WKE

APR 2016

PROJECT ID: 1100-00-73

WITH: N/A

COUNTY: WASHINGTON

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 = 368

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1100-00-73		
N/A		

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MILWAUKEE - FOND DU LAC

KOHLSVILLE RIVER BRIDGES

IH 41

WASHINGTON COUNTY





STATE PROJECT NUMBER
1100-00-73

END PROJECT
STA 955+00.00

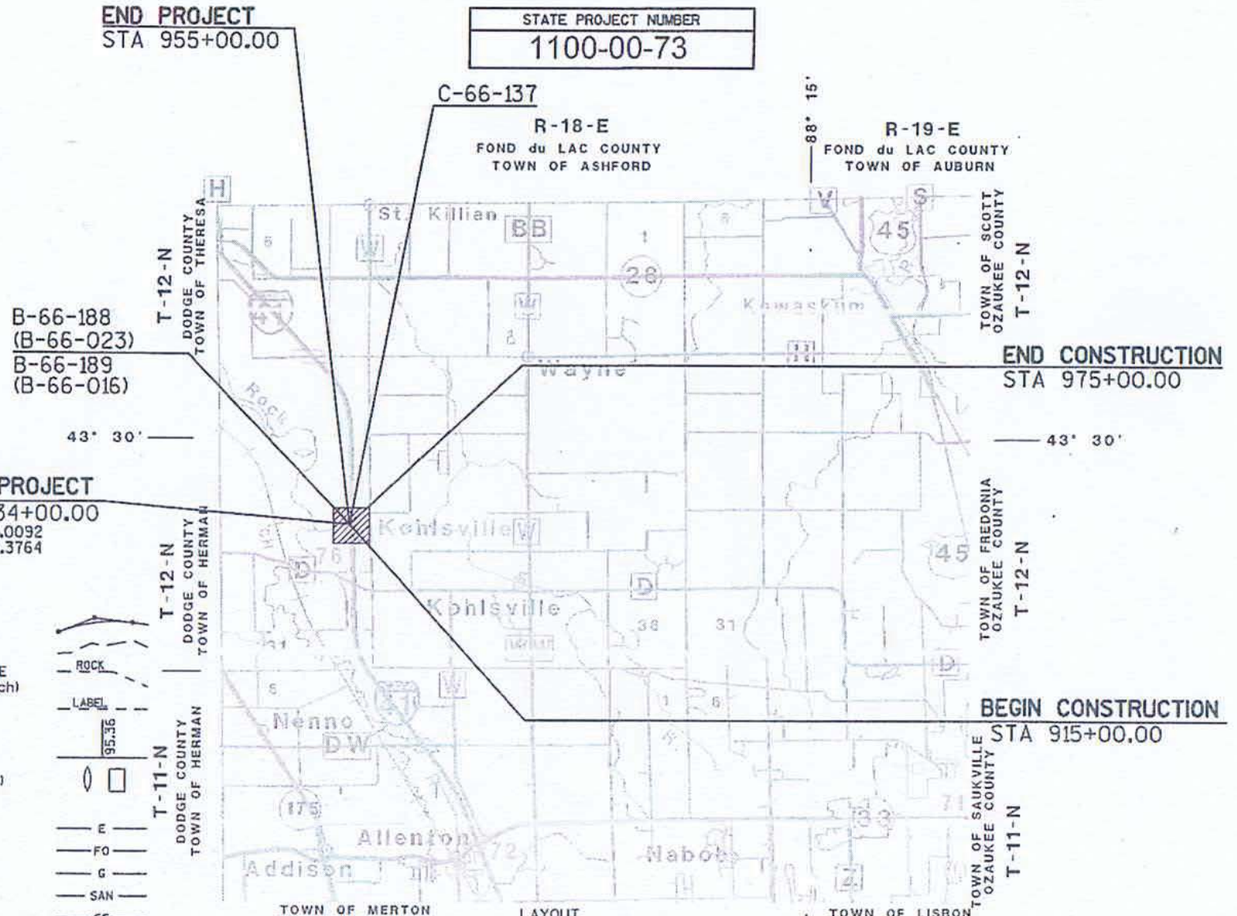
C-66-137

B-66-188
(B-66-023)
B-66-189
(B-66-016)

BEGIN PROJECT
STA 934+00.00
Y=204,751.0092
X=3135,96.3764

END CONSTRUCTION
STA 975+00.00

BEGIN CONSTRUCTION
STA 915+00.00



LAYOUT SCALE 0 1.0 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.398 MI.

COORDINATES AS THIS ARE REFERENCE TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), (WASHINGTON) COUNTY, VERTICAL DATUM IS NAVD88(2007) AND HORIZONTAL DATUM IS NAD83(2007).

DESIGN DESIGNATION

A.A.D.T.	2014	= 28,700
A.A.D.T.	2034	= 33,700
D.H.V.	2034	= 10.5%
D.D.		= 62/38
T.		= 13.8%
DESIGN SPEED		= 70 MPH
ESALS		=

CONVENTIONAL SYMBOLS

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

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

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

ORIGINAL PLANS PREPARED BY



2-2-2016
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	TOKI & Associates, Inc
Project Manager	DOUGLAS CAIN
Regional Examiner	
Regional Supervisor	BEN ERUCHALU

APPROVED FOR THE DEPARTMENT

DATE: 11-4-15 (Signature)

E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETS\PLAN\0101_01_TI.DWG

PLOT DATE : 10/23/2015 8:29 AM

PLOT BY : TOKI

PLOT NAME :

GENERAL NOTES

EXCAVATION BELOW SUB-GRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTION BUT IS MEASURE AND PAID AS COMMON EXCAVATION.

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

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK.

QUANTITIES FOR EXCAVATION COMMON INCLUDE REMOVAL OF EXISTING CONCRETE PAVEMENT, ASPHALT, AND BASE COURSE TO THE PROPOSED SUBGRADE.

PAVEMENT REMOVAL WILL BE TO THE NEAREST JOINT, OR AS DIRECTED BY THE ENGINEER.

STATIONS ON THE TITLE SHEET AND CROSS SECTIONS ARE REFERENCED TO THE TL USH 41/45.

CURVE DATA SHOWN ON THE PLAN IS "ARC DEFINITION" AND IS BASED ON AS BUILT PLANS.

ADJUSTMENTS TO THE PLAN MAY BE REQUIRED TO FIT FIELD CONDITIONS.

DETAILS OF CONSTRUCTION NOT SHOWN SHALL BE IN ACCORDANCE WITH THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

NO TREES OR SHRUBS ARE BEING REMOVED WITHOUT APPROVAL OF THE ENGINEER

GRADING/EROSION CONTROL

FILL AS SHOWN ON THE PLAN PERTAINS TO EMBANKMENTS CONSTRUCTED FROM COMMON EXCAVATION. THE SHRINKAGE FACTOR USED TO COMPUTE THE VOLUME OF MATERIAL NECESSARY FOR THE FILL IS 25% FOR COMMON EXCAVATION BASED ON ITS ORIGINAL POSITION.

TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED AFTER DISTURBED AREAS ARE STABILIZED OR AT THE DIRECTION OF THE ENGINEER.

RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE IMMEDIATELY AFTER FINISHED GRADING IS COMPLETE.

SALVAGED TOPSOIL, SEEDING, MULCHING AND FERTILIZER HAVE BEEN COMPUTED BY A DIRECT MEASUREMENT ON THE CROSS SECTIONS PLUS FIVE (5) FEET BEYOND THE TOE OF THE SLOPE.

RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.

DISTURBED AREAS WITHIN THE RIGHT OR WAY, EXCEPT THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED AND EROSION MAT PER EROSION CONTROL PLAN.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOOD PLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

DRAINAGE

CROSS DRAIN PIPE ELEVATIONS, LENGTHS AND LOCATIONS AS SHOWN ON THE PLANS SHALL BE ADJUSTED AS NECESSARY TO FIT THE EXISTING FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ALL CONCRETE PIPES SHALL HAVE THE APRON ENDWALL AND THE FIRST TWO PIPE JOINTS TIED.

CUTTING AND REMOVING DAMAGED CULVERT PIPE ENDS PRIOR TO LINING OR INSTALLING APRON ENDWALLS ARE INCIDENTAL TO THE BID ITEM FOR CULVERT PIPE LINING OR APRON ENDWALL FOR CULVERT PIPES.

APPLY TACK COAT BETWEEN LAYERS. USE THE FOLLOWING LAYERS AND GRADATIONS

ASPHALTIC MATERIAL	TYPE	THICKNESS	LAYER	NOMINAL MAXIMUM SIZE GRADATION
PG 64-28	HMA PAVEMENT TYPE E-10	6 -INCH	2-INCH UPPER	12.5 MM
			4 INCH LOWER	19.0 MM
PG 64-28	HMA PAVEMENT TYPE E-10	4 -INCH	1 3/4 INCH UPPER	12.5 MM
			2 1/4-INCH LOWER	19.0 MM

ORDER OF SECTION 2 SHEETS

TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
EROSION CONTROL BY STAGE
STORM SEWER
SIGNING
PAVEMENT MARKING
TRAFFIC CONTROL
CONSTRUCTION STAGING
ALIGNMENT

LIST OF STANDARD ABBREVIATIONS

ABUT Abutment
AP Access Point
AR Access Rights
AC Acre
AGG Aggregate
AH Ahead
ET AL And Others
< Angle
AADT Annual Average Daily Traffic
ASPH Asphaltic
APM Asphaltic Plant Mix
AVG Average
BK Back
BF Back Face
B & B Balled and Burlapped
B & P Balled and Potted
BR Bare Root
BRP Bare Root Potted
BL or B/L Base Line
BM Bench Mark
BLK Block
BR Bridge
CB Catch Basin
C Celsius
CL or C/L Center Line
CC Center to Center
Central Angle or Delta
CH Chord
CH BRG Chord Bearing
CE Commercial Entrance
CONC Concrete
CB* Control Base
CBTP Concrete Barrier Temporary Precast
CPCS Culvert Pipe Corrugated Steel
CO County
CTH County Trunk Highway
CR Creek
CR Crushed
CABC Crushed Aggregate Base Course
CY or CUYD Cubic Yard
CULT Cultivated
CULV Culvert
CP Culvert Pipe
CPCP Culvert Pipe Corrugated Polyethylene
CPCSAC Culvert Pipe Corrugated Steel Aluminum Coated
CPCSPC Culvert Pipe Corrugated Steel Polymer Coated
CPRC Culvert Pipe Reinforced Concrete
CPRCHE Culvert Pipe Reinforced Concrete Horizontal Elliptical
CPS Culvert Pipe Salvaged
CPT Culvert Pipe Temporary
C & G Curb and Gutter
(D) Deed
DEF Deformed
D Degree of Curve
DHV Design Hour Volume
DIA Diameter
DD Directional Distribution
DISCH Discharge
DIST District
DG Ditch Grade
DOC Document
DWY Driveway
E East
X East Grid Coordinate
EB Eastbound
ELEC Electric (al)
EL or ELEV Elevation
EMB Embankment
EVP Emergency Vehicle Preempt
EVPR Emergency Vehicle Preempt Receiver
EW Endwall
ENT Entrance
ESALS Equivalent Single Axle Loads
EST Estate
EXC Excavation
EBS Excavation Below Subgrade
EXIST Existing
EXP Expansion
FF Face to Face
FP Fence Post
FERT Fertilize
FE Field Entrance
F Fill
FG Finished Grade
FAB Flashing Arrow Board
FL or F/L Flow Line
FT Foot
FTG Footing
FDN Foundation
FTMS Freeway Traffic Management System
G Garage
GN Grid North
HR Handicap Ramp
HT Height
HES High Early Strength
H House
CWT Hundredweight
HYD Hydrant
IN DIA Inch Diameter
INL Inlet
ID Inside Diameter
INTERS Intersection
I Intersection Angle
INV Invert
IP Iron Pipe or Pin
JT Joint
JCT Junction
JB* Junction Box
LC Land Contract
LT Left
LHF Left-Hand Forward
L Length of Curve
LIN FT or LF Linear Foot
L Liter
LC Long Chord of Curve
LS Lump Sum
LV Level
MAINT Maintenance
MGR Manager
MH Manhole
MP Marker Post
M Marsh
ML or M/L Match Line
MATL Material
MB Message Board
NOM Nominal
NC Normal Crown
NW or N/W Normal Water
N North
Y North Grid Coordinate
NB Northbound
NO Number
OBLIT Obliterate
OL Out Lot
OD Outside Diameter
PSD Passing Sight Distance
PAVT Pavement
B Pedestrian Push Button
PERM Permanent
PLE Permanent Limited Easement
PACS Pipe Arch Corrugated Steel
PACSAC Pipe Arch Corrugated Steel Aluminum Coated
PAPCCS Pipe Arch Polymer Coated Corrugated Steel
PASP Pipe Arch Structural Plate
PCPCS Pipe Cattle Pass Corrugated Steel
PCP Pipe Cattle Pass
PCPRC Pipe Cattle Pass Reinforced Concrete
PSP Pipe Structural Plate
PU Pipe Underdrain
PUU Pipe Underdrain Unperforated
PUW Pipe Underdrain Wrapped
PUWP Pipe Underdrain Wrapped and Plowed
PT Point
PCC Point of Compound Curve
PC Point of Curvature
PI Point of Intersection
PRC Point of Reverse Curvature
PT Point of Tangency
POC Point On Curve
POT Point on Tangent
PVC Polyvinyl Chloride
PCC Portland Cement Concrete
LB Pound
PSI Pounds Per Square Inch
PE Private Entrance
PROJ Project
PL Property Line
PB* Pull Box
QCD Quitclaim Deed
R Radius
RP Radius Point
RR Railroad
RY Railway
RM Ramp Meter
R Range
RECY Recycled
RL or R/L Reference Line
RP Reference Point
RCPA Reinforced Concrete Pipe Arch
REBAR Reinforcement Bar
REINF Reinforcing or Reinforcement
REL Relocate (d)
REM Remaining
REP Representative
REQD Required
RES Residence or Residential
RW Retaining Wall
RT Right
RHF Right-Hand Forward
R/W Right-of-Way
R River
RD Road
RDWY Roadway
SALV Salvaged
SSS Sanitary and Storm Sewer
SAN S Sanitary Sewer
SEC Section
SHLDR Shoulder
SHR Shrinkage
SW Sidewalk
SB* Signal Base
S South
SB Southbound
SP Special
SC Special Crossing
SPECS Specifications
SQ Square
SF or SQ FT Square Feet
SY or SQ YD Square Yard
STD Standard
SDD Standard Detail Drawings
STH State Trunk Highways
STA Station
SSD Stopping Sight Distance
SS Storm Sewer
SSPC Storm Sewer Pipe Composite
SSPNRC Storm Sewer Pipe Non Reinforced Concrete
SSPRC Storm Sewer Pipe Reinforced Concrete
SSPRCHE Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical
STR Structure or Structural
SUBD Subdivision
SE Superelevation
SURF Surface
SL or S/L Survey Line
T Tangent
TEL Telephone
TEMP Temporary
TI Temporary Interest
TLE Temporary Limited Easement
TPM Temporary Pavement Marking
TPMRT Temporary Pavement Marking, Removable Tape
MBM Thousand Feet Board Measure
T Ton
TC Top of Curb
T or TN Town
TRANS Transition
TL or T/L Transit Line
T Trucks (percent of)
TYP Typical
UD Underdrain
UG Underground
USH United States Highway
VAR Variable
V Velocity or Design Speed
VERT Vertical
VC Vertical Curve
VPCC Vertical Point of Compound Curve
VPC Vertical Point of Curve
VPI Vertical Point of Intersection
VPRC Vertical Point of Reverse Curve
VPT Vertical Point of Tangency
VIT Vitrified
VOL Volume
W Water
WM Water Main
WV Water Valve
W Well
W West
WB Westbound
YD Yard

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

UTILITY CONTACTS

WISDOT STATE TRAFFIC
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MILWAUKEE, WI 53203-3007
PHONE: (414) 225-3723
JEFFREY.MADSON@DOT.WI.GOV

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ENVIRONMENTAL ANALYSIS AND
REVIEW SPECIALIST
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MILWAUKEE, WI 53212
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KRISTINA.BETZOLD@WISCONSIN.GOV
WWW.DNR.WI.GOV

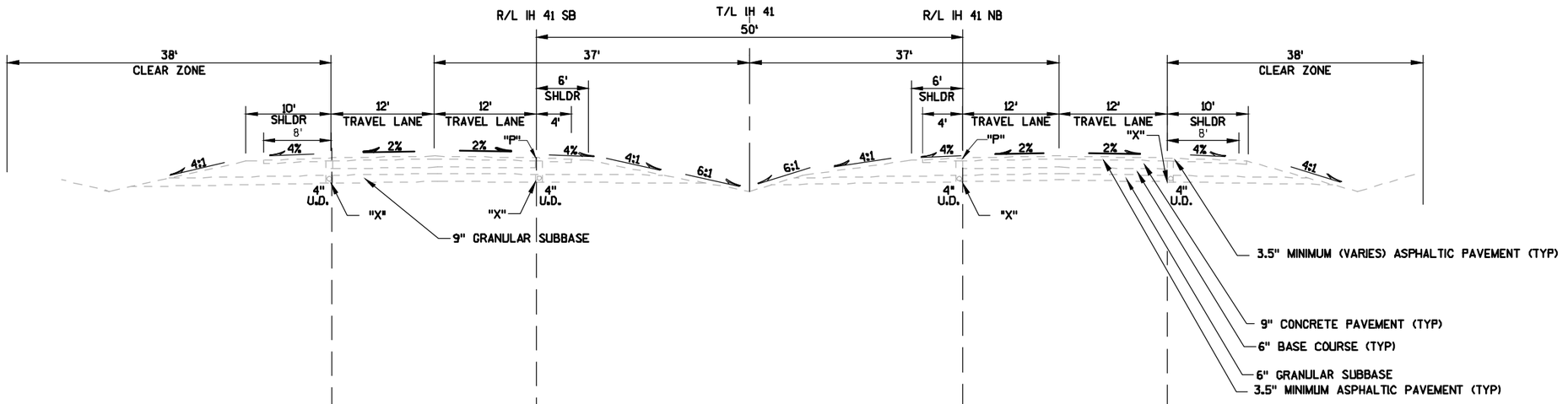
OTHER CONTACTS

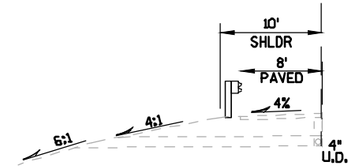
TOM WONDRA, PE, COMMISSIONER
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PHONE: (262) 335-4437
FAX: (262) 335-4439

CARL KLEMME, TOWN CHAIRMAN
TOWN OF WAYNE
6030 MOHAWK ROAD
CAMPBELLSPORT,WI 53010
PHONE: (262) 626-4818 FAX:(262) 626-1958
waynetown@netwurx.net

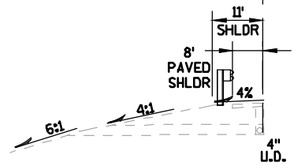
DOUGLAS CAIN, PE
WISCONSIN DEPT OF TRANSPORTATION -
SE REGION
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PO BOX 798
WAUKESHA, WI 53187-0798
PHONE: (262) 548-5603
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oolapo@tokiandassociates.com

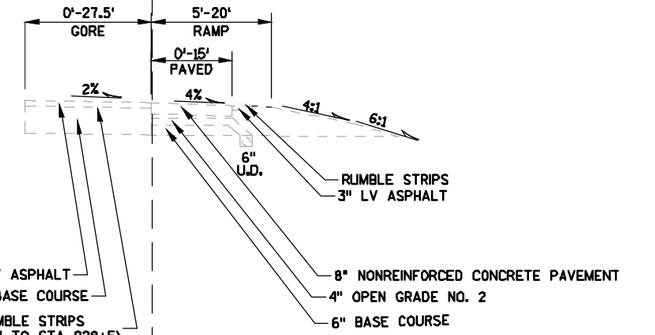




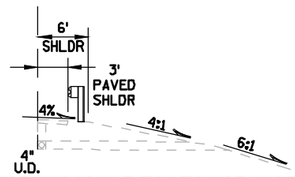
STA 949+83.70 TO 952+65.00



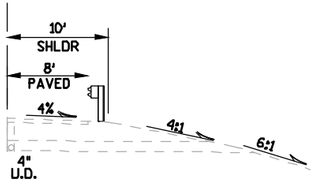
STA 946+00.00 TO STA 949+49.70
STA 950+10.58 TO STA 951+00.00



STA 921+00.00 TO 941+01.93



STA 949+83.70 TO STA 953+50.00



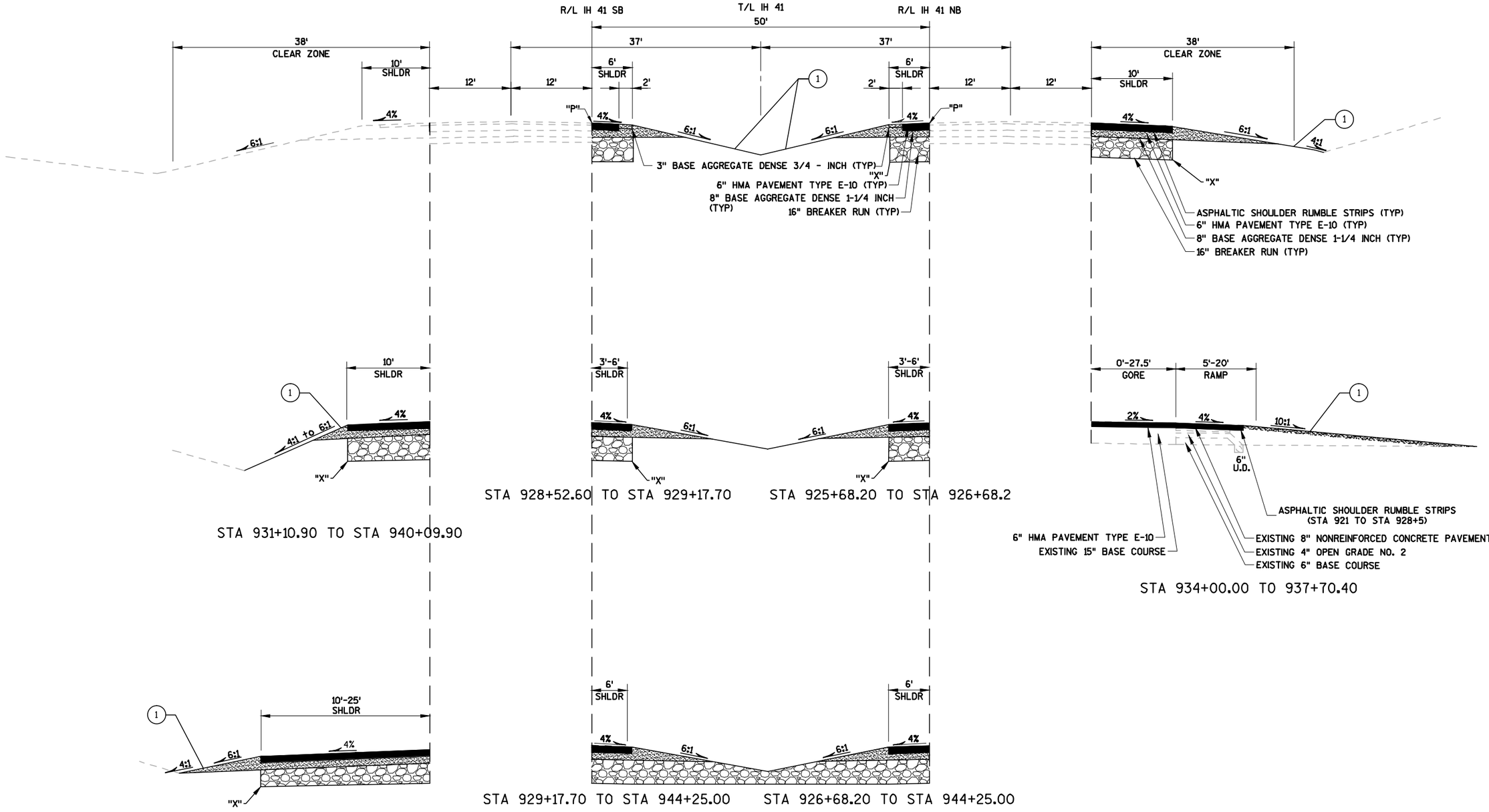
STA 945+62.00 TO 949+49.70

EXISTING TYPICAL SECTION
IH 41

STA 922+24.00 TO STA 973+70.00

NOTES:
"P" POINT REFERRED TO ON PROFILE
"X" POINT REFERRED TO ON CROSS SECTIONS

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EXISTING TYPICAL SECTION	SHEET 4	E



STA 931+10.90 TO STA 940+09.90

STA 928+52.60 TO STA 929+17.70

STA 925+68.20 TO STA 926+68.2

STA 934+00.00 TO 937+70.40

STA 929+17.70 TO STA 944+25.00

STA 926+68.20 TO STA 944+25.00

STA 940+09.90 TO 945+00.00

TYPICAL FINISHED SECTION

IH 41

STA 925+68.20 TO STA 944+25.00

EXCEPT; (SB MEDIAN) STA 925+68.20 TO STA 928+52.60

(NB OUTSIDE) STA 925+68.20 TO STA 934+00.00

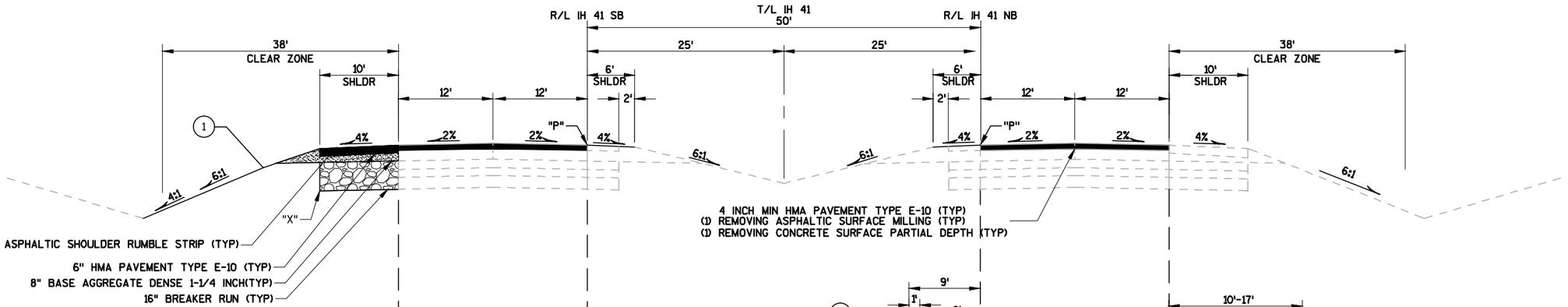
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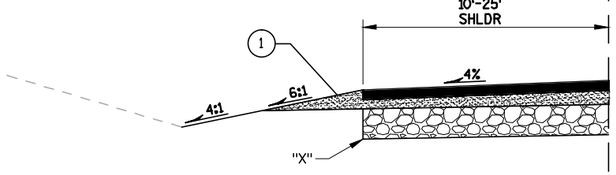
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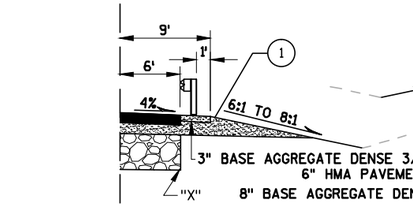
(1) TOPSOIL, SEED. SEE EROSION CONTROL PLANS

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	FINISHED TYPICAL SECTION	SHEET 5	E

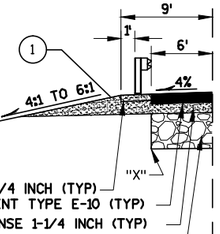




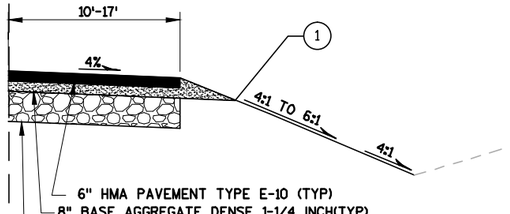
STA 945+00.00 TO STA 948+50.00
STA 955+50.00 TO STA 959+68.30



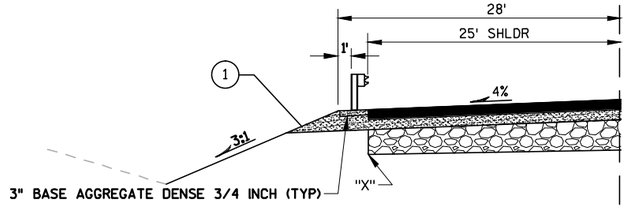
STA 950+10.89 TO STA 953+61.50



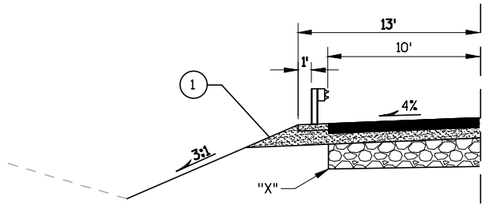
STA 946+05.06 TO STA 949+23.73



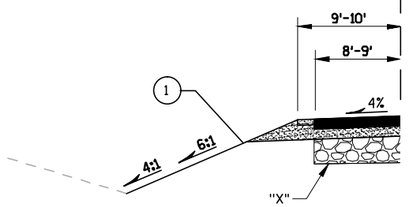
STA 946+00.00 TO STA 946+61.80
STA 952+69.50 TO STA 955+00.00



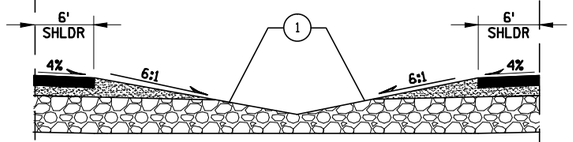
STA 948+50.00 TO STA 949+23.73
STA 950+10.89 TO STA 955+50.00



STA 959+68.30 TO STA 966+04.05

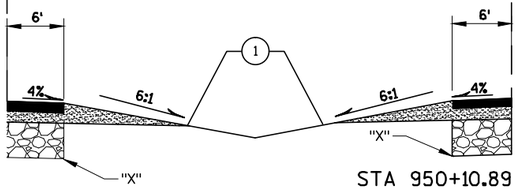


STA 973+00.00 TO STA 973+50.00



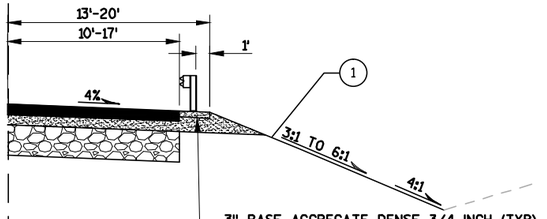
STA 944+25.00 TO STA 949+23.73
STA 953+29.64 TO STA 968+85.70

STA 944+25.00 TO STA 945+17.70
STA 953+63.6 TO STA 973+00.00

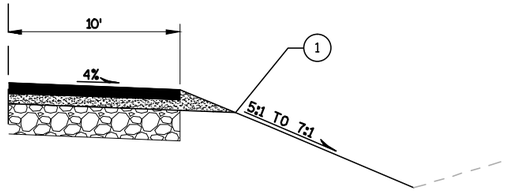


STA 968+85.70 TO STA 969+85.70

STA 950+10.89 TO STA 953+63.60
STA 973+00.00 TO STA 973+65.00



STA 946+61.80 TO STA 949+23.73
STA 950+10.89 TO STA 953+00.00



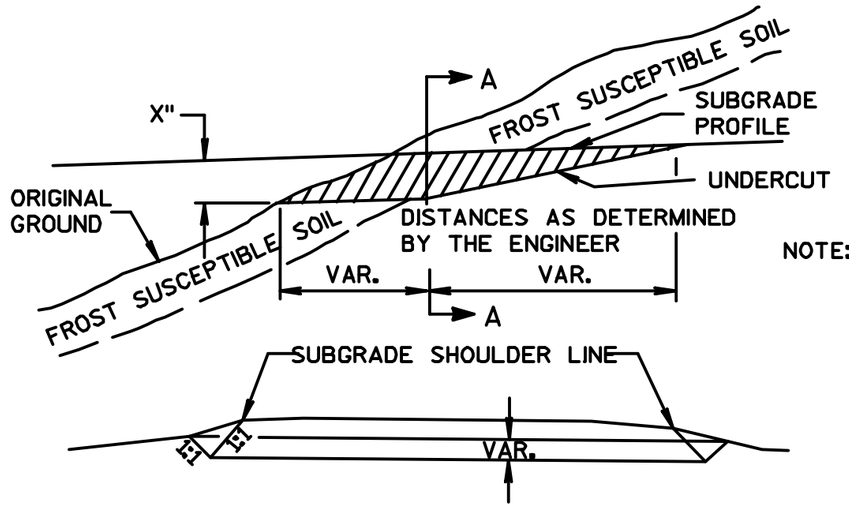
STA 955+00.00 TO STA 968+00.00

FINISHED TYPICAL SECTION
IH 41
STA 944+25.00 TO STA 949+23.73
STA 950+10.89 TO STA 973+65.00

NOTES:
"P" POINT REFERRED TO ON PROFILE
"X" POINT REFERRED TO ON CROSS SECTIONS
(1) SEE CONSTRUCTION DETAIL TABLE
(1) TOPSOIL, SEED. SEE EROSION CONTROL PLANS

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	FINISHED TYPICAL SECTION	SHEET 6	E

2



SECTION A-A

CROSS SECTION SHOWING UNDERCUT

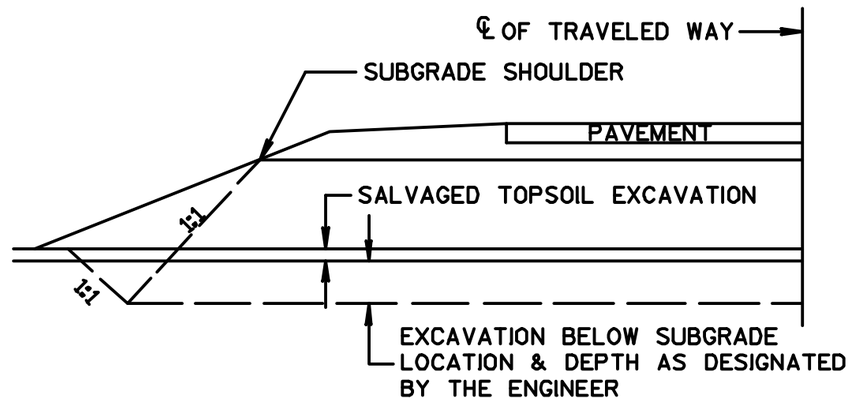
DETAIL FOR EXCAVATION BELOW SUBGRADE AT CUTS

NOTE: EXACT LOCATIONS AND EXTENT OF E.B.S. SECTIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER

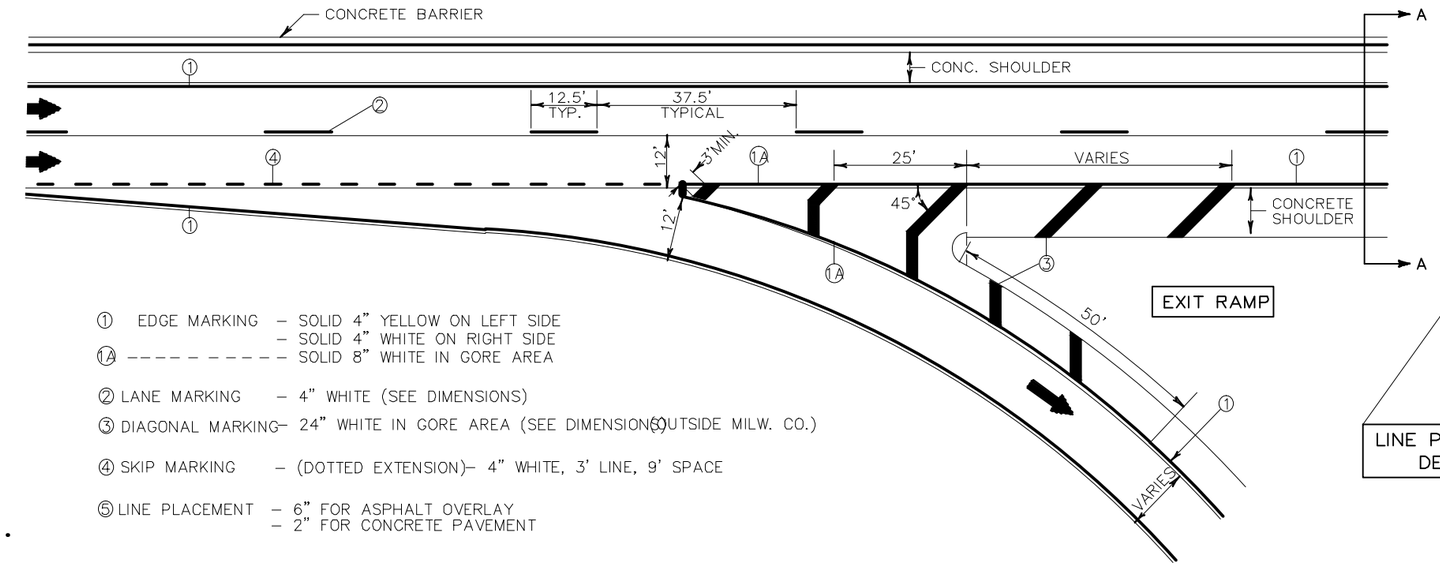
BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.

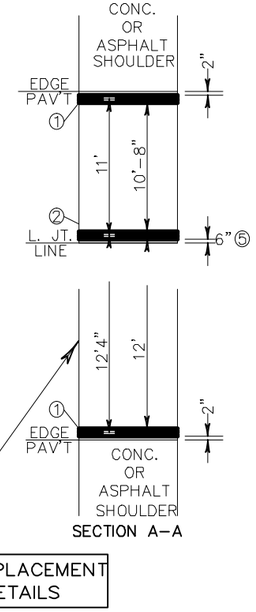
THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED.



DETAIL FOR EXCAVATION BELOW SUBGRADE

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CONSTRUCTION DETAILS	SHEET 7	E

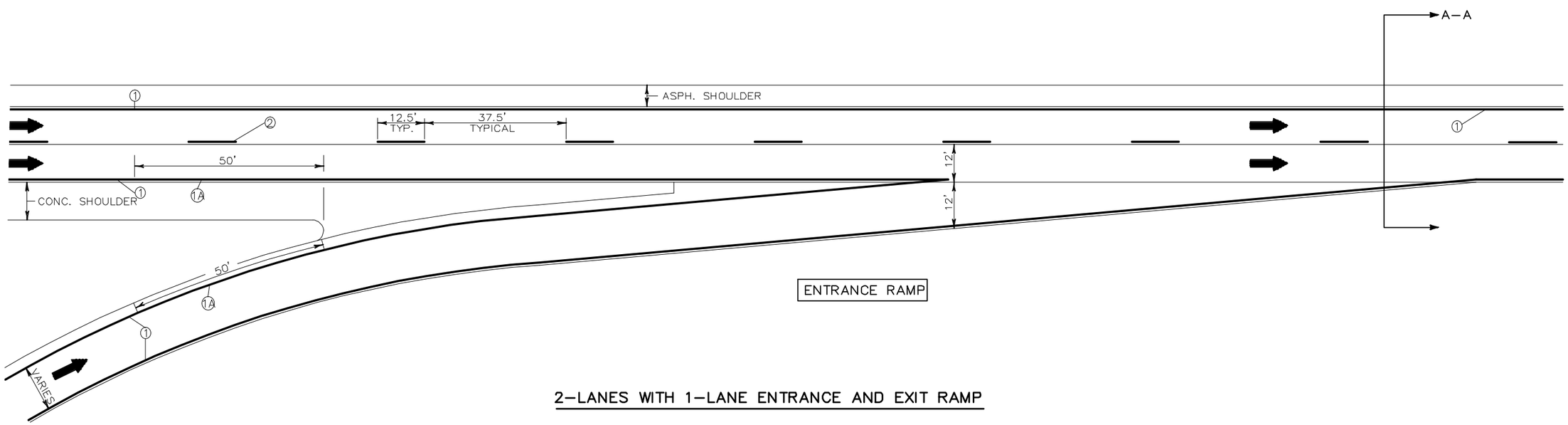




NOTES:

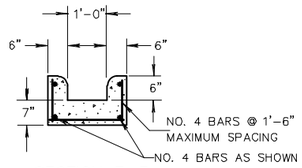
NOTES

1. WHERE THE DOTTED EXTENSION OF THE RIGHT EDGE LINE IS SHOWN ON THE PLAN, IT SHALL BE 4" WIDE, WITH A LINE SKIP PATTERN CONSISTING OF A 3' LONG LINE AND A 9' SKIP.
2. PAVEMENT LANE MARKINGS SHALL BE LOCATED 6" OFF THE LONGITUDINAL JOINT OF THE UNDERLYING CONC. PAVEMENT.
3. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
4. SPOTTING FOR PAVEMENT LANE MARKINGS AND EDGE LINES SHALL BE 4"x4" PIECES OF REFLECTORIZED PAV'T MARKING TAPE SPACED AT 50' INTERVALS, INCIDENTAL TO PAV'T MARKING.

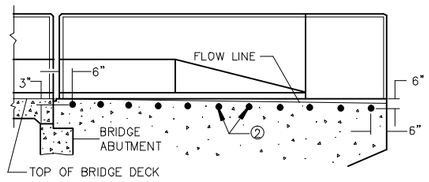


2–LANES WITH 1–LANE ENTRANCE AND EXIT RAMP

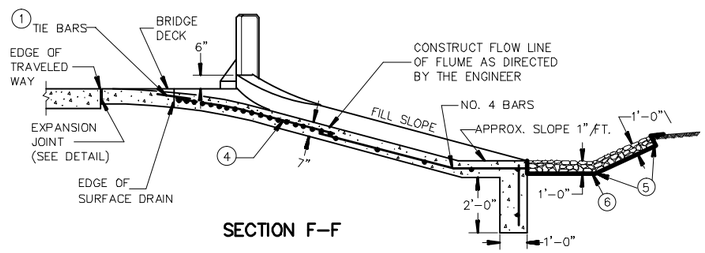
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CONSTRUCTION DETAILS	SHEET 8	E



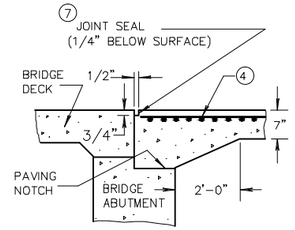
SECTION E-E



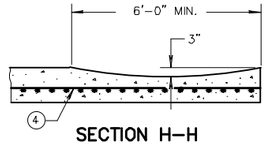
LOCATION OF TIE BARS IN WINGWALL



SECTION F-F



SECTION D-D



SECTION H-H

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.

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

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

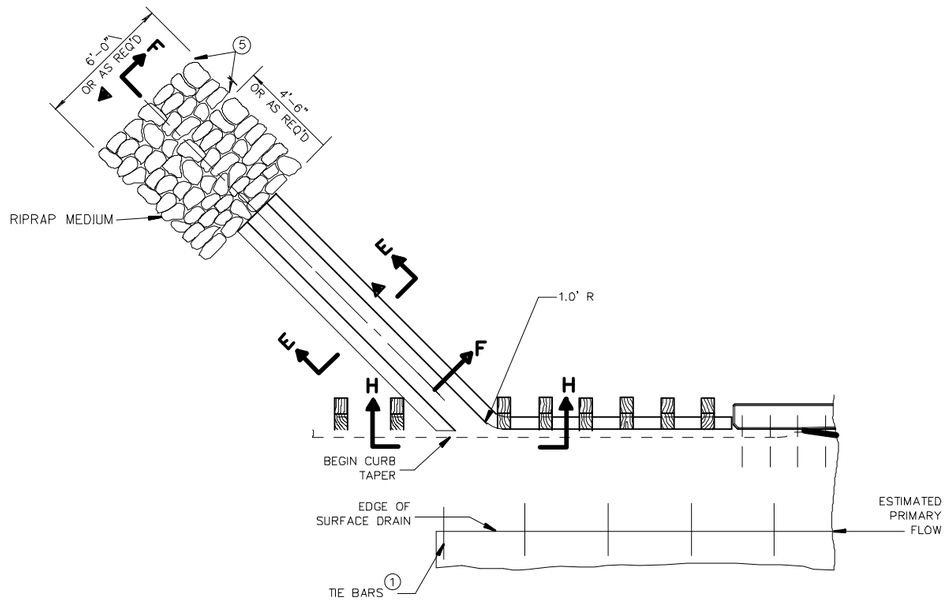
(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.

(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" – W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) GEOTEXTILE FABRIC, TYPE 'HR"

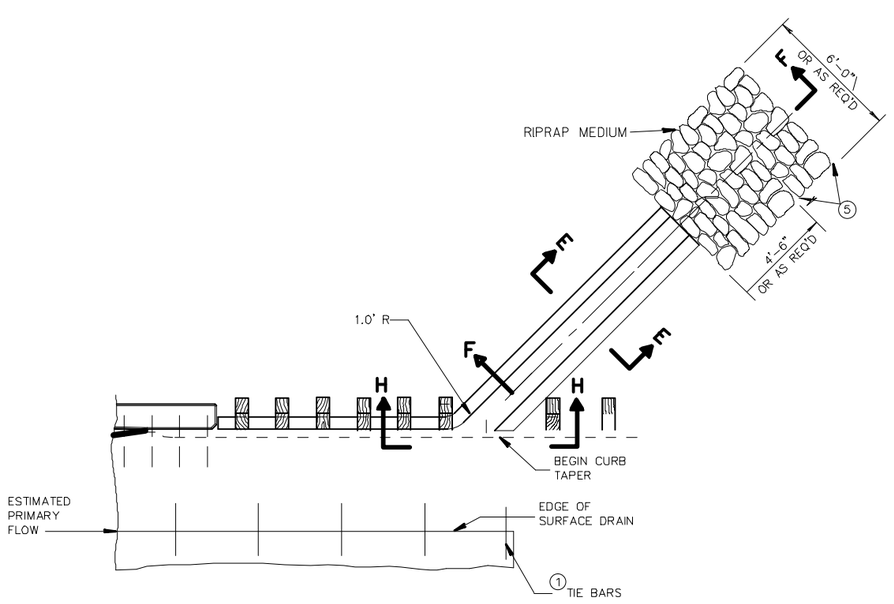
(6) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.



SURFACE DRAIN
TYPE "B"

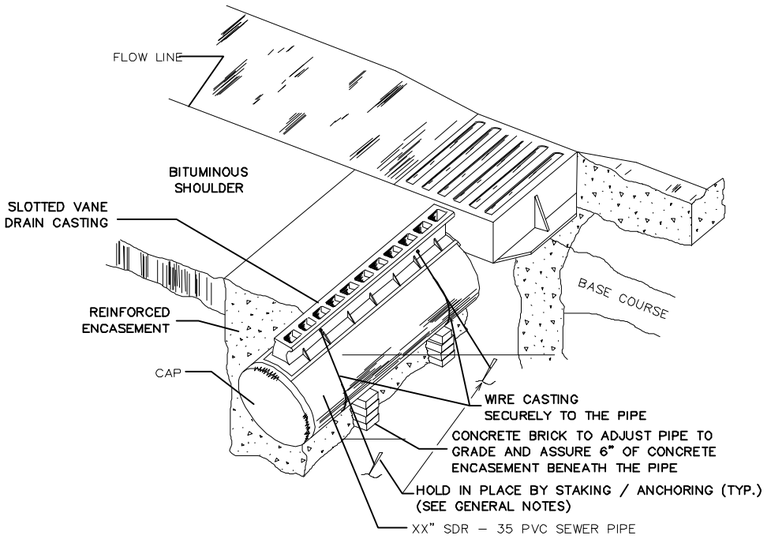
LOCATIONS TO CENTER OF SURFACE DRAINS (FIELD VERIFY)

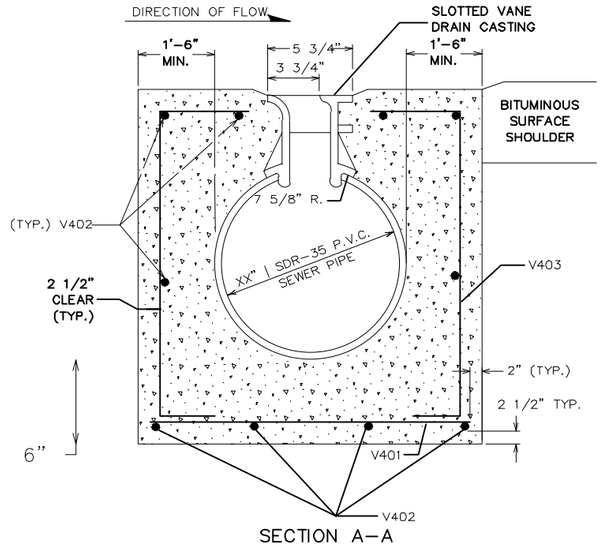
1) STA 949+07.65 19' RT
2) STA 940+07.65 66' RT
3) STA 950+26.97 19' RT
4) STA 950+26.97 66' RT
5) STA 949+07.34 19' LT
6) STA 949+07.34 74' LT
7) STA 950+26.66 19' LT
8) STA 950+26.66 74' LT



SURFACE DRAIN
TYPE "B"

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CONSTRUCTION DETAILS	SHEET 9	E





SECTION A–A

* BILL OF BARS (1 DRAIN)

MARK	NO. REQ'D	LENGTH	BENT	LOCATION
V401	10	3'–11"		HORZ. – END/BOTTOM
V402	10	5'–9"		HORZ. – SIDES/TOP/BOTTOM
V403	12	5'–2"	x	VERTICAL – SIDES
V404	3	3'–4"	x	VERTICAL – END

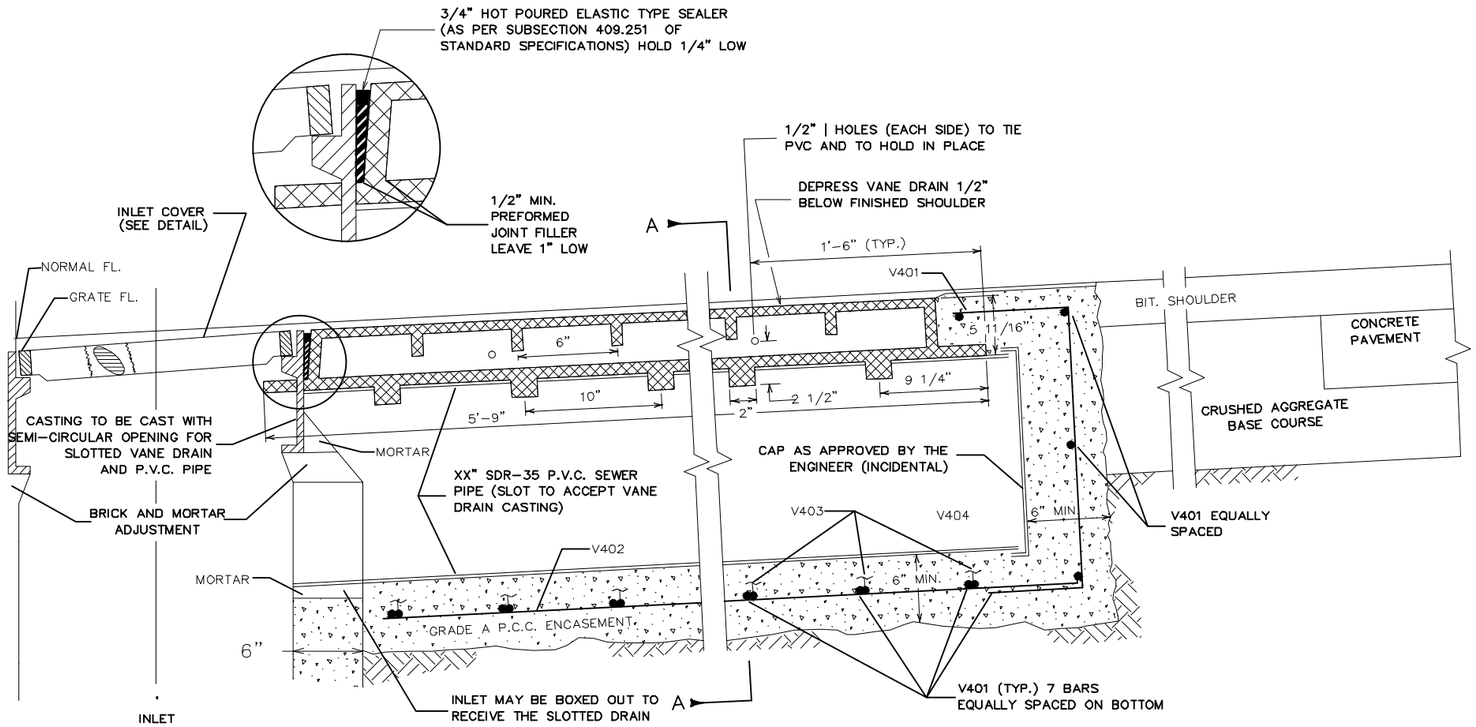
* INCIDENTAL TO THE ITEM OF SLOTTED DRAIN

NOTES: THE FIRST DIGIT OF BAR MARK SIGNIFIES THE BAR SIZE.

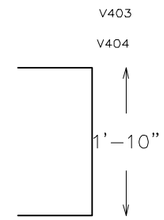
ALL DIMENSIONS ARE OUT TO OUT OF BAR.

APPROX. WEIGHT OF SLOTTED VANE DRAIN CASTING = 155 POUNDS.

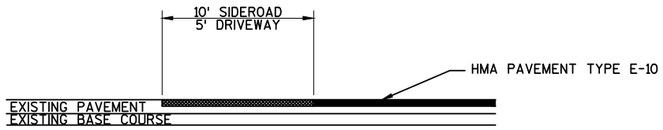
THE CASTING AND P.V.C. SHALL BE SECURELY STAKED/ANCHORED INTO PLACE DURING THE POURING OF THE CONCRETE ENCASEMENT.



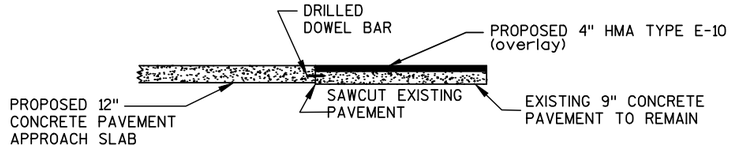
SLOTTED VANE DRAIN



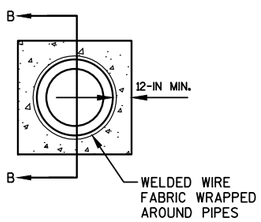
V403,V404

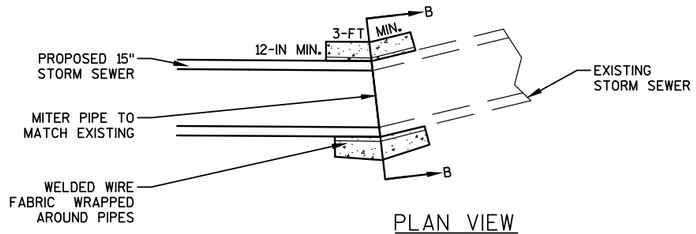


BUTT JOINT DETAIL
SIDEROADS

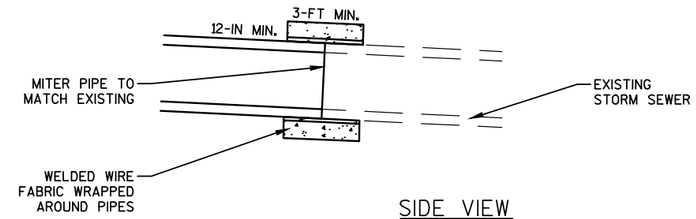


EXISTING PAVEMENT AT STRUCTURE





PLAN VIEW
STA 426+00

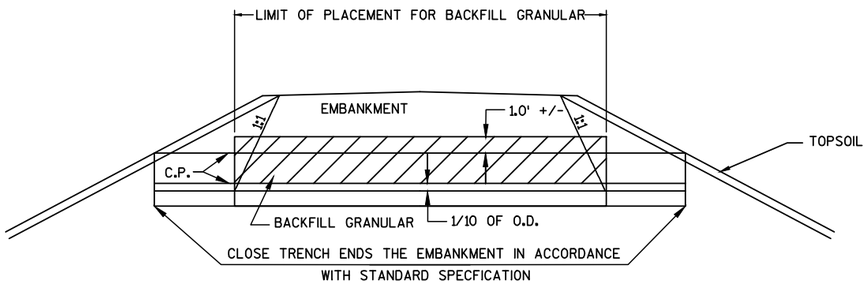


SIDE VIEW

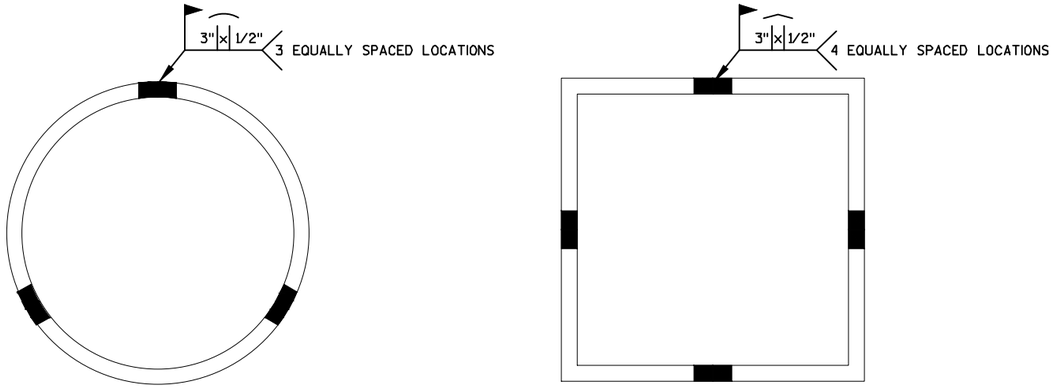
GENERAL NOTES

1. GRADE A CONCRETE SHALL BE USED THROUGHOUT
2. DEWATERING IS REQUIRED IF THE RIVER ELEVATION IS ABOVE THE PIPE INVERT AT THE TIME OF CONSTRUCTION.
3. THE WELDED WIRE FABRIC SHALL WEIGH NOT LESS THAN 54#/100 SQ. FT. (2.63 kg/m2), CONFORMING TO AASTO M55.
4. CONCRETE COLLAR WILL BE PAID FOR AS EACH AND SHALL INCLUDE ALL MATERIAL AND LABOR TO COMPLETE THE WORK IN PLACE.

CONCRETE COLLAR DETAIL

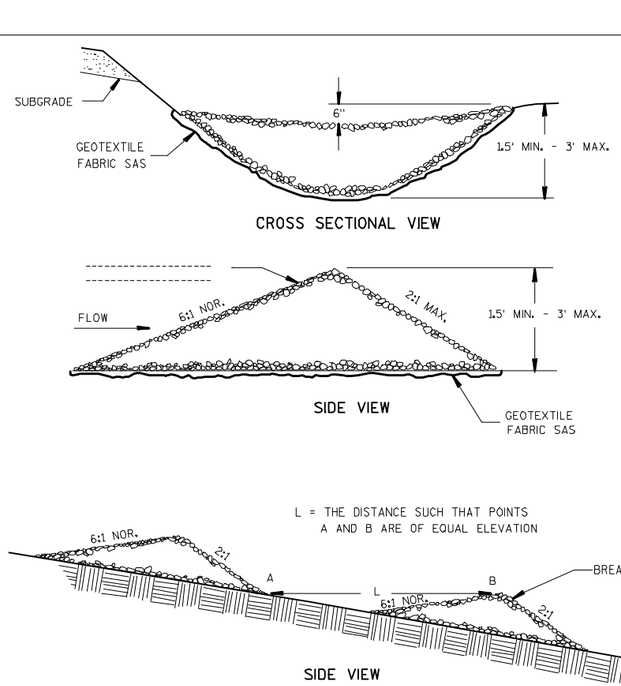


CULVERT BACKFILL DETAIL



WELDING COVERS

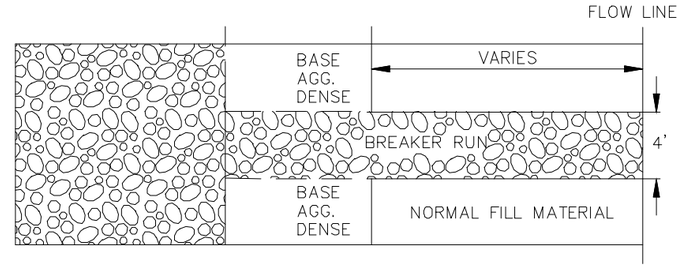
WELD EACH COVER WITH A 1/2" WIDE WELD 3" LONG



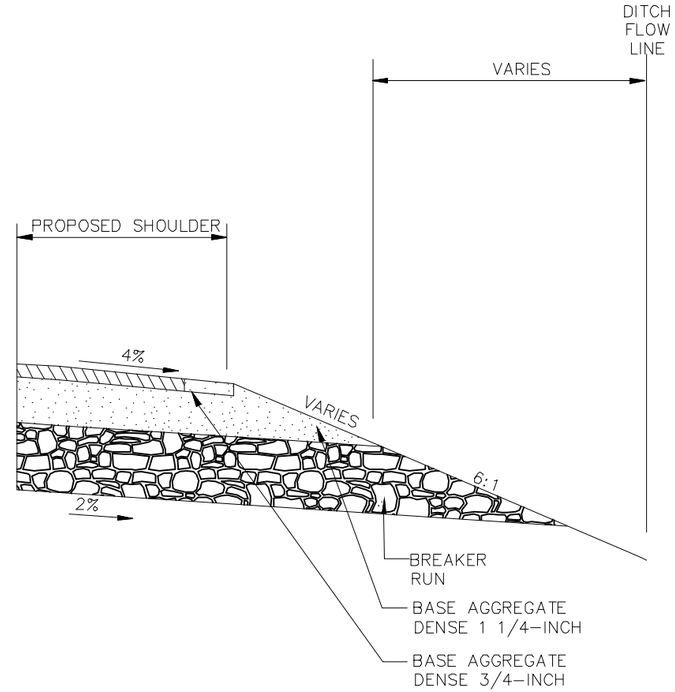
STONE DITCH CHECK

LOCATIONS

STA. 936+00 LT
STA. 941+00 LT
STA. 943+00 RT
STA. 943+50 LT
STA. 945+50 RT
STA. 946+00 LT
STA. 948+00 RT
STA. 948+50 LT
STA. 950+50 RT
STA. 951+00 LT
STA. 953+00 RT
STA. 953+50 LT
STA. 955+50 RT
STA. 956+00 LT
STA. 958+00 RT
STA. 958+50 LT
STA. 960+50 RT
STA. 961+00 LT
STA. 963+00 RT
STA. 963+50 LT
STA. 965+50 RT
STA. 966+00 LT
STA. 968+00 RT



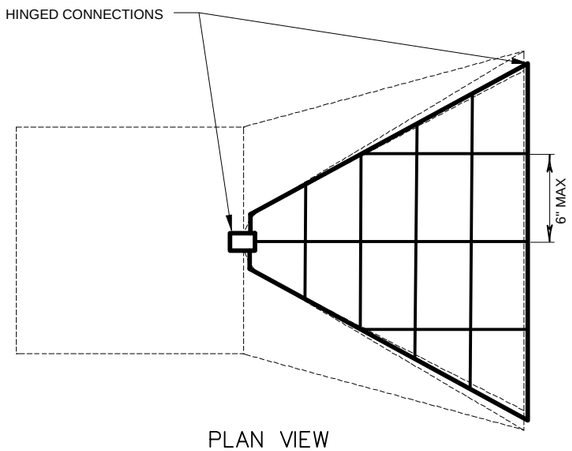
PLAN VIEW



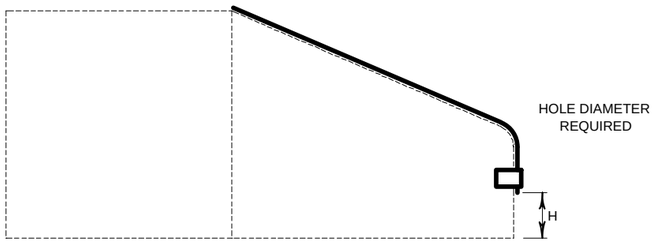
PROFILE VIEW

RELIEF TRENCH DETAIL

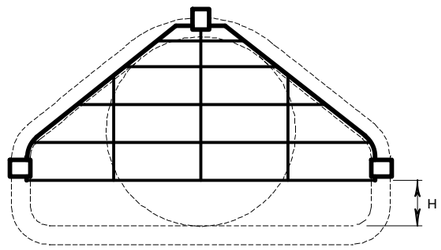
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CONSTRUCTION DETAILS	SHEET 12	E



PLAN VIEW



SIDE VIEW



END VIEW

PIPE GRATE

GRATE CLEARANCE HEIGHT

ROUND PIPE	
PIPE SIZE	H
12"	2 1/2"
15"	3"
18" - 24"	4"
27" - 36"	5"
42" - 54"	6"
60" - 72"	7"
78" - 90"	8"

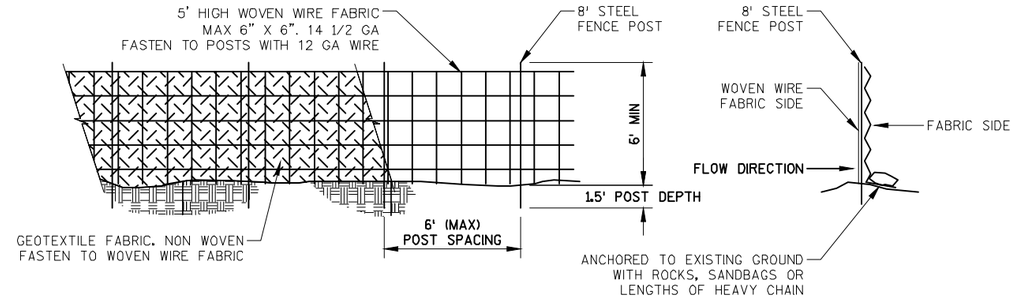
GRATE BAR SIZES

(STANDARD DESIGN)

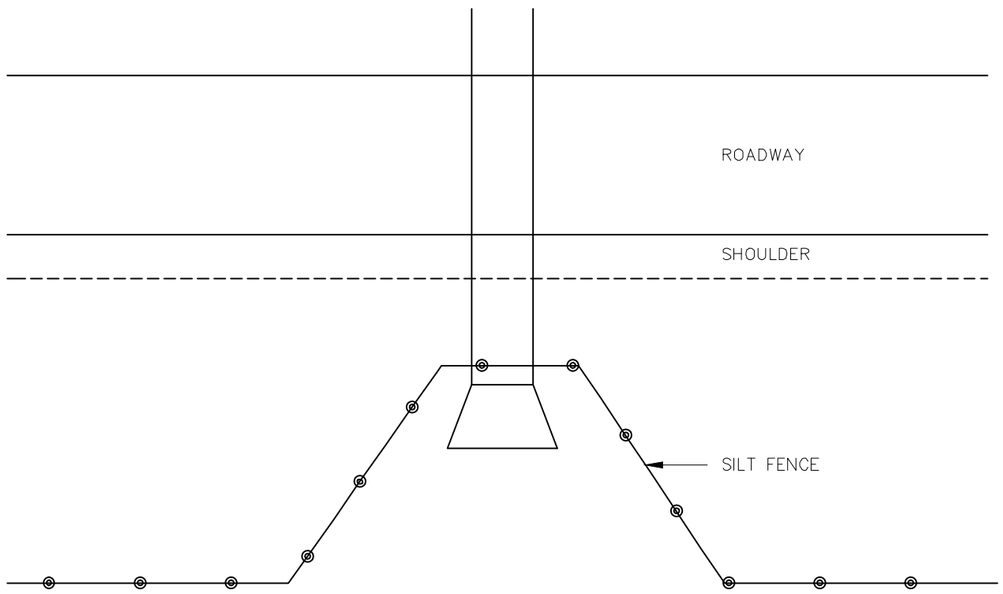
	PIPE SIZE	HOLE DIAMETER REQUIRED	BOLT DIAMETER	BAR SIZE
ROUND PIPE	12" - 24"	3/4"	5/8"	5/8"
	27" - 48"	7/8"	3/4"	3/4"
	54" - 90"	1 1/8"	1"	1"

BOLT LENGTH = PIPE WALL THICKNESS + 2 1/2"

2



HEAVY DUTY SILT FENCE



TYPICAL SILT FENCE DETAIL AT PIPE INLET

2

(1) DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

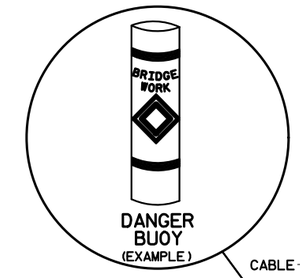
(2) SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS.

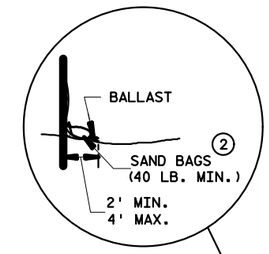
(3) WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

(4) ELEVATION VALUE TO BE ESTABLISHED BY THE CONTRACTOR BASED ON THE TIME OF YEAR AND DURATION OF THE ACTIVITY.

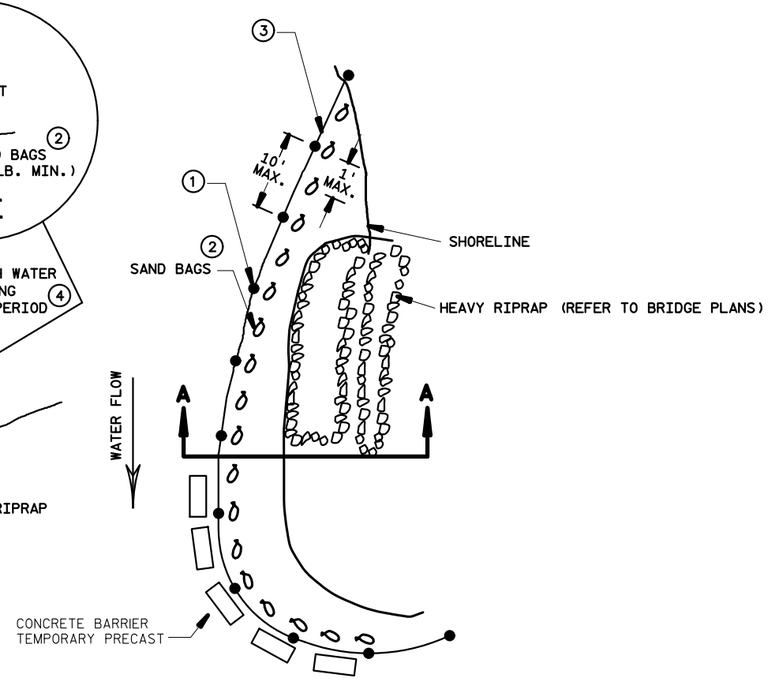
(5) ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE O2 OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.

(6) ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPERATE OR LOWER THE TURBIDITY BARRIER.



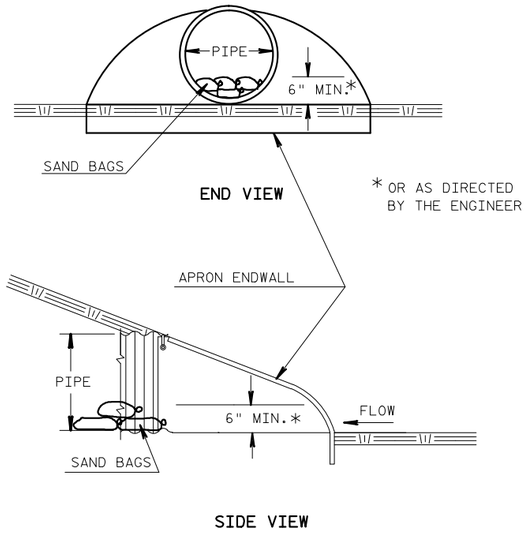


SECTION A-A

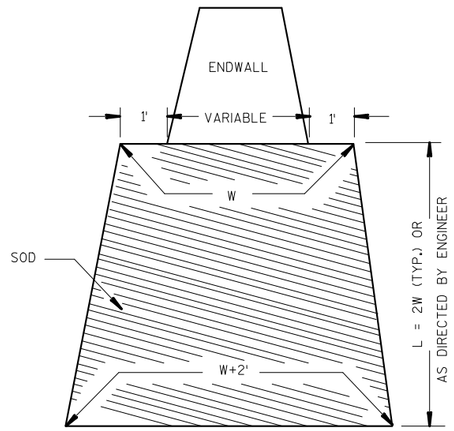


PLAN VIEW

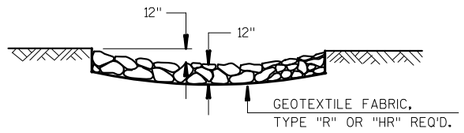
SPECIAL TURBIDITY BARRIER DETAIL



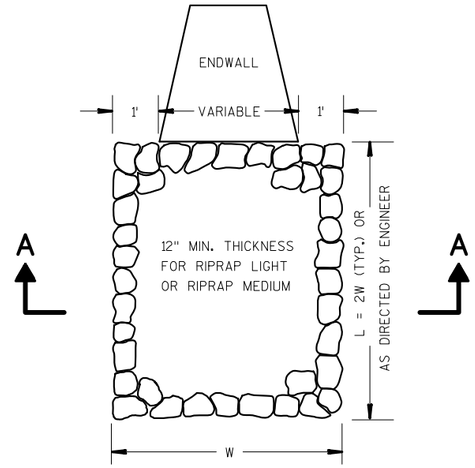
CULVERT PIPE CHECK



SOD TREATMENT AT CULVERTS



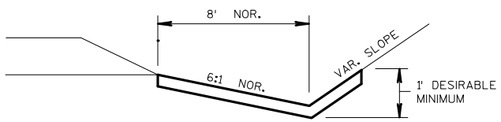
SECTION A-A



RIPRAP TREATMENT AT CULVERTS
SEE MISCELLANEOUS QUANTITIES

	REMOVING ASPHALTIC MATERIAL		REMOVING CONCRETE SURFACE			REMOVING ASPHALTIC MATERIAL		REMOVING CONCRETE SURFACE	
	FT		FT			FT		FT	
STATION	NB	SB	NB	SB	STATION	NB	SB	NB	SB
944+25	--	--			950+00	0.3	0.2	--	--
944+50	0.4	0.3	0.14	0.03	950+50	0.3	0.1	--	--
945+00	0.4	0.3	0.08	0.03	951+00	0.8	0.7	--	--
945+50	0.4	0.3	0.03	--	951+50	0.1	--	--	--
946+00	0.3	0.3	--	0.01	952+00	0.1	--	--	--
946+50	0.2	0.4	--	0.05	952+50	--	0.1	--	--
947+00	0.1	0.4	--	0.14	953+00	0.1	0.3	--	--
947+50	0.1	0.5	--	0.14	953+50	0.3	0.3	--	0.03
948+00	0.1	0.3	--	0.03	954+00	0.3	0.4	0.02	0.04
948+50	0.2	0.2	--	--	954+50	0.4	0.3	0.06	0.03
949+00	0.2	0.2	--	--	955+00	0.4	0.4	0.07	0.07
949+25	0.4	0.3	--	0.02	TOTAL	5.9	6.3	0.40	0.62

ESTIMATED MATERIAL TO BE REMOVED
FOR VERTICAL PROFIE CORRECTIONS



EROSION MAT DETAIL FOR DITCHES

STA.	REMOVING ASPHALTIC MATERIAL DEPTH (FEET)			
	SB		NB	
	EOP	EOS	EOP	EOS
	25' LT	19' LT	19' RT	25' RT
926+00	0.15	0.00	0.14	0.15
926+50	0.15	0.15	0.14	0.15
927+00	0.15	0.15	0.14	0.15
927+50	0.15	0.15	0.14	0.15
928+00	0.15	0.15	0.36	0.15
928+50	0.15	0.33	0.33	0.15
929+00	0.15	0.30	0.30	0.15
929+50	0.15	0.27	0.27	0.15
930+00	0.15	0.25	0.25	0.15
930+50	0.15	0.23	0.23	0.15
931+00	0.15	0.20	0.20	0.15
931+50	0.15	0.18	0.18	0.15
932+00	0.15	0.16	0.16	0.15
932+50	0.15	0.16	0.16	0.15
933+00	0.15	0.16	0.16	0.15
933+50	0.15	0.16	0.16	0.15
934+00	0.15	0.16	0.16	0.15
934+50	0.15	0.17	0.17	0.15
935+00	0.15	0.17	0.17	0.15
935+50	0.15	0.18	0.18	0.15
936+00	0.15	0.21	0.21	0.15
936+50	0.15	0.21	0.26	0.15
937+00	0.15	0.22	0.31	0.15
937+50	0.15	0.24	0.37	0.15
938+00	0.15	0.24	0.42	0.15
938+50	0.15	0.25	0.46	0.15
939+00	0.15	0.25	0.44	0.15
939+50	0.15	0.24	0.49	0.15
940+00	0.15	0.24	0.49	0.15
940+50	0.15	0.22	0.48	0.15
941+00	0.15	0.22	0.48	0.15
941+50	0.15	0.21	0.49	0.15

STA.	REMOVING ASPHALTIC MATERIAL DEPTH (FEET)			
	SB		NB	
	EOP	EOS	EOP	EOS
	25' LT	19' LT	19' RT	25' RT
942+00	0.15	0.20	0.49	0.15
942+50	0.15	0.19	0.50	0.15
943+00	0.15	0.19	0.51	0.15
943+50	0.15	0.22	0.49	0.15
944+00	0.15	0.24	0.48	0.15
944+25	0.15	0.25	0.47	0.15
944+50	0.15	0.26	0.46	0.15
945+00	0.15	0.26	0.45	0.15
945+50	0.15	0.27	0.43	0.15
946+00	0.15	0.29	0.41	0.15
946+50	0.15	0.29	0.44	0.15
947+00	0.15	0.18	0.14	0.15
947+50	0.15	0.26	0.14	0.15
948+00	0.15	0.27	0.14	0.15
948+50	0.15	0.27	0.14	0.15
949+00	0.15	0.27	0.14	0.15
949+50	0.15	0.27	0.14	0.15
950+00	0.15	0.27	0.14	0.15
950+50	0.15	0.28	0.14	0.15
951+00	0.15	0.28	0.14	0.15
951+50	0.15	0.26	0.14	0.15
952+00	0.15	0.27	0.14	0.15
952+50	0.15	0.39	0.38	0.15
953+00	0.15	0.21	0.60	0.15
953+50	0.15	0.21	0.60	0.15
954+00	0.15	0.21	0.59	0.15
954+50	0.15	0.26	0.52	0.15
955+00	0.15	0.26	0.53	0.15
955+50	0.15	0.26	0.53	0.15
956+00	0.15	0.26	0.53	0.15
956+50	0.15	0.26	0.51	0.15
957+00	0.15	0.26	0.48	0.15

STA.	REMOVING ASPHALTIC MATERIAL DEPTH (FEET)			
	SB		NB	
	EOP	EOS	EOP	EOS
	25' LT	19' LT	19' RT	25' RT
957+50	0.15	0.26	0.42	0.15
958+00	0.15	0.26	0.35	0.15
958+50	0.15	0.27	0.27	0.15
959+00	0.15	0.24	0.24	0.15
959+50	0.15	0.21	0.21	0.15
960+00	0.15	0.18	0.18	0.15
960+50	0.15	0.15	0.15	0.15
961+00	0.15	0.13	0.13	0.15
961+50	0.15	0.11	0.11	0.15
962+00	0.15	0.08	0.08	0.15
962+50	0.15	0.07	0.07	0.15
963+00	0.15	0.07	0.07	0.15
963+50	0.15	0.08	0.08	0.15
964+00	0.15	0.09	0.09	0.15
964+50	0.15	0.11	0.11	0.15
965+00	0.15	0.15	0.15	0.15
965+50	0.15	0.19	0.19	0.15
966+00	0.15	0.22	0.22	0.15
966+50	0.15	0.27	0.27	0.15
967+00	0.15	0.31	0.31	0.15
967+50	0.15	0.35	0.35	0.15
968+00	0.15	0.40	0.40	0.15
968+50	0.15	0.44	0.44	0.15
969+00	0.15	0.48	0.48	0.15
969+50	0.15	0.51	0.51	0.15
970+00	0.15	0.54	0.54	0.15
970+50	0.15	0.56	0.56	0.15
971+00	0.15	0.57	0.57	0.15
971+50	0.15	0.58	0.58	0.15
972+00	0.15	0.59	0.59	0.15
972+50	0.15	0.51	0.14	0.15
973+00	0.15	0.56	0.14	0.15
973+50	0.15	0.58	0.14	0.15
973+70	0.15	-0.38	0.15	0.15

ESTIMATED MATERIAL TO BE REMOVED

FOR MEDIAN SHOULDER TO RESTABLISH
4% CROSS SLOPE IN STAGE 4

2

BEGIN TAPER
STA 925+68.20
22.5' RT

END TAPER
STA 926+68.20
19.0' RT

(11) BEGIN SHOULDER RECONSTRUCT
BEGIN TAPER
STA 928+52.60
24.1' LT

END TAPER
STA 929+17.70
25.0' LT

WETLANDS

(1)

(11) BEGIN SHOULDER RECONSTRUCT
STA 931+10.90
59.2' LT

SLOPE INTERCEPT

N

SIGN

12" RCCP

4" UD

10'

4" UD

IH 41 SB

4" UD

6'

6'

T/L IH 41

926+00 927+00 928+00 929+00 930+00 931+00 932+00 933

MATCH LINE STA 933+00

6'

4" UD

4" UD

6'

B

IH 41 NB

6" UD

6" UD

WETLANDS

(11) BEGIN SHOULDER RECONSTRUCT
BEGIN TAPER
STA 925+68.20
25.4' RT

END TAPER
STA 926+68.20
24.9' RT

BEGIN TAPER
STA 928+52.60
20.6' LT

END TAPER
STA 929+17.70
19.0' LT

(1)

PI
STA 931+43.91

LEGEND

(1) HMA PAVEMENT TYPE E-10

(2) BASE AGGREGATE DENSE 3/4-INCH

(11) APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 4-INCH

(1)

WETLANDS

SLOPE INTERCEPT

BEGIN TAPER
STA 940+09.90
59.0' LT

N

10'

4" UD

4" UD

IH 41 SB

4" UD

4" UD

6'

6'

MATCH LINE STA 933+00

T/L IH 41

934+00 935+00 936+00 937+00 938+00 939+00 940+00

MATCH LINE STA 940+50

6'

4" UD

4" UD

6'

(11) BEGIN SHOULDER RECONSTRUCT
BEGIN TAPER
STA 934+00.00
63.2' RT

IH 41 NB

6" UD

6" UD

10'

WETLANDS

(2)

END TAPER
STA 937+00.00
59.0' RT

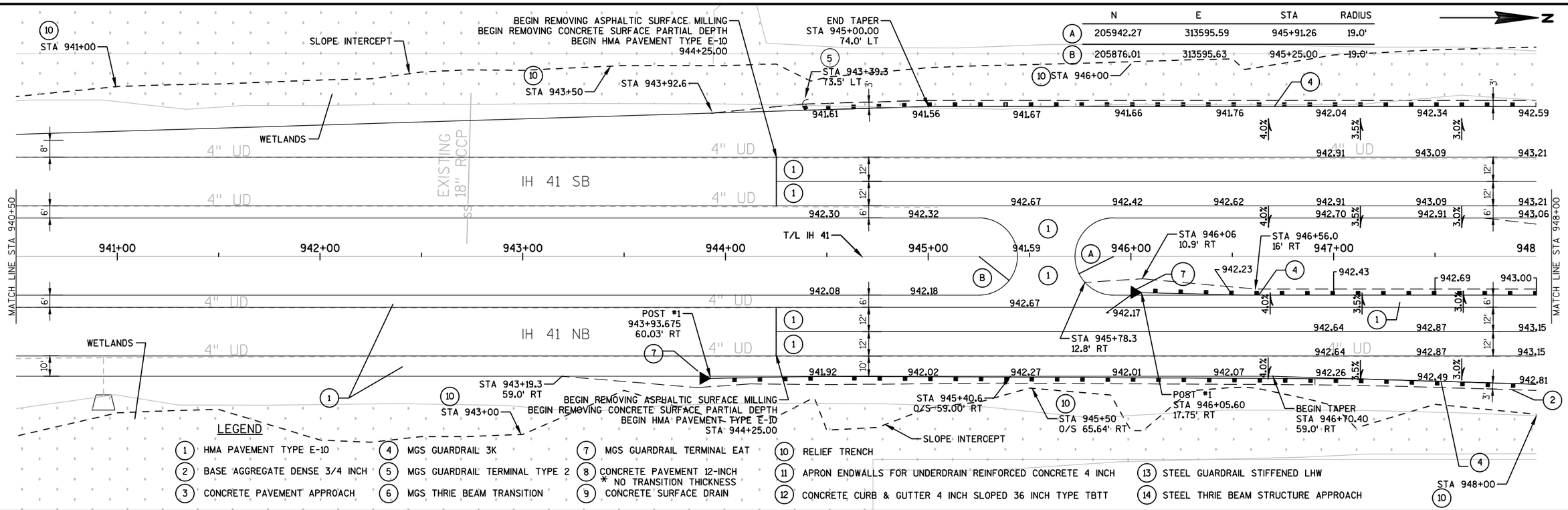
END TAPER
STA 937+70.40
59.0' RT

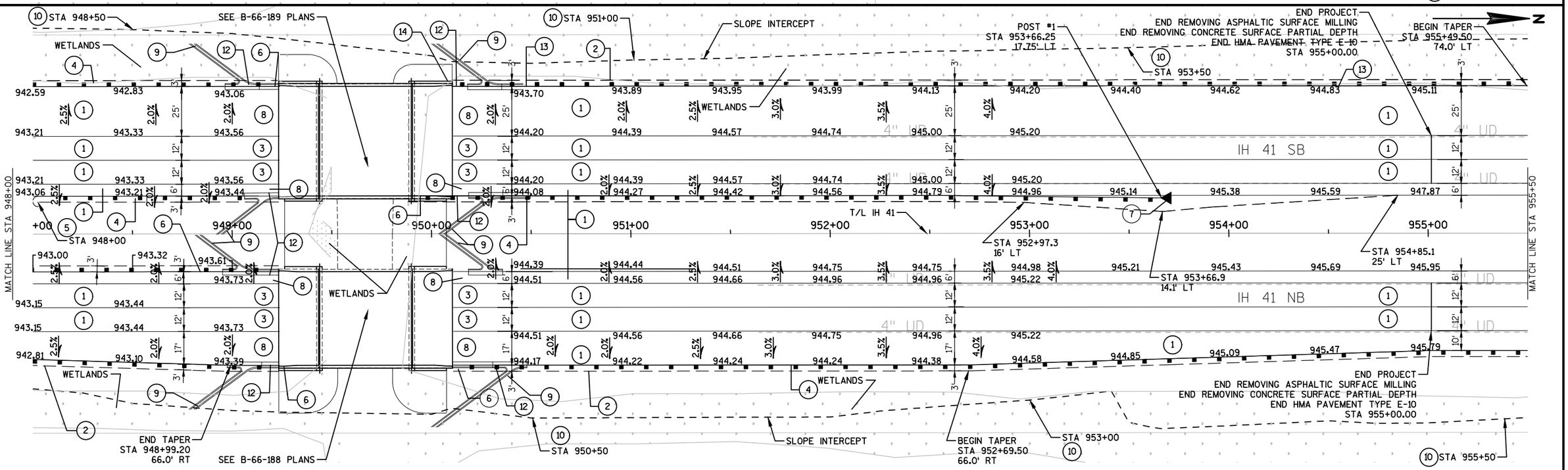
(1)

BEGIN SHOULDER RECONSTRUCT
BEGIN TAPER
STA 934+00.00
70.8' RT

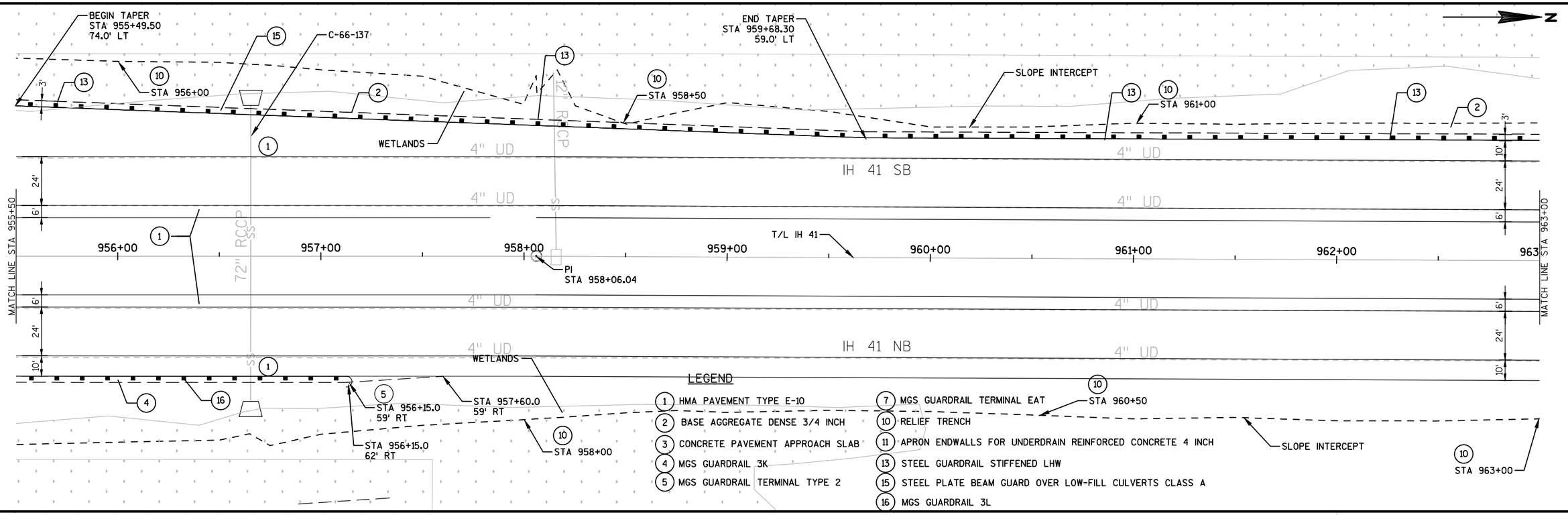
SLOPE INTERCEPT

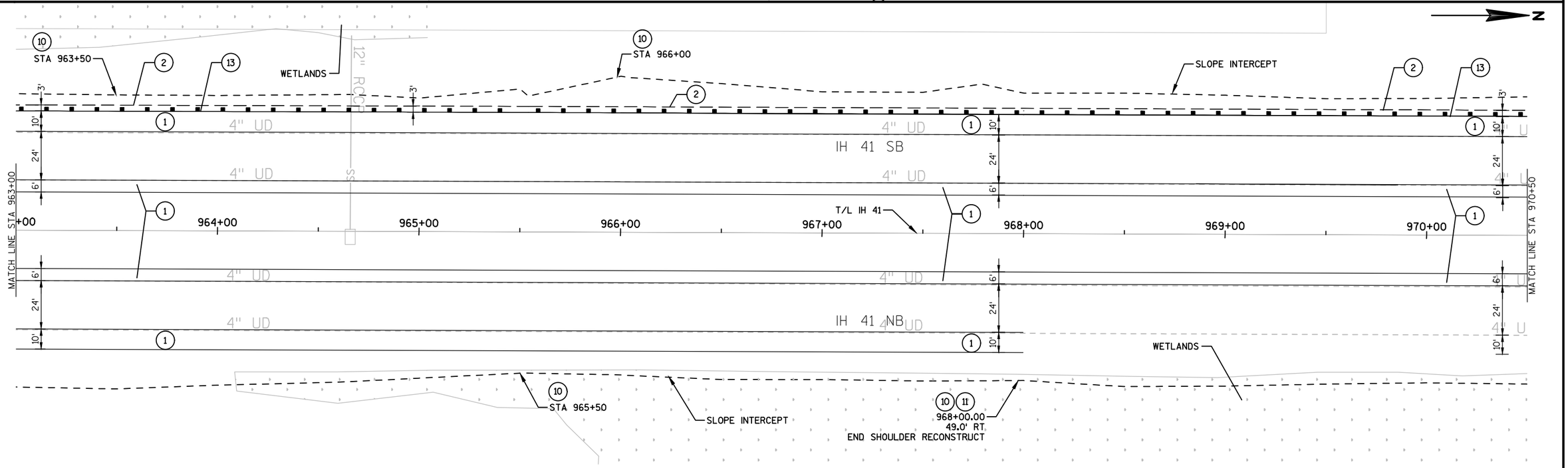
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 17	E



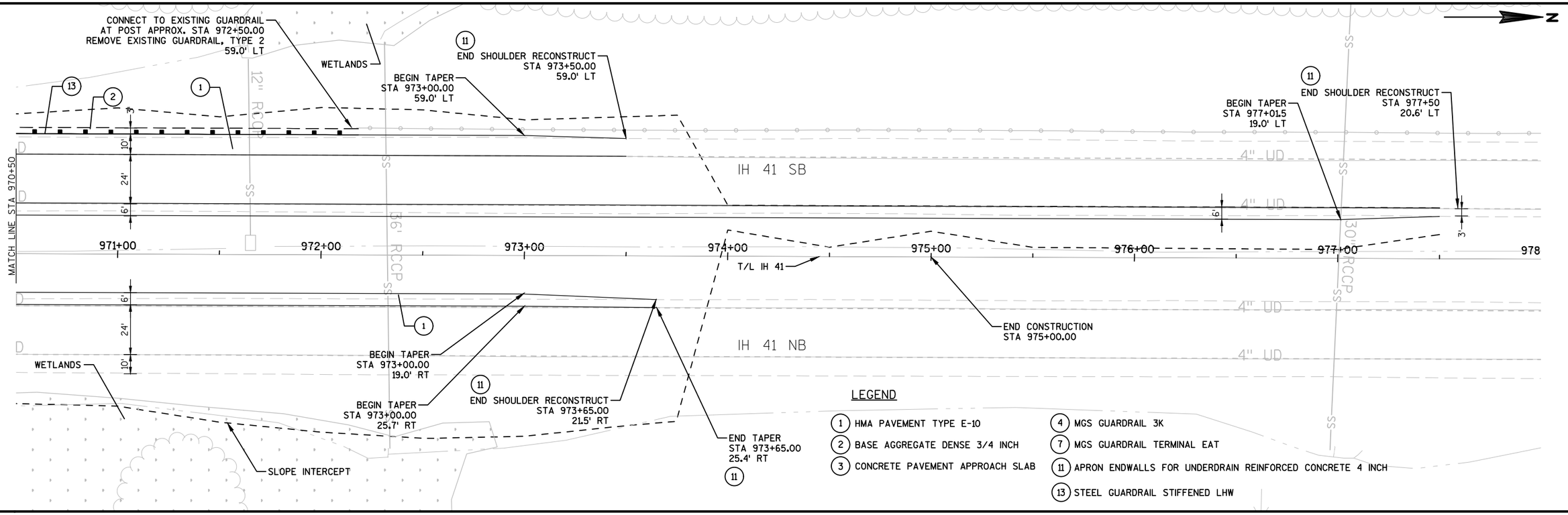


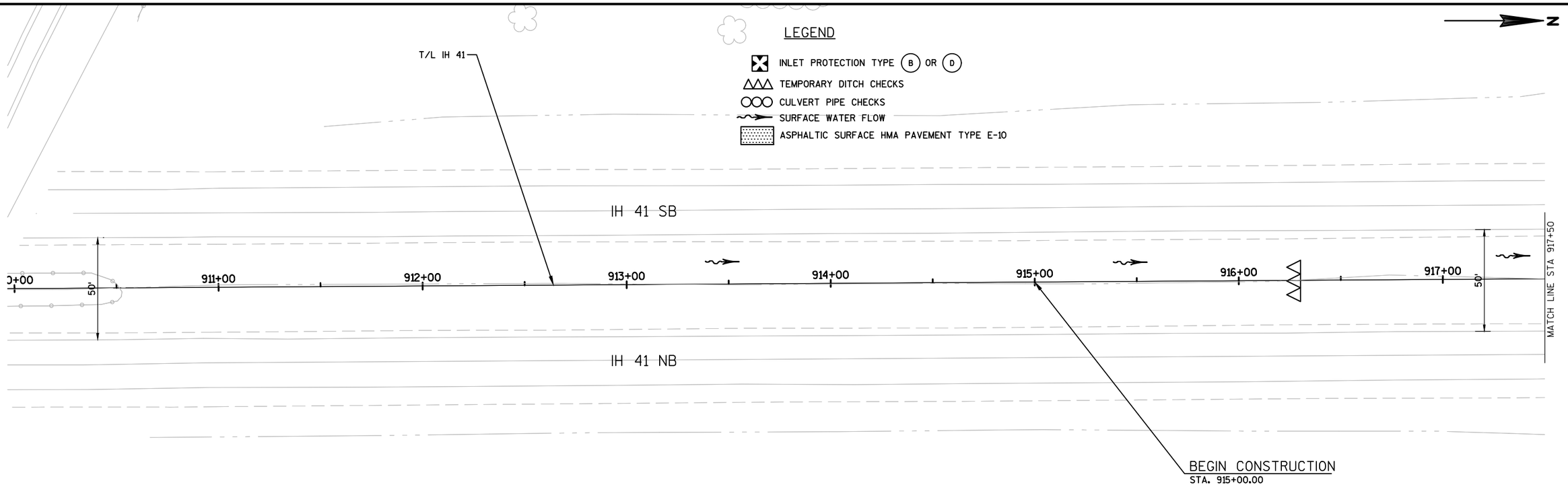
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 18	E

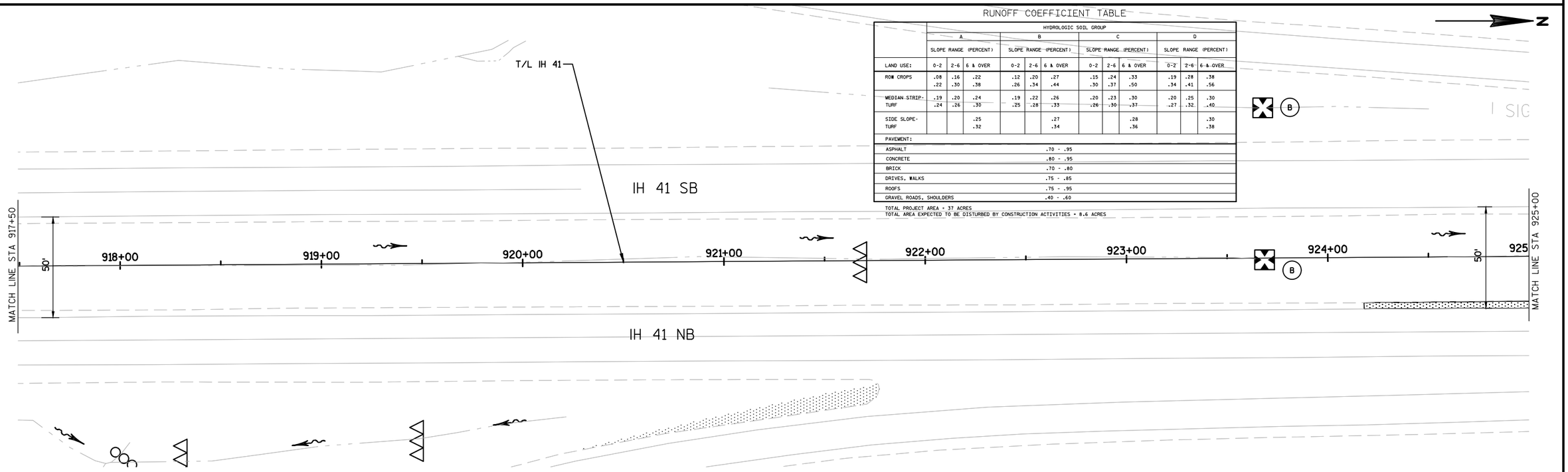




PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	PLAN DETAILS	SHEET 19	E


CONNECT TO EXISTING GUARDRAIL AT POST APPROX. STA 972+50.00 REMOVE EXISTING GUARDRAIL, TYPE 2 59.0' LT
WETLANDS
BEGIN TAPER STA 973+00.00 59.0' LT
11 END SHOULDER RECONSTRUCT STA 973+50.00 59.0' LT
BEGIN TAPER STA 977+01.5 19.0' LT
11 END SHOULDER RECONSTRUCT STA 977+50 20.6' LT
IH 41 SB
IH 41 NB
MATCH LINE STA 970+50
971+00
972+00
973+00
974+00
975+00
976+00
977+00
978
T/L IH 41
END CONSTRUCTION STA 975+00.00
BEGIN TAPER STA 973+00.00 19.0' RT
BEGIN TAPER STA 973+00.00 25.7' RT
11 END SHOULDER RECONSTRUCT STA 973+65.00 21.5' RT
END TAPER STA 973+65.00 25.4' RT
SLOPE INTERCEPT
12" RCCP
36" RCCP
30" RCCP
4" UD
LEGEND
1 HMA PAVEMENT TYPE E-10
2 BASE AGGREGATE DENSE 3/4 INCH
3 CONCRETE PAVEMENT APPROACH SLAB
4 MGS GUARDRAIL 3K
7 MGS GUARDRAIL TERMINAL EAT
11 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 4 INCH
13 STEEL GUARDRAIL STIFFENED LHW





RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 37 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 8.6 ACRES

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 1	SHEET 21	E

2

LEGEND

- INLET PROTECTION TYPE (B) OR (D)
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW
- SILT FENCE
- ASPHALTIC SURFACE HMA PAVEMENT TYPE E-10
- EROSION MAT URBAN CLASS 1 TYPE A
- EROSION BALE

T/L IH 41

EROSION BALES (TYP)

HEAVY DUTY SILT FENCE STA 931+00 TO B-66-016

STA 931+65 101' LT

STA 931+29 92' LT

WETLAND

IH 41 SB

MATCH LINE STA 925+00

926+00 927+00 928+00 929+00 930+00 931+00 932+00

50'

MATCH LINE STA 932+50

IH 41 NB

WETLAND

EROSION BALES (TYP)

PI STA. 931+43.91

HEAVY DUTY SILT FENCE STA 931+00 TO B-66-016

STA 933+02 88' LT

STA 933+10 95' LT

WETLAND

T/L IH 41

STA 939+84 89' LT

IH 41 SB

MATCH LINE STA 932+50

933+00 934+00 935+00 936+00 937+00 938+00 939+00 940

50'

MATCH LINE STA 940+00

IH 41 NB

STA 933+50 75' RT

EROSION BALES (TYP)

BEGIN PROJECT STA. 934+00.00

STA 934+25 99' RT

WETLAND

HEAVY DUTY SILT FENCE STA 933+50 TO B-66-023

STA 938+75 91' RT

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 1	SHEET 22	E

2

HEAVY DUTY SILT FENCE
STA 931+00 TO B-66-016

STA 941+95
91' LT

STA 942+67
97' LT

WETLAND

T/L IH 41

STA 945+73
97' LT

IH 41 SB

MATCH LINE STA 940+00

941+00

942+00

943+00

944+00

945+00

946+00

947+00

MATCH LINE STA 947+50

USE CULVERT PIPE CHECK
PRIOR TO INLET INSTALL

IH 41 NB

WETLAND

STA 940+56
91' RT

STA 941+23
92' RT

STA 943+44
92' RT

STA 944+04
93' RT

STA 944+74
93' RT

STA 947+48
96' RT

HEAVY DUTY SILT FENCE
STA 933+50 TO B-66-023

STA 947+91
108' LT

HEAVY DUTY SILT FENCE
STA 931+00 TO B-66-016

STA 949+17
108' LT

B-66-016

STA 950+02
92' LT

STA 951+33
95' LT

HEAVY DUTY SILT FENCE
B-66-016 TO STA 959+50

STA 952+76
97' LT

STA 954+92
101' LT

WETLAND

T/L IH 41

IH 41 SB

MATCH LINE STA 947+50

948+00

949+00

950+00

951+00

952+00

953+00

954+00

955+00

MATCH LINE STA 955+00

BREAKER RUN
DITCH CHECK
(SEE CONSTRUCTION DETAIL)

IH 41 NB

LEGEND

- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW
- ASPHALTIC SURFACE HMA PAVEMENT TYPE E-10
- EROSION MAT URBAN CLASS 1 TYPE A
- EROSION BALE

WETLAND

WETLAND

STA 947+52
96' RT

STA 949+25
98' RT

STA 950+14
99' RT

STA 953+41
98' RT

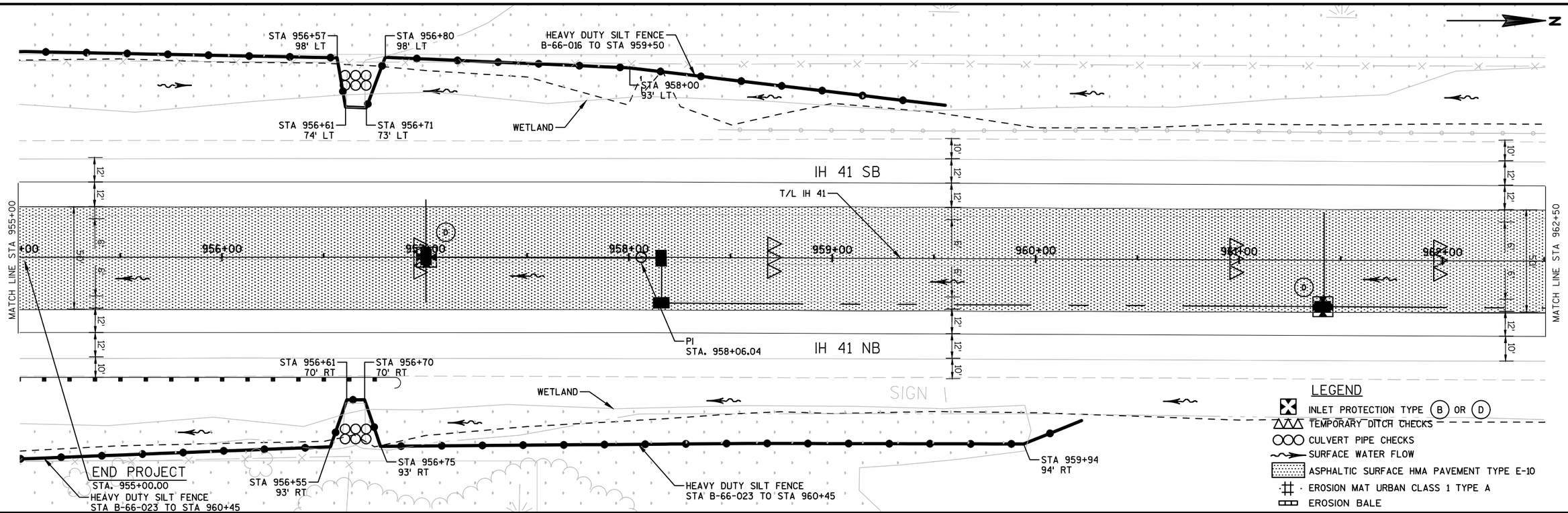
STA 953+61
105' RT

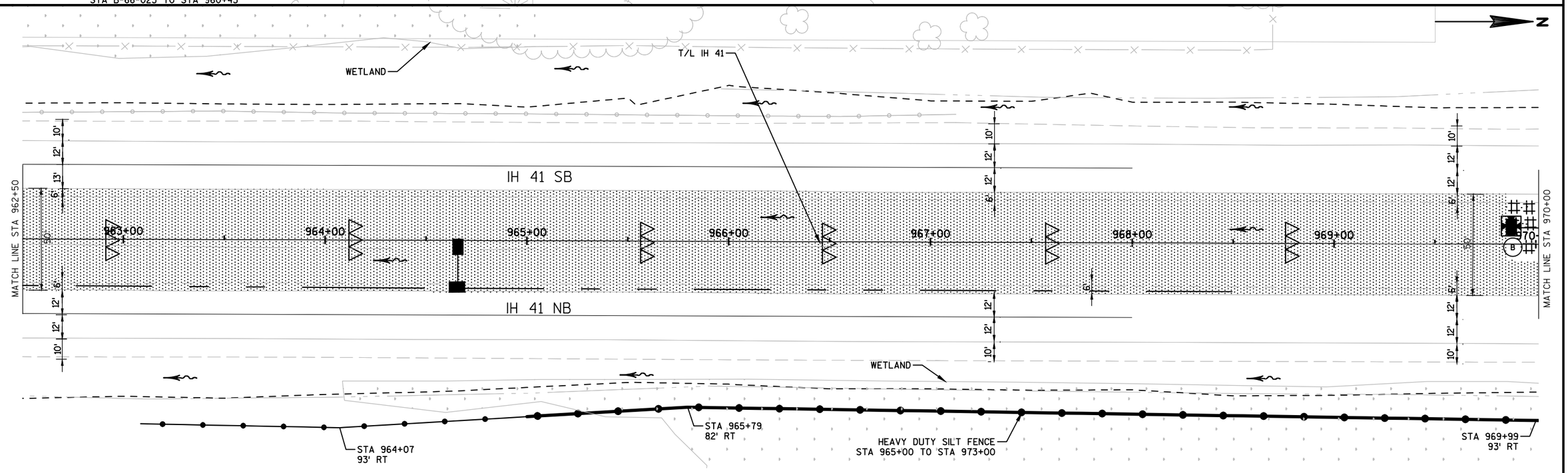
HEAVY DUTY SILT FENCE
STA 933+50 TO B-66-023

B-66-023

HEAVY DUTY SILT FENCE
B-66-023 TO STA 956+61

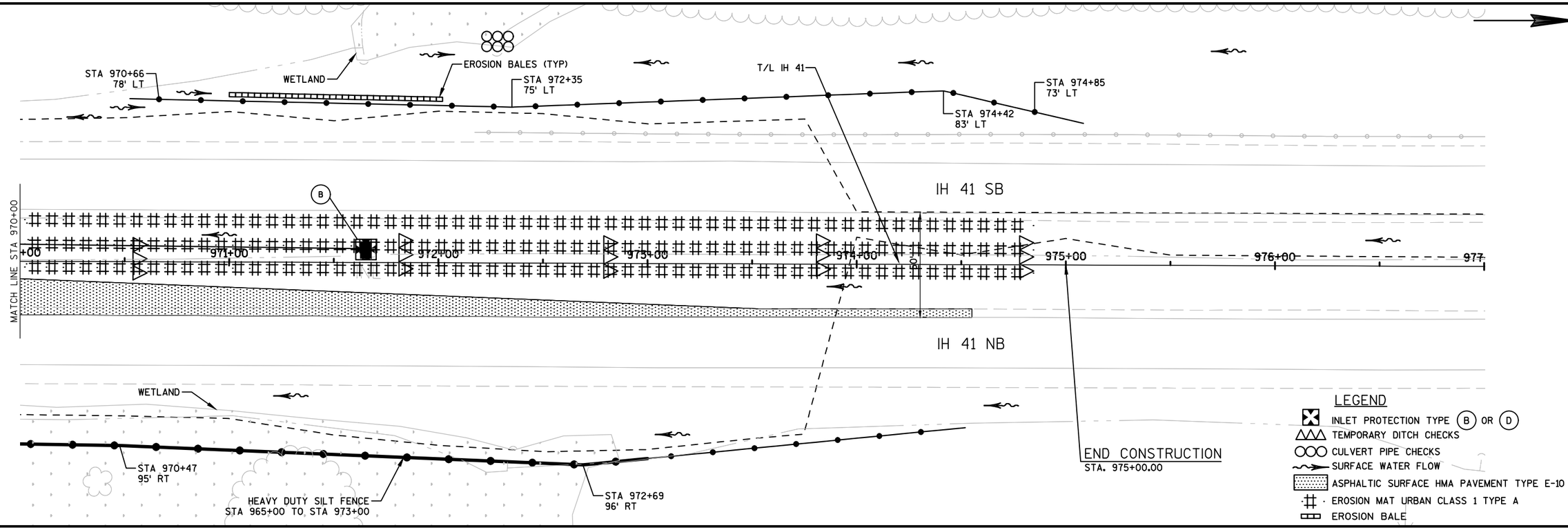
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 1	SHEET 23	E





PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 1	SHEET 24	E

2



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 1	SHEET 25	E

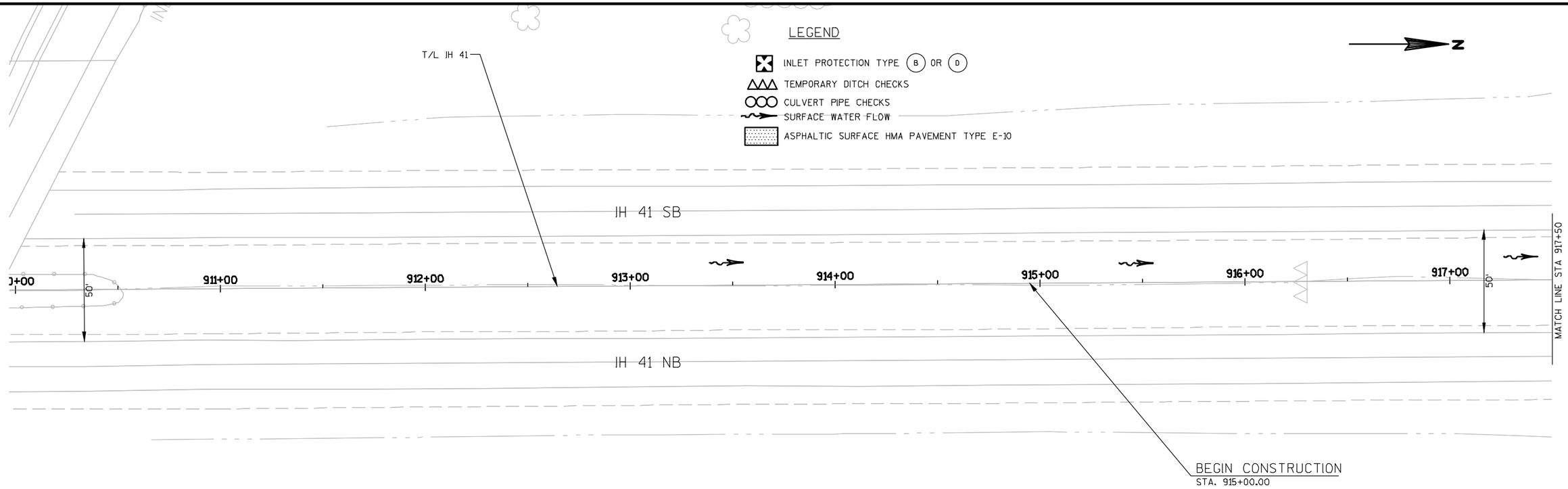
FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0220_01_EC_S1.DWG PLOT DATE : 2/10/2016 12:11 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

2

LEGEND

- INLET PROTECTION TYPE (B) OR (D)
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW
- ASPHALTIC SURFACE HMA PAVEMENT TYPE E-10

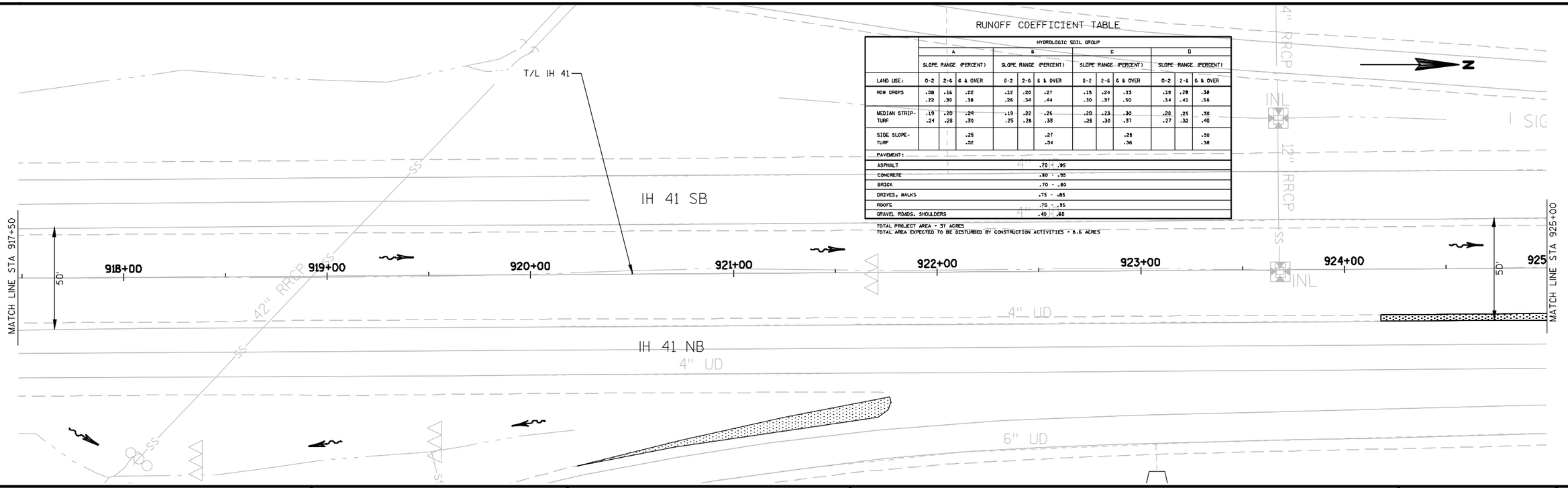
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RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 37 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 8.6 ACRES



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 2A	SHEET	E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0220_01_EC_S2A.DWG PLOT DATE : 1/6/2016 3:39 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:50 FT

2

LEGEND

- INLET PROTECTION TYPE (B) OR (D)
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW
- ASPHALTIC SURFACE HMA PAVEMENT TYPE E-10
- SILT FENCE
- EROSION MAT URBAN CLASS 1 TYPE A

T/L IH 41

WETLAND

IH 41 SB

IH 41 NB

MATCH LINE STA 925+00

MATCH LINE STA 932+50

925+00 926+00 927+00 928+00 929+00 930+00 931+00 932+00

50'

PI
STA. 931+43.91

WETLAND

WETLAND

T/L IH 41

IH 41 SB

IH 41 NB

MATCH LINE STA 932+50

MATCH LINE STA 940+00

933+00 934+00 935+00 936+00 937+00 938+00 939+00

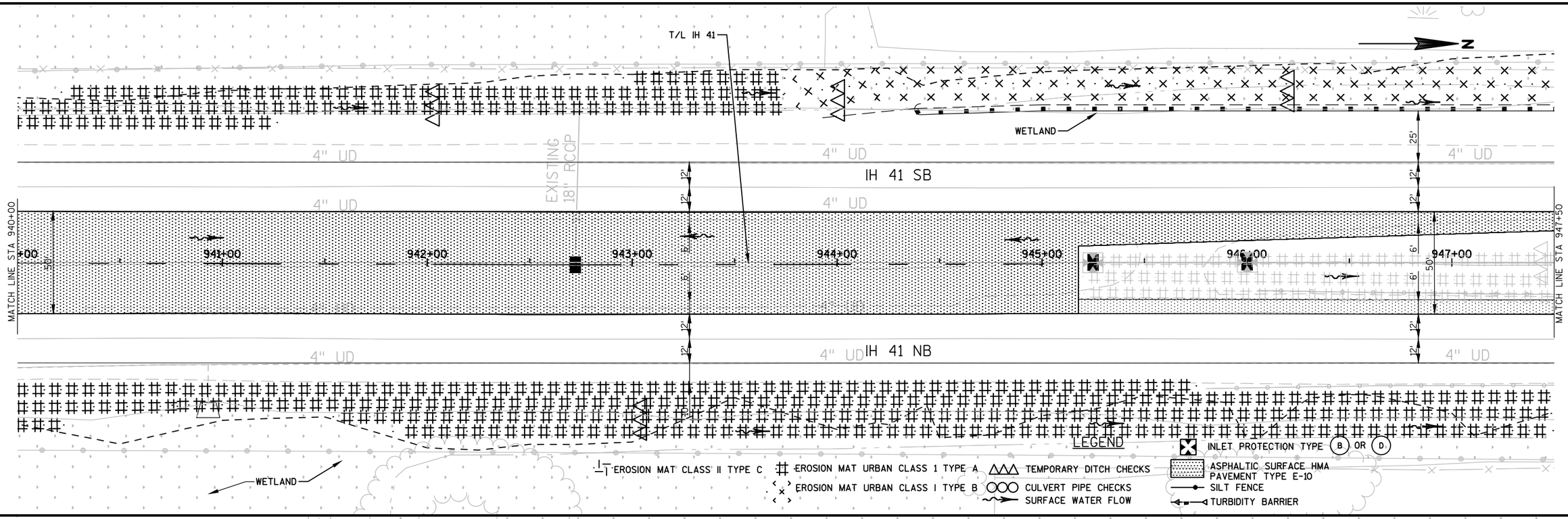
80'

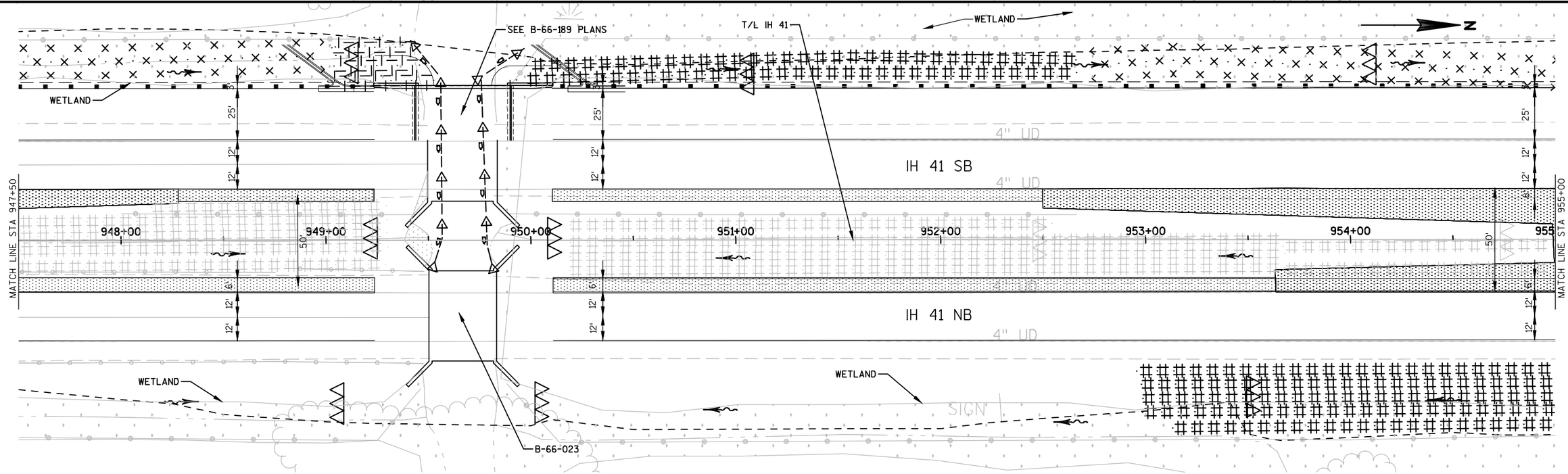
50'

BEGIN PROJECT
STA. 934+00.00

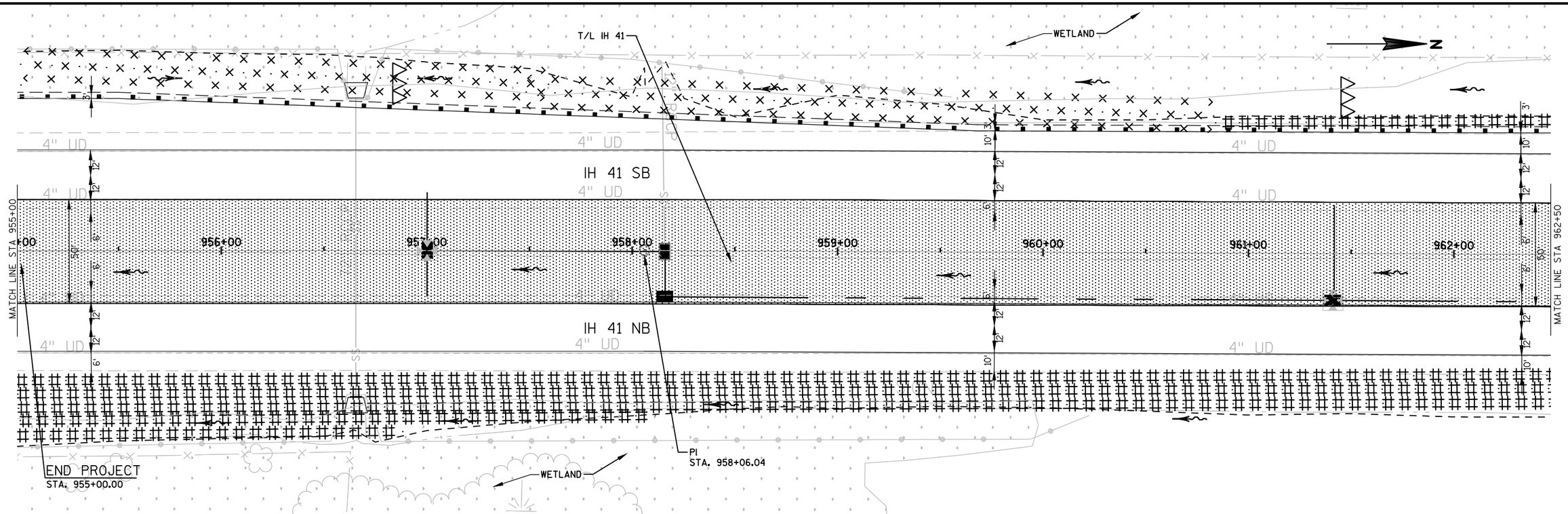
WETLAND

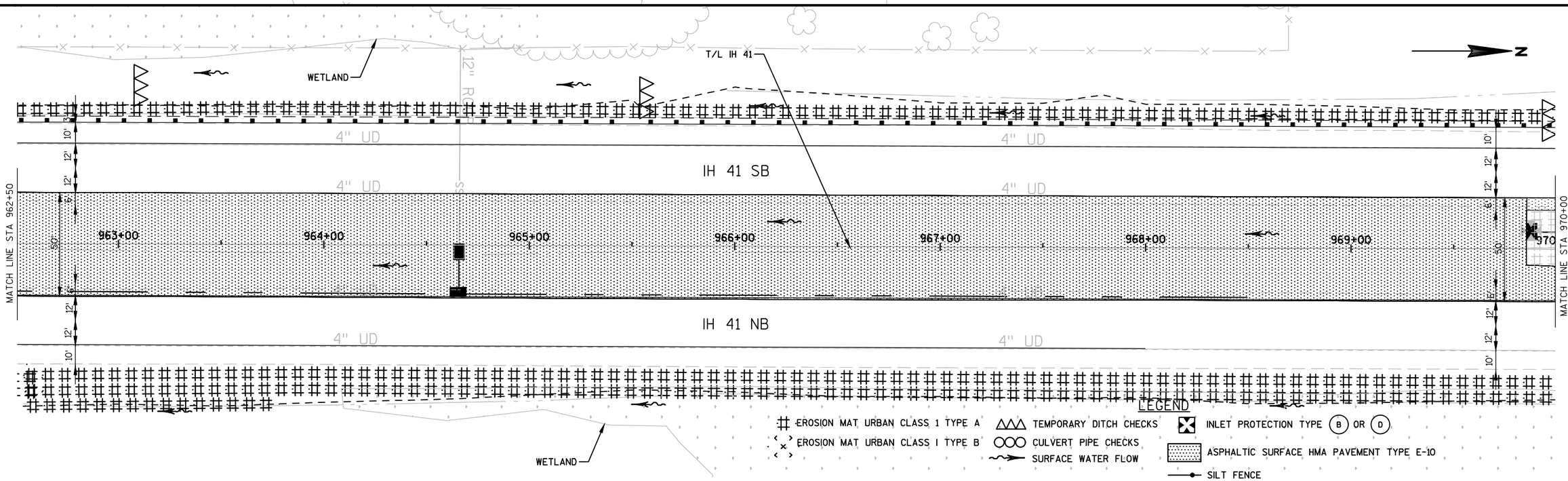
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 2A	SHEET 27	E



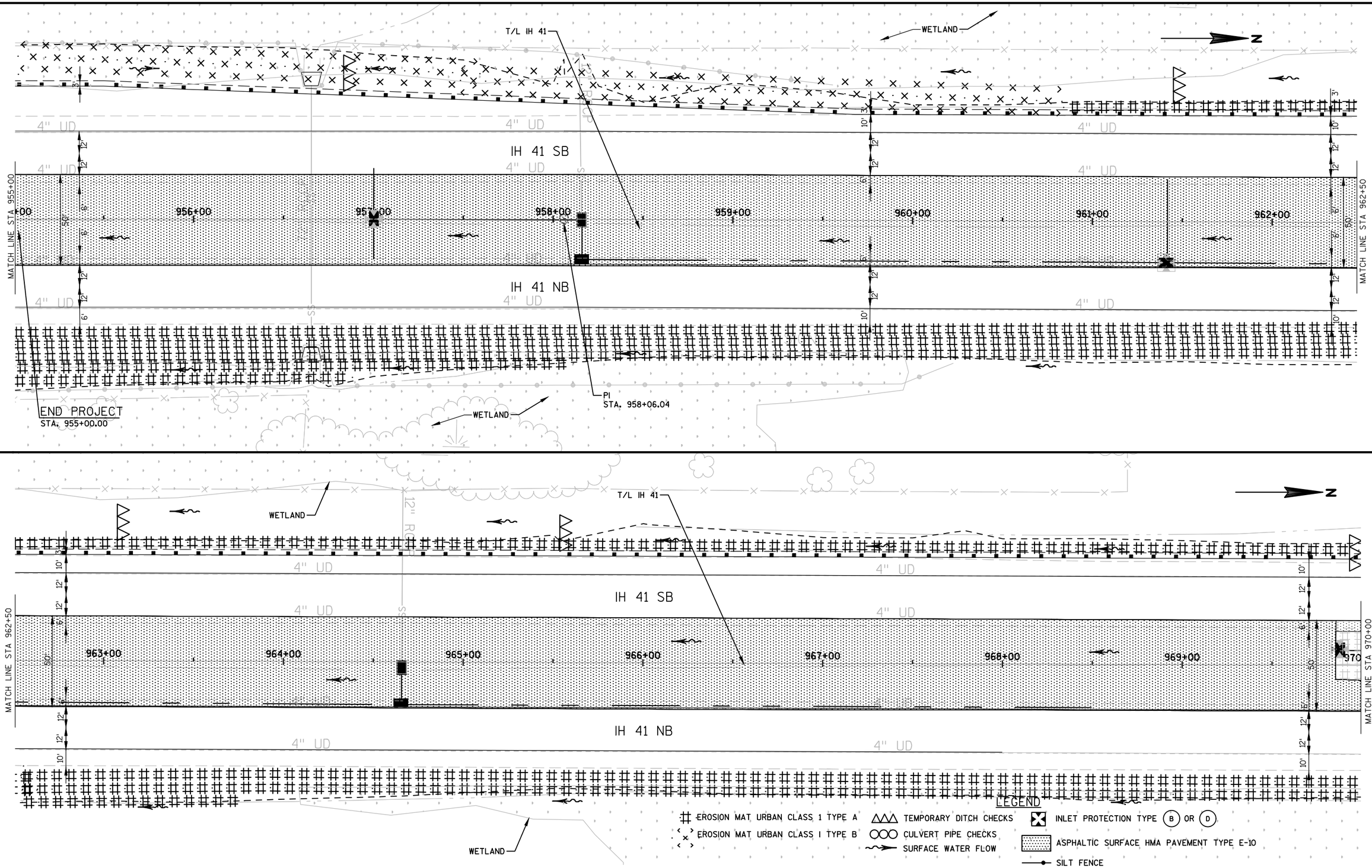


PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 2A	SHEET 28	E


T/L IH 41
WETLAND
N
IH 41 SB
IH 41 NB
4" UD
MATCH LINE STA 955+00
MATCH LINE STA 962+50
956+00
957+00
958+00
959+00
960+00
961+00
962+00
END PROJECT
STA. 955+00.00
PI
STA. 958+06.04
WETLAND

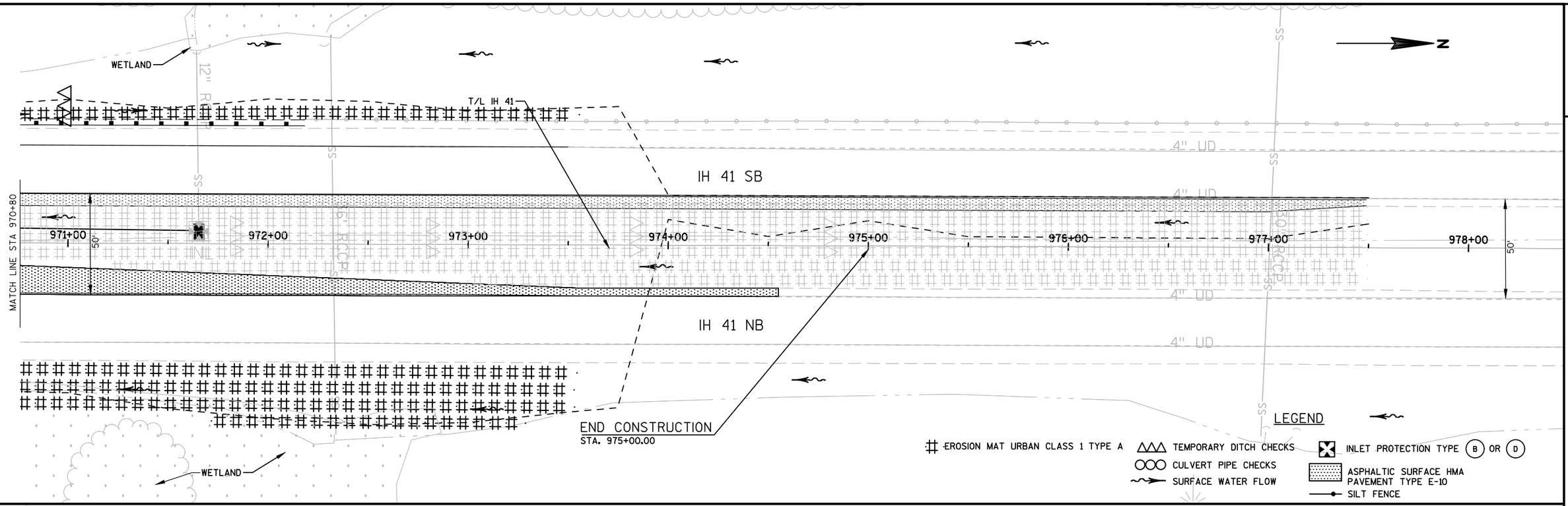

WETLAND
T/L IH 41
N
IH 41 SB
IH 41 NB
4" UD
MATCH LINE STA 962+50
MATCH LINE STA 970+00
963+00
964+00
965+00
966+00
967+00
968+00
969+00
970
WETLAND
LEGEND
EROSION MAT URBAN CLASS 1 TYPE A
EROSION MAT URBAN CLASS I TYPE B
TEMPORARY DITCH CHECKS
CULVERT PIPE CHECKS
SURFACE WATER FLOW
INLET PROTECTION TYPE B OR D
ASPHALTIC SURFACE HMA PAVEMENT TYPE E-10
SILT FENCE

2



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 2A	SHEET 30	E

2

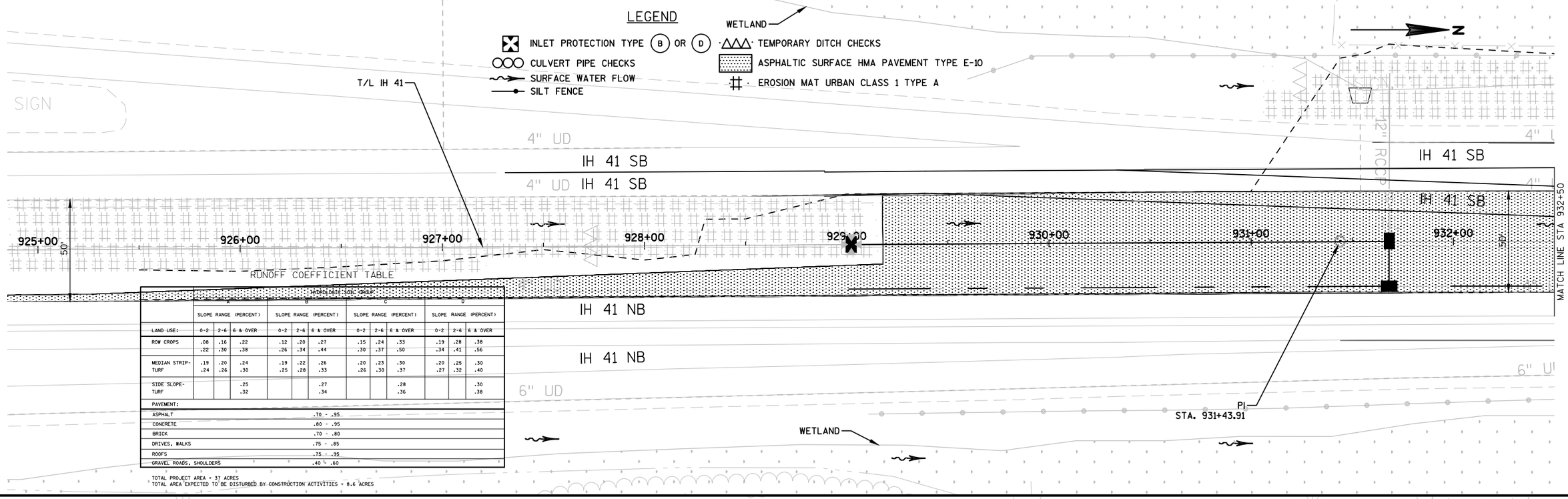


PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 2A	SHEET 31	E

2

LEGEND

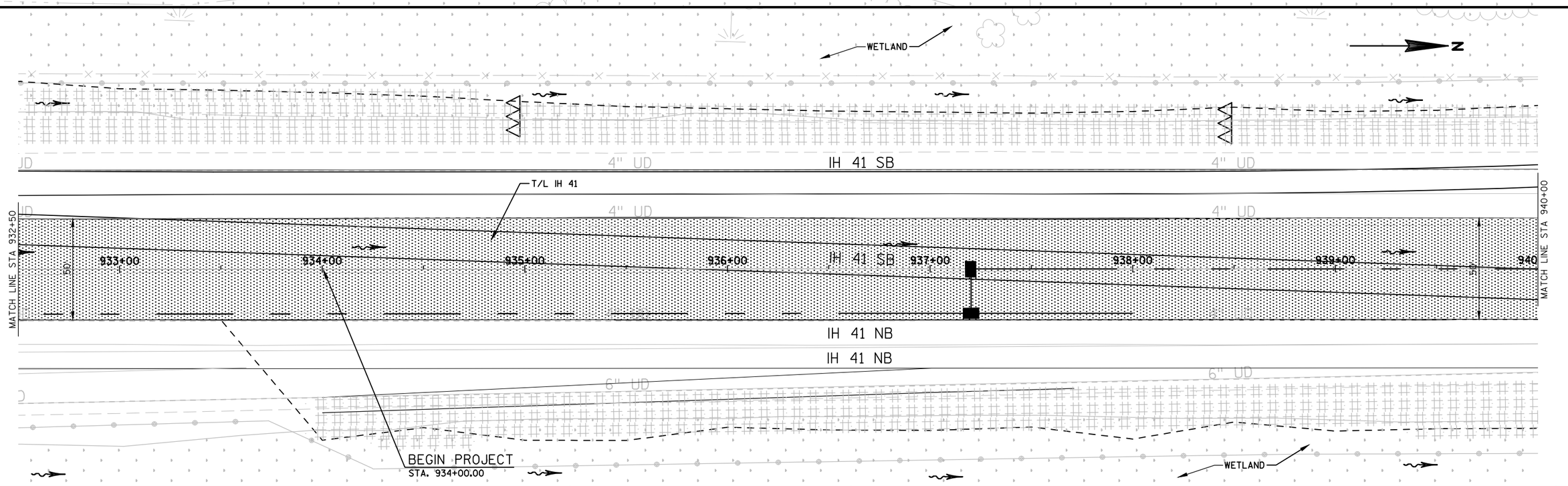
- INLET PROTECTION TYPE (B) OR (D)
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW
- SILT FENCE
- TEMPORARY DITCH CHECKS
- ASPHALTIC SURFACE HMA PAVEMENT TYPE E-10
- EROSION MAT URBAN CLASS 1 TYPE A



RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 37 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 8.6 ACRES



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 2B	SHEET 32	E

2

WETLAND

WETLAND

N

IH 41 SB

T/L IH 41

4" UD

EXISTING 18" RCCP

MATCH LINE STA 940+00

940+00

941+00

942+00

943+00

944+00

945+00

946+00

947+00

MATCH LINE STA 947+50

IH 41 SB

IH 41 NB

IH 41 NB

WETLAND

WETLAND

WETLAND

KOHLSVILLE RIVER

SEE B-66-189 PLANS

T/L IH 41

WETLAND

IH 41 SB

4" UD

MATCH LINE STA 947+50

948+00

949+00

950+00

951+00

952+00

953+00

954+00

955

MATCH LINE STA 955+00

IH 41 SB

IH 41 NB

IH 41 NB

WETLAND

KOHLSVILLE RIVER

B-66-023

WETLAND

SIGN

LEGEND

INLET PROTECTION TYPE B OR D

EROSION MAT URBAN CLASS I TYPE A

TEMPORARY DITCH CHECKS

ASPHALTIC SURFACE HMA PAVEMENT TYPE E-10

EROSION MAT CLASS II TYPE B

EROSION MAT URBAN CLASS I TYPE B

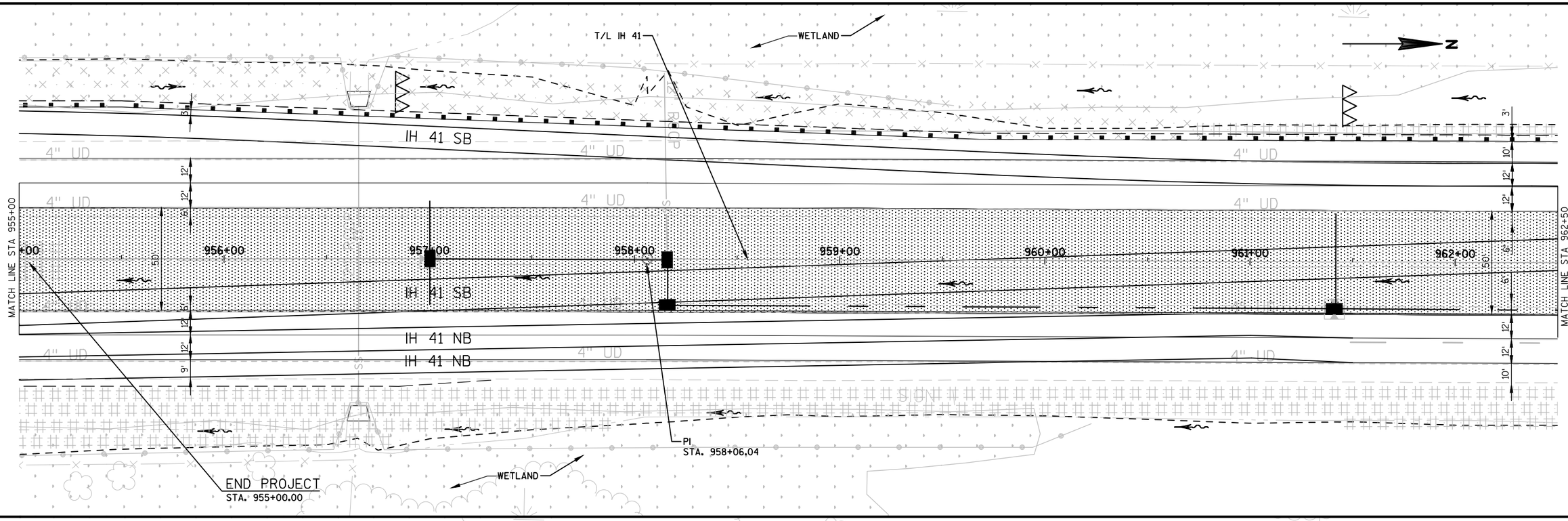
CULVERT PIPE CHECKS

SURFACE WATER FLOW

SILT FENCE

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 2B	SHEET 33	E

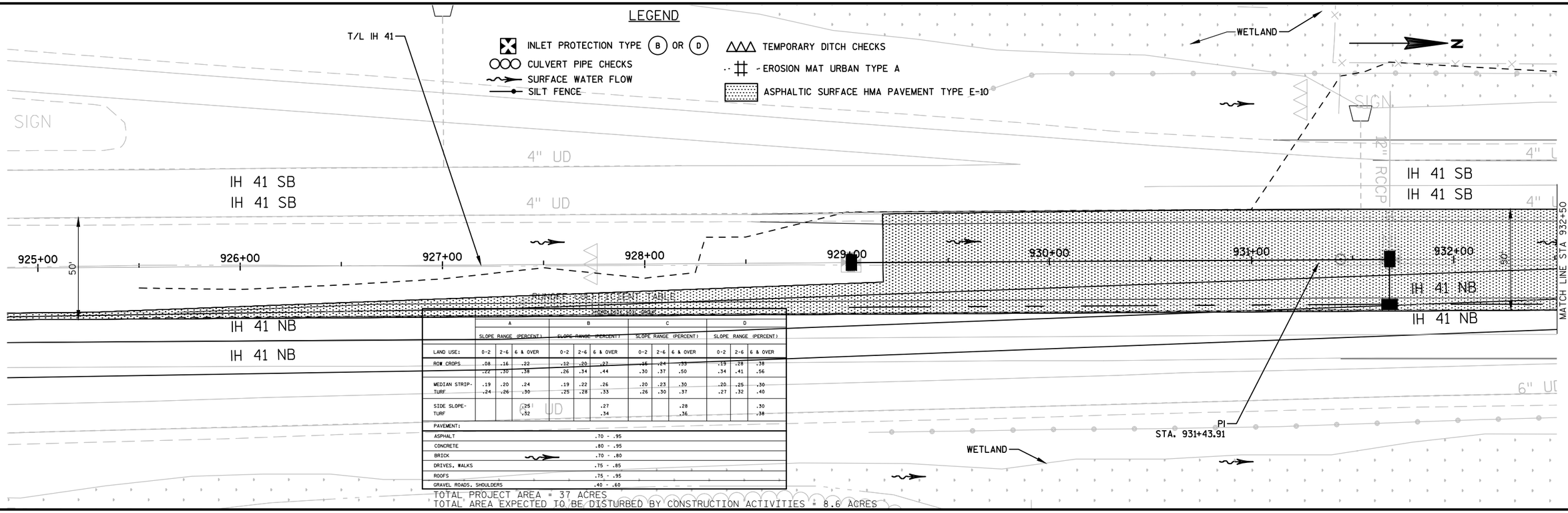
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 2B	SHEET 34	E

LEGEND

- INLET PROTECTION TYPE (B) OR (D)
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW
- SILT FENCE
- TEMPORARY DITCH CHECKS
- EROSION MAT URBAN TYPE A
- ASPHALTIC SURFACE HMA PAVEMENT TYPE E-10



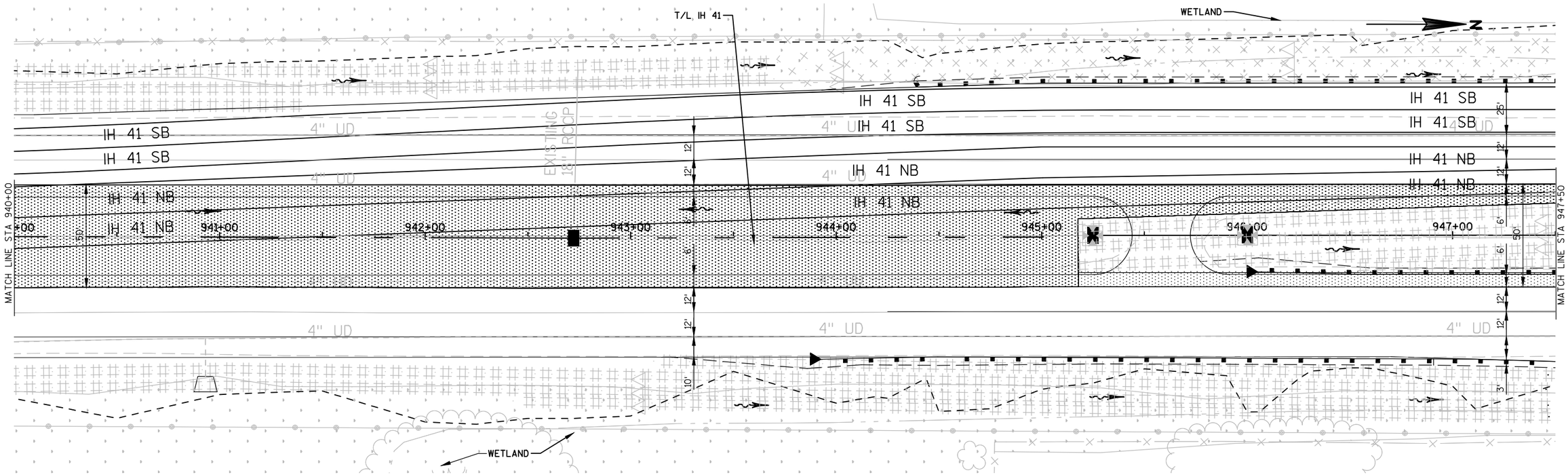
RUNOFF COEFFICIENT TABLE
Rational Soil Cover

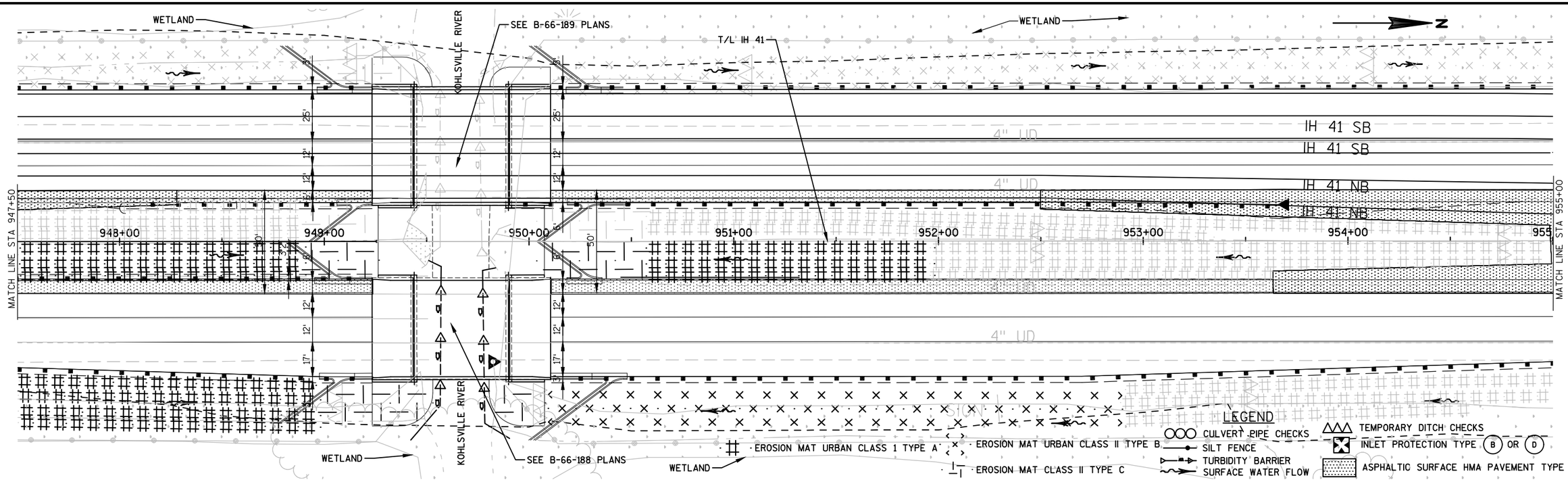
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN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

TOTAL PROJECT AREA = 37 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 8.6 ACRES

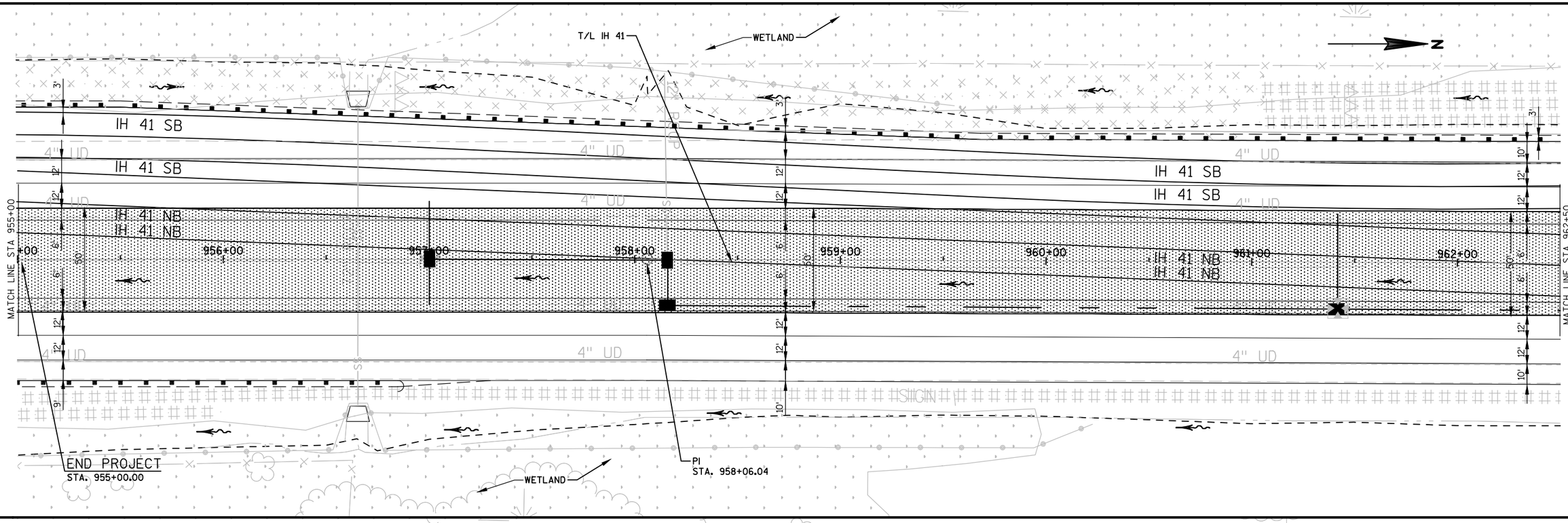
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 3	SHEET 35	E

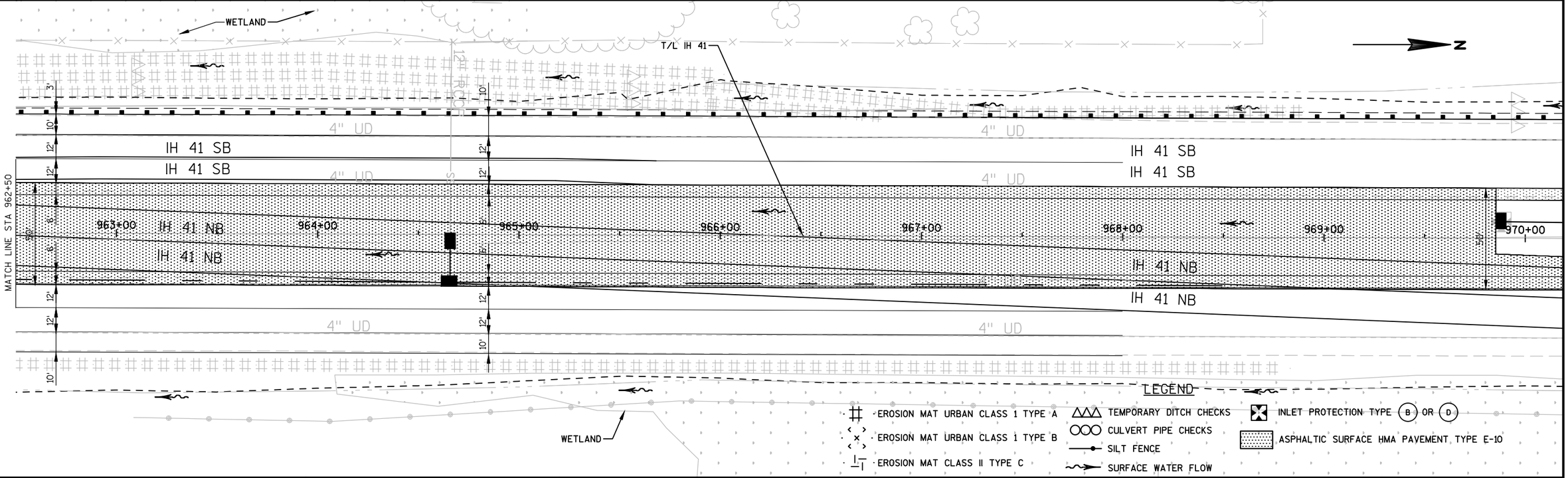
2





PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 3	SHEET 36	E



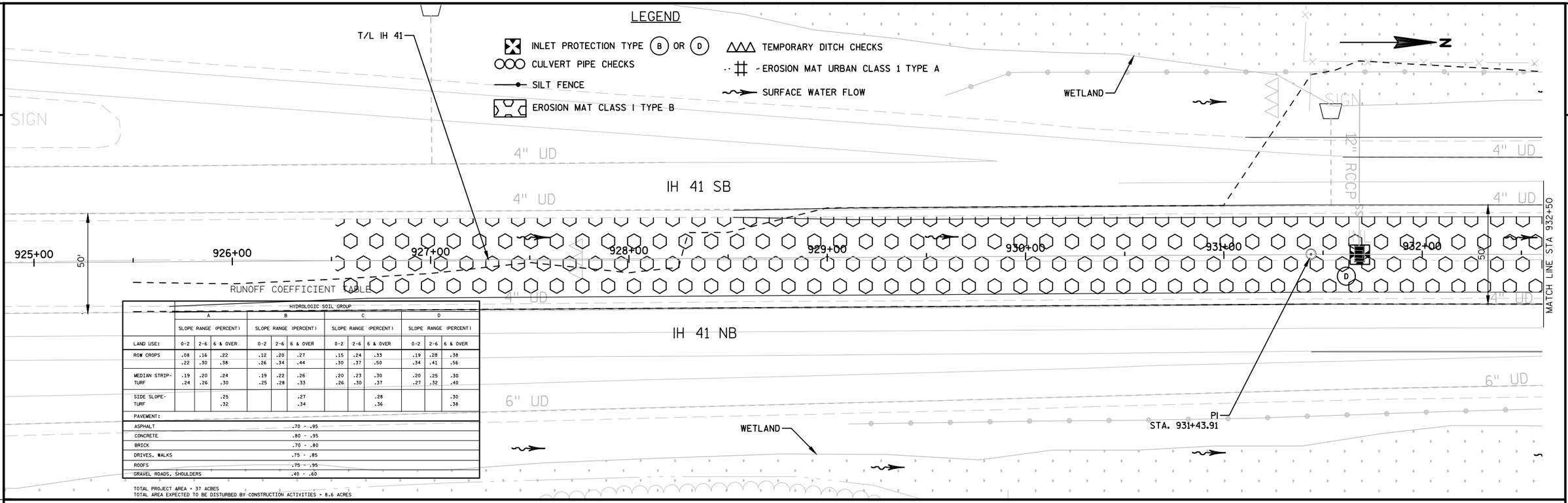


PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 3	SHEET	E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0220_01_EC_S3.DWG PLOT DATE : 2/9/2016 12:36 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

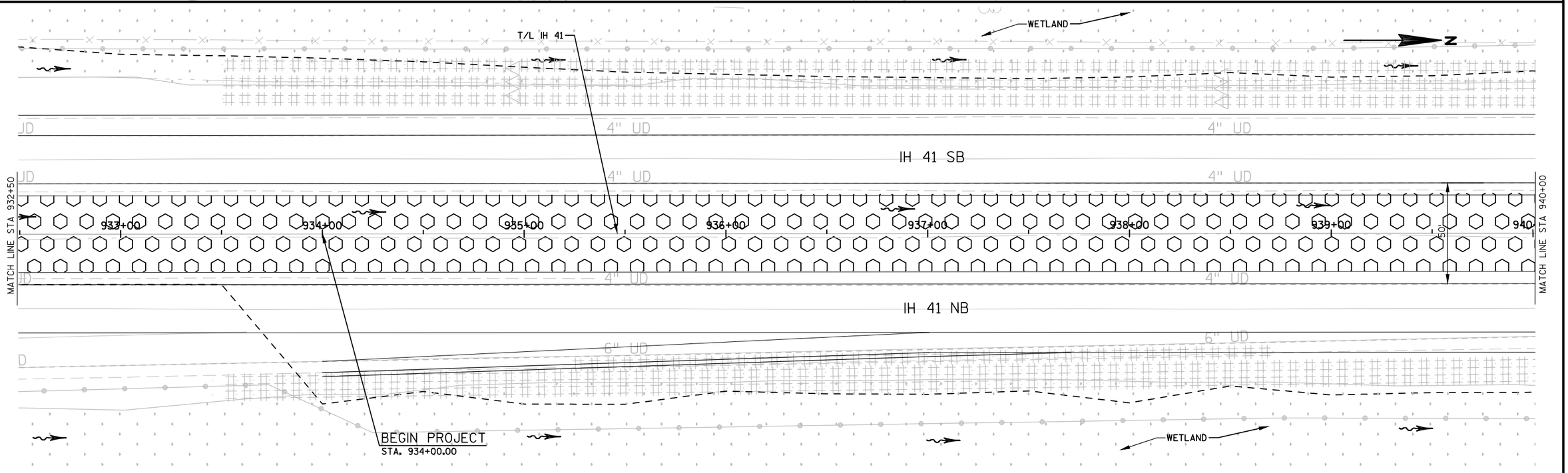
LEGEND

- INLET PROTECTION TYPE (B) OR (D)
- CULVERT PIPE CHECKS
- SILT FENCE
- EROSION MAT CLASS I TYPE B
- TEMPORARY DITCH CHECKS
- EROSION MAT URBAN CLASS 1 TYPE A
- SURFACE WATER FLOW



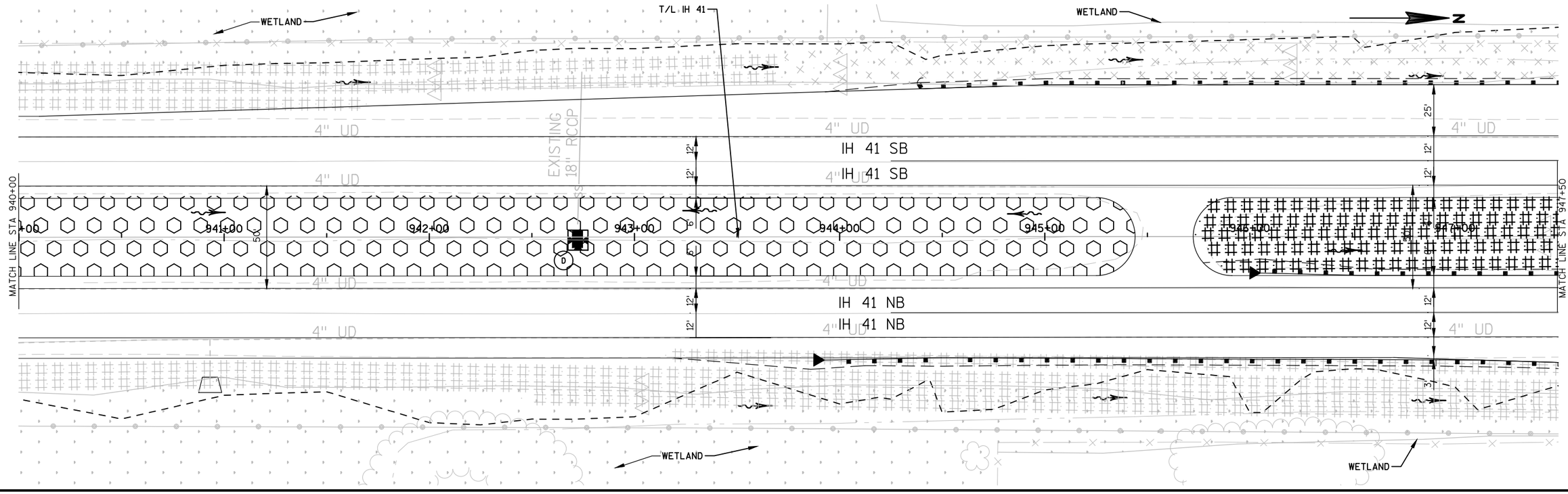
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33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

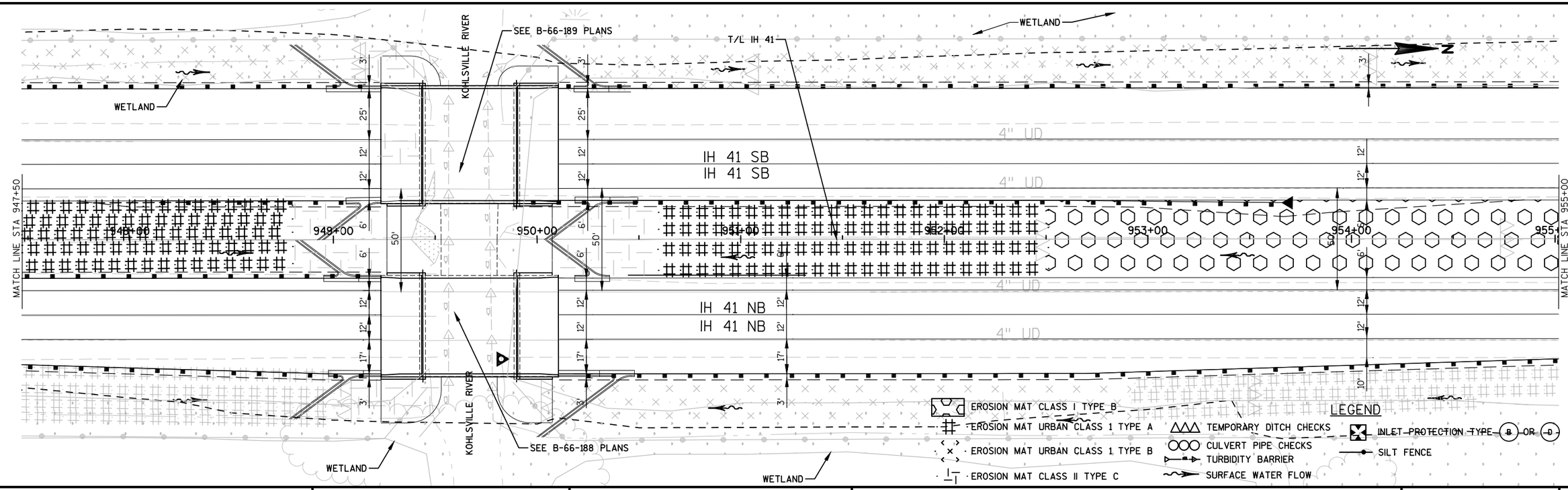
TOTAL PROJECT AREA = 37 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 8.6 ACRES



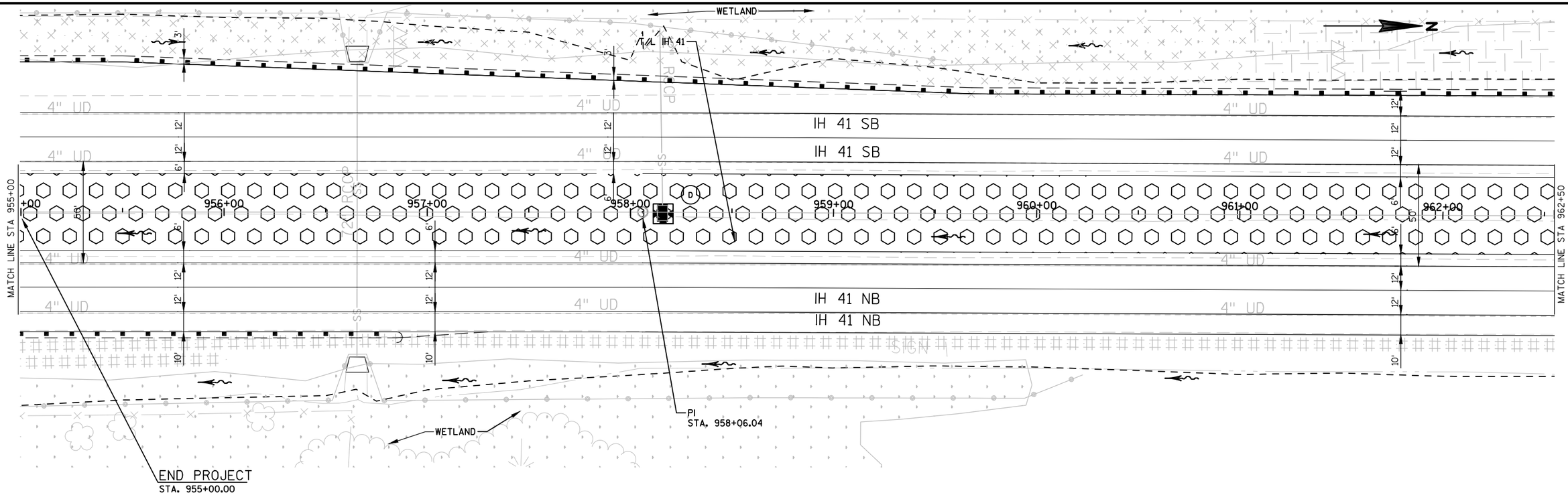
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 4	SHEET 38	E

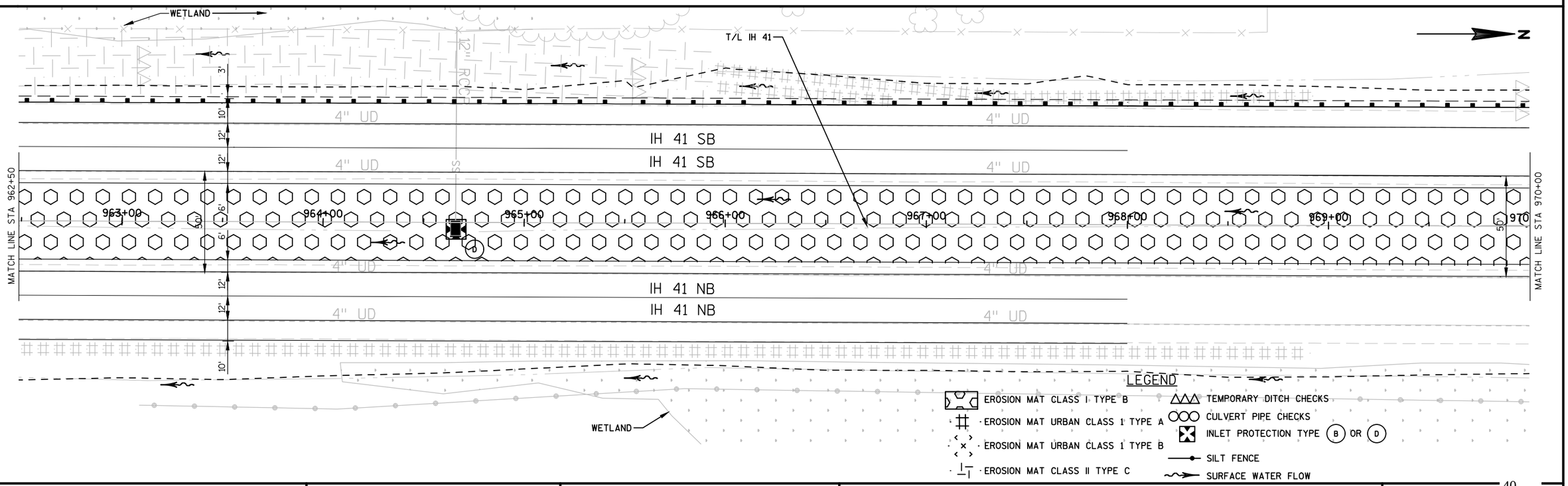
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 4	SHEET 39	E

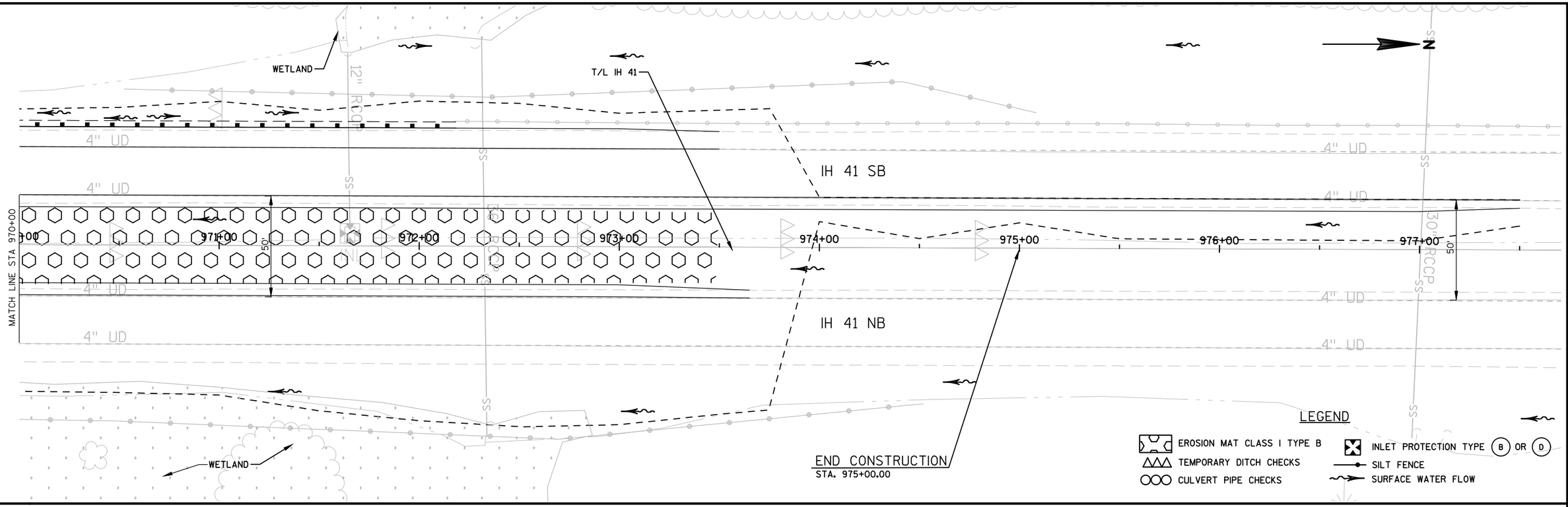




PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 4	SHEET E

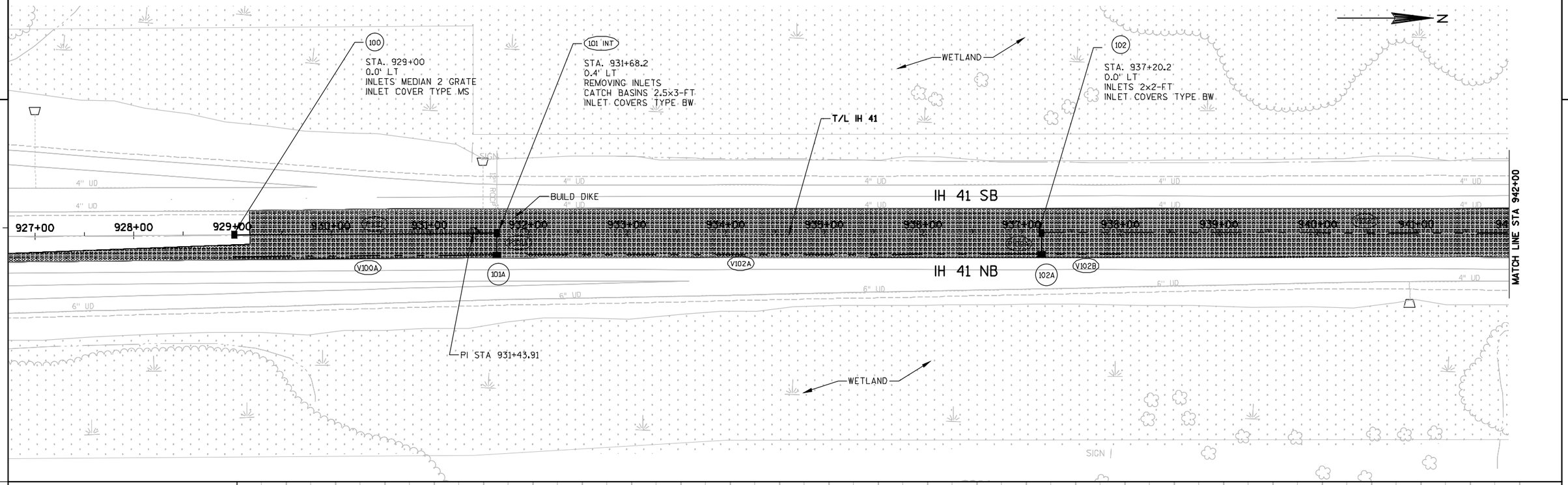
FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0220_01_EC_S4.DWG PLOT DATE : 2/9/2016 11:24 AM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

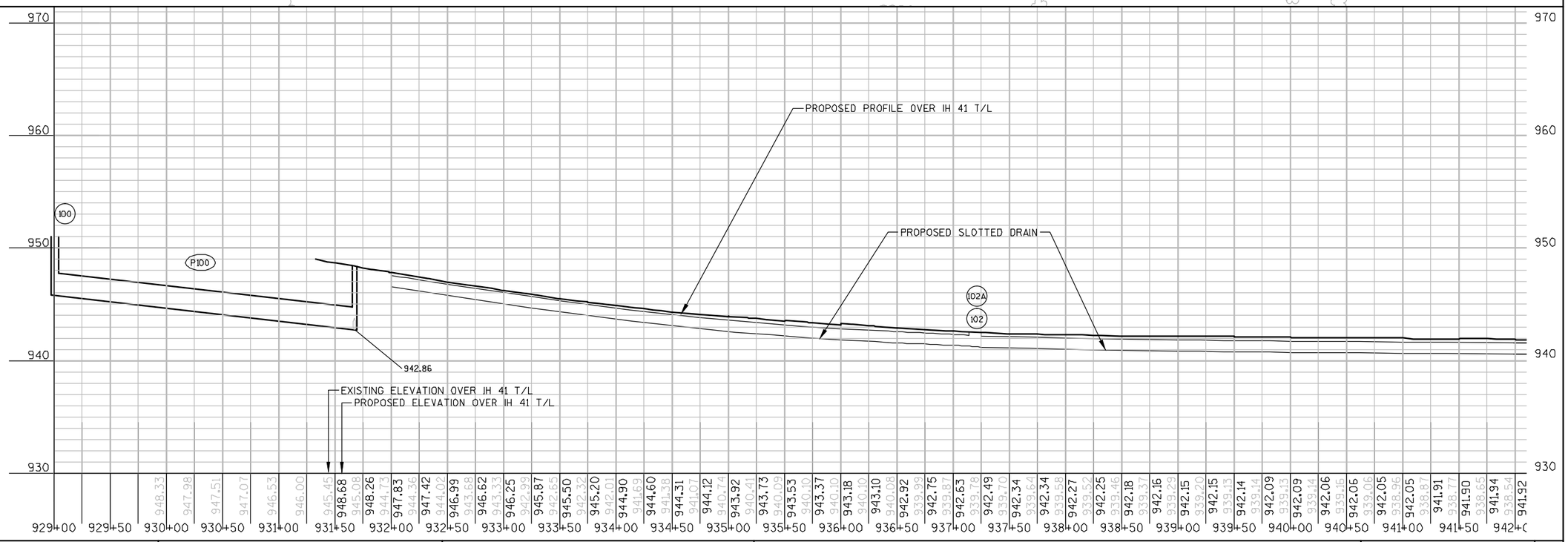
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EROSION CONTROL STAGE 4	SHEET 41	E

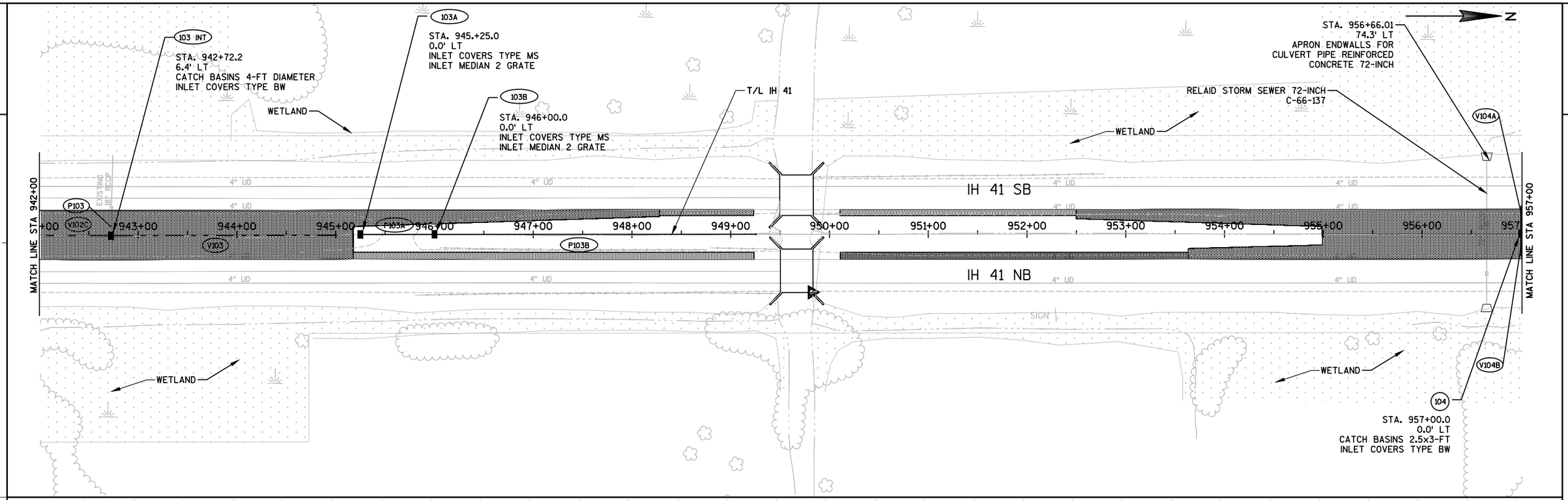
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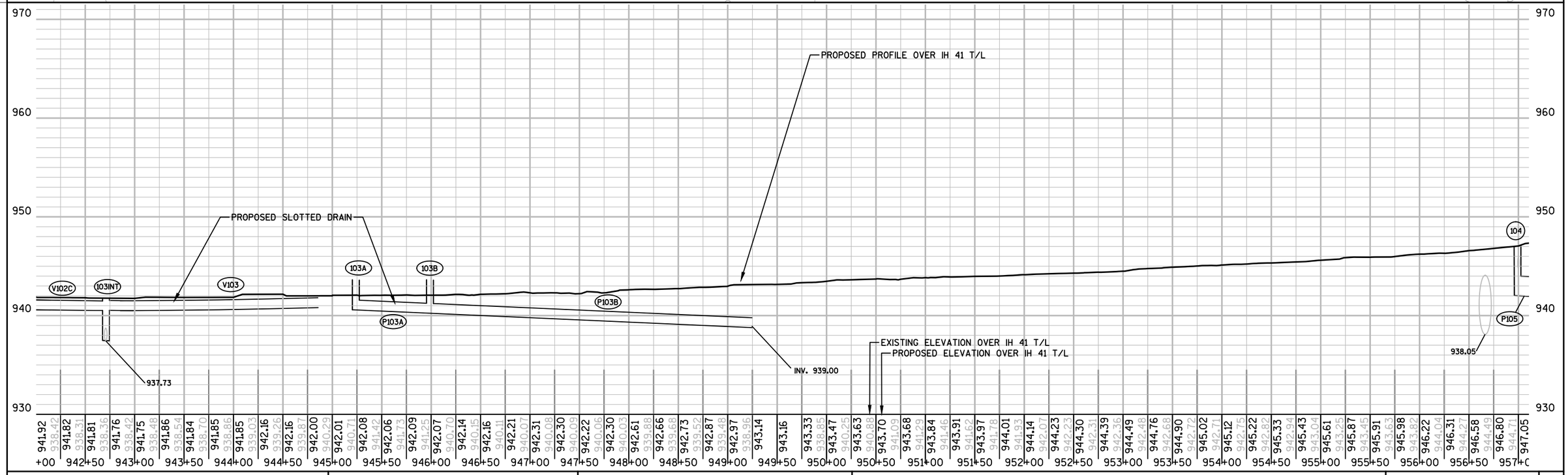




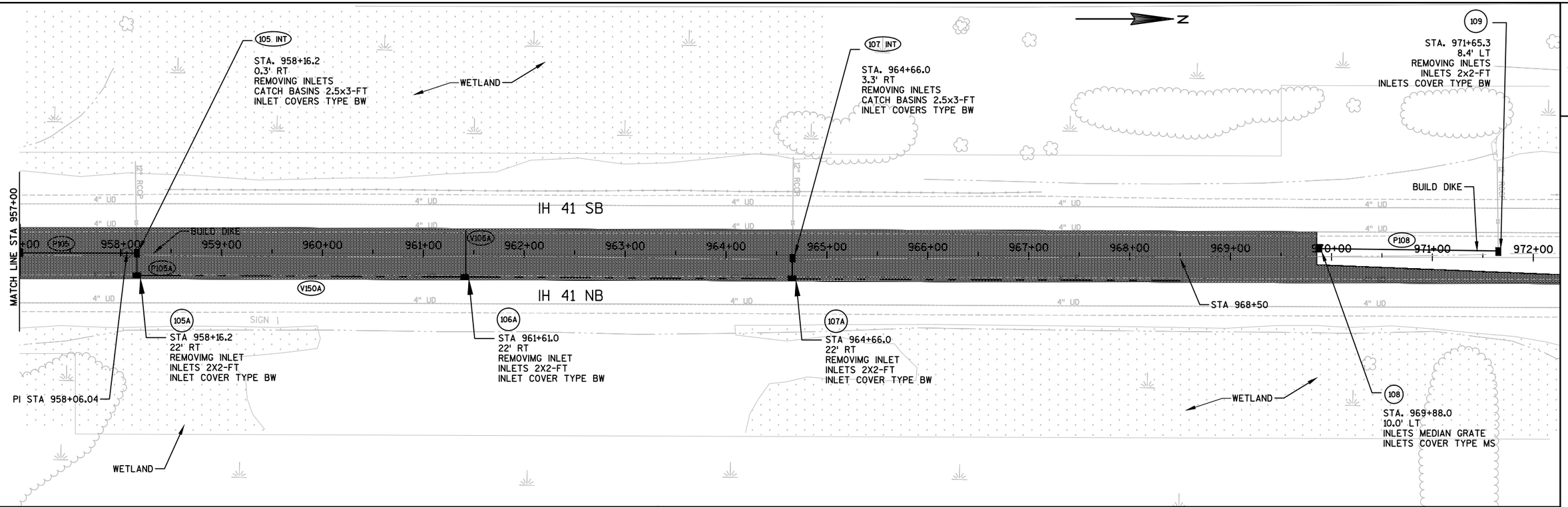
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STORM SEWER PLAN TEMPORARY X-OVER	SHEET 42 - E

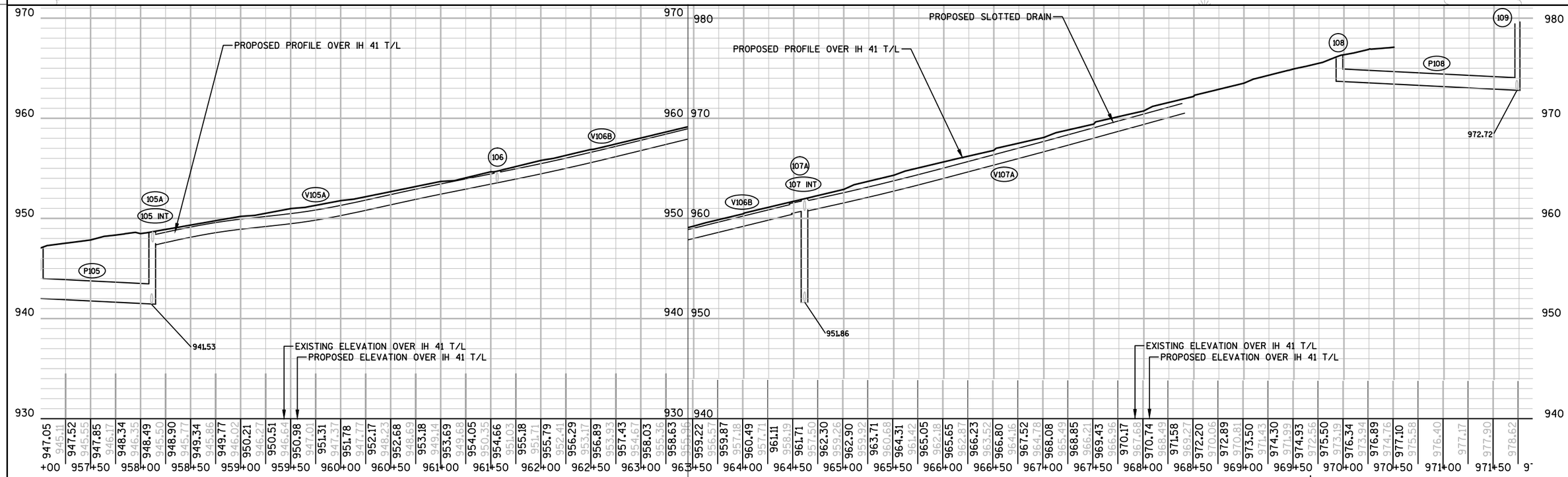
FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-TH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETS\PLAN 0501_01_SS.DWG PLOT DATE : 1/6/2016 3:32 PM PLOT BY : TOKT PLOT NAME : 1" = 100' XREF





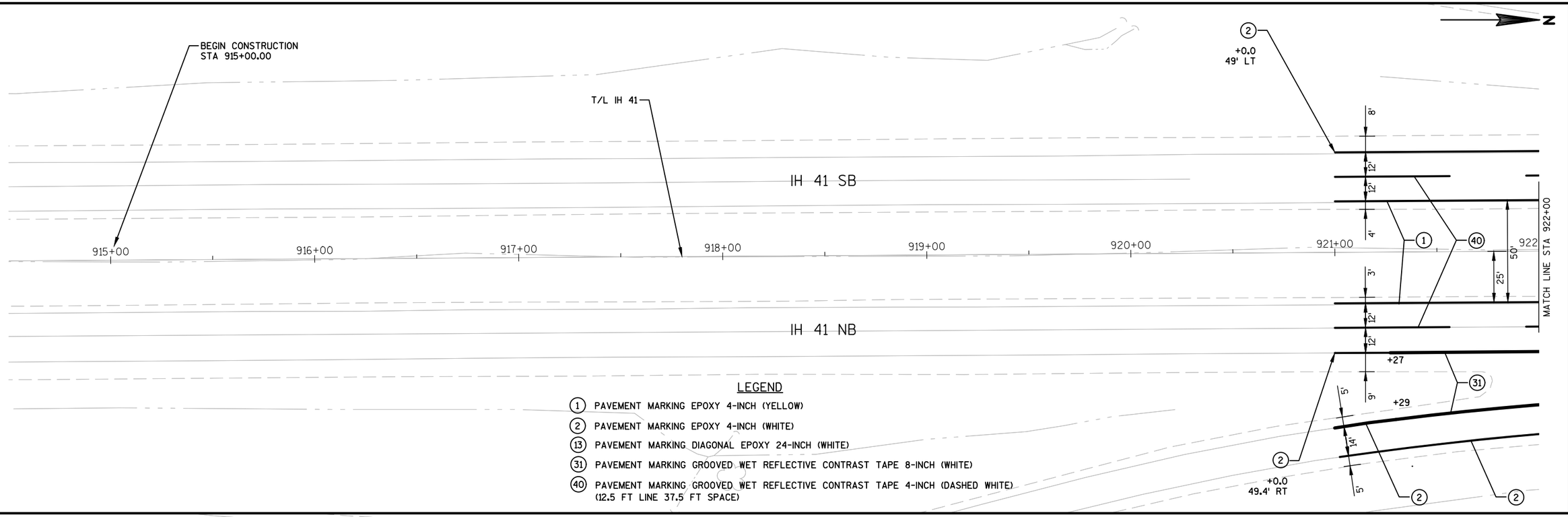
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STORM SEWER PLAN TEMPORARY X-OVER	SHEET 43 - E





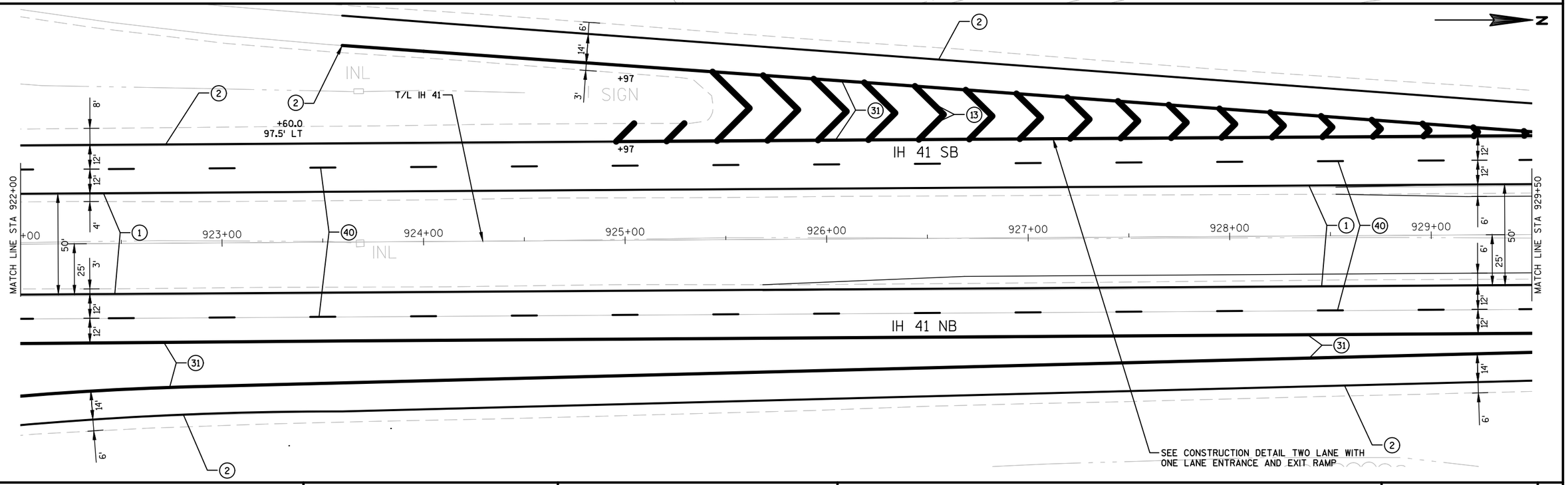
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STORM SEWER PLAN TEMPORARY X-OVER	SHEET - E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0501_01_SS.DWG PLOT DATE : 1/6/2016 3:33 PM PLOT BY : TOKI PLOT NAME : ---------- 1" = 100'_XREF

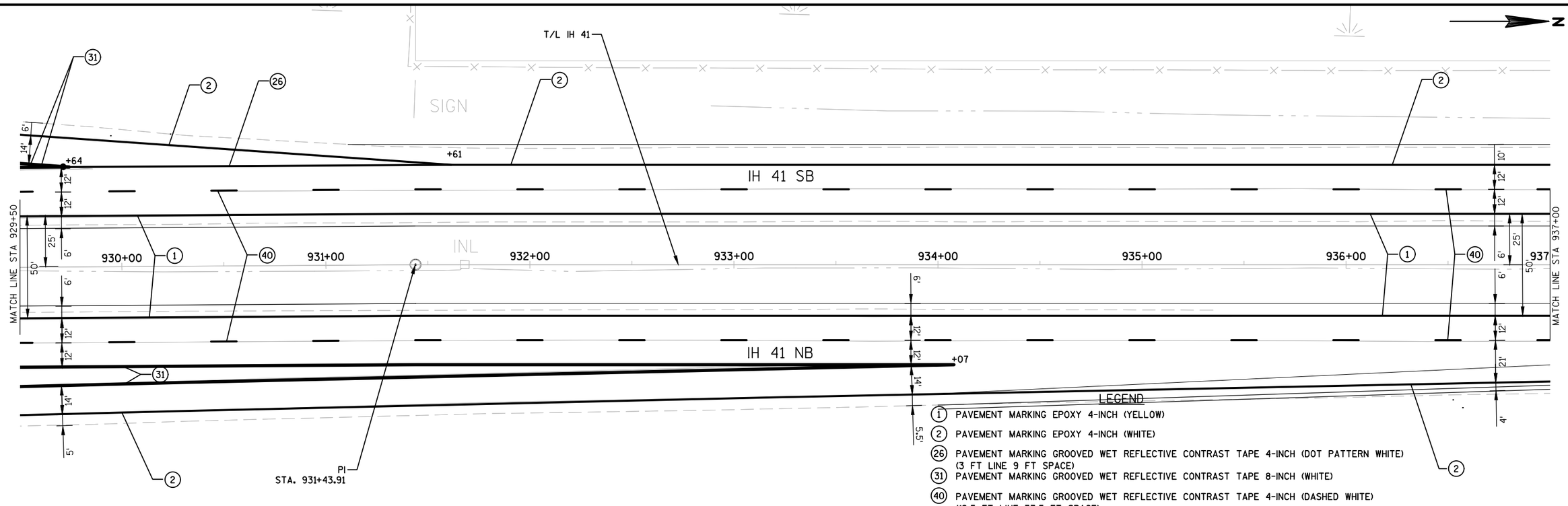


LEGEND

(1) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
(13) PAVEMENT MARKING DIAGONAL EPOXY 24-INCH (WHITE)
(31) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
(40) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SPACE)



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	PAVEMENT MARKINGS	SHEET 45	E



LEGEND

(1) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

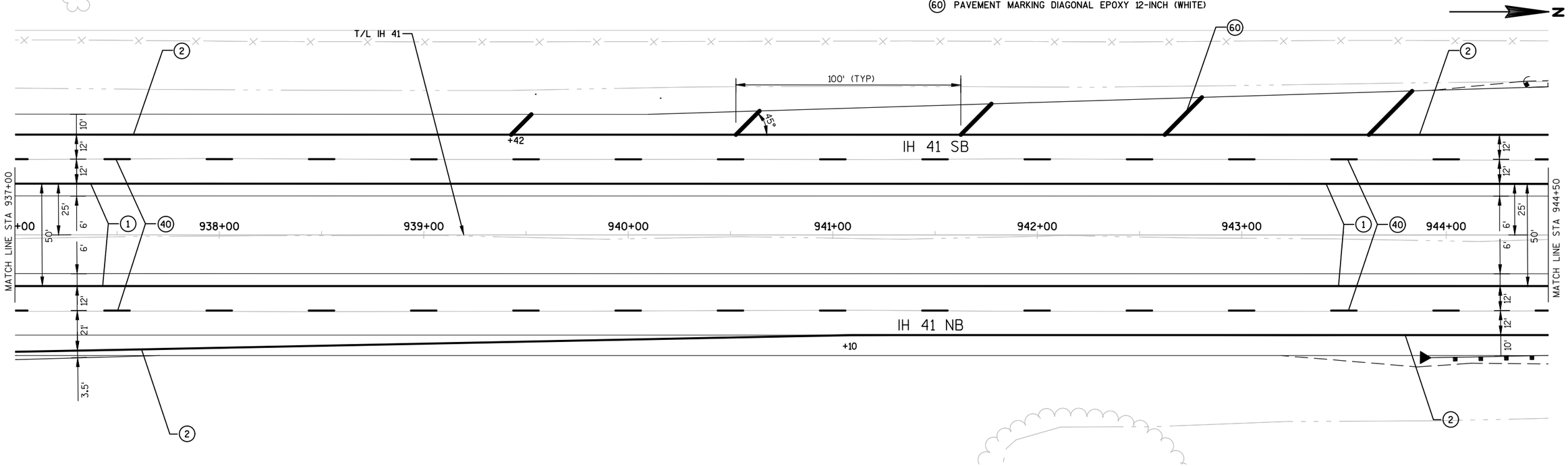
(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)

(26) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SPACE)

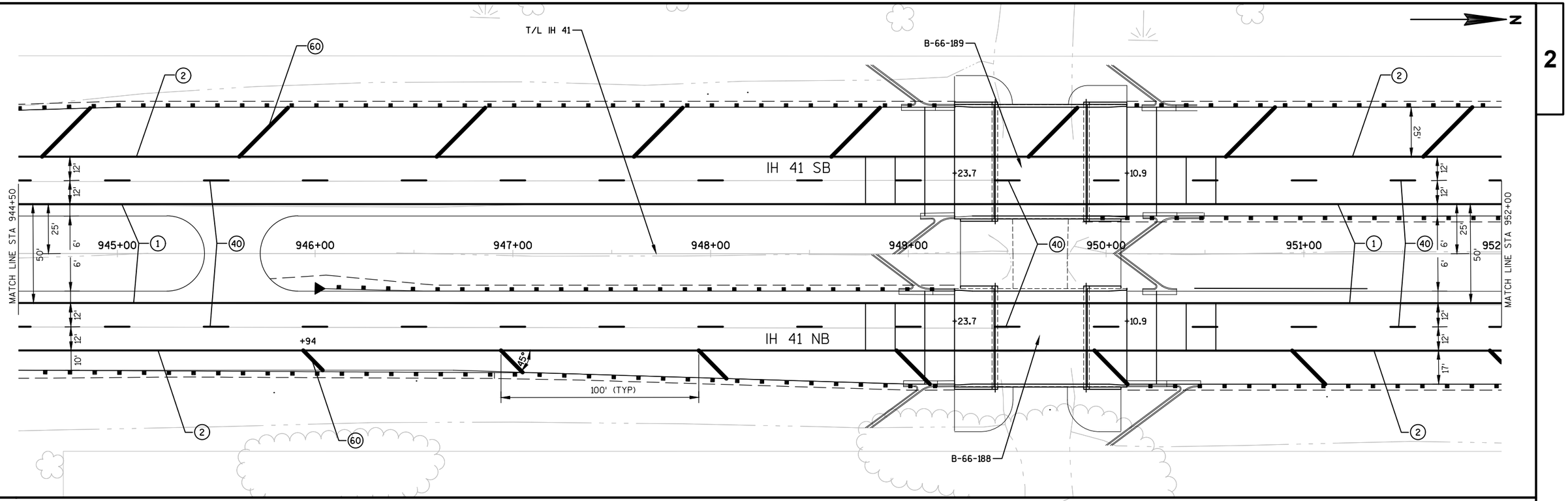
(31) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)

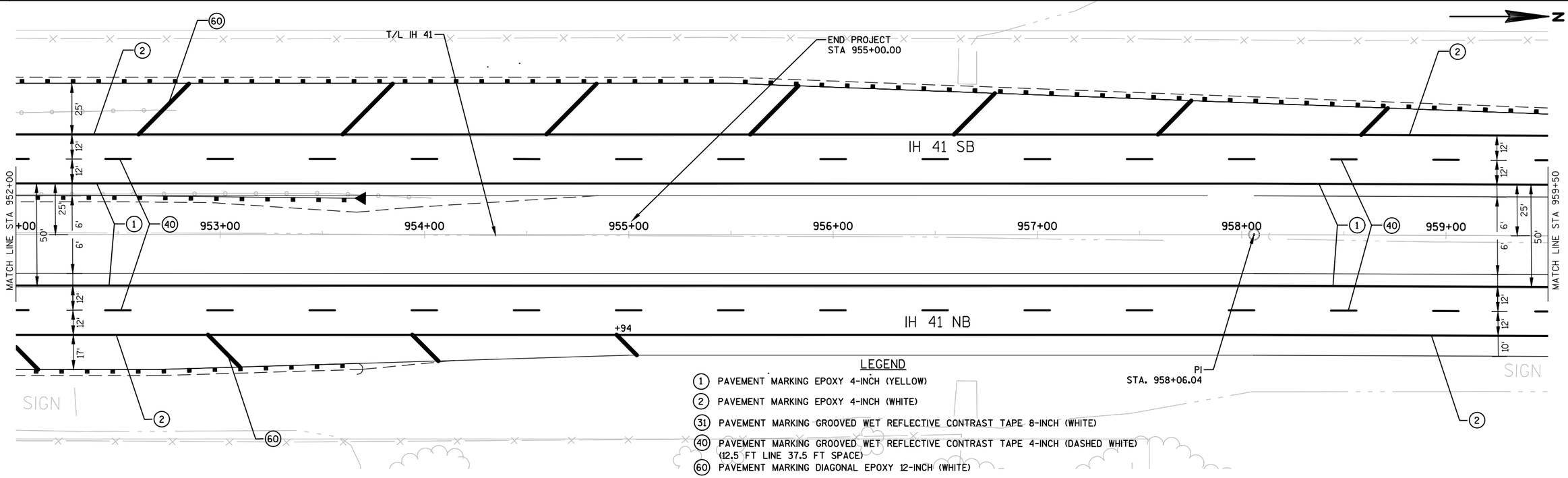
(40) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SPACE)

(60) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	PAVEMENT MARKINGS	SHEET 46	E





LEGEND

(1) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

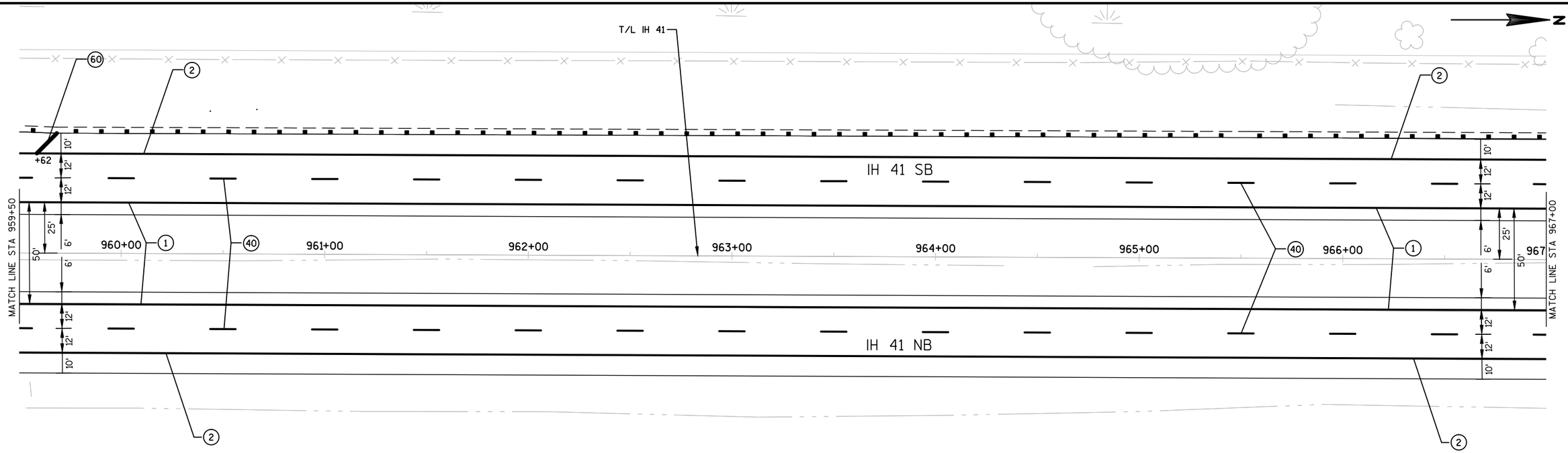
(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)

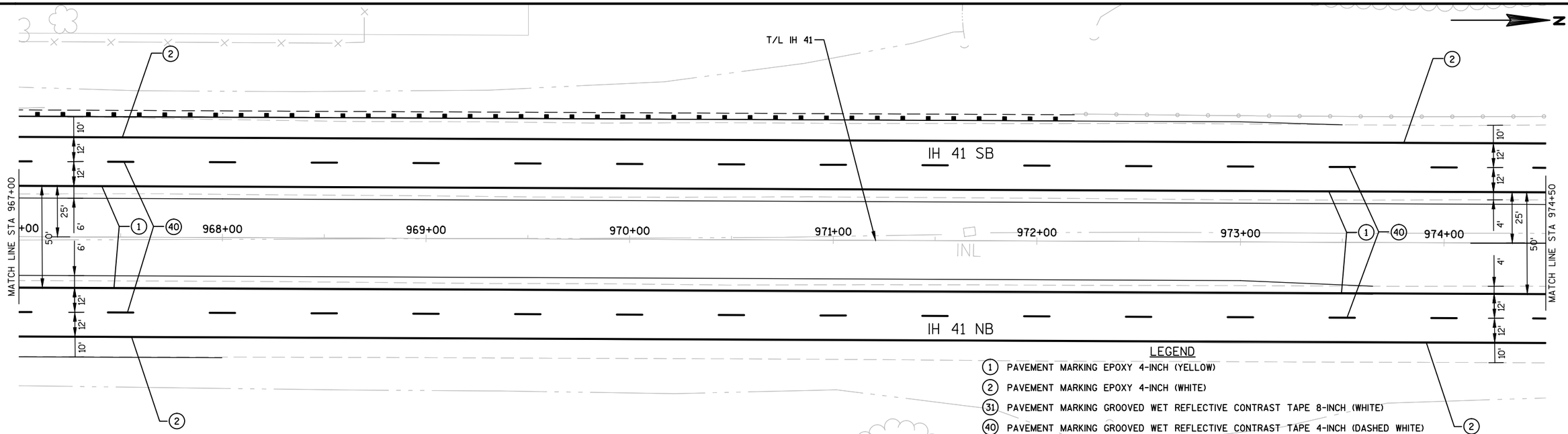
(31) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)

(40) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE) (12,5 FT LINE 37.5 FT SPACE)

(60) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	PAVEMENT MARKINGS	SHEET 47	E





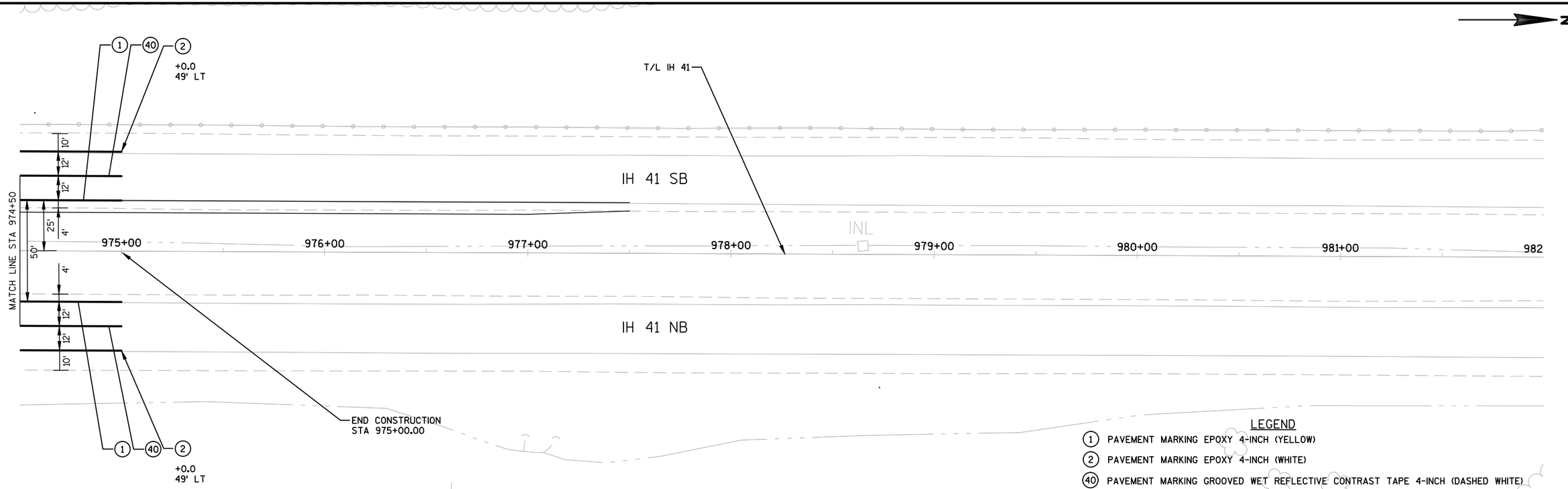
LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
31. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
40. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SPACE)
60. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	PAVEMENT MARKINGS	SHEET 48	E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0245_01_PM.DWG PLOT DATE : 1/6/2016 3:43 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

2



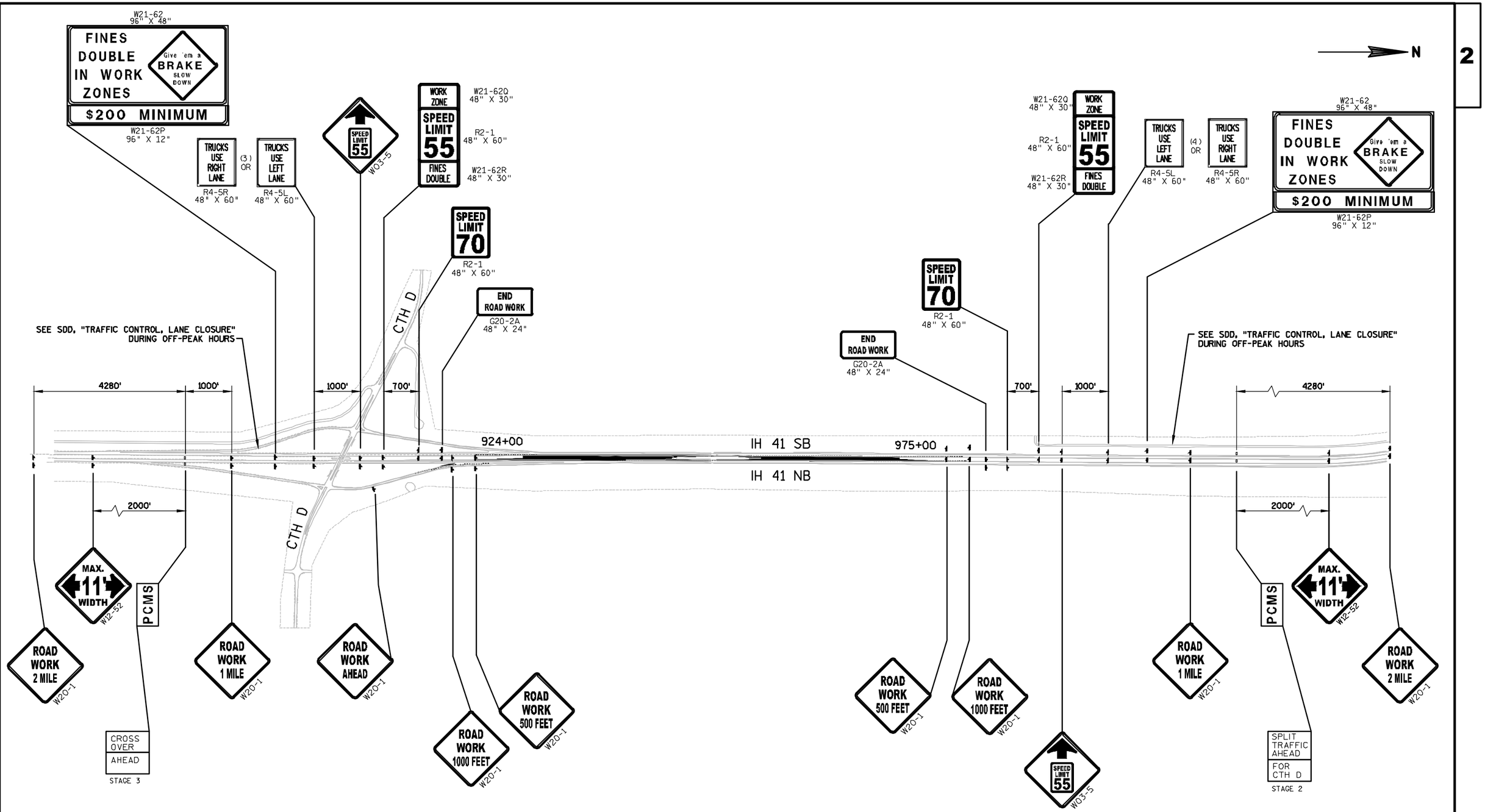
LEGEND

(1) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)

(40) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SPACE)

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	PAVEMENT MARKINGS	SHEET 49	E



NOTES:

(1) SIGNING IS SPACED 500 FEET UNLESS OTHERWISE NOTED
(2) SPEED REDUCTION SIGNING FOR STAGES 2A THROUGH STAGE 3
(3) USE : R4-5R STG. 1, 2B, 3 & 4A; R4-5L STG. 2A; COVER STG 4B
(4) USE : R4-5R STG. 1, 4A; R4-5L STG 2A & 3; COVER STG 2B & 4B

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	TRAFFIC CONTROL - ADVANCED WARNING SIGNING	SHEET 50	E

TRAFFIC CONTROL LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUMS
- TRAFFIC CONTROL DRUM WITH TRAFFIC CONTROL WARNING LIGHTS TYPE C
- TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS & BASES
- CONCRETE BARRIER TEMPORARY PRECAST DELIVERED & INSTALLED
- CONCRETE BARRIER TEMPORARY PRECAST DELIVERED & INSTALLED IN PRIOR STAGE

- CC — CRASH CUSHIONS TEMPORARY
- PCMS — TRAFFIC CONTROL SIGN PCMS

- DIRECTION OF TRAFFIC
- TEMPORARY RAISED PAVEMENT MARKERS
- TRAFFIC CONTROL BARRICADE TYPE III TRAFFIC CONTROL WARNING LIGHTS TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III WITH TRAFFIC CONTROL WARNING LIGHTS TYPE AND ATTACHED TRAFFIC CONTROL SIGN

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT

- FIXED MESSAGE SIGN GROUND MOUNT

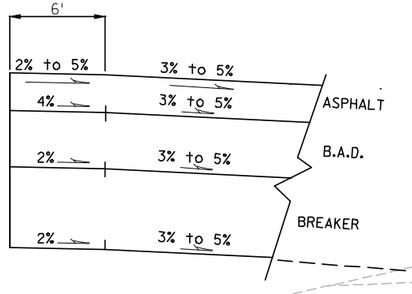
- WORK ZONE THIS STAGE
- ASPHALTIC SURFACE
- (XXX) — TRAFFIC CONTROL SIGNS FIXED MESSAGE NUMBER
- (1) — PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (2) — PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (4) — TEMPORARY PAVEMENT MARKING REMOVABLE MASK-OUT TAPE 6-INCH (BLACK)
- (6) — PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- (13) — PAVEMENT MARKING DIAGONAL EPOXY 24-INCH (WHITE)
- (31) — PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
- (40) — PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SPACE)
- (45) — TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (46) — TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (49) — TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
- (50) — TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SPACE)
- (51) — TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SPACE)
- (55) — TEMPORARY PAVEMENT MARKING PAINT 4-INCH (YELLOW)
- (56) — TEMPORARY PAVEMENT MARKING PAINT 4-INCH (WHITE)
- (57) — TEMPORARY PAVEMENT MARKING PAINT 4-INCH WHITE (12.5 FT LINE 37.5 FT SPACE)
- (P) — PERMANENT PAVEMENT MARKING SEE PAVEMENT MARKING PLAN
- (R) — REMOVING PAVEMENT MARKING

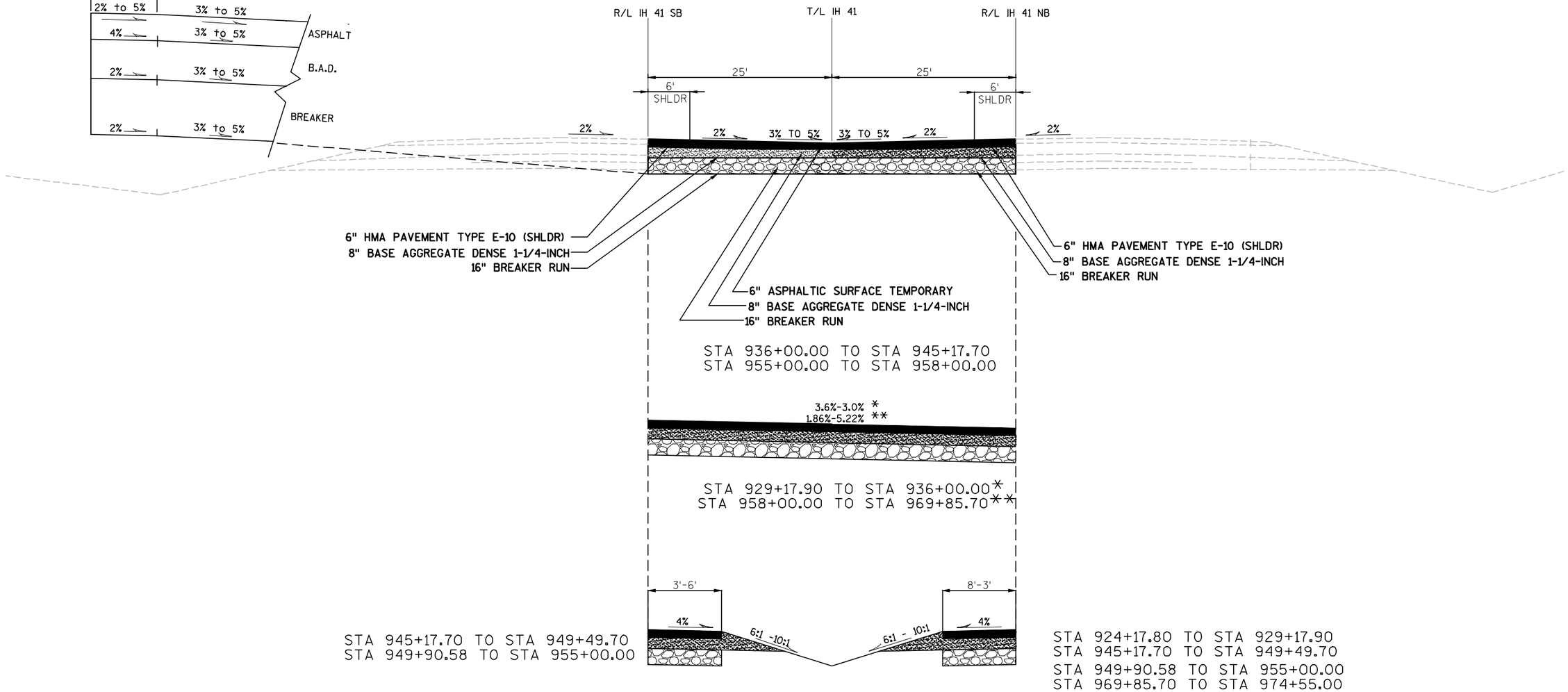
FIXED MESSAGE SIGNS

1. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY EXISTING TYPE "J" SIGN.
2. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.
3. SEE FIXED MESSAGE SIGNS AND SPECIAL MESSAGE SIGNS LAYOUT SHEETS FOR MORE INFORMATION.
4. COVER DETOUR SIGNING WHEN NOT IN USE. INCIDENTAL TO WORK ZONE TRAFFIC CONTROL SIGNING.
5. SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.

