MAD

APRIL 2019

PROJECT ID: 1204-05-72

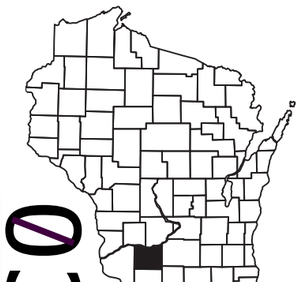
WITH:

COUNTY: IOWA

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 = 276



03

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

DODGEVILLE - MOUNT HOREB

USH 151 TO E COUNTY LINE

USH 18

IOWA COUNTY

STATE PROJECT NUMBER
1204-05-72

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1204-05-72	WISC 2019212	1

DESIGN DESIGNATION

A.A.D.T.	2017	=	16,700-18,900
A.A.D.T.	2037	=	19,600-23,900
D.H.V.		=	2,772 (2037)
D.D.		=	60/40
T.		=	15.5%
DESIGN SPEED		=	70 MPH
ESALS		=	7,700,000

CONVENTIONAL SYMBOLS

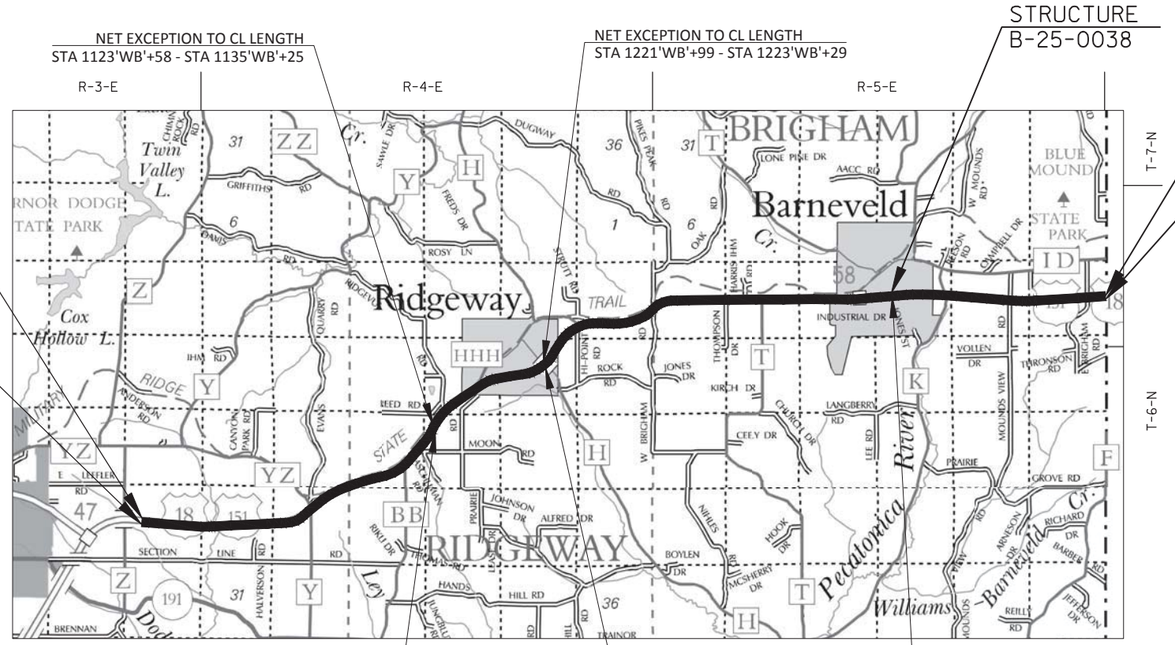
PLAN
- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

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

BEGIN PROJECT
STA. 909+59 WB
X= 390,836.33
Y= 156,050.46

BEGIN PROJECT
STA. 910+36 EB
X= 390,913.06
Y= 156,044.06



LAYOUT
SCALE 0 1.0 MI.

TOTAL NET LENGTH OF CENTERLINE = 13.409 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, IOWA COUNTY, NAD83 (2001), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES. ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88 (2012).

ORIGINAL PLANS PREPARED BY

JT ENGINEERING, INC Consultant Services

WISCONSIN BRADLEY R. GROH E-41411 MADISON WI PROFESSIONAL ENGINEER

DATE: 11/16/2018 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JT ENGINEERING, INC
Designer	BRAD GROH, P.E.
Project Manager	LALITHA BALACHANDRAN, P.E.
Regional Examiner	SW REGION
Regional Supervisor	WILLIAM STROBEL, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 11/20/18 Lalitha, B. (Signature)

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GENERAL NOTES

THE 3.50-INCH HMA PAVEMENT, 4 MT 58-28 S SHALL BE PLACED IN TWO LAYERS (A 1.75-INCH UPPER LAYER OVER A1.75-INCH LOWER LAYER). THE VARIABLE DEPTH 3.50-INCH TO 4.25-INCH HMA PAVEMENT, 4 MT 58-28 S SHALL BE PLACED IN TWO LAYERS. THE OVERLAY THICKNESS WILL VARY FROM 4.25" AT CENTERLINE TO 3.5" AT EDGELINE. CROWN CORRECTION WILL BE ACCOMPLISHED WITH THE LOWER LAYER OF HMA PAVEMENT. THE SURFACE LAYER WILL BE A UNIFORM THICKNESS OF 1.75"

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

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, PARKING LANE OR RAMP TAPER.

APPLY TACK COAT BEFORE PLACING WEDGING AND OVERLAY SURFACES. THE RATE OF APPLICATIONS IS 0.07 GALLONS PER SQUARE YARD FOR MILLED SURFACES AND 0.05 GALLONS PER SQUARE YARD BETWEEN HMA LAYERS, OR AS DIRECTED BY THE ENGINEER.

PAVING LIMITS AT INTERSECTIONS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

THE EXACT LOCATIONS AND LIMITS OF PRIVATE ENTRANCES AND FIELD ENTRANCES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

EXPOSED CURB ENDINGS SHALL BE SLOPED FROM FULL HEIGHT TO 0-INCHES AT A MINIMUM DISTANCE OF 6-FEET

EXISTING SHOULDER AGGREGATE SHALL BE INCORPORATED INTO THE NEW SHOULDERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN THE FIELD.

THE LOCATION OF STOP LINES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

EROSION CONTROL ITEMS IN THE MISC. QUAN. ARE SUGGESTED. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD. MAINTAIN EROSION CONTROL ITEMS UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY. PROTECT WETLANDS AND OTHER WATERWAYS THAT ARE PRESENT WITHIN THE PROJECT LIMITS.

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

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY AND WASTE AREAS, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, and covered with EROSION MAT AS DIRECTED BY THE ENGINEER.

SEEDING MIXTURE NO. 30 SHALL BE USED WITHIN THE RIGHT-OF-WAY.

THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO "DIGGERS HOTLINE" AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

DO NOT STORE EQUIPMENT OR MATERIAL IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.

UTILITY CONTACTS

DOUG VOSBERG
ATC MANAGEMENT, INC. - ELECTRICITY
5303 FEN OAK DR.
MADISON, WI 53718
(608) 877-7650
DVOSBERG@ATCLLC.COM

CALVIN KLADE
FRONTIER COMMUNICATIONS OF WI LLC - COMMUNICATION LINE
1851 N.14TH AVE
WAUSAU, WI 54401
(715) 847-1525
CALVIN.KLADE@FTR.COM

SHAUN ENDRES
MADISON GAS AND ELECTRIC COMPANY - GAS/PETROLEUM
133 S. BLAIR STREET
MADISON, WI 53788
(608) 252-7224
SENDRES@MGE.COM

* KEVIN MAYNE
MOUNT HOREB TELEPHONE COMPANY - COMMUNICATION LINE
200 E MAIN STREET
P.O. BOX 65
MOUNT HOREB, WI 53572
(608) 437-5551
KEVIN.MAYNE@MHTCINC.COM

PAT MUELLER
ALLIANT ENERGY - ELECTRICITY
490 SHAKERAG ST
MINERAL POINT, WI 53565
(608) 458-4254
PATMUELLER@ALLIANTENERGY.COM

STEVE HEGGE
CHARTER COMMUNICATIONS - COMMUNICATION LINE
2701 DANIELS ST.
MADISON, WI 53718
(608) 576-2613
STEVE.HEGGE@CHARTER.COM

JOE JORDEE
VILLAGE OF BAREVELD PUBLIC UTILITIES - SEWER & WATER
403 E COUNTY HWY ID
BARNEVELD, WI 53507
(608) 924-6861
BARNEVELD@MHTC.NET

ANDREW HEIGL
PACKERLAND BROADBAND - COMMUNICATION LINE
105 KENT ST
P.O.BOX 190
IRON MOUNTAIN, MI 49801
(906) 221-7536
ANDY.HEIGL@PLBB.COM

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com
* Not a Diggers Hotline Member

DNR CONTACT

ANDY BARTA
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
(608) 275-3308
ANDREW.BARTA@WISCONSIN.GOV

WISDOT CONTACTS

LALITHA BALACHANDRAN, P.E.
PROJECT MANAGER
2101 WRIGHT STREET
MADISON, WI 53704
(608) 243-3382
LALTIHA.BALACHANDRAN@DOT.WI.GOV

BRAD GROH, P.E.
DESIGN LEADER
6325 ODANA RD, SUITE 2
MADISON, WI 53719
(608) 216-8546
BRADG@JT-ENGINEERING.COM

RUNOFF COEFFICIENT TABLE

A	HYDROLOGIC SOIL GROUP											
	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 = 418.841 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.941 ACRES

STANDARD ABREVIATIONS

ADT	AVERAGE DAILY TRAFFIC	N	NORTH
AGGR	AGGREGATE	NB	NORTHBOUND
AH	AHEAD	NC	NORMAL CROWN
ASPH	ASPHALT	NE	NORTHEAST
B/B	BACK TO BACK	NO	NUMBER
BARR	BARRICADE	NTS	NOT TO SCALE
BC	BACK OF CURB	NW	NORTHWEST
BK	BACK	O	OIL
BL	BASELINE	O&C	OIL AND CHIP
BLDG	BUILDING	OBLIT	OBLITERATE
BM	BENCHMARK	OD	OUTSIDE DIAMETER
BSMT	BASEMENT	PC	POINT OF CURVATURE
C	CUT	PCC	POINT OF COMPOUND CURVATURE
C&G	CURB AND GUTTER	PCC	PORTLAND CEMENT CONCRETE
C/C	CENTER TO CENTER	PED	PEDESTAL
CABC	CRUSHED AGGREGATE BASE COURSE	PLE	PERMANENT LIMITED EASEMENT
CB	CATCH BASIN	PVMT	PAVEMENT
CE	CONSTRUCTION ENTRANCE	PE	PRIVATE ENTRANCE
CI	CAST IRON PIPE	PI	POINT OF INTERSECTION
CL	CENTERLINE	PJF	PRE-FORMED JOINT FILLER
CMP	CORRUGATED METAL PIPE	PL	PROPERTY LINE
CNTY	COUNTY	POC	POINT OF CURVE
CO	CLEANOUT	POT	POINT ON TANGENT
CONC	CONCRETE	PP	POLYETHYLENE
CONSTR	CONSTRUCTION	PRC	POINT OF REVERSE CURVATURE
CONSTR JT	CONSTRUCTION JOINT	PROJ	PROJECT
CP	CONTROL POINT	PROP	PROPOSED
CTH	COUNTY TRUNK HIGHWAY	PSI	POUND PER SQUARE INCH
CTRL JT	CONTROL JOINT	PT	POINT OF TANGENCY
CTV	CABLE TV	PVC	POLYVINYL CHLORIDE
CY	CUBIC YARD	R	RANGE OR RADIUS
D	DEPTH	RCP	REINFORCED CONCRETE PIPE
DIA	DIAMETER	REBAR	REINFORCEMENT BAR
DI	DUCTILE IRON PIPE	REL	RELOCATE
DISCH	DISCHARGE	REM	REMAINING
DW	DRIVEWAY	REQD	REQUIRED
E	EAST (SEE ELECTRIC BELOW)	RL	REFERENCE LINE
EA	EACH	ROW	RIGHT OF WAY
EB	EASTBOUND	RP	REFERENCE POINT
EBS	EXCAVATION BELOW SUBGRADE	RR	RAILROAD
ECS	EXTERNAL CHIMNEY SEAL	RT	RIGHT
EL	ELEVATION	RW	RETAINING WALL
ELEC	ELECTRIC (E WHEN USED IN LINE STYLE)	S	SOUTH
EMB	EMBANKMENT	SALV	SALVAGE
ENTR	ENTRANCE	SAN	SANITARY
EP	EDGE OF PAVEMENT	SB	SOUTHBOUND
EW	ENDWALL	SDWK	SIDEWALK
EXC	EXCAVATION	SE	SOUTHEAST
EXIST	EXISTING	SF	SQUARE FEET
F	FILL	SHLDR	SHOULDER
F/F	FACE TO FACE	SY	SQUARE YARD
FDN	FOUNDATION	SS	STORM SEWER
FE	FIELD ENTRANCE	SSD	STOPPING SIGHT DISTANCE
FERT	FERTILIZER	STA	STATION
FIN GR	FINISHED GRADE	STD	STANDARD
FL	FLOWLINE	STH	STATE TRUNK HIGHWAY
FO	FIBER OPTIC	STM	STORM
FT	FOOT	STP	SEWAGE TREATMENT PLANT
FTG	FOOTING	STRUCT	STRUCTURE OR STRUCTURAL
G	GAS	SW	SOUTHWEST
GV	GAS VALVE	TAN	TANGENT
GW	GUY WIRE	T	TOWN (T WHEN USED FOR TELEPHONE LINE)
HR	HANDICAP RAMP	TEL	TELEPHONE
HSE	HOUSE	TEMP	TEMPORARY
HT	HEIGHT	TLE	TEMPORARY LIMITED EASEMENT
HYD	HYDRANT	TOC	TOP OF CURB
I	INTERSECTION ANGLE	TOW	TOP OF WATER
ICS	INTERNAL CHIMNEY SEAL	TRANS	TRANSITION
ID	INSIDE DIAMETER	TYP	TYPICAL
IN	INCH	UG	UNDERGROUND
INL	INLET	USH	US HIGHWAY
INTERS	INTERSECTION	VC	VERTICAL CURVE
INV	INVERT	VERT	VERTICAL
IP	IRON PIPE OR PIN	VOL	VOLUME
JCT	JUNCTION	VPC	VERTICAL POINT OF CURVATURE
L	LENGTH (OF CURVE)	VPI	VERTICAL POINT OF INTERSECTION
LC	LONG CHORD OF CURVE	VPRC	VERTICAL POINT OF REVERSE CURVE
LP	LIGHTPOLE	VPT	VERTICAL POINT OF TANGENCY
LS	LIFT STATION OR LUMP SUM	W	WEST
LT	LEFT	WB	WESTBOUND
MAINT	MAINTENANCE	WM	WATERMAIN
MATL	MATERIAL	WSO	WATER SHUTOFF VALVE
MB	MAILBOX	WTP	WATER TREATMENT PLANT
MH	MANHOLE	WV	WATER VALVE
MP	MARKER POST	WWTP	WASTE WATER TREATMENT PLANT
		YD	YARD

2

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Limits of Project 1204-02-76
1124'EB'+09 - 1135'EB'+90
1123'WB'+58 - 1135'WB'+25

VILLAGE OF RIDGEWAY

CITY OF DODGEVILLE

BENNETT RD.

U.S.H. "18"

C.T.H. "Z"

SECTION LINE RD.

U.S.H. "151"

S.T.H. "191"

BEGIN PROJECT
1204-05-72
909+59 WB

'WB' LINE

950

BEGIN PROJECT
1204-05-72
910+36 EB

'EB' LINE
(MAINLINE)

U.S.H. "18"/U.S.H. "151"

1000

1050

1100

1150

1200

1250

C.T.H. "YZ"

EVANS QUARRY RD.

C.T.H. "Y"

C.T.H. "BB"

RIDGEVUE RD.

REED RD.

LINE 'WX'

STRUCTURE
B-25-174

LINE 'WN'

LINE 'EN'

STRUCTURE
B-25-173

LINE 'EX'

ASCHLIMAN RD.

PRAIRIE RD.

MOON RD.

HI-POINT RD.

STRUTT RD.

C.T.H. "HHH"

C.T.H. "HHH"

C.T.H. "H"

'HP' LINE

'CY' LINE

ENVIRONMENTALLY SENSITIVE SITE
(ARCHAEOLOGICAL/HISTORICAL)
47IA416 - WILLIAM DIGGINGS
NO IMPACTS ANTICIPATED

ENVIRONMENTALLY SENSITIVE SITE
(ARCHAEOLOGICAL/HISTORICAL)
47IA415 - WISDOT WILLIAM DIGGINGS
NO IMPACTS ANTICIPATED

ENVIRONMENTAL SENSITIVE SITE
(ARCHAEOLOGICAL/HISTORICAL)
47IA488 - W-0322-04
NO IMPACTS ANTICIPATED

ENVIRONMENTAL SENSITIVE SITE
(ARCHAEOLOGICAL/HISTORICAL)
47IA506 - W0322-08-2001
NO IMPACTS ANTICIPATED

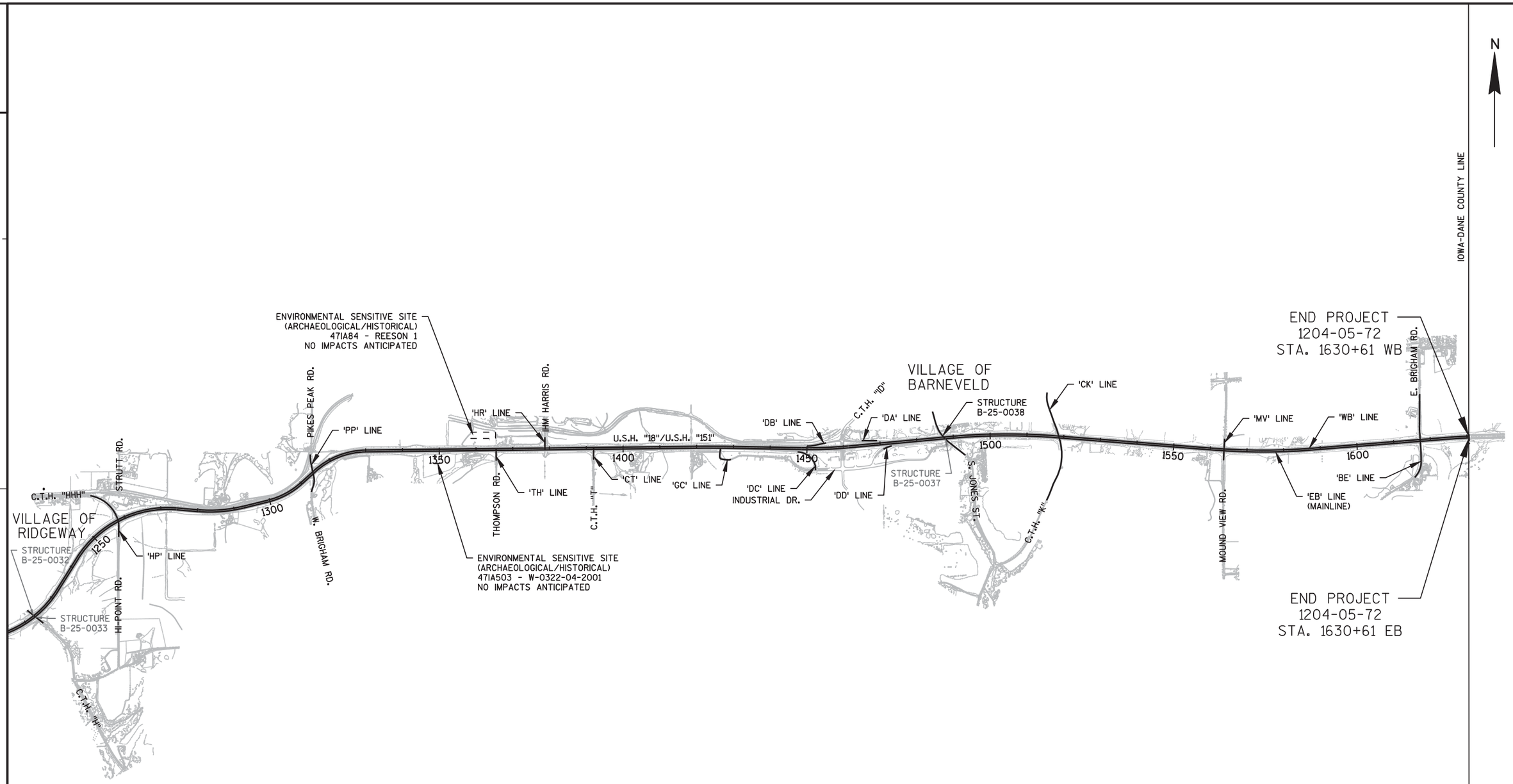
ENVIRONMENTAL SENSITIVE SITE
(ARCHAEOLOGICAL/HISTORICAL)
47IA418 - GHOST HOUSE FARM
NO IMPACTS ANTICIPATED

NOTES
NO WORK WILL BE DONE ON STRUCTURES
B-25-0174 OR B-25-0173.

PROJECT NO:1204-05-72	HWY: USH 18	COUNTY: IOWA	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\020201_PO.DWG
LAYOUT NAME - 020201

PLOT DATE : 11/28/2018 3:20 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:0.5 MI



NOTES
NO WORK WILL BE DONE ON STRUCTURES B-25-0032, B-25-0033, OR B-25-0037.

STRUCTURE B-25-0038 HAS NO ACM PER THE INSPECTION.

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PROJECT OVERVIEW	SHEET 4	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\020201_PO.DWG
LAYOUT NAME - 020202
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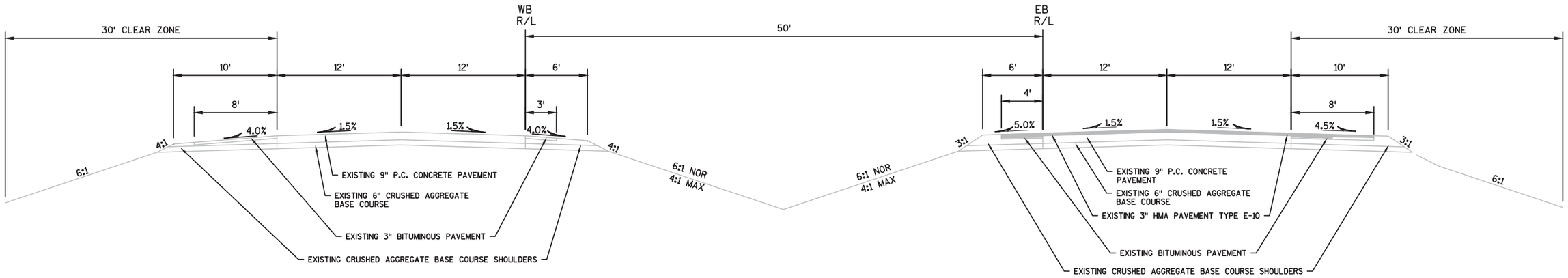
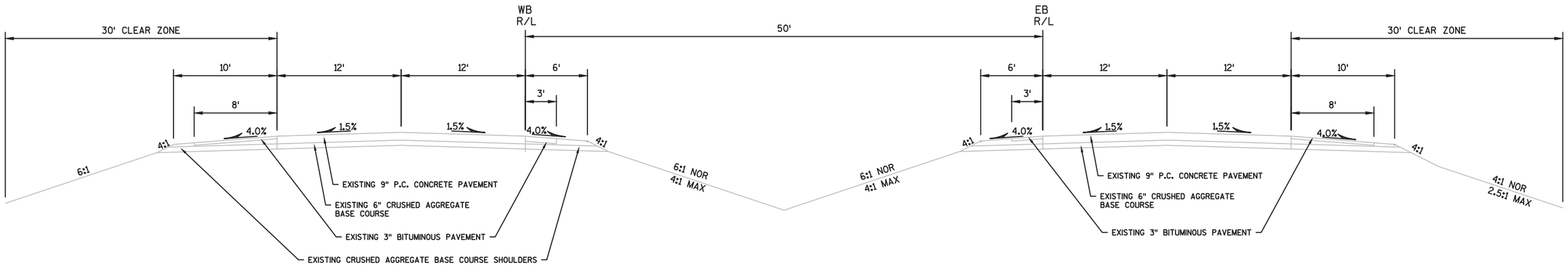
WISDOT/CADDS SHEET 42



TYPICAL EXISTING SECTION

STA. 910+36'EB' TO STA. 1017+61'EB'

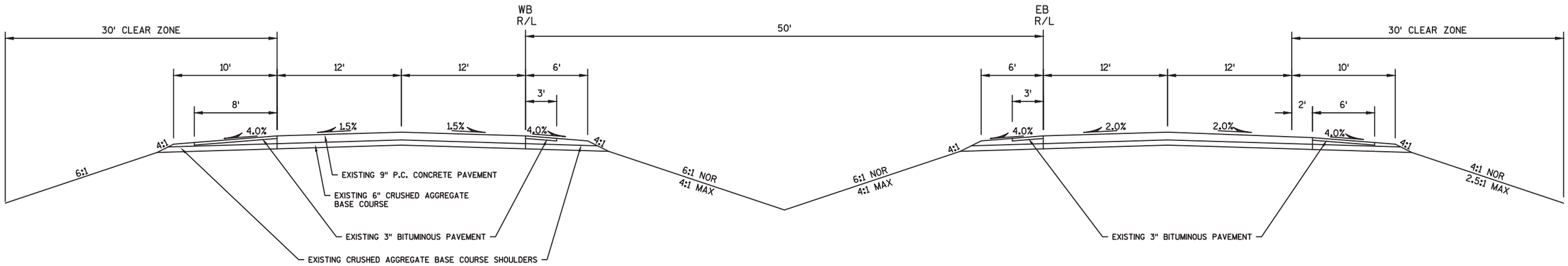


TYPICAL EXISTING SECTION

STA. 909+59'WB' TO STA. 1027+93'WB'

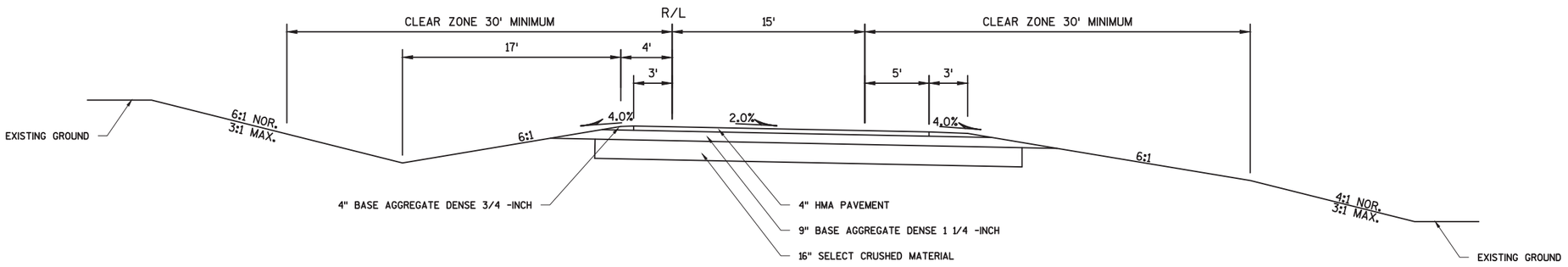
STA. 1017+61'EB' TO STA. 1027+93'EB'

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	TYPICAL SECTION	SHEET 5	E



TYPICAL EXISTING SECTION

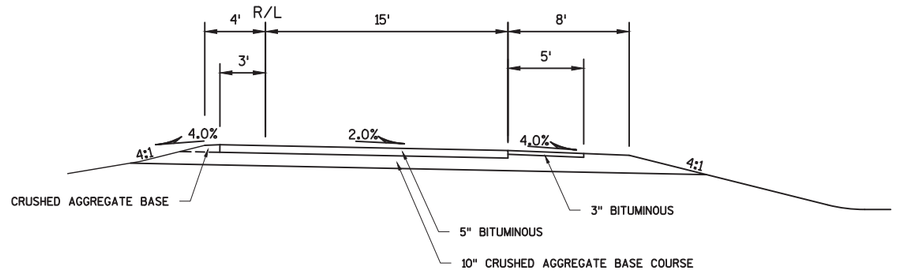
STA. 1027+93'WB' TO STA. 1123+56'WB'
STA. 1135+25'WB' TO STA. 1222+00'WB'
STA. 1223+29'WB' TO STA. 1486+21'WB'
STA. 1487+95'WB' TO STA. 1630+54'WB'
STA. 1027+93'EB' TO STA. 1124+09'EB'
STA. 1135+90'EB' TO STA. 1222+42'EB'
STA. 1223+87'EB' TO STA. 1486+52'EB'
STA. 1488+65'EB' TO STA. 1630+60'EB'



TYPICAL EXISTING SECTION

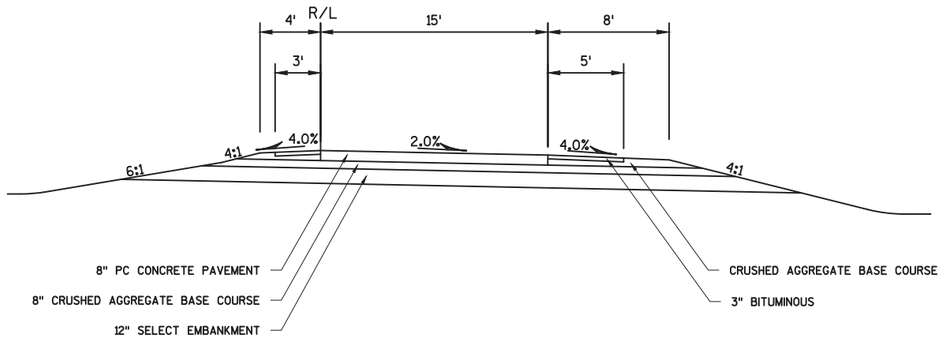
INTERCHANGE AT RIDGEWAY RAMPS

PROJECT NO:1204-05-72	HWY:USH 18	COUNTY:IOWA	TYPICAL SECTION	SHEET 6	E



TYPICAL EXISTING SECTION

INTERCHANGE AT CTH D-RAMPS



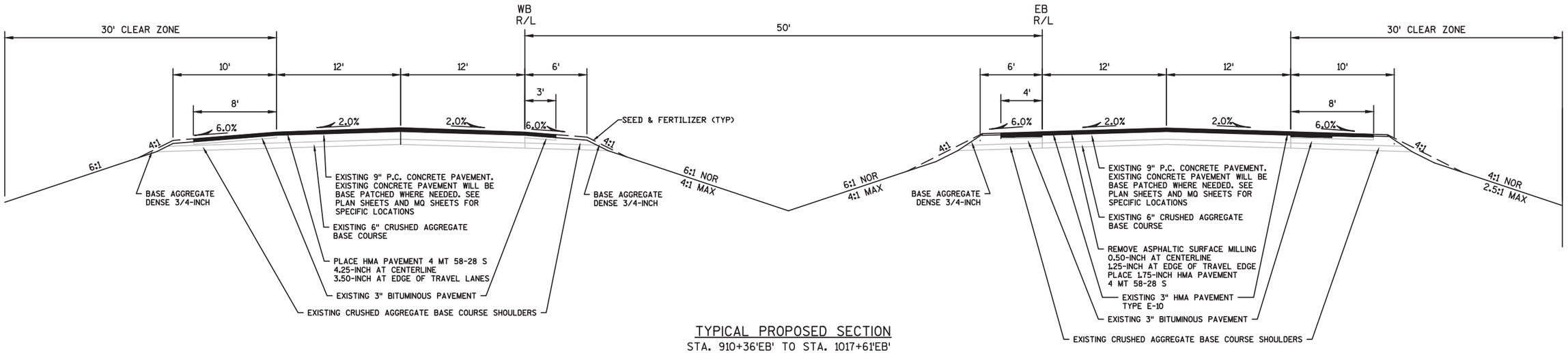
TYPICAL EXISTING SECTION

INTERCHANGE AT CTH D-RAMPS

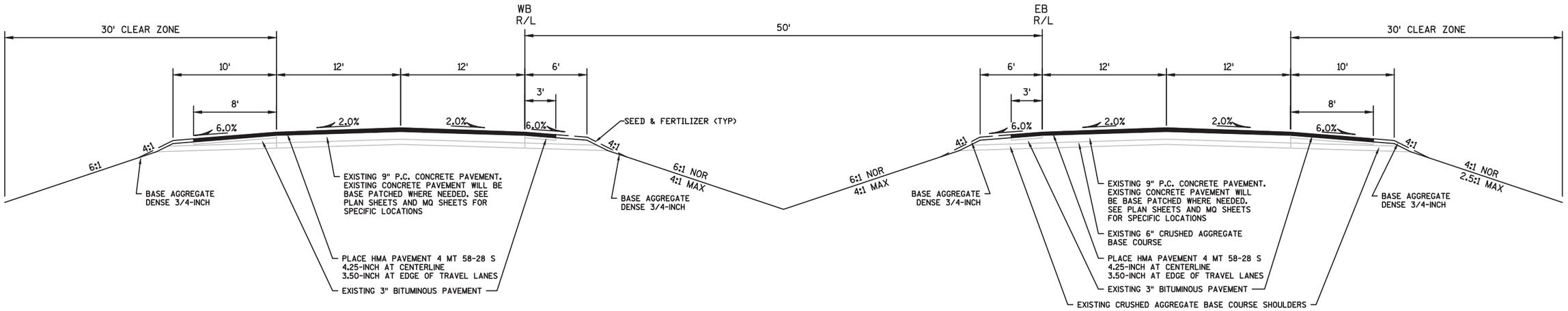
PROJECT NO:1204-05-72	HWY:USH 18	COUNTY:IOWA	TYPICAL SECTION	SHEET 7	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\020301_TS.DWG PLOT DATE : 11/28/2018 3:40 PM PLOT BY : BRAD GROH PLOT NAME : ----------

WISDOT/CADDS SHEET 42



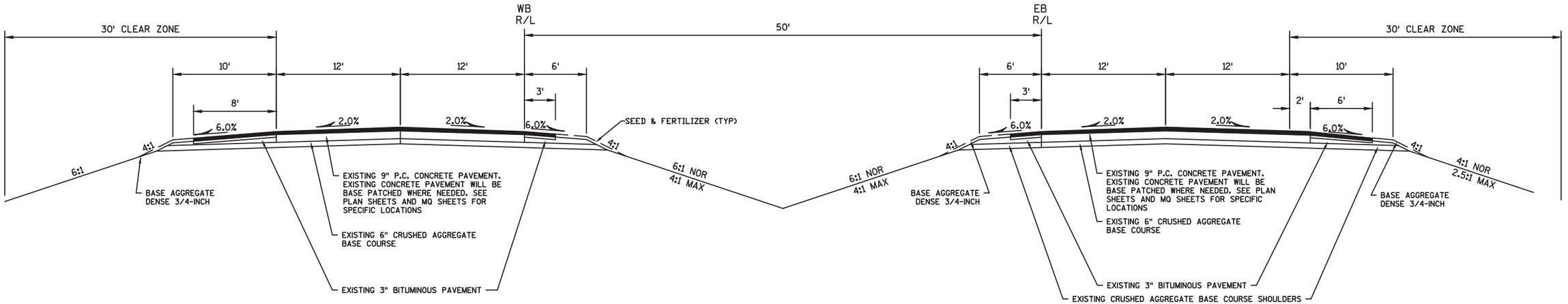
TYPICAL PROPOSED SECTION
STA. 910+36'EB' TO STA. 1017+61'EB'



TYPICAL PROPOSED SECTION
STA. 909+59'WB' TO STA. 1027+93'WB'
STA. 1017+61'EB' TO STA. 1027+93'EB'

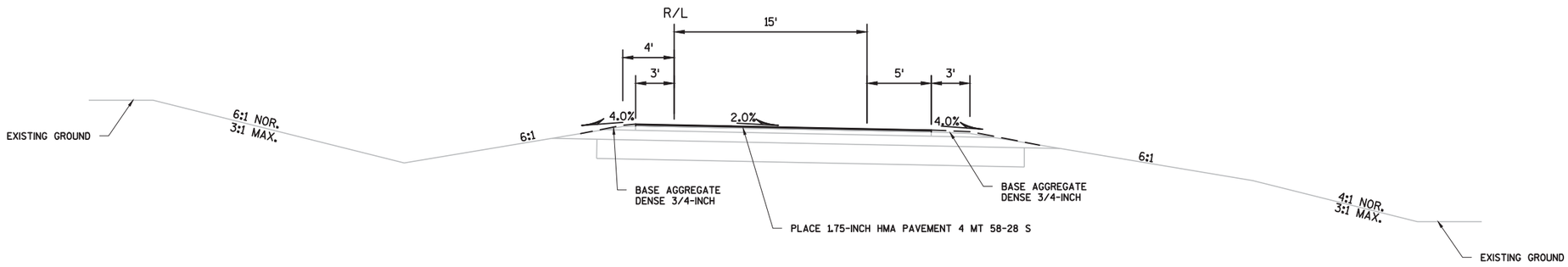
PROJECT NO:1204-05-72	HWY:USH 18	COUNTY:IOWA	TYPICAL SECTION	SHEET 8	E

2



TYPICAL PROPOSED SECTION

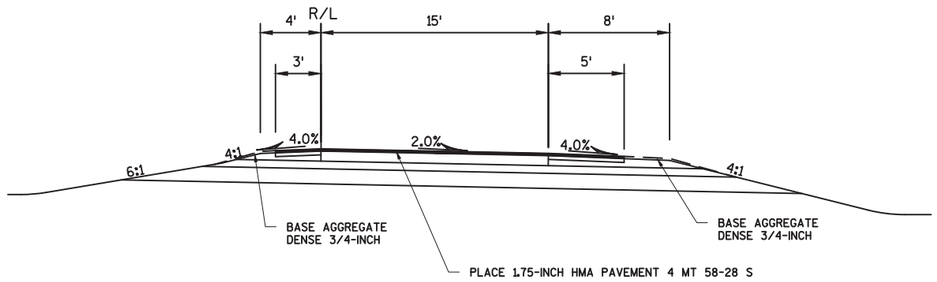
STA. 1027+93'WB' TO STA. 1123+58'WB'
STA. 1135+25'WB' TO STA. 1221+99'WB'
STA. 1223+29'WB' TO STA. 1486+21'WB'
STA. 1487+95'WB' TO STA. 1630+54'WB'
STA. 1027+93'EB' TO STA. 1124+09'EB'
STA. 1135+90'EB' TO STA. 1222+40'EB'
STA. 1223+86'EB' TO STA. 1486+52'EB'
STA. 1488+65'EB' TO STA. 1630+60'EB'



TYPICAL PROPOSED SECTION

INTERCHANGE AT RIDGEWAY RAMPS

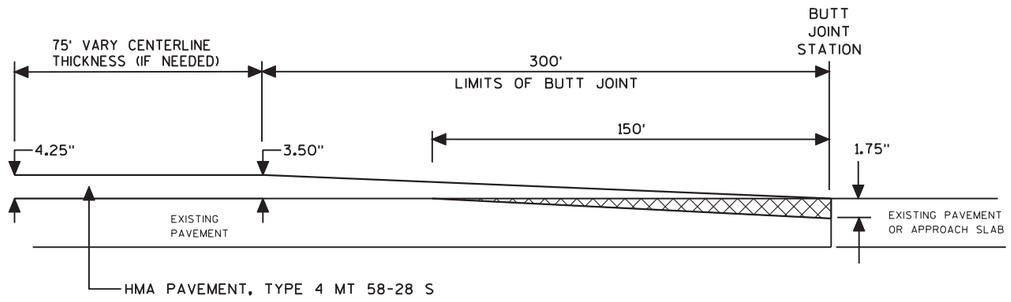
PROJECT NO:1204-05-72	HWY:USH 18	COUNTY:IOWA	TYPICAL SECTION	SHEET 9	E



TYPICAL PROPOSED SECTION

INTERCHANGE AT CTH D-RAMPS

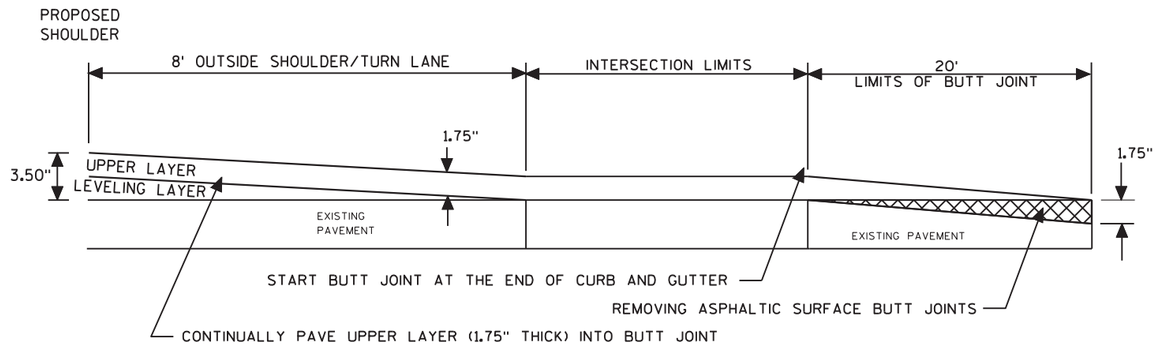
PROJECT NO:1204-05-72	HWY:USH 18	COUNTY:IOWA	TYPICAL SECTION	SHEET 10	E



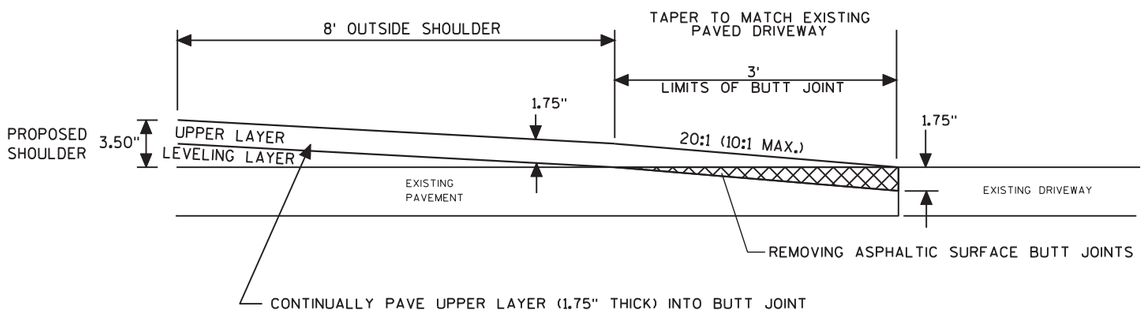
REMOVING PAVEMENT BUTT JOINTS AND REMOVING ASPHALTIC SURFACE BUTT JOINTS.

MAINLINE BUTT JOINT DETAIL

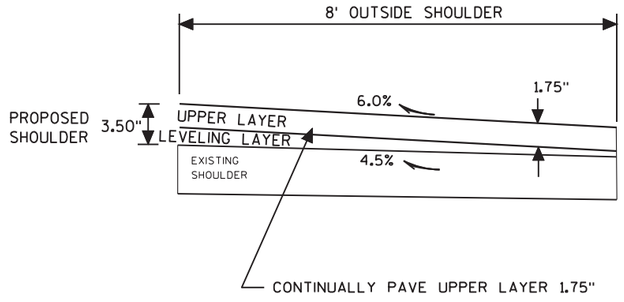
NOTE:
LEVELING LAYER TO BE FEATHERED OUT.
MAINTAIN THE 1.75" THICKNESS OF THE UPPER LAYER.



INTERSECTION BUTT JOINT DETAIL

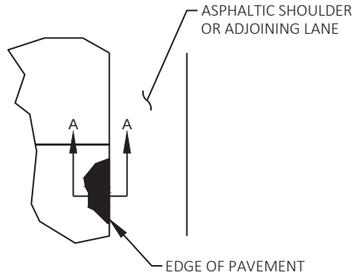


PAVED DRIVEWAY BUTT JOINT DETAIL

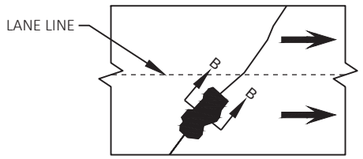


OUTSIDE SHOULDER SLOPE CORRECTION

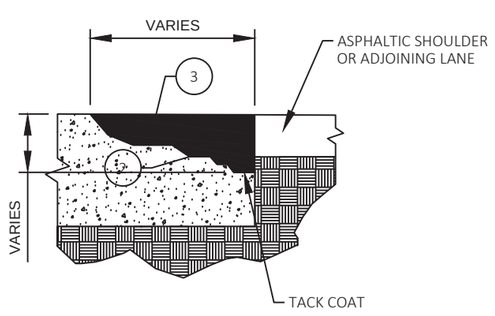
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CONSTRUCTION DETAILS	SHEET 11	E



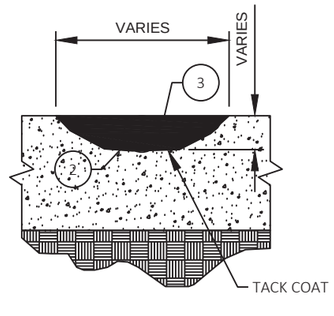
PLAN VIEW



PLAN VIEW



SECTION A-A



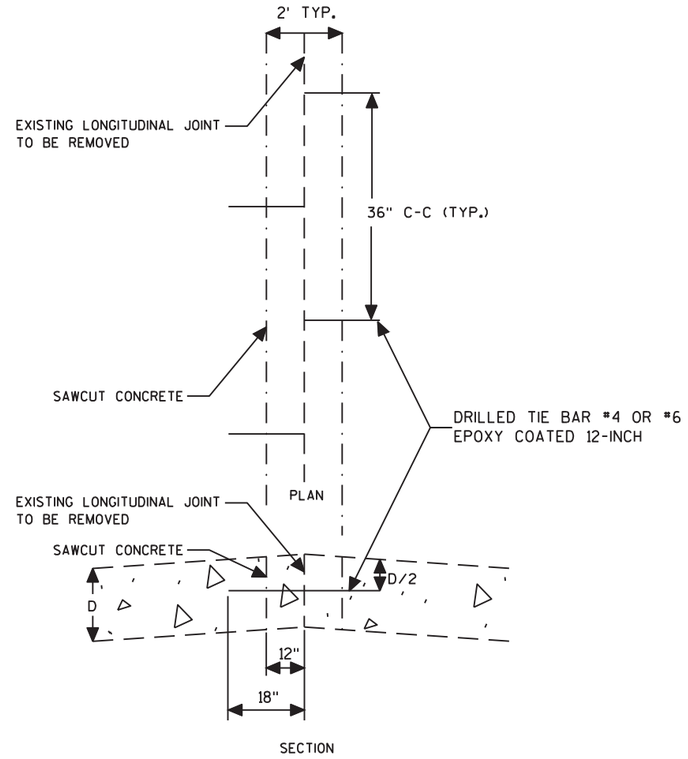
SECTION B-B

EDGE REPAIR

CRACK/JOINT REPAIR

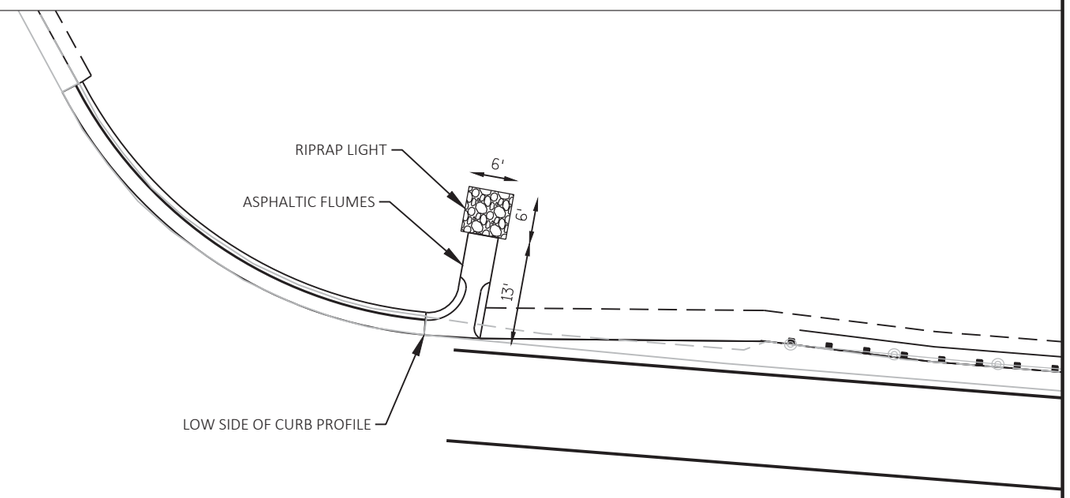
1. REMOVE ALL UNSOUND AND DETERIORATED MATERIAL.
2. BLOW OUT REPAIR AREAS WITH 80 P.S.I. MINIMUM COMPRESSED AIR.
3. ASPHALTIC SURFACE AND TRACK COAT (INCIDENTAL TO CONCRETE JOINT AND CRACK CLEANING)

CONCRETE JOINT & CRACK CLEANING



CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT DETAIL

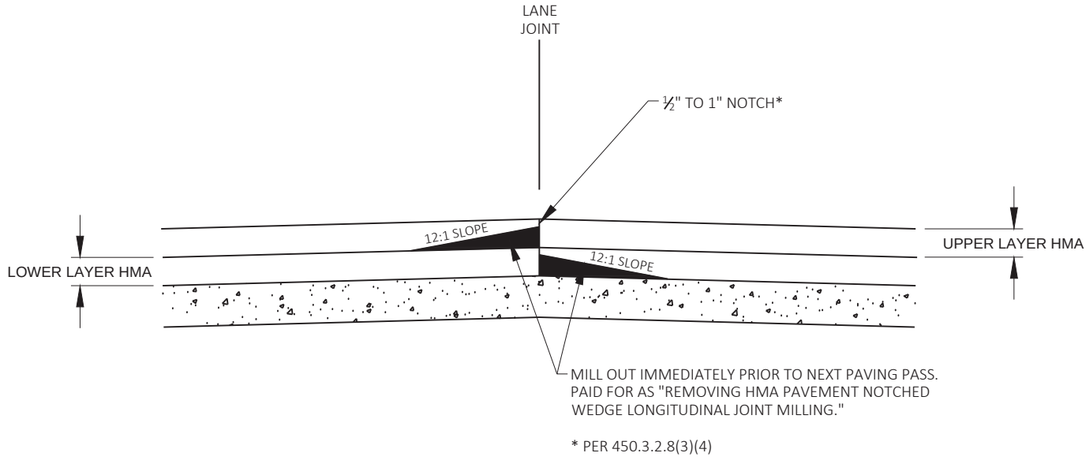
NOTE: TIE BAR MAY BE DRILLED AT AN ANGLE, THEN BENT PERPENDICULAR TO JOINT AFTER INSTALLATION



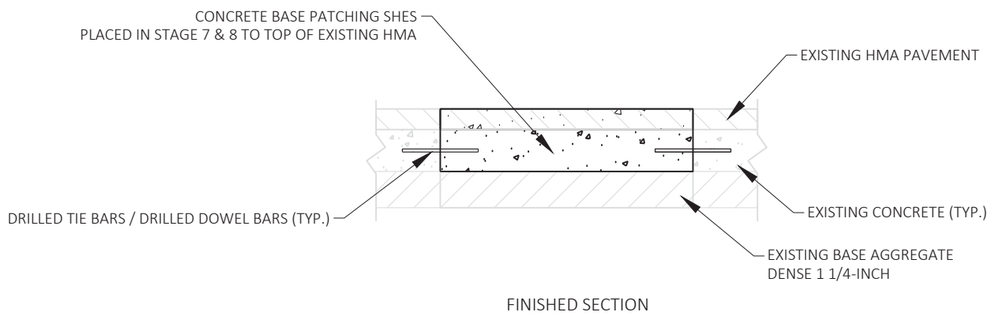
ASPHALTIC FLUMES AND RIP RAP (TYPICAL)

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CONSTRUCTION DETAILS	SHEET	E

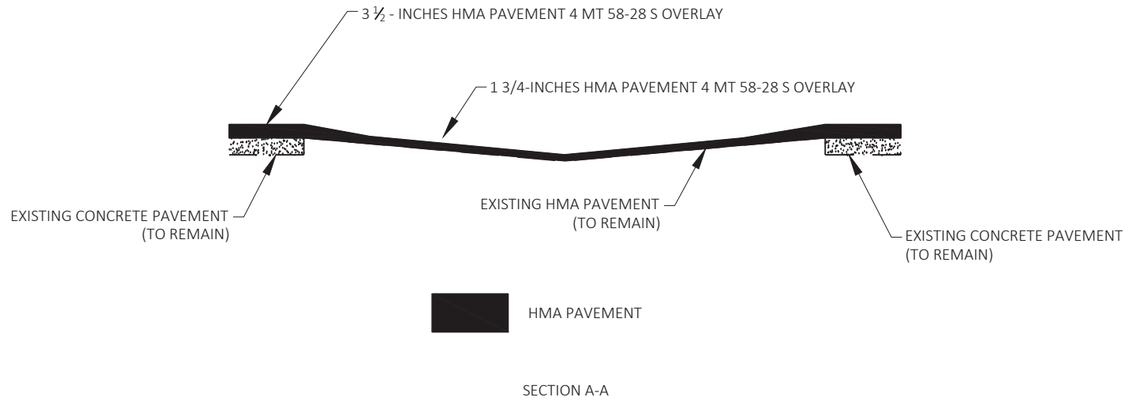
FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\021001_CD.DWG PLOT DATE : 11/26/2018 12:17 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 42

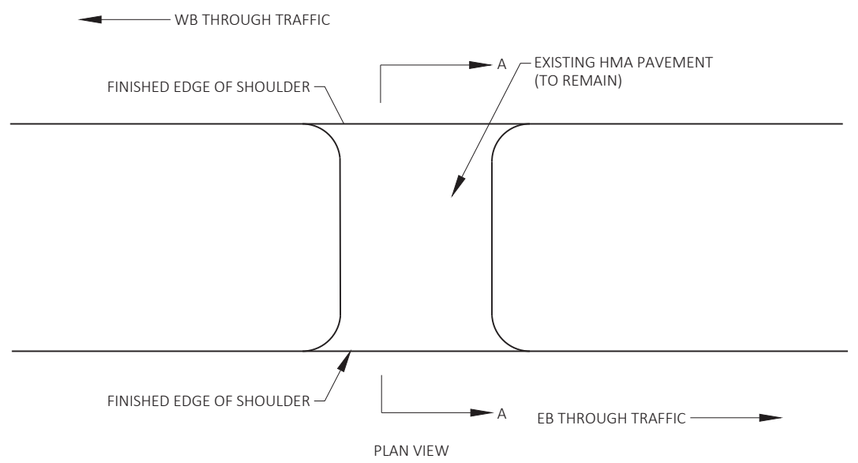


TYPICAL PAVEMENT CROSS SECTIONS OF TAPERED & NOTCHED LONGITUDINAL JOINTS



BASE PATCHING DETAIL IN EXISTING OVERLAY SECTION





PAVING DETAIL FOR MAINTENANCE CROSSOVER

2

2

N

WB USH 18/USH 151 OFF RAMP

ADJUSTING STEEL PLATE BEAM GUARD

SALVAGED CRASH CUSHIONS
REINSTALL SALVAGED CRASH CUSHION
COMPLETE REINSTALLATION AFTER OVERLAY IS COMPLETE

WB USH 18/USH 151

1466+00

1467+00

1468+00

INL

DETAIL FOR ADJUSTING EXISTING ENERGY ABSORBING TERMINAL AT THE CTH ID WESTBOUND OFF RAMP

LEGEND

REMOVING PAVEMENT BUTT JOINTS

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CONSTRUCTION DETAILS	SHEET 14	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\021001_CD.DWG PLOT DATE : 11/26/2018 12:17 PM PLOT BY : BRAD GROH PLOT NAME :

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	1024+13.01(WB) USH 18/USH 151 51+06.20 CTH YZ	86.3' LT 88.6' LT	50.0'	Y= 157028.356 X= 401973.134
CC2	1026+02.83(WB) USH 18/USH 151 52+06.73 CTH YZ	92.3' LT 72.5' RT	55.0'	Y= 157160.920 X= 402109.137
CC3	1023+57.05(EB) USH 18/USH 151 48+65.20 CTH YZ	85.8' RT 60.9' LT	50.0'	Y= 156798.850 X= 402051.478
CC4	1025+13.93(EB) USH 18/USH 151 49+36.96 CTH YZ	94.1' RT 78.8' RT	65.0'	Y= 156898.688 X= 402172.779

N

PACKERLAND BROADBAND
(UG FIBER)

FRONTIER COMMUNICATIONS
(UG TELEPHONE)

REMOVE ASPHALTIC SURFACE
REPLACE WITH ASPHALTIC SURFACE SAFETY ISLANDS

REMOVING CURB
REPLACE WITH CONCRETE CURB TYPE A

CC1

CTH "YZ"

N12° 18' 15"W

52'CY'

STA 52'CY'+17
BUTT JOINT REQ'D
MATCH EXISTING

CC2

REMOVING CURB

REMOVING ASPHALTIC SURFACE
REPLACE WITH 6-INCHES OF BINDER HMA PAVEMENT 4 MT 58-28 S
FLUSH WITH EXISTING CONCRETE PAVEMENT (TWO LIFTS)

1021'WB' 1022'WB' 1023'WB' 1024'WB' 1025'WB' 1026'WB' 1027'WB' 1028'WB'

N47° 31' 33"E

REMOVING CURB & GUTTER
REPLACE WITH CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A

1021'EB' 1022'EB' 1023'EB' 1024'EB' 1025'EB' 1026'EB' 1027'EB' 1028'EB'

N47° 31' 33"E

USH "18"/USH "151"

50'CY'

STA 1024'SB'+65.29 =
STA 50'CTHY'+57.83
ANG = 120 DEG

STA 1024'NB'+77.46 =
STA 50'CTHY'00.00
ANG = 60 DEG

CC3

CC4

N12° 18' 15"W

CTH "Y"

STA 48'CY'+42
BUTT JOINT REQ'D
MATCH EXISTING

48'CY'

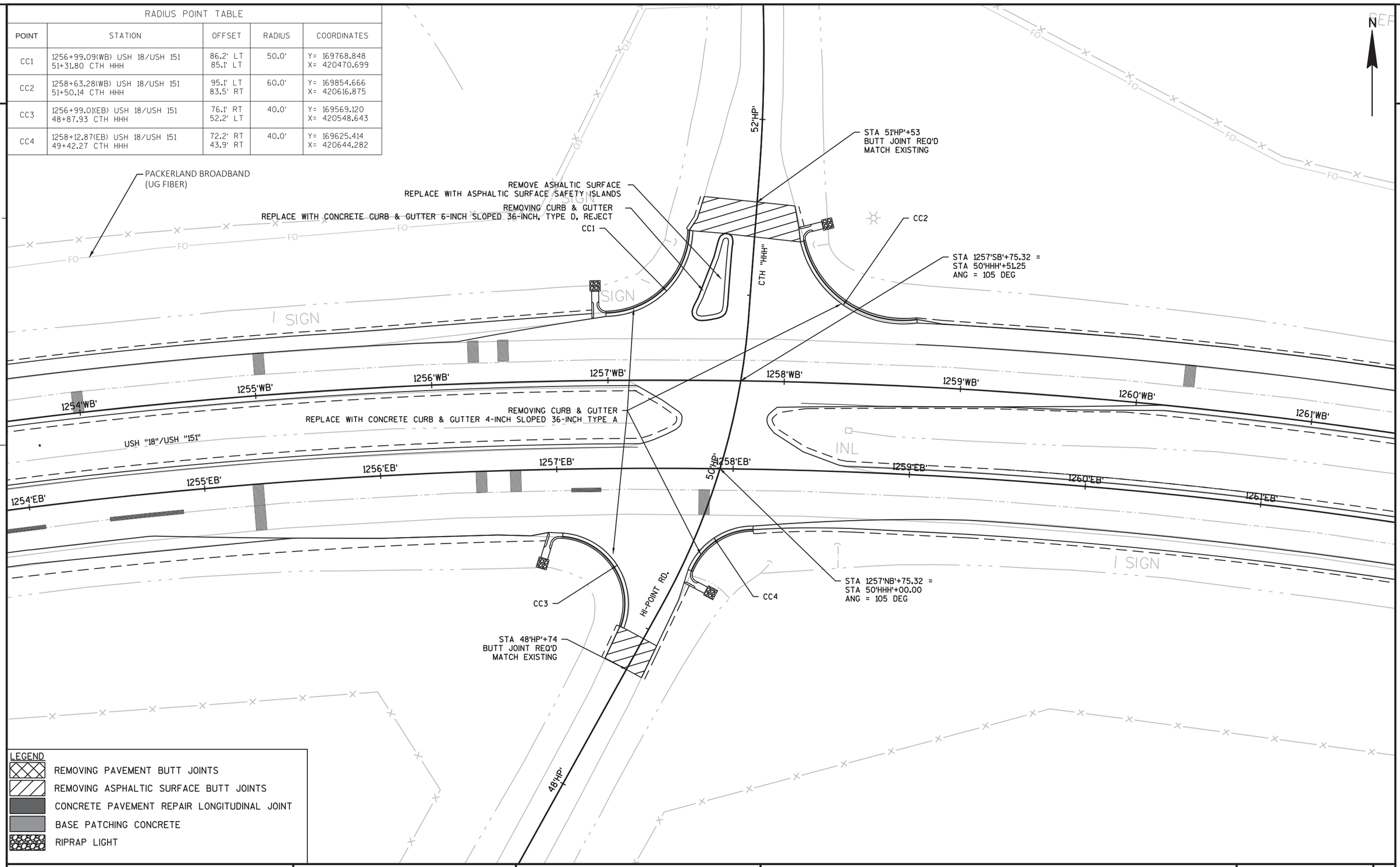
ALLIANT ENERGY
(UG ELECTRIC)

LEGEND
- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE
- RIPRAP LIGHT

PROJECT NO:1204-05-72	HWY: USH 18	COUNTY:IOWA	INTERSECTION DETAILS: C.T.H. "YZ" & C.T.H. "Y"	SHEET 15	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\021108_ID.DWG
LAYOUT NAME - 021108
PLOT DATE : 11/28/2018 3:51 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1" = 50'_XREF

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	1256+99.09(WB) USH 18/USH 151 51+31.80 CTH HHH	86.2' LT 85.1' LT	50.0'	Y= 169768.848 X= 420470.699
CC2	1258+63.28(WB) USH 18/USH 151 51+50.14 CTH HHH	95.1' LT 83.5' RT	60.0'	Y= 169854.666 X= 420616.875
CC3	1256+99.01(EB) USH 18/USH 151 48+87.93 CTH HHH	76.1' RT 52.2' LT	40.0'	Y= 169569.120 X= 420548.643
CC4	1258+12.87(EB) USH 18/USH 151 49+42.27 CTH HHH	72.2' RT 43.9' RT	40.0'	Y= 169625.414 X= 420644.282



PROJECT NO:1204-05-72	HWY: USH 18	COUNTY: IOWA	INTERSECTION DETAILS: C.T.H. "HHH" & HI-POINT RD.	SHEET 16	E

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	1313+82.12(WB) USH 18/USH 151 51+22.51 PIKES PEAK RD	86.3' LT 60.5' LT	50.0'	Y= 171084.794 X= 425804.782
CC2	1315+02.98(WB) USH 18/USH 151 51+75.49 PIKES PEAK RD	76.5' LT 50.7' RT	40.0'	Y= 171159.585 X= 425902.578
CC3	1313+08.73(EB) USH 18/USH 151 48+77.41 PIKES PEAK RD	76.2' RT 50.7' LT	40.0'	Y= 170850.553 X= 425863.099
CC4	1314+35.59(EB) USH 18/USH 151 49+39.80 PIKES PEAK RD	82.7' RT 60.9' RT	50.0'	Y= 170931.106 X= 425961.330

FRONTIER COMMUNICATIONS
(UG TELEPHONE)

STA 51'WBR'+93
BUTT JOINT REQ'D
MATCH EXISTING

PACKERLAND BROADBAND
(UG FIBER)

52'PP'

CC1

PIKES PEAK RD.

CC2

STA 1314'WB'+01.65 =
STA 50'HHH'+57.94
ANG = 120 DEG

REMOVING CURB & GUTTER
REPLACE WITH CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A

1317'WB'
1316'WB'
1315'WB'
1314'WB'
1313'WB'
1312'WB'
1311'WB'
1310'WB'

INL

1318'EB'
1317'EB'
1316'EB'
1315'EB'
1314'EB'
1313'EB'
1312'EB'
1311'EB'

USH "18"/USH "151"

50'PP'

STA 1314'EB'+13.44 =
STA 50'HHH'+00.00
ANG = 120 DEG

CC4

R38'-75 LF

CC3

W BRIGHAM RD.

ALLIANT ENERGY
(ELECTRIC)

STA 48'WBR'+62
BUTT JOINT REQ'D
MATCH EXISTING

48'PP'

LEGEND

- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE
- RIPRAP LIGHT

N

PROJECT NO:1204-05-72	HWY: USH 18	COUNTY:IOWA	INTERSECTION DETAILS: PIKES PEAK RD. & W. BRIGHAM RD.	SHEET 17	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\021108_ID.DWG
LAYOUT NAME - 021110

PLOT DATE : 11/28/2018 3:52 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1" = 50'_XREF

WISDOT/CADDS SHEET 42

2

2

PACKERLAND BROADBAND
(UG FIBER)

FRONTIER COMMUNICATIONS
(UG TELEPHONE)

MG&E GAS

ALLIANT ENERGY
(UG ELECTRIC)

SUBSTATION

N

STA 1365'WB'+41.68
STA 50'TD'+50.00
ANG = 90 DEG

1362'WB'
1363'WB'
1364'WB'
1365'WB'
1366'WB'
1367'WB'
1368'WB'
1369'WB'

1362'EB'
1363'EB'
1364'EB'
1365'EB'
1366'EB'
1367'EB'
1368'EB'
1369'EB'

USH "18"/USH "151"

THOMPSON RD.

CC1

CC2

STA 1365'EB'+46.14 =
STA 50'TD'+00.00
ANG = 90 DEG

REMOVING CURB & GUTTER
REPLACE WITH CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A

STA 49'TD'+01
BUTT JOINT REQ'D
MATCH EXISTING

48

ATC OVERHEAD ELECTRIC TRANSMISSION

LEGEND

- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE
- RIPRAP LIGHT

RADIUS POINT TABLE

POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	1364+83.10(EB) USH 18/USH 151 49+13.55 THOMPSON RD	86.1' RT 62.6' LT	50.0'	Y= 171528.433 X= 430802.550
CC2	1366+06.71(EB) USH 18/USH 151 49+17.73 THOMPSON RD	82.6' RT 61.0' RT	50.0'	Y= 171533.336 X= 430926.117

PROJECT NO:1204-05-72	HWY: USH 18	COUNTY: IOWA	INTERSECTION DETAILS: THOMPSON RD.	SHEET 18	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\021108_ID.DWG
LAYOUT NAME - 021111

PLOT DATE : 11/28/2018 3:53 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1" = 50'_XREF

WISDOT/CADDS SHEET 42

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	1378+07.63(WB) USH 18/USH 151 51+36.34 IHM HARRIS RD	86.2' LT 62.9' LT	50.0'	Y= 171765.792 X= 432129.207
CC2	1379+39.10(WB) USH 18/USH 151 51+35.63 IHM HARRIS RD	85.8' LT 68.6' RT	50.0'	Y= 171766.849 X= 432260.681

2

2

N

IHM HARRIS RD.

52

STA 51'IHR'+49
BUTT JOINT REQ'D
MATCH EXISTING

MG&E GAS

PACKERLAND BROADBAND
(UG FIBER)

FRONTIER COMMUNICATIONS
(UG TELEPHONE)

ALLIANT ENERGY
(ELECTRIC)

REMOVING CURB & GUTTER
REPLACE WITH CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A

CC1

CC2

STA 1378'WB'+71.02 =
STA 50'IHR'+50.00
ANG= 90 DEG

375'WB'
1376'WB'
1377'WB'
1378'WB'
1379'WB'
1380'WB'
1381'WB'
1382'WB'

'EB'
1376'EB'
1377'EB'
1378'EB'
1379'EB'
1380'EB'
1381'EB'
1382'EB'

USH "18"/USH "151"

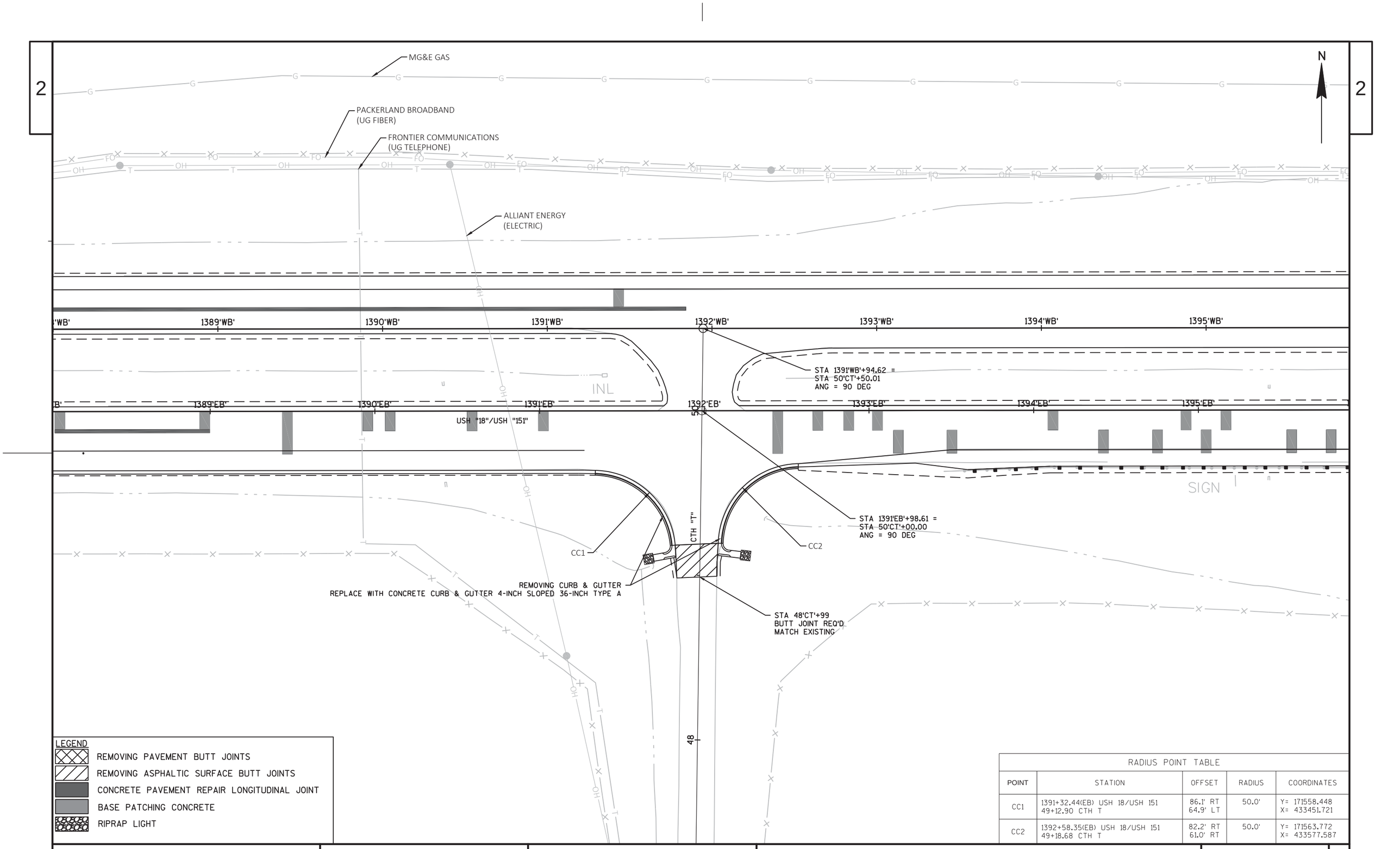
STA 1378'EB'+76.33 =
STA 50'IHR'+00.00
ANG = 90 DEG

LEGEND

- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE
- RIPRAP LIGHT

PROJECT NO:1204-05-72	HWY: USH 18	COUNTY: IOWA	INTERSECTION DETAILS: IHM HARRIS RD.	SHEET	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\021108_ID.DWG
LAYOUT NAME - 021112
PLOT DATE : 11/28/2018 3:53 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1" = 50'_XREF
WISDOT/CADDS SHEET 42



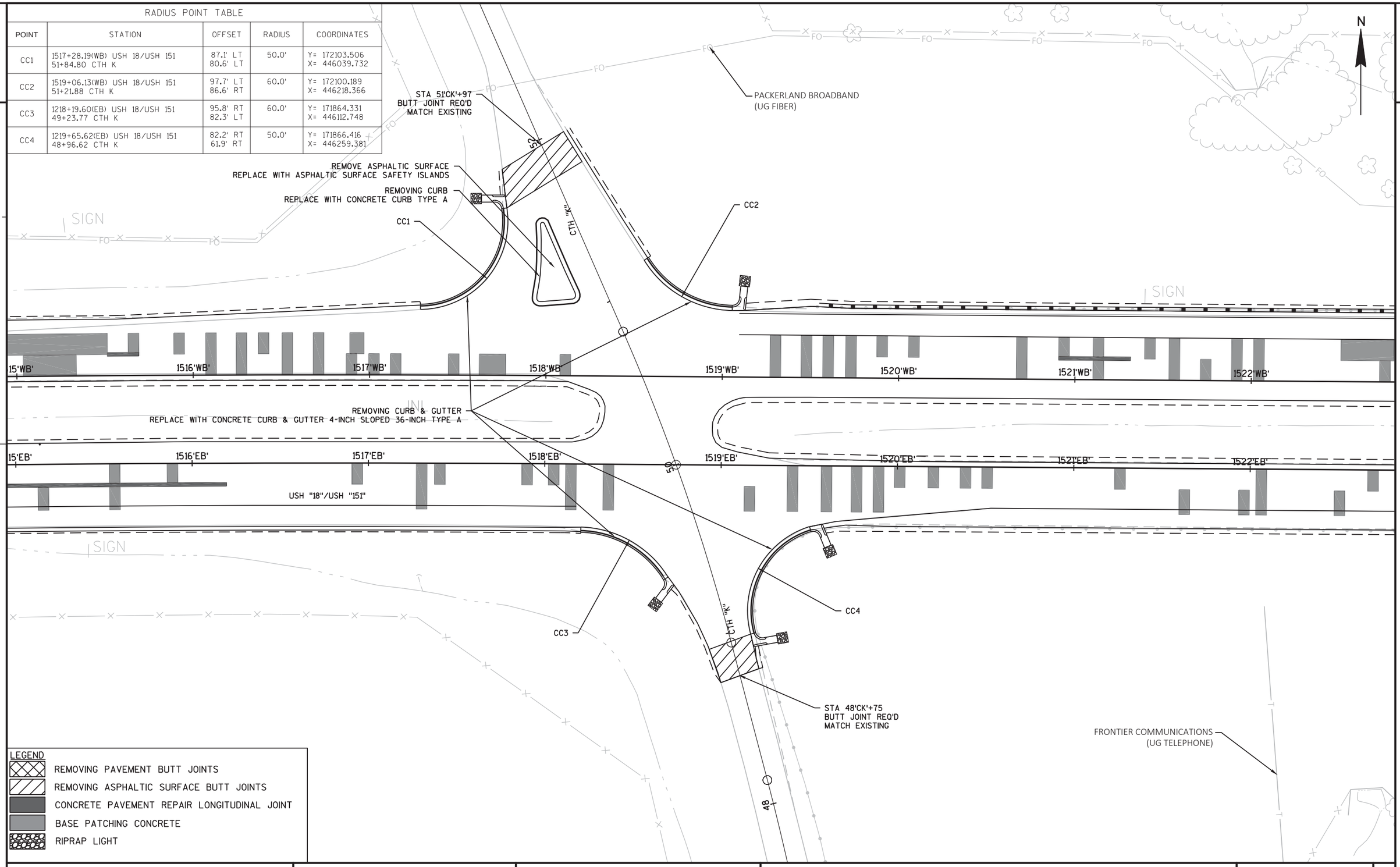
RADIUS POINT TABLE

POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	1391+32.44(EB) USH 18/USH 151 49+12.90 CTH T	86.1' RT 64.9' LT	50.0'	Y= 171558.448 X= 433451.721
CC2	1392+58.35(EB) USH 18/USH 151 49+18.68 CTH T	82.2' RT 61.0' RT	50.0'	Y= 171563.772 X= 433577.587

PROJECT NO:1204-05-72	HWY: USH 18	COUNTY:IOWA	INTERSECTION DETAILS: C.T.H. "T"	SHEET 20	E

RADIUS POINT TABLE

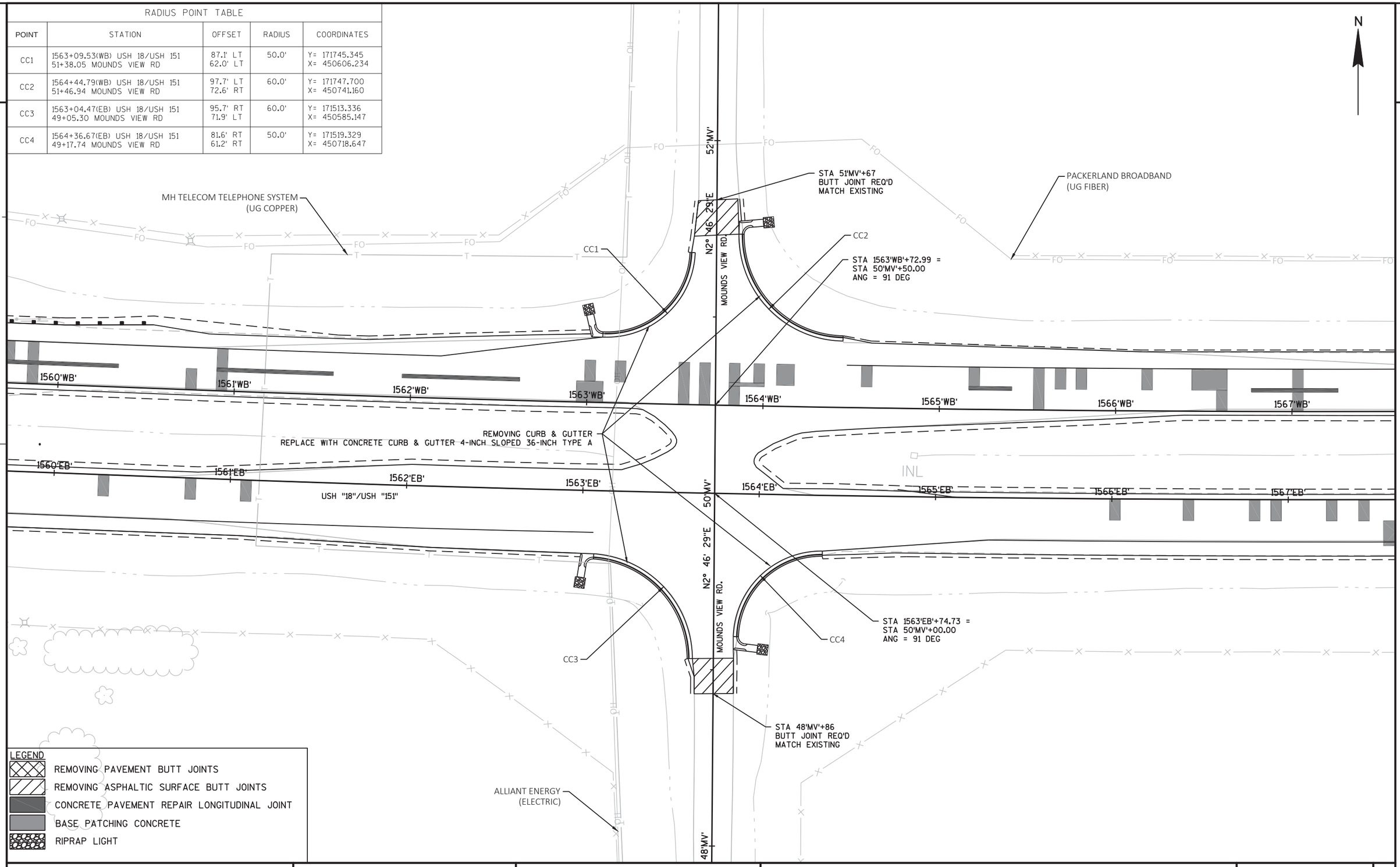
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	1517+28.19(WB) USH 18/USH 151 51+84.80 CTH K	87.1' LT 80.6' LT	50.0'	Y= 172103.506 X= 446039.732
CC2	1519+06.13(WB) USH 18/USH 151 51+21.88 CTH K	97.7' LT 86.6' RT	60.0'	Y= 172100.189 X= 446218.366
CC3	1218+19.60(EB) USH 18/USH 151 49+23.77 CTH K	95.8' RT 82.3' LT	60.0'	Y= 171864.331 X= 446112.748
CC4	1219+65.62(EB) USH 18/USH 151 48+96.62 CTH K	82.2' RT 61.9' RT	50.0'	Y= 171866.416 X= 446259.381



PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	INTERSECTION DETAILS: C.T.H. "K"	SHEET 21	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\021108_ID.DWG
LAYOUT NAME - 021114
PLOT DATE : 11/28/2018 3:54 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1" = 50'_XREF
WISDOT/CADDS SHEET 42

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	1563+09.53(WB) USH 18/USH 151 51+38.05 MOUNDS VIEW RD	87.1' LT 62.0' LT	50.0'	Y= 171745.345 X= 450606.234
CC2	1564+44.79(WB) USH 18/USH 151 51+46.94 MOUNDS VIEW RD	97.7' LT 72.6' RT	60.0'	Y= 171747.700 X= 450741.160
CC3	1563+04.47(EB) USH 18/USH 151 49+05.30 MOUNDS VIEW RD	95.7' RT 71.9' LT	60.0'	Y= 171513.336 X= 450585.147
CC4	1564+36.67(EB) USH 18/USH 151 49+17.74 MOUNDS VIEW RD	81.6' RT 61.2' RT	50.0'	Y= 171519.329 X= 450718.647



PROJECT NO:1204-05-72	HWY: USH 18	COUNTY:IOWA	INTERSECTION DETAILS: MOUND VIEW RD.	SHEET 22	E

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	1616+56.39(WB) USH 18/USH 151 51+35.86 E BRIGHAM RD	86.6' LT 62.5' LT	50.0'	Y= 171993.281 X= 455929.072
CC2	1617+91.14(WB) USH 18/USH 151 51+48.16 E BRIGHAM RD	97.3' LT 72.1' RT	60.0'	Y= 172014.757 X= 456062.534
CC3	1616+53.02(EB) USH 18/USH 151 49+02.93 E BRIGHAM RD	96.2' RT 71.3' LT	60.0'	Y= 171760.890 X= 455936.204
CC4	1617+85.16(EB) USH 18/USH 151 49+18.28 E BRIGHAM RD	82.4' RT 60.7' RT	50.0'	Y= 171784.635 X= 456066.820

2

2

N

SIGN

52'BR'

50'BR'

48'BR'

E BRIGHAM RD.

STA 51'BR'+68
BUTT JOINT REQ'D
MATCH EXISTING

CC2

STA 1617'WB'+17.87 =
STA 50'BR'+50.00
ANG = 89 DEG

CC1

PACKERLAND BROADBAND
(UG FIBER)

1614'WB' 1615'WB' 1616'WB' 1617'WB' 1618'WB' 1619'WB' 1620'WB' 1621'WB'

REMOVING CURB & GUTTER
REPLACE WITH CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A

1614'EB' 1615'EB' 1616'EB' 1617'EB' 1618'EB' 1619'EB' 1620'EB' 1621'EB'

USH "18"/USH "151"

STA 1617'EB'+25.46 =
STA 50'BR'+00.07
ANG = 91 DEG

CC4

R58'-100 LF

CC3

STA 48'BR'+85
BUTT JOINT REQ'D
MATCH EXISTING

MH TELECOM TELEPHONE SYSTEM
(UG COPPER)

ALLIANT ENERGY
(ELECTRIC)

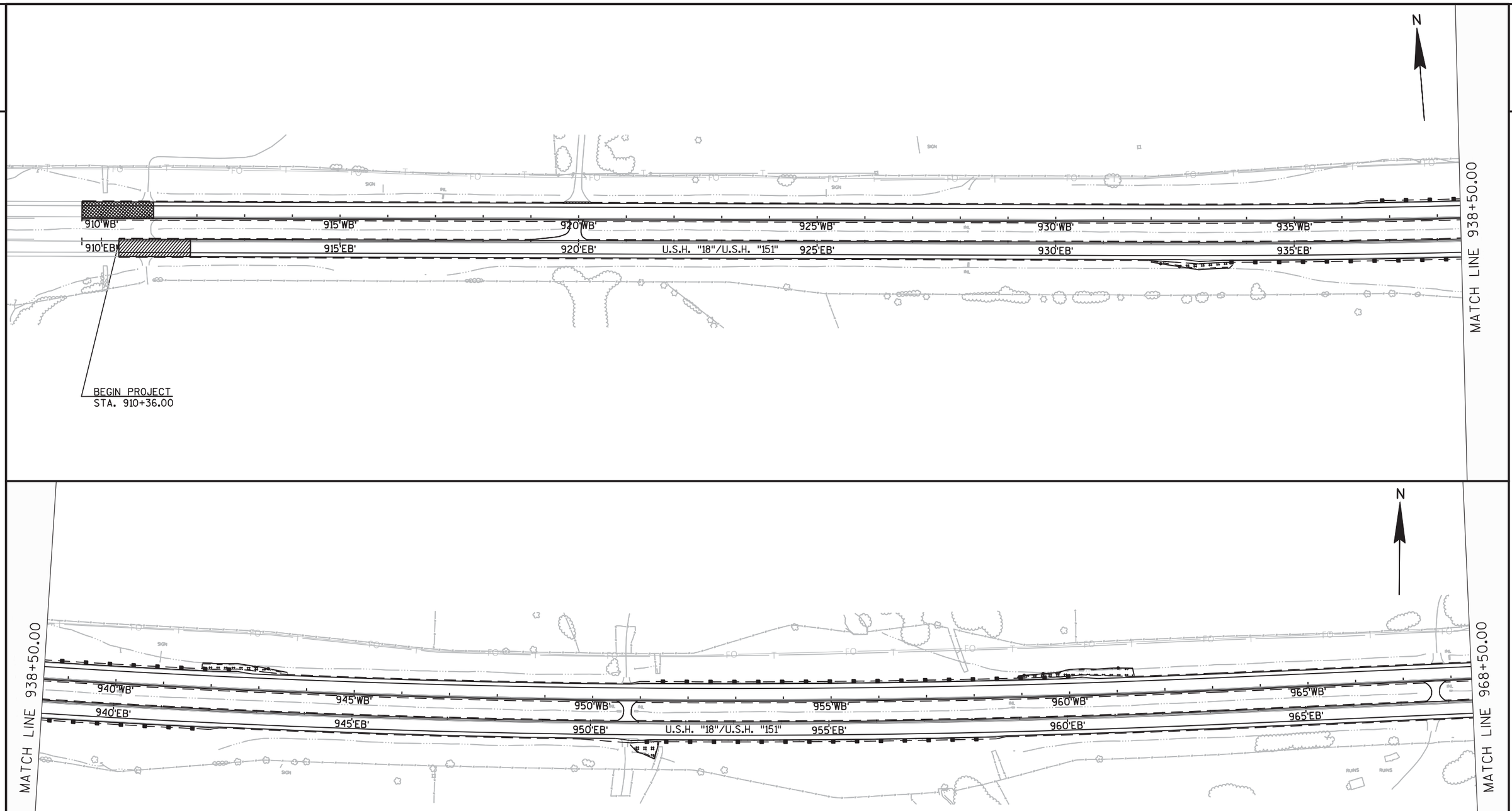
LEGEND

- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE
- RIPRAP LIGHT

PROJECT NO:1204-05-72	HWY: USH 18	COUNTY:IOWA	INTERSECTION DETAILS: E. BRIGHAM RD.	SHEET 23	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\021108_ID.DWG
LAYOUT NAME - 021116

PLOT DATE : 11/28/2018 3:55 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1" = 50'_XREF



LEGEND

- EROSION MAT CLASS I, TYPE A
- SILT FENCE
- INLET PROTECTION

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	EROSION CONTROL: EASTBOUND AND WESTBOUND	SHEET 24	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001

PLOT DATE : 1/30/2019 1:24 PM PLOT BY : JEDIDIAH MUNROE PLOT NAME : PLOT SCALE : 1" = 200'_XREF

2

2

MATCH LINE 968+50.00

N

970'WB' 975'WB' 980'WB' 985'WB' 990'WB' 995'WB'

970'EB' 975'EB' 980'EB' U.S.H. "18"/U.S.H. "151" 985'EB' 990'EB' 995'EB'

FO

MATCH LINE 998+50.00

1000'WB'

1000'EB'

1005'WB'

1005'EB'

1010'WB'

1010'EB' U.S.H. "18"/U.S.H. "151"

1015'WB'

1015'EB'

1020'WB'

1020'EB'

1025'WB'

1025'EB'

50YCY

C.T.H. "YZ"

C.T.H. "Y"

MATCH LINE 1028+50.00

LEGEND

EROSION MAT CLASS I, TYPE A

SILT FENCE

INLET PROTECTION

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	EROSION CONTROL: EASTBOUND AND WESTBOUND	SHEET 25	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022002

PLOT DATE : 1/30/2019 1:26 PM PLOT BY : JEDIDIAH MUNROE PLOT NAME : PLOT SCALE : 1" = 200'_XREF

WISDOT/CADDS SHEET 44

LEGEND

- EROSION MAT CLASS I, TYPE A
- SILT FENCE
- INLET PROTECTION

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	EROSION CONTROL: EASTBOUND AND WESTBOUND	SHEET 26	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022003
PLOT DATE : 1/30/2019 1:28 PM
PLOT BY : JEDIDIAH MUNROE
PLOT NAME :
PLOT SCALE : 1" = 200'_XREF

2

MATCH LINE 1088+50.00

1090'WB'
1090'EB'
1095'WB'
1095'EB'
1100'WB'
1100'EB'
1105'WB'
1105'EB'
U.S.H. "18"/U.S.H. "151"
1110'WB'
1110'EB'
1115'WB'
1115'EB'

N

REED RD.

RIDGEVUE RD.

TCH LINE 1118+50.00

1120'WB'
1120'EB'
1125'WB'
1125'EB'
1130'WB'
1130'EB'
U.S.H. "18"/U.S.H. "151"
1135'WB'
1135'EB'
1140'WB'
1140'EB'
1145'WB'
1145'EB'

MATCH LINE 1148+50.00

LEGEND

EROSION MAT CLASS I, TYPE A

SILT FENCE

INLET PROTECTION

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	EROSION CONTROL: EASTBOUND AND WESTBOUND	SHEET 27	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022004

PLOT DATE : 1/30/2019 1:30 PM PLOT BY : JEDIDIAH MUNROE PLOT NAME : PLOT SCALE : 1" = 200'_XREF

2

MATCH LINE 1148+50.00

1150'WB' 1155'WB' 1160'WB' 1165'WB' 1170'WB' 1175'WB'

1150'EB' 1155'EB' 1160'EB' U.S.H. "18"/U.S.H. "151" 1165'EB' 1170'EB' 1175'EB'

PRAIRIE RD.

N

2

MATCH LINE 1178+50.00

1180'WB' 1185'WB' 1190'WB' 1195'WB' 1200'WB' 1205'WB'

1180'EB' 1185'EB' 1190'EB' 1195'EB' U.S.H. "18"/U.S.H. "151" 1200'EB' 1205'EB'

MATCH LINE 1208+50.00

N

LEGEND

EROSION MAT CLASS I, TYPE A

SILT FENCE

INLET PROTECTION

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	EROSION CONTROL: EASTBOUND AND WESTBOUND	SHEET 28	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022005

PLOT DATE : 1/30/2019 1:32 PM PLOT BY : JEDIDIAH MUNROE PLOT NAME : PLOT SCALE : 1" = 200'_XREF

WISDOT/CADDS SHEET 44

2

2

MATCH LINE 1208+50.00

1210'WB'
1210'EB'
1215'WB'
1215'EB'
1220'WB'
1220'EB'
1225'WB'
1230'WB'
1230'EB'
1235'WB'
1235'EB'
C.T.H. "H"
U.S.H. "18"/U.S.H. "151"
FO
OH
SIGN

1240'WB'
1240'EB'
1245'WB'
1245'EB'
1250'WB'
1250'EB'
1255'WB'
1255'EB'
50'WP'
HI POINT RD.
1260'WB'
1260'EB'
1265'WB'
1265'EB'
SEPTIC

MATCH LINE 1268+50.00

LEGEND

- EROSION MAT CLASS I, TYPE A
- SILT FENCE
- INLET PROTECTION

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	EROSION CONTROL: EASTBOUND AND WESTBOUND	SHEET 29	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022006

PLOT DATE : 1/30/2019 1:34 PM PLOT BY : JEDIDIAH MUNROE PLOT NAME : PLOT SCALE : 1" = 200'_XREF

WISDOT/CADDS SHEET 44

2

2

MATCH LINE 1268+50.00

MATCH LINE 1298+50.00

MATCH LINE 1298+50.00

MATCH LINE 1328+50.00

N

1270'WB'
1270'EB'
1275'WB'
1275'EB'
1280'WB'
1280'EB'
1285'WB'
1285'EB'
1290'WB'
1290'EB'
1295'WB'
1295'EB'
U.S.H. "18"/U.S.H. "151"

1300'WB'
1300'EB'
1305'WB'
1305'EB'
1310'WB'
1310'EB'
1315'WB'
1315'EB'
1320'WB'
1320'EB'
1325'WB'
1325'EB'
U.S.H. "18"/U.S.H. "151"

PIKES PEAK RD.

W. BRIGHAM RD.

50'PP'

45'PP'

RUINS

SEPTIC

LEGEND

EROSION MAT CLASS I, TYPE A

SILT FENCE

INLET PROTECTION

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	EROSION CONTROL: EASTBOUND AND WESTBOUND	SHEET 30	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022007

PLOT DATE : 1/30/2019 1:37 PM

PLOT BY : JEDIDIAH MUNROE

PLOT NAME :

PLOT SCALE : 1" = 200'_XREF

WISDOT/CADDS SHEET 44

2

MATCH LINE 1328+50.00

N

1330'WB' 1335'WB' 1340'WB' 1345'WB' 1350'WB' 1355'WB'

1330'EB' 1335'EB' 1340'EB' U.S.H. "18"/U.S.H. "151" 1345'EB' 1350'EB' 1355'EB'

SUBSTATION

IHM HARRIS RD.

1360'WB' 1365'WB' 1370'WB' 1375'WB' 1380'WB' 1385'WB'

1360'EB' 1365'EB' 1370'EB' U.S.H. "18"/U.S.H. "151" 1375'EB' 1380'EB' 1385'EB'

THOMPSON RD.

MATCH LINE 1358+50.00

MATCH LINE 1388+50.00

LEGEND

EROSION MAT CLASS I, TYPE A

SILT FENCE

INLET PROTECTION

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	EROSION CONTROL: EASTBOUND AND WESTBOUND	SHEET 31	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022008

PLOT DATE : 1/30/2019 1:39 PM PLOT BY : JEDIDIAH MUNROE PLOT NAME : PLOT SCALE : 1" = 200'_XREF

2

MATCH LINE 1388+50.00

1390'WB' 1395'WB' 1400'WB' 1405'WB' 1410'WB' 1415'WB'

1390'EB' 1395'EB' 1400'EB' U.S.H. "18"/U.S.H. "151" 1405'EB' 1410'EB' 1415'EB'

50'CT

C.T.H. "I"

N

2

MATCH LINE 1418+50.00

1420'WB' 1425'WB' 1430'WB' 1435'WB' 1440'WB' 1445'WB'

1420'EB' 1425'EB' 1430'EB' U.S.H. "18"/U.S.H. "151" 1435'EB' 1440'EB' 1445'EB'

N

MATCH LINE 1418+50.00

MATCH LINE 1448+50.00

LEGEND

EROSION MAT CLASS I, TYPE A

SILT FENCE

INLET PROTECTION

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	EROSION CONTROL: EASTBOUND AND WESTBOUND	SHEET 32	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022009

PLOT DATE : 1/30/2019 1:41 PM PLOT BY : JEDIDIAH MUNROE PLOT NAME : PLOT SCALE : 1" = 200'_XREF

2

2

MATCH LINE 1448+50.00

C.T.H. "D"

1450'WB'
1450'EB'
1455'WB'
1455'EB'
1460'WB'
1460'EB'
1465'WB'
1465'EB'
U.S.H. "18"/U.S.H. "151"
1470'WB'
1470'EB'
1475'WB'
1475'EB'

N

MATCH LINE 1478+50.00

1480'WB'
1480'EB'
1485'WB'
1485'EB'
1490'WB'
1490'EB'
1495'WB'
1495'EB'
U.S.H. "18"/U.S.H. "151"
1500'WB'
1500'EB'
1505'WB'
1505'EB'

S. JONES ST.

MATCH LINE 1508+50.00

N

LEGEND

EROSION MAT CLASS I, TYPE A

SILT FENCE

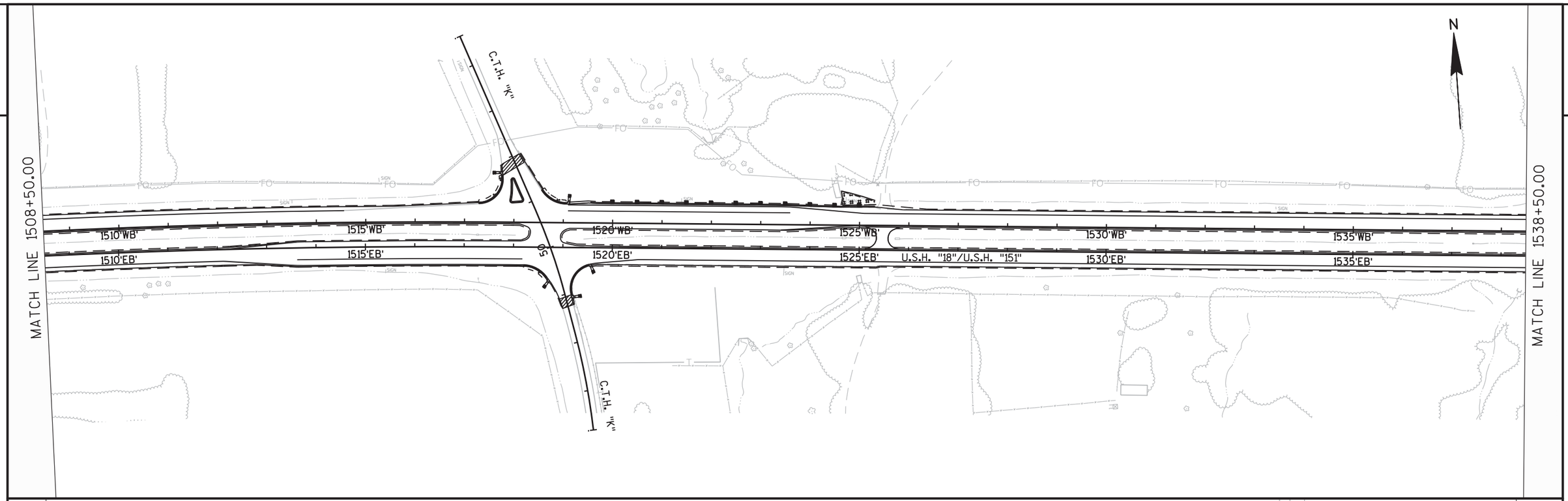
INLET PROTECTION

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	EROSION CONTROL: EASTBOUND AND WESTBOUND	SHEET 33	E

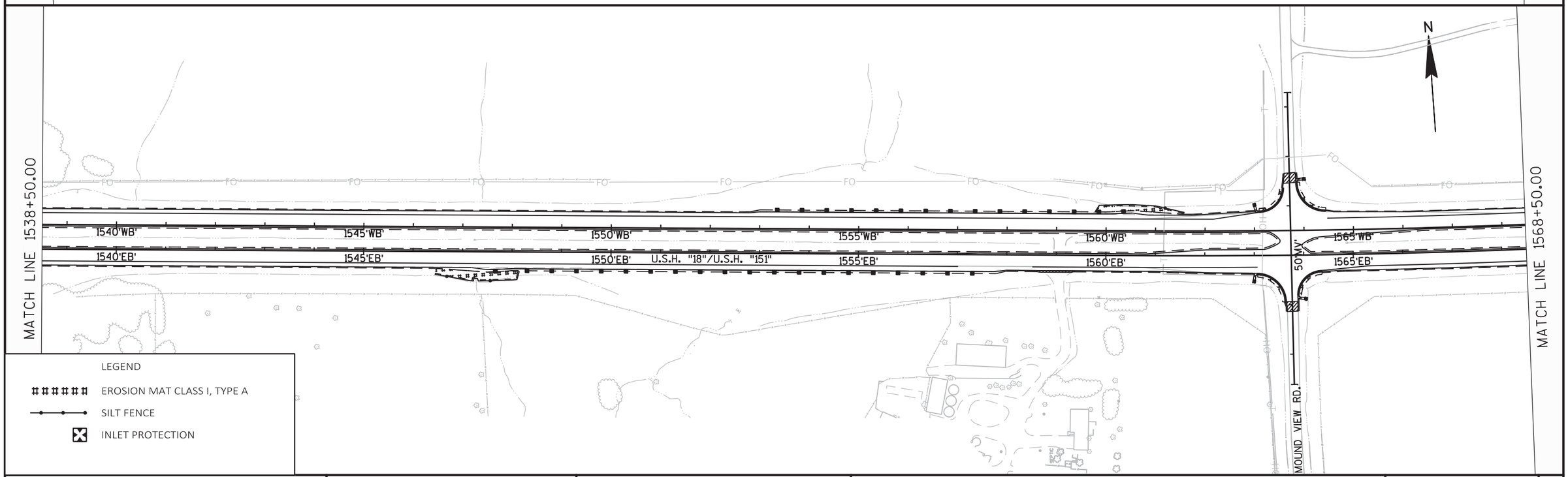
FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022010

PLOT DATE : 1/30/2019 1:43 PM PLOT BY : JEDIDIAH MUNROE PLOT NAME : PLOT SCALE : 1" = 200'_XREF

2



2



LEGEND

EROSION MAT CLASS I, TYPE A

SILT FENCE

INLET PROTECTION

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	EROSION CONTROL: EASTBOUND AND WESTBOUND	SHEET 34	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022011

PLOT DATE : 1/30/2019 1:45 PM PLOT BY : JEDIDIAH MUNROE PLOT NAME : PLOT SCALE : 1" = 200'_XREF

WISDOT/CADDS SHEET 44

2

2

N

MATCH LINE 1568+50.00

1570'WB' 1575'WB' 1580'WB' 1585'WB' 1590'WB' 1595'WB'

1570'EB' 1575'EB' 1580'EB' 1585'EB' 1590'EB' 1595'EB'

U.S.H. "18"/U.S.H. "151"

RUINS

N

MATCH LINE 1598+50.00

1600'WB' 1605'WB' 1610'WB' 1615'WB' 1620'WB' 1625'WB'

1600'EB' 1605'EB' 1610'EB' 1615'EB' 1620'EB' 1625'EB'

U.S.H. "18"/U.S.H. "151"

50TH ST

E. BRIGHAM RD.

MATCH LINE 1628+50.00

LEGEND

EROSION MAT CLASS I, TYPE A

SILT FENCE

INLET PROTECTION

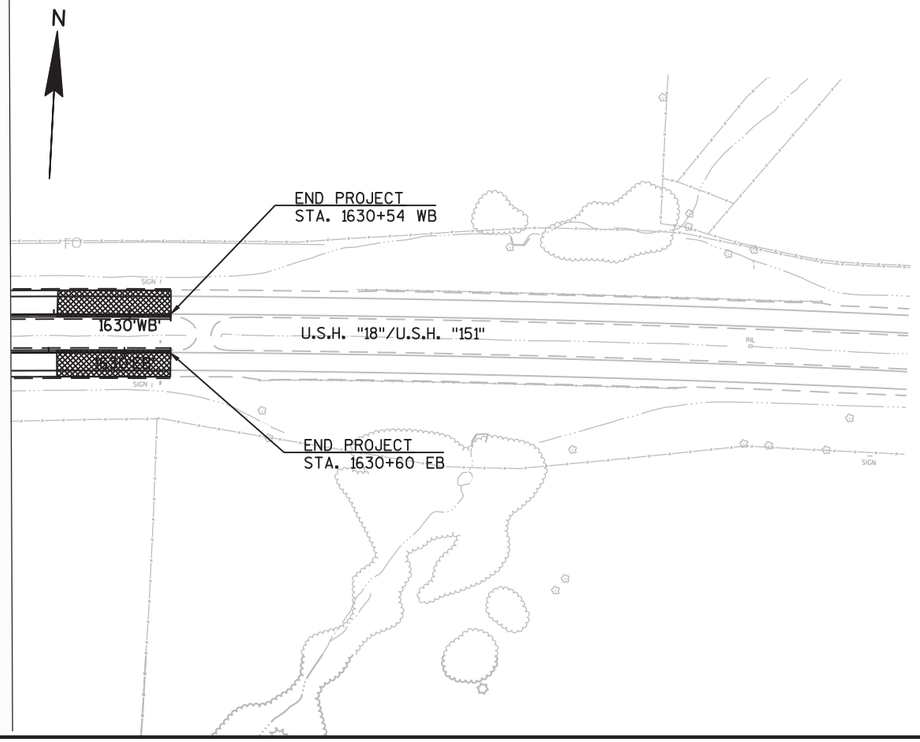
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	EROSION CONTROL: EASTBOUND AND WESTBOUND	SHEET 35	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022012

PLOT DATE : 1/30/2019 1:48 PM PLOT BY : JEDIDIAH MUNROE PLOT NAME : PLOT SCALE : 1" = 200'_XREF

WISDOT/CADDS SHEET 44

2



LEGEND

EROSION MAT CLASS I, TYPE A

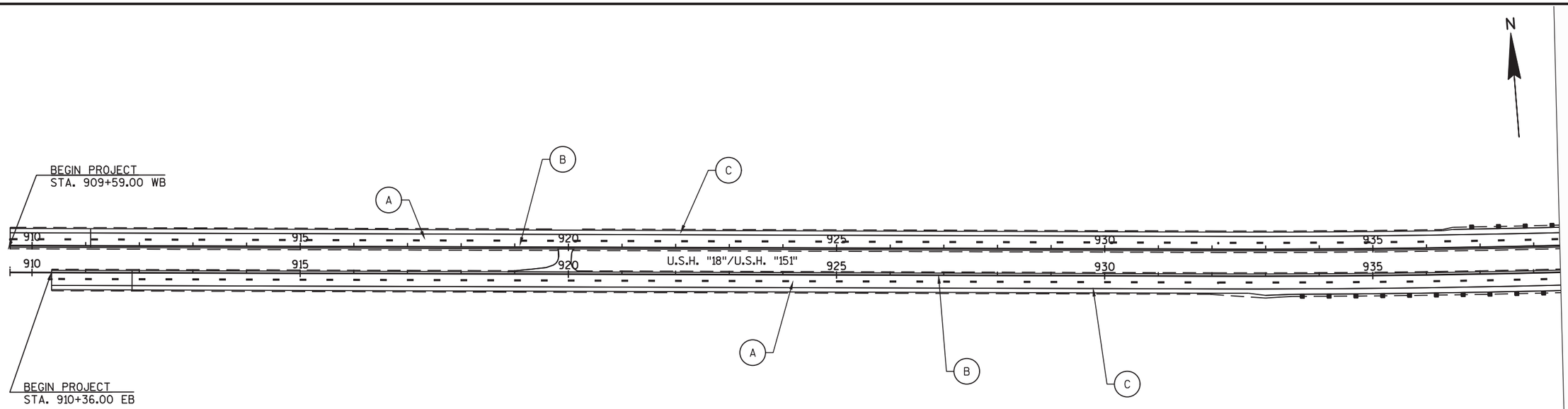
SILT FENCE

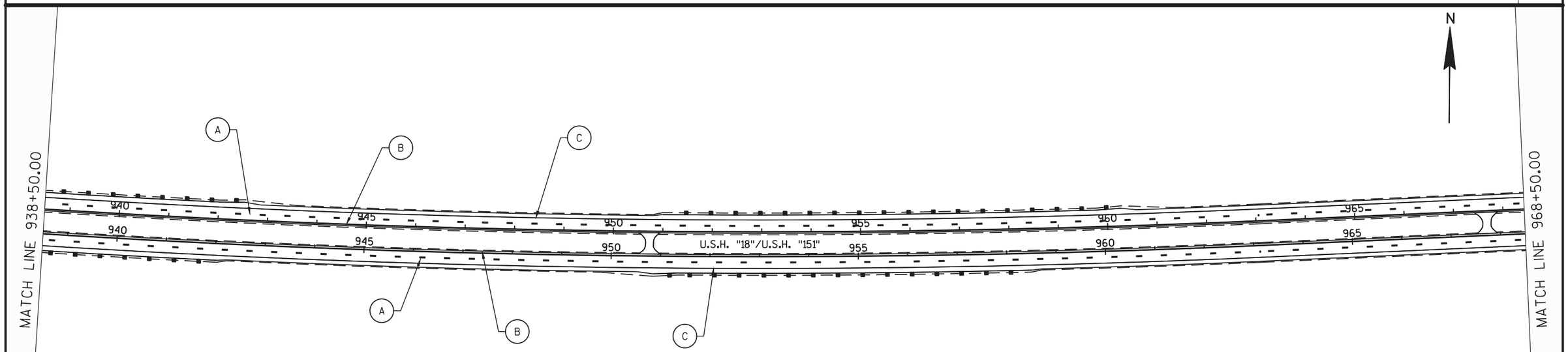
INLET PROTECTION

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	EROSION CONTROL: EASTBOUND AND WESTBOUND	SHEET 36	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022013

PLOT DATE : 1/30/2019 1:49 PM PLOT BY : JEDIDIAH MUNROE PLOT NAME : PLOT SCALE : 1" = 200'_XREF





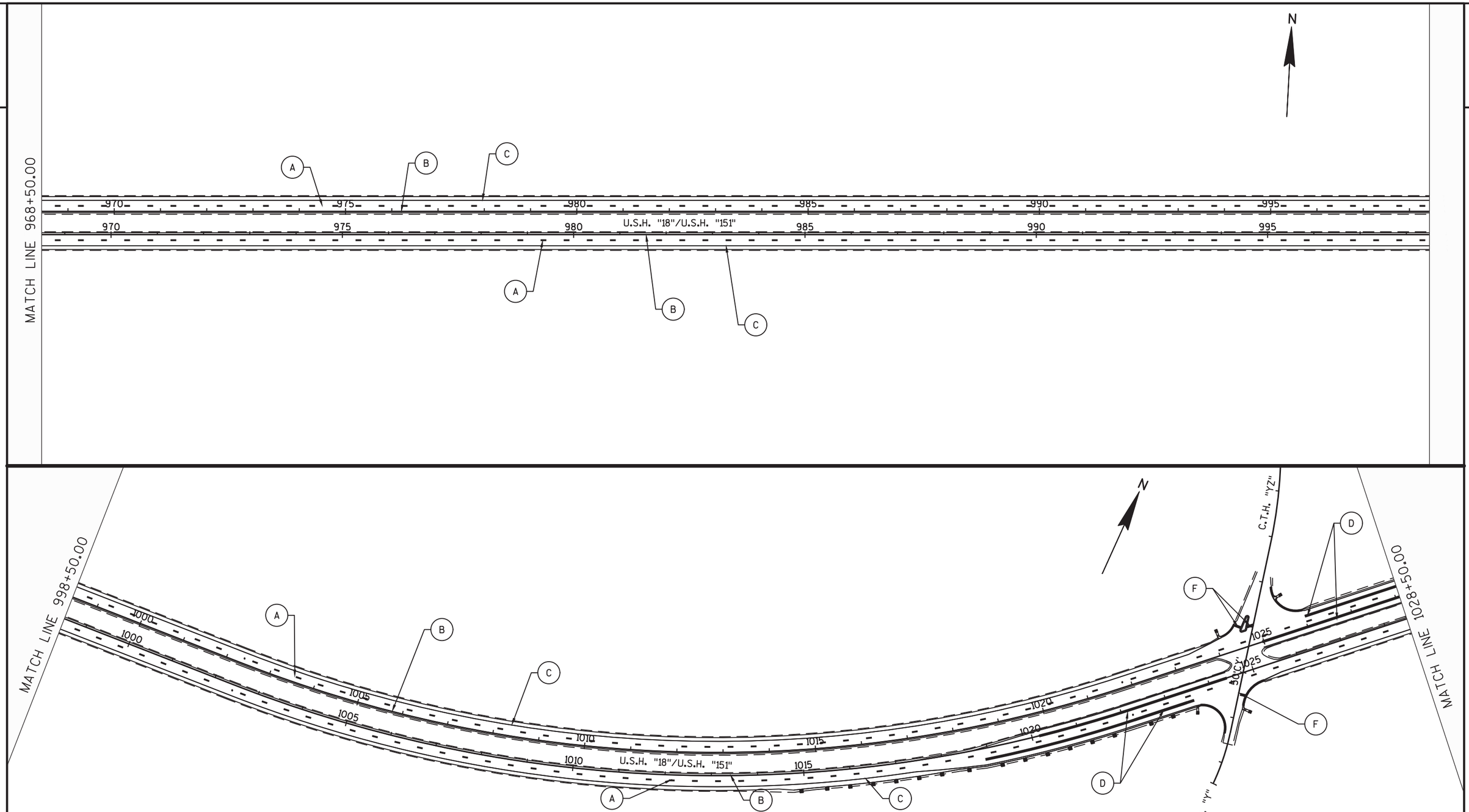
PAVEMENT MARKING LEGEND

A	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE SKIP)(12.5'SEG., 37.5'GAP)	F	MARKING STOP LINE EPOXY 18-INCH (WHITE)
B	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)
C	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)	H	MARKING LINE EPOXY 4-INCH (WHITE SKIP)(12.5' SEG., 37.5"GAP)
D	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)	I	MARKING LINE EPOXY 4-INCH (YELLOW)
E	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHIITE SKIP)(3'SEG., 9' GAP)	J	MARKING LINE EPOXY 4-INCH (WHITE)

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PAVEMENT MARKING	SHEET 37	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024501
PLOT DATE : 2/1/2019 9:07 AM
PLOT BY : JEDIDIAH MUNROE
PLOT NAME :
PLOT SCALE : 1" = 200'_XREF
WISDOT/CADDS SHEET 42

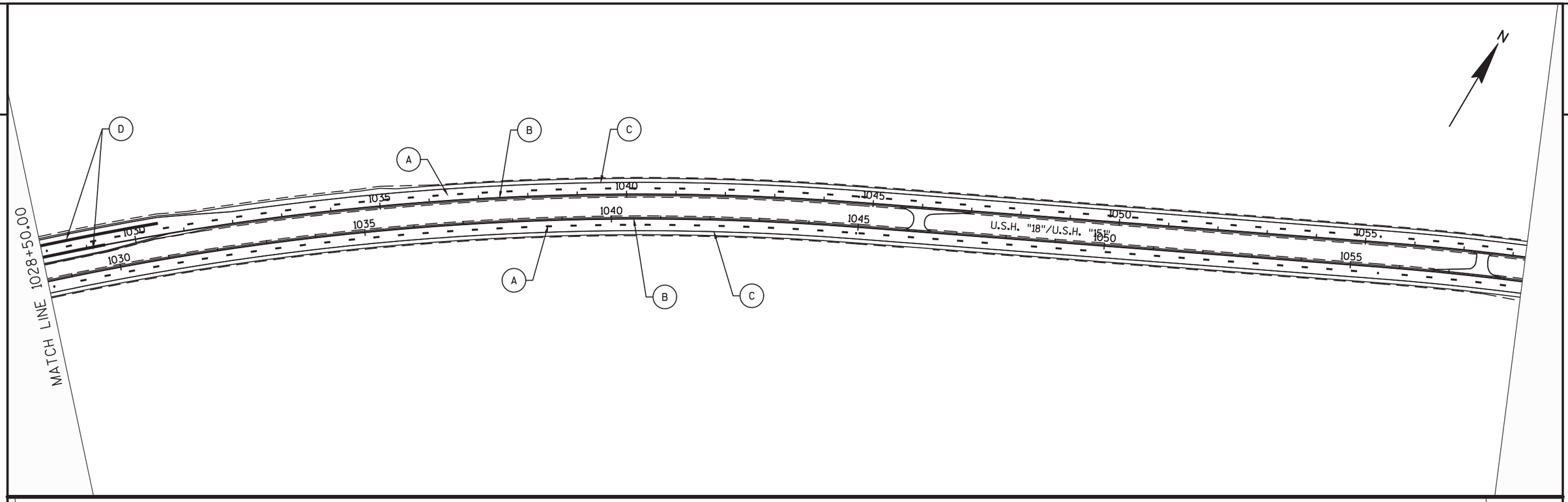
2

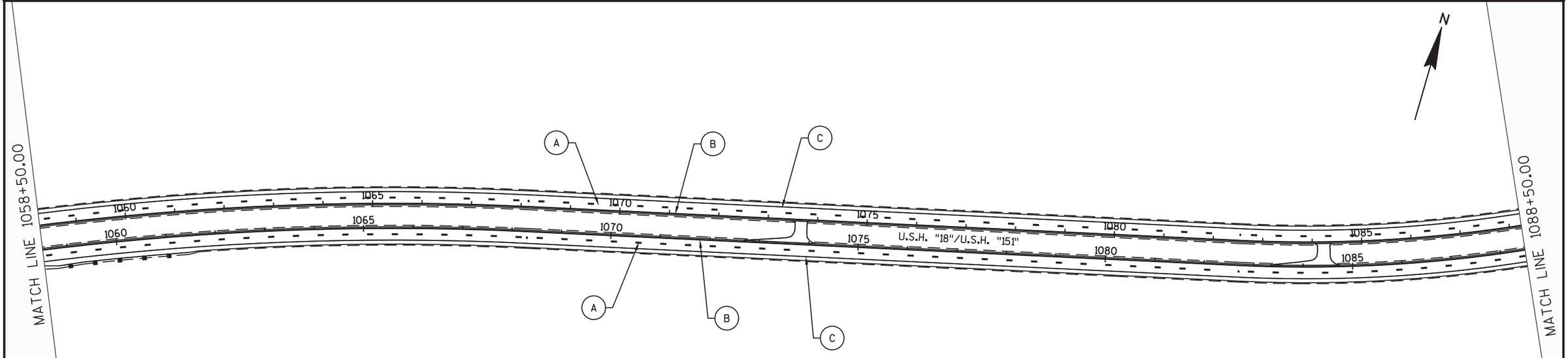


PAVEMENT MARKING LEGEND

A MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE SKIP)(12.5'SEG., 37.5'GAP)
B MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW)
C MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
D MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
E MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHIITE SKIP)(3'SEG., 9' GAP)
F MARKING STOP LINE EPOXY 18-INCH (WHITE)
G MARKING CHEVRON EPOXY 24-INCH (WHITE)
H MARKING LINE EPOXY 4-INCH (WHITE SKIP)(12.5' SEG., 37.5"GAP)
I MARKING LINE EPOXY 4-INCH (YELLOW)
J MARKING LINE EPOXY 4-INCH (WHITE)

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PAVEMENT MARKING	SHEET 38	E

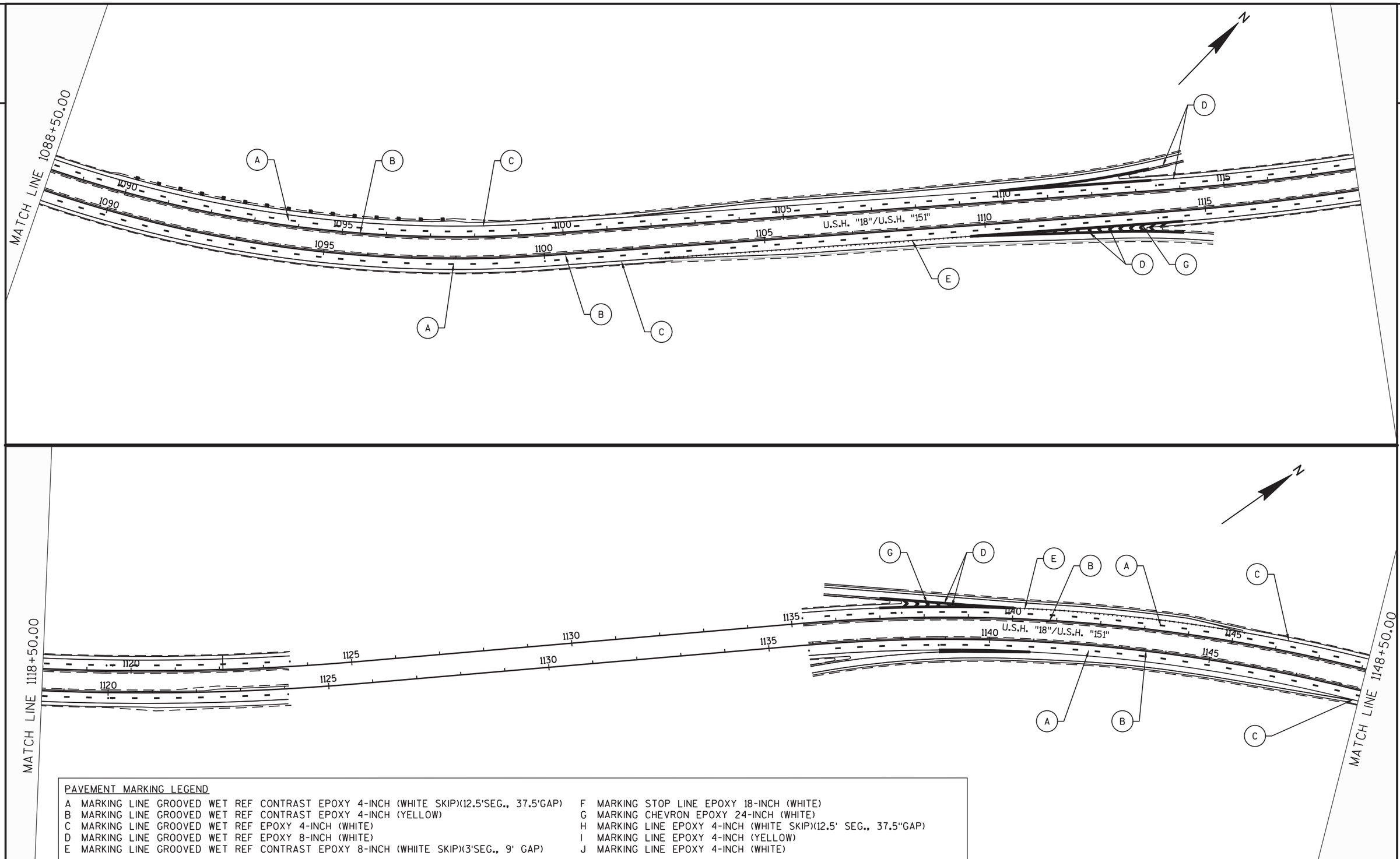




PAVEMENT MARKING LEGEND

A	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE SKIP)(12.5'SEG., 37.5'GAP)	F	MARKING STOP LINE EPOXY 18-INCH (WHITE)
B	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)
C	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)	H	MARKING LINE EPOXY 4-INCH (WHITE SKIP)(12.5' SEG., 37.5"GAP)
D	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)	I	MARKING LINE EPOXY 4-INCH (YELLOW)
E	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHIITE SKIP)(3'SEG., 9' GAP)	J	MARKING LINE EPOXY 4-INCH (WHITE)

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PAVEMENT MARKING	SHEET 39	E



PAVEMENT MARKING LEGEND

A	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE SKIP)(12.5'SEG., 37.5'GAP)	F	MARKING STOP LINE EPOXY 18-INCH (WHITE)
B	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)
C	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)	H	MARKING LINE EPOXY 4-INCH (WHITE SKIP)(12.5' SEG., 37.5"GAP)
D	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)	I	MARKING LINE EPOXY 4-INCH (YELLOW)
E	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHIITE SKIP)(3'SEG., 9' GAP)	J	MARKING LINE EPOXY 4-INCH (WHITE)

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PAVEMENT MARKING	SHEET 40	E

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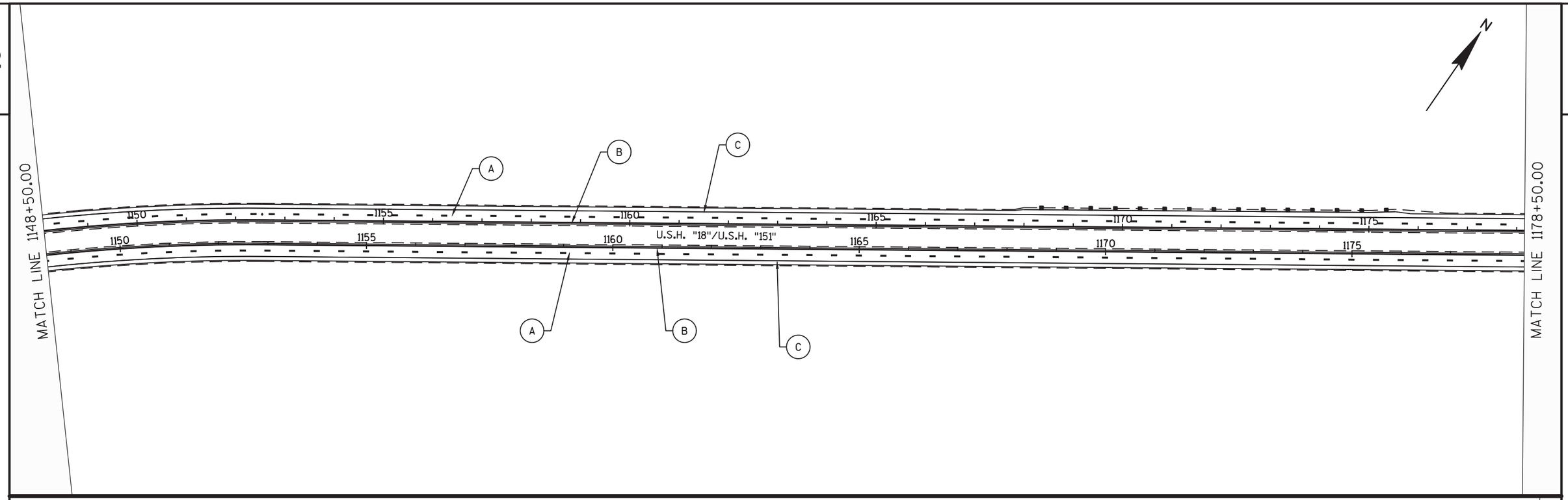
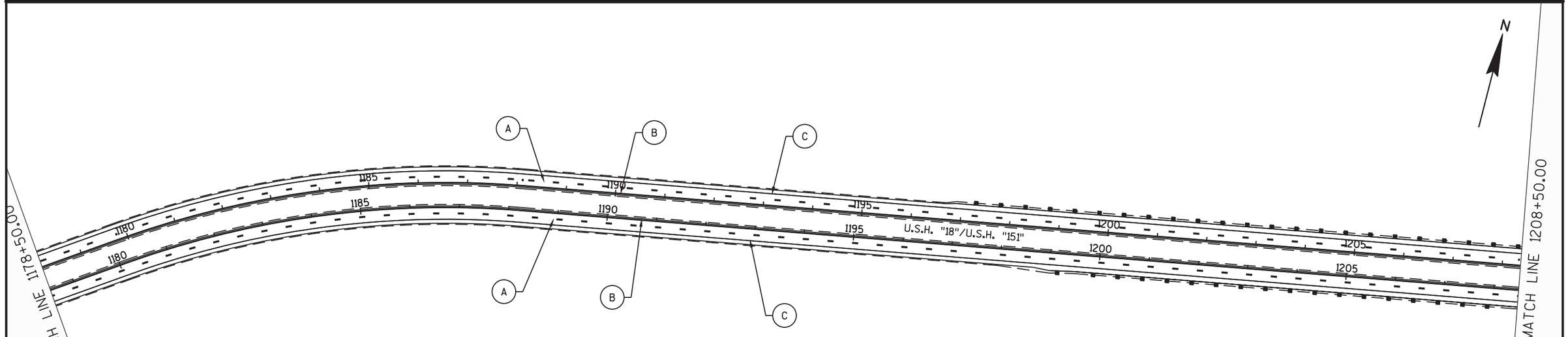
PLOT BY : JEDIDIAH MUNROE
PLOT NAME :
PLOT SCALE : 1" = 200'_XREF
WISDOT/CADDS SHEET 42

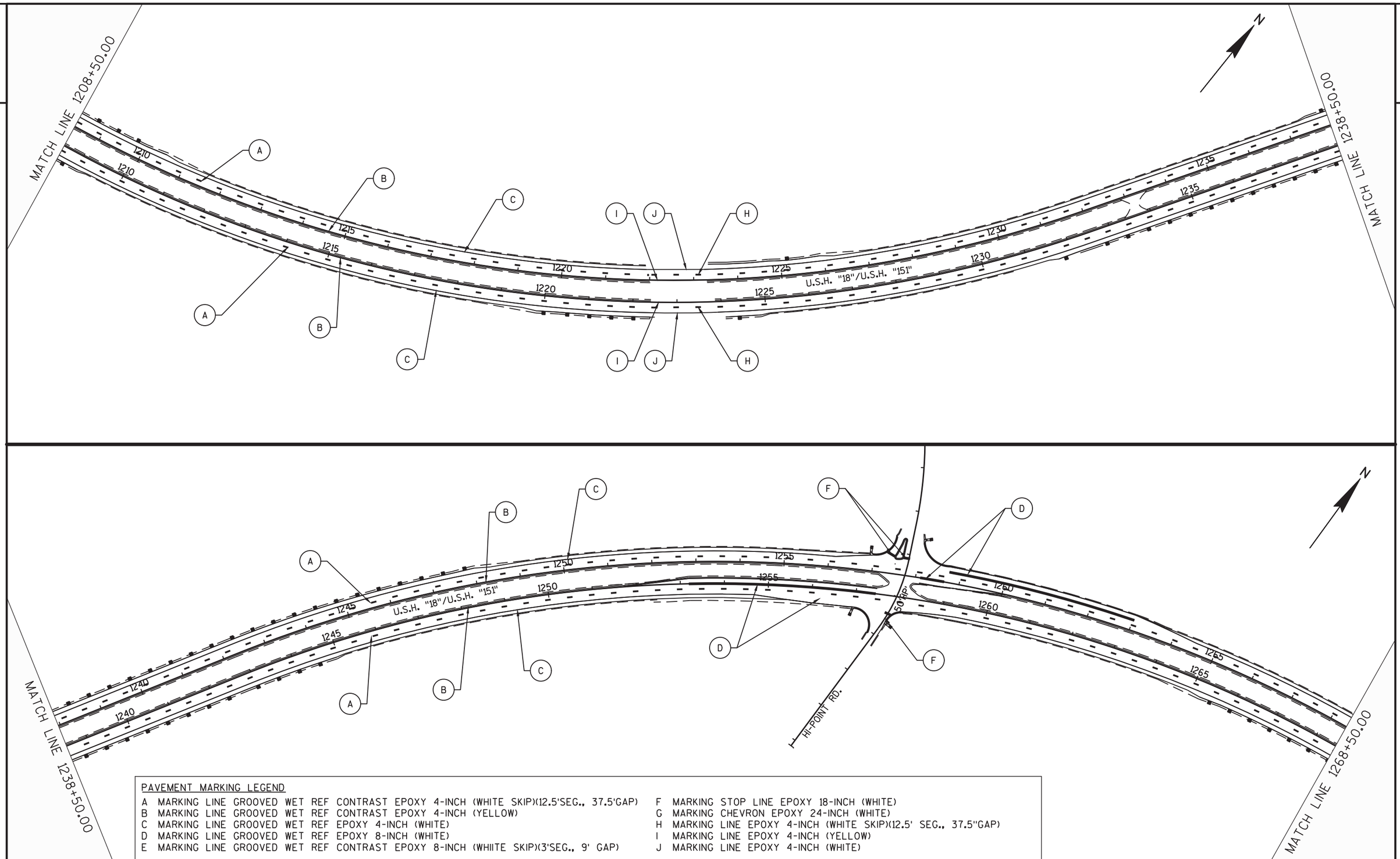




PAVEMENT MARKING LEGEND

A	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE SKIP)(12.5'SEG., 37.5'GAP)	F	MARKING STOP LINE EPOXY 18-INCH (WHITE)
B	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)
C	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)	H	MARKING LINE EPOXY 4-INCH (WHITE SKIP)(12.5' SEG., 37.5"GAP)
D	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)	I	MARKING LINE EPOXY 4-INCH (YELLOW)
E	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHIITE SKIP)(3'SEG., 9' GAP)	J	MARKING LINE EPOXY 4-INCH (WHITE)

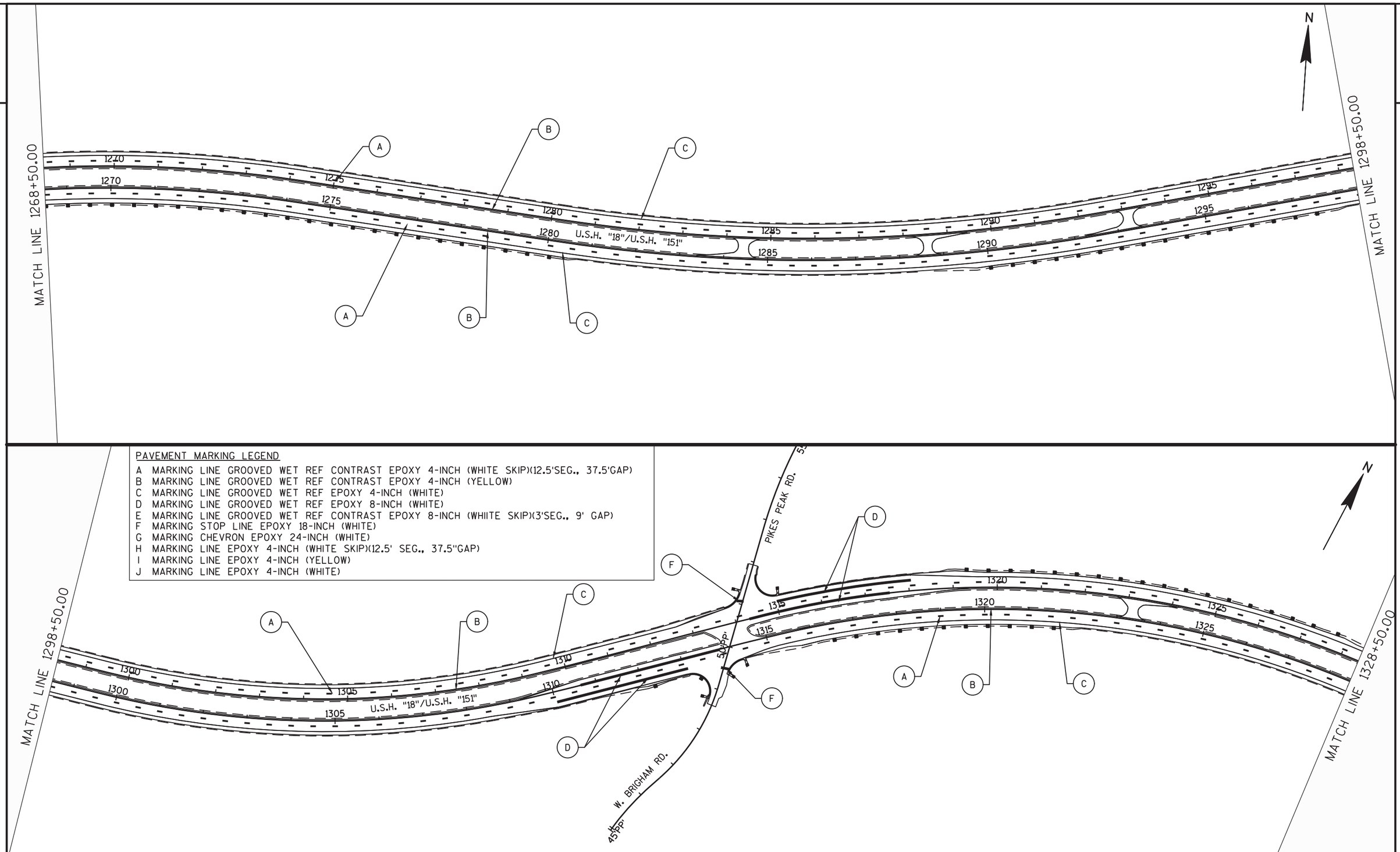
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PAVEMENT MARKING	SHEET 41	E



PAVEMENT MARKING LEGEND

A MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE SKIP)(12.5'SEG., 37.5'GAP)
B MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW)
C MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
D MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
E MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHIITE SKIP)(3'SEG., 9' GAP)
F MARKING STOP LINE EPOXY 18-INCH (WHITE)
G MARKING CHEVRON EPOXY 24-INCH (WHITE)
H MARKING LINE EPOXY 4-INCH (WHITE SKIP)(12.5' SEG., 37.5"GAP)
I MARKING LINE EPOXY 4-INCH (YELLOW)
J MARKING LINE EPOXY 4-INCH (WHITE)

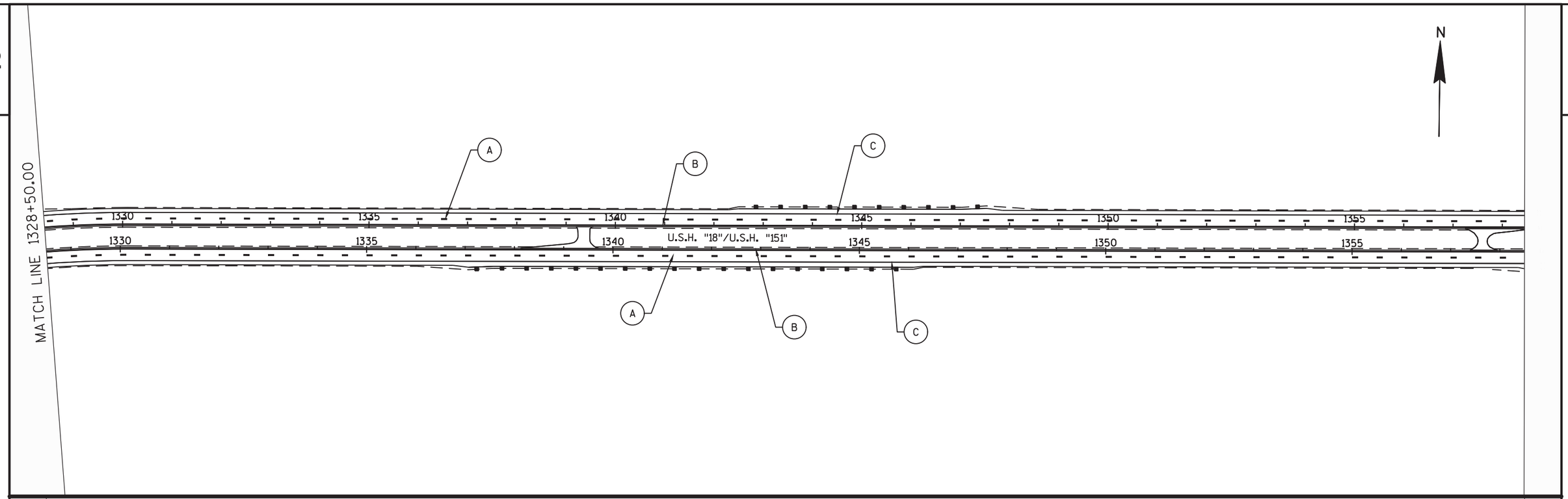
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PAVEMENT MARKING	SHEET 42	E

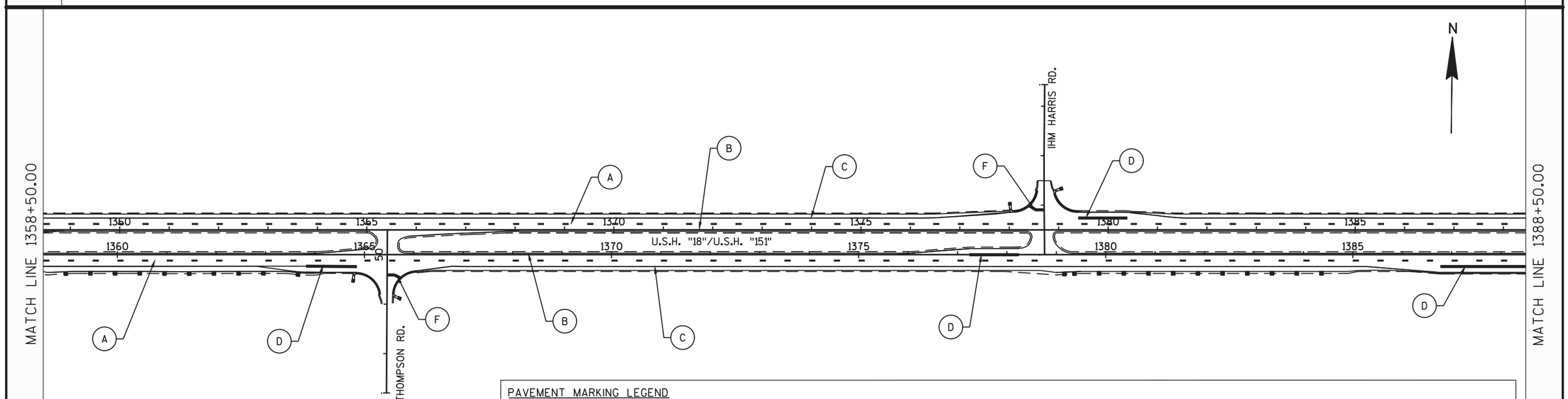


PAVEMENT MARKING LEGEND

A MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE SKIP)(12.5'SEG., 37.5'GAP)
B MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW)
C MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
D MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
E MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHIITE SKIP)(3'SEG., 9' GAP)
F MARKING STOP LINE EPOXY 18-INCH (WHITE)
G MARKING CHEVRON EPOXY 24-INCH (WHITE)
H MARKING LINE EPOXY 4-INCH (WHITE SKIP)(12.5' SEG., 37.5"GAP)
I MARKING LINE EPOXY 4-INCH (YELLOW)
J MARKING LINE EPOXY 4-INCH (WHITE)

