

GRE MAR 2015

PROJECT ID: 1517-75-71
WITH:

COUNTY: WINNEBAGO

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 = 120



DESIGN DESIGNATION USH 10/STH 441

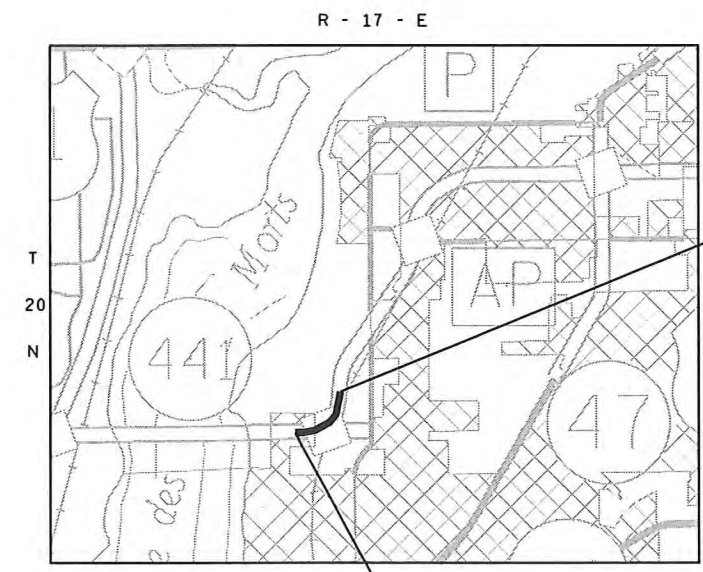
A.A.D.T. (2020)	=	69,200
A.A.D.T. (2038)	=	88,000
D.H.V. (2038)	=	9,500
D.D.	=	57%
T.	=	8.8%
DESIGN SPEED	=	70 MPH
ESALS	=	11,858,000

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	
EXISTING RIGHT OF WAY		GRADE ELEVATION	
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
PROPOSED JOINT LINE		UTILITIES	
SLOPE INTERCEPT		COMMUNICATION OVERHEAD	
REFERENCE LINE		COMMUNICATION UNDERGROUND	
EXISTING CULVERT		ELECTRIC OVERHEAD	
PROPOSED CULVERT (Box or Pipe)		ELECTRIC UNDERGROUND	
COMBUSTIBLE FLUIDS		GAS	
MARSH AREA		SANITARY SEWER	
WOODED OR SHRUB AREA		STORM SEWER	
		WATER	
		UTILITY PEDESTAL	
		POWER POLE	
		TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
USH 10 - USH 10/STH 441
COUNTY CB - ONEIDA STREET
USH 10
WINNEBAGO COUNTY
RACINE RD INTERCHANGE EARLY FILL

STATE PROJECT NUMBER
1517-75-71



END PROJECT 1517-75-71
STA 208EB+50.00
X = 816877.495
Y = 548005.888

BEGIN PROJECT 1517-75-71
STA 186EB+00.00
X = 815397.333
Y = 546398.888

TOTAL NET LENGTH OF CENTERLINE = 0.431

LAYOUT
SCALE 0 0.5 MI.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE
NATIONAL GEODETIC VERTICAL DATUM OF 1929, NGVD 29.
COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN
COUNTY COORDINATE SYSTEM (WCCS), WINNEBAGO COUNTY, NAD83 (1991).

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1517-75-71	WISC 2015137	1

ORIGINAL PLANS PREPARED BY

HNTB 11414 WEST PARK PLACE
MILWAUKEE, WI 53224
(414) 359-2300

WISCONSIN
ANNA M. VARNEY
E-29957
DOUSMAN WI
PROFESSIONAL ENGINEER

10/27/14 (Date) *Anna M. Varney* (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NE REGION
Designer	HNTB
Project Manager	SCOTT EBEL
Regional Examiner	
Regional Supervisor	CHAD DEGRAVE
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 10/29/14 *Scott Ebel* (Signature)

E



UTILITY CONTACTS

AMERICAN TRANSMISSION COMPANY, LLC

MR. MIKE OLSEN
801 O'KEEFE ROAD
P.O. BOX 6113
DE PERE, WI 54115-6113
(920) 338-6582
MOBILE: (920) 660-2390
MOLSEN@ATCLLC . COM

AT&T WISCONSIN

MR. GARY LAABS
221 W. WASHINGTON ST 4TH FLOOR
APPLETON, WI 54911
(920) 735-3063
GL1784@ATT.COM

MENASHA UTILITIES

MR. GREG SHULL
MENASHA UTILITIES
321 MILWAUKEE ST
P.O. BOX 340
MENASHA, WI 54952-0340
(920) 967-3422
GSHULL@WPPENERGY.ORG

TDS METROCOM

MR. STEVE JAKUBIEC
10 COLLEGE AVE SUITE 218A
APPLETON, WI 54911
(920) 882-4166
MOBILE: (920) 562-7221
STEVE.JAKUBIEC@TDSTELECOM.COM

TIME WARNER CABLE

MR. VINCE ALBIN
3520 DESTINATION DR
APPLETON, WI 54915
(920) 831-9249
MOBILE: (920) 378-0444
VINCE . ALBIN@TWCABLE . COM

TOWN OF MENASHA - SANITARY SEWER

MR. STEVEN LAABS
UTILITY DISTRICT
2340 AMERICAN DR
NEENAH, WI 54956
(920) 739-5120
STEVEL@TOWN-MENASHA .COM

TOWN OF MENASHA - WATER

MR. JEFF ROTH
UTILITY DISTRICT
2340 AMERICAN DR
NEENAH, WI 54956
(920) 720-7175
JEFFR@TOWN-MENASHA .COM

WE ENERGIES - GAS

MS. LISA MAYNE
1921 8TH STREET SOUTH
WISCONSIN RAPIDS, WI 54494
(715) 421-7227
LISA.MAYNE@WE-ENERGIES.COM

WE ENERGIES - ELECTRIC AND GAS

MR. LATROY BRUMFIELD
333 W. EVERETT ST
A299
MILWAUKEE, WI 53203
(414) 221-5617
MOBILE: (414) 975-9053
LATROY.BRUMFIELD@WE-ENERGIES.COM

WISCONSIN CENTRAL LTD CONTACTS

RAILROAD FLAGGING CONTACT

MARY ELLEN CARMODY
2800 LIVERNOIS ROAD, SUITE 330
TROY , MI 48083
OFFICE: (248) 740-6227
FAX: (248) 740-6036
MARYELLEN.CARMODY@CN.CA

MAIN RAILROAD CONTACT

JACKIE MACEWICZ
MANAGER PUBLIC WORKS
1625 DEPOT STREET
STEVENS POINT, WI 54481
OFFICE: (715) 345-2503
FAX: (715) 345-2507
JACKIE.MACEWICZ@CN.CA

24 HOUR EMERGENCY RAILROAD SIGNAL

1-800-616-3432

CALL BEFORE YOU DIG

WISCONSIN CENTRAL LTD IS NOT PART OF DIGGERS HOTLINE.
CALL CHRISTINE GRZESIAK, (715) 345-2506, WHEN DIGGING
ON RAILROAD R/W

DNR AREA LIAISON

JAY SCHIEFELBEIN
DNR NORTHEAST REGIONAL HQ
2984 SHAWANO AVENUE
GREEN BAY , WI 54313
(920) 662-5130
JEREMIAH.SCHIEFELBEIN@WISCONSIN.GOV

WINNEBAGO COUNTY
HIGHWAY COMMISSIONER

ERNIE WINTERS
901 WEST COUNTY ROAD Y
P.O. BOX 2764
OSHKOSH, WI 54903
(920) 232-1700

COUNTY SURVEYOR

JERRY BOUGIE
WINNEBAGO COUNTY COURT HOUSE
445 ALGIMA BLVD
OSHKOSH, WI 54903
(920) 236-4839

US ARMY CORP OF ENGINEERS

TODD VESPERMAN
OLD FORT SQUARE
211 N. BROADWAY , STE 221
GREEN BAY , WI 54303
(651) 290-5857

DESIGN CONTACTS

SCOTT EBEL
WISDOT - NE REGION
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SCOTT.EBEL@DOT.WI.GOV

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11414 W. PARK PLACE, SUITE 300
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(414) 410-6856
AVARNEY@HNTB.COM

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL PLAN
PLAN DETAIL
EROSION CONTROL
STORM SEWER
EXISTING UTILITY PLANS
TRAFFIC CONTROL
ALIGNMENT PLANS

GENERAL NOTES

THE CONTRACTOR SHALL CONTACT THE UTILITIES AND DIGGERS HOTLINE TO LOCATE AND FIELD VERIFY UTILITIES PRIOR TO THE START OF WORK. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. ANY LOCAL, MUNICIPAL OR OTHER UTILITY THAT IS NOT A MEMBER OF DIGGERS HOTLINE SHALL BE CONTACTED SEPERATELY.

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

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

PROTECT INLETS WITH PROPER INLET PROTECTION AT LOCATIONS EXHIBITING RISK OF BEING IMPACTED BY CONSTRUCTION OPERATIONS AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY ANY OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT THE CONTRACTOR'S EXPENSE.

EROSION BALES ARE TO ONLY BE USED FOR REINFORCEMENT OF PROPOSED SILT FENCE LOCATIONS ALONG WETLANDS. ANY OTHER USE OF EROSION BALES IS PROHIBITED.

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

FILL AND COMPACT ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES WITH GRANULAR BACKFILL. BACKFILLING IS INCIDENTAL TO CORRESPONDING ABANDONMENT OR REMOVAL ITEM.

REMOVING CONCRETE INCLUDES ANY MESH OR REINFORCEMENT THAT MAY BE PART OF THE PAVEMENT STRUCTURE. EXISTING PAVEMENT DEPTHS ARE BASED ON AS-BUILT DATA AND MAY VARY IN THE FIELD.

THE EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER.

EROSION CONTROL DEVICES SHALL BE PLACED IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS DETERMINED BY THE ENGINEER.

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN AND PROVIDE DOCUMENTATION TO THE ENGINEER IN ACCORDANCE WITH THE SPECIFICATIONS. THIS ALSO INCLUDES VERIFICATION OF INVERT ELEVATIONS AT ALL PROPOSED STORM SEWER CONNECTION POINTS TO EXISTING SYSTEMS.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

STATIONING, DISTANCES AND OFFSETS FOR SIGNS SHOWN IN THE PLANS ARE APPROXIMATE AND THE FINAL LOCATION OF SIGNS ARE TO BE DETERMINED BY THE ENGINEER.

BENCHMARK LOCATIONS SHOWN ON PLAN ARE APPROXIMATE AND SHOULD BE VERIFIED.

ALIGNMENTS ARE LABELED WITH THE FOLLOWING IDENTIFIERS:

ALIGNMENT IDENTIFIERS	
EB	USH 10 EB / STH 441 NB
RCL	EXISTING RACINE ROAD
WB	USH 10 WB / STH 441 SB

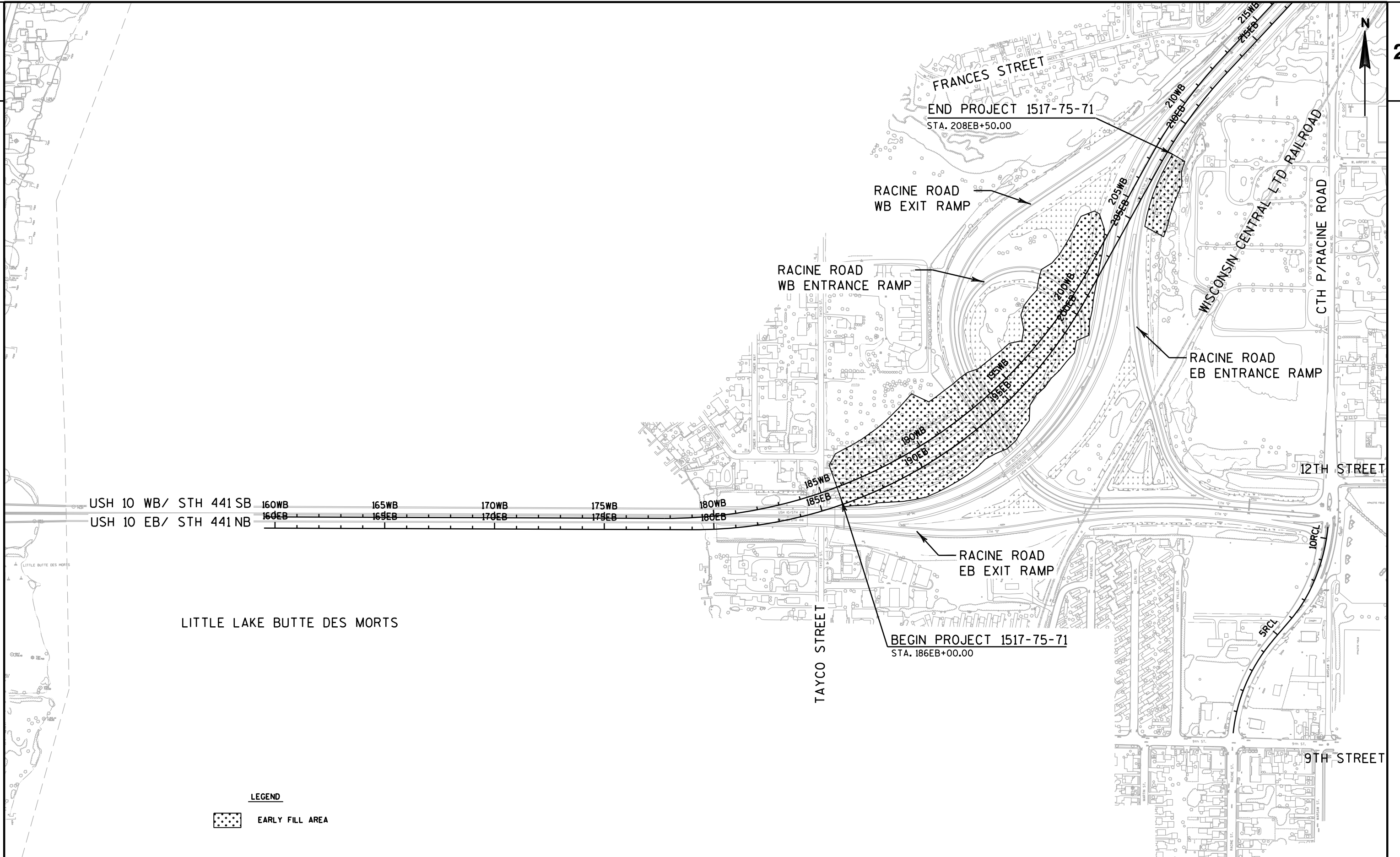
ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CMCP	CULVERT PIPE CORRUGATED METAL
CONC	CONCRETE
CP	CULVERT PIPE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC-YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
EAT	ENERGY ABSORBING TERMINAL
FE	FIELD ENTRANCE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LT	LEFT
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASMENT
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RRSP	RAILROAD SPIKE
RT	RIGHT
SALV	SALVAGED
SAPBC	SALVAGED ASPHALTIC PAVEMENT BASE COARSE
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWINGS
SE	SUPER ELEVATION
SF	SQUARE FOOT
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TLE	TEMPORARY LIMITED EASEMENT
VCL	VERTICAL CURVE LENGTH
VPC	POINT OF VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT

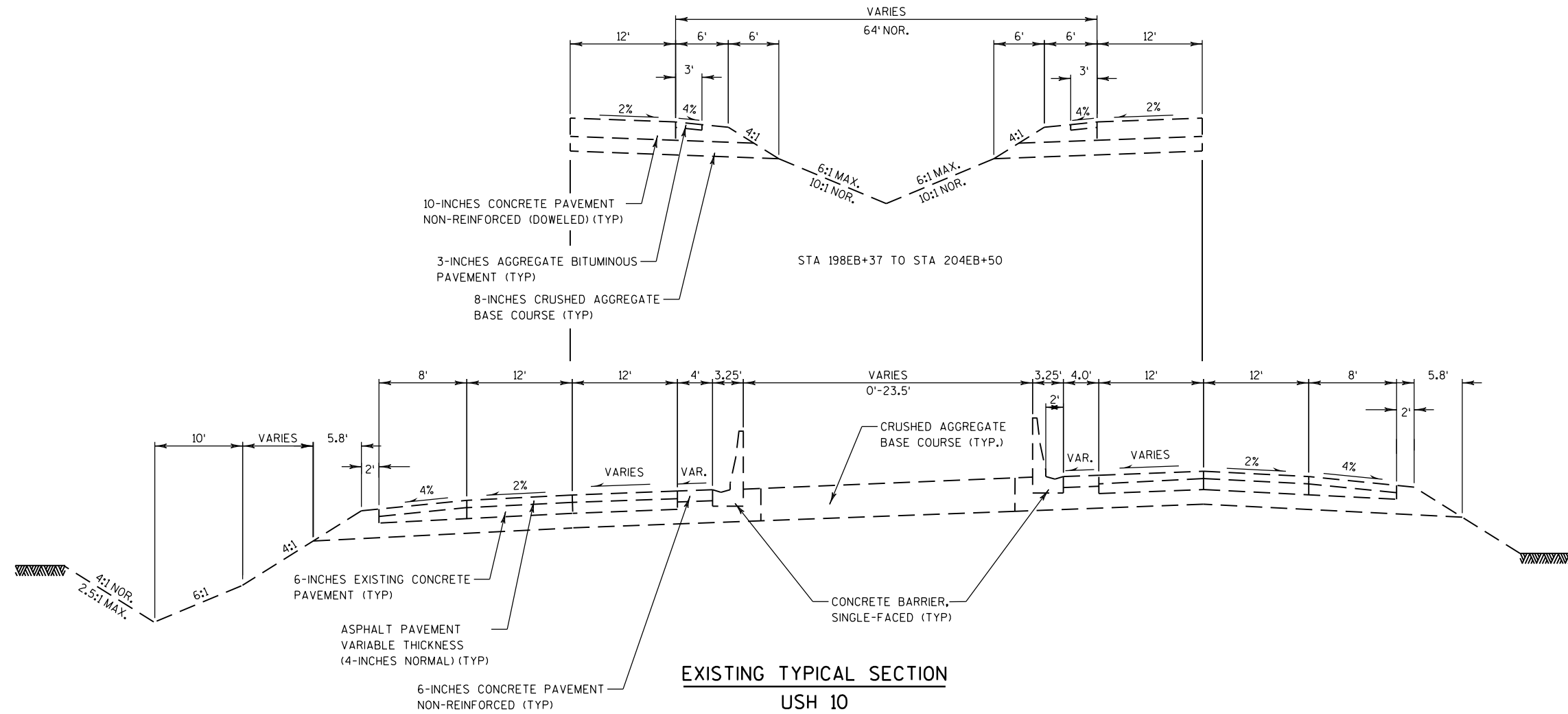
RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	0.08	0.16	0.22	0.12	0.20	0.27	0.15	0.24	0.33	0.19	0.28	0.38
	0.22	0.30	0.38	0.26	0.34	0.44	0.30	0.37	0.50	0.34	0.41	0.56
MEDIAN STRIP- TURF	0.19	0.20	0.24	0.19	0.22	0.26	0.20	0.23	0.30	0.20	0.25	0.30
	0.24	0.26	0.30	0.25	0.28	0.33	0.26	0.30	0.37	0.27	0.32	0.40
SIDE SLOPE- TURF			0.25			0.27			0.28			0.30
			0.32			0.34			0.36			0.38
PAVEMENT:												
ASPHALT						.70 - .95						
CONCRETE						.80 - .95						
BRICK						.70 - .80						
DRIVES, WALKS						.75 - .85						
ROOFS						.75 - .95						
GRAVEL ROADS, SHOULDERS						.40 - .60						

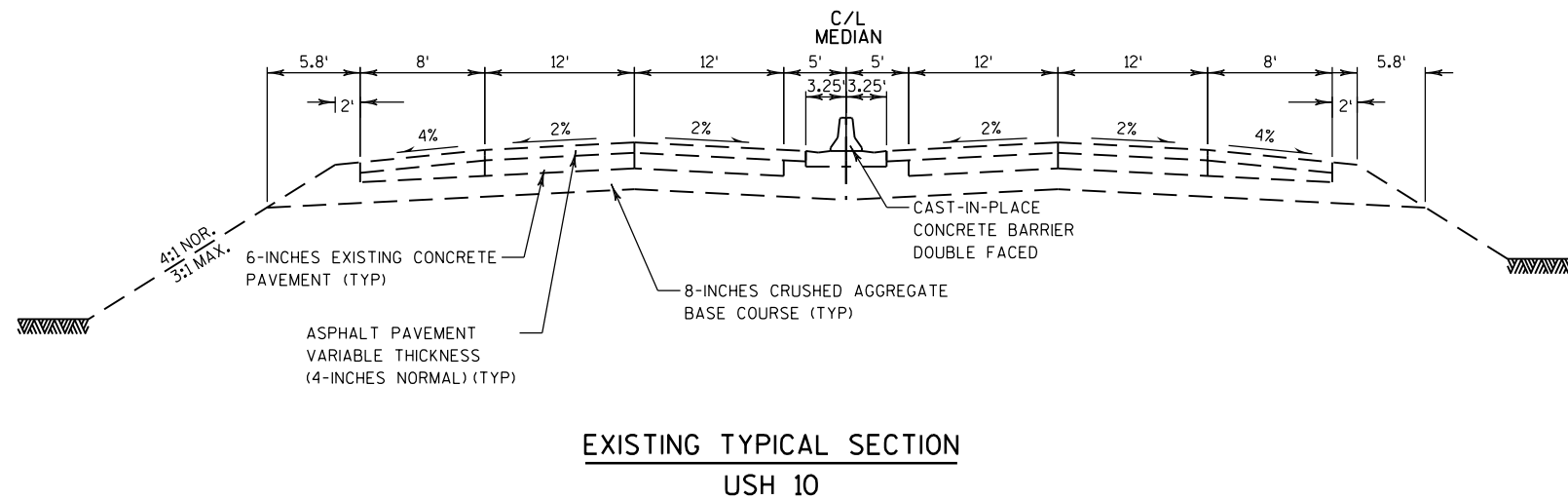
1517-75-71
TOTAL PROJECT AREA = 40.74 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 12.81 ACRES



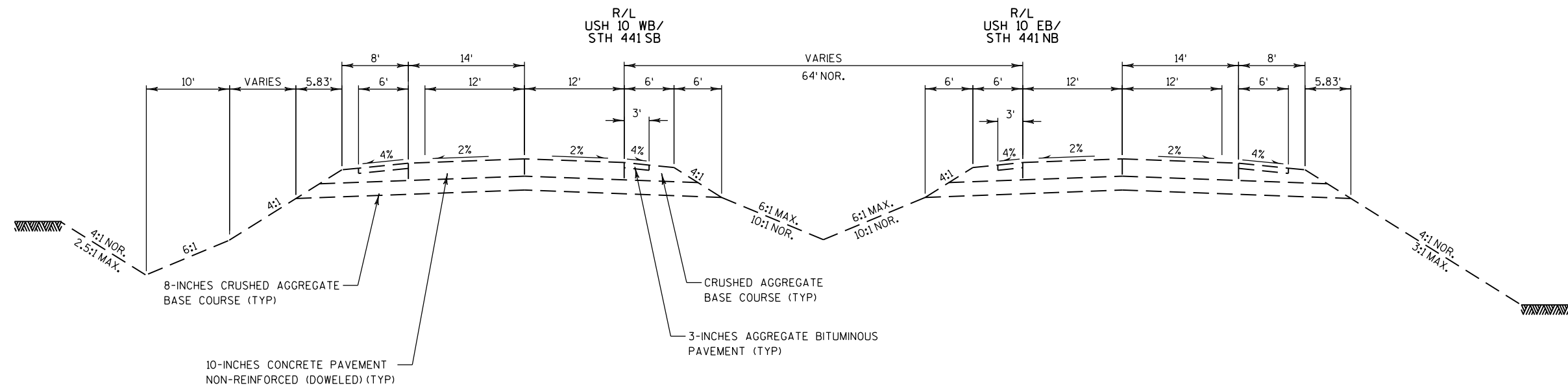
PROJECT NO: 1517-75-71	HWY: USH 10	COUNTY: WINNEBAGO	PROJECT OVERVIEW	SHEET	E
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STA 194EB+28 TO STA 204EB+50

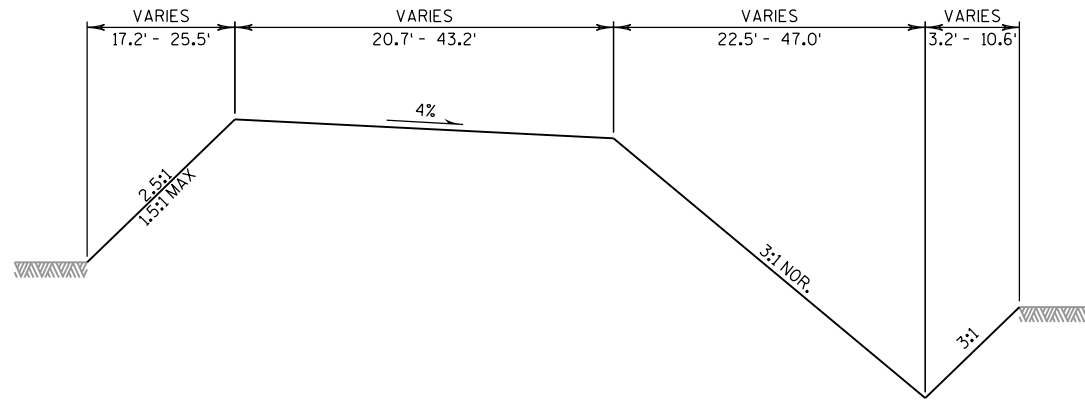


STA 186EB+00 TO STA 194EB+28



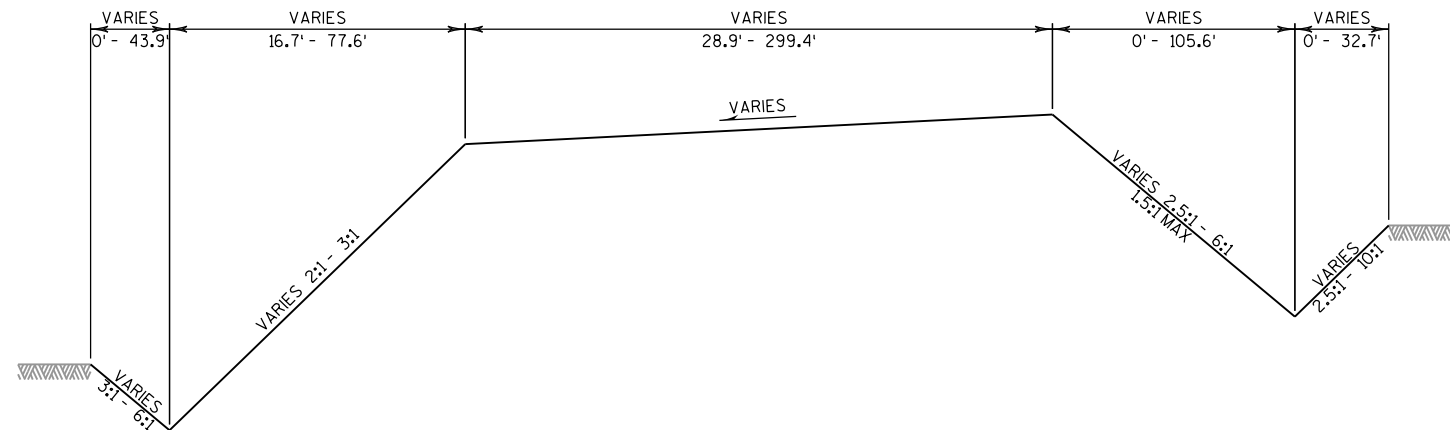
EXISTING TYPICAL SECTION
USH 10

STA 204EB+50 TO STA 208EB+50



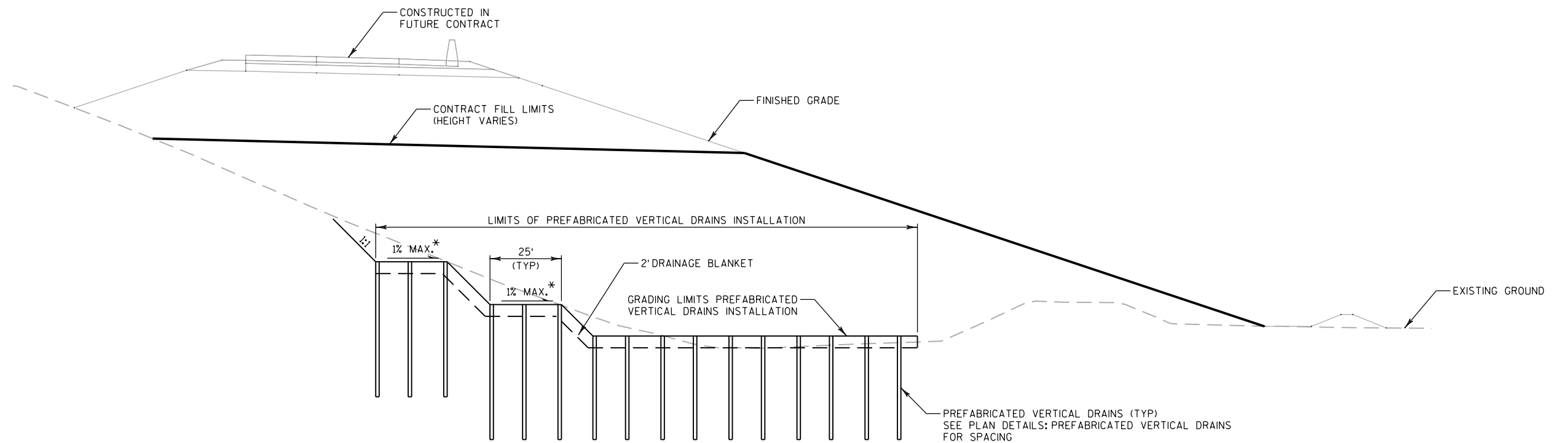
FINISHED TYPICAL SECTION
USH 10 EB/STH 441 NB

STA 205EB+00 TO STA 208EB+50



FINISHED TYPICAL SECTION
USH 10 EB/STH 441 NB

STA 186EB+00 TO STA 204EB+50



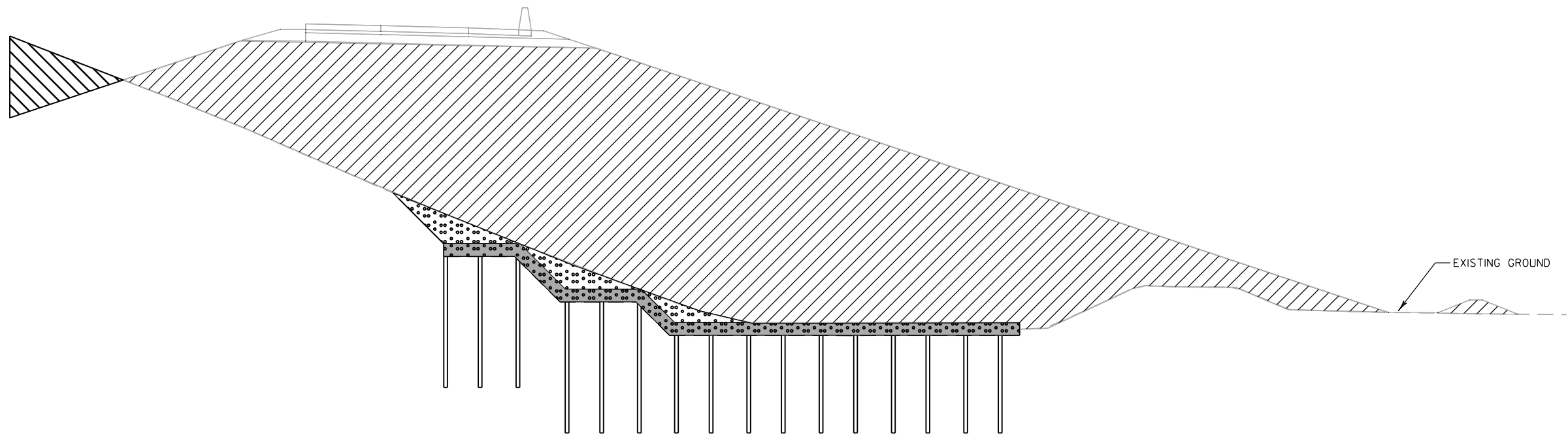
* NUMBER OF STEPS VARIES DEPENDING ON EXISTING CONDITION
AND LIMITS OF PREFABRICATED VERTICAL DRAINS INSTALLATION,
SEE CROSS SECTIONS

TYPICAL CROSS SECTION - PREFABRICATED VERTICAL DRAINS WITHOUT STRUCTURE

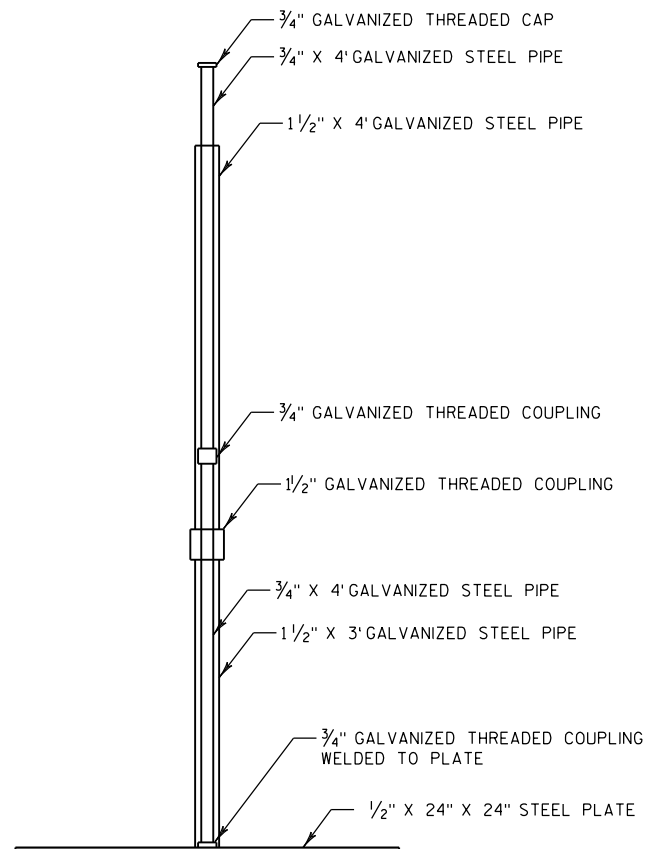
NOT TO SCALE

LEGEND

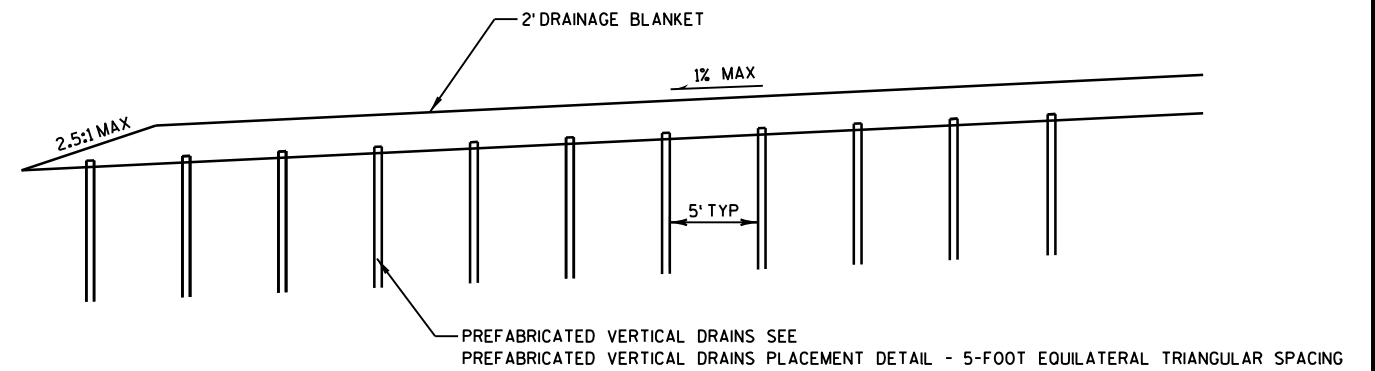
-  ROADWAY EMBANKMENT
-  EXCAVATION COMMON
-  DRAINAGE BLANKET CUT
(PAID FOR AS EXCAVATION COMMON)
-  DRAINAGE BLANKET



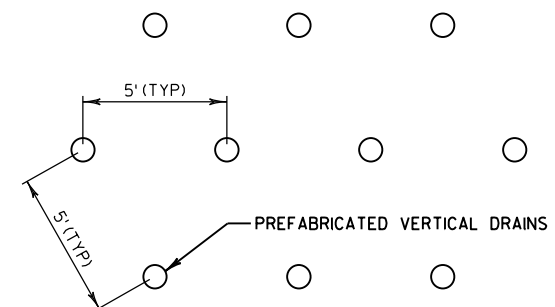
DETAIL FOR EARTHWORK MEASUREMENT AT FILL AREAS WITH PREFABRICATED VERTICAL DRAINS



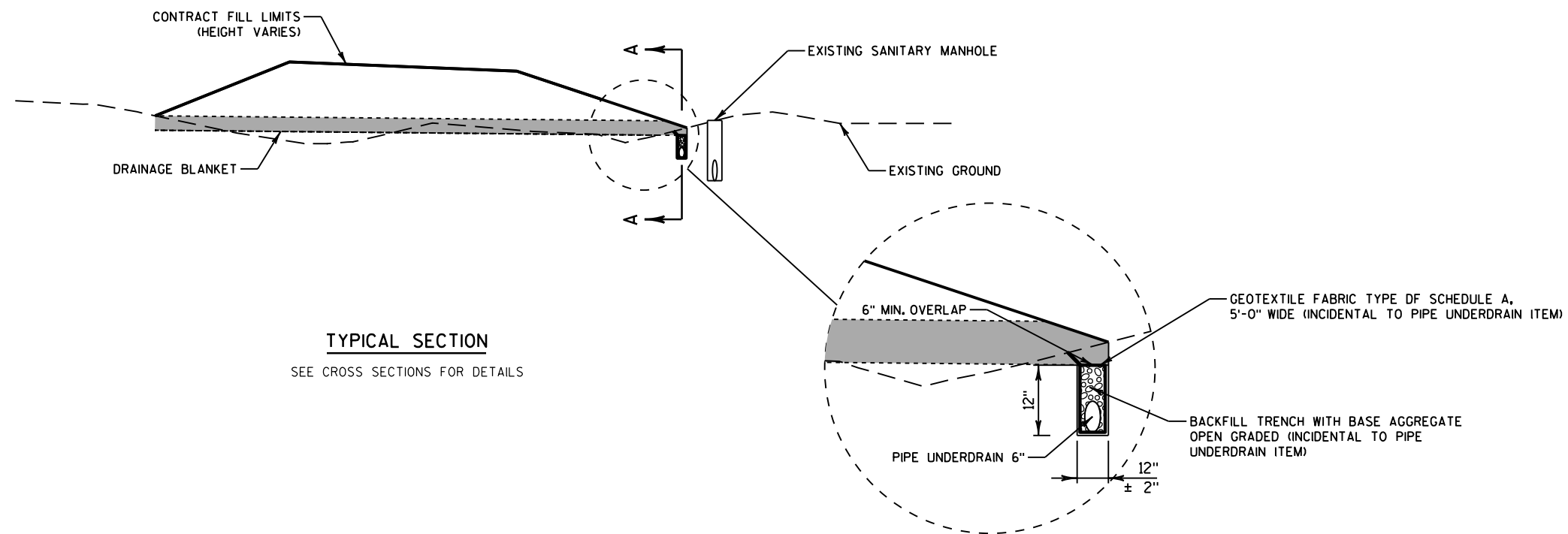
SETTLEMENT GAUGE DETAIL



DRAINAGE BLANKET DETAIL - 5-FOOT EQUILATERAL TRIANGULAR SPACING
NOT TO SCALE

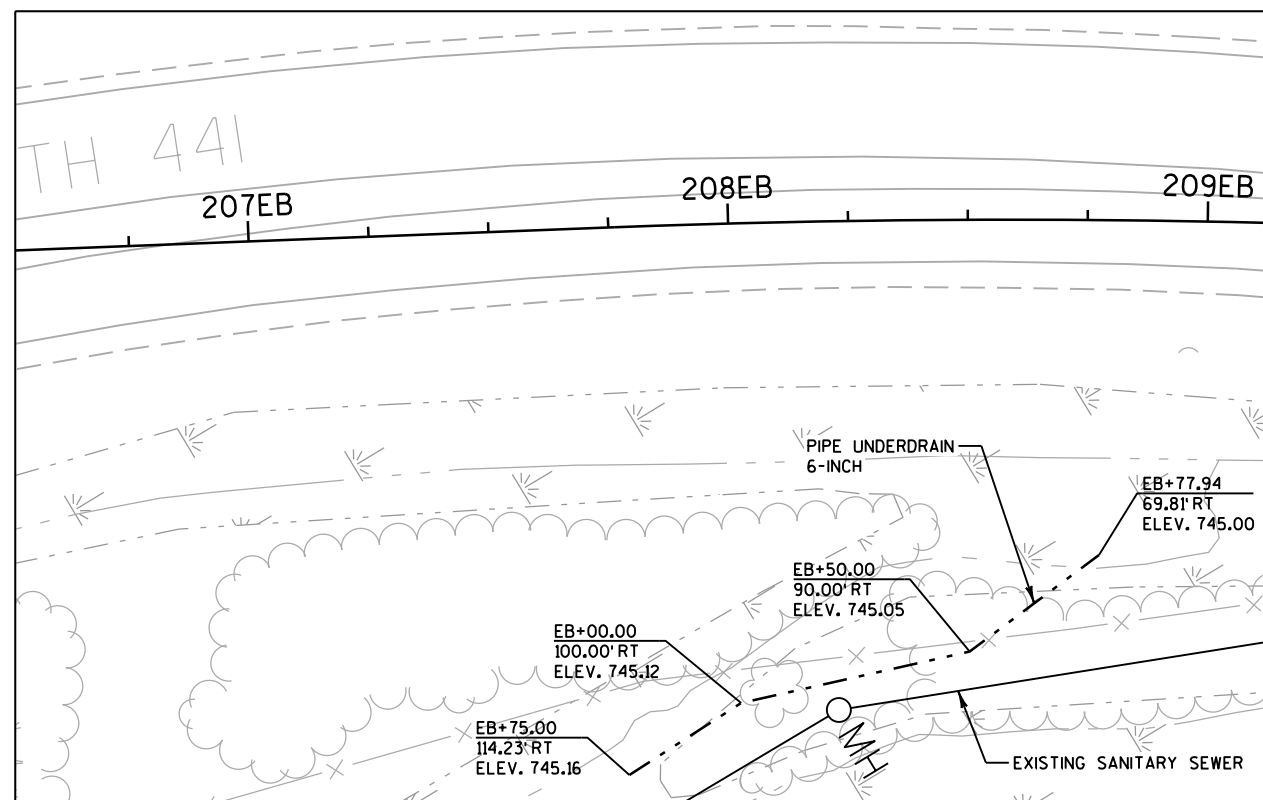


PREFABRICATED VERTICAL DRAINS PLACEMENT DETAIL - 5-FOOT EQUILATERAL TRIANGULAR SPACING
NOT TO SCALE

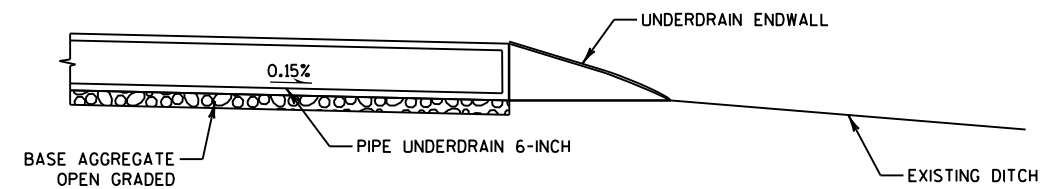


TYPICAL SECTION

SEE CROSS SECTIONS FOR DETAILS



PLAN VIEW



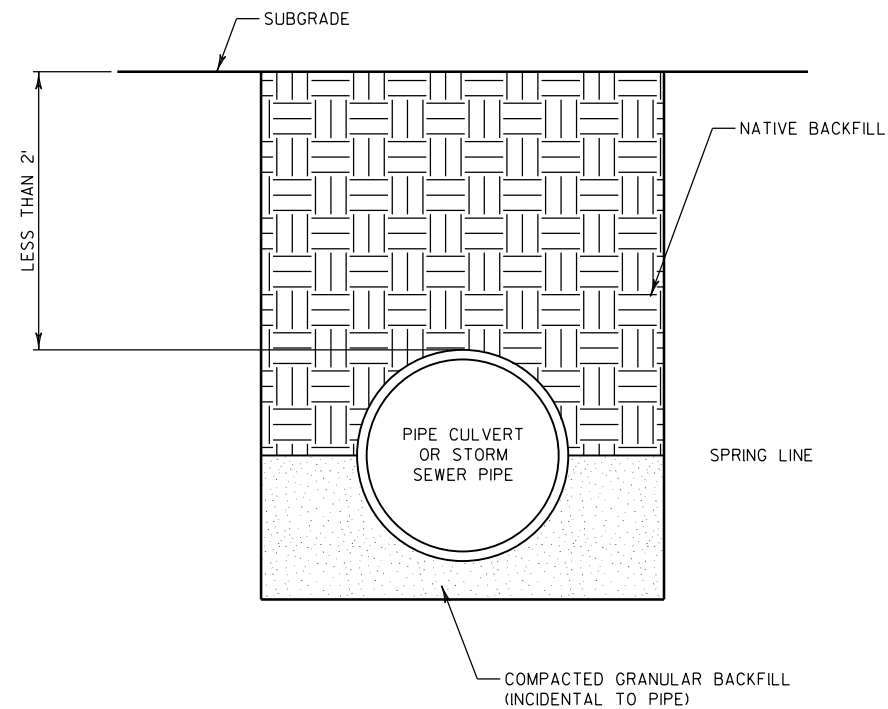
SECTION A-A

UNDERDRAIN PLACED FROM STA 207EB+75 - STA 208EB+78

DITCH UNDERDRAIN DETAIL

NOTES:

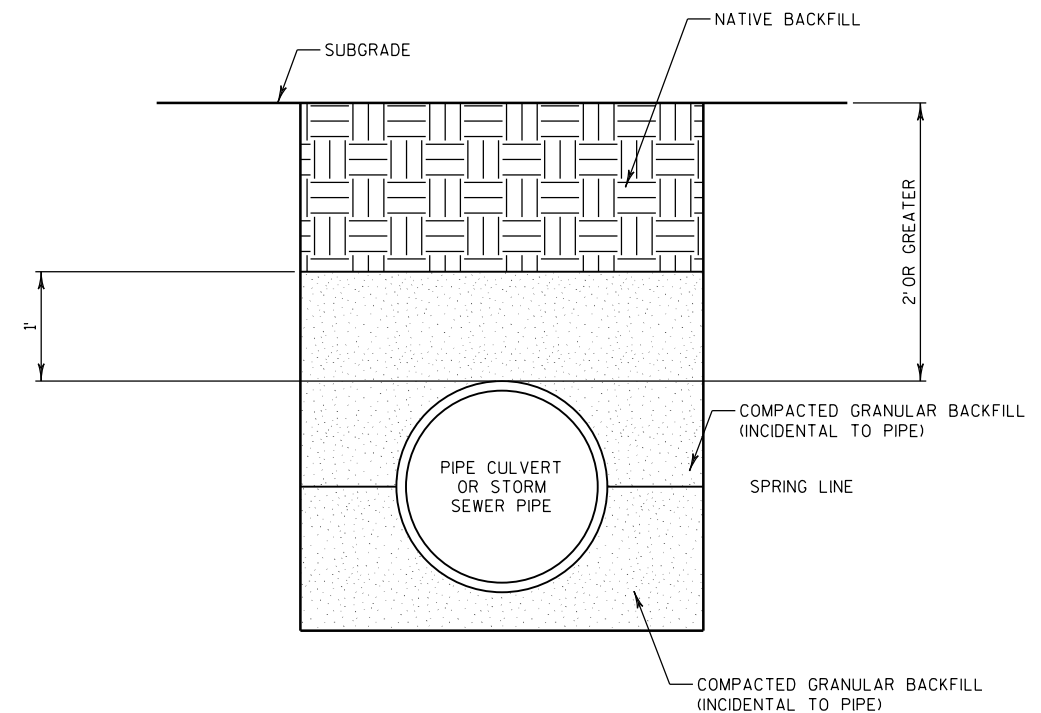
(1) NATIVE BACKFILL SHALL BE FREE OF LARGE LUMPS, CLOUDS, OR ROCK.



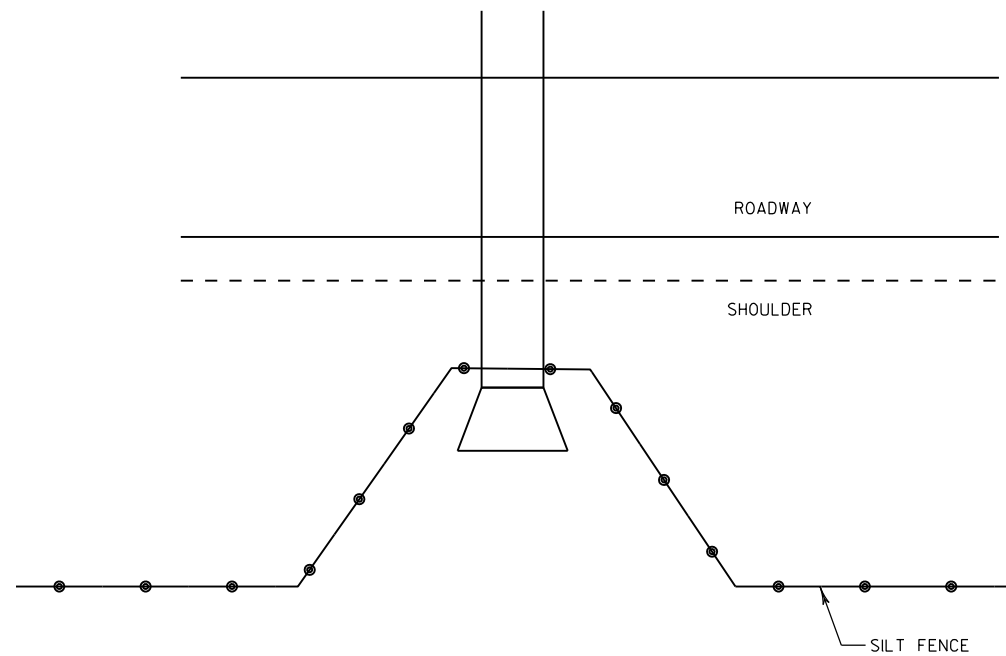
TRENCH BACKFILL DETAIL FOR SHALLOW PIPE CULVERTS

NOTES:

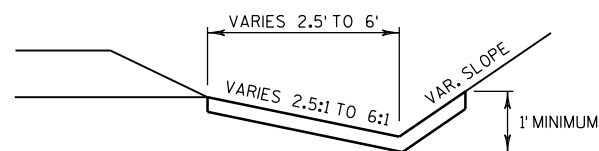
(1) NATIVE BACKFILL SHALL BE FREE OF LARGE LUMPS, CLOUDS, OR ROCK.



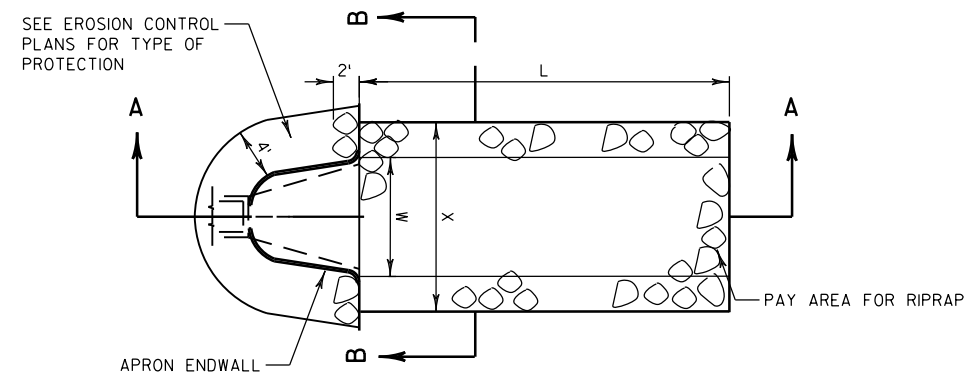
**TRENCH BACKFILL DETAIL FOR NORMAL DEPTH PIPE CULVERTS
AND STORM SEWER PIPE INSTALLATIONS**



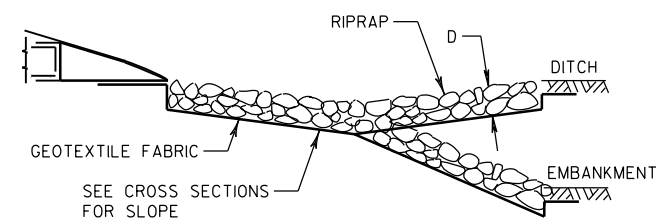
TYPICAL SILT FENCE DETAIL AT PIPE INLET



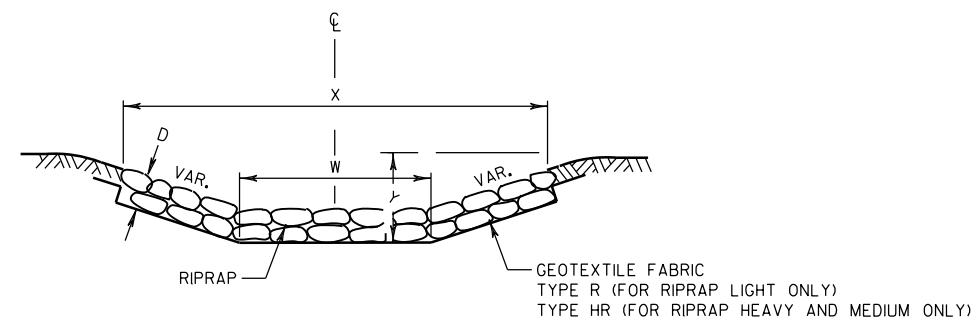
EROSION MAT DETAIL FOR DITCHES



PLAN VIEW



SECTION A-A



SECTION B-B

RIPRAP AND GEOTEXTILE FABRIC DETAIL
AT APRON ENDWALLS

SEE EROSION CONTROL PLAN FOR LOCATIONS

L = 3 x W (NOR.) OR 10' MIN. OR
AS INDICATED IN THE PLANS OR AS
DIRECTED BY THE ENGINEER.

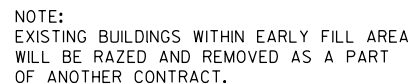
D = 12" FOR RIPRAP LIGHT
18" FOR RIPRAP MEDIUM
24" FOR RIPRAP HEAVY

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

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

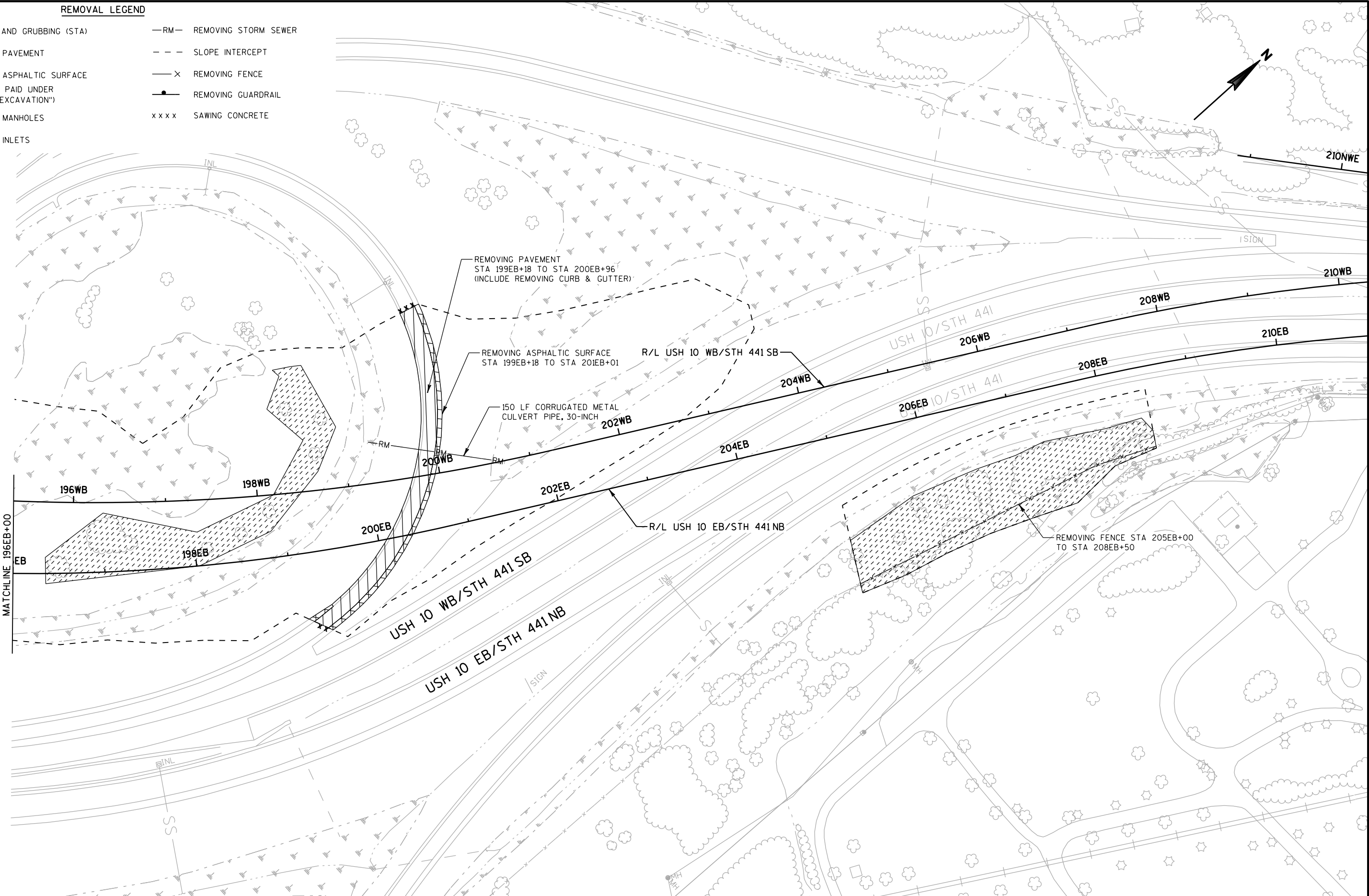
REMOVING INLETS

X X X X SAWING CONCRETE

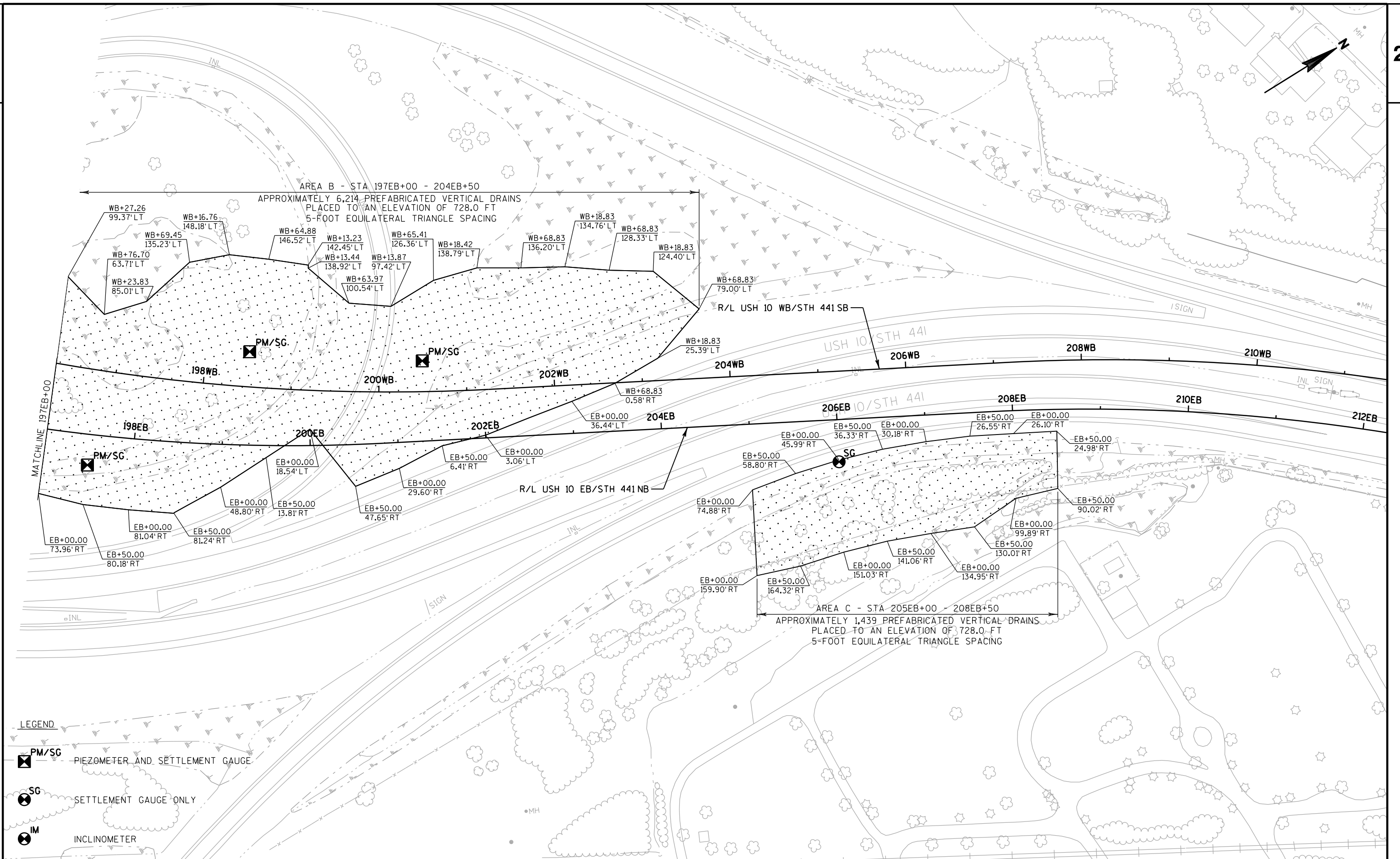


REMOVAL LEGEND

- CLEARING AND GRUBBING (STA)
- REMOVING PAVEMENT
- REMOVING ASPHALTIC SURFACE
(QUANTITY PAID UNDER
"COMMON EXCAVATION")
- REMOVING MANHOLES
- REMOVING INLETS
- RM— REMOVING STORM SEWER
- - - SLOPE INTERCEPT
- X— REMOVING FENCE
- REMOVING GUARDRAIL
- x x x x SAWING CONCRETE

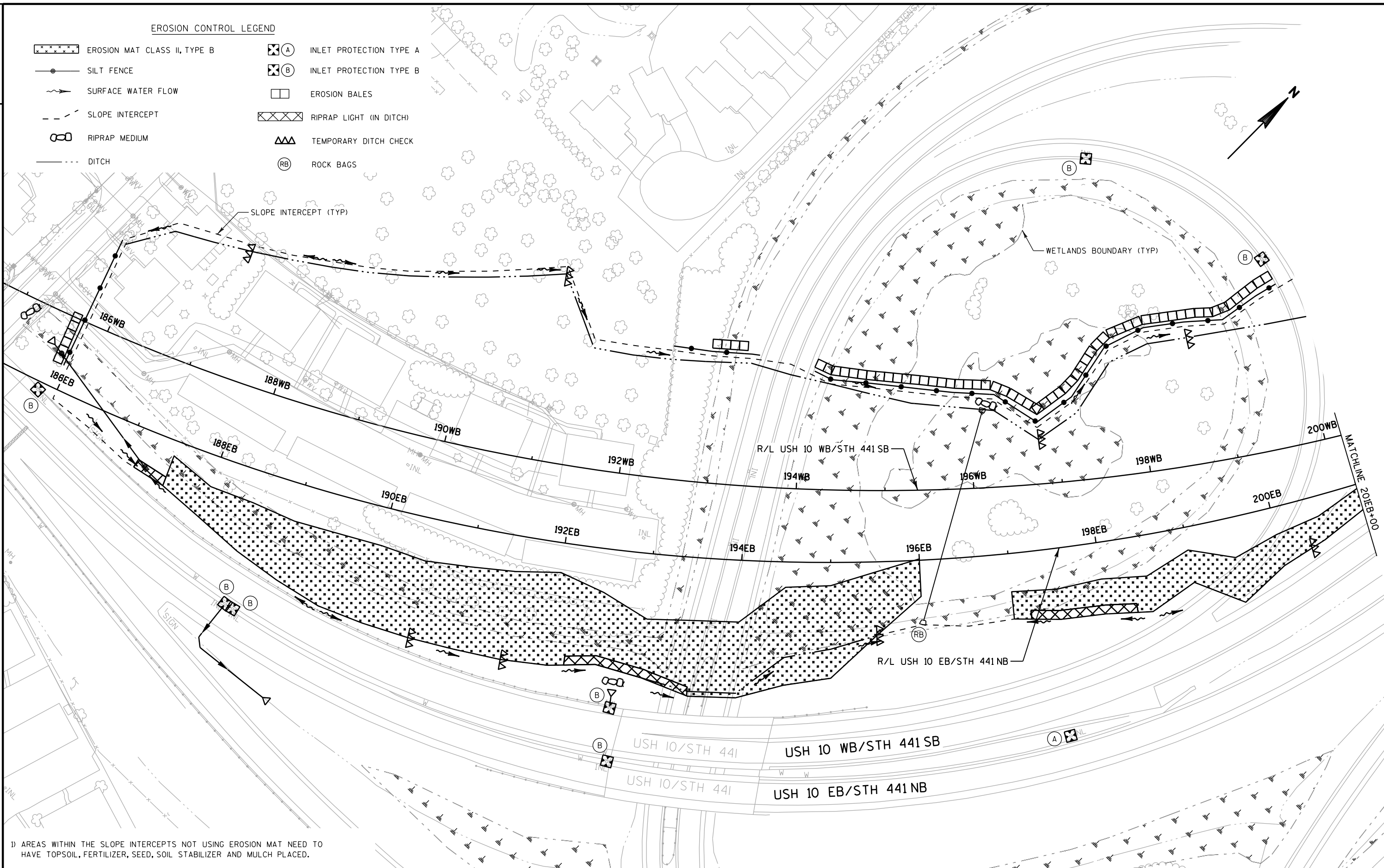






EROSION CONTROL LEGEND

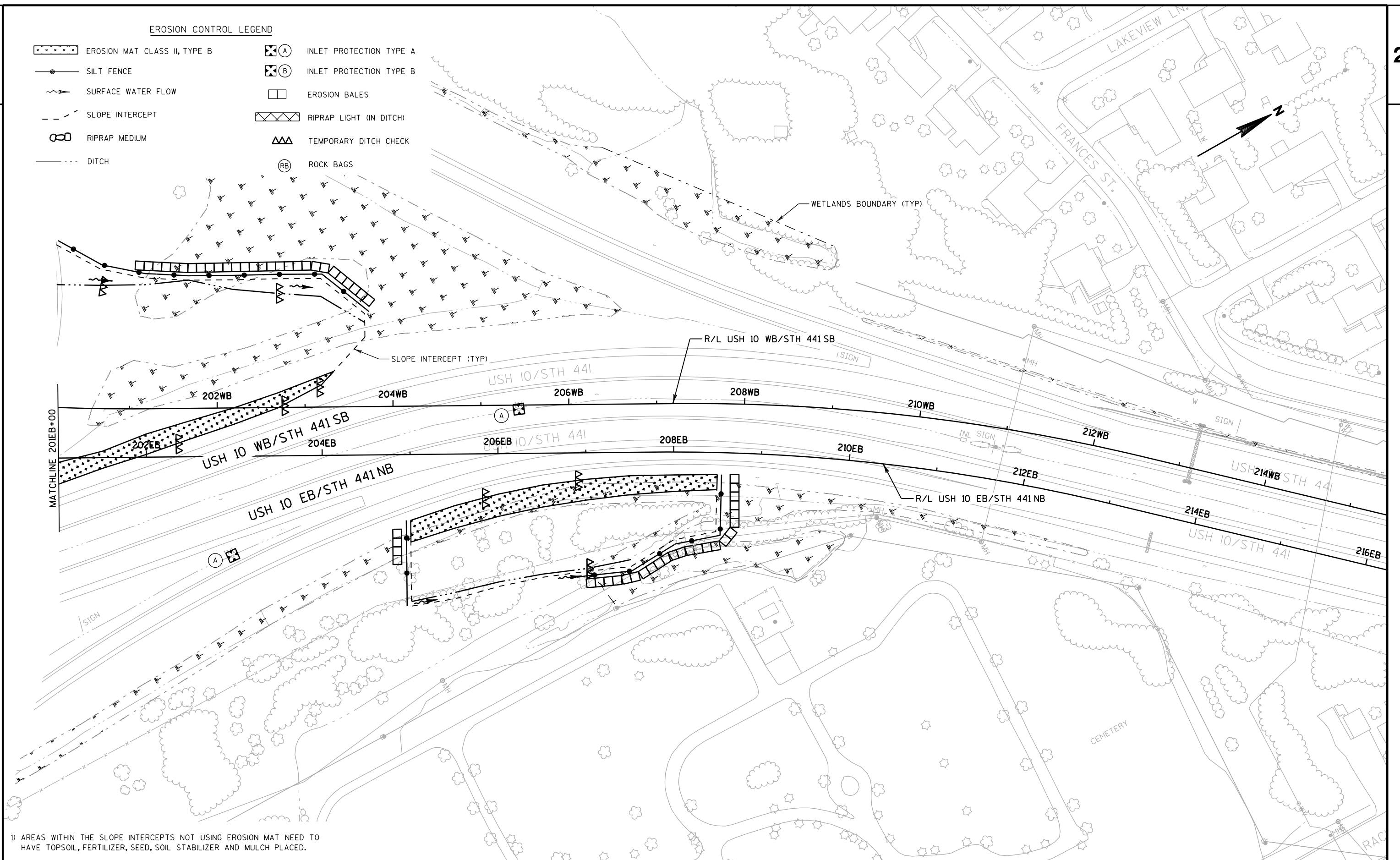
- | | |
|------------------------------------|------------------------------|
| ***** EROSION MAT CLASS II, TYPE B | ⊗(A) INLET PROTECTION TYPE A |
| —●— SILT FENCE | ⊗(B) INLET PROTECTION TYPE B |
| ~> SURFACE WATER FLOW | □ EROSION BALES |
| - - - SLOPE INTERCEPT | ⊗ RIPRAP LIGHT (IN DITCH) |
| ⊗ RIPRAP MEDIUM | △△ TEMPORARY DITCH CHECK |
| --- DITCH | ⊙(RB) ROCK BAGS |

