRUP - VERT.
R402	4	3'-1"	X	PARAPET BOTTOM - TIE - VERT.
R403	8	4'-7"	X	PARAPET BOTTOM - STIRRUP - VERT.
R404	15	4'-9"	X	PARAPET - END - TOP - STIRRUP - VERT.
R505	6	6'-2"		PARAPET - END - LONGIT.
R406	8	4'-10"	X	PARAPET - TOP - STIRRUP - VERT.
R507	5	7'-3"		PARAPET - LONGIT.

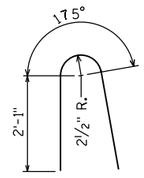
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

EPOXY COAT ALL BARSTEEL REINFORCEMENT.

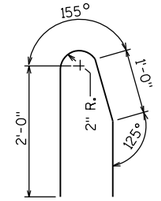
DETAILS AND BILL OF BARS FOR PARAPET AT WING 3 ARE SHOWN. PARAPET AT WING 4 IS SIMILAR.



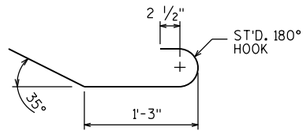
R406



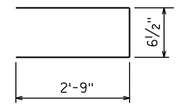
R404



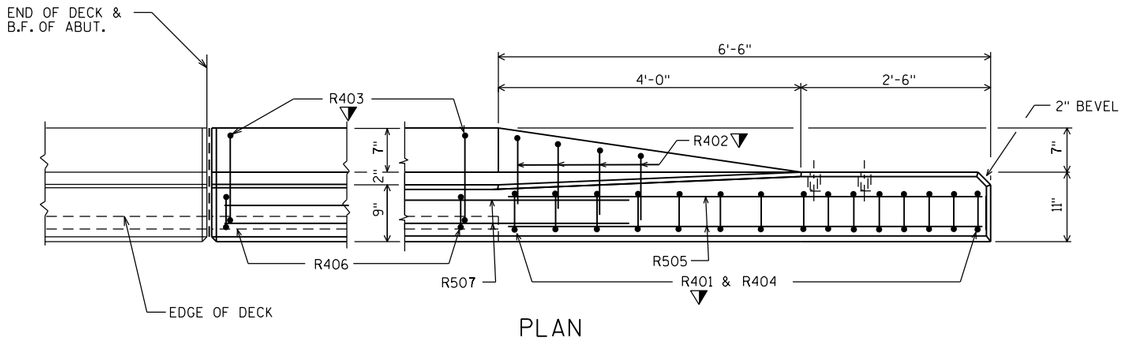
R403



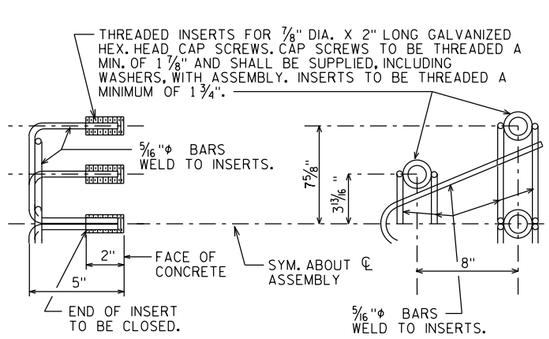
R402



R401

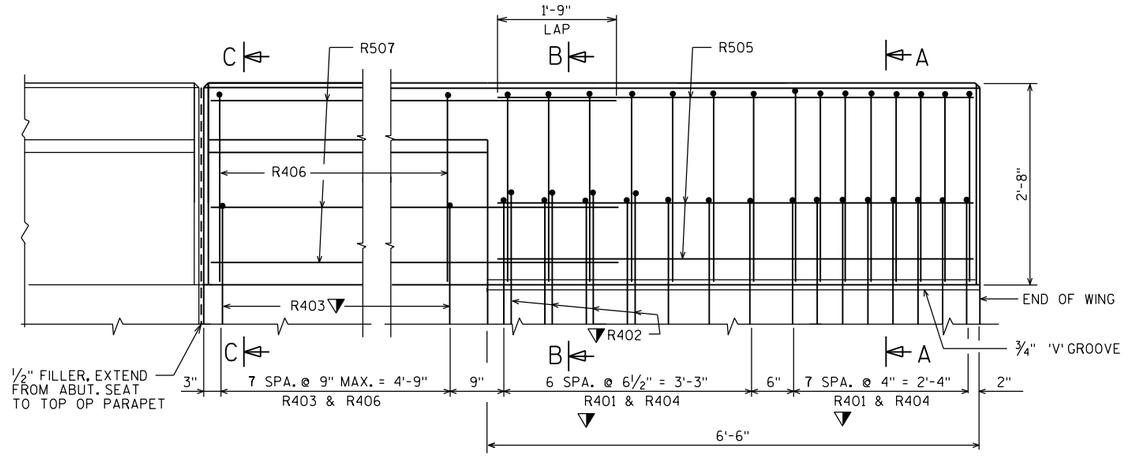


PLAN



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.



OUTSIDE ELEVATION

PARAPET AT WING 3 SHOWN
PARAPET AT WING 4 MIRROR IMAGE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-93

DRAWN BY RLR | PLANS CK'D. JZ

SLOPED FACE PARAPET 'B'

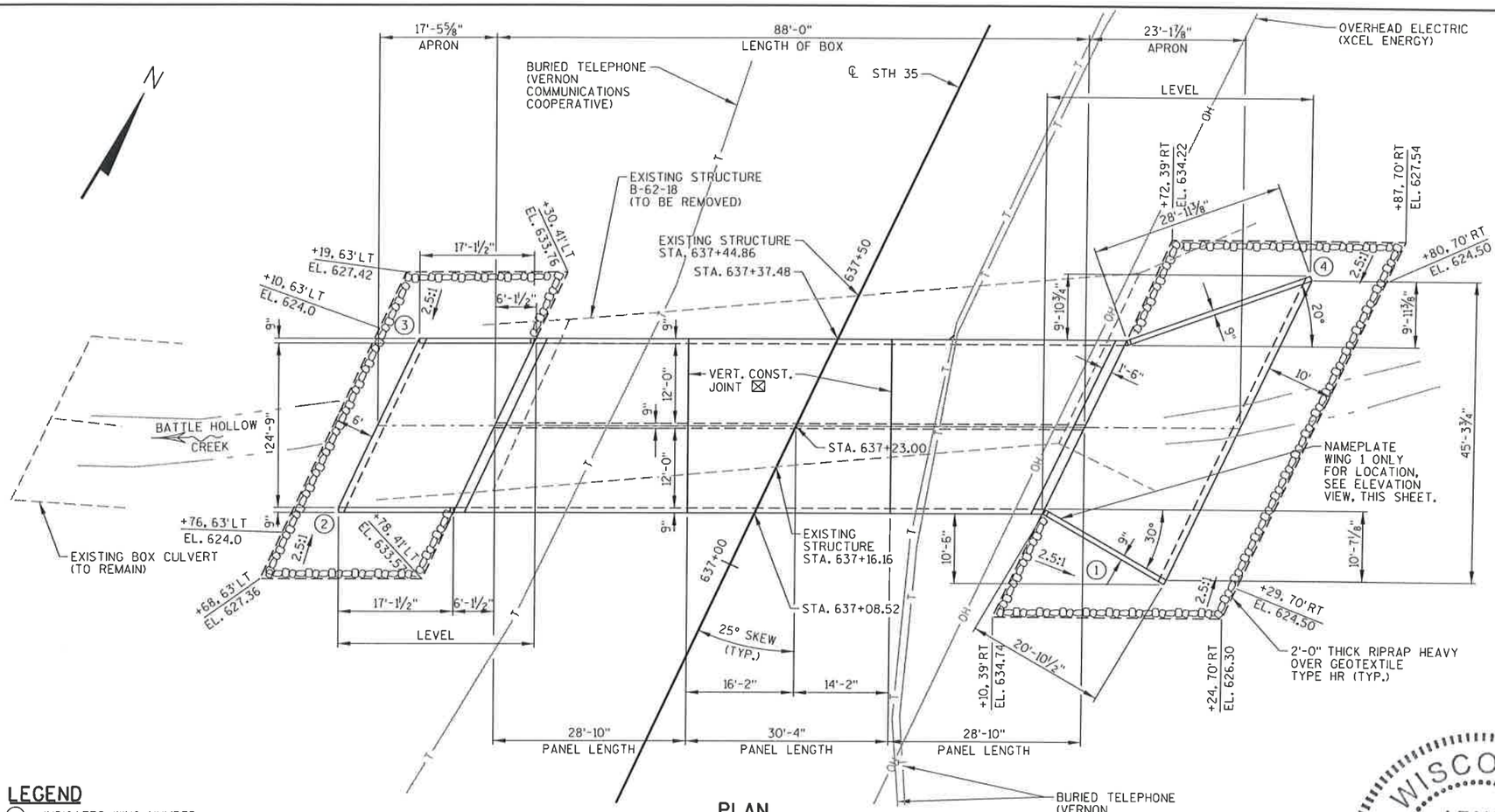
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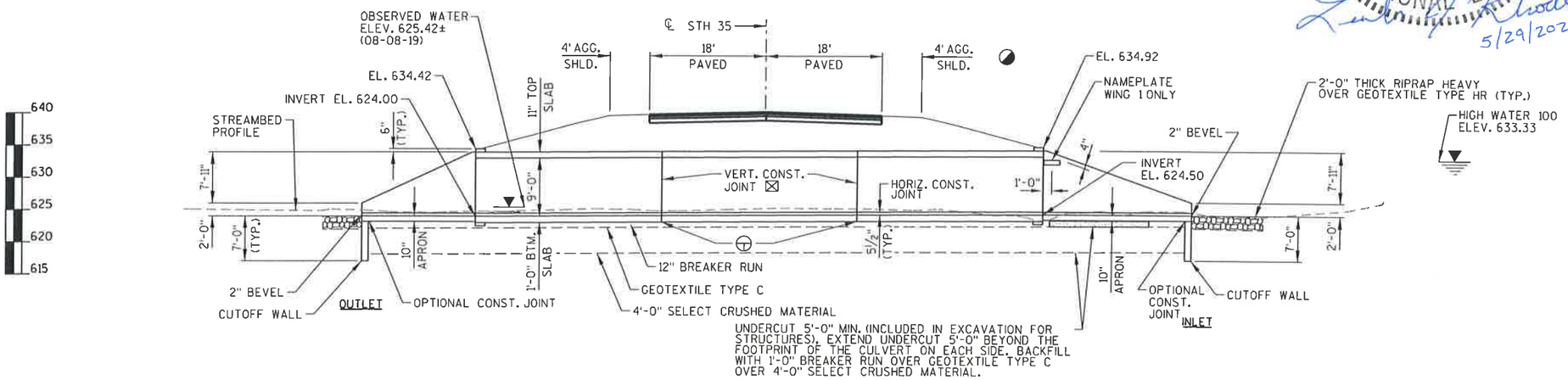


PLAN

TWO CELL REINFORCED CONCRETE BOX CULVERT

LEGEND

- ◯ - INDICATES WING NUMBER
- ◪ - DIMENSION GIVEN NORMAL TO ℄ STH 35.
- ⊠ - 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING UP WALLS AND ACROSS TOP SLAB.
- ⊕ - IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY PROVIDE 2" DEEP SAWCUTS WITHIN 12 HOURS AFTER POURING.



ELEVATION

(LOOKING NORTH)

STATE PROJECT NUMBER

5160-07-71

BENCHMARKS

NO.	STATION	DESCRIPTION	ELEV.
5	636+90, 101.5' LT	CHISELED X ON HEADER	637.54
6	636+95, 36.7' LT	CHISELED X ON HEADER	632.65

DESIGN DATA

LIVE LOAD:
- DESIGN LOADING: HL-93
- INVENTORY RATING FACTOR: 1.05
- OPERATIONAL RATING FACTOR: 1.35
- WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 255 KIPS

EARTH LOAD: DESIGNED FOR 6 FEET OF FILL

TRAFFIC DATA:
- A.A.D.T. (2022) = 4645
- A.A.D.T. (2042) = 5450
- R.D.S. = 60 MPH

MATERIAL PROPERTIES:
- CONCRETE MASONRY — f'c = 3,500 P.S.I.
- BAR STEEL REINFORCEMENT HS STRUCTURES — fy = 60,000 P.S.I.

FOUNDATION DATA:
- ALLOWABLE SOIL BEARING CAPACITY — 2,000 P.S.F.

HYDRAULIC DATA:
100 YEAR FREQUENCY
- DRAINAGE AREA — 3.85 SQ. MI.
- Q_{100} — 1180 C.F.S.
- VELOCITY — 6.12 F.P.S.
- WATERWAY AREA — 193 SQ. FT.
- HIGH WATER $_{100}$ ELEVATION — 633.33
- ROADWAY OVERFLOW DESIGN FREQUENCY — >100 YEARS
- SCOUR CRITICAL CODE — 8
- Q_2 ELEVATION (160 C.F.S.) — 627.60
- $VELOCITY_2$ — 2.12 F.P.S.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES, NOTES & DETAILS
3. BOX CULVERT
4. BOX CULVERT DETAILS
5. INLET DETAILS
6. OUTLET DETAILS
7. SUBSURFACE EXPLORATION

CONSULTANT DESIGN CONTACT:
LEAH RHODES
(608) 355-8945

BRIDGE OFFICE CONTACT:
AARON BONK
(608) 261-0261

WISCONSIN
LEAH J. RHODES
E-41726
BARABOO
WI
PROFESSIONAL ENGINEER

Leah J. Rhodes 5/29/2021

NO.	DATE	REVISION	BY

MSA ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1702 PANKRATZ ST., MADISON WI 53704
(608) 242-7779 www.msa-ps.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 08/18/21
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-62-264

STH 35 OVER BATTLE HOLLOW CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
VERNON	WHEATLAND

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFM	JZ	RLR	JZ

GENERAL PLAN

SHEET 167 OF 7

8

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FILE= 936540_B-62-264_01.DGN
DATE= 5/28/2021

STATE PROJECT NUMBER
5160-07-71

STRUCTURE ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	TOTAL
203.0220.01	REMOVING OLD STRUCTURE B-62-18	EACH	1
206.2000.01	EXCAVATION FOR STRUCTURES CULVERTS B-62-264	LS	1
206.5000.01	COFFERDAM B-62-264	LS	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	2,005
311.0110	BREAKER RUN	TON	328
312.0110	SELECT CRUSHED MATERIAL	TON	1,385
504.0100	CONCRETE MASONRY CULVERTS	CY	303
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	43,090
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,380
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	31
606.0300	RIPRAP HEAVY	CY	140
645.0105	GEOTEXTILE TYPE C	SY	575
645.0120	GEOTEXTILE TYPE HR	SY	305
	NON-BID ITEMS		
	PREFORMED FILLER	SIZE	¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE ALTERNATE CUT OFF WALL MAY BE USED IN LIEU OF THE CAST IN PLACE CUT OFF WALLS. PAYMENT SHALL BE BASED ON CONCRETE CUT OFF WALLS.

⚠ ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE, BREAKER RUN, OR SELECT CRUSHED MATERIAL SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE B TO THE ELEVATION OF THE ROADWAY SUBGRADE. BACKFILL STRUCTURE TYPE B IS REQUIRED BEHIND ALL WINGWALLS. THE BACKFILL STRUCTURE TYPE B ESTIMATED QUANTITIES ASSUMED A COFFERDAM WILL BE INSTALLED 5'FROM THE OUTER EDGES OF THE STRUCTURE.

A TEMPORARY WATER DIVERSION SHALL BE PROVIDED DURING CONSTRUCTION OF THE NEW CULVERT. THE TEMPORARY WATER DIVERSION BID ITEM IS DETAILED IN THE SPECIAL PROVISIONS AND PROVIDED IN THE ROADWAY QUANTITES.

THIS STRUCTURE WILL REPLACE THE EXISTING STRUCTURE B-62-18, A 12'WIDE X 9'HIGH TWO CELL REINFORCED CONCRETE BOX CULVERT.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS B-62-264" SHALL BE THE EXISTING GROUND LINE.

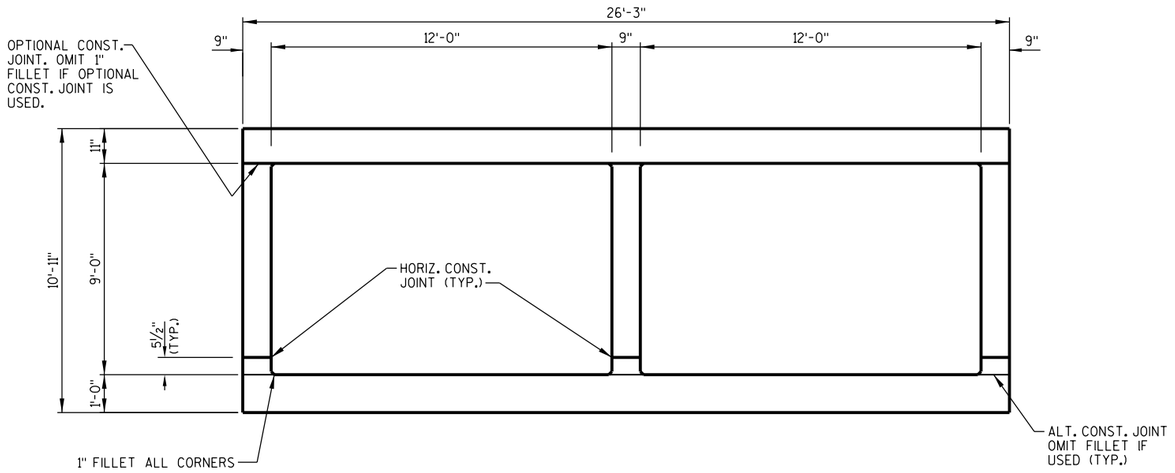
THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH THE ACCEPTANCE OF THE SHOP DRAWINGS BY THE STRUCTURES MAINTENANCE SECTION. THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO PRECAST DETAILS IN CHAPTER 36 STANDARDS OF THE CURRENT WISCONSIN DOT BRIDGE MANUAL. PAYMENT FOR THE PRECAST CULVERT SHALL BE BASED ON THE QUANTITIES AND PRICES BID FOR THE ITEMS LISTED IN THE "STRUCTURE ESTIMATED QUANTITIES".

IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED TO DETERMINE IF "OTHER GRANULAR MATERIAL" IS ACCEPTABLE.

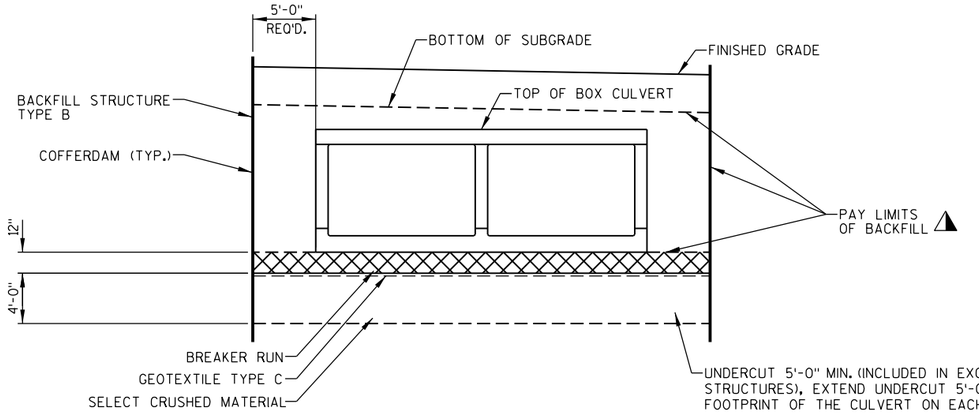
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NAVD 88 (2012 ADJUSTED), AND WERE ESTABLISHED AT THE SITE USING GPS TECHNOLOGY.

APRONS AND BOTTOM SLAB OF END PANELS MAY BE POURED CONTINUOUSLY.

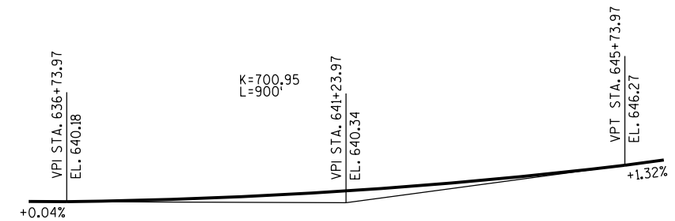
AT A MINIMUM, COFFERDAMS SHALL REMAIN IN PLACE UNTIL UNDERCUT AND CUTOFF WALLS ARE INSTALLED AND THE BOTTOM SLAB HAS BEEN IN PLACE FOR 48 HOURS.



TYPICAL SECTION THRU BOX



BOX BACKFILL STRUCTURE DETAIL



PROFILE GRADE LINE - STH 35

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-264

DRAWN BY RLR | PLANS CK'D. LJR

CROSS SECTION, QUANTITIES, NOTES & DETAILS

SHEET 2 OF 7
168

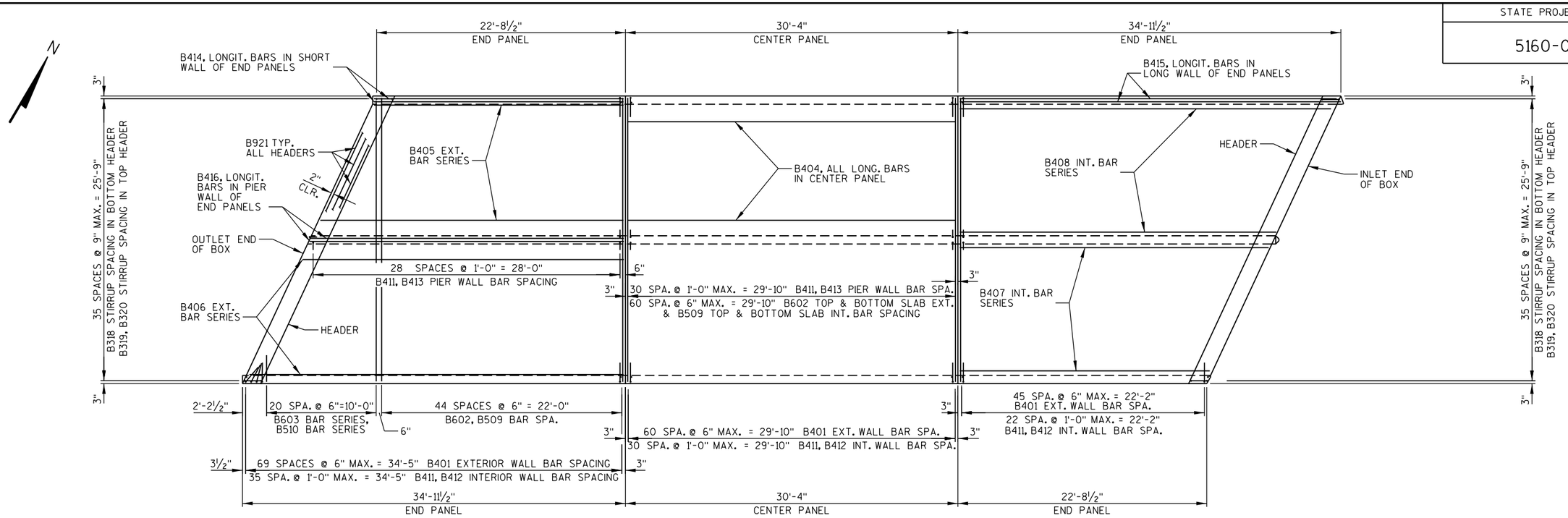
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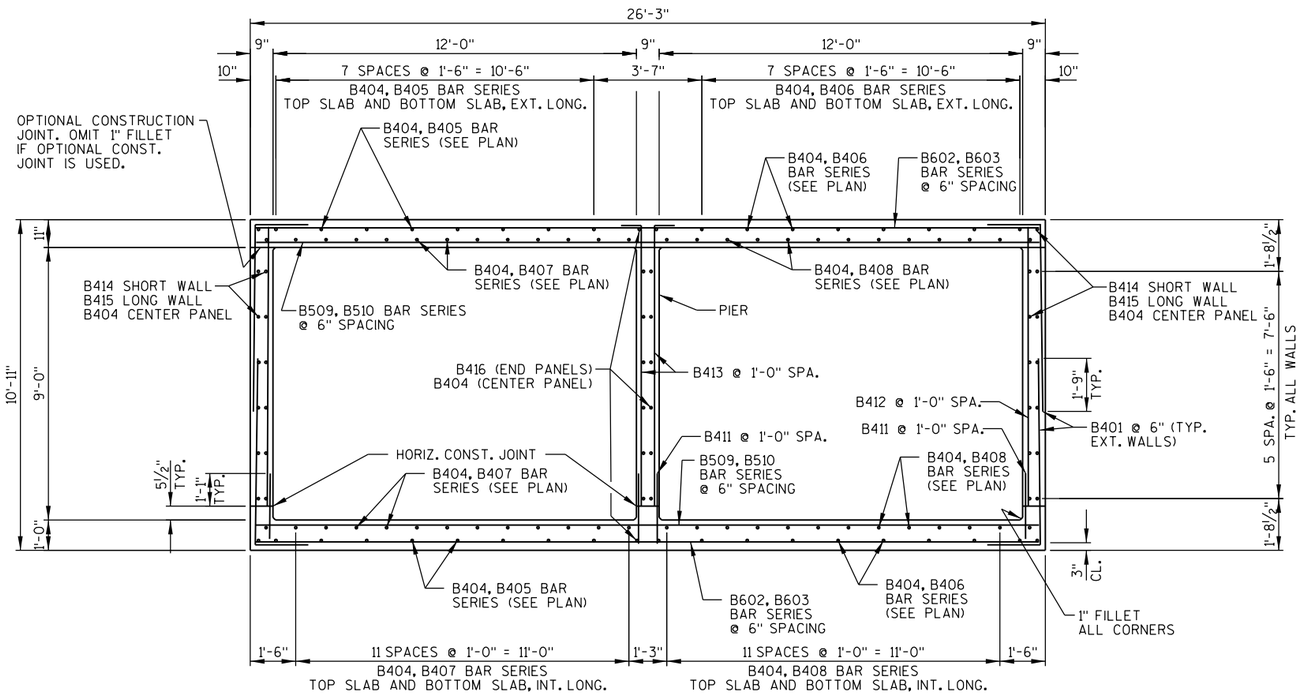
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STATE PROJECT NUMBER
5160-07-71

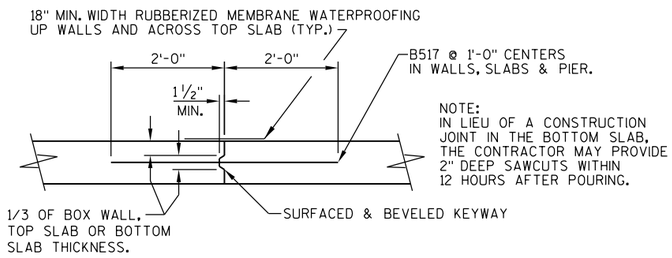


PLAN VIEW OF BOX CULVERT

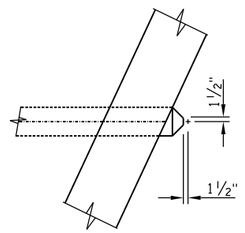
REINFORCING DETAILS SHOWN ARE SYMMETRICAL
180° ABOUT CENTER POINT OF BOX



TYPICAL SECTION THRU BOX



VERTICAL CONSTRUCTION JOINT



INLET NOSE DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-264

DRAWN BY CAR | PLANS CK'D. JZ

BOX CULVERT

SHEET 7 OF 7
169

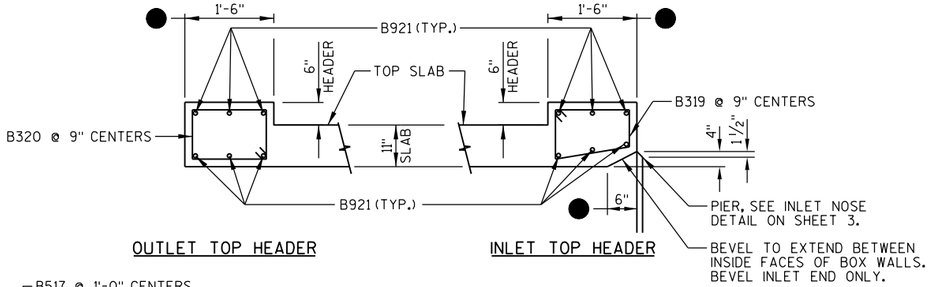
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DATE=5/28/2021

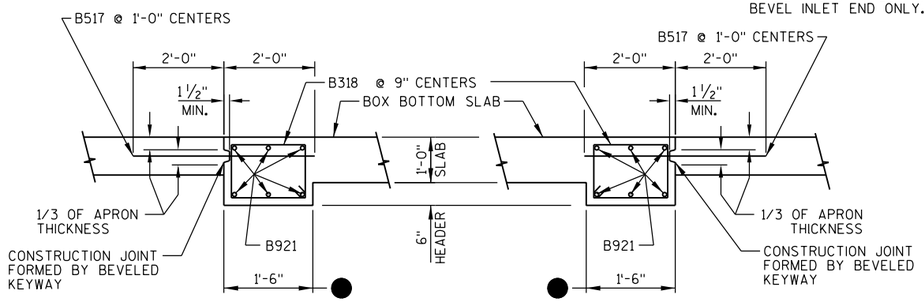
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STATE PROJECT NUMBER
5160-07-71



OUTLET TOP HEADER

INLET TOP HEADER



OUTLET BOTTOM HEADER

INLET BOTTOM HEADER

NOTE:
IN LIEU OF A CONSTRUCTION JOINT IN THE BOTTOM SLAB, THE CONTRACTOR MAY PROVIDE 2" DEEP SAWCUT WITHIN 12 HOURS AFTER POURING.

HEADER DETAILS

● - DIMENSIONS ARE GIVEN NORMAL TO THE END OF BOX

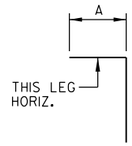
BILL OF BARS

UNCOATED 40,610 LBS.