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PAVEMENT MARKING	SHEET 43	E



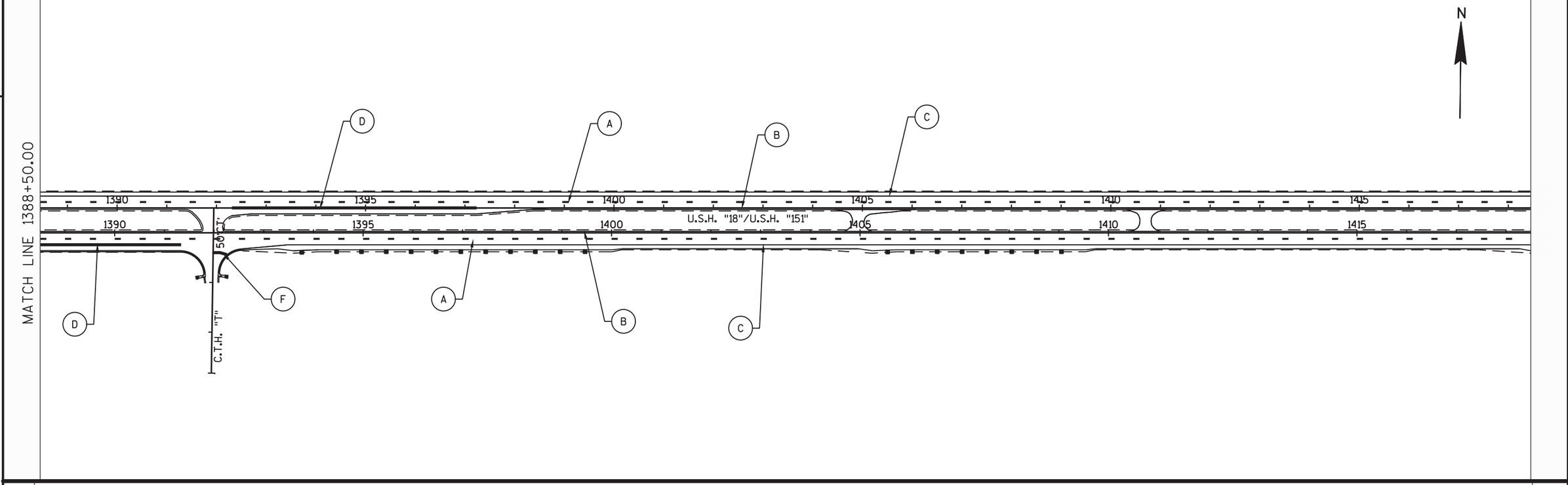


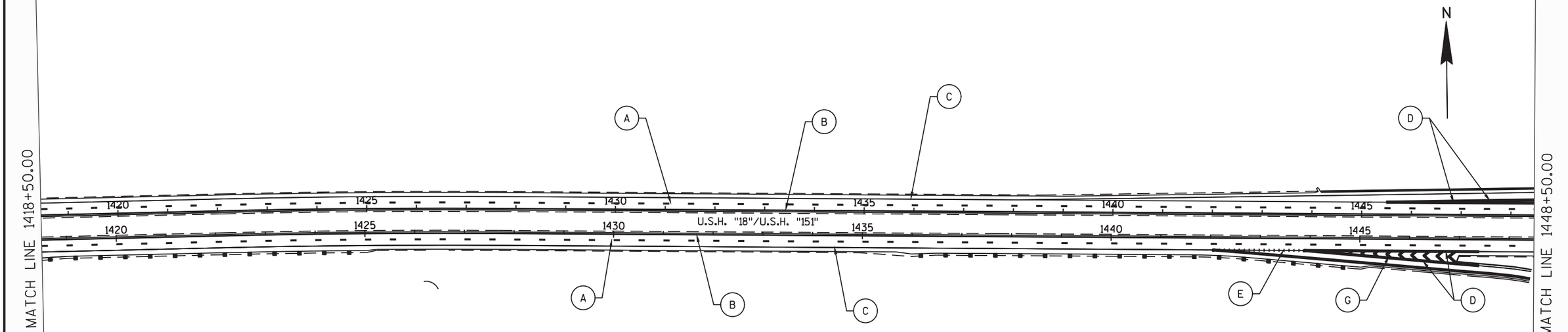
PAVEMENT MARKING LEGEND

A MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE SKIP)(12.5'SEG., 37.5'GAP)
B MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW)
C MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
D MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
E MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHIITE SKIP)(3'SEG., 9' GAP)
F MARKING STOP LINE EPOXY 18-INCH (WHITE)
G MARKING CHEVRON EPOXY 24-INCH (WHITE)
H MARKING LINE EPOXY 4-INCH (WHITE SKIP)(12.5' SEG., 37.5"GAP)
I MARKING LINE EPOXY 4-INCH (YELLOW)
J MARKING LINE EPOXY 4-INCH (WHITE)

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PAVEMENT MARKING	SHEET 44	E

2





PAVEMENT MARKING LEGEND

A	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE SKIP)(12.5'SEG., 37.5'GAP)	F	MARKING STOP LINE EPOXY 18-INCH (WHITE)
B	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)
C	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)	H	MARKING LINE EPOXY 4-INCH (WHITE SKIP)(12.5' SEG., 37.5"GAP)
D	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)	I	MARKING LINE EPOXY 4-INCH (YELLOW)
E	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHIITE SKIP)(3'SEG., 9' GAP)	J	MARKING LINE EPOXY 4-INCH (WHITE)

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PAVEMENT MARKING	SHEET 45	E

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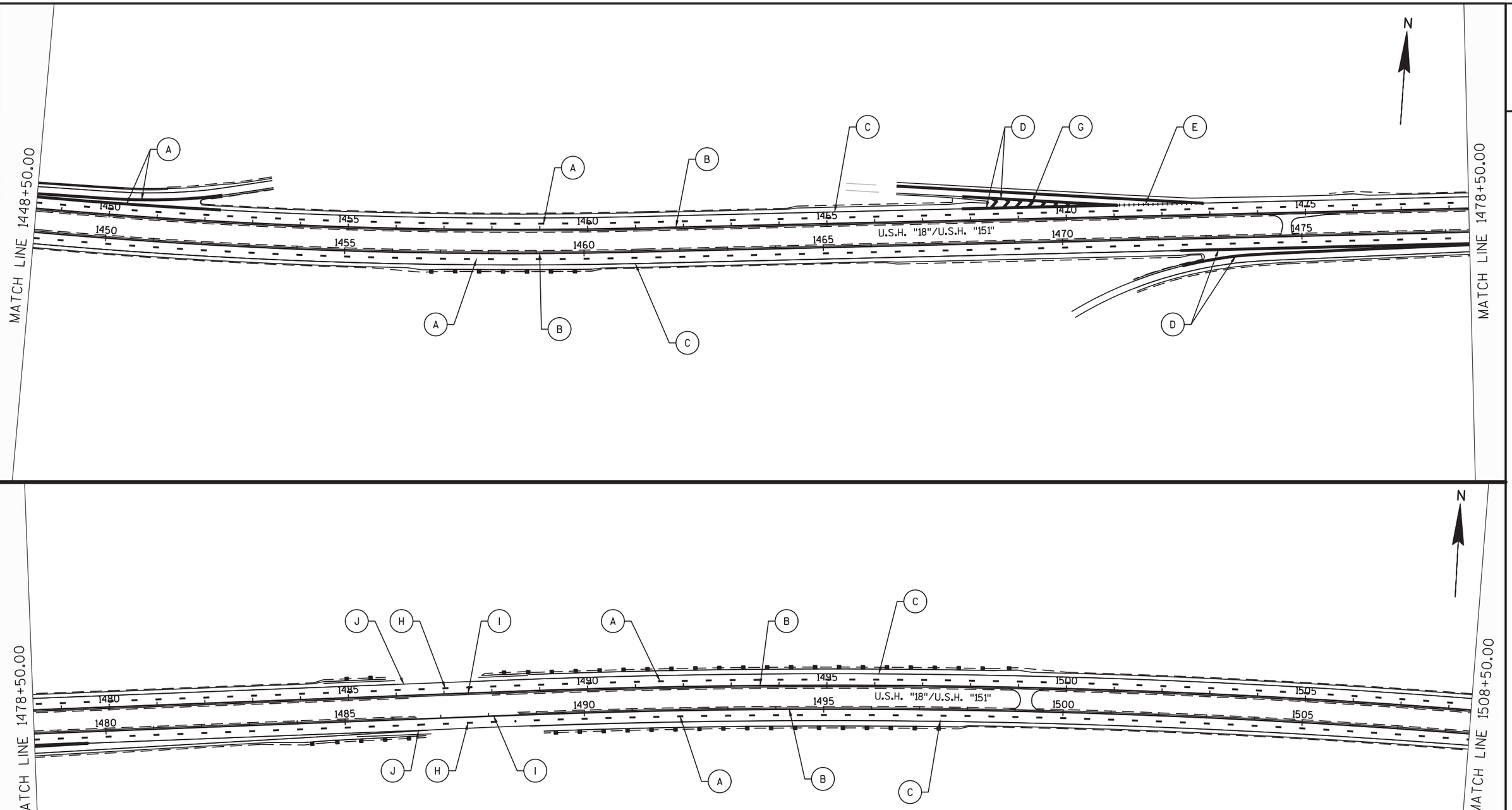
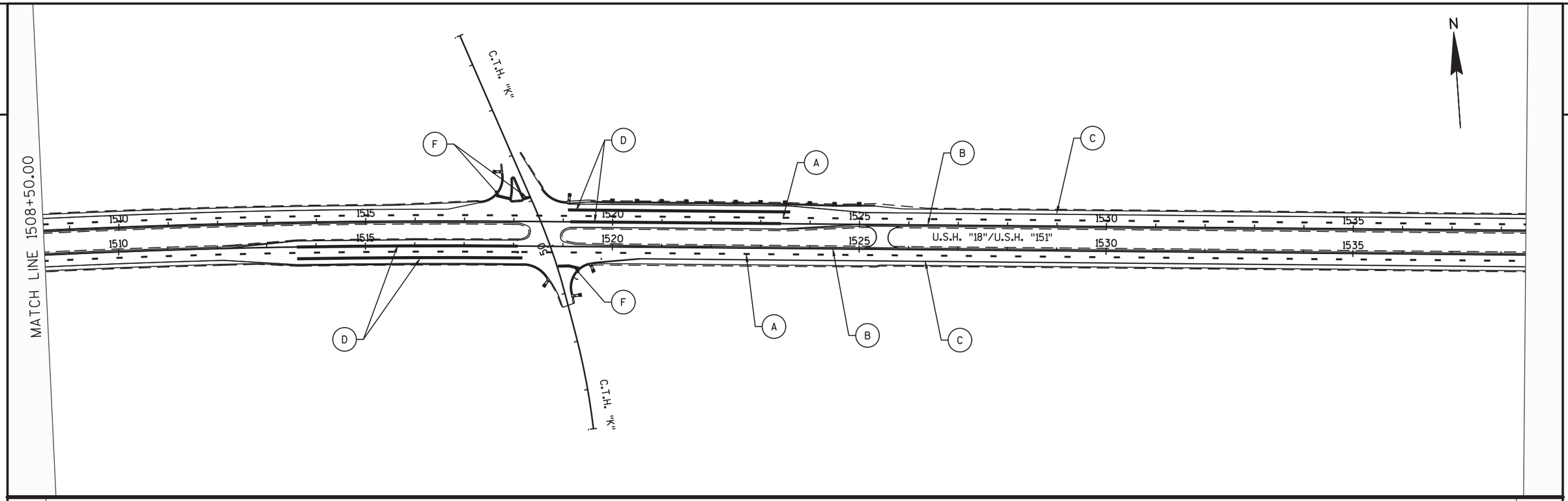
PLOT BY : JEDIDIAH MUNROE
PLOT NAME :
PLOT SCALE : 1" = 200'_XREF
WISDOT/CADDS SHEET 42

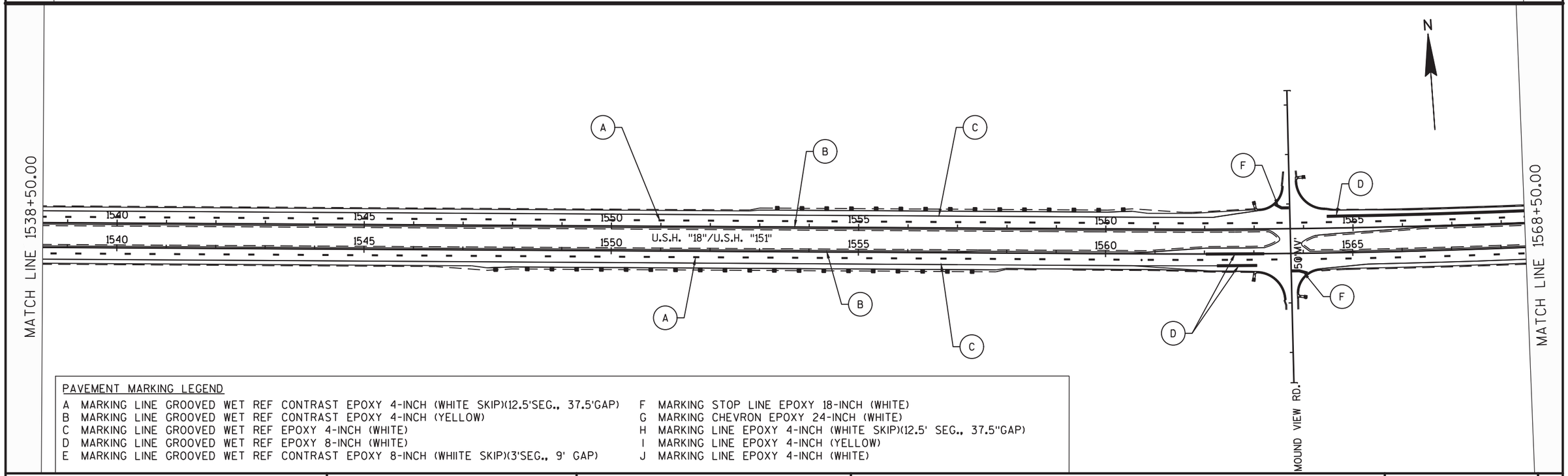


PAVEMENT MARKING LEGEND

A	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE SKIP)(12.5'SEG., 37.5'GAP)	F	MARKING STOP LINE EPOXY 18-INCH (WHITE)
B	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)
C	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)	H	MARKING LINE EPOXY 4-INCH (WHITE SKIP)(12.5' SEG., 37.5"GAP)
D	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)	I	MARKING LINE EPOXY 4-INCH (YELLOW)
E	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHIITE SKIP)(3'SEG., 9' GAP)	J	MARKING LINE EPOXY 4-INCH (WHITE)

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PAVEMENT MARKING	SHEET 46	E





PAVEMENT MARKING LEGEND

A	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE SKIP)(12.5'SEG., 37.5'GAP)	F	MARKING STOP LINE EPOXY 18-INCH (WHITE)
B	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)
C	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)	H	MARKING LINE EPOXY 4-INCH (WHITE SKIP)(12.5' SEG., 37.5"GAP)
D	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)	I	MARKING LINE EPOXY 4-INCH (YELLOW)
E	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHIITE SKIP)(3'SEG., 9' GAP)	J	MARKING LINE EPOXY 4-INCH (WHITE)

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PAVEMENT MARKING	SHEET 47	E

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PLOT NAME :
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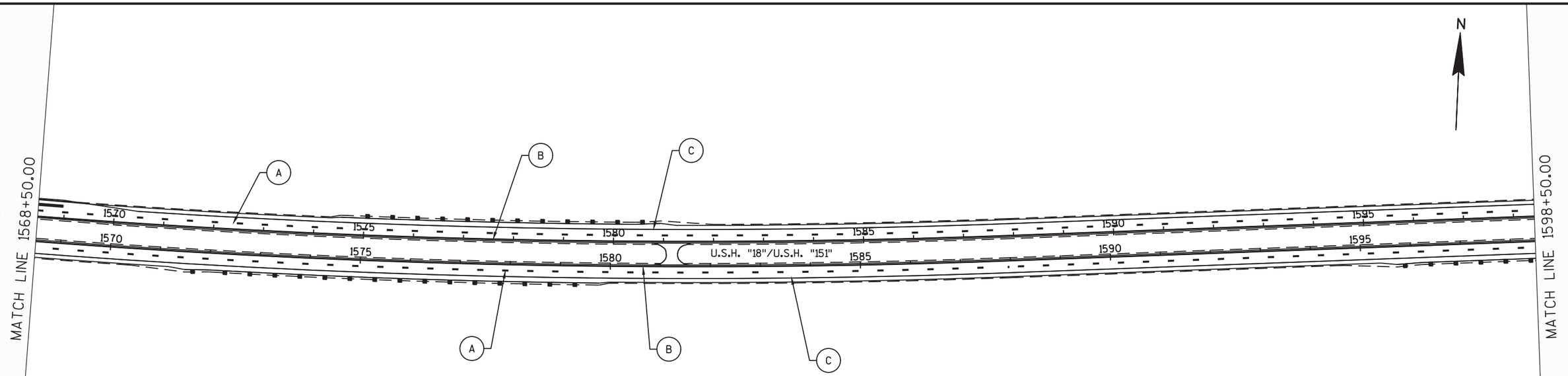
WISDOT/CADDS SHEET 42



PAVEMENT MARKING LEGEND

A MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE SKIP)(12.5'SEG., 37.5'GAP)
B MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW)
C MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
D MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
E MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHIITE SKIP)(3'SEG., 9' GAP)
F MARKING STOP LINE EPOXY 18-INCH (WHITE)
G MARKING CHEVRON EPOXY 24-INCH (WHITE)
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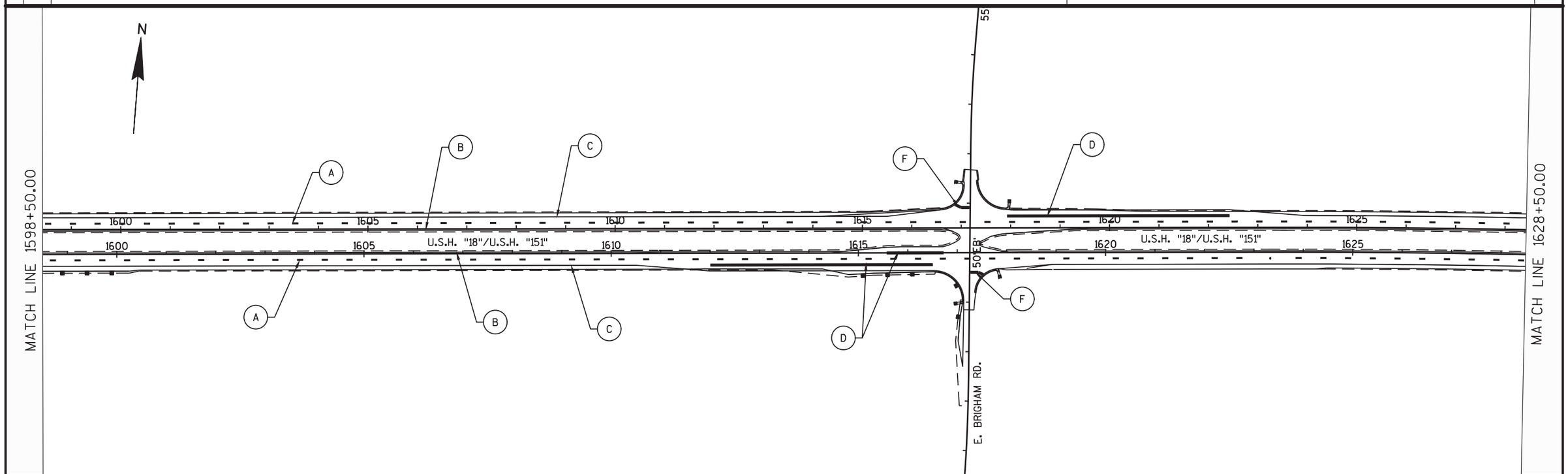
I MARKING LINE EPOXY 4-INCH (YELLOW)
J MARKING LINE EPOXY 4-INCH (WHITE)



PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PAVEMENT MARKING	SHEET 48	E

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PLOT NAME :
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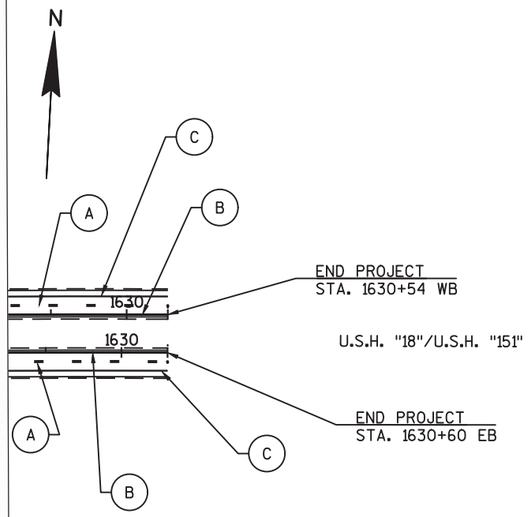


PAVEMENT MARKING LEGEND

A MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE SKIP)(12.5'SEG., 37.5'GAP)
B MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW)
C MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
D MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
E MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHIITE SKIP)(3'SEG., 9' GAP)
F MARKING STOP LINE EPOXY 18-INCH (WHITE)
G MARKING CHEVRON EPOXY 24-INCH (WHITE)
H MARKING LINE EPOXY 4-INCH (WHITE SKIP)(12.5' SEG., 37.5"GAP)
I MARKING LINE EPOXY 4-INCH (YELLOW)
J MARKING LINE EPOXY 4-INCH (WHITE)

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PAVEMENT MARKING	SHEET 49	E

2

GENERAL TRAFFIC CONTROL NOTES

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR METHODS OR SEQUENCE OF OPERATIONS

ALL "W" AND "WO" SIGNS SHALL BE 48"X48" UNLESS OTHERWISE NOTED, OR AS PROVIDED FOR IN SDD'S, AND SHALL HAVE REFLECTIVE FLUORESCENT DIAMOND GRADE SHEETING.

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF TRAFFIC CONTROL, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

"WO" SIGNS ARE THE SAME AS "W" SIGNS, EXCEPT THE BACKGROUND SHALL BE ORANGE.

WARNING LIGHTS SHALL NOT BE WORKING ON "COVERED" OR "DOWNED" SIGNS OR BARRICADES.

DURING HOURS OF DARKNESS, ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH TYPE "A" LIGHTS.

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

ALL R11-2, R11-3, AND R11-4 SIGNS SHALL BE ATTACHED ONLY TO THE TOP RAIL OF THE TYPE III BARRICADE. THE SIGNS SHALL NOT COVER THE MIDDLE RAIL.

TYPE "H" REFLECTIVE SHEETING SHALL BE USED ON ALL BARRICADES AND ON R11-2, R11-3, AND R11-4 SIGNS.

ALL TYPE III BARRICADES SHALL HAVE AN EQUIVALENT WIDTH OF 8 FEET.

ADVANCED WARNING SIGNS SHALL BE USED FOR STAGES 3 AND 8 WHERE THE MAXIMUM WIDTH FOR OSOW WILL BE 14'. STH 11 WILL BE THE RECOMMENDED ALTERNATE ROUTE FOR OSOW.

DETAILS OF TRAFFIC CONTROL DEVICES AND THEIR LOCATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE WISCONSIN MANUAL OF TRAFFIC CONTROL DEVICES, THE PLANS, SPECIFICATIONS, AND CONTRACT.

SEE THE BELOW LIST OF S.D.D.'S FOR APPLICABLE TRAFFIC CONTROL DETAILS.

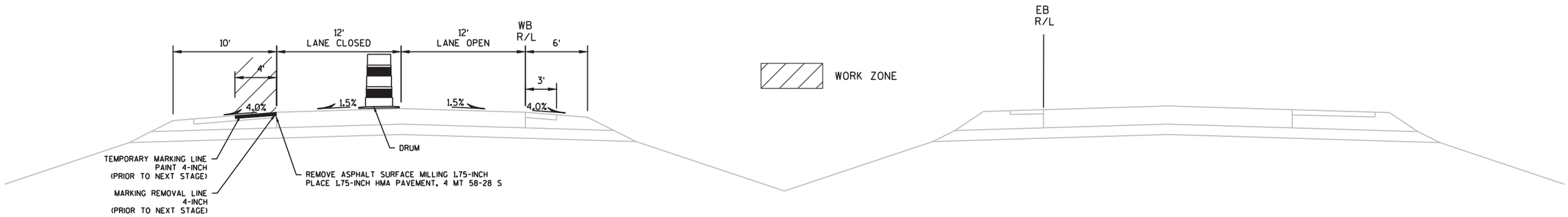
- -"TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION"
- -"TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC"
- -"TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE"
- -"TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE"
- -"TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE"
- -"TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE"

TRAFFIC CONTROL LEGEND

	WORK AREA
	PERMANENT WORK COMPLETED IN PREVIOUS STAGE
	DIRECTION OF TRAFFIC
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
	CONCRETE BARRIER TEMPORARY PRECAST
CC	TEMPORARY CRASH CUSHION
	SAW CUT

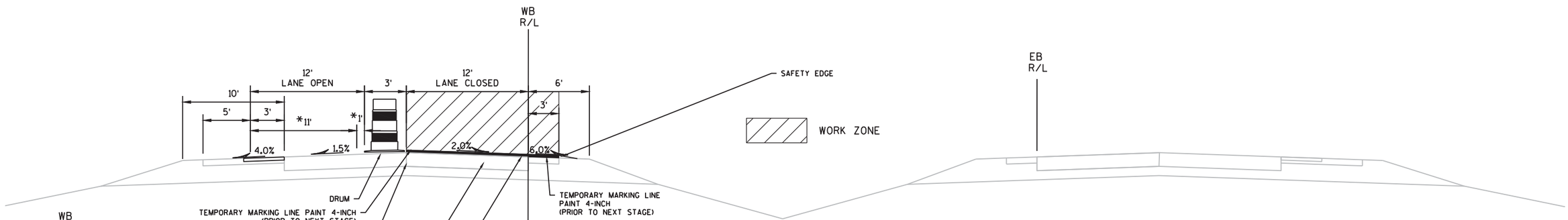
PAVEMENT MARKING LEGEND

1. TEMPORARY MARKING LINE PAINT (WHITE EDGE LINE)
2. TEMPORARY MARKING LINE PAINT (YELLOW EDGE LINE)
3. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE EDGE LINE)
4. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW EDGE LINE)



CONSTRUCTION STAGE 1 TYPICAL SECTION

STA. 909+59 'WB' TO STA. 1630+54 'WB'
OUTSIDE LANE AND SHOULDER CLOSED
MILLING OPERATION TO REMOVE EXISTING OUTSIDE SHOULDER RUMBLES
MILLING AND PAVING BINDER LAYER 1 3/4-INCH HMA PAVEMENT, 4 MT 58-28 S, 4-FT WIDTH



STA. 909+59 'WB' TO STA. 1481+95 'WB'
STA. 1493+63 'WB' TO STA. 1630+54 'WB'

STA. 1481+95 'WB' TO STA. 1486+25 'WB'
STA. 1487+95 'WB' TO STA. 1493+63 'WB'

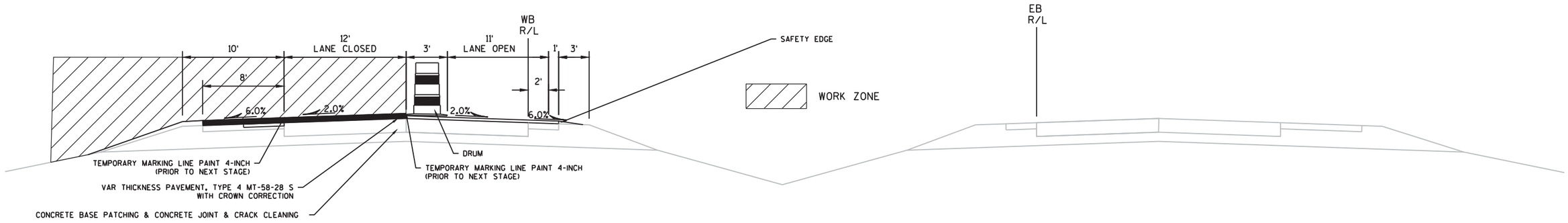
FULL DEPTH SHOULDER REPAIR FOR BRIDGE STAGING

CONSTRUCTION STAGE 2 TYPICAL SECTION

STA. 909+59 'WB' TO STA. 1630+54 'WB'
INSIDE LANE AND SHOULDER CLOSED
WB CONCRETE BASE PATCHING
CONCRETE JOINT & CRACK CLEANING INSIDE LANES
CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
WB INSIDE LANE AND SHOULDER, BINDER LAYER OVERLAY WITH CROWN CORRECTION,
OVERLAY 2 1/2-INCH AT CENTER LINE TO 1 3/4-INCH AT EDGE OF CONCRETE TO 1.05-INCH AT EDGE OF SHOULDER

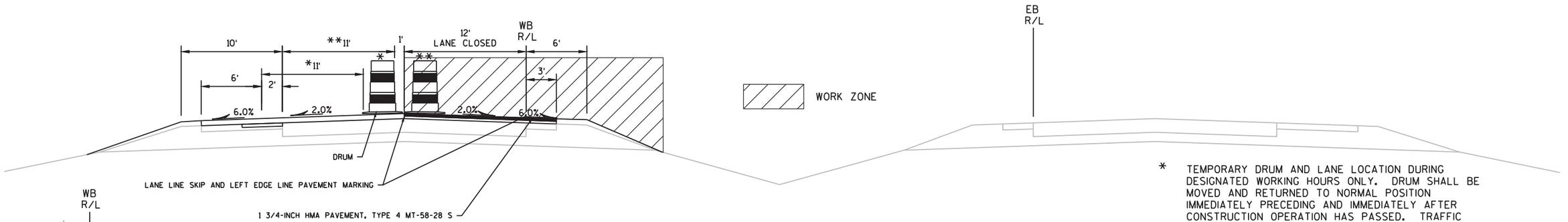
* TEMPORARY DRUM AND LANE LOCATION DURING CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT WORK ONLY. DRUM SHALL BE SHIFTED 1-FT (11-FT OPEN LANE) AND RETURNED TO NORMAL POSITION IMMEDIATELY PRECEDING AND IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED. TRAFFIC EXPECTED TO SHIFT ONTO SHOULDER TO BYPASS CONSTRUCTION OPERATIONS.

PROJECT NO:1204-05-72	HWY:USH 18	COUNTY:IOWA	STAGE CONSTRUCTION TYPICAL SECTION	SHEET 51	E



CONSTRUCTION STAGE 3 TYPICAL SECTION

STA. 909+59 'WB' TO STA. 1630+54 'WB'
OUTSIDE LANE AND SHOULDER CLOSED
WB CONCRETE BASE PATCHING
CONCRETE JOINT & CRACK CLEANING OUTSIDE LANES
WB OUTSIDE LANE AND SHOULDER, BINDER LAYER OVERLAY WITH CROWN CORRECTION,
OVERLAY 2 1/2-INCH AT CENTER LINE TO 1 3/4-INCH AT EDGE OF TRAVEL LANE TO 0-INCH AT EDGE OF SHOULDER
SURFACE LAYER OVERLAY, 1 3/4-INCH HMA PAVEMENT, 4 MT 58-28 S OUTSIDE LANE AND SHOULDER

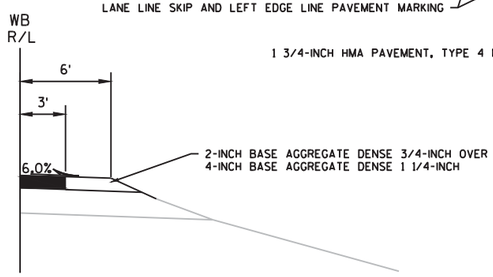


* TEMPORARY DRUM AND LANE LOCATION DURING DESIGNATED WORKING HOURS ONLY. DRUM SHALL BE MOVED AND RETURNED TO NORMAL POSITION IMMEDIATELY PRECEDING AND IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED. TRAFFIC EXPECTED TO SHIFT ONTO SHOULDER TO BYPASS CONSTRUCTION OPERATIONS.

** NORMAL DRUM AND LANE LOCATION DURING NON-WORKING HOURS AND DESIGNATED HOURS IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED.

CONSTRUCTION STAGE 4 TYPICAL SECTION

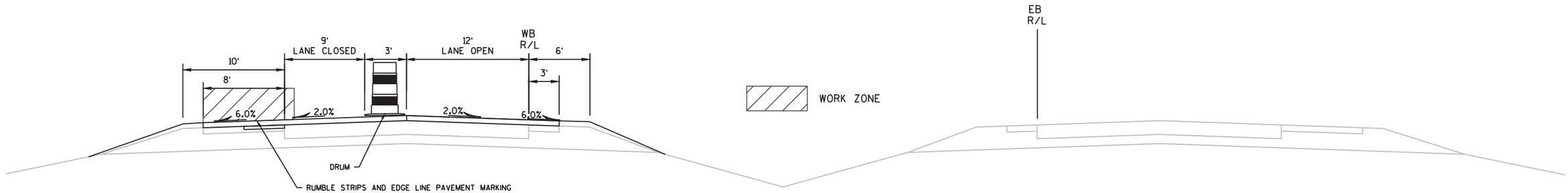
STA. 909+59 'WB' TO STA. 1630+54 'WB'
INSIDE LANE AND SHOULDER CLOSED
SURFACE LAYER OVERLAY, 1 3/4-INCH HMA PAVEMENT, 4 MT 58-28 S INSIDE LANE AND SHOULDER
PLACE MEDIAN RUMBLES, MEDIAN EDGE LINE AND CENTER LINE PAVEMENT MARKING



STA. 1481+95 'WB' TO STA. 1485+35 'WB'
STA. 1488+95 'WB' TO STA. 1493+63 'WB'

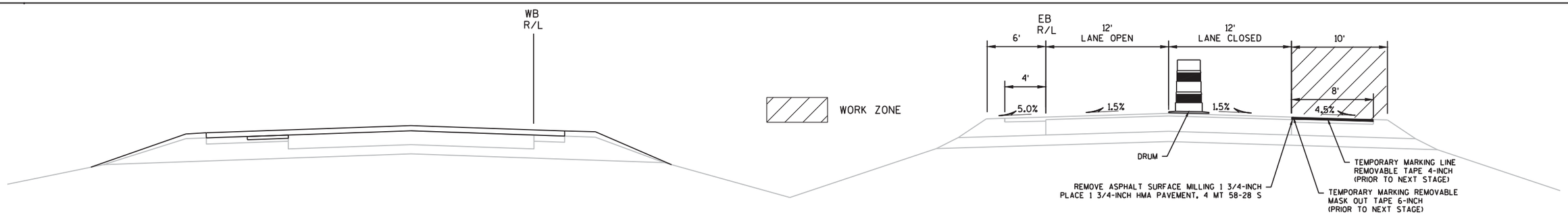
FULL DEPTH SHOULDER RESTORATION FOR BRIDGE STAGING

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	STAGE CONSTRUCTION TYPICAL SECTION	SHEET 52	E



CONSTRUCTION STAGE 5 TYPICAL SECTION (COMPLETED BEFORE WINTER SHUT DOWN)

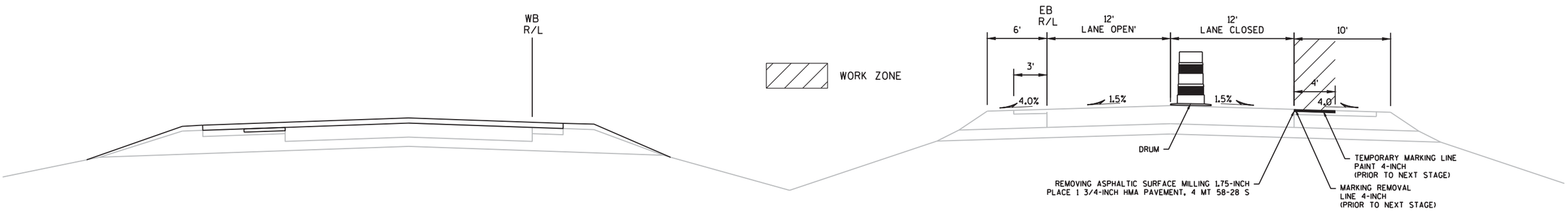
STA. 909+59 'WB' TO STA. 1630+54 'WB'
OUTSIDE LANE AND SHOULDER CLOSED
OUTSIDE EDGE LINE PAVEMENT MARKING AND RUMBLE STRIPS



CONSTRUCTION STAGE 6 TYPICAL SECTION (SECOND YEAR)

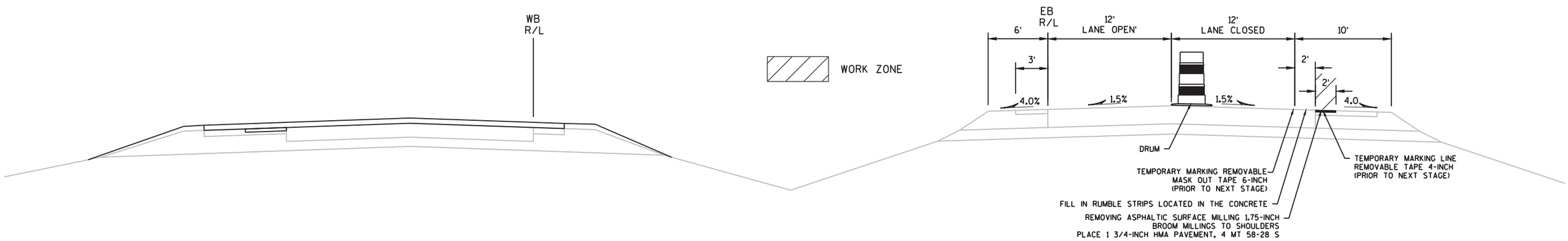
STA. 909+59 'EB' TO STA. 1017+61 'EB'
OUTSIDE LANE AND SHOULDER CLOSED
MILLING OPERATION TO REPLACE EXISTING OUTSIDE SHOULDER
MILLING AND PAVING BINDER LAYER 1 3/4-INCH HMA PAVEMENT, 4 MT 58-28 S

PROJECT NO:1204-05-72	HWY:USH 18	COUNTY:IOWA	STAGE CONSTRUCTION TYPICAL SECTION	SHEET 53	E



CONSTRUCTION STAGE 6 TYPICAL SECTION

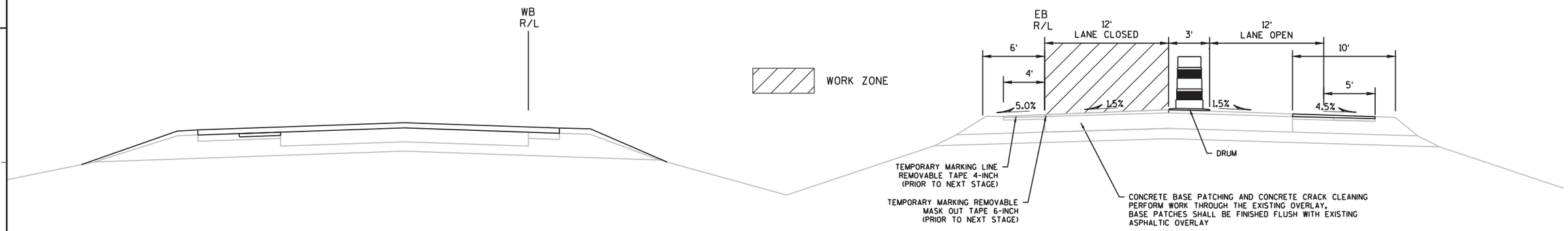
STA. 1017+61 'EB' TO STA. 1027+93 'EB'
OUTSIDE LANE AND SHOULDER CLOSED
MILLING OPERATION TO REMOVE EXISTING OUTSIDE SHOULDER RUMBLES
MILLING AND PAVING BINDER LAYER 1 3/4-INCH HMA PAVEMENT, 4 MT 58-28 S, 4-FT WIDTH



CONSTRUCTION STAGE 6 TYPICAL SECTION

STA. 1027+93 'EB' TO STA. 1630+60 'EB'
OUTSIDE LANE AND SHOULDER CLOSED
MILLING OPERATION TO REMOVE EXISTING OUTSIDE SHOULDER RUMBLES
MILLING AND PAVING BINDER LAYER 1 3/4-INCH HMA PAVEMENT, 4 MT 58-28 S, 2-FT WIDTH

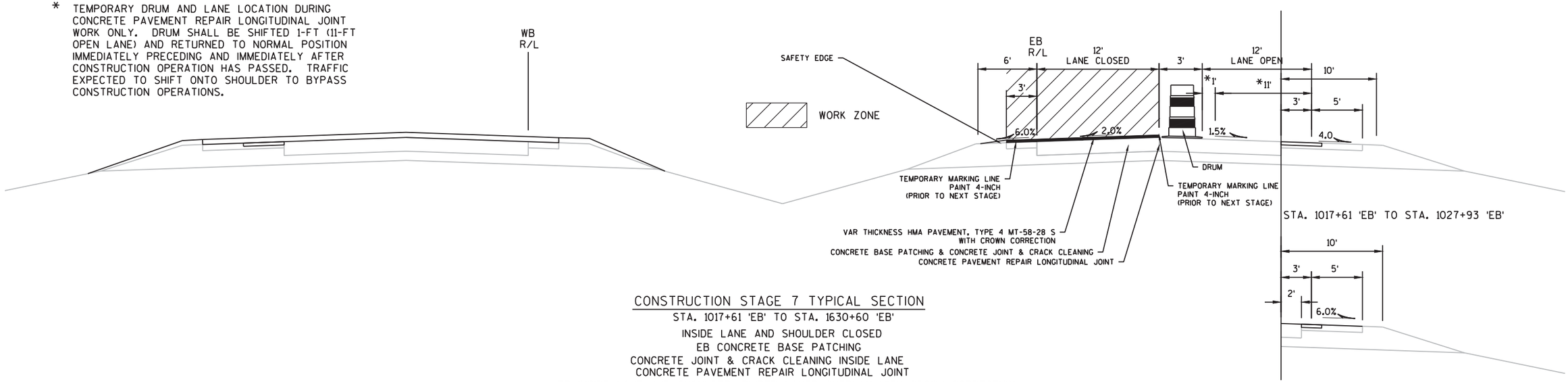
PROJECT NO:1204-05-72	HWY:USH 18	COUNTY:IOWA	STAGE CONSTRUCTION TYPICAL SECTION	SHEET 54	E



CONSTRUCTION STAGE 7 TYPICAL SECTION

STA. 909+59 'EB' TO STA. 1017+61 'EB'
INSIDE LANE AND SHOULDER CLOSED
ASPHALTIC SURFACE MILLING WITH CROWN CORRECTION INSIDE LANE
1-INCH AT CENTER LINE TO 1 3/4-INCH AT EDGE OF TRAVEL LANE
COMPLETE CONCRETE PAVEMENT REPAIR AND CONCRETE JOINT & CRACK CLEANING ON INSIDE LANE

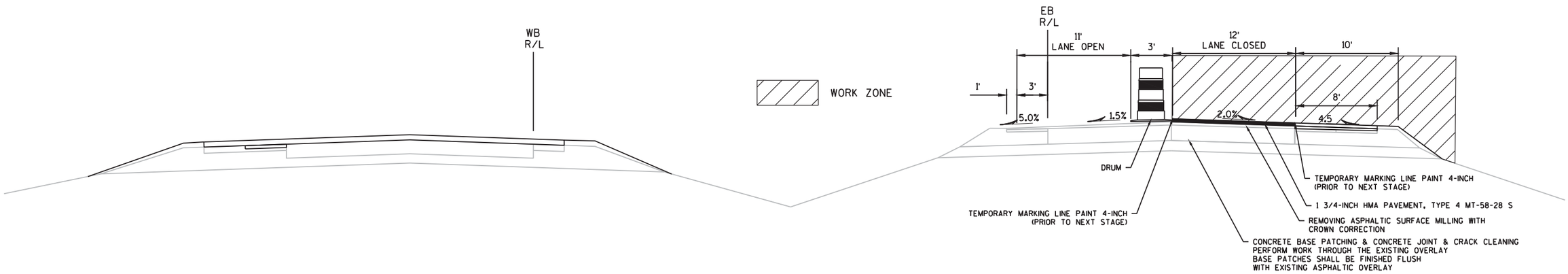
* TEMPORARY DRUM AND LANE LOCATION DURING CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT WORK ONLY. DRUM SHALL BE SHIFTED 1-FT (11-FT OPEN LANE) AND RETURNED TO NORMAL POSITION IMMEDIATELY PRECEDING AND IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED. TRAFFIC EXPECTED TO SHIFT ONTO SHOULDER TO BYPASS CONSTRUCTION OPERATIONS.



CONSTRUCTION STAGE 7 TYPICAL SECTION

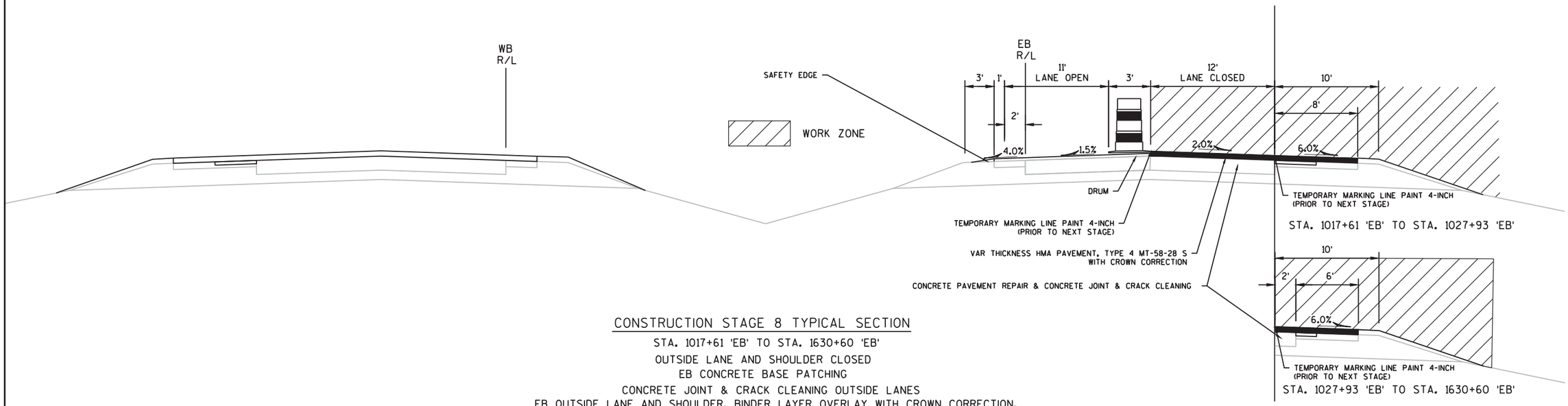
STA. 1017+61 'EB' TO STA. 1630+60 'EB'
INSIDE LANE AND SHOULDER CLOSED
EB CONCRETE BASE PATCHING
CONCRETE JOINT & CRACK CLEANING INSIDE LANE
CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
EB INSIDE LANE AND SHOULDER, BINDER LAYER OVERLAY WITH CROWN CORRECTION,
OVERLAY 2 1/2-INCH AT CENTER LINE TO 1 3/4-INCH AT EDGE OF CONCRETE TO 1.05-INCH AT EDGE OF SHOULDER

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	STAGE CONSTRUCTION TYPICAL SECTION	SHEET 55	E



CONSTRUCTION STAGE 8 TYPICAL SECTION

STA. 909+59 'EB' TO STA. 1017+61 'EB'
OUTSIDE LANE AND SHOULDER CLOSED
ASPHALTIC SURFACE MILLING WITH CROWN CORRECTION
1-INCH AT CENTER LINE TO 1 3/4-INCH AT EDGE OF TRAVEL LANE
COMPLETE CONCRETE BASE PATCHING AND CONCRETE JOINT & CRACK CLEANING ON OUTSIDE LANE
SURFACE LAYER OVERLAY, 1 3/4-INCH HMA PAVEMENT, 4 MT 58-28 S OUTSIDE LANE



CONSTRUCTION STAGE 8 TYPICAL SECTION

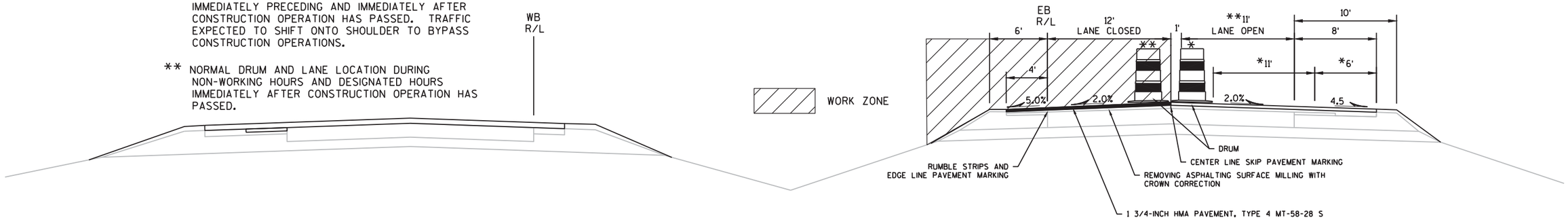
STA. 1017+61 'EB' TO STA. 1630+60 'EB'
OUTSIDE LANE AND SHOULDER CLOSED
EB CONCRETE BASE PATCHING
CONCRETE JOINT & CRACK CLEANING OUTSIDE LANES
EB OUTSIDE LANE AND SHOULDER, BINDER LAYER OVERLAY WITH CROWN CORRECTION,
OVERLAY 2 1/2-INCH AT CENTER LINE TO 1 3/4-INCH AT EDGE OF TRAVEL LANE TO 0-INCH AT EDGE OF SHOULDER
SURFACE LAYER OVERLAY, 1 3/4-INCH HMA PAVEMENT, 4 MT 58-28 S OUTSIDE LANE AND SHOULDER

PROJECT NO:1204-05-72	HWY:USH 18	COUNTY:IOWA	STAGE CONSTRUCTION TYPICAL SECTION	SHEET 56	E

2

* TEMPORARY DRUM AND LANE LOCATION DURING DESIGNATED WORKING HOURS ONLY. DRUM SHALL BE MOVED AND RETURNED TO NORMAL POSITION IMMEDIATELY PRECEDING AND IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED. TRAFFIC EXPECTED TO SHIFT ONTO SHOULDER TO BYPASS CONSTRUCTION OPERATIONS.

** NORMAL DRUM AND LANE LOCATION DURING NON-WORKING HOURS AND DESIGNATED HOURS IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED.

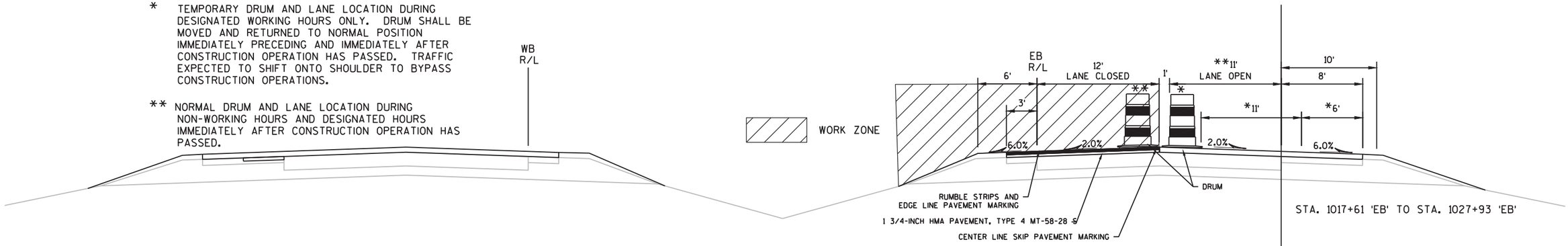


CONSTRUCTION STAGE 9 TYPICAL SECTION

STA. 909+59'EB' TO STA. 1017+61'EB'
INSIDE LANE AND SHOULDER CLOSED
ASPHALTIC SURFACE MILLING WITH CROWN CORRECTION
1-INCH AT CENTER LINE TO 1 3/4-INCH AT EDGE OF TRAVEL LANE AND 1 3/4-INCH THROUGH SHOULDER
SURFACE LAYER OVERLAY, 1 3/4-INCH HMA PAVEMENT, 4 MT 58-28 S INSIDE LANE AND SHOULDER
PLACE MEDIAN RUMBLES, MEDIAN EDGE LINE AND CENTER LINE PAVEMENT MARKING

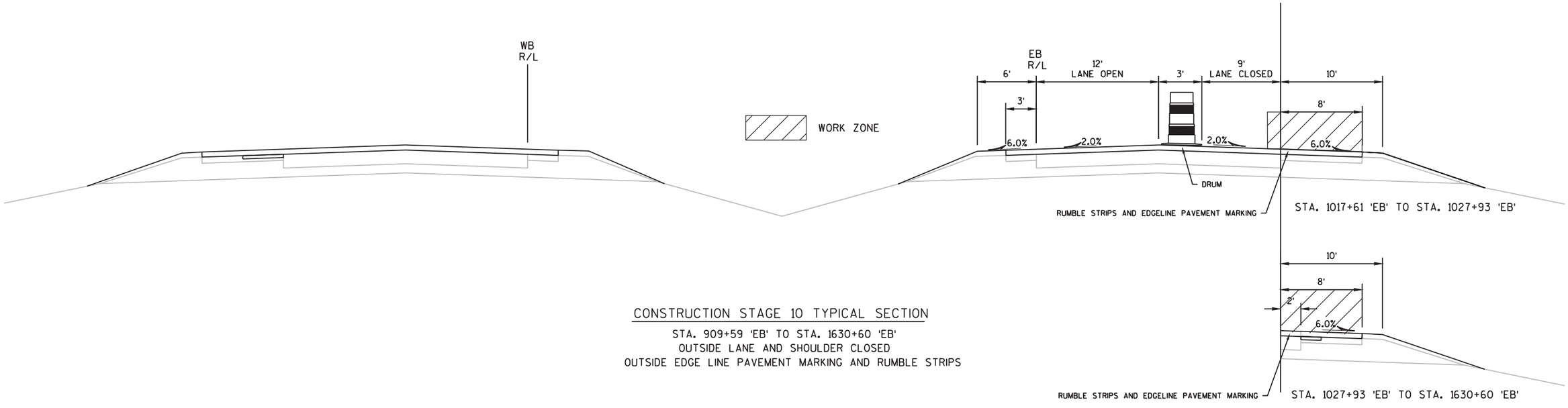
* TEMPORARY DRUM AND LANE LOCATION DURING DESIGNATED WORKING HOURS ONLY. DRUM SHALL BE MOVED AND RETURNED TO NORMAL POSITION IMMEDIATELY PRECEDING AND IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED. TRAFFIC EXPECTED TO SHIFT ONTO SHOULDER TO BYPASS CONSTRUCTION OPERATIONS.

** NORMAL DRUM AND LANE LOCATION DURING NON-WORKING HOURS AND DESIGNATED HOURS IMMEDIATELY AFTER CONSTRUCTION OPERATION HAS PASSED.



CONSTRUCTION STAGE 9 TYPICAL SECTION

STA. 1017+61 'EB' TO STA. 1630+60 'EB'
INSIDE LANE AND SHOULDER CLOSED
SURFACE LAYER OVERLAY, 1 3/4-INCH HMA PAVEMENT, 4 MT 58-28 S INSIDE LANE AND SHOULDER
PLACE MEDIAN RUMBLES, MEDIAN EDGE LINE AND CENTER LINE PAVEMENT MARKING

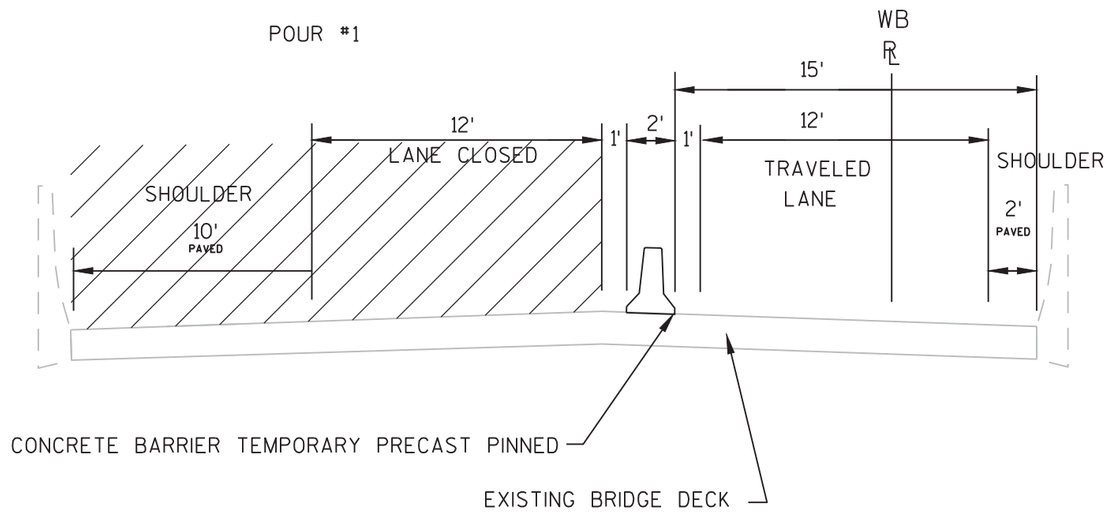


CONSTRUCTION STAGE 10 TYPICAL SECTION

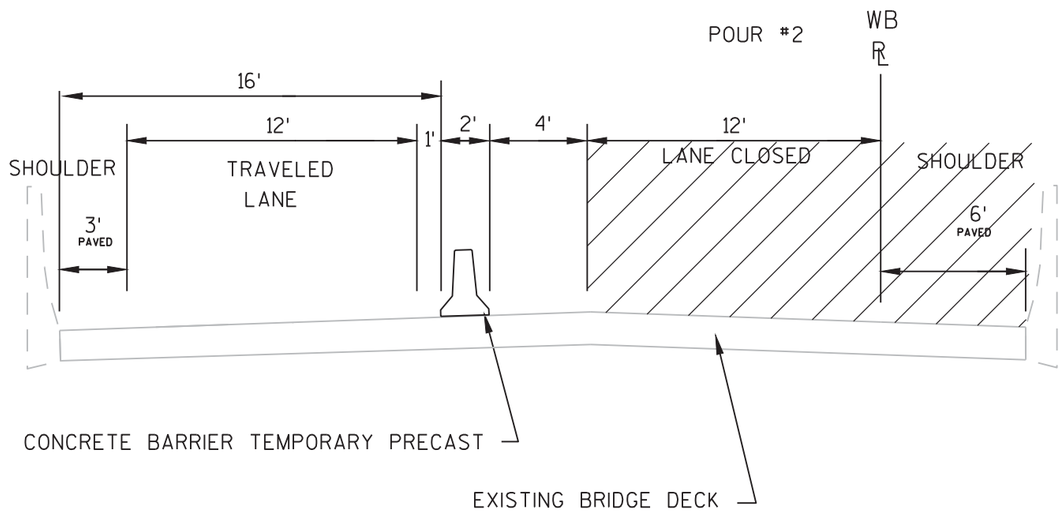
STA. 909+59 'EB' TO STA. 1630+60 'EB'
OUTSIDE LANE AND SHOULDER CLOSED
OUTSIDE EDGE LINE PAVEMENT MARKING AND RUMBLE STRIPS

PROJECT NO:1204-05-72	HWY:USH 18	COUNTY:IOWA	STAGE CONSTRUCTION TYPICAL SECTION	SHEET 58	E

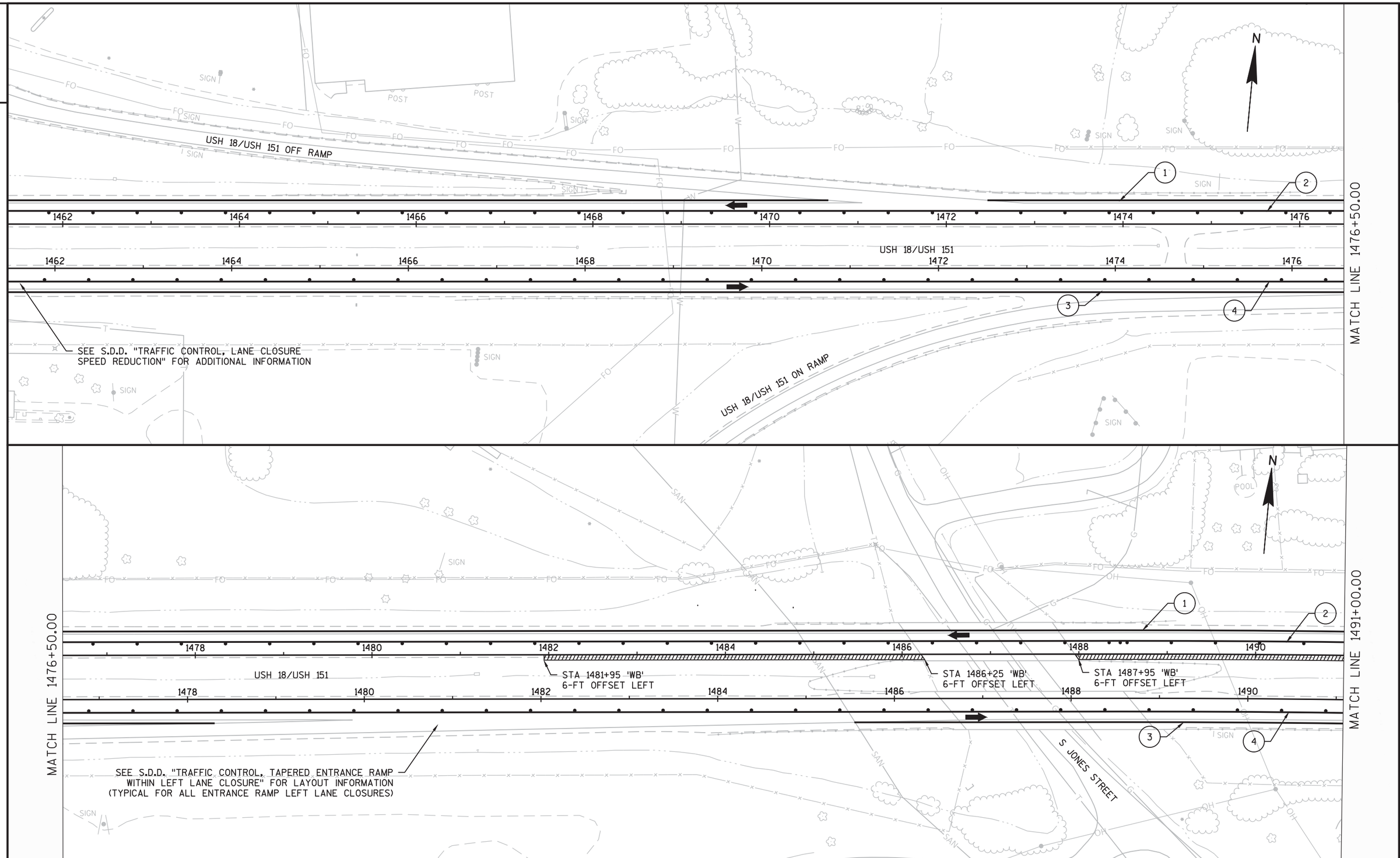
B25-0038 CONSTRUCTION STAGE 3



B25-0038 CONSTRUCTION STAGE 4

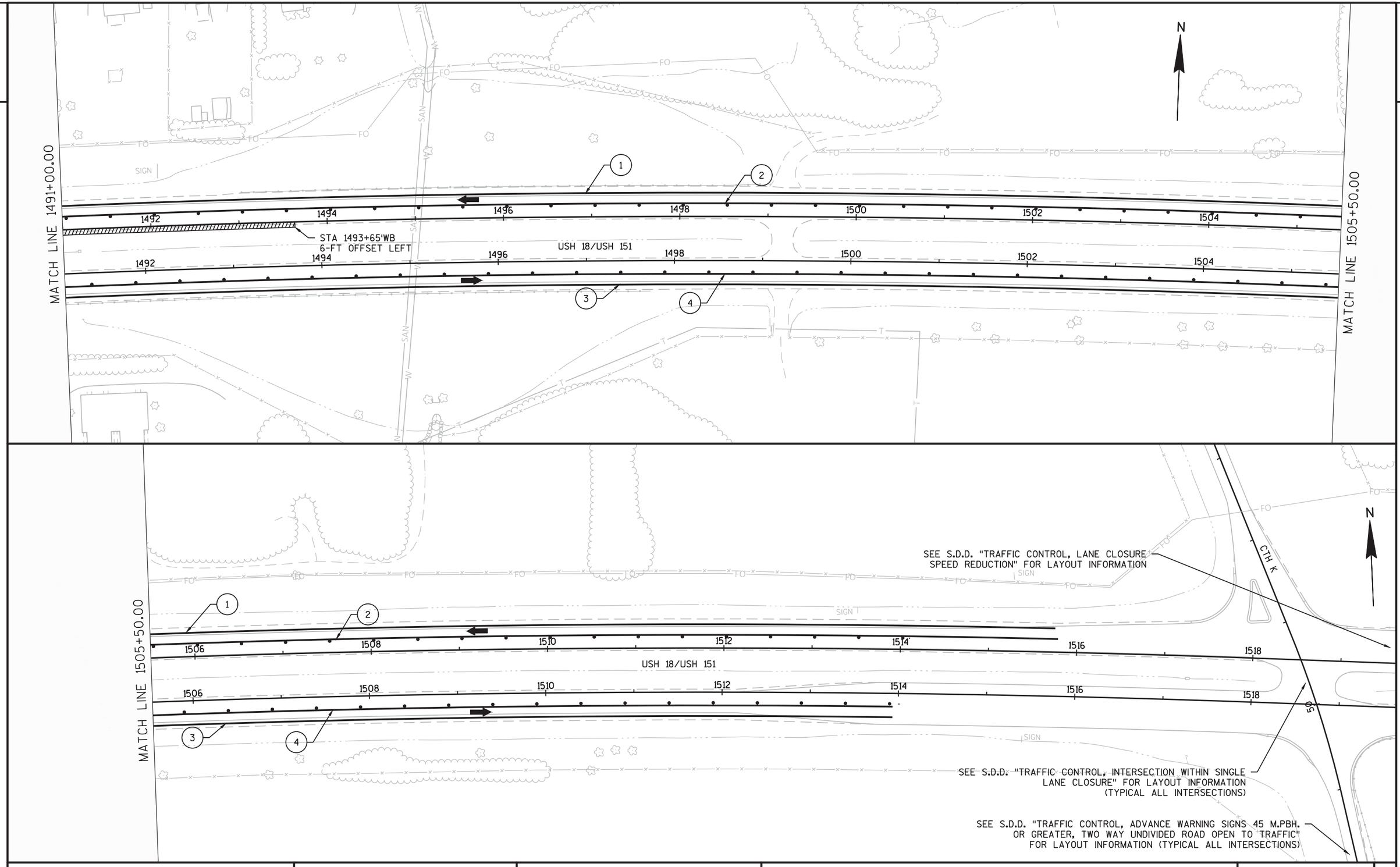


PROJECT NO:1204-05-02/72	HWY:US 18	COUNTY:IOWA	B25-0038 CONSTRUCTION STAGING	SHEET 59	E



PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	TRAFFIC CONTROL - STAGE 2 SHOULDER PREP WORK FOR BRIDGE WORK	SHEET 60	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\026020-S2.DWG
LAYOUT NAME - 026021
PLOT DATE : 11/21/2018 12:25 PM
PLOT BY : STEFANY KATZNER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	TRAFFIC CONTROL - STAGE 2 SHOULDER PREP WORK FOR BRIDGE WORK	SHEET 61	E

2

USH 18/USH 151 OFF RAMP

SEE S.D.D. "TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE" FOR LAYOUT INFORMATION (TYPICAL FOR ALL EXIT RAMP LANE CLOSURES)

1462 1464 1466 1468 1470 1472 1474 1476

USH 18/USH 151

1462 1464 1466 1468 1470 1472 1474 1476

MATCH LINE 1476+50.00

FOR LANE CLOSURE FOR THE ENTIRE LENGTH OF PROJECT
SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE SPEED REDUCTION" FOR ADDITIONAL INFORMATION

USH 18/USH 151 ON RAMP

MATCH LINE 1476+50.00

STA 1482+25 'WB'

1478 1480 1482 1484 1486 1488 1490

USH 18/USH 151

STA 1484+25 'WB'
9-FT OFFSET LEFT

1478 1480 1482 1484 1486 1488 1490

SEE S.D.D. "TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE" FOR LAYOUT INFORMATION (TYPICAL FOR ALL ENTRANCE RAMP RIGHT LANE CLOSURES)

S JONES STREET

MATCH LINE 1491+00.00

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	TRAFFIC CONTROL - STAGE 3 OUTSIDE LANE BRIDGE WORK	SHEET 62	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\026030-S3.DWG
LAYOUT NAME - 026031
PLOT DATE : 11/21/2018 12:33 PM PLOT BY : STEFANY KATZNER PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

2

MATCH LINE 1491+00.00

STA 1491+37.5'WB
9-FT OFFSET LEFT

STA 1493+38'WB

1492 1494 1496 1498 1500 1502 1504

USH 18/USH 151

1492 1494 1496 1498 1500 1502 1504

1 2 3 4

MATCH LINE 1505+50.00

N

MATCH LINE 1505+50.00

1506 1508 1510 1512 1514 1516 1518

USH 18/USH 151

1506 1508 1510 1512 1514 1516 1518

1 2 3 4

FOR LANE CLOSURE FOR THE ENTIRE LENGTH OF PROJECT
SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE
SPEED REDUCTION" FOR ADDITIONAL INFORMATION

CTH K

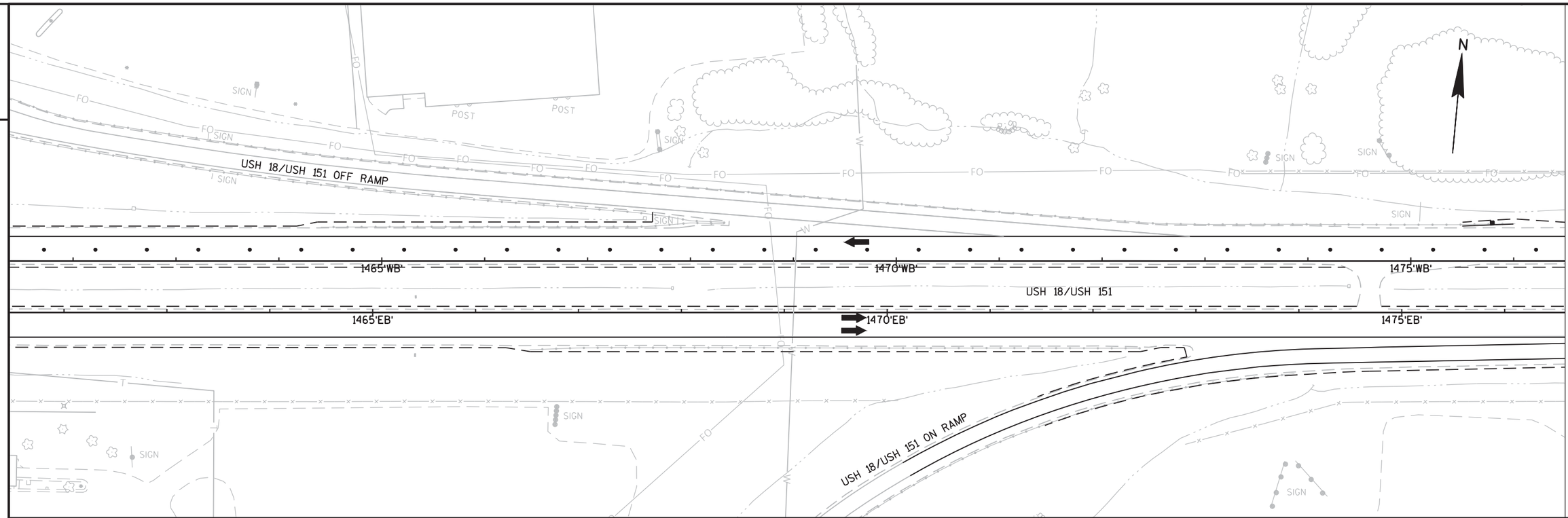
N

SEE S.D.D. "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE
LANE CLOSURE" FOR LAYOUT INFORMATION
(TYPICAL ALL INTERSECTIONS)

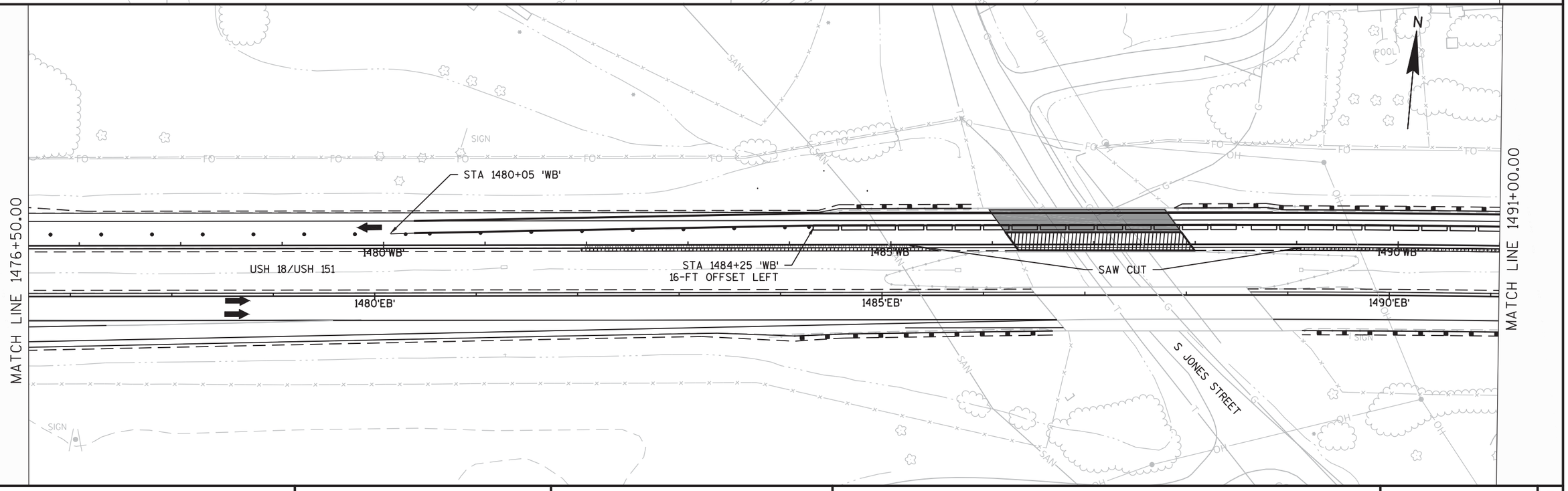
SEE S.D.D. "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H.
OR GREATER, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC"
FOR LAYOUT INFORMATION (TYPICAL ALL INTERSECTIONS)

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	TRAFFIC CONTROL - STAGE 3 OUTSIDE LANE BRIDGE WORK	SHEET 63	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\026030-S3.DWG
LAYOUT NAME - 026032
PLOT DATE : 11/21/2018 12:35 PM PLOT BY : STEFANY KATZNER PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



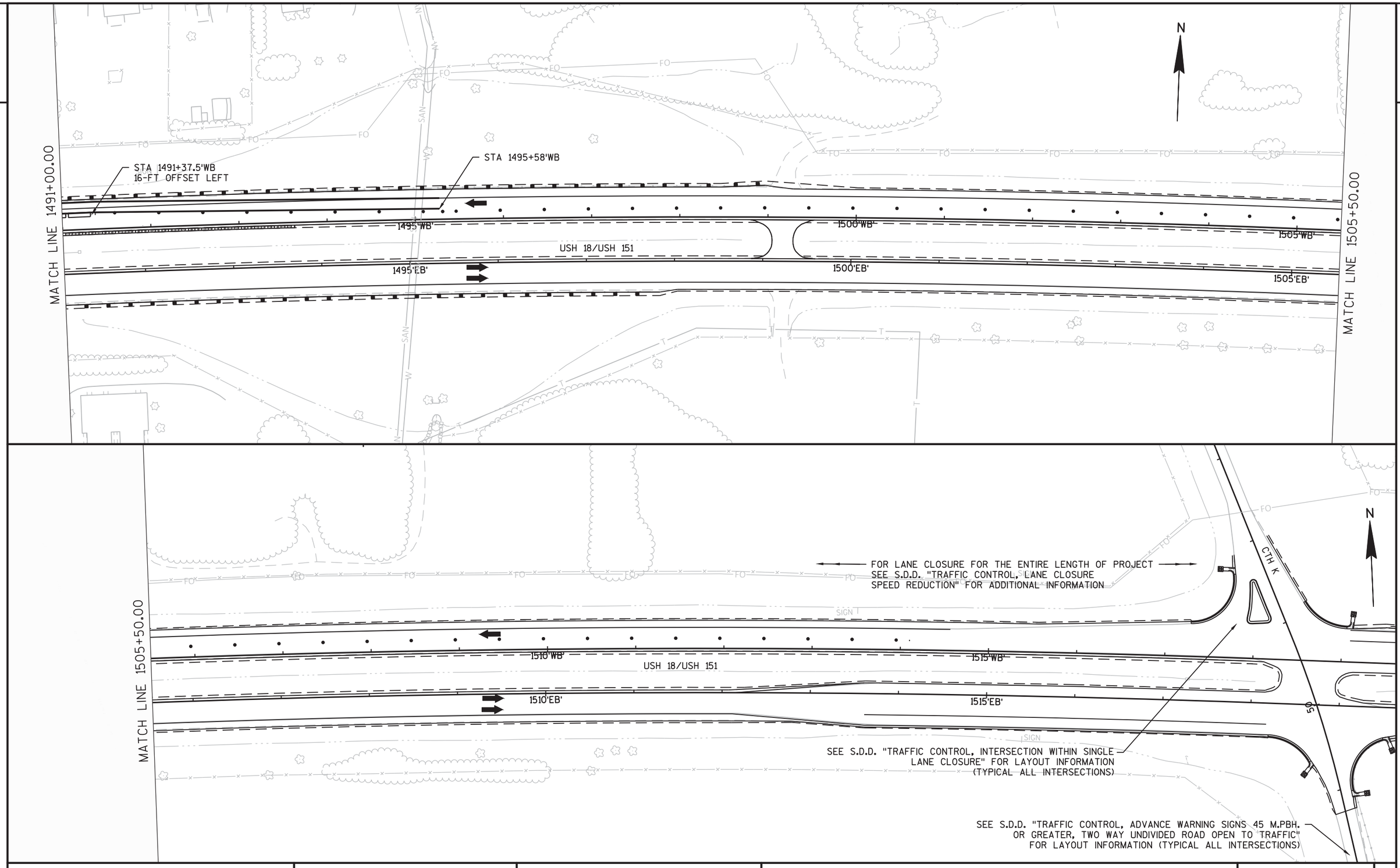
2



PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	TRAFFIC CONTROL - STAGE 4 MEDIAN LANE BRIDGE WORK	SHEET 64	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\026040-S4.DWG
LAYOUT NAME - 026041
PLOT DATE : 11/29/2018 1:57 PM PLOT BY : JEDIDIAH MUNROE PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2



PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	TRAFFIC CONTROL - STAGE 4 MEDIAN LANE BRIDGE WORK	SHEET 65	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\026040-S4.DWG
LAYOUT NAME - 026042
PLOT DATE : 11/29/2018 1:58 PM
PLOT BY : JEDIDIAH MUNROE
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

PCMS MESSAGES

7 DAYS PRIOR TO CONSTRUCTION START/RAMP CLOSURE:

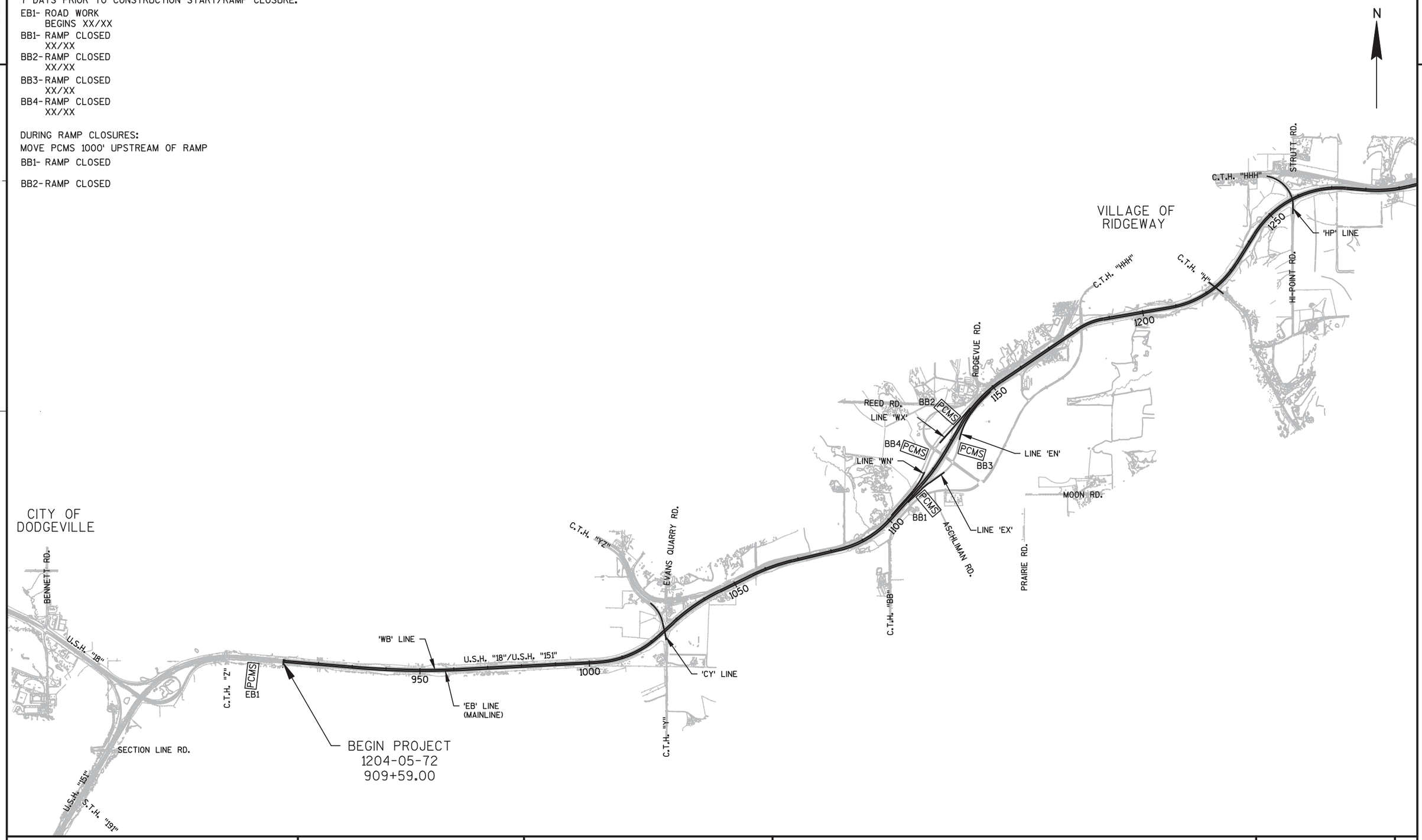
EB1- ROAD WORK
BEGINS XX/XX
BB1- RAMP CLOSED
XX/XX
BB2- RAMP CLOSED
XX/XX
BB3- RAMP CLOSED
XX/XX
BB4- RAMP CLOSED
XX/XX

DURING RAMP CLOSURES:

MOVE PCMS 1000' UPSTREAM OF RAMP

BB1- RAMP CLOSED

BB2- RAMP CLOSED



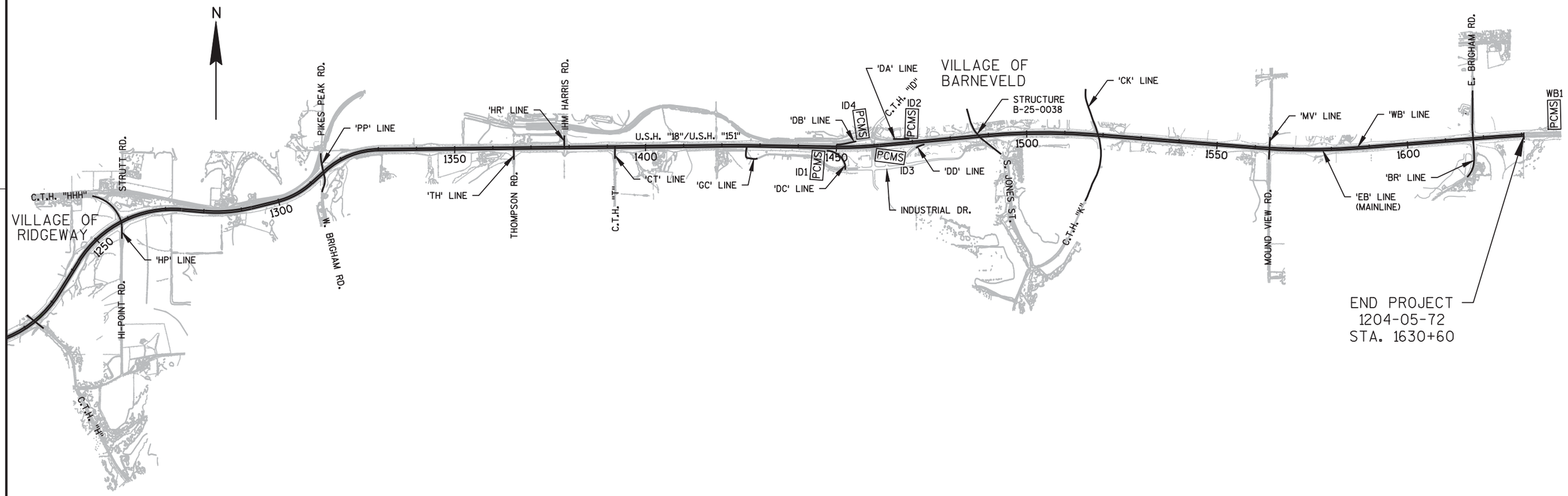
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	STAGE CONSTRUCTION-PCMS	SHEET 66	E

PCMS MESSAGES

7 DAYS PRIOR TO CONSTRUCTION START/RAMP CLOSURE:
WB1- ROAD WORK
BEGINS XX/XX
ID1- RAMP CLOSED
XX/XX
ID2- RAMP CLOSED
XX/XX
ID3- RAMP CLOSED
XX/XX
ID4- RAMP CLOSED
XX/XX

DURING RAMP CLOSURES:
MOVE PCMS 1000' UPSTREAM OF RAMP
ID1- RAMP CLOSED

ID2- RAMP CLOSED



PROJECT NO:1204-05-72	HWY: USH 18	COUNTY: IOWA	STAGE CONSTRUCTION-PCMS	SHEET 67	E

1204-05-72

Line	Item	Item Description	Unit	Total	Qty
0002	203.0200	Removing Old Structure (station) 01. 1487+08	LS	1.000	1.000
0004	204.0105	Removing Pavement Butt Joints	SY	10,974.000	10,974.000
0006	204.0110	Removing Asphaltic Surface	SY	554.000	554.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	3,265.000	3,265.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	88,106.000	88,106.000
0012	204.0130	Removing Curb	LF	323.000	323.000
0014	204.0150	Removing Curb & Gutter	LF	3,049.000	3,049.000
0016	204.0165	Removing Guardrail	LF	18,766.000	18,766.000
0018	204.0180	Removing Delineators and Markers	EACH	6.000	6.000
0020	205.0100	Excavation Common	CY	38.000	38.000
0022	206.1000	Excavation for Structures Bridges (structure) 01. B-25-38	LS	1.000	1.000
0024	208.0100	Borrow	CY	2,389.000	2,389.000
0026	210.1500	Backfill Structure Type A	TON	135.000	135.000
0028	213.0100	Finishing Roadway (project) 01. 1204-05-72	EACH	1.000	1.000
0030	305.0110	Base Aggregate Dense 3/4-Inch	TON	41,464.000	41,464.000
0032	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	192.000	192.000
0034	305.0500	Shaping Shoulders	STA	3,000.000	3,000.000
0036	390.0303	Base Patching Concrete	SY	27,245.000	27,245.000
0038	390.0403	Base Patching Concrete Shes	SY	282.000	282.000
0040	416.0610	Drilled Tie Bars	EACH	30,508.000	30,508.000
0042	416.0620	Drilled Dowel Bars	EACH	56,485.000	56,485.000
0044	450.4000	HMA Cold Weather Paving	TON	11,361.000	11,361.000
0046	455.0605	Tack Coat	GAL	79,809.000	79,809.000
0048	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	2.000	2.000
0050	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	5.000	5.000
0052	460.2005	Incentive Density PWL HMA Pavement	DOL	76,870.000	76,870.000
0054	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	160,750.000	160,750.000
0056	460.2010	Incentive Air Voids HMA Pavement	DOL	110,610.000	110,610.000
0058	460.6224	HMA Pavement 4 MT 58-28 S	TON	110,623.000	110,623.000
0060	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	15.000	15.000
0062	465.0305	Asphaltic Surface Safety Islands	TON	12.000	12.000
0064	465.0315	Asphaltic Flumes	SY	281.000	281.000
0066	465.0400	Asphaltic Shoulder Rumble Strips	LF	282,372.000	282,372.000
0068	502.0100	Concrete Masonry Bridges	CY	32.000	32.000
0070	502.3200	Protective Surface Treatment	SY	772.000	772.000
0072	502.3210	Pigmented Surface Sealer	SY	157.000	157.000
0074	502.4204	Adhesive Anchors No. 4 Bar	EACH	20.000	20.000
0076	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	1,920.000	1,920.000
0078	509.0301	Preparation Decks Type 1	SY	5.000	5.000

1204-05-72

Line	Item	Item Description	Unit	Total	Qty
0080	509.0302	Preparation Decks Type 2	SY	5.000	5.000
0082	509.0500	Cleaning Decks	SY	772.000	772.000
0084	509.1500	Concrete Surface Repair	SF	49.000	49.000
0086	509.2500	Concrete Masonry Overlay Decks	CY	60.000	60.000
0088	511.1200	Temporary Shoring (structure) 01. B-25-38	SF	325.000	325.000
0090	516.0500	Rubberized Membrane Waterproofing	SY	11.000	11.000
0092	601.0105	Concrete Curb Type A	LF	87.000	87.000
0094	601.0110	Concrete Curb Type D	LF	130.000	130.000
0096	601.0551	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type A	LF	3,049.000	3,049.000
0098	603.8000	Concrete Barrier Temporary Precast Delivered	LF	713.000	713.000
0100	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,426.000	1,426.000
0102	603.8505	Anchoring Concrete Barrier on Bridge Decks	LF	174.000	174.000
0104	606.0100	Riprap Light	CY	43.000	43.000
0106	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	74.000	74.000
0108	614.0010	Barrier System Grading Shaping Finishing	EACH	39.000	39.000
0110	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	3.000	3.000
0112	614.0305	Steel Plate Beam Guard Class A	LF	38.000	38.000
0114	614.0345	Steel Plate Beam Guard Short Radius	LF	100.000	100.000
0116	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	2.000	2.000
0118	614.0400	Adjusting Steel Plate Beam Guard	LF	4,744.000	4,744.000
0120	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0122	614.0950	Replacing Guardrail Posts and Blocks	EACH	59.000	59.000
0124	614.2300	MGS Guardrail 3	LF	26,269.000	26,269.000
0126	614.2350	MGS Guardrail Short Radius	LF	100.000	100.000
0128	614.2500	MGS Thrie Beam Transition	LF	144.000	144.000
0130	614.2610	MGS Guardrail Terminal EAT	EACH	37.000	37.000
0132	614.2620	MGS Guardrail Terminal Type 2	EACH	34.000	34.000
0134	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1204-05-72	EACH	1.000	1.000
0136	619.1000	Mobilization	EACH	1.000	1.000
0138	624.0100	Water	MGAL	829.000	829.000
0140	625.0100	Topsoil	SY	4,082.000	4,082.000
0142	628.1504	Silt Fence	LF	8,812.000	8,812.000
0144	628.1520	Silt Fence Maintenance	LF	8,812.000	8,812.000
0146	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0148	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0150	628.2002	Erosion Mat Class I Type A	SY	14,234.000	14,234.000
0152	628.7020	Inlet Protection Type D	EACH	76.000	76.000
0154	629.0210	Fertilizer Type B	CWT	2.572	2.572
0156	630.0180	Seeding Mixture No. 80	LB	29.000	29.000

1204-05-72

Line	Item	Item Description	Unit	Total	Qty
0158	630.0400	Seeding Nurse Crop	LB	29.000	29.000
0160	633.0100	Delineator Posts Steel	EACH	21.000	21.000
0162	633.0500	Delineator Reflectors	EACH	27.000	27.000
0164	638.2102	Moving Signs Type II	EACH	12.000	12.000
0166	638.2602	Removing Signs Type II	EACH	4.000	4.000
0168	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0170	638.4000	Moving Small Sign Supports	EACH	6.000	6.000
0172	642.5201	Field Office Type C	EACH	1.000	1.000
0174	643.0300	Traffic Control Drums	DAY	218,361.000	218,361.000
0176	643.0420	Traffic Control Barricades Type III	DAY	13,119.000	13,119.000
0178	643.0705	Traffic Control Warning Lights Type A	DAY	21,930.000	21,930.000
0180	643.0715	Traffic Control Warning Lights Type C	DAY	26,145.000	26,145.000
0182	643.0800	Traffic Control Arrow Boards	DAY	1,298.000	1,298.000
0184	643.0900	Traffic Control Signs	DAY	32,292.000	32,292.000
0186	643.0910	Traffic Control Covering Signs Type I	EACH	8.000	8.000
0188	643.0920	Traffic Control Covering Signs Type II	EACH	10.000	10.000
0190	643.1050	Traffic Control Signs PCMS	DAY	182.000	182.000
0192	643.5000	Traffic Control	EACH	1.000	1.000
0194	645.0130	Geotextile Type R	SY	228.000	228.000
0196	646.1020	Marking Line Epoxy 4-Inch	LF	1,476.000	1,476.000
0198	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	280,483.000	280,483.000
0200	646.1555	Marking Line Grooved Contrast Permanent Tape 4-Inch	LF	28,222.000	28,222.000
0202	646.3545	Marking Line Grooved Wet Ref Contrast Epoxy 8-Inch	LF	15,703.000	15,703.000
0204	646.6120	Marking Stop Line Epoxy 18-Inch	LF	424.000	424.000
0206	646.6464	Cold Weather Marking Epoxy 4-Inch	LF	155,081.000	155,081.000
0208	646.6468	Cold Weather Marking Epoxy 8-Inch	LF	7,691.000	7,691.000
0210	646.7220	Marking Chevron Epoxy 24-Inch	LF	756.000	756.000
0212	646.9000	Marking Removal Line 4-Inch	LF	144,119.000	144,119.000
0214	649.0105	Temporary Marking Line Paint 4-Inch	LF	748,283.000	748,283.000
0216	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	12,406.000	12,406.000
0218	649.0960	Temporary Marking Removable Mask Out Tape 6-Inch	LF	11,802.000	11,802.000
0220	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	3,266.000	3,266.000
0222	650.8000	Construction Staking Resurfacing Reference	LF	72,101.000	72,101.000
0224	650.9910	Construction Staking Supplemental Control (project) 01. 1204-05-72	LS	1.000	1.000
0226	650.9920	Construction Staking Slope Stakes	LF	1,300.000	1,300.000
0228	690.0150	Sawing Asphalt	LF	1,026.000	1,026.000
0230	690.0250	Sawing Concrete	LF	177,190.000	177,190.000
0232	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000
0234	740.0440	Incentive IRI Ride	DOL	107,038.000	107,038.000

1204-05-72

Line	Item	Item Description	Unit	Total	Qty
0236	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,200.000	2,200.000
0238	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,200.000	1,200.000
0240	SPV.0060	Special 01. Salvage and Reinstall Crash Cushion Permanent	EACH	1.000	1.000
0242	SPV.0060	Special 04. Traffic Control Opposite Direction Emergency Mobilization	EACH	10.000	10.000
0244	SPV.0060	Special 05. Fill Concrete Rumble Strips	EACH	1,083.000	1,083.000
0246	SPV.0060	Special 06. Adjusting EATs	EACH	3.000	3.000
0248	SPV.0060	Special 07. Utility Line Opening	EACH	4.000	4.000
0250	SPV.0090	Special 01. Concrete Joint and Crack Cleaning	LF	35,000.000	35,000.000
0252	SPV.0090	Special 02. Removing HMA Pavement Notched Wedge Longitudinal Joint Milling	LF	271,570.000	271,570.000
0254	SPV.0090	Special 03. Concrete Pavement Repair Longitudinal Joint	LF	39,136.000	39,136.000
0256	SPV.0090	Special 04. Salvage and Reinstall Thrie Beam	LF	29.000	29.000

BUTT JOINT SUMMARY

STATION	TO	STATION	LOCATION	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	REMARKS
STAGE 3						
WESTBOUND						
909 'WB'+59	-	911 'WB'+09	USH 18 OUTSIDE LANE & SHLDR	333	--	
1112 'WB'+64	-	1114 'WB'+14	WB ON RAMP FROM CTH BB	--	381	
1122 'WB'+08	-	1123 'WB'+58	USH 18 OUTSIDE LANE & SHLDR	333	--	
1135 'WB'+25	-	1136 'WB'+75	USH 18 OUTSIDE LANE & SHLDR	333	--	
1135 'WB'+75	-	1137 'WB'+25	WB OFF RAMP TO CTH BB	--	391	
1220 'WB'+39	-	1221 'WB'+99	USH 18 OUTSIDE LANE & SHLDR	356	--	
1223 'WB'+22	-	1224 'WB'+79	USH 18 OUTSIDE LANE & SHLDR	349	--	
1451 'WB'+88	-	1453 'WB'+38	WB ON RAMP FROM CTH ID	--	401	
1466 'WB'+45	-	1467 'WB'+95	WB OFF RAMP TO CTH ID	--	428	
1484 'WB'+48	-	1486 'WB'+21	USH 18 OUTSIDE LANE & SHLDR	384	--	
1487 'WB'+73	-	1489 'WB'+46	USH 18 OUTSIDE LANE & SHLDR	384	--	
1629 'WB'+04	-	1630 'WB'+44	USH 18 OUTSIDE LANE & SHLDR	311	--	
WESTBOUND SUBTOTAL				2,784	1,601	
SIDEROADS						
51 'CY'+97	-	52 'CY'+19	CTY YZ	--	79	
51 'HP'+33	-	51 'HP'+53	HI-POINT ROAD SB	--	128	
51'WPT'-73	-	51'WBT'-93	PIKES PEAK ROAD SB	--	47	
51 'IH'+29	-	51 'IH'+49	IHM HARRIS DRIVE	--	61	
51 'CK'+77	-	51 'CK'+97	CTH K SB	--	101	
51 'MV'+47	-	51 'MV'+67	MOUNDS VIEW ROAD SB	--	53	
51 'BR'+48	-	51 'BR'+68	E BRIGHAM ROAD SB	--	54	
SIDEROAD SUBTOTAL				0	522	
DRIVEWAYS						
919 'WB'+99			PAVED DRIVEWAY	--	19	
1293 'WB'+13			PAVED DRIVEWAY	--	16	
DRIVEWAY SUBTOTAL				0	35	
STAGE 3 SUBTOTAL				**2,784**	**2,158**	

STATION	TO	STATION	LOCATION	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	REMARKS
STAGE 4						
WESTBOUND						
909 'WB'+59	-	911 'WB'+09	USH 18 INSIDE LANE & SHLDR	250	--	
1122 'WB'+08	-	1123 'WB'+58	USH 18 INSIDE LANE & SHLDR	250	--	
1135 'WB'+25	-	1136 'WB'+75	USH 18 INSIDE LANE & SHLDR	250	--	
1220 'WB'+39	-	1221 'WB'+99	USH 18 INSIDE LANE & SHLDR	293	--	
1223 'WB'+22	-	1224 'WB'+79	USH 18 INSIDE LANE & SHLDR	279	--	
1484 'WB'+48	-	1486 'WB'+21	USH 18 INSIDE LANE & SHLDR	288	--	
1487 'WB'+73	-	1489 'WB'+46	USH 18 INSIDE LANE & SHLDR	288	--	
1629 'WB'+04	-	1630 'WB'+44	USH 18 INSIDE LANE & SHLDR	233	--	
WESTBOUND SUBTOTAL				2,132	0	
STAGE 4 SUBTOTAL				**2,132**	**0**	
STAGE 8						
EASTBOUND						
910 'EB'+37	-	911 'EB'+87	USH 18 OUTSIDE LANE & SHLDR	--	333	
1113 'EB'+67	-	1115 'EB'+18	EB OFF RAMP TO CTH BB	382	--	
1122 'EB'+59	-	1124 'EB'+09	USH 18 OUTSIDE LANE & SHLDR	333	--	
1135 'EB'+90	-	1137 'EB'+40	USH 18 OUTSIDE LANE, SHLDR & OFF RAMP	647	--	
1220 'EB'+93.	-	1222 'EB'+50	USH 18 OUTSIDE LANE & SHLDR	349	--	
1223 'EB'+86	-	1225 'EB'+43	USH 18 OUTSIDE LANE & SHLDR	349	--	
1446 'EB'+94	-	1448 'EB'+44	EB OFF RAMP TO CTH ID	381	--	
1471 'EB'+46	-	1472 'EB'+96	EB ON RAMP FROM CTH ID	412	--	
1485 'EB'+00	-	1486 'EB'+79	USH 18 OUTSIDE LANE & SHLDR	398	--	
1488 'EB'+63	-	1490 'EB'+43	USH 18 OUTSIDE LANE & SHLDR	400	--	
1629 'EB'+11	-	1630 'EB'+61	USH 18 OUTSIDE LANE & SHLDR	333	--	
EASTBOUND SUBTOTAL				3,984	333	

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

BUTT JOINT SUMMARY

STATION	TO	STATION	LOCATION	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	REMARKS
EASTBOUND						
910 'EB'+ 37	-	911 'EB'+ 87	USH 18 INSIDE LANE & SHLDR	--	267	
1122 'EB'+ 59	-	1124 'EB'+ 09	USH 18 INSIDE LANE & SHLDR	333	--	
1135 'EB'+ 90	-	1137 'EB'+ 40	USH 18 INSIDE LANE & SHLDR	333	--	
1220 'EB'+ 93.	-	1222 'EB'+ 50	USH 18 INSIDE LANE & SHLDR	279	--	
1223 'EB'+ 86	-	1225 'EB'+ 43	USH 18 INSIDE LANE & SHLDR	279	--	
1485 'EB'+ 00	-	1486 'EB'+ 79	USH 18 INSIDE LANE & SHLDR	298	--	
1488 'EB'+ 63	-	1490 'EB'+ 43	USH 18 INSIDE LANE & SHLDR	300	--	
1629 'EB'+ 11	-	1630 'EB'+ 61	USH 18 INSIDE LANE & SHLDR	250	--	
EASTBOUND SUBTOTAL				2,073	267	
STAGE 9 SUBTOTAL				**2,073**	**267**	
TOTAL				**10,974**	**3,265**	

REMOVING ASPHALTIC SURFACE

STATION		STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	REMARKS
1024'WB'+61	-	1024'WB'+69	CTH Y	17	MEDIAN ISLAND
1025'WB'+09	-	1025'WB'+40	CTH Y	55	MEDIAN ISLAND
1257'WB'+50	-	1257'WB'+64	CTH HHH	40	MEDIAN ISLAND
1426'EB'+43			RIGHT	25	DRIVEWAY
1438'EB'+00			MEDIAN	25	MEDIAN CROSS OVER
1481'WB+95	-	1486'WB'+25	WB LEFT SHOULDER	143	TEMPORARY SHOULDER
1487'WB'+95	-	1493'WB'+65	WB LEFT SHOULDER	190	TEMPORARY SHOULDER
1517'WB'+95	-	1518'WB'+16	CTH K	58	MEDIAN ISLAND
			TOTAL	**554**	

REMOVING DELINIATORS & MARKERS

STATION	-	STATION	LOCATION	204.0180 REMOVING DELINIATORS & MARKERS EACH	REMARKS
1444'WB'+18	-	1451'WB'+18	WB ON RAMP - CTH ID	6	
			TOTAL	**6**	

REMOVING GUARDRAIL

STATION		STATION	LOCATION	L/R	204.0165 REMOVING GUARDRAIL LF	REMARKS
950'EB'+85	-	957'EB'+74	USH 18 EB	R	689	
1201'EB'+68	-	1209'EB'+93	USH 18 EB	R	825	
1221'EB'+19	-	1222'EB'+39	USH 18 EB	R	120	
1219'EB'+38	-	1222'EB'+31	USH 18 EB	L	293	
1224'EB'+09	-	1224'EB'+89	USH 18 EB	R	80	
1223'EB'+96	-	1225'EB'+68	USH 18 EB	L	172	
1233'EB'+72	-	1244'EB'+88	USH 18 EB	R	1116	
1312'EB'+78	-	46'W Brigham'+75	USH 18 EB	R	102	
1315'EB'+77	-	1322'EB'+01	USH 18 EB	R	624	
1339'EB'+56	-	1346'EB'+06	USH 18 EB	R	650	
1393'EB'+45	-	1399'EB'+46	USH 18 EB	R	601	
1405'EB'+62	-	1409'EB'+51	USH 18 EB	R	389	
1420'EB'+30	-	1423'EB'+95	USH 18 EB	R	365	
1440'EB'+14	-	1444'EB'+95	USH 18 EB	R	481	
1457'EB'+31	-	1460'EB'+20	USH 18 EB	R	289	
1458'EB'+53	-	1460'EB'+84	USH 18 EB	L	231	
1466'EB'+44	-	1472'EB'+38	USH 18 EB	R	594	
1483'EB'+89	-	1486'EB'+68	USH 18 EB	R	279	
1485'EB'+03	-	1486'EB'+29	USH 18 EB	L	126	
1489'EB'+14	-	1497'EB'+73	USH 18 EB	R	859	
1488'EB'+72	-	1489'EB'+70	USH 18 EB	L	98	
1549'EB'+62	-	1557'EB'+76	USH 18 EB	R	814	
1573'EB'+14	-	1579'EB'+78	USH 18 EB	R	664	
1596'EB'+15	-	1600'EB'+31	USH 18 EB	R	416	
1614'EB'+50	-	1617'EB'+06	USH 18 EB	R	256	
952'WB'+15	-	959'WB'+70	USH 18 WB	R	755	
1196'WB'+89	-	1208'WB'+54	USH 18 WB	R	1165	
1219'WB'+06	-	1221'WB'+86	USH 18 WB	L	280	
1223'WB'+45	-	1225'WB'+25	USH 18 WB	L	180	
1223'WB'+34	-	1224'WB'+72	USH 18 WB	R	138	
1237'WB'+47	-	1246'WB'+56	USH 18 WB	R	909	
1318'WB'+88		1327'WB'+93	USH 18 WB	R	905	
1458'WB'+46		1460'WB'+75	USH 18 WB	R	229	

REMOVING GUARDRAIL

STATION		STATION	LOCATION	L/R	204.0165 REMOVING GUARDRAIL LF	REMARKS
1484'WB'+56	-	1485'WB'+87	USH 18 WB	R	131	
1484'WB'+94		1486'WB'+15	USH 18 WB	L	121	
1487'WB'+80	-	1489'WB'+10	USH 18 WB	R	130	
1488'WB'+11	-	1489'WB'+61	USH 18 WB	L	150	
1493'WB'+03	-	1499'WB'+03	USH 18 WB	R	600	
1519'WB'+50	-	1525'WB'+31	USH 18 WB	R	581	
1552'WB'+71	-	1560'WB'+00	USH 18 WB	R	729	
1574'WB'+62	-	1580'WB'+92	USH 18 WB	R	630	
			TOTAL		**18,766**	

3

3

REMOVING ASPHALTIC SURFACE MILLING

STATION	TO	STATION	LOCATION	204.0120 SY	REMARKS
STAGE 1					
WESTBOUND					
909 'WB'+ 59	-	962 'WB'+ 40	USH 18 OUTSIDE SHLDR	2,347	1¾" DEPTH
962 'WB'+ 40	-	1015 'WB'+ 20	USH 18 OUTSIDE SHLDR	2,347	1¾" DEPTH
1015 'WB'+ 20	-	1068 'WB'+ 00	USH 18 OUTSIDE SHLDR	2,347	1¾" DEPTH
1068 'WB'+ 00	-	1123 'WB'+ 58	USH 18 OUTSIDE SHLDR	2,470	1¾" DEPTH
1135 'WB'+ 25	-	1173 'WB'+ 60	USH 18 OUTSIDE SHLDR	1,704	1¾" DEPTH
1173 'WB'+ 60	-	1221 'WB'+ 96	USH 18 OUTSIDE SHLDR	2,149	1¾" DEPTH
1223 'WB'+ 26	-	1276 'WB'+ 10	USH 18 OUTSIDE SHLDR	2,348	1¾" DEPTH
1276 'WB'+ 10	-	1328 'WB'+ 90	USH 18 OUTSIDE SHLDR	2,347	1¾" DEPTH
1328 'WB'+ 90	-	1384 'WB'+ 00	USH 18 OUTSIDE SHLDR	2,449	1¾" DEPTH
1384 'WB'+ 00	-	1436 'WB'+ 80	USH 18 OUTSIDE SHLDR	2,347	1¾" DEPTH
1436 'WB'+ 80	-	1486 'WB'+ 13	USH 18 OUTSIDE SHLDR	2,192	1¾" DEPTH
1487 'WB'+ 87	-	1540 'WB'+ 70	USH 18 OUTSIDE SHLDR	2,348	1¾" DEPTH
1540 'WB'+ 70	-	1593 'WB'+ 50	USH 18 OUTSIDE SHLDR	2,347	1¾" DEPTH
1593 'WB'+ 50	-	1630 'WB'+ 54	USH 18 OUTSIDE SHLDR	1,646	1¾" DEPTH
WESTBOUND SUBTOTAL				31,388	
STAGE 1 SUBTOTAL				**31,388**	
STAGE 6					
EASTBOUND					
909 'EB'+ 59	-	962 'EB'+ 40	USH 18 OUTSIDE SHLDR	4,694	1¾" DEPTH
962 'EB'+ 40	-	1017 'EB'+ 61	USH 18 OUTSIDE SHLDR	4,908	1¾" DEPTH
1017 'EB'+ 61	-	1027 'EB'+ 93	USH 18 OUTSIDE SHLDR	459	1¾" DEPTH
1027 'EB'+ 93	-	1068 'EB'+ 00	USH 18 OUTSIDE SHLDR	890	1¾" DEPTH
1068 'EB'+ 00	-	1124 'EB'+ 09	USH 18 OUTSIDE SHLDR	1,246	1¾" DEPTH
1135 'EB'+ 90	-	1173 'EB'+ 60	USH 18 OUTSIDE SHLDR	838	1¾" DEPTH
1173 'EB'+ 60	-	1222 'EB'+ 45	USH 18 OUTSIDE SHLDR	1,086	1¾" DEPTH
1223 'EB'+ 89	-	1276 'EB'+ 70	USH 18 OUTSIDE SHLDR	1,174	1¾" DEPTH
1276 'EB'+ 70	-	1329 'EB'+ 50	USH 18 OUTSIDE SHLDR	1,173	1¾" DEPTH
1329 'EB'+ 50	-	1382 'EB'+ 30	USH 18 OUTSIDE SHLDR	1,173	1¾" DEPTH
1382 'EB'+ 30	-	1435 'EB'+ 10	USH 18 OUTSIDE SHLDR	1,173	1¾" DEPTH
1435 'EB'+ 10	-	1486 'EB'+ 62	USH 18 OUTSIDE SHLDR	1,145	1¾" DEPTH
1488 'EB'+ 76	-	1541 'EB'+ 60	USH 18 OUTSIDE SHLDR	1,174	1¾" DEPTH
1541 'EB'+ 60	-	1594 'EB'+ 40	USH 18 OUTSIDE SHLDR	1,173	1¾" DEPTH
1594 'EB'+ 40	-	1630 'EB'+ 60	USH 18 OUTSIDE SHLDR	804	1¾" DEPTH
EASTBOUND SUBTOTAL				23,111	
STAGE 6 SUBTOTAL				**23,111**	

STATION	TO	STATION	LOCATION	204.0120 SY	REMARKS
STAGE 8					
EASTBOUND					
909 'EB'+ 59	-	962 'EB'+ 40	USH 18 OUTSIDE LANE & SHLDR	7,041	VAR 1"-1¾"
962 'EB'+ 40	-	1017 'EB'+ 61	USH 18 OUTSIDE LANE & SHLDR	7,361	VAR 1"-1¾"
EASTBOUND SUBTOTAL				14,403	
STAGE 8 SUBTOTAL				**14,403**	
STAGE 9					
EASTBOUND					
909 'EB'+ 59	-	962 'EB'+ 40	USH 18 INSIDE LANE & SHLDR	9,388	VAR 1"-1¾"
962 'EB'+ 40	-	1017 'EB'+ 61	USH 18 INSIDE LANE & SHLDR	9,815	VAR 1"-1¾"
EASTBOUND SUBTOTAL				19,204	
STAGE 9 SUBTOTAL				**19,204**	
TOTAL				**88,106**	

EARTHWORK SUMMARY

LOCATION	STATION		STATION	LOCATION	205.0100 EXCAVATION COMMON CY	208.0100 BORROW CY	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	REMARKS
STAGE 3								
	1025'WB'+00	-	1035'WB'+00	USH 18 LT	--	2085	1000	SLOPE CORRECTION
STAGE 4								
	1481'WB'+95	-	1485'WB'+35	USH 18 RT	12	--	--	SHOULDER GRAVEL REMOVAL
	1488'WB'+95	-	1493'WB'+65	USH 18 RT	16	--	--	SHOULDER GRAVEL REMOVAL
STAGE 8								
	1080'EB'+00	-	1083'EB'+00	USH 18 RT	--	304	300	SLOPE CORRECTION
	1426'EB'+00			USH 18 RT	5	--	--	DRIVEWAY REMOVAL
STAGE 9								
	1438'EB'+00			USH 18 LT	5	--	--	MEDAIN CROSS OVER REMOVAL
	TOTAL				**38**	**2389**	**1300**	

CURB REMOVAL SUMMARY

STATION	TO	STATION	LOCATION	204.013 REMOVING CURB SY	204.015 REMOVING CURB & GUTTER LF	REMARKS
STAGE 3						
WESTBOUND						
1024 'WB'+16	-	1024 'WB'+49	CTH Y	--	41	NW QUADRANT
1024 'WB'+61	-	1024 'WB'+69	CTH Y	87	--	MEDIAN ISLAND
1025 'WB'+09	-	1025 'WB'+40	CTH Y	106	--	MEDIAN ISLAND
1025 'WB'+52	-	1025 'WB'+95	CTH Y	--	98	NE QUADRANT
1256 'WB'+99	-	1257 'WB'+45	CTH HHH	--	76	NW QUADRANT
1257 'WB'+50	-	1257 'WB'+64	CTH HHH	--	120	MEDIAN ISLAND
1258 'WB'+09	-	1258 'WB'+74	CTH HHH	--	88	NE QUADRANT
1313 'WB'+86	-	1314 'WB'+24	PIKES PEAK ROAD	--	52	NW QUADRANT
1314 'WB'+71	-	1315 'WB'+02	PIKES PEAK ROAD	--	80	NE QUADRANT
1378 'WB'+08	-	1378 'WB'+55	IHM-HARRIS ROAD	--	71	NW QUADRANT
1378 'WB'+93	-	1379 'WB'+40	IHM-HARRIS ROAD	--	66	NE QUADRANT
1444 'WB'+18	-	1451 'WB'+18	WB ON RAMP - CTH ID	--	700	RIGHT
1517 'WB'+29	-	1517 'WB'+75	CTH K	--	86	NW QUADRANT
1517 'WB'+95	-	1518 'WB'+16	CTH K	130	--	MEDIAN ISLAND
1518 'WB'+57	-	1519 'WB'+05	CTH K	--	60	NE QUADRANT
1563 'WB'+09	-	1563 'WB'+58	MOUNDS VIEW ROAD	--	78	NW QUADRANT
1563 'WB'+87	-	1564 'WB'+45	MOUNDS VIEW ROAD	--	94	NE QUADRANT
1616 'WB'+57	-	1617 'WB'+04	E BRIGHAM RAOD	--	77	NW QUADRANT
1617 'WB'+33	-	1617 'WB'+91	E BRIGHAM RAOD	--	93	NE QUADRANT
				--	--	
STAGE 3 SUBTOTAL				**323**	**1,880**	

CURB REMOVAL SUMMARY

STATION	TO	STATION	LOCATION	204.013 REMOVING CURB SY	204.015 REMOVING CURB & GUTTER LF	REMARKS
STAGE 8						
EASTBOUND						
1023 'EB'+68	-	1023 'EB'+97	CTH Y	--	96	SW QUADRANT
1024 'EB'+57	-	1025 'EB'+20	CTH Y	--	77	SE QUADRANT
1257 'EB'+02	-	1257 'EB'+36	HI-POINT ROAD	--	74	SW QUADRANT
1257 'EB'+77	-	1258 'EB'+13	HI-POINT ROAD	--	47	SE QUADRANT
1313 'EB'+10	-	1313 'EB'+44	W BRINGHAM ROAD	--	81	SW QUADRANT
1313 'EB'+98	-	1314 'EB'+36	W BRINGHAM ROAD	--	45	SE QUADRANT
1364 'EB'+84	-	1365 'EB'+30	THOMPSON ROAD	--	71	SW QUADRANT
1365 'EB'+59	-	1366 'EB'+06	THOMPSON ROAD	--	74	SE QUADRANT
1391 'EB'+34	-	1391 'EB'+80	CTH T	--	73	SW QUADRANT
1392 'EB'+11	-	1392 'EB'+57	CTH T	--	76	SE QUADRANT
1518 'EB'+21	-	1518 'EB'+67	CTH K	--	58	SW QUADRANT
1519 'EB'+20	-	1519 'EB'+51	CTH K	--	77	SE QUADRANT
1563 'EB'+07	-	1563 'EB'+62	MOUNDS VIEW ROAD	--	87	SW QUADRANT
1563 'EB'+89	-	1564 'EB'+37	MOUNDS VIEW ROAD	--	74	SE QUADRANT
1616 'EB'+56	-	1617 'EB'+11	E BRIGHAM RAOD	--	91	SW QUADRANT
1617 'EB'+38	-	1617 'EB'+77	E BRIGHAM RAOD		68	SE QUADRANT
STAGE 8 SUBTOTAL				**0**	**1,169**	
TOTAL				**323**	**3,049**	

3

BASE AGGREGATE SUMMARY

STATION		STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0500 SHAPING SHOULDERS STA	REMARKS
STAGE 2							
909'WB'+59	-	1017'WB'+61	USH 18 INSIDE SHOULDER	67	--	--	
1017'WB'+61	-	1024'WB'+65	USH 18 INSIDE SHOULDER	4	--	--	
1024'WB'+65	-	1027'WB'+93	USH 18 INSIDE SHOULDER	2	--	--	
1027'WB'+93	-	1120'WB'+00	USH 18 INSIDE SHOULDER	57	--	--	
1138'WB'+05	-	1179'WB'+80	USH 18 INSIDE SHOULDER	26	--	--	
1179'WB'+80	-	1257'WB'+75	USH 18 INSIDE SHOULDER	49	--	--	
1257'WB'+75	-	1314'WB'+01	USH 18 INSIDE SHOULDER	35	--	--	
1314'WB'+01	-	1338'WB'+50	USH 18 INSIDE SHOULDER	15	--	--	
1338'WB'+50	-	1365'WB'+42	USH 18 INSIDE SHOULDER	17	--	--	
1365'WB'+42	-	1378'WB'+71	USH 18 INSIDE SHOULDER	8	--	--	
1378'WB'+71	-	1391'WB'+95	USH 18 INSIDE SHOULDER	8	--	--	
1391'WB'+95	-	1486'WB'+21	USH 18 INSIDE SHOULDER	59	--	--	
1486'WB'+21	-	1617'WB'+18	USH 18 INSIDE SHOULDER	81	--	--	
1617'WB'+18	-	1630'WB'+49	USH 18 INSIDE SHOULDER	8	--	--	
STAGE 2 SUBTOTAL				**437**	**0**	**0**	
STAGE 3							
909'WB'+59	-	1017'WB'+61	USH 18 OUTSIDE SHOULDER	858	--	108	
1112'WB'+64	-	1014'WB'+14	WB ON RAMP FROM CTH BB	24	--	4	
1017'WB'+61	-	1024'WB'+65	USH 18 OUTSIDE SHOULDER	56	--	7	
1024'WB'+65	-	1027'WB'+93	USH 18 OUTSIDE SHOULDER	26	--	3	
1027'WB'+93	-	1120'WB'+00	USH 18 OUTSIDE SHOULDER	731	--	92	
1135'WB'+75	-	1137'WB'+25	WB OFF RAMP FROM CTH BB	24	--	4	
1138'WB'+05	-	1179'WB'+80	USH 18 OUTSIDE SHOULDER	331	--	84	
1179'WB'+80	-	1257'WB'+75	USH 18 OUTSIDE SHOULDER	619	--	77	
1257'WB'+75	-	1314'WB'+01	USH 18 OUTSIDE SHOULDER	447	--	56	
1314'WB'+01	-	1338'WB'+50	USH 18 OUTSIDE SHOULDER	194	--	24	
1338'WB'+50	-	1365'WB'+42	USH 18 OUTSIDE SHOULDER	214	--	27	
1365'WB'+42	-	1378'WB'+71	USH 18 OUTSIDE SHOULDER	106	--	13	
1378'WB'+71	-	1391'WB'+95	USH 18 OUTSIDE SHOULDER	105	--	14	
1391'WB'+95	-	1486'WB'+21	USH 18 OUTSIDE SHOULDER	748	40	94	
1451'WB'+88	-	1453'WB'+38	WB ON RAMP FROM CTH ID	24	--	4	
1466'WB'+45	-	1467'WB'+95	WB OFF RAMP FROM CTH ID	24	--	4	
1486'WB'+21	-	1617'WB'+18	USH 18 OUTSIDE SHOULDER	1,040	53	131	
1617'WB'+18	-	1630'WB'+49	USH 18 OUTSIDE SHOULDER	106	--	13	
STAGE 3 SUBTOTAL				**5,676**	**92**	**759**	

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

BASE AGGREGATE SUMMARY

STATION		STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0500 SHAPING SHOULDERS STA	REMARKS
STAGE 4							
909'WB'+59	-	1017'WB'+61	USH 18 INSIDE SHOULDER	1,960	--	108	
1017'WB'+61	-	1024'WB'+65	USH 18 INSIDE SHOULDER	128	--	7	
1024'WB'+65	-	1027'WB'+93	USH 18 INSIDE SHOULDER	60	--	3	
1027'WB'+93	-	1120'WB'+00	USH 18 INSIDE SHOULDER	1,671	--	92	
1138'WB'+05	-	1179'WB'+80	USH 18 INSIDE SHOULDER	758	--	84	
1179'WB'+80	-	1257'WB'+75	USH 18 INSIDE SHOULDER	1,415	--	77	
1257'WB'+75	-	1314'WB'+01	USH 18 INSIDE SHOULDER	1,021	--	56	
1314'WB'+01	-	1338'WB'+50	USH 18 INSIDE SHOULDER	444	--	24	
1338'WB'+50	-	1365'WB'+42	USH 18 INSIDE SHOULDER	489	--	27	
1365'WB'+42	-	1378'WB'+71	USH 18 INSIDE SHOULDER	241	--	13	
1378'WB'+71	-	1391'WB'+95	USH 18 INSIDE SHOULDER	240	--	14	
1391'WB'+95	-	1486'WB'+21	USH 18 INSIDE SHOULDER	1,711	--	94	
1486'WB'+21	-	1617'WB'+18	USH 18 INSIDE SHOULDER	2,377	--	131	
1617'WB'+18	-	1630'WB'+49	USH 18 INSIDE SHOULDER	242	--	13	
STAGE 4 SUBTOTAL				**12,756**	**0**	**743**	
STAGE 6							
909'EB'+59	-	1017'EB'+61	USH 18 INSIDE SHOULDER	67	--	--	
1017'EB'+61	-	1024'EB'+77	USH 18 INSIDE SHOULDER	4	--	--	
1024'EB'+77	-	1027'EB'+93	USH 18 INSIDE SHOULDER	2	--	--	
1027'EB'+93	-	1120'EB'+00	USH 18 INSIDE SHOULDER	57	--	--	
1138'EB'+05	-	1180'EB'+14	USH 18 INSIDE SHOULDER	26	--	--	
1180'EB'+14	-	1257'EB'+92	USH 18 INSIDE SHOULDER	48	--	--	
1257'EB'+92	-	1314'EB'+13	USH 18 INSIDE SHOULDER	35	--	--	
1314'EB'+13	-	1338'EB'+50	USH 18 INSIDE SHOULDER	15	--	--	
1338'EB'+50	-	1365'EB'+46	USH 18 INSIDE SHOULDER	17	--	--	
1365'EB'+46	-	1378'EB'+77	USH 18 INSIDE SHOULDER	8	--	--	
1378'EB'+77	-	1391'EB'+99	USH 18 INSIDE SHOULDER	8	--	--	
1391'EB'+99	-	1486'EB'+21	USH 18 INSIDE SHOULDER	59	--	--	
1486'EB'+21	-	1617'EB'+25	USH 18 INSIDE SHOULDER	82	--	--	
1617'EB'+25	-	1630'EB'+49	USH 18 INSIDE SHOULDER	8	--	--	
STAGE 6 SUBTOTAL				**437**	**0**	**0**	

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

BASE AGGREGATE SUMMARY

STATION		STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0500 SHAPING SHOULDERS STA	REMARKS
STAGE 7							
909'EB'+59	-	1017'EB'+61	USH 18 OUTSIDE SHOULDER	858	--	108	
1113'WB'+67	-	1115'WB'+18	EB OFF RAMP FROM CTH BB	24	--	4	
1017'EB'+61	-	1024'EB'+77	USH 18 OUTSIDE SHOULDER	57	--	7	
1024'EB'+77	-	1027'EB'+93	USH 18 OUTSIDE SHOULDER	25	--	3	
1027'EB'+93	-	1120'EB'+00	USH 18 OUTSIDE SHOULDER	731	--	92	
1138'EB'+05	-	1180'EB'+14	USH 18 OUTSIDE SHOULDER	334	--	84	
1180'EB'+14	-	1257'EB'+92	USH 18 OUTSIDE SHOULDER	618	--	77	
1257'EB'+92	-	1314'EB'+13	USH 18 OUTSIDE SHOULDER	446	--	56	
1314'EB'+13	-	1338'EB'+50	USH 18 OUTSIDE SHOULDER	193	--	24	
1338'EB'+50	-	1365'EB'+46	USH 18 OUTSIDE SHOULDER	214	--	27	
1365'EB'+46	-	1378'EB'+77	USH 18 OUTSIDE SHOULDER	106	--	13	
1378'EB'+77	-	1391'EB'+99	USH 18 OUTSIDE SHOULDER	105	--	14	
1391'EB'+99	-	1486'EB'+21	USH 18 OUTSIDE SHOULDER	748	--	94	
1446'WB'+94	-	1448'WB'+44	EB OFF RAMP FROM CTH ID	24	--	4	
1471'WB'+46	-	1472'WB'+96	EB ON RAMP FROM CTH ID	24	--	4	
1486'EB'+21	-	1617'EB'+25	USH 18 OUTSIDE SHOULDER	1,040	--	131	
1617'EB'+25	-	1630'EB'+49	USH 18 OUTSIDE SHOULDER	105	--	13	
STAGE 7 SUBTOTAL				**5,652**	**0**	**755**	
STAGE 8							
909'EB'+59	-	1017'EB'+61	USH 18 INSIDE SHOULDER	1,960	--	108	
1017'EB'+61	-	1024'EB'+77	USH 18 INSIDE SHOULDER	130	--	7	
1024'EB'+77	-	1027'EB'+93	USH 18 INSIDE SHOULDER	57	--	3	
1027'EB'+93	-	1120'EB'+00	USH 18 INSIDE SHOULDER	1,671	--	92	
1138'EB'+05	-	1180'EB'+14	USH 18 INSIDE SHOULDER	764	--	84	
1180'EB'+14	-	1257'EB'+92	USH 18 INSIDE SHOULDER	1,412	--	77	
1257'EB'+92	-	1314'EB'+13	USH 18 INSIDE SHOULDER	1,020	--	56	
1314'EB'+13	-	1338'EB'+50	USH 18 INSIDE SHOULDER	442	--	24	
1338'EB'+50	-	1365'EB'+46	USH 18 INSIDE SHOULDER	489	--	27	
1365'EB'+46	-	1378'EB'+77	USH 18 INSIDE SHOULDER	242	--	13	
1378'EB'+77	-	1391'EB'+99	USH 18 INSIDE SHOULDER	240	--	14	
1391'EB'+99	-	1486'EB'+21	USH 18 INSIDE SHOULDER	1,710	--	94	
1486'EB'+21	-	1617'EB'+25	USH 18 INSIDE SHOULDER	2,378	--	131	
1617'EB'+25	-	1630'EB'+49	USH 18 INSIDE SHOULDER	240	--	13	
STAGE 8 SUBTOTAL				**12,755**	**0**	**743**	
UNDISTRIBUTED				3,750	100		
			TOTAL	**41,464**	**192**	**3,000**	

CONCRETE PATCHING AND REPAIR

STATION TO STATION	LOCATION	390.0303 BASE PATCHING CONCRETE SY	390.0403 BASE PATCHING CONCRETE SHES SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	SPV.0090.03 CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT LF	690.0250 SAWING CONCRETE LF	SPV.0090.01 CONCRETE JOINT AND CRACK CLEANING LF	REMARKS
STAGE 2									
WESTBOUND									
909 'WB'+59 - 962 'WB'+40	USH 18 WB INSIDE LANE	72	--	73	180	91	508	--	
962 'WB'+40 - 1015 'WB'+20	USH 18 WB INSIDE LANE	95	--	534	236	695	1830	--	
1015 'WB'+20 - 1068 'WB'+00	USH 18 WB INSIDE LANE	16	--	1222	40	1545	3190	--	
1068 'WB'+00 - 1120 'WB'+80	USH 18 WB INSIDE LANE	300	--	1317	686	1697	4666	--	
1120 'WB'+80 - 1173 'WB'+60	USH 18 WB INSIDE LANE	92	--	1878	198	2482	5306	--	
1173 'WB'+60 - 1221 'WB'+96	USH 18 WB INSIDE LANE	170	--	2269	406	3021	6400	--	
1223 'WB'+26 - 1276 'WB'+10	USH 18 WB INSIDE LANE	306	--	328	578	413	2004	--	
1276 'WB'+10 - 1328 'WB'+90	USH 18 WB INSIDE LANE	778	--	2895	1368	4150	10825	--	
1328 'WB'+90 - 1384 'WB'+00	USH 18 WB INSIDE LANE	1060	--	2651	2498	3835	11181	--	
1384 'WB'+00 - 1436 'WB'+80	USH 18 WB INSIDE LANE	169	--	2501	340	3250	7162	--	
1436 'WB'+80 - 1486 'WB'+13	USH 18 WB INSIDE LANE	138	--	596	262	786	2076	--	
1487 'WB'+87 - 1540 'WB'+70	USH 18 WB INSIDE LANE	964	--	583	1772	804	5167	--	
1540 'WB'+70 - 1593 'WB'+50	USH 18 WB INSIDE LANE	637	--	1268	1368	1735	6078	--	
1593 'WB'+50 - 1630 'WB'+54	USH 18 WB INSIDE LANE	881	--	607	2096	894	5572	--	
WESTBOUND SUBTOTAL		5,678	0	18,722	12,028	25,398	71,965	0	
STAGE 2 SUBTOTAL		**5,678**	**0**	**18,722**	**12,028**	**25,398**	**71,965**	**0**	
STAGE 3									
WESTBOUND									
909 'WB'+59 - 962 'WB'+40	USH 18 WB OUTSIDE LANE	816	--	8	1820	--	3384	--	
962 'WB'+40 - 1015 'WB'+20	USH 18 WB OUTSIDE LANE	619	--	10	1404	--	2532	--	
1015 'WB'+20 - 1068 'WB'+00	USH 18 WB OUTSIDE LANE	161	--	24	346	--	639	--	
1068 'WB'+00 - 1120 'WB'+80	USH 18 WB OUTSIDE LANE	238	32	8	592	--	1042	--	
1120 'WB'+80 - 1173 'WB'+60	USH 18 WB OUTSIDE LANE	263	18	8	586	--	972	--	
1173 'WB'+60 - 1221 'WB'+96	USH 18 WB OUTSIDE LANE	652	--	38	1062	--	2009	--	
1223 'WB'+26 - 1276 'WB'+10	USH 18 WB OUTSIDE LANE	385	--	--	774	--	1417	--	
1276 'WB'+10 - 1328 'WB'+90	USH 18 WB OUTSIDE LANE	1024	--	12	2066	--	3451	--	
1328 'WB'+90 - 1384 'WB'+00	USH 18 WB OUTSIDE LANE	914	--	10	2116	--	3401	--	
1384 'WB'+00 - 1436 'WB'+80	USH 18 WB OUTSIDE LANE	198	--	--	410	--	672	--	
1436 'WB'+80 - 1486 'WB'+13	USH 18 WB OUTSIDE LANE	182	38	22	404	--	724	--	
1487 'WB'+87 - 1540 'WB'+70	USH 18 WB OUTSIDE LANE	1402	--	116	2220	--	4220	--	
1540 'WB'+70 - 1593 'WB'+50	USH 18 WB OUTSIDE LANE	1056	--	45	2182	--	3801	--	
1593 'WB'+50 - 1630 'WB'+54	USH 18 WB OUTSIDE LANE	1146	--	10	2728	--	4418	--	
WESTBOUND SUBTOTAL		9,056	88	311	18,710	0	32,682	0	
SIDEROADS									
50 'CY'+95 - 51 'CY'+50	CTH Y RT	126	--	37	46	--	256		
STAGE 3 SUBTOTAL		**9,182**	**88**	**348**	**18,756**	**0**	**32,938**	**0**	

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

CONCRETE PATCHING AND REPAIR

STATION TO STATION	LOCATION	390.0303 BASE PATCHING CONCRETE SY	390.0403 BASE PATCHING CONCRETE SHES SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	SPV.0090.03 CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT LF	690.0250 SAWING CONCRETE LF	SPV.0090.01 CONCRETE JOINT AND CRACK CLEANING LF	REMARKS
STAGE 7									
EASTBOUND									
909 'EB'+59 - 962 'EB'+40	USH 18 EB INSIDE LANE	--	--	--	--	--	--	--	
962 'EB'+40 - 1017 'EB'+61	USH 18 EB INSIDE LANE	--	--	--	--	--	--	--	
1017 'EB'+61 - 1027 'EB'+93	USH 18 EB INSIDE LANE	8	--	--	20	--	36	--	
1027 'EB'+93 - 1068 'EB'+00	USH 18 EB INSIDE LANE	475	--	653	843	583	2750	--	
1068 'EB'+00 - 1120 'EB'+80	USH 18 EB INSIDE LANE	181	--	322	1563	408	1420	--	
1120 'EB'+80 - 1173 'EB'+60	USH 18 EB INSIDE LANE	94	--	89	168	55	425	--	
1173 'EB'+60 - 1222 'EB'+45	USH 18 EB INSIDE LANE	513	--	415	913	195	2101	--	
1223 'EB'+89 - 1276 'EB'+70	USH 18 EB INSIDE LANE	195	--	1381	422	1760	4330	--	
1276 'EB'+70 - 1329 'EB'+50	USH 18 EB INSIDE LANE	483	--	577	1158	779	3656	--	
1329 'EB'+50 - 1382 'EB'+30	USH 18 EB INSIDE LANE	86	--	1569	210	2005	4424	--	
1382 'EB'+30 - 1435 'EB'+10	USH 18 EB INSIDE LANE	523	--	358	1306	464	3280	--	
1435 'EB'+10 - 1486 'EB'+62	USH 18 EB INSIDE LANE	184	--	41	460	53	942	--	
1488 'EB'+76 - 1541 'EB'+60	USH 18 EB INSIDE LANE	824	--	360	1848	443	4330	--	
1541 'EB'+60 - 1594 'EB'+40	USH 18 EB INSIDE LANE	251	--	253	396	285	1428	--	
1594 'EB'+40 - 1630 'EB'+60	USH 18 EB INSIDE LANE	48	--	148	120	185	590	--	
EASTBOUND SUBTOTAL		3,866	0	6,166	9,427	7,215	29,712	0	
STAGE 7 SUBTOTAL		**3,866**	**0**	**6,166**	**9,427**	**7,215**	**29,712**	**0**	
STAGE 8									
EASTBOUND									
909 'EB'+59 - 962 'EB'+40	USH 18 EB OUTSIDE LANE	--	--	--	--	--	--	--	
962 'EB'+40 - 1017 'EB'+61	USH 18 EB OUTSIDE LANE	--	--	--	--	--	--	--	
1017 'EB'+61 - 1027 'EB'+93	USH 18 EB OUTSIDE LANE	24	--	--	60	--	108	--	
1027 'EB'+93 - 1068 'EB'+00	USH 18 EB OUTSIDE LANE	1114	--	19	1980	--	3712	--	
1068 'EB'+00 - 1120 'EB'+80	USH 18 EB OUTSIDE LANE	83	30	--	148	--	278	--	
1120 'EB'+80 - 1173 'EB'+60	USH 18 EB OUTSIDE LANE	74	30	--	131	--	246	--	
1173 'EB'+60 - 1222 'EB'+45	USH 18 EB OUTSIDE LANE	614	--	--	1091	--	2046	--	
1223 'EB'+89 - 1276 'EB'+70	USH 18 EB OUTSIDE LANE	228	--	--	408	--	702	--	
1276 'EB'+70 - 1329 'EB'+50	USH 18 EB OUTSIDE LANE	150	--	--	270	--	465	--	
1329 'EB'+50 - 1382 'EB'+30	USH 18 EB OUTSIDE LANE	146	--	--	340	--	562	--	
1382 'EB'+30 - 1435 'EB'+10	USH 18 EB OUTSIDE LANE	186	--	--	440	--	746	--	
1435 'EB'+10 - 1486 'EB'+62	USH 18 EB OUTSIDE LANE	133	87	34	218	--	550	--	
1488 'EB'+76 - 1541 'EB'+60	USH 18 EB OUTSIDE LANE	683	--	44	1270	--	2314	--	
1541 'EB'+60 - 1594 'EB'+40	USH 18 EB OUTSIDE LANE	262	--	44	240	--	632	--	
1594 'EB'+40 - 1630 'EB'+60	USH 18 EB OUTSIDE LANE	282	--	46	264	--	682	--	
EASTBOUND SUBTOTAL		3,978	147	187	6,860	0	13,043	0	
STAGE 8 SUBTOTAL		**3,978**	**147**	**187**	**6,860**	**0**	**13,043**	**0**	
UNDISTRIBUTED	20%	4541	47	5085	9414	6523	29532	35000	
ITEM TOTALS		**27,245**	**282**	**30,508**	**56,485**	**39,136**	**177,190**	**35,000**	