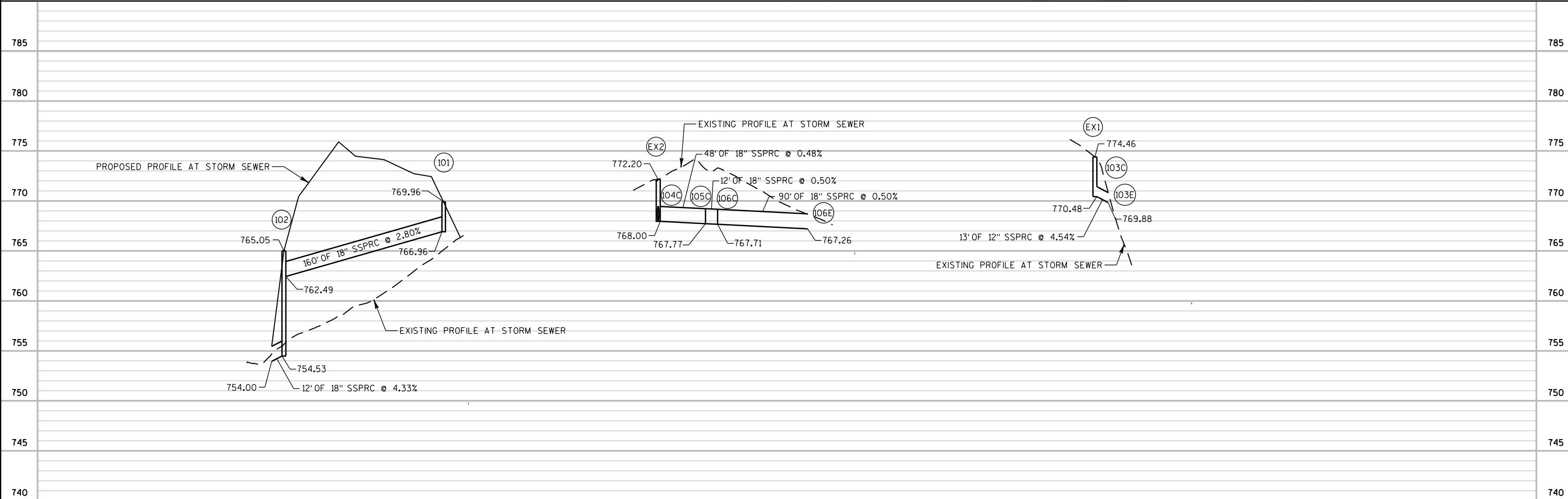
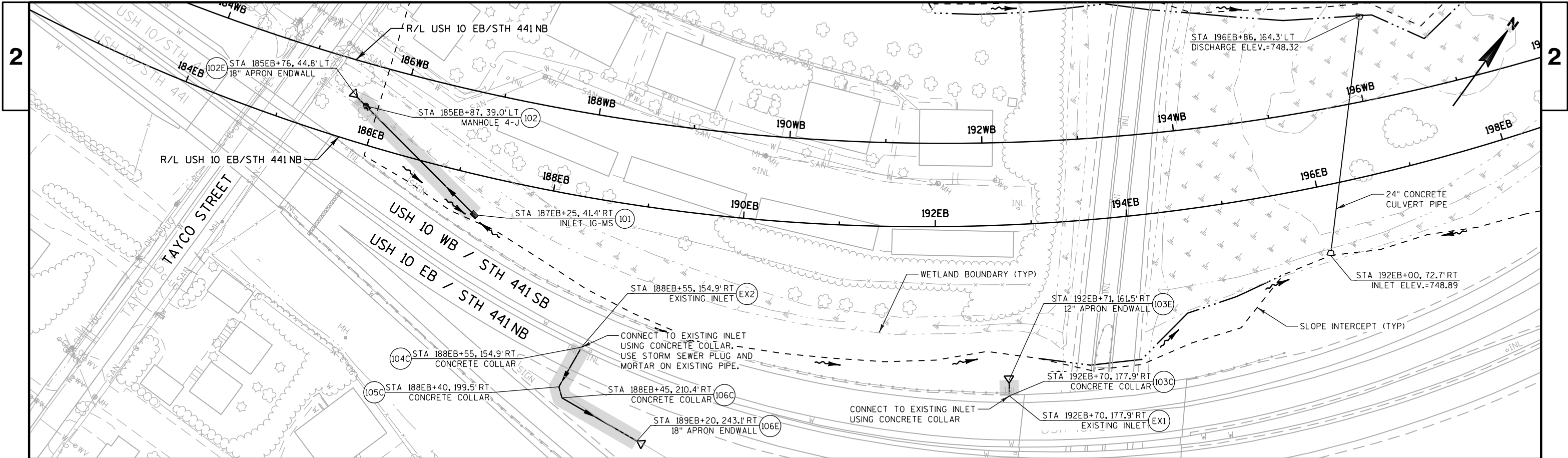


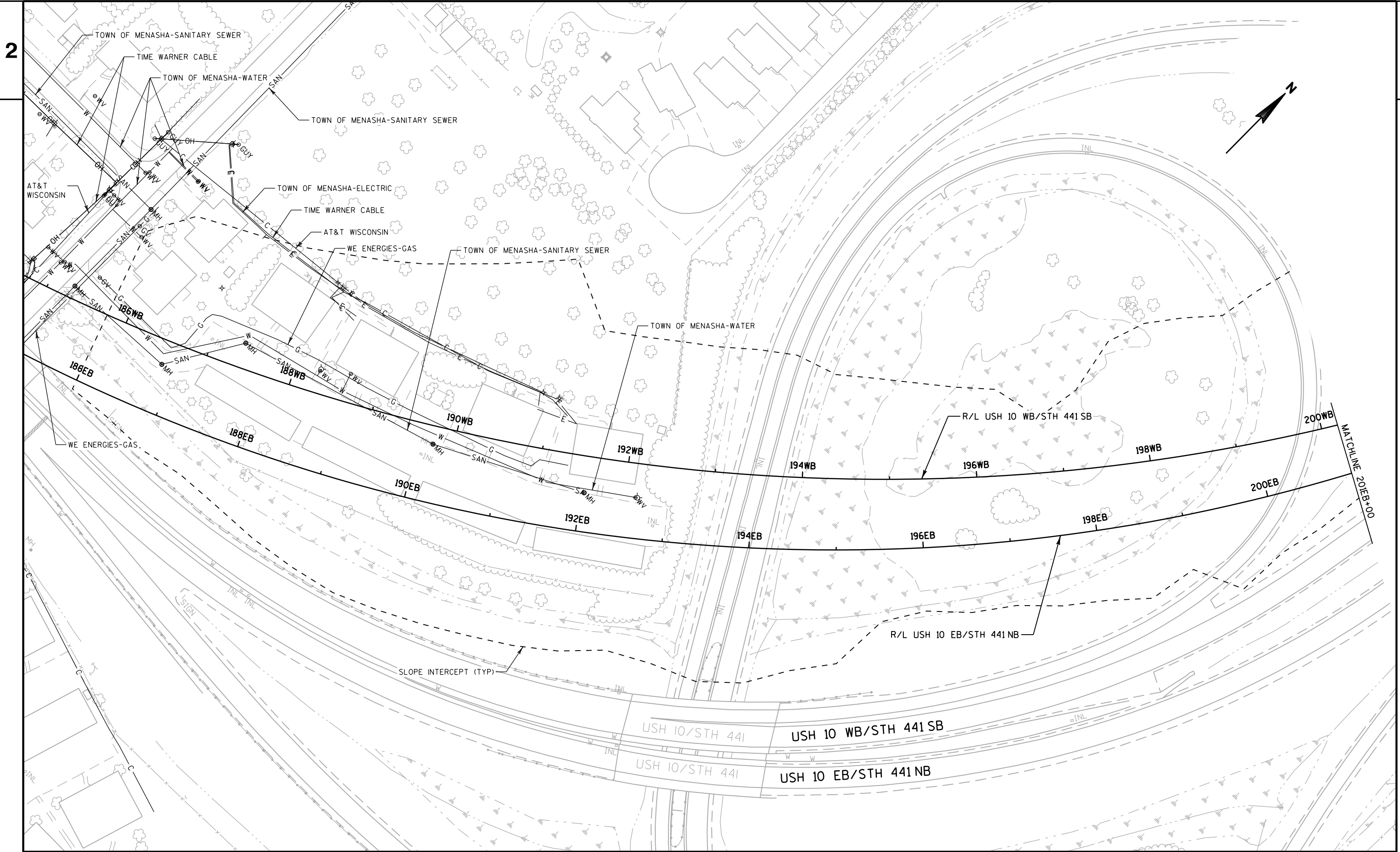
1) AREAS WITHIN THE SLOPE INTERCEPTS NOT USING EROSION MAT NEED TO HAVE TOPSOIL, FERTILIZER, SEED, SOIL STABILIZER AND MULCH PLACED.

EROSION CONTROL LEGEND

*****	EROSION MAT CLASS II, TYPE B	⊗(A)	INLET PROTECTION TYPE A
—●—	SILT FENCE	⊗(B)	INLET PROTECTION TYPE B
~>	SURFACE WATER FLOW	□	EROSION BALES
- - -	SLOPE INTERCEPT	▨	RIPRAP LIGHT (IN DITCH)
⌒	RIPRAP MEDIUM	△△	TEMPORARY DITCH CHECK
— · · ·	DITCH	Ⓡ	ROCK BAGS







GENERAL NOTES FOR TRAFFIC CONTROL

- 1) THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGN DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- 2) "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- 3) FOR NIGHTTIME OPERATION, ALL DRUMS IN TAPERS SHALL HAVE A TYPE C STEADY BURN WARNING LIGHT.
- 4) ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE A (LOW INTENSITY FLASHING) LIGHTS.
- 5) WORK AREAS SHOWN MAY NOT ILLUSTRATE ALL REMOVALS. SEE REMOVAL SHEETS FOR ADDITIONAL INFORMATION.
- 6) WHEN A SEGMENT OF THE PROJECT IS NOT SHOWN ON THE STAGING PLANS, USE THE SAME TRAFFIC CONTROL AS THE PREVIOUS STAGE FOR THAT SEGMENT.
- 7) PAVEMENT MARKING THAT IS SHOWN SHADED ON TRAFFIC CONTROL PLANS ARE THERE FOR REFERENCE ONLY. PAVEMENT MARKING SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- 8) ALL PAVEMENT MARKING STATIONING IN TRAFFIC CONTROL PLANS HAVE THE PREFIX OF THE ALIGNMENT THAT IT IS MEASURED OFF OF, IN THE STATION CALLOUT.
- 9) FOR ALL CONCRETE BARRIER TEMPORARY PRECAST, THERE WILL BE DELINEATORS ATTACHED PER STANDARD DETAIL DRAWING CONCRETE BARRIER TEMPORARY PRECAST 12'-6". PLACE REFLECTORS OF THE APPROPRIATE COLOR ON BOTH SIDES OF THE DELINATOR.
- 10) REMOVING PAVEMENT MARKING ON EXISTING AND NEW PAVEMENT USES THE STANDARD BID ITEM.

GENERAL NOTES FOR FIXED MESSAGE SIGNS FOUND ON TRAFFIC CONTROL SHEETS

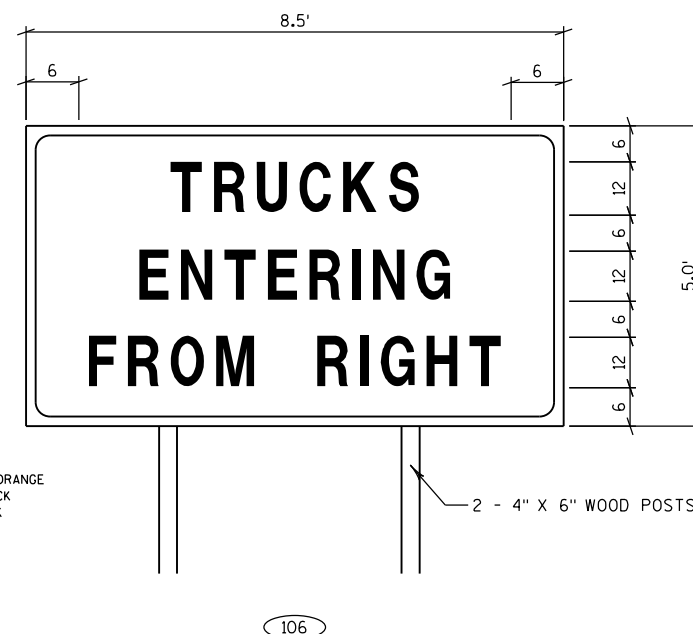
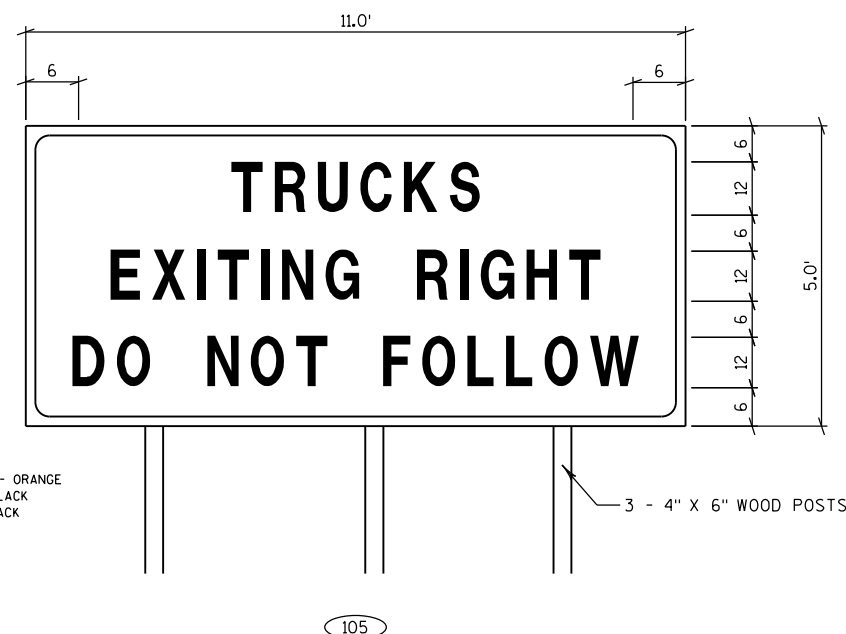
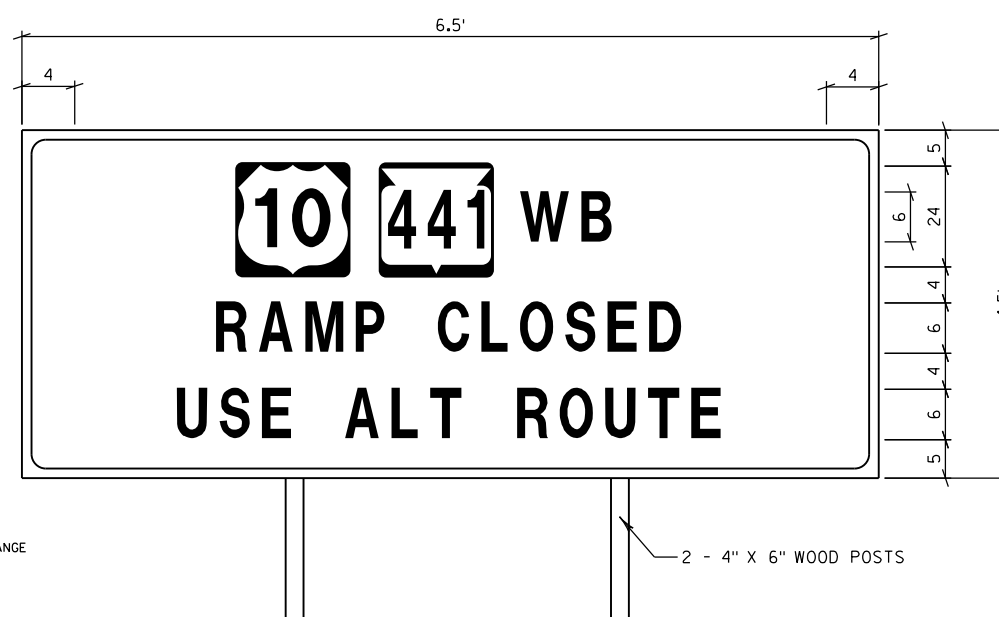
- 1) CONTRACTOR SHALL LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY TYPE I SIGN AND A MINIMUM OF 200' FROM ANY TYPE II SIGN.
- 2) ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON STANDARD REFLECTIVE SHEETING-REFERENCE: "WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION", LATEST EDITION.
- 3) SEE FIXED MESSAGE SIGN CONSTRUCTION DETAIL SHEETS FOR MORE INFORMATION.

TRAFFIC CONTROL LEGEND

- | | | | |
|---|---|---|--|
|  | TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A |  | TRAFFIC CONTROL SIGNS PORTABLE CHANGABLE MESSAGE |
|  | TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A AND ATTACHED SIGN |  | TRAFFIC FLOW ARROW |
|  | TRAFFIC CONTROL DRUM |  | WORK ZONE THIS STAGE |
|  | TRAFFIC CONTROL DRUM WITH LIGHT TYPE C |  | CONCRETE BARRIER TEMPORARY PRECAST LEFT IN PLACE |
|  | TRAFFIC CONTROL SIGN(S) ON PERMANENT SUPPORT |  | CRASH CUSHIONS TEMPORARY LEFT IN PLACE |

TEMPORARY PAVEMENT MARKING LEGEND

- | | | | |
|---|--|---|---------------------------------------|
|  | PAVEMENT MARKING EPOXY 4-INCH (YELLOW) |  | PAVEMENT MARKING EPOXY 8-INCH (WHITE) |
|  | PAVEMENT MARKING EPOXY 4-INCH (WHITE) |  | EXISTING PAVEMENT MARKINGS |



- 1) AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE SIGNING AND MARKING SUPERVISOR SHALL VERIFY EACH SIGN LOCATION.
- 2) ALL SIGNS TO BE MOUNTED ON WOODEN POSTS SUPPORTS (4" X 6") MAY BE USED FOR SIGNS ON SURFACE STREETS. SIGNS WHERE NO POSTS ARE SHOWN TO BE MOUNTED ON EXISTING SIGNS, FOR SIGNS MOUNTED ON POSTS, USE POSTS FROM FHWA LIST OF ACCEPTED BREAKAWAY SUPPORTS.
- 3) POSTS SHALL MEET THE BREAKAWAY REQUIREMENTS OF SECTION 643.2.9.1 OF THE STANDARD SPECIFICATIONS AND SIGN PLATE A4-II.
- 4) SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "TRAFFIC CONTROL SIGNS FIXED MESSAGE".
- 5) SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND PER STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS UNLESS OTHERWISE NOTED.
- 6) ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS: 12" CAPS SHALL BE SERIES "D", 6" CAPS SHALL BE SERIES "C".
- 7) CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.
- 8) SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 637.2.1.2 AND 643.2.9.3.
- 9) DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

10) ALL SIGNS SHALL HAVE A BORDER AND RADIUS (OF BORDERS) AS FOLLOWS:

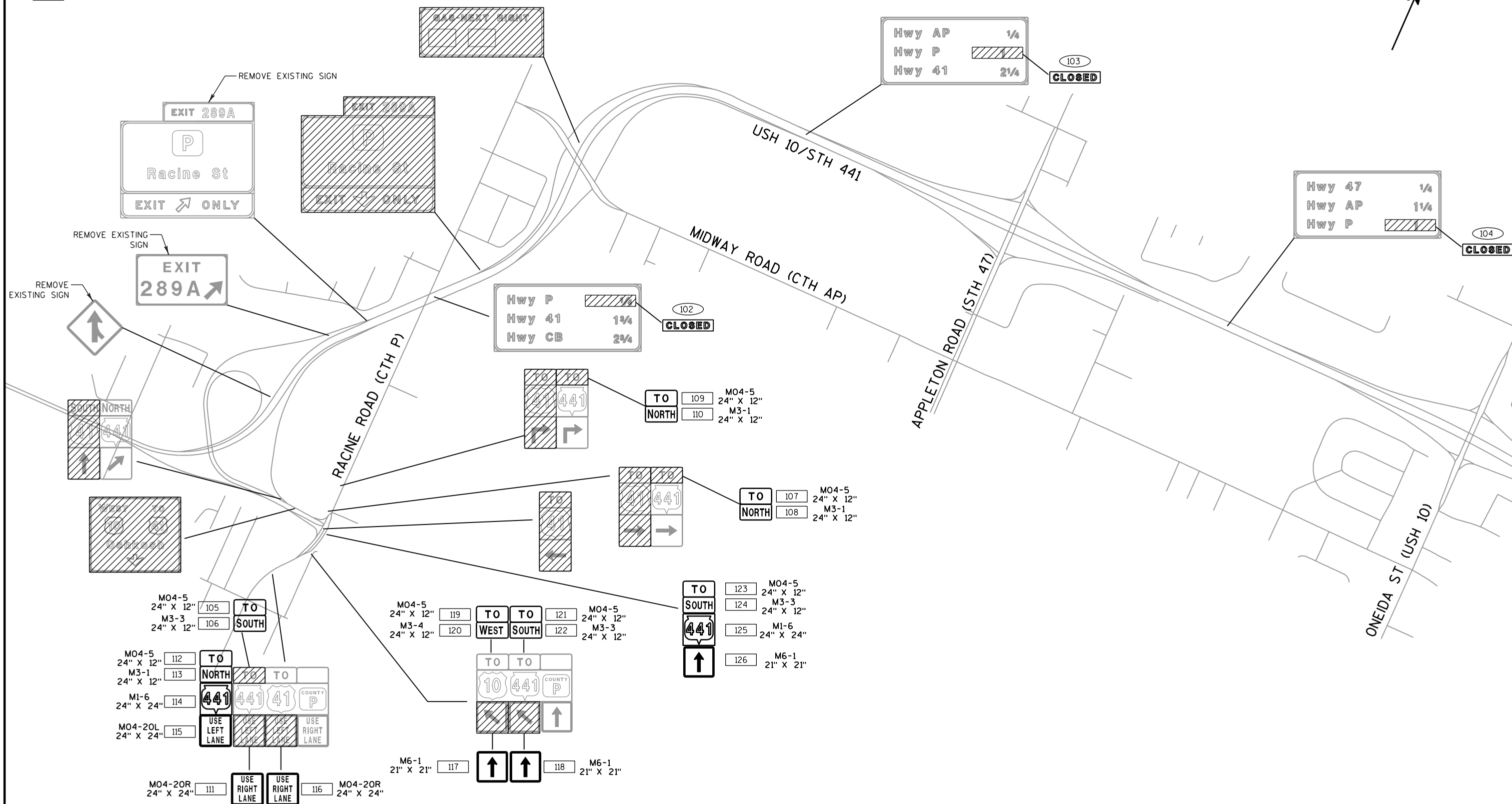
SIGN AREA	WIDTH OF BORDER
GREATER THAN 150 SQ FEET	3"
60-150 SQ FEET	2"
LESS THAN 60 SQ FEET	1"

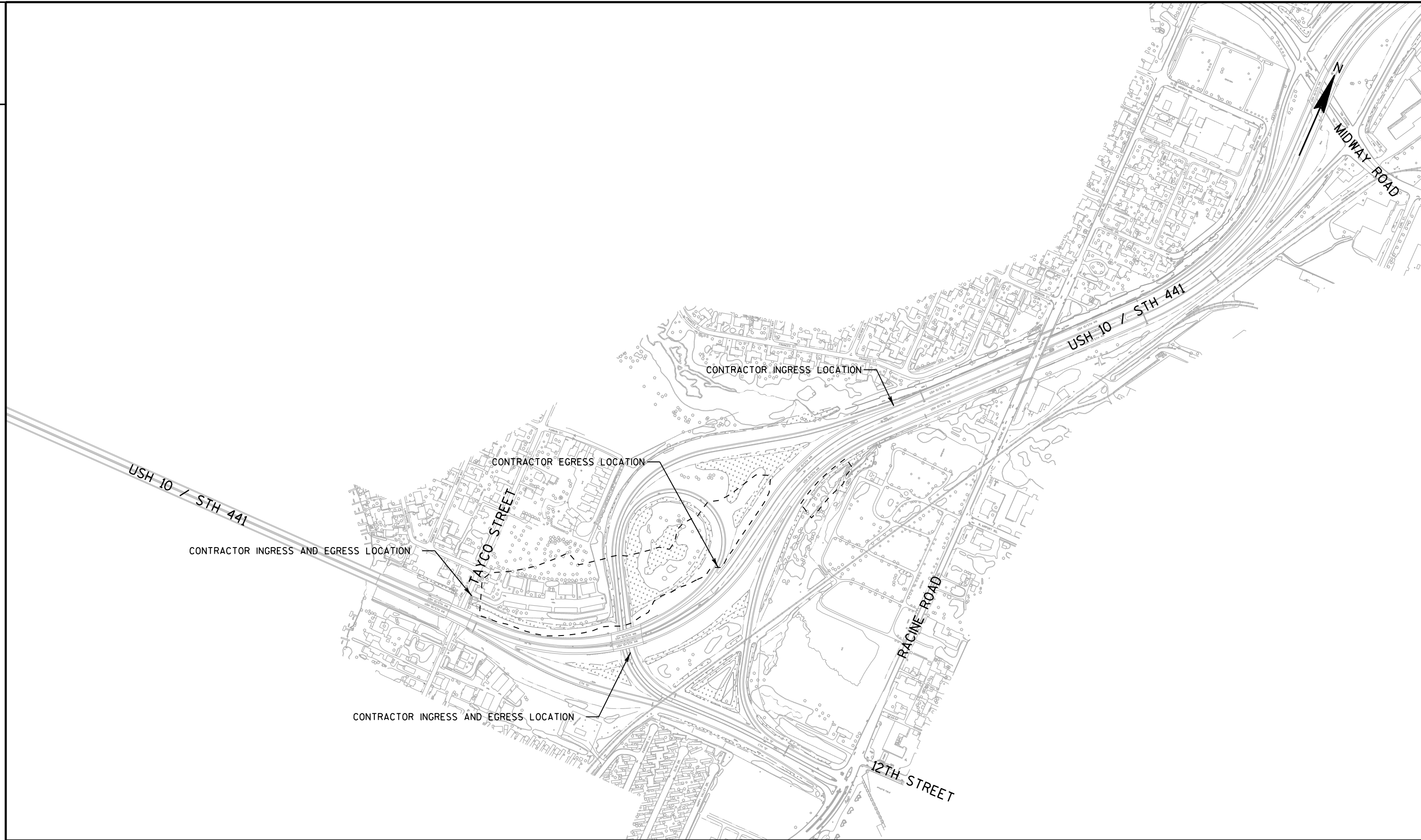
RADIUS	CORNER RADIUS
GREATER THAN 8 FEET	12"
<8 AND GREATER THAN OR EQUAL TO 6 FEET	9"
<6 AND GREATER THAN OR EQUAL TO 4 FEET	6"
LESS THAN 4 FEET	3"

XXX FIXED MESSAGE SIGN NUMBER
(REFER TO TRAFFIC CONTROL - DETAILS
FOR SIGN DETAILS)

 SIGN COVERING

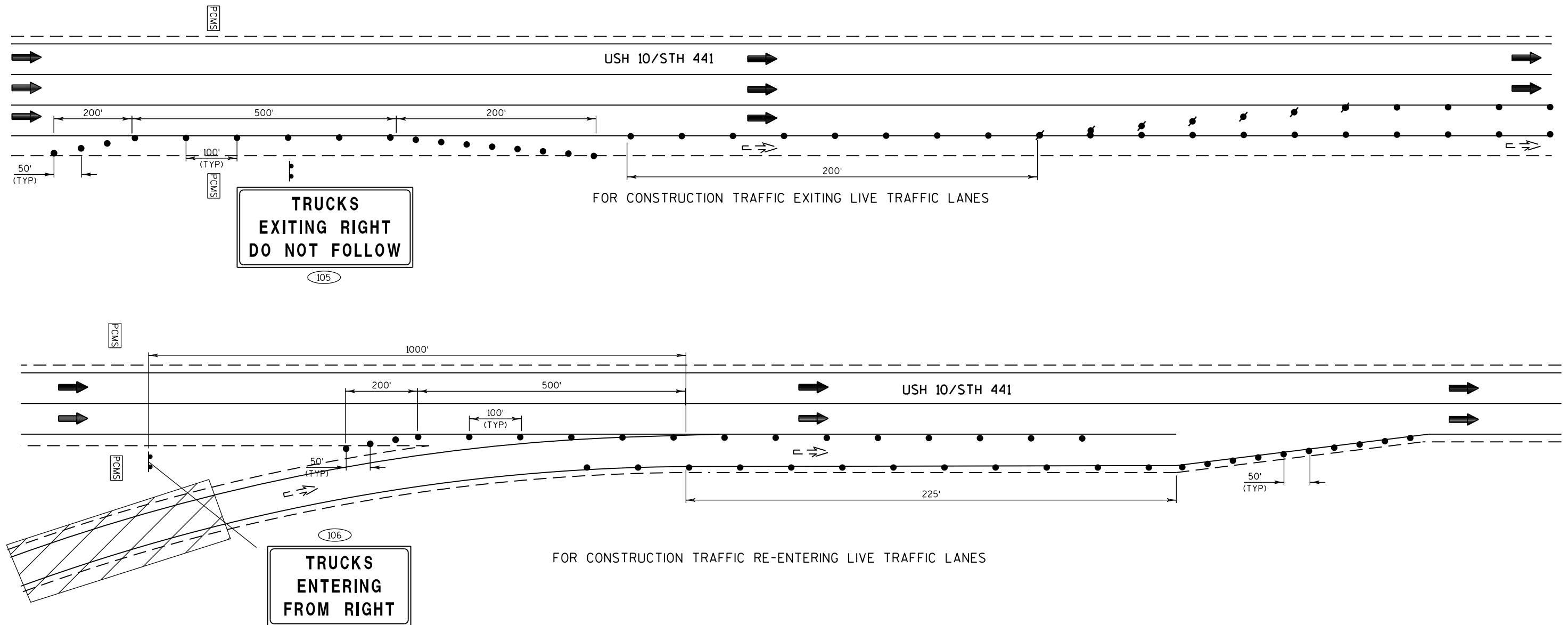
XXX	SIGNS REFLECTIVE TYPE II
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CONTRACTOR EGRESS / INGRESS FOR CONSTRUCTION ZONE

SHEET 1 OF 2

**NOTE:**

SPACING AND LOCATIONS OF DEVICES IN THE FIELD
SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER

SEE OTHER TRAFFIC CONTROL DETAILS AND STANDARD
DETAIL DRAWINGS FOR LANE CLOSURE DETAILS

PORTABLE MESSAGE SIGN MESSAGES WILL BE PLACED
7 DAYS PRIOR TO CONSTRUCTION AND SHOULD READ:

FRAME 1

TRUCKS
EXITING
RIGHT

FRAME 2

DO
NOT
FOLLOW

OR

FRAME 1

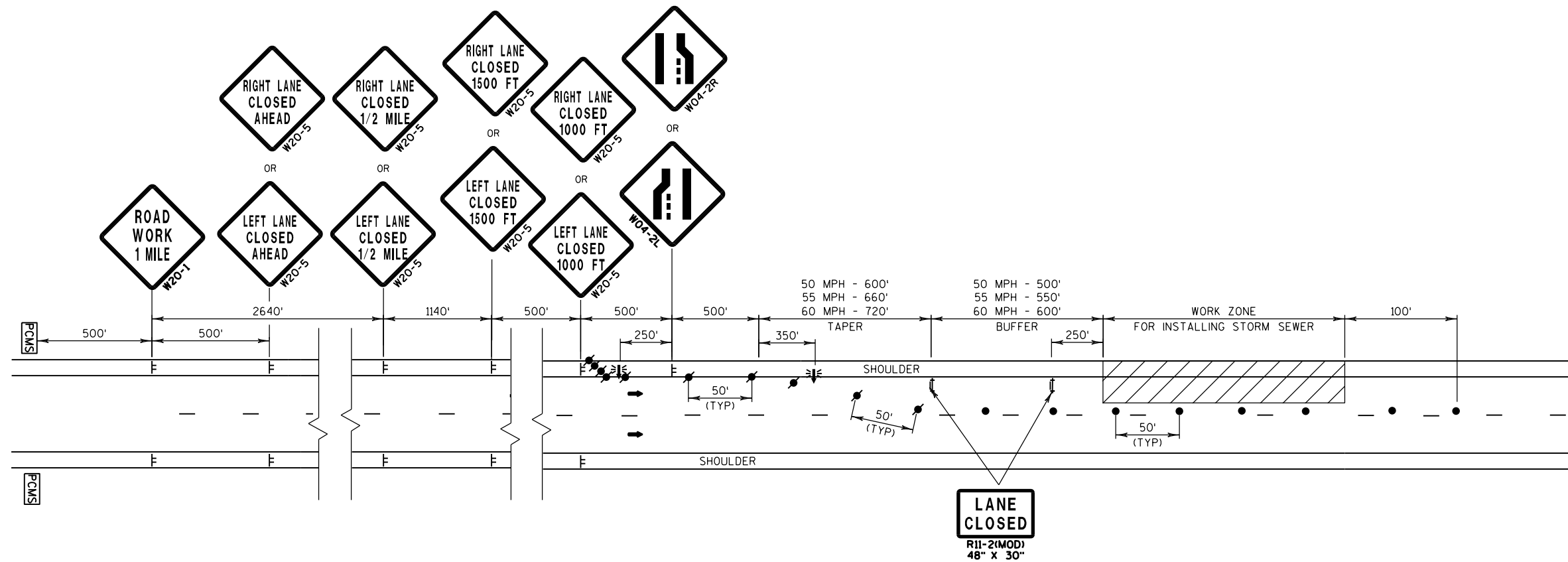
TRUCKS
ENTERING
RIGHT

FRAME 2**LEGEND**

- TRAFFIC CONTROL DRUM
- ⦿ TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
- ➡ TRAFFIC FLOW ARROW
- ➡ TRAFFIC FLOW ARROW
- ▨ WORK ZONE THIS STAGE
- ⦿ FIXED MESSAGE SIGN
- PCMS TRAFFIC CONTROL SIGNS
PORTABLE CHANGABLE MESSAGE
- XXX FIXED MESSAGE SIGN NUMBER

CONTRACTOR EGRESS / INGRESS FOR CONSTRUCTION ZONE

SHEET 2 OF 2

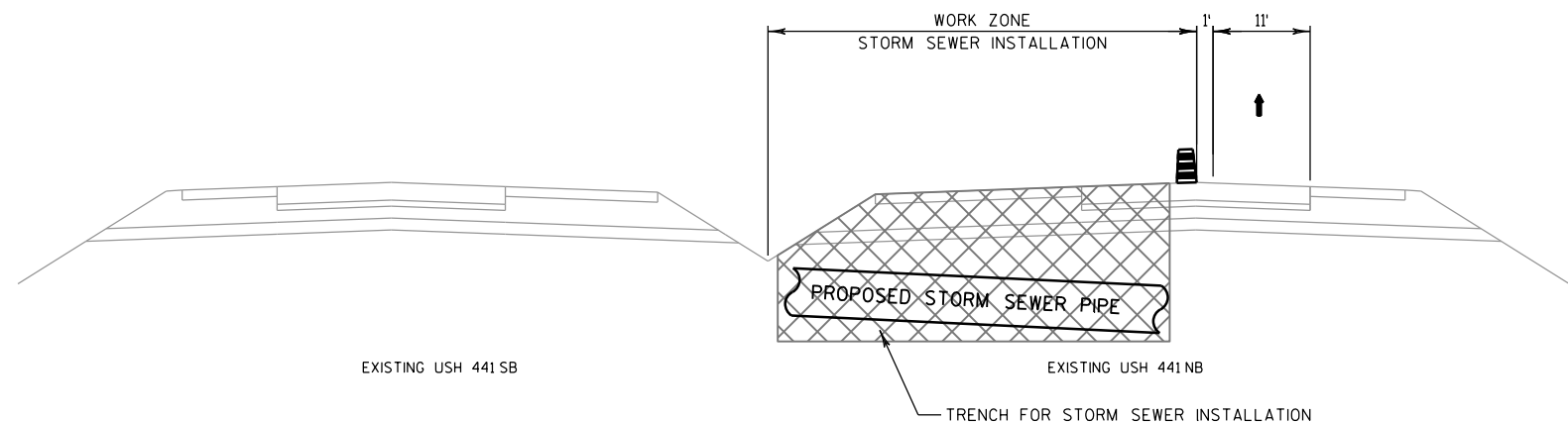


NOTES:

- 1) THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- 2) ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN)
- 3) ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- 4) "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- 5) WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
- 6) ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.
- 7) UTILIZE NIGHT TIME CLOSURE FOR INSTALLATION OF STORM SEWER UNDER EXISTING PAVEMENT. HOURS FOR NIGHT TIME CLOSURE SHALL ADHERE TO THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
- 8) MEDIAN SHOULDERS WITH FULL DEPTH TEMPORARY PAVEMENT TO ACCOMMODATE TRAFFIC TO PROVIDE ADEQUATE WORKZONE WIDTH FOR STORM SEWER CROSSING CONSTRUCTION.

LEGEND

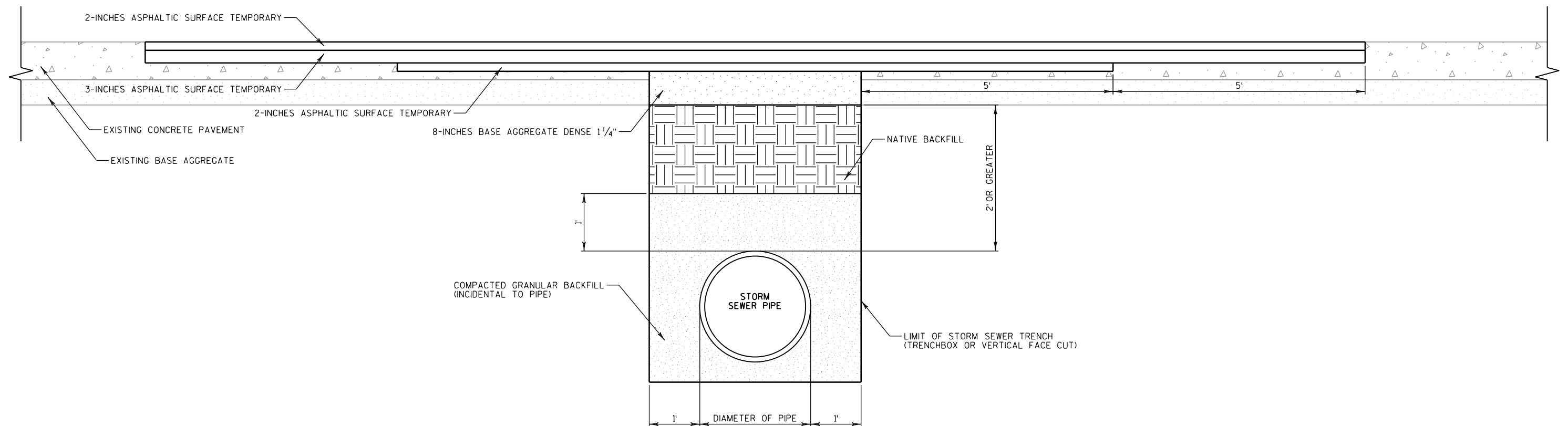
- | | |
|--|--|
| ● TRAFFIC CONTROL DRUM | ↑ TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHT TYPE A AND ATTACHED SIGN |
| ⬤ TRAFFIC CONTROL DRUM WITH LIGHT TYPE C | ➡ TRAFFIC CONTROL ARROW BOARD |
| ▨ WORK ZONE | ➡ DIRECTION OF TRAFFIC |
| ⌞ SIGN ON TEMPORARY SUPPORT | PCMS TRAFFIC CONTROL SIGN PORTABLE CHANGEABLE MESSAGE |
| ▬ CONCRETE BARRIER TEMPORARY PRECAST | |



TYPICAL SECTION FOR TRAVELED WAY ALONG USH 441

TYPICAL ONE-LANE NIGHT TIME CLOSURE FOR STORM SEWER INSTALLATION

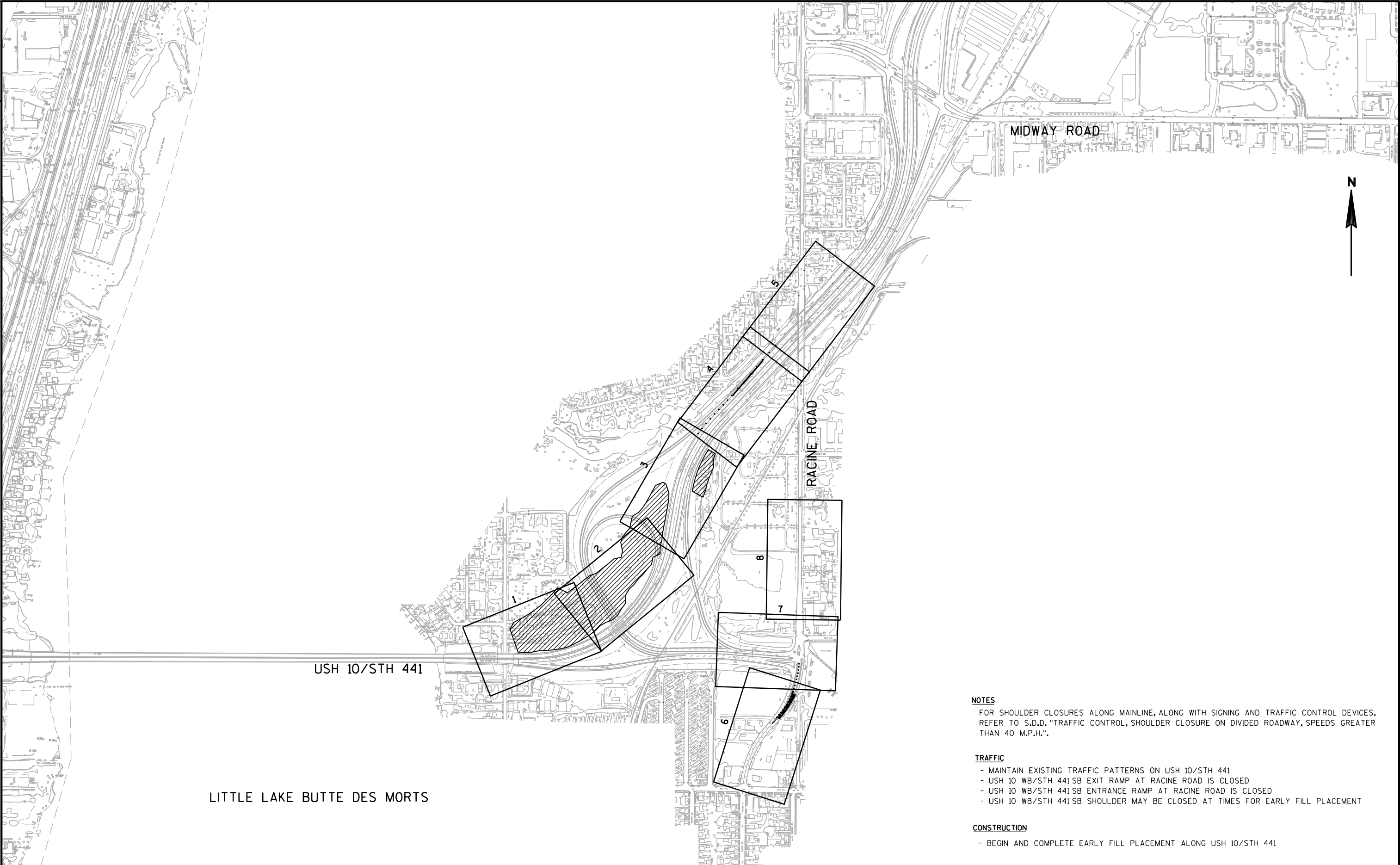
SHEET 1 OF 2

**NOTES:**

- 1) NATIVE BACKFILL SHALL BE FREE OF LARGE LUMPS, CLOUDS, OR ROCK.
- 2) ASPHALTIC SURFACE TEMPORARY AND BASE AGGREGATE DENSE WILL BE PAID FOR UNDER THEIR APPROPRIATE BID ITEMS.

**TYPICAL ONE-LANE NIGHT TIME CLOSURE
FOR STORM SEWER INSTALLATION**

SHEET 2 OF 2



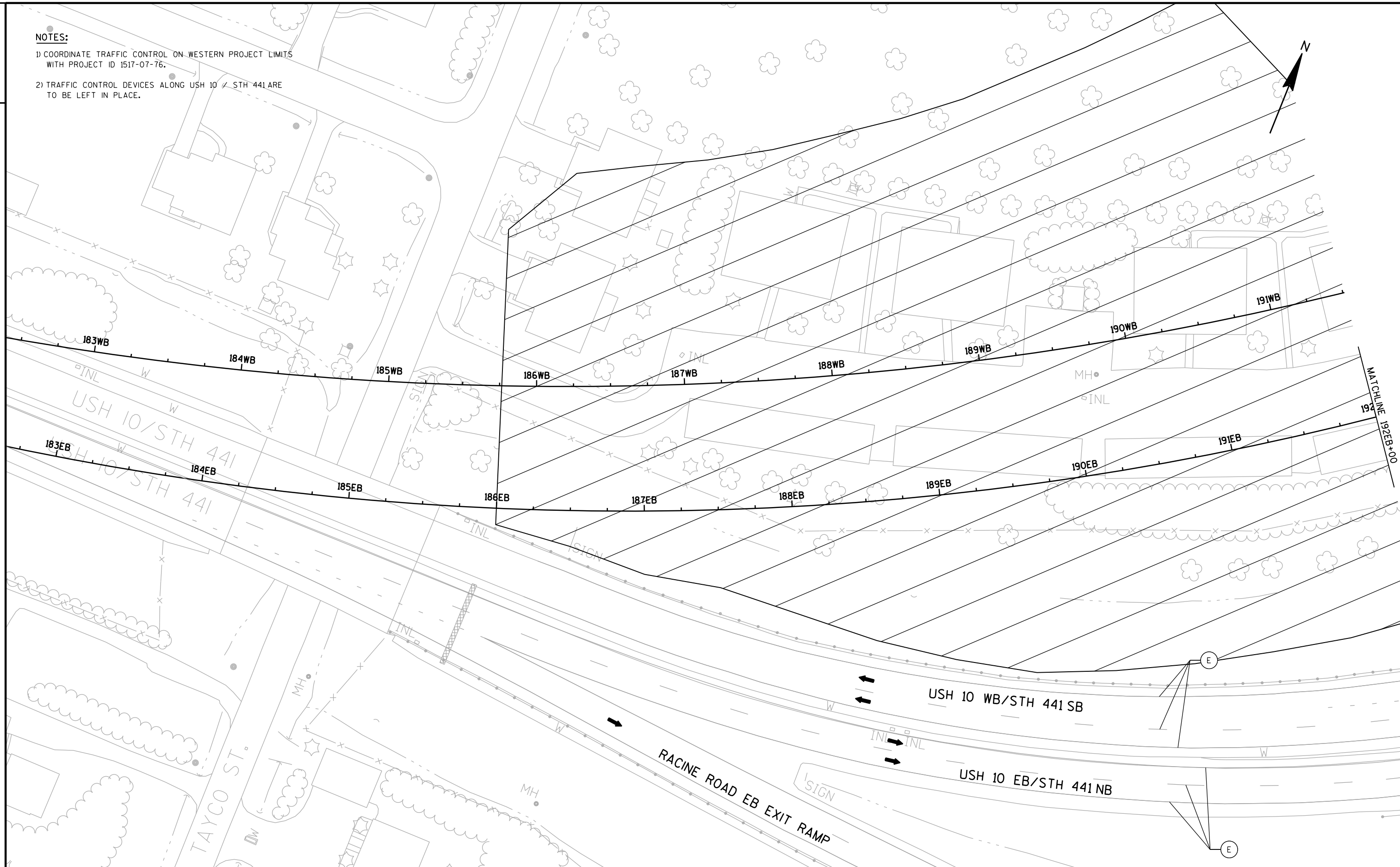
NOTES
FOR SHOULDER CLOSURES ALONG MAINLINE, ALONG WITH SIGNING AND TRAFFIC CONTROL DEVICES, REFER TO S.D.D. "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H."

TRAFFIC
- MAINTAIN EXISTING TRAFFIC PATTERNS ON USH 10/STH 441
- USH 10 WB/STH 441 SB EXIT RAMP AT RACINE ROAD IS CLOSED
- USH 10 WB/STH 441 SB ENTRANCE RAMP AT RACINE ROAD IS CLOSED
- USH 10 WB/STH 441 SB SHOULDER MAY BE CLOSED AT TIMES FOR EARLY FILL PLACEMENT

CONSTRUCTION
- BEGIN AND COMPLETE EARLY FILL PLACEMENT ALONG USH 10/STH 441

NOTES:

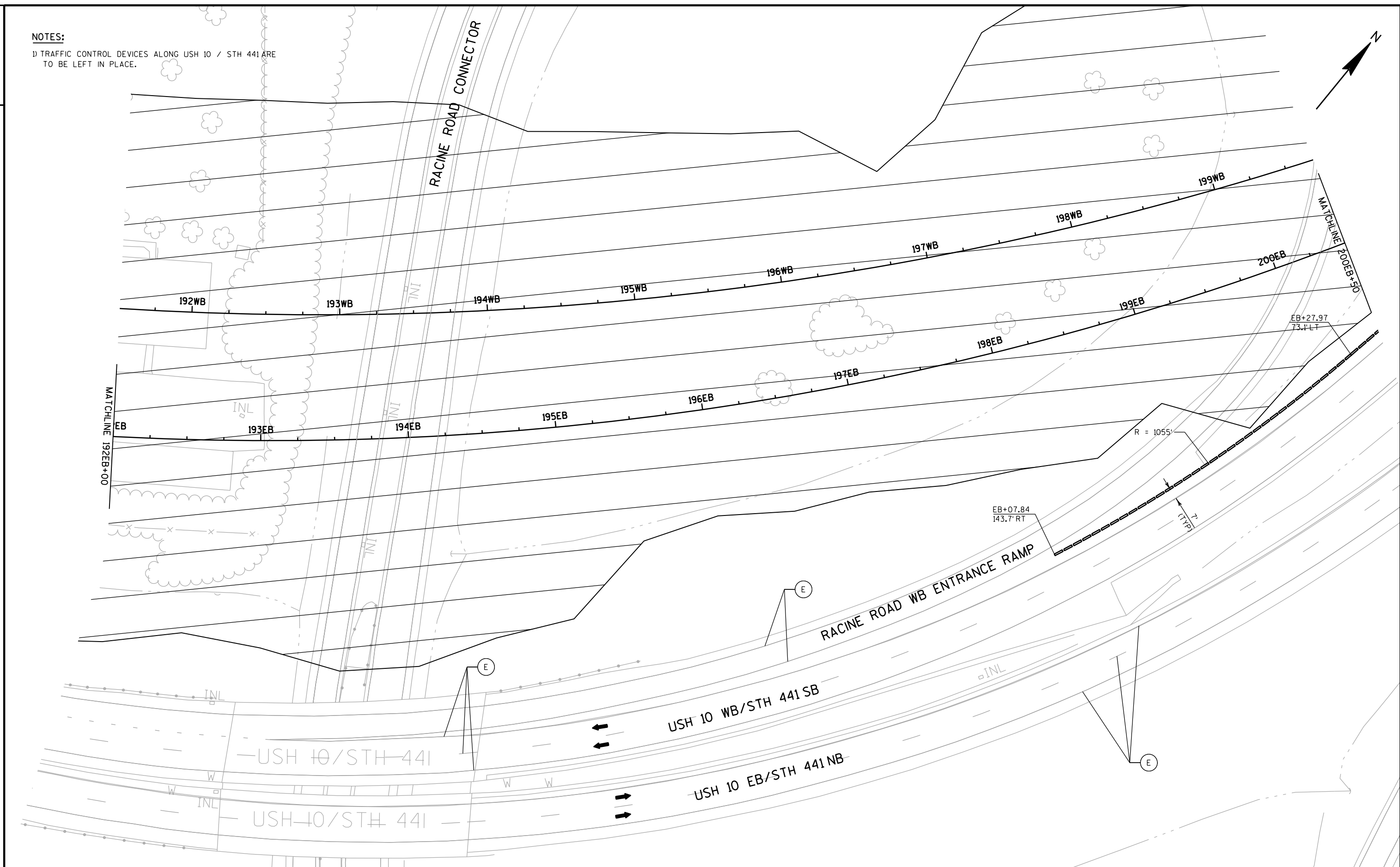
- 1) COORDINATE TRAFFIC CONTROL ON WESTERN PROJECT LIMITS WITH PROJECT ID 1517-07-76.
- 2) TRAFFIC CONTROL DEVICES ALONG USH 10 / STH 441 ARE TO BE LEFT IN PLACE.



PROJECT NO: 1517-75-71	HWY: USH 10	COUNTY: WINNEBAGO	STAGE 1 CONSTRUCTION	SHEET	E
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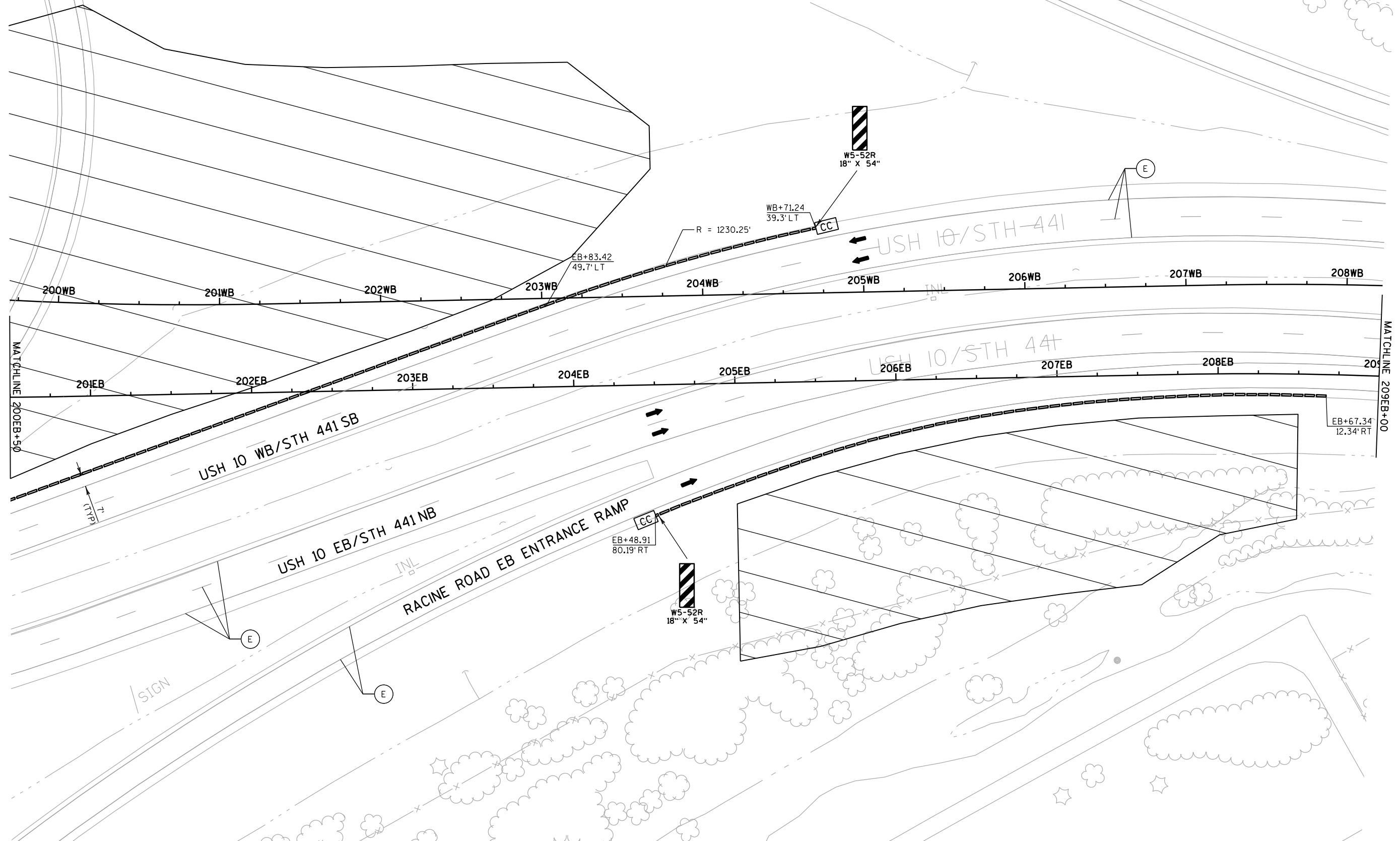
NOTES:

1) TRAFFIC CONTROL DEVICES ALONG USH 10 / STH 441 ARE TO BE LEFT IN PLACE.

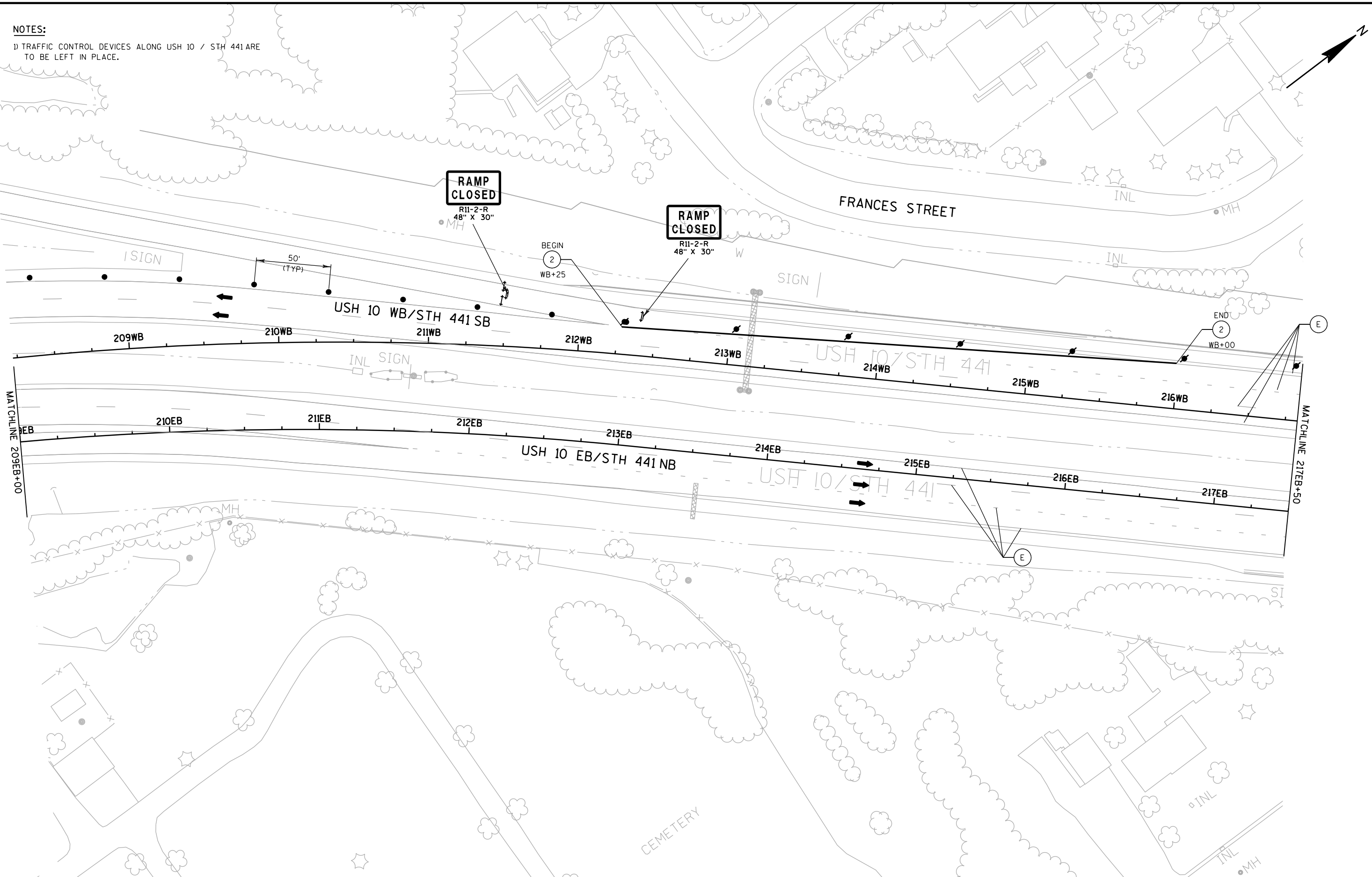


NOTES:

1) TRAFFIC CONTROL DEVICES ALONG USH 10 / STH 441 ARE TO BE LEFT IN PLACE.

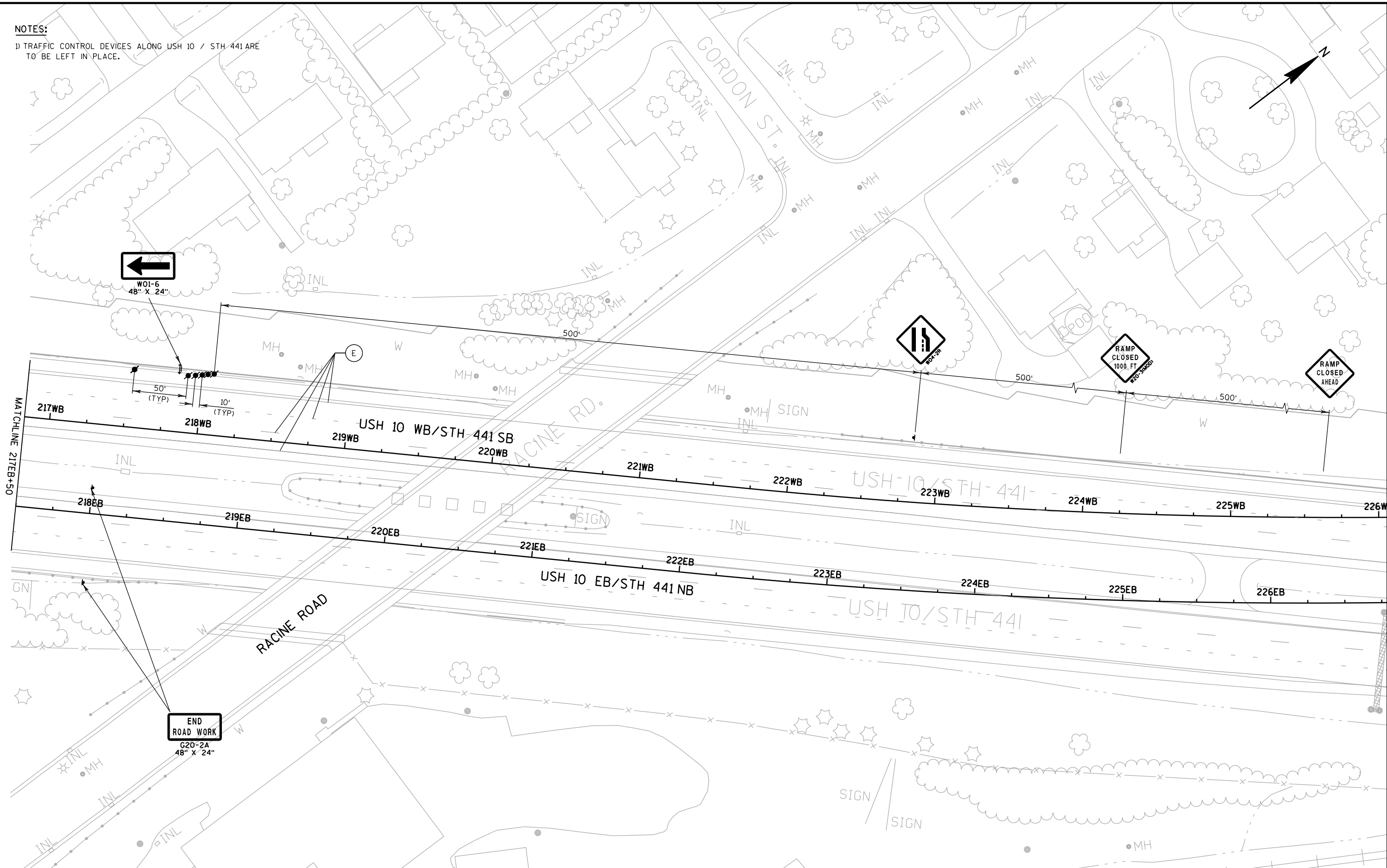


NOTES:
1) TRAFFIC CONTROL DEVICES ALONG USH 10 / STH 441 ARE TO BE LEFT IN PLACE.