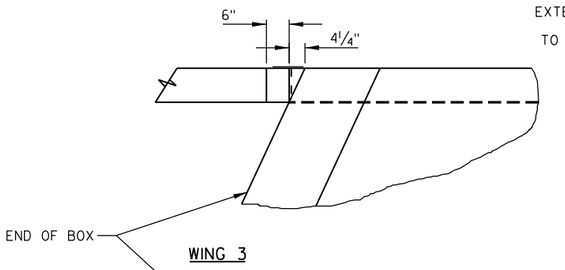
MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401	708	7'-10"	X		BOX CORNERS - EXT. - VERT./TRANS.
B602	302	25'-11"			TOP & BOTTOM SLAB - EXT. - TRANS.
B603	84	14'-11"		Ⓢ	TOP & BOTTOM SLAB - END PANEL - EXT. - TRANS.
B404	128	30'-0"			CENTER PANEL - ALL - LONGIT.
B405	32	25'-2"		Ⓢ	END PANEL - SHORT SIDE - EXT. - LONGIT.
B406	32	31'-9"		Ⓢ	END PANEL - LONG SIDE - EXT. - LONGIT.
B407	48	25'-7"		Ⓢ	END PANEL - SHORT SIDE - INT. - LONGIT.
B408	48	31'-4"		Ⓢ	END PANEL - LONG SIDE - INT. - LONGIT.
B509	302	25'-11"			TOP & BOTTOM SLAB - INT. - TRANS.
B510	84	14'-11"		Ⓢ	TOP & BOTTOM SLAB - END PANEL - INT. - TRANS.
B411	358	2'-5"			WALL DOWELS - BOTTOM - VERT.
B412	180	9'-3"			WALLS - INTERIOR - VERT.
B413	178	9'-10"	X		WALLS - PIER - VERT.
B414	32	22'-5"			END PANEL - SHORT WALL - LONGIT.
B415	32	34'-4"			END PANEL - LONG WALL - LONGIT.
B416	32	28'-4"			END PANEL - PIER WALL - LONGIT.
B517	216	4'-0"			CONSTRUCTION JOINT DOWEL - LONGIT.
B318	72	5'-3"	X		INLET & OUTLET BOTTOM HEADER - STIRRUP - VERT
B319	36	4'-9"	X		INLET TOP HEADER - STIRRUP - VERT.
B320	36	5'-1"	X		OUTLET TOP HEADER - STIRRUP - VERT.
B921	24	28'-7"			HEADERS - ALL - TRANS.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

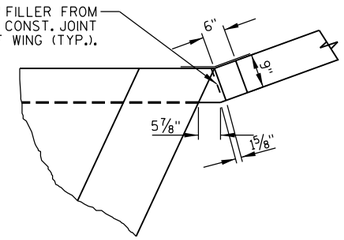
Ⓢ - LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



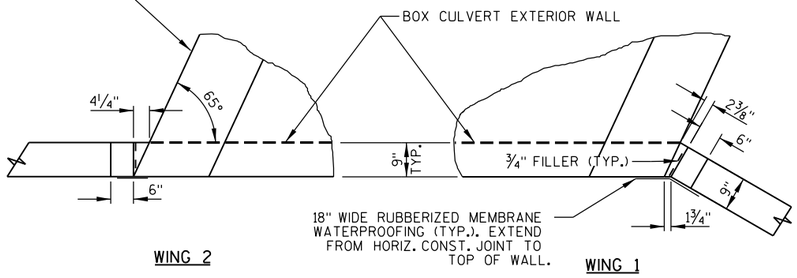
MARK	A
B401	1'-9"
B413	8"



WING 3



WING 4

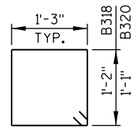


WING 2

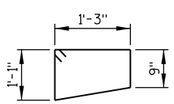
WING 1

PLAN - CORNER DETAILS

SEE SHEETS 5 & 6 FOR WING DETAILS



B318, B320



B319

BAR SERIES TABLE

MARK	NO. REQUIRED	LENGTH
B603	4 SERIES OF 21	4'-2" TO 25'-7"
B405	4 SERIES OF 8	22'-9" TO 27'-8"
B406	4 SERIES OF 8	29'-4" TO 34'-3"
B407	4 SERIES OF 12	23'-1" TO 28'-2"
B408	4 SERIES OF 12	28'-9" TO 33'-11"
B510	4 SERIES OF 21	4'-2" TO 25'-7"

BUNDLE AND TAG EACH SERIES SEPARATELY

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-264

DRAWN BY CAR | PLANS CK'D. JZ

BOX CULVERT DETAILS

SHEET 4 OF 7
170

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STATE PROJECT NUMBER
5160-07-71

COATED 2000 LBS.
UNCOATED 1610 LBS.

BAR SERIES TABLE

MARK	NO. REQUIRED	LENGTH
A403	2 SERIES OF 21	15'-1" TO 25'-9"
A405	1 SERIES OF 9	4'-0" TO 21'-7"
A406	1 SERIES OF 9	3'-3" TO 21'-6"
A408	1 SERIES OF 5	2'-6" TO 4'-10"
A409	1 SERIES OF 10	4'-2" TO 9'-1"
A411	2 SERIES OF 5	3'-8" TO 19'-2"
A413	1 SERIES OF 8	7'-7" TO 10'-3"
A516	1 SERIES OF 9	4'-4" TO 6'-8"
A617	1 SERIES OF 13	6'-10" TO 9'-1"
A418	1 SERIES OF 6	2'-5" TO 4'-6"
A419	1 SERIES OF 14	3'-9" TO 9'-1"
A421	2 SERIES OF 5	5'-1" TO 26'-8"
A423	1 SERIES OF 11	7'-6" TO 10'-4"
A524	1 SERIES OF 13	4'-2" TO 6'-8"
A625	1 SERIES OF 18	6'-10" TO 9'-1"

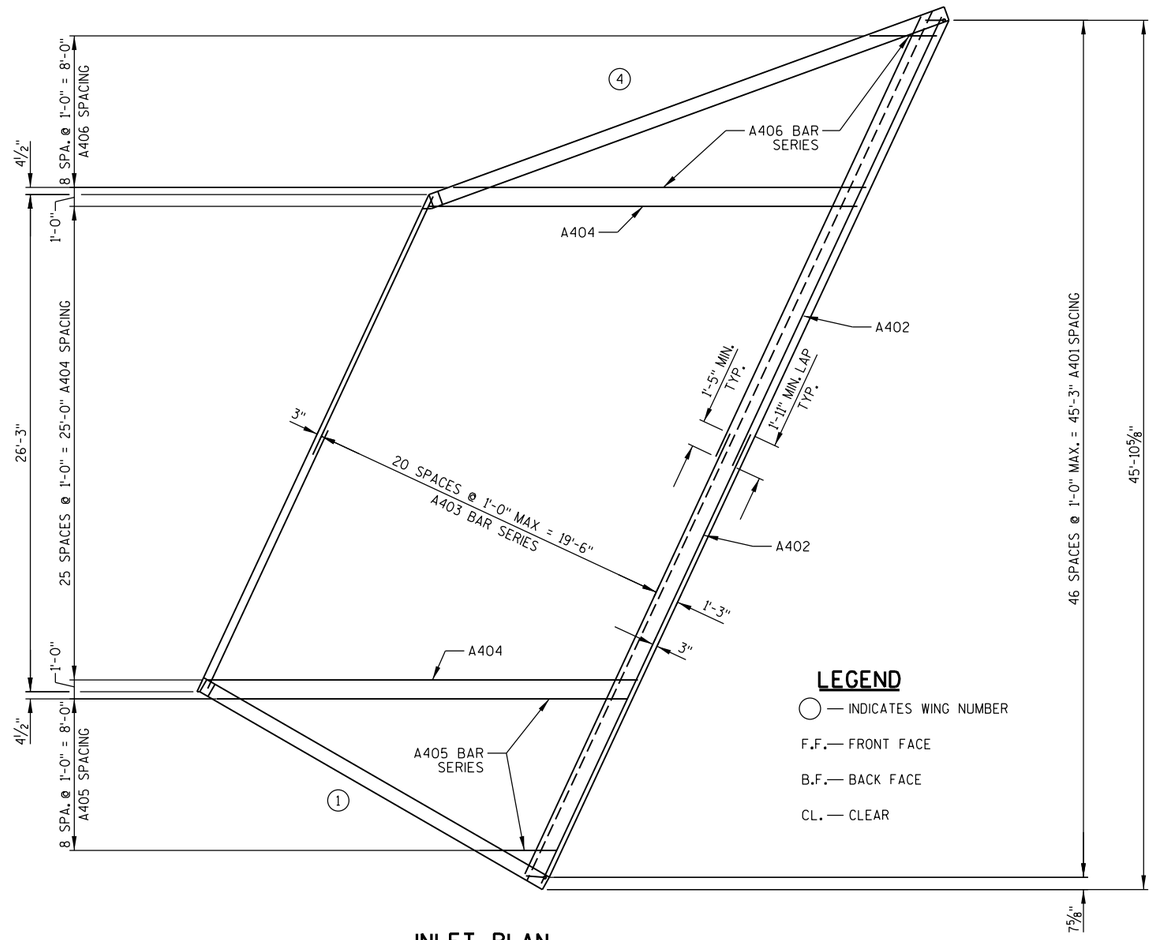
BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
A401	-	47	7'-6"	X		INLET APRON CUT-OFF WALL - VERT.
A402	-	14	27'-2"			INLET APRON CUT-OFF WALL - TRANS.
A403	-	42	20'-5"		Ⓢ	INLET APRON - TRANS.
A404	-	26	22'-8"			INLET APRON - LONGIT.
A405	-	9	12'-10"		Ⓢ	INLET APRON @ WING 1 - LONGIT.
A406	-	9	12'-5"		Ⓢ	INLET APRON @ WING 4 - LONGIT.
A407	24	-	2'-11"			WINGS 1& 4 - F.F. DOWELS - VERT.
A408	5	-	3'-8"		Ⓢ	WING 1 - F.F. - END - VERT.
A409	10	-	6'-8"		Ⓢ	WING 1 - F.F. - VERT.
A410	4	-	20'-6"			WING 1 & INLET APRON - LONGIT.
A411	10	-	11'-5"		Ⓢ	WING 1 - F.F. & B.F. - LONGIT.
A512	2	-	21'-11"			WING 1 - F.F. & B.F. - TOP - LONGIT.
A413	8	-	8'-11"	X	Ⓢ	WING 1 - B.F. - END - VERT.
A514	22	-	10'-5"	X		WINGS 1& 4 - B.F. - VERT.
A615	31	-	11'-10"	X		WINGS 1& 4 - B.F. - VERT.
A516	9	-	5'-6"		Ⓢ	WING 1 - B.F. - VERT.
A617	13	-	8'-0"		Ⓢ	WING 1 - B.F. - VERT.
A418	6	-	3'-6"		Ⓢ	WING 4 - F.F. - END - VERT.
A419	14	-	6'-5"		Ⓢ	WING 4 - F.F. - VERT.
A420	4	-	28'-7"			WING 4 & INLET APRON - LONGIT.
A421	10	-	15'-11"		Ⓢ	WING 4 - F.F. & B.F. - LONGIT.
A522	2	-	29'-7"			WING 4 - F.F. & B.F. - TOP - LONGIT.
A423	11	-	8'-11"	X	Ⓢ	WING 4 - B.F. - END - VERT.
A524	13	-	5'-5"		Ⓢ	WING 4 - B.F. - VERT.
A625	18	-	8'-0"		Ⓢ	WING 4 - B.F. - VERT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

Ⓢ - LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.



INLET PLAN

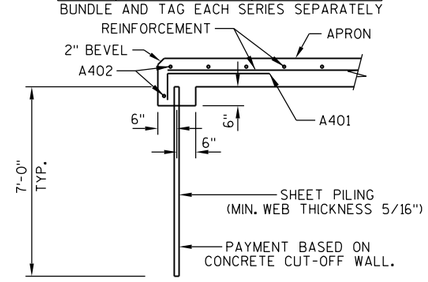
LEGEND

◯ — INDICATES WING NUMBER

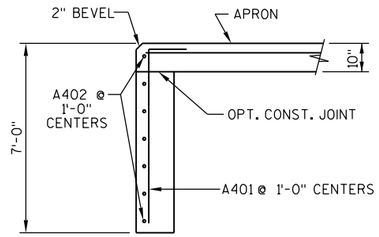
F.F. — FRONT FACE

B.F. — BACK FACE

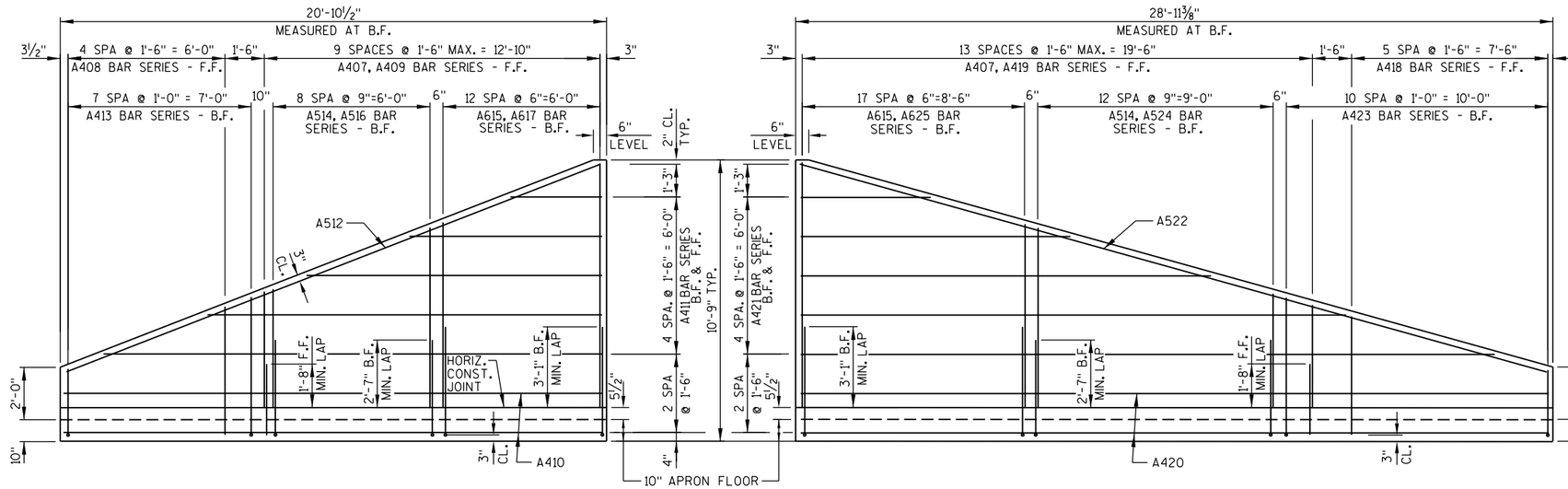
CL. — CLEAR



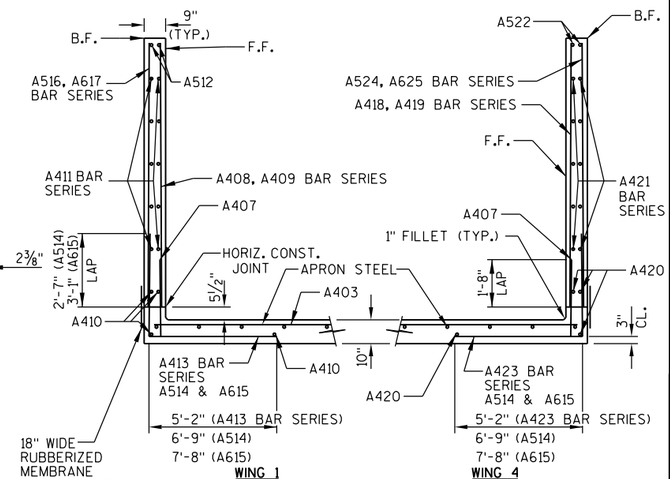
ALTERNATE CUT-OFF WALL



SECTION THRU INLET CUT-OFF WALL



WING 1 — INLET WING ELEVATIONS — WING 4



SECTION THRU WINGS

(NORMAL TO WINGWALLS)

MARK	A
A401	1'-0"
A413	5'-2"
A423	5'-2"
A514	6'-9"
A615	7'-8"

THIS LEG HORIZ. — A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-264

DRAWN BY CAR | PLANS CK'D. JZ

INLET DETAILS

SHEET 5 OF 7
171

8

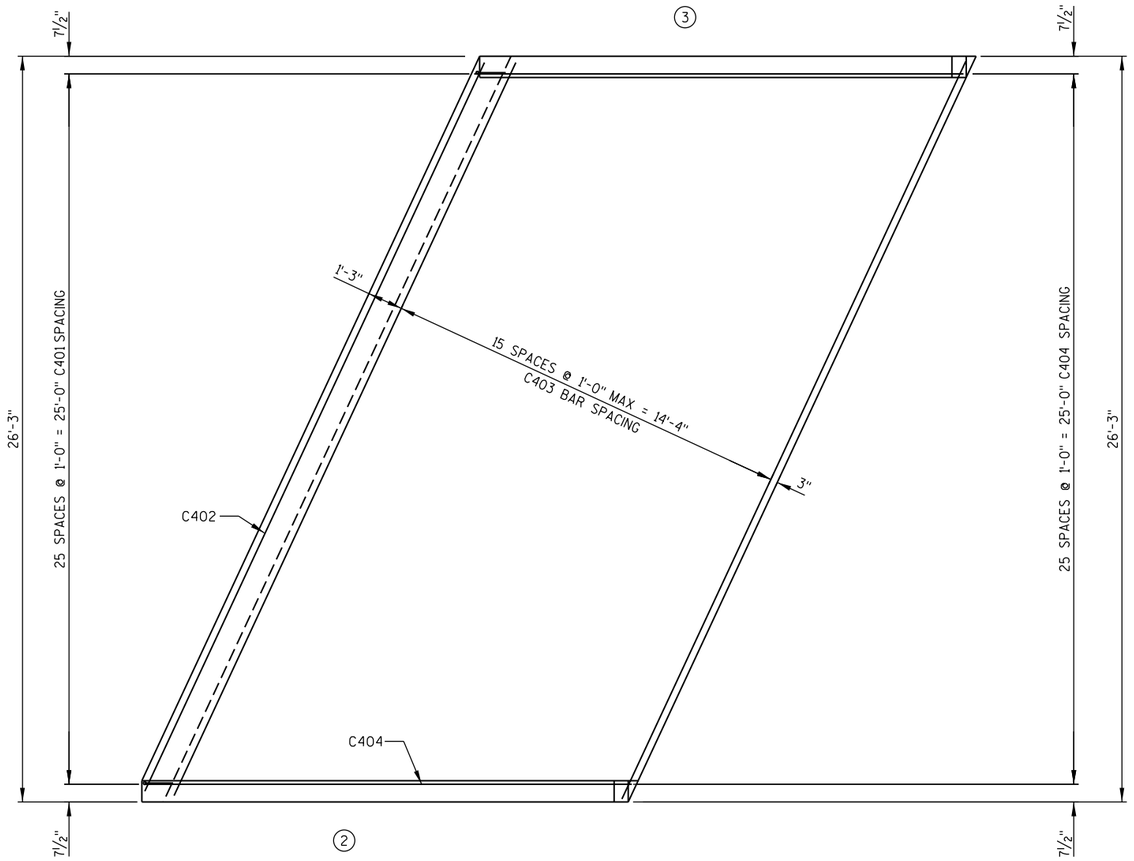
8

FILE= 936540_B-62-264_05.dgn
DATE=5/27/2021

936540_B-62-264_05.dgn 5/27/2021 9:01:37 AM CRooyakkers

STATE PROJECT NUMBER
5160-07-71

COATED 1380 LBS.
UNCOATED 870 LBS.



OUTLET APRON PLAN

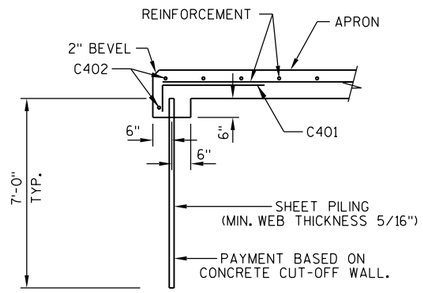
LEGEND

◯ — INDICATES WING NUMBER

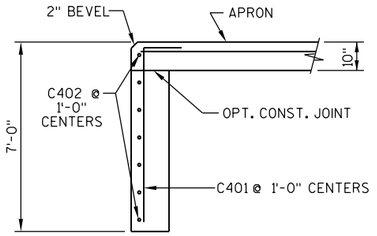
F.F. — FRONT FACE

B.F. — BACK FACE

CL. — CLEAR



ALTERNATE CUT-OFF WALL



SECTION THRU OUTLET CUT-OFF WALL

BILL OF BARS

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
C401	-	26	7'-6"	X		OUTLET APRON CUT-OFF WALL - VERT.
C402	-	7	28'-2"			OUTLET APRON CUT-OFF WALL - TRANS.
C403	-	16	28'-7"			OUTLET APRON - TRANS.
C404	-	26	17'-0"			OUTLET APRON - LONGIT.
C405	14	-	2'-11"			WINGS 2 & 3 - F.F. DOWELS - VERT.
C406	10	-	4'-0"		Ⓢ	WINGS 2 & 3 - F.F. - END - VERT.
C407	14	-	7'-0"		Ⓢ	WINGS 2 & 3 - F.F. - VERT.
C408	8	-	16'-8"			WINGS 2 & 3 & OUTLET APRON - LONGIT.
C409	20	-	9'-5"		Ⓢ	WINGS 2 & 3 - F.F. & B.F. - LONGIT.
C510	4	-	18'-4"			WINGS 2 & 3 - F.F. & B.F. - TOP - LONGIT.
C411	14	-	9'-0"	X	Ⓢ	WINGS 2 & 3 - B.F. - END - VERT.
C512	14	-	10'-5"	X		WINGS 2 & 3 - B.F. - VERT.
C613	22	-	11'-10"	X		WINGS 2 & 3 - B.F. - VERT.
C514	14	-	5'-6"		Ⓢ	WINGS 2 & 3 - B.F. - VERT.
C615	22	-	7'-11"		Ⓢ	WINGS 2 & 3 - B.F. - VERT.

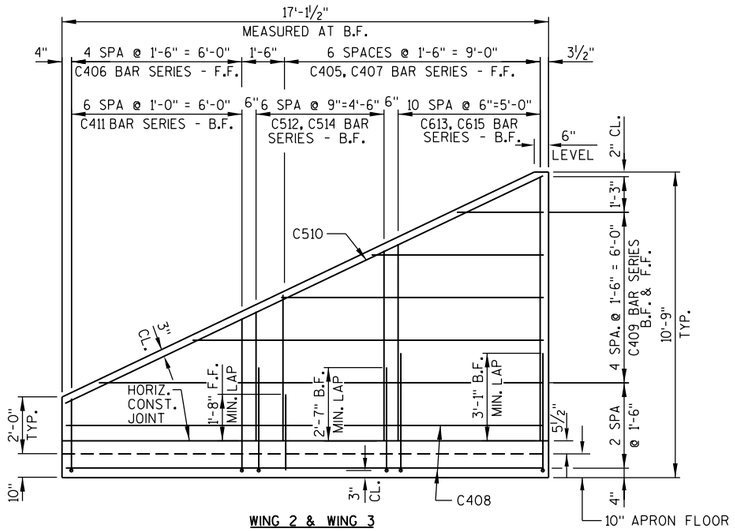
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

Ⓢ - LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.

BAR SERIES TABLE

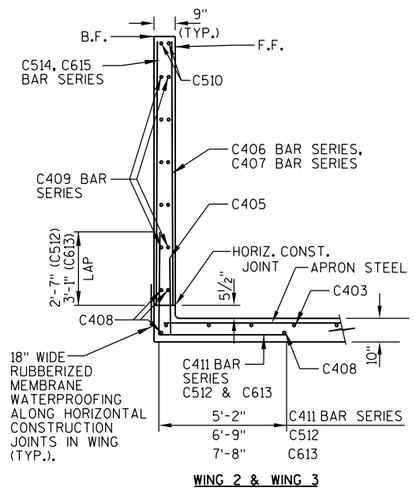
MARK	NO. REQUIRED	LENGTH
C406	2 SERIES OF 5	2'-6" TO 5'-5"
C407	2 SERIES OF 7	4'-11" TO 9'-1"
C409	4 SERIES OF 5	3'-1" TO 15'-8"
C411	2 SERIES OF 7	7'-7" TO 10'-6"
C514	2 SERIES OF 7	4'-5" TO 6'-7"
C615	2 SERIES OF 11	6'-9" TO 9'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY



WING 2 & WING 3

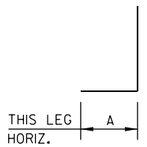
OUTLET WING ELEVATIONS



WING 2 & WING 3

SECTION THRU WINGS

(NORMAL TO WINGWALLS)



MARK	A
C401	1'-0"
C411	5'-2"
C512	6'-9"
C613	7'-8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-264

DRAWN BY CAR | PLANS CK'D. JZ

OUTLET DETAILS

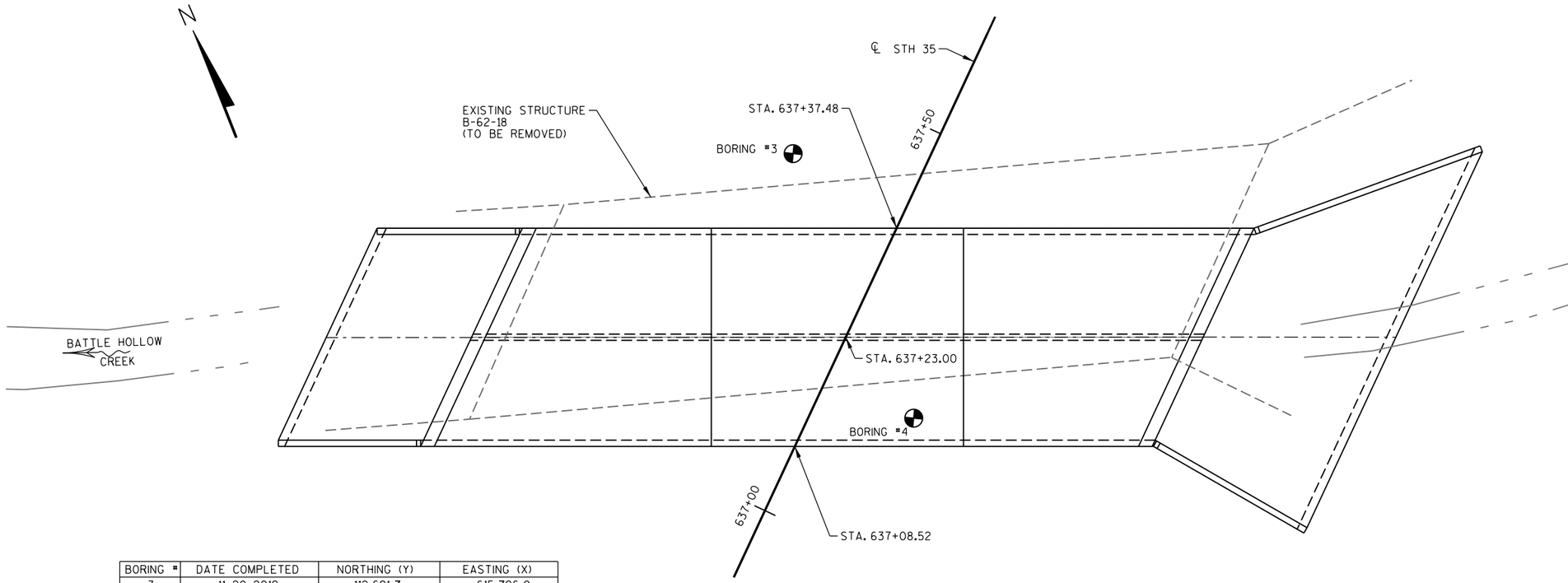
SHEET 6 OF 7
172

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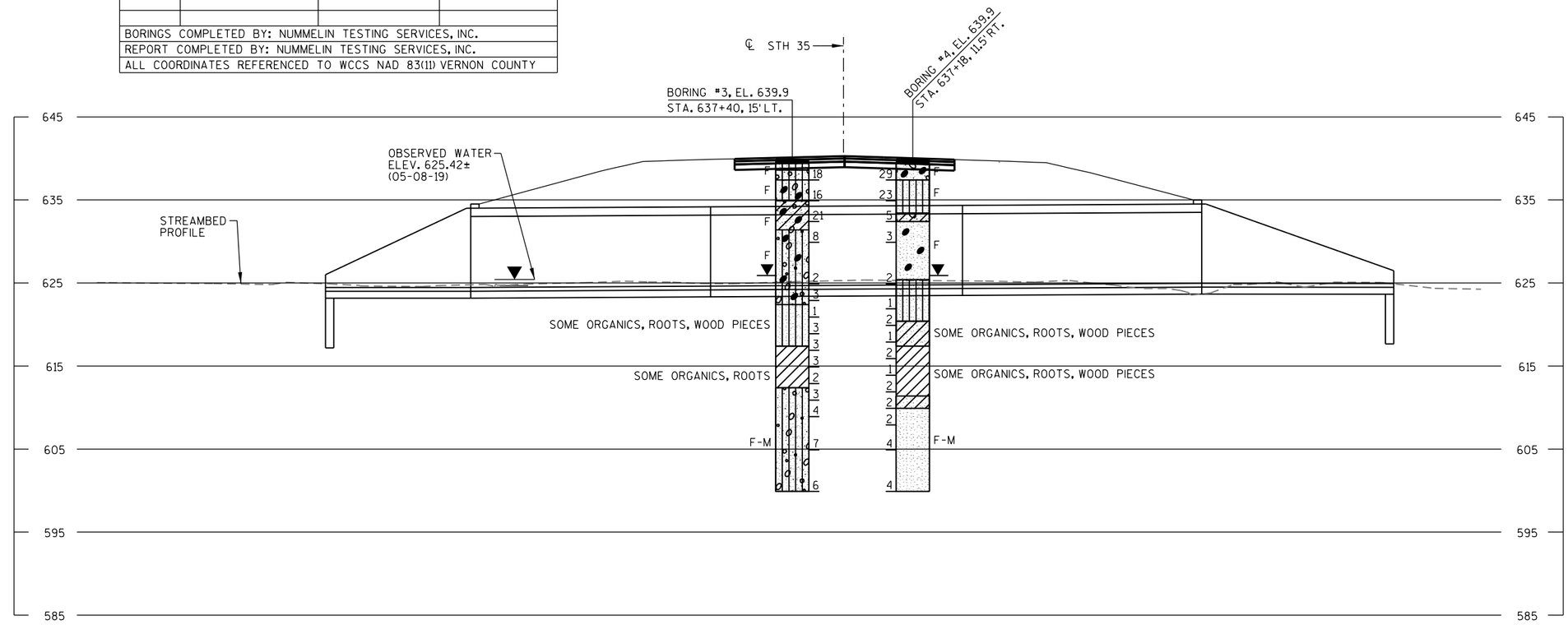
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FILE: 936540_B-62-264_06.dgn
DATE: 6/1/2021