TRAFFIC CONTROL

1. CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING.
2. PLACE TRAFFIC CONTROL ITEMS AT THE BEGINNING OF EACH STAGE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
3. KEEP TRAFFIC CONTROL ITEMS IN PLACE AS SHOWN THROUGH THE DURATION OF EACH STAGE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
4. CONTRACTOR SHALL INSTALL PERMANENT SIGNS AND PAVEMENT MARKING WHEN APPROPRIATE DURING CONSTRUCTION STAGING.
5. ALL TRAFFIC CONTROL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED IN THE PLANS.
6. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.
7. FOR A LANE CLOSURE THAT IS IN PLACE FEWER THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.
8. SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATION AND SPACING MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS.
9. ALL SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE COVERED OR REMOVED AS NEEDED AND/OR AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS.
10. CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF THE DRUMS.
11. LOCATE THE ARROW BOARD IN THE LANE CLOSURE TAPER AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE TAPER WHERE THERE IS SUFFICIENT SPACE TO LOCATE THE ARROW BOARD.
12. ADJUSTMENT IN THE BUFFER SPACE MAY NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION.
13. DO NOT STORE EQUIPMENT OR MATERIAL WITHIN THE WORK ZONE OTHER THAN BEHIND THE TEMPORARY PRECAST CONCRETE BARRIER.
14. MOVING BARRICADE AFTER THE OPERATION IS COMPLETE.
15. TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH TRAFFIC CONTROL WARNING LIGHTS, TYPE C ONE WAY IN TAPERS ONLY, UNLESS OTHERWISE SHOWN.
16. ALL EXISTING CONFLICTING PAVEMENT MARKING SHALL BE REMOVED.
17. BARRICADE STRIPES ARE TO BE SLOPED DOWNWARD IN TRAFFIC FLOW.





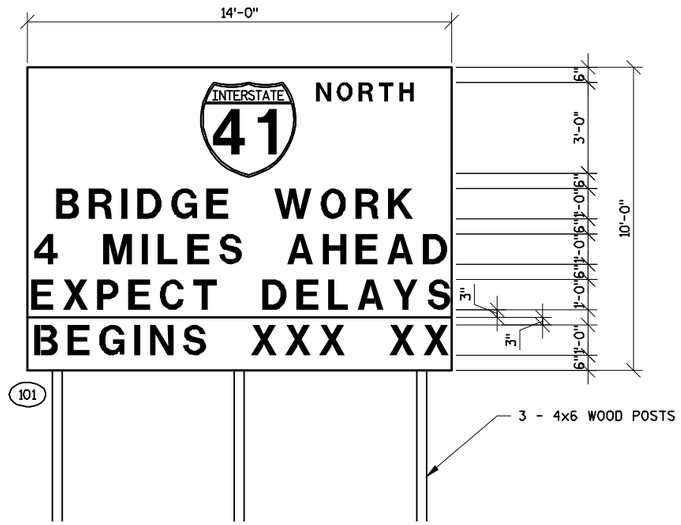
TEMPORARY CROSSOVER TYPICAL SECTION
IH 41

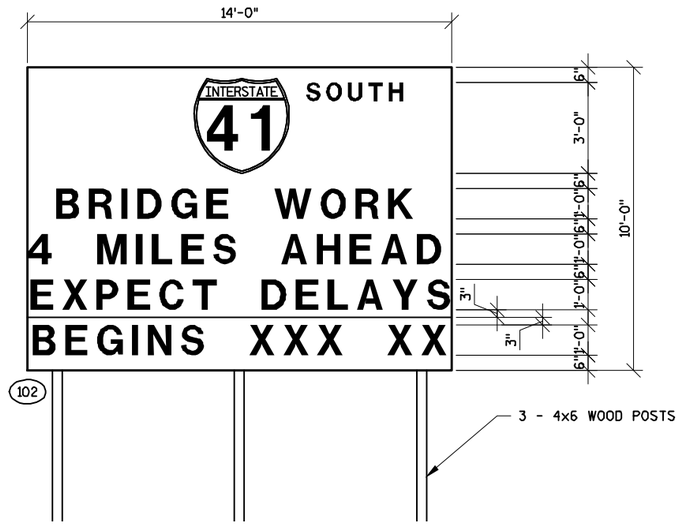
STA 924+17.80 TO STA 949+49.70
STA 949+90.58 TO STA 974+55.00

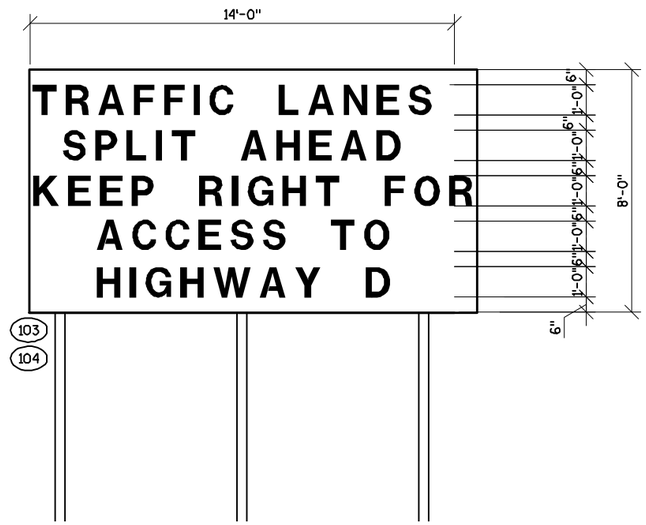
NOTES:
"P" POINT REFERRED TO ON PROFILE
"X" POINT REFERRED TO ON CROSS SECTIONS

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	TRAFFIC CONTROL - TEMPORARY CROSSOVER TYPICAL SECTION	SHEET 52	E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0260_01_TC.DWG PLOT DATE : 1/6/2016 3:44 PM PLOT BY : TOKI PLOT NAME : _____ PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42







GENERAL NOTES:

1. ALL SIGNS TO HAVE FLUORESCENT REFLECTIVE SHEETING – REFERENCE: "WISDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION.

2. AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE PROJECT ENGINEER SHALL VERIFY EACH SIGN LOCATION.

3. ALL SIGNS TO BE MOUNTED ON WOODEN POST SUPPORTS (4"x6"). THE NUMBER OF POSTS REQUIRED FOR EACH LAYOUT IS SHOWN.

4. SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "FIXED MESSAGE SIGNS."

5. SIGNS SHALL BE BLACK NON–REFLECTIVE MESSAGE ON ORANGE FLUORESCENT REFLECTIVE BACKGROUND PER SPEC 643 & 637.
6. ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS:
   12" CAPS SHALL BE SERIES "D"
   6" CAPS SHALL BE SERIES "C" – UNLESS OTHERWISE SHOWN

7. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY EXISTING TYPE "I" SIGN.

8. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON– REFLECTIVE MESSAGE ON ORANGE FLORESCENT REFLECTIVE BACKGROUND PER SPEC 643 & 637

7. ALL SIGNS SHALL HAVE BORDER & RADIUS OF BORDERS AS FOLLOWS:

SIGN AREA	WIDTH OF BORDER
GREATER THAN 150 SQ FT	3"
60–150 SQ FT	2"
LESS THAN 60 SQ FT	1"

RADIUS SMALLEST OUTSIDE DIMENSION	CORNER RADIUS
> 8 FT	12"
> 6 FT	9"
> 4 FT	6"
LESS THAN 4 FT	3"

8. BEGIN XXX XX SIGNS SHALL BE SEPARATE PANELS, BUT SHALL BE CONSIDERED AS PART OF THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE AS DIRECTED BY THE ENGINEER IN THE FIELD.

9. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.

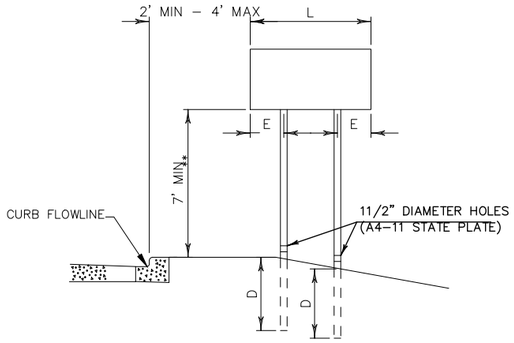
10. SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 643 & 637.

11. SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.

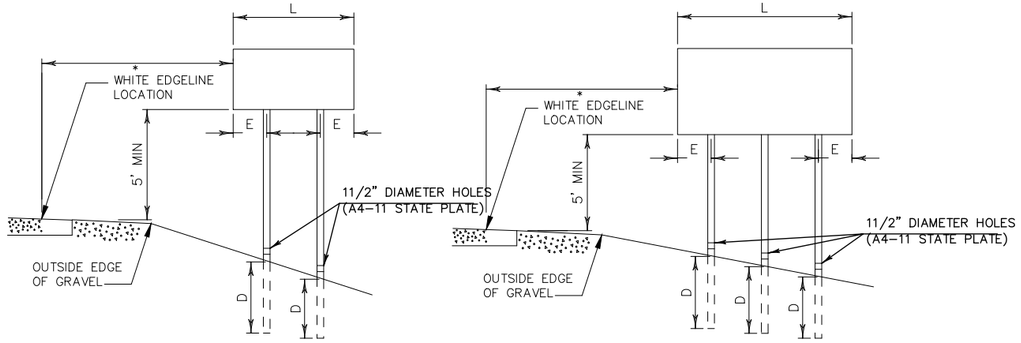
X = SIGN NUMBER

12. SEE FIXED MESSAGE SIGNS AND SPECIAL MESSAGE SIGNS LAYOUT SHEETS FOR MORE INFORMATION.

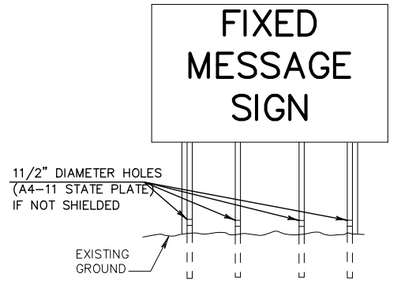
13. COVER DETOUR SIGNING WHEN NOT IN USE. INCIDENTAL TO WORK ZONE TRAFFIC CONTROL SIGNING.



URBAN AREA



RURAL AREA



FRONT VIEW

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'

POST MOUNTING DETAIL FOR TRAFFIC CONTROL FIXED MESSAGE SIGNS

NOTES

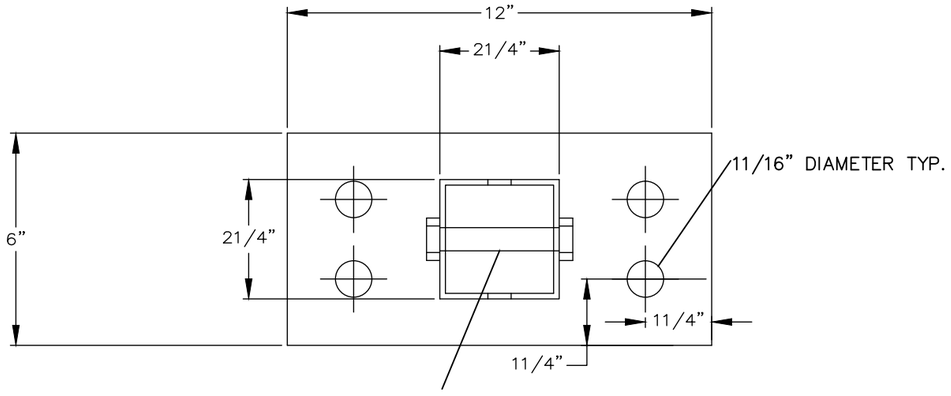
1. SEE TRAFFIC CONTROL SHEETS FOR SIGN LOCATIONS.
2. SEE TABLES BELOW FOR REQUIRED NUMBER OF POSTS.

* 6' FROM EDGE OF A PAVED SHOULDER OR 12' FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) OR 2' FROM OUTSIDE EDGE OF GRAVEL, WHICHEVER IS GREATER UNLESS DIRECTED BY PROJECT ENGINEER.

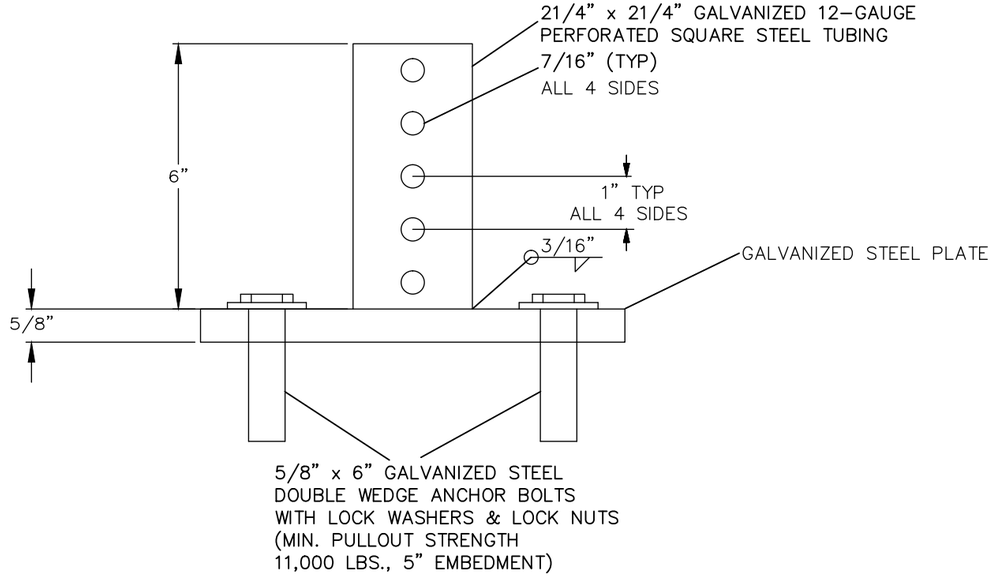
** THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5' MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

3. 4X6 WOOD POSTS SHALL HAVE TWO HOLES PER STATE PLATE A4–11

BARRIER WALL SIGN BRACKET ASSEMBLY
NOT TO SCALE

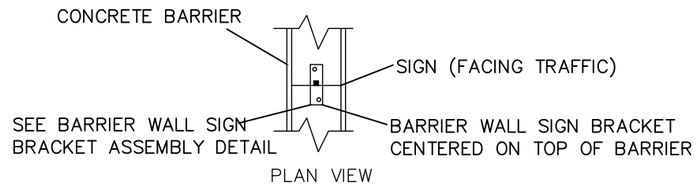


PLAN VIEW



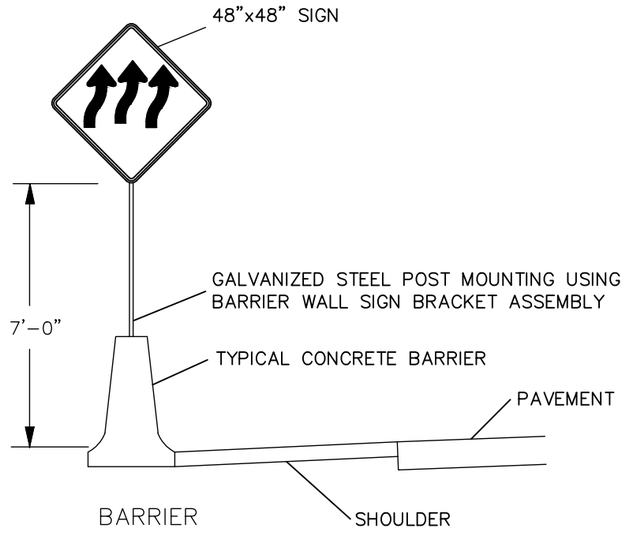
SIDE VIEW

TYPICAL SIGN PLACEMENT DETAILS



PLAN VIEW

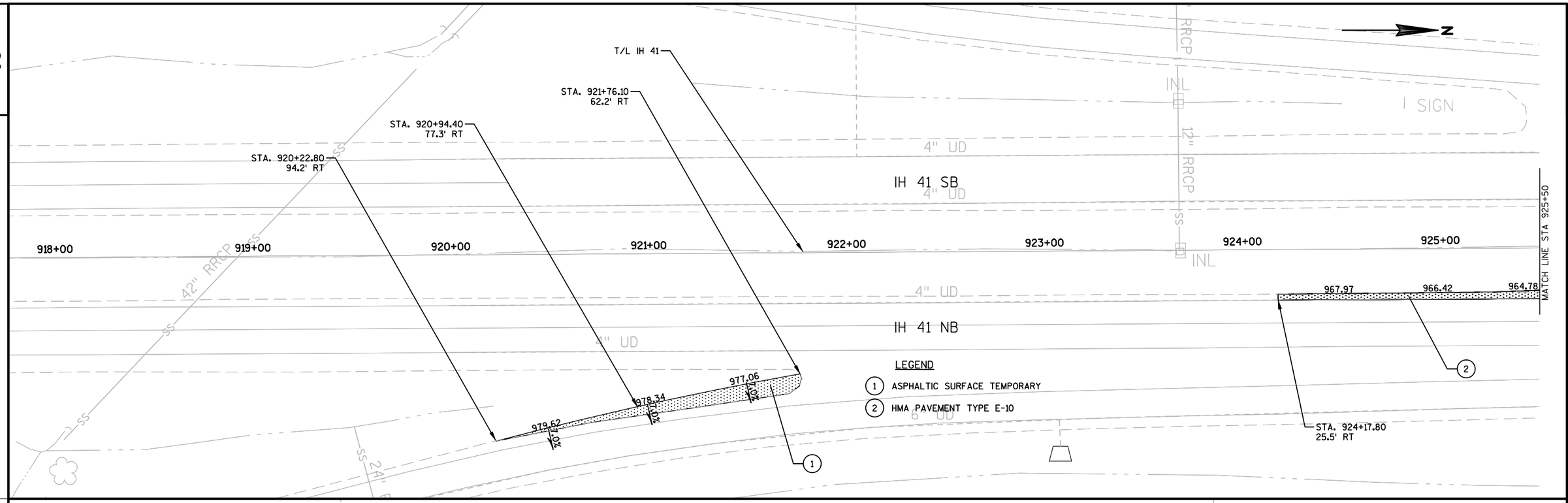
MEDIAN BARRIER MOUNTING DETAIL

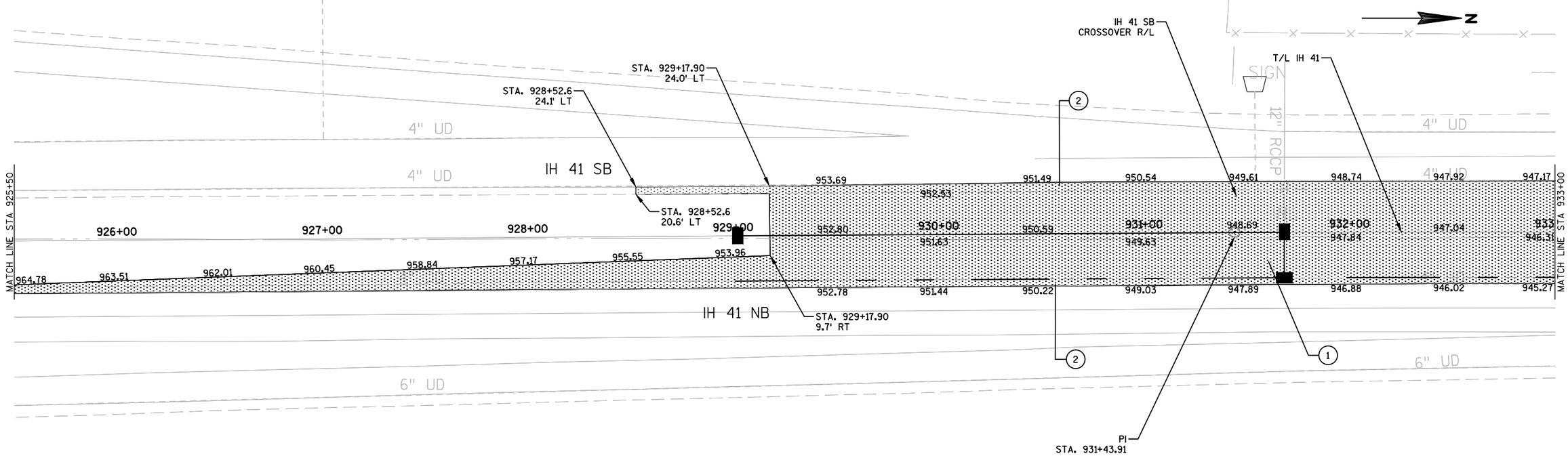


BARRIER

NOTES

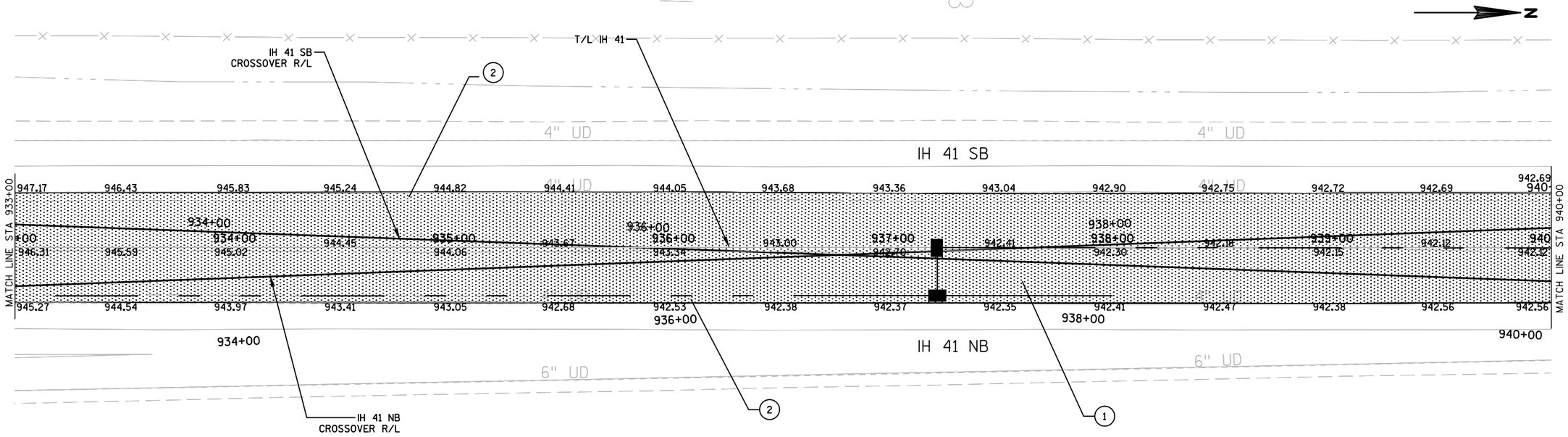
1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION.
2. ALL MATERIAL TO BE APPROVED BY ENGINEER BEFORE INSTALLATION.
3. SEE SIGN PLATE A4-8 FOR BOLT REQUIREMENTS.





PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	TRAFFIC CONTROL - CROSSOVER PLAN DETAILS	SHEET	E

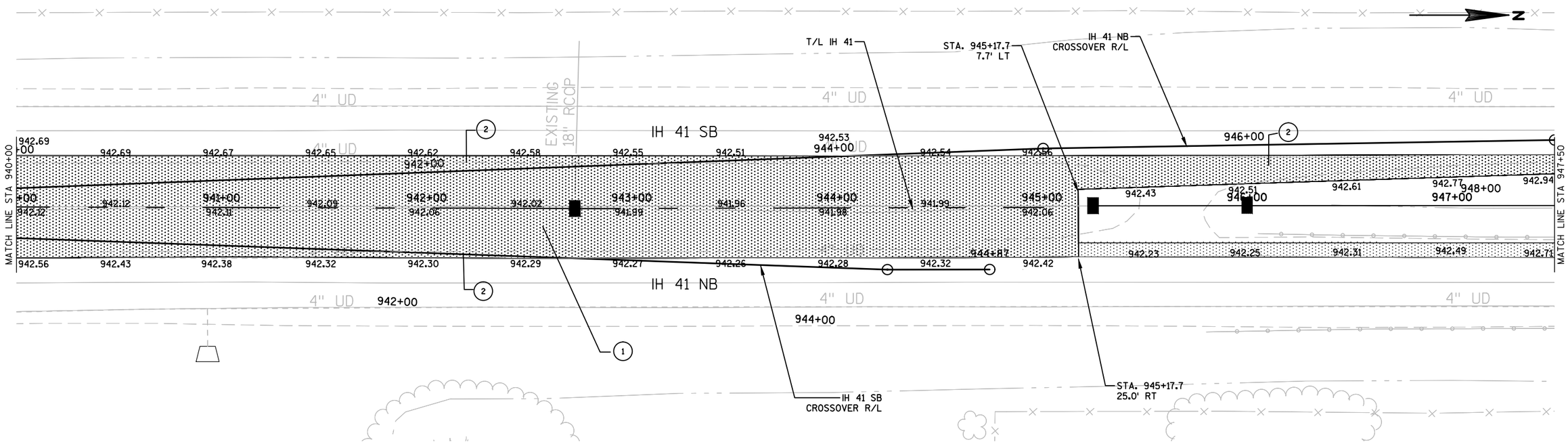
FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0212_01_PD_S1.DWG PLOT DATE : 1/6/2016 3:36 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:50 FT



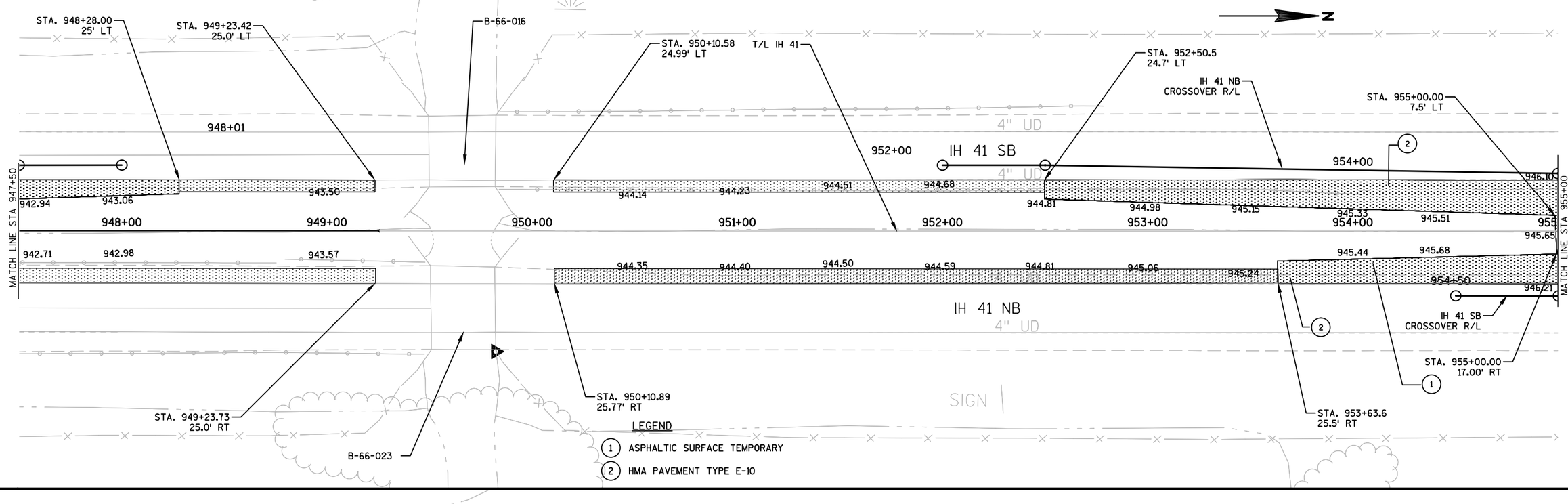
LEGEND

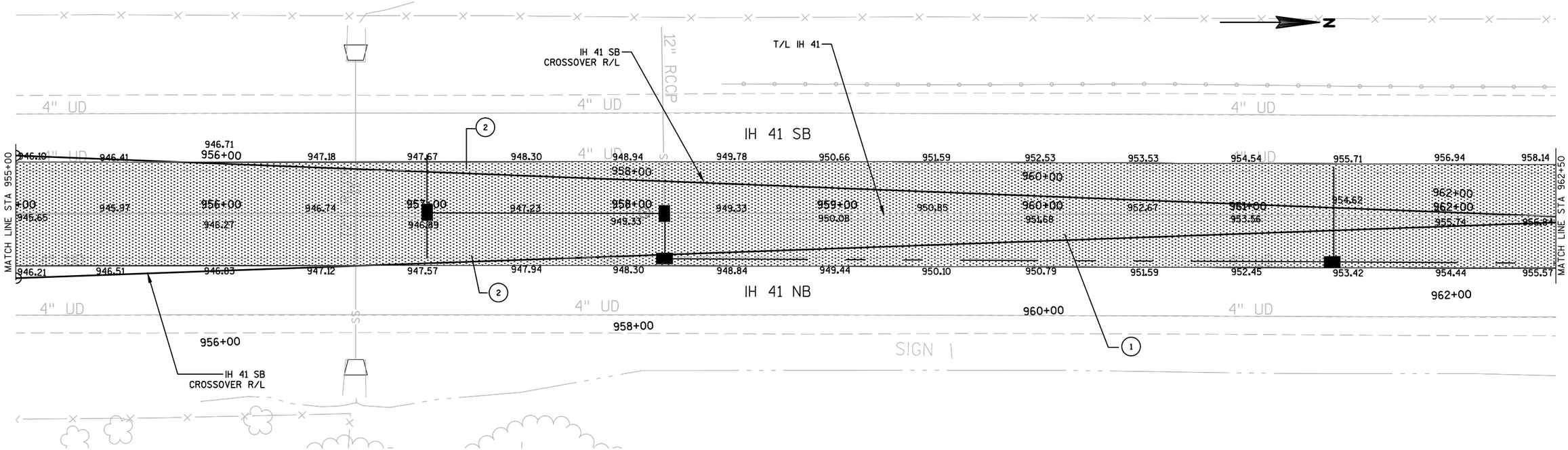
(1) ASPHALTIC SURFACE TEMPORARY

(2) HMA PAVEMENT TYPE E-10



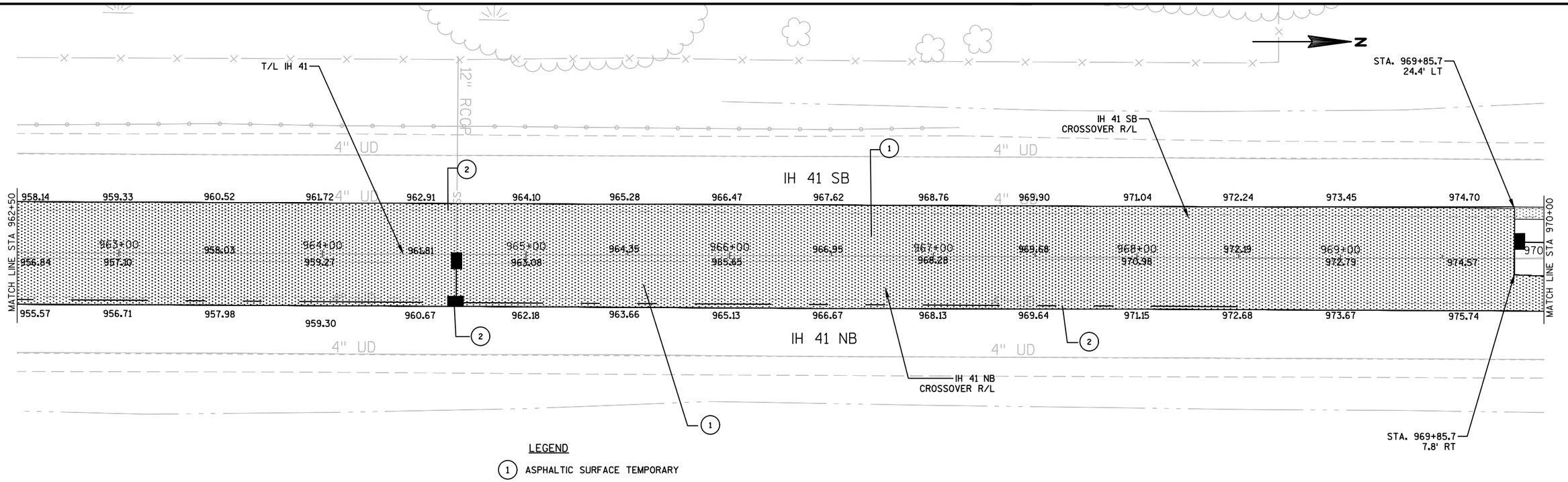
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	TRAFFIC CONTROL - CROSSOVER PLAN DETAILS	SHEET 57	E

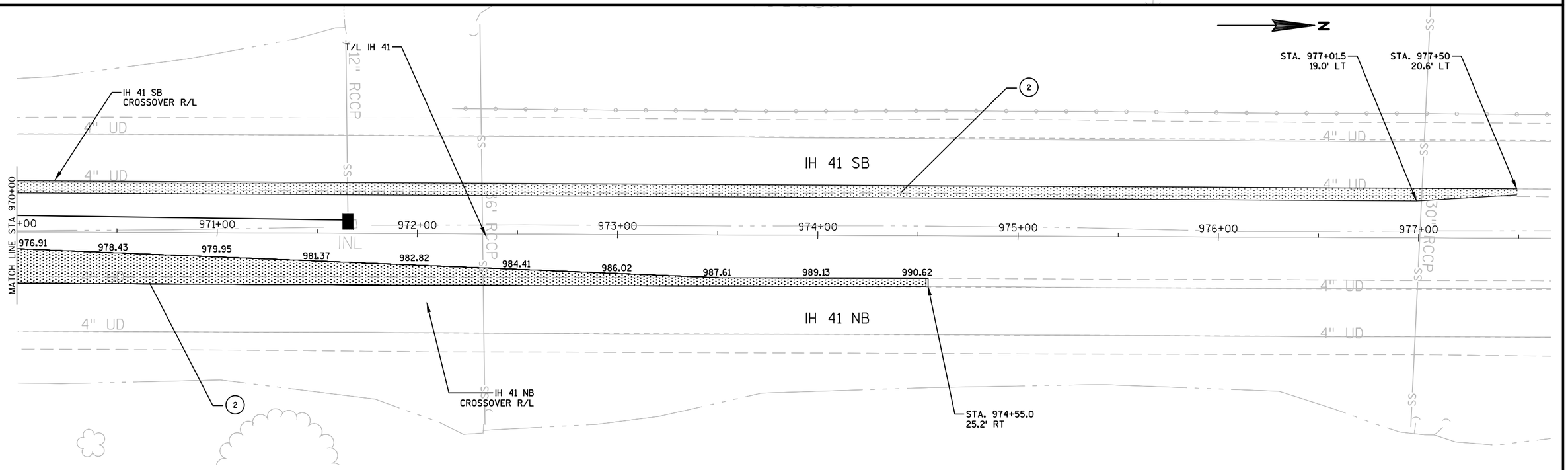




PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	TRAFFIC CONTROL - CROSSOVER PLAN DETAILS	SHEET	E

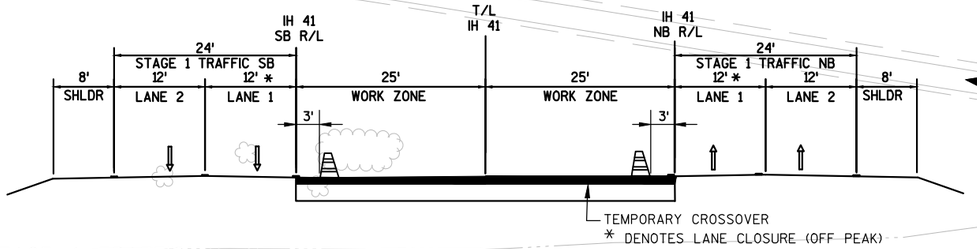
FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0212_01_PD_S1.DWG PLOT DATE : 1/6/2016 3:37 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44





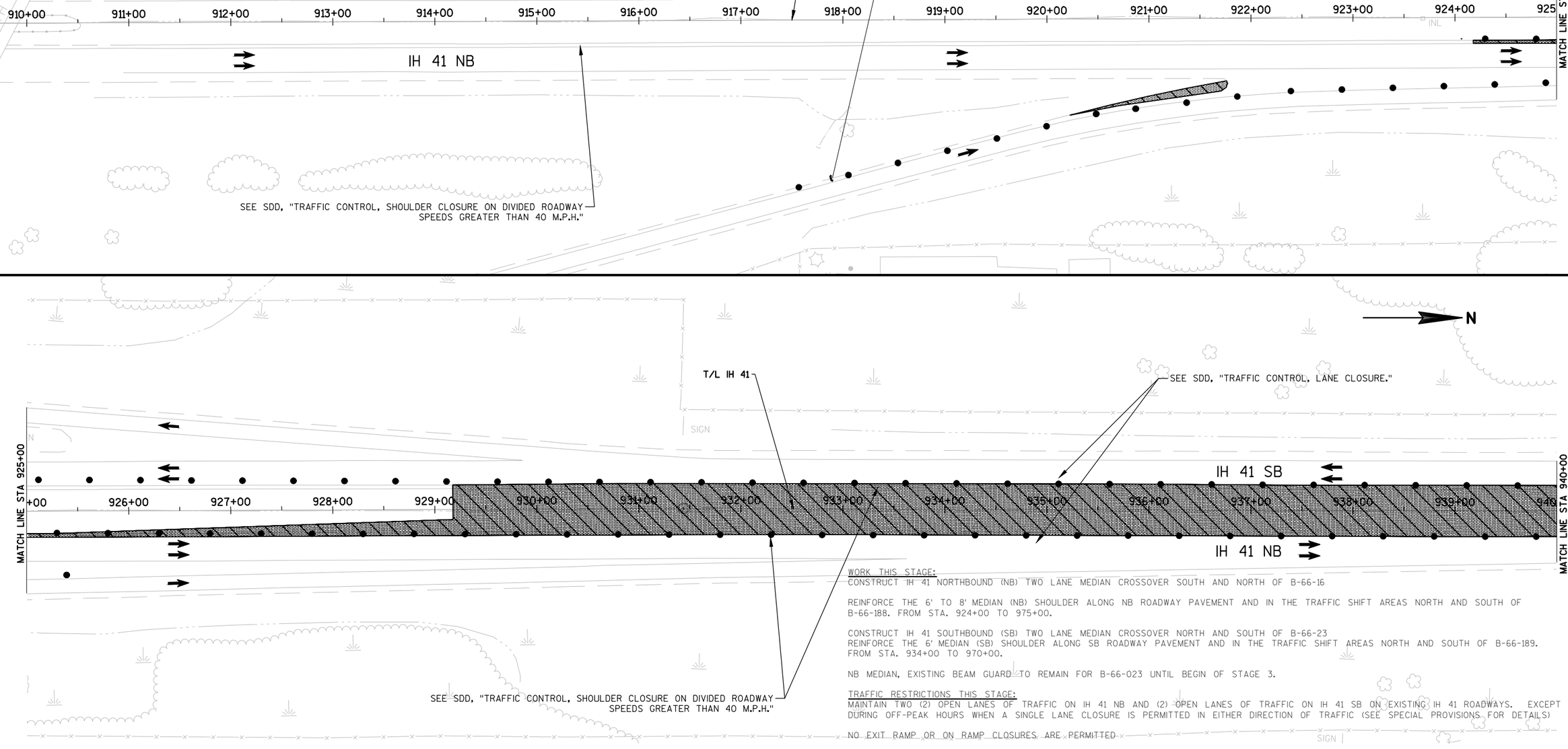
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	TRAFFIC CONTROL - CROSSOVER PLAN DETAILS	SHEET	E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0212_01_PD_S1.DWG PLOT DATE : 2/2/2016 2:44 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44



STAGE 1 TRAFFIC IH 41

LOOKING NORTH



WORK THIS STAGE:
CONSTRUCT IH 41 NORTHBOUND (NB) TWO LANE MEDIAN CROSSOVER SOUTH AND NORTH OF B-66-16

REINFORCE THE 6' TO 8' MEDIAN (NB) SHOULDER ALONG NB ROADWAY PAVEMENT AND IN THE TRAFFIC SHIFT AREAS NORTH AND SOUTH OF B-66-188. FROM STA. 924+00 TO 975+00.

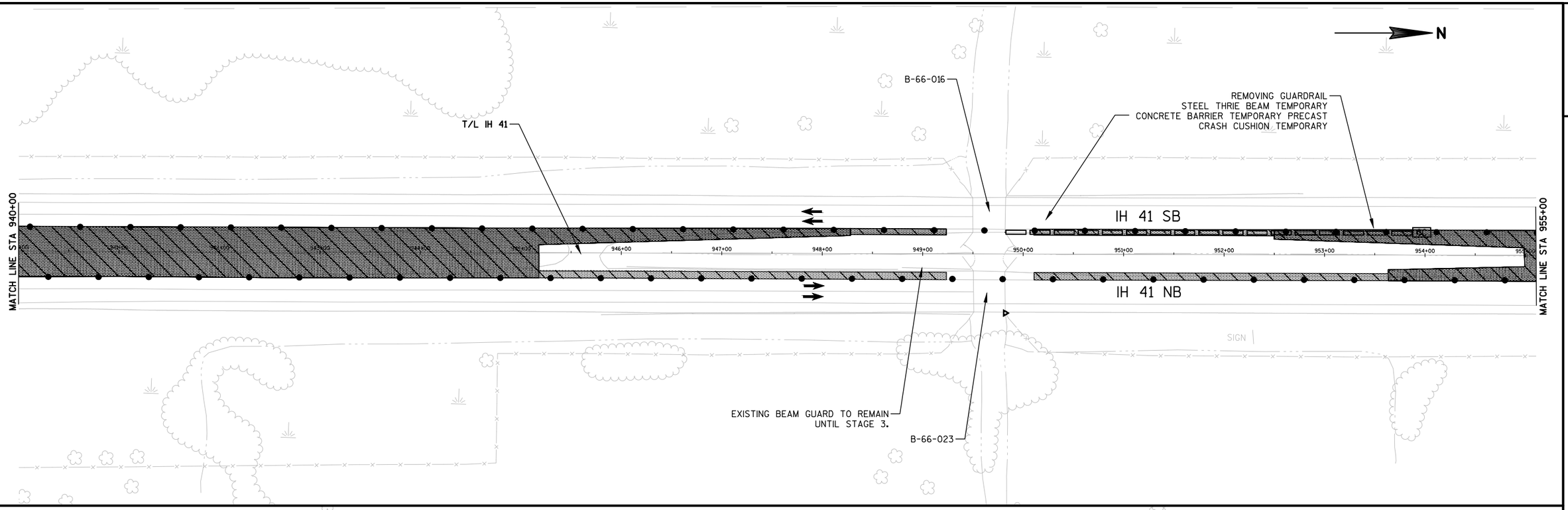
CONSTRUCT IH 41 SOUTHBOUND (SB) TWO LANE MEDIAN CROSSOVER NORTH AND SOUTH OF B-66-23
REINFORCE THE 6' MEDIAN (SB) SHOULDER ALONG SB ROADWAY PAVEMENT AND IN THE TRAFFIC SHIFT AREAS NORTH AND SOUTH OF B-66-189. FROM STA. 934+00 TO 970+00.

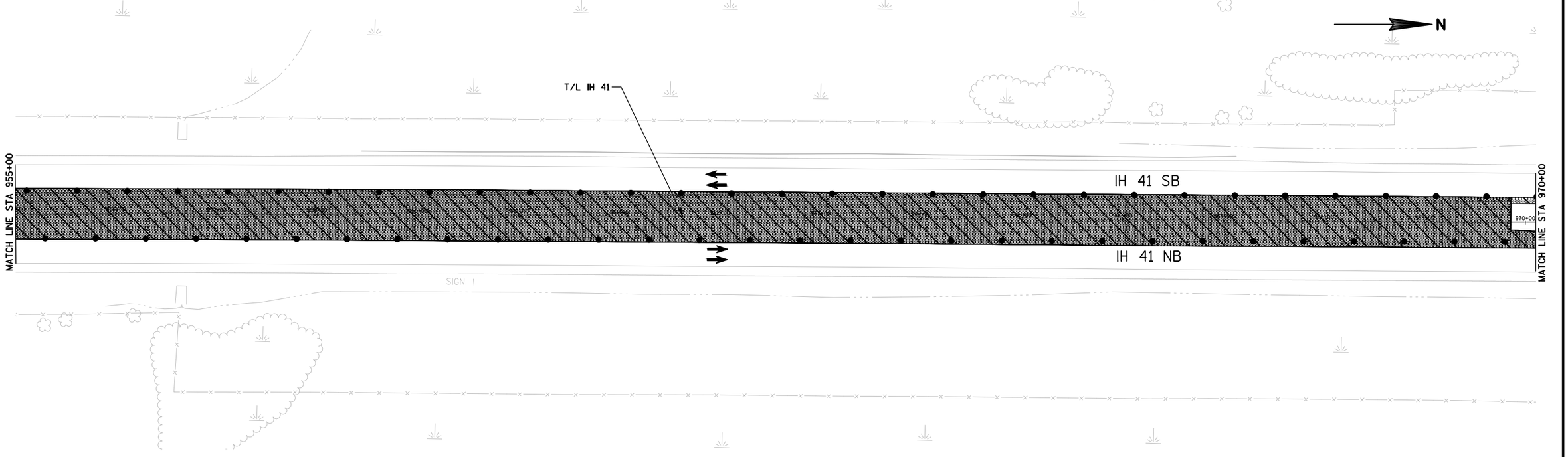
NB MEDIAN, EXISTING BEAM GUARD TO REMAIN FOR B-66-023 UNTIL BEGIN OF STAGE 3.

TRAFFIC RESTRICTIONS THIS STAGE:
MAINTAIN TWO (2) OPEN LANES OF TRAFFIC ON IH 41 NB AND (2) OPEN LANES OF TRAFFIC ON IH 41 SB ON EXISTING IH 41 ROADWAYS. EXCEPT DURING OFF-PEAK HOURS WHEN A SINGLE LANE CLOSURE IS PERMITTED IN EITHER DIRECTION OF TRAFFIC (SEE SPECIAL PROVISIONS FOR DETAILS)

NO EXIT RAMP OR ON RAMP CLOSURES ARE PERMITTED

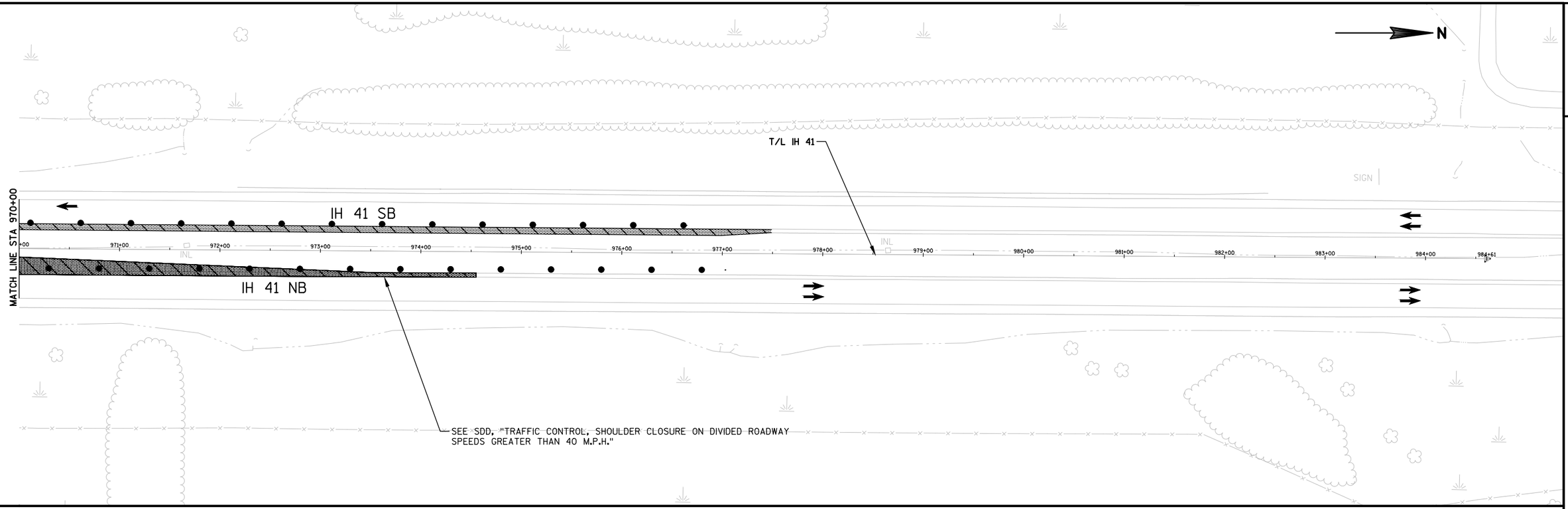
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 1	SHEET 60	E





PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 1	SHEET 61	E

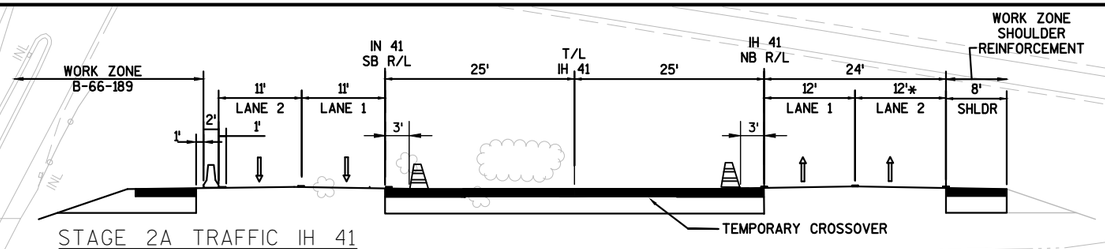
FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0261_01_S1.DWG PLOT DATE : TOKI PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:100 FT



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 1	SHEET E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0261_01_S1.DWG PLOT DATE : TOKI PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:100 FT

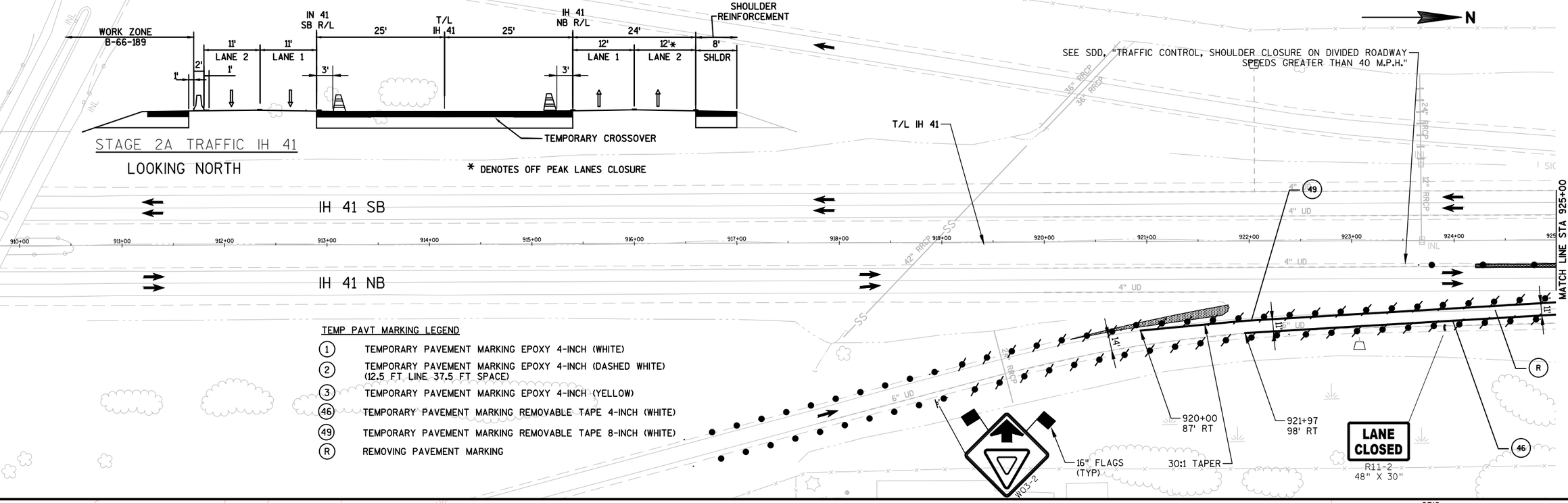
WISDOT/CADDS SHEET 44



STAGE 2A TRAFFIC IH 41

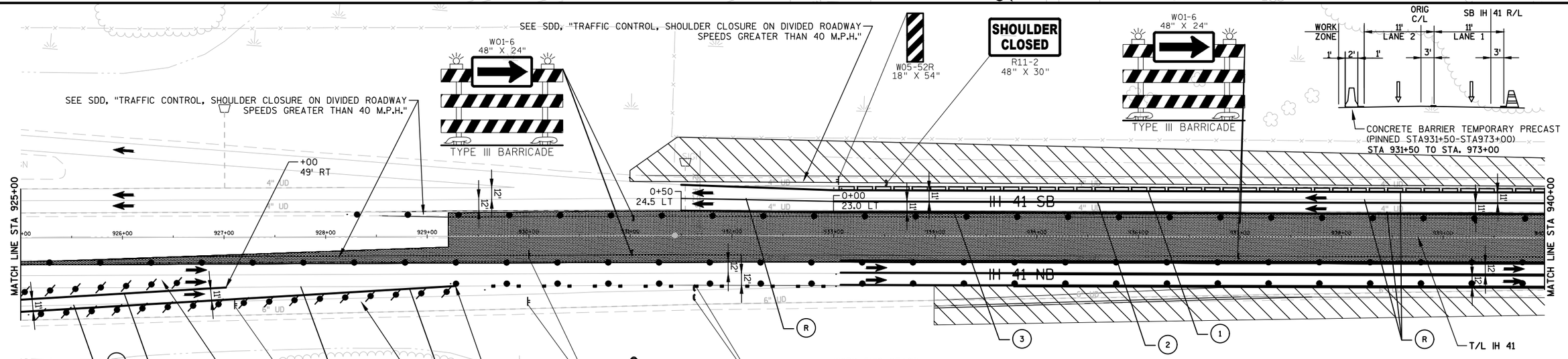
LOOKING NORTH

* DENOTES OFF PEAK LANES CLOSURE



TEMP PAVT MARKING LEGEND

(1)	TEMPORARY PAVEMENT MARKING EPOXY 4-INCH (WHITE)
(2)	TEMPORARY PAVEMENT MARKING EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SPACE)
(3)	TEMPORARY PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
(46)	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
(49)	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
(R)	REMOVING PAVEMENT MARKING



WORK THIS STAGE:

CONSTRUCT BY WIDENING IH 41 SB AND OUTSIDE PORTION OF B-66-189.

REINFORCE OUTSIDE SHOULDER ALONG NORTHBOUND (NB) ROADWAY NORTH AND SOUTH OF B-66-16.

PRIOR TO PLACING AND ANCHORING CBTP ON BRIDGE DECK REMOVE EXISTING ASPHALTIC PAVEMENT.

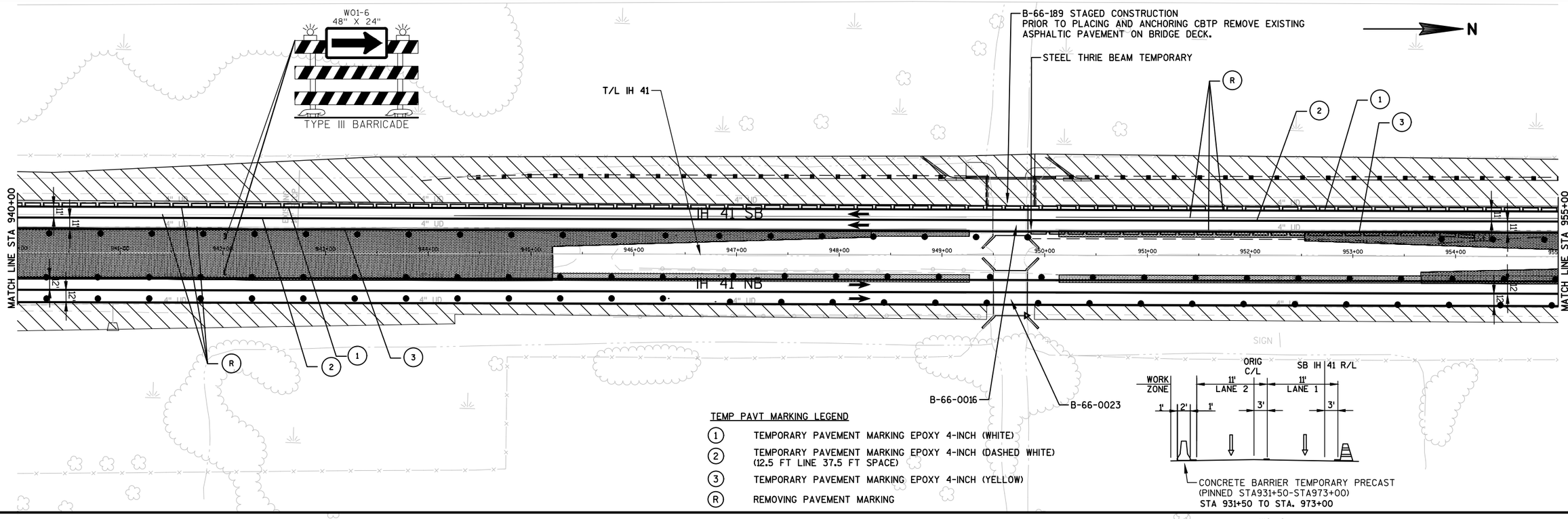
TRAFFIC RESTRICTIONS THIS STAGE:

MAINTAIN TWO (2) OPEN LANES OF TRAFFIC ON THE EXISTING IH 41 SB AND NB ROADWAY AND REINFORCED MEDIAN SB SHOULDER, EXCEPT DURING OFF-PEAK HOURS WHEN A SINGLE LANE CLOSURE IS PERMITTED

SEE SDD, "TRAFFIC CONTROL, LANE CLOSURE" FOR OFF-PEAK LANE CLOSURES.

NO RAMP CLOSURES ARE PERMITTED THIS STAGE

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 2A	SHEET 63	E



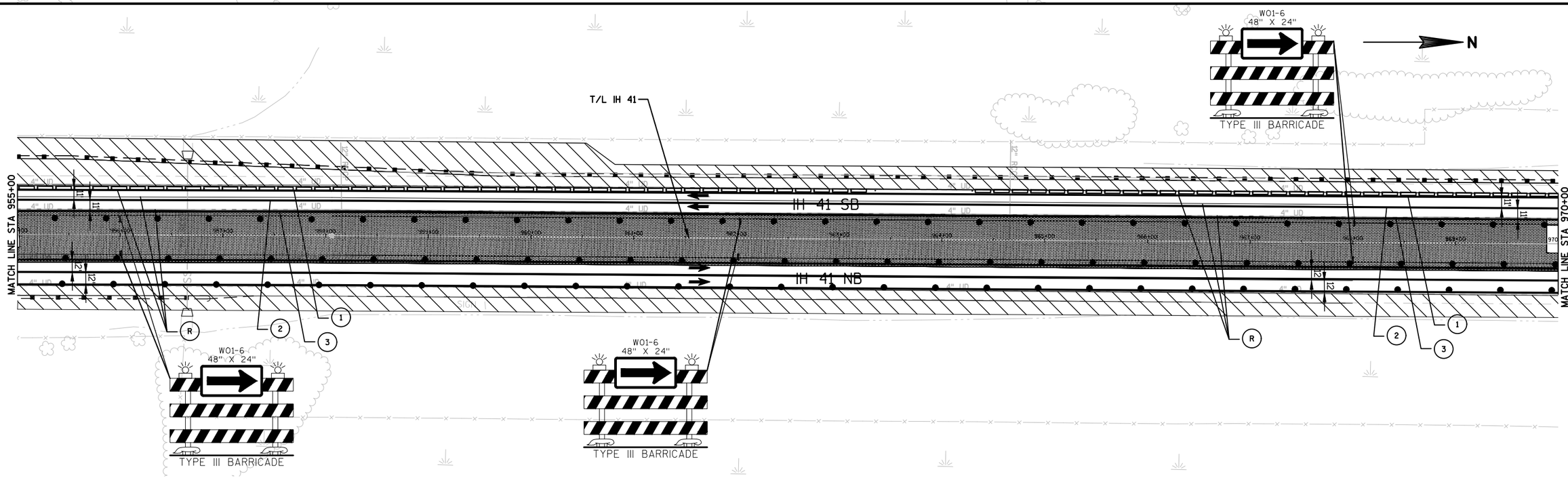
TEMP PAVT MARKING LEGEND

(1) TEMPORARY PAVEMENT MARKING EPOXY 4-INCH (WHITE)

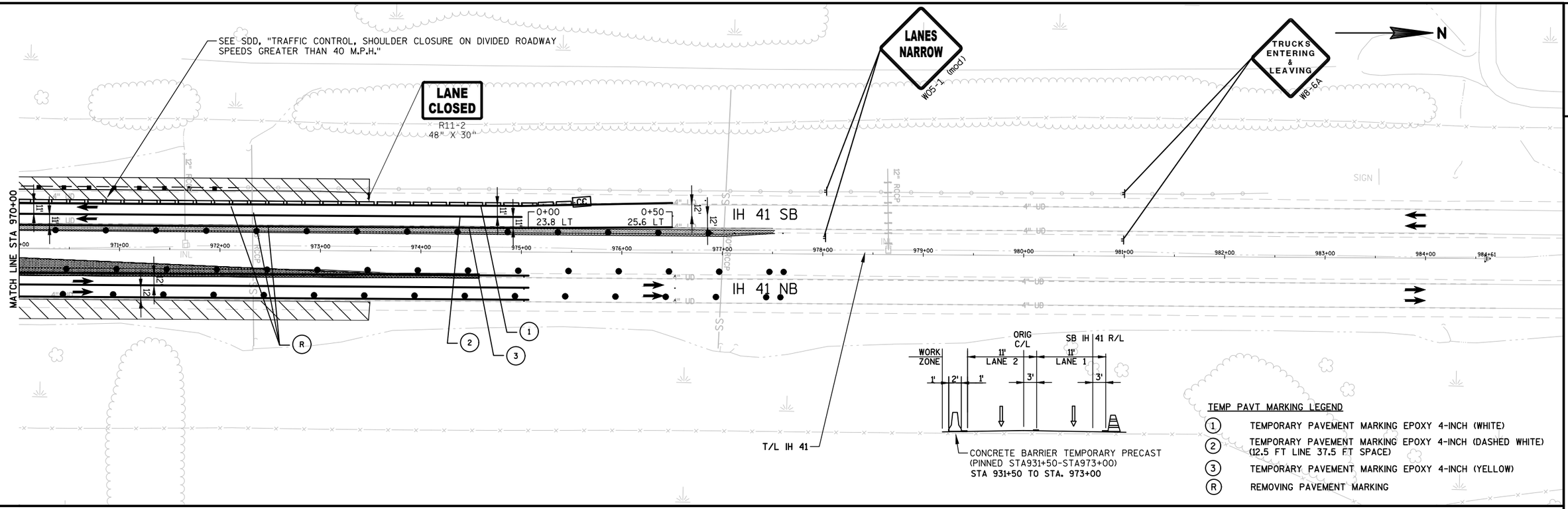
(2) TEMPORARY PAVEMENT MARKING EPOXY 4-INCH (DASHED WHITE)
(12.5 FT LINE 37.5 FT SPACE)

(3) TEMPORARY PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

(R) REMOVING PAVEMENT MARKING

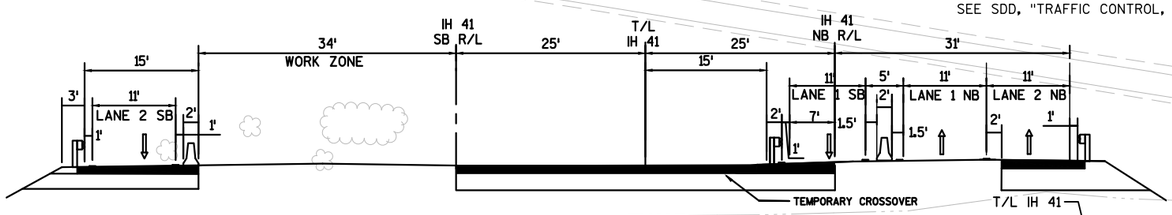


PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 2A	SHEET 64	E



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 2A	SHEET 65	E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0261_01_S2A.DWG PLOT DATE : TOKI PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:100 FT



SEE SDD, "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY SPEEDS GREATER THAN 40 M.P.H."

N

STAGE 2B TRAFFIC IH 41

IH 41 SB

IH 41 NB

910+00 911+00 912+00 913+00 914+00 915+00 916+00 917+00 918+00 919+00 920+00 921+00 922+00 923+00 924+00 925+00

MATCH LINE STA 925+00

LANES NARROW

W05-1 (mod)

TEMP PAVT MARKING LEGEND

(46)	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
(55)	TEMPORARY PAVEMENT MARKING PAINT 4-INCH (YELLOW)
(56)	TEMPORARY PAVEMENT MARKING PAINT 4-INCH (WHITE)
(R)	REMOVING PAVEMENT MARKING

WORK THIS STAGE:

CONSTRUCT BY WIDENING THE SOUTHBOUND (SB) MEDIAN PORTION OF B-66-189 / APPROACH SLABS, ASPHALTIC PAVEMENT, GRADING AND BEAM GUARD NORTH AND SOUTH OF B-66-23, FROM 944+25 TO 955+00

REMOVE ASPHALTIC SURFACE OVERLAY ON BRIDGE DECK BEFORE PINNING CBTP.

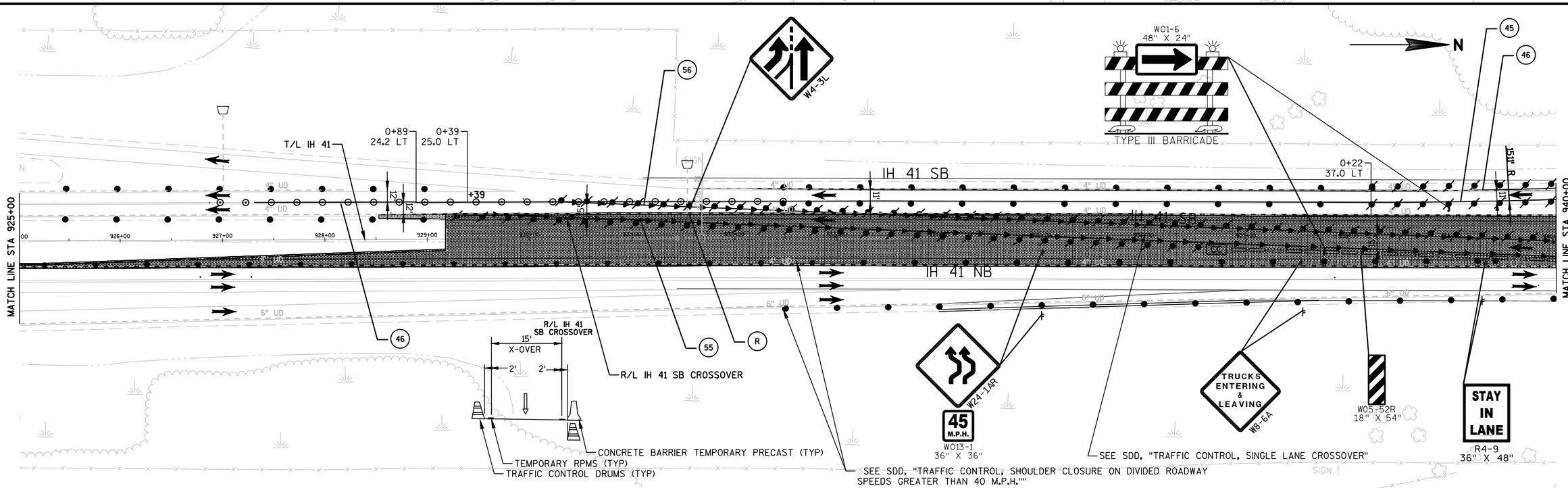
TRAFFIC RESTRICTIONS THIS STAGE:

MAINTAIN ONE (1) DIVIDED LANE OF TRAFFIC ON THE IH 41 SB ROADWAY ON THE NEWLY CONSTRUCTED IH 41 WIDENING AND REINFORCED SHOULDER ROADWAY ALONG THE IH 41 SB ROADWAY, WITH ACCESS TO HIGHWAY D ONLY.

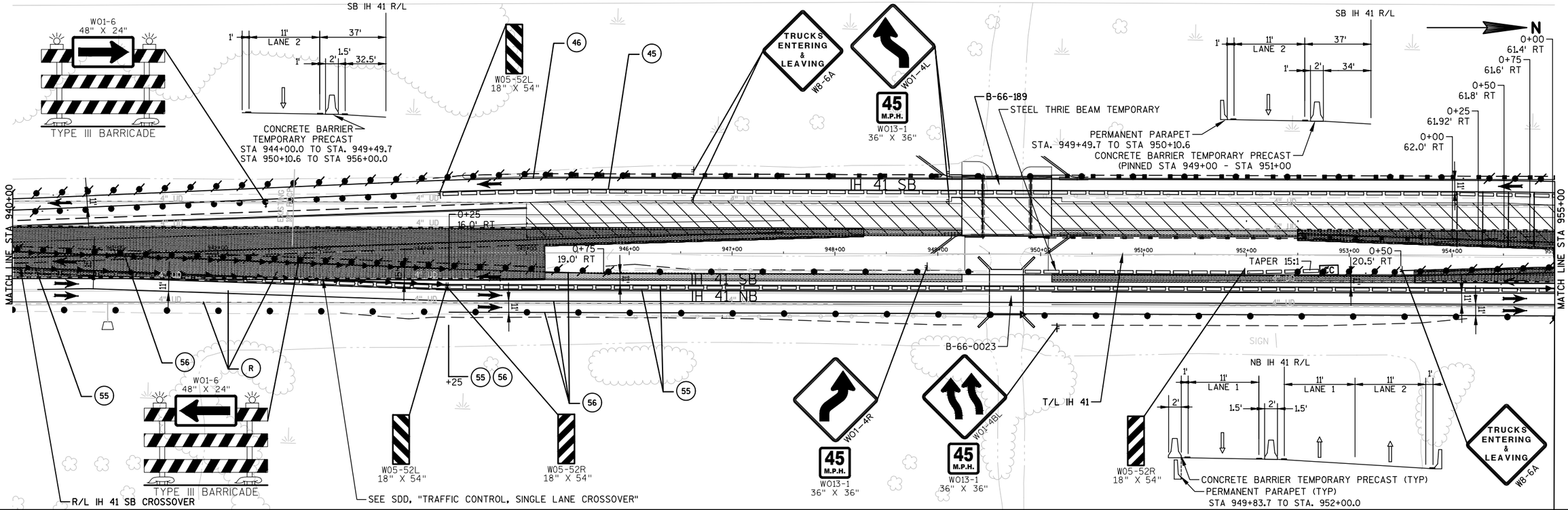
MAINTAIN ONE (1) COUNTER-DIRECTIONAL OPEN LANE OF TRAFFIC ON IH 41 SB AND NB

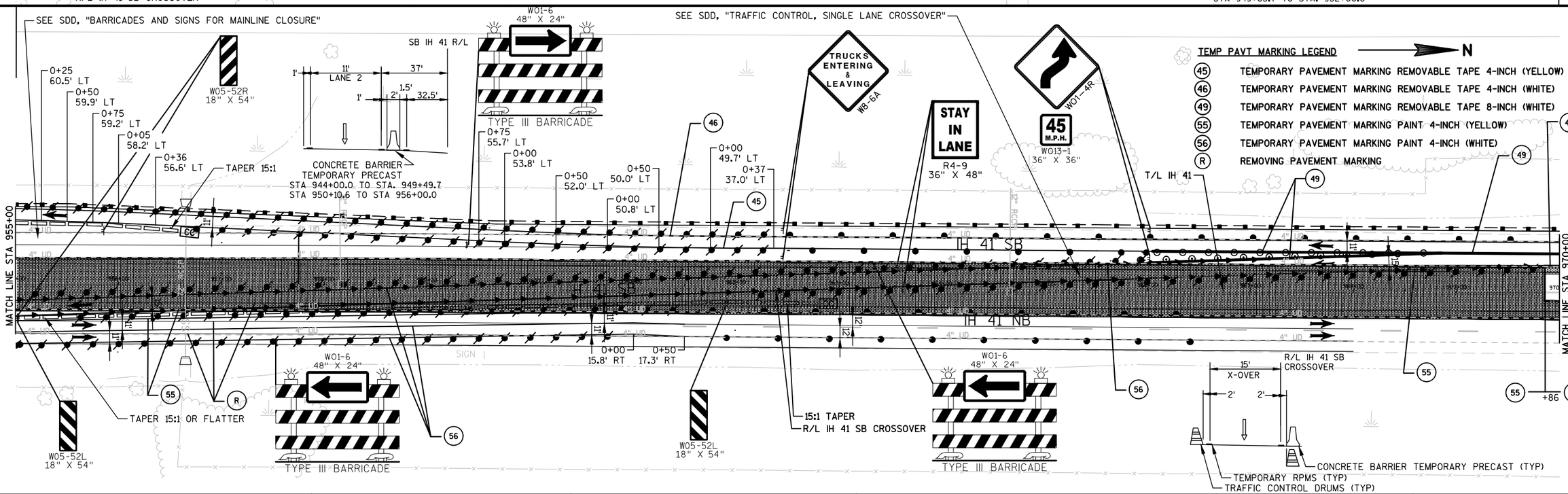
MAINTAIN TWO (2) OPEN LANES OF TRAFFIC ON IH 41 NB ON THE EXISTING IH 41 ROADWAY AND OUTSIDE REINFORCED SHOULDER ALONG WITH A COUNTER-DIRECTIONAL IH 41 SB LANE

NO RAMP CLOSURES ARE PERMITTED THIS STAGE



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 2B	SHEET 66 E





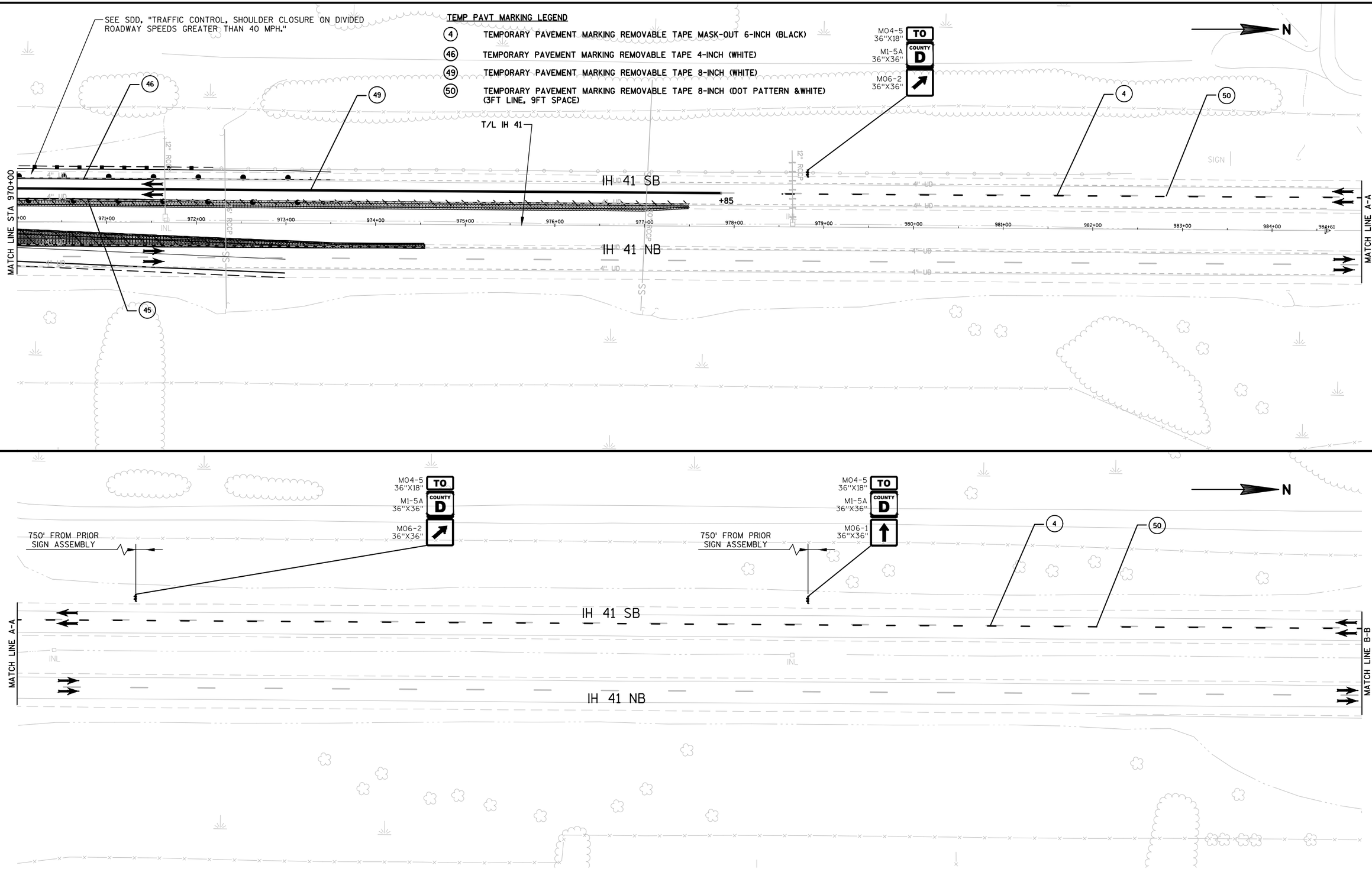
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 2B	SHEET	E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0261_01_S2B.DWG PLOT DATE : 2/3/2016 2:57 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:100 FT

SEE SDD, "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY SPEEDS GREATER THAN 40 MPH."

TEMP PAVT MARKING LEGEND

4	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE MASK-OUT 6-INCH (BLACK)
46	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
49	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
50	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DOT PATTERN &WHITE) (3FT LINE, 9FT SPACE)



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 2B	SHEET 68	E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0261_01_S2B.DWG PLOT DATE : 2/2/2016 3:39 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:100 FT

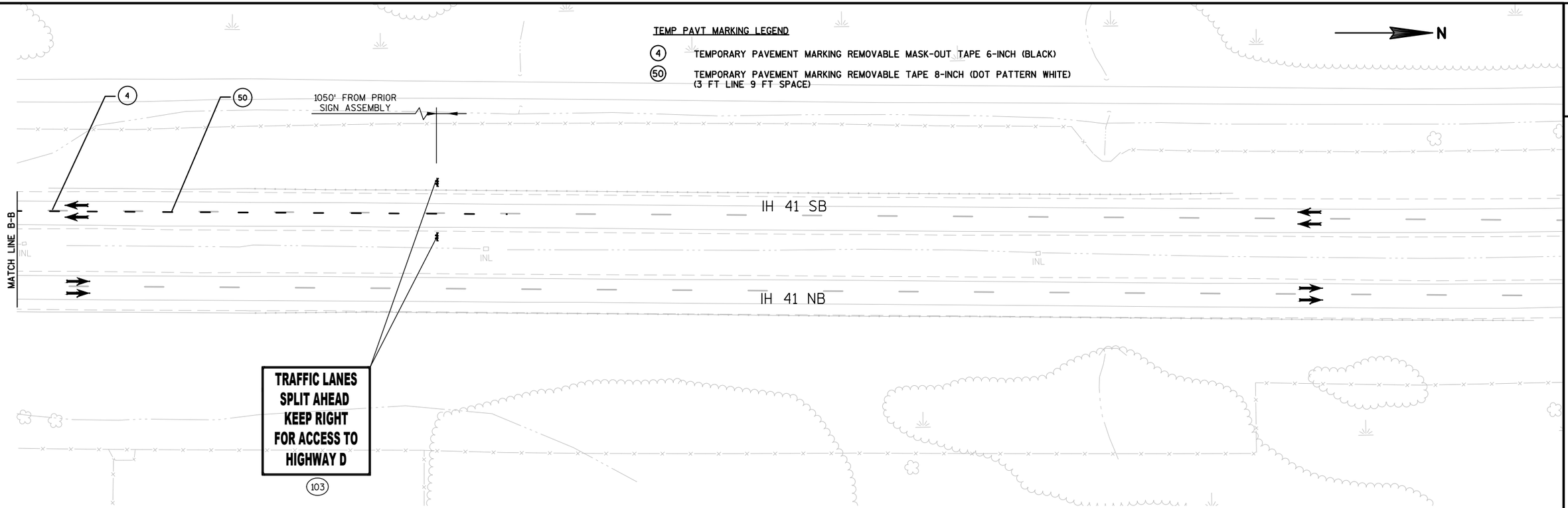
2

TEMP PAVT MARKING LEGEND

(4) TEMPORARY PAVEMENT MARKING REMOVABLE MASK-OUT TAPE 6-INCH (BLACK)

(50) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SPACE)

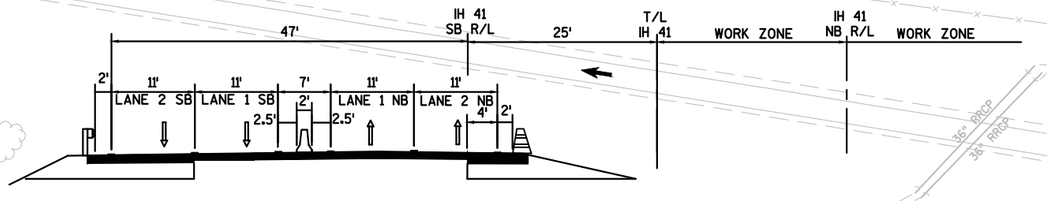
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 2B	SHEET	E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0261_01_S2B.DWG PLOT DATE : 2/3/2016 3:32 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

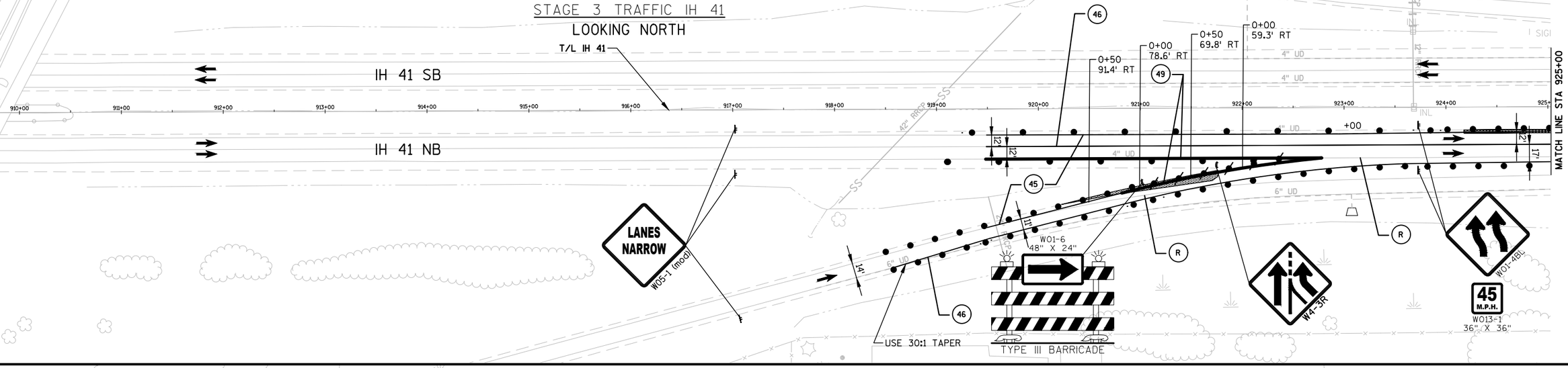


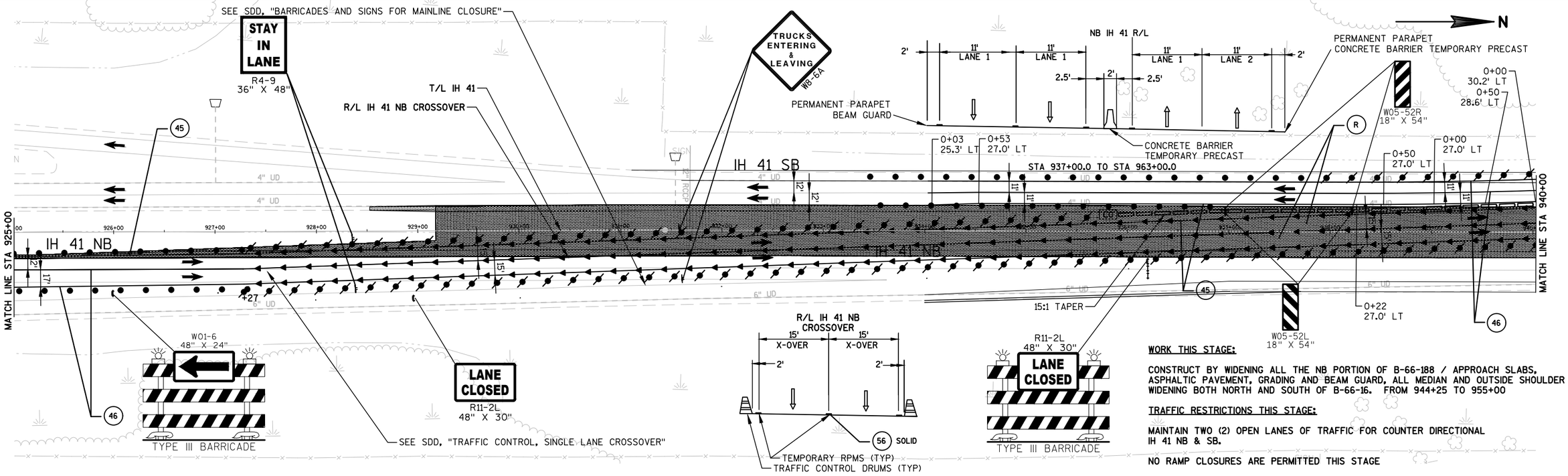
STAGE 3 TRAFFIC IH 41
LOOKING NORTH

TEMP PAVT MARKING LEGEND

- (45) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (46) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (49) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
- (R) REMOVING PAVEMENT MARKING

N





N

WORK THIS STAGE:

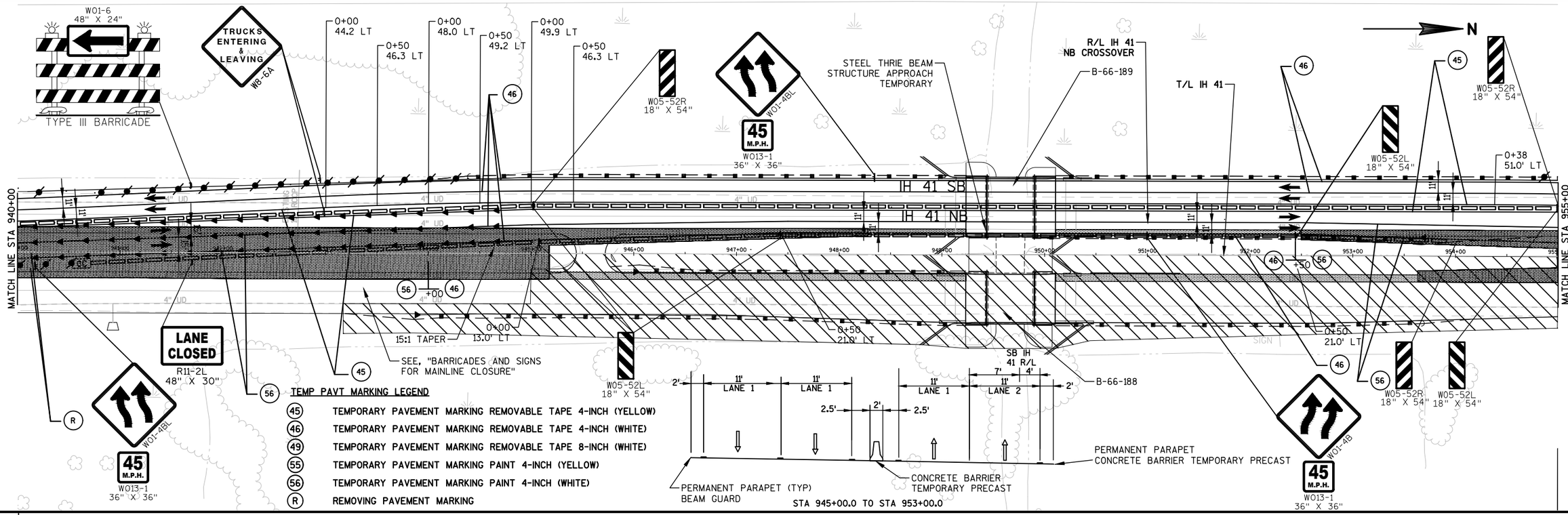
CONSTRUCT BY WIDENING ALL THE NB PORTION OF B-66-188 / APPROACH SLABS, ASPHALTIC PAVEMENT, GRADING AND BEAM GUARD, ALL MEDIAN AND OUTSIDE SHOULDER WIDENING BOTH NORTH AND SOUTH OF B-66-16. FROM 944+25 TO 955+00

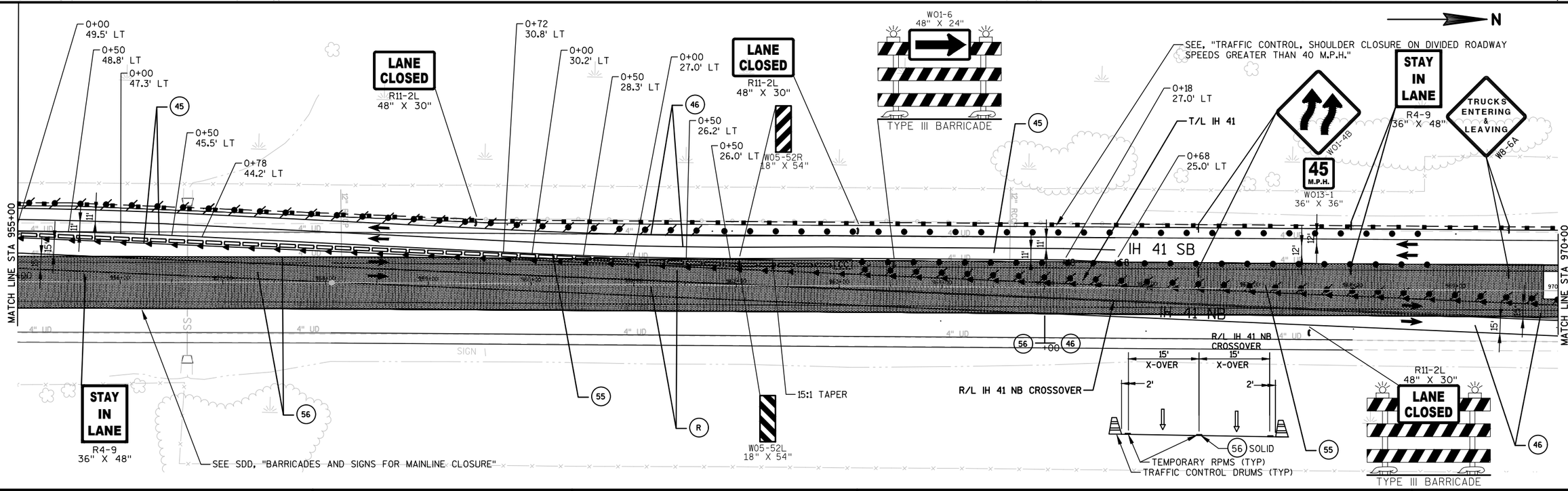
TRAFFIC RESTRICTIONS THIS STAGE:

MAINTAIN TWO (2) OPEN LANES OF TRAFFIC FOR COUNTER DIRECTIONAL IH 41 NB & SB.

NO RAMP CLOSURES ARE PERMITTED THIS STAGE

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 3	SHEET 70	E





PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 3	SHEET	E

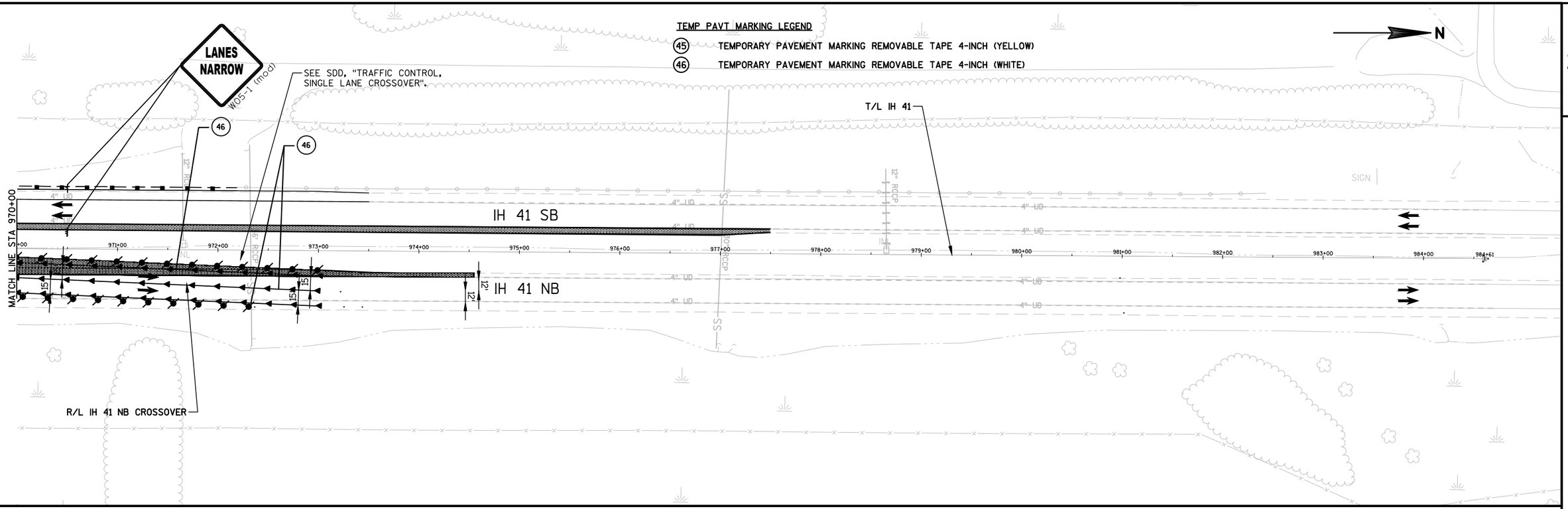
FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0261_01_S3.DWG PLOT DATE : 2/8/2016 1:51 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

TEMP PAVT MARKING LEGEND

(45) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

(46) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 3	SHEET E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0261_01_S3.DWG PLOT DATE : 2/2/2016 3:50 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

WORK THIS STAGE:

RESTORE IH 41 NORTHBOUND (NB) TWO LANE MEDIAN CROSSOVER SOUTH AND NORTH OF B-66-188 TO EXISTING CONDITIONS AND WIDENED FINISHED MEDIAN SHOULDER. SAWING, MILLING AND PAVING THE MEDIAN SHOULDER. FROM STA 924+00 TO STA 945-+00, FROM STA 955+00 TO STA 973+00. LEAVE A 6FT PAVED SHOULDER WHEN REMOVING CROSSOVER.

CONSTRUCT NB MAINLINE PAVEMENT MARKINGS, RUMBLE STRIPS FROM STA 917+00 TO STA 980+00

RESTORE IH 41 SOUTHBOUND (SB) TWO LANE MEDIAN CROSSOVER NORTH AND SOUTH OF B-66-189 TO EXISTING CONDITIONS AND WIDENED FINISHED MEDIAN SHOULDER.

TRAFFIC RESTRICTIONS THIS STAGE:

MAINTAIN TWO (2) OPEN ELEVEN (11) FOOT LANES OF TRAFFIC ON THE IH 41 SB AND NB ROADWAYS, EXCEPT OFF-PEAK HOURS WHEN A SINGLE LANE CLOSURE IS PERMITTED IN EITHER DIRECTION OF TRAFFIC. SEE SDD, "TRAFFIC CONTROL LANE CLOSURE."

RAMP CLOSURES, OFF PEAK ARE PERMITTED THIS STAGE FOR PAVEMENT MARKING OR AS DIRECTED BY ENGINEER.

N

TRUCKS ENTERING & LEAVING
W8-6A

T/L IH 41

IH 41 SB

IH 41 NB

0+46
25.3' RT

0+16
27.8' RT

910+00 911+00 912+00 913+00 914+00 915+00 916+00 917+00 918+00 919+00 920+00 921+00 922+00 923+00 924+00 925+00

MATCH LINE STA 925+00

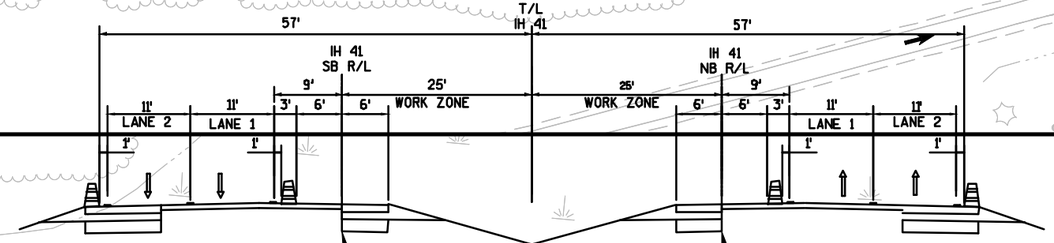
W01-4B

45
M.P.H.
W013-1
36" X 36"

SEE SDD, "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY SPEEDS GREATER THAN 40 M.P.H."

TEMP PAVT MARKING LEGEND

(45) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
(46) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
(50) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DOT PATTERN WHITE) (3' LINE 9' SKIP)
(R) REMOVING PAVEMENT MARKING

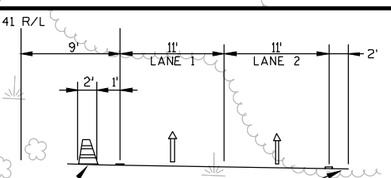


STAGE 4 TRAFFIC IH 41
LOOKING NORTH

SAWING ASPHALT

SAWING ASPHALT

SB IH 41 R/L



TRAFFIC CONTROL DRUMS

PERMANENT PARAPET TRAFFIC DRUM

T/L IH 41

STA 931+50.0 TO STA 948+00.0

IH 41 SB

IH 41 NB

926+00 927+00 928+00 929+00 930+00 931+00 932+00 933+00 934+00 935+00 936+00 937+00 938+00 939+00 940+00

MATCH LINE STA 925+00

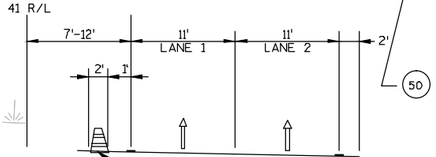
MATCH LINE STA 940+00

+60 +06 +67 +75

45 46 R 50

SEE SDD, "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY SPEEDS GREATER THAN 40 M.P.H."

NB IH 41 R/L



TRAFFIC CONTROL DRUMS

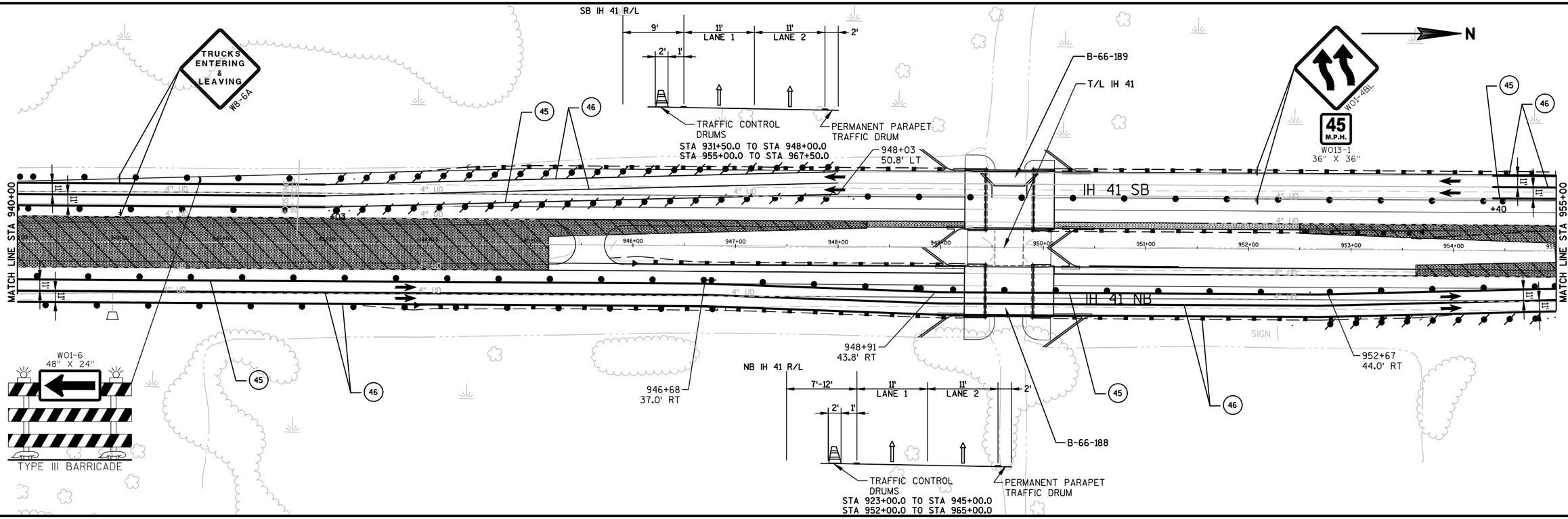
PERMANENT PARAPET TRAFFIC DRUM

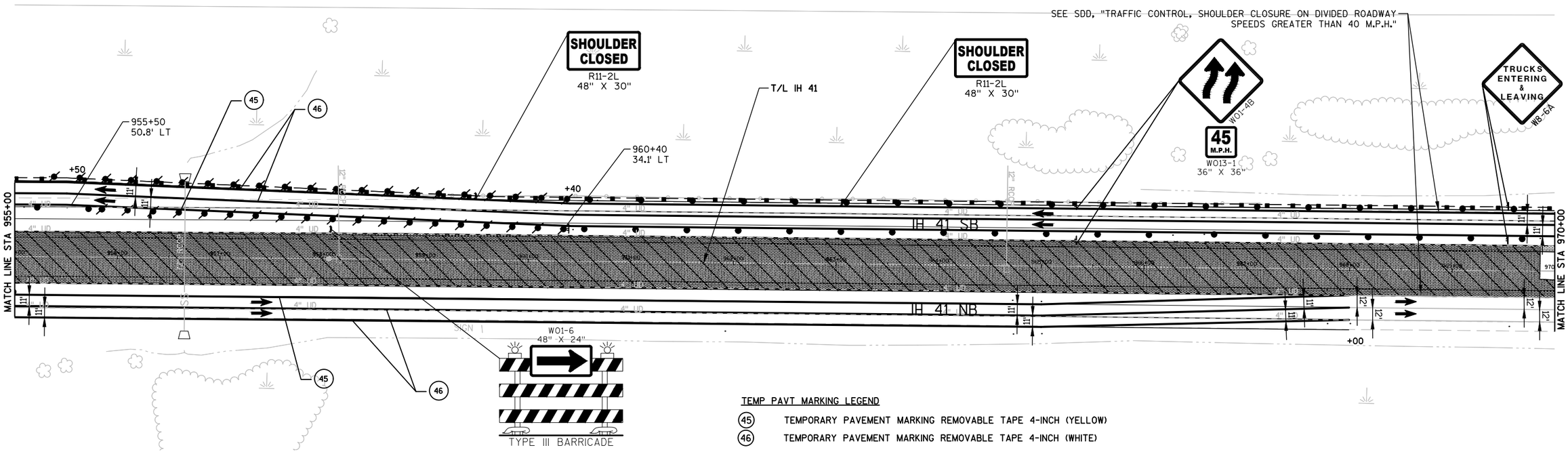
STA 923+00.0 TO STA 945+00.0

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 4A	SHEET 73	E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0261_01_S4A.DWG PLOT DATE : 1/6/2016 3:48 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44





TEMP PAVT MARKING LEGEND

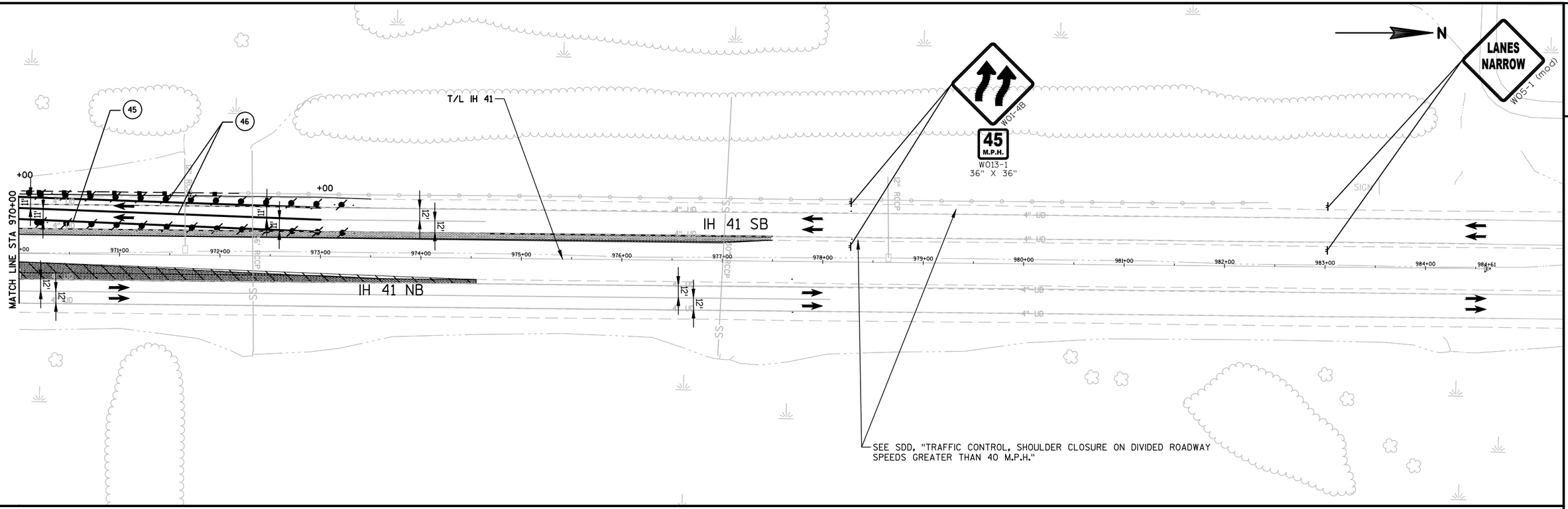
(45) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

(46) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

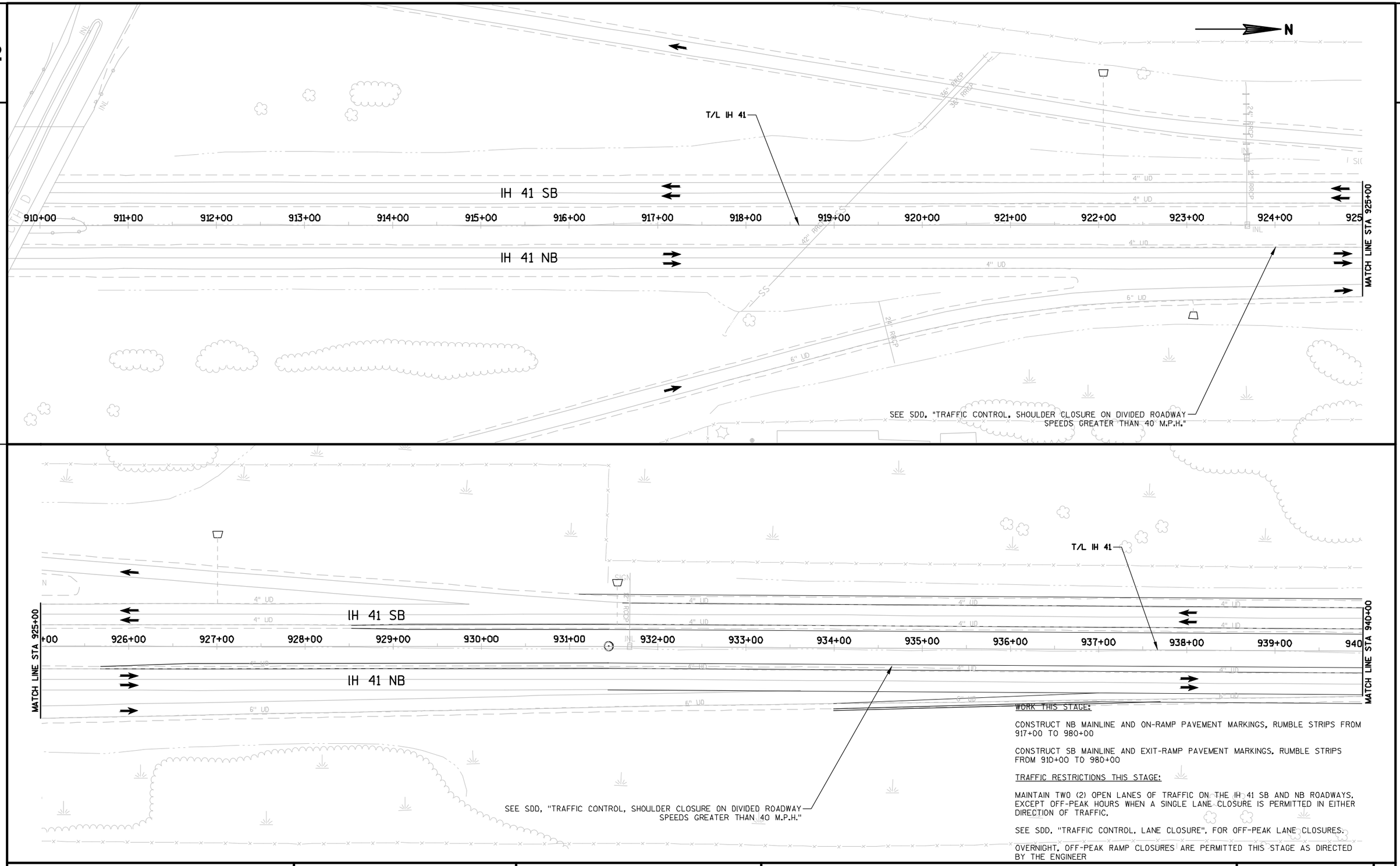
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 4A	SHEET 74	E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0261_01_S4A.DWG PLOT DATE : 2/8/2016 1:42 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	STAGE CONSTRUCTION STAGE 4A	SHEET 75	E



WORK THIS STAGE:

CONSTRUCT NB MAINLINE AND ON-RAMP PAVEMENT MARKINGS, RUMBLE STRIPS FROM 917+00 TO 980+00

CONSTRUCT SB MAINLINE AND EXIT-RAMP PAVEMENT MARKINGS, RUMBLE STRIPS FROM 910+00 TO 980+00

TRAFFIC RESTRICTIONS THIS STAGE:

MAINTAIN TWO (2) OPEN LANES OF TRAFFIC ON THE IH 41 SB AND NB ROADWAYS, EXCEPT OFF-PEAK HOURS WHEN A SINGLE LANE CLOSURE IS PERMITTED IN EITHER DIRECTION OF TRAFFIC.

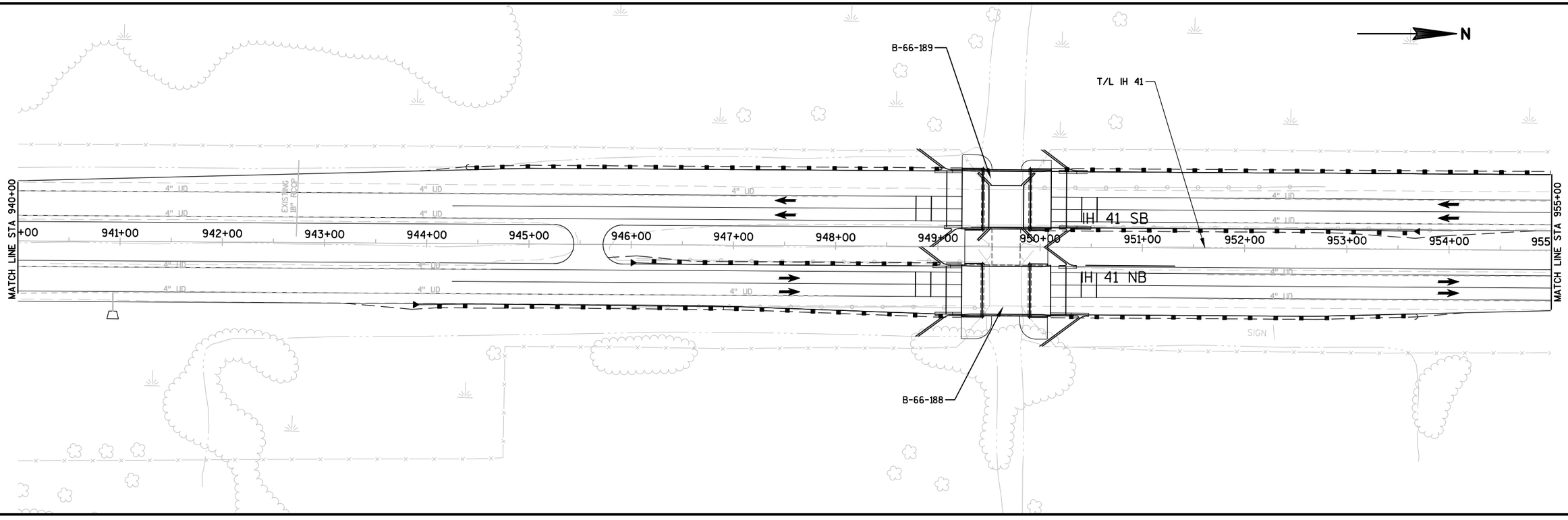
SEE SDD, "TRAFFIC CONTROL, LANE CLOSURE", FOR OFF-PEAK LANE CLOSURES.

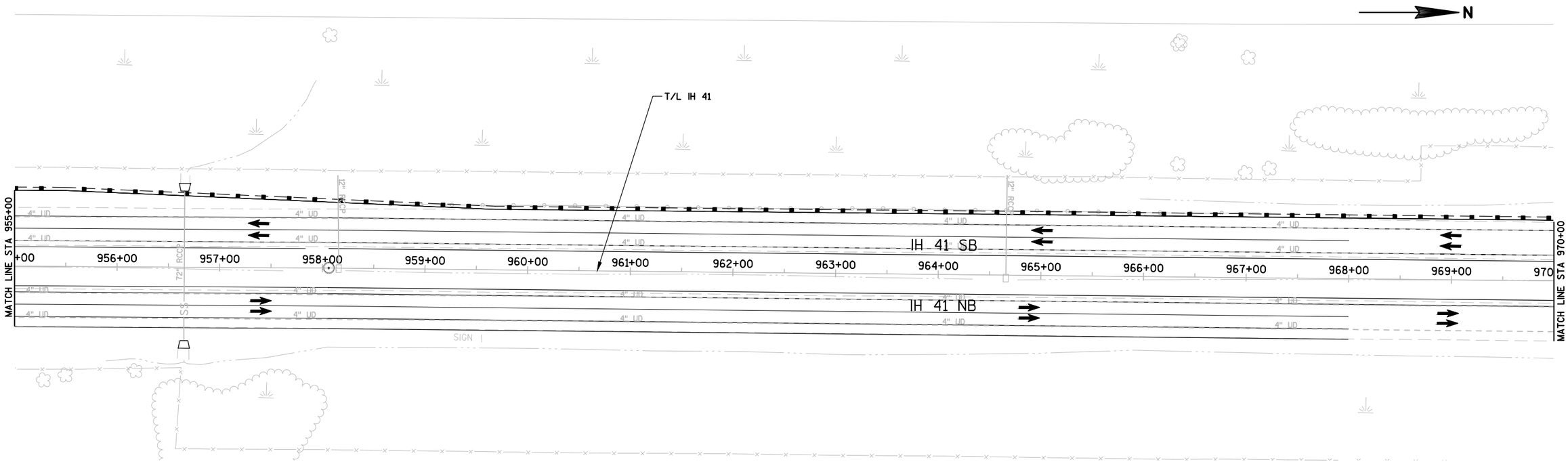
OVERNIGHT, OFF-PEAK RAMP CLOSURES ARE PERMITTED THIS STAGE AS DIRECTED BY THE ENGINEER

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	TRAFFIC CONTROL STAGE 4B	SHEET	E

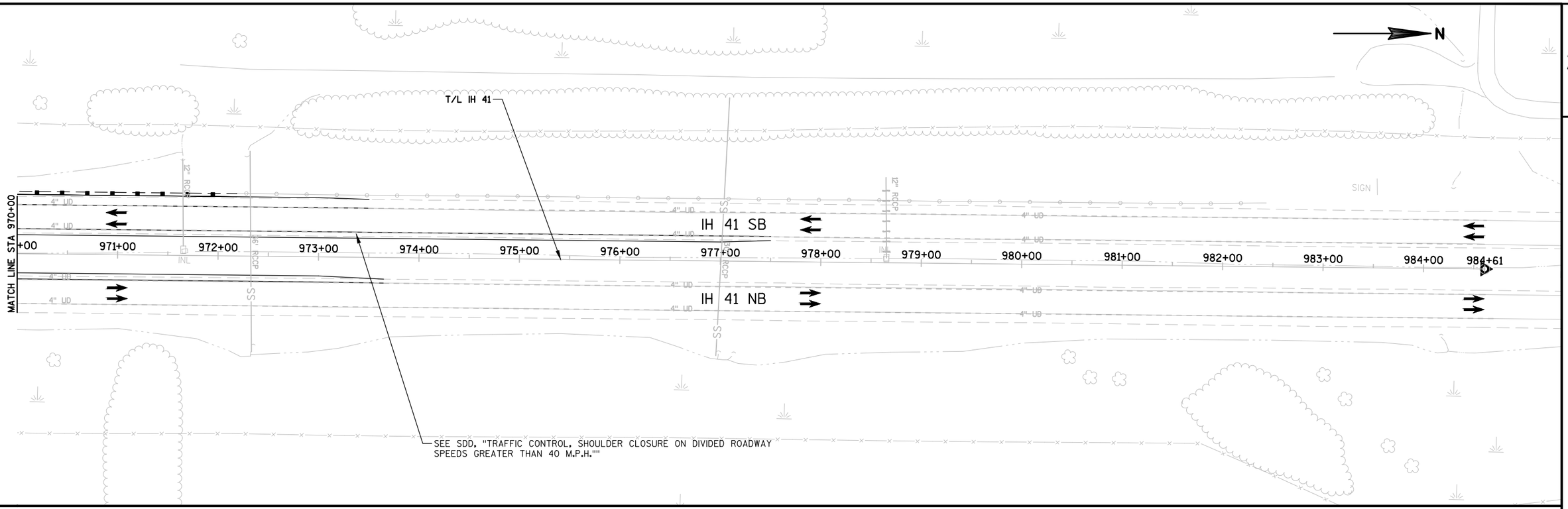
FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0261_01_S4B.DWG PLOT DATE : 1/6/2016 3:49 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:100 FT WISDOT/CADDS SHEET 44

2



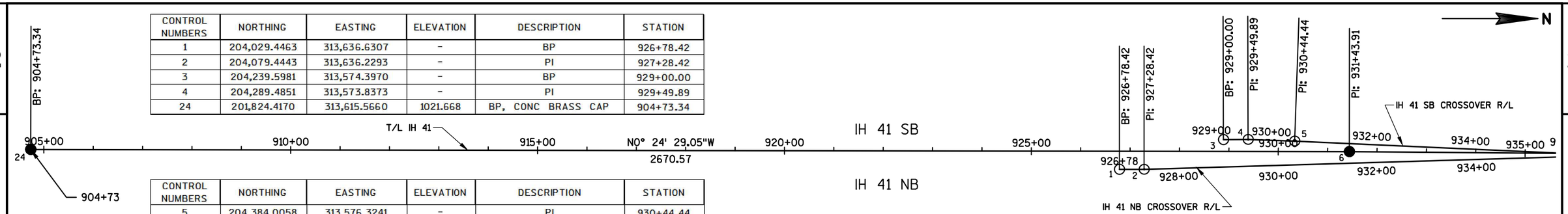


PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	TRAFFIC CONTROL STAGE 4B	SHEET 77	E



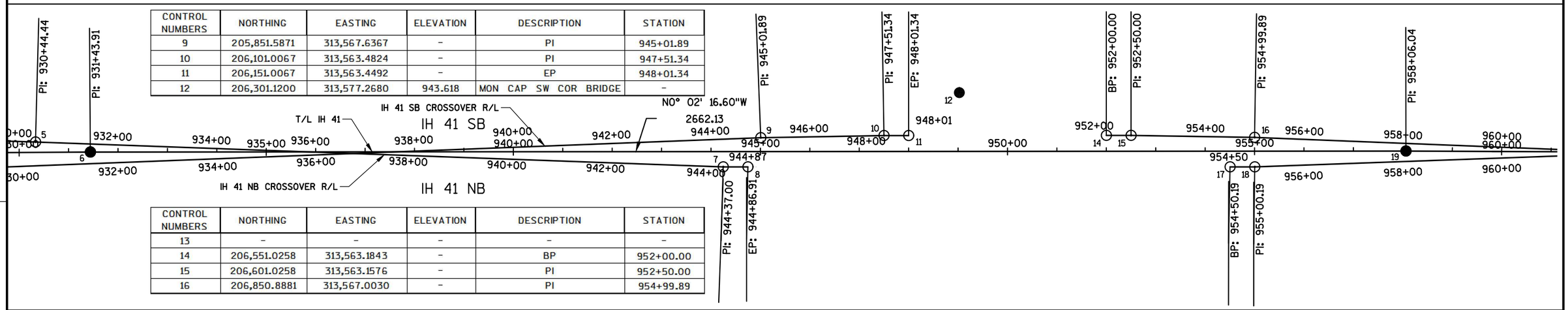
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	TRAFFIC CONTROL STAGE 4B	SHEET E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN\0261_01_S4B.DWG PLOT DATE : 1/6/2016 3:49 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



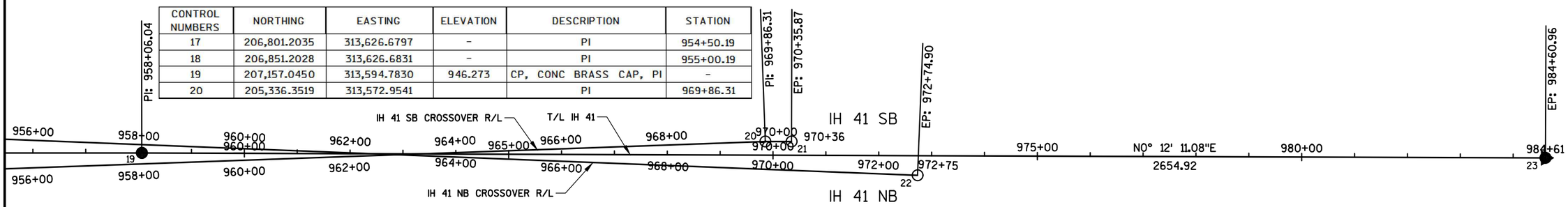
CONTROL NUMBERS	NORTHING	EASTING	ELEVATION	DESCRIPTION	STATION
1	204,029.4463	313,636.6307	-	BP	926+78.42
2	204,079.4443	313,636.2293	-	PI	927+28.42
3	204,239.5981	313,574.3970	-	BP	929+00.00
4	204,289.4851	313,573.8373	-	PI	929+49.89
24	201,824.4170	313,615.5660	1021.668	BP, CONC BRASS CAP	904+73.34

CONTROL NUMBERS	NORTHING	EASTING	ELEVATION	DESCRIPTION	STATION
5	204,384.0058	313,576.3241	-	PI	930+44.44
6	204,494.9410	313,596.5220	945.301	CP,CONC BRASS CAP,PI	931+43.91
7	205,775.6481	313,626.6904	-	PI	944+37.00
8	205,825.5593	313,626.6580	-	EP	944+86.91



CONTROL NUMBERS	NORTHING	EASTING	ELEVATION	DESCRIPTION	STATION
9	205,851.5871	313,567.6367	-	PI	945+01.89
10	206,101.0067	313,563.4824	-	PI	947+51.34
11	206,151.0067	313,563.4492	-	EP	948+01.34
12	206,301.1200	313,577.2680	943.618	MON CAP SW COR BRIDGE	-

CONTROL NUMBERS	NORTHING	EASTING	ELEVATION	DESCRIPTION	STATION
13	-	-	-	-	-
14	206,551.0258	313,563.1843	-	BP	952+00.00
15	206,601.0258	313,563.1576	-	PI	952+50.00
16	206,850.8881	313,567.0030	-	PI	954+99.89



CONTROL NUMBERS	NORTHING	EASTING	ELEVATION	DESCRIPTION	STATION
17	206,801.2035	313,626.6797	-	PI	954+50.19
18	206,851.2028	313,626.6831	-	PI	955+00.19
19	207,157.0450	313,594.7830	946.273	CP, CONC BRASS CAP, PI	-
20	205,336.3519	313,572.9541		PI	969+86.31

CONTROL NUMBERS	NORTHING	EASTING	ELEVATION	DESCRIPTION	STATION
21	208,385.9147	313,573.1384	-	EP	970+35.87
22	208,624.5093	313,657.2027	-	EP	972+74.90
23	209,811.9530	313,604.1930	1011.370	EP, CONC BRASS CAP	984+60.96

DATE 16FEB16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1100-00-73 QUANTITY
0010	201.0105	Clearing	STA	5.000	5.000
0020	201.0205	Grubbing	STA	5.000	5.000
0030	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 949+67 RT	LS	1.000	1.000
0040	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 02. 949+67 LT	LS	1.000	1.000
0050	204.0109.S	Removing Concrete Surface Partial Depth	SF	18,895.000	18,895.000
0060	204.0110	Removing Asphaltic Surface	SY	5,466.000	5,466.000
0070	204.0115	Removing Asphaltic Surface Butt Joints	SY	20.000	20.000
0080	204.0125	Removing Asphaltic Surface Milling	TON	1,506.000	1,506.000
0090	204.0165	Removing Guardrail	LF	2,480.000	2,480.000
0100	204.0170	Removing Fence	LF	2,385.000	2,385.000
0110	204.0180	Removing Delineators and Markers	EACH	40.000	40.000
0120	204.0185	Removing Masonry	CY	18.600	18.600
0130	204.0220	Removing Inlets	EACH	20.000	20.000
0140	204.0245	Removing Storm Sewer (size) 01. 12-INCH	LF	77.000	77.000
0150	204.0245	Removing Storm Sewer (size) 02. 15-INCH	LF	200.000	200.000
0160	204.0245	Removing Storm Sewer (size) 03. 18-INCH	LF	400.000	400.000
0170	204.0245	Removing Storm Sewer (size) 04. 24-INCH	LF	386.000	386.000
0180	205.0100	Excavation Common	CY	32,700.000	32,700.000
0190	206.1000	Excavation for Structures Bridges (structure) 01. B-66-0188	LS	1.000	1.000
0200	206.1000	Excavation for Structures Bridges (structure) 02. B-66-0189	LS	1.000	1.000
0210	209.0100	Backfill Granular	CY	29.000	29.000
0220	210.0100	Backfill Structure	CY	526.000	526.000
0230	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1100-00-73	LS	1.000	1.000
0240	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	85.000	85.000
0250	213.0100	Finishing Roadway (project) 01. 1100-00-73	EACH	1.000	1.000
0260	305.0110	Base Aggregate Dense 3/4-Inch	TON	255.000	255.000
0270	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	16,055.000	16,055.000
0280	311.0110	Breaker Run	TON	28,716.000	28,716.000
0290	312.0110	Select Crushed Material	TON	3,734.000	3,734.000
0300	415.0120	Concrete Pavement 12-Inch	SY	180.000	180.000
0310	415.0410	Concrete Pavement Approach Slab	SY	160.000	160.000
0320	416.1010	Concrete Surface Drains	CY	12.000	12.000
0330	440.4410	Incentive IRI Ride	DOL	1,630.000	1,630.000
0340	455.0120	Asphaltic Material PG64-28	TON	421.000	421.000
0350	455.0605	Tack Coat	GAL	2,549.000	2,549.000
0360	460.1110	HMA Pavement Type E-10	TON	8,303.000	8,303.000
0370	460.2000	Incentive Density HMA Pavement	DOL	5,314.000	5,314.000
0380	460.4000	HMA Cold Weather Paving	TON	511.000	511.000
0390	465.0125	Asphaltic Surface Temporary	TON	4,746.000	4,746.000
0400	465.0400	Asphaltic Shoulder Rumble Strips	LF	16,222.000	16,222.000
0410	502.0100	Concrete Masonry Bridges	CY	1,032.000	1,032.000
0420	502.3200	Protective Surface Treatment	SY	986.000	986.000
0430	502.3210	Pigmented Surface Sealer	SY	172.000	172.000
0440	505.0400	Bar Steel Reinforcement HS Structures	LB	15,360.000	15,360.000
0450	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	141,990.000	141,990.000

3

DATE 16FEB16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1100-00-73 QUANTITY
0460	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	980.000	980.000
0470	505.0905	Bar Couplers No. 5	EACH	213.000	213.000
0480	505.0906	Bar Couplers No. 6	EACH	24.000	24.000
0490	505.0908	Bar Couplers No. 8	EACH	38.000	38.000
0500	511.1200	Temporary Shoring (structure) 01. B-66-0189	SF	400.000	400.000
0510	516.0500	Rubberized Membrane Waterproofing	SY	58.000	58.000
0520	520.8000	Concrete Collars for Pipe	EACH	8.000	8.000
0530	521.0118	Culvert Pipe Corrugated Steel 18-Inch	LF	400.000	400.000
0540	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	3.000	3.000
0550	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	1.000	1.000
0560	522.1072	Apron Endwalls for Culvert Pipe Reinforced Concrete 72-Inch	EACH	2.000	2.000
0570	550.0500	Pile Points	EACH	46.000	46.000
0580	550.2124	Piling CIP Concrete 12 3/4 X 0.25-Inch	LF	3,460.000	3,460.000
0590	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	119.000	119.000
0600	603.8000	Concrete Barrier Temporary Precast Delivered	LF	10,510.000	10,510.000
0610	603.8125	Concrete Barrier Temporary Precast Installed	LF	13,110.000	13,110.000
0620	606.0100	Riprap Light	CY	3.830	3.830
0630	606.0200	Riprap Medium	CY	21.400	21.400
0640	606.0300	Riprap Heavy	CY	489.000	489.000
0650	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	14.000	14.000
0660	608.0512	Storm Sewer Pipe Reinforced Concrete Class V 12-Inch	LF	77.000	77.000
0670	608.0515	Storm Sewer Pipe Reinforced Concrete Class V 15-Inch	LF	200.000	200.000
0680	608.0524	Storm Sewer Pipe Reinforced Concrete Class V 24-Inch	LF	386.000	386.000
0690	609.0172	Relaid Storm Sewer 72-Inch	LF	28.000	28.000
0700	611.0610	Inlet Covers Type BW	EACH	12.000	12.000
0710	611.0642	Inlet Covers Type MS	EACH	8.000	8.000
0720	611.1004	Catch Basins 4-FT Diameter	EACH	1.000	1.000
0730	611.1230	Catch Basins 2x3-FT	EACH	1.000	1.000
0740	611.1253	Catch Basins 2.5x3-FT	EACH	4.000	4.000
0750	611.3220	Inlets 2x2-FT	EACH	7.000	7.000
0760	611.3901	Inlets Median 1 Grate	EACH	4.000	4.000
0770	611.3902	Inlets Median 2 Grate	EACH	4.000	4.000
0780	611.9710	Salvaged Inlet Covers	EACH	8.000	8.000
0790	612.0204	Pipe Underdrain Unperforated 4-Inch	LF	154.000	154.000
0800	612.0404	Pipe Underdrain Wrapped 4-Inch	LF	16.000	16.000
0810	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	356.000	356.000
0820	612.0804	Apron Endwalls for Underdrain Reinforced Concrete 4-Inch	EACH	8.000	8.000
0830	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	8.000	8.000
0840	614.0200	Steel Thrie Beam Structure Approach	LF	20.650	20.650
0850	614.0340	Steel Plate Beam Guard Over Low-Fill Culverts Class A	LF	100.000	100.000
0860	614.0515	Guardrail Stifened LHW	LF	2,150.000	2,150.000

3

DATE 16FEB16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1100-00-73 QUANTITY
0870	614.0905	Crash Cushions Temporary	EACH	9.000	9.000
0880	614.2330	MGS Guardrail 3 K	LF	2,375.000	2,375.000
0890	614.2340	MGS Guardrail 3 L	LF	100.000	100.000
0900	614.2500	MGS Thrie Beam Transition	LF	142.500	142.500
0910	614.2610	MGS Guardrail Terminal EAT	EACH	3.000	3.000
0920	614.2620	MGS Guardrail Terminal Type 2	EACH	3.000	3.000
0930	616.0100	Fence Woven Wire (height) 01. 4.5-FT	LF	2,385.000	2,385.000
0940	619.1000	Mobilization	EACH	1.000	1.000
0950	621.0100	Landmark Reference Monuments	EACH	2.000	2.000
0960	624.0100	Water	MGAL	221.000	221.000
0970	625.0100	Topsoil	SY	50,399.000	50,399.000
0980	627.0200	Mulching	SY	32,067.000	32,067.000
0990	628.1104	Erosion Bales	EACH	300.000	300.000
1000	628.1504	Silt Fence	LF	1,156.000	1,156.000
1010	628.1520	Silt Fence Maintenance	LF	1,156.000	1,156.000
1020	628.1905	Mobilizations Erosion Control	EACH	10.000	10.000
1030	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
1040	628.2004	Erosion Mat Class I Type B	SY	17,135.000	17,135.000
1050	628.2006	Erosion Mat Urban Class I Type A	SY	27,216.000	27,216.000
1060	628.2008	Erosion Mat Urban Class I Type B	SY	5,040.000	5,040.000
1070	628.2027	Erosion Mat Class II Type C	SY	1,008.000	1,008.000
1080	628.6005	Turbidity Barriers	SY	800.000	800.000
1090	628.7010	Inlet Protection Type B	EACH	9.000	9.000
1100	628.7020	Inlet Protection Type D	EACH	9.000	9.000
1110	628.7504	Temporary Ditch Checks	LF	1,088.000	1,088.000
1120	628.7555	Culvert Pipe Checks	EACH	4.000	4.000
1130	628.7560	Tracking Pads	EACH	3.000	3.000
1140	628.7570	Rock Bags	EACH	100.000	100.000
1150	629.0210	Fertilizer Type B	CWT	19.000	19.000
1160	630.0130	Seeding Mixture No. 30	LB	488.000	488.000
1170	630.0160	Seeding Mixture No. 60	LB	83.000	83.000
1180	630.0200	Seeding Temporary	LB	413.000	413.000
1190	631.1100	Sod Erosion Control	SY	72.000	72.000
1200	633.0100	Delineator Posts Steel	EACH	31.000	31.000
1210	633.0500	Delineator Reflectors	EACH	44.000	44.000
1220	633.5200	Markers Culvert End	EACH	13.000	13.000
1230	634.0622	Posts Wood 4x6-Inch X 22-FT	EACH	15.000	15.000
1240	635.0200	Sign Supports Structural Steel HS	LB	1,600.000	1,600.000
1250	636.0100	Sign Supports Concrete Masonry	CY	2.800	2.800
1260	636.0500	Sign Supports Steel Reinforcement	LB	166.000	166.000
1270	638.2101	Moving Signs Type I	EACH	2.000	2.000
1280	638.2102	Moving Signs Type II	EACH	10.000	10.000
1290	638.3000	Removing Small Sign Supports	EACH	11.000	11.000
1300	638.3100	Removing Structural Steel Sign Supports	EACH	4.000	4.000
1310	642.5201	Field Office Type C	EACH	1.000	1.000
1320	643.0100	Traffic Control (project) 01. 1100-00-73	EACH	1.000	1.000
1330	643.0300	Traffic Control Drums	DAY	183,055.000	183,055.000
1340	643.0420	Traffic Control Barricades Type III	DAY	3,736.000	3,736.000
1350	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	217.000	217.000
1360	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	217.000	217.000
1370	643.0705	Traffic Control Warning Lights Type A	DAY	7,269.000	7,269.000
1380	643.0715	Traffic Control Warning Lights Type C	DAY	60,034.000	60,034.000

3

DATE 16FEB16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1100-00-73 QUANTITY
1390	643.0800	Traffic Control Arrow Boards	DAY	1,036.000	1,036.000
1400	643.0900	Traffic Control Signs	DAY	22,690.000	22,690.000
1410	643.0920	Traffic Control Covering Signs Type II	EACH	6.000	6.000
1420	643.1000	Traffic Control Signs Fixed Message	SF	520.000	520.000
1430	643.1050	Traffic Control Signs PCMS	DAY	443.000	443.000
1440	645.0120	Geotextile Fabric Type HR	SY	883.400	883.400
1450	645.0130	Geotextile Fabric Type R	SY	11.400	11.400
1460	645.0135	Geotextile Fabric Type SR	SY	5,600.000	5,600.000
1470	645.0140	Geotextile Fabric Type SAS	SY	50.000	50.000
1480	646.0106	Pavement Marking Epoxy 4-Inch	LF	35,034.000	35,034.000
1490	646.0600	Removing Pavement Markings	LF	14,221.000	14,221.000
1500	646.0790.S	Removing Raised Pavement Markers	EACH	28.000	28.000
1510	646.0805.S	Pavement Marking Outfall	EACH	8.000	8.000
1520	646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF	2,749.000	2,749.000
1530	646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF	3,492.000	3,492.000
1540	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	809.000	809.000
1550	647.0746	Pavement Marking Diagonal Epoxy 24-Inch	LF	469.000	469.000
1560	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	76,725.000	76,725.000
1570	649.0402	Temporary Pavement Marking Paint 4-Inch	LF	18,890.000	18,890.000
1580	649.0506	Temporary Pavement Marking Removable Mask-Out Tape 6-Inch	LF	495.000	495.000
1590	649.0801	Temporary Pavement Marking Removable Tape 8-Inch	LF	3,384.000	3,384.000
1600	649.2100	Temporary Raised Pavement Markers	EACH	536.000	536.000
1610	650.4000	Construction Staking Storm Sewer	EACH	14.000	14.000
1620	650.4500	Construction Staking Subgrade	LF	9,420.000	9,420.000
1630	650.5000	Construction Staking Base	LF	9,420.000	9,420.000
1640	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	102.000	102.000
1650	650.6000	Construction Staking Pipe Culverts	EACH	12.000	12.000
1660	650.6500	Construction Staking Structure Layout (structure) 01. B-66-188	LS	1.000	1.000
1670	650.6500	Construction Staking Structure Layout (structure) 02. B-66-189	LS	1.000	1.000
1680	650.8000	Construction Staking Resurfacing Reference	LF	6,000.000	6,000.000
1690	650.9910	Construction Staking Supplemental Control (project) 01. 1100-00-73	LS	1.000	1.000
1700	650.9920	Construction Staking Slope Stakes	LF	9,420.000	9,420.000
1710	690.0150	Sawing Asphalt	LF	25,023.000	25,023.000
1720	690.0250	Sawing Concrete	LF	96.000	96.000
1730	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
1740	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000
1750	SPV.0035	Special 01. BACKFILL SLURRY	CY	52.000	52.000
1760	SPV.0060	Special 01. EXPOSE EXISTING UTILITY UNPAVED AREAS	EACH	1.000	1.000
1770	SPV.0060	Special 02. WELD GRATE	EACH	9.000	9.000
1780	SPV.0090	Special 01. REMOVING EXISTING TIMBER PILING	LF	280.000	280.000
1790	SPV.0090	Special 03. DRAIN SLOTTED VANE 15-INCH	LF	2,218.000	2,218.000
1800	SPV.0090	Special 04. DRAIN SLOTTED VANE 24-INCH	LF	552.000	552.000

3

DATE 16FEB16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1100-00-73 QUANTITY
1810	SPV.0090	Special 05. REMOVE DRAIN SLOTTED VANE 15-INCH	LF	2,218.000	2,218.000
1820	SPV.0090	Special 06. REMOVE DRAIN SLOTTED VANE 24-INCH	LF	552.000	552.000
1830	SPV.0090	Special 07. HEAVY DUTY SILT FENCE	LF	8,313.000	8,313.000
1840	SPV.0090	Special 08. HEAVY DUTY SILT FENCE MAINTENANCE	LF	8,313.000	8,313.000
1850	SPV.0195	Special 01. COLD PATCH	TON	10.000	10.000

REMOVING ITEMS

IH 41

CATEGORY		STA	TO	STA		201.0105 CLEARING STA	201.0205 GRUBBING STA	204.0109.S REMOVING CONCRETE SURFACE PARTIAL DEPTH SF	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0125 REMOVING ASPHALTIC SURFACE MILLING TON	204.0165 REMOVING GUARDRAIL LF	204.0170 REMOVING FENCE LF	204.0180 REMOVING DELINEATORS AND MARKERS EA	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
0010	STAGE 1					-	-	-	-	-	-	-	-	-	-	-
	NB	924+18	-	945+18	RT	1	1	-	-	-	-	-	-	-	2,605	-
		945+18	-	955+00	RT	3	3	-	-	-	-	-	815	-	1,060	-
		955+00	-	969+86	RT	-	-	-	-	-	-	-	-	-		-
		969+86	-	974+55	RT	1	1	-	-	-	-	-	-	-	3,725	-
					SUBTOTAL	5	5	-	-	-	-	-	815	-	7390	-
	SB	929+18	-	945+18	LT	-	-	-	-	-	-	-	300	-	5,641	-
		945+18	-	950+11	LT	-	-	-	-	-	-	430	500	-	-	-
		950+11	-	953+30	LT	-	-	-	-	-	-	-	319	-	2,354	-
		953+30	-	968+86	LT	-	-	-	-	-	-	-	451	-	1,556	-
		968+86	-	973+65	LT	-	-	-	-	-	-	-	-	-	830	-
					SUBTOTAL	-	-	-	-	-	-	430	1570	-	10381	-
	STAGE 2A					-	-	-	-	-	-	-	-	-	-	-
	NB	934+00	-	950+10	RT	-	-	-	-	-	-	-	-	-	-	-
		950+10	-	968+00	RT	-	-	-	-	-	-	150	-	-	-	-
					SUBTOTAL	-	-	-	-	-	-	150	-	-	-	-
	SB	933+60	-	950+50	LT	-	-	-	-	10	-	-	-	5	-	-
		950+50	-	968+00	LT	-	-	-	-	-	-	300	-	5	-	-
					SUBTOTAL	-	-	-	-	10	-	300	-	10	-	-
	STAGE 2B					-	-	-	-	-	-	-	-	-	-	-
	SB	944+25	-	949+50	LT	-	-	10958	1400	-	329	-	-	2	-	24
		949+50	-	955+00	LT	-	-	3519	1333	-	323	-	-	2	-	24
		955+00	-	968+00	LT	-	-	-	-	-	-	875	-	6	-	-
					SUBTOTAL	-	-	14478	2733	-	652	875	-	10	-	48
	STAGE 3					-	-	-	-	-	-	-	-	-	-	-
	NB	944+25	-	945+25	RT	-	-	2032	1400	-	152	725	-	5	-	24
		945+25	-	949+83	RT	-	-		-	-	221	-	-	5	-	24
		949+83	-	950+10	RT	-	-	2386	1333	10	115	-	-	5	-	-
		950+10	-	955+00	RT	-	-	-	-	-	-	-	-	5	-	-
					SUBTOTAL	-	-	4418	2733	10	489	725	-	20	-	48
	STAGE 4					-	-	-	-	-	-	-	-	-	-	-
	NB	924+25	-	929+40	RT	-	-	-	-	-	-	-	-	-	-	-
		929+17	-	934+00	RT	-	-	-	-	-	-	-	-	-	482	-
		934+00	-	945+25	RT	-	-	-	-	-	91	-	-	-	1,118	-
		945+25	-	953+50	RT	-	-	-	-	-	111	-	-	-	1,936	-
		953+50	-	969+85	RT	-	-	-	-	-	-	-	-	-	-	-
					SUBTOTAL	-	-	-	-	-	202	-	-	-	3536	-
	SB	929+40	-	934+00	LT	-	-	-	-	-	-	-	-	-	732	-
		934+00	-	945+25	LT	-	-	-	-	-	82	-	-	-	1,428	-
		945+25	-	950+10	LT	-	-	-	-	-	-	-	-	-	-	-
		950+10	-	953+30	LT	-	-	-	-	-	-	-	-	-	-	-
		953+30	-	968+86	LT	-	-	-	-	-	81	-	-	-	1556	-
					SUBTOTAL	-	-	-	-	-	163	-	-	-	3716	-
					TOTALS	5	5	18,895	5,466	20	1,506	2480	2,385	40	25,023	96

3

CULVERT PIPE ITEMS

IH 41

CATEGORY	PIPE STA	PIPE OFFSET	PIPE STA	PIPE OFFSET	ELEV INV	ELEV OUT	SLOPE %	204.0185 REMOVING MASONRY CY	209.0100 BACKFILL GRANULAR CY	530.8000* CONCRETE COLLAR FOR PIPE EA	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EA	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EA	522.1072 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 72-INCH EA	606.0100* RIPRAP LIGHT CY	606.0200 RIPRAP MEDIUM CY	609.0172 RELAID STORM SEWER 72-INCH LF	633.5200 MARKERS* CULVERT END EA	645.0120* GEOTEXTILE FABRIC TYPE HR SY	645.0130* GEOTEXTILE FABRIC TYPE R SY
0010	931+68.23	0.3' LT	931+68.47	83.1' LT	942.86	941.78	1.30%	-	-	-	1	-	-	0.67	-	-	2	-	2.0
0010	942+72.34	6.4' LT	942+74.27	80.6'LT	937.73	936.84	1.20%	-	-	-	-	1	-	0.91	-	-	2	-	2.7
0040	956+64.82	71.0'RT	956+66.01	74.3' LT	938.35	937.73	0.43%	18.6	29	2	-	-	2	-	9.4	28	2	28.4	-
0010	958+16.17	0.3' RT	958+14.47	90.4' LT	941.53	940.01	1.68%	-	-	-	1	-	-	0.67	-	-	2	-	2.0
0010	964+65.95	3.3' RT	964+66.58	99.9'LT	951.86	949.40	2.49%	-	-	-	1	-	-	0.67	-	-	2	-	2.0
0010	971+65.3	8.4' LT	971+64.3	95.0'LT	972.72	970.07	3.06%	-	-	-	-	-	-	-	-	-	2	-	-
							TOTAL	18.6	29	2	3	1	2	2.92	9.4	28	12	28.4	8.7

*ADDITIONAL ITEMS FOUND ELSEWHERE

STORM SEWER STRUCTURE ITEMS

IH 41 (Stage 1)

CATEGORY	STR NO.	STRUCTURE STA	OFFSET	INTERIM RIM ELEV	STRUCURE DEPTH	INTERIM INV	204.0220* REMOVING INLETS EA	611.0610 INLETS COVERS TYPE BW EA	611.1004 CATCH BASINS 4-FT DIAMETER EA	611.1230 CATCH BASINS 2x3-FT EA	611.1253 CATCH BASINS 2.5x3-FT EA	611.3220* INLETS 2x2-FT EA	611.3902 INLETS MEDIAN 2 GRATE EA	611.9710 SALVAGED INLET COVERS EA	SPV.0060.02 WELD GRATE EA	COMMENTS
0010	100	929+00.0	0.0'	953.90	9.9	944.03	-	-	-	-	-	-	1	-	-	TWO SLOPE
	101E	931+68.2	0.4' LT	-	-	-	1	-	-	-	-	-	-	-	-	EXISTING
	101 INT	931+68.2	0.4' LT	948.75	5.9	942.86	-	1	-	-	1	-	-	1	-	INTERIM, SALVAGE EX MS-GRATE; INSTALL 2.5x3 AFTER X-OVER REM
	101A	931+68.2	22.0' RT	947.75	4.6	943.11	-	1	-	-	-	1	-	-	1	CASTING FINS FACE SOUTH;CORE 15" DIA HOLES ON N & S OF STR 1.74' FROM FINISHED GRADE
	102	937+20.2	0.0'	942.80	2.8	940.00	-	1	-	-	-	1	-	-	1	
	102A	937+20.2	22.0' RT	942.20	2.0	940.20	-	1	-	1	-	-	-	-	1	CORE 15" DIA HOLES ON E & W OF STR 1.74'. ON N 2' FROM FINISHED GRADE
	103 INT	942+72.2	6.4' LT	942.00	4.1	937.90	-	1	1	-	-	-	-	-	1	INTERIM, PROVIDE 2x2.5-FT OPENING IN DECK. IN S STR CORE 24" DIA HOLE & 15" HOLE IN N STR 1.74' FROM FINISHED GRADE
	103A	945+25.0	0.0' LT	941.96	1.5	940.50	-	-	-	-	-	-	1	2	-	
	103B	946+00.0	0.0' LT	942.35	2.1	940.22	-	-	-	-	-	-	1	2	-	
	104	957+00.0	0.0' RT	947.20	5.1	942.11	-	1	-	-	1	-	-	-	-	CORE 15" N & S 1.74' FROM FINISHED GRADE
	105E	958+16.2	0.3' RT	-	-	-	1	-	-	-	-	-	-	-	-	EXISTING
	105 INT	958+16.2	0.3' RT	948.90	7.4	941.53	-	1	-	-	1	-	-	1	1	INTERIM, SALVAGE EX MS-GRATE; INSTALL 2.5x3 AFTER X-OVER REM; CORE 15" DIA HOLES ON W OF STR 1.74' FROM FINISHED GRADE
	105A	958+16.2	22.0' RT	948.50	2.4	946.10	-	1	-	-	-	1	-	-	1	CORE 15" DIA ON W SIDE 2' & 15" DIA HOLE 1.74' N SIDE FINISHED GRADE
	106A	961+61.0	22.0' RT	953.75	1.8	952.00	-	1	-	-	-	1	-	-	-	CORE 15" DIA N,W & W 1.74' FROM FINISHED GRADE
	107E	964+66.0	3.3' RT	-	-	-	1	-	-	-	-	-	-	-	-	EXISTING
	107 INT	964+66.0	3.3' RT	962.00	10.1	951.86	-	1	-	-	1	-	-	1	1	INTERIM, SALVAGE EX MS-GRATE; INSTALL 2.5x3 AFTER X-OVER REM
	107A	964+66.0	22.0' RT	961.25	1.5	959.80	-	1	-	-	-	1	-	-	1	CORE 15" DIA HOLES ON W OF STR 1.74' FROM FINISHED GRADE
	108	969+88.0	10.0' LT	974.43	1.0	973.43	-	-	-	-	-	-	1	-	-	
	109 E	971+66.3	6.6' LT	-	-		1	-	-	-	-	-	-	-	-	EXISTING
	109 INT	971+66.3	6.6' LT	978.00	5.3	972.72	-	1	-	-	-	1	-	1	1	INTERIUM, SALVAGE EX MS-GRATE; INSTALL 2.5x3 AFTER X-OVER REM
							4	12	1	1	4	6	4	8	9	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

LEGEND
INT – INTERIM
E –EXISTING
F – FINAL

STORM SEWER STRUCTURE ITEMS

IH 41 (STAGE 4A)

CATEGORY	STR NO.	STRUCTURE STA	OFFSET	FINAL RIM ELEV	STRUCURE DEPTH	FINAL INV	204.0220* REMOVING INLETS EA	611.0642 INLETS COVERS TYPE MS EA	611.3220* INLETS 2x2-FT EA	611.3901 INLETS MEDIAN 1 GRATE EA	COMMENTS
0010	100	929+00.0	-	-	-	-	1	-	-	-	TWO SLOPE
	101 F	931+68.2	5.4' RT	945.00	3.5	941.50	-	1	-	1	FINISH STRUCTURE
	101 INT	931+68.2	5.4' RT	945.00	3.5	941.50	1	-	-	-	
	101A	931+68.2	-	-	-	-	1	-	-	-	CASTING FINS FACE SOUTH;CORE 15" DIA HOLES ON N & S OF STR 1.74' FROM FINISHED GRADE
	102	937+20.2	-	-	-	-	1	-	-	-	
	102A	937+20.2	-	-	-	-	1	-	-	-	CORE 15" DIA HOLES ON E & W OF STR 1.74'. ON N 2' FROM FINISHED GRADE
	103 F	942+72.2	0.85' RT	939.00	1.2	937.81	-	-	1	-	FINISH STRUCTURE
	103 INT	942+72.2	0.85' RT	939.00	1.2	937.81	1	-	-	-	
	103A	945+25.0	-	-	-	-	1	2	-	-	
	103B	946+00.0	-	-	-	-	1	2	-	-	
	104	957+00.0	-	-	-	-	1	-	-	-	CORE 15" N & S 1.74' FROM FINISHED GRADE
	105 F	958+16.2	2.0' RT	946.10	1.7	944.40	-	1	-	1	FINISH STRUCTURE
	105 INT	958+16.2	2.0' RT	+946	1.70	944.4	1	-	-	-	
	105A	958+16.2	-	-	-	-	1	-	-	-	CORE 15" DIA ON W SIDE 2' & 15" DIA HOLE 1.74' N SIDE FINISHED GRADE
	106A	961+61.0	-	-	-	-	1	-	-	-	CORE 15" DIA N,W & W 1.74' FROM FINISHED GRADE
	107 F	964+66.0	6.6' RT	958.79	6.79	952.00	-	1	-	1	FINISH STRUCTURE
	107 INT	964+66.0	6.6' RT	958.79	6.79	952.00	1	-	-	-	
	107A	964+66.0	-	-	-	-	1	-	-	-	CORE 15" DIA HOLES ON W OF STR 1.74' FROM FINISHED GRADE
	108	969+88.0	-	-	-	-	1	-	-	-	
	109 F	971+66.3	4.9' LT	977.84	5.12	972.72	-	1	-	1	FINISH STRUCTURE
	109 INT	971+66.3	4.9' LT	977.84	5.12	972.72	1	-	-	-	
						TOTAL	16	8	1	4	

* ADDITIONAL QUATITIES FOUND ELSWHERE

LEGEND
INT - INTERIM
E - EXISTING
F - FINAL

REMOVING STORM SEWER PIPE ITEMS

(STAGE 4)

IH 41

CATEGORY	PIPE NO.	PIPE STR NO	TO	STR NO	204.0245.01 REMOVING STORM SEWER 12-INCH LF	204.0245.02 REMOVING STORM SEWER 15-INCH LF	204.0245.03 REMOVING STORM SEWER 18-INCH LF	204.0245.04 REMOVING STORM SEWER 24-INCH LF
0010	P100	100	-	101 INT	-	-	-	269
	P101A	101A	-	101 INT	22	-	-	-
	P103A	103A		103B	-	-	75	-
	P103B	103B		OUT FALL	-	-	325	-
	P105A	102A	-	102	22	-	-	-
	P105	104	-	105 INT	-	-	-	117
	P105A	105A	-	105 INT	7	22	-	-
	P107	107A	-	107 INT	26	-	-	-
	P108	108	-	109 INT	-	178	-	-
				TOTAL	77	200	400	386

CATEGORY	Stage	From/To Station	Location	Common Excavation (1) Cut	Common Excavation (1) EBS Excavation (3)	Unusable Material (4)	Available Material (5)	Expanded EBS Backfill (11) Factor 1.30	Unexpanded Fill	Expanded Fill (13) Factor 1.25	Mass Ordinate +/- (14)	Waste
0010	1	924+25 -948+25	Median x-over	10304	1025	995	9309	1333	7025	8781	527	527
		952+50 - 974+55	Median x-over	-								
	Subtotal			10304	1025	995	9309	1333	7025	8781	527	527
	2	933+50 -968+00	NB Outside Shldr	9056			9056		3603	4504	4553	4553
		933+50 -968+00	SB Outside Shldr	-								
		945+00-955+00	SB Median	-								
	Subtotal			9056			9056		3603	4504	4553	4553
	3	945+00 - 962+50	NB	802			802		488	611	192	192
	Subtotal			802			802		488	611	192	192
	4	924+25 -948+25	Median x-over	10512			10512		123	153	10359	10359
	Subtotal			10512			10512		123	153	10359	10359
	Grand Total			30674	2025	995	29679	1333	11239	14049	15630	15630
				Total Common Excavation	32700	CY						

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

2) Unuable Material

3) EBS Excavation to be backfilled with Select Borrow material.

5) Available Material = Cut - Salvaged/Unusuable Pavement Material

5) Available Material = Cut - Salvaged/Unusuable Pavement Material

11) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.11

13) Expanded Fill. Factor = 1.25

14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division.