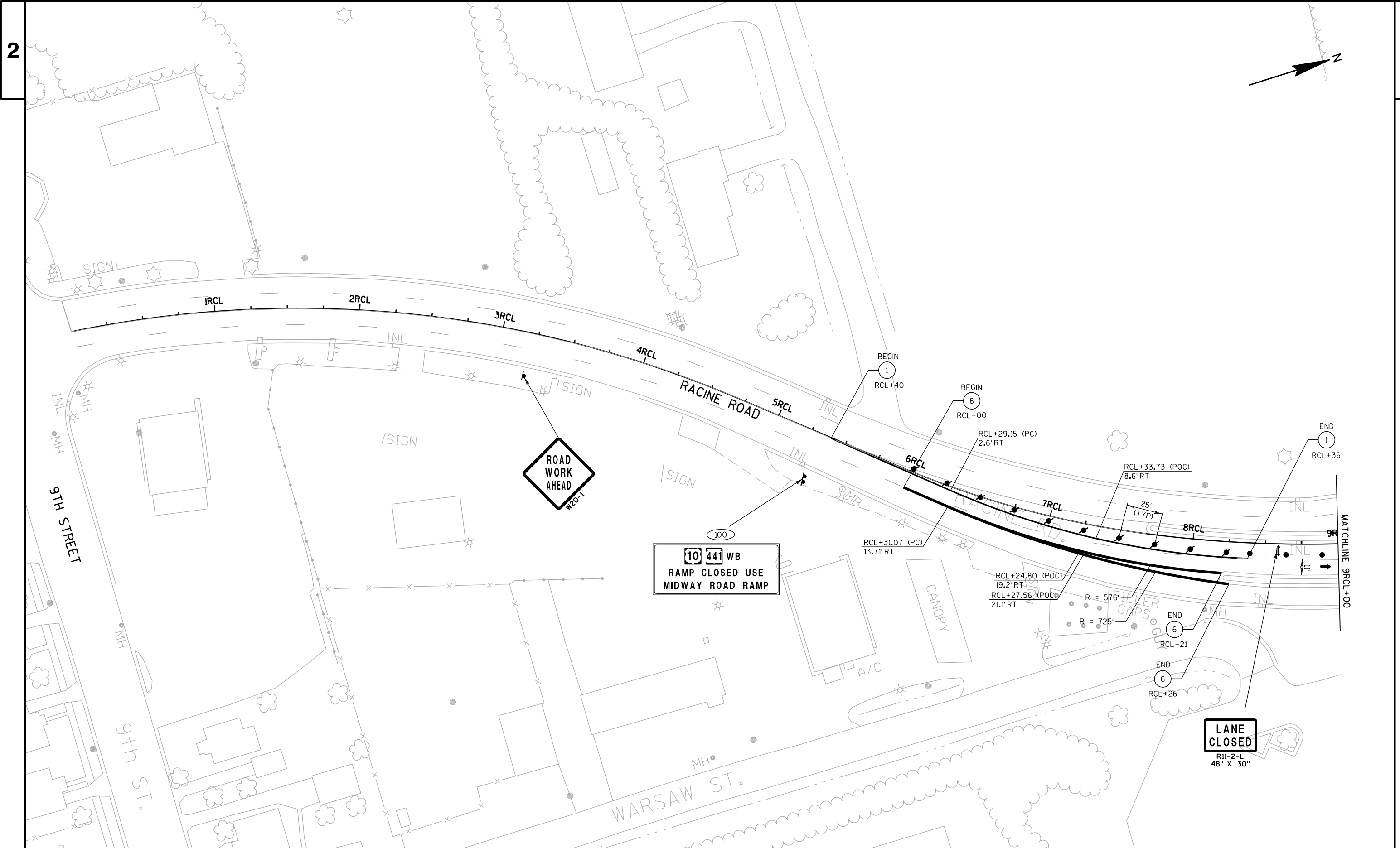


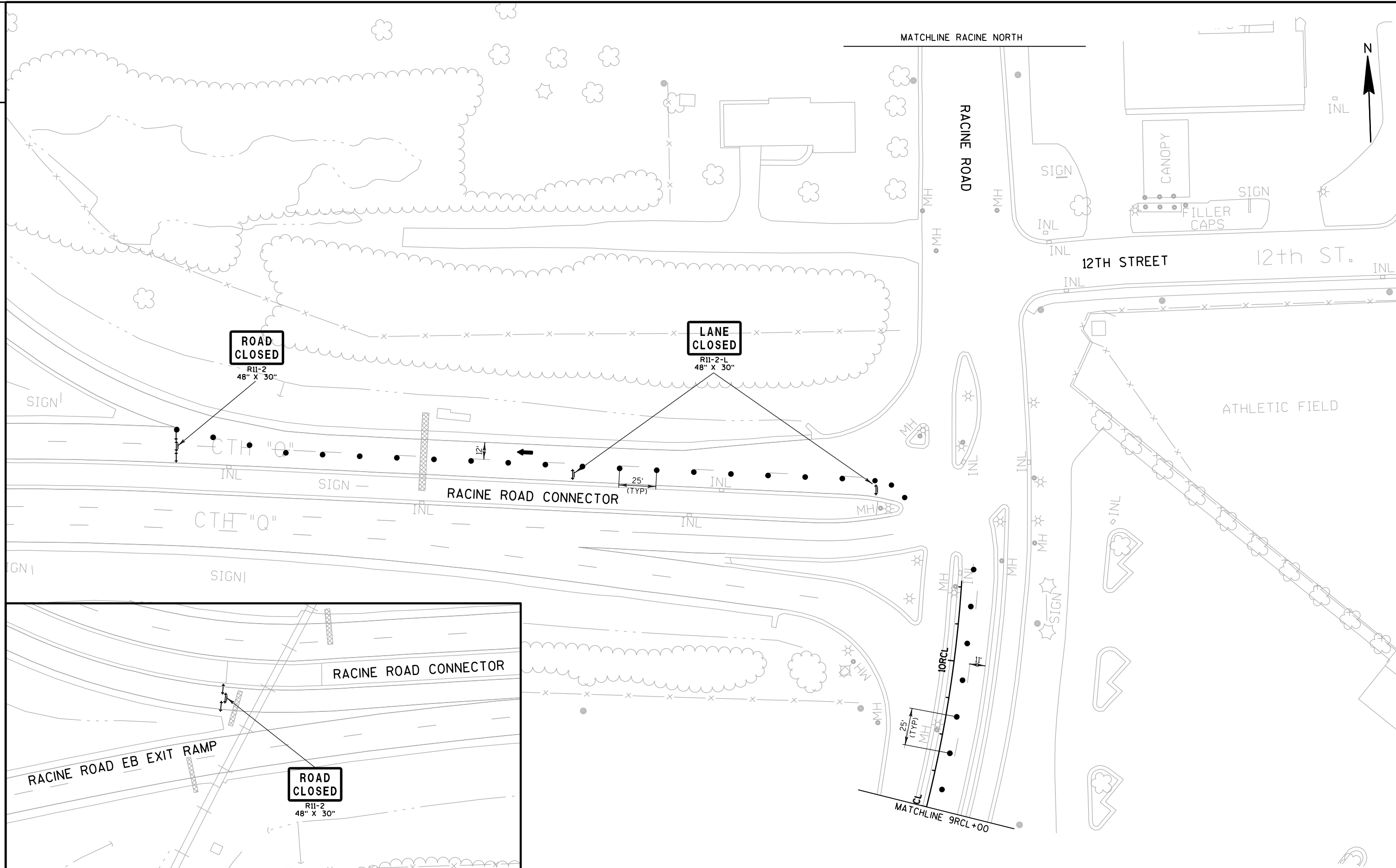
NOTES:

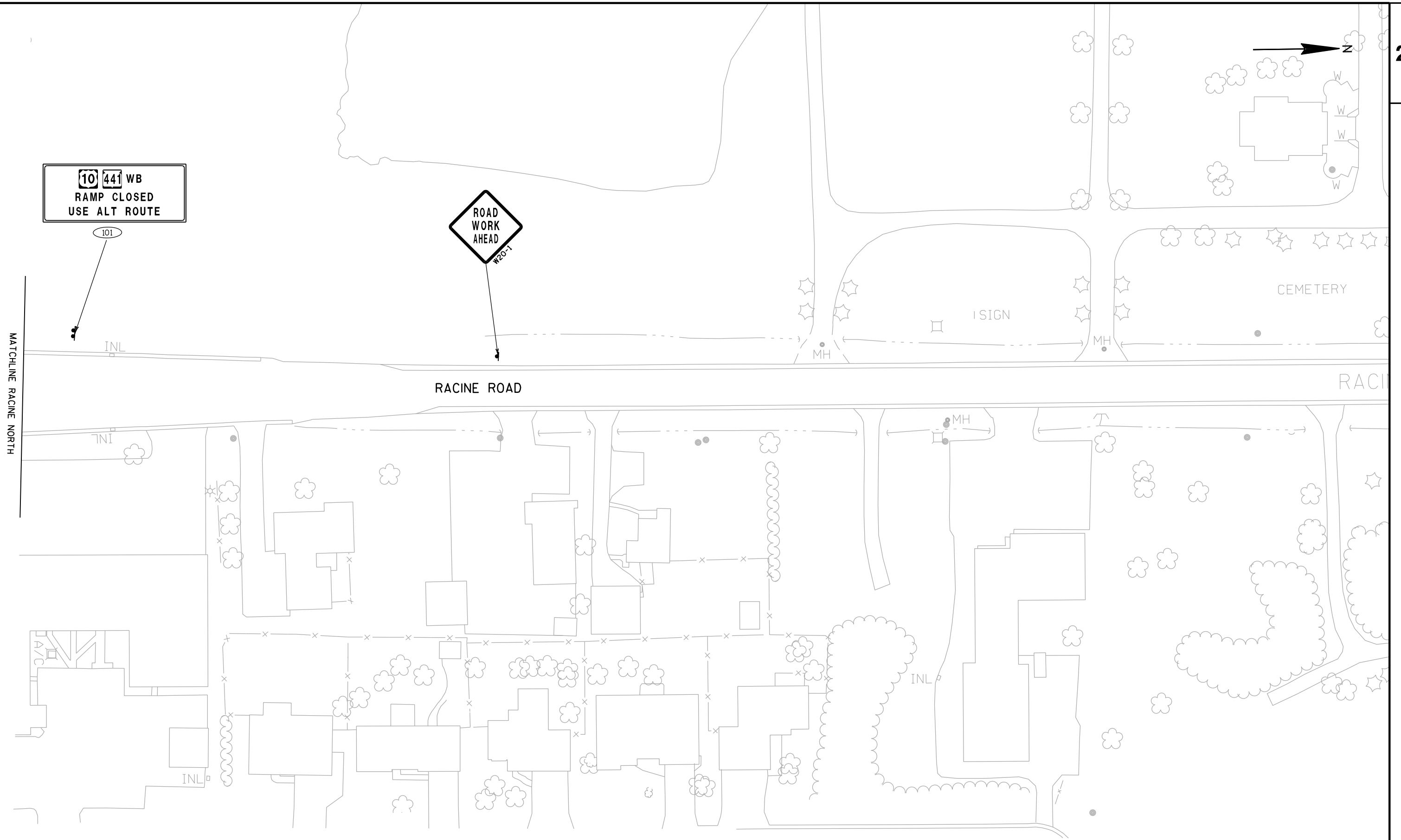
1) TRAFFIC CONTROL DEVICES ALONG USH 10 / STH 441 ARE TO BE LEFT IN PLACE.

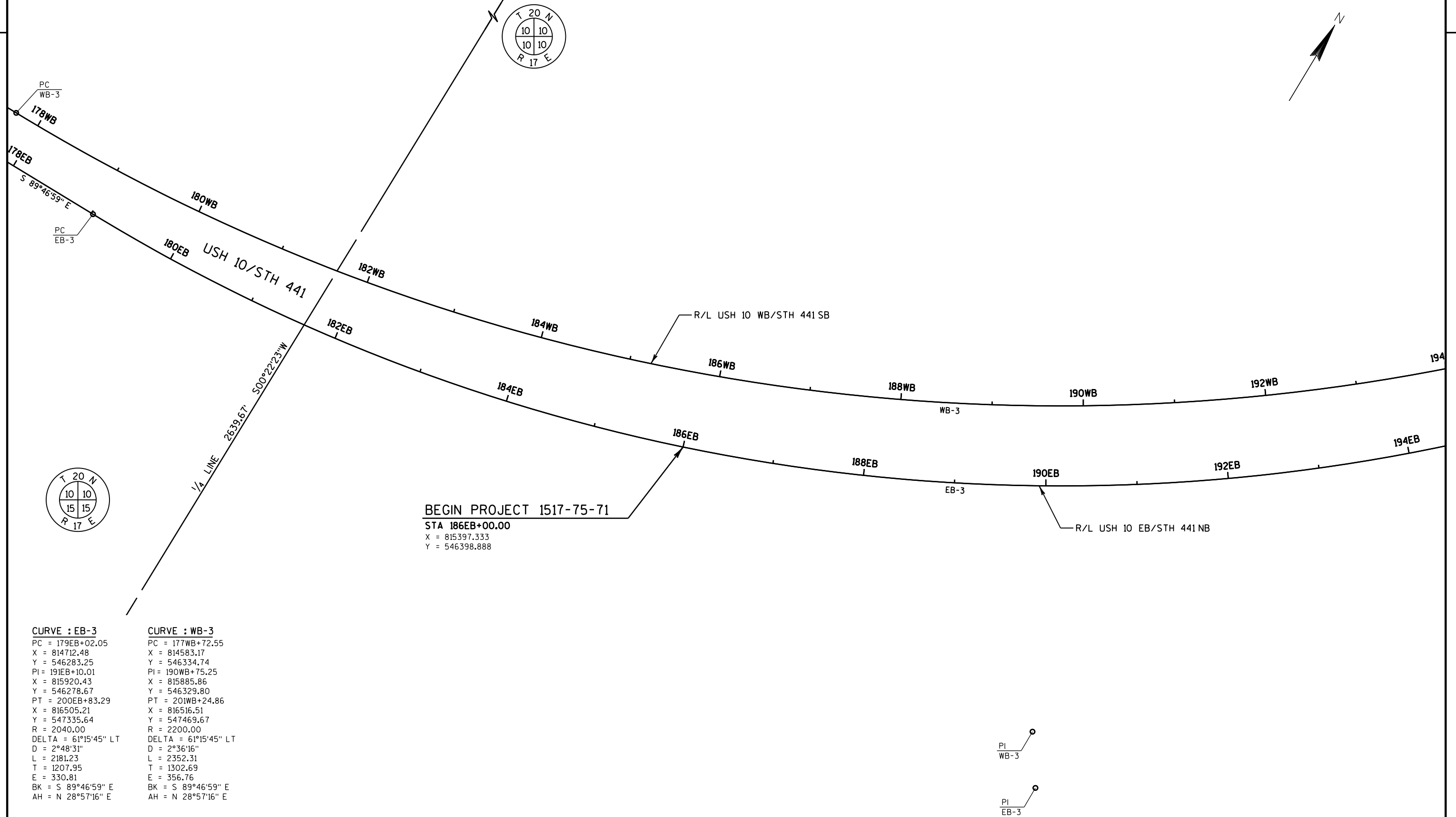


PROJECT NO: 1517-75-71	HWY: USH 10	COUNTY: WINNEBAGO	STAGE 1 CONSTRUCTION	SHEET	E
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PROJECT NO: 1517-75-71

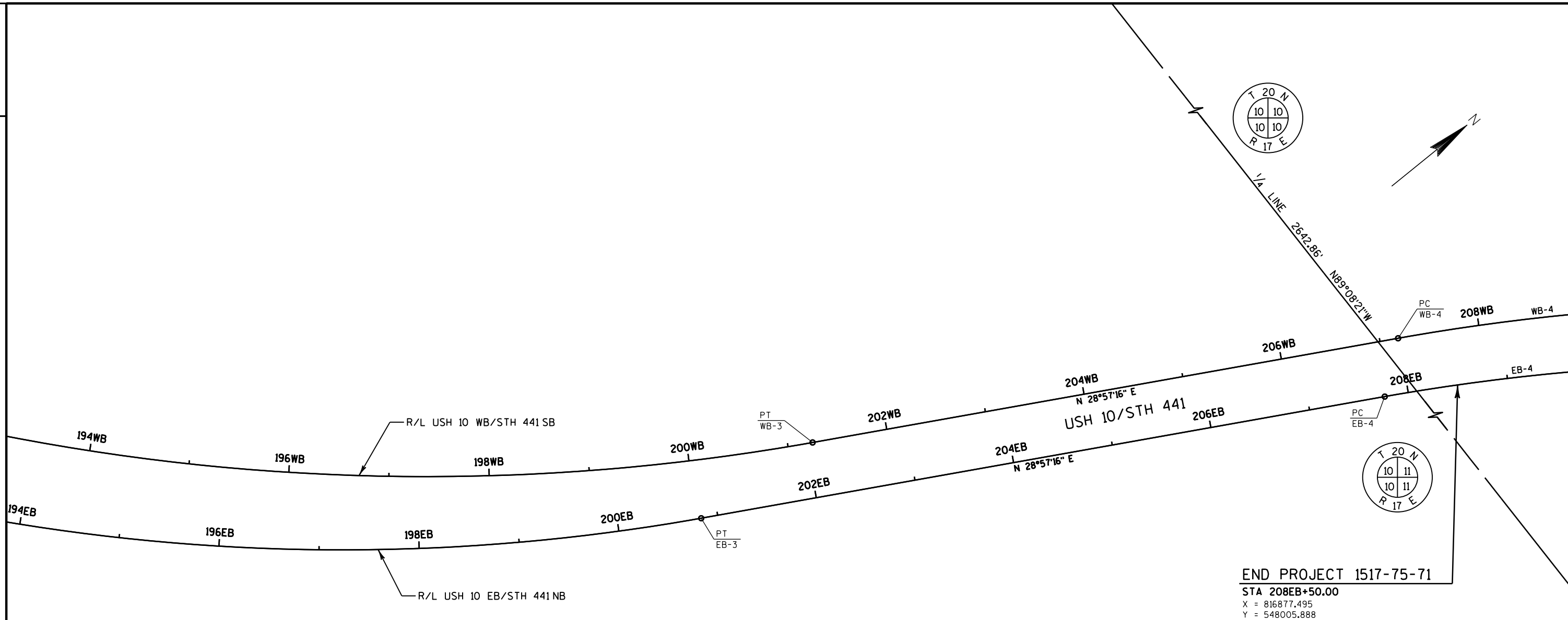
HWY: USH 10

COUNTY: WINNEBAGO

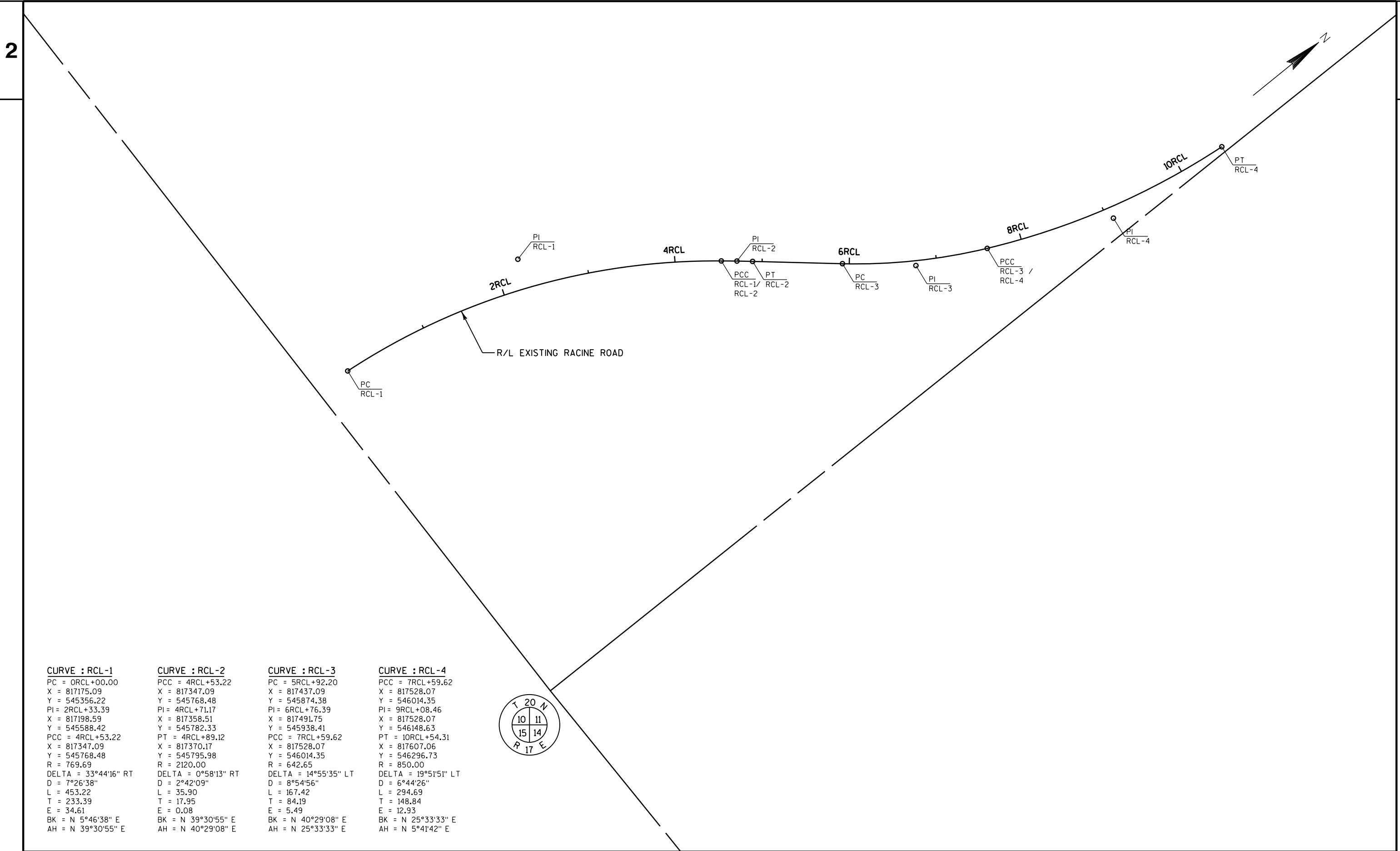
ALIGNMENT PLAN

SHEET

E



CURVE : EB-3	CURVE : EB-4	CURVE : WB-3	CURVE : WB-4
PC = 179EB+02.05	PC = 207EB+76.23	PC = 177WB+72.55	PC = 207WB+18.45
X = 814712.48	X = 816840.68	X = 814583.17	X = 816803.88
Y = 546283.25	Y = 547941.97	Y = 546334.74	Y = 547989.06
PI = 191EB+10.01	PI = 210EB+40.05	PI = 190WB+75.25	PI = 209WB+89.03
X = 815920.43	X = 816968.40	X = 815885.86	X = 816934.87
Y = 546278.67	Y = 548172.81	Y = 546329.80	Y = 548225.82
PT = 200EB+83.29	PT = 213EB+01.23	PT = 201WB+24.86	PT = 212WB+56.91
X = 816505.21	X = 817148.25	X = 816516.51	X = 817119.33
Y = 547335.64	Y = 548365.83	Y = 547469.67	Y = 548423.78
R = 2040.00	R = 2145.00	R = 2200.00	R = 2200.00
DELTA = 61°15'45" LT	DELTA = 14°01'25" RT	DELTA = 61°15'45" LT	DELTA = 14°01'25" RT
D = 2°48'31"	D = 2°40'16"	D = 2°36'16"	D = 2°36'16"
L = 2181.23	L = 525.00	L = 2352.31	L = 538.46
T = 1207.95	T = 263.82	T = 1302.69	T = 270.58
E = 330.81	E = 16.16	E = 356.76	E = 16.58
BK = S 89°46'59" E	BK = N 28°57'16" E	BK = S 89°46'59" E	BK = N 28°57'16" E
AH = N 28°57'16" E	AH = N 42°58'41" E	AH = N 28°57'16" E	AH = N 42°58'41" E



CURVE : RCL-1

PC = 0RCL+00.00
X = 817175.09
Y = 545356.22
PI = 2RCL+33.39
X = 817198.59
Y = 545588.42
PCC = 4RCL+53.22
X = 817347.09
Y = 545768.48
R = 769.69
DELTA = 33°44'16" RT
D = 7°26'38"
L = 453.22
T = 233.39
E = 34.61
BK = N 5°46'38" E
AH = N 39°30'55" E

CURVE : RCL-2

PCC = 4RCL+53.22
X = 817347.09
Y = 545768.48
PI = 4RCL+71.17
X = 817358.51
Y = 545782.33
PT = 4RCL+89.12
X = 817370.17
Y = 545795.98
R = 2120.00
DELTA = 0°58'13" RT
D = 2°42'09"
L = 35.90
T = 17.95
E = 0.08
BK = N 39°30'55" E
AH = N 40°29'08" E

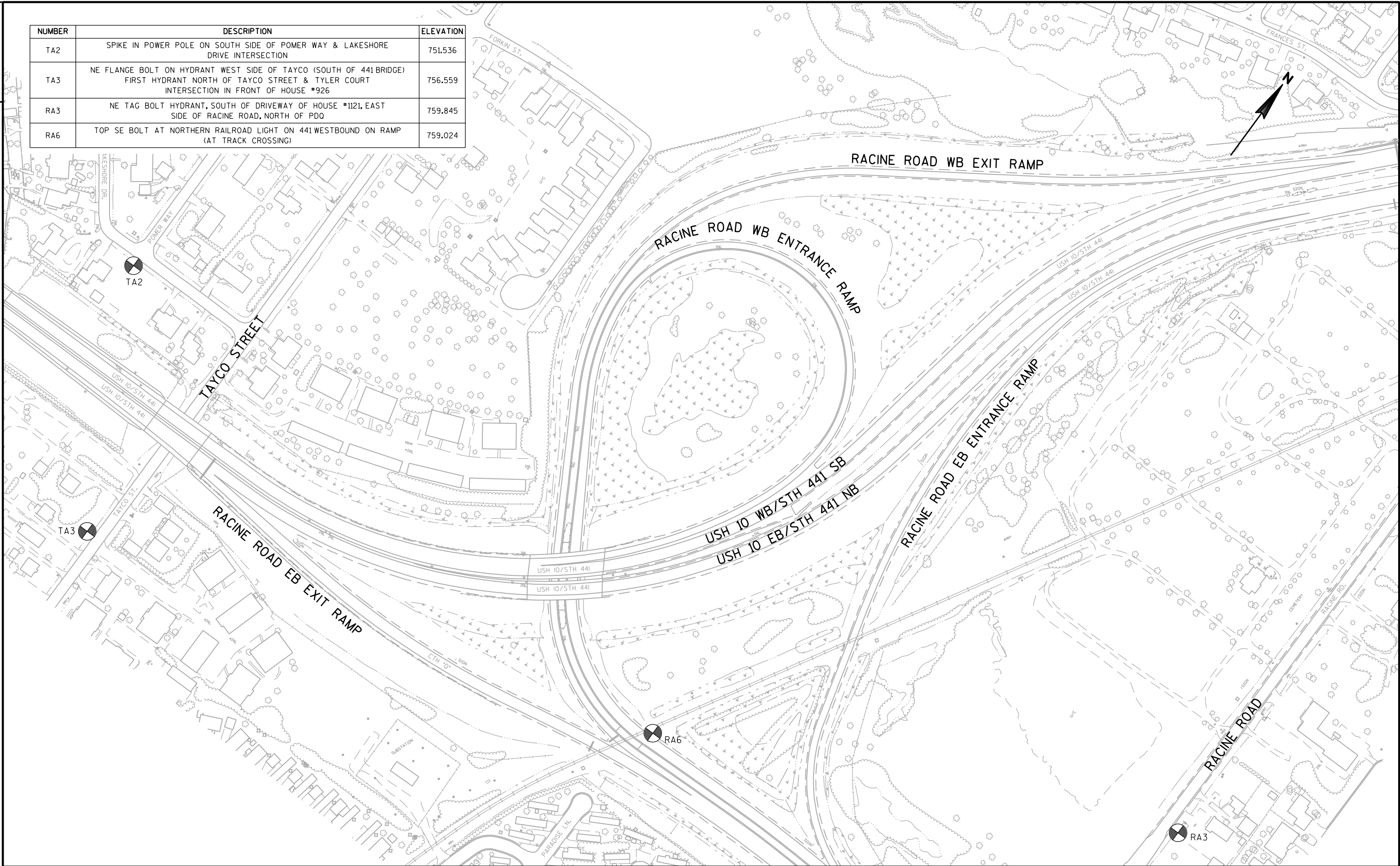
CURVE : RCL-3

PC = 5RCL+92.20
X = 817437.09
Y = 545874.38
PI = 6RCL+76.39
X = 817491.75
Y = 545938.41
PCC = 7RCL+59.62
X = 817528.07
Y = 546014.35
R = 642.65
DELTA = 14°55'35" LT
D = 8°54'56"
L = 167.42
T = 84.19
E = 5.49
BK = N 40°29'08" E
AH = N 25°33'33" E

CURVE : RCL-4

PCC = 7RCL+59.62
X = 817528.07
Y = 546014.35
PI = 9RCL+08.46
X = 817528.07
Y = 546148.63
PT = 10RCL+54.31
X = 817607.06
Y = 546296.73
R = 850.00
DELTA = 19°51'51" LT
D = 6°44'26"
L = 294.69
T = 148.84
E = 12.93
BK = N 25°33'33" E
AH = N 5°41'42" E

NUMBER	DESCRIPTION	ELEVATION
TA2	SPIKE IN POWER POLE ON SOUTH SIDE OF POMER WAY & LAKESHORE DRIVE INTERSECTION	751.536
TA3	NE FLANGE BOLT ON HYDRANT WEST SIDE OF TAYCO (SOUTH OF 441 BRIDGE) FIRST HYDRANT NORTH OF TAYCO STREET & TYLER COURT INTERSECTION IN FRONT OF HOUSE #926	756.559
RA3	NE TAG BOLT HYDRANT, SOUTH OF DRIVEWAY OF HOUSE #1121, EAST SIDE OF RACINE ROAD, NORTH OF PDQ	759.845
RA6	TOP SE BOLT AT NORTHERN RAILROAD LIGHT ON 441 WESTBOUND ON RAMP (AT TRACK CROSSING)	759.024



DATE 20JAN15		E S T I M A T E O F Q U A N T I T I E S			
LINE		1517-75-71			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	Clearing **P**	STA	15.000	15.000
0020	201.0205	Grubbing **P**	STA	15.000	15.000
0030	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0040	204.0100	Removing Pavement **P**	SY	2,367.000	2,367.000
0050	204.0165	Removing Guardrail **P**	LF	100.000	100.000
0060	204.0170	Removing Fence **P**	LF	1,178.000	1,178.000
0070	204.0180	Removing Delineators and Markers	EACH	8.000	8.000
0080	204.0220	Removing Inlets	EACH	6.000	6.000
0090	204.0245	Removing Storm Sewer (size) 01. 12 To 18 Inch	LF	872.000	872.000
0100	204.9060.S	Removing (item description) 01. Removing Apron Endwalls	EACH	1.000	1.000
0110	205.0100	Excavation Common **P**	CY	11,609.000	11,609.000
0120	213.0100	Finishing Roadway (project) 01. Project 1517-75-71	EACH	1.000	1.000
0130	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	7.000	7.000
0140	455.0605	Tack Coat	GAL	12.000	12.000
0150	465.0125	Asphaltic Surface Temporary	TON	32.000	32.000
0160	520.8000	Concrete Collars for Pipe	EACH	4.000	4.000
0170	522.0324	Culvert Pipe Reinforced Concrete Class IV 24-Inch	LF	86.000	86.000
0180	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	1.000	1.000
0190	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	2.000	2.000
0200	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0210	603.8000	Concrete Barrier Temporary Precast Delivered	LF	1,238.000	1,238.000
0220	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,238.000	1,238.000
0230	606.0100	Riprap Light	CY	113.000	113.000
0240	606.0200	Riprap Medium	CY	7.000	7.000
0250	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	13.000	13.000
0260	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	322.000	322.000
0270	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0280	611.0642	Inlet Covers Type MS	EACH	1.000	1.000
0290	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000
0300	611.3901	Inlets Median 1 Grate	EACH	1.000	1.000
0310	612.0106	Pipe Underdrain 6-Inch	LF	110.000	110.000
0320	612.0806	Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	EACH	2.000	2.000
0330	616.0700.S	Fence Safety	LF	1,000.000	1,000.000
0340	618.0100	Maintenance And Repair of Haul Roads (project) 01. Project 1517-75-71	EACH	1.000	1.000
0350	619.1000	Mobilization	EACH	1.000	1.000
0360	625.0500	Salvaged Topsoil	SY	62,540.000	62,540.000
0370	627.0200	Mulching	SY	51,662.000	51,662.000
0380	628.1104	Erosion Bales	EACH	500.000	500.000
0390	628.1504	Silt Fence	LF	1,560.000	1,560.000
0400	628.1520	Silt Fence Maintenance	LF	1,560.000	1,560.000
0410	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0420	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0430	628.2023	Erosion Mat Class II Type B	SY	10,880.000	10,880.000

DATE 20JAN15		E S T I M A T E O F Q U A N T I T I E S			
LINE					1517-75-71
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0440	628.6510	Soil Stabilizer Type B	ACRE	13.000	13.000
0450	628.7005	Inlet Protection Type A	EACH	5.000	5.000
0460	628.7010	Inlet Protection Type B	EACH	10.000	10.000
0470	628.7504	Temporary Ditch Checks	LF	160.000	160.000
0480	628.7560	Tracking Pads	EACH	8.000	8.000
0490	628.7570	Rock Bags	EACH	15.000	15.000
0500	629.0210	Fertilizer Type B	CWT	39.400	39.400
0510	630.0200	Seeding Temporary	LB	1,688.000	1,688.000
0520	637.2210	Signs Type II Reflective H	SF	61.190	61.190
0530	638.2601	Removing Signs Type I	EACH	2.000	2.000
0540	638.2602	Removing Signs Type II	EACH	1.000	1.000
0550	643.0200	Traffic Control Surveillance and Maintenance (project) 01. Project 1517-75-71	DAY	105.000	105.000
0560	643.0300	Traffic Control Drums	DAY	7,887.000	7,887.000
0570	643.0420	Traffic Control Barricades Type III	DAY	1,050.000	1,050.000
0580	643.0705	Traffic Control Warning Lights Type A	DAY	2,100.000	2,100.000
0590	643.0715	Traffic Control Warning Lights Type C	DAY	1,016.000	1,016.000
0600	643.0900	Traffic Control Signs	DAY	1,155.000	1,155.000
0610	643.1000	Traffic Control Signs Fixed Message	SF	192.000	192.000
0620	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0630	645.0120	Geotextile Fabric Type HR **P**	SY	90.000	90.000
0640	645.0130	Geotextile Fabric Type R **P**	SY	3,020.000	3,020.000
0650	646.0106	Pavement Marking Epoxy 4-Inch	LF	680.000	680.000
0660	646.0126	Pavement Marking Epoxy 8-Inch	LF	435.000	435.000
0670	646.0600	Removing Pavement Markings	LF	160.000	160.000
0680	690.0250	Sawing Concrete	LF	113.000	113.000
0690	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,400.000	2,400.000
0700	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	2,100.000	2,100.000
0710	SPV.0035	Special 001. Roadway Embankment	CY	275,904.000	275,904.000
0720	SPV.0035	Special 002. Drainage Blanket	CY	38,407.000	38,407.000
0730	SPV.0060	Special 001. Virbrating Wire Piezometer Instrumentation System Delivered	EACH	9.000	9.000
0740	SPV.0060	Special 002. Settlement Gauges	EACH	11.000	11.000
0750	SPV.0060	Special 004. Traffic Control Signs Left In Place	EACH	10.000	10.000
0760	SPV.0060	Special 005. Traffic Control Drums Left In Place	EACH	20.000	20.000
0770	SPV.0060	Special 006. Traffic Control Barricades Type III Left In Place	EACH	5.000	5.000
0780	SPV.0060	Special 007. Traffic Control Warning Lights Type A Left In Place	EACH	10.000	10.000
0790	SPV.0060	Special 008. Traffic Control Warning Lights Type C Left In Place	EACH	10.000	10.000
0800	SPV.0060	Special 009. Crash Cushions Temporary Left In Place	EACH	2.000	2.000
0810	SPV.0060	Special 010. Permanent Covering Signs Type I	EACH	3.000	3.000
0820	SPV.0060	Special 011. Permanent Covering Signs Type II	EACH	4.000	4.000
0830	SPV.0075	Special 001. Street Sweeping	HRS	40.000	40.000
0840	SPV.0090	Special 001. Prefabricated Vertical Drains	LF	628,449.000	628,449.000
0850	SPV.0090	Special 002. Prebored Prefabricated Vertical Drains	LF	297,662.000	297,662.000

DATE 20JAN15		E S T I M A T E O F Q U A N T I T I E S			
LINE		1517-75-71			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0860	SPV.0090	Special 003. Concrete Barrier Temporary Precast Left In Place	LF	1,238.000	1,238.000
0870	SPV.0105	Special 001. Geotechnical Instrumentation	LS	1.000	1.000
0880	SPV.0105	Special 002. Survey Project 1517-75-71	LS	1.000	1.000
0890	SPV.0120	Special 150. Water For Seeded Areas	MGAL	1,410.000	1,410.000

CLEARING & GRUBBING

CATEGORY	ROADWAY	STATION		201.0105	201.0205
		BEGIN	END	CLEARING	GRUBBING
				STA	STA
0010	USH 10 WB/STH 441 SB	186EB+77	- 193EB+34	7	7
	USH 10 WB ENTRANCE RAMP	196EB+36	- 199EB+76	4	4
	USH 10 EB/STH 441 NB	205EB+00	- 208EB+50	4	4
PROJECT 1517-75-71 TOTAL				15	15

REMOVING PAVEMENT

				204.0100
				REMOVING
				PAVEMENT
CATEGORY	ROADWAY	STATION	OFFSET	SY
0010	<u>USH 10 WB EXIT RAMP</u>	193EB+37 - 194EB+32	RT/LT	751
	<u>USH 10 WB ENTRANCE RAMP</u>	193EB+68 - 194EB+68	RT/LT	870
		199EB+18 - 200EB+96	RT/LT	746
PROJECT 1517-75-71 TOTAL				2,367

REMOVING SMALL PIPE CULVERTS

CATEGORY	ROADWAY	STATION	OFFSET	203.0100	REMARKS
				REMOVING	
				SMALL PIPE	
				CULVERTS	
				EACH	
0010	USH 10 WB ENTRANCE RAMP	200EB+09	- 201EB+53	LT	150 LF REINFORCED CONCRETE CULVERT PIPE, 30"
PROJECT 1517-75-71 TOTAL				1	

REMOVING GUARDRAIL

				204.0165
				REMOVING
				GUARDRAIL
CATEGORY	ROADWAY	STATION	OFFSET	LF
0010	<u>USH 10 WB ENTRANCE RAMP</u>	193EB+50 - 193EB+75	RT	100
PROJECT 1517-75-71 TOTAL				100

REMOVING FENCE

				204.0170
				REMOVING
				FENCE
CATEGORY	ROADWAY	STATION	OFFSET	LF
0010	<u>USH 10 WB/STH 441 SB</u>	186EB+00 - 192EB+98	RT/LT	726
	<u>USH 10 WB EXIT RAMP</u>	193EB+01 - 193EB+02	LT	97
	<u>USH 10 EB/STH 441 NB</u>	205EB+00 - 208EB+50	RT	355
PROJECT 1517-75-71 TOTAL				1,178

REMOVING DELINEATORS AND MARKERS

204.0180 REMOVING DELINEATORS AND MARKERS		
CATEGORY	ROADWAY	EACH
0010	UNDISTRIBUTED	8
PROJECT 1517-75-71 TOTAL		8

REMOVING INLETS

				204.0220
				REMOVING
				INLETS
CATEGORY	ROADWAY	STATION	OFFSET	EACH
0010	<u>USH 10 WB EXIT RAMP</u>	193EB+67	71.4' RT	1
		193EB+85	17.5' LT	1
		194EB+03	100.6' LT	1
	<u>BRIDGEVIEW APARTMENTS</u>	186WB+99	20.0' LT	1
		189WB+66	35.2' RT	1
		192WB+32	68.3' RT	1
PROJECT 1517-75-71 TOTAL				6

FINISHING ROADWAY (PROJECT 1517-75-71)

213.0100 FINISHING ROADWAY 1517-75-71		
CATEGORY	LOCATION	EACH
0010	PROJECT 1517-75-71	1
PROJECT 1517-75-71 TOTAL		1

REMOVING STORM SEWER

				204.0245.01 REMOVING STORM SEWER 12-INCH - 18-INCH
CATEGORY	ROADWAY	STATION	OFFSET	LF
0010	<u>USH 10 WB/STH 441 SB</u>	192EB+70 - 192EB+71	RT	64
	<u>USH 10 WB EXIT RAMP</u>	193EB+67 - 194EB+24	RT	59
		193EB+67 - 194EB+84	RT/LT	89
		193EB+85 - 194EB+03	LT	83
	<u>BRIDGEVIEW APARTMENTS</u>	186WB+77 - 186WB+99	LT	26
		186WB+99 - 189WB+66	LT/RT	273
		189WB+66 - 192WB+32	RT	278
	PROJECT 1517-75-71 TOTAL			

REMOVING APRON ENDWALLS

204.9060.S REMOVING APRON ENDWALLS				
CATEGORY	ROADWAY	STATION	OFFSET	EACH
0010	USH 10 WB/STH 441 SB	188EB+76	67' LT	1
PROJECT 1517-75-71 TOTAL				1

Category	Division	From/To Station	Location	Excavation Common (CY) (1) 205.0100		Structure Excavation (CY) (6)	Excavation Marsh (CY) (7) 205.0400	Fill (CY)	Roadway Embankment (CY) (4) SPV.0035.001	Mass Ordinate +/- (5)	Comment:
				Cut (CY) (2)	EBS (CY) (3)						
0010	1	186+50 - 209+00	Early Fill	11,609	0	0	0	275,904	275,904	-264,294	
Project 1517-75-71 - Division 1 Subtotal				11,609	0	0	0	275,904	275,904	-264,294	
Project 1517-75-71 - Division 1 Total				11,609		0	0		275,904		
Project 1517-75-71 Totals				11,609		0	0		275,904		
1) Excavation Common = Cut + EBS Excavation. Item number 205.0100. 2) Cut volume includes concrete and asphaltic surface material. 3) EBS Excavation to be backfilled with roadway embankment unless otherwise noted in plans. 4) Roadway Embankment = (Fill + EBS Excavation) 5) The Mass Ordinate is calculated by division. A positive quantity indicates an excess of material within the Division and a negative quantity indicates a shortage of material within the Division. Structure Excavation is not included in this calculation. Mass Ordinate = Cut - Fill. The Mass Ordinate is for information purposes only as Common Excavation and Roadway Embankment are not balanced for quantity purposes and does not guarantee the quality of Common Excavation, and if it can be reused onsite. All EBS material is assumed to be wasted offsite. 6) Structure Excavation limits for Retaining Wall construction are shown in the cross sections and are assumed to be 70% of the retaining wall height. This is for informational purposes only, and will vary depending on shop drawing design. 7) Excavation Marsh limits as identified in the cross sections. All marsh material assumed to be wasted offsite. See marsh excavation and trench detail for fill requirements.											

<u>BASE AGGREGATE DENSE</u>				
				305.0120
				BASE
				AGGREGATE
				DENSE
		<u>STATION</u>		<u>1 1/4-INCH</u>
<u>CATEGORY</u>	<u>ROADWAY</u>	<u>FROM</u>	<u>TO</u>	<u>TON</u>
0010	<u>USH 10 EB/STH 441 NB</u>	188EB+43	- 188EB+58	7
PROJECT 1517-75-75 TOTAL				7

ASPHALT ITEMS						
CATEGORY	ROADWAY	STATION	OFFSET	455.0605	465.0125	
				TACK	ASPHALTIC	
				COAT	SURFACE TEMPORARY	
				GAL	TON	
0010	<u>USH 10 EB/STH 441 NB</u>	188EB+34 - 188EB+67	RT	--	11	
		188EB+34 - 188EB+67	RT	--	16	
		188EB+34 - 188EB+62	RT	12	--	
		188EB+39 - 188EB+62	RT	--	5	
PROJECT 1517-75-75 TOTAL				12	32	

STORM SEWER GENERAL NOTES

- 1) JOINT TIES FOR CONCRETE PIPE SHALL BE PROVIDED AT ALL CONCRETE APRON ENDWALLS. APRON ENDWALLS SHALL BE TIED.
THE COST OF THESE TIES SHALL BE INCIDENTAL TO THE COST OF THE PIPE.
- 2) STATIONS AND OFFSETS ARE TO THE CENTER OF GRATE - SEE DETAIL FOR STRUCTURE PLACEMENT
- 3) STATION/ OFFSET OF CONCRETE APRON ENDWALLS ARE TO END OF ENDWALL.
- 4) PIPE LENGTHS AND SLOPES ARE MEASURED TO THE CENTER OF STRUCTURES OR THE END OF APRON ENDWALLS.
- 5) RIM ELEVATIONS ARE GIVEN AT THE FLOW LINE FOR INLET GRATES OR THE CENTER OF THE MANHOLE COVER FOR MANHOLES UNLESS OTHERWISE NOTED.
SEE DETAIL
- 6) STRUCTURE DEPTH = RIM ELEVATION - INVERT
- 7) FIELD VERIFY EXISTING PIPE INVERTS AND RECALCULATE SLOPE IF NECESSARY.
- 8) CONTRACTOR SHALL VERIFY EXISTING PIPE SIZES, MATERIALS AND INVERT ELEVATION WHEN CONNECTING NEW STORM SEWER INTO EXISTING PIPES PRIOR TO
MANUFACTURING STRUCTURES.
- 9) IN LOCATIONS WHERE PROPOSED PIPES ARE BEING TIED INTO EXISTING DRAINAGE STRUCTURES, FIELD VERFIY PIPE SIZE AND INVERT ELEVATION

STORM SEWER STRUCTURES

CATEGORY	ROADWAY	STRUCTURE NUMBER	STATION	OFFSET	FLANGE			520.8000	522.1012	522.1018	611.2004	611.3901	COMMENTS
					OR RIM	LOWEST INVERT	STRUCTURE DEPTH	CONCRETE	APRON ENDWALL	APRON ENDWALL	MANHOLES	INLETS	
								COLLARS	FOR CULVERT PIPE	FOR CULVERT PIPE	4-FT	MEDIAN 1	
								FOR PIPE	REINFORCED CONCRETE	REINFORCED CONCRETE	DIAMETER	GRATE	
								EACH	12-INCH	18-INCH	EACH	EACH	
0010	USH 10 EB/STH 441 NB	101	187EB+25	41.4' RT	769.96	766.96	3.00	--	--	--	--	1	
		102	185EB+87	39.0' LT	765.05	754.53	10.52	--	--	--	1	--	
		102E	185EB+76	44.8' LT	--	754.00	--	--	--	1	--	--	
		103C	192EB+70	177.9' RT	--	770.48	--	1	--	--	--	--	
		103E	192EB+71	161.5' RT	--	769.88	--	--	1	--	--	--	
		104C	188EB+55	154.9' RT	--	768.00	--	1	--	--	--	--	
		105C	188EB+40	199.5' RT	--	767.77	--	1	--	--	--	--	
		106C	188EB+45	210.4' RT	--	767.71	--	1	--	--	--	--	
		106E	189EB+20	243.1' RT	--	767.26	--	--	--	1	--	--	
		PROJECT 1517-75-71 TOTAL							4	1	2	1	1

CULVERT PIPES ITEMS

CATEGORY	ROADWAY	INVERT END			DISCHARGE END			SLOPE	522.0324	522.1024
		STATION	OFFSET	ELEV	STATION	OFFSET	ELEV		CULVERT PIPE	APRON ENDWALLS
									REINFORCED	FOR CULVERT PIPE
									CONCRETE CLASS IV	REINFORCED CONCRETE
									24-INCH	24-INCH
LF	EACH									
0010	<u>USH 10 EB/STH 441 NB</u>	196EB+00	72.7'RT	748.89	196EB+86	164.3' LT	748.32	0.66%	86	2
TOTALS									86	2

STORM SEWER PIPES

CA TEGORY	ROADWAY	FROM STR	TO STR	INVERT ELEV FT	DISCH ELEV FT	SLOPE	608.0312	608.0318
							STORM SEWER	STORM SEWER
							PIPE	PIPE
							REINFORCED	REINFORCED
							CONCRETE	CONCRETE
							CLASS III	CLASS III
							12-INCH	18-INCH
							LF	LF
0010	<u>USH 10 EB/STH 441 NB</u>	101	102	766.96	762.49	2.80%	--	160
		102	102E	754.53	754.00	4.33%	--	12
		EX1	103E	770.48	769.88	4.54%	13	--
		EX2	105C	768.00	767.77	0.48%	--	48
		105C	106C	767.77	767.71	0.50%	--	12
		106C	106E	767.71	767.26	0.50%	--	90
PROJECT 1517-75-71 TOTAL							13	322

STORM SEWER ITEMS

CATEGORY	ROADWAY	STRUCTURE NUMBER	STATION	OFFSET	611.0530	611.0642	
					FLANGE	MANHOLE	
					OR	INLET	
					RIM	COVER	
ELEV	TYPE J	TYPE MS					
EACH	EACH						
0010	USH 10 EB/STH 441 NB	101	187EB+25	41.4' RT	769.96	--	1
		102	185EB+87	39.0' LT	765.05	1	--
PROJECT 1517-75-71 TOTAL					1	1	

PIPE UNDERDRAIN

CATEGORY	ROADWAY	FROM		TO		INVERT	DISCH	SLOPE	612.0106	612.0806
		STA	OFF	STA	OFF	ELEV	ELEV		PIPE	APRON ENDWALLS
						6-INCH	REINFORCED			
						FT	FT		UNDERDRAIN	CONCRETE
									6-INCH	6-INCH
									LF	EACH
0010	USH 10 EB/STH 441 NB	207EB+75	114.2' RT	208EB+78	69.81' RT	745.16	745.00	0.15%	110	--
		207EB+75	114.2' RT	--	--	--	--	--	--	1
		208EB+78	69.81' RT	--	--	--	--	--	--	1
	PROJECT 1517-75-71 TOTAL								110	2

CONCRETE BARRIER ITEMS

						603.8000	603.8125	SPV.0060.009	SPV.0090.003
						CONCRETE	CONCRETE		CONCRETE
						BARRIER	BARRIER	CRASH	BARRIER
						TEMPORARY	TEMPORARY	CUSHIONS	TEMPORARY
						PRECAST	PRECAST	TEMPORARY	PRECAST
						DELIVERED	INSTALLED	LEFT IN PLACE	LEFT IN PLACE
CATEGORY	ROADWAY	FROM STATION	OFFSET	TO STATION	OFFSET	LF	LF	LF	LF
0010	<u>USH 10 EB/STH 441 NB</u>	204EB+49	80.2' RT	--	--	--	--	1	--
		204EB+49	80.2' RT	208EB+67	12.3' RT	438	438	--	438
	<u>USH 10 WB/STH 441 SB</u>	198EB+08	143.7' RT	204WB+71	39.3' LT	800	800	--	800
		204WB+71	39.3' LT	--	--	--	--	1	--
PROJECT 1517-75-71 TOTAL						1,238	1,238	2	1,238

RIPRAP ITEMS

						606.0100	606.0200	645.0120	645.0130
								GEOTEXTILE	GEOTEXTILE
						RIPRAP	RIPRAP	FABRIC	FABRIC
						LIGHT	MEDIUM	TYPE HR	TYPE R
CATEGORY	ROADWAY	FROM STATION	OFFSET	TO STATION	OFFSET	CY	CY	SF	SF
0010	<u>USH 10/STH 441</u>	187EB+15	35.4' RT	187EB+50	42.5' RT	14	--	--	370
		185EB+45	60.6' LT	--	--	--	2	30	--
		192EB+17	126.1' RT	193EB+49	146.2' RT	54	--	--	1,450
		192EB+71	161.5' RT	--	--	--	2	20	--
		196EB+88	164.5' LT	--	--	--	3	40	--
		197EB+19	66.2' RT	198EB+34	74.8' RT	45	--	--	1,200
PROJECT 1517-75-71 TOTAL						113	7	90	3,020

FINSHING MATERIALS

				625.0500	627.0200	628.6510	629.0210	630.0200
				SALVAGED		SOIL		
				TOPSOIL	MULCHING	STABILIZER	FERTILIZER	SEEDING
CATEGORY	ROADWAY	STATION	OFFSET	SY	SY	TYPE B	TYPE B	TEMPORARY
						ACRE	CWT	LB
0010	USH 10/STH 441	186EB+00 - 204EB+50	RT/LT	58,790	48,800	12.1	37.0	1,587
		204EB+90 - 209EB+00	RT	3,750	2,862	0.8	2.4	101
PROJECT 1517-75-71 TOTAL				62,540	51,662	13.0	39.4	1,688

FENCE SAFETY

CATEGORY	LOCATION	616.0700.S
		FENCE SAFETY
		LF
0010	UNDISTRIBUTED	1,000
PROJECT 1517-75-71 TOTAL		1,000

MAINTENANCE AND REPAIR OF HAUL ROADS (1517-75-71)

CATEGORY	LOCATION	618.0100
		MAINTENANCE AND REPAIR OF HAUL ROADS
		1517-75-71
		EACH
0010	PROJECT 1517-75-71	1
PROJECT 1517-75-71 TOTAL		1

MOBILIZATION

CATEGORY	LOCATION	619.1000
		MOBILIZATION
		EACH
0010	PROJECT 1517-75-71	1
PROJECT 1517-75-71 TOTAL		1

WATER

		SPV.0120.150
		WATER FOR
		SEEDED AREAS
CATEGORY	LOCATION	MGAL
0010	<u>UNDISTRIBUTED</u>	1,410
<u>PROJECT 1517-75-71 TOTAL</u>		1,410

EROSION CONTROL

						628.1104	628.1504	628.1520	628.1905	628.1910	628.2023	628.7504	628.7570
										MOBILIZATIONS			
										MOBILIZATIONS	EROSION	EROSION MAT	TEMPORARY
						EROSION	SILT FENCE	SILT FENCE	EROSION	EROSION	CLASS II	DITCH	ROCK
						BALES	SILT FENCE	MAINTENANCE	CONTROL	CONTROL	TYPE B	CHECKS	BAGS
CATEGORY	ROADWAY	START	END	STATION	OFFSET	EACH	LF	LF	EACH	EACH	SY	LF	EACH
0010	USH 10/STH 441	185EB+90	88.0' LT	185EB+92	28.0' LT	24	--	--	--	--	--	--	--
		185EB+95	28.0' LT	185EB+95	184.2' LT	--	156	156	--	--	--	--	--
		187EB+50	16.9' RT	196EB+00	1.4' RT	--	--	--	--	--	7,785	--	--
		187EB+50	227.1' LT	--	--	--	--	--	--	--	--	10	--
		190EB+50	137.1' RT	--	--	--	--	--	--	--	--	10	--
		191EB+50	141.1' RT	--	--	--	--	--	--	--	--	10	--
		191EB+50	297.2' LT	--	--	--	--	--	--	--	--	10	--
		193EB+00	226.7' LT	194EB+09	220.3' LT	--	98	98	--	--	--	--	--
		193EB+49	225.2' LT	193EB+94	225.9' LT	16	--	--	--	--	--	--	--
		194EB+76	207.7' LT	200EB+77	238.5' LT	--	589	589	--	--	--	--	--
		194EB+78	212.5' LT	200EB+74	243.1' LT	232	--	--	--	--	--	--	--
		195EB+50	83.0' RT	--	--	--	--	--	--	--	--	10	--
		196EB+00	72.7' RT	--	--	--	--	--	--	--	--	--	10
		197EB+00	43.1' RT	204EB+14	95.4' LT	--	--	--	--	--	2,205	--	--
		197EB+50	124.0' LT	--	--	--	--	--	--	--	--	10	--
		199EB+50	207.0' LT	--	--	--	--	--	--	--	--	10	--
		200EB+34	55.6' RT	--	--	--	--	--	--	--	--	10	--
		201EB+01	244.8' LT	204EB+55	163.1' LT	--	377	377	--	--	--	--	--
		201EB+50	195.0' LT	--	--	--	--	--	--	--	--	10	--
		201EB+89	213.2' LT	204EB+55	169.1' LT	112	--	--	--	--	--	--	--
		202EB+34	14.7' LT	--	--	--	--	--	--	--	--	10	--
		203EB+50	184.9' LT	--	--	--	--	--	--	--	--	10	--
		203EB+55	57.0' LT	--	--	--	--	--	--	--	--	10	--
		203EB+95	77.8' LT	--	--	--	--	--	--	--	--	10	--
		204EB+89	124.9' RT	204EB+90	84.9' RT	16	--	--	--	--	--	--	--
		204EB+95	74.9' RT	204EB+95	172.5' RT	--	98	98	--	--	--	--	--
		205EB+00	74.9' RT	208EB+50	25.0' RT	--	--	--	--	--	--	890	--
		205EB+82	50.6' RT	--	--	--	--	--	--	--	--	--	10
		206EB+88	31.7' RT	--	--	--	--	--	--	--	--	--	10
		206EB+89	141.4' RT	208EB+62	31.8' RT	--	242	242	--	--	--	--	--
		206EB+99	143.6' RT	208EB+62	31.8' RT	96	--	--	--	--	--	--	--
		207EB+00	131.7' RT	--	--	--	--	--	--	--	--	--	10
UNDISTRIBUTED						--	--	--	4	3	--	--	5
PROJECT 1517-75-71 TOTAL						500	1,560	1,560	4	3	10,880	160	15

PERMANENT SIGNS										
CATEGORY	ROADWAY	SIGN NO.	SIGN SIZE		637.2210	SIGN MESSAGE	638.2601	638.2602	SPV.0060.010	SPV.0060.011
			W X H		SIGNS		REMOVING		PERMANENT	
			(IN X IN)		TYPE II		SIGNS		COVERING	
					REFLECTIVE H		TYPE I	TYPE II	TYPE I SIGNS	TYPE II SIGNS
					SF		EACH	EACH	EACH	EACH
0010	USH 10 WB/STH 441 SB						2	1	2	--
	CONNECTOR ROAD						--	--	1	1
	RACINE ROAD						--	--	--	3
		105	24	X	12	2.00	TO	--	--	--
		106	24	X	12	2.00	NORTH	--	--	--
		107	24	X	12	2.00	TO	--	--	--
		108	24	X	12	2.00	NORTH	--	--	--
		109	24	X	12	2.00	TO	--	--	--
		110	24	X	12	2.00	NORTH	--	--	--
		111	24	X	24	4.00	USE RIGHT LANE	--	--	--
		112	24	X	24	4.00	TO	--	--	--
		113	24	X	24	4.00	NORTH	--	--	--
		114	24	X	24	4.00	STH 441	--	--	--
		115	24	X	24	4.00	USE LEFT LANE	--	--	--
		116	24	X	24	4.00	USE RIGHT LANE	--	--	--
		117	21	X	21	3.06	UP ARROW	--	--	--
		118	21	X	21	3.06	UP ARROW	--	--	--
		119	24	X	12	2.00	TO	--	--	--
		120	24	X	12	2.00	WEST	--	--	--
		121	24	X	12	2.00	TO	--	--	--
		122	24	X	12	2.00	SOUTH	--	--	--
		123	24	X	12	2.00	TO	--	--	--
		124	24	X	12	2.00	SOUTH	--	--	--
		125	24	X	24	4.00	STH 441	--	--	--
		126	21	X	21	3.06	UP ARROW	--	--	--
PROJECT 1517-75-71 TOTAL					61.19		2	1	3	4

INLET PROTECTION

				628.7005	628.7010
				INLET	INLET
				PROTECTION	PROTECTION
CATEGORY	ROADWAY	STATION	OFFSET	TYPE A	TYPE B
				EACH	EACH
0010	<u>USH 10/STH 441</u>	185EB+81	9.4' RT	--	1
		188EB+55	154.9' RT	--	1
		188EB+64	157.6' RT	--	1
		192EB+70	177.8' RT	--	1
		192EB+74	238.0' RT	--	1
		197EB+46	212.0' RT	1	--
		198EB+66	428.6' LT	--	1
		200EB+68	273.0' LT	--	1
		202EB+97	113.2' RT	1	--
		206EB+24	50.2' LT	1	--
	<u>UNDISTRIBUTED</u>			2	3
PROJECT 1517-75-71 TOTAL				5	10

TRACKING PAD

CATEGORY	ROADWAY	628.7560
		TRACKING
		PAD
		EACH
0010	<u>UNDISTRIBUTED</u>	8
PROJECT 1517-75-71 TOTAL		8

TRAFFIC CONTROL SIGNS FIXED MESSAGE

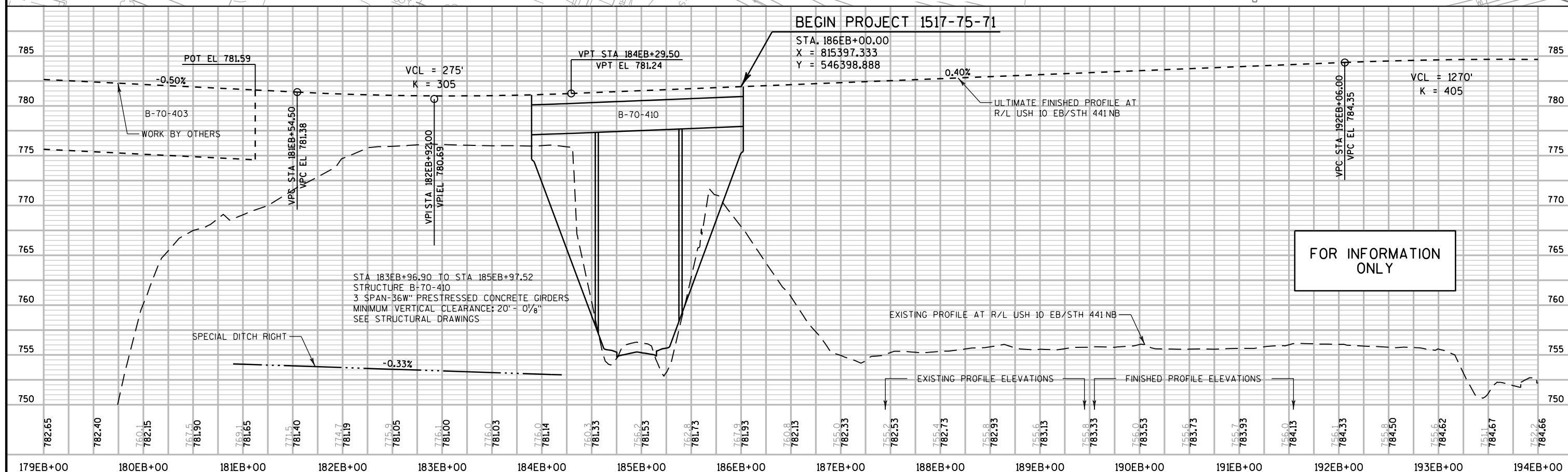
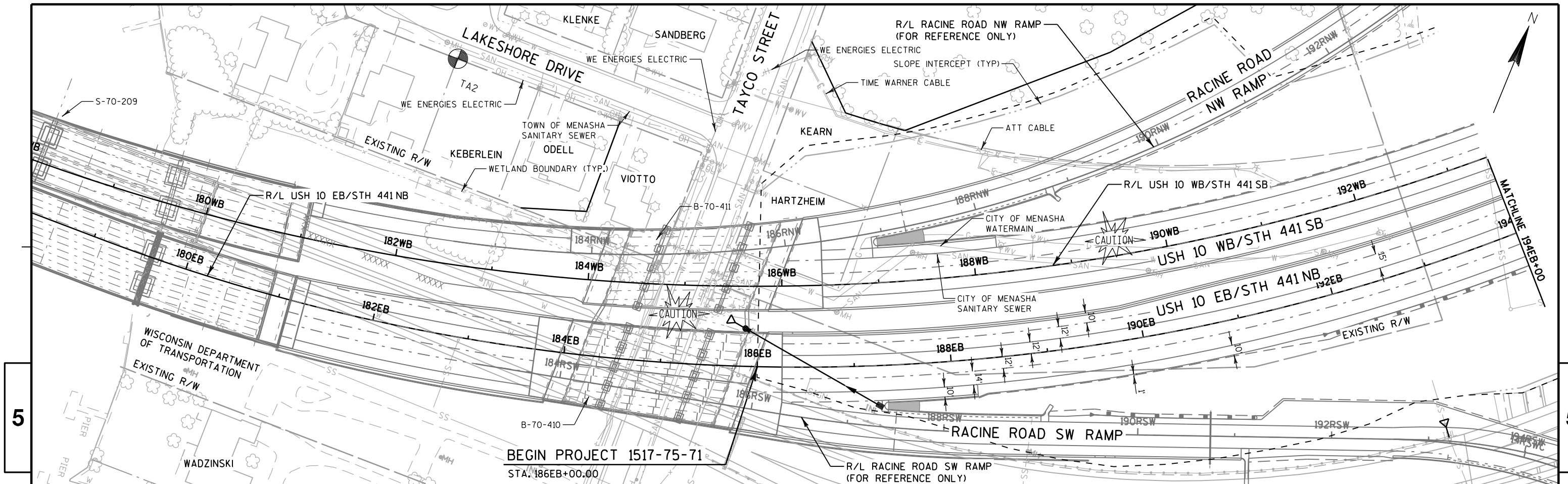
CATEGORY	ROADWAY	SIGN NO.	SIGN SIZE		643.1000	SIGN MESSAGE
			W X H		TRAFFIC	
			(FT X FT)		CONTROL	
					SIGNS FIXED	
					MESSAGE	
					SF	
0010	<u>RACINE ROAD</u>	100	6.5	X 4.5	29.25	USH 10 / STH 441 WB RAMP CLOSED USE MIDWAY ROAD RAMP
		101	6.5	X 4.5	29.25	USH 10 / STH 441 WB RAMP CLOSED USE ALT ROUTE
	<u>USH 10 WB/STH 441 SB</u>	102	6.0	X 2.0	12.00	CLOSED
		103	6.0	X 2.0	12.00	CLOSED
		104	6.0	X 2.0	12.00	CLOSED
		105	11.0	X 5.0	55.00	TRUCKS EXITING RIGHT DO NOT FOLLOW
		106	8.5	X 5.0	42.50	TRUCKS ENTERING FROM RIGHT
	PROJECT 1517-75-71 TOTAL					192.00

TRAFFIC CONTROL ITEMS																				
		643.0200	643.0300		643.0420		643.0705		643.0715		643.0900		643.1050		SPV.0060.004	SPV.0060.005	SPV.0060.006	SPV.0060.007	SPV.0060.008	
		TRAFFIC					TRAFFIC		TRAFFIC				TRAFFIC		TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	
		CONTROL			TRAFFIC		CONTROL		CONTROL				TRAFFIC		TRAFFIC	TRAFFIC	CONTROL	CONTROL	CONTROL	
		SURVEILLANCE			CONTROL		WARNING		WARNING		TRAFFIC		CONTROL		CONTROL	CONTROL	CONTROL	WARNING	WARNING	
		AND	TRAFFIC		CONTROL		LIGHTS		LIGHTS		TRAFFIC		CONTROL		CONTROL	CONTROL	BARRICADES	LIGHTS	LIGHTS	
STAGE		MAINTENANCE	CONTROL		BARRICADES		TYPE III		TYPE A		TYPE C		TYPE C		TYPE C		TYPE A		TYPE C	
DURATION		(1517-75-71)	DRUMS		TYPE III		TYPE A		TYPE C		SIGN		PCMS		LEFT IN PLACE		LEFT IN PLACE		LEFT IN PLACE	
CATEGORY	ROADWAY	DAYS	DAYS	EACH*	DAYS	EACH*	DAYS	EACH*	DAYS	EACH*	DAYS	EACH*	DAYS	EACH*	DAYS	EACH	EACH	EACH	EACH	EACH
0010	STAGE 1 CONSTRUCTION	105	105																	
	USH 10 WB/STH 441 SB		--	--	--	--	--	--	--	--	--	4	420	--	--	10	20	5	10	10
	CONNECTOR ROAD		--	20	2,096	9	945	18	1,890	--	--	4	420	--	--	--	--	--	--	--
	RACINE ROAD		--	20	2,121	1	105	2	210	10	1,016	3	315	--	--	--	--	--	--	--
	CONTRACTOR INGRESS / EGRESS		--	35	3,670	--	--	--	--	--	--	--	--	4	28	--	--	--	--	--
PROJECT 1517-75-71 TOTAL			105		7,887		1,050		2,100		1,016		1,155		28	10	20	5	10	10
* FOR INFORMATION ONLY																				

PAVEMENT MARKING								
		646.0106	646.0126	646.0600				
		PAVEMENT	PAVEMENT	REMOVING				
		MARKING	MARKING	PAVEMENT				
		EPOXY	EPOXY	MARKINGS				
		4-INCH	8-INCH					
		YELLOW	WHITE	WHITE				
CATEGORY	ROADWAY	STATION	LF	LF	LF	LF	COMMENTS	
0010	<u>USH 10 WB/STH 441 SB</u>	212WB+25 - 216WB+00	--	375	--	95	REMOVE 3' SKIP LINE AT NEW LANE MERGE	
	<u>RACINE ROAD</u>	5RCL+40 - 8RCL+36	305	--	435	65	REMOVE 12.5' LANE LINE AT NEW LANE MERGE	
PROJECT 1517-75-71 TOTAL			680		435	160		