936540_B-62-264_06.dgn 6/1/2021 6:52:39 AM C.Rooyakkers



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
3	11-20-2019	112,691.7	615,796.0
4	11-20-2019	112,672.4	615,824.0
BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC.			
REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(11) VERNON COUNTY			



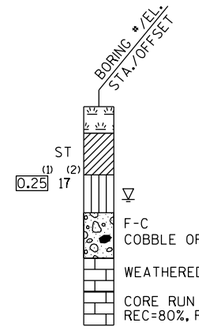
STATE PROJECT NUMBER

5160-07-71

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▼ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-264

DRAWN BY RLR | PLANS CK'D. JZ

SUBSURFACE EXPLORATION

SHEET 7 OF 7
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8

8

FILE= 936540_B-62-264_01.DGN

936540_B-62-264_07.dgn 5/26/2021 3:19:17 PM CRooyakkers

PLOT DATE : APRIL 20, 2021
PLOT BY : MSA
PLOT NAME:
PLOT SCALE : 1:1

DIVISION 1 - ALI-STH 35 N

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.25	NOTE 8
488+46.986	48846.99	0.00	0.00	0.00	42.21	0	0	0	0	0	0
488+94.523	48894.52	47.54	0.00	0.00	150.09	0	0	169	0	211	-211
489+26.231	48926.23	31.71	0.00	0.00	173.36	0	0	190	0	449	-449
489+46.231	48946.23	20.00	0.00	0.00	185.73	0	0	133	0	615	-615
489+51.154	48951.15	4.92	0.00	0.00	184.35	0	0	34	0	658	-658
489+71.154	48971.15	20.00	0.00	0.00	171.96	0	0	132	0	823	-823
489+96.154	48996.15	25.00	0.00	0.00	108.98	0	0	130	0	985	-985
490+21.154	49021.15	25.00	0.00	0.00	28.78	0	0	64	0	1,065	-1,065
491+00	49100.00	78.85	0.00	0.00	0.06	0	0	42	0	1,118	-1,118
491+76.12	49176.12	76.12	0.00	0.00	9.47	0	0	13	0	1,134	-1,134
492+64.53	49264.53	88.41	0.00	0.00	3.36	0	0	21	0	1,160	-1,160
493+03.897	49303.90	39.37	0.00	0.00	0.06	0	0	2	0	1,163	-1,163
493+74.104	49374.10	70.21	0.00	0.00	5.80	0	0	8	0	1,173	-1,173
493+91.507	49391.51	17.40	0.00	0.00	9.64	0	0	5	0	1,179	-1,179
494+44.333	49444.33	52.83	0.00	0.00	57.37	0	0	66	0	1,261	-1,261
494+69.313	49469.31	24.98	0.00	0.00	96.49	0	0	71	0	1,350	-1,350
494+94.294	49494.29	24.98	0.00	0.00	126.80	0	0	103	0	1,479	-1,479
495+41.56	49541.56	47.27	0.00	0.00	97.58	0	0	196	0	1,724	-1,724
495+86.335	49586.34	44.78	0.00	0.00	60.03	0	0	131	0	1,888	-1,888
496+12.702	49612.70	26.37	0.00	0.00	57.93	0	0	58	0	1,960	-1,960
506+67.555	50667.55	0.00	0.00	0.00	2.46	0	0	0	0	1,960	-1,960
507+28.13	50728.13	60.58	0.00	0.00	28.42	0	0	35	0	2,004	-2,004
508+08.2	50808.20	80.07	0.00	0.00	41.46	0	0	104	0	2,134	-2,134
508+33.218	50833.22	25.02	0.00	0.00	26.56	0	0	32	0	2,174	-2,174
508+58.244	50858.24	25.03	0.00	0.00	15.32	0	0	19	0	2,198	-2,198
508+80.069	50880.07	21.82	0.00	0.00	17.30	0	0	13	0	2,214	-2,214
509+00	50900.00	19.93	0.00	0.00	24.48	0	0	15	0	2,233	-2,233
509+22.325	50922.32	22.32	0.00	0.00	14.11	0	0	16	0	2,253	-2,253
510+00	51000.00	77.68	0.00	0.00	6.08	0	0	29	0	2,289	-2,289
510+64.708	51064.71	64.71	0.00	0.00	3.96	0	0	12	0	2,304	-2,304
510+74.095	51074.10	9.39	0.00	0.00	14.04	0	0	3	0	2,308	-2,308
510+89.734	51089.73	15.64	0.00	0.00	27.65	0	0	12	0	2,323	-2,323
510+99.066	51099.07	9.33	0.00	0.00	36.35	0	0	11	0	2,336	-2,336
511+14.76	51114.76	15.69	0.00	0.00	41.23	0	0	23	0	2,365	-2,365
511+24.036	51124.04	9.28	0.00	0.00	46.13	0	0	15	0	2,384	-2,384
511+80.068	51180.07	56.03	0.00	0.00	13.62	0	0	62	0	2,461	-2,461
512+46.549	51246.55	66.48	0.00	0.00	2.94	0	0	20	0	2,486	-2,486
520+41.703	52041.70	0.00	0.00	0.00	0.00	0	0	0	0	2,486	-2,486
529+98.43	52998.43	0.00	0.00	0.00	0.00	0	0	0	0	2,486	-2,486
533+59.657	53359.66	0.00	0.00	0.00	0.00	0	0	0	0	2,486	-2,486
538+21.046	53821.05	0.00	0.00	0.00	0.00	0	0	0	0	2,486	-2,486
565+29.735	56529.73	0.00	0.00	0.00	0.00	0	0	0	0	2,486	-2,486
587+09.572	58709.57	0.00	0.00	0.00	0.00	0	0	0	0	2,486	-2,486
590+84.374	59084.37	0.00	1.27	0.00	0.00	0	0	0	0	2,486	-2,486
592+02.874	59202.87	118.50	0.00	0.00	12.02	3	0	26	3	2,519	-2,516
592+27.874	59227.87	25.00	0.00	0.00	6.13	0	0	8	3	2,529	-2,526
592+52.874	59252.87	25.00	0.00	0.00	0.31	0	0	3	3	2,533	-2,530
593+00	59300.00	47.13	0.00	0.00	0.04	0	0	0	3	2,533	-2,530
593+68.523	59368.52	68.52	0.00	0.00	0.01	0	0	0	3	2,533	-2,530
636+75	63675.00	0.00	12.44	0.00	44.14	0	0	0	3	2,533	-2,530
637+00	63700.00	25.00	0.00	0.00	148.59	6	0	89	9	2,644	-2,635
637+25	63725.00	25.00	0.00	0.00	83.20	0	0	107	9	2,778	-2,769
637+50	63750.00	25.00	0.00	0.00	146.76	0	0	106	9	2,910	-2,901
637+75	63775.00	25.00	0.00	0.00	63.81	0	0	97	9	3,031	-3,022
644+24.904	64424.90	0.00	0.00	0.00	23.04	0	0	0	9	3,031	-3,022
644+92.311	64492.31	67.41	0.00	0.00	46.50	0	0	87	9	3,140	-3,131
645+17.311	64517.31	25.00	0.00	0.00	38.92	0	0	40	9	3,190	-3,181
645+42.311	64542.31	25.00	0.00	0.00	7.44	0	0	21	9	3,216	-3,207
646+00	64600.00	57.69	0.00	0.00	0.79	0	0	9	9	3,228	-3,219
648+00	64800.00	200.00	0.00	0.00	3.13	0	0	15	9	3,246	-3,237
650+00	65000.00	200.00	0.00	0.00	0.06	0	0	12	9	3,261	-3,252
651+61.07	65161.07	161.07	0.00	0.00	7.38	0	0	22	9	3,289	-3,280
651+86.067	65186.07	25.00	0.00	0.00	3.86	0	0	5	9	3,295	-3,286
652+11.067	65211.07	25.00	0.00	0.00	4.00	0	0	4	9	3,300	-3,291
652+19.78	65219.78	8.71	0.00	0.00	23.43	0	0	4	9	3,305	-3,296
652+68.183	65268.18	48.40	0.00	0.00	8.48	0	0	29	9	3,341	-3,332
665+23.812	66523.81	0.00	0.00	0.00	14.03	0	0	0	9	3,341	-3,332
665+84.886	66584.89	61.07	0.00	0.00	0.28	0	0	16	9	3,361	-3,352
666+09.886	66609.89	25.00	0.00	0.00	0.16	0	0	0	9	3,361	-3,352
666+34.886	66634.89	25.00	0.00	0.00	2.21	0	0	1	9	3,363	-3,354
668+00	66800.00	165.11	0.00	0.00	0.06	0	0	7	9	3,371	-3,362
670+00	67000.00	200.00	0.00	0.00	8.51	0	0	32	9	3,411	-3,402
672+00	67200.00	200.00	0.00	0.00	0.54	0	0	33	9	3,453	-3,444
674+00	67400.00	200.00	0.00	0.00	0.00	0	0	2	9	3,455	-3,446
674+42.811	67442.81	42.81	0.00	0.00	64.70	0	0	51	9	3,519	-3,510
674+96.783	67496.78	53.97	0.00	0.00	95.26	0	0	160	9	3,719	-3,710
675+16.782	67516.78	20.00	0.00	0.00	111.99	0	0	77	9	3,815	-3,806
675+41.782	67541.78	25.00	0.00	0.00	102.99	0	0	100	9	3,940	-3,931
675+66.782	67566.78	25.00	4.08	0.00	47.84	2	0	70	11	4,028	-4,017
675+90.168	67590.17	23.39	0.00	0.00	2.60	2	0	22	13	4,055	-4,042
676+25	67625.00	34.83	0.00	0.00	1.95	0	0	3	13	4,059	-4,046
676+50	67650.00	25.00	0.00	0.00	2.23	0	0	2	13	4,061	-4,048
676+84.153	67684.15	34.15	0.00	0.00	2.38	0	0	3	13	4,065	-4,052
677+32.069	67732.07	47.92	0.00	0.00	4.58	0	0	6	13	4,073	-4,060
677+60.198	67760.20	28.13	0.00	0.00	1.70	0	0	3	13	4,076	-4,063
677+62.213	67762.21	2.02	0.00	0.00	2.04	0	0	0	13	4,076	-4,063
677+85.198	67785.20	22.98	0.00	0.00	3.16	0	0	2	13	4,079	-4,066
678+08.037	67808.04	22.84	0.00	0.00	2.75	0	0	2	13	4,081	-4,068
678+37.364	67837.36	29.33	0.00	0.00	3.44	0	0	3	13	4,085	-4,072
678+47.644	67847.64	10.28	0.00	0.00	2.19	0	0	1	13	4,086	-4,073
678+72.6	67872.60	24.96	0.00	0.00	10.81	0	0	6	13	4,094	-4,081

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DIVISION 1 - ALI-STH 35 N

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.25	NOTE 8
678+97.556	67897.56	24.96	0.00	0.00	9.89	0	0	10	13	4,106	-4,093
680+00	68000.00	102.44	0.00	0.00	0.14	0	0	19	13	4,130	-4,117
682+00	68200.00	200.00	0.00	0.00	1.31	0	0	5	13	4,136	-4,123
684+00	68400.00	200.00	0.00	0.00	2.30	0	0	13	13	4,153	-4,140
686+00	68600.00	200.00	0.00	0.00	4.61	0	0	26	13	4,185	-4,172
688+00	68800.00	200.00	0.00	0.00	1.94	0	0	24	13	4,215	-4,202
690+00	69000.00	200.00	0.00	0.00	7.78	0	0	36	13	4,260	-4,247
692+00	69200.00	200.00	0.00	0.00	1.50	0	0	34	13	4,303	-4,290
693+03.69	69303.69	103.69	2.28	0.00	1.51	4	0	6	17	4,310	-4,293
693+28.69	69328.69	25.00	0.00	0.00	6.48	1	0	4	18	4,315	-4,297
693+53.69	69353.69	25.00	0.00	0.00	0.55	0	0	3	18	4,319	-4,301
694+00.741	69400.74	47.05	0.00	0.00	0.00	0	0	0	18	4,319	-4,301
694+25.741	69425.74	25.00	0.00	0.00	1.09	0	0	1	18	4,320	-4,302
694+50.741	69450.74	25.00	0.00	0.00	1.37	0	0	1	18	4,321	-4,303
696+00	69600.00	149.26	0.00	0.00	0.07	0	0	4	18	4,326	-4,308
698+00	69800.00	200.00	0.00	0.00	0.80	0	0	3	18	4,330	-4,312
700+00	70000.00	200.00	0.00	0.00	0.54	0	0	5	18	4,336	-4,318
702+00	70200.00	200.00	0.00	0.00	0.57	0	0	4	18	4,341	-4,323
704+00	70400.00	200.00	0.00	0.00	1.04	0	0	6	18	4,349	-4,331
706+00	70600.00	200.00	0.00	0.00	3.26	0	0	16	18	4,369	-4,351
708+00	70800.00	200.00	0.00	0.00	1.74	0	0	19	18	4,393	-4,375
710+00	71000.00	200.00	0.00	0.00	6.58	0	0	31	18	4,431	-4,413
712+00	71200.00	200.00	0.00	0.00	3.40	0	0	37	18	4,478	-4,460
714+00	71400.00	200.00	0.00	0.00	7.10	0	0	39	18	4,526	-4,508
716+00	71600.00	200.00	0.00	0.00	1.51	0	0	32	18	4,566	-4,548
718+00	71800.00	200.00	0.00	0.00	1.25	0	0	10	18	4,579	-4,561
719+87.937	71987.94	187.94	0.00	0.00	5.84	0	0	25	18	4,610	-4,592
720+12.856	72012.86	24.92	0.00	0.00	2.29	0	0	4	18	4,615	-4,597
720+37.831	72037.83	24.98	0.00	0.00	3.04	0	0	2	18	4,618	-4,600
721+14.051	72114.05	76.22	0.00	0.00	8.22	0	0	16	18	4,638	-4,620
734+00.644	73400.64	0.00	0.00	0.00	0.00	0	0	0	18	4,638	-4,620
739+92.42	73992.42	0.00	0.00	0.00	0.00	0	0	0	18	4,638	-4,620
740+50	74050.00	57.58	0.00	0.00	0.00	0	0	0	18	4,638	-4,620
740+64.653	74064.65	14.65	0.00	0.00	0.00	0	0	0	18	4,638	-4,620
740+75	74075.00	10.35	0.00	0.00	0.00	0	0	0	18	4,638	-4,620
740+96.289	74096.29	21.29	0.00	0.00	0.00	0	0	0	18	4,638	-4,620
741+00	74100.00	3.71	0.00	0.00	0.00	0	0	0	18	4,638	-4,620
741+25	74125.00	25.00	0.00	0.00	0.00	0	0	0	18	4,638	-4,620
741+50	74150.00	25.00	0.00	0.00	0.00	0	0	0	18	4,638	-4,620
741+51.414	74151.41	0.00	0.00	0.00	0.00	0	0	0	18	4,638	-4,620
743+99.797	74399.80	0.00	0.00	0.00	0.00	0	0	0	18	4,638	-4,620
746+15.278	74615.28	0.00	0.00	0.00	0.00	0	0	0	18	4,638	-4,620
750+21.889	75021.89	0.00	0.00	0.00	0.00	0	0	0	18	4,638	-4,620
752+38.741	75238.74	0.00	0.00	0.00	1.00	0	0	0	18	4,638	-4,620
753+56.782	75356.78	118.04	0.00	0.00	33.05	0	0	74	18	4,730	-4,712
753+81.685	75381.69	24.90	0.59	0.00	6.34	0	0	18	18	4,753	-4,735
754+06.588	75406.59	24.90	0.00	0.00	20.38	0	0	12	18	4,768	-4,750
754+62.62	75462.62	56.03	0.00	0.00	35.70	0	0	58	18	4,840	-4,822
754+87.524	75487.52	24.90	0.00	0.00	7.96	0	0	20	18	4,865	-4,847
755+12.427	75512.43	24.90	0.00	0.00	26.01	0	0	16	18	4,885	-4,867
756+30.468	75630.47	118.04	0.00	0.00	0.21	0	0	57	18	4,956	-4,938
778+50.91	77850.91	0.00	0.00	0.00	0.00	0	0	0	18	4,956	-4,938
792+79.752	79279.75	0.00	0.00	0.00	2.23	0	0	0	18	4,956	-4,938
793+56.944	79356.94	77.19	0.00	0.00	8.93	0	0	16	18	4,976	-4,958
793+81.865	79381.87	24.92	0.00	0.00	9.25	0	0	8	18	4,986	-4,968
794+06.787	79406.79	24.92	0.00	0.00	7.59	0	0	8	18	4,996	-4,978
796+00	79600.00	193.21	0.00	0.00	0.38	0	0	29	18	5,033	-5,015
798+00	79800.00	200.00	0.00	0.00	1.65	0	0	8	18	5,043	-5,025
800+00	80000.00	200.00	0.00	0.00	0.79	0	0	9	18	5,054	-5,036
802+00	80200.00	200.00	0.00	0.00	2.04	0	0	10	18	5,066	-5,048
804+00	80400.00	200.00	0.00	0.00	5.70	0	0	29	18	5,103	-5,085
806+00	80600.00	200.00	0.00	0.00	2.11	0	0	29	18	5,139	-5,121
808+00	80800.00	200.00	0.00	0.00	11.42	0	0	50	18	5,201	-5,183
810+00	81000.00	200.00	0.00	0.00	1.50	0	0	48	18	5,261	-5,243
812+00	81200.00	200.00	0.00	0.00	7.37	0	0	33	18	5,303	-5,285
813+36.857	81336.86	136.86	0.00	0.00	18.50	0	0	66	18	5,385	-5,367
813+61.857	81361.86	25.00	0.00	0.00	18.46	0	0	17	18	5,406	-5,388
813+86.859	81386.86	25.00	0.00	0.00	28.54	0	0	22	18	5,434	-5,416
814+56.666	81456.67	69.81	0.00	0.00	9.37	0	0	49	18	5,495	-5,477
820+12.727	82012.73	0.00	0.00	0.00	7.52	0	0	0	18	5,495	-5,477
820+68.809	82068.81	56.08	0.00	0.00	22.15	0	0	31	18	5,534	-5,516
820+93.888	82093.89	25.08	0.00	0.00	12.48	0	0	16	18	5,554	-5,536
821+18.967	82118.97	25.08	0.00	0.00	7.47	0	0	9	18	5,565	-5,547
822+00	82200.00	81.03	0.00	0.00	1.21	0	0	13	18	5,581	-5,563
824+00	82400.00	200.00	0.00	0.00	0.36	0	0	6	18	5,589	-5,571
826+00	82600.00	200.00	0.00	0.00	2.32	0	0	10	18	5,601	-5,583
828+00	82800.00	200.00	0.00	0.00	2.54	0	0	18	18	5,624	-5,606
830+00	83000.00	200.00	0.00	0.00	4.40	0	0	26	18	5,656	-5,638
832+00	83200.00	200.00	0.00	0.00	5.06	0	0	35	18	5,700	-5,682
834+00	83400.00	200.00	0.00	0.00	2.57	0	0	28	18	5,735	-5,717
834+77.866	83477.87	77.87	0.00	0.00	10.85	0	0	19	18	5,759	-5,741
836+00	83600.00	122.13	0.00	0.00	4.28	0	0	34	18	5,801	-5,783
838+00	83800.00	200.00	0.00	0.00	1.40	0	0	21	18	5,828	-5,810
840+00	84000.00	200.00	0.00	0.00	1.80	0	0	12	18	5,843	-5,825
840+43.763	84043.76	43.76	0.00	0.00	37.01	0	0	31	18	5,881	-5,863
840+68.842	84068.84	25.08	0.00	0.00	96.44	0	0	62	18	5,959	-5,941
840+93.921	84093.92	25.08	0.00	0.00	116.50	0	0	99	18	6,083	-6,065
841+74.208	84174.21	80.29	0.00	0.00	34.47	0	0	224	18	6,363	-6,345
875+18.508	87518.51	0.00	0.00	0.00	1.03	0	0	0	18	6,363	-6,345
875+68.844	87568.84	50.34	0.00	0.00	3.94	0	0	5	18	6,369	-6,351
876+32.846	87632.85	64.00	0.00	0.00	11.05	0	0	18	18	6,391	-6,373

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PROJECT NO: 5160-07-71

HWY: STH 35

COUNTY: CRAWFORD & VERNON

EARTHWORK

SHEET:

PLOT DATE : APRIL 20, 2021

PLOT BY : MSA

PLOT NAME :

PLOT SCALE : 1:1

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DIVISION 1 - ALI-STH 35 N

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.25	NOTE 8
876+57.846	87657.85	25.00	0.00	0.00	6.87	0	0	8	18	6,401	-6,383
876+82.846	87682.85	25.00	0.00	0.00	2.50	0	0	4	18	6,406	-6,388
877+50	87750.00	67.15	0.00	0.00	2.54	0	0	6	18	6,414	-6,396
877+87.715	87787.72	37.72	0.00	0.00	0.00	0	0	2	18	6,416	-6,398
903+73.948	90373.95	0.00	0.00	0.00	0.00	0	0	0	18	6,416	-6,398
908+72.565	90872.57	0.00	0.00	0.00	0.00	0	0	0	18	6,416	-6,398
910+52.634	91052.63	180.07	0.00	0.00	91.85	0	0	306	18	6,799	-6,781
911+71.134	91171.13	118.50	0.00	0.00	146.49	0	0	523	18	7,453	-7,435
911+96.134	91196.13	25.00	0.00	0.00	124.61	0	0	126	18	7,610	-7,592
912+21.134	91221.13	25.00	0.00	0.00	58.93	0	0	85	18	7,716	-7,698
912+35.288	91235.29	14.15	0.00	0.00	0.52	0	0	16	18	7,736	-7,718
914+00	91400.00	164.71	0.00	0.00	0.42	0	0	3	18	7,740	-7,722
916+00	91600.00	200.00	0.00	0.00	0.86	0	0	5	18	7,746	-7,728
918+00	91800.00	200.00	0.00	0.00	29.05	0	0	111	18	7,885	-7,867
920+00	92000.00	200.00	0.00	0.00	0.98	0	0	111	18	8,024	-8,006
922+00	92200.00	200.00	0.00	0.00	2.38	0	0	12	18	8,039	-8,021
924+00	92400.00	200.00	0.00	0.00	1.47	0	0	14	18	8,056	-8,038
926+00	92600.00	200.00	0.00	0.00	1.10	0	0	9	18	8,068	-8,050
926+70.537	92670.54	70.54	0.00	0.00	1.84	0	0	4	18	8,073	-8,055
926+95.408	92695.41	24.87	0.00	0.00	1.55	0	0	2	18	8,075	-8,057
927+20.279	92720.28	24.87	0.00	0.00	1.84	0	0	2	18	8,078	-8,060
928+05.026	92805.03	84.75	0.00	0.00	0.20	0	0	3	18	8,081	-8,063
931+59.903	93159.90	0.00	0.00	0.00	3.10	0	0	0	18	8,081	-8,063
932+21.839	93221.84	61.94	0.00	0.00	8.54	0	0	13	18	8,098	-8,080
932+46.71	93246.71	24.87	0.00	0.00	5.78	0	0	7	18	8,106	-8,088
932+71.58	93271.58	24.87	0.00	0.00	2.33	0	0	4	18	8,111	-8,093
934+00	93400.00	128.42	0.00	0.00	3.55	0	0	14	18	8,129	-8,111
936+00	93600.00	200.00	0.00	0.00	0.20	0	0	14	18	8,146	-8,128
938+00	93800.00	200.00	0.00	0.00	15.12	0	0	57	18	8,218	-8,200
940+00	94000.00	200.00	0.00	0.00	3.43	0	0	69	18	8,304	-8,286
941+74.604	94174.60	174.60	0.00	0.00	63.13	0	0	215	18	8,573	-8,555
941+99.604	94199.60	25.00	0.00	0.00	98.00	0	0	75	18	8,666	-8,648
942+24.604	94224.60	25.00	0.00	0.00	100.14	0	0	92	18	8,781	-8,763
943+05.153	94305.15	80.55	0.00	0.00	40.26	0	0	209	18	9,043	-9,025
994+18.501	99418.50	0.00	0.00	0.00	1.27	0	0	0	18	9,043	-9,025
994+78.319	99478.32	59.82	0.00	0.00	13.29	0	0	16	18	9,063	-9,045
995+03.319	99503.32	25.00	0.00	0.00	13.72	0	0	13	18	9,079	-9,061
995+28.319	99528.32	25.00	0.00	0.00	4.88	0	0	9	18	9,090	-9,072
996+00	99600.00	71.68	0.00	0.00	0.67	0	0	7	18	9,099	-9,081
998+00	99800.00	200.00	0.00	0.00	0.69	0	0	5	18	9,105	-9,087
1000+00	100000.00	200.00	0.00	0.00	1.69	0	0	9	18	9,116	-9,098
1002+00	100200.00	200.00	0.00	0.00	2.13	0	0	14	18	9,134	-9,116
1004+00	100400.00	200.00	0.00	0.00	35.75	0	0	140	18	9,309	-9,291
1005+47.045	100547.05	147.05	0.00	0.00	40.65	0	0	208	18	9,569	-9,551
1005+72.046	100572.05	25.00	0.00	0.00	46.82	0	0	40	18	9,619	-9,601
1005+97.047	100597.05	25.00	0.00	0.00	60.27	0	0	50	18	9,681	-9,663
1006+76.754	100676.75	79.71	0.00	0.00	12.95	0	0	108	18	9,816	-9,798
1013+65.436	101365.44	0.00	0.00	0.00	0.17	0	0	0	18	9,816	-9,798
1014+02.899	101402.90	37.46	0.00	0.00	9.18	0	0	6	18	9,824	-9,806
1014+27.936	101427.94	25.04	0.00	0.00	4.20	0	0	6	18	9,831	-9,813
1014+34.401	101434.40	6.47	0.00	0.00	12.88	0	0	2	18	9,834	-9,816
1014+52.972	101452.97	18.57	0.00	0.00	10.22	0	0	8	18	9,844	-9,826
1014+68.62	101468.62	15.65	0.00	0.00	20.62	0	0	9	18	9,855	-9,837
1015+00	101500.00	31.38	0.00	0.00	5.57	0	0	15	18	9,874	-9,856
1015+18.166	101518.17	18.17	0.00	0.00	16.02	0	0	7	18	9,883	-9,865
1015+87.679	101587.68	69.51	0.00	0.00	11.87	0	0	36	18	9,928	-9,910
1016+12.626	101612.63	24.95	0.00	0.00	14.46	0	0	12	18	9,943	-9,925
1016+37.573	101637.57	24.95	0.00	0.00	21.14	0	0	16	18	9,963	-9,945
1017+62.453	101762.45	124.88	0.00	0.00	4.57	0	0	59	18	10,036	-10,018
1033+14.974	103314.97	0.00	0.00	0.00	0.00	0	0	0	18	10,036	-10,018
1035+43.176	103543.18	228.20	0.00	0.00	19.88	0	0	84	18	10,141	-10,123
1036+21.801	103621.80	78.63	0.00	0.00	25.73	0	0	66	18	10,224	-10,206
1036+46.801	103646.80	25.00	0.00	0.00	28.53	0	0	25	18	10,255	-10,237
1036+71.775	103671.77	24.97	0.00	0.00	23.30	0	0	24	18	10,285	-10,267
1038+00	103800.00	128.23	0.00	0.00	2.91	0	0	62	18	10,363	-10,345
1040+00	104000.00	200.00	0.00	0.00	1.97	0	0	18	18	10,385	-10,367
1042+00	104200.00	200.00	0.00	0.00	0.39	0	0	9	18	10,396	-10,378
1044+00	104400.00	200.00	0.00	0.00	1.08	0	0	5	18	10,403	-10,385
1046+00	104600.00	200.00	0.00	0.00	1.81	0	0	11	18	10,416	-10,398
1048+00	104800.00	200.00	0.00	0.00	4.93	0	0	25	18	10,448	-10,430
1050+00	105000.00	200.00	0.00	0.00	5.27	0	0	38	18	10,495	-10,477
1052+00	105200.00	200.00	0.00	0.00	0.58	0	0	22	18	10,523	-10,505
1054+00	105400.00	200.00	0.00	0.00	1.51	0	0	8	18	10,533	-10,515
1054+23.485	105423.48	23.48	0.00	0.00	0.07	0	0	1	18	10,534	-10,516
1056+00	105600.00	176.52	0.00	0.00	0.01	0	0	0	18	10,534	-10,516
1058+00	105800.00	200.00	0.00	0.00	0.28	0	0	1	18	10,535	-10,517
1058+14.895	105814.89	14.89	0.00	0.00	1.49	0	0	0	18	10,535	-10,517
1058+62.711	105862.71	47.82	6.40	0.00	0.08	6	0	1	24	10,536	-10,512
1058+87.711	105887.71	25.00	8.32	0.00	6.67	7	0	3	31	10,540	-10,509
1059+12.711	105912.71	25.00	12.00	0.00	0.20	9	0	3	40	10,544	-10,504
1059+25.711	105925.71	13.00	8.52	0.00	12.37	5	0	3	45	10,548	-10,503
1059+50.711	105950.71	25.00	5.97	0.00	6.92	7	0	9	52	10,559	-10,507
1059+75.711	105975.71	25.00	5.60	0.00	4.56	5	0	5	57	10,565	-10,508
1060+00	106000.00	24.29	0.00	0.00	0.26	3	0	2	60	10,568	-10,508
1062+00	106200.00	200.00	0.00	0.00	1.62	0	0	7	60	10,576	-10,516
1062+62.352	106262.35	62.35	0.00	0.00	0.42	0	0	2	60	10,579	-10,519
1064+00	106400.00	137.65	0.00	0.00	1.40	0	0	5	60	10,585	-10,525
1064+68.374	106468.37	68.37	0.00	0.00	2.38	0	0	5	60	10,591	-10,531
1064+93.302	106493.30	24.93	0.00	0.00	0.58	0	0	1	60	10,593	-10,533
1065+18.23	106518.23	24.93	0.00	0.00	0.06	0	0	0	60	10,593	-10,533
1065+81.232	106581.23	63.00	0.00	0.00	1.29	0	0	2	60	10,595	-10,535