ROADWAY ITEMS

IH 41

CATEGORY 0010

LOCATION	STATION	TO	STATION		211.0100 PREPARE FOUNDATION FOR ASPHALTIC PAVING 1100-00-73 LS	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	305.0110 BASE AGGREGATE DENSE 3/4 INCH TON	305.0120 BASE AGGREGATE DENSE 1-1/4 INCH TON	311.0110 BREAKER RUN TON	312.0110 SELECT CRUSHED MATERIAL TON	624.0100 WATER MGAL	645.0135 GEOTEXTILE FABRIC TYPE SR SY	645.0140 GEOTEXTILE FABRIC TYPE SAS SY
STAGE 1					-					-	-	-	-
NB	924+15	-	929+15	RT	-	5	-	234	526	-	4	-	-
	929+15	-	945+20	RT	-	16	-	1,779	4,000	-	27	1400	-
	945+20	-	953+50	RT	-	-	-	301	-	-	5	-	-
	953+50	-	955+00	RT	-	2	-	70	156	-	1	-	-
	955+00	-	969+75	RT	-	15	-	1632	3,715	370	24	467	-
	969+75	-	973+85	RT	-	5	-	355	797	-	5	-	-
	UNDISTRIBUTED				-	-	-	-	-	741	-	933	-
				SUBTOTAL	-	43	-	4,371	9194	1111	66	2800	-
SB	924+00	-	929+15	LT	-	20	-	-	-			-	-
	929+15	-	945+15	LT	-	-	-	1,779	4,000	1,512	27	1,400	-
	944+15	-	949+08	LT	-	4	-	-	-	-	-	-	-
	949+00	-	952+50	LT	-	-	-	386	440	-	6	-	-
	952+50	-	955+00	LT	-	3	-	-	-	-	-	-	-
	955+00	-	969+85	LT	-	15	-	-	-	370	-	467	-
	969+00	-	971+00	LT	-	-	-	1,652	3,715	-	25	-	-
	UNDISTRIBUTED				-	-	-	-	-	741	-	933	-
				SUBTOTAL	0.5	42	-	3,817	8155	2623	58	2800	-
STAGE 2A													-
NB	920+22	-	924+18	RT	-	-		18	-	-	-	-	-
	924+18		949+49	RT	-	-	34	1,424	1,689	-	19	-	-
	949+49	-	955+00	RT	-	-	17	950	312	-	12	-	-
	955+00	-	969+85	RT	-	-	-	817	1,300	-	12	-	-
	969+85	-	974+55	RT	-	-	73	-	1,153	-	-	-	-
				SUBTOTAL	0.5	-	124	3,209	4454	-	43	-	-
SB	931+10	-	940+10	LT	-	-	-	706	900	-	8	-	-
	940+10	-	945+00	LT	-	-	77	458	858	-	6	-	-
	945+00	-	949+49	LT	-	-	5	721	1,123	-	9	-	-
	949+49	-	955+50	LT	-	-	49	762	1,418	-	11	-	-
	955+50	-	959+68	LT	-	-	-	402	732	-	6	-	-
	959+68	-	973+50	LT	-	-	-	961	1,882	-	14	-	-
				SUBTOTAL	-	-	131	4010	6913	-	54	-	-
				TOTAL	1.0	85	255	15407	28716	3734	221	5600	50

3

BRIDGE APPROACH ITEMS

IH 41

CATEGORY		STA	TO	STA		415.0120 CONCRETE PAVEMENT 12-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.1010 CONCRETE SURFACE DRAINS CY	601.0590 CONCRETE CURB & GUTTER 4 INCH SLOPED 36 INCH TYPE TBTT LF	606.0200 RIP RAP MEDIUM CY	645.0120* GEOTEXTILE FABRIC TYPE HR SY
0010	STAGE 1										
	NB	924+25	-	929+40	RT	103	80	-	-	-	-
	SB	925+69	-	944+25	LT	77	80	-	-	-	-
					SUBTOTAL	180	160	-	-	-	-
	STAGE 2A										
	SB	945+00	-	949+23	LT	-	-	3	34	3	12
					SUBTOTAL	-	-	3	34	3	12
	STAGE 2B										
	SB	945+00	-	949+23	LT	-	-	3	34	3	12
					SUBTOTAL	-	-	3	34	3	12
	STAGE 3										
	NB	949+00	-	949+23	RT	-	-	6	51	6	24
					SUBTOTAL	-	-	6	51	6	24
					TOTAL	180	160	12	119	12	48

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

ASPHALTIC ITEMS

IH 41

CATEGORY		STA	TO	STA		455.0120 ASPHALTIC MATERIAL PG64-28 TON	455.0605 TACK COAT GAL	460.1110 HMA PAVEMENT TYPE E-10 TON	460.4000 HMA COLD WEATHER PAVING TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	SPV.195.01 COLD PATCH TON
0010	STAGE 1											
	NB	924+18	-	929+18	RT	7	35	122	-	84	-	-
		929+18	-	945+18	RT	19	266	358	-	1135	-	-
		945+18	-	953+64	RT	10`	16	190	-	63	-	-
		953+64	-	955+00	RT	2	10	30	-	28	-	-
		955+00	-	969+86	RT	18	248	333	-	1054	-	-
		969+86	-	973+50	RT	6	18	105	-	193	-	-
					SUBTOTAL	52	593	1138	-	2557	-	-
	SB	929+18	-	955+00	LT	19	266	358	-	1135	-	-
		955+00	-	973+50	LT	18	248	333	-	1054	-	-
					SUBTOTAL	37	514	691	-	2189	-	-
	STAGE 2A											
	NB	934+00	-	949+83	RT	35	103	630	-	-	-	-
		949+83	-	968+00	RT	37	121	678	-	-	-	-
					SUBTOTAL	72	224	1308	-	-	-	-
	SB	931+00	-	945+00	LT	36	117	656	511	-	-	-
		945+00	-	973+50	LT	95	236	1737	-	-	-	-
					SUBTOTAL	131	353	2393	511	-	-	-
	STAGE 2B	929+40	-	944+25	LT	4	40	65	-	-	-	-
	SB	944+25	-	950+10	LT	22	100	395	-	-	-	-
		950+10	-	955+00	LT	21	98	389	-	-	-	-
		955+00	-	969+85	LT	4	40	65	-	-	-	-
			-		SUBTOTAL	50	277	913	-	-	-	-
	STAGE 3											
	NB	943+00	-	944+25	RT	17	80	316	-	-	-	-
		944+25	-	955+00	RT	13	43	241	-	-	-	-
		955+00	-	946+70	RT	3	10	54	-	-	-	-
		946+70	-	948+00	RT	6	20	114	-	-	-	-
		948+00	-	949+23	RT	-	1	8	-	-	-	-
		949+23	-	950+10	RT	9	29	165	-	-	-	-
		950+10	-	952+70	RT	17	56	311	-	-	-	-
		952+70	-	955+00	RT	6	21	116	-	-	-	-
					SUBTOTAL	72	260	1325	-	-	-	-
	STAGE 4A											
	NB	925+18	-	950+10	RT	7	84	133	-	-	4145	-
		950+10	-	973+65	RT	7	82	135	-	-	3878	-
					SUBTOTAL	14	166	268	-	-	8023	-
	SB	928+50	-	955+00	LT	7	83	136	-	-	3884	-
		955+00	-	969+85	LT	7	80	131	-	-	4315	-
					SUBTOTAL	14	163	267	-	-	8199	-
					UNDISTRIBUTED	-	-	-	-	-	-	10
					TOTAL	421	2549	8,303	511	4,746	16,222	10

STORM SEWER PIPE ITEMS

IH 41

CATEGORY	PIPE NO.	PIPE STR NO	PIPE TO	PIPE STR NO	ELEV INV	ELEV OUT	SLOPE %	520.8000* CONCRETE COLLARS FOR PIPE EA	521.0118 CULVERT PIPE CORRUGATED STEEL 18-INCH LF	606.0100* RIPRAP LIGHT CY	608.0318 STORM SEWER PIPE REINFORCED CL III 18-INCH LF	608.0512 STORM SEWER PIPE REINFORCED CL V 12-INCH LF	608.0515 STORM SEWER PIPE REINFORCED CL V 15-INCH LF	608.0524 STORM SEWER PIPE REINFORCED CL V 24-INCH LF	633.5200* MARKERS CULVERT END EA	645.0130* GEOTEXTILE FABRIC TYPE R SY
0010	P100	100	-	101 INT	944.83	942.86	0.73%	-	-	-	-	-	-	269	-	
	P101A	101A	-	101 INT	943.11	943.00	0.50%	1	-	-	-	22	-	-	-	
	P102A	102A	-	102	940.50	940.39	0.50%	1	-	-	-	22	-	-	-	
	P103	103F	-	EX CULV	937.81	937.73	1.20%	1	-	-	7	-	-	-	-	
	P103A	103A	-	103B	940.50	940.28	0.30%	-	75	-	-	-	-	-	-	
	P103B	103B	-	OUT FALL	940.22	939.00	0.30%	-	325	0.91	-	-	-	-	-	2.70
	P105	104	-	105 INT	942.11	941.53	0.50%	1	-	-	7	-	-	117	-	
	P105A	105A	-	105 INT	946.78	946.58	0.90%	1	-	-	-	7	22	-	1	
	P107	107A	-	107 INT	959.58	959.38	0.90%	1	-	-	-	26	-	-	-	
	P108	108	-	109 INT	973.29	972.72	0.32%	-	-	-	-	-	178	-	-	
							TOTALS	6	400	0.91	14	77	200	386	1	2.70

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

TEMPORARY CONCRETE BARRIER ITEMS

IH 41

CATEGORY	STA	TO	STA	STAGE	LOCATION		603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF
0010	950+10	-	954+00	1	SB	LT	390	390
	933+00	-	975+50	2A	SB	LT	4250	4250
	937+00	-	962+75	2B	SB	LT	-	1300
	936+50	-	963+00	2B	NB	RT	2650	2650
	947+80	-	953+00	2B	NB	RT	520	520
	936+00	-	963+00	3	SB	LT	1400	2700
	941+00	-	954+00	3	SB	LT	1300	1300
						TOTALS	10,510	13,110

UNDERDRAIN ITEMS

IH 41

CATEGORY	PIPE STA	PIPE OFFSET	612.0204 PIPE UNDERDRAIN UNPERFORATED 4-INCH LF	612.0404 PIPE UNDERDRAIN WRAPPED 4-INCH LF	612.0804 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 4-INCH EA	631.1100 SOD EROSION CONTROL SY
0010	926+68.20	RT	12	2	1	9
	928+52.60	LT	12	2	1	9
	931+10.90	LT	12	2	1	9
	934+00.00	RT	28	2	1	9
	968+00.00	RT	22	2	1	9
	977+50.00	LT	23	2	1	9
	973+50.00	LT	23	2	1	9
	973+65.00	RT	22	2	1	9
		TOTAL	154	16	8	72

CONTINUE

CRASH CUSHION TEMPORARY DETAIL TABLE

IH 41

CATEGORY	LOCATION		614.0905 CRASH CUSHION TEMPORARY	BACK WIDTH	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
0010	STA	STG	EA	FT	-	-	-	-	-
	954+00	1	1	2	OM-3R (W05-58R)	TL-3	UNI-DIRECTIONAL	RT	CBTP
	975+75	2A	1	2	OM-3R (W05-58R)	TL-3	UNI-DIRECTIONAL	LT	CBTP
	936+75	2B	1	2	OM-3L W05-58L)	TL-3	BI-DIRECTIONAL	RT AND LT	CBTP
	952+75	2B	1	2	OM-3R (W05-58R)	TL-3	UNI-DIRECTIONAL	RT	CBTP
	956+75	2B	1	2	OM-3L W05-58L)	TL-3	UNI-DIRECTIONAL	LT	CBTP
	963+00	2B	1	2	OM-3L W05-58L)	TL-3	UNI-DIRECTIONAL	RT	CBTP
	935+75	3	1	2	OM-3L W05-58L)	TL-3	UNI-DIRECTIONAL	LT	CBTP
	940+50	3	1	2	OM-3R (W05-58R)	TL-3	UNI-DIRECTIONAL	RT	CBTP
	962+50	3	1	2	OM-3L W05-58L)	TL-3	UNI-DIRECTIONAL	LT	CBTP
	TOTALS		9						

BEAM GUARD ITEMS

IH 41

CATEGORY		STA	TO	STA		614.0200 STEEL THRIE BEAM STRUCTURE APPROACH	614.0340 STEEL PLATE BEAM GUARD OVER LOW-FILL CULVERTS CLASS A	614.0515 STEEL GUARDRAIL STIFFENED LHW	614.2330 MGS GUARDRAIL 3K	614.2340 MGS GUARDRAIL 3L	614.2500 MGS THRIE BEAM TRANSITION	614.2610 MGS GUARDRAIL TERMINAL EAT	614.2620 MGS GUARDRAIL TERMINAL TYPE 2	616.0100 FENCE WOVEN WIRE 4.5 FT
0010	STAGE 2A	940+00	-	944+42	LT	-	-	-	-	-	-	-	-	325
		944+42	-	949+23	LT	-	-	-	437.5	-	8.1	-	1	610
	SB	950+10	-	972+50	LT	20.65	100	2150	-	-	-	-	-	765
		948+00	-	949+23	LT	-	-	-	175	-	8.1	-	1	-
	STAGE 2B	950+10	-	953+13	LT	-	-	-	275	-	39.4	1	-	-
	STAGE 3	943+97	-	949+23	RT	-	-	-	437.5	-	39.4	1	-	11
		946+06	-	949+23	RT	-	-	-	412.5	-	39.4	1	-	-
	NB	949+23	-	950+10	RT	-	-	-	-	-	-	-	-	44
		950+10	-	957+60	RT	-	-	-	637.5	100	8.1	-	1	-
		950+10		973+65	RT	-	-	-	-	-	-	-	-	630
					TOTAL	20.65	100	2150	2375	100	142.5	3	3	2385

3

STAKING ITEMS

IH 41

CATEGORY		STA	TO	STA		621.0100 LANDMARK REFERENCE MONUMENTS EA	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (B-66-189) LS	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (B-66-188) LS	650.8000 CONSTRUCTION STAKING RESURFACEING REFERENCE LF	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL LS	650.9920 CONSTRUCTION SLOPE STAKES LF
0010	STAGE 1															
	NB	915+00		975+00		-	-	-	-	-	-	-	-	6,000		
		925+68	-	945+00	RT	2	14	1,857	1,857	-	2	-	-	-	1	1,857
		945+00	-	949+25	RT	-	-	499	499	-	-	-	-	-	-	499
		950+10	-	951+60	RT	-	-	-	-	-	-	-	-	-	-	-
		951+60	-	973+65	RT	-	-	2,354	2,354	-	4	-	-	-	-	2,354
					SUBTOTAL	2	14	4,710	4,710	-	6	-	-	6,000	1	4,710
																-
	SB	925+69	-	944+25	LT	-	-	1,857	1,857	-	2	-	-	-	-	1,857
		944+25	-	949+24	LT	-	-	499	499	-	-	-	-	-	-	499
		928+53	-	949+25	LT	-	-	-	-	-	-	-	-	-	-	-
		950+10	-	973+65	LT	-	-	2,354	2,354	-	4	-	-	-	-	2,354
					SUBTOTAL	-	-	4,710	4,710	-	6	-	-	-	-	4,710
	STAGE 2A					-	-	-	-		-	-	-	-	-	-
	SB	945+00	-	951+00	LT	-	-	-	-	34	-	0.5	-	-	-	-
						-	-	-	-	-	-	-	-	-	-	-
	STAGE 2B					-	-	-	-	-	-		-	-	-	-
	SB	945+00	-	951+00	LT	-	-	-	-	17	-	0.5	-	-	-	-
	STAGE 3					-	-	-	-	-	-	-	-	-	-	-
	NB	949+00	-	951+00	RT	-	-	-	-	51	-	-	1	-	-	-
						-	-	-	-	-	-	-	-	-	-	-
					SUBTOTAL	-	-	-	-	-	-	1	1	-	-	-
					TOTAL	2	14	9,420	9,420	102	12	1	1	6,000	1	9,420

3

EROSION CONTROL ITEMS

IH 41

CATEGORY	LOCATION	STATION	-	STATION		628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.6005 TURBIDITY BARRIER SY	628.7010 INLET PROTECTION TYPE B EACH	628.7020 INLET PROTECTION TYPE D EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7560 TRACKING PADS EACH	628.7570 ROCK BAGS EACH	SPV.0090.07 HEAVY DUTY SILT FENCE LF	SPV.0090.08 HEAVY DUTY SILT FENCE MAINTENANCE LF
0010	STAGE 1					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB	BEGIN	-	925+00	MED	-	-	-	2	1	-	1	-	30	-	1	-	-	-
		925+00	-	940+00	MED	-	-	-	-	-	-	1	1	15	-	-	-	-	-
		940+00	-	955+00	MED	-	-	-	-	-	-	2	-	60	-	-	-	-	-
		955+00	-	970+00	MED	-	-	-	-	-	-	1	1	135	-	-	-	-	-
		970+00	-	END	MED	-	-	-	-	-	-	1	-	75	-	-	-	-	-
		BEGIN	-	940+00	LT	50	140	140	-	-	-	1	-	-	-	-	-	900	900
		940+00	-	END	LT	40	150	150	-	-	-	-	-	-	2	-	-	2,885	2,885
	NB	BEGIN	-	940+00	RT	150	200	200	-	-	-	-	-	30	1	-	-	900	900
		940+00	-	970+00	RT	-	-	-	-	-	-	-	1	-	-	-	-	1,965	1,965
		970+00	-	END	RT	-	435	435	-	-	-	-	-	-	-	1	-	-	-
	STAGE 2A	BEGIN	-	END	MED	-	-	-	-	-	-	-	-	30	-	-	-	-	-
	SB	925+00	-	940+00	LT	-	-	-	2	1	-	-	-	30	-	-	-	-	-
		940+00	-	955+00	LT	-	-	-	-	-	160	-	-	90	-	-	-	-	-
		955+00	-	970+00	LT	-	-	-	-	-	-	-	-	75	-	-	-	-	-
		970+00	-	END	LT	-	-	-	-	-	-	-	-	15	-	-	-	-	-
	NB	BEGIN	-	925+00	RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		925+00	-	940+00	RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		940+00	-	955+00	RT	-	-	-	-	-	160	-	-	60	-	-	-	-	-
		955+00	-	970+00	RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		970+00	-	END	RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	STAGE 2B	BEGIN	-	END	MED														
	SB	BEGIN	-	940+00	LT	-	-	-	2	1	-	-	-	30	-	-	-	-	-
		940+00	-	955+00	LT	-	-	-	-	-	-	-	-	75	-	-	-	-	-
		955+00	-	970+00	LT	-	-	-	-	-	-	-	-	60	-	-	-	-	-
		940+00	-	955+00	LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	NB	BEGIN	-	925+00	RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		925+00	-	940+00	RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		940+00	-	955+00	RT	-	-	-	-	-	-	-	-	60	-	-	-	-	-
		955+00	-	970+00	RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		970+00	-	END	RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	STAGE 3	BEGIN	-	END	MED	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB	BEGIN	-	END	LT	-	-	-	-	-	160	-	-	-	-	-	-	-	-
	NB	BEGIN	-	END	RT	-	-	-	-	-	160	-	-	-	-	-	-	-	-
	STAGE 4A	BEGIN	-	END	MED								4					-	-
	SB	BEGIN	-	940+00	LT	-	-	-	2	1	-	-		-	-	-	-	-	-
		940+00	-	955+00	LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		955+00	-	970+00	LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		970+00	-	END	LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	NB	BEGIN	-	940+00	RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		940+00	-	955+00	RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		955+00	-	970+00	RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		970+00	-	END	RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTOTAL					240	925	925	8	4	640	7	7	870	3	2	-	6,650	6,650
	25% UNDISTRIBUTED					60	231	231	2	1	160	2	2	218	1	1	100	1,663	1,663
	TOTAL					300	1,156	1,156	10	5	800	9	9	1,088	4	3	100	8,313	8,313

RESTORATION ITEMS

IH 41

CATEGORY	LOCATION	STATION	-	STATION		625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.2004 EROSION MAT CLASS I TYPE B SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.2027 EROSION MAT CLASS II TYPE C SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0160 SEEDING MIXTURE NO. 60 LB	630.0200 SEEDING TEMPORARY LB	COMMENTS
0010	STAGE 1					-	-	-	-	-	-	-	-	-	-	
	SB	BEGIN	-	925+00	MED	-	-	-	-	-	-	1.1	-	-	-	STR 100
		925+00	-	940+00	MED	1480	-	-	1480	-	-	-	-	-	-	
		940+00	-	955+00	MED	3102	-	-	3102	-	-	-	-	-	-	STR 104
		955+00	-	970+00	MED	1780	-	-	1780	-	-	-	-	-	-	
		970+00	-	END	MED	1674	-	-	1674	-	-	-	-	-	-	
		BEGIN	-	940+00	LT	-	-	-	-	-	-	-	-	-	-	
		940+00	-	END	LT	-	-	-	-	-	-	-	-	-	-	STR 109
	NB	BEGIN	-	940+00	RT	-	-	-	-	-	-	-	-	-	-	
		940+00	-	970+00	RT	-	-	-	-	-	-	-	-	-	-	STR 106A
		970+00	-	END	RT	-	-	-	-	-	-	-	-	-	-	
	STAGE 2A	BEGIN	-	END	MED	-	-	-	-	-	-	-	-	-	-	
	SB	925+00	-	940+00	LT	1850	3,973	-	1850	-	-	-	15	0	24	
		940+00	-	955+00	LT	2381	5,463	-	1566	640	175	-	9	41	77	
		955+00	-	970+00	LT	2746	5,000	-	2257	489	-	1.6	32	14	88	
		970+00	-	END	LT	863	835	-	863	-	-	1.7	16		59	
	NB	BEGIN	-	925+00	RT	-	-	-	-	-	-	-	-		-	
		925+00	-	940+00	RT	1480	3,973	-	1480	-	-	-	20	3	24	
		940+00	-	955+00	RT	1850	5,463	-	1850	-	-	-	25	5	53	
		955+00	-	970+00	RT	4193	5,000	-	4193	-	-	-	25	2	33	
		970+00	-	END	RT	863	835	-	863	-	-	-	-	-	16	
	STAGE 2B	BEGIN	-	END	MED	857			777	80						
	SB	BEGIN	-	940+00	LT	-	-	-	-	-	-	-	-	-	-	
		940+00	-	955+00	LT	166	-	-	-	25	141	1.6	3	2	3	
		955+00	-	970+00	LT	-	-	-	-	-	-	0.4	-	-	-	
		940+00	-	955+00	LT	-	-	-	-	-	-	0.5	-	-	-	
	NB	BEGIN	-	925+00	RT	-	-	-	-	-	-	-	-	-	-	
		925+00	-	940+00	RT	-	-	-	-	-	-	-	-	-	-	
		940+00	-	955+00	RT	-	-	-	-	-	-	0.7	-	-	-	
		955+00	-	970+00	RT	-	-	-	-	-	-	0.4	-	-	-	
		970+00	-	END	RT	-	-	-	-	-	-	0.5	-	-	-	
	STAGE 3	BEGIN	-	END	MED	923	-	-	630		293	-	-	-	-	
	SB	BEGIN	-	END	LT	-	-	-	-	-	-	-	9	13	-	
	NB	BEGIN	-	END	RT	923	-	-	346	226	351	-	17	-	17	
	STAGE 4A	BEGIN	-	END	MED	4549			1209	3340		-				
	SB	BEGIN	-	940+00	LT	2944	-	2944	-	-	-	1.9	53	-	-	
		940+00	-	955+00	LT	1753	-	1753	-	-	-	0.7	32	-	-	
		955+00	-	970+00	LT	3363	-	3363	-	-	-	2.1	61	-	-	
		970+00	-	END	LT	-	-	-	-	-	-		-	-	-	
	NB	BEGIN	-	940+00	RT	2944	-	2944	-	-	-	1.9	53	-	-	
		940+00	-	955+00	RT	1753	-	1753	-	-	-	0.7	32	-	-	
		955+00	-	970+00	RT	3363	-	3363	-	-	-	2.1	61	-	-	
		970+00	-	END	RT	199	-	199	-	-	-	0.1	4	-	-	
		SUBTOTAL				47999	30540	16319	25920	4800	960	18	464	79	393	
		5% UNDISTRIBUTED				2400	1527	816	1296	240	48	1	23	4	20	
		TOTAL				50399	32067	17135	27216	5040	1008	19	488	83	413	

3

PAVEMENT MARKINGS ITEMS

CATEGORY	STATION	TO	STATION	633.0100 DELINEATOR POSTS STEEL EA	633.0500 DELINEATOR REFLECTORS EA	646.0106* PAVEMENT MARKING EPOXY 4-INCH (WHITE) LF	646.0106* PAVEMENT MARKING EPOXY 4-INCH (YELLOW) LF	646.0805.S PAVEMENT MARKING OUTFALL EA	646.0843.S GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE) LF	647.0726 DIAGONAL EPOXY 12-INCH (WHITE) LF	647.0746 DIAGONAL EPOXY 24-INCH (WHITE) LF	646.0841.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH LF	COMMENTS
IH 41													
0010 STAGE 4	921+00		929+50	2	3	727	-	2	453	-	236	-	SB Off Ramp
				2	4	397	850	-	453	-	233	212.5	SB Mainline
				3	3	27	850	-	823	-	-	212.5	NB Mainline
				2	3	879	-	-	821	-	-	-	NB On Ramp
	929+50		944+50	2	3	211	-	2	14	-	-	49	SB Off Ramp
				3	3	1289	1500	-	14	108	-	375	SB Mainline
				2	4	340	1500	-	457	-	-	375	NB Mainline
				2	3	1160	-	-	457	-	-	-	NB On Ramp
	944+50		959+50	3	3	1500	1500	-	-	488	-	375	SB Mainline
				2	3	1500	1500	-	-	199	-	375	NB Mainline
	959+50		974+50	2	3	1500	1500	4	-	14	-	375	SB Mainline
				2	3	1500	1500	-	-	-	-	375	NB Mainline
	974+50		975+00	2	3	50	50	-	-	-	-	12.5	SB Mainline
				2	3	50	50	-	-	-	-	12.5	NB Mainline
	SUBTOTAL			-	-	11,130	10800	8	3,492	809	469	2,749	
	TOTAL			31	44	21,930		8	3,492	809	469	2,749	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

TYPE I&II PERMANENT SIGNING -

1100-00-73 IH 41

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.] x [IN.]	638.3000 REM SMALL SIGN SUP [EA]	638.2102 MOVING SIGNS TYPE II [EA]	634.0622 WOOD POSTS 4" X 6" X 22' [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W x H [FT.] x [FT.]	638.2101 MOVING SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR			
																POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
1	E5-1A	EXIT 76 [A]		2	1	2													
2	E4-1A	D [A] EAST-WEST				4		TEMPORARY WOOD POSTS PRIOR TO NEW STEEL POST INSTALLATION		1	2	B	1.6	98	1000				
3	J4-1	NORTH IH 41		1	1	1													
4	R3-4	NO U-TURN		1	1	1													
5	R3-4A	EXCEPT MAINTENCE AND POLICE AUTHORIZED VEHICLES			1		4												
6	R3-4	NO U-TURN		1	1	1													
7	R3-4A	EXCEPT MAINTENCE AND POLICE AUTHORIZED VEHICLES			1		6												
8	R2-1 (5)	SPEED LIMIT 70		2	1	2													
9	D10-2	MILE 77		1	1	1													
10	D2-3	HWY 28 4 APPLETON 63 GREEN BAY 94								1	2	A	1.2	68	600				
11	D12-2A (5)	RIDESHARE INFO CALL 1-800-455-POOL		2	1	2													
12	D10-2	MILE 77		1	1	1													
UNDISTRIBUTED							–	–	X							–	–	–	–
TOTALS				11	10	15	–	–		2	4	0	2.8	166	1600				

SHEET: 1 OF 1

PROJECT NO:1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	MISCELLANEOUS QUANTITIES – PERMANENT SIGNING	SHEET:

FILE NAME : N:\SPO\Operations\Signing\Miscellaneous Quantities\1100-00-73\030502_mq.pptx PLOT DATE : 7-AUG-2015 PLOT BY : mscjzb PLOT NAME : 030502_mq.pdf PLOT SCALE : 1:1

TRAFFIC CONTROL ITEMS

IH 41

CATEGORY 0010

LOCATION	STATION	-	STATION		ESTIMATED DURATION TIME DAYS	*TRAFFIC CONTROL DRUMS EA*	643.0300* TRAFFIC CONTROL DRUMS DAYS	*TRAFFIC CONTROL BARRICADES TYPE III EA*	643.0420* TRAFFIC CONTROL BARRICADES TYPE III DAYS	643.0500* TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EA	643.0600* TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EA	*TRAFFIC CONTROL WARNING LIGHTS TYPE A EA*	643.0705* TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	*TRAFFIC CONTROL WARNING LIGHTS TYPE C EA*	643.0715* TRAFFIC CONTROL WARNING LIGHTS TYPE C DAYS
STAGE 1					51										
SB	BEGIN	-	940+00	LT	-	*50*	2,550	*2*	102	-	-	*4*	204	*12*	612
	940+00	-	970+00	LT	-	*27*	1,377	*2*	102	-	-	*4*	204	-	-
	970+00		END	LT	-	*7*	357	*2*	102	-	-	*4*	204	-	-
NB	BEGIN	-	940+00	RT	-	*80*	4,080	*2*	102	-	-	*4*	204	*12*	612
	940+00	-	970+00	RT	-	*27*	1,377	*2*	102	-	-	*4*	204	-	-
	970+00		END	RT	-	*7*	357	*2*	102	-	-	*4*	204	-	-
	SUBTOTAL STAGE 1					*198*	10,098	*12*	612	-	-	*24*	1,224	*24*	1,224
STAGE 2A					54										
SB	BEGIN	-	940+00	LT	-	*38*	2,052	*2*	108	23	23	*4*	216	*36*	1,944
	940+00	-	970+00	LT	-	*54*	2,916	*2*	108	-	-	*4*	216	-	-
	970+00		END	LT	-	*33*	1,782	*2*	108	-	-	*4*	216	-	-
NB	BEGIN	-	940+00	RT	-	*133*	7,182	*2*	108	-	-	*4*	216	*12*	648
	940+00	-	970+00	RT	-	*117*	6,318	*2*	108	-	-	*4*	216	-	-
	970+00		END	RT	-	*32*	1,728	*2*	108	-	-	*4*	216	-	-
	SUBTOTAL STAGE 2A					*407*	21,978	*12*	648	23	23	*24*	1,296	*48*	2,592
WINTER SHUTDOWN					197										
SB	BEGIN	-	940+00	LT	-	*24*	4,728	*1*	197	-	-	-	-	-	-
	940+00	-	970+00	LT	-	*60*	11,820	*1*	197	-	-	-	-	-	-
	970+00		END	LT	-	*16*	3,152	*1*	197	-	-	-	-	-	-
NB	BEGIN	-	940+00	RT	-	*20*	3,940	*1*	197	-	-	-	-	-	-
	940+00	-	970+00	RT	-	*60*	11,820	*1*	197	-	-	-	-	-	-
	970+00		END	RT	-	*16*	3,152	*1*	197	-	-	-	-	-	-
	SUBTOTAL					*196*	38,612		1,182	-	-	-	-	-	-
STAGE 2B					65										
SB	BEGIN	-	940+00	LT	-	*76*	4,940	*5*	325	-	-	*10*	650	*12*	780
	940+00	-	970+00	LT	-	*176*	11,440	-	-	-	-	-	-	*126*	8,190
	970+00		END	LT	-	-	-	-	-	-	-	*4*	260	-	-
NB	BEGIN	-	940+00	RT	-	*76*	4,940	*5*	325	23	23	*10*	650	*12*	780
	940+00	-	970+00	RT	-	*176*	11,440	-	-	31	31	-	-	*126*	8,190
	970+00		END	RT	-	-	-	-	-	-	-	*4*	260	-	-
	SUBTOTAL STAGE 2B					*504*	32,760	*10*	-	54	54	*28*	1,820	*276*	17,940

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONTINUE

TRAFFIC CONTROL ITEMS

IH 41

CATEGORY 0010

LOCATION	STATION		STATION		ESTIMATED DURATION TIME DAYS	643.0300* TRAFFIC CONTROL DRUMS EA	643.0300* TRAFFIC CONTROL DRUMS DAYS	643.0420* TRAFFIC CONTROL BARRICADES TYPE III EA	643.0420* TRAFFIC CONTROL BARRICADES TYPE III DAYS	643.0500* TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EA	643.0600* TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EA	643.0705* TRAFFIC CONTROL WARNING LIGHTS TYPE A EA	643.0705* TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	643.0715* TRAFFIC CONTROL WARNING LIGHTS TYPE C EA	643.0715* TRAFFIC CONTROL WARNING LIGHTS TYPE C DAYS
STAGE 3					114										
SB	BEGIN	-	940+00	LT	-	121	13,794	2	228	-	-	4	456	59	6,726
	940+00	-	970+00	LT	-	79	9,006	3	342	55	55	6	684	37	4,218
	970+00		END	LT	-	15	1,710	-		-	-	-		-	-
NB	BEGIN	-	940+00	RT	-	99	11,286	2	228	5	5	4	456	49	5,586
	940+00	-	970+00	RT	-	98	11,172	-	-	60	60	-	-	98	11,172
	970+00		END	RT	-	61	6,954	-	-	-	-	-	-	39	4,446
	SUBTOTAL STAGE 3					473	53,922	7	798	120	120	14	1,596	282	32,148
STAGE 4A					15										
SB	BEGIN	-	940+00	LT	-	57	855	2	-	-	-	4	60	12	180
	940+00	-	970+00	LT	-	71	1,065	2	-	-	-	4	60	-	-
	970+00		END	LT	-	23	345	2	-	-	-	4	60	-	-
NB	BEGIN	-	940+00	RT	-	53	795	2	-	-	-	4	60	12	180
	940+00	-	970+00	RT	-	84	1,260	2	-	-	-	4	60	-	-
	970+00		END	RT	-	35	525	2	-	-	-	4	60	-	-
	SUBTOTAL STAGE 4A					323	4,845	12	-	-	-	24	360	24	360
STAGE 4B	112				13										
SB	BEGIN	-	940+00	LT	-	57	741	2	26	-	-	4	52	12	156
	940+00	-	970+00	LT	-	71	923	2	26	-	-	4	52	-	-
	970+00		END	LT	-	23	299	2	26	-	-	4	52	-	-
NB	BEGIN	-	940+00	RT	-	53	689	2	26	-	-	4	52	12	156
	940+00	-	970+00	RT	-	84	1,092	2	26	-	-	4	52	-	-
	970+00		END	RT	-	35	455	2	26	-	-	4	52	-	-
	SUBTOTAL STAGE 4B				-	323	4,199	12	156	-	-	24	312	24	312
	TOTAL					2,424	166,414	65	3,396	197	197	138	6,608	678	54,576
	10% UNDISTRIBUTED				-	242	16,641	7	340	20	20	2	661	68	5,458
	GRAND TOTAL				312	2,989	183,055	72	3,736	217	217	164	7,269	746	60,034

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONTINUE

TRAFFIC CONTROL ITEMS

IH 41 CATEGORY 0010 LOCATION	STATION	-	STATION		ESTIMATED DURATION TIME DAYS	643.0800* *TRAFFIC CONTROL ARROW BOARDS* EA	643.0800* TRAFFIC CONTROL ARROW BOARDS DAYS	643.0900* *TRAFFIC CONTROL SIGNS* EA	643.0900* TRAFFIC CONTROL SIGNS DAYS	643.0920* TRAFFIC CONTROL COVERING SIGNS TYPE II EA	643.1000* TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	643.1050* *TRAFFIC CONTROL SIGNS PCMS* EA	643.1050* TRAFFIC CONTROL SIGNS PCMS DAYS	646.0106* PAVEMENT* MARKING EPOXY 4-INCH (YELLOW) LF	646.0106* PAVEMENT* MARKING EPOXY 4-INCH (WHITE) LF	646.0600* REMOVING PAVEMENT MARKINGS LF	649.0400* TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) LF	649.0400* TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW) LF
STAGE 1					51													
SB	BEGIN	-	940+00	LT	-	3	153	12	612	-	-	1	5	-	-	-	-	-
	940+00	-	970+00	LT	-	-	-	2	102	-	-	-	-	-	-	-	-	-
	970+00		END	LT	-	-	-	4	204	-	520	-	-	-	-	-	-	-
NB	BEGIN	-	940+00	RT	-	3	153	12	612	-	-	1	5	-	-	-	-	-
	940+00	-	970+00	RT	-	-	-	2	102	-	-	-	-	-	-	-	-	-
	970+00		END	RT	-	-	-	4	204	-	-	-	-	-	-	-	-	-
	SUBTOTAL STAGE 1					6	306	36	1,836	-	520	2	10	-	-	-	-	-
STAGE 2A					54													
SB	BEGIN	-	940+00	LT	-	3	162	16	864	-	-	-	-	901	1,125	901	1,125	-
	940+00	-	970+00	LT	-	-	-	2	108	-	-	-	-	3,001	3,535	4,801	2,520	-
	970+00		END	LT	-	-	-	10	540	-	-	-	-		1,500	6,301	1,500	-
NB	BEGIN	-	940+00	RT	-	1	54	17	918	-	-	1	5	925	925	925	725	-
	940+00	-	970+00	RT	-	-	-	2	108	-	-	-	-	-	-	-	-	-
	970+00		END	RT	-	-	-	4	216	-	-	-	-	-	-	-	-	-
	SUBTOTAL STAGE 2A					4	216	51	2,754	-	-	1	5	4,827	7,085	12,928	5,870	-
WINTER SHUTDOWN					197													
SB	BEGIN	-	940+00	LT	-	-	-	8	1,576	-	-	1	5	-	-	-	-	-
	940+00	-	970+00	LT	-	-	-	1	197	-	-	-	-	-	-	-	-	-
	970+00		END	LT	-	-	-	5	985	-	-	-	-	-	-	-	-	-
NB	BEGIN	-	940+00	RT	-	-	-	8	1,576	-	-	1	5	-	-	-	-	-
	940+00	-	970+00	RT	-	-	-	1	197	-	-	-	-	-	-	-	-	-
	970+00		END	RT	-	-	-	2	394	-	-	-	-	-	-	-	-	-
	SUBTOTAL					-	-	25	4,925	-	-	2	10	-	-	-	-	-
STAGE 2B					65													
SB	BEGIN	-	940+00	LT	-	3	195	18	1,170	-	-	1	65	-	-	-	2,100	951
	940+00	-	970+00	LT	-	-	-	11	715	-	-	-	-	-	-	-	3,200	2,600
	970+00		END	LT	-	-	-	4	260	-	-	-	-	-	-	-	351	175
NB	BEGIN	-	940+00	RT	-	3	195	18	1,170	-	-	1	65	-	-	-	-	2,800
	940+00	-	970+00	RT	-	-	-	11	715	-	-	-	-	-	-	-	2,200	1,600
	970+00		END	RT	-	-	-	4	260	-	-	-	-	-	-	-	-	-
	SUBTOTAL STAGE 2B					6	390	66	4,290	-	-	2	130	-	-	-	7,851	8,126

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONTINUE

TRAFFIC CONTROL ITEMS

IH 41 CATEGORY 0010 LOCATION	STATION	-	STATION		ESTIMATED DURATION TIME DAYS	*TRAFFIC CONTROL ARROW BOARDS EA*	643.0800* TRAFFIC CONTROL ARROW BOARDS DAYS	*TRAFFIC CONTROL SIGNS EA*	643.0900* TRAFFIC CONTROL SIGNS DAYS	643.0920* TRAFFIC CONTROL COVERING SIGNS TYPE II EA	643.1000* TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	*TRAFFIC CONTROL SIGNS PCMS EA*	643.1050* TRAFFIC CONTROL SIGNS PCMS DAYS	646.0106* PAVEMENT MARKING EPOXY 4-INCH (YELLOW) LF	646.0106* PAVEMENT MARKING EPOXY 4-INCH (WHITE) LF	646.0600* REMOVING PAVEMENT MARKINGS LF	649.0400* TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) LF	649.0400* TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW) LF
STAGE 3					114													
SB	BEGIN	-	940+00	LT	-	*1*	15	*10*	1,140	-	-	*1*	114	-	-	-	1,200	601
	940+00	-	970+00	LT	-	-	-	*21*	2,394	-	-	-	-	-	-	-	5,600	2,000
	970+00		END	LT	-	-	-	*2*	228	-	-	-	-	-	-	-	-	-
NB	BEGIN	-	940+00	RT	-	*1*	15	*12*	1,368	-	-	*1*	114	-	-	-	2,350	751
	940+00	-	970+00	RT	-	-	-	*2*	228	-	-	-	-	-	-	-	2,750	1,950
	970+00		END	RT	-	-	-	*4*	456	-	-	-	-	-	-	-	900	451
	SUBTOTAL STAGE 3					*2*	30	*51*	5,814	-	-	*2*	228	-	-	-	12,800	5,753
STAGE 4A					15													
SB	BEGIN	-	940+00	LT	-	-		*12*	180	-	-	*1*	5	-	-	-	1,600	800
	940+00	-	970+00	LT	-	-	-	*2*	30	-	-	-	-	-	-	-	6,000	3,000
	970+00		END	LT	-	-	-	*4*	60	-	-	-	-	-	-	-	600	300
NB	BEGIN	-	940+00	RT	-	-		*12*	180	-	-	*1*	5	-	-	-	4,700	2,350
	940+00	-	970+00	RT	-	-	-	*2*	30	-	-	-	-	-	-	-	6,000	3,000
	970+00		END	RT	-	-	-	*4*	60	-	-	-	-	-	-	-	500	500
	SUBTOTAL STAGE 4A					-	-	36	540	-	-	*2*	10	-	-	-	19,400	9,950
STAGE 4B	112				13													
SB	BEGIN	-	940+00	LT	-	-		*12*	156	-	-	*1*	5	-	-	-	-	-
	940+00	-	970+00	LT	-	-	-	*2*	26	-	-	-	-	-	-	-	-	-
	970+00		END	LT	-	*3*	-	*4*	52	-	-	-	-	-	-	-	-	-
NB	BEGIN	-	940+00	RT	-	*3*		*12*	156	-	-	*1*	5	-	-	-	-	-
	940+00	-	970+00	RT	-	-	-	*2*	26	-	-	-	-	-	-	-	-	-
	970+00		END	RT	-	-	-	*4*	52	-	-	-	-	-	-	-	-	-
	SUBTOTAL STAGE 4B				-	*6*	-	*36*	468	-	-	*2*	10	-	-	-	-	-
	TOTAL					*24*	942	*301*	20,627	6	520	*13*	403	4,827	7,085	12,928	45,921	23,829
	10% UNDISTRIBUTED				-	*2*	94	*30*	2,063	-	-	*1*	40	483	709	1,293	4,592	2,383
	GRAND TOTAL				312	*26*	1,036	*331*	22,690	6	520	*14*	443	5,310	7,794	14,221	50,513	26,212

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONTINUE

TRAFFIC CONTROL ITEMS

IH 41

CATEGORY 0010

LOCATION	STATION		STATION		ESTIMATED DURATION TIME	649.0402* TEMPORARY PAVEMENT MARKING PAINT 4-INCH (WHITE)	649.0402* TEMPORARY PAVEMENT MARKING PAINT 4-INCH (YELLOW)	649.0402* TEMPORARY PAVEMENT MARKING PAINT 4-INCH (3 FOOT SKIPS) (WHITE)	649.0506 TEMPORARY PAVEMENT MARKING REMOVABLE MASK-OUT TAPE 6-INCH	646.0790.S* REMOVING RAISED PAVEMENT MARKERS	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)	649.2100* TEMPORARY RAISED PAVEMENT MARKERS (WHITE)	649.2100* TEMPORARY RAISED PAVEMENT MARKERS (YELLOW)
					DAYS	LF	LF	LF	LF	EA	LF	EA	EA
STAGE 1					51								
SB	BEGIN	-	940+00	LT	-	-	-	-	-	-	-	-	-
	940+00	-	970+00	LT	-	-	-	-	-	-	-	-	-
	970+00		END	LT	-	-	-	-	-	22	-	-	-
NB	BEGIN	-	940+00	RT	-	-	-	-	-	-	-	-	-
	940+00	-	970+00	RT	-	-	-	-	-	-	-	-	-
	970+00		END	RT	-	-	-	-	-	-	-	-	-
	SUBTOTAL STAGE 1					-	-	-	-	22	-	-	-
STAGE 2A					54								
SB	BEGIN	-	940+00	LT	-	-	-	-	-	-	-	-	-
	940+00	-	970+00	LT	-	-	-	-	-	-	-	-	-
	970+00		END	LT	-	-	-	-	-	-	-	-	-
NB	BEGIN	-	940+00	RT	-	-	-	-	-	-	700	-	-
	940+00	-	970+00	RT	-	-	-	-	-	-	-	-	-
	970+00		END	RT	-	-	-	-	-	-	-	-	-
	SUBTOTAL STAGE 2A					-	-	-	-	-	700	-	-
WINTER SHUTDOWN					197								
SB	BEGIN	-	940+00	LT	-	-	-	-	-	-	-	-	-
	940+00	-	970+00	LT	-	-	-	-	-	-	-	-	-
	970+00		END	LT	-	-	-	-	-	-	-	-	-
NB	BEGIN	-	940+00	RT	-	-	-	-	-	-	-	-	-
	940+00	-	970+00	RT	-	-	-	-	-	-	-	-	-
	970+00		END	RT	-	-	-	-	-	-	-	-	-
	SUBTOTAL					-	-	-	-	-	-	-	-
STAGE 2B					65					-			
SB	BEGIN	-	940+00	LT	-	-	1,201	-	-	-	-	-	-
	940+00	-	970+00	LT	-	3,900	-	-	-	-	400	-	-
	970+00		END	LT	-	-	-	-	450	-	1,445	-	-
NB	BEGIN	-	940+00	RT	-	-	-	-	-	-	-	-	-
	940+00	-	970+00	RT	-	2,200	2,100	-	-	-	-	-	-
	970+00		END	RT	-	-	-	-	-	-	-	-	-
	SUBTOTAL STAGE 2B					6,100	3,301	420	450	-	1,845	-	-

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONTINUE

TRAFFIC CONTROL ITEMS

IH 41

CATEGORY 0010

LOCATION	STATION		STATION		ESTIMATED DURATION TIME	649.0402* TEMPORARY PAVEMENT MARKING PAINT 4-INCH (WHITE)	649.0402* TEMPORARY PAVEMENT MARKING PAINT 4-INCH (YELLOW)	649.0402* TEMPORARY PAVEMENT MARKING PAINT 4-INCH (3 FOOT SKIPS) (WHITE)	649.0506 TEMPORARY PAVEMENT MARKING REMOVABLE MASK-OUT TAPE 6-INCH	646.0790.S* REMOVING RAISED PAVEMENT MARKERS	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)	649.2100* TEMPORARY RAISED PAVEMENT MARKERS (WHITE)	649.2100* TEMPORARY RAISED PAVEMENT MARKERS (YELLOW)
					DAYS	LF	LF	LF	LF	EA	LF	EA	EA
STAGE 3					114								
SB	BEGIN	-	940+00	LT	-	-	-	-	-	-	-	-	-
	940+00	-	970+00	LT	-	-	-	-	-	-	-	20	90
	970+00		END	LT	-	-	-	-	-	-	-	-	-
NB	BEGIN	-	940+00	RT	-	1,450	1,501	-	-	-	531	102	52
	940+00	-	970+00	RT	-	3,350	1,051	-	-	-	-	93	90
	970+00		END	RT	-	-	-	-	-	-	-	26	14
	SUBTOTAL STAGE 3					4,800	2,552	-	-	-	531	241	246
STAGE 4A					15								
SB	BEGIN	-	940+00	LT	-	-	-	-	-	-	-	-	-
	940+00	-	970+00	LT	-	-	-	-	-	-	-	-	-
	970+00		END	LT	-	-	-	-	-	-	-	-	-
NB	BEGIN	-	940+00	RT	-	-	-	-	-	-	-	-	-
	940+00	-	970+00	RT	-	-	-	-	-	-	-	-	-
	970+00		END	RT	-	-	-	-	-	-	-	-	-
	SUBTOTAL STAGE 4A					-	-	-	-	-	-	-	-
STAGE 4B	112				13								
SB	BEGIN	-	940+00	LT	-	-	-	-	-	-	-	-	-
	940+00	-	970+00	LT	-	-	-	-	-	-	-	-	-
	970+00		END	LT	-	-	-	-	-	-	-	-	-
NB	BEGIN	-	940+00	RT	-	-	-	-	-	-	-	-	-
	940+00	-	970+00	RT	-	-	-	-	-	-	-	-	-
	970+00		END	RT	-	-	-	-	-	-	-	-	-
	SUBTOTAL STAGE 4B				-	-	-	-	-	-	-	-	-
	TOTAL					10,900	5,853	420	450	22	3,076	241	246
	10% UNDISTRIBUTED				-	1,090	585	42	45	2	308	24	25
	GRAND TOTAL				312	11,990	6,438	462	495	28	3,384	265	271

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

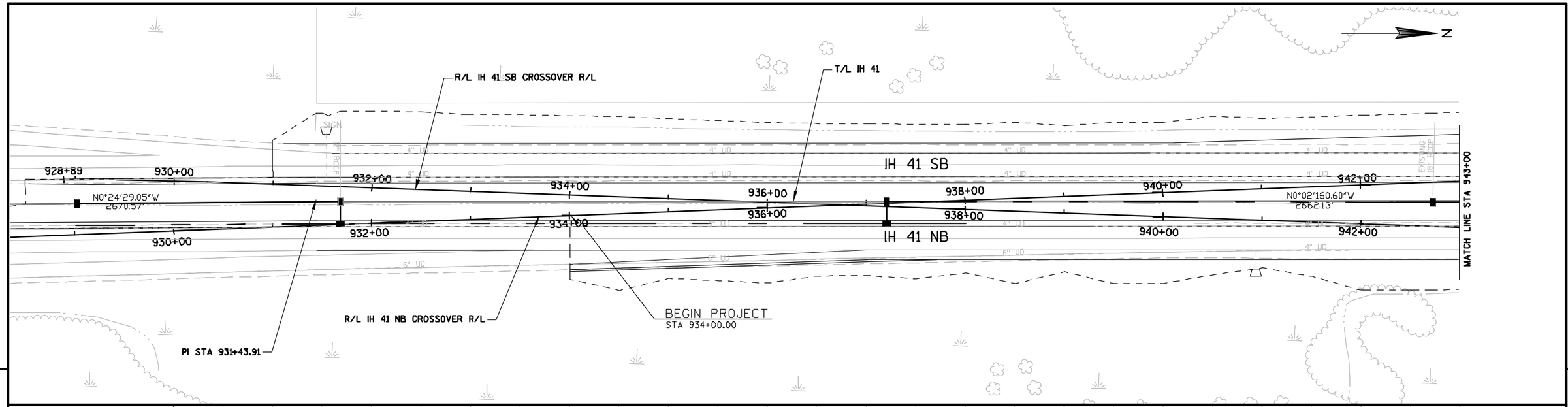
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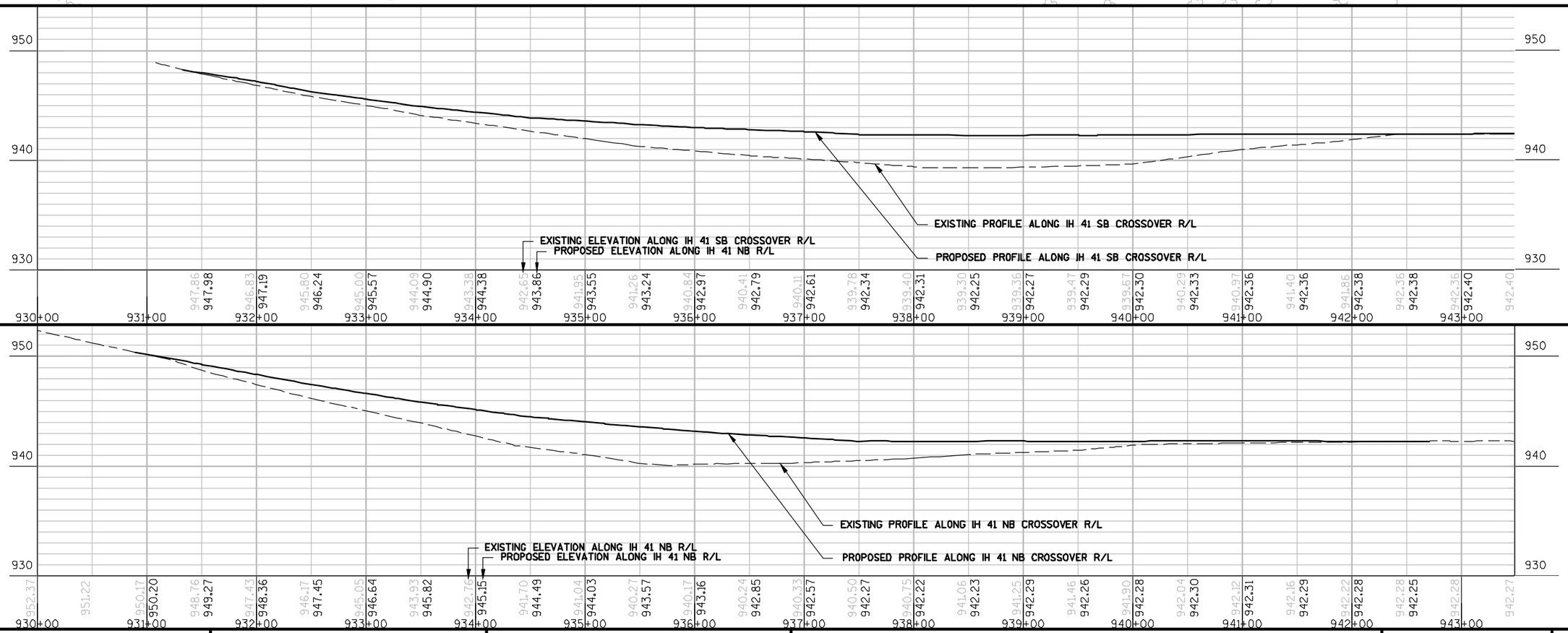
DRAIN VANE ITEMS

IH 41

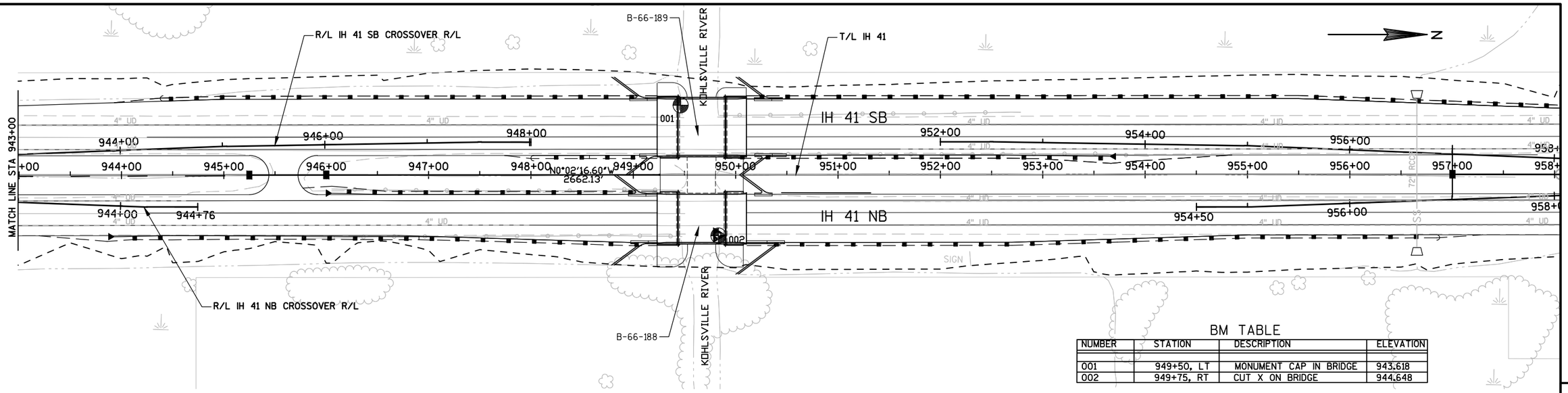
DRAIN VANE PIPE

CATEGORY	PIPE NO.	STRUCTURE NO.	STA	OFFSET	INVERT	TO	STRUCTURE NUMBER	STA	OFFSET	INVERT	SPV.0035.01 BACKFILL SLURRY CY	(STAGE 1) SPV.0090.03 DRAIN SLOTTED VANE 15-INCH LF	(STAGE 1) SPV.0090.04 DRAIN SLOTTED VANE 24-INCH LF	(STAGE 4) SPV.0090.05 REMOVE DRAIN SLOTTED VANE 15-INCH LF	(STAGE 4) SPV.0090.06 REMOVE DRAIN SLOTTED VANE 24-INCH LF
0010	V100A	-	929+00.00	22.0' RT	952.61	-	101A	931+68.20	22.0' RT	946.05	5.0	268	-	268	-
	V102A	-	932+00.00	22.0' RT	946.05	-	102A	937+20.20	22.0' RT	940.50	9.6	520	-	520	-
	V102B	-	938+00.00	22.0' RT	940.74	-	102A	937+20.20	22.0' RT	940.50	1.5	80	-	80	-
	V102C	102	937+20.20	0.0' T/L	940.30	-	103INT	942+72.20	0.0' T/L	939.50	-	-	552	-	552
	V103	-	945+00.00	0.3' RT	940.33	-	103INT	942+72.20	0.0' T/L	939.50	-	228	-	228	-
	V104A	-	956+03.50	0.0' T/L	947.62	-	104	956+03.50	22.0' LT	945.80	1.0	22	-	22	-
	V104B	-	956+03.50	0.0' T/L	947.53	-	104	956+03.50	22.0' RT	945.80	1.0	22	-	22	-
	V105A	106A	961+61.10	22.0' RT	946.80	-	105A	958+16.20	22.0' RT	952.10	6.4	345	-	345	-
	V106A	-	961+61.10	22.0' LT	954.31	-	106A	961+61.10	22.0' RT	952.10	-	44	-	44	-
	V106B	107A	964+66.00	22.0' RT	959.60	-	106A	961+61.10	22.0' RT	952.10	5.6	305	-	305	-
	V107A	-	968+50.00	22.0' RT	971.01	-	107A	964+66.00	22.0' RT	959.60	7.1	384	-	384	-
										TOTAL	37.2	2218	552	2218	552
										UNDISTRIBUTED	14.8	–	–	–	–
										GRAND TOTAL	52.0	2218	552	2218	552



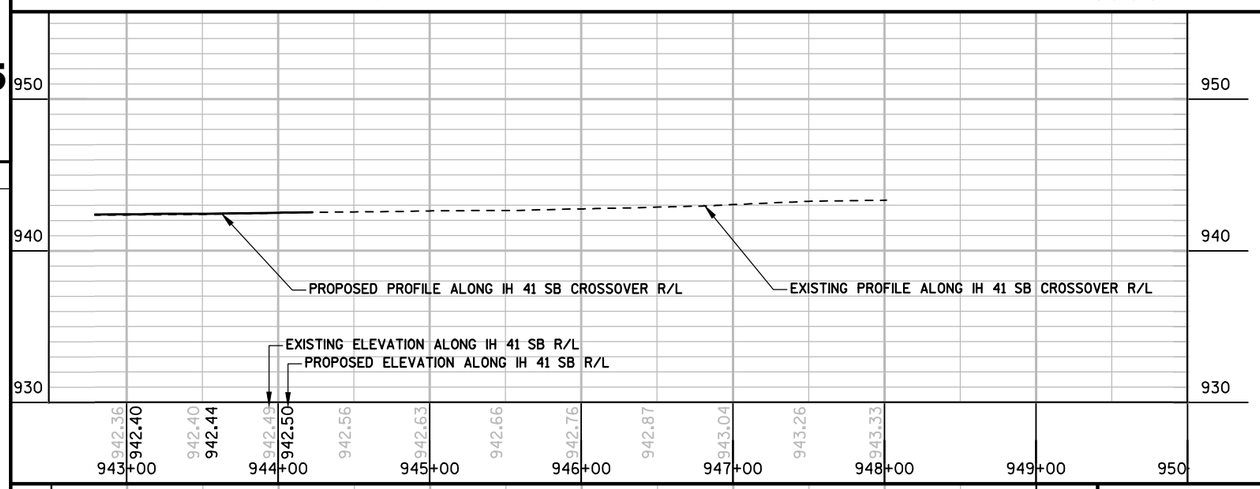


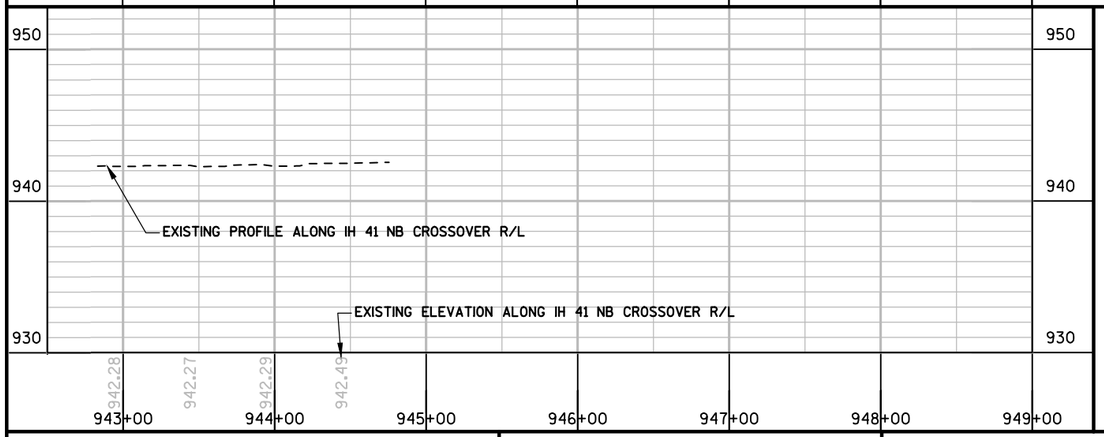
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	PLAN & PROFILE: X-OVERS	SHEET 107 E



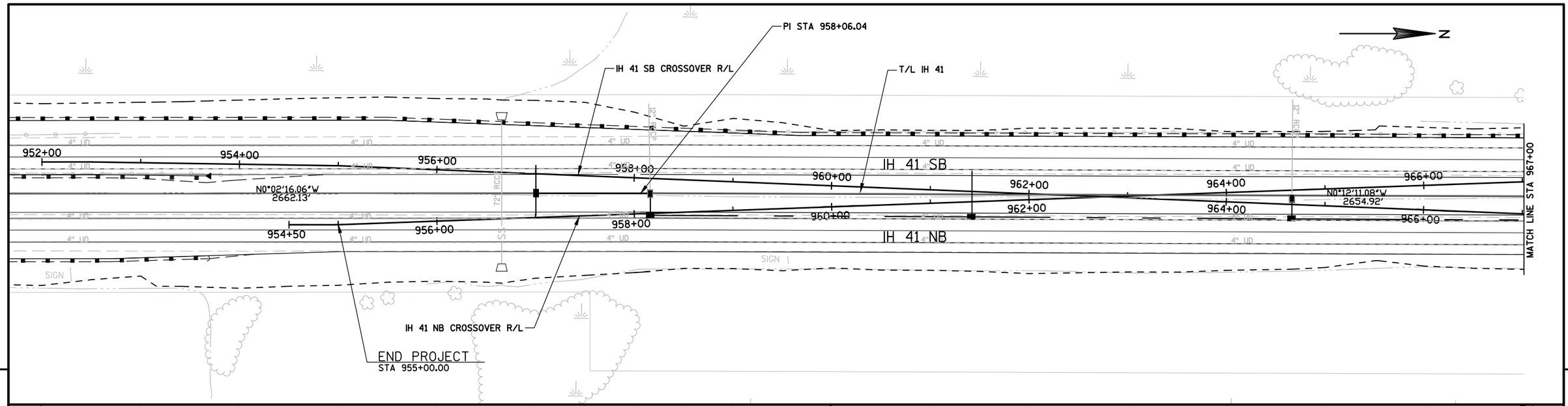
BM TABLE

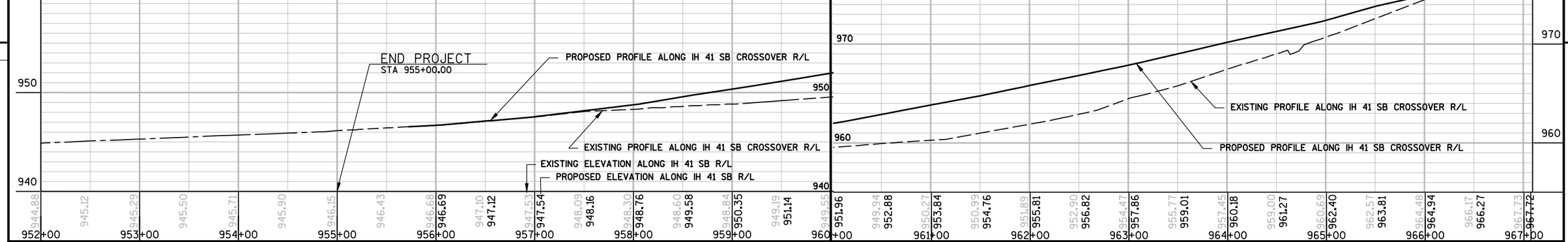
NUMBER	STATION	DESCRIPTION	ELEVATION
001	949+50, LT	MONUMENT CAP IN BRIDGE	943.618
002	949+75, RT	CUT X ON BRIDGE	944.648

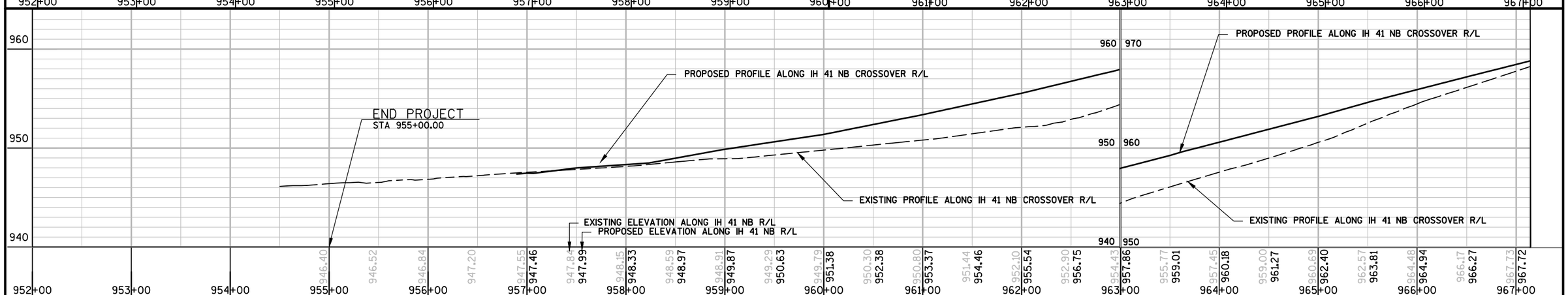




PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	PLAN & PROFILE: X-OVERS	SHEET 108 E

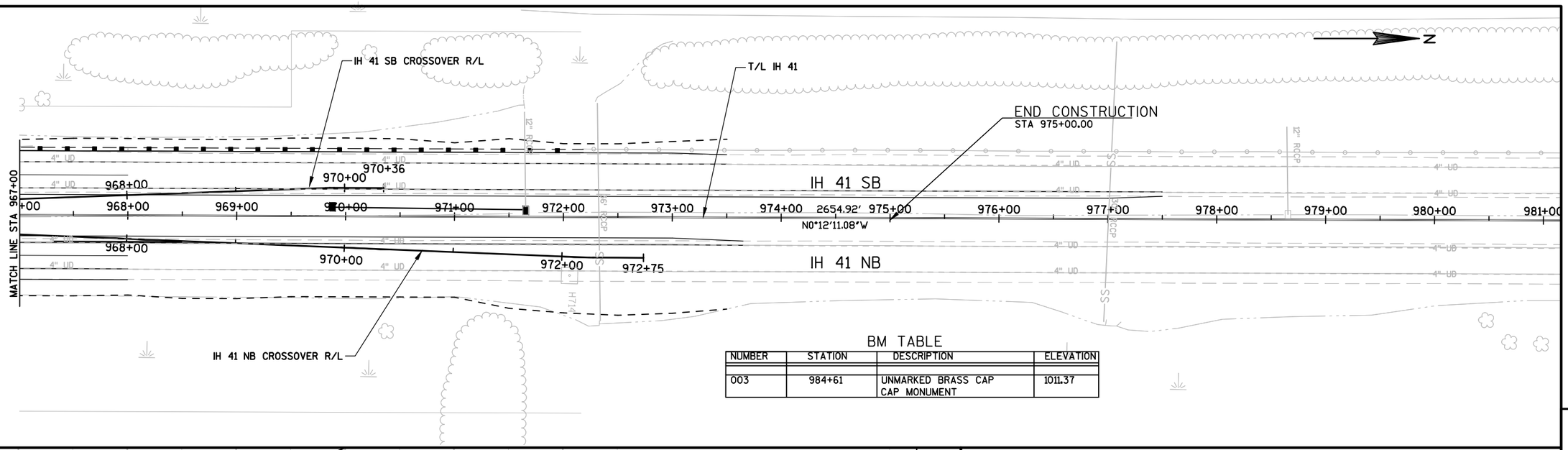






PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	PLAN & PROFILE: X-OVERS	SHEET E

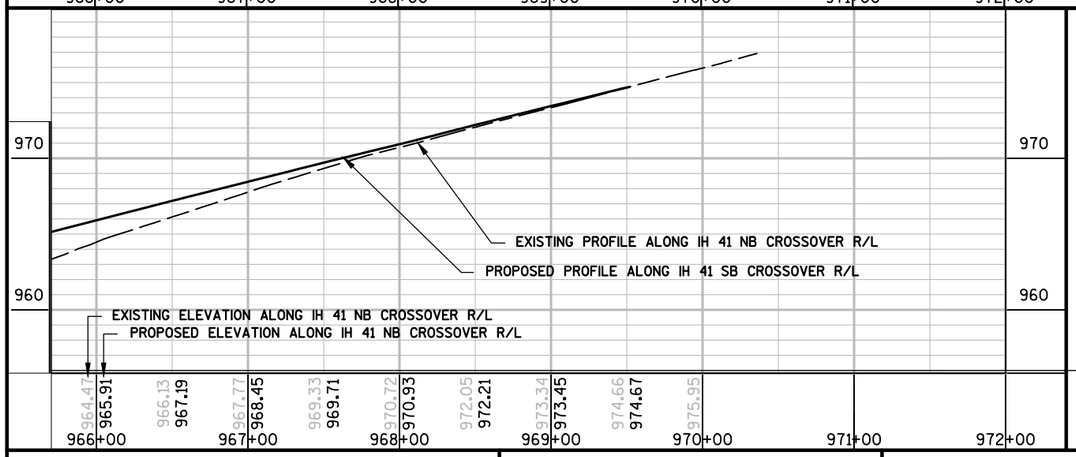
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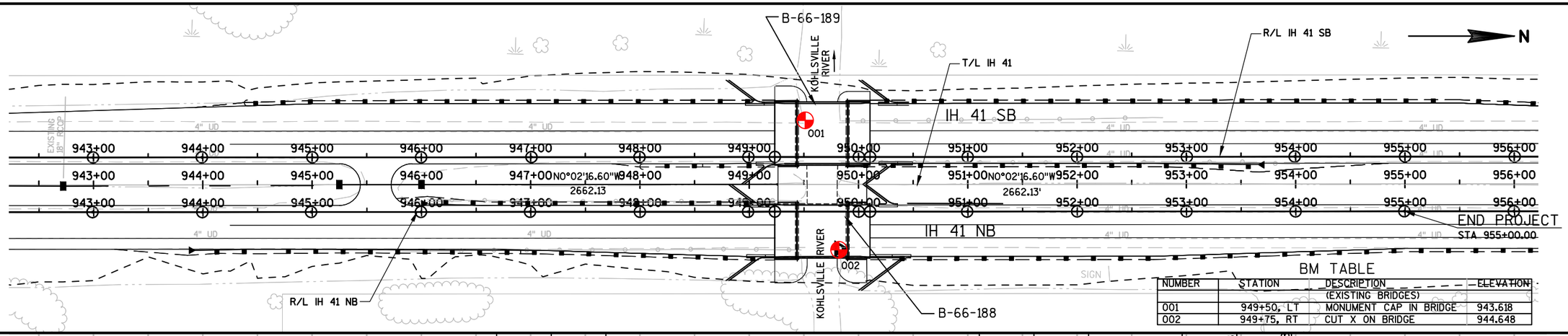
BM TABLE

NUMBER	STATION	DESCRIPTION	ELEVATION
003	984+61	UNMARKED BRASS CAP CAP MONUMENT	1011.37



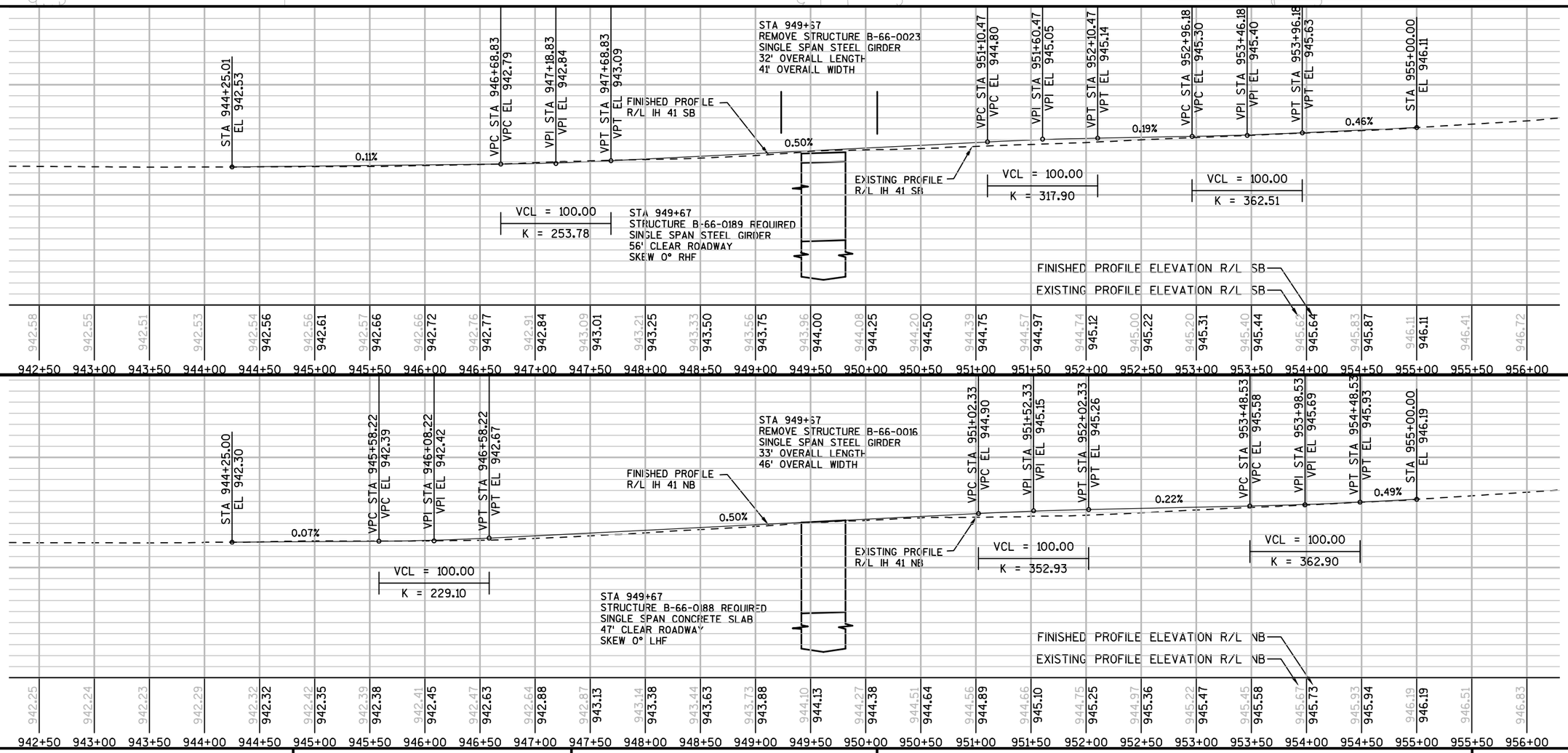


PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	PLAN & PROFILE: X-OVERS	SHEET 110	E



BM TABLE

NUMBER	STATION	DESCRIPTION	ELEVATION
		(EXISTING BRIDGES)	
001	949+50, LT	MONUMENT CAP IN BRIDGE	943.618
002	949+75, RT	CUT X ON BRIDGE	944.648



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	PLAN & PROFILE: IH 41 NB & SB	SHEET 111	E

Standard Detail Drawing List

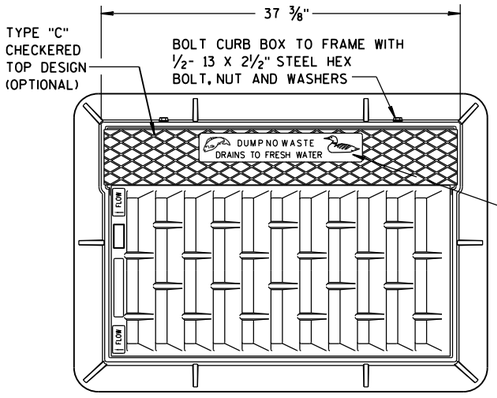
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A08-01	CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER
08A09-01	CATCH BASINS 2X3-FT AND 2.5X3-FT
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D15-05A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F05-01	CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
12A03-10	NAME PLATE (STRUCTURES)
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
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"
14B16-04A	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B16-04B	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-11H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B29-01	SAFETY EDGE
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A02-08	DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15A06-02	DELINEATOR LAYOUT
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C08-16A	PAVEMENT MARKING (MAINLINE)

6

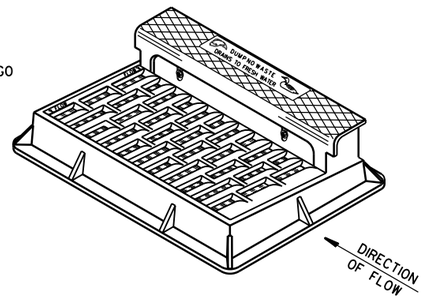
Standard Detail Drawing List

15C11-06	FLEXIBLE TUBULAR MARKER POST
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C19-02C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15D04-01	TRAFFIC CONTROL, RAMP CONSTRUCTION STAGING
15D11-06	TRAFFIC CONTROL, SINGLE LANE CROSSOVER
15D12-05A	TRAFFIC CONTROL, LANE CLOSURE
15D15-02	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-03	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS
16A01-06	LANDMARK REFERENCE MONUMENTS AND COVERS

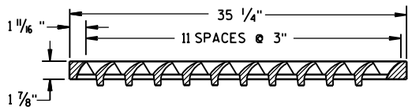
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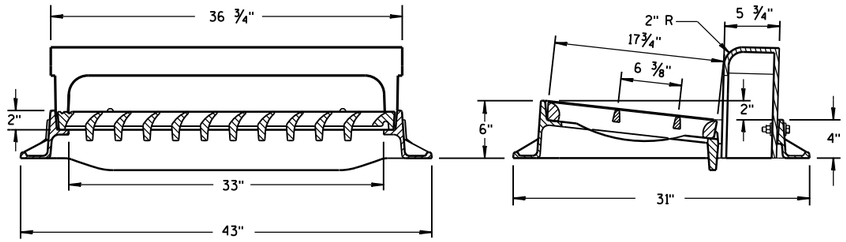


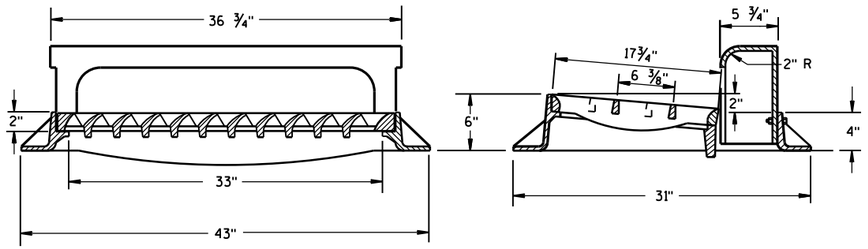
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

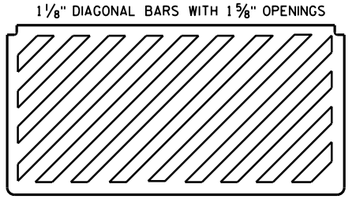






TYPE "H"

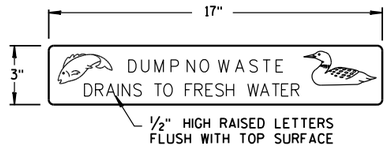
NOTE: EITHER CASTING IS ACCEPTABLE



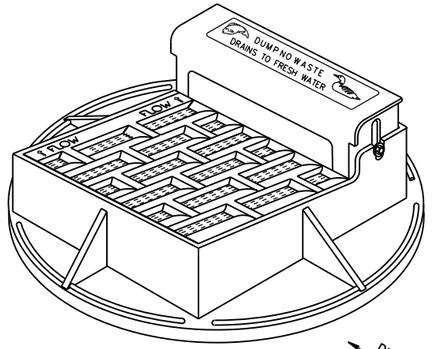
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

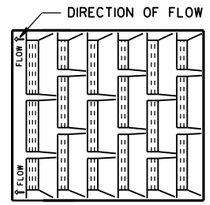
NOTE:
GRATE IS REVERSIBLE.

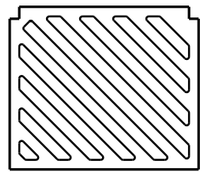
GENERAL NOTES

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.

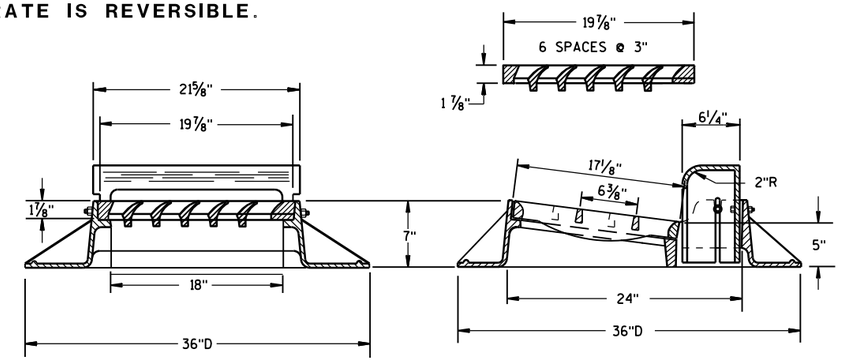




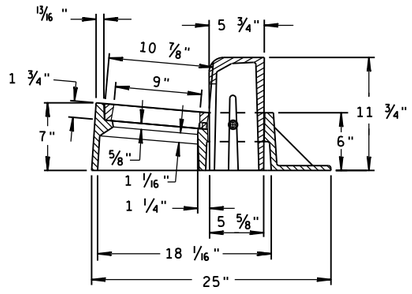
SPECIAL GRATE FOR TYPE "A" COVER

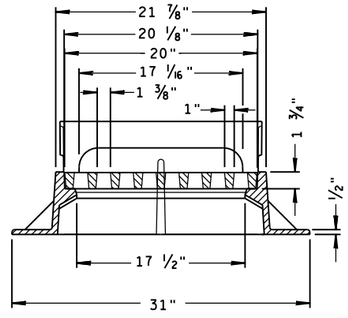
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)

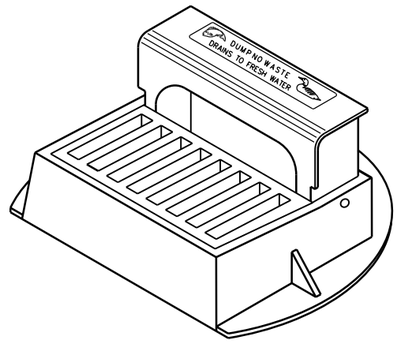


TYPE "A"





TYPE "Z"



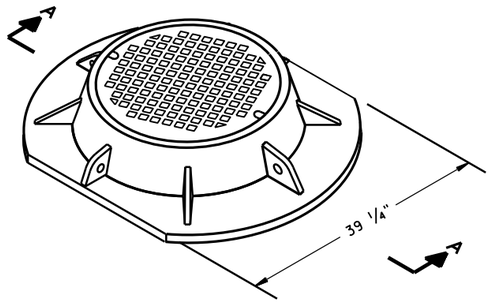
INLET COVERS
TYPE A, H, A-S, H-S & Z

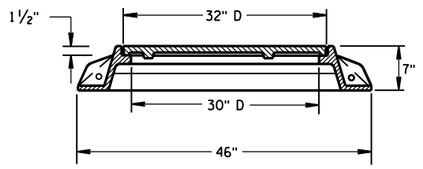
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

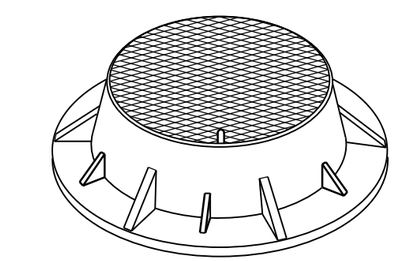
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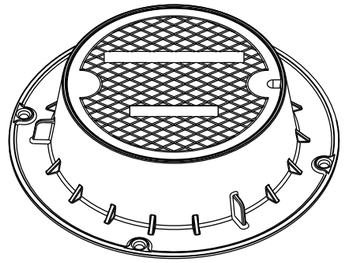
S.D.D. 8 A 5-19a

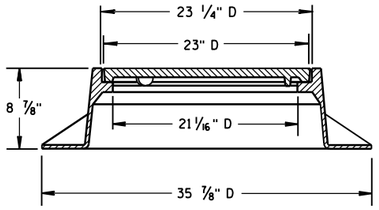


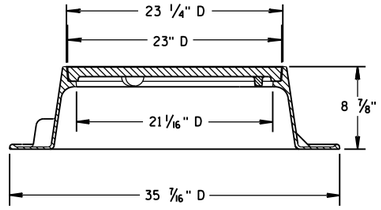


SECTION A-A
TYPE "K"









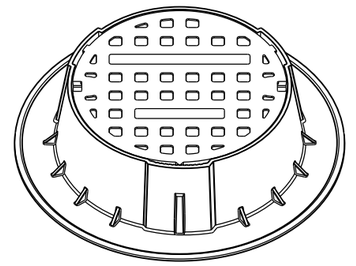
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

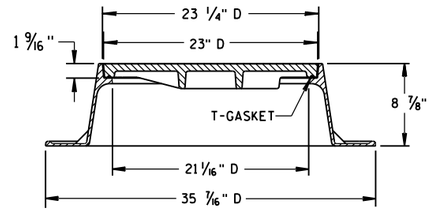
GENERAL NOTES

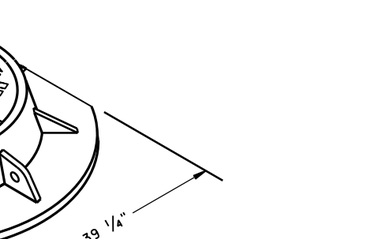
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

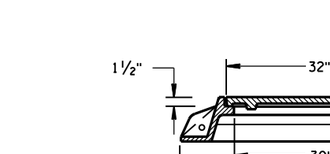
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

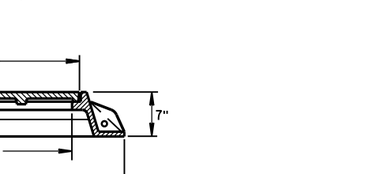




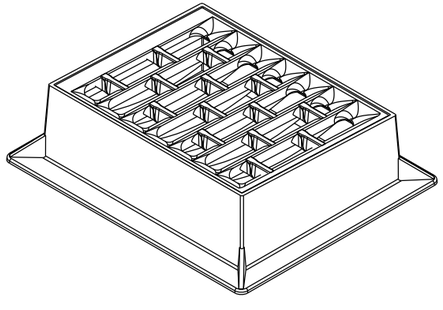


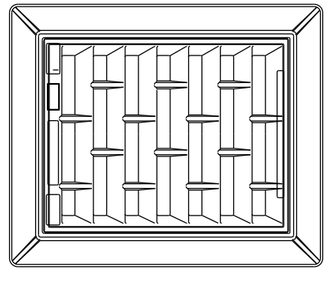


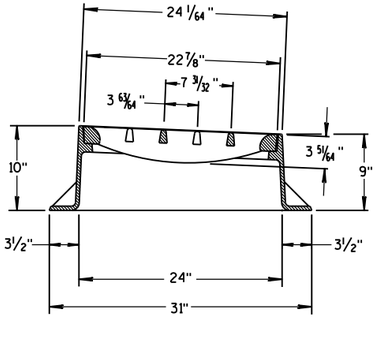
TYPE "L"

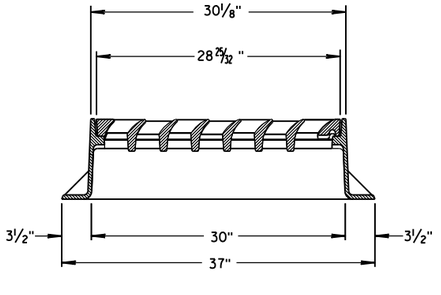


TYPE "M"

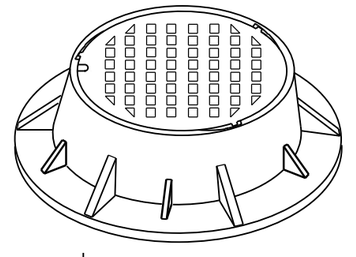


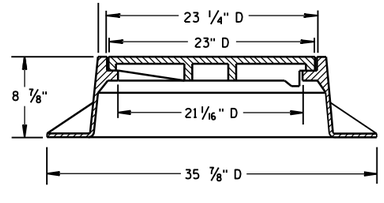






INLET COVER TYPE "BW"





TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE

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

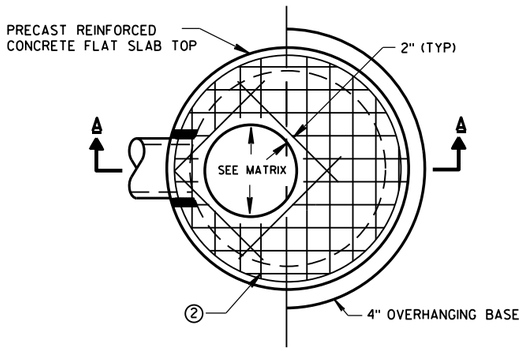
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

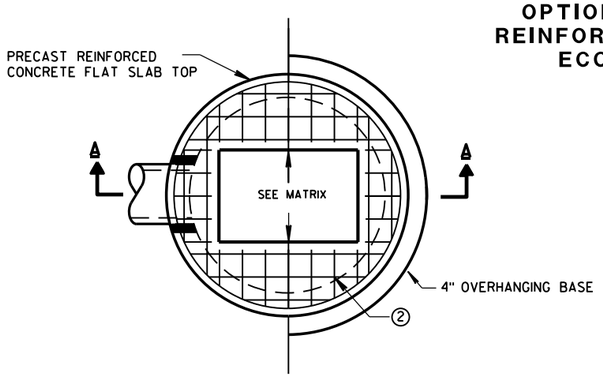
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

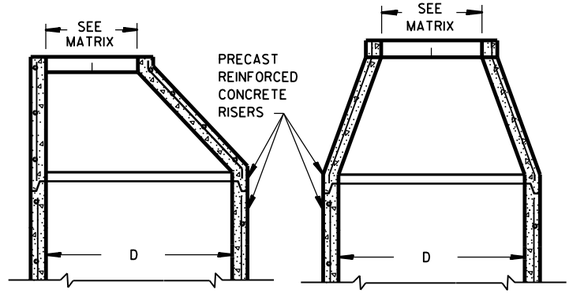
S.D.D. 8 A 5-19d



PLAN VIEW CIRCULAR OPENING

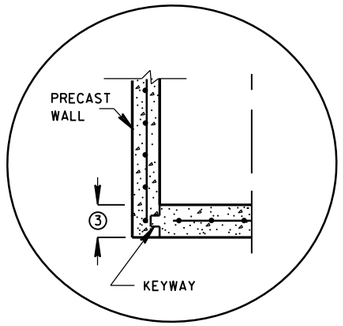


PLAN VIEW RECTANGULAR OPENING

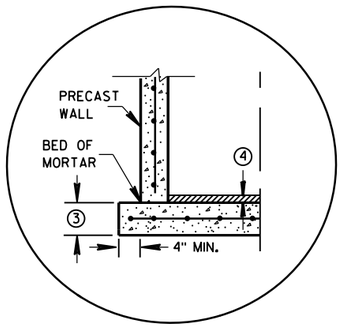


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

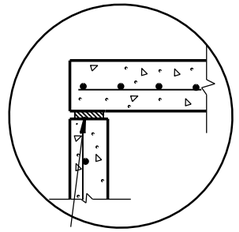


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



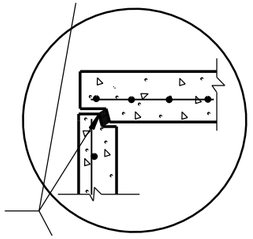
SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"

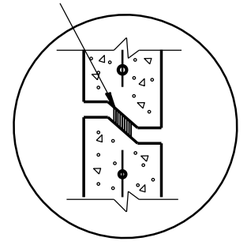


TOP WITH PLAIN END JOINT

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

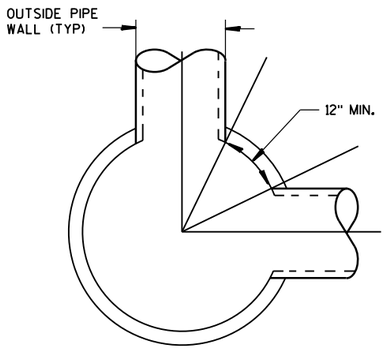


TOP WITH TONGUE AND GROOVE JOINT

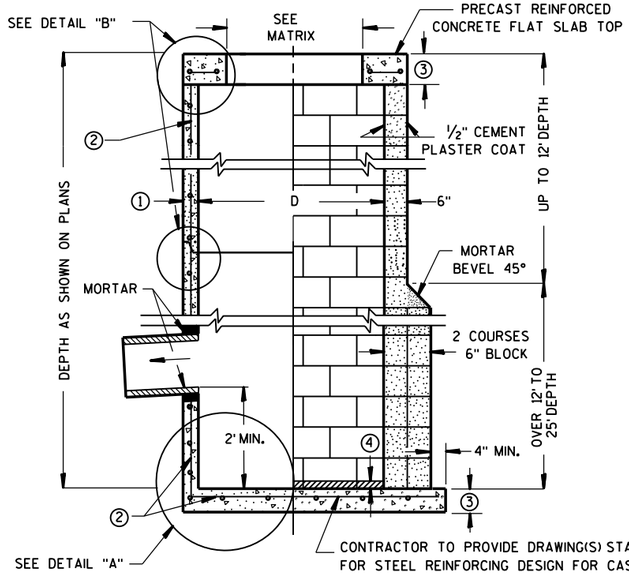


RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"



DETAIL "C"



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

SECTION A-A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

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 CATCH BASIN 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 CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE 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 INCH AND MEET THE REQUIREMENTS OF ASTM A615.

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

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

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

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

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

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 AND 7 INCHES FOR 6-FT DIAMETER PRECAST CATCH BASINS.

② FOR PRECAST CATCH BASINS 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".

④ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER OPENING MATRIX

CATCH BASIN SIZE	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
	OPENING SIZE (FT)											
3-FT	2X2	X	X					X		X		
	2 DIA.				X							X
4-FT-6-FT	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2 DIA.				X							X
	2X3						X					
	2.5X3					X						

PIPE MATRIX

CATCH BASIN 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	30

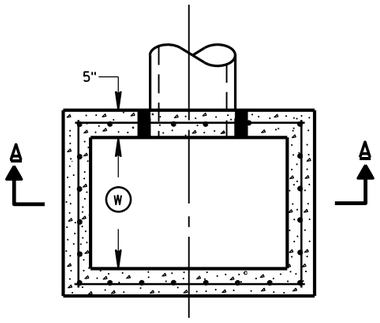
CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

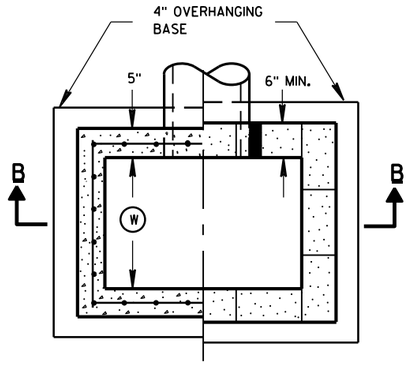
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APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

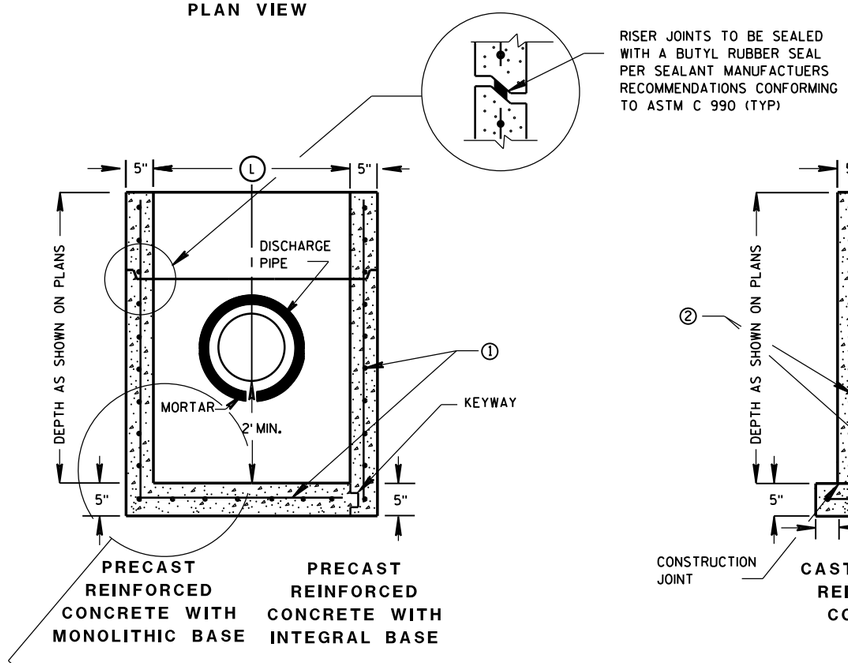
S.D.D. 8 A 8-1



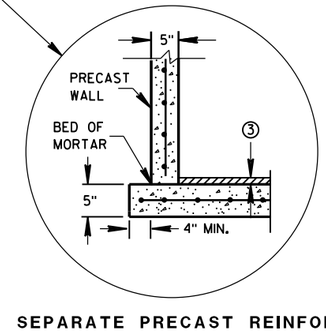
PLAN VIEW



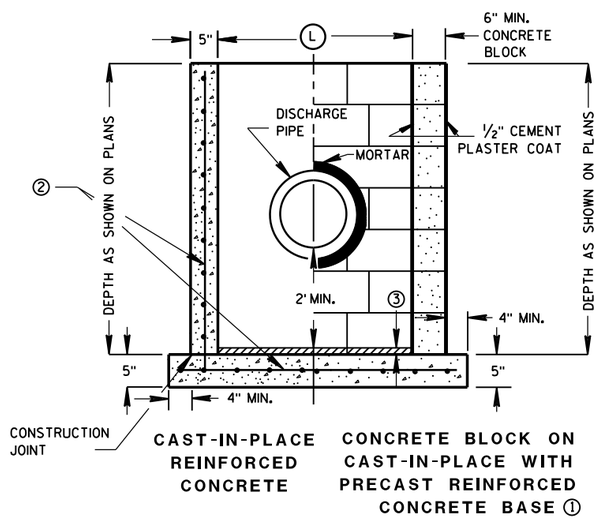
PLAN VIEW



SECTION A-A



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



SECTION B-B

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 CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

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

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

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

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

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

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

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

① FOR PRECAST CATCH BASINS 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.

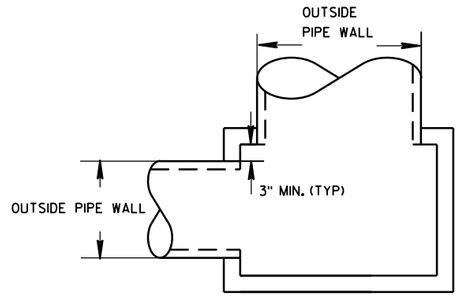
③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER MATRIX

CATCH BASIN SIZE		INLET COVER TYPE	F	ALL H'S
	WIDTH (W) (FT)	LENGTH (L) (FT)		
2X3-FT	2	3		X
2.5X3-FT	2.5	3	X	

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

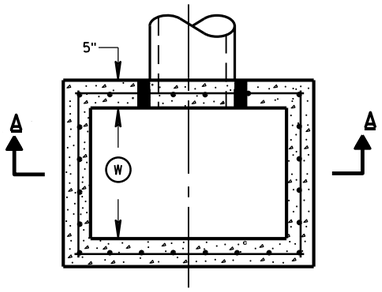
CATCH BASINS 2X3-FT AND 2.5X3-FT

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DEPARTMENT OF TRANSPORTATION

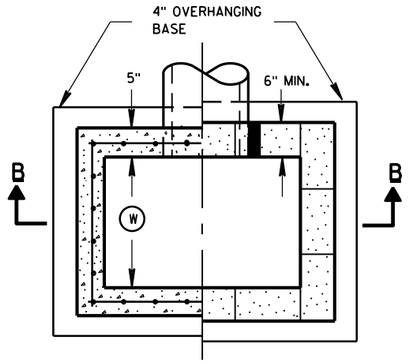
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6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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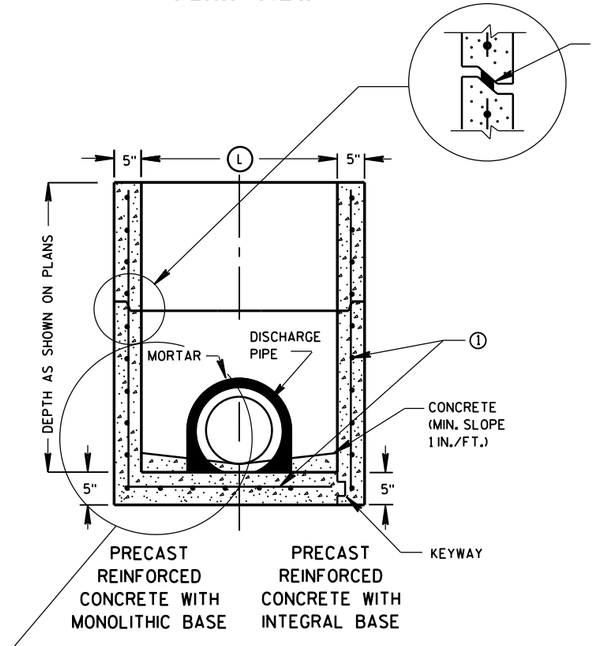
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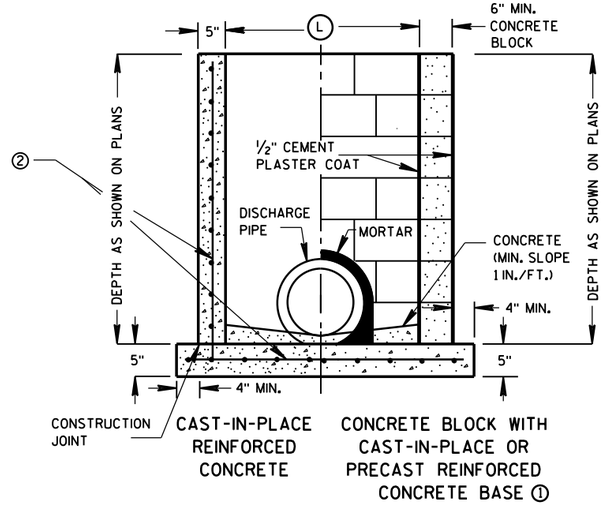
PLAN VIEW



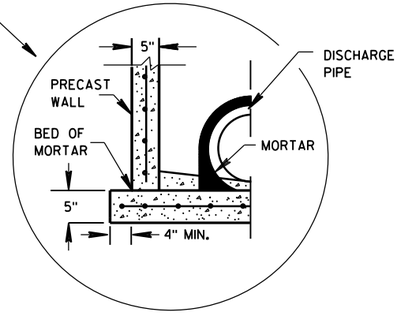
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
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MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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

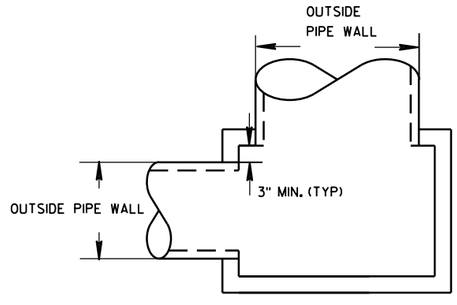
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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



DETAIL "A"

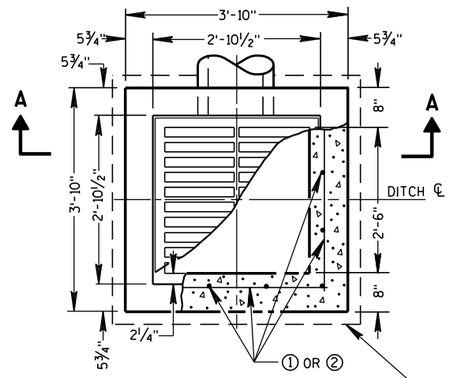
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

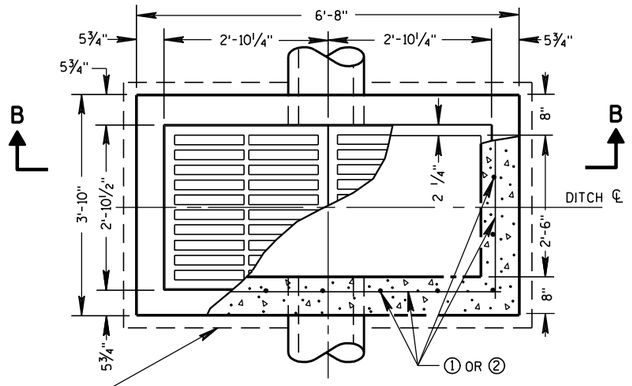
APPROVED
6/5/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER

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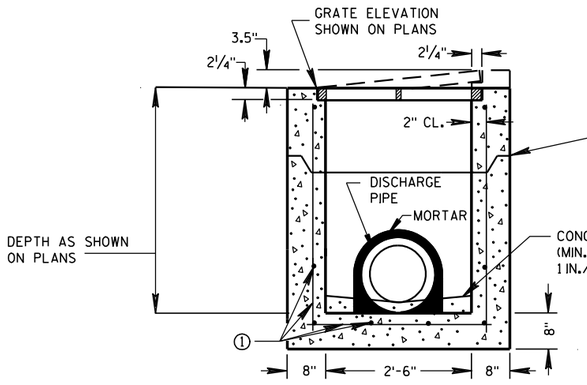


PLAN VIEW

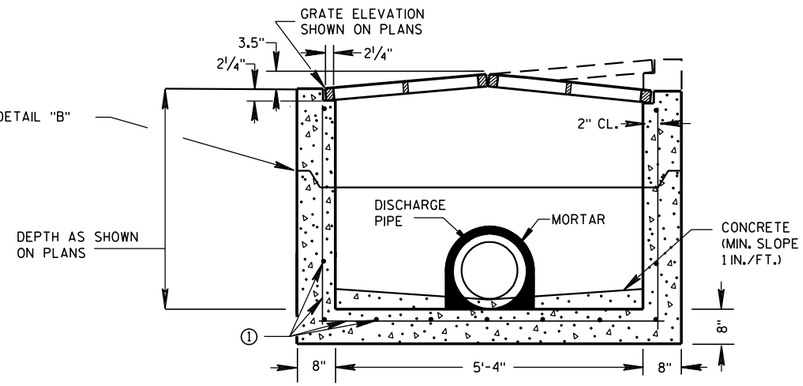


PLAN VIEW

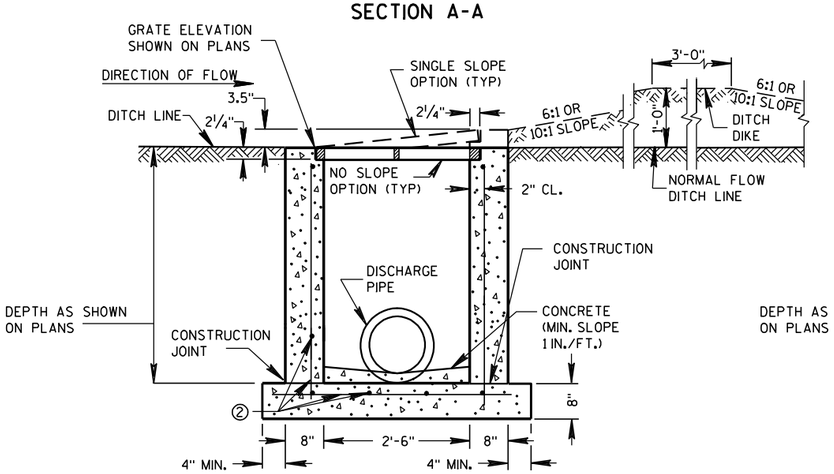
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



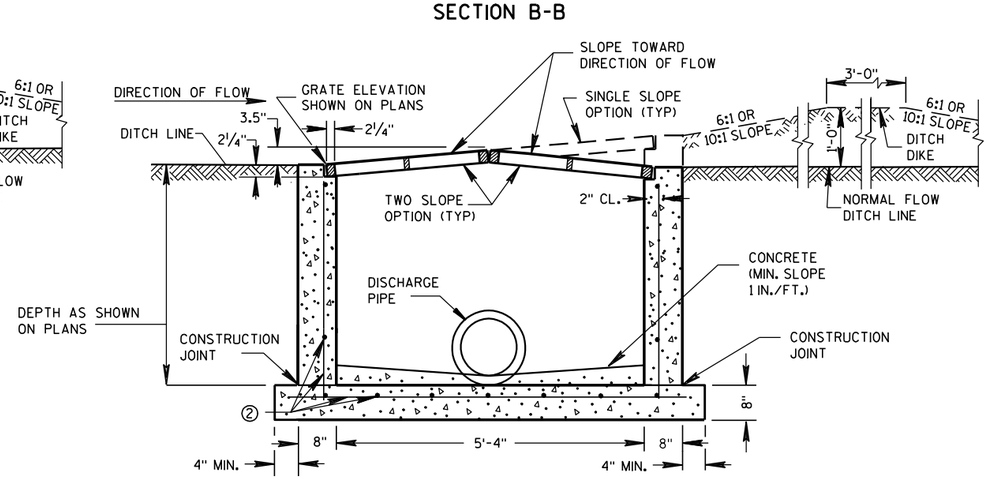
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

GENERAL NOTES

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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, 1G-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.

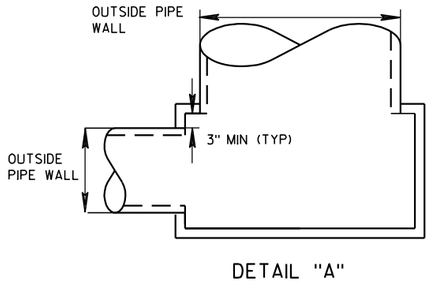
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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.

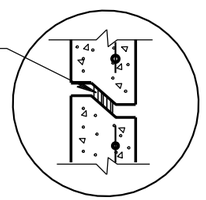
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	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 GRATE

INLETS MEDIAN 2 GRATE

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

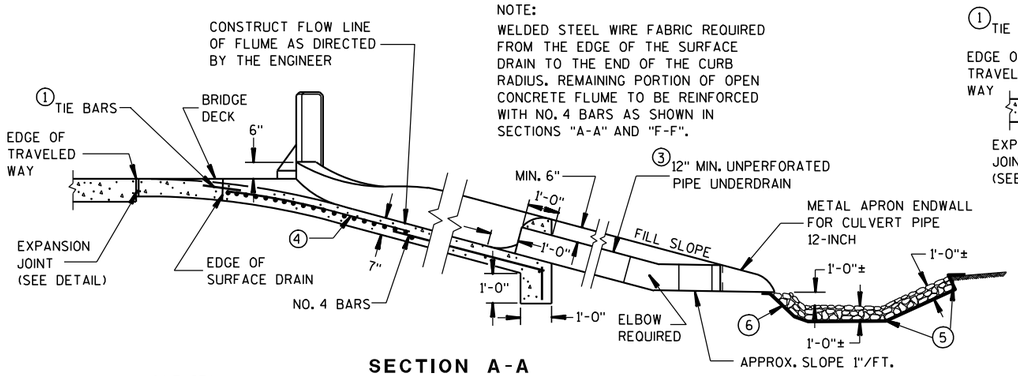
FHWA

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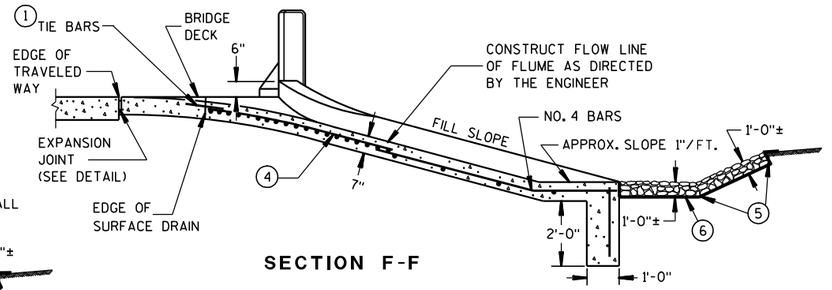
S.D.D. 8 C 8-1

6

S.D.D. 8 C 8-1



SECTION A-A



SECTION F-F

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.

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

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.

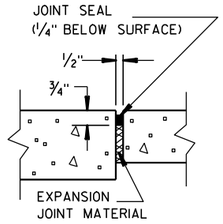
(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

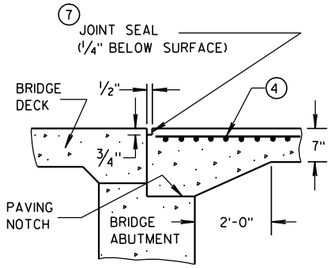
(6) GEOTEXTILE FABRIC, TYPE 'R"

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

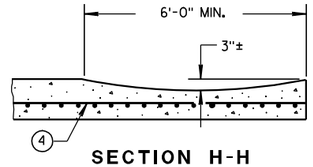
(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



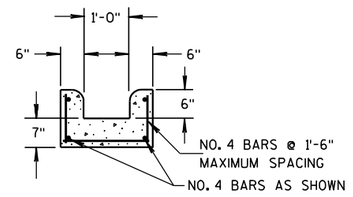
EXPANSION JOINT DETAIL



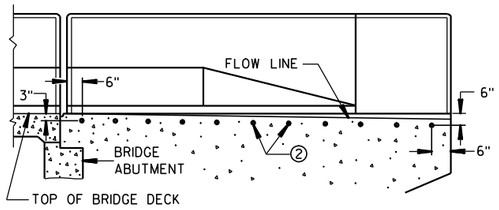
SECTION D-D



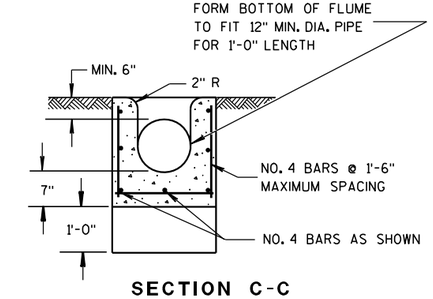
SECTION H-H



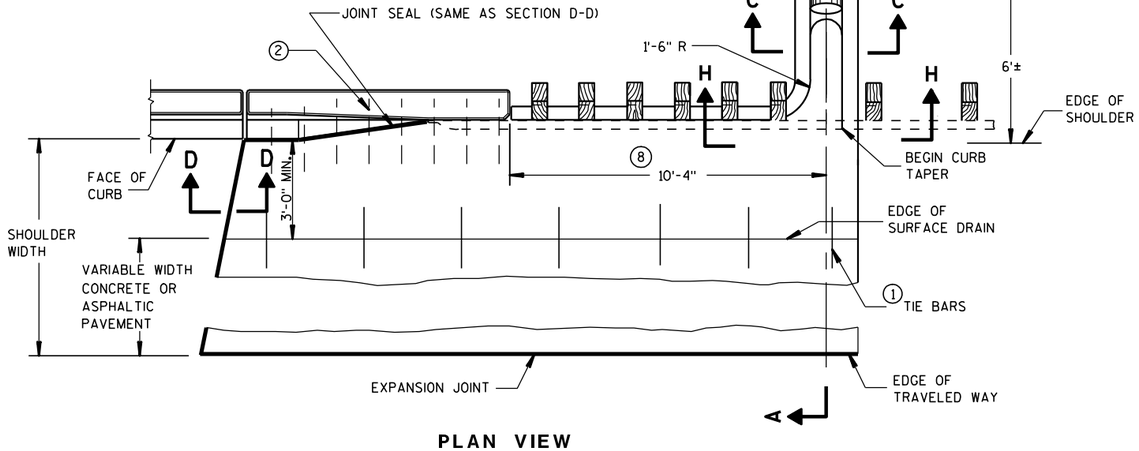
SECTION E-E



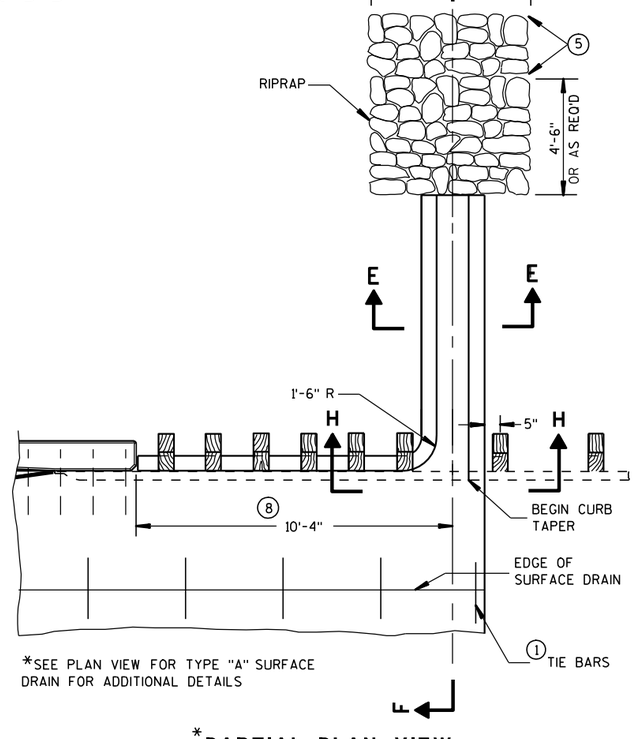
LOCATION OF TIE BARS IN WINGWALL



SECTION C-C



PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



*SEE PLAN VIEW FOR TYPE "A" SURFACE DRAIN FOR ADDITIONAL DETAILS

*PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"

CONCRETE SURFACE DRAINS
FLUME TYPE
AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

6
S.D.D. 8 D 2-6

GENERAL NOTES

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

(1) UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

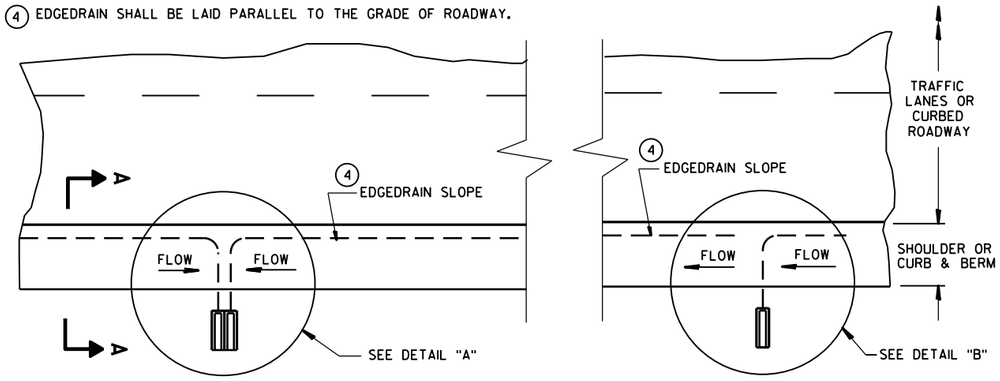
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.

(2) MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.

(3) EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.

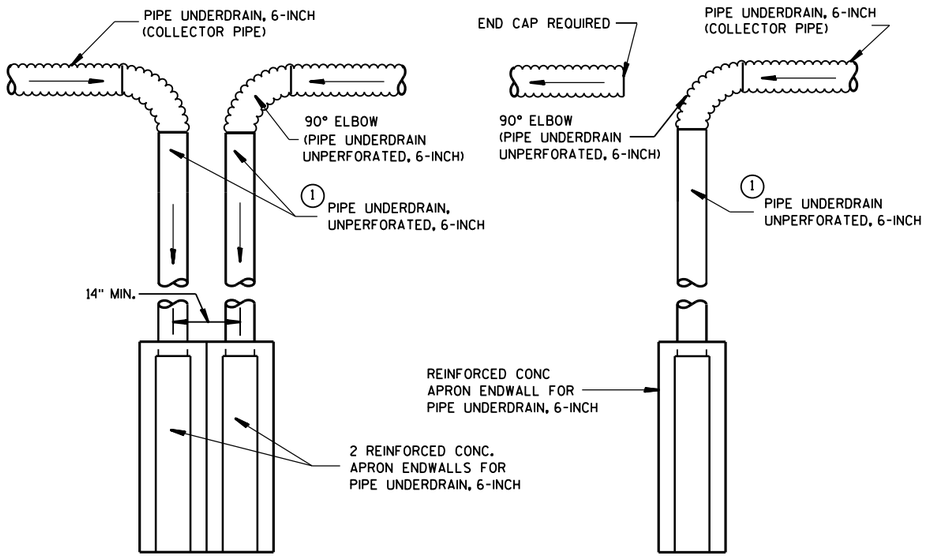
(4) EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



PLAN VIEW

ROADWAY WITH SHOULDERS OR CURBS

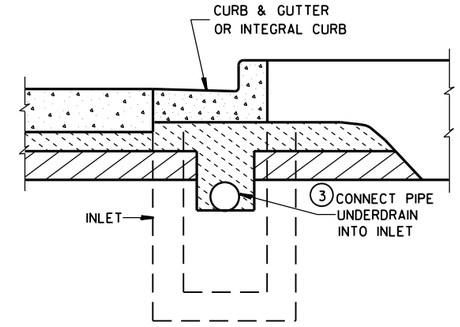
(EDGEDRAIN OUTLETS TO ROADSIDE)(2)



DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS

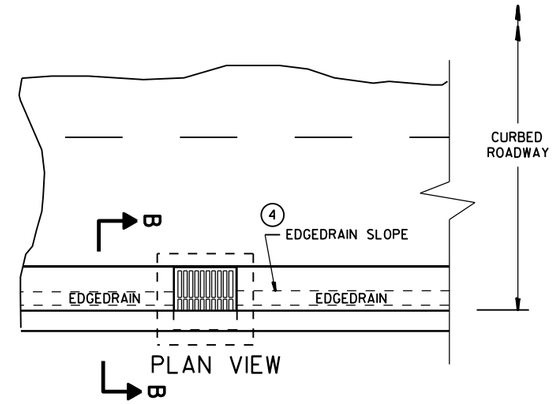
DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

TYPICAL DRAIN OUT DETAILS



SECTION B-B

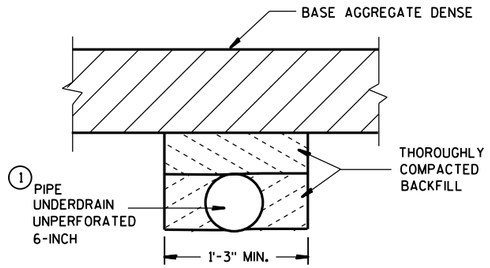
URBAN CROSS SECTION



PLAN VIEW

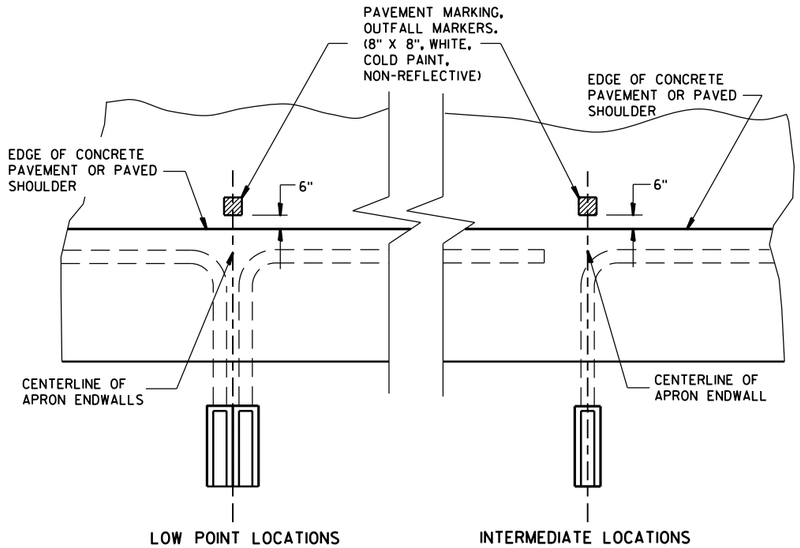
ROADWAY WITH CURBS

(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)



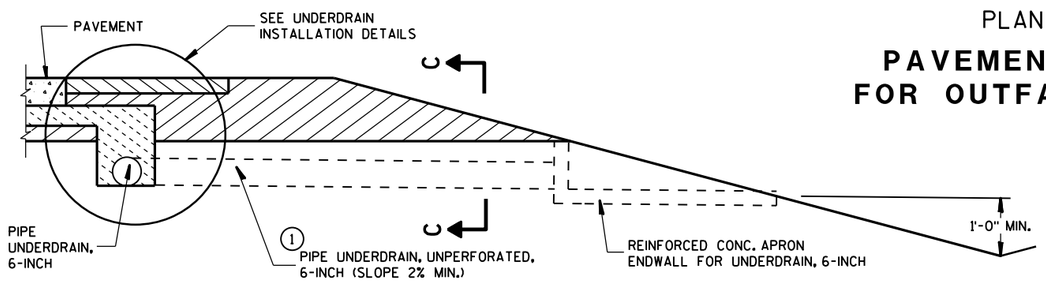
SECTION C-C

(TRENCH FOR OUTFALL PIPE)



PLAN VIEW

PAVEMENT MARKING FOR OUTFALL MARKERS



SECTION A-A

RURAL CROSS SECTION

EDGEDRAIN OUTLET AND OUTFALL MARKERS

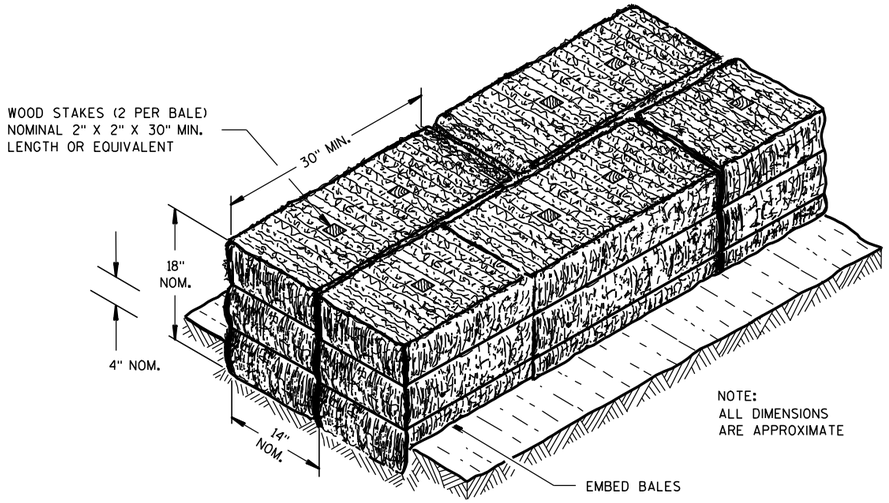
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

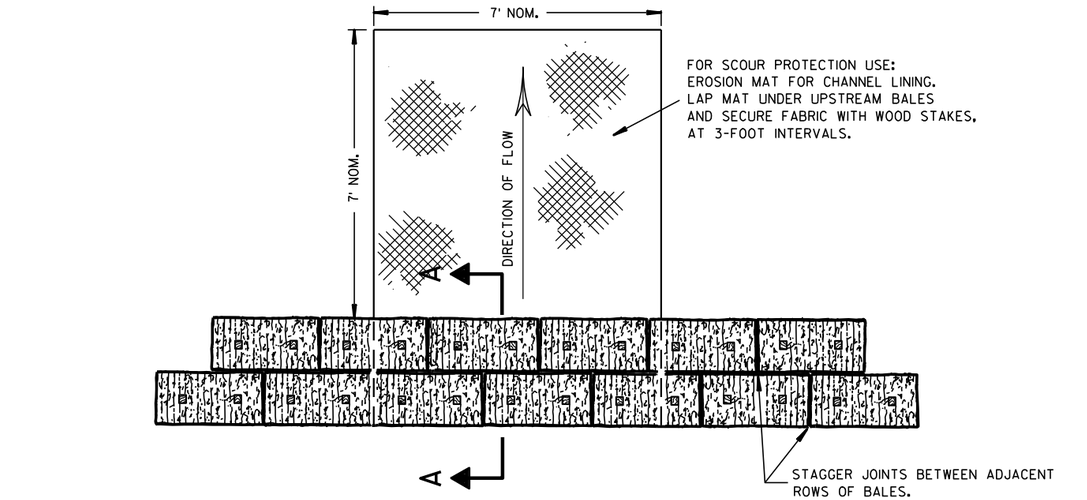
S.D.D. 8 D 15-5a

6

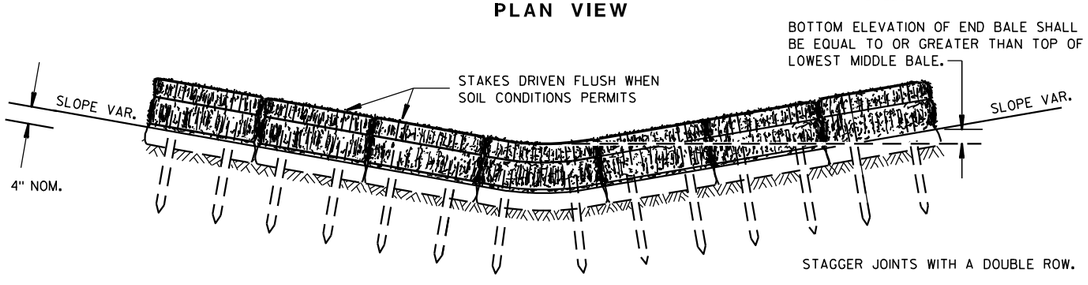
S.D.D. 8 D 15-5a



SECTION A-A



PLAN VIEW



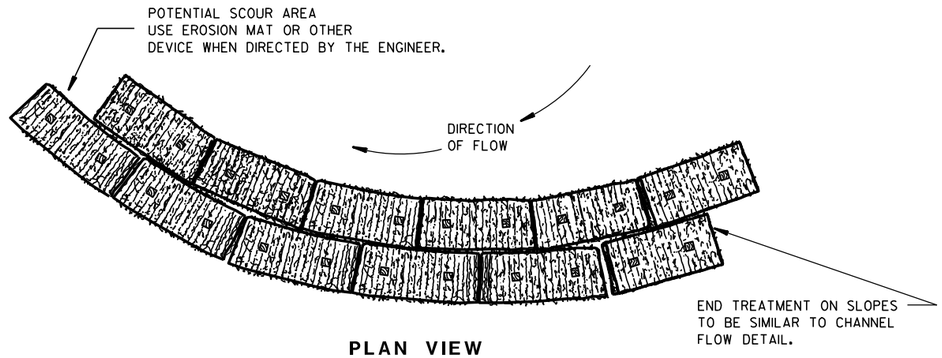
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

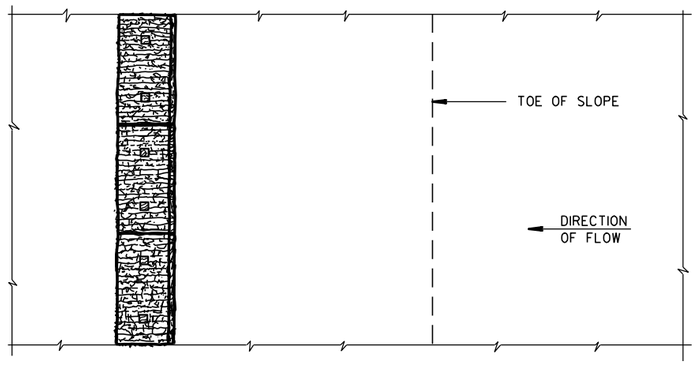
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

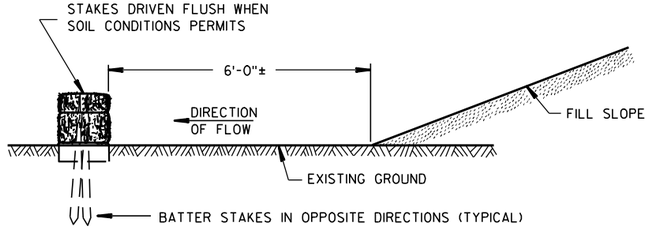


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

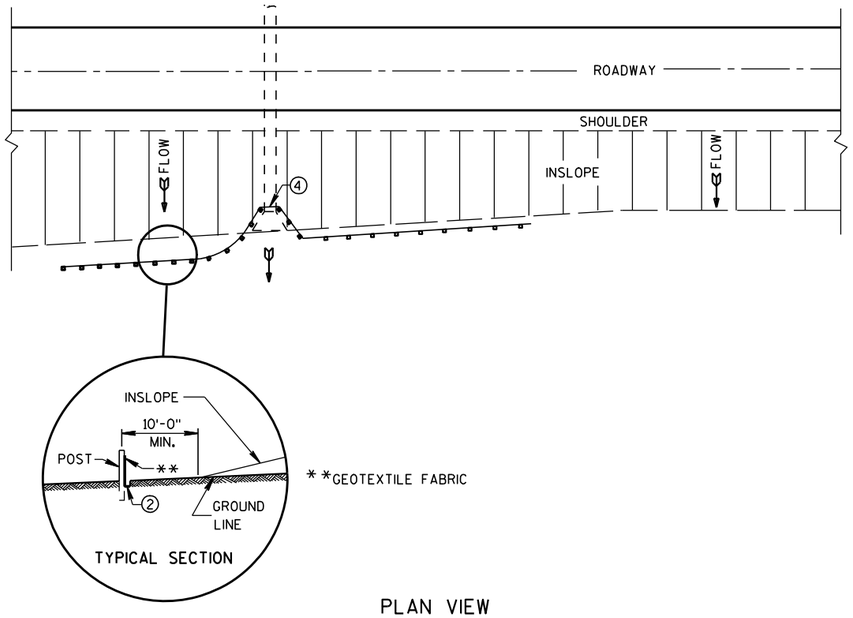
APPROVED
6/04/02 DATE
/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

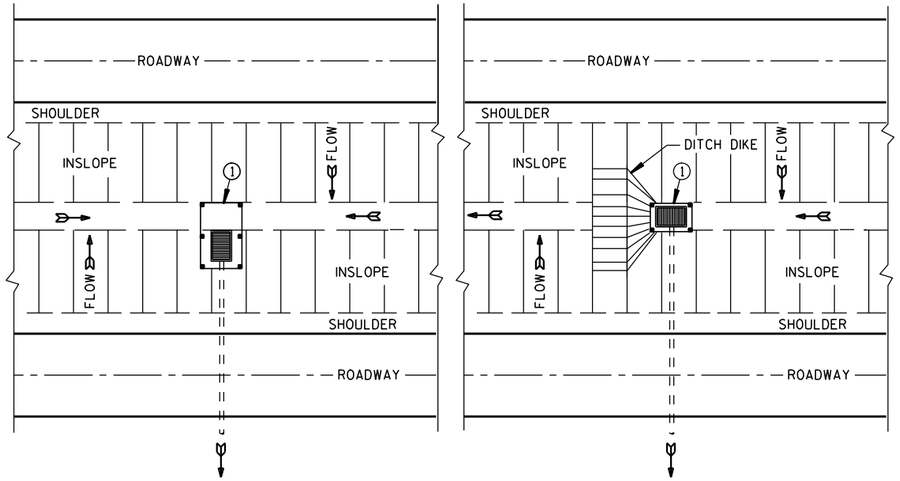
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

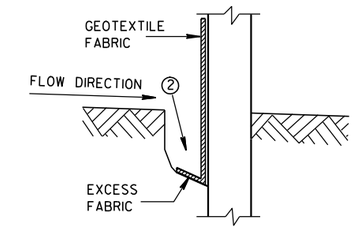
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

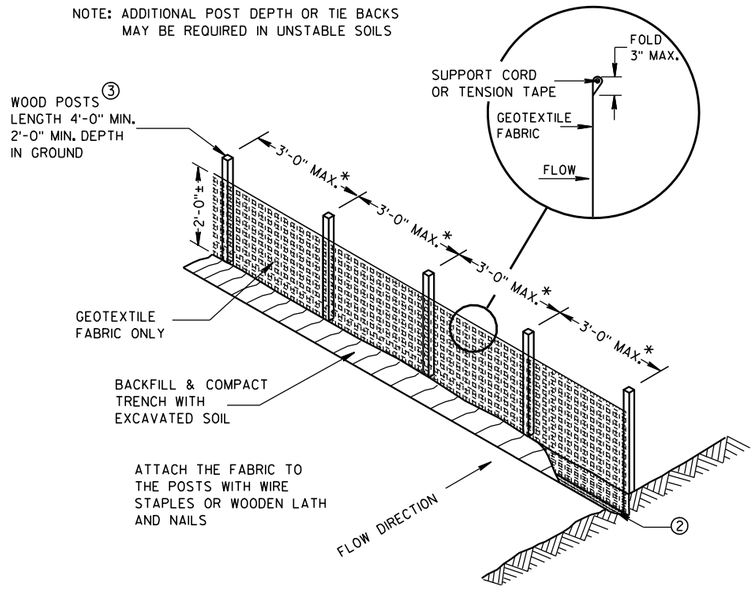
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

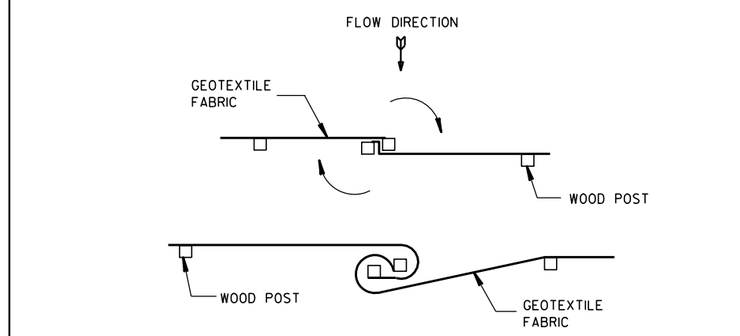


TRENCH DETAIL

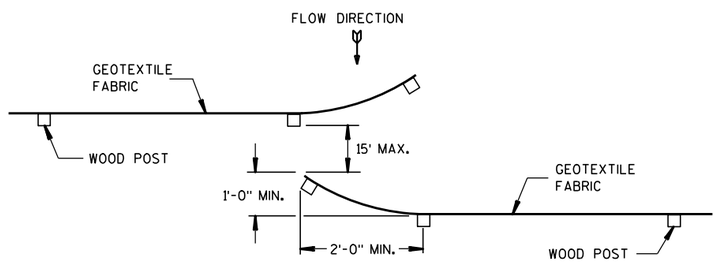


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

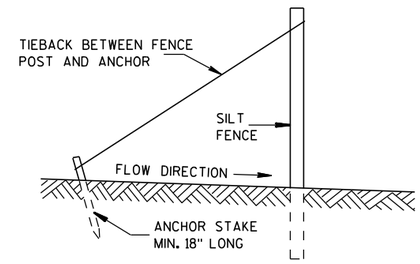


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

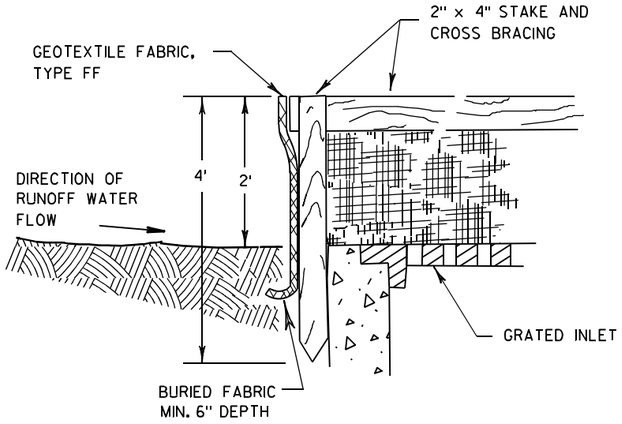
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

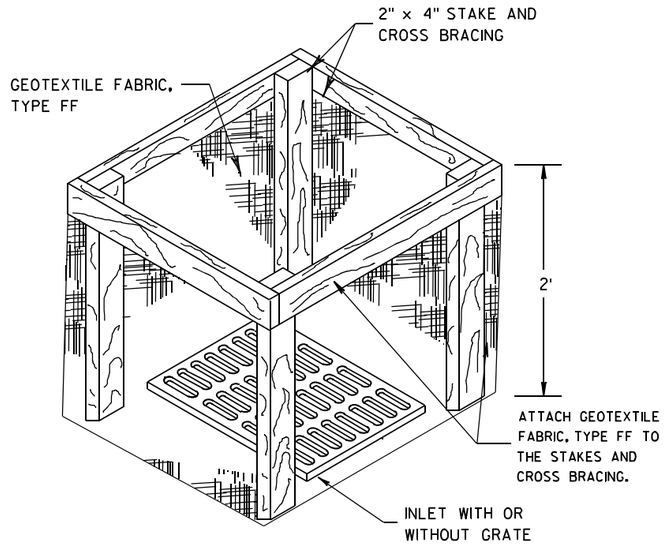
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S.D.D. 8 E 9-6

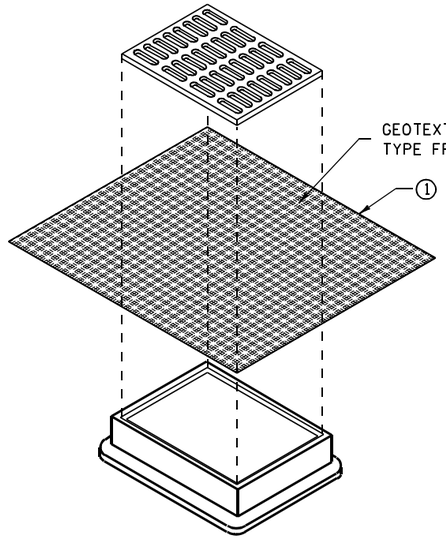
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S.D.D. 8 E 9-6



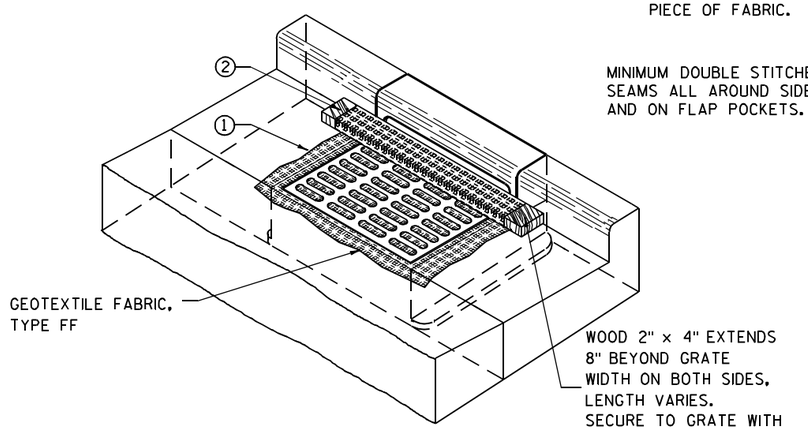


INLET PROTECTION, TYPE A

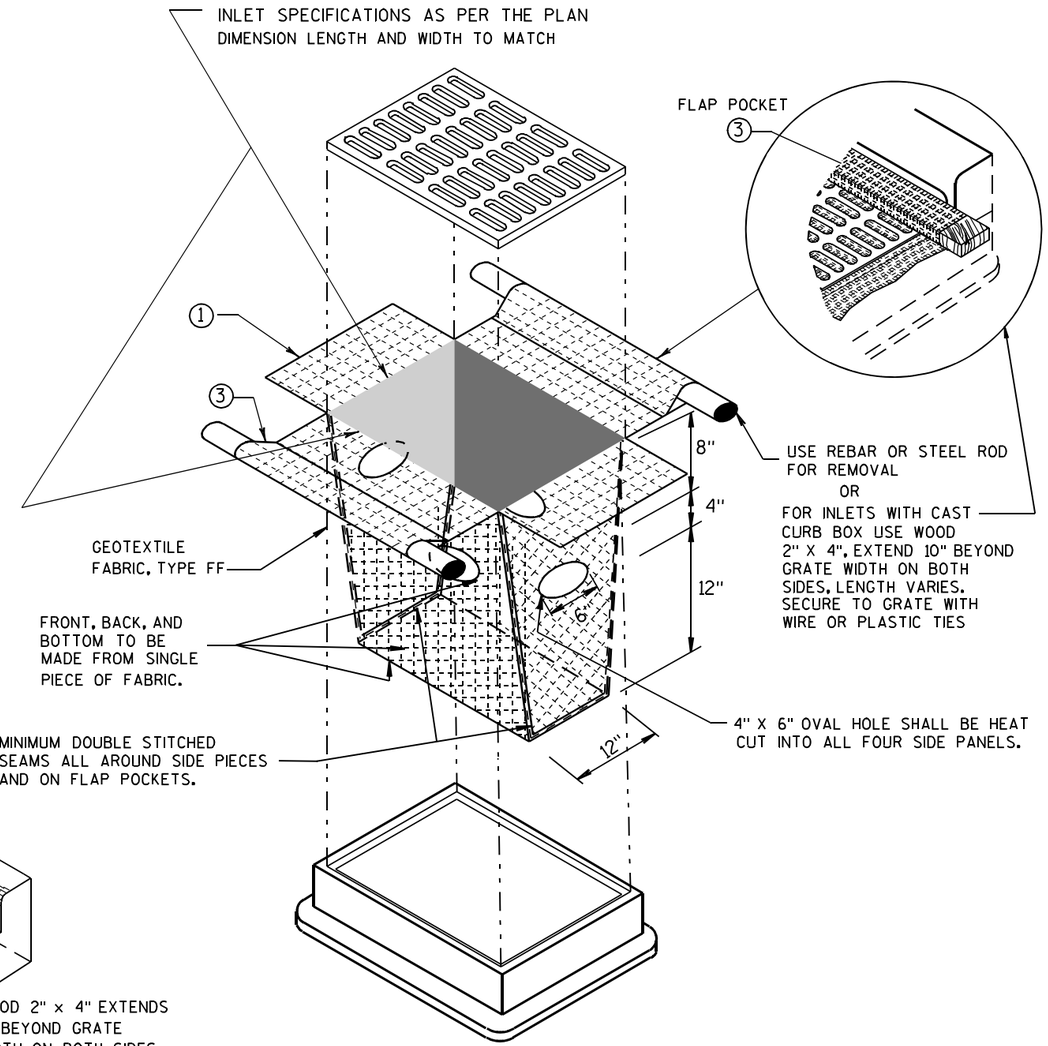


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

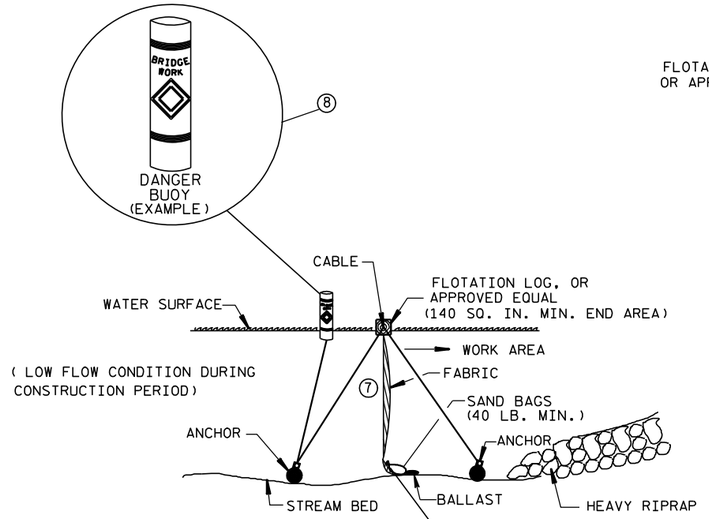
APPROVED

10/16/02
DATE

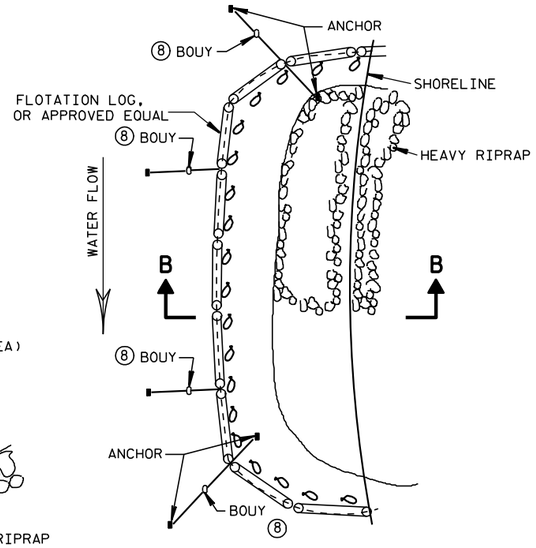
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

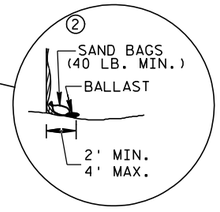
FHWA

6
S.D.D. 8 E 10-2

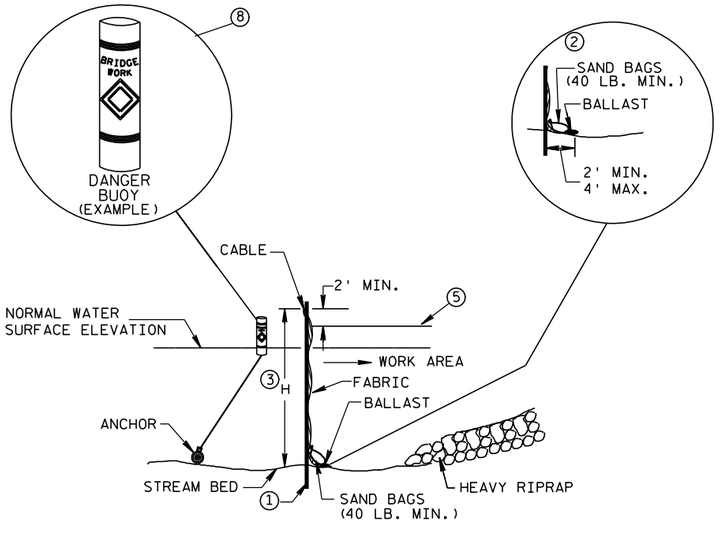


SECTION B-B

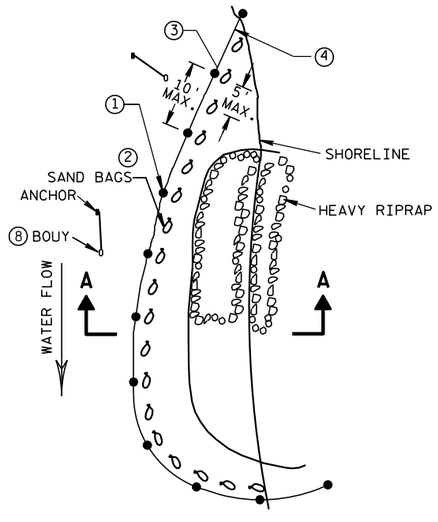




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

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.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

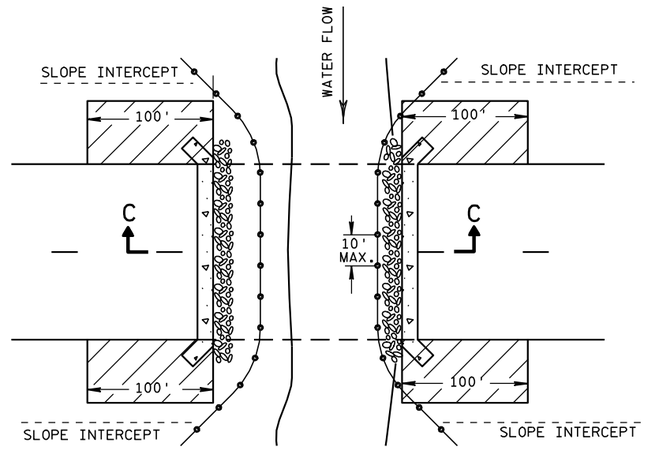
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

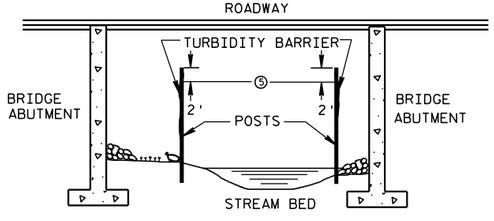
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

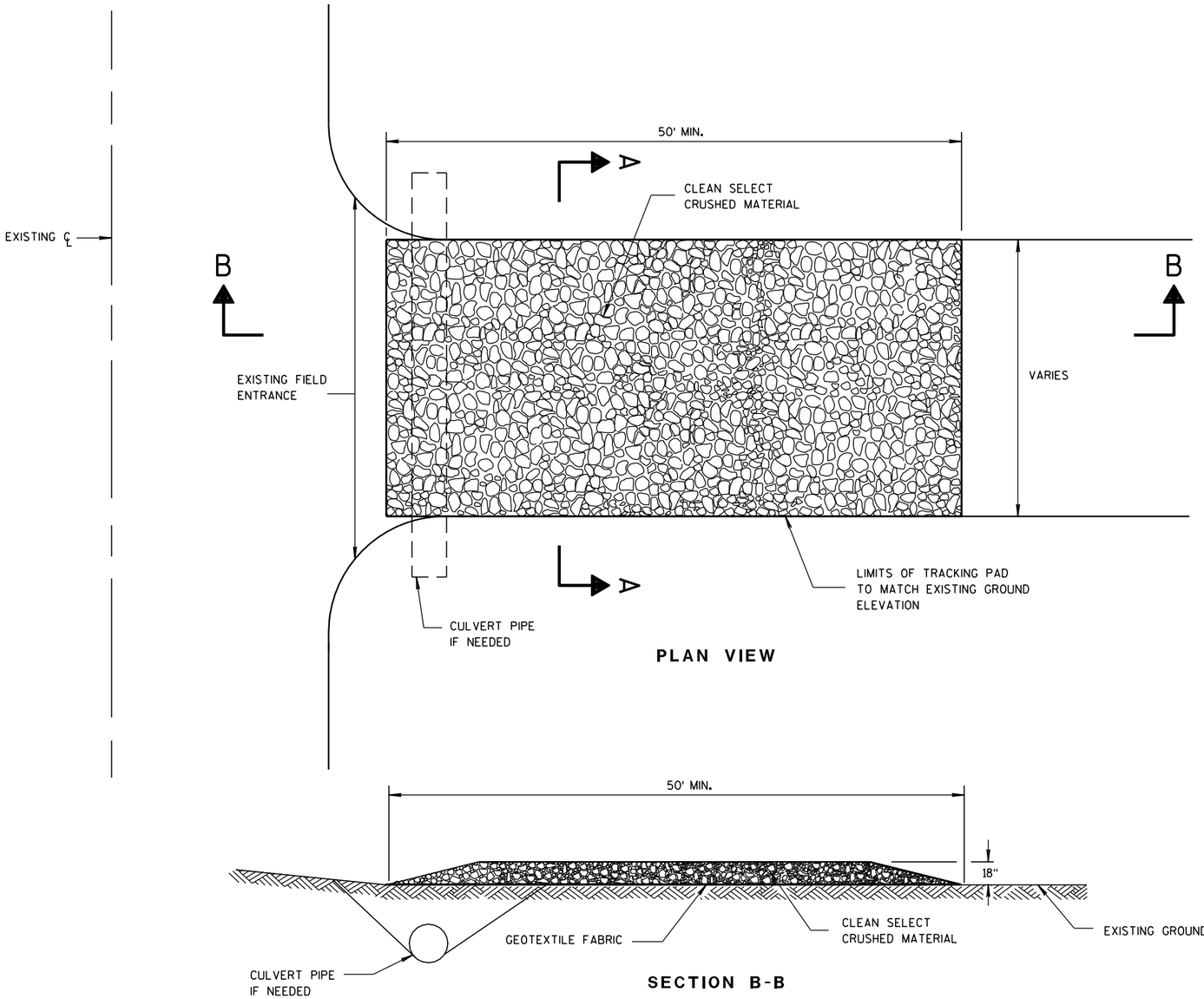
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2



PLAN VIEW

SECTION B-B

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.

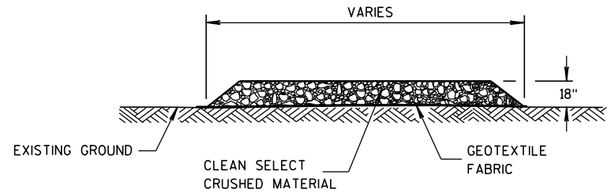
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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.



SECTION A-A

TRACKING PAD

6

S.D.D. 8 E 14-1

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011	/S/ Jerry H. Zoda	
DATE	ROADWAY STANDARDS ENGINEER	ENT

FHWA

6

S.D.D. 8 E 14-1

METAL APRON ENDWALLS

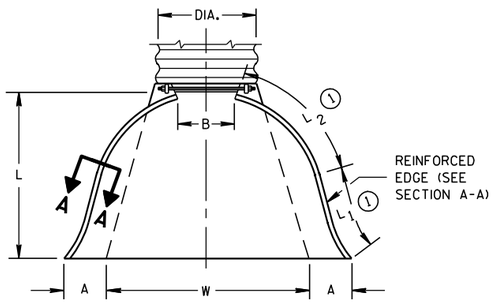
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

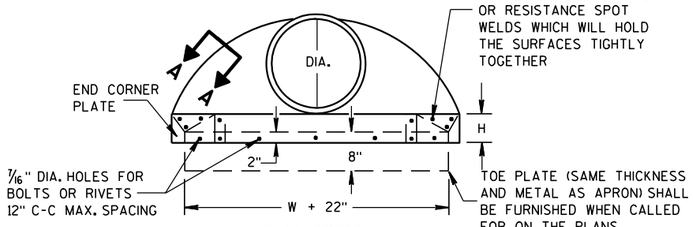
REINFORCED CONCRETE APRON ENDWALLS

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

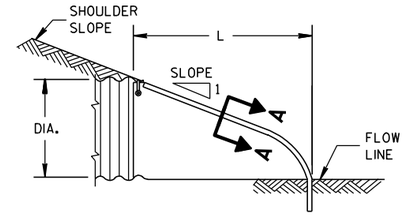
*MINIMUM
**MAXIMUM



PLAN VIEW

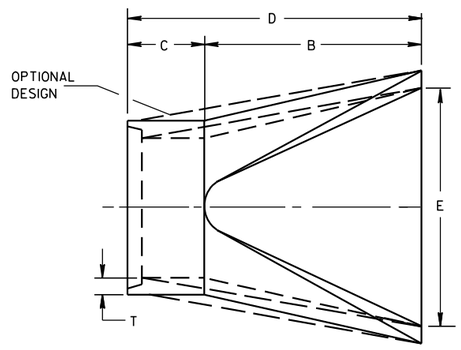


END VIEW

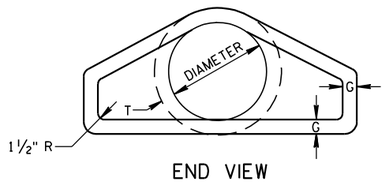


SIDE ELEVATION

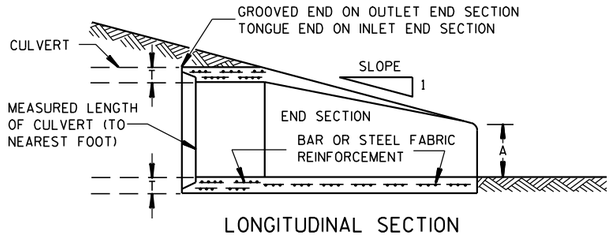
METAL ENDWALLS



PLAN

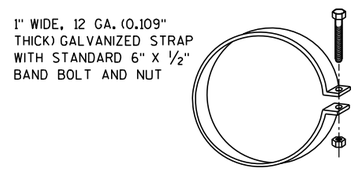


END VIEW



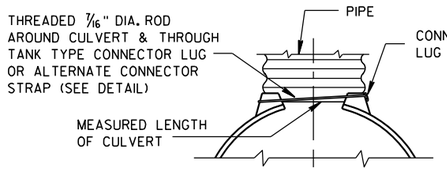
LONGITUDINAL SECTION

CONCRETE ENDWALLS

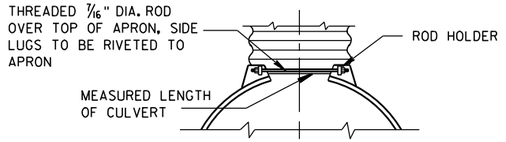


ALTERNATE FOR TYPE 1 CONNECTION

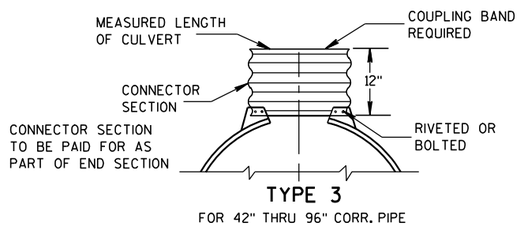
END SECTION CONNECTOR STRAP



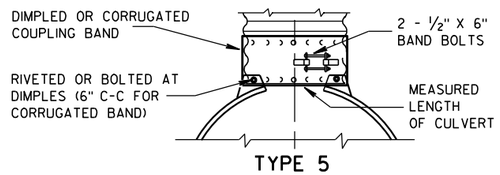
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

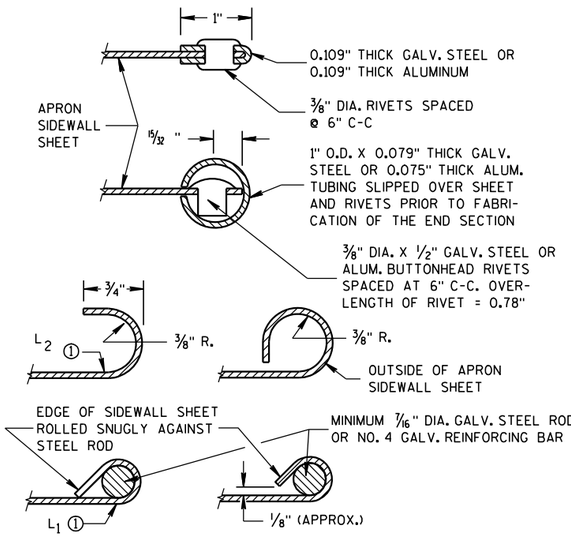
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

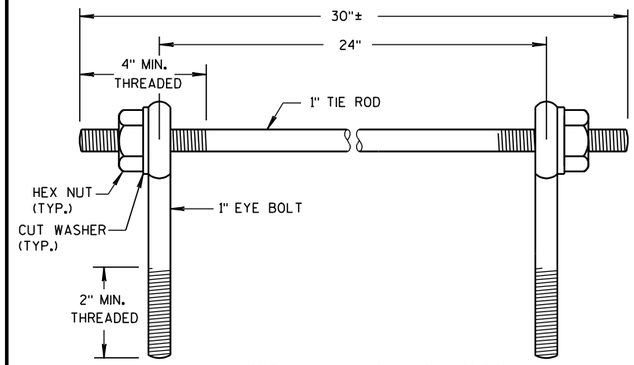
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

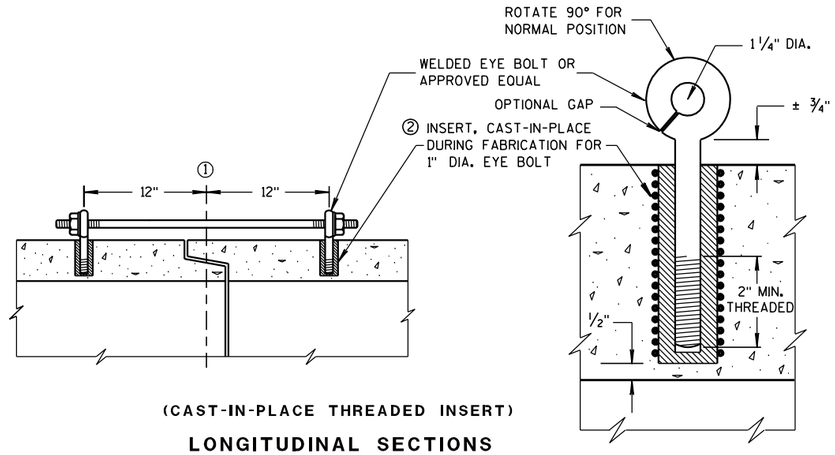
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

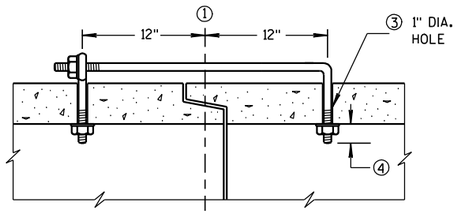
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

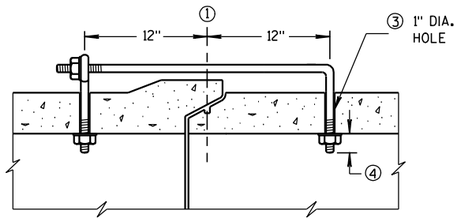
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

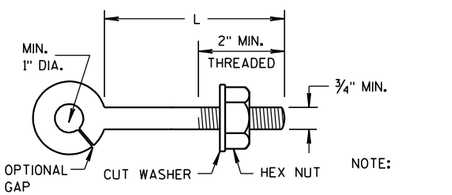


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

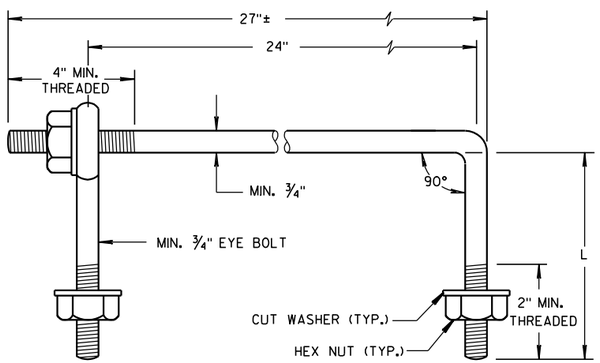
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

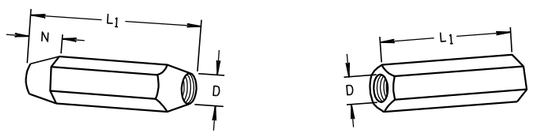
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

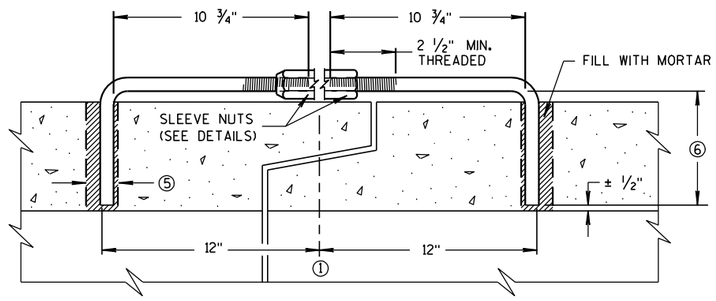
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

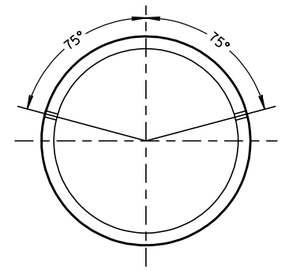
SLEEVE NUTS



LONGITUDINAL SECTION

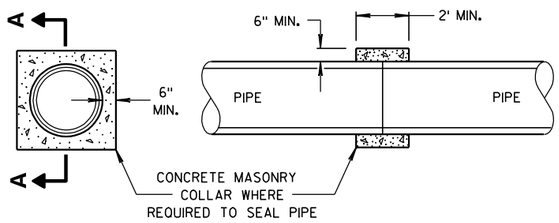
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
128
FHWA

6

S.D.D. 8 F 4-7

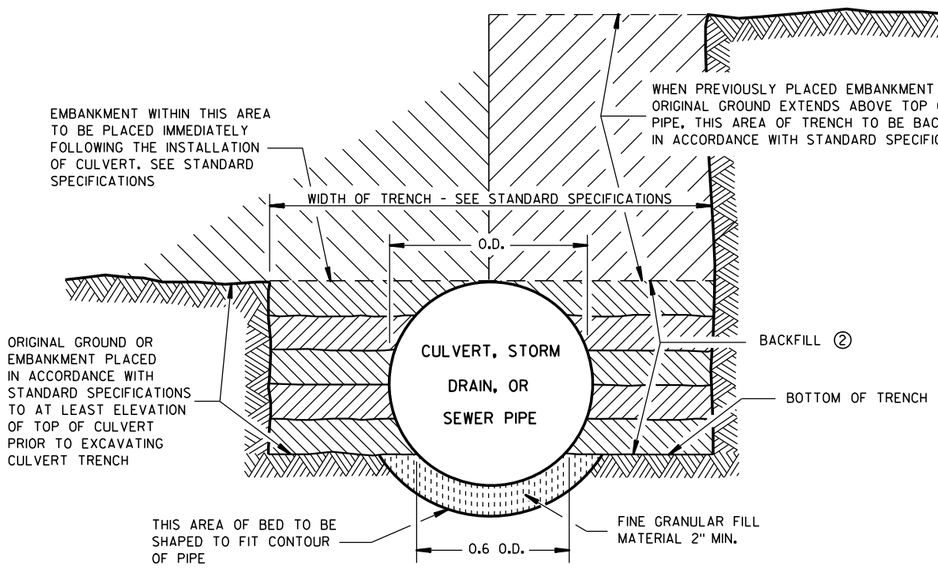
GENERAL NOTES

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

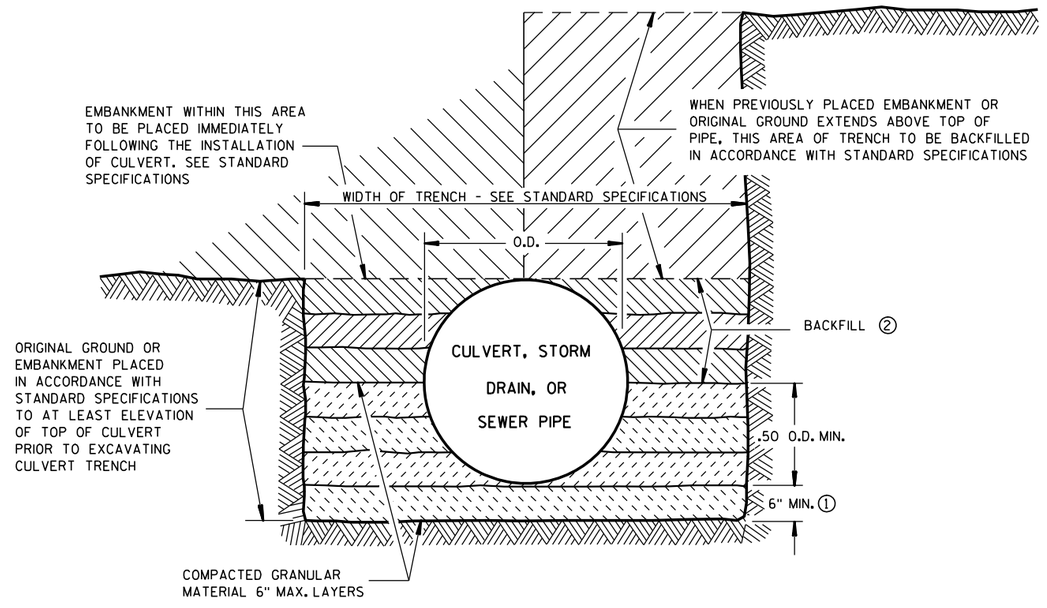
THE SHAPED SUBGRADE WITH GRANULAR FOUNDATION IS AN EQUAL ALTERNATE TO THE GRANULAR FOUNDATION EXCEPT WHERE ROCK IS ENCOUNTERED.

① WHERE ROCK, HARD PAN OR FRAGMENTED MATERIAL IS ENCOUNTERED, THE TRENCH SHALL BE EXCAVATED BELOW THE BOTTOM OF THE PIPE AN AMOUNT EQUAL TO ½ INCH PER FOOT OF PROPOSED EMBANKMENT ABOVE THE TOP OF THE PIPE, BUT NOT LESS THAN 6 INCHES.

② TRENCH SHALL BE BACKFILLED AS REQUIRED BY STANDARD SPECIFICATIONS; SECTION 520 FOR PIPE CULVERTS AND SECTION 607 FOR STORM SEWERS.



SHAPED SUBGRADE WITH GRANULAR FOUNDATION



GRANULAR FOUNDATION

CLASS "B" BEDDING

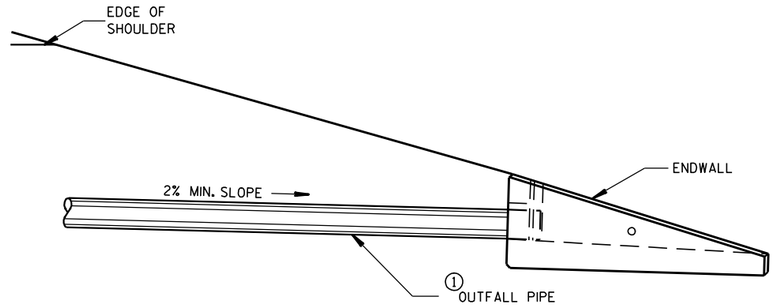
CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4/7/83 DATE	/S/ D. L. Strand STATE DESIGN ENGINEER
FHWA	HWYS

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S.D.D. 8 F 5-1

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

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.

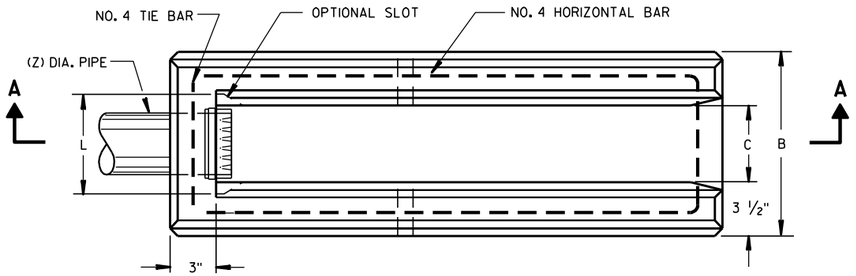
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

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.

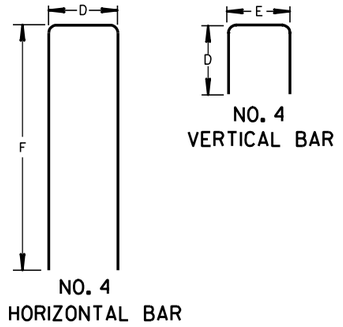
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE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

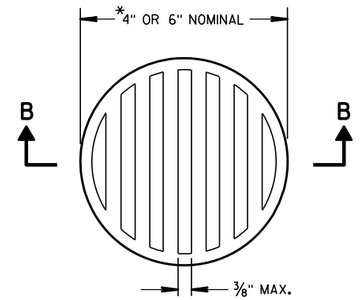
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL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

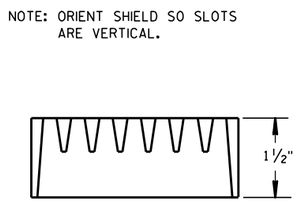


PLAN VIEW



BAR STEEL REINFORCEMENT DETAILS

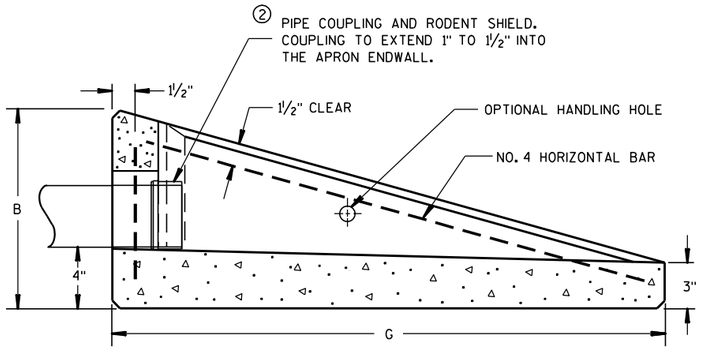




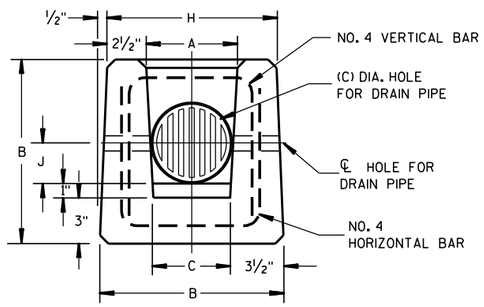
SECTION B-B

② RODENT SHIELD

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



SECTION A-A



END VIEW

CONCRETE APRON ENDWALL FOR UNDERDRAIN

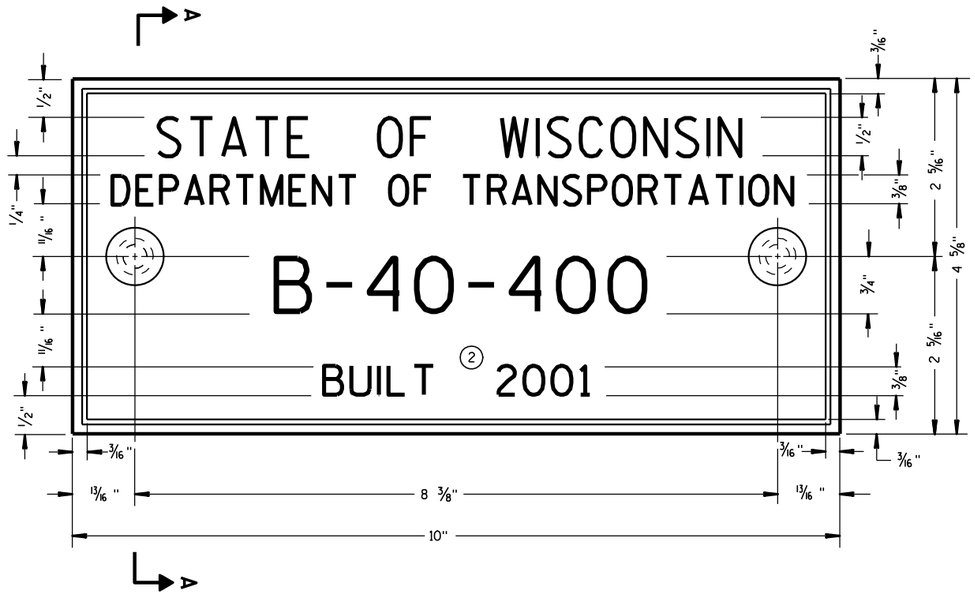
REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/10/98 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 6-4



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)

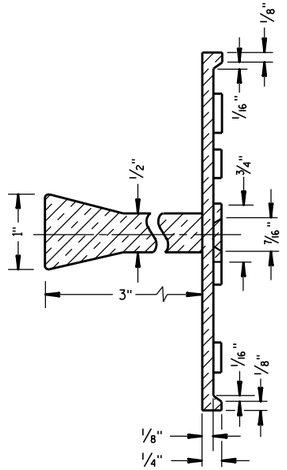
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

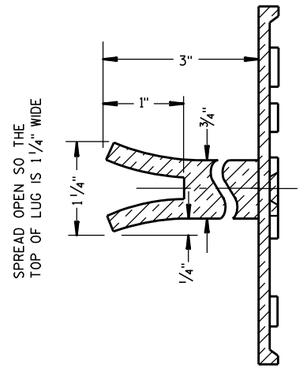
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

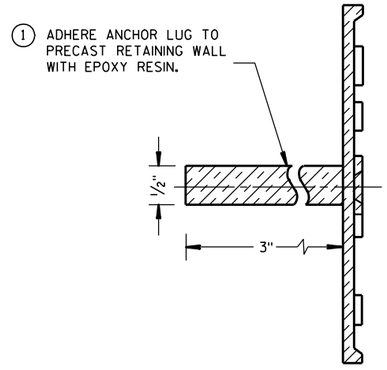
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION MULTI-UNIT STRUCTURES



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

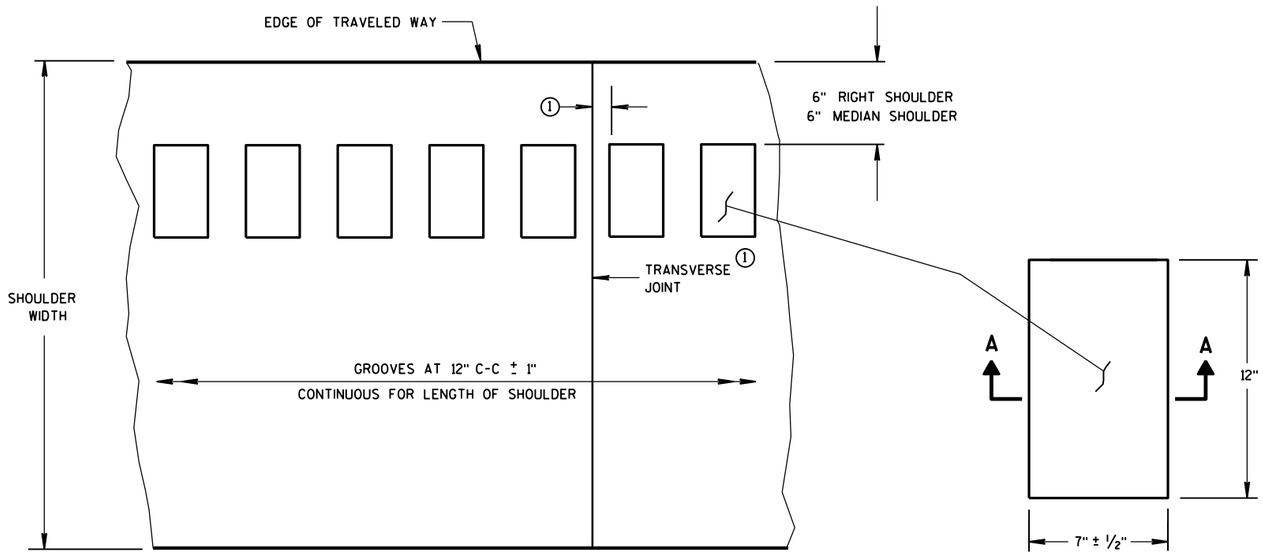
FHWA

6

S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

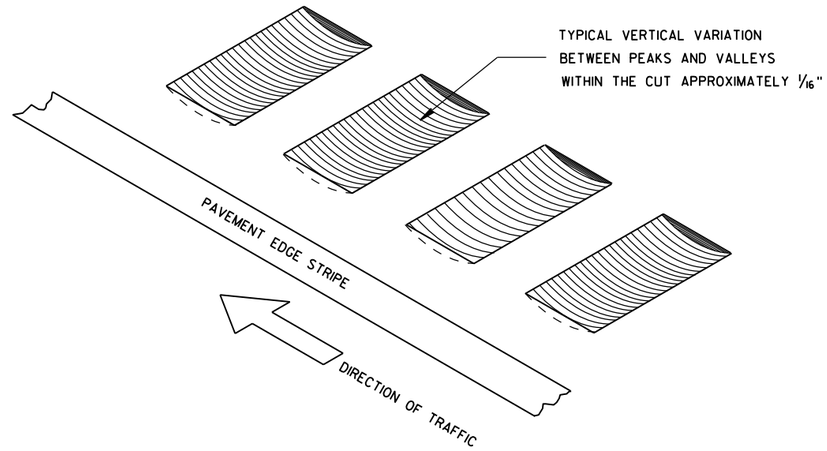
GENERAL NOTES

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

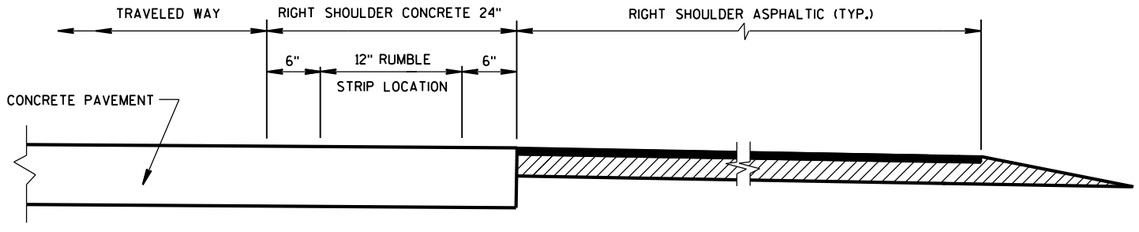
RUMBLE STRIPS ON EXPRESSWAYS

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

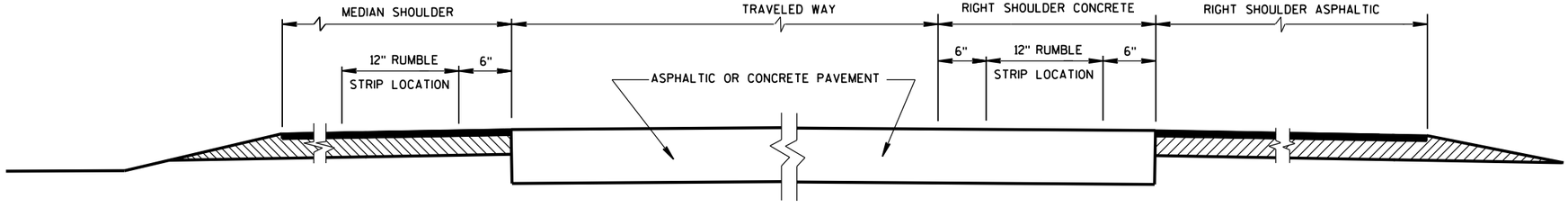
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



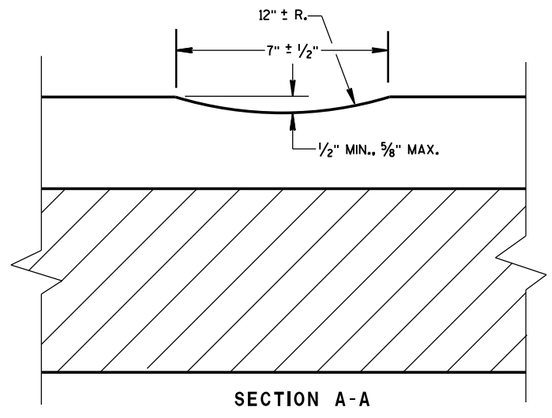
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

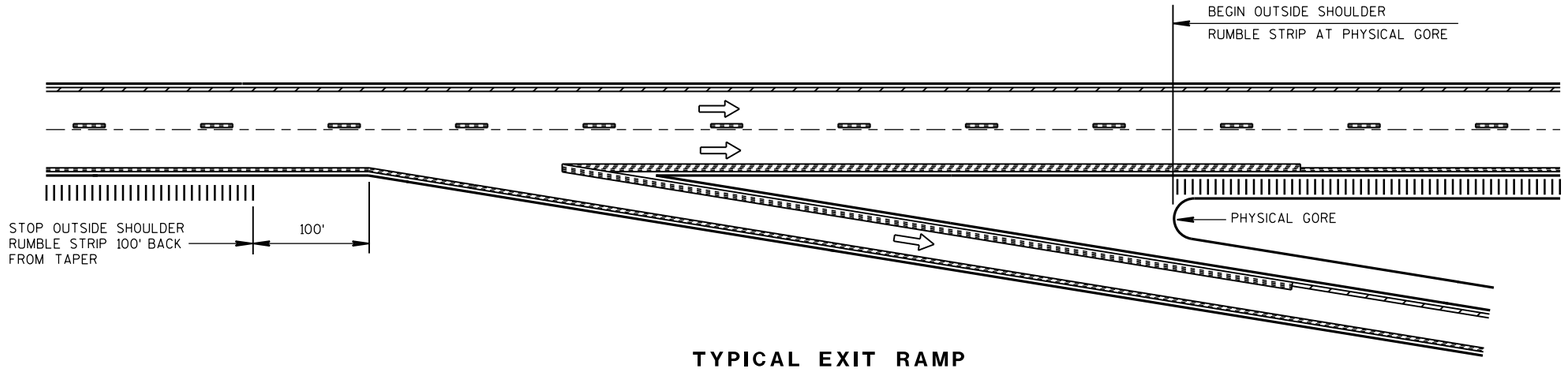
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

6

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



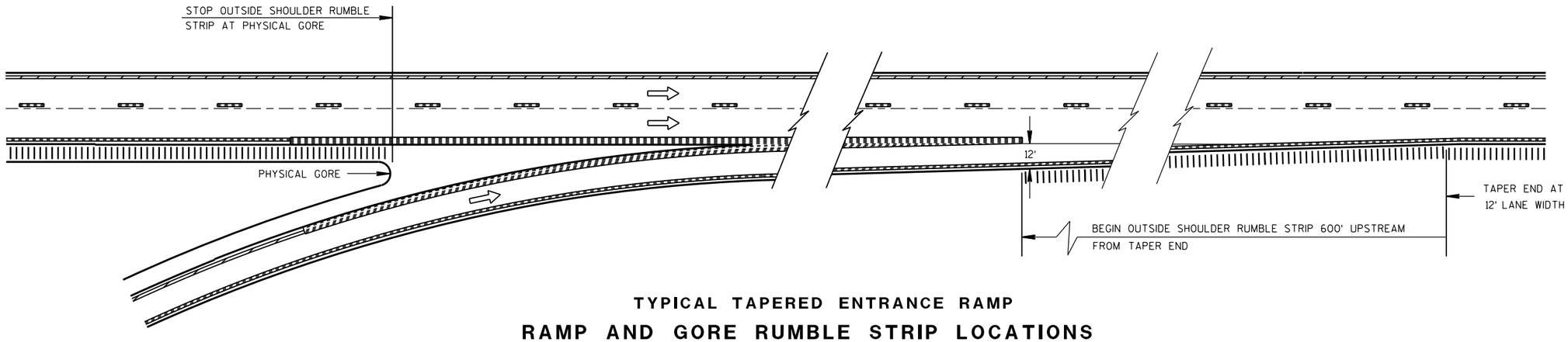
TYPICAL EXIT RAMP

NOTES:

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

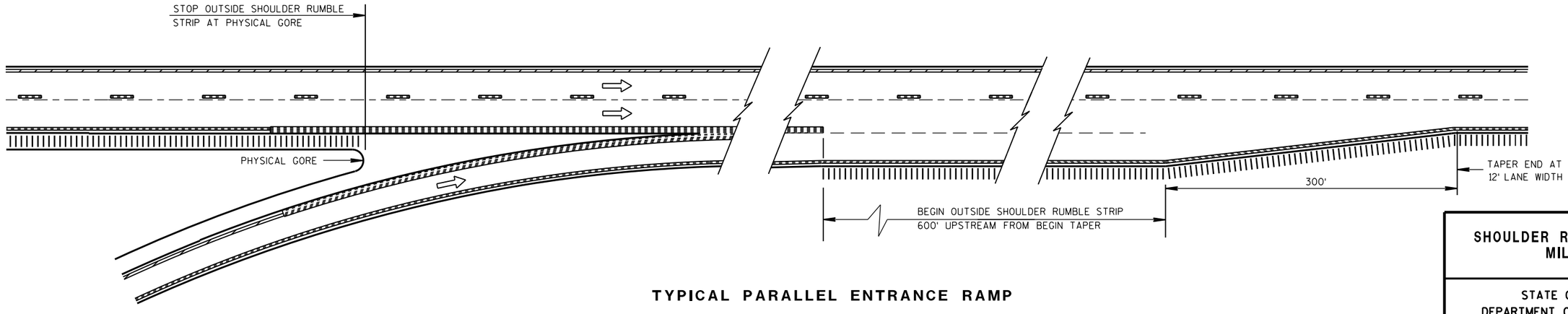
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

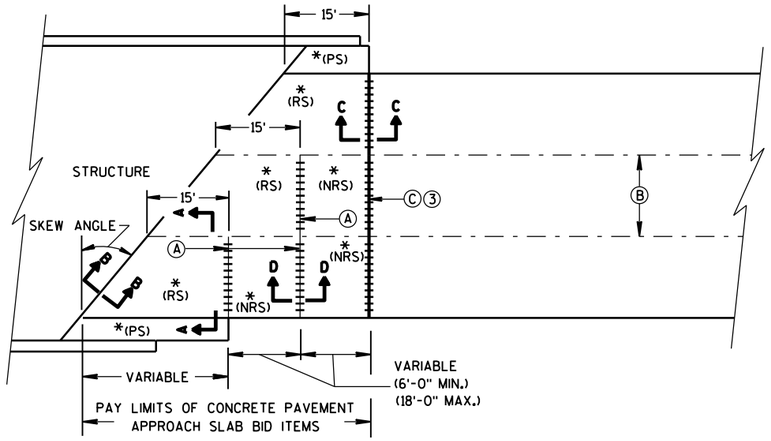
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

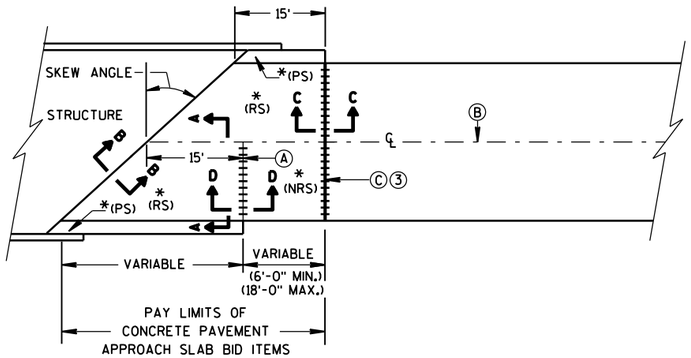
APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

6

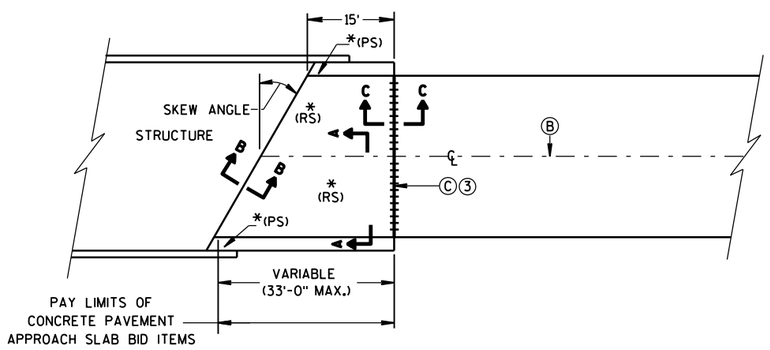
S.D.D. 13 A 5-5b



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



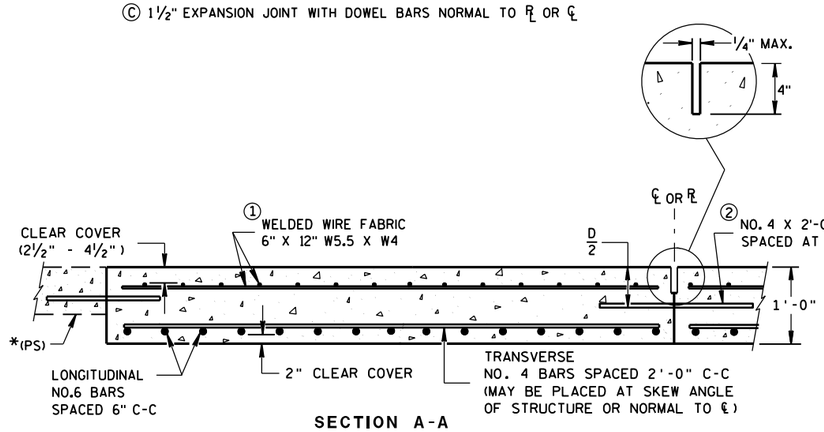
SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

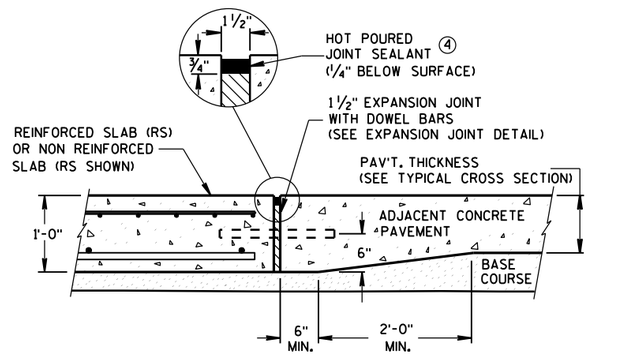
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

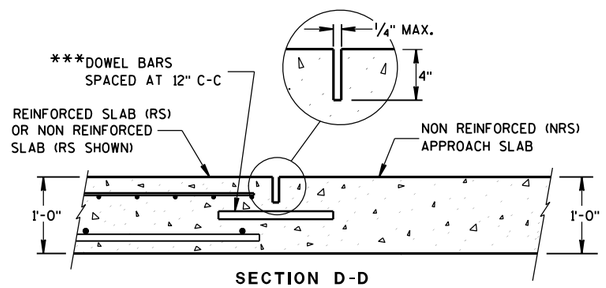
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

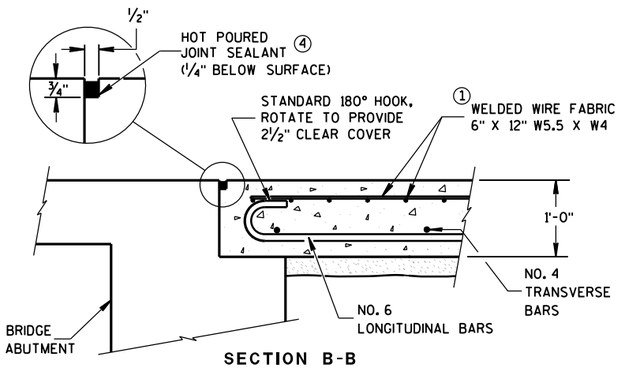
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

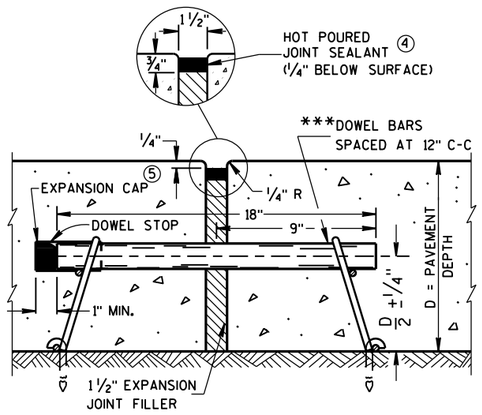
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

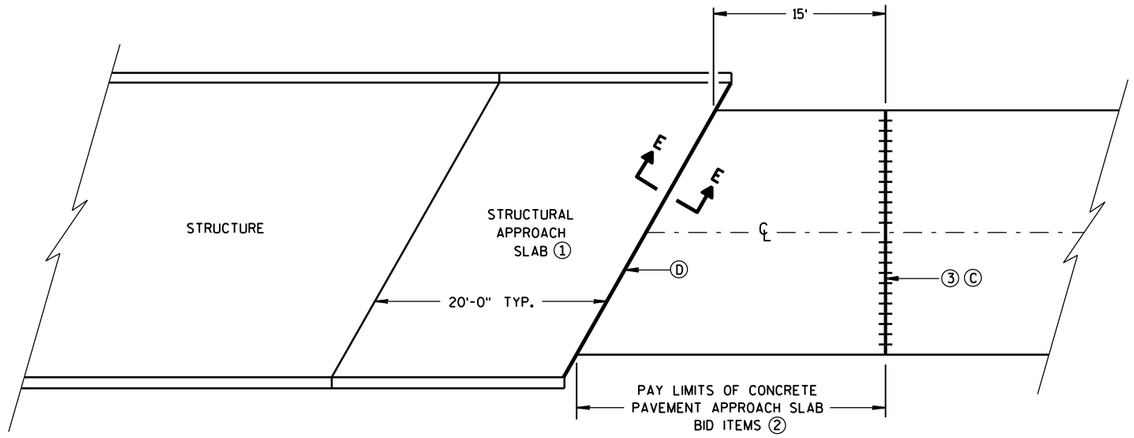
APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

6

S.D.D. 13 B 2-8a

6

S.D.D. 13 B 2-8a



GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

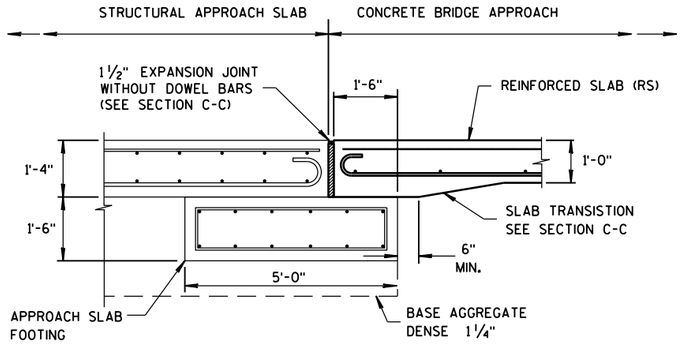
① SEE BRIDGE PLAN.

② CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.

③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)



SECTION E-E

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

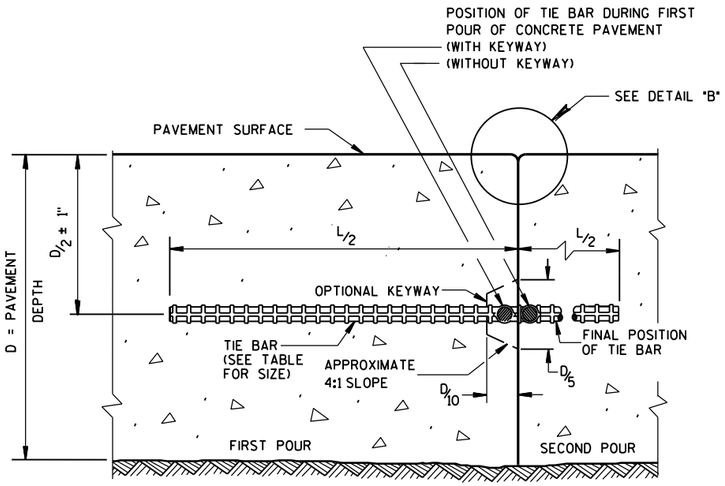
June, 2015
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPEF

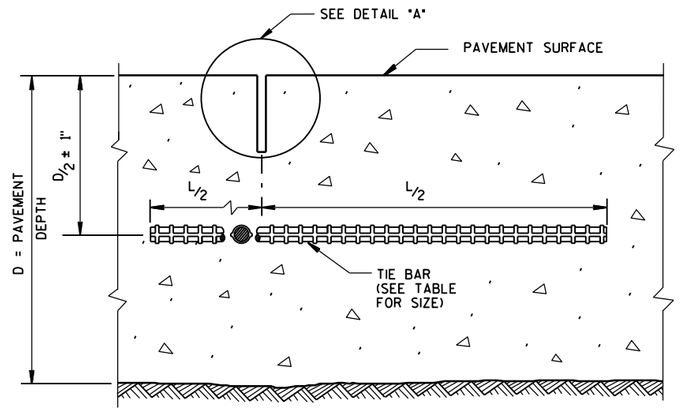
FHWA

6

S.D.D. 13 B 2-8b



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

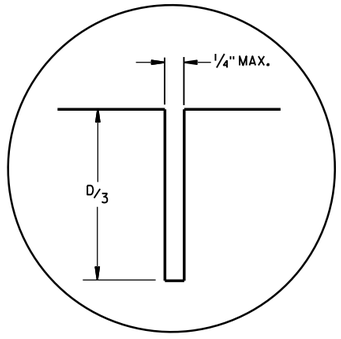
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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

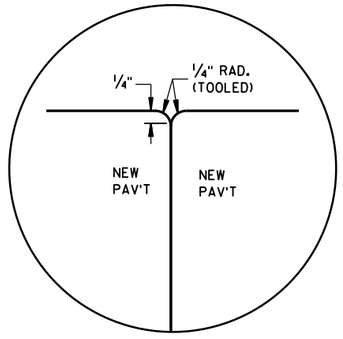
PLAN VIEW

SECTION A-A

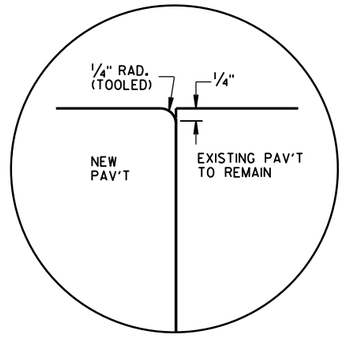
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



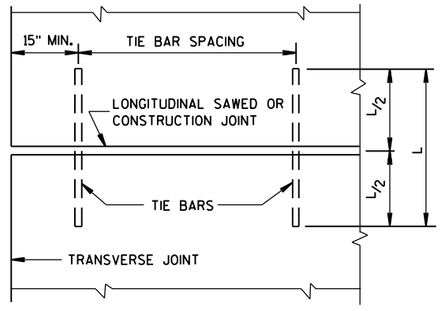
DETAIL "C"

TIE BAR TABLE

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

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

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

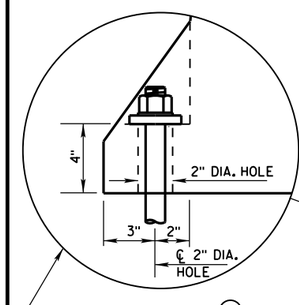
APPROVED
June, 2015
DATE

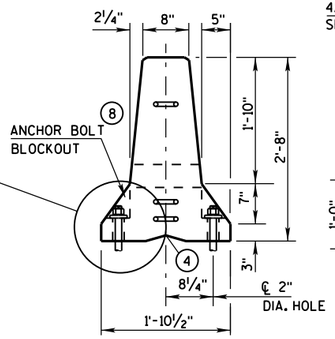
/S/ Peter Kemp, P.E.
PAVEMENT SUPER

FHWA

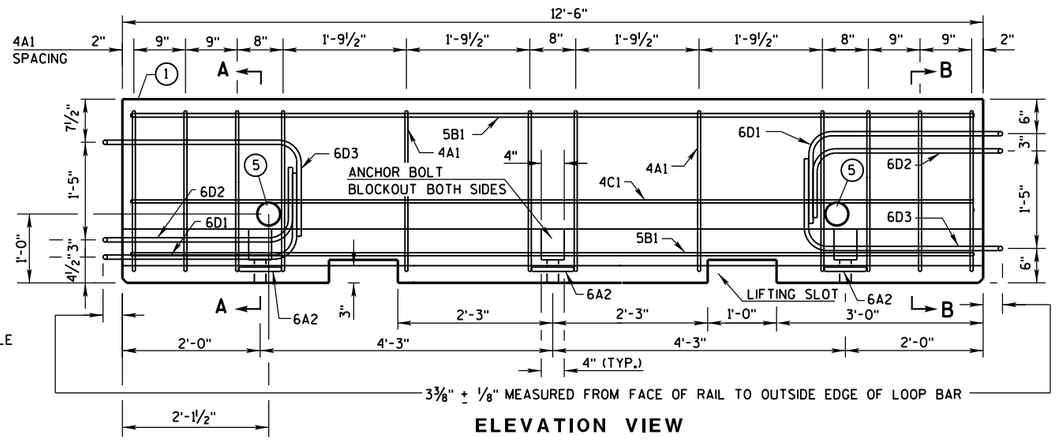
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S.D.D. 13 C 1-18

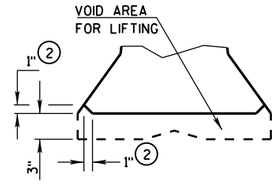




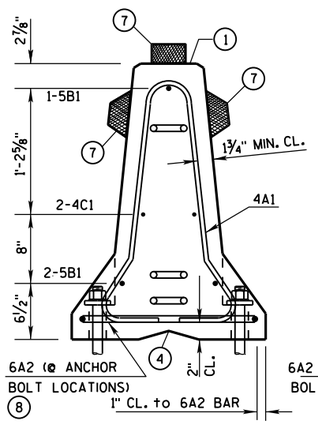
END VIEW



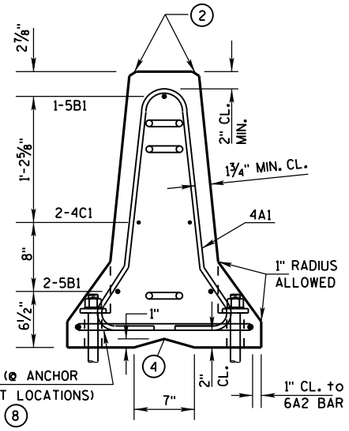
ELEVATION VIEW



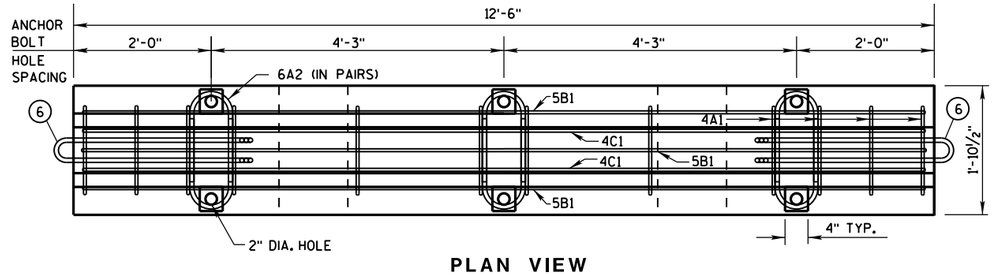
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

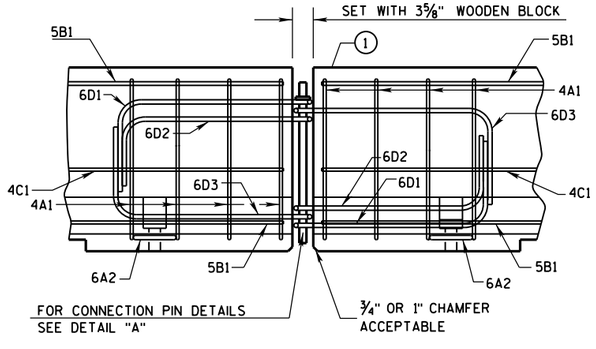


SECTION B-B
(STIRRUP PLACEMENT)

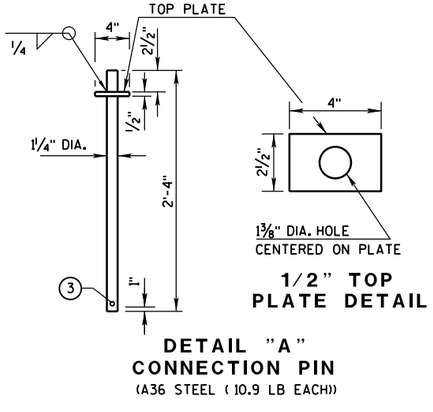


PLAN VIEW

DETAILS OF BARRIER SECTION

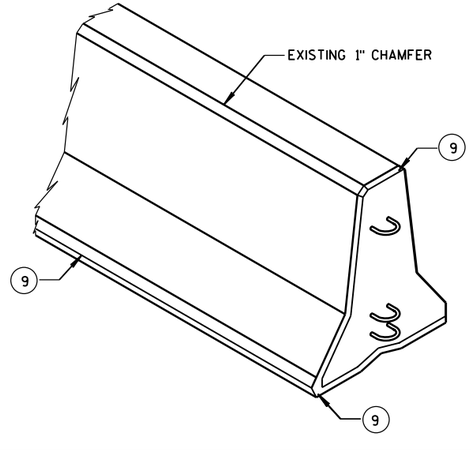


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

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



GENERAL NOTES

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

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

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

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

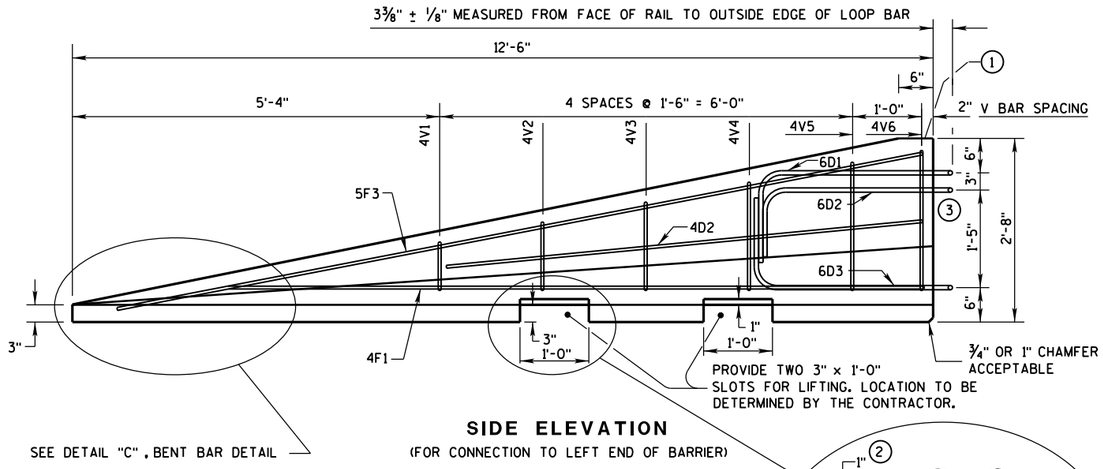
(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

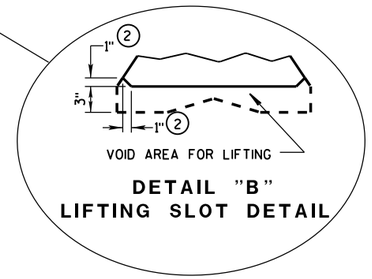
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

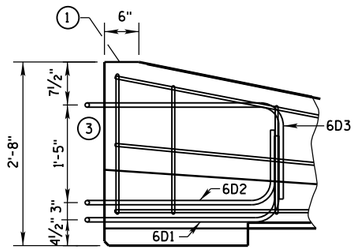
6
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



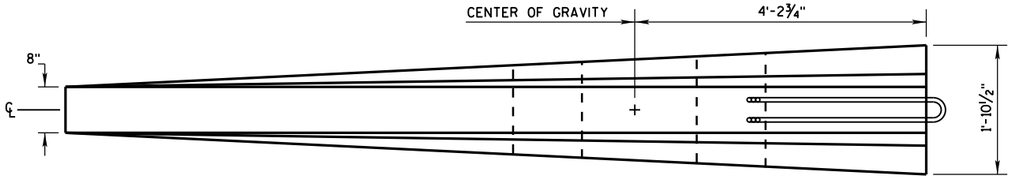
DETAIL "B"
LIFTING SLOT DETAIL



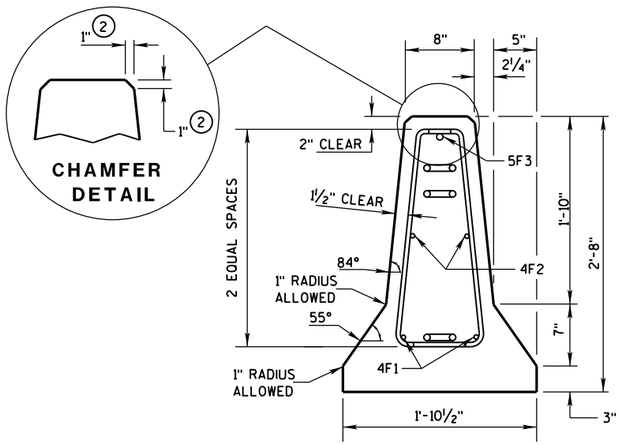
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

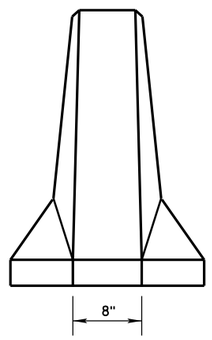
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



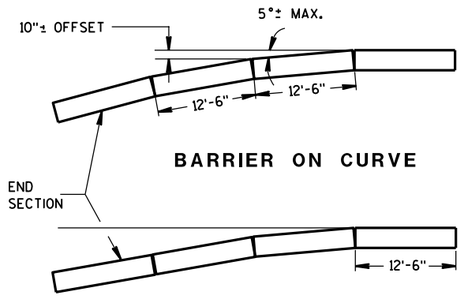
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

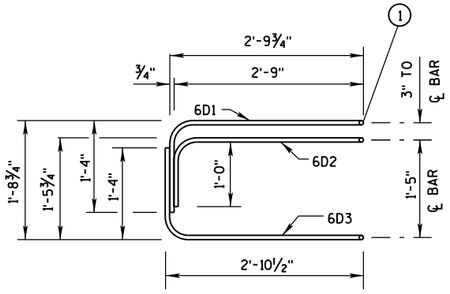
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14b

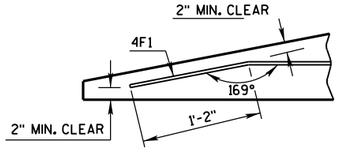
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

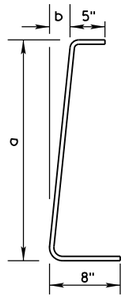
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

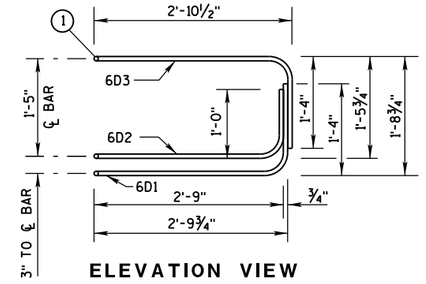
GENERAL NOTES

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

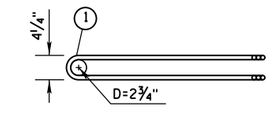
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

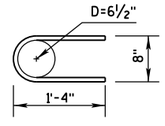
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



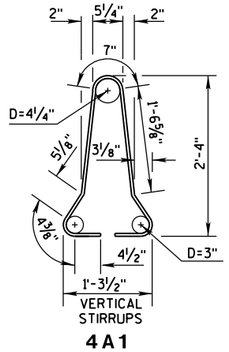
ELEVATION VIEW



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



6A2



4A1

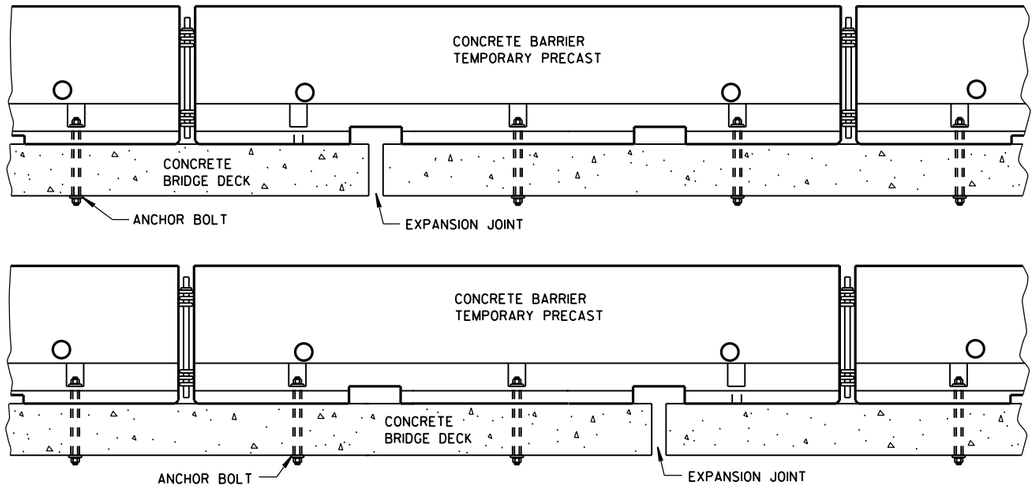
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

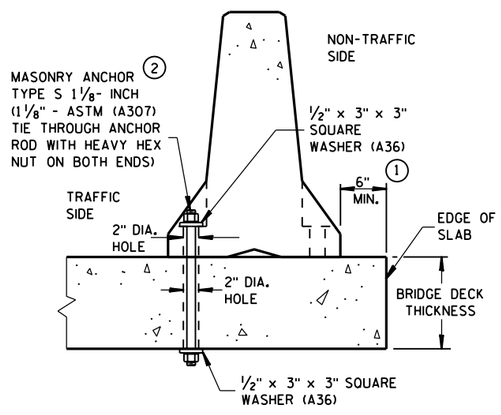
6

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



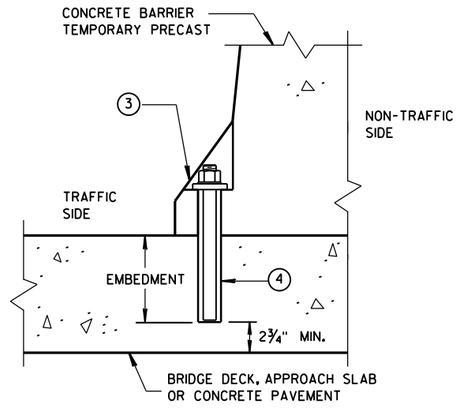
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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 NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT ②

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

① 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.

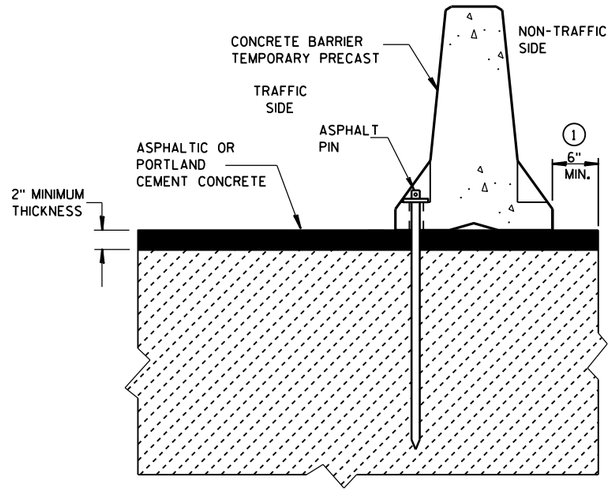
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED 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 1⅛-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 COMMERICAL GROUT OR MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

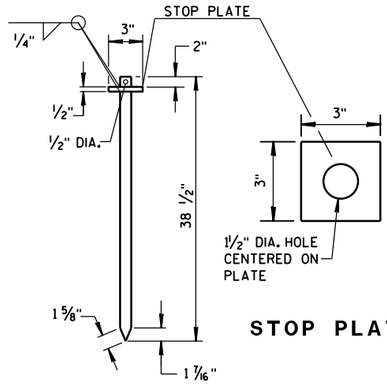
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)

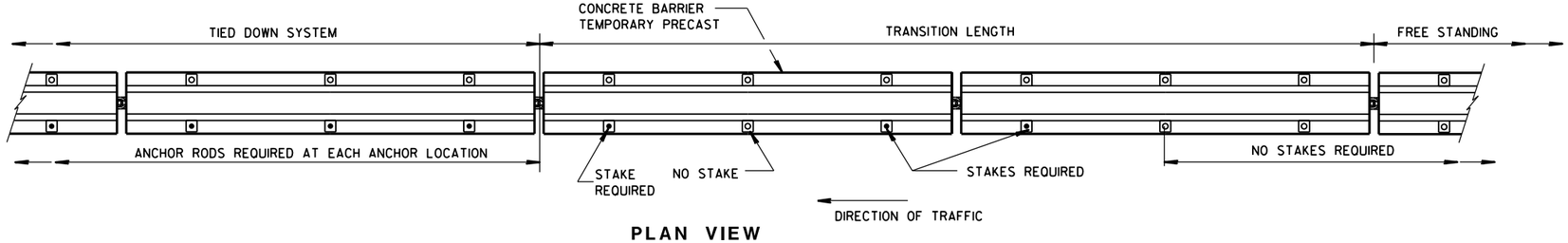


STOP PLATE



ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

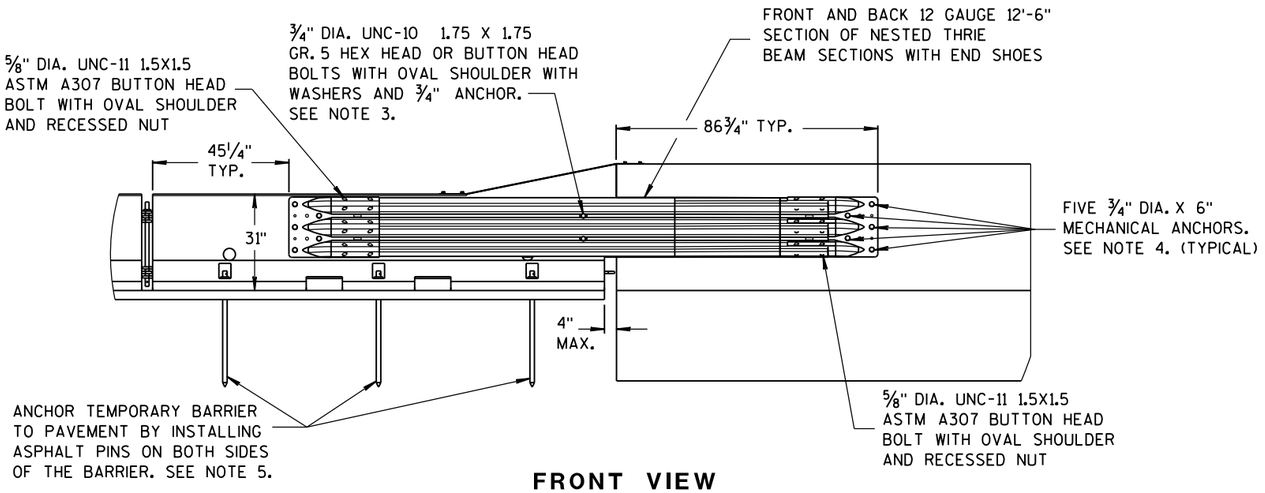
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

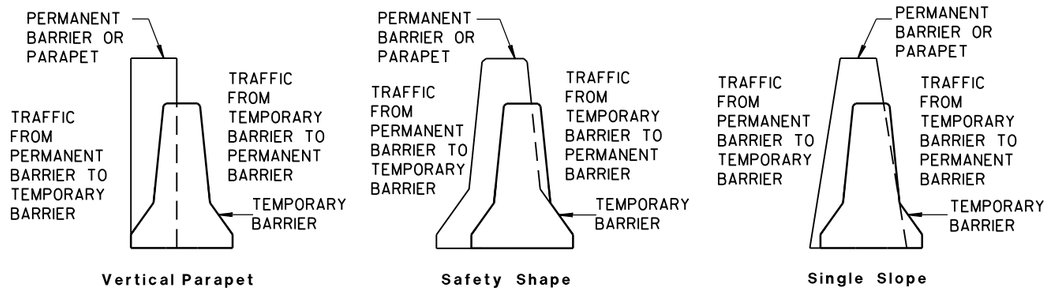
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



FRONT VIEW

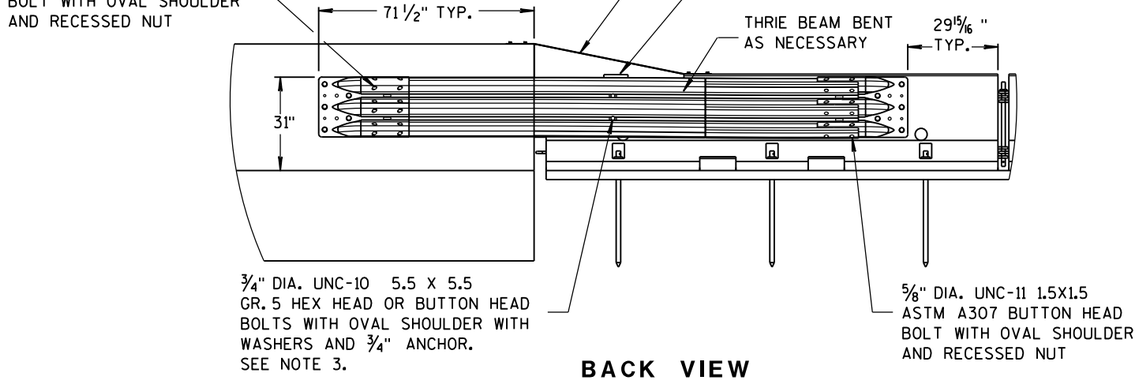


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

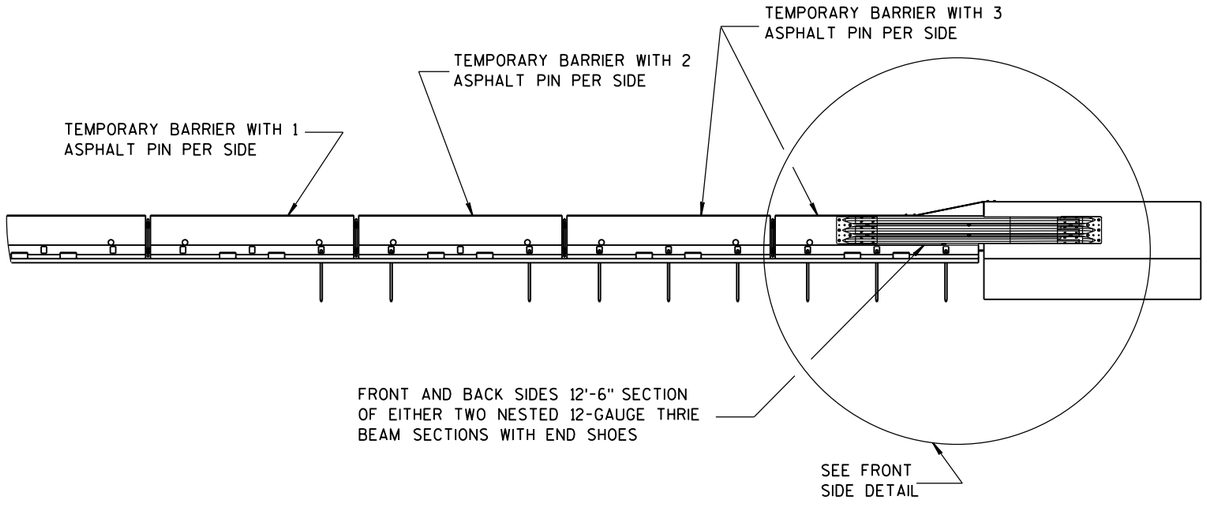
NOTES

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

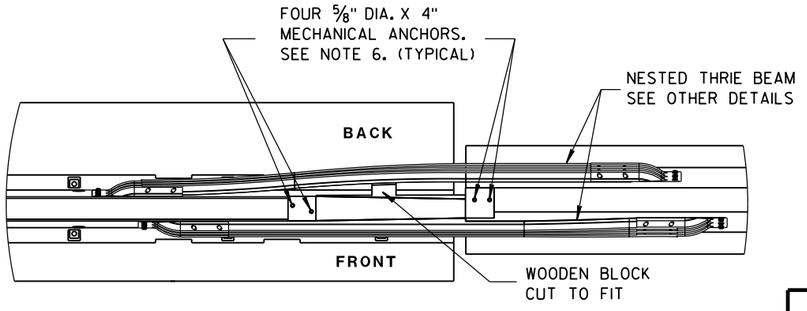
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD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



BACK VIEW



FRONT VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 7-14e

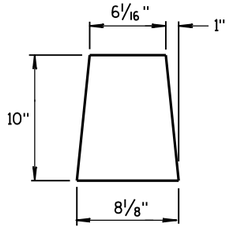
GUSSET 1

GUSSET 2

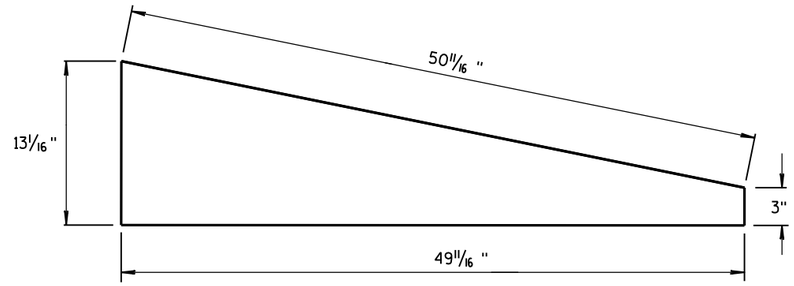
GUSSET 3

GUSSET 4

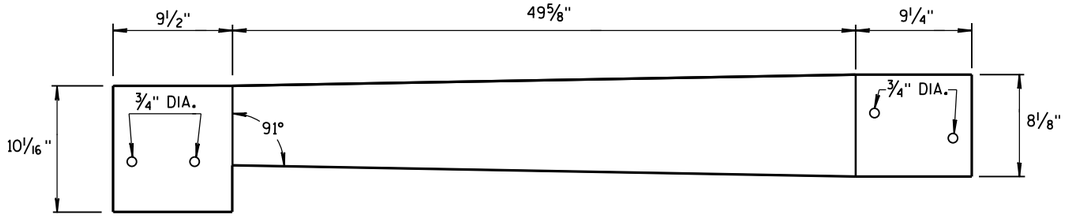
GUSSETS

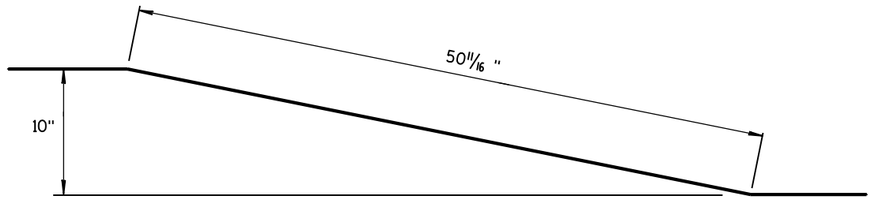


END PLATE

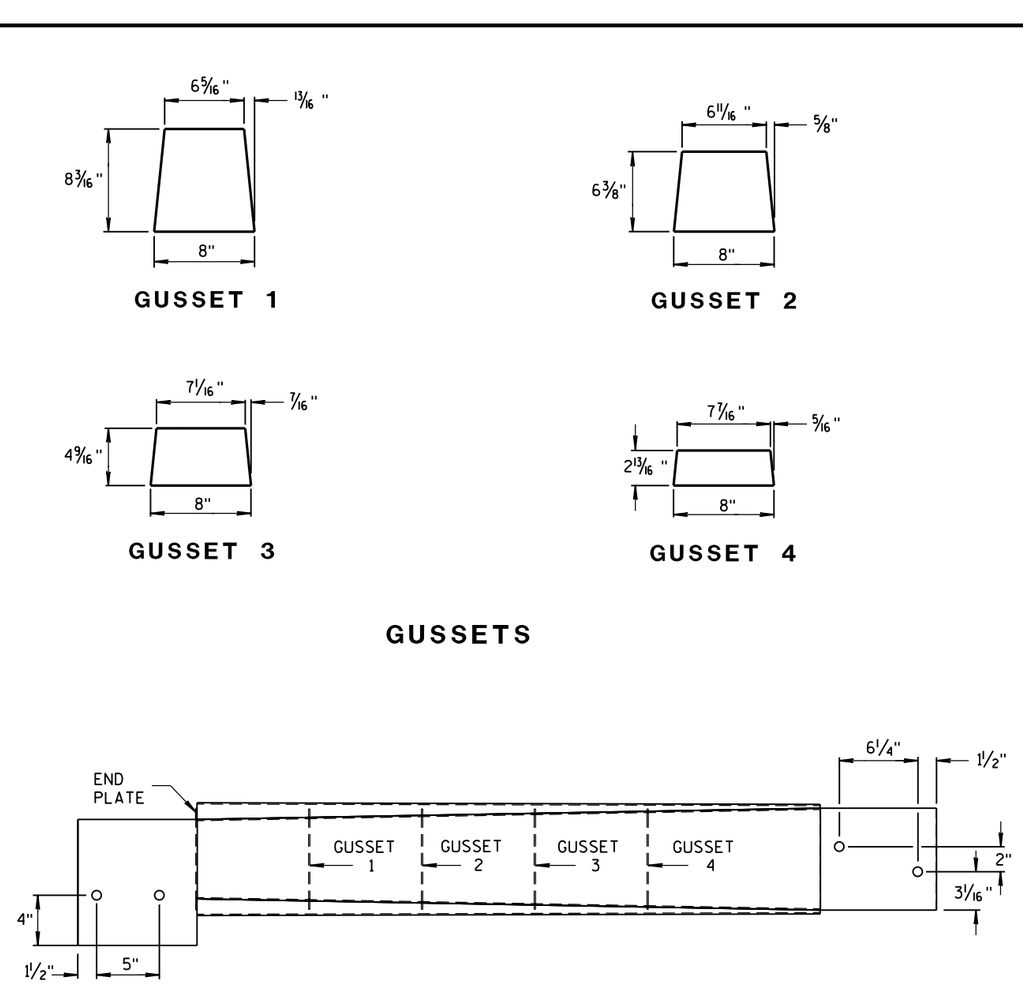


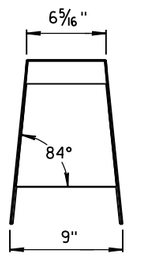
SIDE PLATE





TOP PLATE





SECTION C-C

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.