ASPHALTIC PAVEMENT SUMMARY

STATION	TO	STATION	LOCATION	LANE AREA SY	SHLDR AREA SY	AVG LOWER LAYER LANE ML IN	DEPTH SHLDR ML IN	UPPER LAYER DEPTH IN	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S (BINDER) TON	(SURFACE) TON	ELIGIBLE TONNAGE INCENTIVE DENSITY PWL HMA PAVEMENT	INCENTIVE AIR VOIDS HMA PAVEMENT	ELIGIBLE LF INCENTIVE HMA PAVEMENT LONGITIDUNAL JOINT DENSITY	450.4000 HMA COLD WEATHER PAVING TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS TON	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	SPV.0090.02 REMOVING HMA PAVEMENT NOTCHED WEDGE LONIGITUDINAL JOINT MILLING LF	PAVING REMARKS
STAGE 1																			
WESTBOUND																			
909 'WB'+59	-	962 'WB'+40	USH 18 OUTSIDE SHLDR	0	2,347	0	1.75	0	164	226	0	0	226	0	--	--	--	--	BINDER
962 'WB'+40	-	1015 'WB'+20	USH 18 OUTSIDE SHLDR	0	2,347	0	1.75	0	164	226	0	0	226	0	--	--	--	--	BINDER
1015 'WB'+20	-	1068 'WB'+00	USH 18 OUTSIDE SHLDR	0	2,347	0	1.75	0	164	226	0	0	226	0	--	--	--	--	BINDER
1068 'WB'+00	-	1123 'WB'+58	USH 18 OUTSIDE SHLDR	0	2,470	0	1.75	0	173	238	0	0	238	0	--	--	--	--	BINDER
1135 'WB'+25	-	1173 'WB'+60	USH 18 OUTSIDE SHLDR	0	1,704	0	1.75	0	119	164	0	0	164	0	--	--	--	--	BINDER
1173 'WB'+60	-	1221 'WB'+96	USH 18 OUTSIDE SHLDR	0	2,149	0	1.75	0	150	207	0	0	207	0	--	--	--	--	BINDER
1223 'WB'+26	-	1276 'WB'+10	USH 18 OUTSIDE SHLDR	0	2,348	0	1.75	0	164	226	0	0	226	0	--	--	--	--	BINDER
1276 'WB'+10	-	1328 'WB'+90	USH 18 OUTSIDE SHLDR	0	2,347	0	1.75	0	164	226	0	0	226	0	--	--	--	--	BINDER
1328 'WB'+90	-	1384 'WB'+00	USH 18 OUTSIDE SHLDR	0	2,449	0	1.75	0	171	236	0	0	236	0	--	--	--	--	BINDER
1384 'WB'+00	-	1436 'WB'+80	USH 18 OUTSIDE SHLDR	0	2,347	0	1.75	0	164	226	0	0	226	0	--	--	--	--	BINDER
1436 'WB'+80	-	1486 'WB'+13	USH 18 OUTSIDE SHLDR	0	2,192	0	1.75	0	153	211	0	0	211	0	--	--	--	--	BINDER
1487 'WB'+87	-	1540 'WB'+70	USH 18 OUTSIDE SHLDR	0	2,348	0	1.75	0	164	226	0	0	226	0	--	--	--	--	BINDER
1540 'WB'+70	-	1593 'WB'+50	USH 18 OUTSIDE SHLDR	0	2,347	0	1.75	0	164	226	0	0	226	0	--	--	--	--	BINDER
1593 'WB'+50	-	1630 'WB'+54	USH 18 OUTSIDE SHLDR	0	1,646	0	1.75	0	115	158	0	0	158	0	--	--	--	--	BINDER
WESTBOUND SUBTOTAL				0	31,388				2,197	3,021	0	0	3,021	0	0	0	0	0	
STAGE 1 SUBTOTAL				**0**	**31,388**				**2,197**	**3,021**	**0**	**0**	**3,021**	**0**	**0**	**0**	**0**	**0**	
STAGE 2																			
WESTBOUND																			
909 'WB'+59	-	962 'WB'+40	USH 18 INSIDE LANE & SHLDR	7,041	1,760	2.125	1.40	0	616	959	0	823	959	5,281	--	--	--	--	VAR THICKNESS BINDER
962 'WB'+40	-	1015 'WB'+20	USH 18 INSIDE LANE & SHLDR	7,040	1,760	2.125	1.40	0	616	958	0	823	958	5,280	--	--	--	--	VAR THICKNESS BINDER
1015 'WB'+20	-	1068 'WB'+00	USH 18 INSIDE LANE & SHLDR	7,040	1,760	2.125	1.40	0	616	958	0	823	958	5,280	--	--	--	--	VAR THICKNESS BINDER
1068 'WB'+00	-	1123 'WB'+28	USH 18 INSIDE LANE & SHLDR	7,371	1,843	2.125	1.40	0	645	1,003	0	861	1,003	5,528	--	--	--	--	VAR THICKNESS BINDER
1135 'WB'+25	-	1173 'WB'+60	USH 18 INSIDE LANE & SHLDR	5,113	1,278	2.125	1.40	0	447	696	0	598	696	3,835	--	--	--	--	VAR THICKNESS BINDER
1173 'WB'+60	-	1221 'WB'+96	USH 18 INSIDE LANE & SHLDR	6,448	1,612	2.125	1.40	0	564	878	0	754	878	4,836	--	--	--	--	VAR THICKNESS BINDER
1223 'WB'+26	-	1276 'WB'+10	USH 18 INSIDE LANE & SHLDR	7,045	1,761	2.125	1.40	0	616	959	0	823	959	5,284	--	--	--	--	VAR THICKNESS BINDER
1276 'WB'+10	-	1328 'WB'+90	USH 18 INSIDE LANE & SHLDR	7,040	1,760	2.125	1.40	0	616	958	0	823	958	5,280	--	--	--	--	VAR THICKNESS BINDER
1328 'WB'+90	-	1384 'WB'+00	USH 18 INSIDE LANE & SHLDR	7,347	1,837	2.125	1.40	0	643	1,000	0	859	1,000	5,510	--	--	--	--	VAR THICKNESS BINDER
1384 'WB'+00	-	1436 'WB'+80	USH 18 INSIDE LANE & SHLDR	7,040	1,760	2.125	1.40	0	616	958	0	823	958	5,280	--	--	--	--	VAR THICKNESS BINDER
1436 'WB'+80	-	1481 'WB'+95	USH 18 INSIDE LANE & SHLDR	6,020	1,505	2.125	1.40	0	527	819	0	704	819	4,515	--	--	--	--	VAR THICKNESS BINDER
1481 'WB'+95	-	1486 'WB'+13	USH 18 INSIDE LANE & SHLDR	557	279	2.125	4.75	0	59	138	0	65	138	418	--	--	--	--	TWO BINDER LAYERS
1487 'WB'+87	-	1493 'WB'+63	USH 18 INSIDE LANE & SHLDR	768	384	2.125	4.75	0	81	190	0	90	190	576	--	--	--	--	TWO BINDER LAYERS
1493 'WB'+63	-	1540 'WB'+70	USH 18 INSIDE LANE & SHLDR	6,276	1,569	2.125	1.40	0	549	854	0	734	854	4,707	--	--	--	--	VAR THICKNESS BINDER
1540 'WB'+70	-	1593 'WB'+50	USH 18 INSIDE LANE & SHLDR	7,040	1,760	2.125	1.40	0	616	958	0	823	958	5,280	--	--	--	--	VAR THICKNESS BINDER
1593 'WB'+50	-	1630 'WB'+54	USH 18 INSIDE LANE & SHLDR	4,939	1,235	2.125	1.40	0	432	672	0	577	672	3,704	--	--	--	--	VAR THICKNESS BINDER
WESTBOUND SUBTOTAL				94,125	23,863				8,259	12,960	0	11,001	12,960	70,594	0	0	0	0	
STAGE 2 SUBTOTAL				**94,125**	**23,863**				**8,259**	**12,960**	**0**	**11,001**	**12,960**	**70,594**	**0**	**0**	**0**	**0**	

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

ASPHALTIC PAVEMENT SUMMARY

STATION	TO	STATION	LOCATION	LANE AREA SY	SHLDR AREA SY	AVG LOWER LAYER LANE ML IN	DEPTH SHLDR ML IN	UPPER LAYER DEPTH IN	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S (BINDER) TON	(SURFACE) TON	ELIGIBLE TONNAGE INCENTIVE DENSITY PWL HMA PAVEMENT	INCENTIVE AIR VOIDS HMA PAVEMENT	ELIGIBLE LF INCENTIVE HMA PAVEMENT LONGITIDUNAL JOINT DENSITY	450.4000 HMA COLD WEATHER PAVING TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS TON	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	SPV.0090.02 REMOVING HMA PAVEMENT NOTCHED WEDGE LONIGITUDINAL JOINT MILLING LF	PAVING REMARKS
STAGE 3																			
WESTBOUND																			
909 'WB'+ 59	-	962 'WB'+ 40	USH 18 OUTSIDE LANE & SHLDR	7,041	4,694	2.125	0.875	1.75	1,643	1,049	1,130	1,501	2,178	10,562	--	--	--	5,281	VAR THICK BINDER, SURFACE
962 'WB'+ 40	-	1015 'WB'+ 20	USH 18 OUTSIDE LANE & SHLDR	7,040	4,693	2.125	0.875	1.75	1,643	1,049	1,129	1,500	2,178	10,560	--	--	--	5,280	VAR THICK BINDER, SURFACE
1015 'WB'+ 20	-	1068 'WB'+ 00	USH 18 OUTSIDE LANE & SHLDR	7,040	4,693	2.125	0.875	1.75	1,643	1,049	1,129	1,500	2,178	10,560	--	--	--	5,280	VAR THICK BINDER, SURFACE
1068 'WB'+ 00	-	1123 'WB'+ 58	USH 18 OUTSIDE LANE & SHLDR	7,411	4,940	2.125	0.875	1.75	1,729	1,104	1,189	1,579	2,293	11,116	--	--	--	5,558	VAR THICK BINDER, SURFACE
1135 'WB'+ 25	-	1173 'WB'+ 60	USH 18 OUTSIDE LANE & SHLDR	5,113	3,409	2.125	0.875	1.75	1,193	762	820	1,090	1,582	7,670	--	--	--	3,835	VAR THICK BINDER, SURFACE
1173 'WB'+ 60	-	1221 'WB'+ 96	USH 18 OUTSIDE LANE & SHLDR	6,448	4,299	2.125	0.875	1.75	1,505	960	1,034	1,374	1,995	9,672	--	--	--	4,836	VAR THICK BINDER, SURFACE
1223 'WB'+ 26	-	1276 'WB'+ 10	USH 18 OUTSIDE LANE & SHLDR	7,045	4,697	2.125	0.875	1.75	1,644	1,049	1,130	1,502	2,180	10,568	--	--	--	5,284	VAR THICK BINDER, SURFACE
1276 'WB'+ 10	-	1328 'WB'+ 90	USH 18 OUTSIDE LANE & SHLDR	7,040	4,693	2.125	0.875	1.75	1,643	1,049	1,129	1,500	2,178	10,560	--	--	--	5,280	VAR THICK BINDER, SURFACE
1328 'WB'+ 90	-	1384 'WB'+ 00	USH 18 OUTSIDE LANE & SHLDR	7,347	4,898	2.125	0.875	1.75	1,714	1,094	1,179	1,566	2,273	11,020	--	--	--	5,510	VAR THICK BINDER, SURFACE
1384 'WB'+ 00	-	1436 'WB'+ 80	USH 18 OUTSIDE LANE & SHLDR	7,040	4,693	2.125	0.875	1.75	1,643	1,049	1,129	1,500	2,178	10,560	--	--	--	5,280	VAR THICK BINDER, SURFACE
1436 'WB'+ 80	-	1486 'WB'+ 13	USH 18 OUTSIDE LANE & SHLDR	6,577	4,385	2.125	0.875	1.75	1,535	980	1,055	1,402	2,035	9,866	--	--	--	4,933	VAR THICK BINDER, SURFACE
1487 'WB'+ 87	-	1540 'WB'+ 70	USH 18 OUTSIDE LANE & SHLDR	7,044	4,696	2.125	0.875	1.75	1,644	1,049	1,130	1,501	2,179	10,566	--	--	--	5,283	VAR THICK BINDER, SURFACE
1540 'WB'+ 70	-	1593 'WB'+ 50	USH 18 OUTSIDE LANE & SHLDR	7,040	4,693	2.125	0.875	1.75	1,643	1,049	1,129	1,500	2,178	10,560	--	--	--	5,280	VAR THICK BINDER, SURFACE
1593 'WB'+ 50	-	1630 'WB'+ 54	USH 18 OUTSIDE LANE & SHLDR	4,939	3,292	2.125	0.875	1.75	1,152	736	792	1,053	1,528	7,408	--	--	--	3,704	VAR THICK BINDER, SURFACE
WESTBOUND SUBTOTAL				94,165	62,777				21,972	14,027	15,106	20,069	29,132	141,248	0	0	0	70,624	
SIDEROADS																			
920 'WB'+ 00			DRIVEWAY	0	19	0	0	1.75	1	0	2	0	2	0	--	--	--	--	SURFACE
CTH Y			RT TURN LANE & NORTH LEG	1,303	0	0	0	1.75	95	18	125	0	125	0	--	--	--	--	SURFACE
1101 'WB'+ 85	-	1114 'WB'+ 14	USH 18/USH 151 ON RAMP	1,696	0	0	0	1.75	119	0	163	0	163	0	--	--	--	--	SURFACE
1135 'WB'+ 75	-	1145 'WB'+ 45	USH 18/USH 151 OFF RAMP	1,430	0	0	0	1.75	100	0	138	0	138	0	--	--	--	--	SURFACE
CTH HHH			RT TURN LANE & NORTH LEG	620	0	0	0	1.75	43	0	60	0	60	0	--	--	--	--	SURFACE
PIKES PEAK RD			RT TURN LANE & NORTH LEG	679	0	0	0	1.75	48	0	65	0	65	0	--	--	--	--	SURFACE
IHM HARRIS RD			RT TURN LANE & NORTH LEG	517	0	0	0	1.75	36	0	50	0	50	0	--	--	--	--	SURFACE
1439 'WB'+ 15	-	1453 'WB'+ 38	USH 18/USH 151 ON RAMP	2,364	0	0	0	1.75	166	0	228	0	228	0	--	--	--	--	SURFACE
1466 'WB'+ 45	-	1473 'WB'+ 06	USH 18/USH 151 OFF RAMP	1,513	0	0	0	1.75	106	0	146	0	146	0	--	--	--	--	SURFACE
CTH K			RT TURN LANE & NORTH LEG	1,442	0	0	0	1.75	101	0	139	0	139	0	--	--	--	--	SURFACE
MOUNDS VIEW RD			RT TURN LANE & NORTH LEG	552	0	0	0	1.75	39	0	53	0	53	0	--	--	--	--	SURFACE
1293 'WB'+ 13			DRIVEWAY	0	16	0	0	1.75	1	0	2	0	2	0	--	--	--	--	SURFACE
E BRIGHAM RD			RT TURN LANE & NORTH LEG	631	0	0	0	1.75	44	0	61	0	61	0	--	--	--	--	SURFACE
SIDEROAD SUBTOTAL				12,748	35				899	18	1,230	0	1,230	0	0	0	0	0	
STAGE 3 SUBTOTAL				**106,913**	**62,812**				**22,871**	**14,045**	**16,336**	**20,069**	**30,363**		**0**	**0**	**0**	**70,624**	

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

ASPHALTIC PAVEMENT SUMMARY

STATION	TO	STATION	LOCATION	LANE AREA SY	SHLDR AREA SY	AVG LOWER LAYER DEPTH LANE ML IN	AVG LOWER LAYER DEPTH SHLDR ML IN	UPPER LAYER DEPTH IN	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S (BINDER) TON	460.6224 HMA PAVEMENT 4 MT 58-28 S (SURFACE) TON	ELIGIBLE TONNAGE INCENTIVE DENSITY PWL HMA PAVEMENT	ELIGIBLE TONNAGE INCENTIVE AIR VOIDS HMA PAVEMENT	ELIGIBLE LF INCENTIVE HMA PAVEMENT LONGITIDUNAL JOINT DENSITY	450.4000 HMA COLD WEATHER PAVING TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS TON	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	SPV.0090.02 REMOVING HMA PAVEMENT NOTCHED WEDGE LONIGITUDINAL JOINT MILLING LF	PAVING REMARKS
STAGE 4																			
WESTBOUND																			
909 'WB'+ 59	-	962 'WB'+ 40	USH 18 INSIDE LANE & SHLDR	7,041	1,760	0	0	1.75	616	0	847	678	847	5,281	847	--	10,562	5,281	SURFACE
962 'WB'+ 40	-	1015 'WB'+ 20	USH 18 INSIDE LANE & SHLDR	7,040	1,760	0	0	1.75	616	0	847	678	847	5,280	847	--	10,560	5,280	SURFACE
1015 'WB'+ 20	-	1068 'WB'+ 00	USH 18 INSIDE LANE & SHLDR	7,040	1,760	0	0	1.75	616	0	847	678	847	5,280	847	--	10,560	5,280	SURFACE
1068 'WB'+ 00	-	1123 'WB'+ 58	USH 18 INSIDE LANE & SHLDR	7,411	1,853	0	0	1.75	648	0	892	713	892	5,558	892	--	11,116	5,558	SURFACE
1135 'WB'+ 25	-	1173 'WB'+ 60	USH 18 INSIDE LANE & SHLDR	5,113	1,278	0	0	1.75	447	0	615	492	615	3,835	615	--	7,670	3,835	SURFACE
1173 'WB'+ 60	-	1221 'WB'+ 96	USH 18 INSIDE LANE & SHLDR	6,448	1,612	0	0	1.75	564	0	776	621	776	4,836	776	--	9,672	4,836	SURFACE
1223 'WB'+ 26	-	1276 'WB'+ 10	USH 18 INSIDE LANE & SHLDR	7,045	1,761	0	0	1.75	616	0	848	678	848	5,284	848	--	10,568	5,284	SURFACE
1276 'WB'+ 10	-	1328 'WB'+ 90	USH 18 INSIDE LANE & SHLDR	7,040	1,760	0	0	1.75	616	0	847	678	847	5,280	847	--	10,560	5,280	SURFACE
1328 'WB'+ 90	-	1384 'WB'+ 00	USH 18 INSIDE LANE & SHLDR	7,347	1,837	0	0	1.75	643	0	884	707	884	5,510	884	--	11,020	5,510	SURFACE
1384 'WB'+ 00	-	1436 'WB'+ 80	USH 18 INSIDE LANE & SHLDR	7,040	1,760	0	0	1.75	616	0	847	678	847	5,280	847	--	10,560	5,280	SURFACE
1436 'WB'+ 80	-	1481 'WB'+ 95	USH 18 INSIDE LANE & SHLDR	6,020	1,505	0	0	1.75	527	0	724	579	724	4,515	724	--	9,030	4,515	SURFACE
1481 'WB'+ 95	-	1486 'WB'+ 13	USH 18 INSIDE LANE & SHLDR	557	279	0	0	1.75	59	0	80	54	80	418	80	--	836	418	SURFACE
1487 'WB'+ 87	-	1493 'WB'+ 63	USH 18 INSIDE LANE & SHLDR	768	384	0	0	1.75	81	0	111	74	111	576	111	--	1,152	576	SURFACE
1493 'WB'+ 63	-	1540 'WB'+ 70	USH 18 INSIDE LANE & SHLDR	6,276	1,569	0	0	1.75	549	0	755	604	755	4,707	755	--	9,414	4,707	SURFACE
1540 'WB'+ 70	-	1593 'WB'+ 50	USH 18 INSIDE LANE & SHLDR	7,040	1,760	0	0	1.75	616	0	847	678	847	5,280	847	--	10,560	5,280	SURFACE
1593 'WB'+ 50	-	1630 'WB'+ 54	USH 18 INSIDE LANE & SHLDR	4,939	1,235	0	0	1.75	432	0	594	475	594	3,704	594	--	7,408	3,704	SURFACE
WESTBOUND SUBTOTAL				94,165	23,873				8,263	0	11,361	9,063	11,361	70,624	11,361	0	141,248	70,624	
SIDEROADS																			
CTH Y			LT TURN LN & ½ MEDIAN	881	0	0	0	1.75	62	0	85	0	85	0	--	--	--	--	SURFACE
CTH HHH			LT TURN LN & ½ MEDIAN	295	0	0	0	1.75	21	0	28	0	28	0	--	--	--	--	SURFACE
PIKES PEAK RD			LT TURN LN & ½ MEDIAN	656	0	0	0	1.75	46	0	63	0	63	0	--	--	--	--	SURFACE
THOMPSON RD			LT TURN LN & ½ MEDIAN	248	0	0	0	1.75	17	0	24	0	24	0	--	--	--	--	SURFACE
IHM HARRIS RD			LT TURN LN & ½ MEDIAN	50	0	0	0	1.75	4	0	5	0	5	0	--	--	--	--	SURFACE
CTH T			LT TURN LN & ½ MEDIAN	833	0	0	0	1.75	58	0	80	0	80	0	--	--	--	--	SURFACE
CTH K			LT TURN LN & ½ MEDIAN	660	0	0	0	1.75	46	0	64	0	64	0	--	--	--	--	SURFACE
MOUNDS VIEW RD			LT TURN LN & ½ MEDIAN	329	0	0	0	1.75	23	0	32	0	32	0	--	--	--	--	SURFACE
E BRIGHAM RD			LT TURN LN & ½ MEDIAN	298	0	0	0	1.75	21	0	29	0	29	0	--	--	--	--	SURFACE
SIDEROAD SUBTOTAL				4,250	0				298	0	409	0	409	0	0	0	0	0	
STAGE 4 SUBTOTAL				**98,415**	**23,873**				**8,560**	**0**	**11,770**	**9,063**	**11,770**	**70,624**	**11,361**	**0**	**141,248**	**70,624**	

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

ASPHALTIC PAVEMENT SUMMARY

STATION	TO	STATION	LOCATION	LANE AREA SY	SHLDR AREA SY	AVG LOWER LAYER DEPTH LANE ML IN	SHLDR ML IN	UPPER LAYER DEPTH IN	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S (BINDER) TON	(SURFACE) TON	ELIGIBLE TONNAGE INCENTIVE DENSITY PWL HMA PAVEMENT	INCENTIVE AIR VOIDS HMA PAVEMENT	ELIGIBLE LF INCENTIVE HMA PAVEMENT LONGITIDUNAL JOINT DENSITY	450.4000 HMA COLD WEATHER PAVING TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS TON	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	SPV.0090.02 REMOVING HMA PAVEMENT NOTCHED WEDGE LONIGITUDINAL JOINT MILLING LF	PAVING REMARKS
STAGE 6																			
EASTBOUND																			
909 'EB'+ 59	-	962 'EB'+ 40	USH 18 OUTSIDE SHLDR	0	4,694	0	1.75	0	329	452	0	0	452	0	--	--	--	--	BINDER
962 'EB'+ 40	-	1017 'EB'+ 61	USH 18 OUTSIDE SHLDR	0	4,908	0	1.75	0	344	472	0	0	472	0	--	--	--	--	BINDER
1017 'EB'+ 61	-	1027 'EB'+ 93	USH 18 OUTSIDE SHLDR	0	459	0	1.75	0	32	44	0	0	44	0	--	--	--	--	BINDER
1027 'EB'+ 93	-	1068 'EB'+ 00	USH 18 OUTSIDE SHLDR	0	890	0	1.75	0	62	86	0	0	86	0	--	--	--	--	BINDER
1068 'EB'+ 00	-	1124 'EB'+ 09	USH 18 OUTSIDE SHLDR	0	1,246	0	1.75	0	87	120	0	0	120	0	--	--	--	--	BINDER
1135 'EB'+ 90	-	1173 'EB'+ 60	USH 18 OUTSIDE SHLDR	0	838	0	1.75	0	59	81	0	0	81	0	--	--	--	--	BINDER
1173 'EB'+ 60	-	1222 'EB'+ 45	USH 18 OUTSIDE SHLDR	0	1,086	0	1.75	0	76	104	0	0	104	0	--	--	--	--	BINDER
1223 'EB'+ 89	-	1276 'EB'+ 70	USH 18 OUTSIDE SHLDR	0	1,174	0	1.75	0	82	113	0	0	113	0	--	--	--	--	BINDER
1276 'EB'+ 70	-	1329 'EB'+ 50	USH 18 OUTSIDE SHLDR	0	1,173	0	1.75	0	82	113	0	0	113	0	--	--	--	--	BINDER
1329 'EB'+ 50	-	1382 'EB'+ 30	USH 18 OUTSIDE SHLDR	0	1,173	0	1.75	0	82	113	0	0	113	0	--	--	--	--	BINDER
1382 'EB'+ 30	-	1435 'EB'+ 10	USH 18 OUTSIDE SHLDR	0	1,173	0	1.75	0	82	113	0	0	113	0	--	--	--	--	BINDER
1435 'EB'+ 10	-	1486 'EB'+ 62	USH 18 OUTSIDE SHLDR	0	1,145	0	1.75	0	80	110	0	0	110	0	--	--	--	--	BINDER
1488 'EB'+ 76	-	1541 'EB'+ 60	USH 18 OUTSIDE SHLDR	0	1,174	0	1.75	0	82	113	0	0	113	0	--	--	--	--	BINDER
1541 'EB'+ 60	-	1594 'EB'+ 40	USH 18 OUTSIDE SHLDR	0	1,173	0	1.75	0	82	113	0	0	113	0	--	--	--	--	BINDER
1594 'EB'+ 40	-	1630 'EB'+ 60	USH 18 OUTSIDE SHLDR	0	804	0	1.75	0	56	77	0	0	77	0	--	--	--	--	BINDER
EASTBOUND SUBTOTAL				0	23,111				1,618	2,224	0	0	2,224	0	0	0	0	0	
STAGE 6 SUBTOTAL				**0**	**23,111**				**1,618**	**2,224**	**0**	**0**	**2,224**	**0**	**0**	**0**	**0**	**0**	
STAGE 7																			
EASTBOUND																			
1017 'EB'+ 61	-	1027 'EB'+ 93	USH 18 INSIDE LANE & SHLDR	1,376	344	2.125	1.40	0	120	187	0	161	187	1,032	--	--	--	--	VAR THICKNESS BINDER
1027 'EB'+ 93	-	1068 'EB'+ 00	USH 18 INSIDE LANE & SHLDR	5,343	1,336	2.125	1.40	0	467	727	0	624	727	4,007	--	--	--	--	VAR THICKNESS BINDER
1068 'EB'+ 00	-	1124 'EB'+ 09	USH 18 INSIDE LANE & SHLDR	7,479	1,870	2.125	1.40	0	654	1,018	0	874	1,018	5,609	--	--	--	--	VAR THICKNESS BINDER
1135 'EB'+ 90	-	1173 'EB'+ 60	USH 18 INSIDE LANE & SHLDR	5,027	1,257	2.125	1.40	0	440	684	0	587	684	3,770	--	--	--	--	VAR THICKNESS BINDER
1173 'EB'+ 60	-	1222 'EB'+ 45	USH 18 INSIDE LANE & SHLDR	6,513	1,628	2.125	1.40	0	570	887	0	761	887	4,885	--	--	--	--	VAR THICKNESS BINDER
1223 'EB'+ 89	-	1276 'EB'+ 70	USH 18 INSIDE LANE & SHLDR	7,041	1,760	2.125	1.40	0	616	959	0	823	959	5,281	--	--	--	--	VAR THICKNESS BINDER
1276 'EB'+ 70	-	1329 'EB'+ 50	USH 18 INSIDE LANE & SHLDR	7,040	1,760	2.125	1.40	0	616	958	0	823	958	5,280	--	--	--	--	VAR THICKNESS BINDER
1329 'EB'+ 50	-	1382 'EB'+ 30	USH 18 INSIDE LANE & SHLDR	7,040	1,760	2.125	1.40	0	616	958	0	823	958	5,280	--	--	--	--	VAR THICKNESS BINDER
1382 'EB'+ 30	-	1435 'EB'+ 10	USH 18 INSIDE LANE & SHLDR	7,040	1,760	2.125	1.40	0	616	958	0	823	958	5,280	--	--	--	--	VAR THICKNESS BINDER
1435 'EB'+ 10	-	1486 'EB'+ 62	USH 18 INSIDE LANE & SHLDR	6,869	1,717	2.125	1.40	0	601	935	0	803	935	5,152	--	--	--	--	VAR THICKNESS BINDER
1488 'EB'+ 76	-	1541 'EB'+ 60	USH 18 INSIDE LANE & SHLDR	7,045	1,761	2.125	1.40	0	616	959	0	823	959	5,284	--	--	--	--	VAR THICKNESS BINDER
1541 'EB'+ 60	-	1594 'EB'+ 40	USH 18 INSIDE LANE & SHLDR	7,040	1,760	2.125	1.40	0	616	958	0	823	958	5,280	--	--	--	--	VAR THICKNESS BINDER
1594 'EB'+ 40	-	1630 'EB'+ 60	USH 18 INSIDE LANE & SHLDR	4,827	1,207	2.125	1.40	0	422	657	0	564	657	3,620	--	--	--	--	VAR THICKNESS BINDER
EASTBOUND SUBTOTAL				79,680	19,920				6,972	10,846	0	9,313	10,846	59,760	0	0	0	0	
STAGE 7 SUBTOTAL				**79,680**	**19,920**				**6,972**	**10,846**	**0**	**9,313**	**10,846**	**59,760**	**0**	**0**	**0**	**0**	

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

ASPHALTIC PAVEMENT SUMMARY

STATION	TO	STATION	LOCATION	LANE AREA SY	SHLDR AREA SY	AVG LOWER LAYER DEPTH LANE ML IN	AVG LOWER LAYER DEPTH SHLDR ML IN	UPPER LAYER DEPTH IN	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S (BINDER) TON	460.6224 HMA PAVEMENT 4 MT 58-28 S (SURFACE) TON	ELIGIBLE TONNAGE INCENTIVE DENSITY PWL HMA PAVEMENT	ELIGIBLE TONNAGE INCENTIVE AIR VOIDS HMA PAVEMENT	ELIGIBLE LF INCENTIVE HMA PAVEMENT LONGITIDUNAL JOINT DENSITY	450.4000 HMA COLD WEATHER PAVING TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS TON	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	SPV.0090.02 REMOVING HMA PAVEMENT NOTCHED WEDGE LONIGITUDINAL JOINT MILLING LF	PAVING REMARKS
STAGE 8																			
EASTBOUND																			
909 'EB'+ 59	-	962 'EB'+ 40	USH 18 OUTSIDE LANE & SHLDR	7,041	0	0	0	1.75	493	0	678	678	678	5,281	--	--	--	--	SURFACE
962 'EB'+ 40	-	1017 'EB'+ 61	USH 18 OUTSIDE LANE & SHLDR	7,361	0	0	0	1.75	515	0	709	709	709	5,521	--	--	--	--	SURFACE
1017 'EB'+ 61	-	1027 'EB'+ 93	USH 18 OUTSIDE LANE & SHLDR	1,376	917	2.125	0.875	1.75	321	205	221	293	426	2,064	--	--	--	1,032	VAR THICK BINDER, SURFACE
1027 'EB'+ 93	-	1068 'EB'+ 00	USH 18 OUTSIDE LANE & SHLDR	5,343	3,562	2.125	0.875	1.75	1,247	796	857	1,139	1,653	8,014	--	--	--	4,007	VAR THICK BINDER, SURFACE
1068 'EB'+ 00	-	1124 'EB'+ 09	USH 18 OUTSIDE LANE & SHLDR	7,479	4,986	2.125	0.875	1.75	1,745	1,114	1,200	1,594	2,314	11,218	--	--	--	5,609	VAR THICK BINDER, SURFACE
1135 'EB'+ 90	-	1173 'EB'+ 60	USH 18 OUTSIDE LANE & SHLDR	5,027	3,351	2.125	0.875	1.75	1,173	749	806	1,071	1,555	7,540	--	--	--	3,770	VAR THICK BINDER, SURFACE
1173 'EB'+ 60	-	1222 'EB'+ 45	USH 18 OUTSIDE LANE & SHLDR	6,513	4,342	2.125	0.875	1.75	1,520	970	1,045	1,388	2,015	9,770	--	--	--	4,885	VAR THICK BINDER, SURFACE
1223 'EB'+ 89	-	1276 'EB'+ 70	USH 18 OUTSIDE LANE & SHLDR	7,041	4,694	2.125	0.875	1.75	1,643	1,049	1,130	1,501	2,178	10,562	--	--	--	5,281	VAR THICK BINDER, SURFACE
1276 'EB'+ 70	-	1329 'EB'+ 50	USH 18 OUTSIDE LANE & SHLDR	7,040	4,693	2.125	0.875	1.75	1,643	1,049	1,129	1,500	2,178	10,560	--	--	--	5,280	VAR THICK BINDER, SURFACE
1329 'EB'+ 50	-	1382 'EB'+ 30	USH 18 OUTSIDE LANE & SHLDR	7,040	4,693	2.125	0.875	1.75	1,643	1,049	1,129	1,500	2,178	10,560	--	--	--	5,280	VAR THICK BINDER, SURFACE
1382 'EB'+ 30	-	1435 'EB'+ 10	USH 18 OUTSIDE LANE & SHLDR	7,040	4,693	2.125	0.875	1.75	1,643	1,049	1,129	1,500	2,178	10,560	--	--	--	5,280	VAR THICK BINDER, SURFACE
1435 'EB'+ 10	-	1486 'EB'+ 62	USH 18 OUTSIDE LANE & SHLDR	6,869	4,580	2.125	0.875	1.75	1,603	1,023	1,102	1,464	2,125	10,304	--	--	--	5,152	VAR THICK BINDER, SURFACE
1488 'EB'+ 76	-	1541 'EB'+ 60	USH 18 OUTSIDE LANE & SHLDR	7,045	4,697	2.125	0.875	1.75	1,644	1,049	1,130	1,502	2,180	10,568	--	--	--	5,284	VAR THICK BINDER, SURFACE
1541 'EB'+ 60	-	1594 'EB'+ 40	USH 18 OUTSIDE LANE & SHLDR	7,040	4,693	2.125	0.875	1.75	1,643	1,049	1,129	1,500	2,178	10,560	--	--	--	5,280	VAR THICK BINDER, SURFACE
1594 'EB'+ 40	-	1630 'EB'+ 60	USH 18 OUTSIDE LANE & SHLDR	4,827	3,218	2.125	0.875	1.75	1,126	719	774	1,029	1,493	7,240	--	--	--	3,620	VAR THICK BINDER, SURFACE
EASTBOUND SUBTOTAL				94,083	53,120				19,600	11,869	14,168	18,368	26,037	130,322	0	0	0	59,760	
SIDEROADS																			
CTH Y			RT TURN LANE & SOUTH LEG	905	0	0	0	1.75	63	0	87	0	87	0	--	--	--	--	SURFACE
1046 'EB'+ 25			DRIVEWAY	0	20	0	0	1.75	1	0	2	0	2	0	--	--	--	--	SURFACE
1102 'EB'+ 90	-	1115 'EB'+ 17	USH 18/USH 151 ON RAMP	1,806				1.75	126		174	0	174	0	--	--	--	--	SURFACE
1135 'EB'+ 90	-	1148 'EB'+ 20	USH 18/USH 151 OFF RAMP	1,638				1.75	115		158	0	158	0	--	--	--	--	SURFACE
CTH HHH			RT TURN LANE & SOUTH LEG	415	0	0	0	1.75	29	0	40	0	40	0	--	--	--	--	SURFACE
1288 'EB'+ 58			DRIVEWAY	0	13	0	0	1.75	1	0	1	0	1	0	--	--	--	--	SURFACE
PIKES PEAK RD			RT TURN LANE & SOUTH LEG	693	0	0	0	1.75	49	0	67	0	67	0	--	--	--	--	SURFACE
1323 'EB'+ 37			DRIVEWAY	0	11	0	0	1.75	1	0	1	0	1	0	--	--	--	--	SURFACE
1357 'EB'+ 67			DRIVEWAY	0	14	0	0	1.75	1	0	1	0	1	0	--	--	--	--	SURFACE
THOMPSON RD			RT TURN LANE & SOUTH LEG	380	0	0	0	1.75	27	0	37	0	37	0	--	--	--	--	SURFACE
CTH T			RT TURN LANE & SOUTH LEG	680	0	0	0	1.75	48	0	65	0	65	0	--	--	--	--	SURFACE
1405 'EB'+ 00			DRIVEWAY	0	17	0	0	1.75	1	0	2	0	2	0	--	--	--	--	SURFACE
1426 'EB'+ 43			DRIVEWAY	0	17	0	0	1.75	1	0	2	0	2	0	--	--	--	--	SURFACE
1441 'EB'+ 90	-	1448 'EB'+ 44	USH 18/USH 151 ON RAMP	1,444				1.75	101	0	139	0	139	0	--	--	--	--	SURFACE
1471 'EB'+ 46	-	1486 'EB'+ 78	USH 18/USH 151 OFF RAMP	2,394				1.75	168	0	230	0	230	0	--	--	--	--	SURFACE
CTH K			RT TURN LANE & SOUTH LEG	821	0	0	0	1.75	57	0	79	0	79	0	--	--	--	--	SURFACE
1559 'EB'+ 07			DRIVEWAY	0	25	0	0	1.75	2	0	2	0	2	0	--	--	--	--	SURFACE
MOUNDS VIEW RD			RT TURN LANE & SOUTH LEG	428	0	0	0	1.75	30	0	41	0	41	0	--	--	--	--	SURFACE
E BRIGHAM RD			RT TURN LANE & SOUTH LEG	610	0	0	0	1.75	43	0	59	0	59	0	--	--	--	--	SURFACE
SIDEROAD SUBTOTAL				12,215	117				863	0	1,187	0	1,187	0	0	0	0	0	
STAGE 8 SUBTOTAL				**106,298**	**53,237**				**20,463**	**11,869**	**15,355**	**18,368**	**27,224**	**130,322**	**0**	**0**	**0**	**59,760**	

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

ASPHALTIC PAVEMENT SUMMARY

STATION	TO STATION	LOCATION	LANE AREA SY	SHLDR AREA SY	AVG LOWER LAYER DEPTH LANE ML IN	SHLDR ML IN	UPPER LAYER DEPTH IN	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S (BINDER) TON	(SURFACE) TON	ELIGIBLE TONNAGE INCENTIVE DENSITY PWL HMA PAVEMENT	INCENTIVE AIR VOIDS HMA PAVEMENT	ELIGIBLE LF INCENTIVE HMA PAVEMENT LONGITIDUNAL JOINT DENSITY	450.4000 HMA COLD WEATHER PAVING TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS TON	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	SPV.0090.02 REMOVING HMA PAVEMENT NOTCHED WEDGE LONIGITUDINAL JOINT MILLING LF	PAVING REMARKS
STAGE 9																		
EASTBOUND																		
909 'EB'+ 59	962 'EB'+ 40	USH 18 INSIDE LANE & SHLDR	7,041	2,347	0	0	1.75	657	0	904	678	904	5,281	--	--	10,562	5,281	SURFACE
962 'EB'+ 40	1017 'EB'+ 61	USH 18 INSIDE LANE & SHLDR	7,361	2,454	0	0	1.75	687	0	945	709	945	5,521	--	--	11,042	5,521	SURFACE
1017 'EB'+ 61	1027 'EB'+ 93	USH 18 INSIDE LANE & SHLDR	1,376	344	0	0	1.75	120	0	166	132	166	1,032	--	--	2,064	1,032	SURFACE
1027 'EB'+ 93	1068 'EB'+ 00	USH 18 INSIDE LANE & SHLDR	5,343	1,336	0	0	1.75	467	0	643	514	643	4,007	--	--	8,014	4,007	SURFACE
1068 'EB'+ 00	1124 'EB'+ 09	USH 18 INSIDE LANE & SHLDR	7,479	1,870	0	0	1.75	654	0	900	720	900	5,609	--	--	11,218	5,609	SURFACE
1135 'EB'+ 90	1173 'EB'+ 60	USH 18 INSIDE LANE & SHLDR	5,027	1,257	0	0	1.75	440	0	605	484	605	3,770	--	--	7,540	3,770	SURFACE
1173 'EB'+ 60	1222 'EB'+ 45	USH 18 INSIDE LANE & SHLDR	6,513	1,628	0	0	1.75	570	0	784	627	784	4,885	--	--	9,770	4,885	SURFACE
1223 'EB'+ 89	1276 'EB'+ 70	USH 18 INSIDE LANE & SHLDR	7,041	1,760	0	0	1.75	616	0	847	678	847	5,281	--	--	10,562	5,281	SURFACE
1276 'EB'+ 70	1329 'EB'+ 50	USH 18 INSIDE LANE & SHLDR	7,040	1,760	0	0	1.75	616	0	847	678	847	5,280	--	--	10,560	5,280	SURFACE
1329 'EB'+ 50	1382 'EB'+ 30	USH 18 INSIDE LANE & SHLDR	7,040	1,760	0	0	1.75	616	0	847	678	847	5,280	--	--	10,560	5,280	SURFACE
1382 'EB'+ 30	1435 'EB'+ 10	USH 18 INSIDE LANE & SHLDR	7,040	1,760	0	0	1.75	616	0	847	678	847	5,280	--	--	10,560	5,280	SURFACE
1435 'EB'+ 10	1486 'EB'+ 62	USH 18 INSIDE LANE & SHLDR	6,869	1,717	0	0	1.75	601	0	826	661	826	5,152	--	--	10,304	5,152	SURFACE
1488 'EB'+ 76	1541 'EB'+ 60	USH 18 INSIDE LANE & SHLDR	7,045	1,761	0	0	1.75	616	0	848	678	848	5,284	--	--	10,568	5,284	SURFACE
1541 'EB'+ 60	1594 'EB'+ 40	USH 18 INSIDE LANE & SHLDR	7,040	1,760	0	0	1.75	616	0	847	678	847	5,280	--	--	10,560	5,280	SURFACE
1594 'EB'+ 40	1630 'EB'+ 60	USH 18 INSIDE LANE & SHLDR	4,827	1,207	0	0	1.75	422	0	581	465	581	3,620	--	--	7,240	3,620	SURFACE
EASTBOUND SUBTOTAL			94,083	24,721	0	0	26	8,316	0	11,435	9,055	11,435	70,562	0	0	141,124	70,562	
MAINTENANCE CROSSOVERS																		
918 'EB'+ 87	920 'EB'+ 21	MAINTENANCE CROSSOVER	191	0	0	0	1.75	13	0	18	0	18	0	--	--	--	0	SURFACE
950 'EB'+ 50	951 'EB'+ 00	MAINTENANCE CROSSOVER	114	0	0	0	1.75	8	0	11	0	11	0	--	--	--	0	SURFACE
967 'EB'+ 51	967 'EB'+ 95	MAINTENANCE CROSSOVER	120	0	0	0	1.75	8	0	12	0	12	0	--	--	--	0	SURFACE
1045 'EB'+ 96	1046 'EB'+ 48	MAINTENANCE CROSSOVER	206	0	0	0	1.75	14	0	20	0	20	0	--	--	--	0	SURFACE
1056 'EB'+ 62	1058 'EB'+ 01	MAINTENANCE CROSSOVER	197	0	0	0	1.75	14	0	19	0	19	0	--	--	--	0	SURFACE
1072 'EB'+ 71	1074 'EB'+ 14	MAINTENANCE CROSSOVER	197	0	0	0	1.75	14	0	19	0	19	0	--	--	--	0	SURFACE
1083 'EB'+ 35	1084 'EB'+ 74	MAINTENANCE CROSSOVER	203	0	0	0	1.75	14	0	20	0	20	0	--	--	--	0	SURFACE
1283 'EB'+ 41	1284 'EB'+ 74	MAINTENANCE CROSSOVER	213	0	0	0	1.75	15	0	20	0	20	0	--	--	--	0	SURFACE
1288 'WB'+ 12	1289 'WB'+ 45	MAINTENANCE CROSSOVER	183	0	0	0	1.75	13	0	18	0	18	0	--	--	--	0	SURFACE
1292 'EB'+ 24	1293 'EB'+ 57	MAINTENANCE CROSSOVER	203	0	0	0	1.75	14	0	20	0	20	0	--	--	--	0	SURFACE
1322 'WB'+ 75	1324 'WB'+ 18	MAINTENANCE CROSSOVER	218	0	0	0	1.75	15	0	21	0	21	0	--	--	--	0	SURFACE
1338 'EB'+ 13	1339 'EB'+ 73	MAINTENANCE CROSSOVER	208	0	0	0	1.75	15	0	20	0	20	0	--	--	--	0	SURFACE
1357 'WB'+ 26	1358 'WB'+ 60	MAINTENANCE CROSSOVER	200	0	0	0	1.75	14	0	19	0	19	0	--	--	--	0	SURFACE
1404 'WB'+ 45	1406 'WB'+ 05	MAINTENANCE CROSSOVER	216	0	0	0	1.75	15	0	21	0	21	0	--	--	--	0	SURFACE
1410 'WB'+ 31	1411 'WB'+ 11	MAINTENANCE CROSSOVER	166	0	0	0	1.75	12	0	16	0	16	0	--	--	--	0	SURFACE
1474 'WB'+ 21	1475 'WB'+ 67	MAINTENANCE CROSSOVER	173	0	0	0	1.75	12	0	17	0	17	0	--	--	--	0	SURFACE
1498 'WB'+ 81	1499 'WB'+ 52	MAINTENANCE CROSSOVER	165	0	0	0	1.75	12	0	16	0	16	0	--	--	--	0	SURFACE
1525 'WB'+ 13	1525 'WB'+ 84	MAINTENANCE CROSSOVER	169	0	0	0	1.75	12	0	16	0	16	0	-	--	--	0	SURFACE
1558 'WB'+ 67	1560 'WB'+ 06	MAINTENANCE CROSSOVER	188	0	0	0	1.75	13	0	18	0	18	0	--	--	--	0	SURFACE
1580 'WB'+ 80	1581 'WB'+ 55	MAINTENANCE CROSSOVER	169	0	0	0	1.75	12	0	16	0	16	0	--	--	--	0	SURFACE
CROSSOVERS SUBTOTAL			3,697	0	0	0	35	259	0	356	0	356	0	0	0	0	0	

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

ASPHALTIC PAVEMENT SUMMARY

STATION	TO	STATION	LOCATION	LANE AREA SY	SHLDR AREA SY	AVG LOWER LAYER DEPTH LANE ML IN	DEPTH SHLDR ML IN	UPPER LAYER DEPTH IN	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S (BINDER) TON	(SURFACE) TON	ELIGIBLE TONNAGE INCENTIVE DENSITY PWL HMA PAVEMENT	INCENTIVE AIR VOIDS HMA PAVEMENT	ELIGIBLE LF INCENTIVE HMA PAVEMENT LONGITIDUNAL JOINT DENSITY	450.4000 HMA COLD WEATHER PAVING TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS TON	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	SPV.0090.02 REMOVING HMA PAVEMENT NOTCHED WEDGE LONIGITUDINAL JOINT MILLING LF	PAVING REMARKS
SIDEROADS																			
CTH Y			LT TURN LN & ½ MEDIAN	864	0	0	0	1.75	60	0	83	0	83	0	--	--	--	0	SURFACE
CTH HHH			LT TURN LN & ½ MEDIAN	815	0	0	0	1.75	57	0	78	0	78	0	--	--	--	0	SURFACE
PIKES PEAK RD			LT TURN LN & ½ MEDIAN	579	0	0	0	1.75	41	0	56	0	56	0	--	--	--	0	SURFACE
THOMPSON RD			LT TURN LN & ½ MEDIAN	175	0	0	0	1.75	12	0	17	0	17	0	--	--	--	0	SURFACE
IHM HARRIS RD			LT TURN LN & ½ MEDIAN	408	0	0	0	1.75	29	0	39	0	39	0	--	--	--	0	SURFACE
CTH K			LT TURN LN & ½ MEDIAN	727	0	0	0	1.75	51	0	70	0	70	0	--	--	--	0	SURFACE
MOUNDS VIEW RD			LT TURN LN & ½ MEDIAN	325	0	0	0	1.75	23	0	31	0	31	0	--	--	--	0	SURFACE
E BRIGHAM RD			LT TURN LN & ½ MEDIAN	307	0	0	0	1.75	21	0	30	0	30	0	--	--	--	0	SURFACE
SIDEROAD SUBTOTAL				4,200	0				294	0	404	0	404	0	0	0	0	0	
STAGE 9 SUBTOTAL				**101,979**	**24,721**				**8,869**	**0**	**12,195**	**9,055**	**12,195**	**70,562**	**0**	**0**	**141,124**	**70,562**	
SIDE ROAD BUTT JOINTS				--			--	--	--	--	--	--	--		--	15	--	--	
UNDISTRIBUTED				--			--	--	--	--	--	--	--		--	--	--	--	
TOTAL				**79,809**	**54,966**	**55,656**			**76,869**	**110,605**	**401,862**	**11,361**	**15**	**282,372**	**271,570**				
					110,623														

HMA PAVEMENT PWL, TEST STRIP

STATION	TO	STATION	460.0105.S VOLUMETRICS EACH	460.0110.S DENSITY EACH
WESTBOUND				
909 'WB'+ 59	-	1630 'WB'+ 54	1	2
EASTBOUND				
909 'EB'+ 59	-	1630 'EB'+ 60	1	3
ITEM TOTALS			**2**	**5**

CONCRETE BARRIER ITEMS

STAGE	LOCATION	STATION	603.8000 CONCETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCETE BARRIER TEMPORARY PRECAST INSTALLED LF	603.8505 ANCHORING CONCRETE BARRIER ON BRIDGE DECK LF
3	USH 18 - WESTBOUND	1484+25 - 1491+38 'WB'	713	713	174
4	USH 18 - WESTBOUND		---	713	--
TOTAL			713	1,426	174

CRASH CUSHIONS

STAGE	LOCATION	STATION	614.0905 CRASH CUSHIONS TEMPORARY EACH	BACK WIDTH FT	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHIONS SHIELDS
3	USH 18 - WESTBOUND	1491+38 'WB'	1	4	OM-3R (W05-58R)	TL-3	UNIDERECTIONAL	L	TEMPOARY BARRIER WALL ON CENTER LINE TO PROTECT BRIDGE AND WINGWALL REPAIRS
4	USH 18 - WESTBOUND	1491+38 'WB'	1	4	OM-3R (W05-58R)	TL-3	UNIDERECTIONAL	R	TEMPOARY BARRIER WALL ON CENTER LINE TO PROTECT BRIDGE AND WINGWALL REPAIRS
TOTAL			2						

PWL MIXTURE USE TABLE

THE FOLLOWING ACCEPTANCE CRITERIA ARE APPLICABLE FOR THIS PROJECT:

LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEMS	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: MIXTURE ACCEPTANCE	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: DENSITY ACCEPTANCE
STAGE 1								
WB 4' OUTSIDE SHOULDER	909+59 WB TO 1630+54 WB	LOWER BINDER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	3,071	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
STAGE 2								
WB 6' INSIDE SHOULDER	1481+95 WB TO 1493+63 WB	LOWER BINDER LAYER	BASE AGGREGATE	4 MT 58-28 S	207	3"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
WB 12' INSIDE DRIVING LANE	909+59 WB TO 1630+54 WB	BINDER LAYER	EXISTING CONCRETE PAVEMENT	4 MT 58-28 S	11,187	2½" TO 1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
WB 3' INSIDE SHOULDER	909+59 WB TO 1481+95 WB	BINDER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	10,365	1¾" to 1"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
WB 6' INSIDE SHOULDER	1481+95 WB TO 1493+63 WB	UPPER BINDER LAYER	4 MT 58-28 S	4 MT 58-28 S	121	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
WB 3' INSIDE SHOULDER	1493+63 WB TO 1630+54 WB	BINDER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	2,485	1¾" to 1"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
STAGE 3								
WB 12' OUTSIDE DRIVING LANE	909+59 WB TO 1630+54 WB	BINDER LAYER	EXISTING CONCRETE PAVEMENT	4 MT 58-28 S	11,187	2½" TO 1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
WB 8' OUTSIDE SHOULDER	909+59 WB TO 1630+54 WB	BINDER LAYER	EXISTING HMA SURFACE & 4 MT 58-28 S	4 MT 58-28 S	3,071	1¾" TO 0"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
WB 12' OUTSIDE DRIVING LANE	909+59 WB TO 1630+54 WB	SURFACE LAYER	4 MT 58-28 S	4 MT 58-28 S	9,213	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
WB 8' OUTSIDE SHOULDER	909+59 WB TO 1630+54 WB	SURFACE LAYER	4 MT 58-28 S	4 MT 58-28 S	6,142	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
WB OUTSIDE SIDEROADS & TURN LANES	909+59 WB TO 1630+54 WB	SURFACE LAYER	EXISTING AND MILLED EXISTING HMA SURFACE	4 MT 58-28 S	553	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

3

PWL MIXTURE USE TABLE

THE FOLLOWING ACCEPTANCE CRITERIA ARE APPLICABLE FOR THIS PROJECT:

STAGE 4								
WB 12' INSIDE DRIVING LANE	909+59 WB TO 1630+54 WB	SURFACE LAYER	4 MT 58-28 S	4 MT 58-28 S	9,213	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
WB 3' INSIDE SHOULDER	909+59 WB TO 1481+95 WB	SURFACE LAYER	4 MT 58-28 S	4 MT 58-28 S	1,832	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
WB 6' INSIDE SHOULDER	1481+95 WB TO 1493+63 WB	SURFACE LAYER	4 MT 58-28 S	4 MT 58-28 S	63	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
WB 3' INSIDE SHOULDER	1493+63 WB TO 1630+54 WB	SURFACE LAYER	4 MT 58-28 S	4 MT 58-28 S	439	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
WB INSIDE SIDEROADS & TURN LANES	909+59 WB TO 1630+54 WB	SURFACE LAYER	EXISTING AND MILLED EXISTING HMA SURFACE	4 MT 58-28 S	409	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
STAGE 6								
EB 8' OUTSIDE SHOULDER	909+59 EB TO 1017+61 EB	BINDER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	924	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
EB 4' OUTSIDE SHOULDER	1017+61 EB TO 1027+93 EB	BINDER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	44	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
EB 2' OUTSIDE SHOULDER	1027+93 EB TO 1630+60	BINDER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	1,281	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
STAGE 7								
EB 12' INSIDE DRIVING LANE	1017+61 EB TO 1630+60 EB	BINDER LAYER	EXISTING CONCRETE PAVEMENT	4 MT 58-28 S	9,497	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
EB 3' INSIDE SHOULDER	1017+61 EB TO 1630+60 EB	BINDER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	1,564	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

PWL MIXTURE USE TABLE

THE FOLLOWING ACCEPTANCE CRITERIA ARE APPLICABLE FOR THIS PROJECT:

STAGE 8								
EB 12' OUTSIDE DRIVING LANE	909+59 EB TO 1017+61 EB	SURFACE LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	1,386	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
EB 12' OUTSIDE DRIVING LANE	1017+61 EB TO 1630+60 EB	BINDER LAYER	EXISTING CONCRETE PAVEMENT	4 MT 58-28 S	9,497	2½" TO 1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
EB 8' OUTSIDE SHOULDER	1017+61 EB TO 1630+60 EB	BINDER LAYER	EXISTING CONCRETE PAVEMENT, 4 MT 58-28 S & MILLED EXISTING HMA SURFACE	4 MT 58-28 S	2,607	1¾" TO 0"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
EB 12' OUTSIDE DRIVING LANE	1017+61 EB TO 1630+60 EB	SURFACE LAYER	4 MT 58-28 S	4 MT 58-28 S	7,821	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
EB 8' OUTSIDE SHOULDER	1017+61 EB TO 1630+60 EB	SURFACE LAYER	4 MT 58-28 S	4 MT 58-28 S	5,214	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
EB OUTSIDE SIDEROADS & TURN LANES	909+59 EB TO 1630+60 EB	SURFACE LAYER	EXISTING AND MILLED EXISTING HMA SURFACE	4 MT 58-28 S	475	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
STAGE 9								
EB 12' INSIDE DRIVING LANE	909+59 EB TO 1017+61 EB	SURFACE LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	1,386	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
EB 4' INSIDE SHOULDER	909+59 EB TO 1017+61 EB	SURFACE LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	462	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
EB 12' INSIDE DRIVING LANE	1017+61 EB TO 1630+60 EB	SURFACE LAYER	4 MT 58-28 S	4 MT 58-28 S	7,821	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
EB 3' INSIDE SHOULDER	1017+61 EB TO 1630+60 EB	SURFACE LAYER	4 MT 58-28 S	4 MT 58-28 S	1,955	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
EB INSIDE SIDEROADS, TURN LANES & MAINT. CROSSOVERS	909+59 EB TO 1630+60 EB	SURFACE LAYER	EXISTING HMA SURFACE	4 MT 58-28 S	784	1¾"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE

MISCELLANEOUS INTERSECTION ITEMS

STATION	TO	STATION	LOCATION	465.0305 ASPHALTIC SURFACE SAFETY ISLANDS TON	465.0315 ASPHALTIC FLUMES SY	606.01 RIPRAP LIGHT CY	645.013 GEOTEXTILE TYPE R SY
STAGE 3							
WESTBOUND							
1024 'WB'+07	-	1024 'WB'+16	CTH Y	--	8	1.33	7
1024 'WB'+61	-	1024 'WB'+69	CTH Y	2	--		
1025 'WB'+55	-	1025 'WB'+56	CTH Y	--	3	1.33	7
1256 'WB'+91	-	1256 'WB'+99	CTH HHH	--	9	1.33	7
1257 'WB'+50	-	1257 'WB'+64	CTH HHH	4	--	--	--
1258 'WB'+05	-	1258 'WB'+07	CTH HHH	--	9	1.33	7
1314 'WB'+25	-	1314 'WB'+30	PIKES PEAK ROAD	--	9	1.33	7
1315 'WB'+01	-	1315 'WB'+09	PIKES PEAK ROAD	--	9	1.33	7
1378 'WB'+01	-	1378 'WB'+08	IHM-HARRIS ROAD	--	9	1.33	7
1378 'WB'+89	-	1378 'WB'+91	IHM-HARRIS ROAD	--	9	1.33	7
1517 'WB'+63	-	1517 'WB'+77	CTH K	--	9	1.33	7
1517 'WB'+95	-	1518 'WB'+16	CTH K	6	--	--	--
1519 'WB'+05	-	1519 'WB'+13	CTH K	--	9	1.33	7
1563 'WB'+01	-	1563 'WB'+09	MOUNDS VIEW ROAD	--	9	1.33	7
1563 'WB'+84	-	1563 'WB'+98	MOUNDS VIEW ROAD	--	9	1.33	7
1616 'WB'+92	-	1617 'WB'+06	E BRIGHAM ROAD	--	9	1.33	7
1617 'WB'+91	-	1617 'WB'+98	E BRIGHAM ROAD	--	9	1.33	7
STAGE 3 SUBTOTAL				**12**	**119**	**19**	**100**

MISCELLANEOUS INTERSECTION ITEMS

STATION	TO	STATION	LOCATION	465.0305 ASPHALTIC SURFACE SAFETY ISLANDS TON	465.0315 ASPHALTIC FLUMES SY	606.01 RIPRAP LIGHT CY	645.013 GEOTEXTILE TYPE R SY
STAGE 8							
EASTBOUND							
1023 'EB'+60	-	1023 'EB'+68	CTH Y	--	9	1.33	7
1024 'EB'+50	-	1024 'EB'+57	CTH Y	--	9	1.33	7
1256 'EB'+95	-	1257 'EB'+02	HI-POINT ROAD	--	9	1.33	7
1257 'EB'+72	-	1257 'EB'+77	HI-POINT ROAD	--	9	1.33	7
1313 'EB'+29	-	1313 'EB'+44	W BRINGHAM ROAD	--	9	1.33	7
1313 'EB'+92	-	1313 'EB'+99	W BRINGHAM ROAD	--	9	1.33	7
1314 'EB'+35	-	1314 'EB'+43	W BRINGHAM ROAD	--	9	1.33	7
1364 'EB'+77	-	1364 'EB'+84	THOMPSON ROAD	--	9	1.33	7
1365 'EB'+57	-	1365 'EB'+69	THOMPSON ROAD	--	9	1.33	7
1391 'EB'+68	-	1391 'EB'+82	CTH T	--	9	1.33	7
1392 'EB'+08	-	1392 'EB'+22	CTH T	--	9	1.33	7
1518 'EB'+67	-	1518 'EB'+74	CTH K	--	9	1.33	7
1519 'EB'+17	-	1519 'EB'+32	CTH K	--	9	1.33	7
1519 'EB'+50	-	1519 'EB'+58	CTH K	--	9	1.33	7
1562 'EB'+99	-	1563 'EB'+07	MOUNDS VIEW ROAD	--	9	1.33	7
1563 'EB'+87	-	1564 'EB'+00	MOUNDS VIEW ROAD	--	9	1.33	7
1616 'EB'+99	-	1617 'EB'+13	E BRIGHAM ROAD	--	9	1.33	7
1617 'EB'+77	-	1617 'EB'+83	E BRIGHAM ROAD	--	9	1.33	7
STAGE 8 SUBTOTAL				--	**162**	**24**	**128**
TOTAL				**12**	**281**	**43**	**228**

CONCRETE CURB AND GUTTER

STATION	TO	STATION	LOCATION	601.0105 CONCRETE CURB TYPE A LF	601.0110 CONCRETE CURB TYPE D LF	601.0551 4-INCH SLOPED 36-INCH TYPE A LF	650.5500 CONSTRUCTION STAKING CURB, GUTTER AND CURB & GUTTER LF	628.2002* EROSION MAT CLASS I TYPE A SY	REMARKS
STAGE 3									
WESTBOUND									
1024 'WB'+16	-	1024 'WB'+49	CTH Y	--	--	41	41	20	NW QUADRANT
1024 'WB'+61	-	1024 'WB'+69	CTH Y	87	--	--	87	--	MEDIAN ISLAND
1025 'WB'+52	-	1025 'WB'+95	CTH Y	--	--	98	98	49	NE QUADRANT
1256 'WB'+99	-	1257 'WB'+45	CTH HHH	--	--	76	76	38	NW QUADRANT
1257 'WB'+50	-	1257 'WB'+64	CTH HHH	--	--	120	120	--	MEDIAN ISLAND (REJECT)
1258 'WB'+09	-	1258 'WB'+74	CTH HHH	--	--	88	88	45	NE QUADRANT
1313 'WB'+86	-	1314 'WB'+24	PIKES PEAK ROAD	--	--	52	52	26	NW QUADRANT
1314 'WB'+71	-	1315 'WB'+02	PIKES PEAK ROAD	--	--	80	80	38	NE QUADRANT
1378 'WB'+08	-	1378 'WB'+55	IHM-HARRIS ROAD	--	--	71	71	35	NW QUADRANT
1378 'WB'+93	-	1379 'WB'+40	IHM-HARRIS ROAD	--	--	66	66	33	NE QUADRANT
1444 'WB'+18	-	1451 'WB'+18	WB ON RAMP - CTH ID	--	--	700	700	388	RIGHT
1517 'WB'+29	-	1517 'WB'+75	CTH K	--	--	86	86	42	NW QUADRANT
1517 'WB'+95	-	1518 'WB'+16	CTH K	--	130	--	130	--	MEDIAN ISLAND
1518 'WB'+57	-	1519 'WB'+05	CTH K	--	--	60	60	30	NE QUADRANT
1563 'WB'+09	-	1563 'WB'+58	MOUNDS VIEW ROAD	--	--	78	78	38	NW QUADRANT
1563 'WB'+87	-	1564 'WB'+45	MOUNDS VIEW ROAD	--	--	94	94	47	NE QUADRANT
1616 'WB'+57	-	1617 'WB'+04	E BRIGHAM ROAD	--	--	77	77	38	NW QUADRANT
1617 'WB'+33	-	1617 'WB'+91	E BRIGHAM ROAD	--	--	93	93	47	NE QUADRANT
STAGE 3 SUBTOTAL				**87**	**130**	**1,880**	**2,097**	**915**	
STAGE 8									
EASTBOUND									
1023 'EB'+68	-	1023 'EB'+97	CTH Y	--	--	96	96	47	SW QUADRANT
1024 'EB'+57	-	1025 'EB'+20	CTH Y	--	--	77	77	39	SE QUADRANT
1257 'EB'+02	-	1257 'EB'+36	HI-POINT ROAD	--	--	74	74	36	SW QUADRANT
1257 'EB'+77	-	1258 'EB'+13	HI-POINT ROAD	--	--	47	47	23	SE QUADRANT
1313 'EB'+10	-	1313 'EB'+44	W BRINGHAM ROAD	--	--	81	81	--	SW QUADRANT
1313 'EB'+98	-	1314 'EB'+36	W BRINGHAM ROAD	--	--	45	45	--	SE QUADRANT
1364 'EB'+84	-	1365 'EB'+30	THOMPSON ROAD	--	--	71	71	35	SW QUADRANT
1365 'EB'+59	-	1366 'EB'+06	THOMPSON ROAD	--	--	74	74	37	SE QUADRANT
1391 'EB'+34	-	1391 'EB'+80	CTH T	--	--	73	73	36	SW QUADRANT
1392 'EB'+11	-	1392 'EB'+57	CTH T	--	--	76	76	37	SE QUADRANT
1518 'EB'+21	-	1518 'EB'+67	CTH K	--	--	58	58	29	SW QUADRANT
1519 'EB'+20	-	1519 'EB'+51	CTH K	--	--	77	77	--	SE QUADRANT
1563 'EB'+07	-	1563 'EB'+62	MOUNDS VIEW ROAD	--	--	87	87	45	SW QUADRANT
1563 'EB'+89	-	1564 'EB'+37	MOUNDS VIEW ROAD	--	--	74	74	38	SE QUADRANT
1616 'EB'+56	-	1617 'EB'+11	E BRIGHAM ROAD	--	--	91	91	--	SW QUADRANT
1617 'EB'+38	-	1617 'EB'+77	E BRIGHAM ROAD	--	--	68	68	--	SE QUADRANT
STAGE 8 SUBTOTAL				**0**	**0**	**1,169**	**1,169**	**402**	
TOTAL				**87**	**130**	**3,049**	**3,266**	**1,317**	

GUARDRAIL SUMMARY

LOCATION	STATION		STATION	LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	614.0305 STEEL PLATE BEAM GUARD CLASS A EACH	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS LF	614.0370 STEEL PLATE BEAM GUARD ENGERGY ABSORBING TERMINAL EACH	614.0400 ADJUSTING STEEL PLATE BEAM GUARD LF	614.0950 REPLACING GUARD RAIL POSTS & BLOCKS EA	614.2300 MGS GUARDRAIL 3 LF	614.2350 MGS GUARD RAIL SHORT RADIUS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH	SPV.0060.06 ADJUSTING EATS EACH	SPV.0060.07 UTILITY LINE OPENING EACH	SPV.0090.04 SALVAGE AND REINSTALL THRIE BEAM LF	FOR INFORMATION ONLY BORROW CY	SALVAGED TOPSOIL SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 80 LB	SEEDING TEMPORARY LB	REMARKS
STAGE 3																								
WESTBOUND																								
WB01	936'WB'+50	-	942'WB'+53	USH 18 LT	1	--	--	--	--	--	550.0	--	--	1	1	--	--	--	23	159	0.10	4	2	
WB02	951'WB'+00	-	960'WB'+28	USH 18 LT	1	--	--	--	--	--	875.0	--	--	1	1	--	--	--	56	269	0.17	7	4	
WB03	1089'WB'+75	-	1097'WB'+53	USH 18 LT	1	--	--	--	--	--	725.0	--	--	1	1	--	--	--	127	275	0.17	7	4	
WB04	1168'WB'+00	-	1175'WB'+53	USH 18 LT	1	--	--	--	--	--	700.0	--	--	1	1	--	--	--	40	129	0.08	3	2	
WB05	1196'WB'+88	-	1210'WB'+54	USH 18 LT	1	--	--	--	--	--	1,312.5	--	--	1	1	--	--	--	45	157	0.10	4	2	
WB06	1223'WB'+33	-	1225'WB'+91	USH 18 LT	1	--	--	--	--	--	187.5	--	20.6	1	--	--	--	--	86	214	0.14	6	3	
WB08	1237'WB'+47	-	1248'WB'+00	USH 18 LT	1	--	--	--	--	--	1,000.0	--	--	1	1	--	--	--	34	182	0.11	5	2	
WB09	1318'WB'+90	-	1327'WB'+93	USH 18 LT	1	--	--	--	--	--	850.0	--	--	1	1	--	--	--	16	132	0.08	4	2	
WB10	1342'WB'+50	-	1347'WB'+53	USH 18 LT	1	--	--	--	--	--	450.0	--	--	1	1	--	--	--	19	173	0.11	5	2	
WB11	1464'WB+37	-	1468'WB'+00	USH 18 LT	--	--	--	--	363	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
WB11A	1466'WB'+00	-	1468'WB'+00	USH 18 LT	--	--	--	--	163	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
WB12	1466'WB'+45	-	1476'WB'+00	USH 18 LT	1	--	--	1	913	5	--	--	--	--	--	--	--	--	--	--	--	--	--	
WB13	1484'WB'+48	-	1485'WB'+80	USH 18 LT	--	--	--	--	--	--	62.5	--	20.6	--	1	--	--	--	--	--	--	--	--	
WB15	1487'WB'+79	-	1498'WB'+97	USH 18 LT	1	--	--	--	--	--	1,050.0	--	20.6	1	--	--	--	--	185	634	0.40	17	9	
WB16	1519'WB'+50	-	1525'WB'+31	USH 18 LT	1	--	--	--	--	--	563.0	--	--	1	1	--	--	--	58	120	0.08	3	2	
WB17	1553'WB'+00	-	1560'WB'+53	USH 18 LT	1	--	--	--	--	--	753.0	--	--	1	1	--	--	--	60	178	0.11	5	2	
WB18	1574'WB'+54	-	1580'WB'+94	USH 18 LT	1	--	--	--	--	--	587.5	--	--	1	1	--	--	--	96	272	0.17	7	4	
STAGE 3 SUBTOTAL					**14**	**0**	**0**	**1**	**1,439**	**5**	**9,666**	**0**	**62**	**13**	**12**	**0**	**0**		**845**	**2,894**	**2**	**78**	**39**	
STAGE 4																								
WESTBOUND																								
WB06B	1220'WB'+50	-	1221'WB'+80	USH 18 RT	--	--	--	--	230	2	--	--	--	--	--	--	--	--	--	--	--	--	--	
WB06C	1223'WB'+50	-	1224'WB'+80	USH 18 RT	--	--	--	--	130	2	--	--	--	--	--	--	--	--	--	--	--	--	--	
WB13A	1486'WB'+00	-	1486'WB'+15	USH 18 RT	--	--	--	--	--	--	--	--	--	--	--	--	--	14.4	--	--	--	--	--	
WB14	1488'WB'+11	-	1488'WB'+26	USH 18 RT	--	--	--	--	--	--	--	--	--	--	--	--	--	14.4	--	--	--	--	--	
STAGE 4 SUBTOTAL					**0**	**0**	**0**	**0**	**360**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**29**	**0**	**0**	**0**	**0**	**0**	
STAGE 8																								
EASTBOUND																								
EB01	933'EB'+00	-	942'EB'+03	USH 18 RT	1	--	--	--	--	--	850.0	--	--	1	1	--	--	--	28	134	0.08	4	2	
EB02	950'EB'+84	-	958'EB'+50	USH 18 RT	1	--	--	--	--	--	712.5	--	--	1	1	--	--	--	62	130	0.08	4	2	
EB03	1014'EB'+76	-	1023'EB'+67	USH 18 RT	1	--	--	--	--	--	837.5	--	--	1	1	--	--	--	23	177	0.11	5	2	
EB04A	1058'EB'+79	-	1061'EB'+45	USH 18 RT	1	--	--	--	--	--	212.5	--	--	1	1	--	--	--	101	290	0.18	8	4	
EB04C	1121'EB'+60	-	1124'EB'+06	USH 18 RT	--	--	--	--	250	--	--	--	--	--	--	1	--	--	--	--	--	--	--	
EB05	1199'EB'+00	-	1209'EB'+03	USH 18 RT	1	--	--	--	--	--	950.0	--	--	1	1	--	--	--	60	183	0.12	5	2	
EB06	1219'EB'+84		1222'EB'+39	USH 18 RT	1	--	--	--	--	--	182.5	--	20.6	1	--	--	--	--	38	277	0.17	7	4	
EB08	1223'EB'+94	-	1224'EB'+89	USH 18 RT	--	--	--	--	--	--	75.0	--	20.6	--	1	--	--	--	--	--	--	--	--	
EB09	1231'EB'+69	-	1244'EB'+97	USH 18 RT	1	--	--	--	--	--	1,275.0	--	--	1	1	--	--	--	55	186	0.12	5	3	
EB10	1265'EB'+22	-	1280'EB'+50	USH 18 RT	1	--	--	--	--	--	1,475.0	--	--	1	1	--	--	--	59	175	0.11	5	2	
EB11	1289'EB'+72	-	1298'EB'+00	USH 18 RT	1	--	--	--	--	--	775.0	--	--	1	1	--	--	--	58	149	0.09	4	2	
EB12	1312'EB'+12	-	46'PP'+67	USH 18 RT	1	38	100	1	--	--	--	--	--	--	--	--	--	--	180	530	0.33	14	7	36' RADIUS, SHOP BEND (75 FT)
EB13	1315'EB'+75	-	1322'EB'+03	USH 18 RT	1	--	--	--	--	--	575.0	--	--	1	1	--	--	--	228	425	0.27	11	6	
EB14	1337'EB'+07	-	1346'EB'+10	USH 18 RT	1	--	--	--	--	--	850.0	--	--	1	1	--	--	--	115	315	0.20	9	4	
EB15	1358'EB'+59	-	1364'EB'+12	USH 18 RT	1	--	--	--	--	--	500.0	--	--	1	1	--	--	--	27	81	0.05	2	1	
EB16	1379'EB'+00	-	1384'EB'+91	USH 18 RT	1	--	--	--	--	--	537.5	--	--	1	1	--	--	--	148	104	0.07	3	1	
EB17	1393'EB'+60	-	1400'EB'+00	USH 18 RT	1	--	--	--	--	--	587.5	--	--	1	1	--	--	--	270	685	0.43	18	9	
EB18	1405'EB'+25	-	1409'EB'+53	USH 18 RT	1	--	--	--	--	--	375.0	--	--	1	1	--	--	--	34	109	0.07	3	1	
EB19	1418'EB'+50	-	1425'EB'+03	USH 18 RT	1	--	--	--	--	--	400.0	--	--	1	1	--	--	--	76	279	0.18	8	4	
EB20	1436'EB'+00	-	1445'EB'+03	USH 18 RT	1	--	--	--	--	--	850.0	--	--	1	1	--	2	--	69	350	0.22	9	5	CHARTER ULOS 1437'EB'+00 & 1444'EB'+50
EB21	1456'EB'+63	-	1460'EB'+17	USH 18 RT	1	--	--	--	--	--	300.0	--	--	1	1	--	--	--	8	157	0.10	4	2	
EB22	1466'EB'+52	-	1472'EB'+46	USH 18 RT	--	--	--	--	550	--	--	--	--	--	--	1	1	--	--	--	--	--	--	
EB22A	1471'EB'+46	-	1472'EB'+96	USH 18 RT	--	--	--	--	250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
EB23	1484'EB'+13	-	1486'EB'+68	USH 18 RT	1	--	--	--	--	--	182.5	--	20.6	1	--	--	--	--	113	322	0.20	9	4	
EB25	1489'EB'+15	-	1497'EB'+83	USH 18 RT	--	--	--	--	--	--	800.0	--	20.6	--	1	--	--	--	--	--	--	--	--	
EB26	48'K'+74	-	1525'EB'+53	USH 18 RT	--	--	--	--	682	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
EB27	1547'EB'+50	-	1557'EB'+78	USH 18 RT	1	--	--	--	--	--	975.0	--	--	1	1	--	--	--	113	276	0.17	7	4	
EB28	1571'EB'+50	-	1579'EB'+78	USH 18 RT	1	--	--	--	--	--	775.0	--	--	1	1	--	--	--	60	186	0.12	5	3	
EB29	1595'EB'+72	-	1600'EB'+25	USH 18 RT	1	--	--	--	--	--	400.0	--	--	1	1	--	--	--	50	493	0.31	13	7	
EB30	1614'EB'+80	-	48'BE'+22	USH 18 RT	2	--	--	--	--	--	150	100	--	2	--	--	1	--	484	1,056	0.67	29	14	56' RADIUS, SHOP BEND (100 FT)
EB31	1617'EB'+50	-	1624'EB'+50	USH 18 RT	--	--	--	--	740	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
STAGE 8 SUBTOTAL					**25**	**38**	**100**	**1**	**2,472**	**0**	**15,603**	**100**	**82**	**24**	**22**	**2**	**4**		**2,459**	**7,068**	**4**	**191**	**95**	
STAGE 9																								
EASTBOUND																								
EB04B	1123'EB'+00	-	1124'EB'+10	USH 18 LT	--	--	--	--	113	--	--	--	--	--	--	1	--	--	--	--	--	--	--	
EB06B	1220'EB'+50		1222'EB'+20	USH 18 LT	--	--	--	--	230	2	--	--	--	--	--	--	--	--	--	--	--	--	--	
EB06C	1224'EB'+06		1225'EB'+37	USH 18 LT	--	--	--	--	130	2	--	--	--	--	--	--	--	--	--	--	--	--	--	
STAGE 9 SUBTOTAL					**0**	**0**	**0**	**0**	**473**	**50**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
TOTAL					**39**	**38**	**100**	**2**	**4,744**	**59**	**25,269**	**100**	**144**	**37**	**34**	**3**	**4**	**29**	**3,304**	**9,961**	**6**	**269**	**134**	

PERMANENT CRASH CUSHION REINSTALLATION

LOCATION	STATION	SPV.0060.01 SALVAGE & REINSTALL CRASH CUSHION PERMENANT EACH	REMARKS
USH 18/USH 151 WB OFF TO CTH ID	1468+00 'WB'	1	
TOTAL		1	

WATER SUMMARY

LOCATION	624.0100 WATER MGAL	REMARKS
BASE COURSE	829	
TOTAL	**829**	

LANDSCAPING SUMMARY

STATION	STATION	LOCATION	625.0100 TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0180 SEEDING MIXTURE NO. 80 LB	630.0400 SEEDING NURSE CROP LB	REMARKS
STAGE 3							
WESTBOUND							
1024 'WB'+ 16 -	1024 'WB'+ 49	CTH Y	23	0.014	0.2	0.2	NW QUADRANT
1025 'WB'+ 52 -	1025 'WB'+ 95	CTH Y	54	0.034	0.4	0.4	NE QUADRANT
1025 'WB'+ 00 -	1035 'WB'+ 00	LEFT	1,500	0.945	10.8	10.8	
1256 'WB'+ 99 -	1257 'WB'+ 45	CTH HHH	42	0.027	0.3	0.3	NW QUADRANT
1258 'WB'+ 09 -	1258 'WB'+ 74	CTH HHH	49	0.031	0.4	0.4	NE QUADRANT
1313 'WB'+ 86 -	1314 'WB'+ 24	PIKES PEAK ROAD	29	0.018	0.2	0.2	NW QUADRANT
1314 'WB'+ 71 -	1315 'WB'+ 02	PIKES PEAK ROAD	44	0.028	0.3	0.3	NE QUADRANT
1378 'WB'+ 08 -	1378 'WB'+ 55	IHM-HARRIS ROAD	39	0.025	0.3	0.3	NW QUADRANT
1378 'WB'+ 93 -	1379 'WB'+ 40	IHM-HARRIS ROAD	37	0.023	0.3	0.3	NE QUADRANT
1444 'WB'+ 18 -	1451 'WB'+ 18	WB ON RAMP - CTH ID	389	0.245	2.8	2.8	RIGHT
1517 'WB'+ 29 -	1517 'WB'+ 75	CTH K	48	0.030	0.3	0.3	NW QUADRANT
1518 'WB'+ 57 -	1519 'WB'+ 05	CTH K	33	0.021	0.2	0.2	NE QUADRANT
1563 'WB'+ 09 -	1563 'WB'+ 58	MOUNDS VIEW ROAD	43	0.027	0.3	0.3	NW QUADRANT
1563 'WB'+ 87 -	1564 'WB'+ 45	MOUNDS VIEW ROAD	52	0.033	0.4	0.4	NE QUADRANT
1616 'WB'+ 57 -	1617 'WB'+ 04	E BRIGHAM RAOD	43	0.027	0.3	0.3	NW QUADRANT
1617 'WB'+ 33 -	1617 'WB'+ 91	E BRIGHAM RAOD	52	0.033	0.4	0.4	NE QUADRANT
STAGE 3 SUBTOTAL			2,478	1.561	17.8	17.8	
STAGE 8							
EASTBOUND							
1023 'EB'+ 68 -	1023 'EB'+ 97	CTH Y	53	0.034	0.4	0.4	SW QUADRANT
1024 'EB'+ 57 -	1025 'EB'+ 20	CTH Y	43	0.027	0.3	0.3	SE QUADRANT
1080 'EB'+ 00 -	1083 'EB'+ 00	RIGHT	500	0.315	3.6	3.6	
1257 'EB'+ 02 -	1257 'EB'+ 36	HI-POINT ROAD	41	0.026	0.3	0.3	SW QUADRANT
1257 'EB'+ 77 -	1258 'EB'+ 13	HI-POINT ROAD	26	0.016	0.2	0.2	SE QUADRANT
1313 'EB'+ 10 -	1313 'EB'+ 44	W BRINGHAM ROAD	45	0.028	0.3	0.3	SW QUADRANT
1313 'EB'+ 98 -	1314 'EB'+ 36	W BRINGHAM ROAD	25	0.016	0.2	0.2	SE QUADRANT
1364 'EB'+ 84 -	1365 'EB'+ 30	THOMPSON ROAD	39	0.025	0.3	0.3	SW QUADRANT
1365 'EB'+ 59 -	1366 'EB'+ 06	THOMPSON ROAD	41	0.026	0.3	0.3	SE QUADRANT
1391 'EB'+ 34 -	1391 'EB'+ 80	CTH T	41	0.026	0.3	0.3	SW QUADRANT
1392 'EB'+ 11 -	1392 'EB'+ 57	CTH T	42	0.027	0.3	0.3	SE QUADRANT
1426 'EB'+ 24 -	1426 'EB'+ 67	USH 18 RT	226	0.142	1.6	1.6	DRIVEWAY REMOVAL
1518 'EB'+ 21 -	1518 'EB'+ 67	CTH K	32	0.020	0.2	0.2	SW QUADRANT
1519 'EB'+ 20 -	1519 'EB'+ 51	CTH K	43	0.027	0.3	0.3	SE QUADRANT
1563 'EB'+ 07 -	1563 'EB'+ 62	MOUNDS VIEW ROAD	48	0.030	0.3	0.3	SW QUADRANT
1563 'EB'+ 89 -	1564 'EB'+ 37	MOUNDS VIEW ROAD	41	0.026	0.3	0.3	SE QUADRANT
1616 'EB'+ 56 -	1617 'EB'+ 11	E BRIGHAM ROAD	51	0.032	0.4	0.4	SW QUADRANT
1617 'EB'+ 38 -	1617 'EB'+ 77	E BRIGHAM ROAD	38	0.024	0.3	0.3	SE QUADRANT
STAGE 8 SUBTOTAL			1,375	0.867	10	10	
STAGE 9							
EASTBOUND							
1437 'EB'+ 71 -	1438 'EB'+ 32	USH 18 LT	229	0.144	1.6	1.6	MEDIAN REMOVAL
STAGE 9 SUBTOTAL			229	0.144	1.6	1.6	
TOTAL			**4,082**	**2.572**	**29**	**29**	

EROSION CONTROL SUMMARY

LOCATION	STATION		STATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2002* EROSION MAT CLASS I TYPE A SY	628.7005 INLET PROTECTION TYPE A EACH	REMARKS
EB01	933'EB'+00	-	942'EB'+03	176	176	--	--	134	--	
EB02	950'EB'+84	-	957'EB'+75	97	97	--	--	130	--	
EB03	1014'EB'+76	-	1023'EB'+67	205	205	--	--	177	--	
EB04A	1057'EB'+70	-	1062'EB'+73	207	207	--	--	290	--	
	1080'EB'+00	-	1083'EB'+00	300	300	--	--	500	--	SLOPE CORRECTION
EB05	1199'EB'+00	-	1209'EB'+03	188	188	--	--	183	--	
EB06	1220'EB'+34	-	1222'EB'+42	241	241	--	--	277	--	
EB09	1231'EB'+50	-	1244'EB'+28	202	202	--	--	186	--	
EB10	1263'EB'+50	-	1280'EB'+50	193	193	--	--	175	--	
EB11	1288'EB'+70	-	1298'EB'+00	133	133	--	--	149	--	
EB12	1311'EB'+00	-	1313'EB'+38	213	213	--	--	530	--	
EB13	1313'EB'+60	-	1322'EB'+00	170	170	--	--	425	--	
EB14	1336'EB'+00	-	1346'EB'+10	208	208	--	--	315	--	
EB15	1357'EB'+80	-	1364'EB'+12	106	106	--	--	81	--	
EB16	1379'EB'+00	-	1384'EB'+91	110	110	--	--	104	--	
EB17	1392'EB'+50	-	1400'EB'+00	215	215	--	--	685	--	
EB18	1405'EB'+25	-	1409'EB'+53	135	135	--	--	109	--	
EB19	1417'EB'+00	-	1425'EB'+03	195	195	--	--	279	--	
EB20	1434'EB'+50	-	1445'EB'+03	221	221	--	--	350	--	
EB21	1455'EB'+25	-	1460'EB'+17	195	195	--	--	157	--	
EB23	1483'EB'+81	-	1486'EB'+68	200	200	--	--	322	--	
EB27	1546'EB'+00	-	1557'EB'+78	194	194	--	--	276	--	
EB28	1570'EB'+00	-	1579'EB'+78	193	193	--	--	186	--	
EB29	1594'EB'+50	-	1600'EB'+25	243	243	--	--	493	--	
EB30	1613'EB'+25	-	1617'EB'+00	493	493	--	--	1,056	--	
WB01	936'WB'+50	-	943'WB'+50	180	180	--	--	159	--	
WB02	951'WB'+00	-	960'WB'+28	262	262	--	--	269	--	
	1025'WB'+00	-	1035'WB'+00	1,000	1,000	--	--	1,500	--	SLOPE CORRECTION
WB03	1089'WB'+75	-	1099'WB'+00	207	207	--	--	275	--	
WB04	1168'WB'+00	-	1176'WB'+50	165	165	--	--	129	--	
WB05	1196'WB'+88	-	1212'WB'+00	194	194	--	--	157	--	
WB06	1223'WB'+33	-	1227'WB'+00	198	198	--	--	214	--	
WB08	1237'WB'+47	-	1249'WB'+00	201	201	--	--	182	--	
WB09	1318'WB'+90	-	1328'WB'+50	183	183	--	--	132	--	
WB10	1342'WB'+50	-	1349'WB'+00	193	193	--	--	173	--	
WB15	1487'WB'+79	-	1500'WB'+00	212	212	--	--	634	--	
WB16	1519'WB'+50	-	1526'WB'+00	100	100	--	--	120	--	
WB17	1553'WB'+00	-	1561'WB'+50	189	189	--	--	178	--	
WB18	1574'WB'+54	-	1582'WB'+00	145	145	--	--	272	--	
DRIVEWAY	1426'EB'+24	-	1426'EB'+67	--	--	--	--	226	--	
MEDIAN	1437'EB'+71		1438'EB'+32	--	--	--	--	229	--	
UNDISTRIBUTED				350	350	4	4	500	76	
			TOTAL	**8,812**	**8,812**	**4**	**4**	**12,916**	**76**	

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

3

DELINEATORS SUMMARY

STATION		STATION	633.0100 DELINEATOR POSTS STEEL EA	633.0500 DELINEATOR REFLECTORS EA	REMARKS
1444'WB'+18	-	1451'WB'+18	6	12	ON RAMP RIGHT SHOULDER
UNDISTRIBUTED			15	15	
TOTAL			**21**	**27**	

SIGNS

STATION	LOCATION	638.2602 REMOVING SIGNS TYPE II EA	638.3000 REMOVING SMALL SIGN SUPPORTS EA	638.2102 MOVING SIGNS TYPE II EA	638.4000 MOVING SMALL SIGN SUPPORTS EA	REMARKS
1024'WB'+61	CTH Y	---	---	4	2	MEDIAN ISLAND
1257'WB+50	CTH HHH	---	---	4	2	MEDIAN ISLAND
1426'EB'+43	USH 18 RT	2	2	---	---	DRIVEWAY REMOVAL
1438'EB'+00	USH 18 MEDIAN	2	2	---	---	MEDIAN CROSS OVER REMOVAL
1517'WB'+95	CTH K	---	---	4	2	MEDIAN ISLAND
TOTAL		**4**	**4**	**12**	**6**	

PAVEMENT MARKING SUMMARY

STATION	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE EOP LF	646.1020 MARKING LINE EPOXY 4-INCH YELLOW LF	646.1020 MARKING LINE EPOXY 4-INCH SKIP LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH WHITE LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH YELLOW LF	646.1555 MARKING LINE GROOVED WET REF CONTRAST TAPE 4-INCH WHITE SKIP LF	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH WHITE LF	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH SKIP LF	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.6464 COLD WEATHER MARKING EPOXY 4-INCH LF	647.6468 COLD WEATHER MARKING EPOXY 8-INCH LF	646.7220 MARKING CHEVERON EPOXY 24-INCH LF	REMARKS
STAGE 4															
WESTBOUND															
909'WB'+59	1023'WB'+90	USH 18 WB	--	--	--	--	11,431	--	--	--	--	11,431	--	--	WB MEDIAN
909'WB'+59	1123'WB'+59	USH 18 WB	--	--	--	--	--	4,280	--	--	--	4,280	--	--	WB CENTER
1024'WB'+96	1123'WB'+58	USH 18 WB	--	--	--	--	9,862	--	--	--	--	9,862	--	--	WB MEDIAN
1135'WB'+25	1222'WB'+00	USH 18 WB	--	--	--	--	8,675	--	--	--	--	8,675	--	--	WB MEDIAN
1135'WB'+25	1221'WB'+97	USH 18 WB	--	--	--	--	--	1,734	--	--	--	1,734	--	--	WB CENTER
1222'WB'+00	1223'WB'+28	WB BRIDGE OVER GROVE	--	128	--	--	--	--	--	--	--	128	--	--	WB MEDIAN
1221'WB'+97	1223'WB'+26	WB BRIDGE OVER GROVE	--	--	32	--	--	--	--	--	--	32	--	--	WB CENTER
1223'WB'+28	1257'WB'+17	USH 18 WB	--	--	--	--	3,389	--	--	--	--	3,389	--	--	WB MEDIAN
1223'WB'+26	1486'WB'+13	USH 18 WB	--	--	--	--	--	5,257	--	--	--	5,257	--	--	WB CENTER
1258'WB'+10	1313'WB'+26	USH 18 WB	--	--	--	--	5,516	--	--	--	--	5,516	--	--	WB MEDIAN
1314'WB'+31	1365'WB'+04	USH 18 WB	--	--	--	--	5,073	--	--	--	--	5,073	--	--	WB MEDIAN
1365'WB'+84	1378'WB'+38	USH 18 WB	--	--	--	--	1,254	--	--	--	--	1,254	--	--	WB MEDIAN
1378'WB'+96	1391'WB'+39	USH 18 WB	--	--	--	--	1,243	--	--	--	--	1,243	--	--	WB MEDIAN
1392'WB'+31	1486'WB'+21	USH 18 WB	--	--	--	--	9,390	--	--	--	--	9,390	--	--	WB MEDIAN
1486'WB'+21	1487'WB'+95	WB BRIDGE OVER JONES	--	174	--	--	--	--	--	--	--	174	--	--	WB MEDIAN
1486'WB'+13	1487'WB'+87	WB BRIDGE OVER JONES	--	--	44	--	--	--	--	--	--	44	--	--	WB CENTER
1487'WB'+95	1518'WB'+13	USH 18 WB	--	--	--	--	3,018	--	--	--	--	3,018	--	--	WB MEDIAN
1487'WB'+87	1630'WB'+54	USH 18 WB	--	--	--	--	--	2,853	--	--	--	2,853	--	--	WB CENTER
1564'WB'+22	1616'WB'+83	USH 18 WB	--	--	--	--	5,261	--	--	--	--	5,261	--	--	WB MEDIAN
1519'WB'+14	1563'WB'+30	USH 18 WB	--	--	--	--	4,416	--	--	--	--	4,416	--	--	WB MEDIAN
1617'WB'+60	1630'WB'+54	USH 18 WB	--	--	--	--	1,294	--	--	--	--	1,294	--	--	WB MEDIAN
WESTBOUND SUBTOTAL			0	302	76	0	69,822	14,125	0	0	0	84,325	0	0	
STAGE 4 SUBTOTAL			**0**	**302**	**76**	**0**	**69,822**	**14,125**	**0**	**0**	**0**	**84,325**	**0**	**0**	

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

PAVEMENT MARKING SUMMARY

STATION	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE EOP LF	646.1020 MARKING LINE EPOXY 4-INCH YELLOW LF	646.1020 MARKING LINE EPOXY 4-INCH SKIP LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH WHITE LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH YELLOW LF	646.1555 MARKING LINE GROOVED WET REF CONTRAST TAPE 4-INCH WHITE SKIP LF	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH WHITE LF	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH SKIP LF	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.6464 COLD WEATHER MARKING EPOXY 4-INCH LF	647.6468 COLD WEATHER MARKING EPOXY 8-INCH LF	646.7220 MARKING CHEVERON EPOXY 24-INCH LF	REMARKS
STAGE 5															
WESTBOUND															
909'WB'+59	1024'WB'+16	USH 18 WB	--	--	--	11,457	--	--	--	--	--	11,457	--	--	WB OUTSIDE
1024'WB'+96	1029'WB'+38	USH 18 WB	--	--	--	--	--	--	442	--	--	--	442	--	WB OUTSIDE RAMP
1026'WB'+01	1030'WB'+50	USH 18 WB	--	--	--	--	--	--	449	--	--	--	449	--	WB OUTSIDE RAMP
1026'WB'+00	1101'WB'+63	USH 18 WB	--	--	--	7,563	--	--	--	--	--	7,563	--	--	WB OUTSIDE
1101'WB'+63	1114'WB'+10	WB ON RAMP FROM BB	--	--	--	1,247	--	--	--	--	--	1,247	--	--	WB OUTSIDE
1113'WB'+34	1114'WB'+14	WB ON RAMP FROM BB	--	--	--	80	--	--	--	--	--	80	--	--	WB OUTSIDE
1109'WB'+93	1113'WB'+34	WB ON RAMP FROM BB	--	--	--	--	--	--	341	--	--	--	341	--	WB OUTSIDE RAMP
1109'WB'+93	1113'WB'+37	USH 18 WB	--	--	--	--	--	--	344	--	--	--	344	--	WB OUTSIDE RAMP
1113'WB'+37	1123'WB'+60	USH 18 WB	--	--	--	1,023	--	--	--	--	--	1,023	--	--	WB OUTSIDE
1135'WB'+25	1136'WB'+99	USH 18 WB	--	--	--	174	--	--	--	--	--	174	--	--	WB OUTSIDE
1135'WB'+77	1137'WB'+01	WB OFF RAMP TO BB	--	--	--	124	--	--	--	--	--	124	--	--	WB OUTSIDE
1135'WB'+79	1145'WB'+20	WB OFF RAMP TO BB	--	--	--	941	--	--	--	--	--	941	--	--	WB OUTSIDE
1137'WB'+01	1140'WB'+02	WB OFF RAMP TO BB	--	--	--	--	--	--	301	--	--	--	301	--	WB OUTSIDE RAMP
1140'WB'+02	1145'WB'+20	WB OFF RAMP TO BB	--	--	--	--	--	--	--	130	--	--	130	--	WB OUTSIDE RAMP
1138'WB'+06	1139'WB'+79	WB OFF RAMP TO BB	--	--	--	--	--	--	--	--	--	--	--	110	WB OUTSIDE RAMP
1145'WB'+20	1221'WB'+93	USH 18 WB	--	--	--	7,673	--	--	--	--	--	7,673	--	--	WB OUTSIDE
1221'WB'+93	1223'WB'+24	WB BRIDGE OVER GROVE	131	--	--	--	--	--	--	--	--	131	--	--	WB OUTSIDE
1223'WB'+24	1256'WB'+99	USH 18 WB	--	--	--	3,375	--	--	--	--	--	3,375	--	--	WB OUTSIDE
1258'WB'+10	1258'WB'+66	USH 18 WB	--	--	--	--	--	--	56	--	--	--	56	--	WB OUTSIDE RAMP
1258'WB'+74	1263'WB'+04	USH 18 WB	--	--	--	--	--	--	430	--	--	--	430	--	WB OUTSIDE RAMP
1258'WB'+74	1313'WB'+83	USH 18 WB	--	--	--	5,509	--	--	--	--	--	5,509	--	--	WB OUTSIDE
1314'WB'+31	1317'WB'+56	USH 18 WB	--	--	--	--	--	--	325	--	--	--	325	--	WB OUTSIDE RAMP
1315'WB'+01	1318'WB'+06	USH 18 WB	--	--	--	--	--	--	305	--	--	--	305	--	WB OUTSIDE RAMP
1315'WB'+01	1378'WB'+08	USH 18 WB	--	--	--	6,307	--	--	--	--	--	6,307	--	--	WB OUTSIDE
1379'WB'+40	1380'WB'+39	USH 18 WB	--	--	--	--	--	--	99	--	--	--	99	--	WB OUTSIDE RAMP
1379'WB'+40	1438'WB'+11	USH 18 WB	--	--	--	5,871	--	--	--	--	--	5,871	--	--	WB OUTSIDE
1392'WB'+31	1397'WB'+24	USH 18 WB	--	--	--	--	--	--	493	--	--	--	493	--	WB OUTSIDE RAMP
1438'WB'+11	1453'WB'+37	WB ON RAMP FROM ID	--	--	--	1,526	--	--	--	--	--	1,526	--	--	WB OUTSIDE
1452'WB'+34	1453'WB'+40	WB ON RAMP FROM ID	--	--	--	106	--	--	--	--	--	106	--	--	WB OUTSIDE
1445'WB'+49	1452'WB'+34	WB ON RAMP FROM ID	--	--	--	--	--	--	685	--	--	--	685	--	WB OUTSIDE RAMP
1445'WB'+49	1452'WB'+33	USH 18 WB	--	--	--	--	--	--	684	--	--	--	684	--	WB OUTSIDE RAMP
1452'WB'+33	1467'WB'+82	USH 18 WB	--	--	--	1,549	--	--	--	--	--	1,549	--	--	WB OUTSIDE
1466'WB'+47	1472'WB'+85	WB OFF RAMP TO ID	--	--	--	638	--	--	--	--	--	638	--	--	WB OUTSIDE
1466'WB'+46	1467'WB'+84	WB OFF RAMP TO ID	--	--	--	138	--	--	--	--	--	138	--	--	WB OUTSIDE
1467'WB'+84	1471'WB'+06	WB OFF RAMP TO ID	--	--	--	--	--	--	322	--	--	--	322	--	WB OUTSIDE RAMP
1471'WB'+06	1472'WB'+85	WB OFF RAMP TO ID	--	--	--	--	--	--	--	179	--	--	179	--	WB OUTSIDE RAMP
1468'WB'+51	1471'WB'+06	WB OFF RAMP TO ID	--	--	--	--	--	--	--	--	--	--	--	175	WB OUTSIDE RAMP
1467'WB'+82	1471'WB'+06	USH 18 WB	--	--	--	--	--	--	324	--	--	--	324	--	WB OUTSIDE RAMP
1472'WB'+85	1486'WB'+04	USH 18 WB	--	--	--	1,319	--	--	--	--	--	1,319	--	--	WB OUTSIDE
1486'WB'+04	1487'WB'+78	WB BRIDGE OVER JONES	174	--	--	--	--	--	--	--	--	174	--	--	WB OUTSIDE
1487'WB'+78	1517'WB'+29	USH 18 WB	--	--	--	2,951	--	--	--	--	--	2,951	--	--	WB OUTSIDE
1519'WB'+14	1523'WB'+41	USH 18 WB	--	--	--	--	--	--	427	--	--	--	427	--	WB OUTSIDE RAMP
1519'WB'+09	1523'WB'+59	USH 18 WB	--	--	--	--	--	--	450	--	--	--	450	--	WB OUTSIDE RAMP
1519'WB'+05	1563'WB'+10	USH 18 WB	--	--	--	4,405	--	--	--	--	--	4,405	--	--	WB OUTSIDE
1564'WB'+45	1568'WB'+98	USH 18 WB	--	--	--	--	--	--	453	--	--	--	453	--	WB OUTSIDE RAMP
1564'WB'+45	1616'WB'+57	USH 18 WB	--	--	--	5,212	--	--	--	--	--	5,212	--	--	WB OUTSIDE
1617'WB'+91	1622'WB'+43	USH 18 WB	--	--	--	--	--	--	452	--	--	--	452	--	WB OUTSIDE RAMP
1617'WB'+91	1630'WB'+54	USH 18 WB	--	--	--	1,263	--	--	--	--	--	1,263	--	--	WB OUTSIDE
WESTBOUND SUBTOTAL			305	0	0	70,451	0	0	7,382	309	0	70,756	7,691	285	

PAVEMENT MARKING SUMMARY

STATION	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE EOP LF	646.1020 MARKING LINE EPOXY 4-INCH YELLOW LF	646.1020 MARKING LINE EPOXY 4-INCH SKIP LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH WHITE LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH YELLOW LF	646.1555 MARKING LINE GROOVED WET REF CONTRAST TAPE 4-INCH WHITE SKIP LF	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH WHITE LF	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH SKIP LF	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.6464 COLD WEATHER MARKING EPOXY 4-INCH LF	647.6468 COLD WEATHER MARKING EPOXY 8-INCH LF	646.7220 MARKING CHEVERON EPOXY 24-INCH LF	REMARKS
SIDEROADS															
		CTH Y NORTH LEG	--	--	--	--	--	--	--	--	30	--	--	--	WB OUTSIDE
		HI-POINT NORTH LEG	--	--	--	--	--	--	--	--	34	--	--	--	WB OUTSIDE
		PIKES PEAK NORTH LEG	--	--	--	--	--	--	--	--	16	--	--	--	WB OUTSIDE
		IHM HARRIS NORTH LEG	--	--	--	--	--	--	--	--	31	--	--	--	WB OUTSIDE
		CTH K NORTH LEG	--	--	--	--	--	--	--	--	44	--	--	--	WB OUTSIDE
		MOUND VIEW NORTH LEG	--	--	--	--	--	--	--	--	30	--	--	--	WB OUTSIDE
		E BRIGHAM NORTH LEG	--	--	--	--	--	--	--	--	30	--	--	--	WB OUTSIDE
SIDEROAD SUBTOTAL			0	0	0	0	0	0	0	0	215	0	0	0	
STAGE 5 SUBTOTAL			**305**	**0**	**0**	**70,451**	**0**	**0**	**7,382**	**309**	**215**	**70,756**	**7,691**	**285**	
STAGE 9															
EASTBOUND															
910'EB'+37	- 1024'EB'+41	USH 18 EB	--	--	--	--	11,404	--	--	--	--	--	--	--	EB MEDIAN
910'EB'+37	- 1124'EB'+08	USH 18 EB	--	--	--	--	--	4,274	--	--	--	--	--	--	EB CENTER
1025'EB'+57	- 1124'EB'+09	USH 18 EB	--	--	--	--	9,852	--	--	--	--	--	--	--	EB MEDIAN
1135'EB'+90	- 1222'EB'+42	USH 18 EB	--	--	--	--	8,652	--	--	--	--	--	--	--	EB MEDIAN
1135'EB'+90	- 1222'EB'+45	USH 18 EB	--	--	--	--	--	1,731	--	--	--	--	--	--	EB CENTER
1222'EB'+42	- 1223'EB'+87	USH 18 EB BRIDGE OVER GROVE	--	145	--	--	--	--	--	--	--	--	--	--	EB MEDIAN
1222'EB'+45	- 1223'EB'+89	USH 18 EB BRIDGE OVER GROVE	--	--	36	--	--	--	--	--	--	--	--	--	EB CENTER
1258'EB'+60	- 1313'EB'+90	USH 18 EB	--	--	--	--	5,530	--	--	--	--	--	--	--	EB MEDIAN
1314'EB'+95	- 1365'EB'+14	USH 18 EB	--	--	--	--	5,019	--	--	--	--	--	--	--	EB MEDIAN
1365'EB'+83	- 1378'EB'+25	USH 18 EB	--	--	--	--	1,242	--	--	--	--	--	--	--	EB MEDIAN
1223'EB'+87	- 1257'EB'+46	USH 18 EB	--	--	--	--	3,359	--	--	--	--	--	--	--	EB MEDIAN
1223'EB'+89	- 1486'EB'+62	USH 18 EB	--	--	--	--	--	5,255	--	--	--	--	--	--	EB CENTER
1379'EB'+29	- 1391'EB'+76	USH 18 EB	--	--	--	--	1,247	--	--	--	--	--	--	--	EB MEDIAN
1486'EB'+52	- 1488'EB'+65	EB BRIDGE OVER JONES	--	213	--	--	--	--	--	--	--	--	--	--	EB MEDIAN
1486'EB'+62	- 1488'EB'+76	EB BRIDGE OVER JONES	--	--	43	--	--	--	--	--	--	--	--	--	EB CENTER
1488'EB'+65	- 1518'EB'+09	USH 18 EB	--	--	--	--	2,944	--	--	--	--	--	--	--	EB MEDIAN
1488'EB'+76	- 1630'EB'+61	USH 18 EB	--	--	--	--	--	2,837	--	--	--	--	--	--	EB CENTER
1392'EB'+21	- 1486'EB'+52	USH 18 EB	--	--	--	--	9,431	--	--	--	--	--	--	--	EB MEDIAN
1519'EB'+28	- 1563'EB'+22	USH 18 EB	--	--	--	--	4,394	--	--	--	--	--	--	--	EB MEDIAN
1564'EB'+14	- 1616'EB'+75	USH 18 EB	--	--	--	--	5,261	--	--	--	--	--	--	--	EB MEDIAN
1617'EB'+88	- 1630'EB'+61	USH 18 EB	--	--	--	--	1,273	--	--	--	--	--	--	--	EB MEDIAN
EASTBOUND SUBTOTAL			0	358	79	0	69,608	14,097	0	0	0	0	0	0	
STAGE 9 SUBTOTAL			**0**	**358**	**79**	**0**	**69,608**	**14,097**	**0**	**0**	**0**	**0**	**0**	**0**	

ADDITIONAL QUANTITIES SHOWN ON NEXT PAGE

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PAVEMENT MARKING SUMMARY

STATION	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE EOP LF	646.1020 MARKING LINE EPOXY 4-INCH YELLOW LF	646.1020 MARKING LINE EPOXY 4-INCH SKIP LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH WHITE LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH YELLOW LF	646.1555 MARKING LINE GROOVED WET REF CONTRAST TAPE 4-INCH WHITE SKIP LF	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH WHITE LF	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH SKIP LF	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.6464 COLD WEATHER MARKING EPOXY 4-INCH LF	647.6468 COLD WEATHER MARKING EPOXY 8-INCH LF	646.7220 MARKING CHEVERON EPOXY 24-INCH LF	REMARKS
STAGE 10															
EASTBOUND															
910'EB'+37	1023'EB'+67	USH 18 EB	--	--	--	11,330	--	--	--	--	--	--	--	--	EB OUTSIDE
1018'EB'+92	1023'EB'+58	USH 18 EB	--	--	--	--	--	--	466	--	--	--	--	--	EB OUTSIDE RAMP
1020'EB'+15	1024'EB'+41	USH 18 EB	--	--	--	--	--	--	426	--	--	--	--	--	EB OUTSIDE RAMP
1025'EB'+16	1102'EB'+60	USH 18 EB	--	--	--	7,744	--	--	--	--	--	--	--	--	EB OUTSIDE
1109'EB'+67	1114'EB'+48	USH 18 EB	--	--	--	--	--	--	481	--	--	--	--	--	EB OUTSIDE RAMP
1102'EB'+60	1115'EB'+12	EB OFF RAMP TO BB	--	--	--	1,252	--	--	--	--	--	--	--	--	EB OUTSIDE
1114'EB'+48	1115'EB'+14	EB OFF RAMP TO BB	--	--	--	66	--	--	--	--	--	--	--	--	EB OUTSIDE
1102'EB'+60	1109'EB'+67	EB OFF RAMP TO BB	--	--	--	--	--	--	--	177	--	--	--	--	EB OUTSIDE RAMP
1109'EB'+67	1114'EB'+48	EB OFF RAMP TO BB	--	--	--	--	--	--	481	--	--	--	--	--	EB OUTSIDE RAMP
1110'EB'+30	1114'EB'+20	EB OFF RAMP TO BB	--	--	--	--	--	--	--	--	--	--	--	230	EB OUTSIDE RAMP
1114'EB'+48	1124'EB'+07	USH 18 EB	--	--	--	959	--	--	--	--	--	--	--	--	EB OUTSIDE RAMP
1135'EB'+90	1138'EB'+85	USH 18 EB	--	--	--	295	--	--	--	--	--	--	--	--	EB OUTSIDE
1138'EB'+85	1140'EB'+92	USH 18 EB	--	--	--	--	--	--	207	--	--	--	--	--	EB OUTSIDE RAMP
1138'EB'+85	1140'EB'+92	EB ON RAMP FROM BB	--	--	--	--	--	--	207	--	--	--	--	--	EB OUTSIDE RAMP
1135'EB'+90	1138'EB'+85	EB ON RAMP FROM BB	--	--	--	295	--	--	--	--	--	--	--	--	EB OUTSIDE
1135'EB'+93	1148'EB'+34	EB ON RAMP FROM BB	--	--	--	1,241	--	--	--	--	--	--	--	--	EB OUTSIDE
1148'EB'+34	1222'EB'+48	USH 18 EB	--	--	--	7,414	--	--	--	--	--	--	--	--	EB OUTSIDE
1222'EB'+48	1223'EB'+92	USH 18 EB BRIDGE OVER GROVE	144	--	--	--	--	--	--	--	--	--	--	--	EB OUTSIDE
1223'EB'+92	1257'EB'+03	USH 18 EB	--	--	--	3,311	--	--	--	--	--	--	--	--	EB OUTSIDE
1253'EB'+19	1257'EB'+44	USH 18 EB	--	--	--		--	--	425	--	--	--	--	--	EB OUTSIDE RAMP
1258'EB'+12	1313'EB'+11	USH 18 EB	--	--	--	5,499	--	--	--	--	--	--	--	--	EB OUTSIDE
1310'EB'+04	1313'EB'+11	USH 18 EB	--	--	--	--	--	--	307	--	--	--	--	--	EB OUTSIDE RAMP
1310'EB'+65	1313'EB'+90	USH 18 EB	--	--	--	--	--	--	325	--	--	--	--	--	EB OUTSIDE RAMP
1314'EB'+35	1364'EB'+84	USH 18 EB	--	--	--	5,049	--	--	--	--	--	--	--	--	EB OUTSIDE
1363'EB'+82	1364'EB'+85	USH 18 EB	--	--	--	--	--	--	103	--	--	--	--	--	EB OUTSIDE RAMP
1366'EB'+06	1391'EB'+34	USH 18 EB	--	--	--	2,528	--	--	--	--	--	--	--	--	EB OUTSIDE
1377'EB'+24	1378'EB'+24	USH 18 EB	--	--	--	--	--	--	100	--	--	--	--	--	EB OUTSIDE RAMP
1386'EB'+77	1391'EB'+34	USH 18 EB	--	--	--	--	--	--	457	--	--	--	--	--	EB OUTSIDE RAMP
1392'EB'+57	1442'EB'+05	USH 18 EB	--	--	--	4,948	--	--	--	--	--	--	--	--	EB OUTSIDE
1442'EB'+05	1448'EB'+43	EB OFF RAMP TO ID	--	--	--	638	--	--	--	--	--	--	--	--	EB OUTSIDE
1442'EB'+05	1443'EB'+88	EB OFF RAMP TO ID	--	--	--	--	--	--	--	46	--	--	--	--	EB OUTSIDE RAMP
1443'EB'+88	1447'EB'+40	EB OFF RAMP TO ID	--	--	--	--	--	--	352	--	--	--	--	--	EB OUTSIDE RAMP
1447'EB'+40	1448'EB'+45	EB OFF RAMP TO ID	--	--	--	105	--	--	--	--	--	--	--	--	EB OUTSIDE
1443'EB'+93	1446'EB'+96	EB OFF RAMP TO ID	--	--	--	--	--	--	--	--	--	--	--	241	EB OUTSIDE RAMP
1443'EB'+88	1447'EB'+40	USH 18 EB	--	--	--	--	--	--	352	--	--	--	--	--	EB outside ramp
1447'EB'+40	1472'EB'+45	USH 18 EB	--	--	--	2,505	--	--	--	--	--	--	--	--	EB OUTSIDE
1472'EB'+45	1479'EB'+61	USH 18 EB	--	--	--	--	--	--	716	--	--	--	--	--	EB OUTSIDE RAMP
1471'EB'+47	1472'EB'+49	EB ON RAMP FROM ID	--	--	--	102	--	--	--	--	--	--	--	--	EB OUTSIDE
1472'EB'+49	1479'EB'+61	EB ON RAMP FROM ID	--	--	--	--	--	--	712	--	--	--	--	--	EB OUTSIDE RAMP
1471'EB'+50	1486'EB'+73	EB ON RAMP FROM ID	--	--	--	1,523	--	--	--	--	--	--	--	--	EB OUTSIDE
1486'EB'+73	1488'EB'+85	EB BRIDGE OVER JONES	212	--	--	--	--	--	--	--	--	--	--	--	EB OUTSIDE
1488'EB'+85	1518'EB'+21	USH 18 EB	--	--	--	2,936	--	--	--	--	--	--	--	--	EB OUTSIDE
1513'EB'+61	1518'EB'+09	USH 18 EB	--	--	--	--	--	--	448	--	--	--	--	--	EB OUTSIDE RAMP
1513'EB'+61	1518'EB'+18	USH 18 EB	--	--	--	--	--	--	457	--	--	--	--	--	EB OUTSIDE RAMP
1519'EB'+50	1563'EB'+07	USH 18 EB	--	--	--	4,357	--	--	--	--	--	--	--	--	EB OUTSIDE
1562'EB'+02	1563'EB'+21	USH 18 EB	--	--	--	--	--	--	119	--	--	--	--	--	EB OUTSIDE RAMP
1562'EB'+25	1563'EB'+07	USH 18 EB	--	--	--	--	--	--	82	--	--	--	--	--	EB OUTSIDE RAMP
1564'EB'+36	1616'EB'+56	USH 18 EB	--	--	--	5,220	--	--	--	--	--	--	--	--	EB OUTSIDE
1612'EB'+00	1616'EB'+51	USH 18 EB	--	--	--	--	--	--	451	--	--	--	--	--	EB OUTSIDE RAMP
1615'EB'+57	1616'EB'+72	USH 18 EB	--	--	--	--	--	--	115	--	--	--	--	--	EB OUTSIDE RAMP
1617'EB'+76	1630'EB'+61	USH 18 EB	--	--	--	1,285	--	--	--	--	--	--	--	--	EB OUTSIDE
EASTBOUND SUBTOTAL			356	0	0	70,602	0	0	7,789	223	0	0	0	471	

PAVEMENT MARKING SUMMARY

STATION	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE EOP LF	646.1020 MARKING LINE EPOXY 4-INCH YELLOW LF	646.1020 MARKING LINE EPOXY 4-INCH SKIP LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH WHITE LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH YELLOW LF	646.1555 MARKING LINE GROOVED WET REF CONTRAST TAPE 4-INCH WHITE SKIP LF	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH WHITE LF	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH SKIP LF	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.6464 COLD WEATHER MARKING EPOXY 4-INCH LF	647.6468 COLD WEATHER MARKING EPOXY 8-INCH LF	646.7220 MARKING CHEVERON EPOXY 24-INCH LF	REMARKS
SIDEROADS															
		CTH Y SOUTH LEG	--	--	--	--	--	--	--	--	15	--	--	--	EB OUTSIDE
		HI-POINT SOUTH LEG	--	--	--	--	--	--	--	--	15	--	--	--	EB OUTSIDE
		W BRIGHAM SOUTH LEG	--	--	--	--	--	--	--	--	18	--	--	--	EB OUTSIDE
		THOMPSON SOUTH LEG	--	--	--	--	--	--	--	--	27	--	--	--	EB OUTSIDE
		CTH T SOUTH LEG	--	--	--	--	--	--	--	--	30	--	--	--	EB OUTSIDE
		CTH K SOUTH LEG	--	--	--	--	--	--	--	--	44	--	--	--	EB OUTSIDE
		MOUND VIEW SOUTH LEG	--	--	--	--	--	--	--	--	33	--	--	--	EB OUTSIDE
		E BRIGHAM SOUTH LEG	--	--	--	--	--	--	--	--	27	--	--	--	EB OUTSIDE
SIDEROAD SUBTOTAL			0	0	0	0	0	0	0	0	209	0	0	0	
STAGE 10 SUBTOTAL			**356**	**0**	**0**	**70,602**	**0**	**0**	**7,789**	**223**	**209**	**0**	**0**	**471**	
		TOTAL	**661**	**660**	**155**	**141,053**	**139,430**	**28,222**	**15,171**	**532**	**424**	**155,081**	**7,691**	**756**	
			1,476			**280,483**			**15,703**						

REMOVING PAVEMENT MARKING

STAGE	LOCATION	STATION	646.9000 MARKING REMOVAL LINE 4-INCH LF	REMARKS
1	USH 18 - WESTBOUND	909+59 - 1630+60 'WB'	72101	OUTSIDE EDGE LINE
6	USH 18 - EASTBOUND	910+36 - 1630+54 'EB'	72018	OUTSIDE EDGE LINE
	TOTAL		144,119	

TEMPORARY PAVEMENT MARKING

STAGE	LOCATION	STATION	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4- INCH WHITE LF	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4- INCH YELLOW LF	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH WHITE LF	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH YELLOW LF	649.0960 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH LF	
1	USH 18 - WESTBOUND	909+59 - 1630+60	--	--	72101	--	--	OUTSIDE EDGE LINE
2	USH 18 - WESTBOUND	909+59 - 1630+60	--	--	--	72101	--	INSIDE EDGE LINE
2	USH 18 - WESTBOUND	909+59 - 1630+60	--	--	72101	--	--	LANE LINE
2	USH 18 - WESTBOUND	SEE SDD'S	660	--	1980	--	--	SHIFTING TAPERS
3	USH 18 - WESTBOUND	909+59 - 1630+60	--	--	--	72101	--	OUTSIDE EDGE LINE
3	USH 18 - WESTBOUND	909+59 - 1630+60	--	--	70988	--	--	LANE LINE
3	USH 18 - WESTBOUND	1482+25 - 1493+38	--	--	1113	1113	--	BRIDGE SHIFT
3	USH 18 - WESTBOUND	SEE SDD'S	--	1320	1980	--	--	SHIFTING TAPERS
3	USH 18 - WESTBOUND	RIDGEWAY & CTH ID RAMPS	2120	--	2120	--	--	RAMP TAPERS
4	USH 18 - WESTBOUND	1480+05 - 1495+58	1553	1553	--	--	--	BRIDGE SHIFT
6	USH 18 - EASTBOUND	909+59 - 1630+60	--	--	72101	--	--	OUTSIDE EDGE LINE
6	USH 18 - EASTBOUND	909+59 - 1017+61	--	--	--	--	10802	INSIDE EDGE LINE
7	USH 18 - EASTBOUND	909+59 - 1630+60	--	--	--	72101	--	INSIDE EDGE LINE
7	USH 18 - EASTBOUND	909+59 - 1630+60	--	--	72101	--	--	LANE LINE
7	USH 18 - EASTBOUND	SEE SDD'S	660	--	1980	--	--	SHIFTING TAPERS
8	USH 18 - EASTBOUND	909+59 - 1630+60	--	--	72101	--	--	OUTSIDE EDGE LINE
8	USH 18 - EASTBOUND	909+59 - 1630+60	--	--	--	72101	--	LANE LINE
8	USH 18 - EASTBOUND	SEE SDD'S	--	1320	1980	--	--	SHIFTING TAPERS
8	USH 18 - EASTBOUND	RIDGEWAY & CTH ID RAMPS	2120	--	2120	--	--	RAMP TAPERS
--	UNDISTRIBUTED	--	700	400	8000	6000	1000	
	CATEGORY 0010 TOTALS		7,813	4,593	452,766	295,517	11,802	
		TOTAL	7,813	4,593	452,766	295,517	11,802	

3

3

FILL CONCRETE RUMBLE STRIPS

STATION	STATION		SPV.0060.05 FILL CONCRETE RUMBLE STRIPS EACH	REMARKS
STAGE 6				
1027 'EB'+ 93	- 1068 'EB'+ 00	USH 18 OUTSIDE SHLDR	80	
1068 'EB'+ 00	- 1124 'EB'+ 09	USH 18 OUTSIDE SHLDR	95	
1135 'EB'+ 90	- 1173 'EB'+ 60	USH 18 OUTSIDE SHLDR	68	
1173 'EB'+ 60	- 1222 'EB'+ 45	USH 18 OUTSIDE SHLDR	98	
1223 'EB'+ 89	- 1276 'EB'+ 70	USH 18 OUTSIDE SHLDR	99	
1276 'EB'+ 70	- 1329 'EB'+ 50	USH 18 OUTSIDE SHLDR	95	
1329 'EB'+ 50	- 1382 'EB'+ 30	USH 18 OUTSIDE SHLDR	96	
1382 'EB'+ 30	- 1435 'EB'+ 10	USH 18 OUTSIDE SHLDR	91	
1435 'EB'+ 10	- 1486 'EB'+ 62	USH 18 OUTSIDE SHLDR	78	
1488 'EB'+ 76	- 1541 'EB'+ 60	USH 18 OUTSIDE SHLDR	106	
1541 'EB'+ 60	- 1594 'EB'+ 40	USH 18 OUTSIDE SHLDR	106	
1594 'EB'+ 40	- 1630 'EB'+ 60	USH 18 OUTSIDE SHLDR	72	
		TOTAL	**1,083**	

SAWING SUMMARY

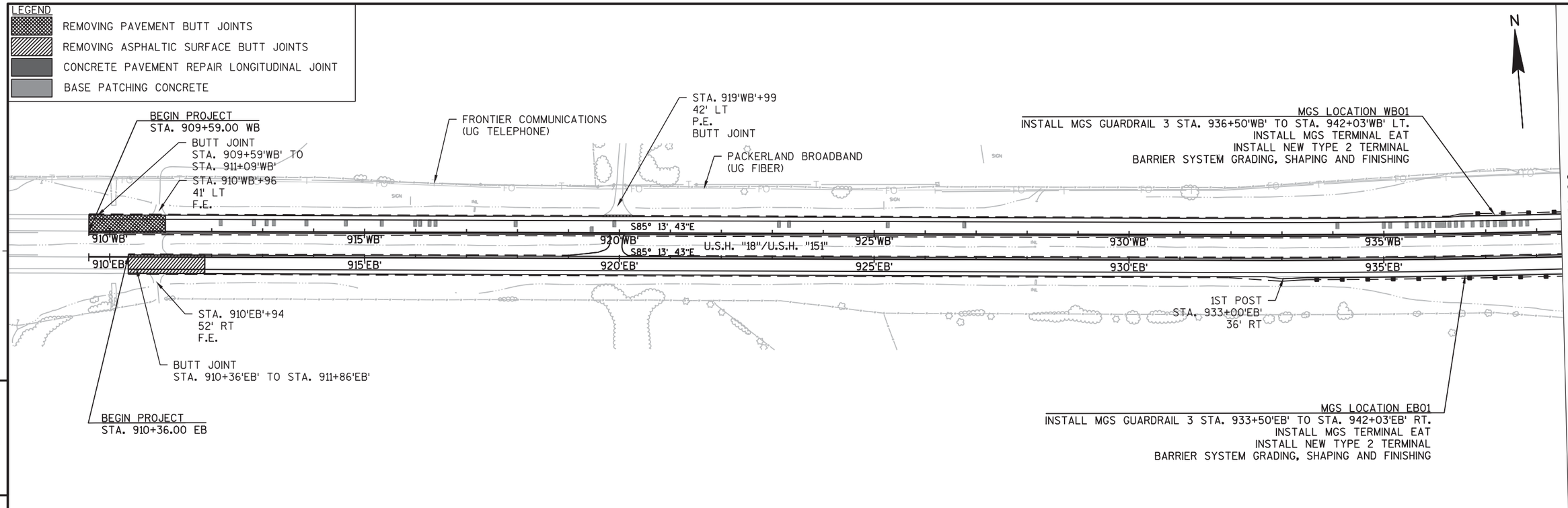
STAGE	LOCATION	STATION	690.0150 SAWING ASPHALT LF	
4	USH 18 - WESTBOUND	1481+95-1485+35	340	EXTRA 3-FT TEMPORARY SHOULDER
4	USH 18 - WESTBOUND	1488+95-1493+65	470	EXTRA 3-FT TEMPORARY SHOULDER
8	DRIVEWAY	1426'EB'+43	92	DRIVEWAY REMOVAL
9	MEDIAN	1438'EB'+00	124	MEDIAN CROSS OVER REMOVAL
--	UNDISTRIBUTED	--	--	
	CATEGORY 0010 TOTALS		1,026	
		TOTAL	1,026	

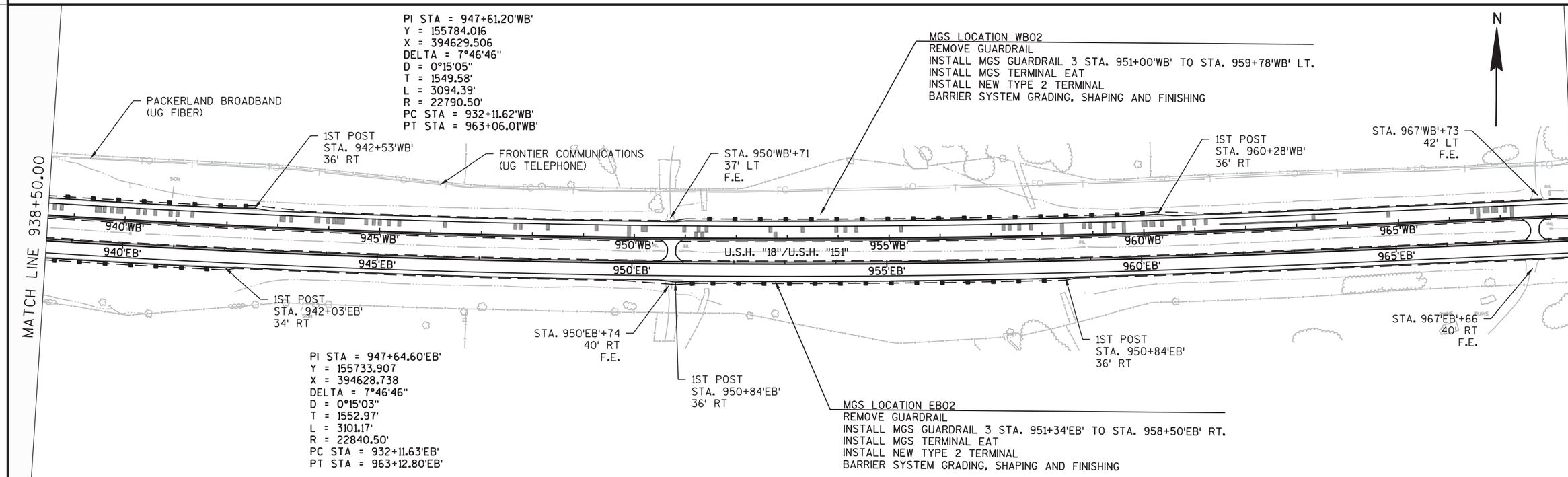
TRAFFIC CONTROL

STAGE	LOCATION	EST. SERVICE PERIOD DAYS	643.0300 DRUMS NO	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III NO	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A NO	643.0705 WARNING LIGHTS TYPE A DAYS	643.0715 WARNING LIGHTS TYPE C NO	643.0715 WARNING LIGHTS TYPE C DAYS	643.0800 ARROW BOARDS NO	643.0800 ARROW BOARDS DAYS	643.0900 SIGNS NO	643.0900 SIGNS DAYS	642.0910 TYPE 1 SIGN COVERING CYCLE	642.0910 TYPE 1 SIGN COVERING EACH	643.0920 TYPE II SIGN COVERING CYCLE	643.0920 TYPE II SIGN COVERING EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS NO	643.1050 TRAFFIC CONTROL SIGNS PCMS DAYS	643.5000 TRAFFIC CONTROL EACH	SPV.0060.04 TRAFFIC CONTROL OPPOSITE DIRECTION EMERGENCY MOBILIZATION EACH	REMARKS
CATEGORY 0010																							
1	USH 18 - WESTBOUND	8	690	5,520	40	320	88	704	80	640	4	32	107	856	--	--	1	5	1	7	--	--	
2	USH 18 - WESTBOUND	74	650	48,100	40	2,960	48	3,552	80	5,920	4	296	107	7,918	--	--	--	--	1	7	--	--	
3	USH 18 - WESTBOUND	63	690	43,470	40	2,520	88	5,544	80	5,040	4	252	73	4,599	--	--	--	--	1	7	--	--	
3	USH 18 - WESTBOUND RAMPS	3	--	--	20	60	--	--	28	84	--	--	6	18	1	4	--	--	6	42	--	--	
4	USH 18 - WESTBOUND	37	690	25,530	40	1,480	88	3,256	80	2,960	4	148	107	3,959	--	--	--	--	1	7	--	--	
5	USH 18 - WESTBOUND	10	690	6,900	40	400	88	880	80	800	4	40	107	1,070	--	--	--	--	1	7	--	--	
6	USH 18 - EASTBOUND	8	690	5,520	40	320	88	704	80	640	4	32	106	848	--	--	1	5	1	7	--	--	
7	USH 18 - EASTBOUND	37	650	24,050	40	1,480	48	1,776	80	2,960	4	148	106	3,922	--	--	--	--	1	7	--	--	
8	USH 18 - EASTBOUND	30	690	20,700	40	1,200	88	2,640	80	2,400	4	120	106	3,180	--	--	--	--	1	7	--	--	
8	USH 18 - EASTBOUND RAMPS	3	40	120	22	66	--	--	28	84	--	--	6	18	1	4	--	--	6	42	--	--	
9	USH 18 - EASTBOUND	18	650	11,700	40	720	--	--	80	1,440	4	72	106	1,908	--	--	--	--	1	7	--	--	
10	USH 18 - EASTBOUND	10	690	6,900	40	400	88	880	80	800	4	40	106	1,060	--	--	--	--	1	7	--	--	
	UNDISTRIBUTED	--		19,851	44	1,193	71	1,994	86	2,377	4	118	104	2,936	--	--	--	--		28	1	10	
	CATEGORY 0010 TOTALS			218,361		13,119		21,930		26,145		1,298		32,292		8		10		182	1	10	
	TOTAL			**218,361**		**13,119**		**21,930**		**26,145**		**1,298**		**32,292**		**8**		**10**		**182**	**1**	**10**	

LEGEND

- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE





PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PLAN: EASTBOUND AND WESTBOUND	SHEET 105	E

LEGEND

- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE

N

MATCH LINE 968+50.00

MATCH LINE 998+50.00

FRONTIER COMMUNICATIONS
(UG TELEPHONE)

PACKERLAND BROADBAND
(UG FIBER)

970'WB' 975'WB' 980'WB' 985'WB' 990'WB' 995'WB'

N86° 59' 32"E

U.S.H. "18"/U.S.H. "151"

N86° 59' 32"E

970'EB' 975'EB' 980'EB' 985'EB' 990'EB' 995'EB'

5

5

MATCH LINE 998+50.00

FRONTIER COMMUNICATIONS
(UG TELEPHONE)

PI STA = 1012+49.85'WB'
Y = 156124.750
X = 401113.971
DELTA = 39°27'58"
D = 2°01'47"
T = 1012.55'
L = 1944.39'
R = 2822.81'
PC STA = 1002+37.30'WB'
PT STA = 1021+81.69'WB'
SE = 4.47%

N

C.T.H. "YZ"

MATCH LINE 1028+50.00

1000'WB'

1000'EB'

PACKERLAND BROADBAND
(UG FIBER)

1005'WB'

1005'EB'

1010'WB'

1010'EB'

U.S.H. "18"/U.S.H. "151"

1015'WB'

1015'EB'

1020'WB'

1020'EB'

1025'EB'

BUTT JOINT
STA. 51+96'CTH Y' TO STA. 52+17'CTH Y'

N47° 31' 33"E

1025'WB'

N47° 31' 33"E

50'CY

1ST POST
STA. 1023+53'EB'
39' RT

BUTT JOINT
STA. 48+42'CTH Y' TO STA. 48+62'CTH Y'

C.T.H. "Y"

ALLIANT ENERGY
(UG ELECTRIC)

PI STA = 1012+74.57'EB'
Y = 156075.760
X = 401134.505
DELTA = 39°27'58"
D = 1°59'40"
T = 1030.49'
L = 1978.83'
R = 2872.81'
PC STA = 1002+44.09'EB'
PT STA = 1022+22.92'EB'
SE = 4.5%

1ST POST
STA. 1014+76'EB'
37' RT

MGS LOCATION EB03
INSTALL MGS GUARDRAIL 3 STA. 1015+26'EB' TO STA. 1023+67'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PLAN: EASTBOUND AND WESTBOUND	SHEET 106	E

PI STA = 1036+50.37'WB'
Y = 157800.219
X = 402944.089
DELTA = 16°20'32"
D = 0°59'24"
T = 830.97'
L = 1650.66'
R = 5787.18'
PC STA = 1028+19.40'WB'
PT STA = 1044+70.06'WB'
SE = %2.70%

MH TELECOM TELEPHONE SYSTEM
(UG TELEPHONE)

PACKERLAND BROADBAND
(UG FIBER)

STA. 1057'WB'+41
41' LT
F.E.

MATCH LINE 1028+50.00

1035'WB'
1040'WB'
1045'WB'
1030'WB'
1035'EB'
1040'EB'
1045'EB'
1030'EB'
N63° 52' 06"E
U.S.H. "18"/U.S.H. "151"
1050'WB'
N63° 52' 06"E
1050'EB'
1055'WB'
1055'EB'

FRONTIER COMMUNICATION
(UG TELEPHONE)

ALLIANT ENERGY
(ELECTRIC)

STA. 1046'EB'+25
44' RT
P.E.
BUTT JOINT

MATCH LINE 1058+50.00

LEGEND
- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE

PI STA = 1036+84.42'EB'
Y = 157758.492
X = 402972.557
DELTA = 16°20'32"
D = 0°59'55"
T = 823.79'
L = 1636.39'
R = 5737.18'
PC STA = 1028+60.63'EB'
PT STA = 1044+97.03'EB'
SE = %2.7%

PI STA = 1061+75.11'WB'
Y = 158917.174
X = 405220.884
DELTA = 12°44'16"
D = 0°59'29"
T = 645.10'
L = 1284.88'
R = 5779.58'
PC STA = 1055+30.01'WB'
PT STA = 1068+14.89'WB'

MH TELECOM TELEPHONE SYSTEM
(UG TELEPHONE)

PACKERLAND BROADBAND
(UG FIBER)

STA. 1073'WB'+72
40' LT
P.E.

ALLIANT ENERGY
(ELECTRIC)

STA. 1084'WB'+19
44' LT
P.E.

MATCH LINE 1058+50.00

1060'WB'
1065'WB'
1070'WB'
1060'EB'
1065'EB'
1070'EB'
N76° 36' 21"E
1075'WB'
N76° 36' 21"E
U.S.H. "18"/U.S.H. "151"
1080'WB'
1075'EB'
1080'EB'
1085'WB'
1085'EB'

MATCH LINE 1088+50.00

MGS LOCATION EB04A
INSTALL MGS GUARDRAIL 3 STA. 1059+29'EB' TO STA. 1061+45'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

1ST POST
STA. 1058+79'EB'
37' RT

PI STA = 1061+96.49'EB'
Y = 158869.827
X = 405237.896
DELTA = 12°44'16"
D = 1°00'00"
T = 639.52'
L = 1273.77'
R = 5729.58'
PC STA = 1055+56.97'EB'
PT STA = 1068+30.74'EB'
SE = %2.70%

STA 1072'EB'+50 AND STA 1072'WB'+00
COUNTER STATION PIEZO ELECTRIC AXLE SENSORS
WISDOT TO REPLACE AFTER PAVING
SEE SPECIAL PROVISIONS FOR DETAILS

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PLAN: EASTBOUND AND WESTBOUND	SHEET 107	E

MATCH LINE 1088+50.00

PACKERLAND BROADBAND
(UG FIBER)

1ST POST
STA. 1089+75'WB'
34' RT

MGS LOCATION WB03
INSTALL MGS GUARDRAIL 3 STA. 1089+75'WB' TO STA. 1097+03'WB' LT.
INSTALL MGS TERMINAL EAT
INSTALL NEW TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

1ST POST
STA. 1097+53'WB'
36' RT

PI STA = 1091+31.04'WB'
Y = 159603.141
X = 408101.591
DELTA = 34°32'51"
D = 2°01'54"
T = 876.92'
L = 1700.37'
R = 2820.00'
PC STA = 1082+54.12'WB'
PT STA = 1099+54.50'WB'
SE = 4.40%

MH TELECOM TELEPHONE SYSTEM
(UG TELEPHONE)

ALLIANT ENERGY
(ELECTRIC)

BUTT JOINT
STA. 1112+64'WB' TO STA. 1114+14'WB

BUTT JOINT
STA. 1113+67'EB' TO STA. 1115+17'EB'

1090'WB'
1090'EB'
1095'WB'
1095'EB'
1100'WB'
1100'EB'
1105'WB'
1105'EB'
1110'WB'
1110'EB'
1115'WB'
1115'EB'

N42° 03' 30"E
U.S.H. "18"/U.S.H. "151"
N42° 03' 30"E

PI STA = 1091+62.44'EB'
Y = 159558.103
X = 408128.299
DELTA = 34°32'51"
D = 1°59'47"
T = 892.47'
L = 1730.52'
R = 2870.00'
PC STA = 1082+69.98'EB'
PT STA = 1100+00.50'EB'
SE = 4.40%

5

5

MATCH LINE 1118+50.00

PI STA = 1119+34.60'WB'
Y = 161724.374
X = 410015.470
DELTA = 11°49'29"
D = 1°00'32"
T = 588.16'
L = 1172.14'
R = 5679.58'
PC STA = 1113+46.44'WB'
PT STA = 1125+18.58'WB'
SE = 2.70%

PACKERLAND BROADBAND
(UG FIBER)

BUTT JOINT
STA. 1122+08'WB' TO STA. 1123+58'WB'

BUTT JOINT
STA. 1122+59'EB' TO STA. 1124+09'EB'

MGS LOCATION EB04B
ADJUSTING MGS GUARDRAIL STA. 1123+00'EB' TO STA. 1124+10'EB' LT.
SALVAGE REPLACING GUARDRAIL TERMINAL EAT

MGS LOCATION EB04C
ADJUSTING MGS GUARDRAIL STA. 1121+60'EB' TO STA. 1124+06'EB' RT.
SALVAGE REPLACING GUARDRAIL TERMINAL EAT

PI STA = 1119+85.78'EB'
Y = 161694.724
X = 410056.061
DELTA = 11°49'29"
D = 1°00'00"
T = 593.34'
L = 1182.46'
R = 5729.58'
PC STA = 1113+92.44'EB'
PT STA = 1125+74.90'EB'
SE = 2.70%

1120'WB'
1120'EB'
1125'WB'
1125'EB'
1130'WB'
1130'EB'
1135'WB'
1135'EB'
1140'WB'
1140'EB'
1145'WB'
1145'EB'

N30° 14' 01"E
U.S.H. "18"/U.S.H. "151"
N30° 14' 01"E

BUTT JOINT
STA. 1135+25'WB' TO STA. 1136+75'WB'

BUTT JOINT
STA. 1135+75'WB' TO STA. 1137+25'WB'

BUTT JOINT
STA. 1135+90'EB' TO STA. 1137+40'EB'

FRONTIER COMMUNICATIONS
(UG TELEPHONE)

ALLIANT ENERGY
(ELECTRIC)

PI STA = 1143+99.81'WB'
Y = 163857.872
X = 411258.876
DELTA = 25°37'34"
D = 1°28'29"
T = 883.59'
L = 1737.61'
R = 3885.00'
PC STA = 1135+16.22'WB'
PT STA = 1152+53.84'WB'
SE = 3.60%

RIDGEVUE RD.

PI STA = 1144+44.76'EB'
Y = 163822.871
X = 411296.349
DELTA = 25°37'34"
D = 1°29'38"
T = 872.21'
L = 1715.25'
R = 3835.00'
PC STA = 1135+72.54'EB'
PT STA = 1152+87.79'EB'
SE = 3.60%

MATCH LINE 1148+50.00

LEGEND
- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PLAN: EASTBOUND AND WESTBOUND	SHEET 108	E

MATCH LINE 1148+50.00

MATCH LINE 1178+50.00

MATCH LINE 1178+50.00

MATCH LINE 1208+50.00

PACKERLAND BROADBAND
(UG FIBER)

MGS LOCATION WB04
INSTALL MGS GUARDRAIL 3 STA. 1168+00'WB' TO STA. 1175+03'WB' LT.
INSTALL MGS TERMINAL EAT
INSTALL NEW TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

1ST POST
STA. 1168+00'WB'
38' RT

MH TELECOM TELEPHONE SYSTEM
(UG TELEPHONE)

ALLIANT ENERGY
(ELECTRIC)

1ST POST
STA. 1175+53'WB'
36' RT

ADJUST POST

1150'WB' 1155'WB' 1160'WB' 1165'WB' 1170'WB' 1175'WB'

1150'EB' 1155'EB' 1160'EB' 1165'EB' 1170'EB' 1175'EB'

N55° 51' 36"E

N55° 51' 36"E

U.S.H. "18"/U.S.H. "151"

PRAIRIE RD.