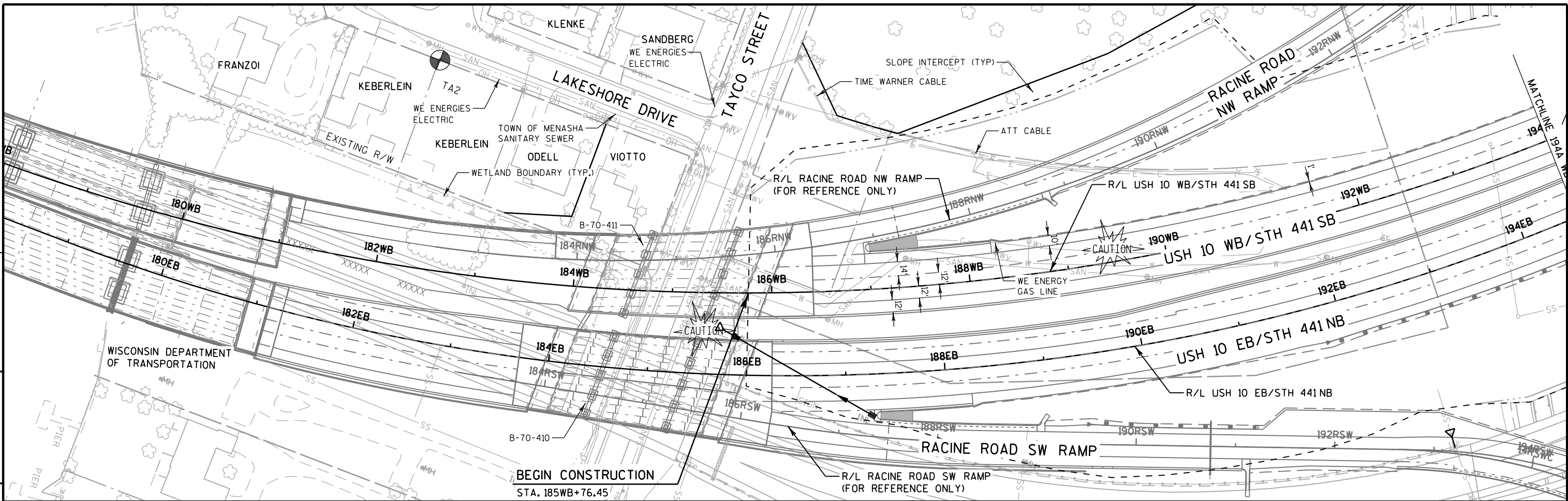
SAWING PAVEMENT						
		FROM	TO	690.0250		
		STATION	OFFSET	STATION	OFFSET	SAWING CONCRETE
CATEGORY	ROADWAY	STATION	OFFSET	STATION	OFFSET	LF
0010	USH 10 WB EXIT RAMP	194EB+17	226.1' LT	194EB+37	224.2' LT	18
		194EB+54	221.2' LT	194EB+72	213.6' LT	18
	USH 10 WB ENTRANCE RAMP	193EB+68	155.8' RT	193EB+92	155.3' RT	26
		194EB+48	204.6' LT	194EB+68	202.1' LT	18
		199EB+18	75.0' RT	199EB+31	84.1' RT	17
		200EB+78	237.1' LT	200EB+96	241.5' LT	18
PROJECT 1517-75-71 TOTAL						113

DRAINAGE BLANKET SPV.0035.002 DRAINAGE BLANKET <table><tr><th>CATEGORY</th><th>ROADWAY</th><th>STATION</th><th>CY</th></tr><tr><td rowspan="4">0010</td><td rowspan="4">USH 10/STH 441</td><td>186EB+00 - 196EB+00</td><td>25,072</td></tr><tr><td>197EB+00 - 204EB+50</td><td>10,861</td></tr><tr><td>205EB+00 - 208EB+50</td><td>2,474</td></tr><tr><td>PROJECT 1517-75-71 TOTAL</td><td>38,407</td></tr></table>				CATEGORY	ROADWAY	STATION	CY	0010	USH 10/STH 441	186EB+00 - 196EB+00	25,072	197EB+00 - 204EB+50	10,861	205EB+00 - 208EB+50	2,474	PROJECT 1517-75-71 TOTAL	38,407	VIBRATING WIRE PIEZOMETER SPV.0060.001 VIBRATING WIRE PIEZOMETER INSTRUMENTATION SYSTEM, DELIVERED <table><tr><th>CATEGORY</th><th>ROADWAY</th><th>STATION</th><th>OFFSET</th><th>EACH</th><th>COMMENTS</th></tr><tr><td rowspan="10">0010</td><td rowspan="2">USH 10 EB/STH 441 NB</td><td>197EB+50</td><td>35.0' RT</td><td>1</td><td>INSTRUMENTATION ELEV. 735</td></tr><tr><td>186WB+25</td><td>65.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV. 735</td></tr><tr><td rowspan="8">USH 10 WB/STH 441 SB</td><td>186WB+50</td><td>38.0' RT</td><td>1</td><td>INSTRUMENTATION ELEV. 735</td></tr><tr><td>189WB+50</td><td>40.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV. 735</td></tr><tr><td>189WB+50</td><td>130.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV. 735/725</td></tr><tr><td>192WB+00</td><td>35.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV. 735</td></tr><tr><td>195WB+25</td><td>30.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV. 735</td></tr><tr><td>198WB+50</td><td>40.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV. 735</td></tr><tr><td>200WB+50</td><td>35.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV. 733</td></tr><tr><td>PROJECT 1517-75-71 TOTAL</td><td>9</td><td></td></tr></table>						CATEGORY	ROADWAY	STATION	OFFSET	EACH	COMMENTS	0010	USH 10 EB/STH 441 NB	197EB+50	35.0' RT	1	INSTRUMENTATION ELEV. 735	186WB+25	65.0' LT	1	INSTRUMENTATION ELEV. 735	USH 10 WB/STH 441 SB	186WB+50	38.0' RT	1	INSTRUMENTATION ELEV. 735	189WB+50	40.0' LT	1	INSTRUMENTATION ELEV. 735	189WB+50	130.0' LT	1	INSTRUMENTATION ELEV. 735/725	192WB+00	35.0' LT	1	INSTRUMENTATION ELEV. 735	195WB+25	30.0' LT	1	INSTRUMENTATION ELEV. 735	198WB+50	40.0' LT	1	INSTRUMENTATION ELEV. 735	200WB+50	35.0' LT	1	INSTRUMENTATION ELEV. 733	PROJECT 1517-75-71 TOTAL	9		SURVEY PROJECT SPV.0105.002 SURVEY PROJECT ID 1517-75-71 <table><tr><th>CATEGORY</th><th>LOCATION</th><th>LS</th></tr><tr><td rowspan="2">0010</td><td>PROJECT 1517-75-71</td><td>1</td></tr><tr><td>PROJECT 1517-75-71 TOTAL</td><td>1</td></tr></table>			CATEGORY	LOCATION	LS	0010	PROJECT 1517-75-71	1	PROJECT 1517-75-71 TOTAL	1
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SETTLEMENT GAUGES SPV.0060.002 SETTLEMENT GAUGES <table><tr><th>CATEGORY</th><th>ROADWAY</th><th>STATION</th><th>OFFSET</th><th>EACH</th><th>COMMENTS</th></tr><tr><td rowspan="13">0010</td><td rowspan="4">USH 10 EB/STH 441 NB</td><td>192EB+50</td><td>40.0' RT</td><td>1</td><td>INSTRUMENTATION ELEV.755</td></tr><tr><td>197EB+50</td><td>35.0' RT</td><td>1</td><td>INSTRUMENTATION ELEV.748</td></tr><tr><td>206EB+00</td><td>48.0' RT</td><td>1</td><td>INSTRUMENTATION ELEV.750</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td rowspan="9">USH 10 WB/STH 441 SB</td><td>186WB+25</td><td>65.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV.757</td></tr><tr><td>186WB+50</td><td>38.0' RT</td><td>1</td><td>INSTRUMENTATION ELEV.755</td></tr><tr><td>189WB+50</td><td>40.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV.756</td></tr><tr><td>189WB+50</td><td>130.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV.756</td></tr><tr><td>192WB+00</td><td>35.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV.756</td></tr><tr><td>195WB+25</td><td>30.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV.751</td></tr><tr><td>198WB+50</td><td>40.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV.749</td></tr><tr><td>200WB+50</td><td>35.0' LT</td><td>1</td><td>INSTRUMENTATION ELEV.755</td></tr><tr><td>PROJECT 1517-75-71 TOTAL</td><td>11</td><td></td></tr></table>						CATEGORY	ROADWAY	STATION	OFFSET	EACH	COMMENTS	0010	USH 10 EB/STH 441 NB	192EB+50	40.0' RT	1	INSTRUMENTATION ELEV.755	197EB+50	35.0' RT	1	INSTRUMENTATION ELEV.748	206EB+00	48.0' RT	1	INSTRUMENTATION ELEV.750					USH 10 WB/STH 441 SB	186WB+25	65.0' LT	1	INSTRUMENTATION ELEV.757	186WB+50	38.0' RT	1	INSTRUMENTATION ELEV.755	189WB+50	40.0' LT	1	INSTRUMENTATION ELEV.756	189WB+50	130.0' LT	1	INSTRUMENTATION ELEV.756	192WB+00	35.0' LT	1	INSTRUMENTATION ELEV.756	195WB+25	30.0' LT	1	INSTRUMENTATION ELEV.751	198WB+50	40.0' LT	1	INSTRUMENTATION ELEV.749	200WB+50	35.0' LT	1	INSTRUMENTATION ELEV.755	PROJECT 1517-75-71 TOTAL	11		STREET SWEEPING SPV.0075.001 STREET SWEEPING <table><tr><th>CATEGORY</th><th>LOCATION</th><th>HRS</th></tr><tr><td rowspan="2">0010</td><td>PROJECT 1517-75-71</td><td>40</td></tr><tr><td>PROJECT 1517-75-71 TOTAL</td><td>40</td></tr></table>			CATEGORY	LOCATION	HRS	0010	PROJECT 1517-75-71	40	PROJECT 1517-75-71 TOTAL	40						
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PREFABRICATED VERTICAL DRAINS SPV.0090.001 PREFABRICATED VERTICAL DRAINS <table><tr><th>CATEGORY</th><th>ROADWAY</th><th>STATION</th><th>LF</th></tr><tr><td rowspan="4">0010</td><td rowspan="4">USH 10/STH 441</td><td>186EB+00 - 197EB+00</td><td>456,132</td></tr><tr><td>197EB+00 - 204EB+50</td><td>145,245</td></tr><tr><td>205EB+00 - 208EB+50</td><td>27,071</td></tr><tr><td>PROJECT 1517-75-71 TOTAL</td><td>628,449</td></tr></table>						CATEGORY	ROADWAY	STATION	LF	0010	USH 10/STH 441	186EB+00 - 197EB+00	456,132	197EB+00 - 204EB+50	145,245	205EB+00 - 208EB+50	27,071	PROJECT 1517-75-71 TOTAL	628,449	PREBORED PREFABRICATED VERTICAL DRAINS SPV.0090.002 PREBORED PREFABRICATED VERTICAL DRAINS <table><tr><th>CATEGORY</th><th>ROADWAY</th><th>STATION</th><th>LF</th></tr><tr><td rowspan="4">0010</td><td rowspan="4">USH 10/STH 441</td><td>186EB+00 - 197EB+00</td><td>230,862</td></tr><tr><td>197EB+00 - 204EB+50</td><td>58,251</td></tr><tr><td>205EB+00 - 208EB+50</td><td>8,549</td></tr><tr><td>PROJECT 1517-75-71 TOTAL</td><td>297,662</td></tr></table>			CATEGORY	ROADWAY	STATION	LF	0010	USH 10/STH 441	186EB+00 - 197EB+00	230,862	197EB+00 - 204EB+50	58,251	205EB+00 - 208EB+50	8,549	PROJECT 1517-75-71 TOTAL	297,662																																														
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PREFABRICATED VERTICAL DRAINS SPV.0090.001 PREFABRICATED VERTICAL DRAINS <table><tr><th>CATEGORY</th><th>ROADWAY</th><th>STATION</th><th>LF</th></tr><tr><td rowspan="4">0010</td><td rowspan="4">USH 10/STH 441</td><td>186EB+00 - 197EB+00</td><td>456,132</td></tr><tr><td>197EB+00 - 204EB+50</td><td>145,245</td></tr><tr><td>205EB+00 - 208EB+50</td><td>27,071</td></tr><tr><td>PROJECT 1517-75-71 TOTAL</td><td>628,449</td></tr></table>						CATEGORY	ROADWAY	STATION	LF	0010	USH 10/STH 441	186EB+00 - 197EB+00	456,132	197EB+00 - 204EB+50	145,245	205EB+00 - 208EB+50	27,071	PROJECT 1517-75-71 TOTAL	628,449	GEOTECHNICAL INSTRUMENTATION SPV.0105.001 GEOTECHNICAL INSTRUMENTATION <table><tr><th>CATEGORY</th><th>LOCATION</th><th>LS</th></tr><tr><td rowspan="2">0010</td><td>PROJECT 1517-75-71</td><td>1</td></tr><tr><td>PROJECT 1517-75-71 TOTAL</td><td>1</td></tr></table>			CATEGORY	LOCATION	LS	0010	PROJECT 1517-75-71	1	PROJECT 1517-75-71 TOTAL	1																																																				
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PROJECT NO: 1517-75-71		HWY: USH 10		COUNTY: WINNEBAGO		MISCELLANEOUS QUANTITIES		SHEET:		E																																																																								

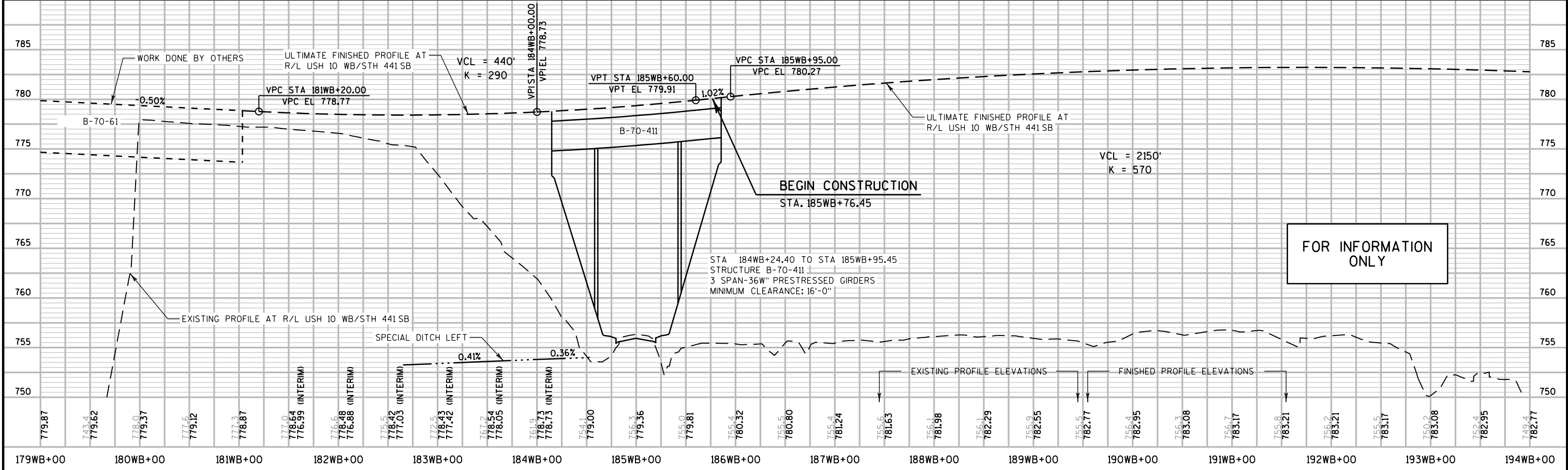


PROJECT NO: 1517-75-71	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: USH 10 EB/STH 441 NB	SHEET	E
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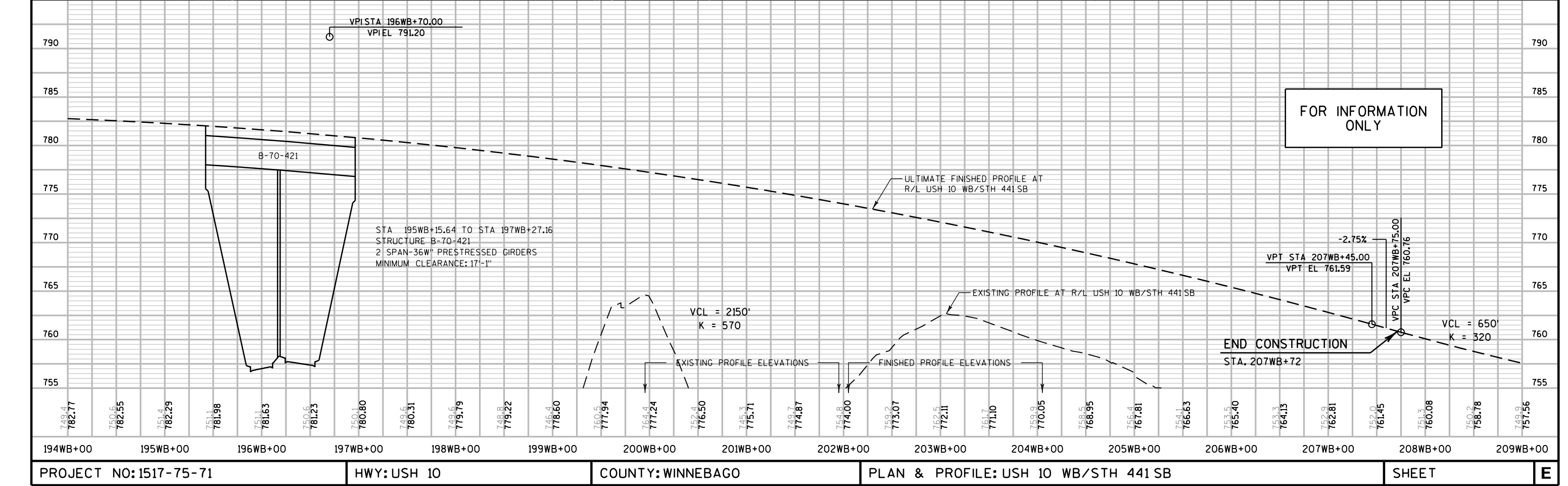
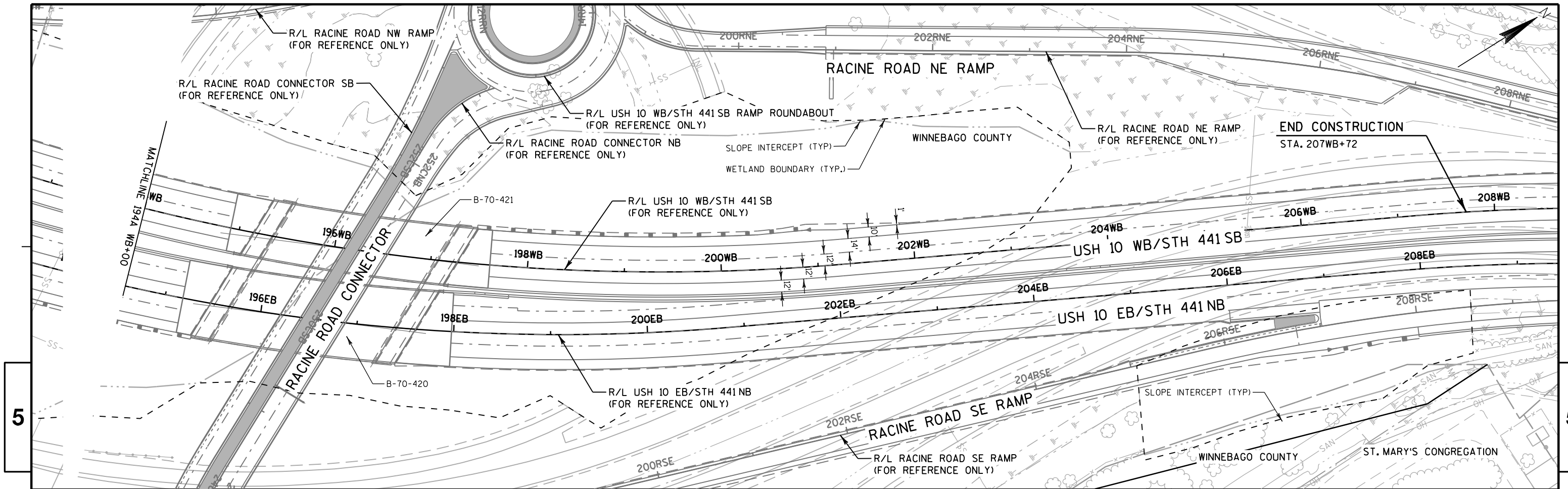
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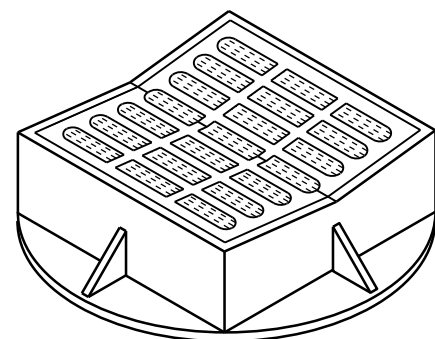
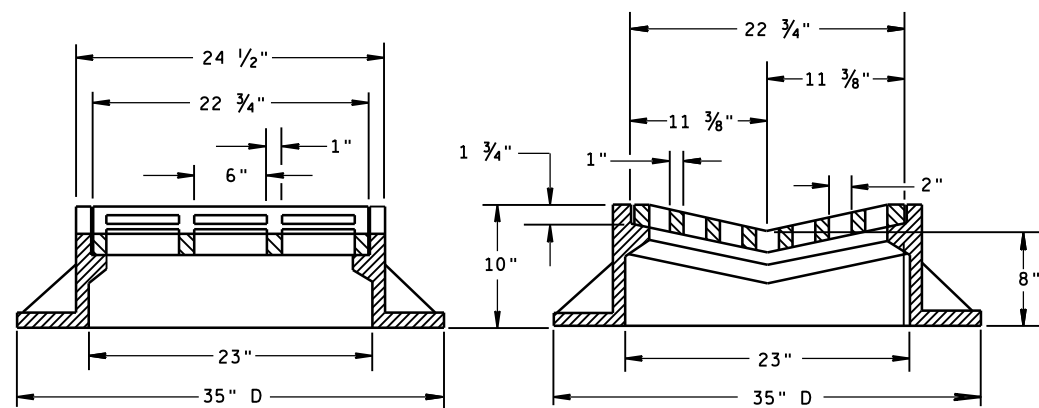


PROJECT NO: 1517-75-71	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: USH 10 WB/STH 441 SB	SHEET	E
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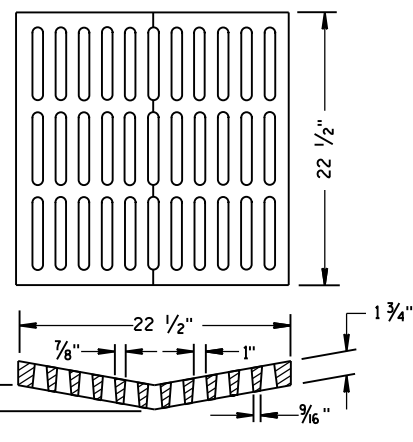


Standard Detail Drawing List

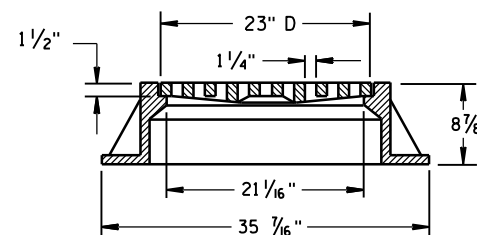
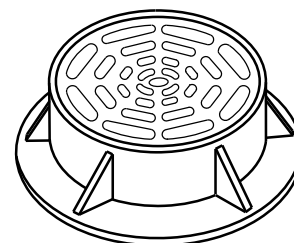
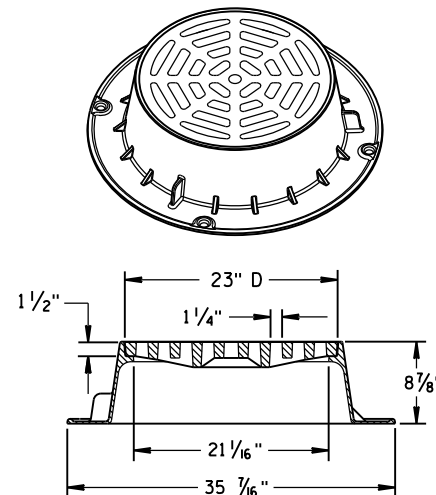
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
15D16-02	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH



TYPE "B"

ALTERNATIVE GRATE FOR
TYPE "B" COVER

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



TYPE "C"

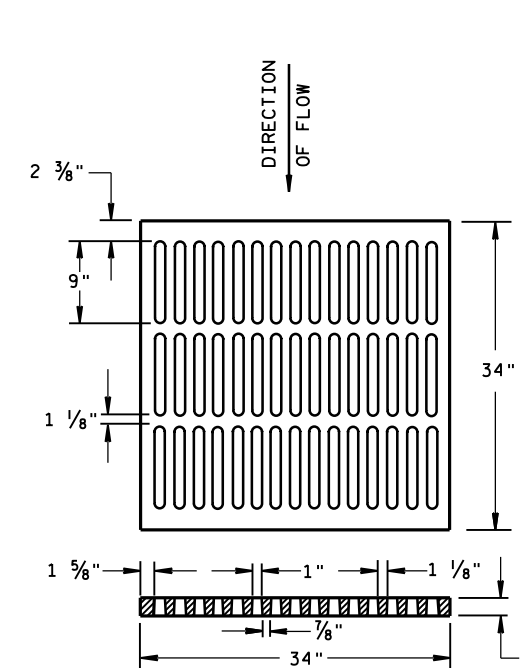
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

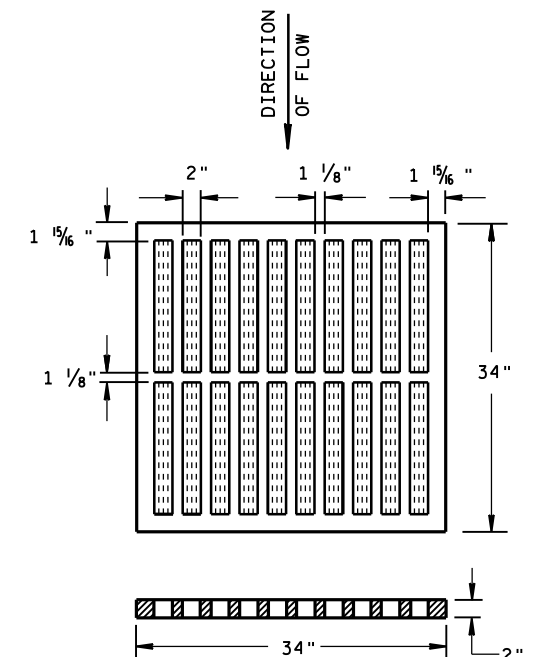
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



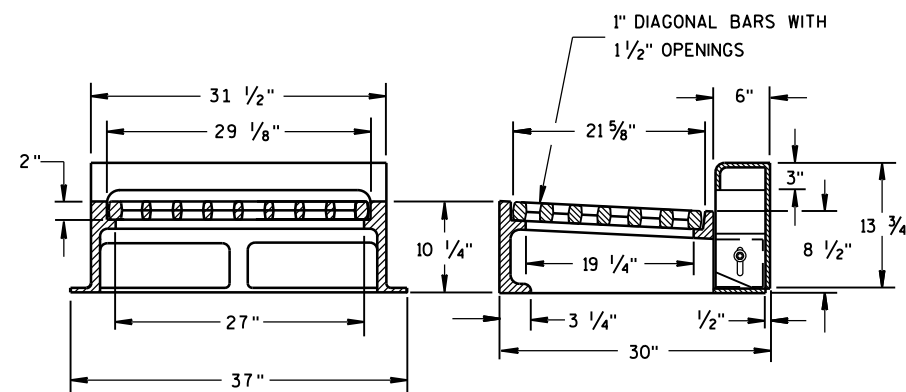
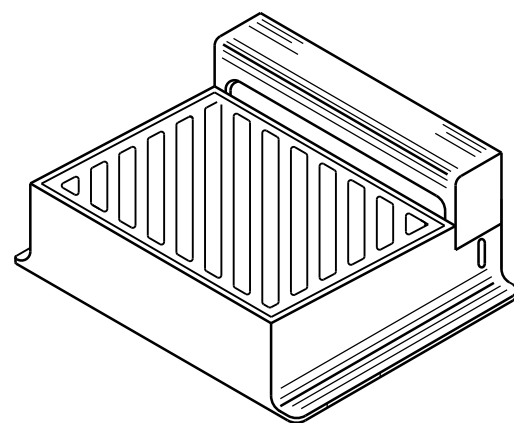
ALTERNATIVE TYPE "MS"

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



TYPE "MS"

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



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

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

DIRECTION
OF FLOW

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

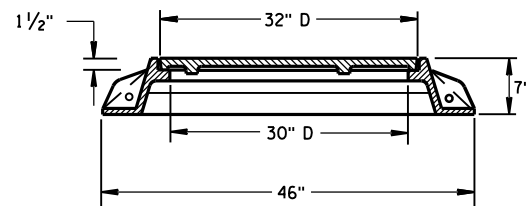
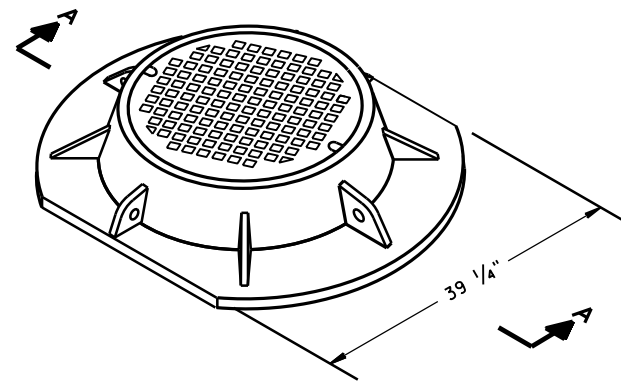
STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED
 DATE

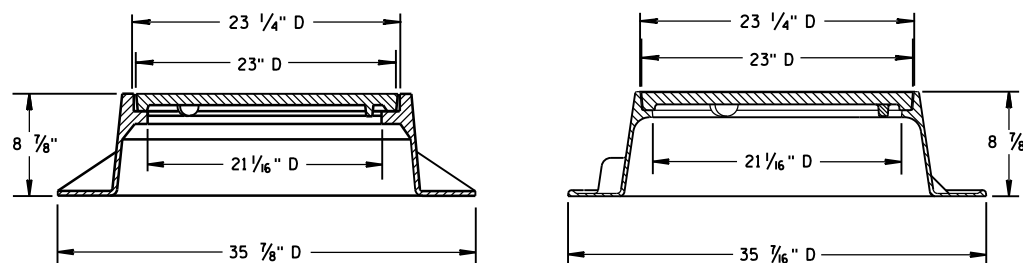
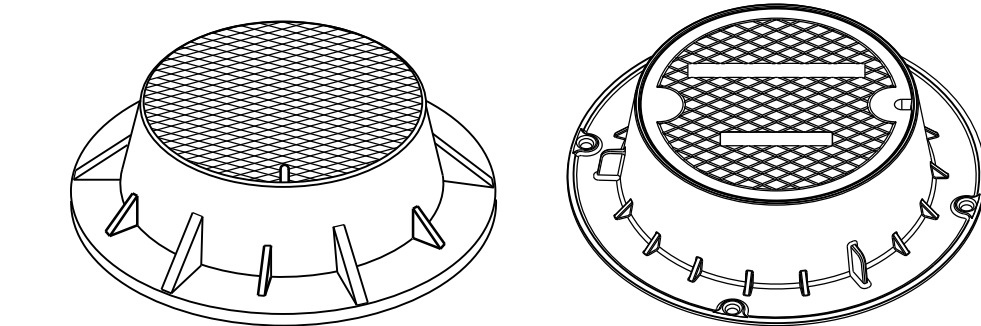
11/27/2013

FHWA

/S/ Jerry H. Zogg
 ROADWAY STANDARDS DEVELOPMENT
 ENGINEER

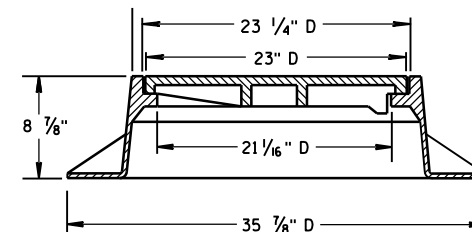
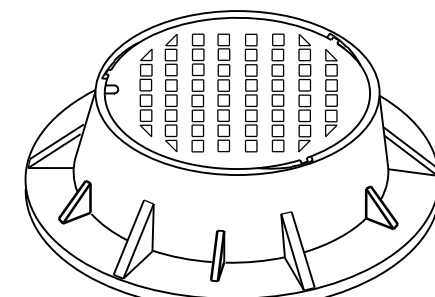
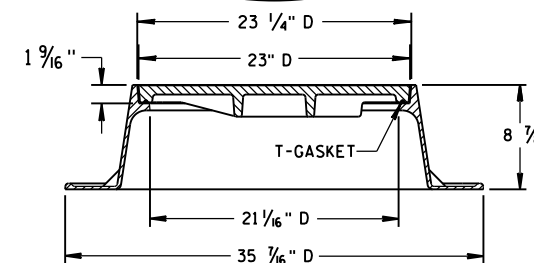
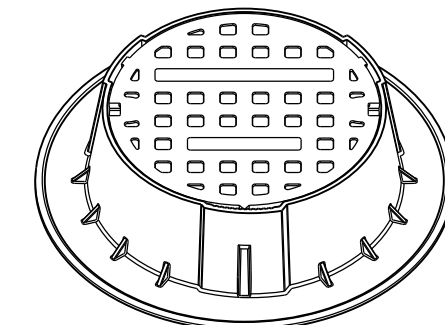


SECTION A-A
TYPE "K"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

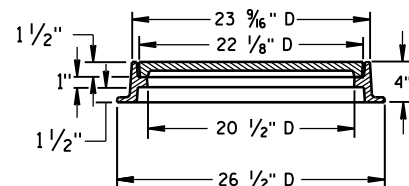
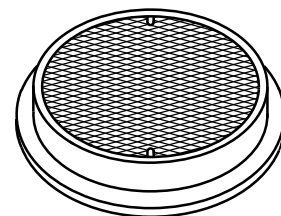


TYPE "J" SPECIAL

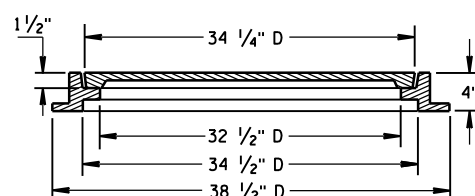
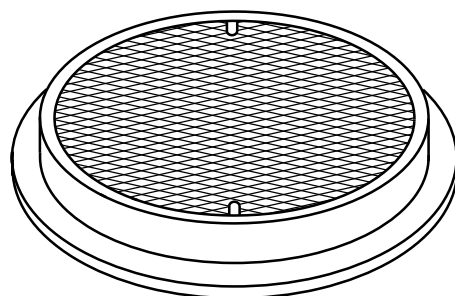
TYPE "B" NON-ROCKING SELF-SEAL LID

(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

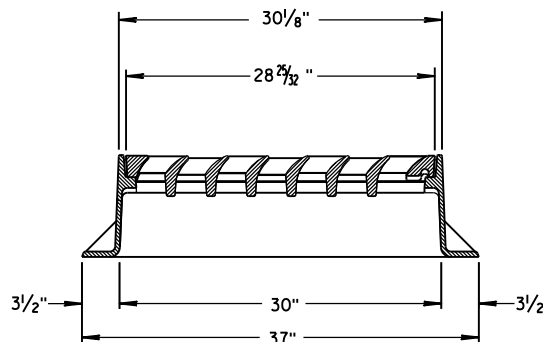
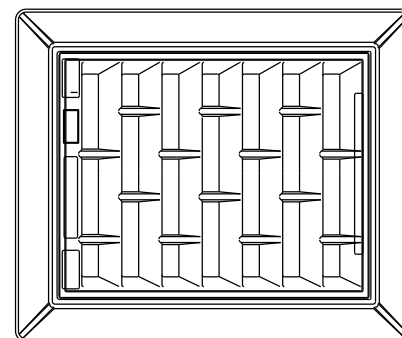
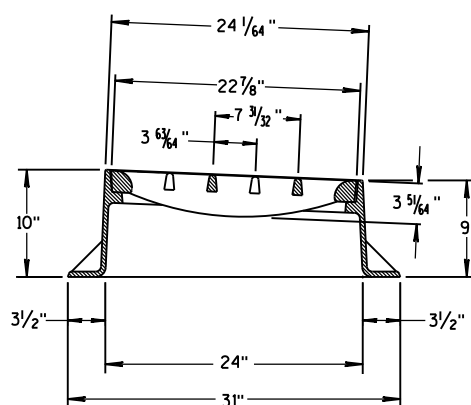
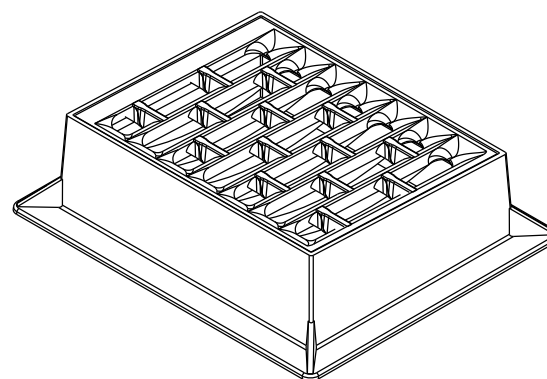
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

GENERAL NOTES

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

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

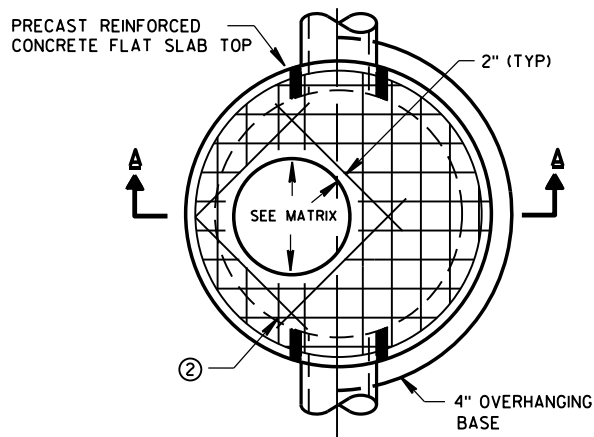
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

INLET COVER TYPE BW
MANHOLE COVERS, TYPE K,
J, J-S, L & M

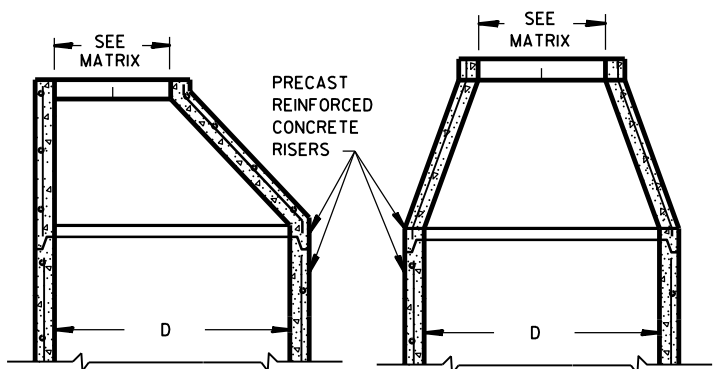
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

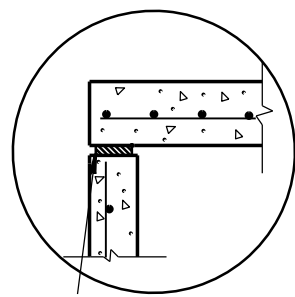


PLAN VIEW CIRCULAR OPENING

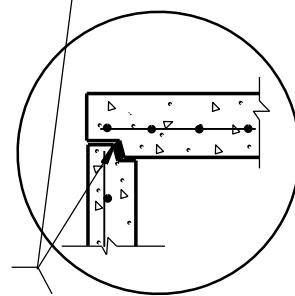


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

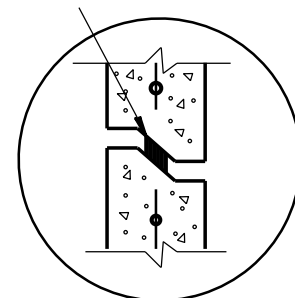
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TOP WITH PLAIN END JOINT



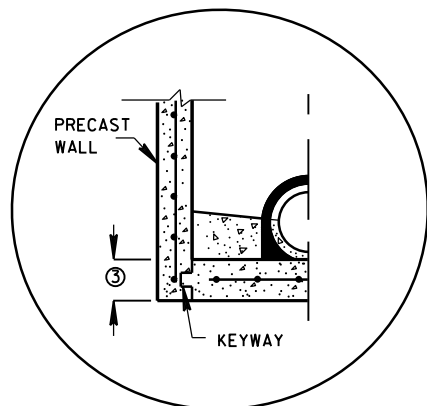
TOP WITH TONGUE AND GROOVE JOINT



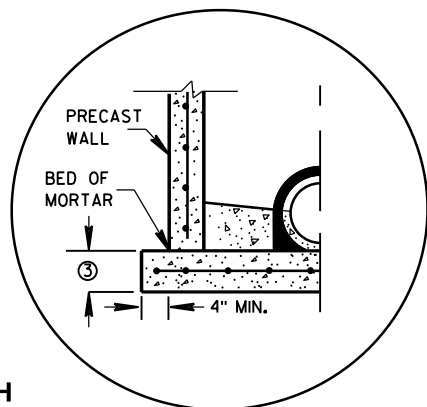
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

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

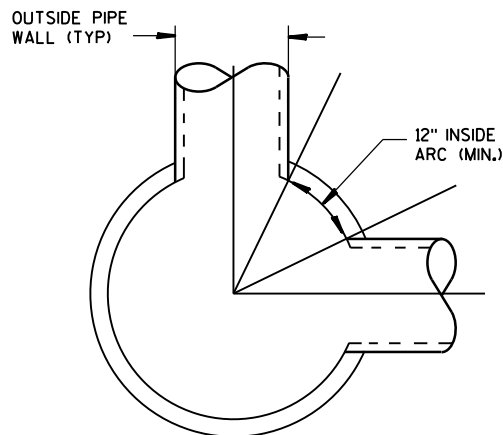


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

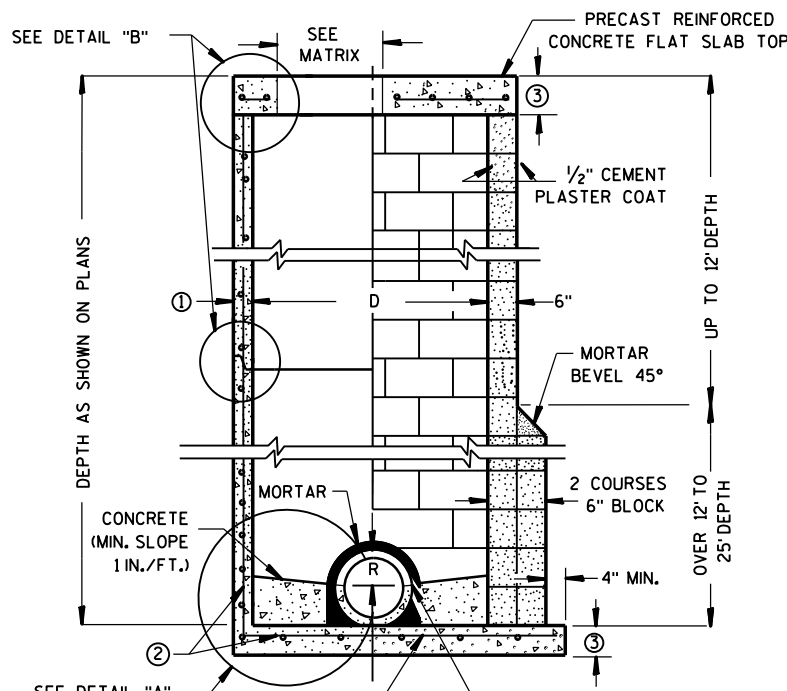


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



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

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

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

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

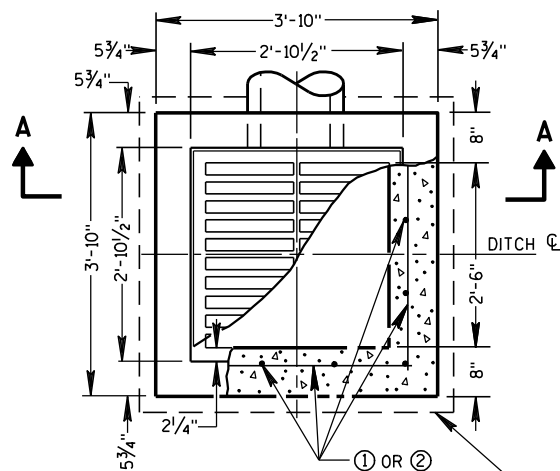
PIPE MATRIX

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

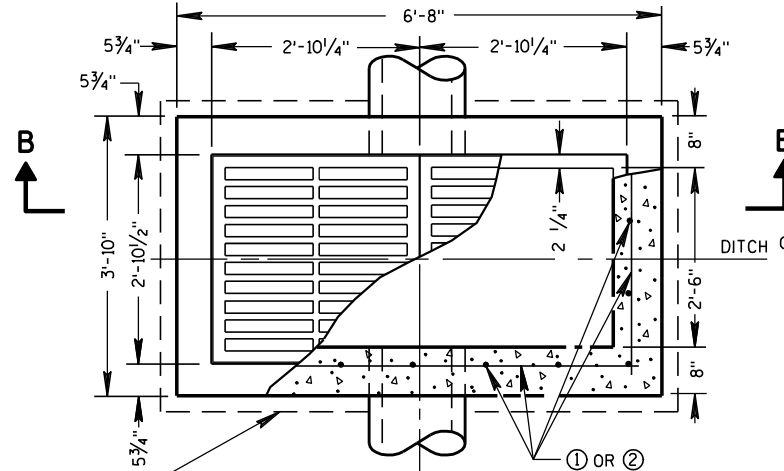
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

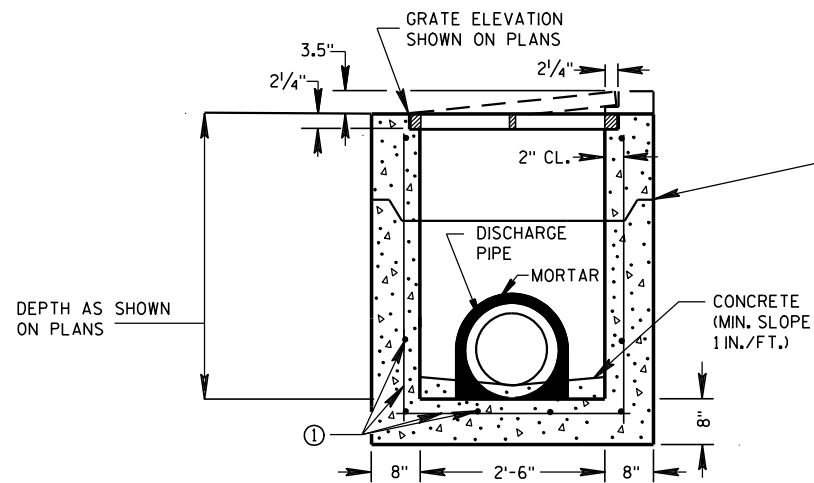
APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA ENGINEER



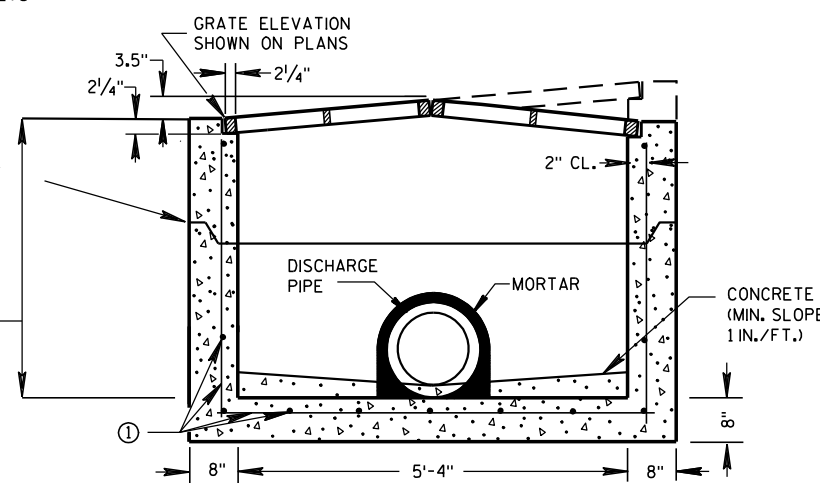
PLAN VIEW



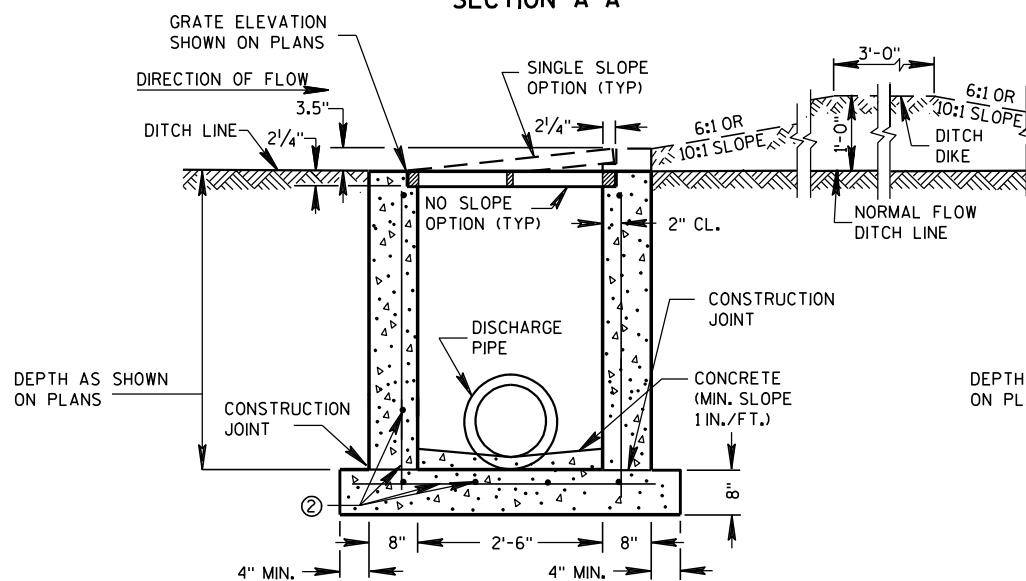
PLAN VIEW



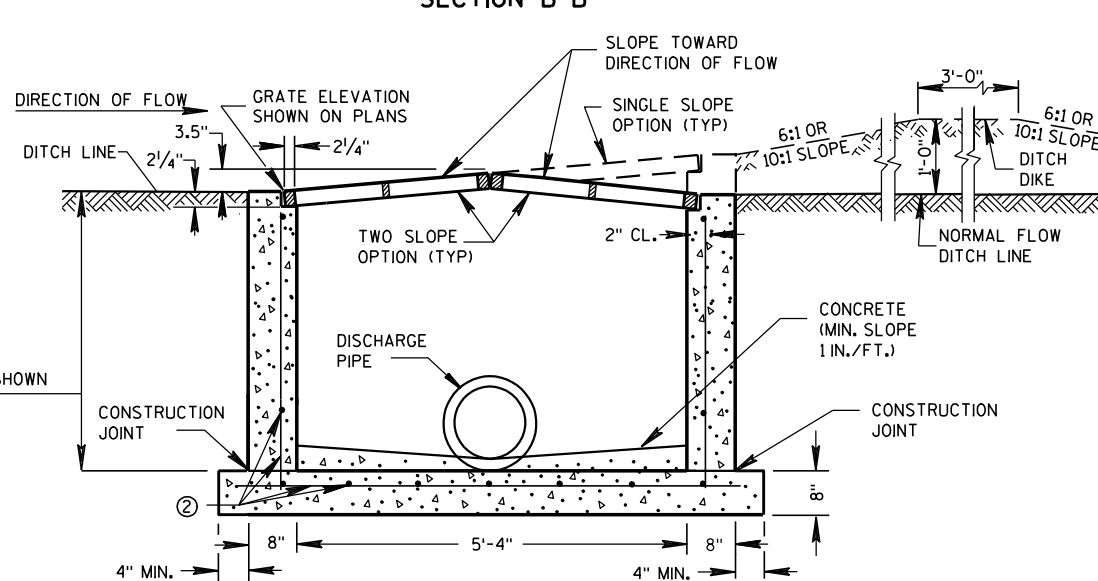
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

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

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

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

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

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

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

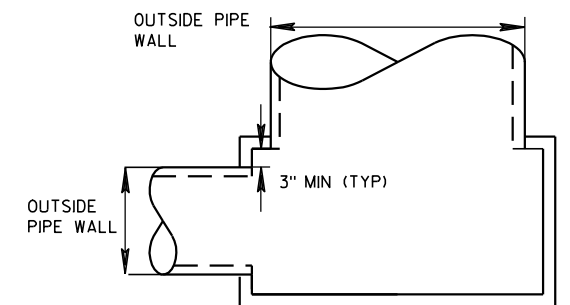
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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

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

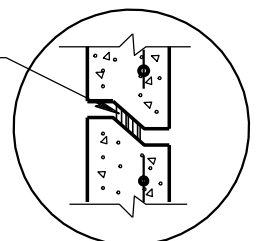
PIPE MATRIX

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



DETAIL "A"

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



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012

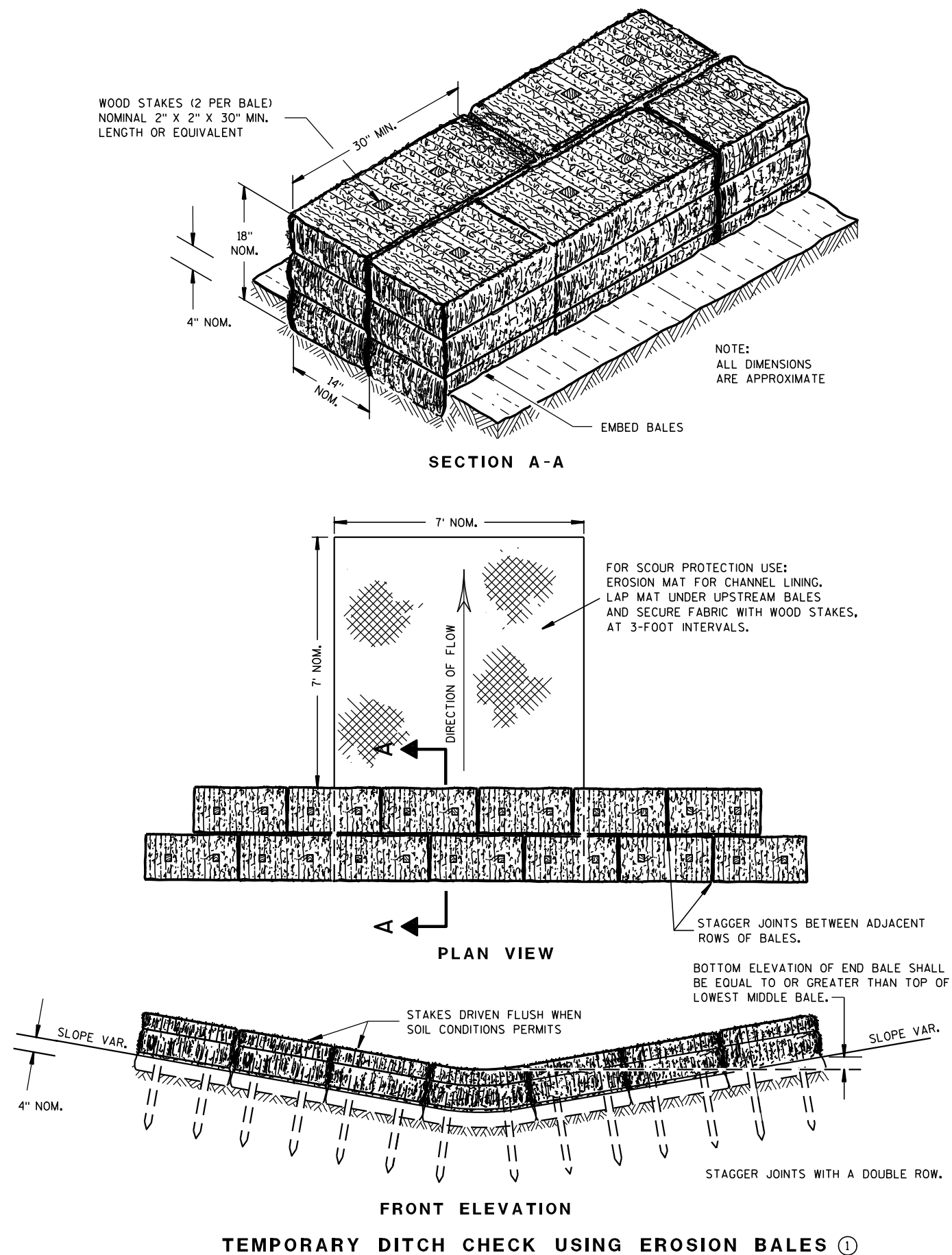
DATE

FHWA

/s/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

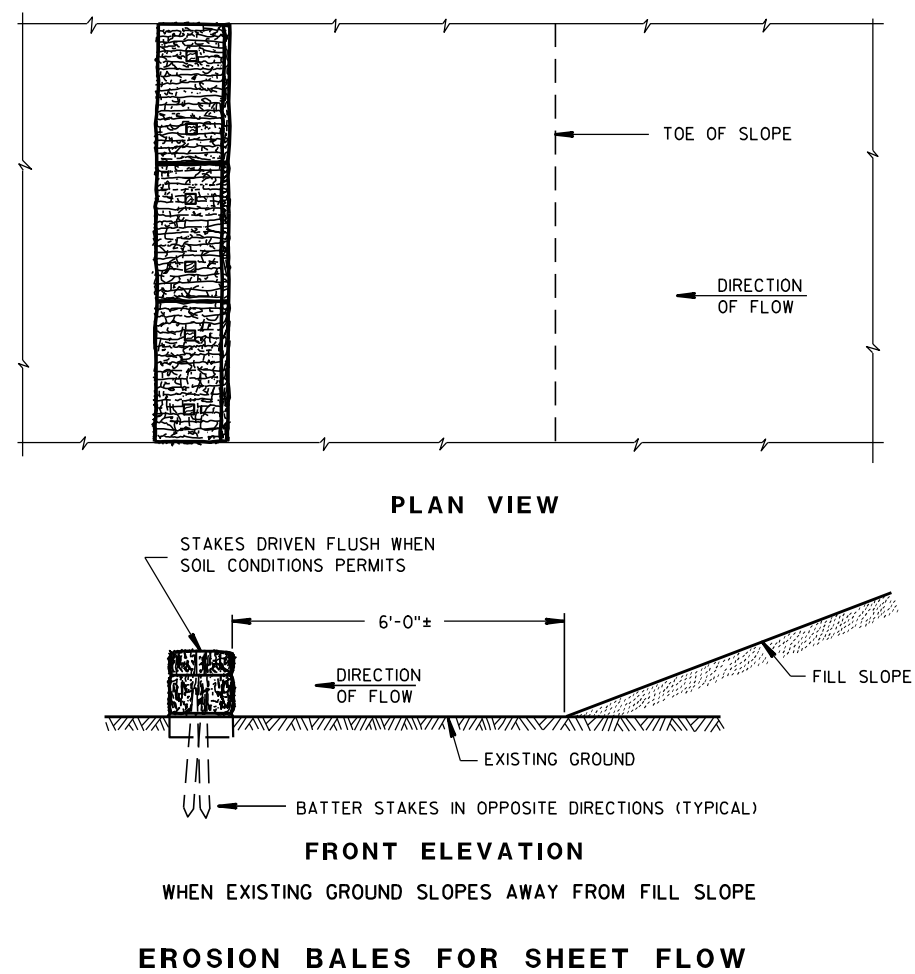
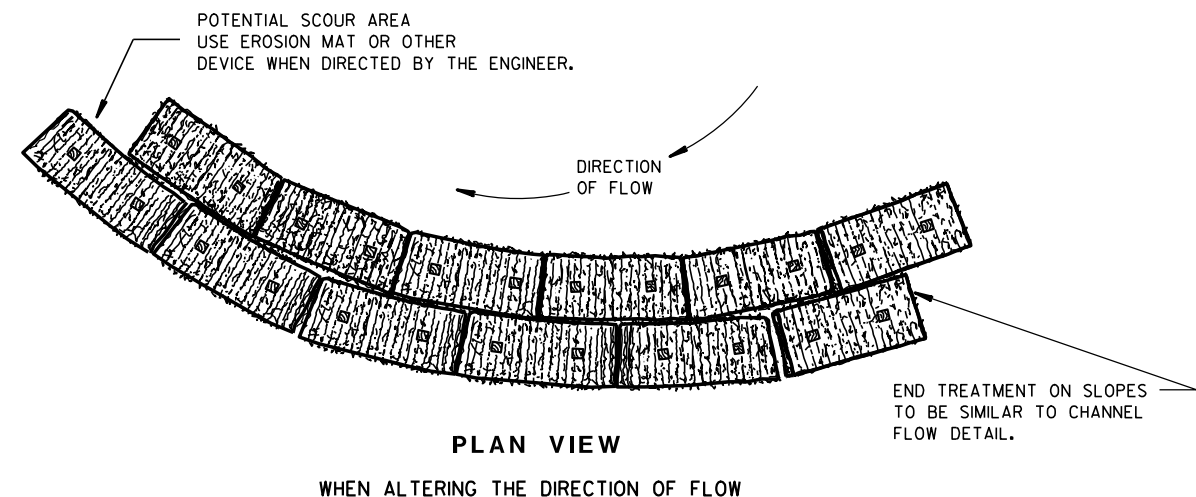
ENGINEER



GENERAL NOTES

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

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



TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

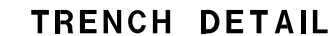
6/04/02
DATE

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

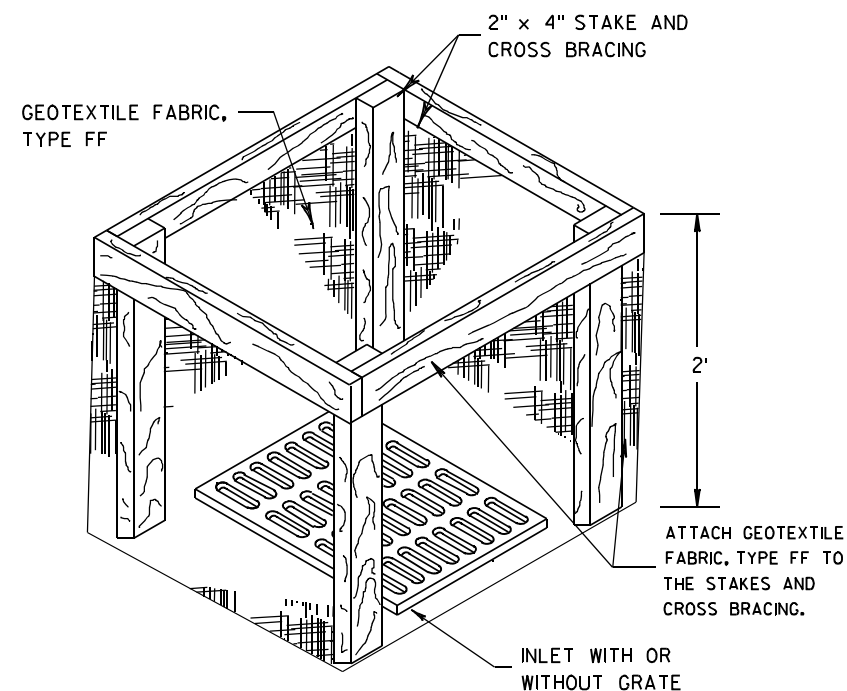
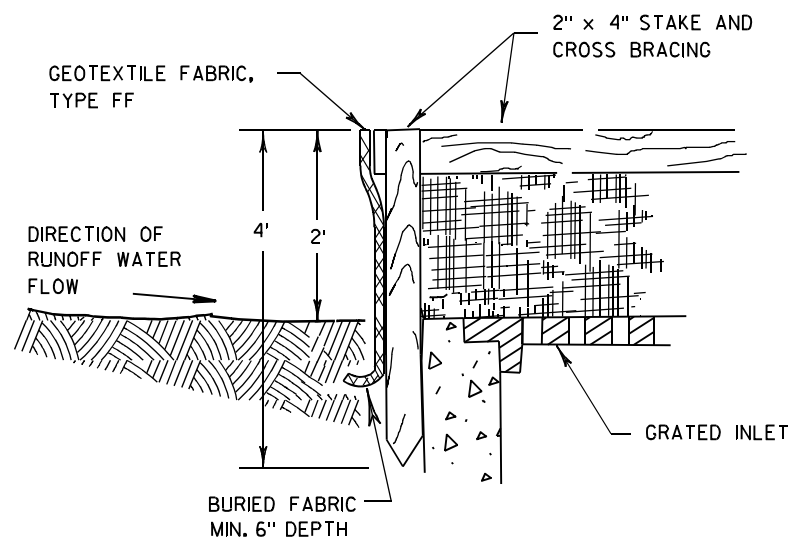
FHWA



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



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



INLET PROTECTION, TYPE A

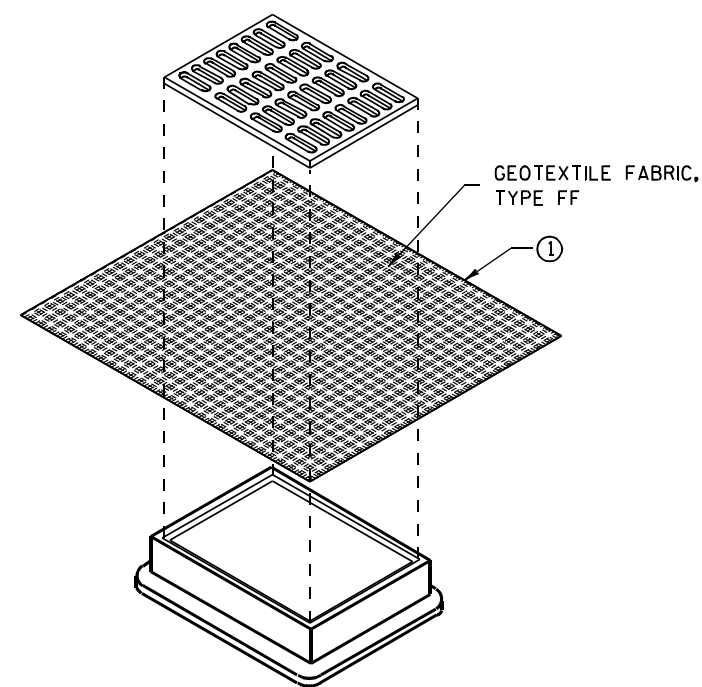
GENERAL NOTES

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

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

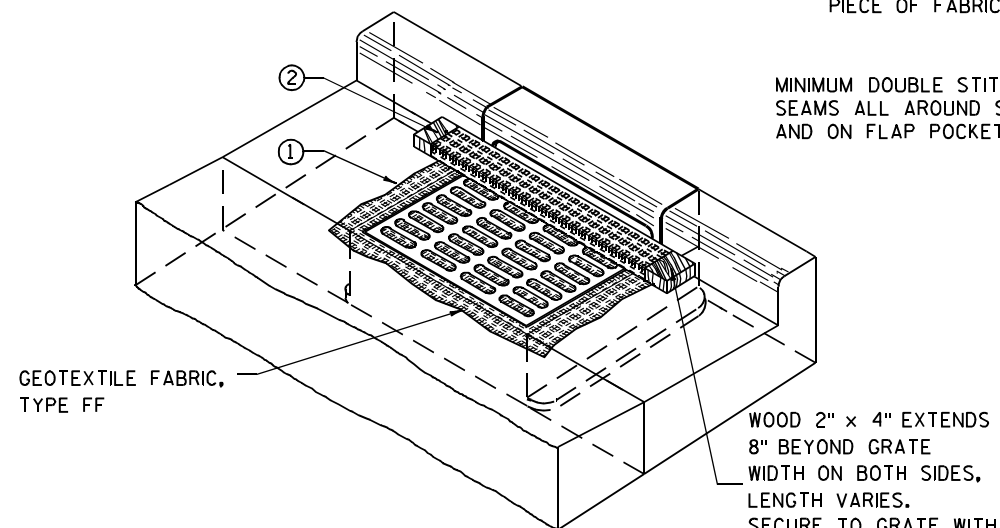
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