NOTES

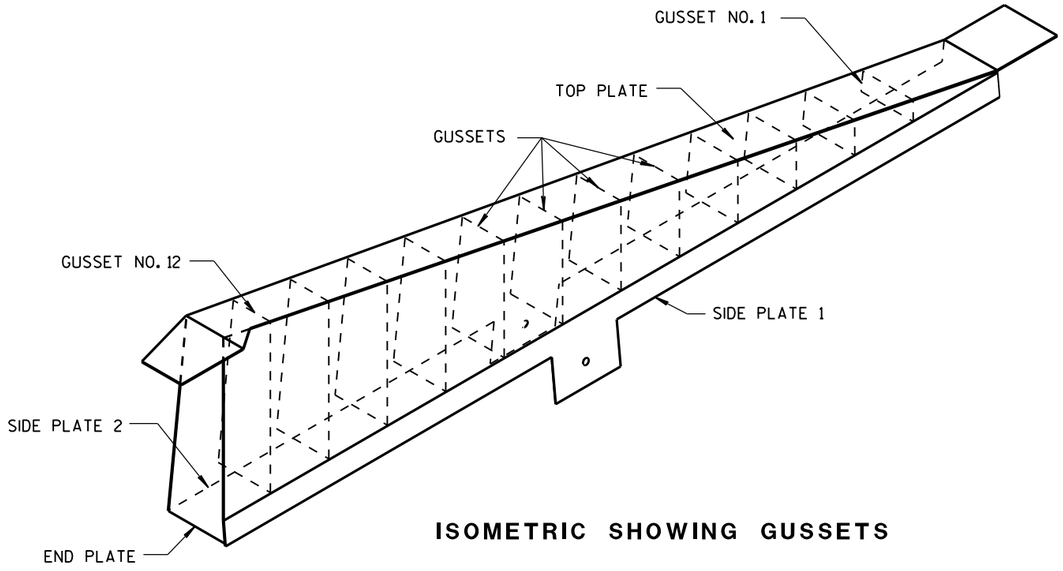
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

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

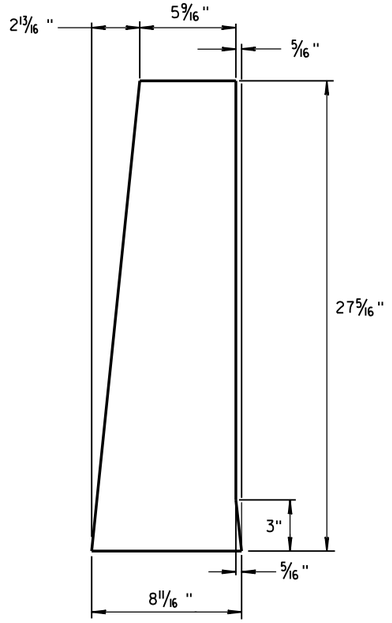
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14f

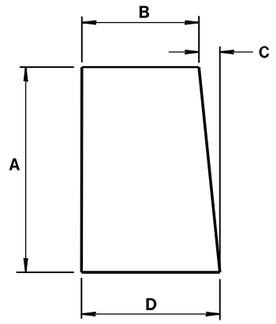


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



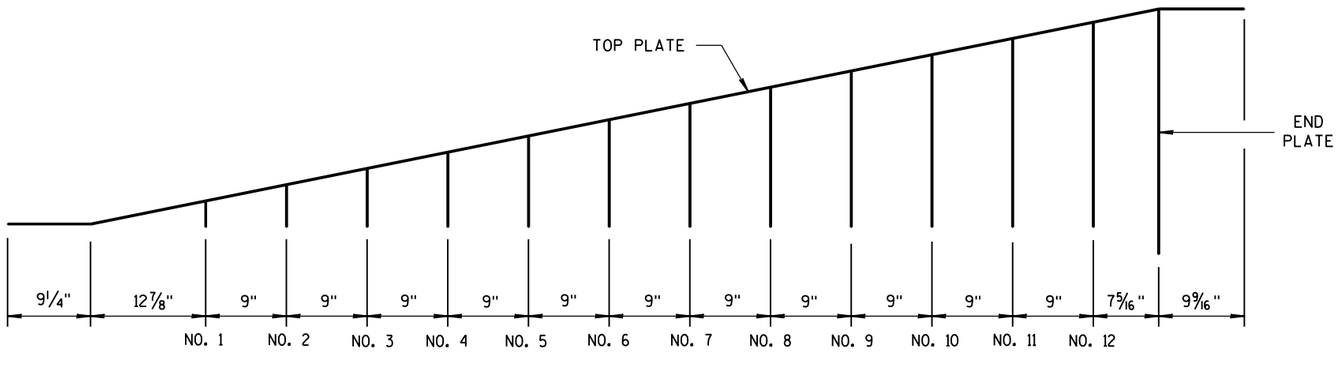
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

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

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

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



GUSSET LOCATION

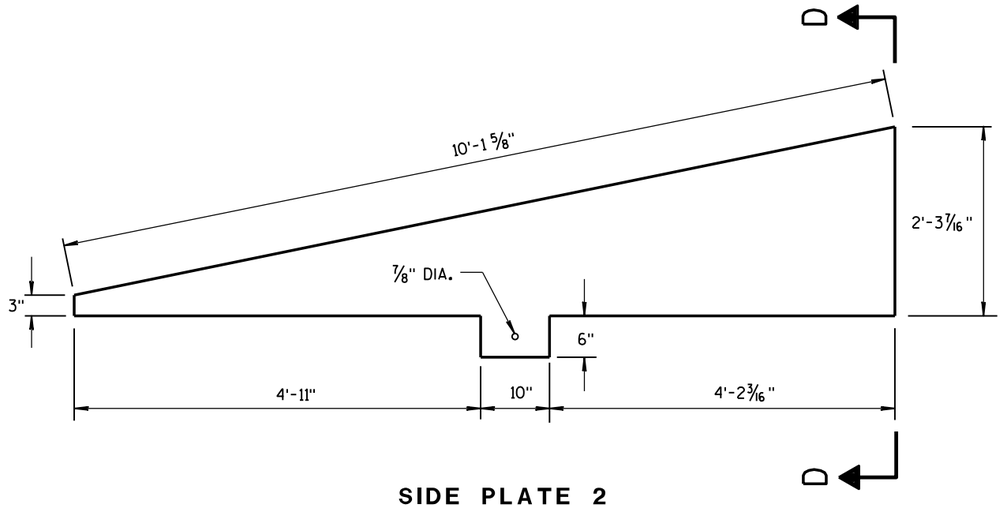
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

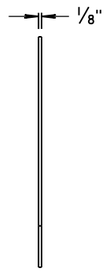
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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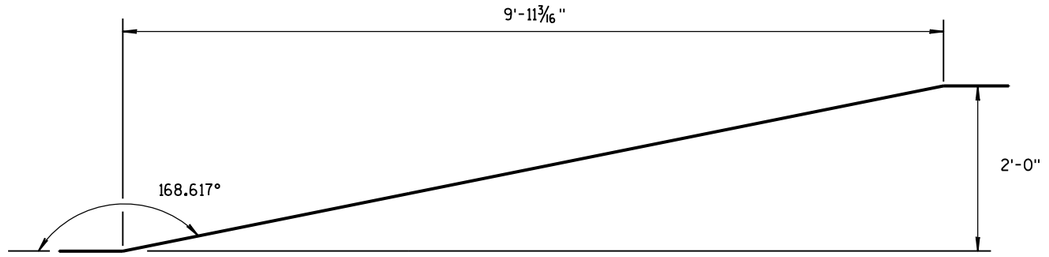
S.D.D. 14 B 7-14g



SIDE PLATE 2

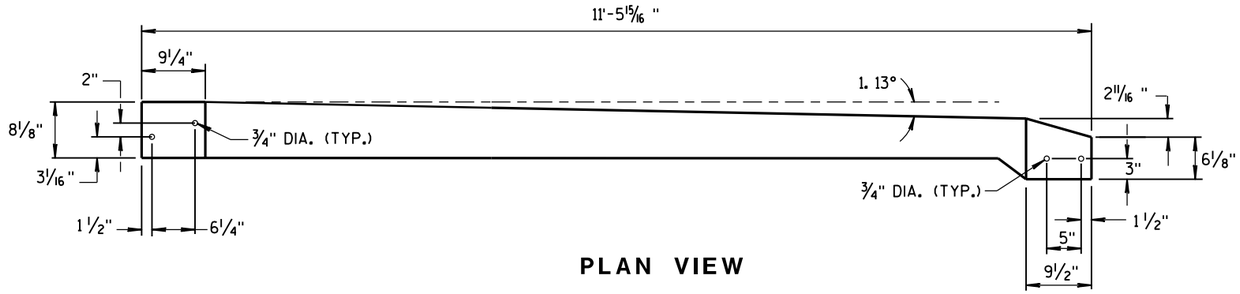


END VIEW



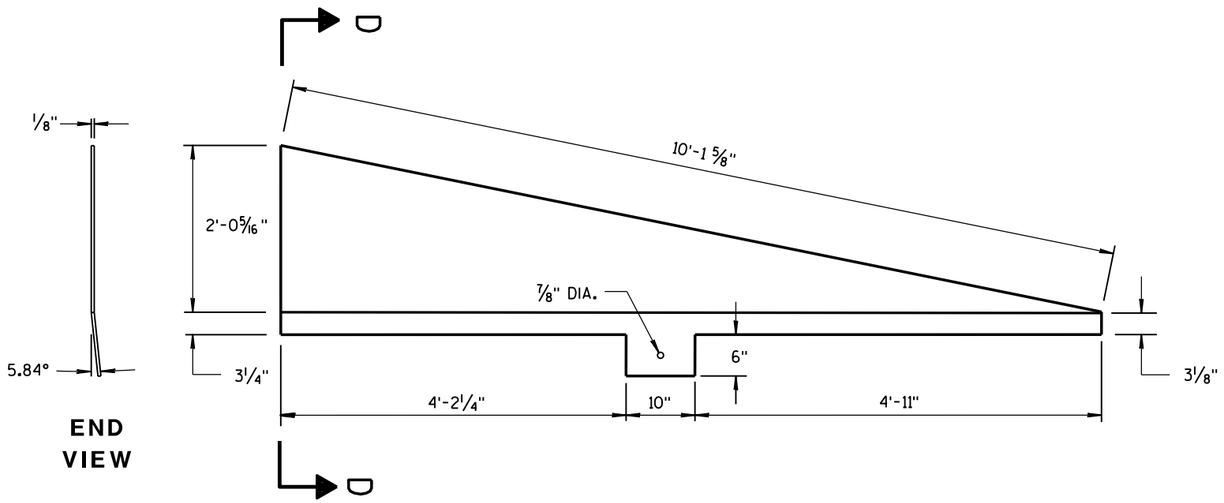
SIDE VIEW

TOP PLATE



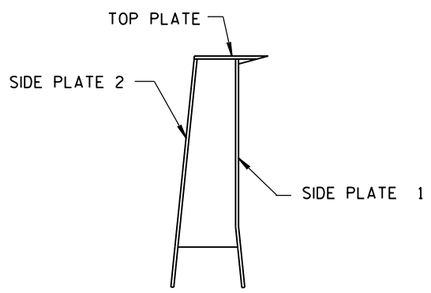
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

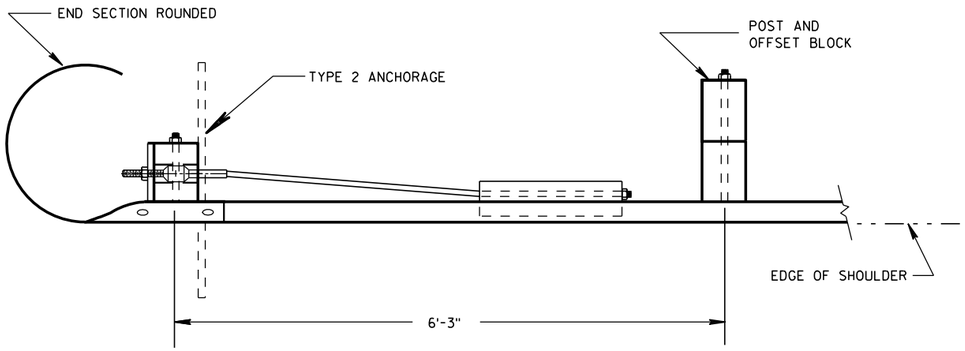
APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

6

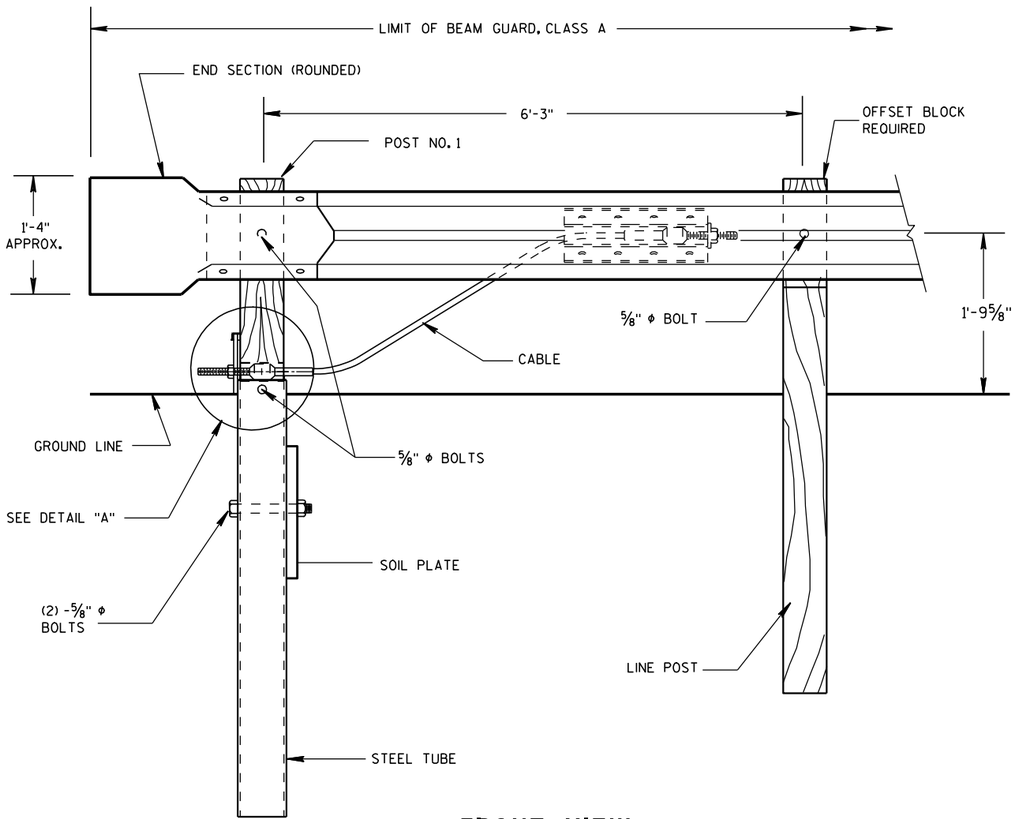
S.D.D. 14 B 7-14h

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



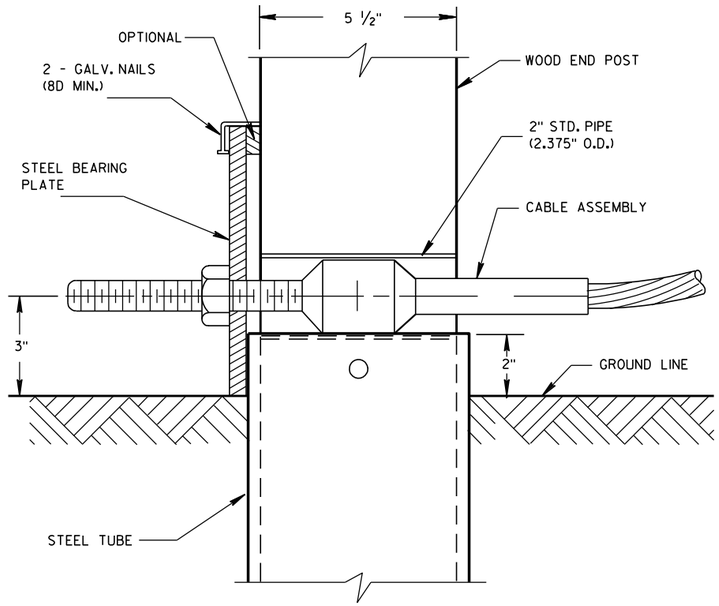
PLAN VIEW



FRONT VIEW

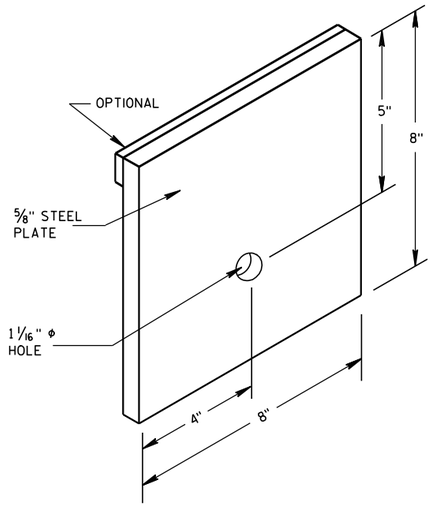
END TREATMENT WITH TYPE 2 ANCHORAGE

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



DETAIL "A"

POST NO. 1

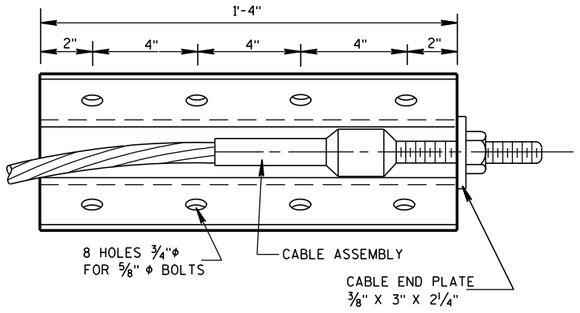


STEEL BEARING PLATE

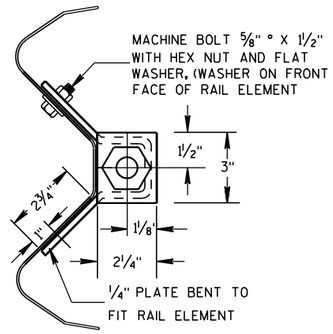
ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 16-4a

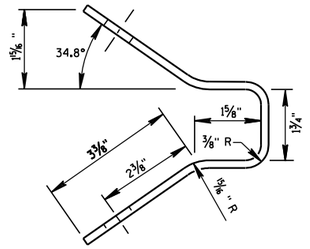


FRONT VIEW

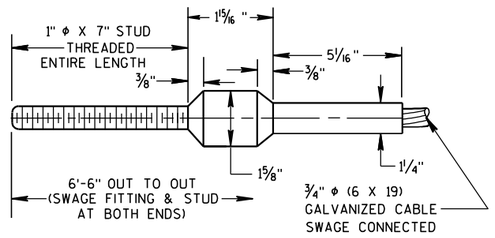


END VIEW

ANCHOR PLATE DETAIL



END VIEW OF BRACKET



CABLE ASSEMBLY

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

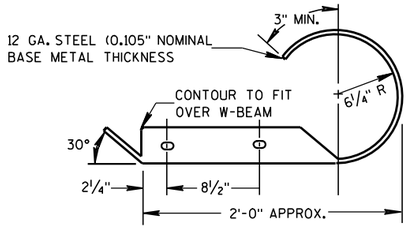
GENERAL NOTES

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

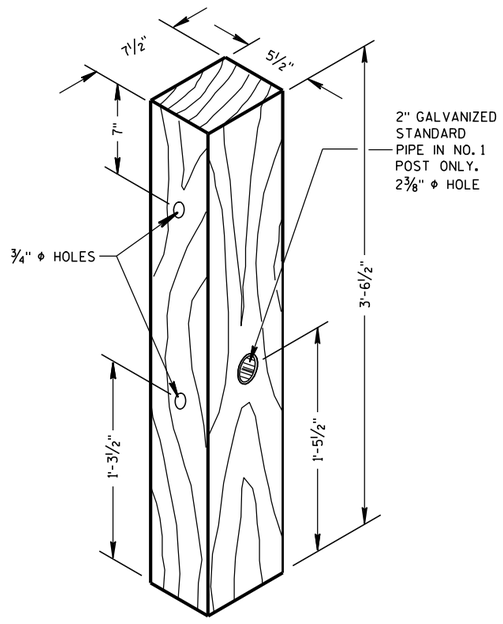
STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-500 GRADE B OR ASTM A-501.

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

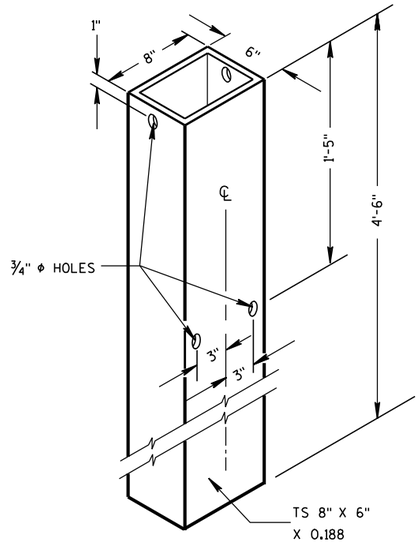
TYPE 2 ANCHORAGE SHALL CONSIST OF A STEEL TUBE, SOIL PLATE WOOD BREAKAWAY POST, BEARING PLATE, ANCHOR PLATE, CABLE ASSEMBLY AND ALL ASSOCIATED HARDWARE, ALL STEEL PARTS SHALL BE GALVANIZED.



PLAN VIEW

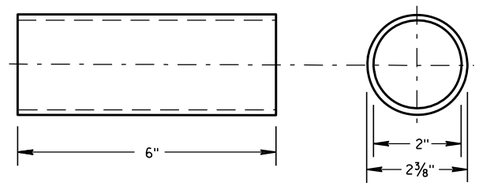


WOOD BREAKAWAY POST



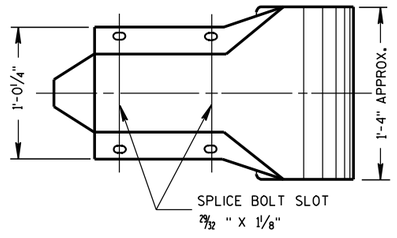
STEEL TUBE

STEEL TUBE SHALL CONFORM TO
REQUIREMENTS OF ASTM A500

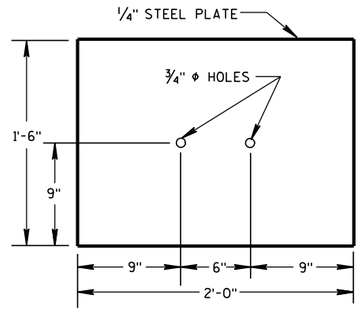


BREAKAWAY TERMINAL POST SLEEVE

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



FRONT VIEW
W BEAM END SECTION ROUNDED



SOIL PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

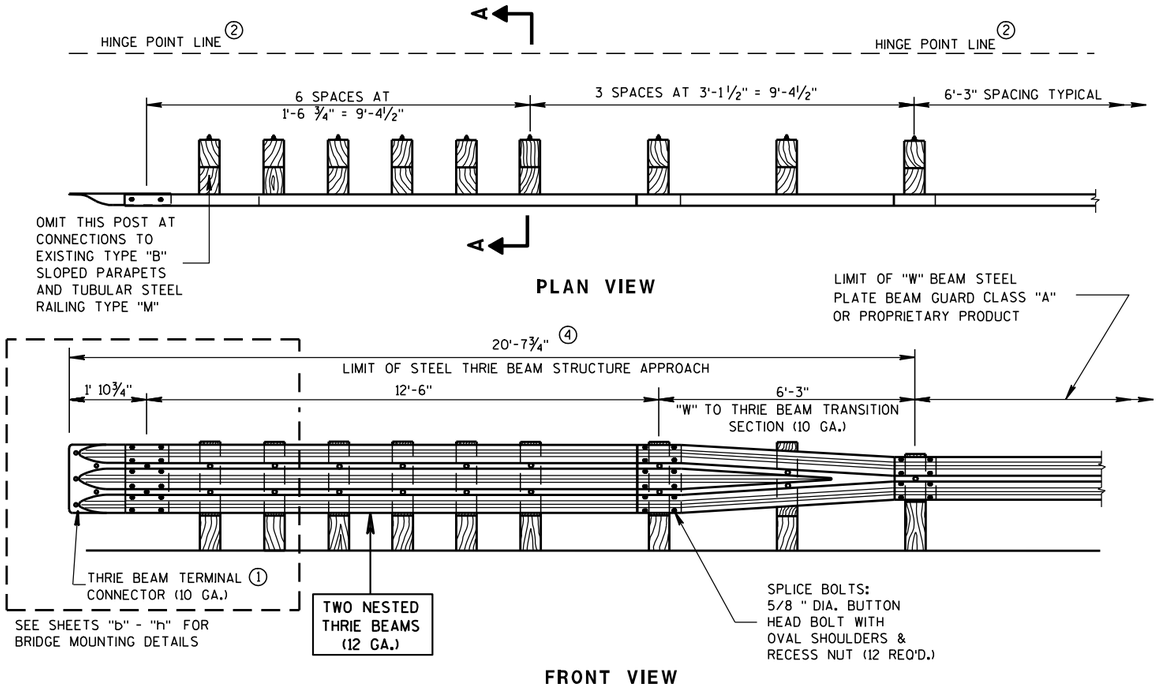
APPROVED
8/21/2007
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

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

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



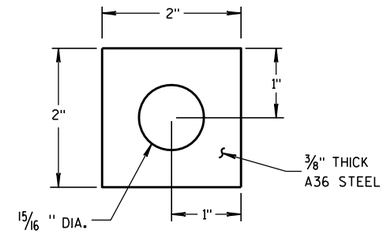


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

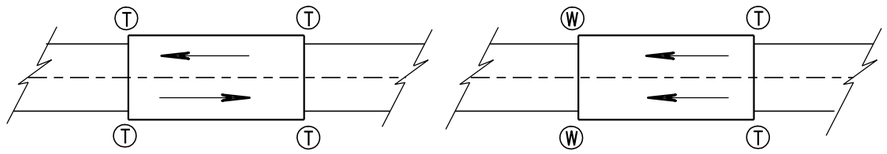
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



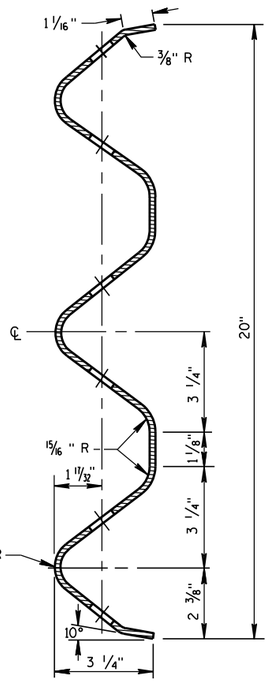
TWO WAY TRAFFIC

ONE WAY TRAFFIC

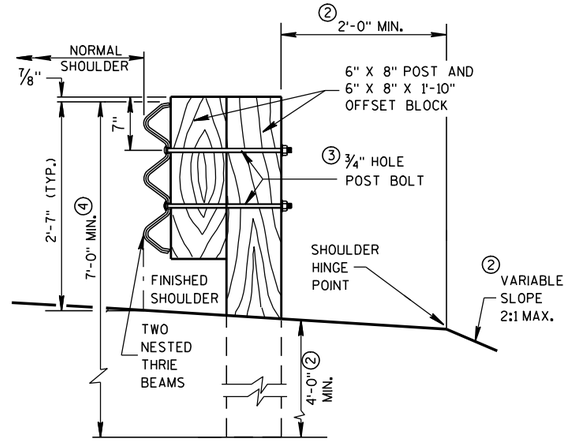
(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

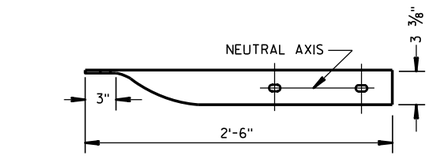
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

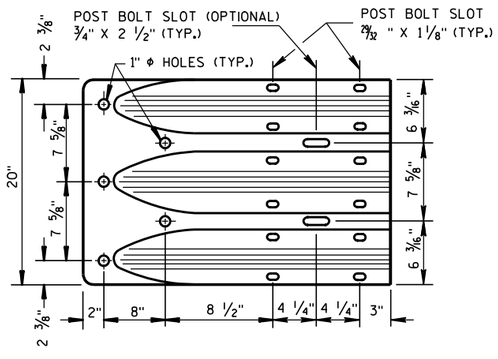


SECTION THRU THRIE BEAM RAIL ELEMENT

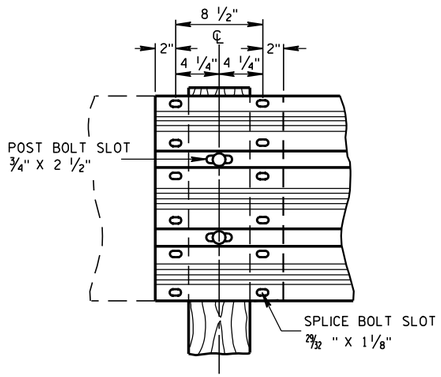


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

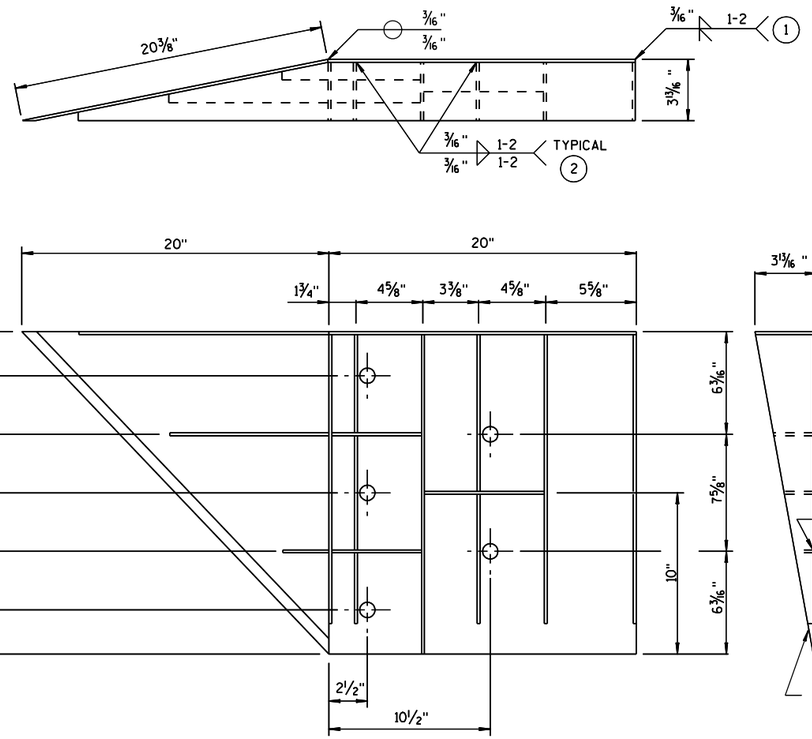
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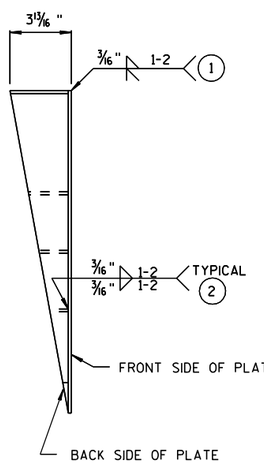
8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

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S.D.D. 14 B 20-11a





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

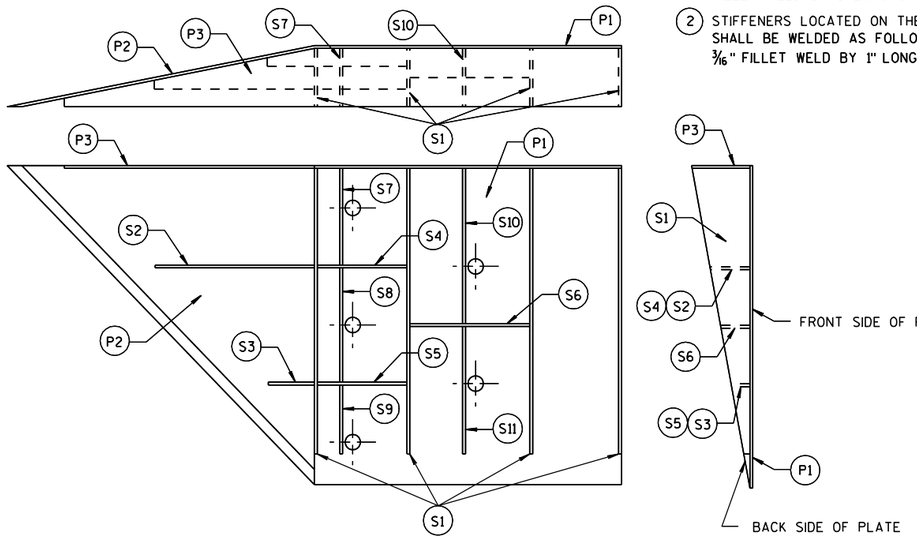


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE ⅜" THICK.

ALL STIFFENERS ARE ¼" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

① STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND ⅜" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

② STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
⅜" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	⅜"
P2	1		20" x 20" x 28⁹⁄₁₆"	⅜"
P3	1		39" x 3⅝" x 20" x 19⁵⁄₁₆"	⅜"
S1	4		18⁷⁄₁₆" x 3⅝" x 18¾"	¼"
S2	1		10¼" x 2⅞" x 10⅜" x ½"	¼"
S3	1		3" x 1⅛" x 3⅛" x ½"	¼"
S4	1		6⅛" x 2⅞"	¼"
S5	1		6⅛" x 1⅛"	¼"
S6	1		7¾" x 1¾"	¼"
S7	1		2⁹⁄₁₆" x 6" x 3⅝" x 5⅞"	¼"
S8	1		1⁵⁄₃₂" x 7½" x 2½" x 7⅜"	¼"
S9	1		6⅛" x 6⅜" x 1³⁄₃₂"	¼"
S10	1		1⅞" x 9⅞" x 3⅝" x 9¹¹⁄₁₆"	¼"
S11	1		8½" x 8¾" x 1¹³⁄₁₆"	¼"

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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8/31/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

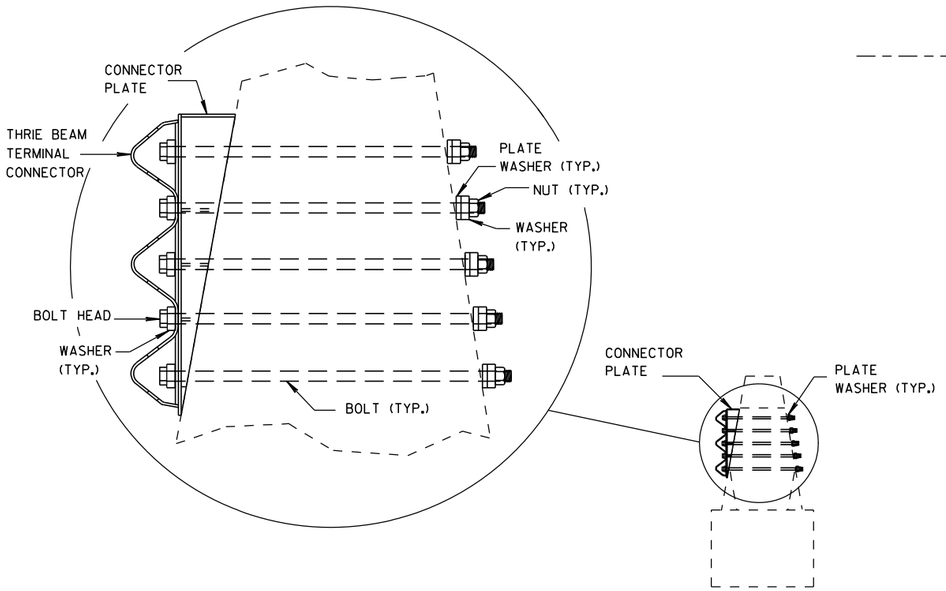
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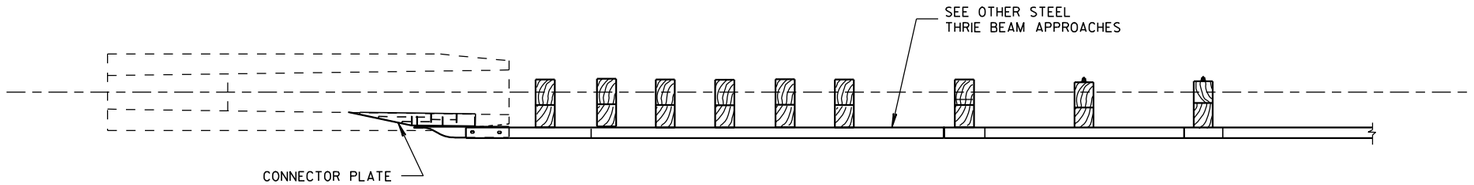
S.D.D. 14 B 20-11g

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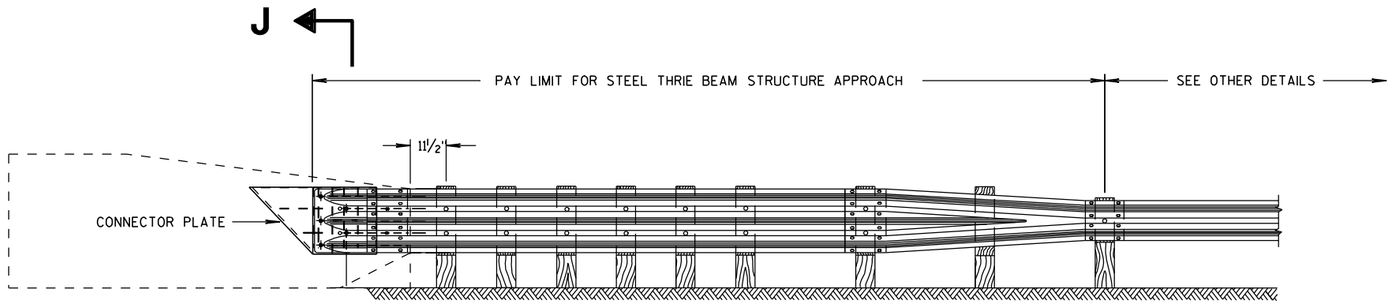
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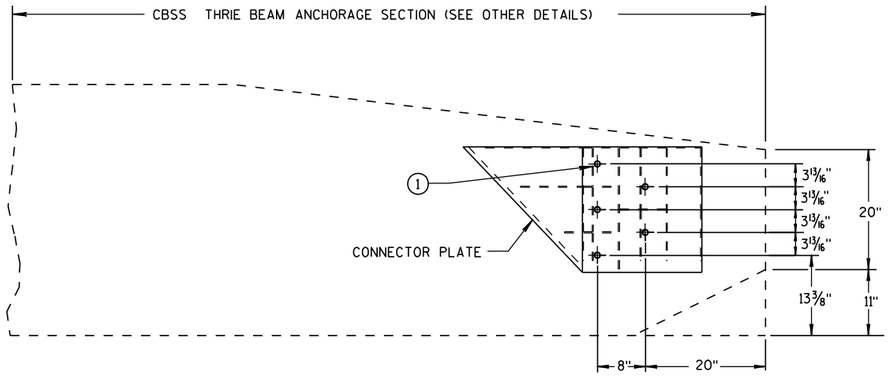
SECTION J-J



PLAN VIEW



FRONT VIEW



CONNECTOR PLATE LOCATION

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

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

(1) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

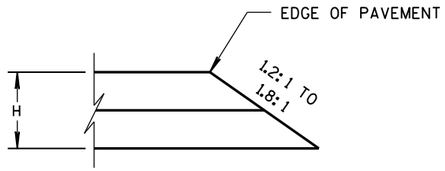
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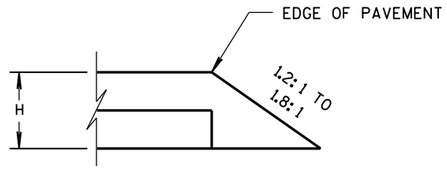
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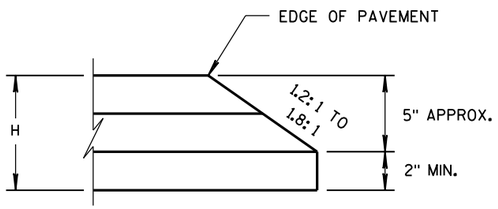
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



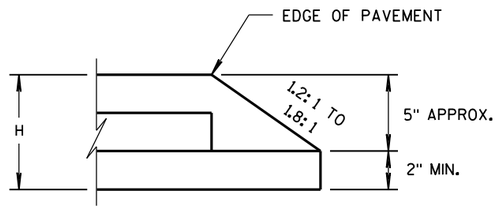
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

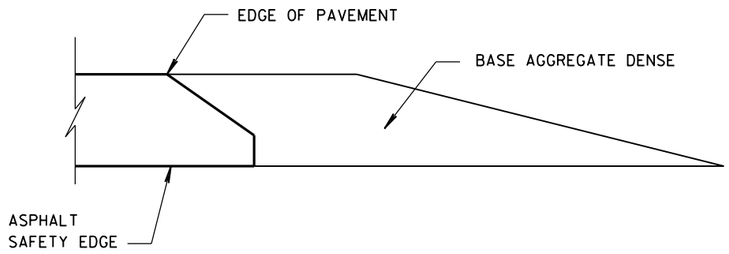
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

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S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

GENERAL NOTES

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

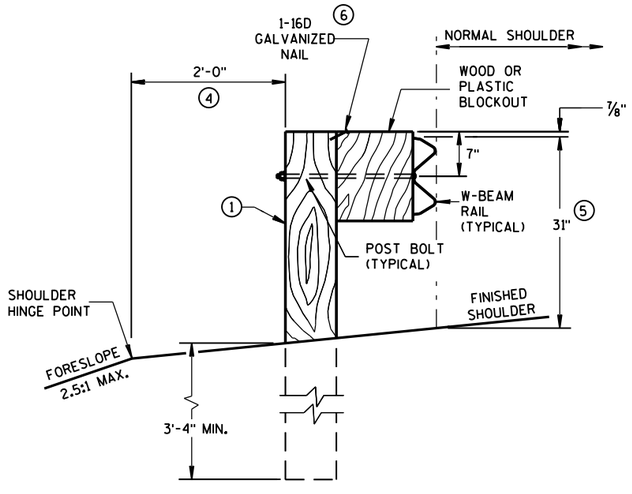
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

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

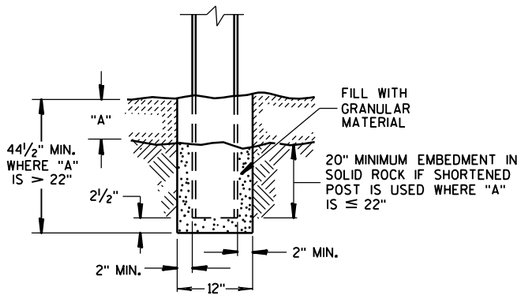
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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



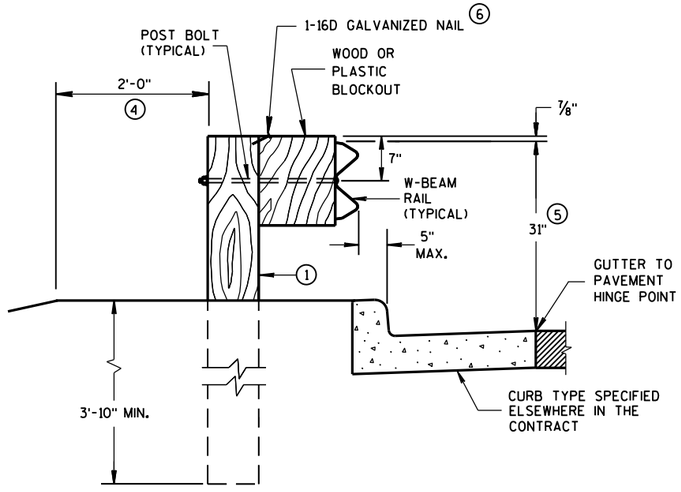
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



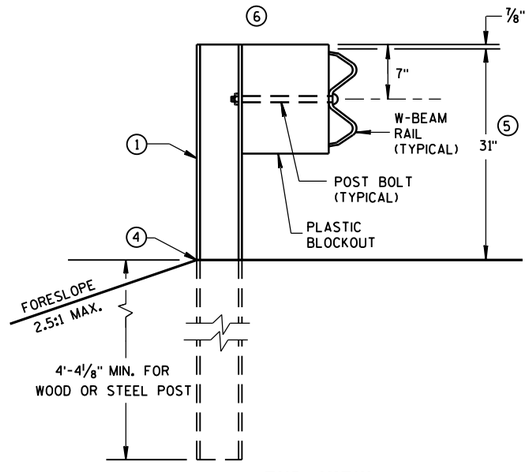
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



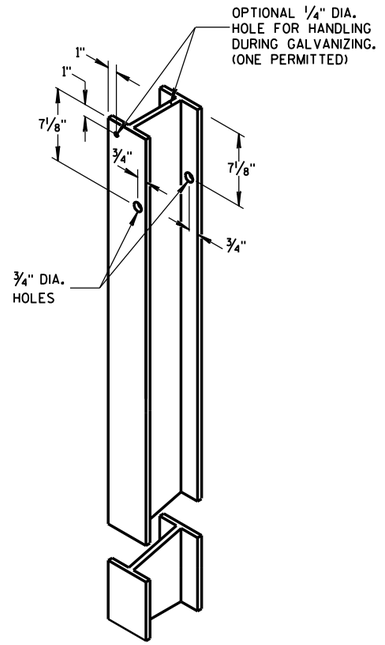
END VIEW

LOCATED ALONG A CURBED ROADWAY

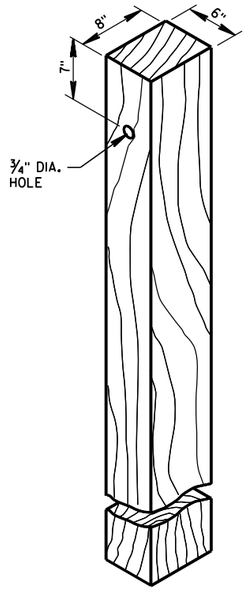


END VIEW

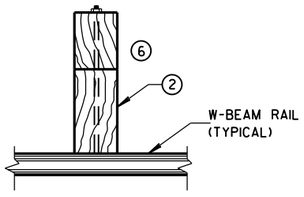
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



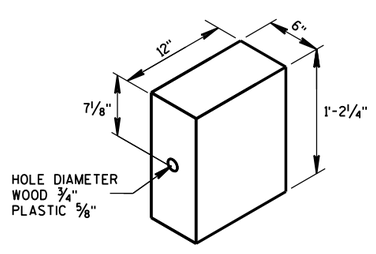
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



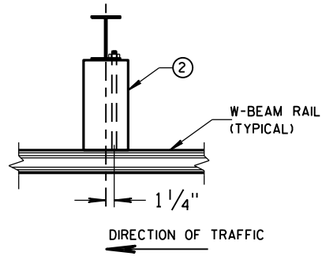
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

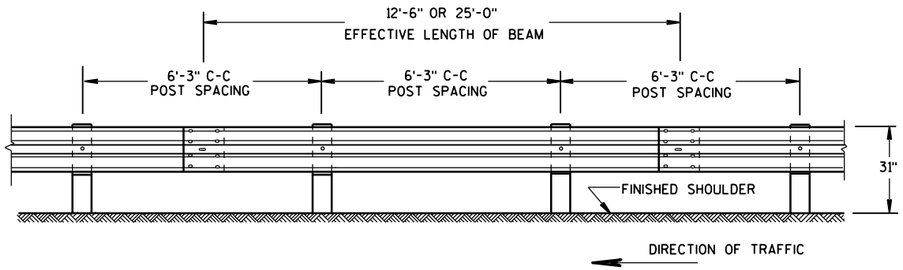


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

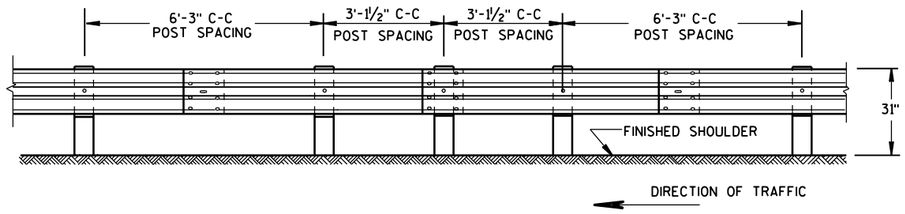
STATE OF WISCONSIN
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S.D.D. 14 B 42-3a



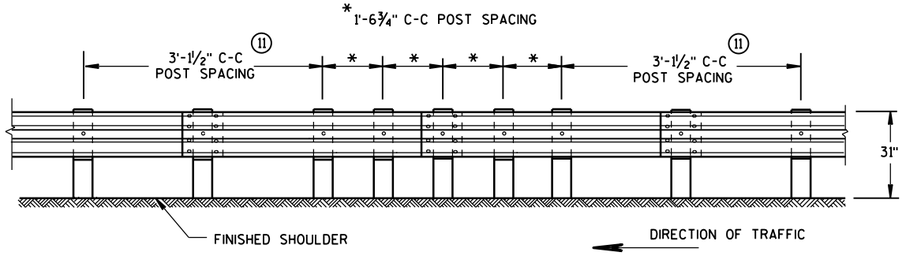
FRONT VIEW

POST SPACING STANDARD INSTALLATION



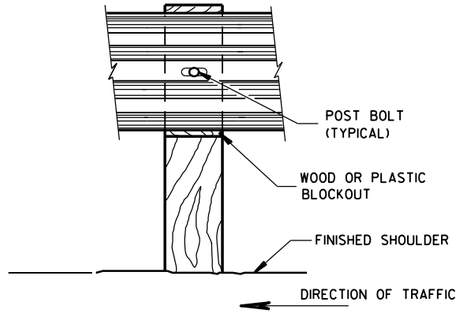
FRONT VIEW

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

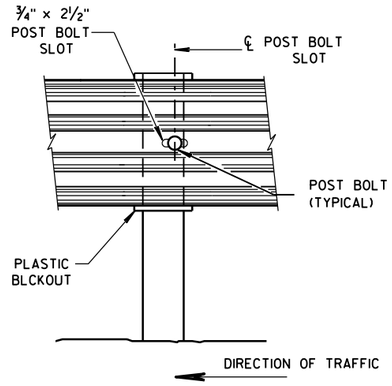


FRONT VIEW

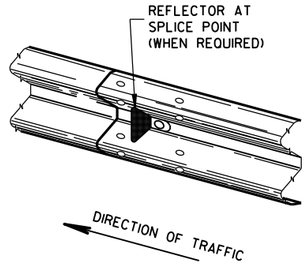
QUARTER POST SPACING (QS)

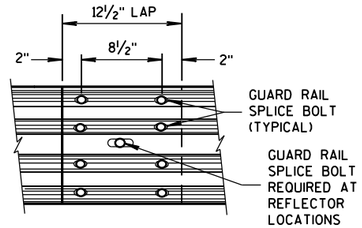


FRONT VIEW AT WOOD POST



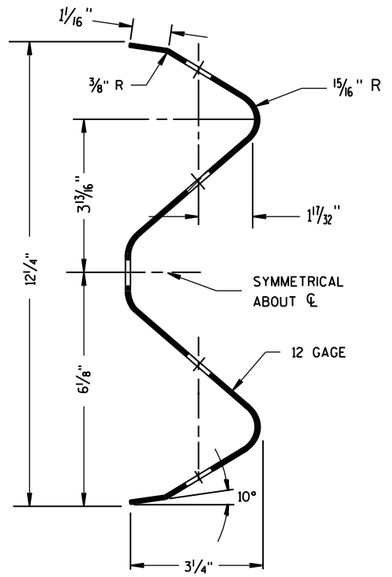
FRONT VIEW AT STEEL POST



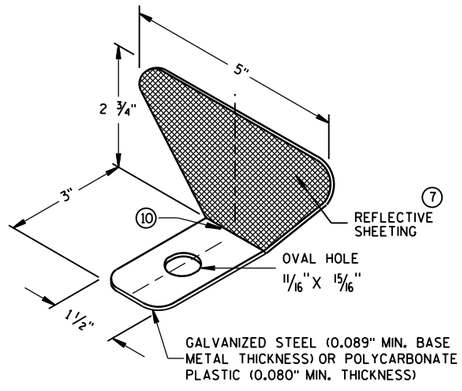


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

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

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

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

REFLECTOR SPACING ⑧

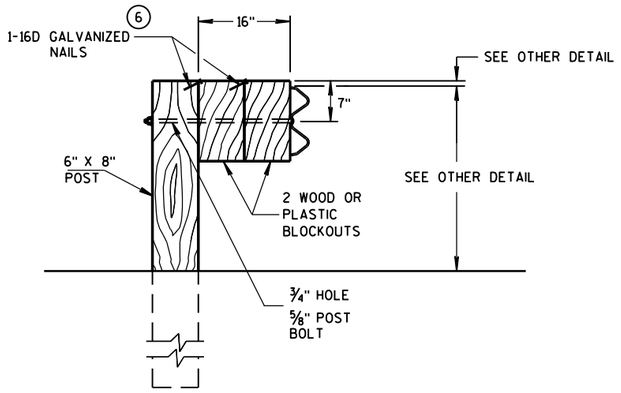
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 ⑨ 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ⑩	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

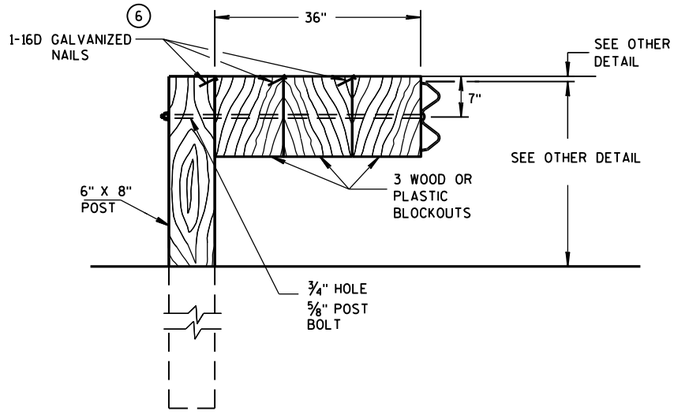
6

S.D.D. 14 B 42-3b



DETAIL FOR 16" BLOCKOUT DEPTH

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

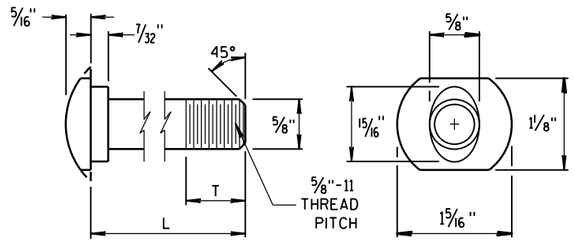


DETAIL FOR 36" BLOCKOUT DEPTH

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

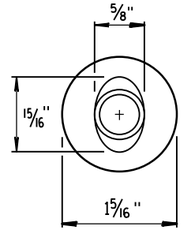
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

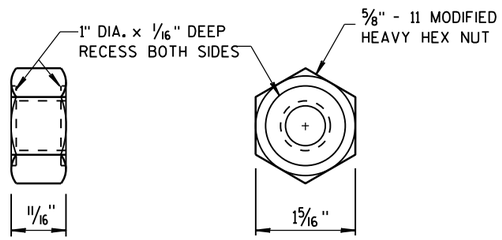


POST BOLT TABLE

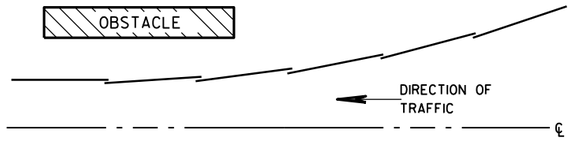
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

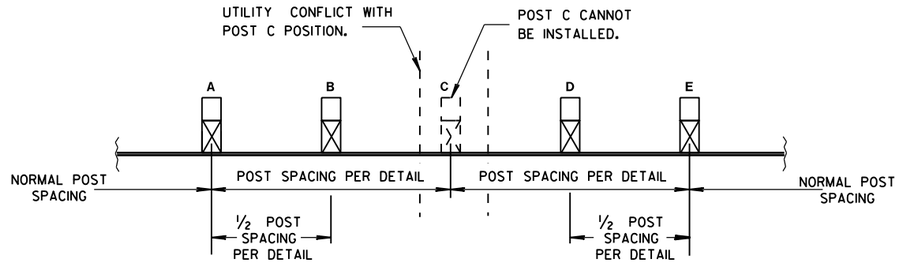


POST BOLT AND RECESS NUT

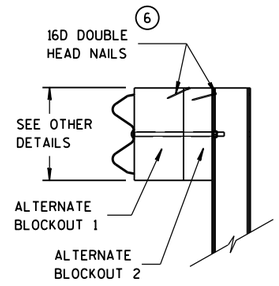


PLAN VIEW

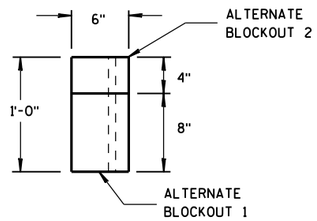
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 14 B 42-3c

GENERAL NOTES

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

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

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

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

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

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

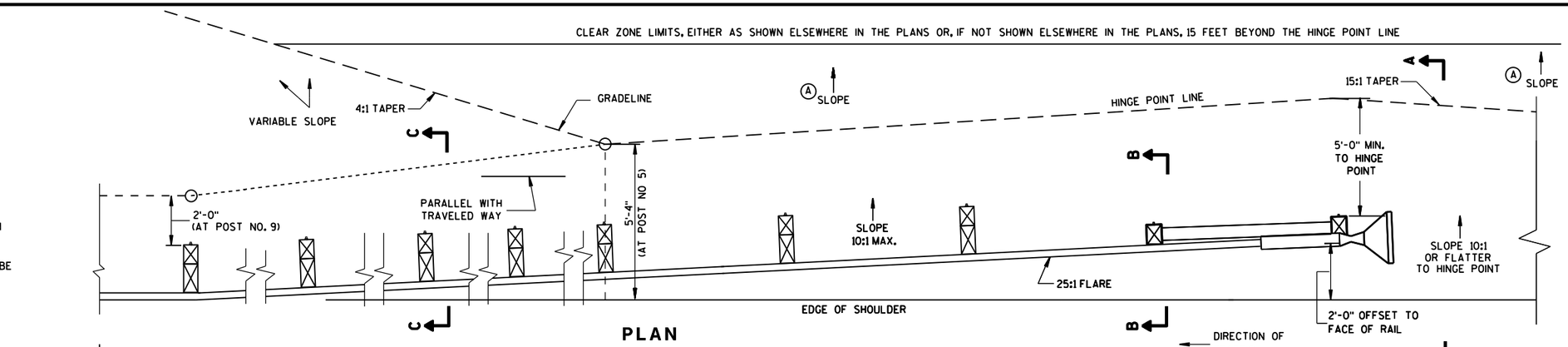
SEE SDD 14B42 FOR MORE INFORMATION.

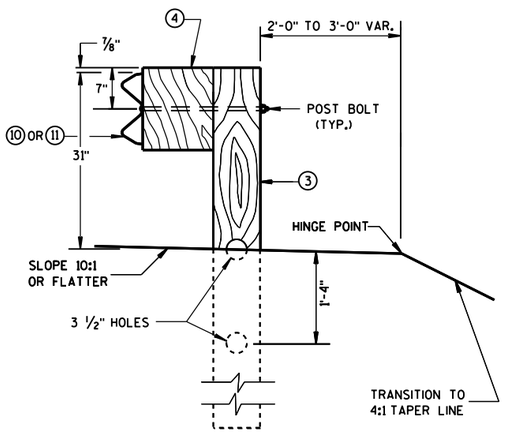
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

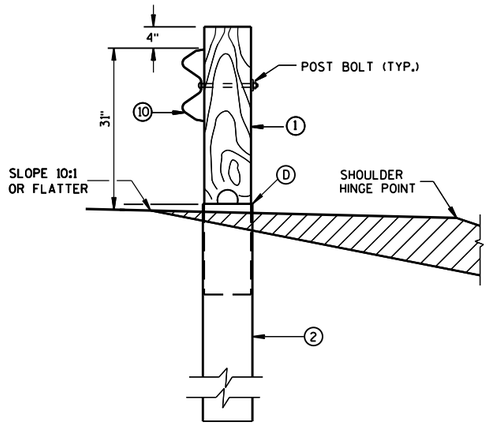
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

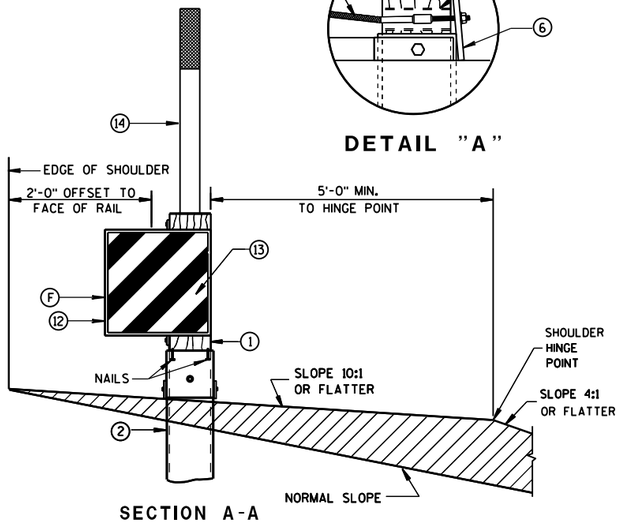




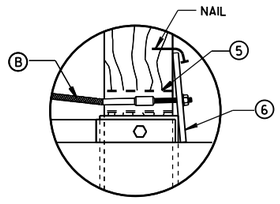
SECTION C-C
TYPICAL AT POST NOS. 3-9



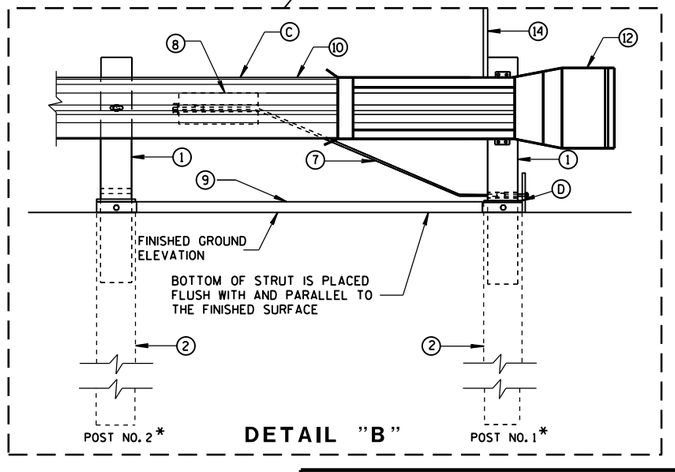
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



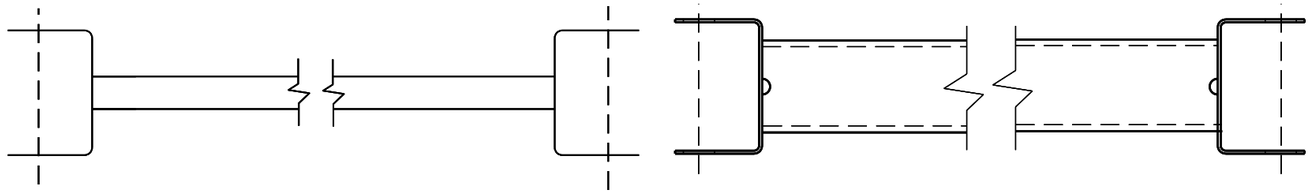
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

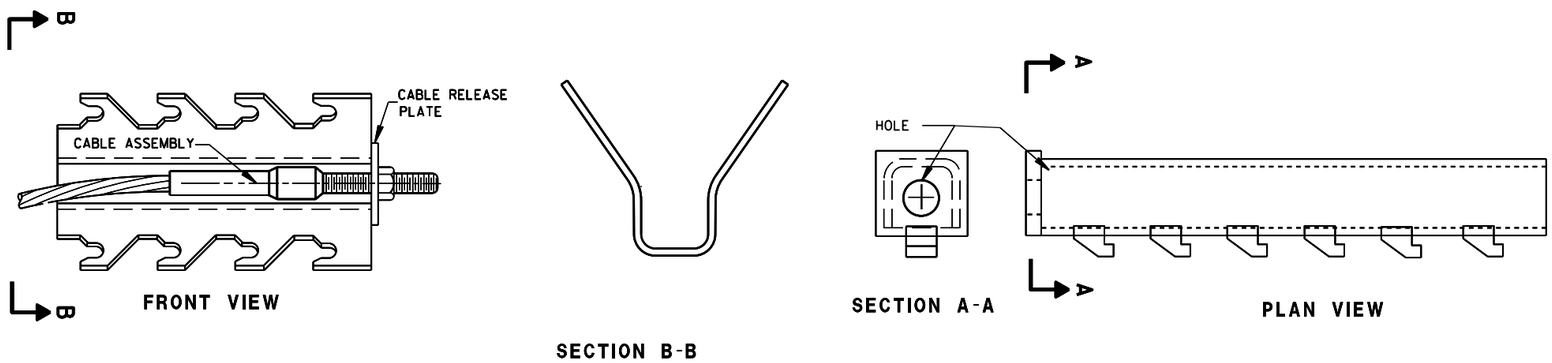
6



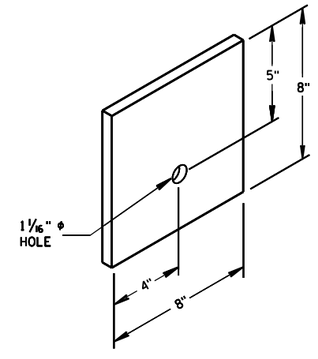
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX (8) (H)

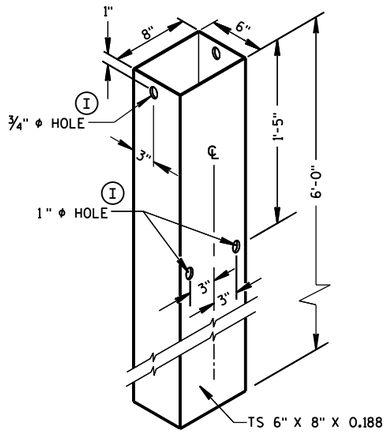


BEARING PLATE (6)

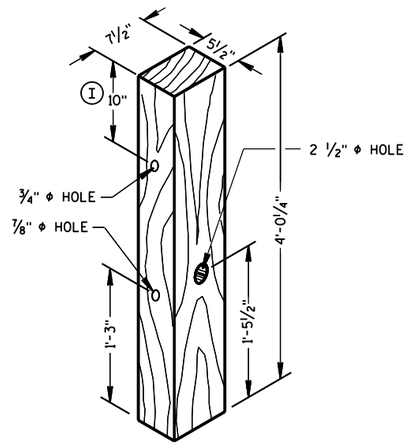
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 44-2b

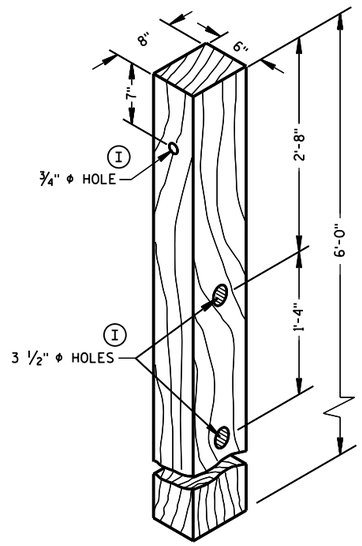


FOUNDATION TUBE (2)



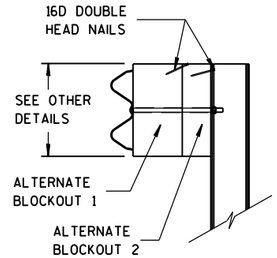
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

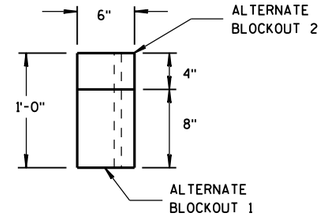


POSTS NUMBER 3-9

WOOD CRT POST (3)

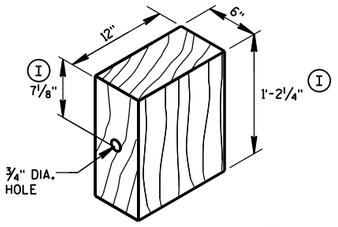


SIDE VIEW



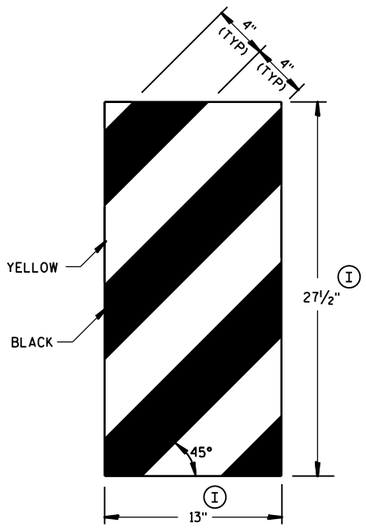
TOP VIEW

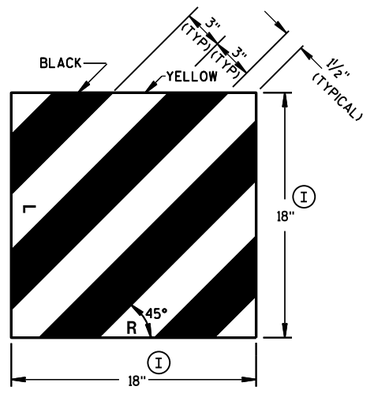
ALTERNATE WOOD BLOCKOUT DETAIL



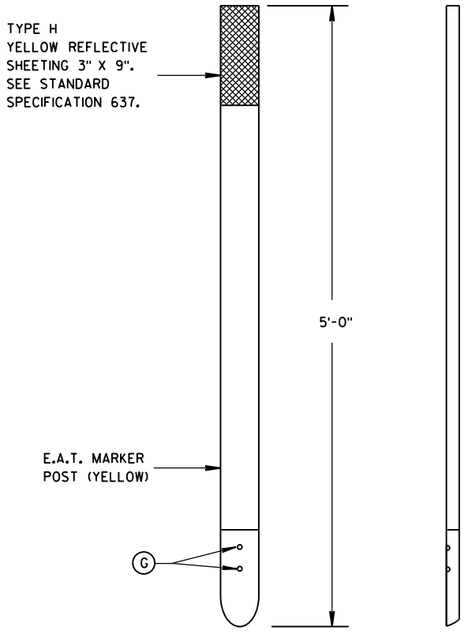
WOOD BLOCKOUT (4)

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





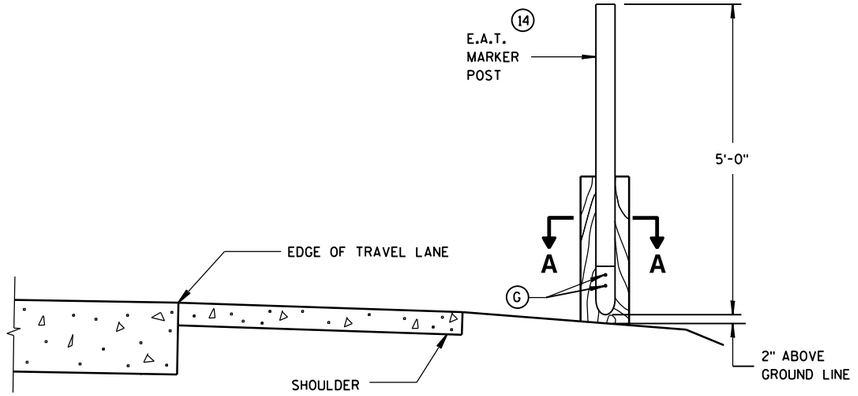
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

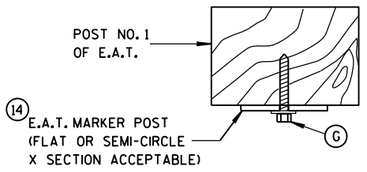
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

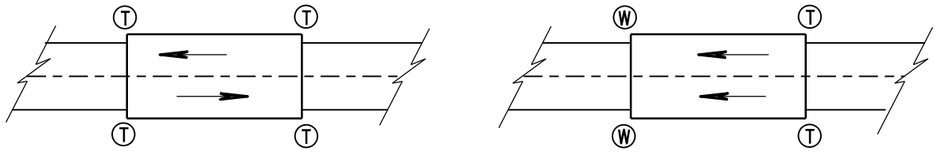
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 14 B 44-2c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

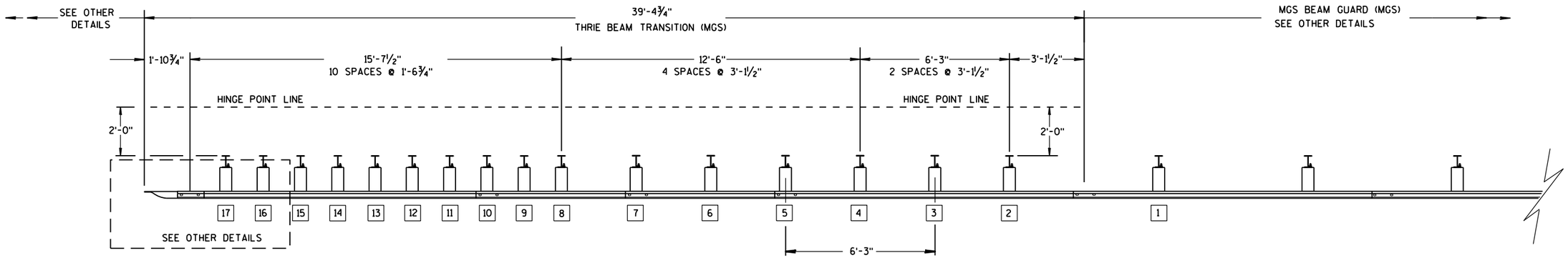
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

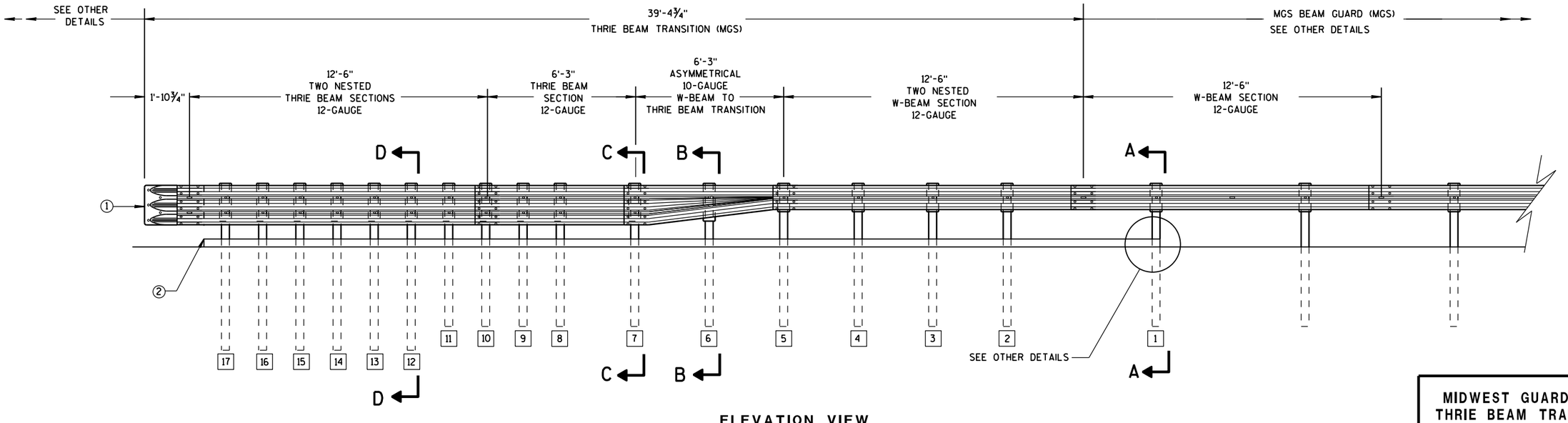
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

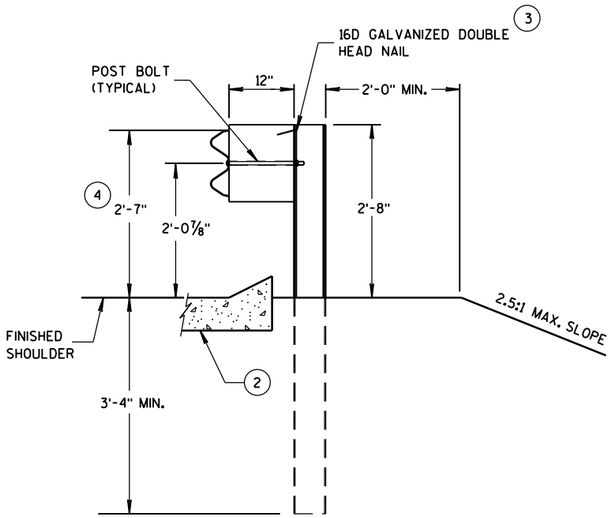
S.D.D. 14 B 45-4a

GENERAL NOTES

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

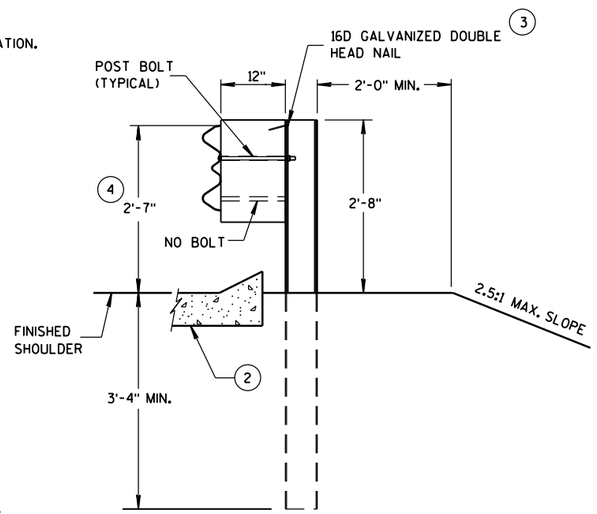
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



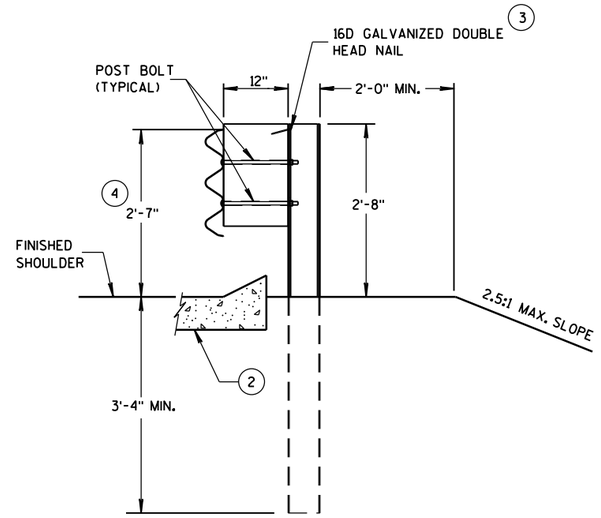
SECTION A-A

POSTS 1-5



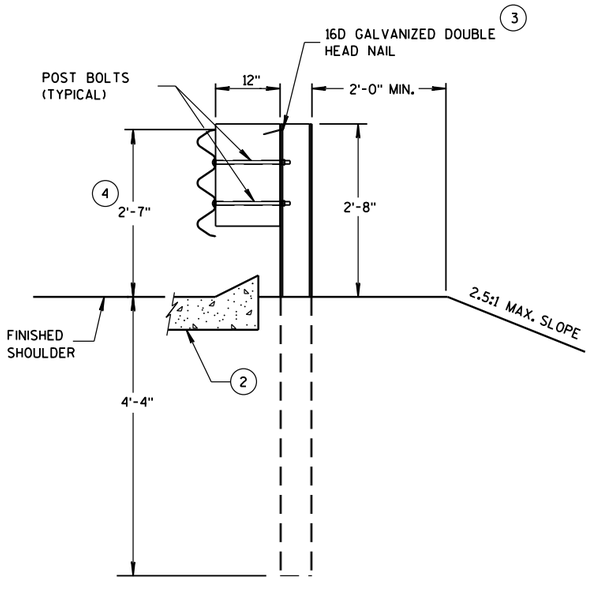
SECTION B-B

POST 6



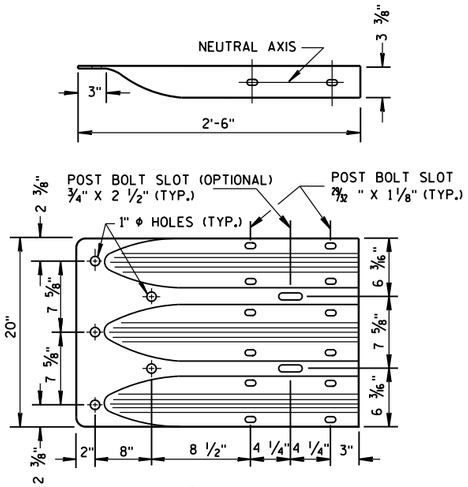
SECTION C-C

POSTS 7-11



SECTION D-D

POSTS 12-17



THRIE BEAM TERMINAL CONNECTOR

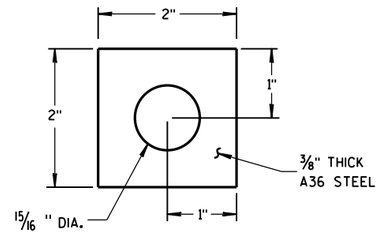
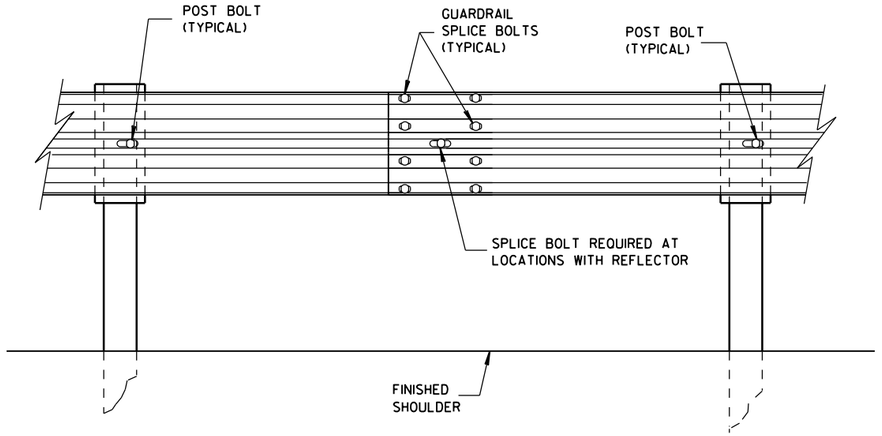
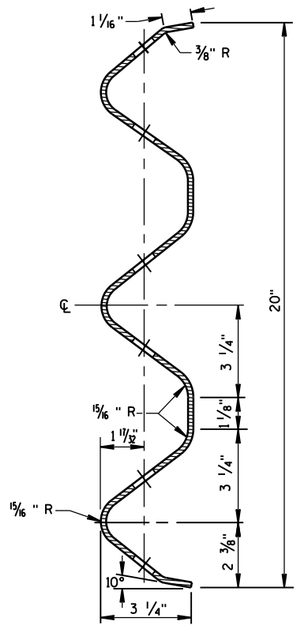


PLATE WASHER DETAIL



SPLICE DETAIL



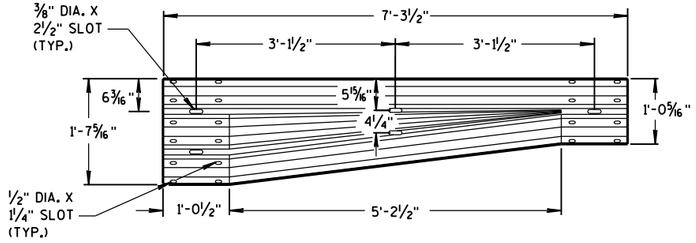
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

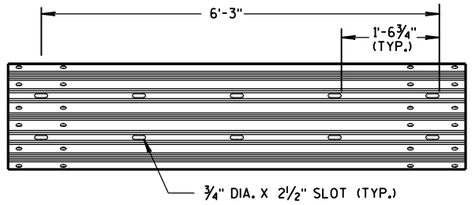
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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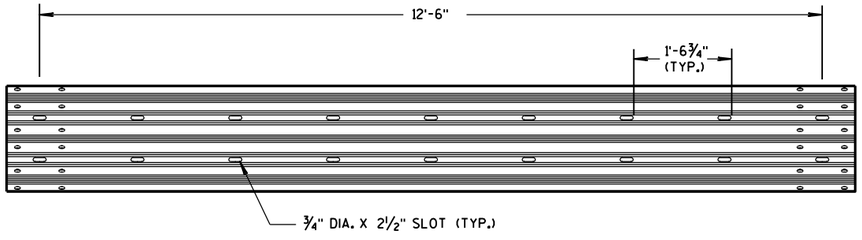
S.D.D. 14 B 45-4b



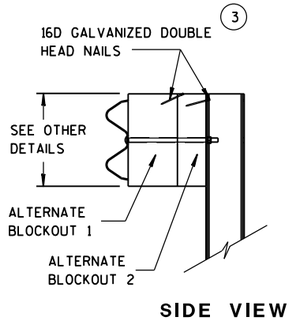
W-BEAM TO THRIE BEAM TRANSITION SECTION



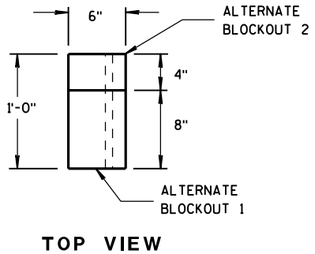
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

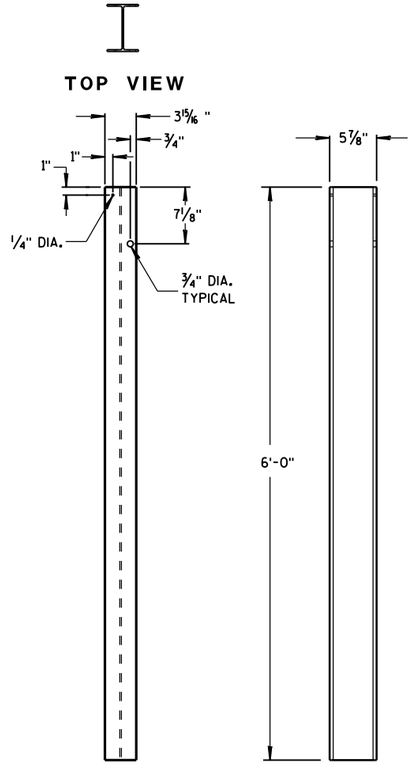


SIDE VIEW



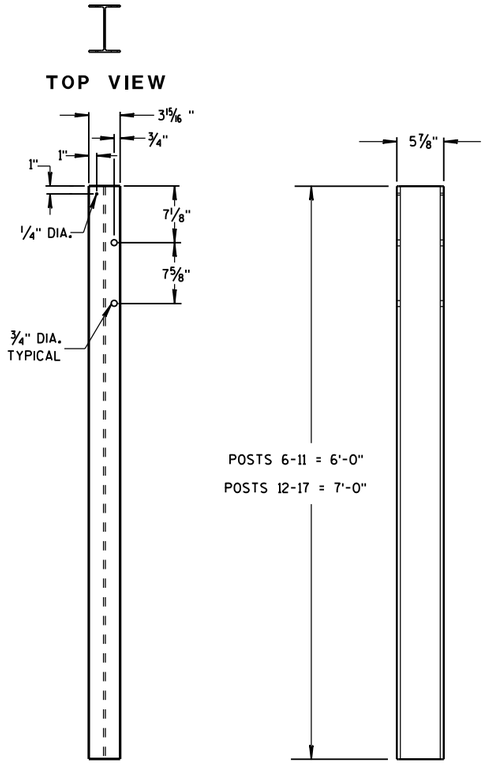
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



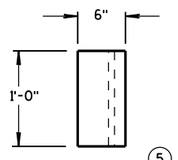
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5

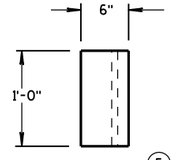


FRONT VIEW SIDE VIEW

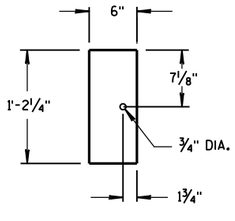
STEEL POSTS 6-17



TOP VIEW (5)

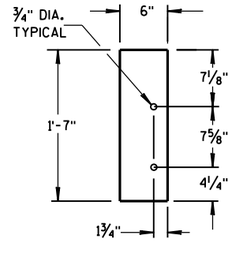


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

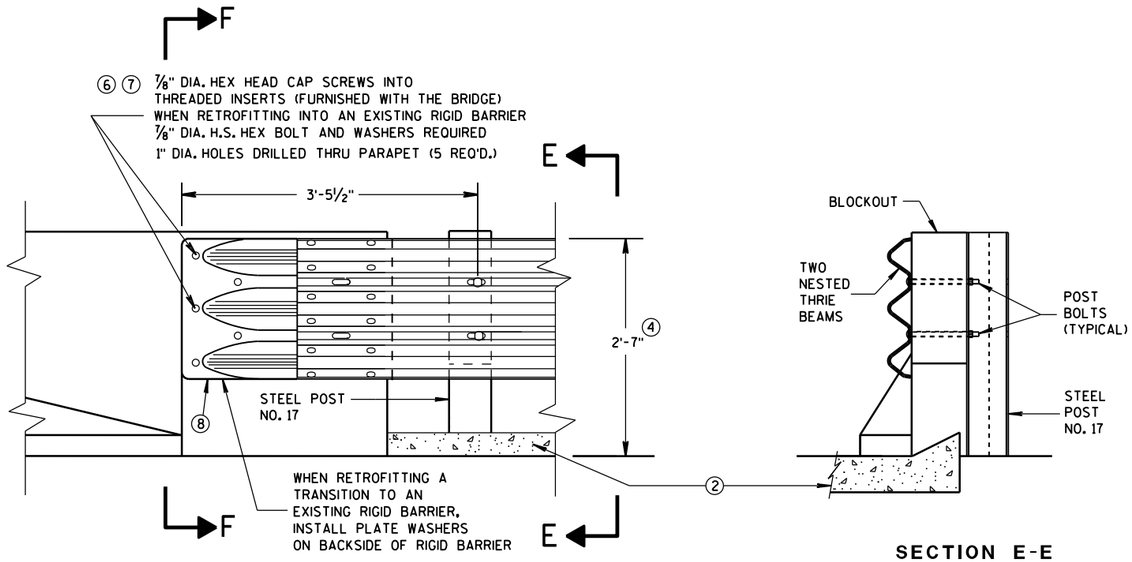
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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6

S.D.D. 14 B 45-4c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

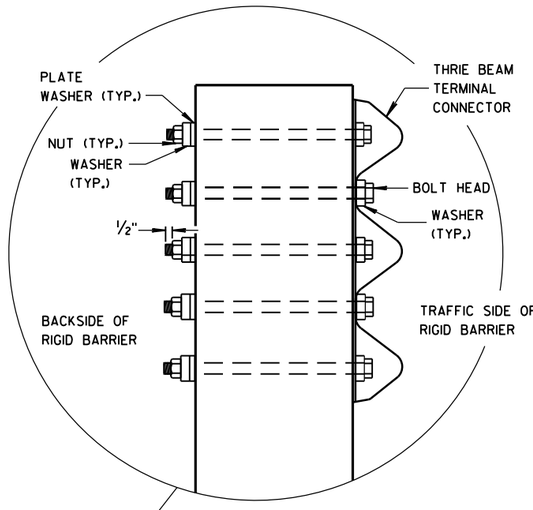
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

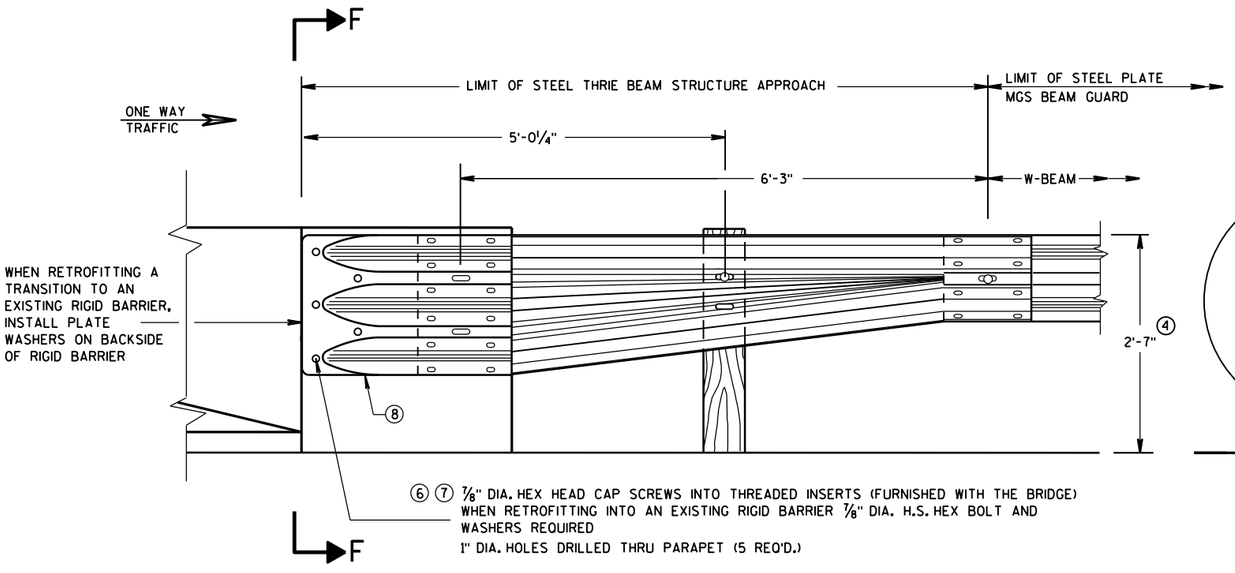
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

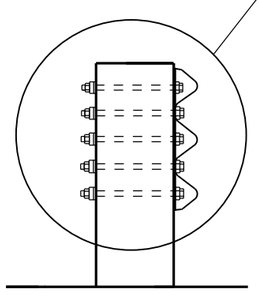
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

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

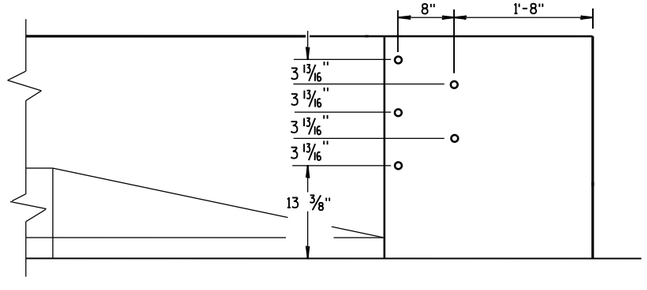




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 45-4d

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S.D.D. 14 B 45-4d

GENERAL NOTES

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

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

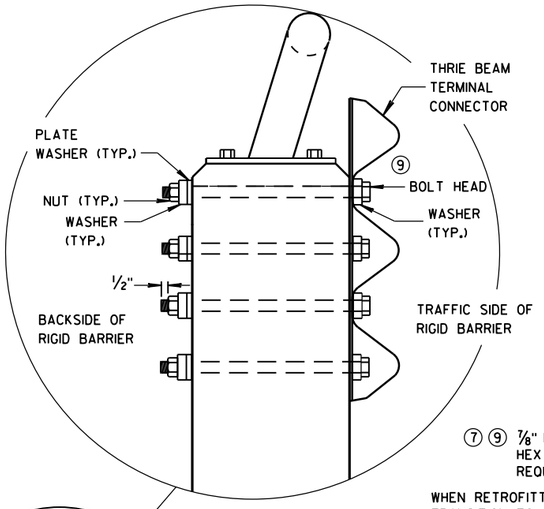
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

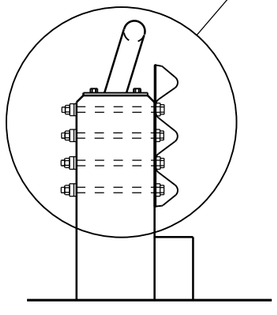
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

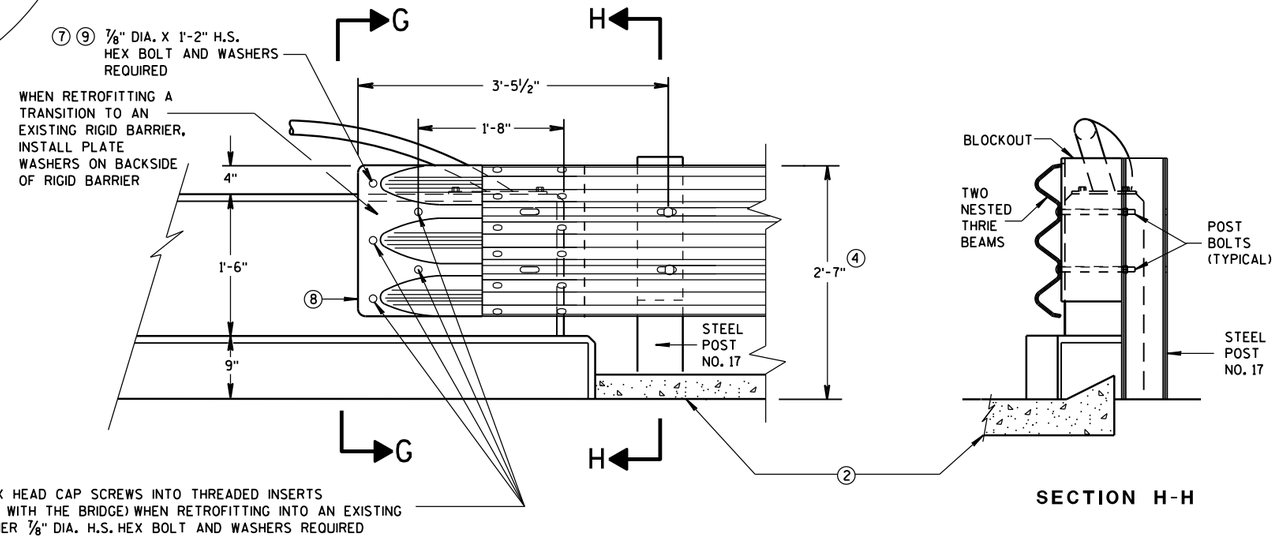
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

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





SECTION G-G

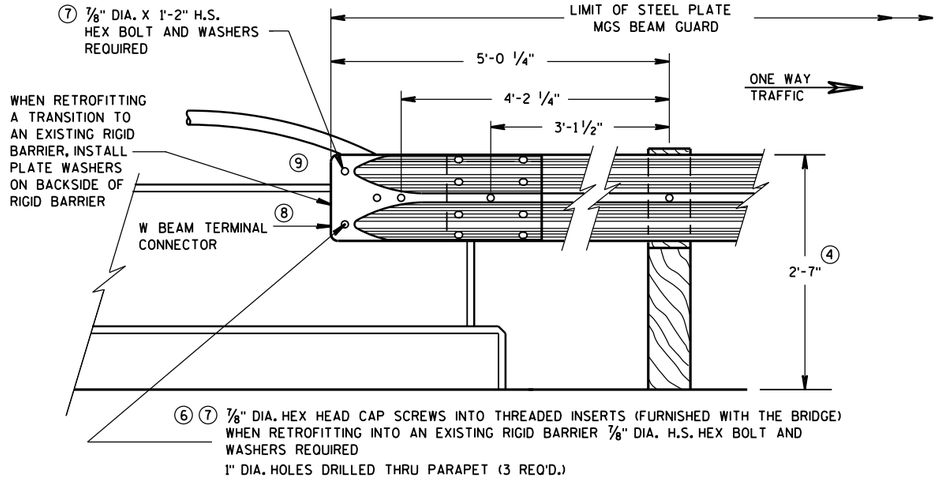


(6) (7) 7/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER 7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



(6) (7) 7/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER 7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (3 REQ'D.)

FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

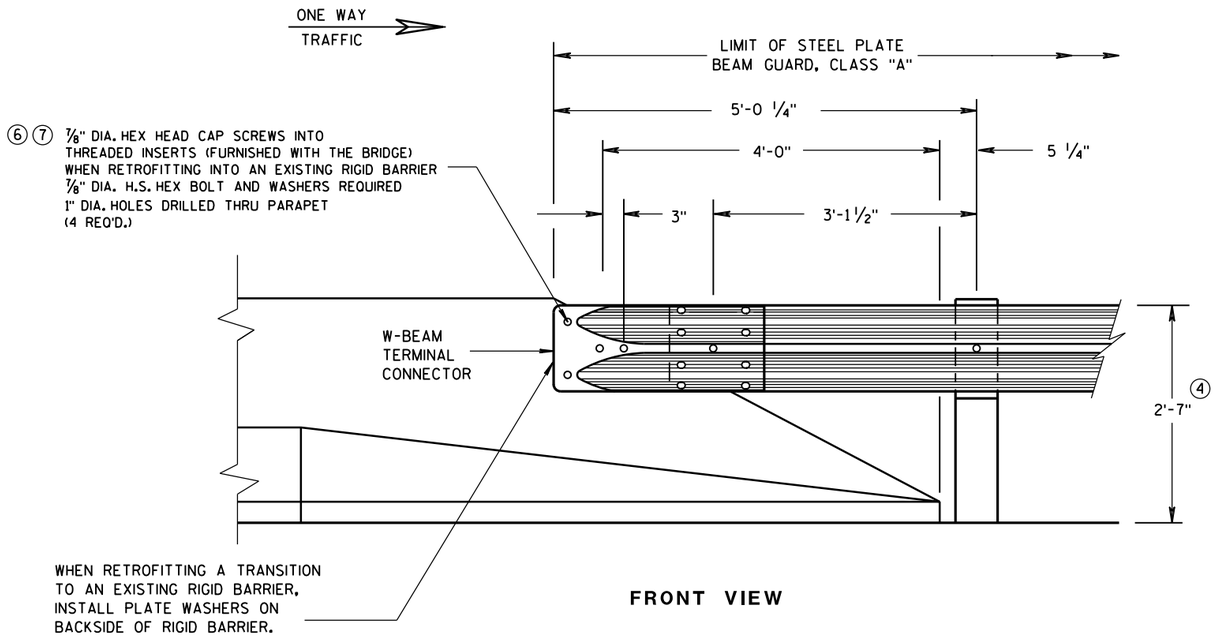
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June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 45-4e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

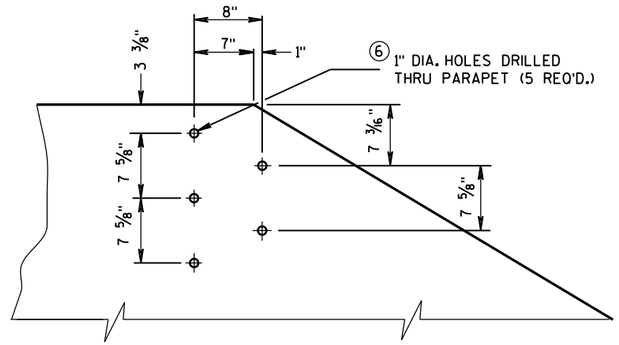
GENERAL NOTES

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

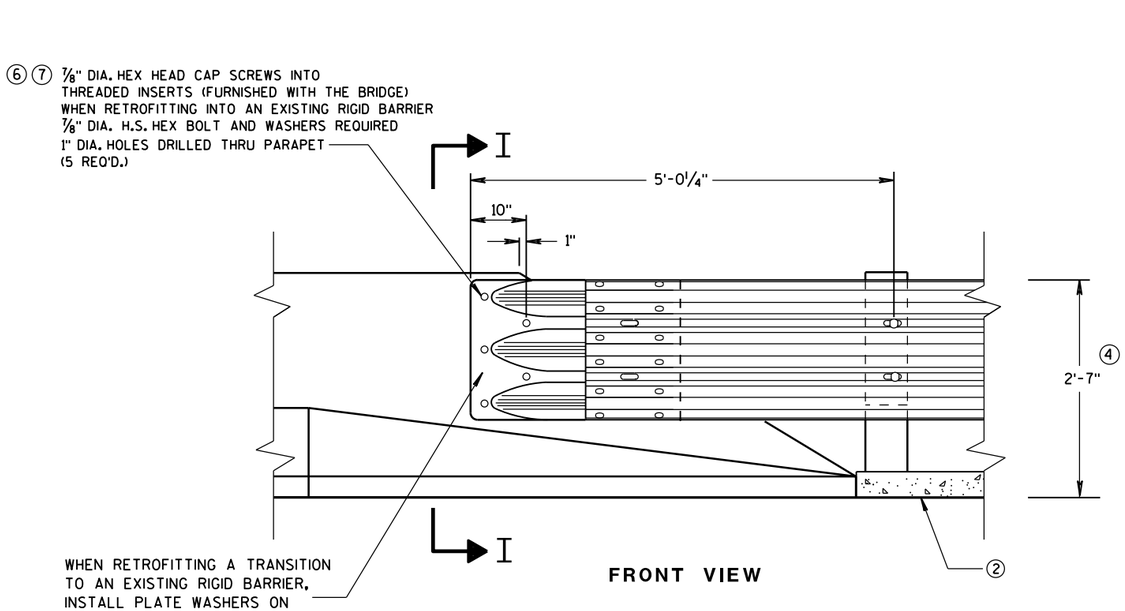
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

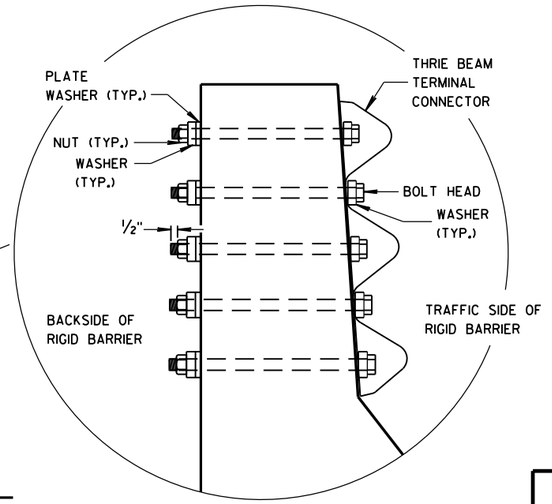


DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW

SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

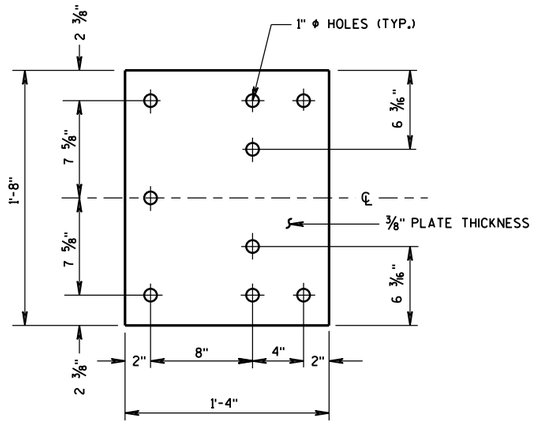
APPROVED
June, 2015 — DATE
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FHWA

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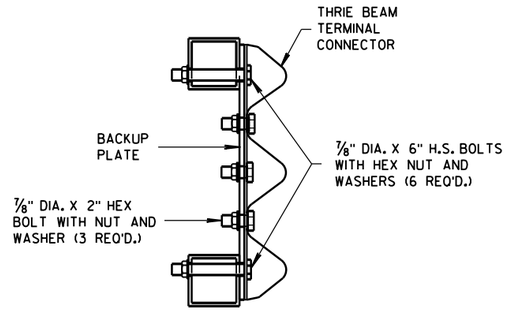
S.D.D. 14 B 45-4f

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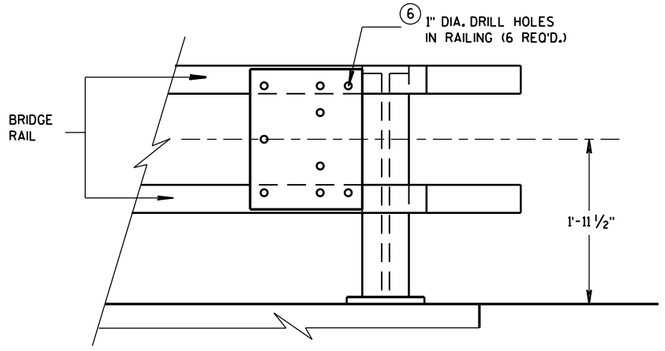
S.D.D. 14 B 45-4f



BACK-UP PLATE DETAIL



SECTION J-J

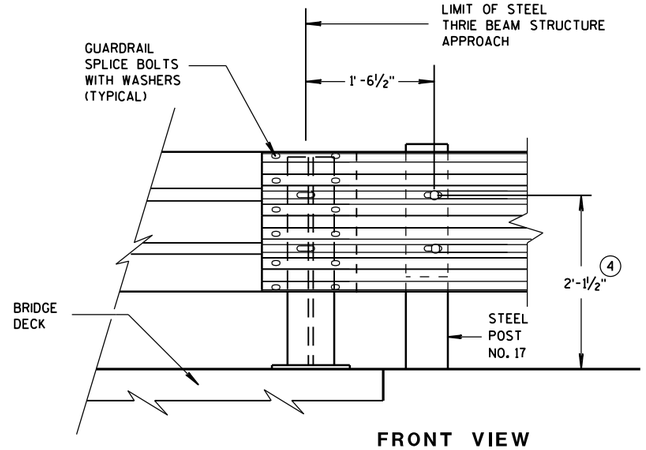


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

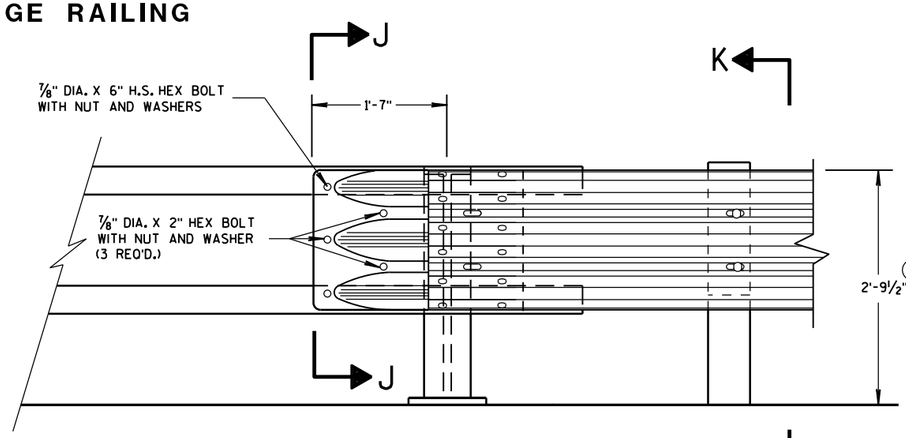
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⑥ DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

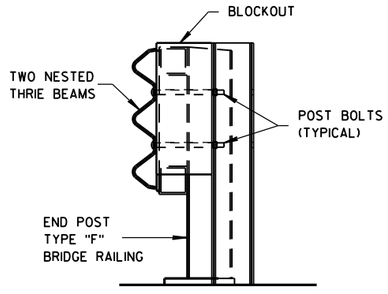


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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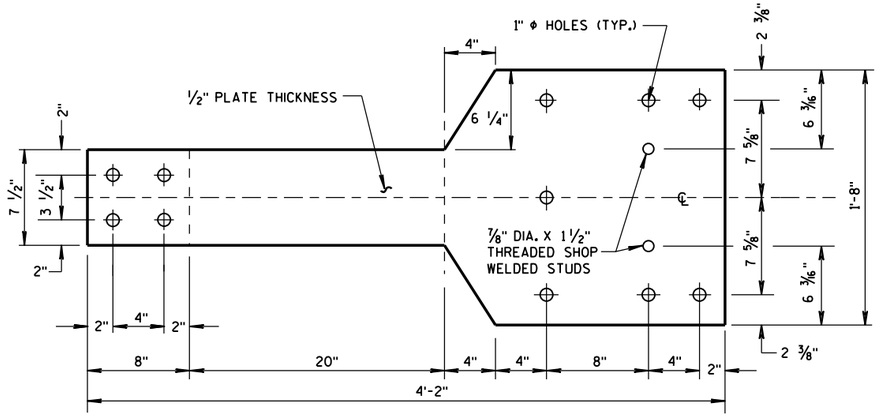
S.D.D. 14 B 45-4g

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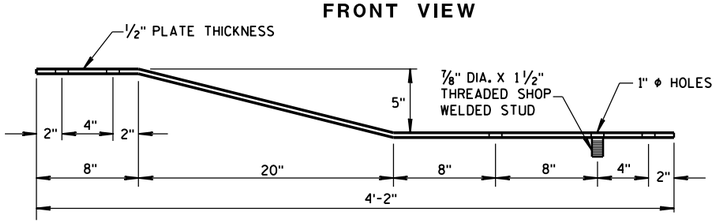
S.D.D. 14 B 45-4g

GENERAL NOTES

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

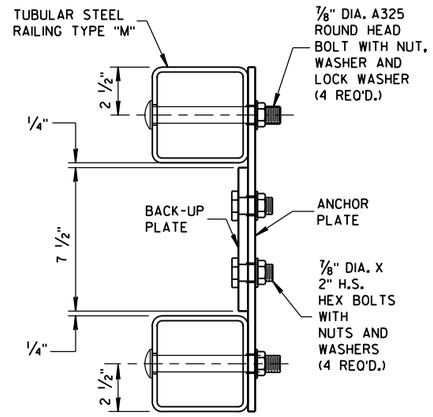


FRONT VIEW

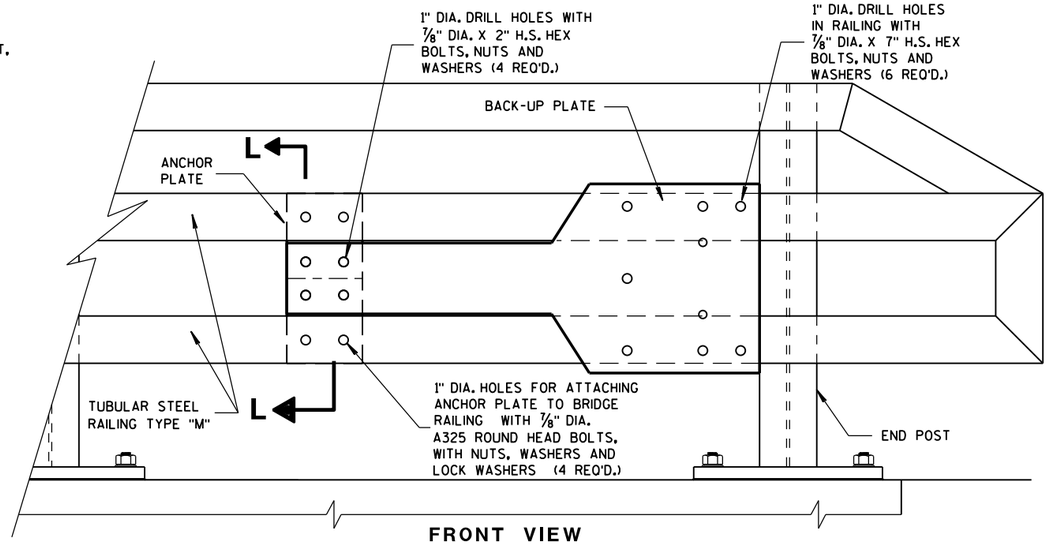


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

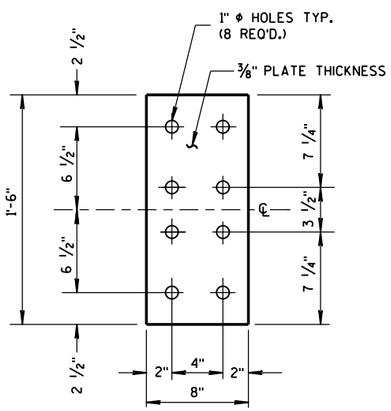


SECTION L-L



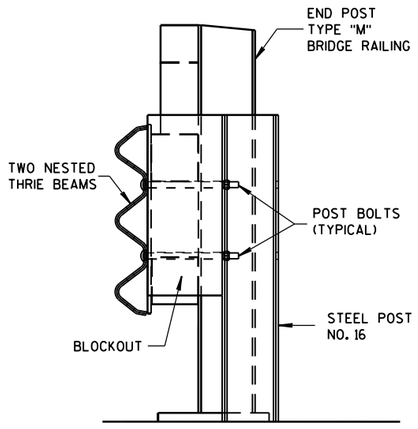
FRONT VIEW

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

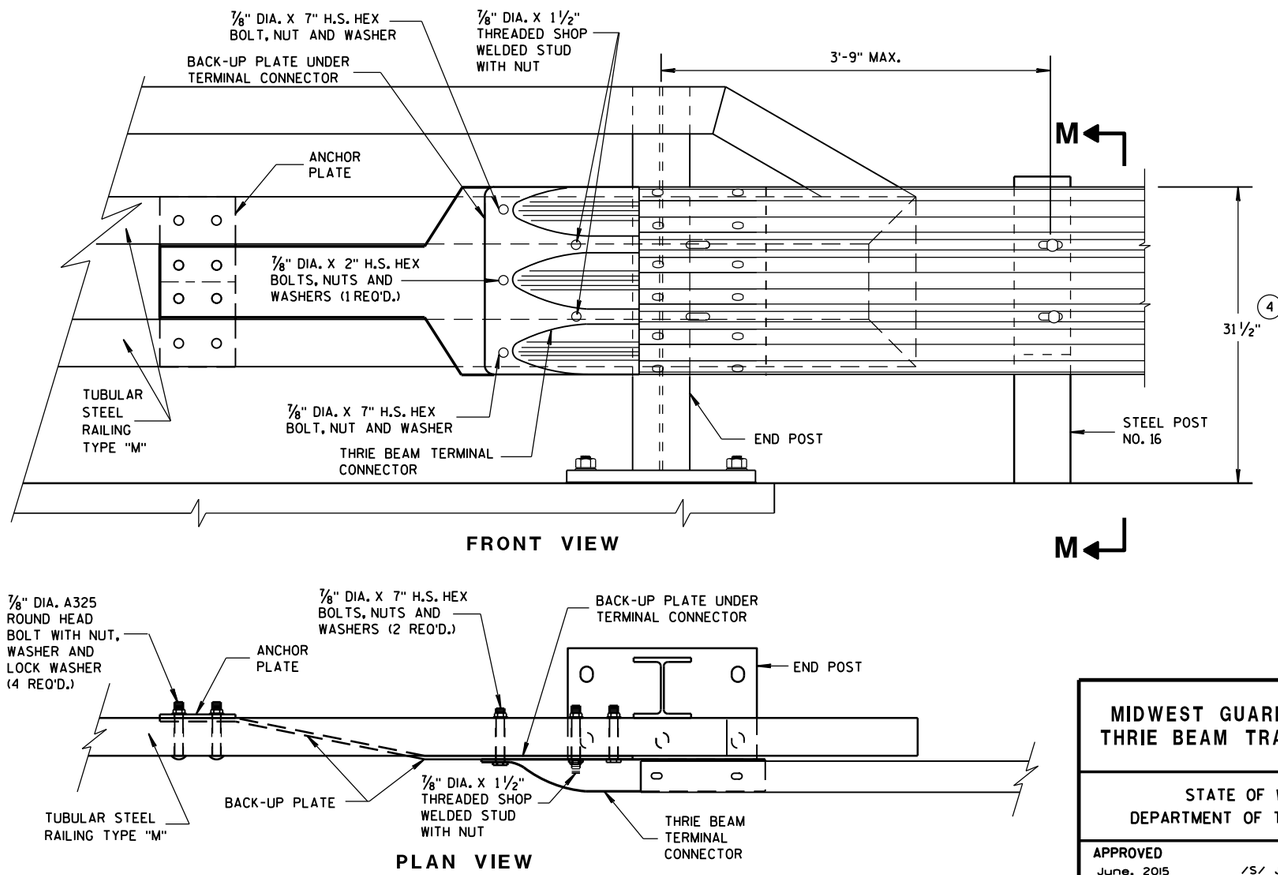


FRONT VIEW

ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



FRONT VIEW

PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

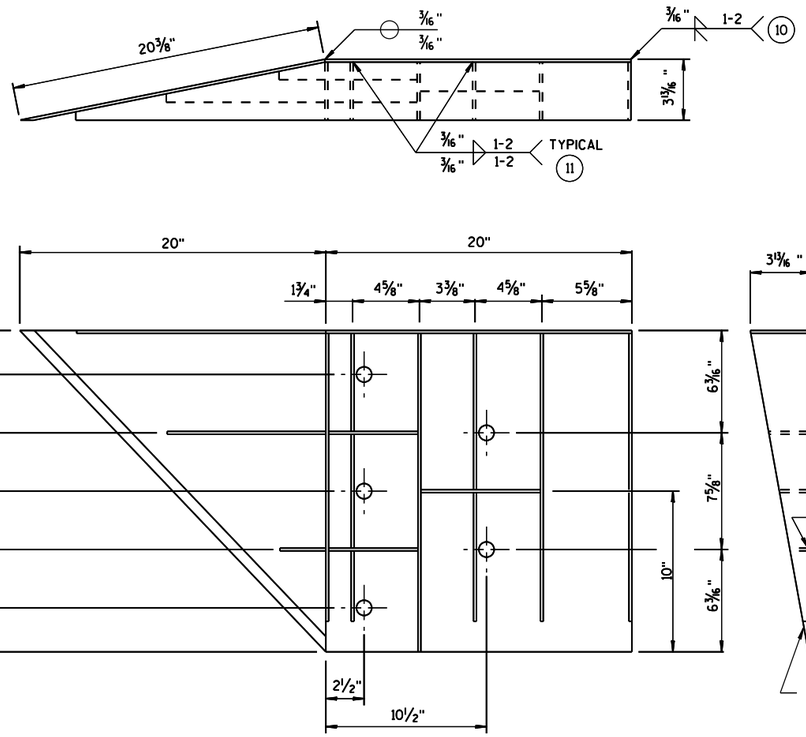
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June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

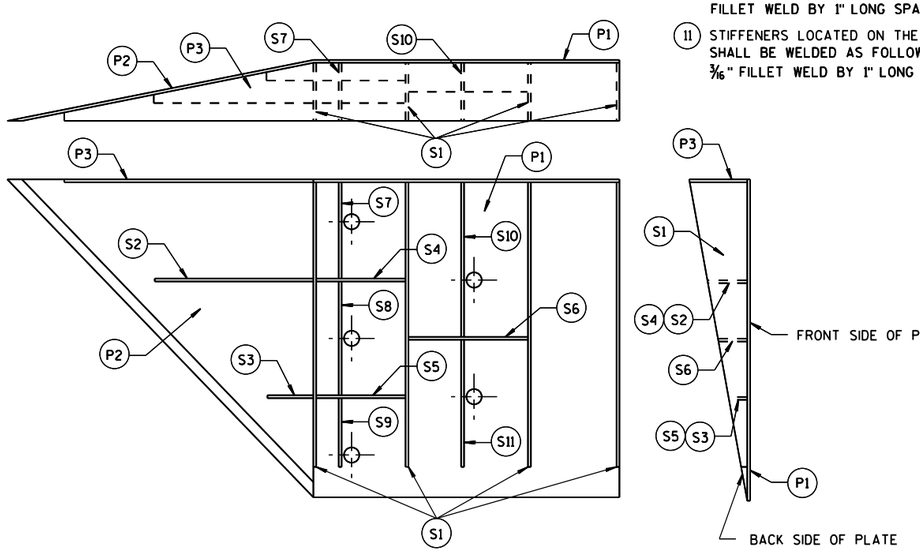


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

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

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

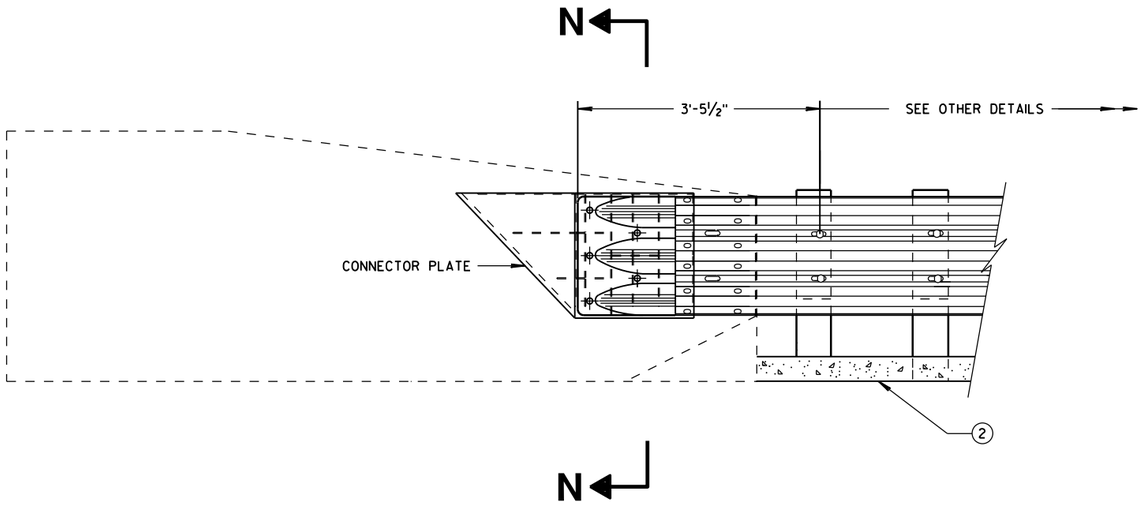
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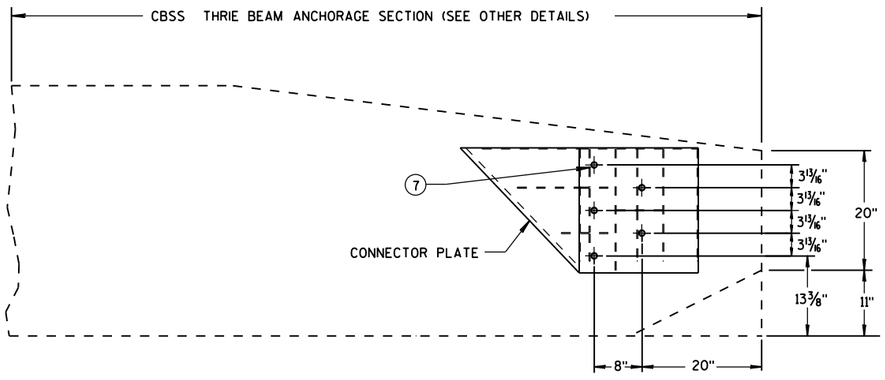
S.D.D. 14 B 45-4i

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S.D.D. 14 B 45-4i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



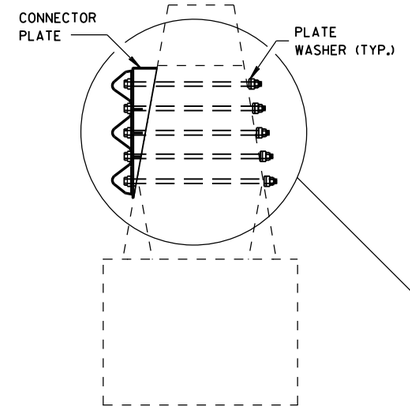
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

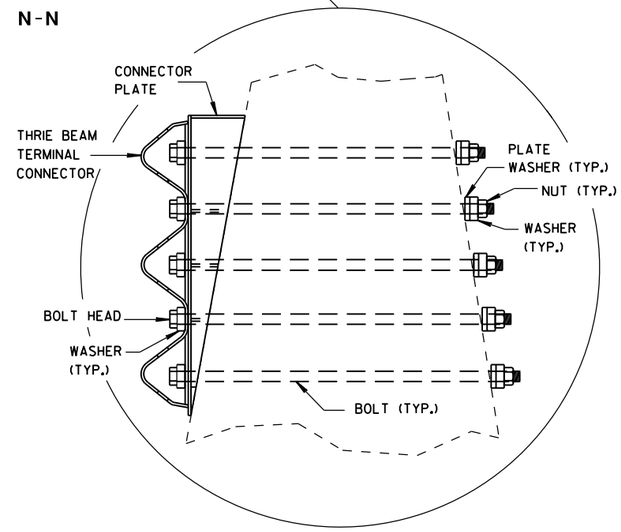
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

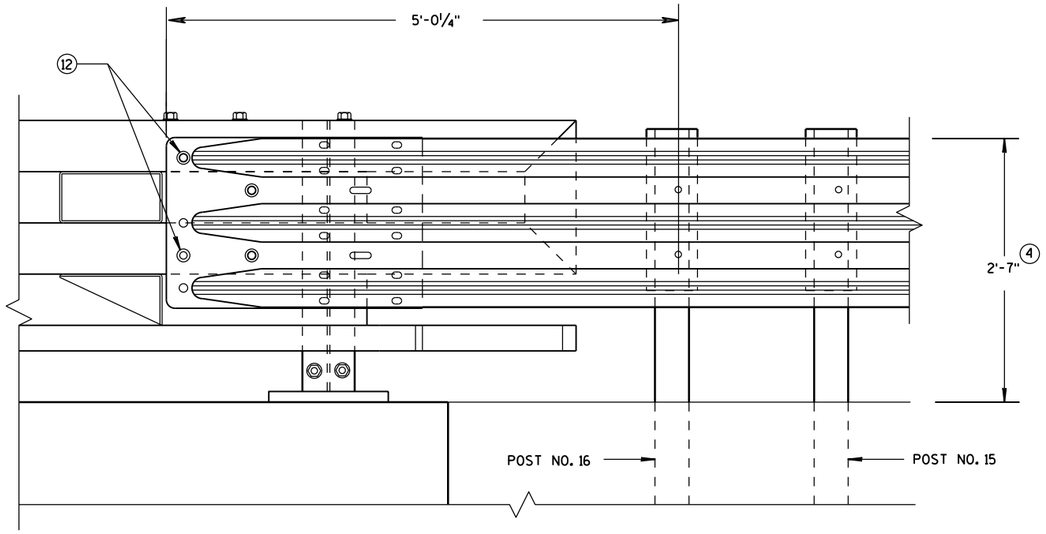
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June, 2015 — DATE
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S.D.D. 14 B 45-4j

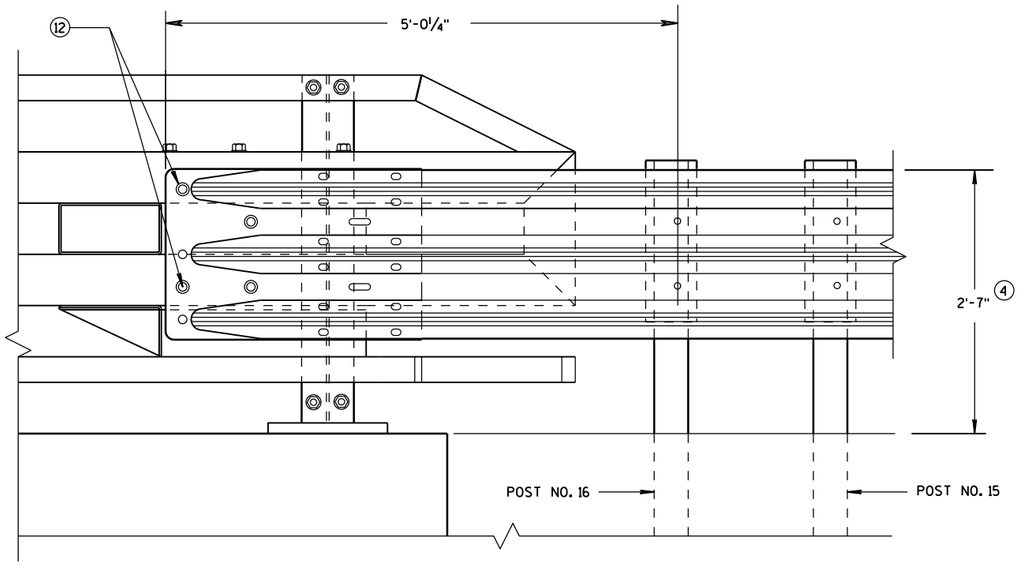
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S.D.D. 14 B 45-4j



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER

FHWA

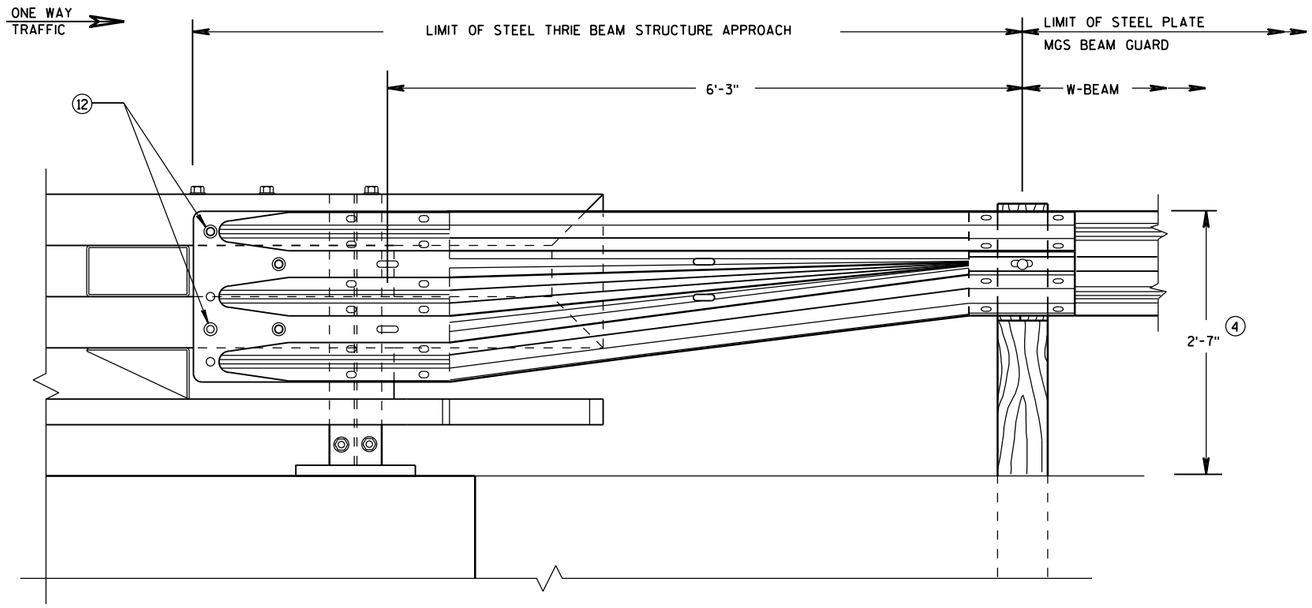
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S.D.D. 14 B 45-4k

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S.D.D. 14 B 45-4k



FRONT VIEW

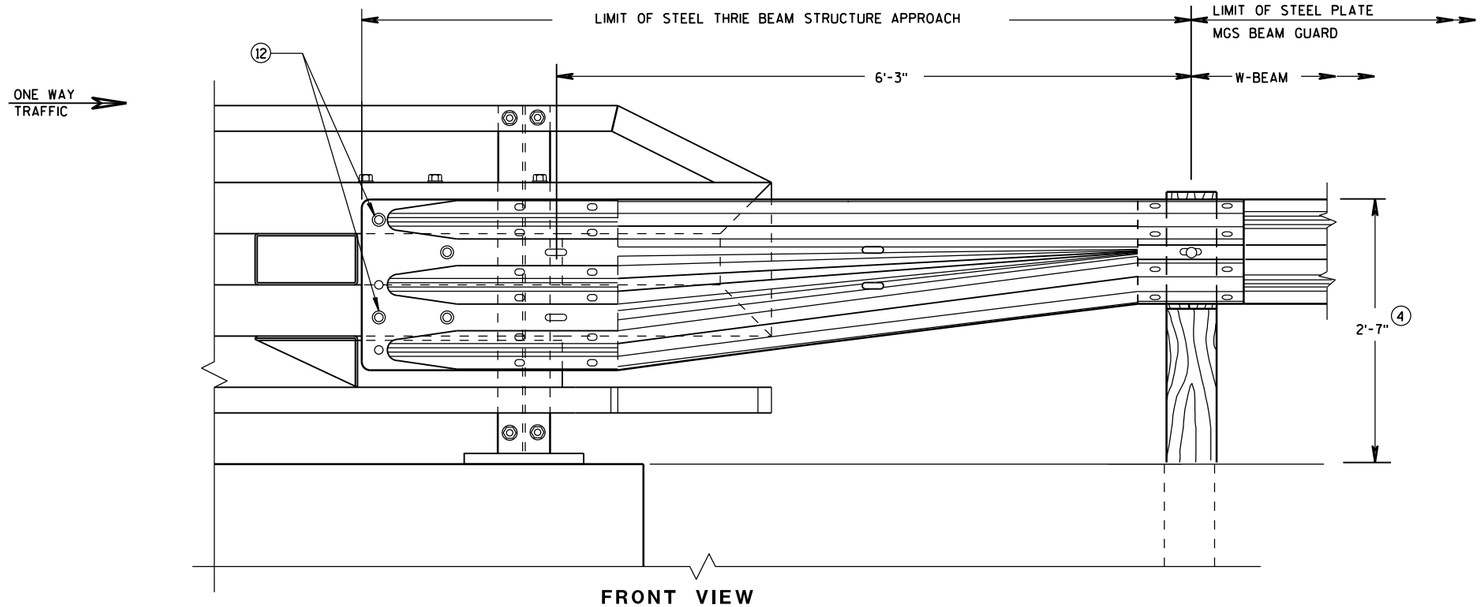
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.



FRONT VIEW

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

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

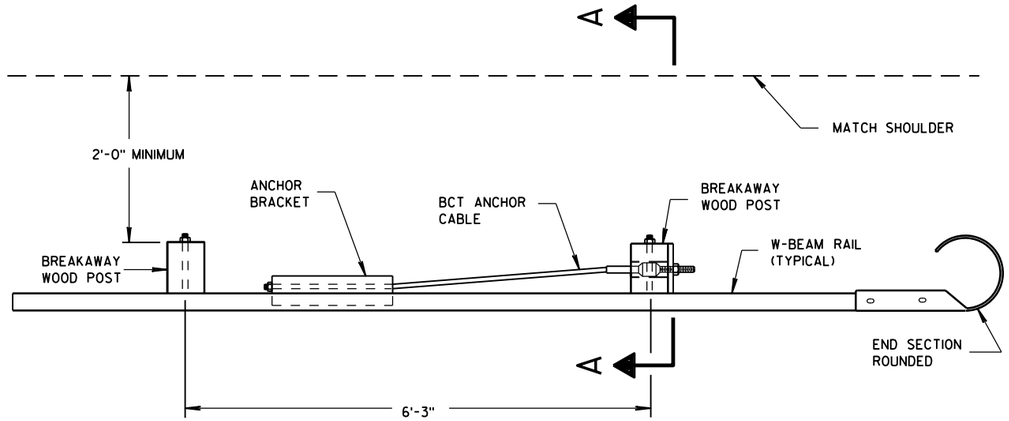
APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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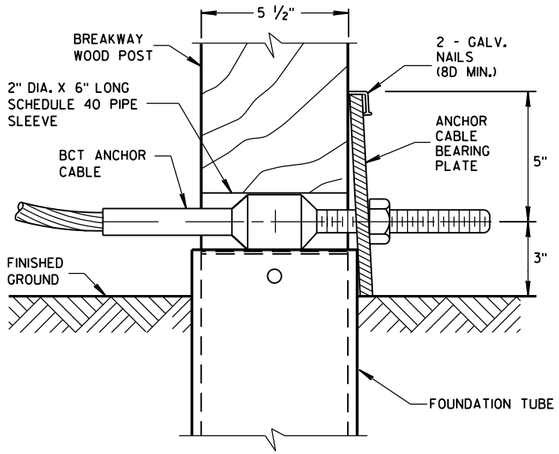
S.D.D. 14 B 45-4L

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S.D.D. 14 B 45-4L



PLAN VIEW



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

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

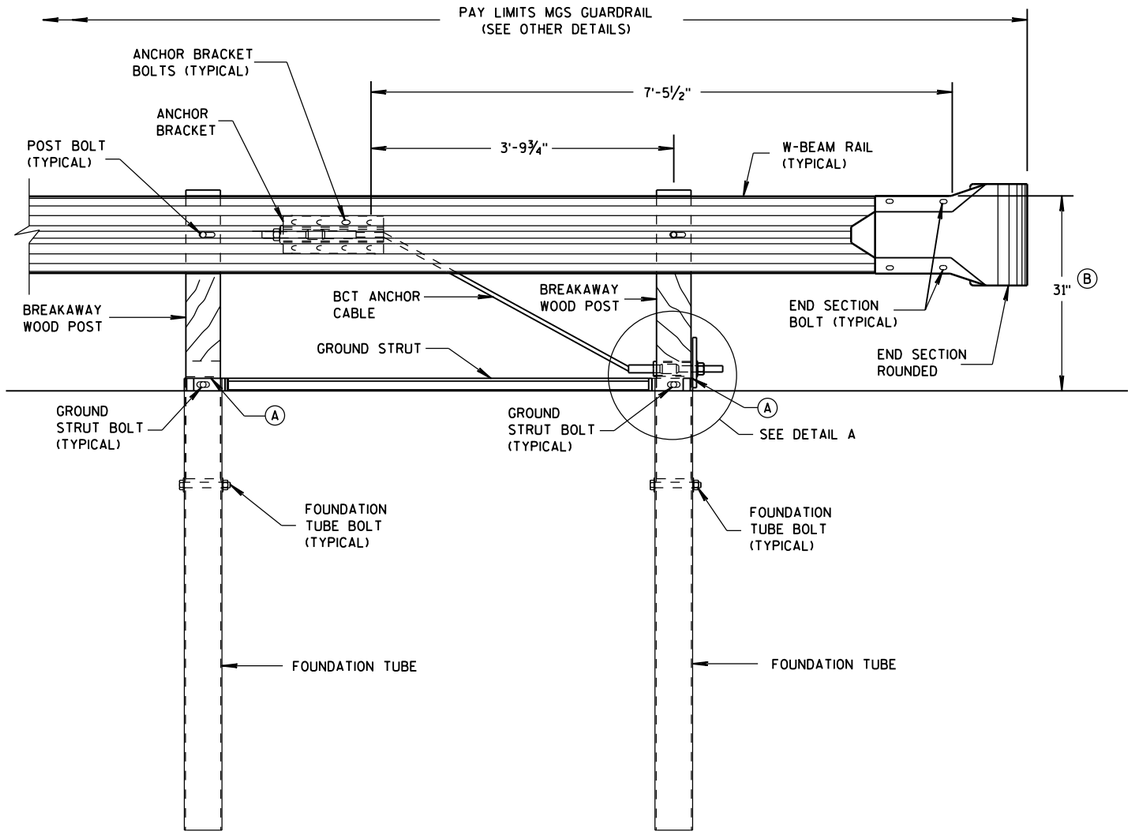
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

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

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

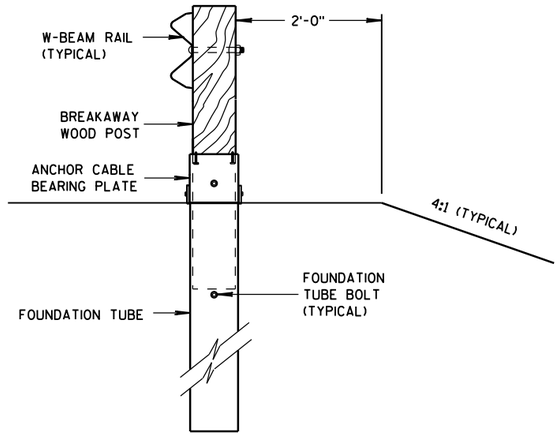
(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

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

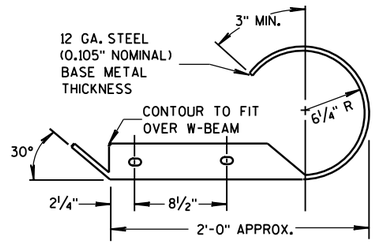


FRONT VIEW

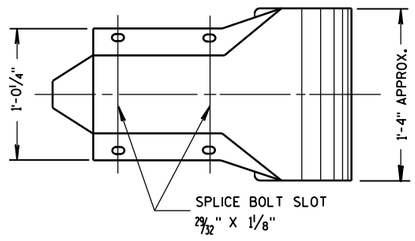
END RAIL DETAIL



SECTION A-A



PLAN VIEW



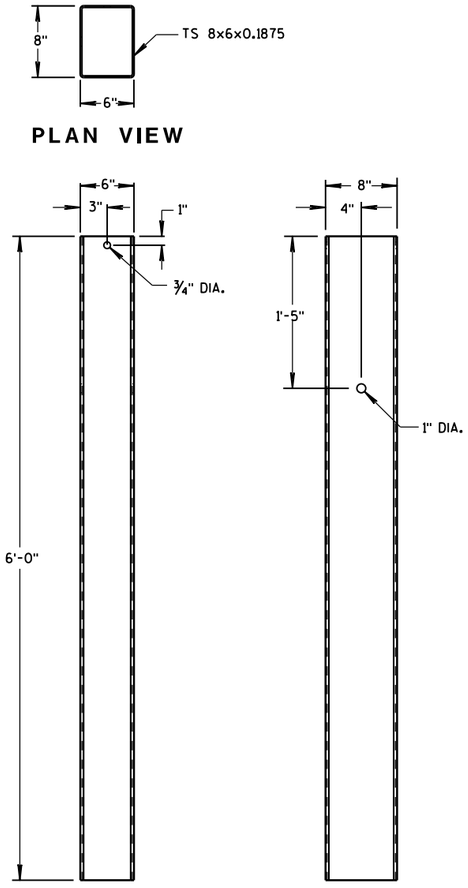
FRONT VIEW

W BEAM END SECTION ROUNDED

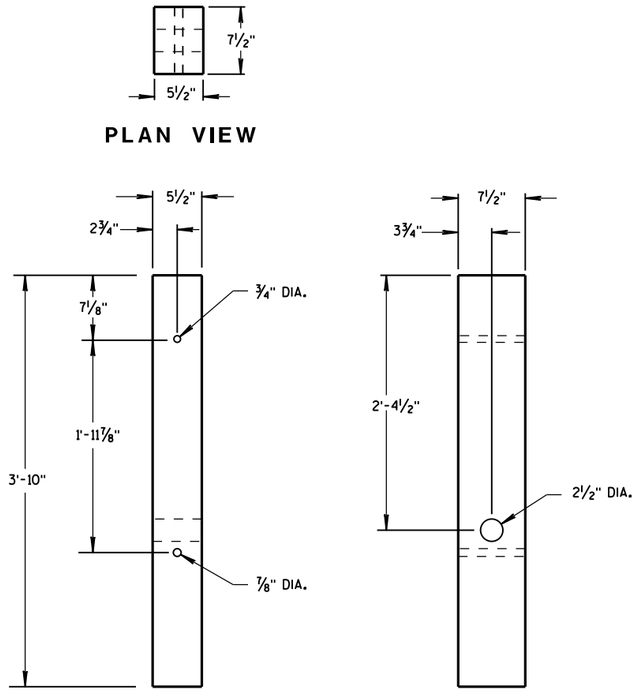
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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



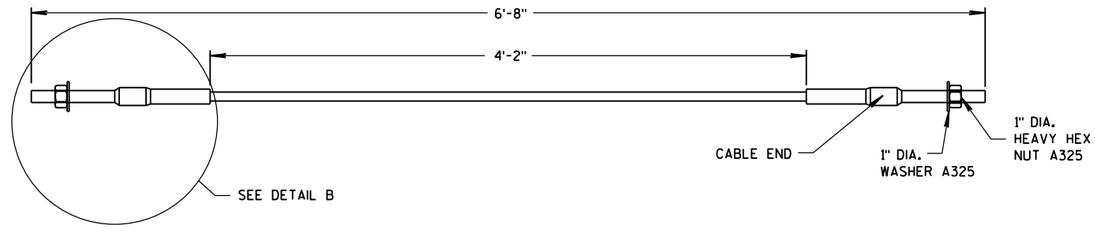
FOUNDATION TUBE



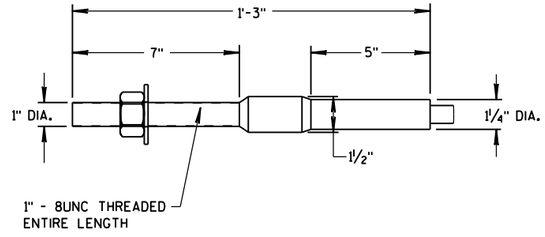
BREAKAWAY WOOD POST

GENERAL NOTES

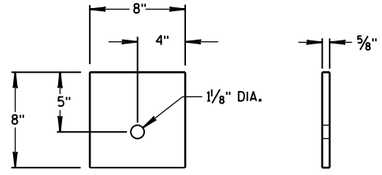
BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5.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



BCT ANCHOR CABLE



DETAIL B



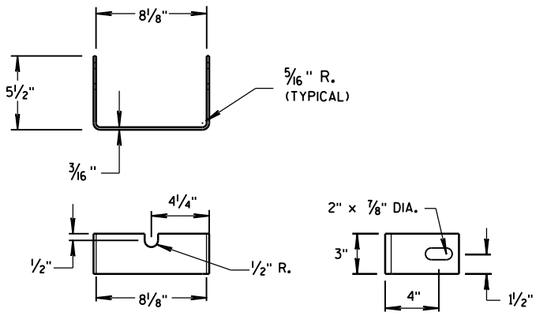
ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

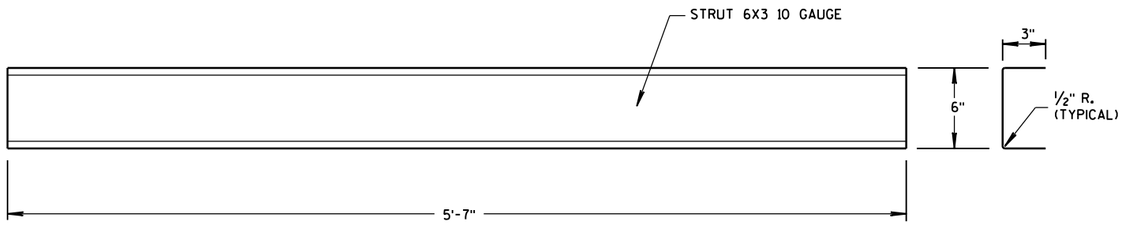
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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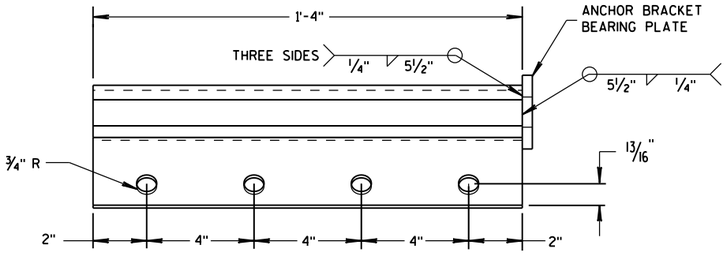
S.D.D. 14 B 47-2b

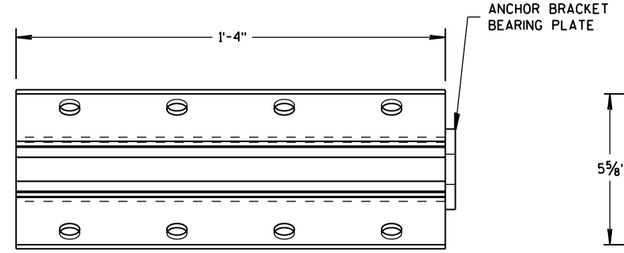


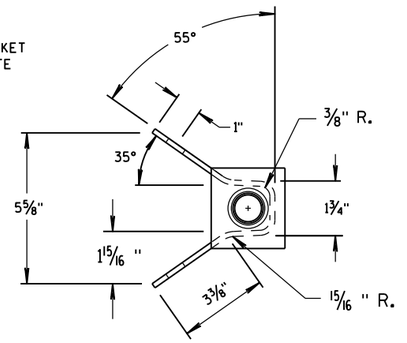
YOKE DETAIL



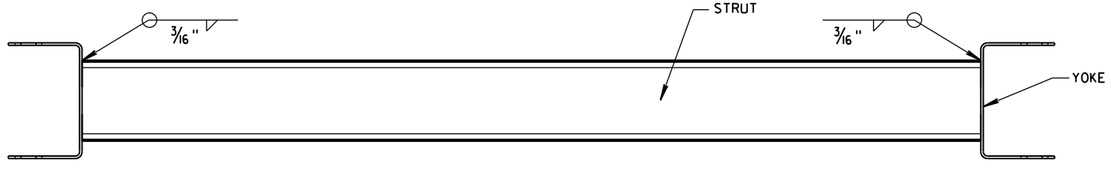
STRUT DETAIL



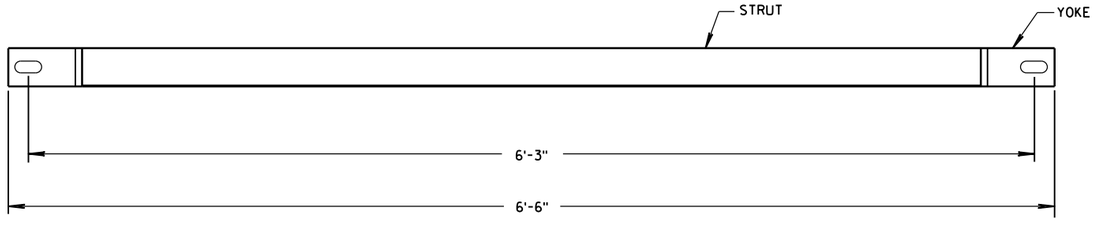




ANCHOR BRACKET

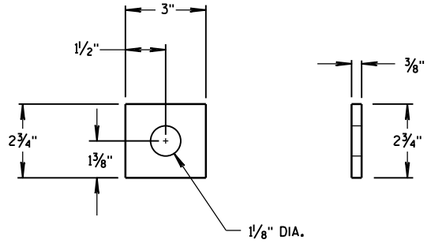


PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

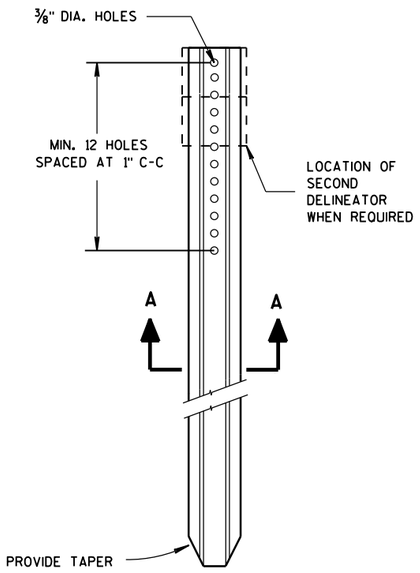
APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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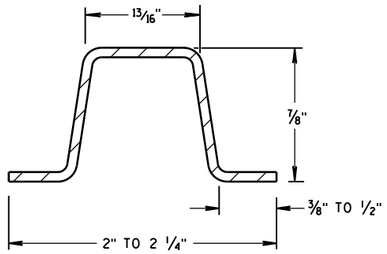
S.D.D. 14 B 47-2c

6

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

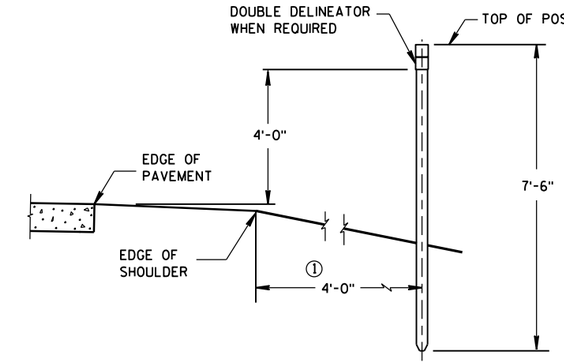


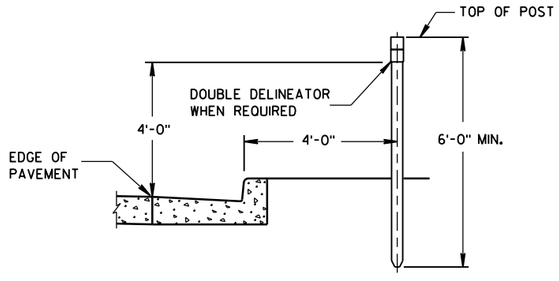
DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.



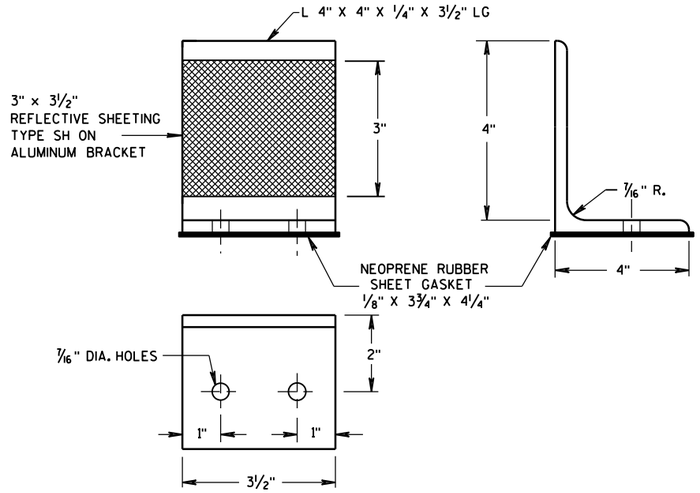


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

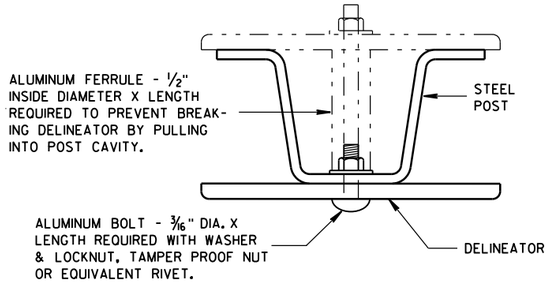
GENERAL NOTES

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

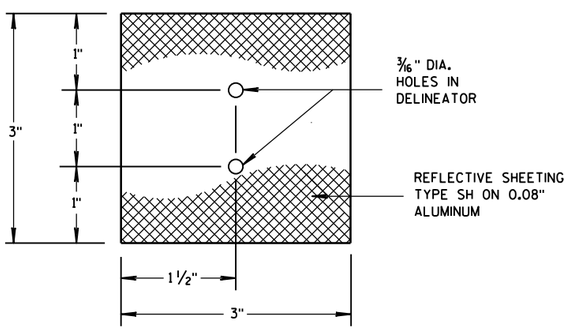
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



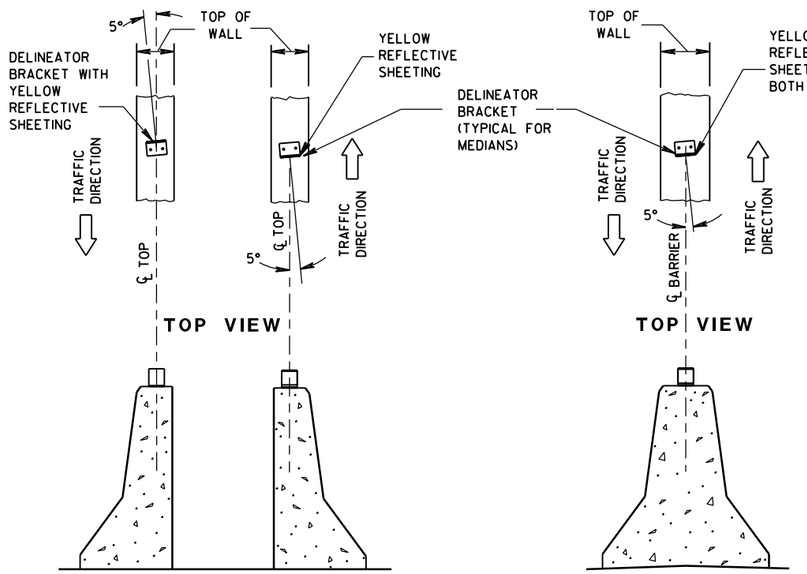
DELINEATOR BRACKET



MOUNTING DETAIL FOR DELINEATOR

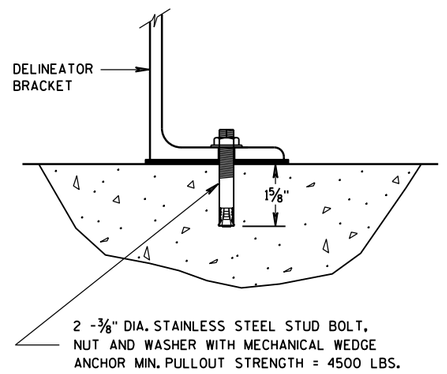


3"x 3" DELINEATOR



DOUBLE BARRIERS IN MEDIAN | MEDIAN BARRIER | BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

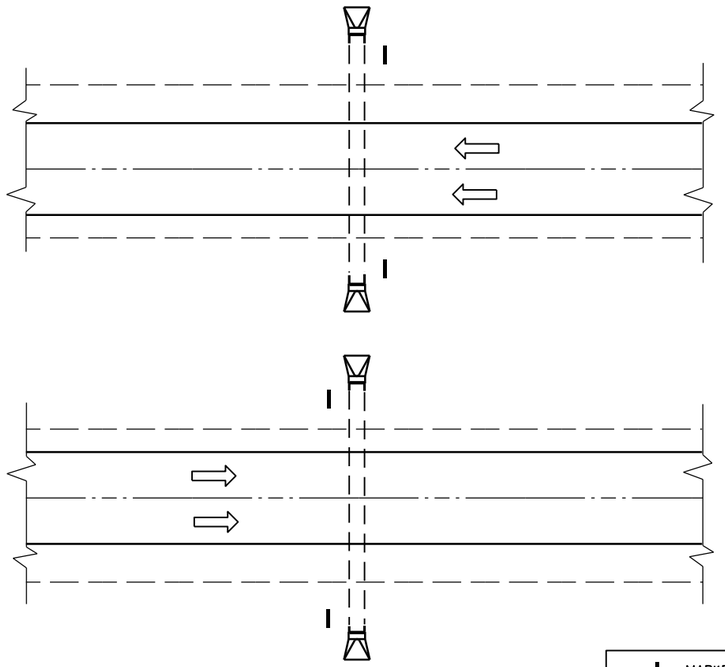
APPROVED
7/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC E
FHWA

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S.D.D. 15 A 2-8

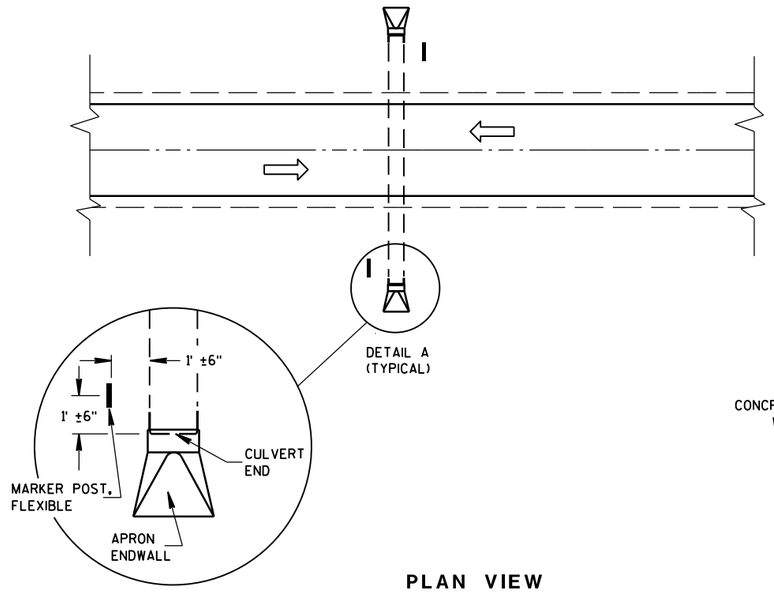
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S.D.D. 15 A 2-8



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

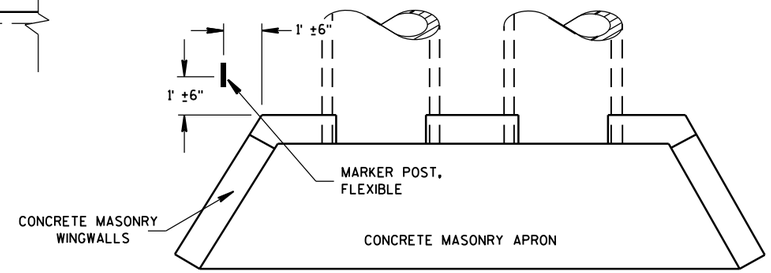
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

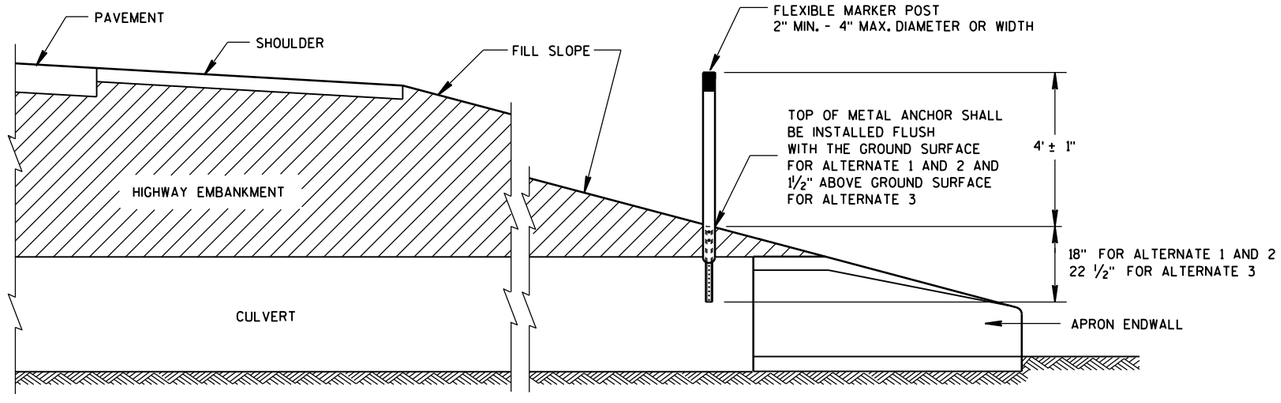
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

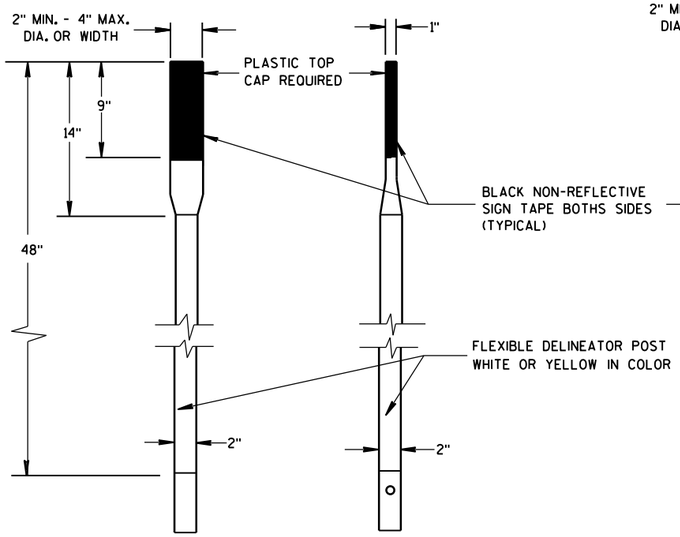
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

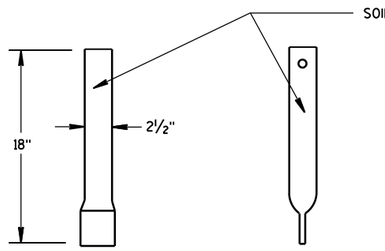
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S.D.D. 15 A 3-2a

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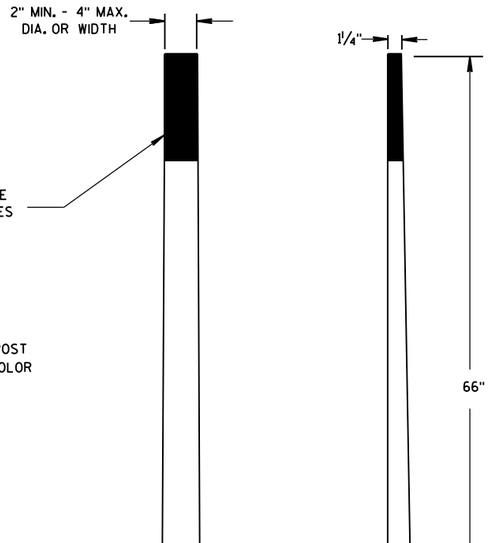
S.D.D. 15 A 3-2a





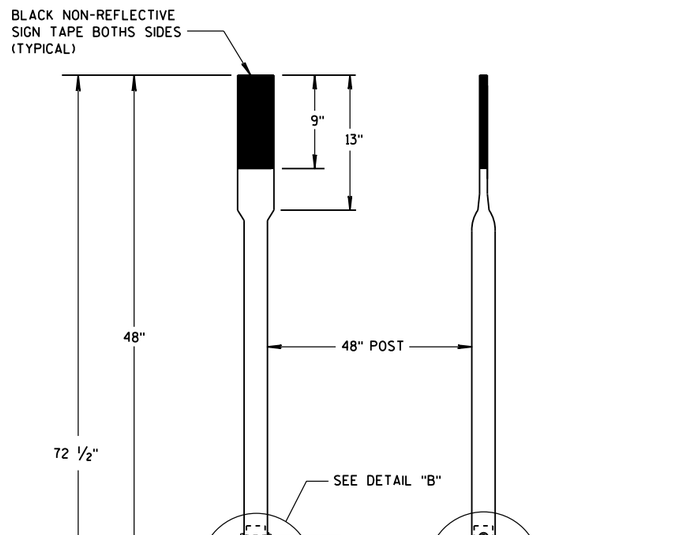
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

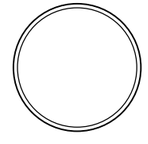
ALTERNATE 2



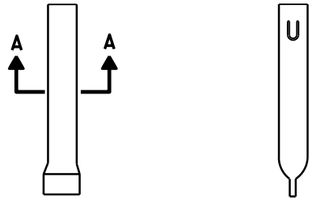
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

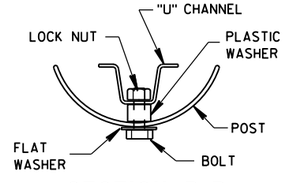


SECTION A-A

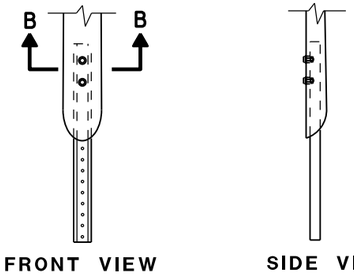


FRONT VIEW SIDE VIEW

ALTERNATE 1

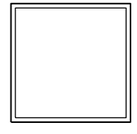


SECTION B-B

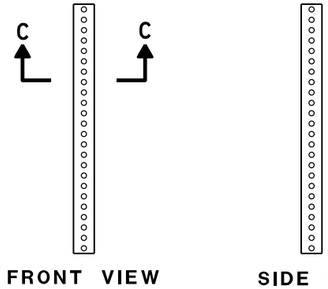


FRONT VIEW SIDE VIEW

ALTERNATE 2



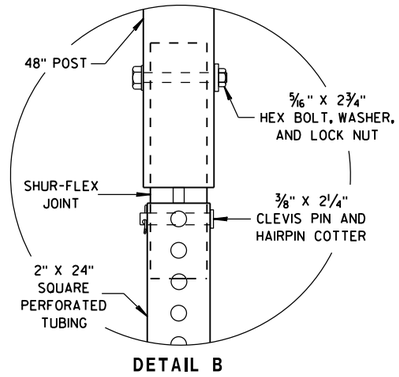
SECTION C-C



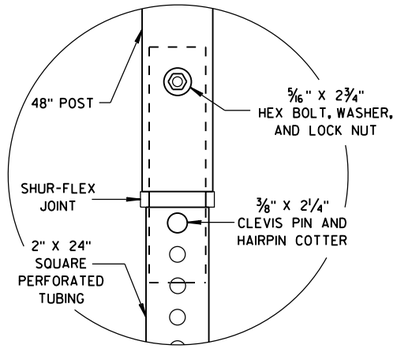
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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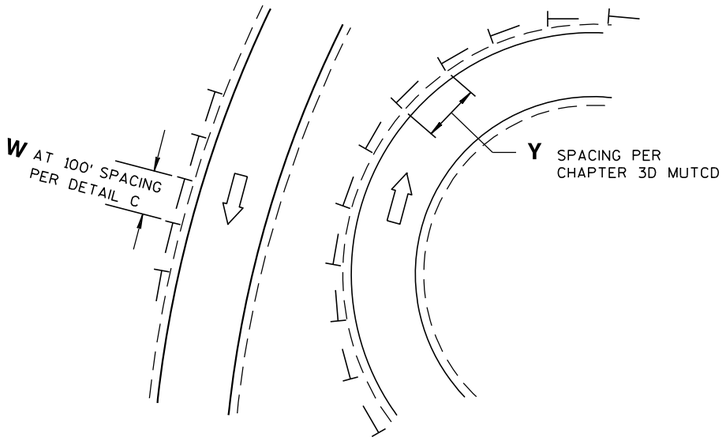
S.D.D. 15 A 3-2b

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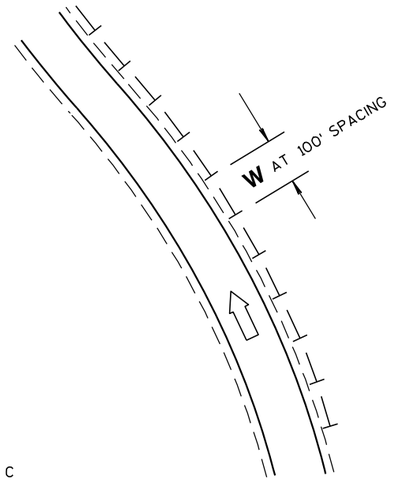
S.D.D. 15 A 3-2b

GENERAL NOTES

* USE DOUBLE DELINEATOR ALONG ACCELERATION-DECELERATION LANES AND TAPERS. USE SINGLE DELINEATOR WHEN RAMP PAVEMENT IS FULL WIDTH.



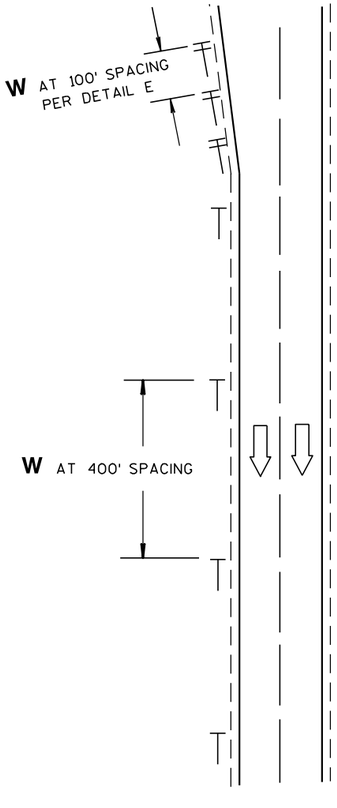
DETAIL A
DELINEATOR LAYOUT AT CURVED RAMP



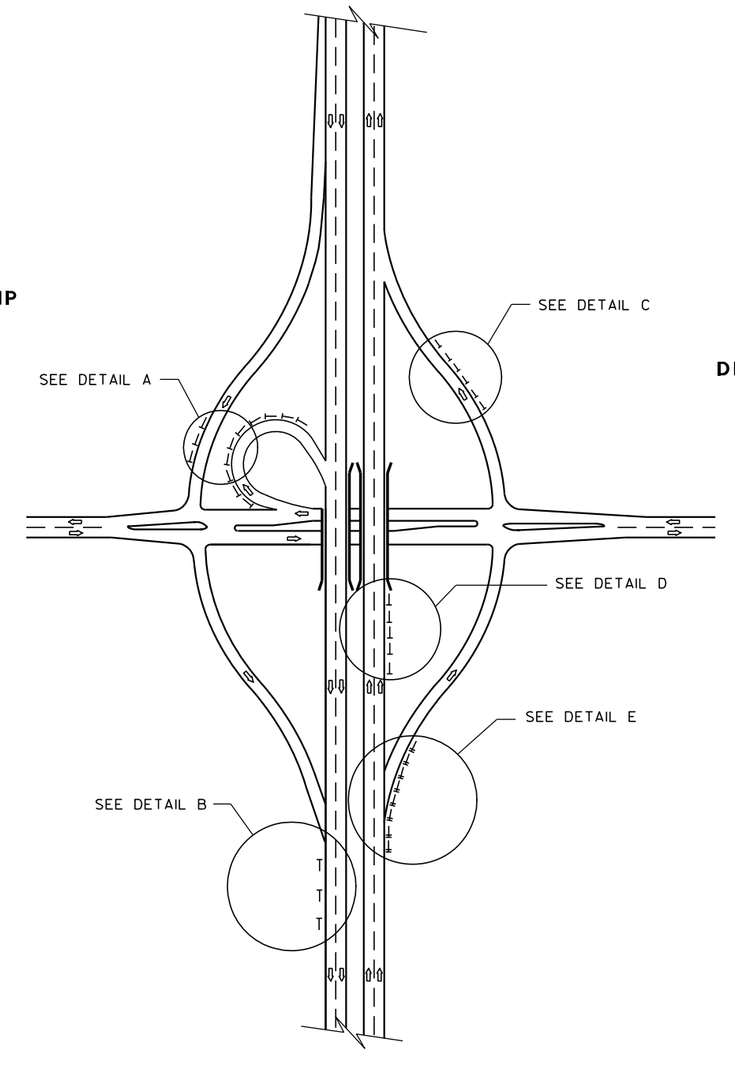
DETAIL C
DELINEATOR LAYOUT ALONG RAMP

LEGEND

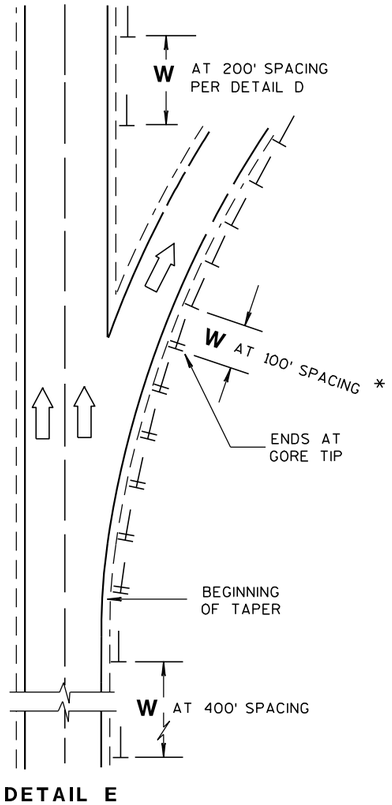
- DIRECTION OF TRAFFIC FLOW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR
- W — WHITE
- Y — YELLOW



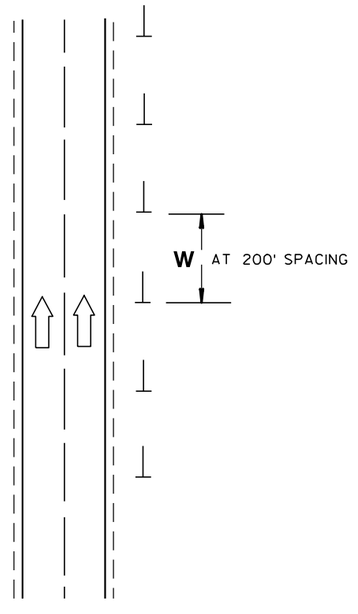
DETAIL B
DELINEATOR LAYOUT ALONG MAINLINE



DELINEATOR LAYOUT



DETAIL E
DELINEATOR LAYOUT FOR ACCELERATION - DECELERATION LANES AND TAPERS AT RAMPS



DETAIL D
DELINEATOR LAYOUT BETWEEN INTERCHANGE RAMPS

DELINEATOR LAYOUT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/5/09 DATE
/S/ Thomas N. Nothdurft STATE TRAFFIC ENGINEER
FHWA

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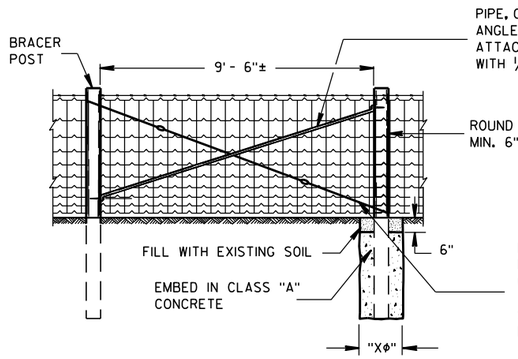
S.D.D. 15 A 6-2

6

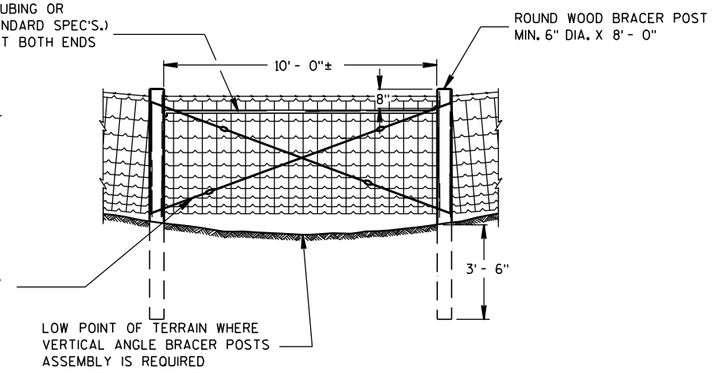
S.D.D. 15 A 6-2

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

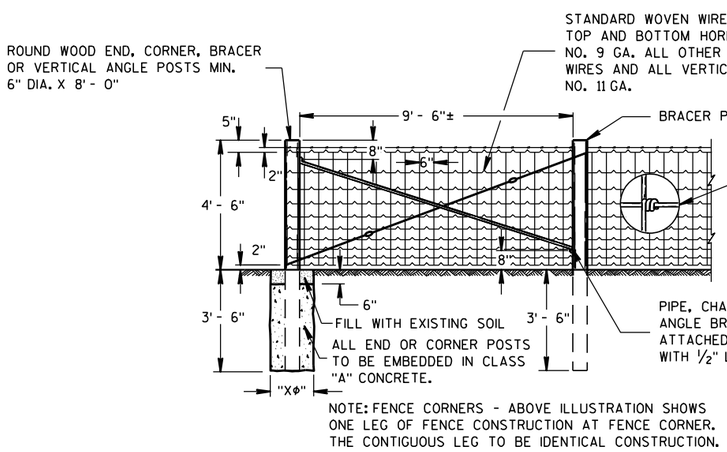
GENERAL NOTES

"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

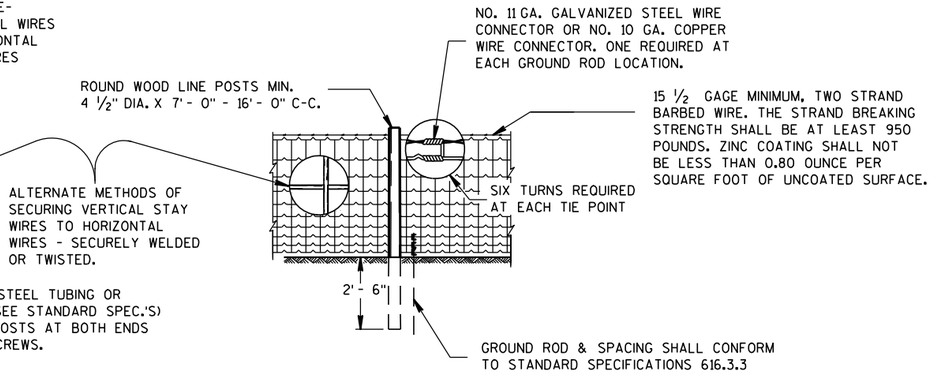
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.