FRONTIER COMMUNICATIONS
(UG TELEPHONE)

CHARTER UNDERGROUND CABLE CROSSING

LEGEND
- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE

FRONTIER COMMUNICATIONS
(UG TELEPHONE)

PACKERLAND BROADBAND
(UG FIBER)

PI STA = 1184+01.66'WB'
Y = 166120.371
X = 414595.545
DELTA = 24°17'14"
D = 2°55'24"
T = 421.72'
L = 830.77'
R = 1959.86'
PC STA = 1179+79.94'WB'
PT STA = 1188+10.71'WB'
SE = 5.50%

1180'WB' 1185'WB' 1190'WB' 1195'WB' 1200'WB' 1205'WB'

1180'EB' 1185'EB' 1190'EB' 1195'EB' 1200'EB' 1205'EB'

N80° 08' 50"E

N80° 08' 50"E

U.S.H. "18"/U.S.H. "151"

PI STA = 1184+24.86'EB'
Y = 166072.950
X = 414614.701
DELTA = 24°17'14"
D = 3°00'00"
T = 410.96'
L = 809.58'
R = 1909.86'
PC STA = 1180+13.90'EB'
PT STA = 1188+23.47'EB'
SE = 5.50%

MGS GUARDRAIL WB05
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1196+88'WB' TO 1210+04'WB' LT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

1ST POST
STA. 1196+90'WB'
38' RT

ALLIANT ENERGY
(ELECTRIC)

1ST POST
STA. 1199+00'EB'
36' RT

MGS GUARDRAIL EB05
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1199+50'EB' TO 1209+03'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PLAN: EASTBOUND AND WESTBOUND	SHEET 109	E

LEGEND
- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE

MATCH LINE 1208+50.00

1ST POST
STA. 1209+03'EB'
34' RT

1ST POST
STA. 1210+54'WB'
36' RT

PACKERLAND BROADBAND
(UG FIBER)

ALLIANT ENERGY
(ELECTRIC)

GUARDRAIL WB06B&C
ADJUST STEEL PLATE BEAM GUARD
STA. 1219+90'WB' TO STA. 1221+80'WB' RT
STA. 1223+50'WB' TO STA. 1224+80'WB' RT

MGS GUARDRAIL WB06
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1223+33'WB' TO STA. 1225+41'WB' LT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL NEW THRIE BEAM TRANSITION
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

BUTT JOINT
STA. 1223+29'WB' TO STA. 1224+79'WB'

1210'WB'
1210'EB'
1215'WB'
1215'EB'
1220'WB'
1220'EB'
1225'WB'
1230'WB'
1230'EB'
1235'WB'
1235'EB'

N32° 03' 36"E
N32° 03' 36"E

PI STA = 1220+90.30'WB'
Y = 166753.730
X = 418242.260
DELTA = 48°05'14"
D = 2°01'59"
T = 1257.28'
L = 2365.19'
R = 2818.12'
PC STA = 1208+33.02'WB'
PT STA = 1231+98.21'WB'
SE = 4.40%

PI STA = 1221+25.37'EB'
Y = 166708.285
X = 418272.794
DELTA = 48°05'14"
D = 1°59'52"
T = 1279.59'
L = 2407.16'
R = 2868.12'
PC STA = 1208+45.78'EB'
PT STA = 1232+52.94'EB'
SE = 4.40%

BUTT JOINT
STA. 1220+49'WB' TO STA. 1221+99'WB

C.T.H. "H"

U.S.H. "18"/U.S.H. "151"

1ST POST
STA. 1219+84'EB'
37' RT

MGS GUARDRAIL EB06
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1220+34'EB' TO STA. 1222+39'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL NEW THRIE BEAM TRANSITION
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

BUTT JOINT
STA. 1220+93'EB' TO STA. 1222+40'EB'

ALLIANT ENERGY
(UG ELECTRIC)

FRONTIER COMMUNICATIONS
(UG TELEPHONE)

GUARDRAIL EB06B&C
ADJUST STEEL PLATE BEAM GUARD
STA. 1219+90'EB' TO STA. 1222+20'EB' LT
STA. 1224+06'EB' TO STA. 1225+37'EB' LT.

1ST POST
STA. 1225+91'WB'
36' RT

1ST POST
STA. 1231+69'EB'
36' RT

BUTT JOINT
STA. 1223+86'EB' TO 1225+37'EB'

MGS GUARDRAIL EB08
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1223+94'EB' TO STA. 1224+89'EB' RT.
INSTALL NEW THRIE BEAM TRANSITION
INSTALL MGS GUARDRAIL TERMINAL TYPE 2

MGS GUARDRAIL EB09
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1232+19'EB' TO STA. 1244+97'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

MATCH LINE 1238+50.00

MGS GUARDRAIL WB08
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1237+47'WB' TO STA. 1247+50'WB' LT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

1ST POST
STA. 1248+00'WB'
36' RT

PACKERLAND BROADBAND
(UG FIBER)

BUTT JOINT
'HI-POINT RD' STA. 51+32 TO 51+53

1240'WB'
1240'EB'
1245'WB'
1245'EB'
1250'WB'
1250'EB'
1255'WB'
1255'EB'
1260'WB'
1260'EB'
1265'WB'
1265'EB'

U.S.H. "18"/U.S.H. "151"

50+00 AHEAD

HI-POINT RD.

PI STA = 1260+04.00'WB'
Y = 170197.151
X = 420398.964
DELTA = 62°40'24"
D = 1°57'45"
T = 1777.60'
L = 3193.43'
R = 2919.43'
PC STA = 1242+26.40'WB'
PT STA = 1274+19.84'WB'
SE = 4.40%

PI STA = 1260+28.28'EB'
Y = 170144.810
X = 420425.179
DELTA = 62°40'24"
D = 1°59'48"
T = 1747.16'
L = 3138.74'
R = 2869.43'
PC STA = 1242+81.13'EB'
PT STA = 1274+19.87'EB'
SE = 4.40%

BUTT JOINT
'HI-POINT RD' STA. 48+74 TO STA. 48+94

1ST POST
STA. 1231+69'EB'
36' RT

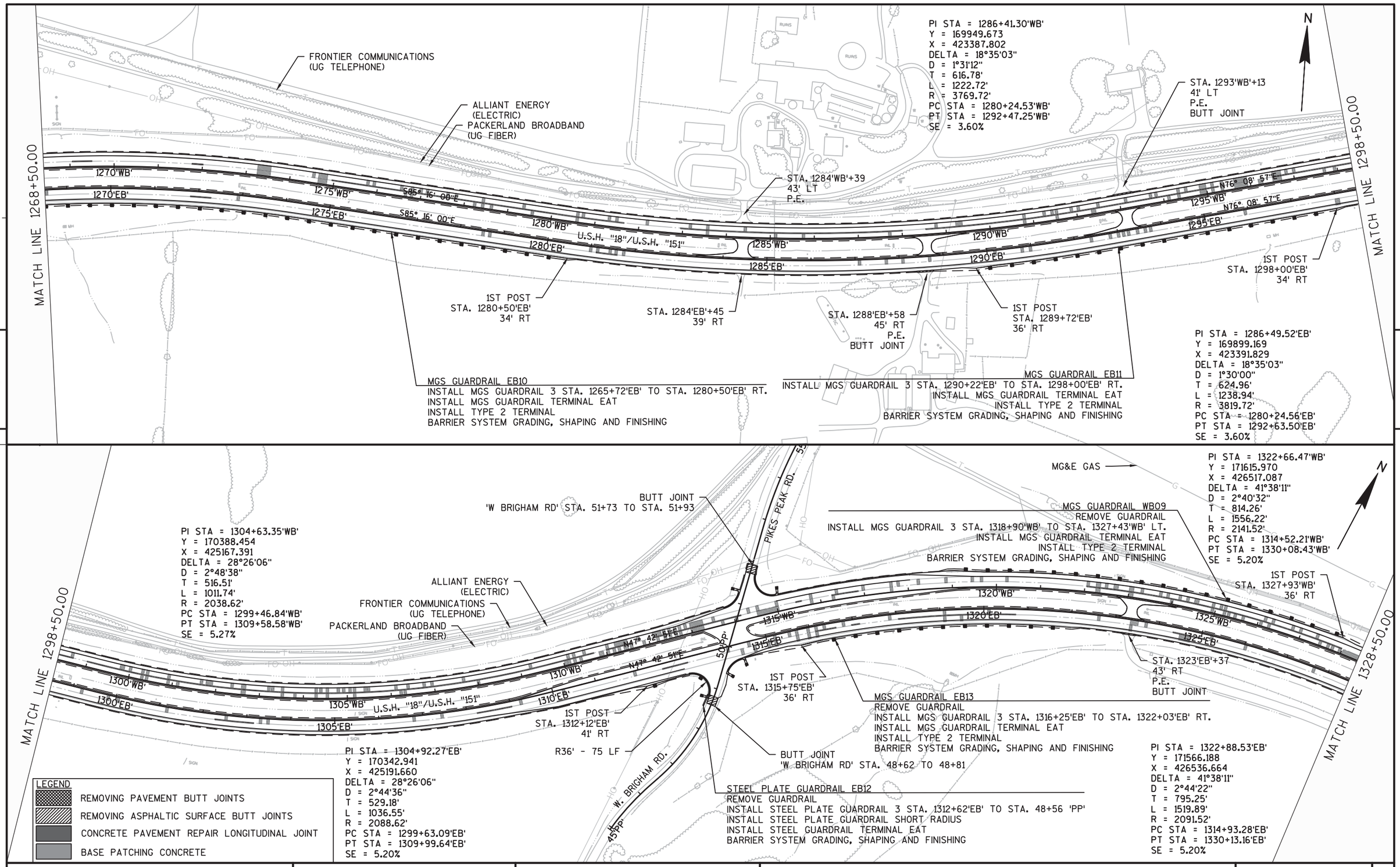
1ST POST
STA. 1265+22'EB'
36' RT

MGS GUARDRAIL EB10
INSTALL MGS GUARDRAIL 3 STA. 1265+72'EB' TO STA. 1280+50'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

MATCH LINE 1268+50.00

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PLAN: EASTBOUND AND WESTBOUND	SHEET 110	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050111
PLOT DATE : 11/28/2018 4:12 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1" = 200'_XREF
WISDOT/CADDS SHEET 44



PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PLAN: EASTBOUND AND WESTBOUND	SHEET 111	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050113

PLOT DATE : 11/28/2018 4:13 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1" = 200'_XREF

WISDOT/CADDS SHEET 44

MATCH LINE 1328+50.00

MATCH LINE 1358+50.00

MG&E GAS

ALLIANT ENERGY
(ELECTRIC)

PACKERLAND BROADBAND
(UG FIBER)

STA. 1339'WB'+41
41' LT
F.E.

MGS GUARDRAIL WB10
INSTALL MGS GUARDRAIL 3 STA. 1342+50'WB' TO STA. 1347+03'WB' LT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

1ST POST
STA. 1347+53'WB'
36' RT

STA. 1357'WB'+28
39' LT
P.E.

1330'WB' 1335'WB' 1340'WB' 1345'WB' 1350'WB' 1355'WB'

U.S.H. "18"/U.S.H. "151"

1330'EB' 1335'EB' 1340'EB' 1345'EB' 1350'EB' 1355'EB'

1ST POST
STA. 1337+07'EB'
36' RT

STA. 1357'EB'+67
42' RT
P.E.
BUTT JOINT

MGS GUARDRAIL EB14
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1337+57'EB' TO STA. 1346+10'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

LEGEND
- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE

5

5

MATCH LINE 1358+50.00

MATCH LINE 1388+50.00

ALLIANT ENERGY
(ELECTRIC)

ATC 69kV

MG&E GAS

STA. 1365'WB'+73
41' LT
C.E.

BUTT JOINT
'IHM HARRIS RD' STA. 51+29 TO 51+49

IHM HARRIS RD.

FRONTIER COMMUNICATIONS
(UG TELEPHONE)

ALLIANT ENERGY
(ELECTRIC)

PACKERLAND BROADBAND
(UG FIBER)

N89° 21' 02"E

1360'WB' 1365'WB' 1370'WB' 1375'WB' 1380'WB' 1385'WB'

U.S.H. "18"/U.S.H. "151"

N89° 21' 02"E

1360'EB' 1365'EB' 1370'EB' 1375'EB' 1380'EB' 1385'EB'

1ST POST
STA. 1358+59'EB'
36' RT

BUTT JOINT
'THOMPSON RD' STA. 49+01 TO 49+21

THOMPSON RD.

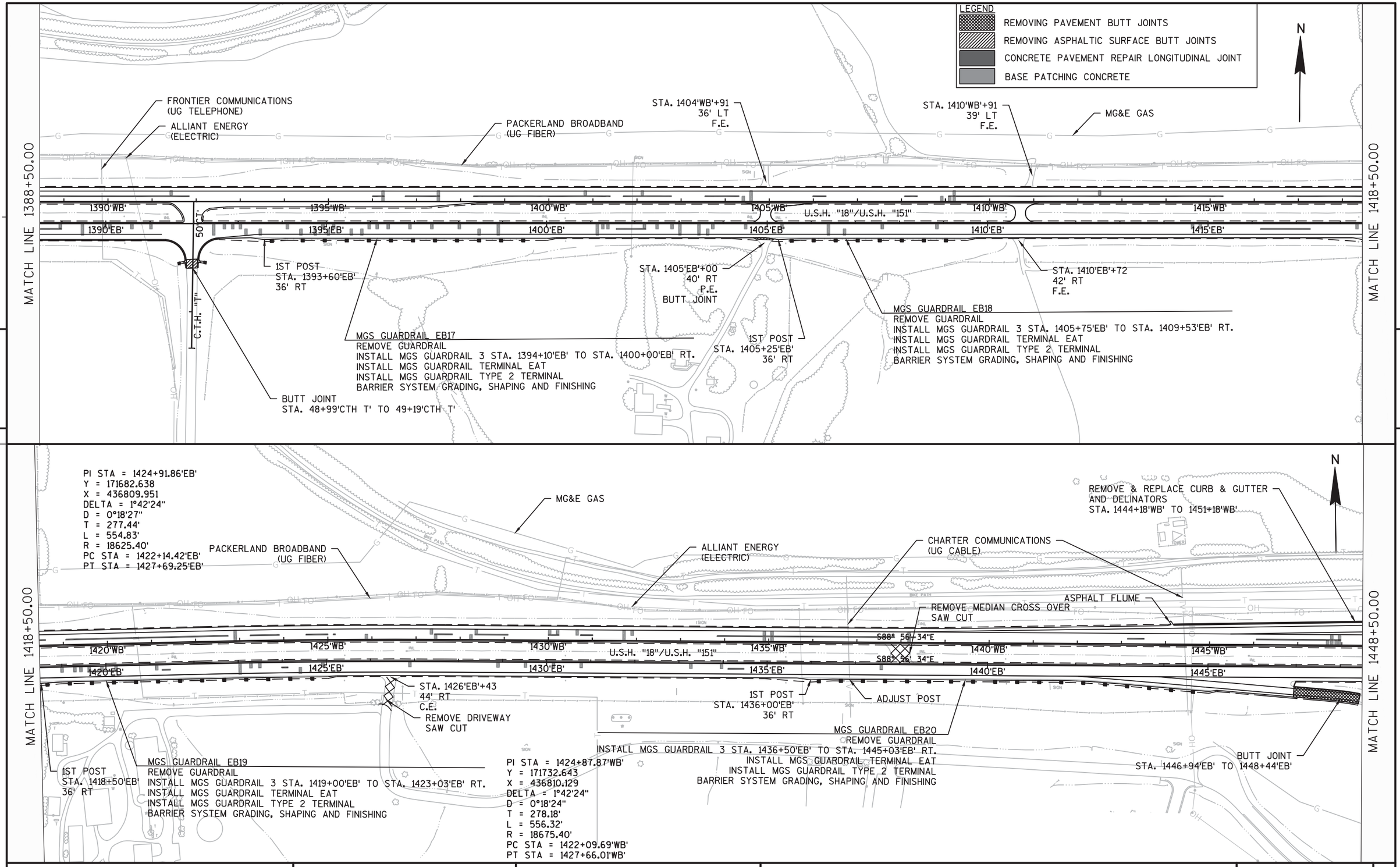
STA. 1378'EB'+71
41' RT
F.E.

1ST POST
STA. 1379+00'EB'
36' RT

MGS GUARDRAIL EB16
INSTALL MGS GUARDRAIL 3 STA. 1379+50'EB' TO STA. 1384+91'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL MGS TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

MGS GUARDRAIL EB15
INSTALL MGS GUARDRAIL 3 STA. 1359+09'EB' TO STA. 1364+12'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL MGS TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PLAN: EASTBOUND AND WESTBOUND	SHEET 112	E



PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PLAN: EASTBOUND AND WESTBOUND	SHEET 113	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050117
PLOT DATE : 11/28/2018 4:15 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1" = 200'_XREF
WISDOT/CADDS SHEET 44

MATCH LINE 1448+50.00

MATCH LINE 1478+50.00

PACKERLAND BROADBAND
(UG FIBER)

REMOVE & REPLACE CURB & GUTTER
AND DELINATORS
STA. 1444+18'WB' TO 1451+18'WB'

BUTT JOINT
STA. 1451+88'WB' TO 1453+38'WB'

PI STA = 1454+89.41'WB'
Y = 171677.254
X = 439811.193
DELTA = 6°23'15"
D = 0°30'17"
T = 633.47'
L = 1265.62'
R = 11352.75'
PC STA = 1448+55.94'WB'
PT STA = 1461+21.56'WB'

C.T.H. "D"

MG&E GAS

MH TELECOM TELEPHONE SYSTEM
(UG FIBER)

ADJUST STEEL PLATE BEAMGUARD WB11A
STA. 1466+00'WB' TO STA. 1468+00'WB' LT.

ADJUST STEEL PLATE BEAMGUARD WB11
STA. 1464+37'WB' TO STA. 1468+00'WB' LT.

BUTT JOINT
STA. 1466+45'WB' TO 1467+95'WB'

ADJUST STEEL PLATE BEAMGUARD WB12
STA. 1466+45'WB' TO STA. 1475+50'WB'
INSTALL STEEL PLATE BEAMGUARD EAT
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

1ST POST
STA. 1476+00'EB'
36' LT

N84° 40' 12"E

1450'WB' 1455'WB' 1460'WB' 1465'WB' 1470'WB' 1475'WB'

1450'EB' 1455'EB' 1460'EB' 1465'EB' 1470'EB' 1475'EB'

U.S.H. "18"/U.S.H. "151"

PI STA = 1454+95.44'EB'
Y = 171627.211
X = 439813.060
DELTA = 6°23'15"
D = 0°30'09"
T = 636.26'
L = 1271.19'
R = 11402.75'
PC STA = 1448+59.18'EB'
PT STA = 1461+30.38'EB'

1ST POST
STA. 1456+63'EB'
36' RT

CAUTION

ADJUST MGS GUARDRAIL EB22
ADJUST MGS GUARDRAIL 3 STA. 1467+02'EB' TO STA. 1472+46'EB' RT.
ADJUST MGS GUARDRAIL TERMINAL EAT

BUTT JOINT
STA. 1471+46'EB' TO 1472+96'EB'

ADJUST STEEL PLATE BEAMGUARD EB22A
STA. 1471+46'EB' TO STA. 1473+96'EB' RT.

MGS GUARDRAIL EB21
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1457+13'EB' TO STA. 1460+17'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL MGS GUARDRAIL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

MH TELECOM TELEPHONE SYSTEM
(UG FIBER)

BARNEVELD WATER SYSTEM

N

5

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LEGEND

- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE

MATCH LINE 1478+50.00

MATCH LINE 1508+50.00

MGS GUARDRAIL WB13
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1484+48'WB' TO STA. 1485+80'WB' LT.
INSTALL NEW THRIE BEAM TRANSITION
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

MG&E GAS

BUTT JOINT
STA. 1487+95'WB' TO STA. 1489+43'WB'

PACKERLAND BROADBAND
(UG FIBER)

STEEL THRIE BEAM WB13A
SALVAGE AND RE-INTALL THRIE BEAM
STA. 1486+00'WB' TO STA. 1486+15'WB' RT.

STEEL PLATE THRIE BEAM WB14
SALVAGE AND RE-INTALL THRIE BEAM
STA. 1488+11'WB' TO STA. 1488+26'WB' RT.

BUTT JOINT
STA. 1484+70'WB' TO 1486+21'WB'

1480'WB' 1485'WB' 1490'WB' 1495'WB' 1500'WB' 1505'WB'

1480'EB' 1485'EB' 1490'EB' 1495'EB' 1500'EB' 1505'EB'

U.S.H. "18"/U.S.H. "151"

BUTT JOINT
STA. 1485+01'EB' TO STA. 1486+52'EB'

BUTT JOINT
STA. 1488+65'EB' TO STA. 1490+16'EB'

1ST POST
STA. 1484+13'EB'
40' RT

MGS GUARDRAIL WB15
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1487+79'WB' TO STA. 1498+47'EB' LT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL NEW THRIE BEAM TRANSITION
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

1ST POST
STA. 1498+97'WB'
36' RT

STA. 1499'WB'+20
39' LT
F.E.

PI STA = 1503+35.96'EB'
Y = 172076.984
X = 444633.964
DELTA = 9°50'16"
D = 0°19'59"
T = 1480.31'
L = 2953.34'
R = 17200.36'
PC STA = 1488+55.65'EB'
PT STA = 1518+08.99'EB'

STA. 1499'EB'+20
41' RT
F.E.

MGS GUARDRAIL EB25
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1489+15'EB' TO STA. 1497+83'EB' RT.
INSTALL NEW THRIE BEAM TRANSITION
INSTALL MGS GUARDRAIL TERMINAL TYPE 2

PI STA = 1503+31.45'WB'
Y = 172127.167
X = 444633.604
DELTA = 9°50'16"
D = 0°19'56"
T = 1484.61'
L = 2961.92'
R = 17250.36'
PC STA = 1488+46.84'WB'
PT STA = 1518+08.76'WB'

MGS GUARDRAIL EB23
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1484+63'EB' TO STA. 1486+68'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL NEW THRIE BEAM TRANSITION
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

ALLIANT ENERGY
(ELECTRIC)

MH TELECOM TELEPHONE SYSTEM
(UG COPPER)

BARNEVELD PUBLIC UTILITY WATER

BARNEVELD PUBLIC UTILITY SANITARY SEWER

BARNEVELD PUBLIC UTILITY SANITARY SEWER

S. JONES ST.

N

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PLAN: EASTBOUND AND WESTBOUND	SHEET 114	E

MATCH LINE 1508+50.00

MATCH LINE 1538+50.00

BUTT JOINT
STA. 51+74'CTH K' TO STA. 51+97'CTH K'

C.T.H. "K"

PACKERLAND BROADBAND
(UG FIBER)

MGS GUARDRAIL WB16
REMOVING GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1519+50'WB' TO STA. 1524+81'WB' LT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL MGS GUARDRAIL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

1ST POST
STA. 1525+31'WB'
36' RT

STA. 1525'WB'+53
42' LT
F.E.

1510'WB' 1515'WB' 1520'WB' 1525'WB' U.S.H. "18"/U.S.H. "151" 1530'WB' 1535'WB'

1510'EB' 1515'EB' 1520'EB' 1525'EB' 1530'EB' 1535'EB'

STA. 1525'EB'+52
44' RT
F.E.

BUTT JOINT
STA. 48+74'CTH K' TO STA. 48+94'CTH K'

ADJUSTING MGS GUARDRAIL EB26
STA. 48+74'K' TO STA. 1525+53'EB' RT.

LEGEND
- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE

MATCH LINE 1538+50.00

MATCH LINE 1568+50.00

BUTT JOINT
'MOUND VIEW RD' STA. 51+47 TO 51+67

MH TELECOM TELEPHONE SYSTEM
(UG COPPER)

PACKERLAND BROADBAND
(UG FIBER)

MGS GUARDRAIL WB17
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1553+00'WB' TO STA. 1560+03'WB' LT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL MGS GUARDRAIL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

1ST POST
STA. 1560+53'WB'
36' RT

S85° 29' 32"E
1540'WB' 1545'WB' 1550'WB' U.S.H. "18"/U.S.H. "151" 1555'WB' 1560'WB' 1565'WB'

S85° 29' 32"E
1540'EB' 1545'EB' 1550'EB' 1555'EB' 1560'EB' 1565'EB'

50' R/W

1ST POST
STA. 1547+50'EB'
36' RT

STA. 1559'EB'+07
42' RT
P.E.
BUTT JOINT

MGS GUARDRAIL EB27
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1548+00'EB' TO STA. 1557+78'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL MGS GUARDRAIL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

BUTT JOINT
'MOUND VIEW RD' STA. 48+86 TO 49+06

MOUND VIEW RD.

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PLAN: EASTBOUND AND WESTBOUND	SHEET 115	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050121
PLOT DATE : 11/28/2018 4:17 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1" = 200'_XREF
WISDOT/CADDS SHEET 44

PI STA = 1574+32.97'WB'
Y = 171568.456
X = 451720.438
DELTA = 9°05'56"
D = 0°20'07"
T = 1360.33'
L = 2714.95'
R = 17096.03'
PC STA = 1560+72.64'WB'
PT STA = 1587+87.59'WB'

MGS GUARDRAIL WB18
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1574+54'WB' TO STA. 1580+44'WB' LT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL MGS GUARDRAIL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

N

PACKERLAND BROADBAND
(UG FIBER)

1ST POST
STA. 1580+94'WB'
36' RT

STA. 1581'WB'+21
41' LT
F.E.

MATCH LINE 1568+50.00

1570'WB'
1575'WB'
1580'WB'
U.S.H. "18"/U.S.H. "151"
1585'WB'
1590'WB'
1595'WB'

1570'EB'
1575'EB'
1580'EB'
1585'EB'
1590'EB'
1595'EB'

1ST POST
STA. 1571+50'EB'
37' RT

STA. 1581'EB'+26
42' RT
F.E.

1ST POST
STA. 1595+72'EB'
37' RT

MATCH LINE 1598+50.00

PI STA = 1574+37.18'EB'
Y = 171518.298
X = 451720.474
DELTA = 9°05'56"
D = 0°20'03"
T = 1364.31'
L = 2722.89'
R = 17146.03'
PC STA = 1560+72.87'EB'
PT STA = 1587+95.76'EB'

MGS GUARDRAIL EB28
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1572+00'EB' TO STA. 1579+78'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL MGS GUARDRAIL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

MGS GUARDRAIL EB29
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1596+22'EB' TO STA. 1600+25'EB' RT.
INSTALL MGS GUARDRAIL TERMINAL EAT
INSTALL MGS GUARDRAIL TYPE 2 TERMINAL
BARRIER SYSTEM GRADING, SHAPING AND FINISHING

5

5

N

ALLIANT ENERGY
(ELECTRIC)

PACKERLAND BROADBAND
(UG FIBER)

MH TELECOM TELEPHONE SYSTEM
(UG COPPER)

BUTT JOINT
'E BRIGHAM RD' STA. 51+48 TO STA. 51+68

PI STA = 1626+89.71'WB'
Y = 171989.689
X = 456966.007
DELTA = 1°48'50"
D = 0°14'55"
T = 364.63'
L = 729.19'
R = 23034.44'
PC STA = 1623+25.08'WB'
PT STA = 1630+54.27'WB'

MATCH LINE 1598+50.00

N85° 24' 32"E

1600'WB'
1605'WB'
U.S.H. "18"/U.S.H. "151"
1610'WB'
1615'WB'
1620'WB'
1625'WB'

N85° 24' 32"E

1600'EB'
1605'EB'
1610'EB'
1615'EB'
1620'EB'
1625'EB'

1ST POST
STA. 1614+80'EB'
43.7' RT

R58'-100FT

1ST POST
STA. 48+22'BE'
22' LT

MGS GUARDRAIL EB30
REMOVE GUARDRAIL
INSTALL MGS GUARDRAIL 3 STA. 1615+33'EB' TO STA. 48+75'BE' LT.
INSTALL MGS GUARDRAIL SHORT RADIUS
INSTALL MGS GUARDRAIL TERMINAL EAT (2)
BARRIER SYSTEM GRADING, SHAPING AND FINISHING (2)

BUTT JOINT
'E BRIGHAM RD' STA. 48+84 TO STA. 49+04

E. BRIGHAM RD.

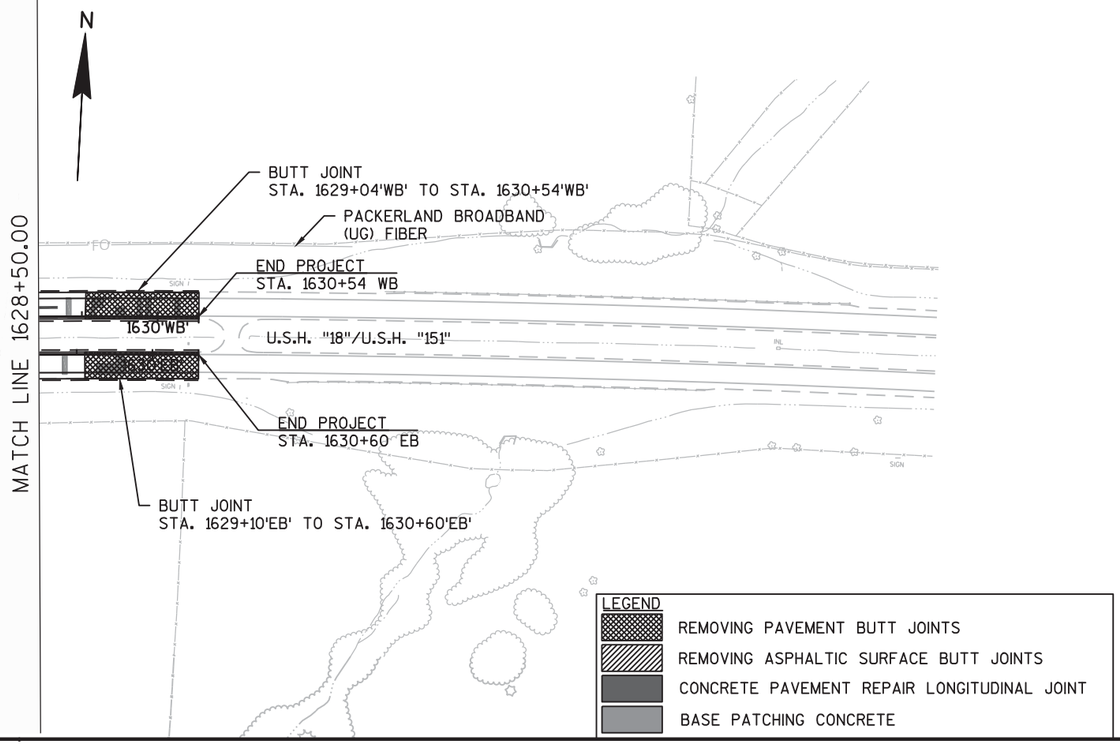
ADJUSTING MGS GUARDRAIL EB31
STA. 48+84'BE' TO STA. 1624+50'EB' RT

PI STA = 1626+97.09'EB'
Y = 171939.786
X = 456969.221
DELTA = 1°48'50"
D = 0°14'57"
T = 363.83'
L = 727.61'
R = 22984.44'
PC STA = 1623+33.25'EB'
PT STA = 1630+60.86'EB'

MATCH LINE 1628+50.00

LEGEND
- REMOVING PAVEMENT BUTT JOINTS
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT
- BASE PATCHING CONCRETE

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PLAN: EASTBOUND AND WESTBOUND	SHEET 116	E



PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	PLAN: EASTBOUND AND WESTBOUND	SHEET 117	E

Standard Detail Drawing List

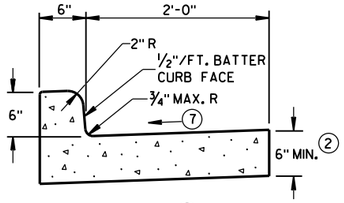
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-13B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
11A01-05	MAINTENANCE CROSSOVER FOR FREEWAYS
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-12A	RURAL DOWELED CONCRETE PAVEMENT
13C11-12B	RURAL DOWELED CONCRETE PAVEMENT
13C14-07A	BASE PATCHING CONCRETE
13C14-07B	BASE PATCHING CONCRETE
13C14-07C	BASE PATCHING CONCRETE
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B15-11A	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
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
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	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)

6

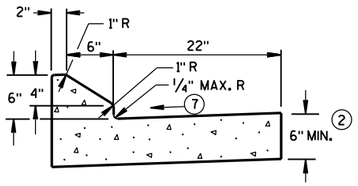
Standard Detail Drawing List

14B53-01I	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
15A04-04C	DELINEATOR POST WITH REFLECTIVE SHEETING
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-19C	PAVEMENT MARKING (TURN LANES)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C35-03A	PAVEMENT MARKING (INTERSECTIONS)
15D03-04	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D04-01	TRAFFIC CONTROL, RAMP CONSTRUCTION STAGING
15D12-06A	TRAFFIC CONTROL, LANE CLOSURE
15D12-06B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-04B	TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-03	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D21-06	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D40-01	TRAFFIC CONTROL, LANE SHIFT, MULTILANE DIVIDED OR ONE WAY ROAD

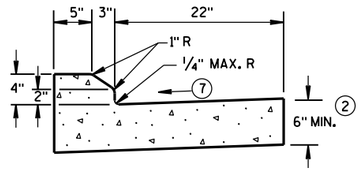
6



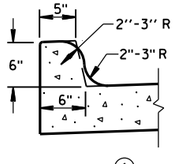
TYPES A (1) & D



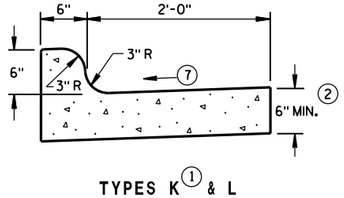
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

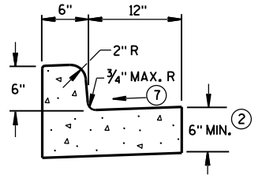


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



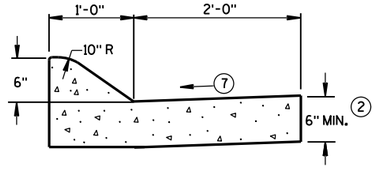
TYPES K (1) & L

CONCRETE CURB & GUTTER 30"

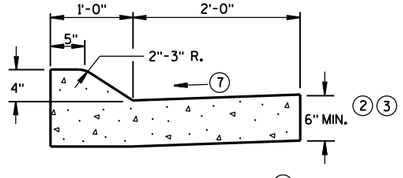


TYPES A (1) & D

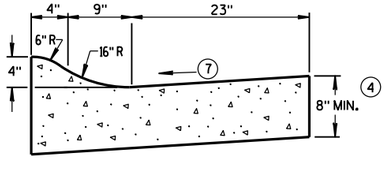
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A (1) & D

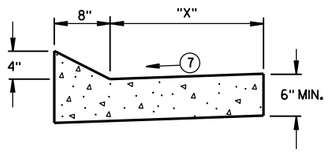


4" SLOPED CURB TYPES A (1) & D



4" SLOPED CURB TYPES R (1) & T (5)

CONCRETE CURB & GUTTER 36"



TYPES TBT & TBTT (1)

CONCRETE CURB & GUTTER

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

GENERAL NOTES

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

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

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

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

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

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

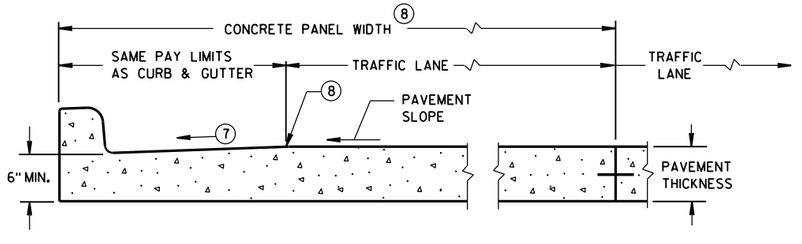
(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

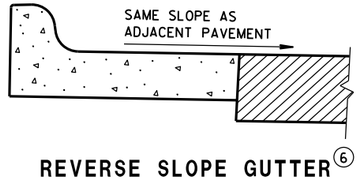
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB & GUTTER

* BIKE LANE IS NOT SHOWN.



REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

CONCRETE CURB & GUTTER

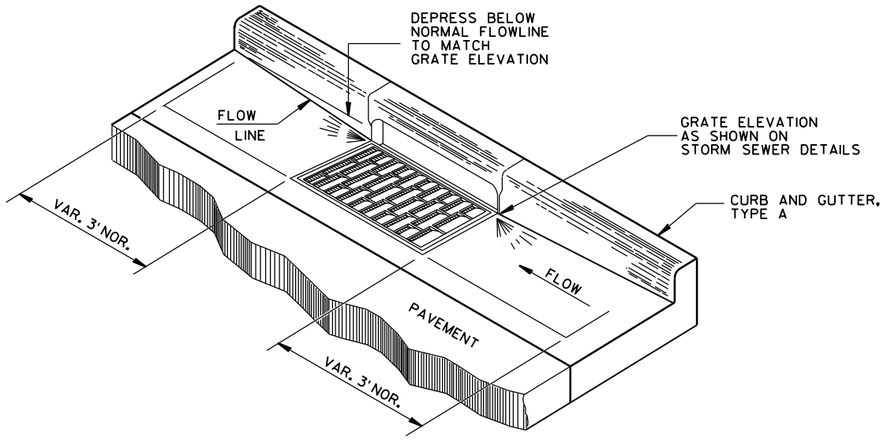
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

S.D.D. 8 D 1-20a

6

S.D.D. 8 D 1-20a



DETAIL OF CURB AND GUTTER AT INLETS

(TYPE H INLET COVER SHOWN)

GENERAL NOTES

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

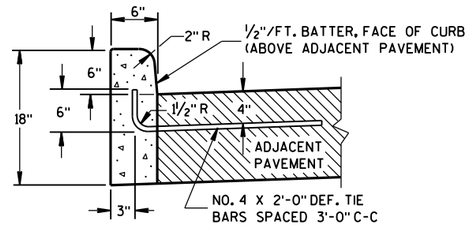
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

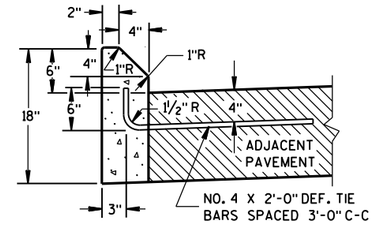
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(9) REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

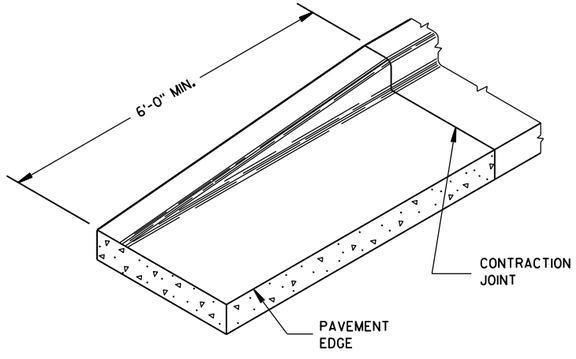


TYPES A(1) & D

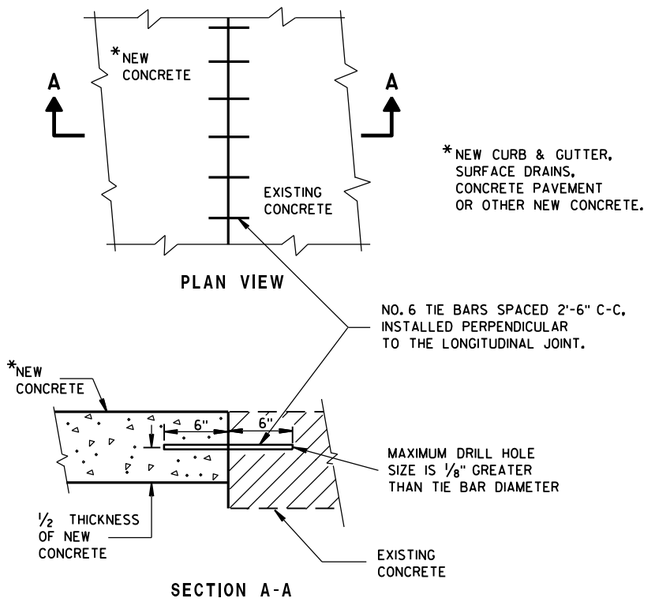


TYPES G(1) & J

CONCRETE CURB

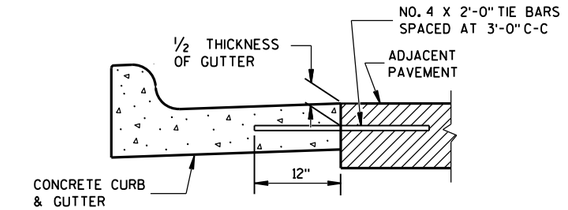


END SECTION CURB & GUTTER

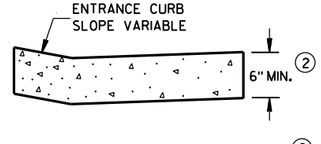


SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

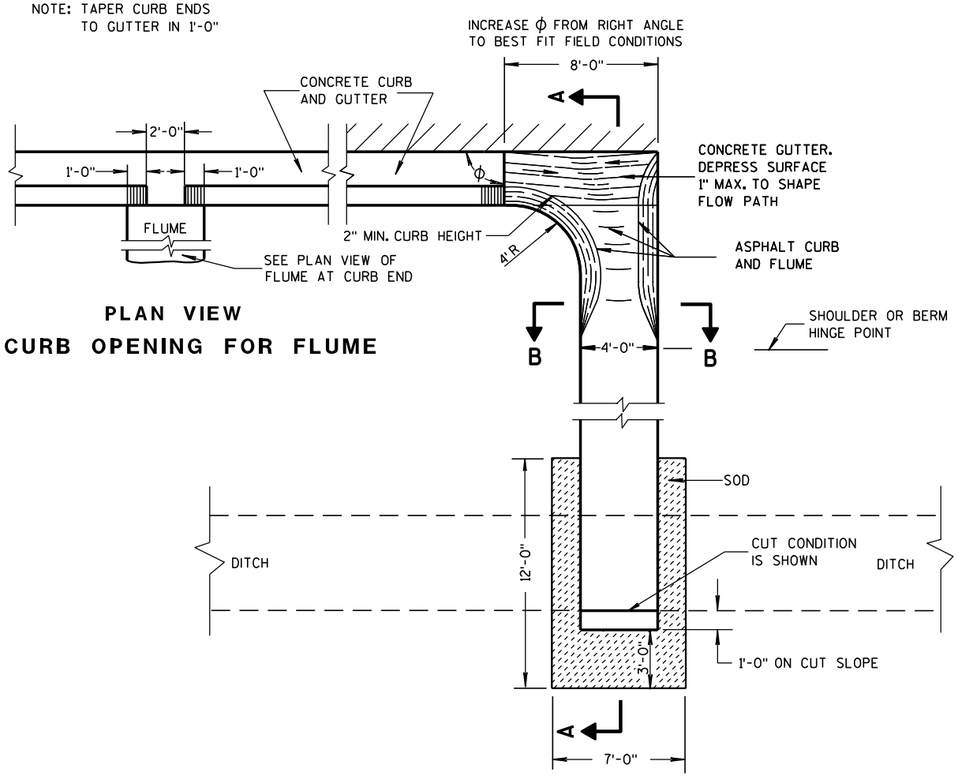
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

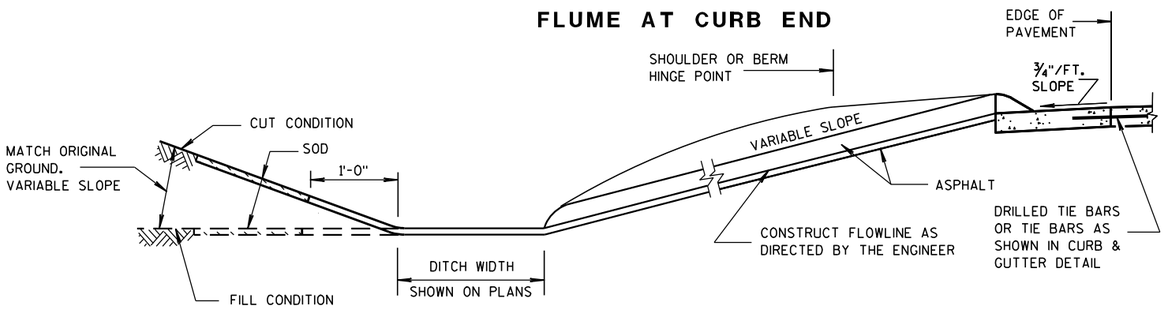
S.D.D. 8 D 1-20b

ASPHALTIC FLUME

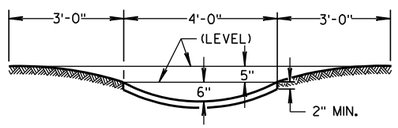


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

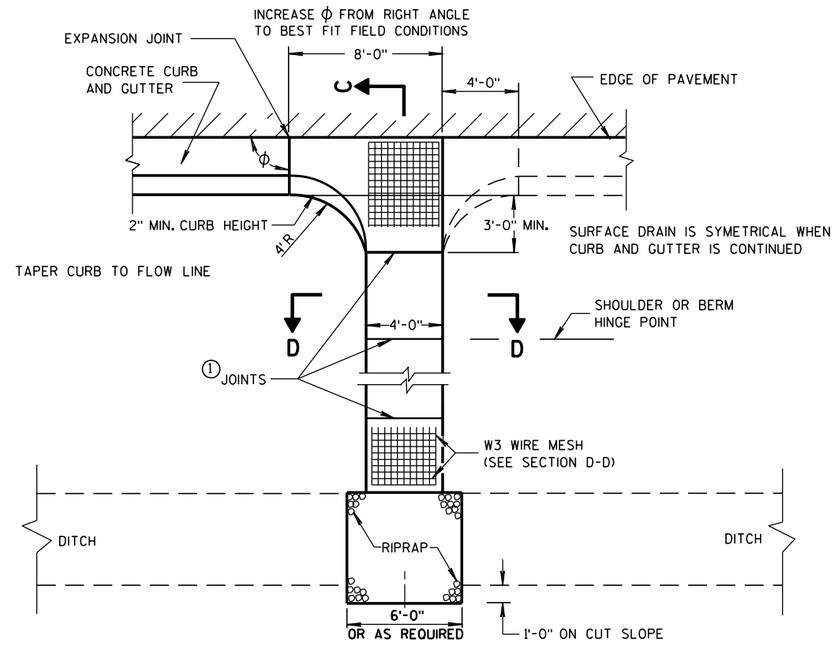
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

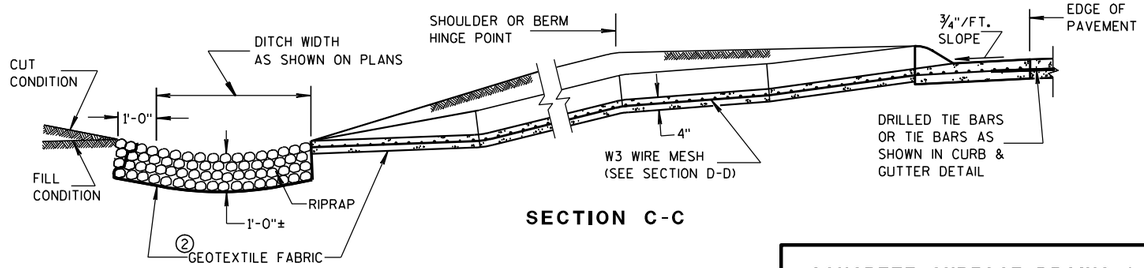
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

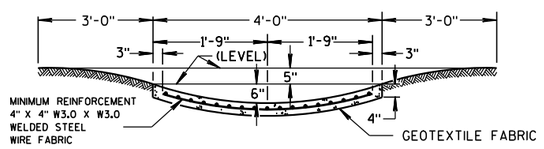
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

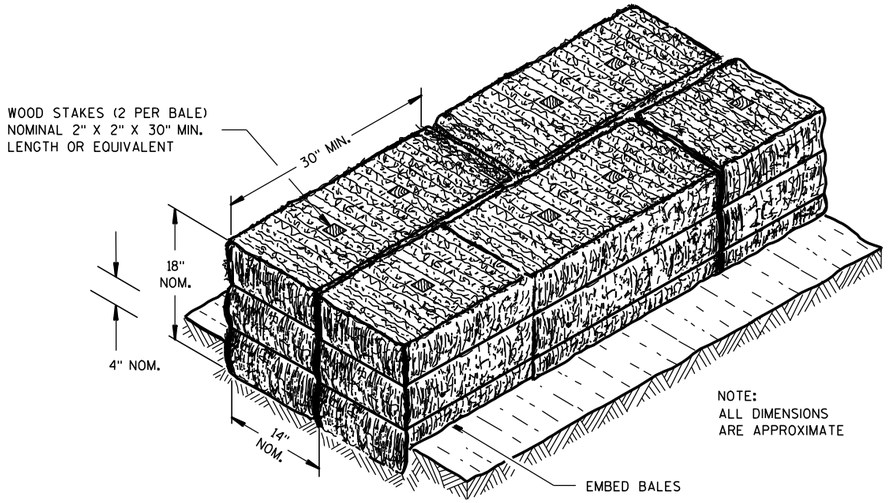
APPROVED
9-4-08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

6

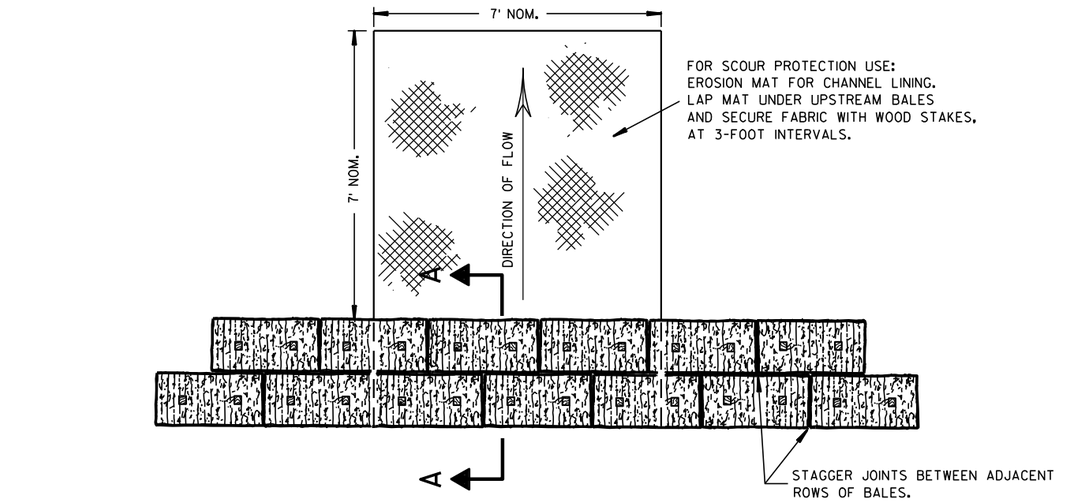
S.D.D. 8 D 4-5

6

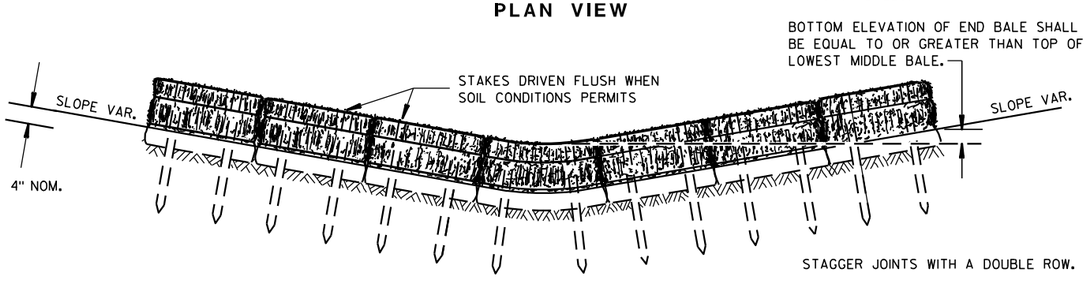
S.D.D. 8 D 4-5



SECTION A-A



PLAN VIEW



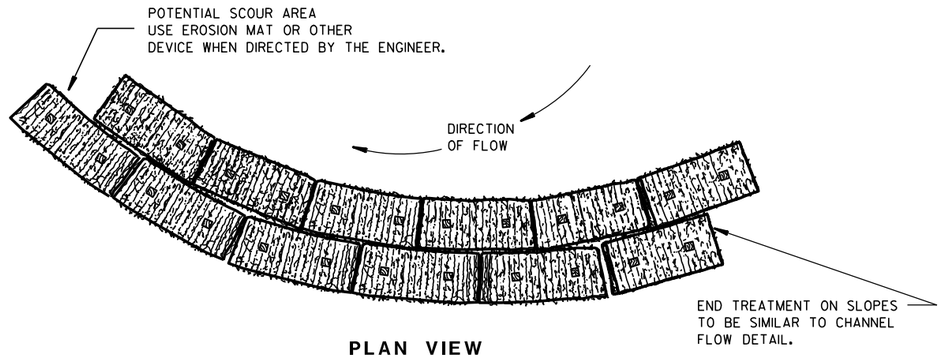
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

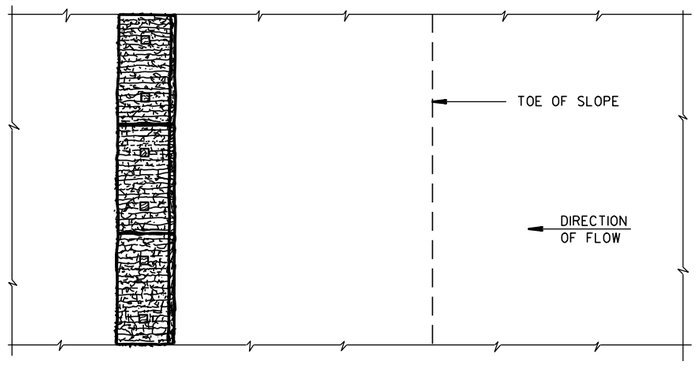
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

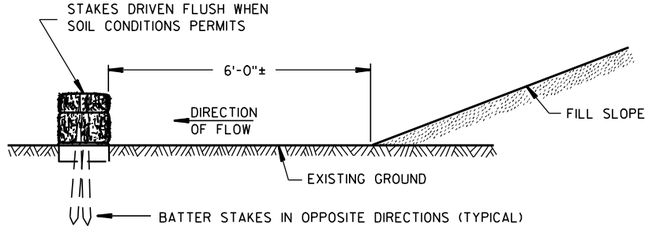


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

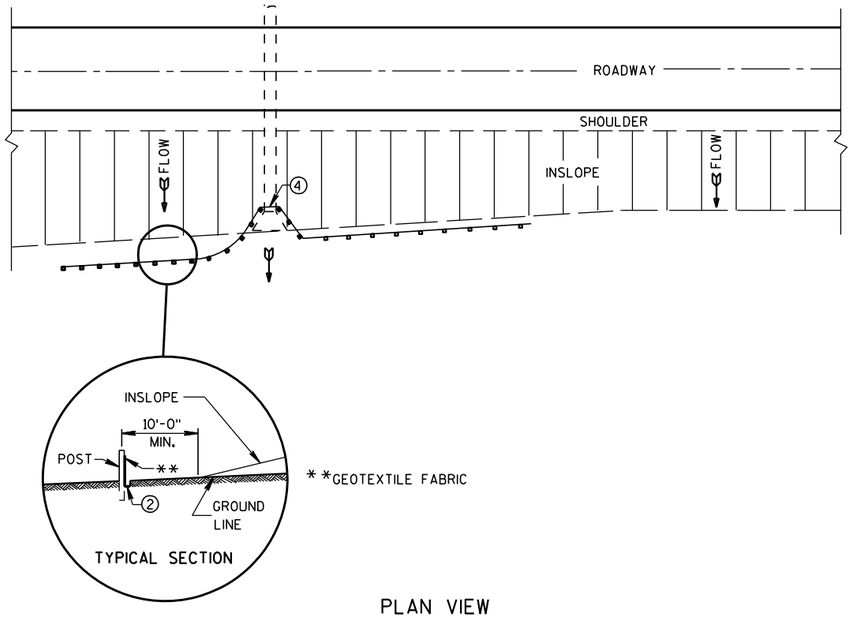
APPROVED

6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

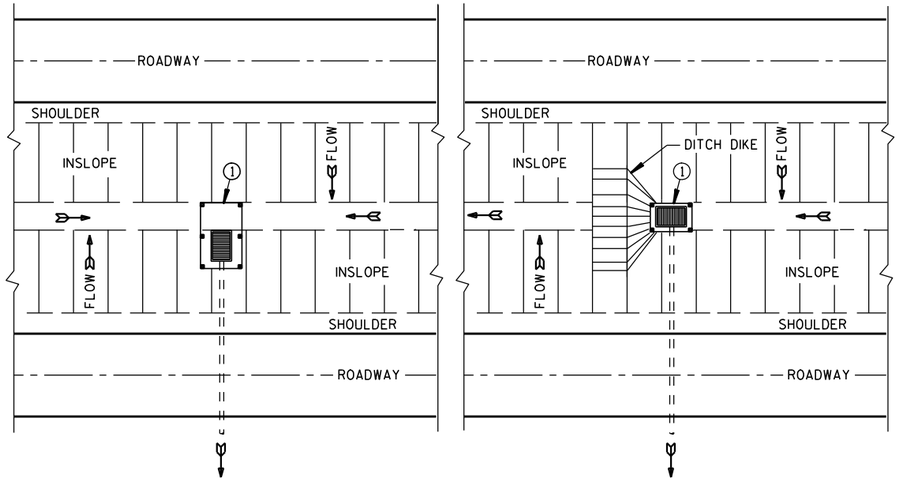
FHWA

6
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



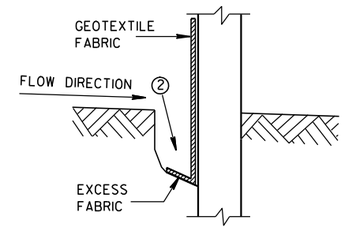
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

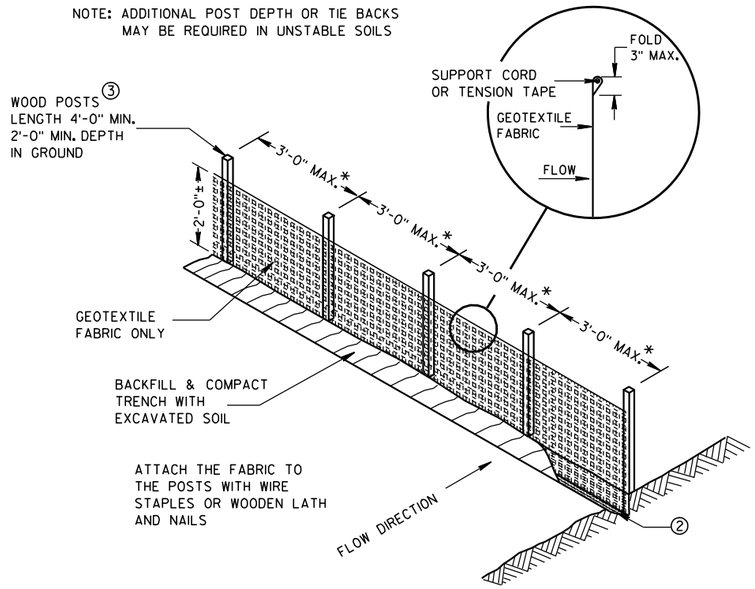
GENERAL NOTES

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

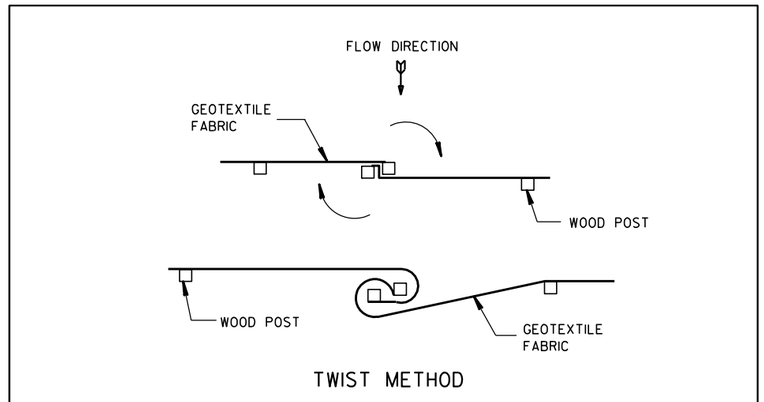
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



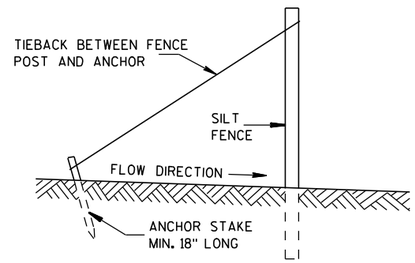
TRENCH DETAIL



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

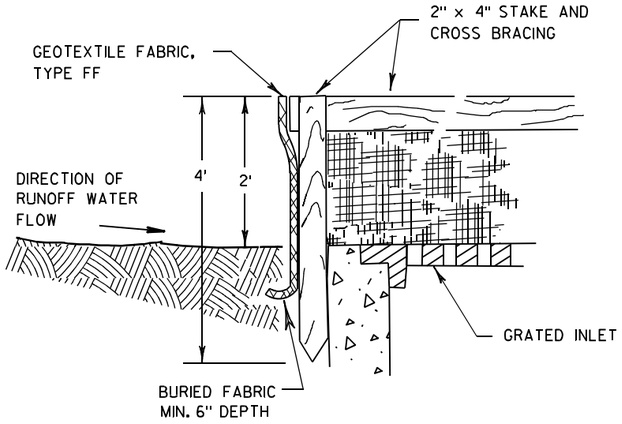
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

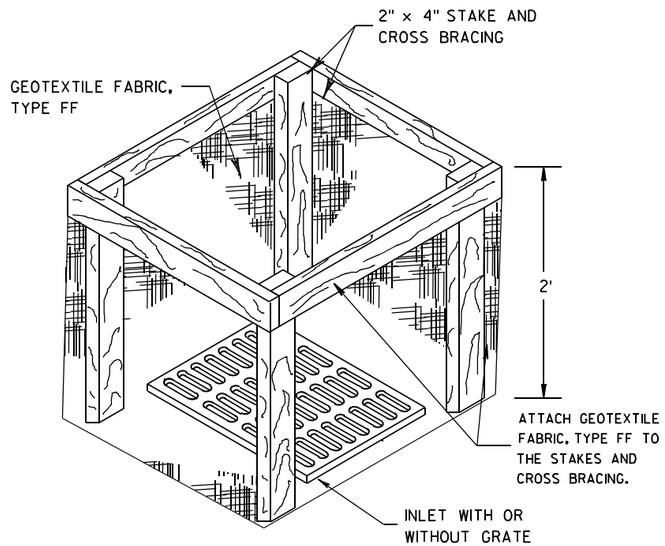
6

S.D.D. 8 E 9-6

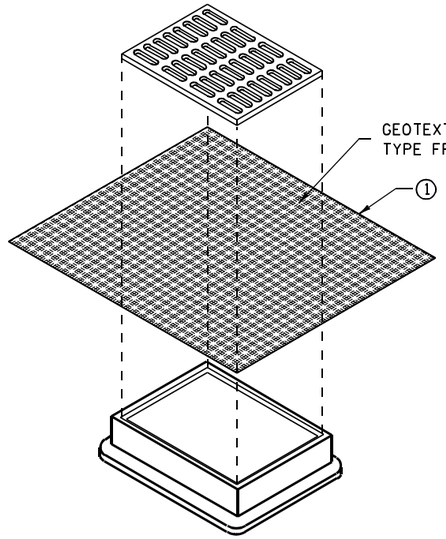
6

S.D.D. 8 E 9-6



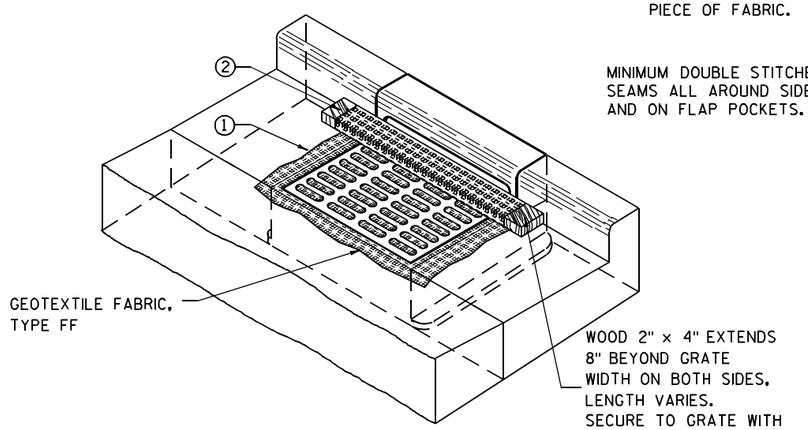


INLET PROTECTION, TYPE A

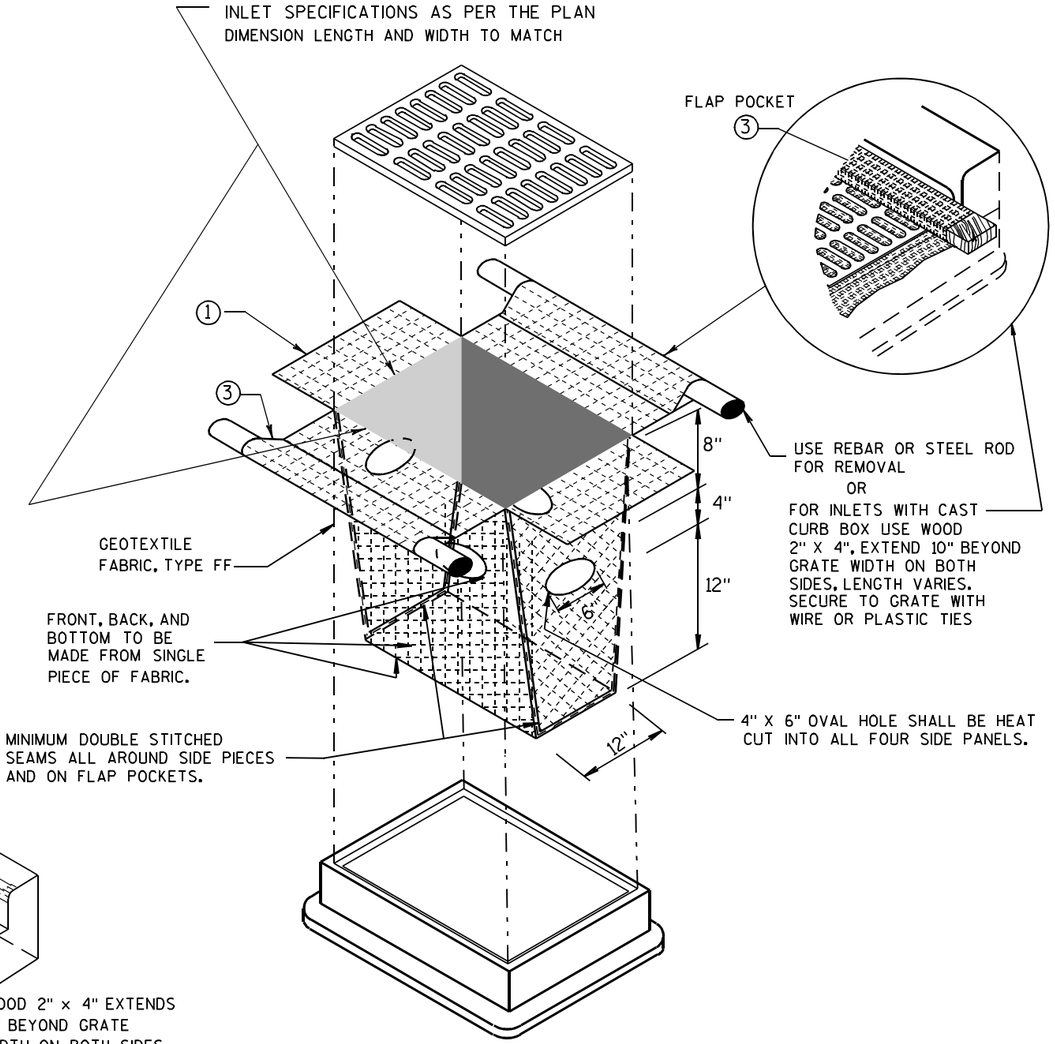


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

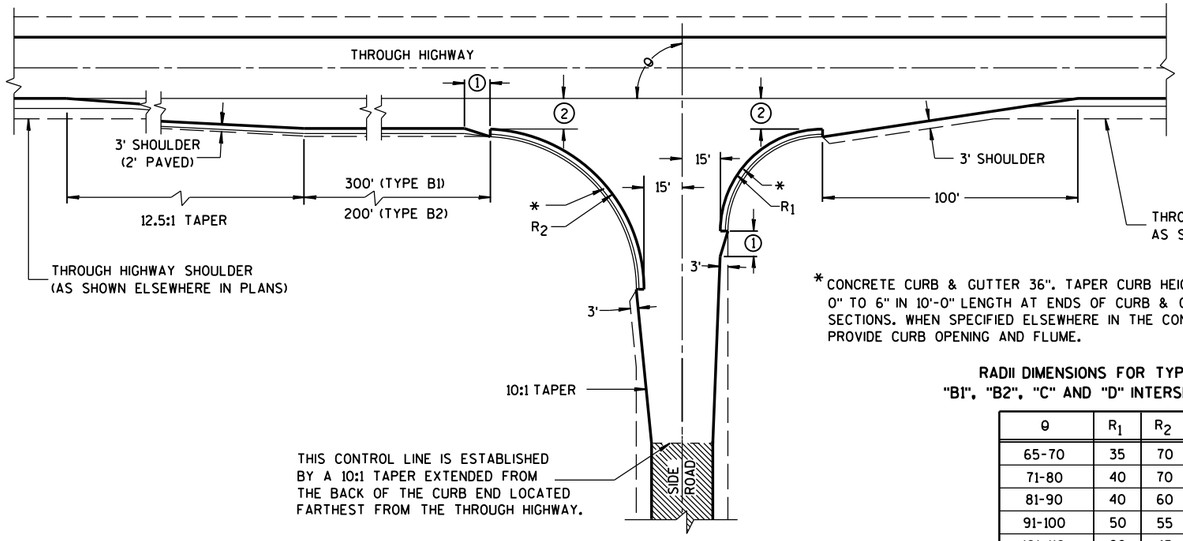
FHWA

6

S.D.D. 8 E 10-2

6

S.D.D. 8 E 10-2

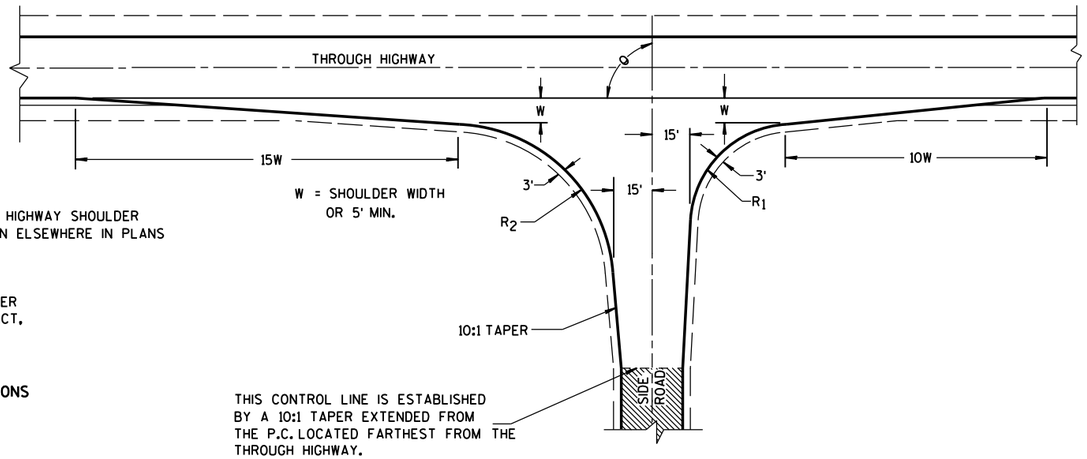


TYPE "B1" AND "B2"

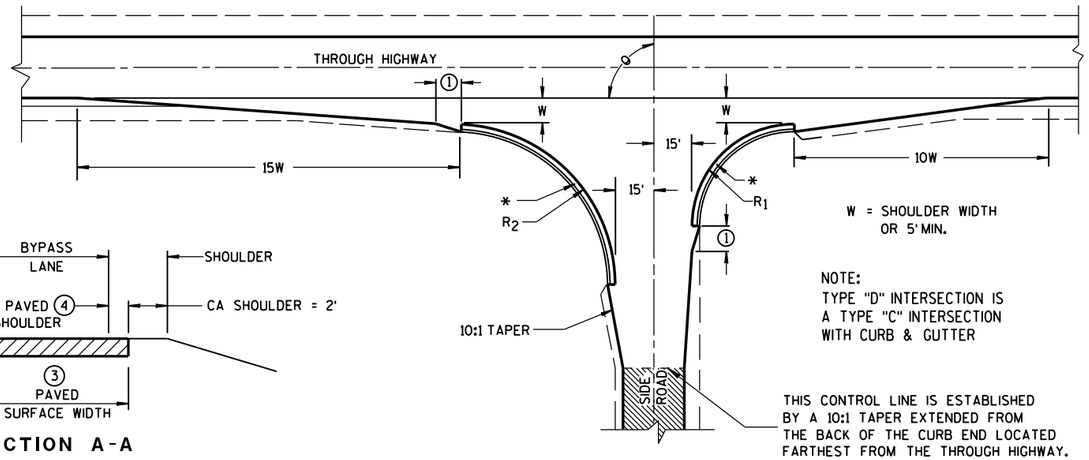
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TYPE "C"



TYPE "D"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

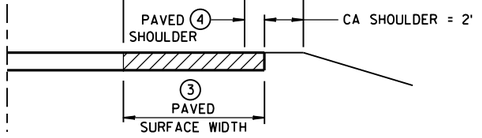
(1) 10-FT TYPICAL.

(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

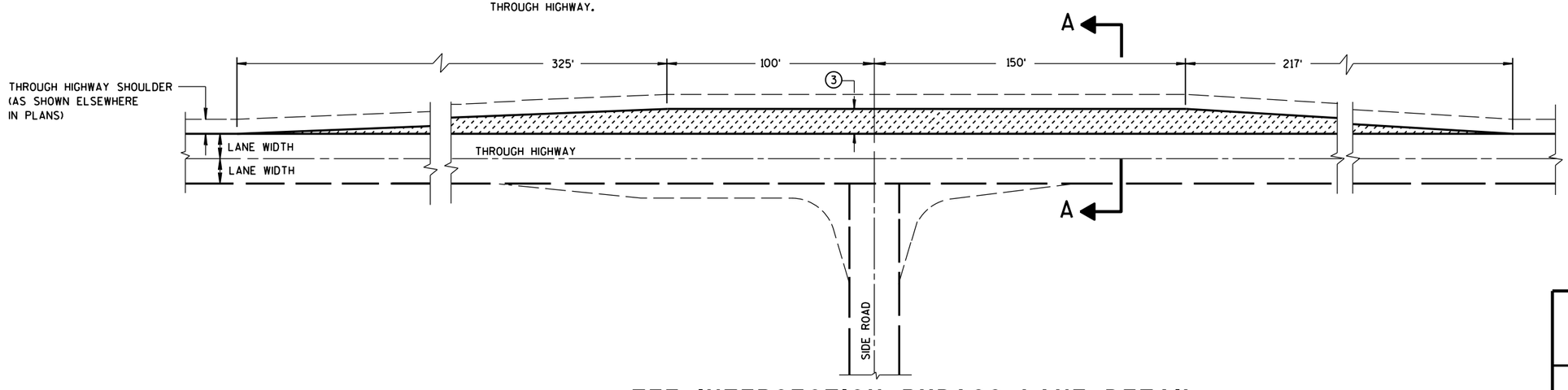
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.

(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



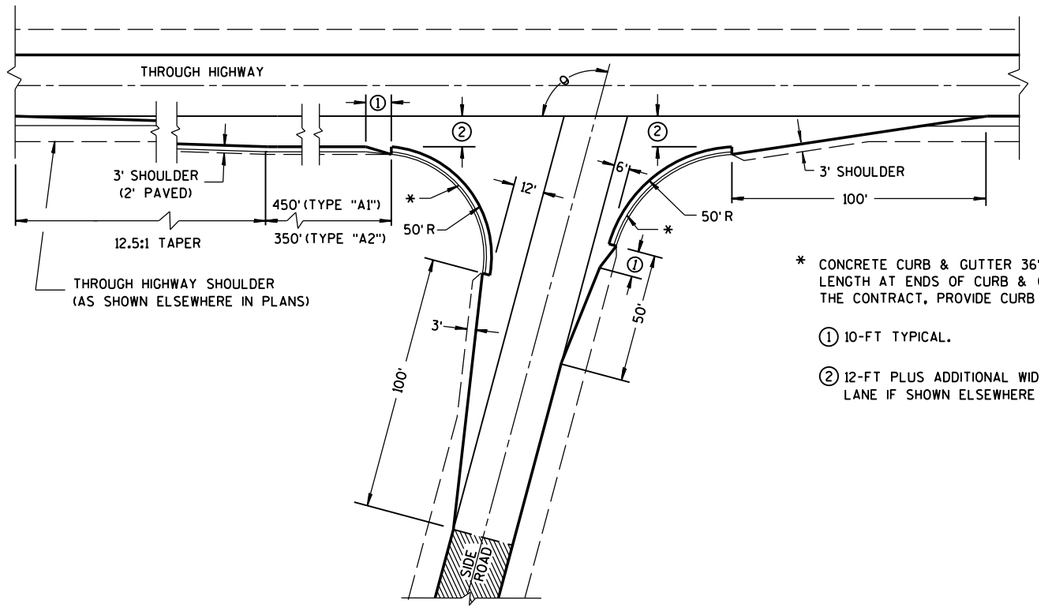
TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 9 A 1-13a



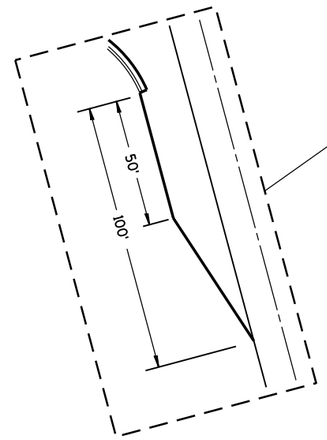
θ = MORE THAN 80°

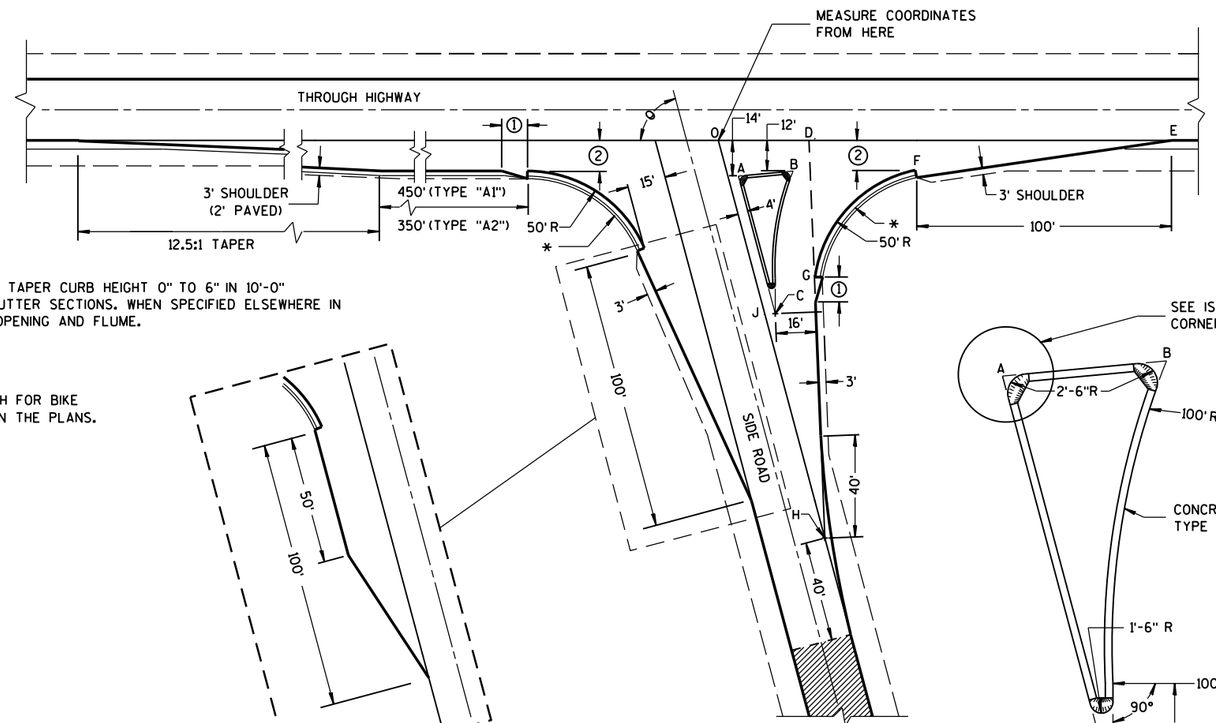
* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 10-FT TYPICAL.

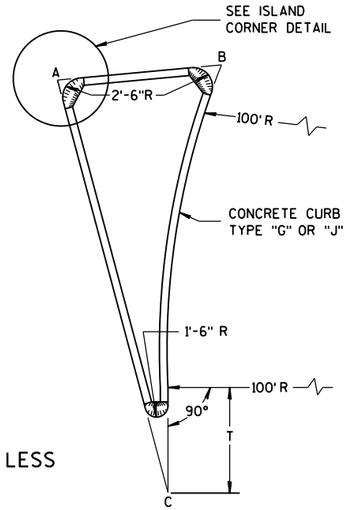
② 12-FT PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLANS.

EXISTING PAVED SURFACE

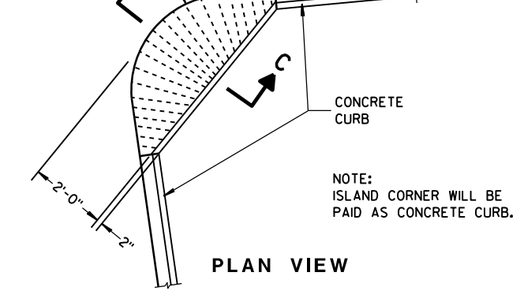




θ = ACUTE ANGLES 80° OR LESS

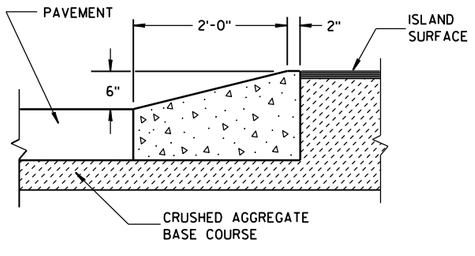


SIDE ROAD WIDENING AND TAPER REQUIRED WHERE
THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
θ = ACUTE ANGLES 70° OR LESS



NOTE:
ISLAND CORNER WILL BE
PAID AS CONCRETE CURB.

PLAN VIEW



SECTION C-C

ISLAND CORNER DETAIL

(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR
VARIABLE SIDE ROAD INTERSECTION ANGLES
(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT "O") X/Y								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7 / -14.0	44.9 / -12.0	46.4 / -72.4	41.9 / 0.0	205.0 / 0.0	104.6 / -12.0	64.0 / -75.5	85.0 / -147.1	32.3	67.4	4.9	85.9	169.9
65	10.9 / -14.0	39.0 / -12.0	37.8 / -71.6	39.4 / 0.0	196.1 / 0.0	95.7 / -12.0	54.1 / -71.5	70.5 / -151.3	28.2	63.6	8.5	80.9	166.9
70	9.4 / -14.0	33.9 / -12.0	29.8 / -70.1	37.4 / 0.0	188.3 / 0.0	87.8 / -12.0	45.6 / -67.5	56.1 / -154.2	24.6	59.7	11.5	76.1	164.1
75	7.9 / -14.0	29.3 / -12.0	22.3 / -67.9	35.7 / 0.0	181.2 / 0.0	80.7 / -12.0	38.2 / -63.4	41.8 / -155.9	21.5	55.8	13.8	71.4	161.4
80	6.5 / -14.0	25.4 / -12.0	15.6 / -65.2	34.4 / 0.0	174.8 / 0.0	74.4 / -12.0	31.8 / -59.3	27.6 / -156.5	18.9	52.0	15.6	66.9	158.9

TYPE "A1" & "A2" SIDE ROAD INTERSECTION DETAILS

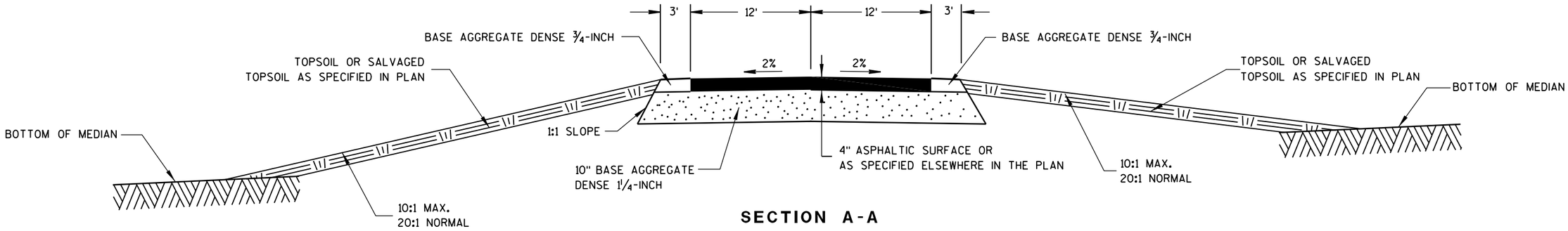
AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

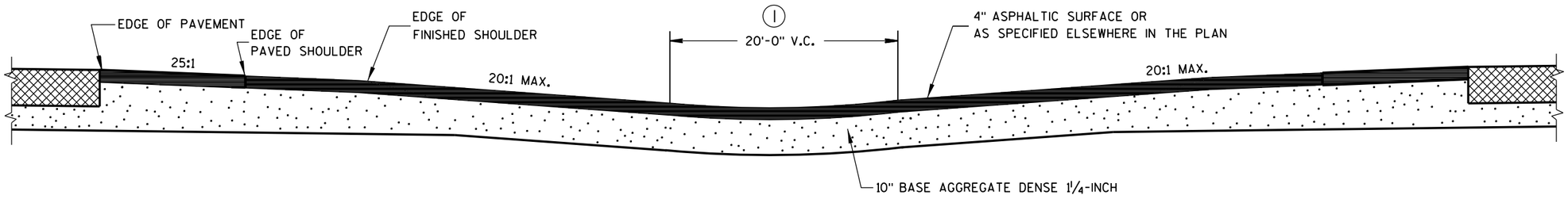
APPROVED
12/18/12 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

S.D.D. 9 A 1-13b

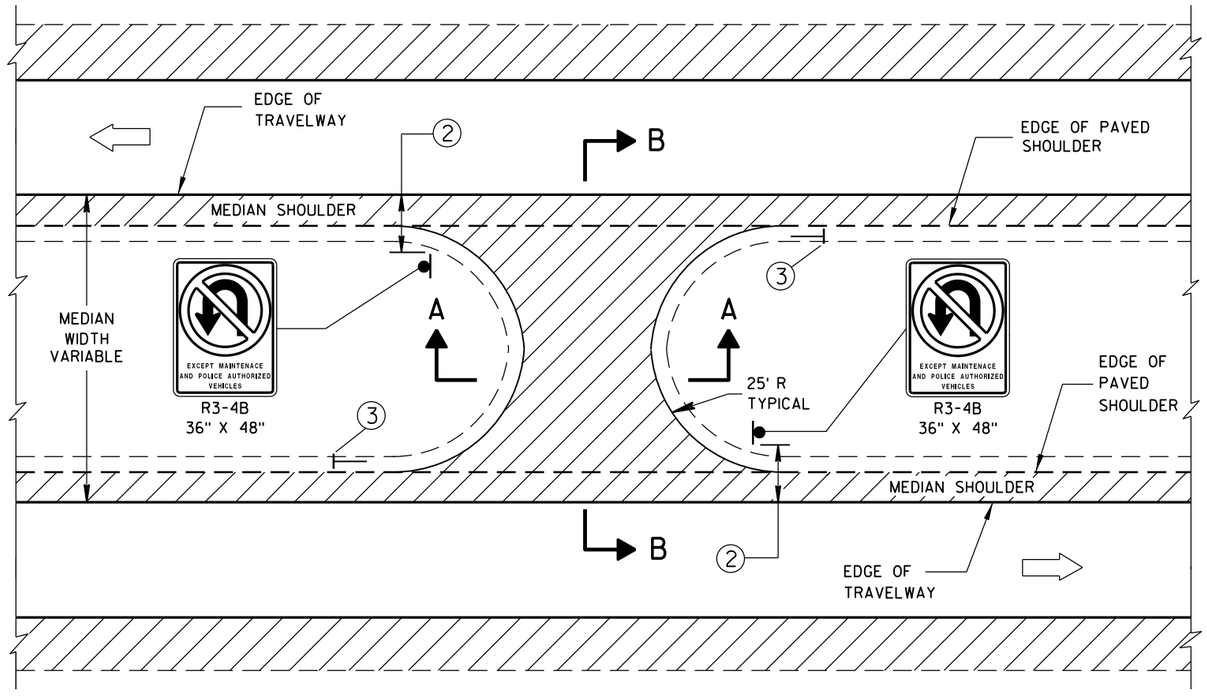
S.D.D. 9 A 1-13b



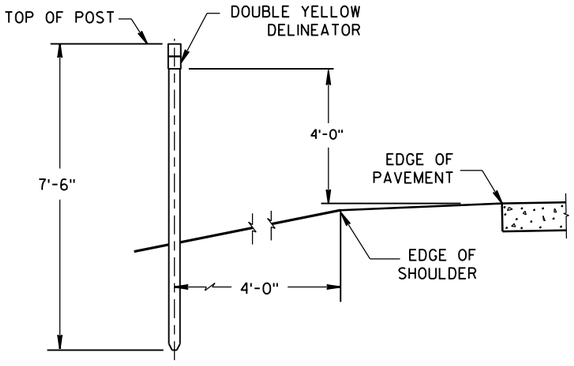
SECTION A-A



SECTION B-B



PLAN VIEW



DOUBLE YELLOW DELINEATOR INSTALLATION

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) ADJUST VERTICAL CURVE LOCATION LATERALLY TO MAINTAIN 20:1 MAX.

(2) SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

(3) INSTALL DOUBLE YELLOW DELINEATOR. SEE STANDARD DETAIL DRAWING 15A2.

MAINTENANCE CROSSOVER FOR FREEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

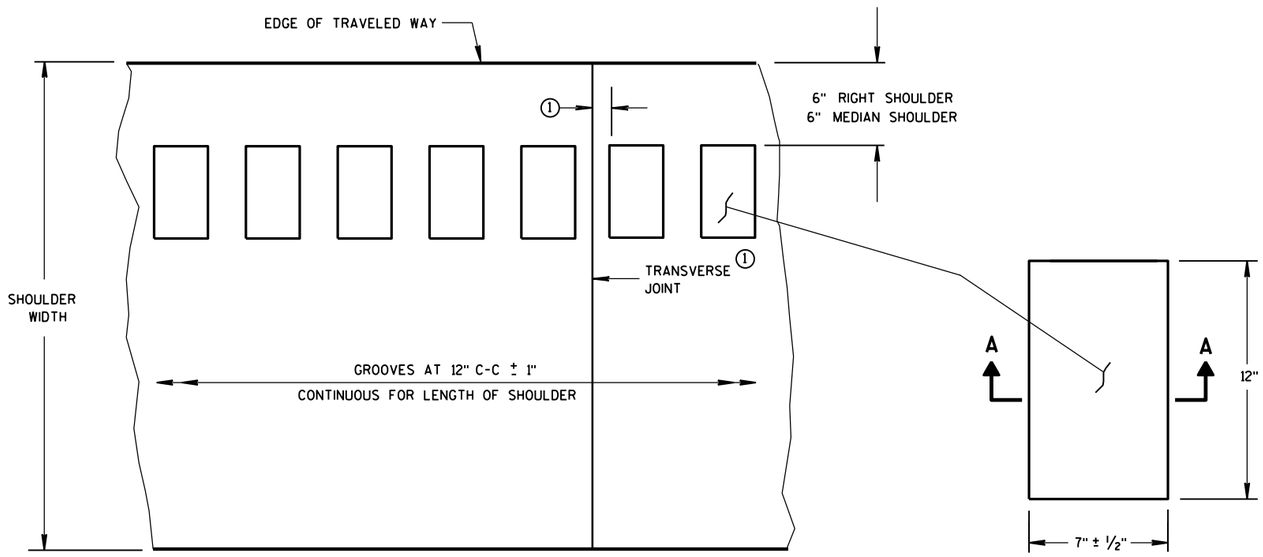
FHWA

6

S.D.D. 11 A 1-5

6

S.D.D. 11 A 1-5



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

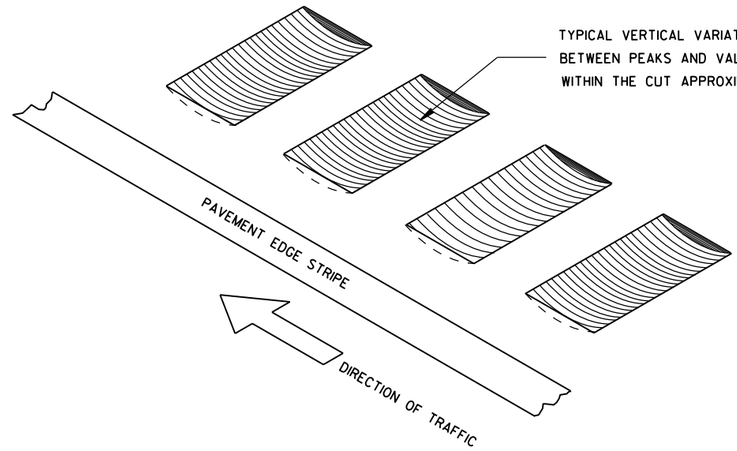
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

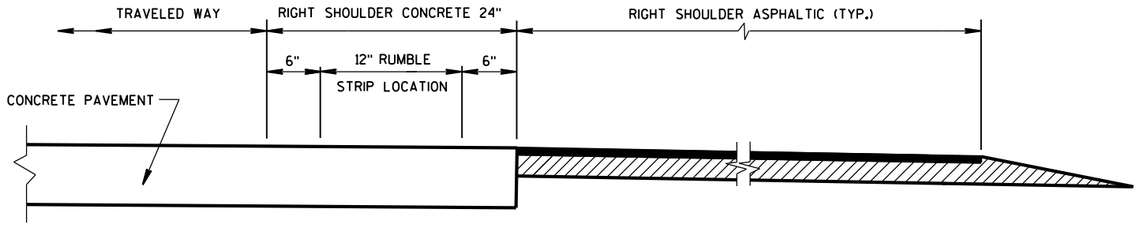
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

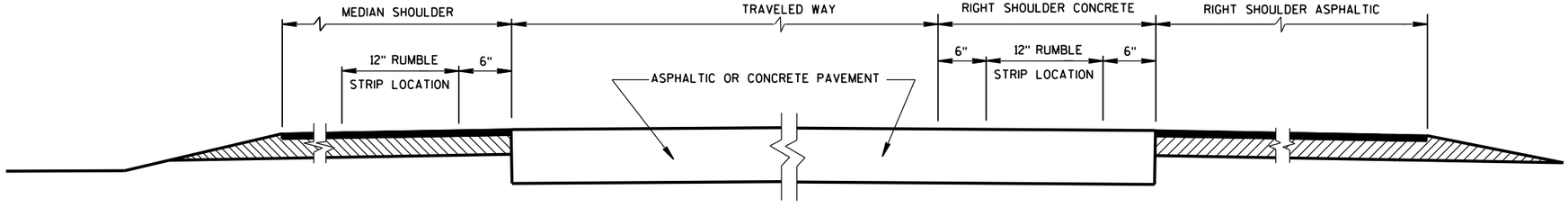
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



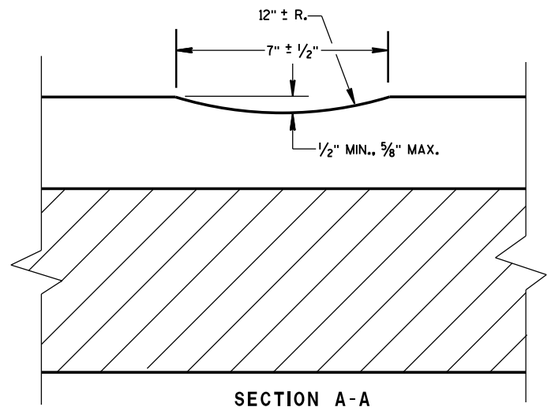
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

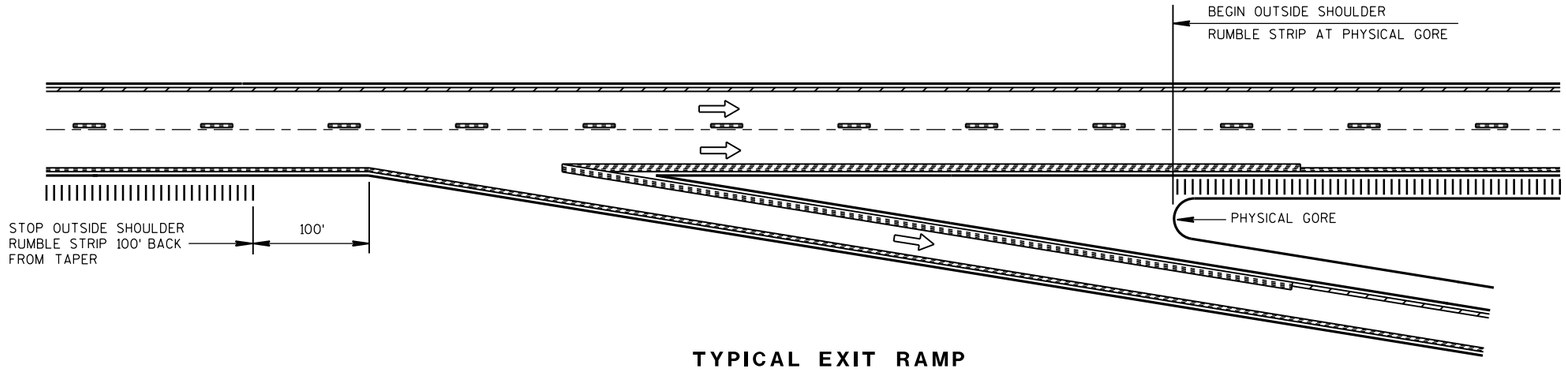
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



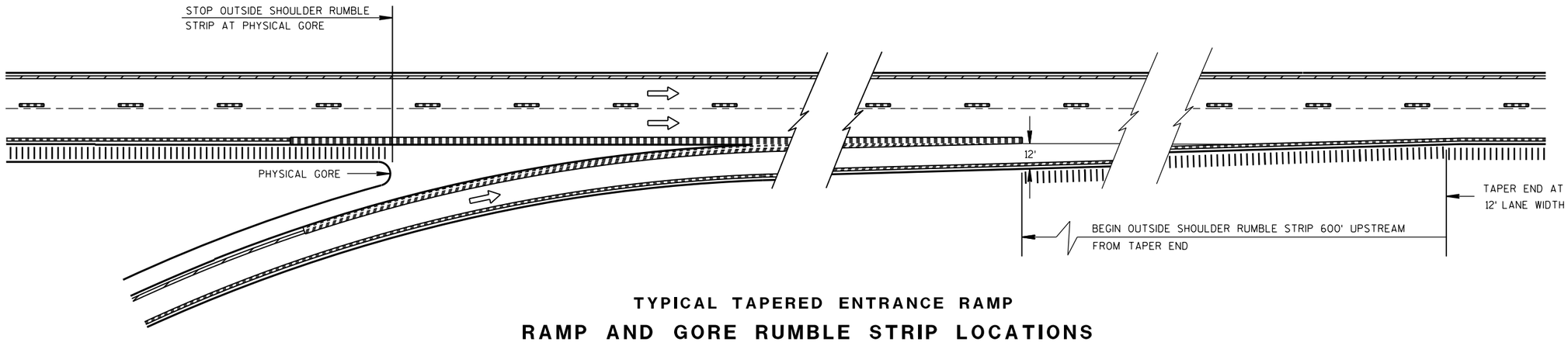
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

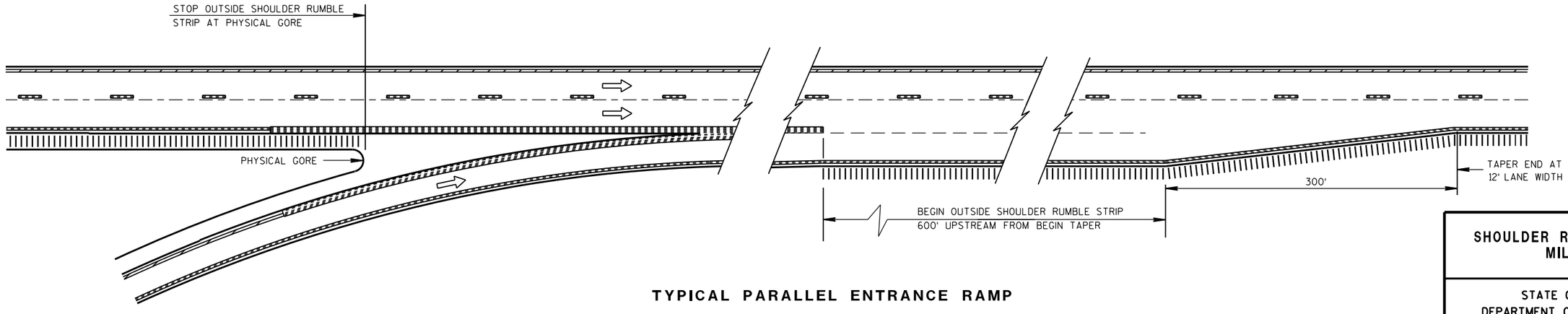
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

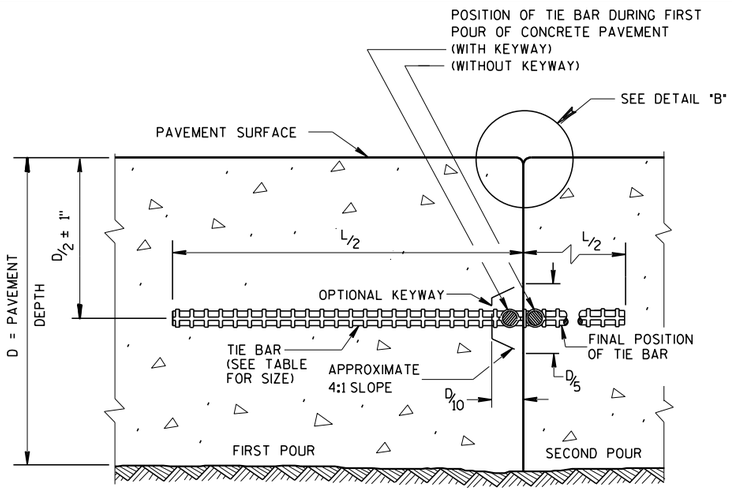
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

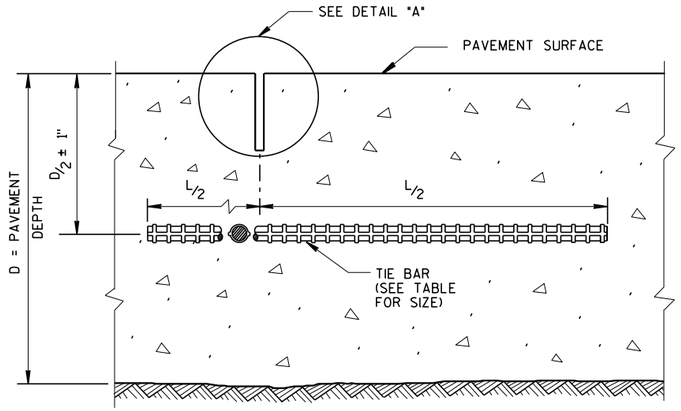
APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 13 A 5-5b



CONSTRUCTION JOINT



SAWED JOINT

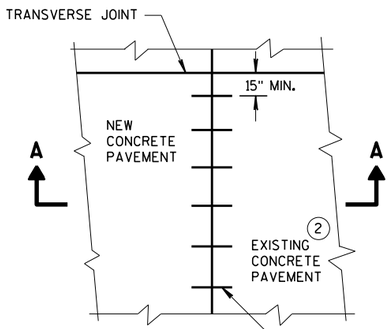
GENERAL NOTES

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

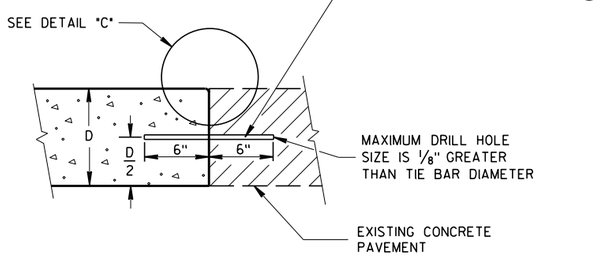
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

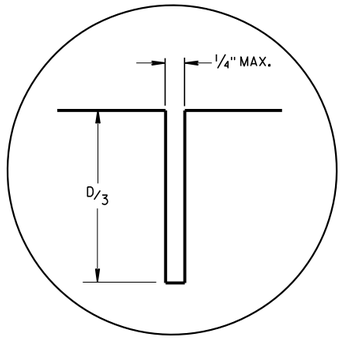


PLAN VIEW

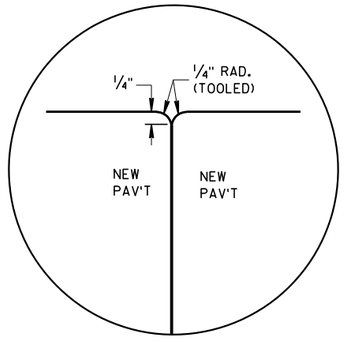


SECTION A-A

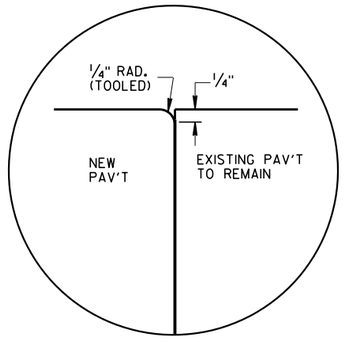
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



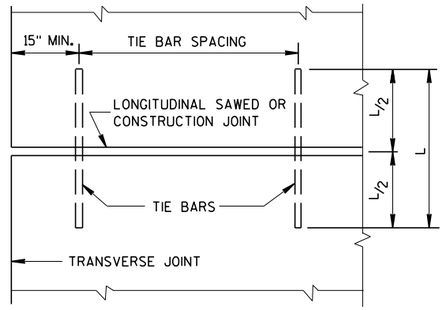
DETAIL "C"

TIE BAR TABLE

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

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

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

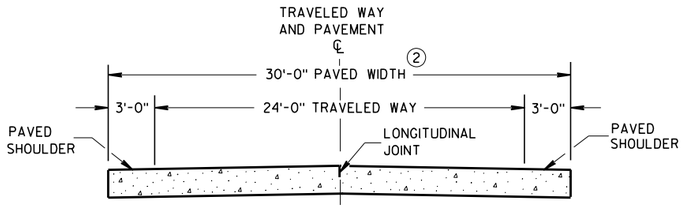


PLAN VIEW
SHOWING LOCATION OF TIE BARS

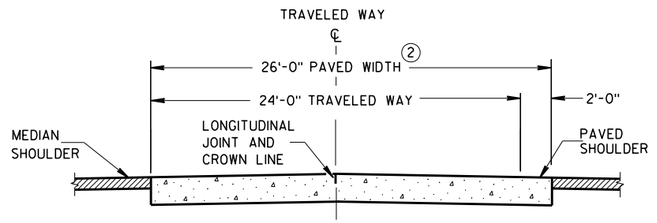
CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

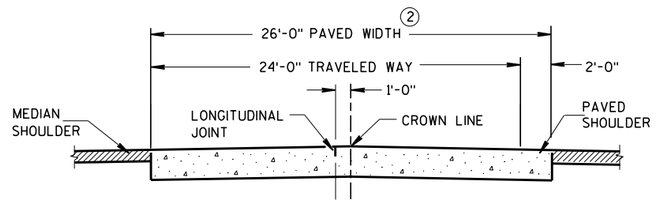
APPROVED
March 2018
DATE
/S/ Peter Kemp, PE
PAVEMENT SUPE
FHWA



SECTION A-A ①
TWO-LANE TWO-WAY HIGHWAY



SECTION B-B



ALTERNATIVE SECTION B-B
①
DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

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

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

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

CONSTRUCTION JOINTS

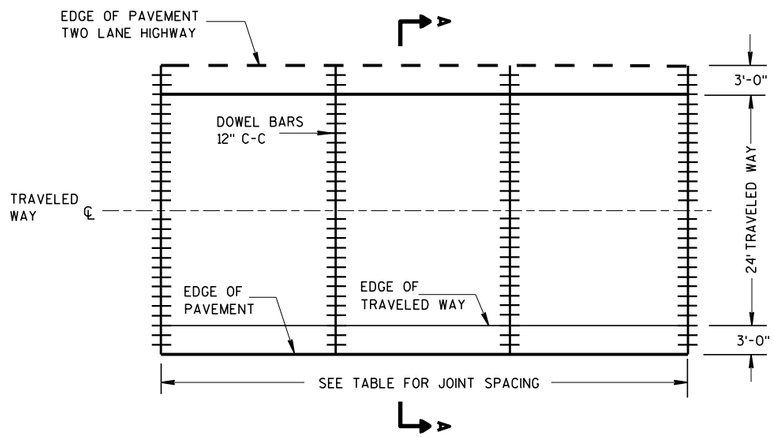
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

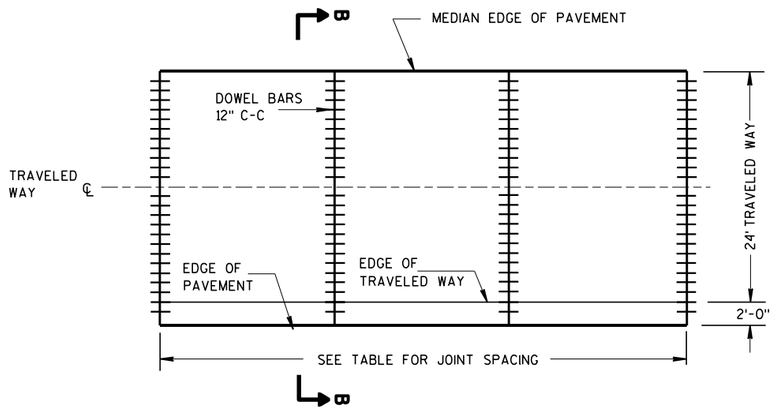
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED CONCRETE PAVEMENT

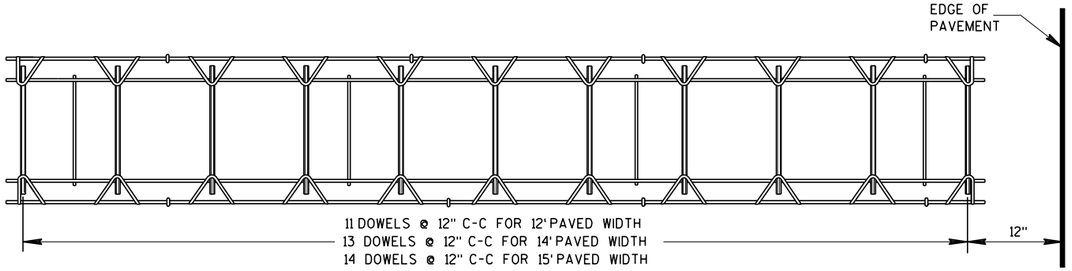
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

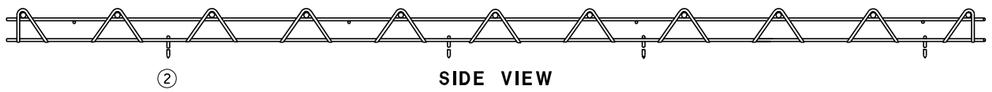
S.D.D. 13 C 11-12a

6

S.D.D. 13 C 11-12a



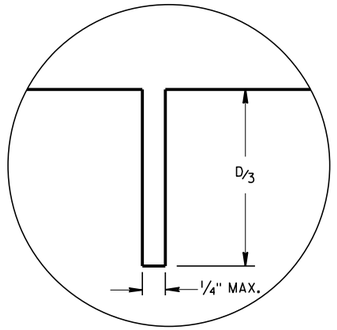
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

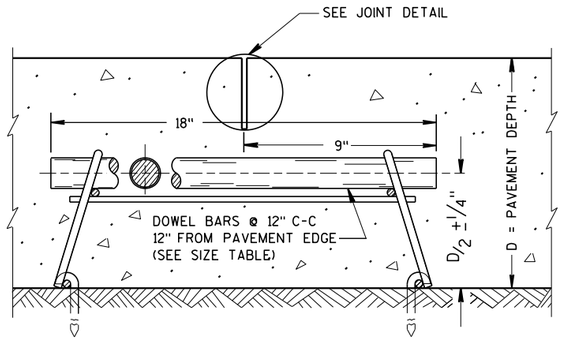
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

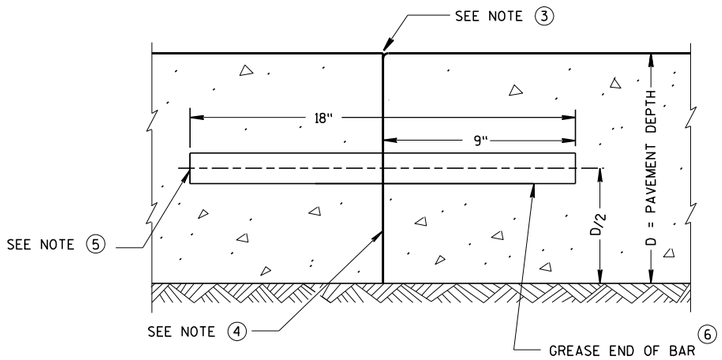
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

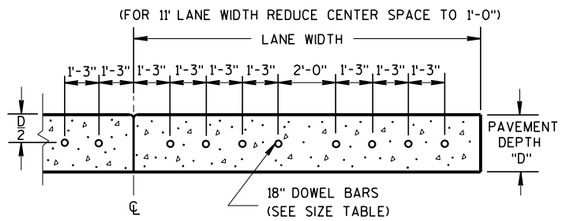
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUP

FHWA

6

S.D.D. 13 C 11-12b

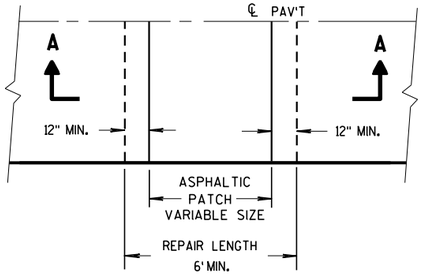
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

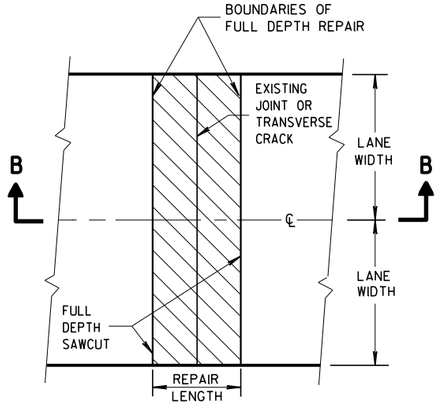
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

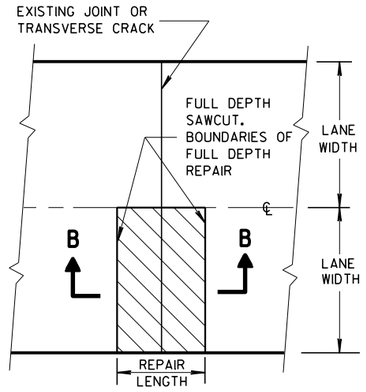
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

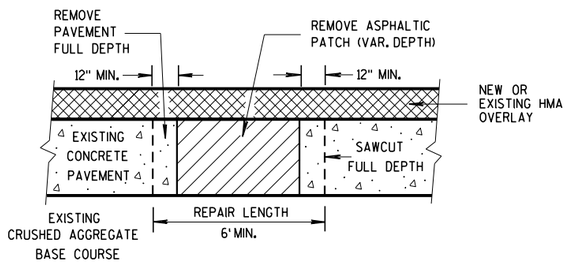


PLAN VIEW
(DOUBLE LANE REPAIR)



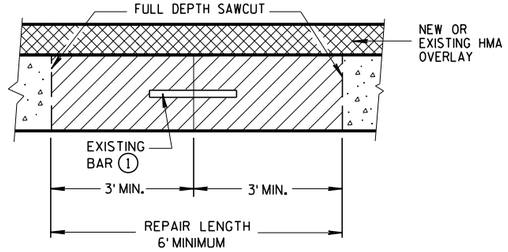
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

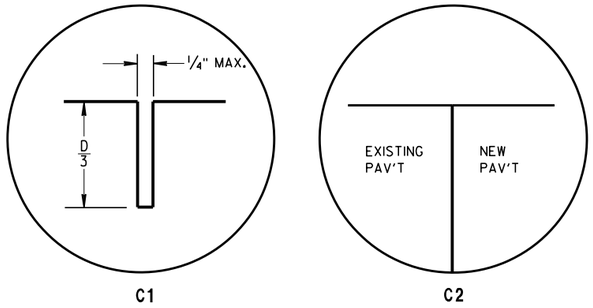
6

6

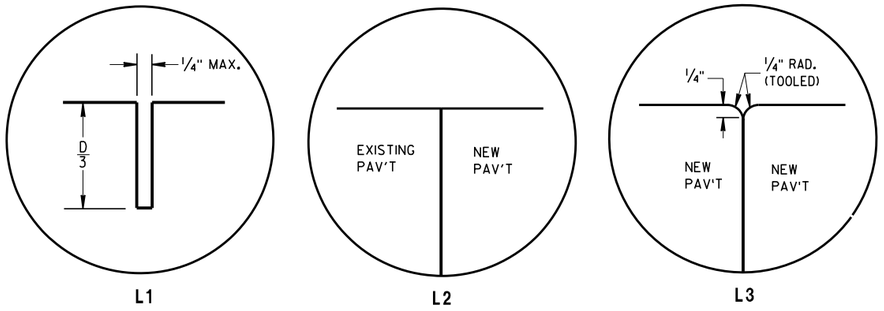
S.D.D. 13 C 14-7a

S.D.D. 13 C 14-7a

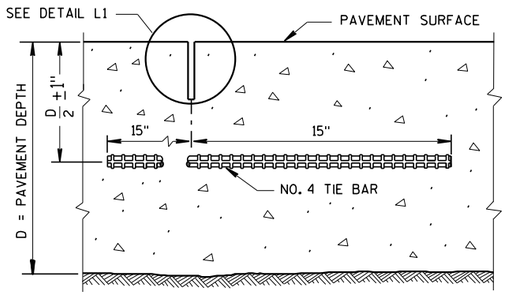
BASE PATCHING CONCRETE



TRANSVERSE JOINTS

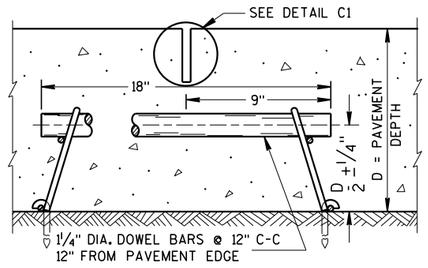


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

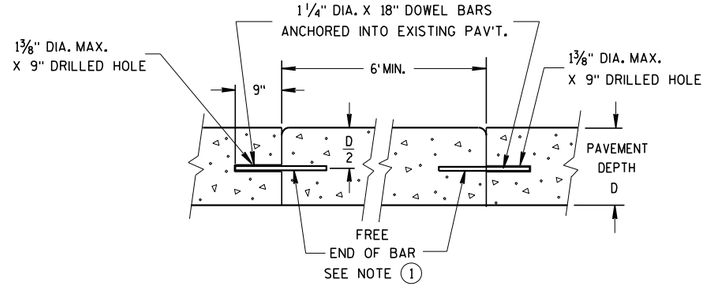
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

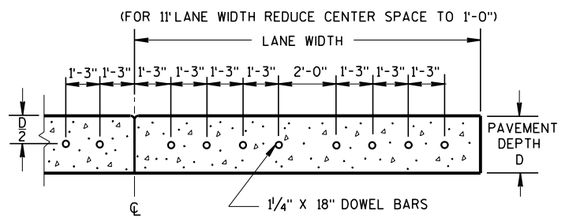
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

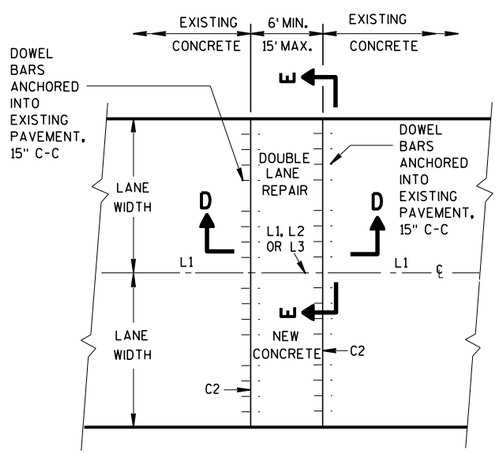


SECTION D-D



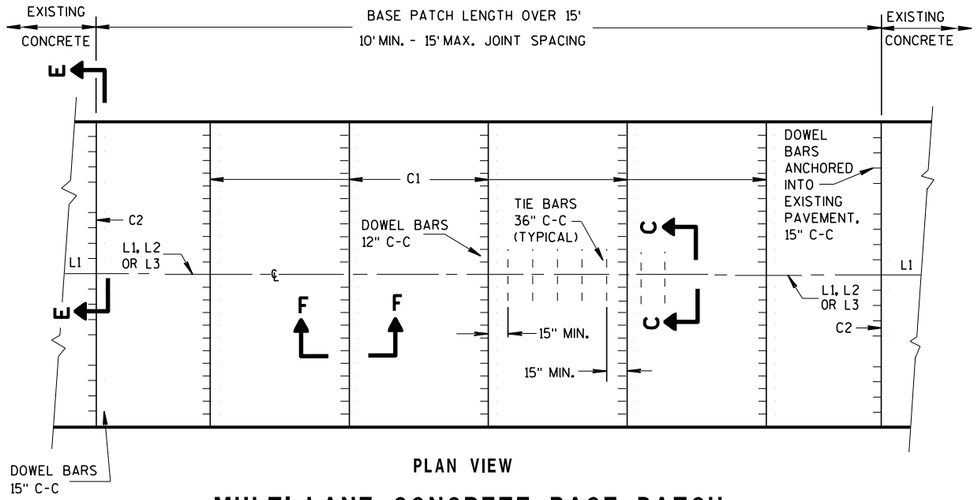
SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

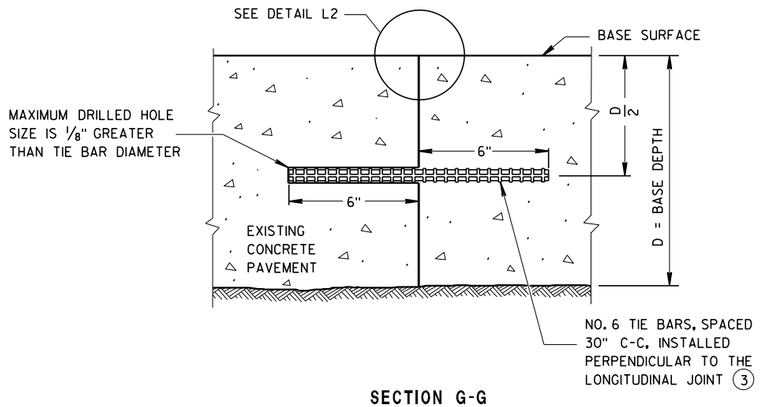
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 14-7b

6

S.D.D. 13 C 14-7b



SECTION G-G

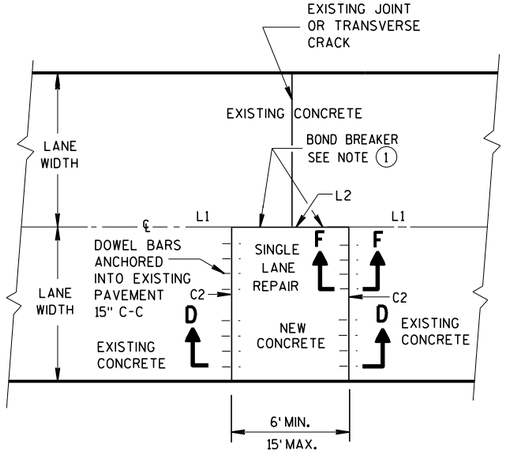
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

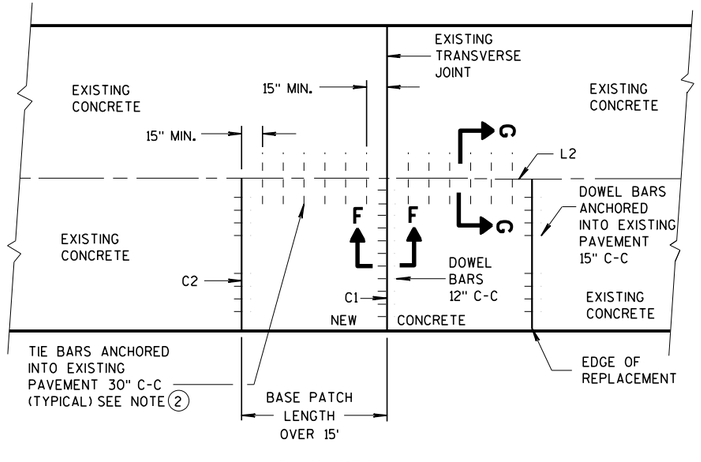
(2) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

(3) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

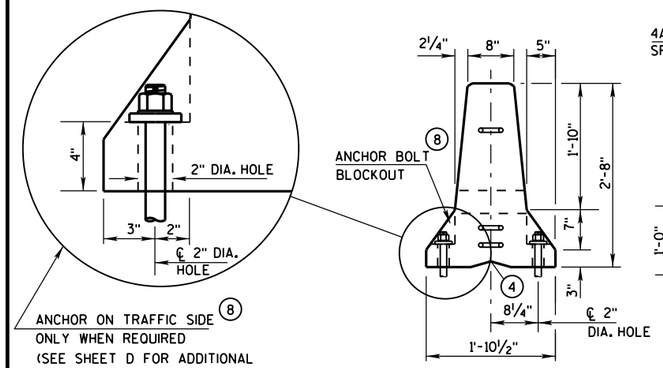
BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

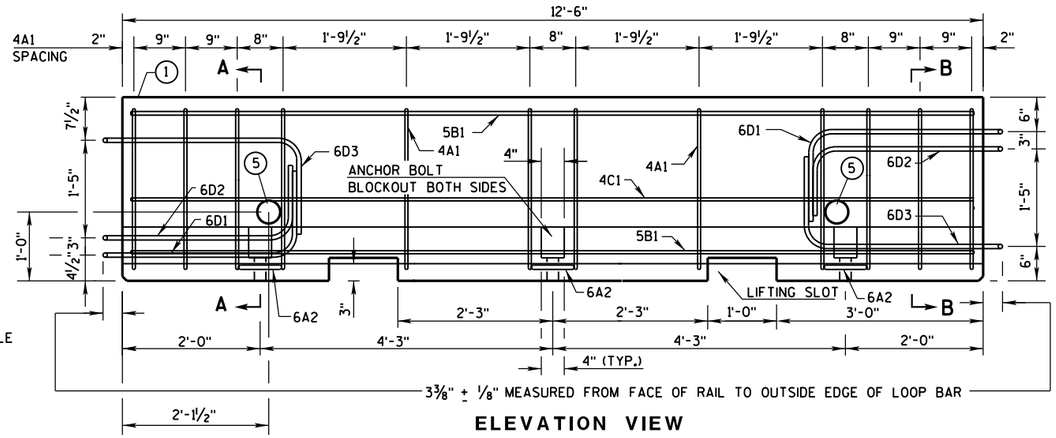
APPROVED
March 2018 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUPERVISOR
FHWA

6

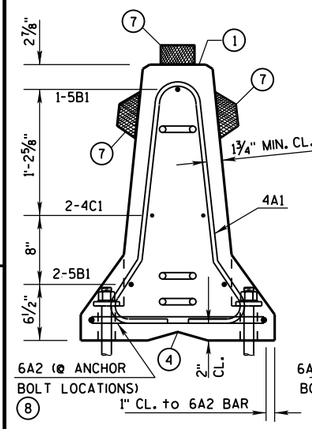
S.D.D. 13 C 14-7c



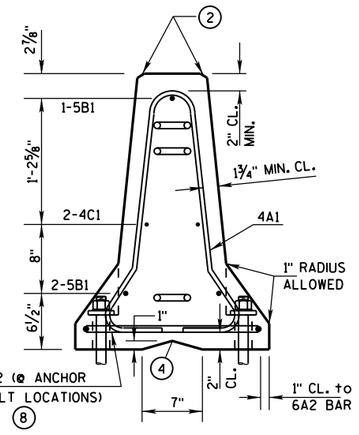
END VIEW



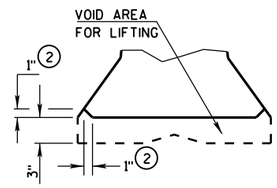
ELEVATION VIEW



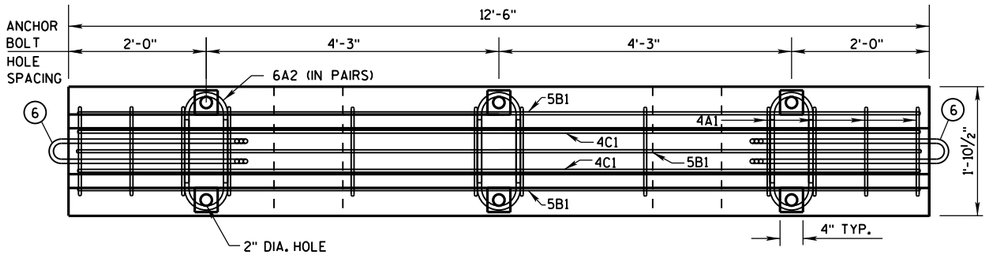
SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)

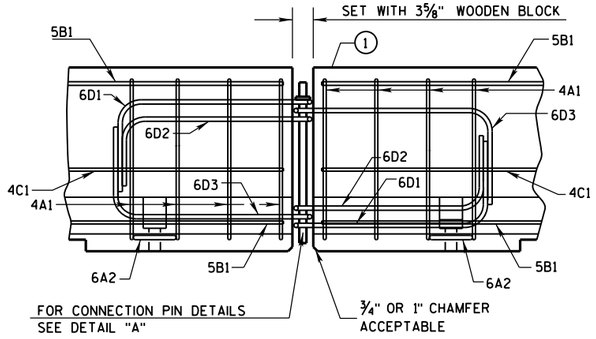


DETAIL "B"
LIFTING SLOT DETAIL

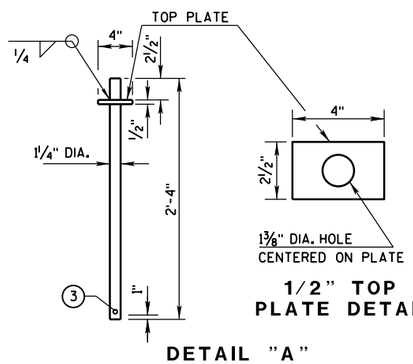


PLAN VIEW

DETAILS OF BARRIER SECTION

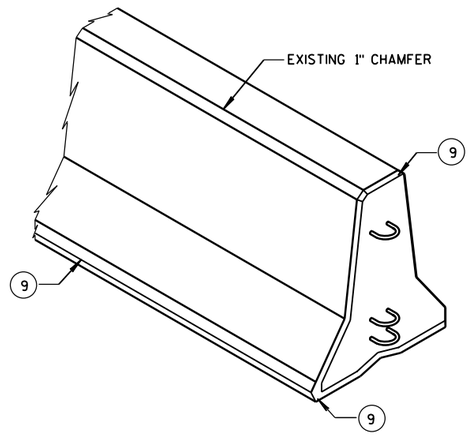


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

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



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-15(a) THRU 14B7-15(i).

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

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

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

(8) SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.

(9) 1" CHAMFER OPTIONAL.

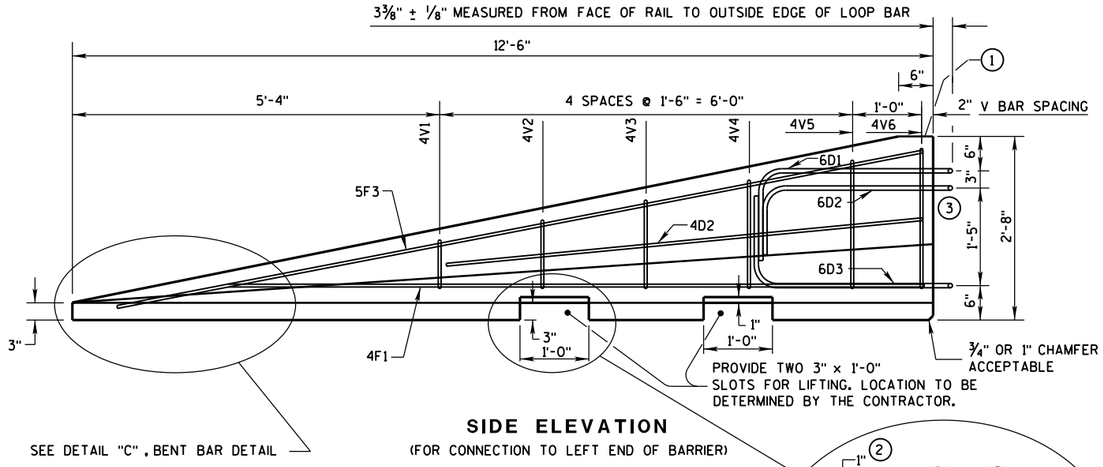
f'c = 4,000 psi

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

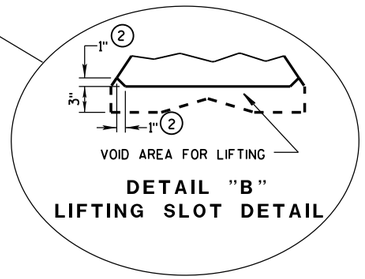
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

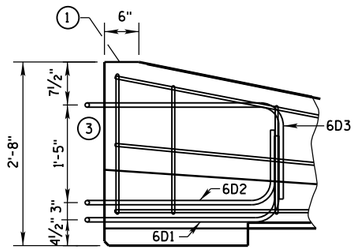
S.D.D. 14 B 7-15a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



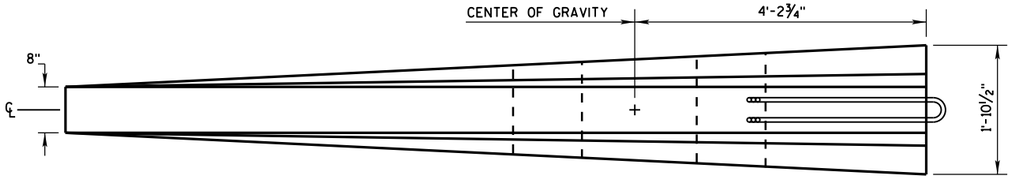
DETAIL "B"
LIFTING SLOT DETAIL



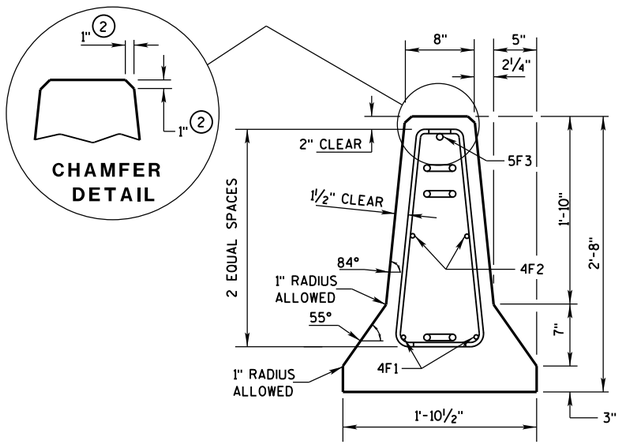
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

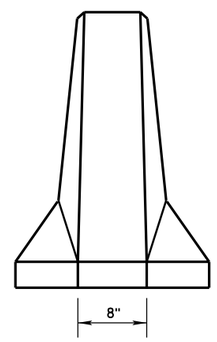
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



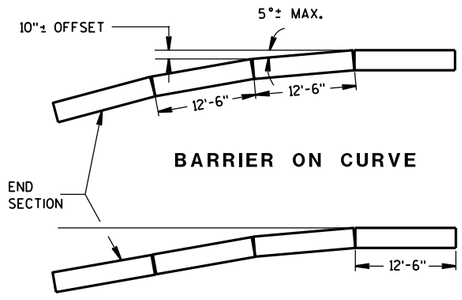
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

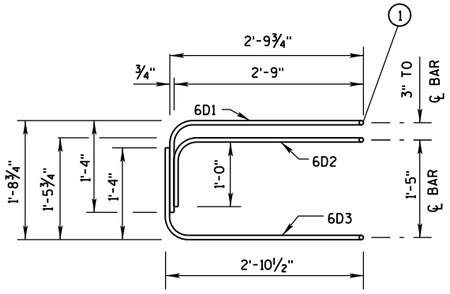
6

S.D.D. 14 B 7-15b

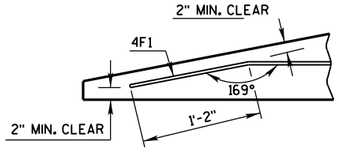
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

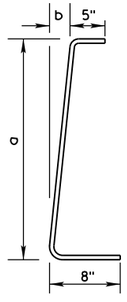
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

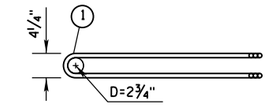
GENERAL NOTES

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

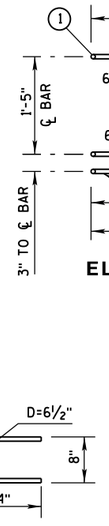
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

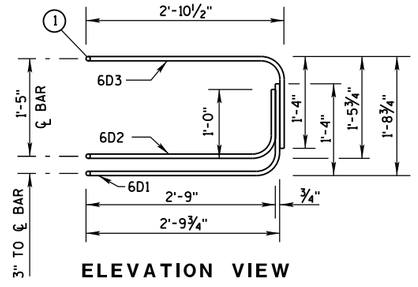
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



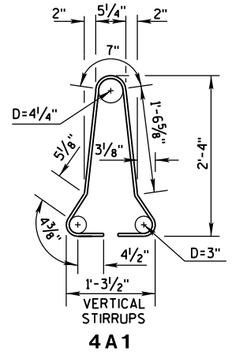
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



ELEVATION VIEW



4A1

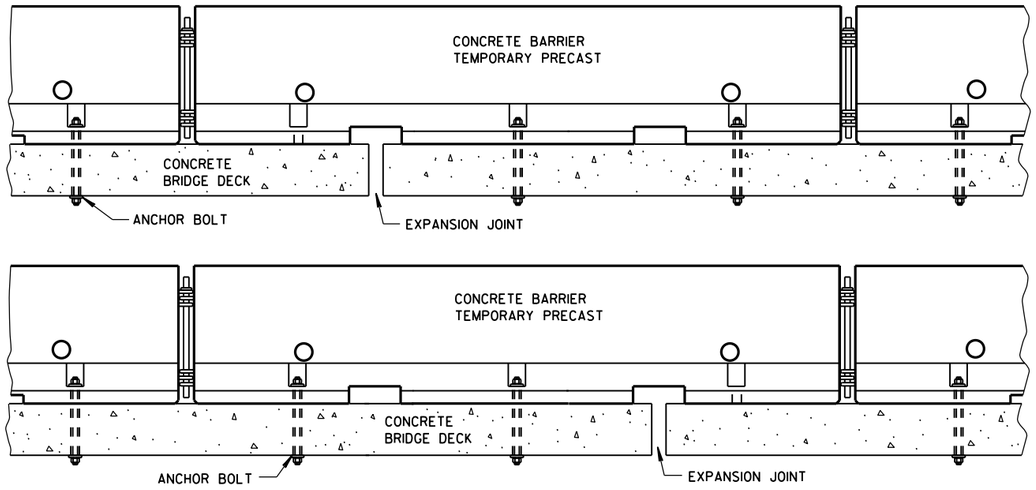
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 7-15c



TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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

GENERAL NOTES

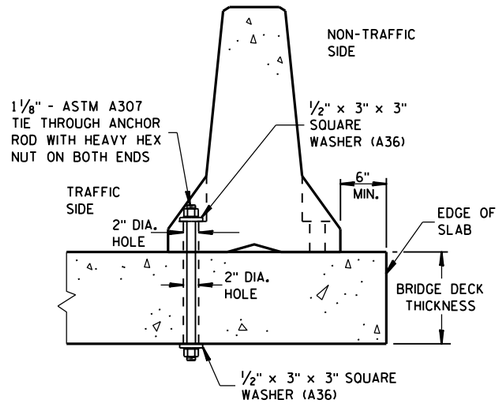
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERICAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

(1) 1⅛" DIAMENTER A307 THREADED ROD. ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL. ASTM A563A HEAVY HEX NUT.