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PLOT DATE : APRIL 20, 2021
PLOT BY : MSA
PLOT NAME :
PLOT SCALE : 1:1

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DIVISION 1 - ALI-STH 35 N

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.25	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
1068+48.724	106848.72	267.49	0.00	0.00	2.12	0	0	17	60	10,616	-10,556
1069+41.585	106941.59	92.86	0.00	0.00	4.09	0	0	11	60	10,630	-10,570
1069+66.513	106966.51	24.93	0.00	0.00	1.03	0	0	2	60	10,633	-10,573
1069+91.47	106991.47	24.96	0.00	0.00	0.79	0	0	1	60	10,634	-10,574
1072+00	107200.00	208.53	0.00	0.00	17.60	0	0	71	60	10,723	-10,663
1072+72.72	107272.72	72.72	0.00	0.00	1.08	0	0	25	60	10,754	-10,694
1072+97.72	107297.72	25.00	0.00	0.00	0.47	0	0	1	60	10,755	-10,695
1073+22.72	107322.72	25.00	0.00	0.00	1.80	0	0	1	60	10,756	-10,696
1073+87.24	107387.24	64.52	0.00	0.00	0.79	0	0	3	60	10,760	-10,700
1075+10.676	107510.68	123.44	0.00	0.00	0.00	0	0	2	60	10,763	-10,703
						60		8,610			

PROJECT NO: 5160-07-71

HWY: STH 35

COUNTY: CRAWFORD & VERNON

EARTHWORK

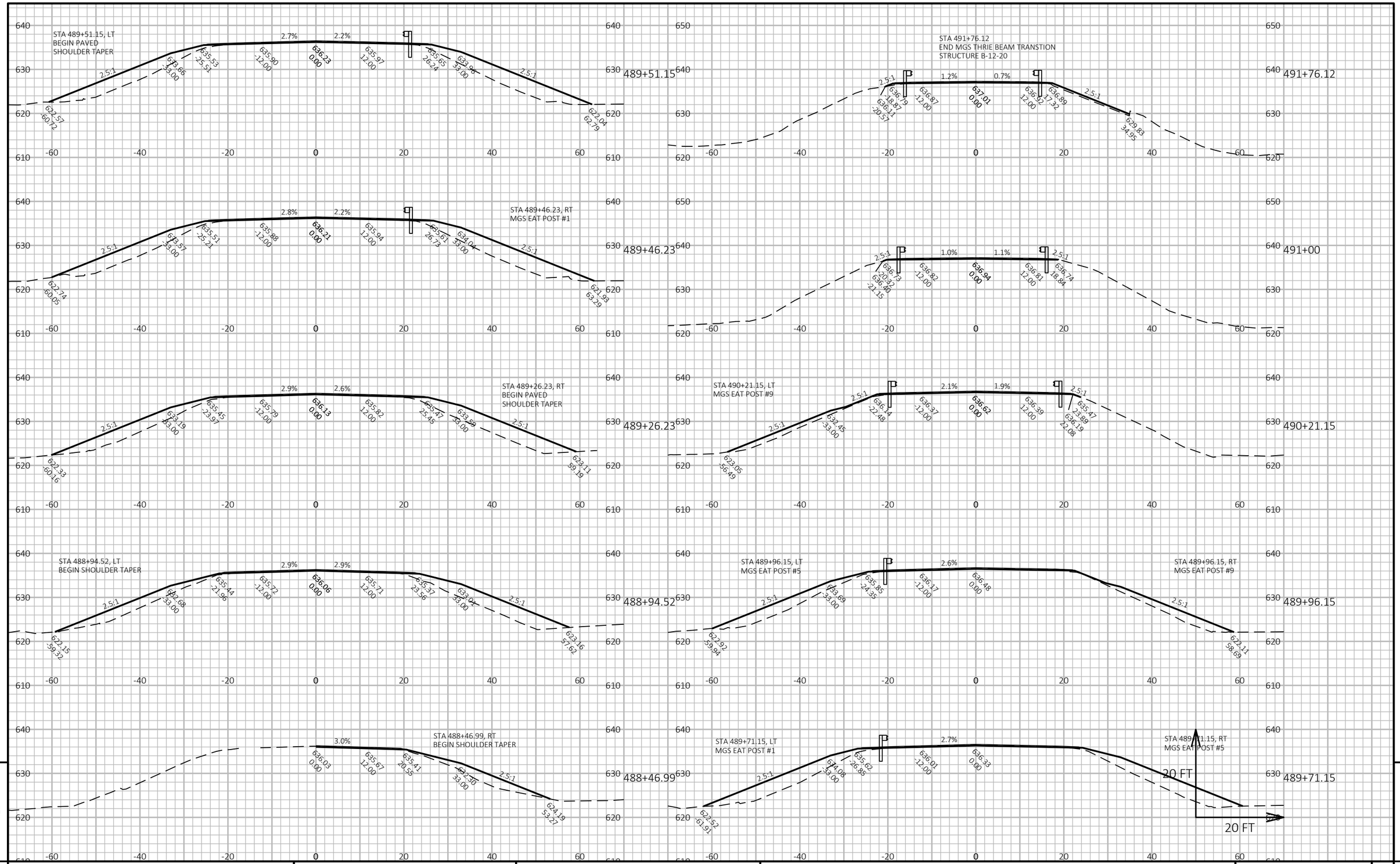
SHEET:

PLOT DATE : APRIL 20, 2021

PLOT BY : MSA

PLOT NAME :

PLOT SCALE : 1:1

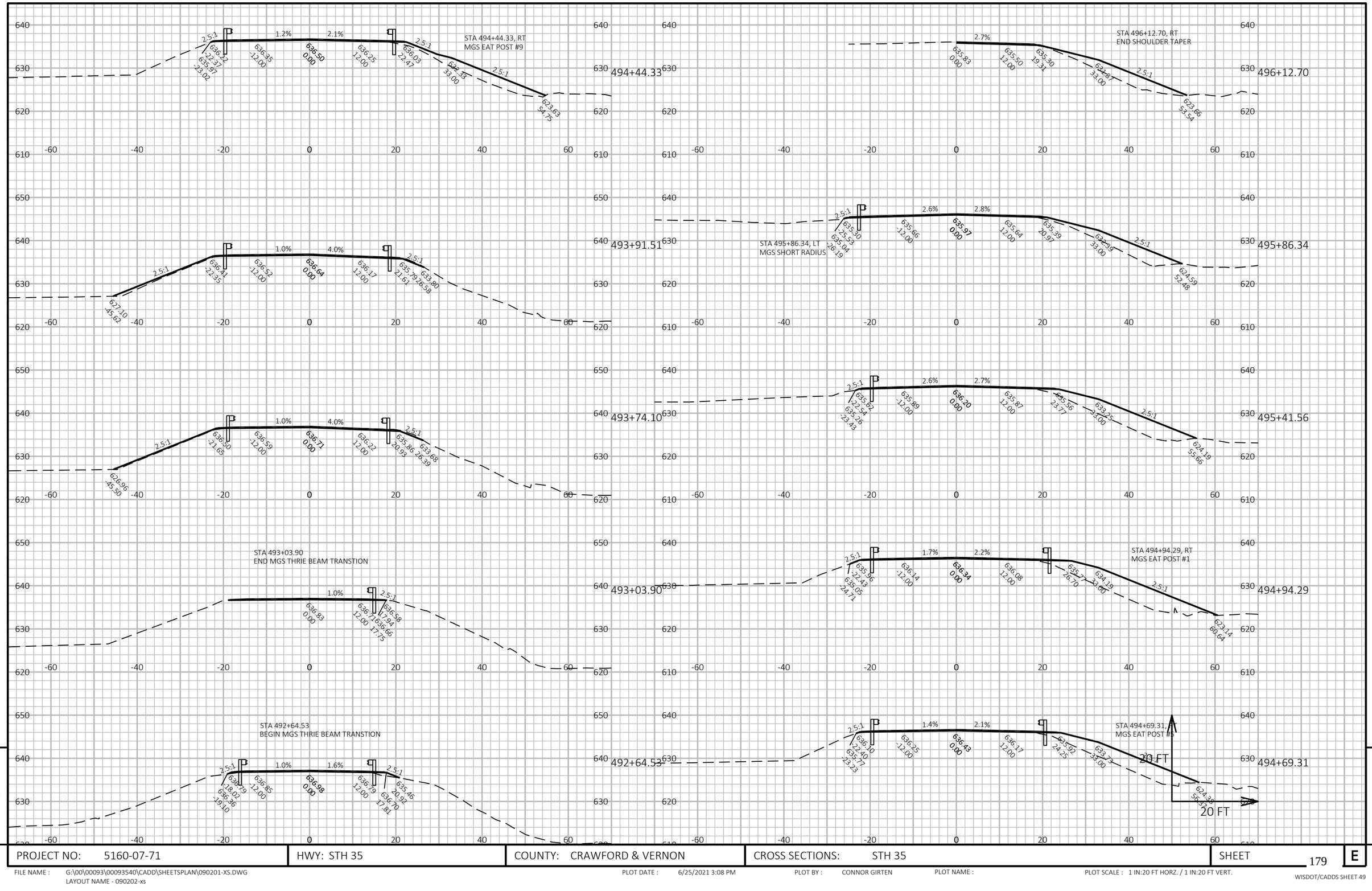


PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 178	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-xs

PLOT DATE : 6/25/2021 3:07 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 179	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090202-xs

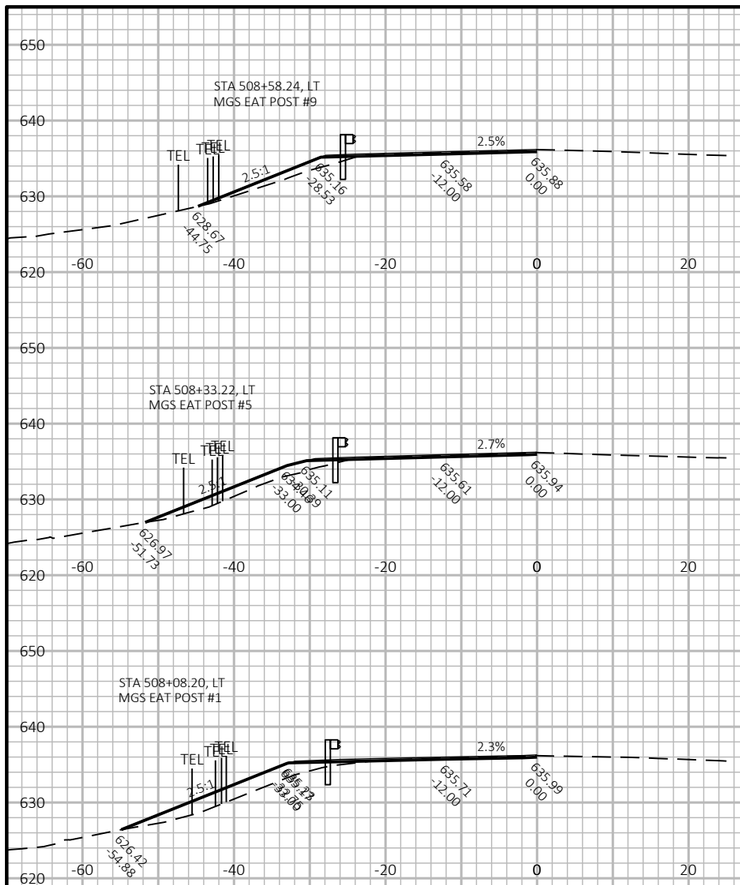
PLOT DATE : 6/25/2021 3:08 PM

PLOT BY : CONNOR GIRTEN

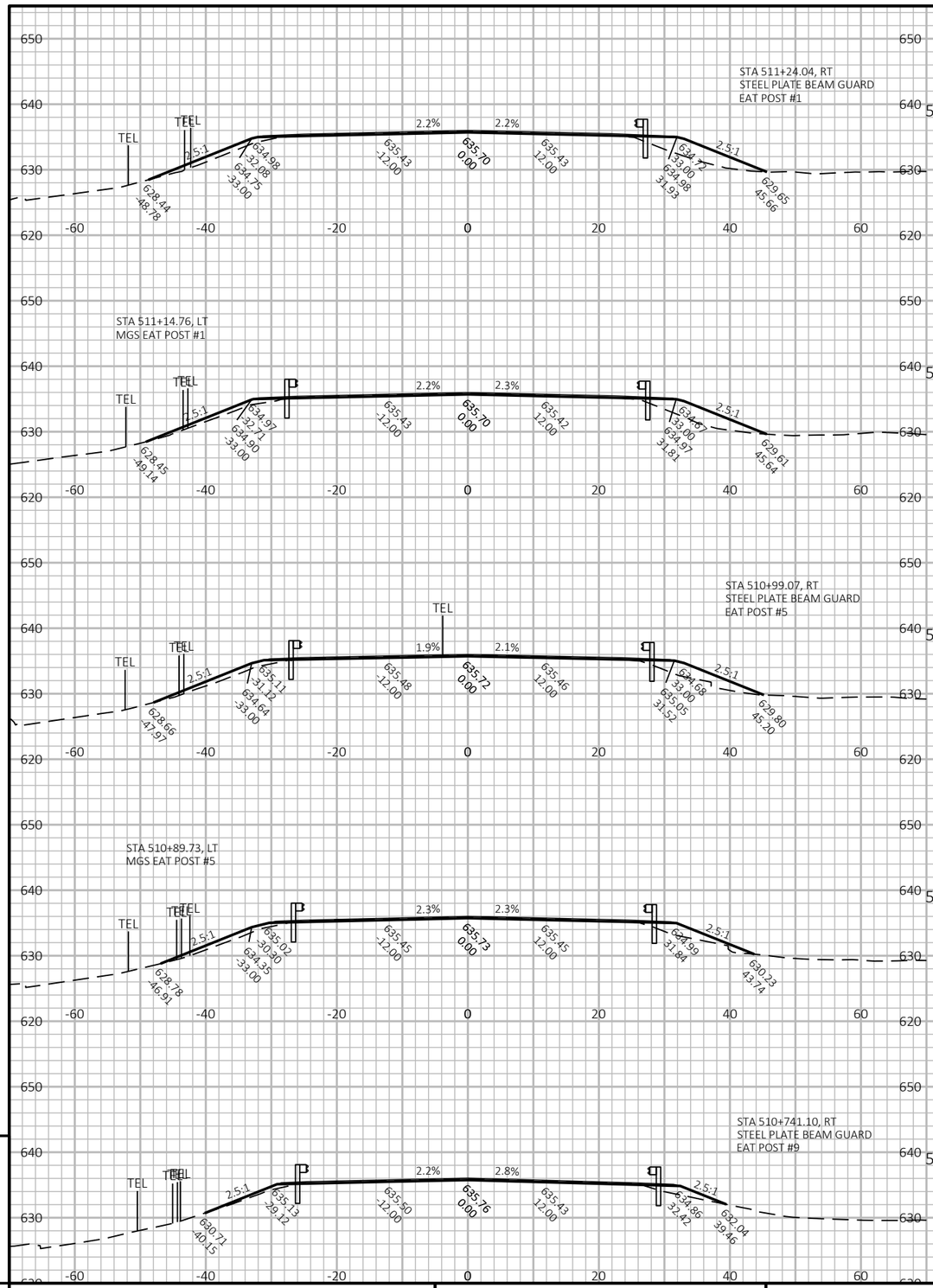
PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



STA 508+33.22, LT
MGS EAT POST #5
TEL
2.5:1
2.7%
635.11
-27.46
635.61
-12.00
635.94
0.00
636.00
-33.00
636.09
636.09
636.09

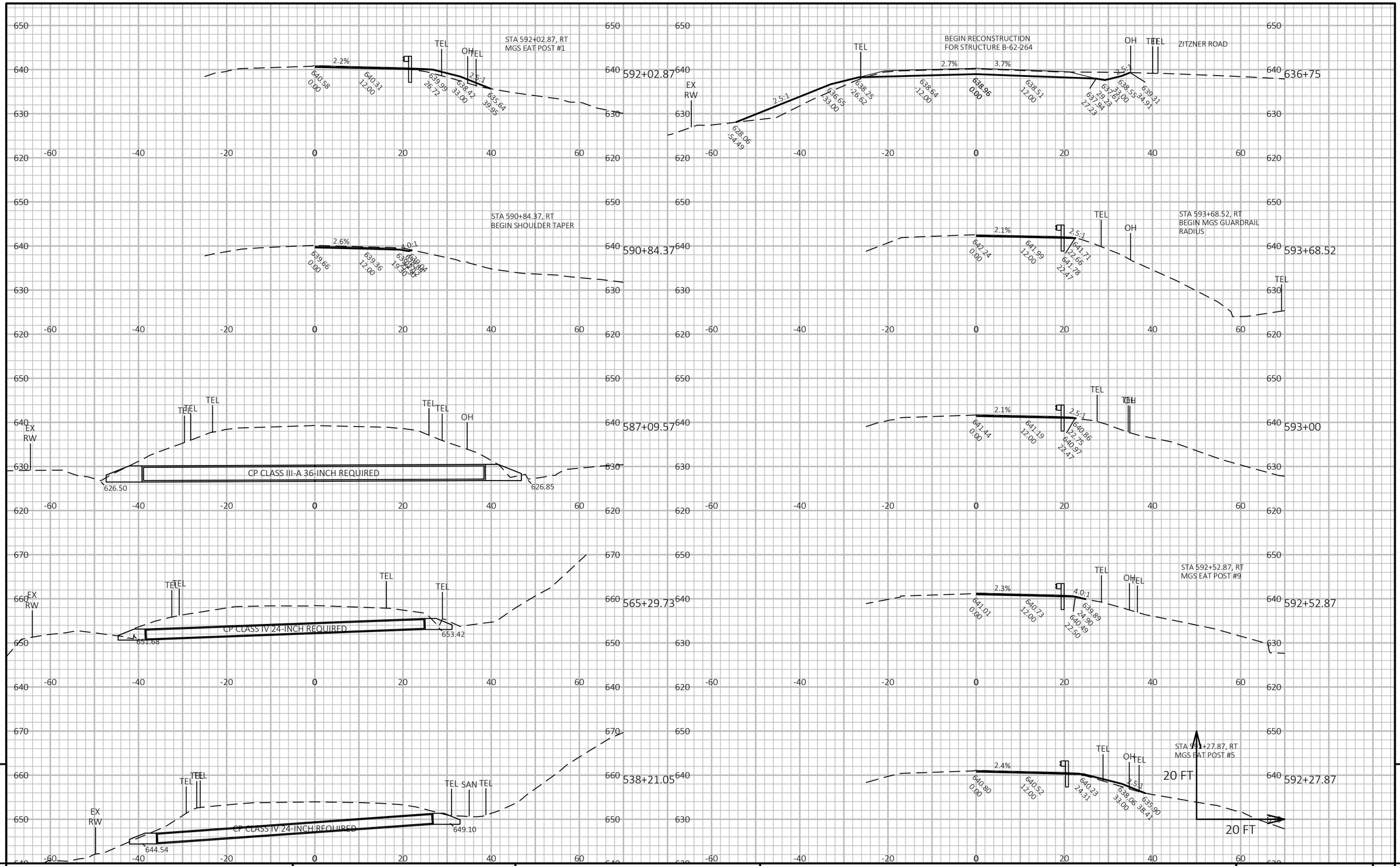


PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 181	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090204-xs

PLOT DATE : 6/25/2021 3:08 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 182	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090205-xs

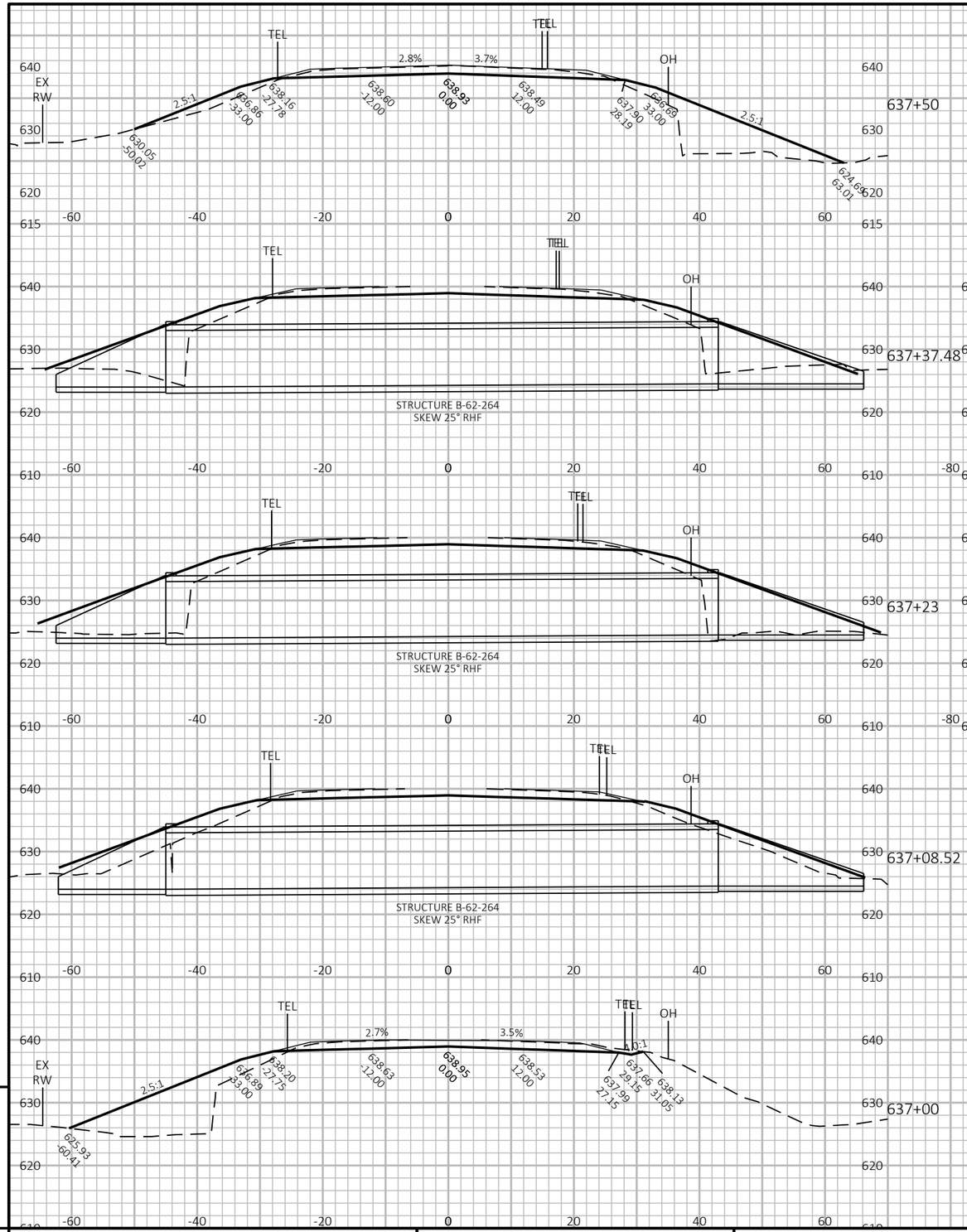
PLOT DATE : 6/25/2021 3:08 PM

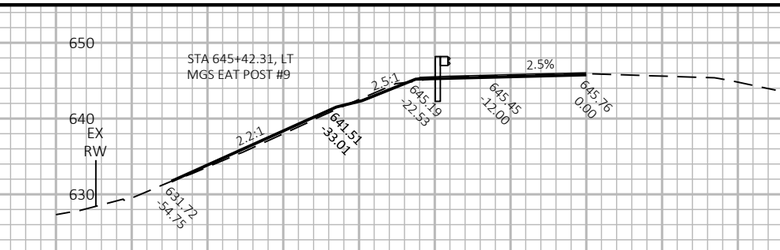
PLOT BY : CONNOR GIRTEN

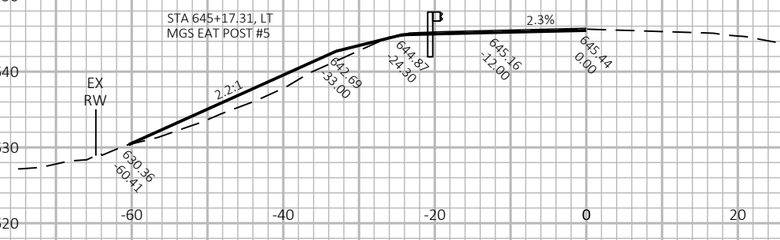
PLOT NAME :

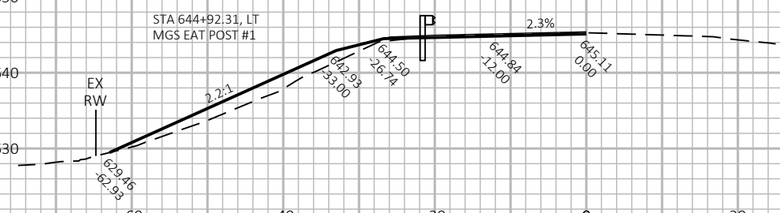
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

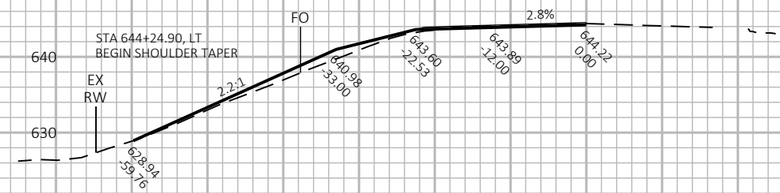
WISDOT/CADDS SHEET 49

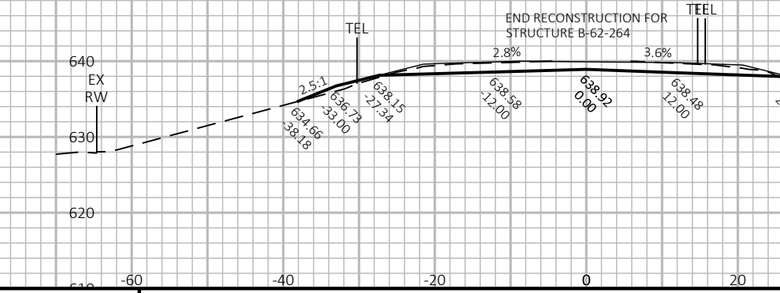












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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 183	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090206-xs

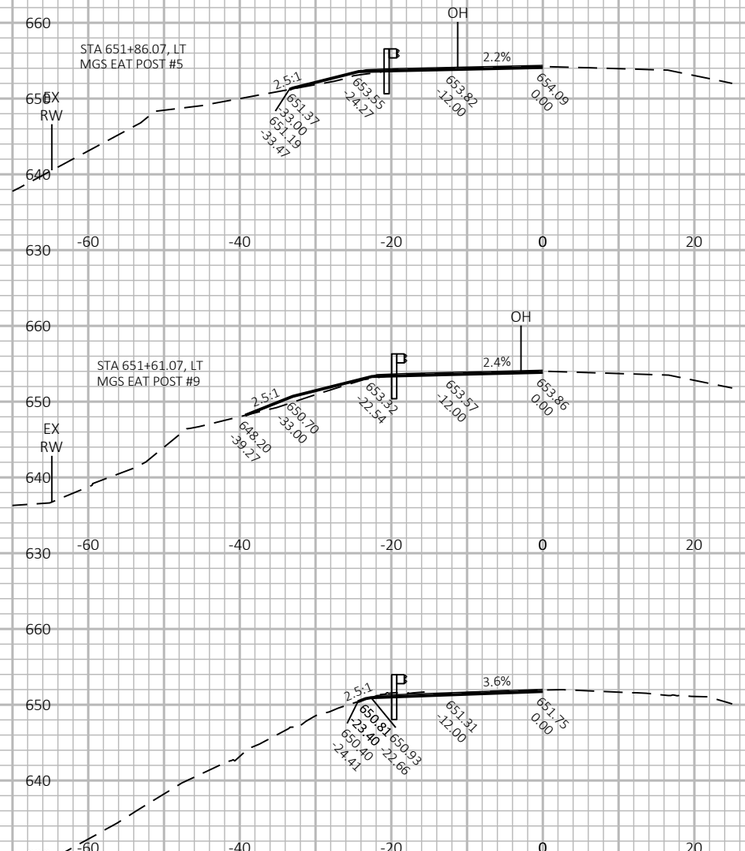
PLOT DATE : 6/25/2021 3:08 PM

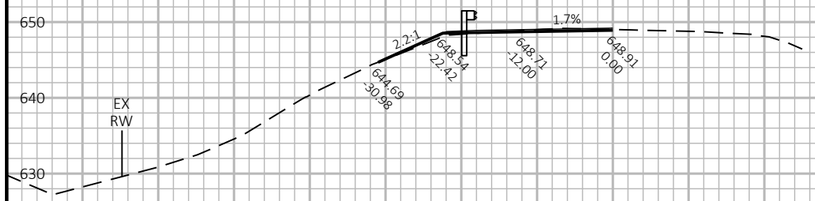
PLOT BY : CONNOR GIRTEN

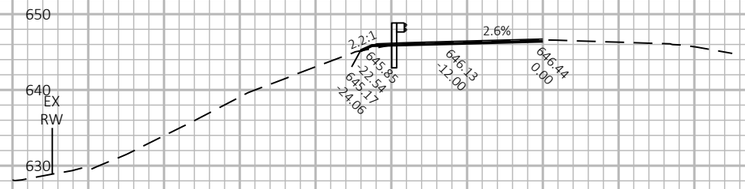
PLOT NAME :