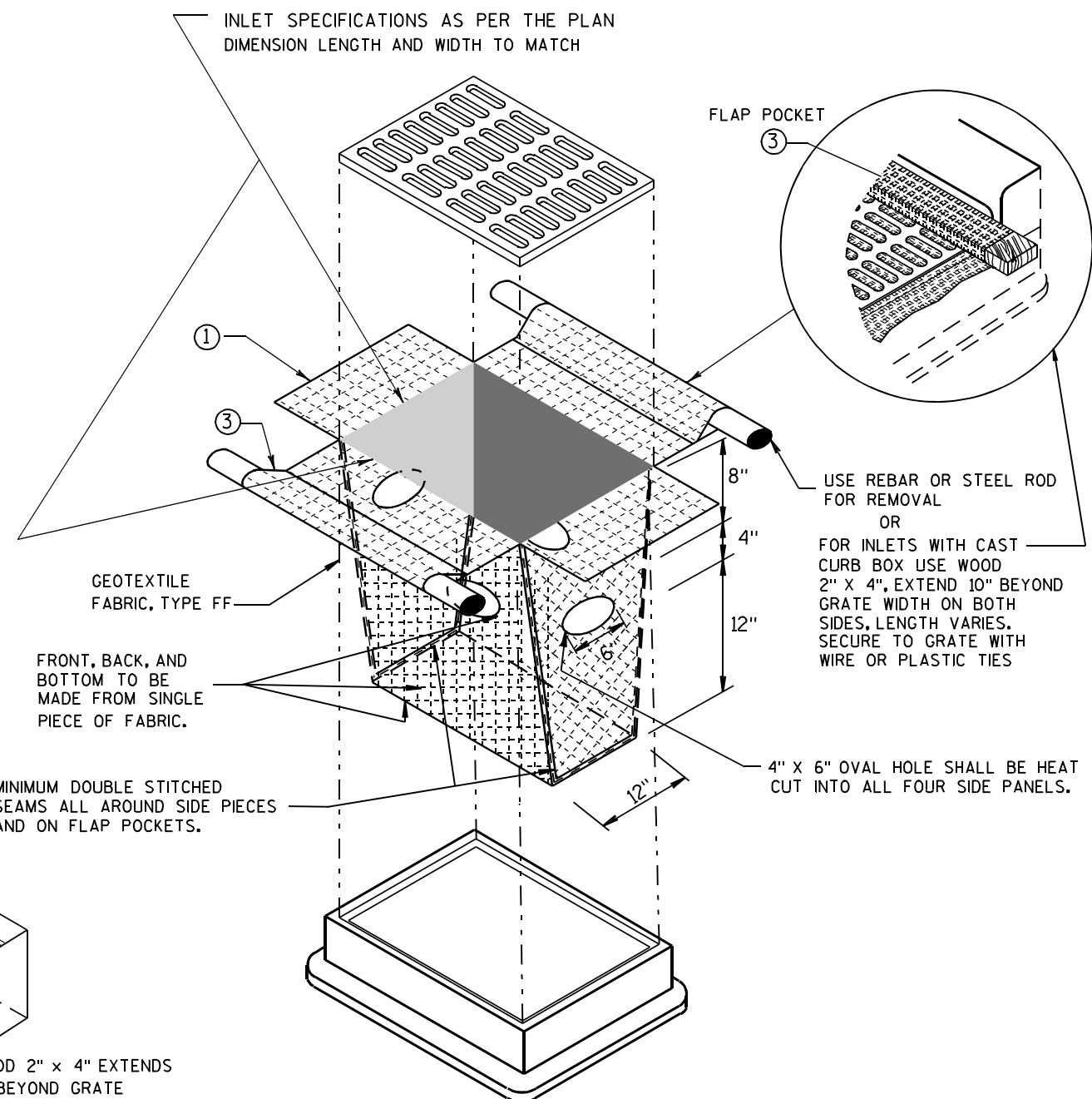
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



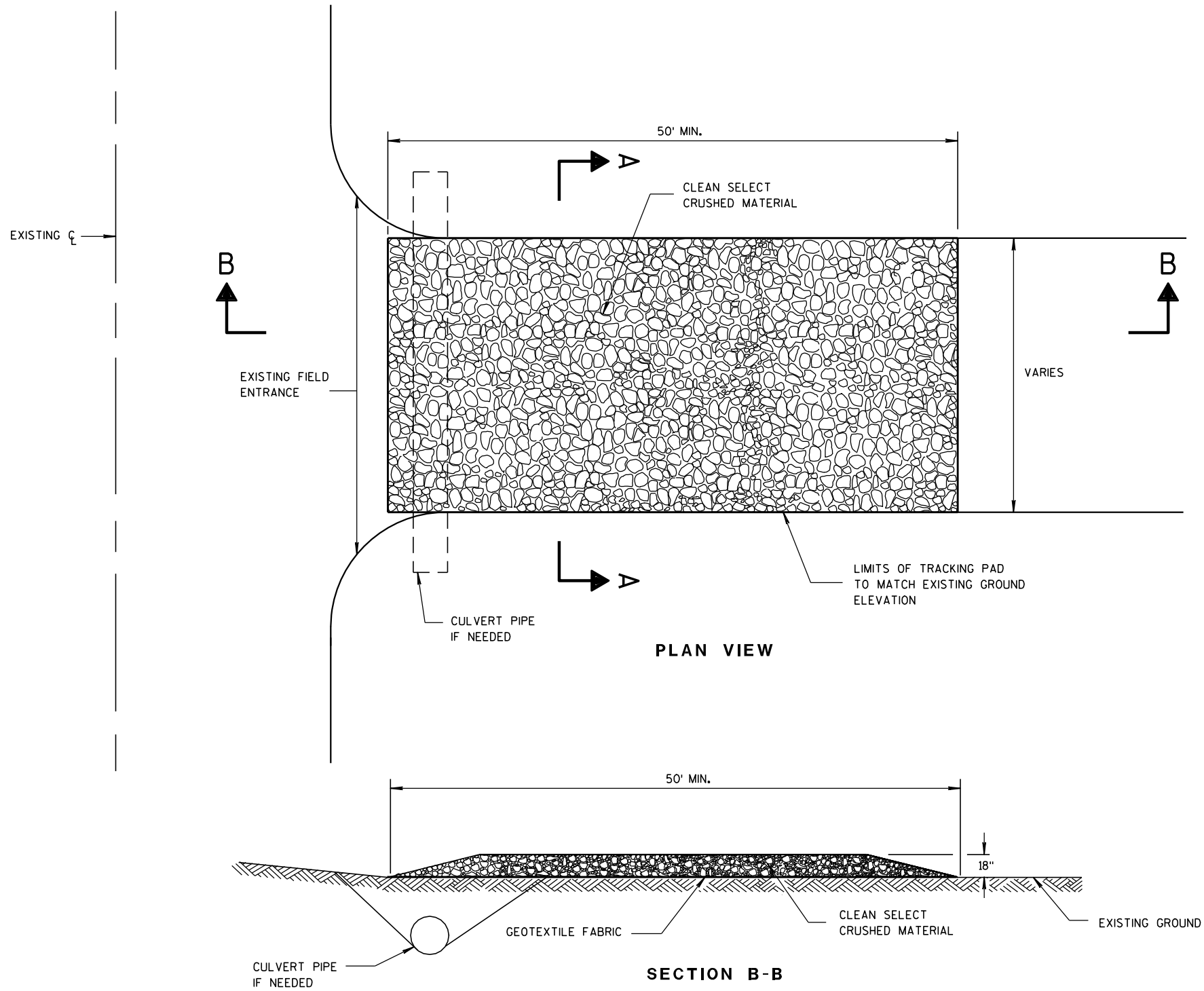
INLET PROTECTION, TYPE D

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



TRACKING PAD

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

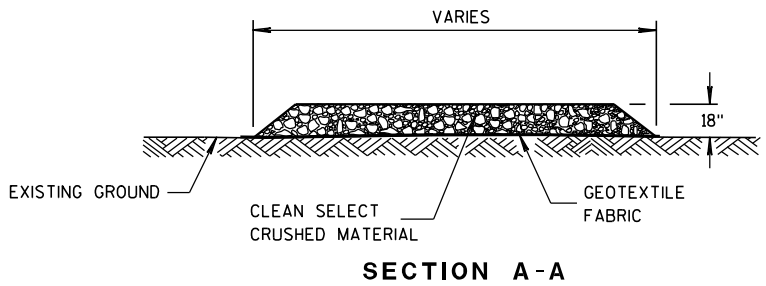
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



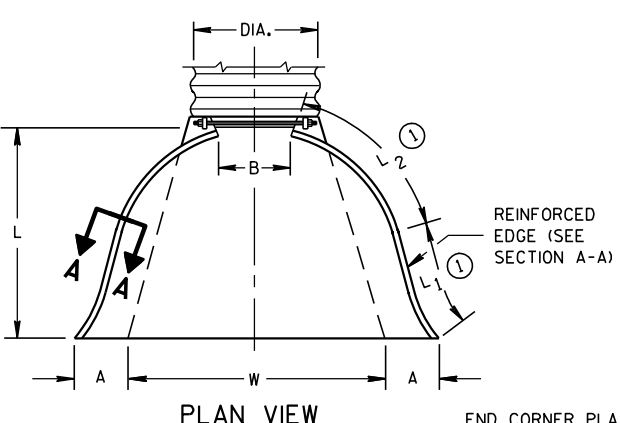
TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

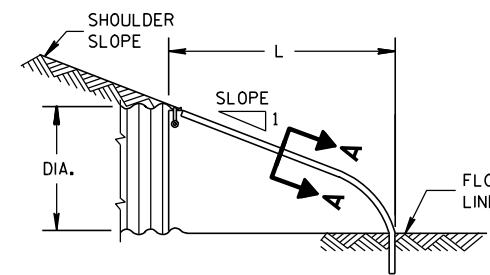
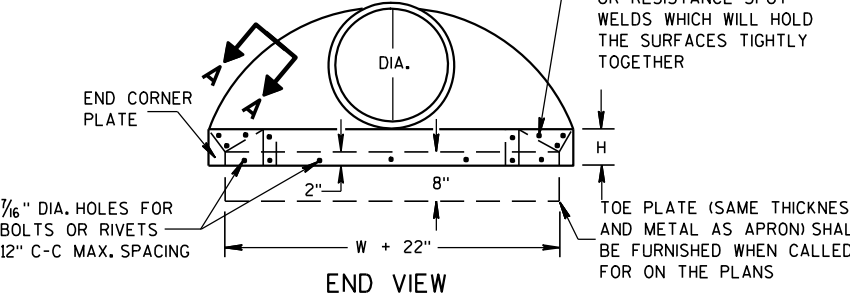
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY	
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ①	L ₂ ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.	
18	.064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

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

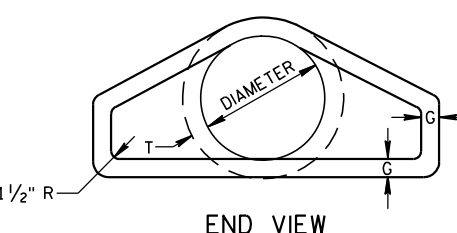
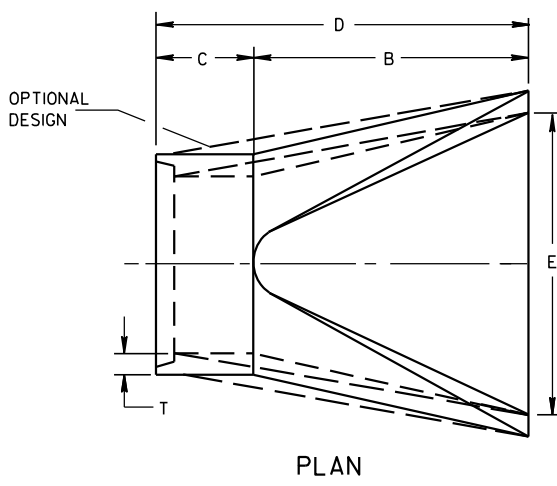
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



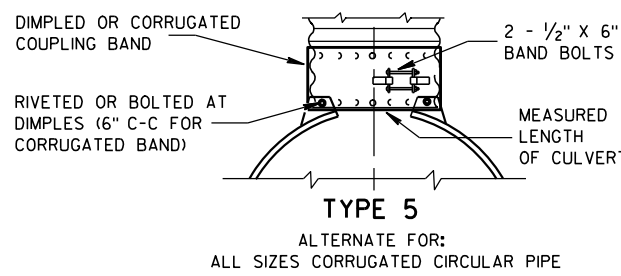
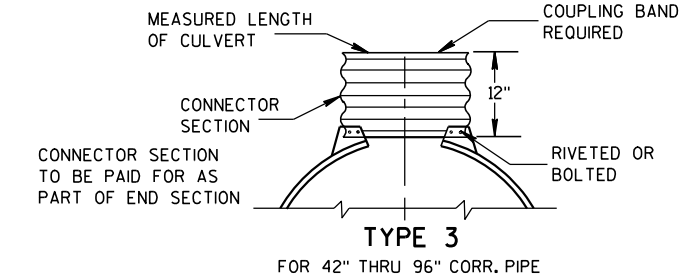
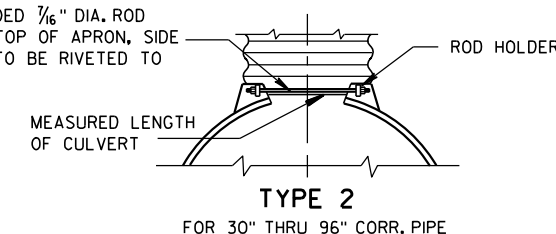
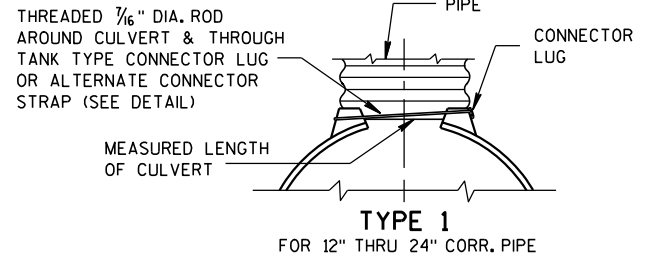
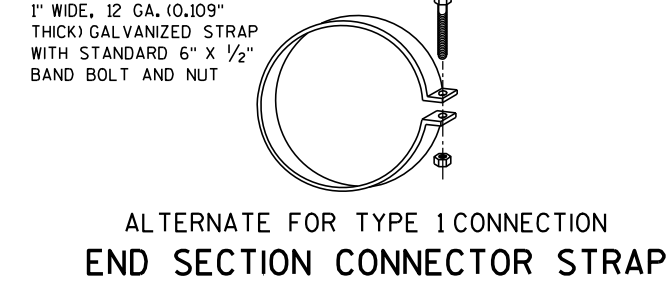
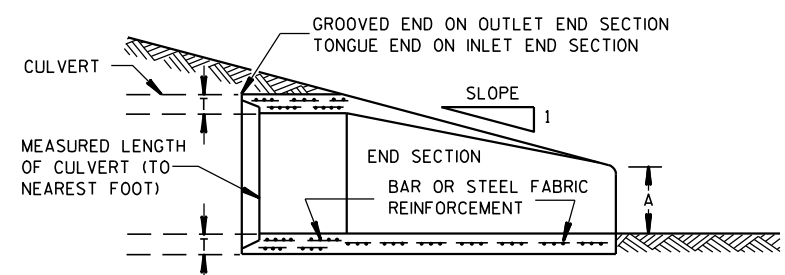
SIDE ELEVATION
METAL ENDWALLS

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

* MINIMUM
** MAXIMUM



LONGITUDINAL SECTION
CONCRETE ENDWALLS



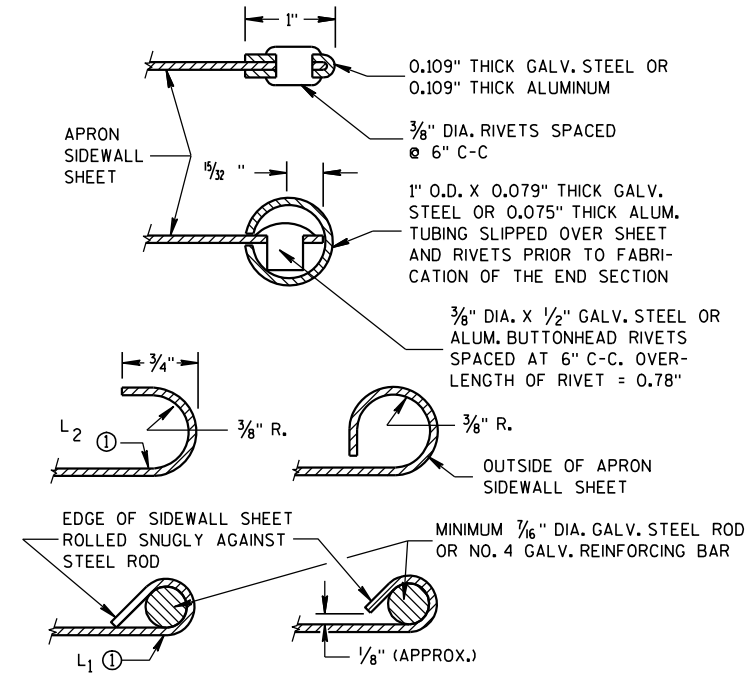
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

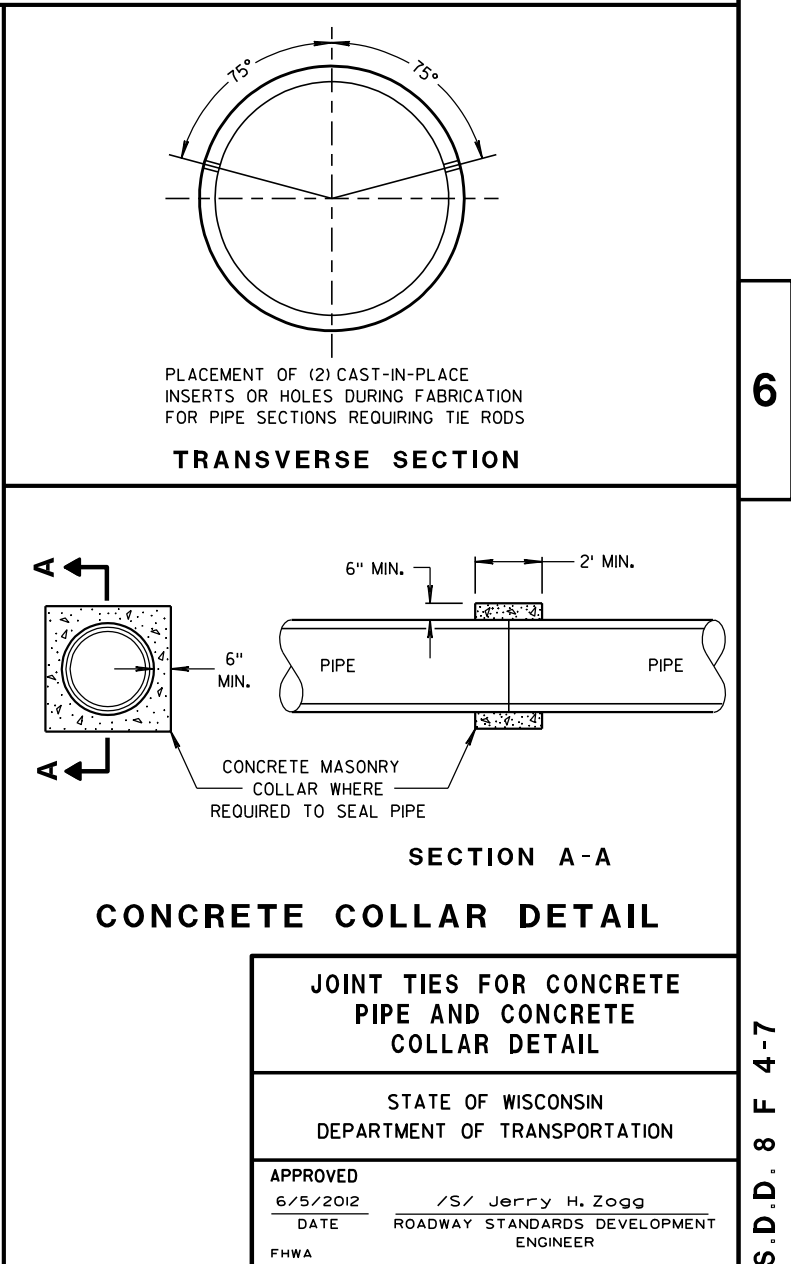
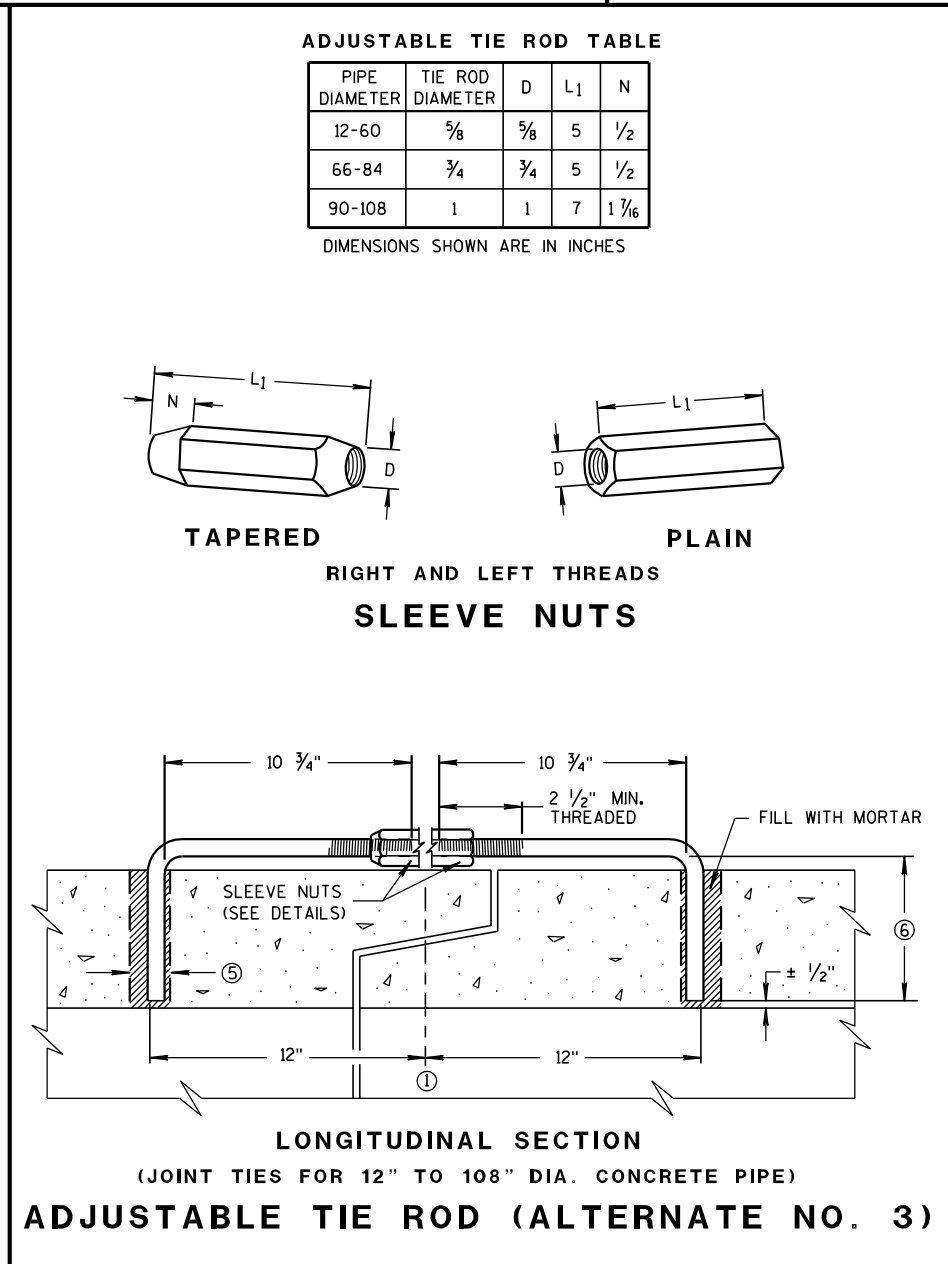
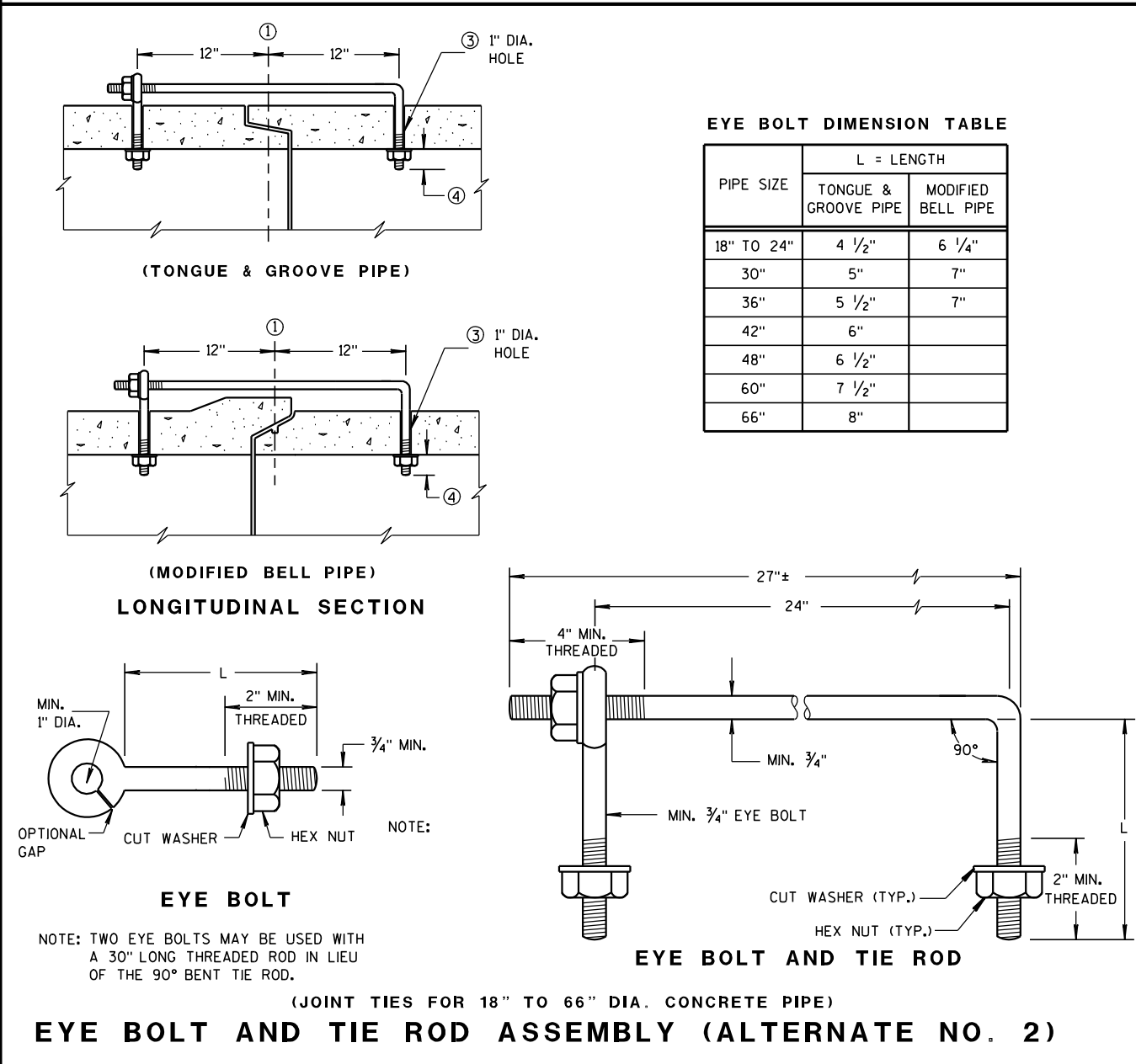
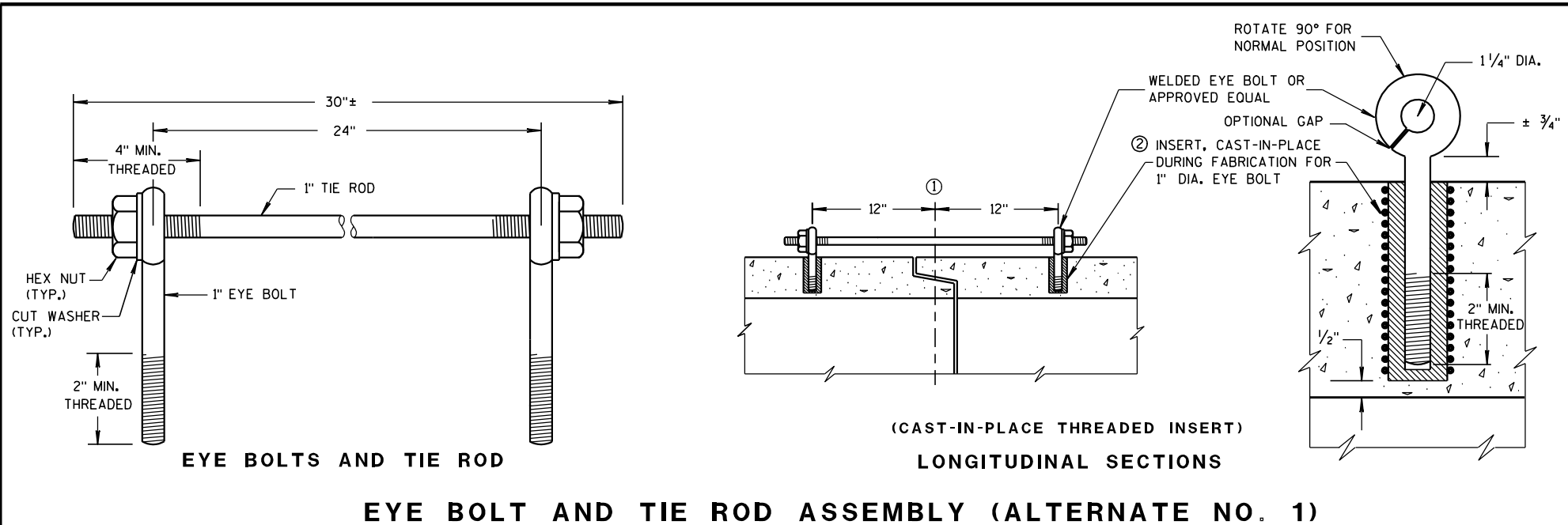
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

APRON ENDWALLS FOR CULVERT PIPE

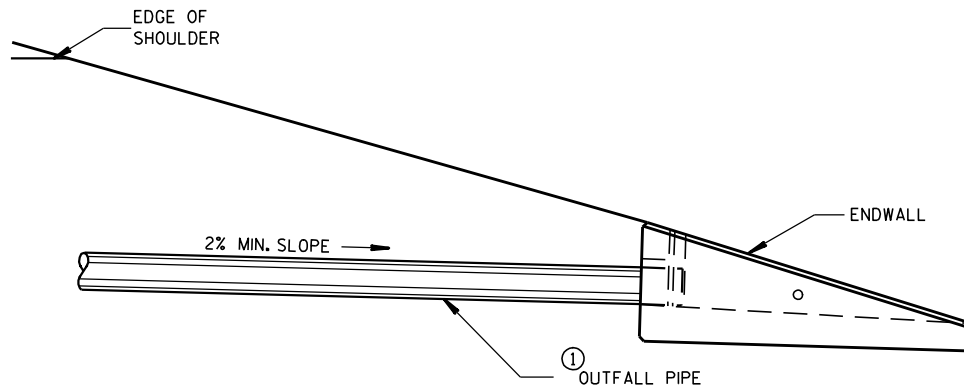
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

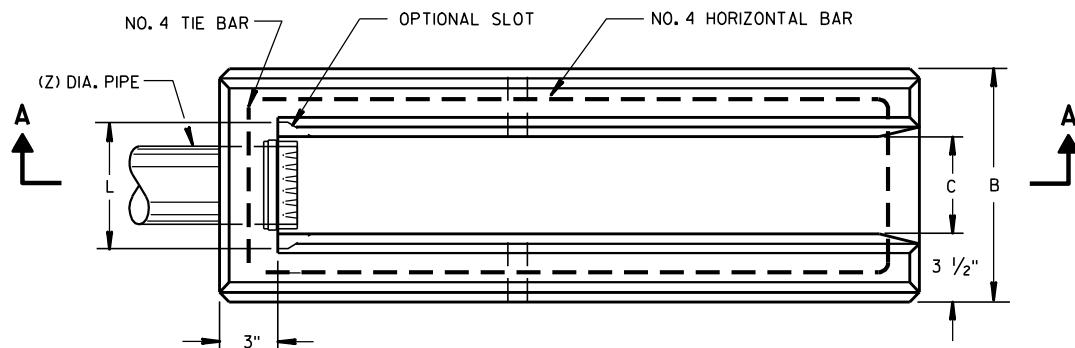


DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

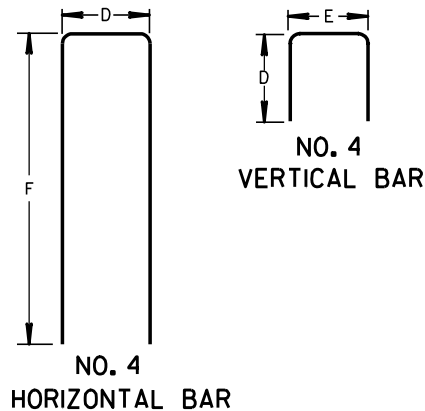
** APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



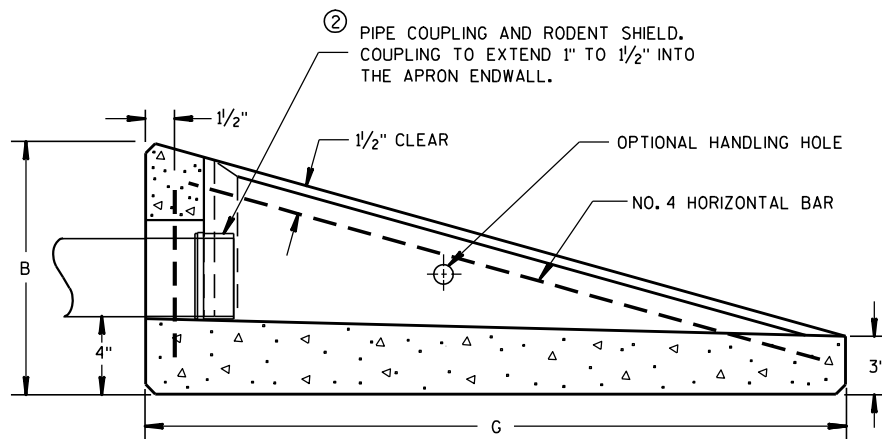
INSTALLATION DETAIL



PLAN VIEW

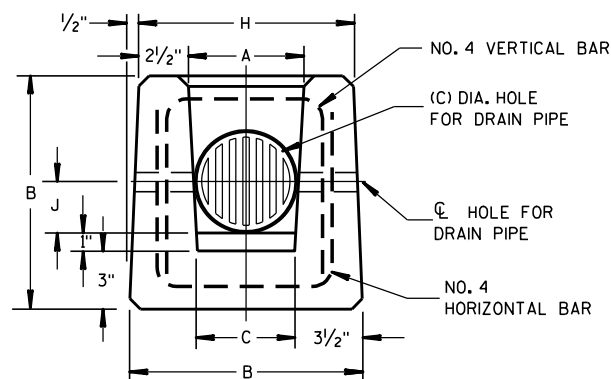


BAR STEEL REINFORCEMENT DETAILS



SECTION A-A

CONCRETE APRON ENDWALL FOR UNDERDRAIN



END VIEW

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.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

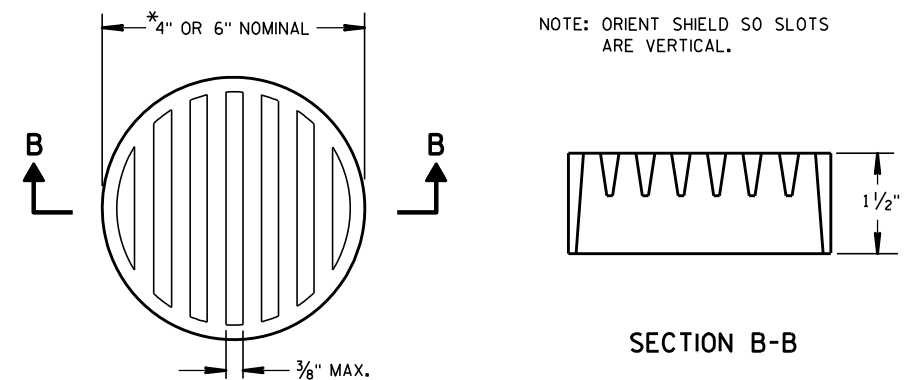
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

- ① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

- ② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

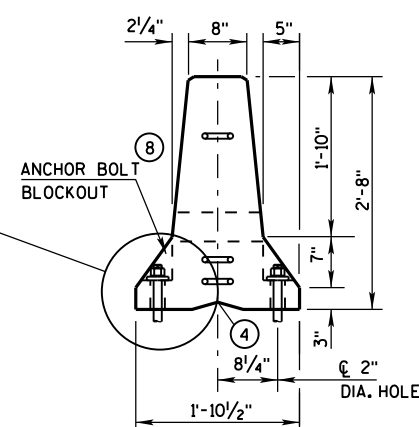
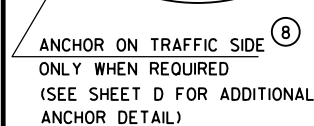
APPROVED

3/10/98

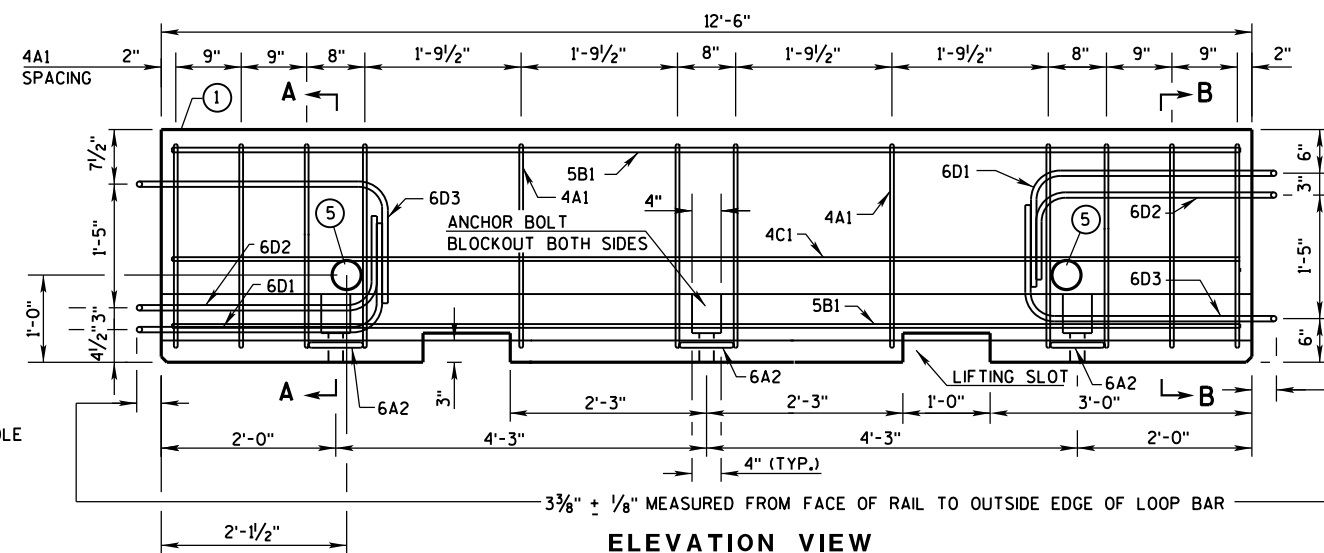
DATE

FHWA

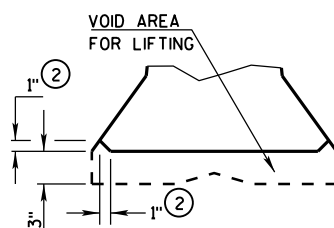
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER



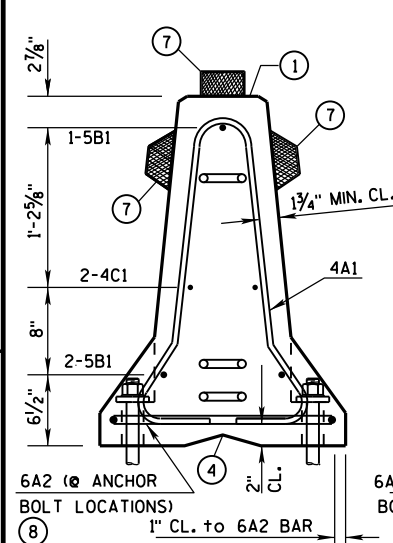
END VIEW



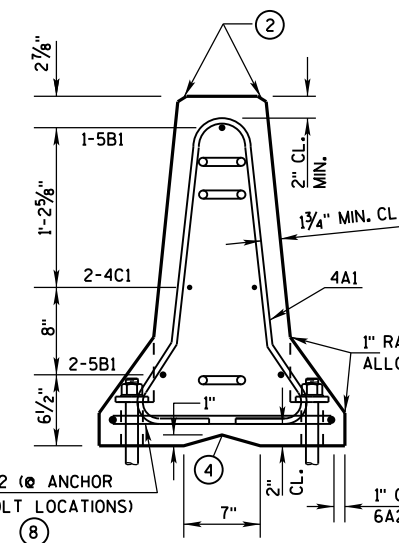
ELEVATION VIEW



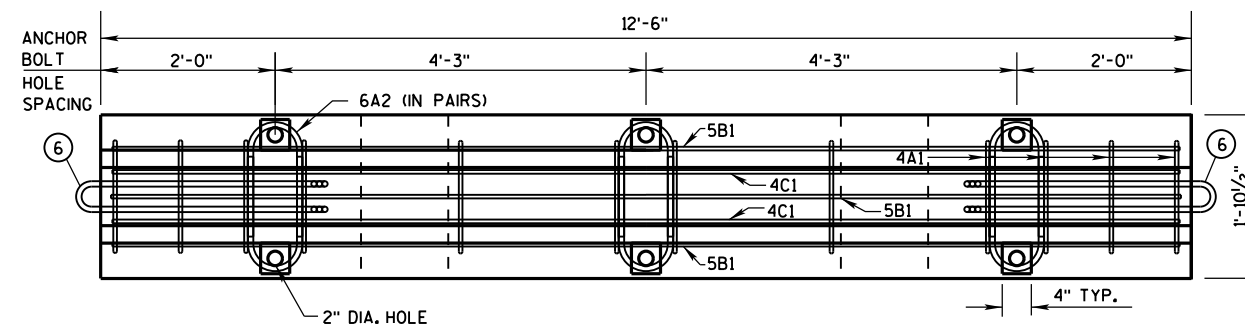
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

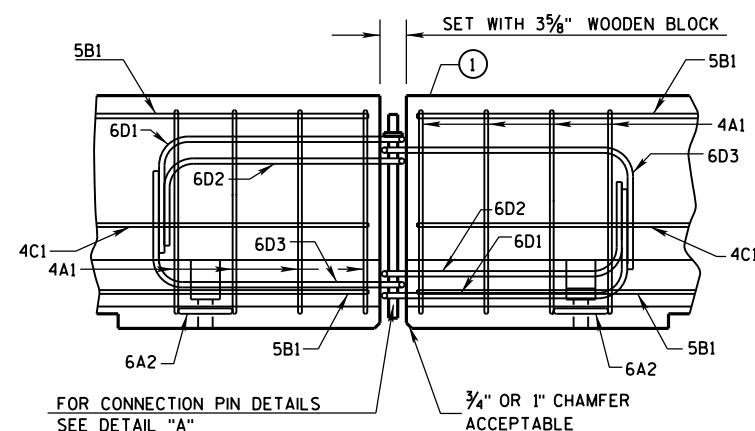


SECTION B-B
(STIRRUP PLACEMENT)

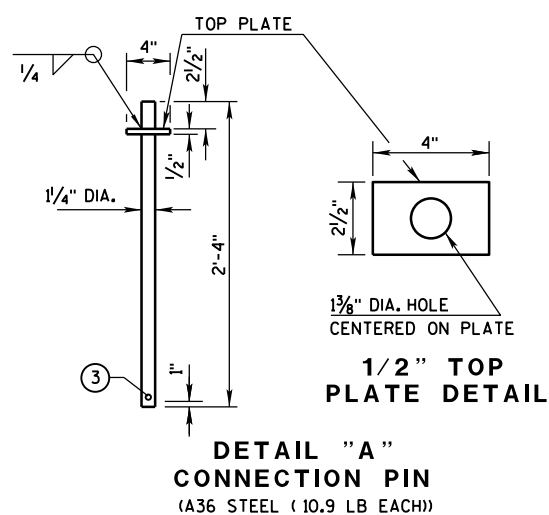


PLAN VIEW

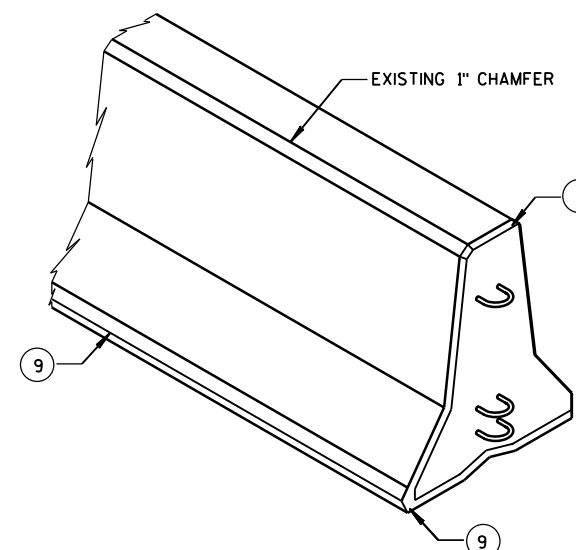
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



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



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(d) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 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 $\frac{3}{4}$ " 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- $\frac{1}{2}$ " PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN $\frac{1}{8}$ " OF THE PLAN DIMENSION.

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

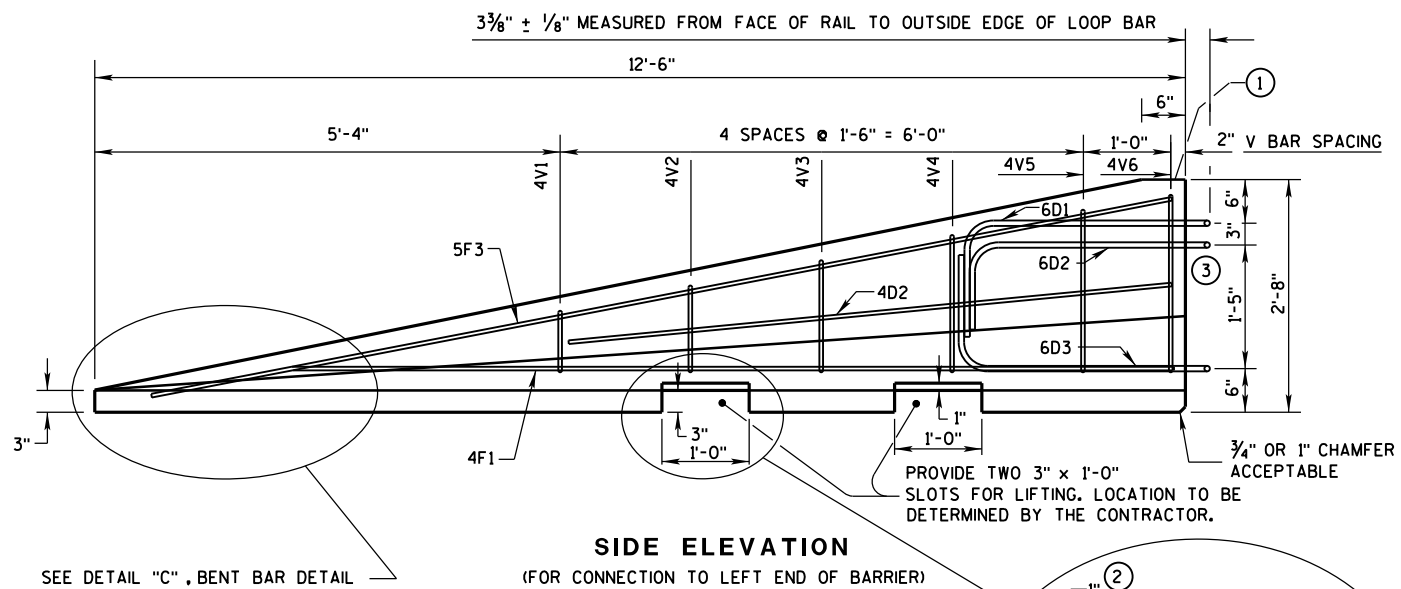
PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY 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: WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ A $\frac{3}{8}$ " 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 ANCHORING CRITERIA.
- ⑨ 1" CHAMFER OPTIONAL.

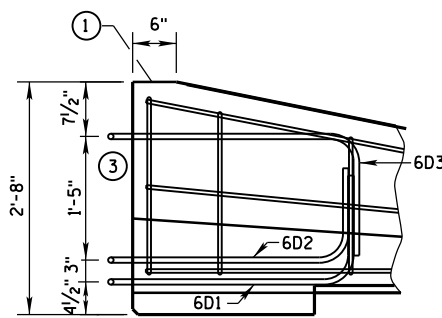
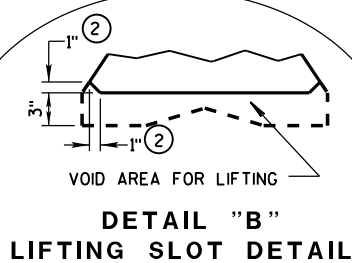
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)



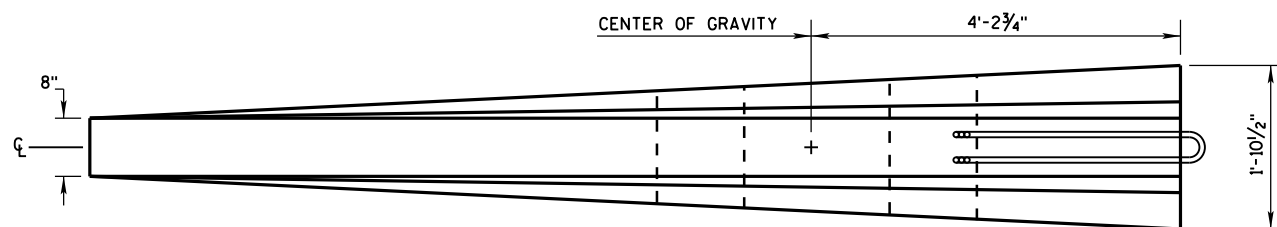
SIDE ELEVATION

LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.

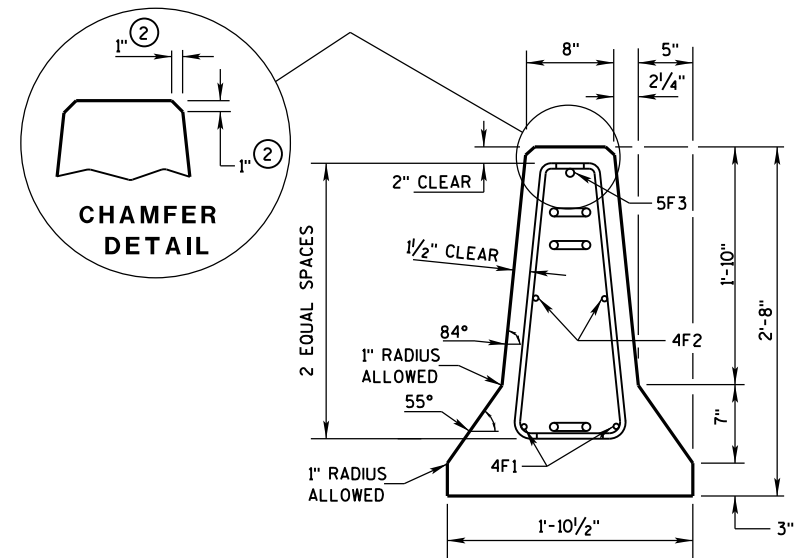
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

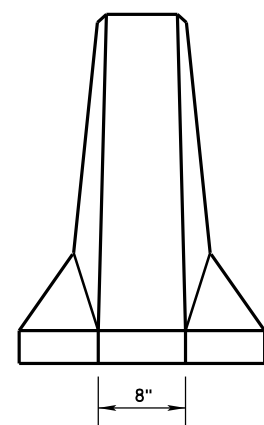
- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



PLAN VIEW

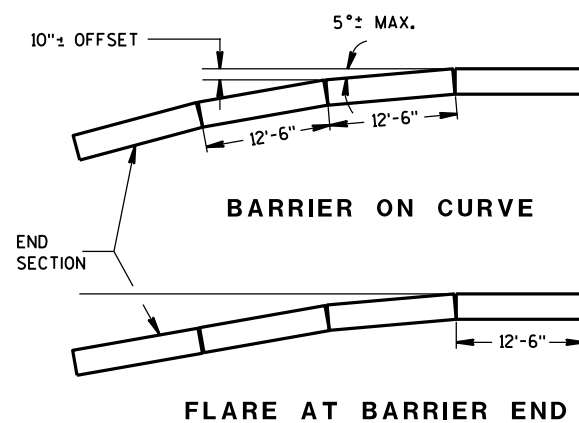


END SECTION



FRONT ELEVATION

DETAILS OF BARRIER TAPER SECTION



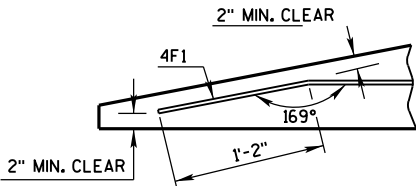
POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

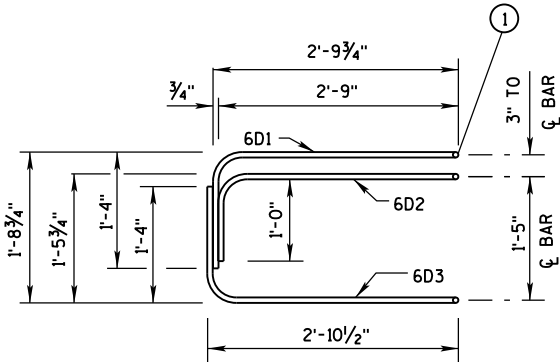
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

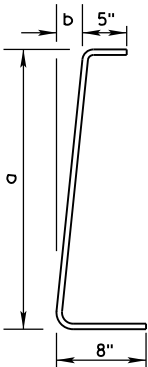
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

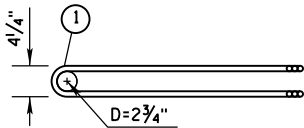
GENERAL NOTES

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

BARRIER SECTION
BILL OF MATERIALS

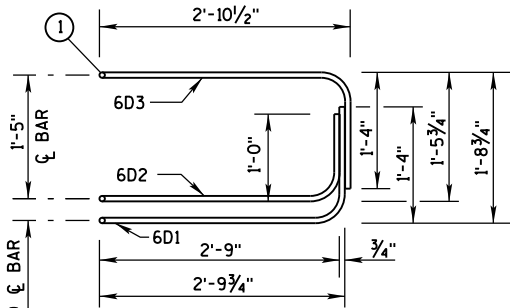
(PER 12'-6" BARRIER SECTION)

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"

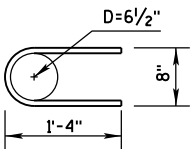


PLAN VIEW
LOOP BAR ASSEMBLY

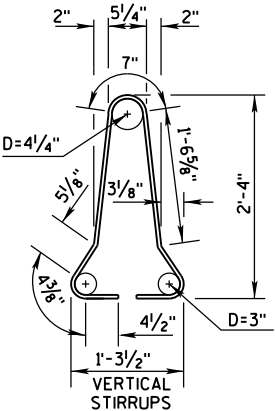
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

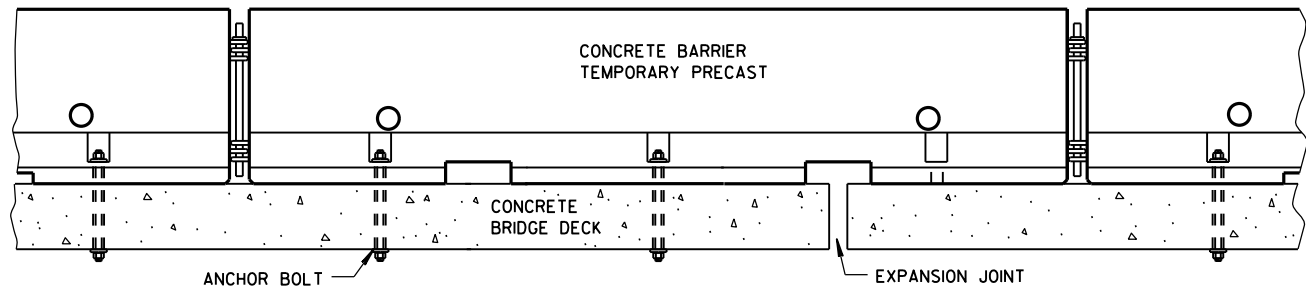
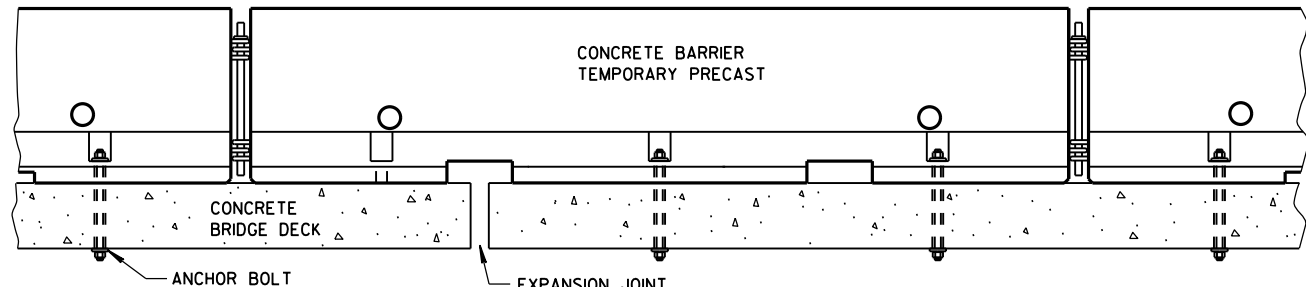


4A1

BARRIER SECTION

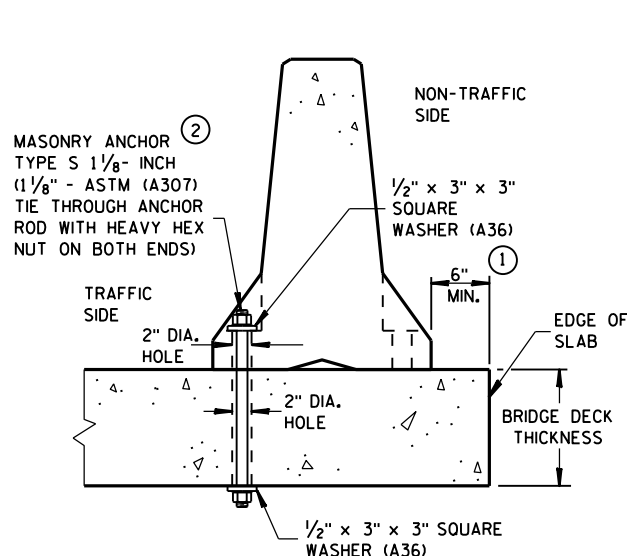
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



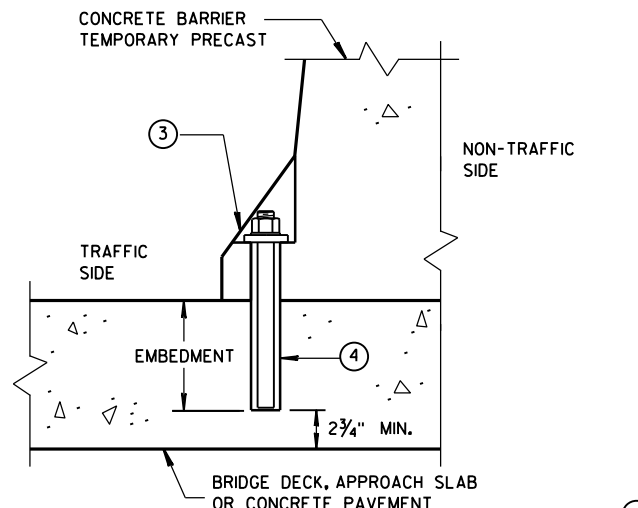
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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.)



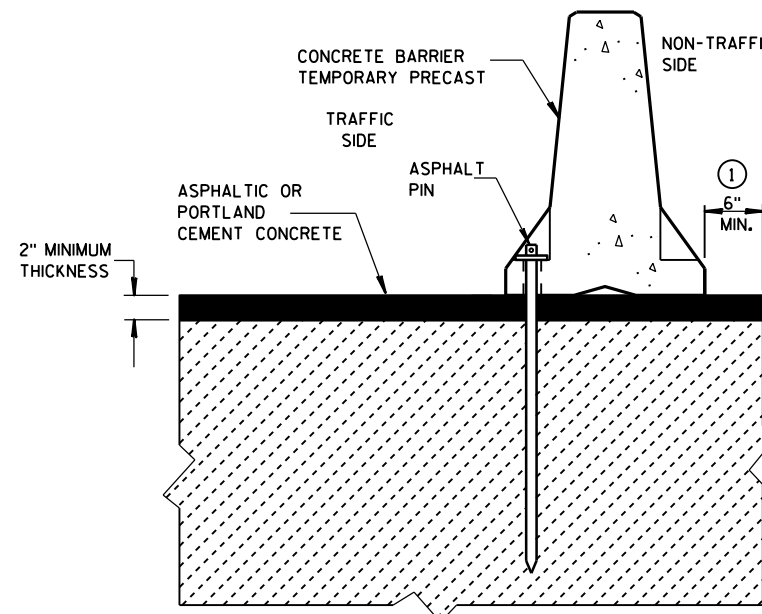
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



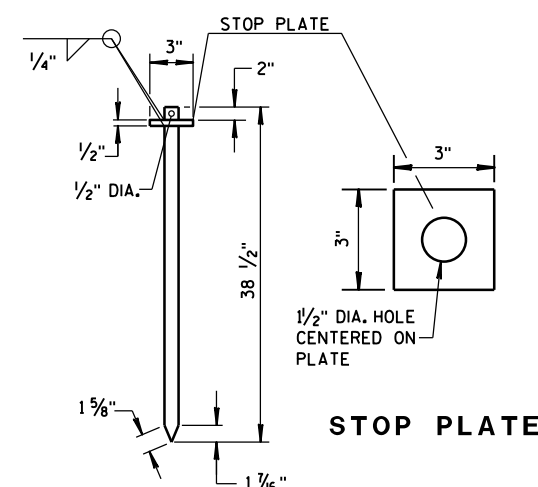
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

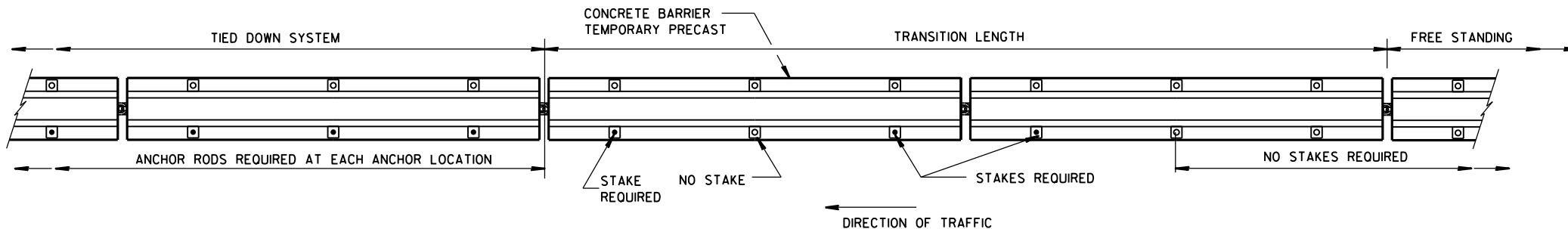


STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



ASPHALT 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.)