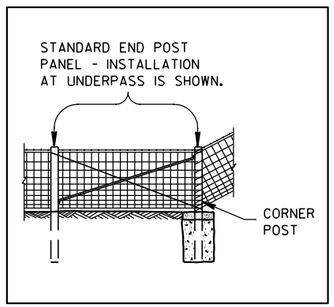
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

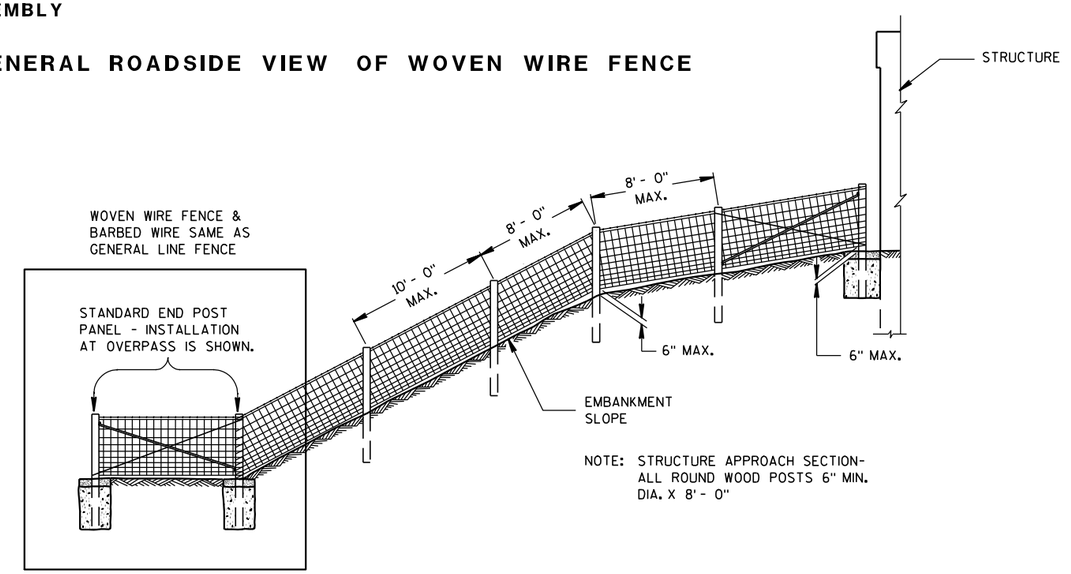


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

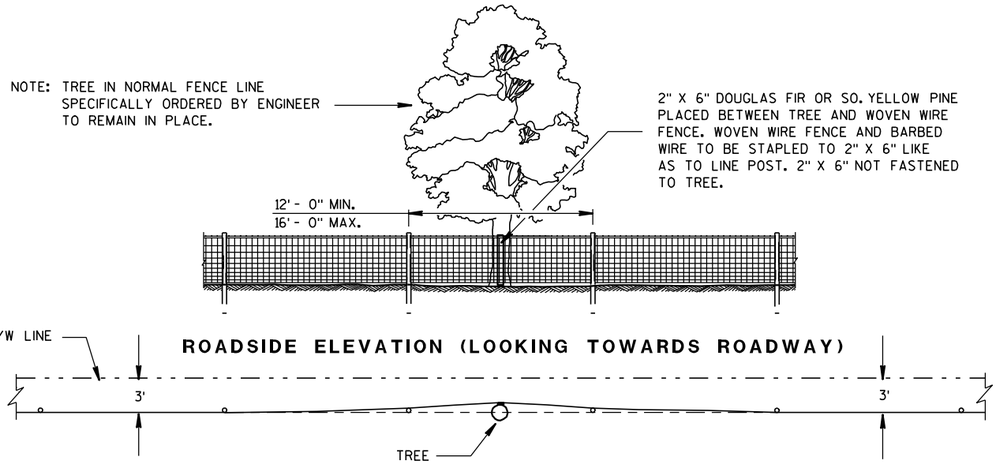
FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

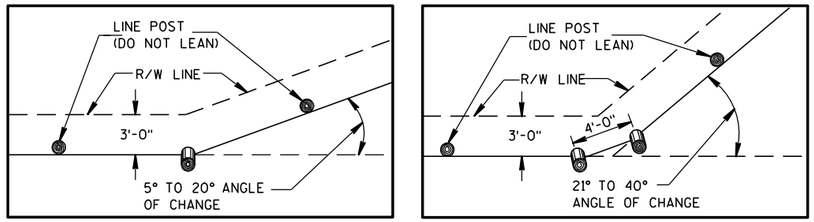
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S.D.D. 15 B 1-8a



PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



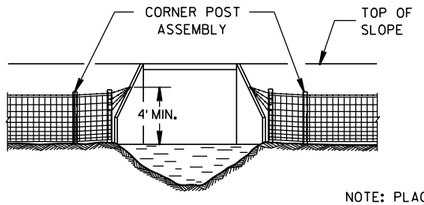
PLAN VIEW
SINGLE POST CORNER

PLAN VIEW
DOUBLE POST CORNER

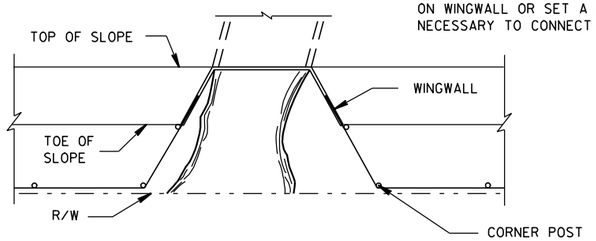
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

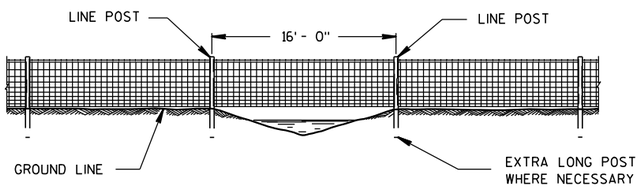
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



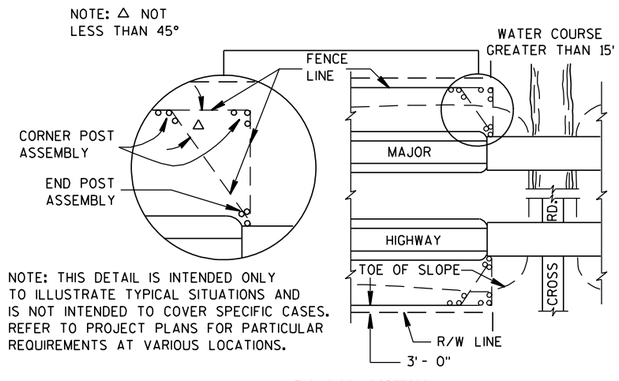
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



FENCE INSTALLATION TO WINGWALLS

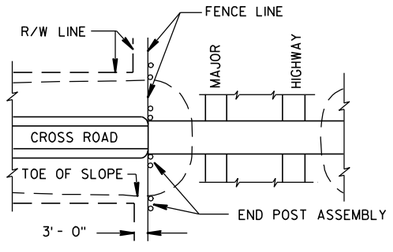


FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



PLAN VIEW

MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH

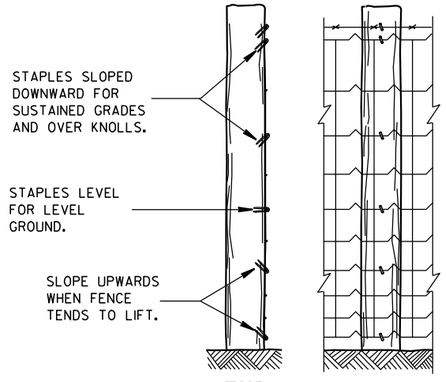


PLAN VIEW

MAJOR HIGHWAY UNDERPASS

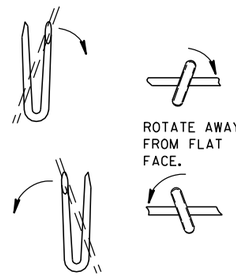
FENCE LOCATION AT STRUCTURES

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION **FARM SIDE ELEVATION**

FENCE MOUNTING DETAIL



LINE POST

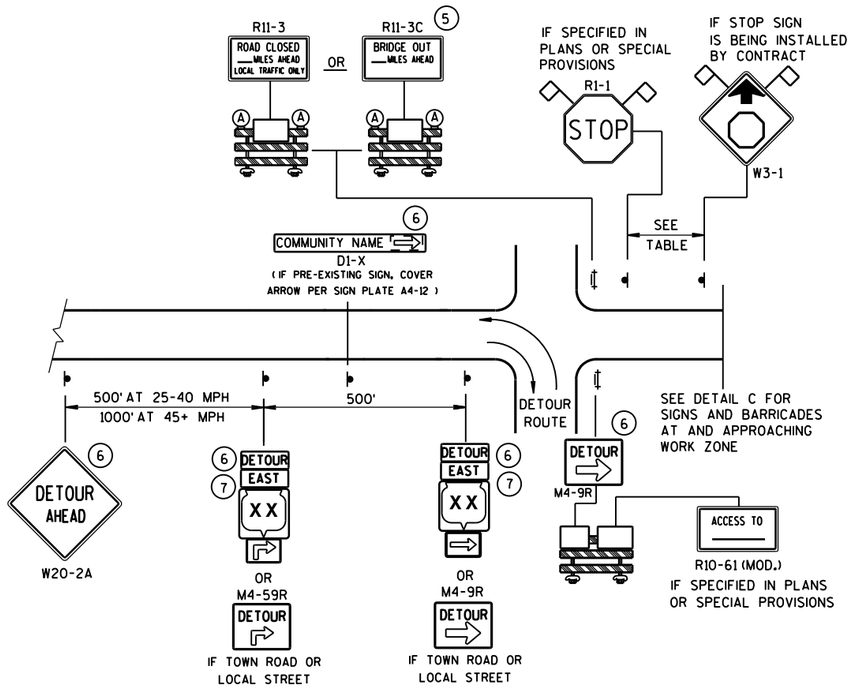
FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008
DATE
/S/ Jerry H. ---
ROADWAY STANDARDS ENGINEER
FHWA

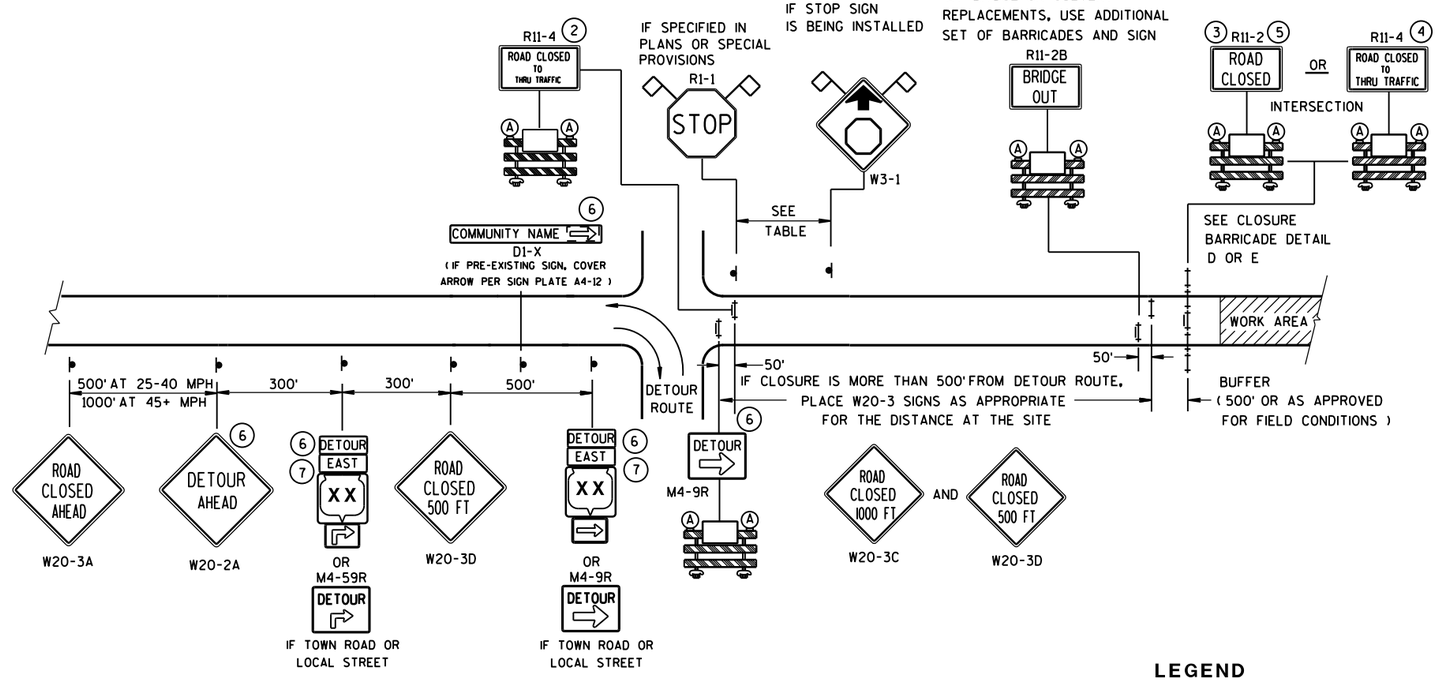
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S.D.D. 15 B 1-8b



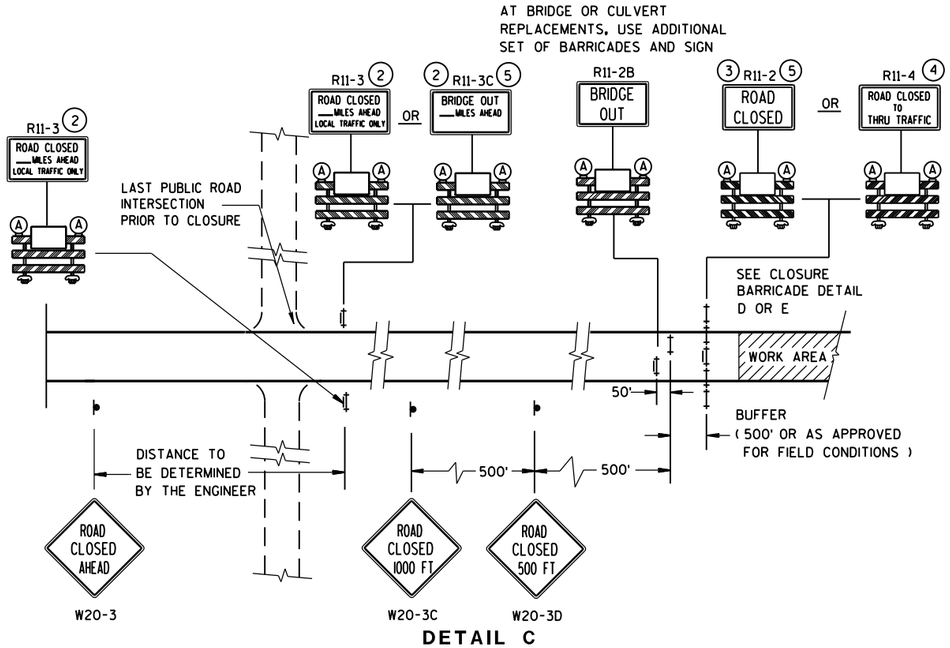
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

SEE SDD 15C2-SHEET "**b**"
FOR GENERAL NOTES
AND FOOTNOTES (1) THROUGH (7)

LEGEND

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

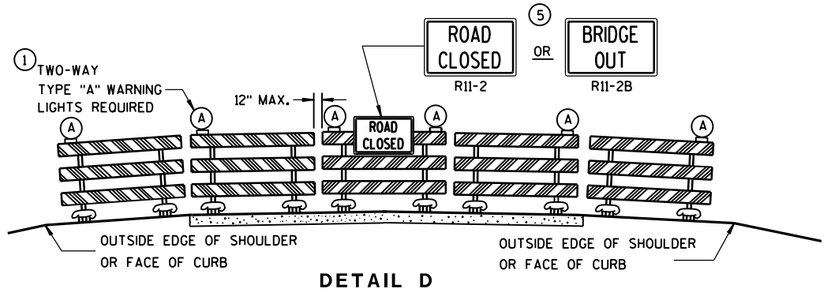
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6

S.D.D. 15 C 2-6a

6

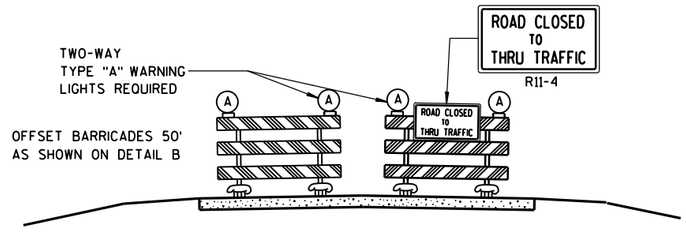
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

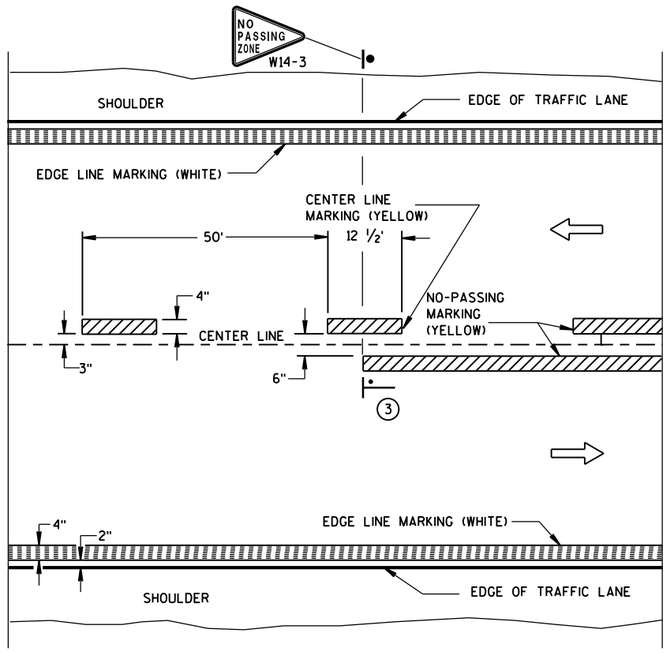
Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI — FIC

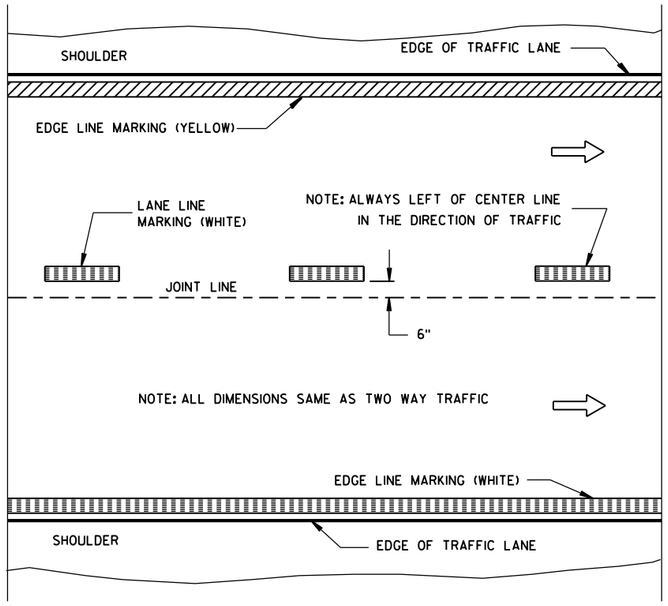
FHWA

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S.D.D. 15 C 2-6b

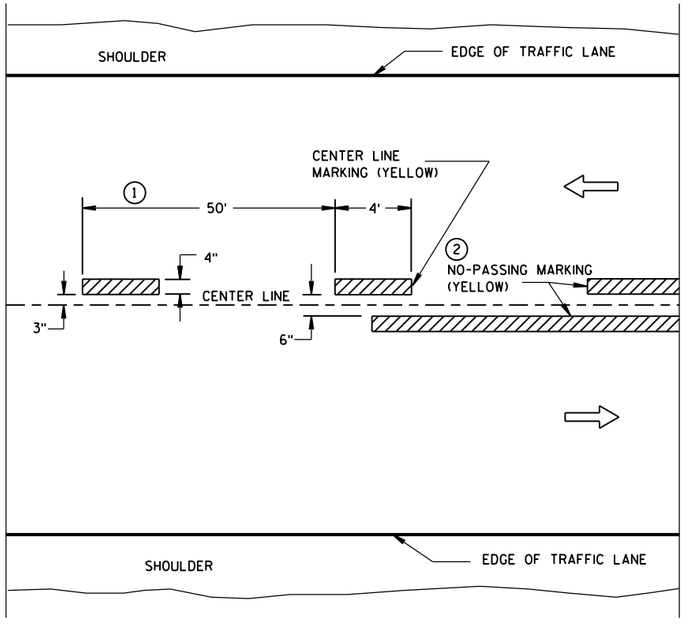


TWO WAY TRAFFIC

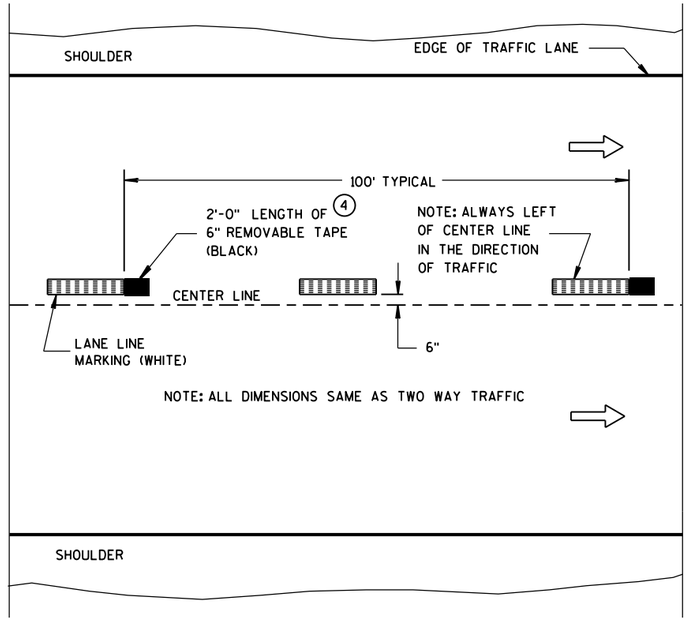


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

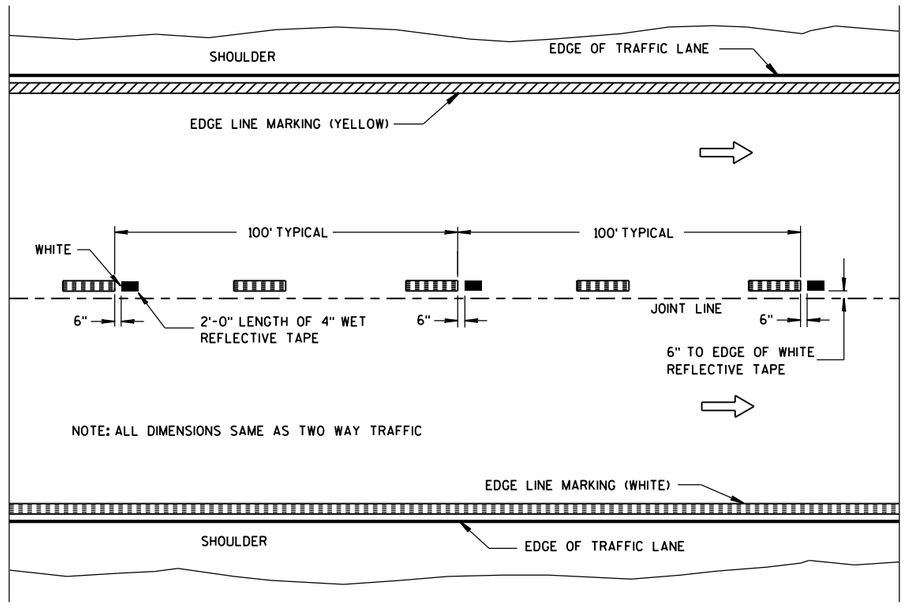
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC E

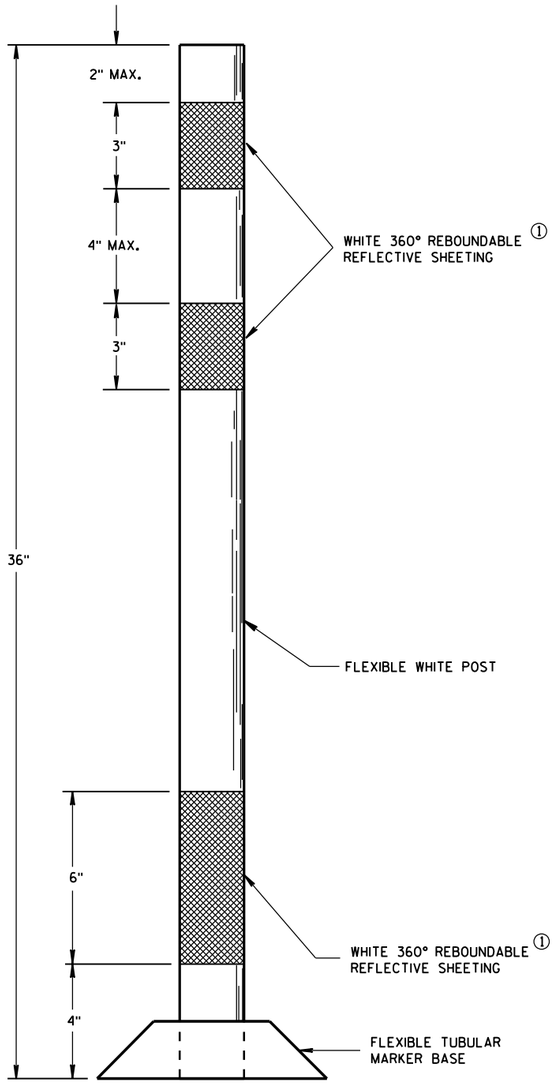
FHWA

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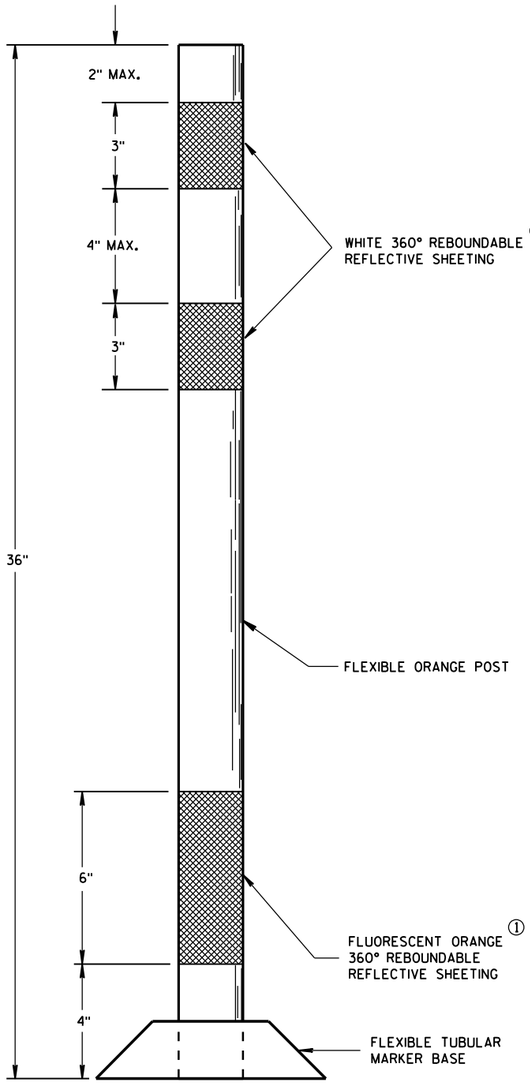
S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a



FLEXIBLE
TUBULAR MARKER POST
PERMANENT CROSSOVER



FLEXIBLE
TUBULAR MARKER POST
WORK ZONE

GENERAL NOTES

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

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

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

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

6

6

S.D.D. 15 C 11-6

S.D.D. 15 C 11-6

FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-16-2015
DATE
FHWA

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON
SAFETY ENGINE

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

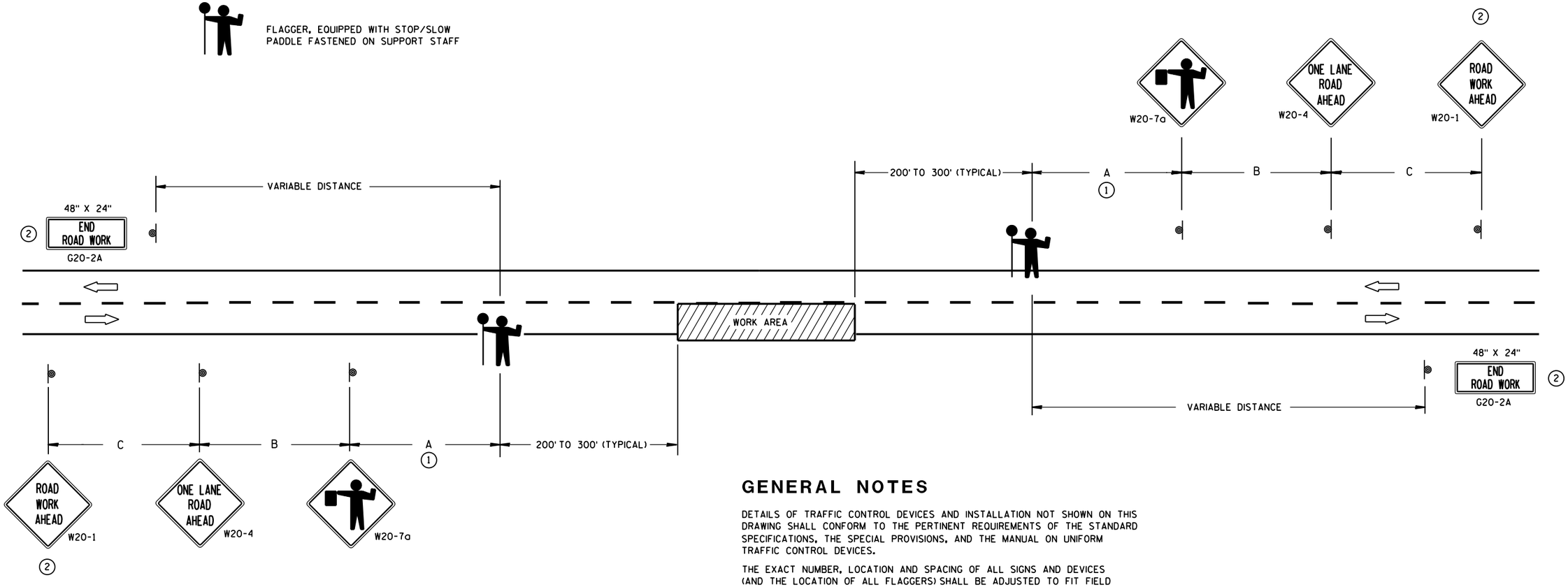
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

BE PREPARED TO STOP
W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

GENERAL NOTES

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

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

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

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

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

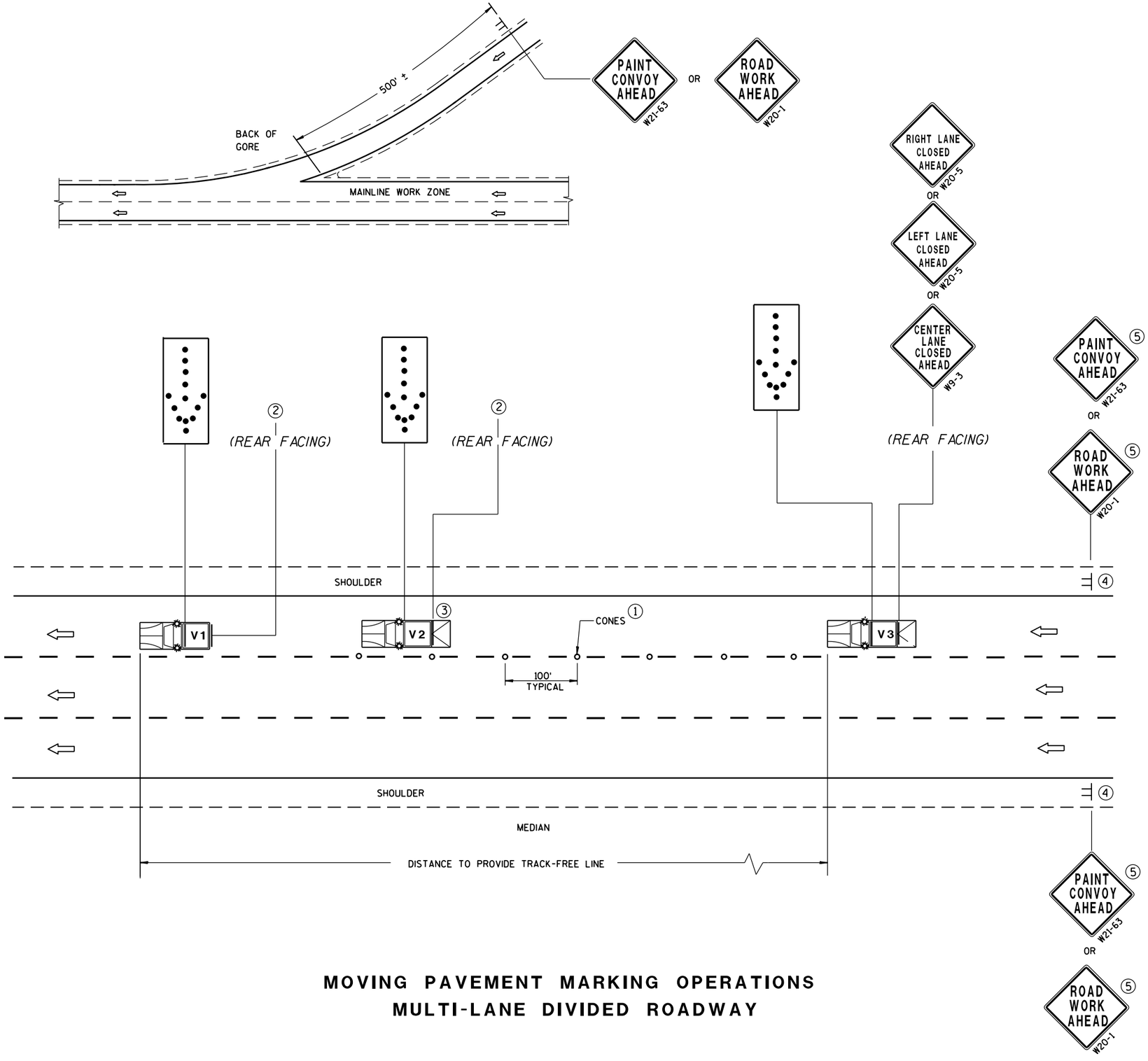
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 C 12-4

6

S.D.D. 15 C 12-4



MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE DIVIDED ROADWAY

GENERAL NOTES

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

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

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

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

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

FOR EDGELINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH. USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

THIS DRAWING SHALL BE USED FOR EDGELINE OR LANELINE MARKING FOR MULTILANE DIVIDED ROADWAYS.

① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.

④ SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR EVERY THREE MILES.

⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

V1	LEAD VEHICLE
V2	SHADOW VEHICLE
V3	TRAIL VEHICLE WITH TMA
TMA	TRUCK-MOUNTED ATTENUATOR
	SIGN ON TEMPORARY SUPPORT
	DIRECTION OF TRAFFIC
	CONES
	FLASHING ARROW PANEL (MERGE)

MOVING PAVEMENT MARKING OPERATION
MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/3/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC EN

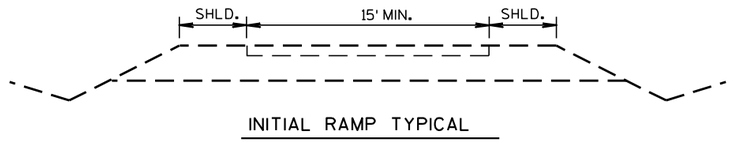
FHWA

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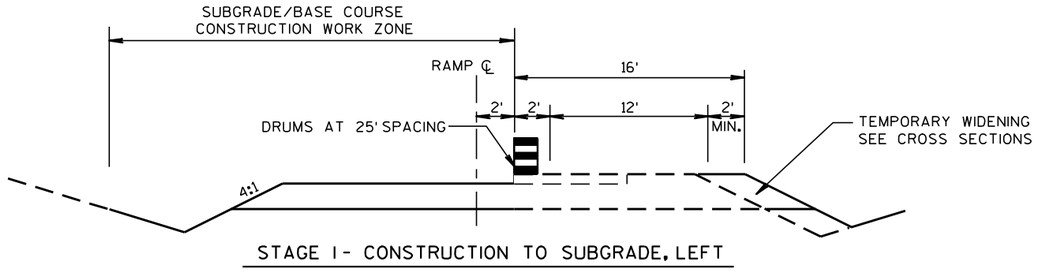
S.D.D. 15 C 19-2c

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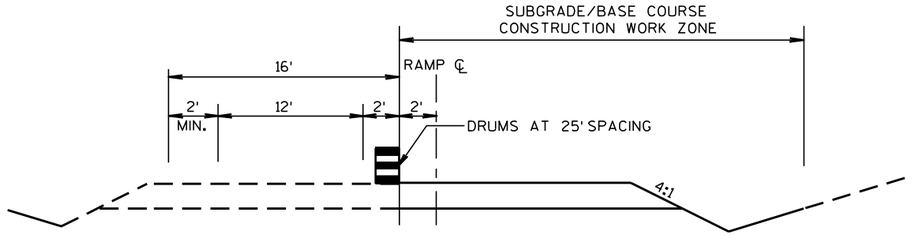
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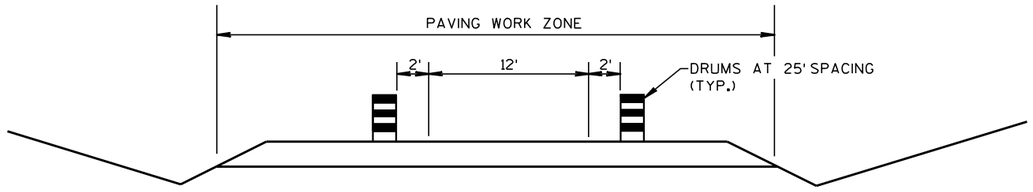
INITIAL RAMP TYPICAL



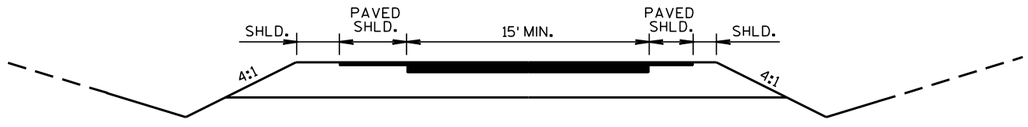
STAGE I - CONSTRUCTION TO SUBGRADE, LEFT



STAGE II - CONSTRUCTION TO SUBGRADE, RIGHT



STAGE III - TRAFFIC ON BASE COURSE



STAGE IV - PAVING

GENERAL NOTES :

WORK SHALL BE SCHEDULED FOR ALL STAGES TO MINIMIZE INCONVENIENCE TO THE TRAFFIC USING THE RAMP WHILE IT IS ONLY BASE COURSE.

IN STAGE III, A MINIMUM 12' LANE WIDTH SHALL BE DELINEATED WITH DRUMS ALONG BOTH EDGES AT ALL TIMES UNTIL PAVED AND PAVEMENT MARKINGS ARE PLACED.

TRAFFIC CONTROL, RAMP CONSTRUCTION STAGING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

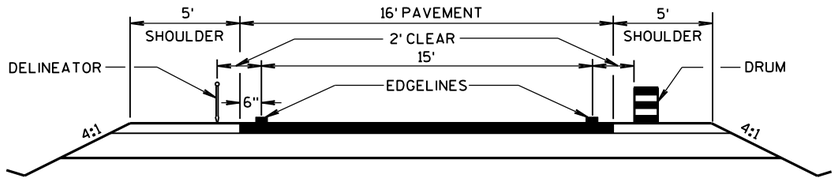
7-14-94
DATE

/S/ Chester J. [illegible]
DIRECTOR, OFFICE [illegible]

FHWA

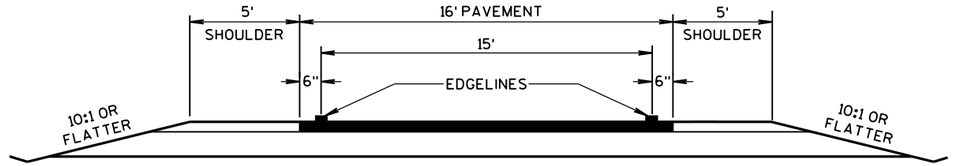
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S.D.D. 15 D 4-1



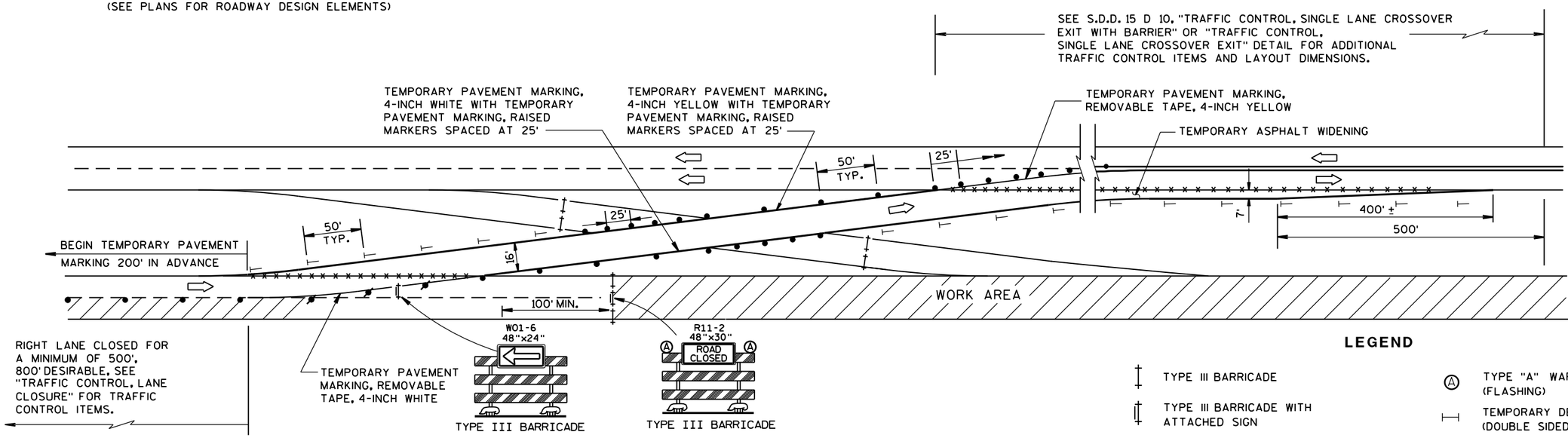
TYPICAL TEMPORARY CROSSOVER ROADWAY DIMENSIONS

(SEE PLANS FOR ROADWAY DESIGN ELEMENTS)



TYPICAL CROSSOVER TO REMAIN IN PLACE ROADWAY DIMENSIONS

(SEE PLANS FOR ROADWAY DESIGN ELEMENTS)



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE MARKING
- TYPE "A" WARNING LIGHT (FLASHING)
- TEMPORARY DELINEATOR (DOUBLE SIDED)
- REMOVING PAVEMENT MARKINGS
- DELINEATOR FLEXIBLE/ TUBULAR MARKER
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

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

THE SPACING BETWEEN PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER AND TEMPORARY PAVEMENT MARKING WHERE USED.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

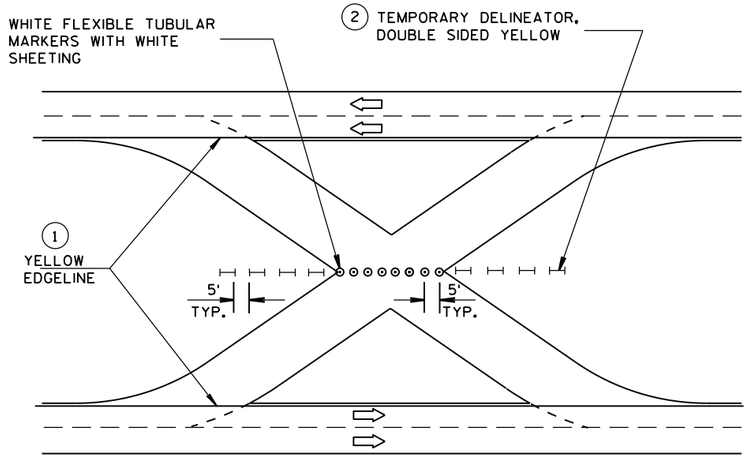
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

REVERSE DEVICES WHEN OTHER LEG OF CROSSOVER IS IN USE.

(1) FOR PERMANENT CROSSOVER, PAVEMENT MARKING SHOULD CONFORM TO SECTION 646 OF THE STANDARD SPECIFICATIONS.

(2) FOR PERMANENT CROSSOVER, INSTALL PERMANENT DELINEATORS ACCORDING TO SECTION 633 OF THE STANDARD SPECIFICATIONS.



TRAFFIC CONTROL FOR CROSSOVER THAT IS NOT IN USE

TRAFFIC CONTROL, SINGLE LANE CROSSOVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-16-2015 DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON SAFETY ENGINI IC
FHWA

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LEGEND

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

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

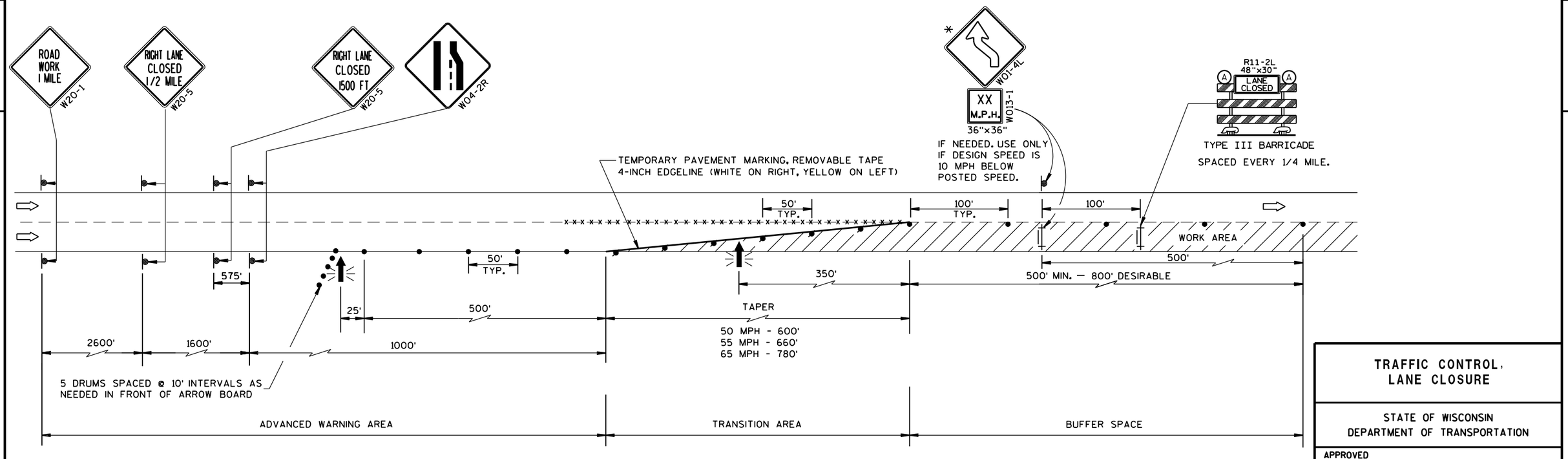
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



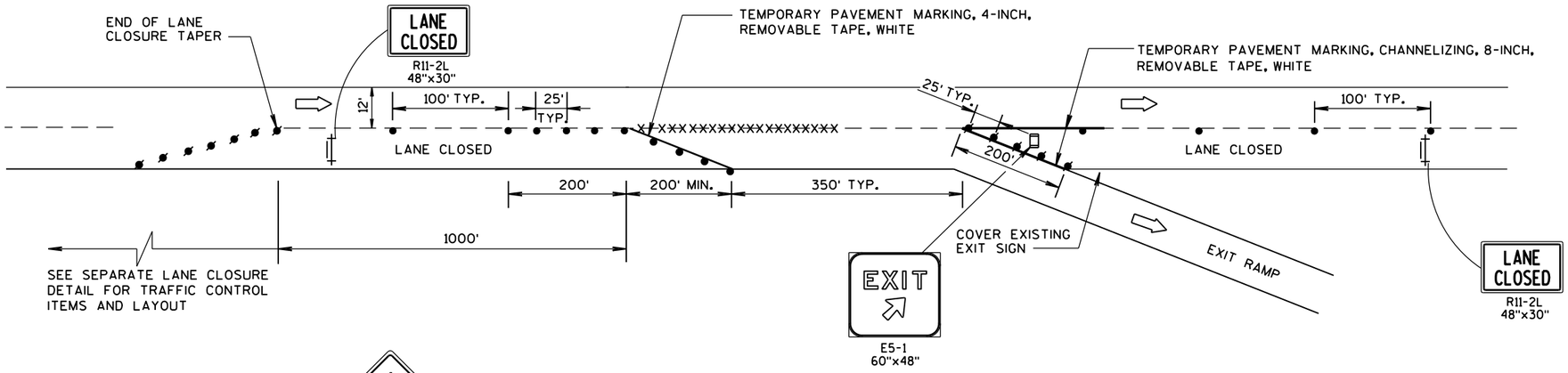
TRAFFIC CONTROL, LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

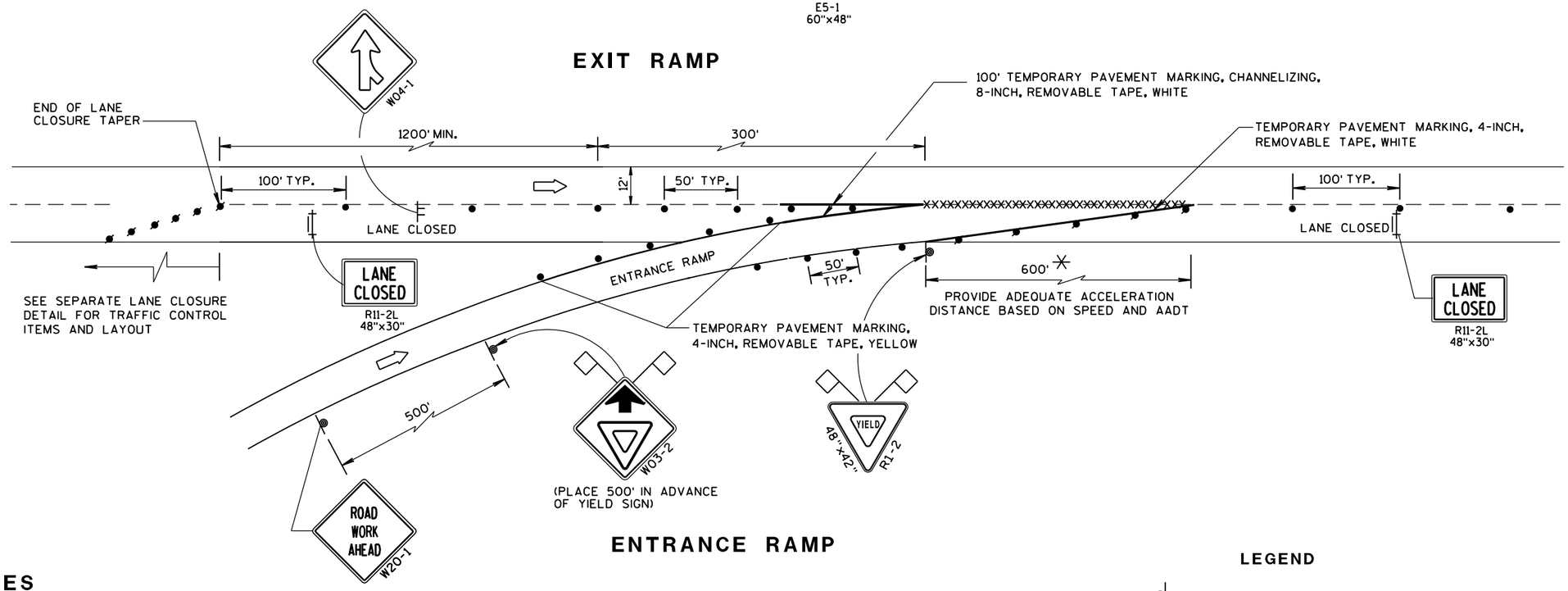
APPROVED
Feb. 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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S.D.D. 15 D 12-5a



EXIT RAMP



ENTRANCE RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

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

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

* LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

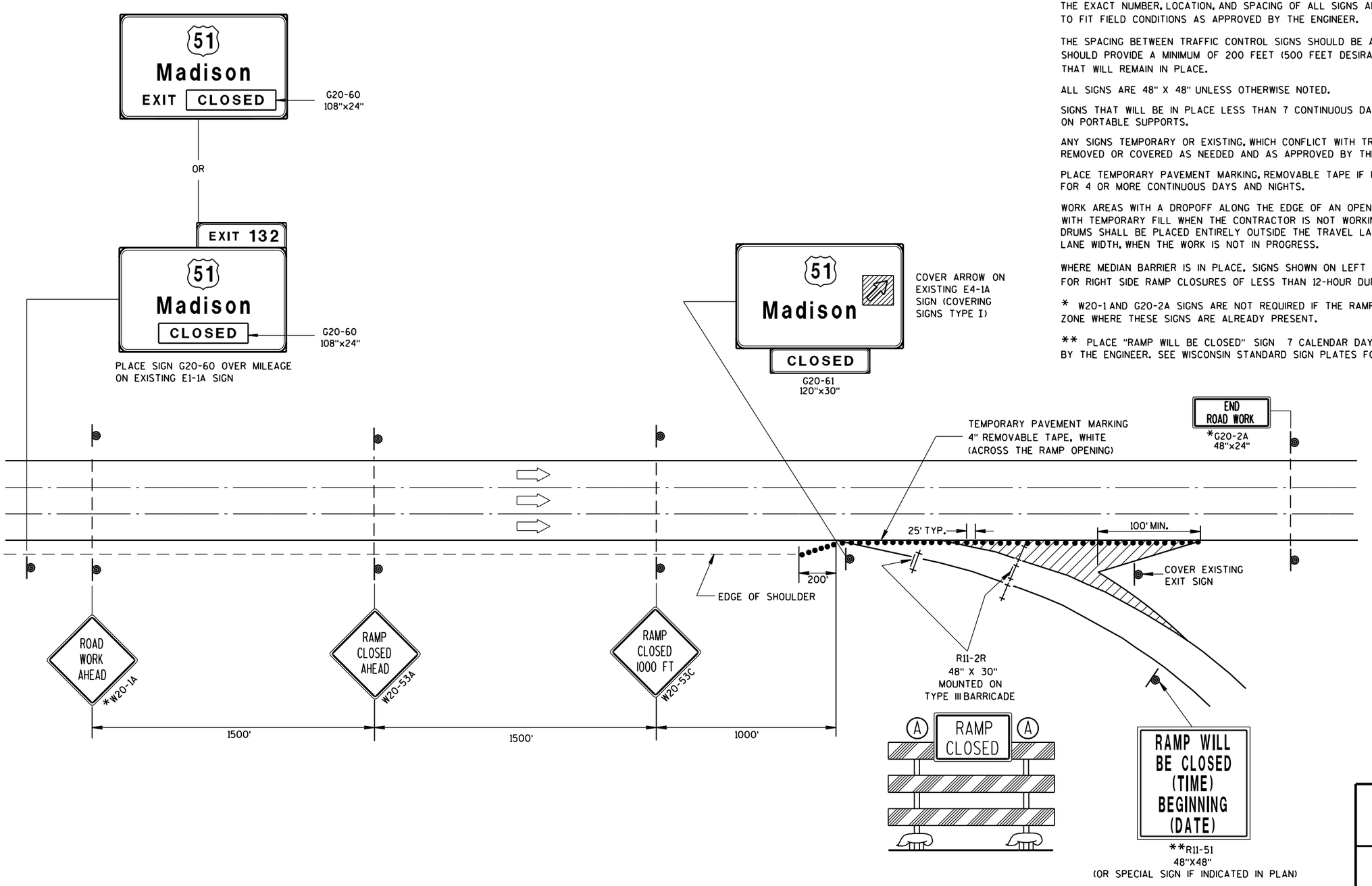
TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

S.D.D. 15 D 15-2

S.D.D. 15 D 15-2



GENERAL NOTES

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

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

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

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

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

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

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

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

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

** PLACE "RAMP WILL BE CLOSED" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

LEGEND

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

TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI — FIC
FHWA

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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.

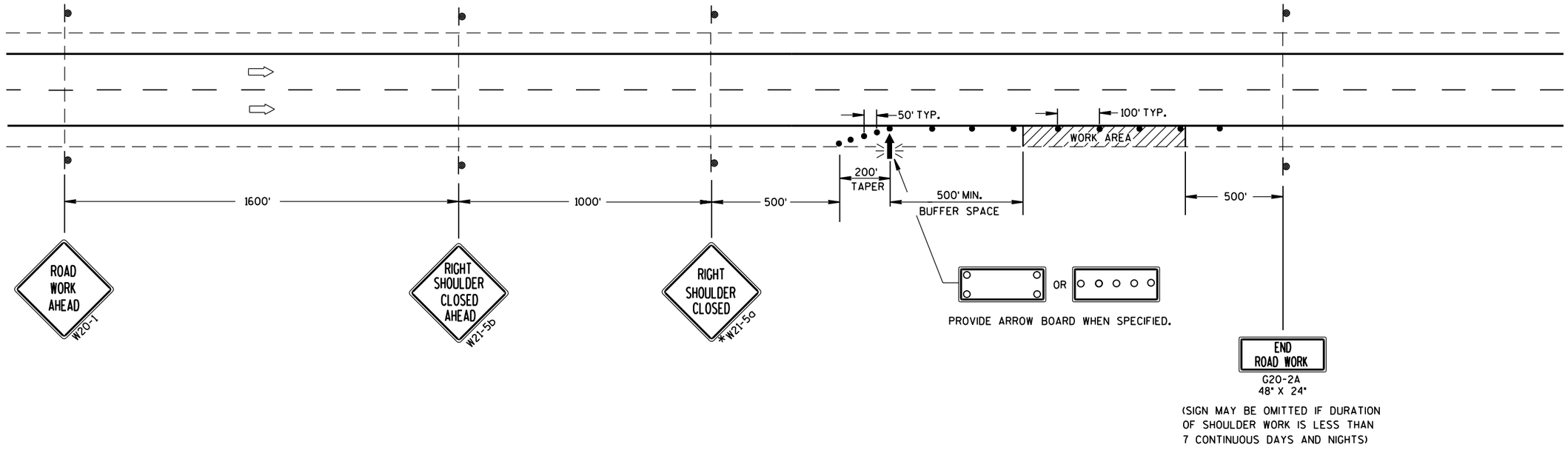
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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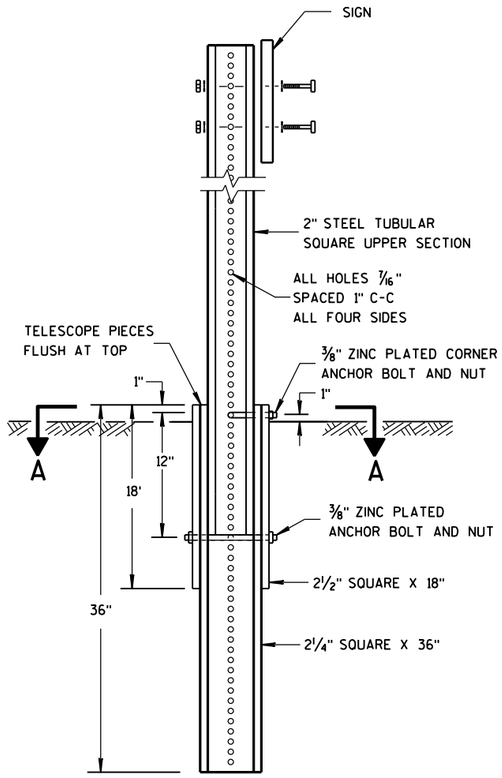
8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

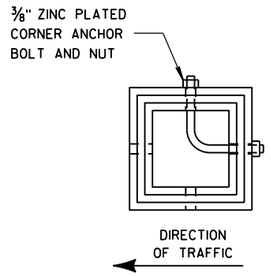
FHWA

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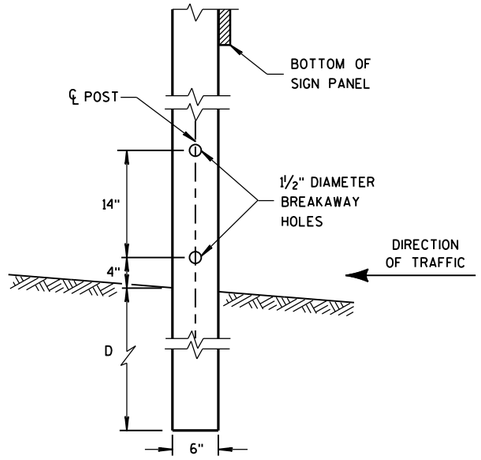
S.D.D. 15 D 27-2



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



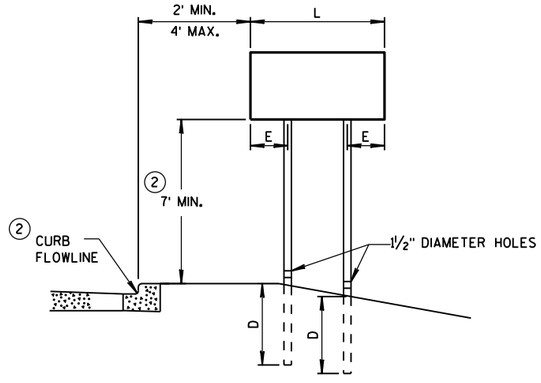
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

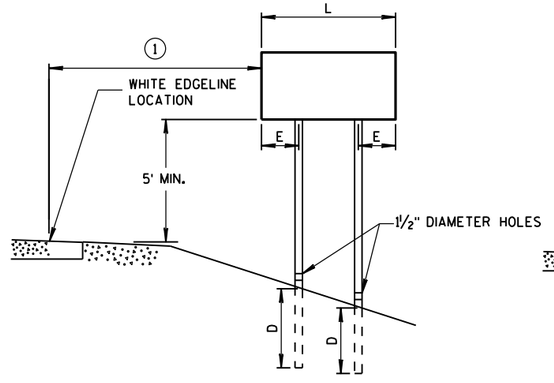
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

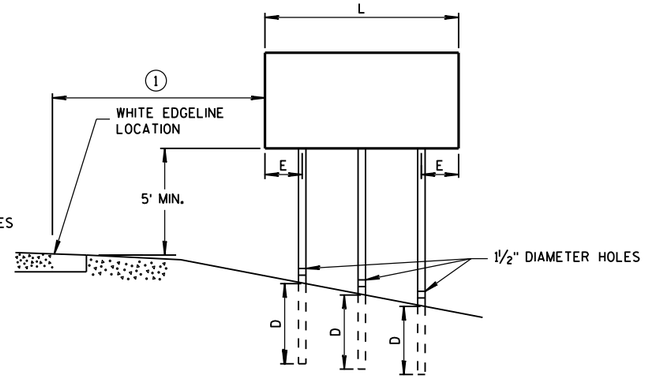
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

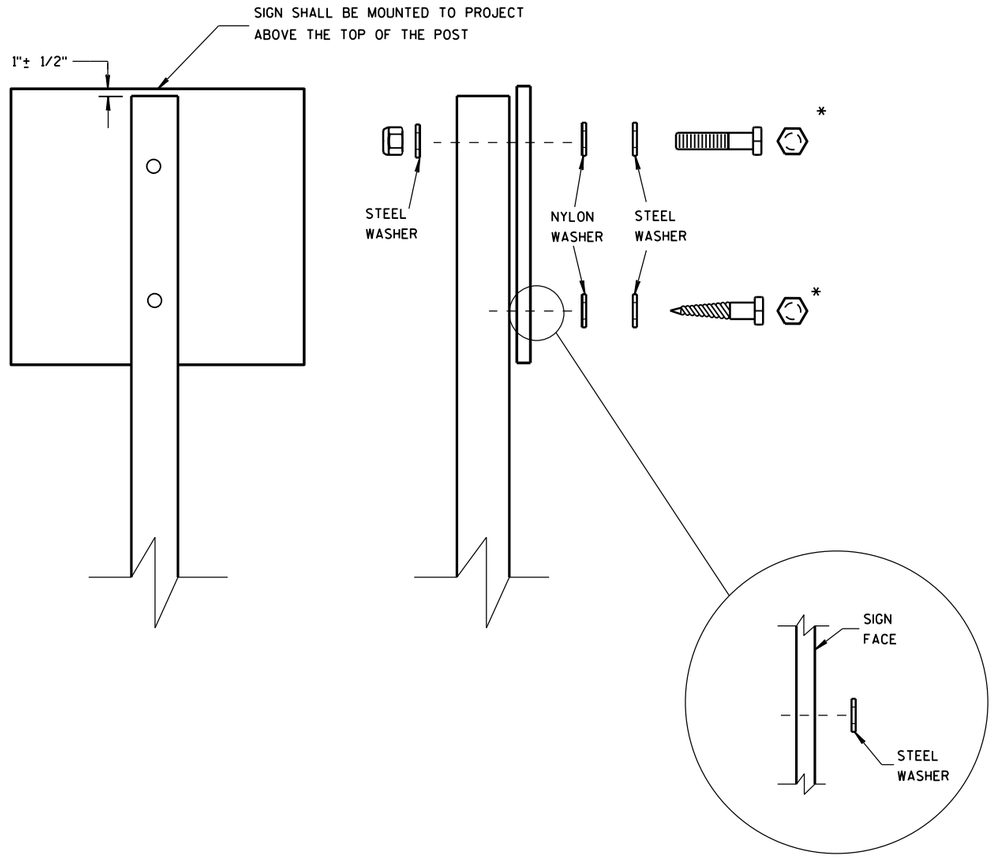
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN DEPARTMENT OF TRANSPOR

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S.D.D. 15 D 38-1a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

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S.D.D. 15 D 38-1b

S.D.D. 15 D 38-1b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

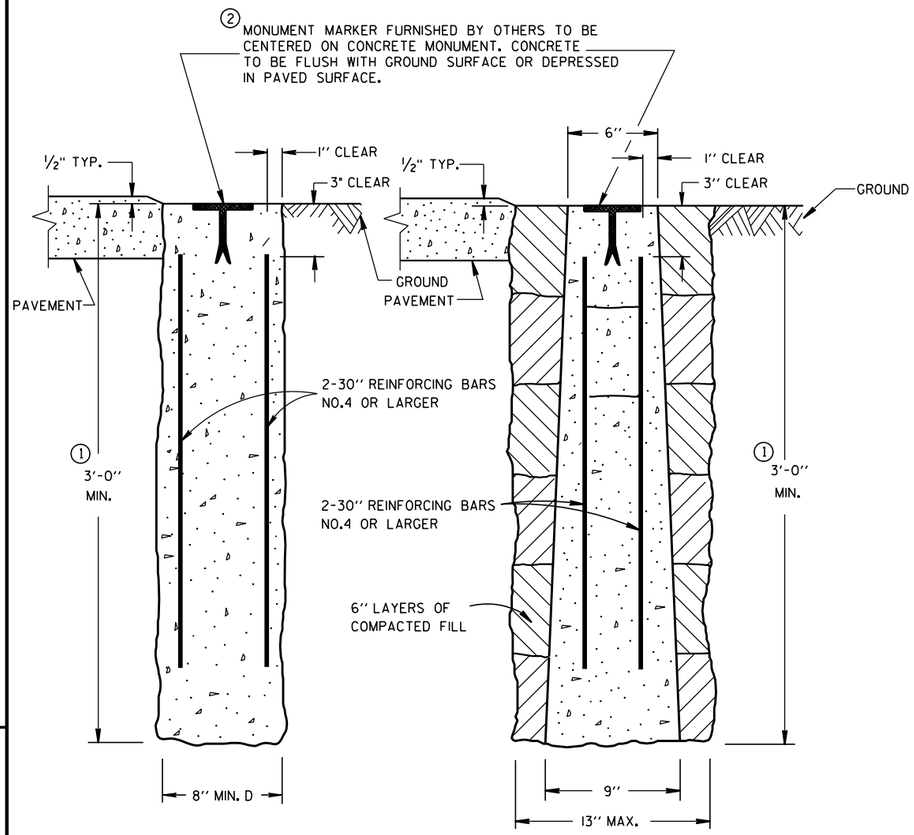
APPROVED

Feb. 2015 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

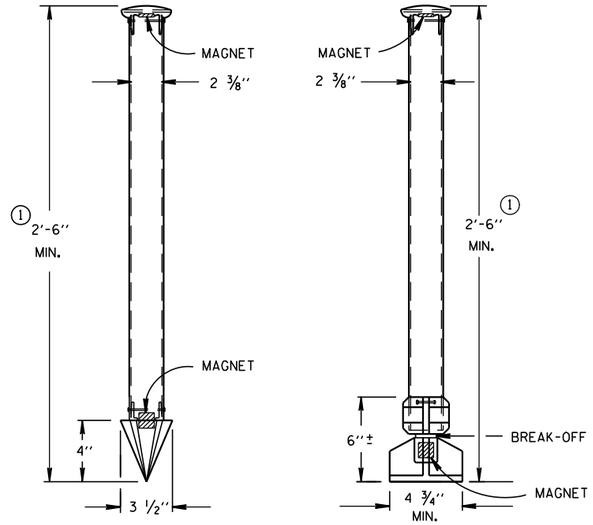
SIGN



CAST-IN-PLACE PRECAST

CONCRETE MONUMENTS

TYPE A



TYPE C DRIVE-IN MONUMENT

TYPE D BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)

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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

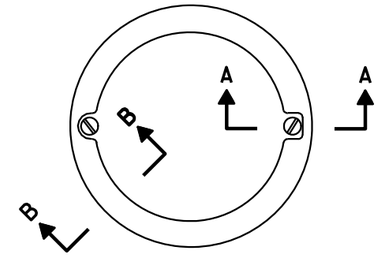
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

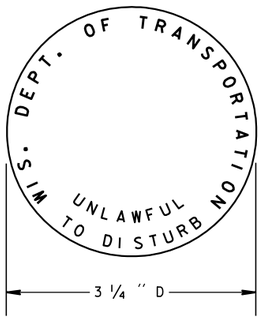
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

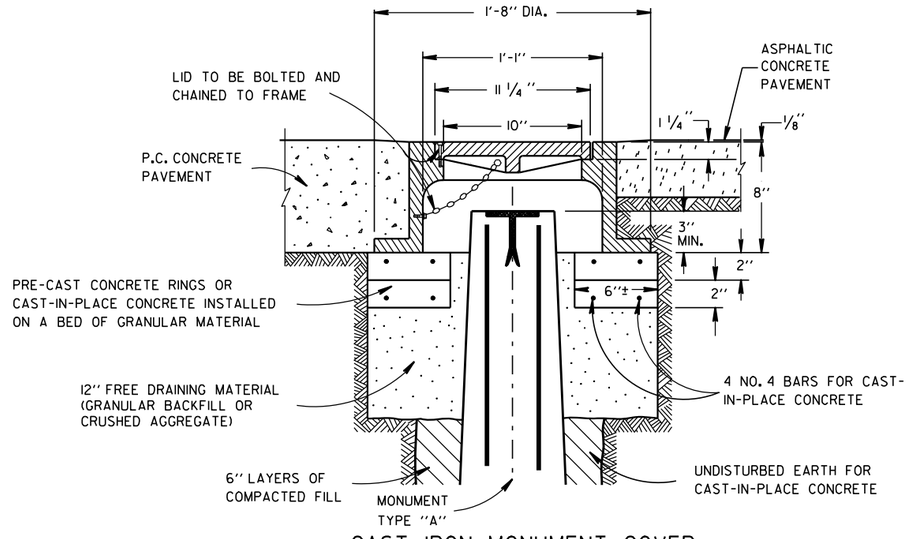
② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.



TOP VIEW

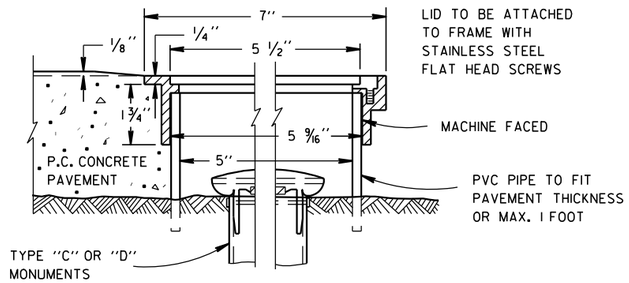


② WIS DOT MONUMENT MARKER LOGO FOR TYPES "A", "C" & "D"



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 95 LBS.)



SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)

(FOR CONCRETE PAVEMENT ONLY)

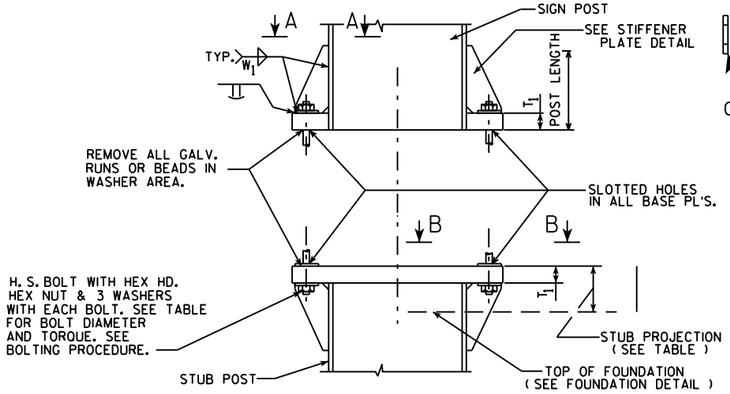
LANDMARK REFERENCE MOUNMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

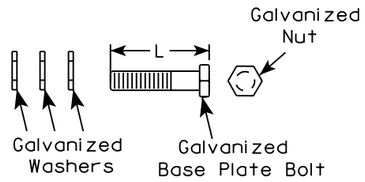
APPROVED
9/22/1999 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

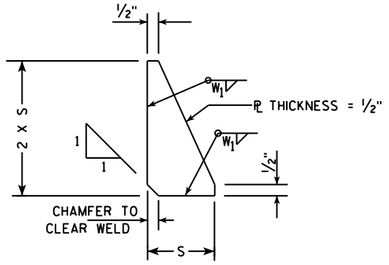
6

S.D.D. 16 A 1-6



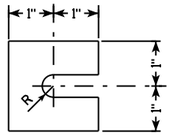
SIGN POST AND STUB POST ELEVATION





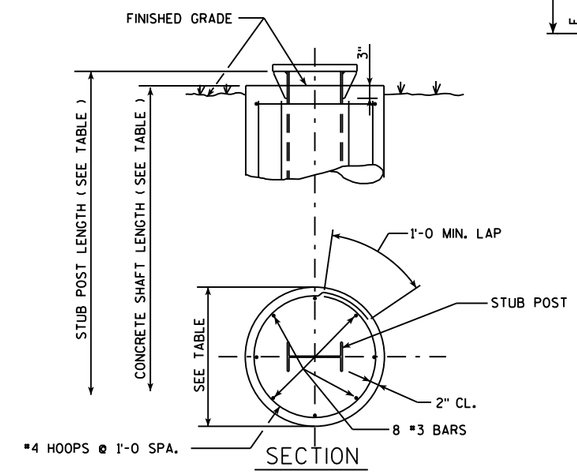
STIFFENER PLATE DETAIL

(SEE TABLE FOR DIMENSIONS)

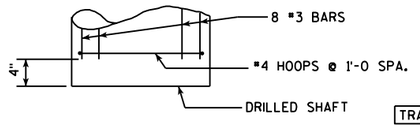


FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

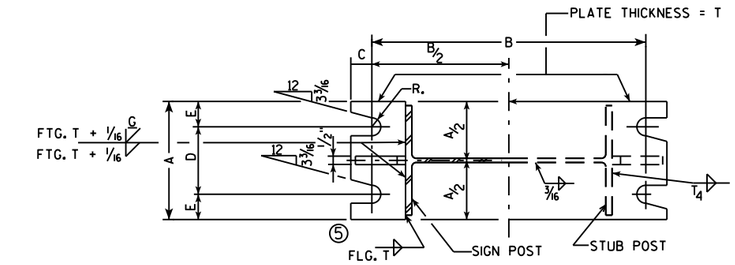
SHIM DETAIL



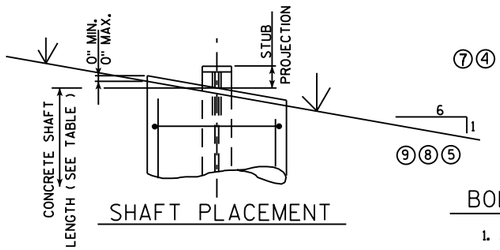
SECTION



FOUNDATION DETAIL



SECTION A-A SECTION B-B



SHAFT PLACEMENT

7 4

DESIGN DATA

WIND PRESSURE = 75 M.P.H.
WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0
ICE LOAD = 3 P.S.F.

GROUP LOADS	PERCENT OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD & WIND	140
3. DEAD, ICE & ½ WIND[4]	140 [4]25 P.S.F. MIN.

ALLOWABLE SOIL PRESSURE = 1½T / SQ. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

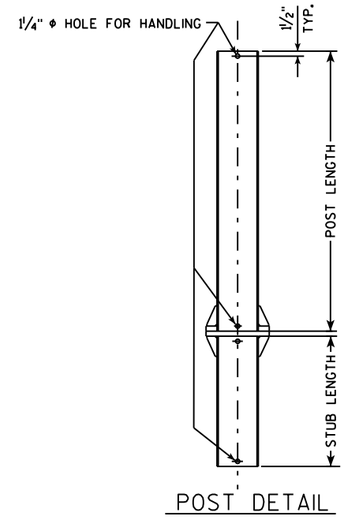
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123. 9
THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
FURNISH STEEL BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH SECTION 635 OF THE STANDARD SPECIFICATIONS.

BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND ONE OF THE FLAT WASHERS ON EACH BOLT BETW. PLATES.
2. SHIM AS REQ'D. TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. (SEE TABLE)
5. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE:
TIGHTEN THE HIGH STRENGTH BOLTS TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.



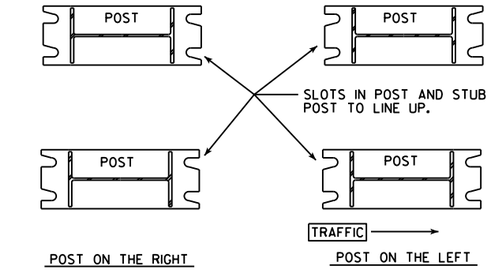
POST DETAIL

QUANTITIES FOR 1 FOOTING		
	CONC. MASONRY C.Y.	REINF. STEEL LBS.
A	0.6	34
B	0.8	49
C	0.9	50
D	0.9	56
E	1.0	62

7

REINF.	TYPE	#3	#4
	A	8 @ 4'-5	5 @ 6'-3
	B	8 @ 6'-5	7 @ 6'-3
	C	8 @ 6'-11	7 @ 6'-3
	D	8 @ 7'-5	8 @ 6'-3
	E	8 @ 7'-11	9 @ 6'-3

7



POST SLOT ORIENTATION 7

BASE CONNECTION DATA TABLE														FOUNDATION DATA				
L	X	TYPE	DIMENSION / POST SIZE	BOLT SIZE & TORQUE	A	B	C	D	E	T_1	T_4	W_1	R	S	STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH	K
3 ¾	4	A	W10"X12.0 #/FT.	¾" Φ @ 75#-FT.	5¼"	1'-0⅜"	⅞"	3½"	⅞"	1"	3/16"	5/16"	13/32"	2⅛"	3'-6	3"	2'-0 Φ	5'-0	76.0# 4
4 ¾	4	B	W12"X16.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1¼"	¼"	5/16"	15/32"	3"	5'-6	3"	2'-0 Φ	7'-0	146.5# 4
5		C	W12"X19.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1½"	5/16"	5/16"	15/32"	3"	6'-0	3"	2'-0 Φ	7'-6	182.1#
5		D	W12"X22.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1½"	⅜"	5/16"	15/32"	3"	6'-6	3"	2'-0 Φ	8'-0	210.5#
5	3	E	W12"X26.0 #/FT.	1" Φ @ 90#-FT.	7"	1'-4¼"	1¼"	4"	1½"	1½"	⅜"	5/16"	17/32"	3"	7'-0	3"	2'-0 Φ	8'-6	293.0# 3

2

1 6 1

STRUCTURAL CARBON STEEL PAY WTS. (1 POST) = K+ (POST LENGTH X POST WT.)
" K " INCLUDES STUB, BASE PLATES, STIFFS., BOLTS, AND WASHERS.

WISCONSIN DEPT OF TRANSPORTATION		
APPROVED Matthew R Rauch for State Traffic Engineer		
DATE 11/12/15	PLATE NO. A3-1.16	
10	1-21-14	LUBRICATION OF BASE BOLTS
9	4-26-11	REMOVE NON-GALVANIZED
8	10-30-96	NOT GALVANIZED/GALVANIZED
7	10-30-92	QUANT., A588 EXCEPT., ADD SLOT VIEW
6	8-24-87	BASE CONN. WELD
5	10-13-81	BASE CONN. WELD & FUSE PL WASHERS
4	10-19-79	POST A & B, A572 GR. 50, & K
2	11-28-78	"K" 3 4-23-79 TYPE "E"
1	5-4-78	T_1 , T_2 & W_1
NO.	DATE	REVISION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

TYPE A, B, C, D, & E

CONST. SPEC. 2011	DRAWN BY JPH	PLANS CK'D.

FTG. & SIGN SUPPORT DETAILS GROUND MOUNT BREAK-AWAY SIGNS

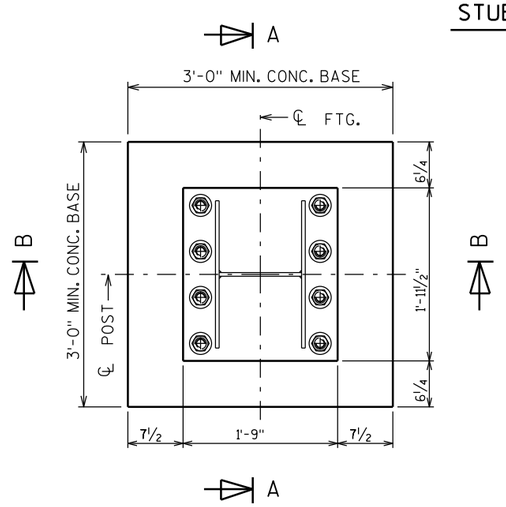
SHEET

193

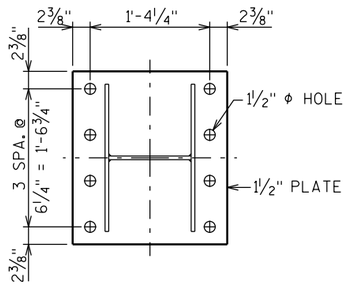
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A31.DGN PLOT DATE : 01-DEC-2015 18:20 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.351066:1.000000

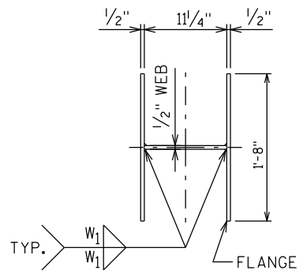
STUB AND MASONRY ANCHOR DETAILS



STUB SECTION



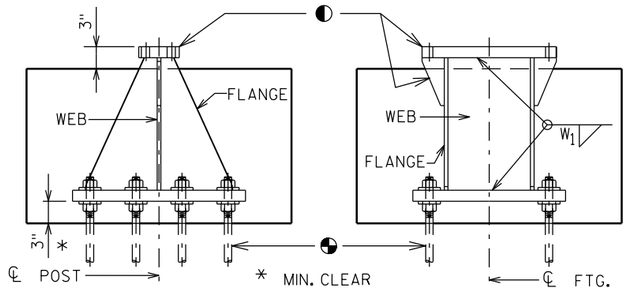
BASE PLATE



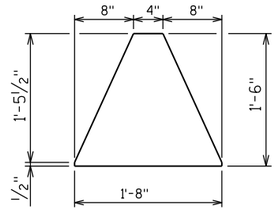
STUB

◐ SEE PLATE NO. A3-1 FOR DETAILS

◒ MASONRY ANCHORS TYPE S 1¼-INCHES (ADHESIVE). ALLOWABLE PULL OUT CAPACITY 14,995 KIPS. EMBED 1'-3" IN ROCK.



SECTION A SECTION B



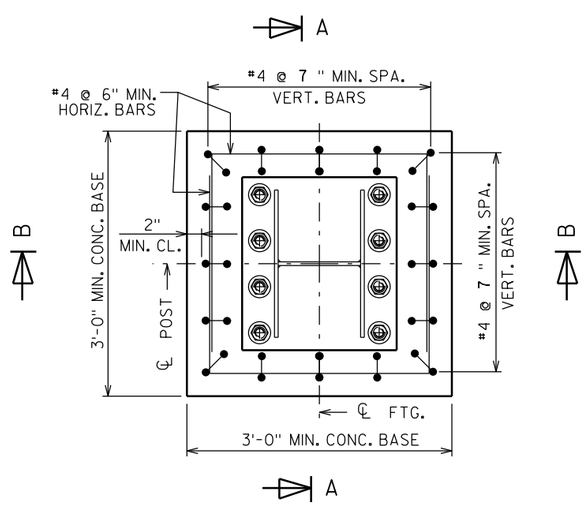
FLANGE

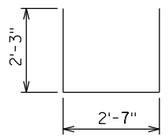
GENERAL NOTES

1. Quantities per Base:
   - REINFORCING BAR STEEL = 62 LBS
   - CONCRETE = 0.6 C.Y.
   - STEEL WEIGHT = 335 LBS
2. All materials, except anchor rod, nuts and washers, are to be A.S.T.M. A709 grade 50. All materials to be galvanized after fabrication.
3. If the contractor encounters rock before reaching the footing depth, per the A3-1 Sign Detail, determine the pull-out capacity of a test adhesive anchor installed in the rock. If the test result equals or exceeds the pull-out capacity of 14,995 KIPS, the contractor may install the breakaway stub for rock, according to this detail.

CONCRETE BASE AND REINFORCING STEEL DETAILS

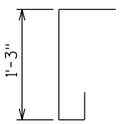
CONCRETE BASE SECTION





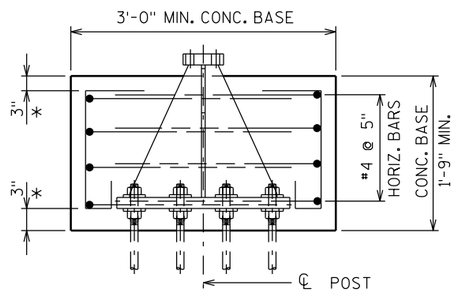
HORIZONTAL BAR

8 BARS @ 6'-11" LENGTH



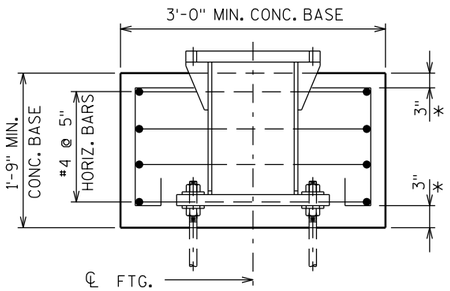
VERTICAL BARS

16 BARS @ 2'-4" LENGTH
MAY BE PLACED IN SKEW
FOR CLEARANCE NEED



SECTION A

* MIN. CLEAR



SECTION B

ALTERNATE BREAK-AWAY BASE ON ROCK
A3-1M

WISCONSIN DEPT OF TRANSPORTATION

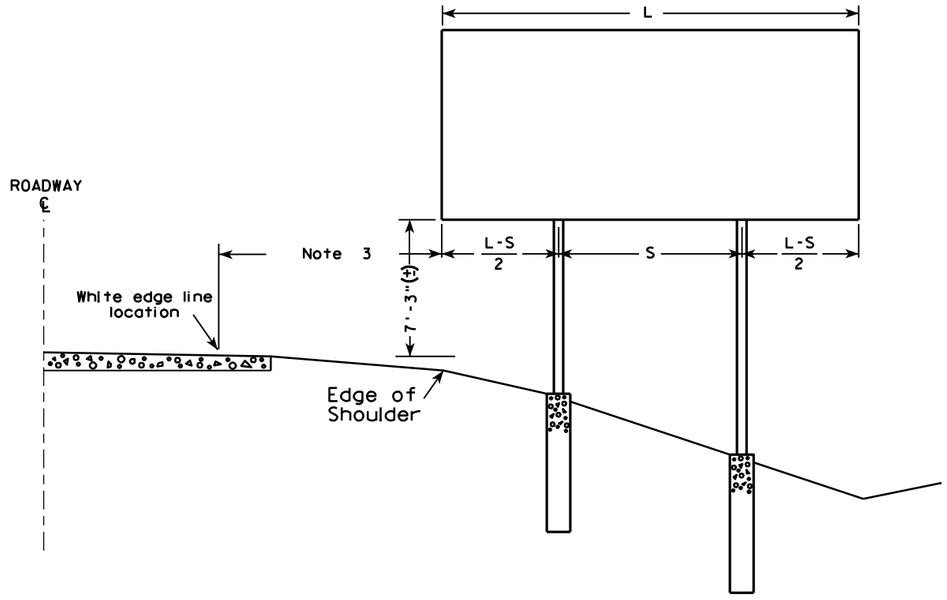
APPROVED Matthew R Rauch for State Traffic Engineer

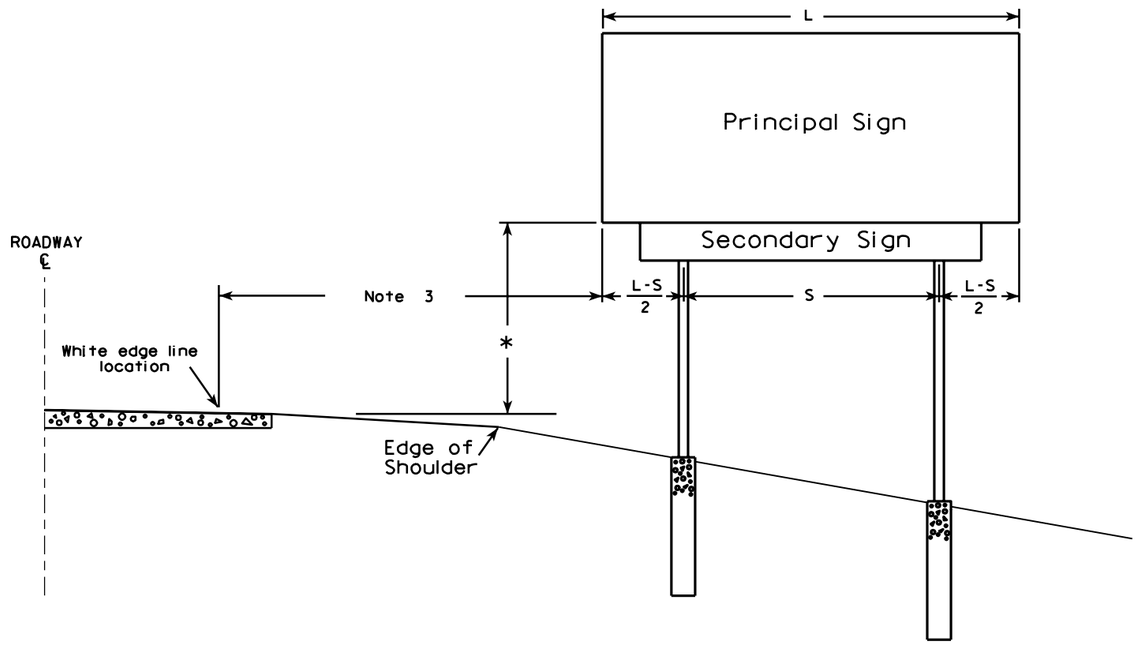
DATE 2/06/2014 PLATE A3-1M.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A31M.DGN PLOT DATE : 10-MAR-2014 15:16 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 1.556674:1.000000

WISDOT/CADDS SHEET 42





GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

7

TYPICAL INSTALLATION
OF TYPE I SIGNS

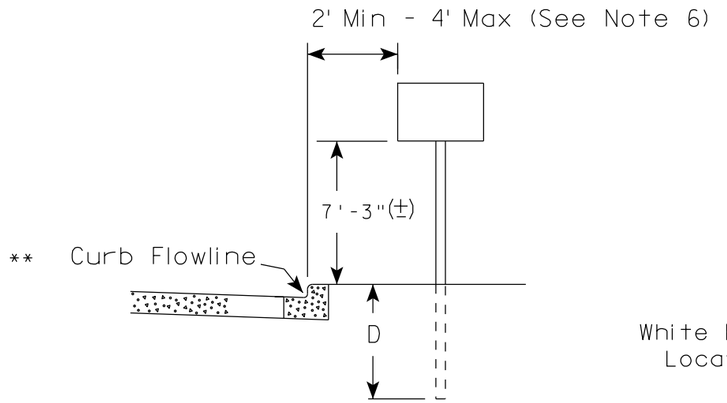
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

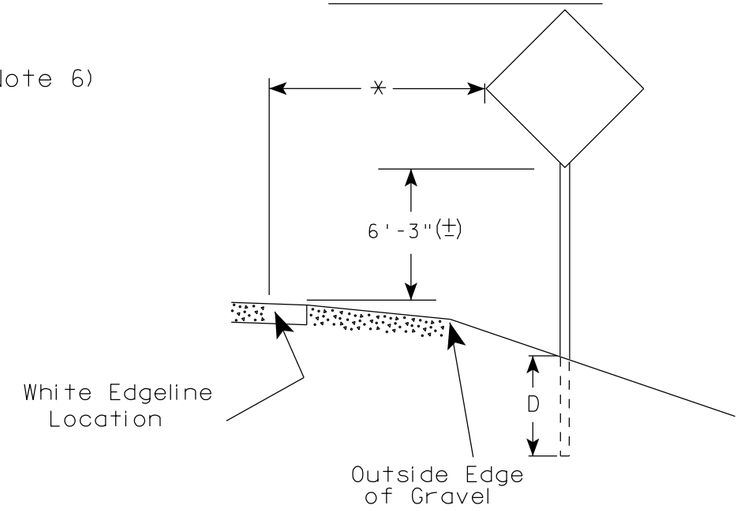
DATE 4/02/08 PLATE NO. A4-1.9

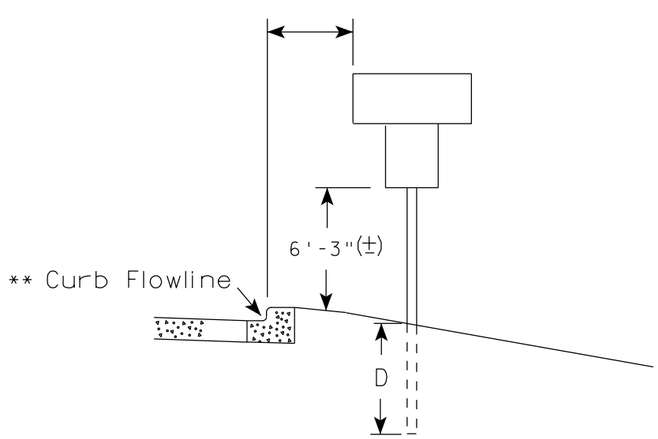
PROJECT NO:				SHEET NO: 195	E

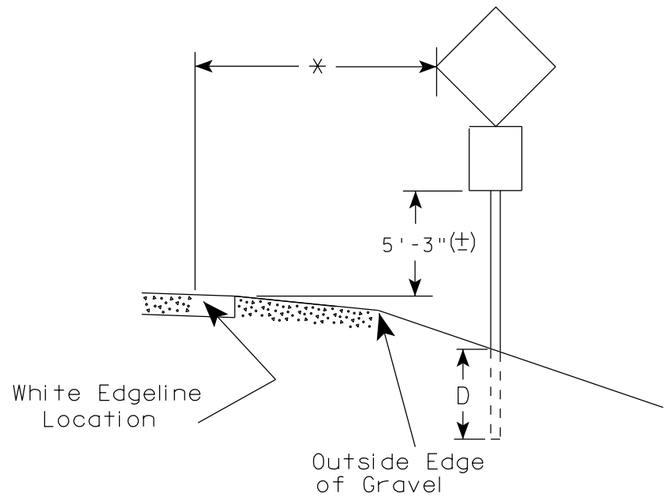
URBAN AREA



RURAL AREA (See Note 2)







GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on 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 directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

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.

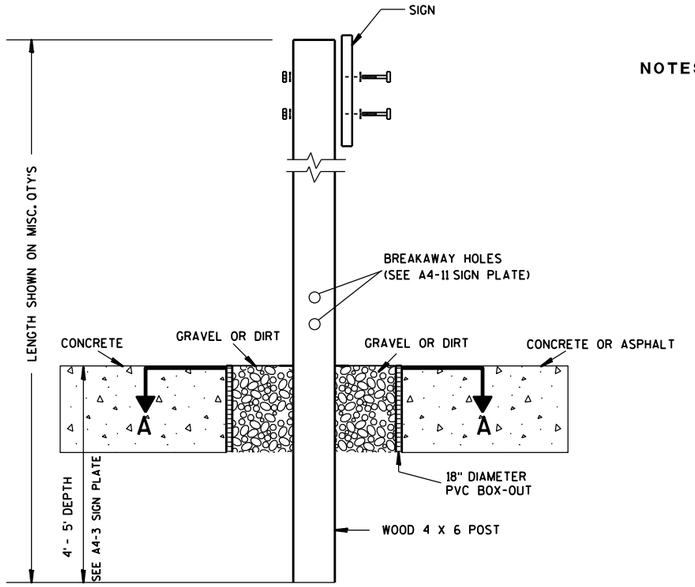
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

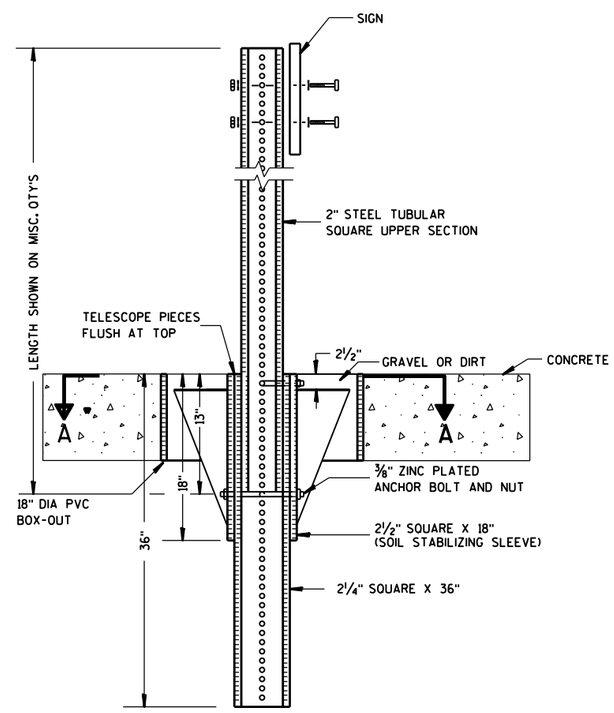
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

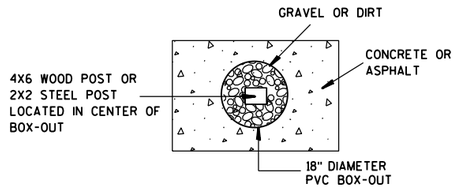
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

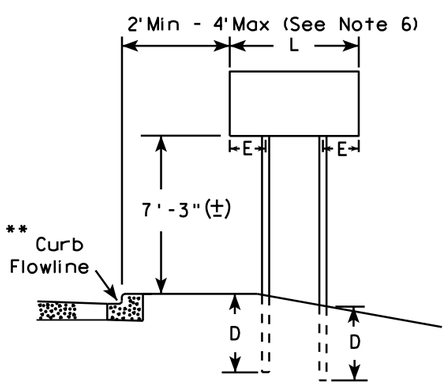
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

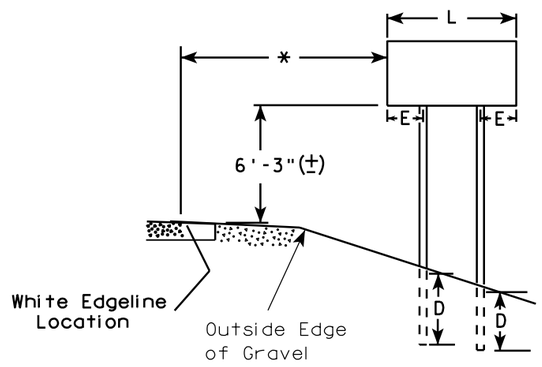
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

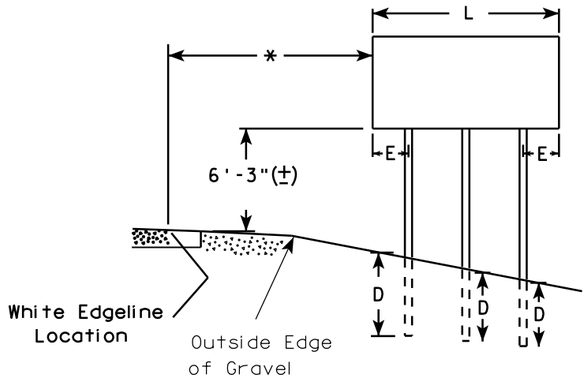
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

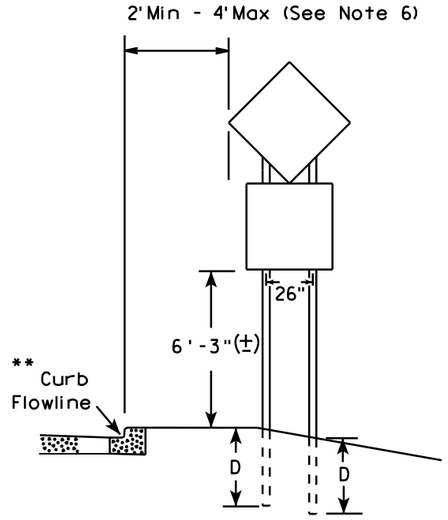
URBAN AREA



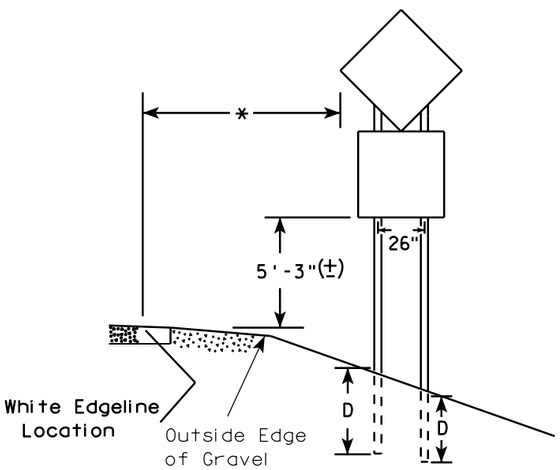
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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 and less than 20 S.F. in area.

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

***

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 14

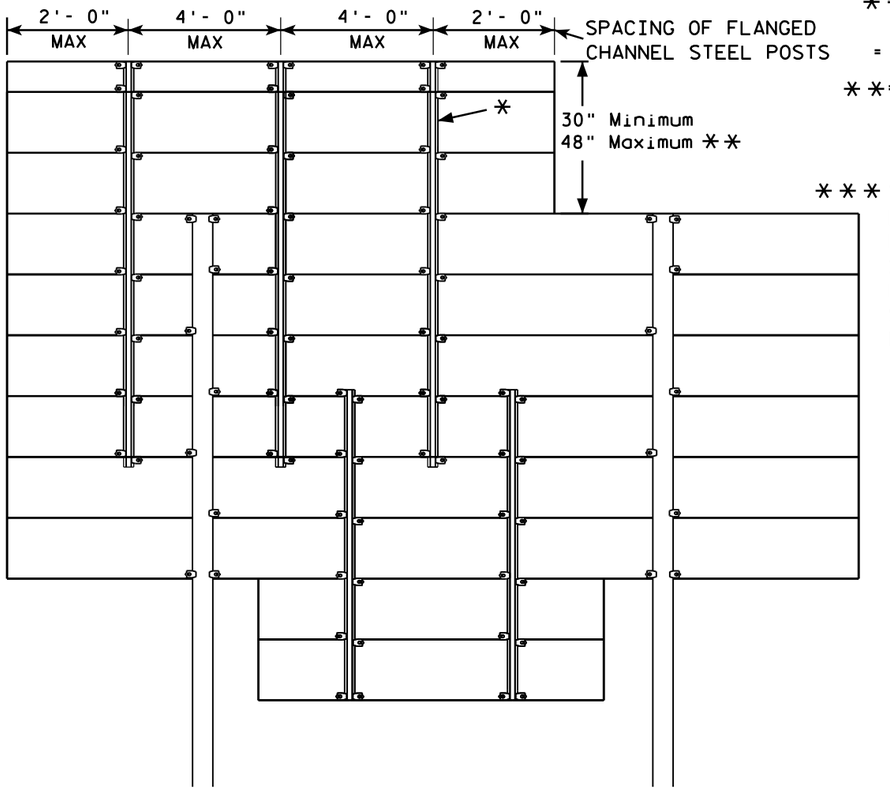
198

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 23-JUL-2015 15:23 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000

WISDOT/CADDS SHEET 42

GROUND MOUNTED SIGN

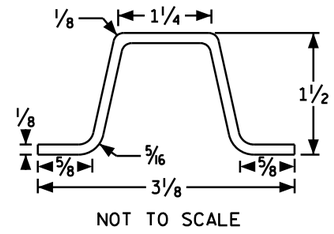


* =2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

** =FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

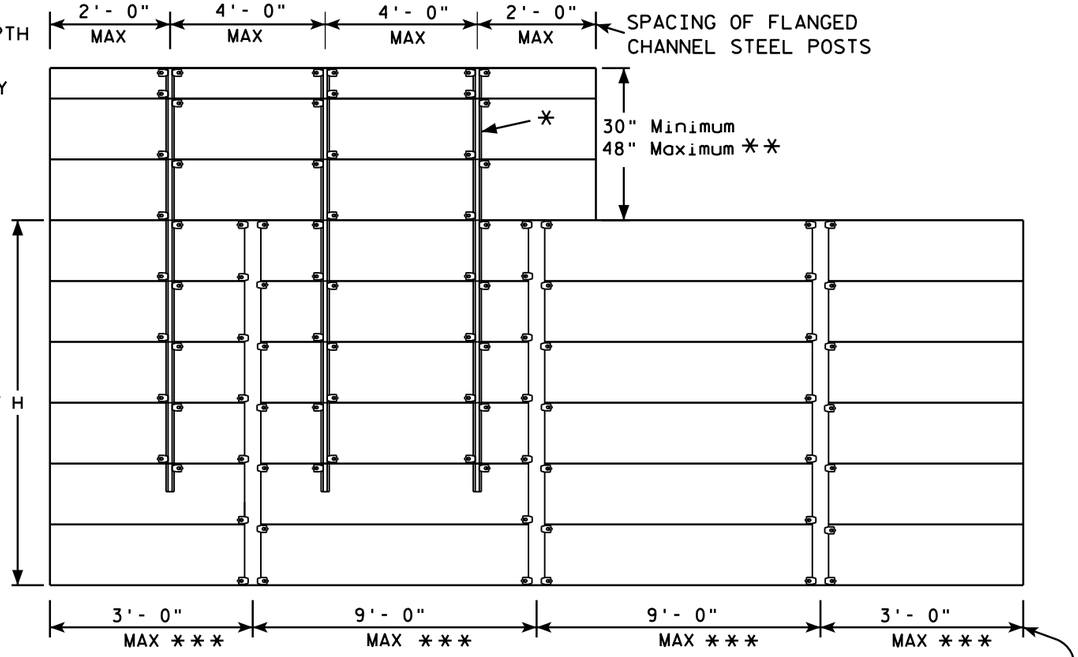
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



NOT TO SCALE

SIGN BRIDGE MOUNTED SIGN



GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

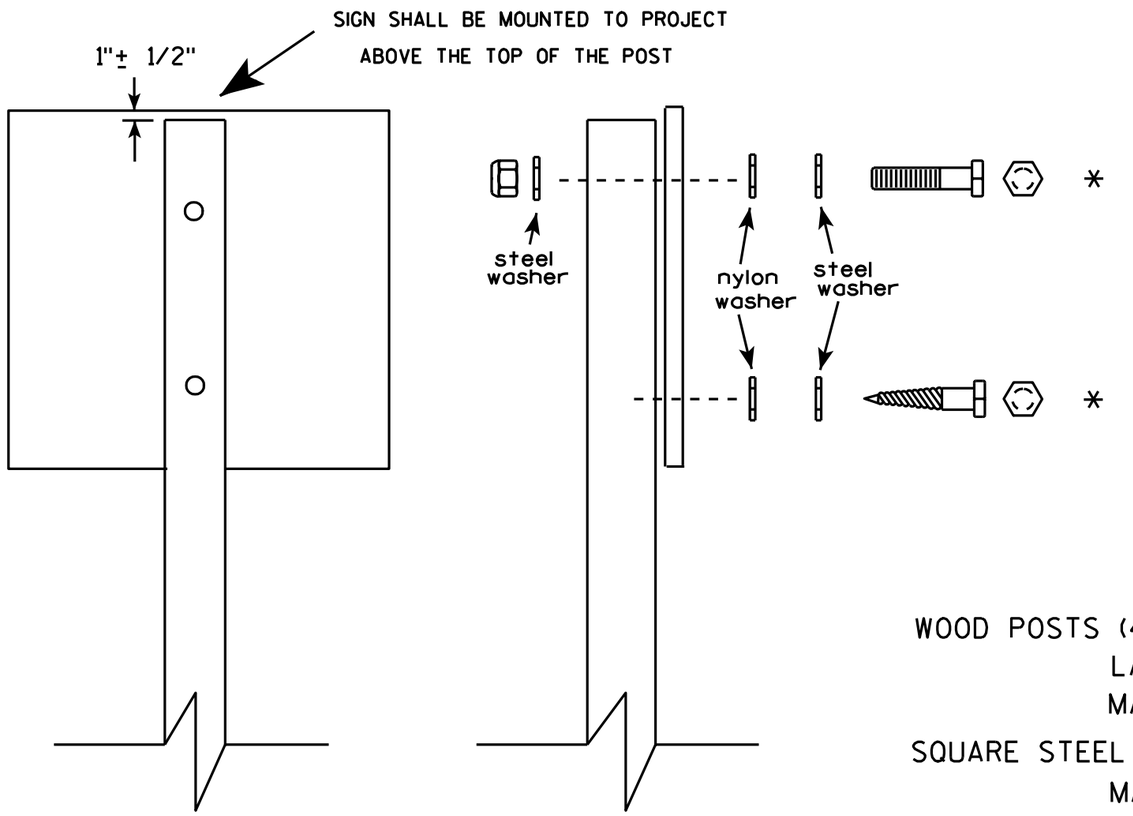
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT 199 A4-6.12

PROJECT NO: | SHEET NO: E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

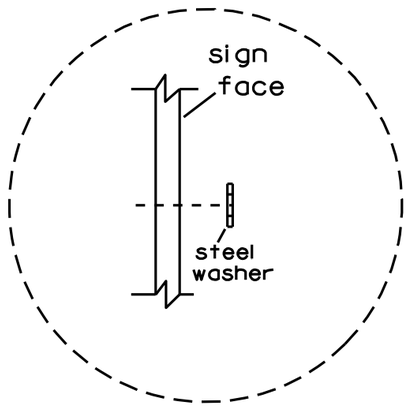
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

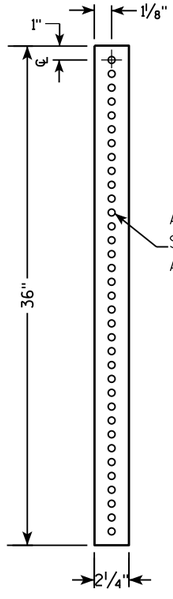
7

7

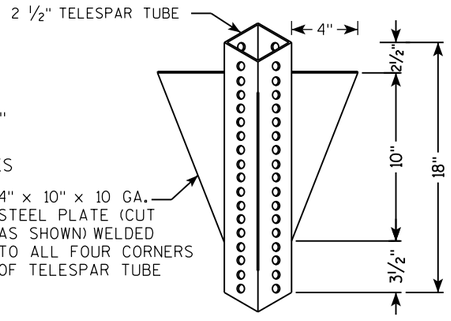
PROJECT NO: | SHEET NO: 200 | E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

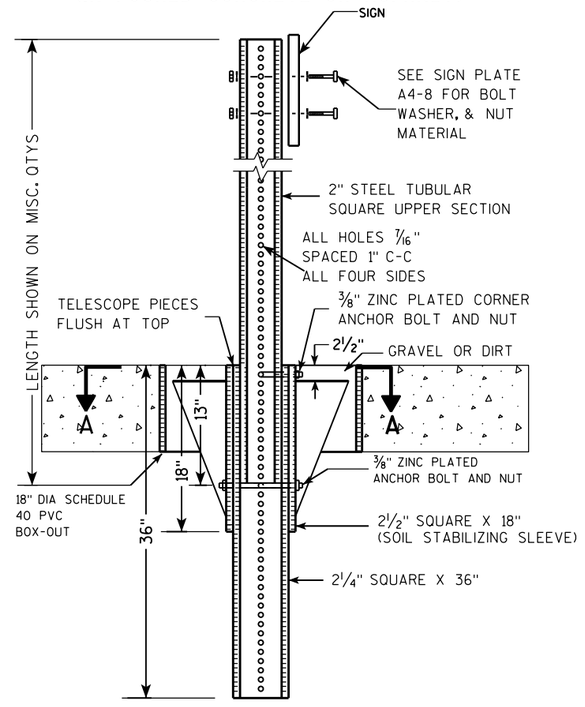
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



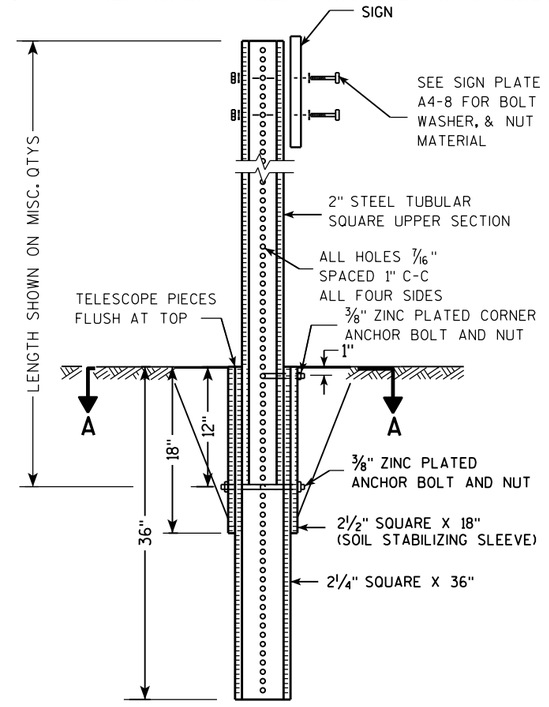
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

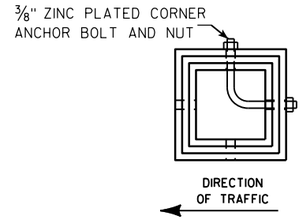


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

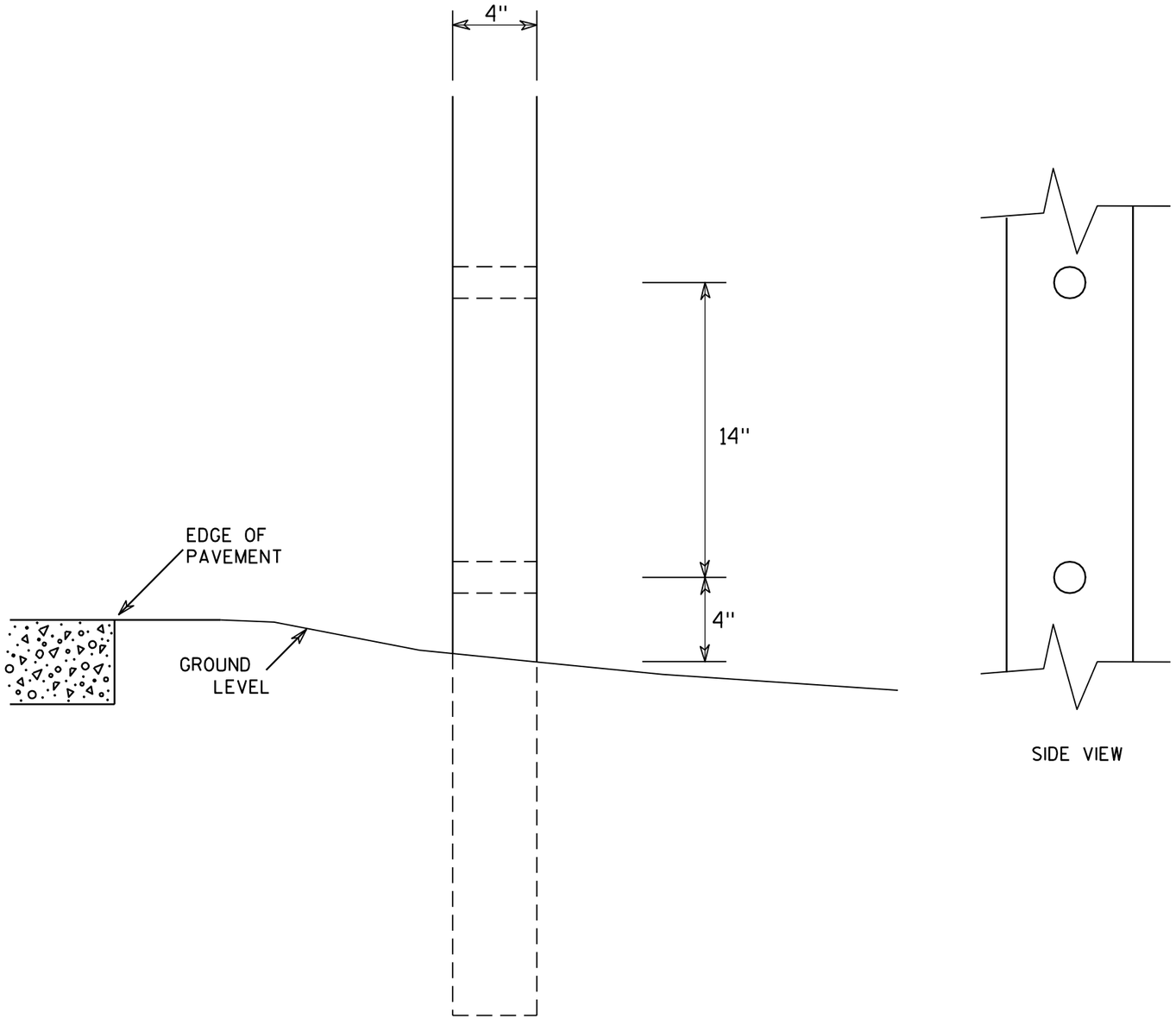
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 201 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

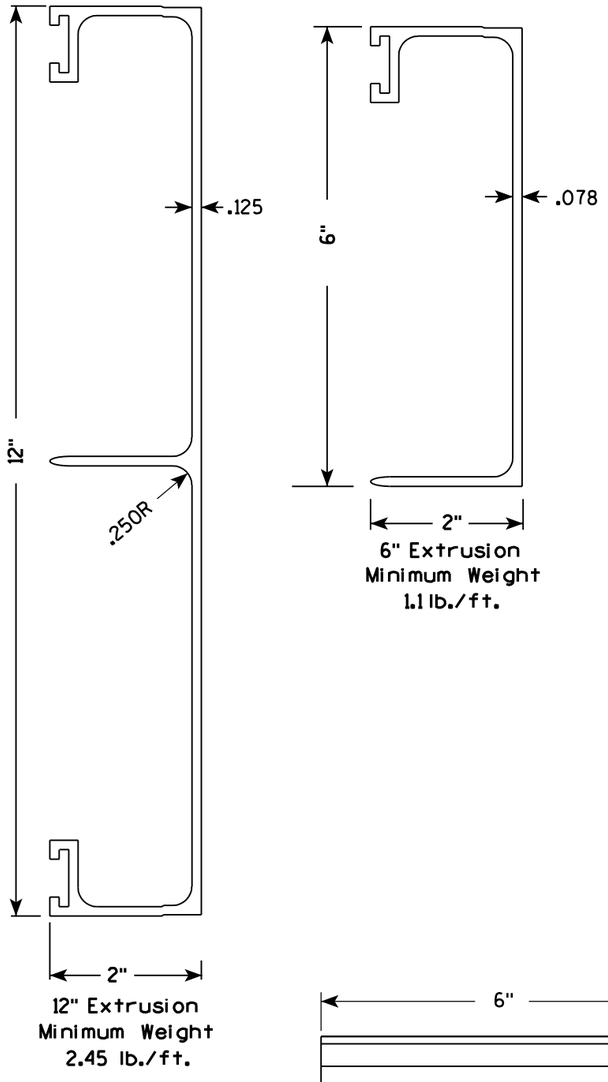
WISCONSIN DEPT OF TRANSPORTATION

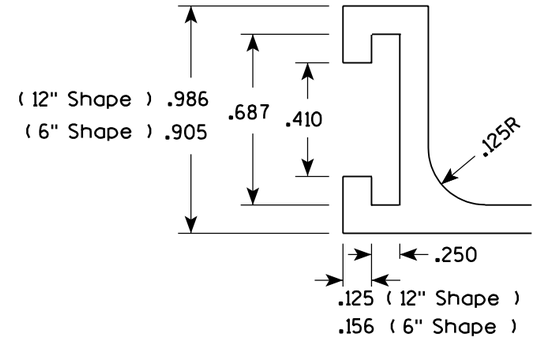
APPROVED Chester J Spang for State Traffic Engineer

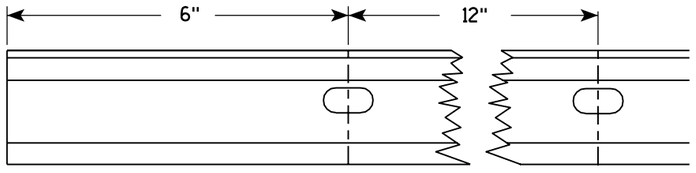
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 202	E

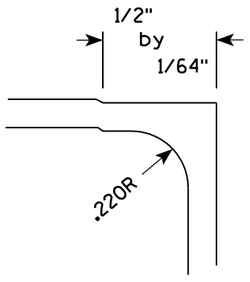
Extruded Shape







Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

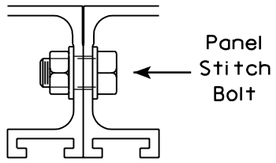


Hardware

STITCH BOLT, WASHER & NUT

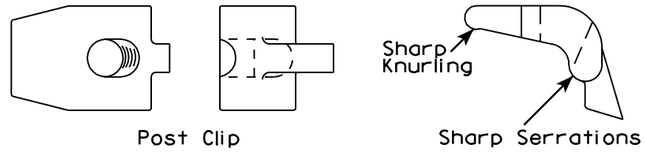
The hardware includes:

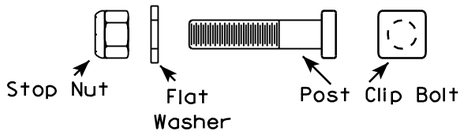
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

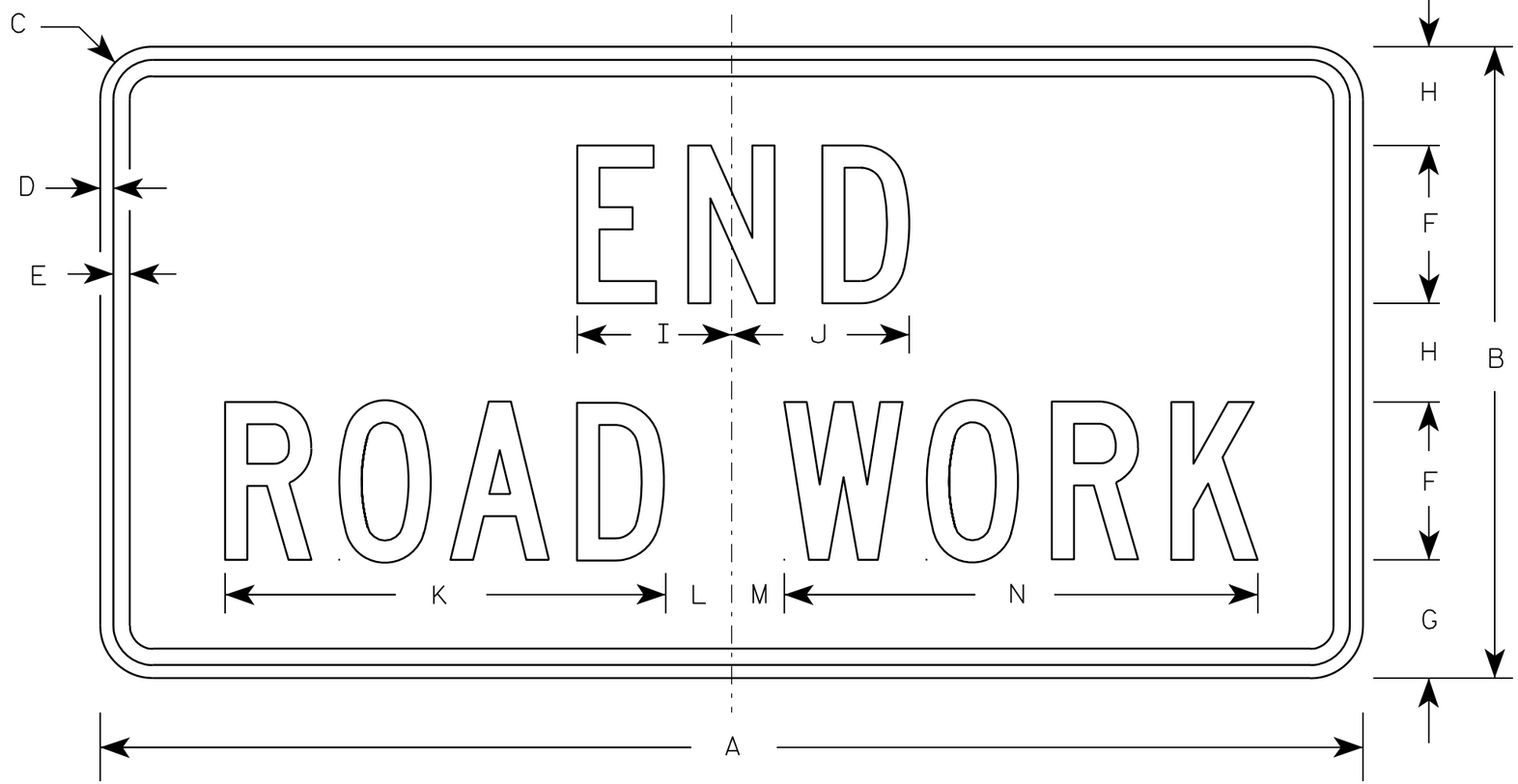
1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

DATE 11/18/99 PLATE NO. A5-2.9



G20-2A

NOTES

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

Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

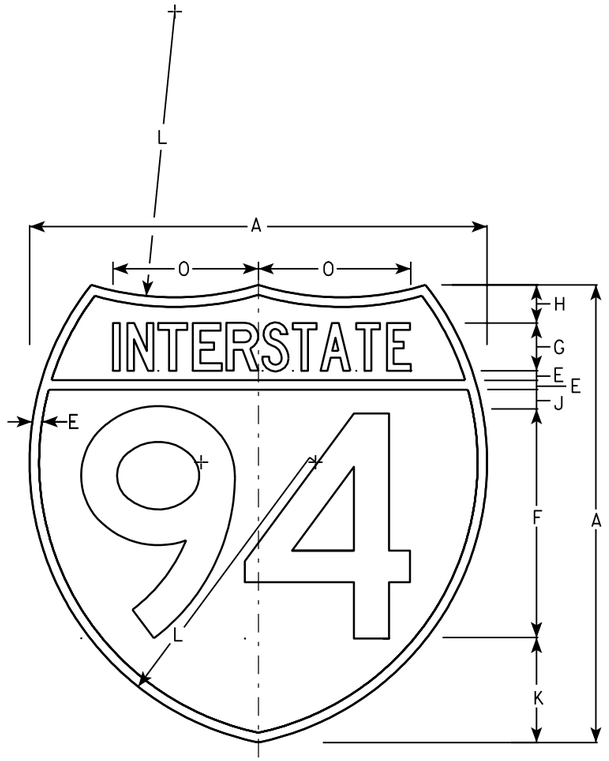
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

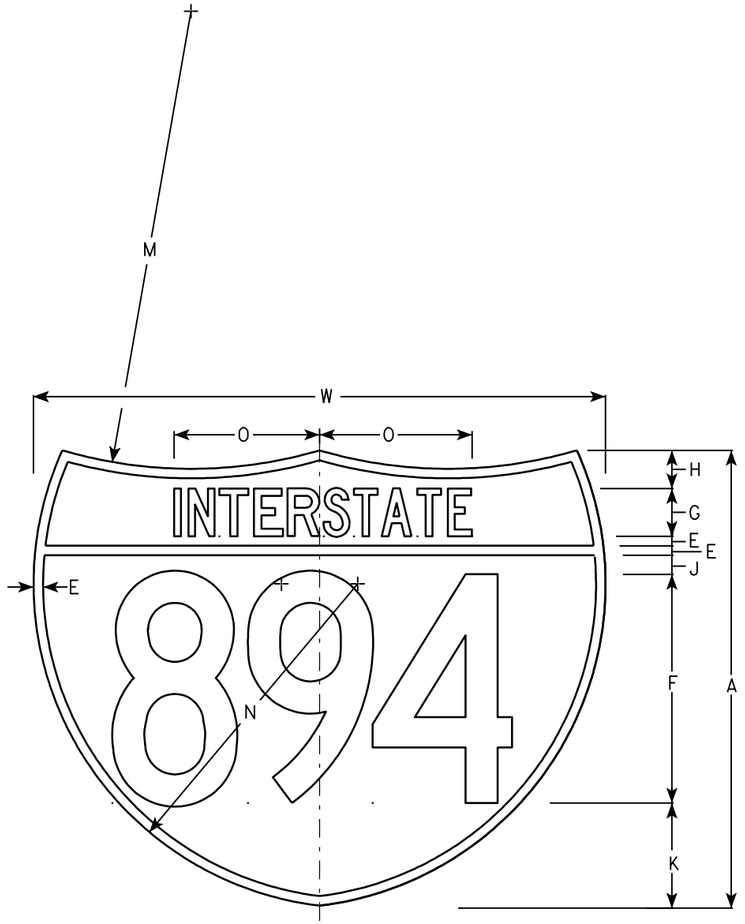
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 204	E



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 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	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

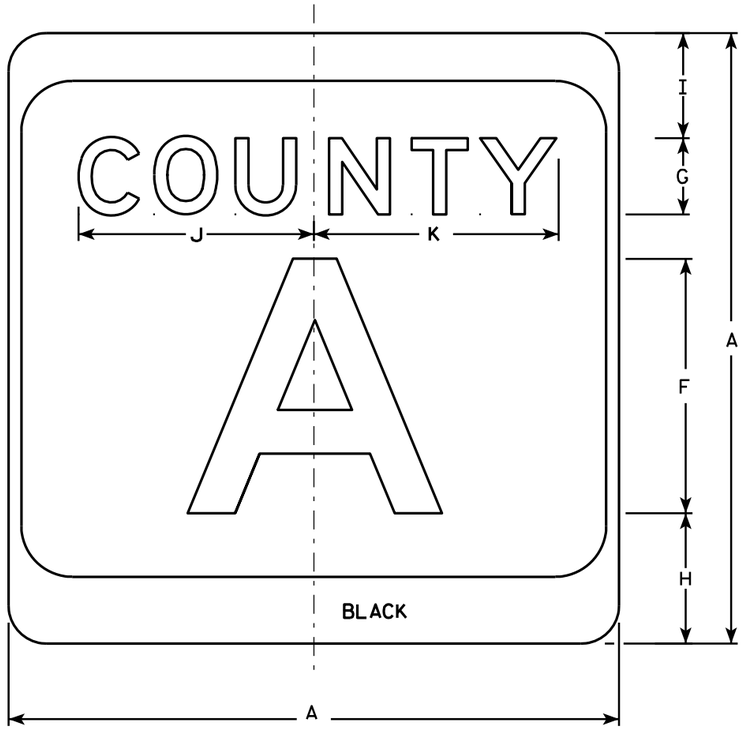
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

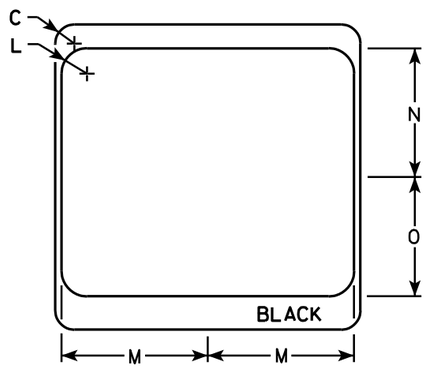
APPROVED Matthew R Rauch
for State Traffic Engineer

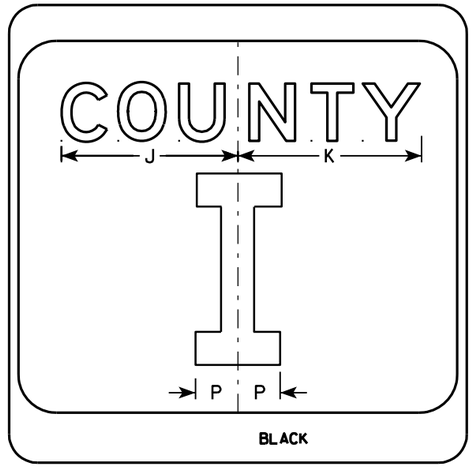
DATE 08/23/05 PLATE NO. M1-1.8

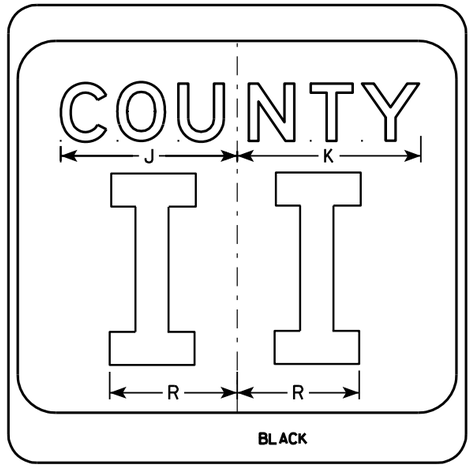
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 205	E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   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. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

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 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

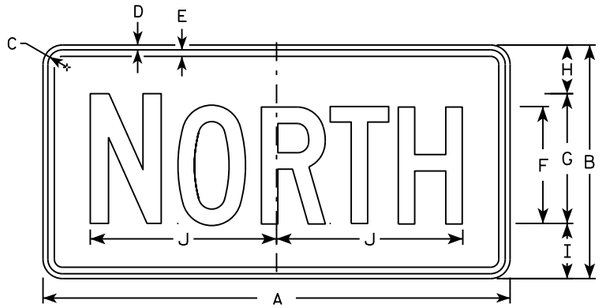
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

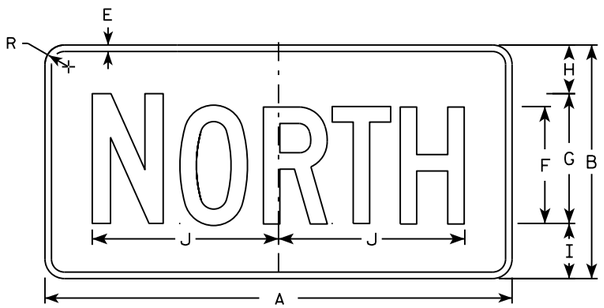
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 206 | E



M3-1
MM3-1
MP3-1



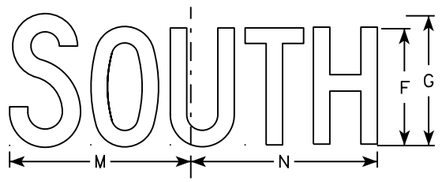
MB3-1
MK3-1
MN3-1



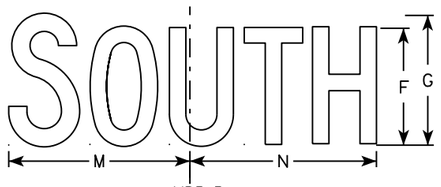
M3-2
MM3-2
MP3-2



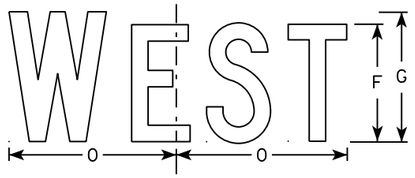
MB3-2
MK3-2
MN3-2



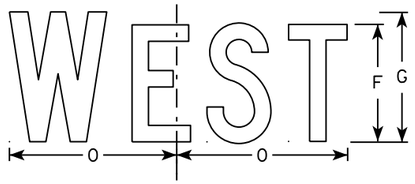
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

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
   MP3-1 thru MP3-4 Background - White
   Message - Blue
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 thur M3-4
SERIES

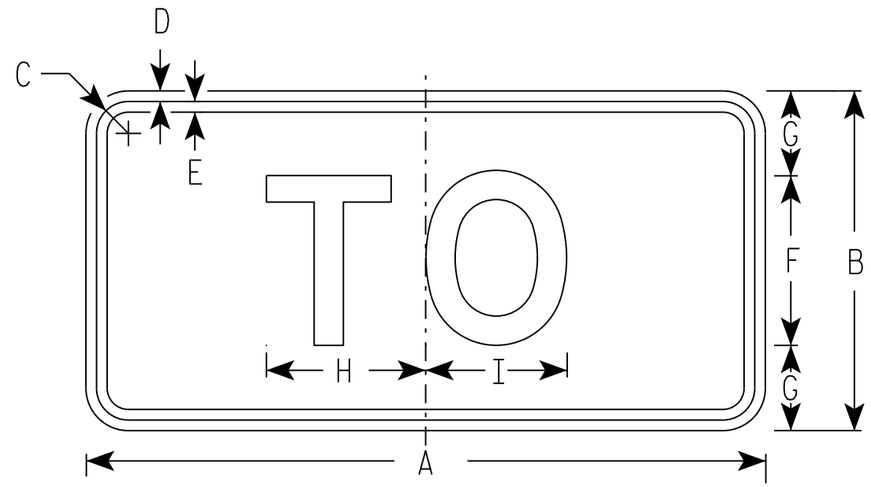
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

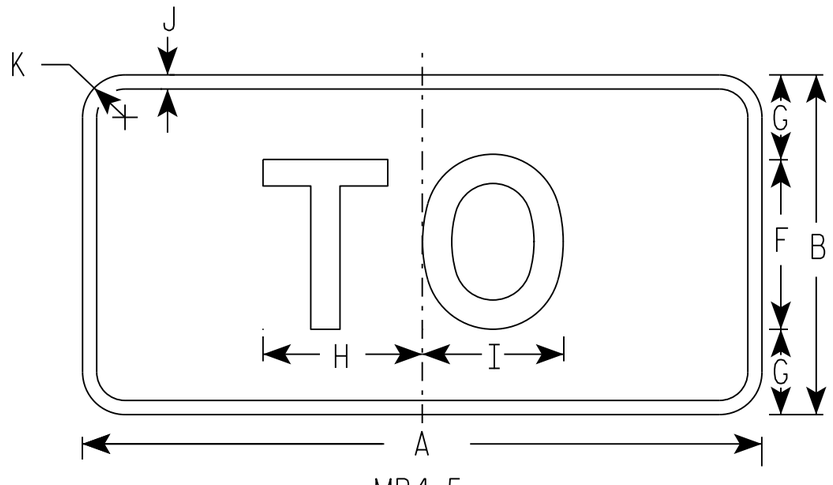
DATE 10/15/15 PLATE NO M3-1.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



M4-5
MM4-5
MP4-5



MB4-5
MK4-5
MN4-5

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

   MP4-5 Background - White
   Message - Blue

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

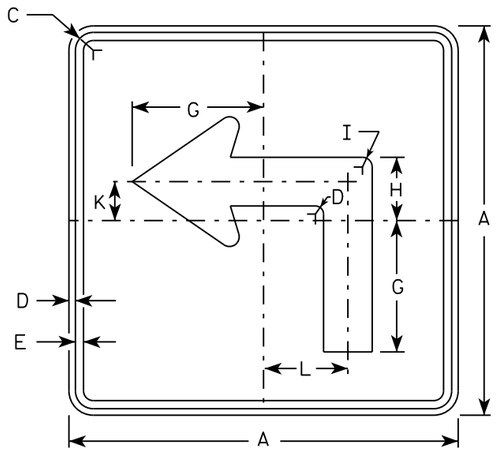
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

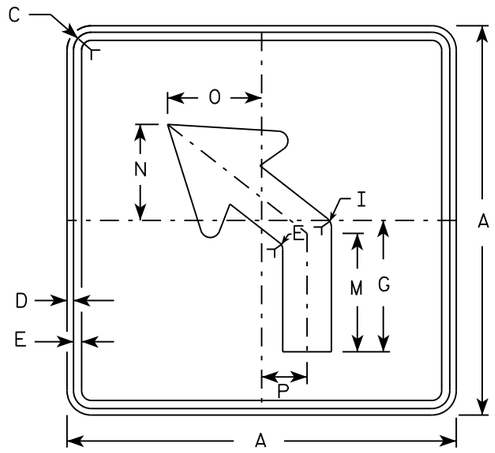
DATE 10/15/15 PLATE 208 M4-5.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

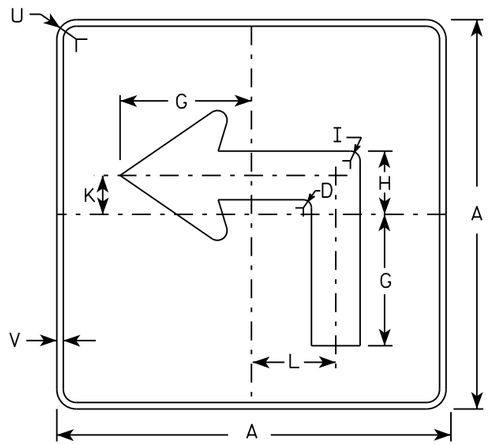
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M45.DGN PLOT DATE : 01-DEC-2015 17:55 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.351066:1.000000



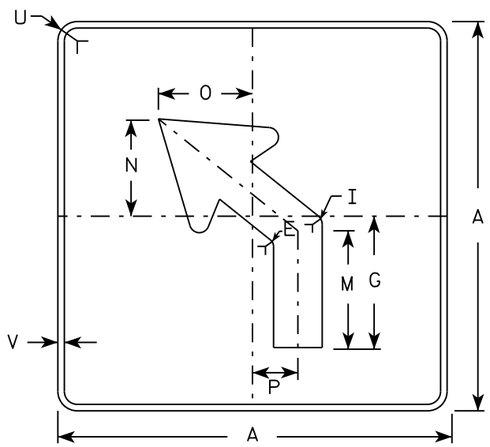
M5-1L
MM5-1L
MO5-1L
MP5-1L



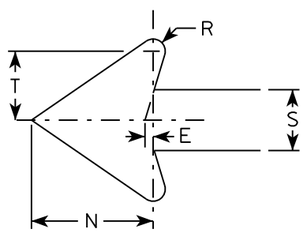
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

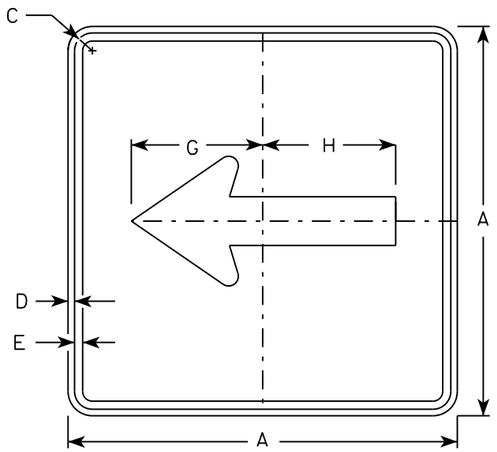
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

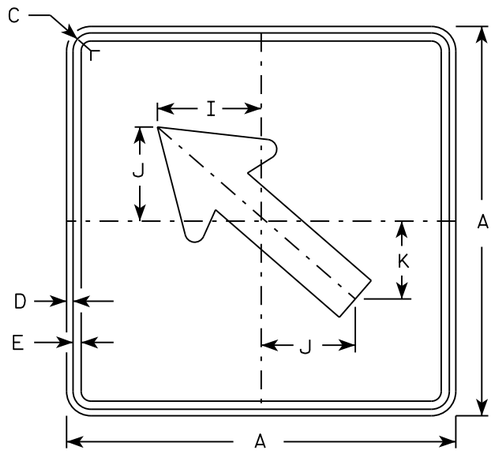
DATE 10/15/15 PLATE NO. M5-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



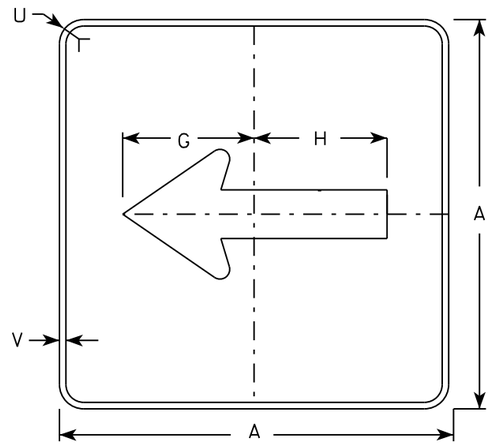
M6-1
MM6-1
MO6-1
MP6-1



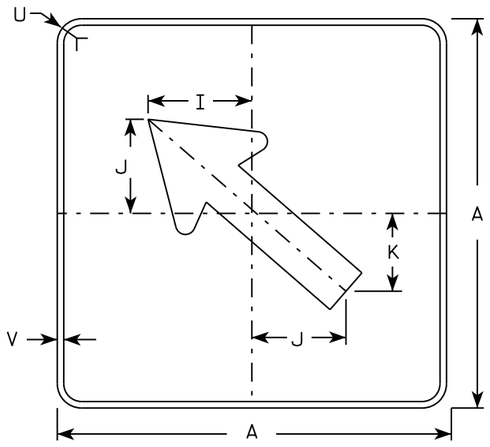
M6-2
MM6-2
MO6-2
MP6-2

NOTES

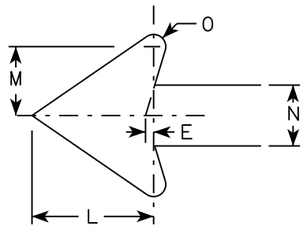
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   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
   MO6-1 and MO6-2 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



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



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

STANDARD SIGN
M6-1 & M6-2
SERIES

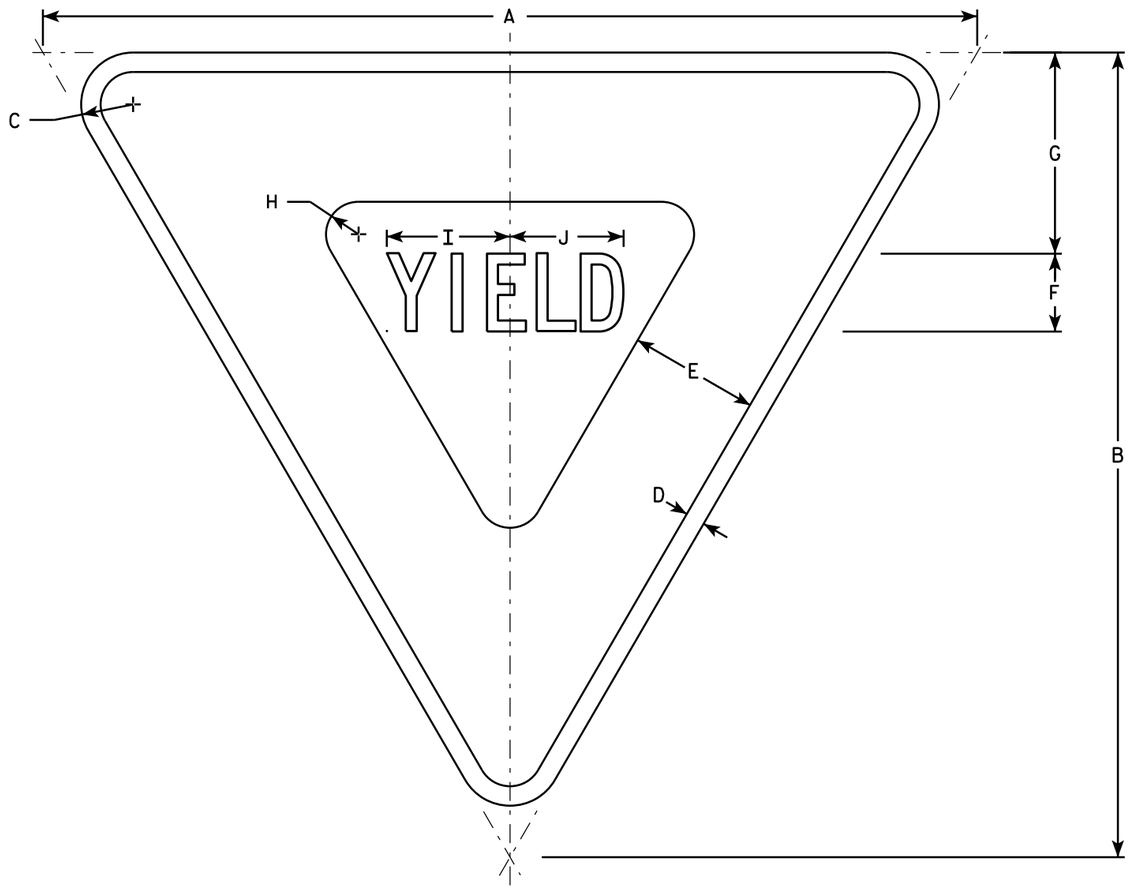
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 210 M6-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 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. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

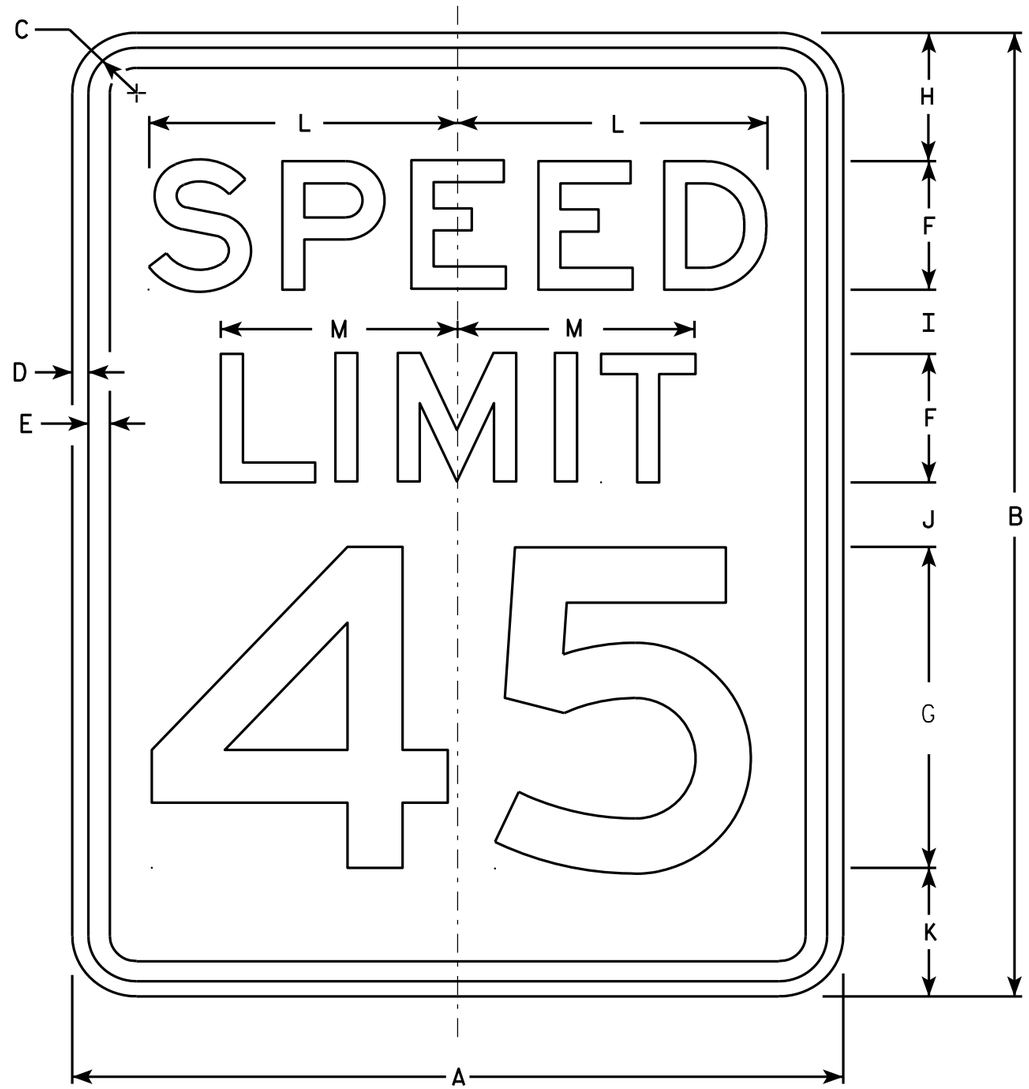
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



R2-1

NOTES

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

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

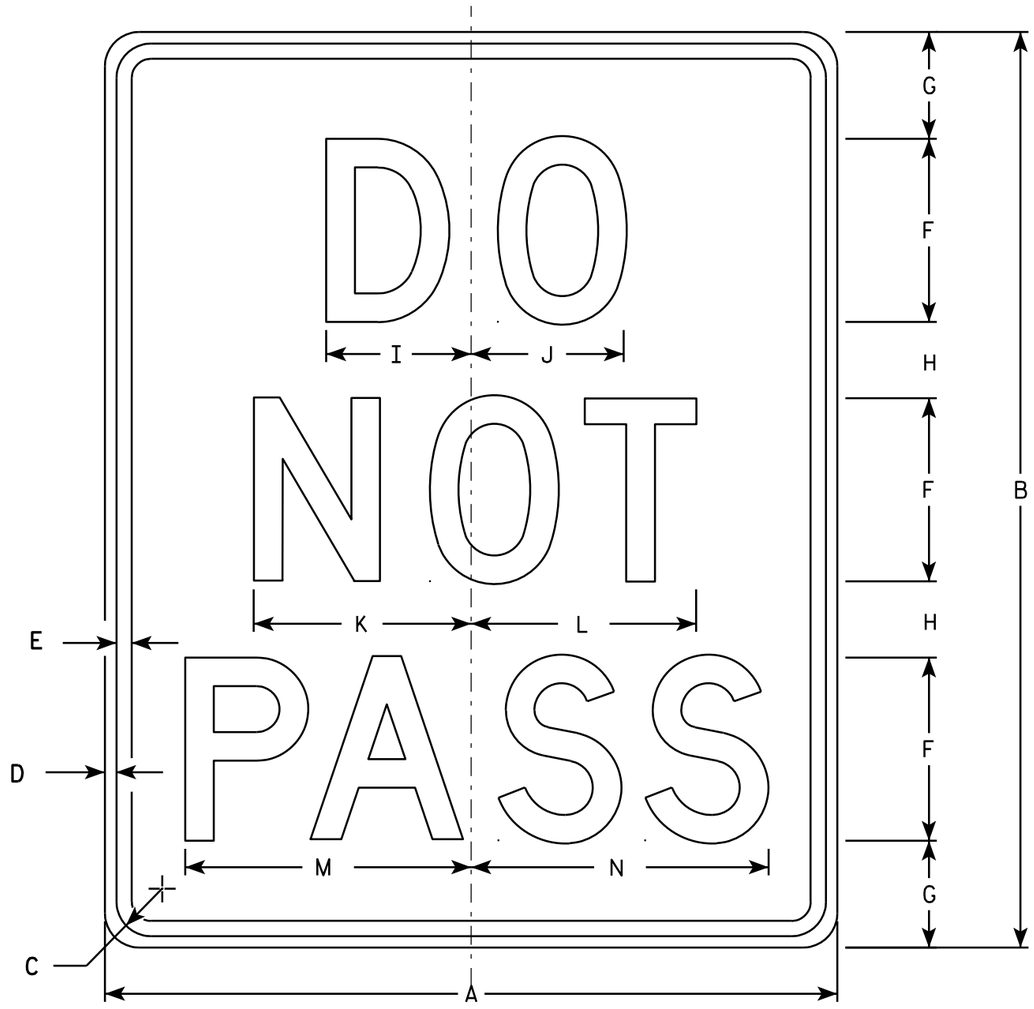
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 212 | E



R4-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	4	3 1/2	2 1/2	3 1/8	3 1/4	4 3/4	4 7/8	6 1/4	6 1/2													3.0
2S	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
2M	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
3																											
4	36	48	1 5/8	5/8	3/4	8	7	5	6 1/4	6 5/8	9 1/2	9 3/4	12 1/2	13													12.0
5	48	60	2 1/4	3/4	1	10	8	7	7 3/4	8 3/8	11 7/8	12 1/4	15 5/8	16 1/4													20.0

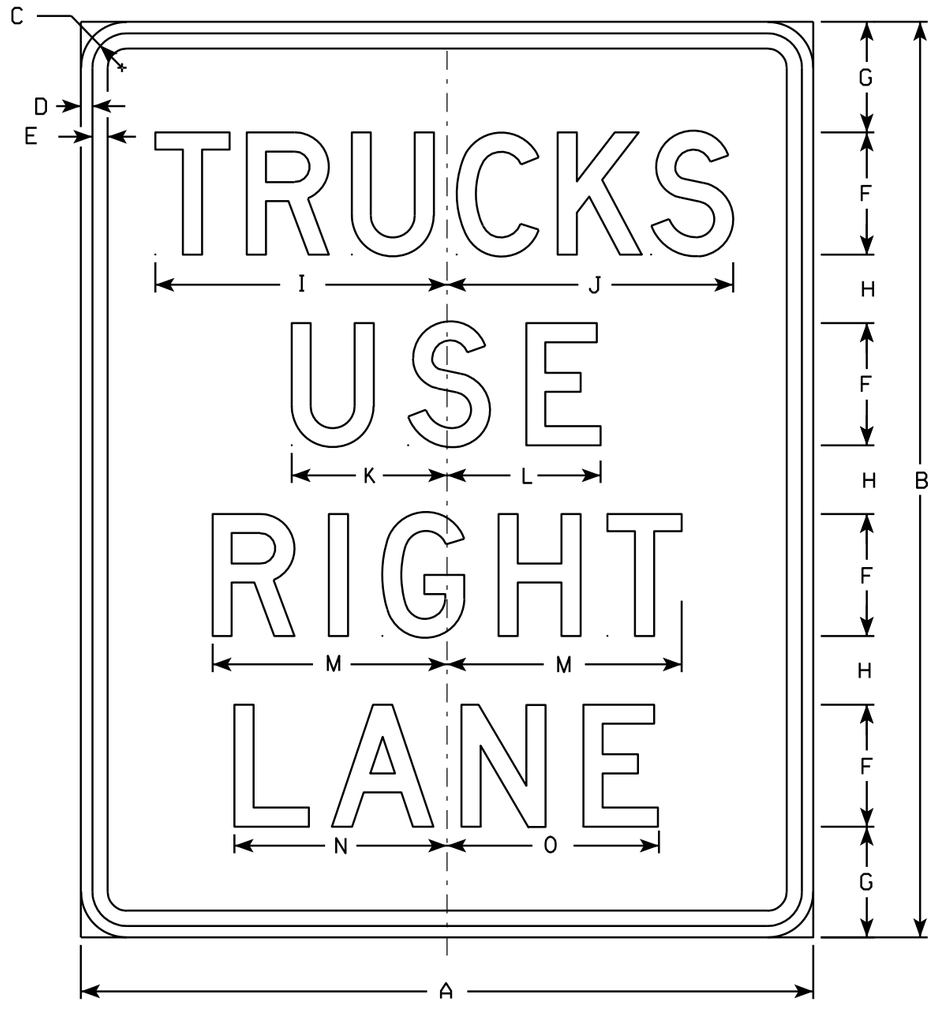
STANDARD SIGN
R4-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-1.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 213 | E

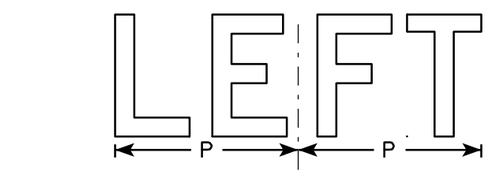


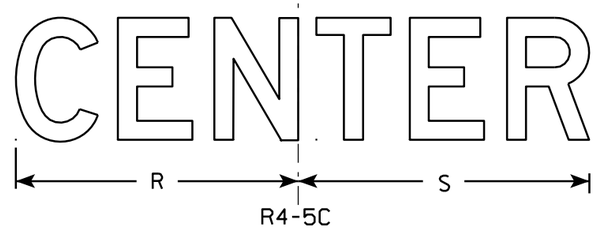
R4-5

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. R4-5L & R4-5C are the same as R4-5 except LEFT or CENTER replaces RIGHT as order by code.

R4-5L





R4-5C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	30	1 1/8	3/8	1/2	4	3 5/8	2 1/4	9 5/8	9 3/8	5 1/8	5 1/8	7 3/4	7 1/4	7	6		9 1/4	9 1/2								5.0
2M	24	30	1 1/8	3/8	1/2	4	3 5/8	2 1/4	9 5/8	9 3/8	5 1/8	5 1/8	7 3/4	7 1/4	7	6		9 1/4	9 1/2								5.0
3																											
4	36	48	2 1/4	5/8	3/4	6	6	4	14 3/8	14 1/8	7 7/8	7 7/8	12 1/4	10 3/4	10 1/2	9 5/8		13 7/8	14 1/4								12.0
5	48	60	2 1/4	3/4	1	8	7 1/4	4 1/2	19 1/8	18 3/4	10 1/4	10 1/8	15 3/8	14	13 7/8	12		18 1/2	19 1/8								20.0

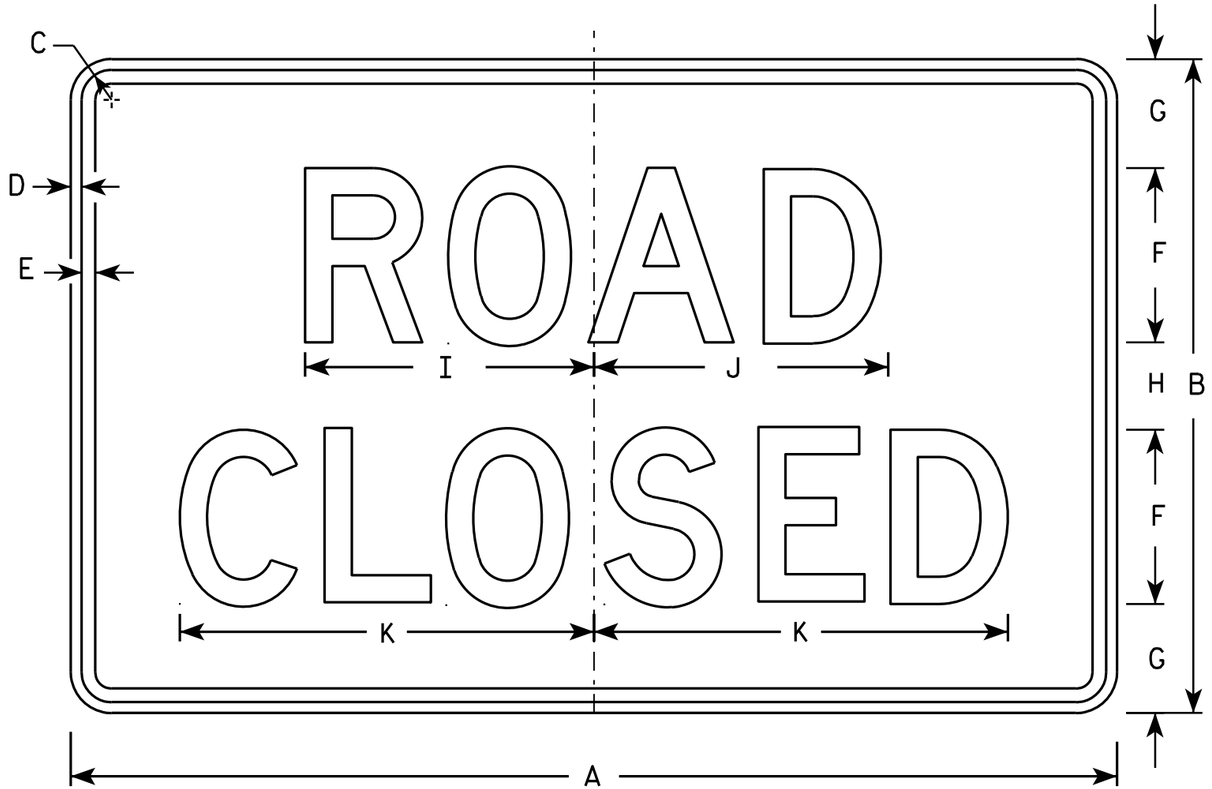
STANDARD SIGN
R4-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-5.3

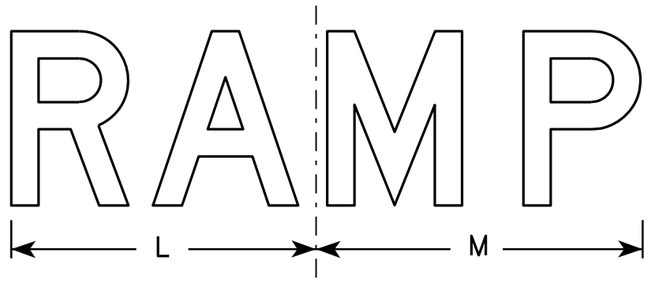
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 214 | E



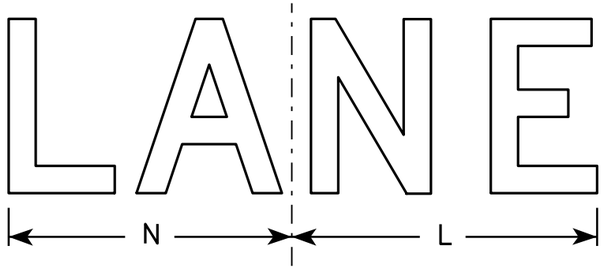
R11-2

NOTES

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



R11-2R



R11-2L

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

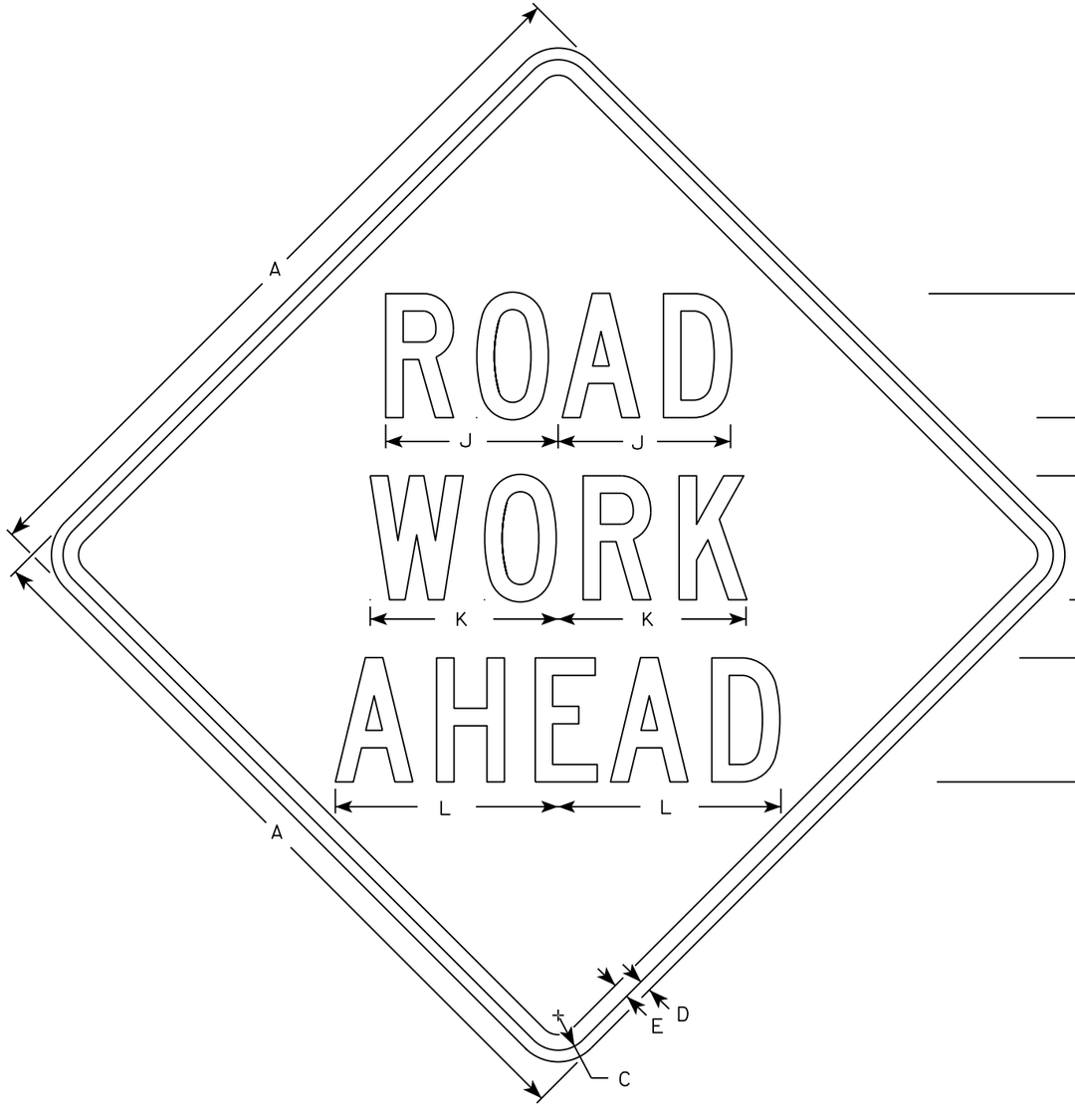
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

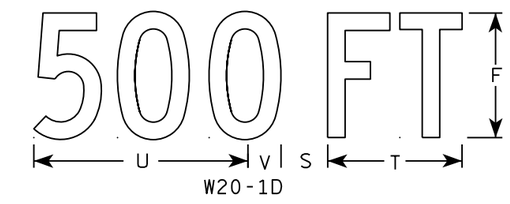
APPROVED Matthew R Rauch
for State Traffic Engineer

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

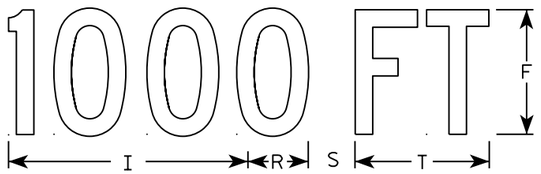
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 215	E



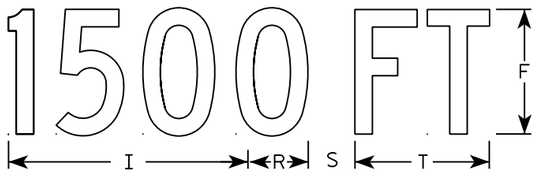
W20-1A



W20-1D



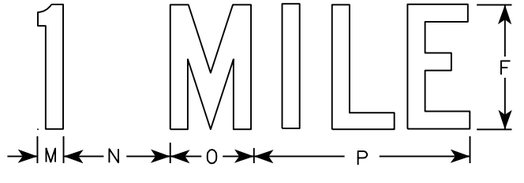
W20-1C



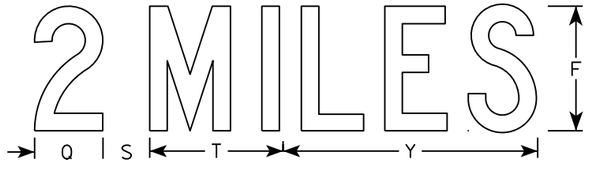
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

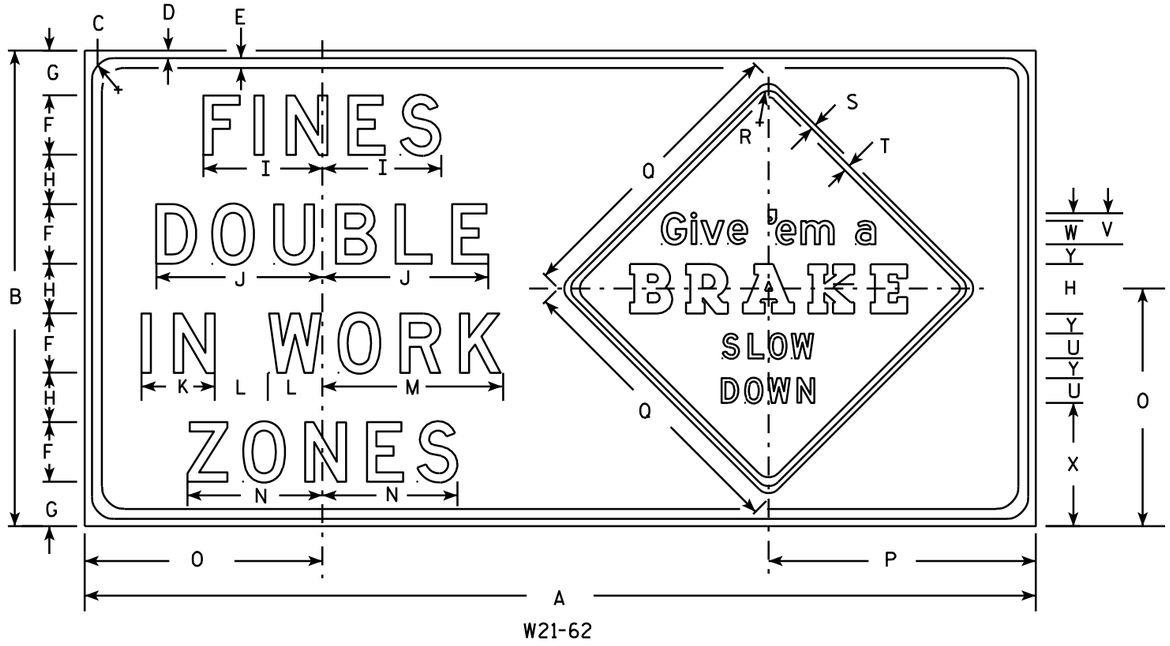
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

PROJECT NO:

SHEET NO: E

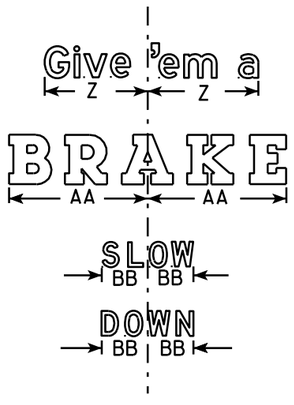
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$

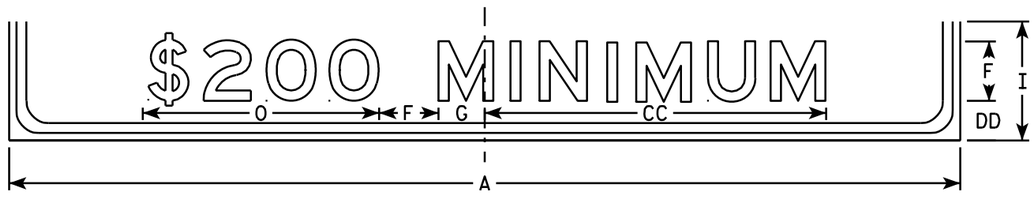


W21-62

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 - (See Note 5)
   Message - Black
3. Message Series -
   Fines Double Message - All lines are Series D
   Give 'em a Brake -
   Line one is Series E, line two is a Special Graphic Series and lines three and four are Series D.
4. The base material shall be plywood. Corners may be square or rounded, but borders shall be rounded as shown. The base material for Give 'em a Brake sign can be a seperate sheet of aluminum with the corners and borders rounded as shown. This seperate panel shall then be attached to the plywood with aluminum or stainless steel sheet metal screws.
5. Background for the Give 'em a Brake sign shall be Type F reflective orange.





W21-62P

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	AA	BB	CC	DD	Area sq. ft.
1																															
2S																															
2M																															
3	96	48	2 1/4	3/4	1	6	4 1/2	5	12	16 3/4	7 3/8	5 1/2	18 1/4	13 5/8	24	27	30	1 3/8	1/2	5/8	2 1/2	3 1/8	2 3/8	12 1/2	2	10 3/4	14	4 5/8	34 1/2	4	32.0
4																															
5																															

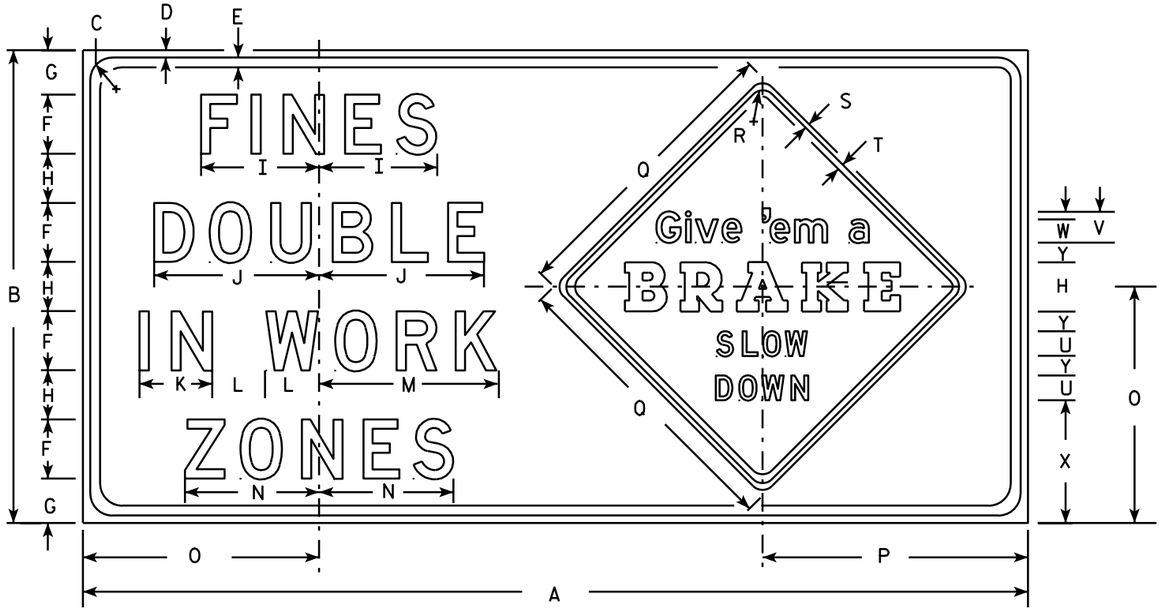
STANDARD SIGN
W21-62

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-62.5

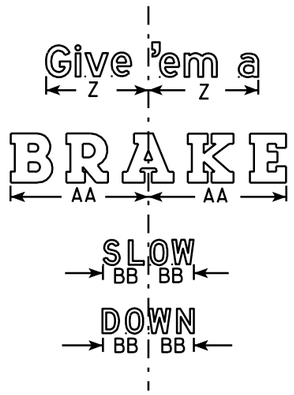
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 217 | E

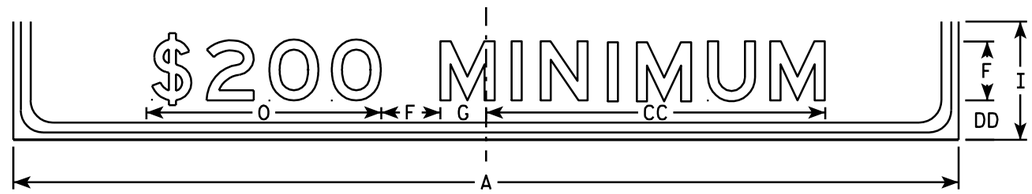


W21-62

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 - (See Note 5)
   Message - Black
3. Message Series -
   Fines Double Message - All lines are Series D
   Give 'em a Brake -
   Line one is Series E, line two is a Special Graphic Series and lines three and four are Series D.
4. The base material shall be plywood. Corners may be square or rounded, but borders shall be rounded as shown. The base material for Give 'em a Brake sign can be a seperate sheet of aluminum with the corners and borders rounded as shown. This seperate panel shall then be attached to the plywood with aluminum or stainless steel sheet metal screws.
5. Background for the Give 'em a Brake sign shall be Type F reflective orange.





W21-62P

Metric equivalent for this sign is:

SIZE	
1	
2	
3	2400 mm X 1200 mm
4	
5	

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	AA	BB	CC	DD	Area sq. ft.	Area m2
1																																
2																																
3	96	48	2 1/4	3/4	1	6	4 1/2	5	12	16 3/4	7 3/8	5 1/2	18 1/4	13 5/8	24	27	30	1 3/8	1/2	5/8	2 1/2	3 1/8	2 3/8	12 1/2	2	10 3/4	14	4 5/8	34 1/2	4	32.0	2.88
4																																
5																																

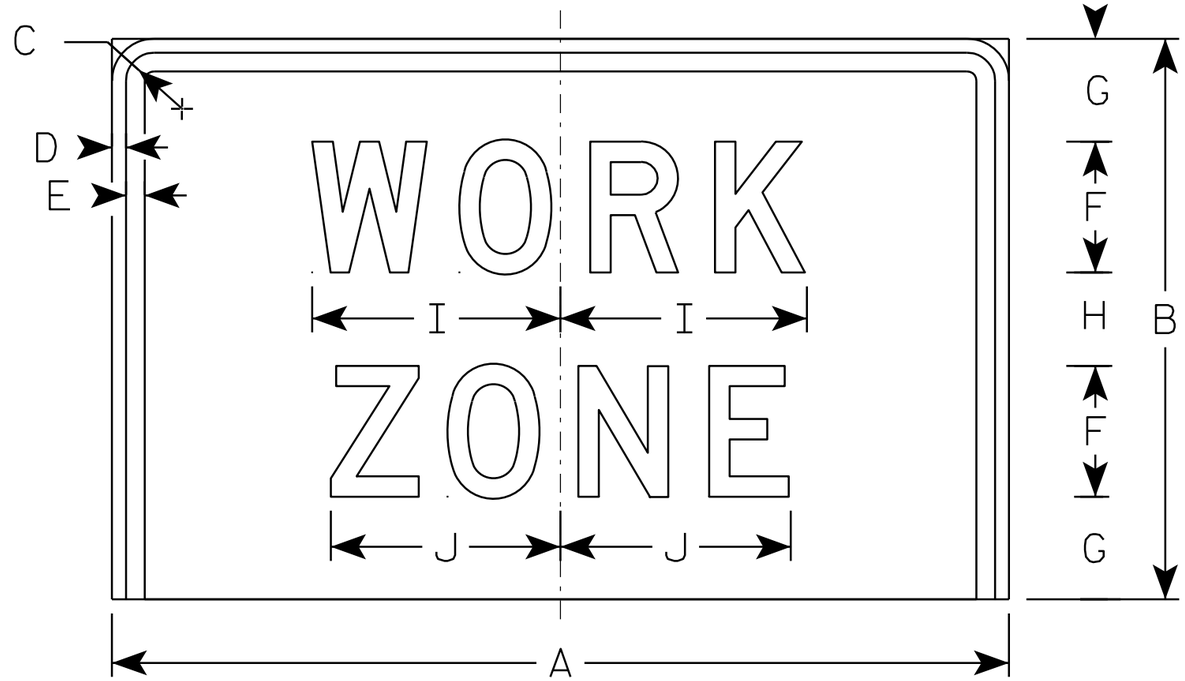
STANDARD SIGN
W21-62

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/16/07 PLATE NO. W21-62.4

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 218 | E



W21-620

NOTES

1. Sign is Type II - Type F - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	12 1/4																	10.0
2M	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	12 1/4																	10.0
3																											
4																											
5																											

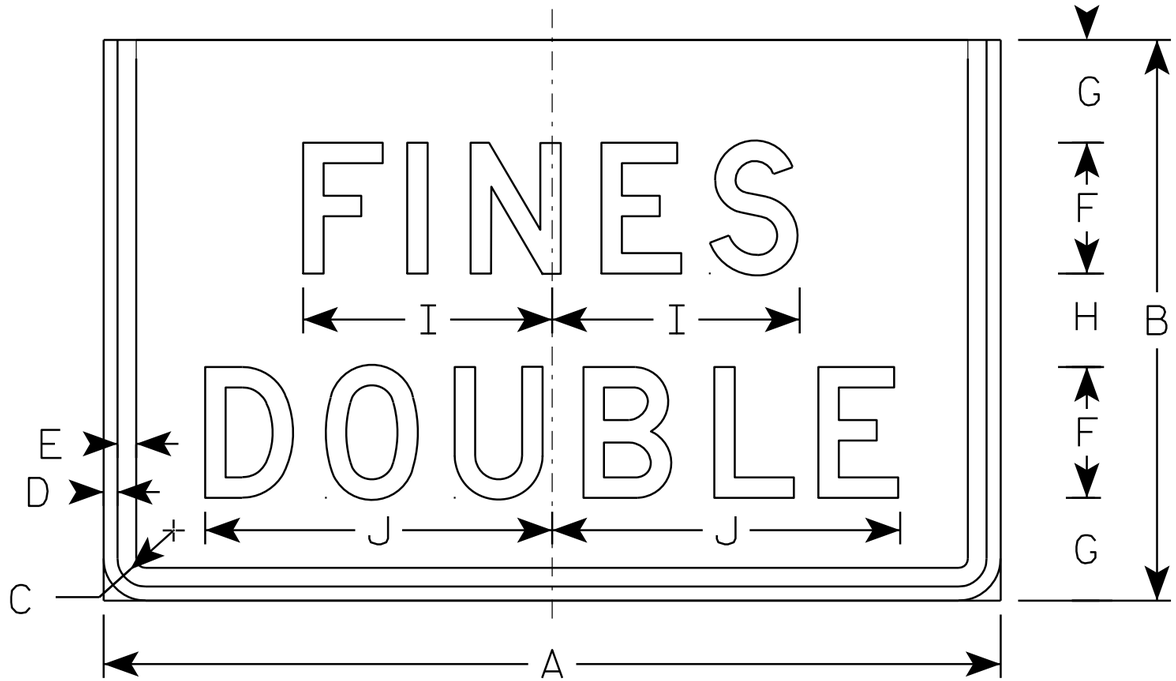
STANDARD SIGN
W21-620

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-620.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 219	E



W21-62R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	18 5/8																	10.0
2M	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	18 5/8																	10.0
3																											
4																											
5																											

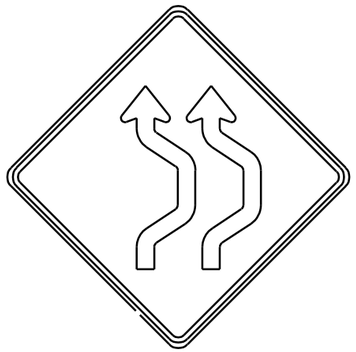
STANDARD SIGN
W21-62R

WISCONSIN DEPT OF TRANSPORTATION

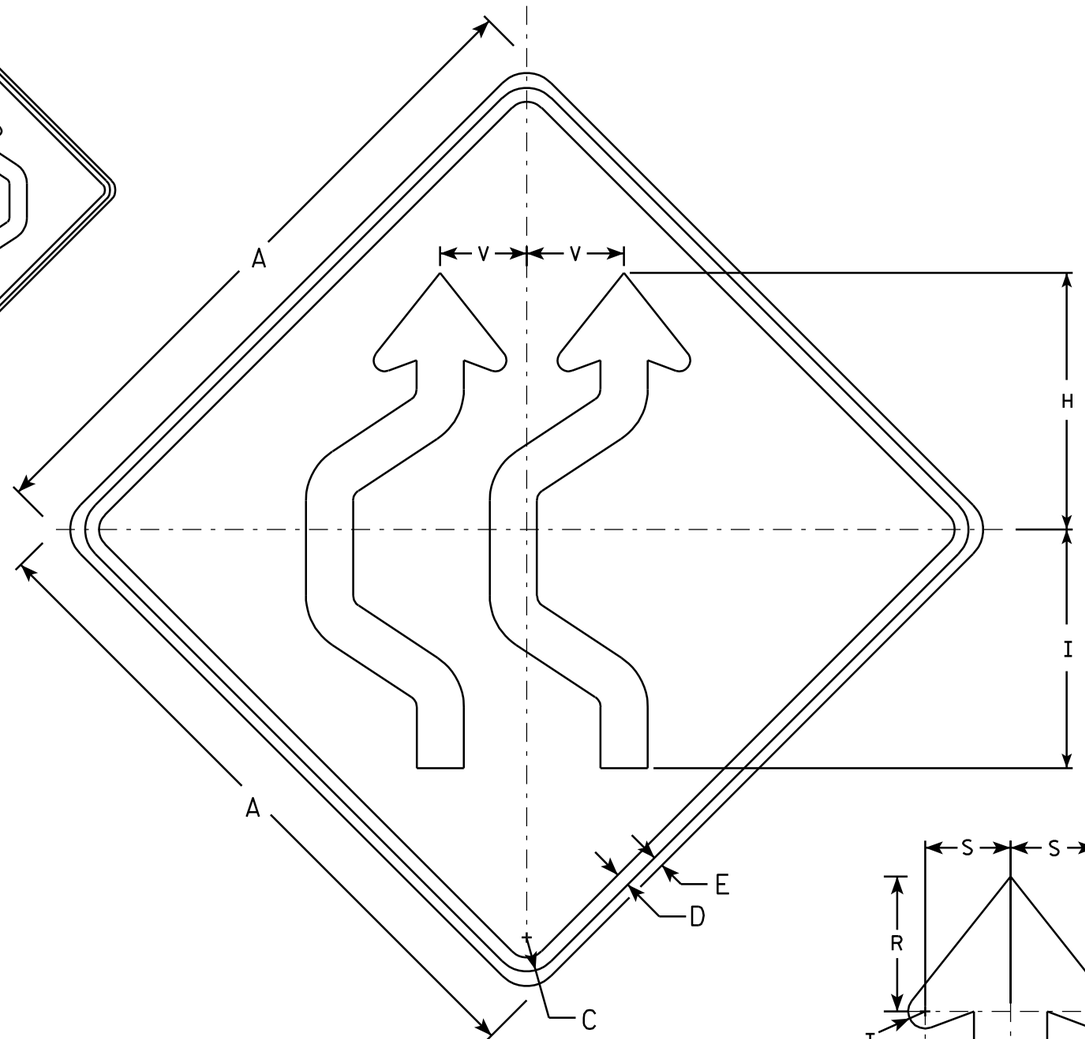
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-62R.2

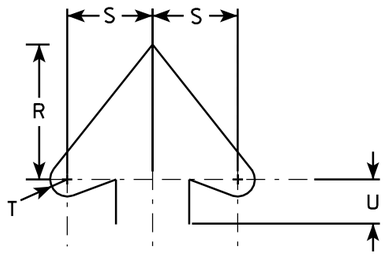
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 220 | E



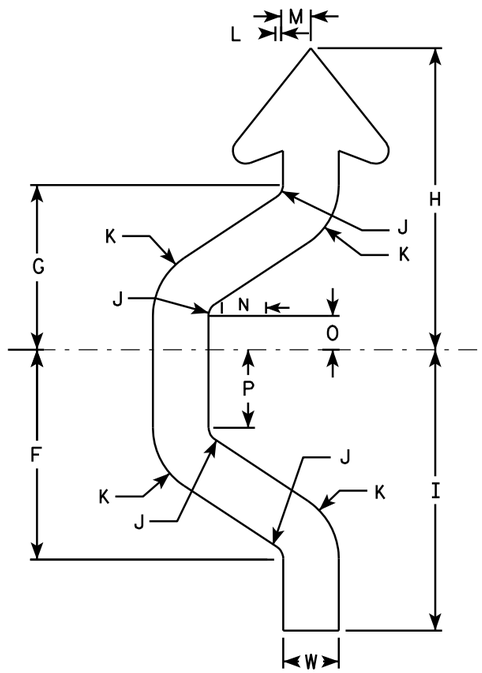
W24-1AR



W24-1AL



Arrowhead Detail



Arrow Detail

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W24-1R is the same as W24-1L except 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 3/8	5/8	1/2	9 1/2	7 1/2	13 3/4	12 3/4	5/8	3 1/8	3/8	1 5/8	2 3/8	1 1/2	3 1/2		4 5/8	3	5/8	1 1/2	4 3/4	2 1/2				9
2S	48		2 1/4	1	3/4	12 7/8	10 1/8	18 1/2	17 1/4	7/8	4 1/4	3/8	2 1/8	3 1/4	2	4 3/4		6 1/4	4	3/4	2 1/8	6 1/4	3 3/8				16
2M	48		2 1/4	1	3/4	12 7/8	10 1/8	18 1/2	17 1/4	7/8	4 1/4	3/8	2 1/8	3 1/4	2	4 3/4		6 1/4	4	3/4	2 1/8	6 1/4	3 3/8				16
3	48		2 1/4	1	3/4	12 7/8	10 1/8	18 1/2	17 1/4	7/8	4 1/4	3/8	2 1/8	3 1/4	2	4 3/4		6 1/4	4	3/4	2 1/8	6 1/4	3 3/8				16
4	48		2 1/4	1	3/4	12 7/8	10 1/8	18 1/2	17 1/4	7/8	4 1/4	3/8	2 1/8	3 1/4	2	4 3/4		6 1/4	4	3/4	2 1/8	6 1/4	3 3/8				16
5	48		2 1/4	1	3/4	12 7/8	10 1/8	18 1/2	17 1/4	7/8	4 1/4	3/8	2 1/8	3 1/4	2	4 3/4		6 1/4	4	3/4	2 1/8	6 1/4	3 3/8				16

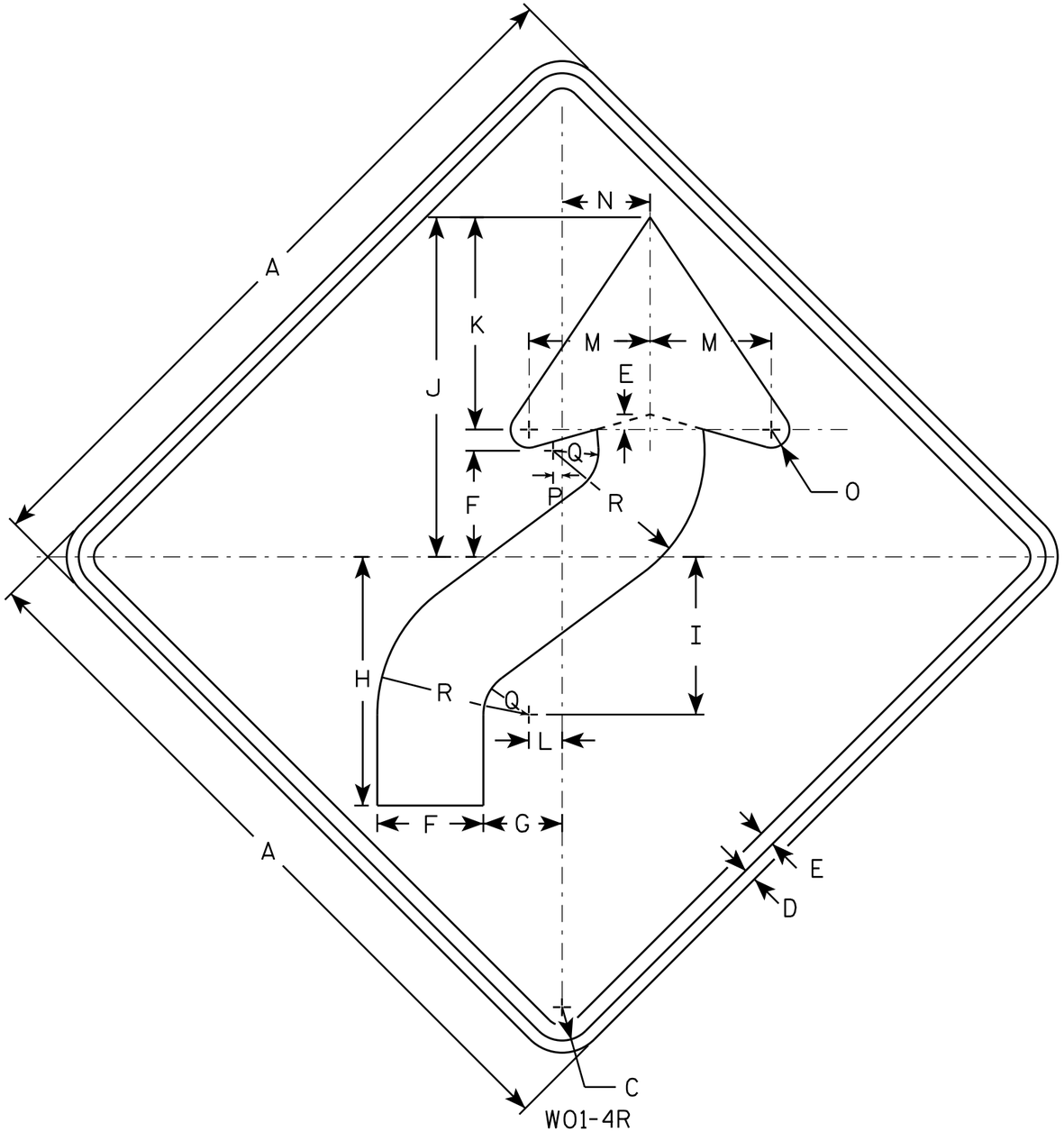
STANDARD SIGN
W24-1AL

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W24-1AL.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 221 | E



W01-4R

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. W01-4L is the same as W01-4R except the arrow is 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	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN
W01-4

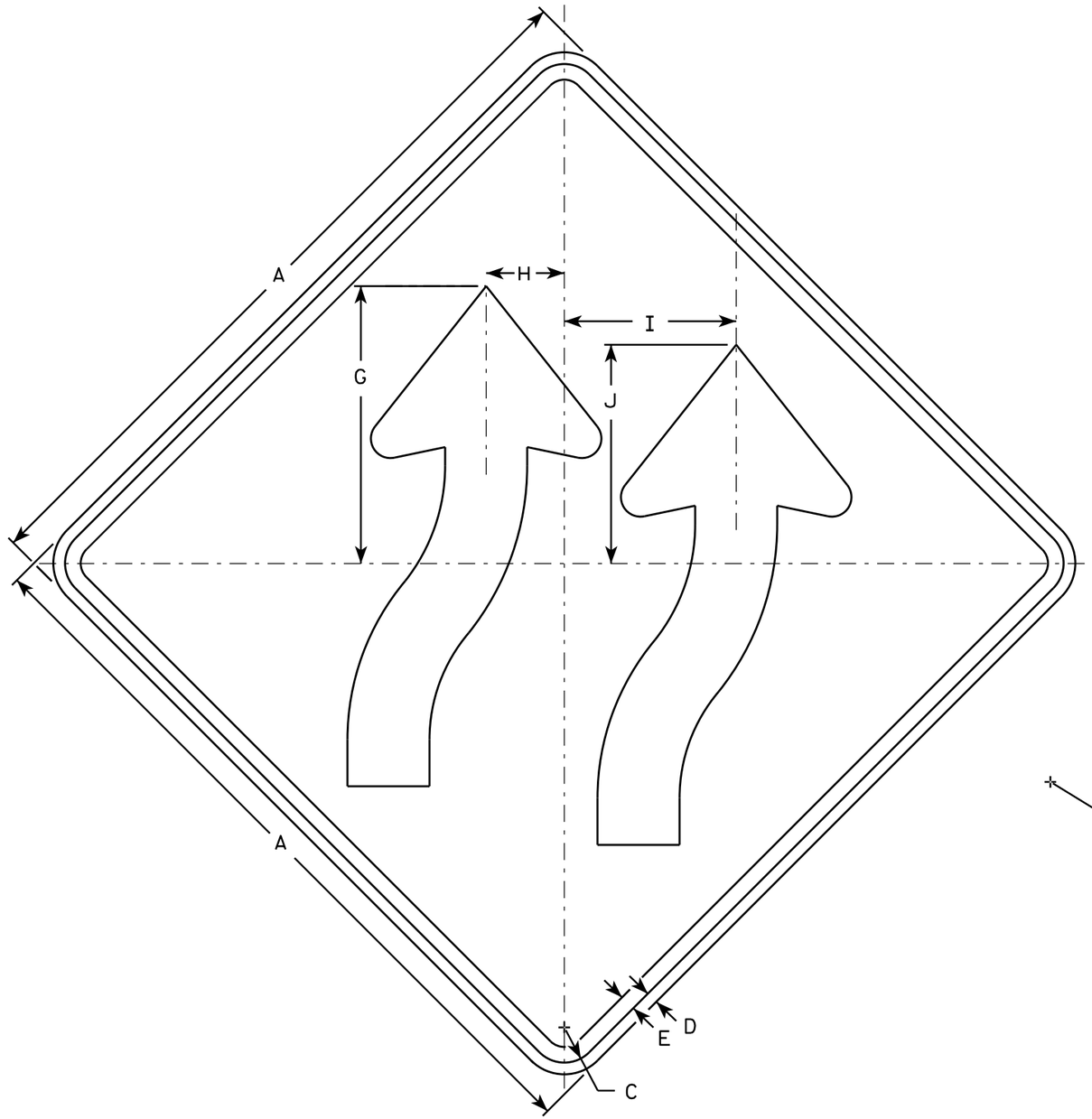
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

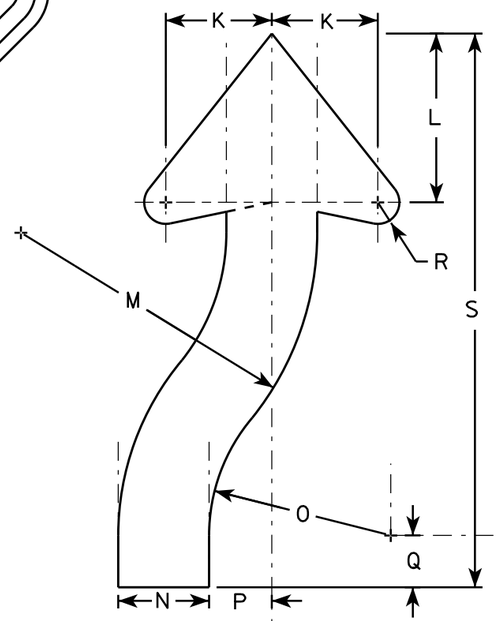
DATE 11/18/13 PLATE NO W01-4.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W014.DGN PLOT DATE : 28-FEB-2014 11:35 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.755110:1.000000
WISDOT/CADDS SHEET 42



W01-4bR



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. W01-4bL is the same as W014-bR exept arrows are 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		13 3/8	3 3/4	8 1/4	10 1/2	4 5/8	7 3/8	12 7/8	3 7/8	7 7/8	2 3/4	2 1/4	7/8	24								9.0
2S	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
2M	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
3	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
4	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
5	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0

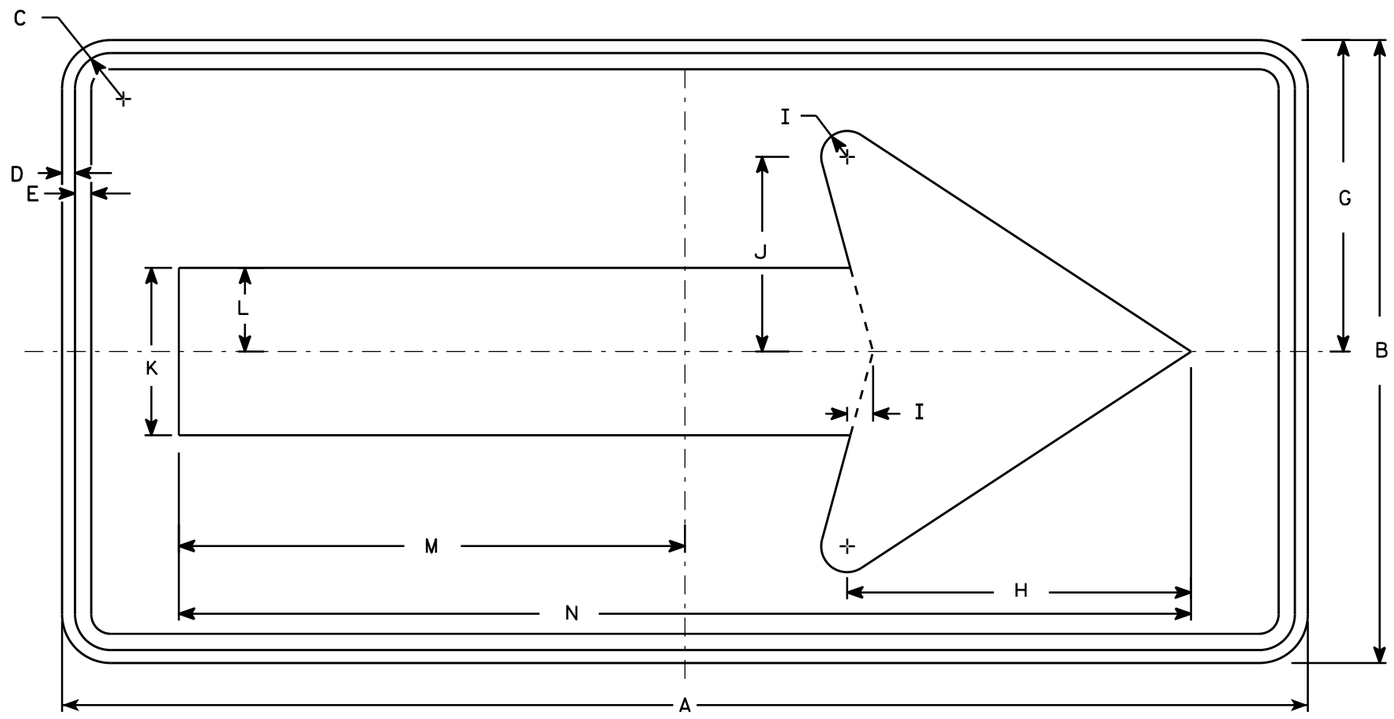
STANDARD SIGN
W01-4b

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4b.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W01-6

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.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

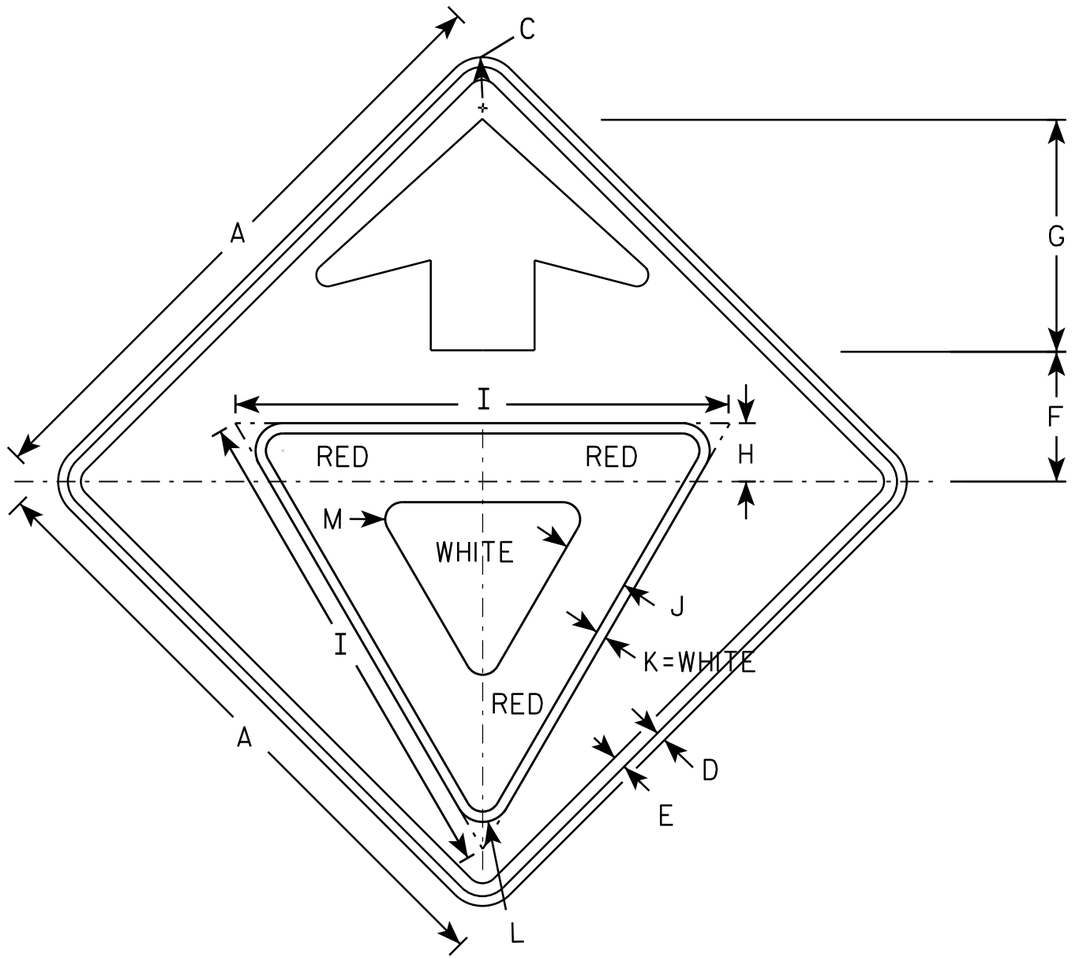
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

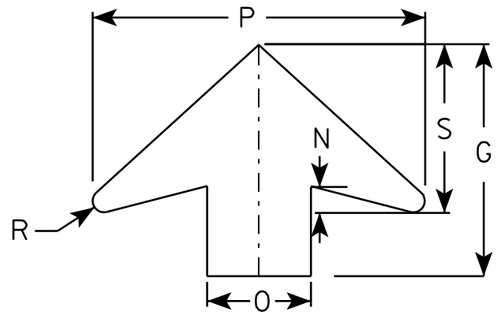
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000 WISDOT/CADDS SHEET 42



W03-2

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

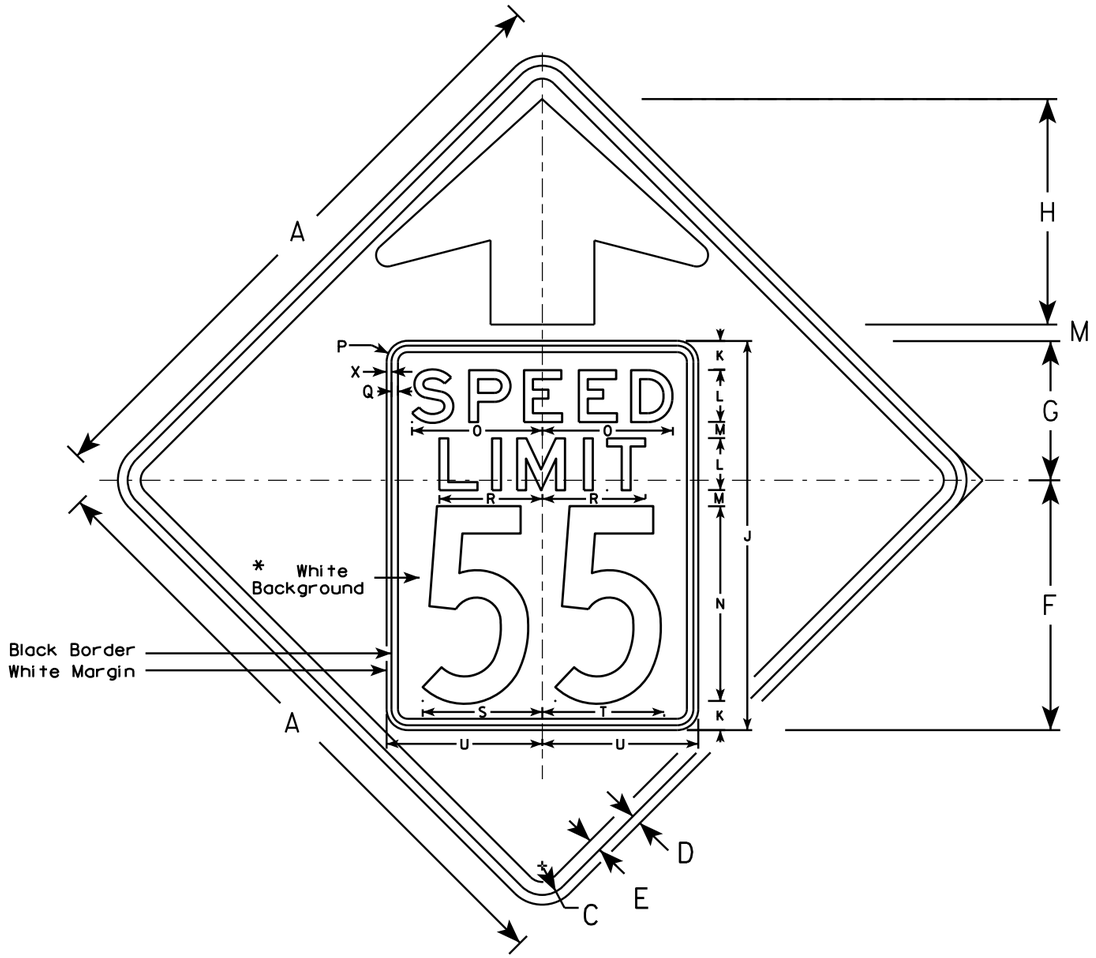
STANDARD SIGN
W03-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W03-2.1

PROJECT NO: SHEET NO: E

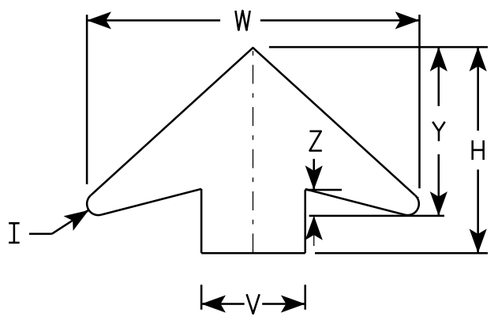


W03-5

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 for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2S	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
2M	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
3	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W03-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

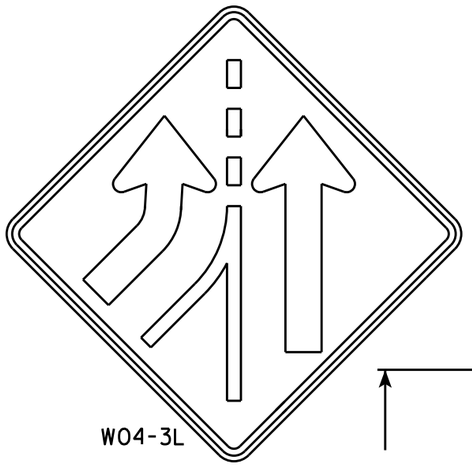
DATE 11/20/13 PLATE W03-5.1

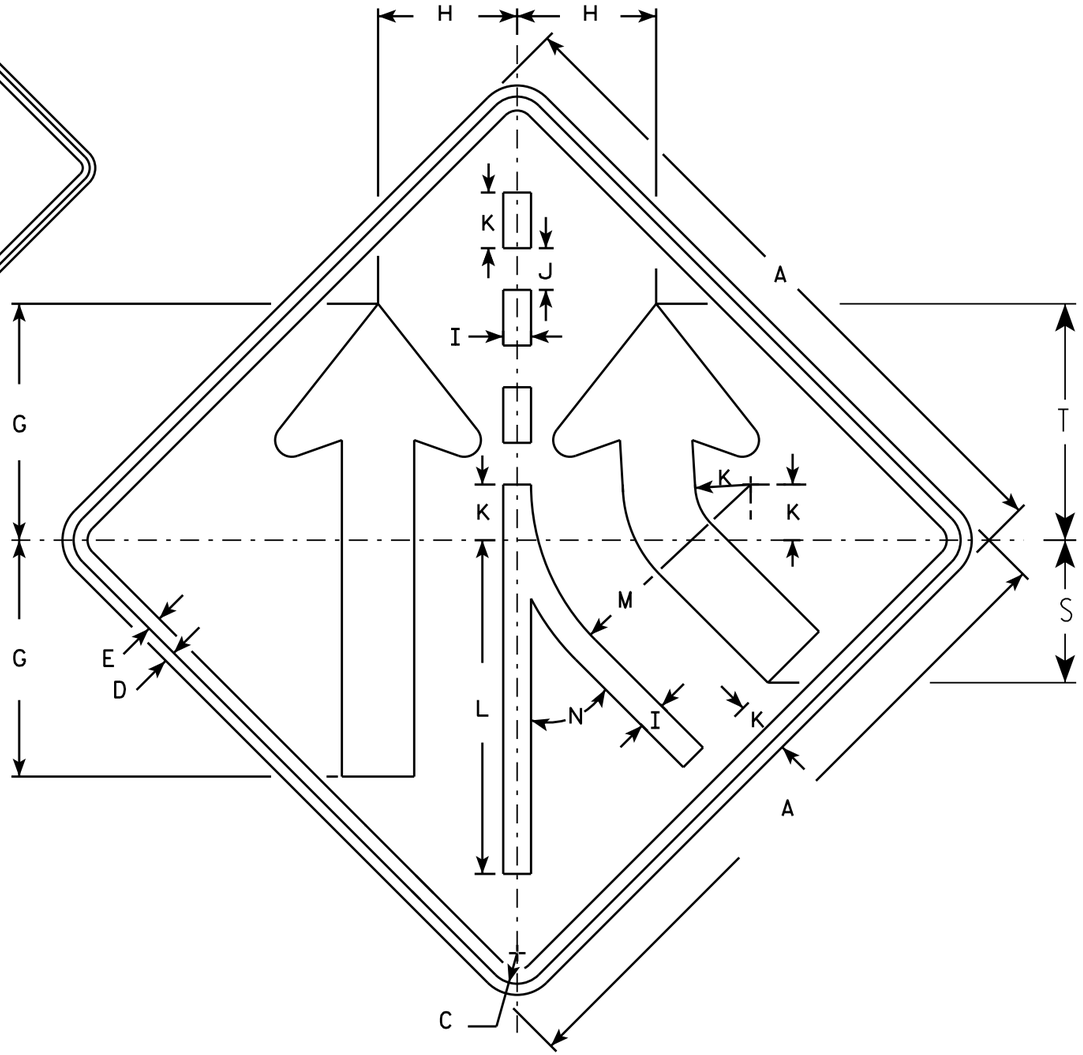
PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W035.DGN PLOT DATE : 20-NOV-2013 11:32 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

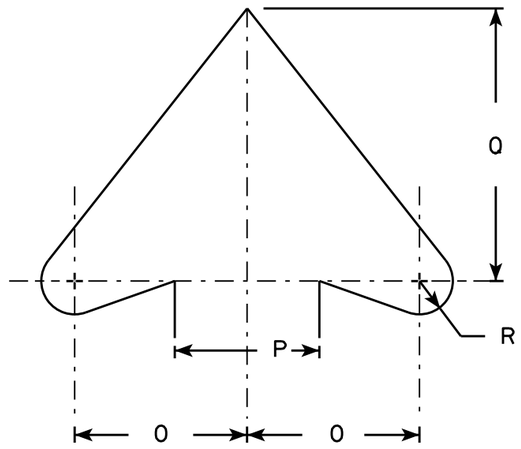
7 7





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. W04-3 L is the same as W04-3 R except the arrow is reversed along the vertical centerline.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
2S	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
2M	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
3	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
4	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
5	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0

STANDARD SIGN

W0433

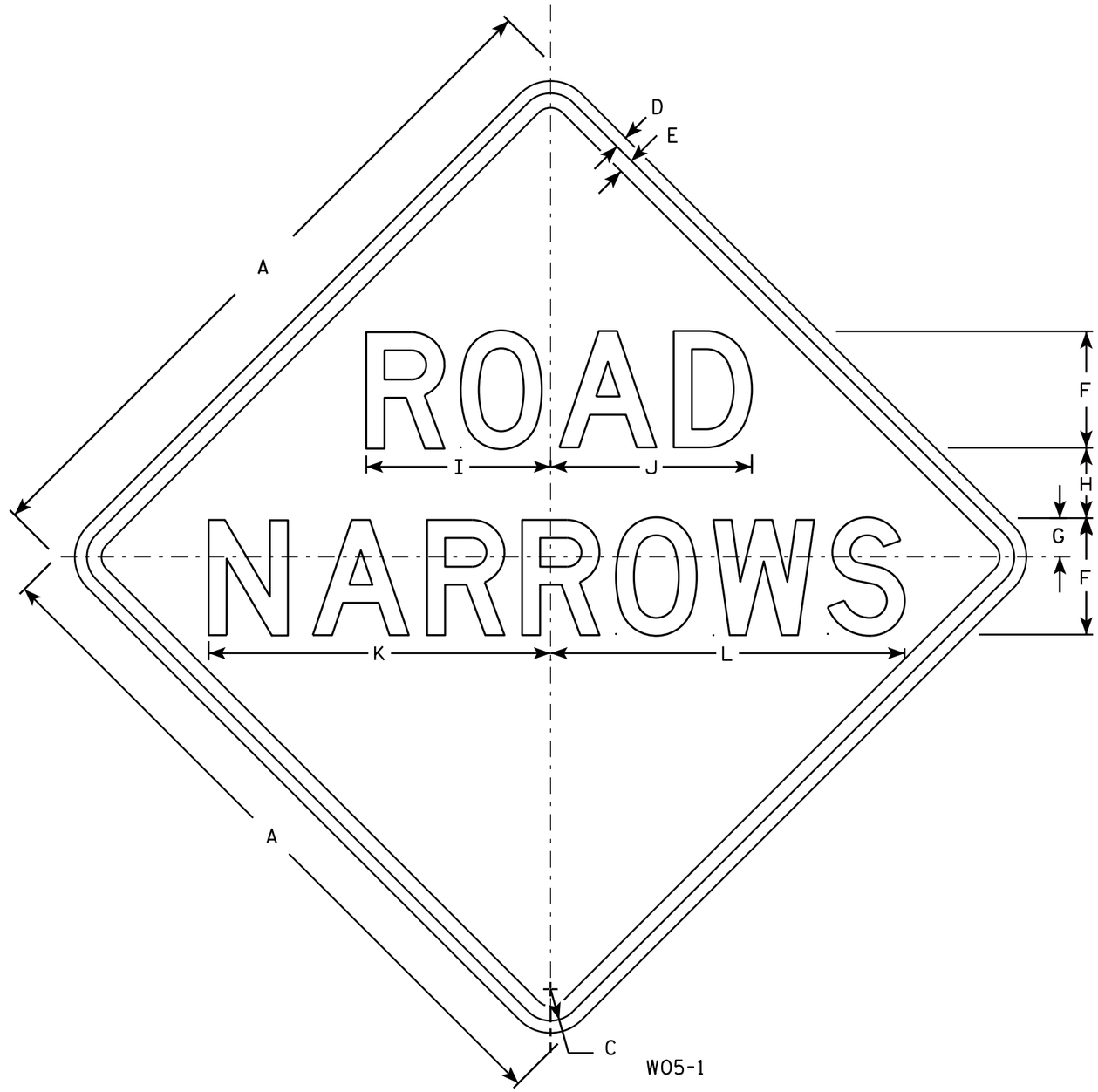
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/20/13 PLATE W04-3.1

PROJECT NO:

SHEET NO: E



W05-1

NOTES

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

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	6	2	3 1/2	9 1/2	10 3/8	17 5/8	18 1/4															9.0
2S	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
2M	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
3	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
4	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
5	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0

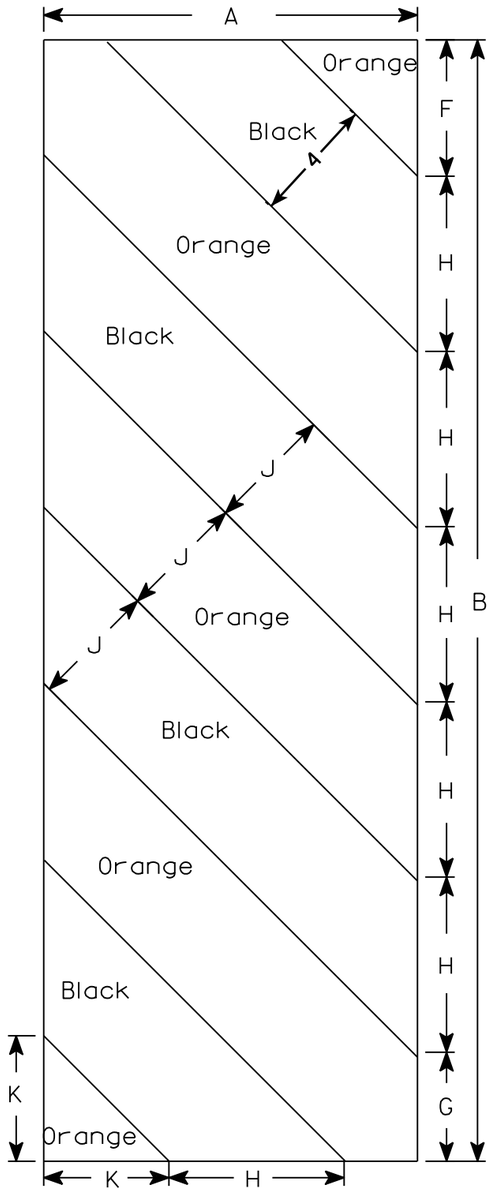
STANDARD SIGN
W05-1

WISCONSIN DEPT OF TRANSPORTATION

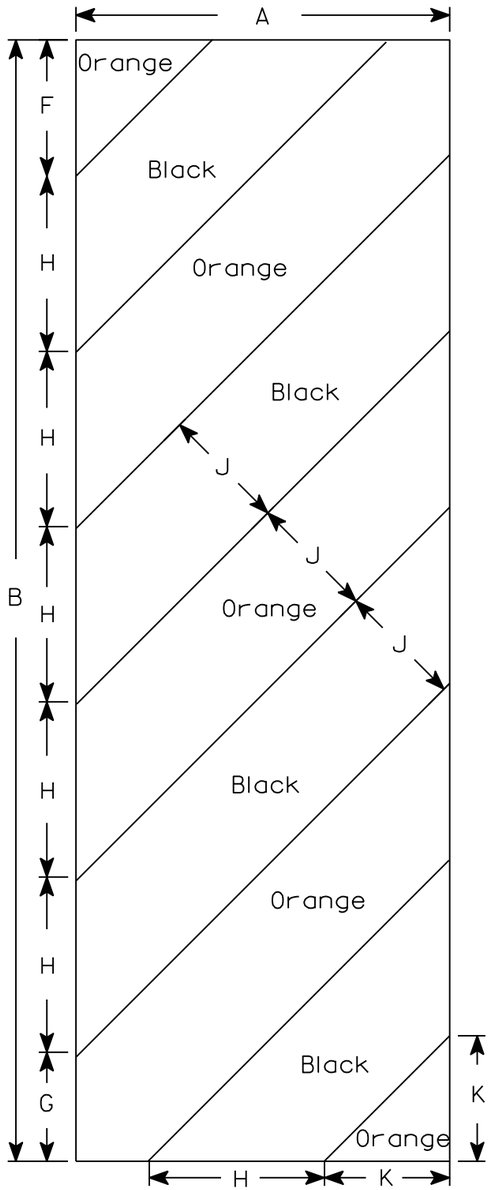
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W05-1.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W05-52L



W05-52R

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. Alternate colors of stripes as shown.