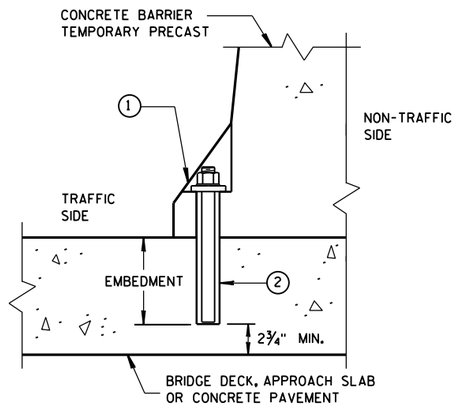
(2) ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

(3) ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THAN DRIVE ASPHALT ANCHOR PIN.



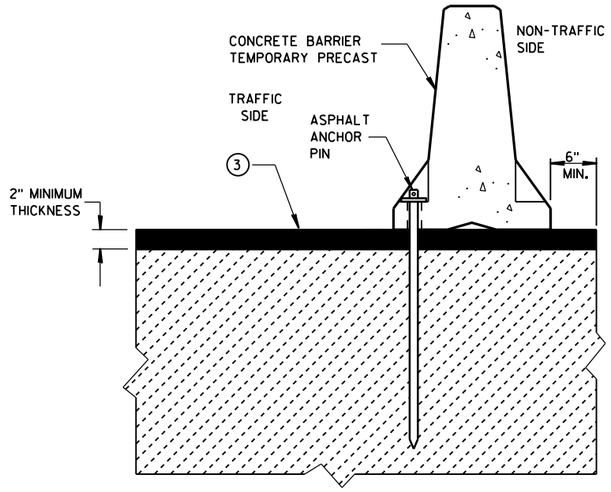
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

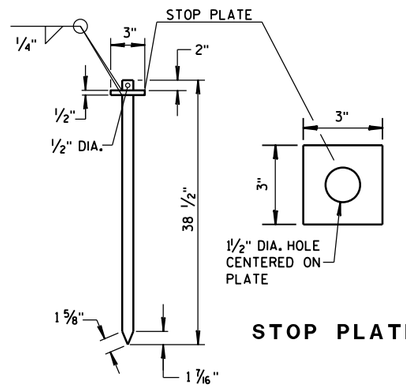


REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



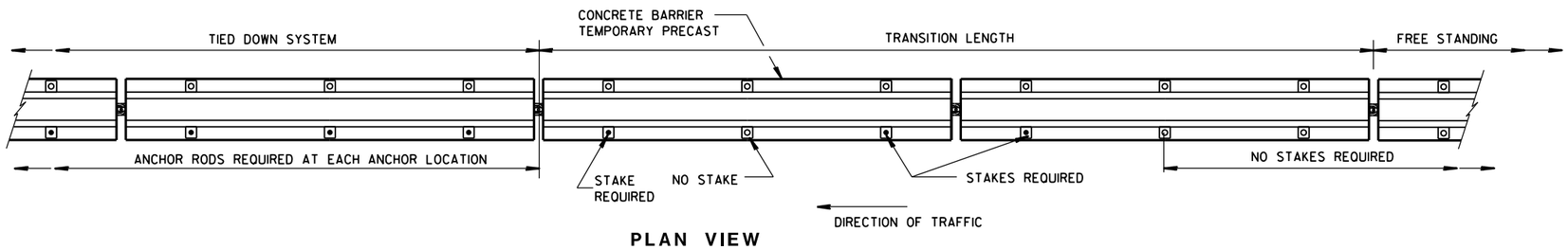
STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)



PLAN VIEW

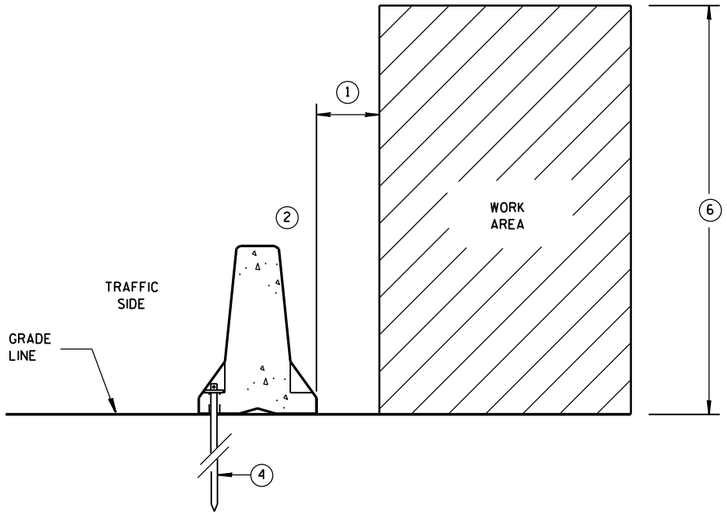
FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

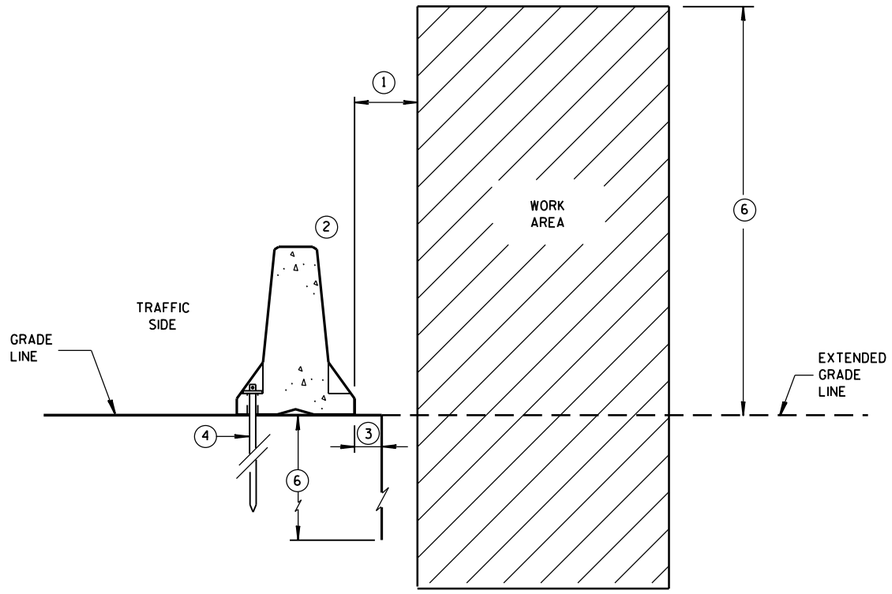
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-15d



ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

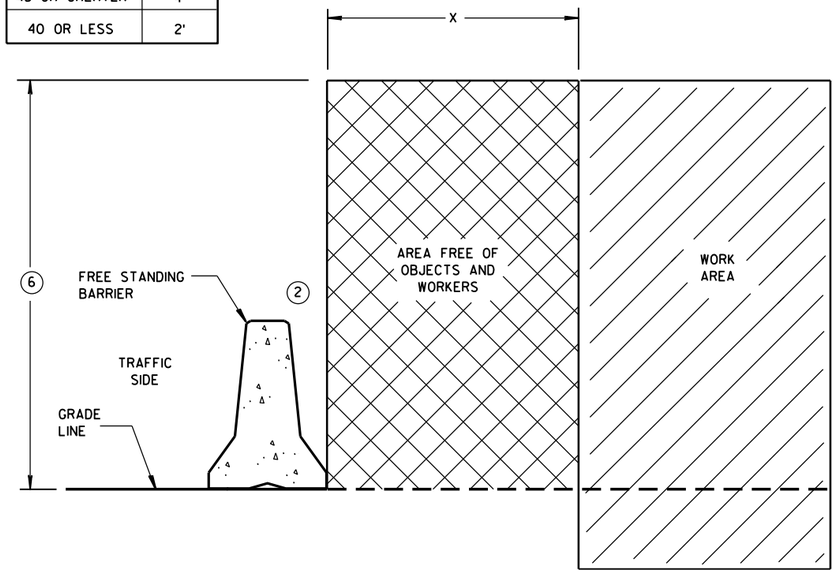


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

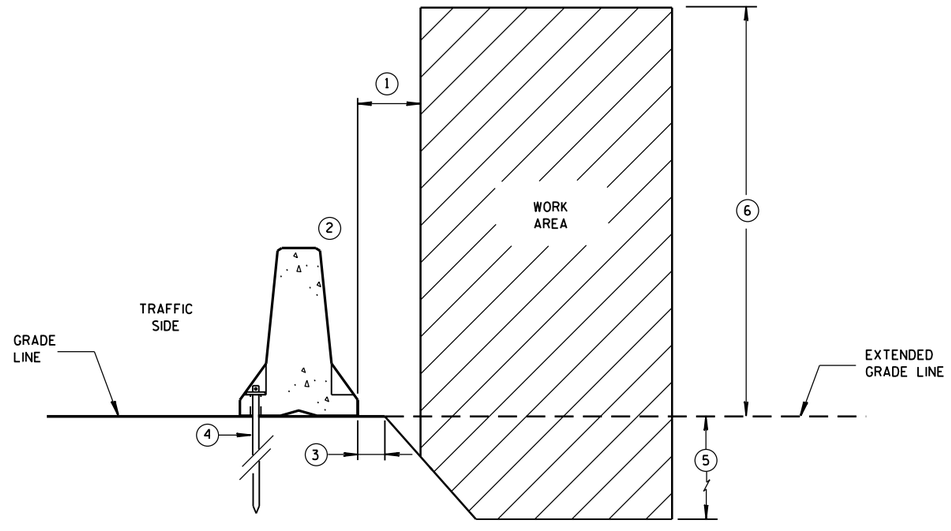
GENERAL NOTES

1. WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR VERTICAL DROPS.
2. OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
3. SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
4. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
5. DEPTH OF 3 FEET OR MORE.
6. Y = 6'-6".

POSTED SPEED MPH	X
45 OR GREATER	4'
40 OR LESS	2'



FREE STANDING BARRIER SPACE REQUIREMENTS



ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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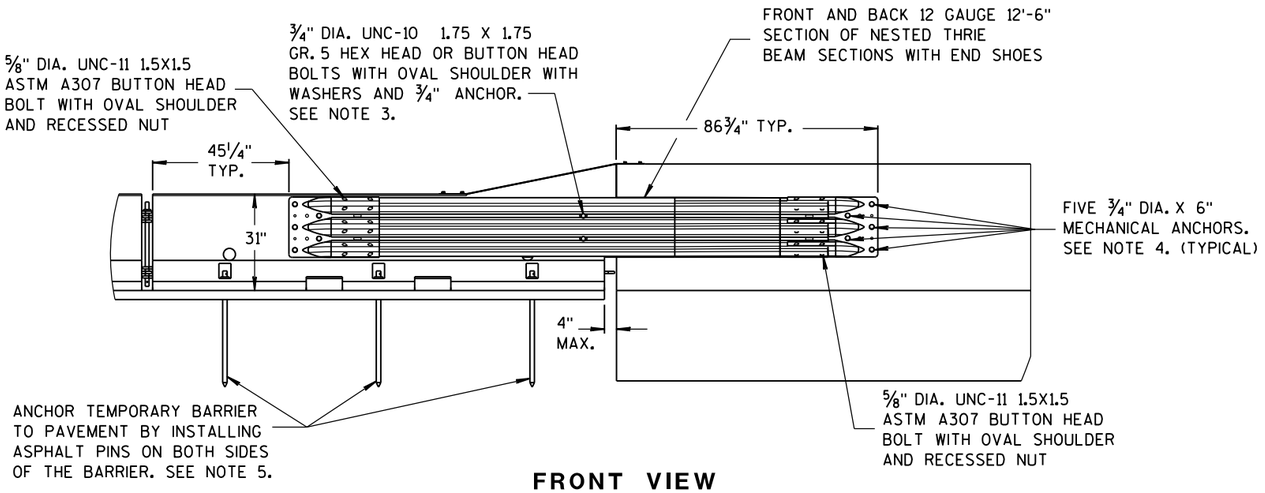
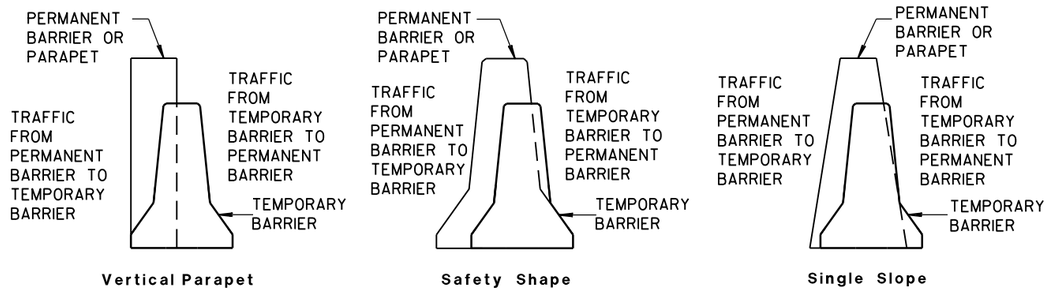
S.D.D. 14 B 7-15e



FRONT VIEW

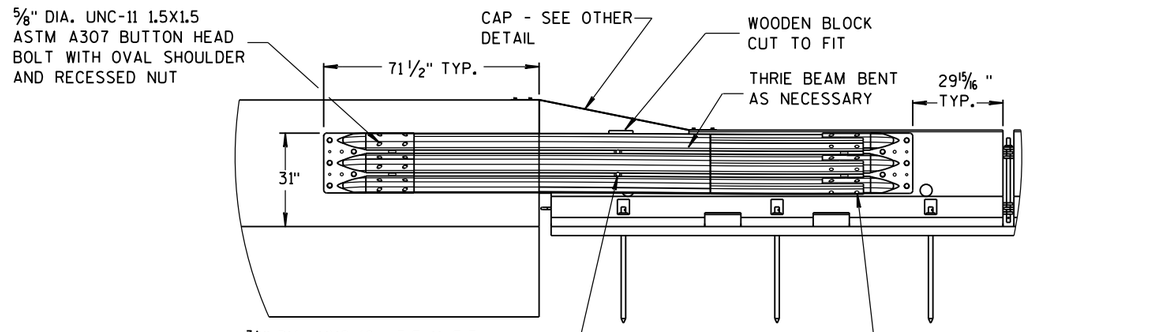


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

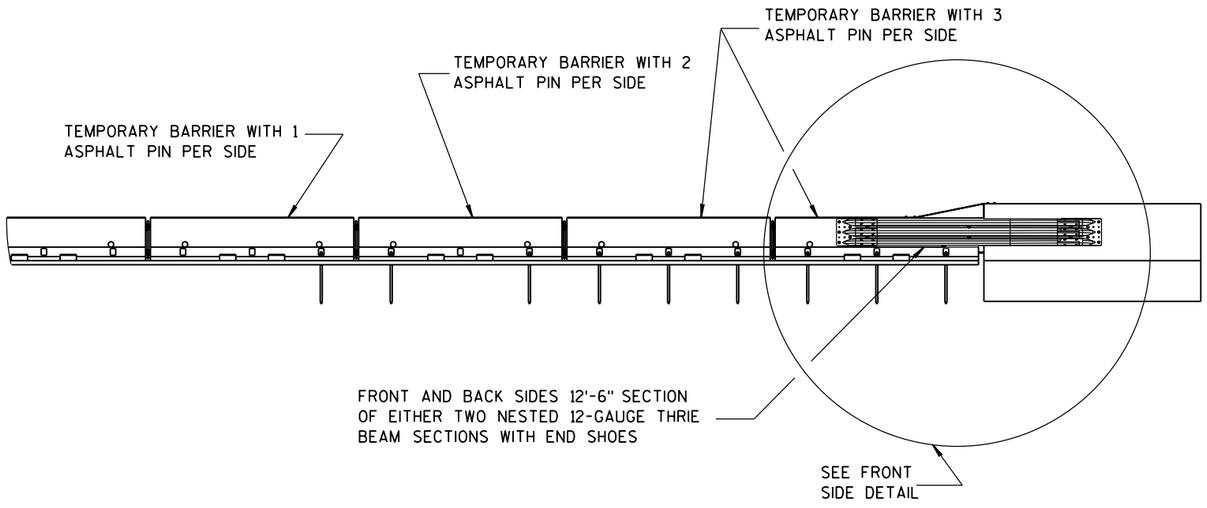
NOTES

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

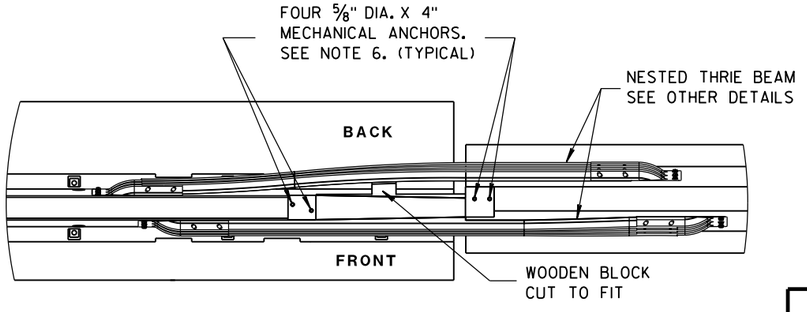
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD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



BACK VIEW



FRONT VIEW



PLAN VIEW

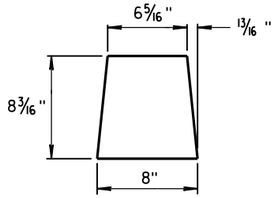
BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

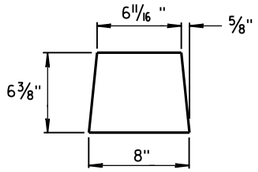
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

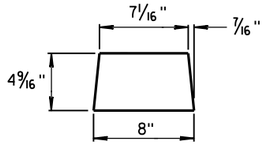
S.D.D. 14 B 7-15f



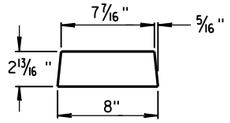
GUSSET 1



GUSSET 2

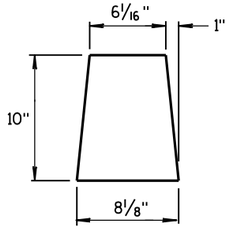


GUSSET 3

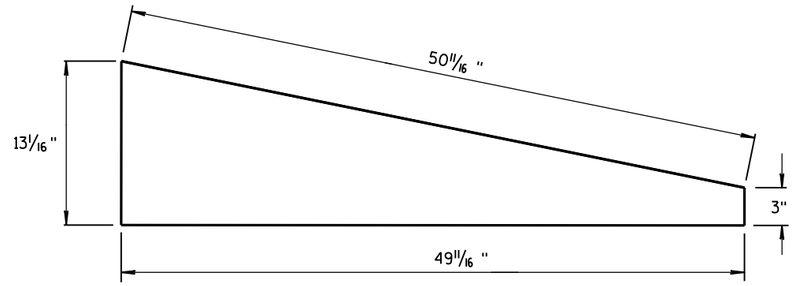


GUSSET 4

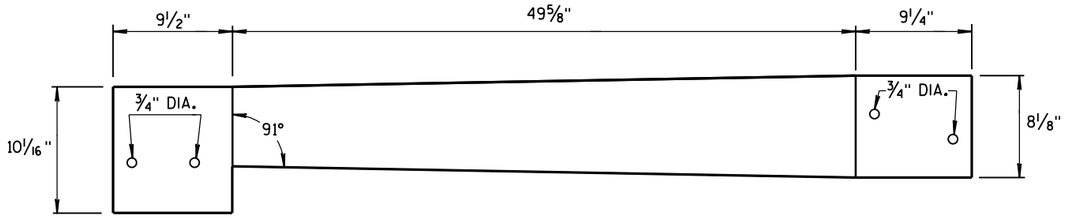
GUSSETS

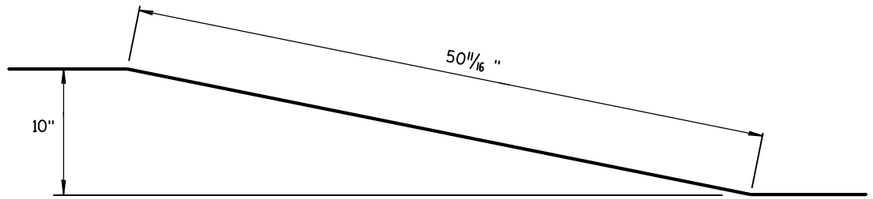


END PLATE



SIDE PLATE

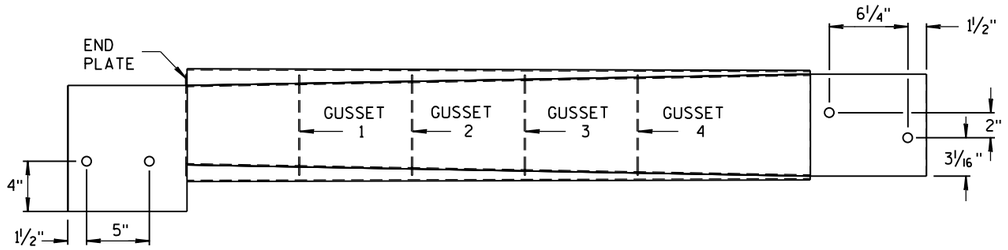


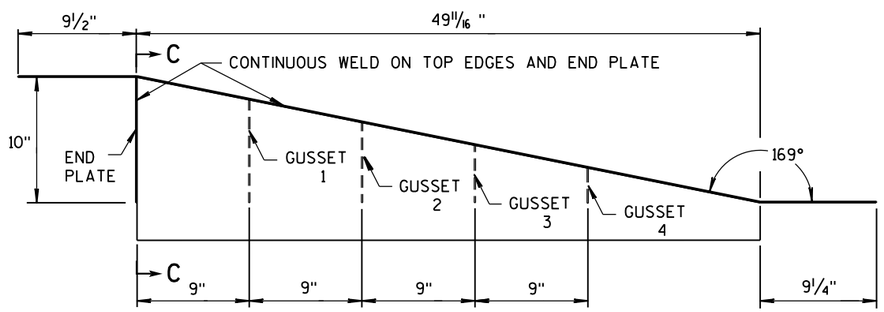


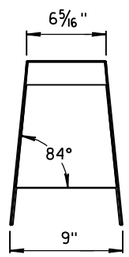
TOP PLATE

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

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







SECTION C-C

NOTES

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

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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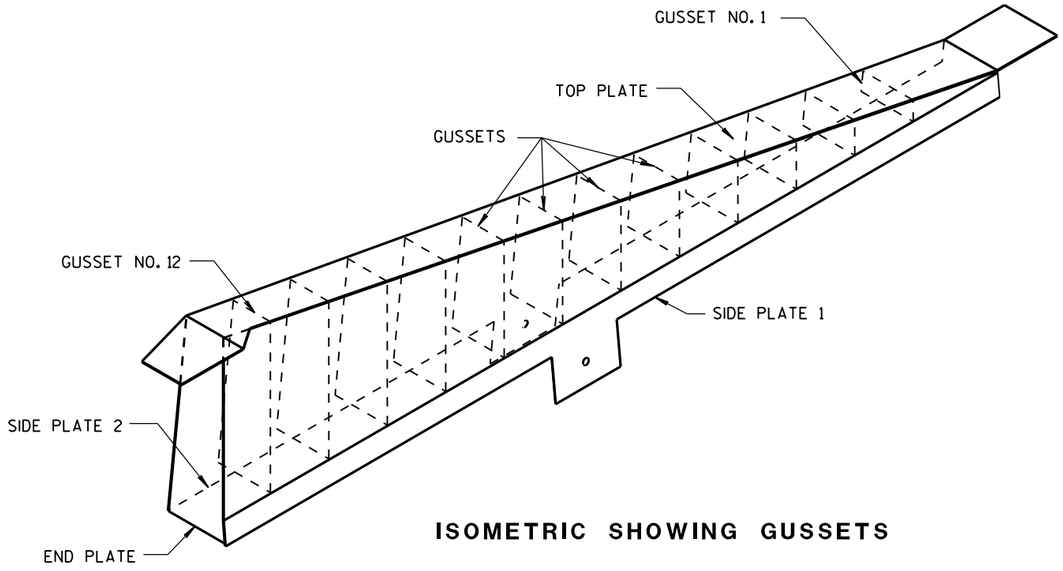
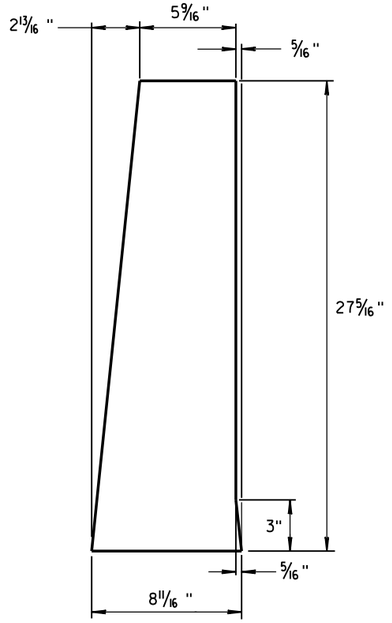
S.D.D. 14 B 7-15g

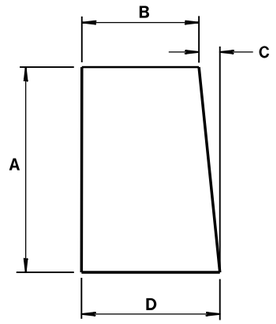


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



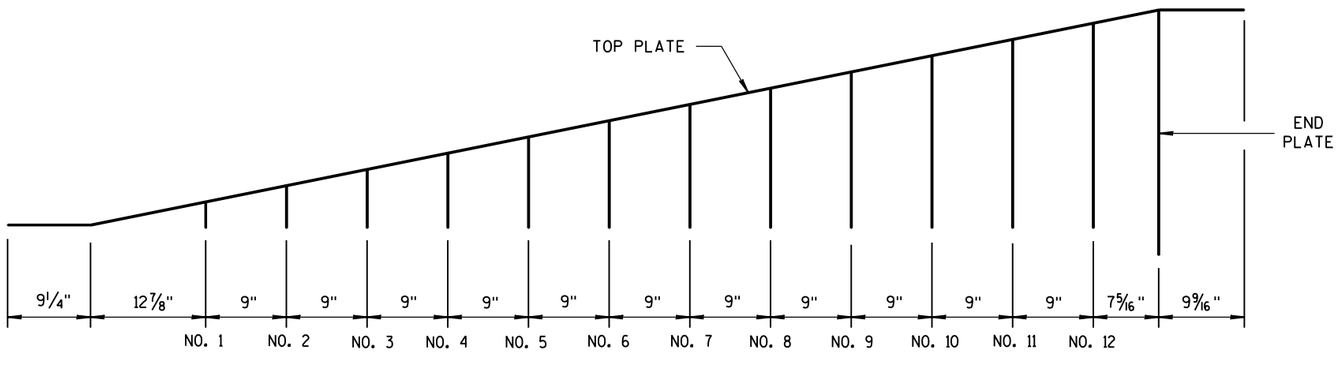
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

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

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

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



GUSSET LOCATION

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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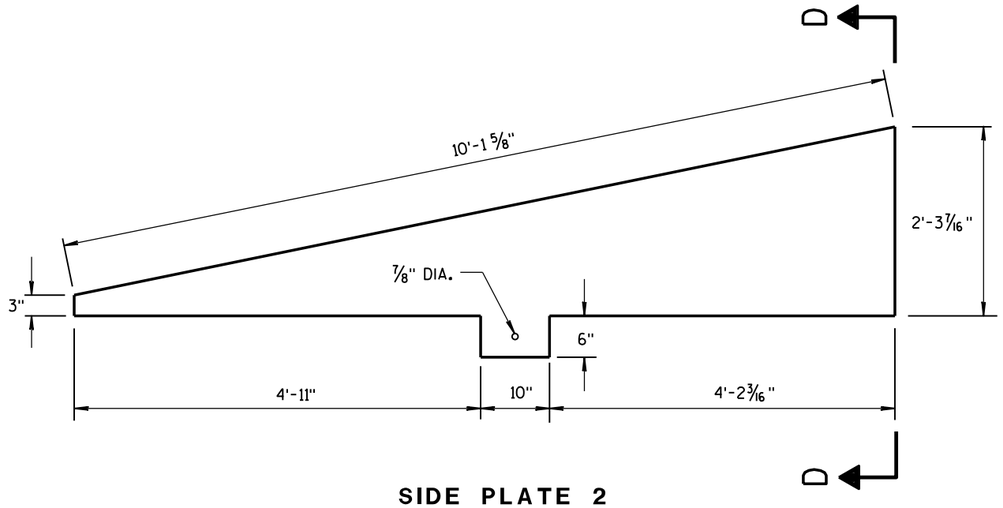
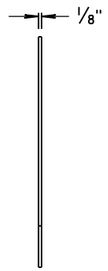
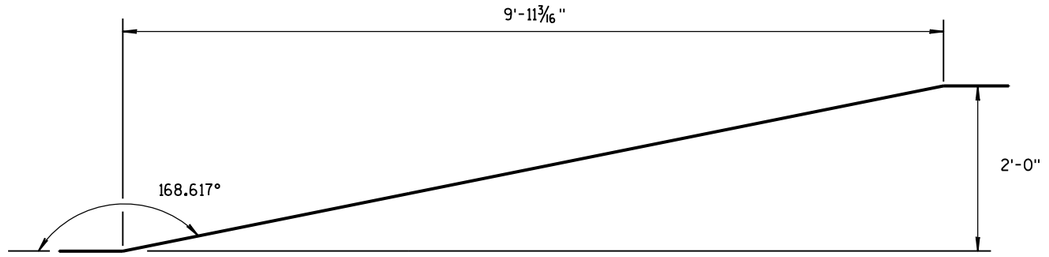
S.D.D. 14 B 7-15h



SIDE PLATE 2

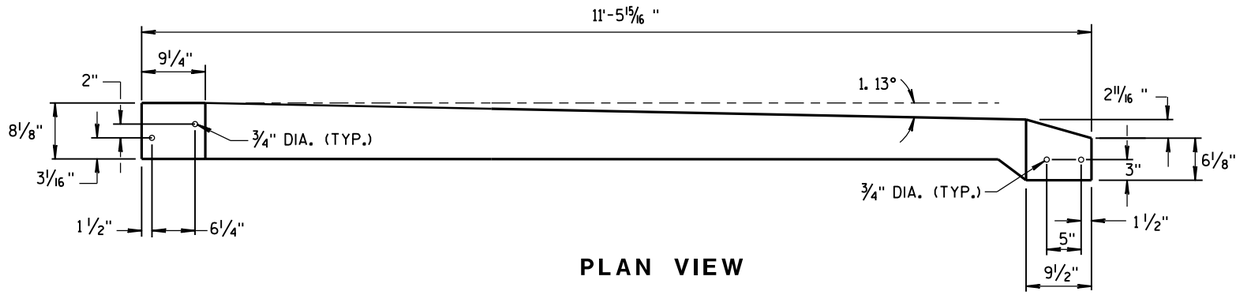


END VIEW



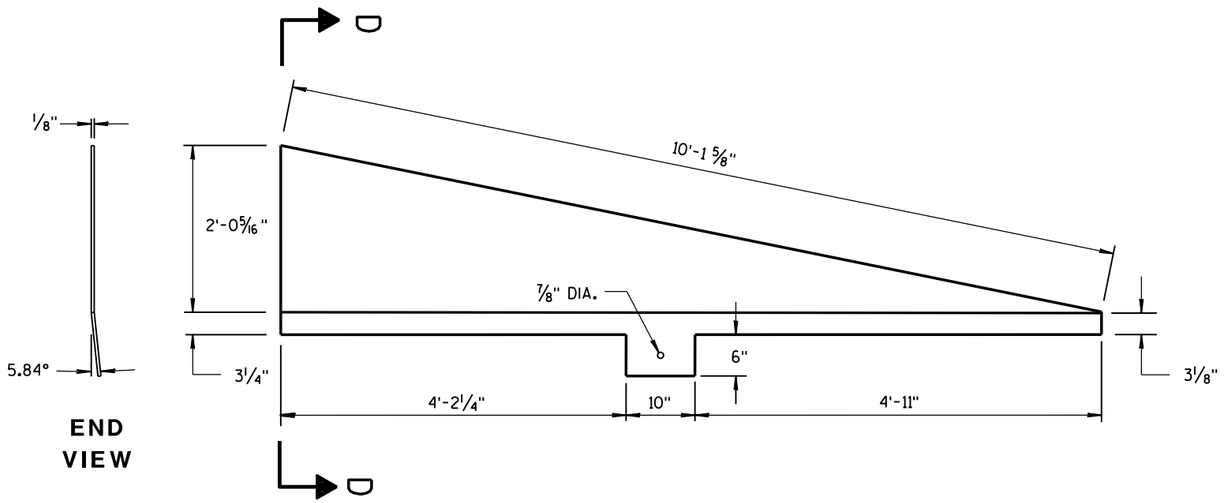
SIDE VIEW

TOP PLATE



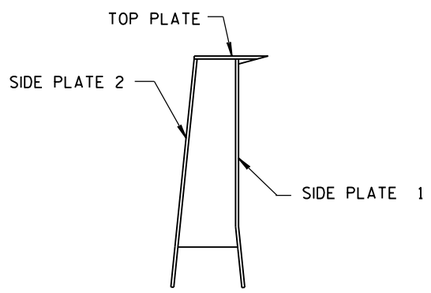
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV

FHWA

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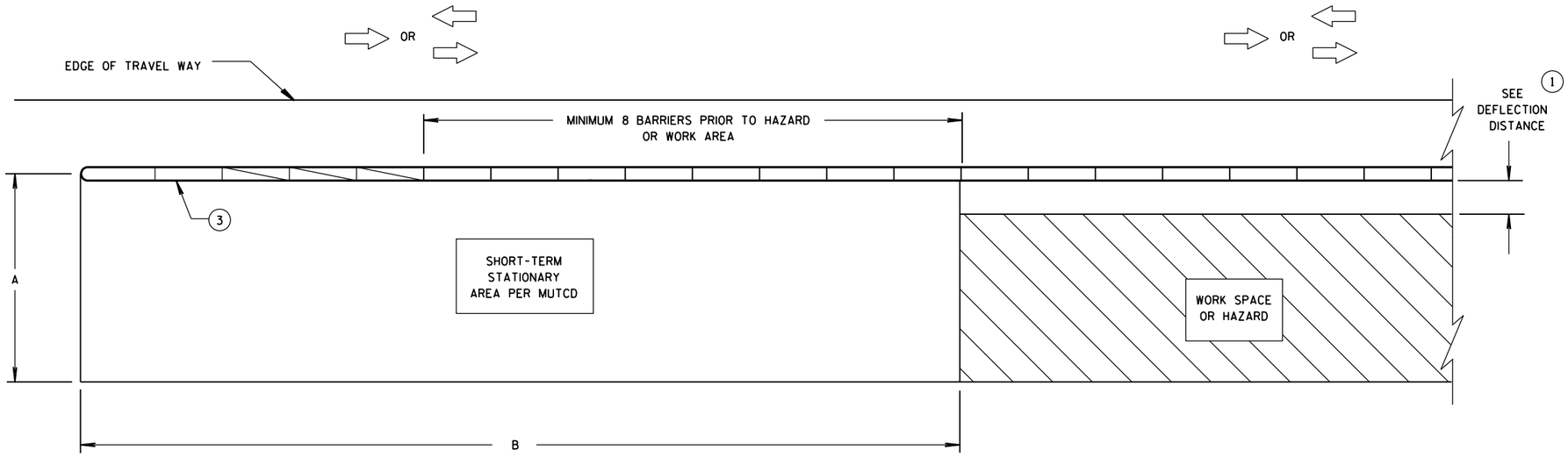


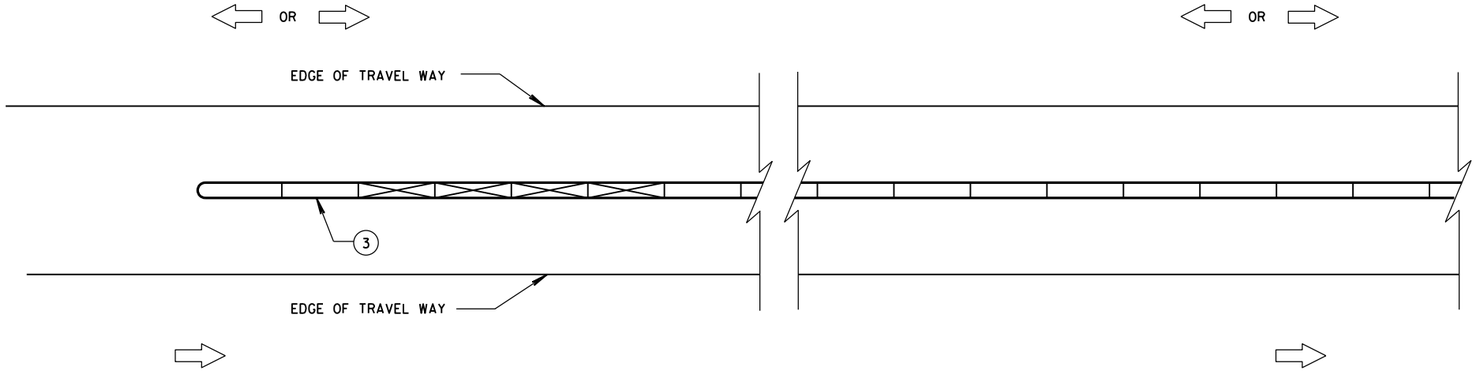
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

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

DIMENSION B TABLE (2)

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



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

LEGEND

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

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

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

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

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

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

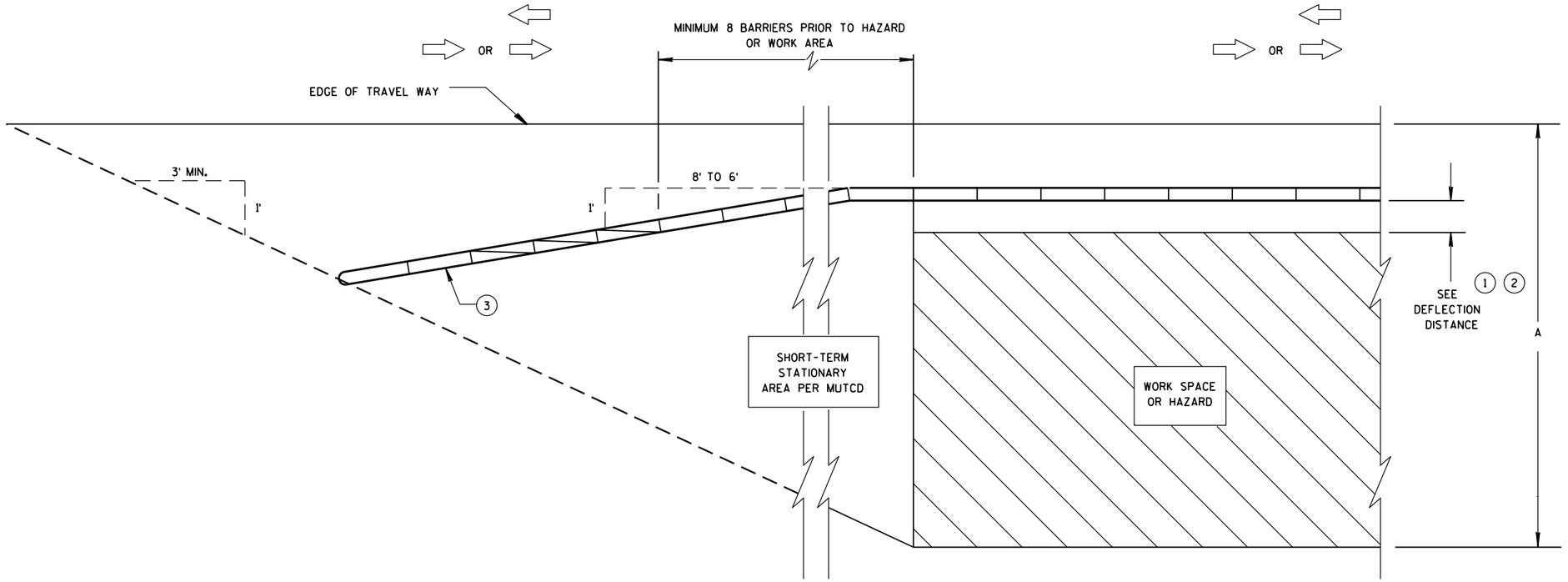
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

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

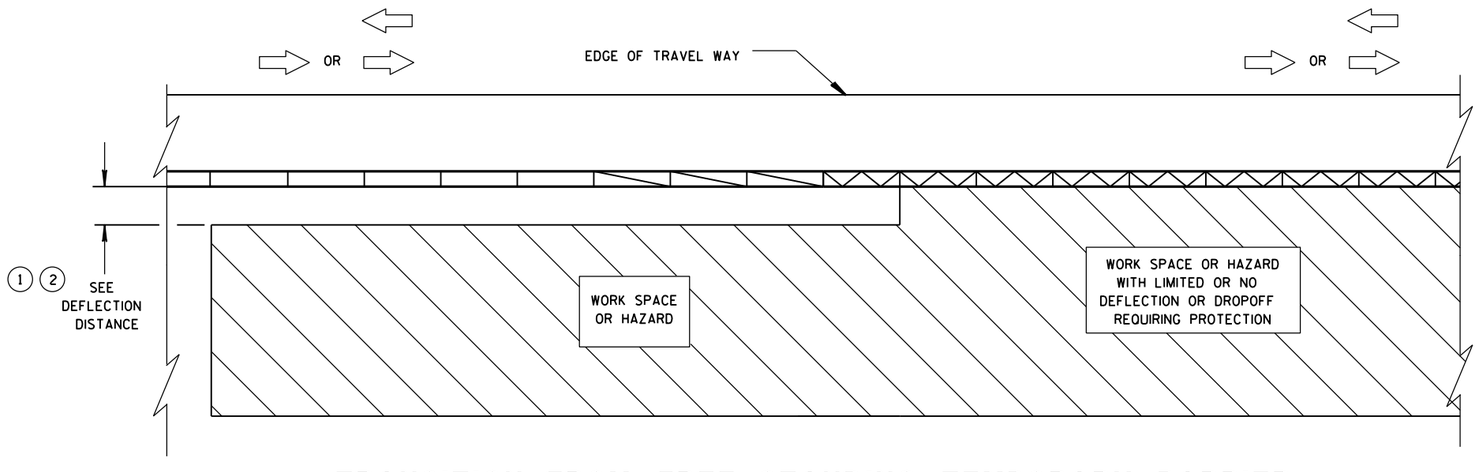
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



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



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

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

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

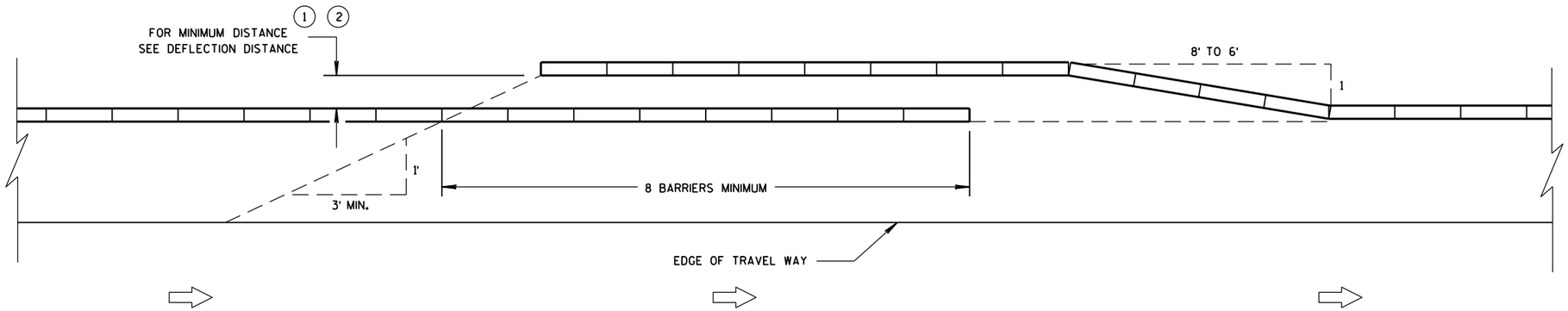
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

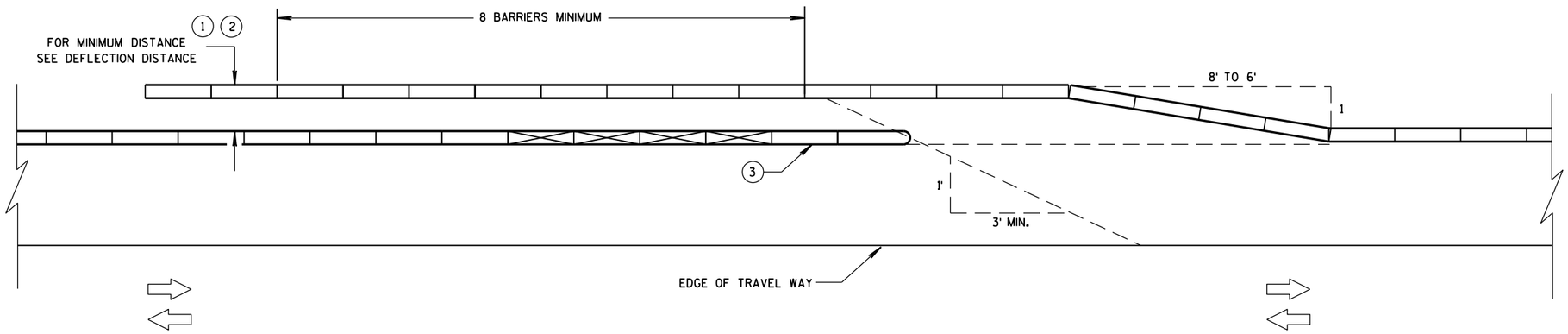
S.D.D. 14 B 8-2b

6

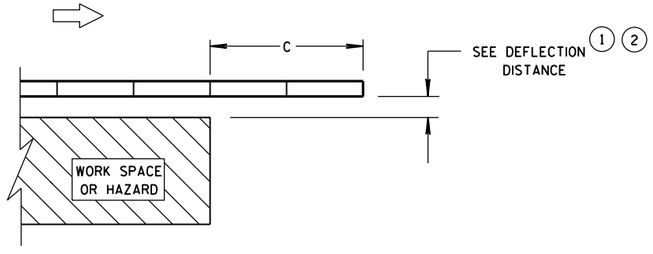
S.D.D. 14 B 8-2b



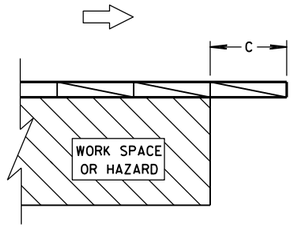
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

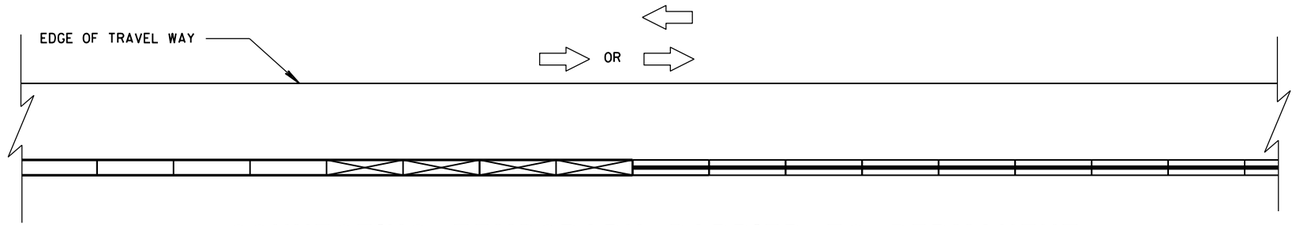
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

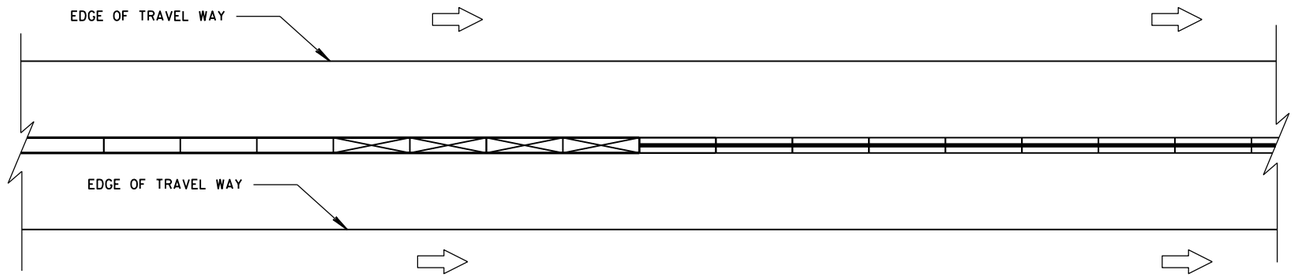
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



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



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

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

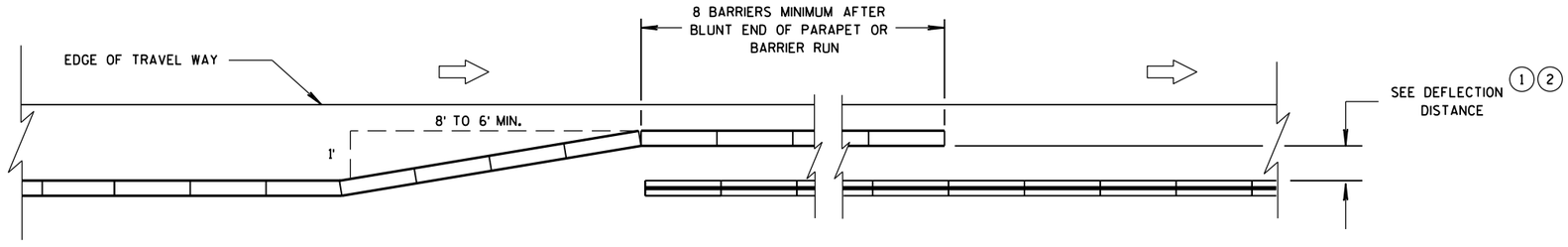
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

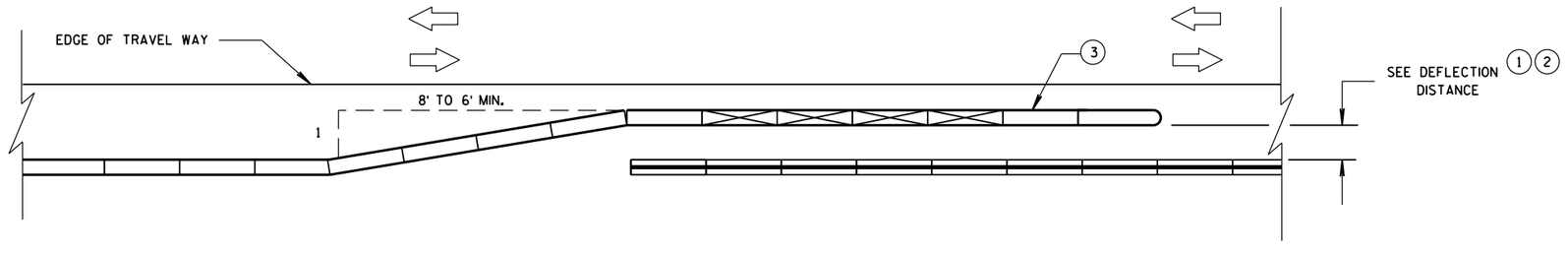
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

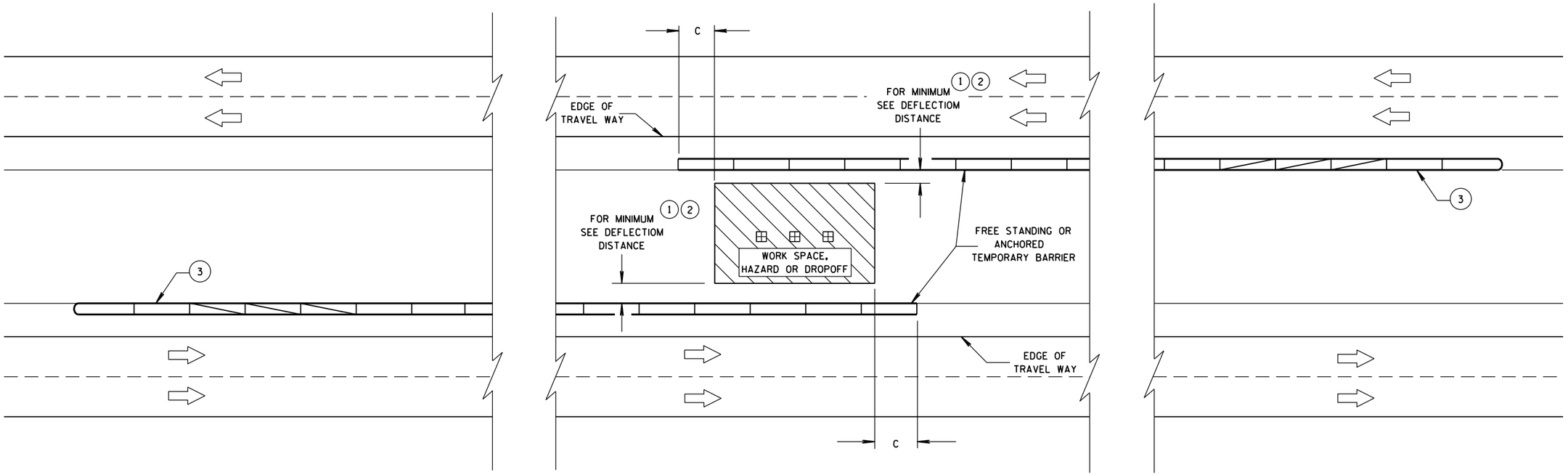
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

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

GENERAL NOTES

(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.

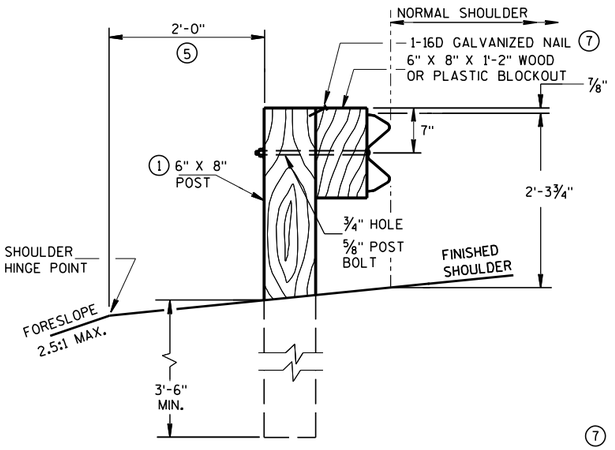
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(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.

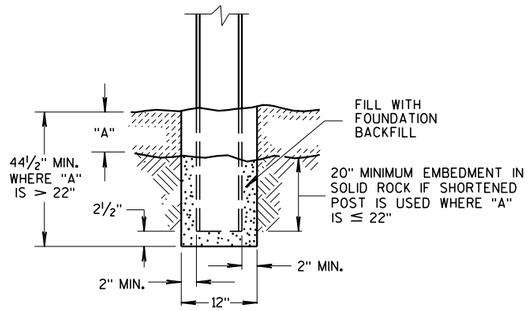
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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

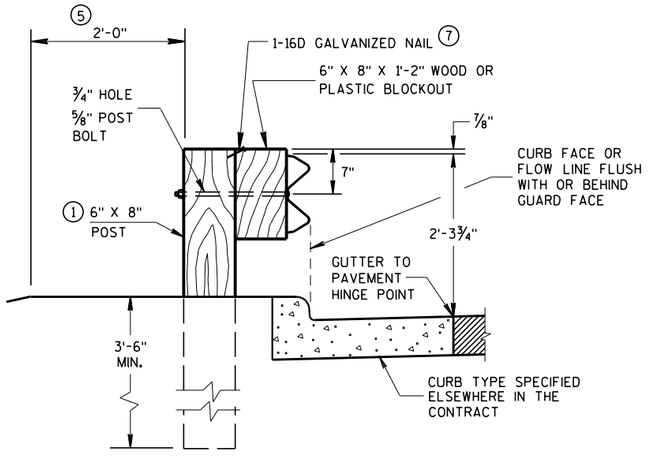
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



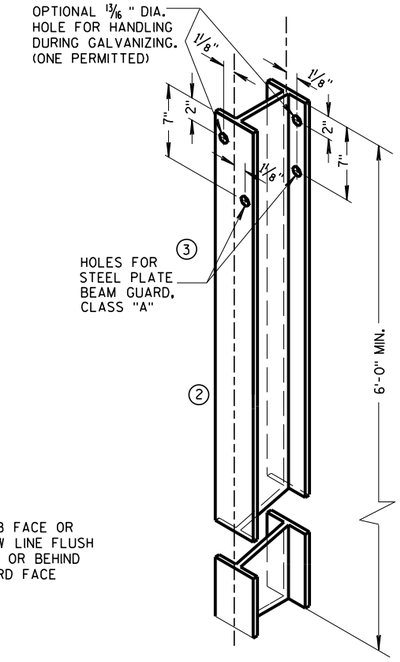
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



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

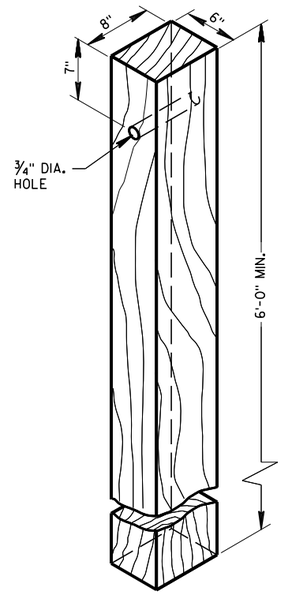


END VIEW
LOCATED ALONG A CURBED ROADWAY

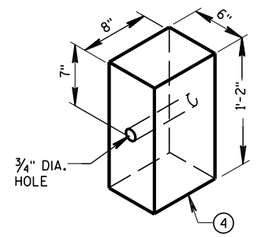


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

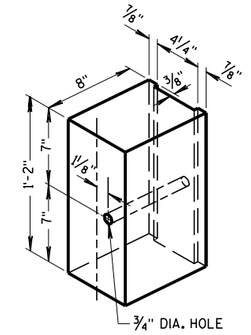
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



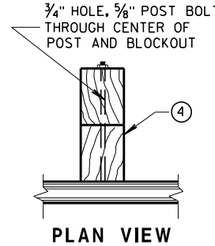
WOOD POST
(6"X8") NOMINAL



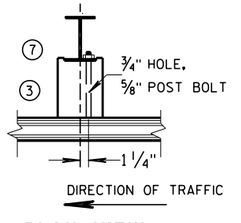
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



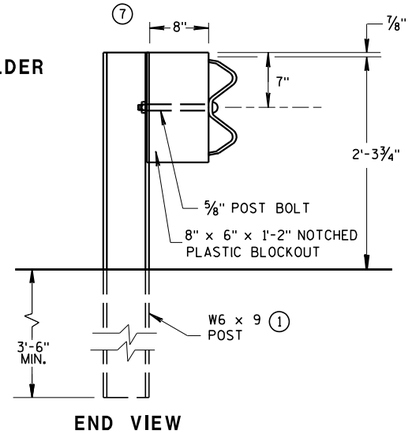
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS (1)



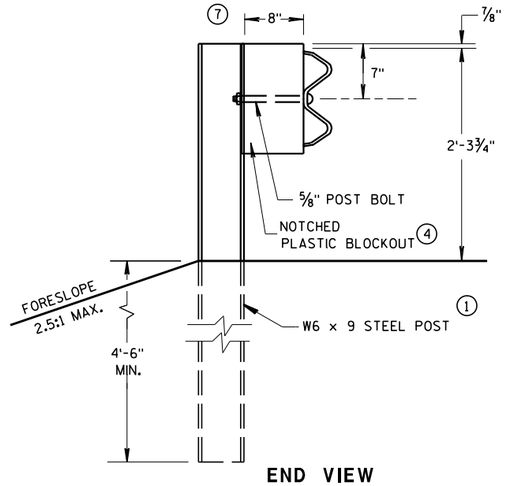
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



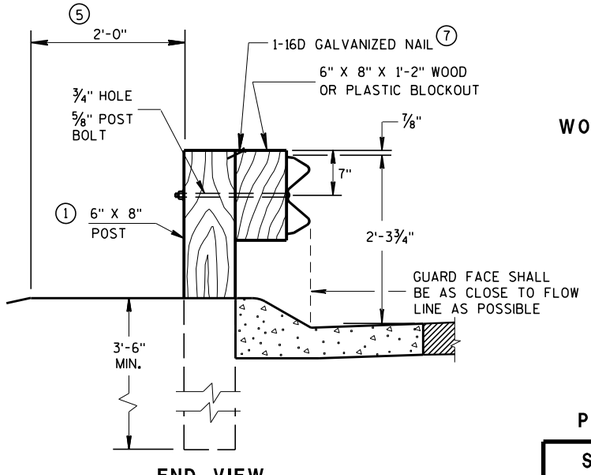
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



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



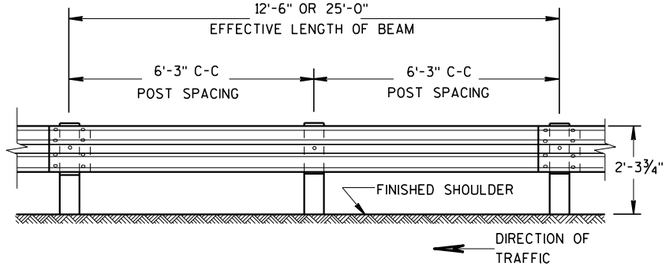
END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

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

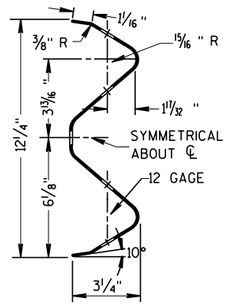
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

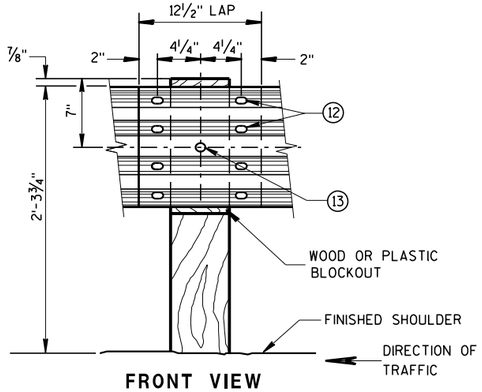


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

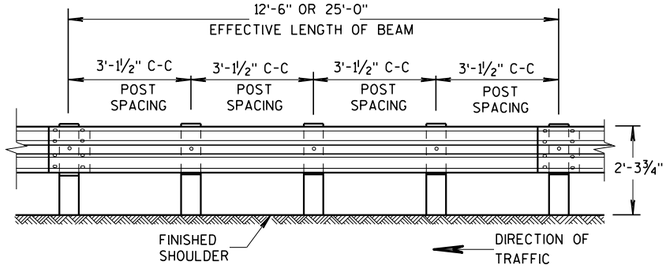
GENERAL NOTES

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.

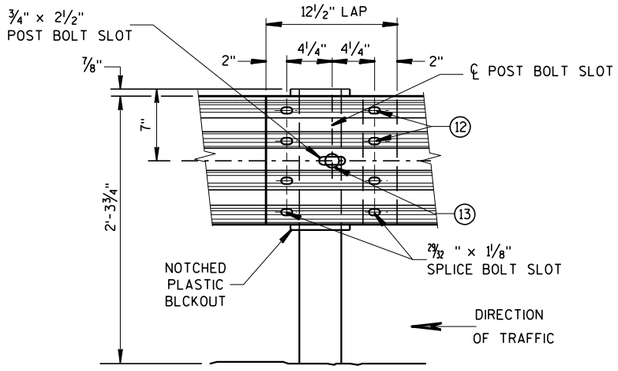
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

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



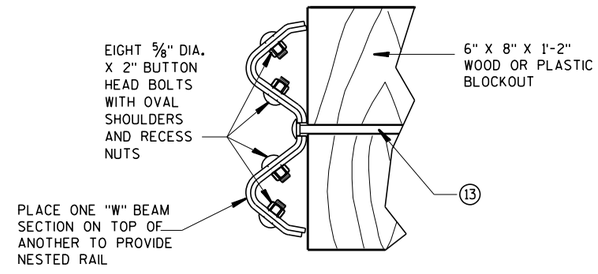
FRONT VIEW

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



FRONT VIEW

BEAM SPLICE AT STEEL POST

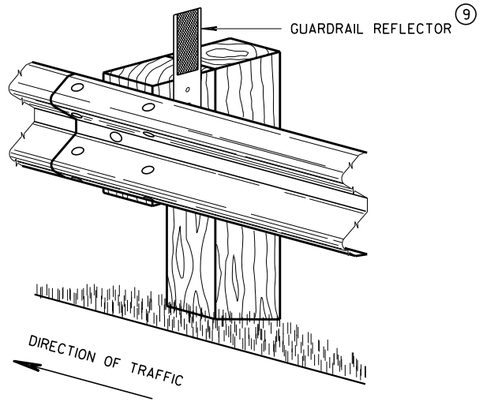


NESTED W BEAM (NW)

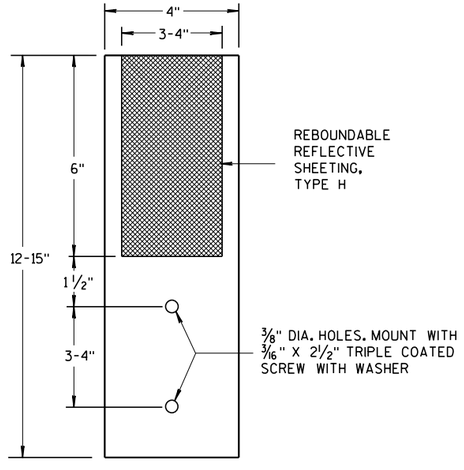
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

* 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

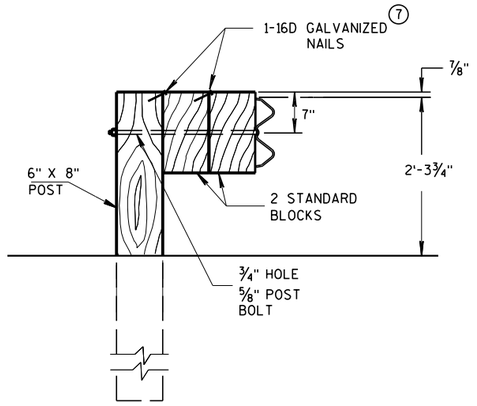
STATE OF WISCO 152
DEPARTMENT OF TRANSPORTATION

6

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

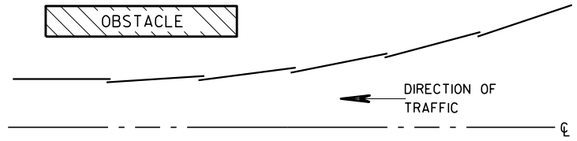
6

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

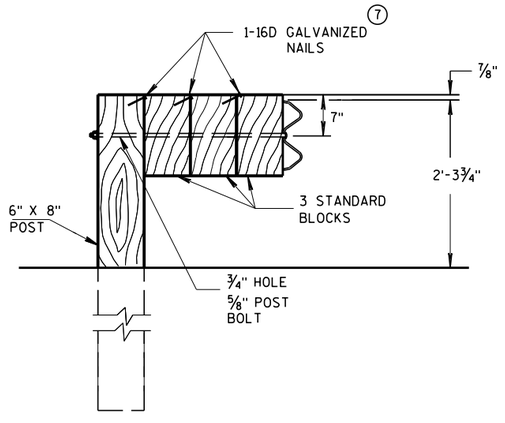


DETAIL FOR DOUBLE BLOCKS

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

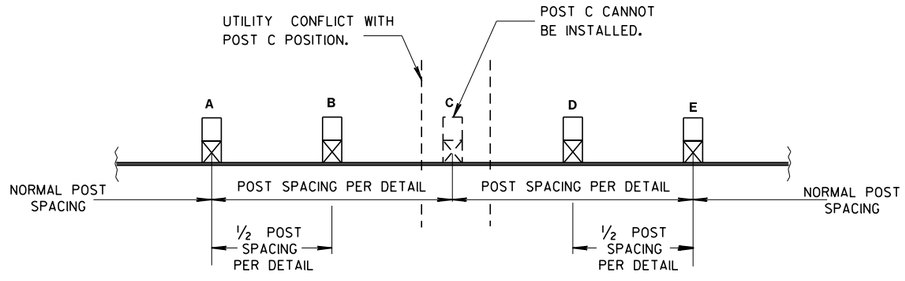


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

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



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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.

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
FHWA

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

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.

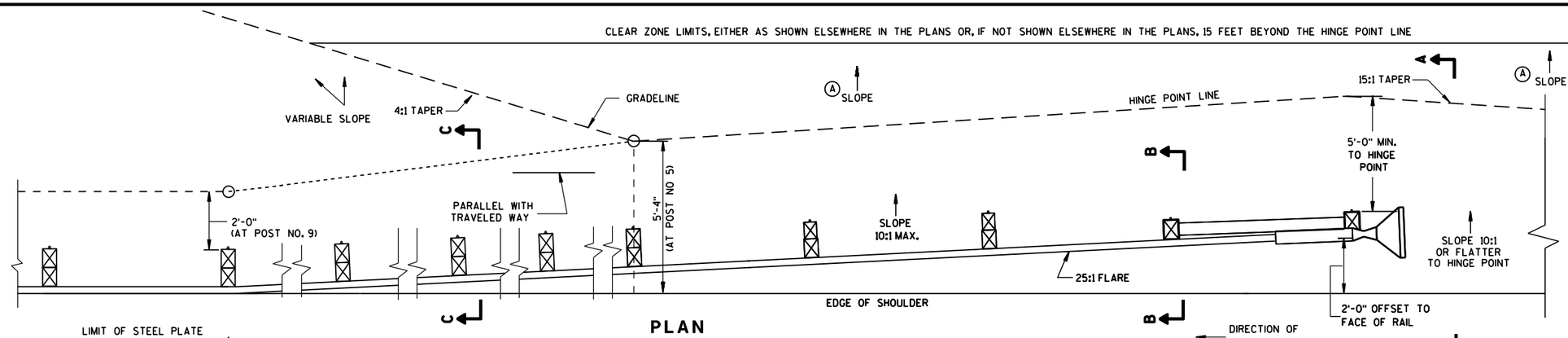
(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

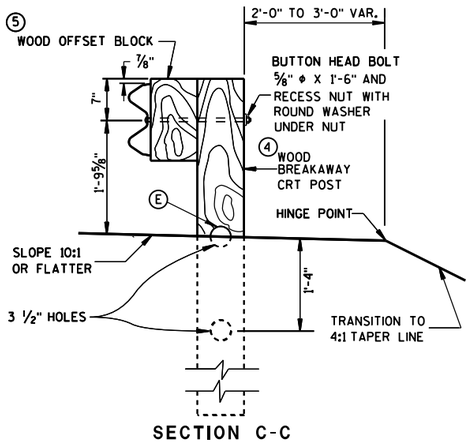
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

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

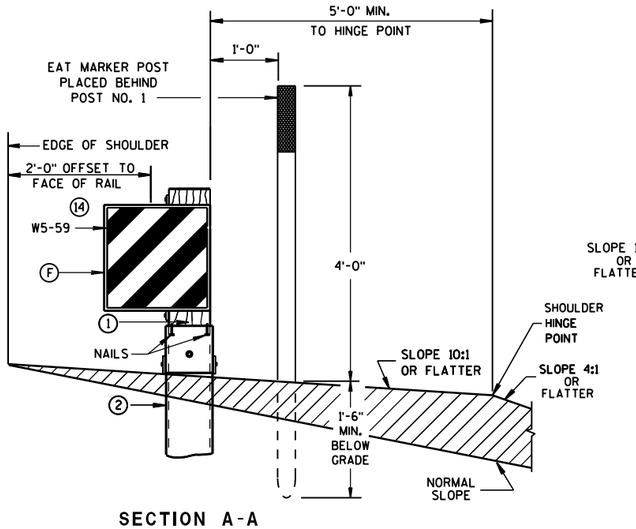
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

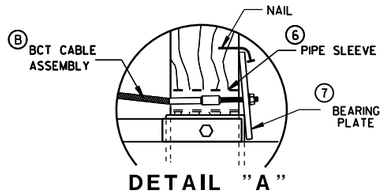




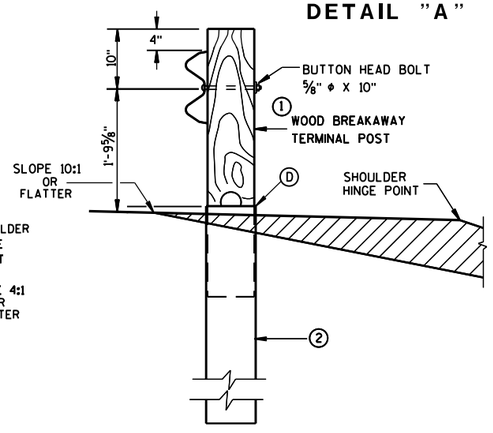
SECTION C-C
TYPICAL AT POST NOS. 6, 8



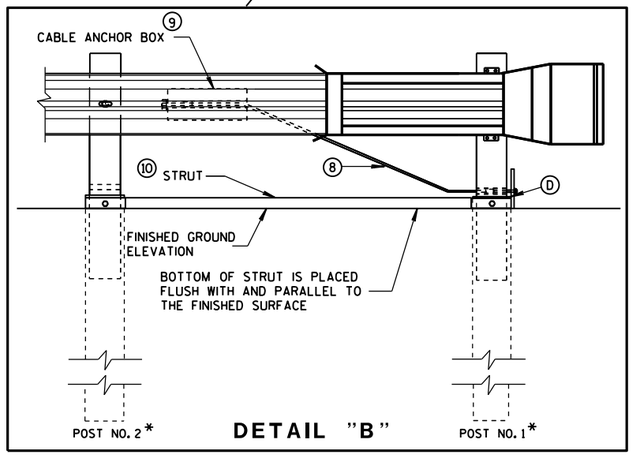
SECTION A-A
TYPICAL AT POST NO. 1*



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 154

6

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

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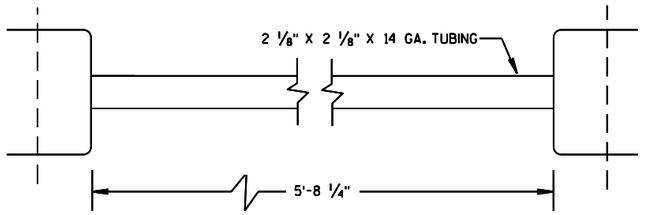
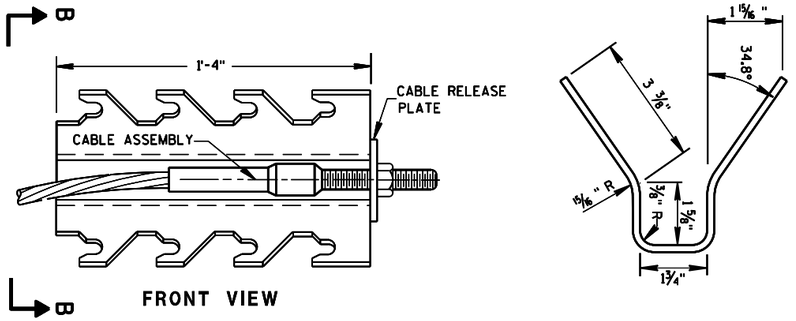
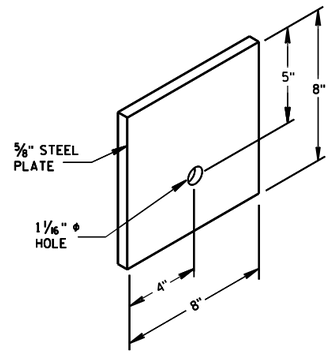
S.D.D. 14 B 24-9a



⑩ STRUT DETAIL



⑨ CABLE ANCHOR BOX



⑦ STEEL BEARING PLATE

6

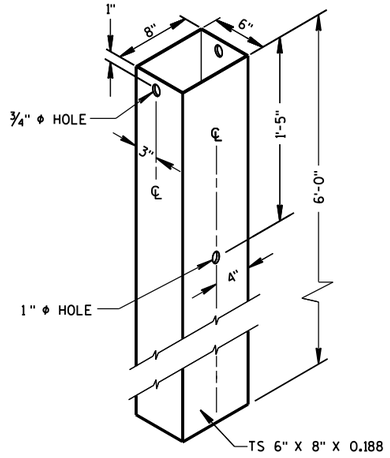
6

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

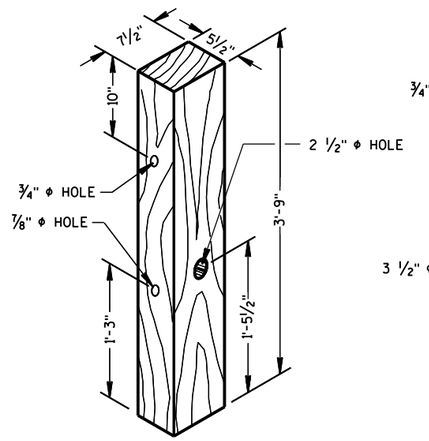
S.D.D. 14 B 24-9b

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

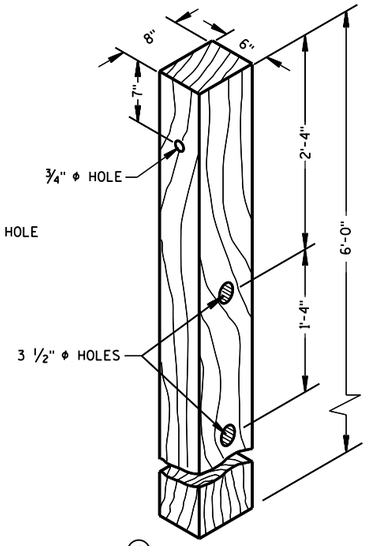
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



② 72" STEEL TUBE
(POSTS NO. 1-4



① TERMINAL POST

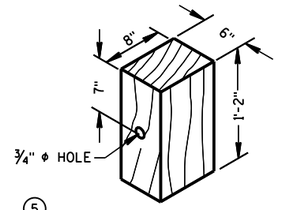


④ CRT POST
(POSTS NO'S 5-8)

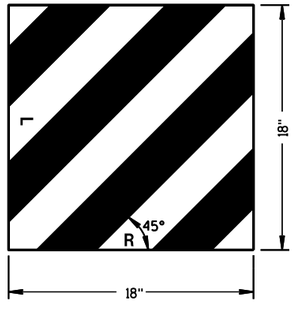
WOOD BREAKAWAY POSTS

GENERAL NOTES

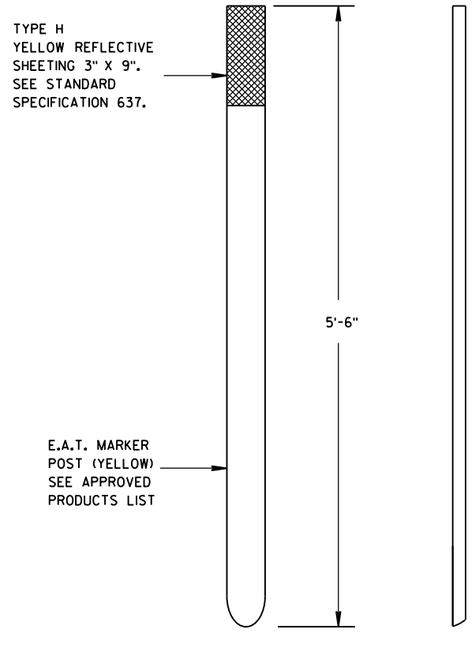
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH,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

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

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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.

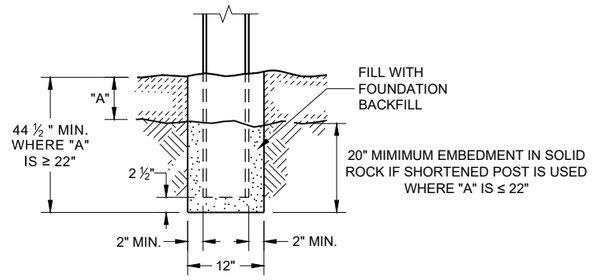
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

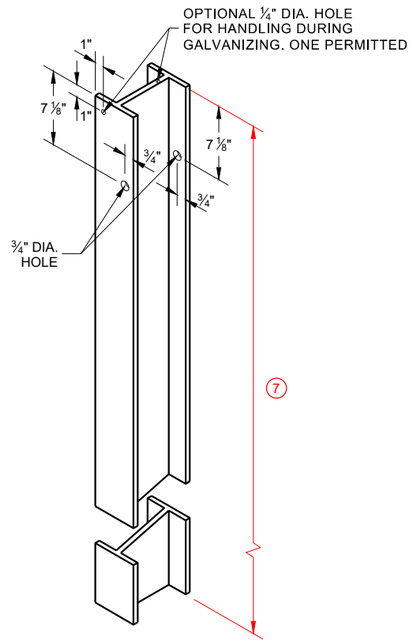
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

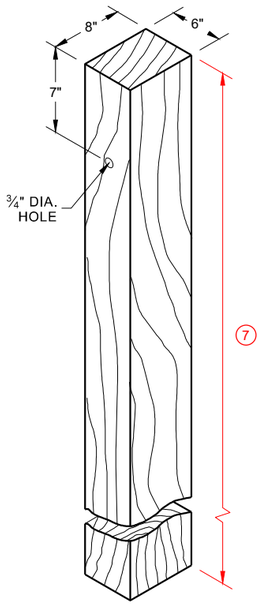
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



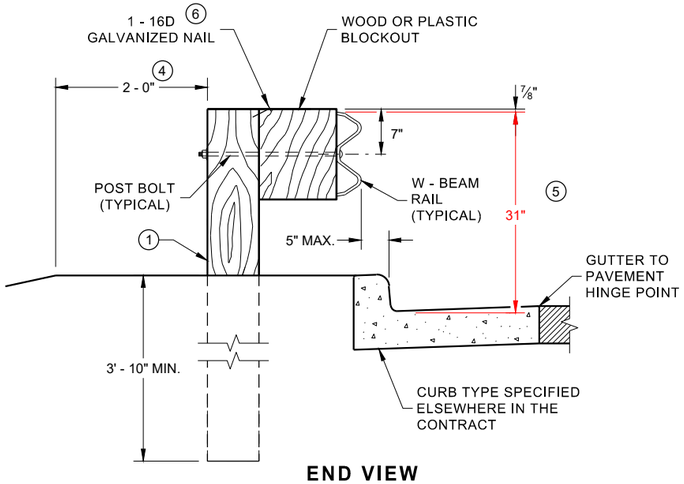
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



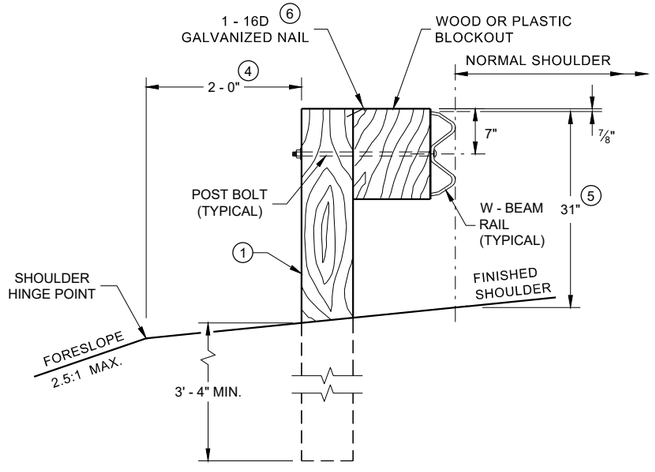
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



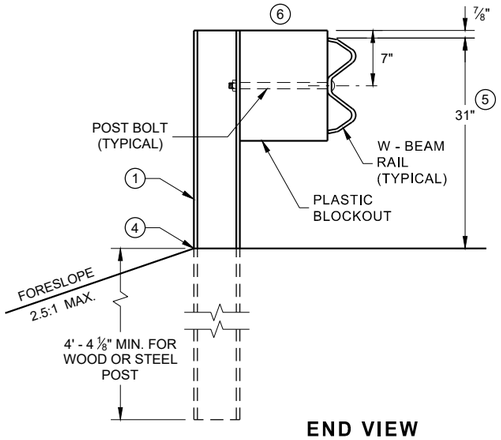
WOOD POST (6" X 8") NOMINAL (1)



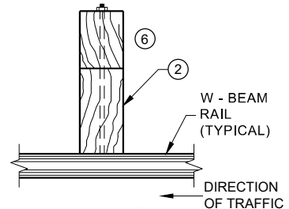
END VIEW
LOCATED ALONG A CURBED ROADWAY



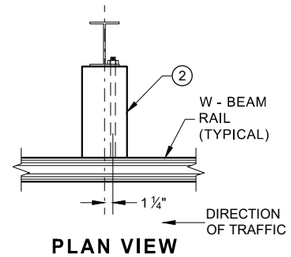
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



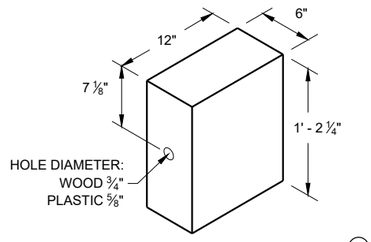
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



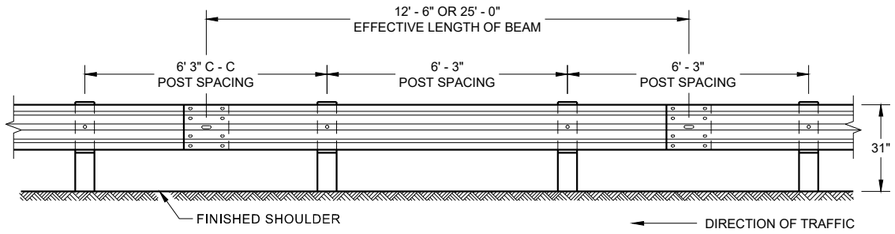
WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

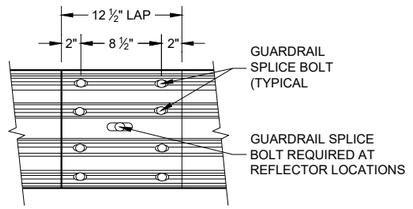
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA 157

SDD 14B42 - 06a

SDD 14B42 - 06a



FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
MID-SPAN BEAM SPLICE

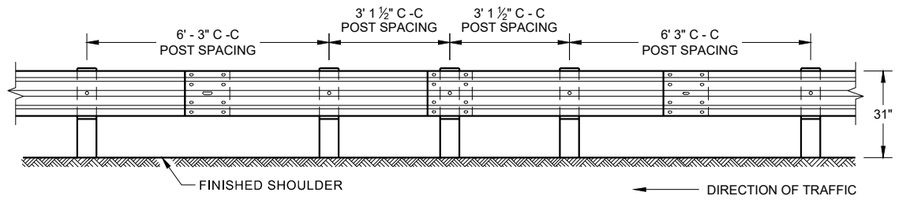
GENERAL NOTES

(8) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

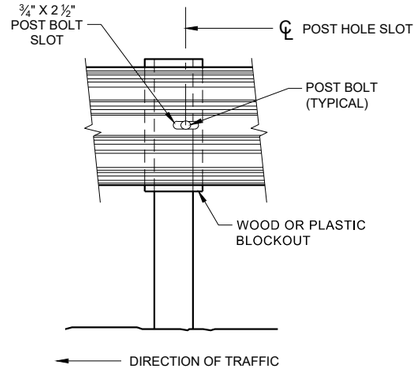
(9) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ¾" 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.

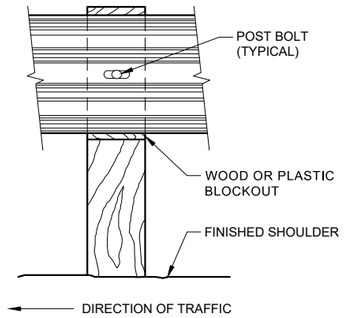
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



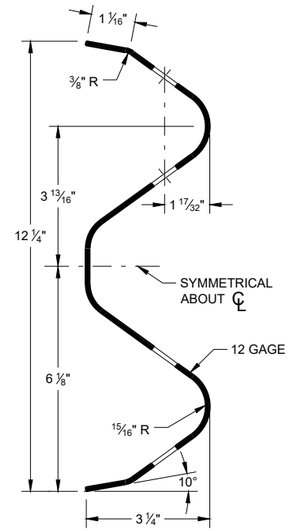
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



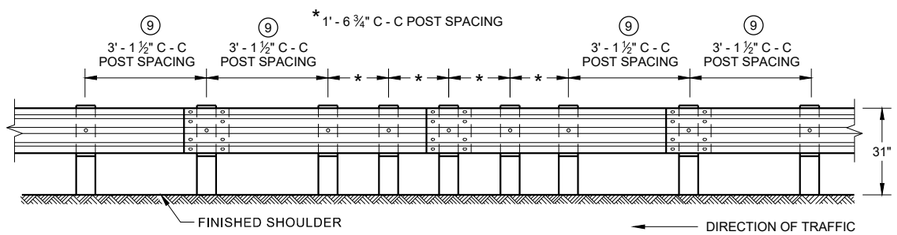
FRONT VIEW AT STEEL POST



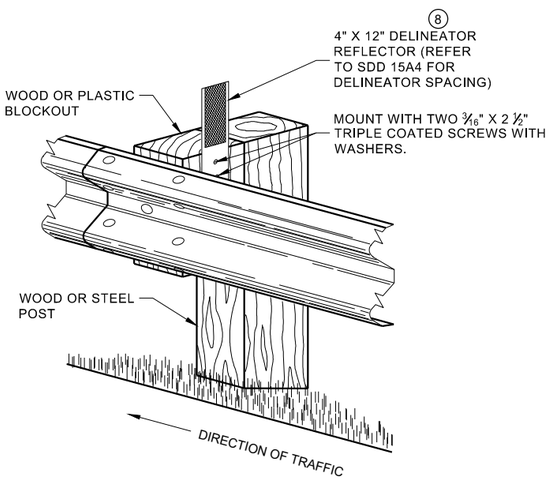
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



FRONT VIEW
QUARTER POST SPACING (QS)



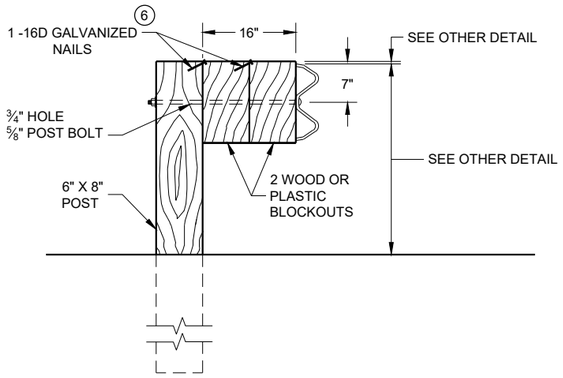
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 06b

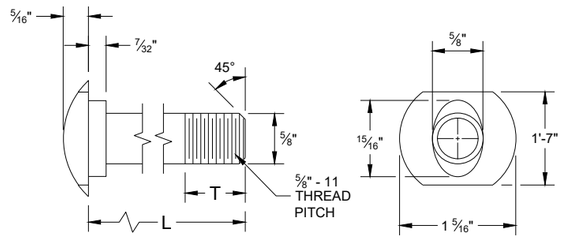


DETAIL FOR 16" BLOCKOUT DEPTH

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.

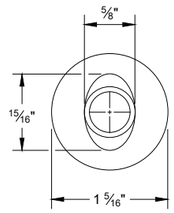
NOTE:

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.

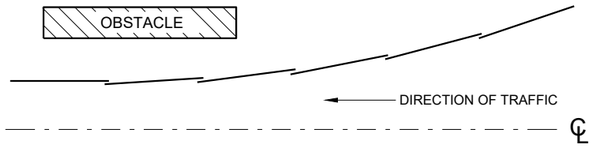


POST BOLT TABLE

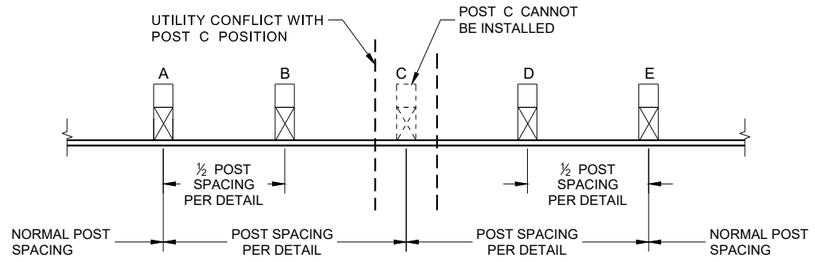
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



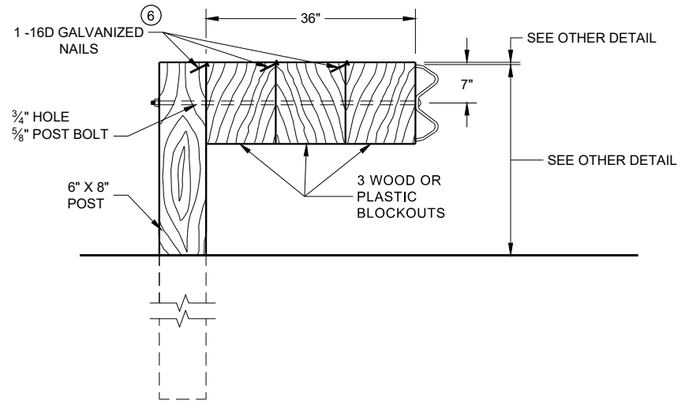
ALTERNATE BOLT HEAD



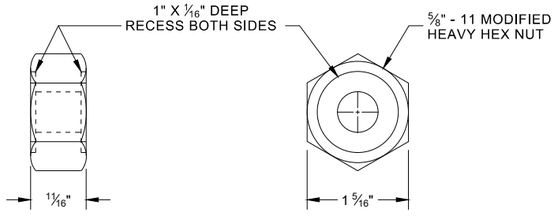
PLAN VIEW
BEAM LAPPING DETAIL



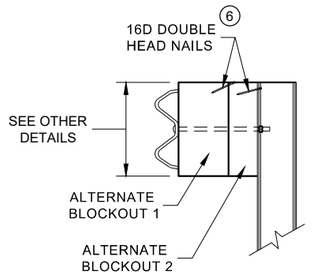
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



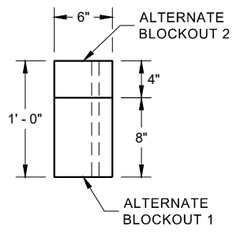
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

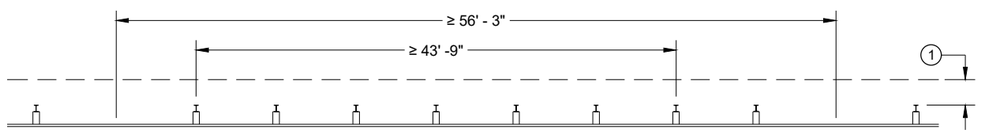
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

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.

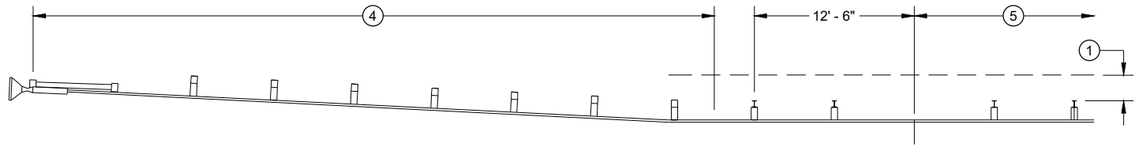
(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

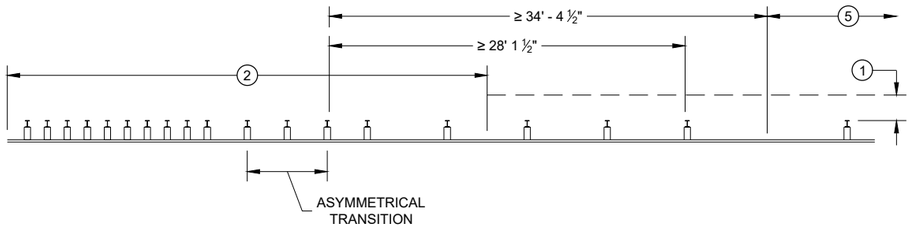
6
SDD 14B42 - 06c



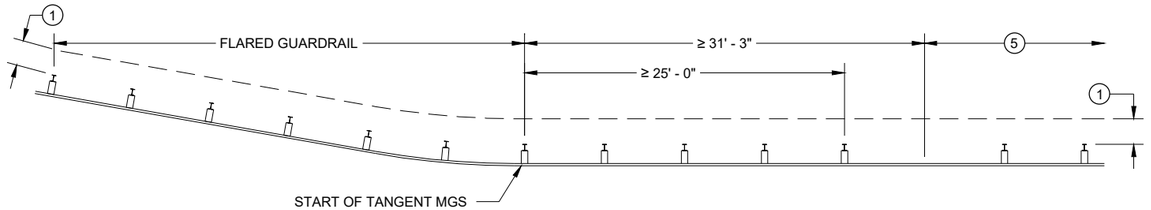
MISSING POST IN NORMAL BEAM GUARD RUN



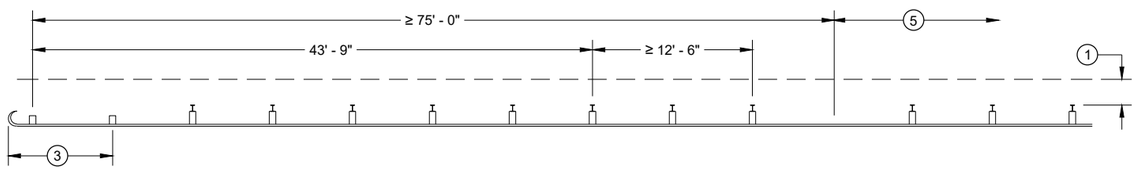
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



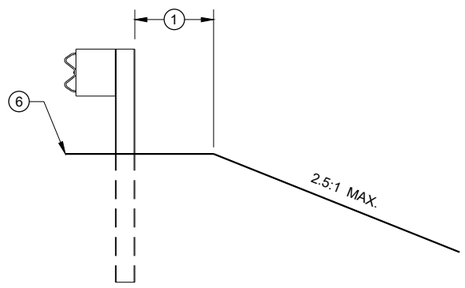
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

1. MINIMUM OF 2 FEET OF GRADING BEHIND POST.
2. SEE SDD 14B45 FOR MORE DETAILS.
3. SEE SDD 14B47 FOR MORE DETAILS.
4. SEE SDD 14B44 FOR MORE DETAILS.
5. SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
6. SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

SDD 14B42 - 06d

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.

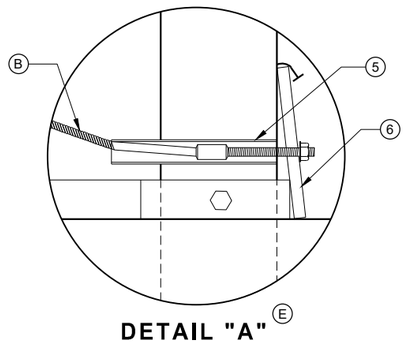
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

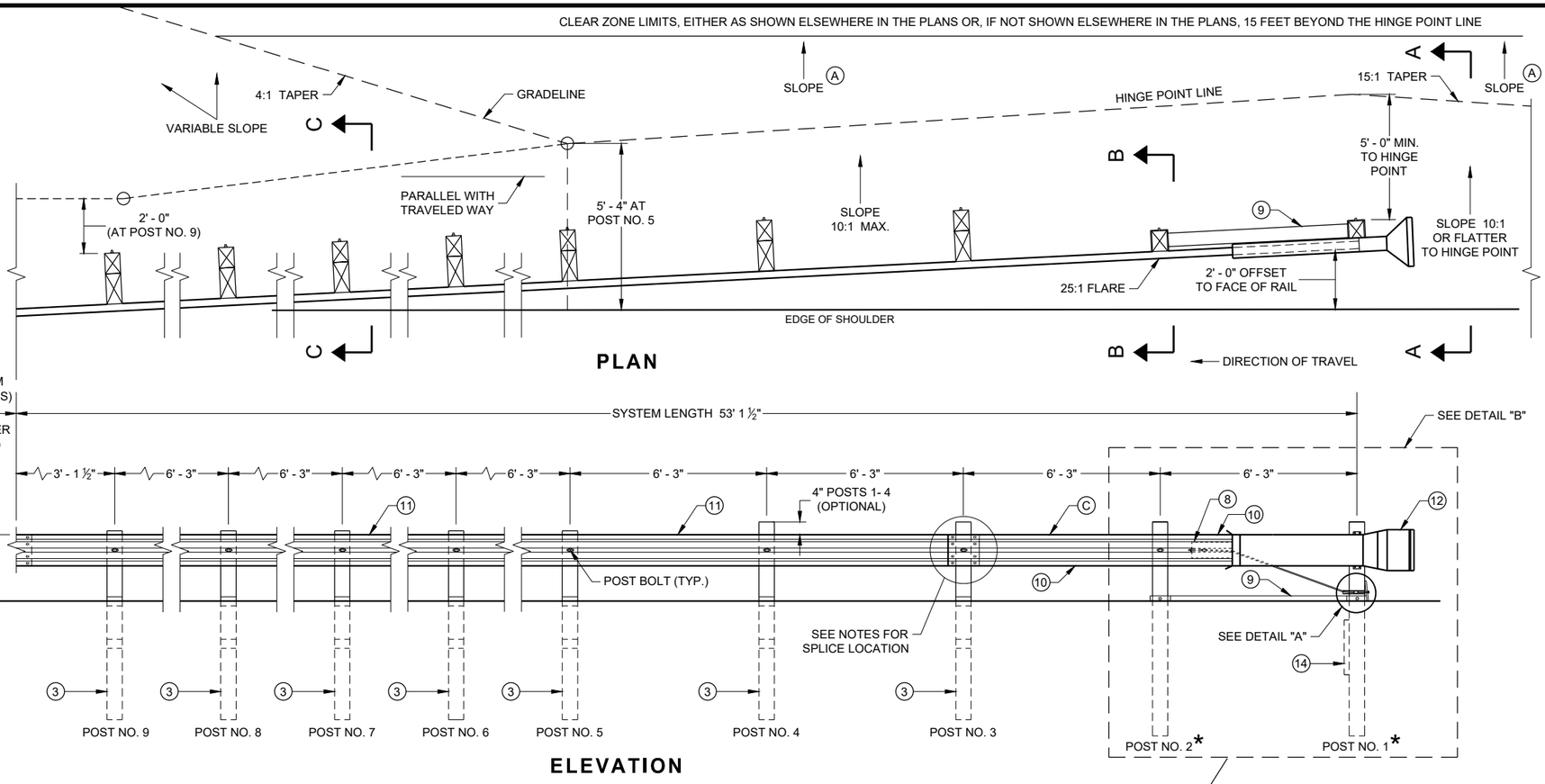
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

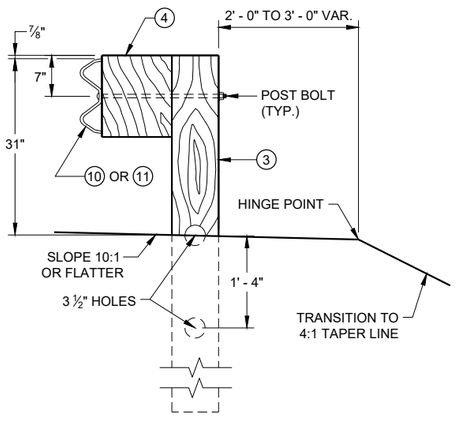
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

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.

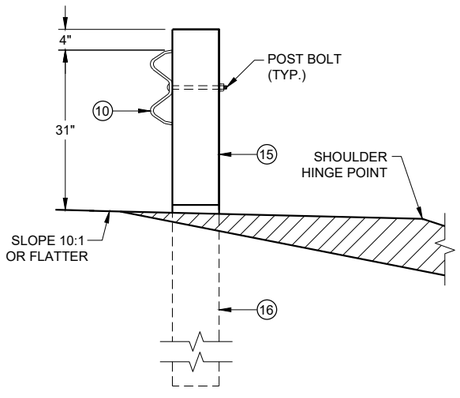


DETAIL "A" (E)

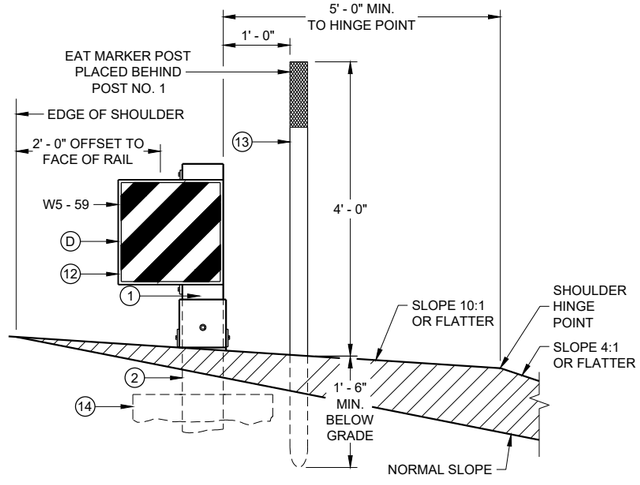




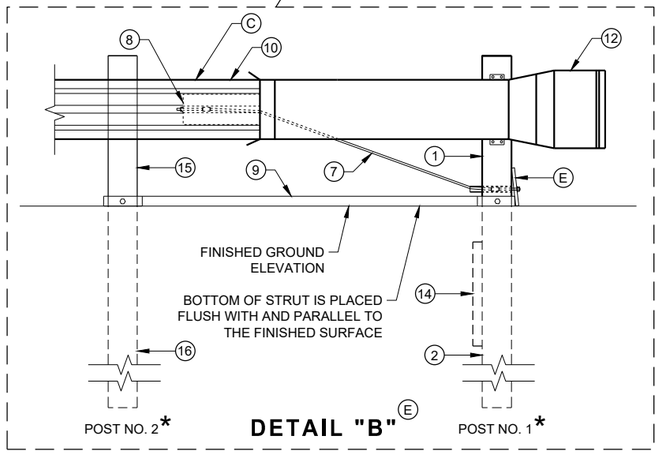
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*

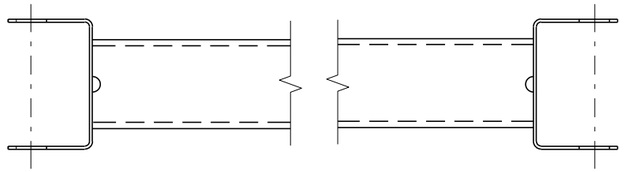


MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

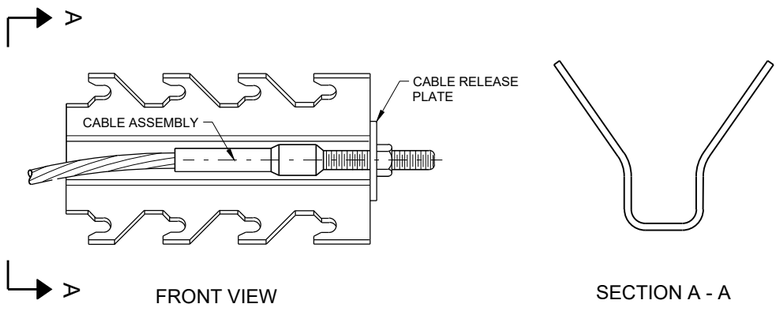
6



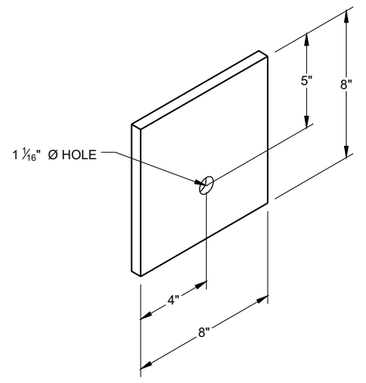
GENERIC GROUND STRUT ⑨ Ⓔ

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 ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

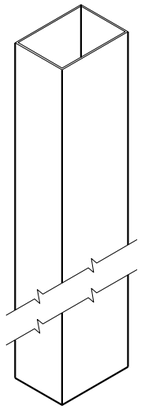
6

SDD 14B45 - 04b

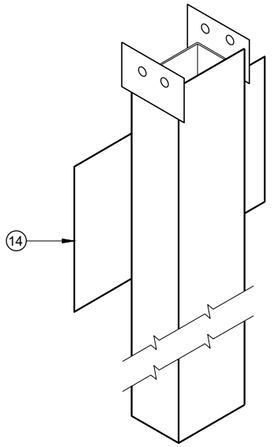
SDD 14B45 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

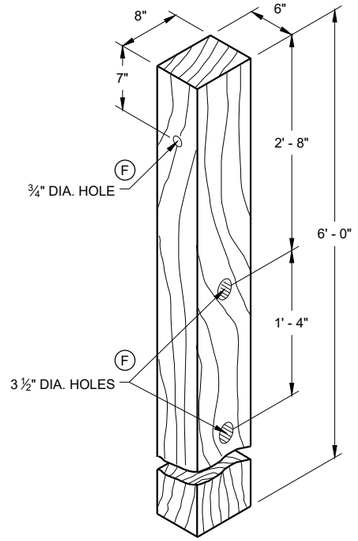
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



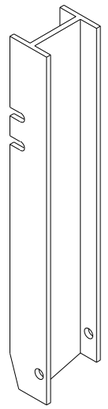
UPPER POST NO. 1 ① Ⓔ



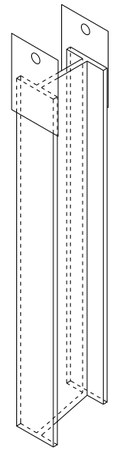
LOWER POST NO. 1 ② Ⓔ



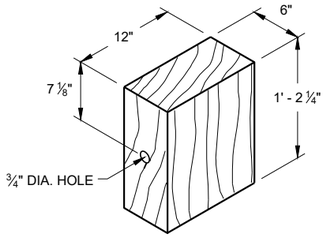
WOOD CRT POST ③ Ⓔ
POSTS NUMBER 3-9



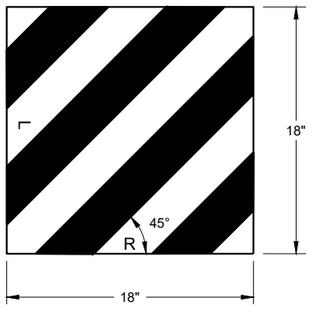
UPPER POST NO. 2 ⑮ Ⓔ



LOWER POST NO. 2 ⑯ Ⓔ

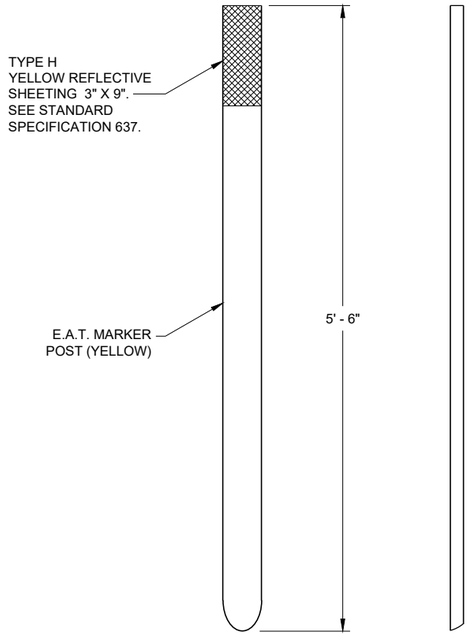


WOOD BLOCKOUT ④
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



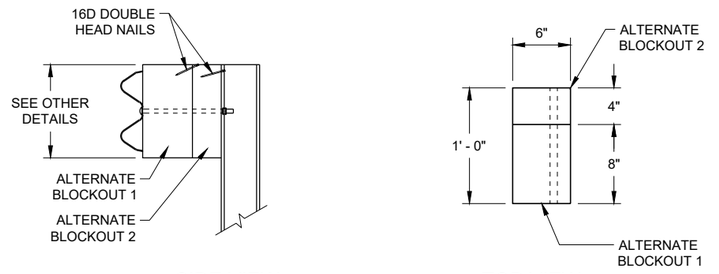
W5 - 59

REFLECTIVE SHEETING DETAIL Ⓔ



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)

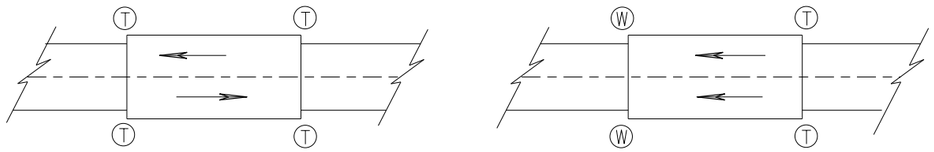
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

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.

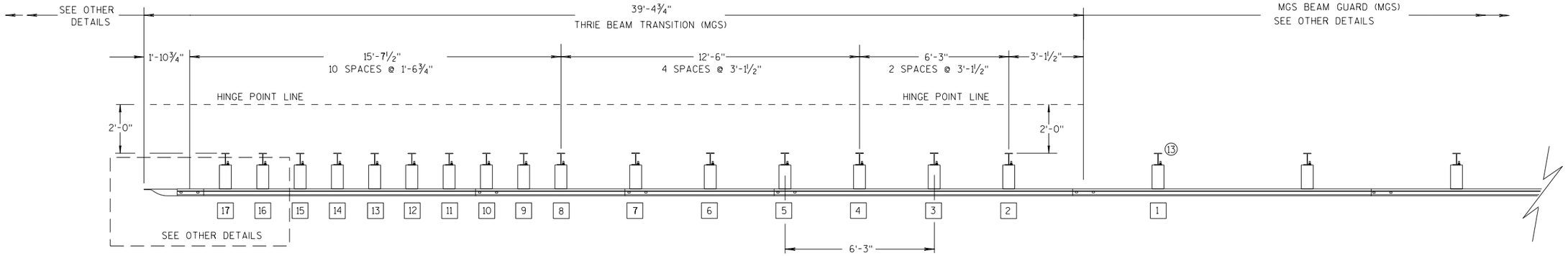
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

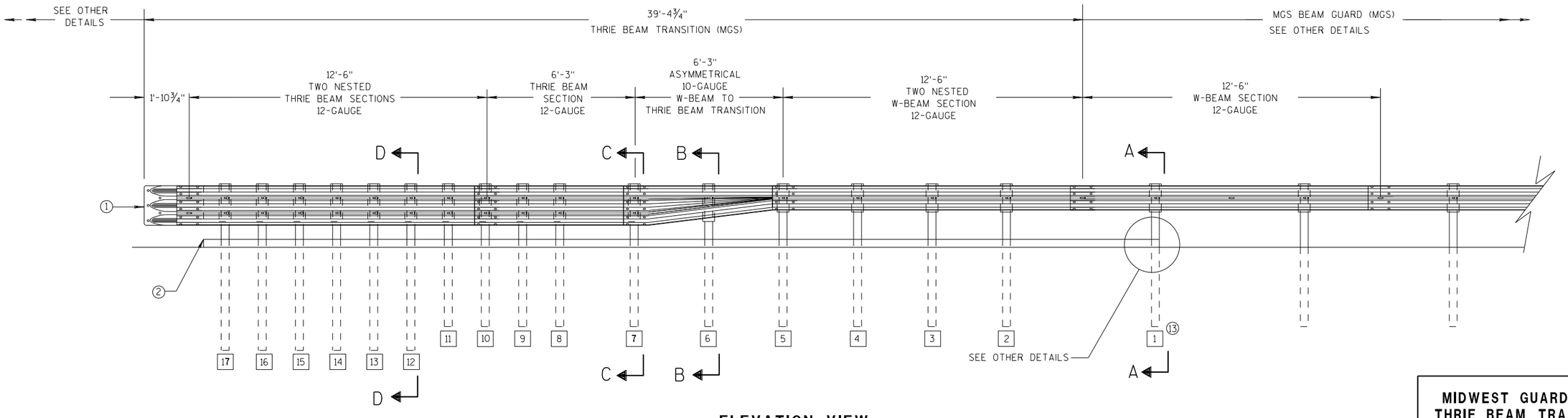
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

6

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

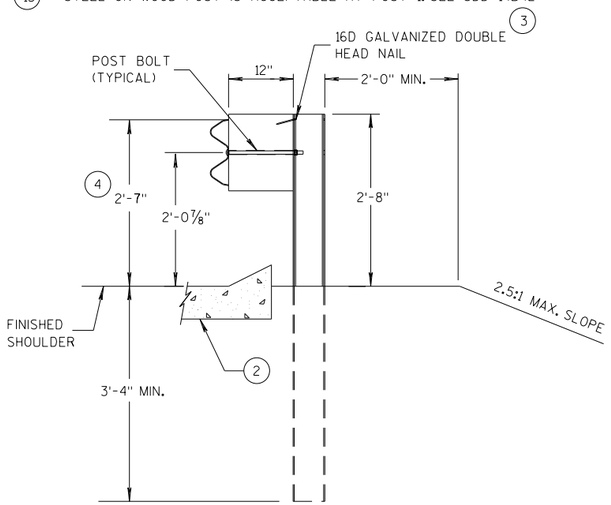
GENERAL NOTES

(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.

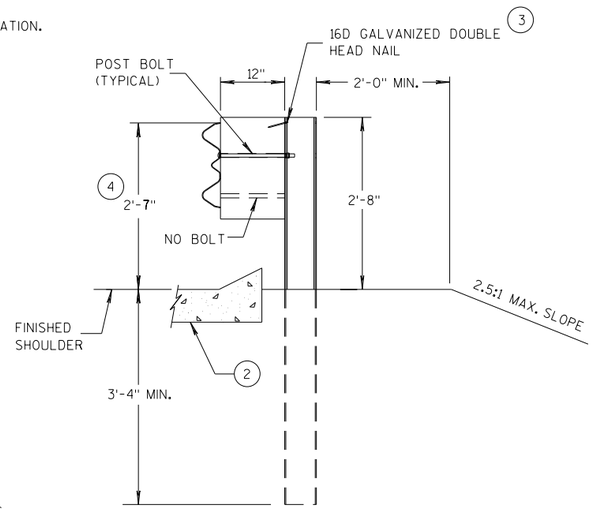
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



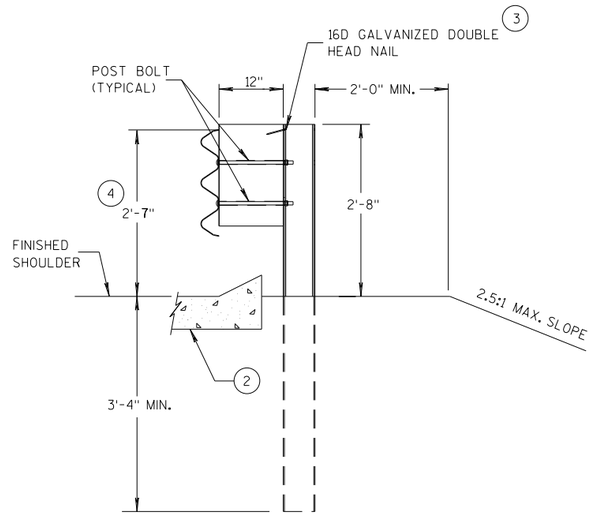
SECTION A-A (13)

POSTS 1-5



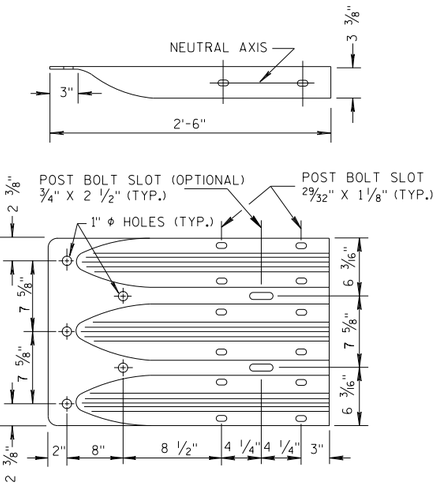
SECTION B-B

POST 6

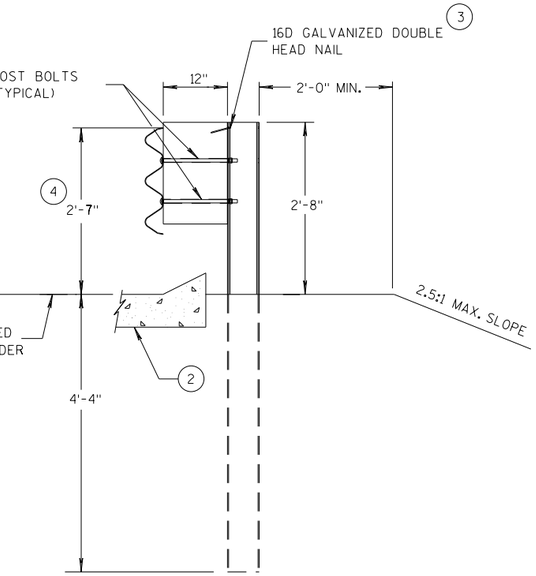


SECTION C-C

POSTS 7-11

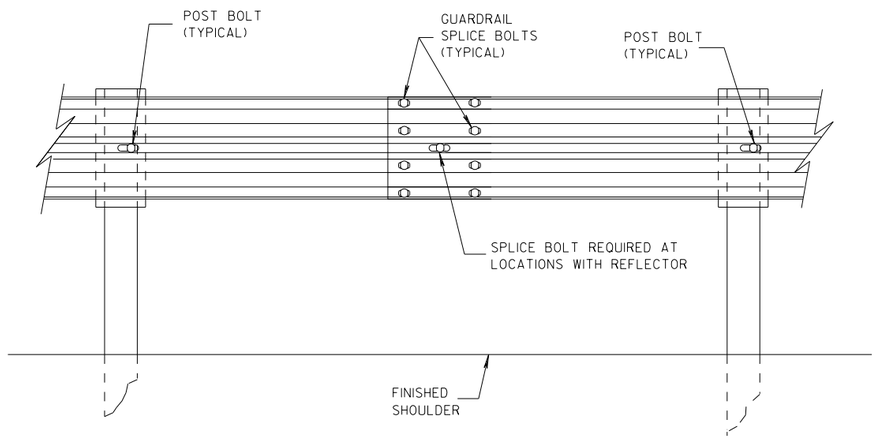


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

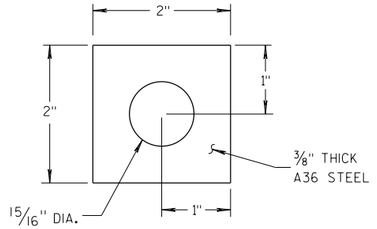
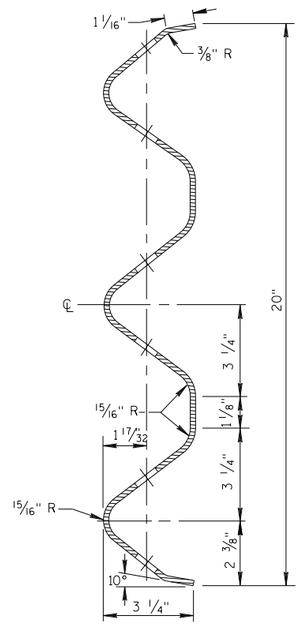


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

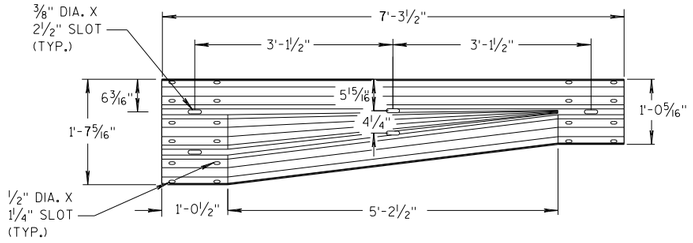
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 165

6

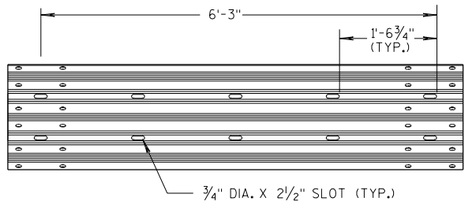
S.D.D. 14 B 45-5b

6

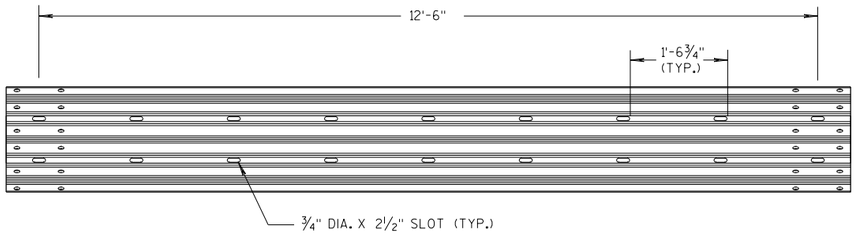
S.D.D. 14 B 45-5b



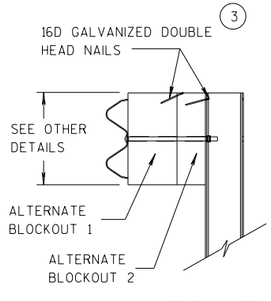
W-BEAM TO THRIE BEAM TRANSITION SECTION



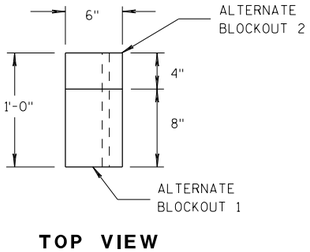
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

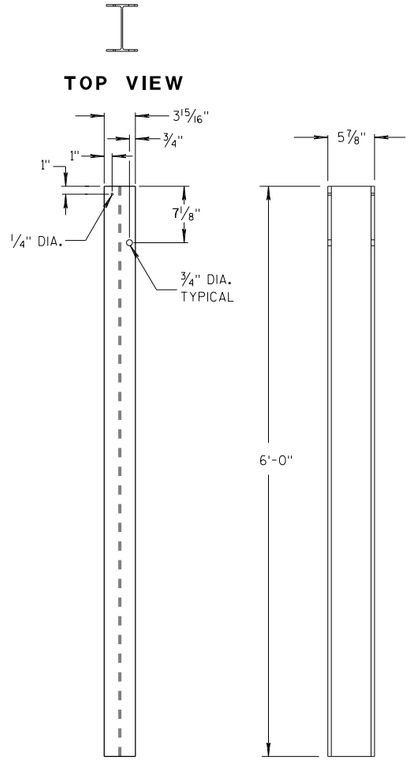


SIDE VIEW



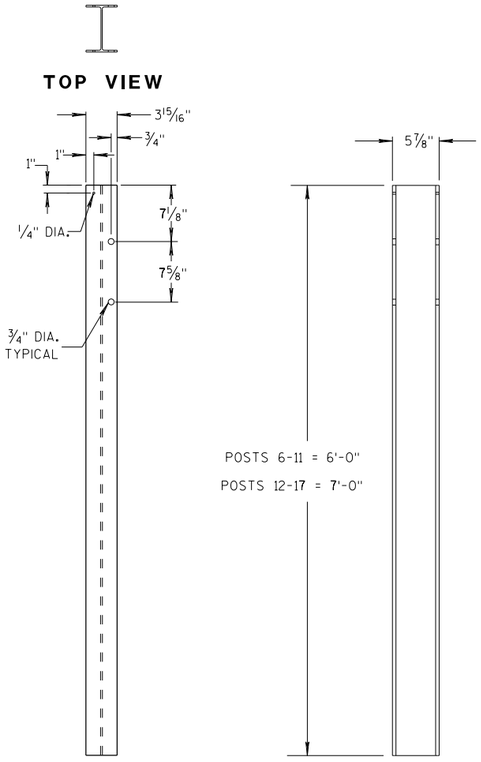
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



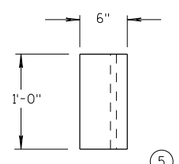
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

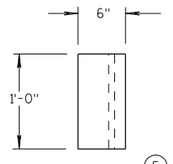


FRONT VIEW SIDE VIEW

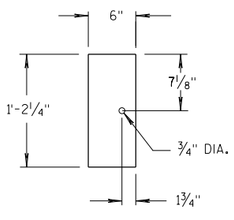
STEEL POSTS 6-17



TOP VIEW (5)

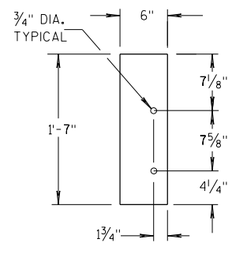


TOP VIEW (5)



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.

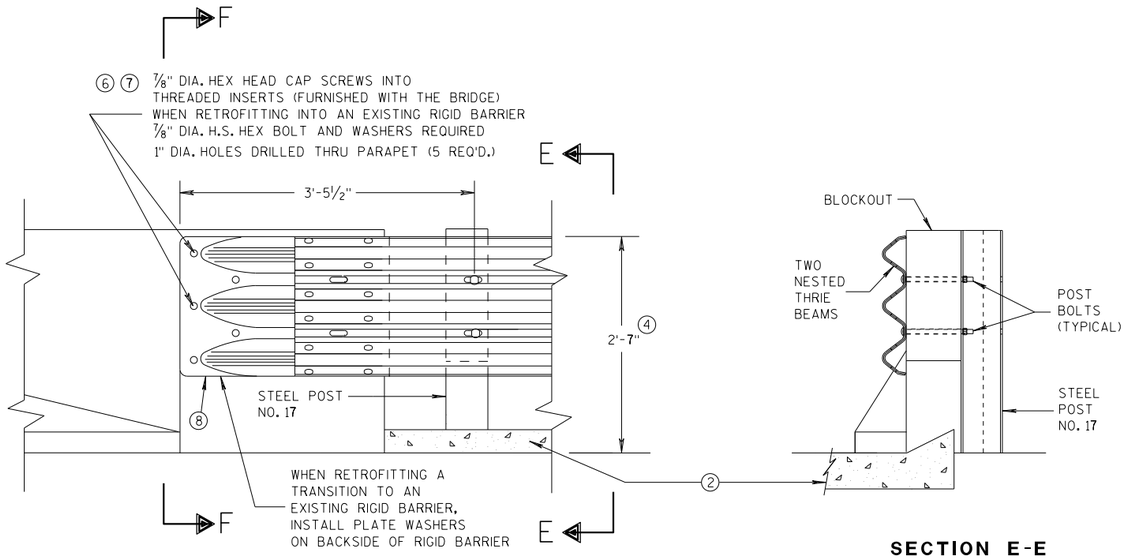
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

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.