GENERAL NOTES

- CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

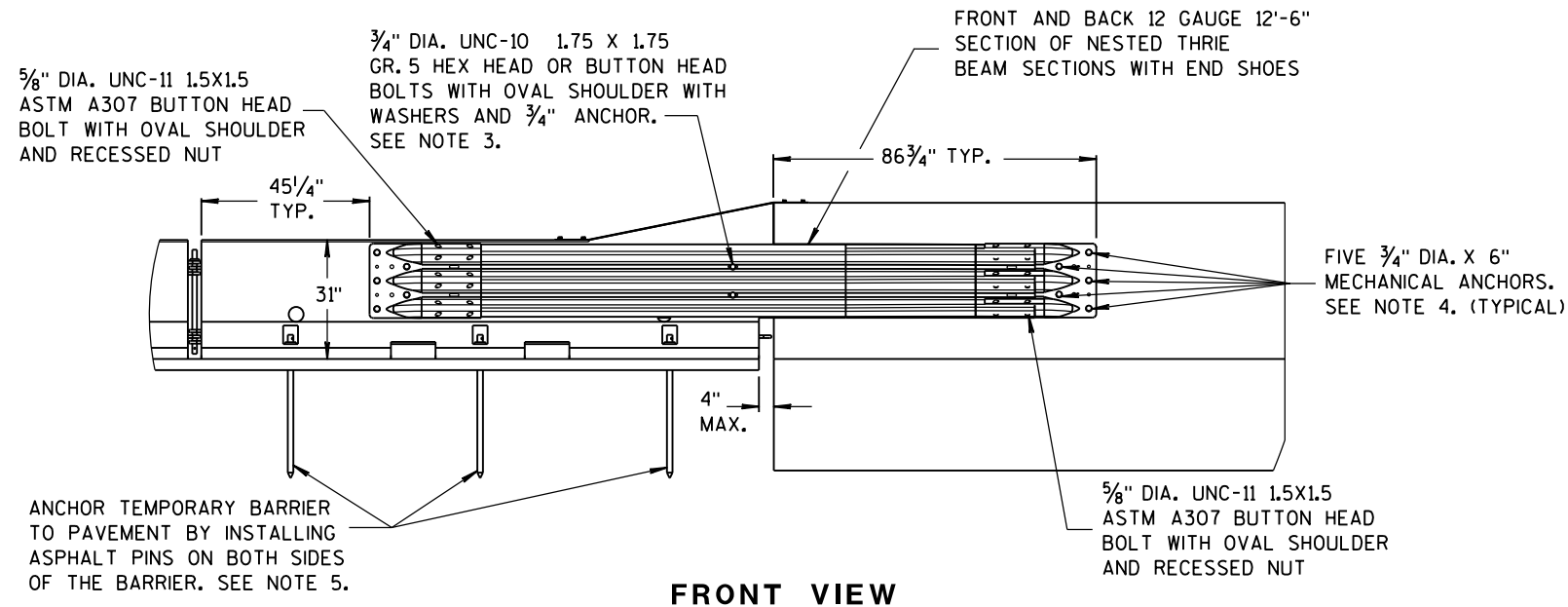
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.
- ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1 1/8-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

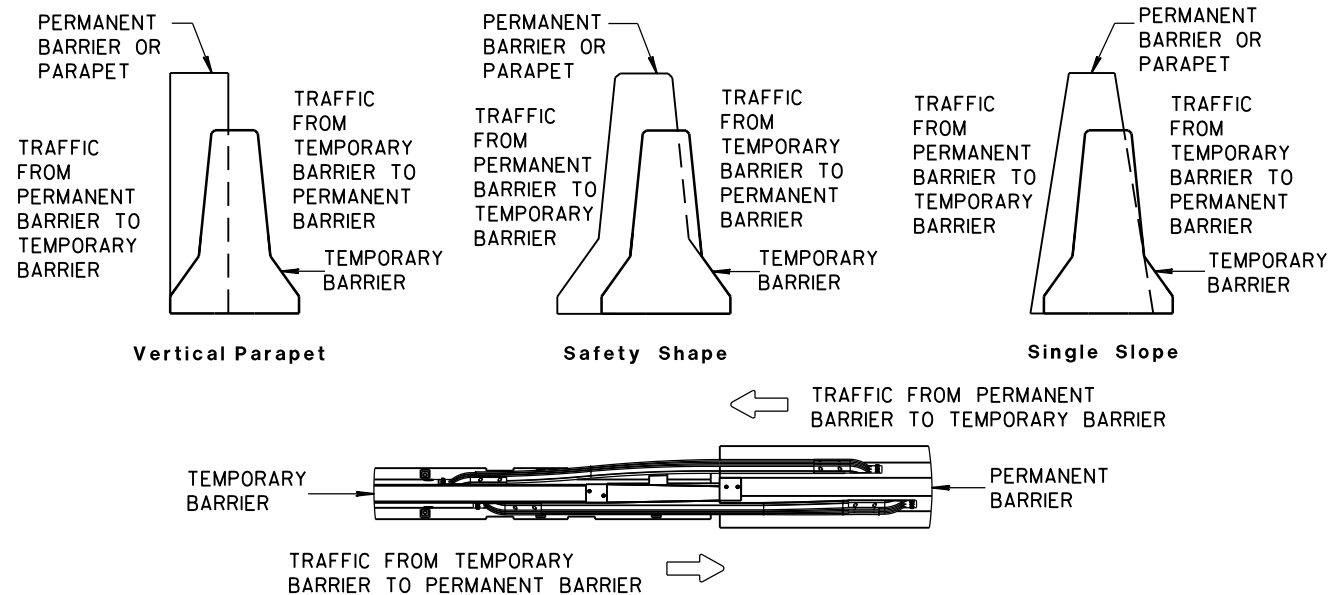
UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERCIAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.
- 1/8" DIAMETER A307 THREADED ROD, 1/2" x 3" x 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.
- ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5/4" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



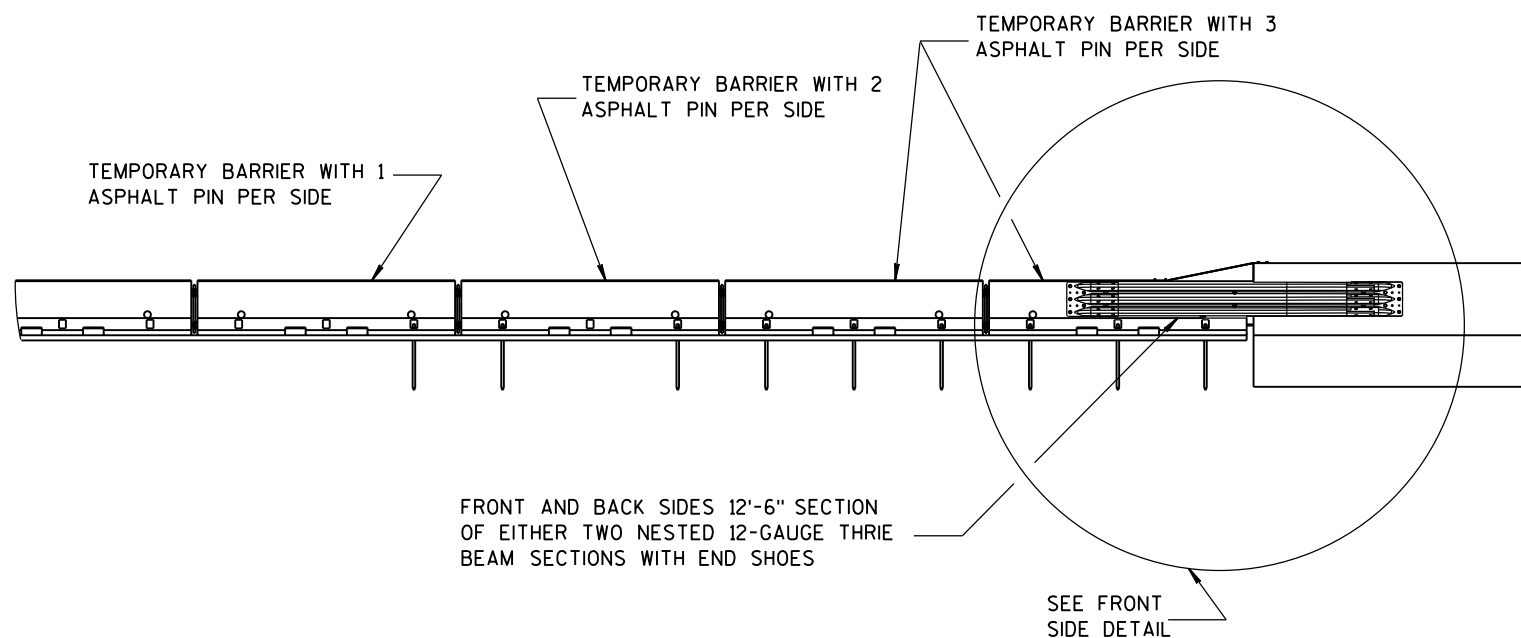
FRONT VIEW



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

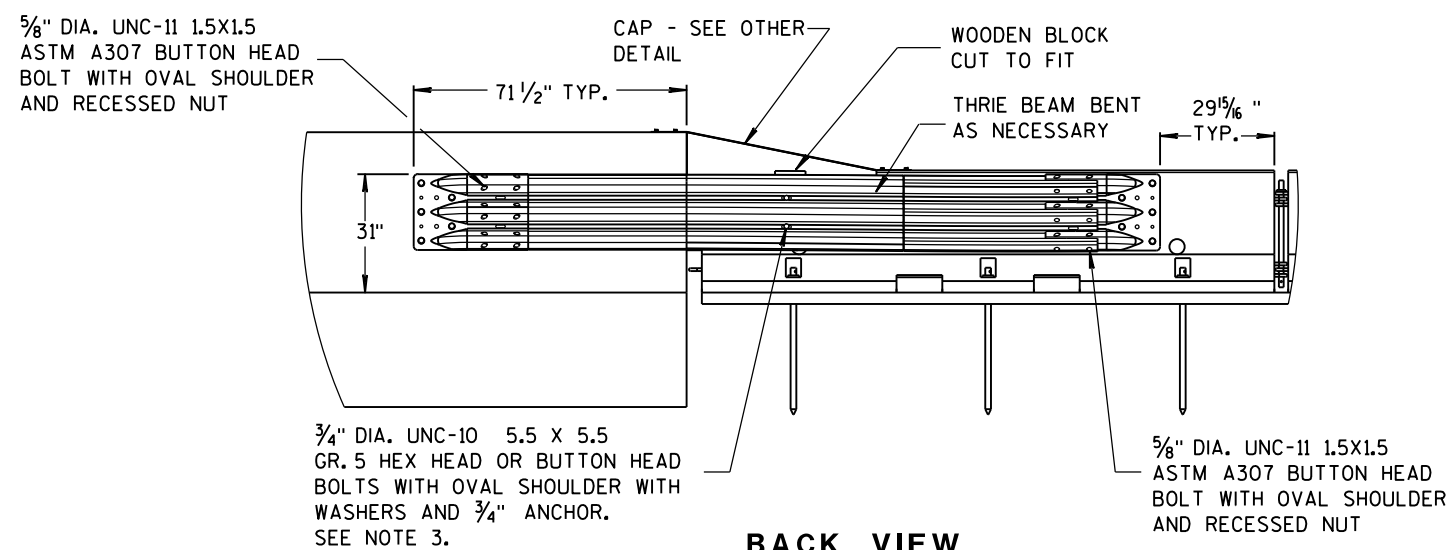
NOTES

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 EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY 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 EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

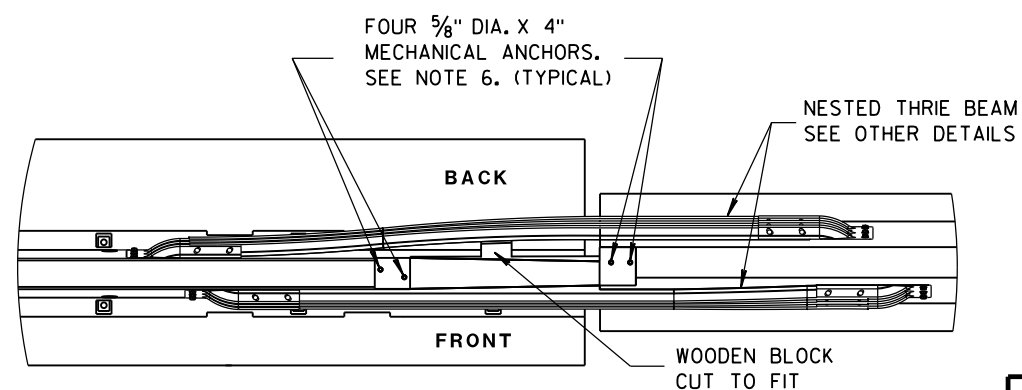


FRONT VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



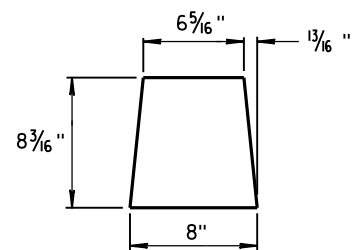
BACK VIEW



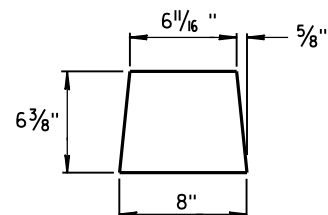
PLAN VIEW

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

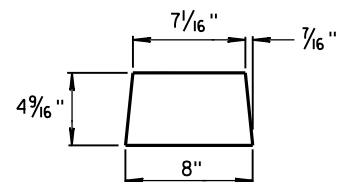
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



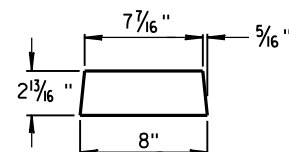
GUSSET 1



GUSSET 2

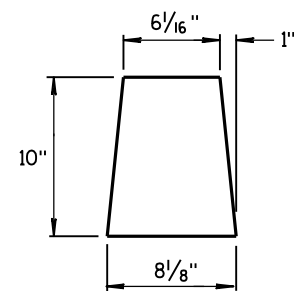


GUSSET 3

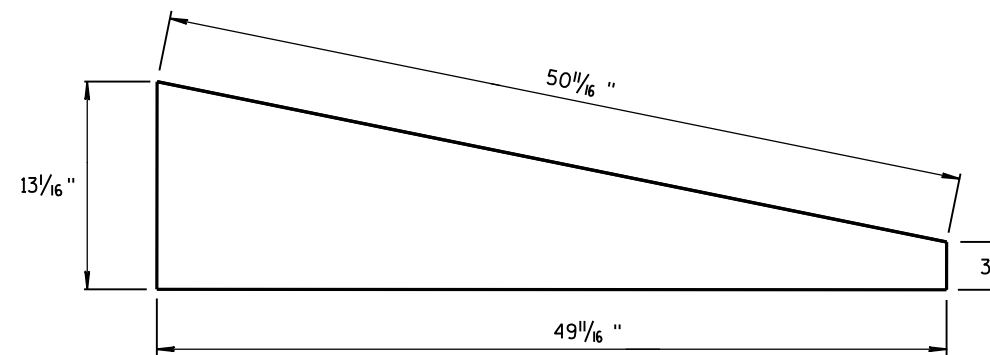


GUSSET 4

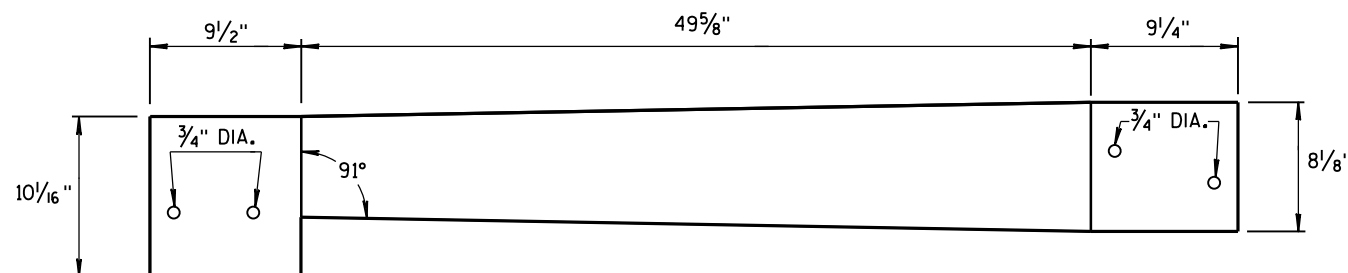
GUSSETS



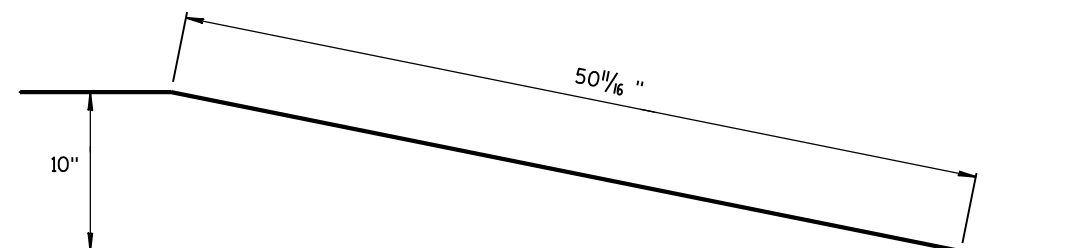
END PLATE



SIDE PLATE

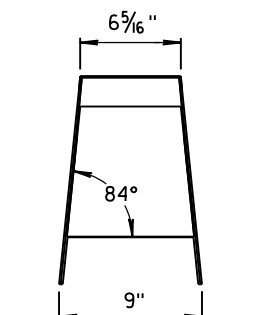


TOP PLATE

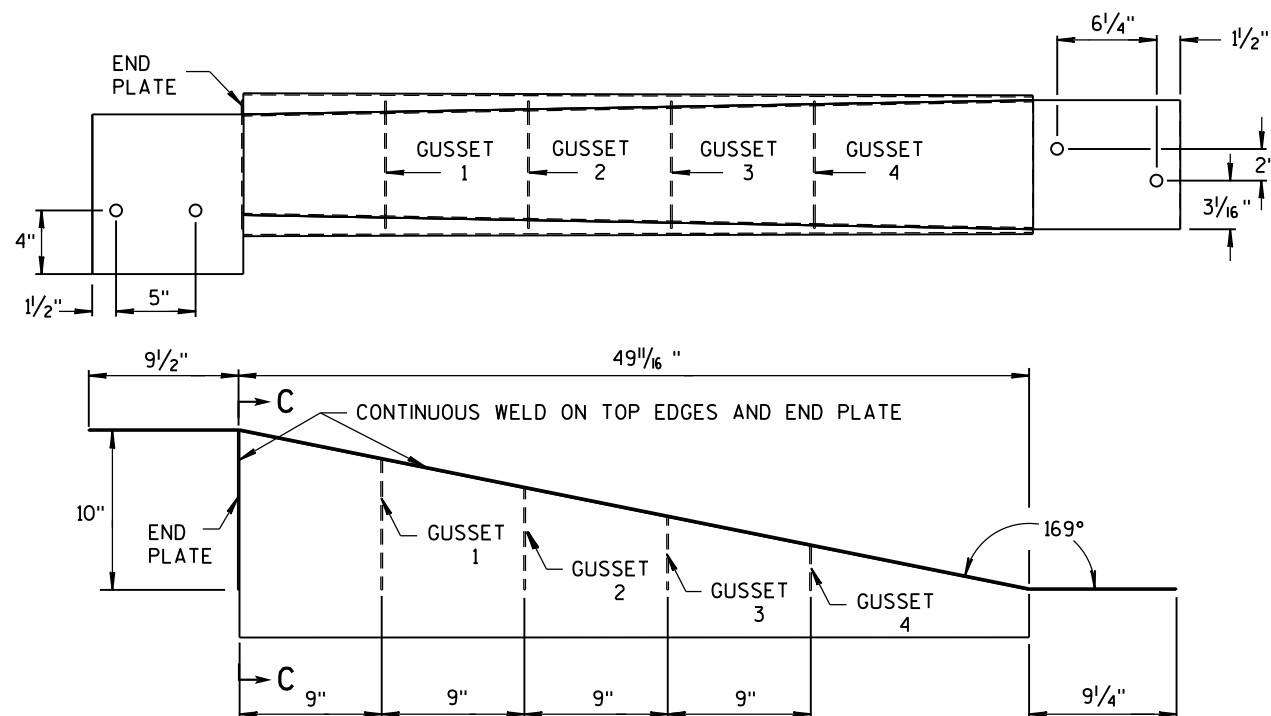


**SIDE, TOP AND END PLATES FOR CAP
FROM TEMPORARY CONCRETE BARRIER
TO 42" PERMANENT CONCRETE BARRIER**

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



SECTION C-C



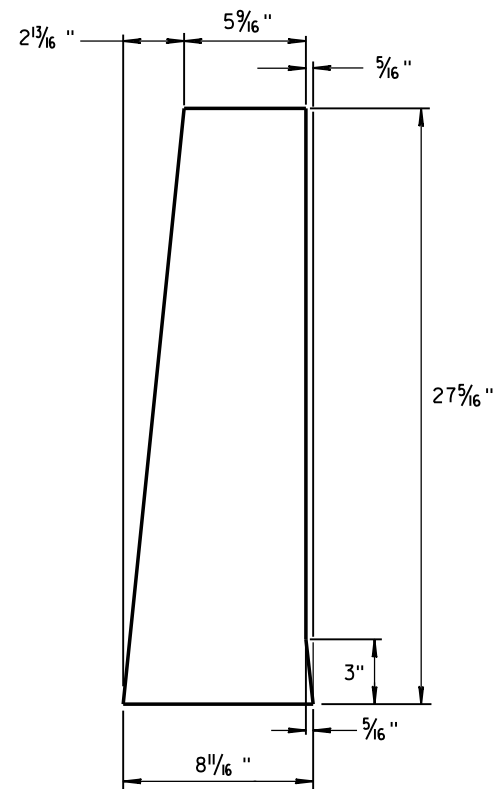
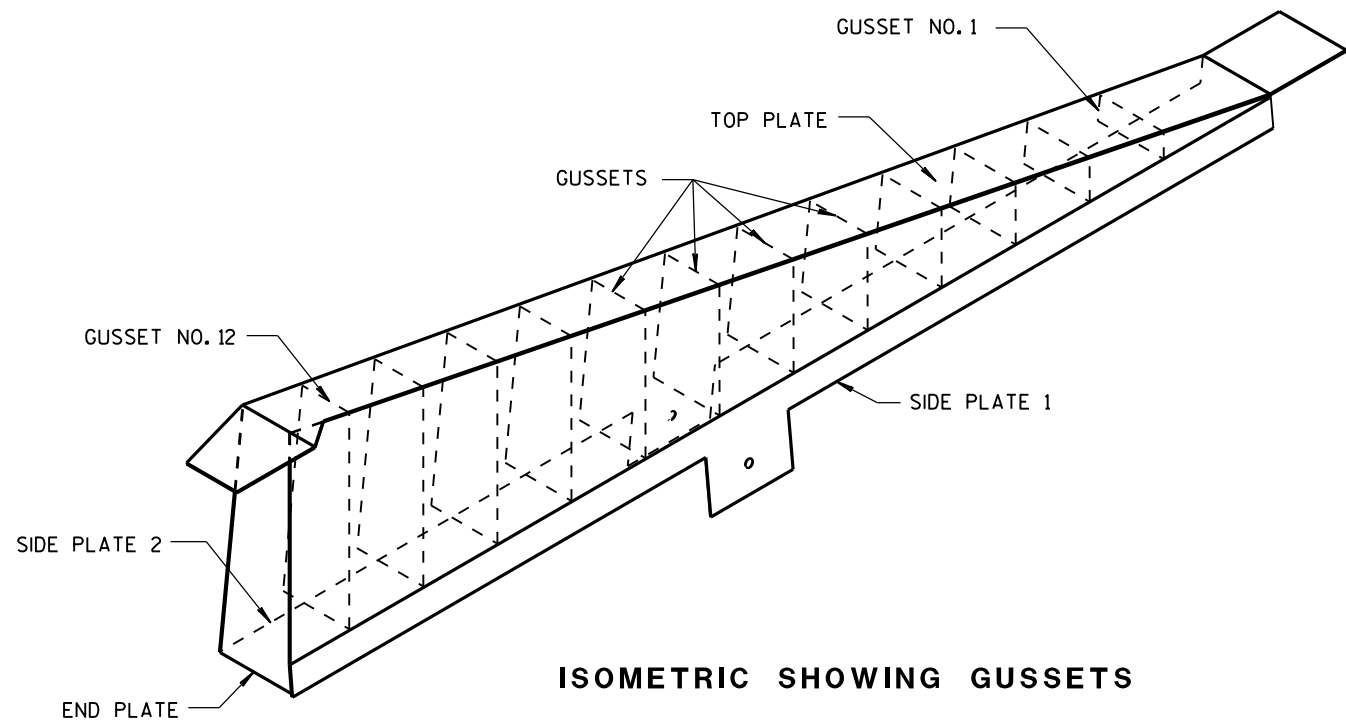
NOTES

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.

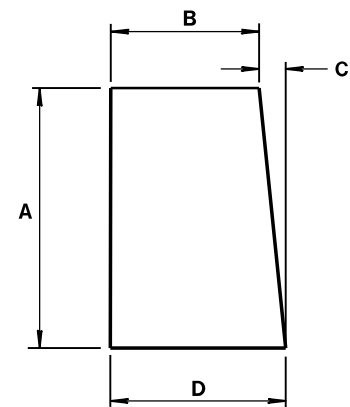
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



END PLATE
1/8" STEEL PLATE

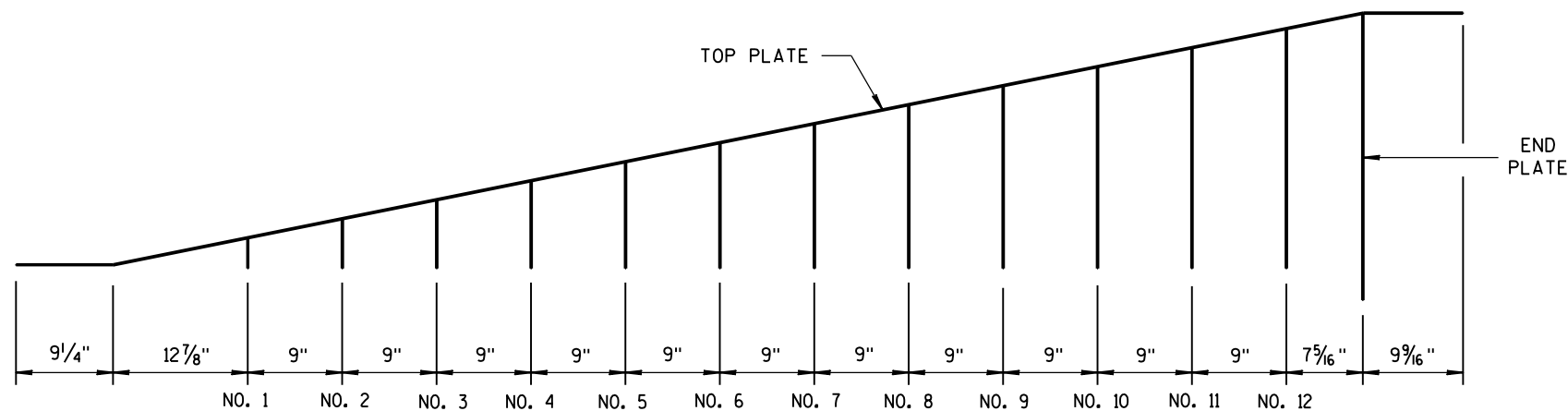


GUSSETS 1 - 12
ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 1/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8 "	1 1/16 "	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 5/16 "	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.

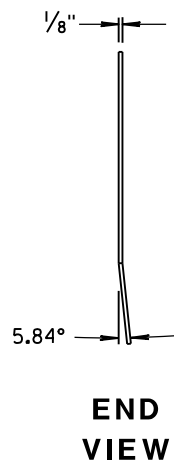
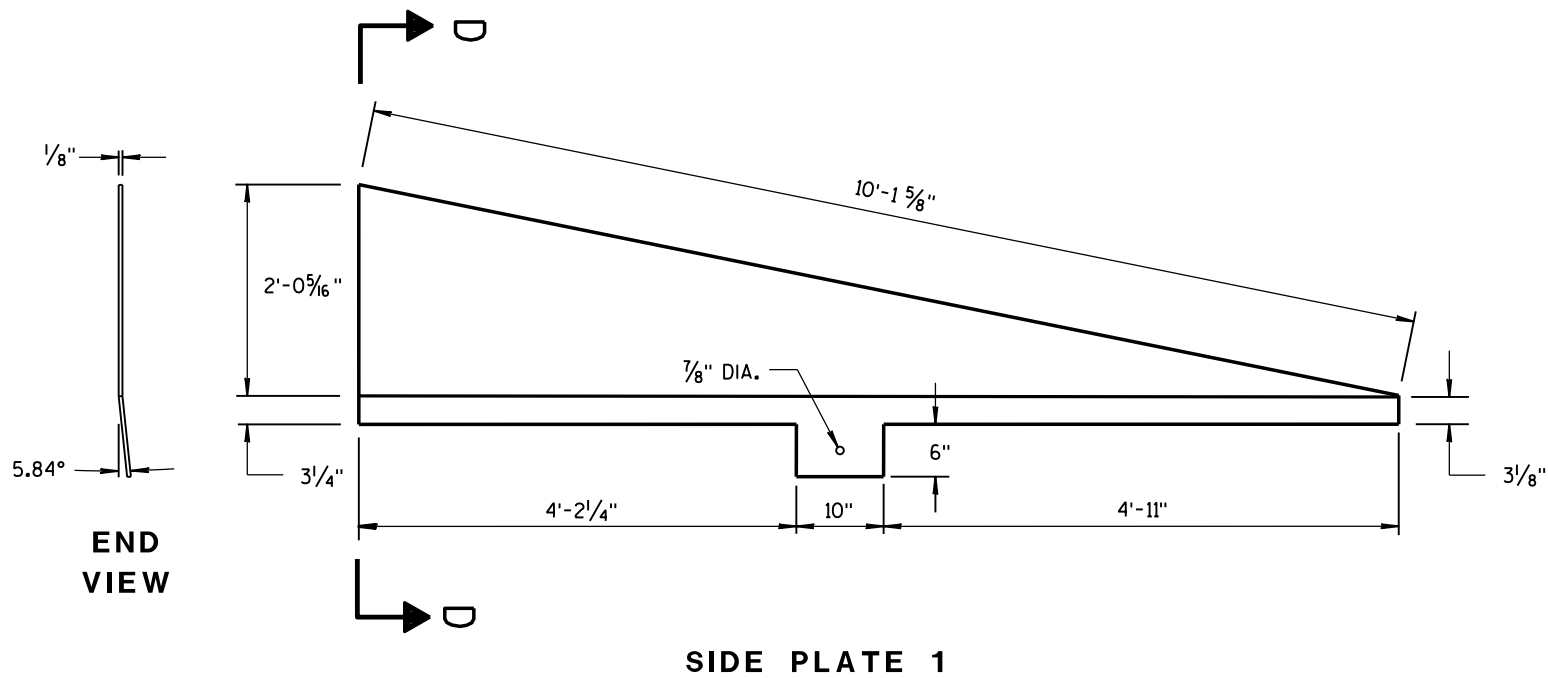
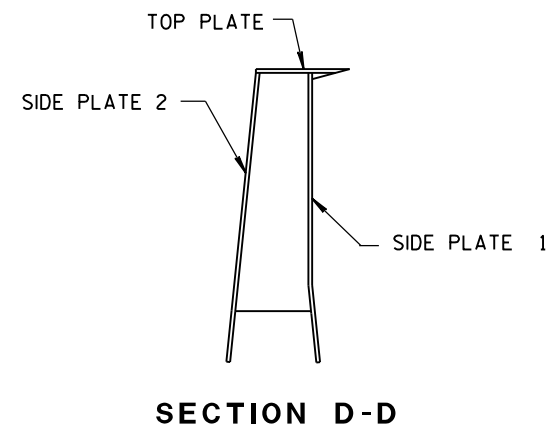
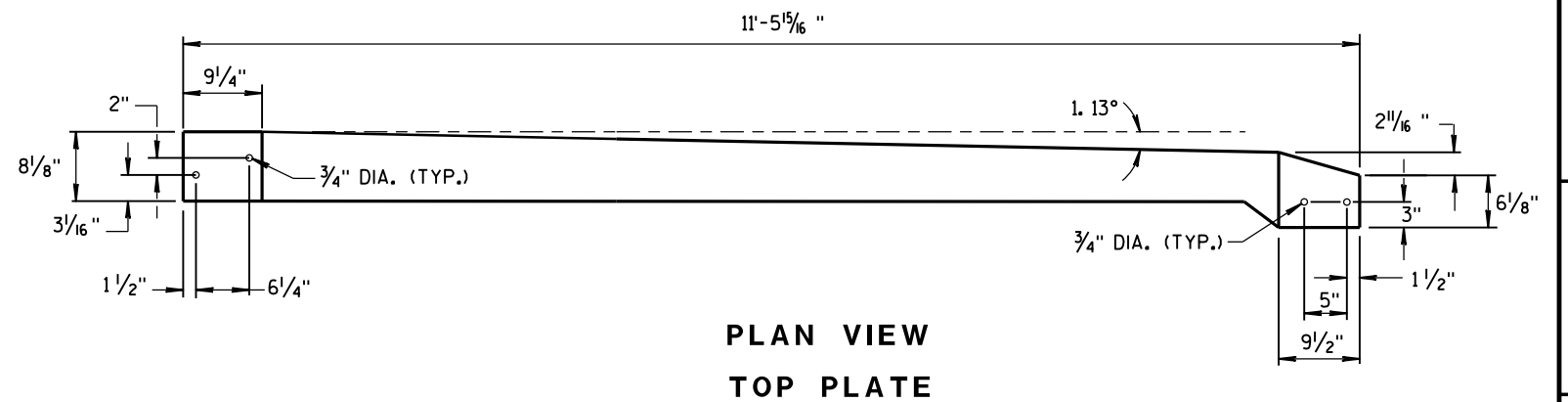
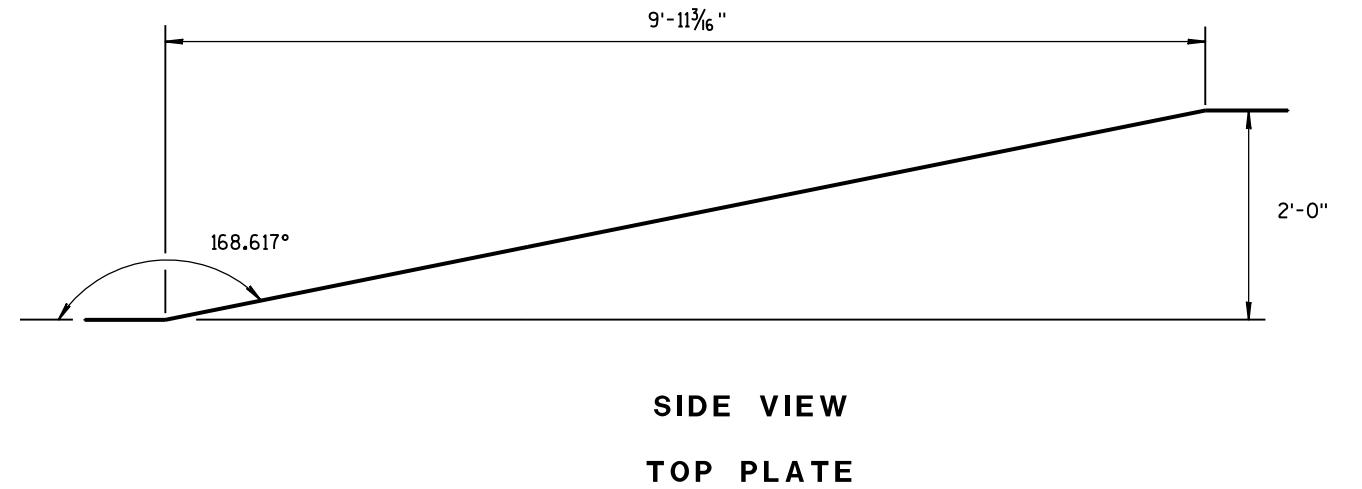
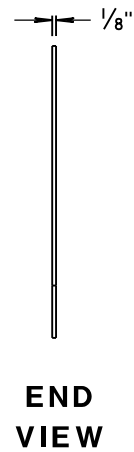
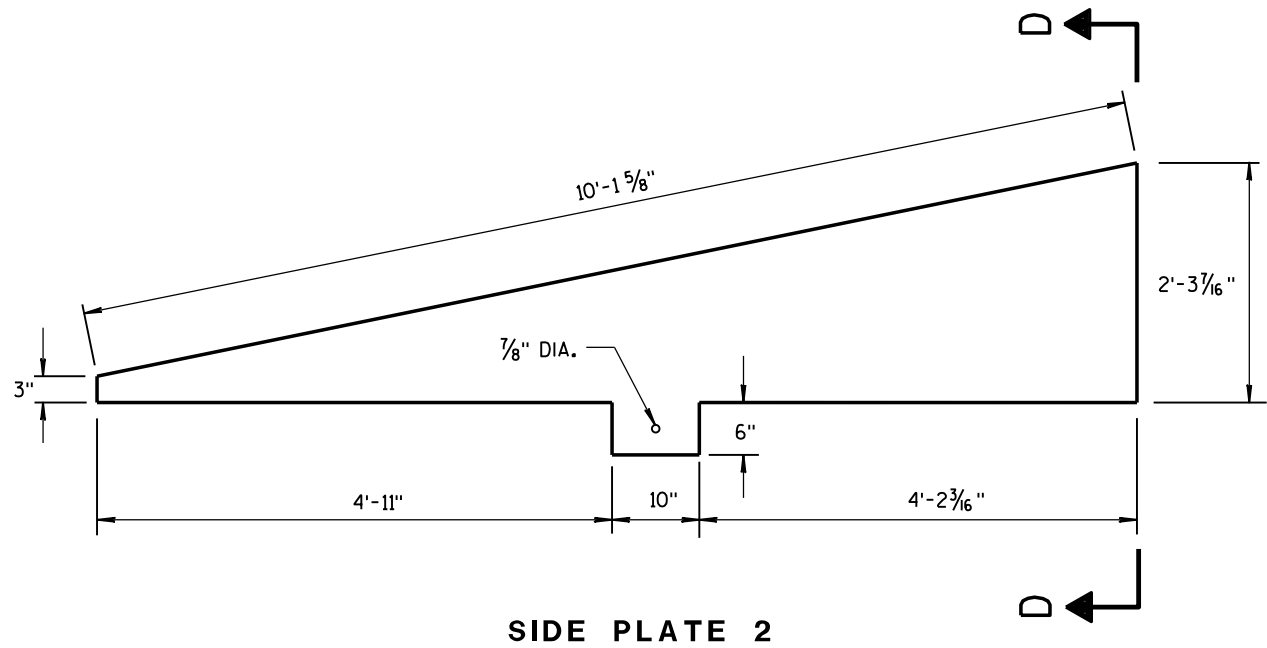
GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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 2014 DATE	/S/ Jerry H. Zogg ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA	

LEGEND

-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TRAFFIC CONTROL DRUM
-  SIGN ON PERMANENT SUPPORT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC

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.

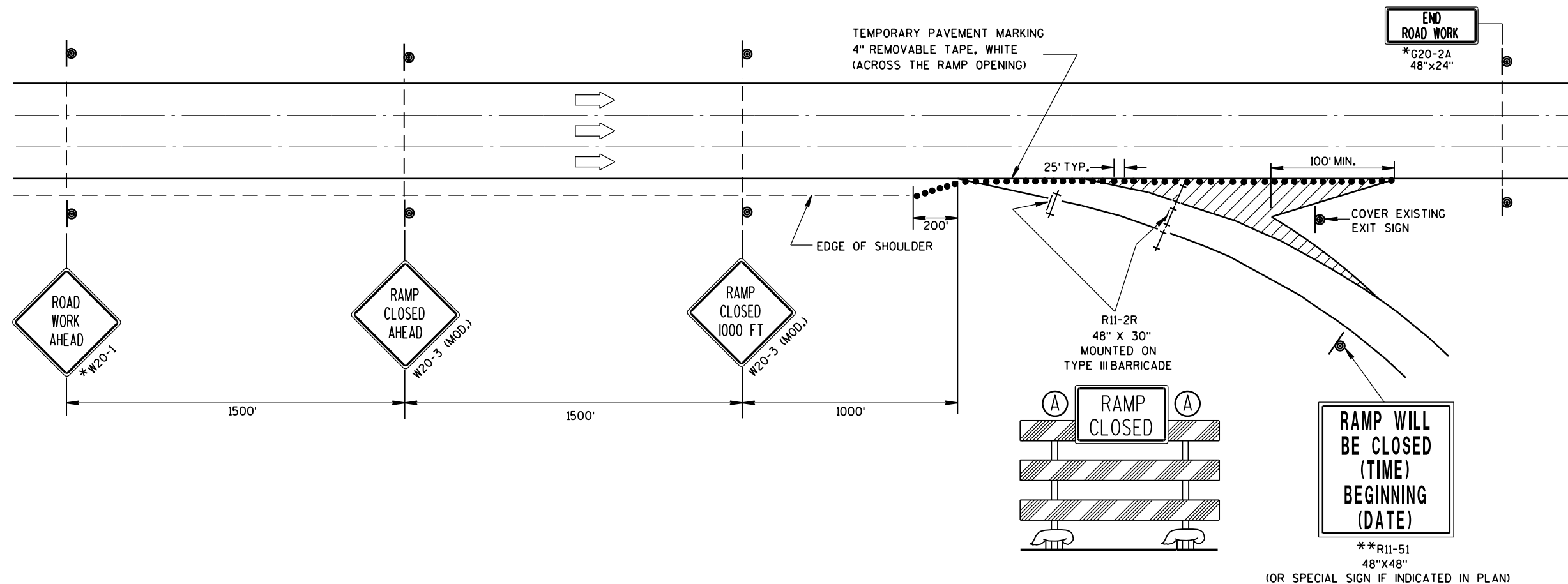
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



TRAFFIC CONTROL,
EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

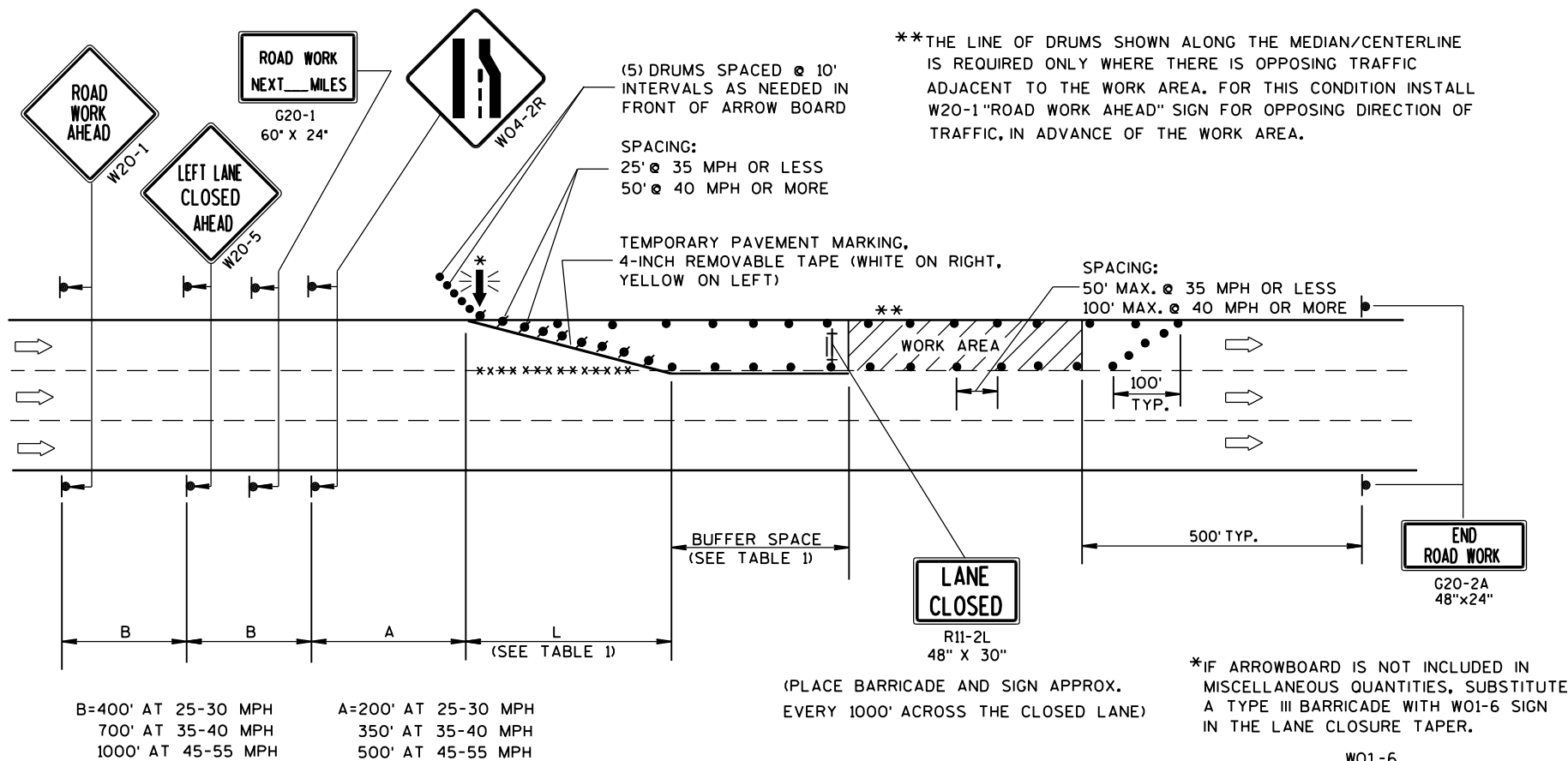
APPROVED

8/2013

DATE

FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN



GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

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

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

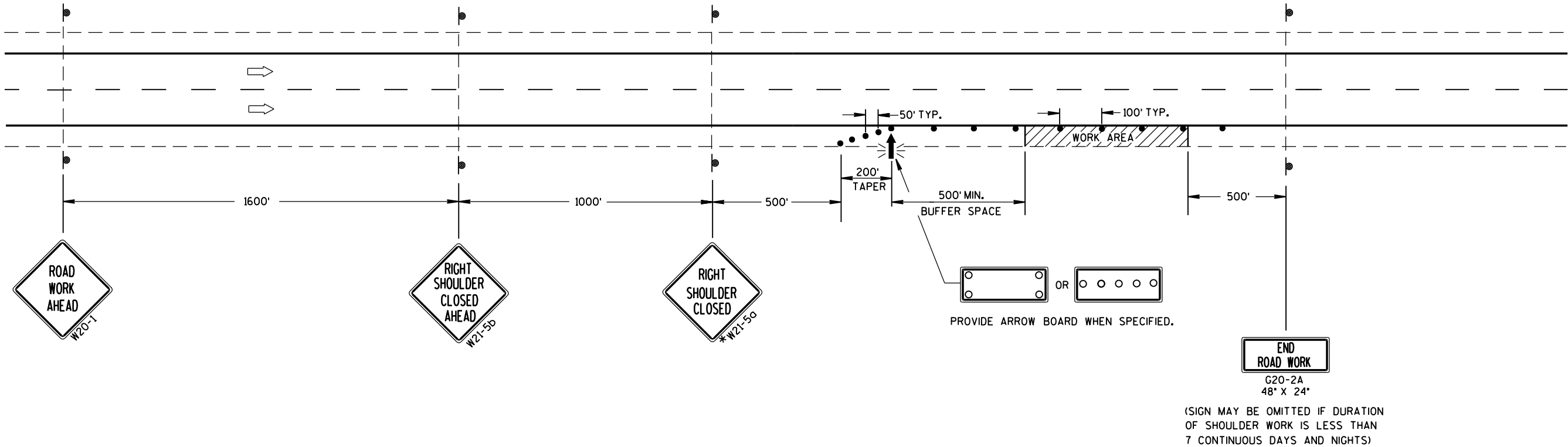
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

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

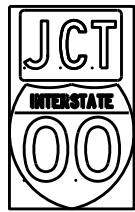


TRAFFIC CONTROL
SHOULDER CLOSURE ON DIVIDED
ROADWAY, SPEEDS GREATER
THAN 40 MPH

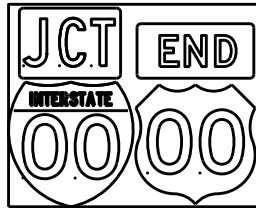
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltz
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

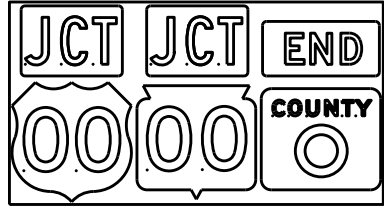
TYPICAL ASSEMBLIES



J1-1



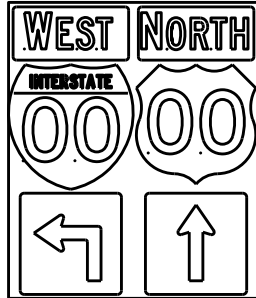
J1-2



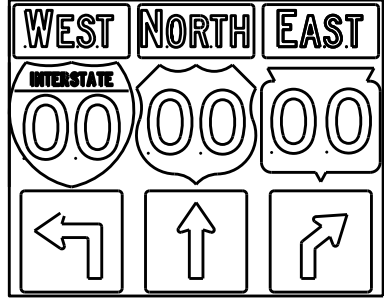
J1-3



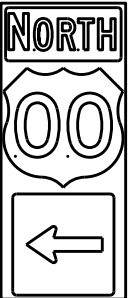
J2-1



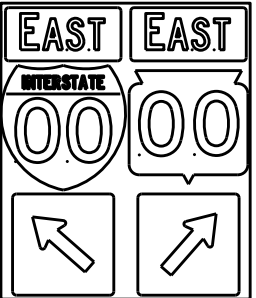
J2-2



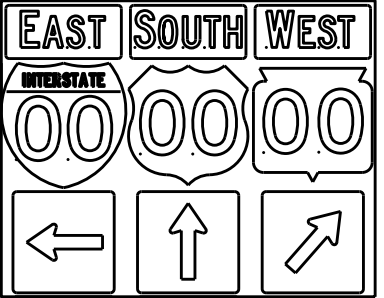
J2-3



J3-1



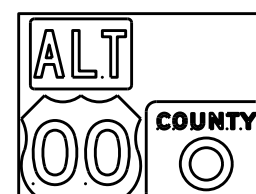
J3-2



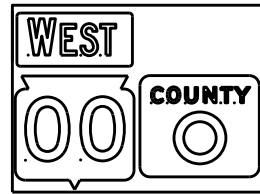
J3-3



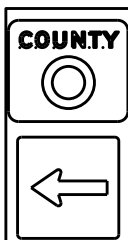
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

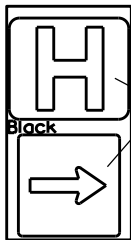


J22-1



JV

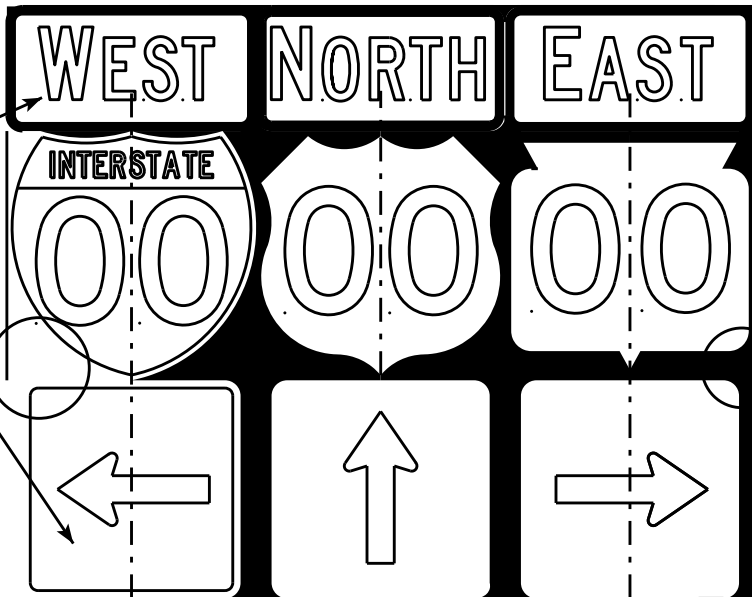
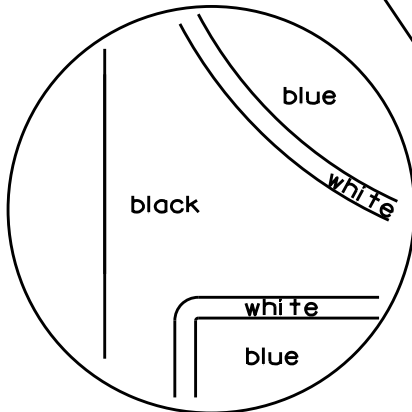
(Typical Vertical J-Assembly
See Note 10 and 11)



JH-1

Blue Background

[blue background
with interstate]



[black background]

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

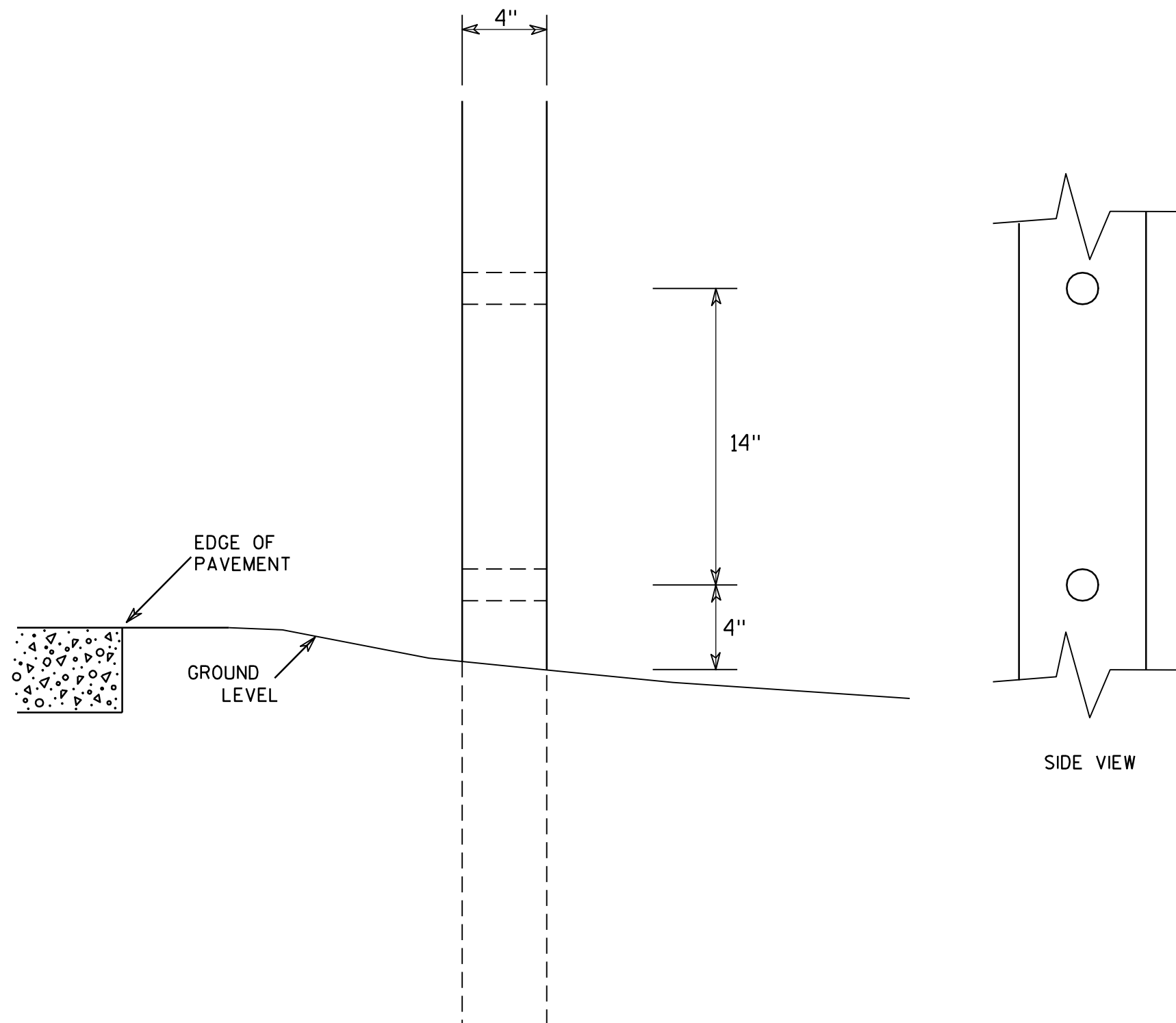
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/06/14 PLATE NO. A2-1S.8

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Black Non-reflective
Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

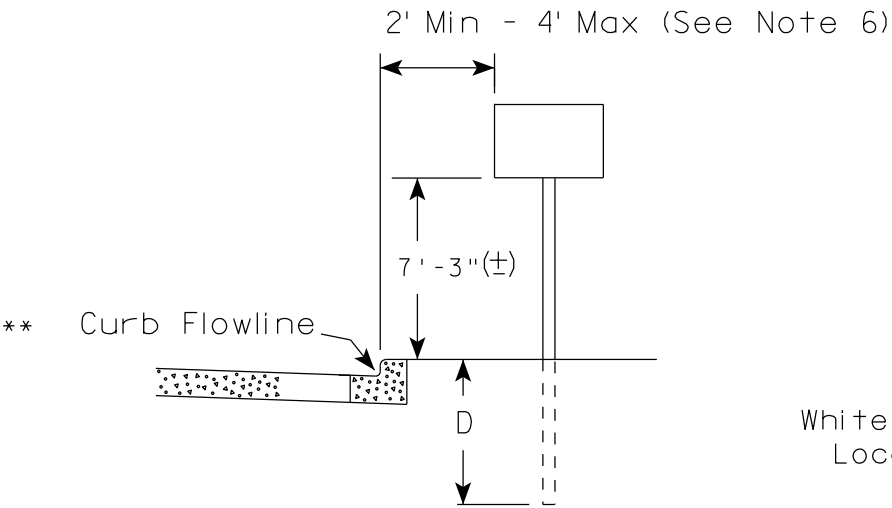
HWY:

COUNTY:

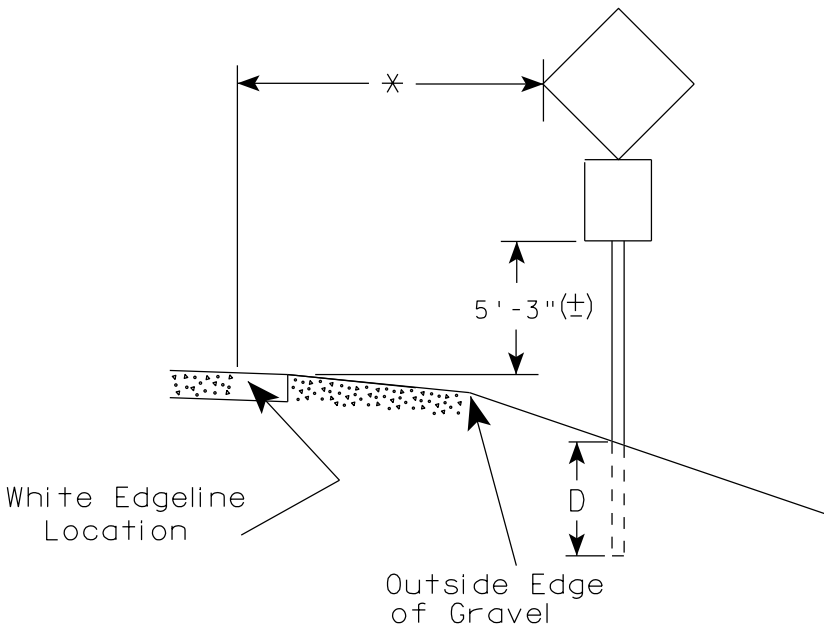
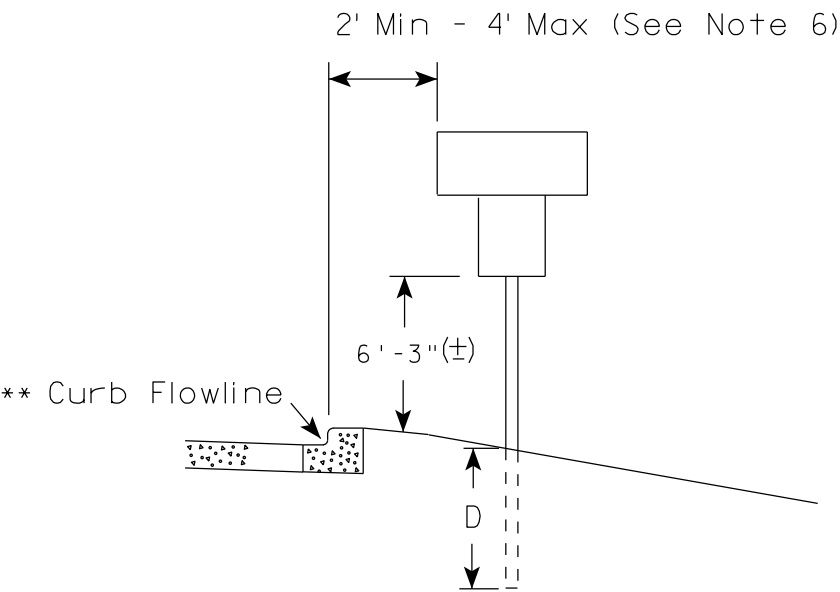
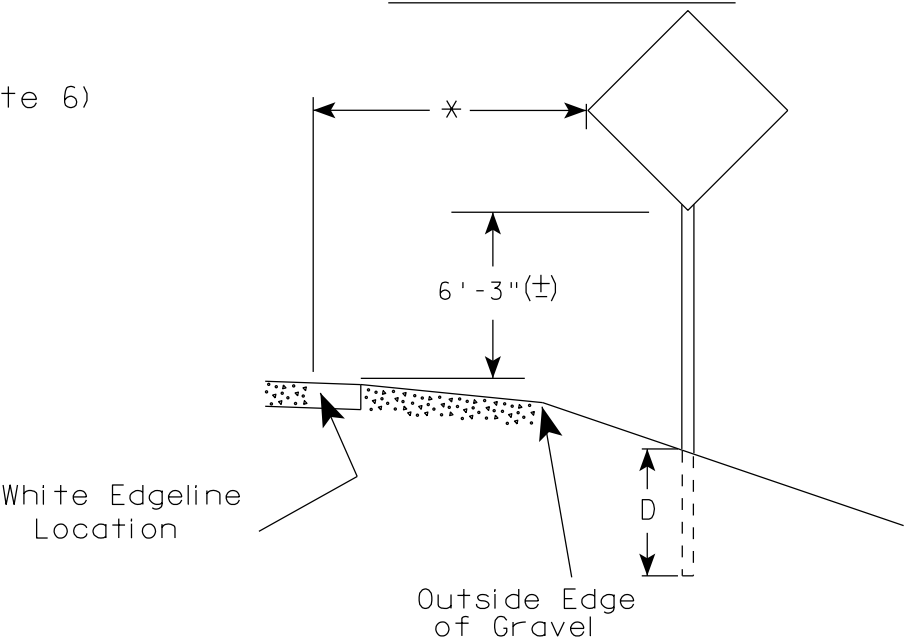
SHEET NO:

E

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

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

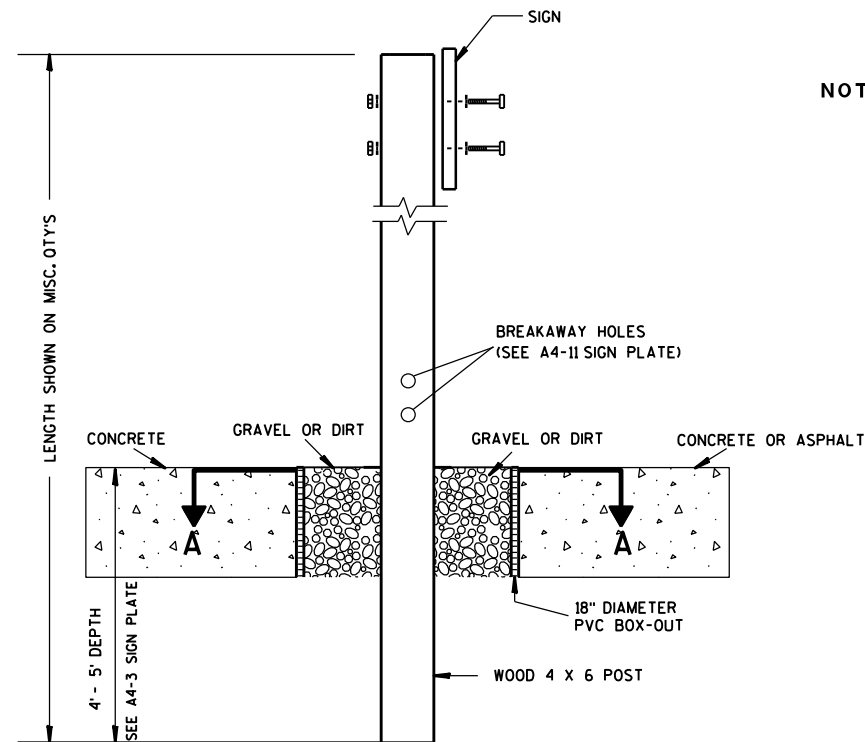
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

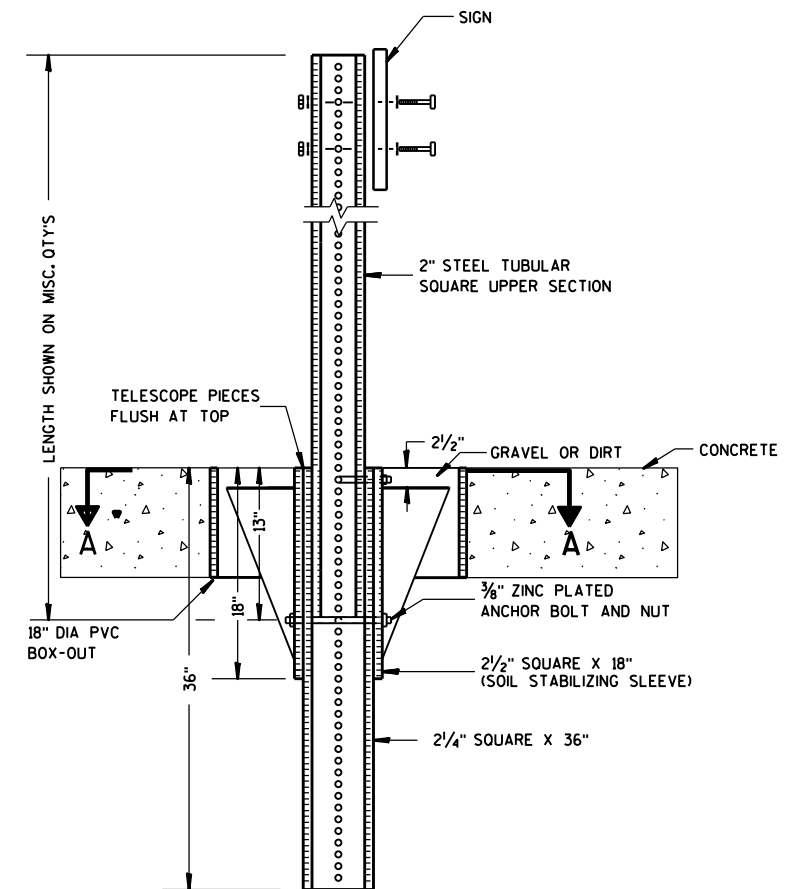
DATE 11/12/14 PLATE NO. A4-3.19



ELEVATION VIEW

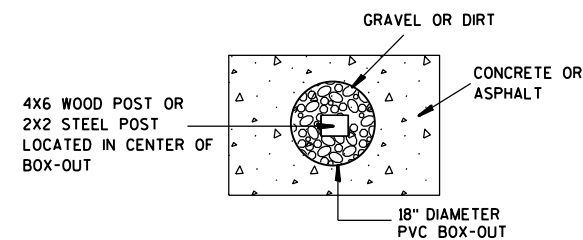
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

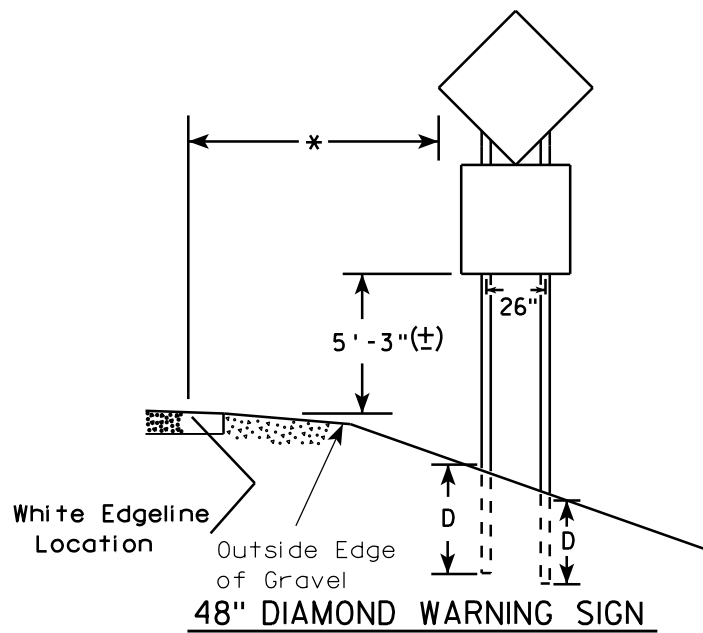
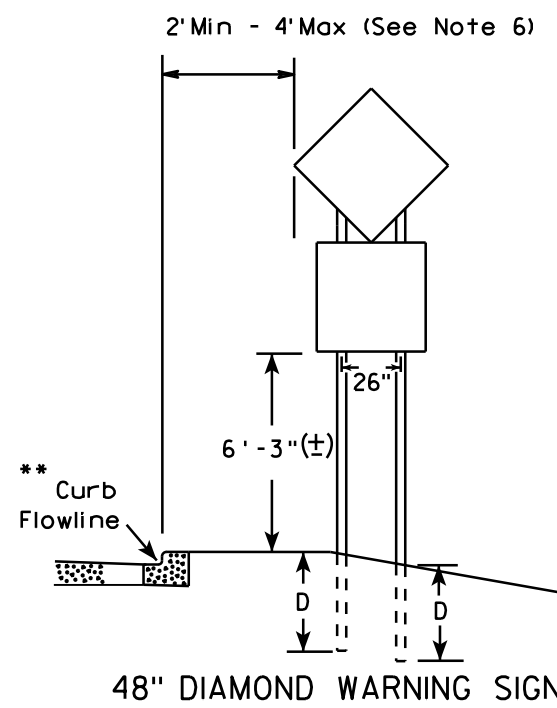
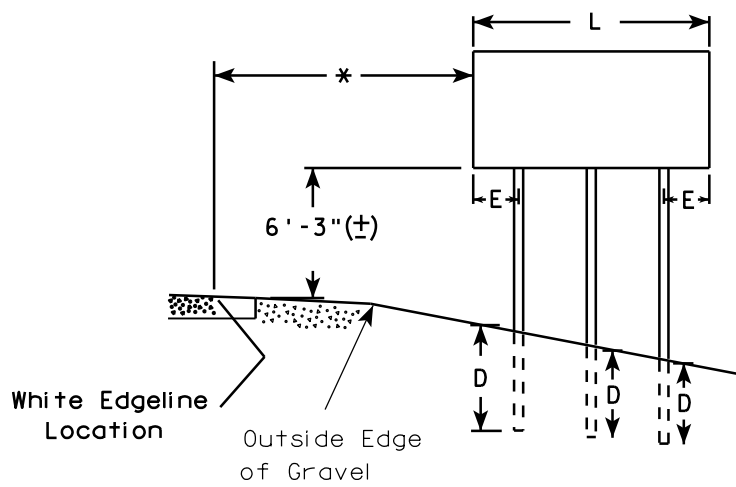
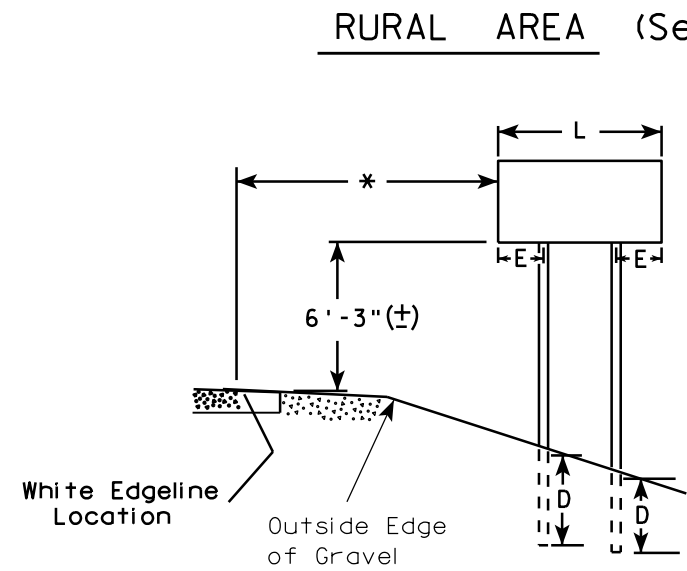
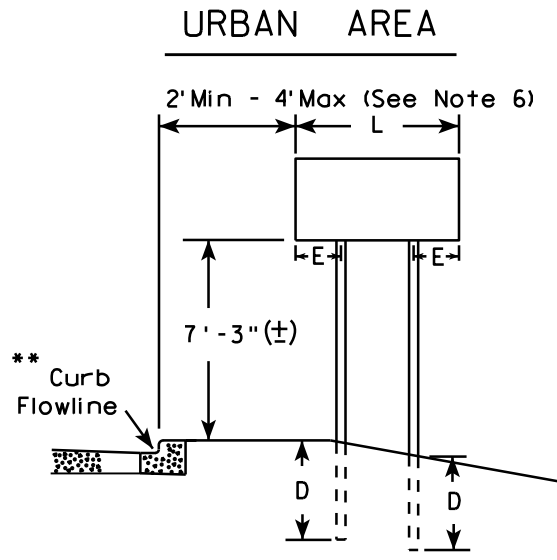
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