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	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

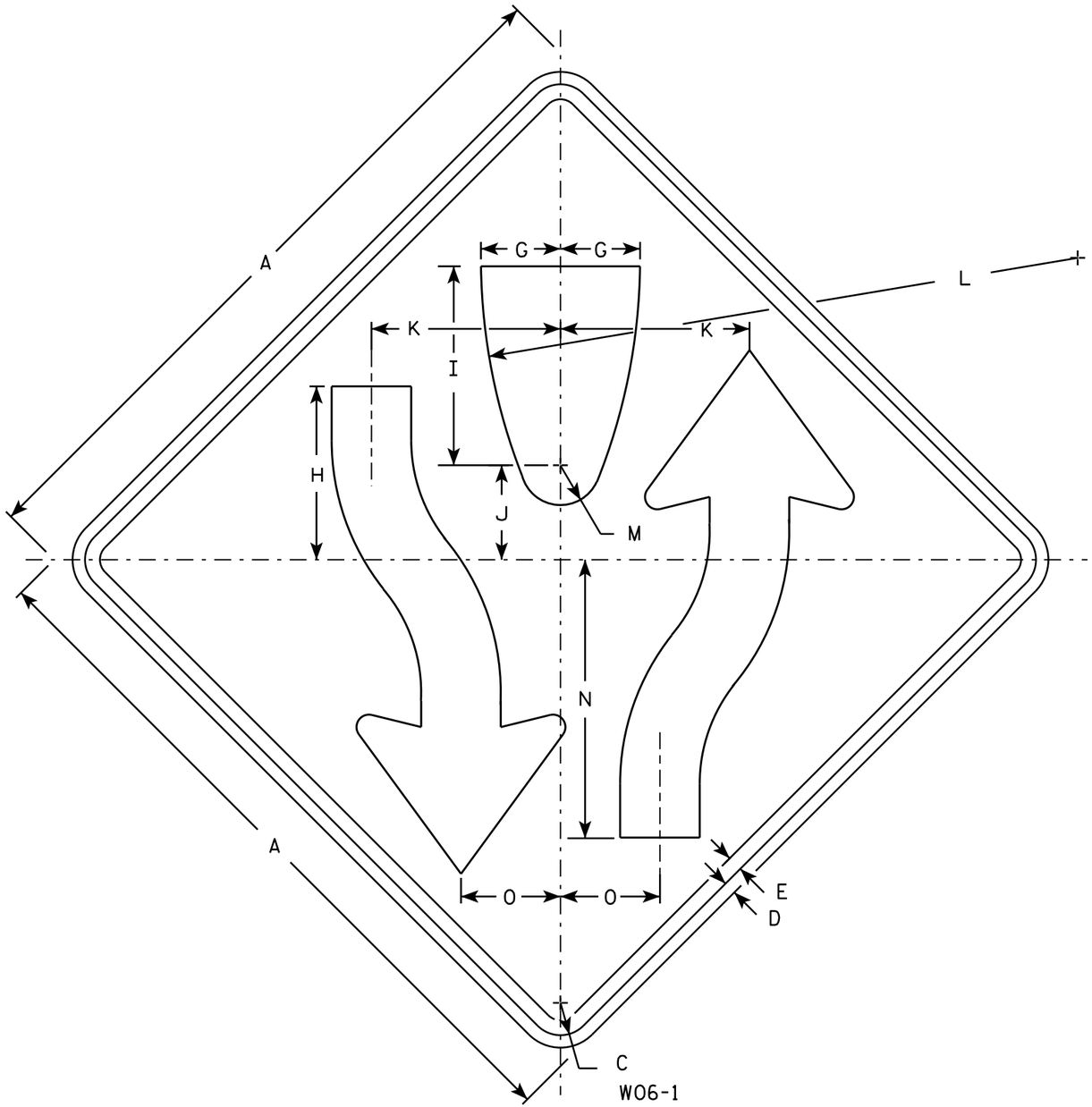
W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W05-52.1

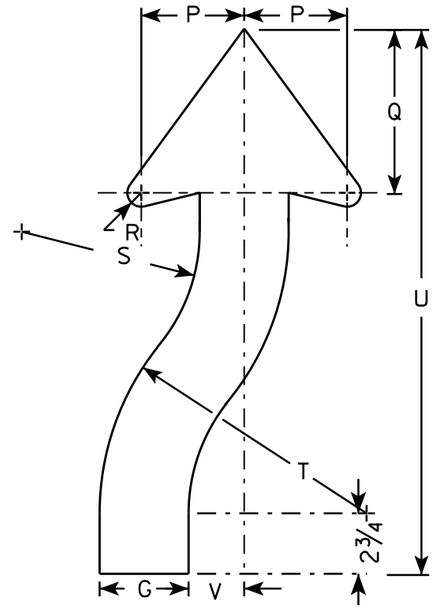
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W06-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - 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. W06-2 same as W06-1 but is rotated 180° when mounted.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2S	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
2M	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
3	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
4	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W06-1 & W06-2

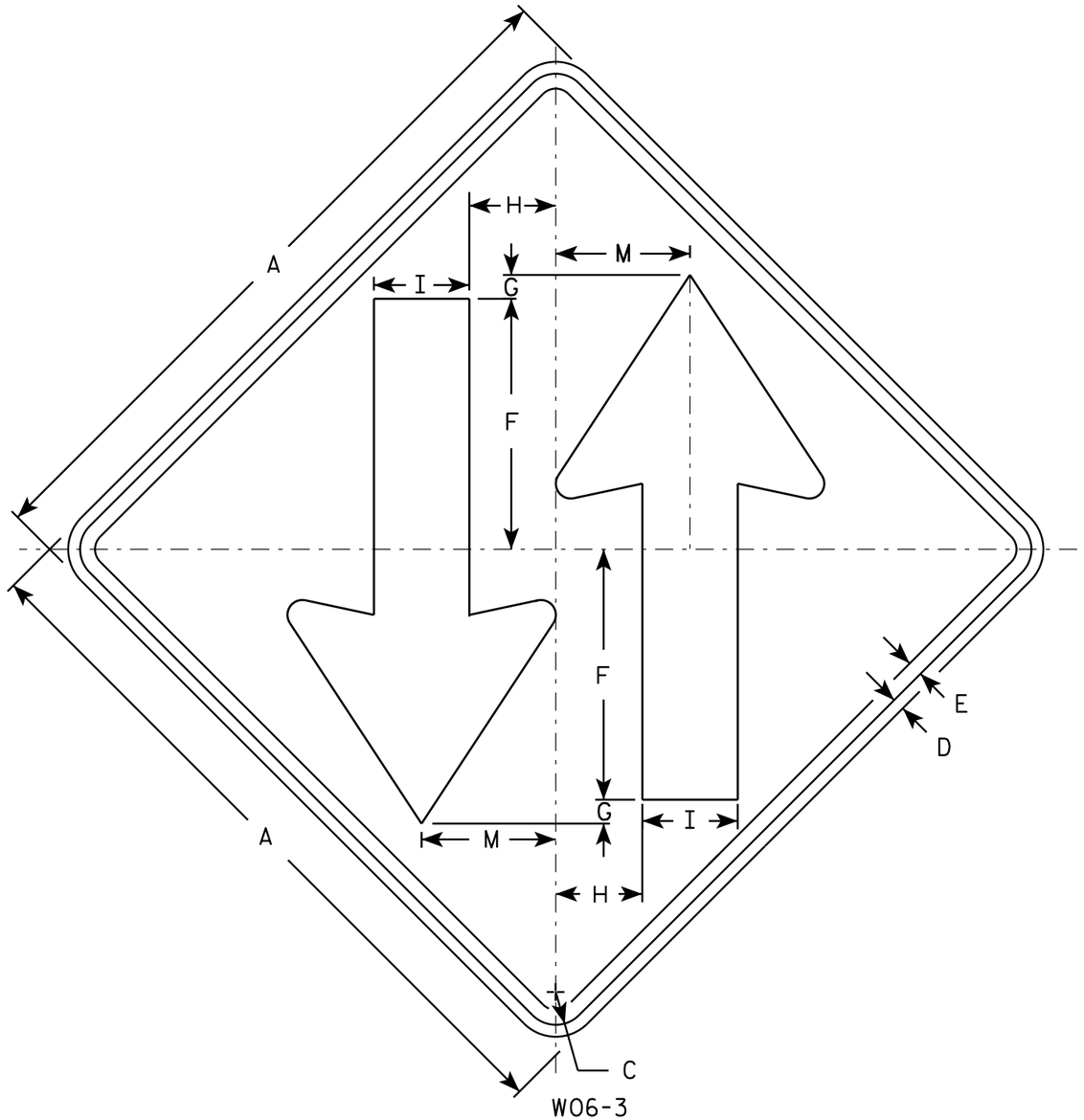
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE NO W06-1.1

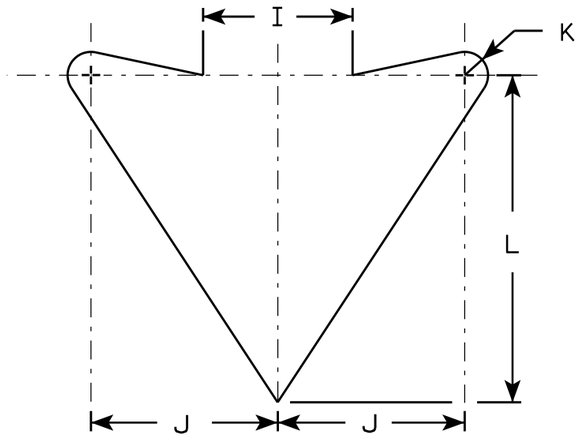
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W061.DGN PLOT DATE : 20-NOV-2013 12:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.810449:1.000000
WISDOT/CADDS SHEET 42



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.



ARROW DETAIL

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

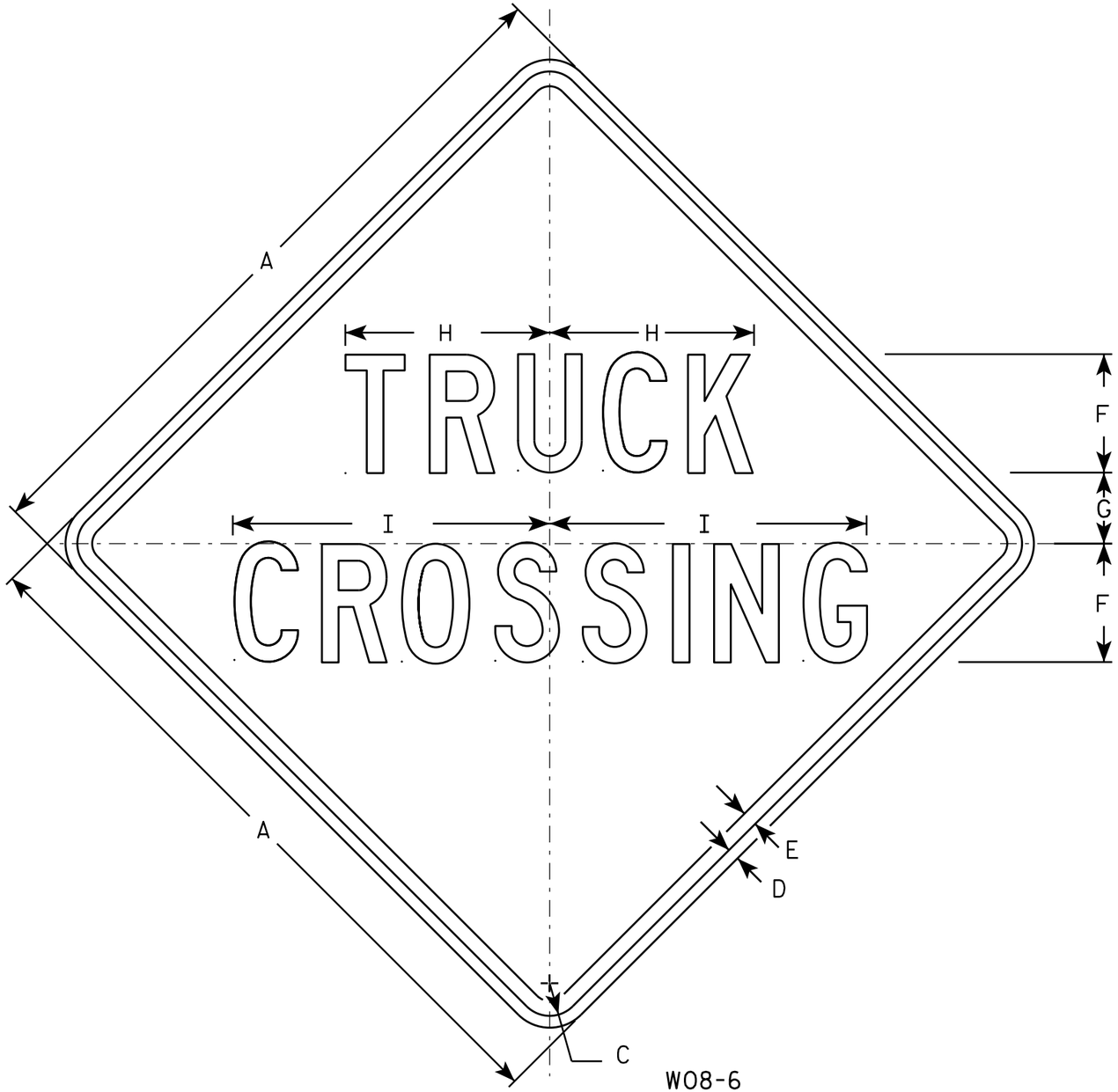
STANDARD SIGN
W06-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 231 W06-3.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W08-6

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 5/8	5/8	3/4	6	3 1/2	10 3/8	16																		9.0
2S	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
2M	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
3	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
4	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0

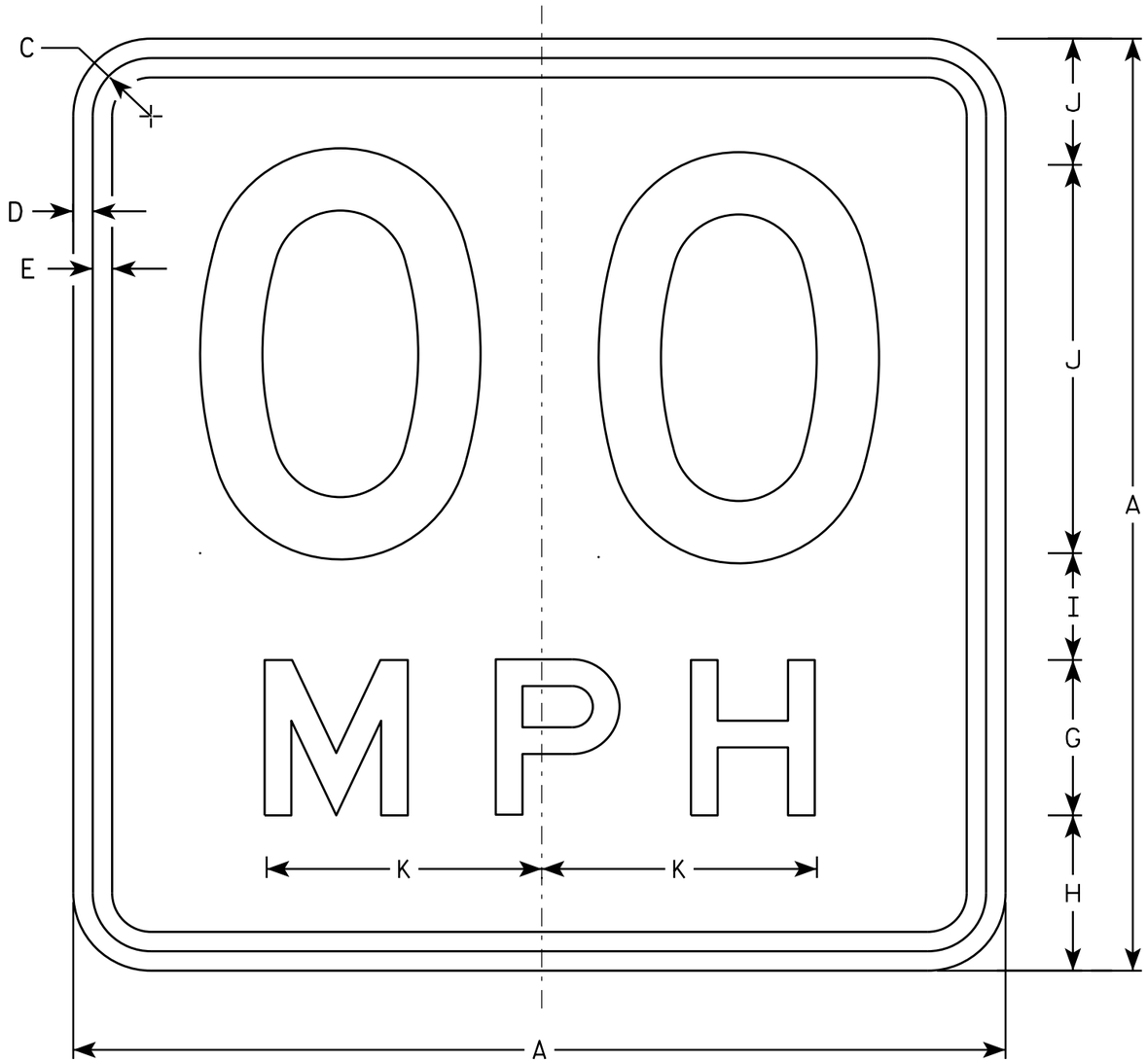
STANDARD SIGN
W08-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 232 of 28-6.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W013-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN
W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

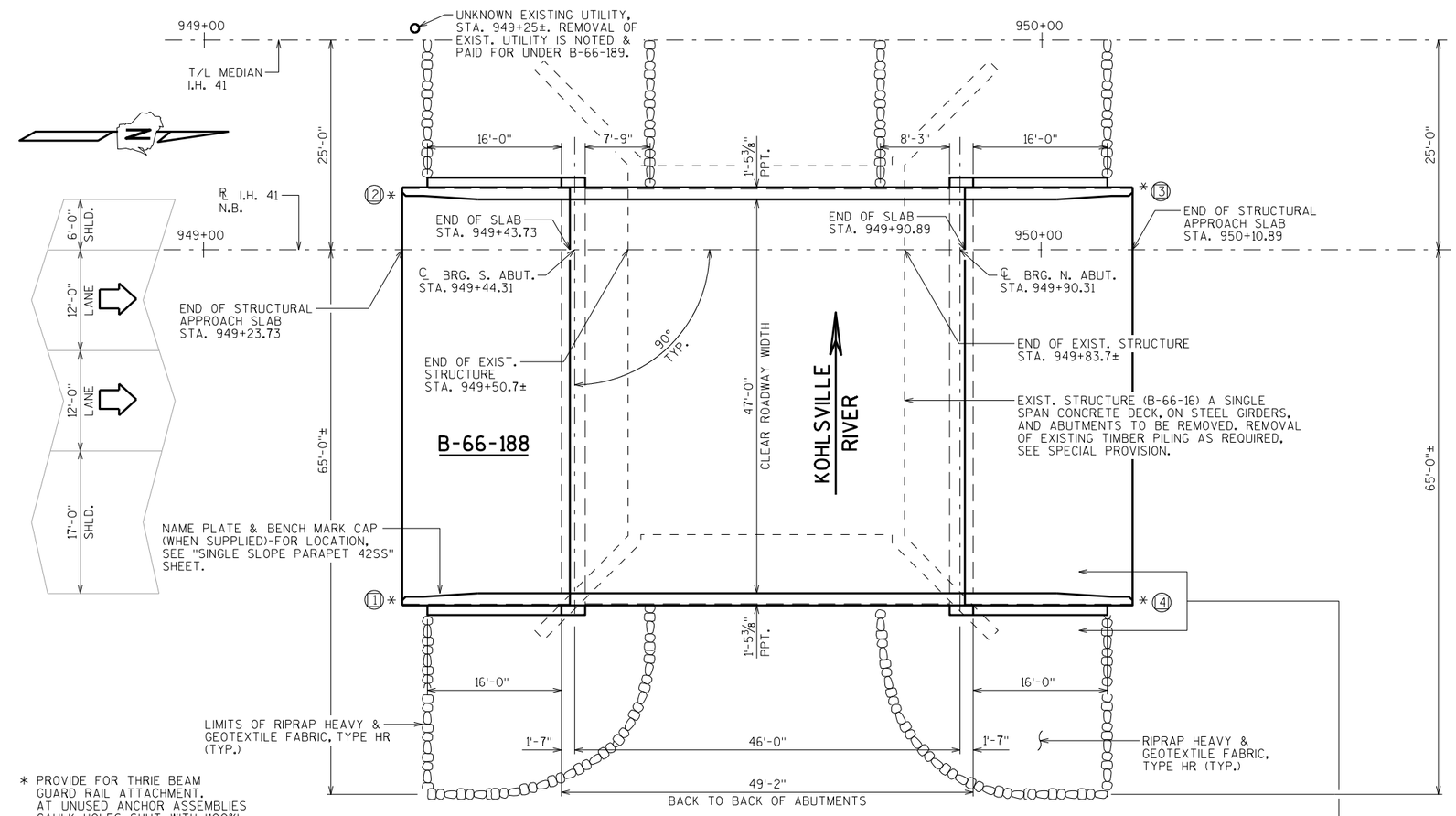
DATE 11/21/13 PLATE 233 W013-1.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W0131.DGN PLOT DATE : 02-DEC-2013 13:55 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 3.794391:1.000000
WISDOT/CADDS SHEET 42

STATE PROJECT NUMBER

1100-00-73

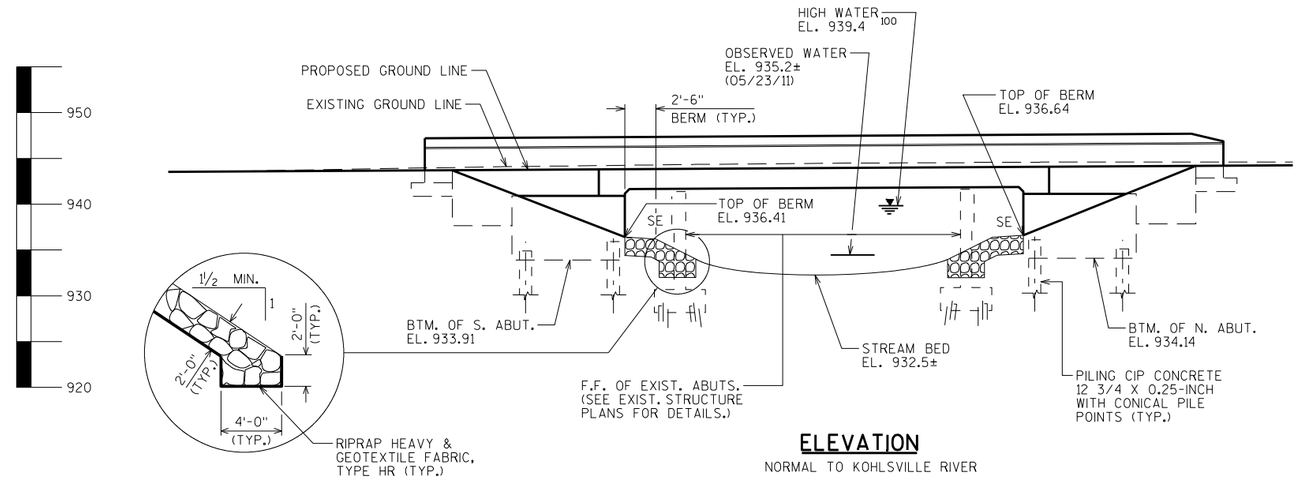


* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT. AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH '100%' SILICONE CAULK.

⬡ INDICATES WING NUMBER

PLAN

SINGLE SPAN-FLAT SLAB



ELEVATION

NORMAL TO KOHLSVILLE RIVER

DESIGN DATA

LIVE LOAD:

DESIGN LOADING; HL-93
INVENTORY RATING FACTOR: RF = 1.08
OPERATING RATING FACTOR: RF = 1.40
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY SLAB — f'c = 4,000 P.S.I. ALL OTHER — f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON 12-3/4" X 0.25-INCH CIP CONRETE PILING. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS** PER PILE, AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. PILES ARE ESTIMATED 80 FEET LONG AT SOUTH ABUTMENT & 60 FEET LONG AT NORTH ABUTMENT. CONICAL PILE POINTS ARE REQUIRED.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100} = 1200 C.F.S.
VEL. = 5.5 F.P.S.
HW. = EL. 939.4
WATERWAY AREA = 218 SQ. FT.
DRAINAGE AREA = 20 SQ. MI.
ROAD OVERTOPPING = NA
SCOUR CRITICAL CODE = 8

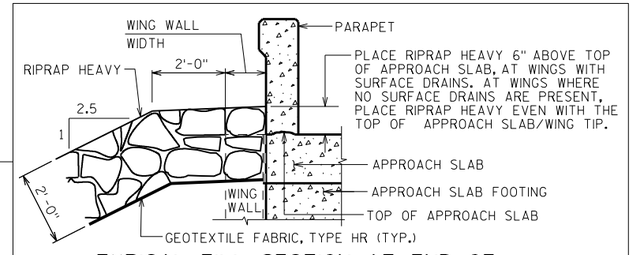
2 YEAR FREQUENCY

Q_2 = 570 C.F.S.
$HW._2$ = EL. 938.0

TRAFFIC VOLUME

I.H. 41 N.B.

A.D.T. = 13,075 (2033)
R.D.S. = 70 M.P.H.



TYPICAL FILL SECTION AT END OF STRUCTURAL APPROACH SLABS

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. TRAFFIC STAGING DETAILS
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT DETAILS
7. NORTH ABUTMENT
8. NORTH ABUTMENT DETAILS
9. SUPERSTRUCTURE
10. SUPERSTRUCTURE CROSS SECTIONS
11. SUPERSTRUCTURE DETAILS
12. SOUTH STRUCT. APPROACH SLAB
13. SOUTH STRUCT. APPROACH SLAB DETAILS
14. NORTH STRUCT. APPROACH SLAB
15. NORTH STRUCT. APPROACH SLAB DETAILS
16. SINGLE SLOPE PARAPET 42SS
17. ALTERNATE CONSTRUCTION JOINT

STRUCTURE DESIGN CONTACTS:

ALEXANDER CRABTREE (608) 266-3686
LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher LLS 1/20/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-66-188

I.H. 41 N.B. OVER THE KOHLSVILLE RIVER

COUNTY	TOWN
WASHINGTON	WAYNE

DESIGN SPEC. AASHTO LRFD DESIGN SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ARC	MJL	ARC	MJL

GENERAL PLAN

SHEET 1 OF 17

234

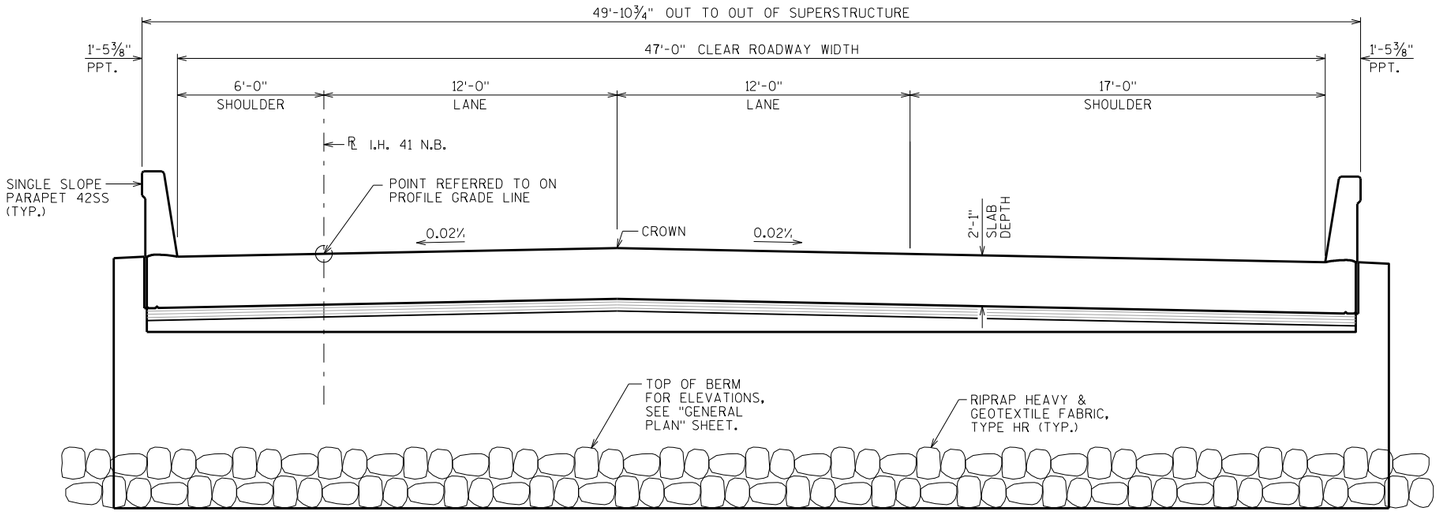
I.D. 1100-00-03B

DATE: OCT. 2015

SCALE = 8

8

8



CROSS SECTION THRU ROADWAY LOOKING NORTH

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	S. STRUCT. APPROACH	SOUTH ABUTMENT	NORTH ABUTMENT	N. STRUCT. APPROACH	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 949+67	LS	———	———	———	———	———	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-66-188	LS	———	———	———	———	———	1
210.0100	BACKFILL STRUCTURE	CY	———	———	118	118	———	236
305.0120	BASE AGGREGATE DENSE 1-1/4"	TON	———	150	———	———	150	300
502.0100	CONCRETE MASONRY BRIDGES	CY	209	71	61	61	71	473
502.3200	PROTECTIVE SURFACE TREATMENT	SY	246	104	———	———	104	454
502.3210	PIGMENTED SURFACE SEALER	SY	46	20	———	———	20	86
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	———	———	3,660	3,660	———	7,320
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	39,060	11,430	1,830	1,840	11,430	65,590
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	450	———	———	———	———	450
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	———	———	14	14	———	28
550.0500	PILE POINTS	EACH	———	———	11	11	———	22
550.2124	PILING CIP CONCRETE 12 3/4 X 0.25-INCH	LF	———	———	880	660	———	1,540
606.0300	RIPRAP HEAVY	CY	———	———	135	138	———	273
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	———	———	85	85	———	170
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	———	2	———	———	2	4
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	———	———	221	226	———	447
SPV.0090	REMOVING EXISTING TIMBER PILING	LF	———	———	56	56	———	112
	NON-BID ITEMS							
	FILLER	SIZE	———	———	———	———	———	½", ¾" & 1½"

STATE PROJECT NUMBER

1100-00-73

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

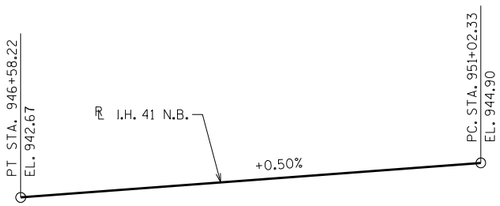
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE & THE ENTIRE TOP OF APPROACH SLAB SURFACES. PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS (INCLUDING PARAPETS ON APPROACH SLABS).

AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED & SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON THE "GENERAL PLAN" SHEET AND IN THE ABUTMENT DETAILS.



PROFILE GRADE LINE I.H. 41 N.B.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

DRAWN BY ARC | PLANS CK'D. MJL

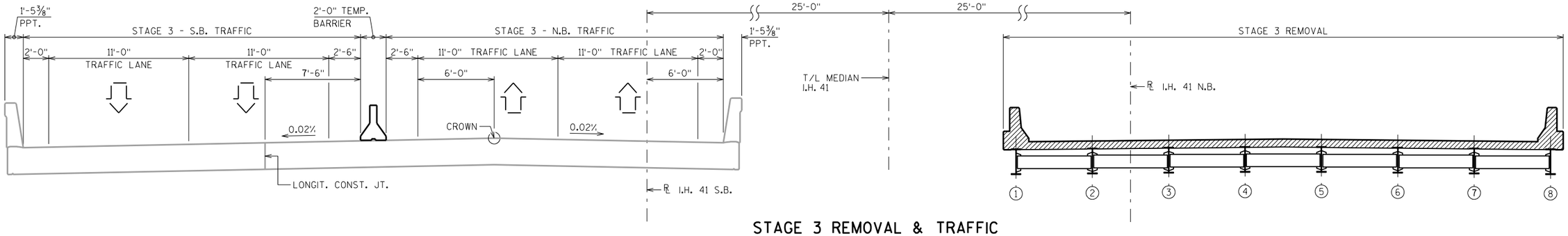
CROSS SECTION & QUANTITIES

SHEET 2

235

SCALE = 3

STATE PROJECT NUMBER
1100-00-73



STAGE 3 REMOVAL & TRAFFIC

(LOOKING NORTH)

(#) DENOTES EXIST. GIRDER NUMBER

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

DRAWN BY ARC | PLANS CK'D. MJL

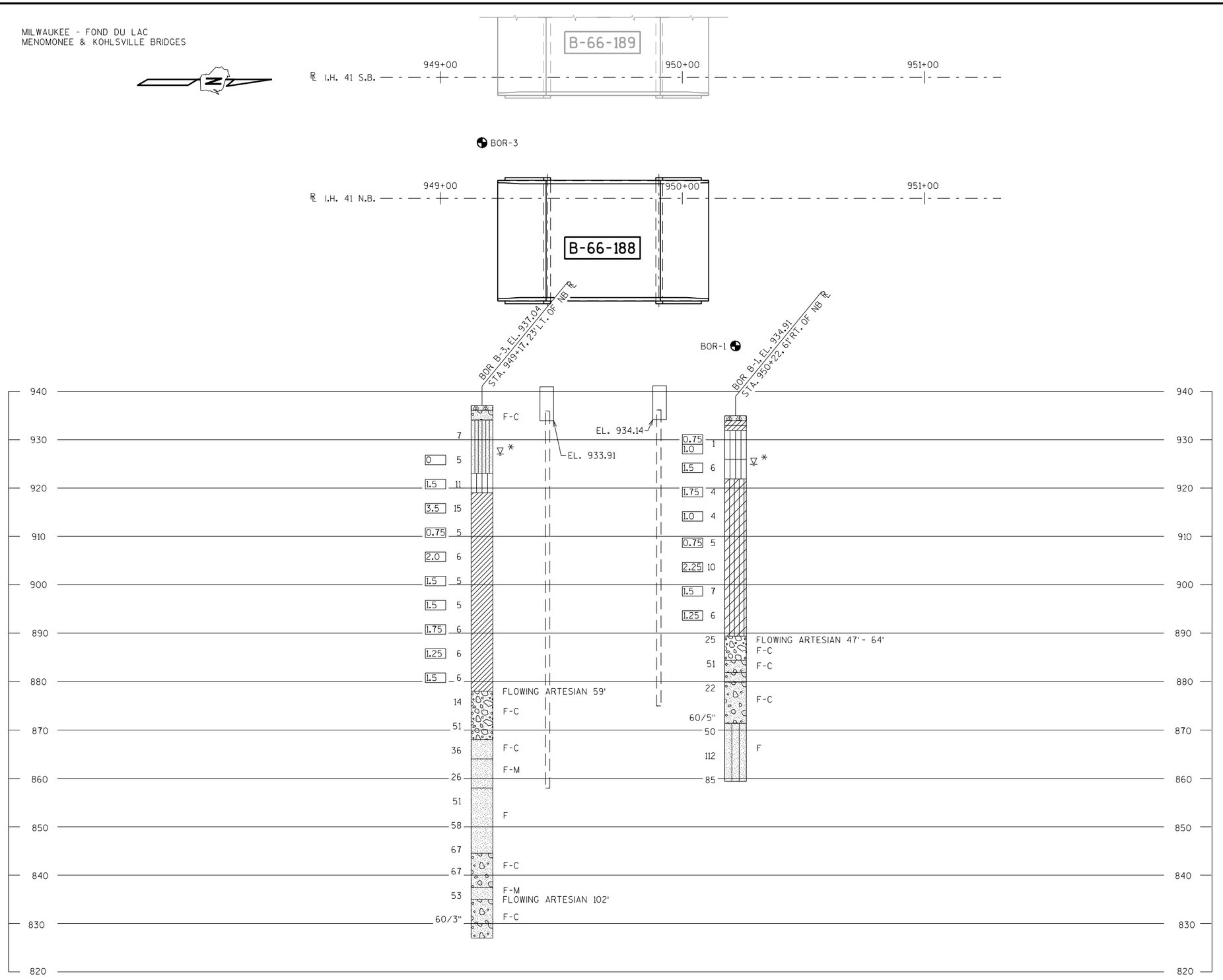
TRAFFIC STAGING DETAILS

SHEET 3

236

SCALE = 4

MILWAUKEE - FOND DU LAC
MENOMONEE & KOHLSVILLE BRIDGES



* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

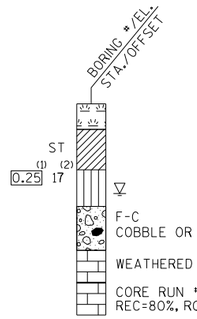
STATE PROJECT NUMBER

1100-00-73

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

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SUBSURFACE EXPLORATION

SHEET 4

237

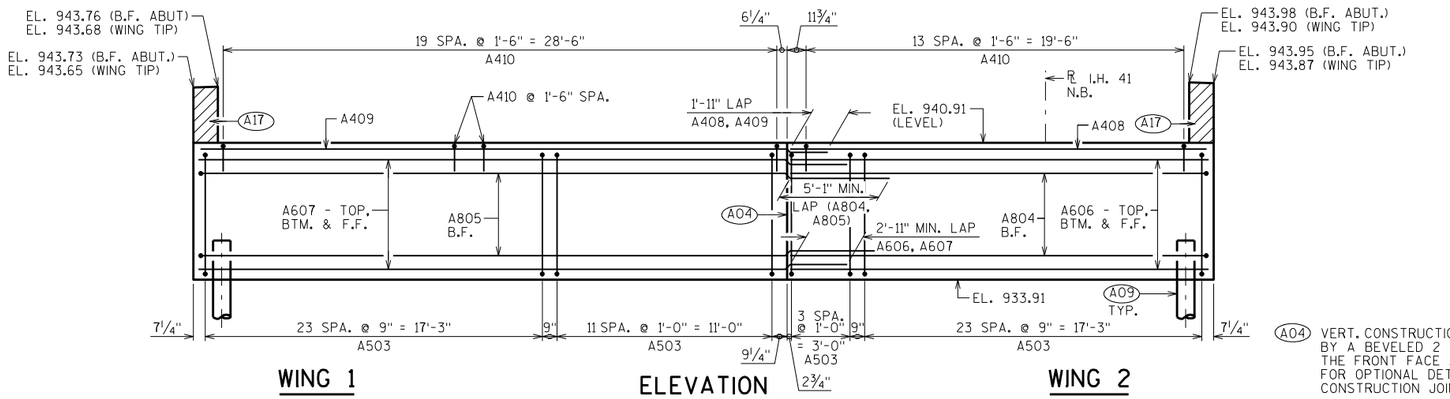
SCALE = 10

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8

STATE PROJECT NUMBER

1100-00-73



WING 1 — ELEVATION (LOOKING SOUTH) — WING 2

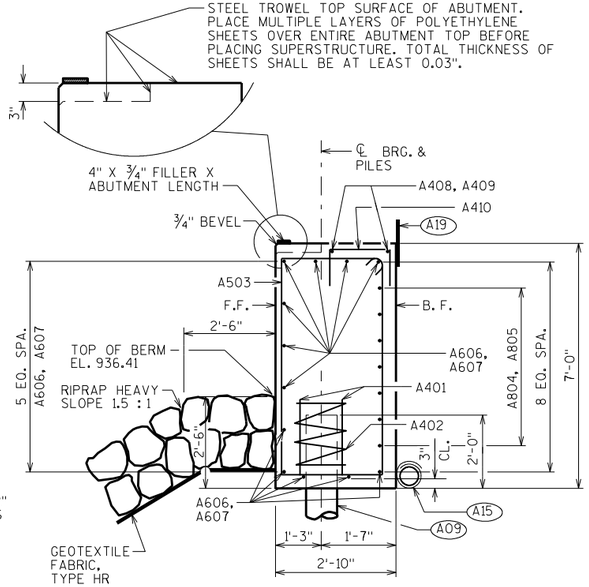
(A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 X 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W.@ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

(A09) SUPPORT ABUTMENT ON 12-3/4" X 0.25-INCH CIP CONCRETE PILING, ESTIMATED 80 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE. CONICAL PILE POINTS REQUIRED.

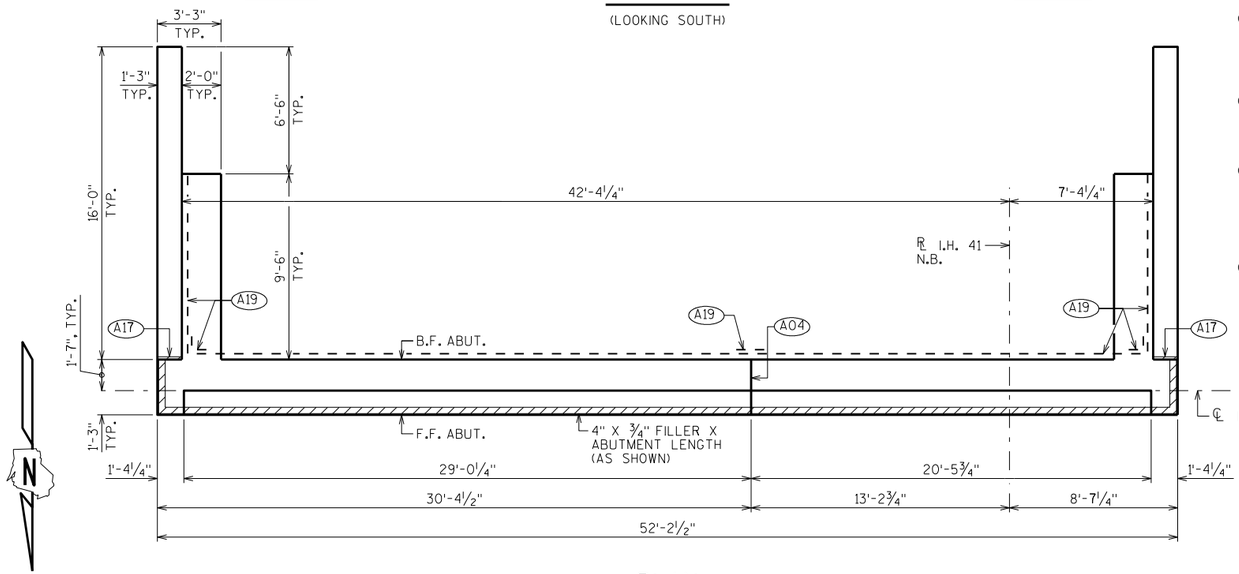
(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. (SEE "SOUTH ABUTMENT DETAILS" SHEET FOR DETAILS.)

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

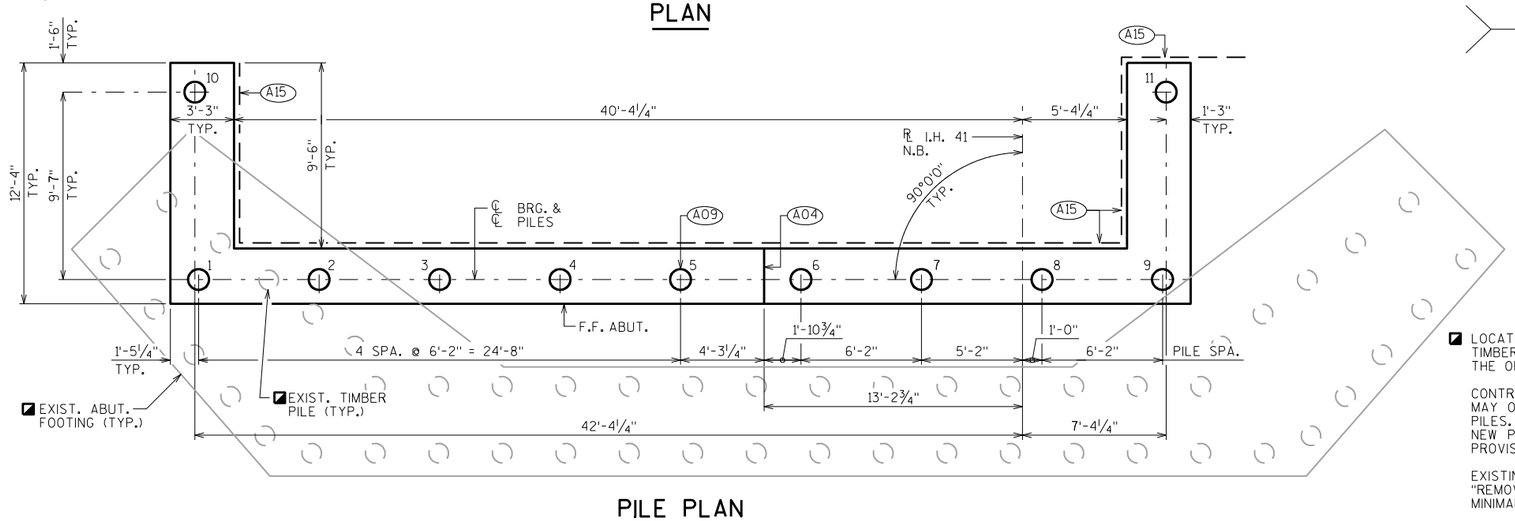
(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.



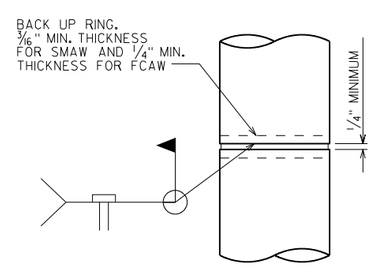
SECTION THRU BODY



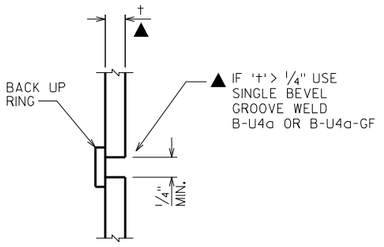
PLAN



PILE PLAN



CAST-IN-PLACE 'PIPE PILE'



C.I.P. PILE WELD DETAIL

PILE DETAILS

◪ LOCATION OF EXISTING ABUT./FOOTING & EXISTING TIMBER PILES ARE APPROXIMATE, AND BASED ON THE ORIGINAL PLANS.

CONTRACTOR IS TO DETERMINE WHERE A CONFLICT MAY OCCUR BETWEEN NEW PILING & EXISTING TIMBER PILES. REMOVE EXISTING TIMBER PILES IN CONFLICT NEW PILES IN ACCORDANCE WITH THE SPECIAL PROVISION, AND AS DIRECTED BY THE ENGINEER.

EXISTING STRUCTURE TO BE REMOVED PER BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 949+67."

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

DRAWN BY ARC | PLANS CK'D. MJL

SOUTH ABUTMENT

SHEET 5

238

SCALE = 3.75

8

8

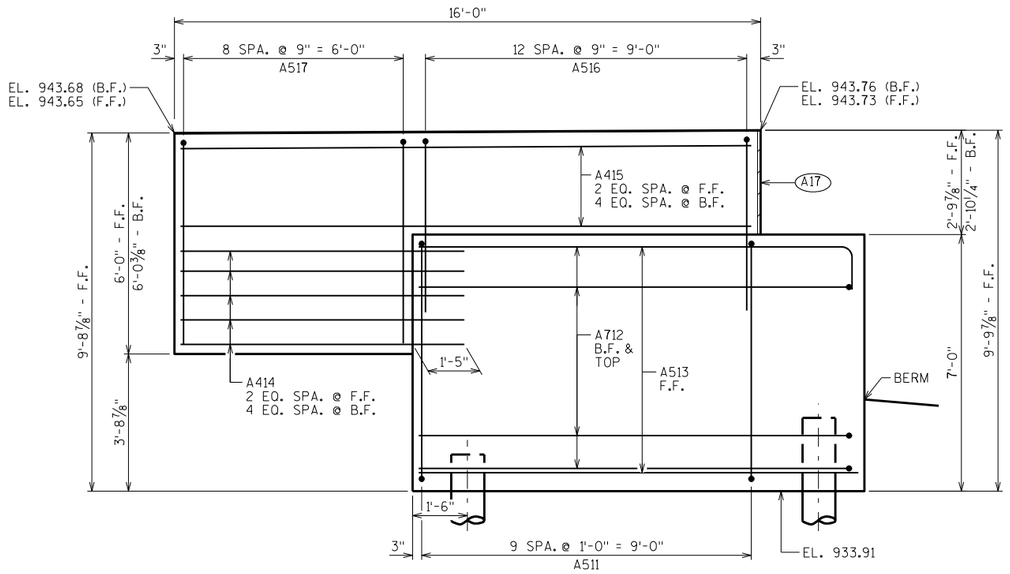
STATE PROJECT NUMBER

1100-00-73

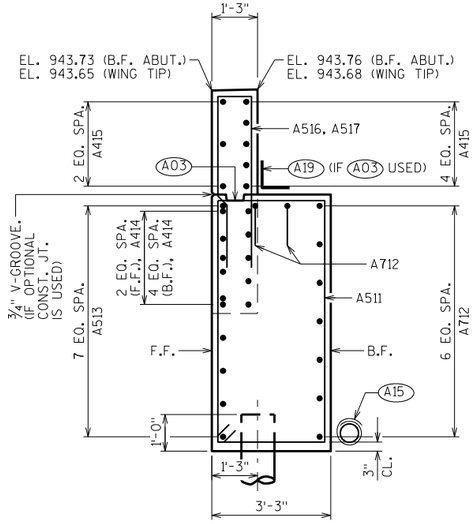
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

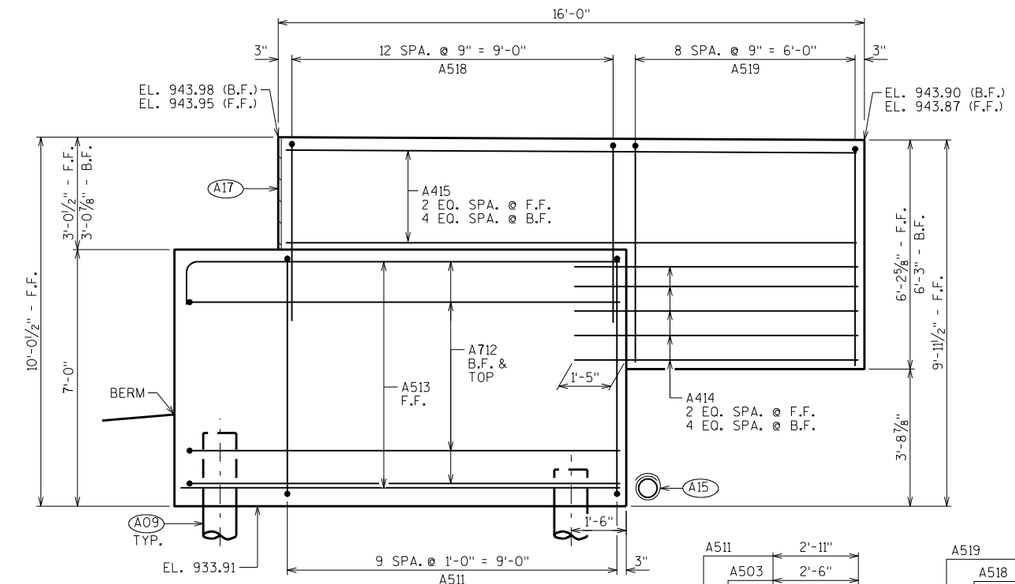
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		18	2'-3"			PILES-2 PER BODY PILE
A402		9	28'-0"	X		PILES-1 PER BODY PILE
A503		64	18'-4"	X		BODY STIRRUPS
A804		7	22'-4"	X		BODY-HORIZ.-B.F.-WING 2 SIDE
A805		7	36'-4"	X		BODY-HORIZ.-B.F.-WING 1 SIDE
A606		12	21'-6"			BODY-HORIZ.-TOP, F.F. & BTM.-WING 2 SIDE
A607		12	33'-4"			BODY-HORIZ.-TOP, F.F. & BTM.-WING 1 SIDE
A408		2	21'-4"			BODY-HORIZ.-TOP-WING 2 SIDE
A409		2	32'-2"			BODY-HORIZ.-TOP-WING 1 SIDE
A410		34	3'-7"	X		BODY-VERT.-TOP
A511	X	20	19'-8"	X		WING 1&2-STIRRUPS
A712	X	18	12'-8"	X		WING 1&2-HORIZ.-B.F. & TOP
A513	X	16	12'-0"			WING 1&2-HORIZ.-F.F.
A414	X	16	7'-9"			WING 1&2-HORIZ.-F.F. & B.F.-UPPER
A415	X	16	15'-7"			WING 1&2-HORIZ.-F.F. & B.F.-UPPER
A516	X	13	10'-0"	X		WING 1-VERT.-UPPER
A517	X	9	12'-0"	X		WING 1-VERT.-UPPER
A518	X	13	10'-6"	X		WING 2-VERT.-UPPER
A519	X	9	12'-4"	X		WING 2-VERT.-UPPER



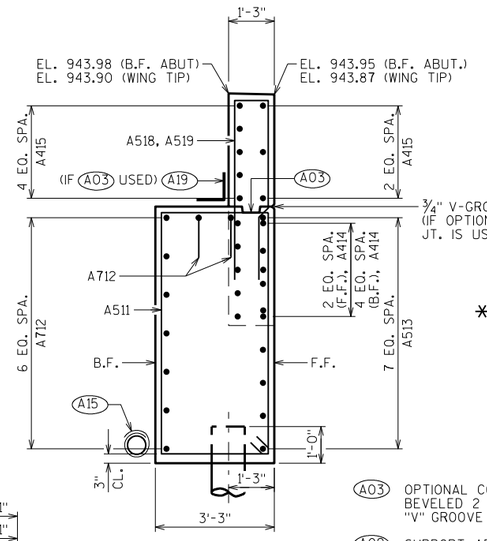
WING 1 ELEVATION



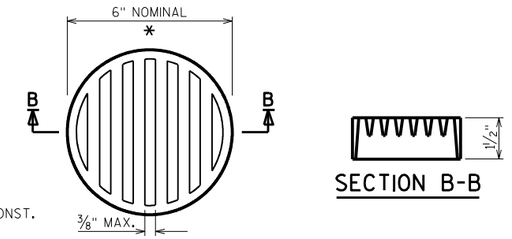
WING 1 SECTION



WING 2 ELEVATION



WING 2 SECTION



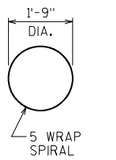
SECTION B-B

RODENT SHIELD DETAIL

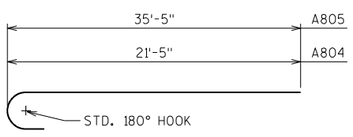
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

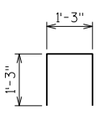
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X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



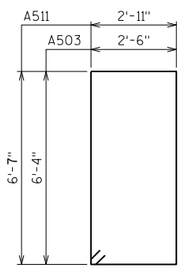
A402



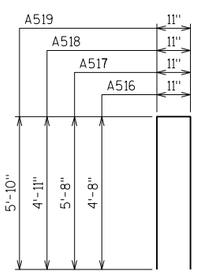
A804, A805



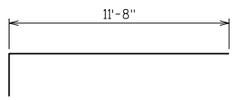
A410



A503, A511



A516, A517, A518, A519



A712

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A09) SUPPORT ABUTMENT ON 12-3/4" X 0.25-INCH CIP CONCRETE PILING, ESTIMATED 80 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE. CONICAL PILE POINTS REQUIRED.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. (SEE THIS SHEET FOR DETAILS.)

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

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STRUCTURE B-66-188

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SOUTH ABUTMENT DETAILS

SHEET 6

239

8

8

SCALE = 2

STATE PROJECT NUMBER

1100-00-73

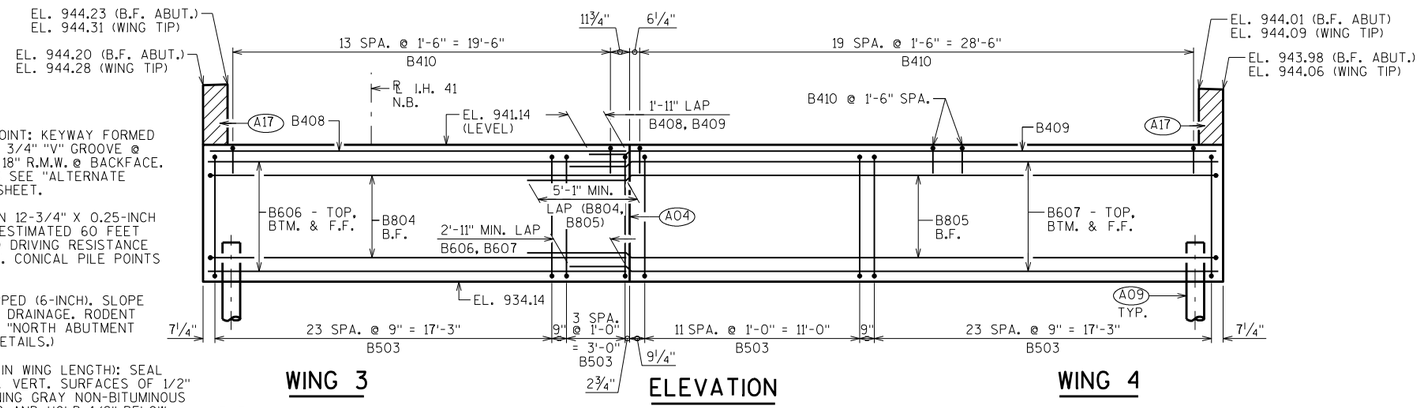
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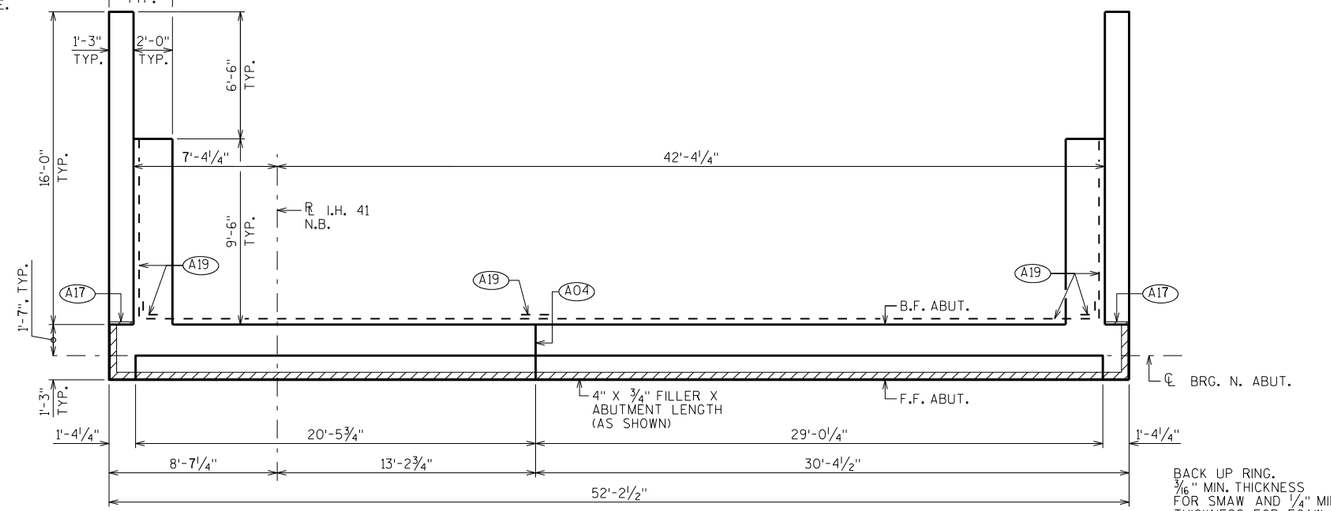


WING 3

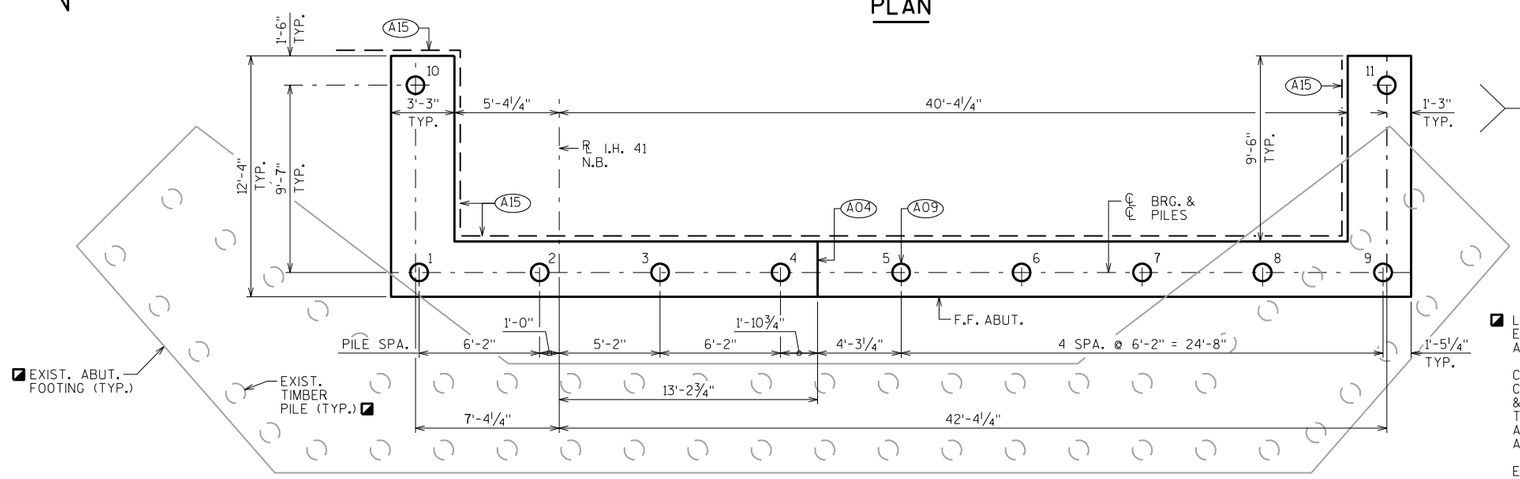
ELEVATION

(LOOKING NORTH)

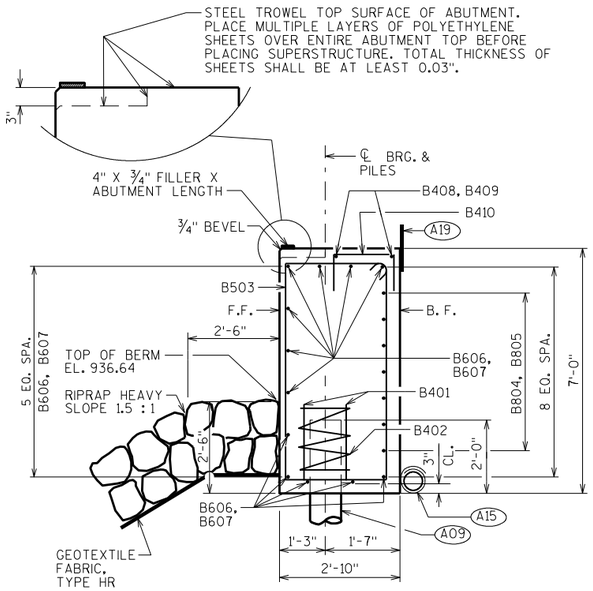
WING 4



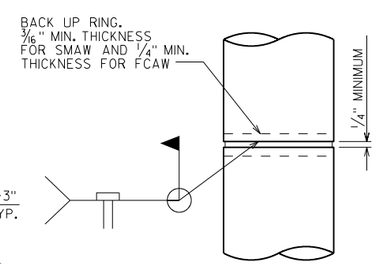
PLAN



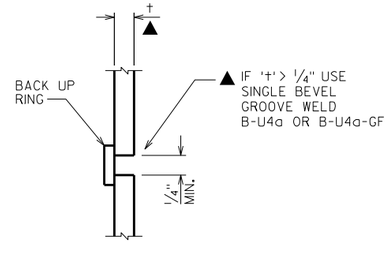
PILE PLAN



SECTION THRU BODY



CAST-IN-PLACE 'PIPE PILE'



C.I.P. PILE WELD DETAIL

PILE DETAILS

◪ LOCATION OF EXISTING ABUT./FOOTING & EXISTING TIMBER PILES ARE APPROXIMATE, AND BASED ON THE ORIGINAL PLANS.

CONTRACTOR IS TO DETERMINE WHERE A CONFLICT MAY OCCUR BETWEEN NEW PILING & EXISTING TIMBER PILES. REMOVE EXISTING TIMBER PILES IN CONFLICT NEW PILES IN ACCORDANCE WITH THE SPECIAL PROVISION, AND AS DIRECTED BY THE ENGINEER.

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STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

DRAWN BY ARC | PLANS CK'D. MJL

NORTH ABUTMENT

SHEET 7

240

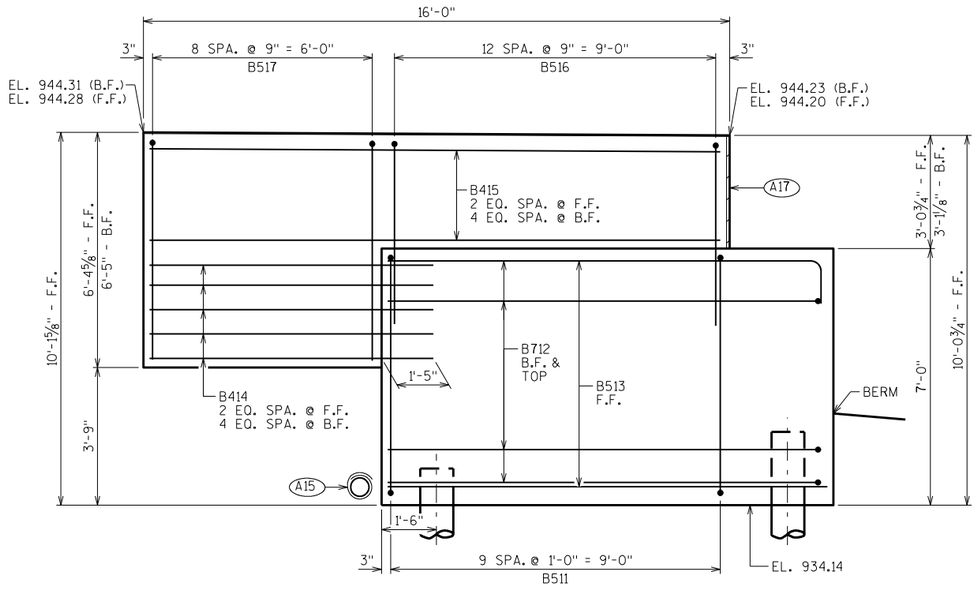
SCALE = 3.75

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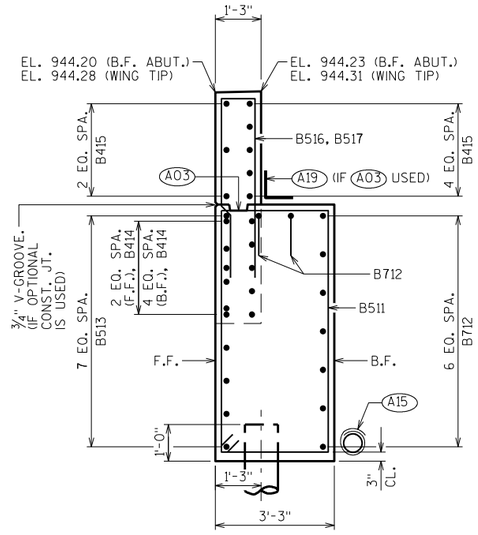
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STATE PROJECT NUMBER

1100-00-73



WING 3 ELEVATION

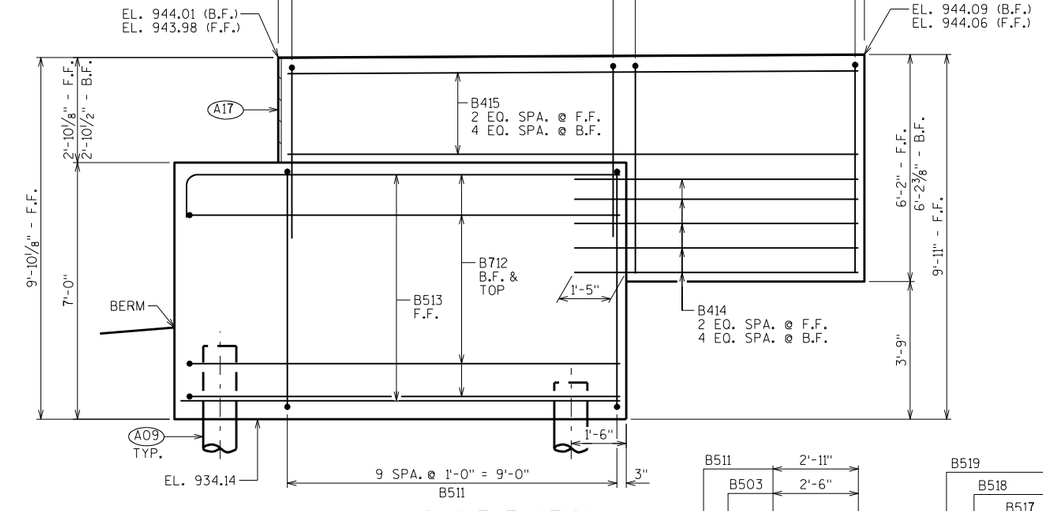


WING 3 SECTION

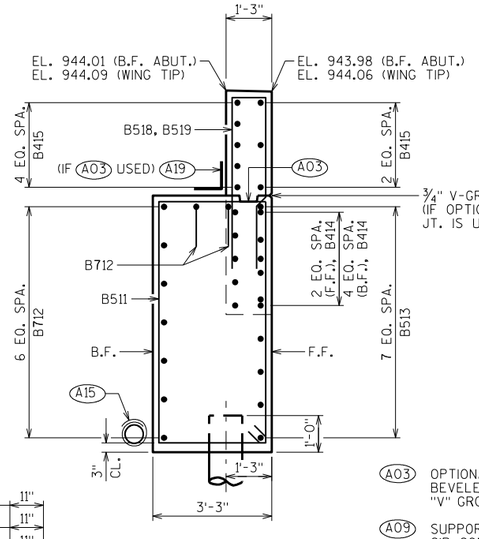
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

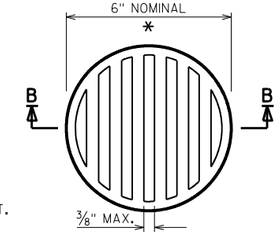
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
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B607		12	33'-4"			BODY-HORIZ.-TOP, F.F. & BTM.-WING 4 SIDE
B408		2	21'-4"			BODY-HORIZ.-TOP-WING 3 SIDE
B409		2	32'-2"			BODY-HORIZ.-TOP-WING 4 SIDE
B410		34	3'-7"	X		BODY-VERT.-TOP
B511	X	20	19'-8"	X		WING 3&4-STIRRUPS
B712	X	18	12'-8"	X		WING 3&4-HORIZ.-B.F. & TOP
B513	X	16	12'-0"			WING 3&4-HORIZ.-F.F.
B414	X	16	7'-9"			WING 3&4-HORIZ.-F.F. & B.F.-UPPER
B415	X	16	15'-7"			WING 3&4-HORIZ.-F.F. & B.F.-UPPER
B516	X	13	10'-8"	X		WING 3-VERT.-UPPER
B517	X	9	12'-8"	X		WING 3-VERT.-UPPER
B518	X	13	10'-2"	X		WING 4-VERT.-UPPER
B519	X	9	12'-2"	X		WING 4-VERT.-UPPER



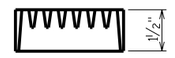
WING 4 ELEVATION



WING 4 SECTION



RODENT SHIELD DETAIL

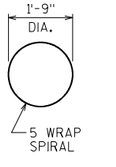


SECTION B-B

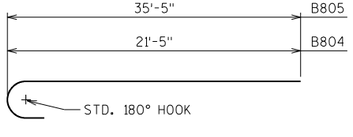
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

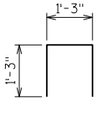
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X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



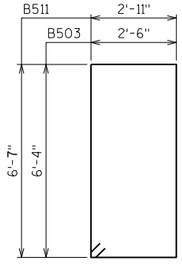
B402



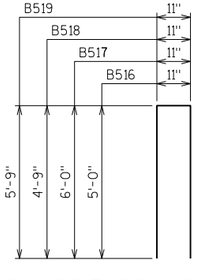
B804, B805



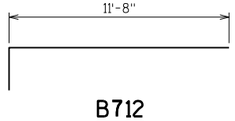
B410



B503, B511



B516, B517, B518, B519



B712

A03 OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

A09 SUPPORT ABUTMENT ON 12-3/4" X 0.25-INCH CIP CONCRETE PILING, ESTIMATED 60 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE. CONICAL PILE POINTS REQUIRED.

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. (SEE THIS SHEET FOR DETAILS.)

A17 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

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NORTH ABUTMENT DETAILS

SHEET 8

241

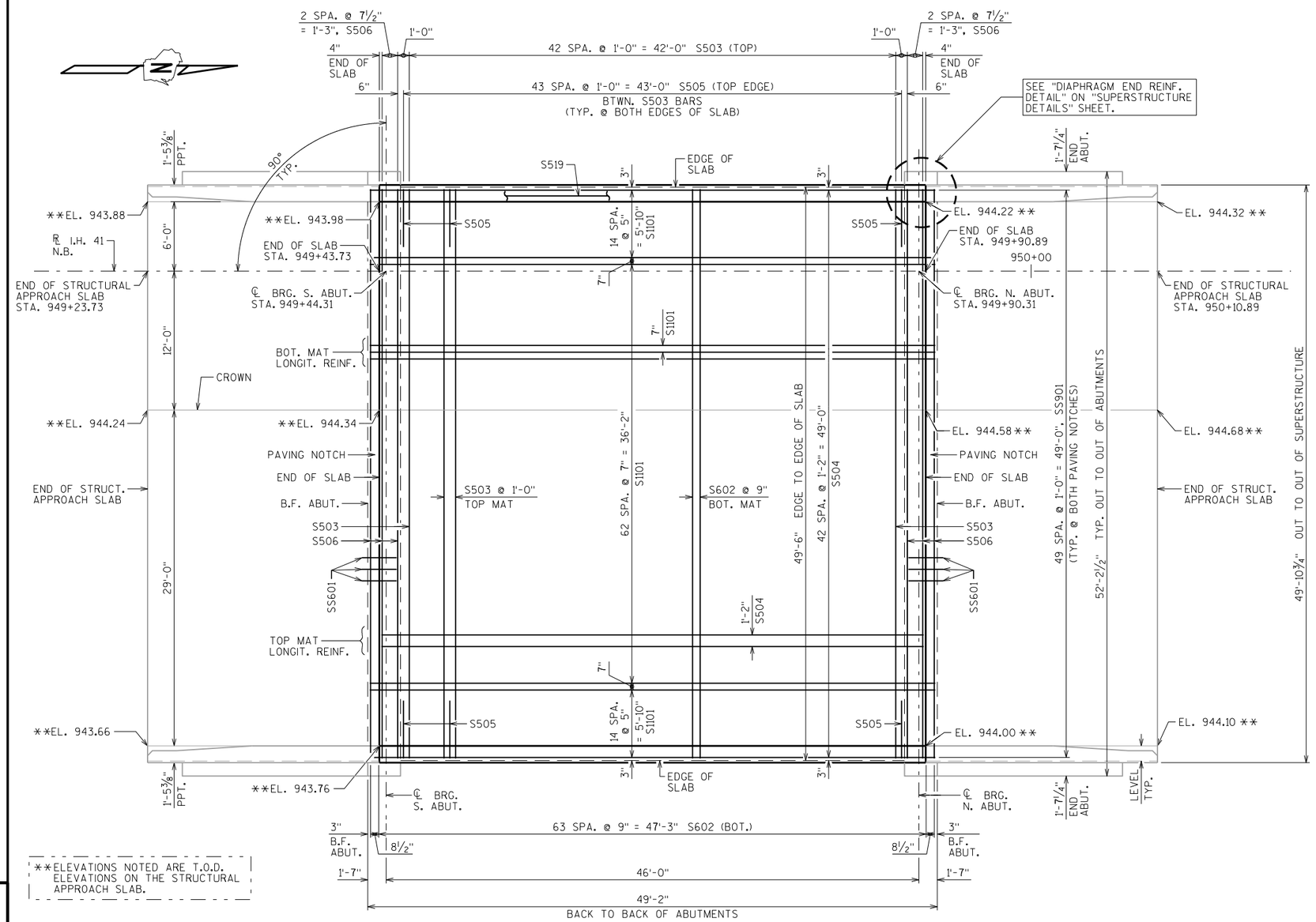
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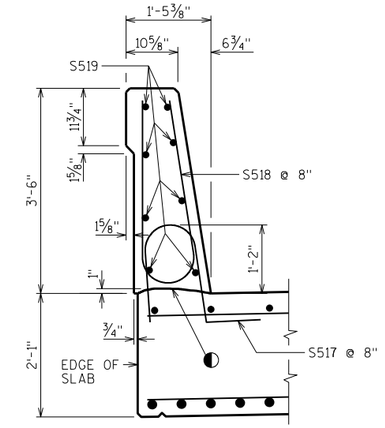
STATE PROJECT NUMBER

1100-00-73



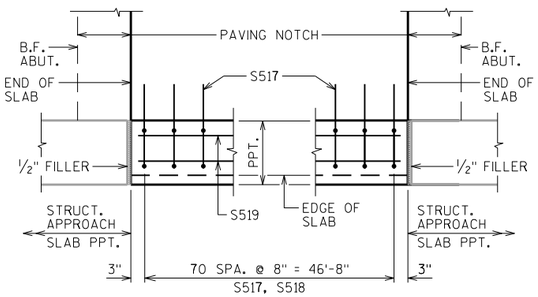
**ELEVATIONS NOTED ARE T.O.D. ELEVATIONS ON THE STRUCTURAL APPROACH SLAB.

PLAN



SECTION THRU PARAPET ON BRIDGE

◐ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN



PARTIAL PLAN DETAIL OF PARAPET REINF.

(SHOWING EAST CORNERS OF S. & N. ABUTMENTS. DETAIL TYP. OF BOTH EDGES OF SUPERSTRUCTURE)

NOTES

TOP TRANVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE (+).

PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED, EXCEPT FOR STAGED CONSTRUCTION.

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. (SEE "SUPERSTRUCTURE CROSS SECTIONS" SHEET FOR CAMBER VALUES.)

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

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SUPERSTRUCTURE

SHEET 9

242

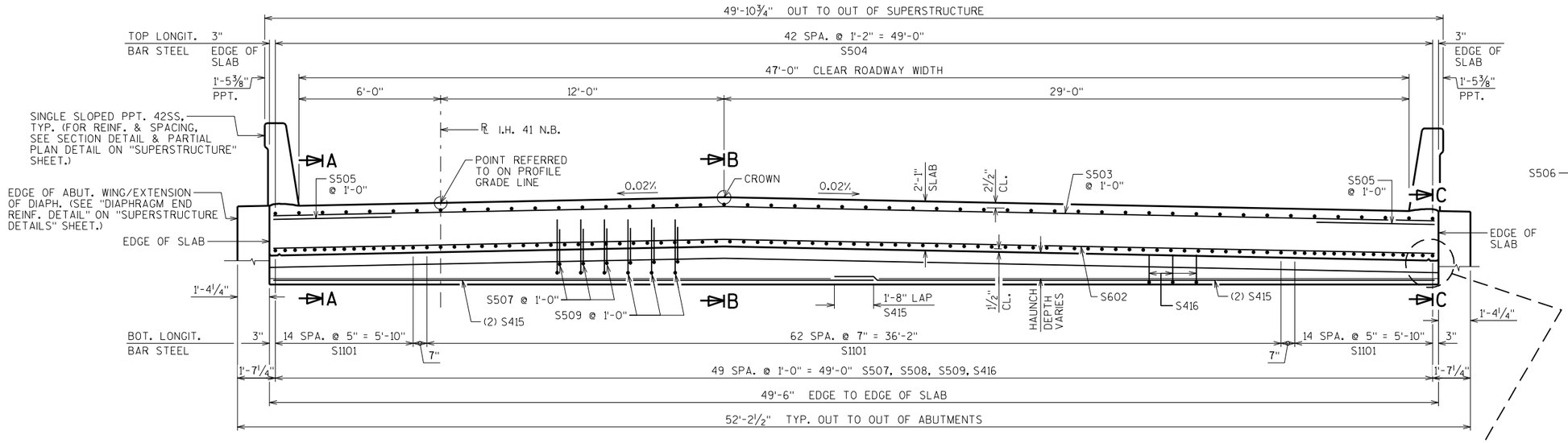
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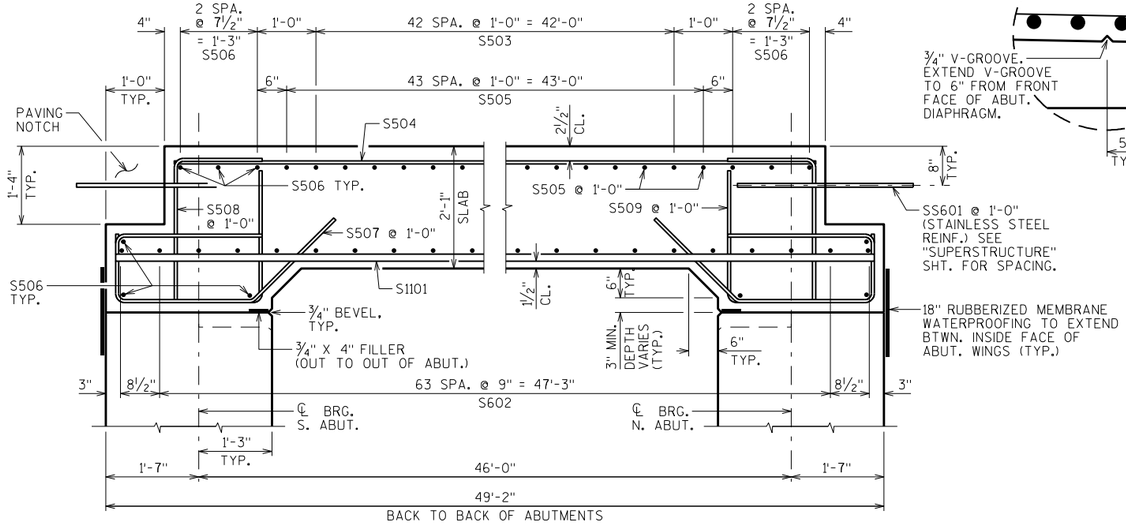
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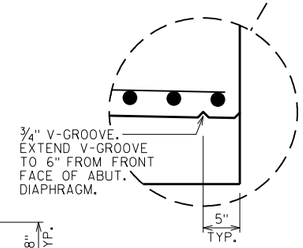
STATE PROJECT NUMBER

1100-00-73



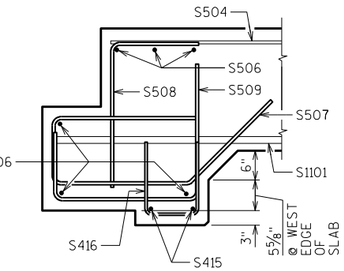
CROSS SECTION THRU ROADWAY LOOKING UPSTATION





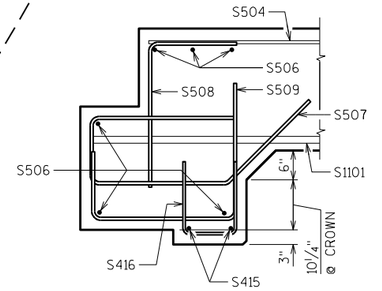
SS601 @ 1'-0" (STAINLESS STEEL REINF.) SEE "SUPERSTRUCTURE" SHT. FOR SPACING.

18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND BTWN. INSIDE FACE OF ABUT. WINGS (TYP.)



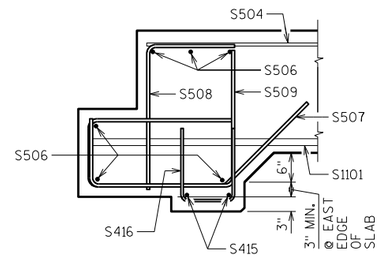
SECTION A-A

(SS601 BARS NOT SHOWN)



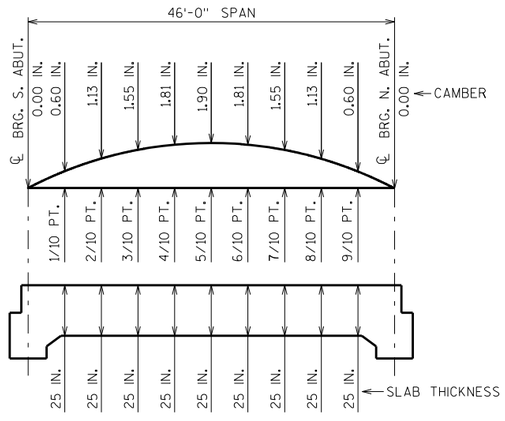
SECTION B-B

(SS601 BARS NOT SHOWN)



SECTION C-C

(SS601 BARS NOT SHOWN)



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

PARAPETS SHOWN ABOVE THE HORIZ. CONST. JT. SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR CENTERLINE FOLLOW THIS PROCEDURE:

	TOP OF DECK ELEVATION AT FINAL GRADE
LESS	SLAB THICKNESS
PLUS	CAMBER
PLUS	FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS	TOP OF SLAB FALSEWORK ELEVATION.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN.

LONGITUDINAL SECTION THRU ROADWAY

(LOOKING WEST)

NOTE: S415 & S416 BARS NOT SHOWN IN "LONGITUDINAL SECTION THRU ROADWAY." SEE SECTIONAL DETAILS CALLED OUT IN "CROSS SECTION THRU ROADWAY LOOKING UPSTATION."

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

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SUPERSTRUCTURE CROSS SECTIONS

SHEET 10

243

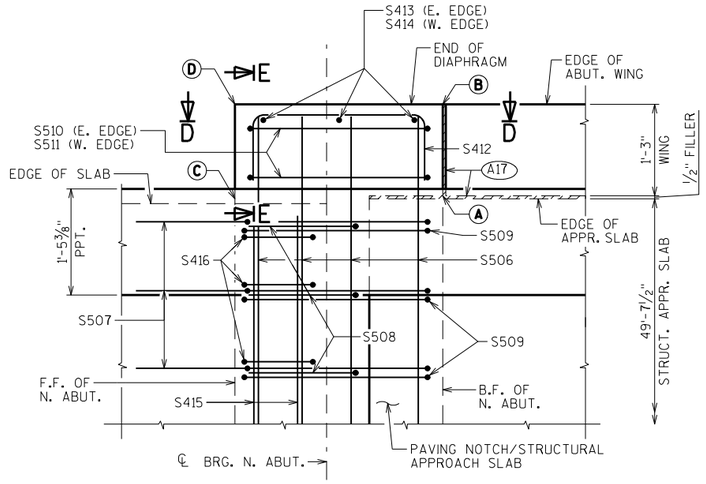
SCALE = 5

8

8

STATE PROJECT NUMBER

1100-00-73



DIAPHRAGM END REINF. DETAIL

N.W. CORNER (WING#3) SHOWN. ALL OTHER CORNERS SIMILAR.
(LONGIT. & TRANS. SLAB REINF. NOT SHOWN FOR CLARITY)

TOP OF DIAPHRAGM ELEVATION TABLE

	B.F. ABUT.		F.F. ABUT.	
	EL. (A)	EL. (B)	EL. (C)	EL. (D)
WING#1	943.76	943.73	943.77	943.73
WING#2	943.98	943.95	943.99	943.95
WING#3	944.23	944.20	944.21	944.18
WING#4	944.01	943.98	943.99	943.96

LEGEND FOR ABOVE TABLE:

EL. (A) = ELEVATION @ GUTTER/B.F. ABUT.

EL. (B) = ELEVATION @ END OF DIAPH./B.F. ABUT.

EL. (C) = ELEVATION @ GUTTER/F.F. ABUT.

EL. (D) = ELEVATION @ END OF DIAPH./F.F. ABUT.

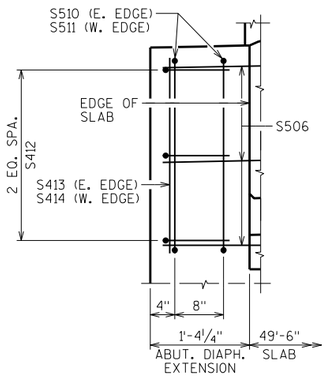
(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

BILL OF BARS

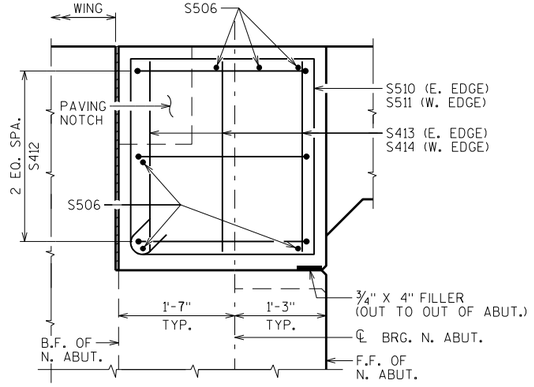
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S1101	X	93	48'-8"			SLAB-LONGIT.-BOT.
S602	X	66	49'-2"			SLAB-TRANS.-BOT.
S503	X	43	49'-2"			SLAB-TRANS.-TOP
S504	X	43	46'-10"			SLAB-LONGIT.-TOP
S505	X	88	5'-0"			SLAB-TRANS.-TOP-EDGE OF SLAB
S506	X	12	51'-10"			SLAB/ABUT. DIAPHRAGMS-HORIZ.-TOP & BOT.
S507	X	100	7'-9"	X		SLAB/ABUT. DIAPHRAGMS-VERT.
S508	X	100	3'-10"	X		SLAB/ABUT. DIAPHRAGMS-VERT.
S509	X	100	5'-9"	X		SLAB/ABUT. DIAPHRAGMS-VERT.
S510	X	4	10'-8"	X		STIRRUP-DIAPHRAGM ENDS-EAST-WING 1&4
S511	X	4	11'-0"	X		STIRRUP-DIAPHRAGM ENDS-WEST-WING 2&3
S412	X	12	4'-0"	X		DIAPHRAGM ENDS-HORIZ.
S413	X	6	2'-5"			DIAPHRAGM ENDS-VERT.-EAST-WING 1&4
S414	X	6	2'-7"			DIAPHRAGM ENDS-VERT.-WEST-WING 2&3
S415	X	8	25'-5"			DIAPHRAGMS-TRANS.-HORIZ.
S416	X	100	3'-3"	X		DIAPHRAGMS-VERT.
S517	X	142	4'-5"	X		SLAB/PARAPET-VERT.
S518	X	142	6'-8"	X		PARAPET-VERT.
S519	X	16	46'-10"			PARAPET-HORIZ.
S5601		100	3'-0"			STRUCTURE SLAB TO APPROACH SLAB

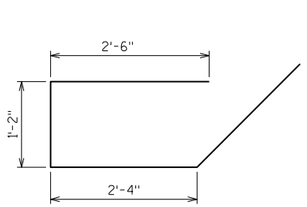
STAINLESS STEEL BAR. SEE "SUPERSTRUCTURE" & "SUPERSTRUCTURE CROSS SECTIONS" SHEETS FOR SPACING & LOCATION.



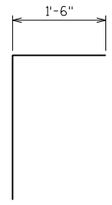
SECTION E-E



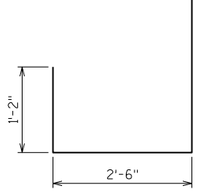
SECTION D-D



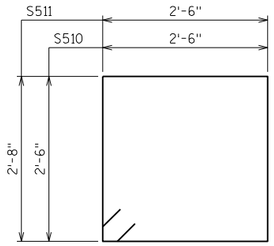
S507



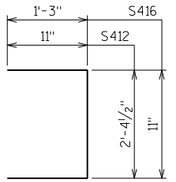
S508



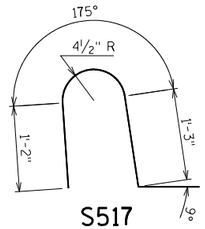
S509



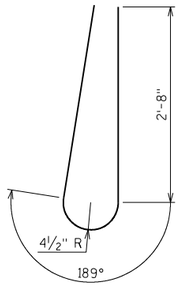
S510, S511



S412, S416



S517



S518

TOP OF SLAB ELEVATIONS

	℄ BRG. S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ BRG. N. ABUT.
WEST GUTTER	943.99	944.01	944.03	944.06	944.08	944.10	944.13	944.15	944.17	944.19	944.22
CROWN POINT	944.35	944.37	944.39	944.42	944.44	944.46	944.49	944.51	944.53	944.55	944.58
EAST GUTTER	943.77	943.79	943.81	943.84	943.86	943.88	943.91	943.93	943.95	943.97	944.00

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

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SUPERSTRUCTURE DETAILS

SHEET 11

244

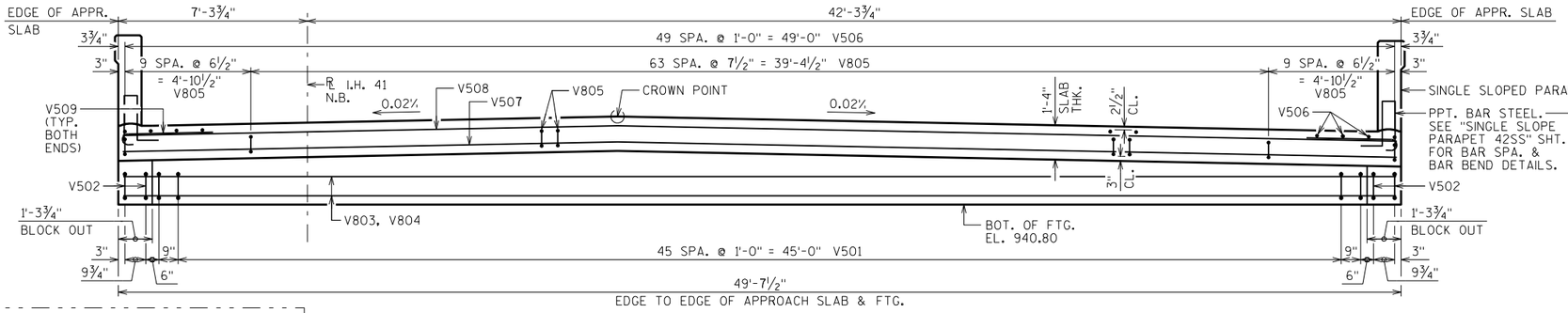
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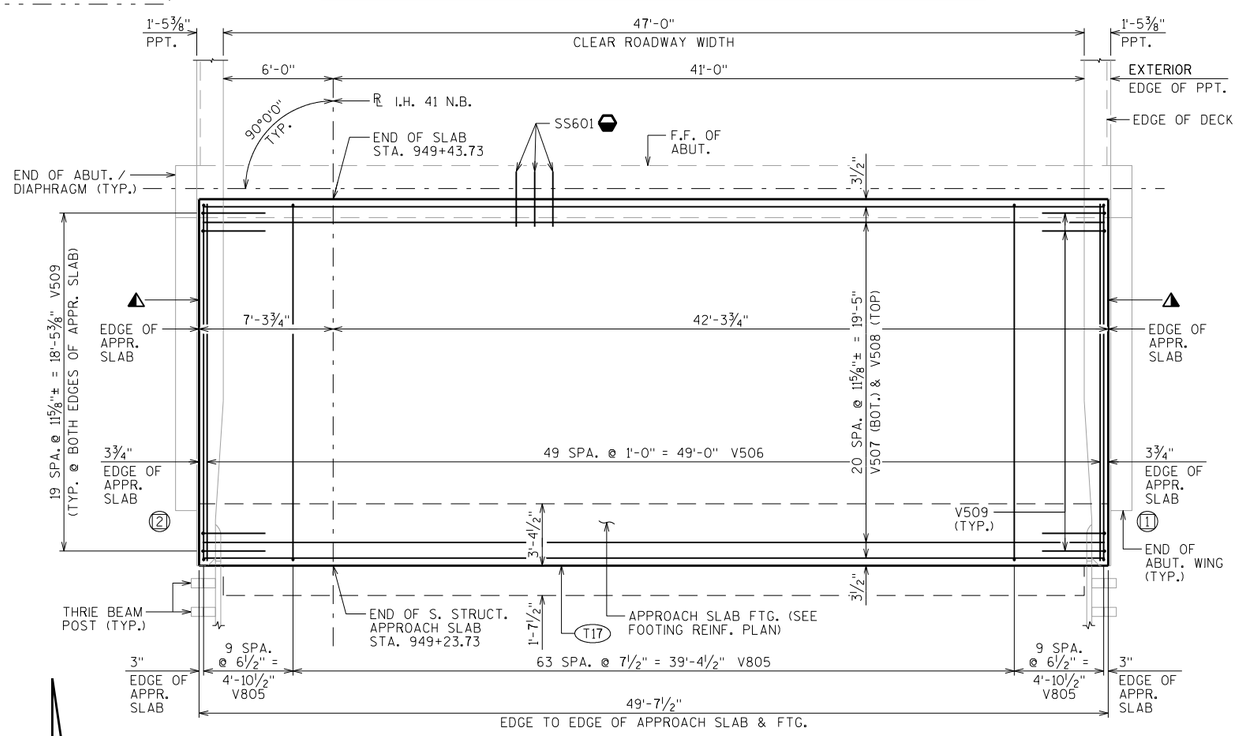
STATE PROJECT NUMBER

1100-00-73



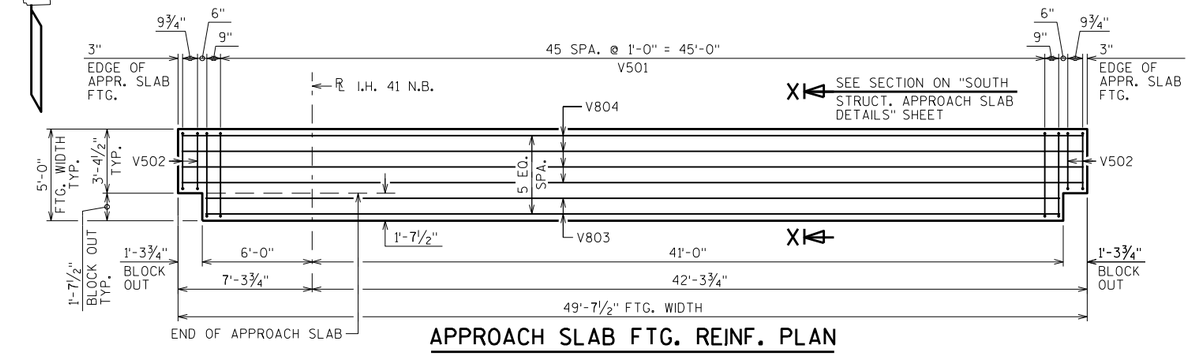
NOTE: SEE "SUPERSTRUCTURE" SHEET FOR ELEVATIONS OF THE TOP OF STRUCT. APPROACH SLAB.

CROSS SECTION THRU APPROACH SLAB - LOOKING NORTH



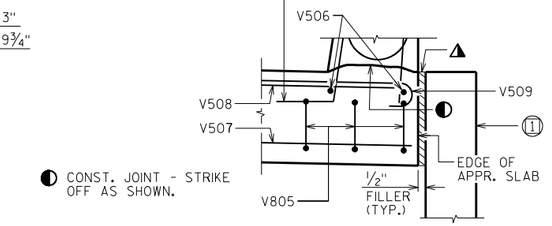
APPROACH SLAB REINF. PLAN

SEE "SUPERSTRUCTURE" SHEET FOR BAR SPACING.



APPROACH SLAB FTG. REINF. PLAN

T17 1½" EXPANSION FILLER.



TYP. SECTION ℄ EDGE OF APPROACH SLAB

(WING 1 SHOWN. WING 2 SIMILAR)

▲ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(n) INDICATES WING NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

DRAWN BY ARC | PLANS CK'D. MJL

SOUTH STRUCT. APPROACH SLAB

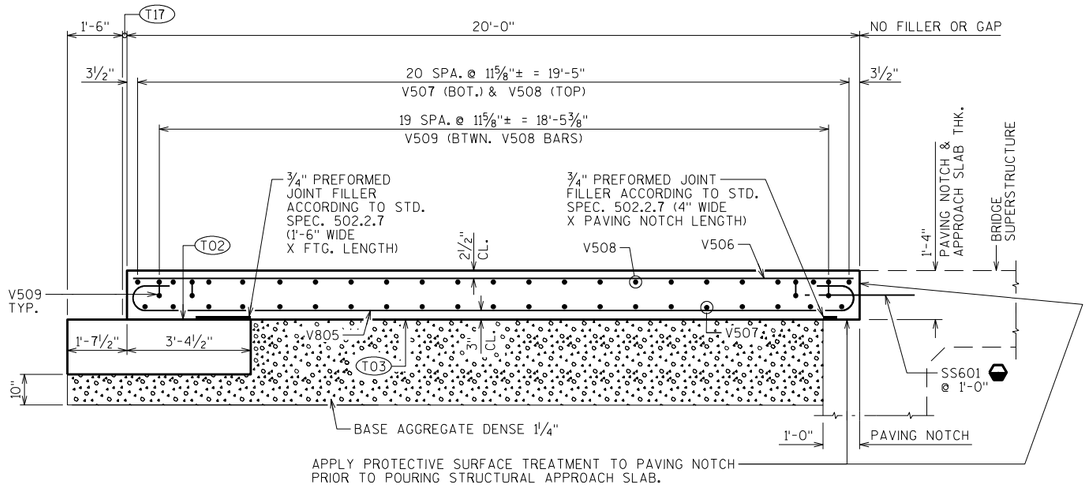
SHEET 12

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SCALE = 4

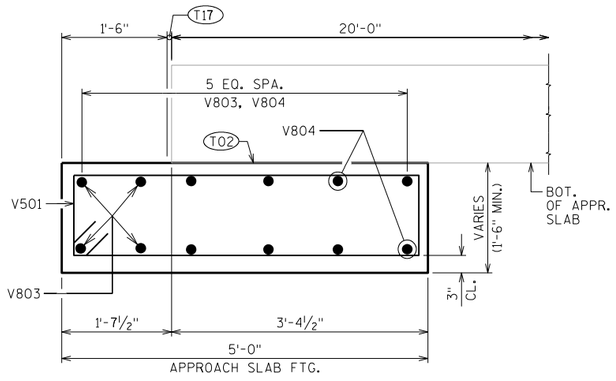
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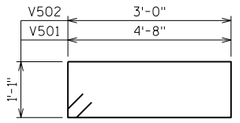


SECTION THRU STRUCTURAL APPROACH SLAB

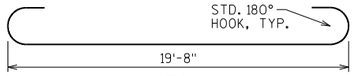
SEE "SUPERSTRUCTURE" SHEET FOR BAR SPACING.



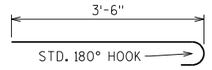
SECTION X-X



V501, V502



V805



V509

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
V501	X	48	12'-2"	X	FOOTING-STIRRUP
V502	X	4	8'-10"	X	FOOTING-STIRRUP
V803	X	4	46'-8"		FOOTING-TRANS.-BOT. & TOP
V804	X	8	49'-3"		FOOTING-TRANS.-BOT. & TOP
V805	X	82	21'-6"	X	SLAB-LONGIT.-BOT.
V506	X	50	19'-8"		SLAB-LONGIT.-TOP
V507	X	21	49'-3"		SLAB-TRANS.-BOT.
V508	X	21	49'-3"		SLAB-TRANS.-TOP
V509	X	40	4'-1"	X	SLAB-TRANS.-TOP-EDGE

(T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.

(T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.

(T17) 1½" EXPANSION FILLER.

STATE PROJECT NUMBER

1100-00-73

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

DRAWN BY ARC | PLANS CK'D. MJL

SOUTH STRUCT. APPROACH SLAB DETAILS

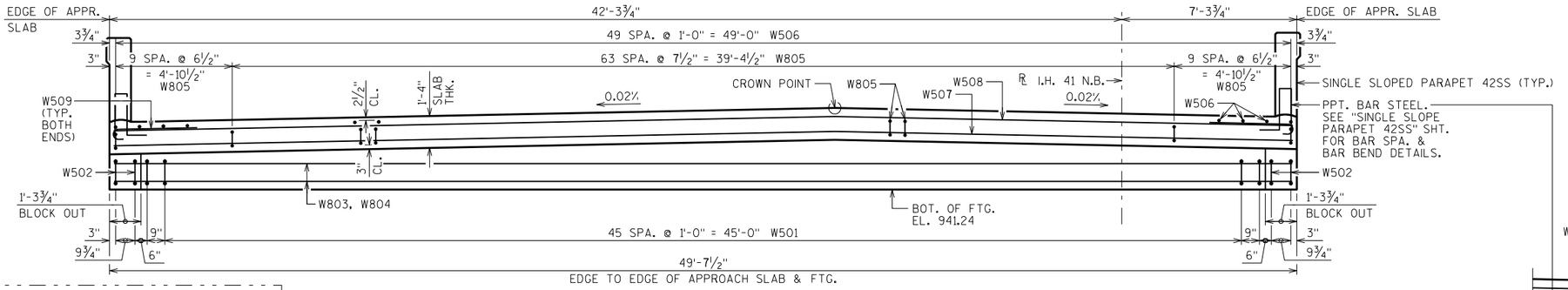
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SCALE = 3

STATE PROJECT NUMBER

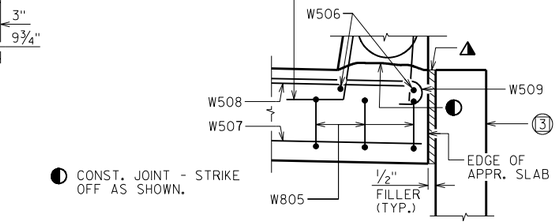
1100-00-73



NOTE: SEE "SUPERSTRUCTURE" SHEET FOR ELEVATIONS OF THE TOP OF STRUCT. APPROACH SLAB.

CROSS SECTION THRU APPROACH SLAB - LOOKING SOUTH

(T17) 1½" EXPANSION FILLER.

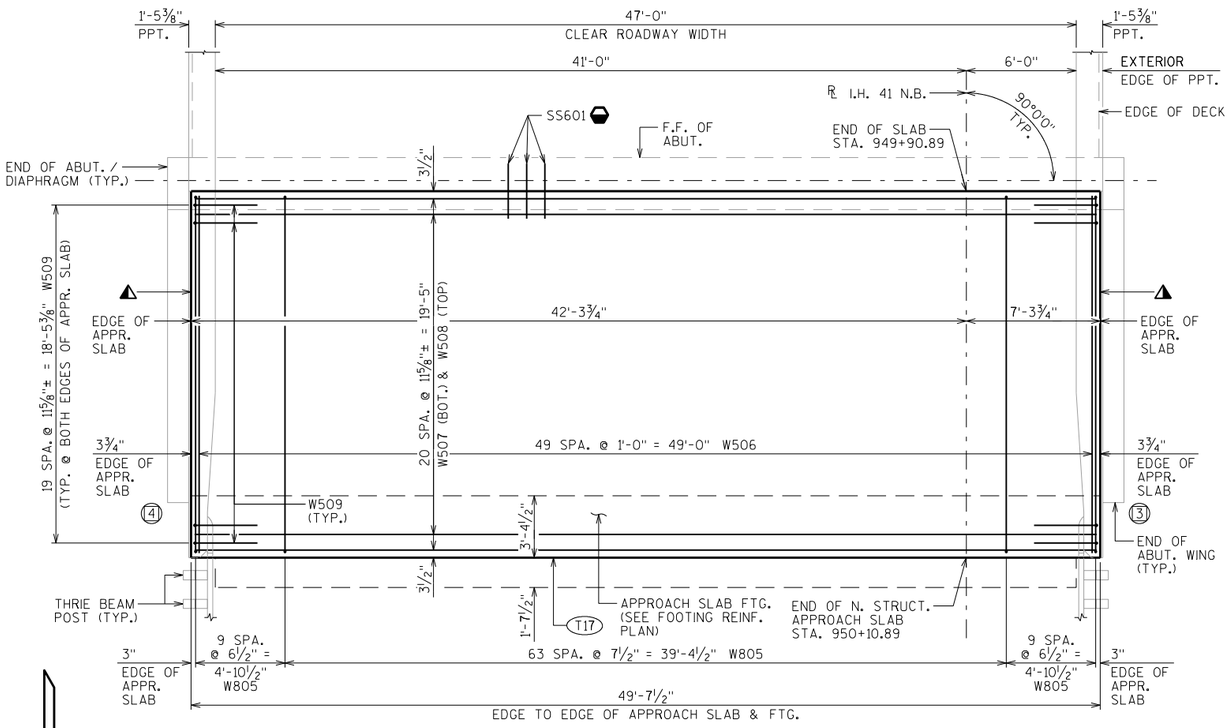


TYP. SECTION ℄ EDGE OF APPROACH SLAB

(WING 3 SHOWN. WING 4 SIMILAR)

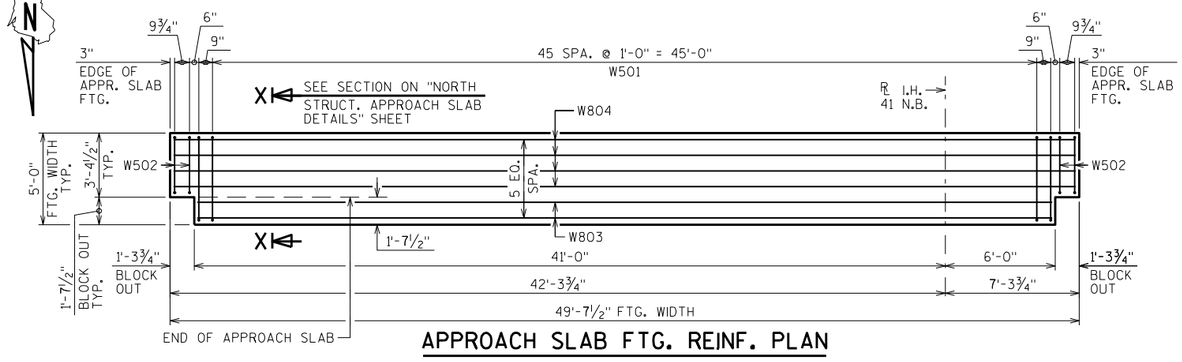
▲ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(13) INDICATES WING NUMBER



APPROACH SLAB REINF. PLAN

SEE "SUPERSTRUCTURE" SHEET FOR BAR SPACING.



APPROACH SLAB FTG. REINF. PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

DRAWN BY ARC | PLANS CK'D. MJL

NORTH STRUCT. APPROACH SLAB

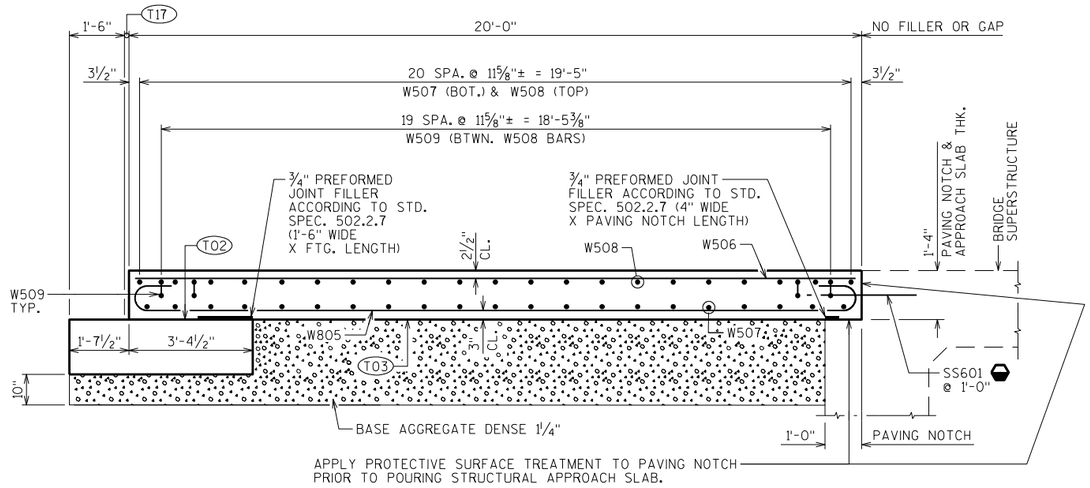
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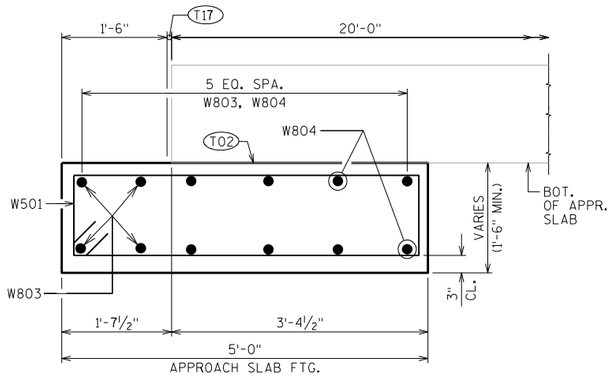
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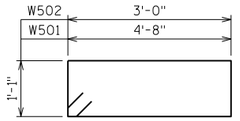


SECTION THRU STRUCTURAL APPROACH SLAB

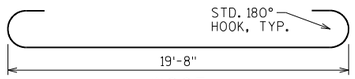
SEE "SUPERSTRUCTURE" SHEET FOR BAR SPACING.



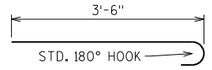
SECTION X-X



W501, W502



W805



W509

STATE PROJECT NUMBER

1100-00-73

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
W501	X	48	12'-2"	X	FOOTING-STIRRUP
W502	X	4	8'-10"	X	FOOTING-STIRRUP
W803	X	4	46'-8"		FOOTING-TRANS.-BOT. & TOP
W804	X	8	49'-3"		FOOTING-TRANS.-BOT. & TOP
W805	X	82	21'-6"	X	SLAB-LONGIT.-BOT.
W506	X	50	19'-8"		SLAB-LONGIT.-TOP
W507	X	21	49'-3"		SLAB-TRANS.-BOT.
W508	X	21	49'-3"		SLAB-TRANS.-TOP
W509	X	40	4'-1"	X	SLAB-TRANS.-TOP-EDGE

(T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.

(T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.

(T17) 1½" EXPANSION FILLER.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

DRAWN BY ARC | PLANS CK'D. MJL

NORTH STRUCT. APPROACH SLAB DETAILS

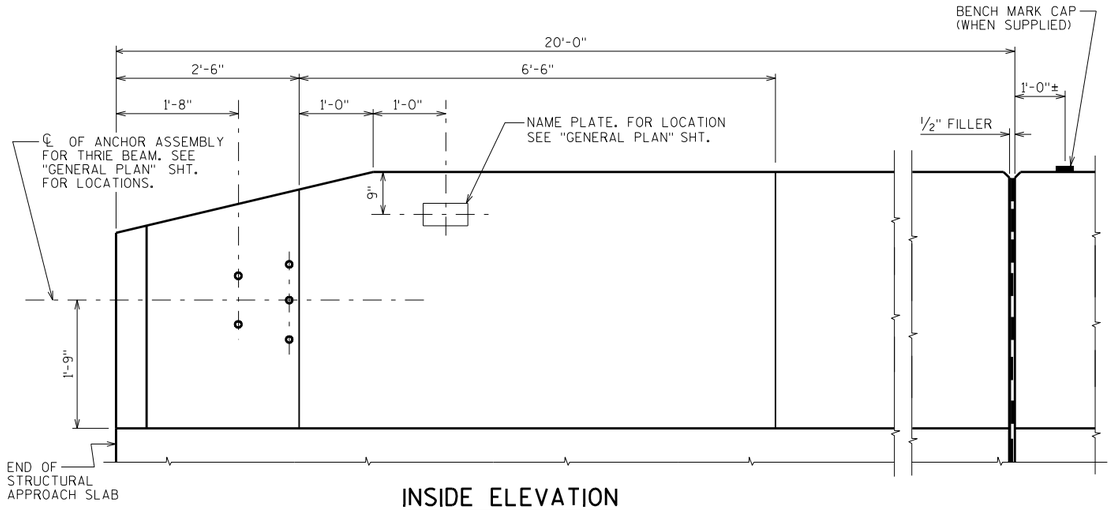
SHEET 15

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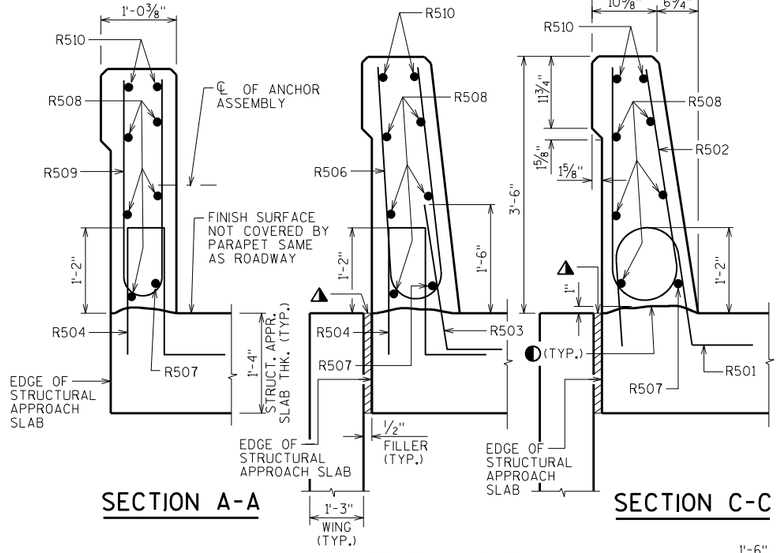
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STATE PROJECT NUMBER

1100-00-73



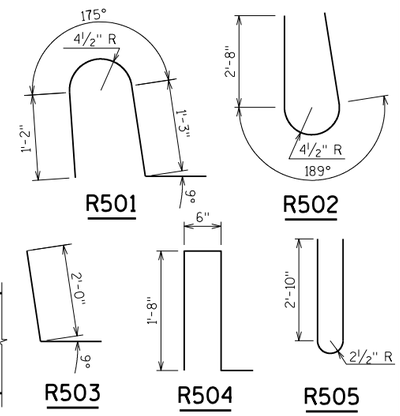
INSIDE ELEVATION

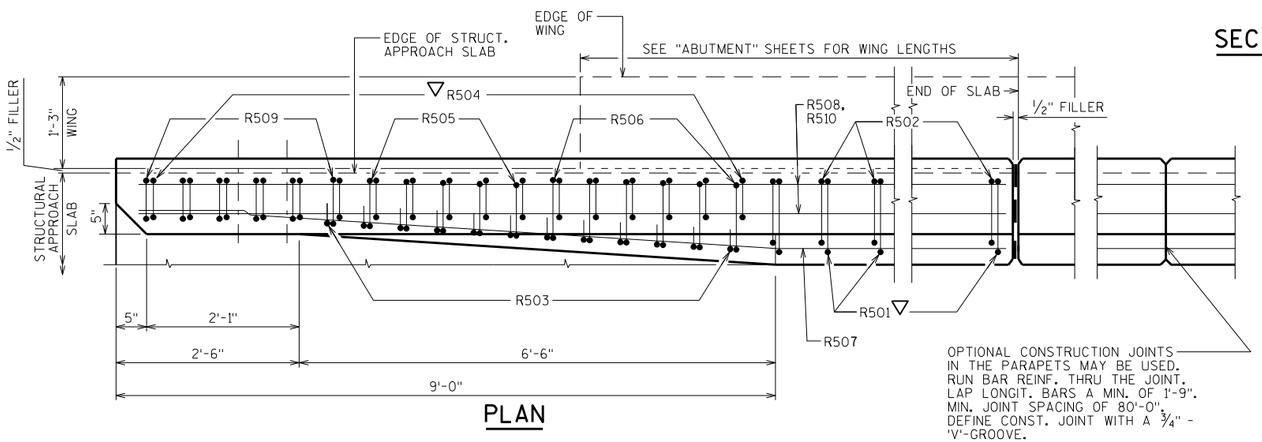


SECTION A-A

SECTION B-B

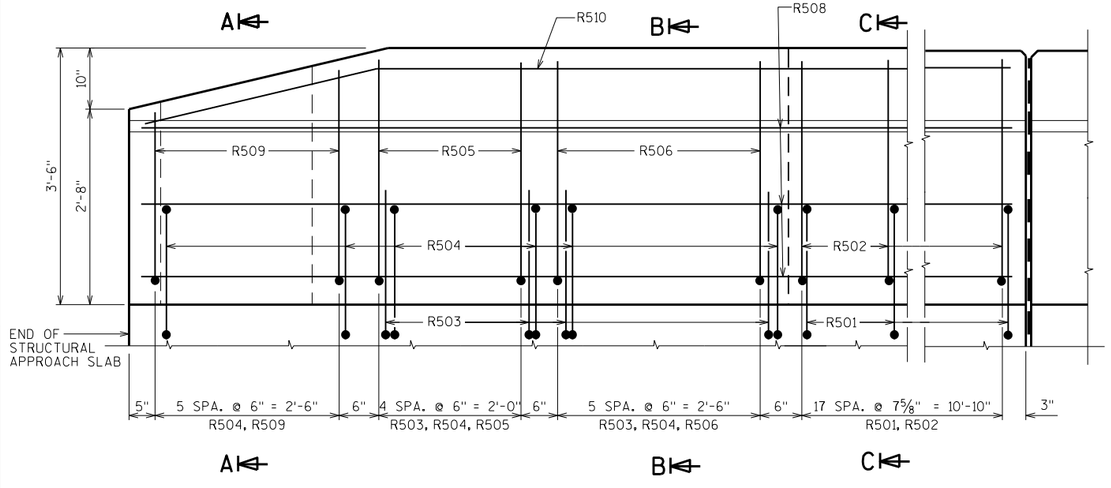
SECTION C-C





PLAN

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V'-GROOVE.



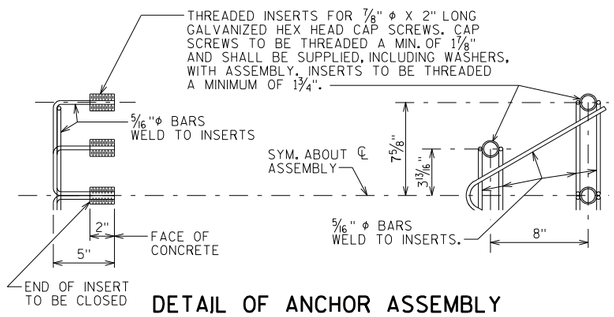
OUTSIDE ELEVATION

BILL OF BARS

FOR STRUCTURAL APPROACH SLAB PARAPETS

BAR MARK	COAT	SOUTH ABUT.	NORTH ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	36	36	4'-5"	X		PARAPET-VERT.
R502	X	36	36	6'-8"	X		PARAPET-VERT.
R503	X	22	22	2'-9"	X		PARAPET-VERT.
R504	X	34	34	4'-4"	X		PARAPET-VERT.
R505	X	10	10	6'-5"	X		PARAPET-VERT.
R506	X	12	12	6'-6"	X		PARAPET-VERT.
R507	X	2	2	19'-6"	X		PARAPET-HORIZ.
R508	X	10	10	19'-6"			PARAPET-HORIZ.
R509	X	12	12	5'-5"	X	❀	PARAPET-VERT.
R510	X	4	4	19'-6"	X		PARAPET-HORIZ.

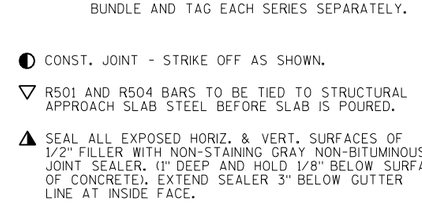
❀ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

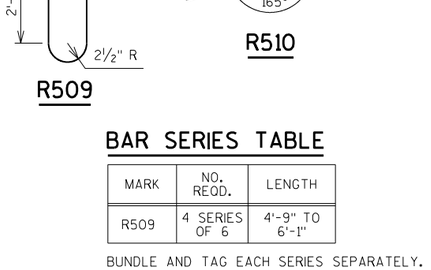


DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.





BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▽ R501 AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE SLAB IS POURED.

◭ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

DRAWN BY ARC | PLANS CK'D. MJL

SINGLE SLOPE PARAPET 42SS

SHEET 16

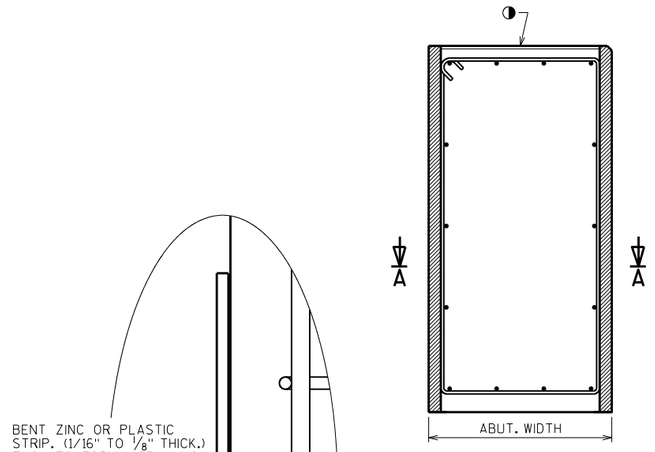
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8

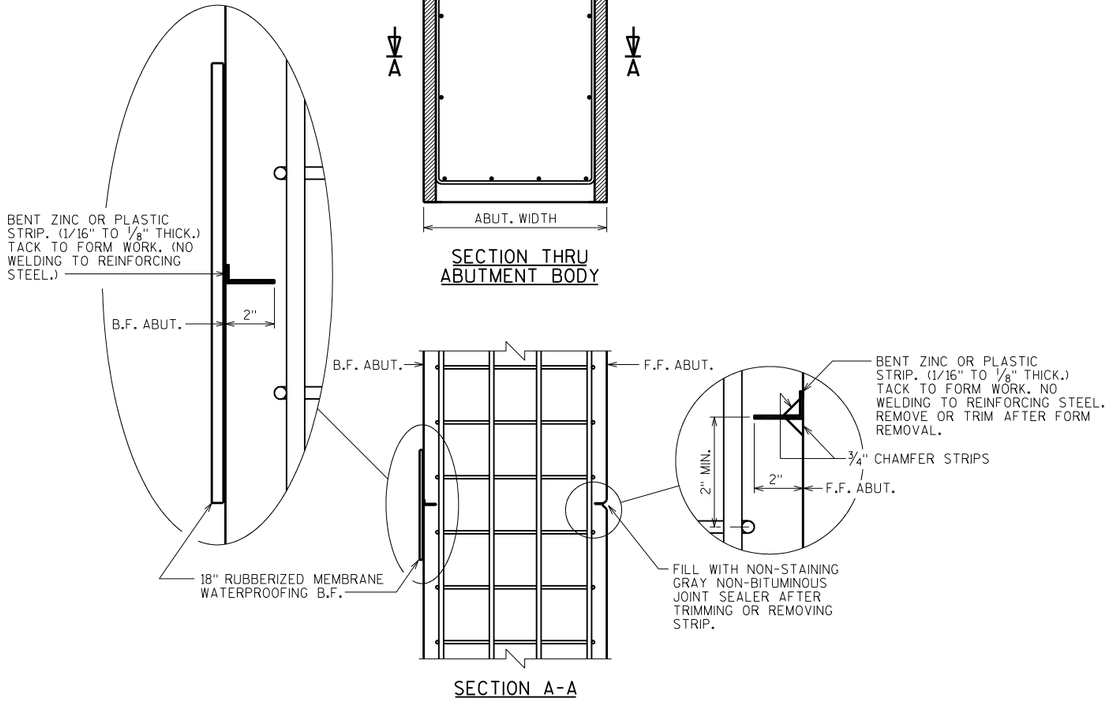
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SCALE = 1

STATE PROJECT NUMBER
1100-00-73



SECTION THRU ABUTMENT BODY



SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

SAW CUTTING THE CONSTRUCTION JOINT IS NOT ALLOWED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-188

DRAWN BY ARC | PLANS CK'D. MJL

ALTERNATE CONSTRUCTION JOINT

SHEET 17

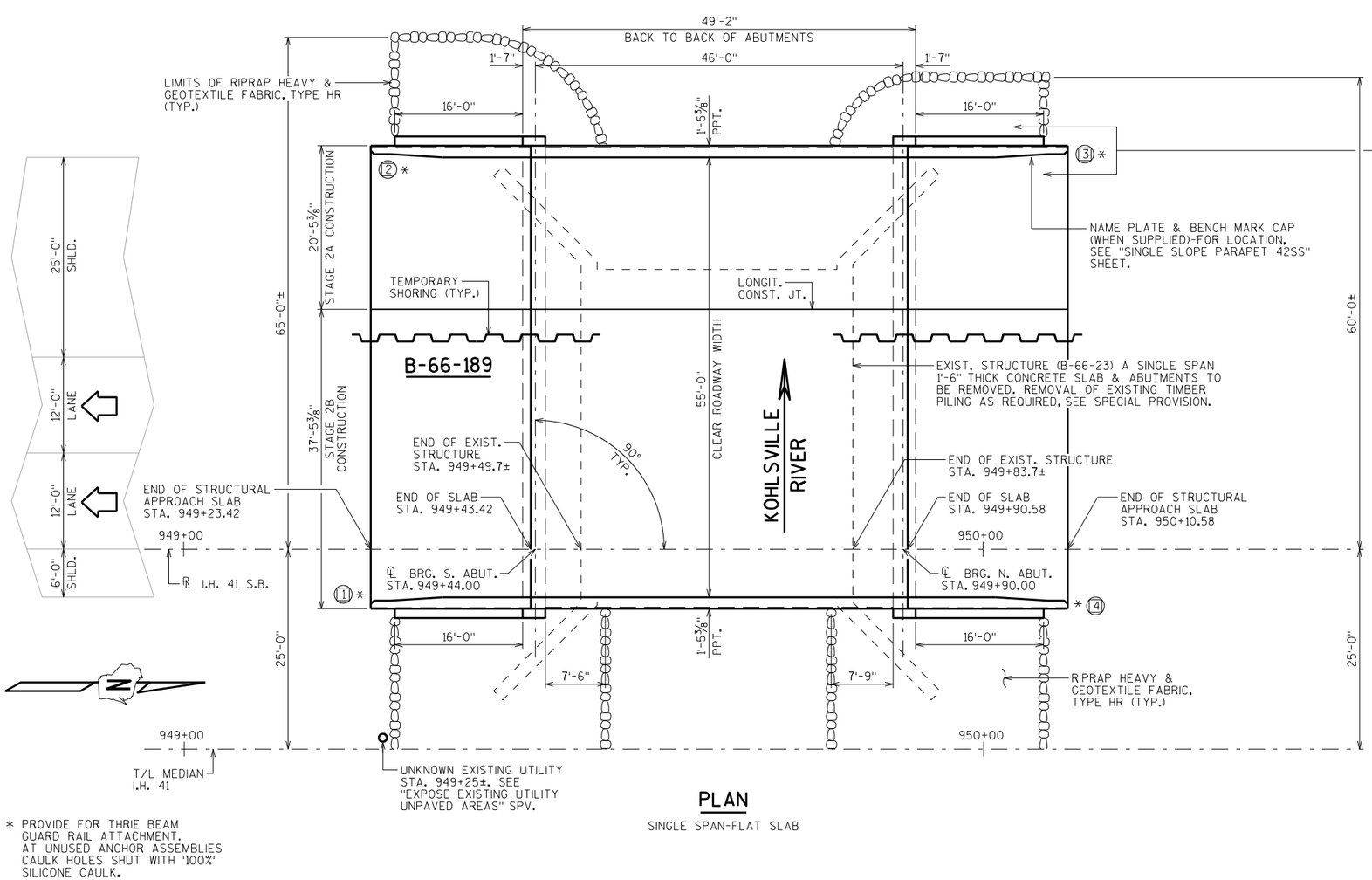
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8

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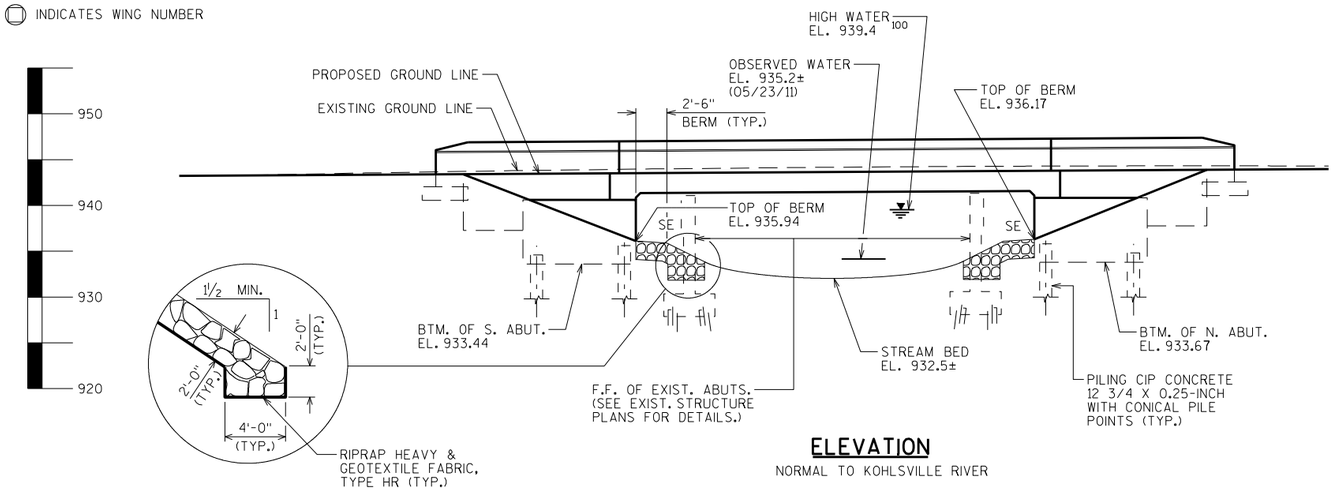


PLAN

SINGLE SPAN-FLAT SLAB

* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT. AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH '100%' SILICONE CAULK.

(n) INDICATES WING NUMBER



ELEVATION

NORMAL TO KOHLSVILLE RIVER

DESIGN DATA

LIVE LOAD:

DESIGN LOADING; HL-93
INVENTORY RATING FACTOR: RF = 1.59
OPERATING RATING FACTOR: RF = 2.07
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY SLAB — f'c = 4,000 P.S.I. ALL OTHER — f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON 12-3/4" X 0.25-INCH CIP CONRETE PILING. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS** PER PILE, AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. PILES ARE ESTIMATED 80 FEET LONG AT SOUTH & NORTH ABUTMENTS. CONICAL PILE POINTS ARE REQUIRED.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100} = 1200 C.F.S.
VEL. = 5.5 F.P.S.
HW. = EL. 939.4
WATERWAY AREA = 218 SQ. FT.
DRAINAGE AREA = 20 SQ. MI.
ROAD OVERTOPPING = NA
SCOUR CRITICAL CODE = 8

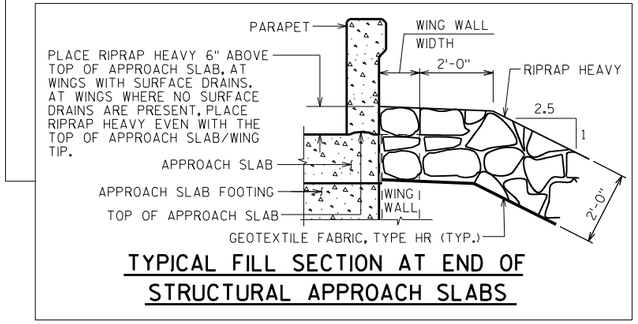
2 YEAR FREQUENCY

Q_2 = 570 C.F.S.
$HW._2$ = EL. 938.0

TRAFFIC VOLUME

I.H. 41 S.B.

A.D.T. = 13,075 (2033)
R.D.S. = 70 M.P.H.



TYPICAL FILL SECTION AT END OF STRUCTURAL APPROACH SLABS

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. CONST. STAGING DETAILS 1
4. CONST. STAGING DETAILS 2
5. SUBSURFACE EXPLORATION
6. SOUTH ABUTMENT
7. SOUTH ABUTMENT DETAILS
8. NORTH ABUTMENT
9. NORTH ABUTMENT DETAILS
10. SUPERSTRUCTURE
11. SUPERSTRUCTURE CROSS SECTIONS
12. SUPERSTRUCTURE DETAILS
13. SOUTH STRUCT. APPROACH SLAB
14. SOUTH STRUCT. APPROACH SLAB DETAILS
15. NORTH STRUCT. APPROACH SLAB
16. NORTH STRUCT. APPROACH SLAB DETAILS
17. SINGLE SLOPE PARAPET 42SS

STRUCTURE DESIGN CONTACTS:

ALEXANDER CRABTREE (608) 266-3686
LAURA SHADEWALD (608) 267-9592

STATE PROJECT NUMBER

1100-00-73

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher LLS 1/20/16
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-66-189

I.H. 41 S.B. OVER THE KOHLSVILLE RIVER

COUNTY	TOWN
WASHINGTON	WAYNE

DESIGN SPEC. AASHTO LRFD DESIGN SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ARC	MJL	ARC	MJL

GENERAL PLAN

SHEET 1 OF 17

251

I.D. 1100-00-03C

DATE: OCT. 2015

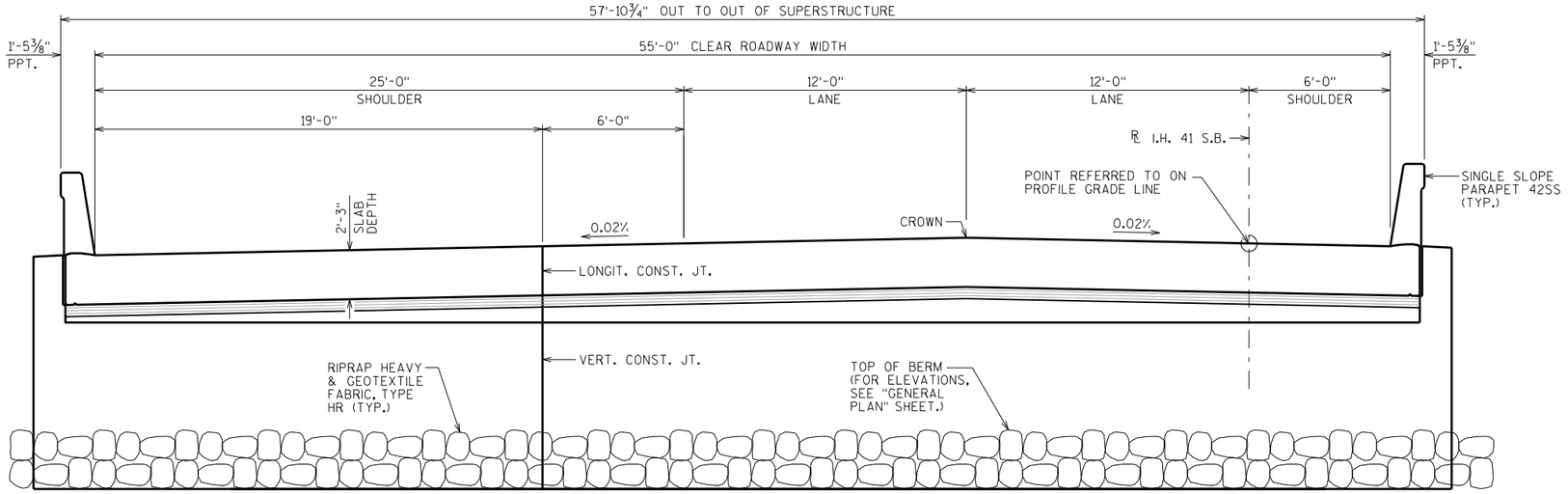
SCALE = 8

8

8

STATE PROJECT NUMBER

1100-00-73



CROSS SECTION THRU ROADWAY LOOKING NORTH

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE & THE ENTIRE TOP OF APPROACH SLAB SURFACES. PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS (INCLUDING PARAPETS ON APPROACH SLABS).

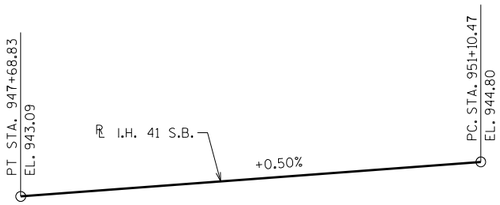
AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED & SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

BOTH PARAPETS PLACED ON TOP THE THE SLAB SHALL BE POURED PRIOR TO ALL FALSEWORK BEING RELEASED. ALL FALSEWORK IS TO BE RELEASED TOGETHER.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON THE "GENERAL PLAN" SHEET AND IN THE ABUTMENT DETAILS.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	S. STRUCT. APPROACH	SOUTH ABUTMENT	NORTH ABUTMENT	N. STRUCT. APPROACH	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 949+67	LS	———	———	———	———	———	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-66-189	LS	———	———	———	———	———	1
210.0100	BACKFILL STRUCTURE	CY	———	———	145	145	———	290
305.0120	BASE AGGREGATE DENSE 1-1/4"	TON	———	174	———	———	174	348
502.0100	CONCRETE MASONRY BRIDGES	CY	259	83	67	67	83	559
502.3200	PROTECTIVE SURFACE TREATMENT	SY	288	122	———	———	122	532
502.3210	PIGMENTED SURFACE SEALER	SY	46	20	———	———	20	86
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	———	———	4,020	4,020	———	8,040
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	46,390	13,140	1,860	1,870	13,140	76,400
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	530	———	———	———	———	530
505.0905	BAR COUPLERS NO. 5	EACH	129	42	———	———	42	213
505.0906	BAR COUPLERS NO. 6	EACH	———	———	12	12	———	24
505.0908	BAR COUPLERS NO. 8	EACH	———	12	7	7	12	38
511.1200	TEMPORARY SHORING B-66-189	SF	———	———	200	200	———	400
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	———	———	15	15	———	30
550.0500	PILE POINTS	EACH	———	———	12	12	———	24
550.2124	PILING CIP CONCRETE 12 3/4 X 0.25-INCH	LF	———	———	960	960	———	1,920
606.0300	RIPRAP HEAVY	CY	———	———	111	105	———	216
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	———	———	93	93	———	186
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	———	2	———	———	2	4
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	———	———	185	175	———	360
SPV.0060	EXPOSE EXISTING UTILITY UNPAVED AREAS	EACH	———	———	1	———	———	1
SPV.0090	REMOVING EXISTING TIMBER PILING	LF	———	———	84	84	———	168
	NON-BID ITEMS							
	FILLER	SIZE	———	———	———	———	———	½", ¾" & 1½"



PROFILE GRADE LINE I.H. 41 S.B.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

DRAWN BY ARC | PLANS CK'D. MJL

CROSS SECTION & QUANTITIES

SHEET 2

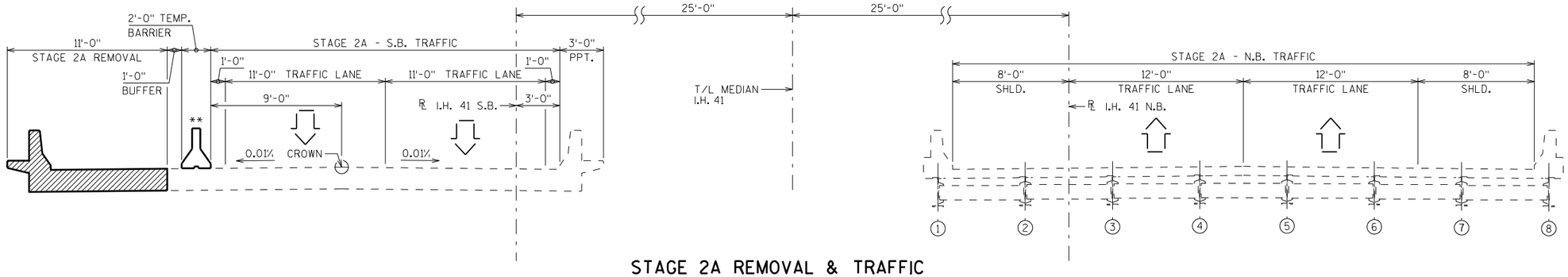
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SCALE = 3

8

8

STATE PROJECT NUMBER
1100-00-73

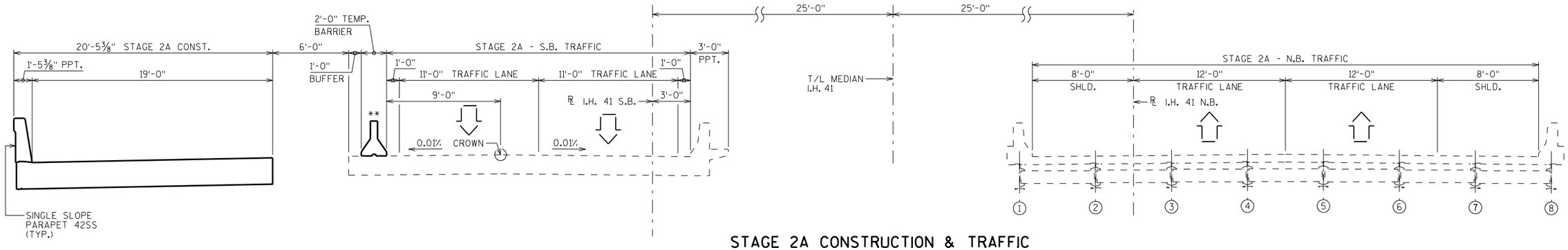


STAGE 2A REMOVAL & TRAFFIC

(LOOKING NORTH)

(#) DENOTES EXIST. GIRDER NUMBER

** EXIST. OVERLAY (BELOW TEMP. BARRIER) TO BE MILLED.



STAGE 2A CONSTRUCTION & TRAFFIC

(LOOKING NORTH)

(#) DENOTES EXIST. GIRDER NUMBER

** EXIST. OVERLAY (BELOW TEMP. BARRIER) TO BE MILLED.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

DRAWN BY ARC | PLANS CK'D. MJL

CONST. STAGING DETAILS 1

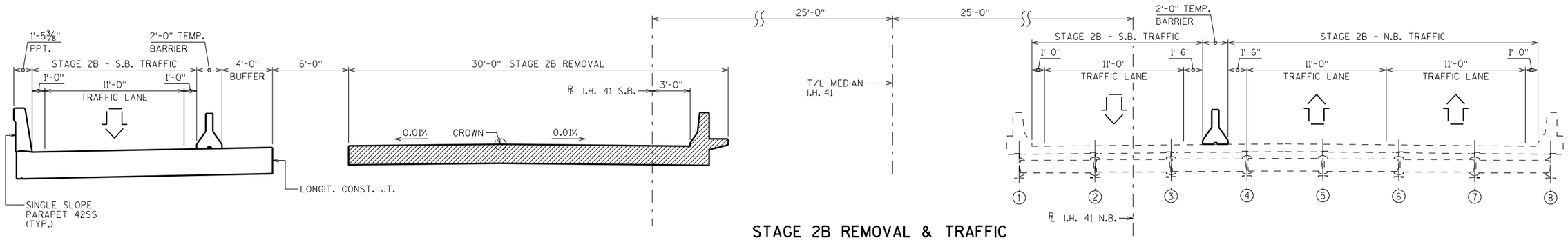
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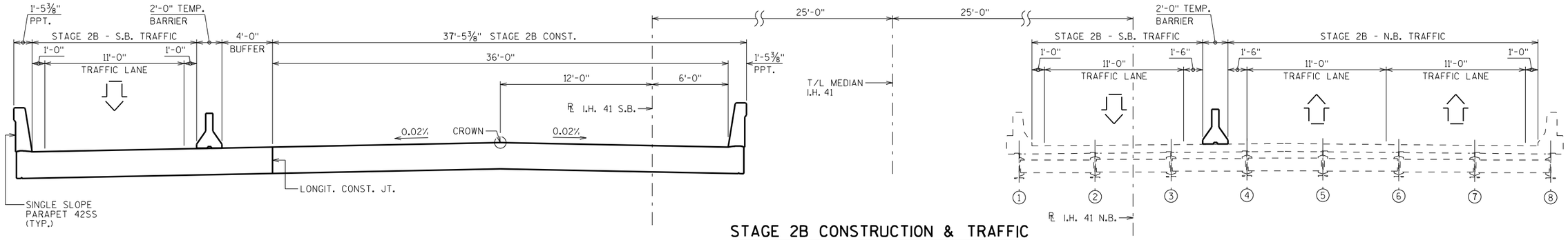
1100-00-73



STAGE 2B REMOVAL & TRAFFIC

(LOOKING NORTH)

(#) DENOTES EXIST. GIRDER NUMBER



STAGE 2B CONSTRUCTION & TRAFFIC

(LOOKING NORTH)

(#) DENOTES EXIST. GIRDER NUMBER

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

DRAWN BY ARC | PLANS CK'D. MJL

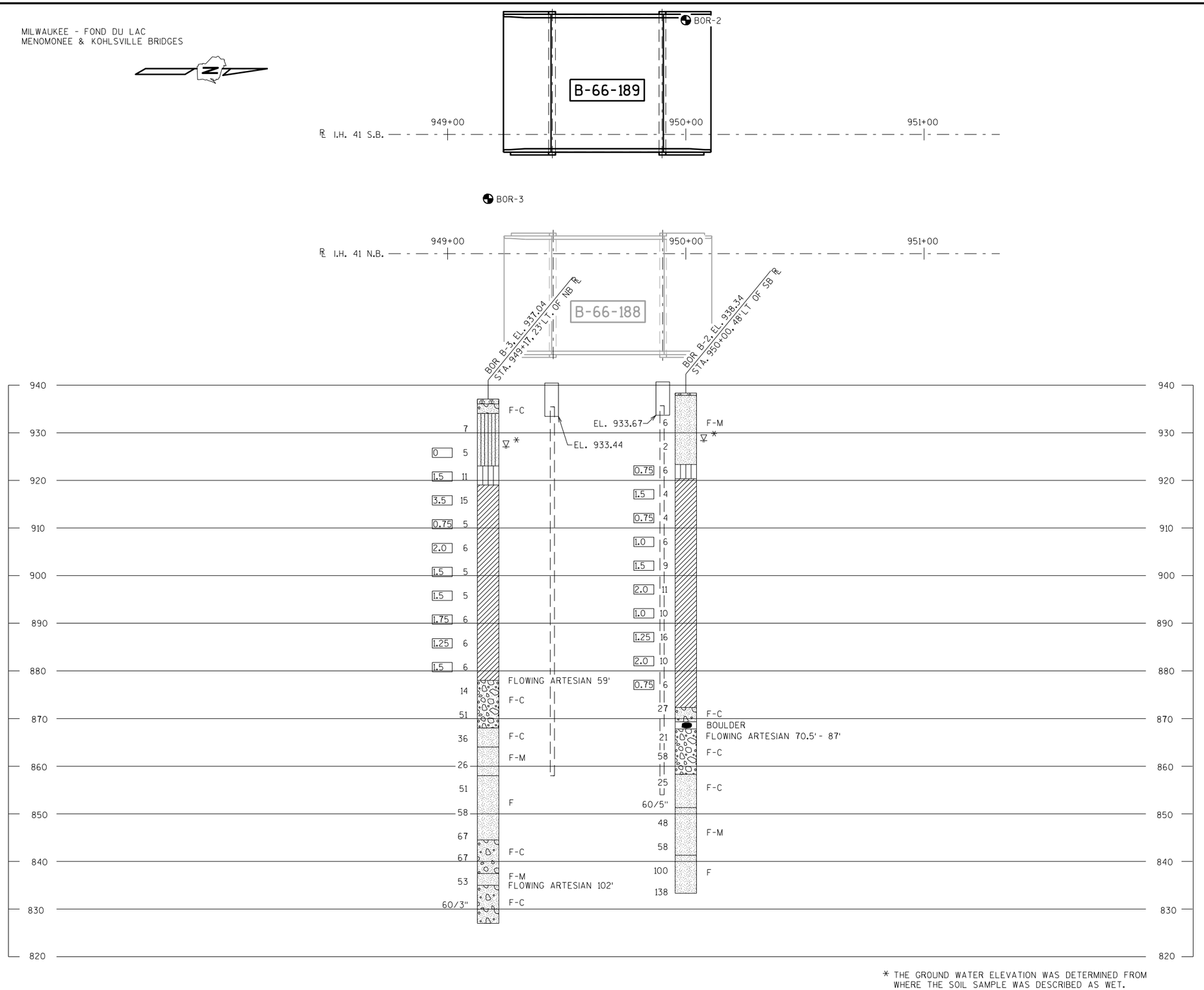
CONST. STAGING DETAILS 2

SHEET 4

254

SCALE = 4

MILWAUKEE - FOND DU LAC
MENOMONEE & KOHLSVILLE BRIDGES



* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

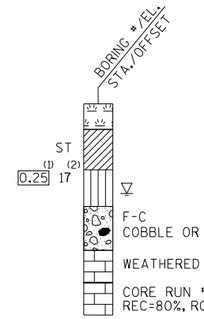
STATE PROJECT NUMBER

1100-00-73

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

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SUBSURFACE EXPLORATION

SHEET 5

255

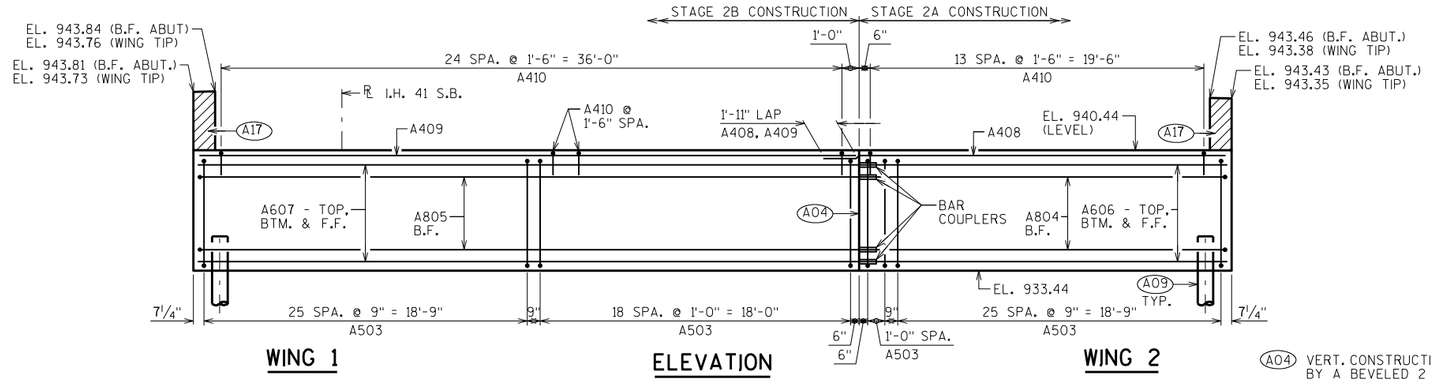
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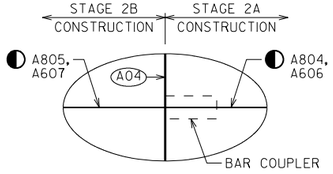
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STATE PROJECT NUMBER

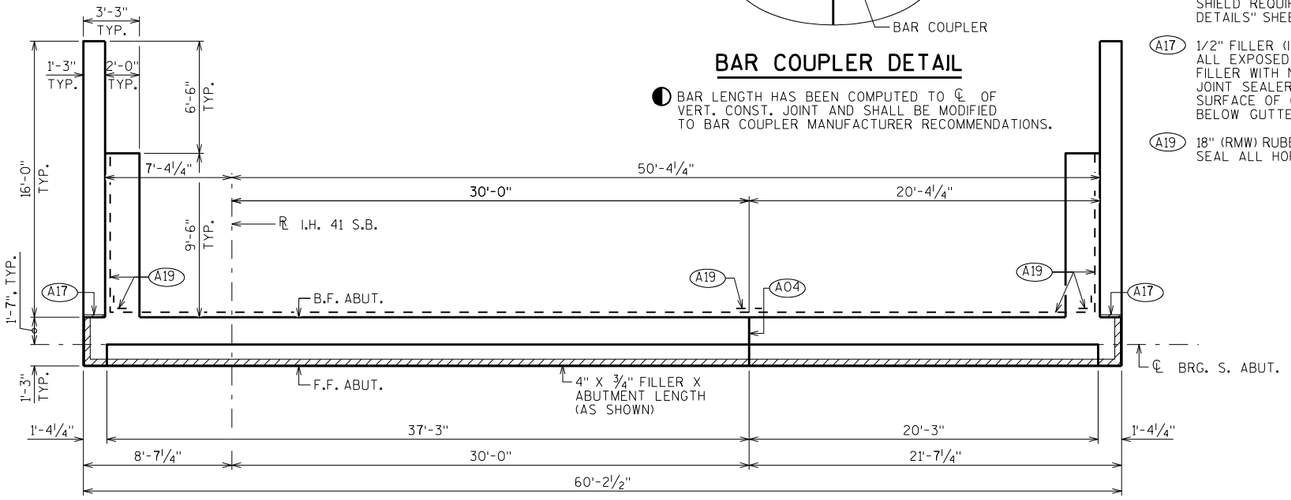
1100-00-73



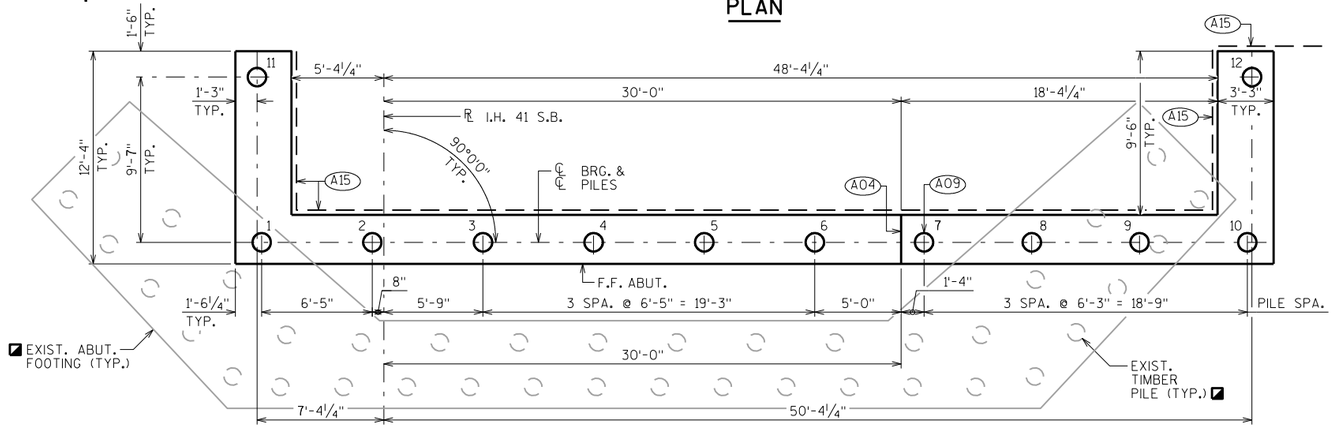


BAR COUPLER DETAIL

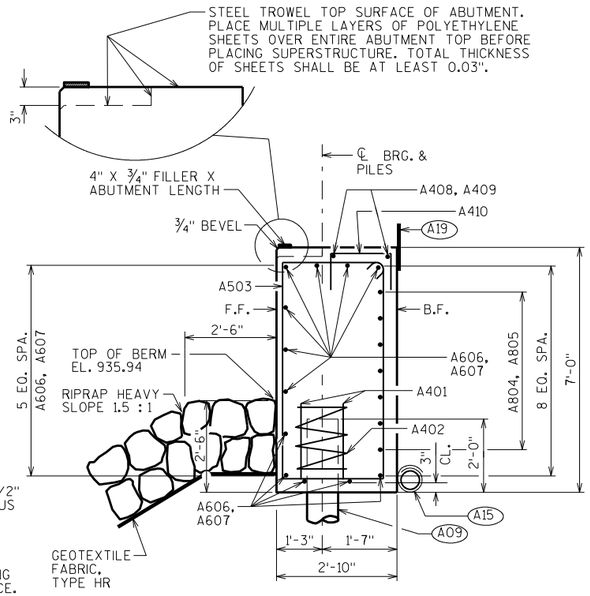
◐ BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERT. CONST. JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.



PLAN



PILE PLAN



SECTION THRU BODY

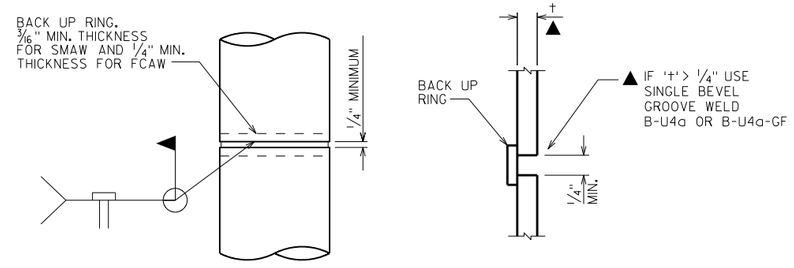
(A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 X 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE.

(A09) SUPPORT ABUTMENT ON 12-3/4" X 0.25-INCH CIP CONCRETE PILING, ESTIMATED 80 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE. CONICAL PILE POINTS REQUIRED.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. (SEE "SOUTH ABUTMENT DETAILS" SHEET FOR DETAILS.)

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.



CAST-IN-PLACE 'PIPE PILE'

C.I.P. PILE WELD DETAIL

PILE DETAILS

◪ LOCATION OF EXISTING ABUT./FOOTING & EXISTING TIMBER PILES ARE APPROXIMATE, AND BASED ON THE ORIGINAL PLANS.

CONTRACTOR IS TO DETERMINE WHERE A CONFLICT MAY OCCUR BETWEEN NEW PILING & EXISTING TIMBER PILES. REMOVE EXISTING TIMBER PILES IN CONFLICT NEW PILES IN ACCORDANCE WITH THE SPECIAL PROVISION, AND AS DIRECTED BY THE ENGINEER.

EXISTING STRUCTURE TO BE REMOVED PER BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 949+67."

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

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SOUTH ABUTMENT

SHEET 6

256

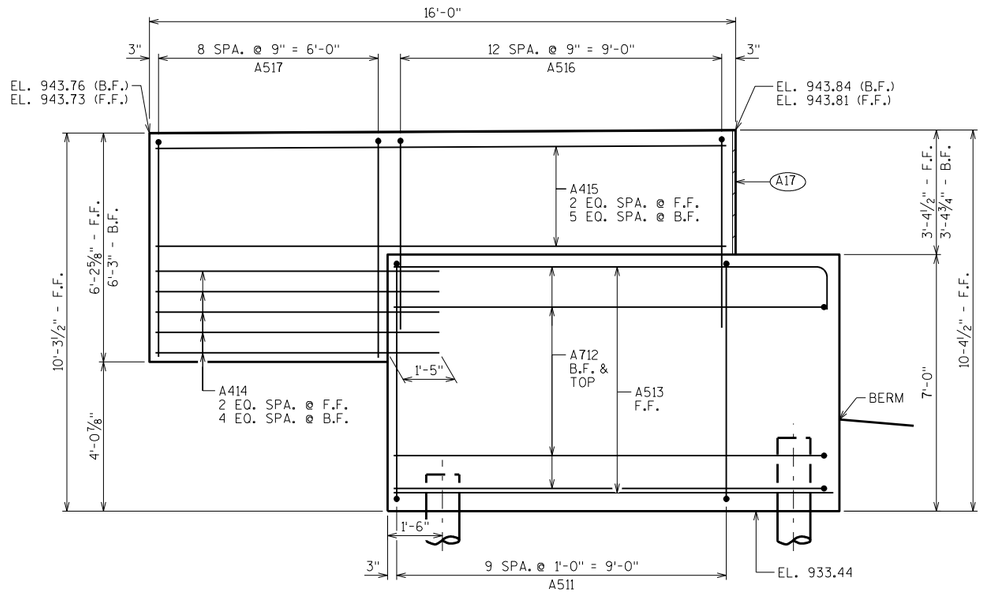
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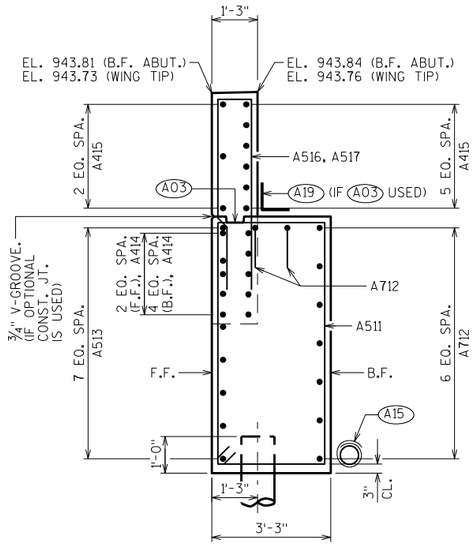
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STATE PROJECT NUMBER

1100-00-73



WING 1 ELEVATION



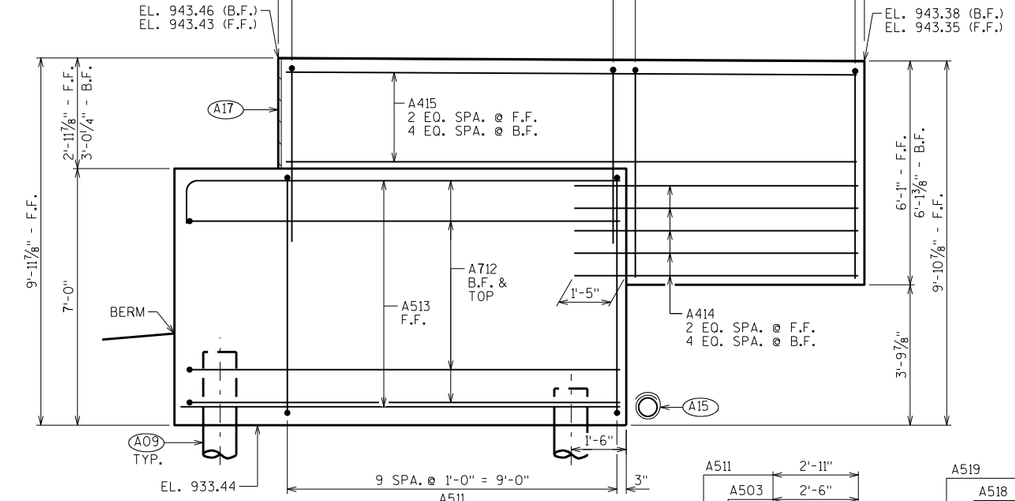
WING 1 SECTION

BILL OF BARS

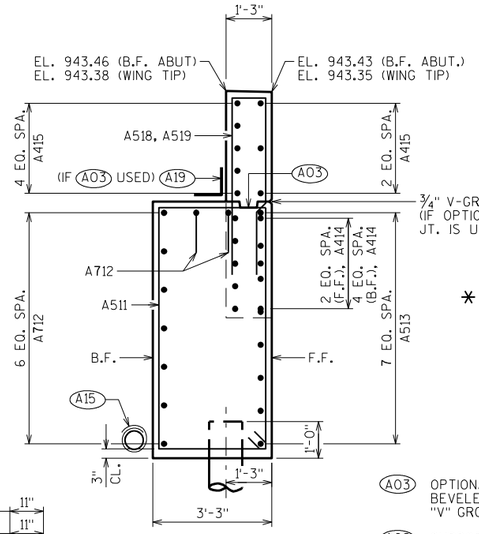
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		20	2'-3"			PILES-2 PER BODY PILE
A402		10	28'-0"	X		PILES-1 PER BODY PILE
A503		73	18'-4"	X		BODY STIRRUPS
◐ A804		7	22'-3"	X		BODY-HORIZ.-B.F.-STAGE 2A (WING 2)
◐ A805		7	39'-3"	X		BODY-HORIZ.-B.F.-STAGE 2B (WING 1)
◐ A606		12	21'-5"			BODY-HORIZ.-TOP, F.F. & BTM.-STAGE 2A (WING 2)
◐ A607		12	38'-5"			BODY-HORIZ.-TOP, F.F. & BTM.-STAGE 2B (WING 1)
A408		2	23'-4"			BODY-HORIZ.-TOP-STAGE 2A (WING 2)
A409		2	38'-1"			BODY-HORIZ.-TOP-STAGE 2B (WING 1)
A410		39	3'-7"	X		BODY-VERT.-TOP
A511	X	20	19'-8"	X		WING 1&2-STIRRUPS
A712	X	18	12'-8"	X		WING 1&2-HORIZ.-B.F. & TOP
A513	X	16	12'-0"			WING 1&2-HORIZ.-F.F.
A414	X	16	7'-9"			WING 1&2-HORIZ.-F.F. & B.F.-UPPER
A415	X	17	15'-7"			WING 1&2-HORIZ.-F.F. & B.F.-UPPER
A516	X	13	11'-2"	X		WING 1-VERT.-UPPER
A517	X	9	12'-4"	X		WING 1-VERT.-UPPER
A518	X	13	10'-4"	X		WING 2-VERT.-UPPER
A519	X	9	12'-2"	X		WING 2-VERT.-UPPER

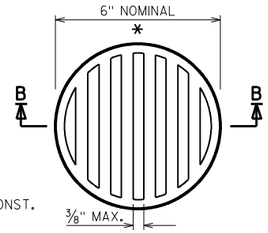
◐ BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERTICAL CONSTRUCTION JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.



WING 2 ELEVATION



WING 2 SECTION



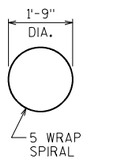
SECTION B-B

RODENT SHIELD DETAIL

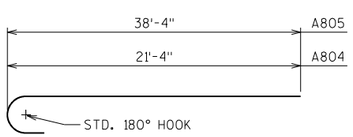
✳ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

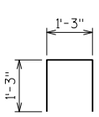
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X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



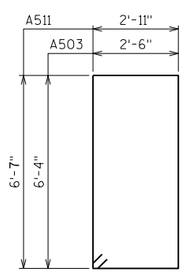
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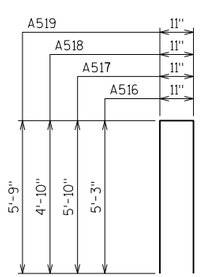
A804, A805



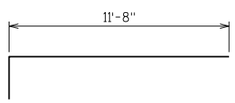
A410



A503, A511



A516, A517, A518, A519



A712

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A09) SUPPORT ABUTMENT ON 12-3/4" X 0.25-INCH CIP CONCRETE PILING, ESTIMATED 80 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE. CONICAL PILE POINTS REQUIRED.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. (SEE THIS SHEET FOR DETAILS.)

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

DRAWN BY ARC | PLANS CK'D. MJL

SOUTH ABUTMENT DETAILS

SHEET 7

257

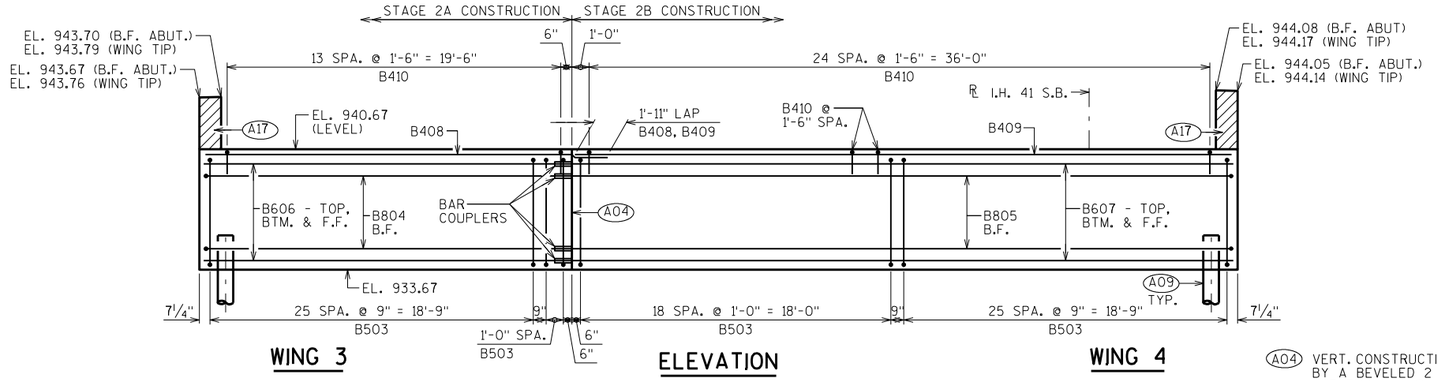
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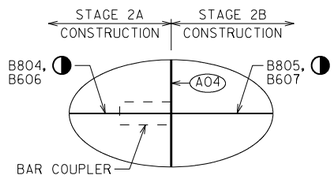
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STATE PROJECT NUMBER

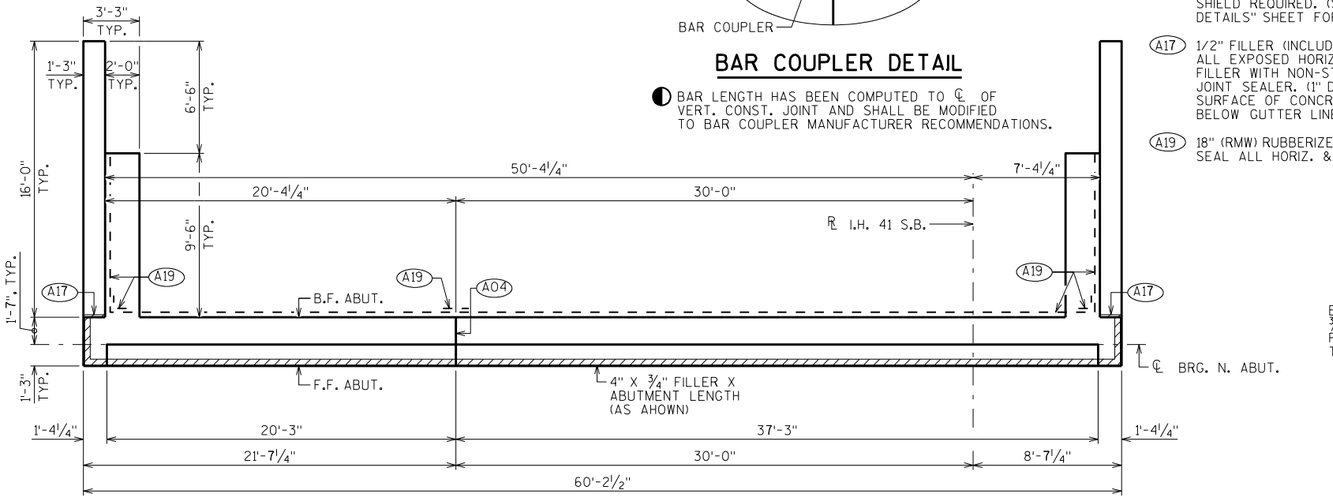
1100-00-73



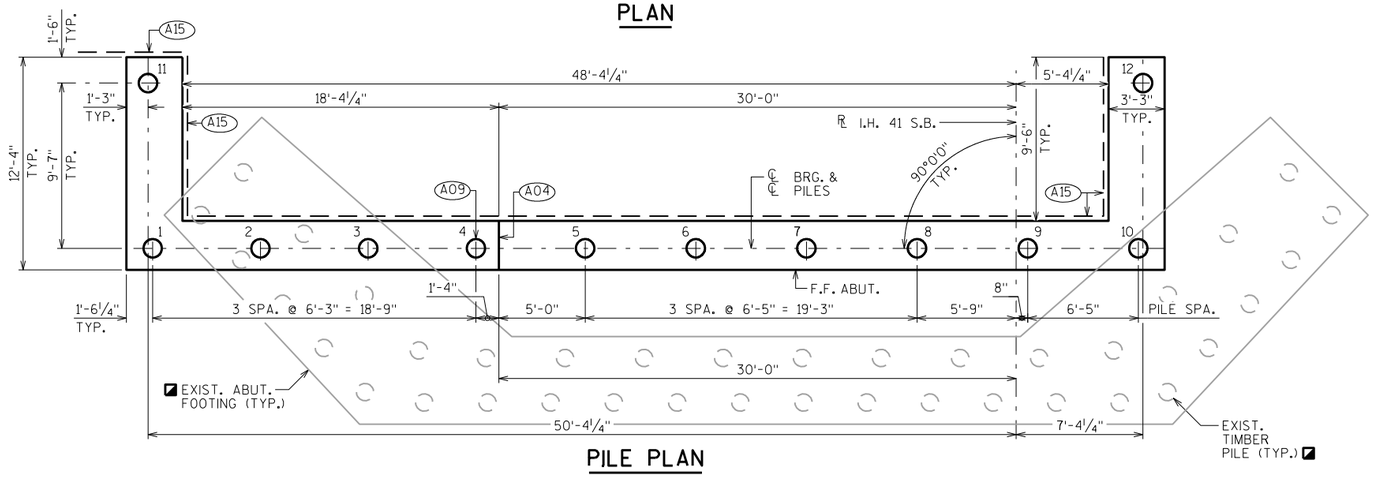


BAR COUPLER DETAIL

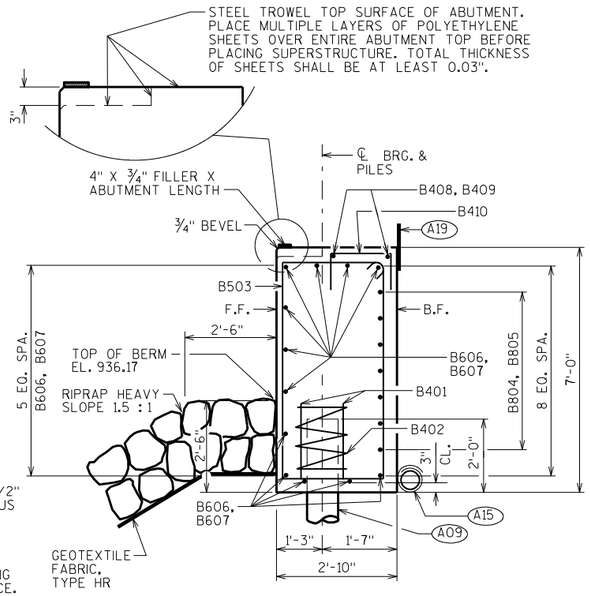
◐ BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERT. CONST. JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.



PLAN



PILE PLAN



SECTION THRU BODY

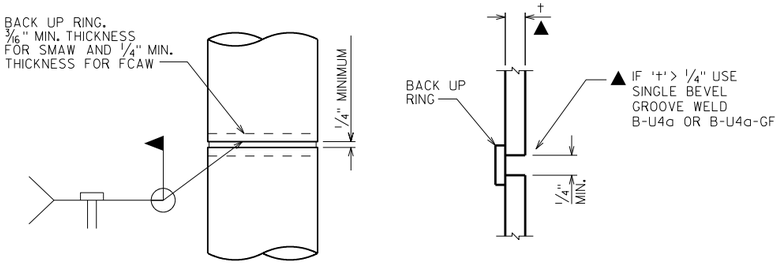
A04 VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 X 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE.

A09 SUPPORT ABUTMENT ON 12-3/4" X 0.25-INCH CIP CONCRETE PILING, ESTIMATED 80 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE. CONICAL PILE POINTS REQUIRED.

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. (SEE "NORTH ABUTMENT DETAILS" SHEET FOR DETAILS.)

A17 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.



CAST-IN-PLACE 'PIPE PILE' C.I.P. PILE WELD DETAIL

PILE DETAILS

◪ LOCATION OF EXISTING ABUT./FOOTING & EXISTING TIMBER PILES ARE APPROXIMATE, AND BASED ON THE ORIGINAL PLANS.

CONTRACTOR IS TO DETERMINE WHERE A CONFLICT MAY OCCUR BETWEEN NEW PILING & EXISTING TIMBER PILES. REMOVE EXISTING TIMBER PILES IN CONFLICT NEW PILES IN ACCORDANCE WITH THE SPECIAL PROVISION, AND AS DIRECTED BY THE ENGINEER.

EXISTING STRUCTURE TO BE REMOVED PER BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 949+67."

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

DRAWN BY ARC | PLANS CK'D. MJL

NORTH ABUTMENT

SHEET 8

258

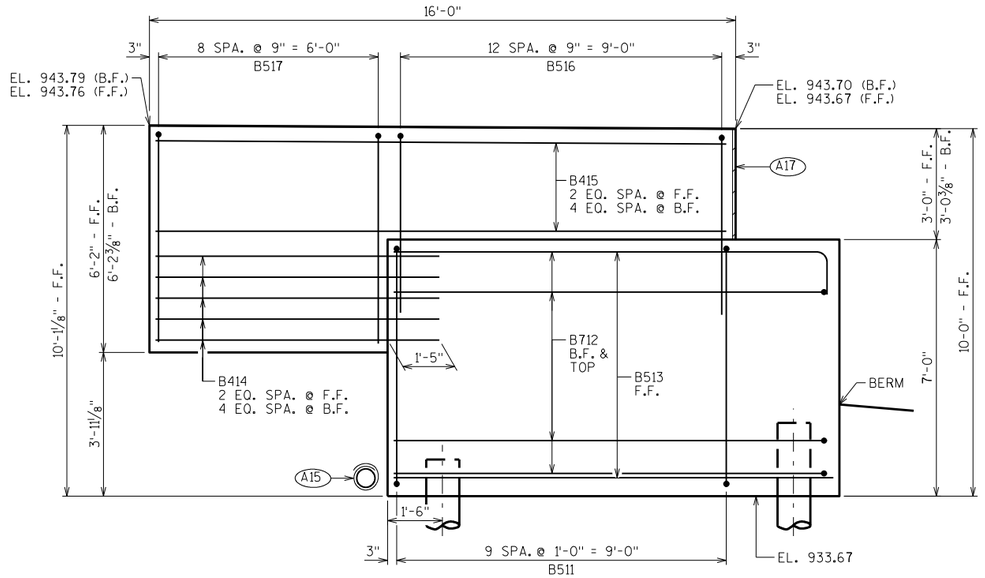
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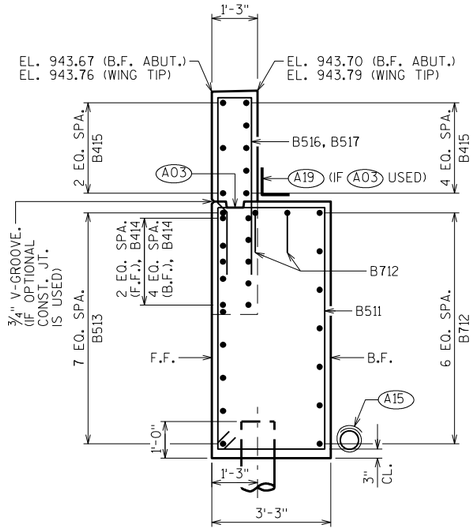
SCALE = 4.25

STATE PROJECT NUMBER

1100-00-73



WING 3 ELEVATION



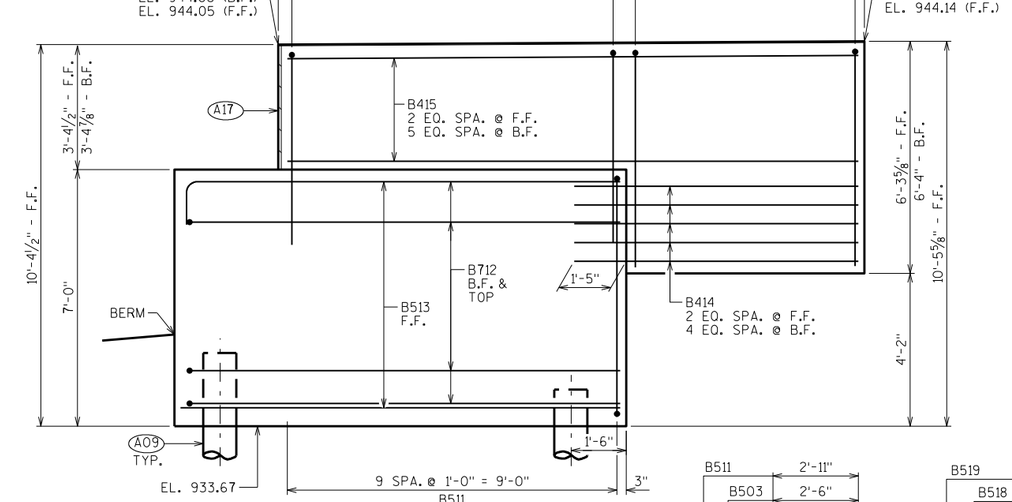
WING 3 SECTION

BILL OF BARS

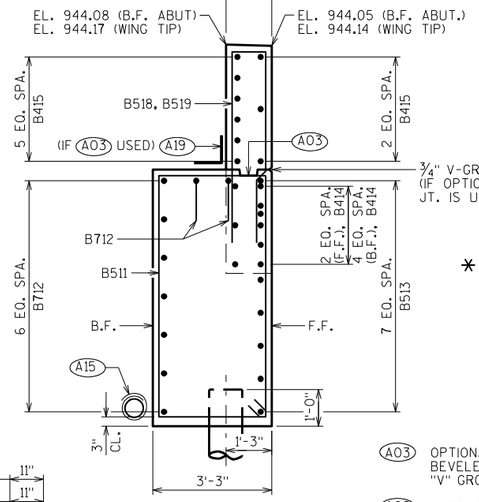
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401		20	2'-3"			PILES-2 PER BODY PILE
B402		10	28'-0"	X		PILES-1 PER BODY PILE
B503		73	18'-4"	X		BODY STIRRUPS
◐ B804		7	22'-3"	X		BODY-HORIZ.-B.F.-STAGE 2A (WING 3)
◐ B805		7	39'-3"	X		BODY-HORIZ.-B.F.-STAGE 2B (WING 4)
◐ B606		12	21'-5"			BODY-HORIZ.-TOP, F.F. & BTM.-STAGE 2A (WING 3)
◐ B607		12	38'-5"			BODY-HORIZ.-TOP, F.F. & BTM.-STAGE 2B (WING 4)
B408		2	23'-4"			BODY-HORIZ.-TOP-STAGE 2A (WING 3)
B409		2	38'-1"			BODY-HORIZ.-TOP-STAGE 2B (WING 4)
B410		39	3'-7"	X		BODY-VERT.-TOP
B511	X	20	19'-8"	X		WING 3&4-STIRRUPS
B712	X	18	12'-8"	X		WING 3&4-HORIZ.-B.F. & TOP
B513	X	16	12'-0"			WING 3&4-HORIZ.-F.F.
B414	X	16	7'-9"			WING 3&4-HORIZ.-F.F. & B.F.-UPPER
B415	X	17	15'-7"			WING 3&4-HORIZ.-F.F. & B.F.-UPPER
B516	X	13	10'-6"	X		WING 3-VERT.-UPPER
B517	X	9	12'-4"	X		WING 3-VERT.-UPPER
B518	X	13	11'-4"	X		WING 4-VERT.-UPPER
B519	X	9	12'-6"	X		WING 4-VERT.-UPPER

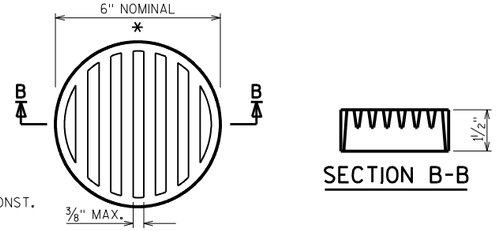
◐ BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERTICAL CONSTRUCTION JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.



WING 4 ELEVATION



WING 4 SECTION



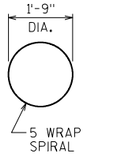
SECTION B-B

RODENT SHIELD DETAIL

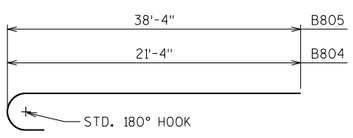
✳ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

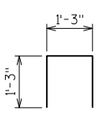
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X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



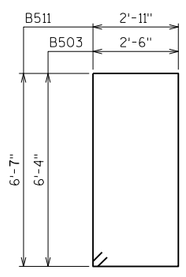
B402



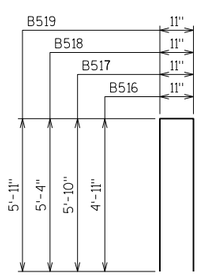
B804, B805



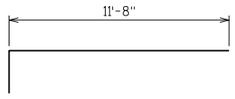
B410



B503, B511



B516, B517, B518, B519



B712

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A09) SUPPORT ABUTMENT ON 12-3/4" X 0.25-INCH CIP CONCRETE PILING, ESTIMATED 80 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE. CONICAL PILE POINTS REQUIRED.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. (SEE THIS SHEET FOR DETAILS.)

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

DRAWN BY ARC | PLANS CK'D. MJL

NORTH ABUTMENT DETAILS

SHEET 9

259

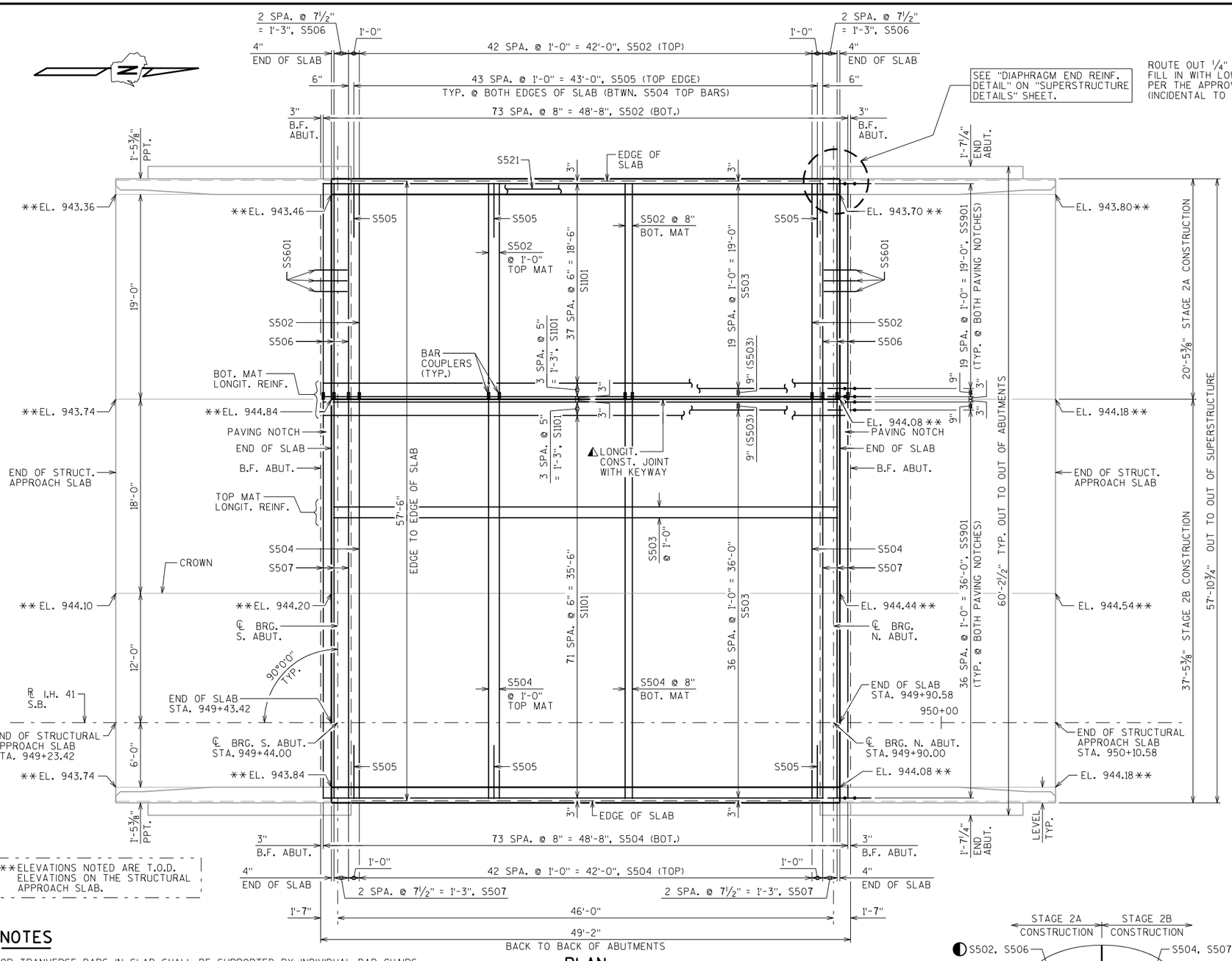
SCALE = 2

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STATE PROJECT NUMBER

1100-00-73



**ELEVATIONS NOTED ARE T.O.D. ELEVATIONS ON THE STRUCTURAL APPROACH SLAB.

PLAN

NOTES

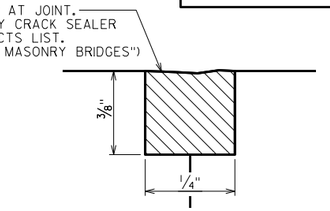
TOP TRANVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE (+).

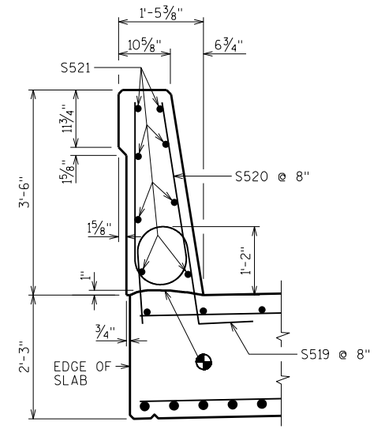
BOTH PARAPETS PLACED ON TOP THE SLAB SHALL BE POURED PRIOR TO ALL FALSEWORK BEING RELEASED. ALL FALSEWORK IS TO BE RELEASED TOGETHER.

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. (SEE "SUPERSTRUCTURE DETAILS" SHEET FOR CAMBER VALUES.)

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN.

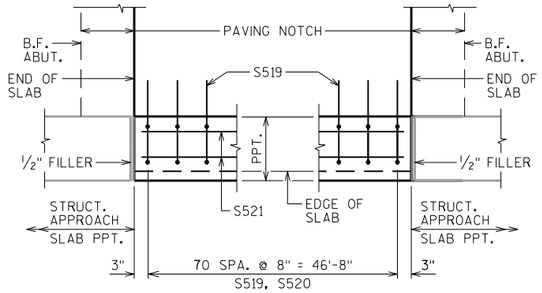


⚠ LONGIT. CONSTRUCTION JOINT DETAIL



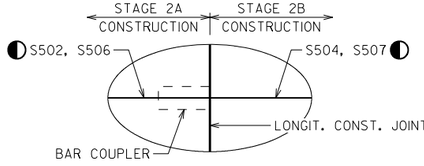
SECTION THRU PARAPET ON BRIDGE

◔ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN



PARTIAL PLAN DETAIL OF PARAPET REINF.

(SHOWING EAST CORNERS OF S. & N. ABUTMENTS. DETAIL TYP. OF BOTH EDGES OF SUPERSTRUCTURE)



BAR COUPLER DETAIL

◐ BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERT. CONST. JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

NO.	DATE	REVISION	BY

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STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

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SUPERSTRUCTURE

SHEET 10

260

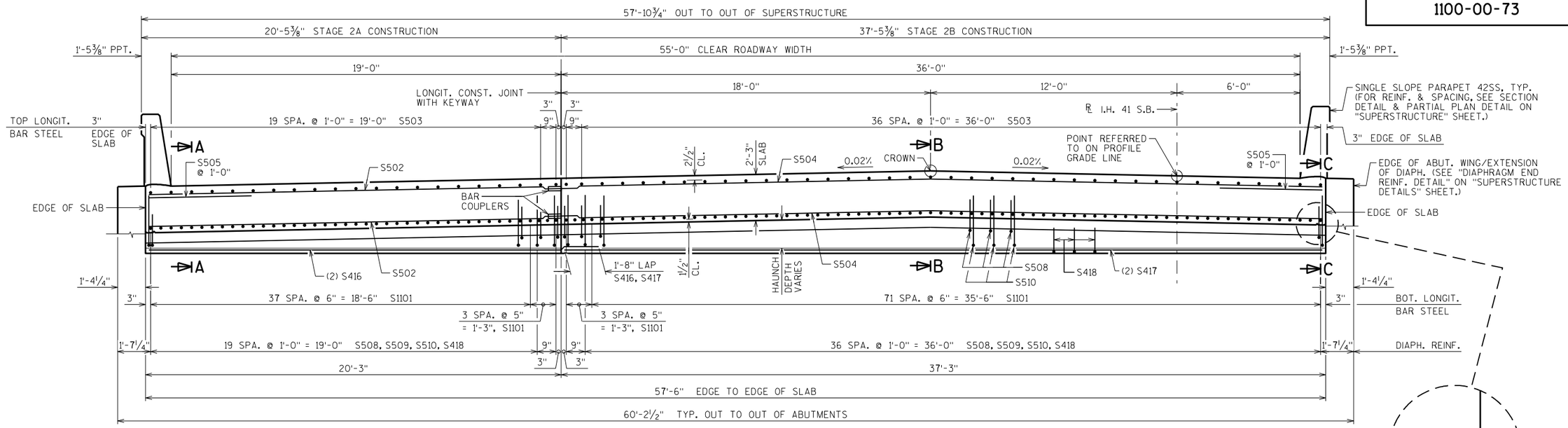
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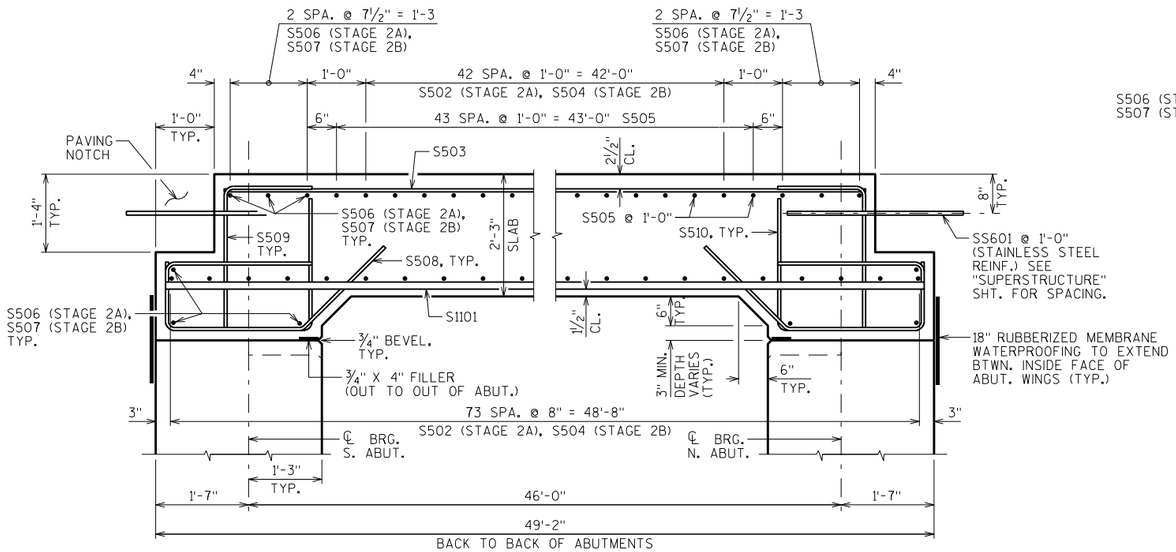
SCALE = 5

STATE PROJECT NUMBER

1100-00-73



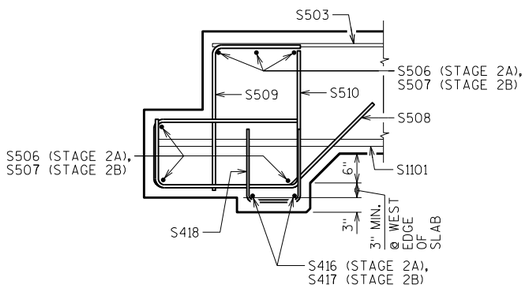
CROSS SECTION THRU ROADWAY LOOKING UPSTATION



LONGITUDINAL SECTION THRU ROADWAY

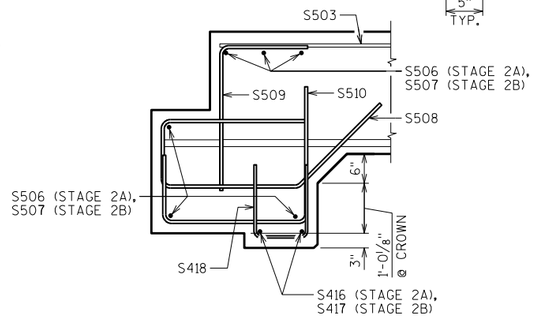
(LOOKING WEST)

NOTE: S416, S417 & S418 BARS NOT SHOWN IN "LONGITUDINAL SECTION THRU ROADWAY." SEE SECTIONAL DETAILS CALLED OUT IN "CROSS SECTION THRU ROADWAY LOOKING UPSTATION."