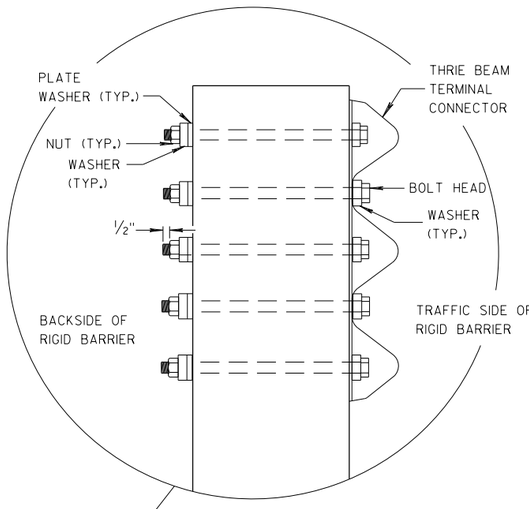
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

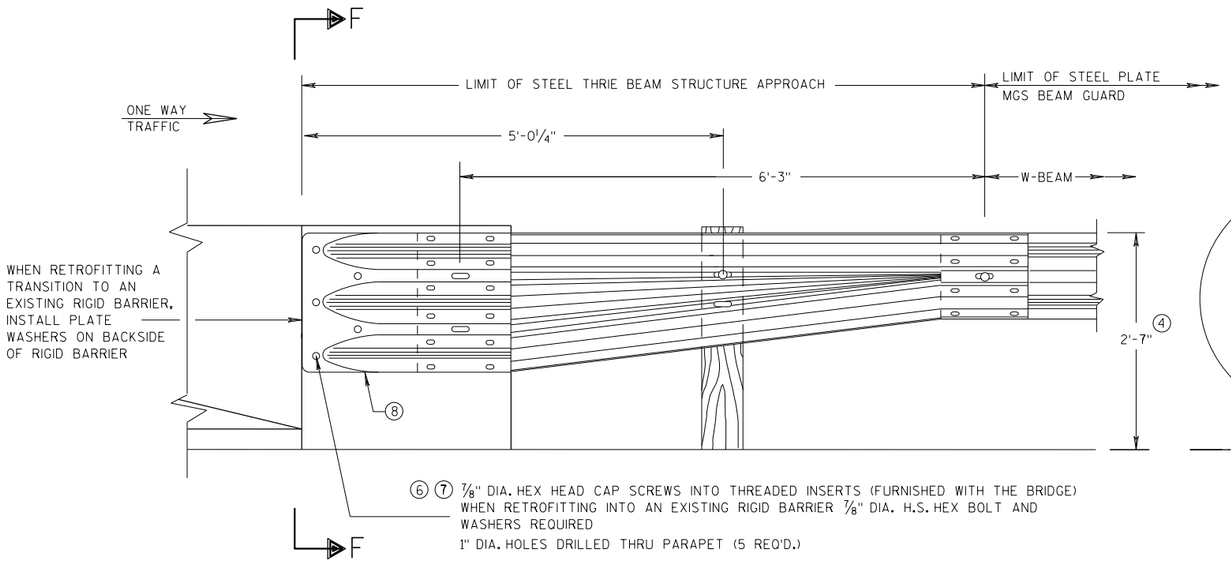
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

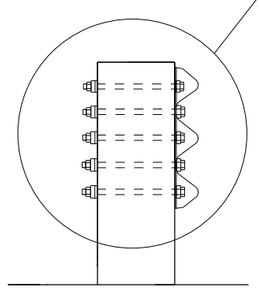
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

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

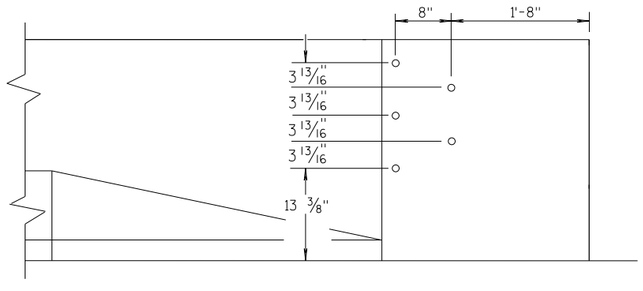




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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GENERAL NOTES

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

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

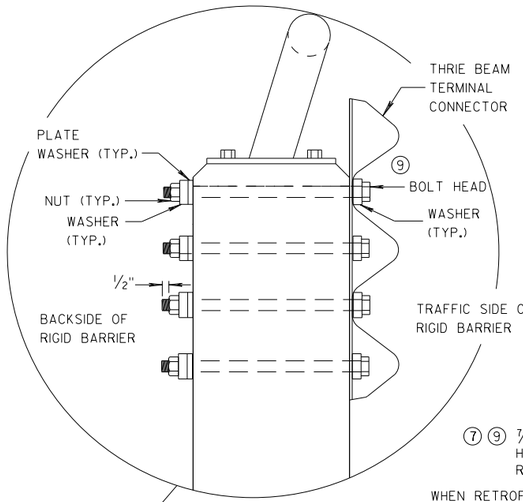
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

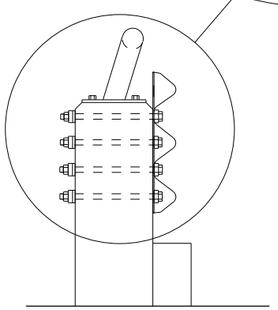
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

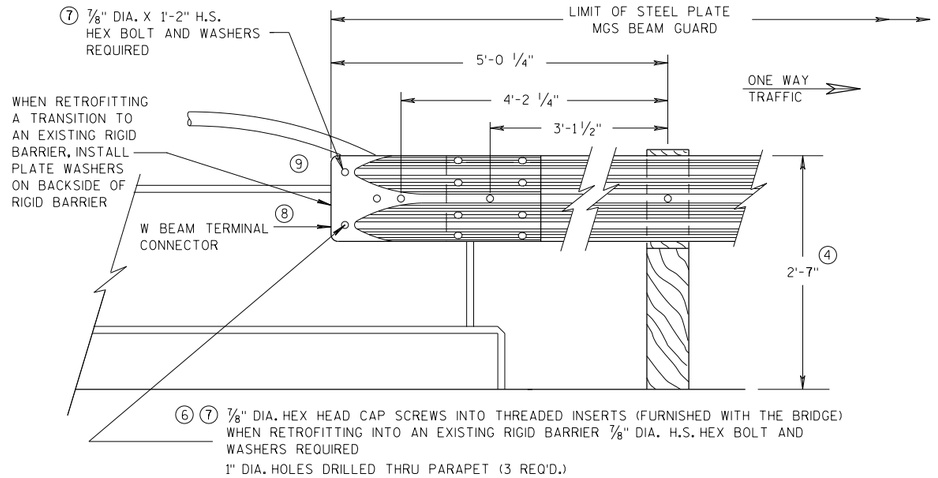
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

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





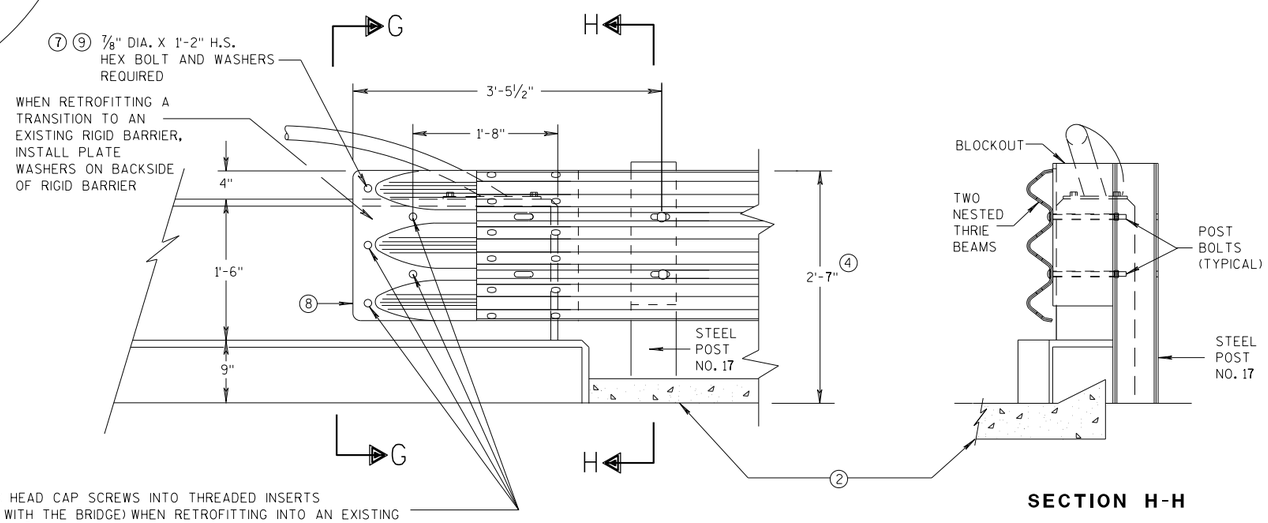
SECTION G-G



FRONT VIEW

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

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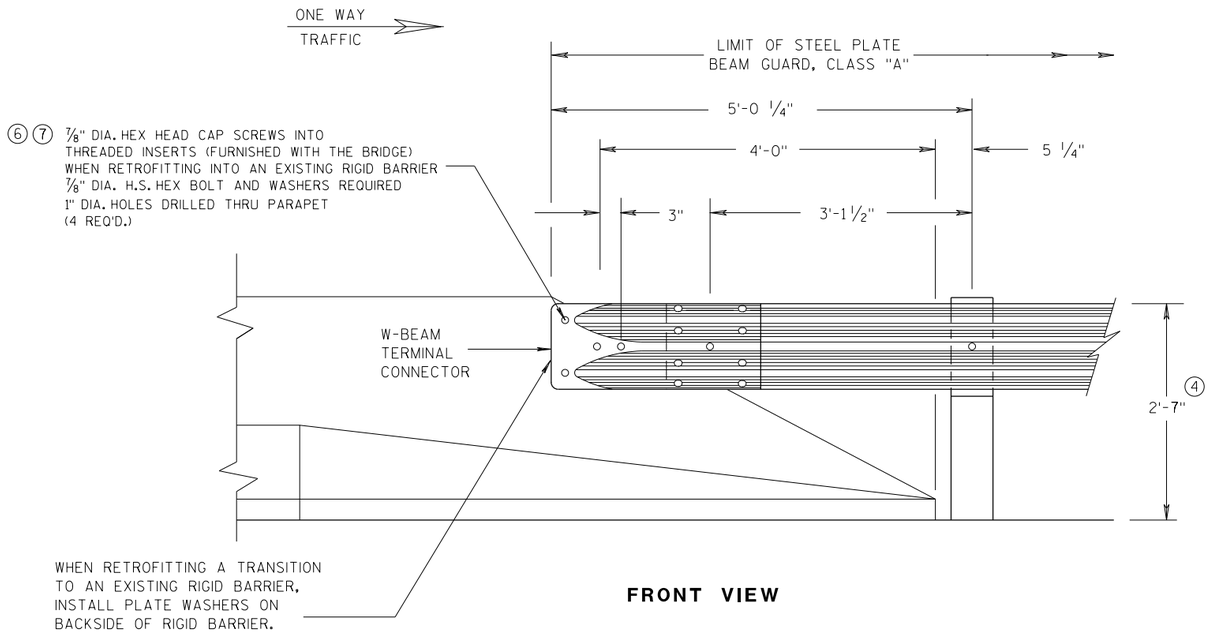


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

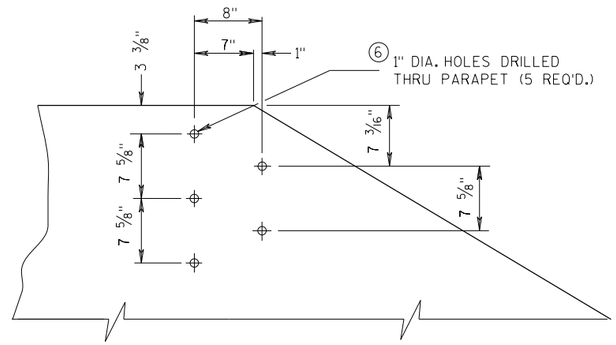
GENERAL NOTES

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

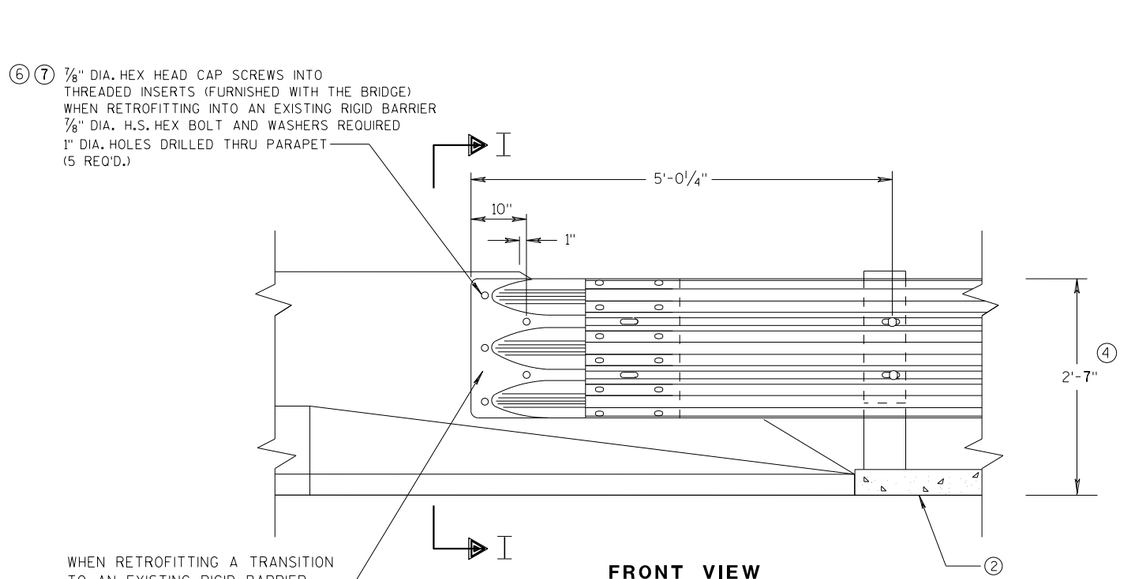
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

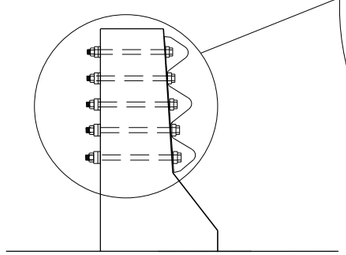
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



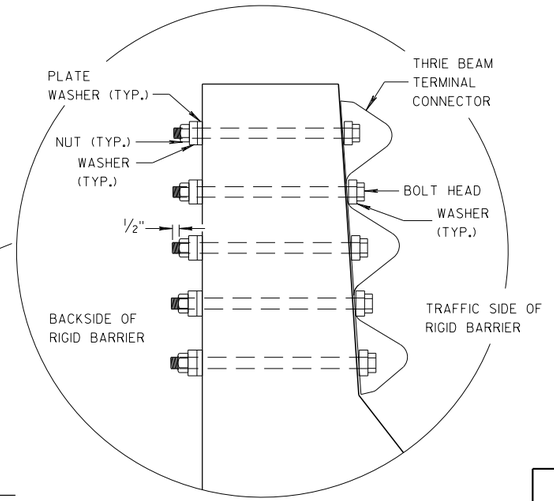
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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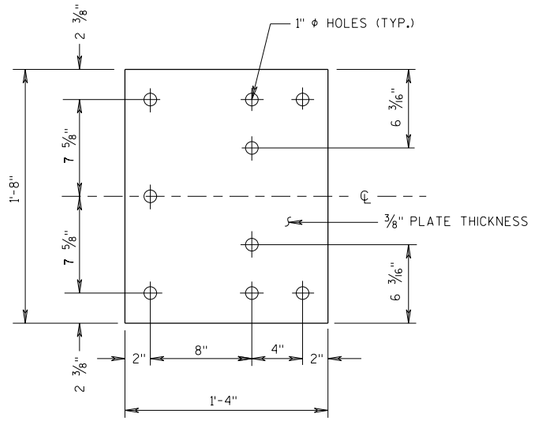
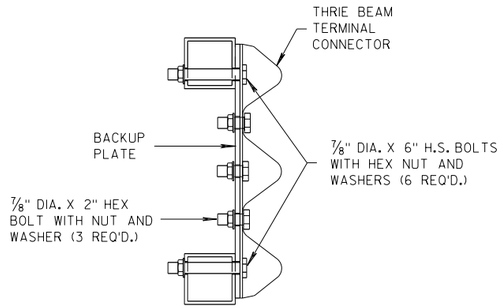
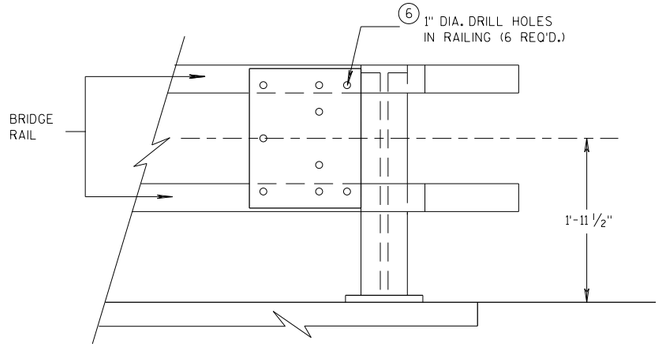


BACK-UP PLATE DETAIL



SECTION J-J

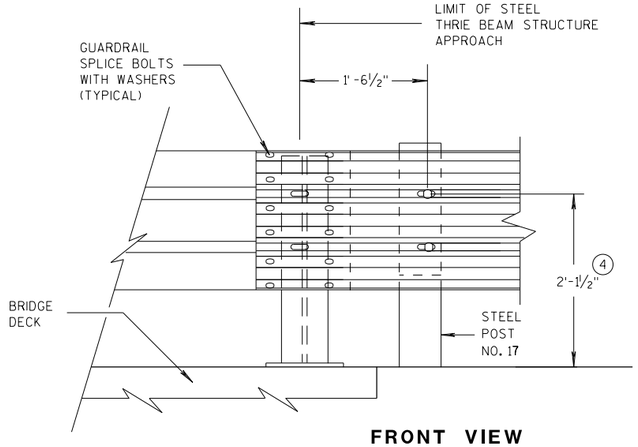


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

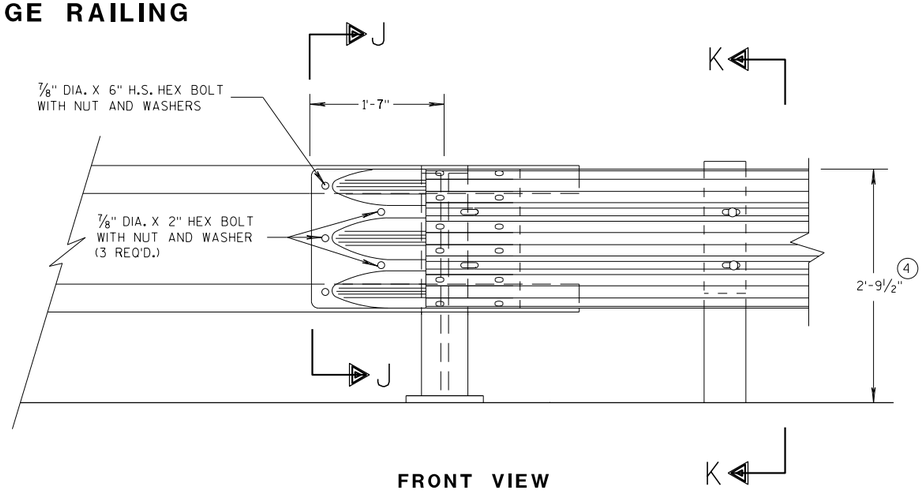
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

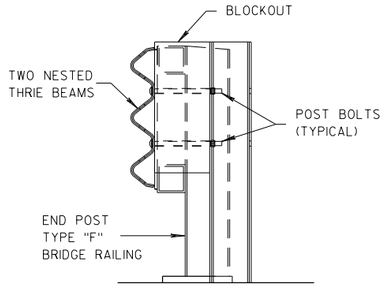


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE — FHWA

/S/ Rodney Taylor 170 — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

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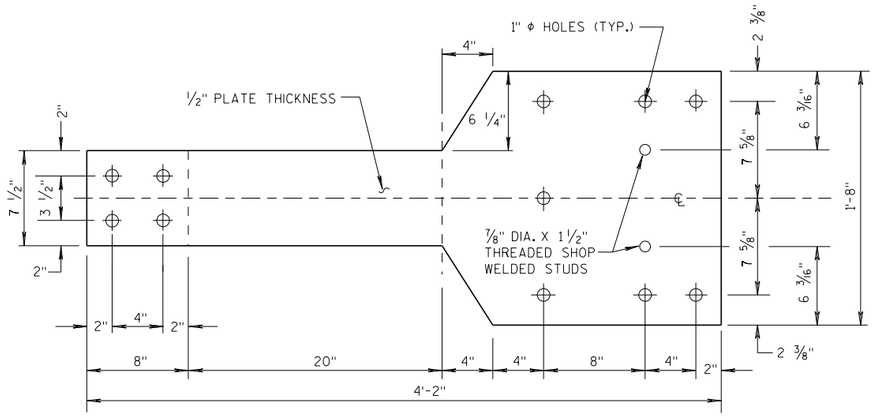
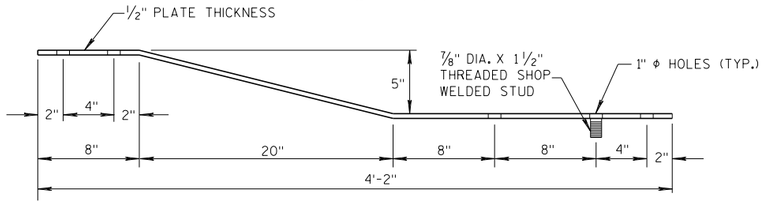
GENERAL NOTES

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

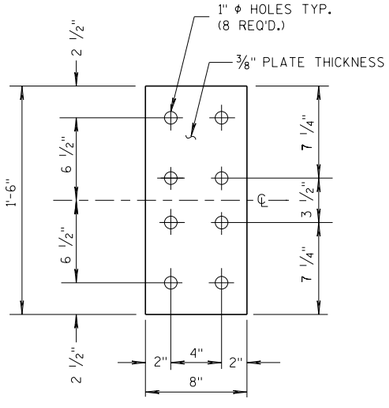


FRONT VIEW

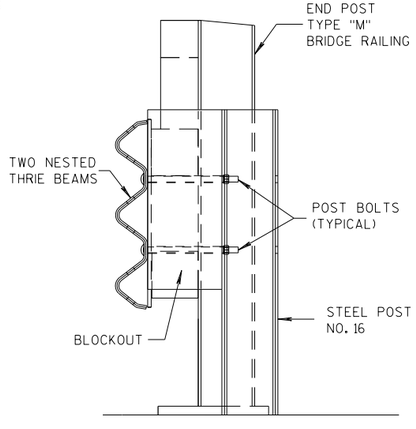


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

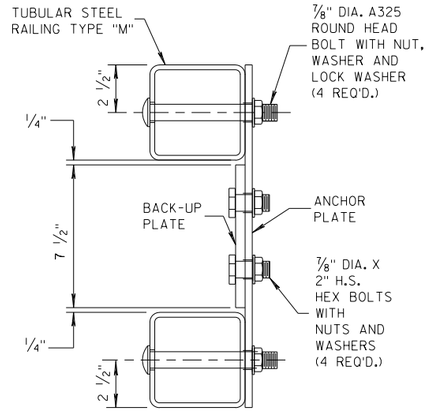


FRONT VIEW

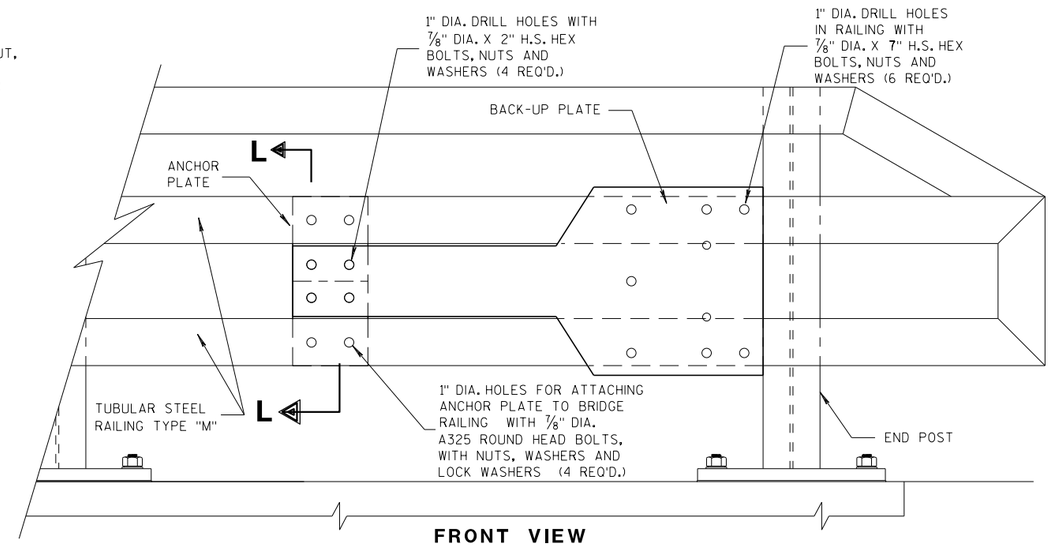


SECTION M-M

ANCHOR PLATE DETAIL, TYPE "M"

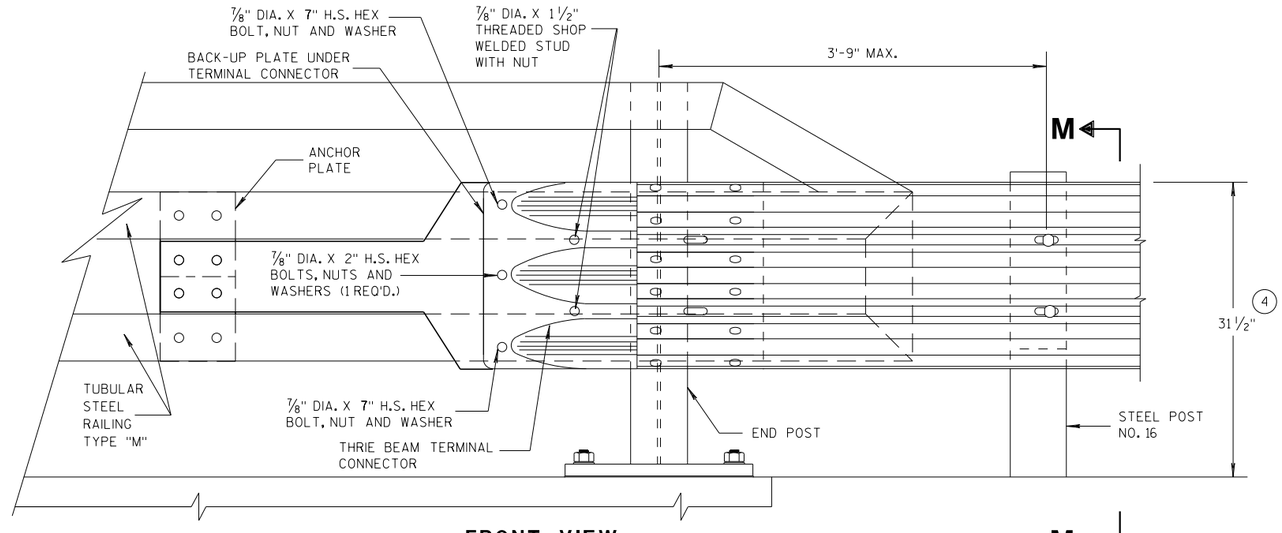


SECTION L-L

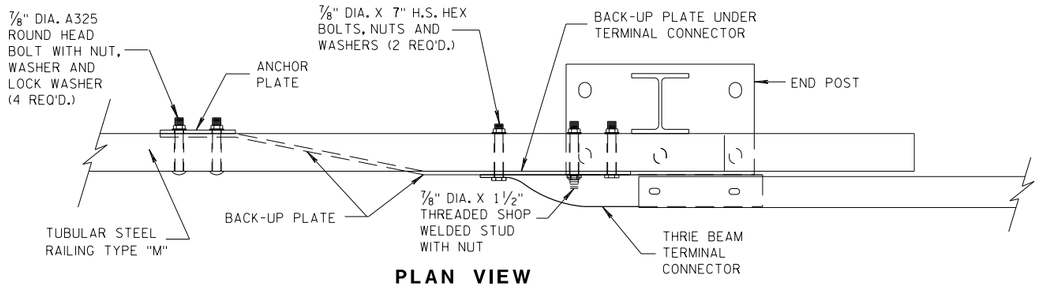


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "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
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

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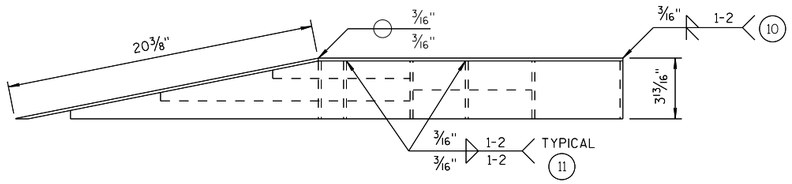
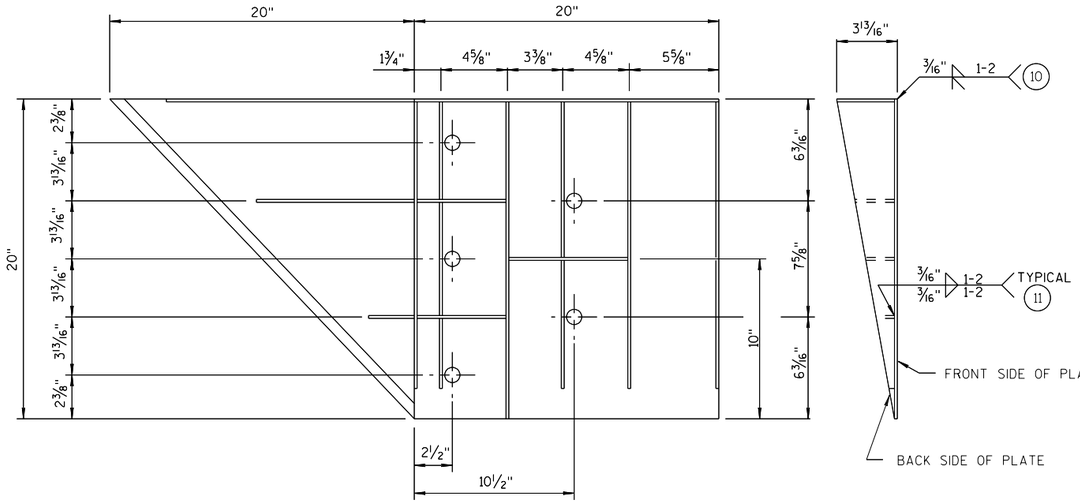
S.D.D. 14 B 45-5h





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

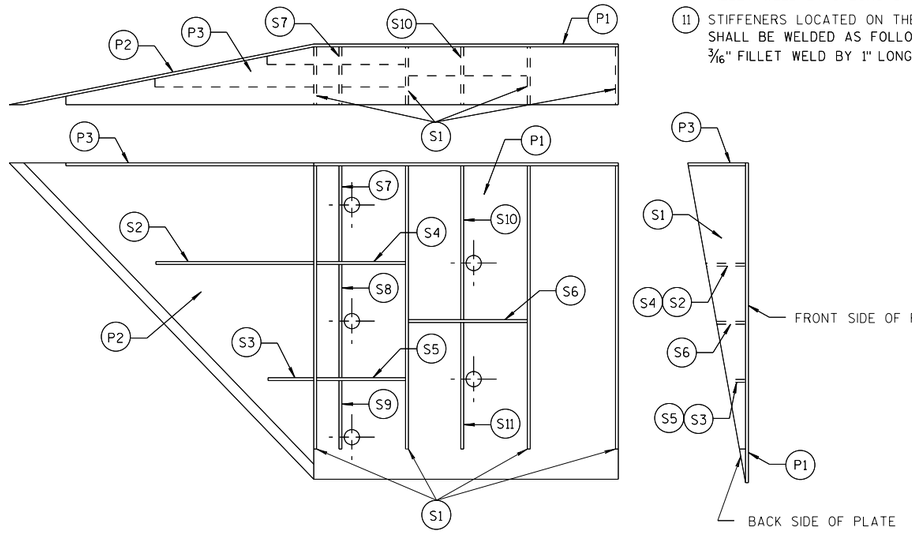


PLATE AND STIFFENER IDENTIFICATION

(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

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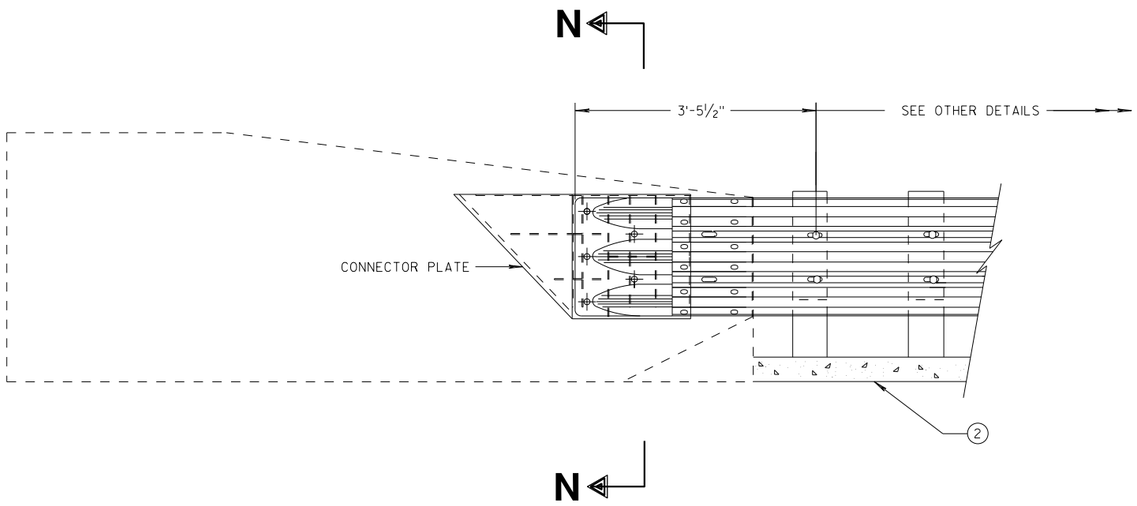
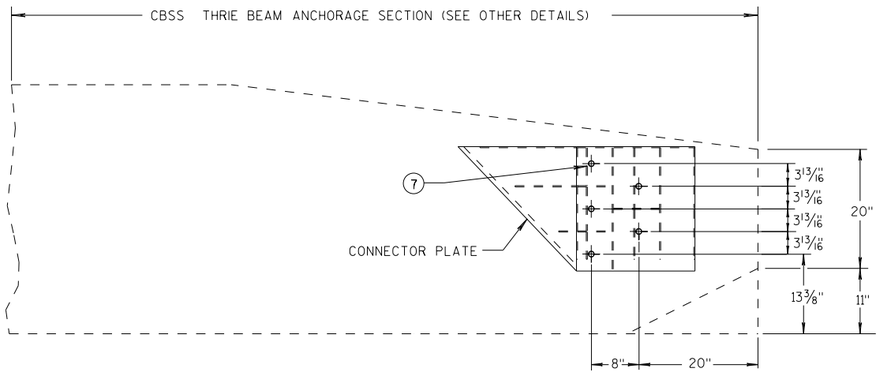


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



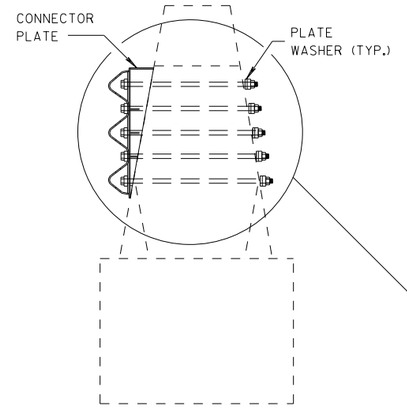
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

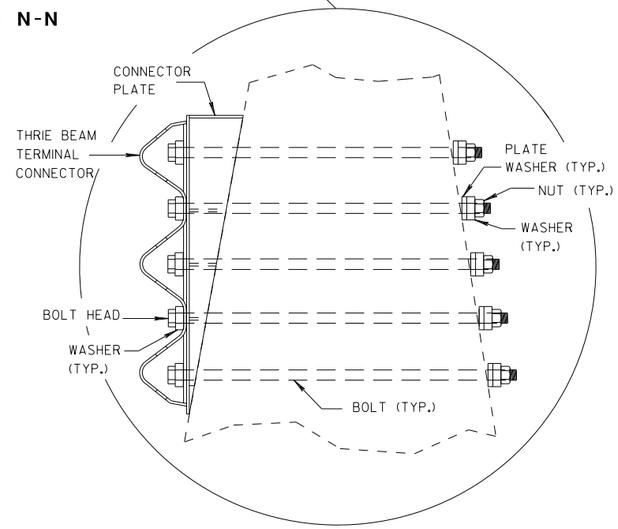
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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 ⅝" 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
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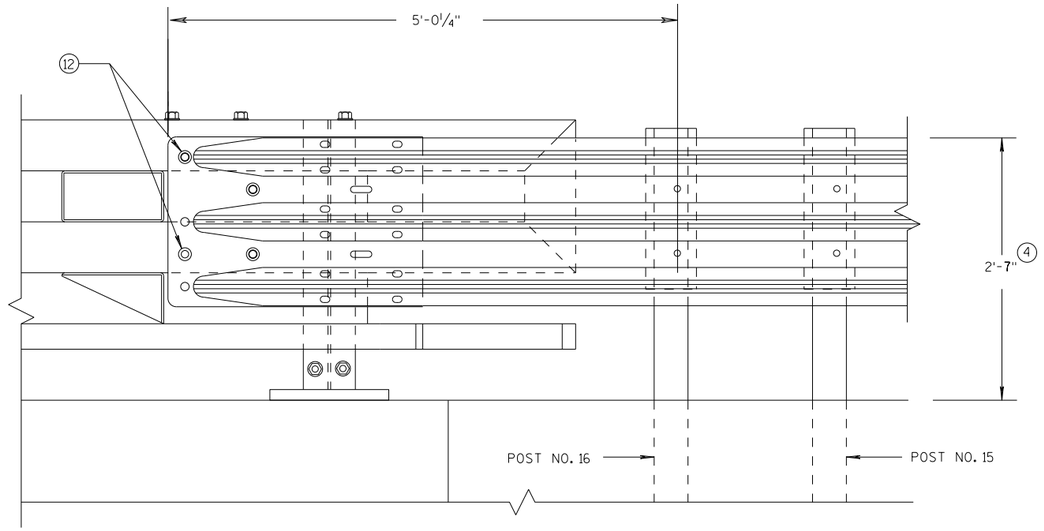
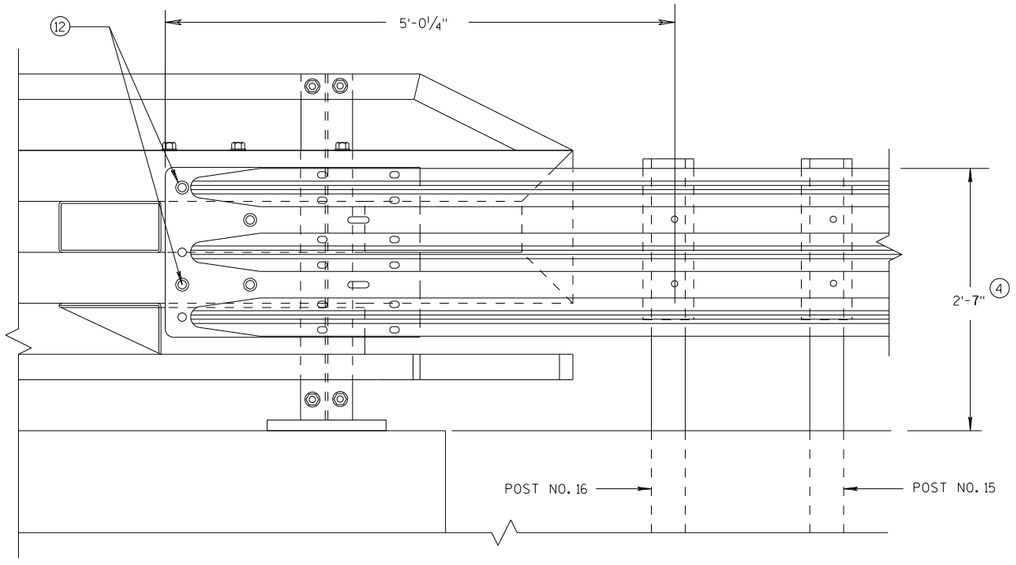


ELEVATION OF DETAIL AT NY3 END POST

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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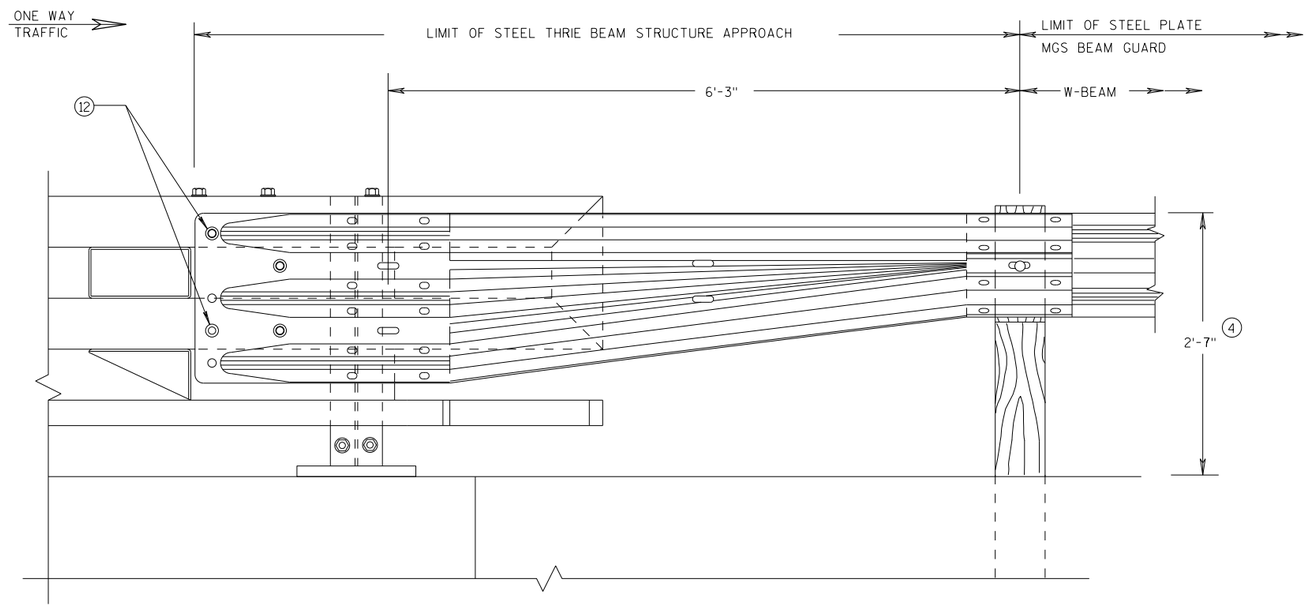


FRONT VIEW

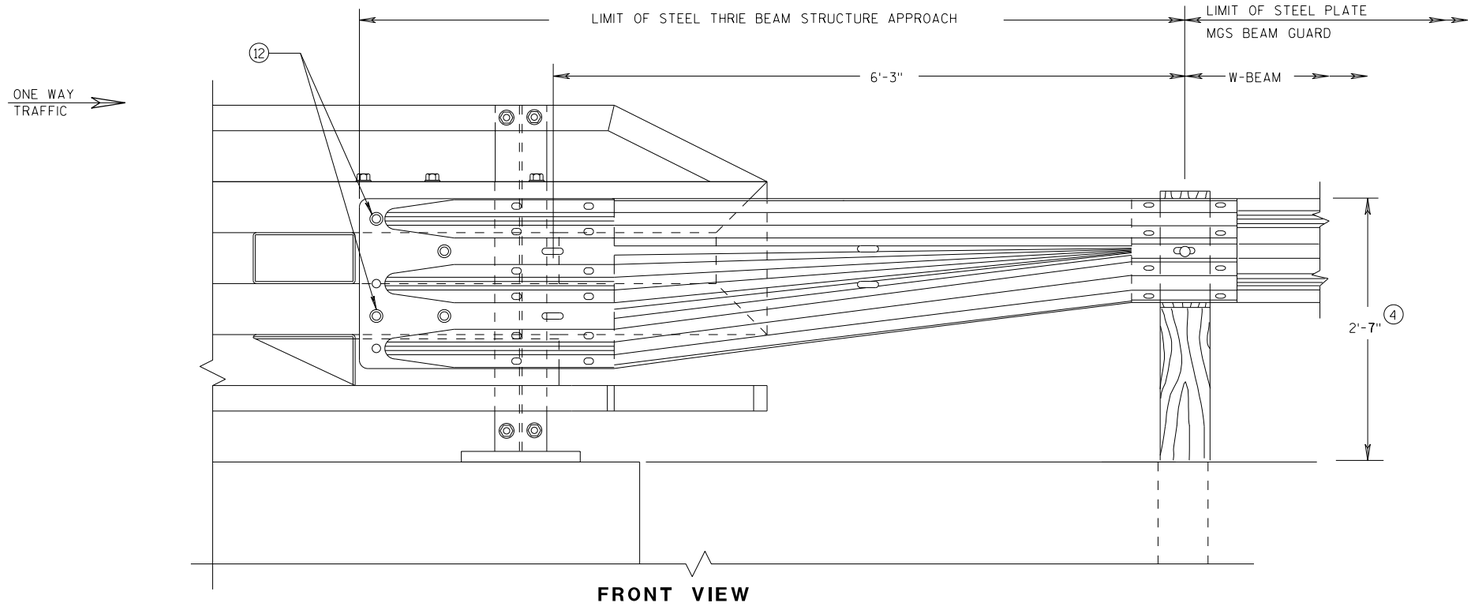
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(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)

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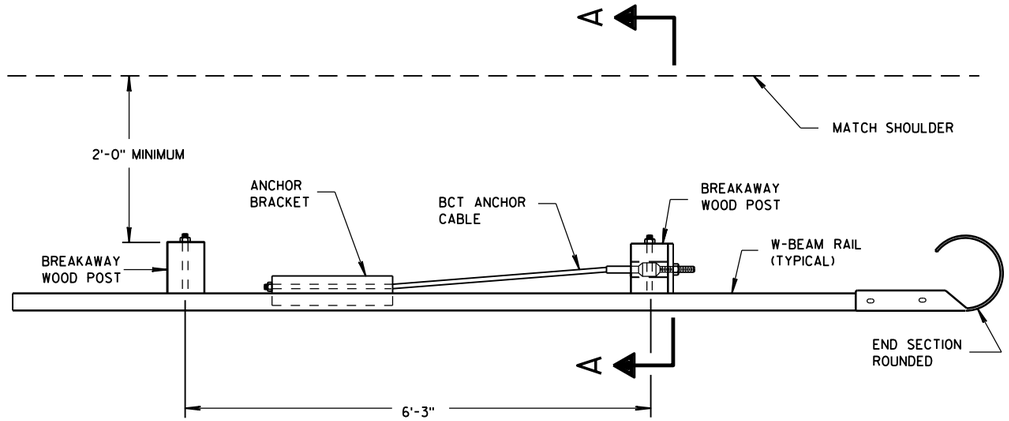
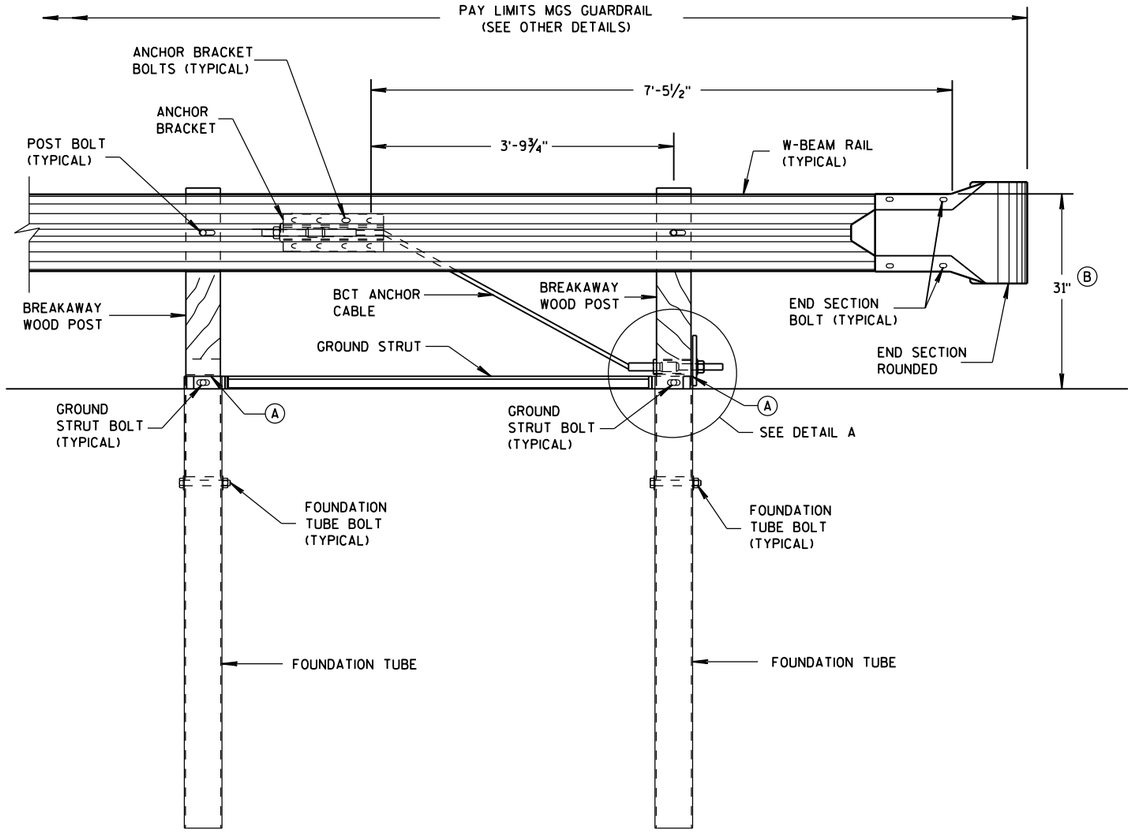
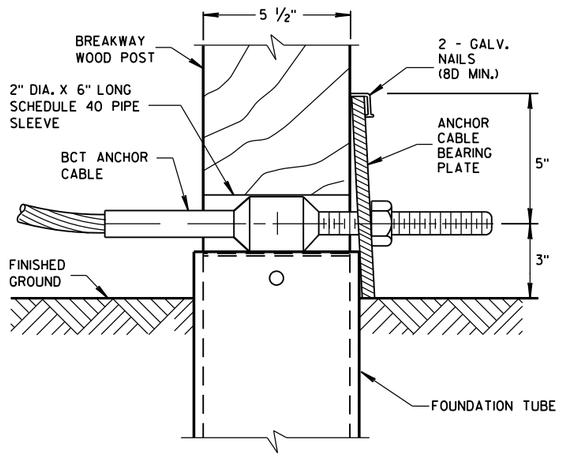


PLAN VIEW



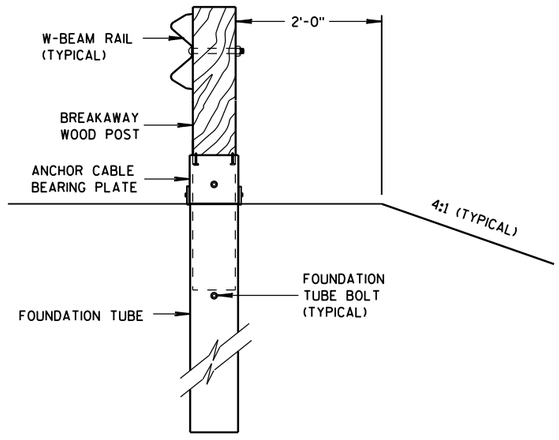
FRONT VIEW

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.

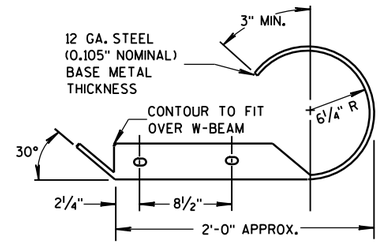
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

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.

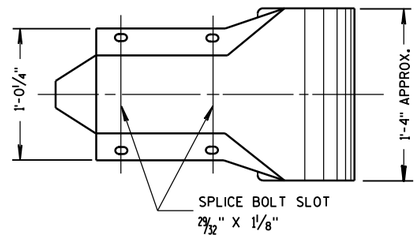
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(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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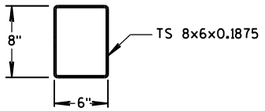
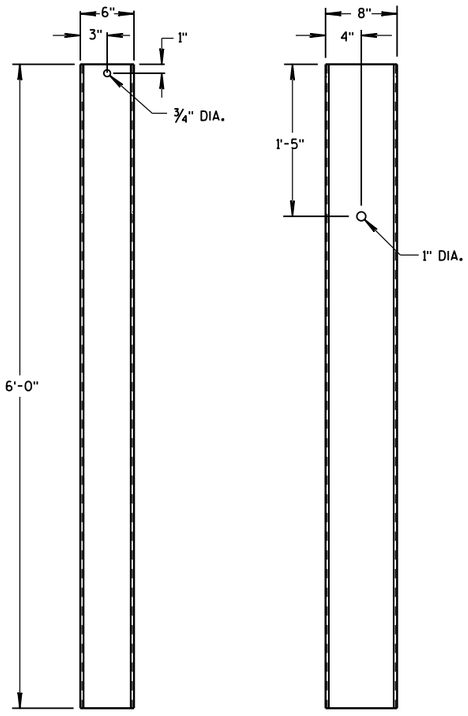
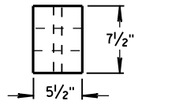


PLAN VIEW

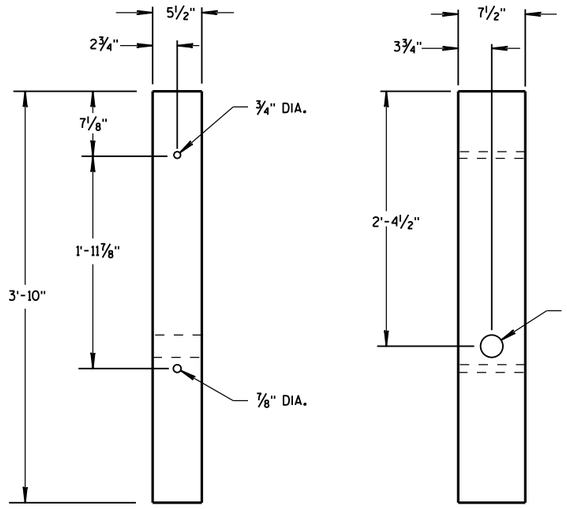


FRONT VIEW SIDE VIEW

FOUNDATION TUBE



PLAN VIEW



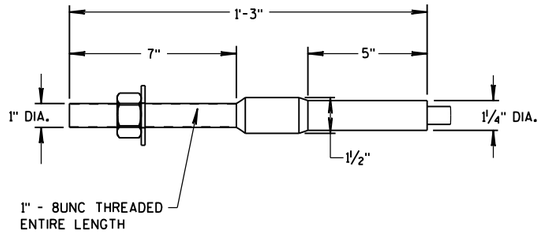
FRONT VIEW SIDE VIEW

BREAKAWAY WOOD POST

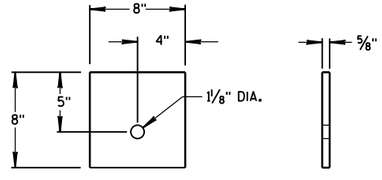
GENERAL NOTES

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



SIDE VIEW FRONT VIEW

ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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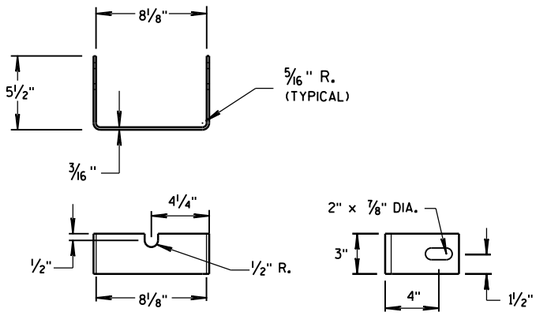
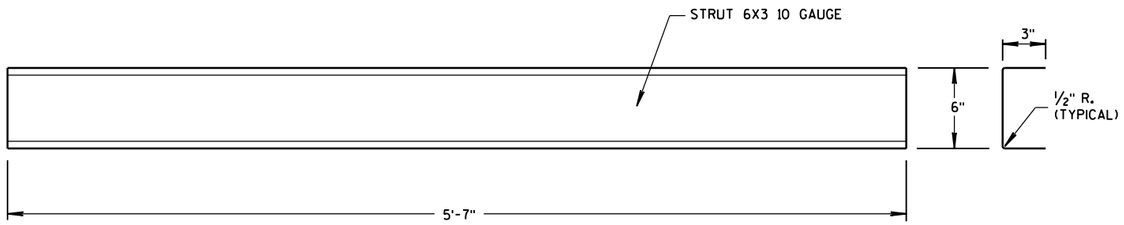
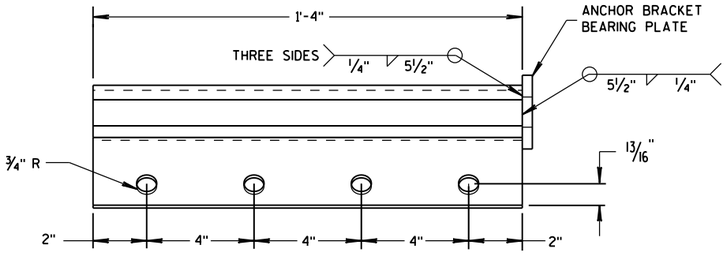
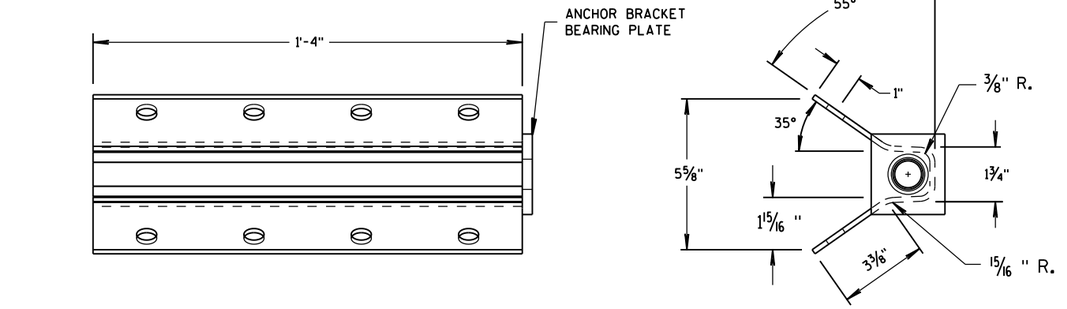


YOKE DETAIL

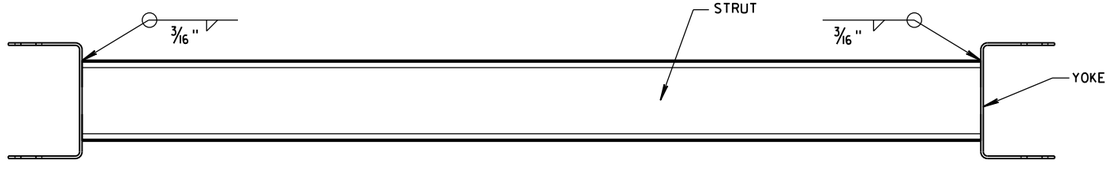


STRUT DETAIL

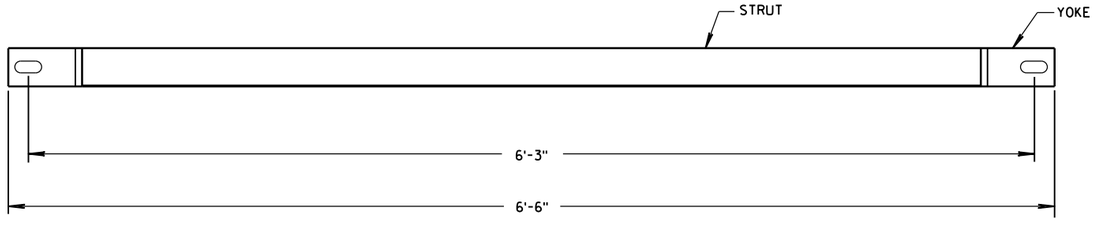




ANCHOR BRACKET

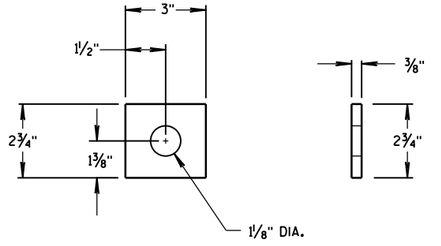


PLAN VIEW



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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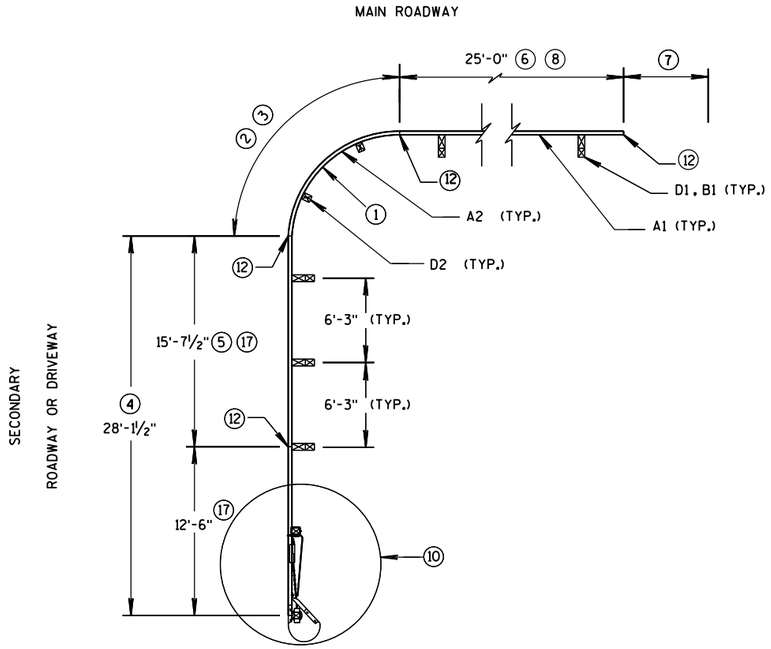
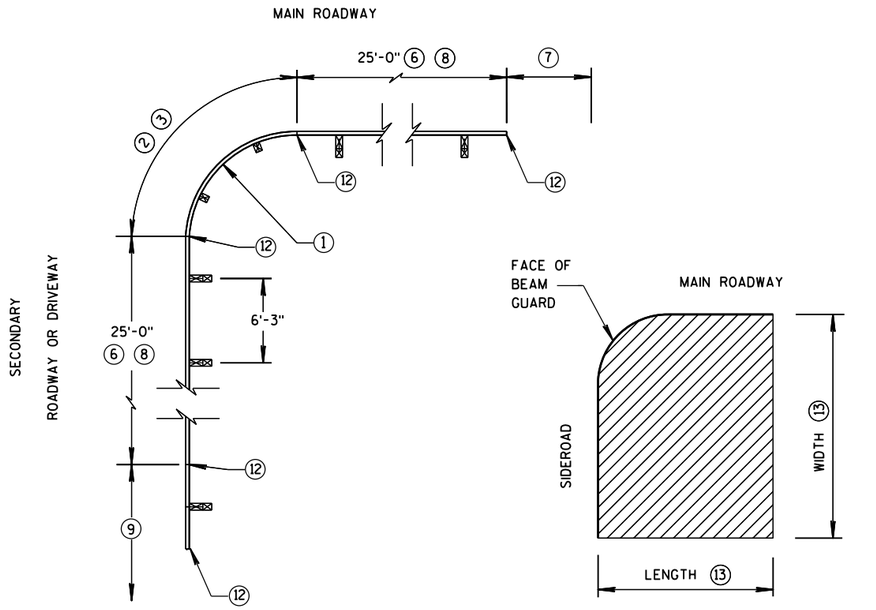


SHORT RADIUS BEAM GUARD WITH SHORT RADIUS TERMINAL ON SECONDARY ROAD OR DRIVEWAY PLAN VIEW



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

AREA FREE OF FIXED OBJECTS FOR RADIUS 32' AND LESS 16

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

GENERAL NOTES

SEE PLANS FOR OTHER BARRIER SYSTEM AND LOCATION SPECIFICS.

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

GALVANIZE PARTS AFTER FABRICATION.

WELDING IS 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 VERITCAL.

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

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 TERMINAL (CRT) POSTS.

(3) WITHIN RADIUS BEAM GUARD RAILS ARE NOT BOLTED TO POSTS. BEAM GUARD RAILS 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 FOR 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 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 (17).

(12) BEAM GUARD RAIL SPLICE LOCATION. SPLICE LOCATION REQUIRE PART F1 AND F2. SEE SDD 14B42 FOR DETAILS.

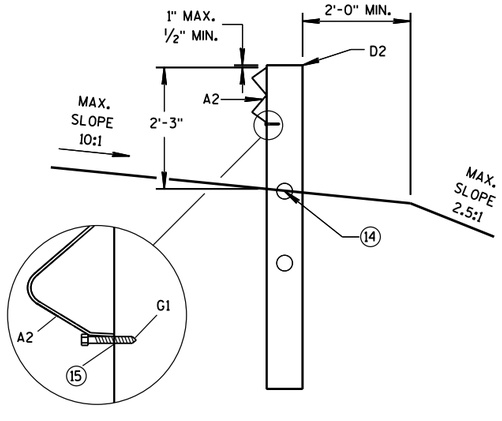
(13) SEE TABLE FOR VALUES.

(14) MAXIMUM HEIGHT FOR CENTER OF HOLE IS ¾" ABOVE FINISHED GROUND ±1".

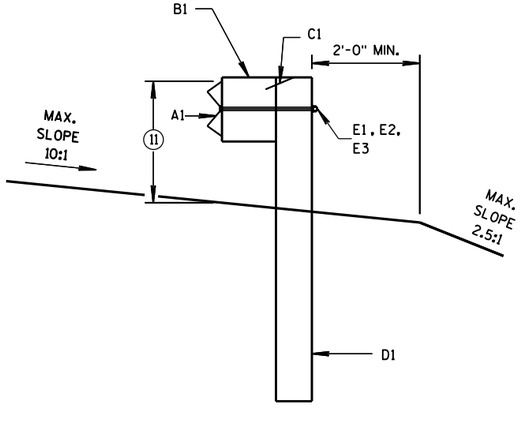
(15) DRILL 15/64" DIA. PILOT HOLE. DO NOT HAMMER LAG SCREW INTO POST.

(16) SMALL SIGNS ON BREAKAWAY HARDWARE ARE ACCEPTABLE.

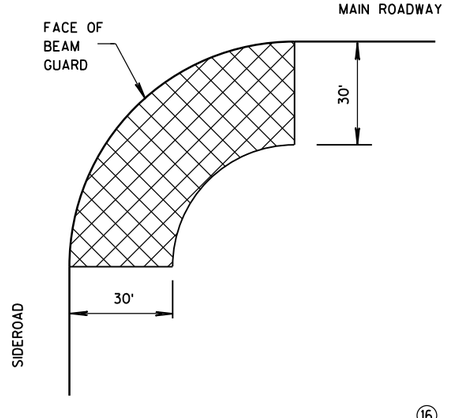
(17) TOP OF RAIL HEIGHT IS 27" WHEN USING A SHORT RADIUS TERMINAL.



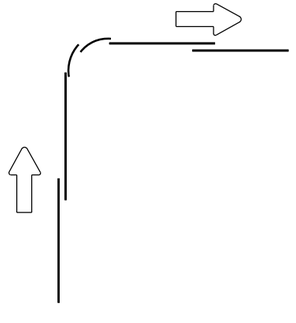
CONTROLLED RELEASE TERMINAL POST (CRT) IN RADIUS



BEAM GUARD POSTS IN HEIGHT TRANSITION



AREA FREE OF FIXED OBJECTS 16 RADIUS GREATER THAN 32'



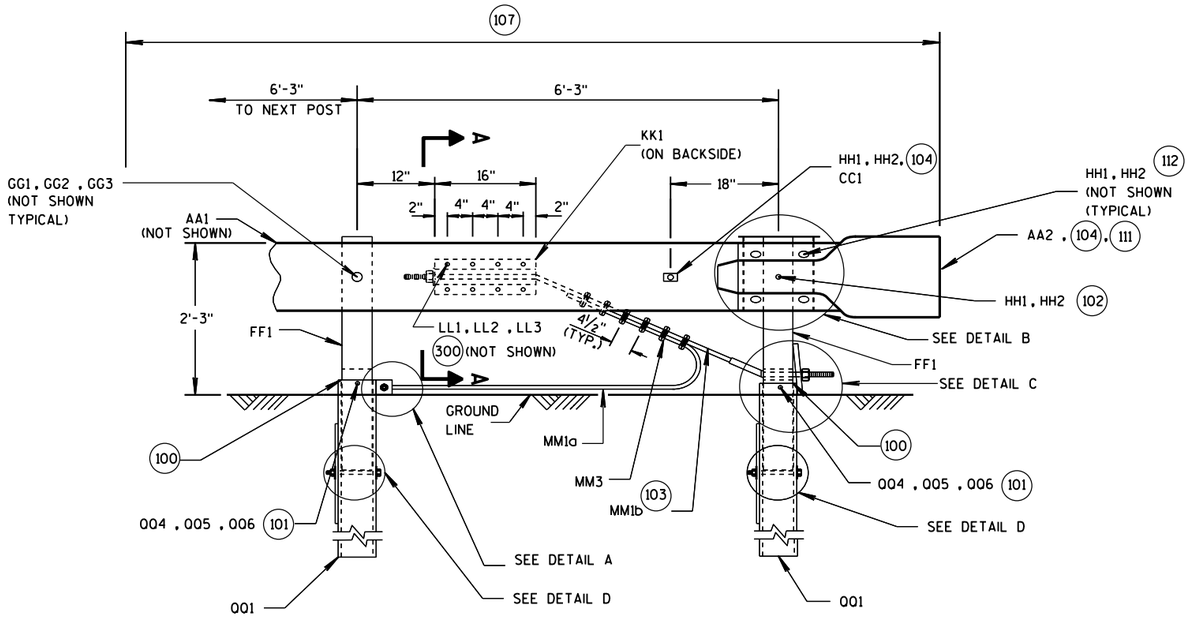
LAP SPLICE DETAIL

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

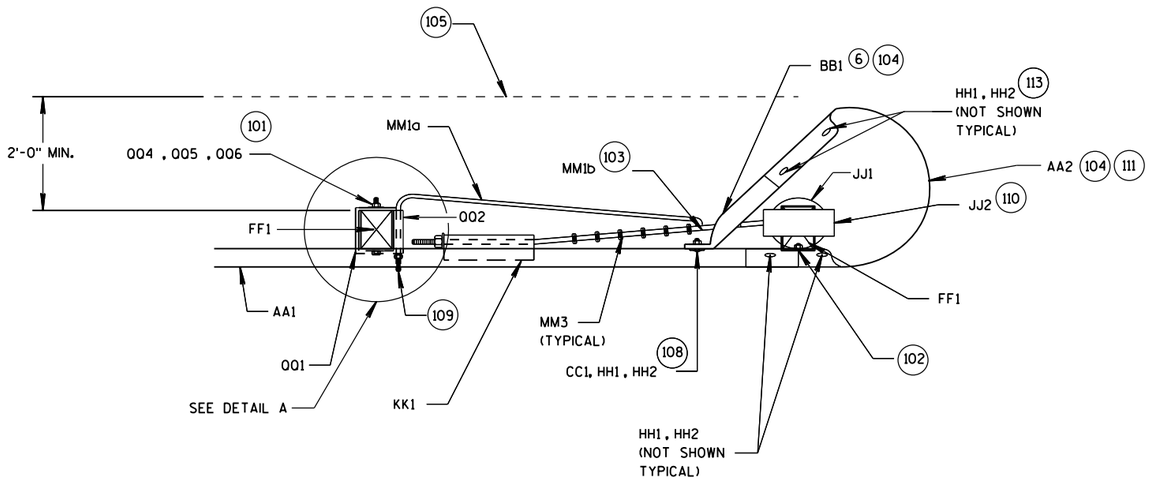
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 179

S.D.D. 14 B 53-1a

S.D.D. 14 B 53-1a



SHORT RADIUS TERMINAL
PROFILE VIEW



SHORT RADIUS TERMINAL
TOP VIEW

(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 END 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.

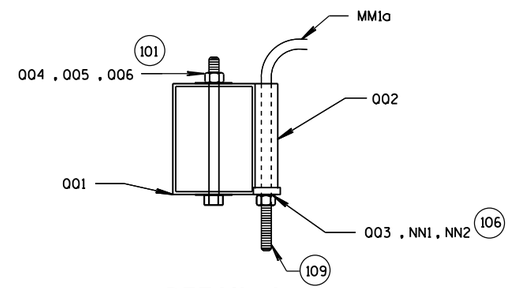
(109) CUT OR PROVIDE THREADED STUD THAT IS FLUSH WITH FACE OF BEAM GUARD RAIL KK1 (PLUS OR MINUS ½" TOLERANCE). DEBURR AFTER CUTTING.

(110) SEE STEEL PIPE ASSEMBLY DETAILS.

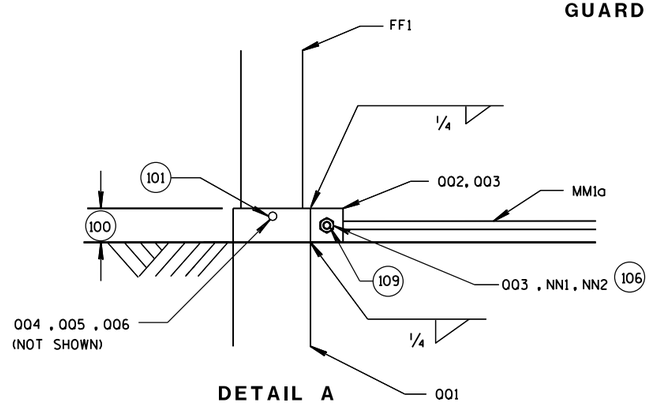
(111) ATTACH UU2 WITH UU3. SHOP APPLY UU1 TO UU2.

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

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



DETAIL A
TOP VIEW
(WOOD BREAKAWAY AND BEAM GUARD RAIL POSTS NOT SHOWN)



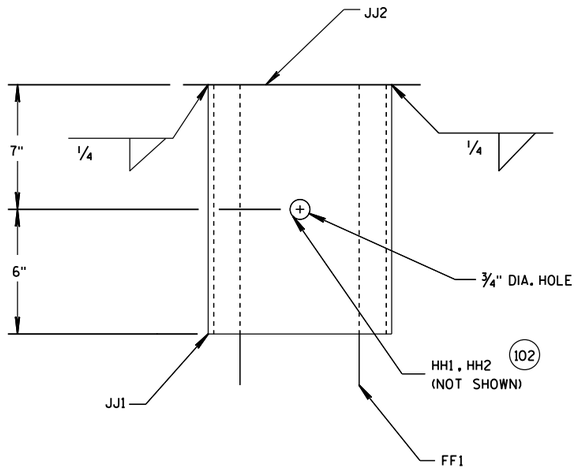
DETAIL A
PROFILE VIEW

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL
MGS

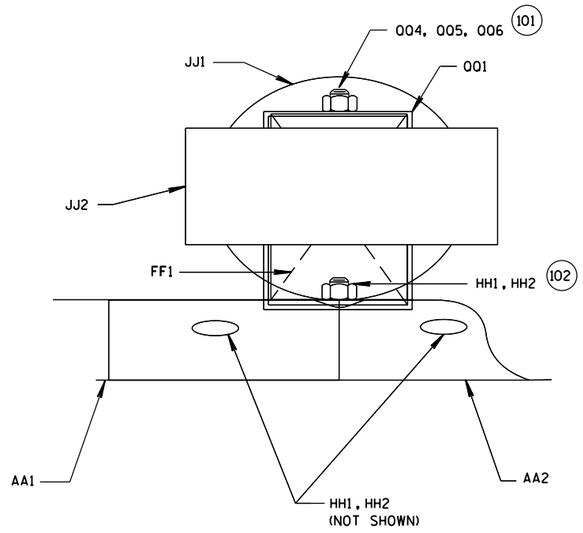
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 53-1b

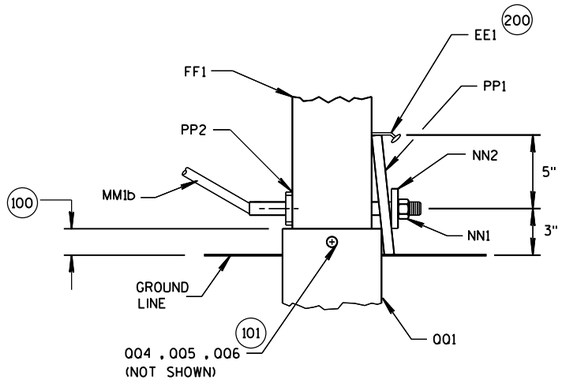


DETAIL B
PROFILE VIEW OF STEEL PIPE ASSEMBLY
(BEAM GUARD AND W-BEAM
END SECTION NOT SHOWN)

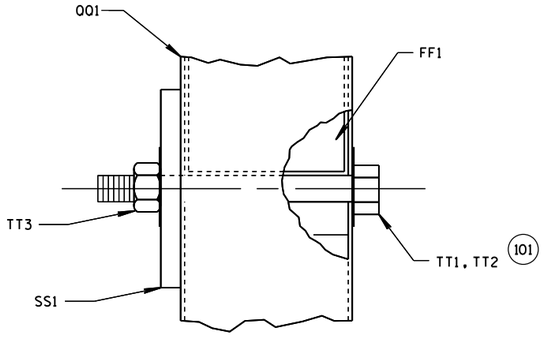


DETAIL B
PLAN VIEW OF STEEL PIPE ASSEMBLY

200 2 NAILS SPACED 4 INCHES CENTER TO CENTER.



DETAIL C
PROFILE VIEW



DETAIL D
PROFILE VIEW

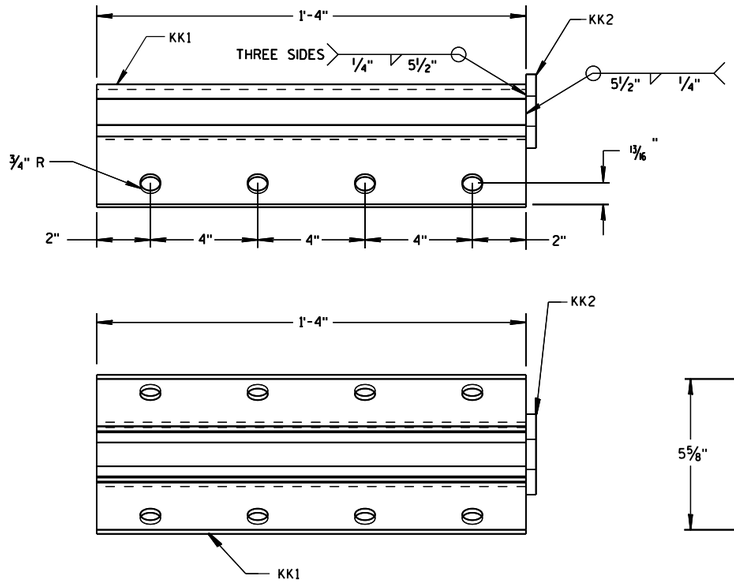
SHORT RADIUS BEAM GUARD
(MGS) SHORT RADIUS
TERMINAL (MGS)

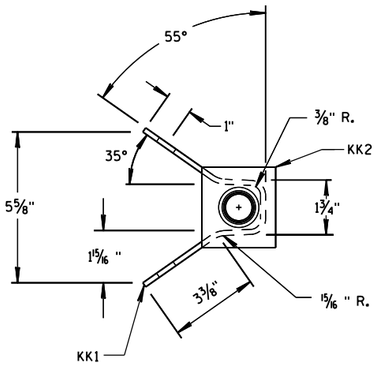
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

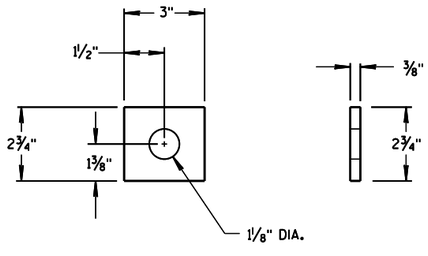
S.D.D. 14 B 53-1c

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

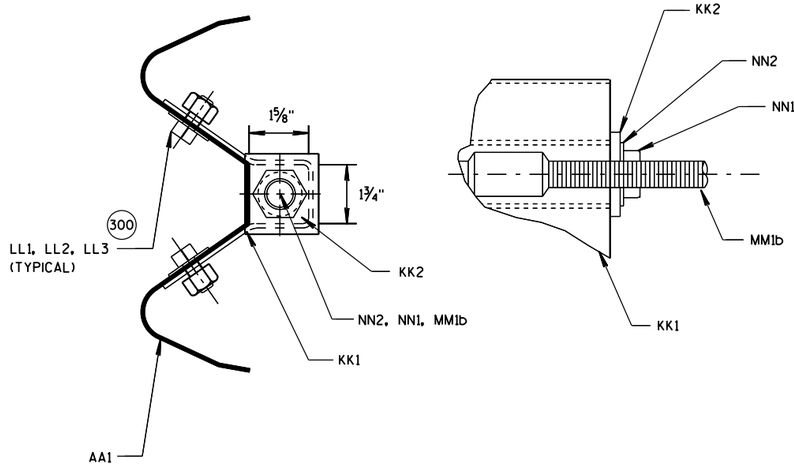




ANCHOR BRACKET (KK1, KK2)



ANCHOR BRACKET BEARING PLATE (KK2)

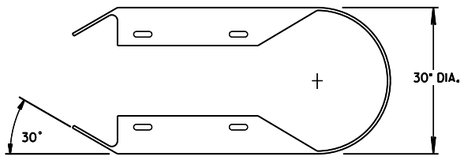


SECTION A-A

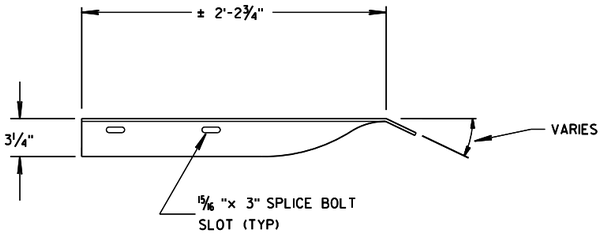
SHORT RADIUS BEAM GUARD
(MGS) SHORT RADIUS
TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 53-1d



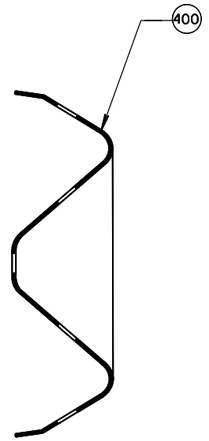
TOP VIEW



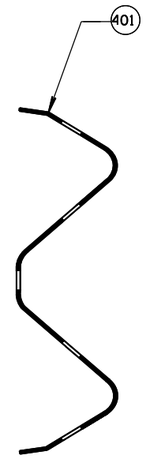
TOP VIEW

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

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

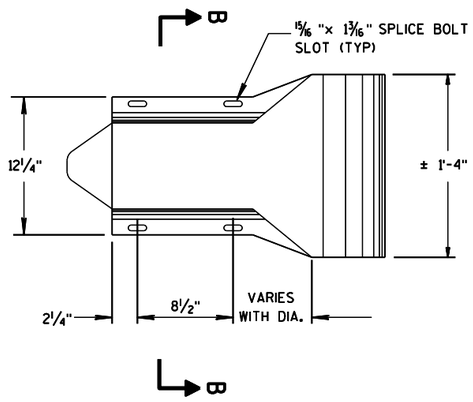


SECTION B-B



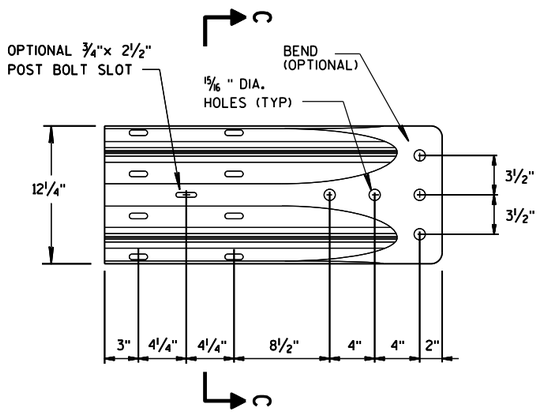
SECTION C-C

6



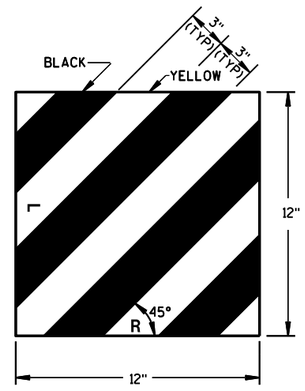
W-BEAM
END SECTION BUFFER (AA2)

PROFILE VIEW



W-BEAM
TERMINAL CONNECTOR (BB1)

PROFILE VIEW

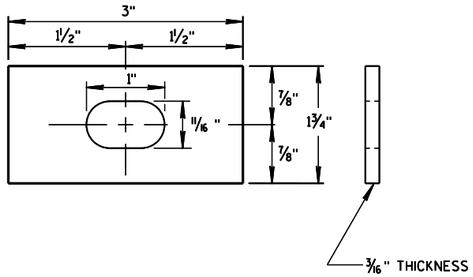


REFLECTIVE SHEETING
(UU1, UU2)

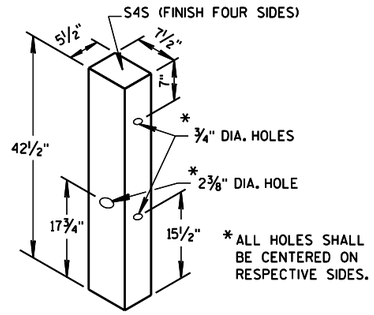
SHORT RADIUS BEAM GUARD
(MGS) SHORT RADIUS
TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

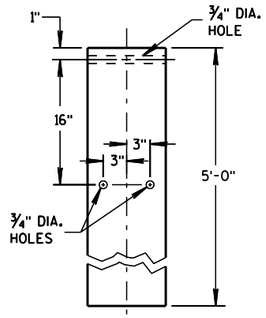
S.D.D. 14 B 53-1e



RECTANGULAR PLATE WASHER (CC1)



WOOD BREAKAWAY POST (FF1)



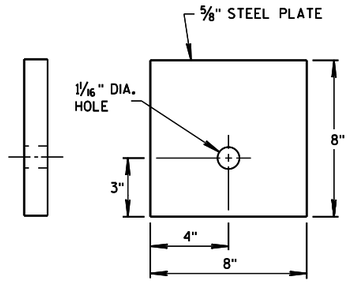
FOUNDATION TUBE (QQ1) (500)

(500) SEE DETAIL "D" FOR LOCATION AND ATTACHING SS1.

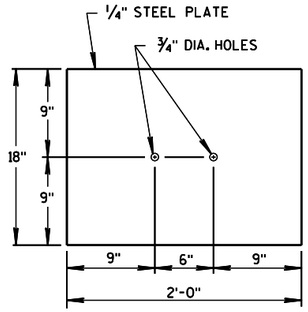
(501) FOR MM1a THREADED STUD ONLY REQUIRED ON ONE END. SWAGED FITTING REQUIRED.

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

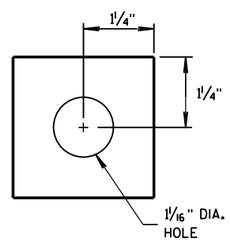
(503) MM1a MAY HAVE ONE THREADED STUD 4 INCHES LONG. SEE NOTE (109).



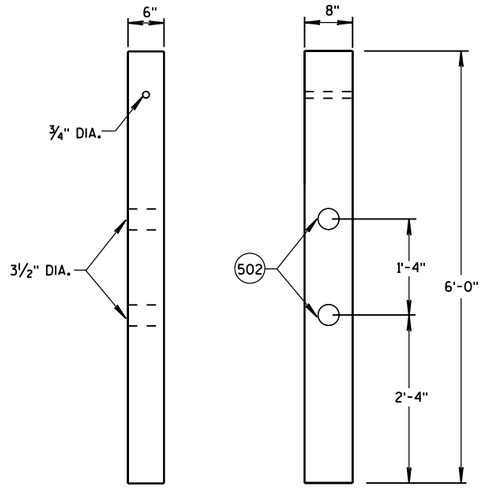
BEARING PLATE (PP1)



SOIL PLATE (SS1)

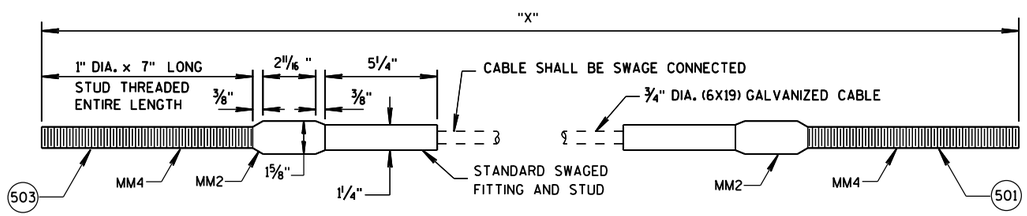


TUBE END PLATE (QQ3)



FRONT VIEW SIDE VIEW

CONTROLLED RELEASE TERMINAL POST (CRT) (D2)



"X" LENGTH	
MM1a	9'-0"
MM1b	6'-8"

CABLE ASSEMBLY (MM1a , MM1b)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 53-1f

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 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		5/8" DIA. SEE SDD 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	
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	
		ASTM A307 GRADE A OR SAE J429 GRADE 2	5/8" DIA. SEE SDD 14B42 FOR GEOMETRY AND OTHER INFORMATION
		UNC	
		AASHTO M180	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
F2	SPLICE BOLT - NUT	ASTM A563 GRADE A	5/8" DIA. SEE SDD 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	
		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	3/8" DIA. 3" 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 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 A123 OR5 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 TRANSPO 185

6

S.D.D. 14 B 53-1g

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
GG3	POST BOLT - NUT	ASTM A563 GRADE A	3/8" DIA.
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	SEE 14B42 FOR 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	
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	3/8" DIA. SEE 14B42 FOR GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180 HEAD GEOMETRY	
HH2	SPLICE BOLT - NUT	ASTM A563 GRADE A	3/8" 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	SEE 14B42 FOR GEOMETRY
		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 3/8" 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	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	
LL2	ANCHOR BRACKET - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8" DIA.
		GALV. AASHTO M111 / ASTM A123 OR5 GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
LL3	ANCHOR BRACKET - NUT	ASTM A563 GRADE A	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	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A563	
		UNC	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
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	3/4"
		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 A563	
		UNC	
NN2	ANCHOR CABLE - NUT - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	1" DIA.
		GALV. AASHTO M111 / ASTM A123 OR5 GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
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	

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

STATE OF WISCONSIN DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 53-1h

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
003	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 2½" X 2½" X ¼"
		GALV. AASHTO M111 / ASTM A123	
004	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	⅝" DIA.
		ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	
		UNC	
005	GROUND PLATE AND YOKE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	⅝" DIA.
		GALV. AASHTO M111 / ASTM A123 OR5 GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
006	GROUND STRUT AND YOKE - NUT	HEAVY HEX	⅝" 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	
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 / ASTM A123	
TT1	SOIL PLATE - 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	
TT2	SOIL PLATE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	⅝" DIA.
		GALV. AASHTO M111 / ASTM A123 OR5 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	⅝" 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	

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S.D.D. 14 B 53-1i

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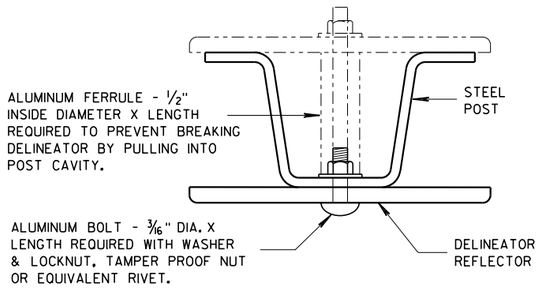
S.D.D. 14 B 53-1i

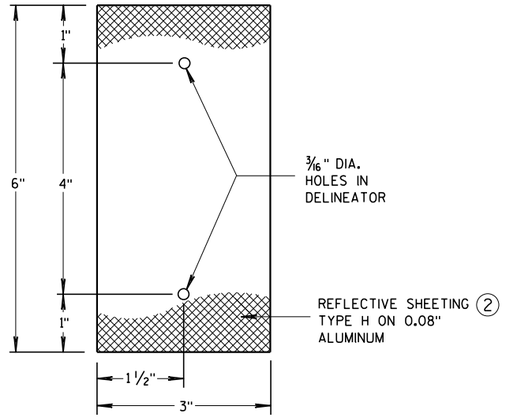
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

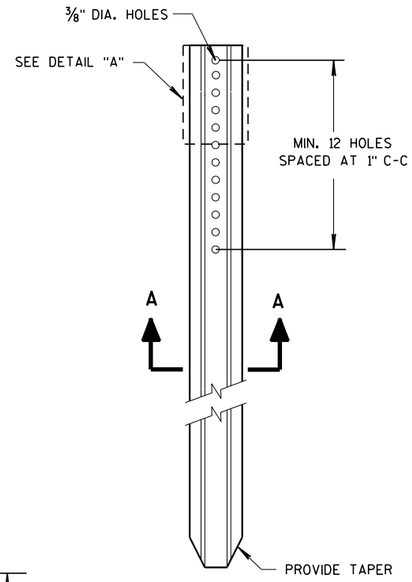
APPROVED
June 2017
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVI
NT
FHWA



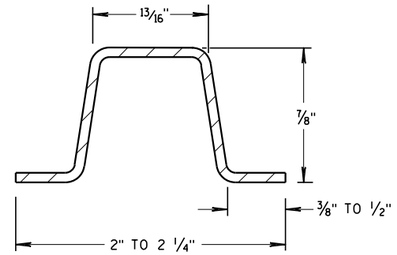
MOUNTING DETAIL
FOR DELINEATOR REFLECTOR



DETAIL "A"
3" X 6" DELINEATOR REFLECTOR



DELINEATOR POST



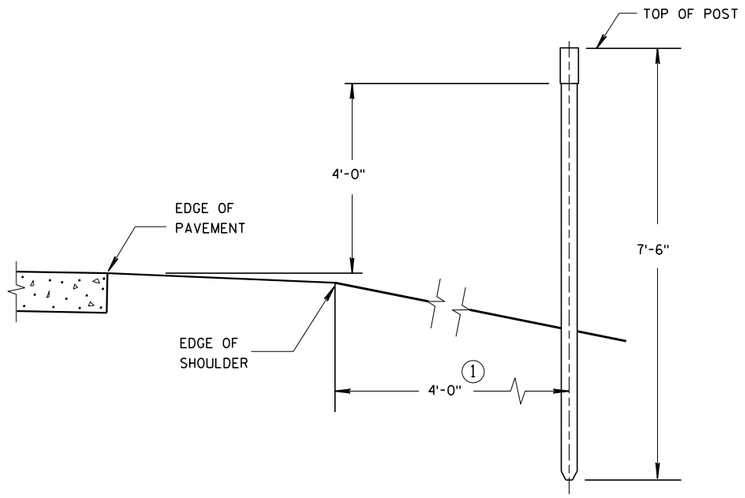
SECTION A-A

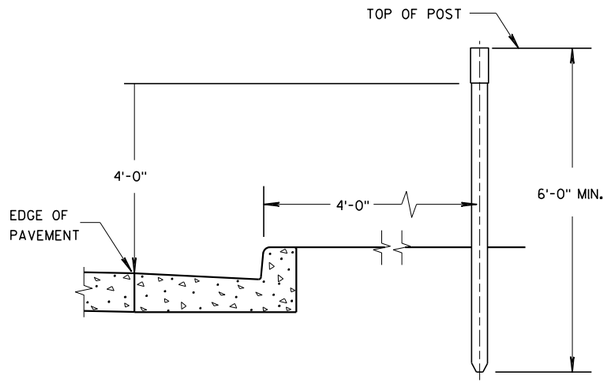
WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

REFLECTOR SPACING TABLE

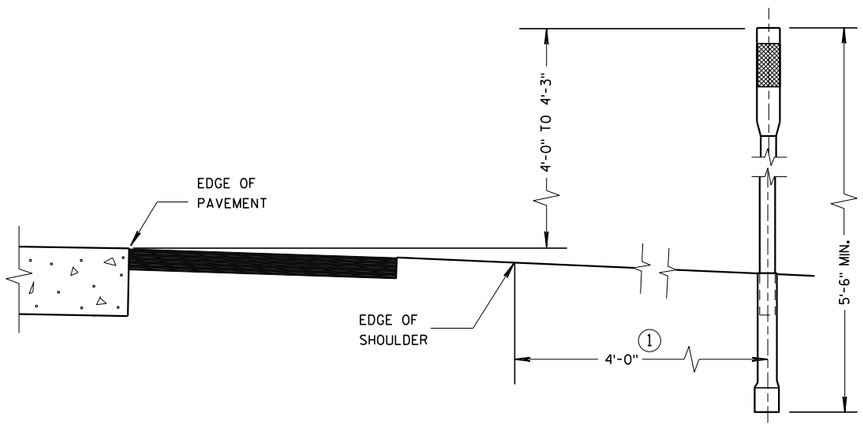
REFLECTOR SPACING	LOCATION
400'	MAINLINE
100'	RAMPS *

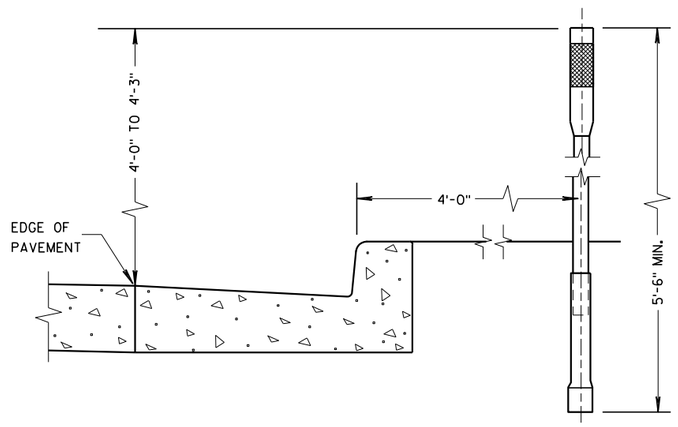
* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER.





TYPICAL INSTALLATIONS OF DELINEATOR POSTS





TYPICAL INSTALLATIONS OF FLEXIBLE DELINEATOR POSTS

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.

(1) DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.

(2) FURNISH TYPE H SHEETING FROM THE APPROVED PRODUCTS LIST.

DELINEATOR POST
WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Matthew P Rauch
DATE STATE SIGNING AND M[illegible] ENGINEER
FHWA

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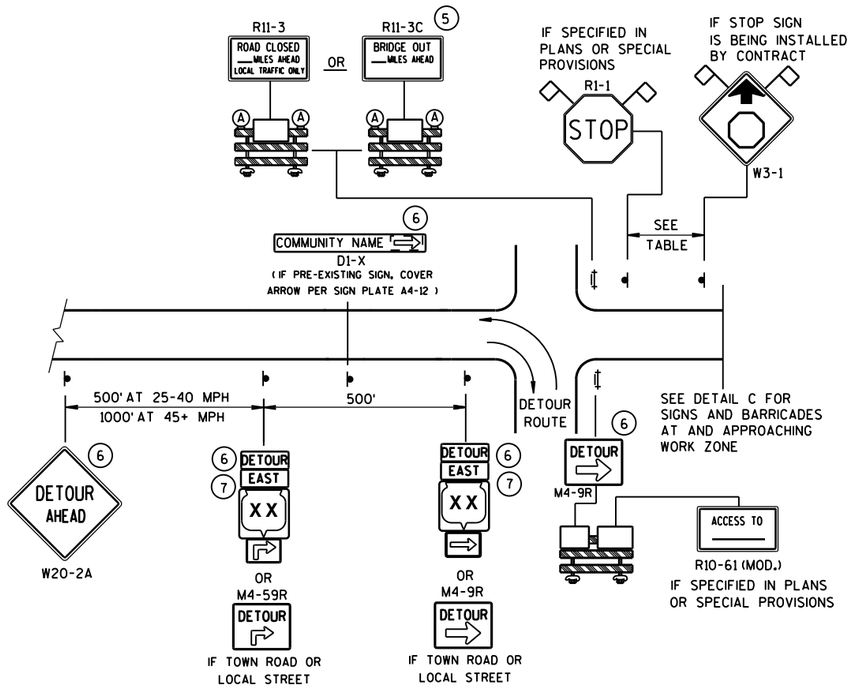
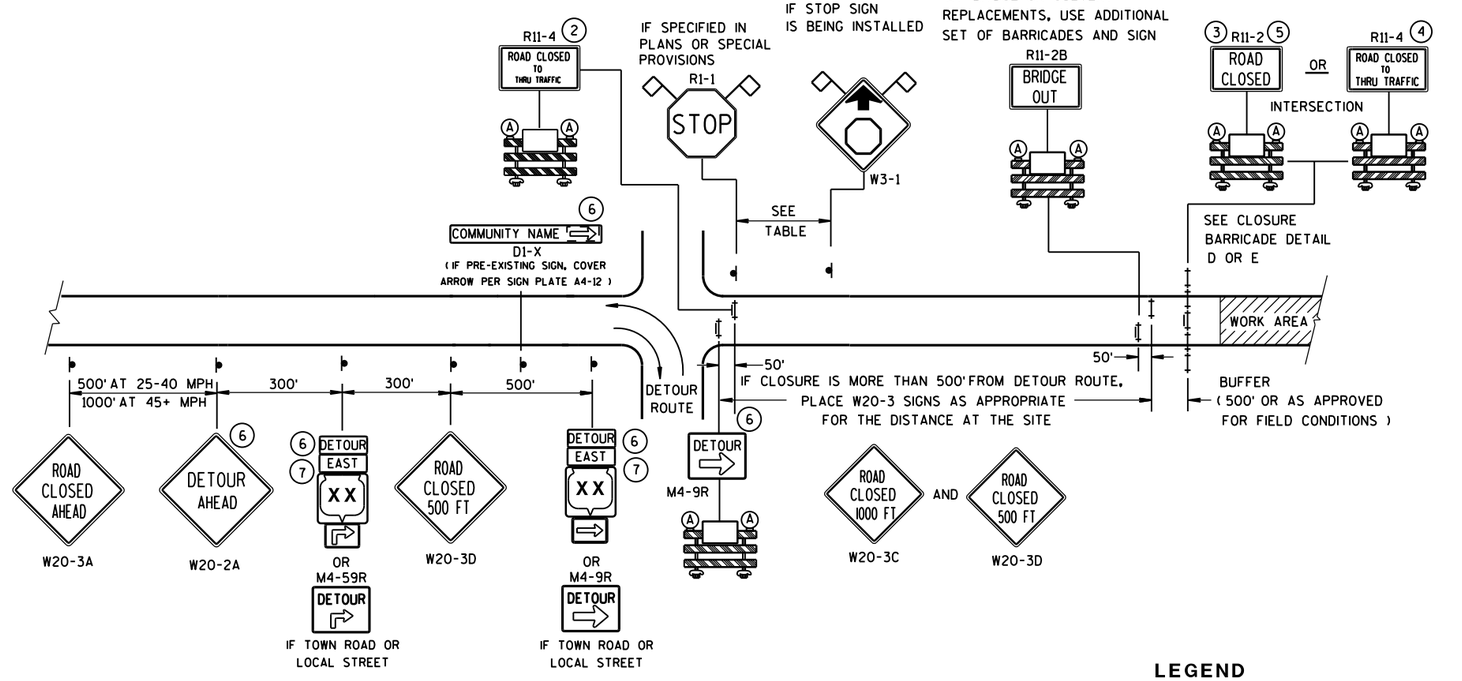
S.D.D. 15 A 4-4c



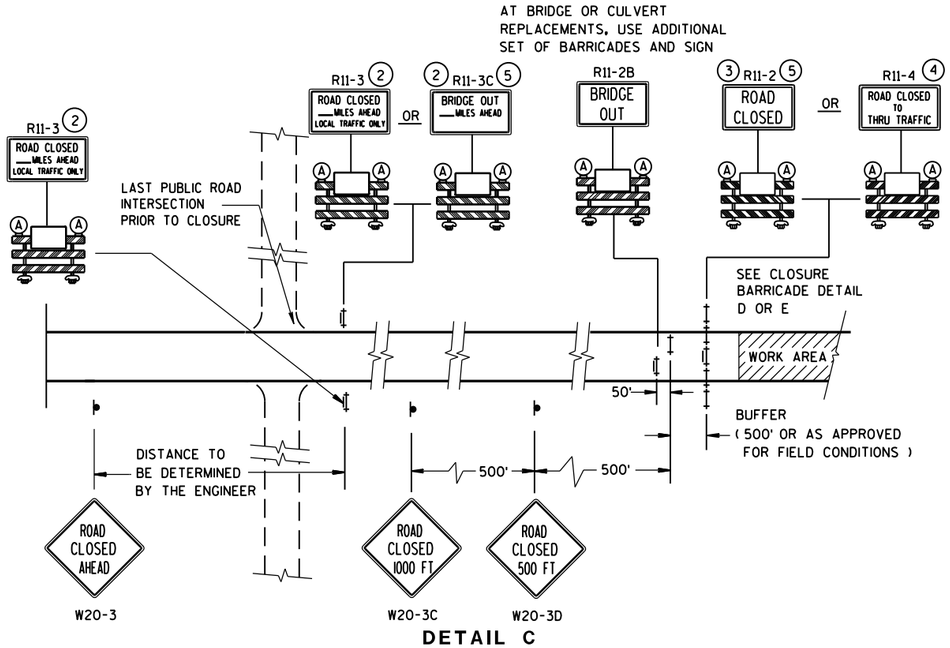
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN 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
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6

S.D.D. 15 C 2-6a

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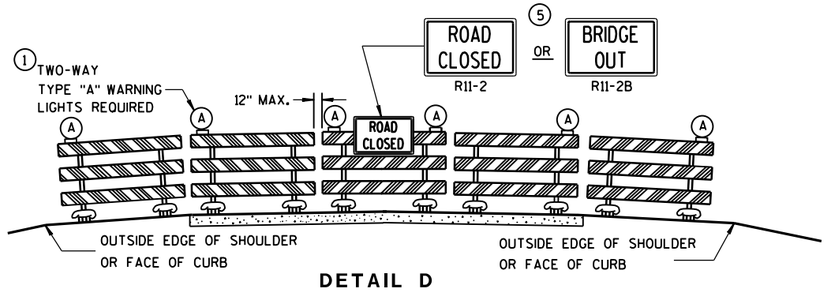
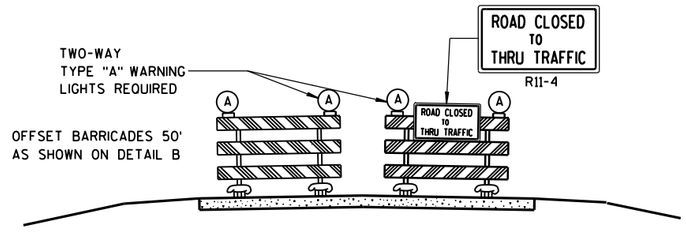
S.D.D. 15 C 2-6a



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 BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE 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, 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". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO SAFETY ENGI FIC
FHWA

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S.D.D. 15 C 2-6b

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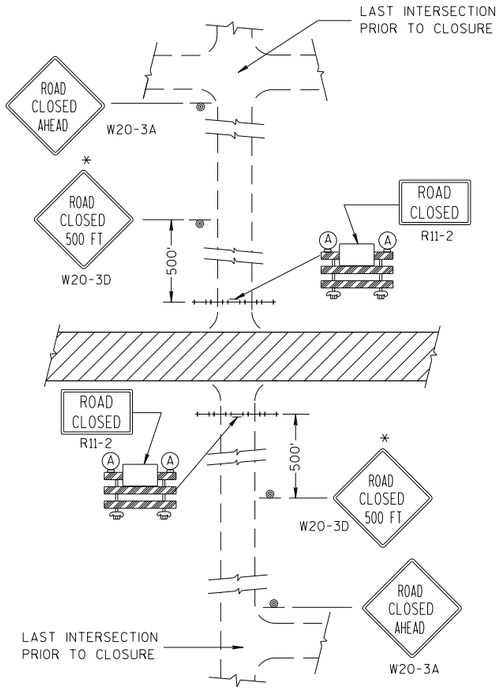
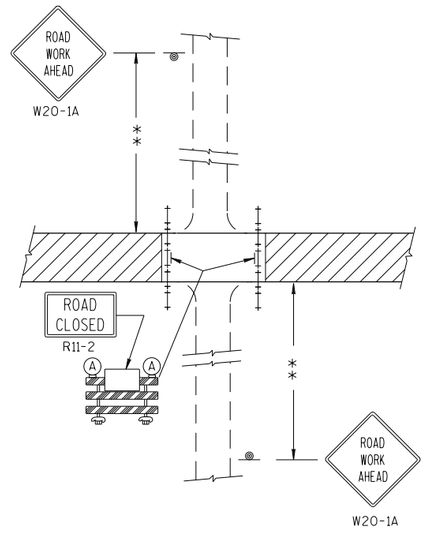
S.D.D. 15 C 2-6b



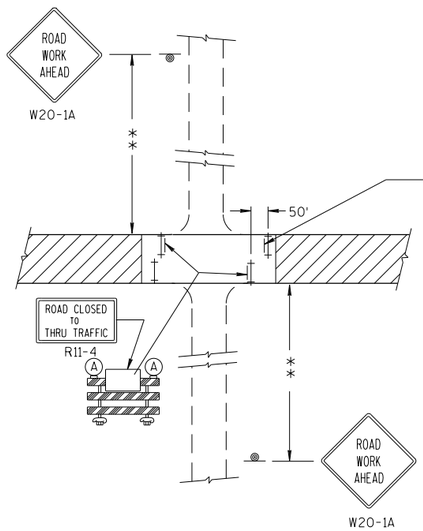
DETAIL 1

(NO ACCESS TO PROJECT)



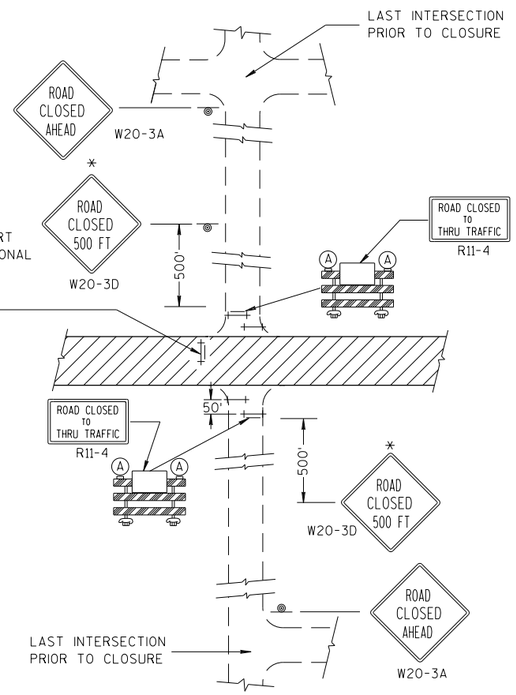
DETAIL 2

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



DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR,
LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT 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 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 RE-ESTABLISHED.

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 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 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGI

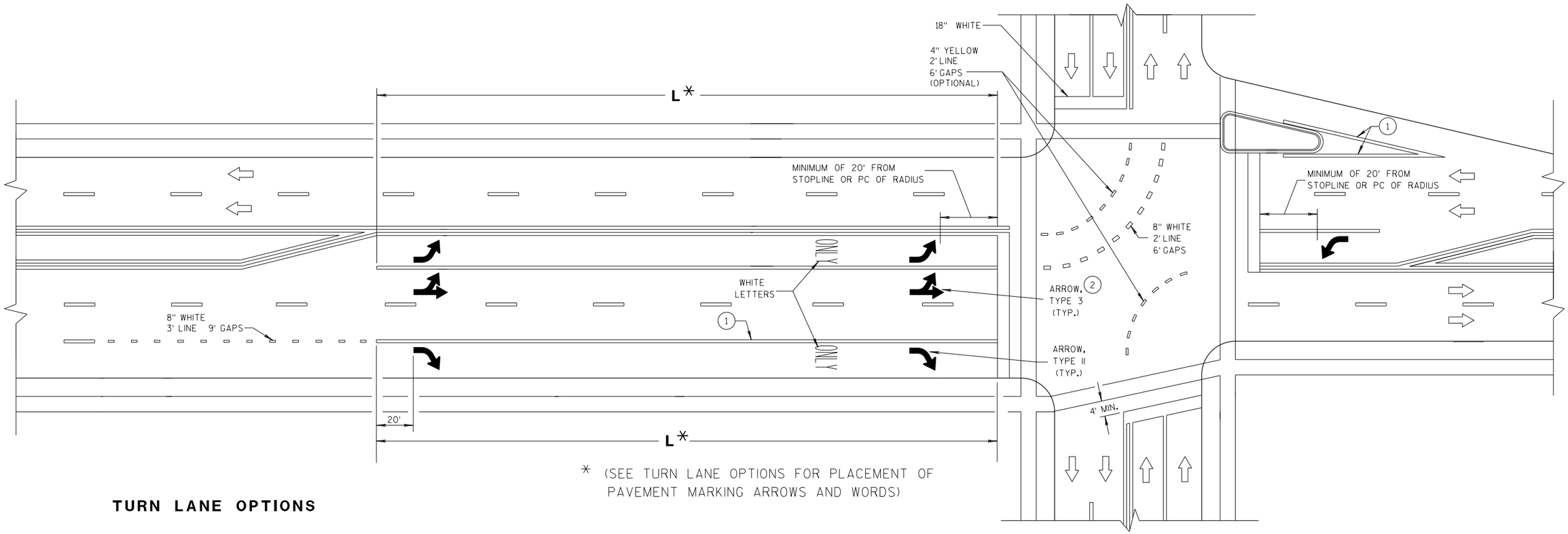
FHWA

6

S.D.D. 15 C 3-5

6

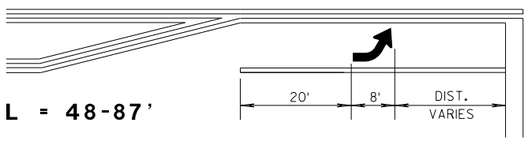
S.D.D. 15 C 3-5



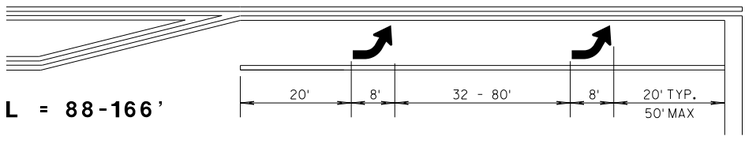
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

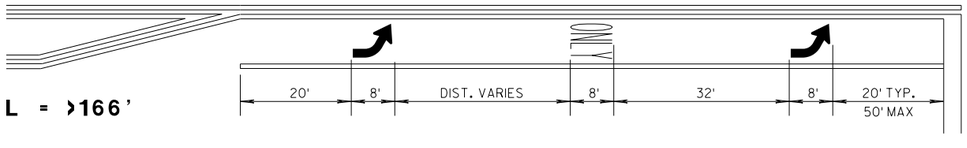
LENGTH OF TURN BAY (**L**) OF 0-47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48-87'



L = 88-166'



L = >166'

GENERAL NOTES

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

⇨ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORT

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S.D.D. 15 C 8-19c

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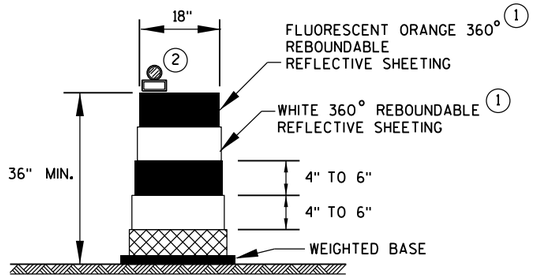
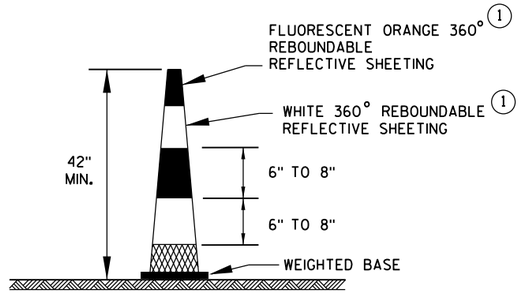
S.D.D. 15 C 8-19c



DRUM

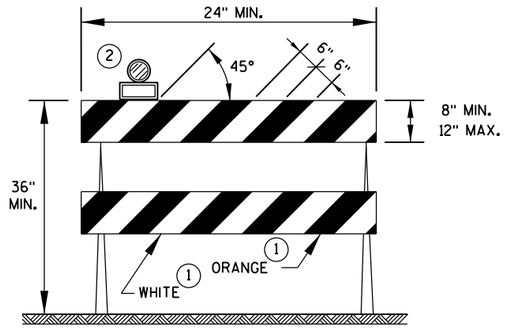


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

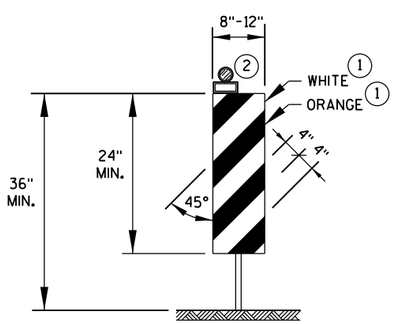
GENERAL NOTES

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



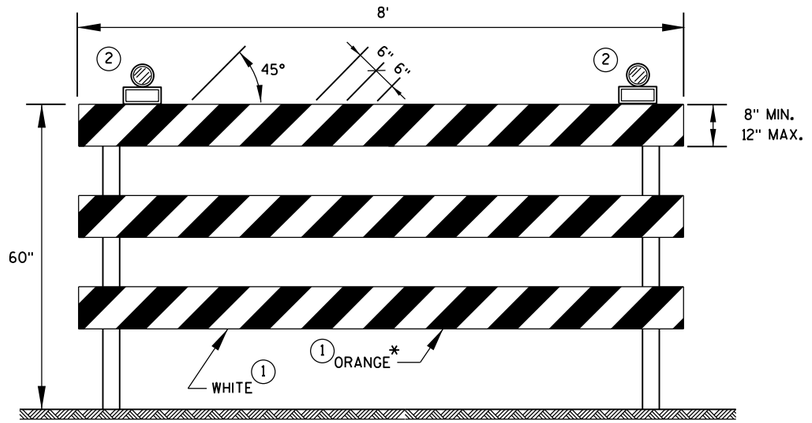
TYPE 2 BARRICADE

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



VERTICAL PANEL

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



TYPE 3 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	
June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENG
FHWA	

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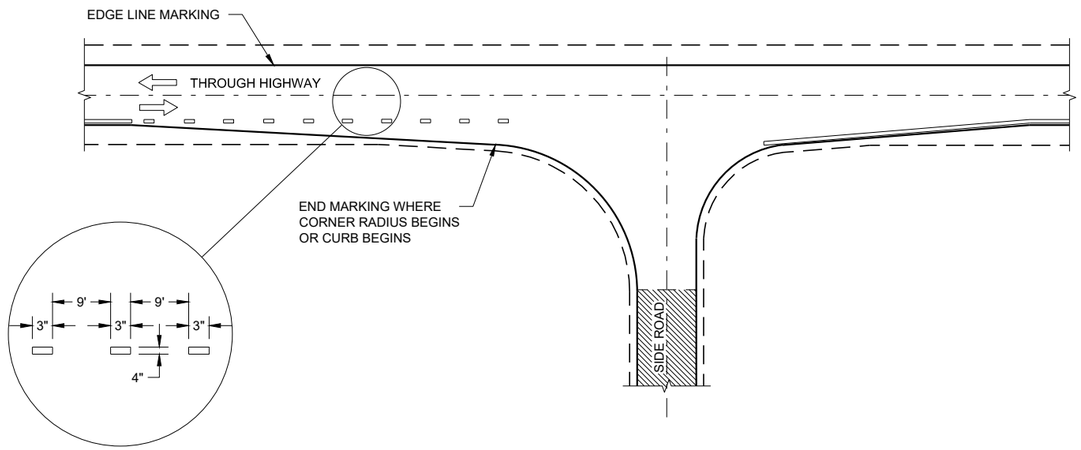
S.D.D. 15 C 11-7b



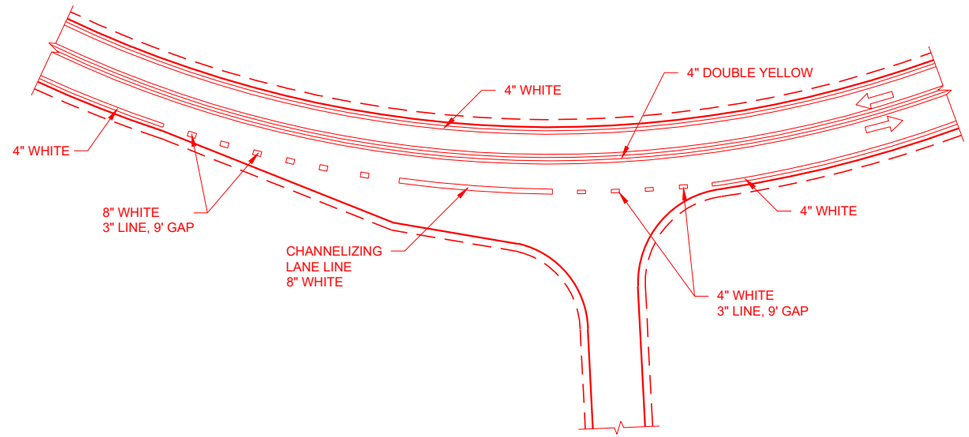
MINOR INTERSECTION

GENERAL NOTES

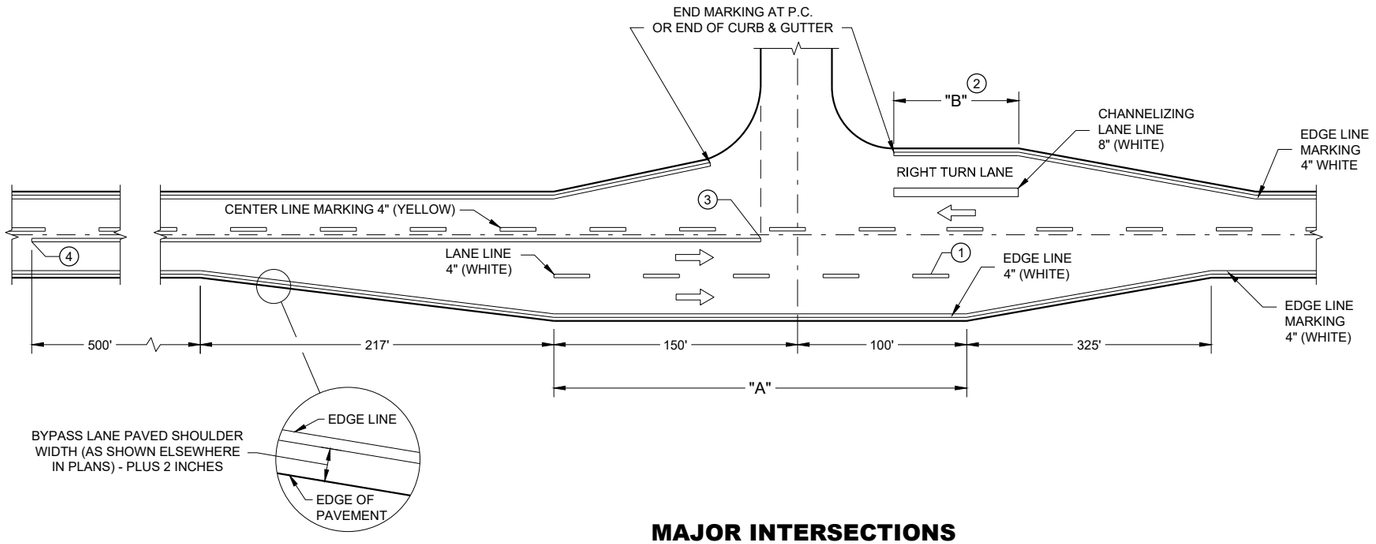
OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

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

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

PAVEMENT MARKING (INTERSECTIONS)

LEGEND

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

L, TAPER LENGTH (MPH)							
SPEED (MPH)	W, LATERAL OFFSET (FT)						
	10	11	12	13	14	15	16
45	450	495	540	585	630	675	720
50	500	550	600	650	700	750	800
55	550	605	660	715	770	825	880
60	600	660	720	780	840	900	960
65	650	715	780	845	910	975	1040
70	700	770	840	910	980	1050	1120

XX MILES AHEAD W057-52 48"x36"

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

OR

LOCATED 2600 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

OR

R2-1 48"x60" (BLACK AND WHITE) LOCATED 500 FEET BEYOND W20-5G SIGN.

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

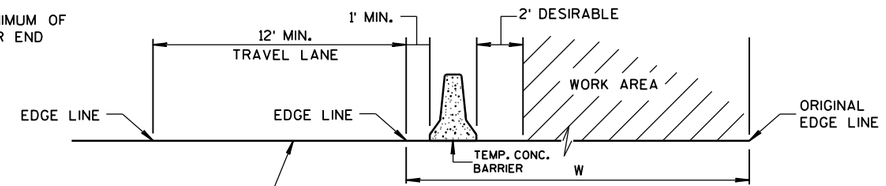
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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

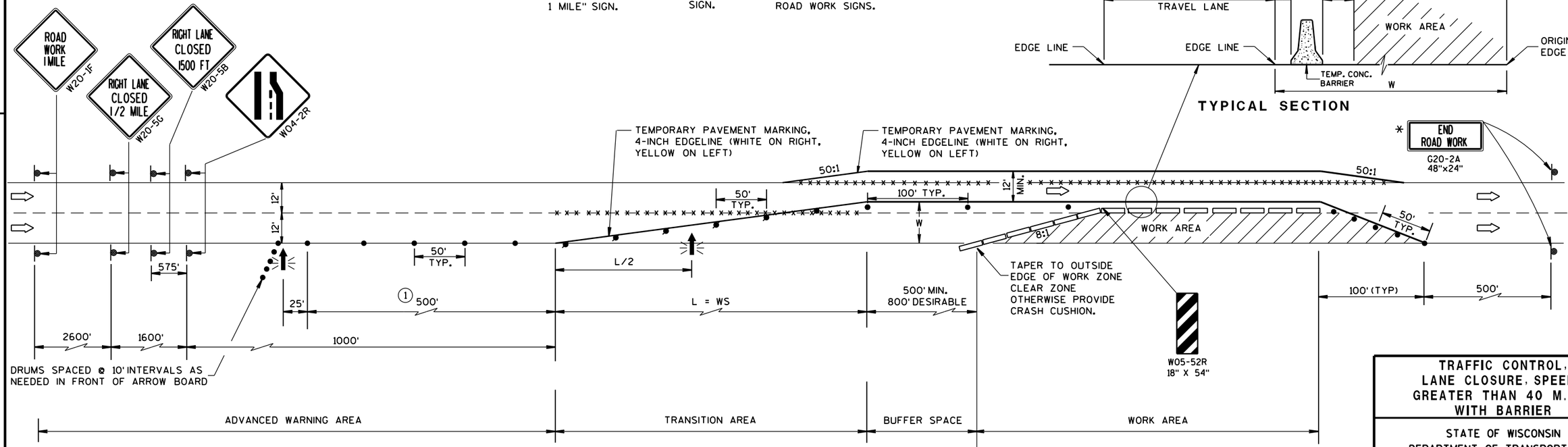
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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



TYPICAL SECTION



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZOI SAFETY ENGIN
FHWA

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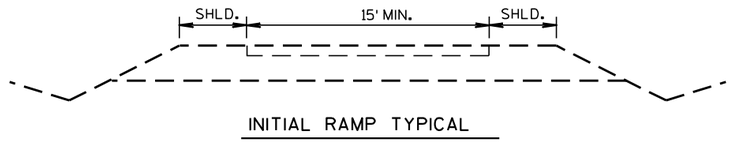
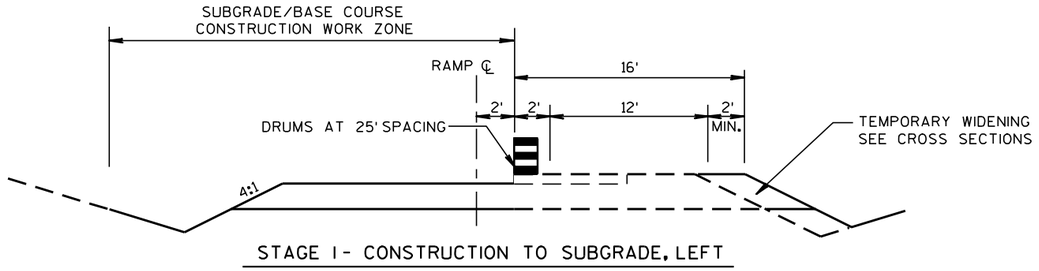
S.D.D. 15 D 3-4

6

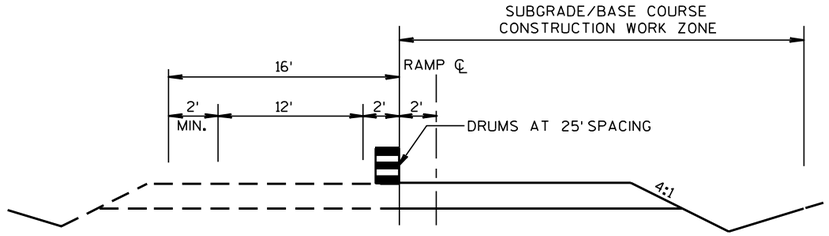
S.D.D. 15 D 3-4



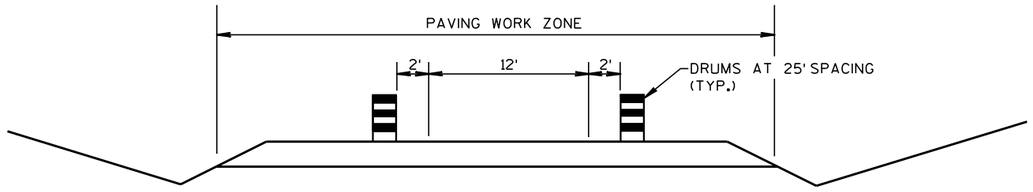
INITIAL RAMP TYPICAL



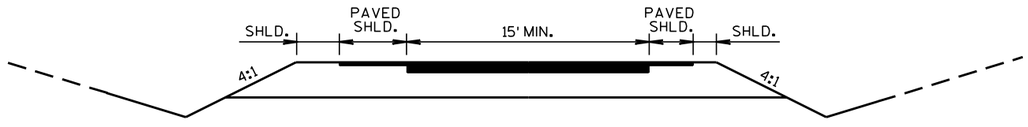
STAGE I - CONSTRUCTION TO SUBGRADE, LEFT



STAGE II - CONSTRUCTION TO SUBGRADE, RIGHT



STAGE III - TRAFFIC ON BASE COURSE



STAGE IV - PAVING

GENERAL NOTES :

WORK SHALL BE SCHEDULED FOR ALL STAGES TO MINIMIZE INCONVENIENCE TO THE TRAFFIC USING THE RAMP WHILE IT IS ONLY BASE COURSE.

IN STAGE III, A MINIMUM 12' LANE WIDTH SHALL BE DELINEATED WITH DRUMS ALONG BOTH EDGES AT ALL TIMES UNTIL PAVED AND PAVEMENT MARKINGS ARE PLACED.

TRAFFIC CONTROL, RAMP CONSTRUCTION STAGING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-94
DATE

/S/ Chester J. [illegible]
DIRECTOR, OFFICE [illegible]

FHWA

6

S.D.D. 15 D 4-1

LEGEND

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

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

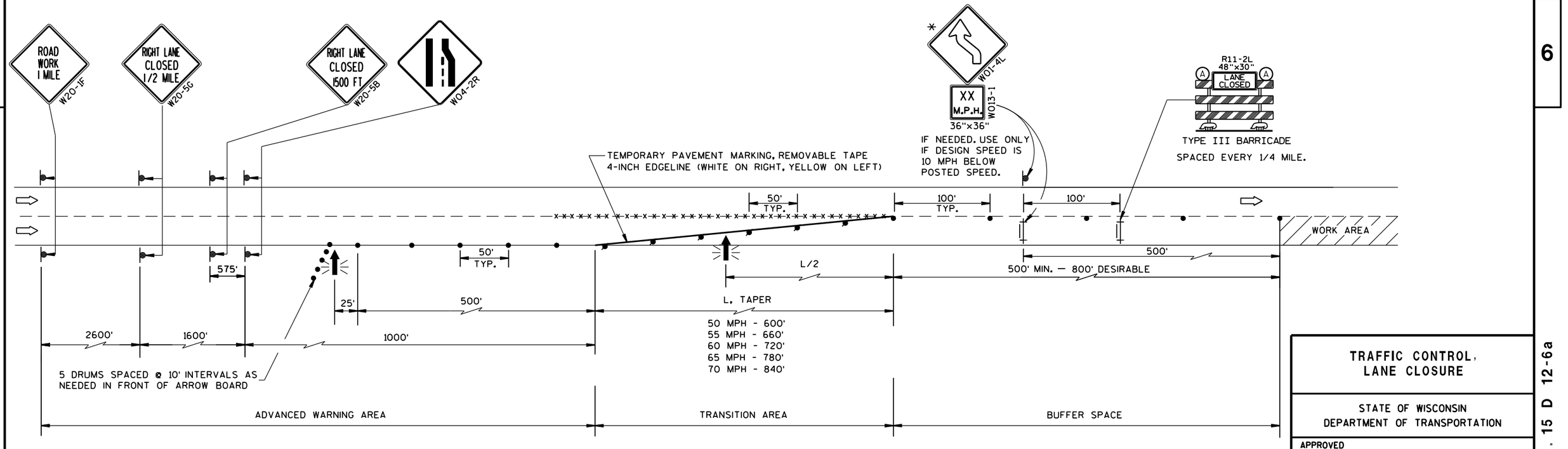
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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

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

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

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

6

S.D.D. 15 D 12-6a

6

S.D.D. 15 D 12-6a

LEGEND

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

GENERAL NOTES

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

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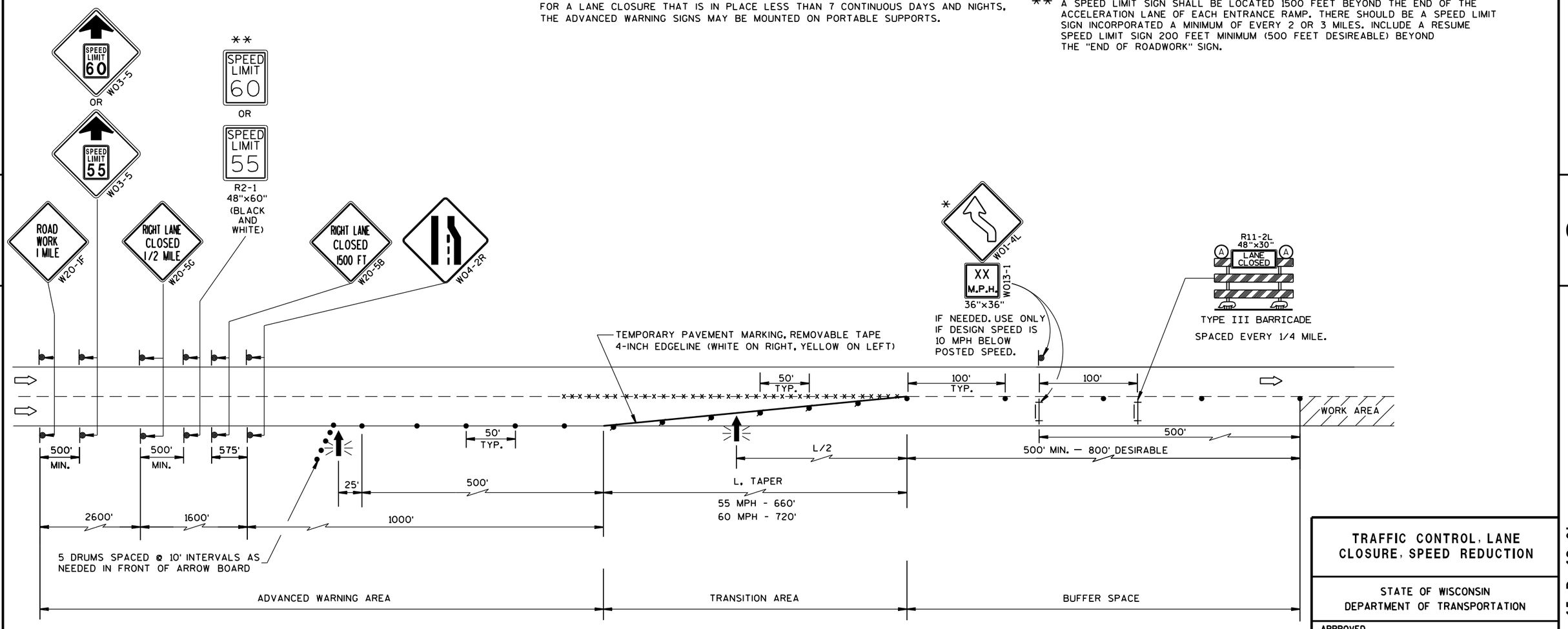
* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

** A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

6

S.D.D. 15 D 12-6b

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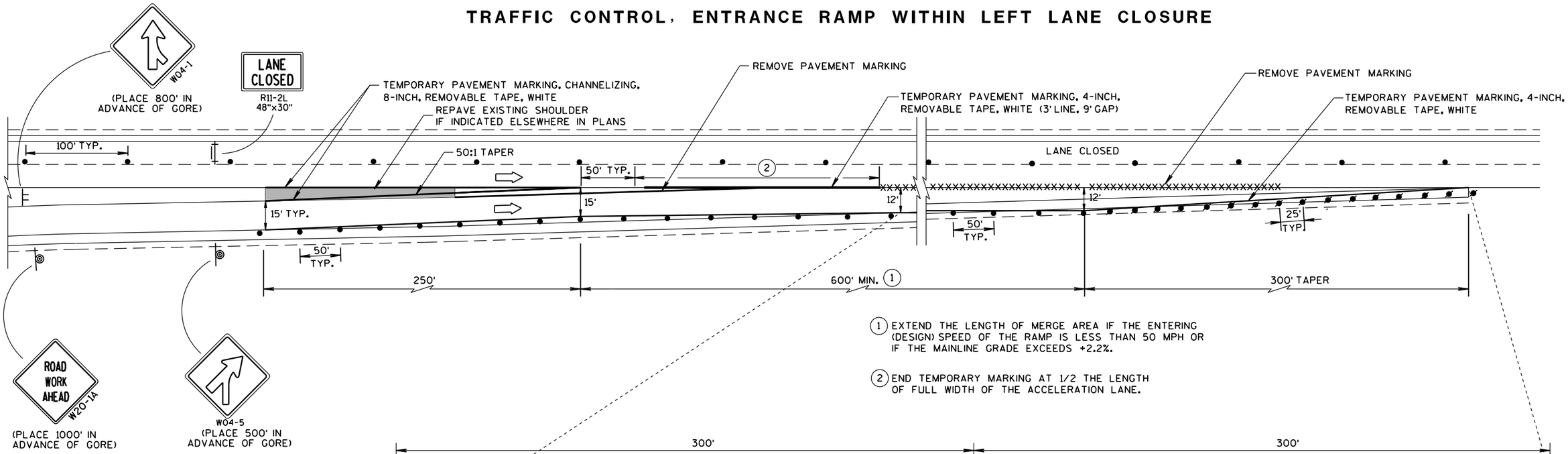
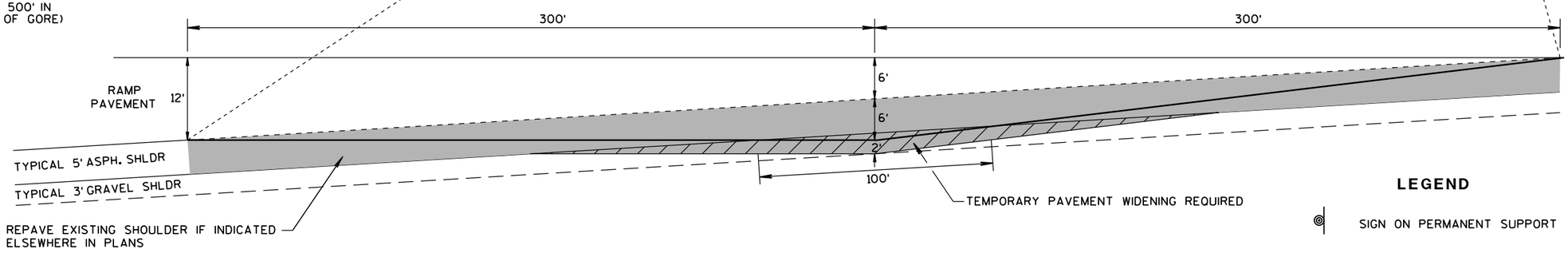
S.D.D. 15 D 12-6b

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LEFT LANE CLOSURE



(1) EXTEND THE LENGTH OF MERGE AREA IF THE ENTERING (DESIGN) SPEED OF THE RAMP IS LESS THAN 50 MPH OR IF THE MAINLINE GRADE EXCEEDS +2.2%.

(2) END TEMPORARY MARKING AT 1/2 THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.



TEMPORARY PAVEMENT DETAIL

(EXISTING RAMP DIMENSIONS MAY VARY. ADJUST TEMPORARY PAVEMENT ACCORDINGLY)

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH 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.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

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

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

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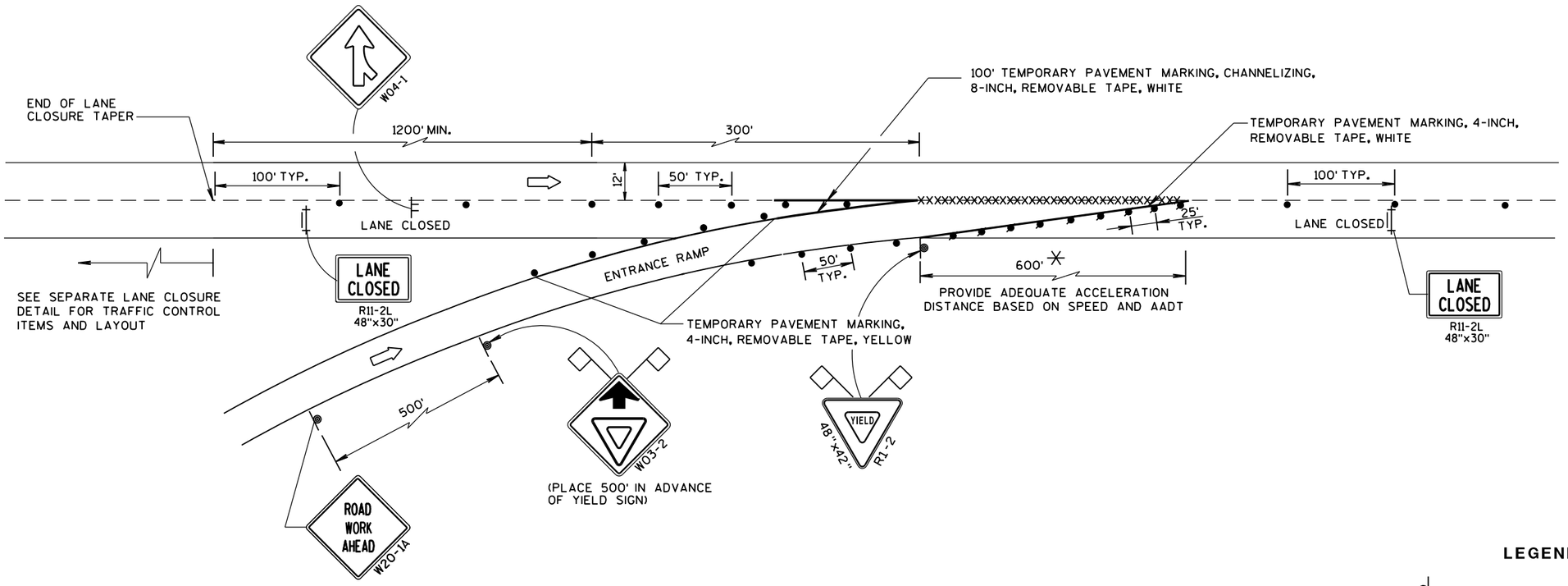

TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH 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.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

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

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

* CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

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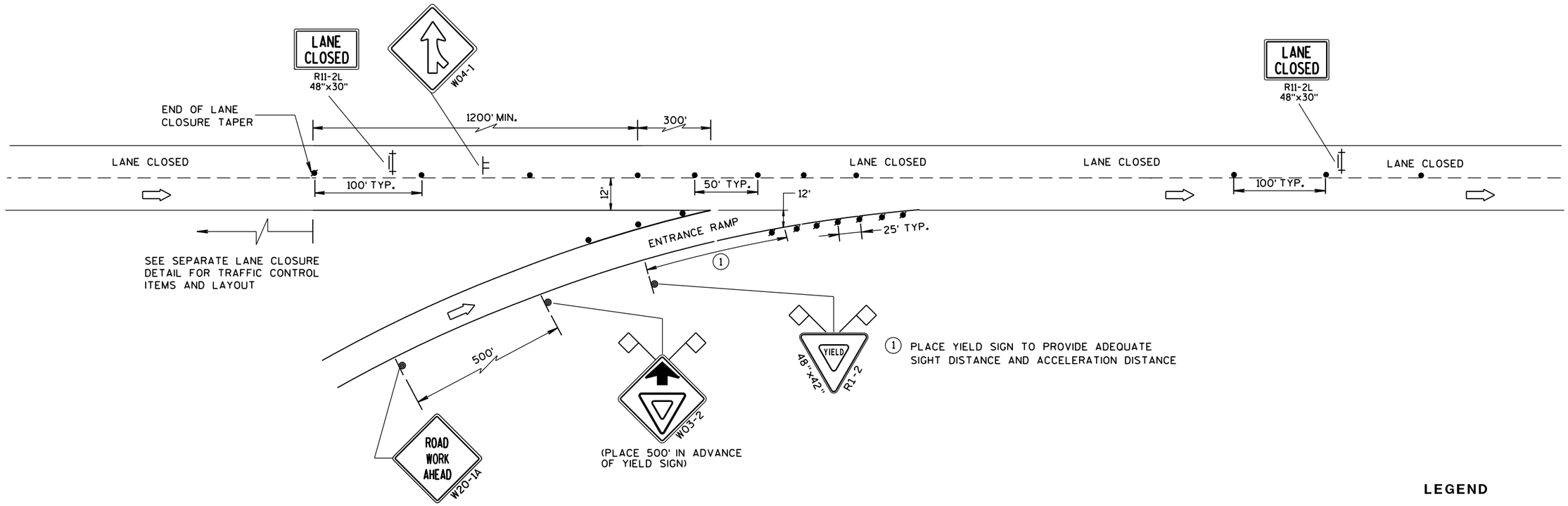

TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH 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.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENG
FHWA

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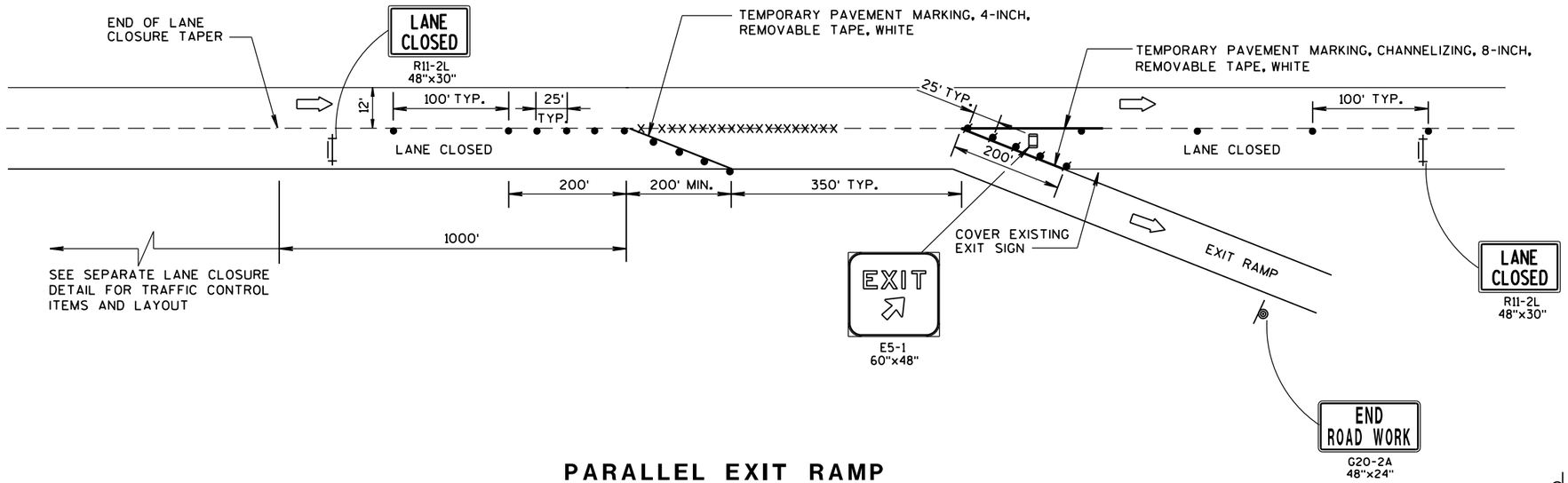

PARALLEL EXIT RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH 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.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- XXXXXX REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENG
FHWA

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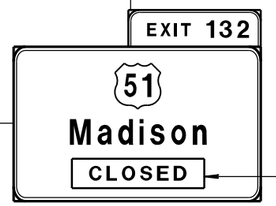
S.D.D. 15 D 15-4e

G20-60
108"x24"

OR



G20-60
108"x24"

PLACE SIGN G20-60 OVER MILEAGE
ON EXISTING E1-1A SIGN

COVER ARROW ON
EXISTING E4-1A
SIGN (COVERING
SIGNS TYPE I)

G20-61
120"x30"

TEMPORARY PAVEMENT MARKING
4" REMOVABLE TAPE, WHITE
(ACROSS THE RAMP OPENING)

END
ROAD WORK
*G20-2A
48"x24"

25' TYP.