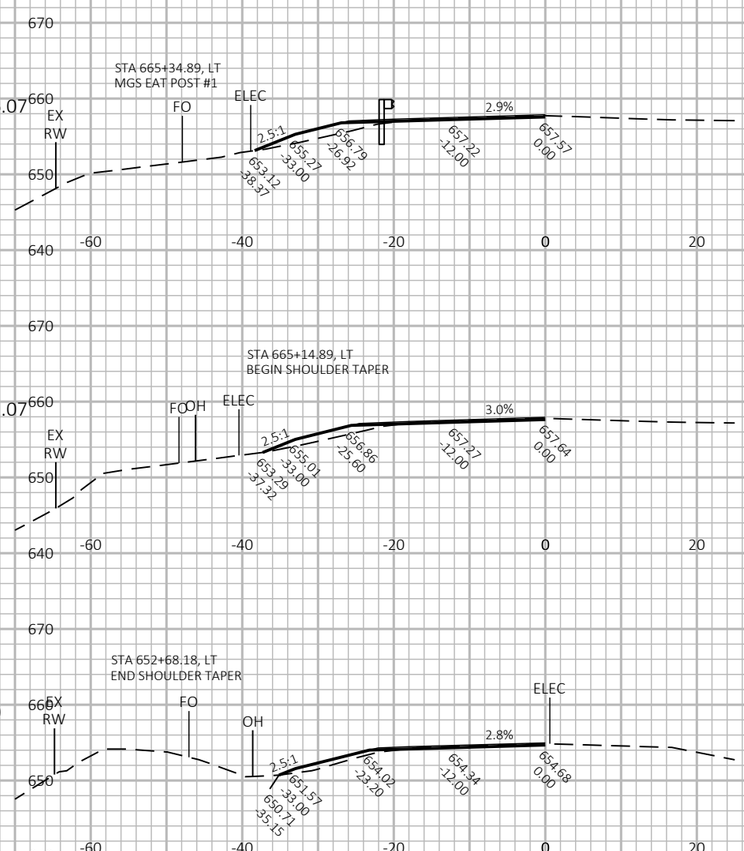
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

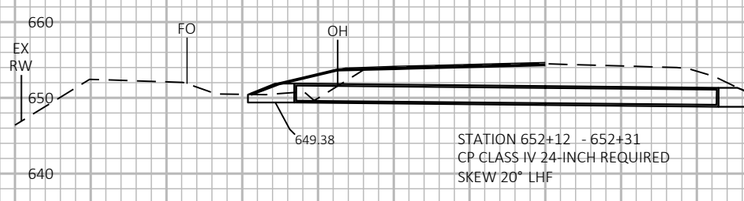
WISDOT/CADDS SHEET 49

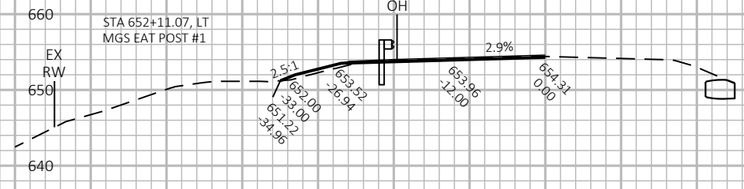












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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 184	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090207-xs

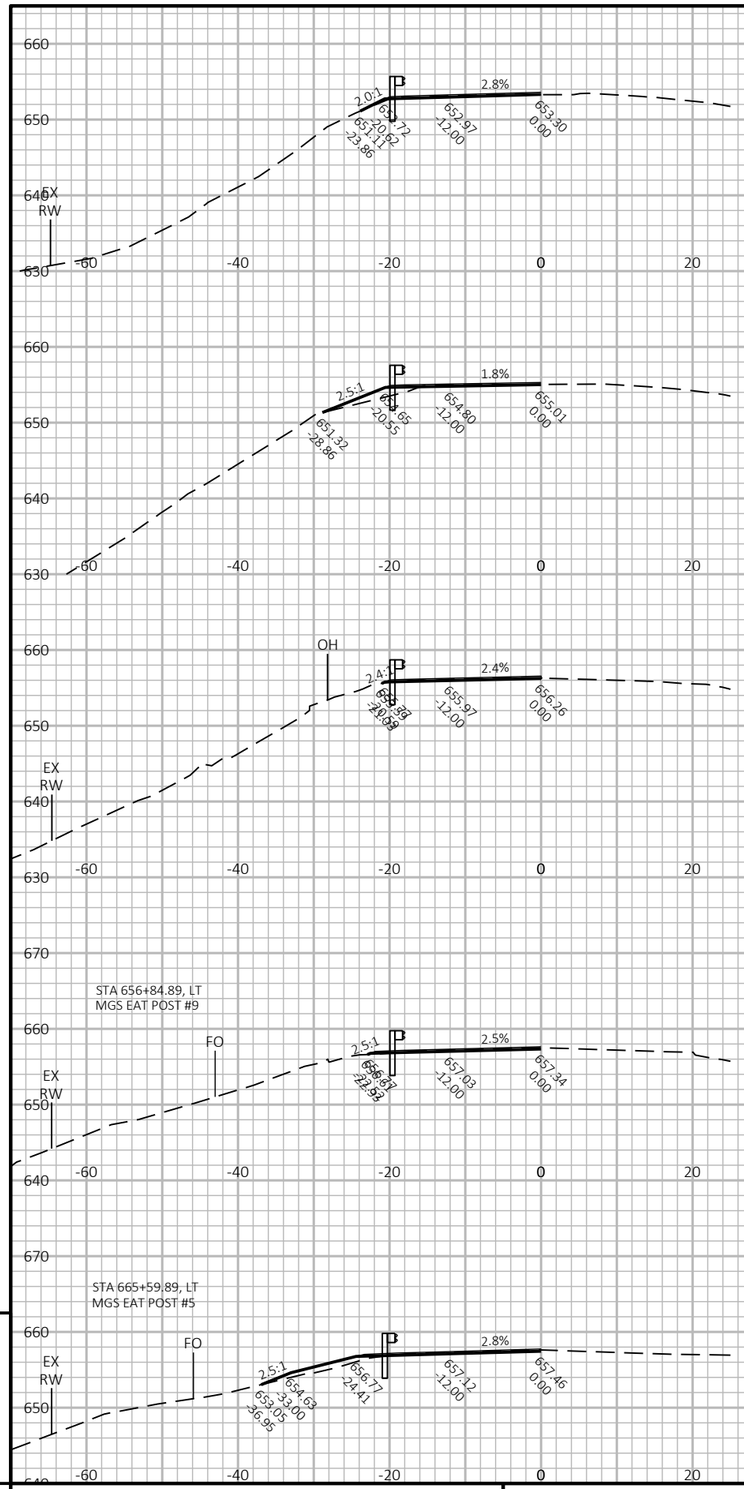
PLOT DATE : 6/25/2021 3:08 PM

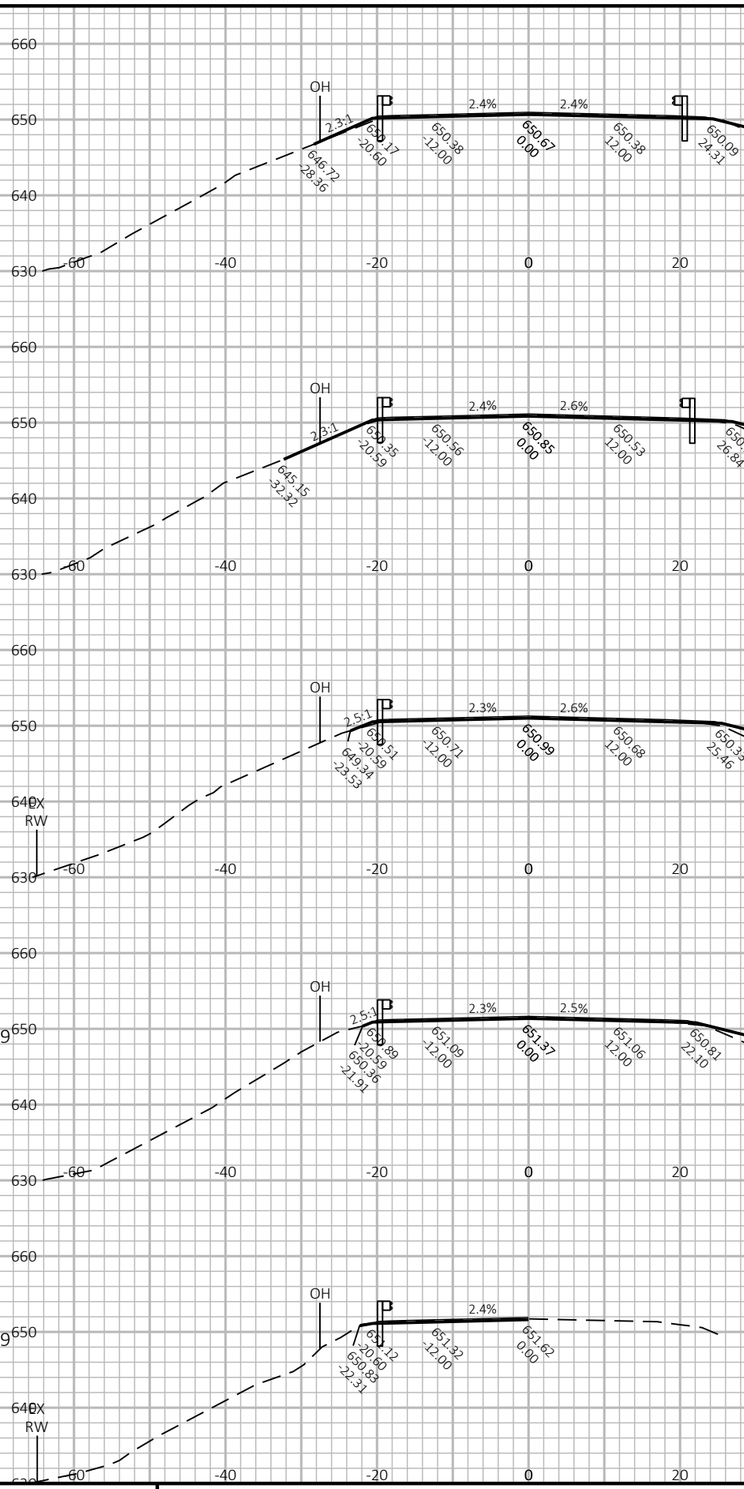
PLOT BY : CONNOR GIRTEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49





9

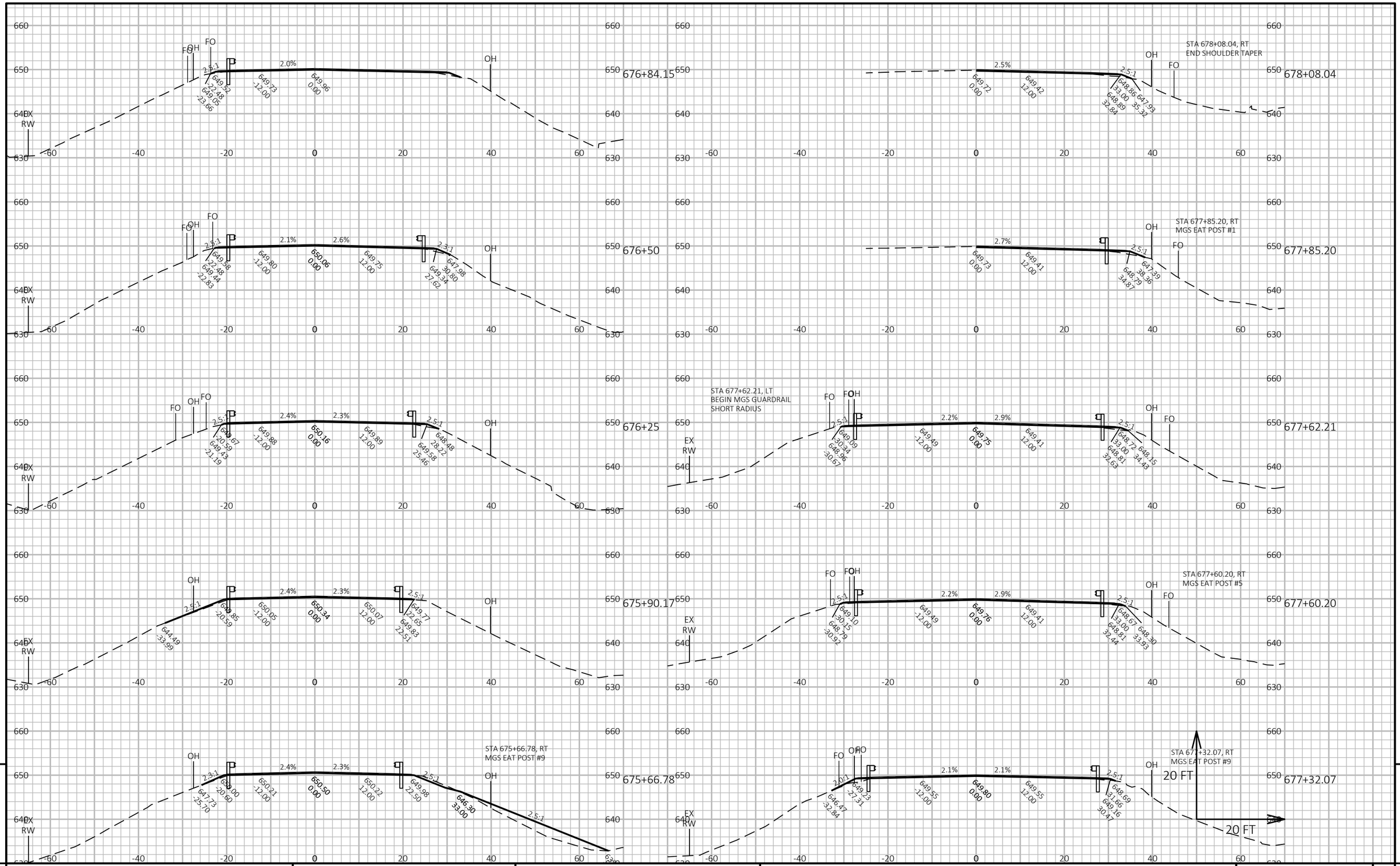
9

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 185 E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090208-xs

PLOT DATE : 6/25/2021 3:08 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

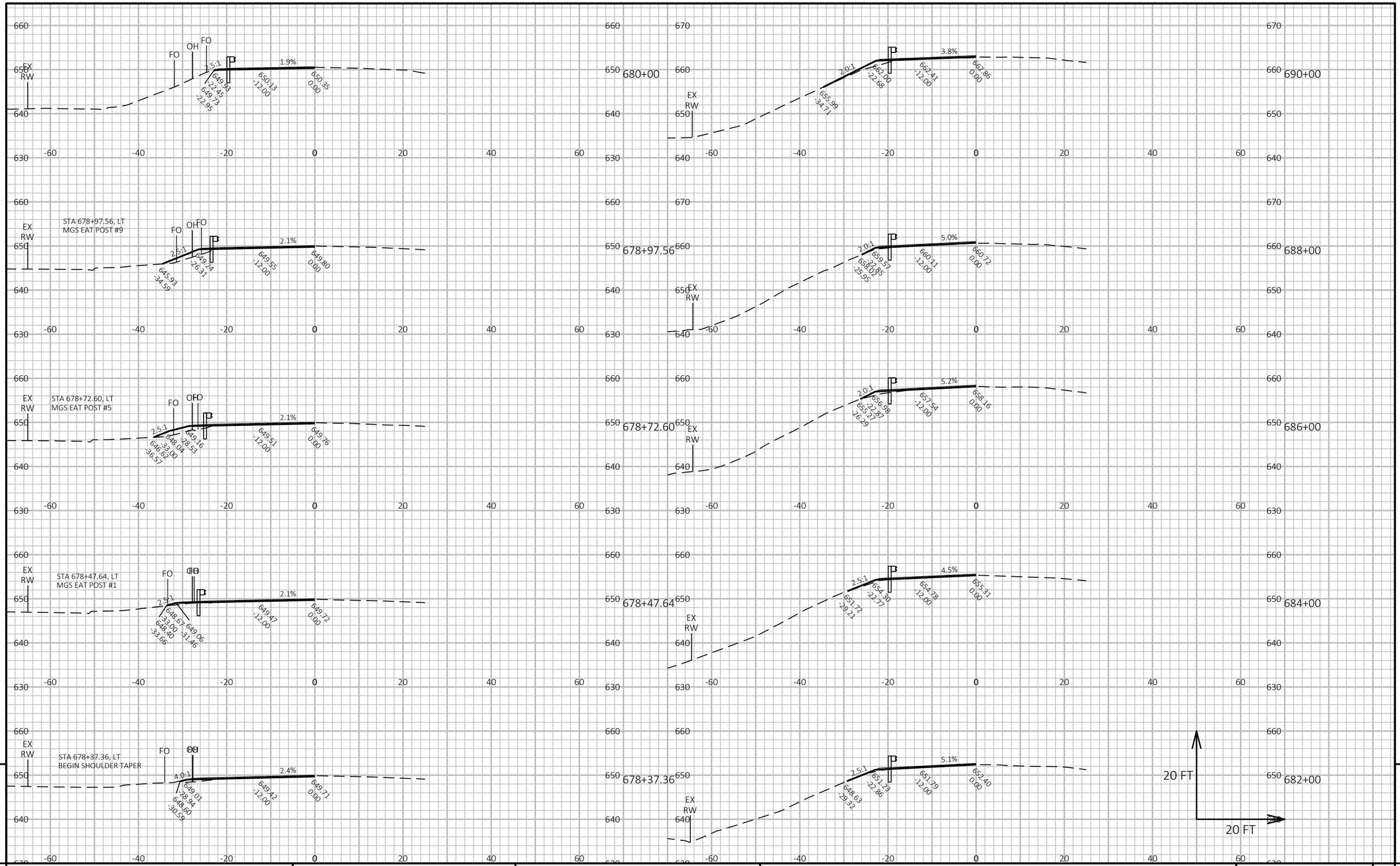


PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 186 E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090209-xs

PLOT DATE : 6/25/2021 3:08 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 187	E

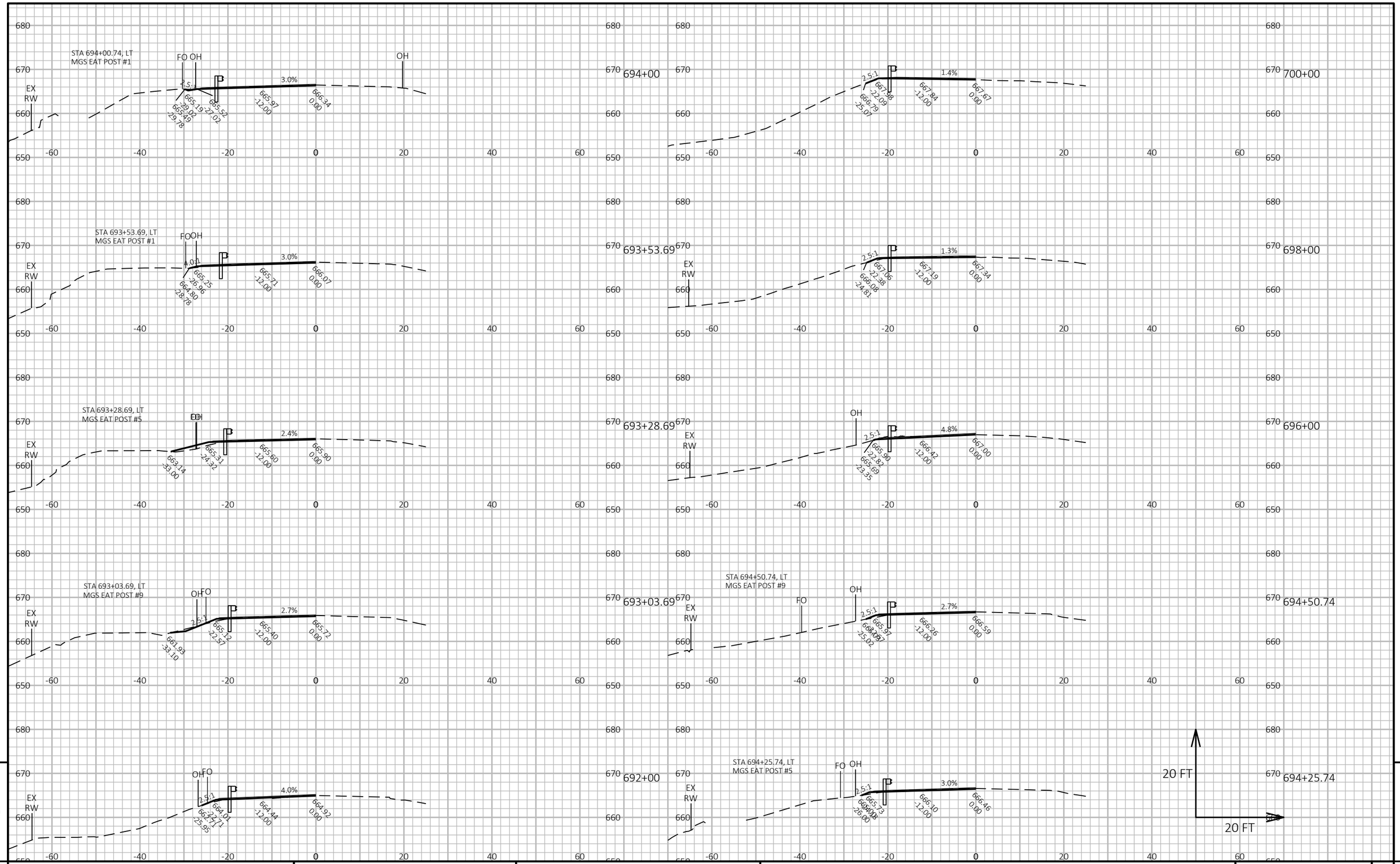
FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090210-xs

PLOT DATE : 6/25/2021 3:08 PM

PLOT BY : CONNOR GIRTEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 188 E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090211-xs

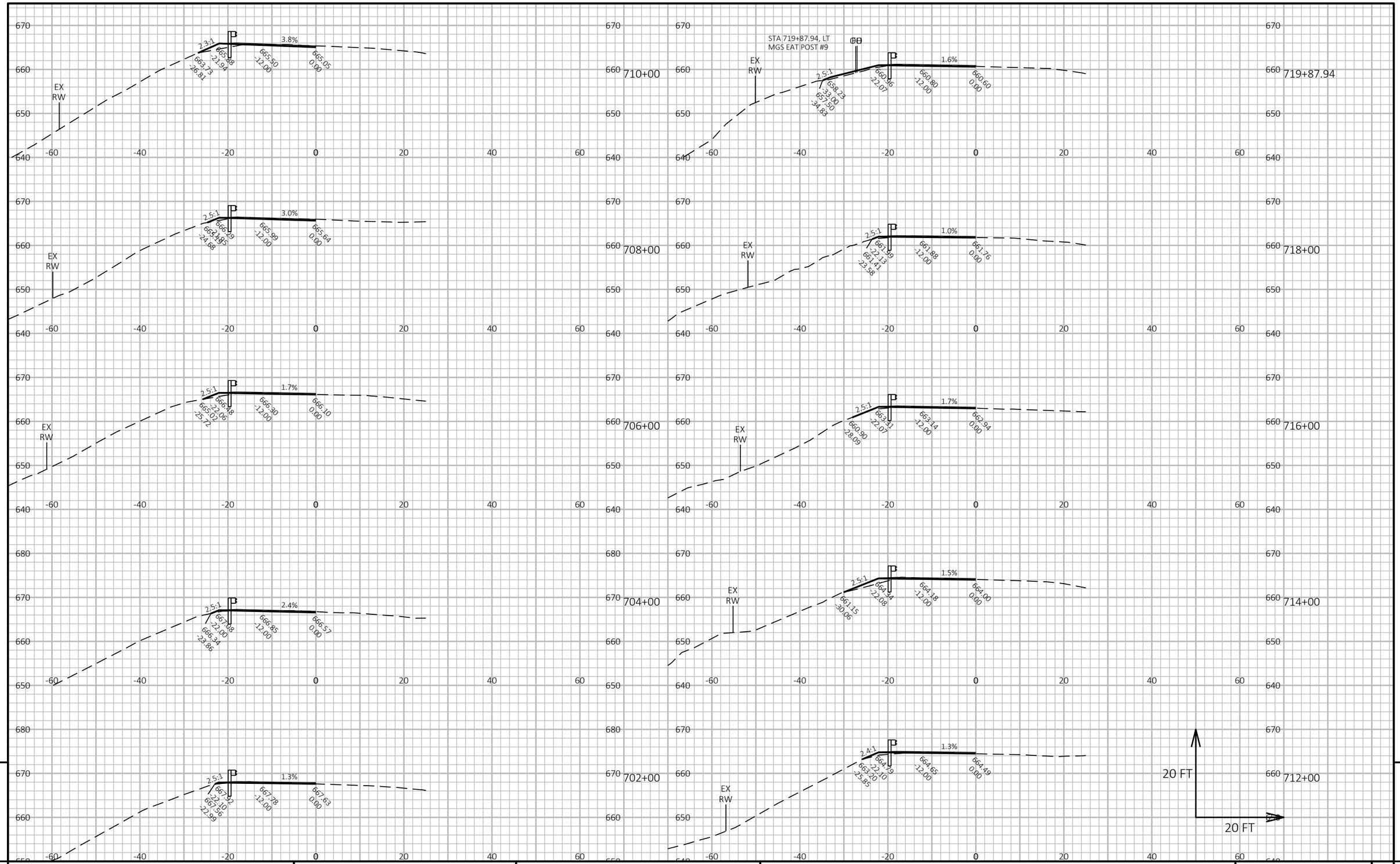
PLOT DATE : 6/25/2021 3:09 PM

PLOT BY : CONNOR GIRTEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

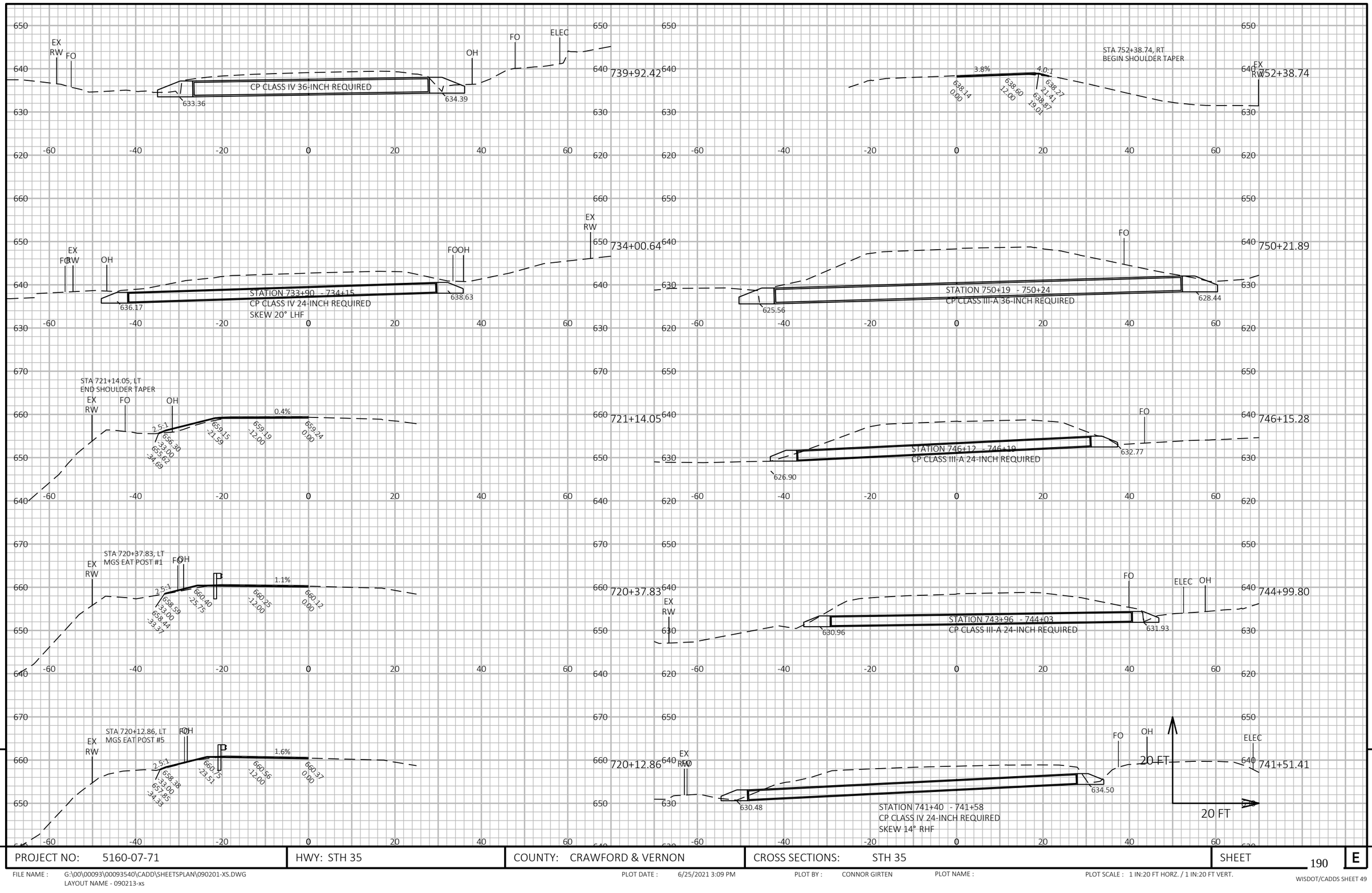


PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 189	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090212-xs