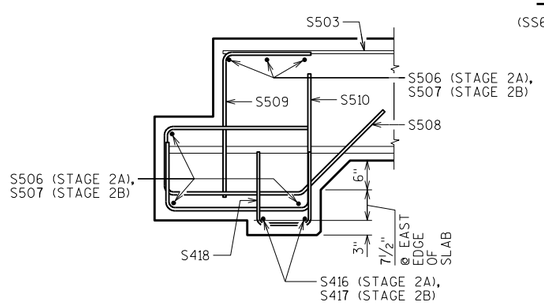
SECTION A-A

(SS601 BARS NOT SHOWN)



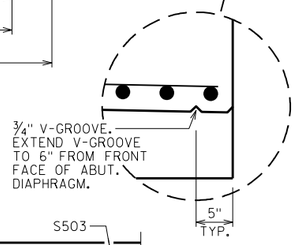
SECTION B-B

(SS601 BARS NOT SHOWN)



SECTION C-C

(SS601 BARS NOT SHOWN)



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

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SUPERSTRUCTURE CROSS SECTIONS

SHEET 11

261

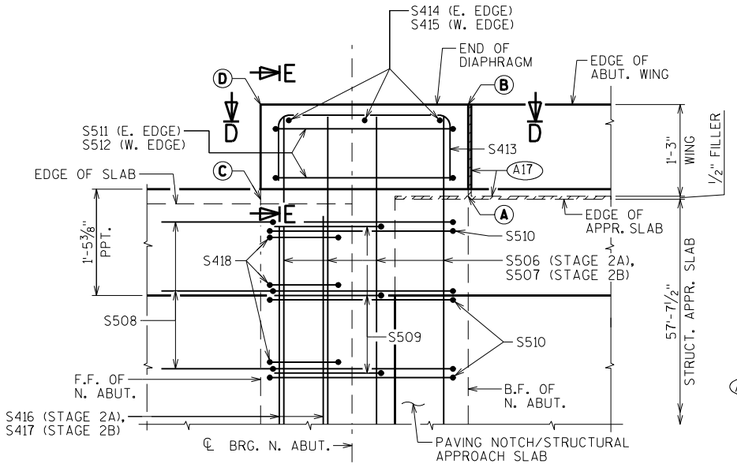
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8

SCALE = 5

STATE PROJECT NUMBER

1100-00-73



DIAPHRAGM END REINF. DETAIL

TOP OF DIAPHRAGM ELEVATION TABLE

	B.F. ABUT.		F.F. ABUT.	
	EL. Ⓐ	EL. Ⓑ	EL. Ⓒ	EL. Ⓓ
WING#1	943.84	943.81	943.85	943.81
WING#2	943.46	943.43	943.47	943.43
WING#3	943.70	943.67	943.69	943.66
WING#4	944.08	944.05	944.07	944.04

LEGEND FOR ABOVE TABLE:

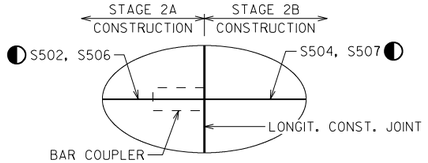
EL. Ⓐ = ELEVATION @ GUTTER/B.F. ABUT.

EL. Ⓑ = ELEVATION @ END OF DIAPH./B.F. ABUT.

EL. Ⓒ = ELEVATION @ GUTTER/F.F. ABUT.

EL. Ⓓ = ELEVATION @ END OF DIAPH./F.F. ABUT.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.



BAR COUPLER DETAIL

◐ BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERT. CONST. JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

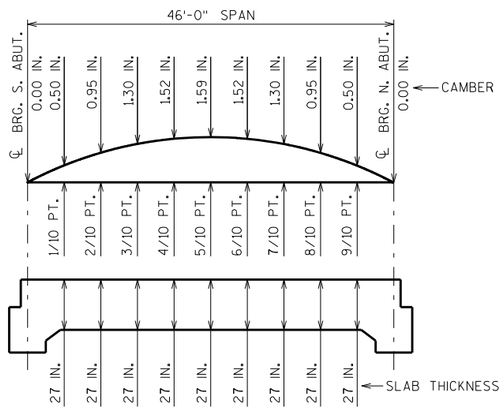
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
	S1101	X	116	48'-10"			SLAB-LONGIT.-BOT.
◐	S502	X	117	20'-1"			SLAB-TRANS.-TOP & BOT.-STAGE 2A
	S503	X	59	46'-10"			SLAB-LONGIT.-TOP
◐	S504	X	117	37'-1"			SLAB-TRANS.-TOP & BOT.-STAGE 2B
	S505	X	88	5'-0"			SLAB-TRANS.-TOP-EDGE OF SLAB
◐	S506	X	12	21'-5"			SLAB/ABUT. DIAPH.-HORIZ.-STAGE 2A
◐	S507	X	12	38'-5"			SLAB/ABUT. DIAPH.-HORIZ.-STAGE 2B
	S508	X	118	8'-2"	X		SLAB/ABUT. DIAPH.-VERT.
	S509	X	118	4'-0"	X		SLAB/ABUT. DIAPH.-VERT.
	S510	X	118	6'-1"	X		SLAB/ABUT. DIAPH.-VERT.
	S511	X	4	11'-8"	X		STIRRUP-DIAPHRAGM ENDS-EAST-WING1&4
	S512	X	4	11'-0"	X		STIRRUP-DIAPHRAGM ENDS-WEST-WING2&3
	S413	X	12	4'-0"	X		DIAPHRAGM ENDS-HORIZ.
	S414	X	6	2'-11"			DIAPHRAGM ENDS-VERT.-EAST-WING1&4
	S415	X	6	2'-7"			DIAPHRAGM ENDS-VERT.-WEST-WING2&3
	S416	X	4	21'-11"			DIAPHRAGMS-TRANS.-HORIZ.-STAGE 2A
	S417	X	4	36'-11"			DIAPHRAGMS-TRANS.-HORIZ.-STAGE 2B
	S418	X	118	3'-3"	X		DIAPHRAGMS-VERT.
	S519	X	142	4'-5"	X		SLAB/PARAPET-VERT.
	S520	X	142	6'-8"	X		PARAPET-VERT.
	S521	X	16	46'-10"			PARAPET-HORIZ.
	SS601		118	3'-0"			STRUCTURE SLAB TO APPROACH SLAB

STAINLESS STEEL BAR. SEE "SUPERSTRUCTURE" & "SUPERSTRUCTURE CROSS SECTIONS" SHEETS FOR SPACING & LOCATION.

N.W. CORNER (WING#3) SHOWN. ALL OTHER CORNERS SIMILAR. (LONGIT. & TRANS. SLAB REINF. NOT SHOWN FOR CLARITY)



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

BOTH PARAPETS ATOP OF SLAB SHALL BE POURED PRIOR TO ALL FALSEWORK BEING RELEASED.

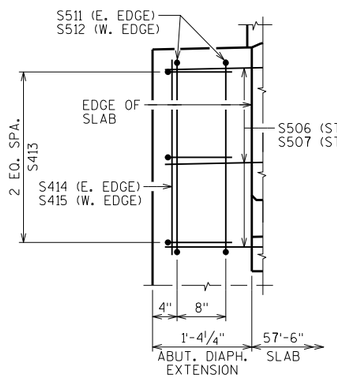
TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR CENTERLINE FOLLOW THIS PROCEDURE:

	TOP OF DECK ELEVATION AT FINAL GRADE
LESS	SLAB THICKNESS
PLUS	CAMBER
PLUS	FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS	TOP OF SLAB FALSEWORK ELEVATION.

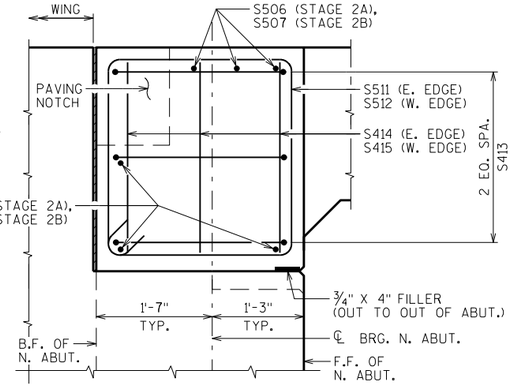
PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN.

TOP OF SLAB ELEVATIONS

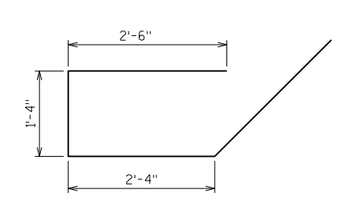
	℄ BRG. S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ BRG. N. ABUT.
WEST GUTTER	943.47	943.49	943.51	943.54	943.56	943.58	943.60	943.63	943.65	943.67	943.70
LONGIT. CONST. JT.	943.85	943.87	943.89	943.92	943.94	943.96	943.98	944.01	944.03	944.05	944.08
CROWN POINT	944.21	944.23	944.25	944.28	944.30	944.32	944.34	944.37	944.39	944.41	944.44
EAST GUTTER	943.85	943.87	943.89	943.92	943.94	943.96	943.98	944.01	944.03	944.05	944.08



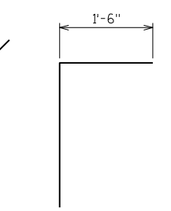
SECTION E-E



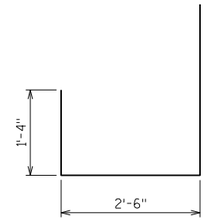
SECTION D-D



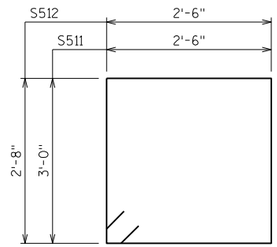
S508



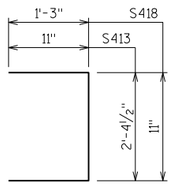
S509



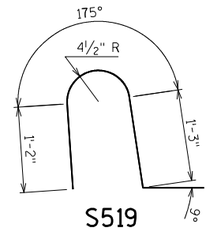
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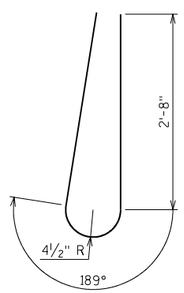
S511, S512



S413, S418



S519



S520

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

DRAWN BY ARC | PLANS CK'D. MJL

SUPERSTRUCTURE DETAILS

SHEET 12

262

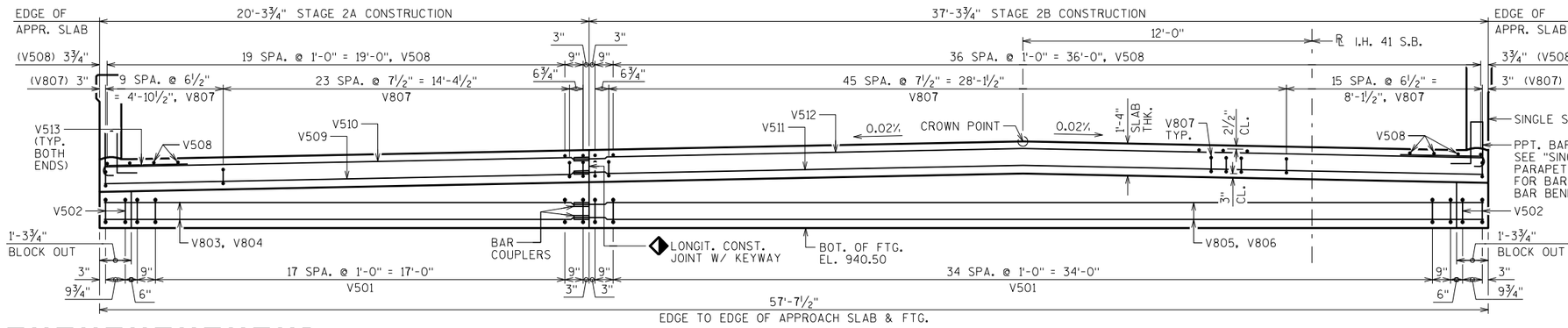
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SCALE = 1

STATE PROJECT NUMBER

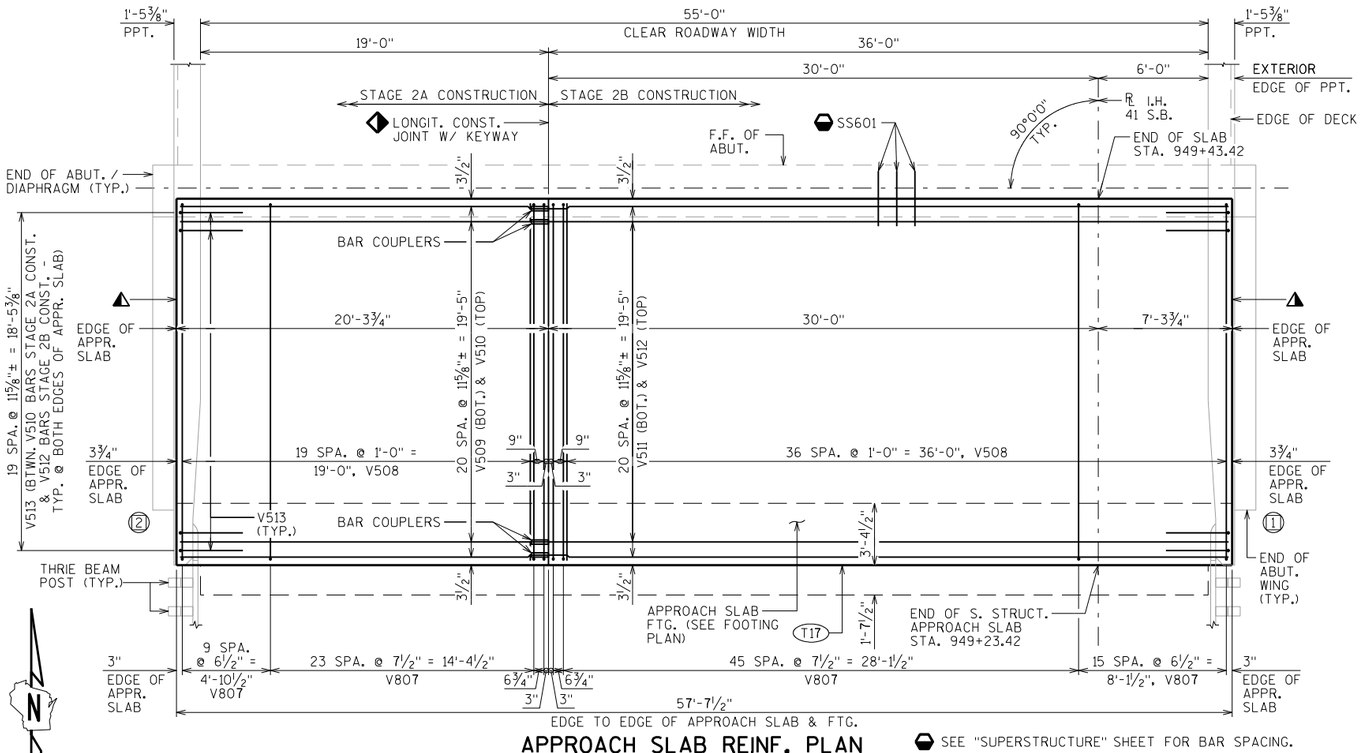
1100-00-73



NOTE: SEE "SUPERSTRUCTURE" SHEET FOR ELEVATIONS OF THE TOP OF STRUCT. APPROACH SLAB.

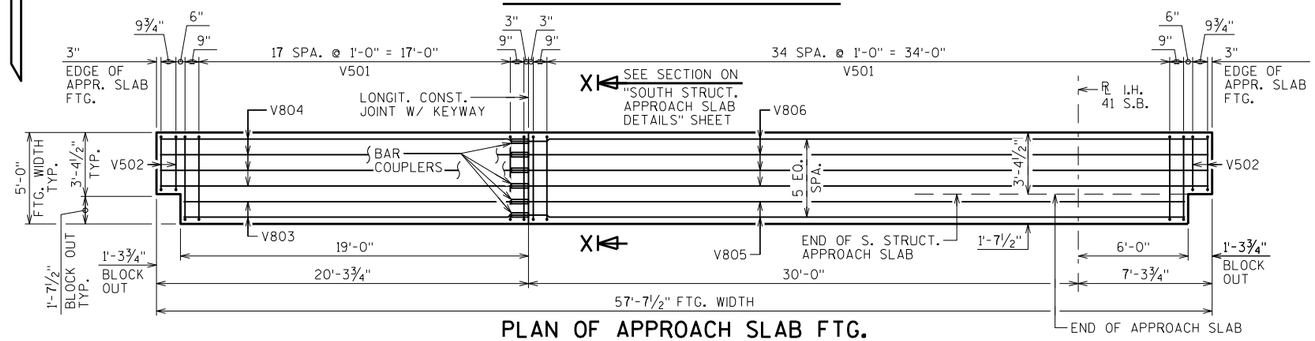
CROSS SECTION THRU APPROACH SLAB - LOOKING NORTH

T17 1½" EXPANSION FILLER.

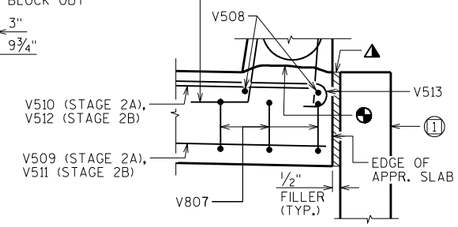


APPROACH SLAB REINF. PLAN

SEE "SUPERSTRUCTURE" SHEET FOR BAR SPACING.



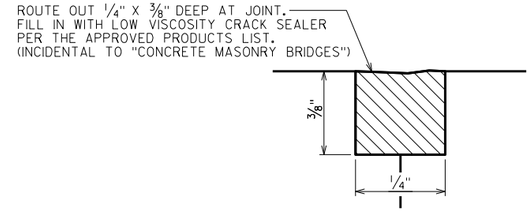
PLAN OF APPROACH SLAB FTG.



TYP. SECTION @ EDGE OF APPROACH SLAB

(WING 1 SHOWN. WING 2 SIMILAR)

- CONST. JOINT - STRIKE OFF AS SHOWN.
- SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (1) INDICATES WING NUMBER



LONGIT. CONSTRUCTION JOINT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

DRAWN BY ARC | PLANS CK'D. MJL

SOUTH STRUCT. APPROACH SLAB

SHEET 13

263

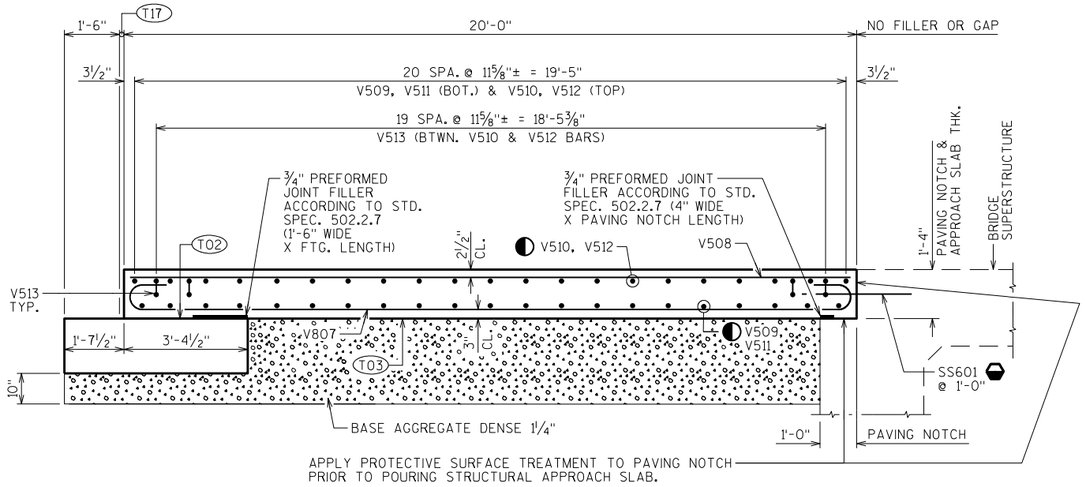
SCALE = 4

8

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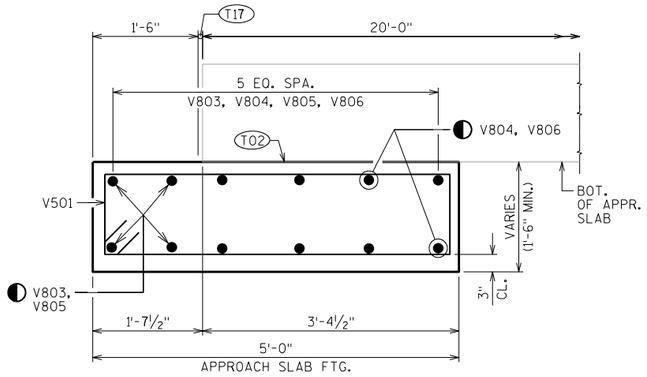
STATE PROJECT NUMBER

1100-00-73

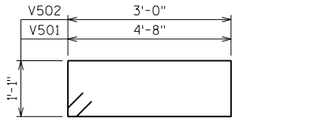


SECTION THRU STRUCTURAL APPROACH SLAB

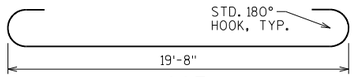
SEE "SUPERSTRUCTURE" SHEET FOR BAR SPACING.



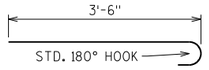
SECTION X-X



V501, V502



V807



V513

BILL OF BARS

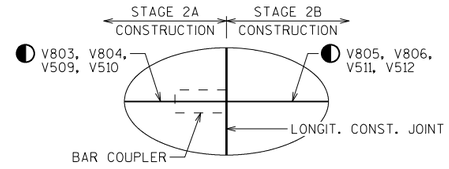
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
V501	X	57	12'-2"	X	FOOTING-STIRRUP
V502	X	4	8'-10"	X	FOOTING-STIRRUP
◐ V803	X	4	18'-10"		FOOTING-TRANS.-BOT.&TOP-STAGE 2A CONST.
◐ V804	X	8	20'-1"		FOOTING-TRANS.-BOT.&TOP-STAGE 2A CONST.
◐ V805	X	4	35'-10"		FOOTING-TRANS.-BOT.&TOP-STAGE 2B CONST.
◐ V806	X	8	37'-1"		FOOTING-TRANS.-BOT.&TOP-STAGE 2B CONST.
V807	X	96	21'-6"	X	SLAB-LONGIT.-BOT.
V508	X	59	19'-8"		SLAB-LONGIT.-TOP
◐ V509	X	21	20'-1"		SLAB-TRANS.-BOT.-STAGE 2A CONST.
◐ V510	X	21	20'-1"		SLAB-TRANS.-TOP-STAGE 2A CONST.
◐ V511	X	21	37'-1"		SLAB-TRANS.-BOT.-STAGE 2B CONST.
◐ V512	X	21	37'-1"		SLAB-TRANS.-TOP-STAGE 2B CONST.
V513	X	40	4'-1"	X	SLAB-TRANS.-TOP-EDGES

T02 STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.

T03 PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.

T17 1½" EXPANSION FILLER.



BAR COUPLER DETAIL

◐ BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERT. CONST. JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

DRAWN BY ARC | PLANS CK'D. MJL

SOUTH STRUCT. APPROACH SLAB DETAILS

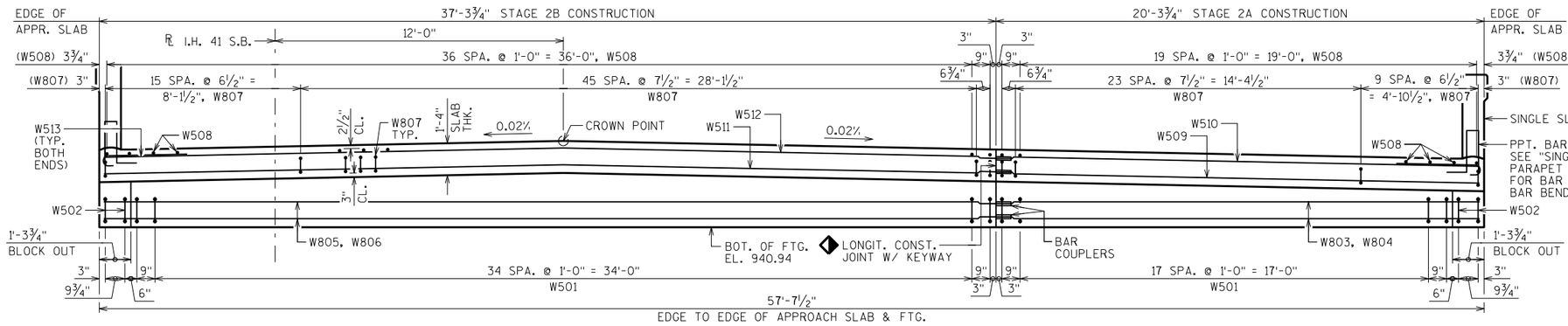
SHEET 14

264

SCALE = 3

STATE PROJECT NUMBER

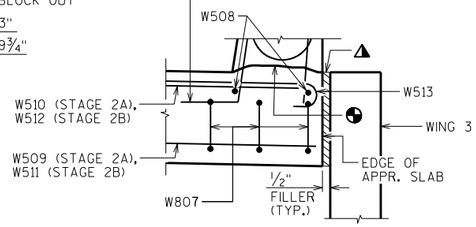
1100-00-73



NOTE: SEE "SUPERSTRUCTURE" SHEET FOR ELEVATIONS OF THE TOP OF STRUCT. APPROACH SLAB.

CROSS SECTION THRU APPROACH SLAB - LOOKING SOUTH

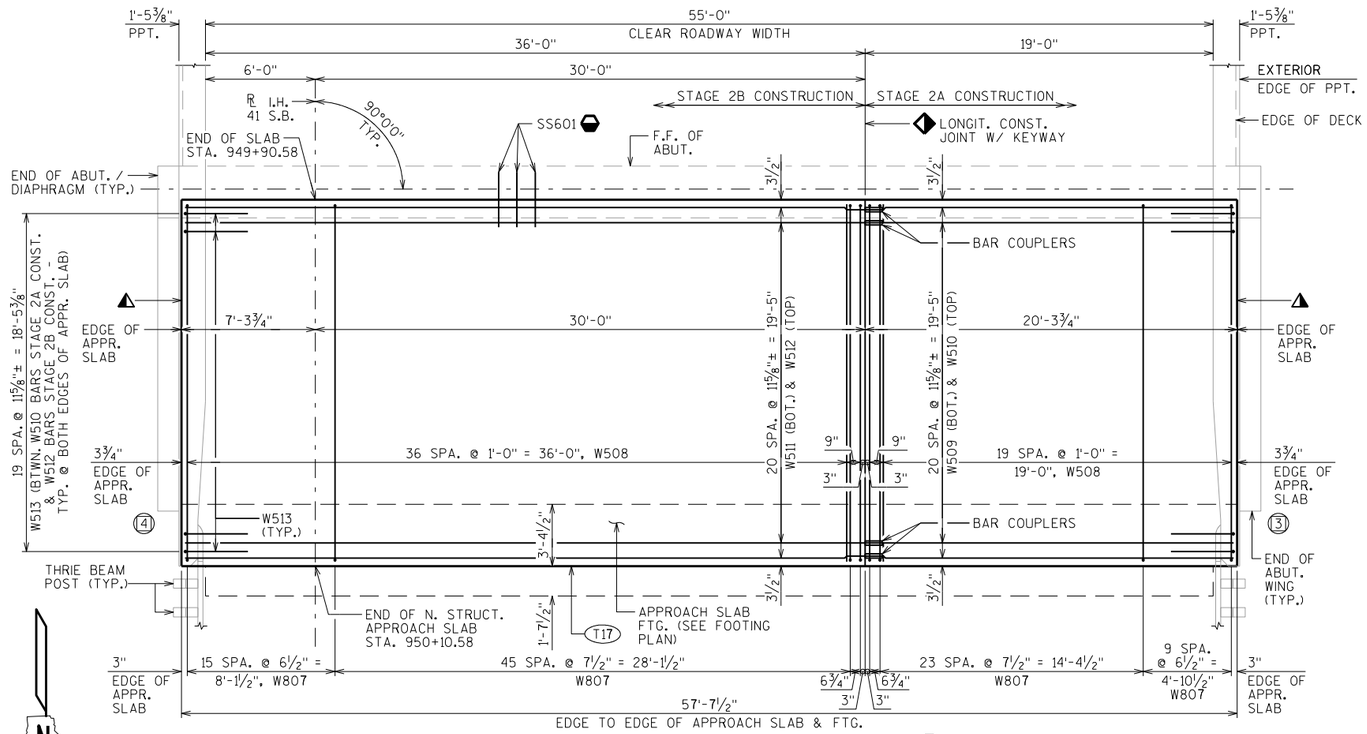
T17 1½" EXPANSION FILLER.



TYP. SECTION ⊄ EDGE OF APPROACH SLAB

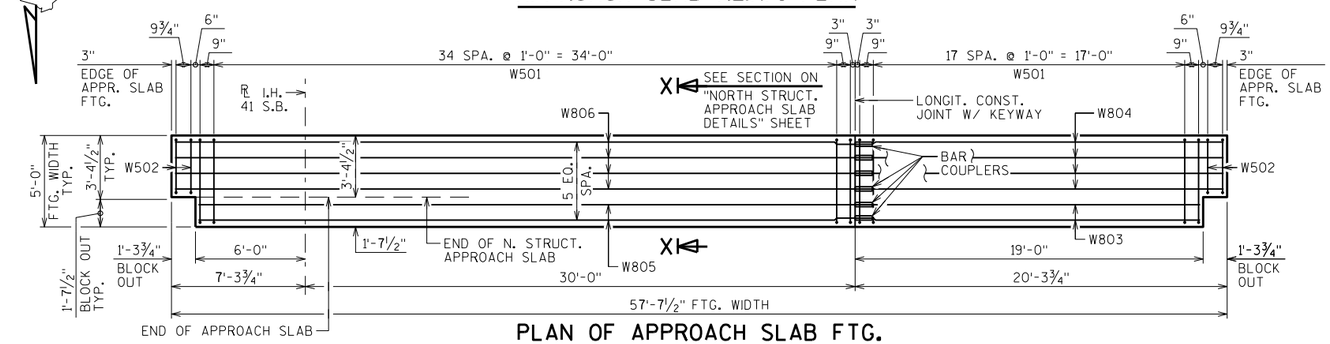
(WING 3 SHOWN. WING 4 SIMILAR)

- CONST. JOINT - STRIKE OFF AS SHOWN.
- SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- INDICATES WING NUMBER



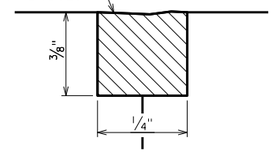
APPROACH SLAB REINF. PLAN

SEE "SUPERSTRUCTURE" SHEET FOR BAR SPACING.



PLAN OF APPROACH SLAB FTG.

ROUTE OUT ¼" X ⅜" DEEP AT JOINT. FILL IN WITH LOW VISCOSITY CRACK SEALER PER THE APPROVED PRODUCTS LIST. (INCIDENTAL TO "CONCRETE MASONRY BRIDGES")



LONGIT. CONSTRUCTION JOINT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

DRAWN BY ARC | PLANS CK'D. MJL

NORTH STRUCT. APPROACH SLAB

SHEET 15

265

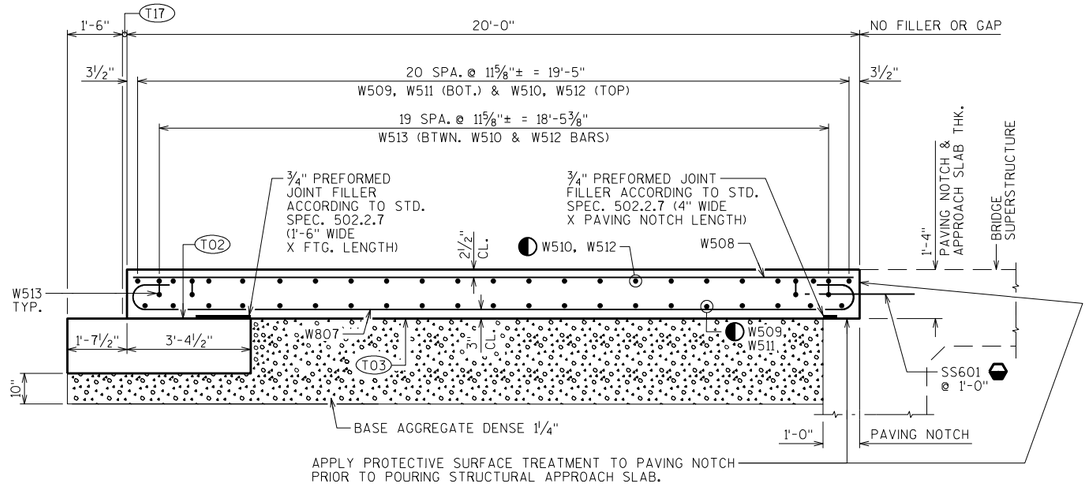
SCALE = 4

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8

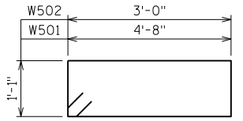
STATE PROJECT NUMBER

1100-00-73

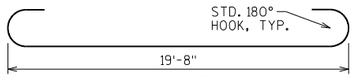


SECTION THRU STRUCTURAL APPROACH SLAB

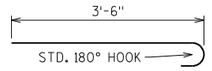
SEE "SUPERSTRUCTURE" SHEET FOR BAR SPACING.



W501, W502



W807



W513

BILL OF BARS

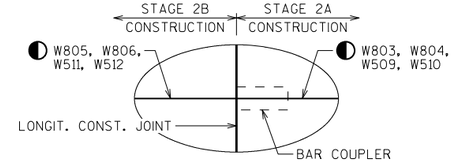
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

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W511	X	21	37'-1"		SLAB-TRANS.-BOT.-STAGE 2B CONST.
W512	X	21	37'-1"		SLAB-TRANS.-TOP-STAGE 2B CONST.
W513	X	40	4'-1"	X	SLAB-TRANS.-TOP-EDGES

T02 STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.

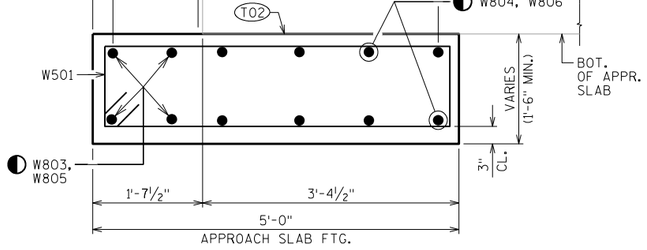
T03 PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.

T17 1½" EXPANSION FILLER.



BAR COUPLER DETAIL

BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERT. CONST. JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.



SECTION X-X

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

DRAWN BY ARC | PLANS CK'D. MJL

NORTH STRUCT. APPROACH SLAB DETAILS

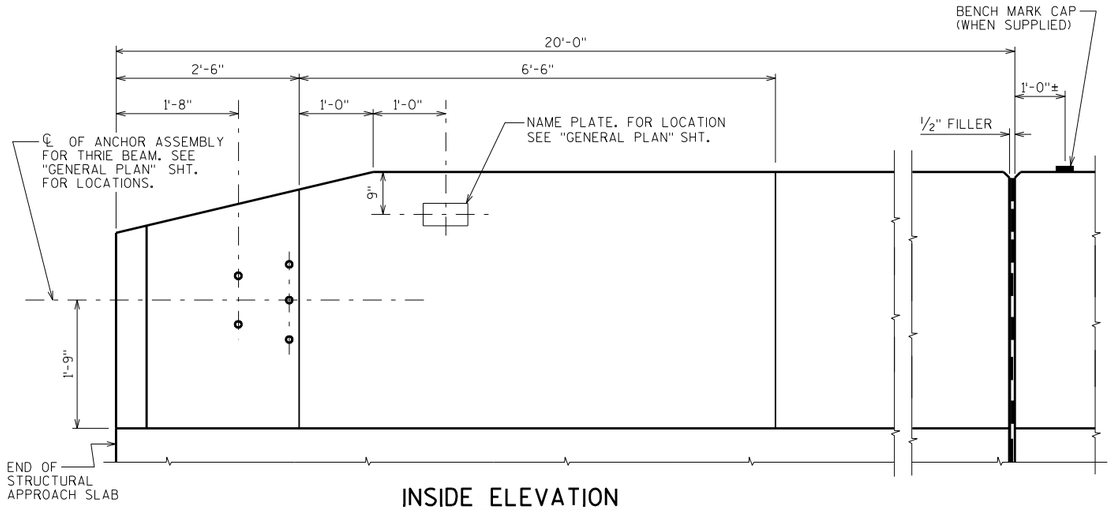
SHEET 16

266

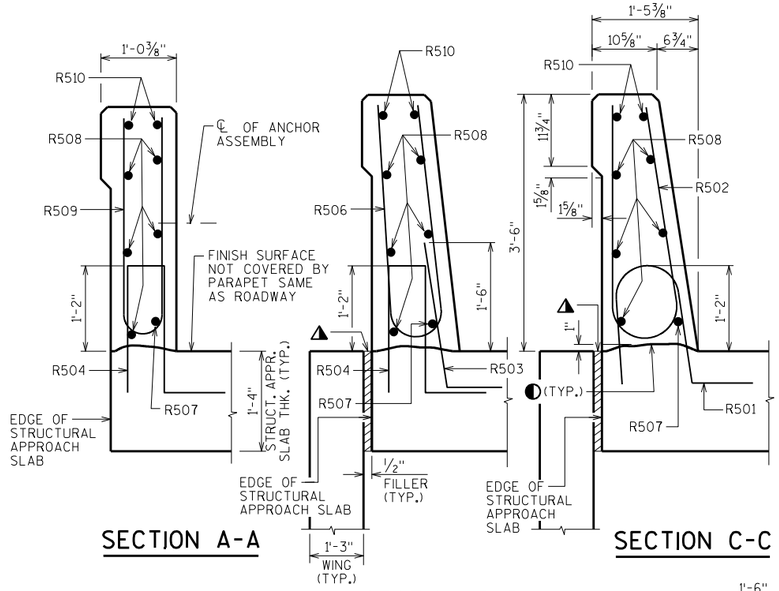
SCALE = 3

STATE PROJECT NUMBER

1100-00-73



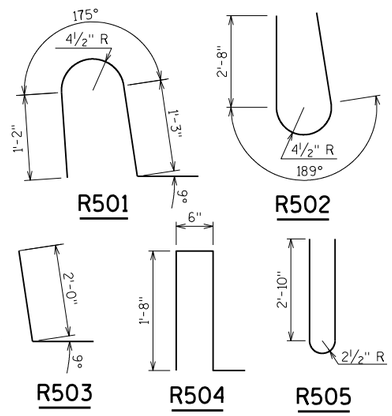
INSIDE ELEVATION

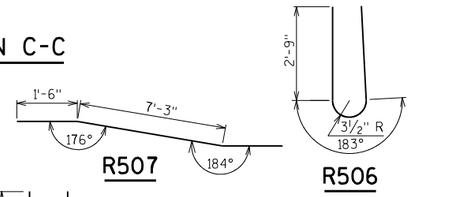


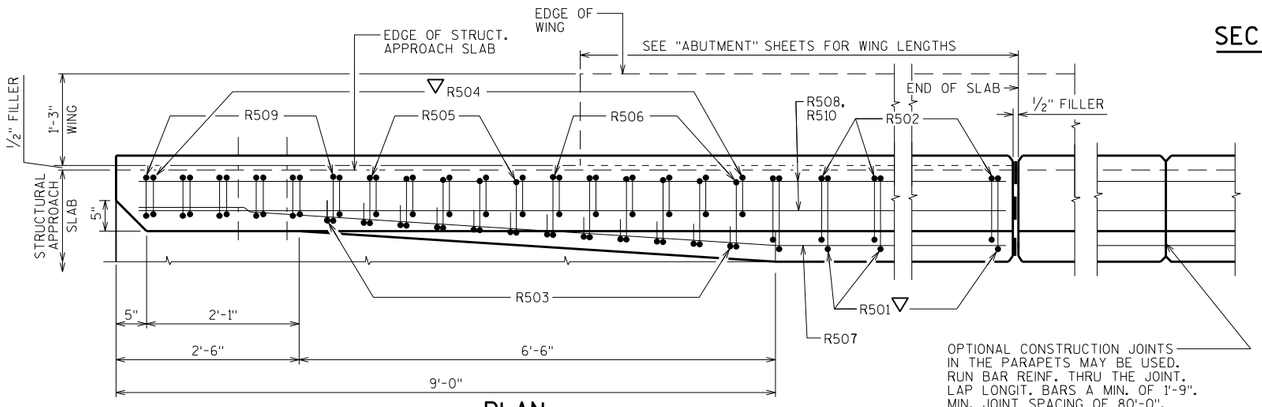
SECTION A-A

SECTION B-B

SECTION C-C

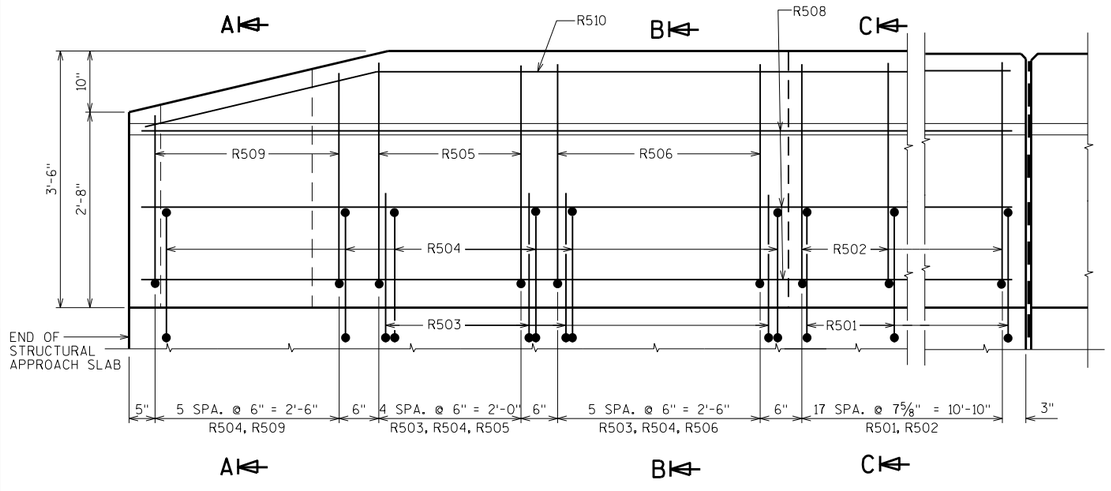






OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V'-GROOVE.

PLAN



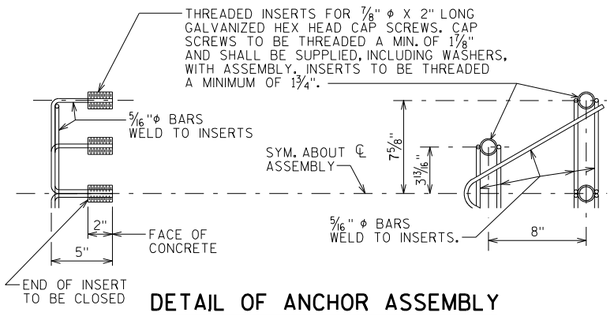
OUTSIDE ELEVATION

BILL OF BARS

FOR STRUCTURAL APPROACH SLAB PARAPETS

BAR MARK	COAT	SOUTH ABUT.	NORTH ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	36	36	4'-5"	X		PARAPET-VERT.
R502	X	36	36	6'-8"	X		PARAPET-VERT.
R503	X	22	22	2'-9"	X		PARAPET-VERT.
R504	X	34	34	4'-4"	X		PARAPET-VERT.
R505	X	10	10	6'-5"	X		PARAPET-VERT.
R506	X	12	12	6'-6"	X		PARAPET-VERT.
R507	X	2	2	19'-6"	X		PARAPET-HORIZ.
R508	X	10	10	19'-6"			PARAPET-HORIZ.
R509	X	12	12	5'-5"	X	❀	PARAPET-VERT.
R510	X	4	4	19'-6"	X		PARAPET-HORIZ.

❀ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



R509

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▽ R501 AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE SLAB IS POURED.

◭ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-66-189

DRAWN BY ARC | PLANS CK'D. MJL

SINGLE SLOPE PARAPET 42SS

SHEET 17

267

8

8

SCALE = 1

STAGE 1		AREA (SF)			Incrl Vol (CY) (Unadjusted)						Cumulative Vol (CY)			
						(EBS)						Expanded	Expanded EBS	Mass
		Cut	Fill	EBS	Cut	Unusable	Fill	Marsh Exc	Rock Exc	EBS	Cut	Fill	Backfill	Ordinate
Station	Distance					Material				Granular	1.00	1.25	1.30	
					Note 1	Note 2	Note 3			Backfill	Note 1		Note 5	Note 8
920+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
920+50	50	6	1	0	6	0	1	0	0	0	6	2	0	4
921+00	50	13	4	0	17	0	5	0	0	0	23	8	0	15
921+50	50	20	1	0	31	0	5	0	0	0	54	15	0	39
922+00	50	0	0	0	19	0	1	0	0	0	73	17	0	56
922+50	50	0	0	0	0	0	0	0	0	0	73	17	0	56
923+00	50	0	0	0	0	0	0	0	0	0	73	17	0	56
923+50	50	0	0	0	0	0	0	0	0	0	73	17	0	56
924+00	50	0	0	0	0	0	0	0	0	0	73	17	0	56
924+50	50	8	0	0	7	0	0	0	0	0	80	17	0	63
925+00	50	8	0	0	15	0	0	0	0	0	95	17	0	78
925+50	50	10	0	0	17	0	0	0	0	0	112	17	0	95
926+00	50	14	0	0	22	0	0	0	0	0	134	18	0	116
926+50	50	17	1	0	29	0	1	0	0	0	163	19	0	144
927+00	50	21	4	0	35	0	4	0	0	0	198	24	0	174
927+50	50	24	5	0	42	0	8	0	0	0	239	34	0	206
928+00	50	28	6	0	48	0	10	0	0	0	287	46	0	241
928+50	50	30	11	0	54	0	16	0	0	0	341	66	0	275
929+00	50	66	13	0	89	0	22	0	0	0	430	94	0	336
929+18	18	66	58	30	44	20	39	0	0	16	385	115	20	327
929+50	32	66	58	30	78	36	69	0	0	17	508	180	22	300
930+00	50	63	60	30	119	56	109	0	0	25	628	317	54	253
930+50	50	61	63	30	115	56	114	0	0	25	743	459	86	194
931+00	50	59	63	30	111	56	117	0	0	25	854	605	119	129
931+44	44	60	64	30	97	49	103	0	0	23	951	734	149	71
931+50	6	60	64	30	13	7	14	0	0	3	964	752	152	63
931+68	18	60	64	30	40	20	43	0	0	9	1004	805	164	38
932+00	32	60	64	30	71	36	76	0	0	16	1075	900	185	-5
932+50	50	60	65	30	111	56	119	0	0	25	1186	1049	217	-74
933+00	50	60	65	30	111	56	120	0	0	25	1297	1200	250	-144
933+50	50	61	64	30	112	56	119	0	0	25	1409	1349	282	-212
934+00	50	61	64	30	113	56	119	0	0	25	1521	1497	314	-279
934+50	50	60	64	30	112	56	119	0	0	25	1633	1645	347	-346
935+00	50	59	67	30	110	56	121	0	0	25	1743	1797	379	-418
935+50	50	59	67	30	110	56	124	0	0	25	1853	1952	411	-494
936+00	50	62	64	30	112	56	121	0	0	25	1966	2104	443	-563
936+50	50	65	61	30	118	56	116	0	0	25	2083	2248	476	-621
937+00	50	64	62	30	120	56	114	0	0	25	2203	2391	508	-675

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

2) Unuable Material

3) EBS Excavation to be backfilled with Select Borrow material.

5) Available Material = Cut - Salvaged/Unusuable Pavement Material

8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6

CONTINUE

STAGE 1		AREA (SF)			Incrl Vol (CY) (Unadjusted)						Cumulative Vol (CY)			
Station	Distance	Cut	Fill	EBS	Cut	(EBS) Unusable Material	Fill	Marsh Exc	Rock Exc	EBS Granular Backfill	Cut 1.00	Expanded Fill 1.25	Expanded EBS Backfill 1.30	Mass Ordinate
					Note 1	Note 2	Note 3				Note 1		Note 5	Note 8
937+20	20	65	61	30	48	22	46	0	0	12	2251	2448	524	-694
937+50	30	64	61	30	72	33	68	0	0	14	2274	2476	526	-727
938+00	50	65	60	30	119	56	112	0	0	25	2394	2616	558	-779
938+50	50	66	59	30	121	56	110	0	0	25	2514	2753	590	-826
939+00	50	64	61	30	120	56	111	0	0	25	2634	2892	623	-876
939+50	50	61	64	30	116	56	116	0	0	25	2750	3037	655	-936
940+00	50	63	63	30	115	56	118	0	0	25	2864	3184	687	-999
940+50	50	65	60	30	118	56	114	0	0	25	2982	3326	720	-1054
941+00	50	63	62	30	119	56	113	0	0	25	3101	3467	752	-1107
941+50	50	62	63	30	116	56	116	0	0	25	3217	3612	784	-1167
942+00	50	61	64	30	114	56	118	0	0	25	3330	3759	817	-1231
942+50	50	61	64	30	113	56	119	0	0	25	3443	3907	849	-1297
942+72	22	61	64	30	50	24	52	0	0	25	3493	3972	881	-1312
943+00	28	62	63	30	64	31	66	0	0	25	3507	3990	881	-1336
943+50	50	63	62	30	116	56	116	0	0	25	3624	4134	914	-1395
944+00	50	67	58	0	121	28	111	0	0	25	3744	4273	946	-1416
944+50	50	72	53	0	128	0	103	0	0	0	3873	4402	946	-1416
945+00	50	90	35	0	150	0	81	0	0	0	4022	4503	946	-1368
945+18	18	55	0	0	37	0	0	0	0	0	3909	4402	946	-1320
945+50	32	67	0	0	80	0	0	0	0	0	4102	4504	946	-1248
946+00	50	69	0	0	126	0	0	0	0	0	4228	4504	946	-1123
946+50	50	71	0	0	129	0	0	0	0	0	4357	4504	946	-994
947+00	50	62	0	0	123	0	0	0	0	0	4480	4504	946	-871
947+50	50	60	0	0	113	0	0	0	0	0	4593	4505	946	-758
948+00	50	59	2	0	110	0	1	0	0	0	4703	4506	946	-650
948+50	50	54	5	0	105	0	6	0	0	0	4808	4514	946	-553
949+00	50	51	12	0	97	0	16	0	0	0	4905	4534	946	-475
949+23	23	48	21	0	42	0	14	0	0	0	4948	4551	946	-450
950+11	0	29	34	0	0	0	0	0	0	0	4948	4551	946	-450
950+50	39	48	9	0	56	0	31	0	0	0	5004	4590	946	-433
951+00	50	50	5	0	91	0	13	0	0	0	5094	4606	946	-358
951+50	50	51	2	0	93	0	6	0	0	0	5188	4614	946	-273
952+00	50	52	0	0	95	0	2	0	0	0	5283	4616	946	-180
952+50	50	63	13	0	107	0	12	0	0	0	5012	4549	946	-89
953+00	50	65	13	0	119	0	24	0	0	0	5131	4579	946	0

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

2) Unuable Material

3) EBS Excavation to be backfilled with Select Borrow material.

5) Available Material = Cut - Salvaged/Unusuable Pavement Material

8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6

CONTINUE

STAGE 1		AREA (SF)			Incrl Vol (CY) (Unadjusted)				Cumulative Vol (CY)			
						(EBS)				Expanded	Expanded EBS	Mass
Station	Distance	Cut	Fill	EBS	Cut	Unusable Material	Fill	EBS Granular	Cut 1.00	Fill 1.25	Backfill 1.30	Ordinate
					Note 1	Note 2	Note 3	Backfill	Note 1		Note 5	Note 8
953+50	50	68	13	0	123	0	24	0	5254	4609	946	93
954+00	50	80	17	0	137	0	27	0	5391	4643	946	196
954+50	50	82	22	0	150	0	36	0	5541	4688	946	301
955+00	50	89	4	30	158	28	24	8	5699	4719	957	410
955+50	50	71	53	30	148	56	53	8	5847	4785	967	444
956+00	50	72	53	30	132	56	98	8	5980	4907	978	407
956+50	50	72	53	30	133	56	98	8	6113	5030	989	370
956+66	16	72	53	30	43	18	31	18	6156	5069	1012	374
957+00	50	73	52	30	134	56	97	8	6247	5151	999	339
957+50	50	72	53	30	134	56	97	8	6381	5273	1010	304
958+00	50	77	48	30	138	56	94	8	6519	5390	1020	277
958+06.	6	74	51	30	17	7	11	1	6536	5404	1022	274
958+16	10	64	79	30	26	11	29	11	6561	5441	1036	263
958+50	34	59	76	30	77	38	98	2	6639	5563	1038	182
959+00	50	57	83	0	107	28	147	28	6745	5747	1074	105
959+50	50	56	86	0	104	0	156	0	6850	5942	1074	14
960+00	50	55	15	0	103	0	93	0	6952	6059	1074	0
960+50	50	55	17	0	102	0	29	0	7054	6096	1074	65
961+00	50	57	18	0	104	0	32	0	7158	6136	1074	128
961+50	50	57	17	0	106	0	32	0	7264	6176	1074	194
962+00	50	58	15	0	106	0	30	0	7370	6214	1074	262
962+50	50	60	11	30	109	28	25	8	7478	6245	1085	320
962+61	11	60	11	30	24	12	5	2	7503	6251	1087	329
963+00	39	60	65	30	86	43	42	6	7565	6298	1093	325
963+50	50	60	65	30	111	56	120	8	7675	6448	1104	238
964+00	50	57	69	30	108	56	124	8	7783	6603	1114	143
964+50	50	58	11	30	106	56	74	8	7890	6696	1125	110
964+66	16	57	70	30	34	18	24	3	7924	6725	1129	99
965+00	34	58	69	30	72	38	87	6	7962	6804	1132	31
965+50	50	60	67	30	110	56	126	8	8072	6962	1143	-64
966+00	50	63	62	30	114	56	115	8	8186	7105	1153	-142
966+50	50	61	64	30	115	56	119	8	8300	7253	1164	-223
967+00	50	59	66	30	111	56	120	8	8411	7404	1174	-309
967+50	50	60	65	30	110	56	121	8	8521	7555	1185	-399
968+00	50	61	64	30	112	56	119	8	8633	7703	1196	-482

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2) Unuable Material

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5) Available Material = Cut - Salvaged/Unusuable Pavement Material

8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6

CONTINUE

STAGE 1		AREA (SF)			Incrl Vol (CY) (Unadjusted)						Cumulative Vol (CY)			
						(EBS)						Expanded	Expanded EBS	Mass
		Cut	Fill	EBS	Cut	Unusable	Fill	Marsh Exc	Rock Exc	EBS	Cut	Fill	Backfill	Ordinate
Station	Distance					Material				Granular	1.00	1.25	1.30	
					Note 1	Note 2	Note 3			Backfill	Note 1		Note 5	Note 8
968+50	50	66	59	30	118	56	114	0	0	8	8751	7846	1206	-554
969+00	50	72	54	30	128	56	105	0	0	8	8879	7977	1217	-604
969+50	50	73	53	30	134	56	99	0	0	8	9013	8100	1227	-641
969+88	38	30	11	0	73	21	45	0	0	6	9086	8156	1235	-639
970+50	62	32	30	0	71	0	47	0	0	0	9157	8215	1235	-627
971+00	50	30	26	0	57	0	52	0	0	0	9214	8280	1235	-634
971+50	50	25	23	0	51	0	45	0	0	0	9265	8336	1235	-640
971+65	15	26	35	0	14	0	15	0	0	0	9229	8299	1235	-645
972+00	35	21	18	0	31	0	33	0	0	0	9296	8377	1235	-655
972+50	50	19	12	0	38	0	28	0	0	0	9334	8412	1235	-652
973+00	50	16	0	0	32	0	11	0	0	0	9366	8425	1235	-633
973+50	50	30	2	0	42	0	2	0	0	0	9408	8428	1235	-593
974+00	50	15	0	0	41	0	2	0	0	0	9450	8430	1235	-554
974+50	50	15	0	0	28	0	0	0	0	0	9477	8430	1235	-527
975+00	50	15	0	0	27	0	1	0	0	0	9504	8431	1235	-500
975+50	50	15	0	0	27	0	1	0	0	0	9531	8431	1235	-474
976+00	50	15	0	0	27	0	0	0	0	0	9558	8432	1235	-448
976+50	50	15	0	0	27	0	1	0	0	0	9585	8433	1235	-421
977+00	50	14	1	0	27	0	1	0	0	0	9612	8434	1235	-395
977+50	50	7	0	0	20	0	0	0	0	0	9633	8434	1235	-376
					Column totals									
					10304	2928	7025	0	0	1025				

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

2) Unuable Material

3) EBS Excavation to be backfilled with Select Borrow material.

5) Available Material = Cut - Salvaged/Unusuable Pavement Material

8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6

9

CONTINUE

9

STAGE 2A & 2B STATION	AREA (SF) Cut	 Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	 Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	 Expanded Fill 1.25	 Mass Ordinate Note 8
931+44	31	6	0	0	0	0	0
931+50	31	13	7	2	7	3	4
931+56	30	21	7	4	14	7	7
931+68	32	35	14	12	27	23	5
932+00	32	29	38	38	65	70	-5
932+50	32	18	59	43	124	124	0
933+00	30	31	57	46	181	181	0
933+50	31	11	56	39	237	230	7
934+00	59	11	83	21	320	256	64
934+50	58	8	108	18	428	278	149
935+00	46	8	96	15	524	297	227
935+50	49	4	88	11	612	311	301
936+00	52	3	93	6	705	319	386
936+50	51	2	95	5	800	325	475
937+00	53	2	96	4	896	330	567
937+50	51	1	96	3	992	333	659
938+00	52	3	95	4	1087	338	749
938+50	45	4	90	7	1177	347	830
939+00	49	3	87	7	1263	355	908
939+50	47	4	88	6	1351	363	989
940+00	46	8	85	11	1437	377	1060
940+50	48	12	87	19	1524	400	1124
941+00	50	12	91	22	1615	428	1187
941+50	52	15	94	25	1709	459	1250
942+00	69	40	112	51	1821	523	1299
942+50	70	52	129	85	1950	630	1321
942+72	71	59	58	45	2008	686	1322
943+00	72	68	74	66	2082	768	1314
943+50	76	72	137	130	2219	931	1289
944+00	76	62	140	125	2360	1086	1273
944+50	75	51	140	105	2500	1218	1282
945+00	46	52	112	96	2612	1338	1274
945+50	47	51	87	94	2699	1455	1243
946+00	48	55	88	97	2787	1577	1209
946+06	61	54	12	12	2799	1592	1206
946+31	61	54	57	50	2856	1654	1200
946+50	61	55	43	38	2899	1702	1195

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

3) EBS Excavation to be backfilled with Select Borrow material.

8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6

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PROJECT NO: 1100-00-73 | HWY: IH 41 | COUNTY: WASHINGTON | EARTHWORK SUMMARY | SHEET E

FILE NAME : N:\2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\DESIGN\QUANITIES\0302_01_MQ_NO9P.DWG DATE : 2/10/2016 3:20 PM PLOT BY : TOKI PLOT NAME : PLOT SCALE : NO SCALE

WISDOT/CADDS SHEET 42

STAGE 2A & 2B	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
	Cut	Fill	Cut	Fill	Cut	Expanded Fill	Mass Ordinate
STATION					1.00	1.25	
			Note 1	Note 3	Note 1		Note 8
946+56	61	55	14	12	2912	1717	1194
947+00	60	55	15	13	2934	1741	1191
947+50	66	55	47	40	2993	1805	1187
948+00	69	58	124	105	3117	1937	1179
948+50	57	70	106	130	3223	2099	1134
949+00	54	70	103	130	3326	2261	1074
949+23	56	97	47	71	3373	2350	1032
950+50	70	75	0	0	3373	2350	1032
951+00	67	44	127	110	3499	2488	1021
951+50	64	48	122	85	3621	2594	1036
952+00	63	49	118	89	3739	2705	1043
952+50	72	50	125	91	3864	2819	1054
953+00	70	49	131	91	3995	2933	1071
953+16	69	48	41	29	4037	2969	1077
953+41	71	47	65	44	4101	3024	1087
953+50	70	47	24	16	4125	3044	1091
953+66	70	49	41	28	4166	3079	1097
954+00	78	48	93	61	4259	3155	1113
954+50	79	53	145	94	4405	3273	1141
955+00	84	58	151	103	4556	3402	1163
955+50	77	57	149	107	4705	3536	1178
956+00	77	47	143	96	4848	3656	1201
956+50	75	54	141	94	4988	3773	1224
956+65	74	148	42	46	5030	3831	1208
957+00	73	42	137	151	5167	4019	1156
957+50	71	35	133	71	5300	4109	1200
958+00	69	12	129	44	5430	4164	1274
958+06	71	27	16	6	5445	4171	1282
958+16	68	24	25	9	5471	4182	1297
958+50	60	29	81	33	5551	4224	1336
959+00	63	5	114	32	5665	4263	1410
959+50	61	3	115	8	5780	4273	1515
960+00	59	5	111	7	5891	4281	1618
960+50	58	6	108	10	5999	4293	1714

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

3) EBS Excavation to be backfilled with Select Borrow material.

8) Reduced Marsh in Fill - Excavated Marsh material is usable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6

CONTINUE

STAGE 2A & 2B STATION	AREA (SF) Cut	 Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	 Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	 Expanded Fill 1.25	 Mass Ordinate Note 8
961+00	58	6	108	11	6106	4307	1808
961+50	59	5	108	10	6215	4319	1904
962+00	59	6	109	10	6324	4331	2001
962+50	61	4	111	9	6435	4342	2101
963+00	62	2	113	6	6548	4349	2208
963+50	62	1	115	3	6663	4353	2318
964+00	60	2	113	3	6775	4357	2427
964+50	58	3	109	5	6885	4363	2530
964+66	58	3	34	2	6919	4365	2563
965+00	58	2	73	3	6992	4369	2632
965+50	63	1	112	3	7105	4373	2740
965+54	63	1	9	0	7114	4373	2749
966+00	63	1	108	1	7222	4374	2856
966+04	63	1	9	0	7231	4375	2865
966+50	62	1	107	2	7338	4377	2969
967+00	65	1	118	2	7456	4380	3084
967+50	62	1	117	2	7573	4382	3200
968+00	63	1	116	1	7689	4383	3313
968+50	62	3	115	3	7804	4387	3424
969+00	61	3	113	5	7917	4394	3531
969+50	63	1	114	4	8032	4398	3641
970+00	63	2	116	3	8148	4403	3753
970+50	62	2	116	4	8264	4408	3863
971+00	62	4	115	6	8379	4416	3971
971+50	64	7	117	11	8496	4429	4074
971+65	63	10	35	5	8531	4435	4103
972+00	64	5	118	14	8649	4452	4204
972+50	63	4	118	8	8767	4463	4312
973+00	63	10	117	13	8884	4479	4412
973+50	62	6	115	15	8999	4497	4509
974+00	0	0	57	5	9056	4504	4559
974+50	0	0	0	0	9056	4504	4557
975+00	0	0	0	0	9056	4504	4554
975+50	0	0	0	0	9056	4504	4550
976+00	0	0	0	0	9056	4504	4545
976+50	0	0	0	0	9056	4504	4539
977+00	0	0	0	0	9056	4504	4532
977+50	0	0	0	0	9056	4504	4524
			Column totals				
			9056	3603			

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

3) EBS Excavation to be backfilled with Select Borrow material.

8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6

CONTINUE

STAGE 3 STATION	Distance	AREA (SF) Cut	 Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	 Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	 Expanded Fill 1.25	 Mass Ordinate Note 8
945+00	0	30	1	0	0	0	0	0
945+50	50	31	0	58	0	58	0	58
946+00	50	32	6	59	6	117	7	110
946+06	6	32	0	7	1	124	8	116
946+31	25	16	0	22	0	146	8	138
946+50	19	17	0	12	0	158	8	150
946+56	6	18	0	4	0	162	8	154
947+00	13	19	1	5	0	168	8	160
947+50	39	21	4	15	3	187	12	175
948+00	50	22	9	40	12	227	26	201
948+50	50	25	21	46	39	273	75	196
949+00	50	28	47	49	63	321	153	166
949+23	23	24	57	22	44	344	208	134
950+50	0	28	44	0	0	344	208	134
951+00	50	29	41	52	79	396	307	87
951+50	50	29	37	53	72	449	397	50
952+00	50	30	27	55	59	504	471	31
952+50	50	30	21	56	45	560	527	31
953+00	50	29	14	54	33	615	568	45
953+16	16	28	9	17	7	631	576	53
953+41	25	27	10	25	9	657	587	68
953+50	9	27	9	9	3	666	591	73
953+66	16	31	10	17	6	683	598	83
954+00	34	27	2	36	8	719	608	109
954+50	50	22	0	45	2	764	610	152
955+00	50	19	0	38	0	802	611	189

Column totals	
802	488

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

3) EBS Excavation to be backfilled with Select Borrow material.

8) Reduced Marsh in Fill - Excavated Marsh material is usable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6

9

CONTINUE

9

PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	EARTHWORK SUMMARY	SHEET 275	E

STAGE 4	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
	Cut	Fill	Cut	Fill	Cut	Expanded Fill	Mass Ordinate
STATION					1.00	1.25	
			Note 1	Note 3	Note 1		Note 8
925+50	11	0	0	0	0	0	0
926+00	11	0	21	0	21	0	21
926+50	12	0	23	0	44	0	43
927+00	14	0	25	0	69	0	67
927+50	16	0	29	0	98	0	94
928+00	16	0	30	0	128	0	123
928+50	22	3	35	3	163	3	156
929+00	28	0	46	3	209	7	199
929+50	79	0	99	0	307	7	298
930+00	81	0	147	0	455	7	446
930+50	82	0	150	0	605	7	596
931+00	84	0	154	0	758	7	751
931+44	86	0	138	0	897	7	889
931+50	86	0	18	0	915	7	908
931+68	86	0	57	0	972	7	966
932+00	76	0	95	0	1067	7	1062
932+50	78	0	141	0	1209	7	1204
933+00	77	0	143	0	1352	7	1347
933+50	77	0	143	0	1494	7	1491
934+00	78	0	143	0	1637	7	1634
934+50	79	0	145	0	1782	7	1780
935+00	78	0	145	0	1927	7	1925
935+50	78	0	144	0	2071	7	2070
936+00	75	0	142	0	2213	7	2212
936+50	72	0	136	0	2349	7	2349
937+00	70	0	132	0	2481	7	2481
937+50	68	0	126	0	2607	7	2610
938+00	68	0	125	0	2732	7	2736
938+50	67	0	125	0	2857	7	2861
939+00	68	0	125	0	2982	7	2987
939+50	68	0	126	0	3108	7	3114
940+00	70	0	127	0	3235	7	3241
940+50	71	0	130	0	3366	7	3372
941+00	74	0	134	0	3500	7	3506
941+50	76	0	139	0	3639	7	3645
942+00	78	0	143	0	3782	7	3789

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

3) EBS Excavation to be backfilled with Select Borrow material.

8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6

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CONTINUE

STAGE 4 STATION	AREA (SF) Cut	 Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	 Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	 Expanded Fill 1.25	 Mass Ordinate Note 8
942+50	80	0	147	0	3928	7	3935
942+72	81	0	66	0	3994	7	4001
943+00	79	0	147	0	4141	7	4149
943+50	74	0	142	0	4283	7	4290
944+00	72	0	136	0	4419	7	4426
944+50	70	0	131	0	4550	7	4558
945+00	35	0	97	0	4647	7	4654
945+50	33	0	62	0	4708	7	4717
946+00	14	10	44	9	4752	18	4750
946+50	14	6	26	15	4778	36	4758
947+00	14	3	26	8	4803	47	4773
947+50	14	1	26	3	4829	50	4796
948+00	15	0	27	1	4856	51	4821
948+50	16	0	28	0	4884	51	4850
949+00	17	0	30	0	4914	52	4880
949+23	19	0	15	0	4930	52	4895
950+10	14	1	0	0	4914	52	4881
950+50	17	1	25	1	4954	54	4918
951+00	17	1	31	2	4986	56	4947
951+50	17	1	31	2	5017	58	4976
952+00	18	1	32	2	5049	61	5006
952+50	18	1	33	2	5082	63	5037
953+00	19	1	34	2	5116	65	5069
953+50	19	1	35	2	5150	68	5101
954+00	26	1	41	2	5191	70	5140
954+50	28	1	50	2	5241	72	5188
955+00	39	0	62	1	5304	73	5249
955+50	79	0	109	0	5413	73	5358
956+00	79	0	145	0	5558	73	5504
956+50	73	0	140	0	5698	73	5644
956+65	74	0	40	0	5738	73	5685
957+00	75	0	96	0	5834	73	5781
957+50	78	0	141	0	5975	73	5923
958+00	82	0	148	0	6123	73	6072
958+06.	79	0	18	0	6141	73	6090
958+16	80	0	29	0	6171	73	6119

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

3) EBS Excavation to be backfilled with Select Borrow material.

8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6

CONTINUE

STAGE 4	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
	Cut	Fill	Cut	Fill	Cut	Expanded Fill	Mass Ordinate
STATION					1.00	1.25	
			Note 1	Note 3	Note 1		Note 8
958+50	80	0	100	0	6271	73	6220
959+00	91	0	157	0	6428	73	6377
959+50	89	0	166	0	6594	73	6544
960+00	87	0	163	0	6757	73	6708
960+50	89	0	163	0	6920	73	6871
961+00	88	0	163	0	7083	74	7034
961+50	86	0	161	1	7244	75	7195
962+00	85	0	158	0	7402	75	7353
962+50	82	0	154	0	7556	75	7507
963+00	81	0	150	0	7706	75	7659
963+50	82	0	151	0	7857	75	7810
964+00	84	0	154	0	8011	75	7965
964+50	86	0	157	0	8168	75	8122
964+66	86	0	50	0	8219	75	8173
965+00	86	0	107	0	8326	75	8281
965+50	85	0	158	0	8484	75	8439
966+00	85	0	157	0	8641	75	8597
966+50	85	0	157	0	8798	75	8754
967+00	87	0	159	0	8957	75	8914
967+50	87	0	161	0	9117	75	9075
968+00	89	0	162	0	9280	75	9237
968+50	84	0	160	0	9439	75	9398
969+00	79	0	151	0	9590	75	9549
969+50	72	0	139	0	9729	75	9688
970+00	55	1	118	1	9847	76	9805
970+50	51	1	95	2	9942	78	9902
971+00	46	1	90	2	10032	81	9989
971+50	43	1	82	3	10114	84	10068
971+65	38	2	22	1	10136	85	10090
972+00	36	2	49	2	10185	89	10135
972+50	31	1	62	3	10247	92	10194
973+00	23	3	50	4	10298	97	10239
973+50	24	3	43	6	10341	105	10275
974+00	12	1	33	4	10374	110	10302
974+50	11	3	21	3	10395	114	10317
975+00	11	3	20	5	10415	120	10328
975+50	10	3	20	5	10435	127	10337
976+00	11	3	19	5	10454	134	10345
976+50	10	3	19	5	10474	140	10352
977+00	10	3	19	5	10493	146	10358
977+50	11	4	19	6	10512	153	10362

Column totals	
10512	123

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

3) EBS Excavation to be backfilled with Select Borrow material.

8) Reduced Marsh in Fill - Excavated Marsh material is usable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6

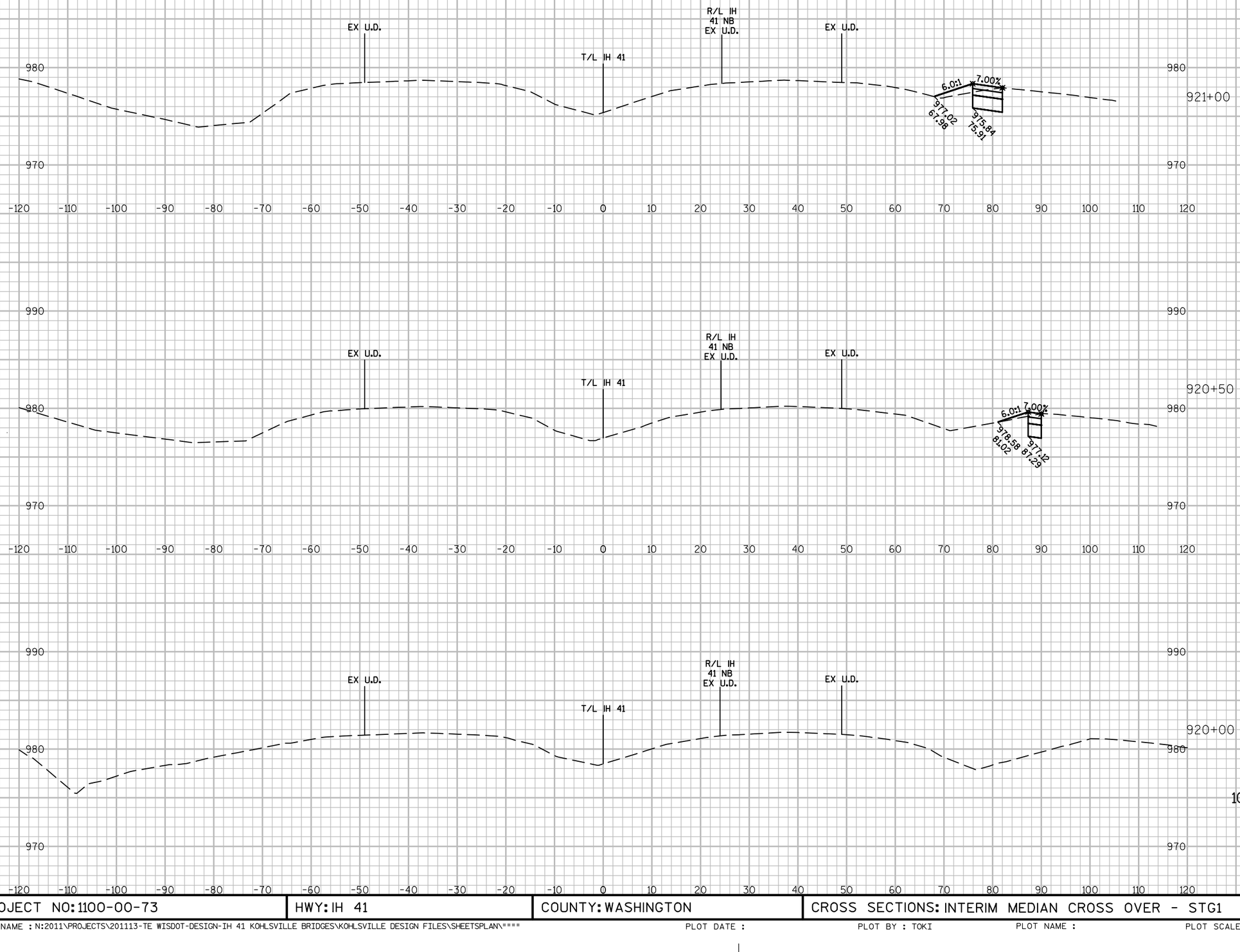
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PROJECT NO: 1100-00-73 | HWY: IH 41 | COUNTY: WASHINGTON | EARTHWORK SUMMARY | SHEET E

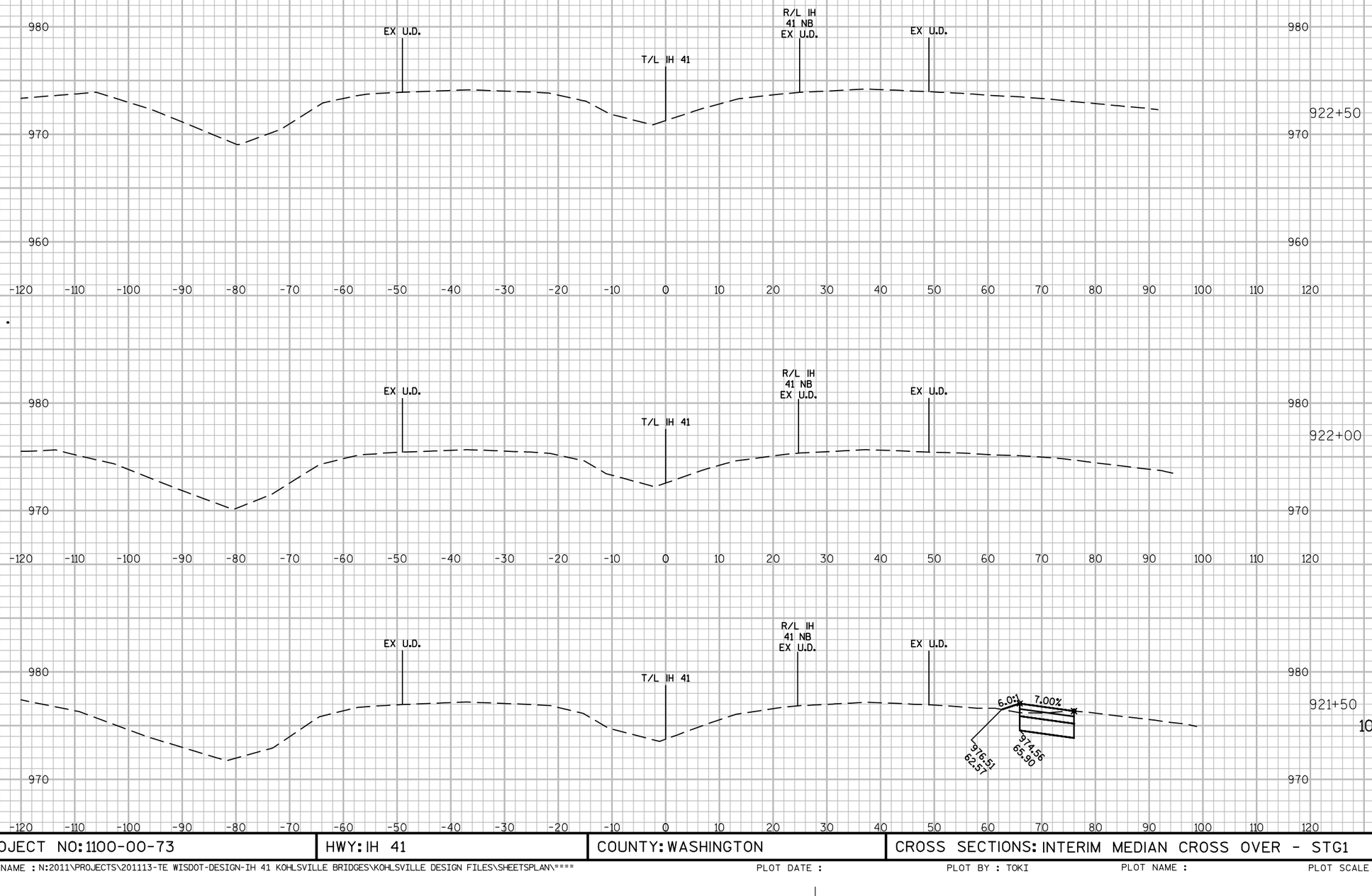
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WISDOT/CADDS SHEET 42



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET	E

FILE NAME : N:2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN**** PLOT DATE : PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:20 FT

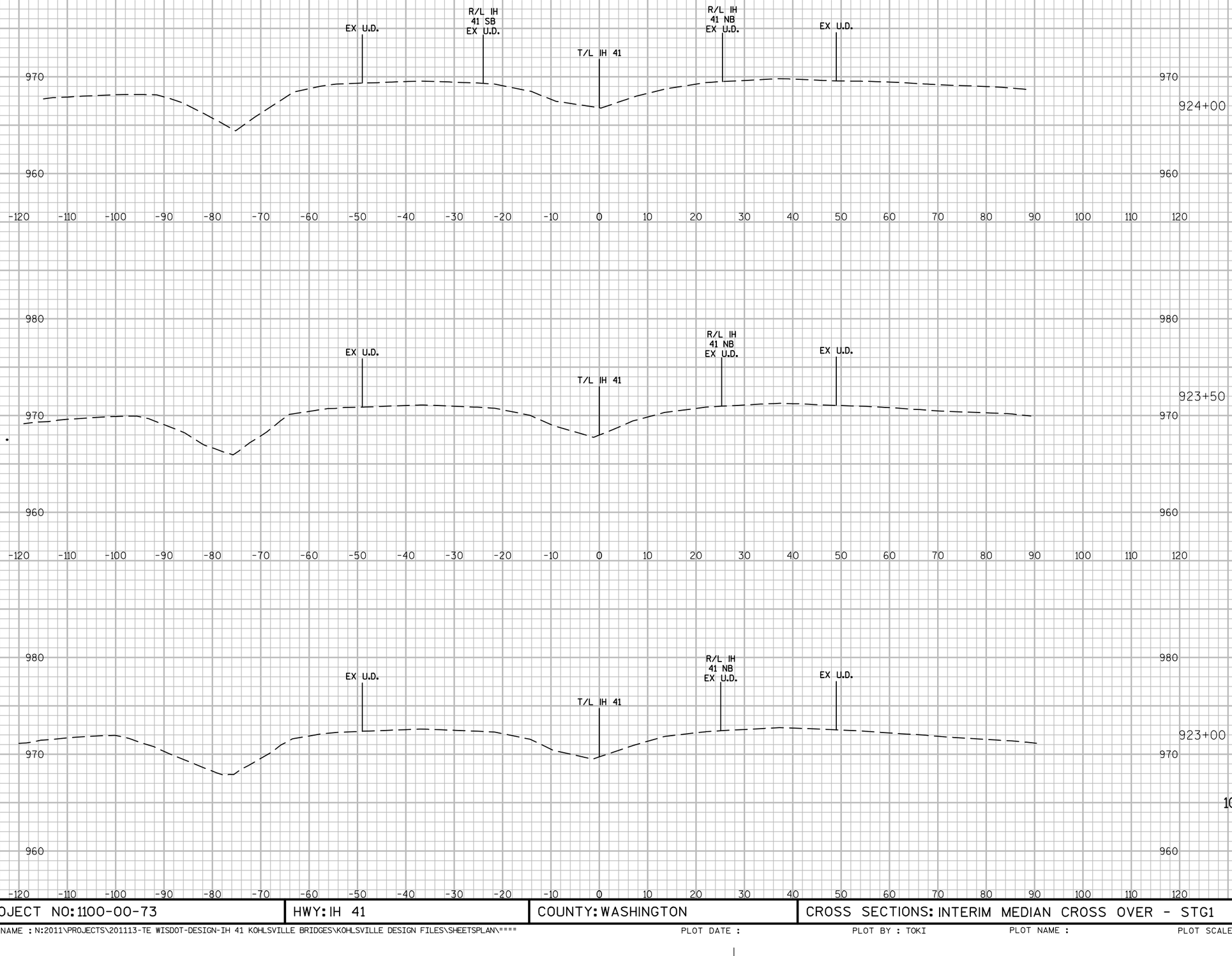


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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET	E

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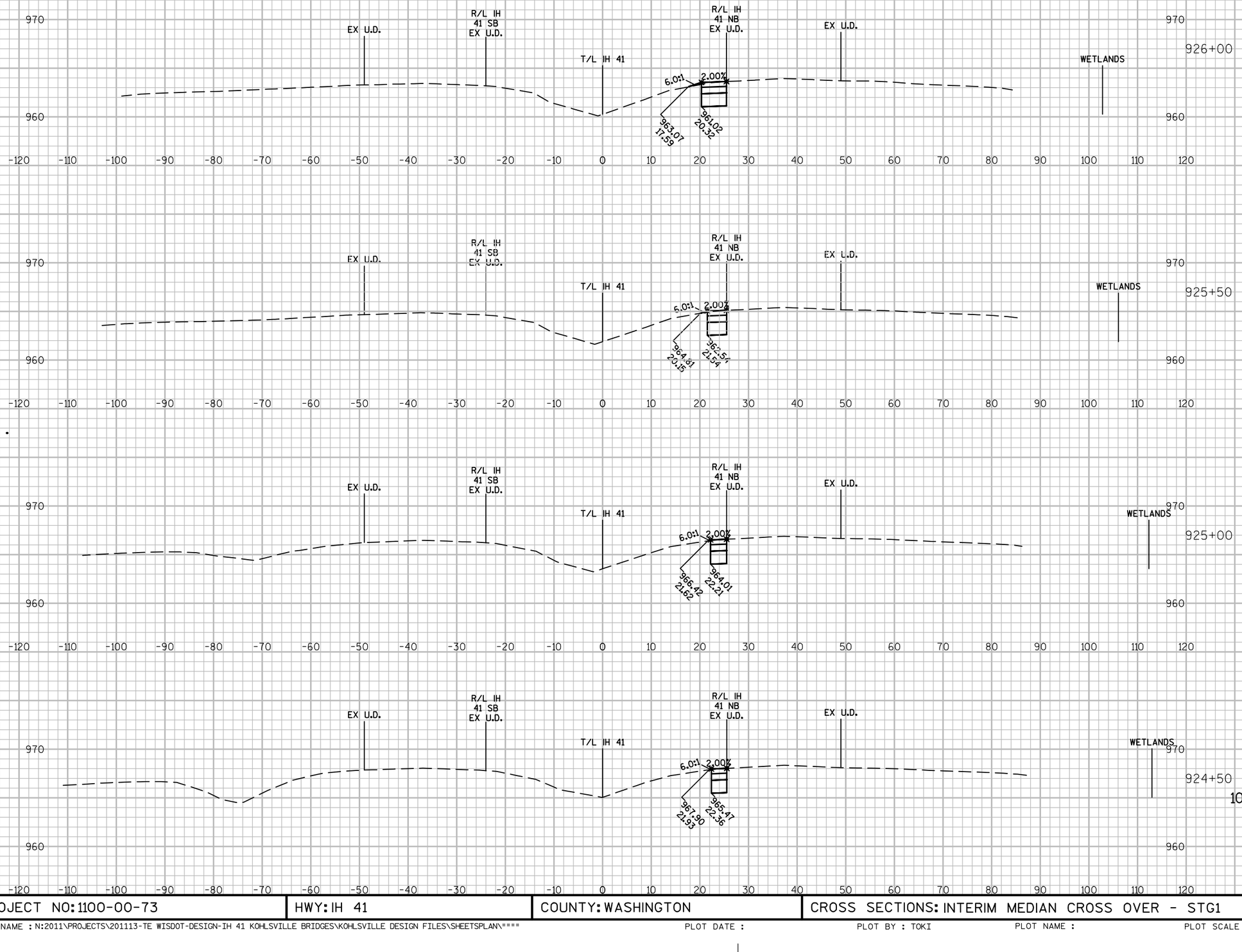
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET	E

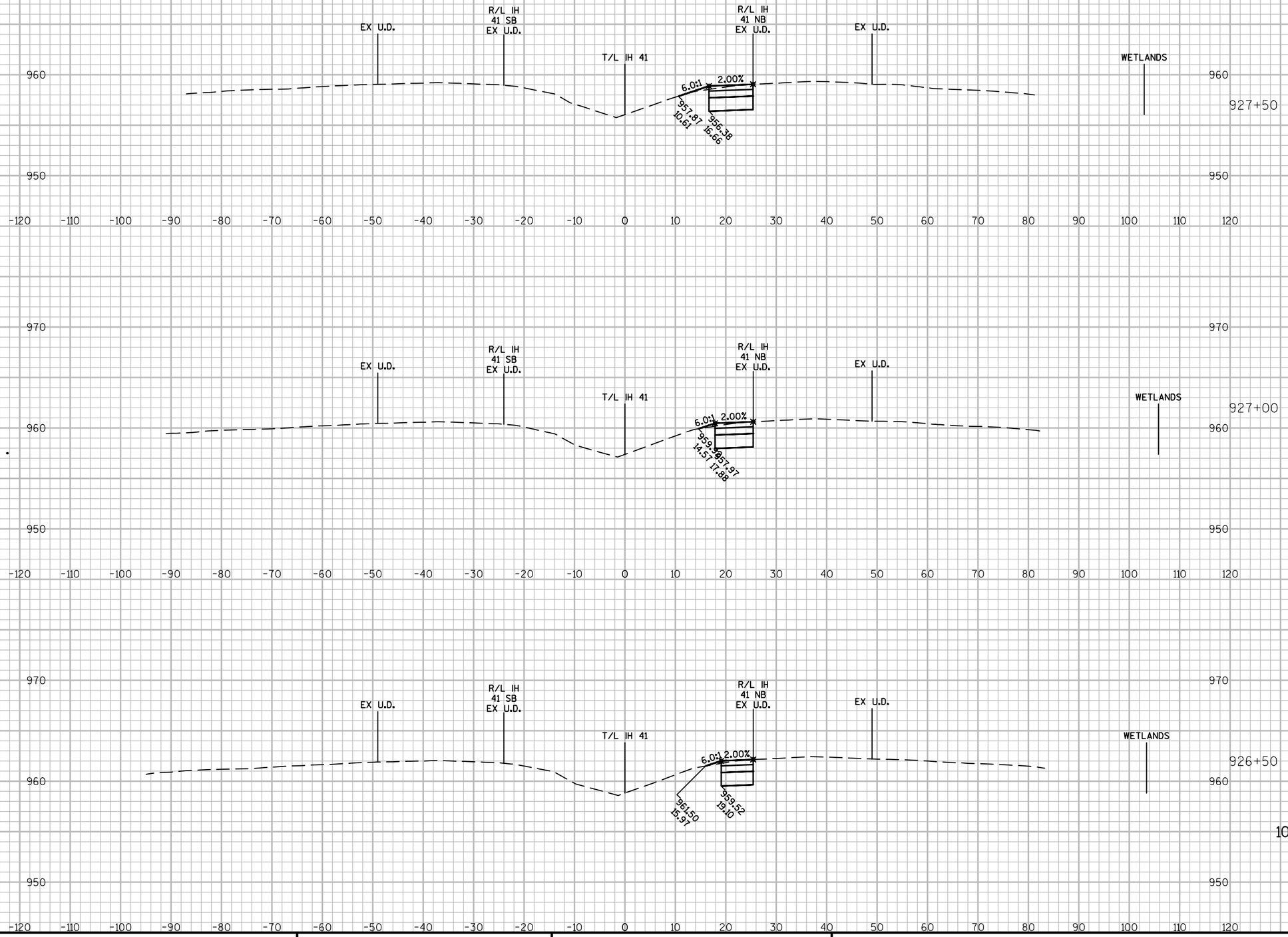
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WISDOT/CADDS SHEET 49



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET	E

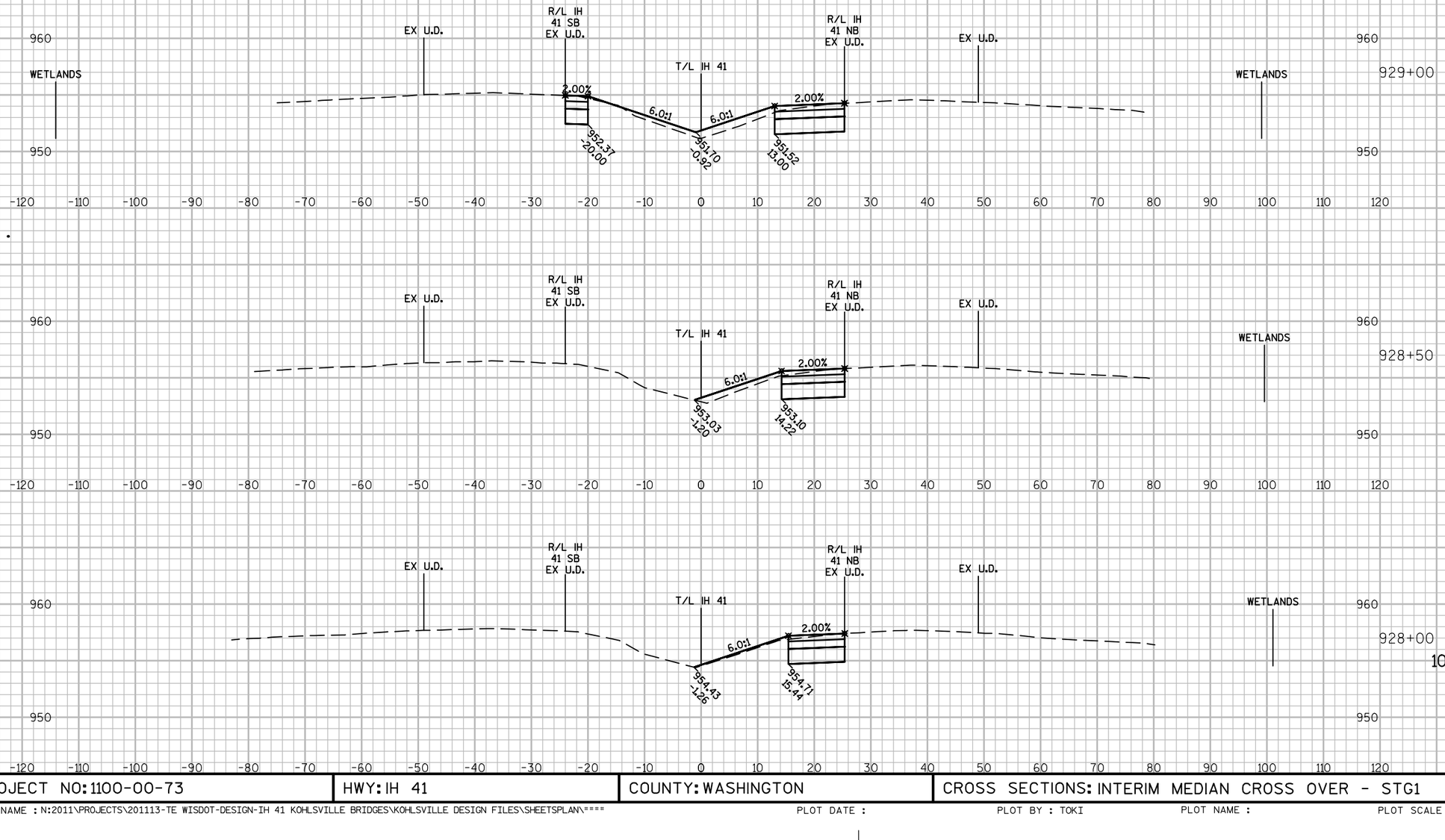


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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET	E

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WISDOT/CADDS SHEET 49

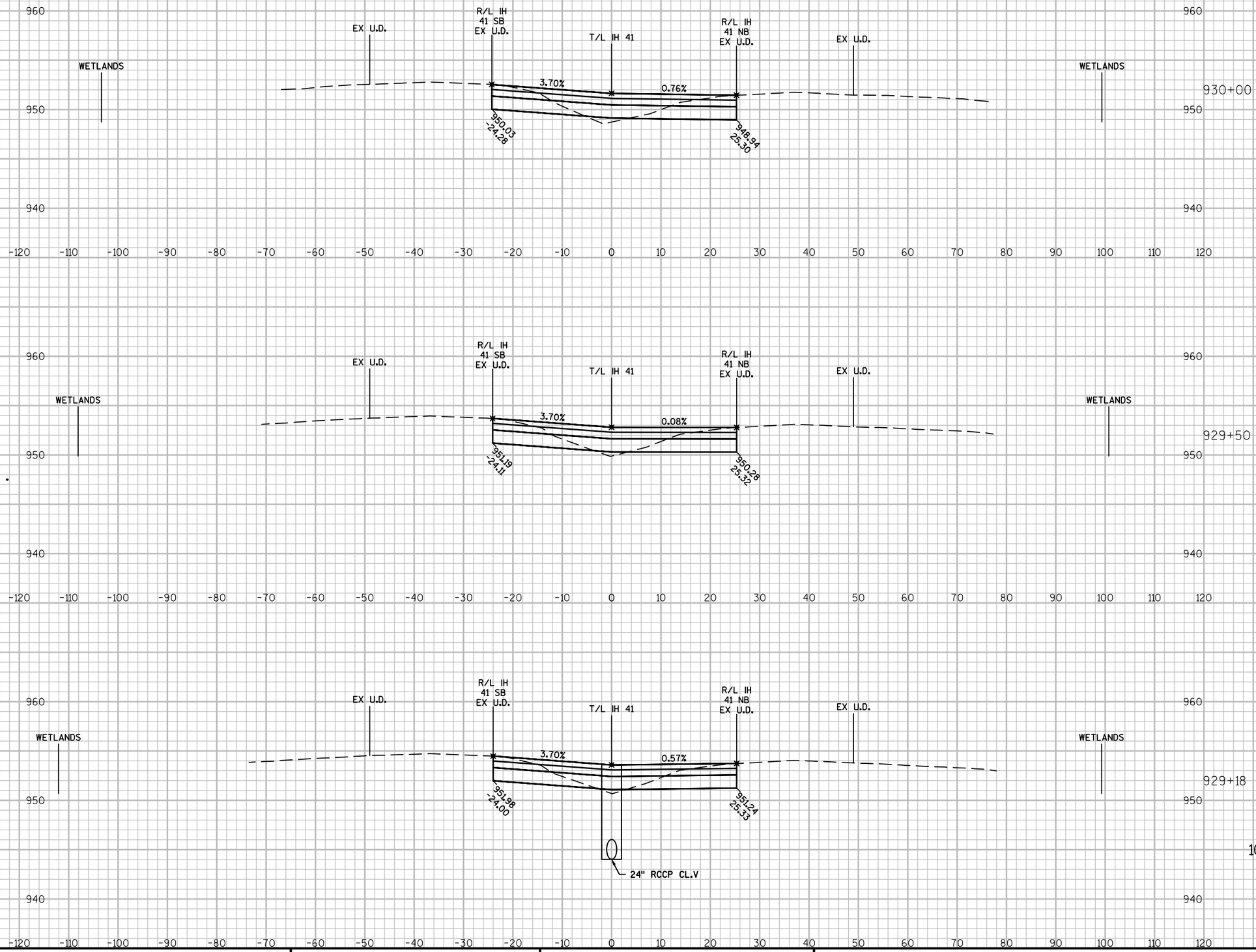


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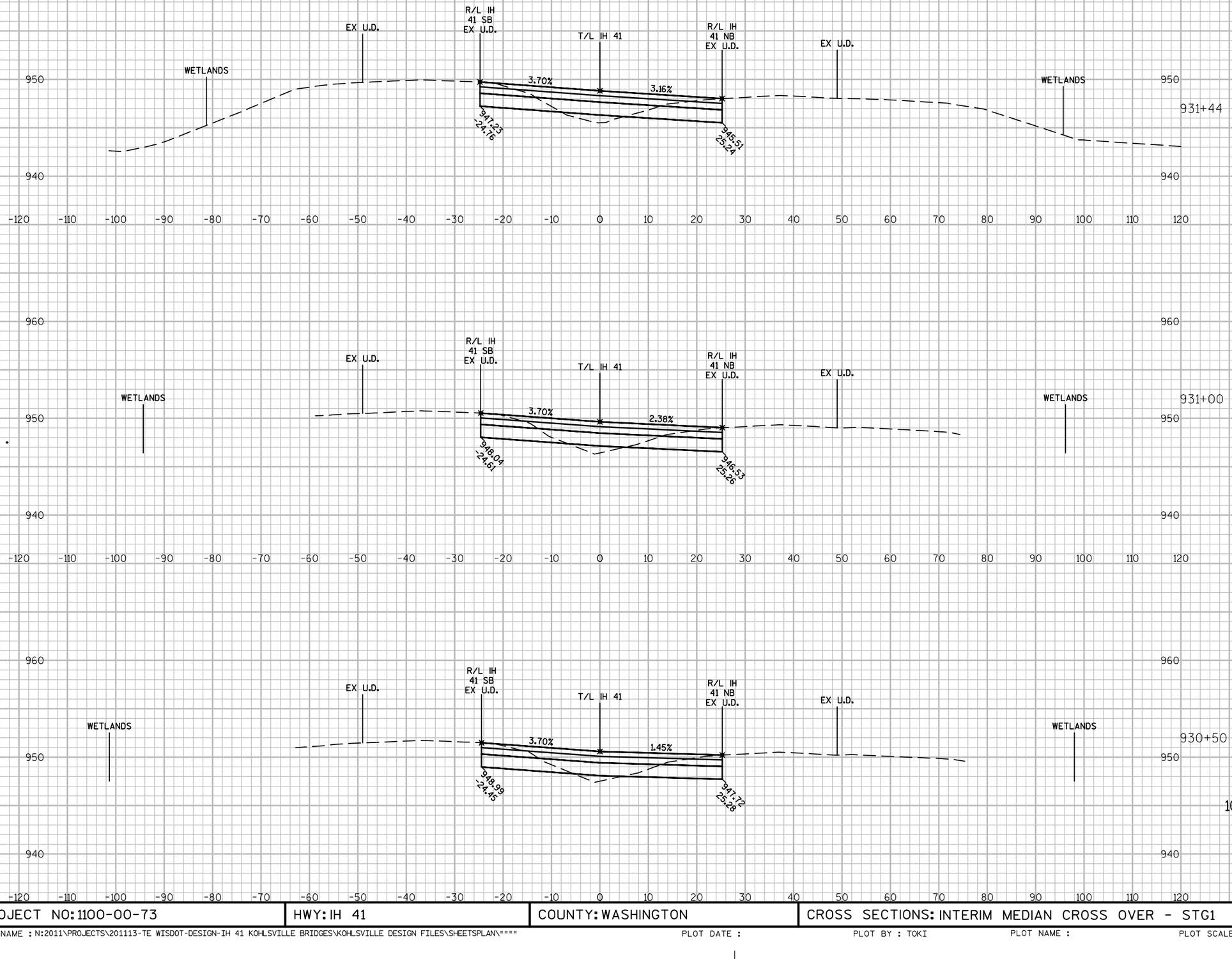
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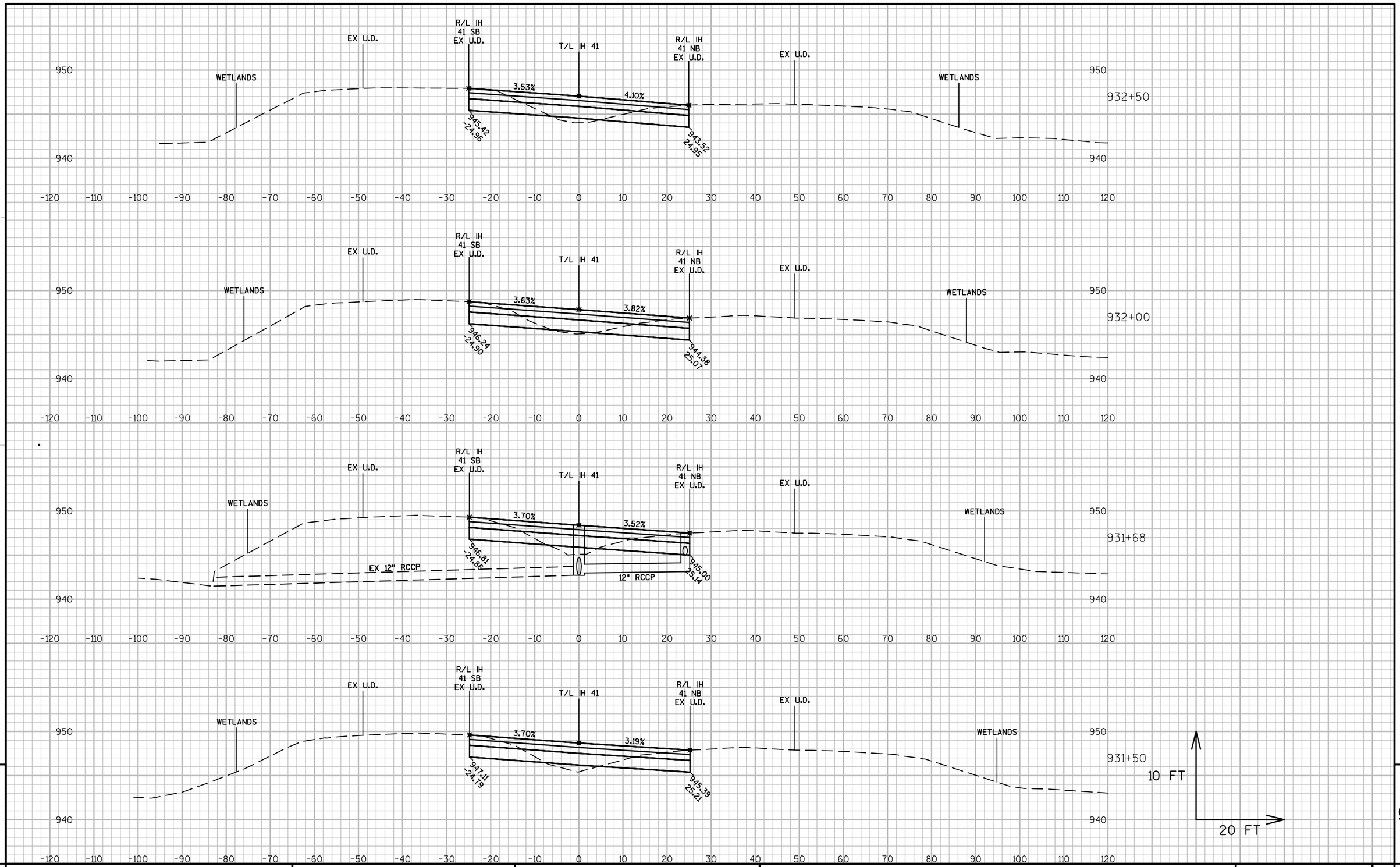
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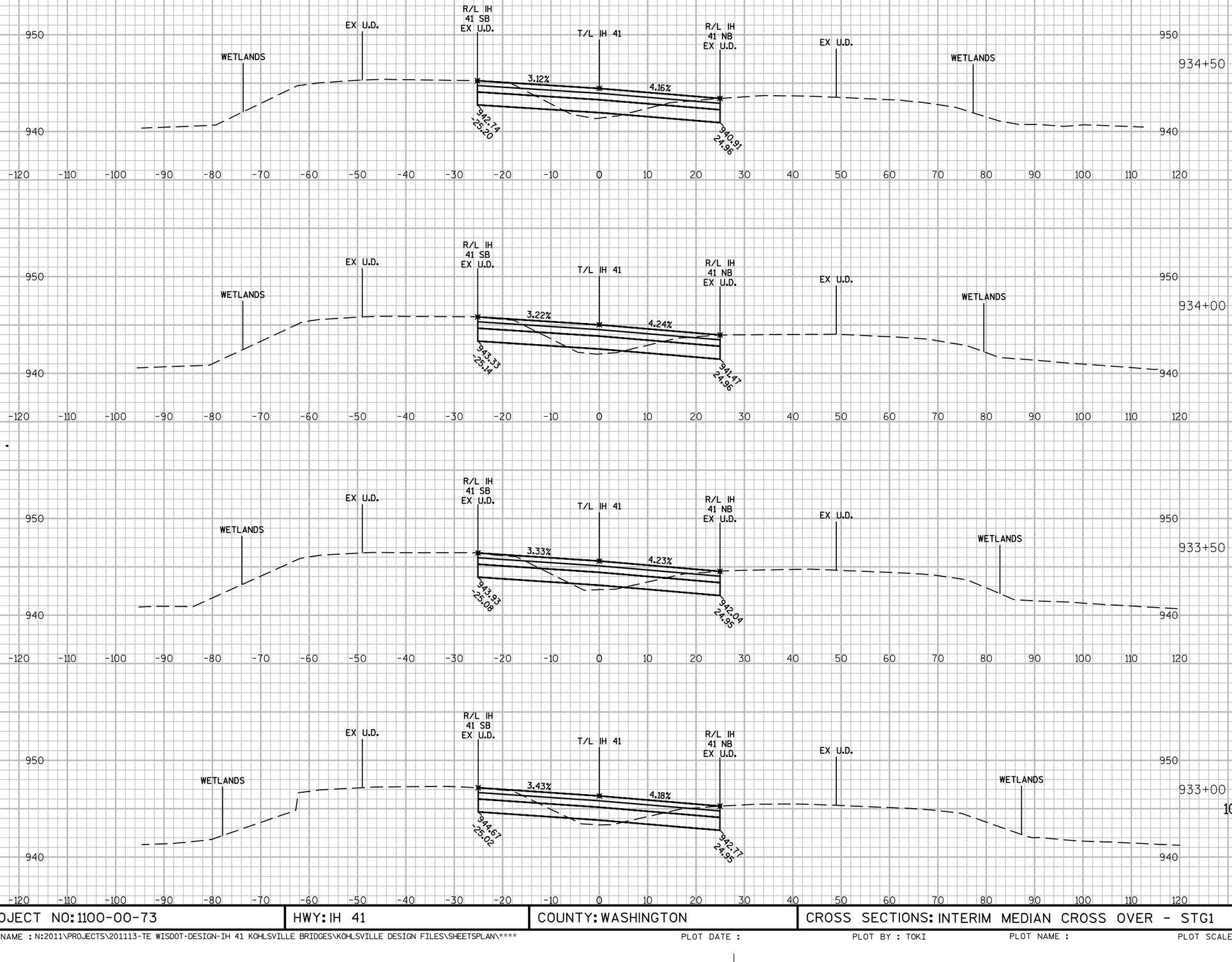


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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET	E

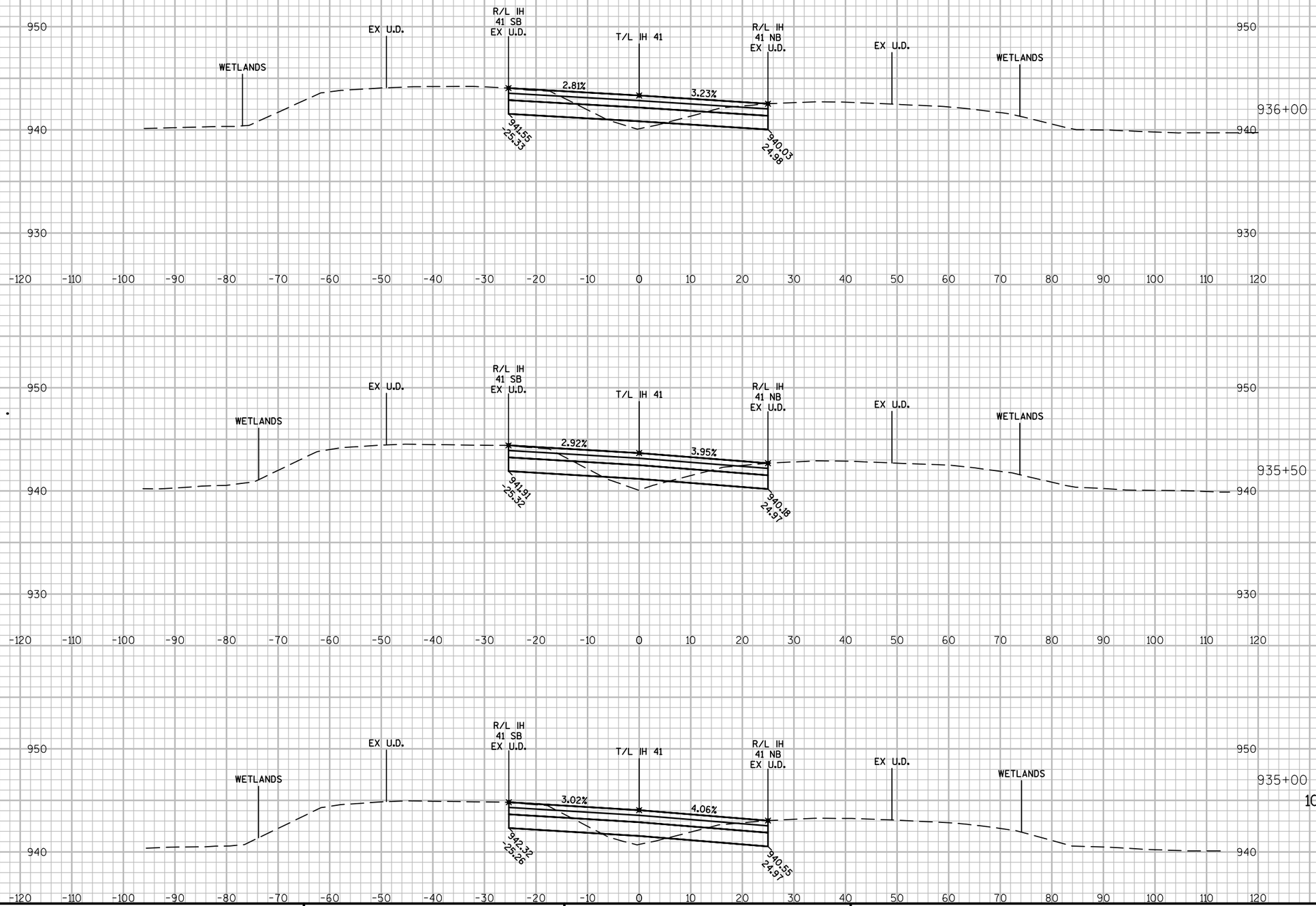
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WISDOT/CADDS SHEET 49



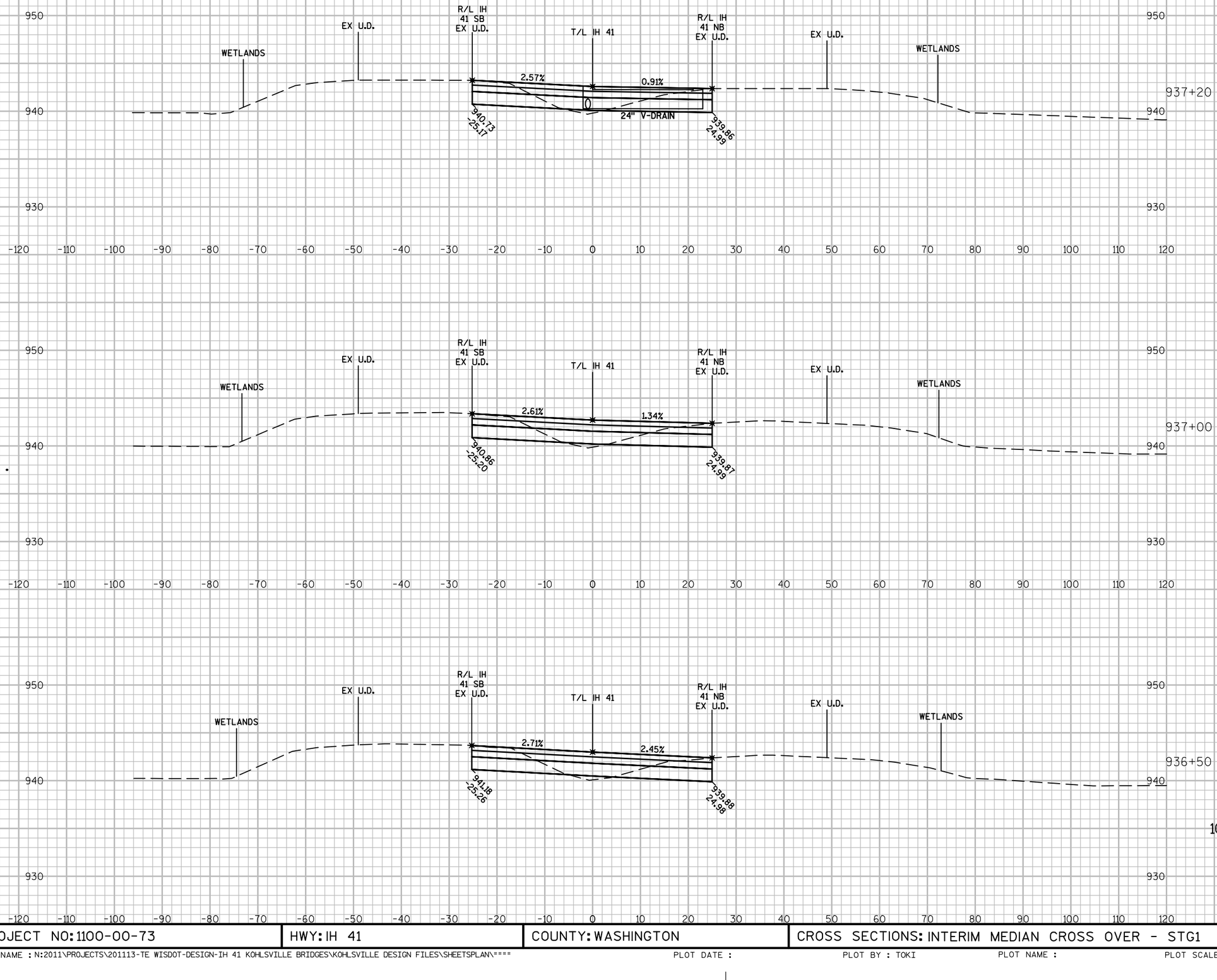
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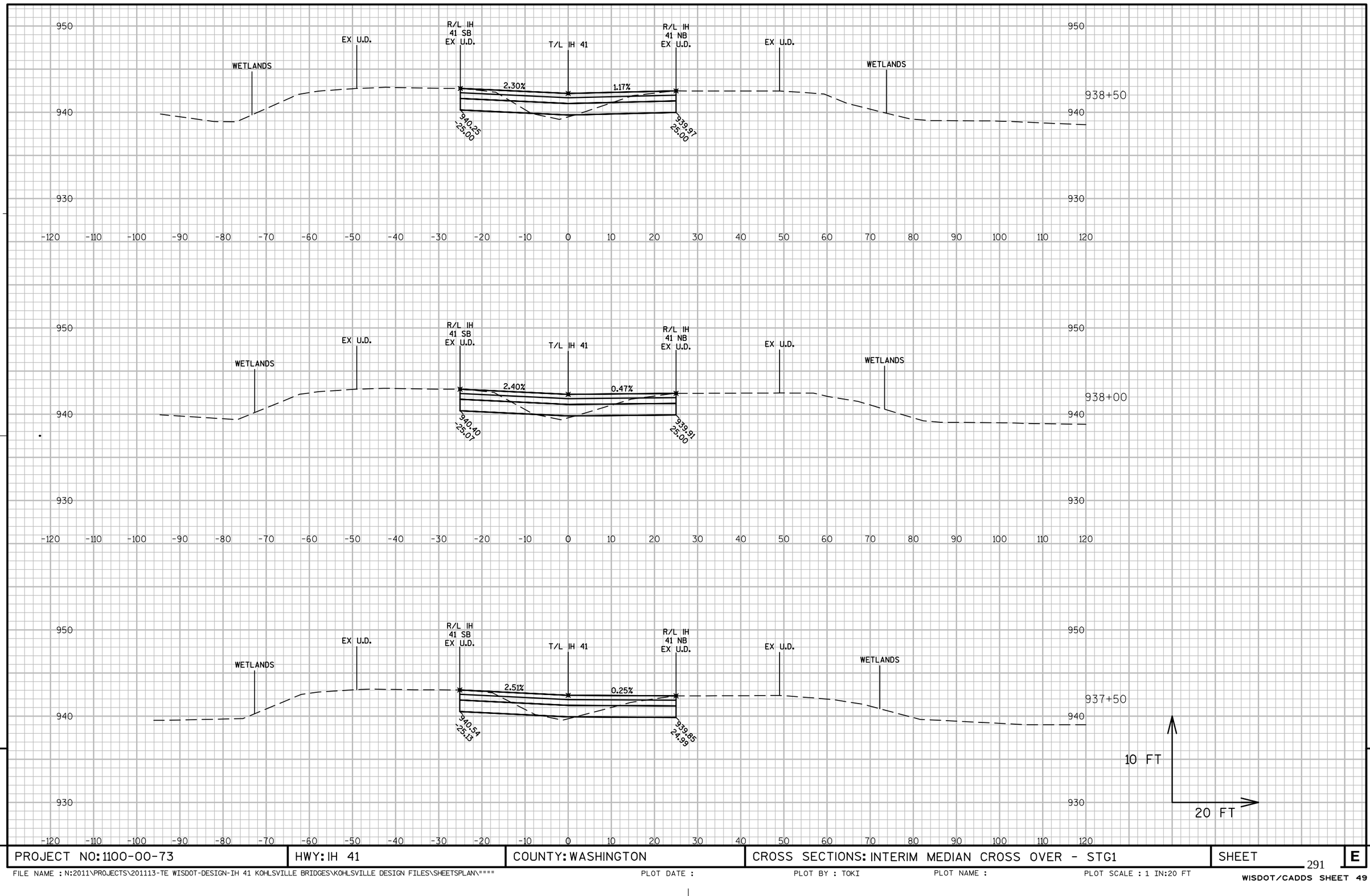
WISDOT/CADDS SHEET 49



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET E

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WISDOT/CADDS SHEET 49

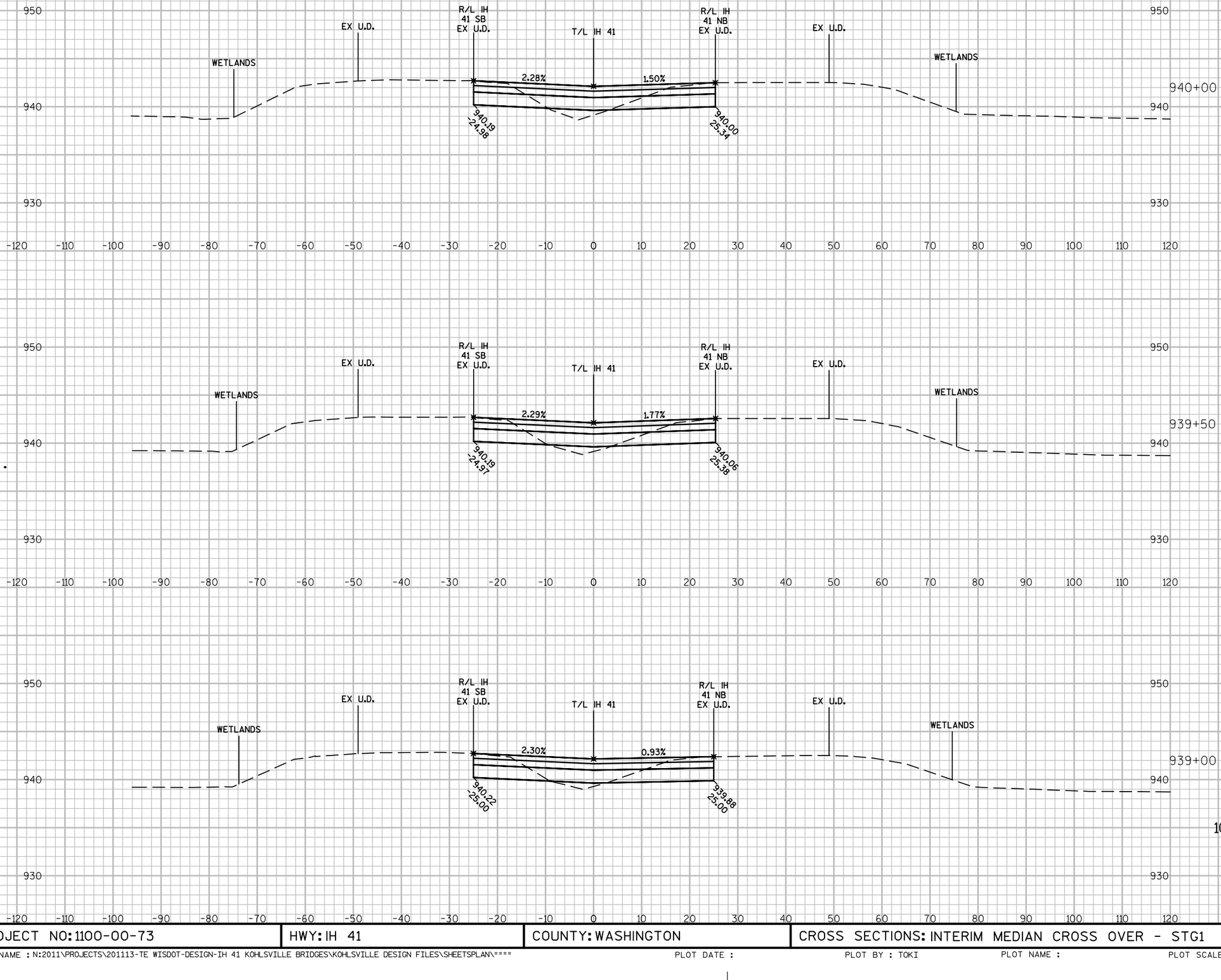


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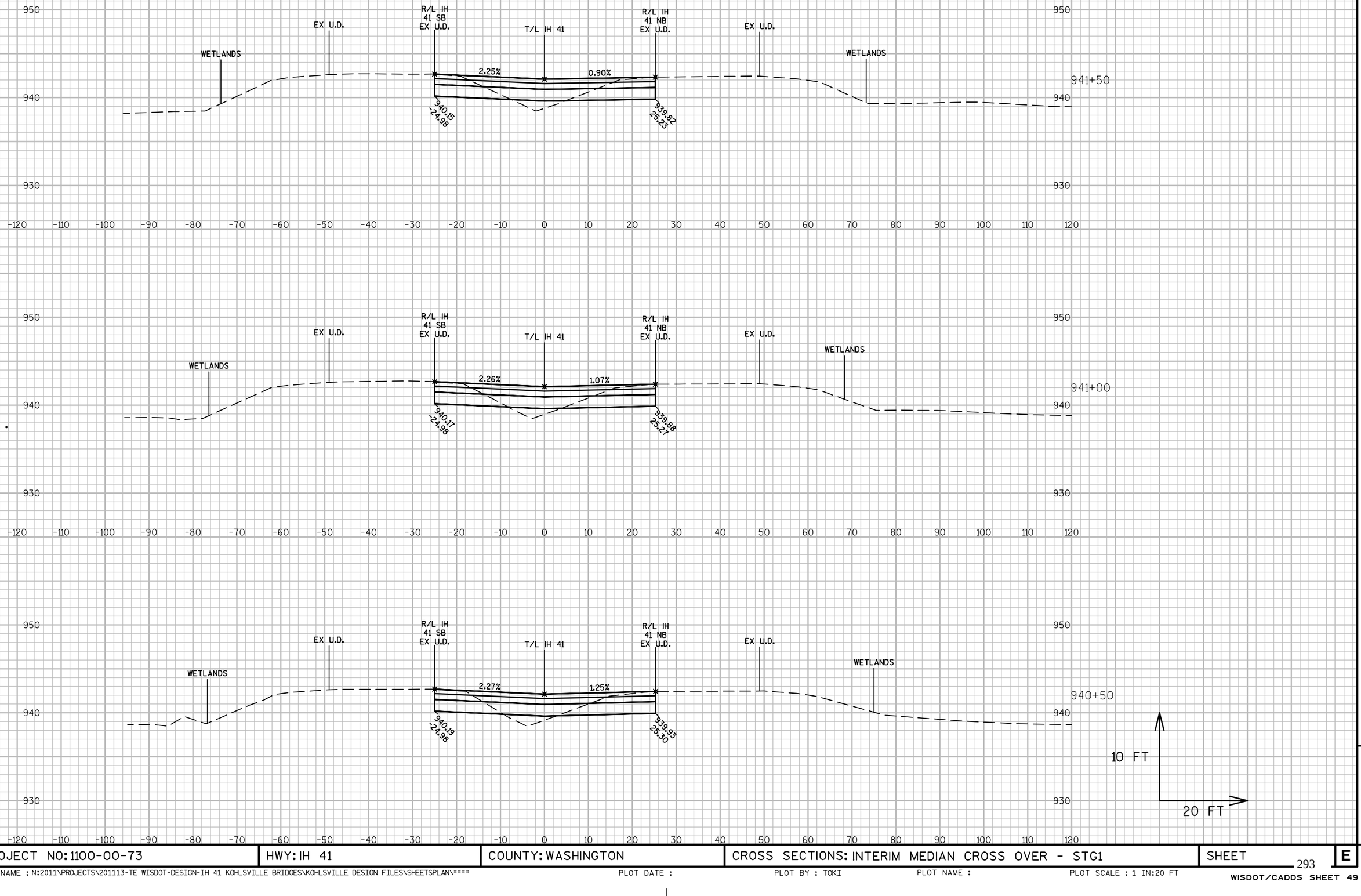
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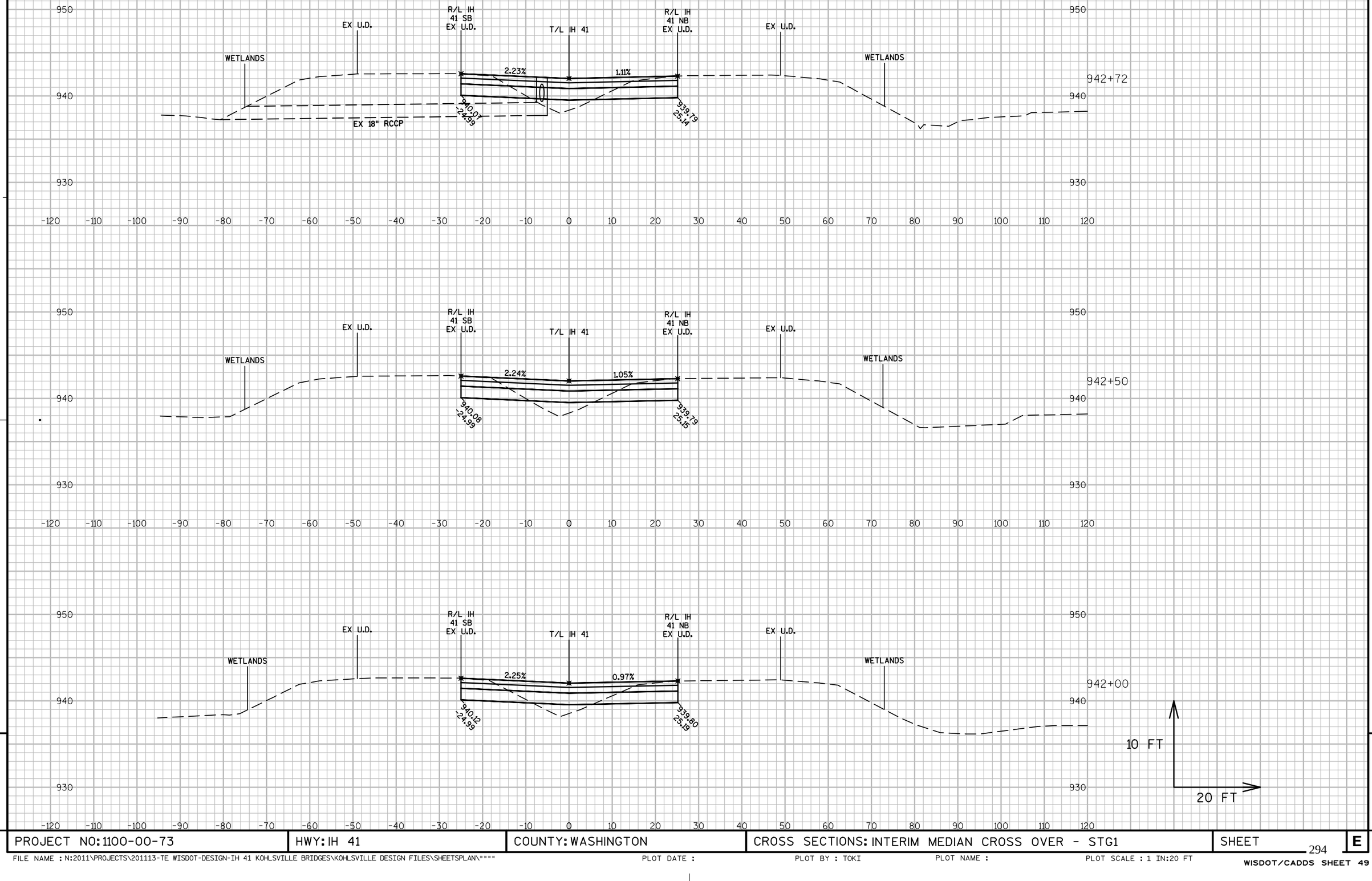
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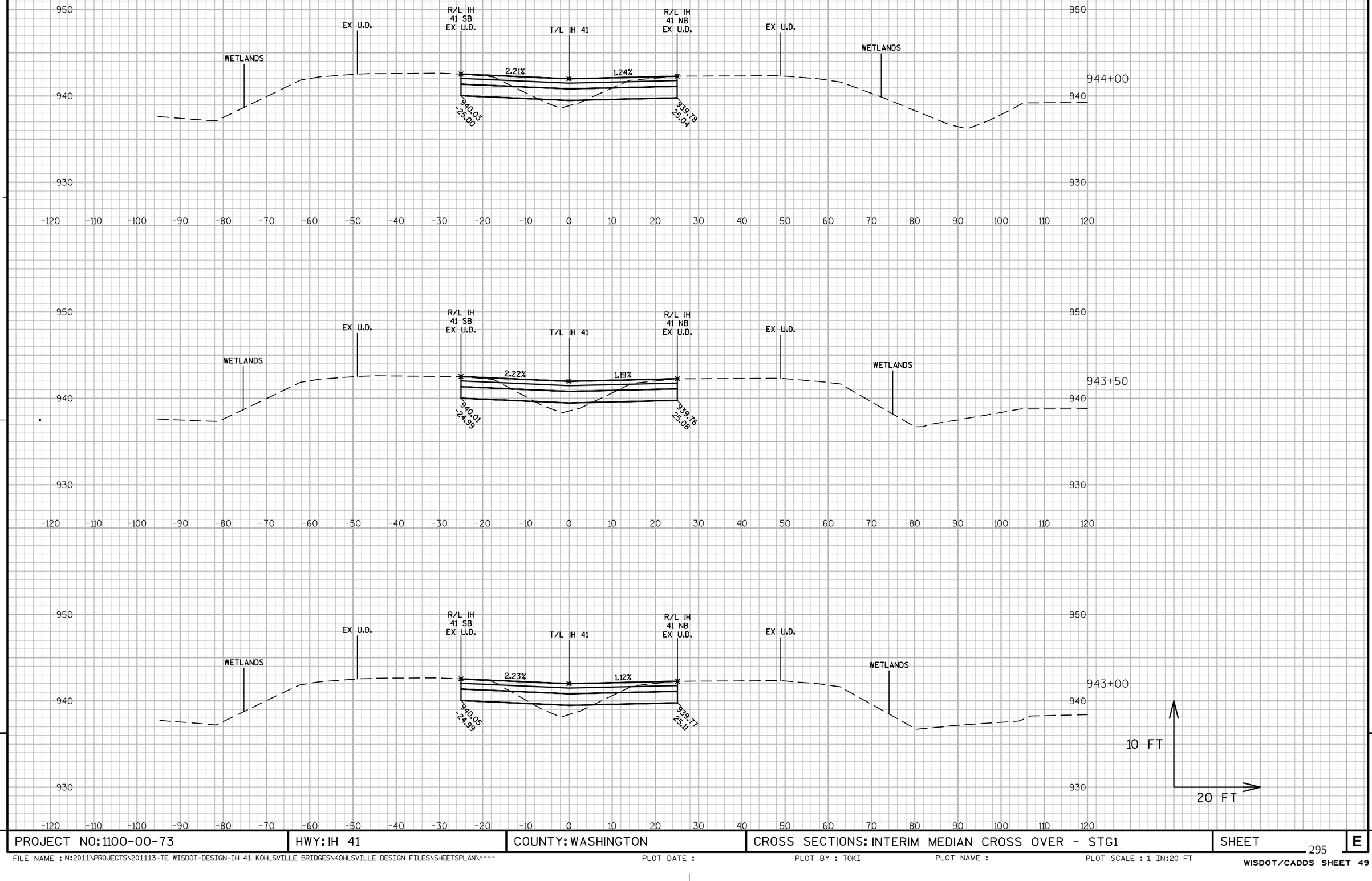
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WISDOT/CADDS SHEET 49



9	PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET E

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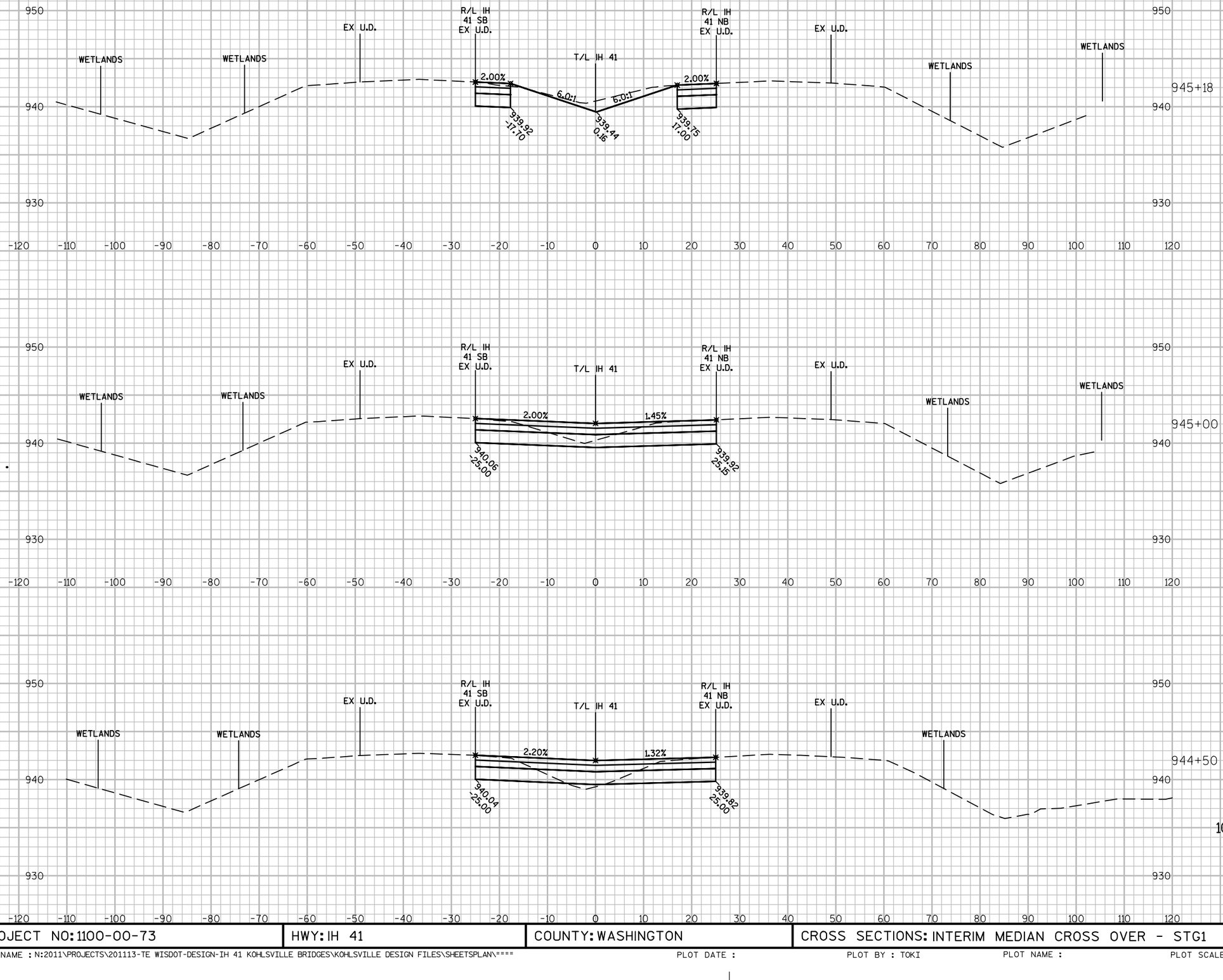


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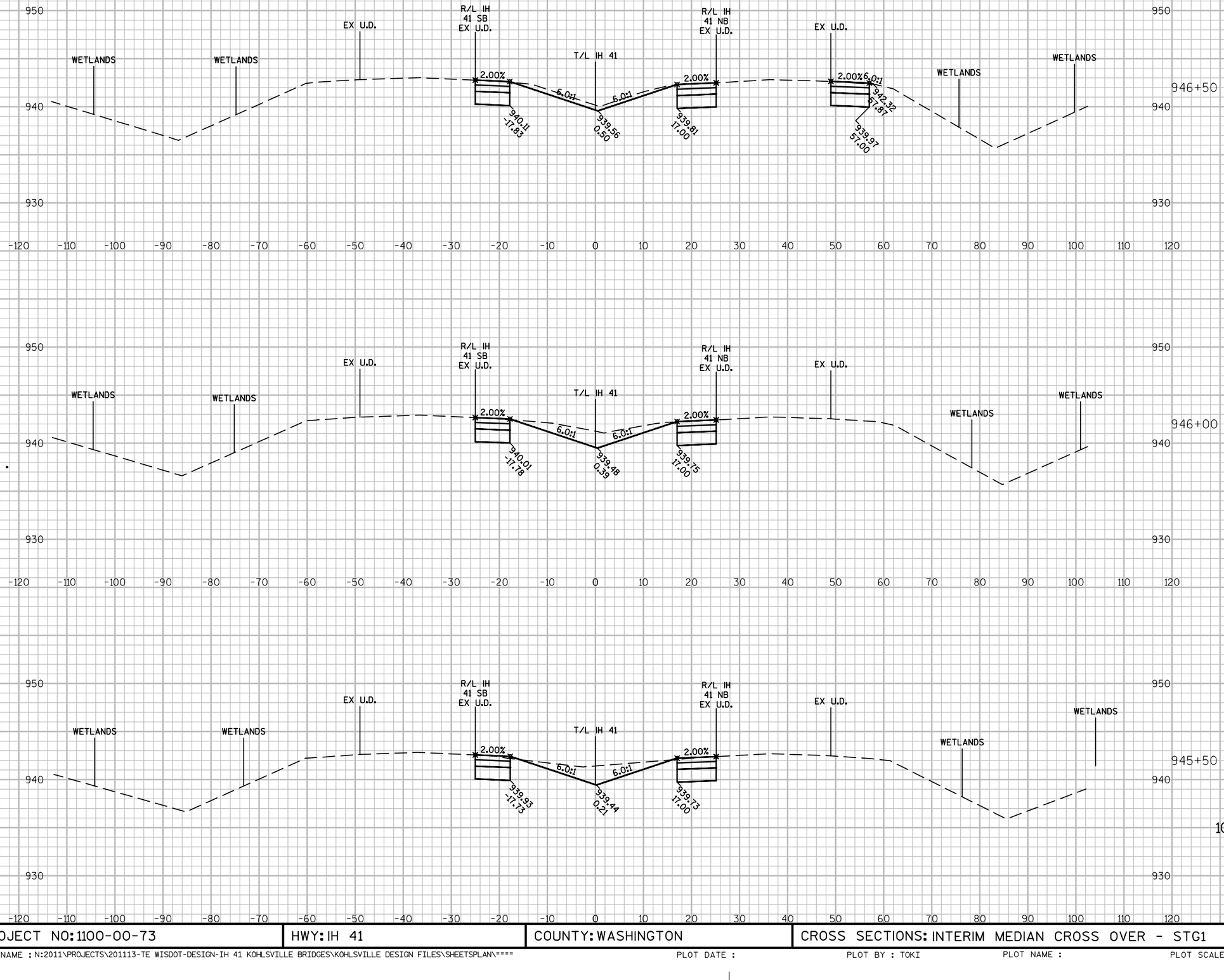
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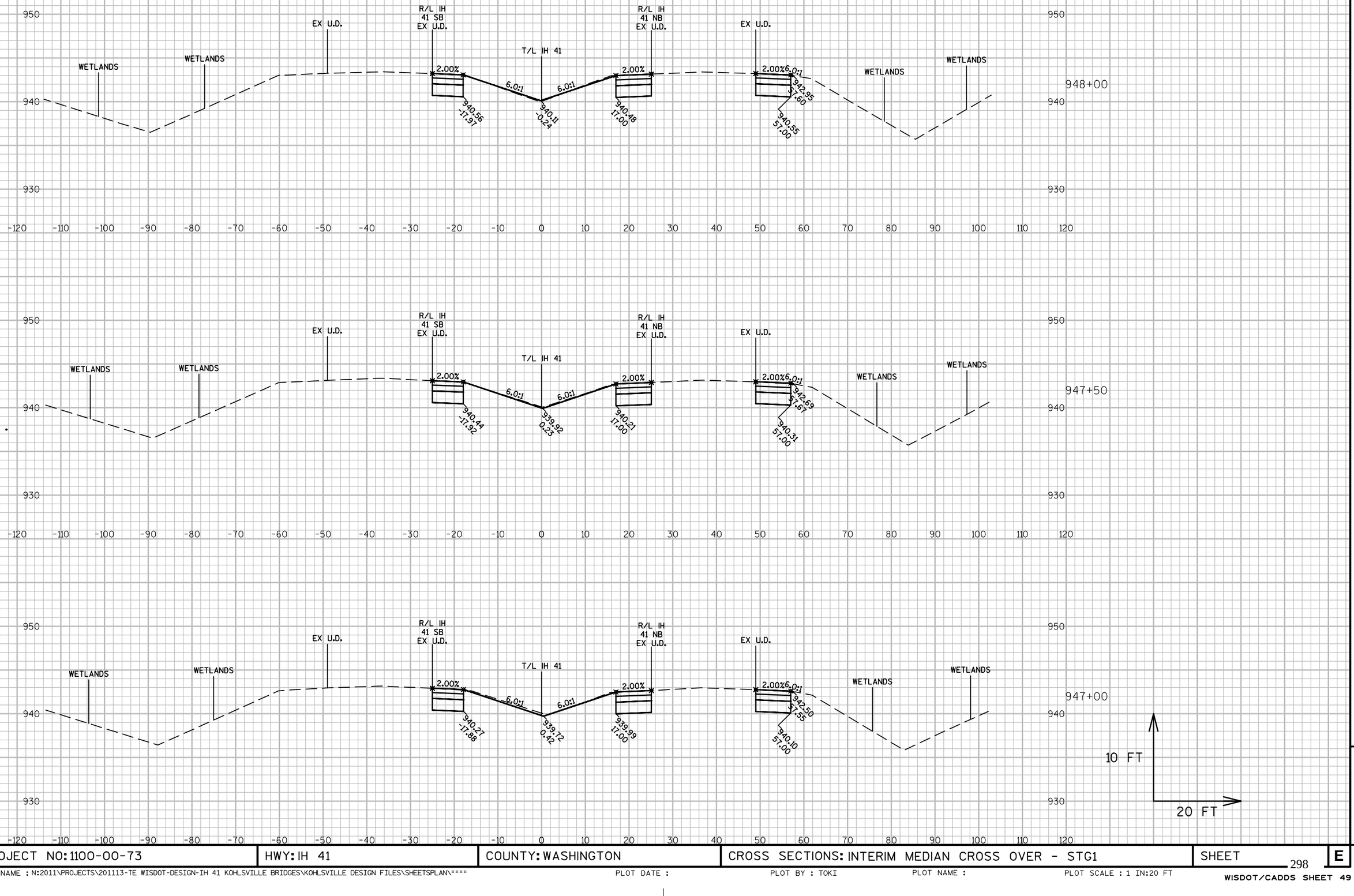


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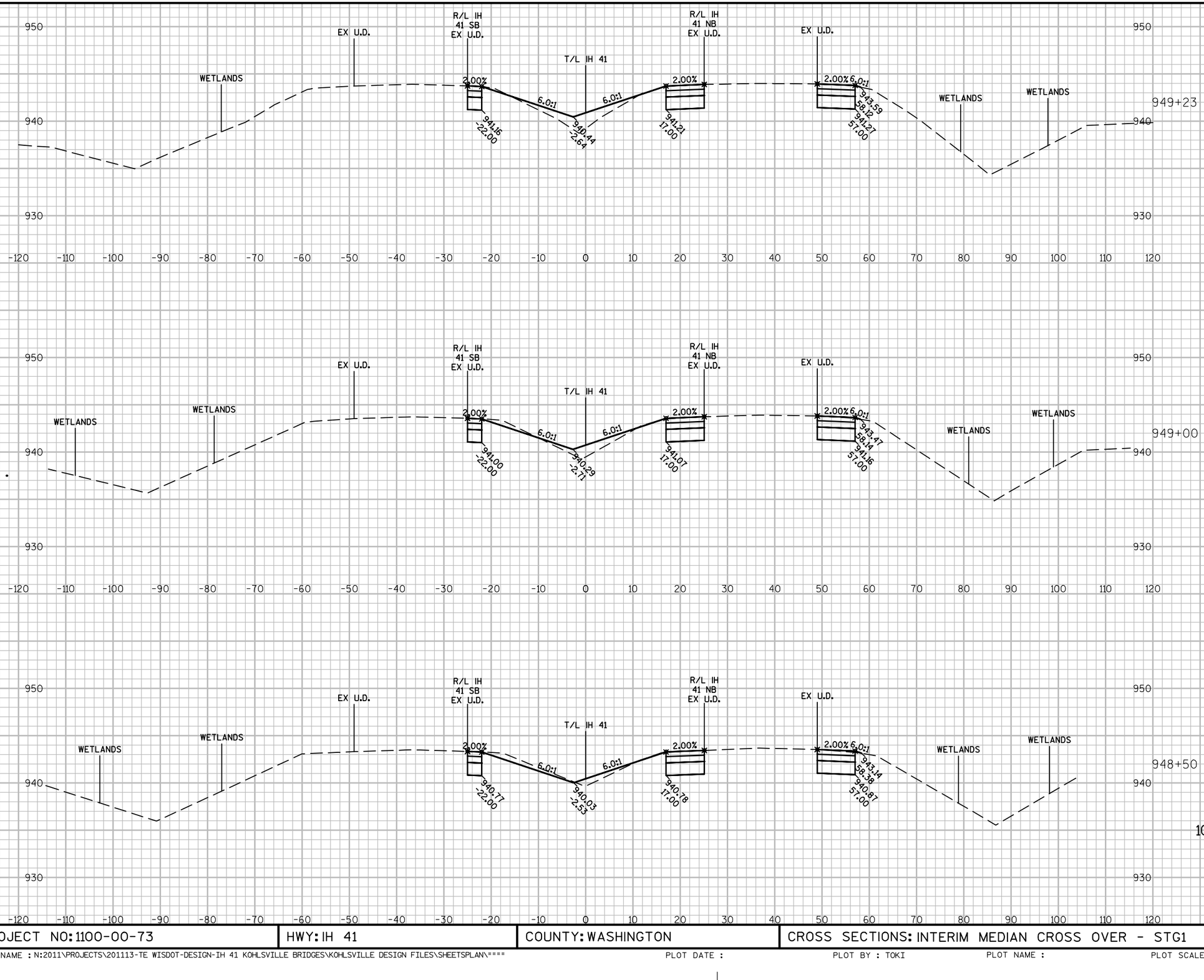
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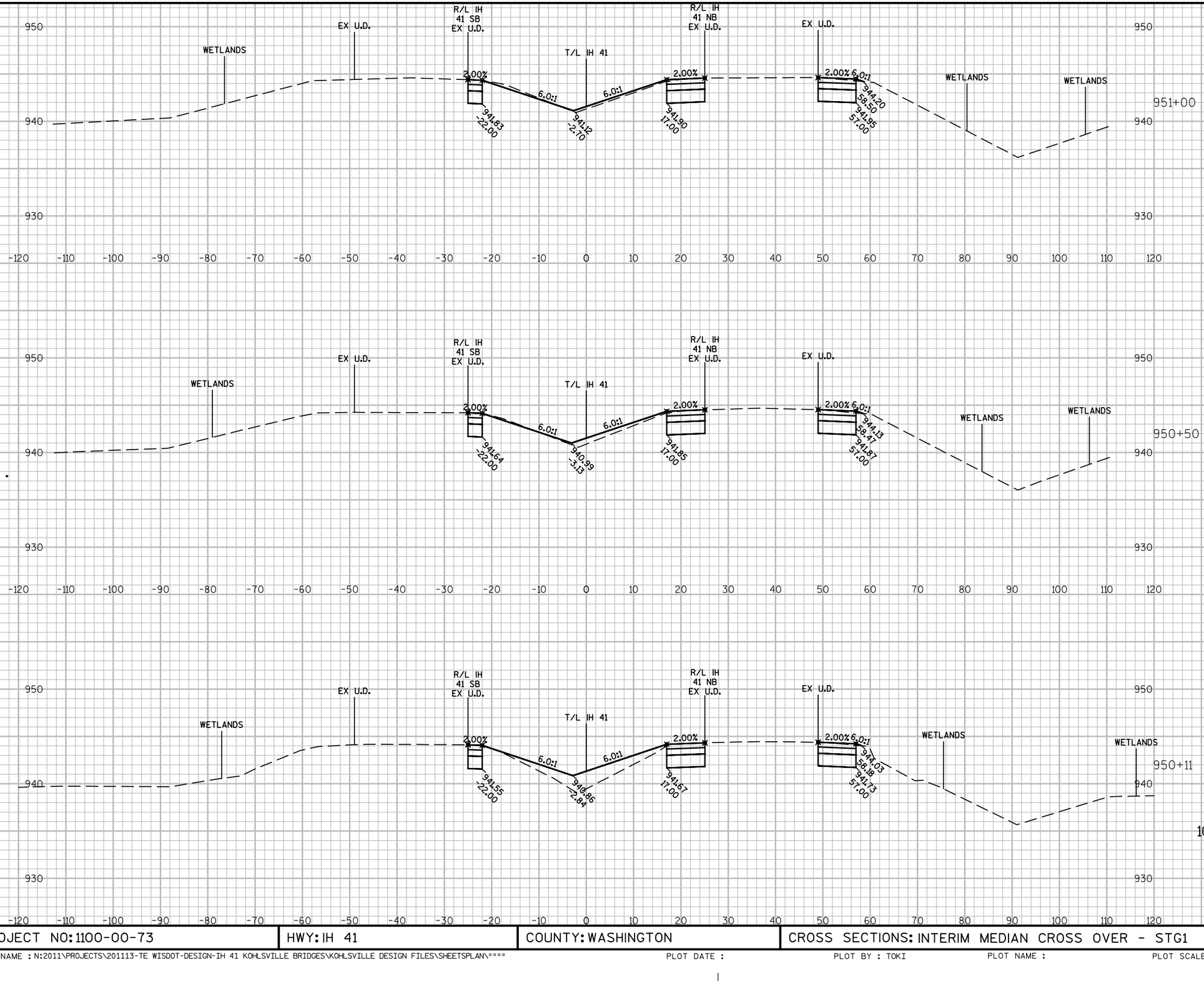
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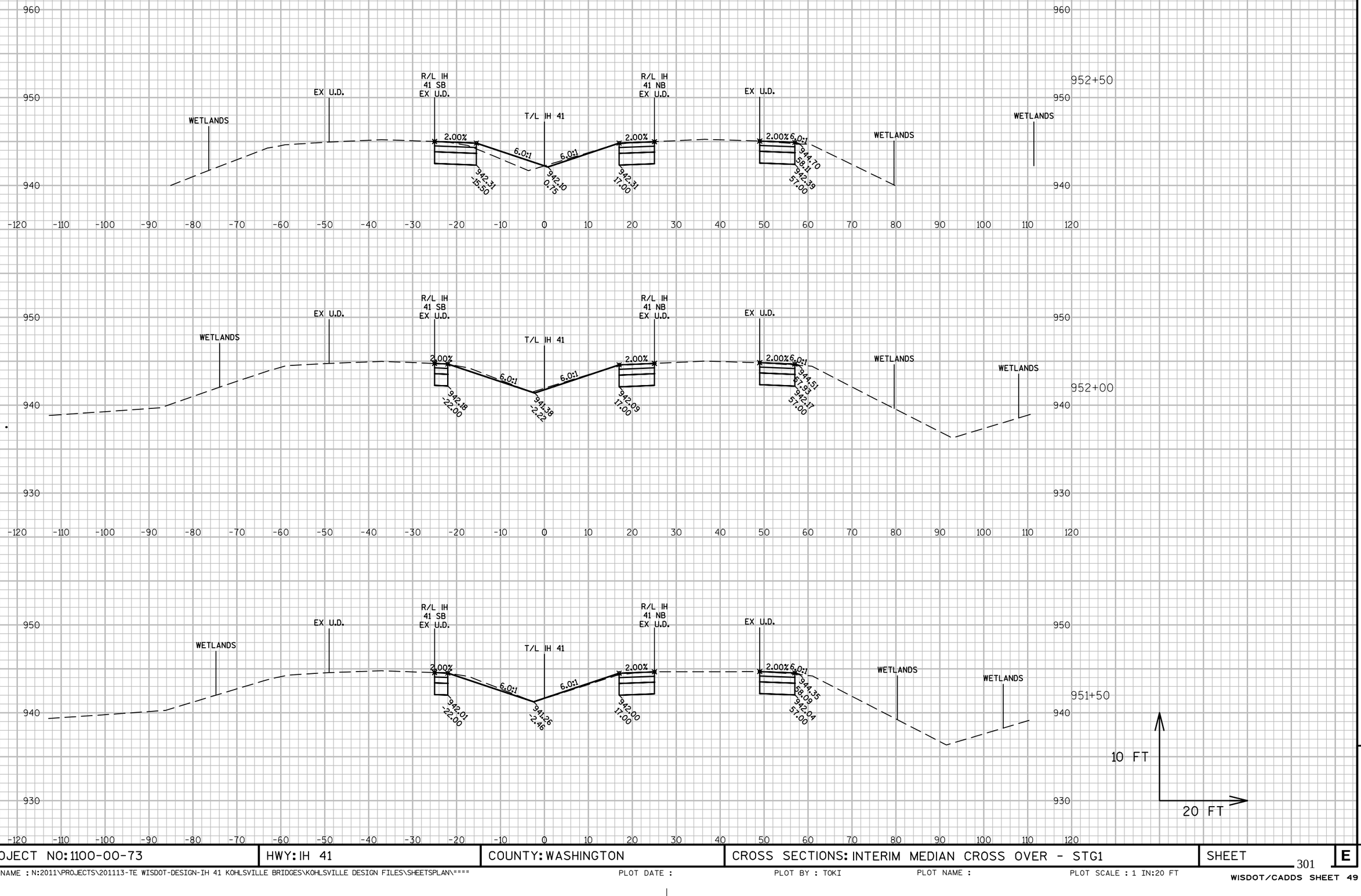
WISDOT/CADDS SHEET 49



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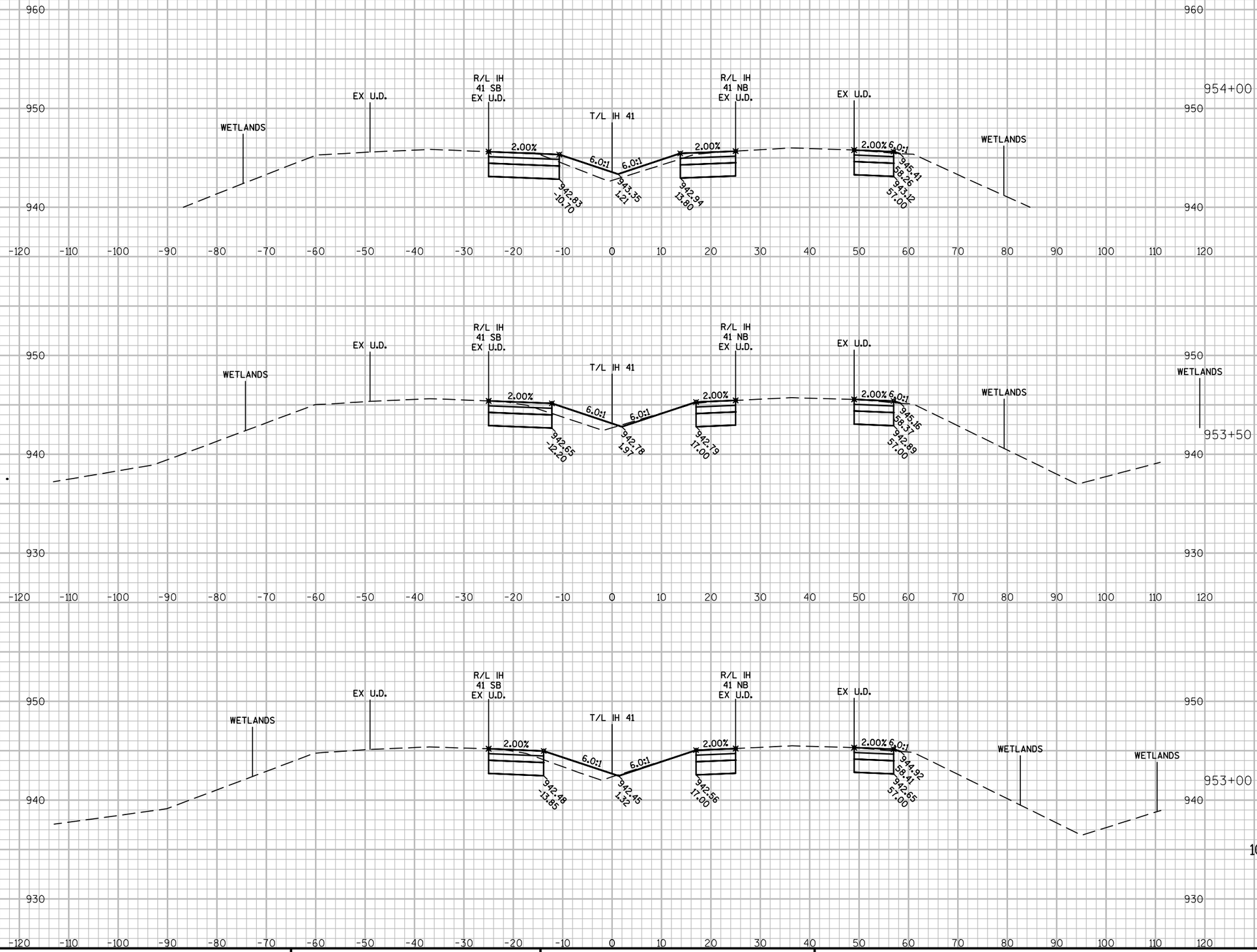
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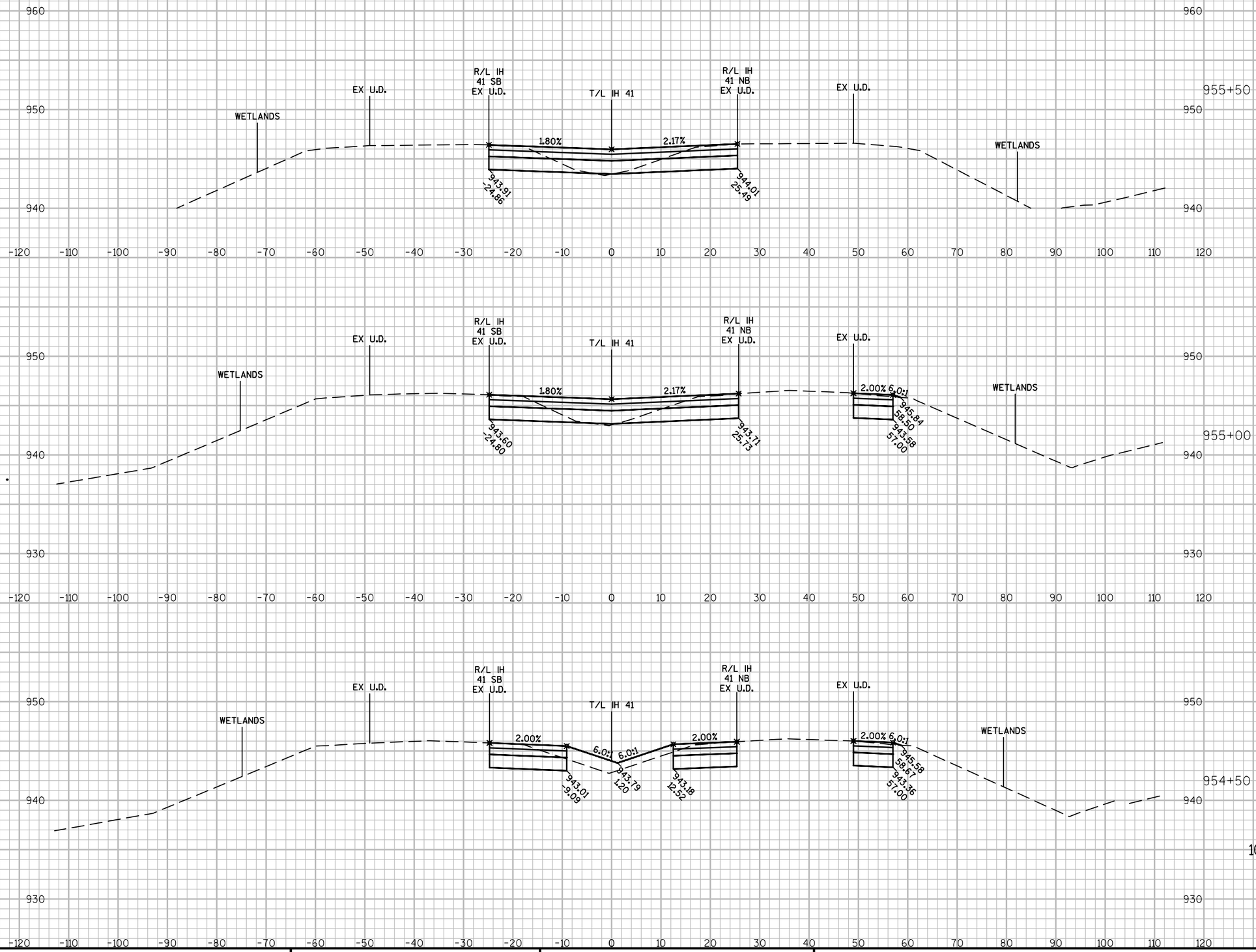
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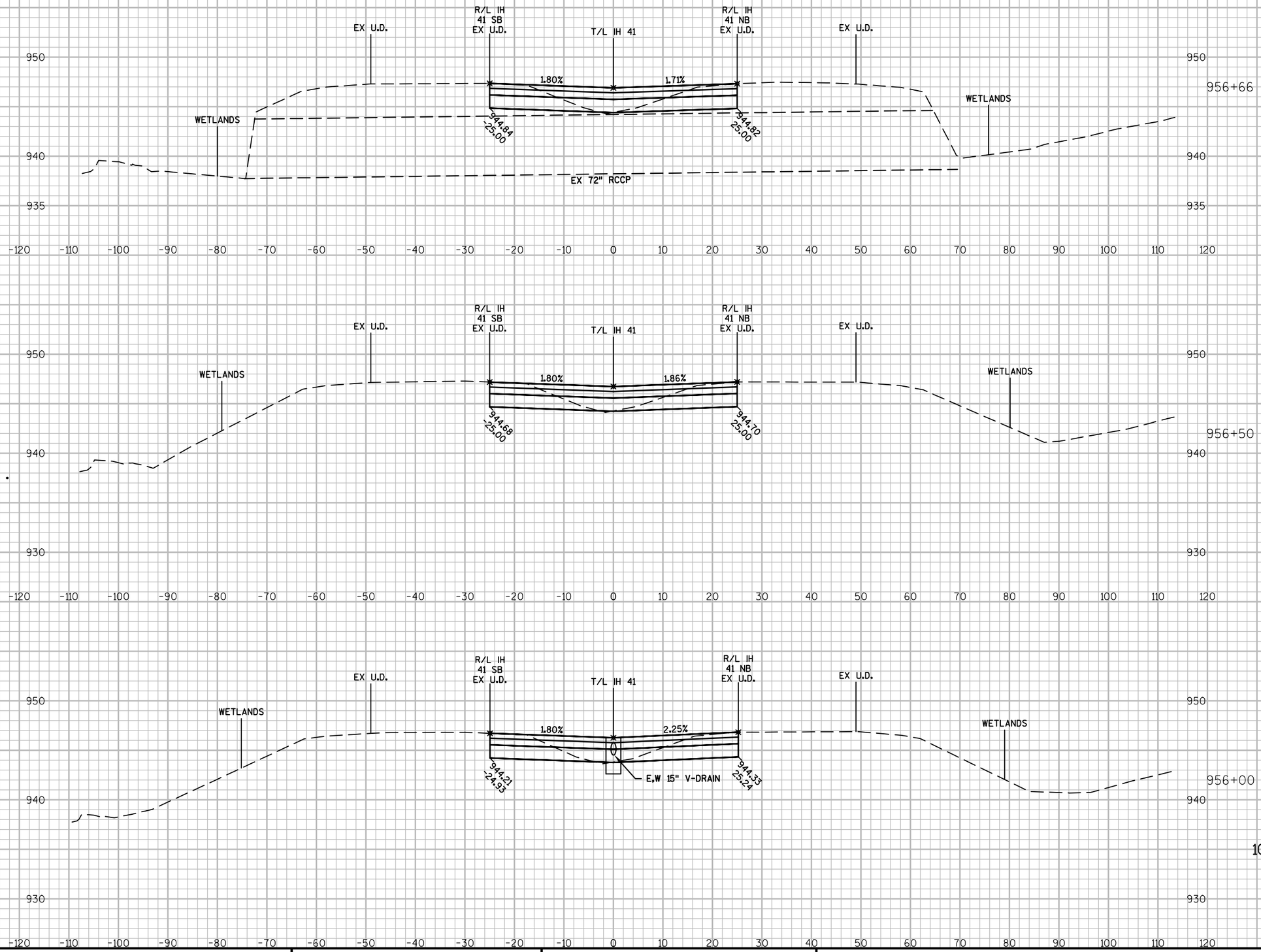
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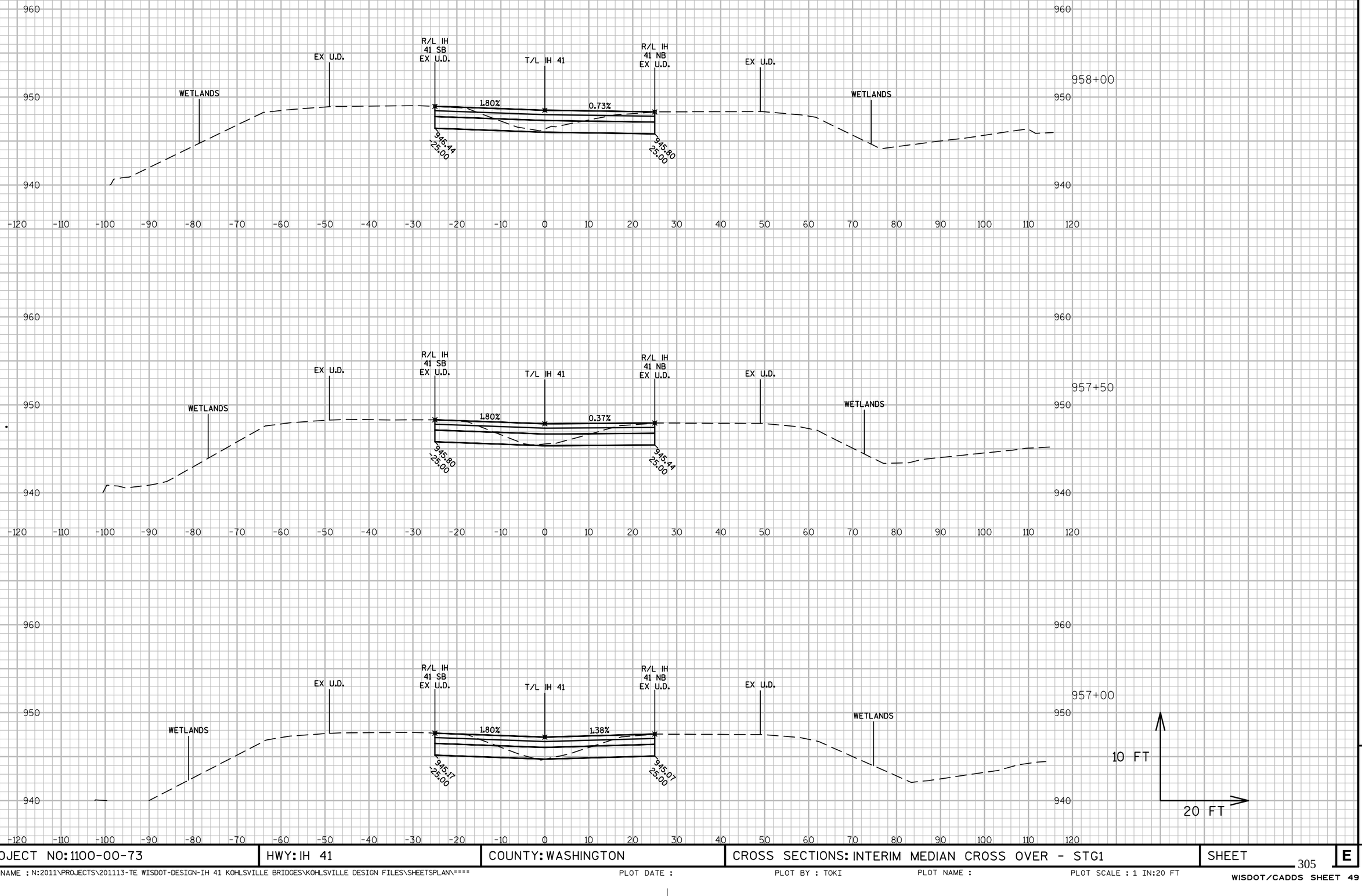
WISDOT/CADDS SHEET 49



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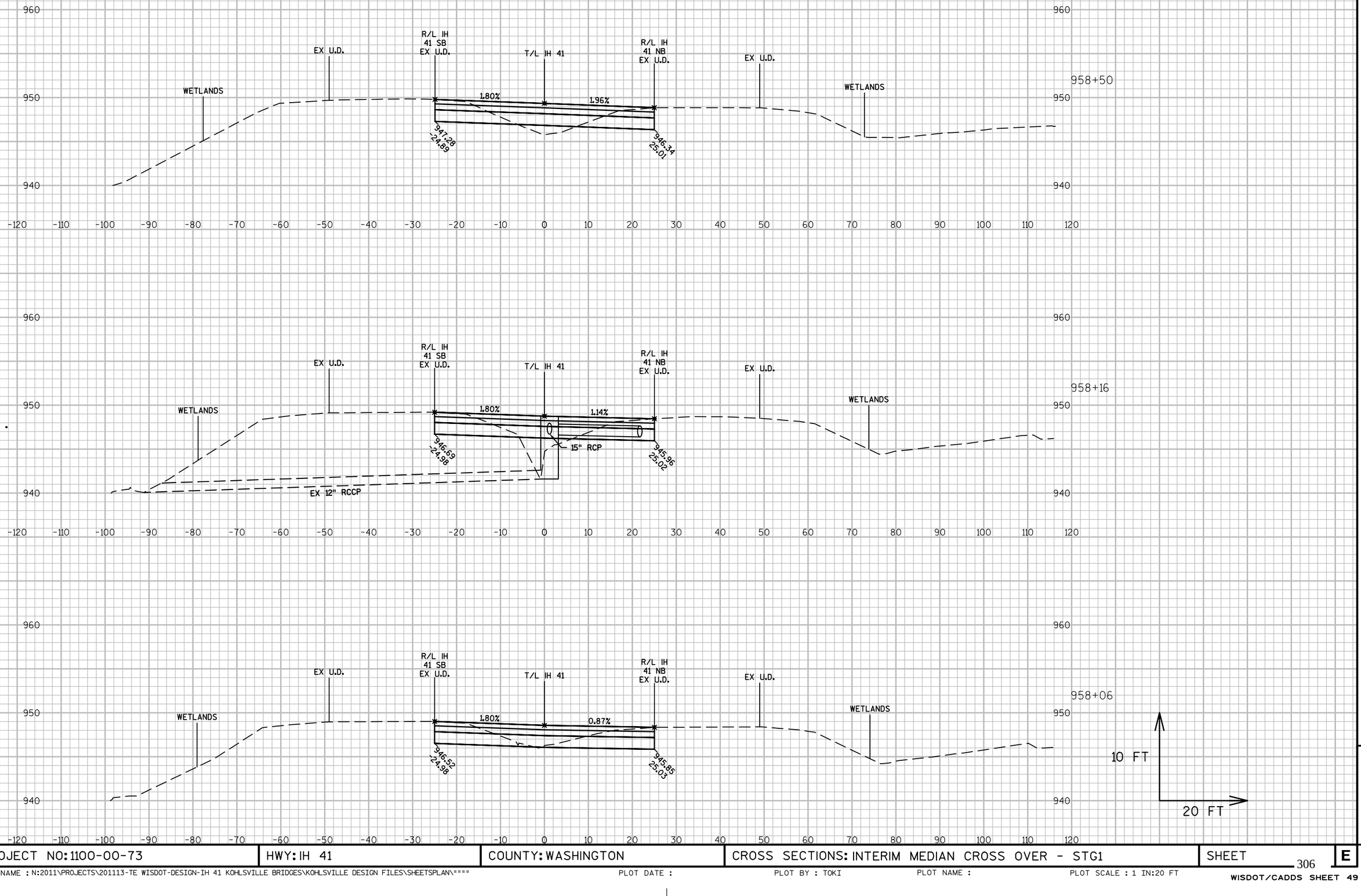


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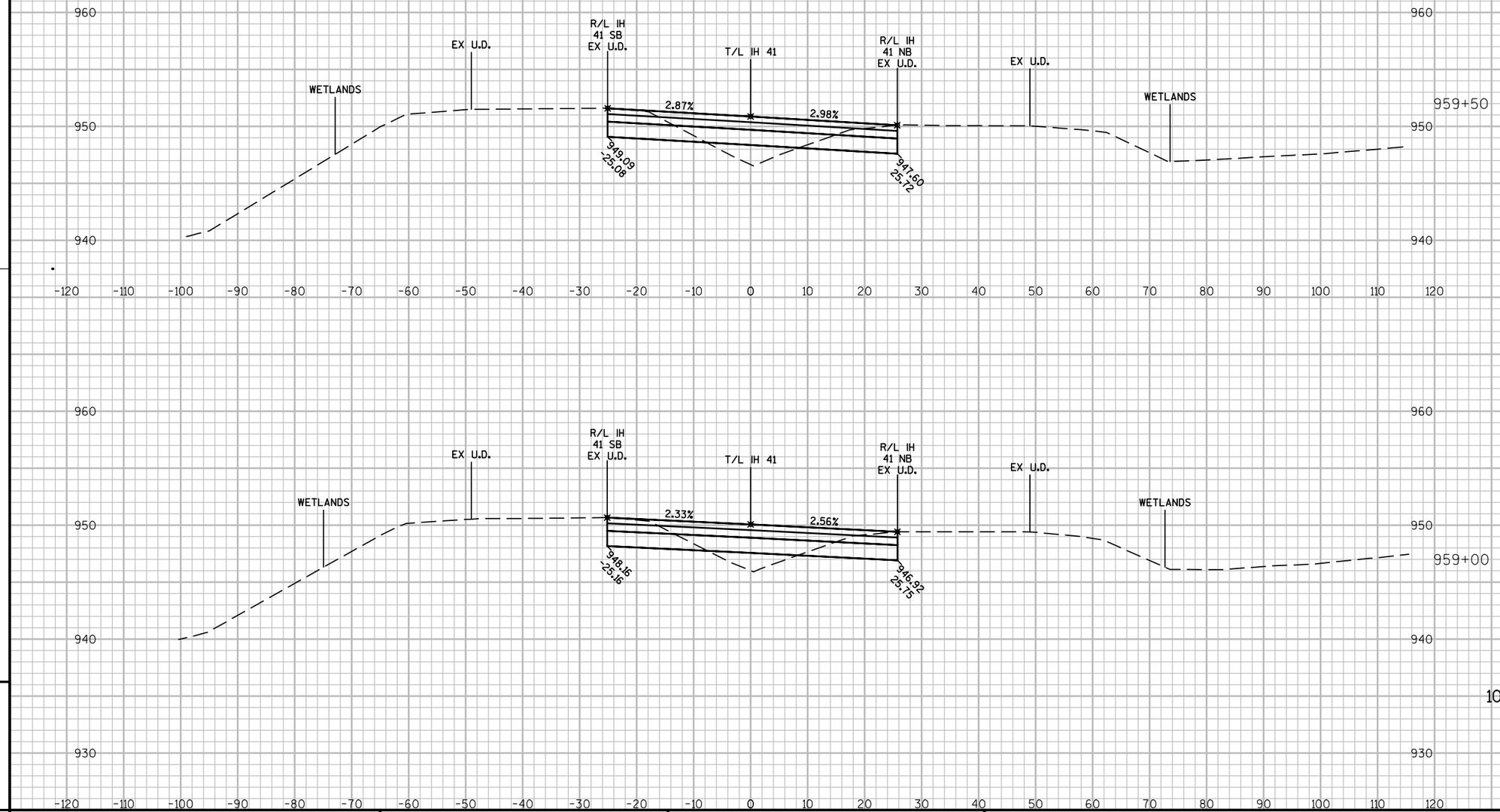
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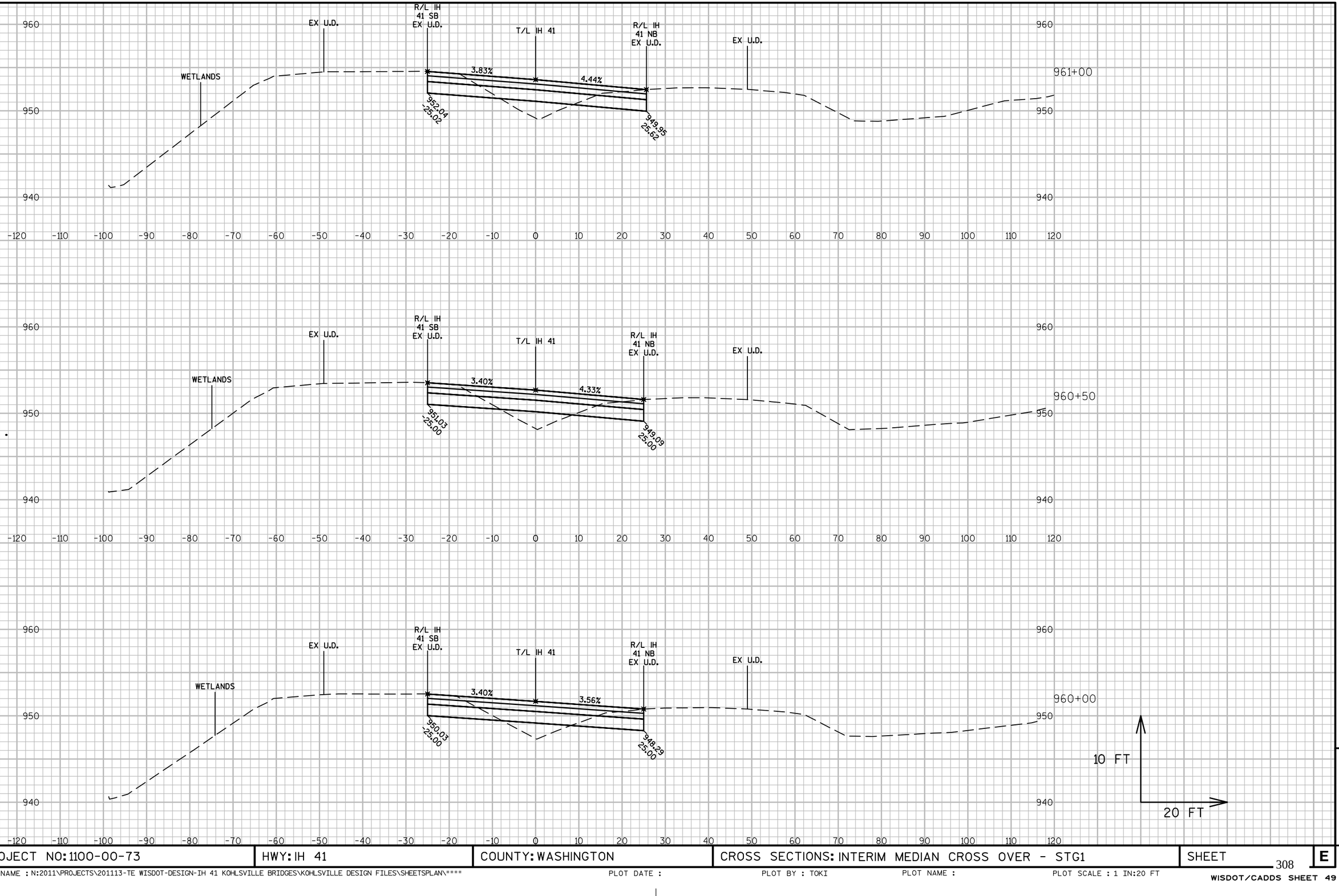
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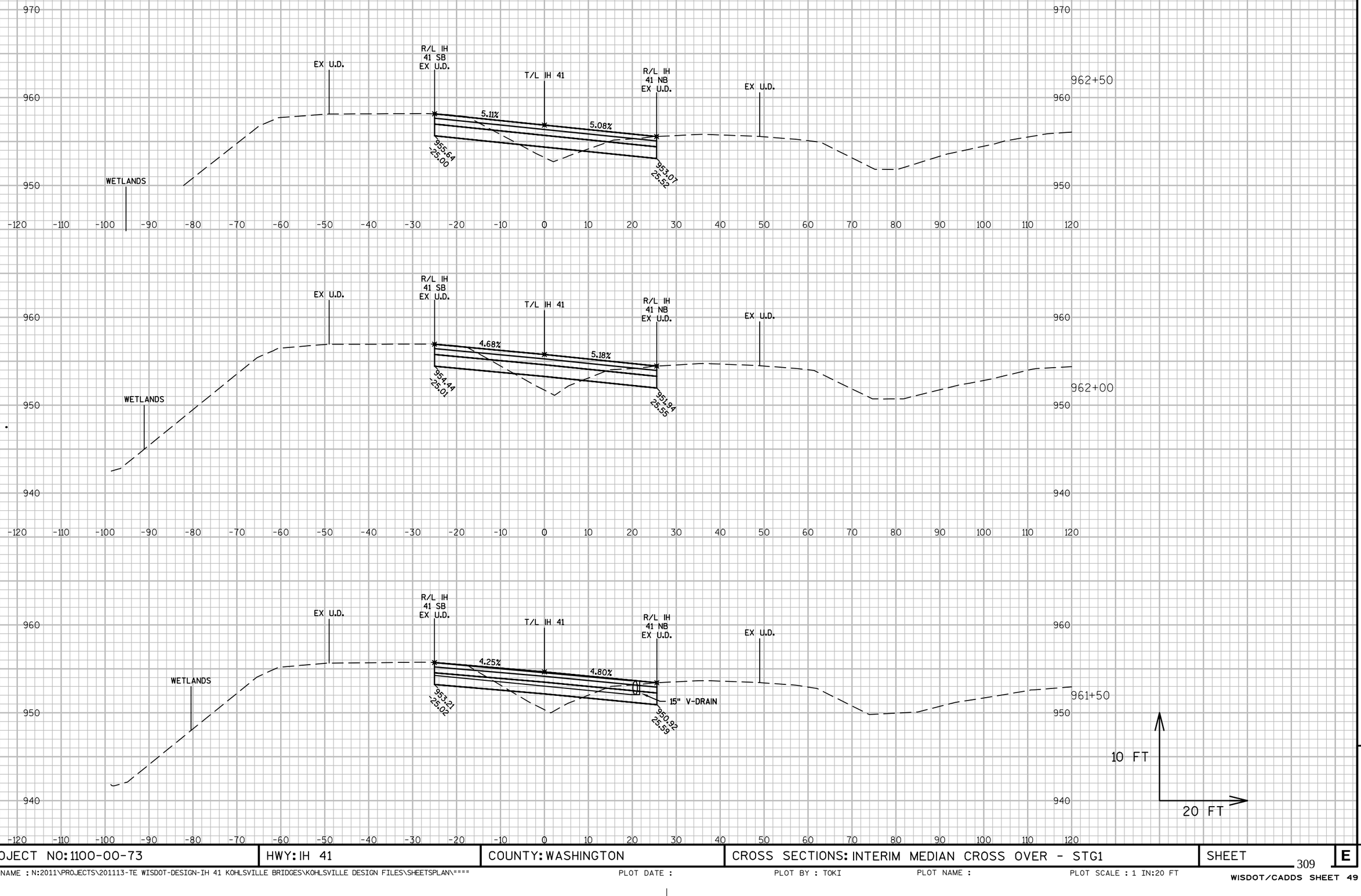
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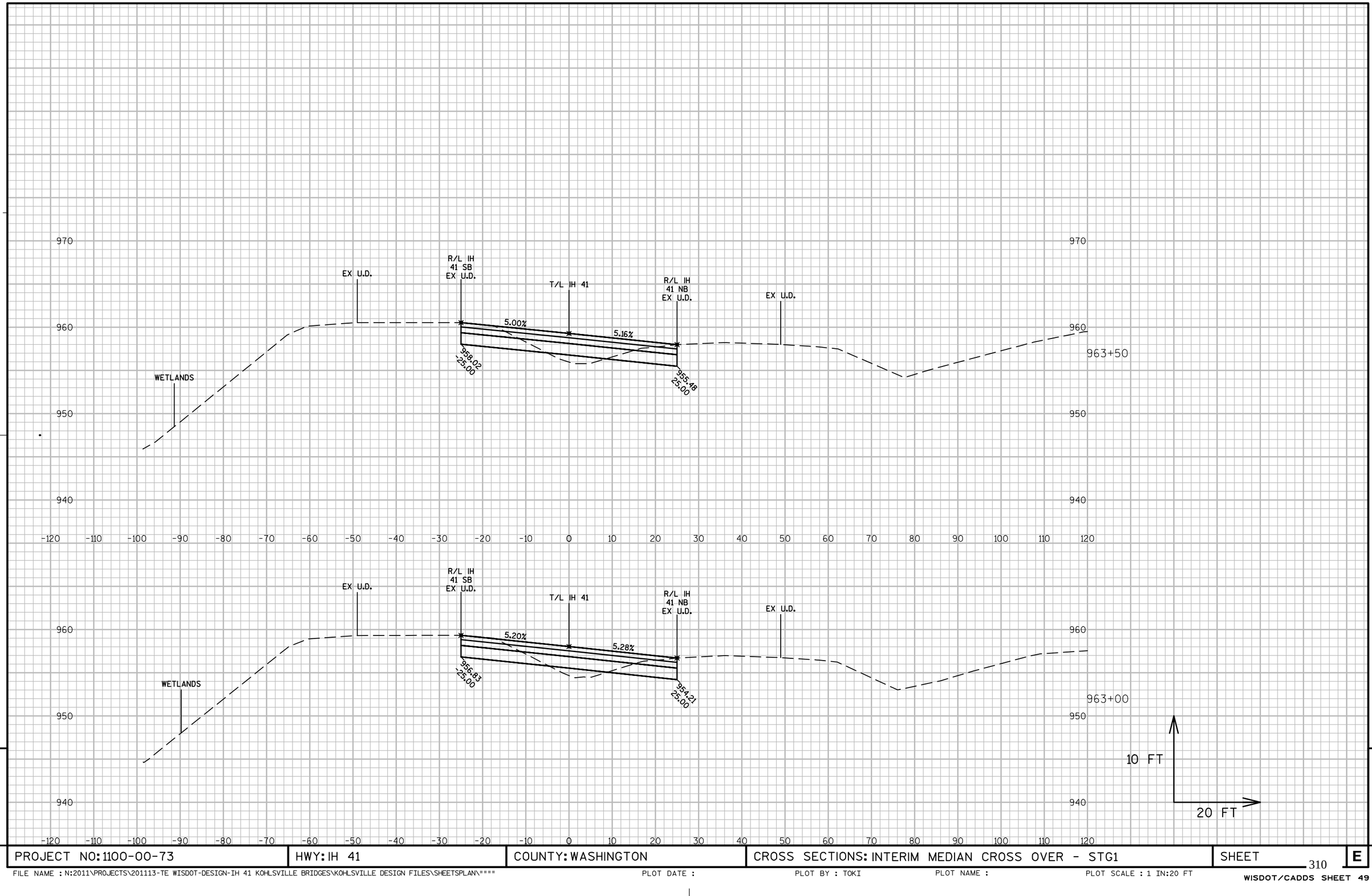
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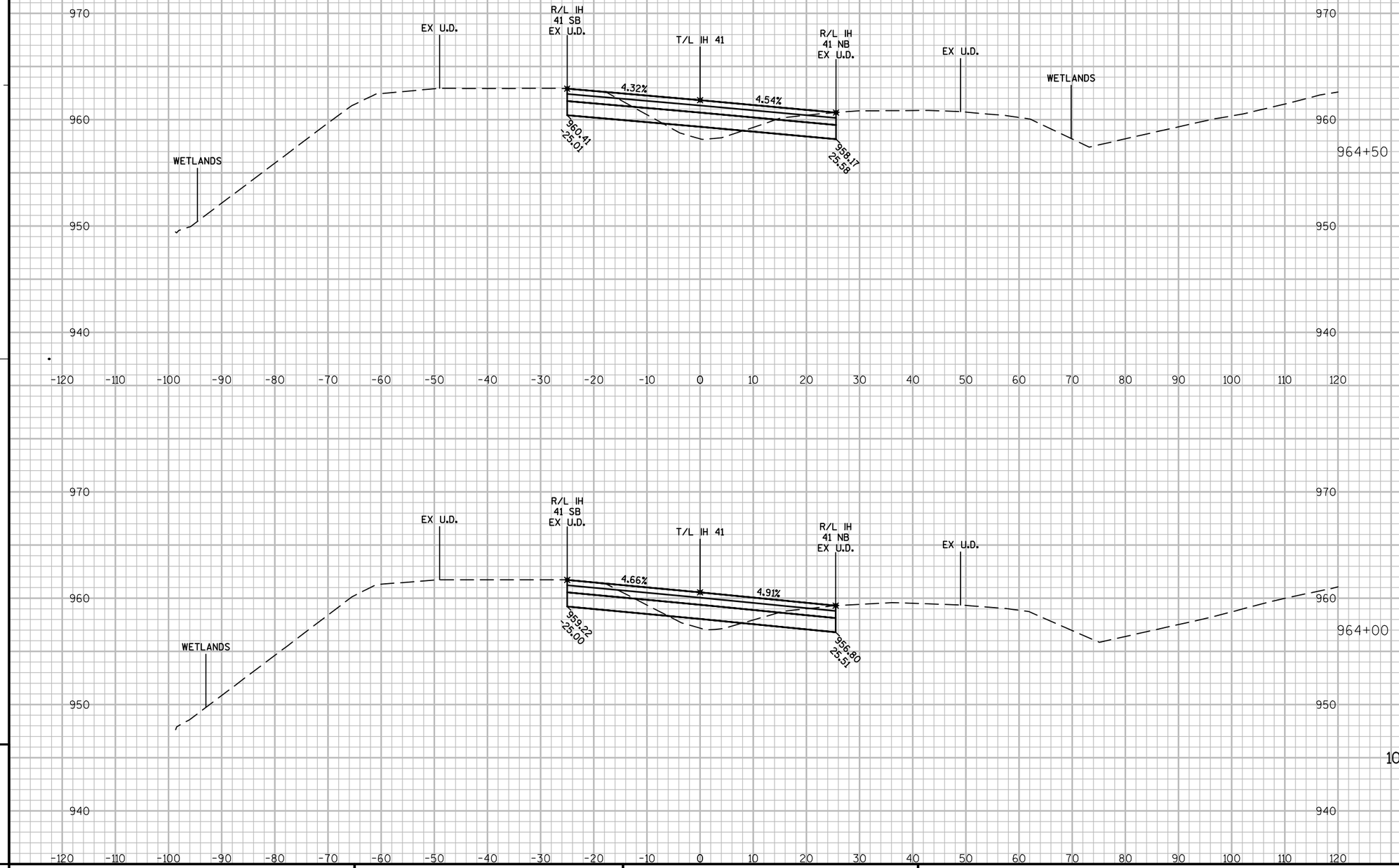
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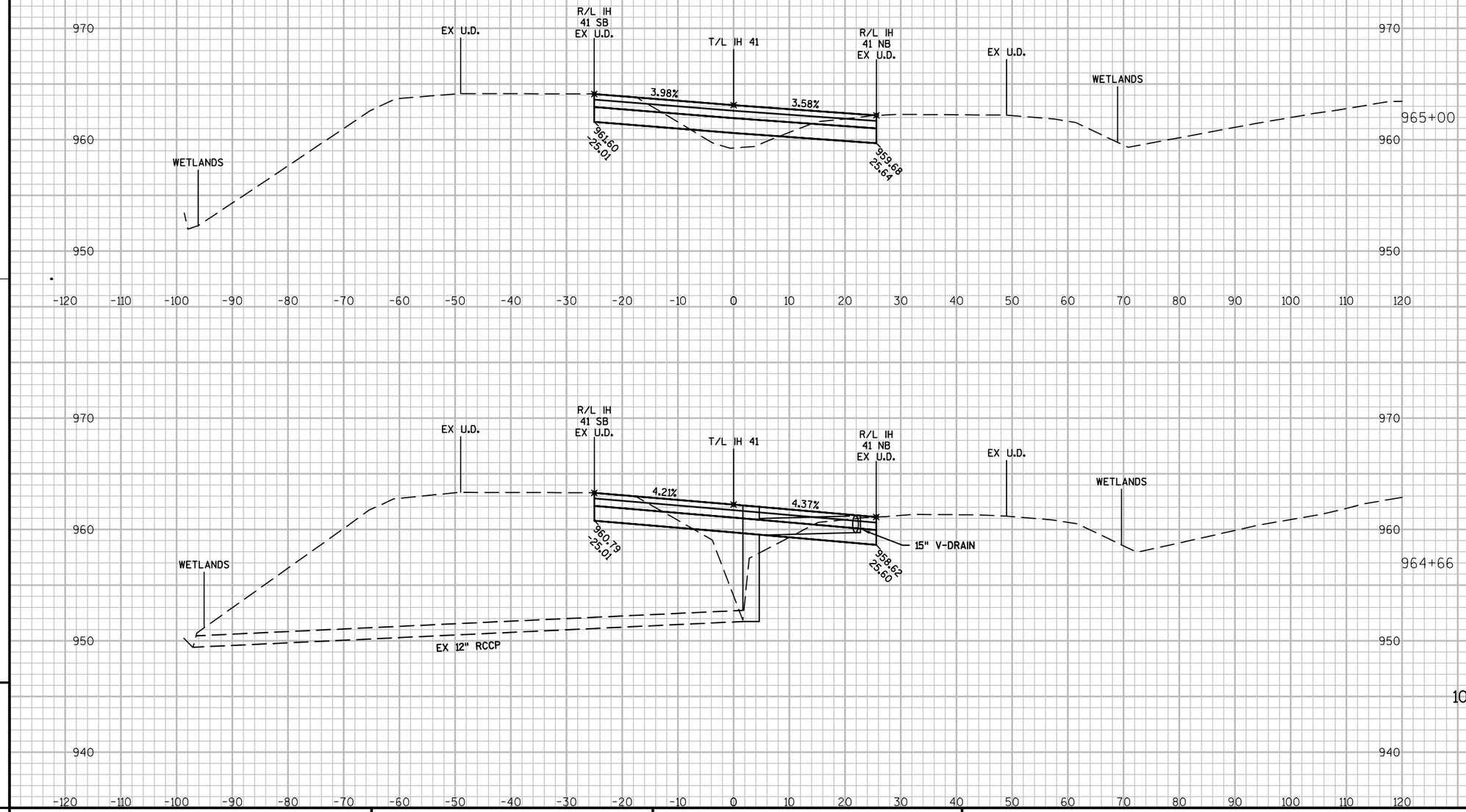
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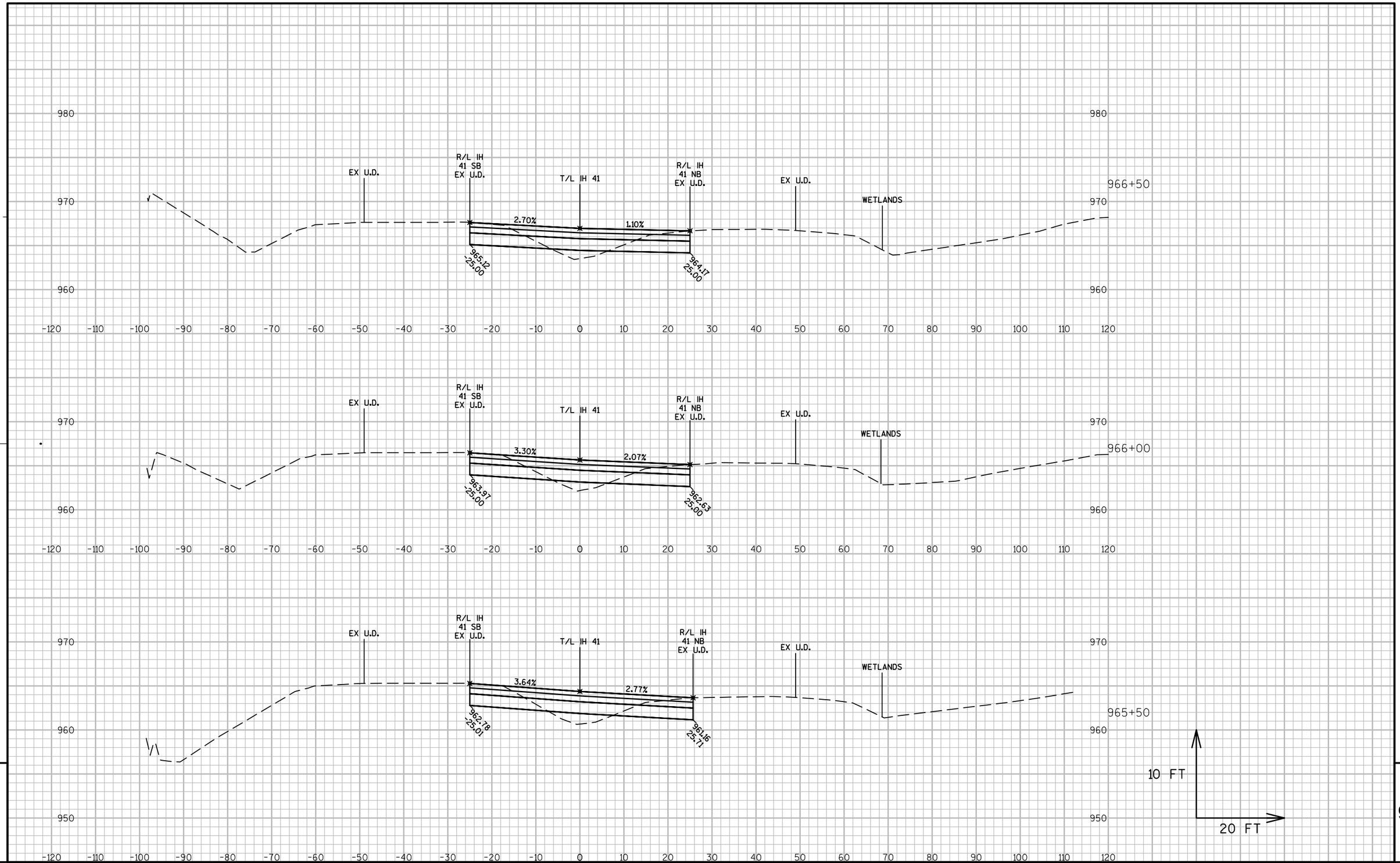
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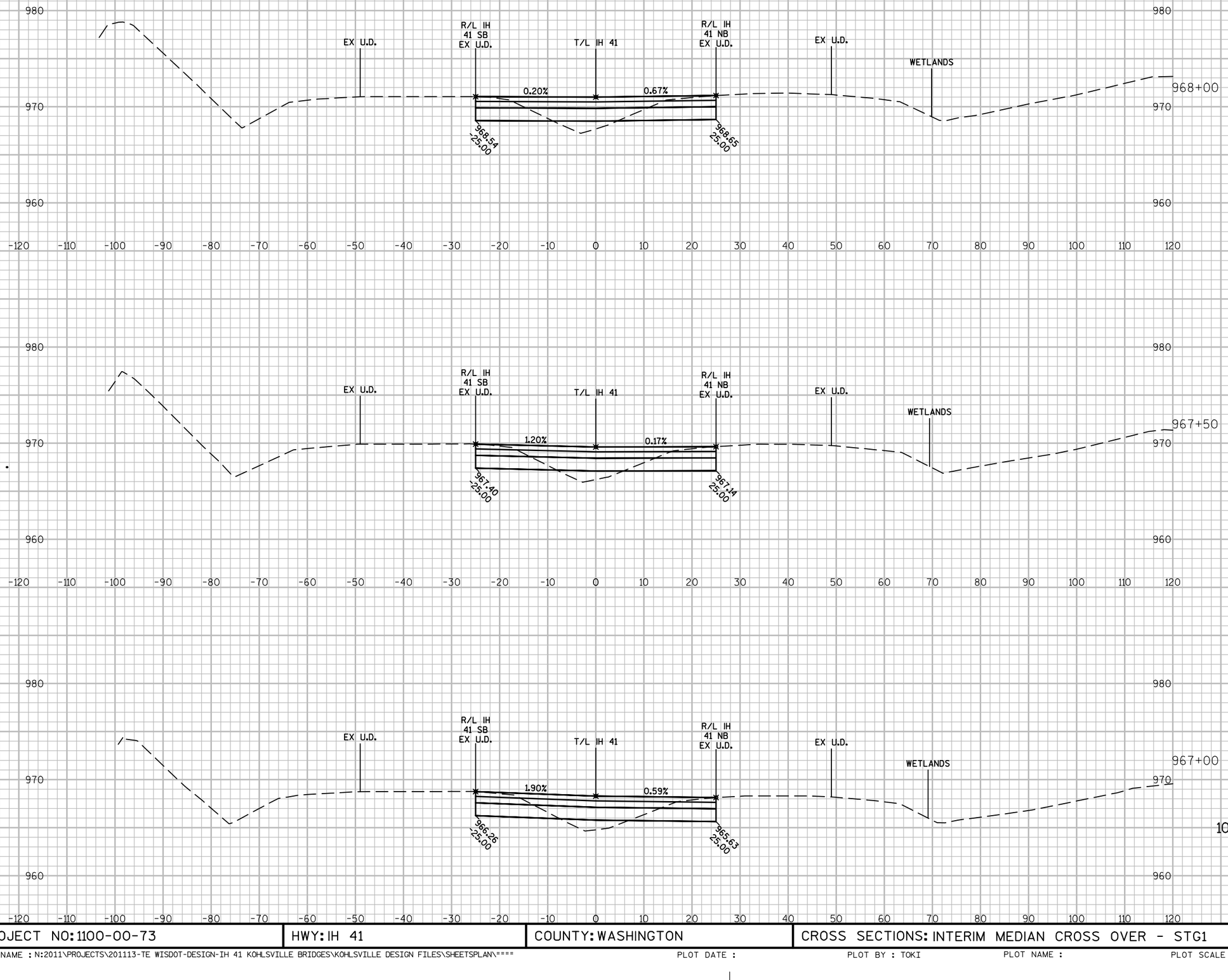
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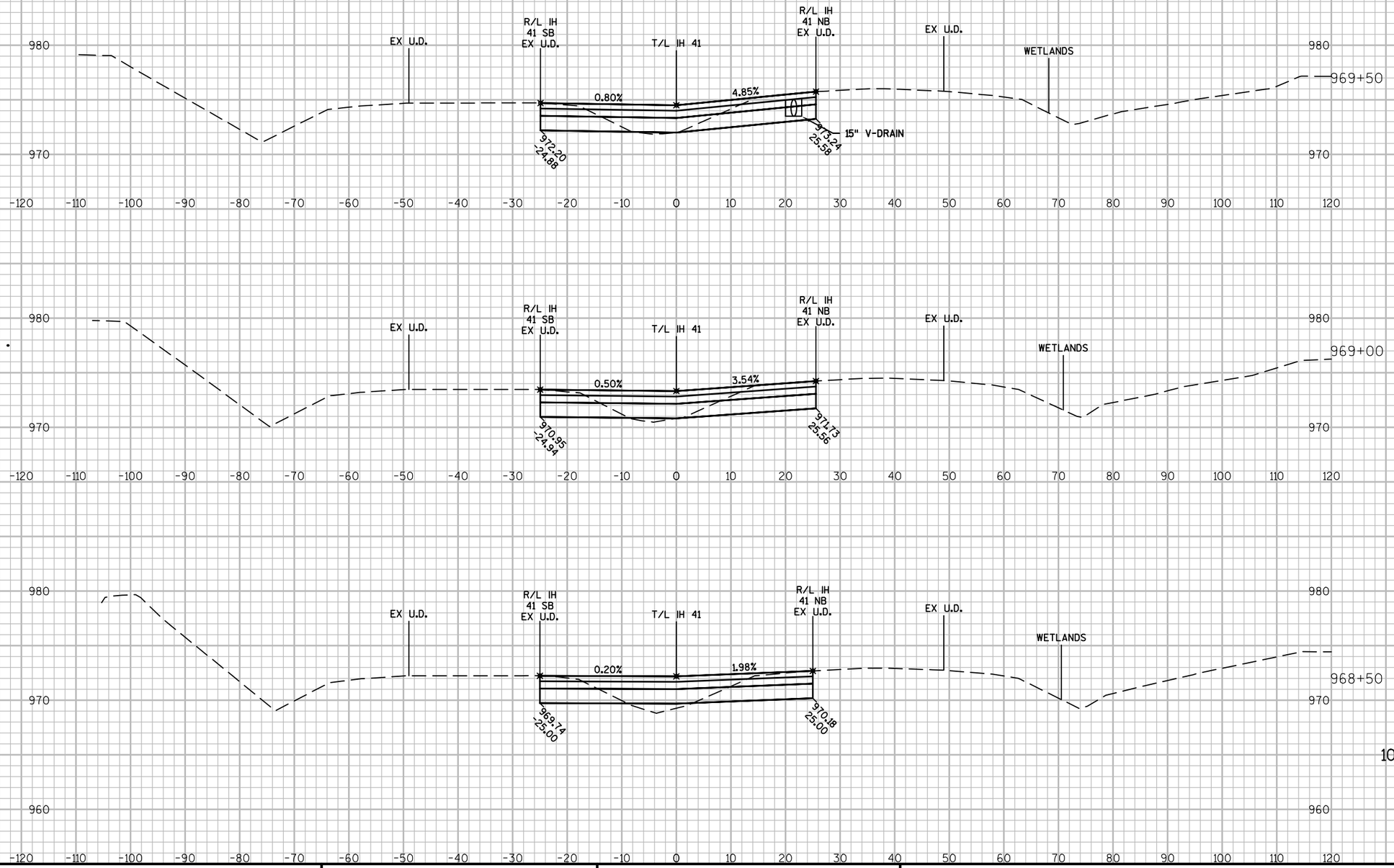
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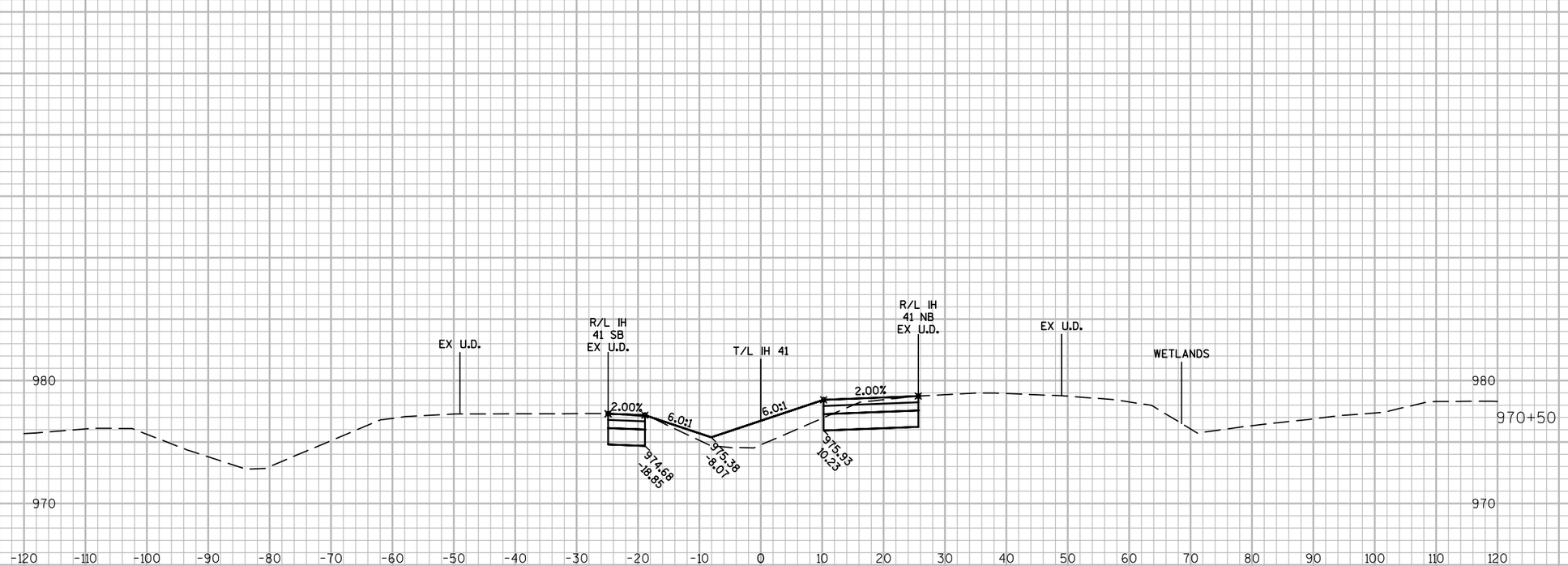
WISDOT/CADDS SHEET 49