100' MIN.

200'

EDGE OF SHOULDER

COVER EXISTING
EXIT SIGN

ROAD
WORK
AHEAD
*W20-1A

RAMP
CLOSED
AHEAD
W20-53A

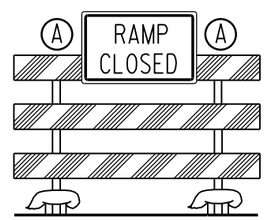
RAMP
CLOSED
1000 FT
W20-53C

1500'

1500'

1000'

R11-2R
48" X 30"
MOUNTED ON
TYPE III BARRICADE



RAMP WILL
BE CLOSED
(TIME)
BEGINNING
(DATE)

**R11-51
48"X48"
(OR SPECIAL SIGN IF INDICATED IN PLAN)

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A 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 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

* W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP WILL BE CLOSED" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO SAFETY ENGI FIC
FHWA

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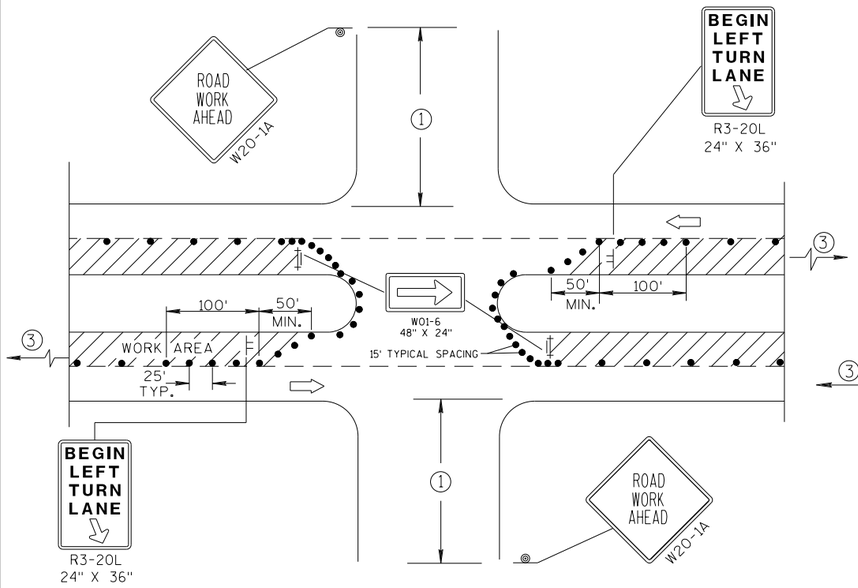
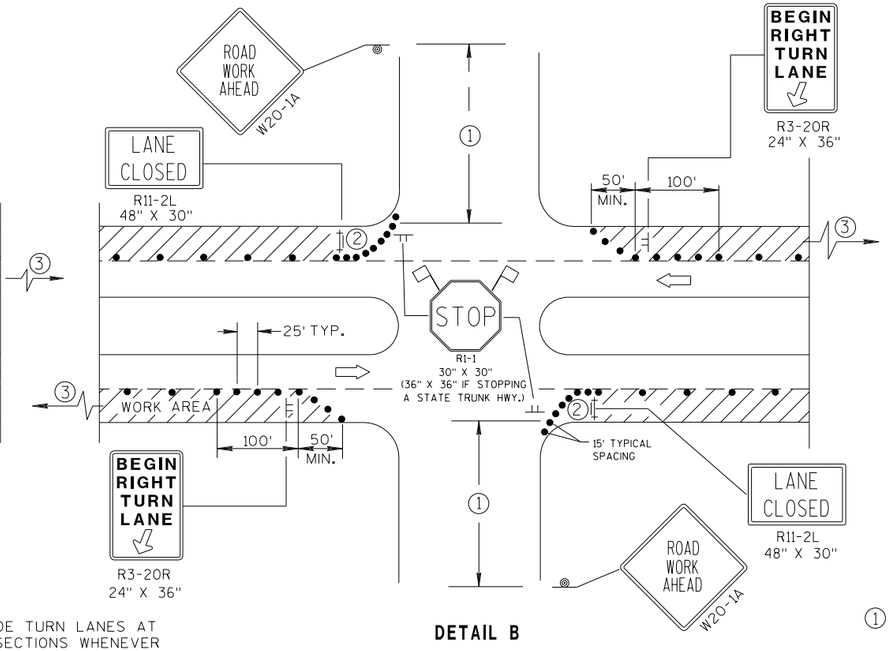


DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

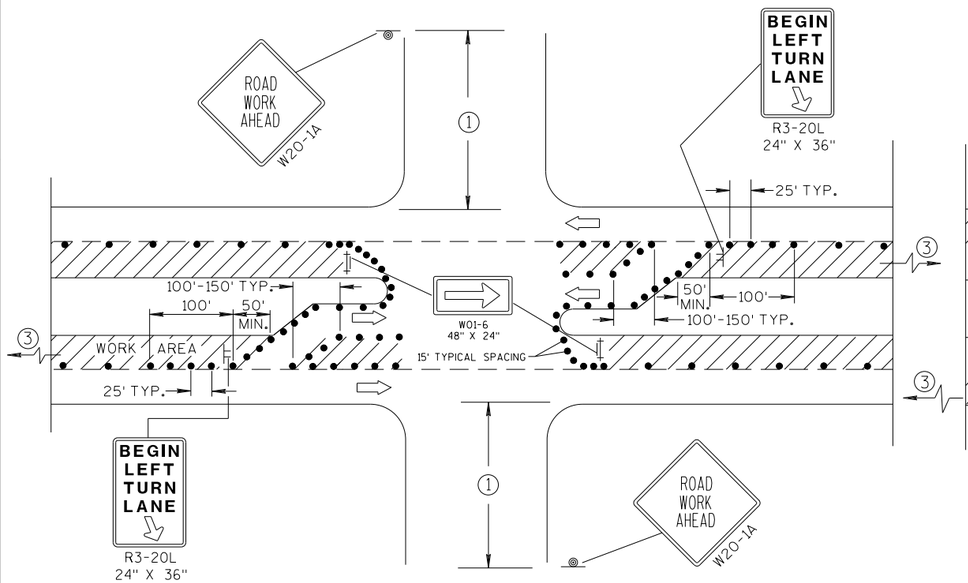
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

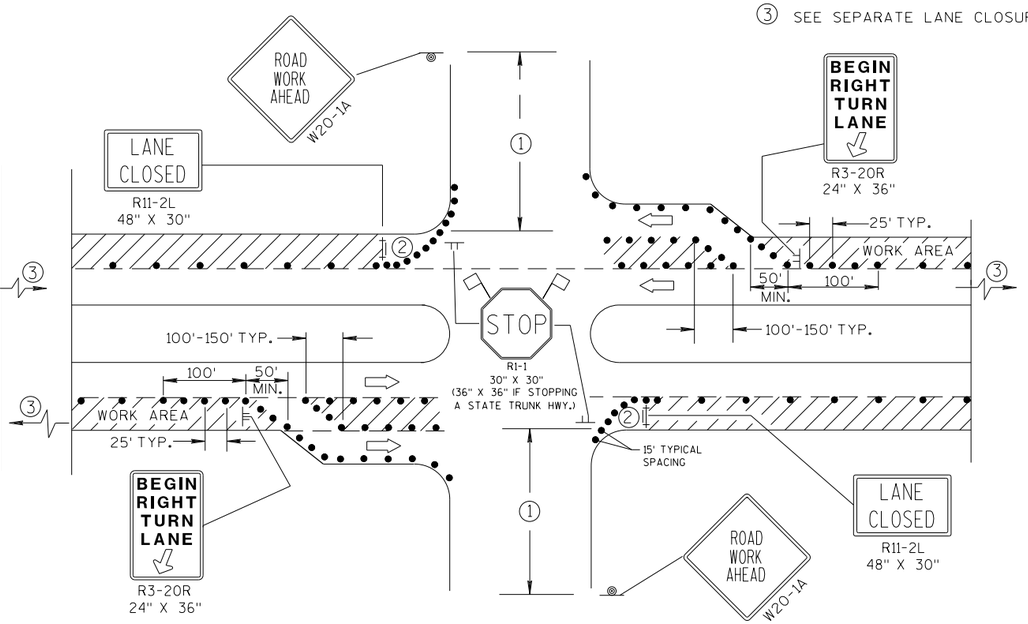
(2) ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

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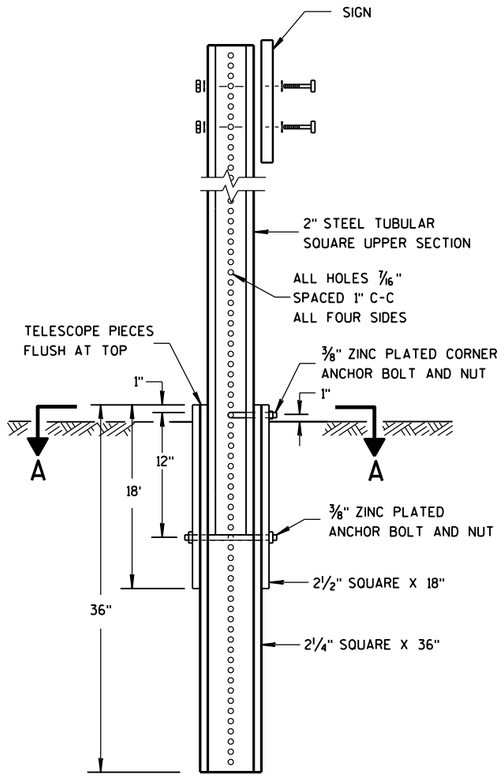
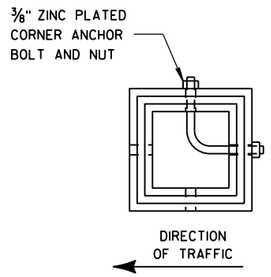
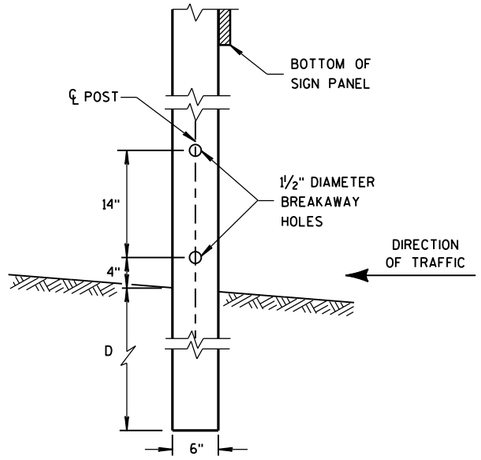


DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



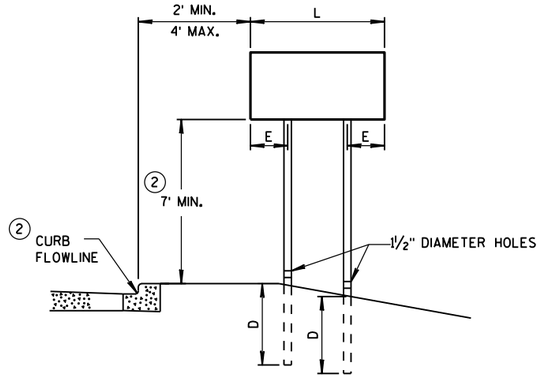
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

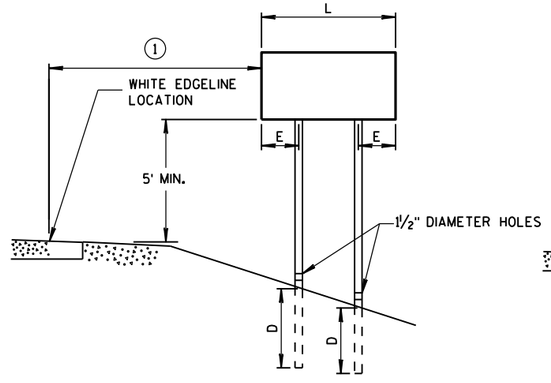
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

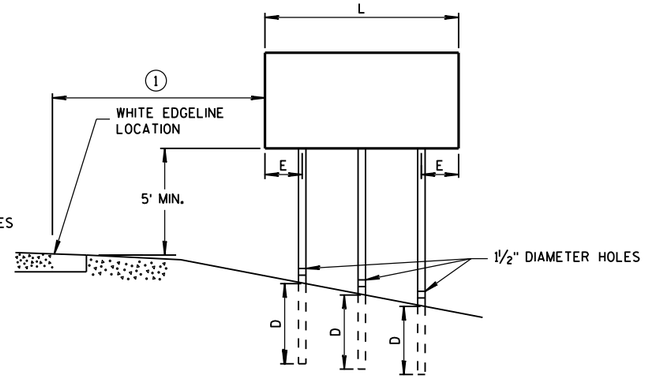
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK 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

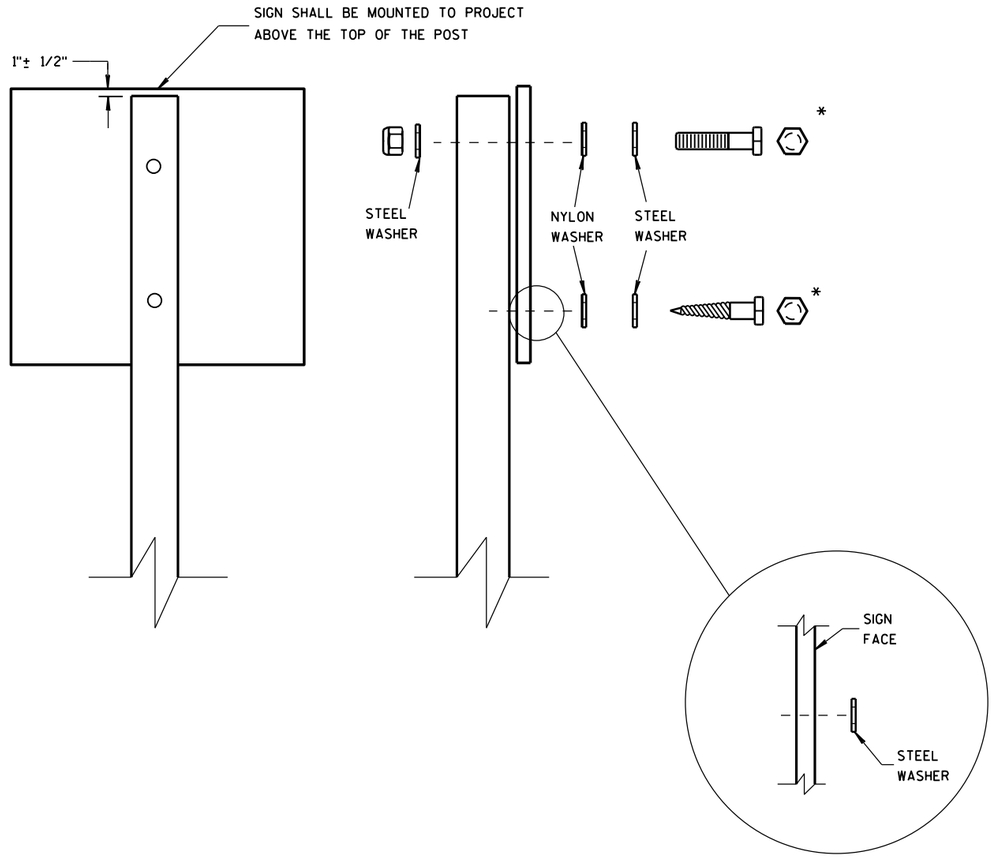
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* 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.

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

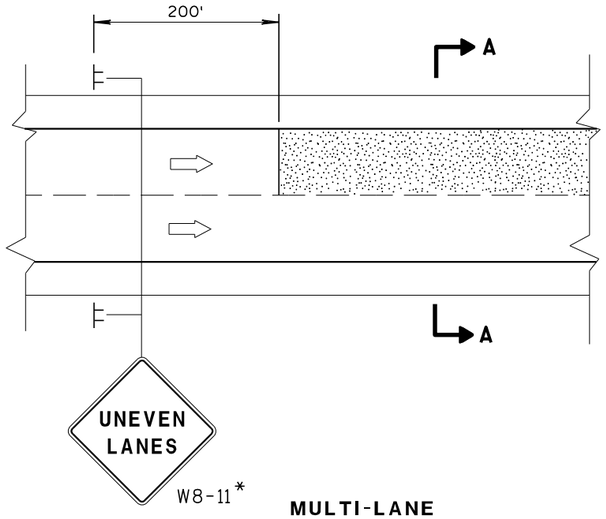
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

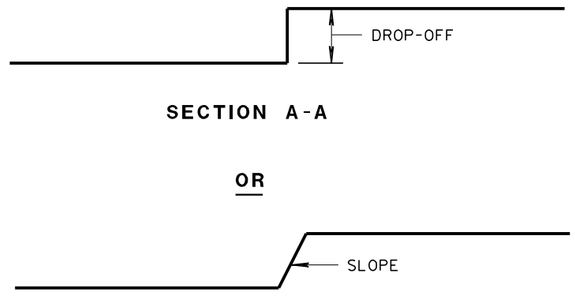
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA



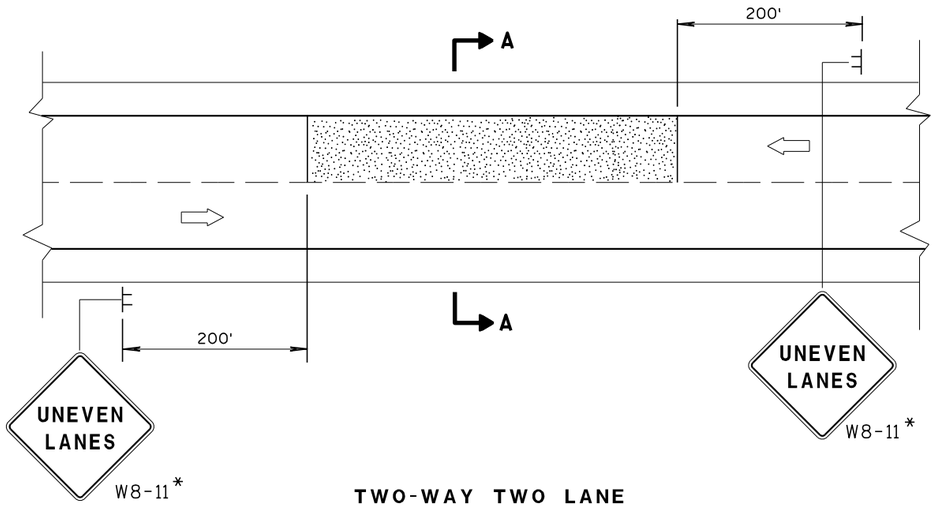
MULTI-LANE



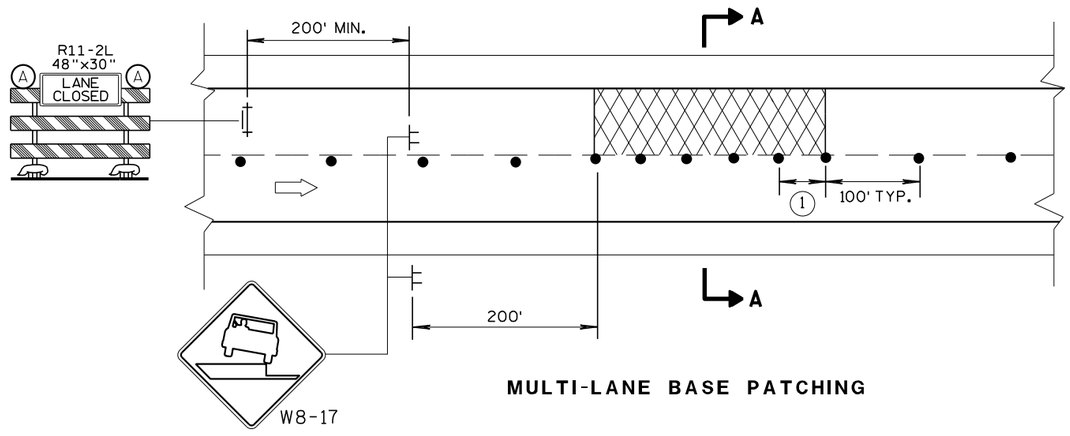
SECTION A-A

OR

SECTION A-A

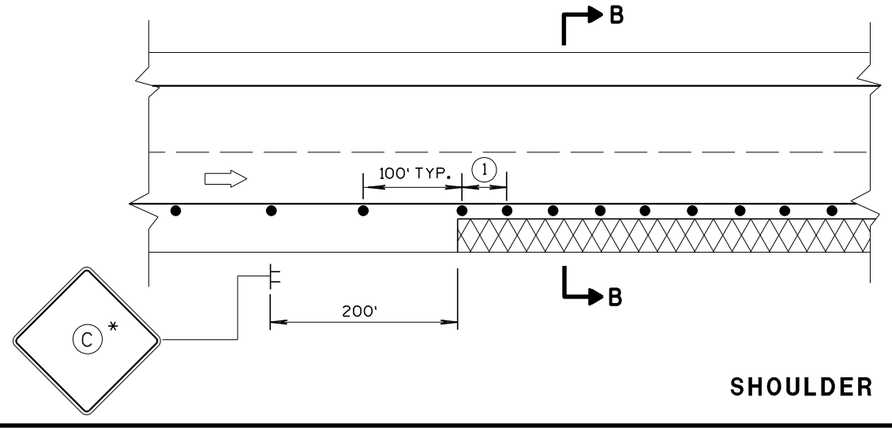


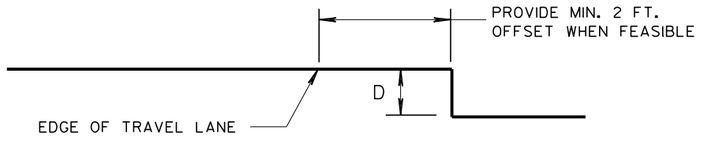
TWO-WAY TWO LANE



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS





SECTION B-B

SHOULDER DROP-OFFS

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 EACH ENTRANCE RAMP.

(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

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 H — WORK ZONE EN
FHWA

6
S.D.D. 15 D 39-2

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

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

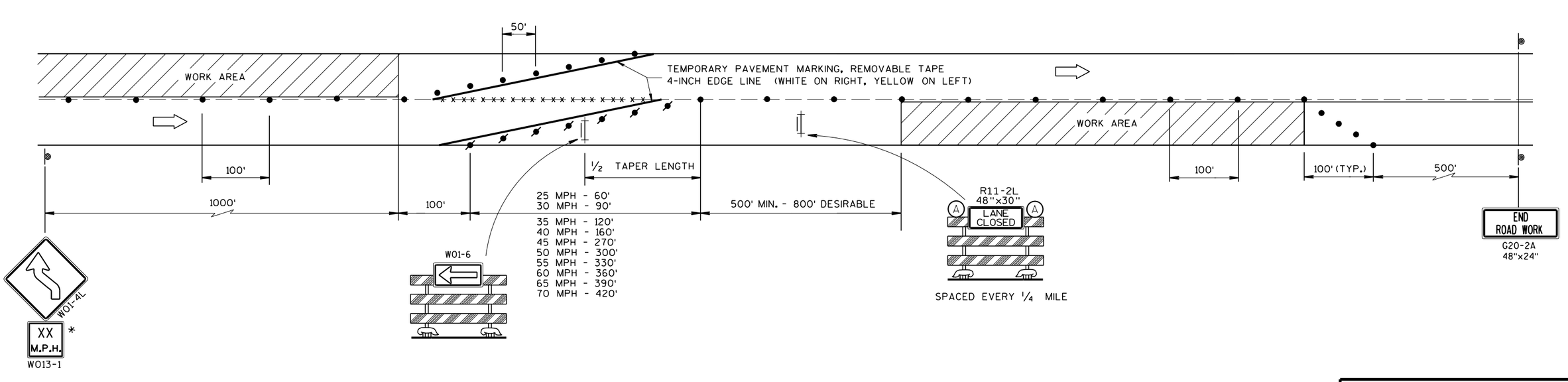
FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

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



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

LANE SHIFT MULTI-LANE DIVIDED OR ONE WAY ROAD

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

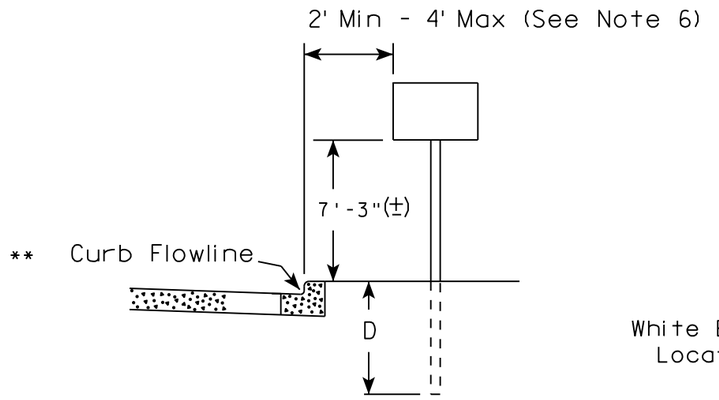
/S/ Andrew I
WORK ZONE E

FHWA

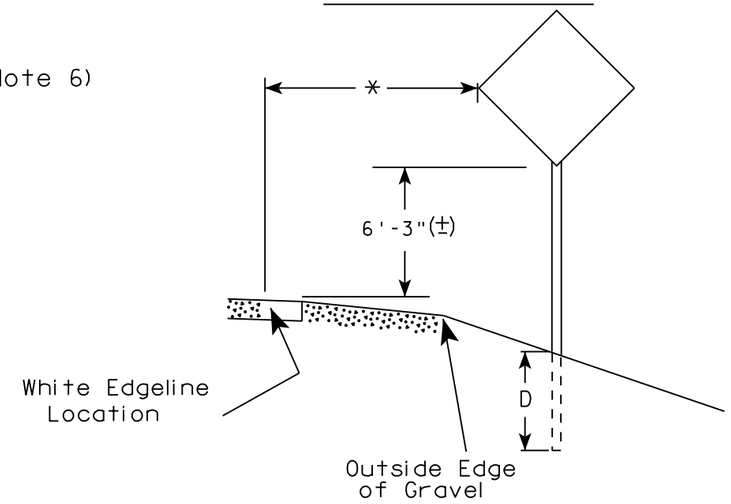
6

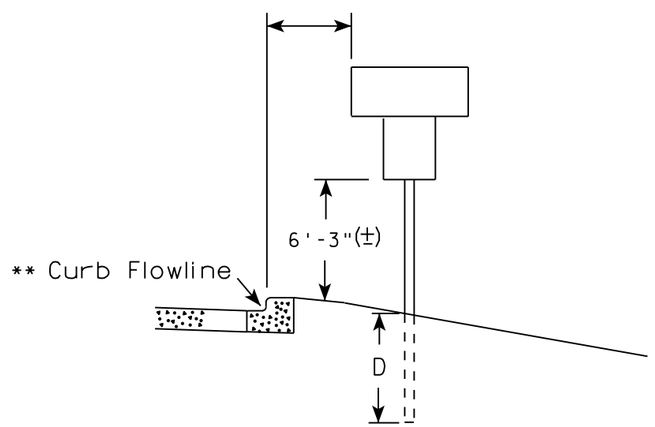
S.D.D. 15 D 40-1

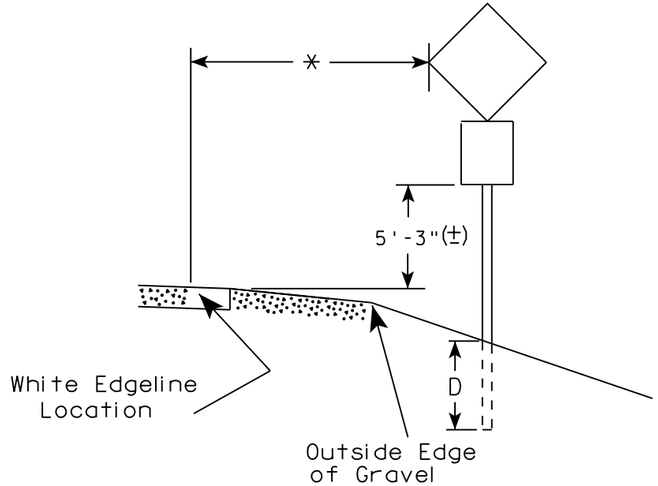
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

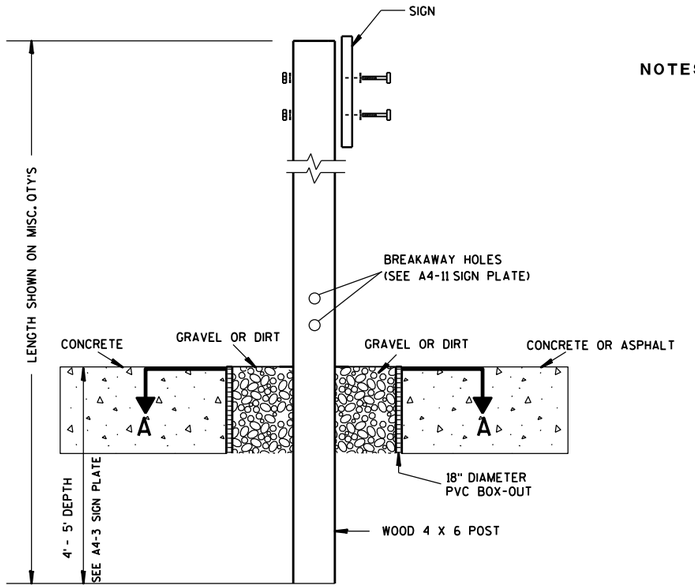
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

7 7

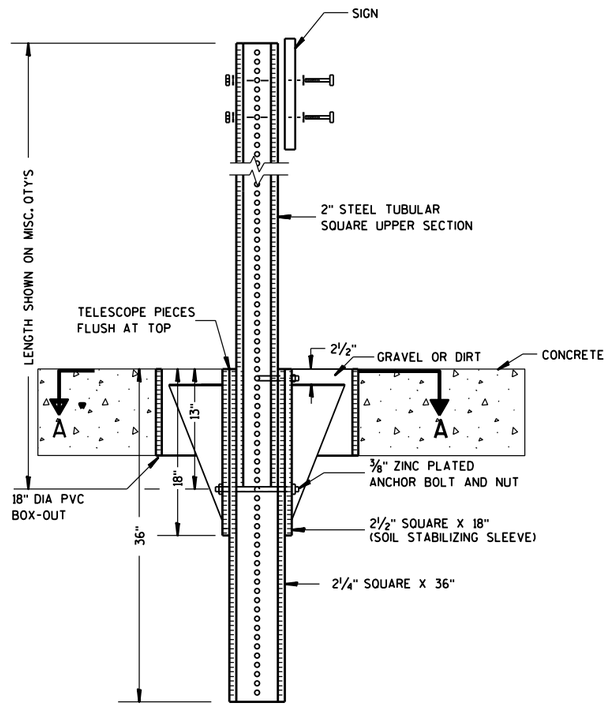
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 209	E



ELEVATION VIEW

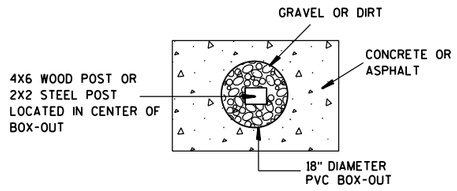
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

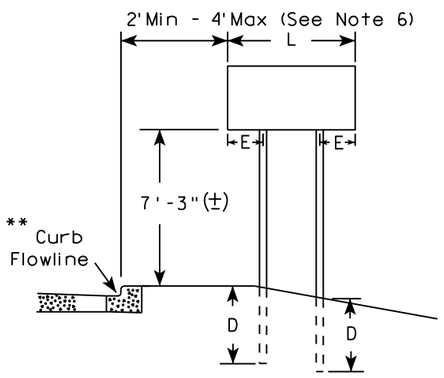
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

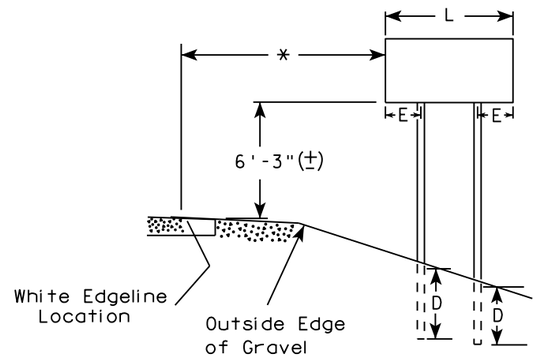
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

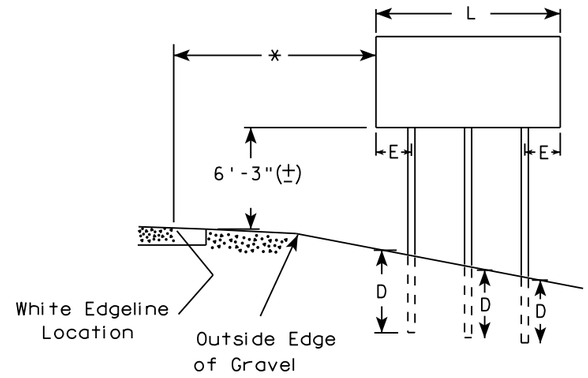
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

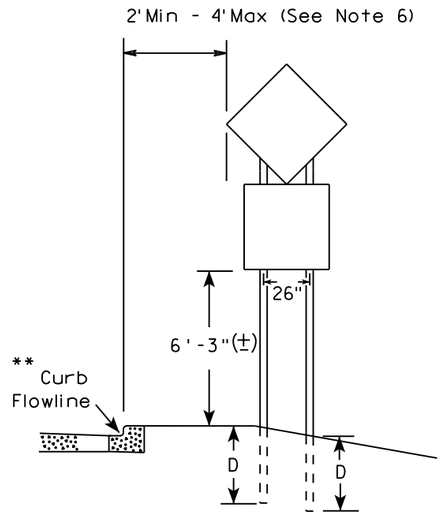
URBAN AREA



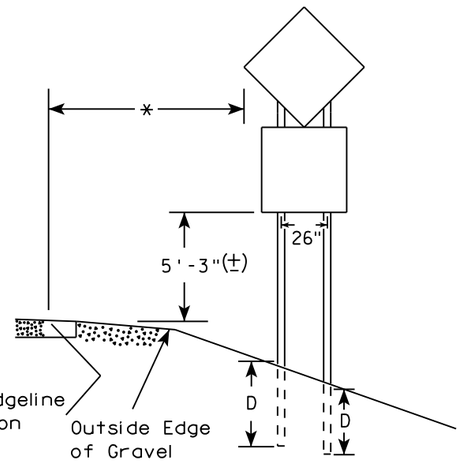
RURAL AREA (See Note 3)







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'

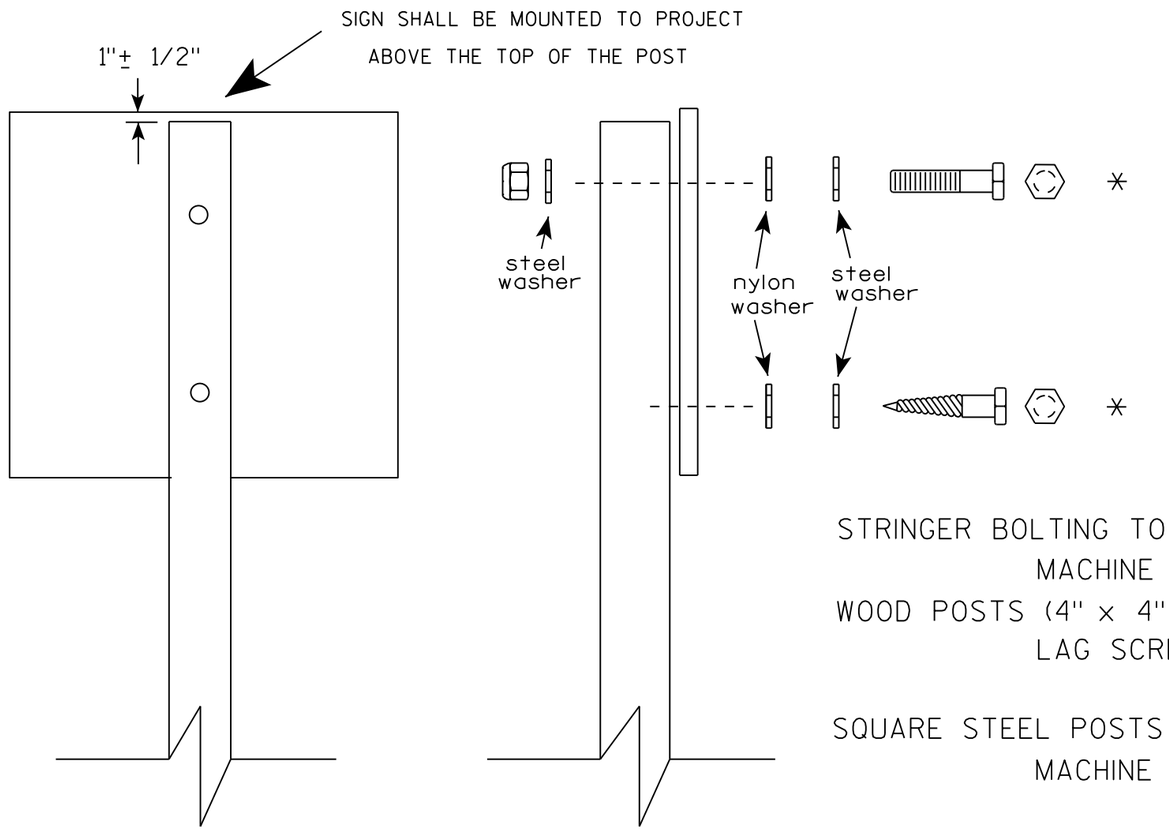
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

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: 211	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 4" or 4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)

3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)

3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

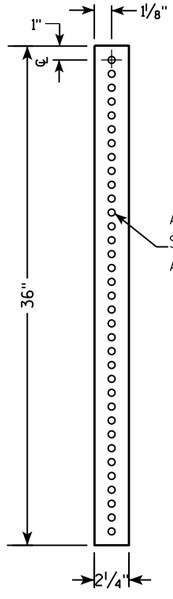
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

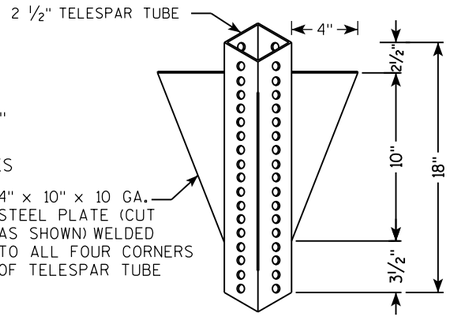
FILE NAME : C:\CADfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

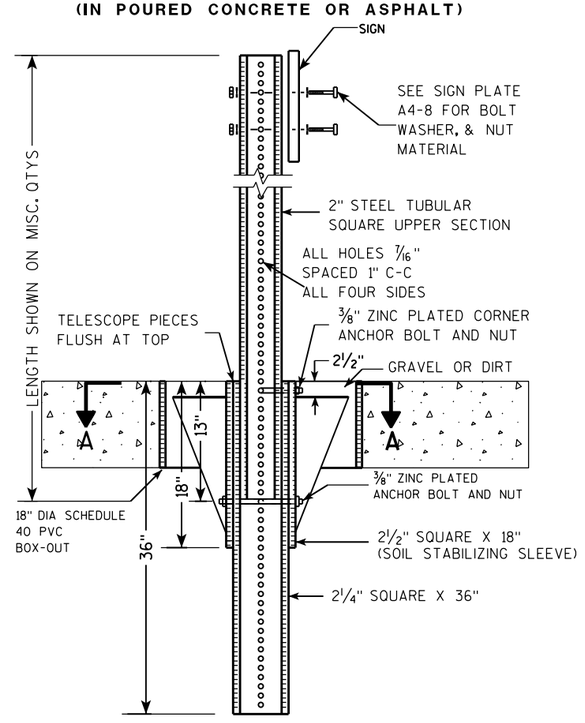
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



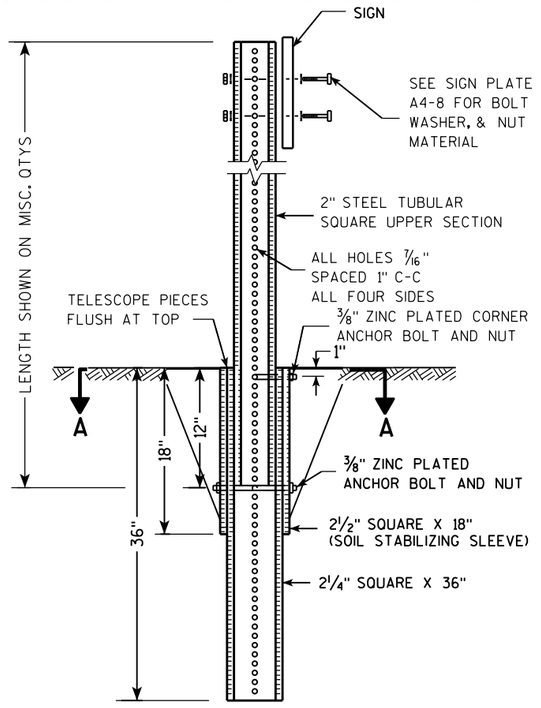
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

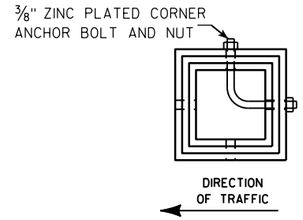


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

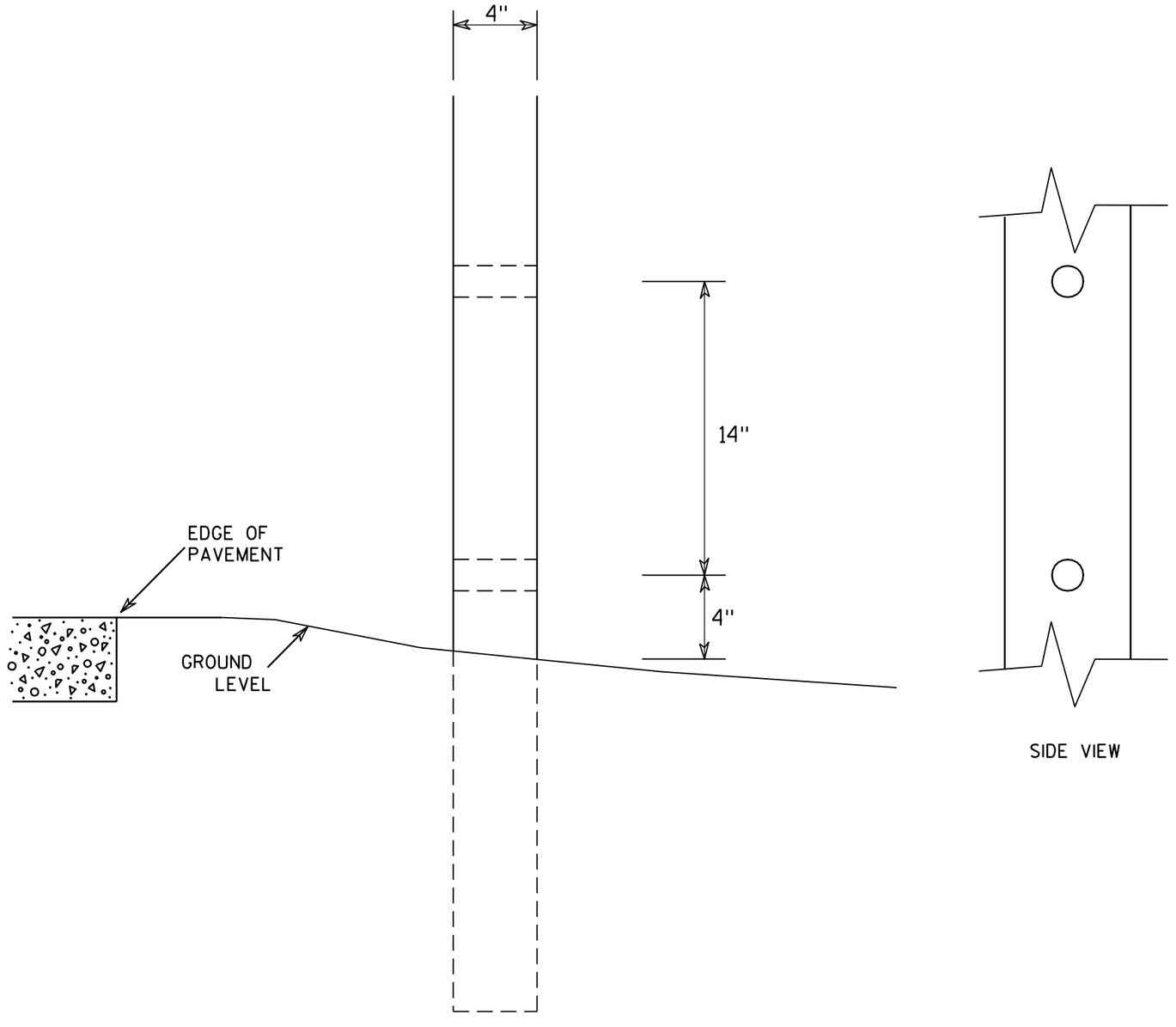
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 213 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

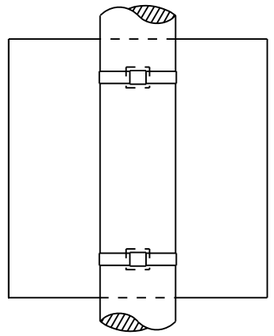
APPROVED Chester J Spang for State Traffic Engineer

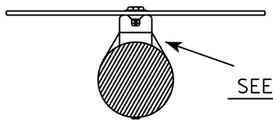
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 214	E

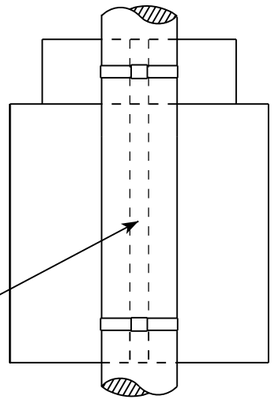
BANDING

SINGLE SIGN

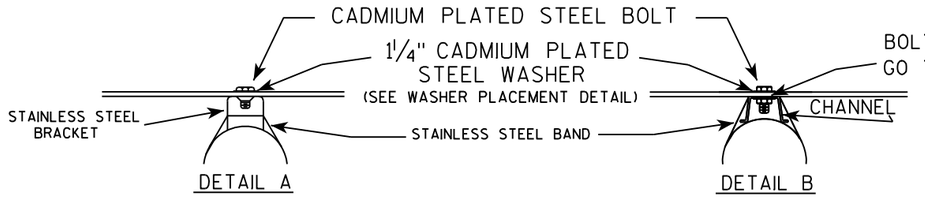




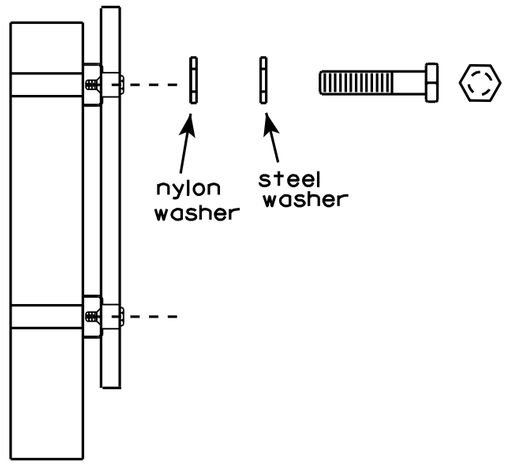
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL INSTALLATION SHEET



WASHER PLACEMENT



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

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.

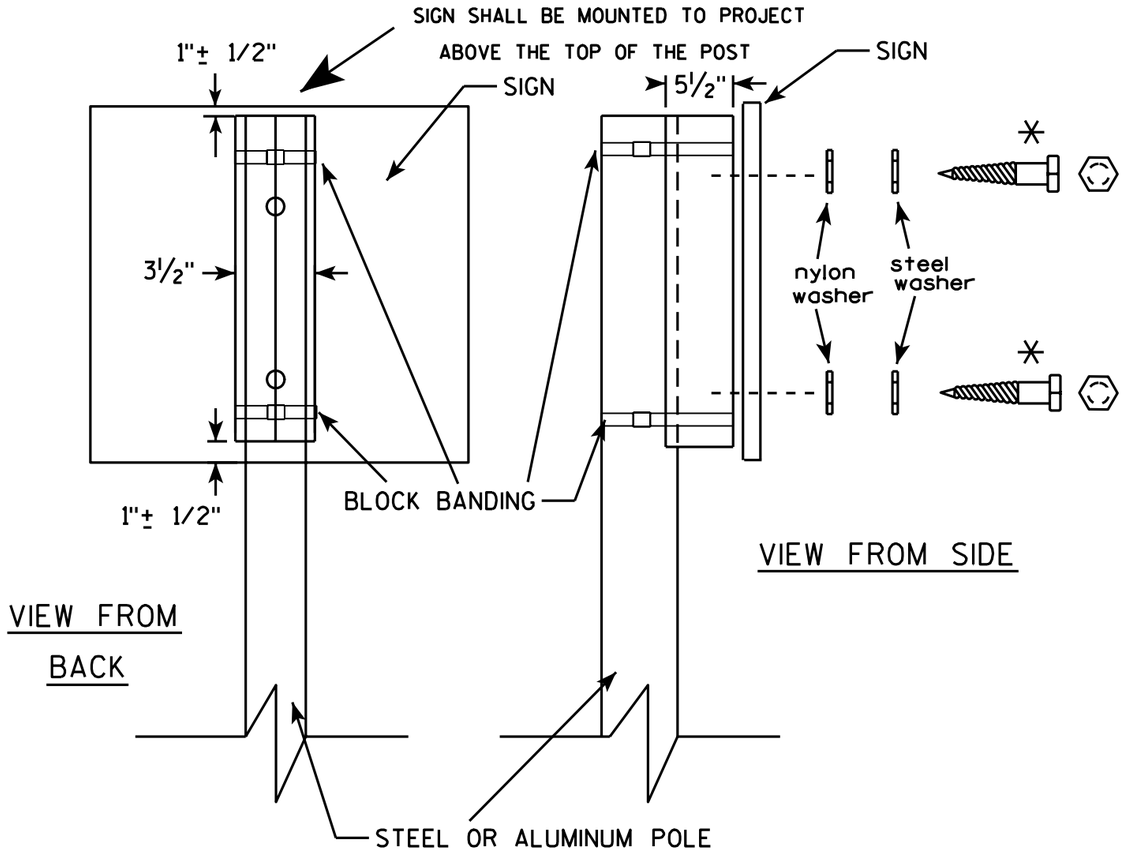
STANDARD SIGN
SIGN BANDING DETAILS

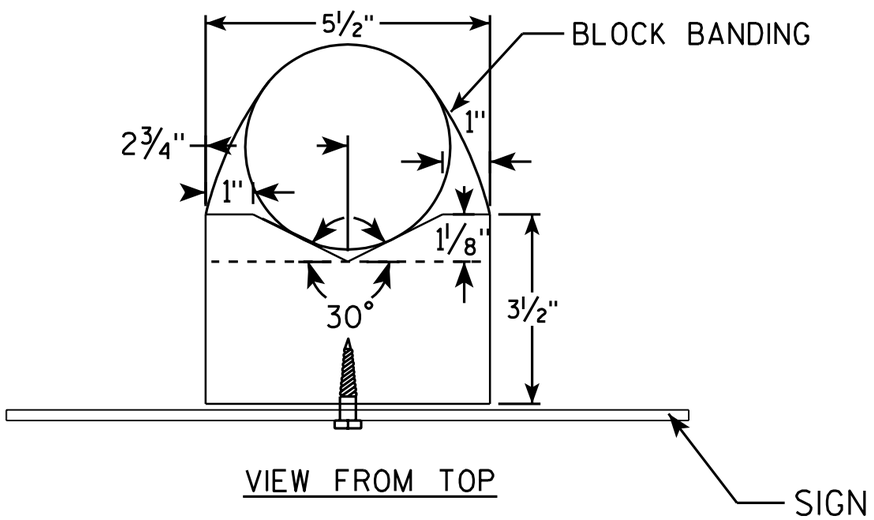
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 215	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

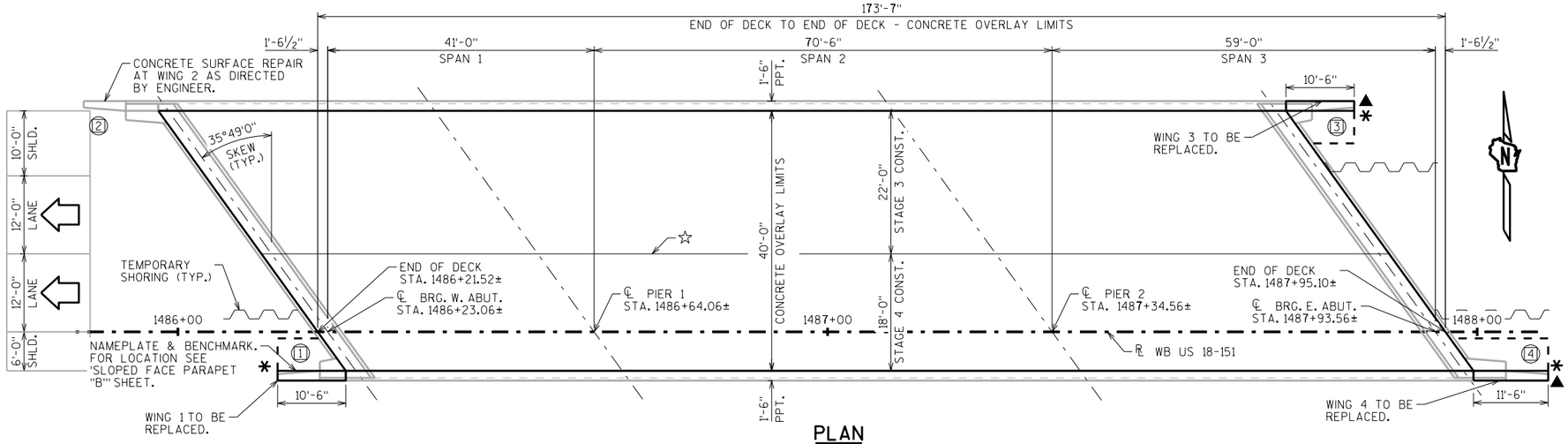
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

SHEET NO: 216 E

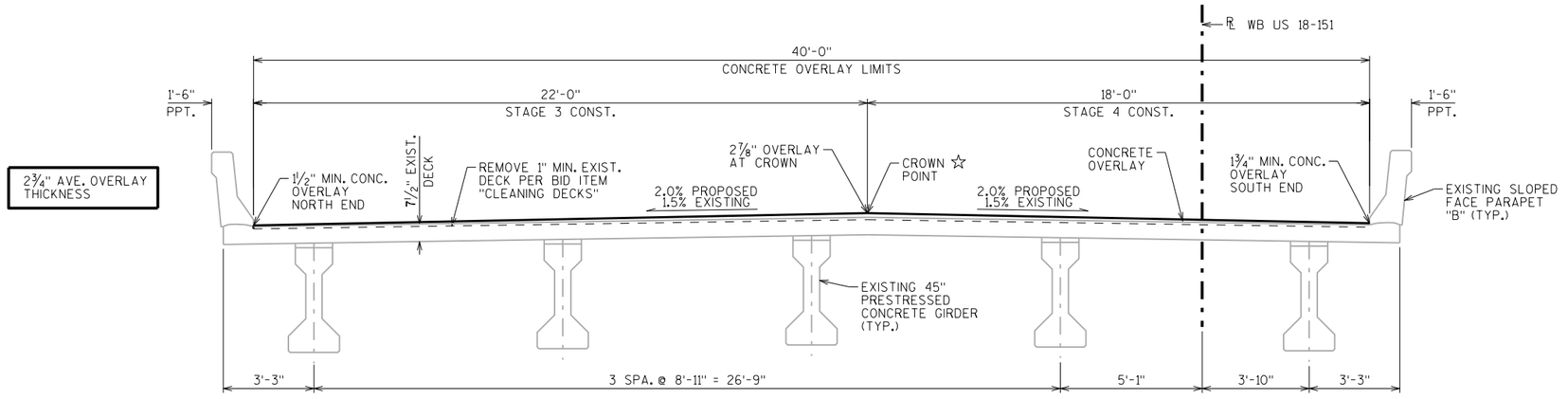
FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph

WISDOT/CADDS SHEET 42



PLAN

TOP OF DECK SHOWN



CROSS SECTION THRU ROADWAY

LOOKING EAST

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 1487+08	LS	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-25-38	LS	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	135
502.0100	CONCRETE MASONRY BRIDGES	CY	32
502.3200	PROTECTIVE SURFACE TREATMENT	SY	772
502.3210	PIGMENTED SURFACE SEALER	SY	157
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EACH	20
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,920
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	5
509.0500	CLEANING DECKS	SY	772
509.1500	CONCRETE SURFACE REPAIR	SF	49
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	60
511.1200	TEMPORARY SHORING B-25-38	SF	325
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	74
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	3
	NON-BID ITEMS		
	FILLER	SIZE	½"

FOUNDATION DATA

WING WALLS TO BE SUPPORTED BY UNDERLYING NATIVE SOILS WITH A REQUIRED FACTORED BEARING RESISTANCE OF 4,000 PSF✱✱✱. THE SOUTHWEST REGION, MADISON OFFICE SOILS ENGINEER SHOULD BE PRESENT TO EVALUATE THE SUBSURFACE CONDITIONS AT THE TIME OF CONSTRUCTION.

✱✱✱ THE FACTORED BEARING RESISTANCE IS THE VALUE USED FOR DESIGN.

◯ INDICATES WING NUMBER

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

☆ LONGITUDINAL CONSTRUCTION JOINT.

▲ SURFACE DRAIN LOCATION. SEE ROADWAY PLANS.

TRAFFIC VOLUME

US 18-151
ADT = 21,383 (2037)
R.D.S. = 70 M.P.H.

S. JONES ST.
ADT = 520 (2012)
R.D.S. = 25 M.P.H.

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. STAGING DETAILS
3. REMOVAL DETAILS
4. SUBSURFACE EXPLORATION
5. WING 1 REPLACEMENT
6. WING 3 REPLACEMENT
7. WING 4 REPLACEMENT
8. SLOPED FACE PARAPET "B"

STATE PROJECT NUMBER

1204-05-72

DESIGN DATA

LIVE LOAD:
INVENTORY RATING: HS = 19
OPERATING RATING: HS = 28
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 230 (KIPS)

MATERIAL PROPERTIES:
CONCRETE MASONRY OVERLAY DECKS — f'c = 4,000 P.S.I.
CONCRETE SURFACE REPAIR — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-25-38" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACK FACE OF WINGS ALL VOLUME WHICH CANNOT BE PLACED BEFORE WING CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF NEW CONCRETE OVERLAY.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS FULL LENGTH OF BRIDGE.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1983.

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN ½".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

PREPARATION DECKS TYPE 1 AND PREPARATION DECKS TYPE 2 AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AREAS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

CONCRETE SURFACE REPAIRS ARE ANTICIPATED AT NW WING, PARAPETS, AND AT ABUTMENTS. LOCATIONS AND EXTENTS SHALL BE DETERMINED BY FIELD ENGINEER.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2¾". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

STRUCTURE DESIGN CONTACTS:
DAN MONROE (608) 266-8490
LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher LLS 1/24/19
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-25-38

US 18-151 WB OVER S. JONES ST.

COUNTY	TOWN/CITY/VILLAGE
IOWA	BARNEVELD

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
DLM	JDM	DLM	JDM

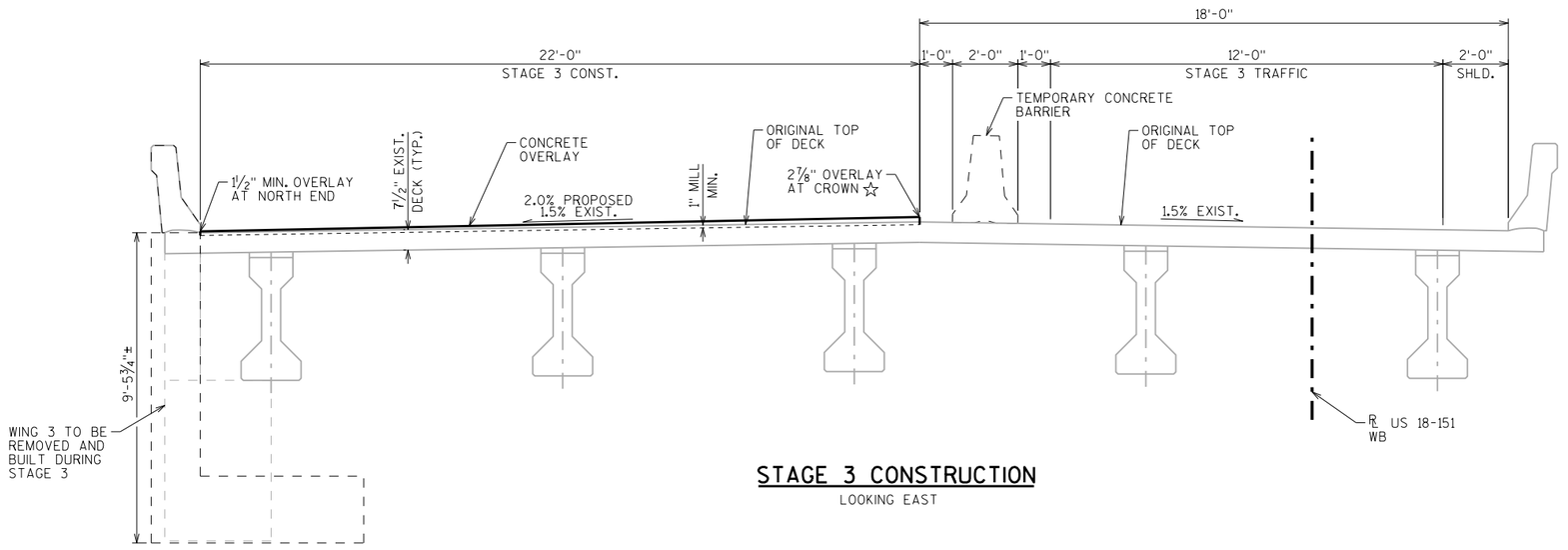
CONCRETE OVERLAY

SHEET 1 OF 8

217

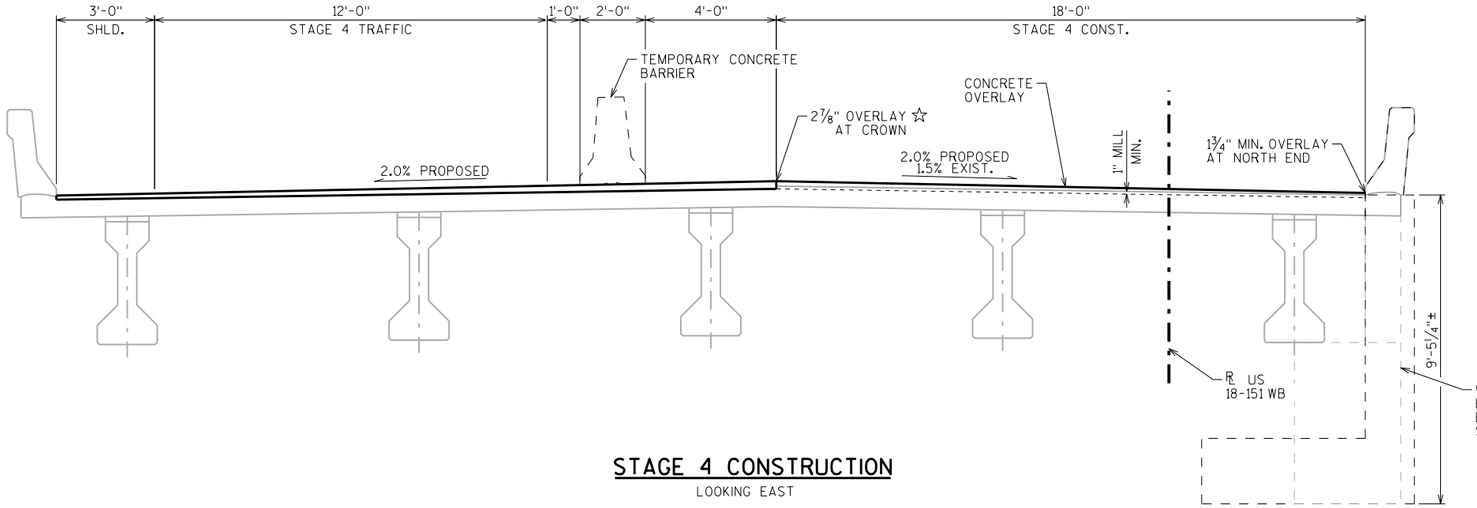
I.D. 1204-05-02A DATE: NOV. 2018

SCALE = 10.00



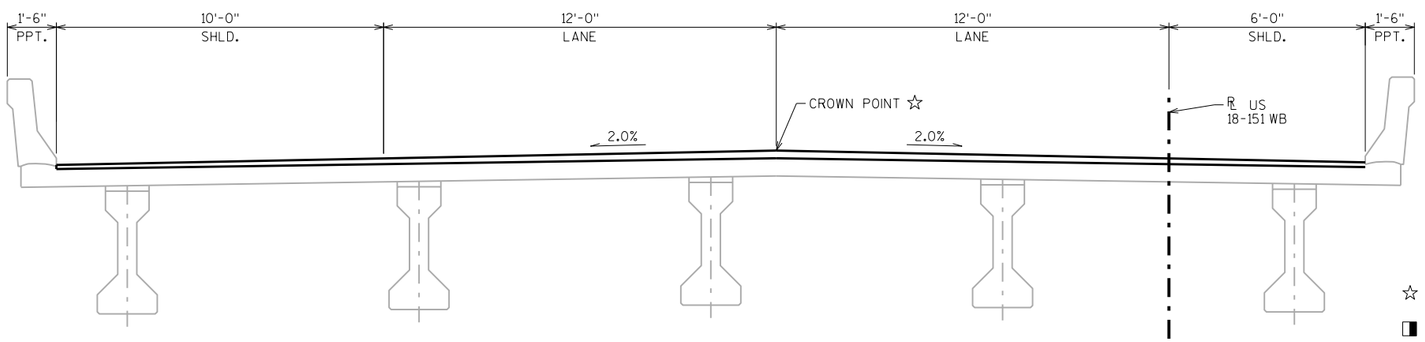
STAGE 3 CONSTRUCTION

LOOKING EAST



STAGE 4 CONSTRUCTION

LOOKING EAST

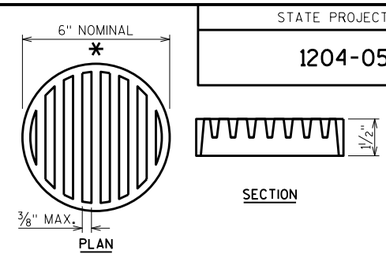


FINAL CROSS SECTION

LOOKING EAST

☆ LONGITUDINAL CONSTRUCTION JOINT.

◨ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

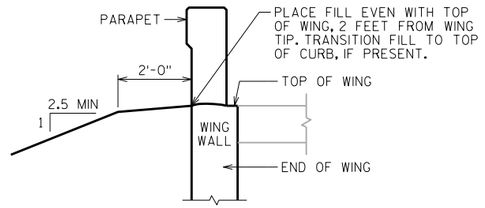


RODENT SHIELD DETAIL

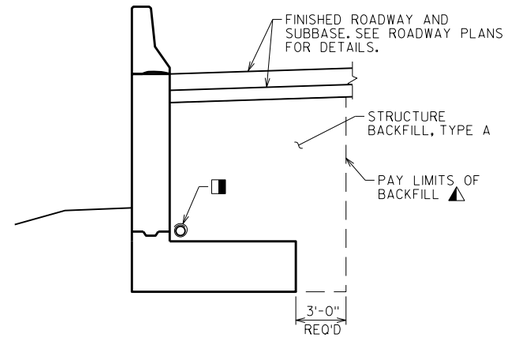
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



TYPICAL FILL SECTION AT WING TIPS



TYPICAL SECTION THRU REPLACED WINGWALL

(FOR WINGS 1, 3, AND 4)

◭ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

STATE PROJECT NUMBER

1204-05-72

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-25-38

DRAWN BY DLM | PLANS CK'D. JDM

STAGING DETAILS

SHEET 2

218

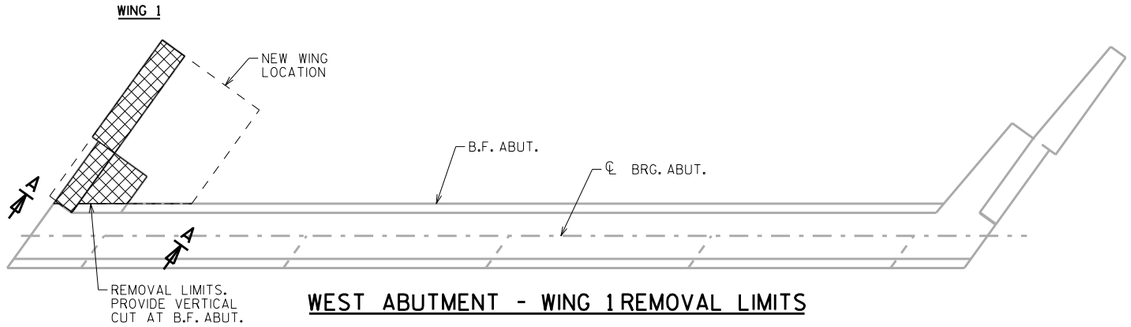
SCALE = 2.25

8

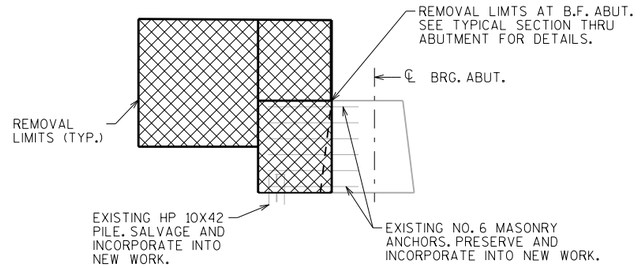
8

STATE PROJECT NUMBER

1204-05-72

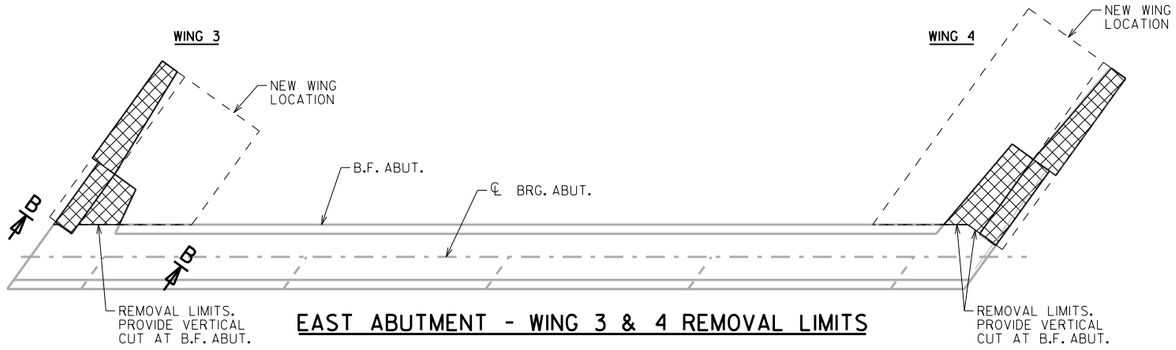


WEST ABUTMENT - WING 1 REMOVAL LIMITS

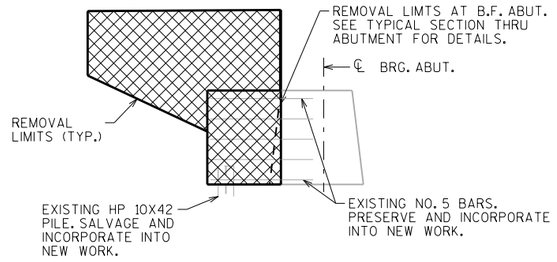


WING 1 ELEVATION - REMOVAL LIMITS

FRONT FACE SHOWN

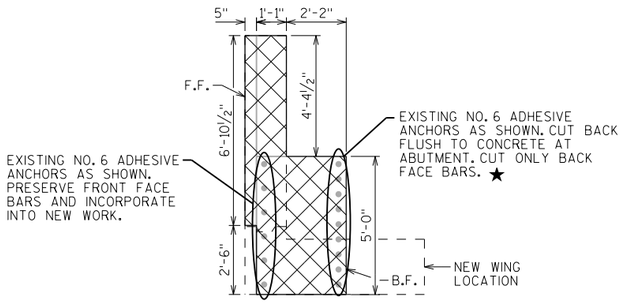


EAST ABUTMENT - WING 3 & 4 REMOVAL LIMITS

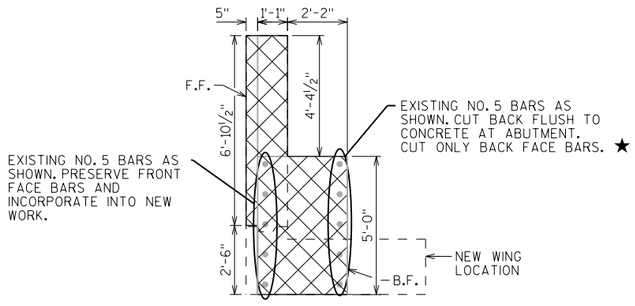


WING 3 ELEVATION - REMOVAL LIMITS

FRONT FACE SHOWN
WING 4 SIMILAR

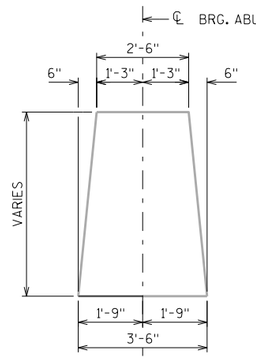


SECTION A-A THRU WING 1



SECTION B-B THRU WING 3

WING 4 SIMILAR



TYPICAL SECTION THRU ABUTMENT

NOTE: ALL LINES OF REMOVAL SHALL BE DEFINED BY A SAWCUT.

★ COAT EXPOSED AREAS NOT INCORPORATED INTO NEW WING WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. INCIDENTAL TO 'CONCRETE MASONRY BRIDGES' BID ITEM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-25-38

DRAWN BY DLM | PLANS CK'D. JDM

REMOVAL DETAILS

SHEET 3

219

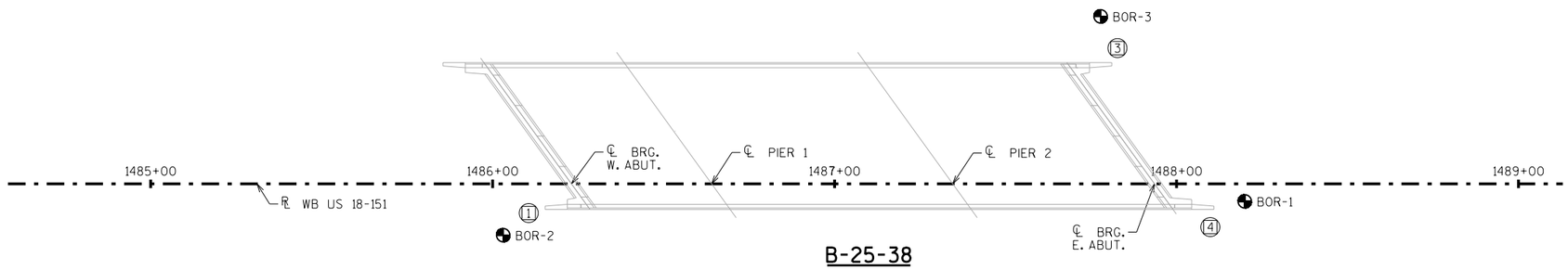
SCALE = 4.00

8

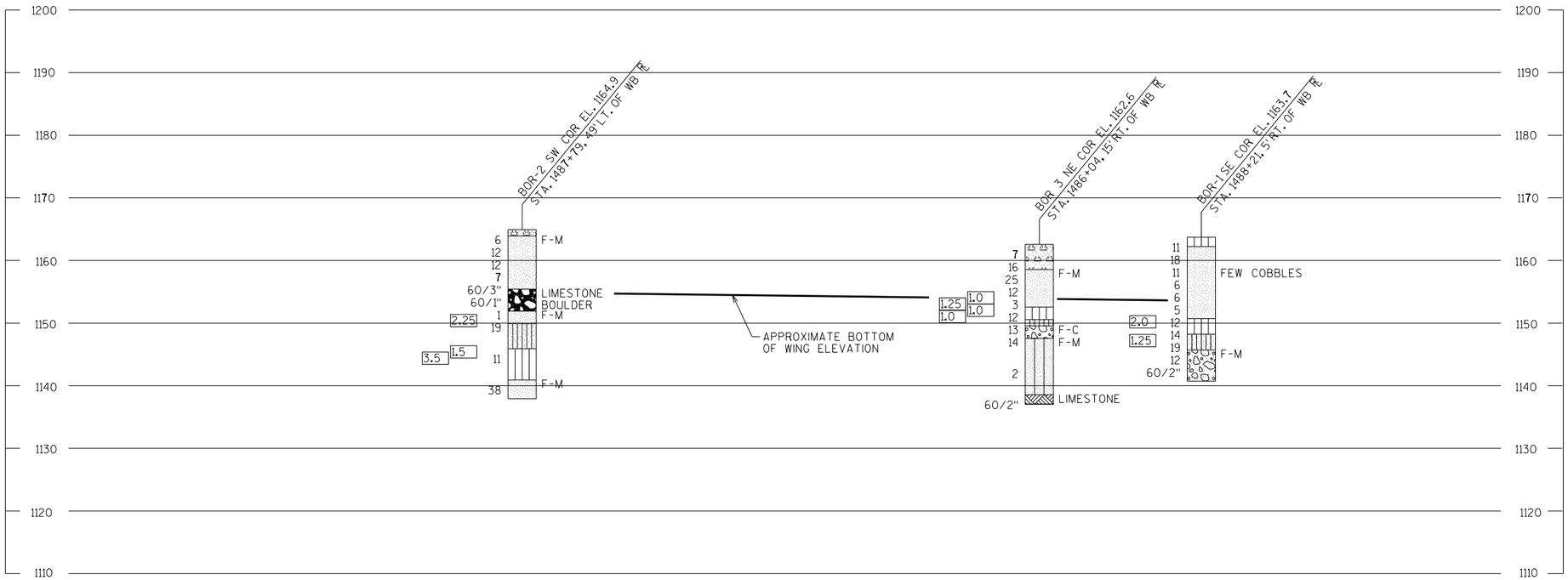
8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	6/13/2018	171982	443130
2	6/13/2018	171952	442915
3	6/14/2018	172032	443083
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) IOWA COUNTY			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			

(1) INDICATES WING NUMBER



B-25-38



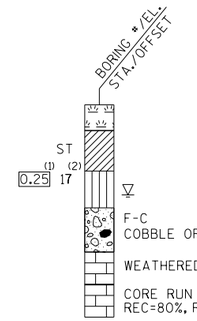
STATE PROJECT NUMBER

1204-05-72

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
STRUCTURES DESIGN SECTION

STRUCTURE B-25-38

DRAWN BY TLP/DLM | PLANS CK'D. JDM

SUBSURFACE EXPLORATION

SHEET 4

220

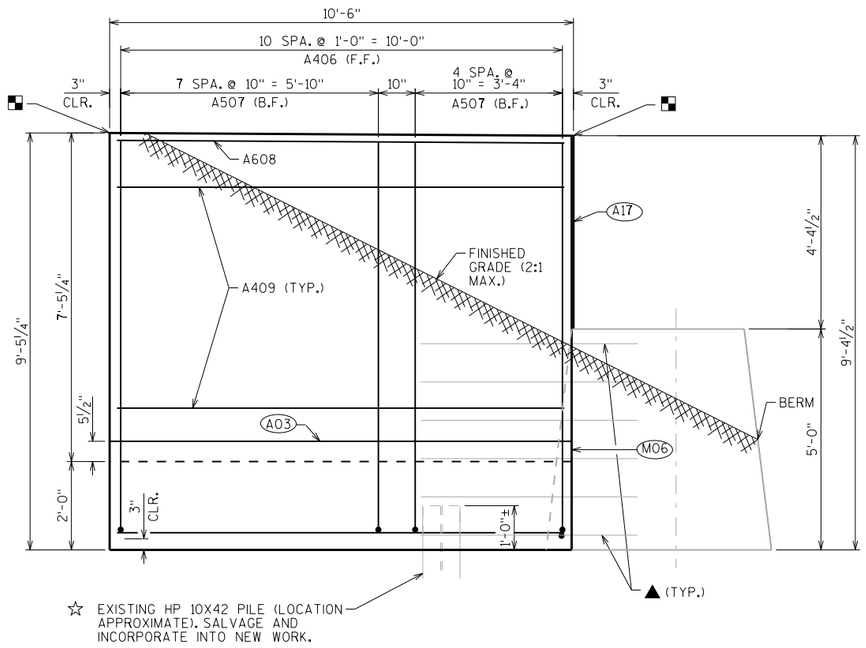
SCALE = 20.00

8

8

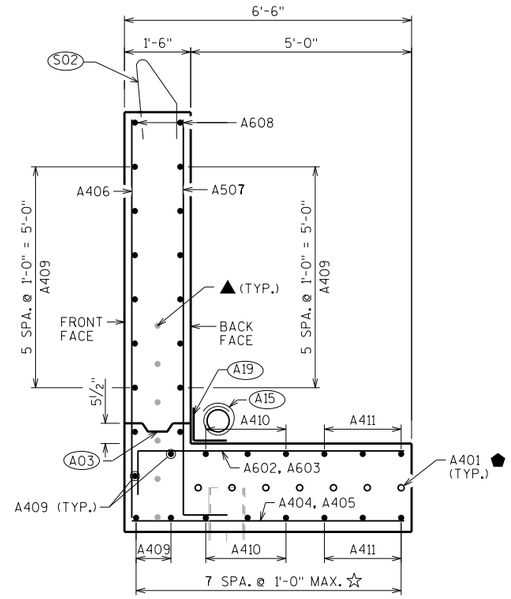
STATE PROJECT NUMBER

1204-05-72



WING 1 ELEVATION

LOOKING NORTH AT F.F. OF WING WALL



SECTION A-A THRU WING 1

BILL OF BARS

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

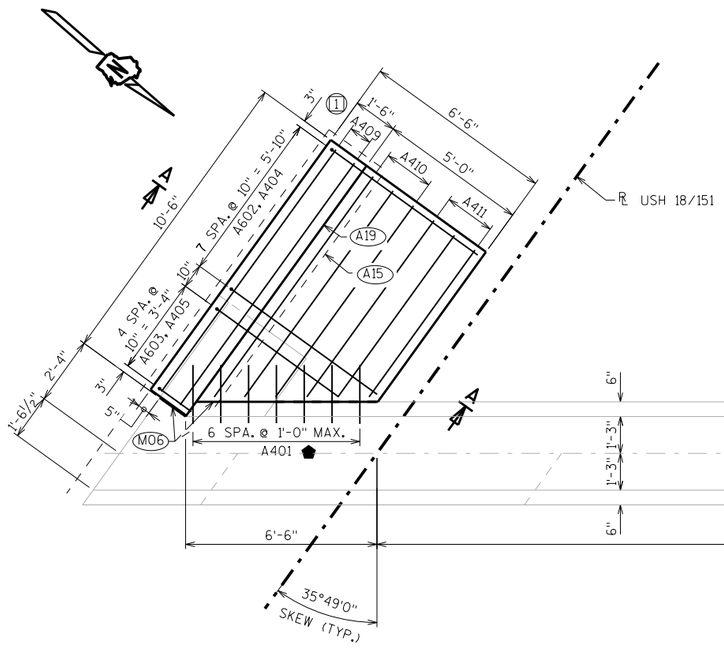
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
⬟ A401	X	7	2'-0"			WALL - HORIZ.
A602	X	8	6'-11"	X		WING FOOTING - TRANSVERSE - TOP
A603	X	5	4'-2"	X	⚠	WING FOOTING - TRANSVERSE - TOP
A404	X	8	6'-2"			WING FOOTING - TRANSVERSE - BOT.
A405	X	5	3'-4"		⚠	WING FOOTING - TRANSVERSE - BOT.
A406	X	11	8'-11"			WING STEM - VERT. - FRONT FACE
A507	X	13	9'-7"	X		WING STEM - VERT. - BACK FACE
A608	X	2	10'-2"			WING STEM - LONGIT. - TOP
A409	X	18	10'-2"			WING STEM/FOOTING - LONGIT.
A410	X	6	8'-8"		⚠	WING FOOTING - LONGIT. - TOP & BOT.
A411	X	6	6'-9"		⚠	WING FOOTING - LONGIT. - TOP & BOT.

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

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
A603	1 SERIES OF 5	2'-3" TO 6'-0"
A405	1 SERIES OF 5	1'-5" TO 5'-2"
A410	2 SERIES OF 3	8'-0" TO 9'-3"
A411	2 SERIES OF 3	6'-1" TO 7'-4"

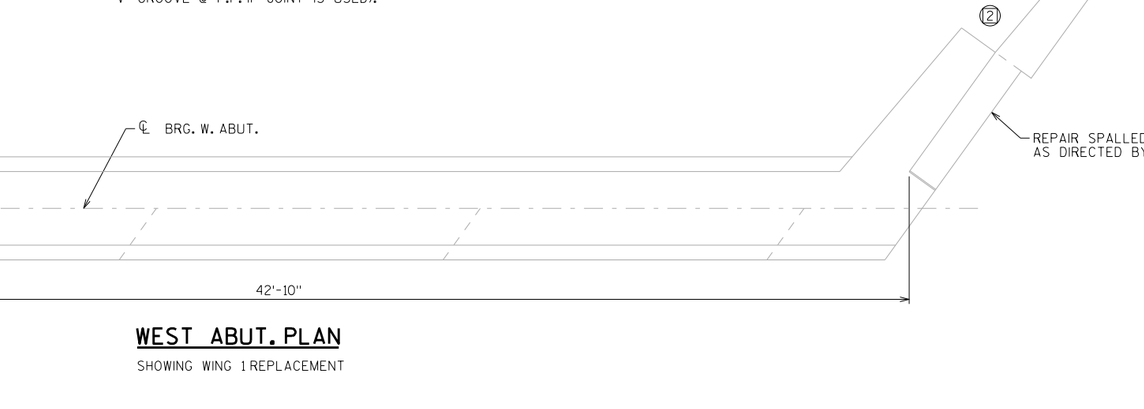
BUNDLE AND TAG EACH SERIES SEPARATELY.

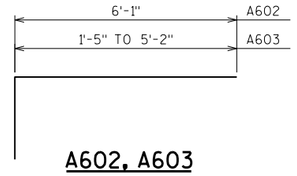


WEST ABUT. PLAN

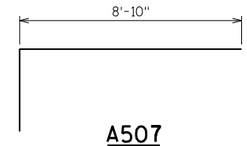
SHOWING WING 1 REPLACEMENT

- INDICATES WING NUMBER
- ☆ PLACE BARS AS REQUIRED TO MISS PILING.
- ⬟ A401 ADHESIVE ANCHORS. EMBED 9" INTO SOUND CONCRETE & SPACE 1'-0" MAX, CENTERED IN BOTTOM OF NEW WING FOOTING.
- MATCH EXISTING ELEVATION WITH ADJACENT PAVEMENT.
- ▲ EXISTING NO. 6 MASONRY ANCHORS. PRESERVE AND INCORPORATE INTO NEW WORK. PRESERVE ONLY FRONT FACE BARS. CUT BACK FACE BARS FLUSH WITH CONCRETE AT ABUTMENT.
- (A03) CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (M06) ROUGHEN SURFACE OF CONCRETE 1/4" DEEP MINIMUM AT ALL AREAS WHERE NEW CONCRETE CONTACTS EXISTING CONCRETE, EXCEPT IN AREAS WHERE ½" JOINT FILLER IS PLACED.
- (S02) SEE PARAPET SHEET FOR DETAILS.





A602, A603



A507

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-25-38

DRAWN BY DLM | PLANS CK'D. JDM

WING 1 REPLACEMENT

SHEET 5

221

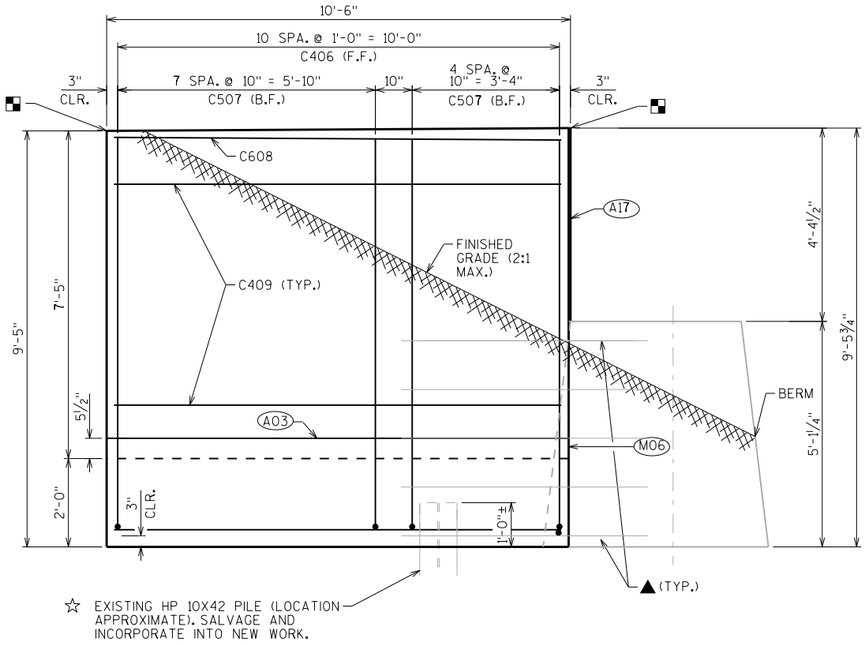
SCALE = 2.50

8

8

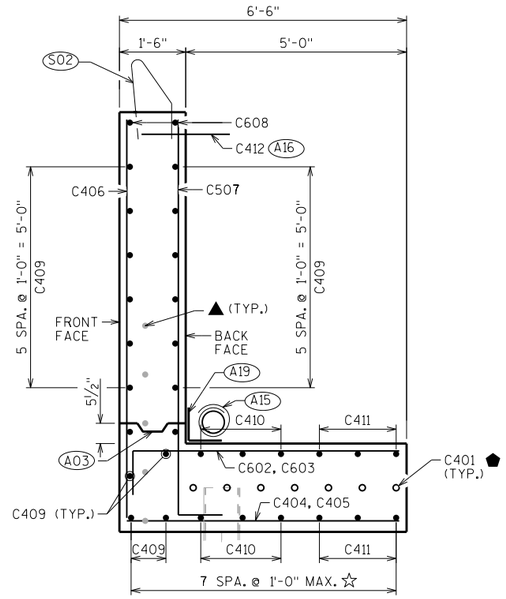
STATE PROJECT NUMBER

1204-05-72



WING 3 ELEVATION

LOOKING SOUTH AT F.F. OF WING WALL



SECTION B-B THRU WING 3

BILL OF BARS

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

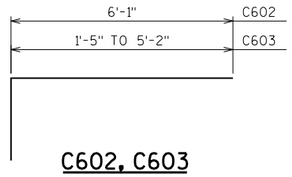
	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
⬟	C401	X	7	2'-0"			WALL - HORIZ.
	C602	X	8	6'-11"	X		WING FOOTING - TRANSVERSE - TOP
	C603	X	5	4'-2"	X	⚠	WING FOOTING - TRANSVERSE - TOP
	C604	X	8	6'-2"			WING FOOTING - TRANSVERSE - BOT.
	C605	X	5	3'-4"		⚠	WING FOOTING - TRANSVERSE - BOT.
	C406	X	11	8'-11"			WING STEM - VERT. - FRONT FACE
	C507	X	13	9'-7"	X		WING STEM - VERT. - BACK FACE
	C608	X	2	10'-2"			WING STEM - LONGIT. - TOP
	C409	X	18	10'-2"			WING STEM/FOOTING - LONGIT.
	C410	X	6	8'-8"		⚠	WING FOOTING - LONGIT. - TOP & BOT.
	C411	X	6	6'-9"		⚠	WING FOOTING - LONGIT. - TOP & BOT.
	C412	X	10	2'-0"			SURFACE DRAIN ANCHOR

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

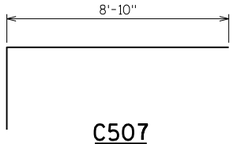
BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
C603	1 SERIES OF 5	2'-3" TO 6'-0"
C405	1 SERIES OF 5	1'-5" TO 5'-2"
C410	2 SERIES OF 3	8'-0" TO 9'-3"
C411	2 SERIES OF 3	6'-1" TO 7'-4"

BUNDLE AND TAG EACH SERIES SEPARATELY.

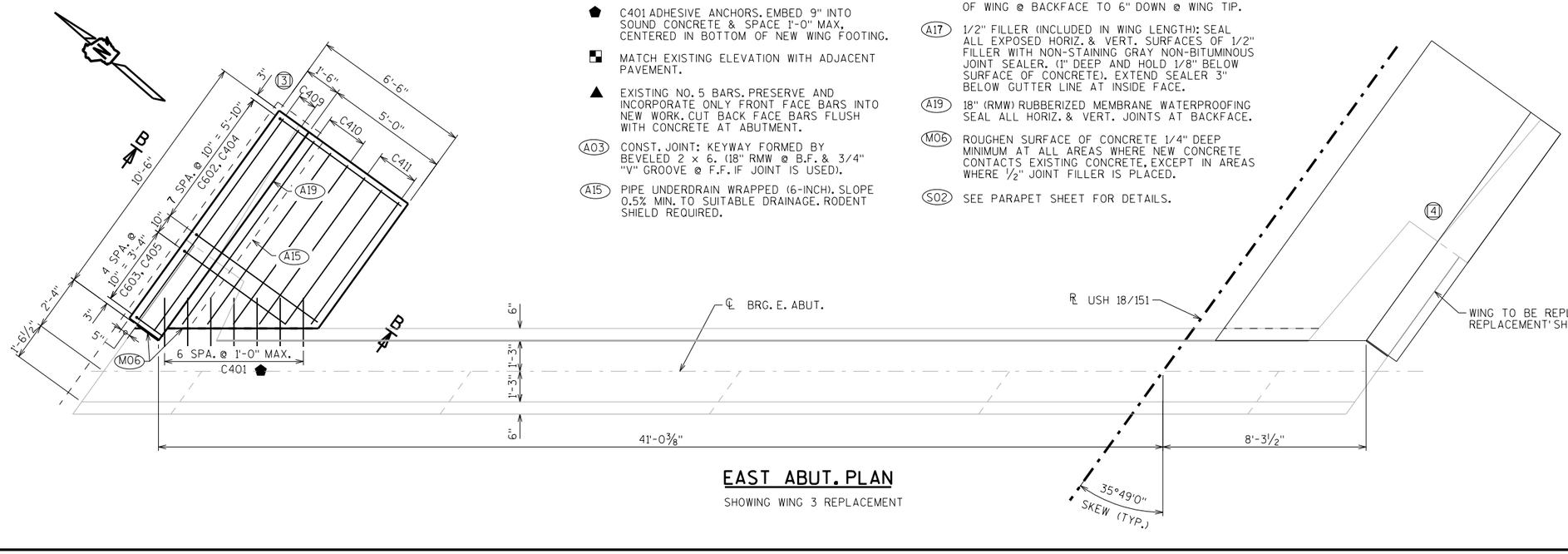


C602, C603



C507

- ◯ INDICATES WING NUMBER
- ☆ PLACE BARS AS REQUIRED TO MISS PILING.
- ⬟ C401 ADHESIVE ANCHORS. EMBED 9" INTO SOUND CONCRETE & SPACE 1'-0" MAX. CENTERED IN BOTTOM OF NEW WING FOOTING.
- ■ MATCH EXISTING ELEVATION WITH ADJACENT PAVEMENT.
- ▲ EXISTING NO. 5 BARS. PRESERVE AND INCORPORATE ONLY FRONT FACE BARS INTO NEW WORK. CUT BACK FACE BARS FLUSH WITH CONCRETE AT ABUTMENT.
- (A03) CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A16) C412 BARS SPACED @ 1'-0" CTRS. EMBED 1'-0" INTO WING CONC. LOCATE 3" DOWN FROM TOP OF WING @ BACKFACE TO 6" DOWN @ WING TIP.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (M06) ROUGHEN SURFACE OF CONCRETE 1/4" DEEP MINIMUM AT ALL AREAS WHERE NEW CONCRETE CONTACTS EXISTING CONCRETE, EXCEPT IN AREAS WHERE ½" JOINT FILLER IS PLACED.
- (S02) SEE PARAPET SHEET FOR DETAILS.



EAST ABUT. PLAN

SHOWING WING 3 REPLACEMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-25-38

DRAWN BY DLM | PLANS CK'D. JDM

WING 3 REPLACEMENT

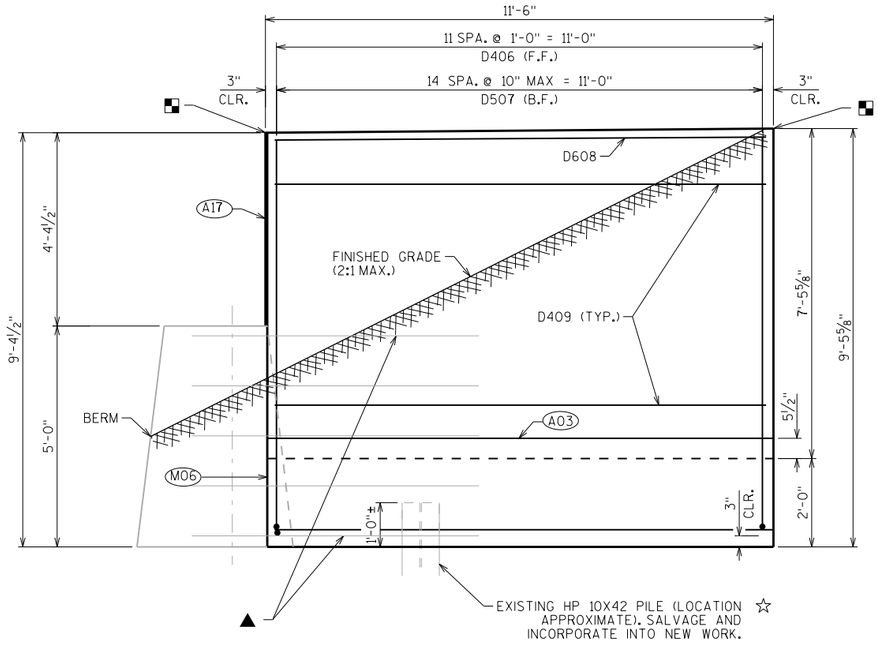
SHEET 6

222

SCALE = 2.50

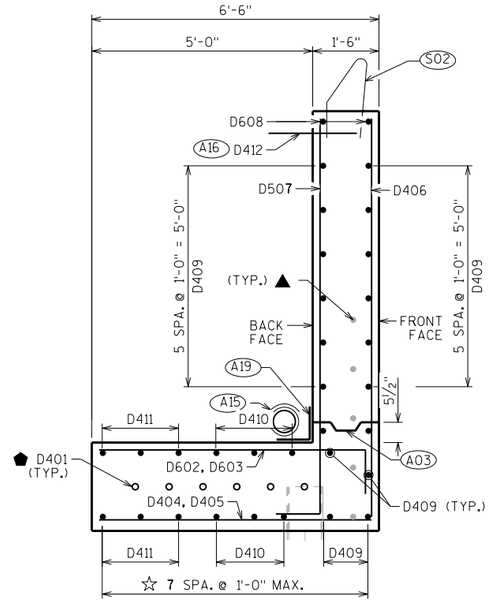
STATE PROJECT NUMBER

1204-05-72



WING 4 ELEVATION

LOOKING NORTH AT F.F. OF WING WALL



SECTION C-C THRU WING 4

BILL OF BARS

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

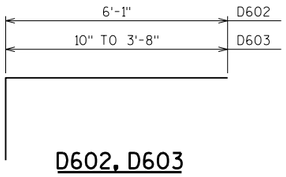
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
⬟ D401	X	6	2'-0"			WALL - HORIZ.
D602	X	15	6'-11"	X		WING FOOTING - TRANSVERSE - TOP
D603	X	3	3'-1"	X	⚠	WING FOOTING - TRANSVERSE - TOP
D404	X	15	6'-2"			WING FOOTING - TRANSVERSE - BOT.
D405	X	3	3'-4"		⚠	WING FOOTING - TRANSVERSE - BOT.
D406	X	12	8'-11"			WING STEM - VERT. - FRONT FACE
D507	X	15	9'-7"	X		WING STEM - VERT. - BACK FACE
D608	X	2	11'-2"			WING STEM - LONGIT. - TOP
D409	X	18	11'-2"			WING STEM/FOOTING - LONGIT.
D410	X	4	11'-2"		⚠	WING FOOTING - LONGIT. - TOP & BOT.
D411	X	8	13'-0"		⚠	WING FOOTING - LONGIT. - TOP & BOT.
D412	X	11	2'-0"			SURFACE DRAIN ANCHOR

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

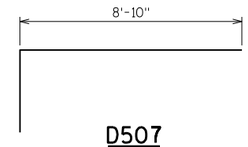
BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
D603	1 SERIES OF 3	1'-8" TO 4'-6"
D405	1 SERIES OF 3	10" TO 3'-8"
D410	2 SERIES OF 2	10'-10" TO 11'-6"
D411	2 SERIES OF 4	12'-1" TO 13'-11"

BUNDLE AND TAG EACH SERIES SEPARATELY.

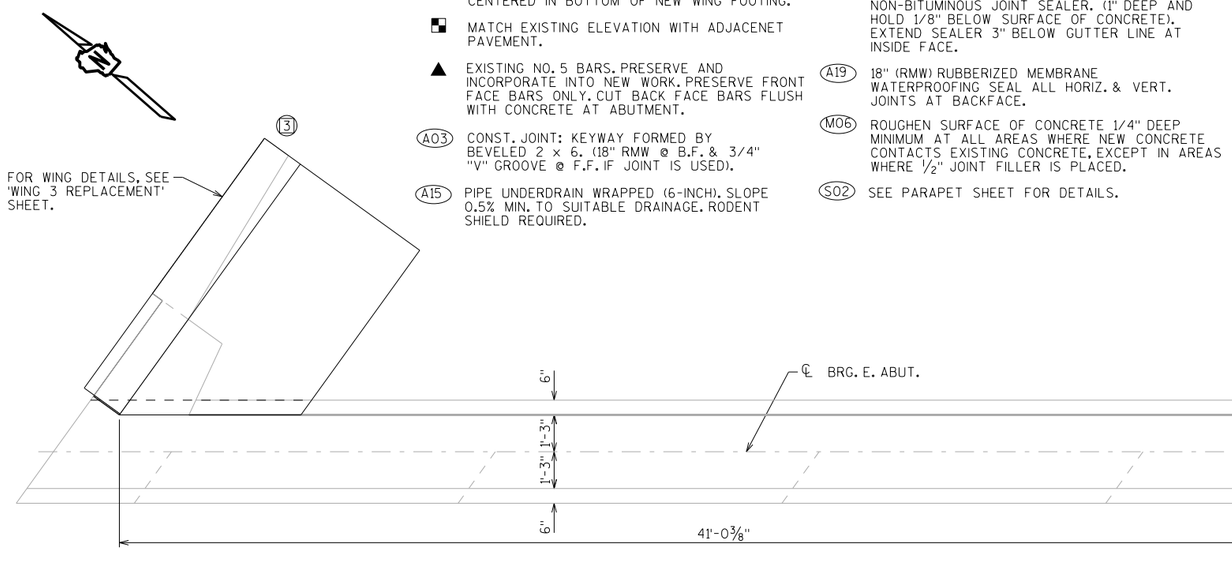


D602, D603



D507

- ⬡ INDICATES WING NUMBER
- ☆ PLACE BARS AS REQUIRED TO MISS PILING.
- ⬟ C401 ADHESIVE ANCHORS. EMBED 9" INTO SOUND CONCRETE & SPACE 1'-0" MAX, CENTERED IN BOTTOM OF NEW WING FOOTING.
- ◪ MATCH EXISTING ELEVATION WITH ADJACENET PAVEMENT.
- ▲ EXISTING NO. 5 BARS. PRESERVE AND INCORPORATE INTO NEW WORK. PRESERVE FRONT FACE BARS ONLY. CUT BACK FACE BARS FLUSH WITH CONCRETE AT ABUTMENT.
- (A03) CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A16) D412 BARS SPACED @ 1'-0" CTRS. EMBED 1'-0" INTO WING CONC. LOCATE 3" DOWN FROM TOP OF WING @ BACKFACE TO 6" DOWN @ WING TIP.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (M06) ROUGHEN SURFACE OF CONCRETE 1/4" DEEP MINIMUM AT ALL AREAS WHERE NEW CONCRETE CONTACTS EXISTING CONCRETE, EXCEPT IN AREAS WHERE 1/2" JOINT FILLER IS PLACED.
- (S02) SEE PARAPET SHEET FOR DETAILS.



EAST ABUT. PLAN

SHOWING WING 4 REPLACEMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-25-38

DRAWN BY DLM | PLANS CK'D. JDM

WING 4 REPLACEMENT

SHEET 7

223

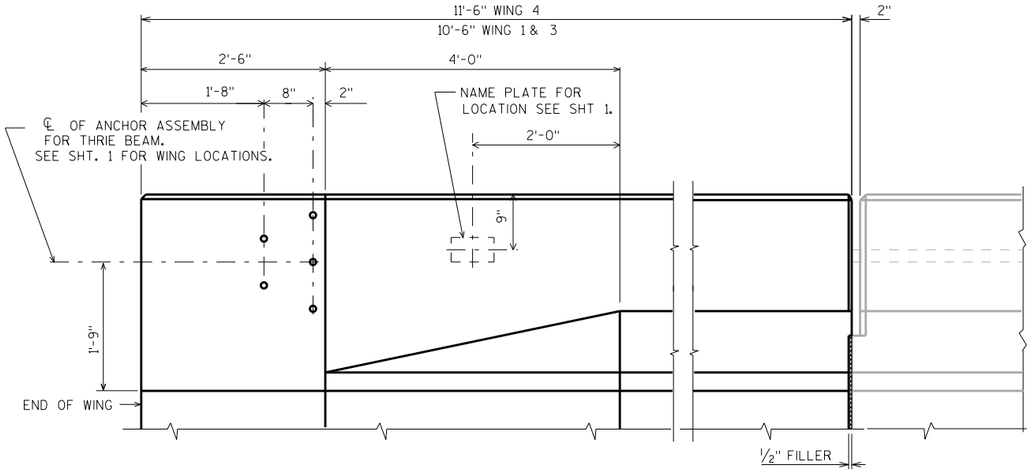
SCALE = 2.50

8

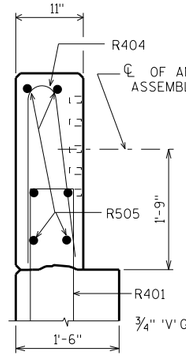
8

STATE PROJECT NUMBER

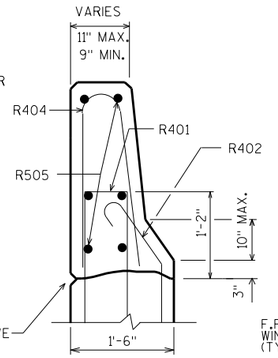
1204-05-72



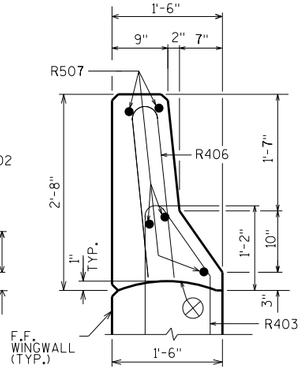
INSIDE ELEVATION



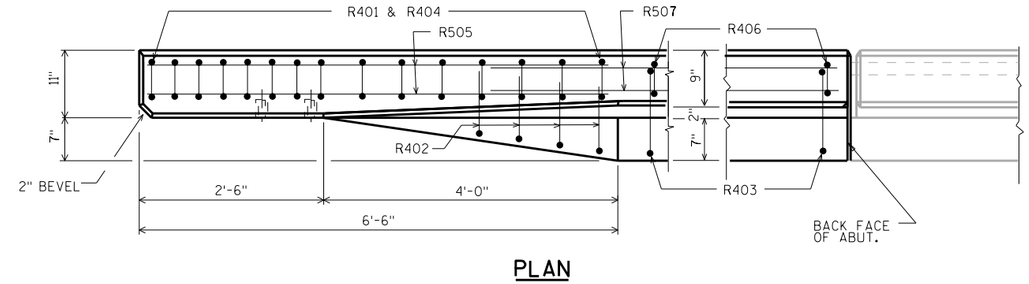
SECTION A



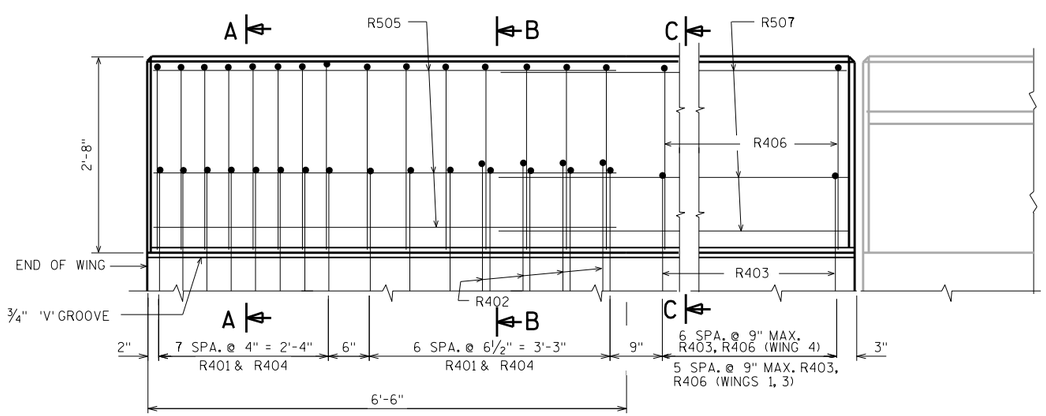
SECTION B



SECTION C



PLAN



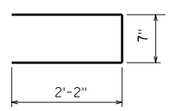
OUTSIDE ELEVATION

BILL OF BARS

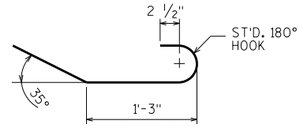
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.

EPOXY COAT ALL PARAPET REINF.

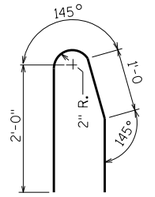
BAR MARK	NO. REQ'D. WEST ABUT.	NO. REQ'D. EAST ABUT.	LENGTH	BENT	LOCATION
R401	15	30	4'-9"	X	WINGS STIRRUPS
R402	4	8	3'-1"	X	WINGS
R403	6	13	4'-9"	X	WINGS STIRRUPS
R404	15	30	4'-9"	X	WINGS
R505	6	12	6'-2"		WINGS
R406	6	13	4'-10"	X	WINGS
R507	5	10	7'-11"		WINGS



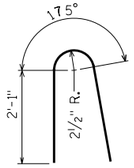
R401



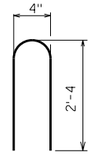
R402



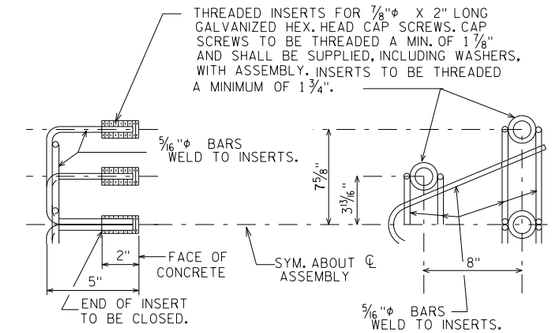
R403



R404



R406



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

⊗ CONST. JOINT - STRIKE OFF AS SHOWN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-25-38

DRAWN BY DLM | PLANS CK'D. JDM

SLOPED FACE PARAPET "B"

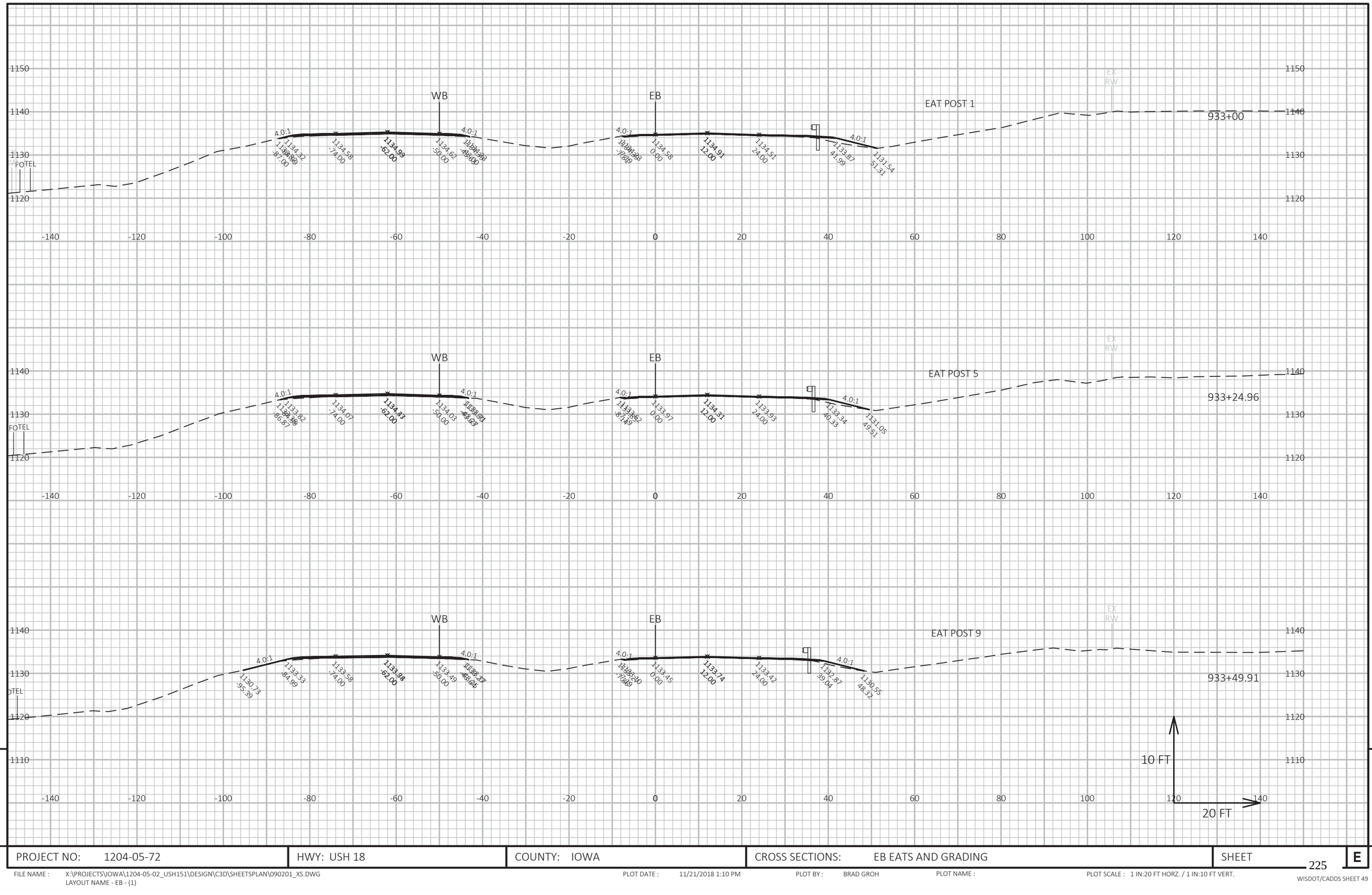
SHEET 8

224

8

8

SCALE = 1.00

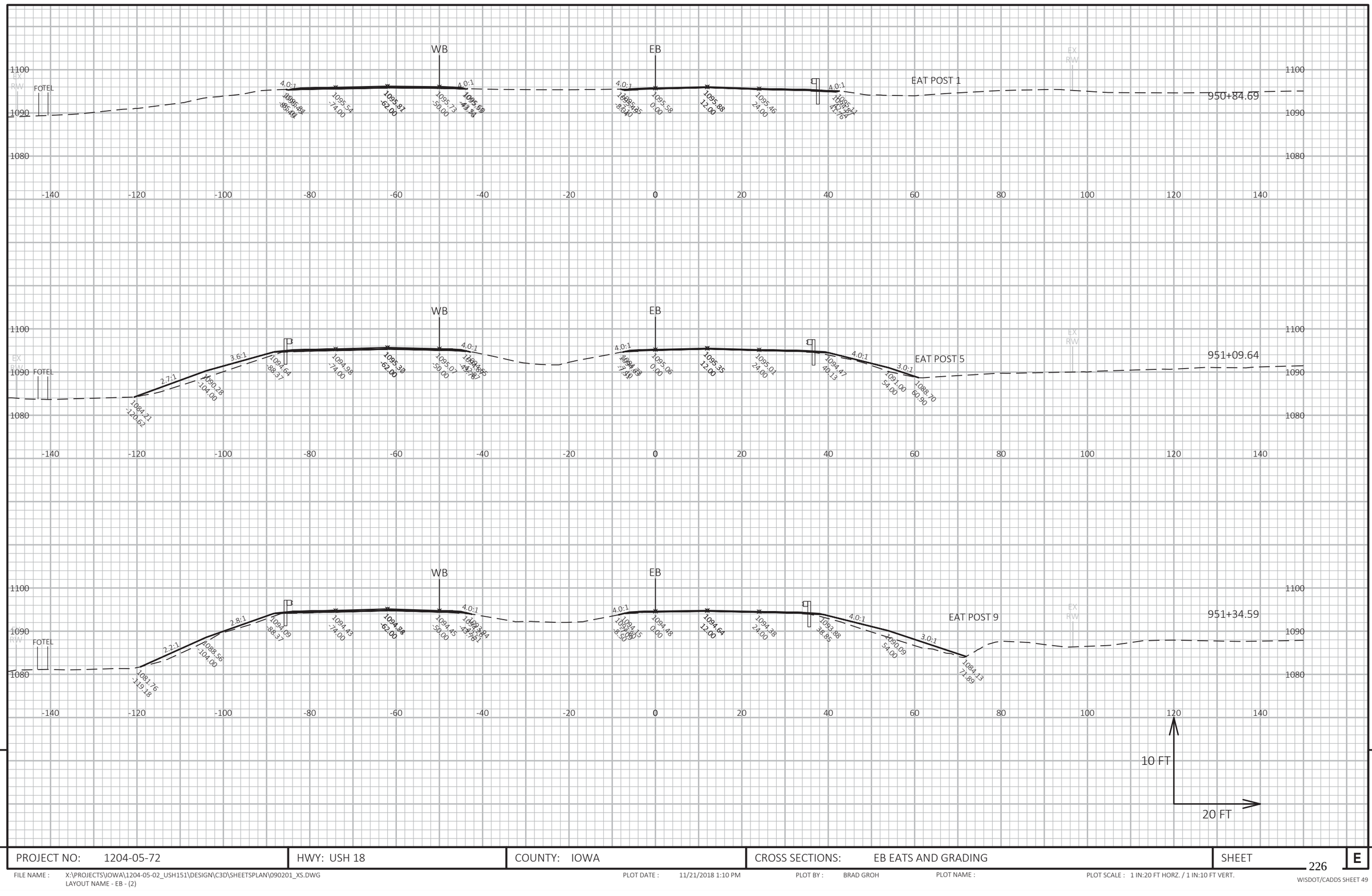


9 9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (1)

PLOT DATE : 11/21/2018 1:10 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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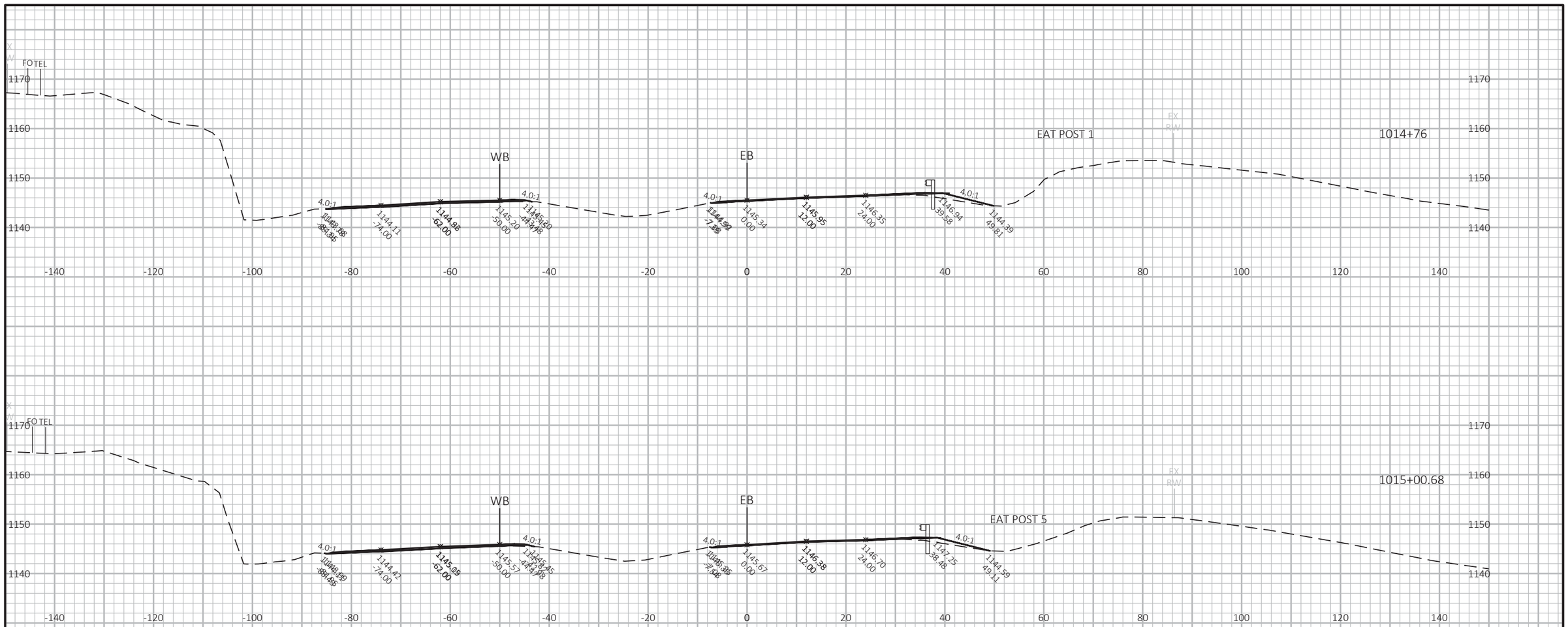
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (2)

PLOT DATE : 11/21/2018 1:10 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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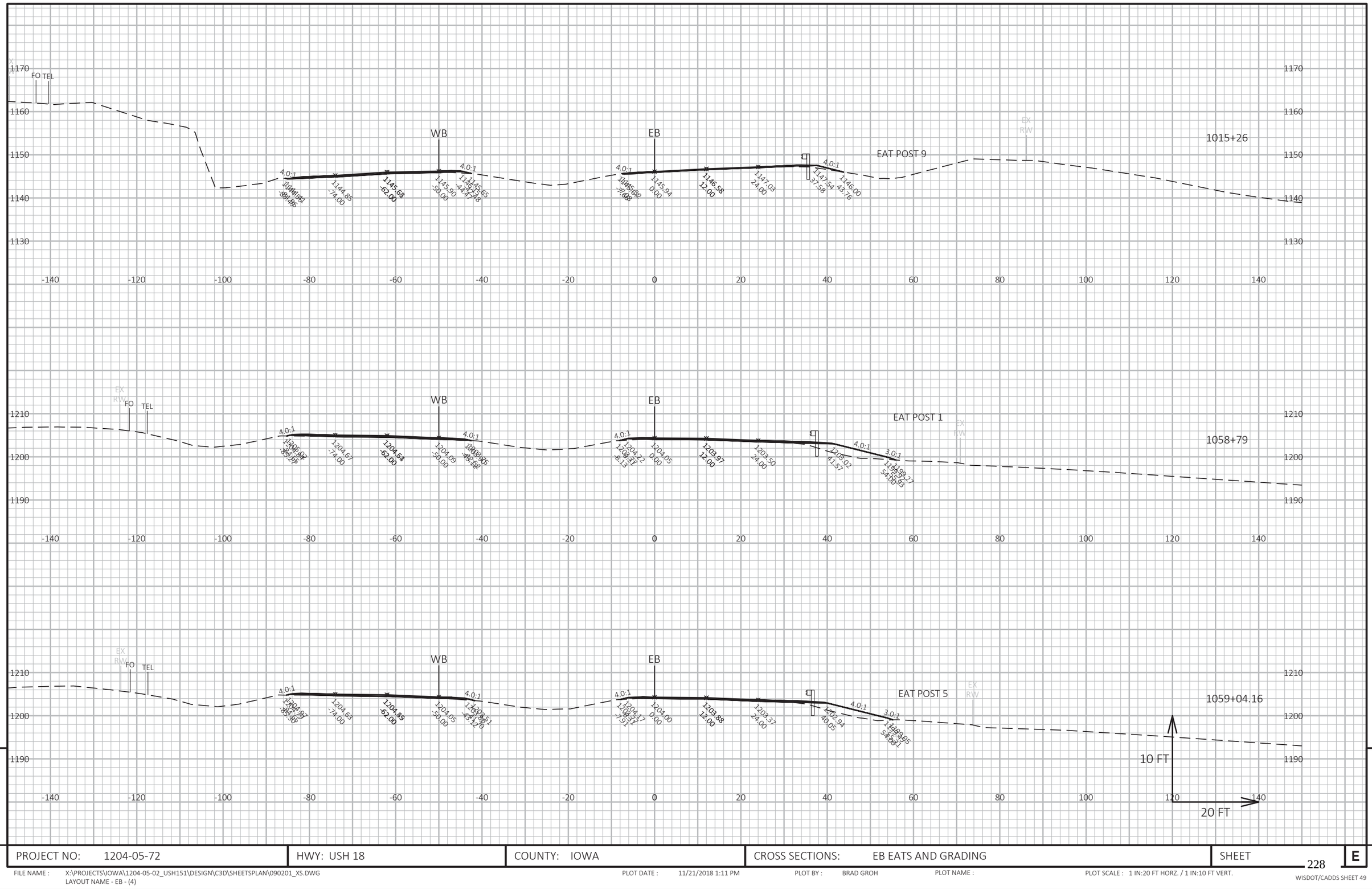
9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 227	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (3)

PLOT DATE : 11/21/2018 1:10 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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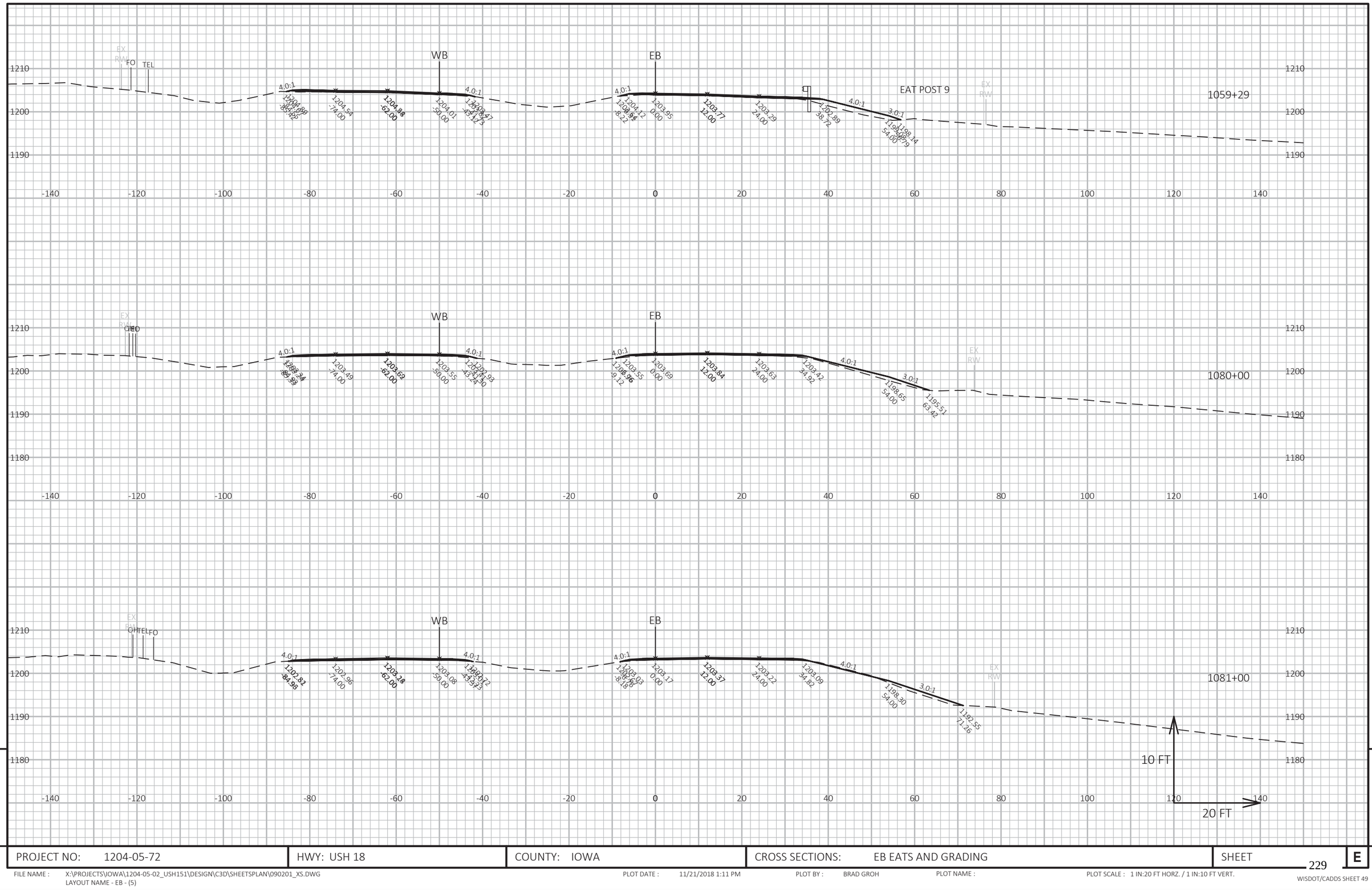
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 228	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (4)

PLOT DATE : 11/21/2018 1:11 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

9



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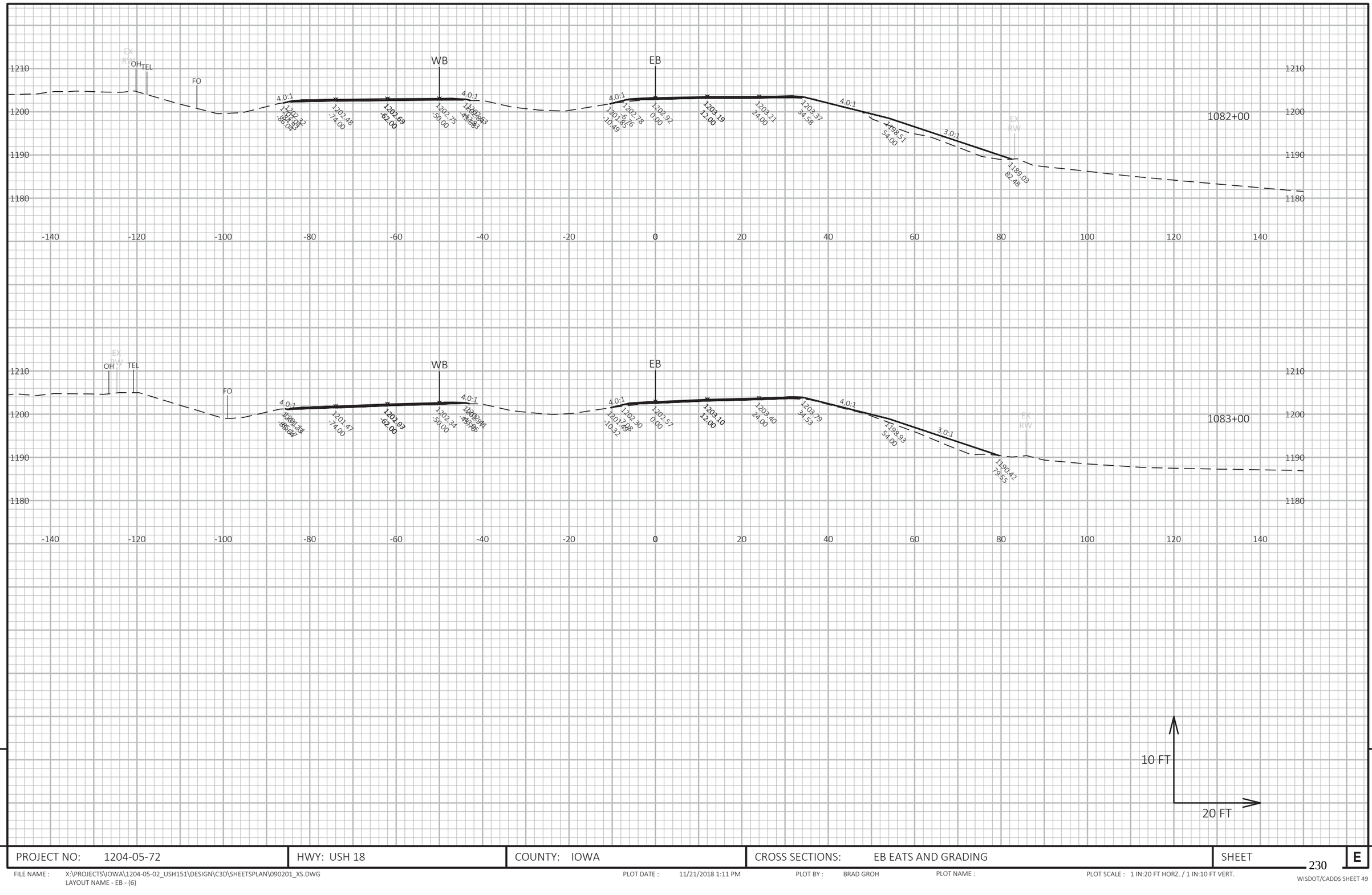
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (5)

PLOT DATE : 11/21/2018 1:11 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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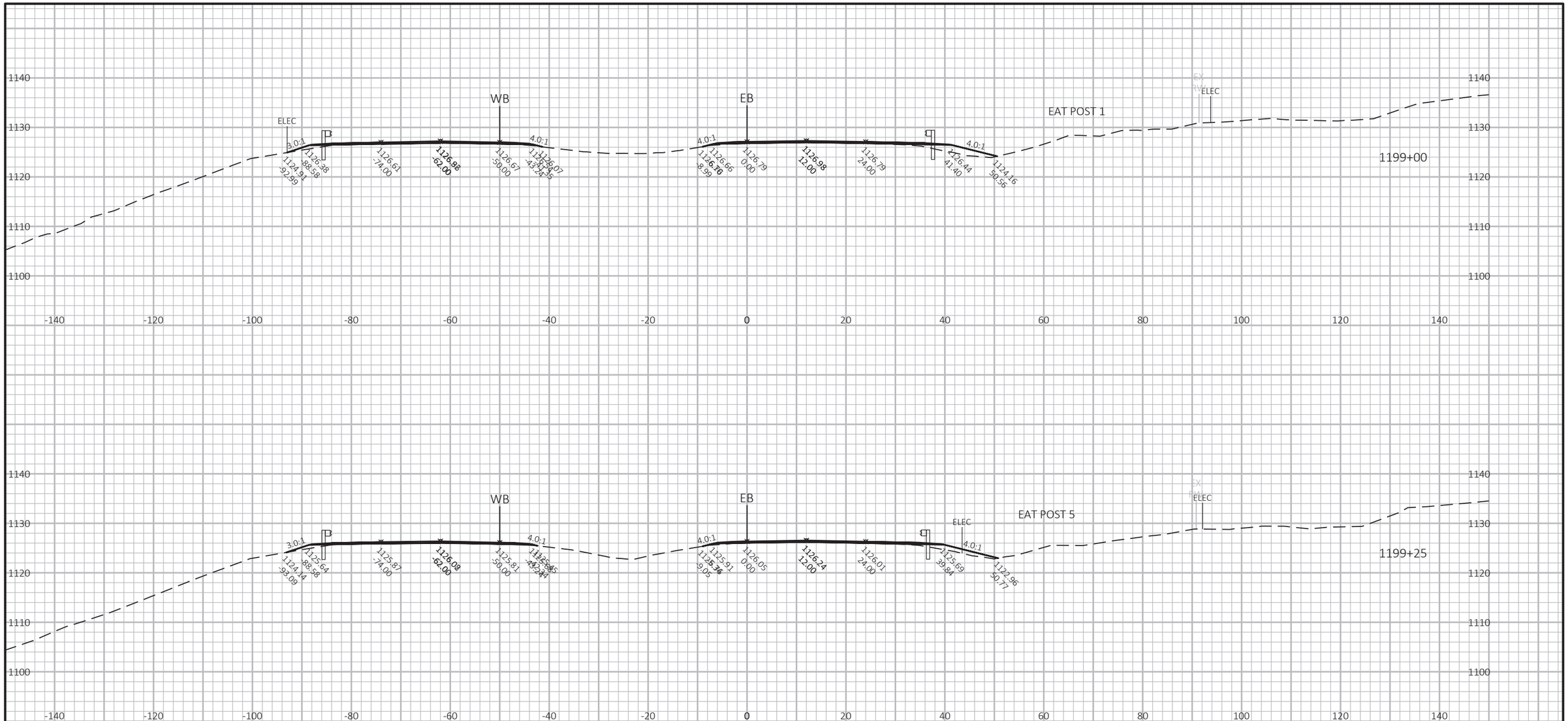
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 230	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (6)

PLOT DATE : 11/21/2018 1:11 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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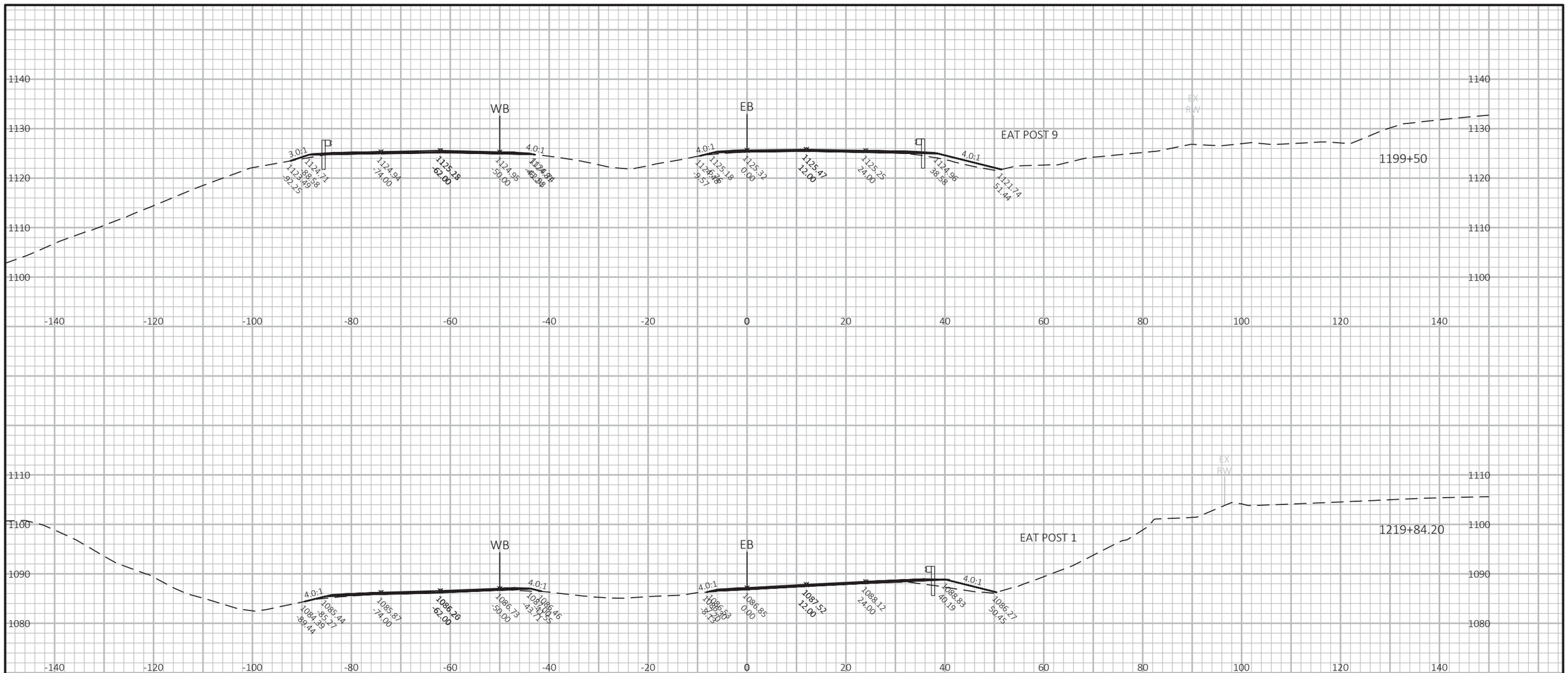
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (7)