- GENERAL NOTES**
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 2. See tables below for required number of posts.
 3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 4. The (±) tolerance for mounting height is 3 inches.
 5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

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

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

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

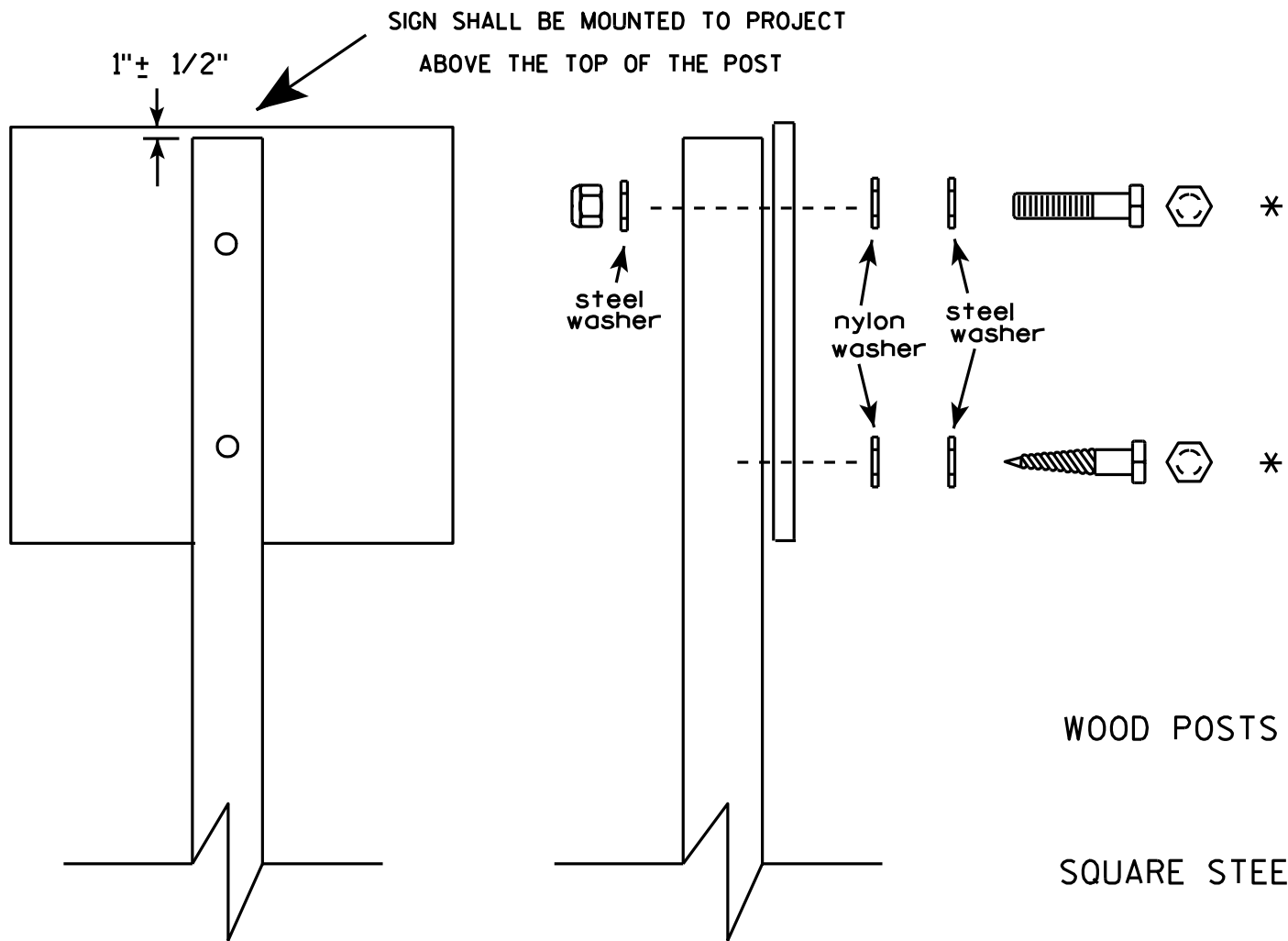
SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/12/14	PLATE NO. A4-4.13

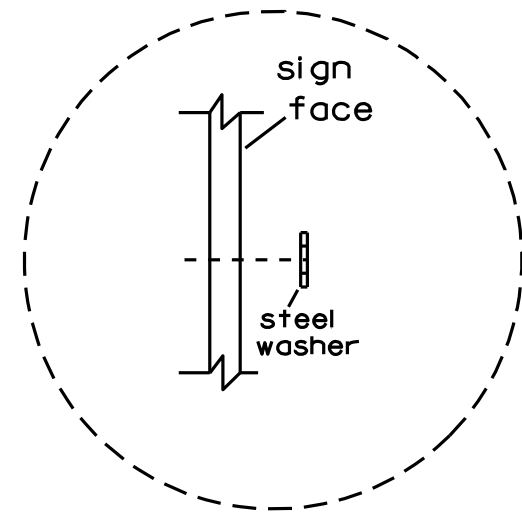


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

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

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



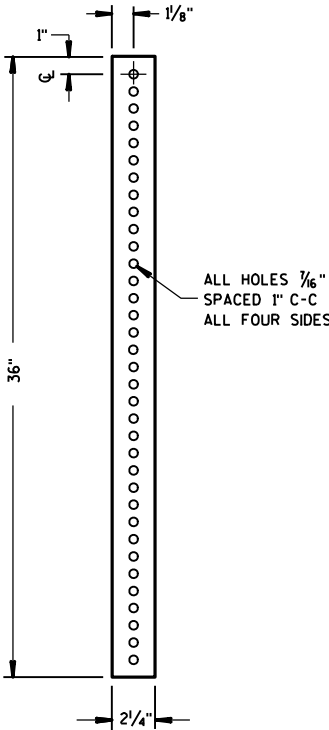
Washer Placement when Sign Has Other Than Type H or Type F Face

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

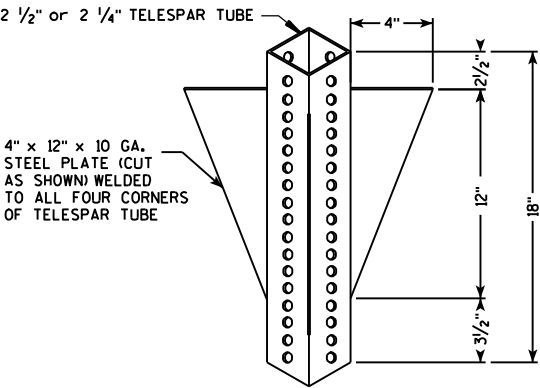
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

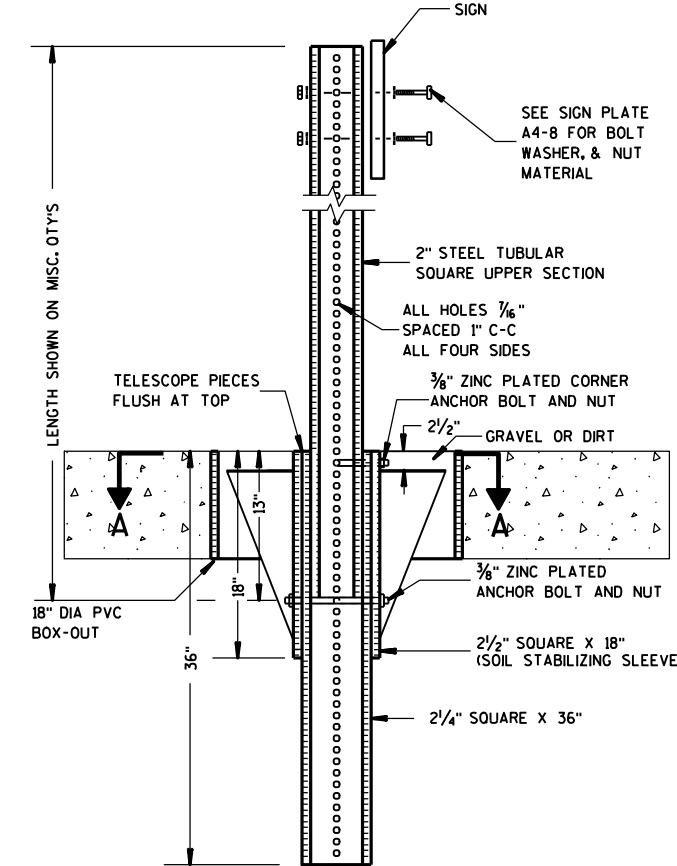
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



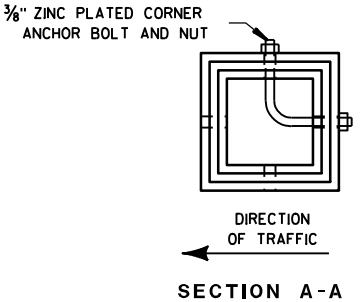
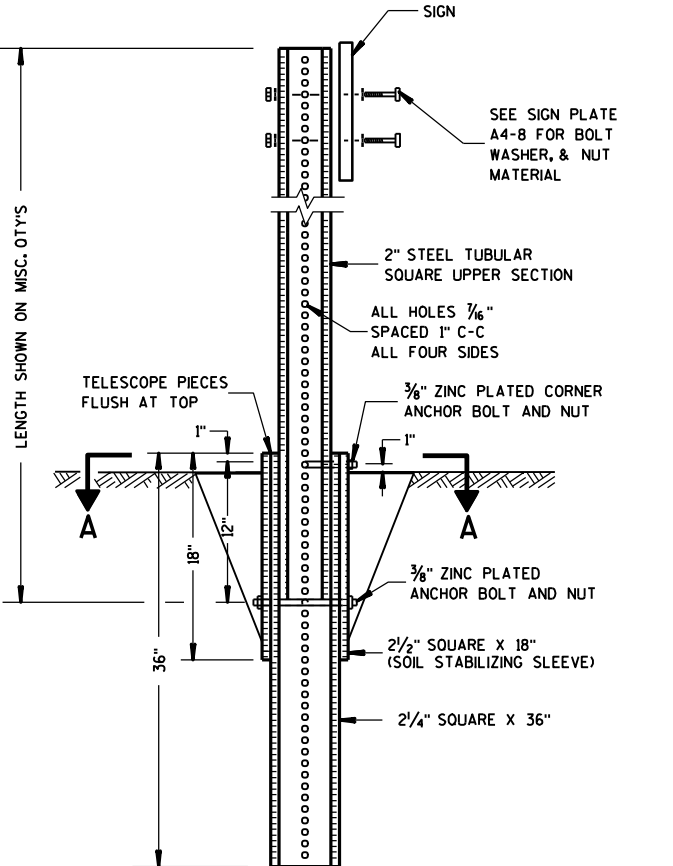
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



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



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



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

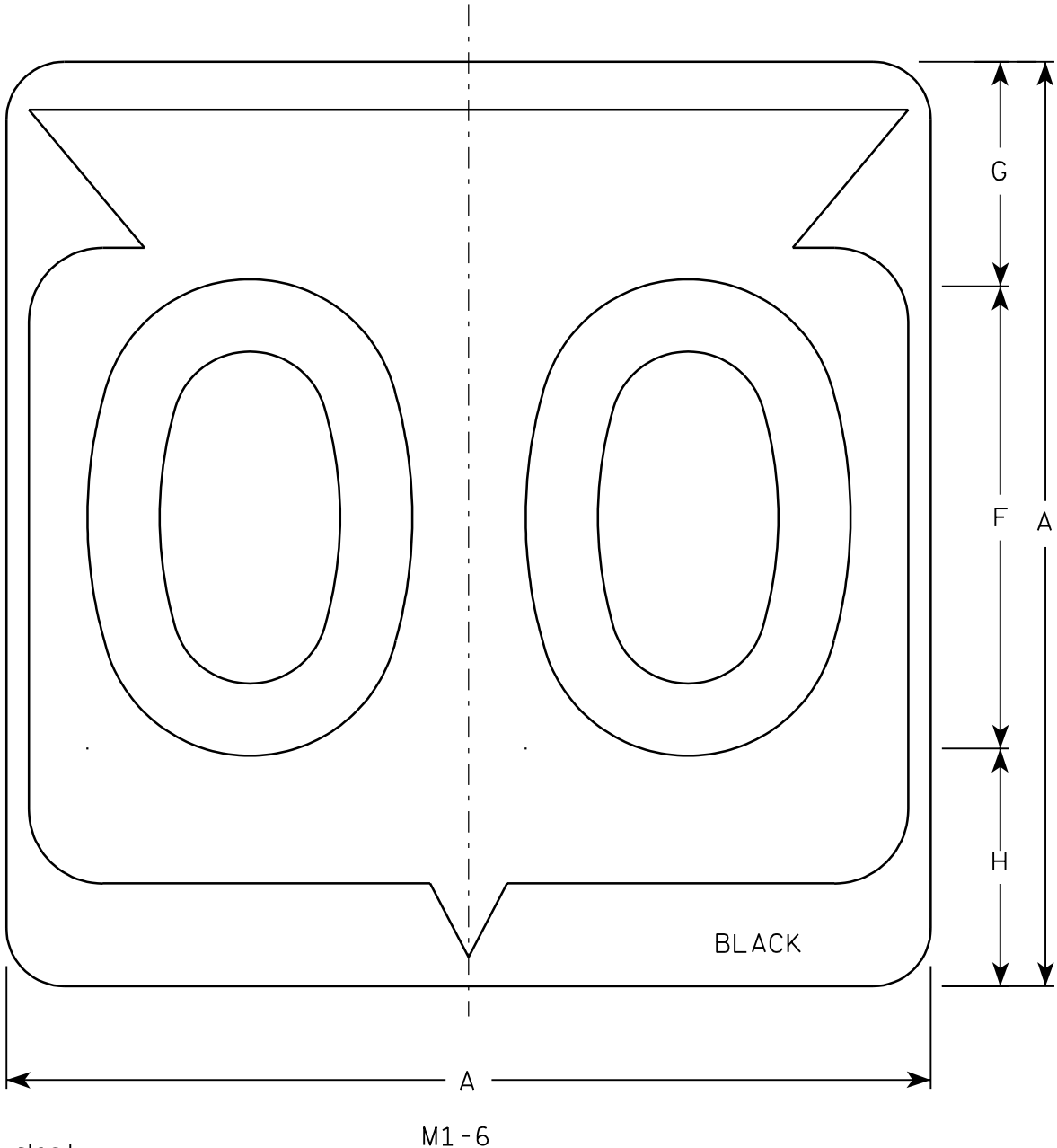
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 5/30/12 PLATE NO. A4-9.7

7



Metric equivalent
for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

FILE NAME : C:\Users\Projects\tr_stdp\late\M16.DGN

PLOT DATE : 13-OCT-2005 14:55

PLOT BY : DITJPH

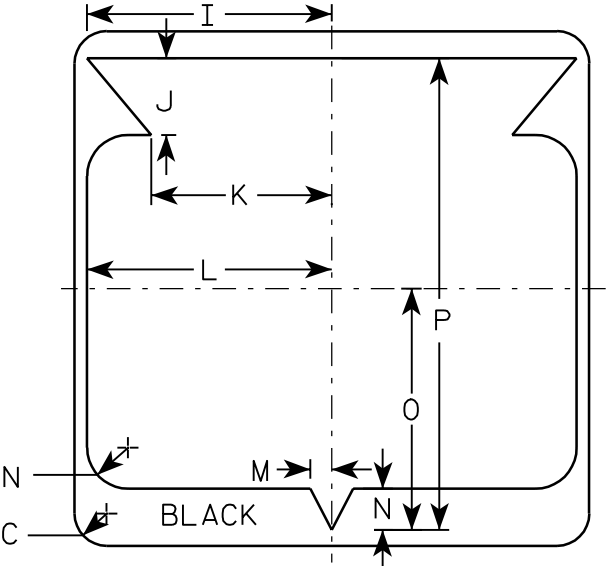
PLOT NAME :

PLOT SCALE : 6.715871:1.000000

WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 6
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

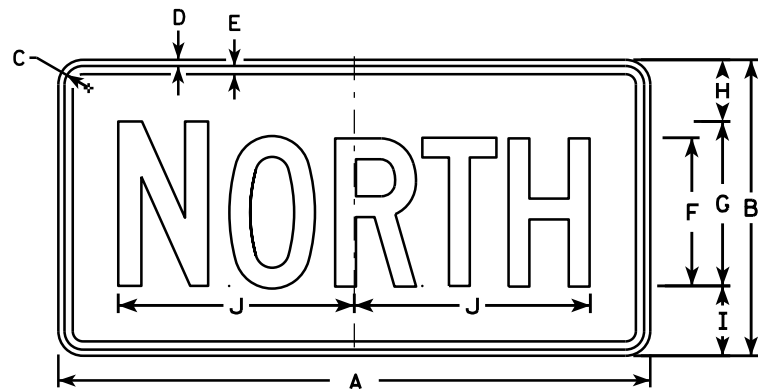
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/20/02

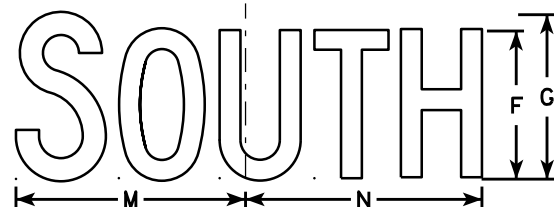
PLATE NO. M1-6.9



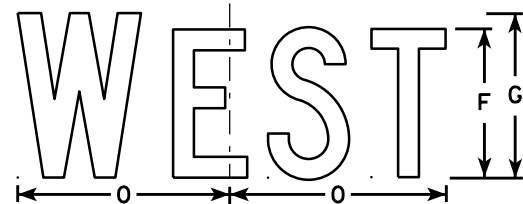
M3-1
MK3-1
MM3-1
MN3-1



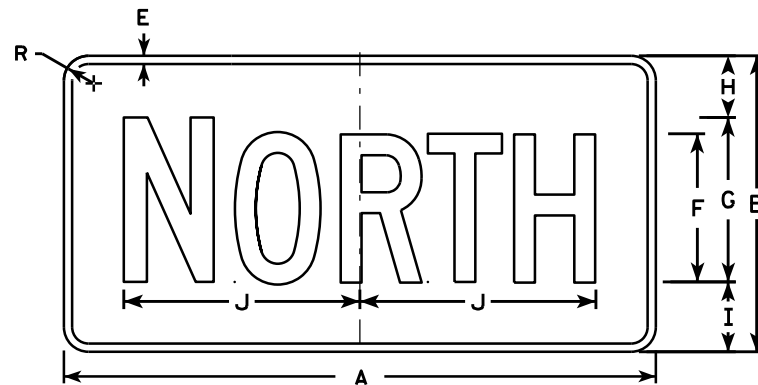
M3-2
MK3-2
MM3-2
MN3-2



M3-3
MK3-3
MM3-3
MN3-3



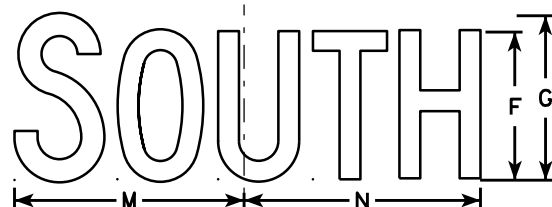
M3-4
MK3-4
MM3-4
MN3-4



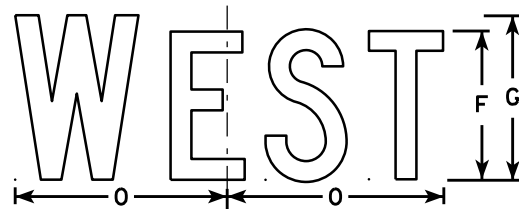
MB3-1



MB3-2



MB3-3



MB3-4

NOTES

1. All Signs Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thru M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 6/30/14 PLATE NO. M3-1.13

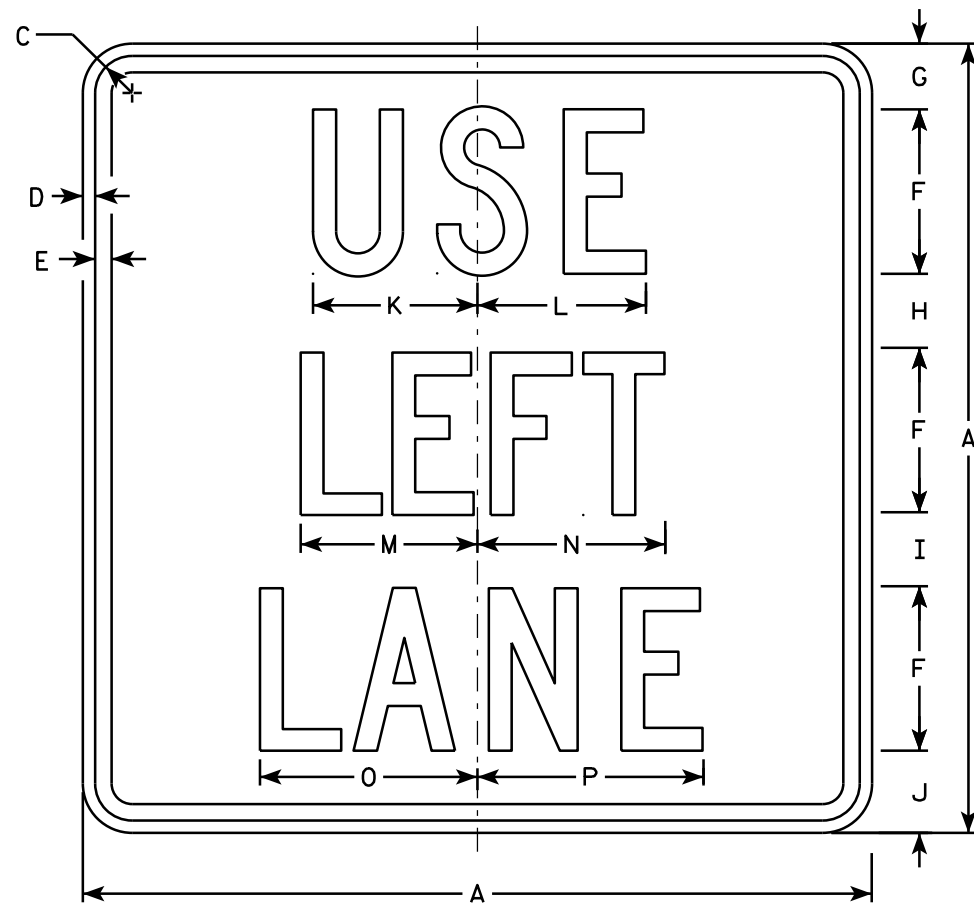
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

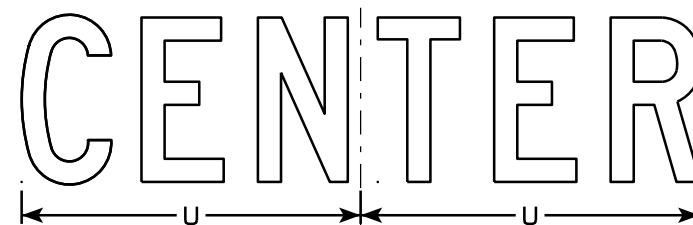
E



M4-20L
MB4-20L
MK4-20L
MM4-20L
MN4-20L
M04-20L
MP4-20L
MR4-20L



M4-20R
MB4-20R
MK4-20R
MM4-20R
MN4-20R
M04-20R
MP4-20R
MR4-20R



M4-20C
MB4-20C
MK4-20C
MM4-20C
MN4-20C
M04-20C
MP4-20C
MR4-20C

NOTES

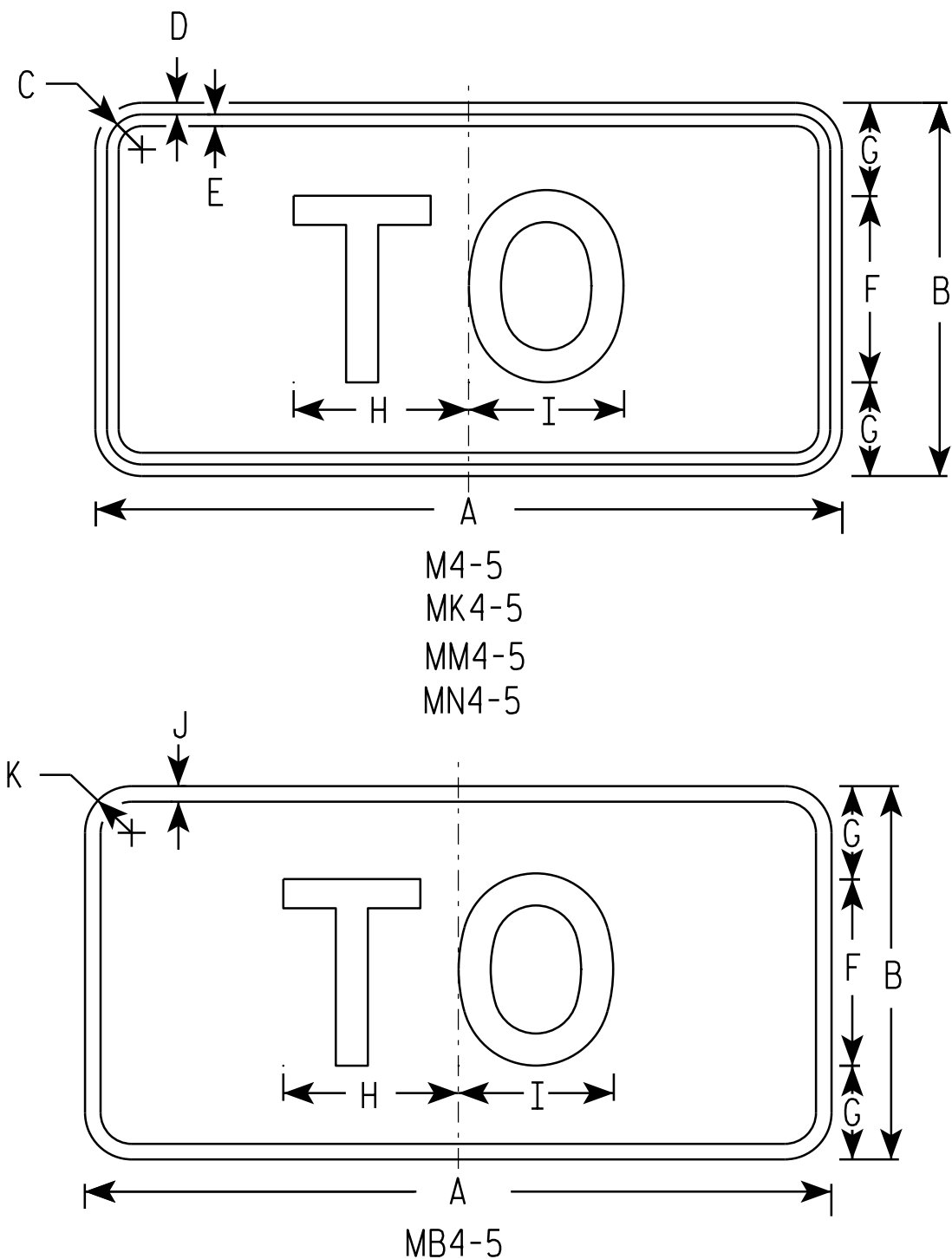
- Sign is Type II - Type H except as Shown
- Color:
Background - See note 5
Message - See note 5
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M4-20 Background - White
Message - Black
MB4-20 Background - Blue
Message - White
MK4-20 Background - Green
Message - White
MM4-20 Background - White
Message - Green
MN4-20 Background - Brown
Message - White
M04-20 Background - Orange - Type F Reflective
Message - Black
MP4-20 Background - White
Message - Blue
MR4-20 Background - Brown
Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/8	3/8	1/2	5	2	2 1/4	2 1/4	2 1/2	5	5 1/8	5 3/8	5 3/4	6 5/8	6 7/8			7	7 5/8	10 1/4						4.0
3	36		1 5/8	5/8	3/4	7	4	3	3 1/2	4 1/2	7 1/2	7 3/4	8	8 5/8	9 7/8	10 1/4			10 3/8	11 3/8	14 3/8						9.0
4																											
5																											

STANDARD SIGN M4-20

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/14 PLATE NO. M4-20.4

PROJECT NO: HWY: COUNTY: SHEET NO: E



NOTES

1. Sign is Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
Message - Black
MB4-5 Background - Blue
Message - White
MK4-5 Background - Green
Message - White
MM4-5 Background - White
Message - Green
MN4-5 Background - Brown
Message - White

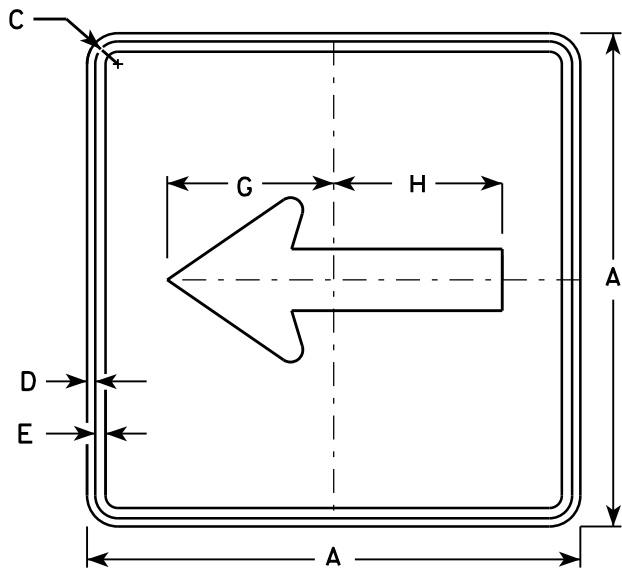
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5

STANDARD SIGN M4 - 5

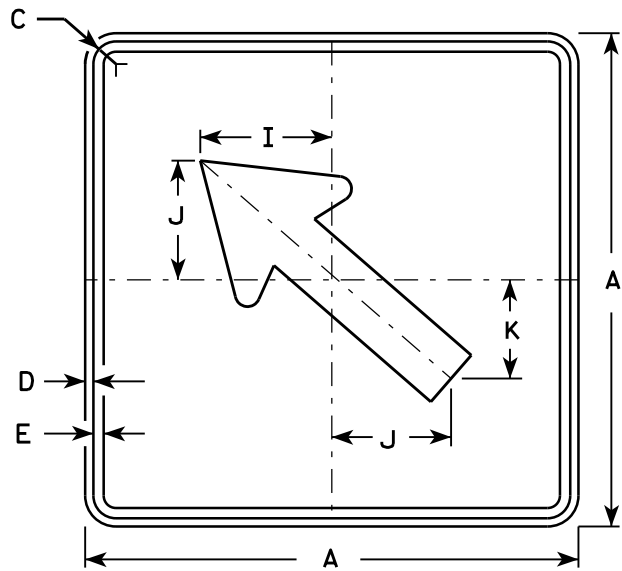
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

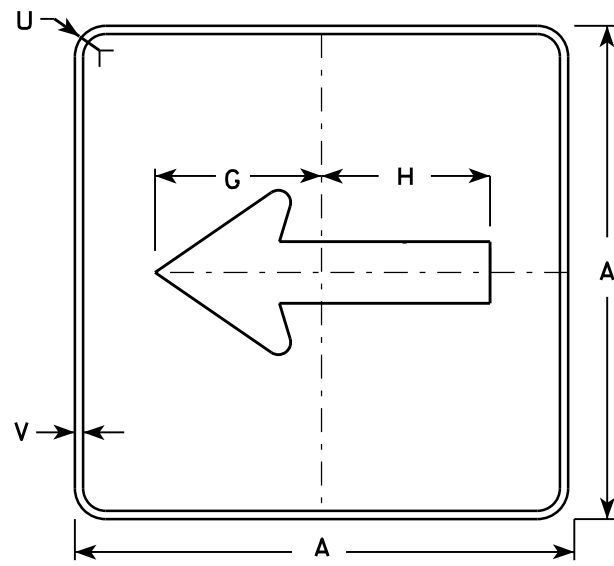
DATE 6/30/14 PLATE NO. M4-5.7



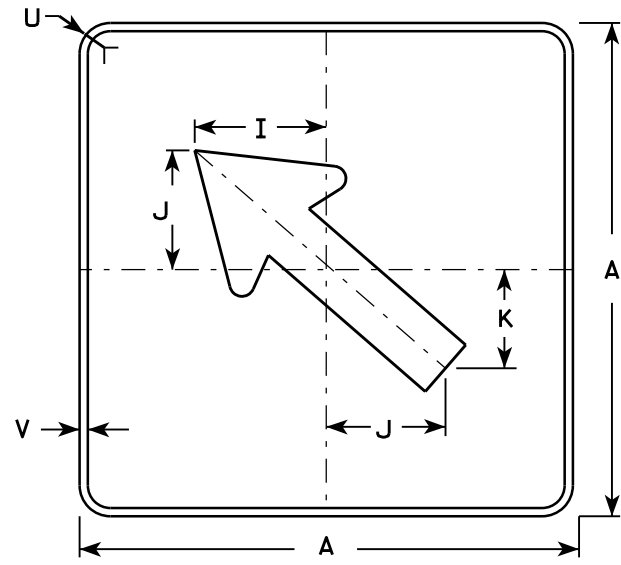
M6 - 1
MK6 - 1
MM6 - 1
MN6 - 1
M06 - 1
MP6 - 1
MR6 - 1



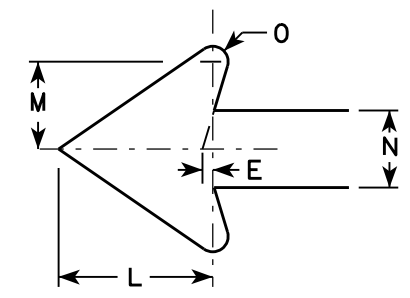
M6 - 2
MK6 - 2
MM6 - 2
MN6 - 2
M06 - 2
MP6 - 2
MR6 - 2



MB6 - 1



MB6 - 2



NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MG6-1 and MG6-2 Background - Green
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

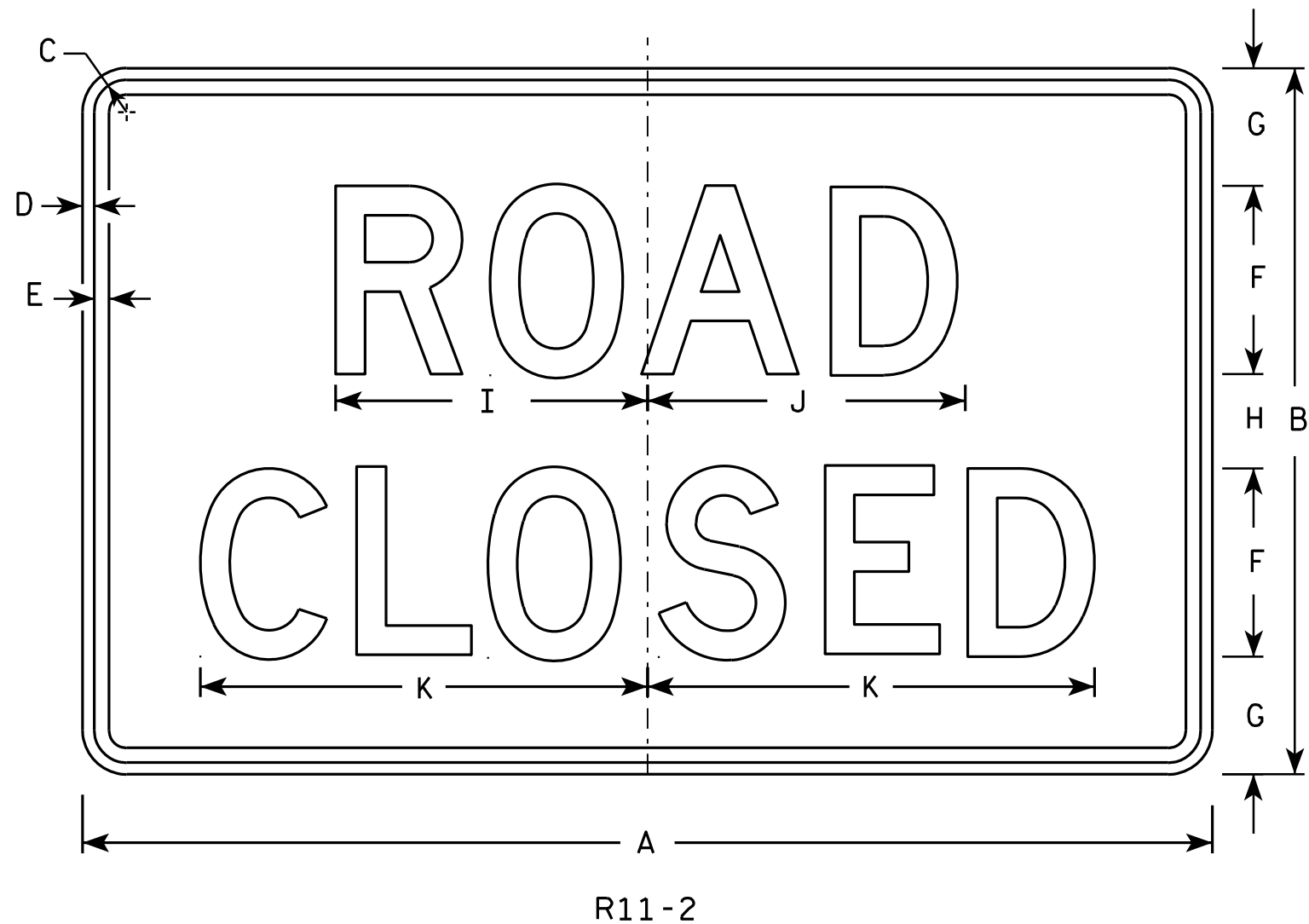
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

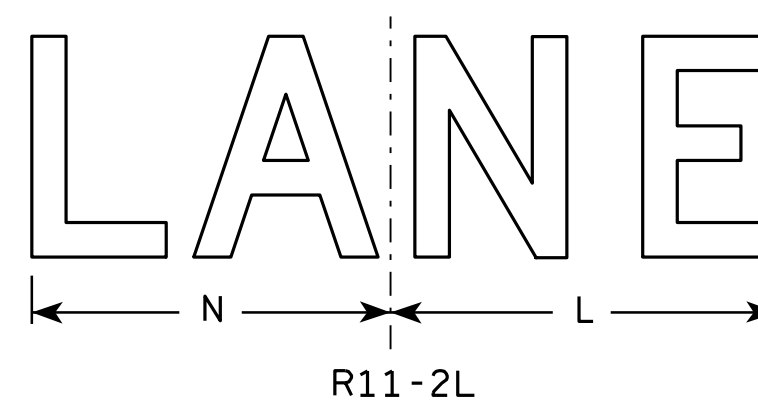
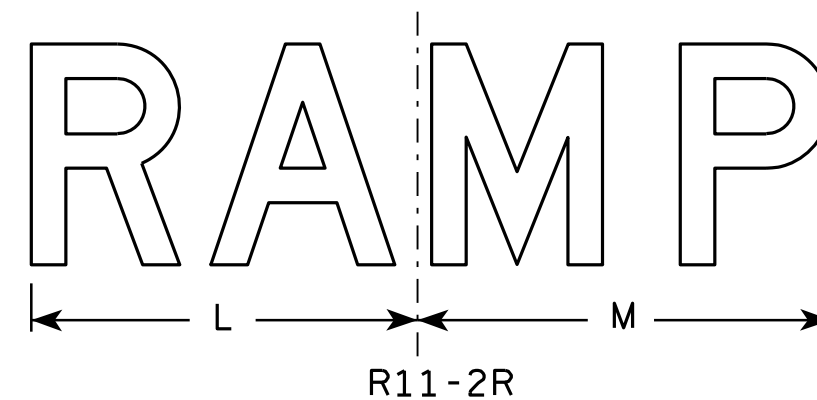
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/03/14 PLATE NO. M6-1.14



NOTES

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



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

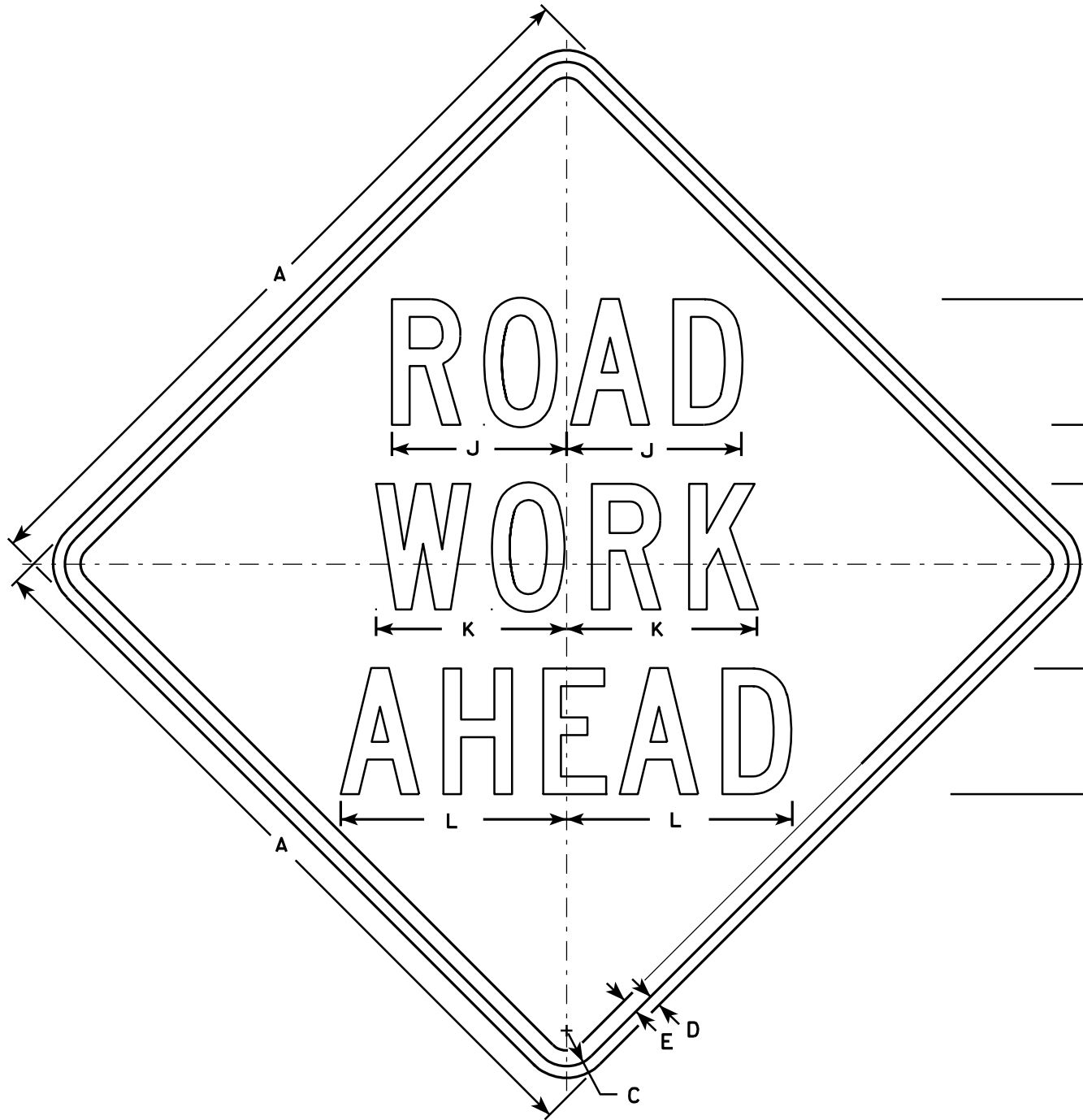
STANDARD SIGN R11-2

WISCONSIN DEPT OF TRANSPORTATION

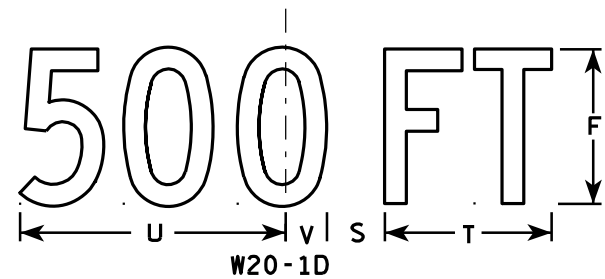
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

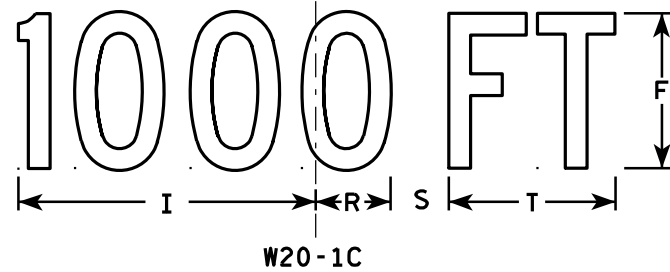
PROJECT NO: HWY: COUNTY: SHEET NO: E



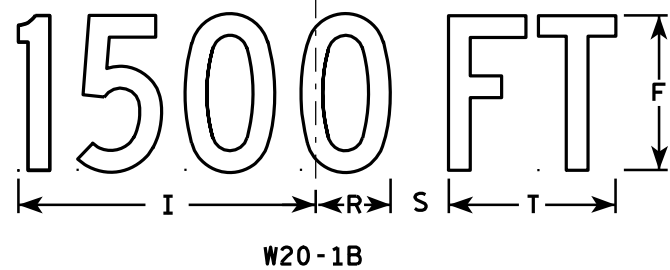
W20-1A



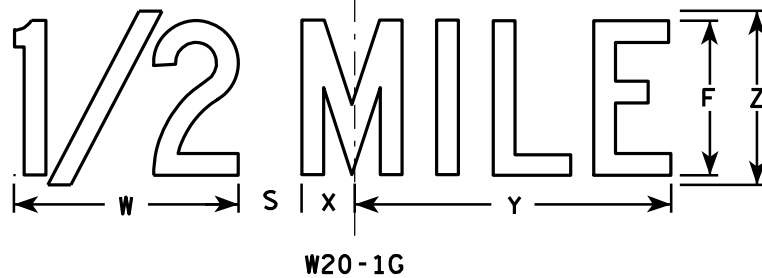
W20-1D



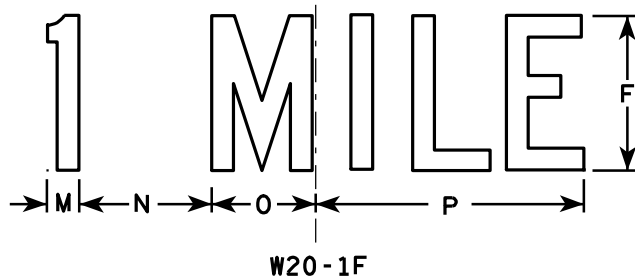
W20-1C



W20-1B



W20-1G



W20-1F

NOTES

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

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

PROJECT NO:

SHEET NO:

E

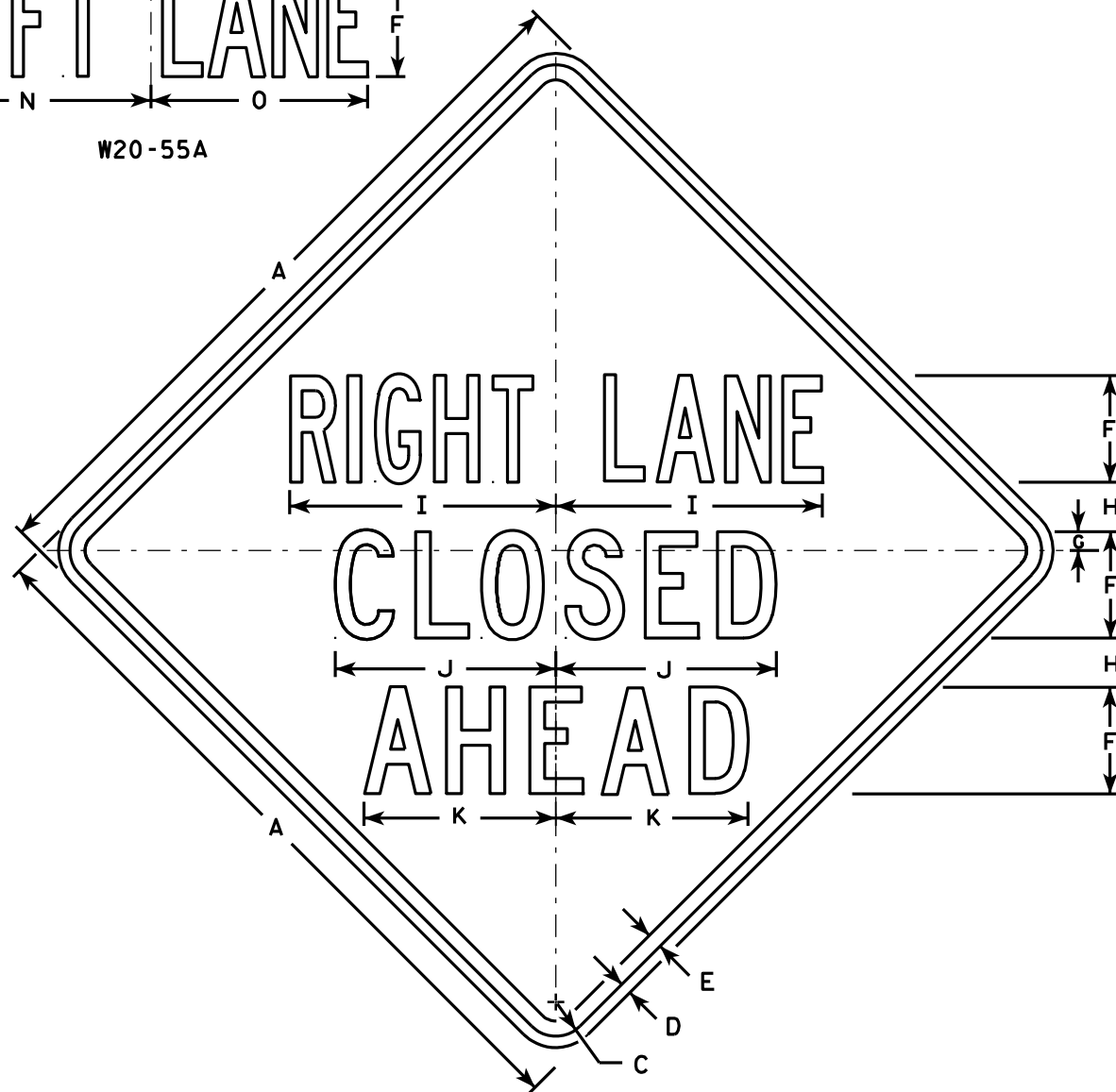
STANDARD SIGN
W20-1A, B, C, D, F & G
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-1.9

CENTER LANE

W20-56A

LEFT LANE

W20-55A



W20-5A

500 FT

W20-5D

1000 FT

W20-5C

1500 FT

W20-5B

1/2 MILE

W20-5G

1 MILE

W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. "----- LANE" is Series B.
All other copy is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

PROJECT NO:

HWY:

COUNTY:

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

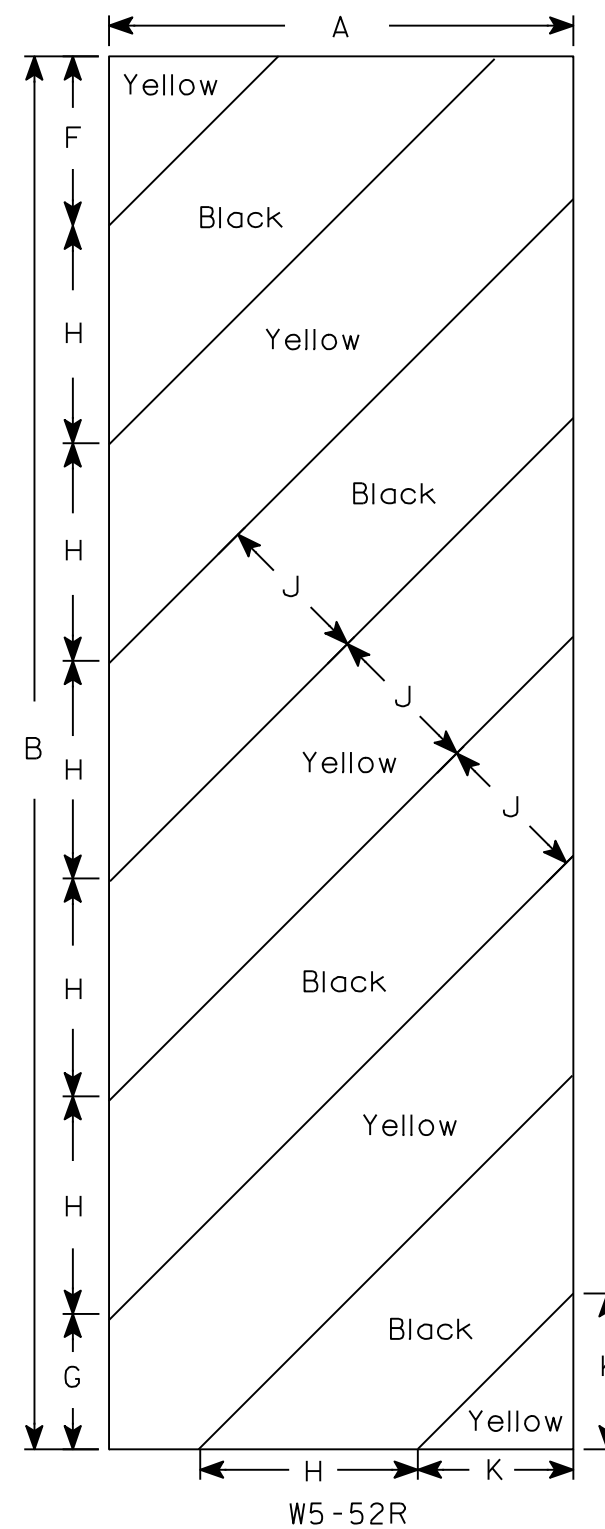
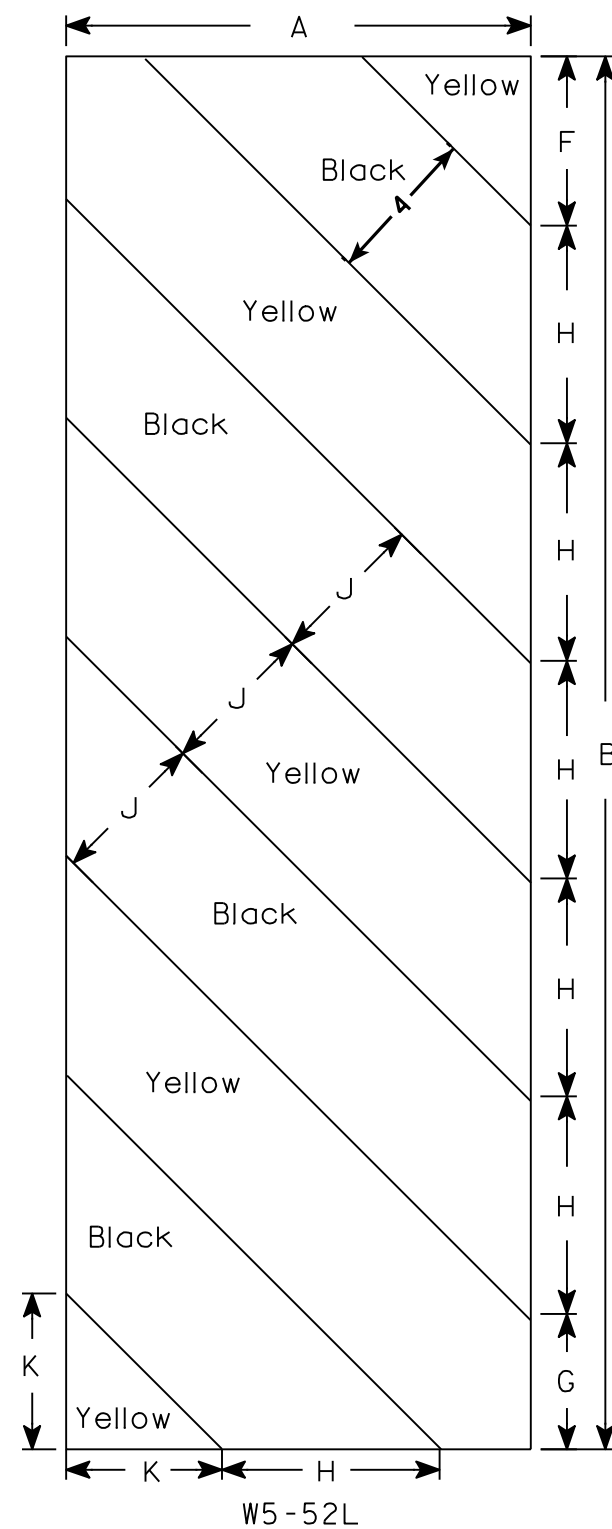
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

SHEET NO:

E



NOTES

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

[illegible]

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 5/29/12 PLATE NO. W5-52.9

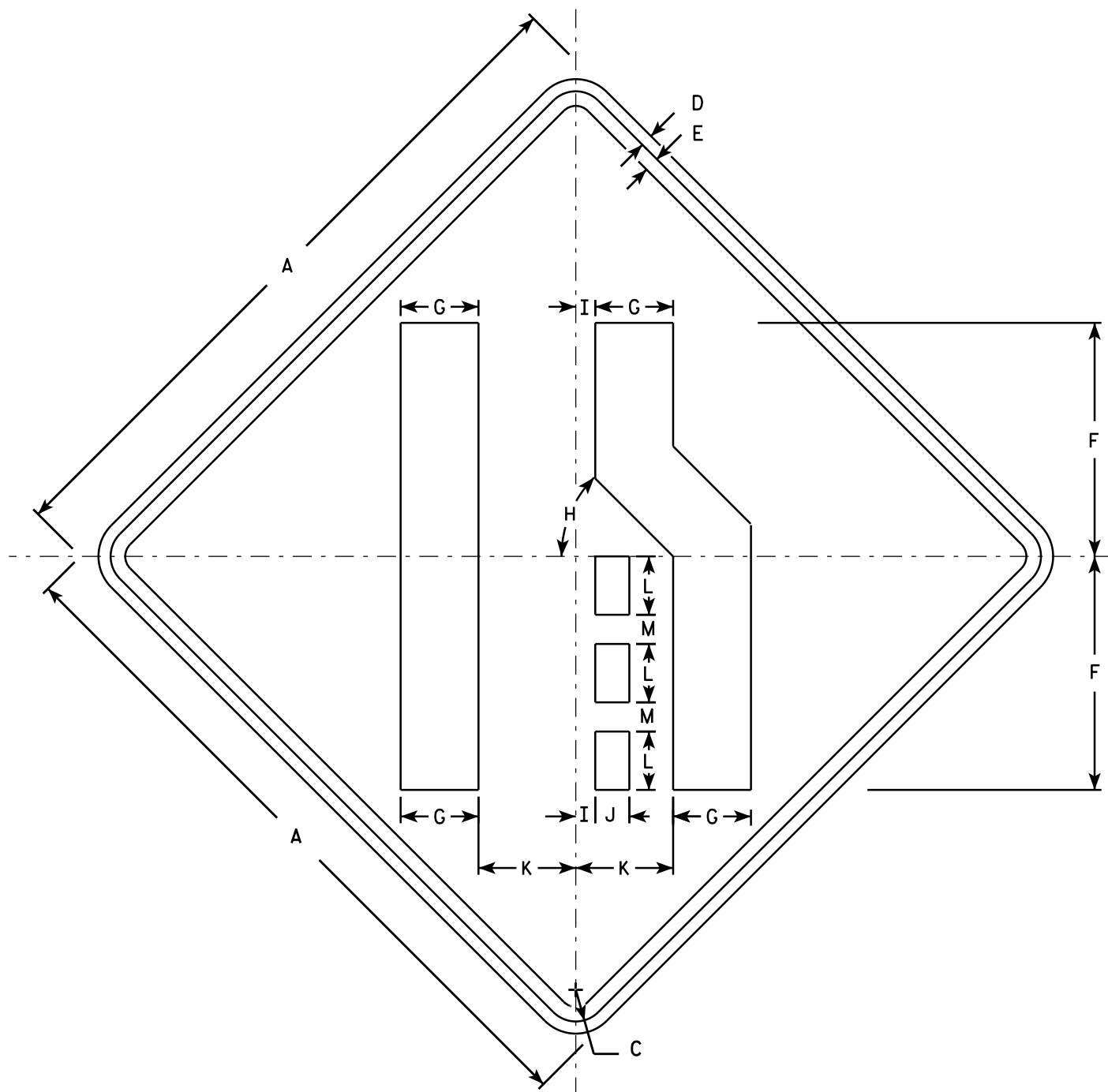
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



W04-2R

NOTES

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

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

STANDARD SIGN

W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
For State Traffic Engineer

DATE 11/20/13

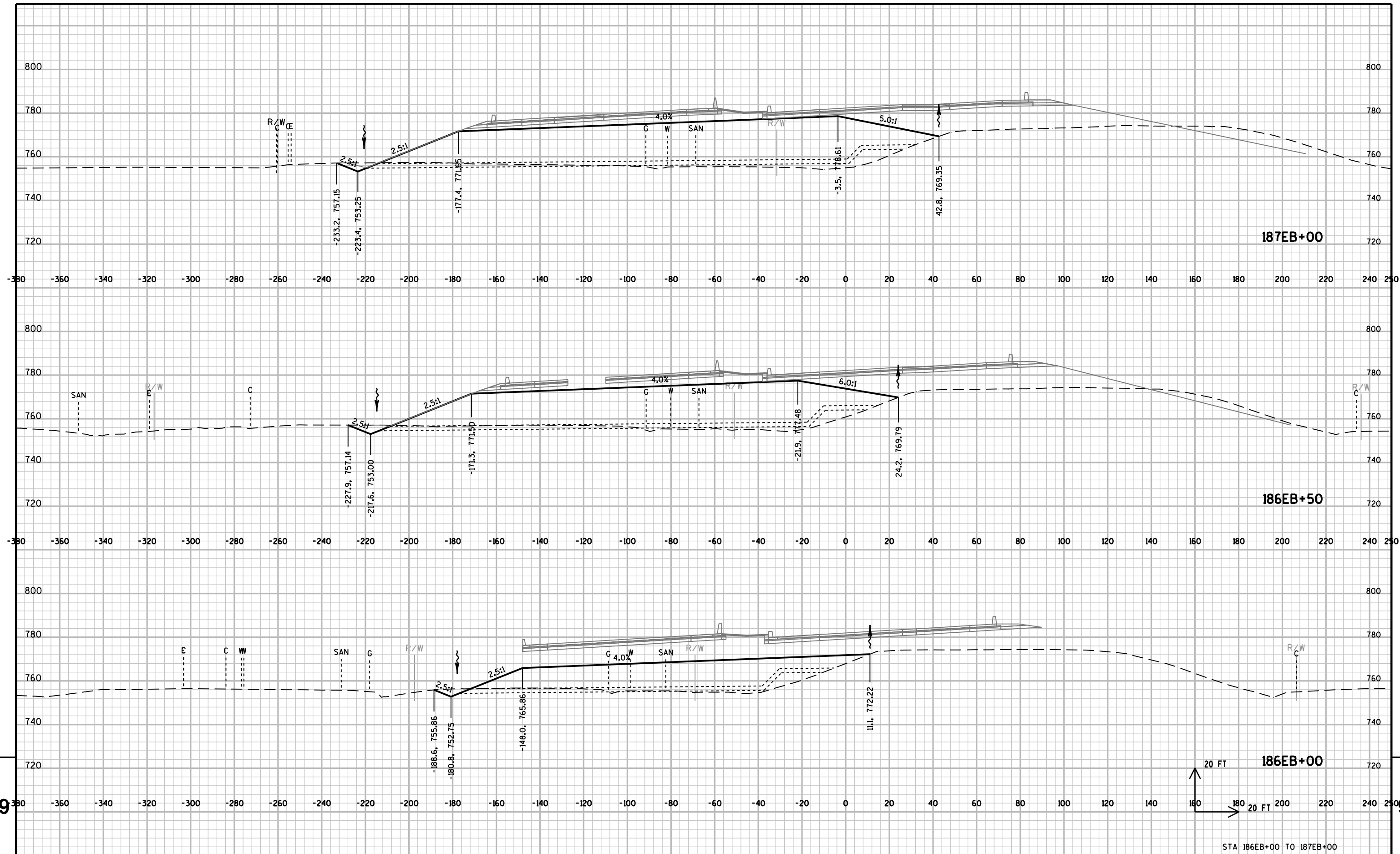
PLATE NO. W04-2.1

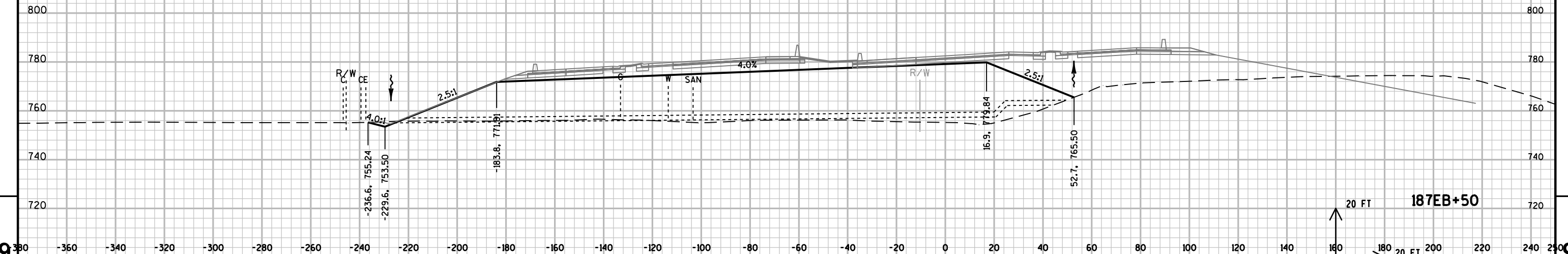
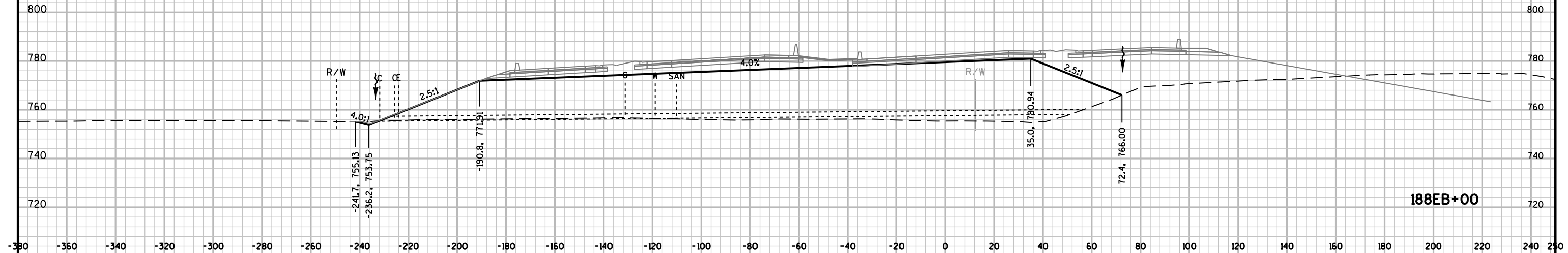
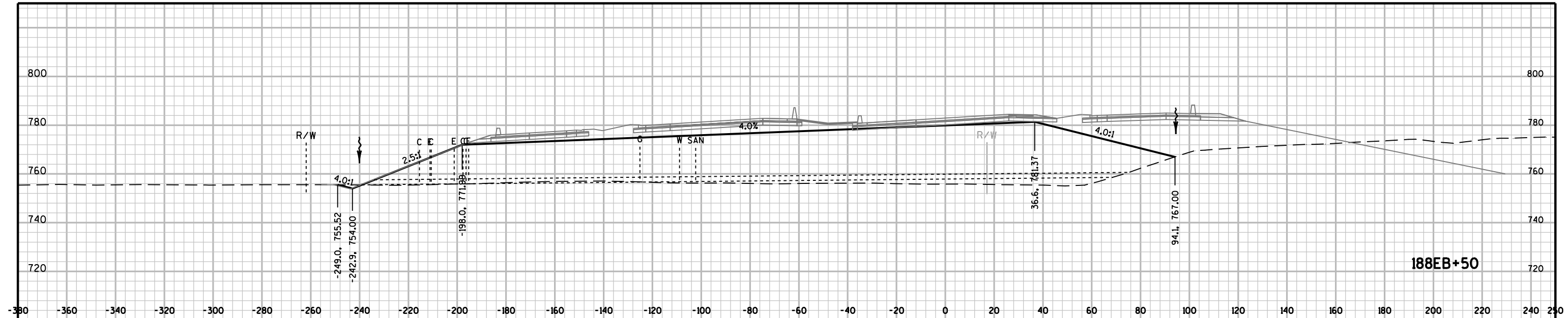
PROJECT ID 1517-75-71
DIVISION 1 - Early Fill