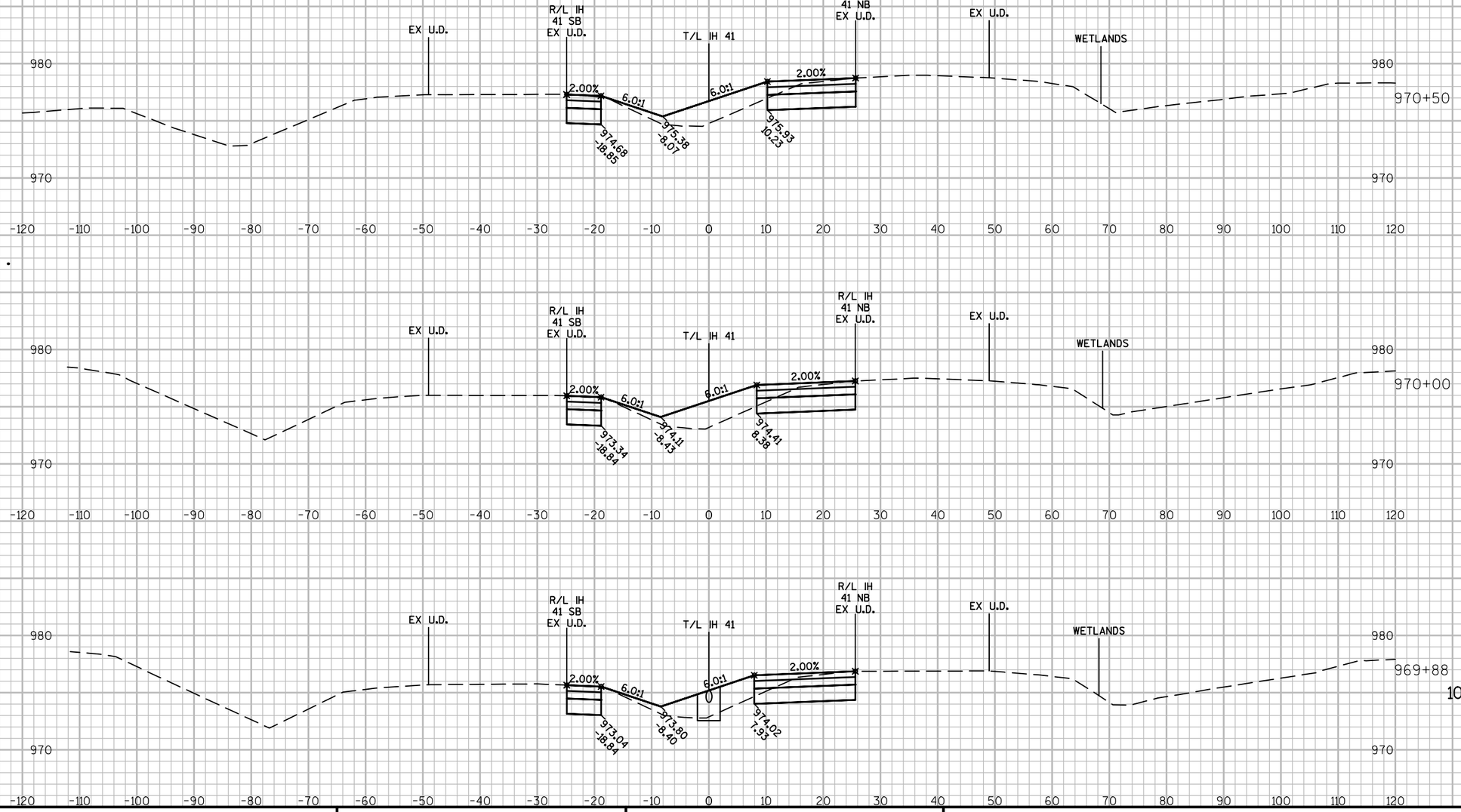


PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET	E

FILE NAME : N:2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN**** PLOT DATE : PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49





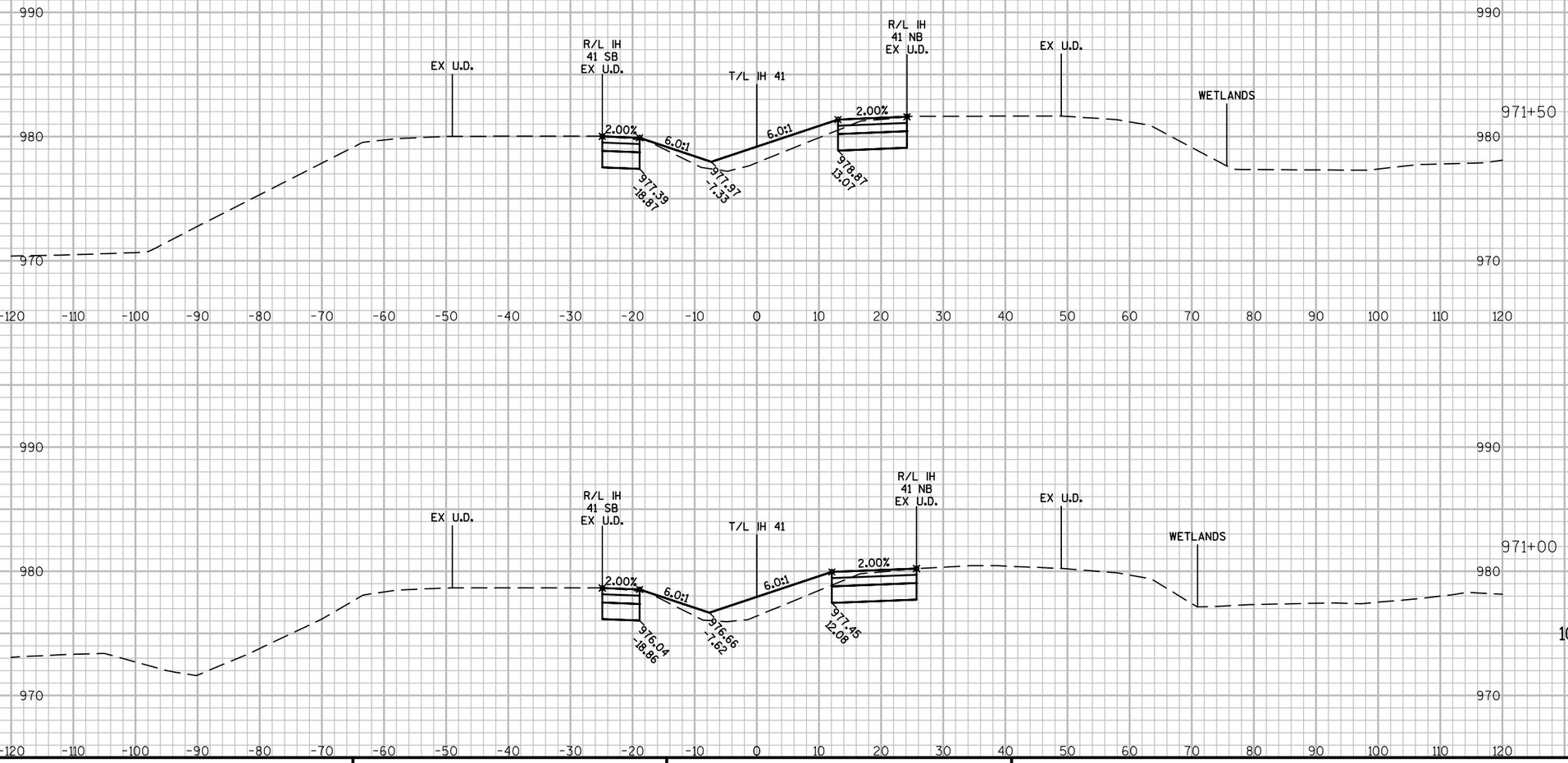
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET	E

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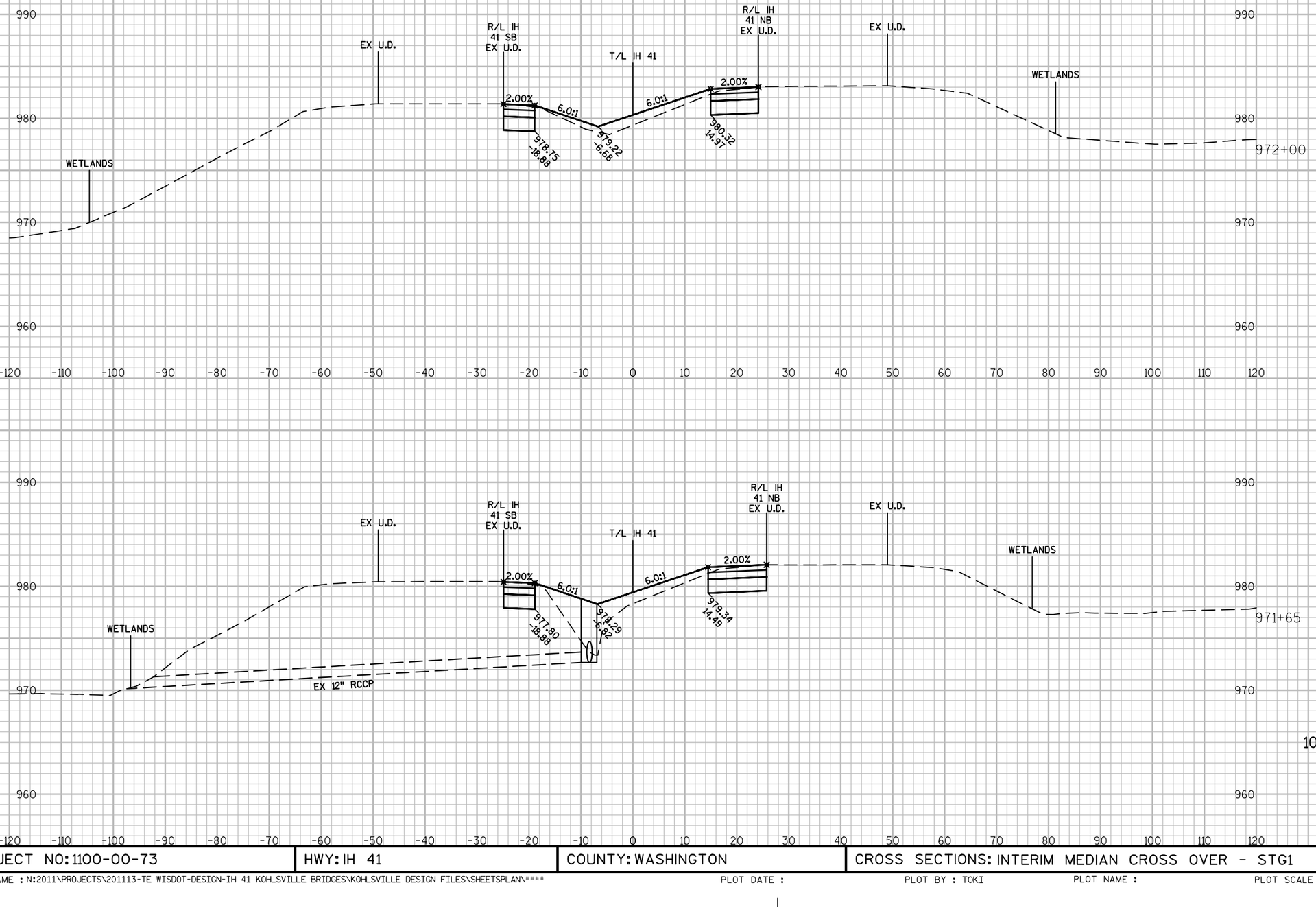


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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET	E

FILE NAME : N:2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN**** PLOT DATE : PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



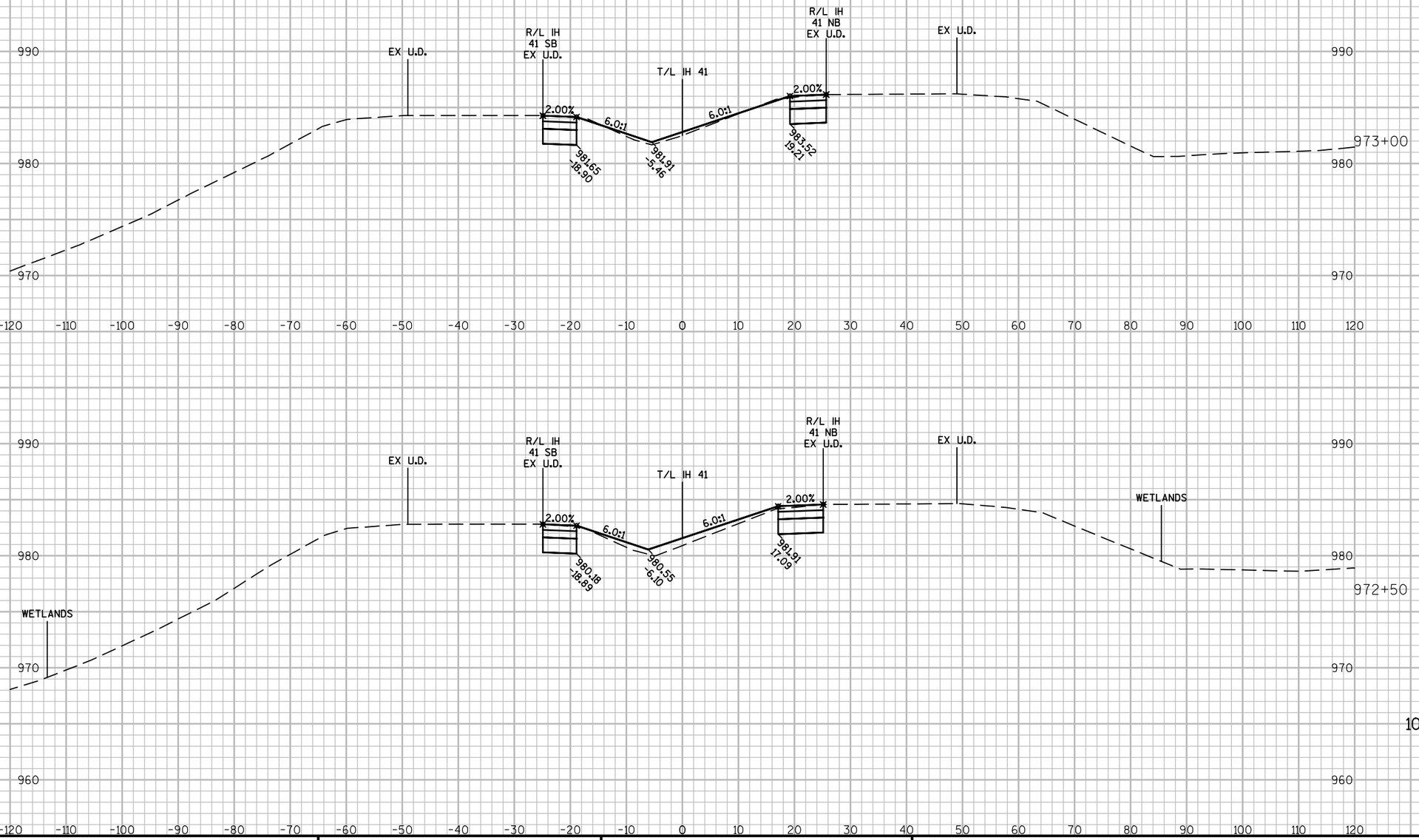
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET	E

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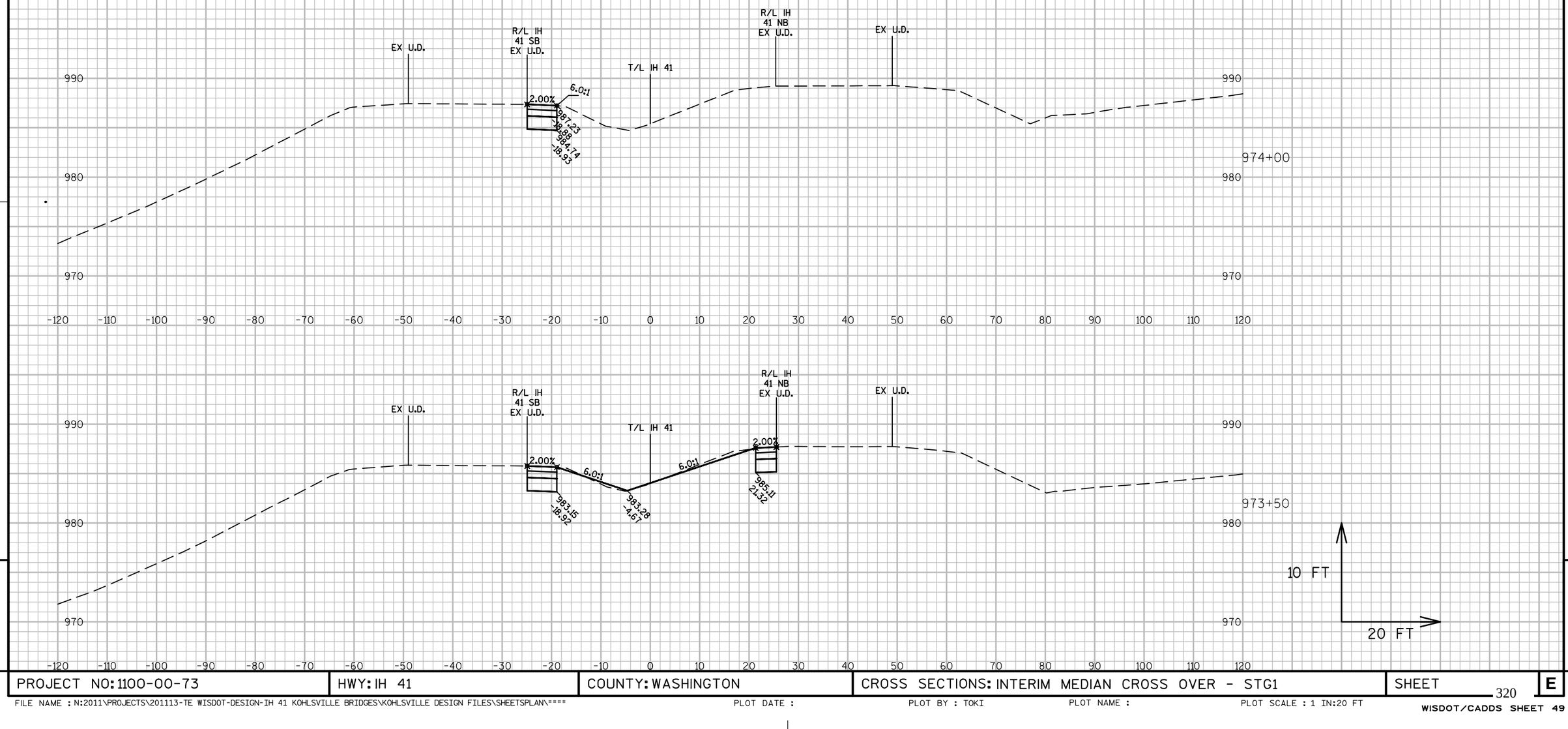
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET	E

FILE NAME : N:2011\PROJECTS\201113-TE WISDOT-DESIGN-IH 41 KOHLSVILLE BRIDGES\KOHLSVILLE DESIGN FILES\SHEETSPLAN**** PLOT DATE : PLOT BY : TOKI PLOT NAME : PLOT SCALE : 1 IN:20 FT

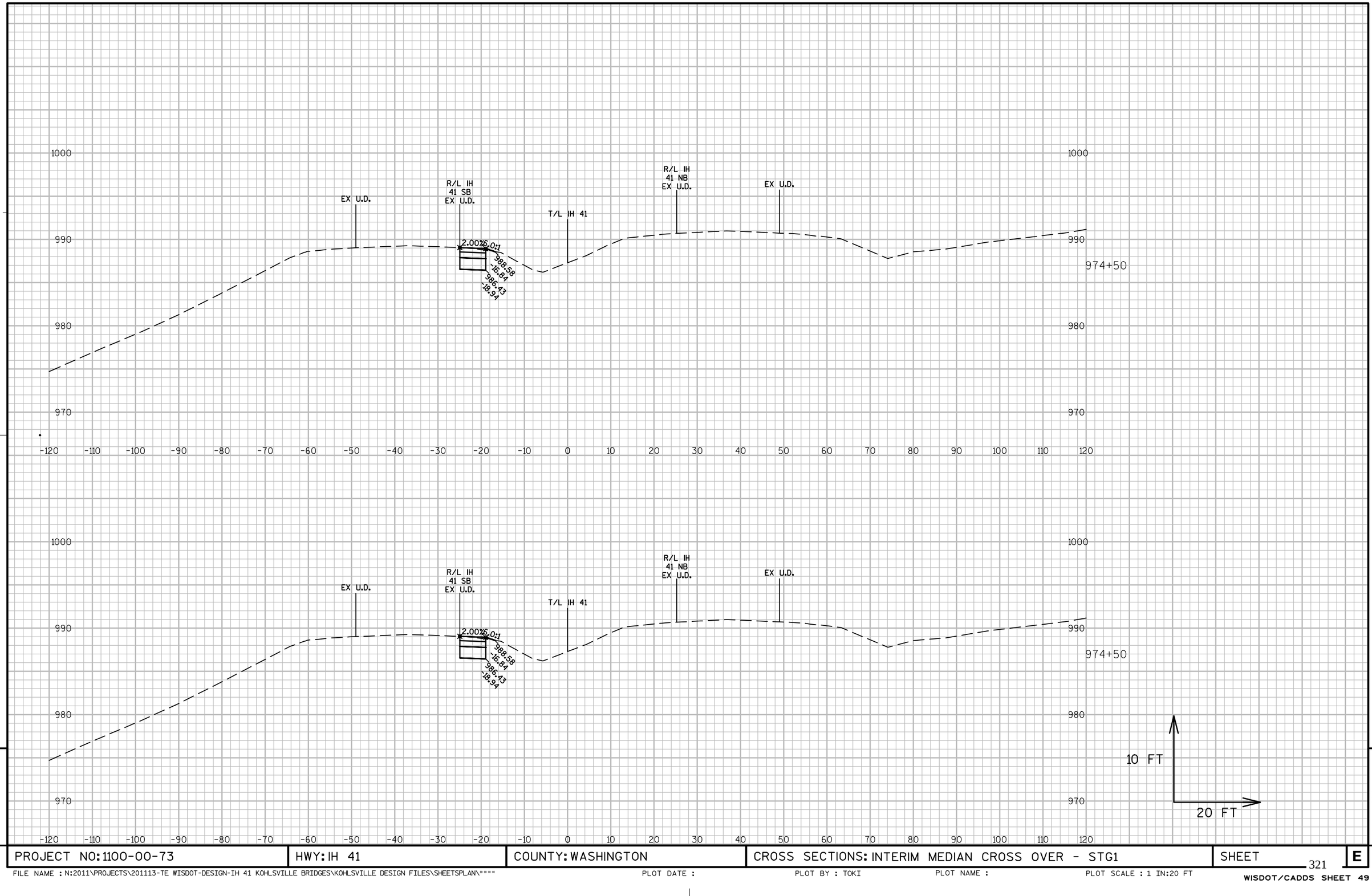
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET	E

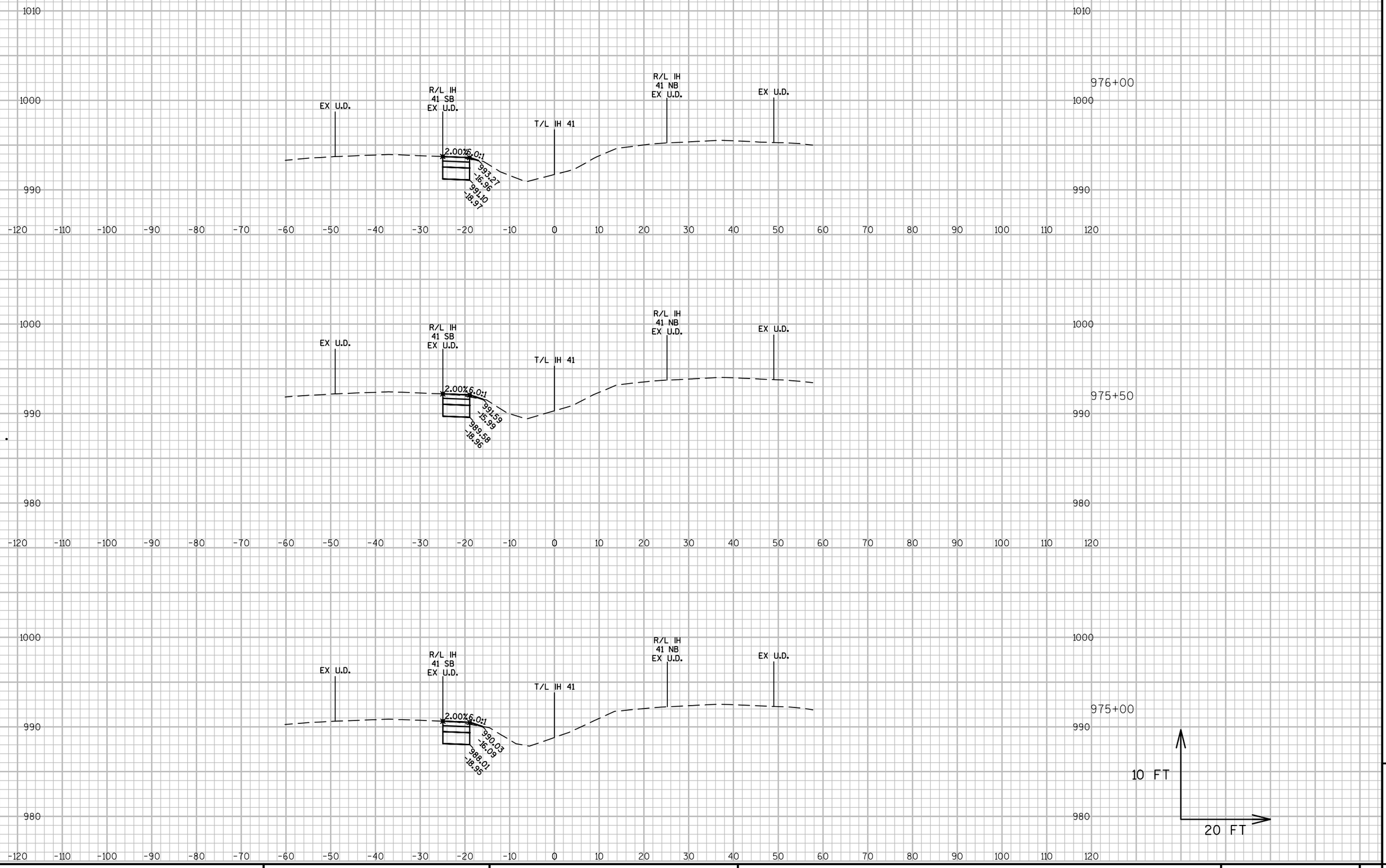
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WISDOT/CADDS SHEET 49



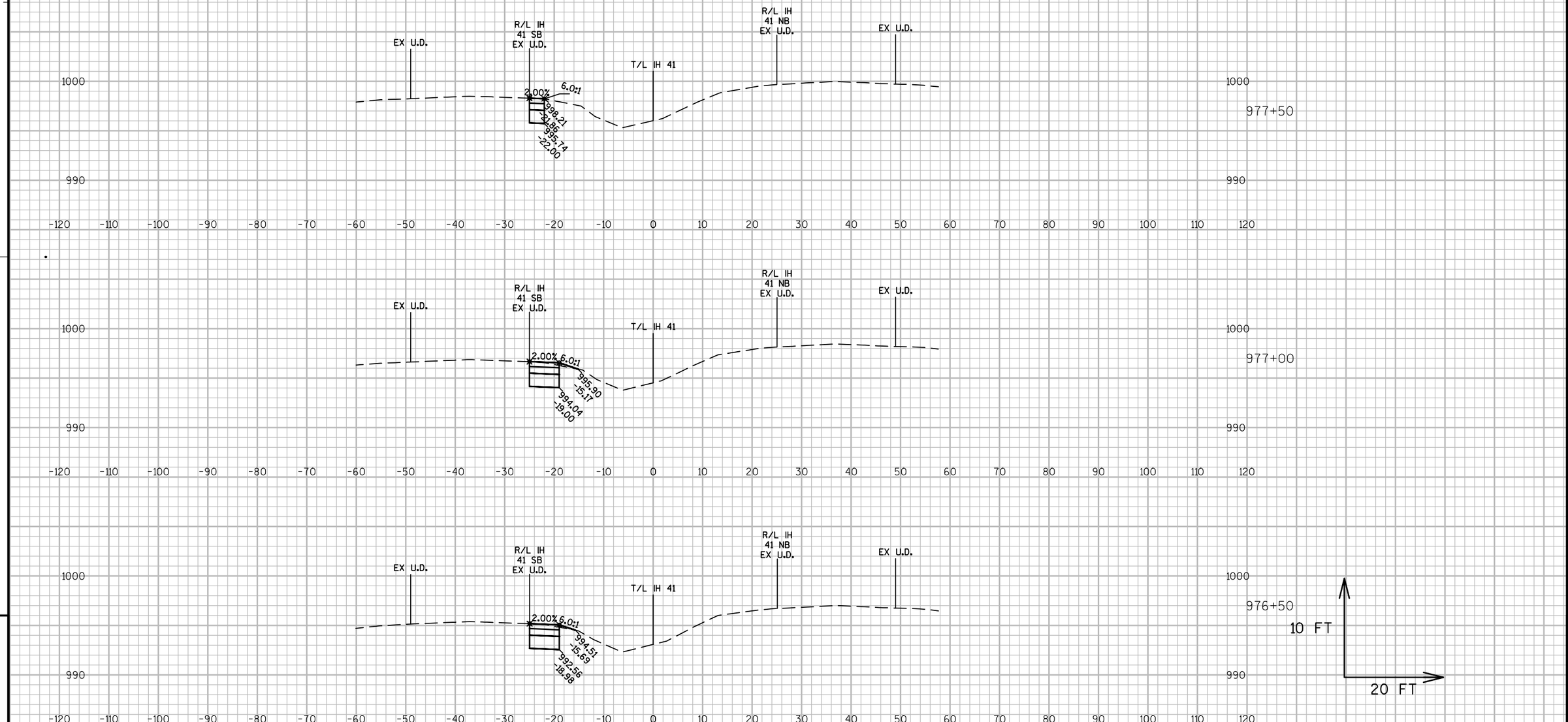
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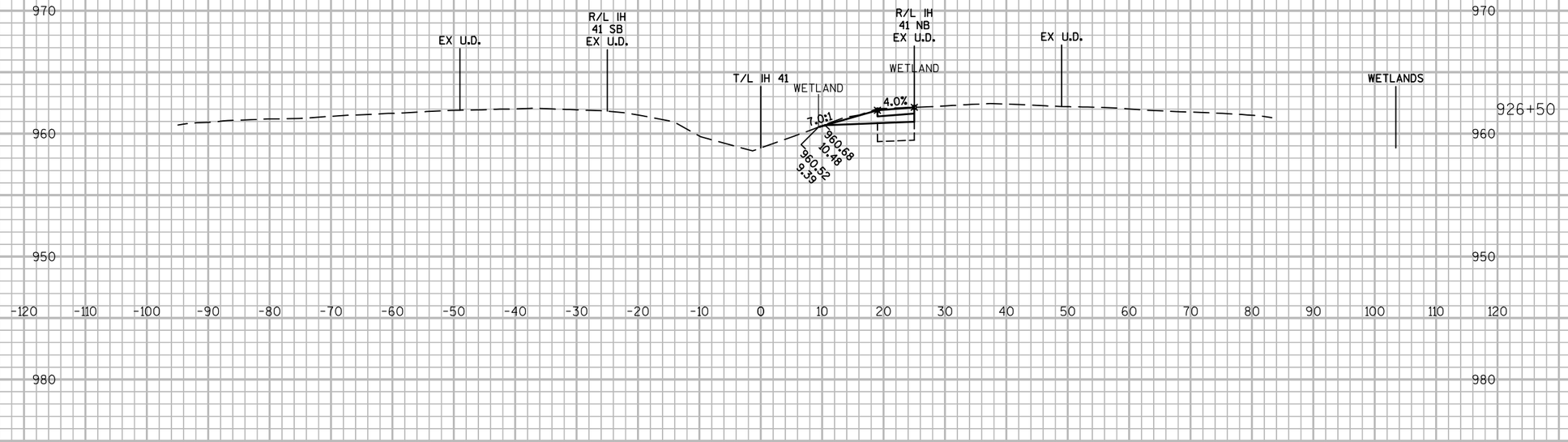


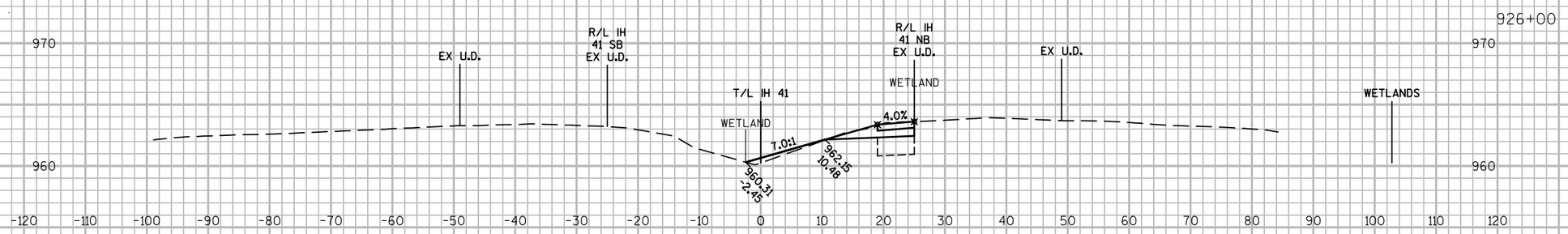
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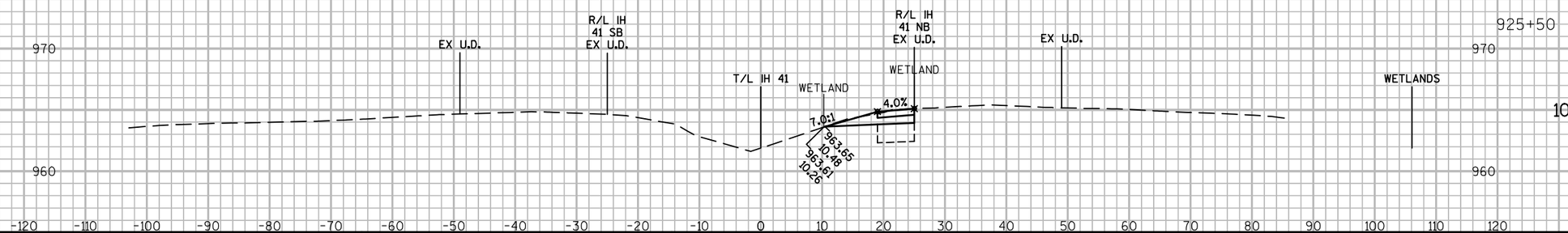
PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: INTERIM MEDIAN CROSS OVER - STG1	SHEET	E

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WISDOT/CADDS SHEET 49







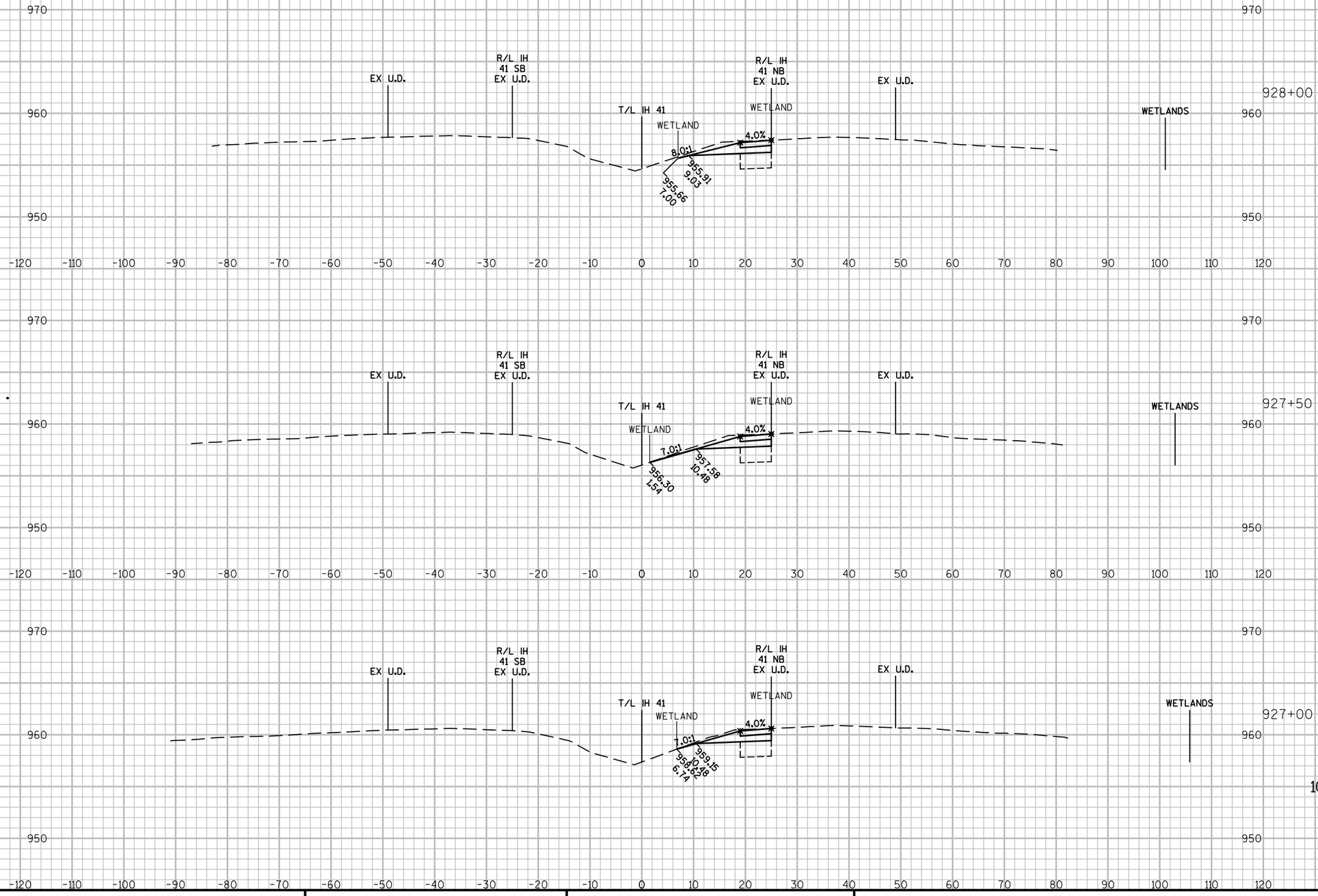
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET	E

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WISDOT/CADDS SHEET 49

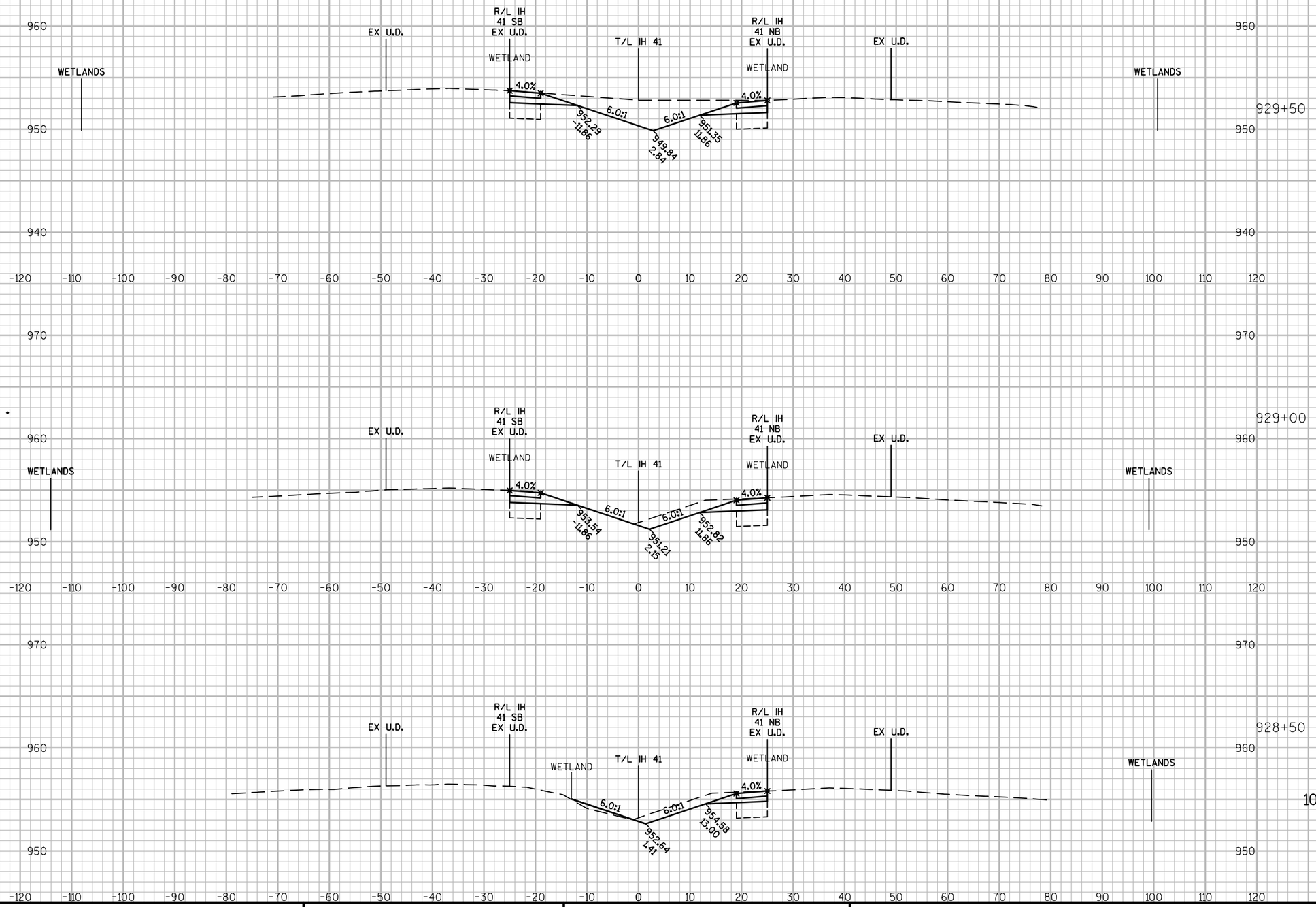


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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET	E

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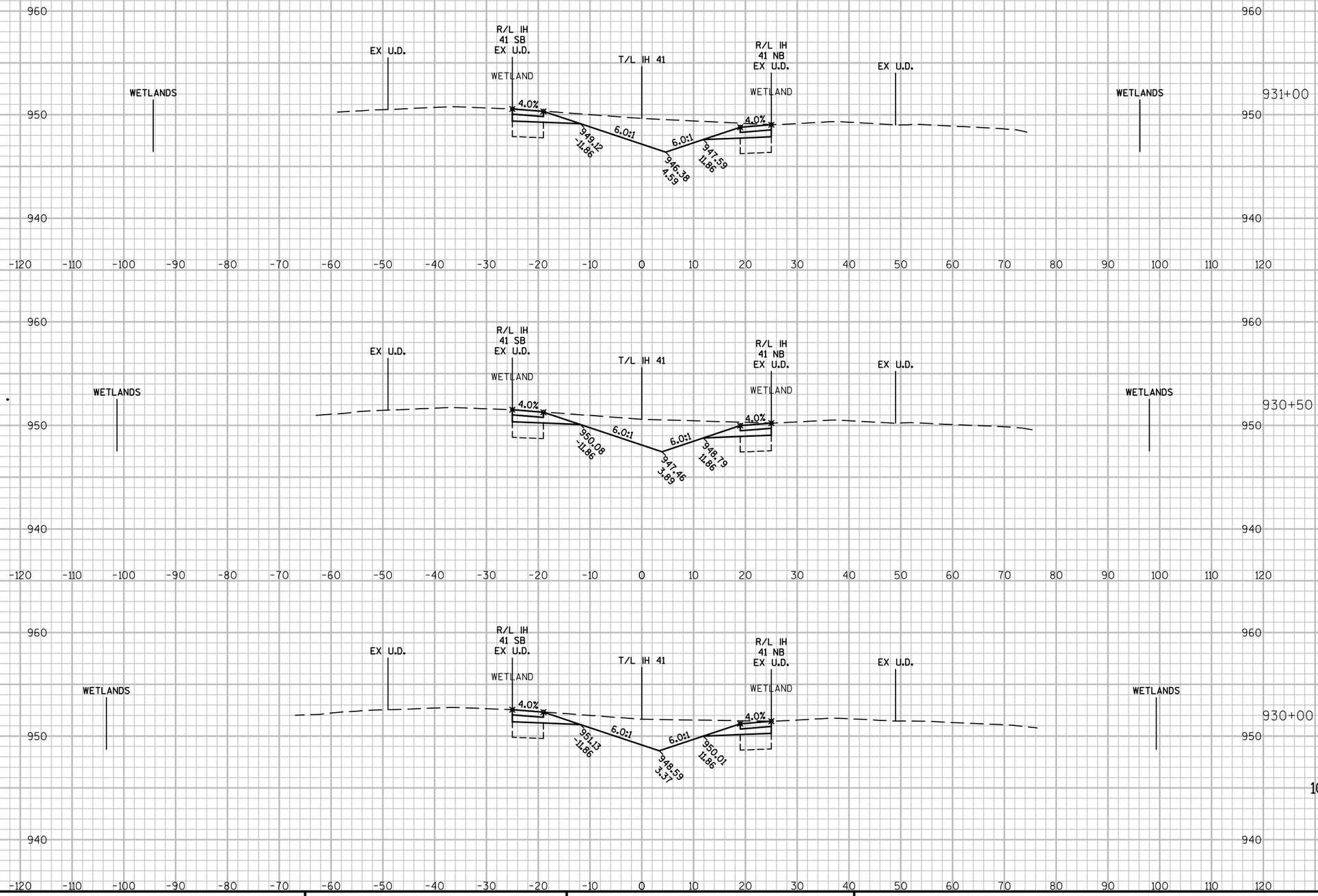
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET	E

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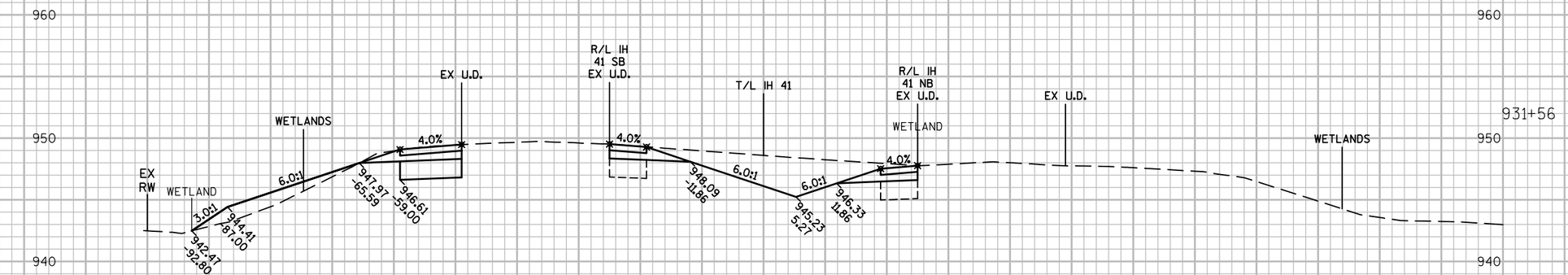
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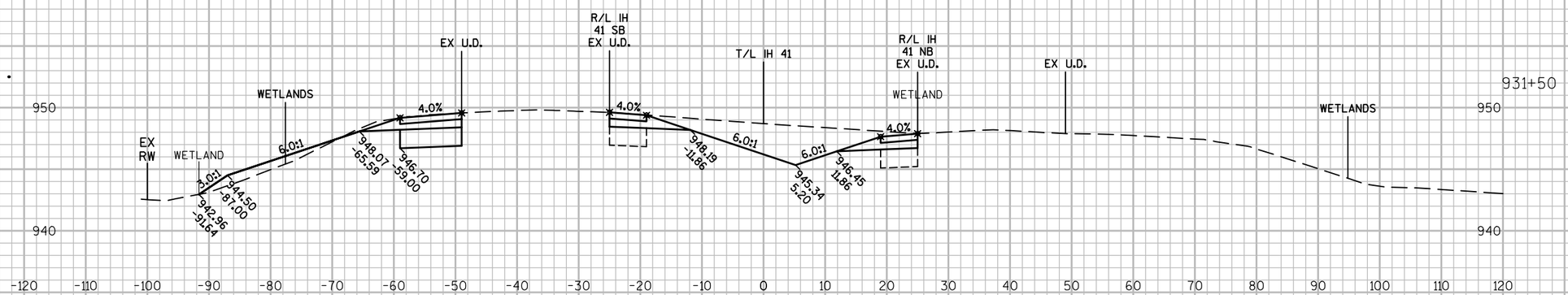


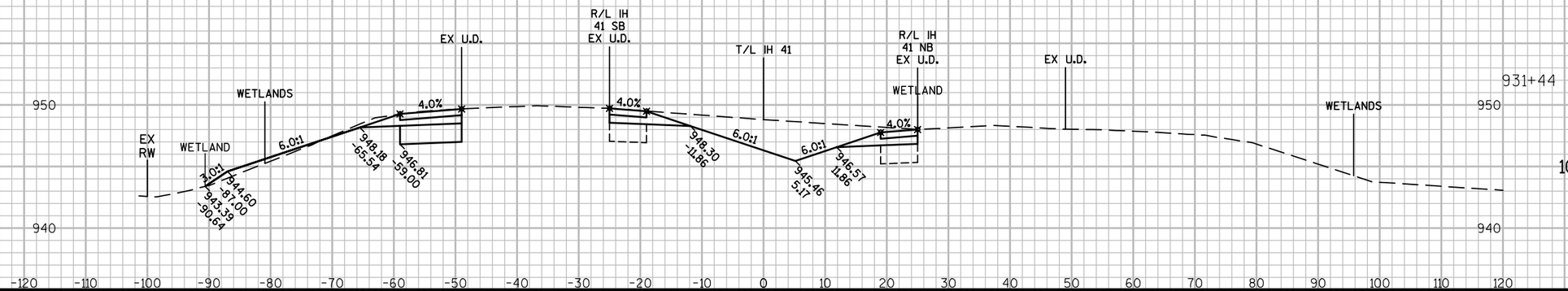
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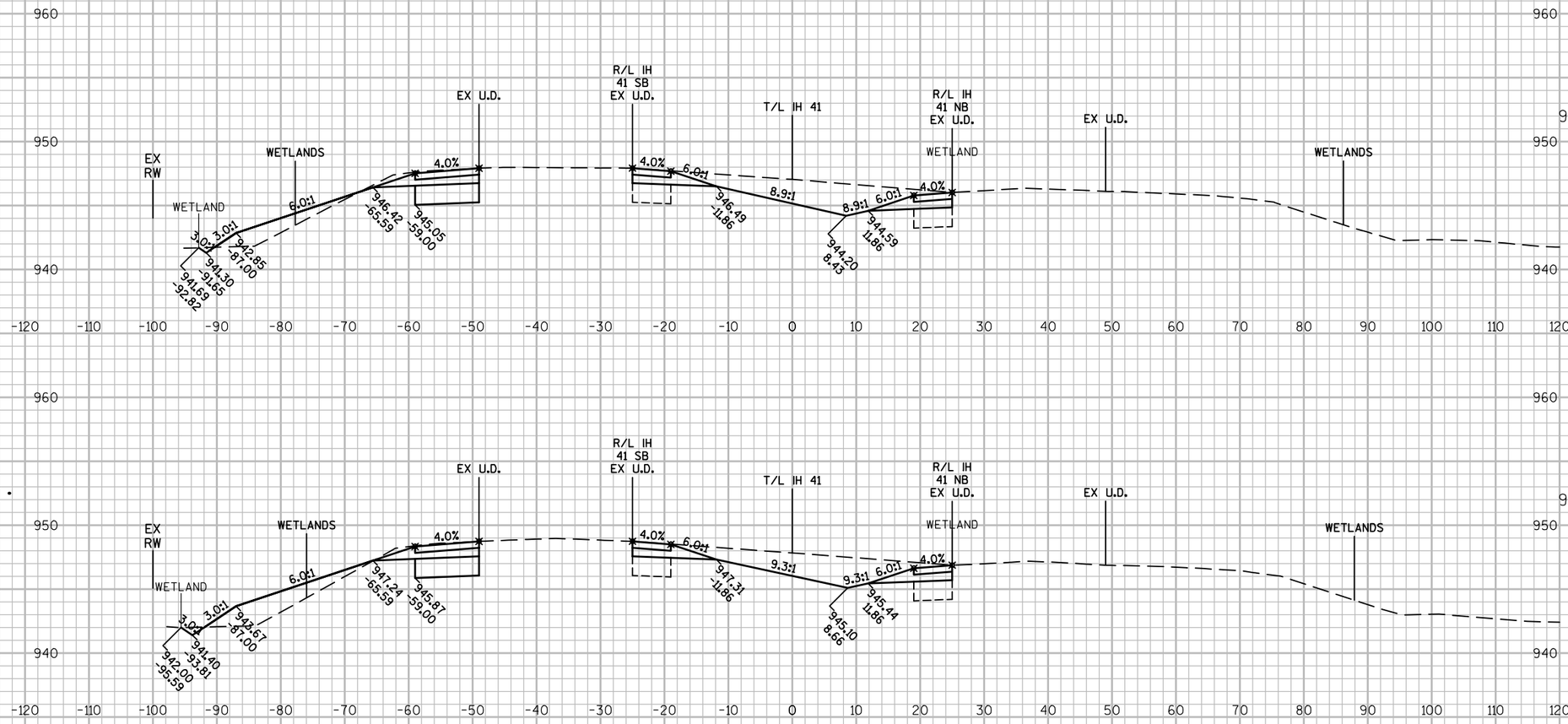
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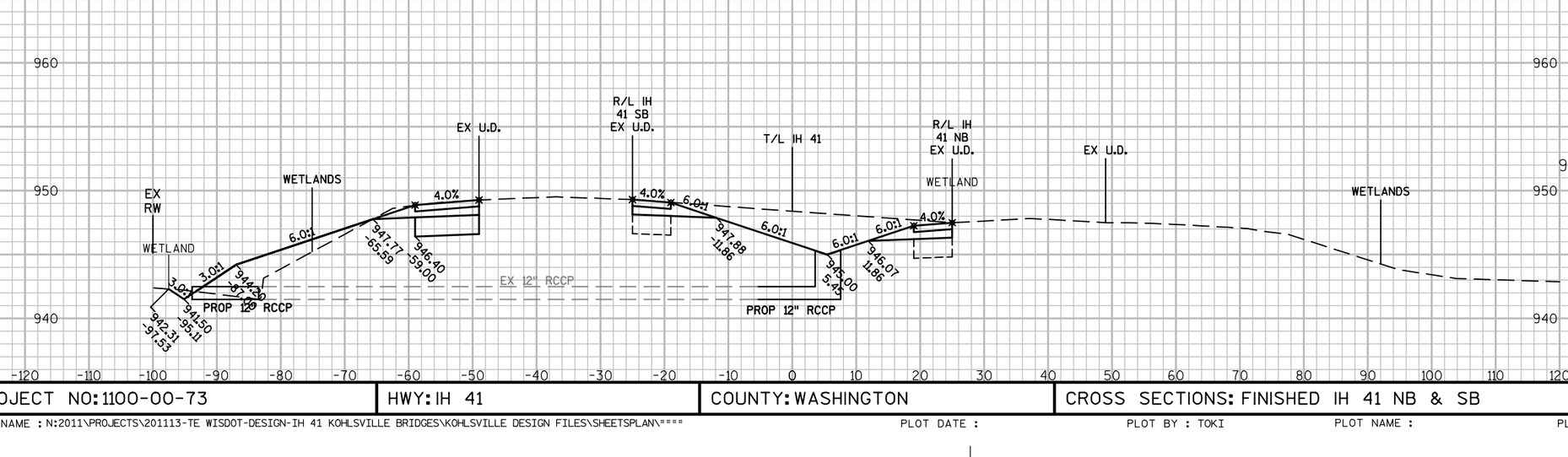
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET	E

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WISDOT/CADDS SHEET 49



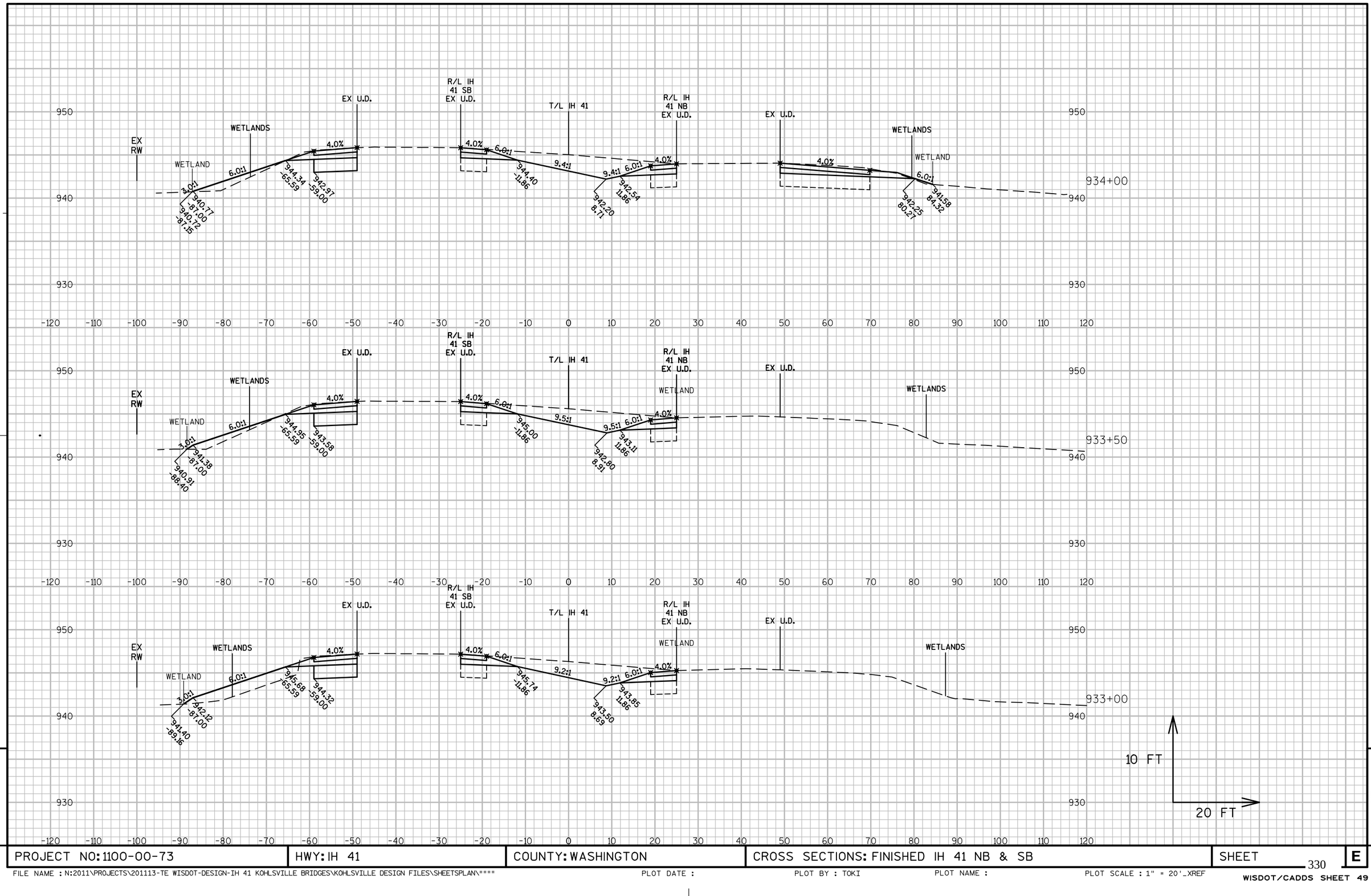


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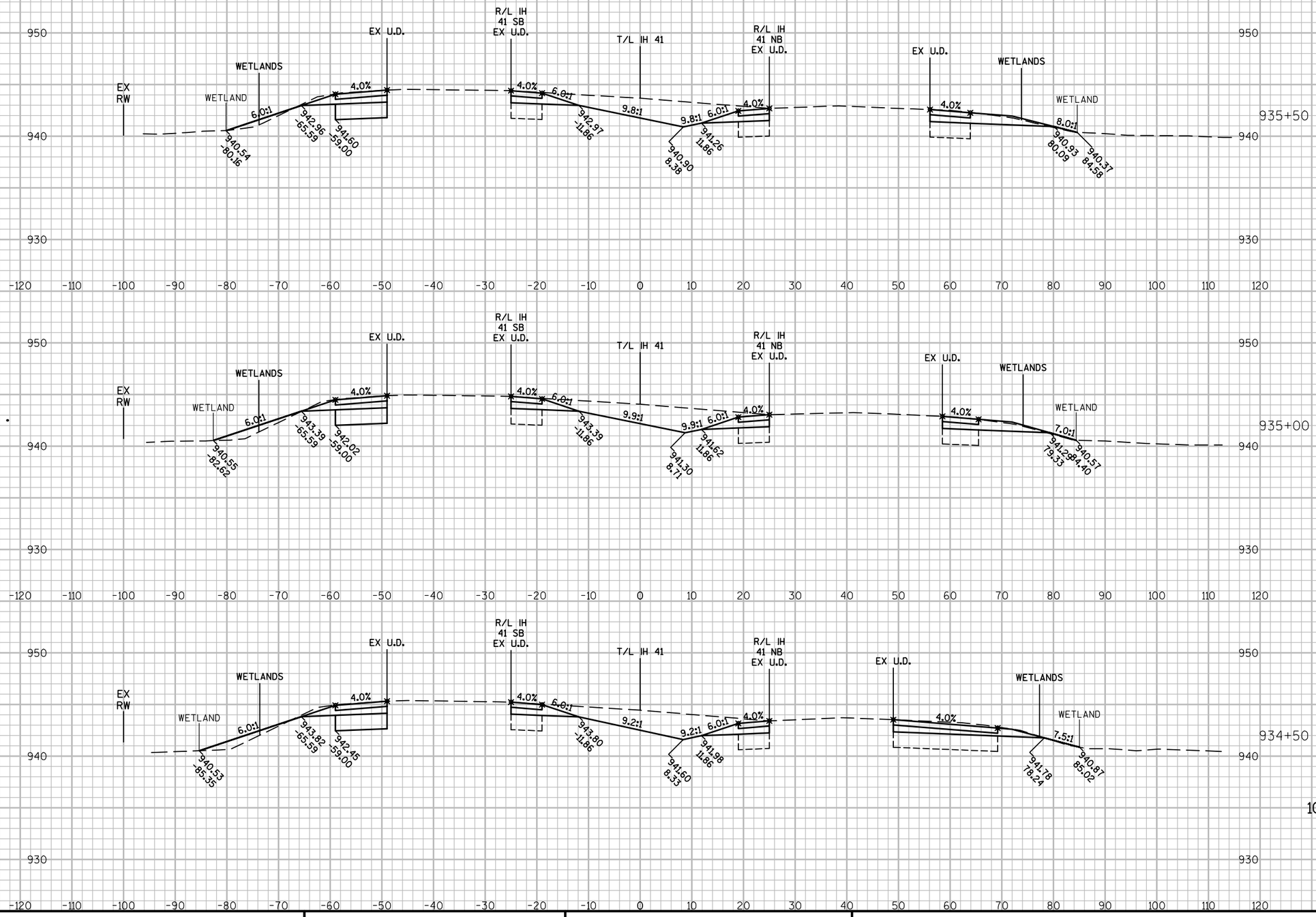
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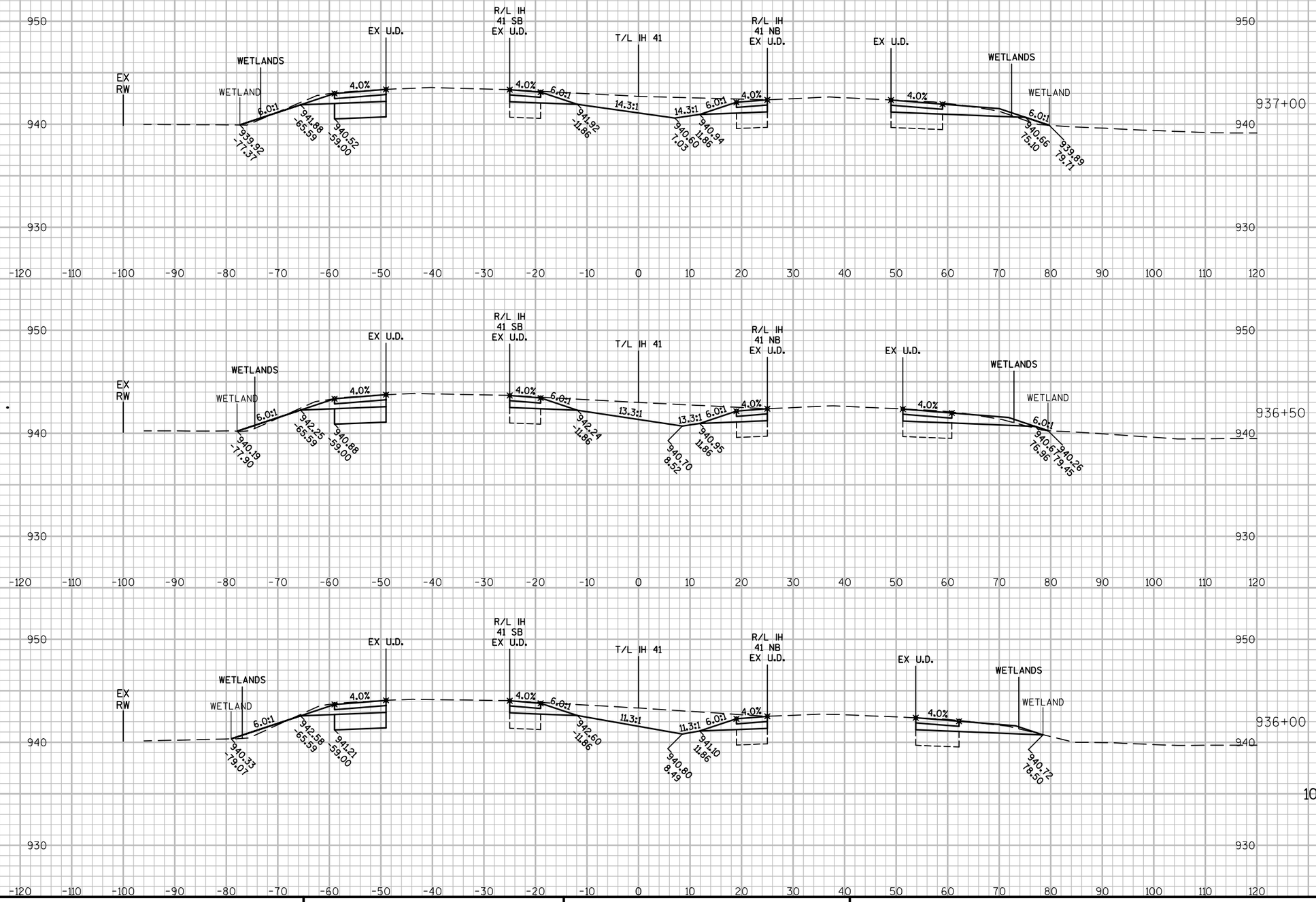


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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET	E

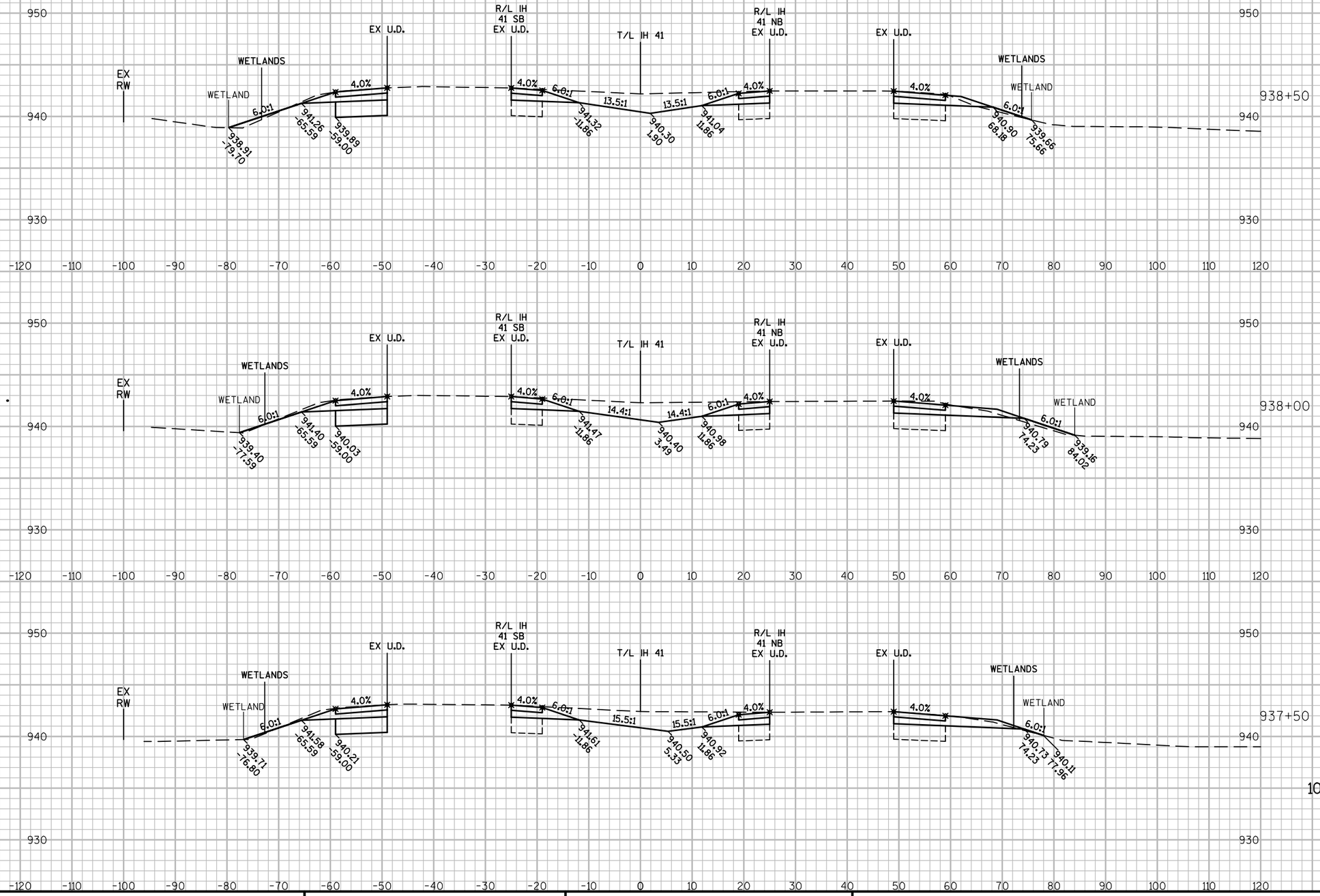
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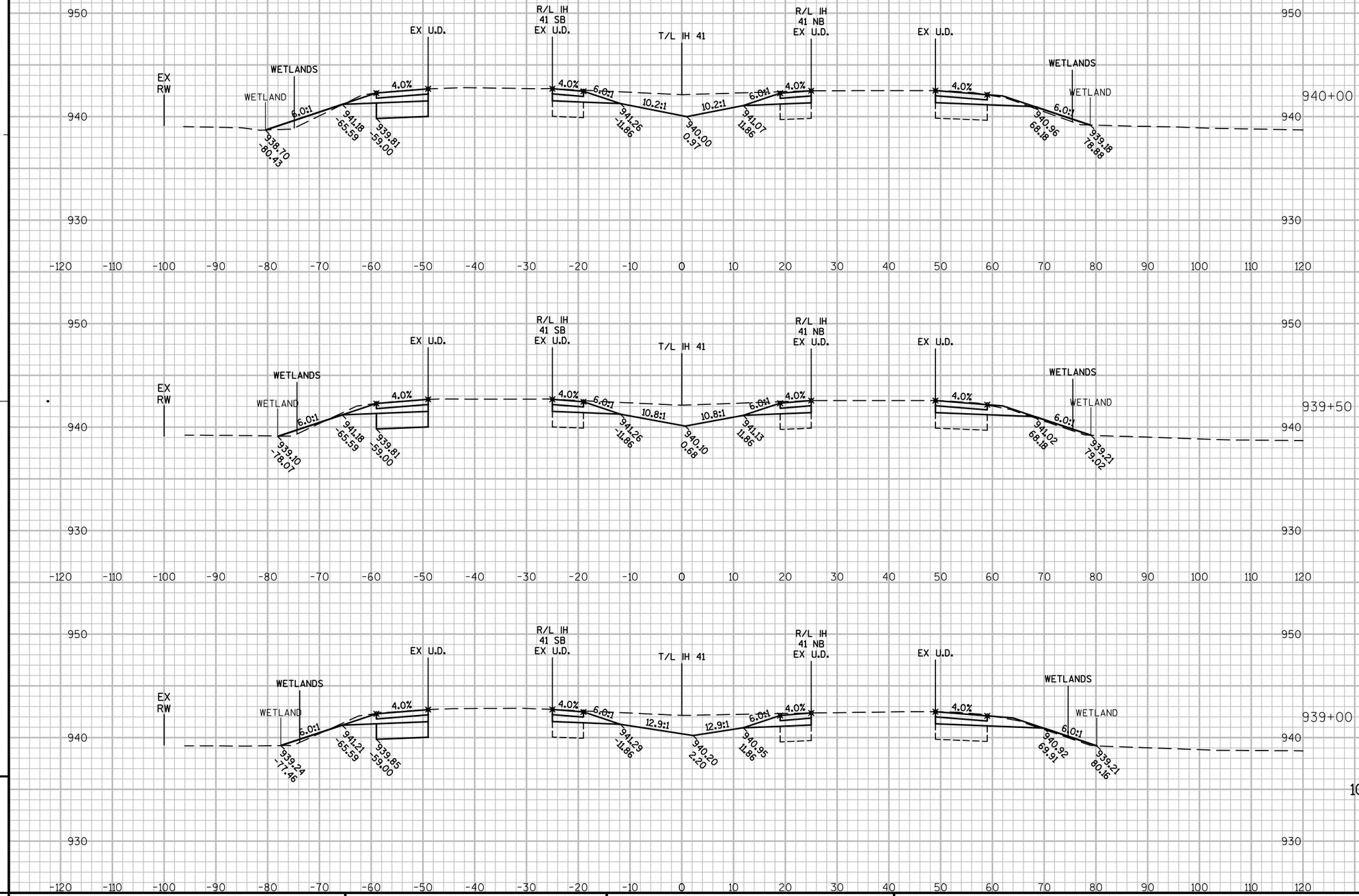
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET	E

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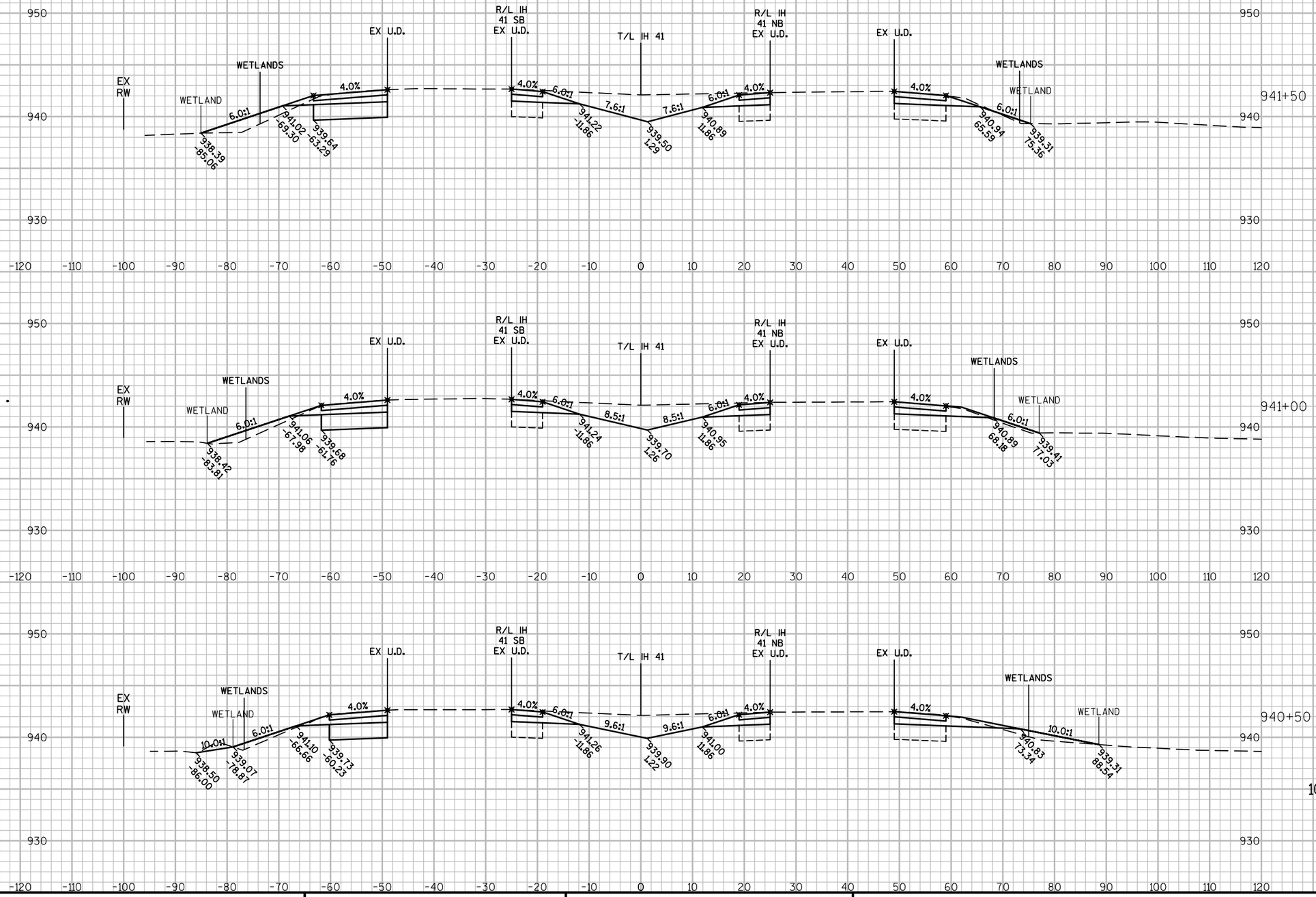


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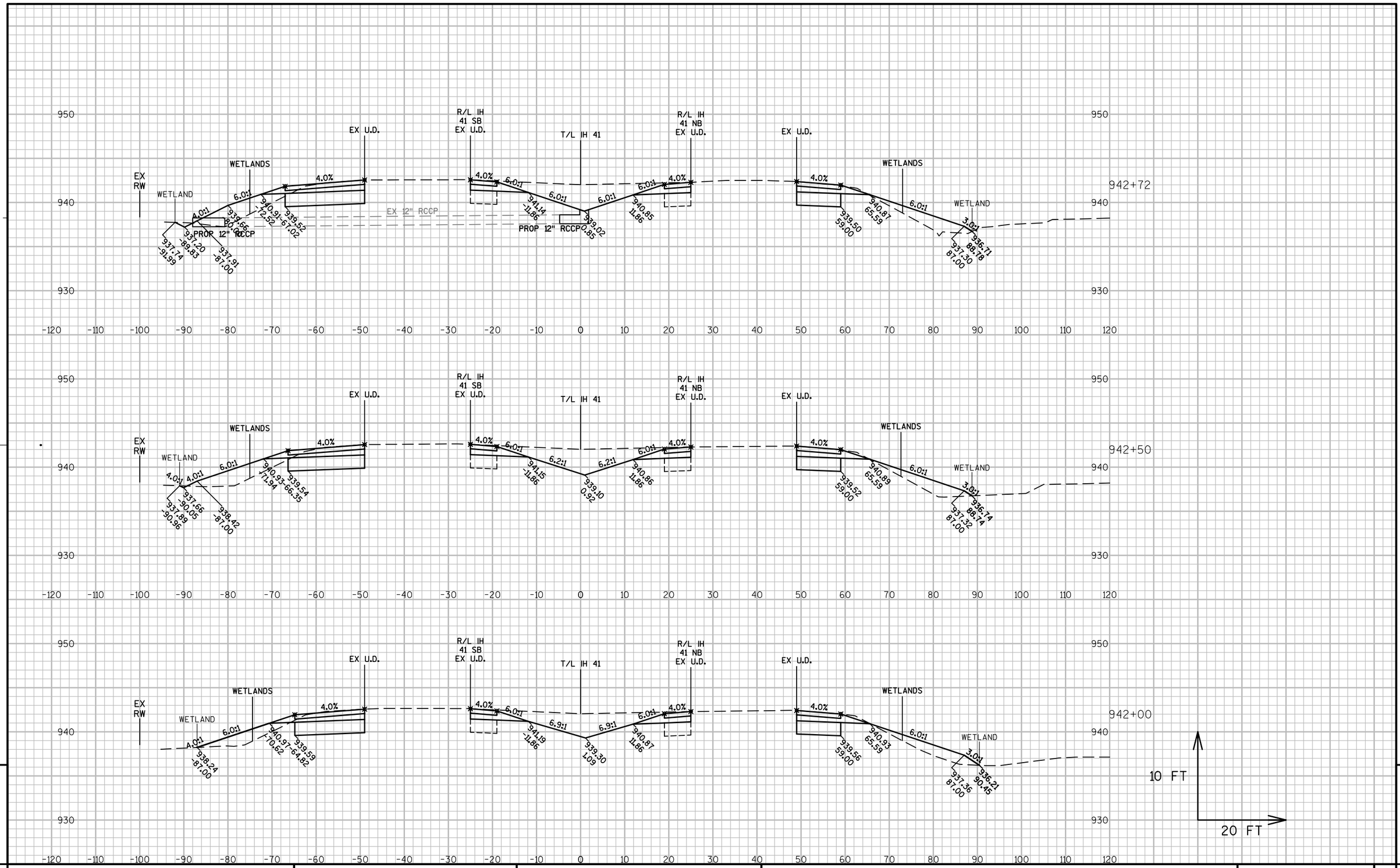
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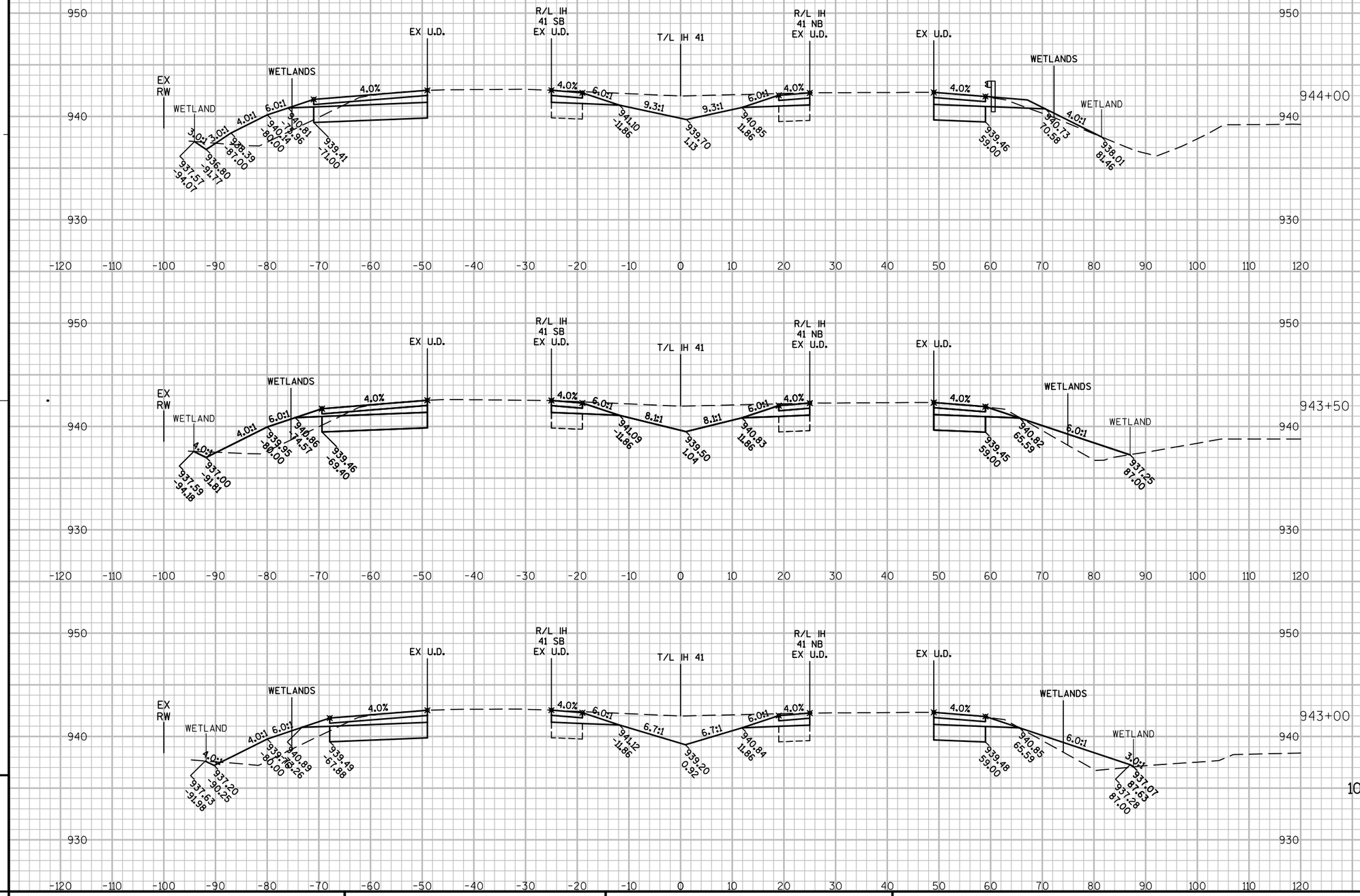
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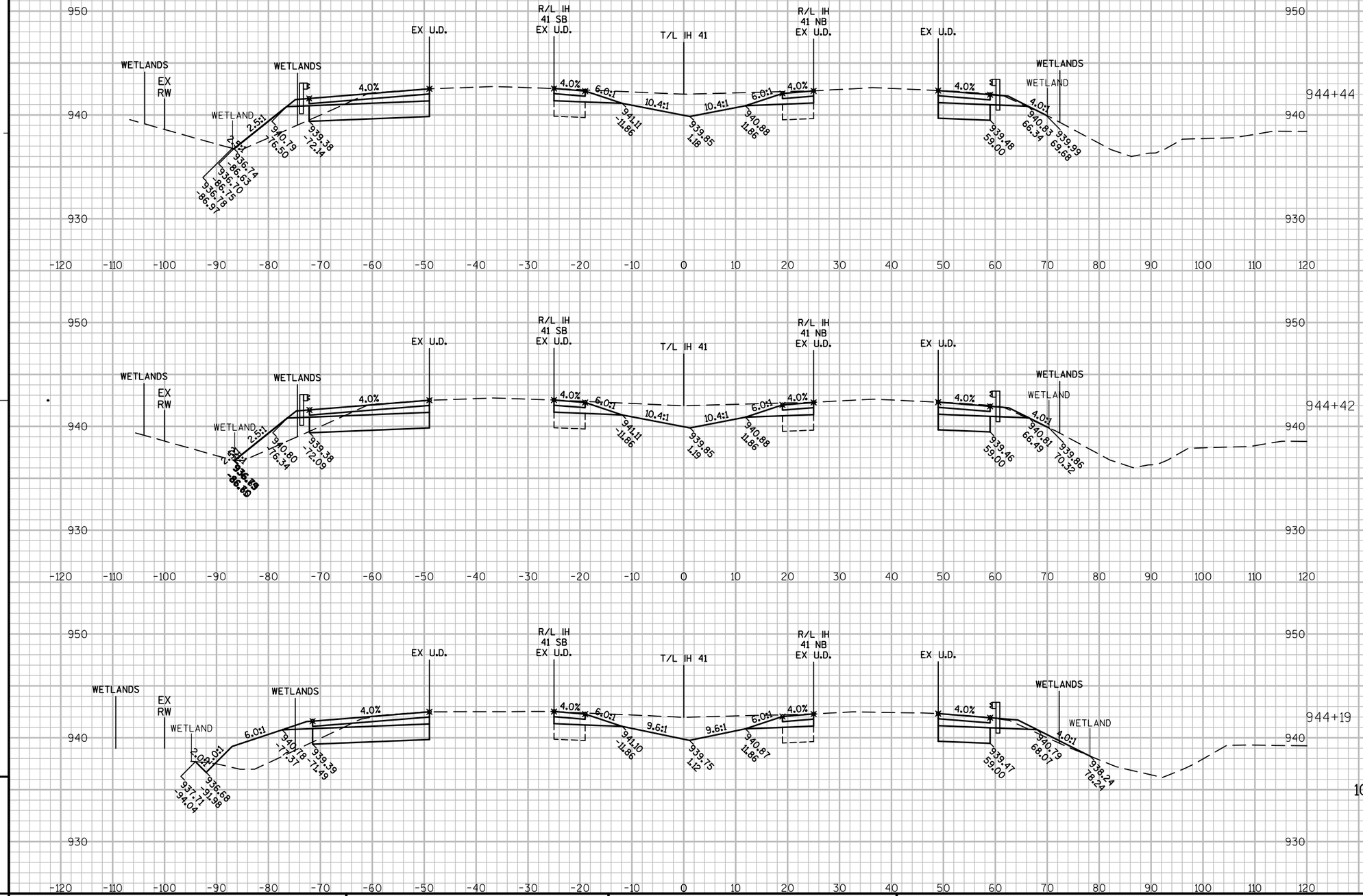
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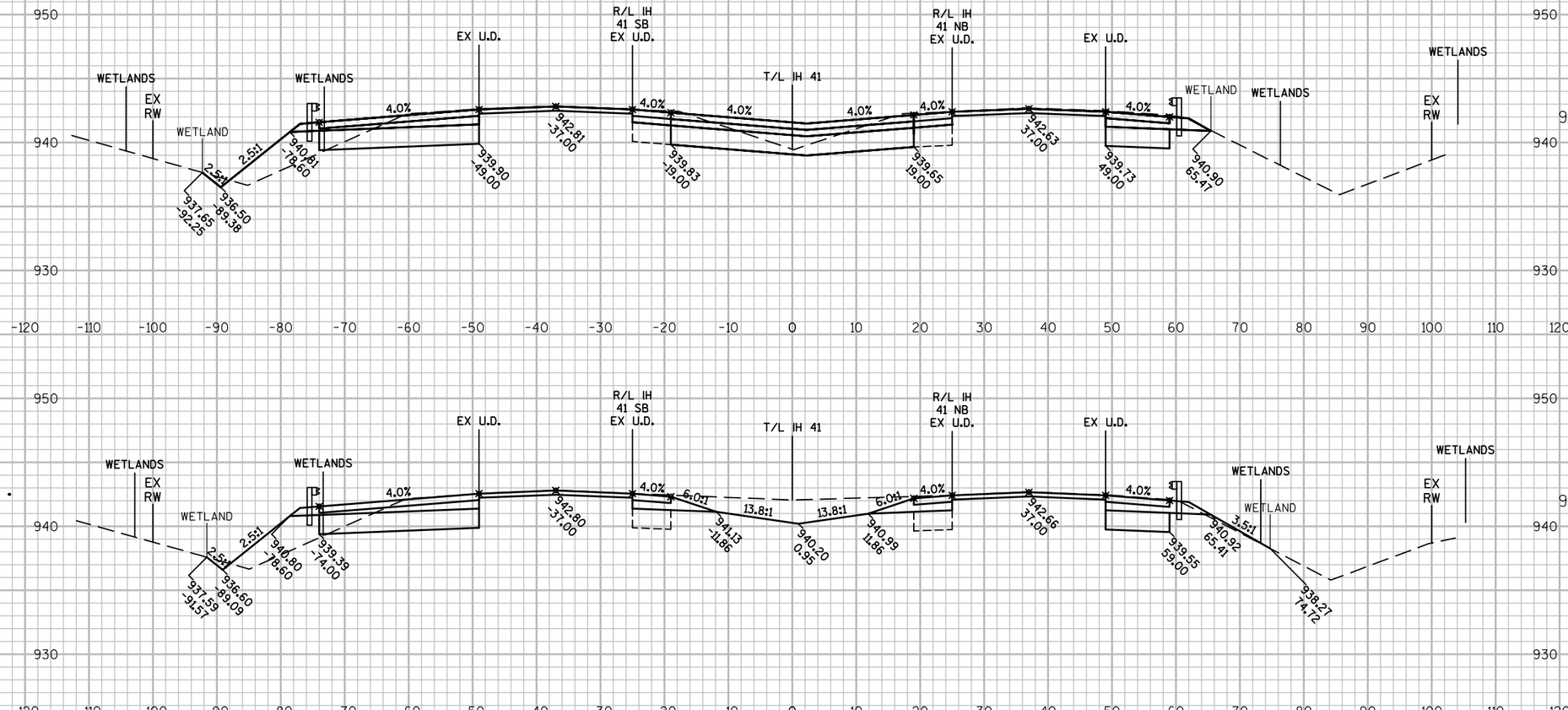


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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET	E

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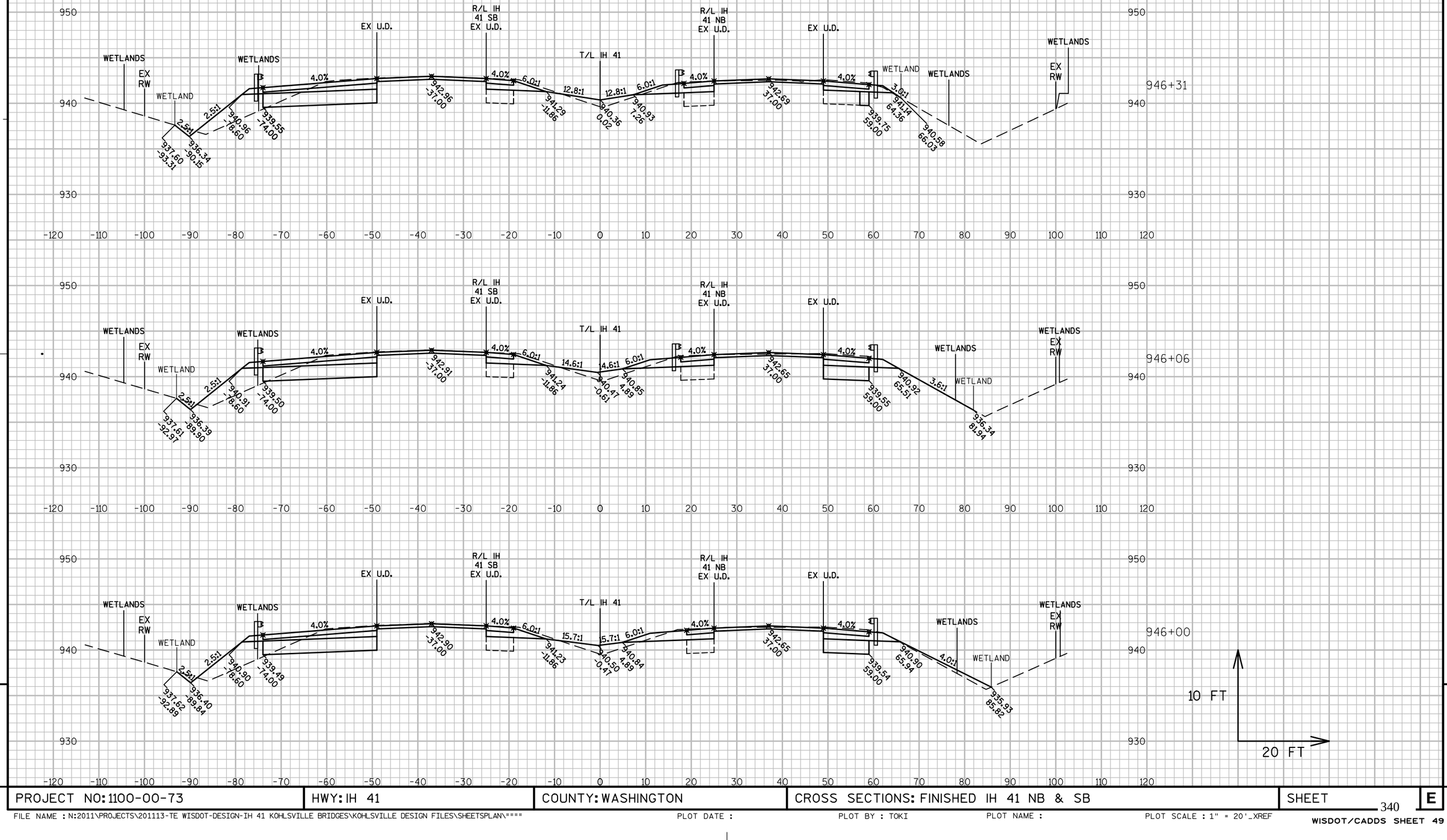


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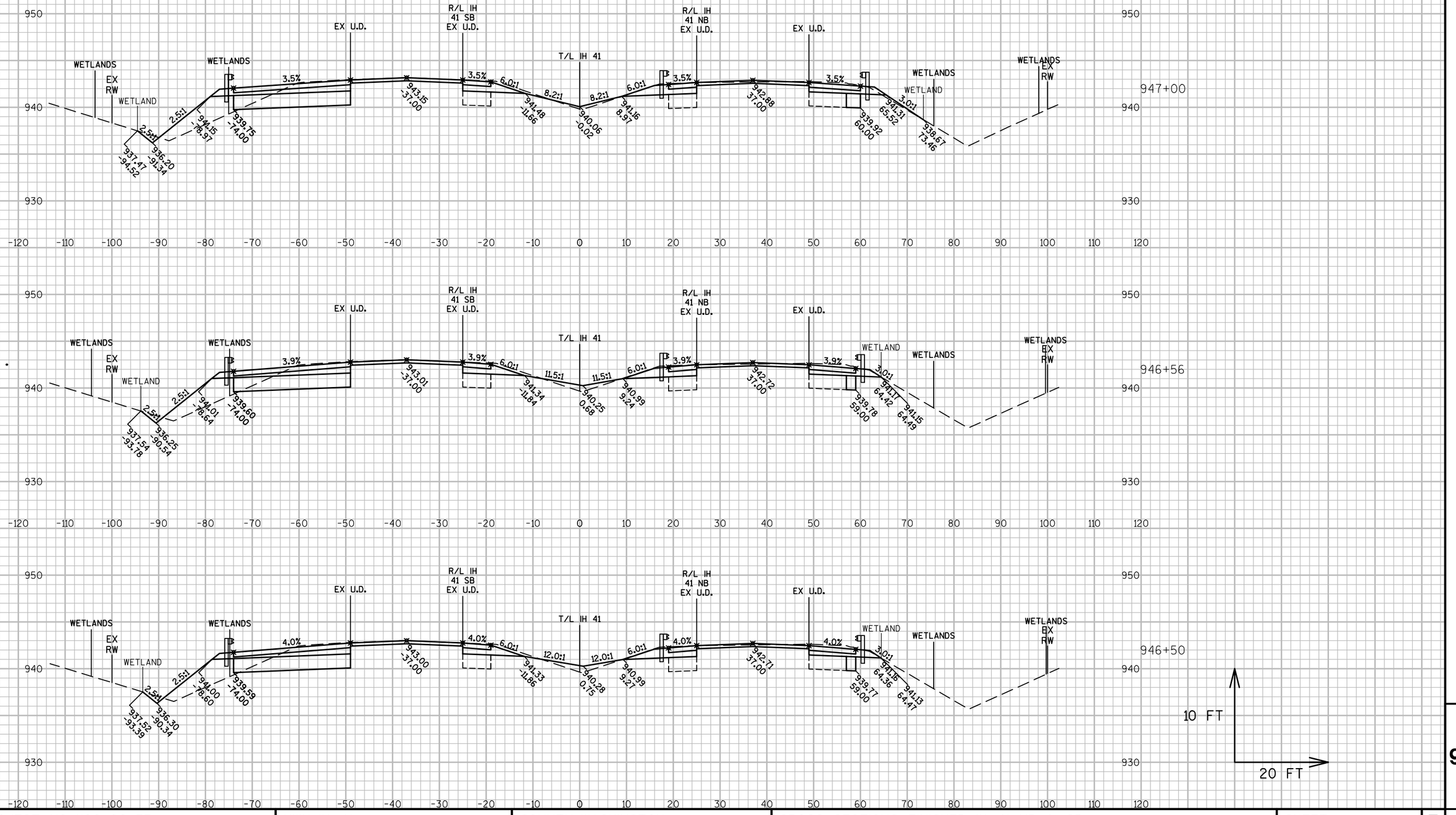


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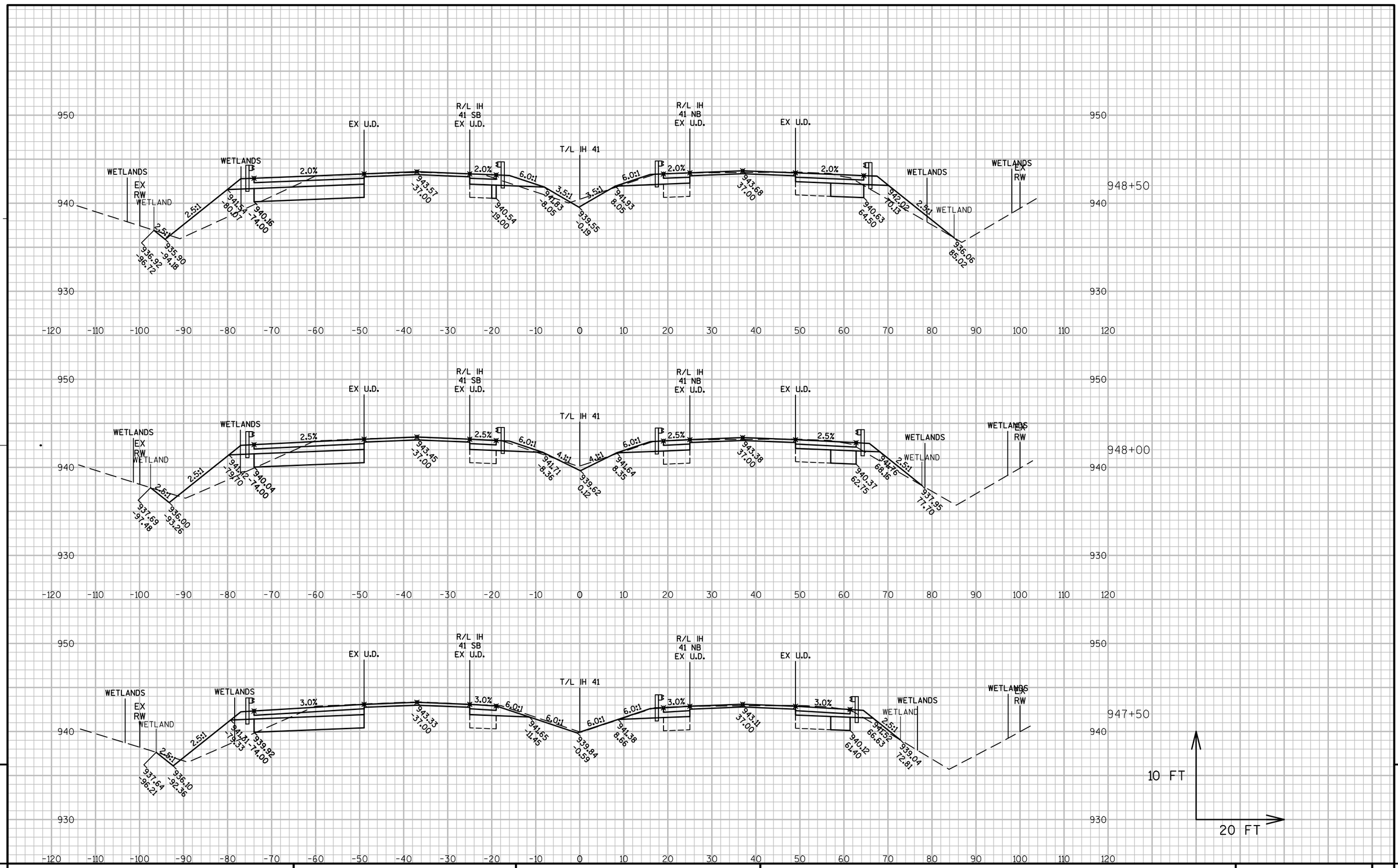
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET	E

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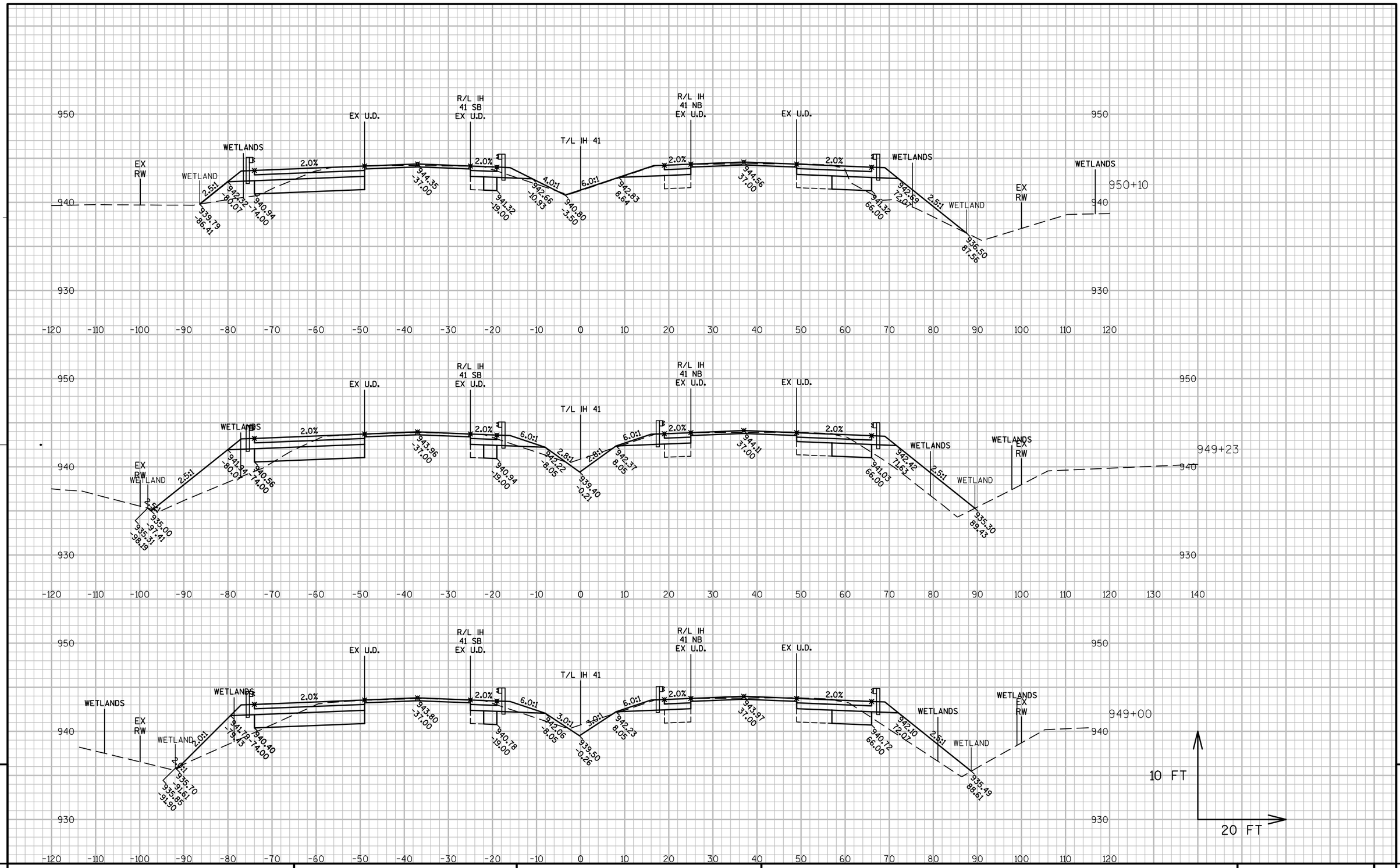


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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET	E

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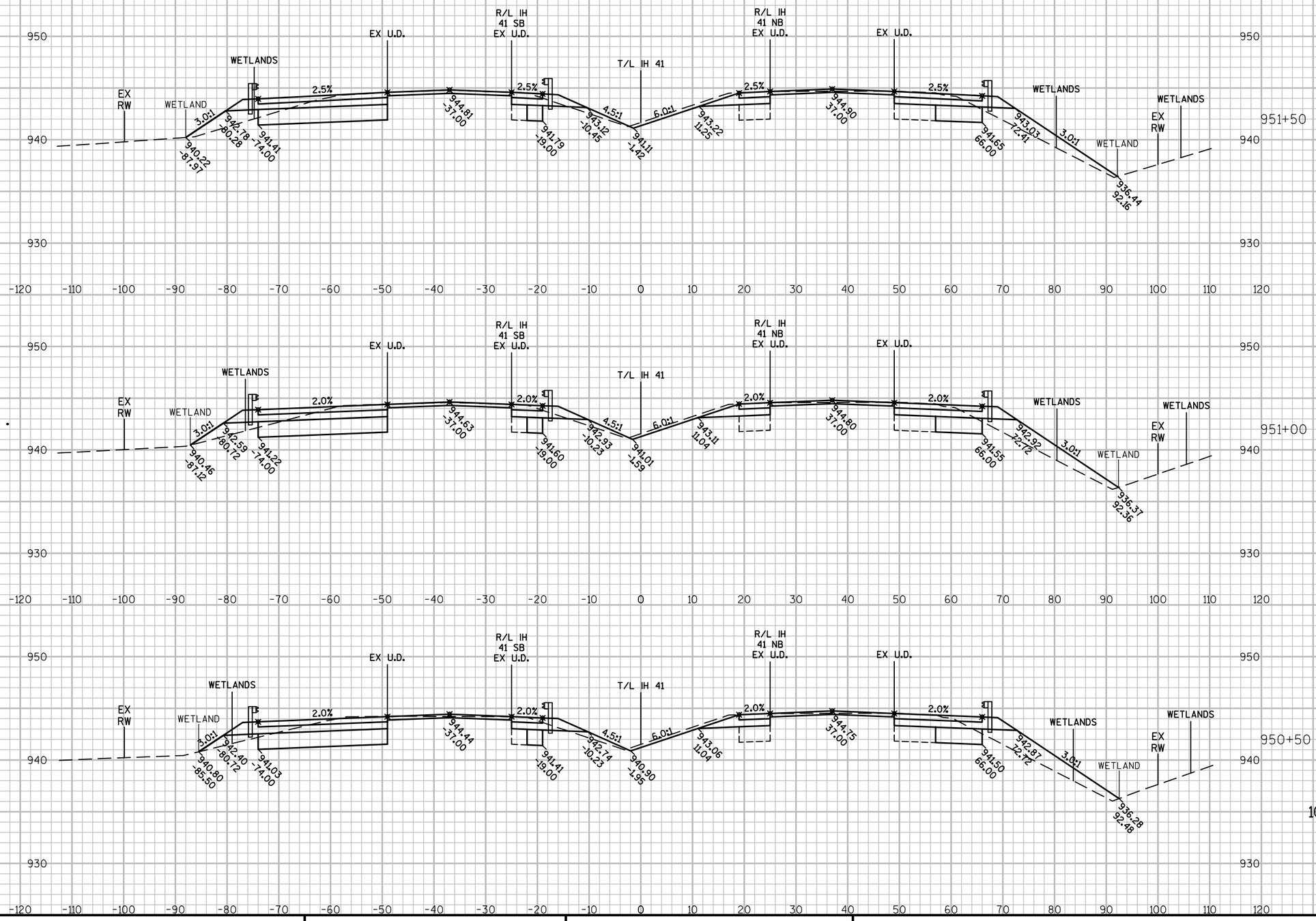
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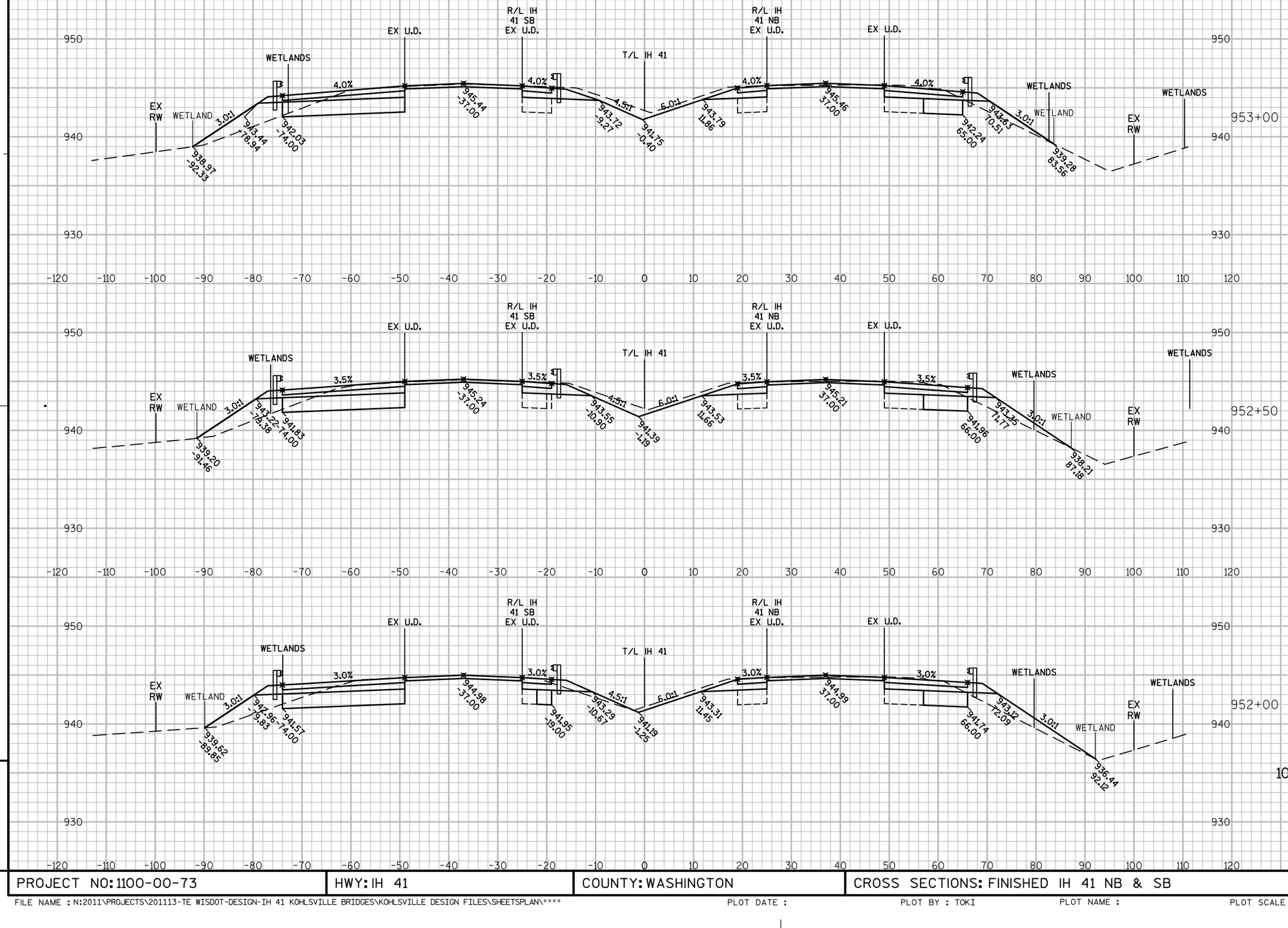
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WISDOT/CADDS SHEET 49

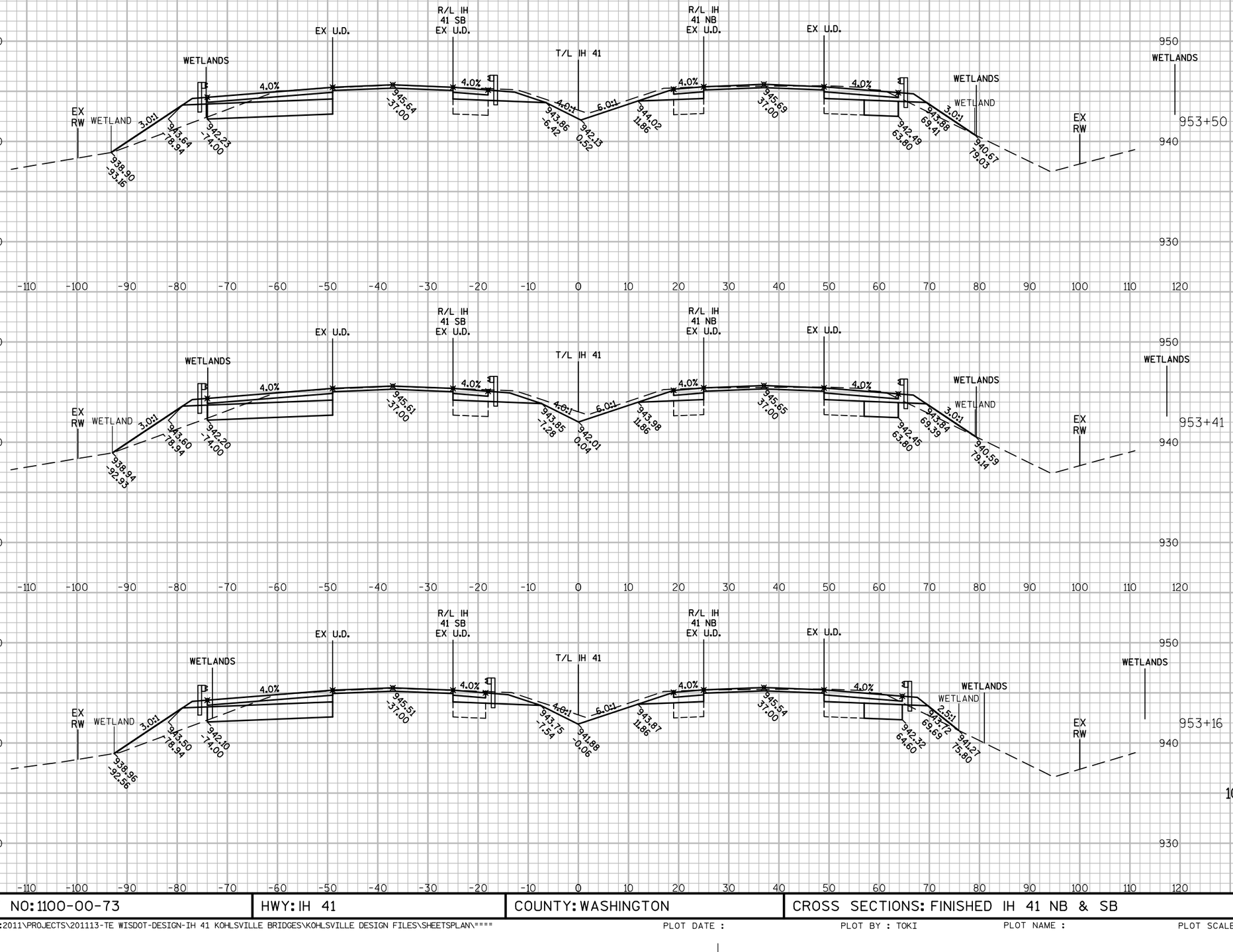


PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET	E



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET	E

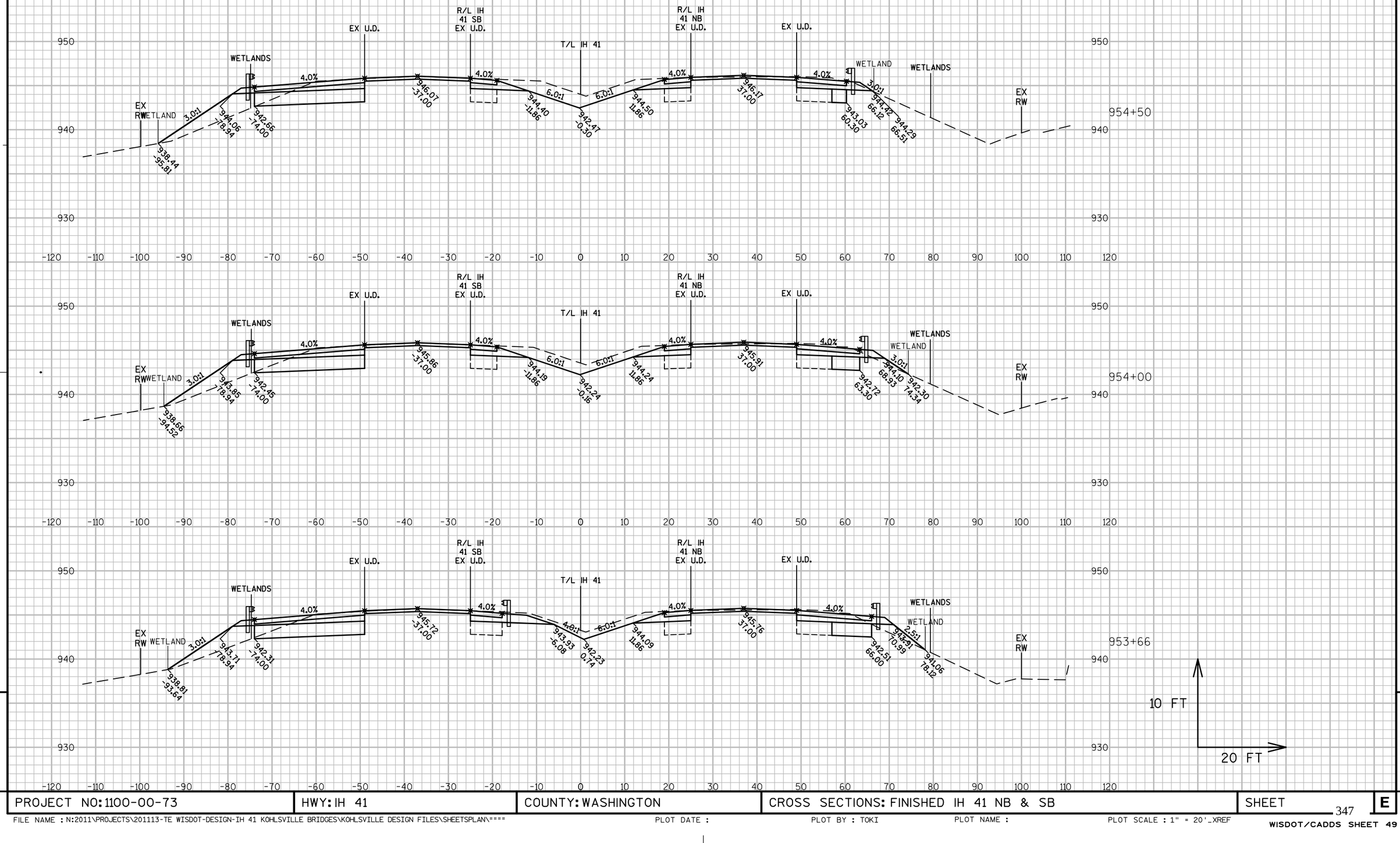
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET E

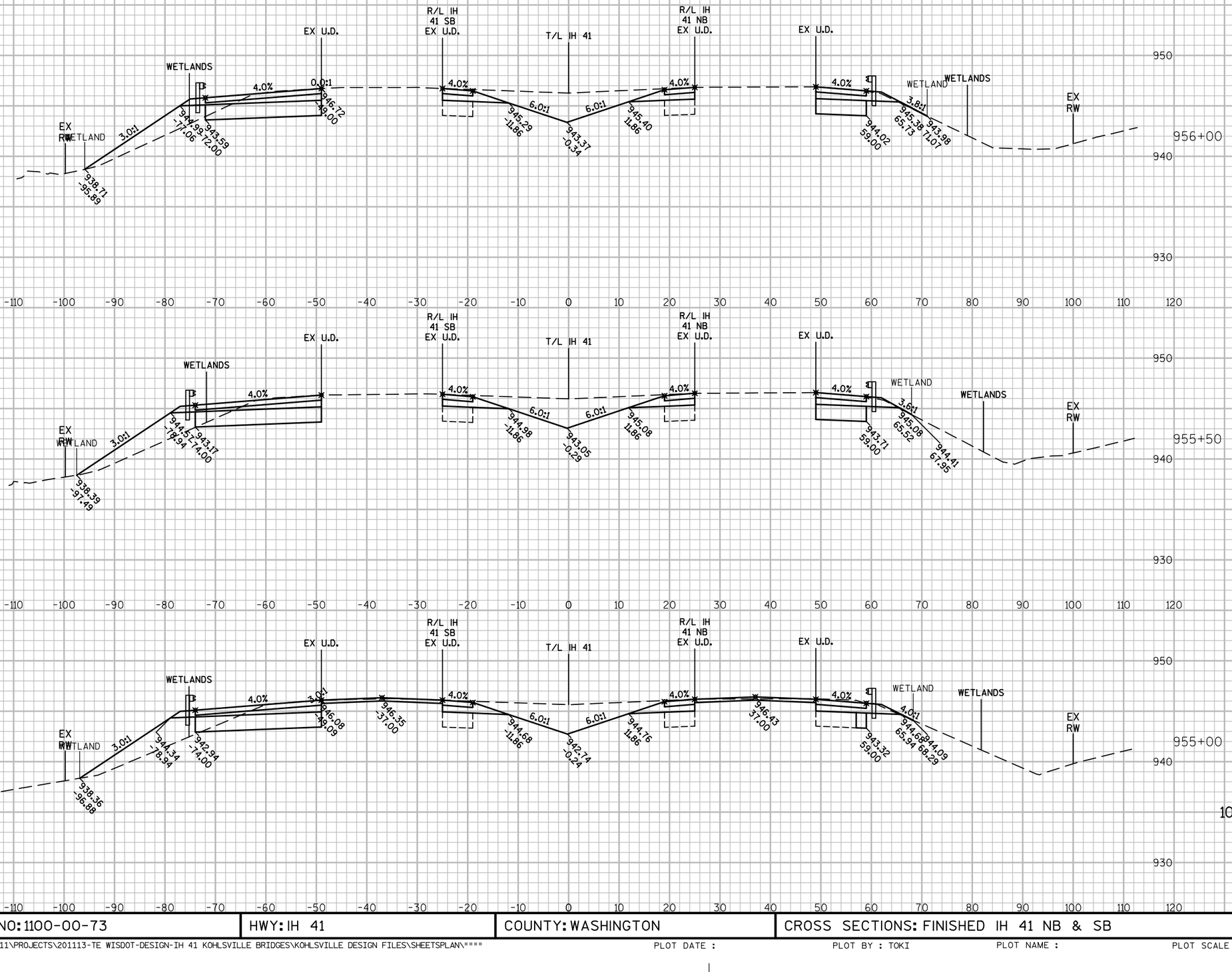
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WISDOT/CADDS SHEET 49



PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET E

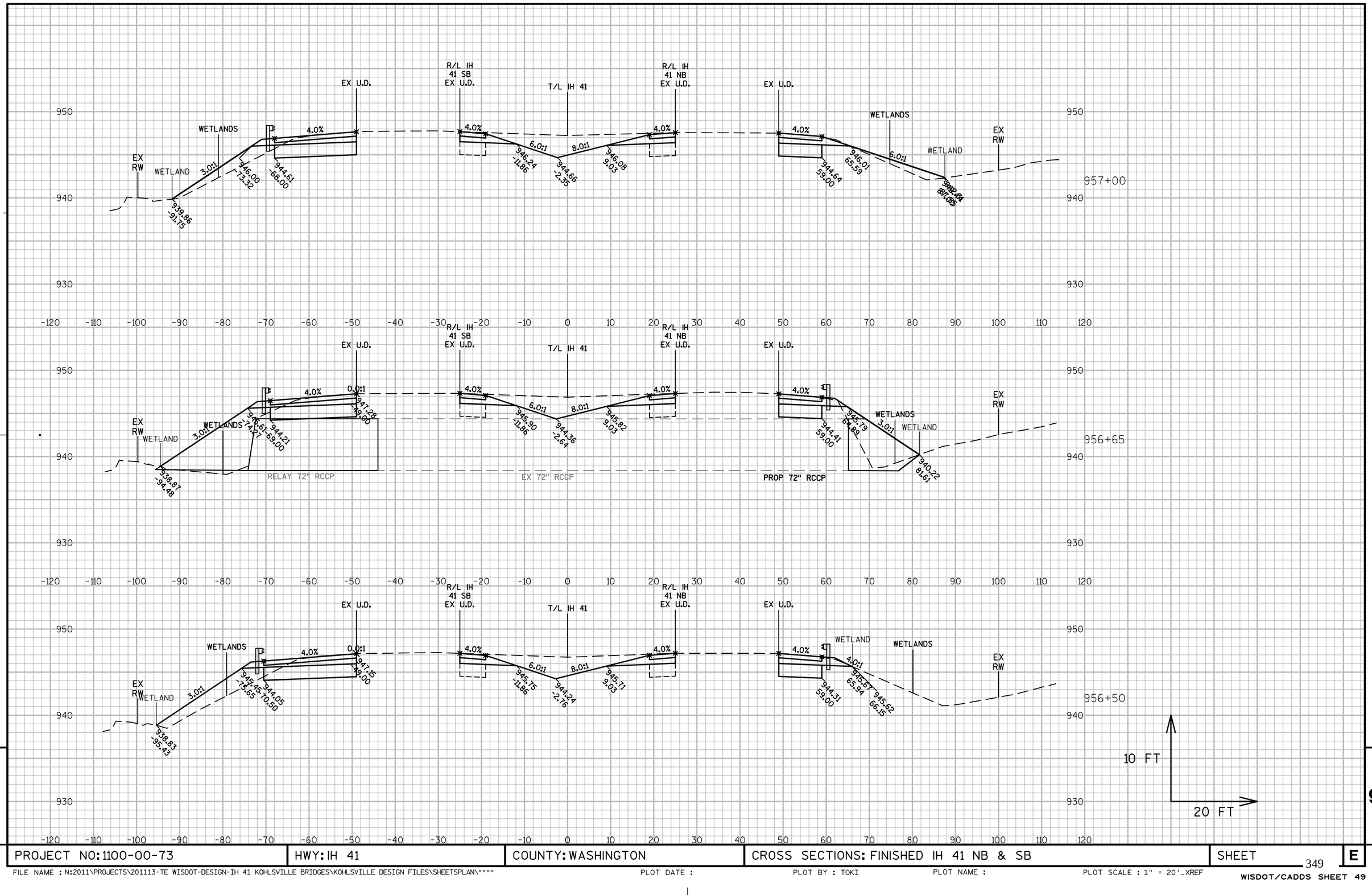
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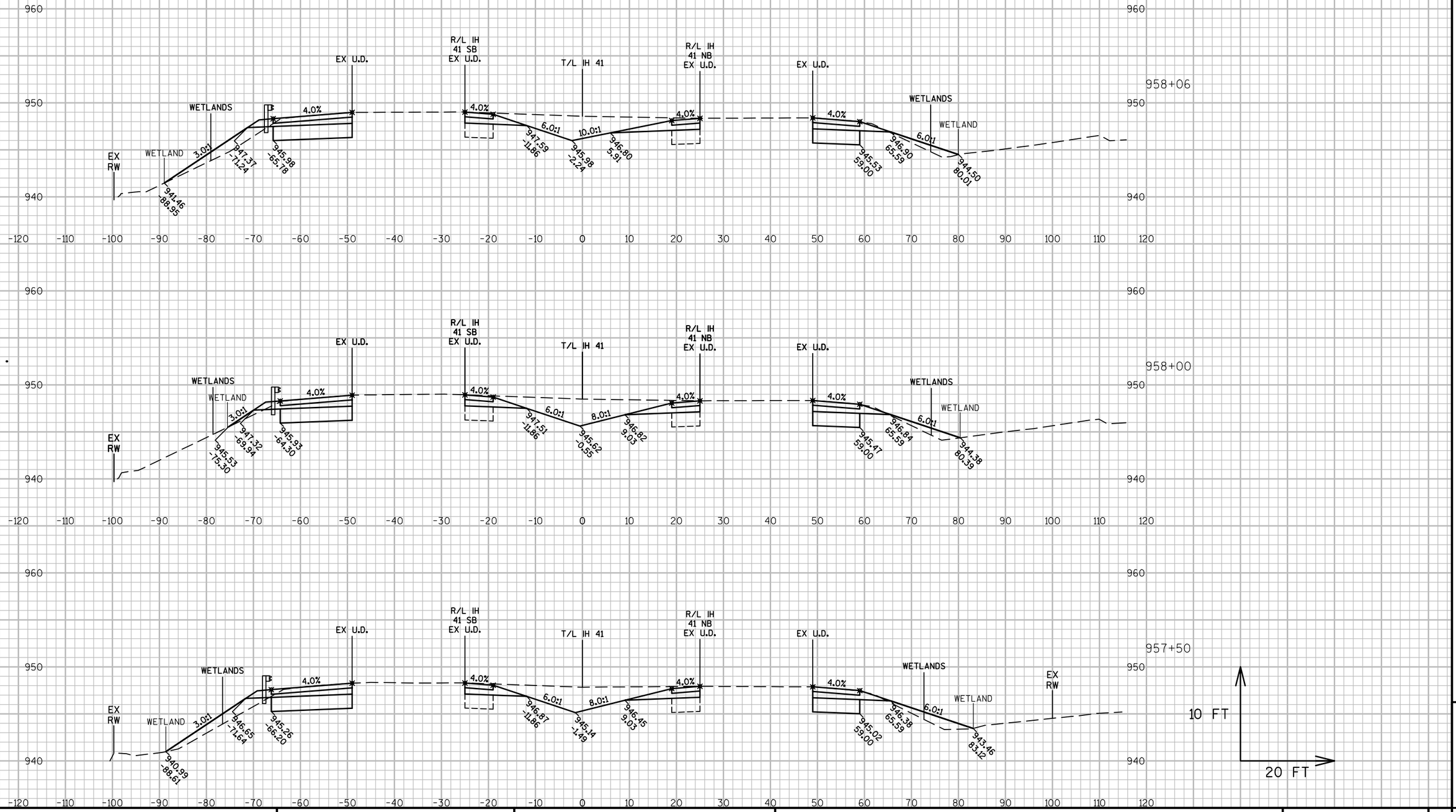
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WISDOT/CADDS SHEET 49



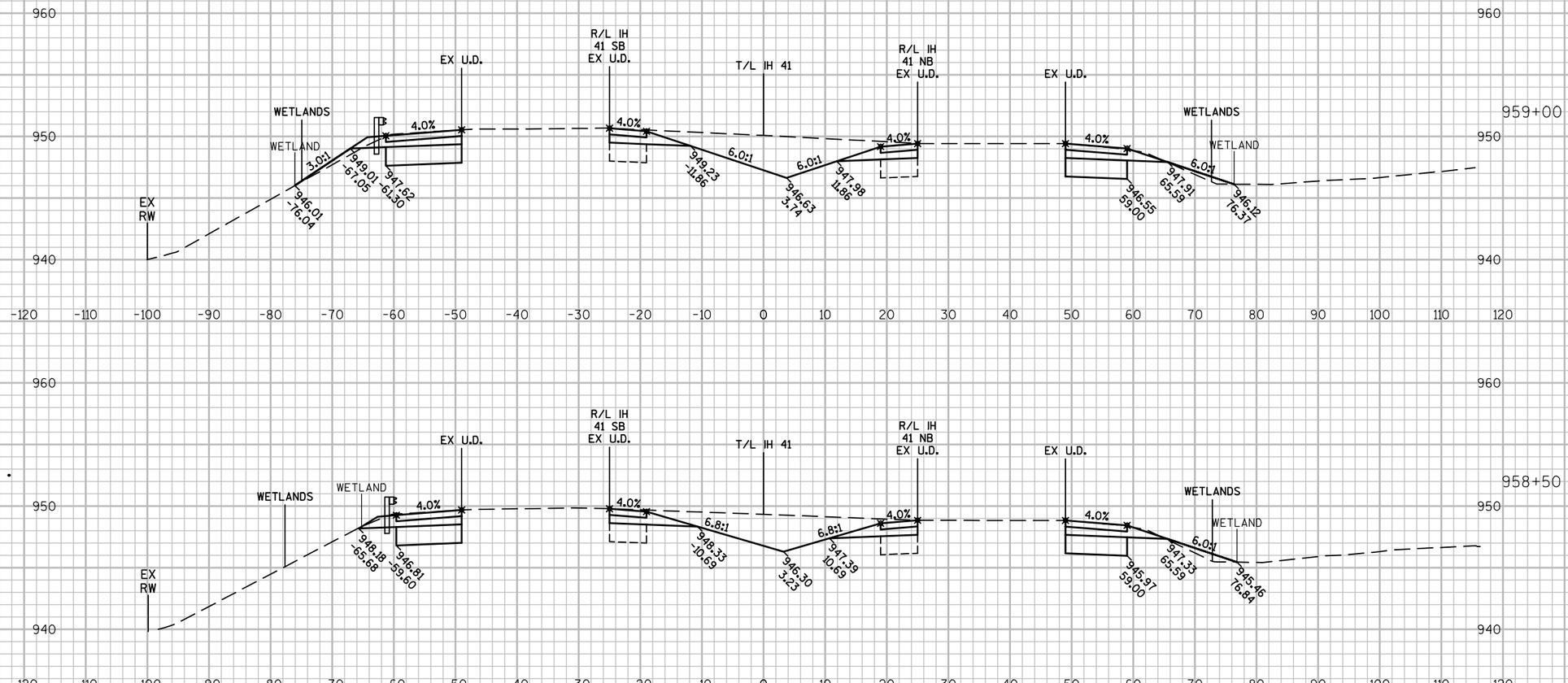
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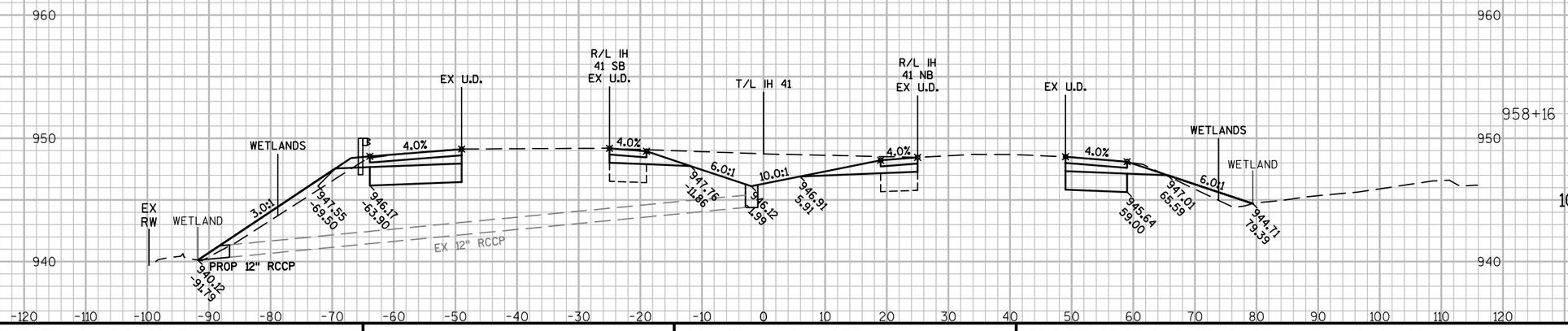


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WISDOT/CADDS SHEET 49



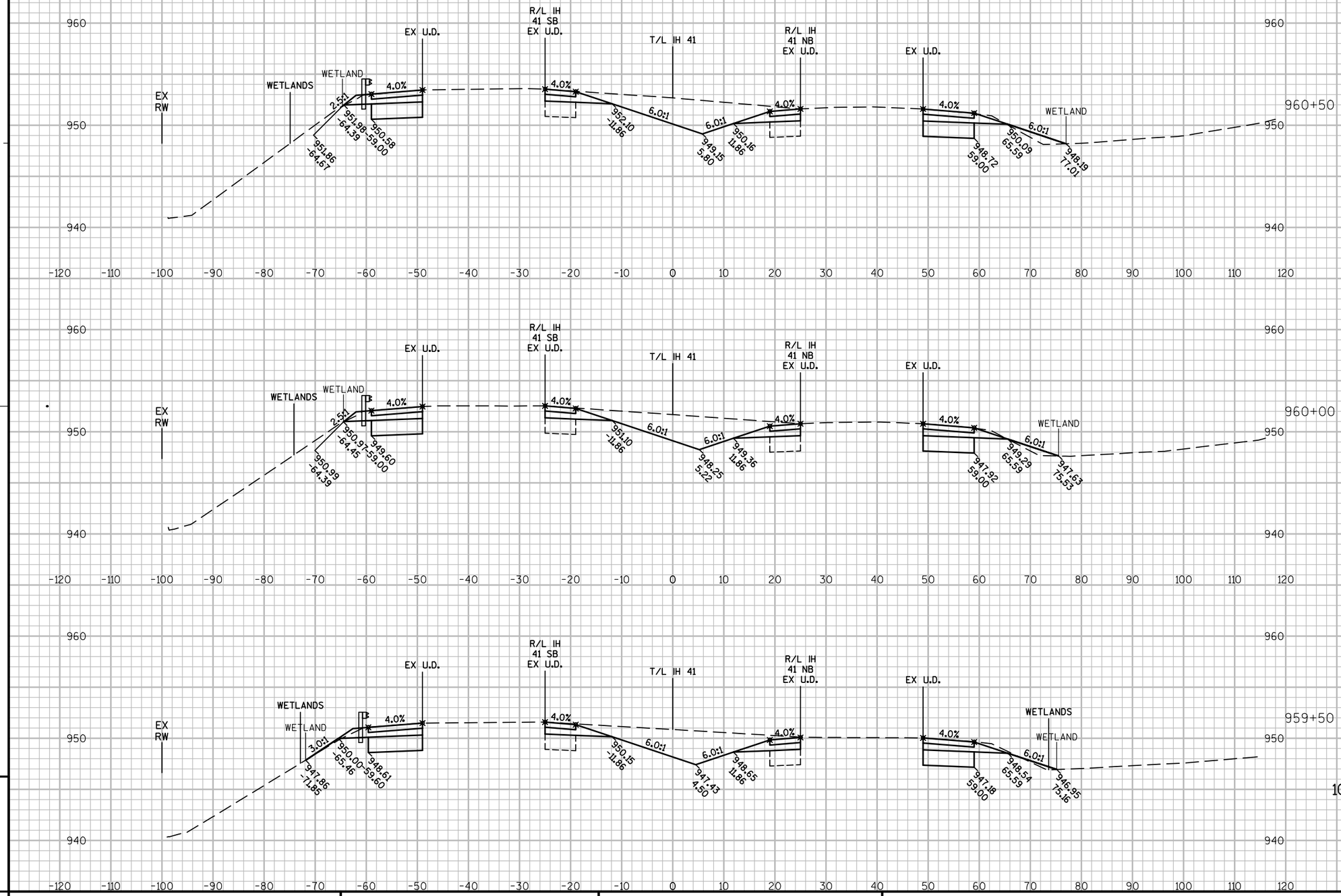


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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET	E

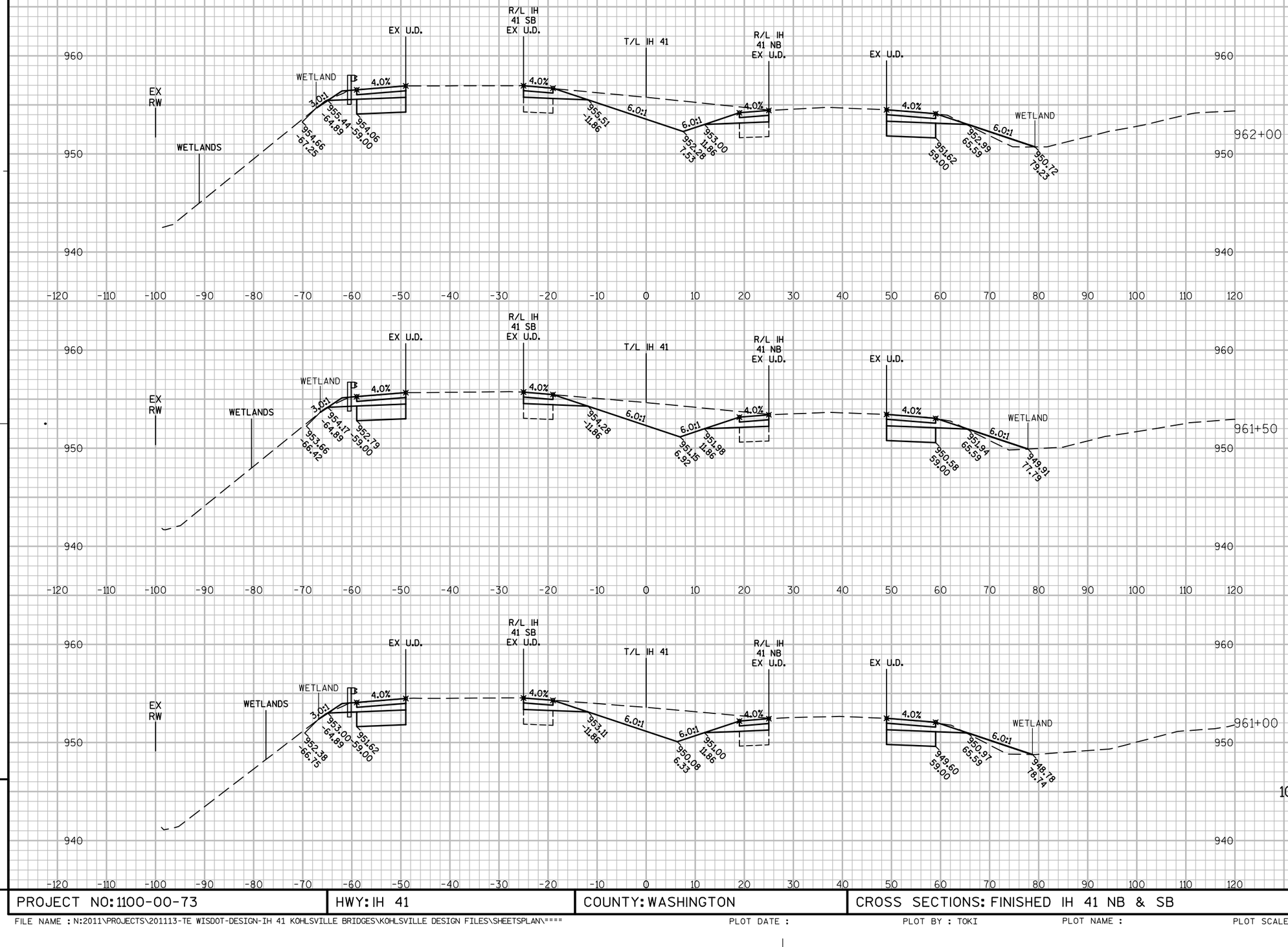
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET E

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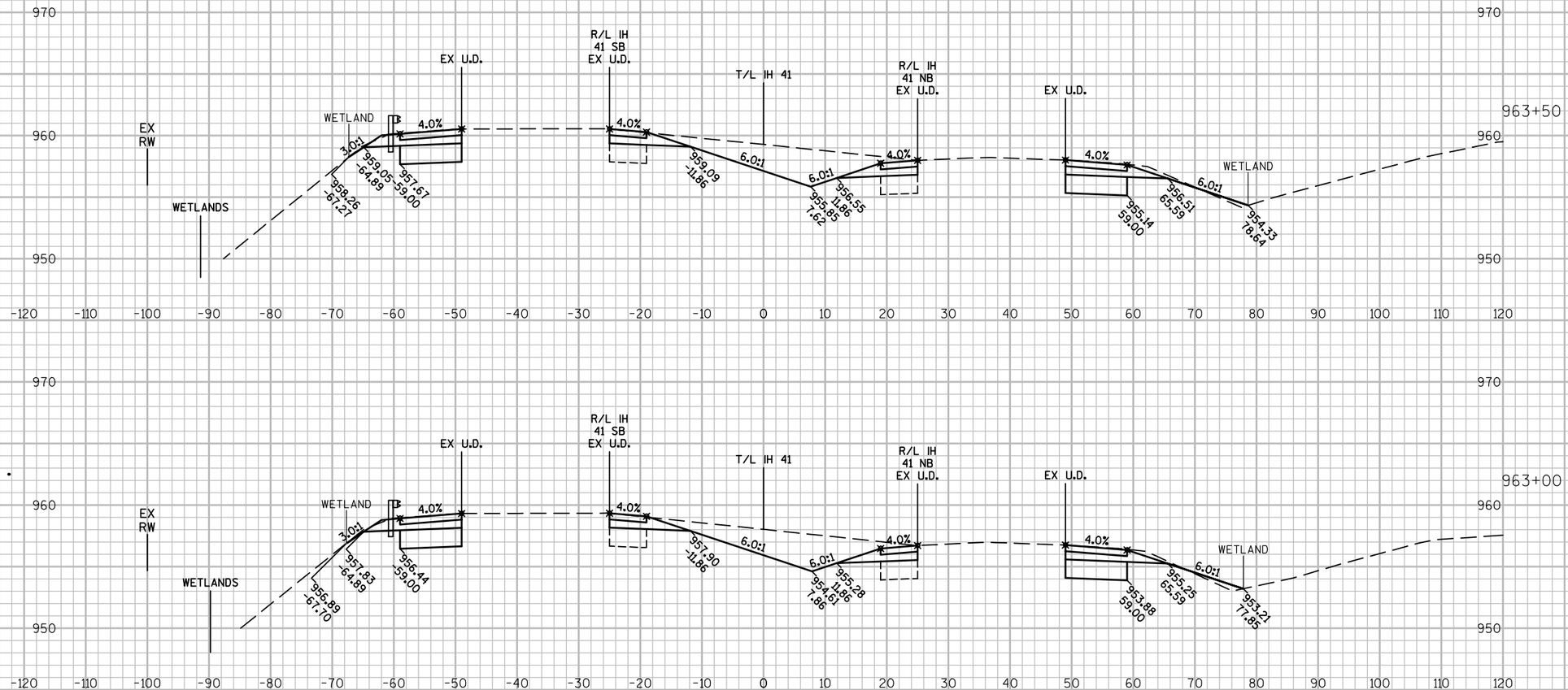
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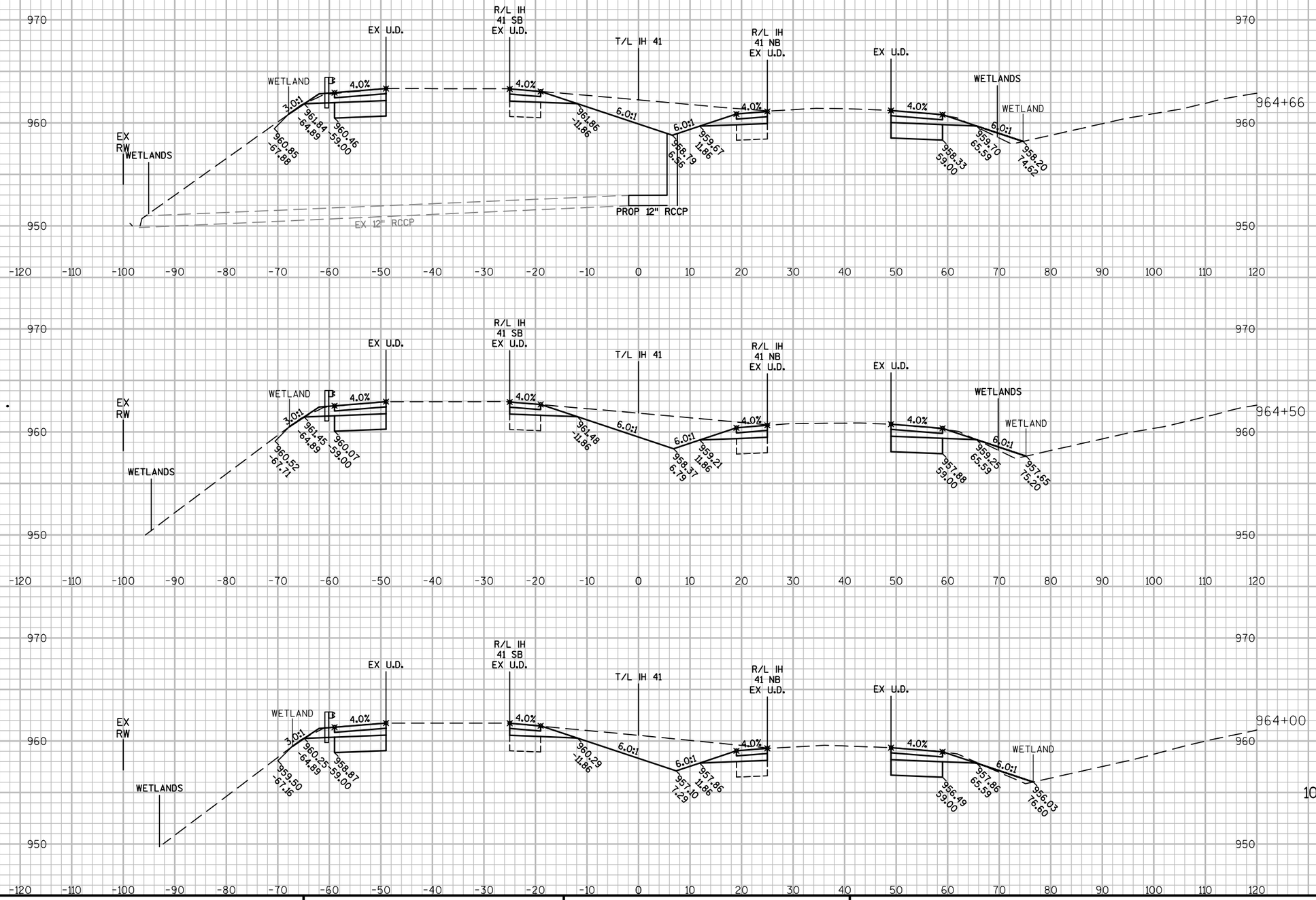
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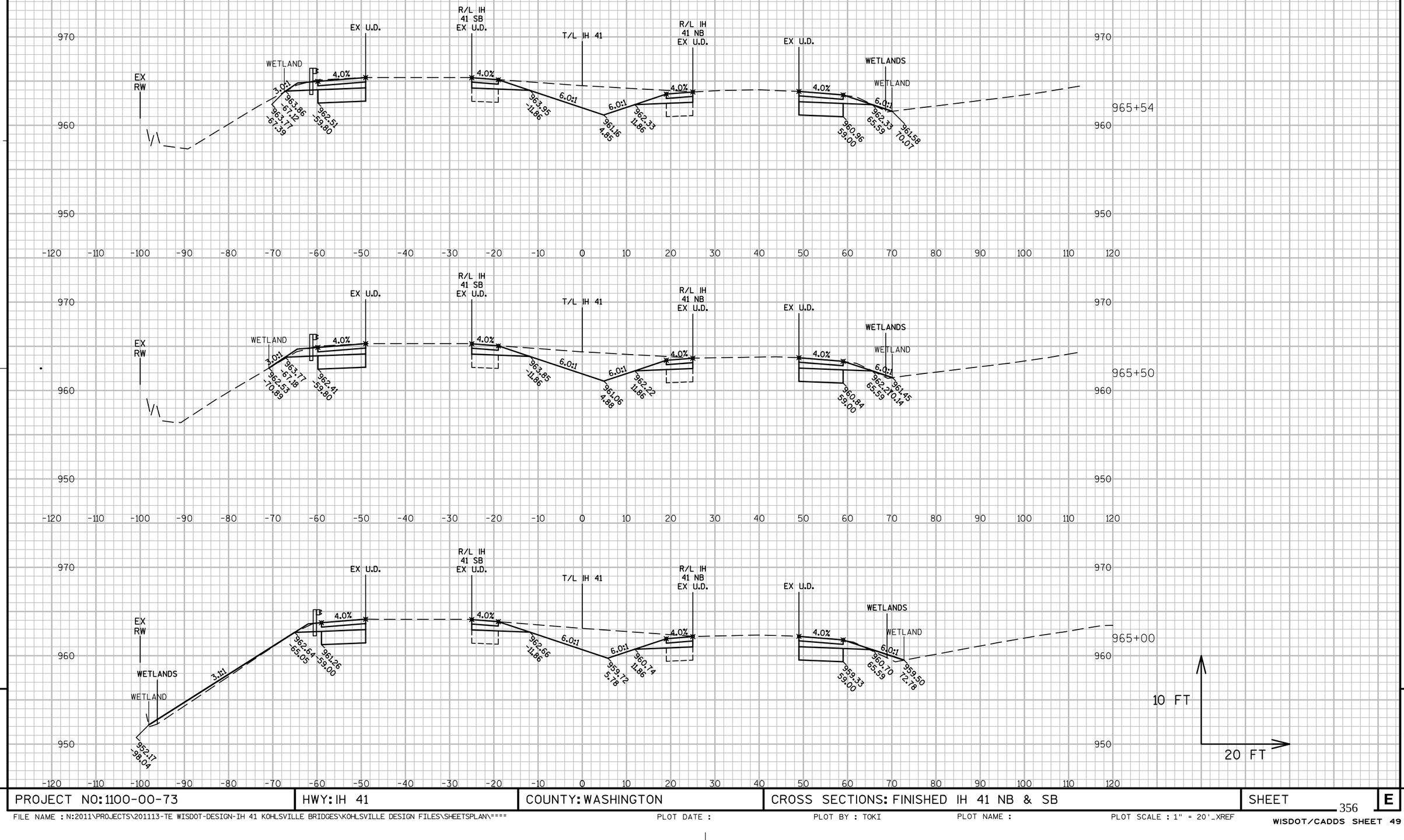
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WISDOT/CADDS SHEET 49



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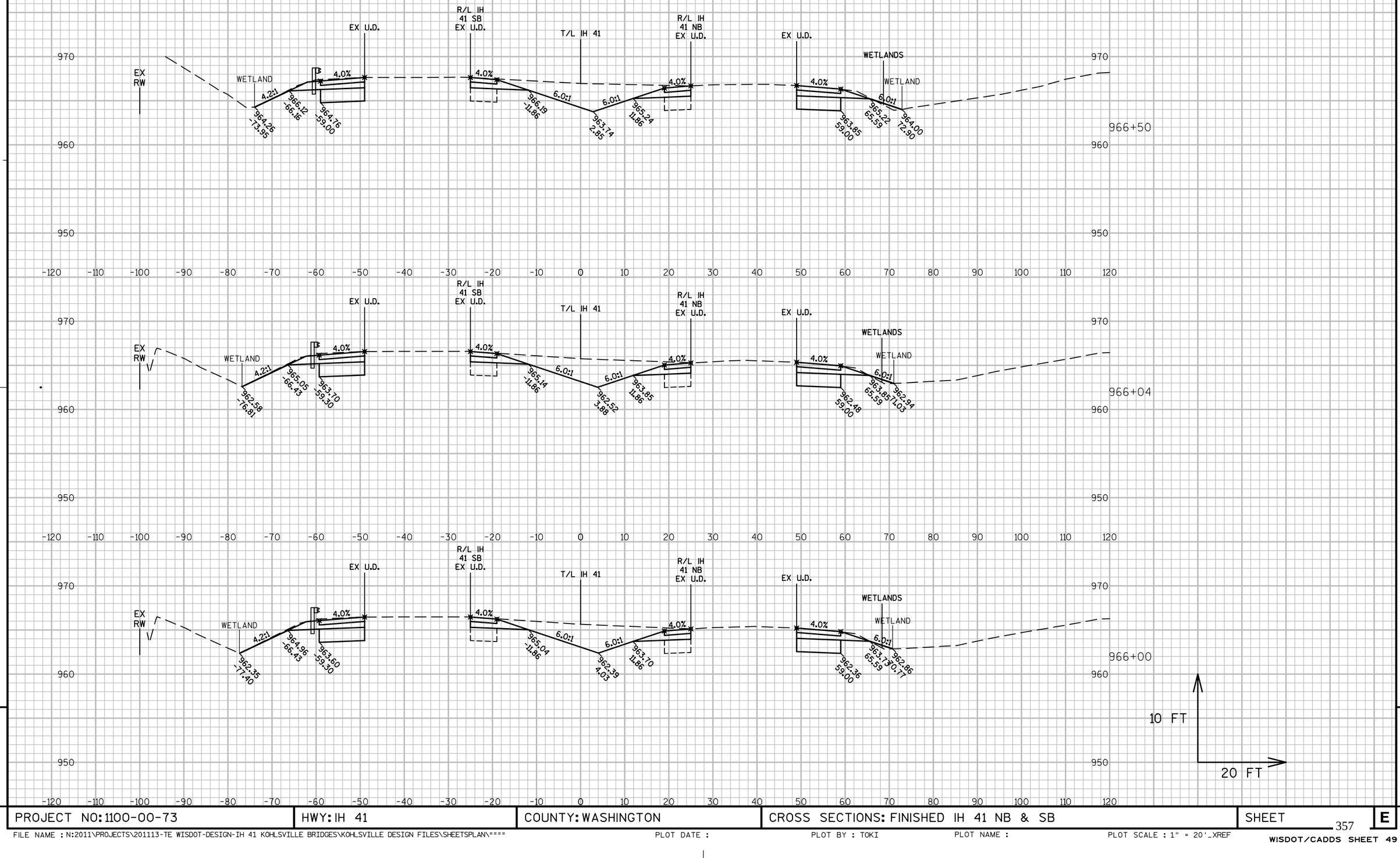
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WISDOT/CADDS SHEET 49



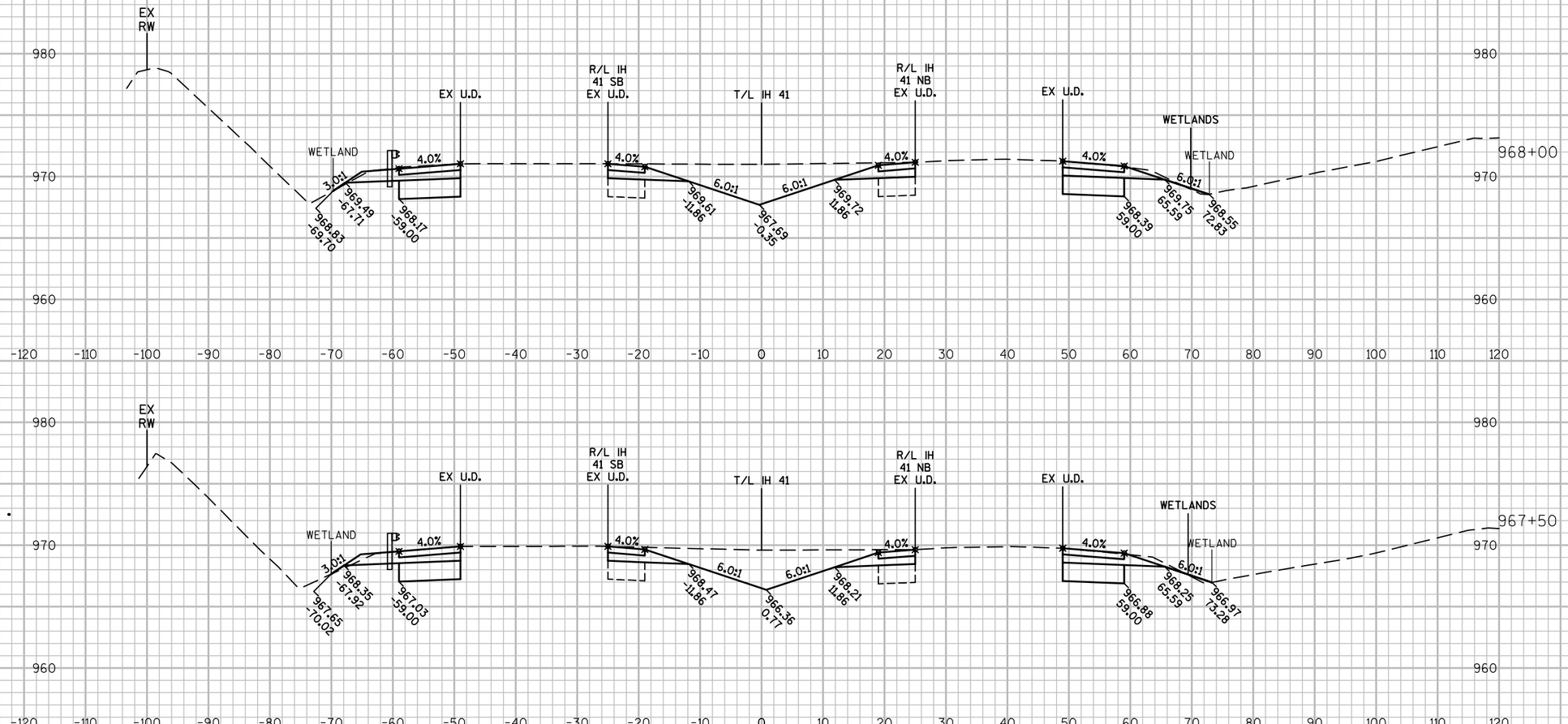
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PROJECT NO: 1100-00-73	HWY: IH 41	COUNTY: WASHINGTON	CROSS SECTIONS: FINISHED IH 41 NB & SB	SHEET	E

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WISDOT/CADDS SHEET 49

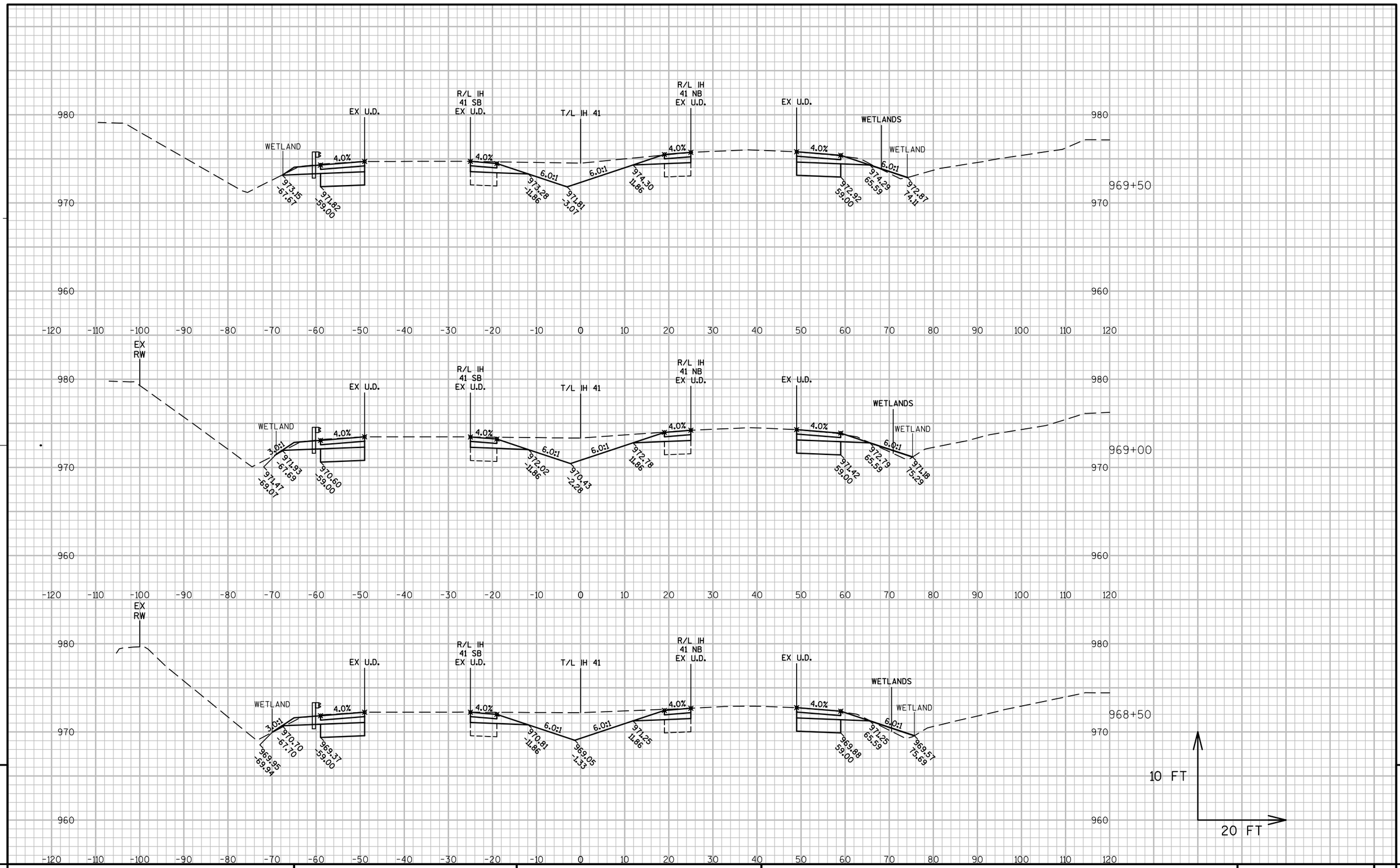


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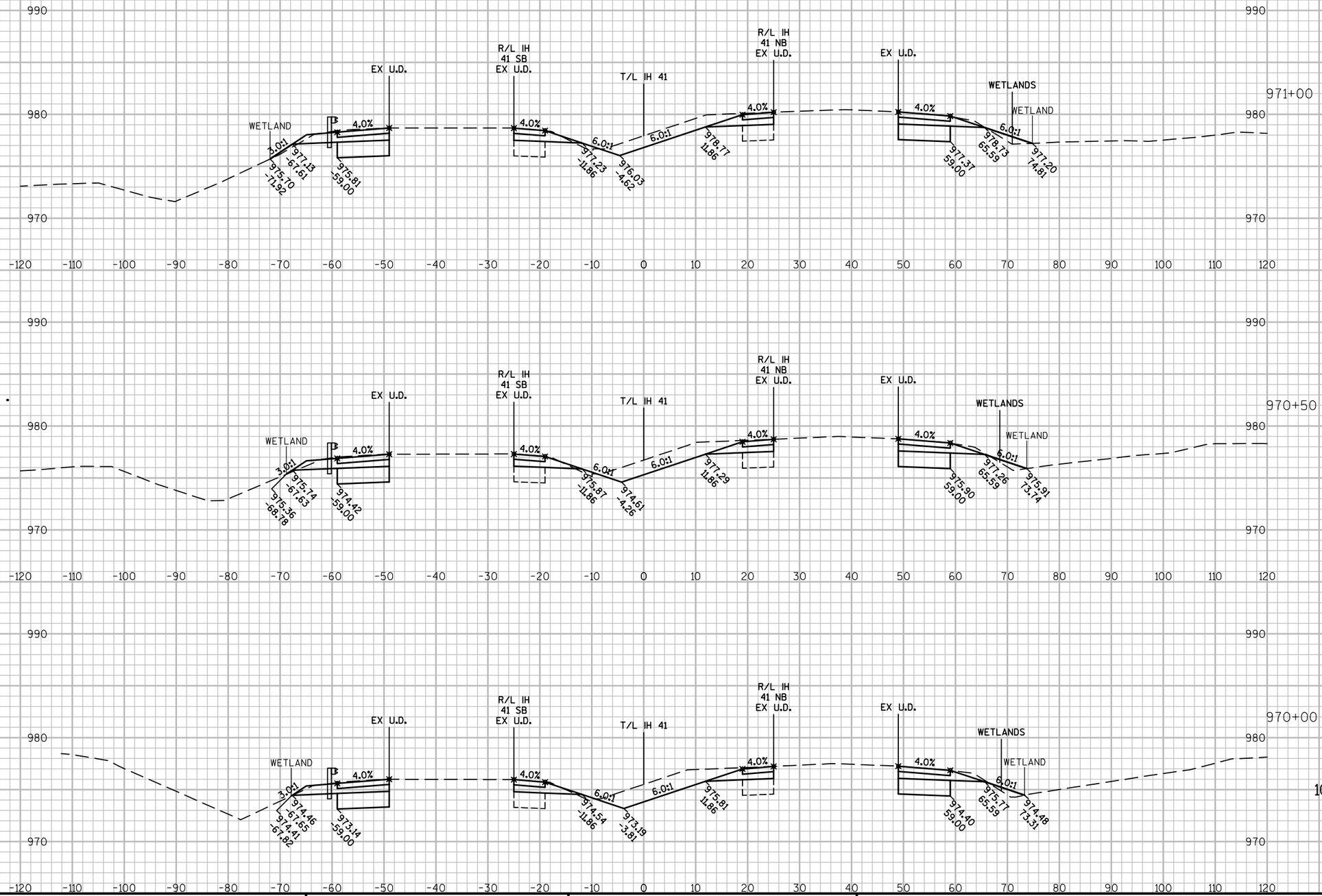
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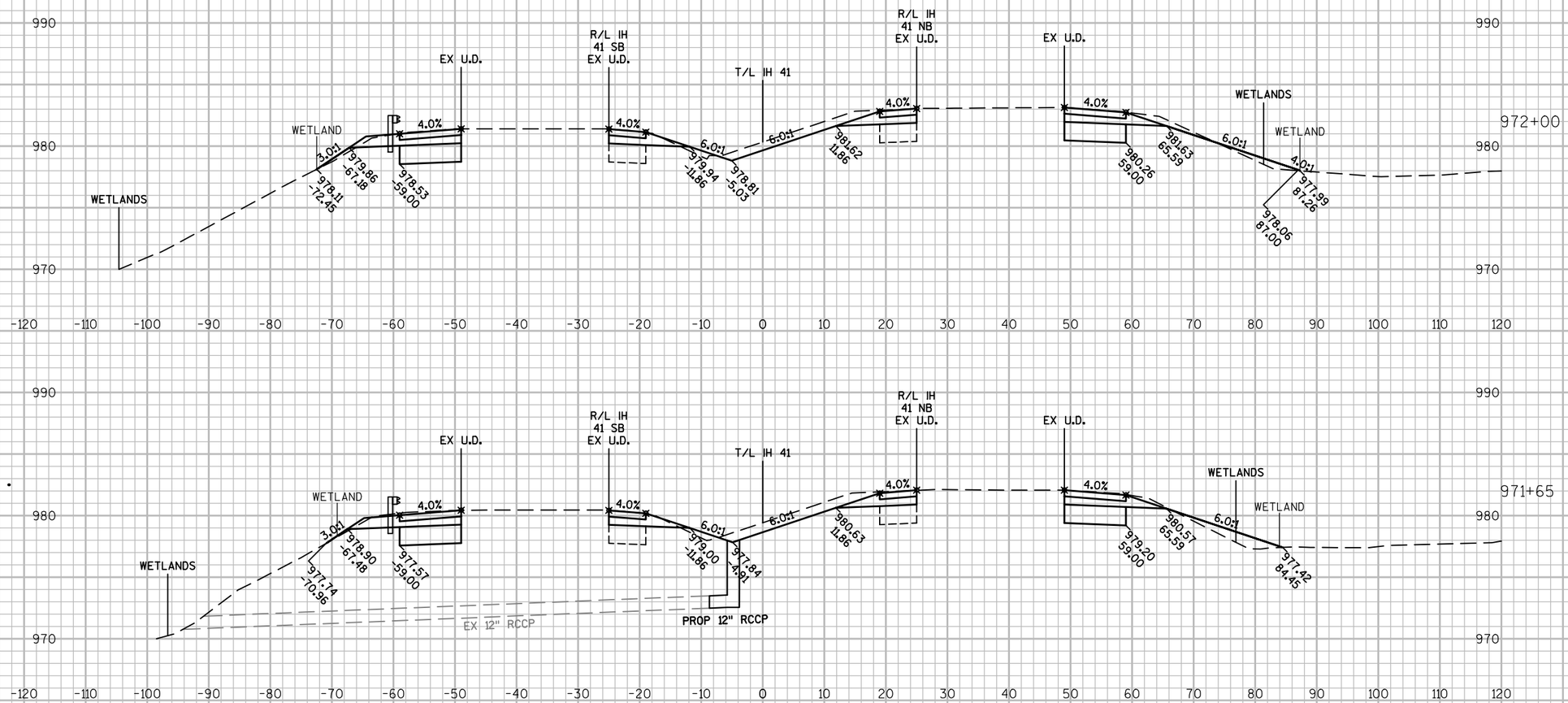
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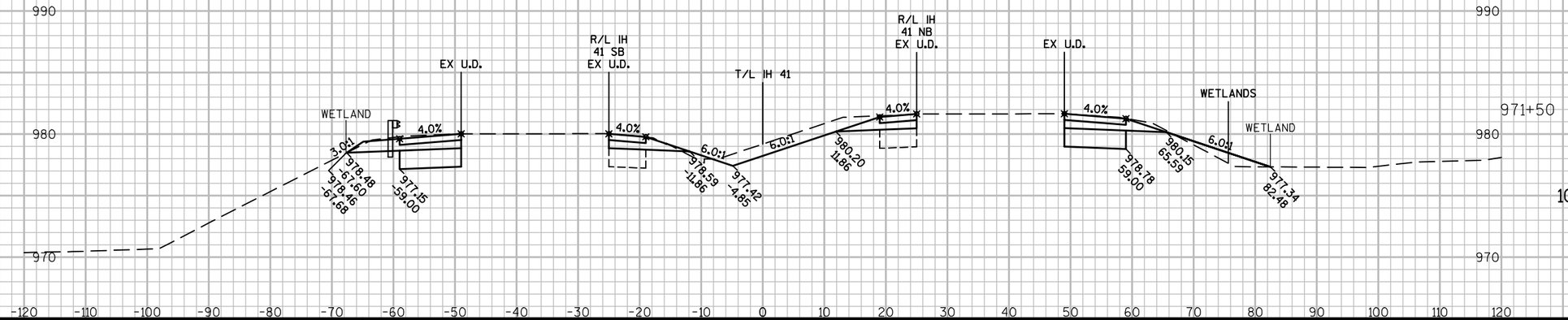
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WISDOT/CADDS SHEET 49



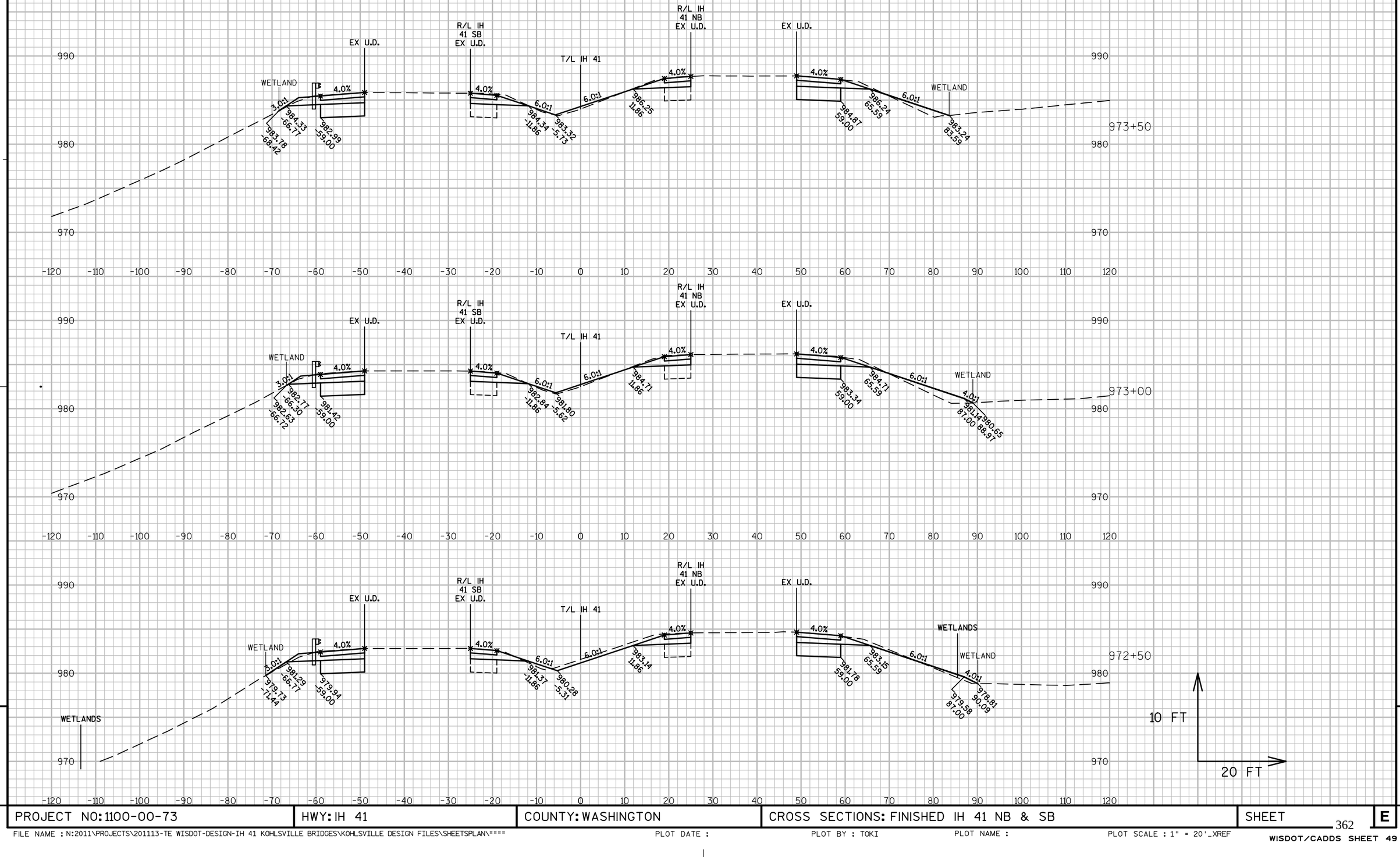


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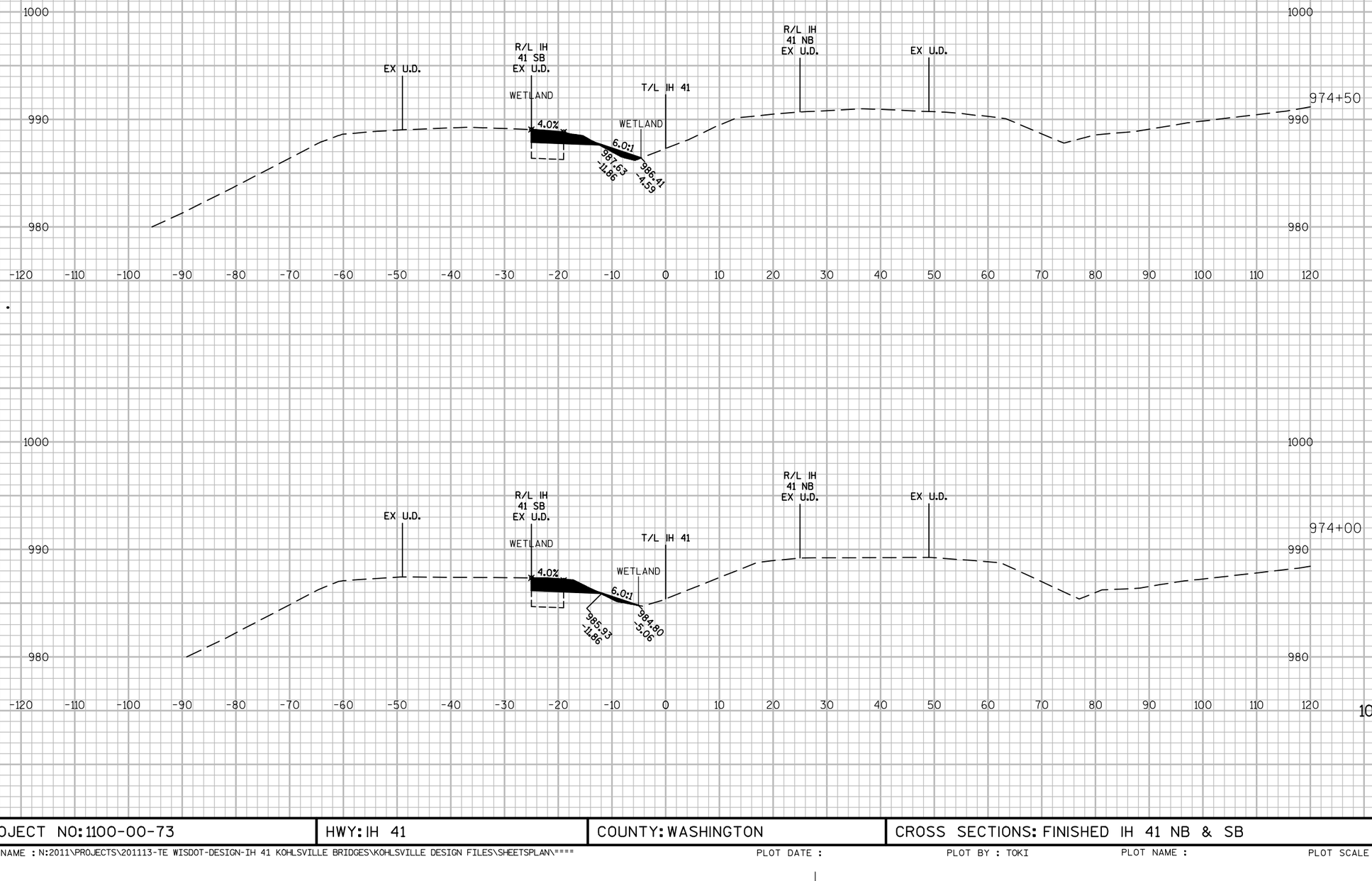


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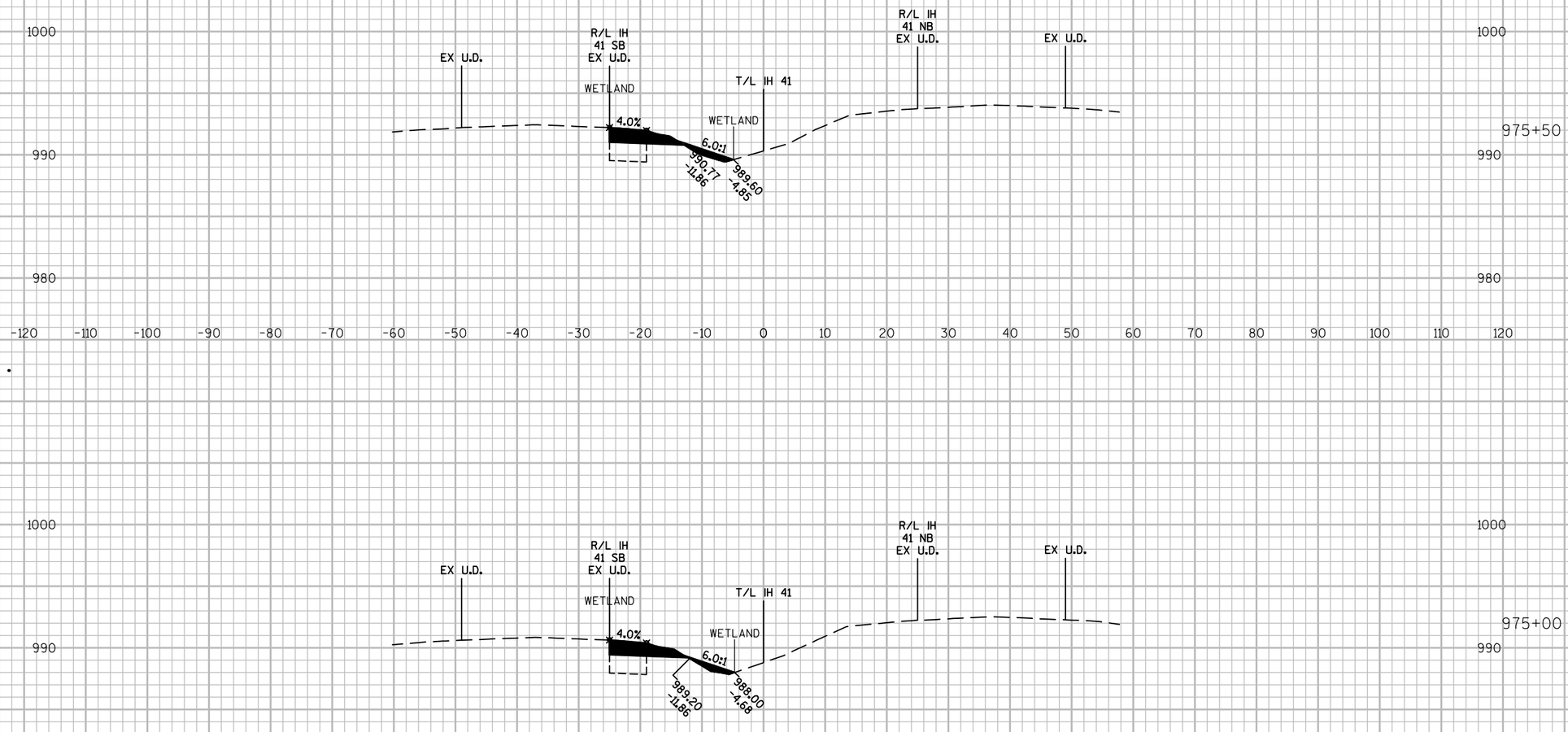
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WISDOT/CADDS SHEET 49



975+50

975+00

10 FT

20 FT

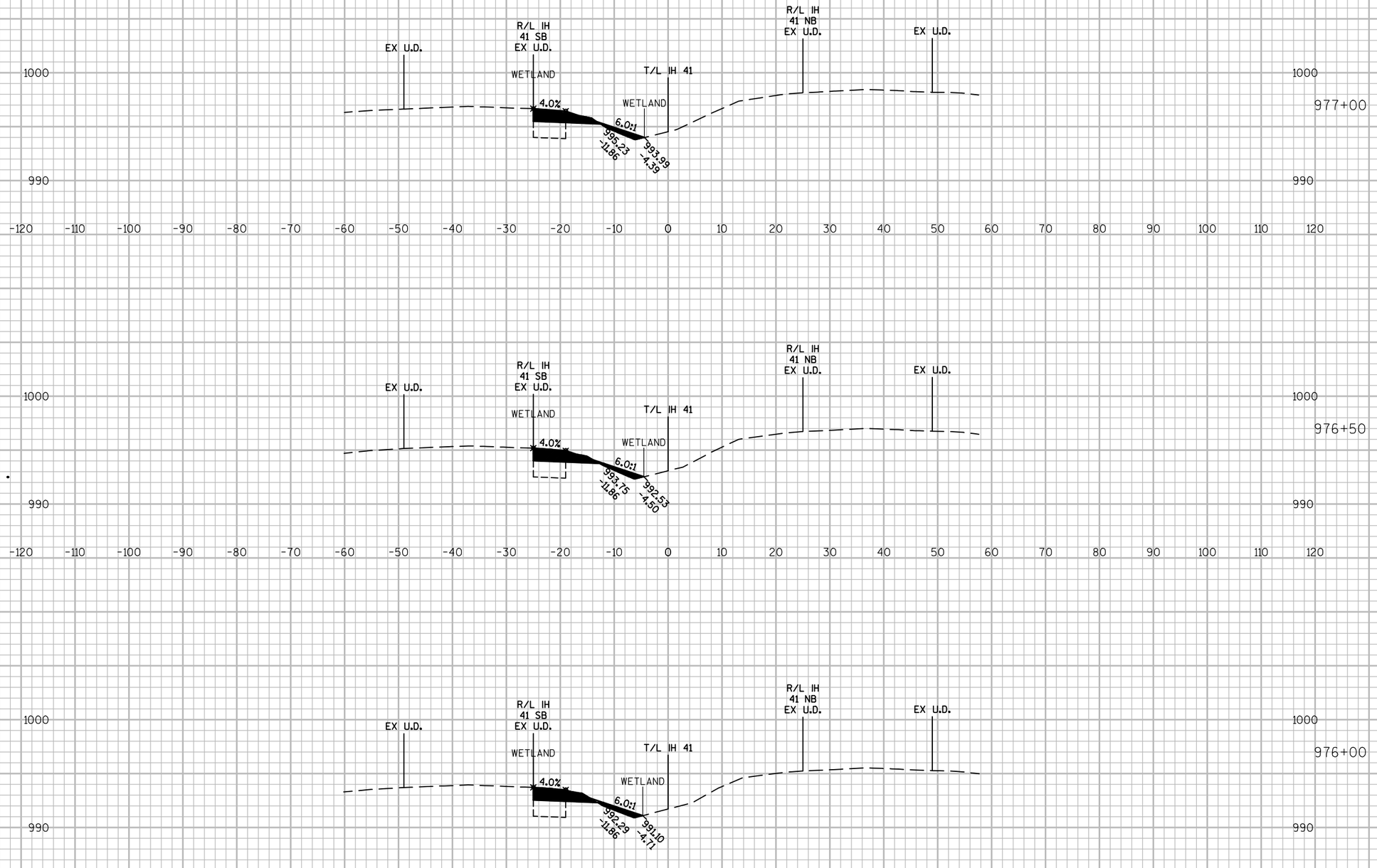
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WISDOT/CADDS SHEET 49

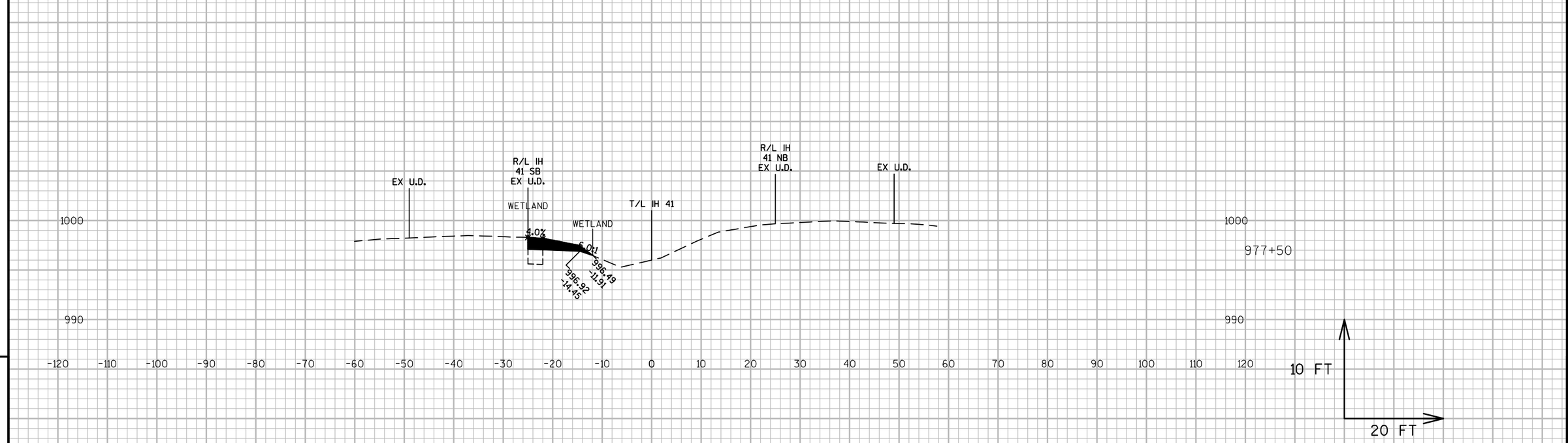


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WISDOT/CADDS SHEET 49



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WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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