PLOT DATE : 6/25/2021 3:09 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

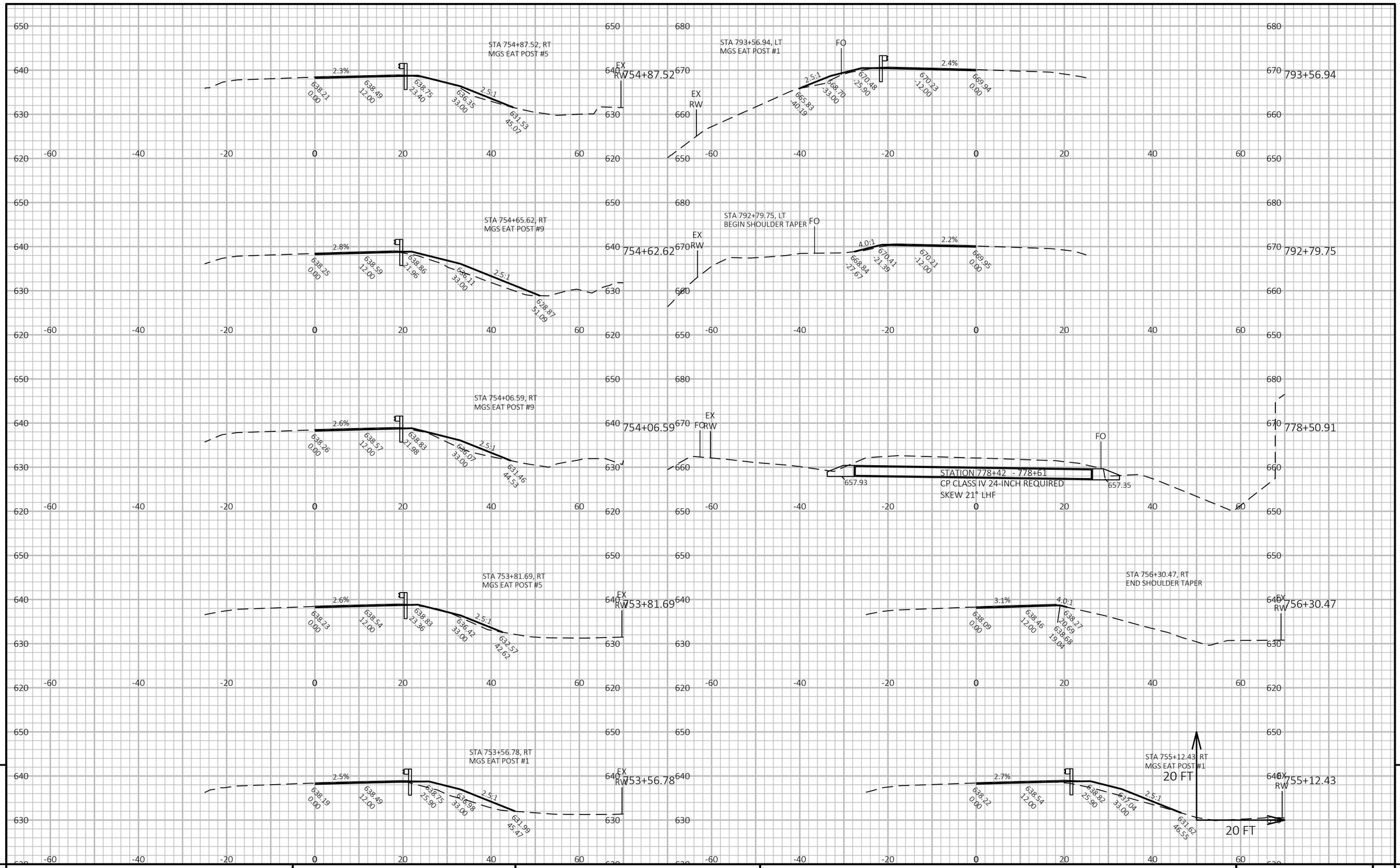
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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 190	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090213-xs

PLOT DATE : 6/25/2021 3:09 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 191	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090214-xs

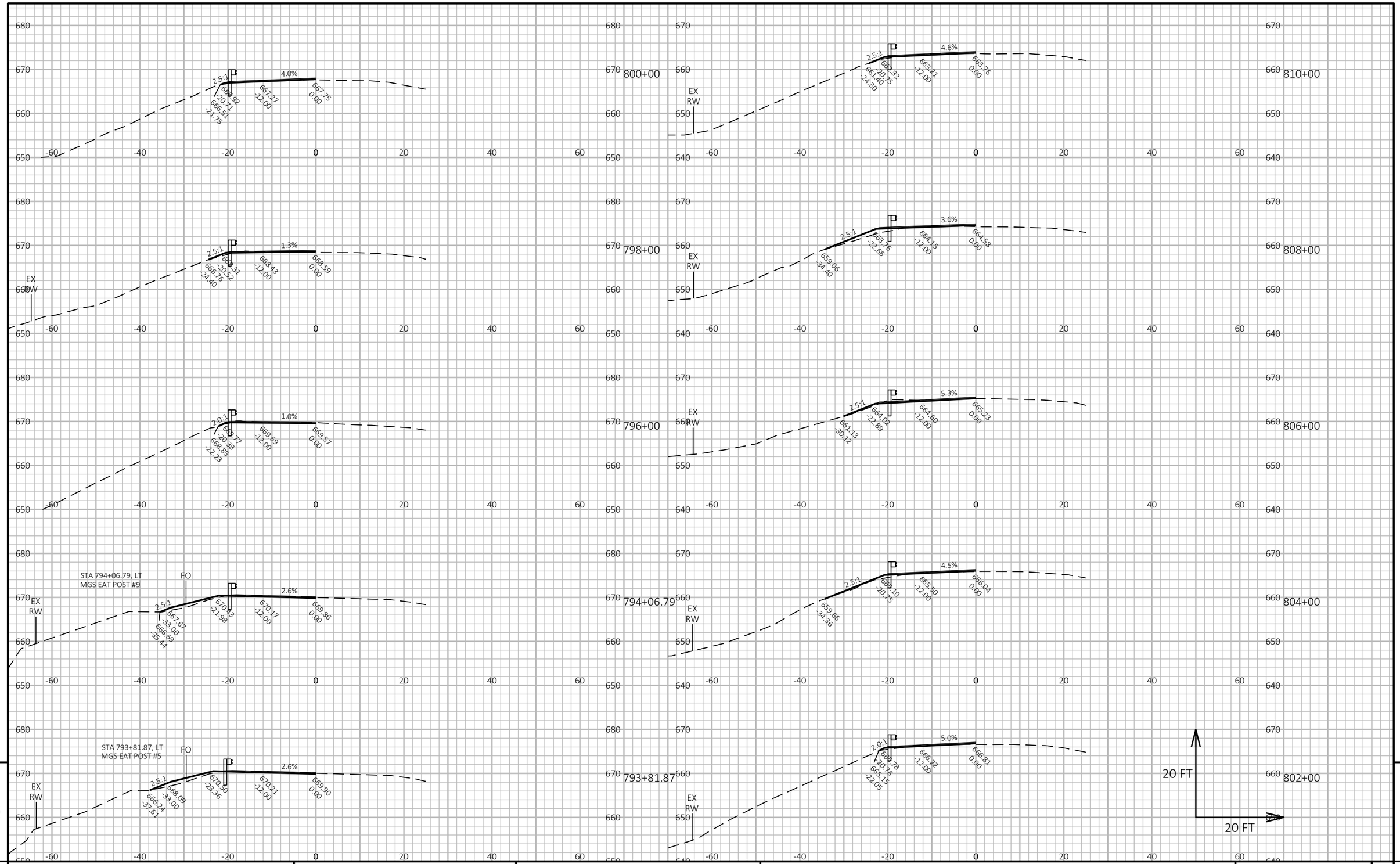
PLOT DATE : 6/25/2021 3:09 PM

PLOT BY : CONNOR GIRTEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 192	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090215-xs

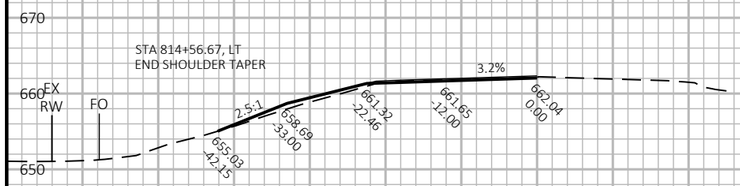
PLOT DATE : 6/25/2021 3:09 PM

PLOT BY : CONNOR GIRTEN

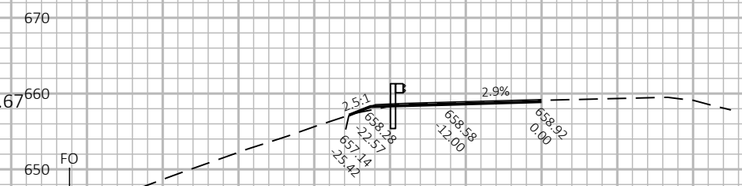
PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

STA 814+56.67, LT
END SHOULDER TAPER



814+56.67



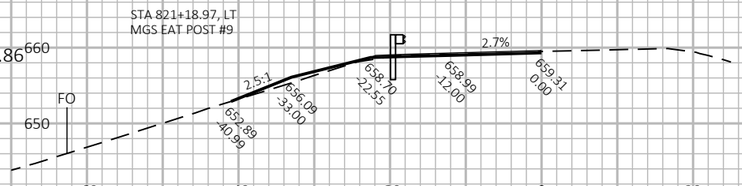
822+00

STA 813+86.86, LT
MGS EAT POST #1



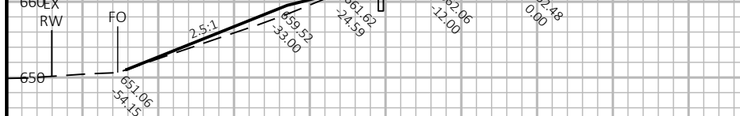
813+86.86

STA 821+18.97, LT
MGS EAT POST #9



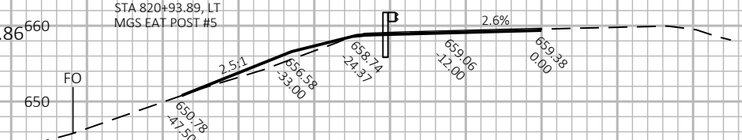
821+18.97

STA 813+61.86, LT
MGS EAT POST #5



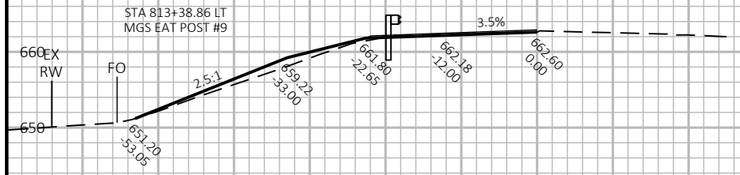
813+61.86

STA 820+93.89, LT
MGS EAT POST #5



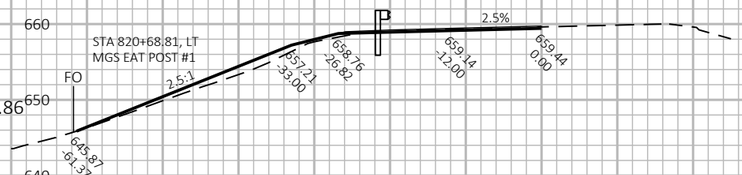
820+93.89

STA 813+38.86 LT
MGS EAT POST #9



813+36.86

STA 820+68.81, LT
MGS EAT POST #1

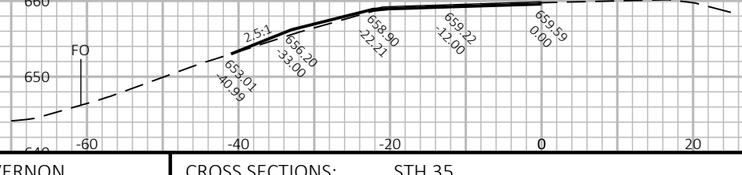


820+68.81

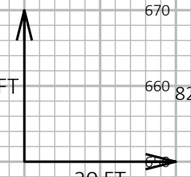
STA 812+00



STA 820+12.73, LT
BEGIN SHOULDER TAPER



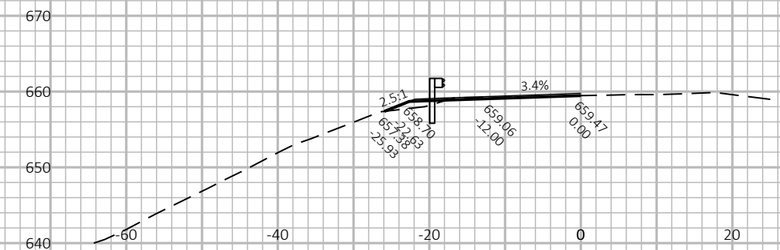
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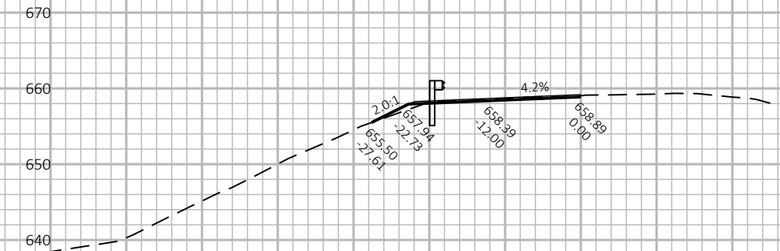


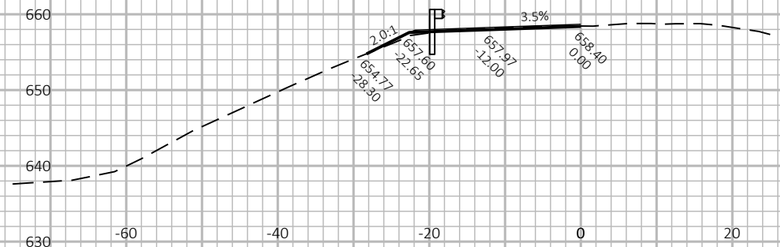
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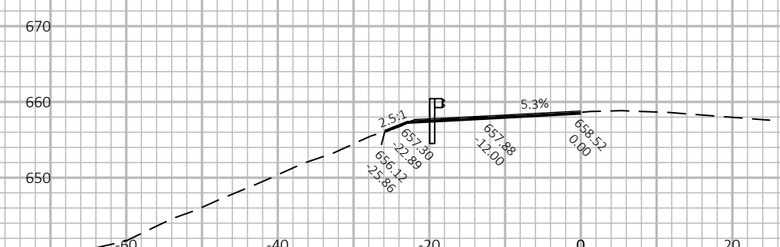
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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 193	E



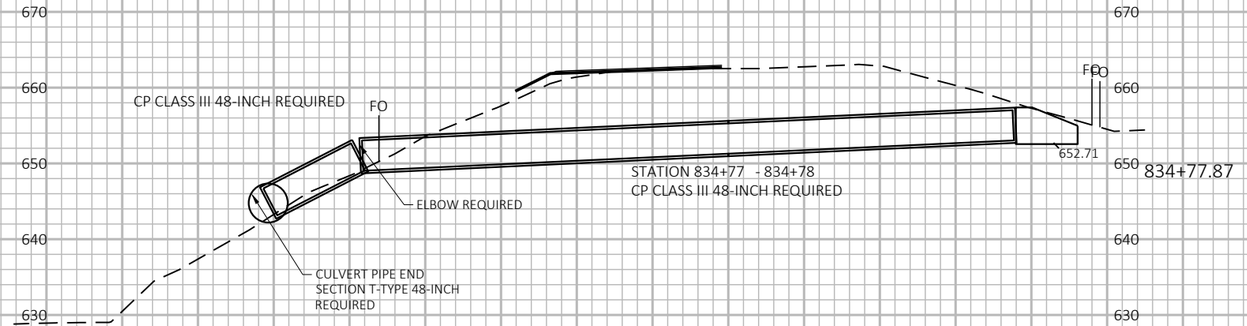






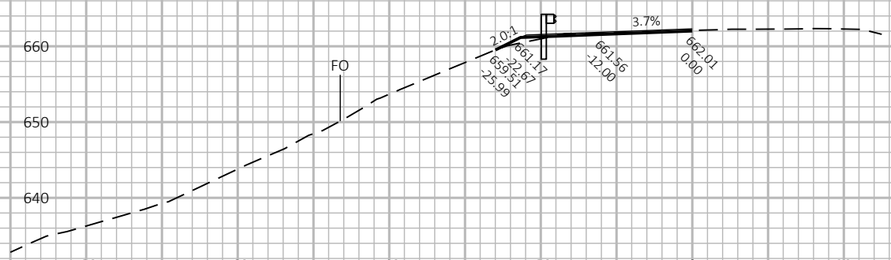
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828+00



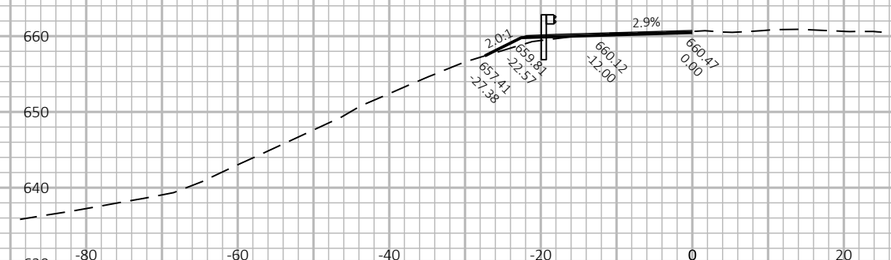
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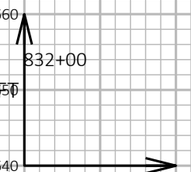
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834+00

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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 194	E

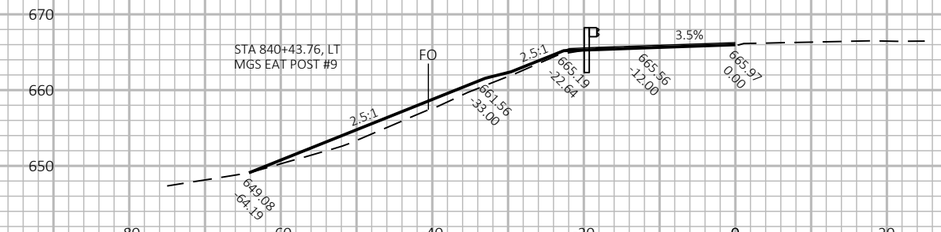
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LAYOUT NAME - 090217-xs

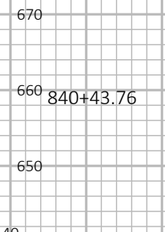
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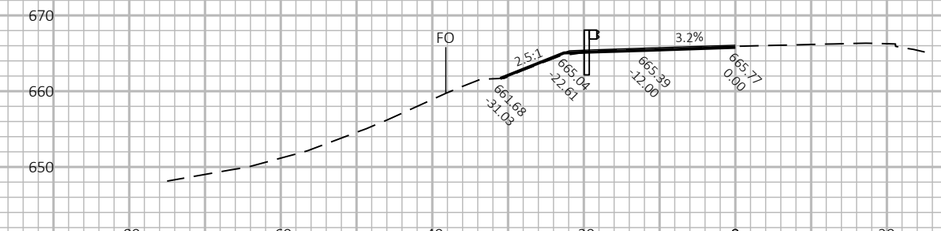
PLOT BY : CONNOR GIRTEN

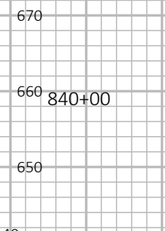
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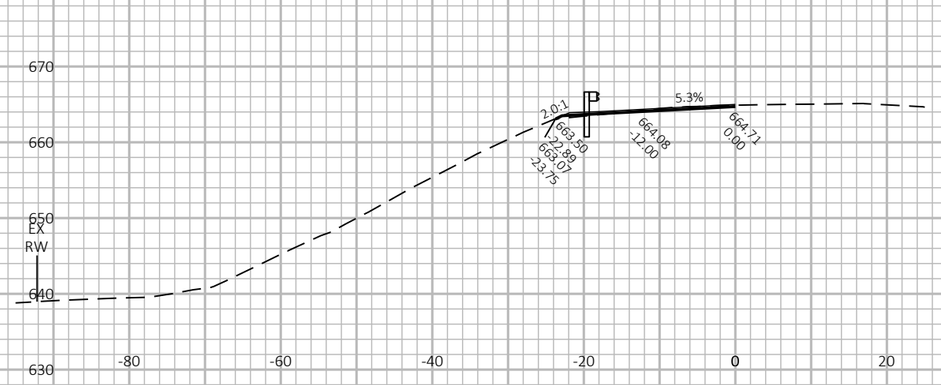
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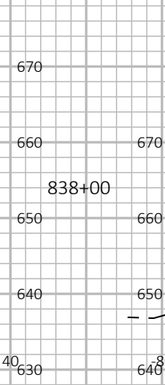


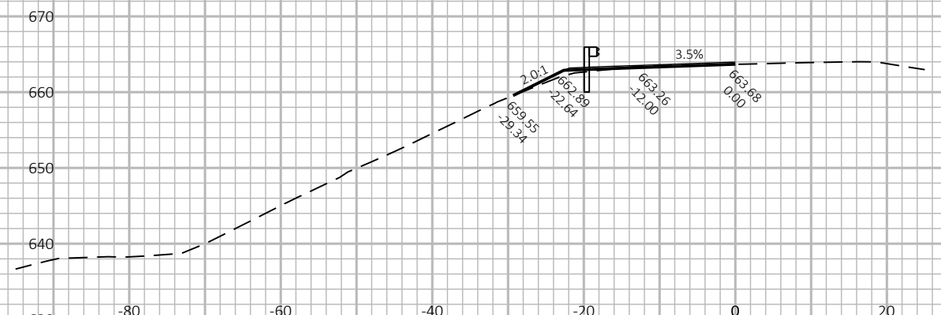


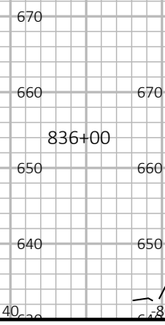


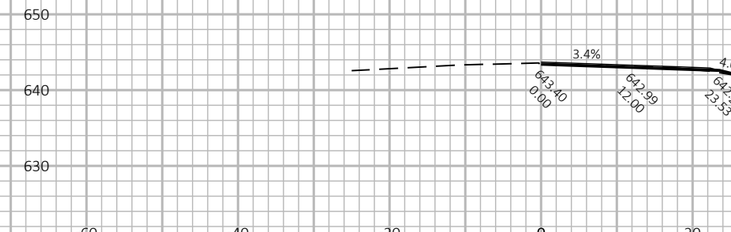


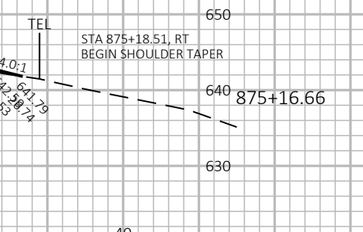




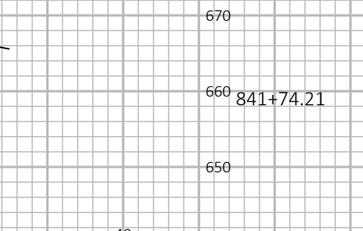


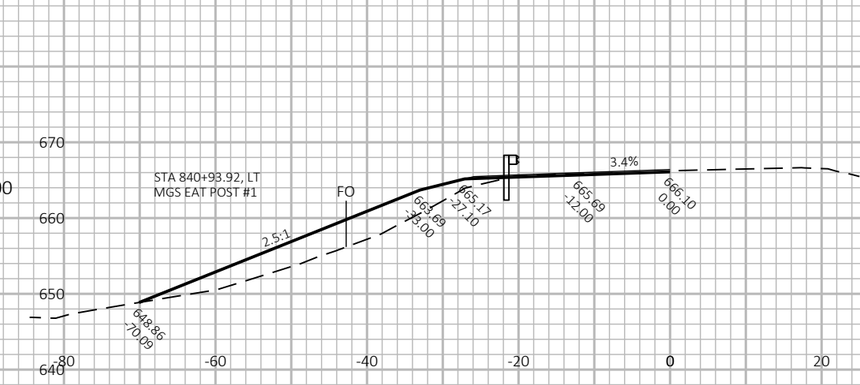


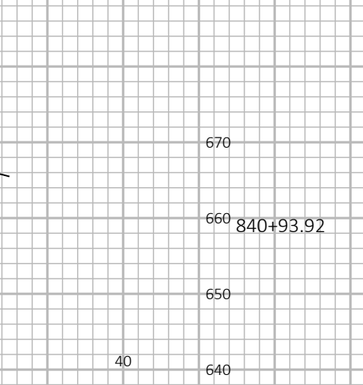


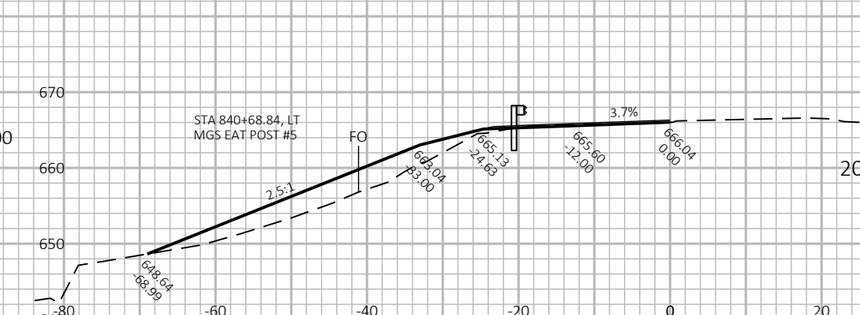


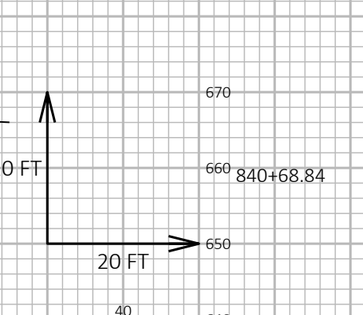








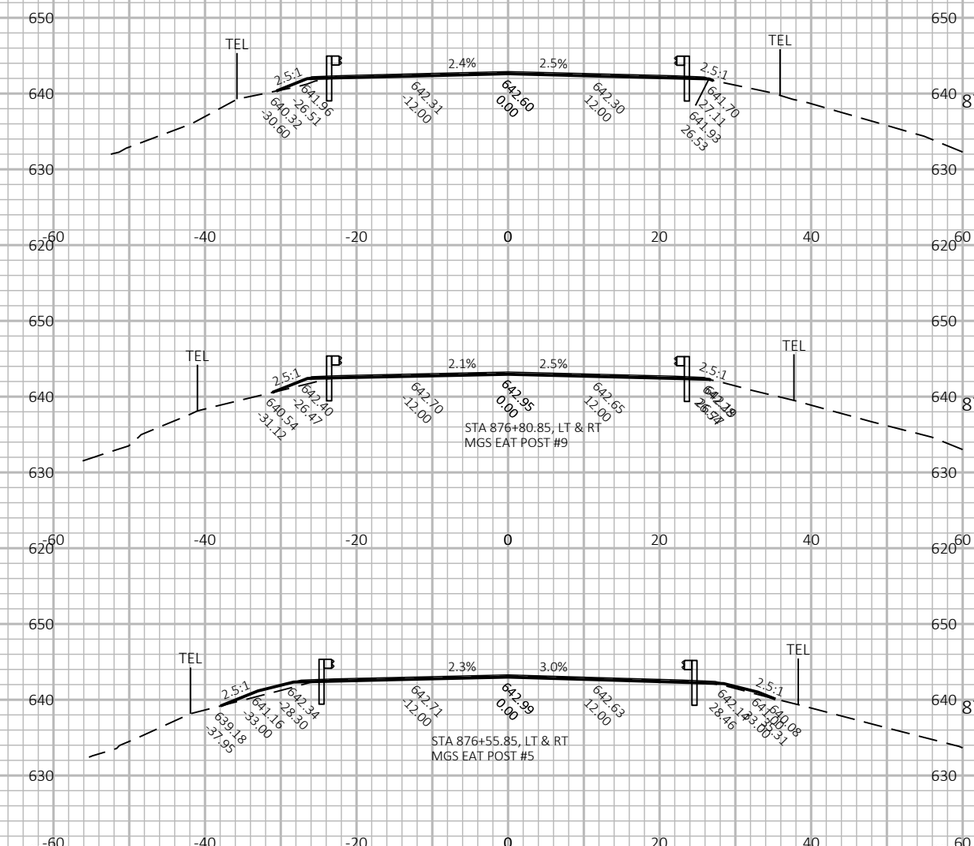


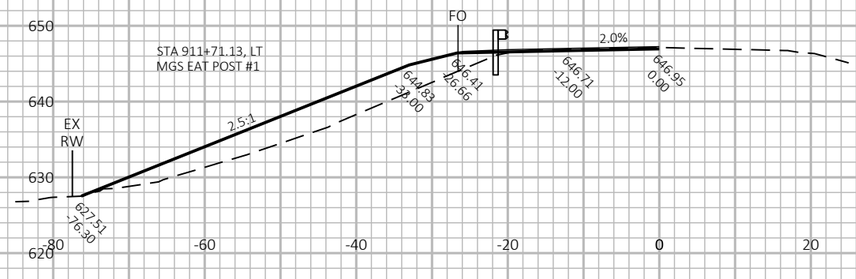


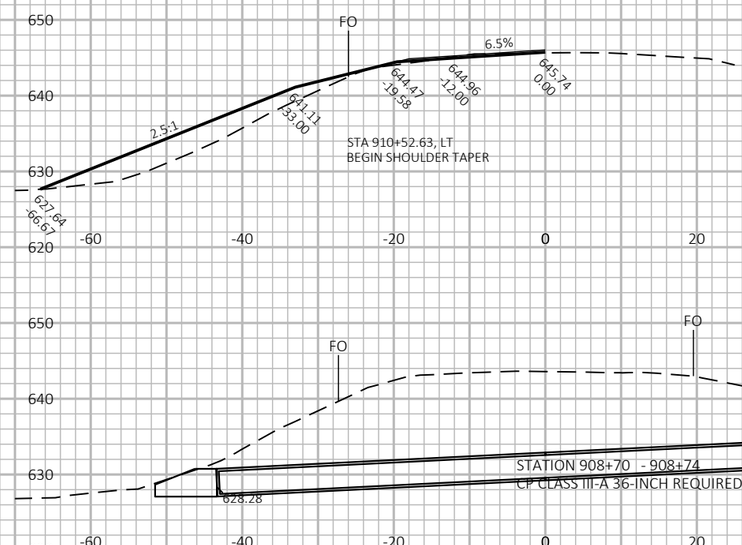
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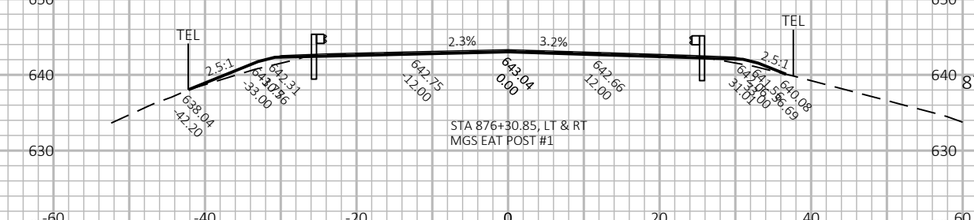
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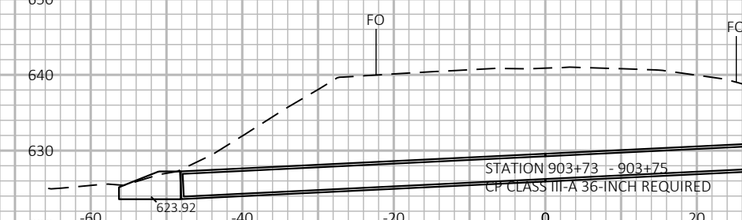
PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 195	E