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate
		Fill	EBS (In Cross Sections)	Structure Excavation (In Cross Sections)	Cut	Fill	EBS	Structure Excavation	Cut	Fill	EBS	Structure Excavation	
185EB+50	AH 0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
186EB+00	50.00	1554.3	0.00	0.00	140.56	1439.20	0.00	0.00	140.56	1439.20	0.00	0.00	-1298.64
186EB+50	50.00	3147.3	0.00	0.00	352.77	4353.38	0.00	0.00	493.33	5792.58	0.00	0.00	-5299.25
187EB+00	50.00	3739.7	0.00	0.00	384.27	6376.85	0.00	0.00	877.60	12169.44	0.00	0.00	-11291.83
187EB+50	50.00	4270.5	0.00	0.00	219.98	7416.80	0.00	0.00	1097.58	19586.23	0.00	0.00	-18488.65
188EB+00	50.00	4896.4	0.00	0.00	86.92	8487.80	0.00	0.00	1184.50	28074.03	0.00	0.00	-26889.53
188EB+50	50.00	5392.5	0.00	0.00	66.18	9526.69	0.00	0.00	1250.68	37600.72	0.00	0.00	-36350.05
189EB+00	50.00	5926.4	0.00	0.00	27.71	10480.45	0.00	0.00	1278.39	48081.18	0.00	0.00	-46802.79
189EB+50	50.00	6709.3	0.00	0.00	0.91	11699.74	0.00	0.00	1279.30	59780.92	0.00	0.00	-58501.62
190EB+00	50.00	6851.8	0.00	0.00	2.15	12556.53	0.00	0.00	1281.44	72337.44	0.00	0.00	-71056.00
190EB+50	50.00	6700.4	0.00	0.00	7.69	12548.31	0.00	0.00	1289.13	84885.76	0.00	0.00	-83596.63
191EB+00	50.00	6928	0.00	0.00	20.16	12618.87	0.00	0.00	1309.29	97504.63	0.00	0.00	-96195.34
191EB+50	50.00	7002	0.00	0.00	40.37	12898.08	0.00	0.00	1349.66	110402.71	0.00	0.00	-109053.06
192EB+00	50.00	5814.3	0.00	0.00	75.25	11866.93	0.00	0.00	1424.91	122269.64	0.00	0.00	-120844.73
192EB+50	50.00	5529.7	0.00	0.00	138.69	10503.74	0.00	0.00	1563.59	132773.38	0.00	0.00	-131209.79
193EB+00	50.00	5039	0.00	0.00	160.99	9785.86	0.00	0.00	1724.58	142559.24	0.00	0.00	-140834.66
193EB+50	50.00	5722	0.00	0.00	82.18	9963.90	0.00	0.00	1806.76	152523.14	0.00	0.00	-150716.38
194EB+00	50.00	5437	0.00	0.00	21.20	10332.43	0.00	0.00	1827.96	162855.56	0.00	0.00	-161027.60
194EB+50	50.00	4580	0.00	0.00	55.93	9275.03	0.00	0.00	1883.89	172130.59	0.00	0.00	-170246.70
195EB+00	50.00	4364.1	0.00	0.00	91.58	8281.58	0.00	0.00	1975.47	180412.18	0.00	0.00	-178436.70
195EB+50	50.00	3796.6	0.00	0.00	173.49	7556.19	0.00	0.00	2148.96	187968.36	0.00	0.00	-185819.40
196EB+00	50.00	3184.6	0.00	0.00	449.38	6464.09	0.00	0.00	2598.34	194432.45	0.00	0.00	-191834.11
196EB+50	50.00	3204.8	0.00	0.00	493.96	5916.16	0.00	0.00	3092.31	200348.61	0.00	0.00	-197256.31
197EB+00	50.00	2993.1	0.00	0.00	205.67	5738.84	0.00	0.00	3297.97	206087.45	0.00	0.00	-202789.48
197EB+50	50.00	2640	0.00	0.00	165.81	5215.85	0.00	0.00	3463.78	211303.31	0.00	0.00	-207839.53
198EB+00	50.00	2919.3	0.00	0.00	270.67	5147.48	0.00	0.00	3734.44	216450.79	0.00	0.00	-212716.34
198EB+50	50.00	3625	0.00	0.00	302.67	6059.55	0.00	0.00	4037.11	222510.33	0.00	0.00	-218473.22
199EB+00	50.00	3537	0.00	0.00	293.69	6631.50	0.00	0.00	4330.81	229141.83	0.00	0.00	-224811.03
199EB+50	50.00	3305.1	0.00	0.00	246.23	6335.28	0.00	0.00	4577.04	235477.11	0.00	0.00	-230900.07
200EB+00	50.00	2752.1	0.00	0.00	197.06	5608.48	0.00	0.00	4774.09	241085.59	0.00	0.00	-236311.50
200EB+50	50.00	1813.3	0.00	0.00	646.65	4227.15	0.00	0.00	5420.74	245312.74	0.00	0.00	-239892.00
201EB+00	50.00	1546.1	0.00	0.00	1423.76	3110.52	0.00	0.00	6844.50	248423.26	0.00	0.00	-241578.76
201EB+50	50.00	2385.1	0.00	0.00	1068.31	3639.96	0.00	0.00	7912.81	252063.22	0.00	0.00	-244150.41
202EB+00	50.00	2304.3	0.00	0.00	374.53	4342.01	0.00	0.00	8287.34	256405.23	0.00	0.00	-248117.89
202EB+50	50.00	1875.1	0.00	0.00	446.22	3869.78	0.00	0.00	8733.56	260275.01	0.00	0.00	-251541.44
203EB+00	50.00	1518.8	0.00	0.00	666.59	3142.46	0.00	0.00	9400.16	263417.47	0.00	0.00	-254017.31
203EB+50	50.00	1198	0.00	0.00	712.30	2515.53	0.00	0.00	10112.45	265933.00	0.00	0.00	-255820.55
204EB+00	50.00	637.2	0.00	0.00	534.48	1699.22	0.00	0.00	10646.94	267632.22	0.00	0.00	-256985.29
204EB+50	50.00	6.5	0.00	0.00	206.49	596.02	0.00	0.00	10853.43	268228.24	0.00	0.00	-257374.81
205EB+00	50.00	600.27	0.00	0.00	50.54	561.82	0.00	0.00	10903.96	268790.06	0.00	0.00	-257886.10
205EB+50	50.00	607.3	0.00	0.00	102.44	1118.12	0.00	0.00	11006.41	269908.19	0.00	0.00	-258901.78
206EB+00	50.00	593.55	0.00	0.00	104.16	1111.90	0.00	0.00	11110.56	271020.08	0.00	0.00	-259909.52
206EB+50	50.00	612.4	0.00	0.00	91.53	1116.62	0.00	0.00	11202.09	272136.70	0.00	0.00	-260934.61
207EB+00	50.00	544.26	0.00	0.00	127.71	1070.98	0.00	0.00	11329.81	273207.69	0.00	0.00	-261877.88
207EB+50	50.00	502.13	0.00	0.00	135.55	968.88	0.00	0.00	11465.35	274176.56	0.00	0.00	-262711.21
208EB+00	50.00	365.23	0.00	0.00	74.82	803.11	0.00	0.00	11540.18	274979.68	0.00	0.00	-263439.50
208EB+50	50.00	316.34	0.00	0.00	48.31	631.08	0.00	0.00	11588.48	275610.76	0.00	0.00	-264022.28
209EB+00	BK 50.00	0	0.00	0.00	20.78	292.91	0.00	0.00	11609.26	275903.67	0.00	0.00	-264294.41

Column totals

11609.26 275903.67 0.00 0.00





STA 187EB+50 TO 188EB+50

PROJECT NO: 1517-75-71

HWY: USH 10

COUNTY: WINNEBAGO

CROSS SECTIONS: EARLY FILL

SHEET

E

FILE NAME : I:\56537\1517-75-71\1\cds\090200_xs_EB_71.dgn

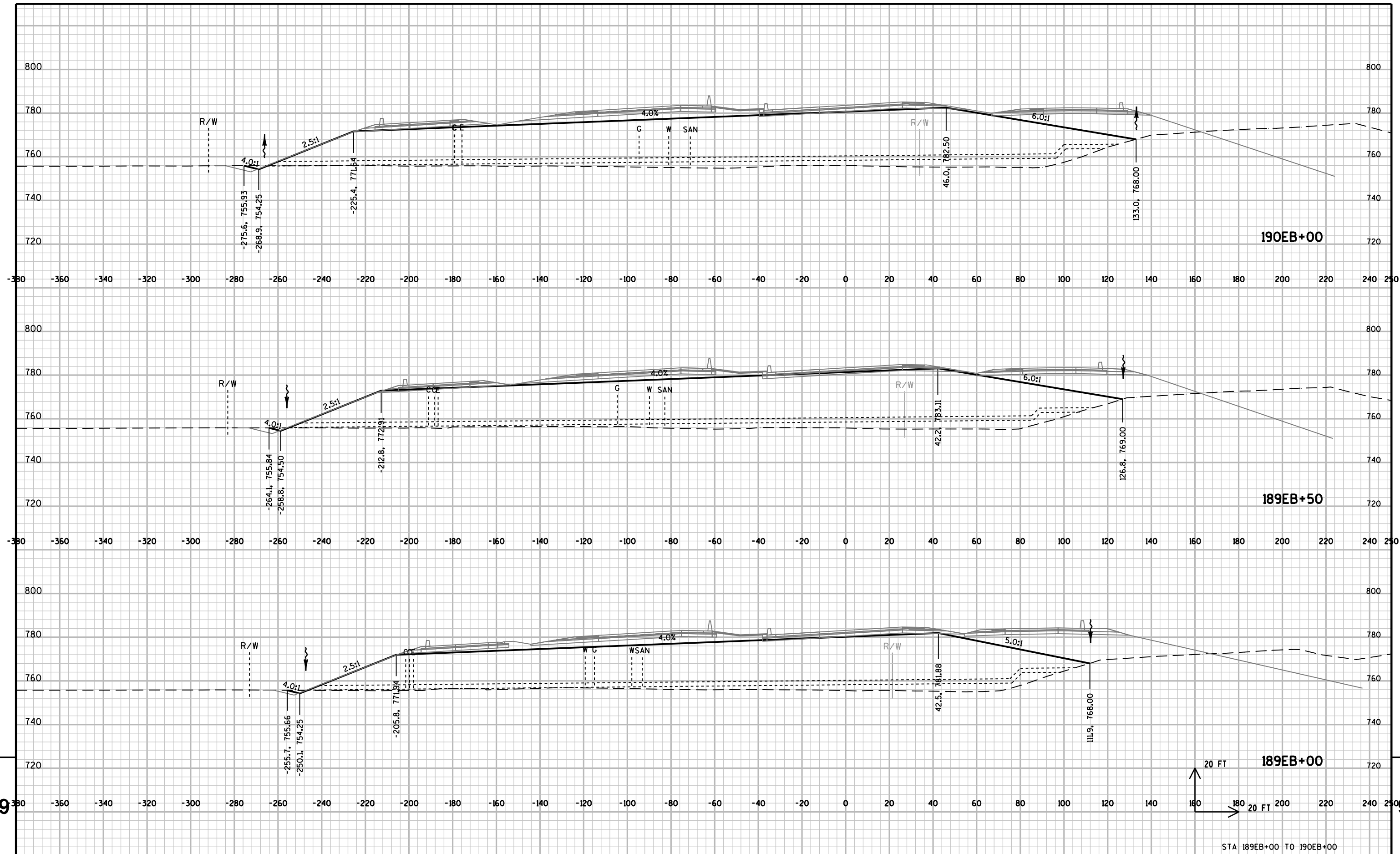
PLOT DATE : 10/31/2014 9:51:07 AM

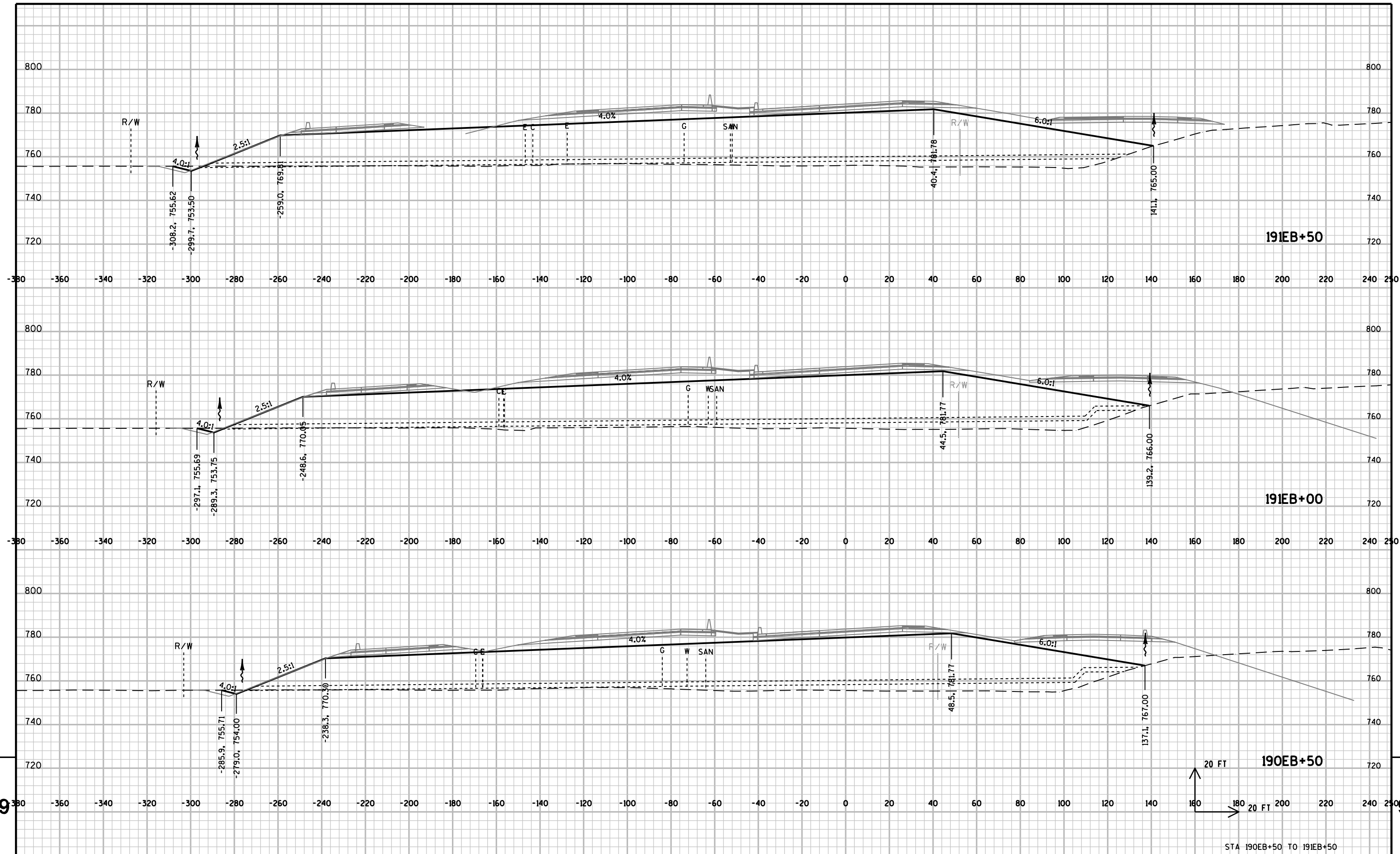
PLOT BY : dbaumann

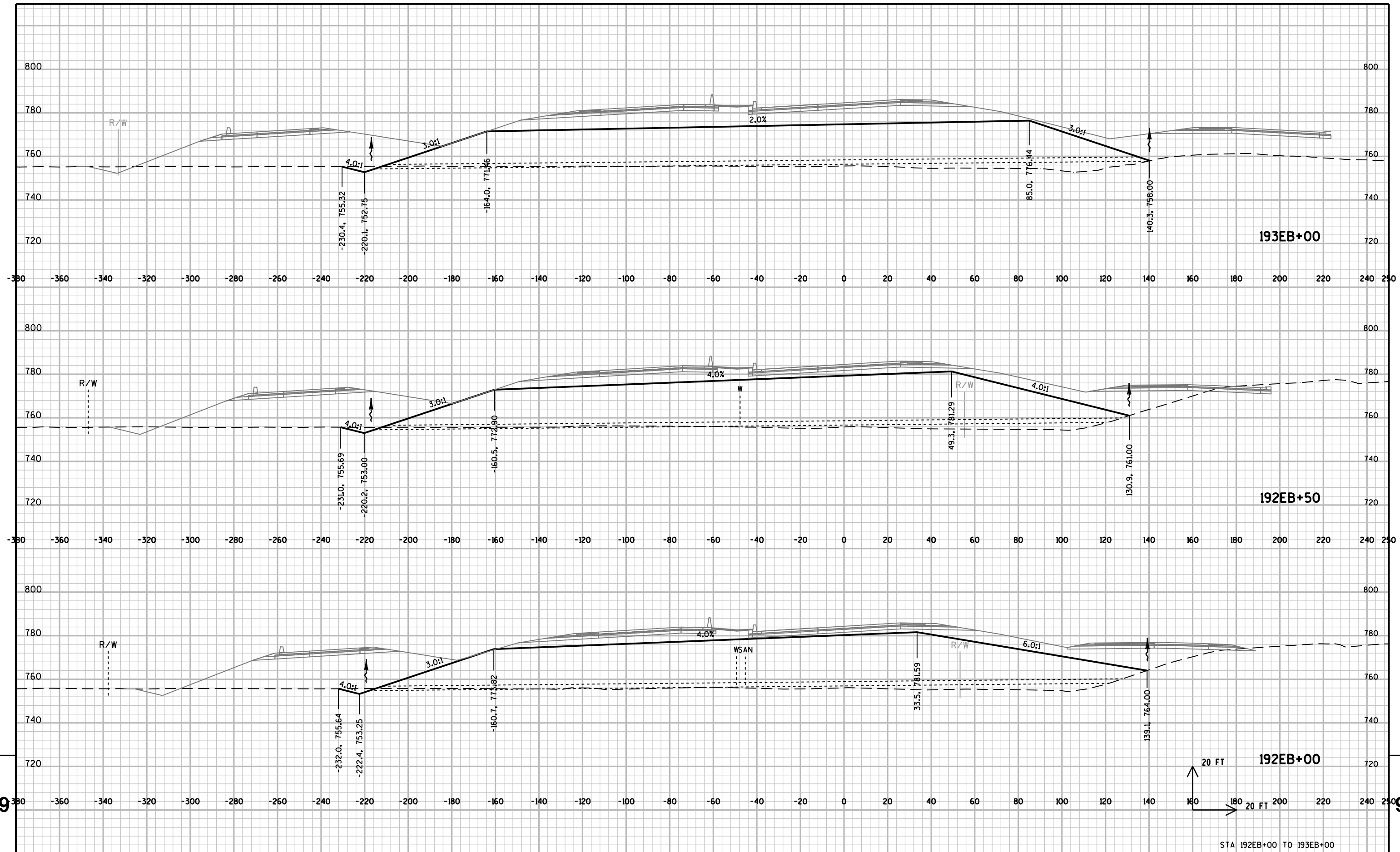
PLOT NAME :

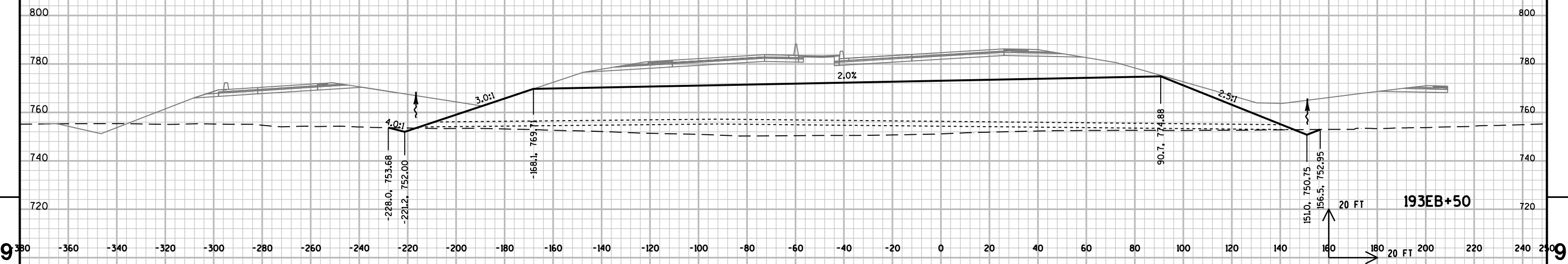
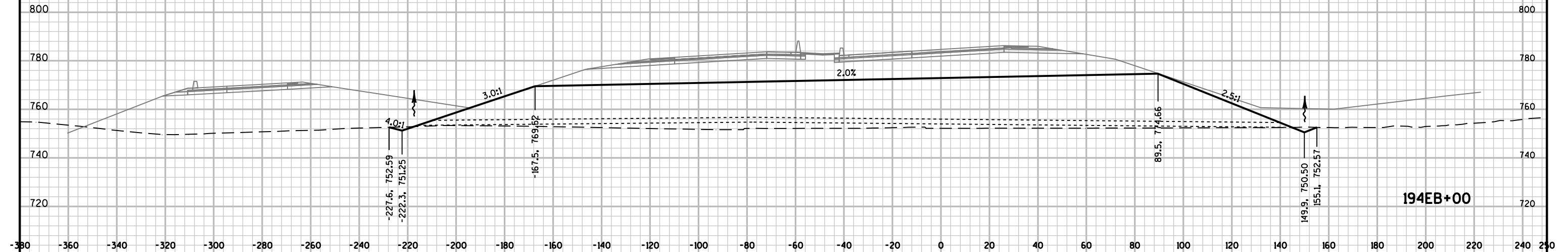
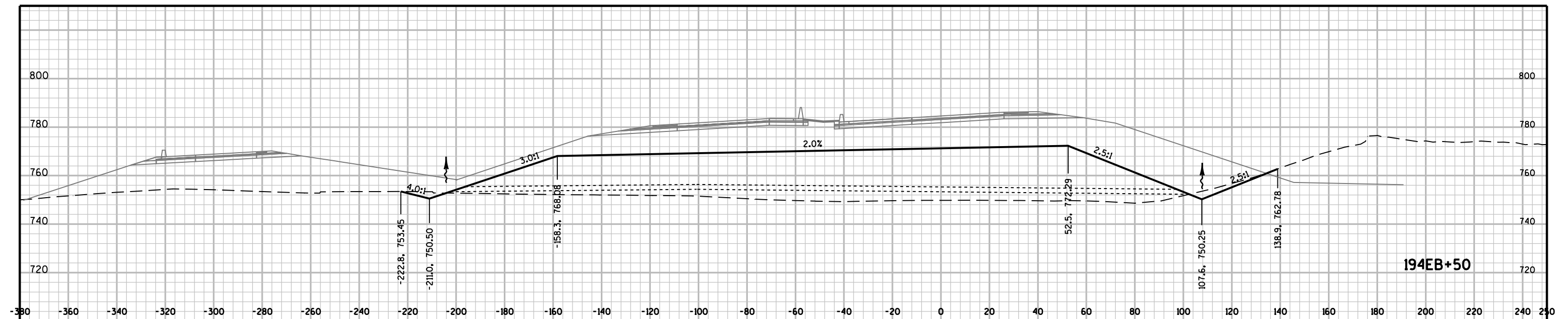
PLOT SCALE : 40:1

WISDOT/CADDs SHEET 21









PROJECT NO:1517-75-71

HWY: USH 10

COUNTY: WINNEBAGO

CROSS SECTIONS: EARLY FILL

SHEET

E

FILE NAME : I:\56537\1517-75-71\+1\cds\090200_xs_EB_71.dgn

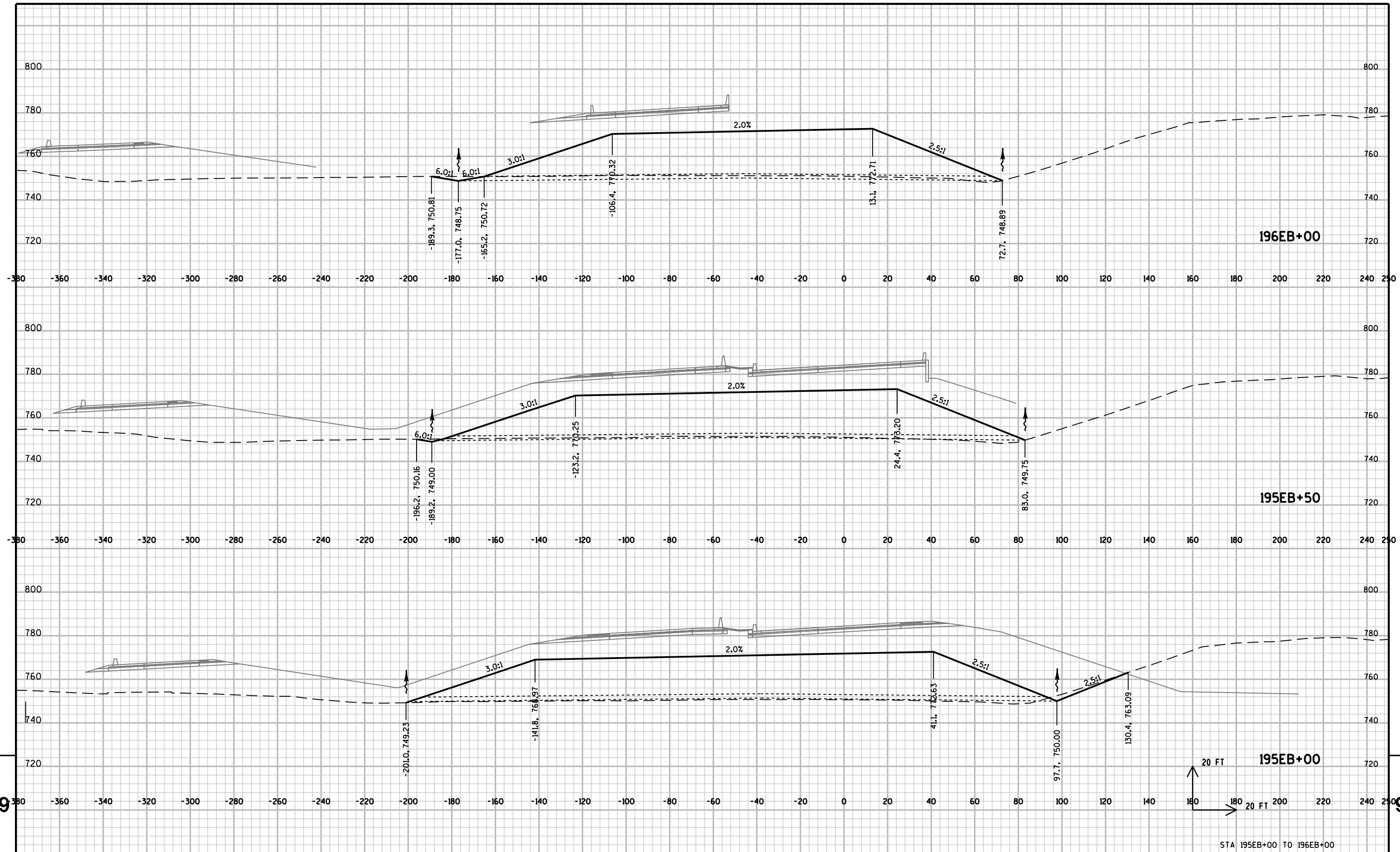
PLOT DATE : 10/31/2014 9:51:09 AM

PLOT BY : dbaumann

PLOT NAME :

PLOT SCALE : 40:1

WISDOT/CADDS SHEET 21



PROJECT NO: 1517-75-71

HWY: USH 10

COUNTY: WINNEBAGO

CROSS SECTIONS: EARLY FILL

SHEET

E

FILE NAME : I:\56537\1517-75-71\1\cds\090200_xs_EB_71.dgn

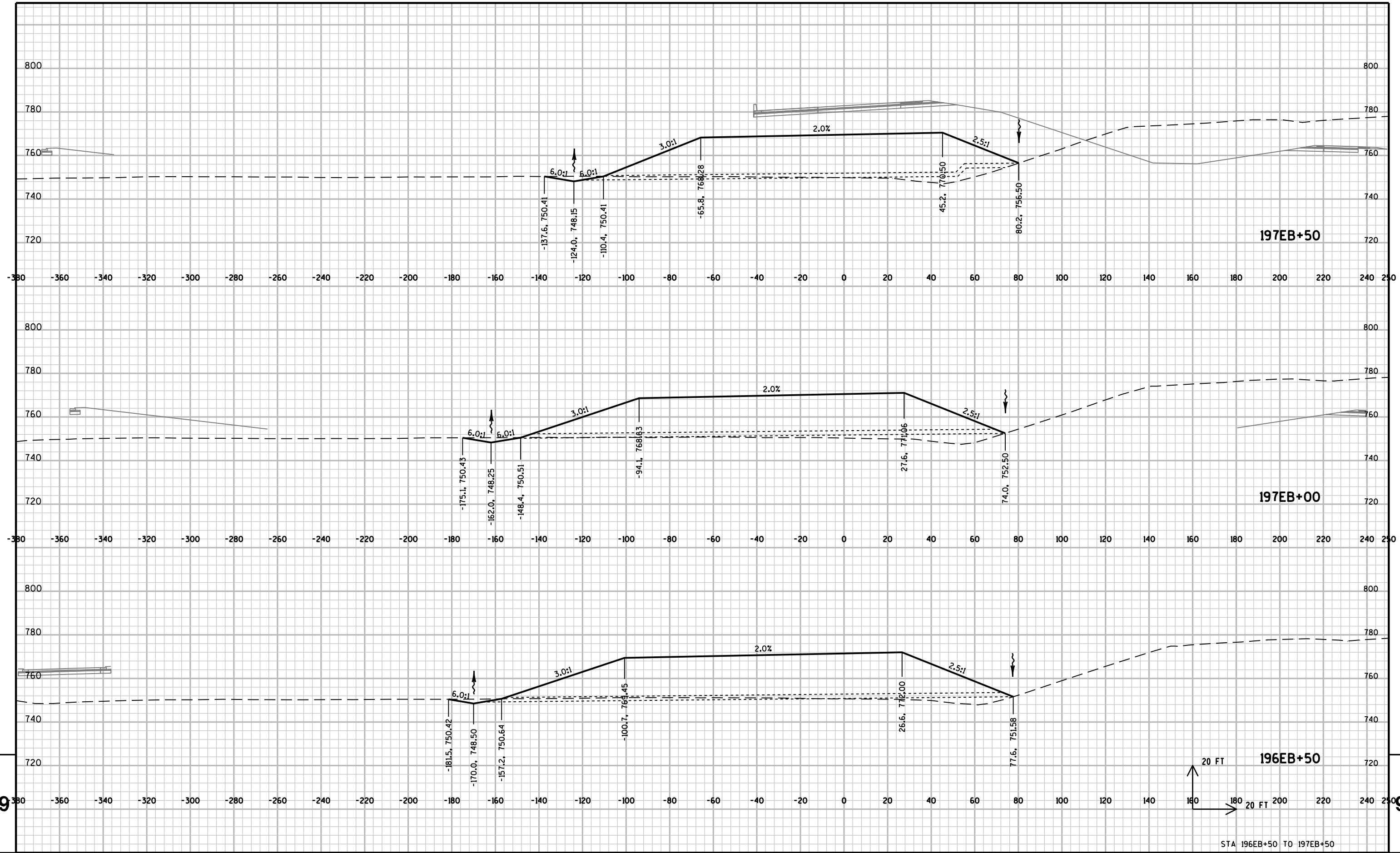
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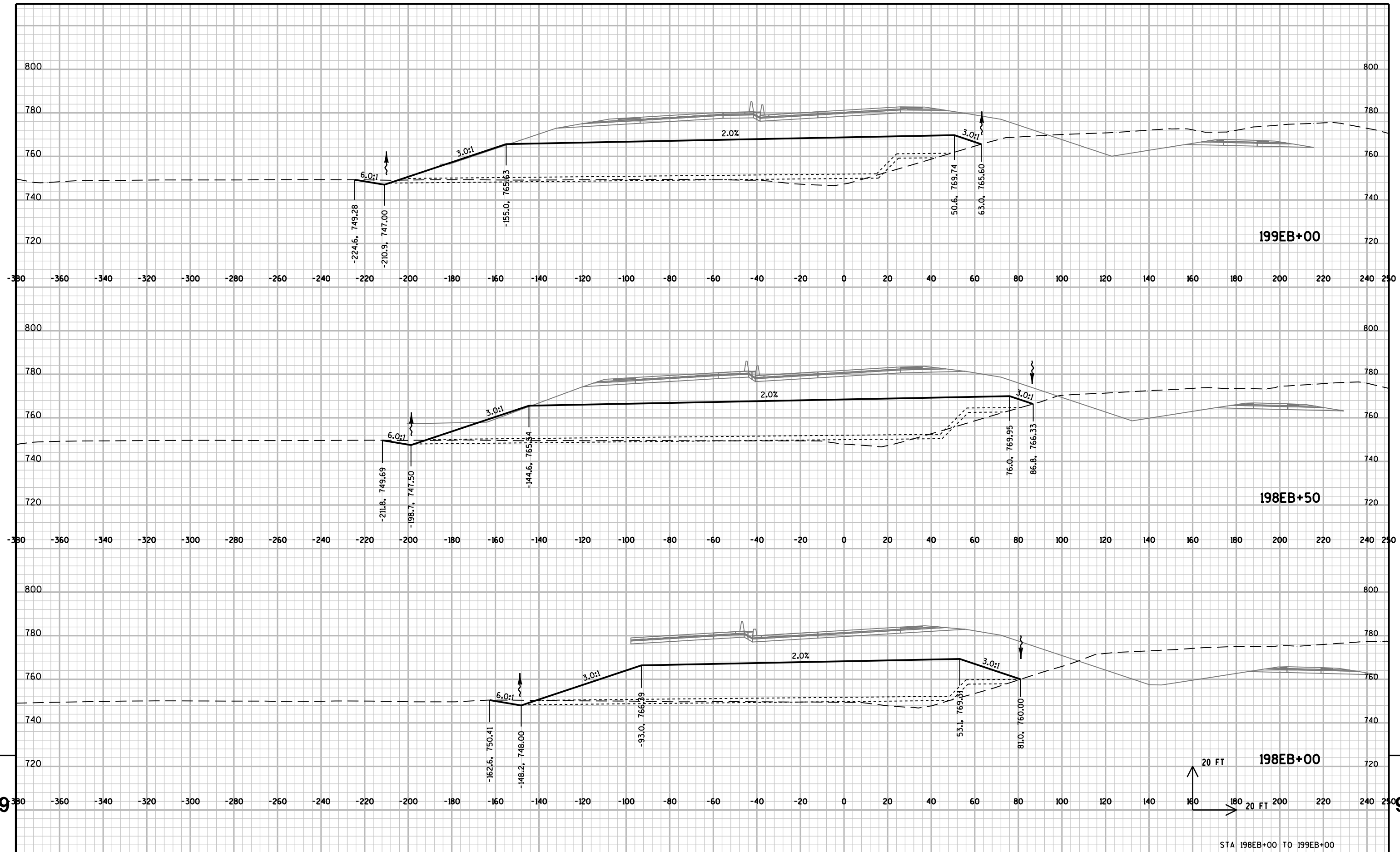
PLOT BY : dbaumann

PLOT NAME :

PLOT SCALE : 40:1

WISDOT/CADDs SHEET 21





PROJECT NO: 1517-75-71

HWY: USH 10

COUNTY: WINNEBAGO

CROSS SECTIONS: EARLY FILL

SHEET

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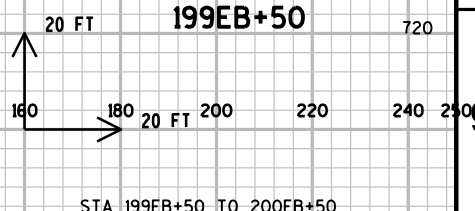
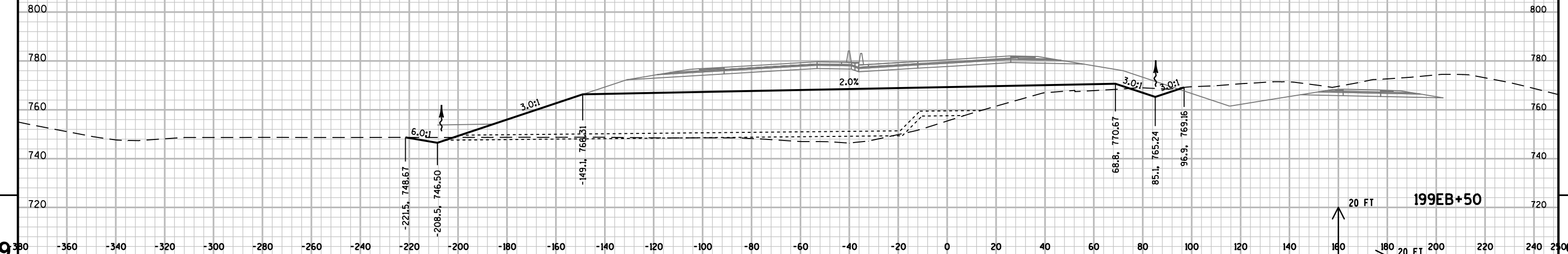
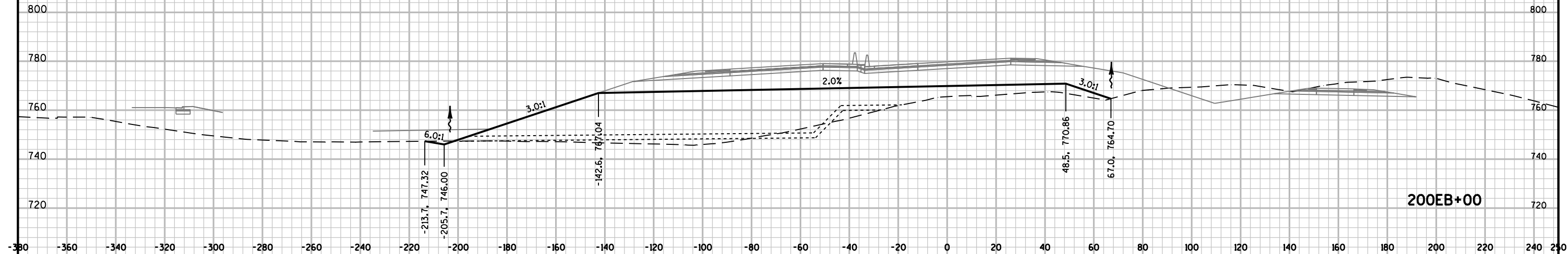
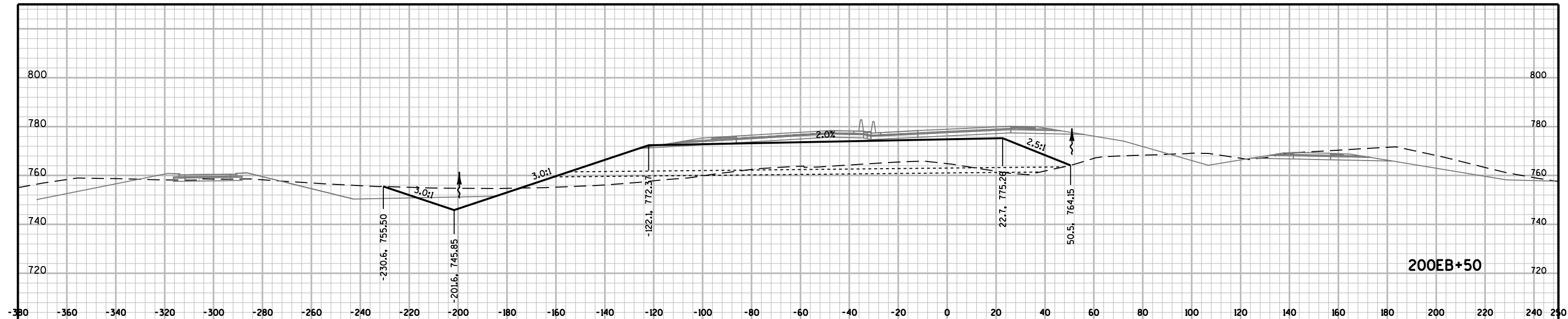
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PLOT BY : dbaumann

PLOT NAME :

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WISDOT/CADDs SHEET 21



PROJECT NO: 1517-75-71

HWY: USH 10

COUNTY: WINNEBAGO

CROSS SECTIONS: EARLY FILL

SHEET

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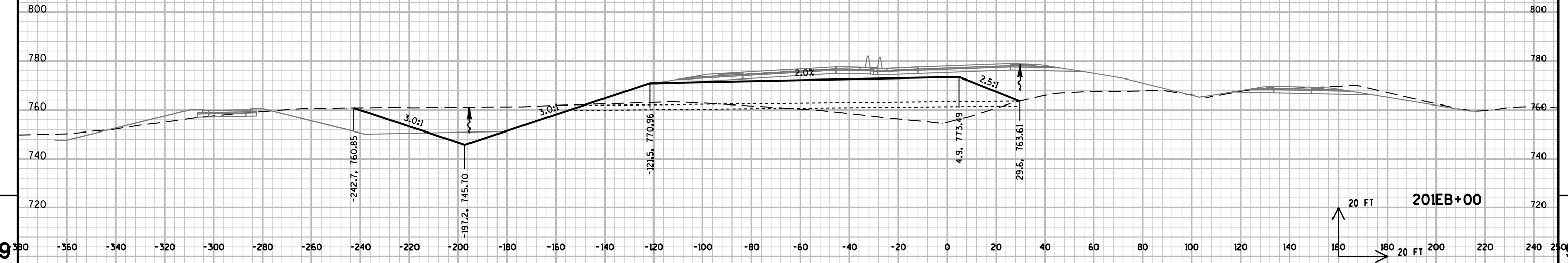
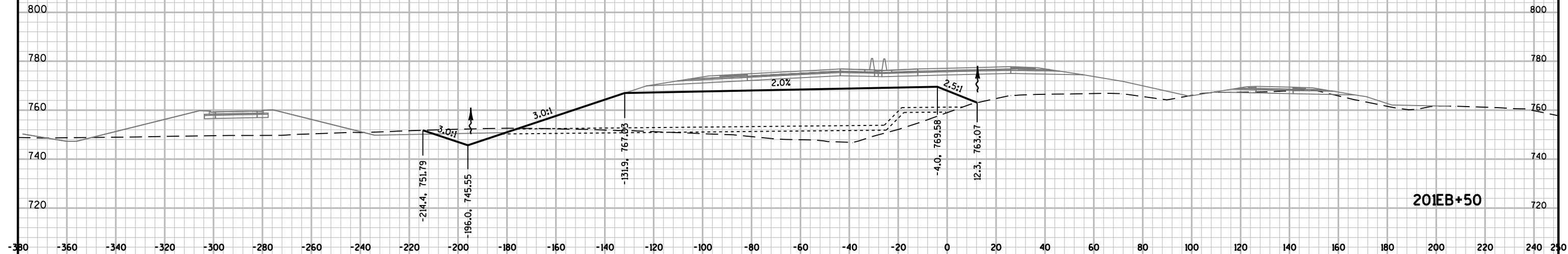
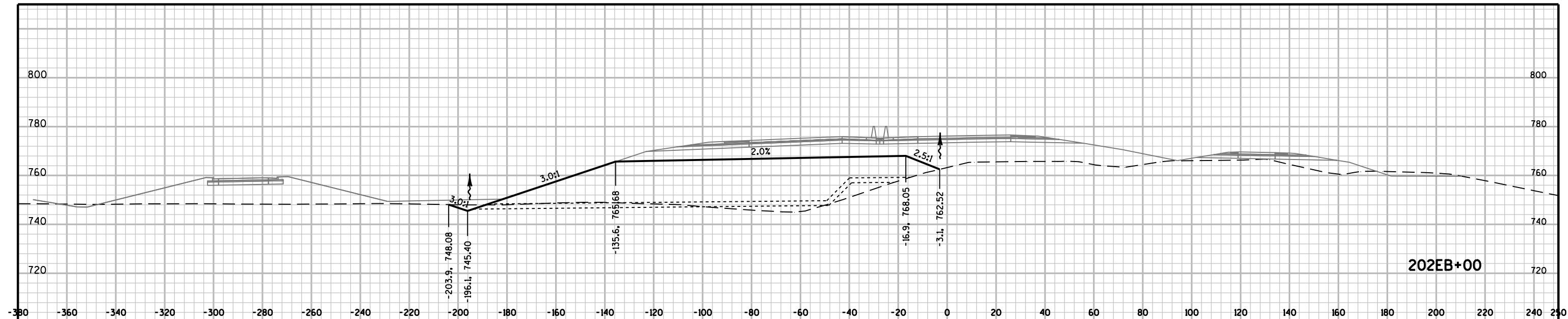
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PLOT BY : dbaumann

PLOT NAME :

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WISDOT/CADDs SHEET 21



PROJECT NO: 1517-75-71

HWY: USH 10

COUNTY: WINNEBAGO

CROSS SECTIONS: EARLY FILL

SHEET

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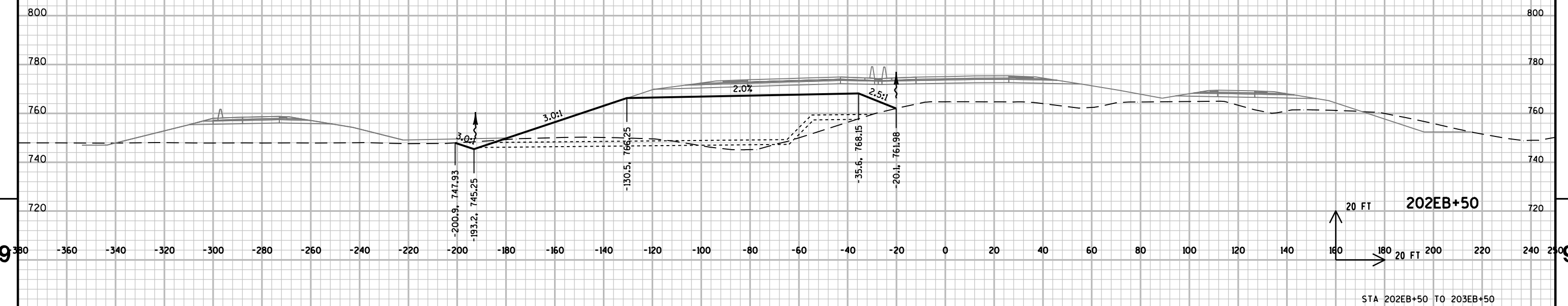
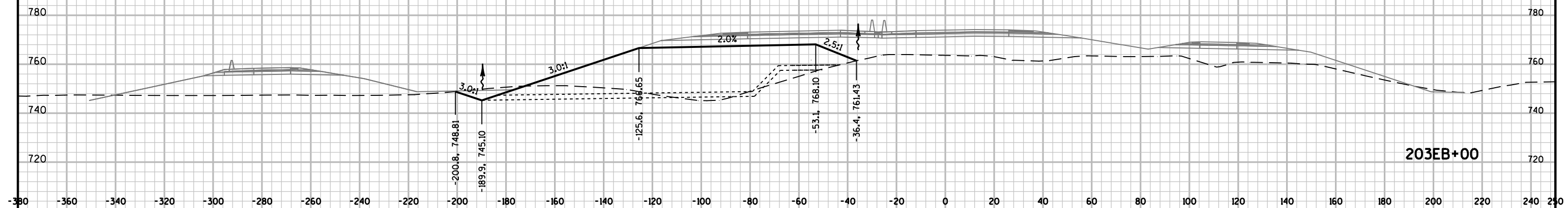
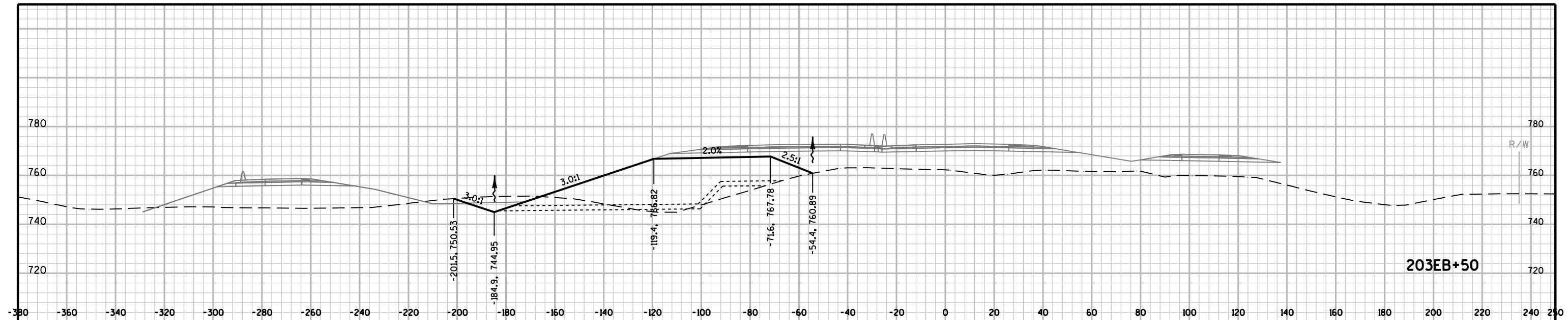
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PLOT NAME :

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WISDOT/CADDs SHEET 21



PROJECT NO: 1517-75-71

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COUNTY: WINNEBAGO

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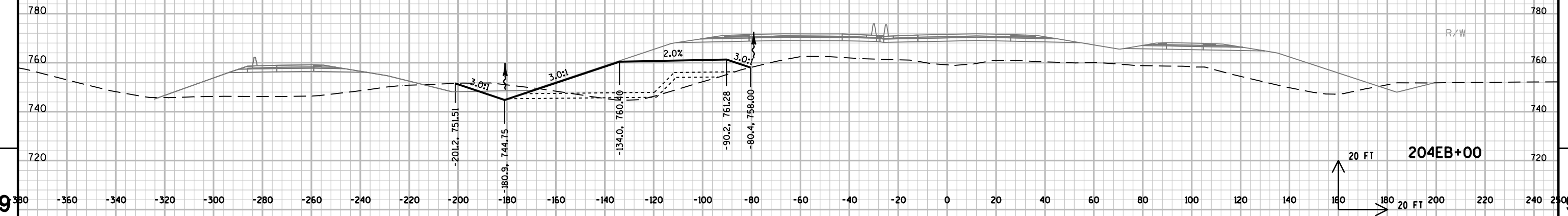
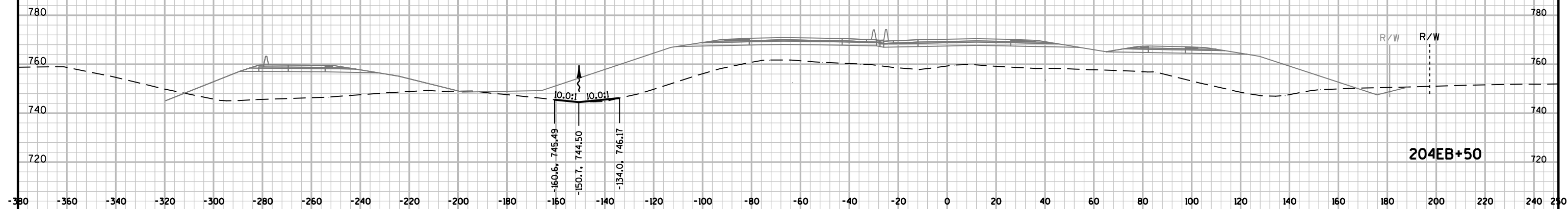
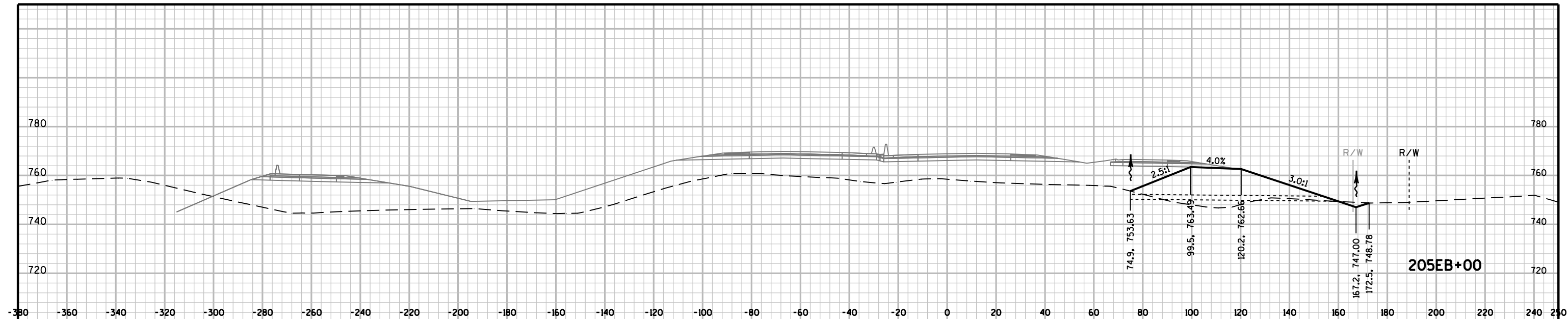
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PLOT NAME :

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WISDOT/CADDs SHEET 21



PROJECT NO: 1517-75-71

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COUNTY: WINNEBAGO

CROSS SECTIONS: EARLY FILL

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FILE NAME : I:\56537\1517-75-71\1\cds\090200_xs_EB_71.dgn

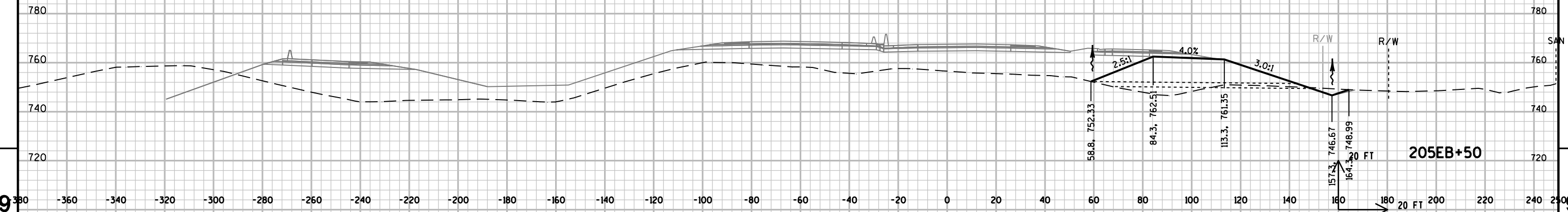
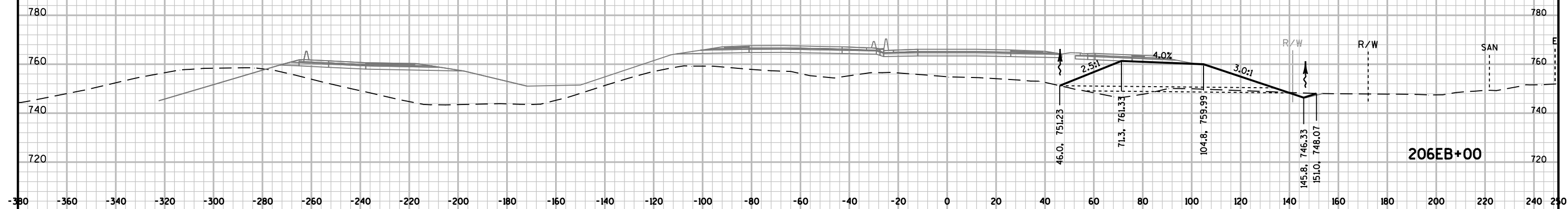
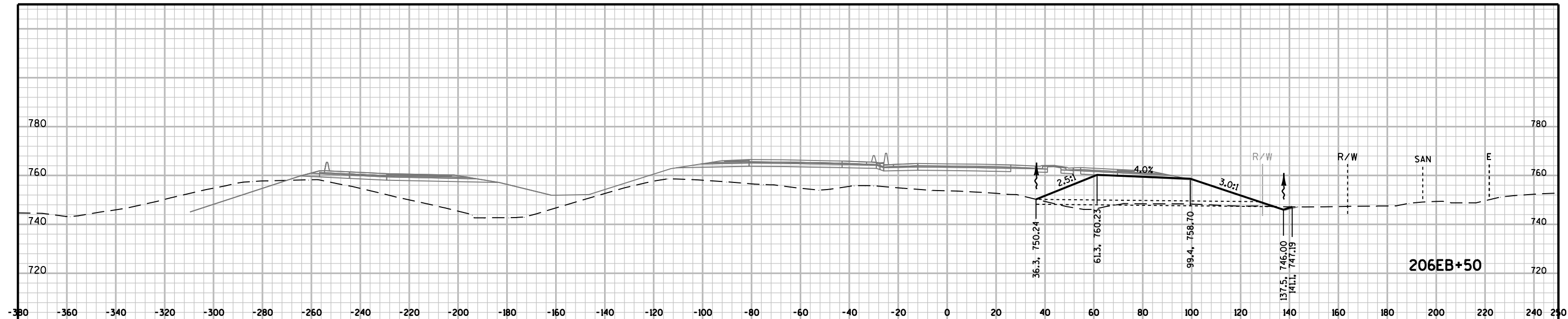
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PLOT NAME :

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WISDOT/CADDs SHEET 21



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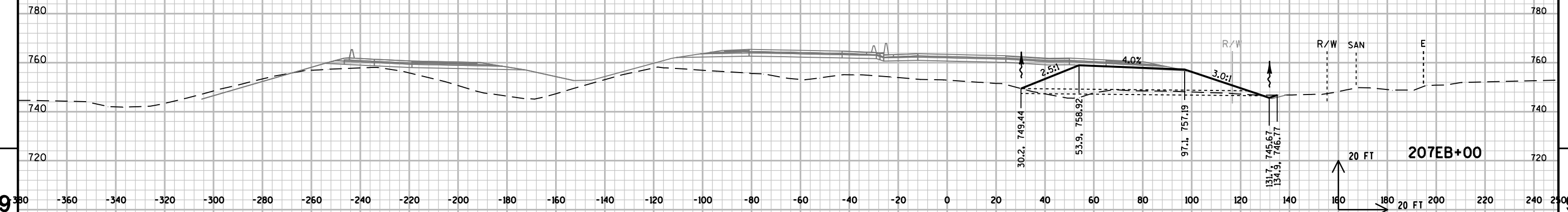
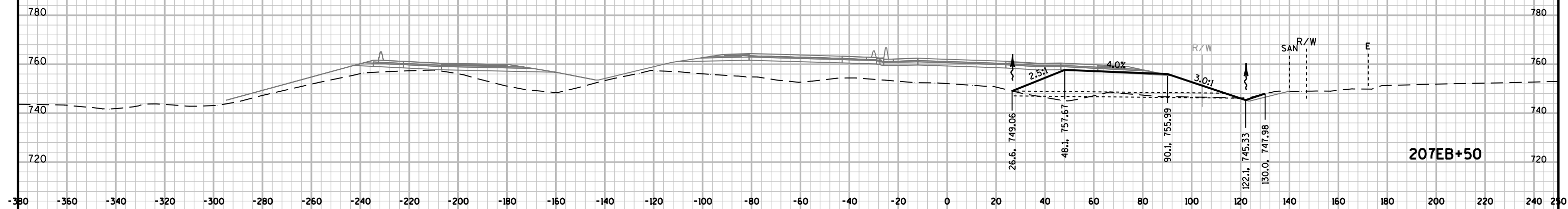
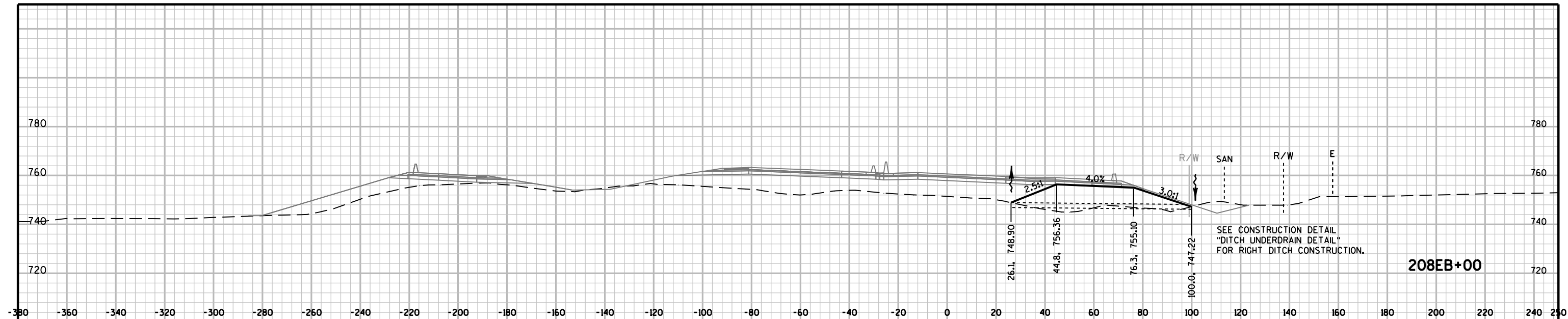
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PLOT NAME :

PLOT SCALE : 40:1

WISDOT/CADDs SHEET 21



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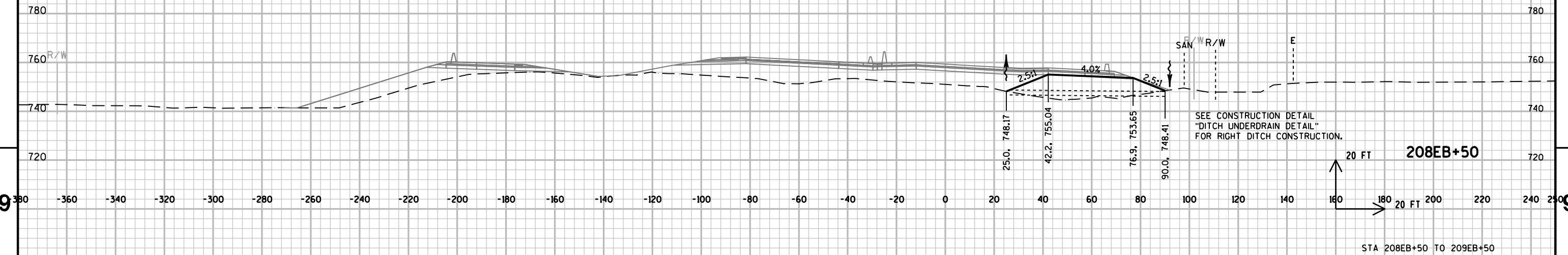
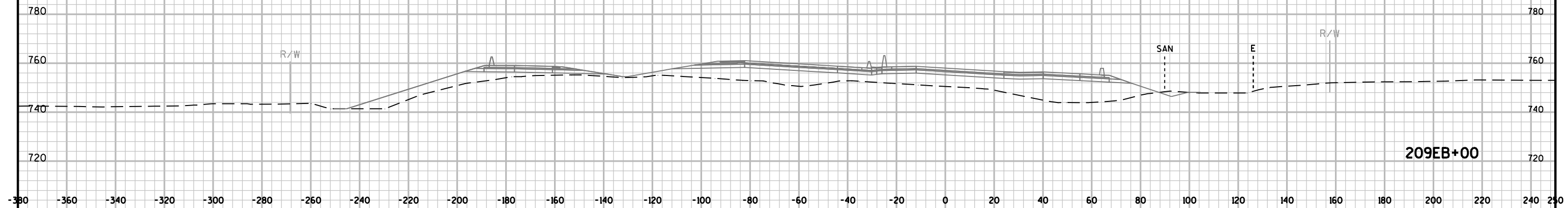
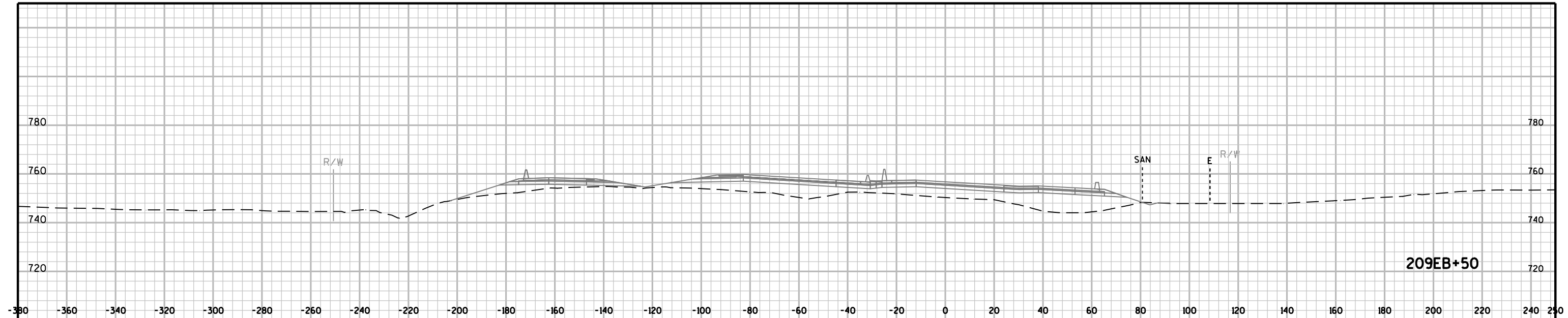
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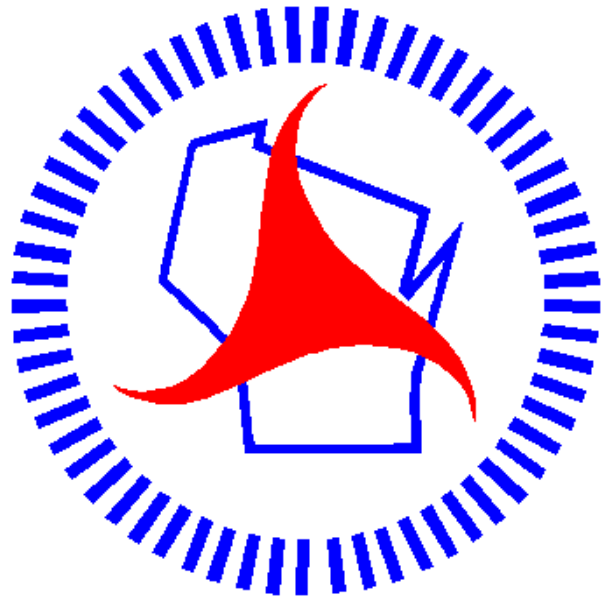
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PLOT NAME :

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