PLOT DATE : 11/21/2018 1:11 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



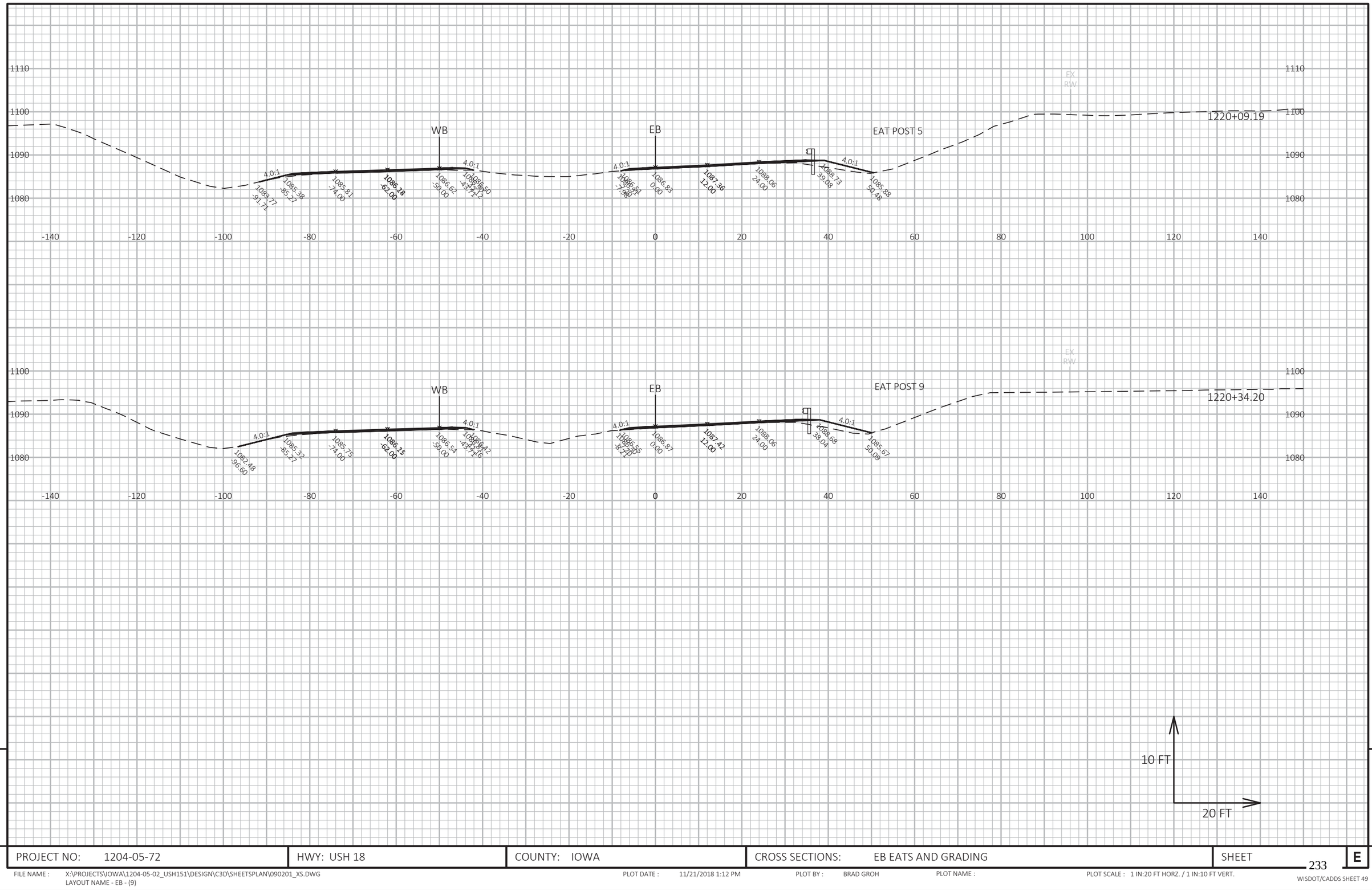
9

9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (8)

PLOT DATE : 11/21/2018 1:11 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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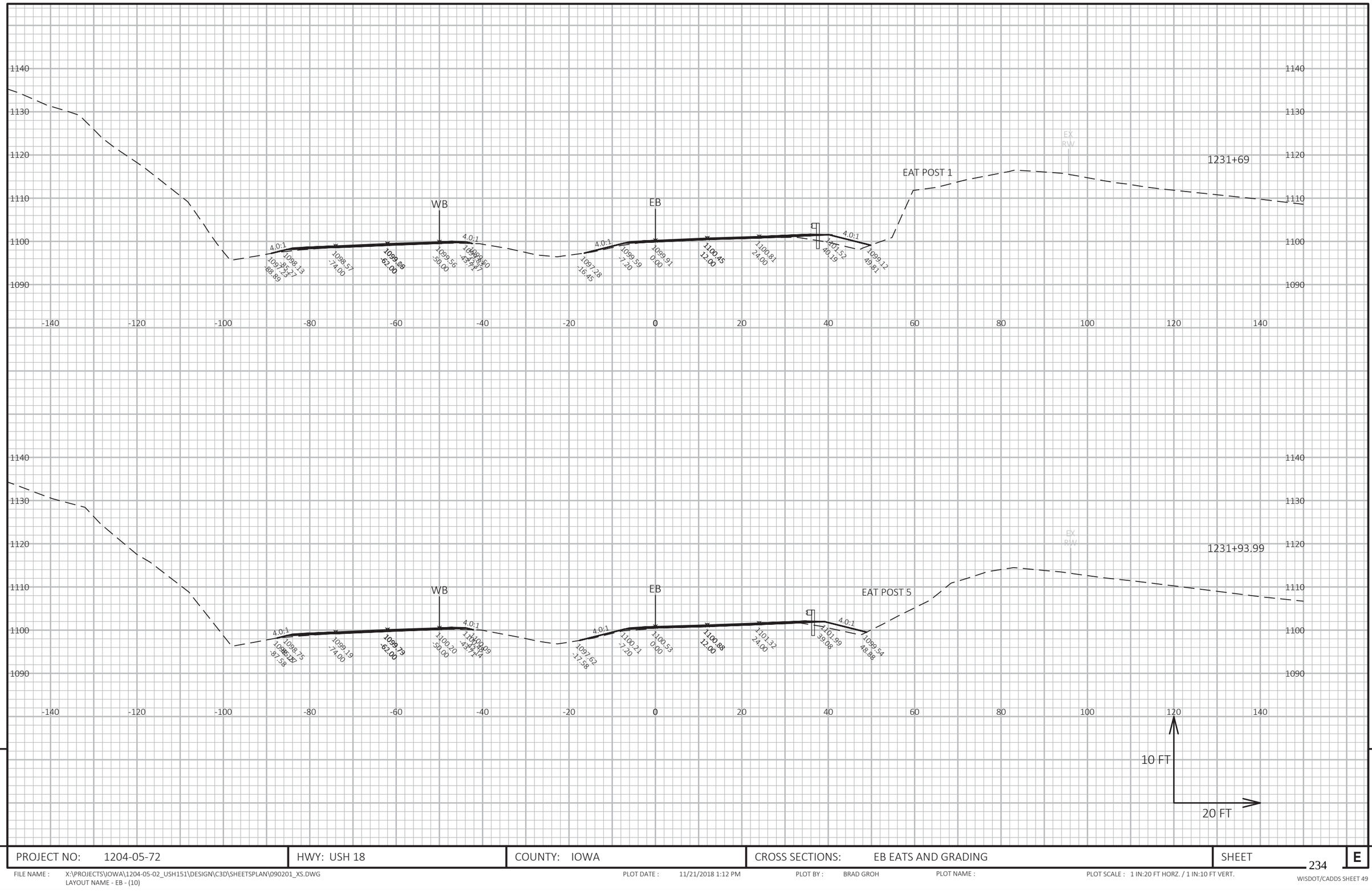
9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 233	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (9)

PLOT DATE : 11/21/2018 1:12 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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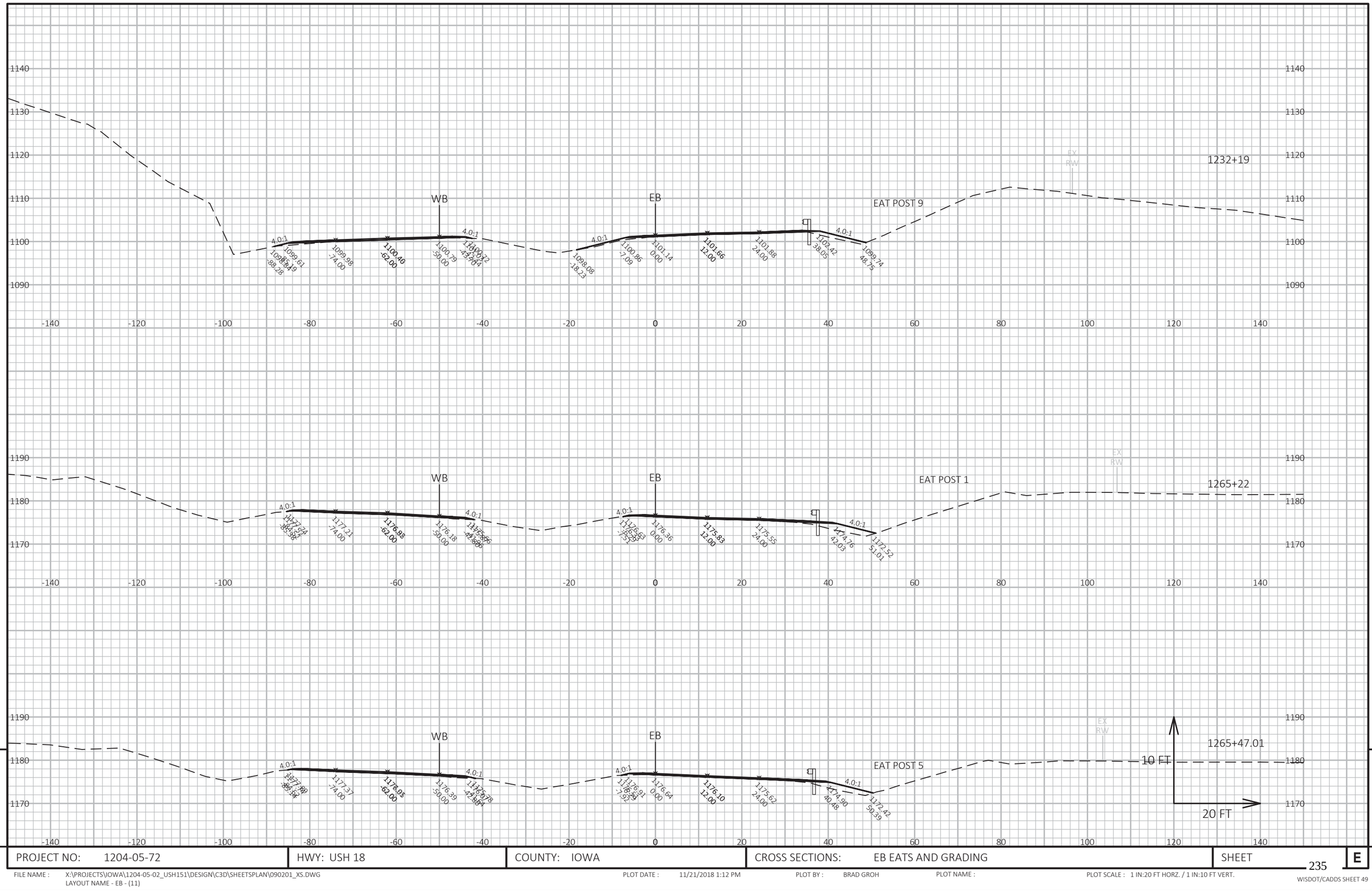
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET E

234

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (10)

PLOT DATE : 11/21/2018 1:12 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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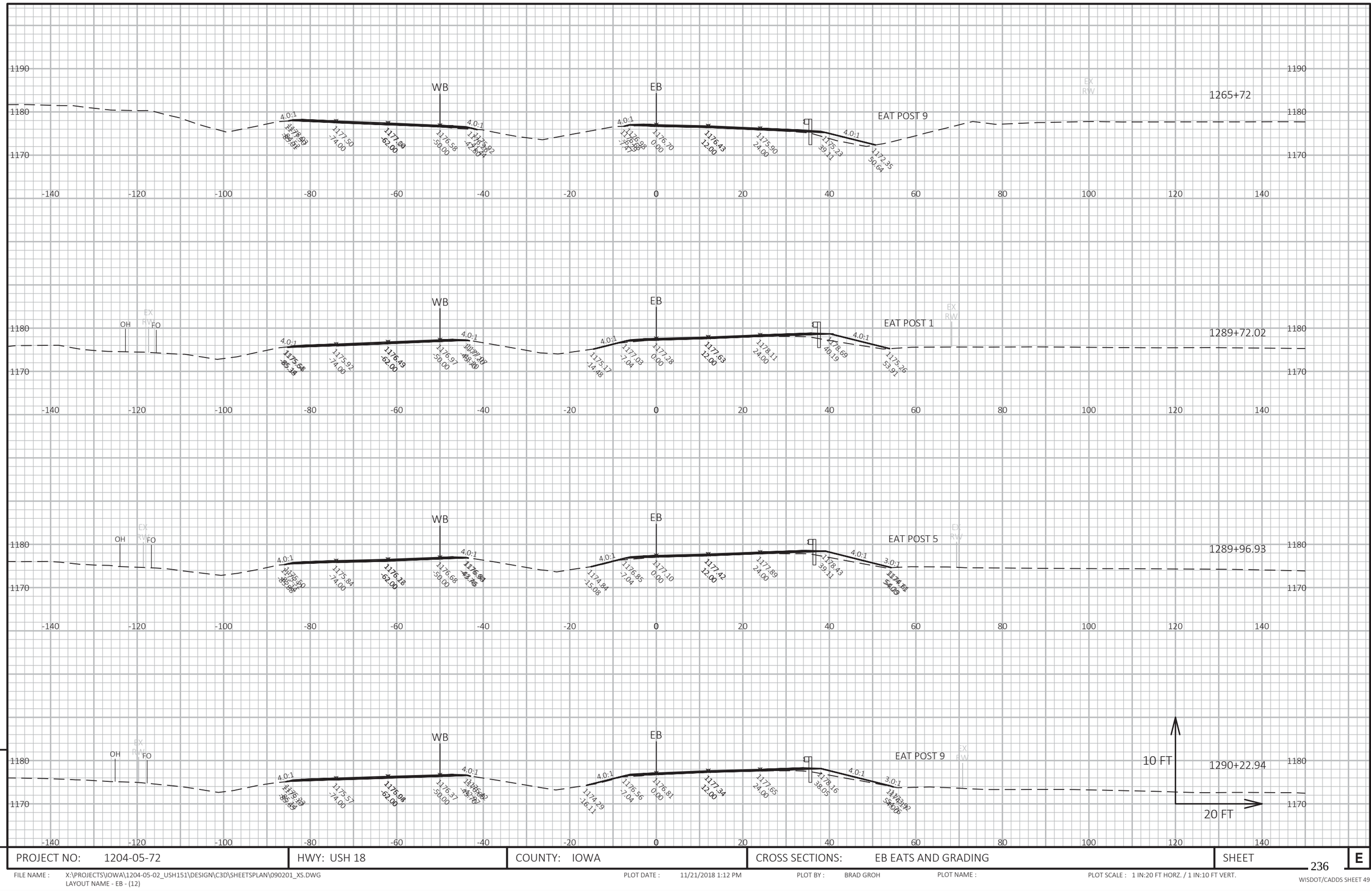
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 235	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (11)

PLOT DATE : 11/21/2018 1:12 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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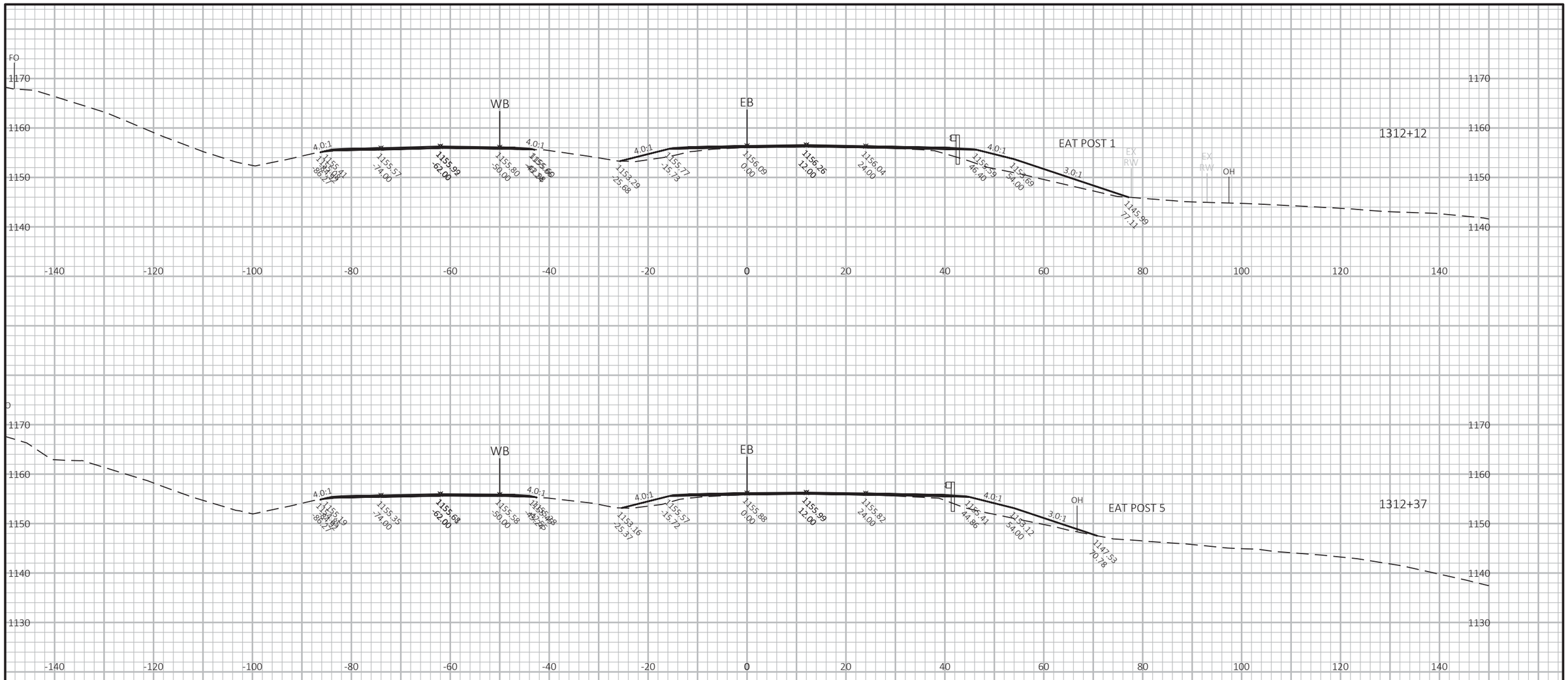
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 236 E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (12)

PLOT DATE : 11/21/2018 1:12 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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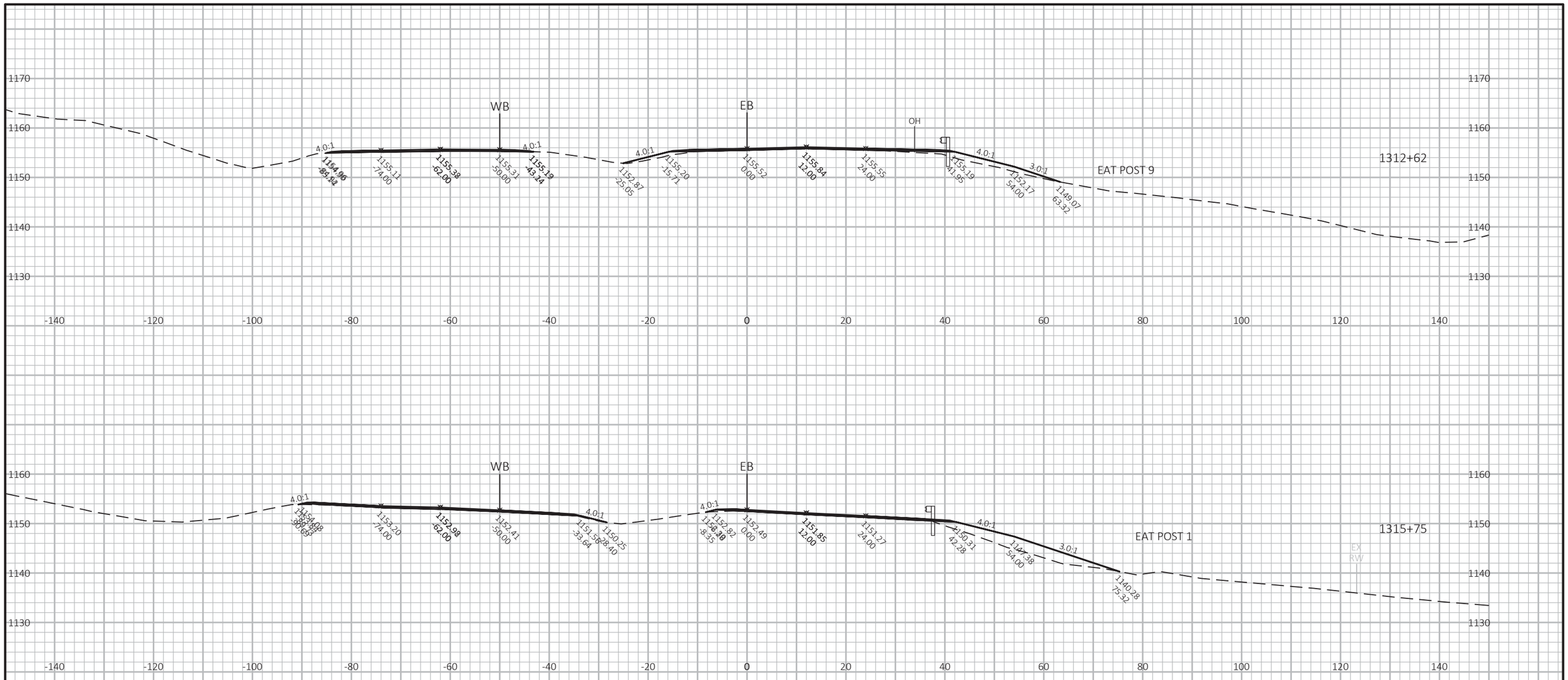
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 237	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (13)

PLOT DATE : 11/21/2018 1:12 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



10 FT
20 FT

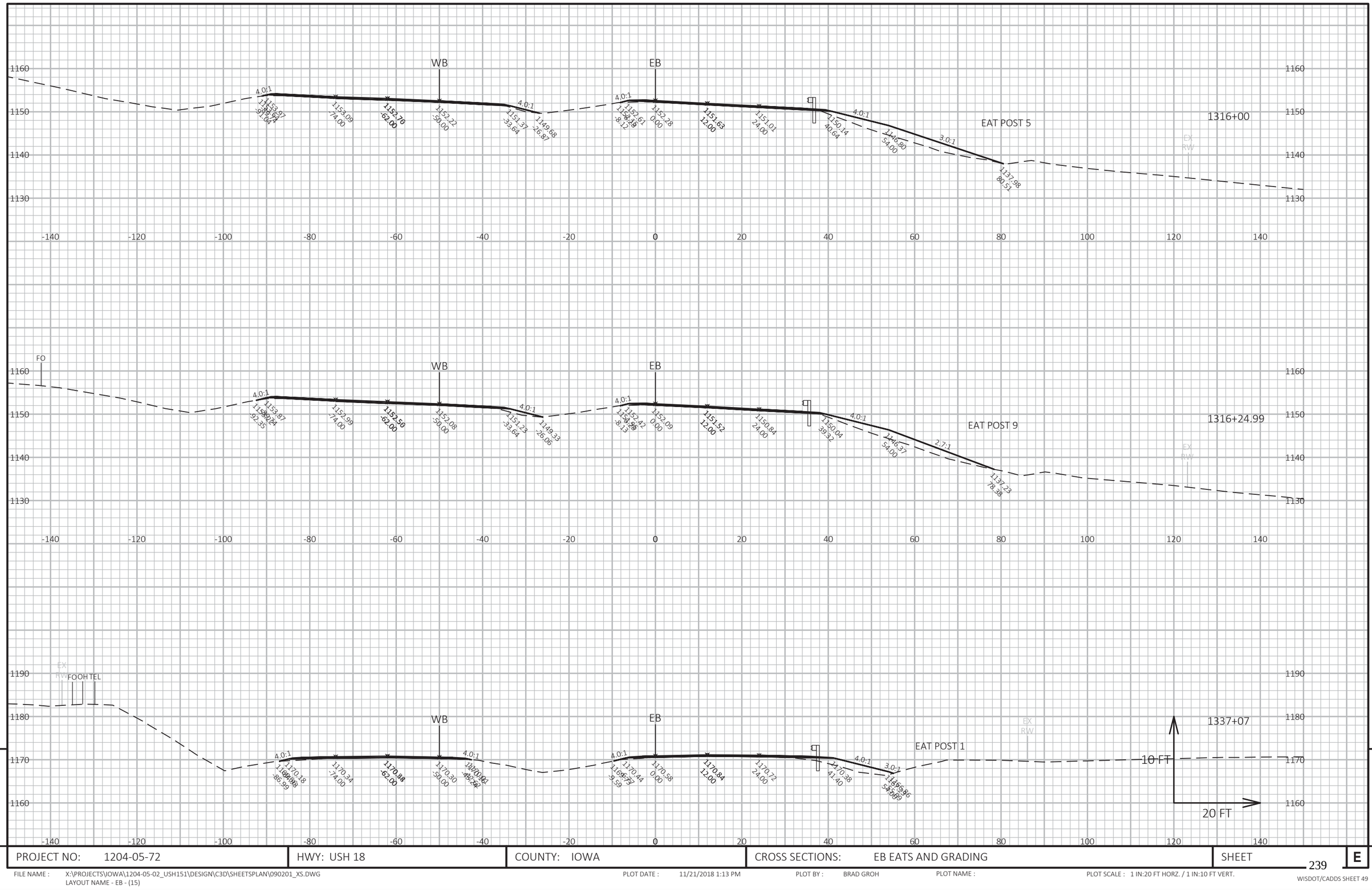
9

9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 238	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (14)

PLOT DATE : 11/21/2018 1:13 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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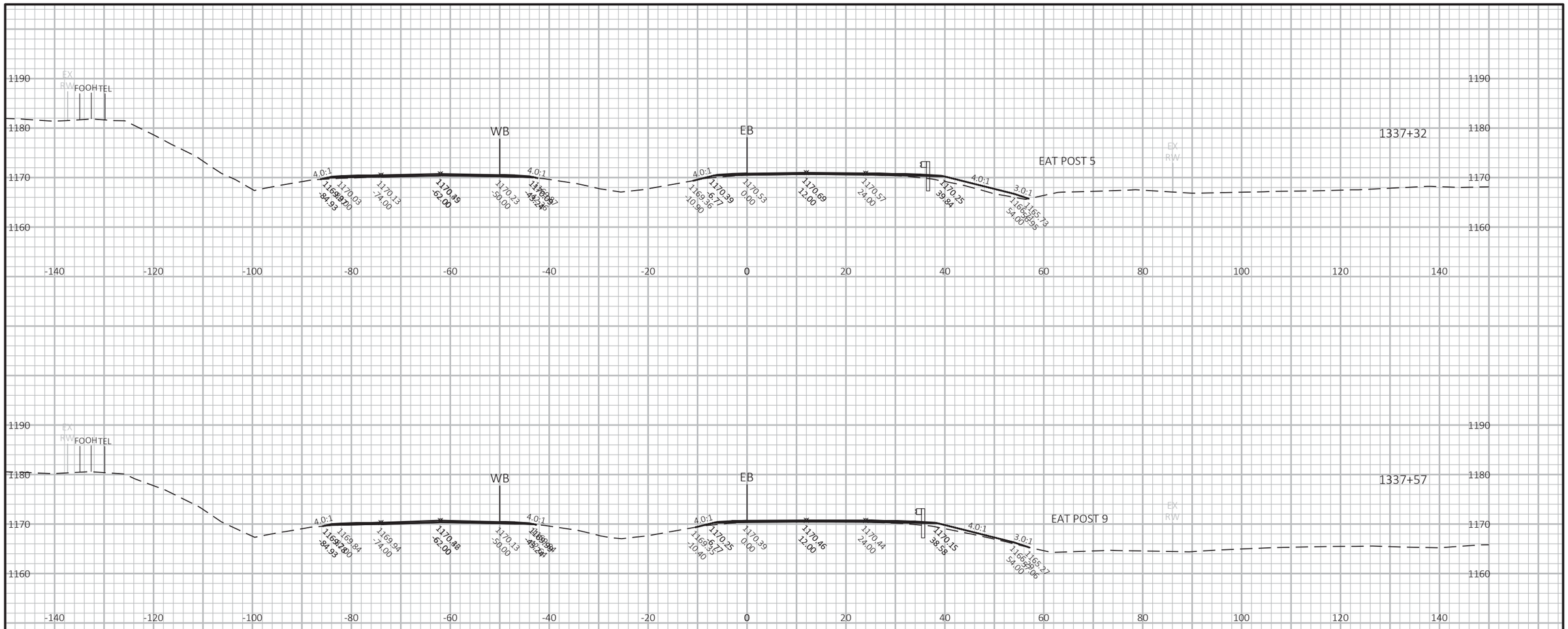
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 239	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (15)

PLOT DATE : 11/21/2018 1:13 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



10 FT

20 FT

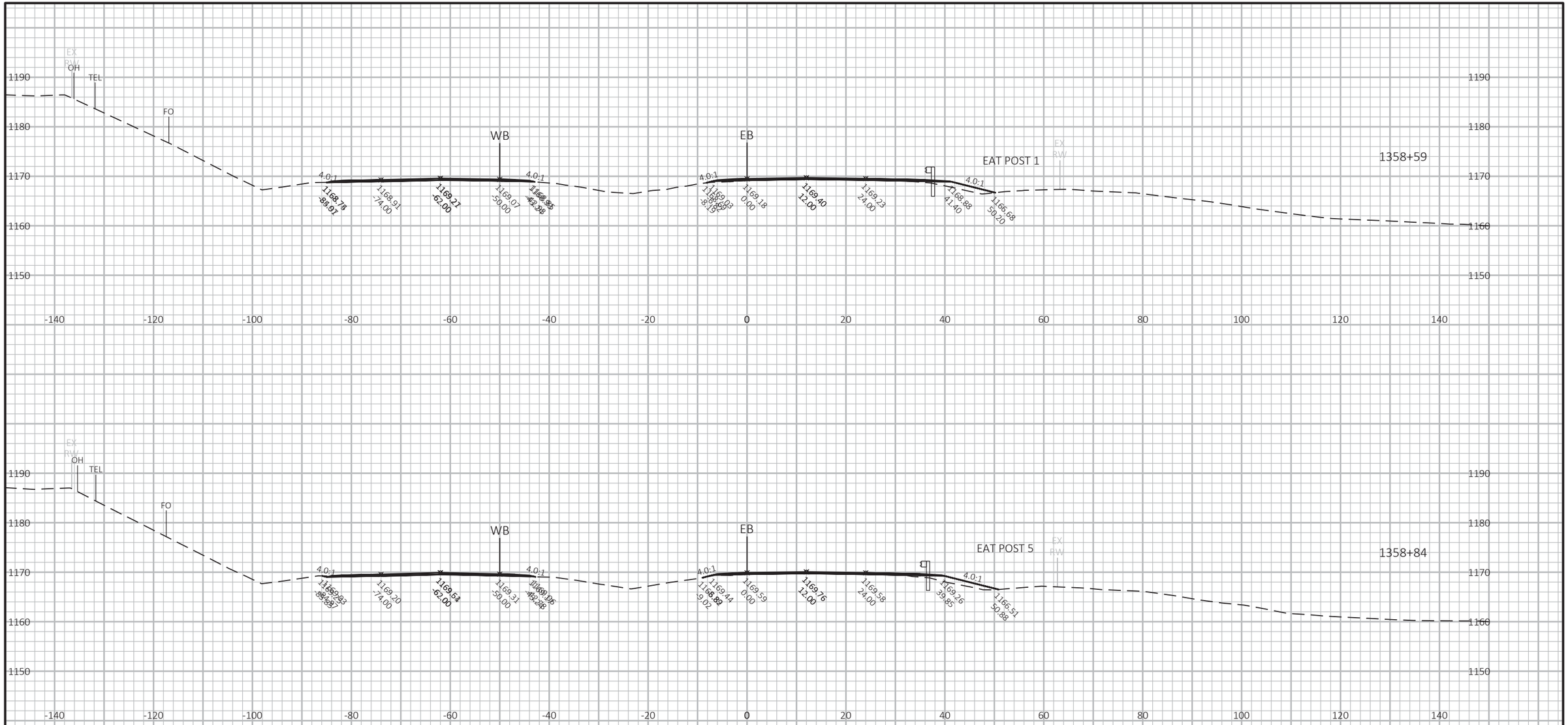
9

9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 240	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (16)

PLOT DATE : 11/21/2018 1:13 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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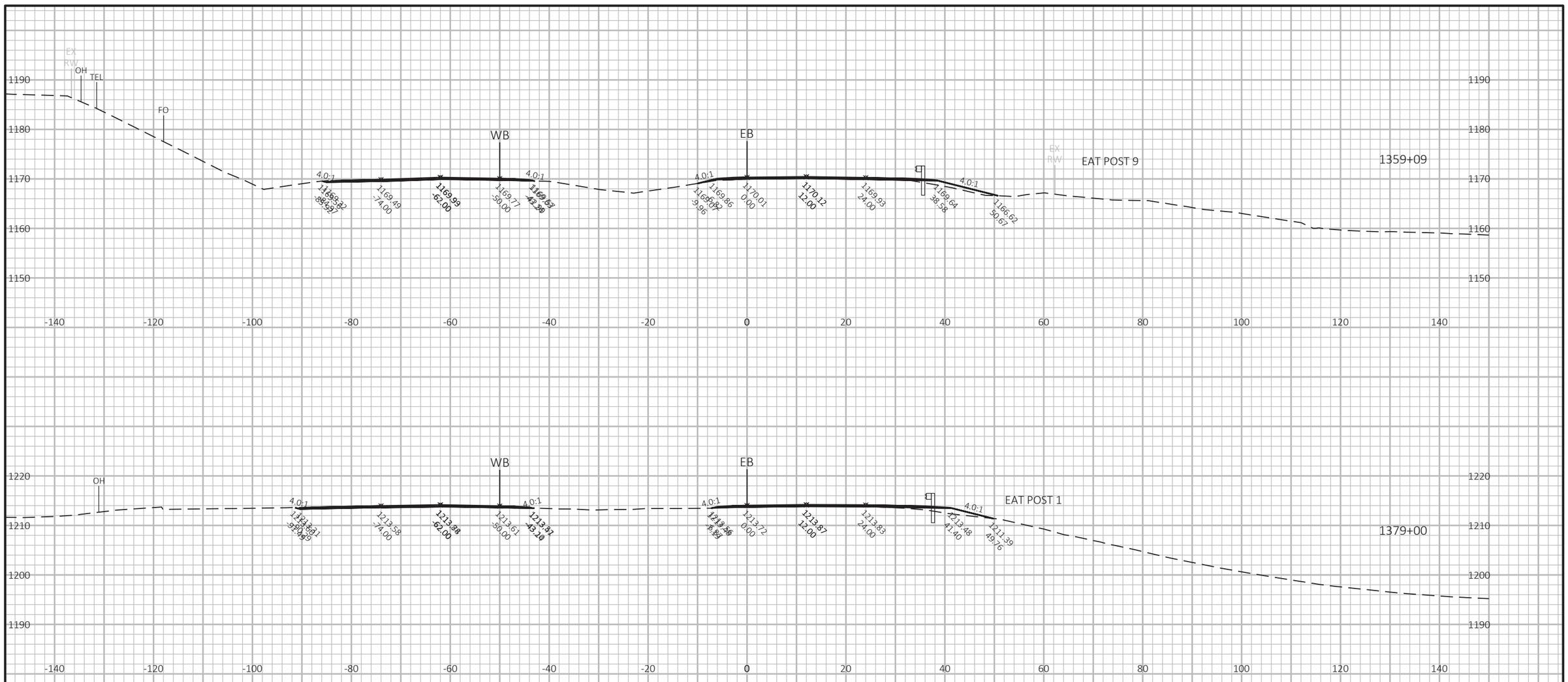
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 241	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (17)

PLOT DATE : 11/21/2018 1:13 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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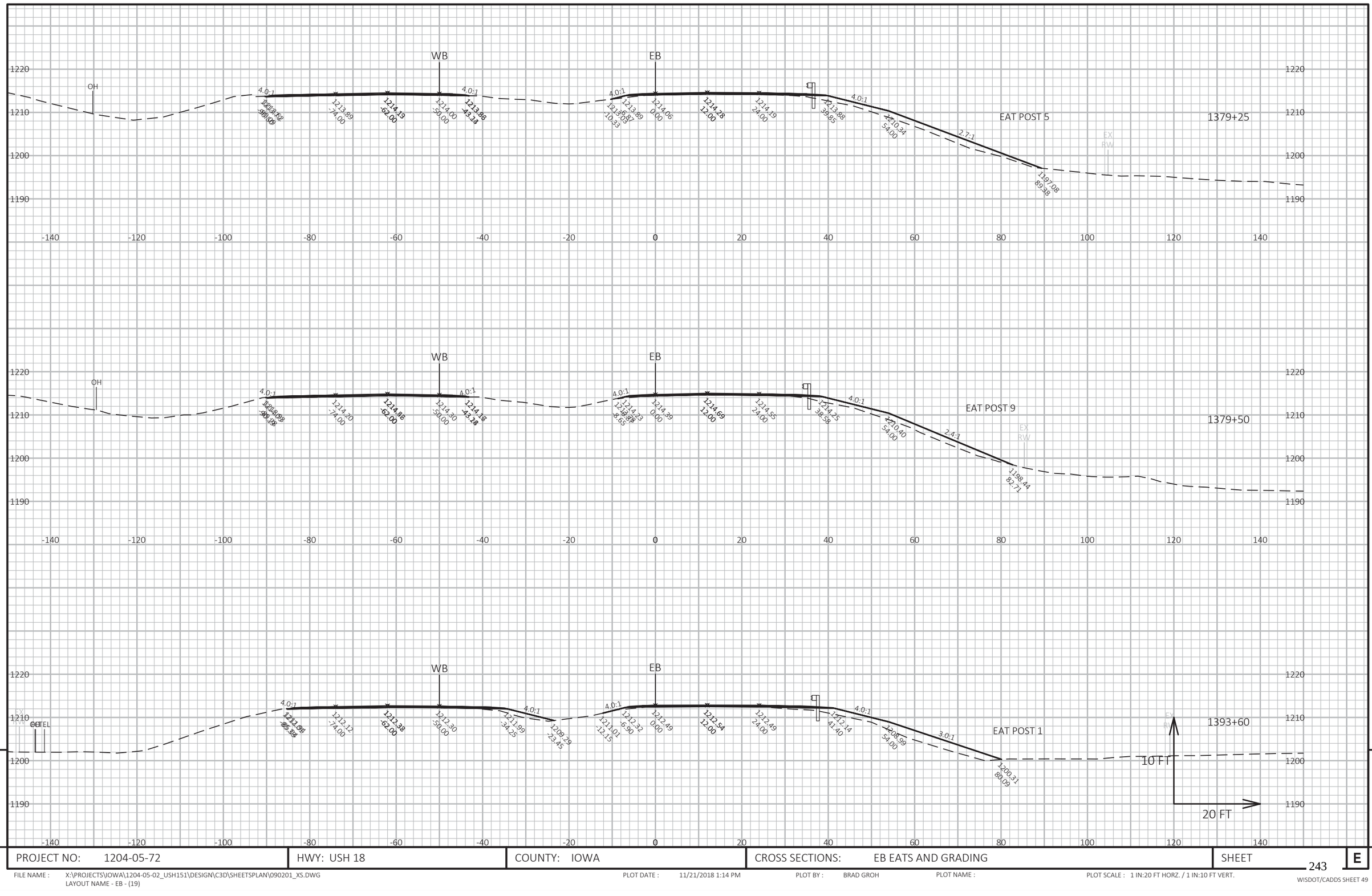
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 242 E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (18)

PLOT DATE : 11/21/2018 1:14 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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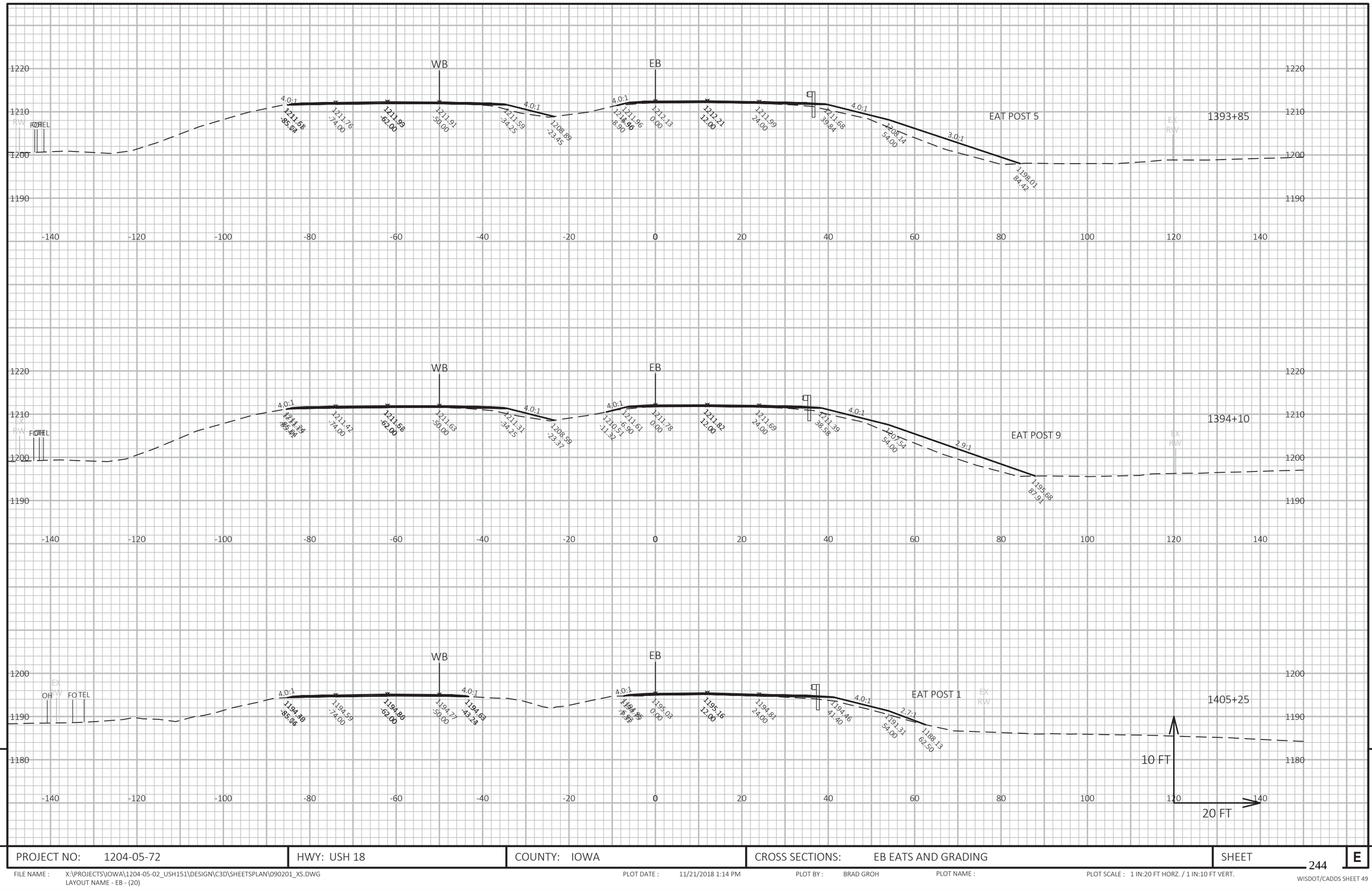
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 243	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (19)

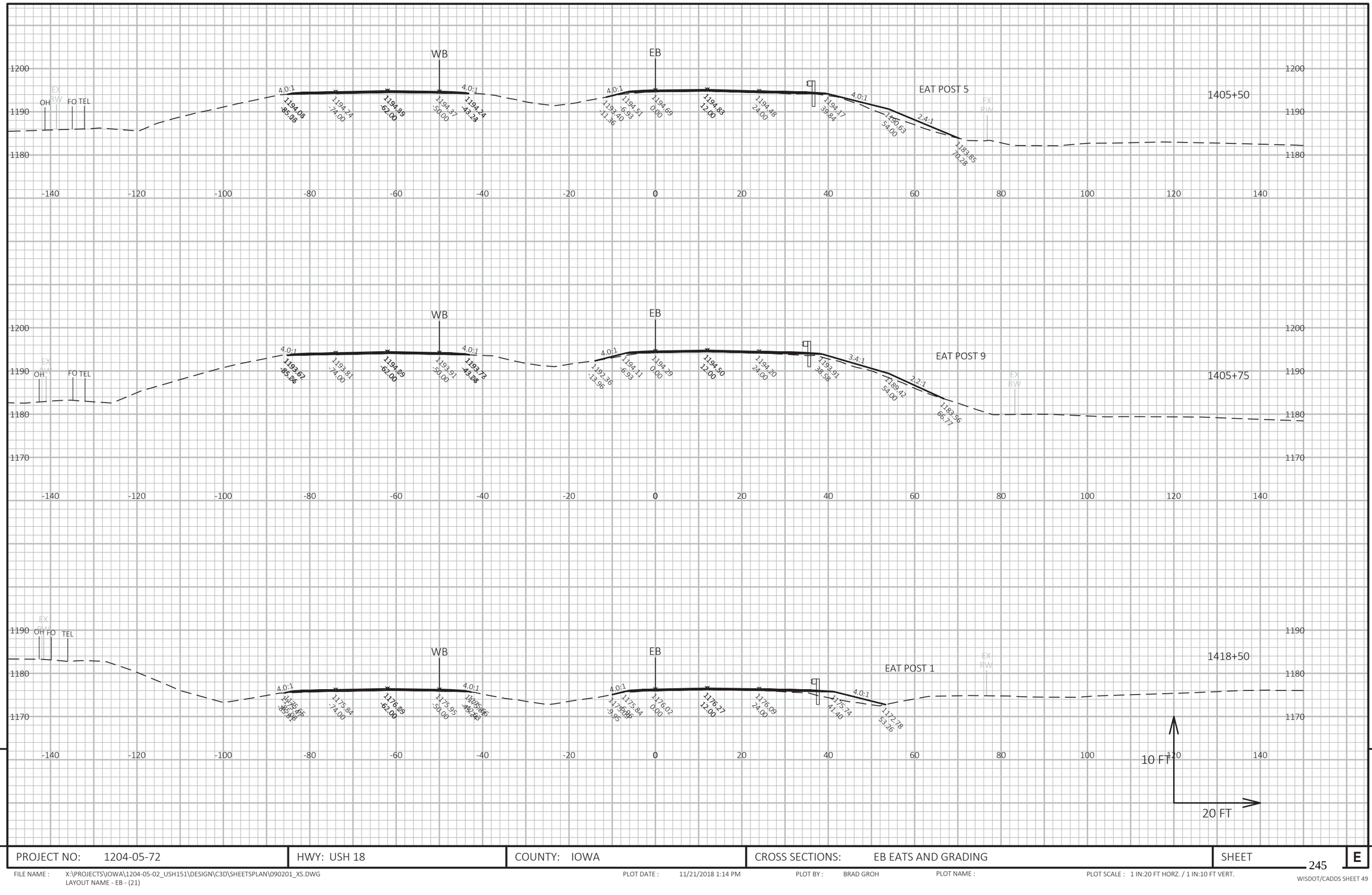
PLOT DATE : 11/21/2018 1:14 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 244	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (20)

PLOT DATE : 11/21/2018 1:14 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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9

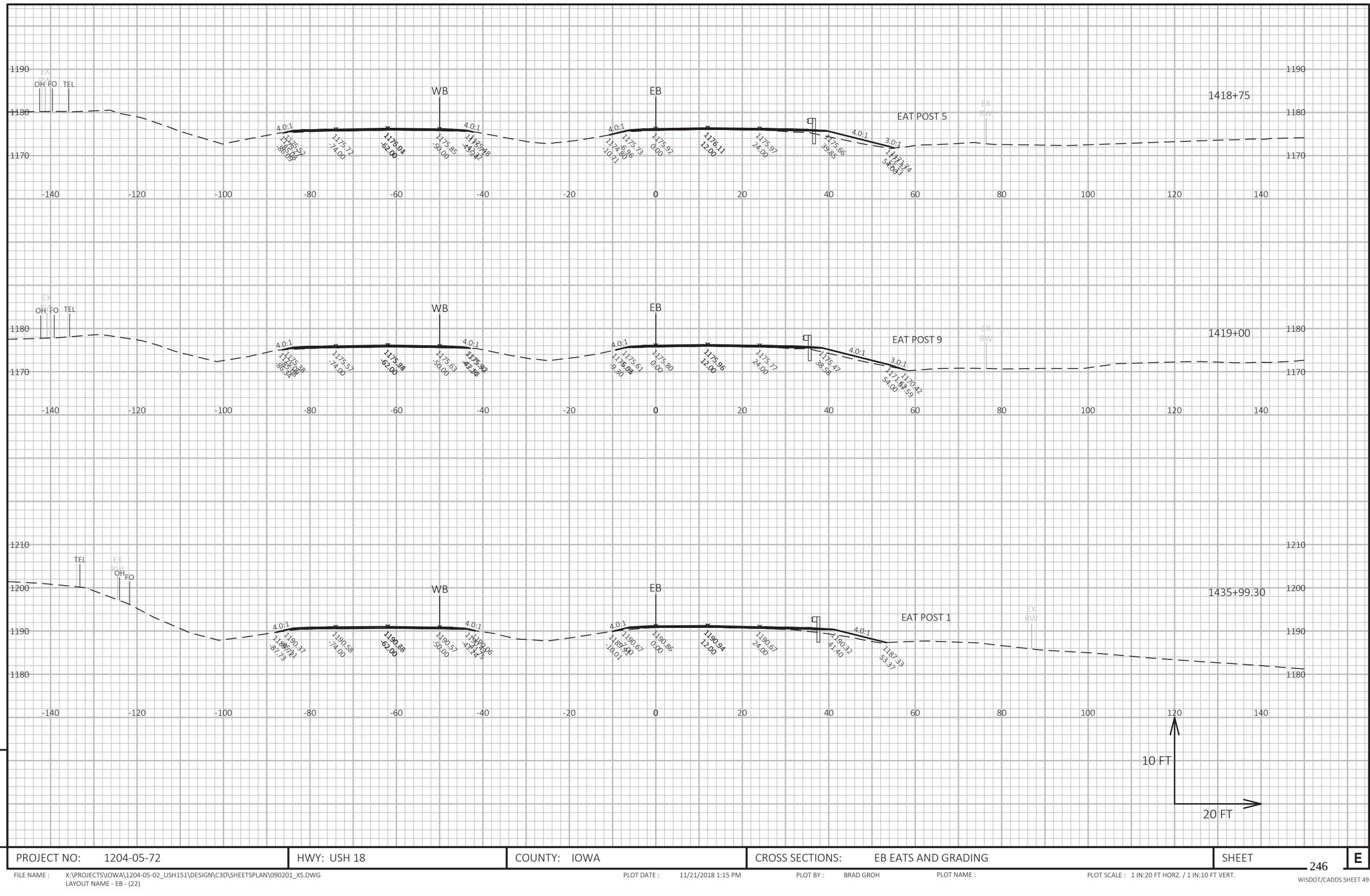
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET E

245

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (21)

PLOT DATE : 11/21/2018 1:14 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (22)

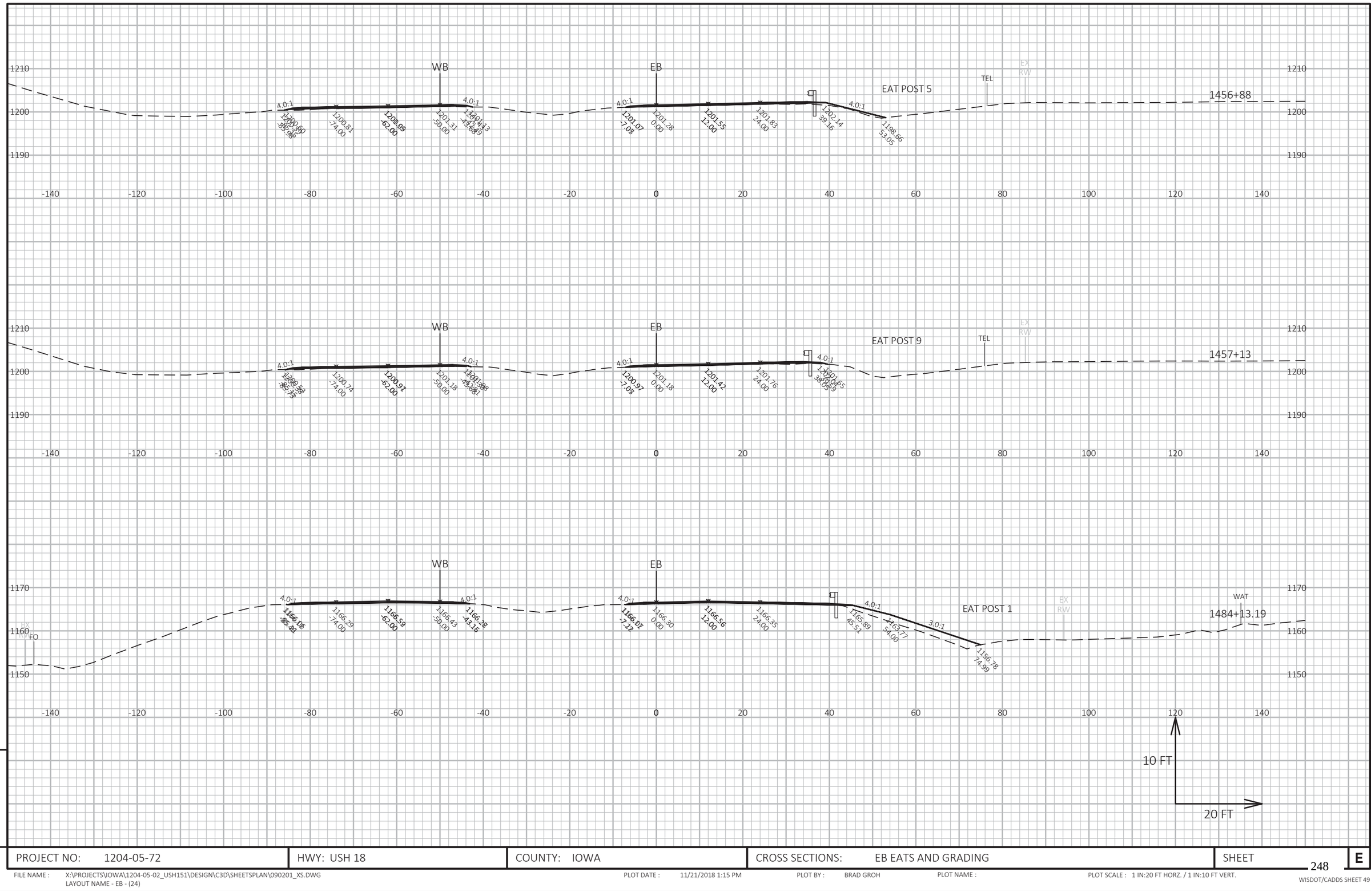
PLOT DATE : 11/21/2018 1:15 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 247 E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (23)

PLOT DATE : 11/21/2018 1:15 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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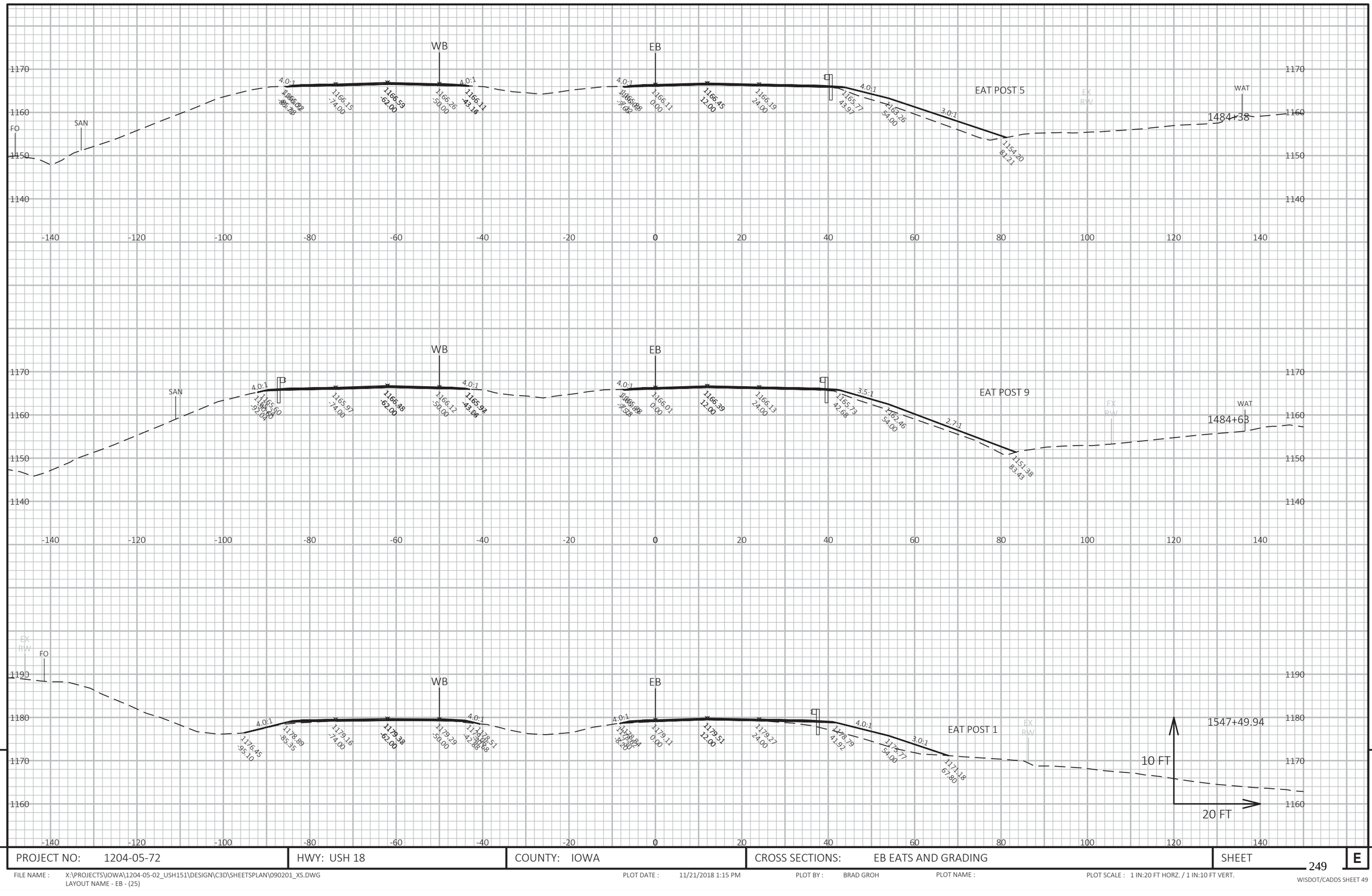
PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET	E

248

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (24)

PLOT DATE : 11/21/2018 1:15 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

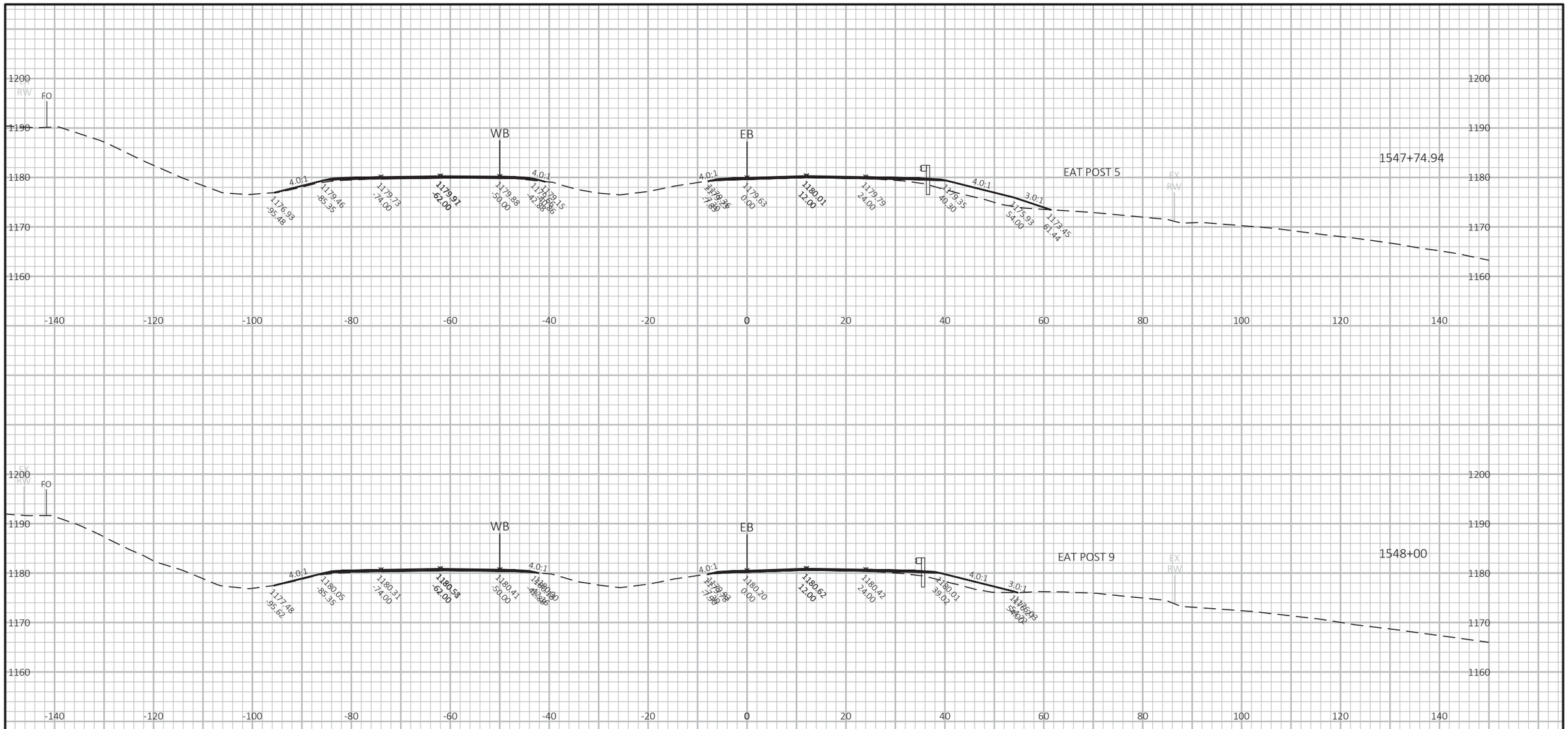


PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 249 E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (25)

PLOT DATE : 11/21/2018 1:15 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 250	E

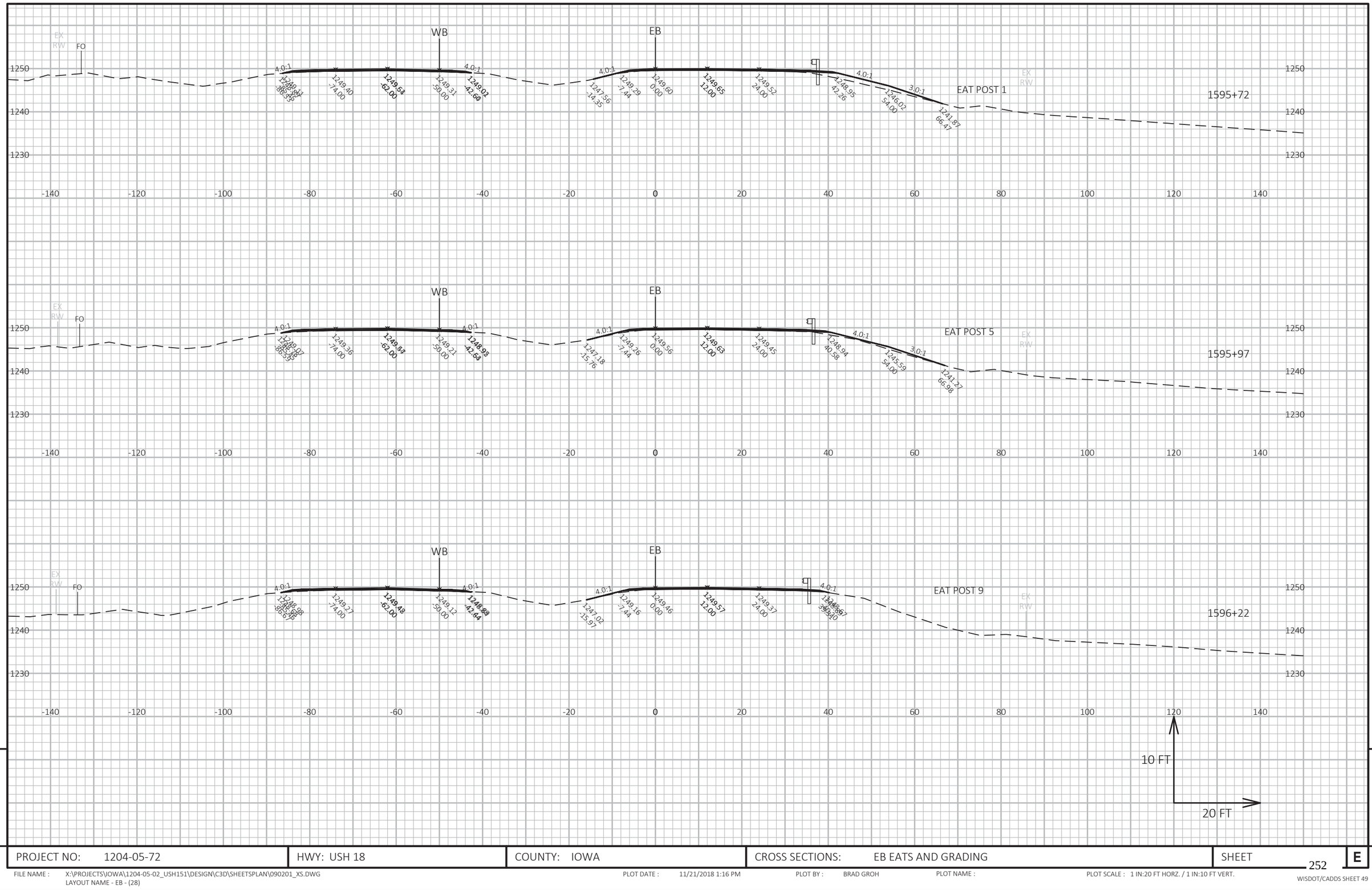
FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (26)

PLOT DATE : 11/21/2018 1:15 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 251	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (27)
PLOT DATE : 11/21/2018 1:16 PM
PLOT BY : BRAD GROH
PLOT NAME :
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET	E

252

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (28)

PLOT DATE : 11/21/2018 1:16 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

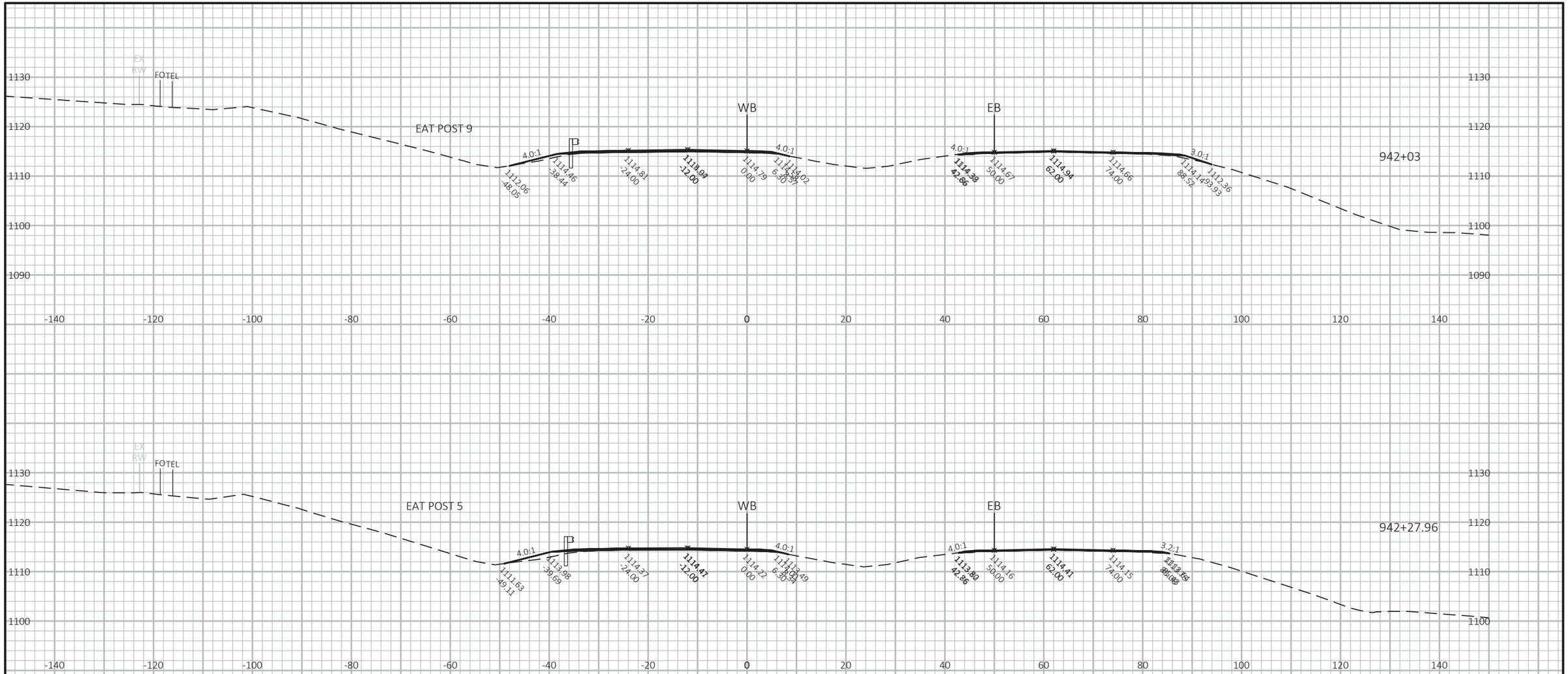
WISDOT/CADDS SHEET 49

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: EB EATS AND GRADING	SHEET 253 E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - EB - (29)

PLOT DATE : 11/21/2018 1:16 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



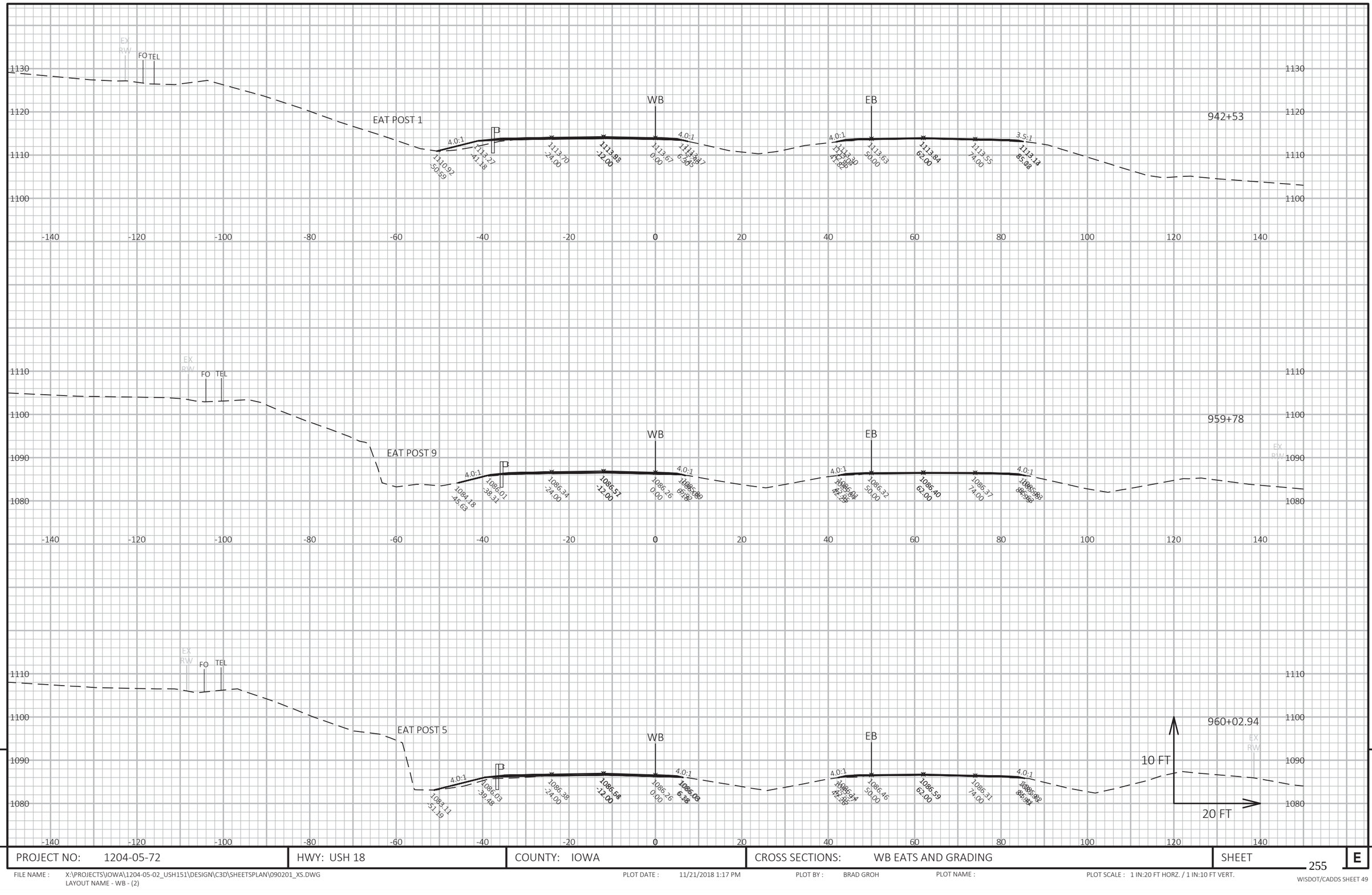
9

9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET 254	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (1)

PLOT DATE : 11/21/2018 1:16 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

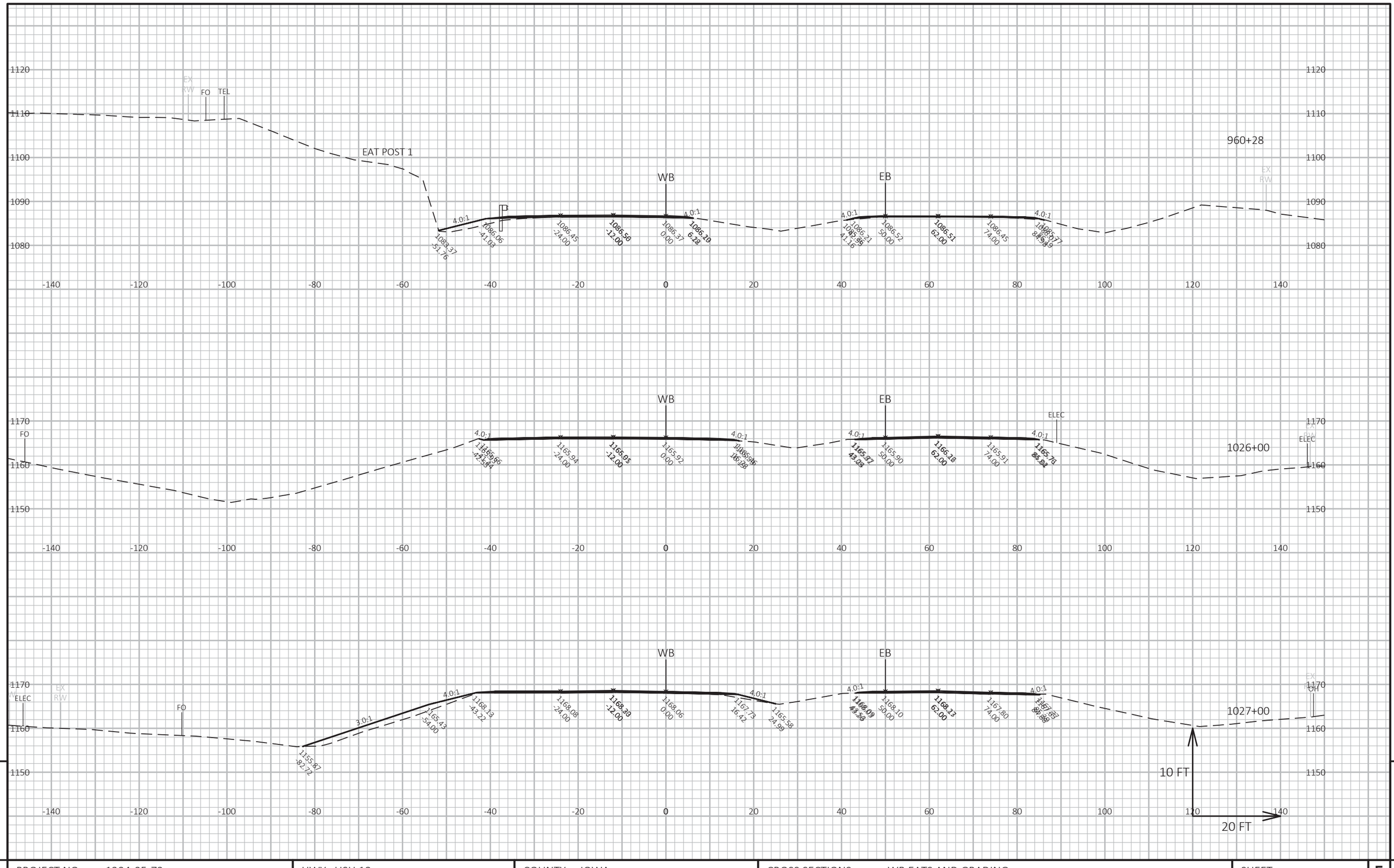


9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET 255	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (2)

PLOT DATE : 11/21/2018 1:17 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



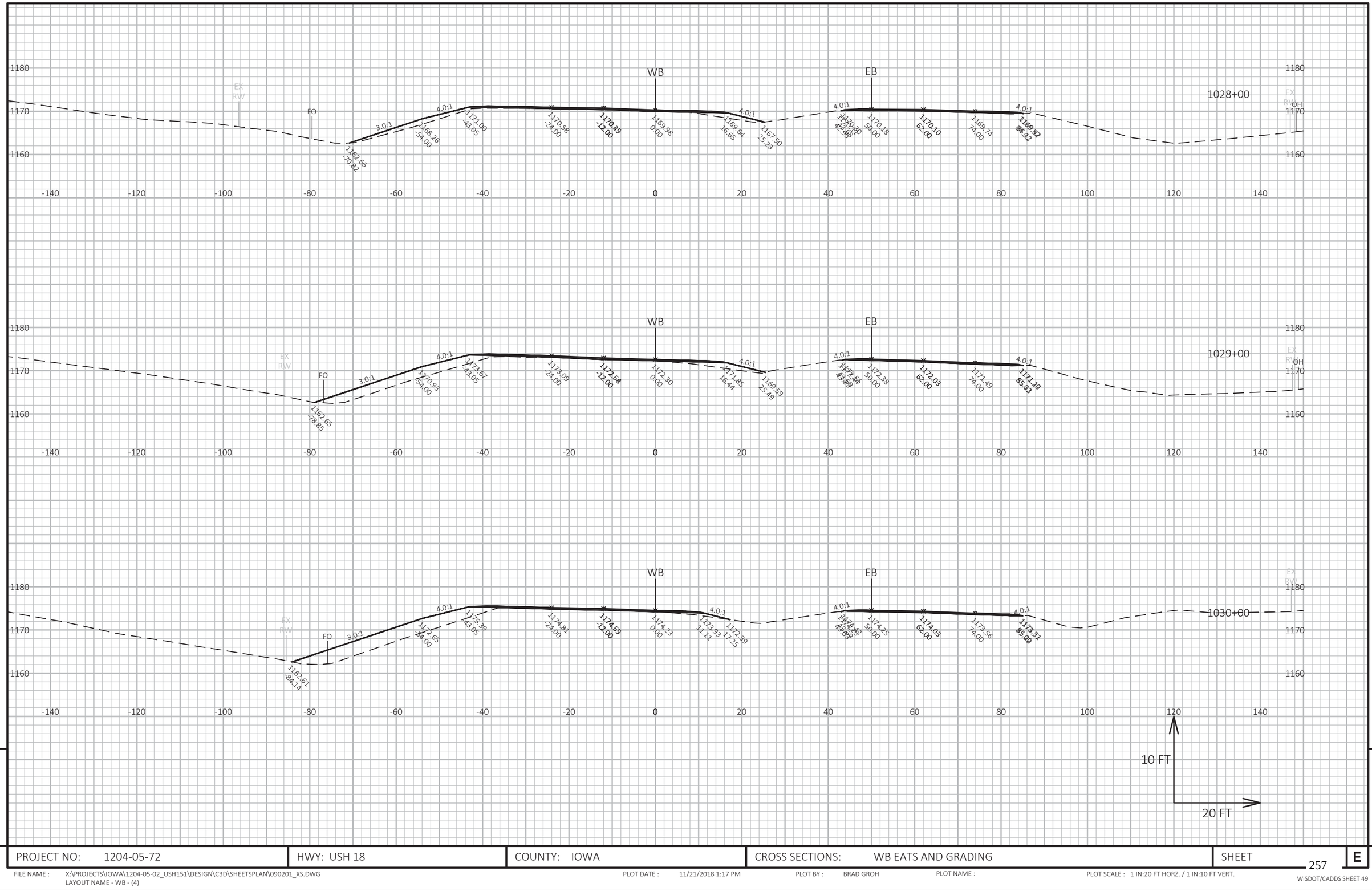
9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET 256	E

9

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (3)

PLOT DATE : 11/21/2018 1:17 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

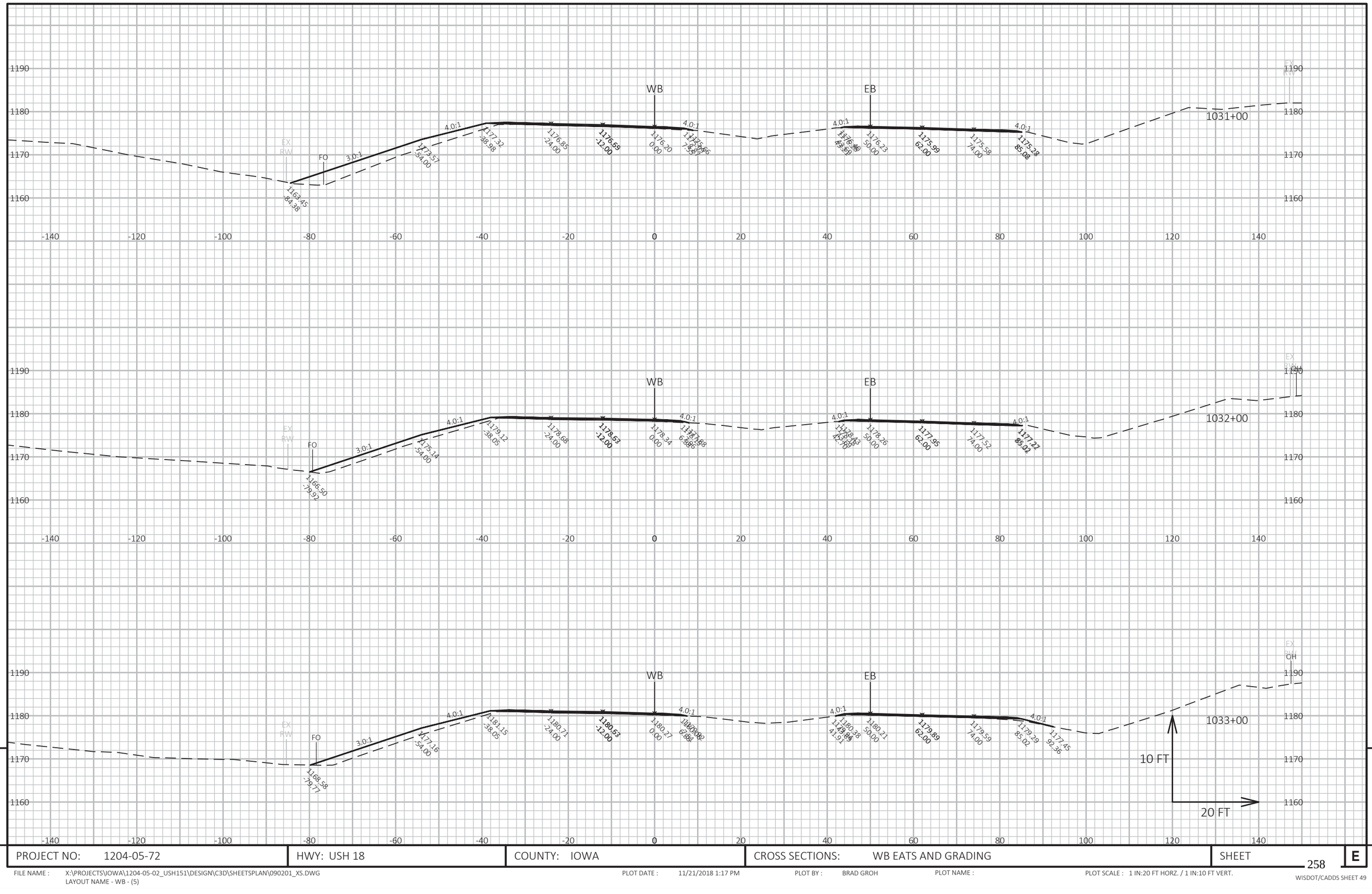


PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET 257 E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (4)

PLOT DATE : 11/21/2018 1:17 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

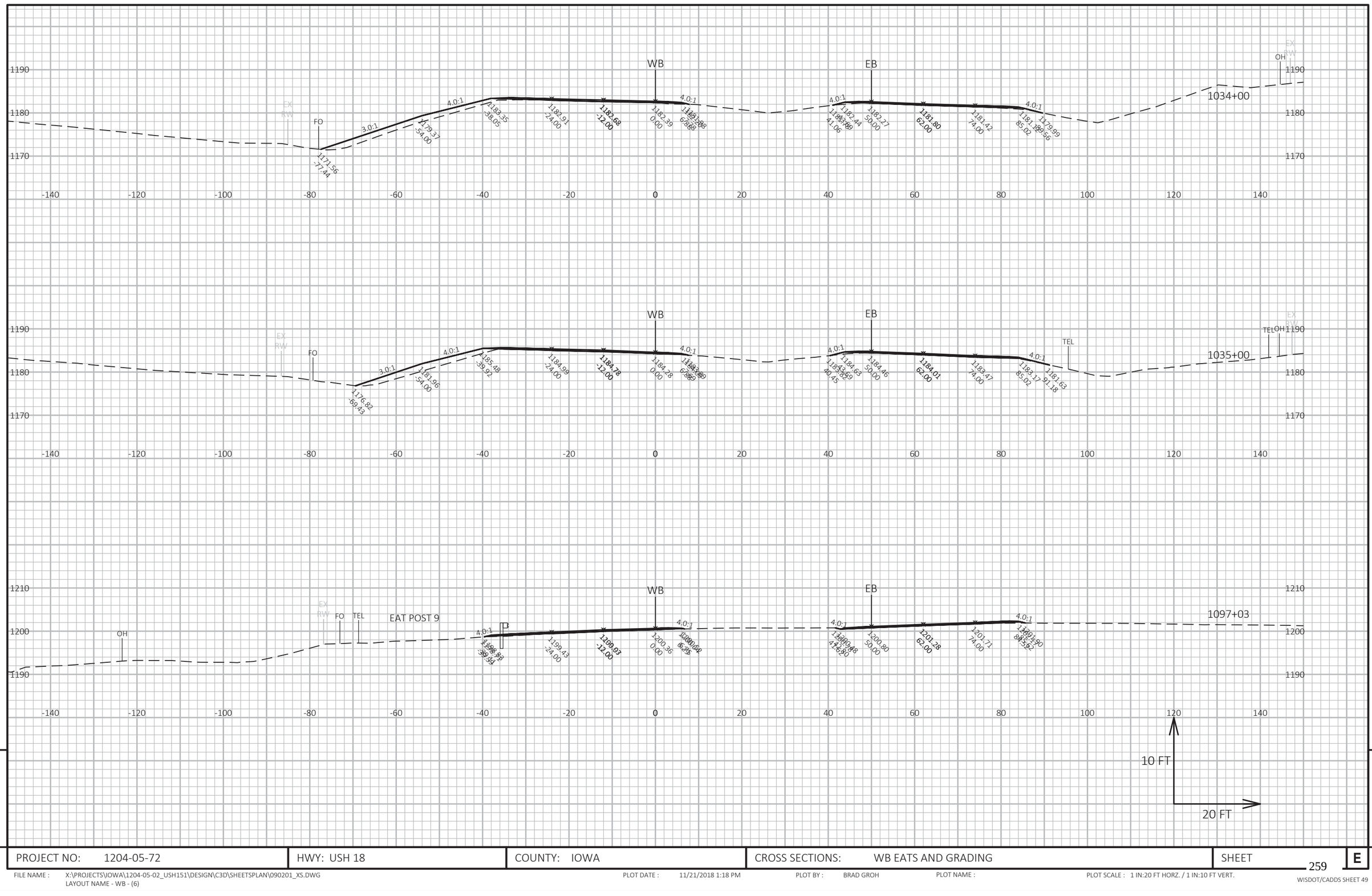


PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET 258 E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (5)

PLOT DATE : 11/21/2018 1:17 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

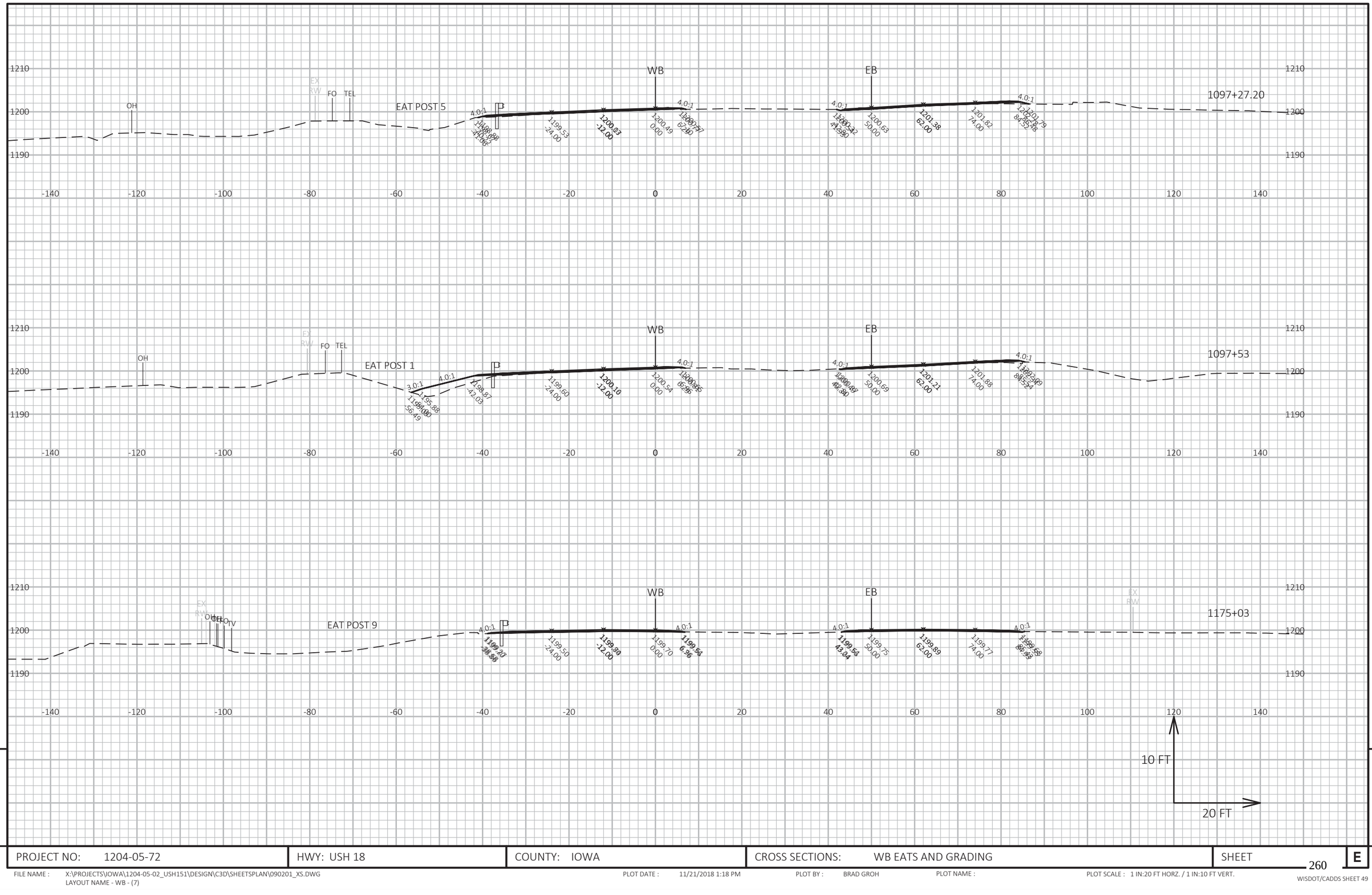


PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET 259 E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (6)

PLOT DATE : 11/21/2018 1:18 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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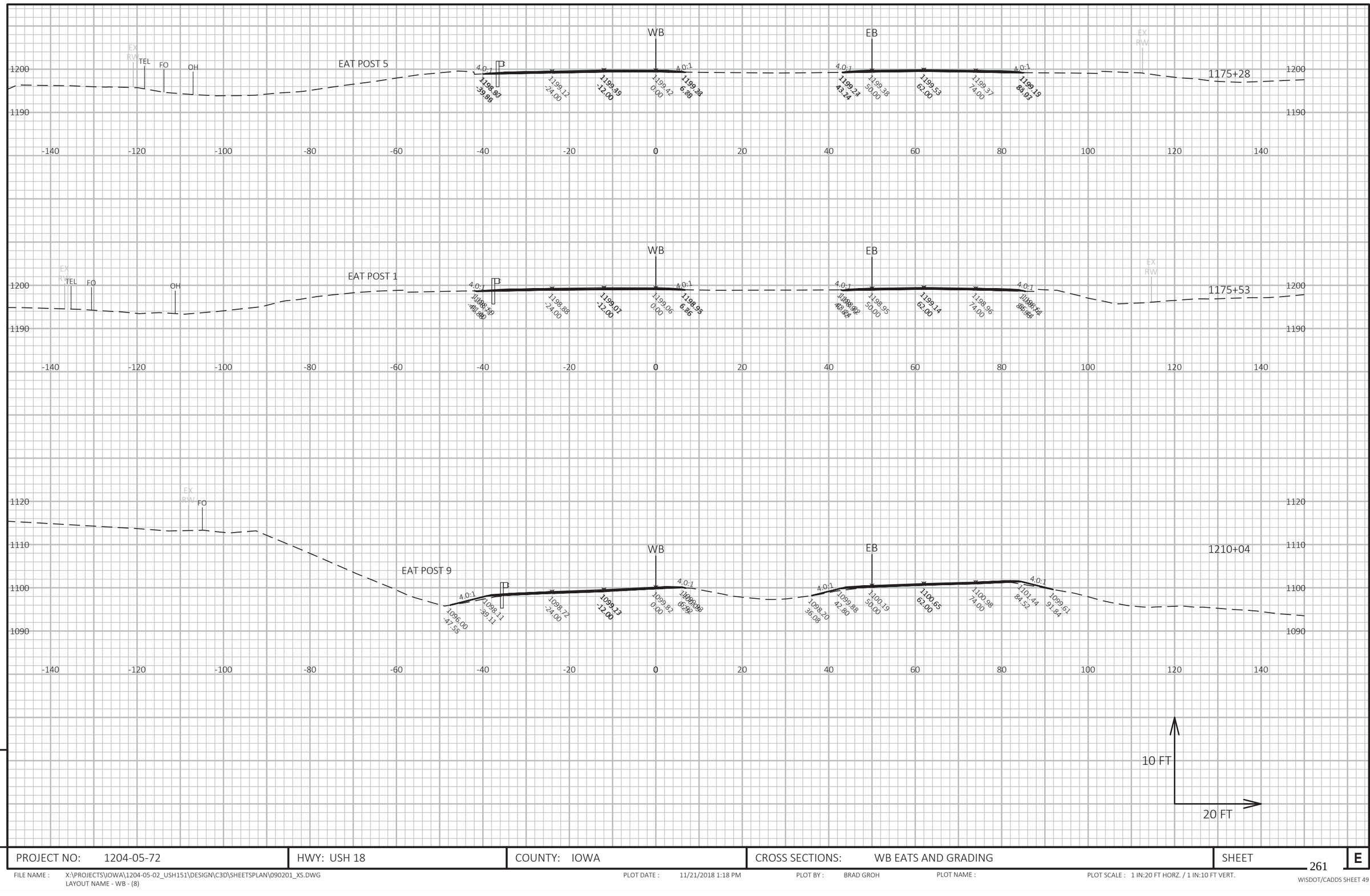
9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (7)

PLOT DATE : 11/21/2018 1:18 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



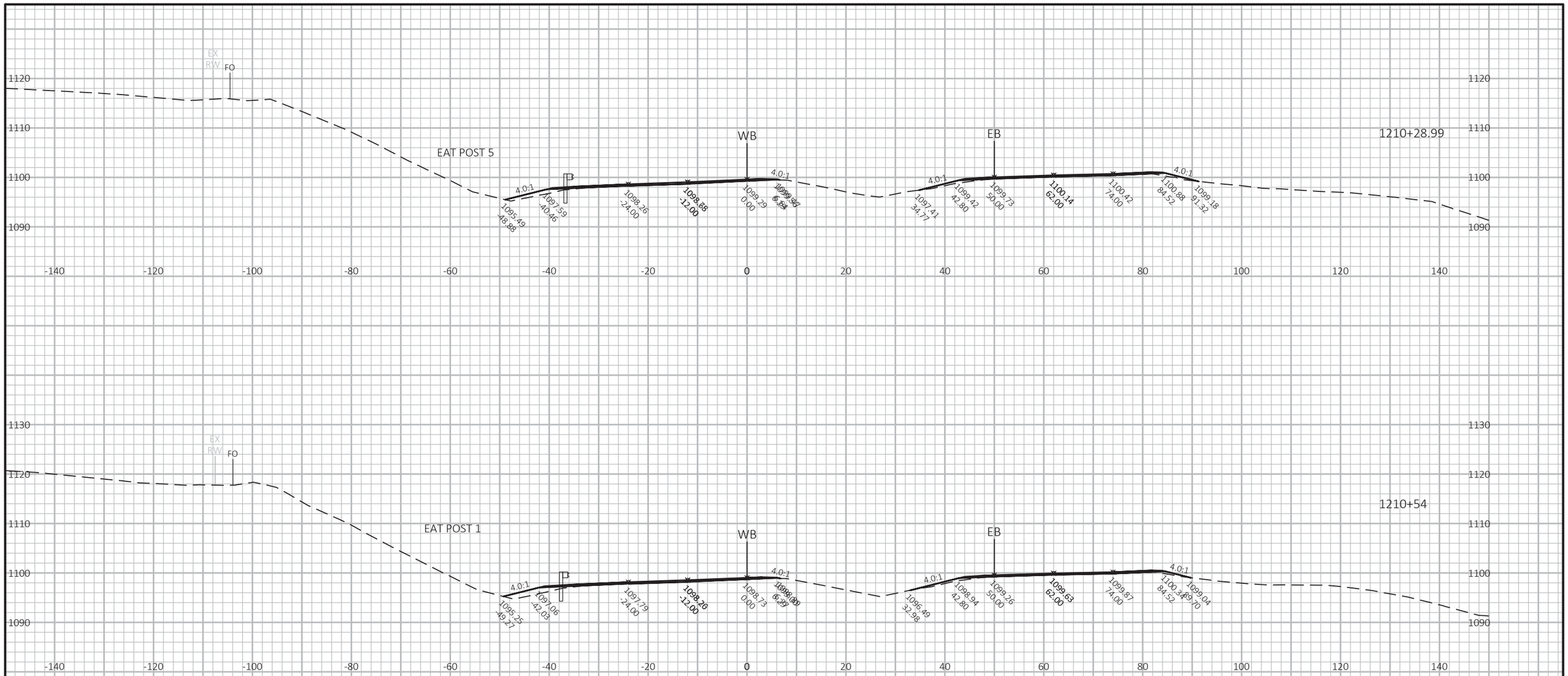
9

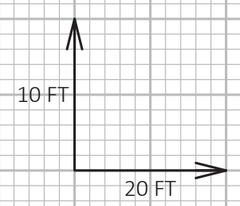
9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (8)

PLOT DATE : 11/21/2018 1:18 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.





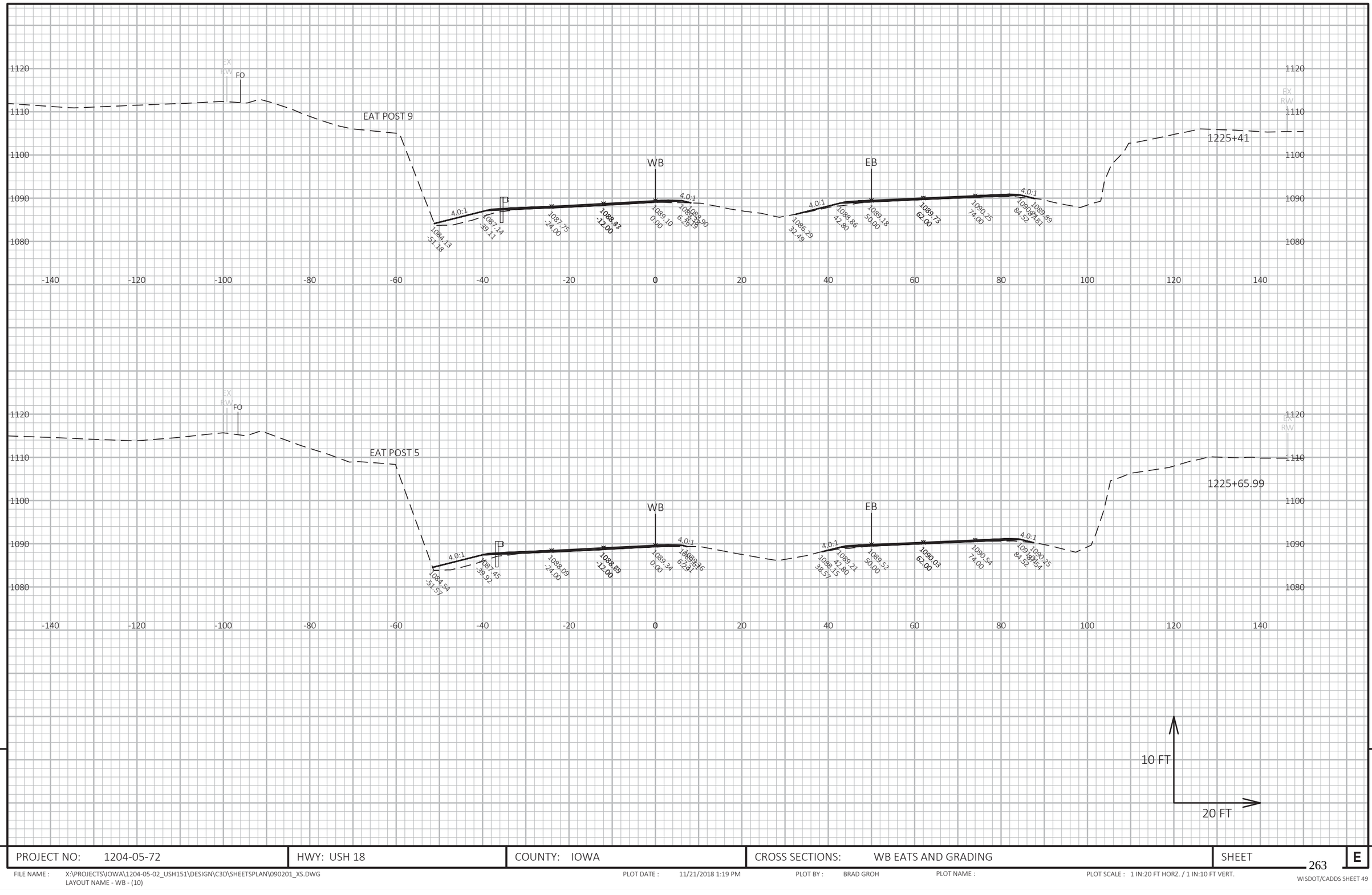
9

9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET 262	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (9)

PLOT DATE : 11/21/2018 1:19 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



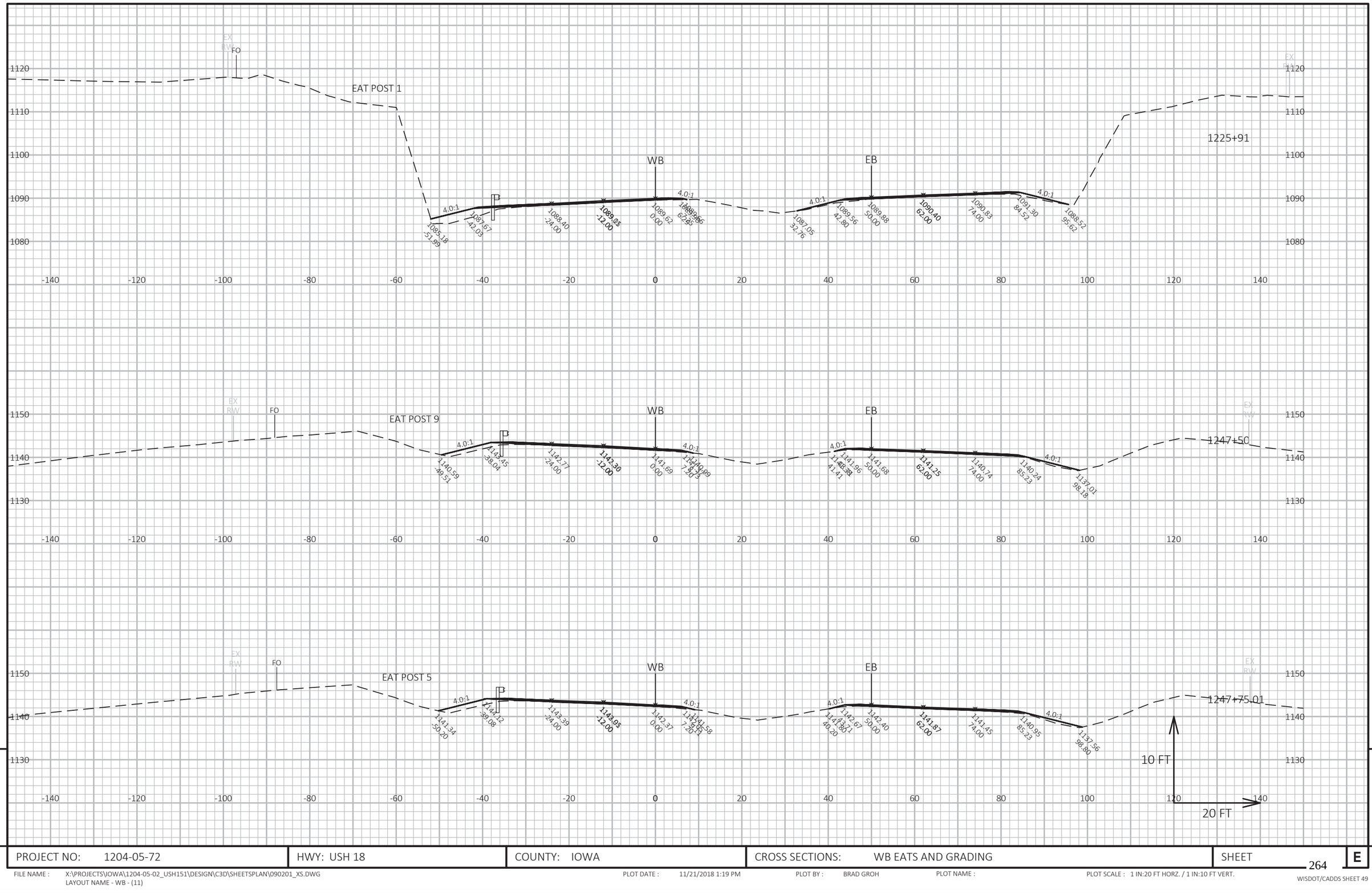
9

9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET 263	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (10)

PLOT DATE : 11/21/2018 1:19 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET 264	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (11)

PLOT DATE : 11/21/2018 1:19 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

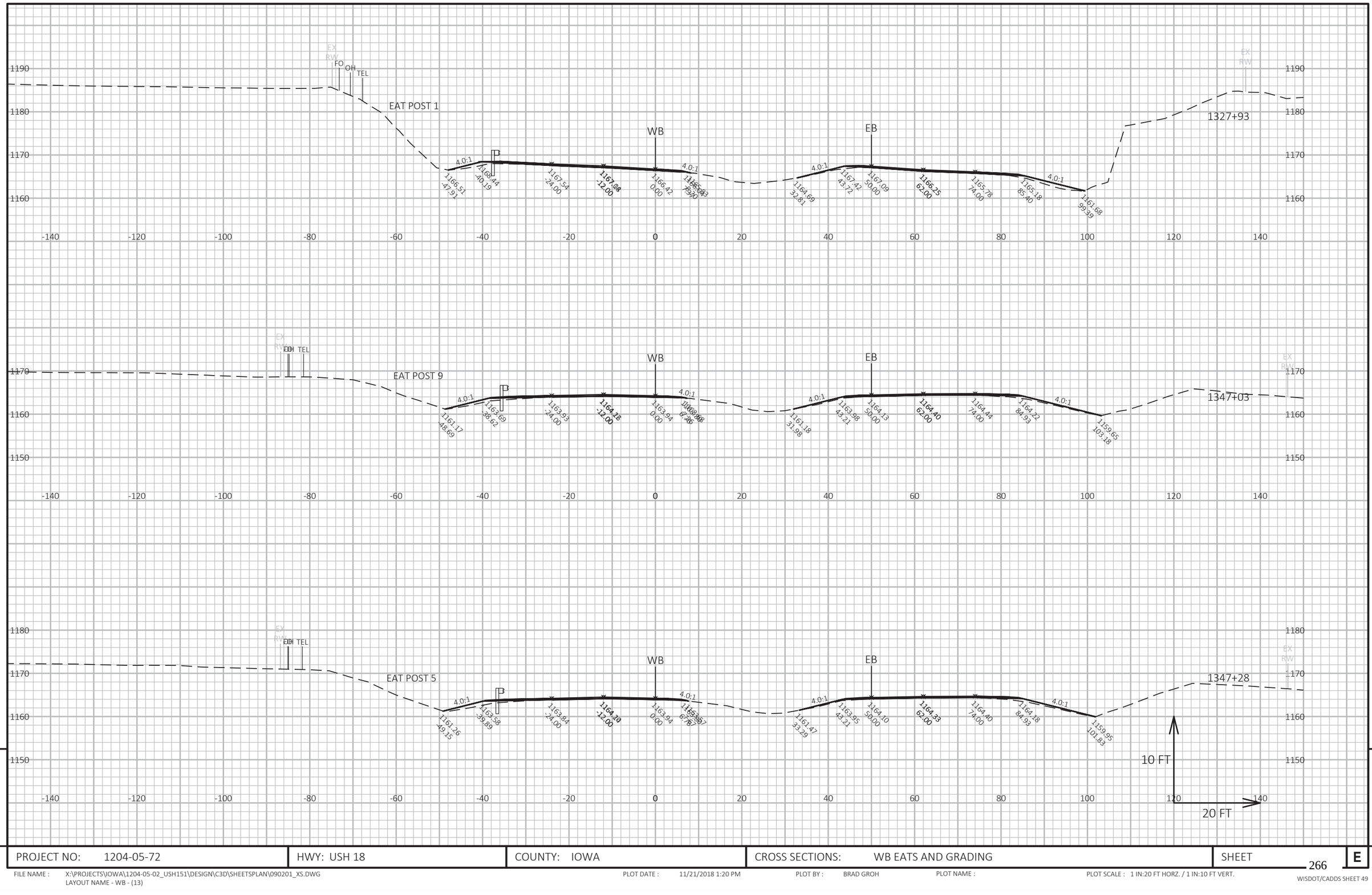
9

9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET 265	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (12)

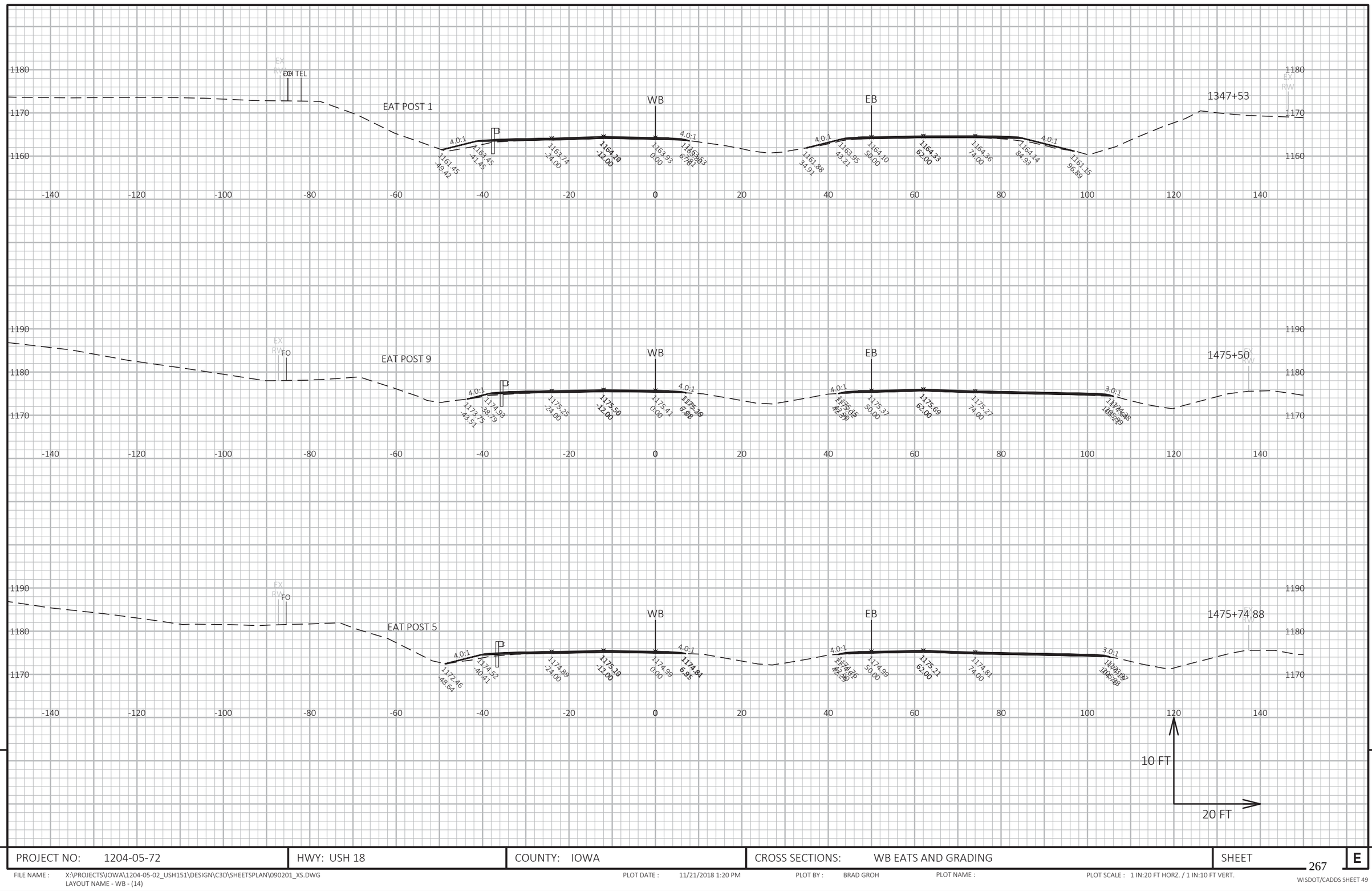
PLOT DATE : 11/21/2018 1:19 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (13)

PLOT DATE : 11/21/2018 1:20 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



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9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (14)

PLOT DATE : 11/21/2018 1:20 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

EAT POST 1

WB

EB

1476+99.75

EAT POST 9

WB

EB

TEL

1498+46.50

10 FT

20 FT

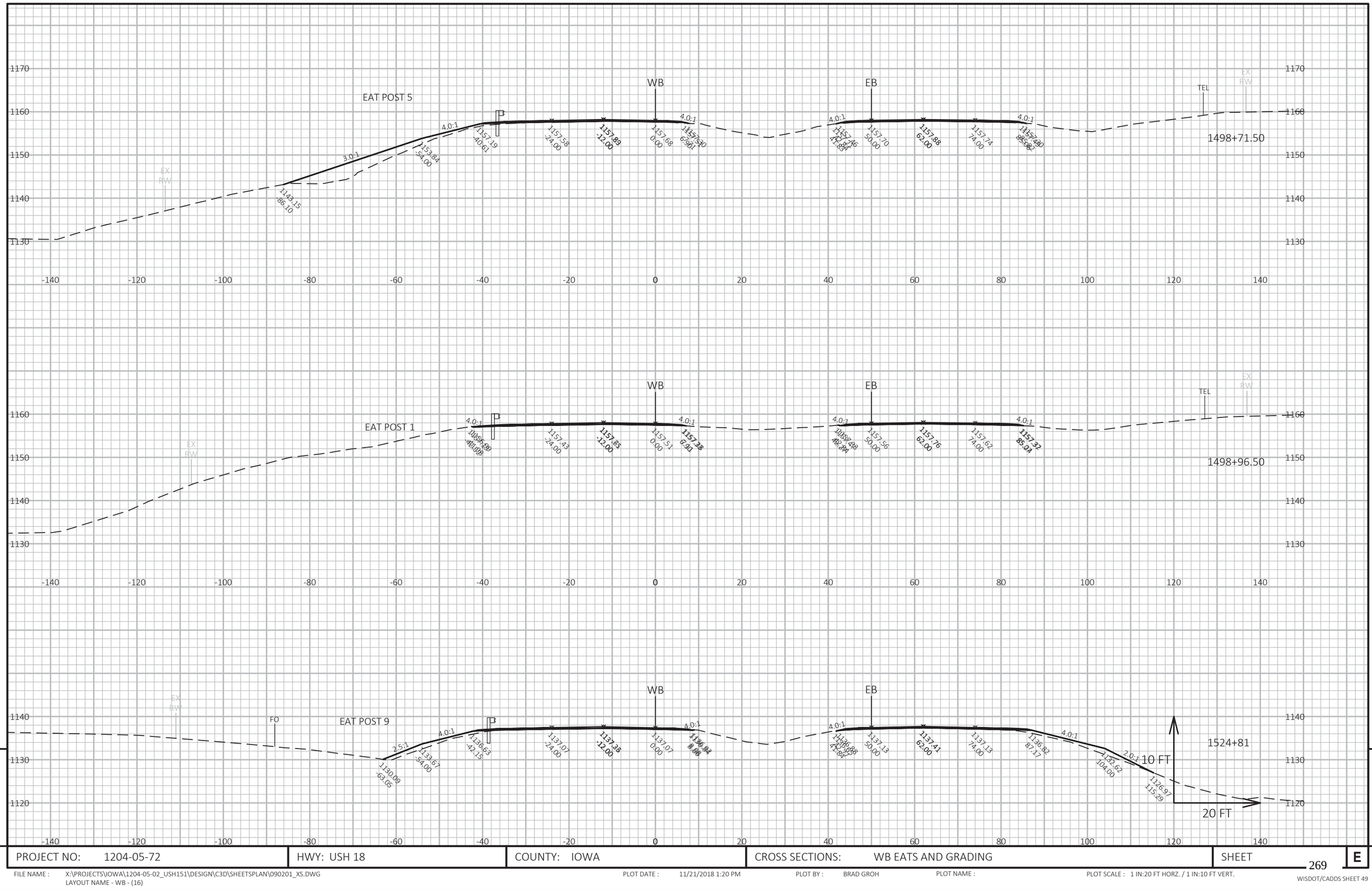
9

9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (15)

PLOT DATE : 11/21/2018 1:20 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

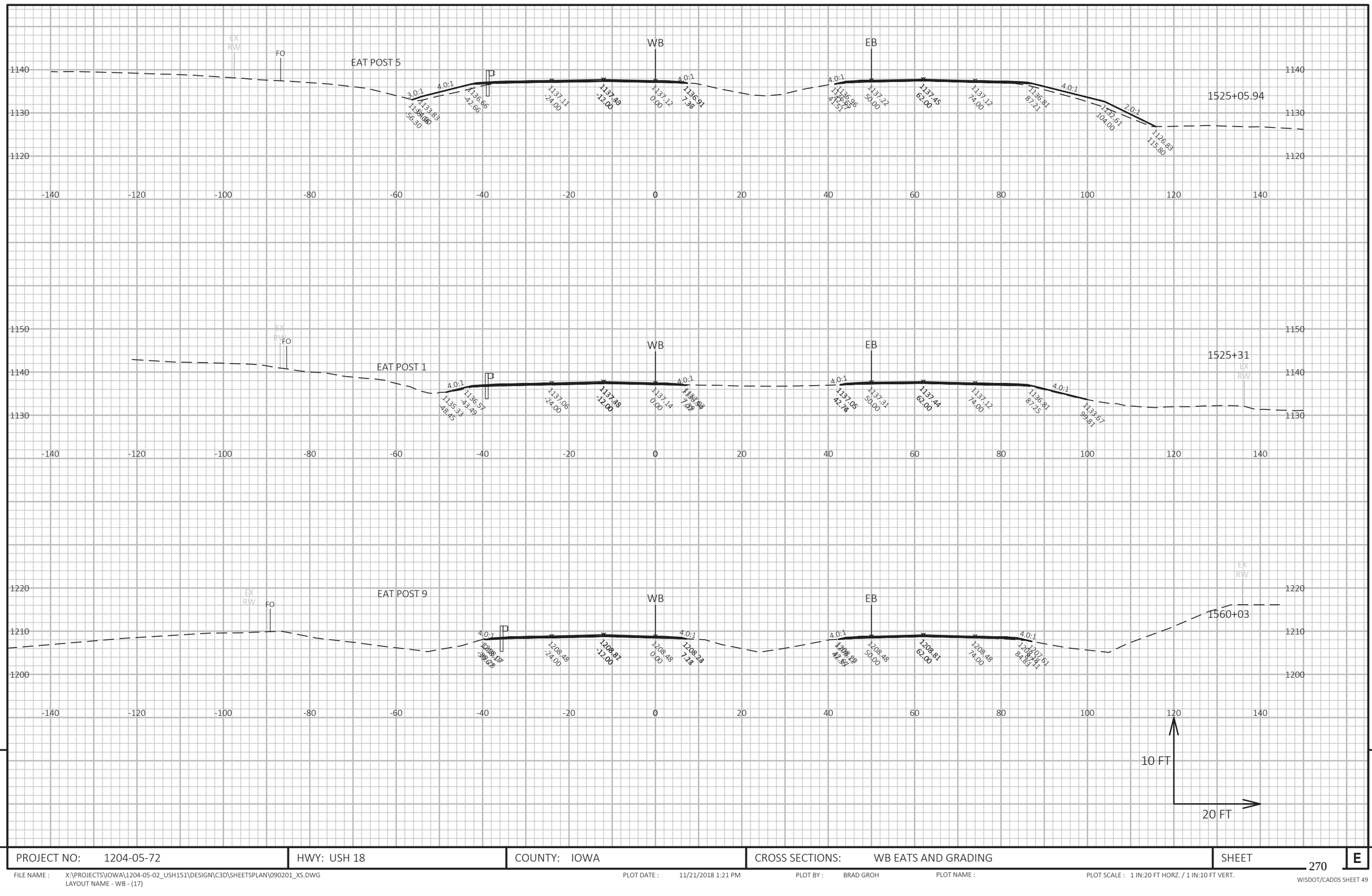


PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET 269 E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (16)

PLOT DATE : 11/21/2018 1:20 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



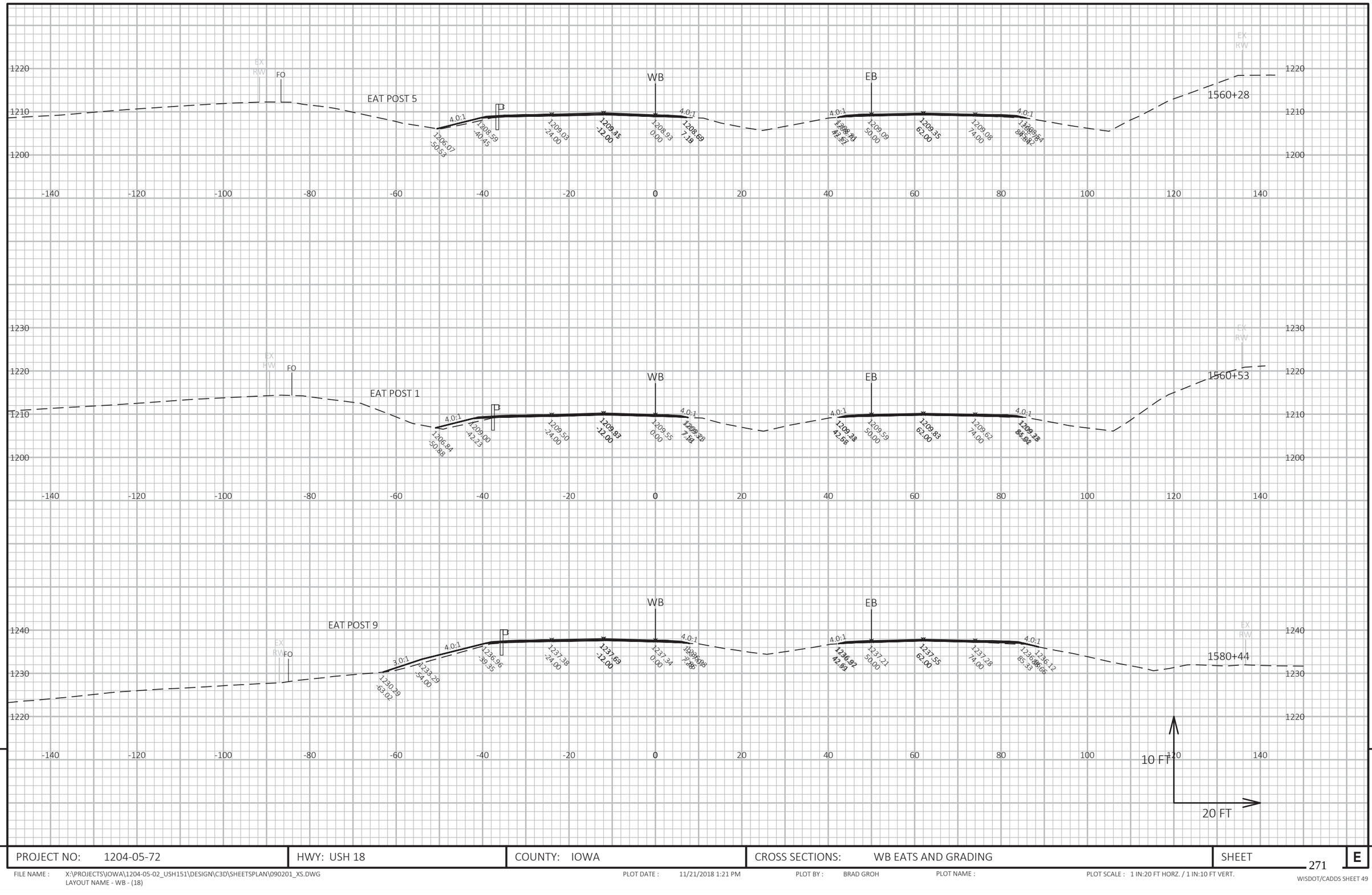
9

9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (17)

PLOT DATE : 11/21/2018 1:21 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

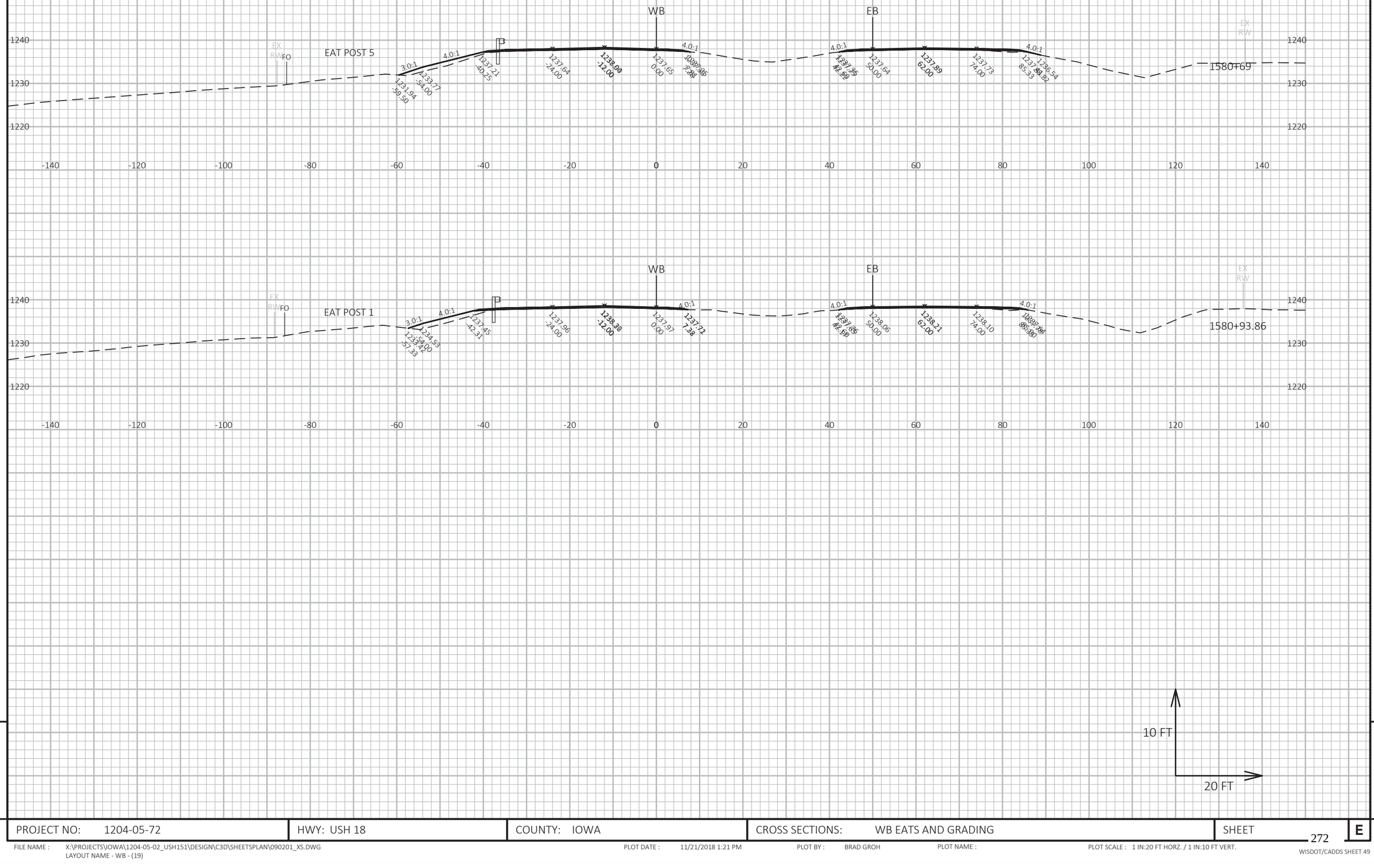


PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET 271 E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (18)

PLOT DATE : 11/21/2018 1:21 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



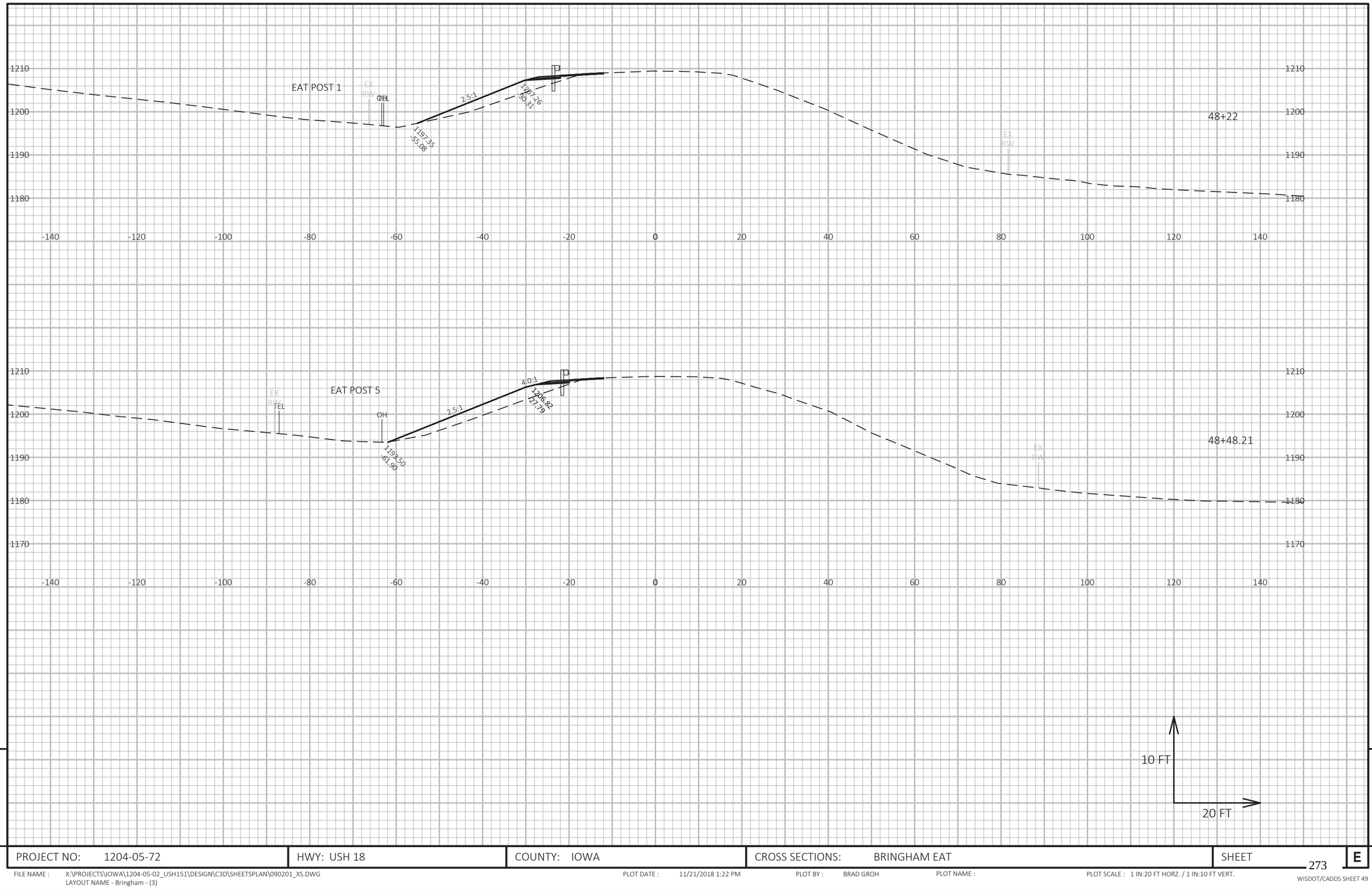
9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: WB EATS AND GRADING	SHEET 272	E

9

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - WB - (19)

PLOT DATE : 11/21/2018 1:21 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



9

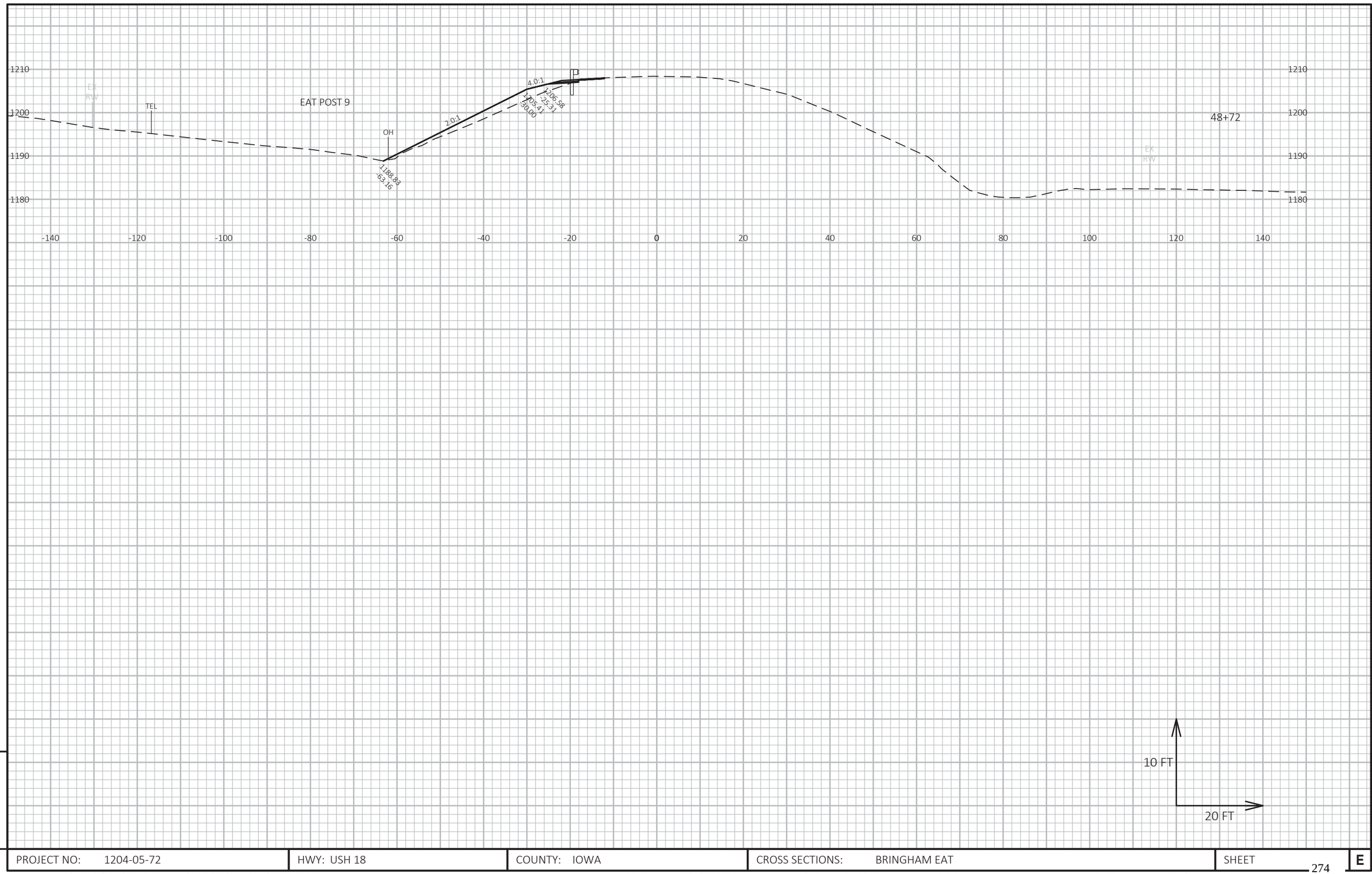
9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: BRINGHAM EAT	SHEET 273	E

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - Bringham - (3)

PLOT DATE : 11/21/2018 1:22 PM PLOT BY : BRAD GROH PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

PROJECT NO: 1204-05-72	HWY: USH 18	COUNTY: IOWA	CROSS SECTIONS: BRINGHAM EAT	SHEET 274	E

9

FILE NAME : X:\PROJECTS\IOWA\1204-05-02_USH151\DESIGN\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - Bringham - (4)
PLOT DATE : 11/21/2018 1:22 PM
PLOT BY : BRAD GROH
PLOT NAME :
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 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