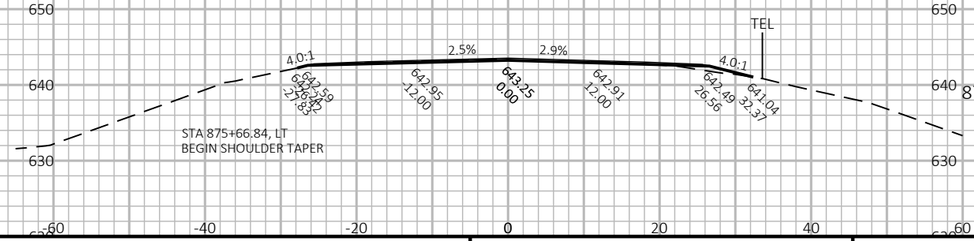


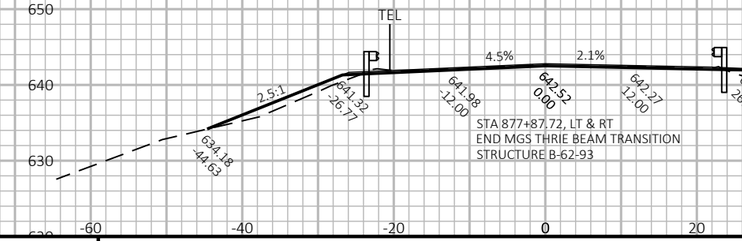












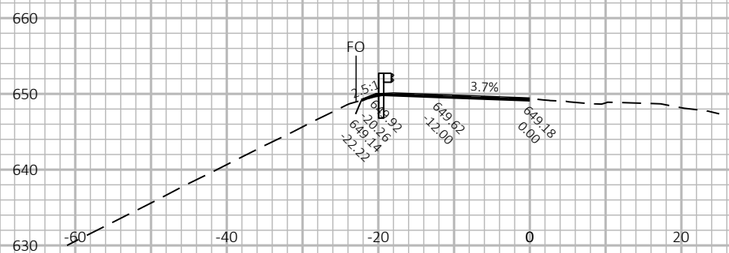
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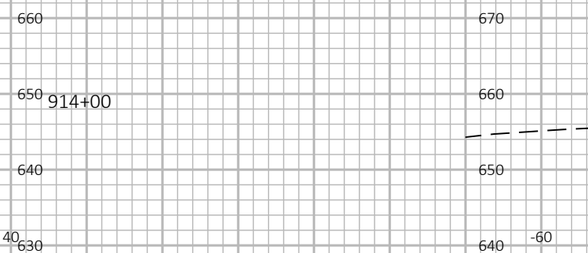
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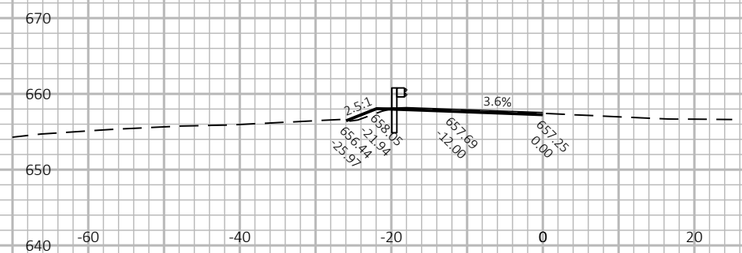
PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 196	E

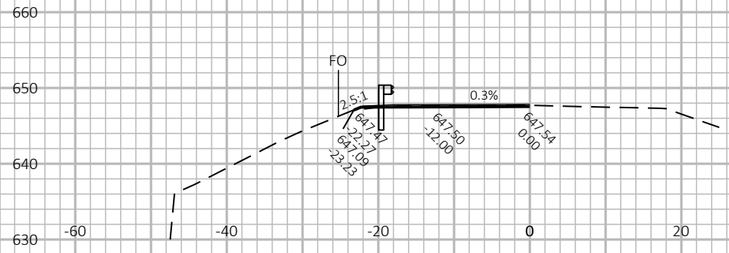
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LAYOUT NAME - 090219-xs

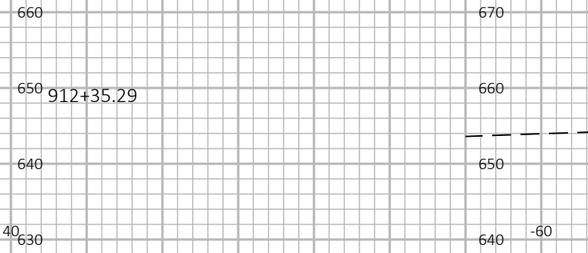
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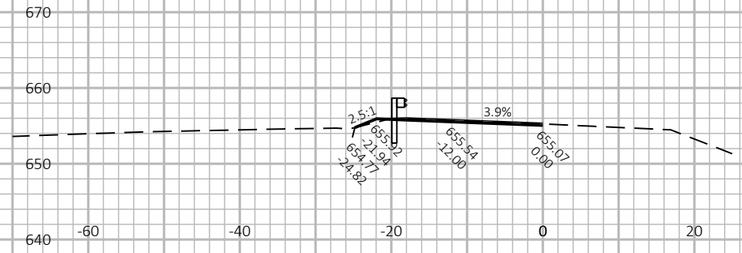


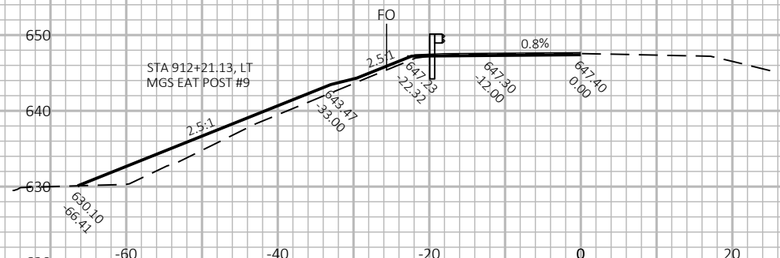


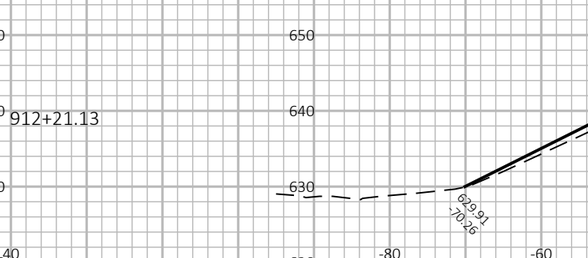




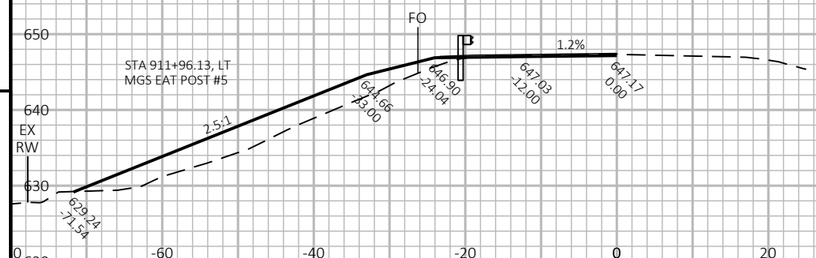


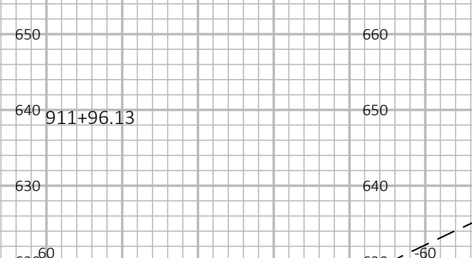


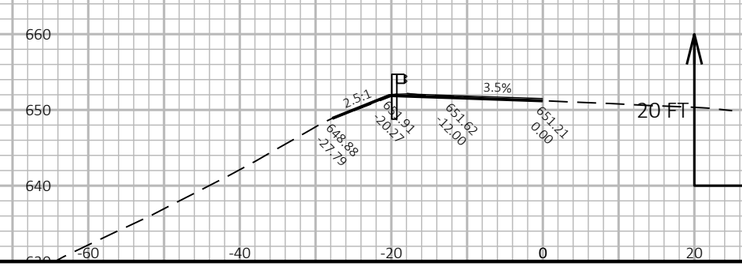












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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 197	E

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LAYOUT NAME - 090220-xs

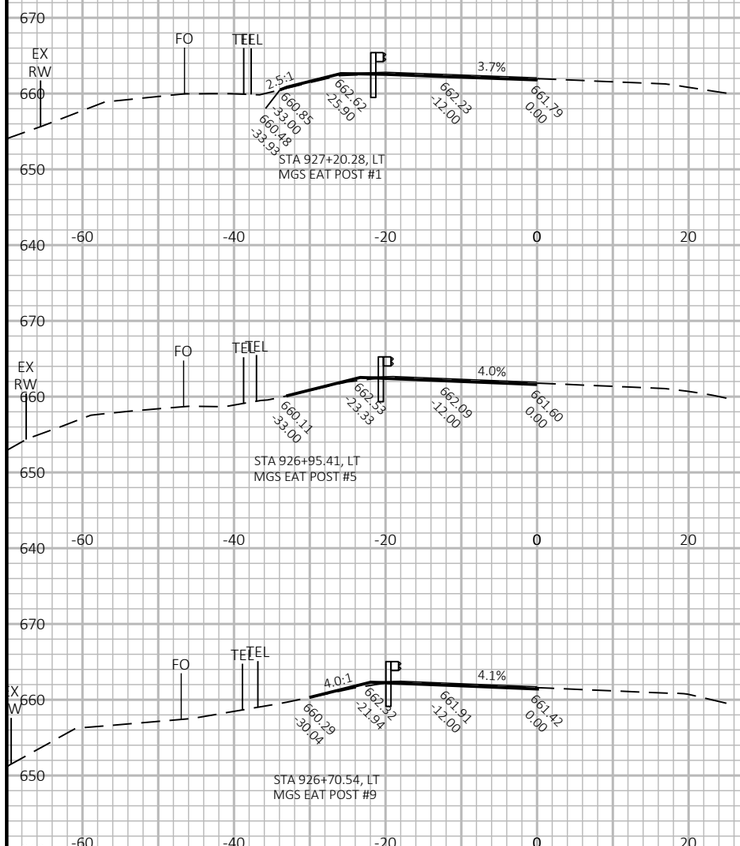
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PLOT BY : CONNOR GIRTEN

PLOT NAME :

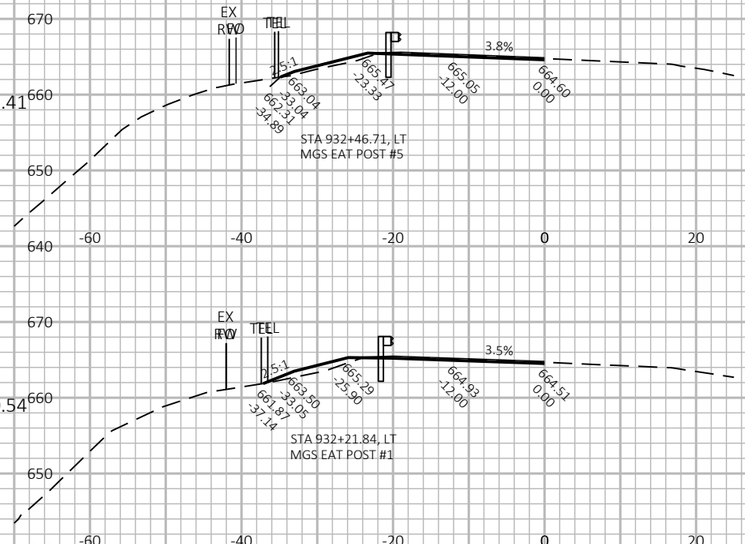
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



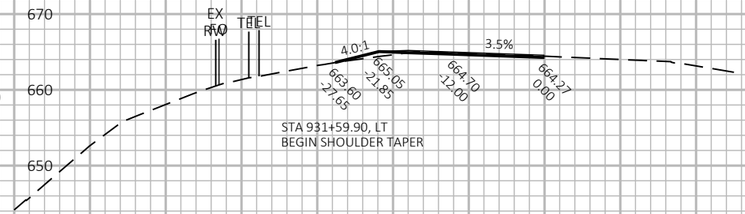


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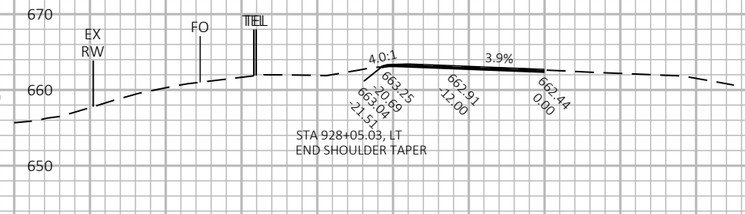


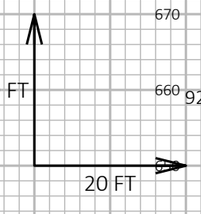
926+70.54

926+00



924+00





PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 198 E

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LAYOUT NAME - 090221-xs

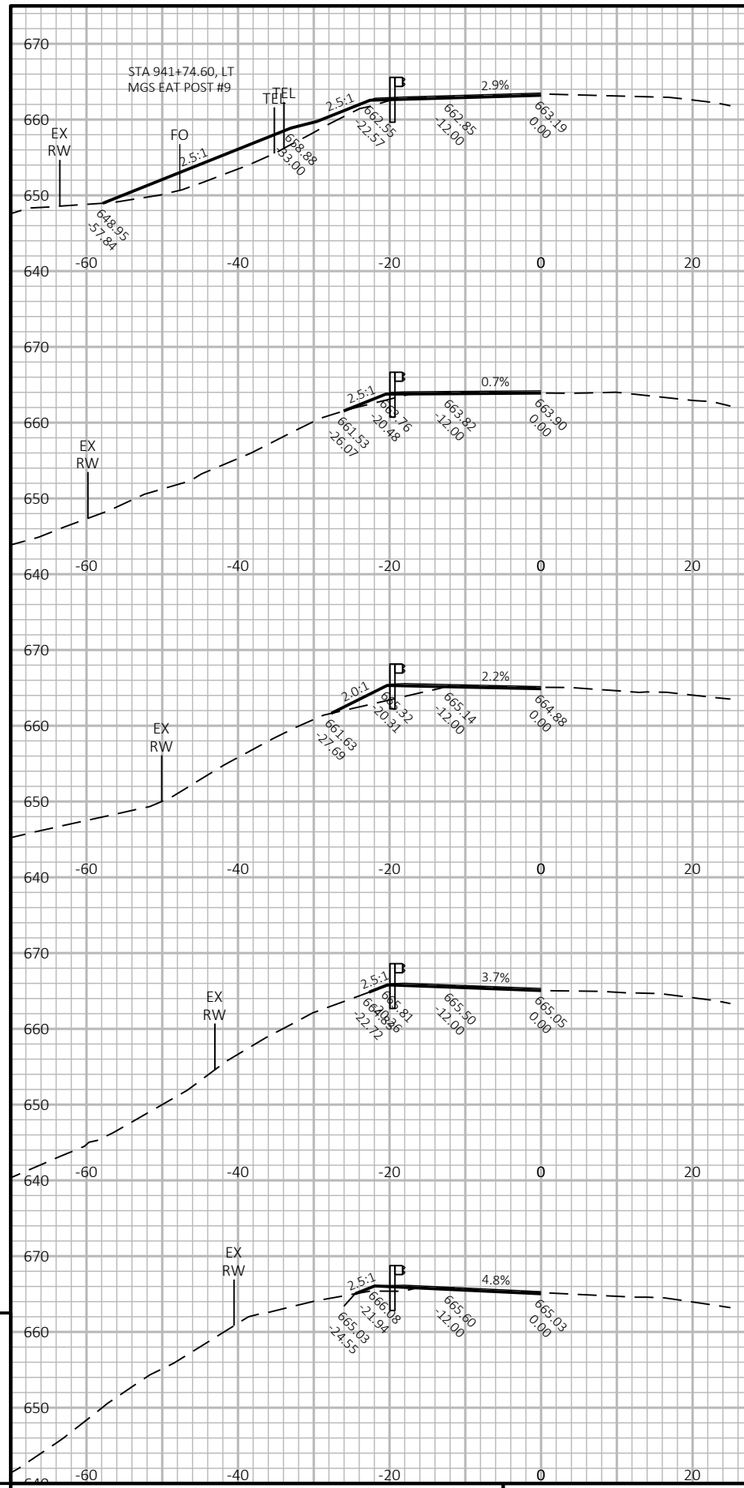
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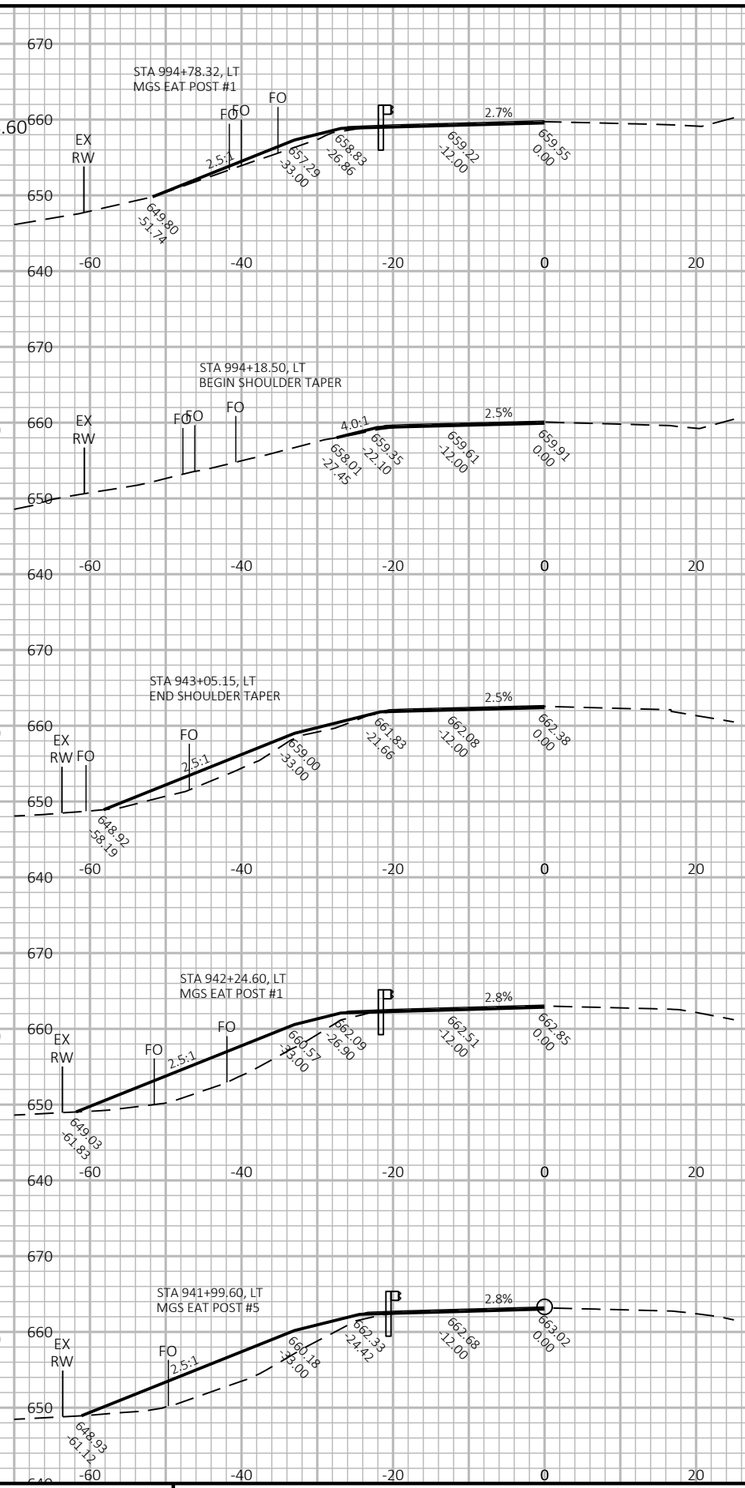
PLOT BY : CONNOR GIRTEN

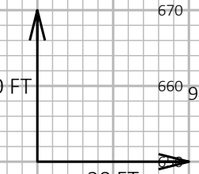
PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49







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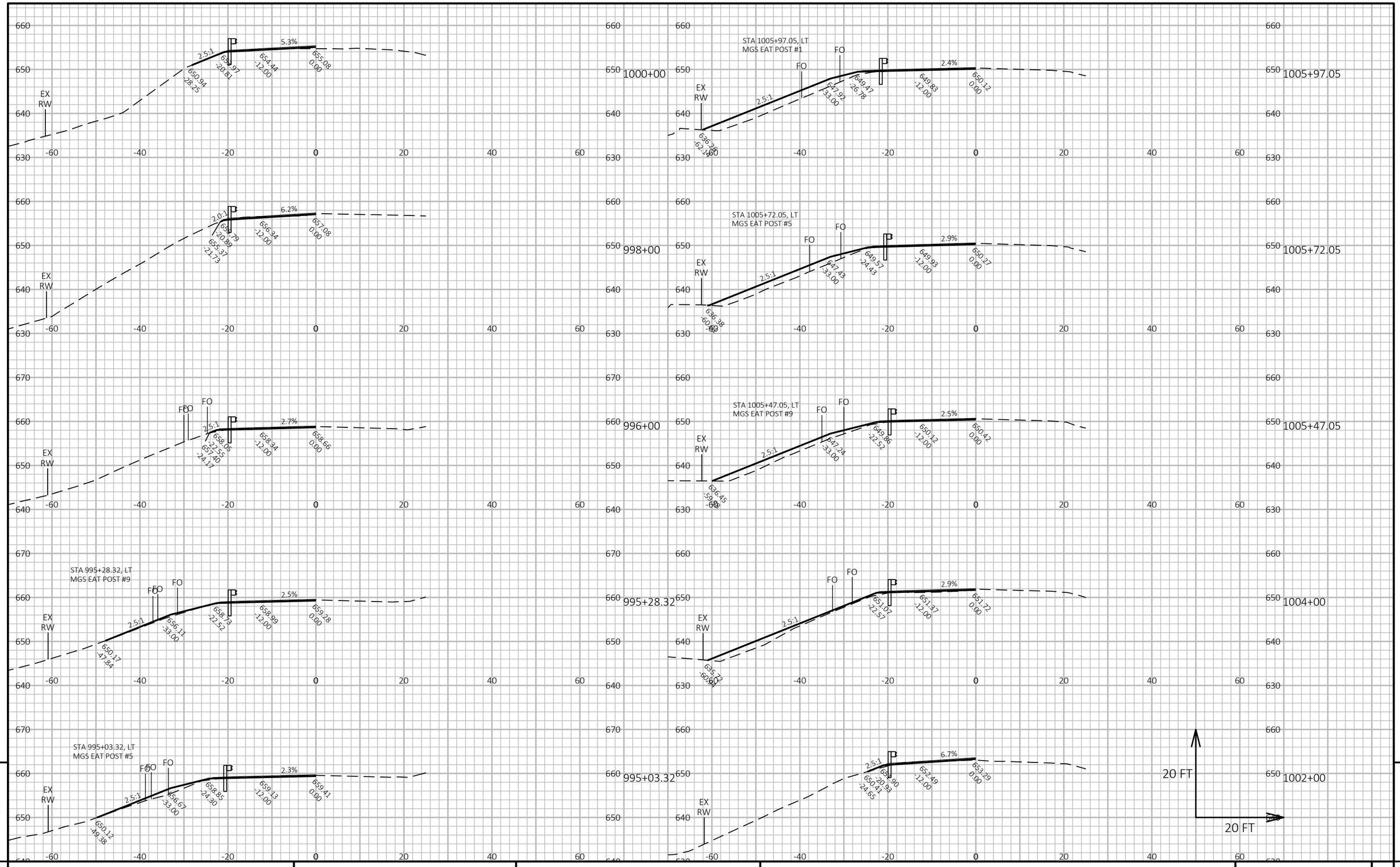
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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 199	E

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LAYOUT NAME - 090222-xs

PLOT DATE : 6/25/2021 3:10 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

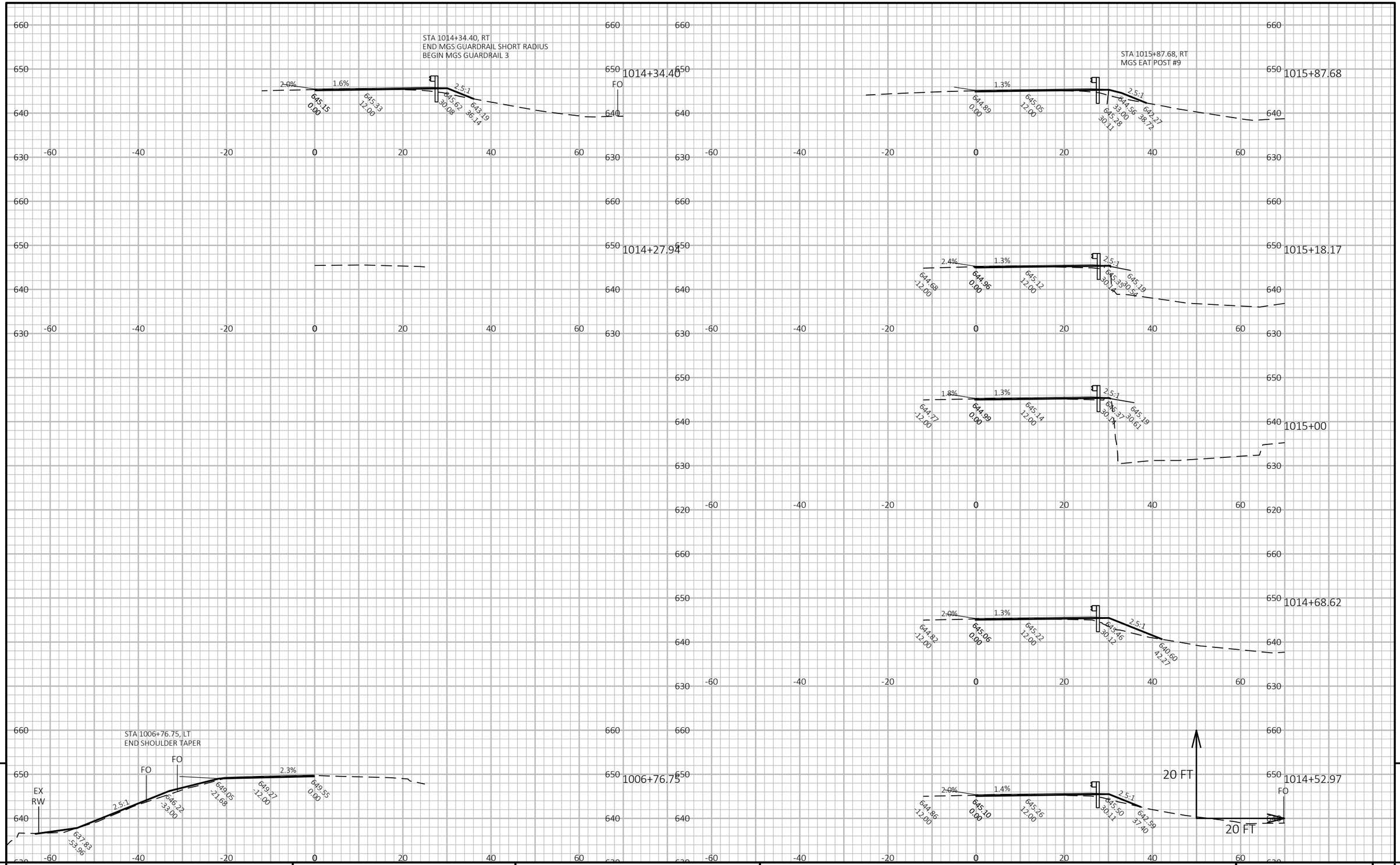


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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 200	E

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LAYOUT NAME - 090223-xs

PLOT DATE : 6/25/2021 3:10 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 201	E

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LAYOUT NAME - 090224-xs

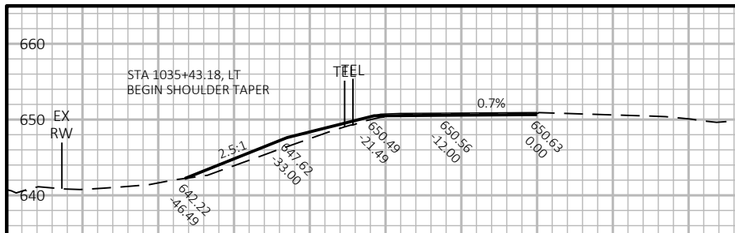
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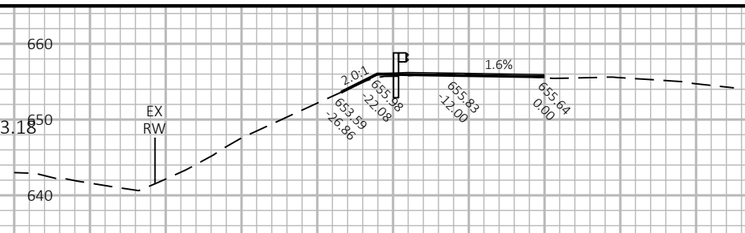
PLOT BY : BOBBI MAXWELL

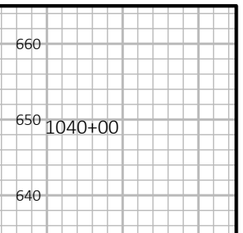
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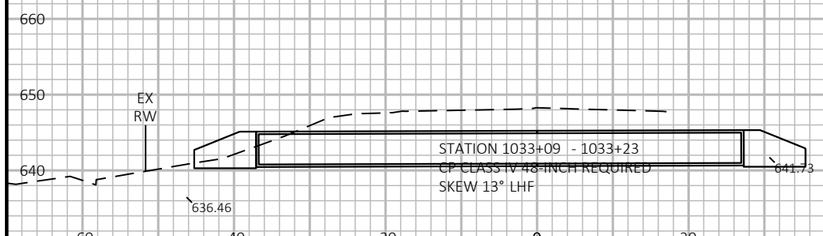
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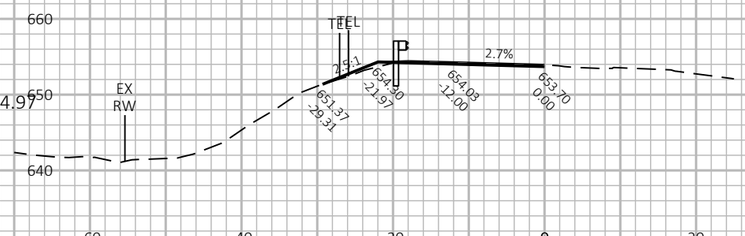
WISDOT/CADDS SHEET 49

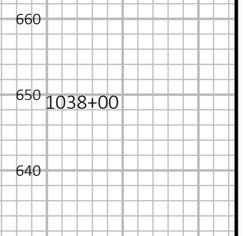




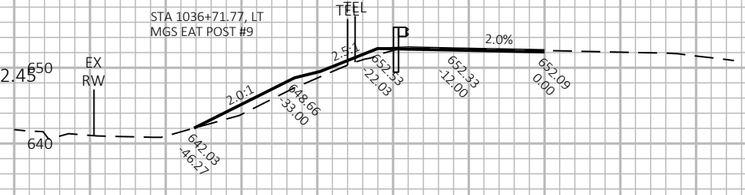


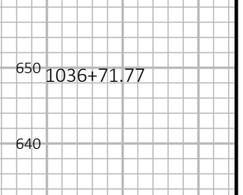


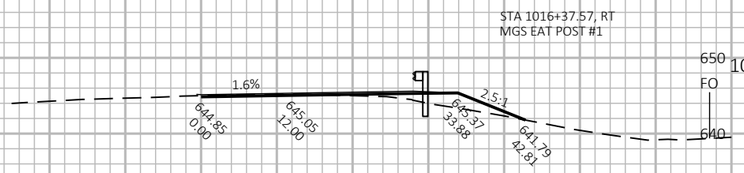


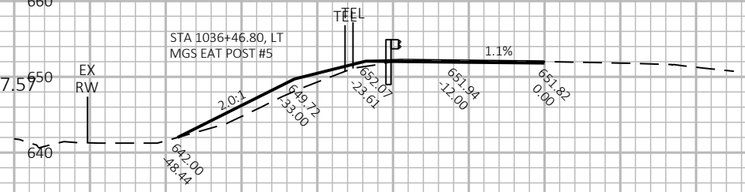


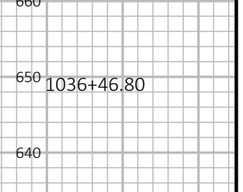


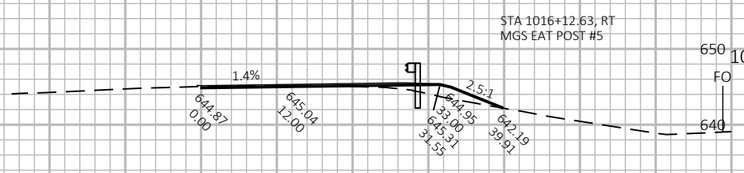


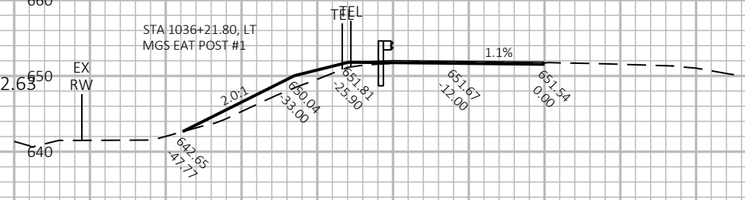


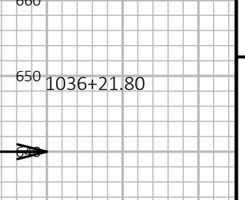


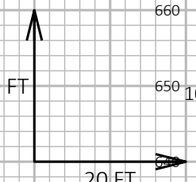












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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 202	E

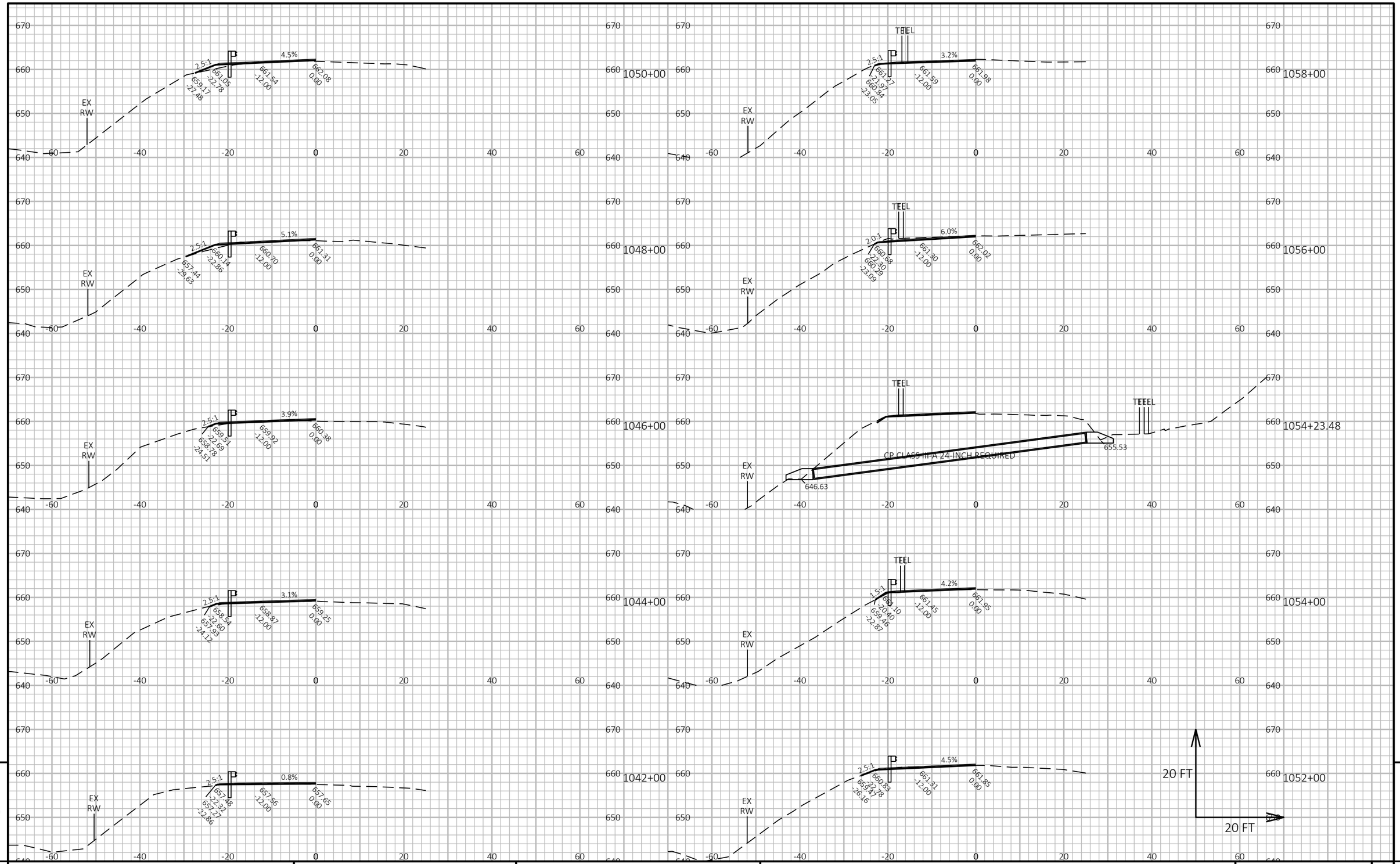
FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090225-xs

PLOT DATE : 6/25/2021 3:10 PM

PLOT BY : CONNOR GIRTEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 203 E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090226-xs

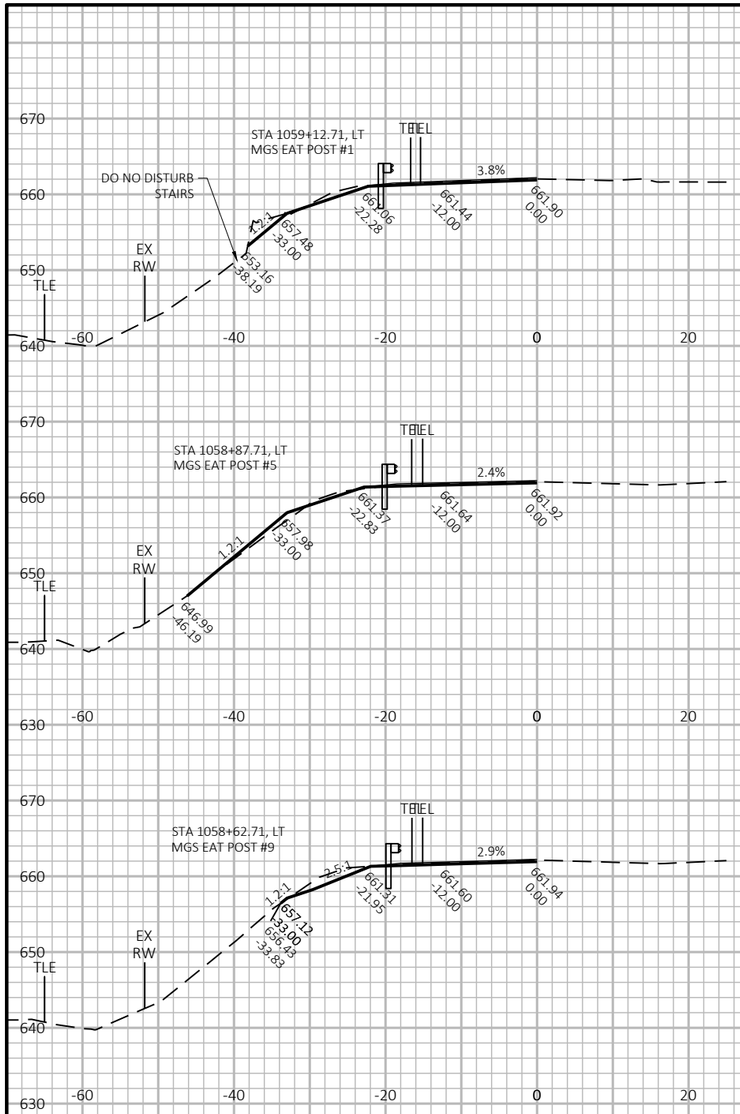
PLOT DATE : 6/25/2021 3:10 PM

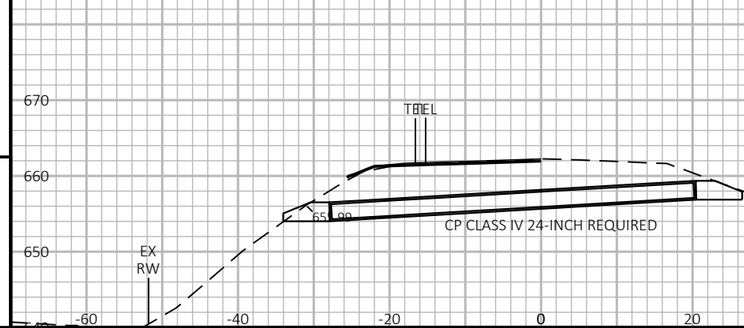
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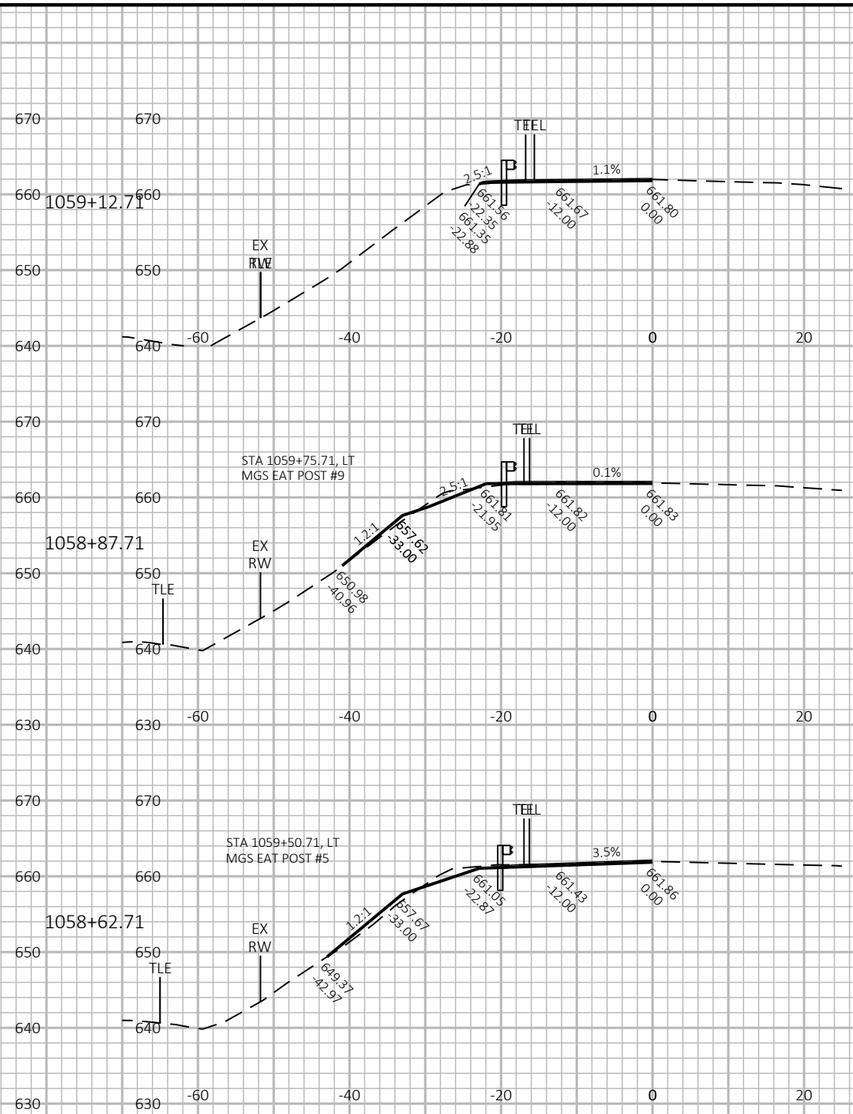
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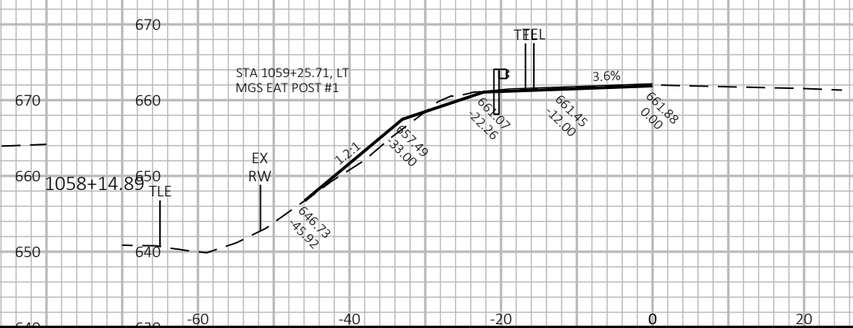
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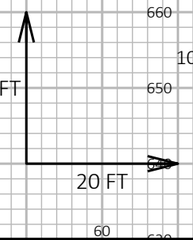
WISDOT/CADDS SHEET 49











1059+00

1059+75.71

1059+50.71

1059+25.71

9

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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 204	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090227-xs

PLOT DATE : 6/25/2021 3:10 PM

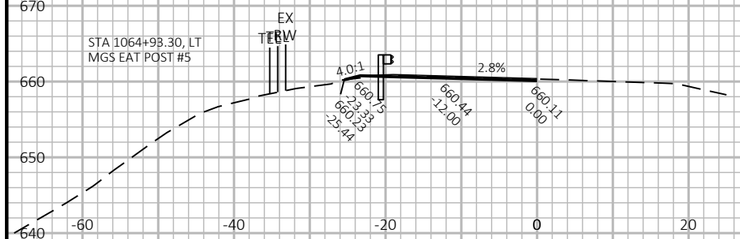
PLOT BY : CONNOR GIRTEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

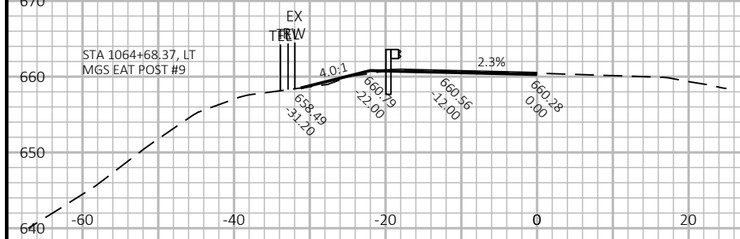
WISDOT/CADDS SHEET 49

STA 1064+93.30, LT
MGS EAT POST #5

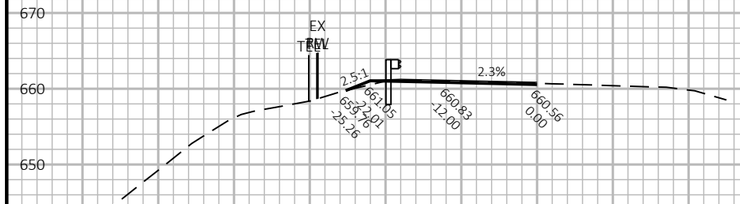


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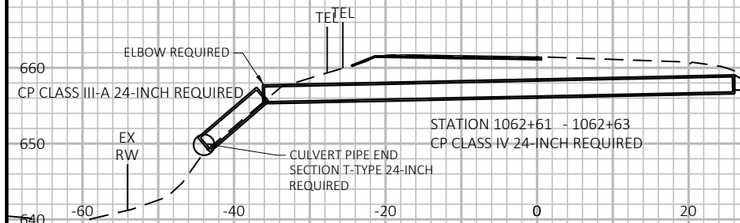
STA 1064+68.37, LT
MGS EAT POST #9



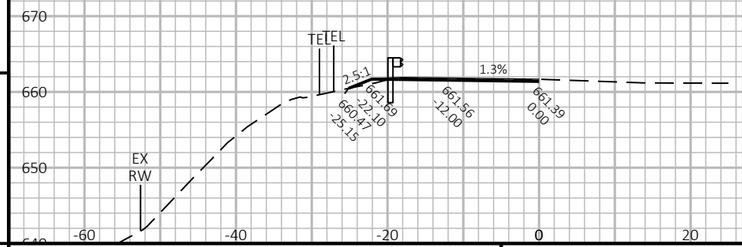
1064+68.37



1064+00

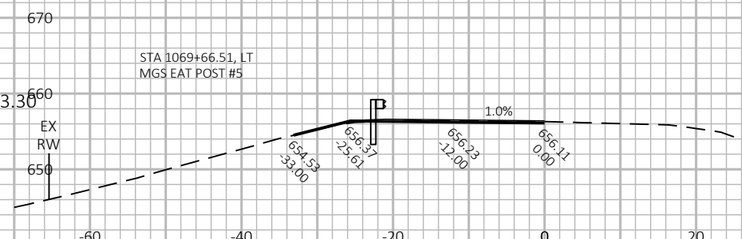


1062+62.35



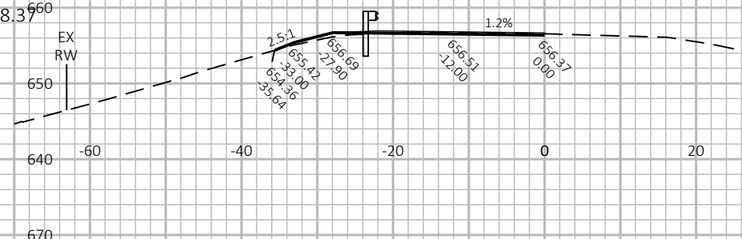
1062+00

STA 1069+66.51, LT
MGS EAT POST #5



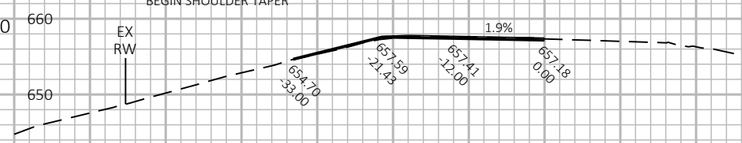
1069+66.51

STA 1069+41.59, LT
MGS EAT POST #1



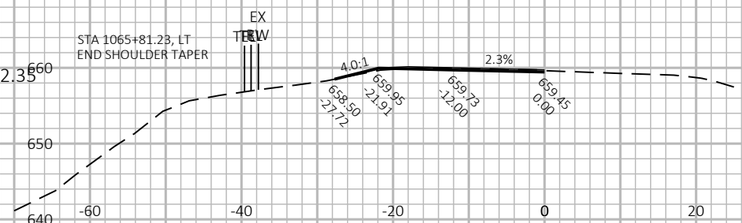
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STA 1068+48.72, LT
BEGIN SHOULDER TAPER



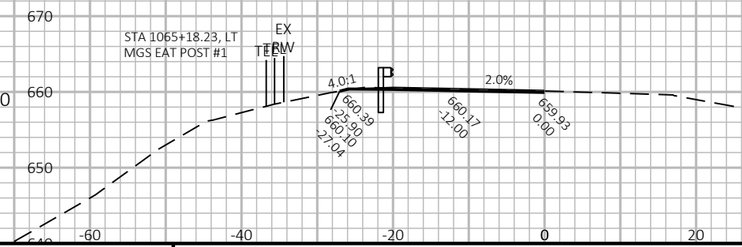
1068+48.72

STA 1065+81.23, LT
END SHOULDER TAPER

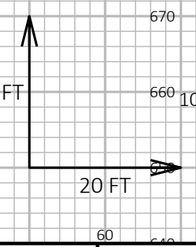


1065+81.23

STA 1065+18.23, LT
MGS EAT POST #1



1065+18.23



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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 205	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090228-xs

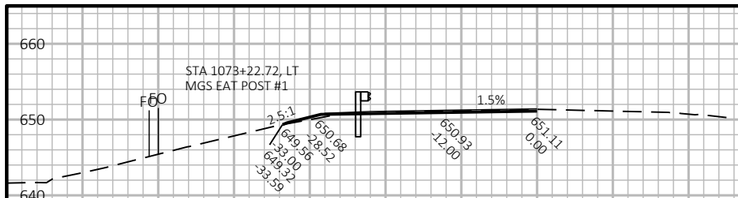
PLOT DATE : 6/25/2021 3:10 PM

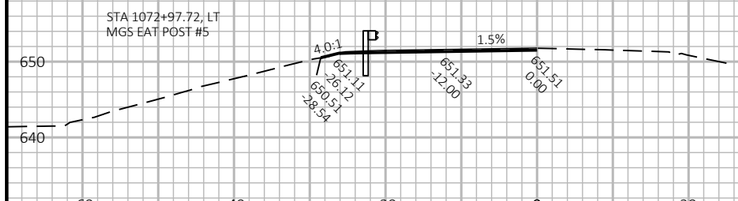
PLOT BY : CONNOR GIRTEN

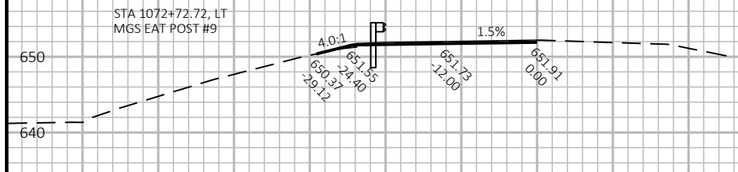
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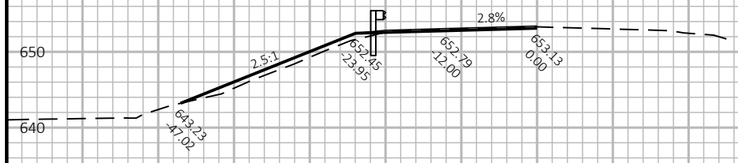
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

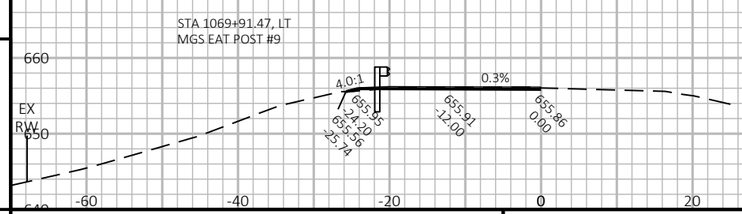
WISDOT/CADDS SHEET 49

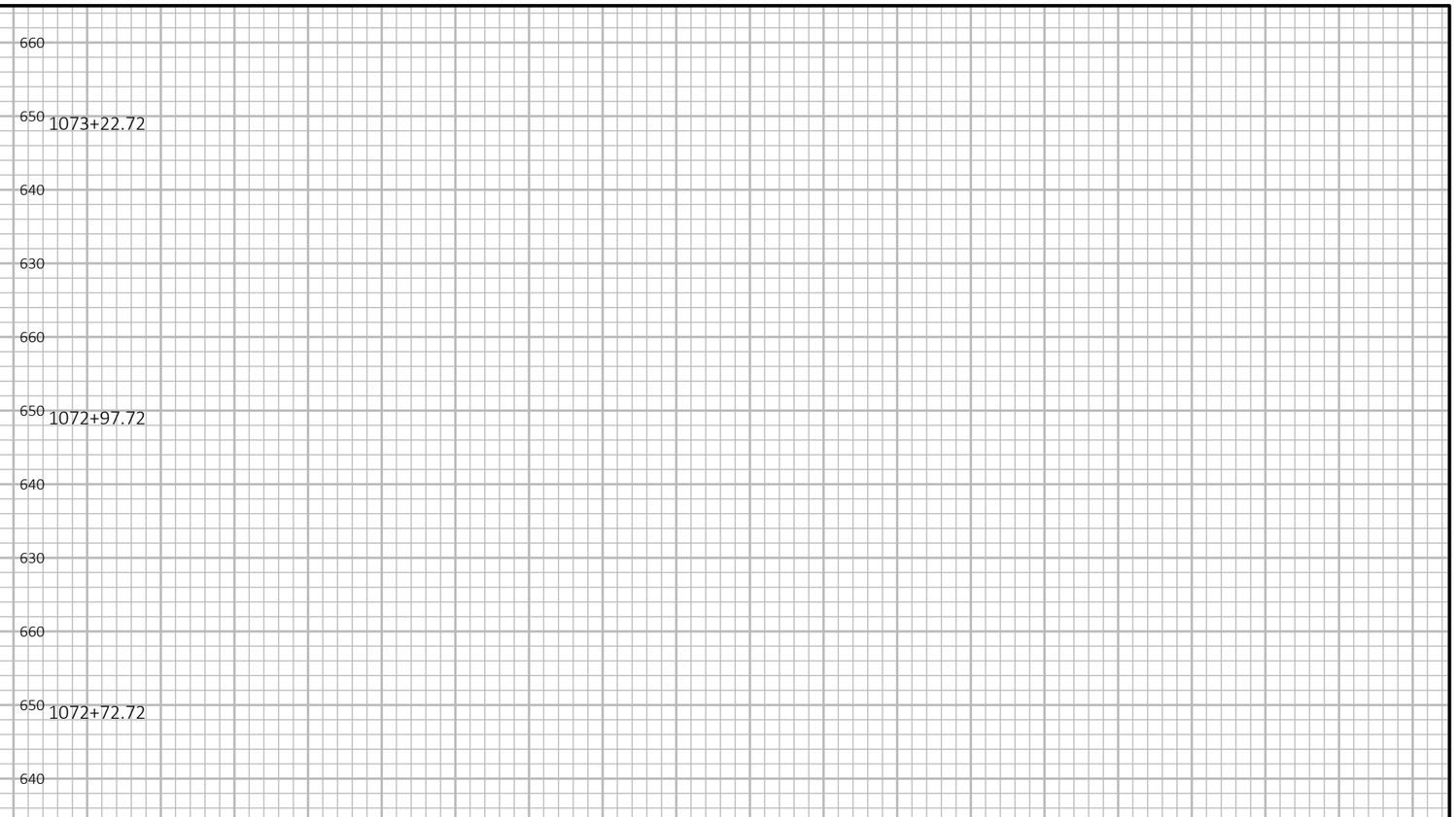


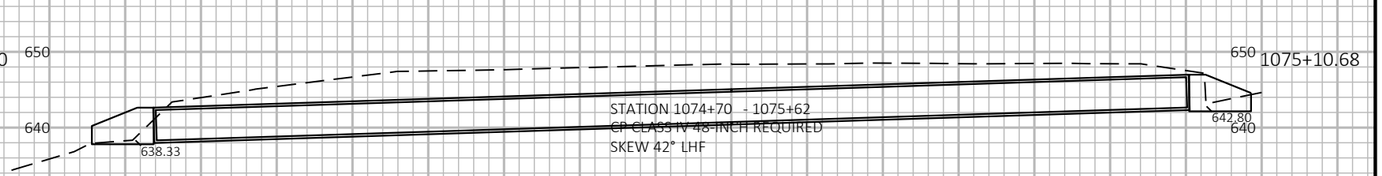


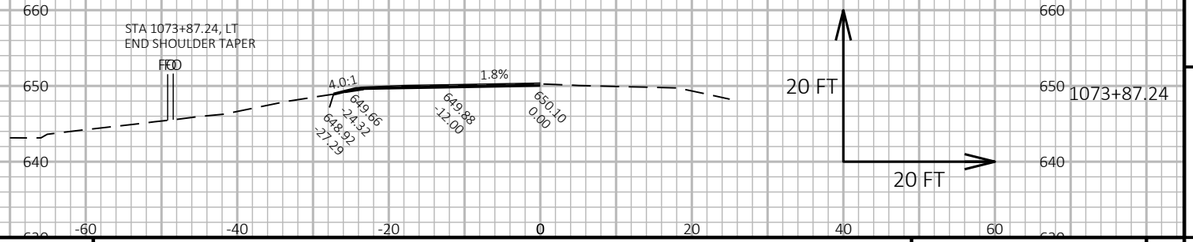












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PROJECT NO: 5160-07-71	HWY: STH 35	COUNTY: CRAWFORD & VERNON	CROSS SECTIONS: STH 35	SHEET 206	E

FILE NAME : G:\00\00093\00093540\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090229-xs

PLOT DATE : 6/25/2021 3:10 PM

PLOT BY : CONNOR GIRTEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov