

SWL JAN 13

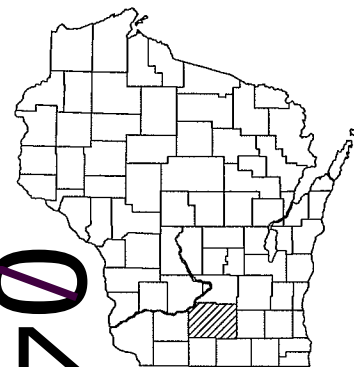
PROJECT ID: 5992-09-07
WITH: N/A

COUNTY: DANE

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details (Includes Erosion Control)
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plot
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 =



DESIGN DESIGNATION

A.A.D.T. 2012	=	NA
A.A.D.T. 2032	=	NA
D.H.V. 2032	=	NA
D.D.	=	NA
T. %	=	NA
DESIGN SPEED	=	20 MPH (CANNONBALL PATH)
ESALS	=	NA

CONVENTIONAL SYMBOLS

COUNTY LINE	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED EASEMENT	
EARTHWORK BALANCE POINT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SURVEY LINE	
SLOPE INTERCEPT	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
MARSH AREA	
WOODED OR SHRUB AREA	

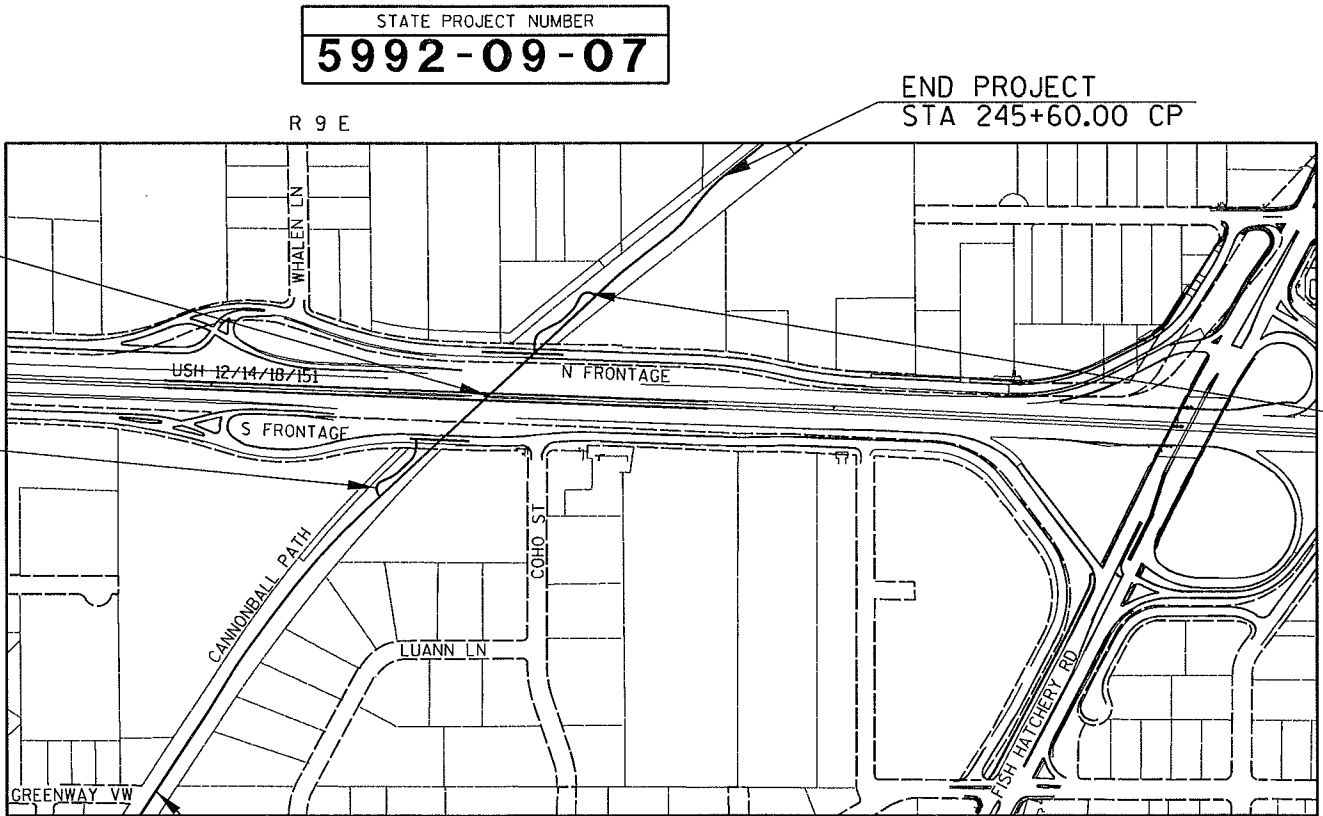
COMBUSTIBLE FLUIDS	
UNDERGROUND UTILITIES	
GAS	
ELECTRIC	
TELEPHONE OR TELEGRAPH	
TV/CABLE	
SERVICE PEDESTAL	
POWER POLE	
TELEPHONE POLE	
RAILROAD	
SANITARY SEWER	
STORM SEWER	
WATER	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
CULVERT (Profile View)	



G	
E	
T	
TV	
SP	
PP	
TP	
SAN	
SS	
W	
EC	
PC	
CP	

STRUCTURE B-13-661

STRUCTURE R-13-231



STATE PROJECT NUMBER
5992-09-07

BEGIN PROJECT
STA 217+00.00 CP
Y = 467065.046
X = 811655.234

LAYOUT
SCALE 0 1000 FT

TOTAL NET LENGTH OF CENTERLINE = 0.542 MI

END PROJECT
STA 245+60.00 CP

STRUCTURE R-13-230

T 7 N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
**CITY OF MADISON,
CANNONBALL PATH PHASE 3**
(USH 12/14/18/151 OVERPASS)
**NON HIGHWAY
DANE COUNTY**

STATE PROJECT

5992-09-07

FEDERAL PROJECT

PROJECT

WISC 2013017

CONTRACT

1

ACCEPTED FOR

CITY of MADISON

7/31/12
(DATE)

(CITY ENGINEER)

ORIGINAL PLANS PREPARED BY



7/30/12
(DATE)

(SIGNATURE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor

POB

Designer

SEH

Management
Consultant

KJOHNSON ENGINEERS

C.O. Examiner

Cyle Haag

APPROVED FOR THE DEPARTMENT

DATE: 8/1/12

Kimberly A. Johnson
(Management Consultant Signature)

E

STANDARD ABBREVIATIONS

ABUT	ABUTMENT	HYD	HYDRANT
AC	ACRE	ID	INSIDE DIAMETER
AGG	AGGREGATE	INV	INVERT
AECPRC	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE	IP	IRON PIPE ON PIN
		LHF	LEFT-HAND FORWARD
ASPH	ASPHALTIC	L	LENGTH OF CURVE
AVG	AVERAGE	LF	LINEAR FOOT
ADT	AVERAGE DAILY TRAFFIC	LC	LONG CHORD OF CURVE
BF	BACK FACE	LS	LUMP SUM
BM	BENCH MARK	LLL	LEASED LAND LIMIT
BR	BRIDGE	MH	MANHOLE
CE	COMMERCIAL ENTRANCE	MJ	MECHANICAL JOINT
CL OR C/L OR C	CENTER LINE	MOR	MID POINT OF RADIUS
Δ	CENTRAL ANGLE OR DELTA	NC	NORMAL CROWN
CONC	CONCRETE	NO	NUMBER
CPRC	CULVERT PIPE REINFORCED CONCRETE	OBLIT	OBLITERATE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL	PAVT	PAVEMENT
		PE	PRIVATE ENTRANCE
CR	CREEK	PVRC	POINT OF VERTICAL REVERSE CURVE
CY	CUBIC YARD	QOR	QUARTER POINT OF RADIUS
C & G	CURB AND GUTTER	R	RADIUS
D	DEGREE OF CURVE	REQ'D	REQUIRED
DHV	DESIGN HOUR VOLUME	RES	RESIDENCE OR RESIDENTIAL
DISCH	DISCHARGE	RHF	RIGHT-HAND FORWARD
DG	DITCH GRADE	R/W	RIGHT-OF-WAY
DWY	DRIVEWAY	R	RIVER
DIP	DUCTILE IRON PIPE	RDWY	ROADWAY
X	EAST GRID COORDINATE	R/L OR R	REFERENCE LINE
EAT	STEEL PLATE BEAM GUARD	SALV	SALVAGED
	ENERGY ABSORBING TERMINAL	SAN	SANITARY SEWER
EOR	END POINT OF RADIUS	SF	SQUARE FEET
EL	ELEVATION	SY	SQUARE YARD
ENT	ENTRANCE	SDD	STANDARD DETAIL DRAWINGS
ESALS	EQUIVALENT SINGLE AXLE LOADS	STA	STATION
EXC	EXCAVATION	SS	STORM SEWER
EBS	EXCAVATION BELOW SUBGRADE	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
EXIST	EXISTING	SE	SUPERELEVATION RATE
FC	FACE OF CURB	TC	TOP OF CURB
FF	FACE TO FACE	T OR TN	TOWN
FERT	FERTILIZE	T	TRUCKS (PERCENT OF)
FE	FIELD ENTRANCE	TYP	TYPICAL
FL	FLOW LINE	VAR	VARIABLE
FO	FIBER OPTIC	VC	VERTICAL CURVE
CWT	HUNDREDWEIGHT	Y	NORTH GRID COORDINATE
		YD	YARD

UTILITY CONTACTS

MGE - ELECTRICITY
P.O. BOX 1231
MADISON, WI 53701-1231
ATTENTION: BUTCH FROSCH
TELEPHONE: 608.252.7112
MOBILE: 608.235.0258
EMAIL: GFROSCH@MGE.COM

AT&T
316 W. WASHINGTON AVE
RM. 209/5R
MADISON, WI 53703
ATTENTION: ANDREW MADSEN
TELEPHONE: 608.252.2432
EMAIL: AM4171@ATT.COM

LIGHTCORE
CENTRAL REGION
CENTURYLINK (TM)
1310 E. MARY ST
OTTUMWA, IA 52501
ATTENTION: ROBERT SAMPSON
TELEPHONE: 636-887-4751 (OFFICE)
TELEPHONE: 636-887-5367 (CELL)
ROBERT.SAMPSON@CENTURYLINK.COM

** DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

CITY OF MADISON - SEWER
210 MARTIN LUTHER KING JR BLVD, RM 115
MADISON, WI 53703
ATTENTION: GREG FRIES
TELEPHONE: 608.267.1199
EMAIL: GFRIES@CITYOFMADISON.COM

MADISON WATER UTILITY
119 E. OLIN AVE
MADISON, WI 53713
ATTENTION: DENNIS CAWLEY
TELEPHONE: 608.266.4651
EMAIL: DCAWLEY@CITYOFMADISON.COM

AMERICAN TRANSMISSION COMPANY LLC
801 O'KEEFE RD
DE PERE, WI 54115
ATTENTION: MIKE OLSEN
TELEPHONE: 920.338.6582
EMAIL: MOLSEN@ATCLLC.COM

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE APPROXIMATE USGS DATUM.

WHEN THE QUANTITY OF BASE AGGREGATE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

ALL EXCAVATION CUT MATERIAL WITHIN THE FORMER RAIL CORRIDOR IS TO REMAIN WITHIN THE FORMER RAIL CORRIDOR.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY ARE TO BE 6-INCH TOPSOILED, FERTILIZED, AND SEEDED AND MULCHED

ALL CURB AND GUTTER RADII, PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS AND PAVEMENTS AT REMOVAL LIMITS.

TOP OF CASTING ELEVATIONS SHOWN FOR INLETS REFER TO THE CASTING ELEVATION AT THE FLOWLINE OF GRATE.

ALL STORM SEWER INVERTS, ELEVATIONS, PIPE LENGTHS, AND GRADES ARE COMPUTED CENTER-TO-CENTER OF STRUCTURES.

CURB RAMP TYPES ARE SHOWN ON PLAN AND PROFILE SHEETS.

SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE USE OF SAFETY FENCE IS LOCATED ON THE EROSION CONTROL SHEETS.

HMA PAVEMENT SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYER THICKNESSES:

PAVEMENT THICKNESS (INCH)	LOWER (INCH)	MIDDLE (INCH)	UPPER (INCH)
3.0			3.00
4.5	2.50		2.00
10.0	3.75	3.75	2.5

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

ORDER OF DETAIL SHEETS

PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
EROSION CONTROL
STORM SEWER
PAVEMENT MARKING
LIGHTING
TRAFFIC CONTROL
ALIGNMENT



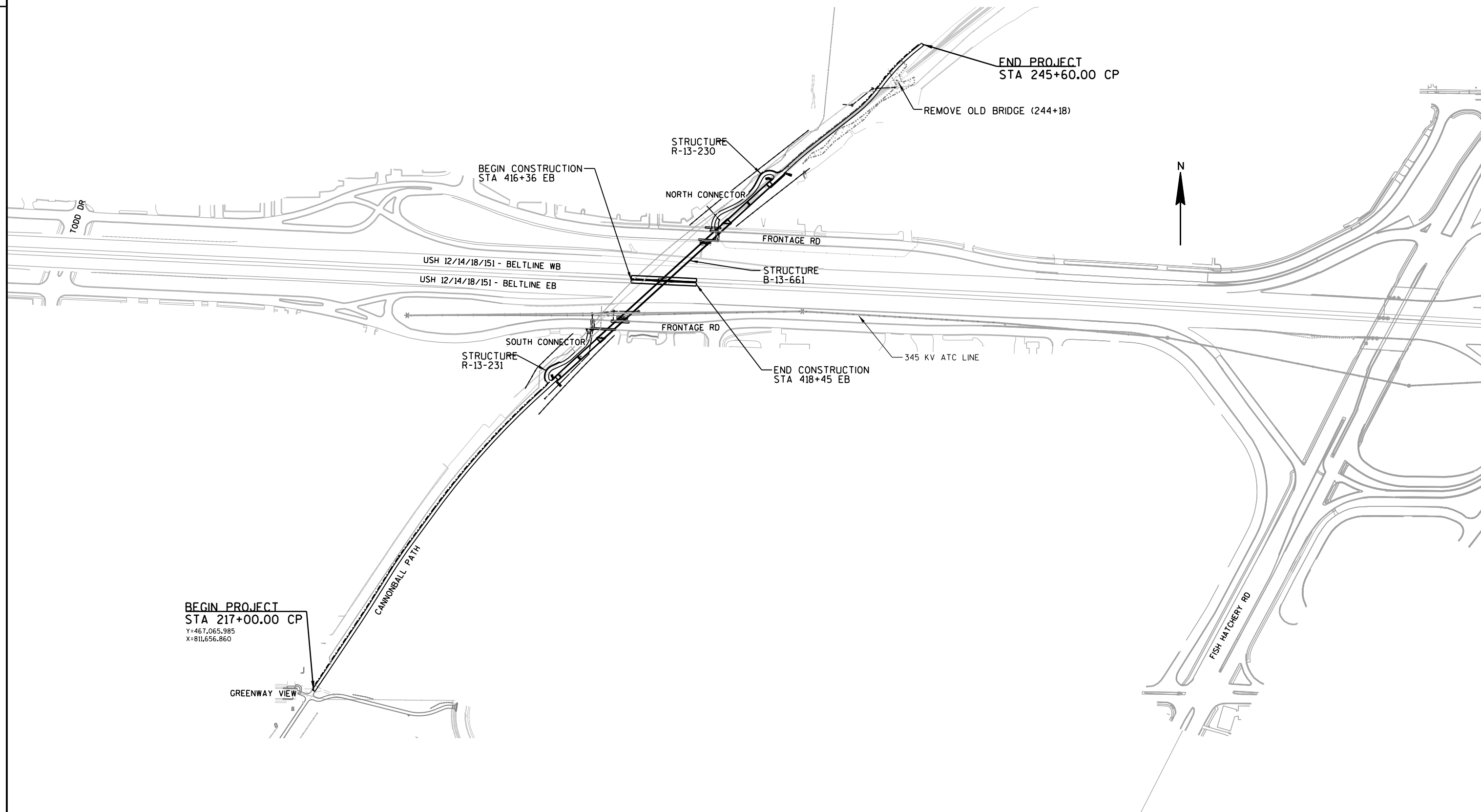
Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

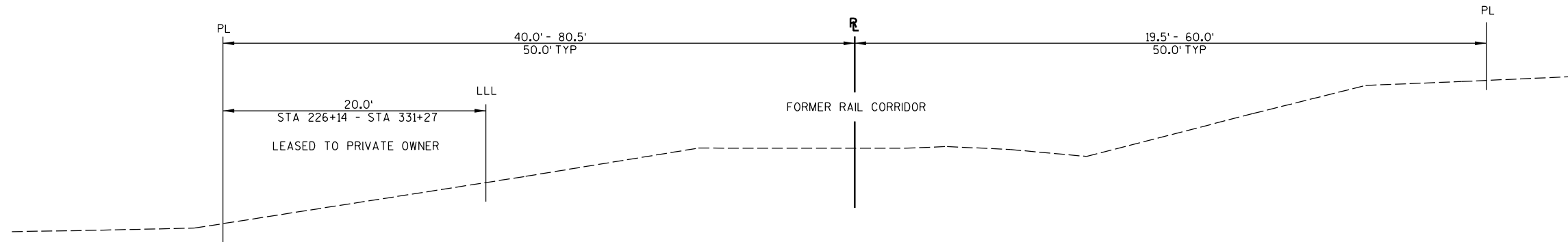
WDNR CONTACT

WI DEPT OF NATURAL RESOURCES
SOUTH CENTRAL REGION HEADQUARTERS
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
TELEPHONE: 608.275.3485
ATTENTION: AMANDA CUSHMAN

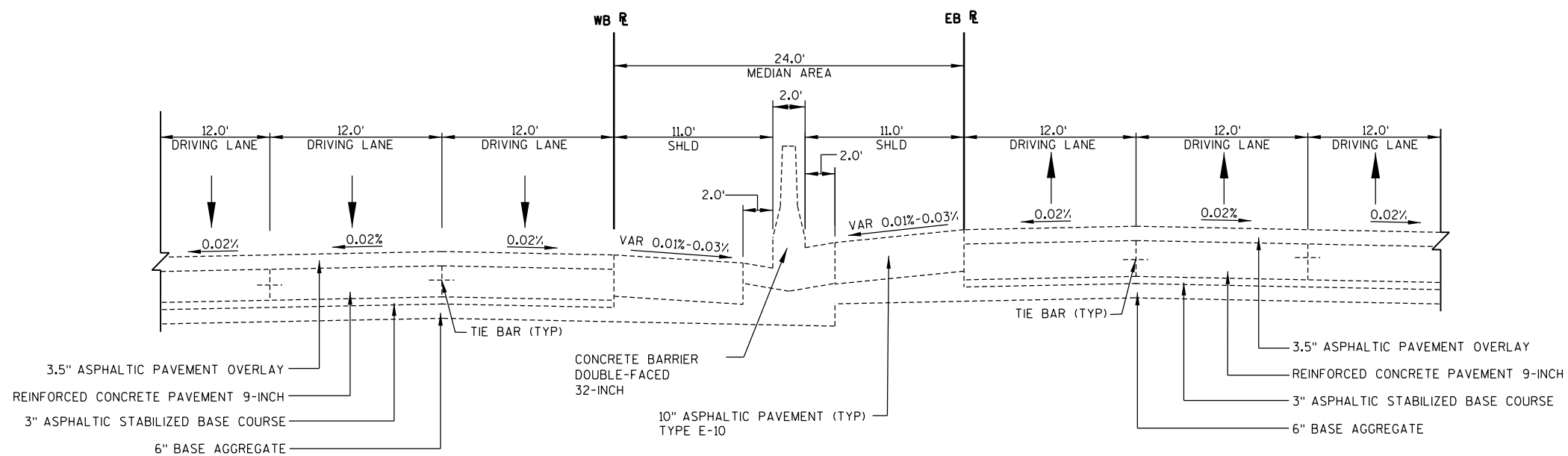
DESIGN CONTACTS

SEH INC.
6808 ODANA ROAD
SUITE 200
MADISON, WI 53719
TELEPHONE: 608.620.6183
ATTENTION: JILL FEHRMAN

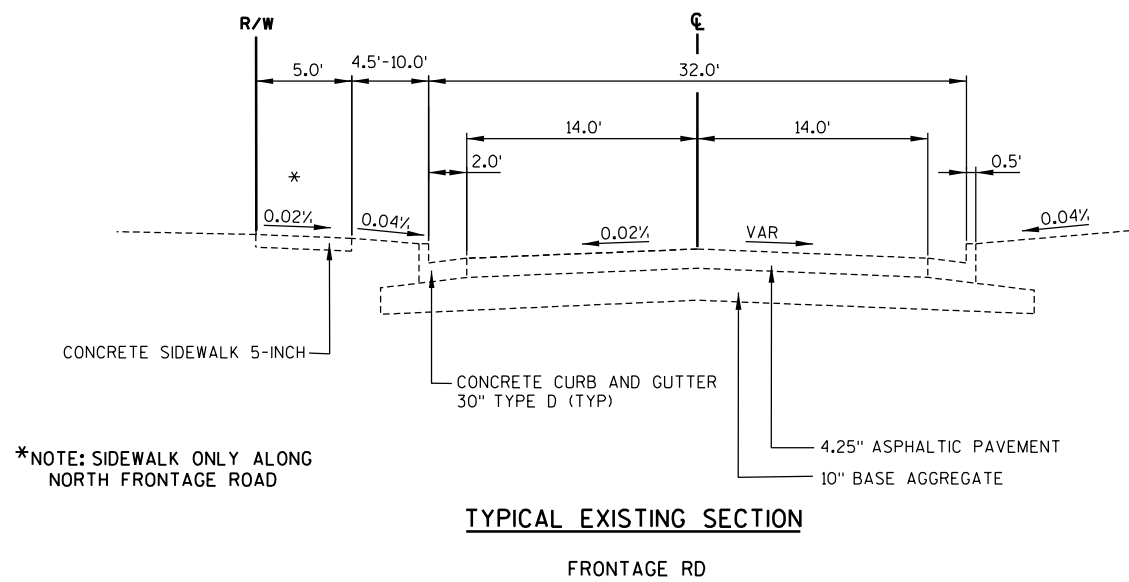


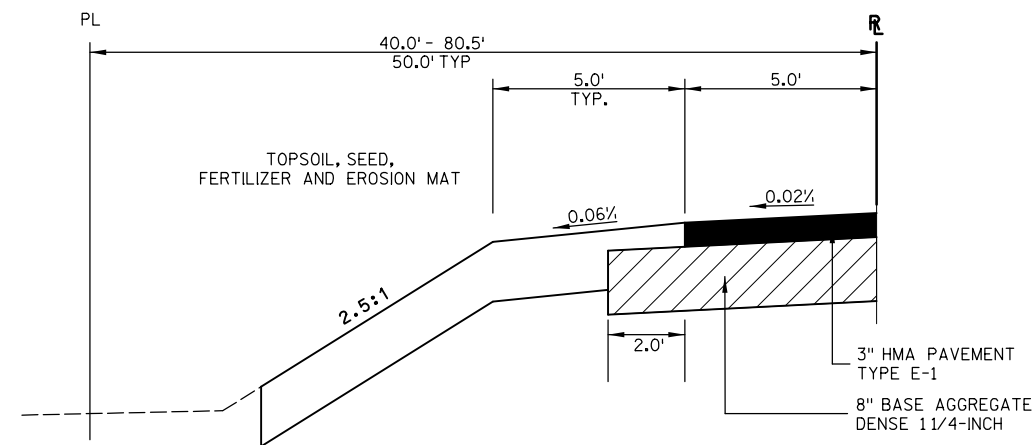
**TYPICAL EXISTING SECTION**

CANNONBALL PATH
STA 217+00 CP TO STA 231+75 CP
STA 237+00 CP TO STA 245+60 CP

**TYPICAL EXISTING SECTION**

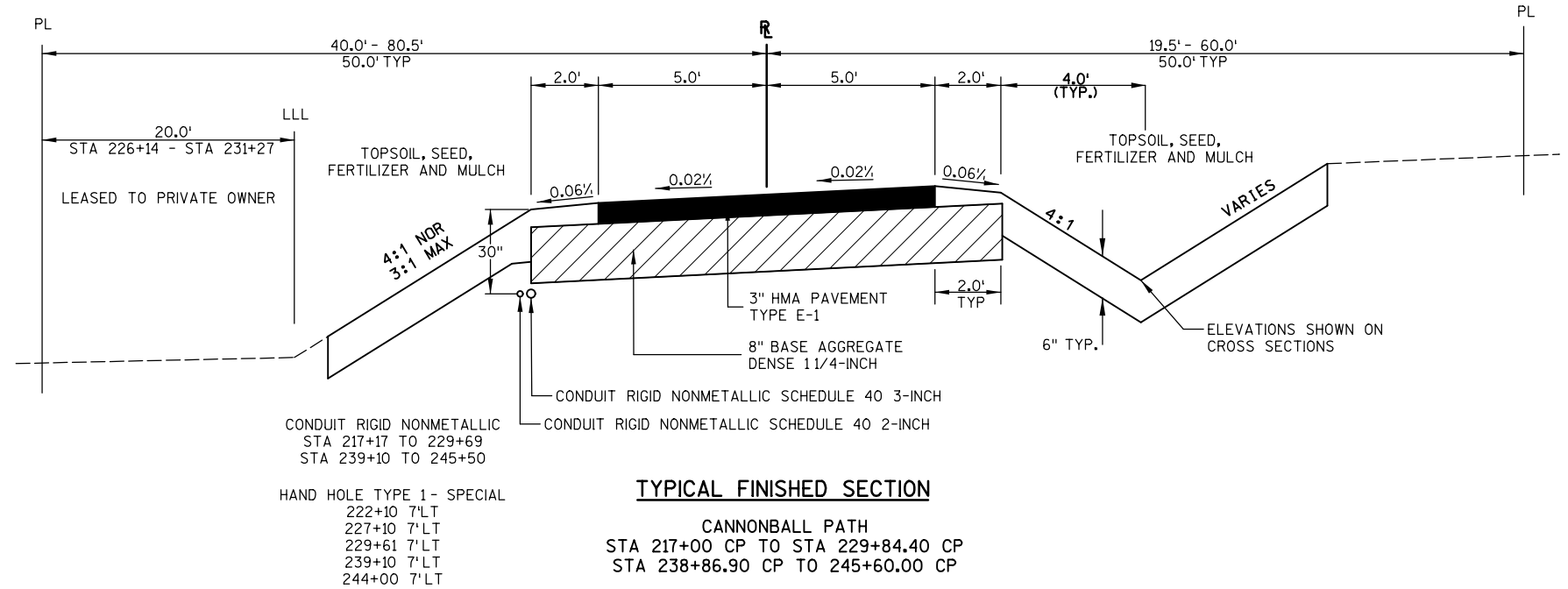
USH 12 EB/WB





TYPICAL FINISHED HALF SECTION

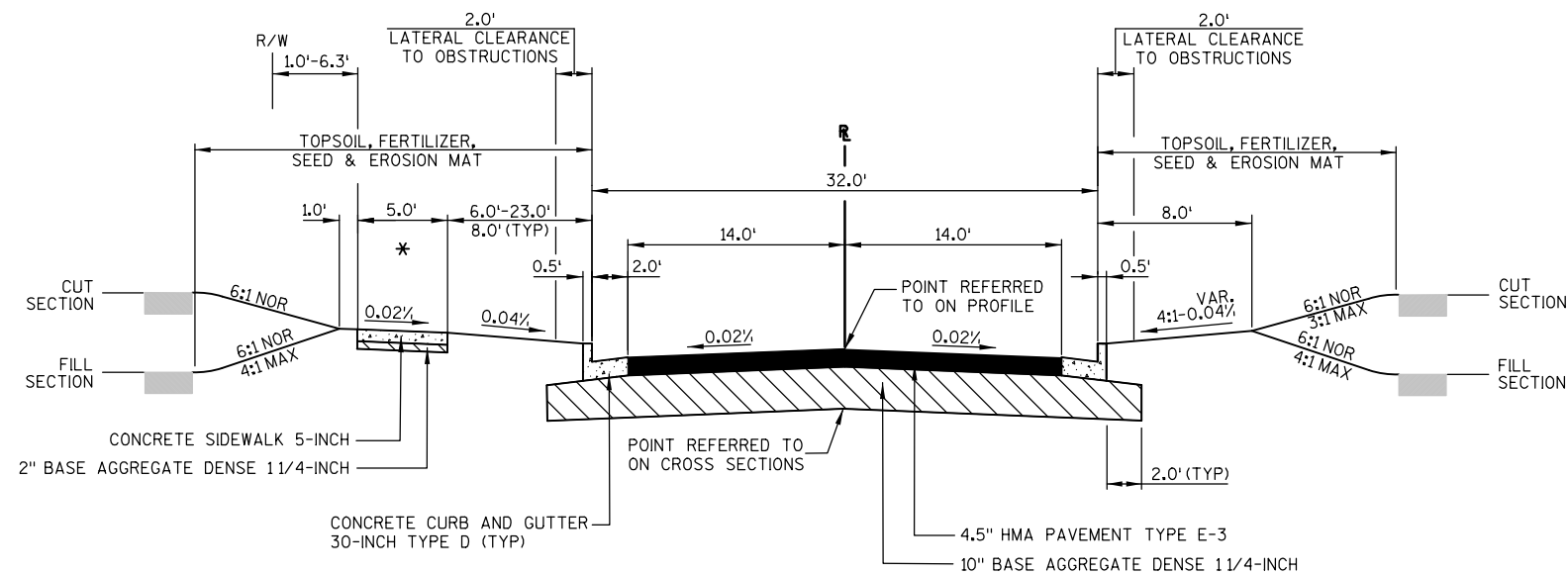
STA 239+50 CP TO STA 241+40 CP



TYPICAL FINISHED SECTION

CANNONBALL PATH
STA 217+00 CP TO STA 229+84.40 CP
STA 238+86.90 CP TO 245+60.00 CP

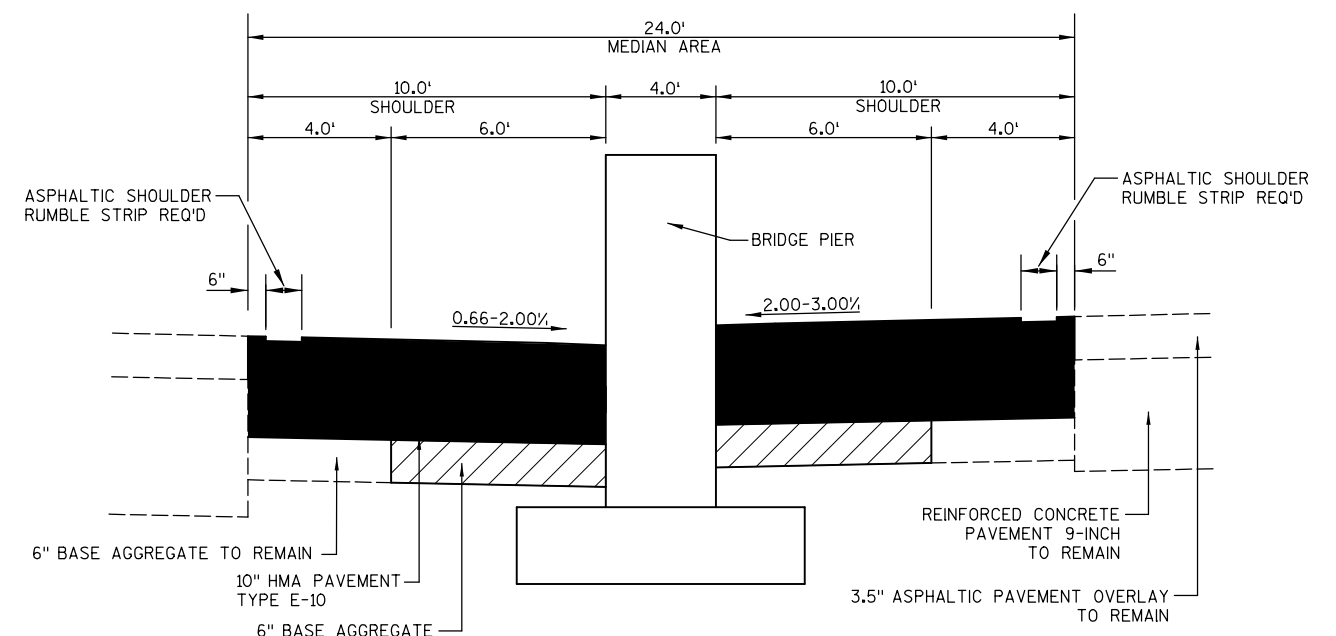
HAND HOLE TYPE 1- SPECIAL
222+10 7'LT
227+10 7'LT
229+61 7'LT
239+10 7'LT
244+00 7'LT



TYPICAL FINISHED SECTION

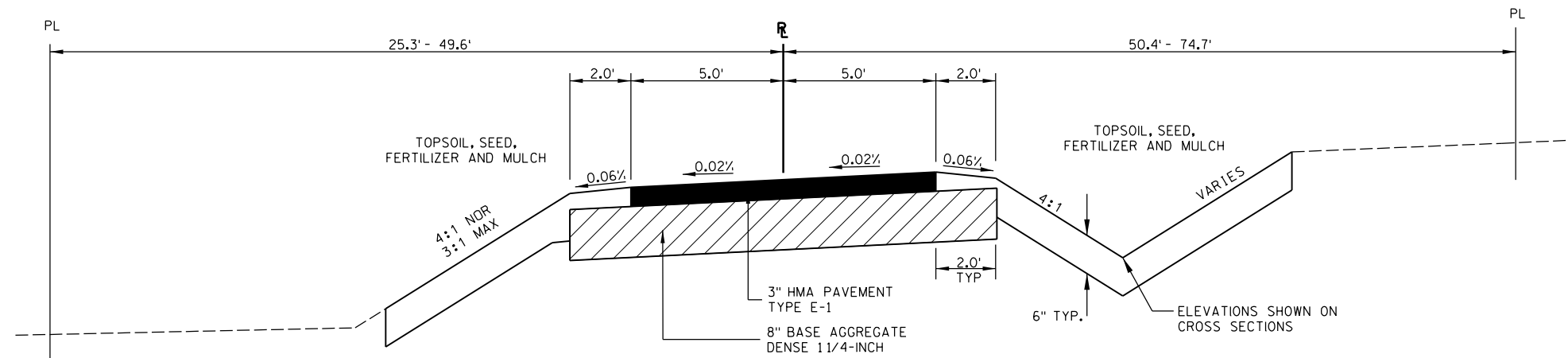
FRONTAGE RD

*NOTE: SIDEWALK ONLY ALONG
NORTH FRONTAGE ROAD



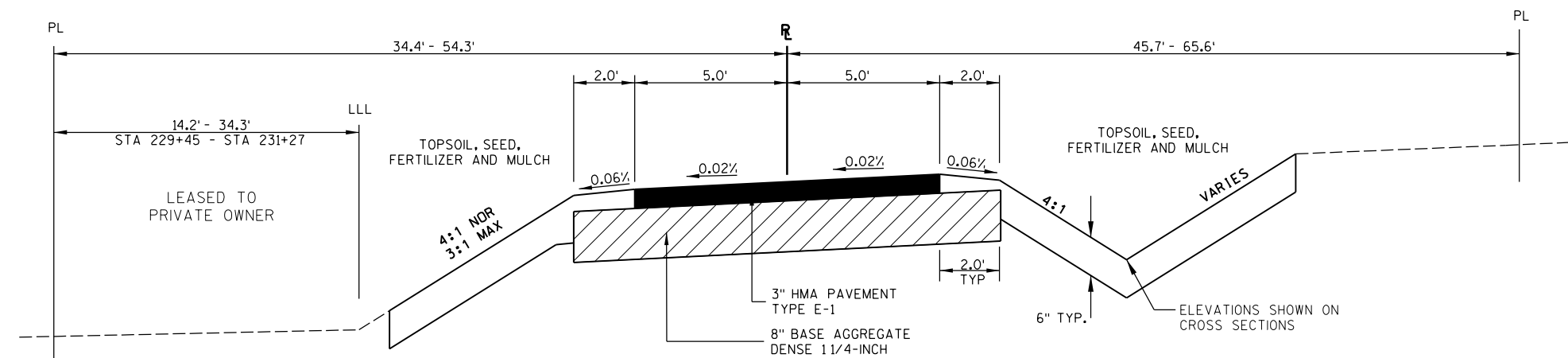
PROPOSED MEDIAN AT BRIDGE PIER

USH 12 EB/WB



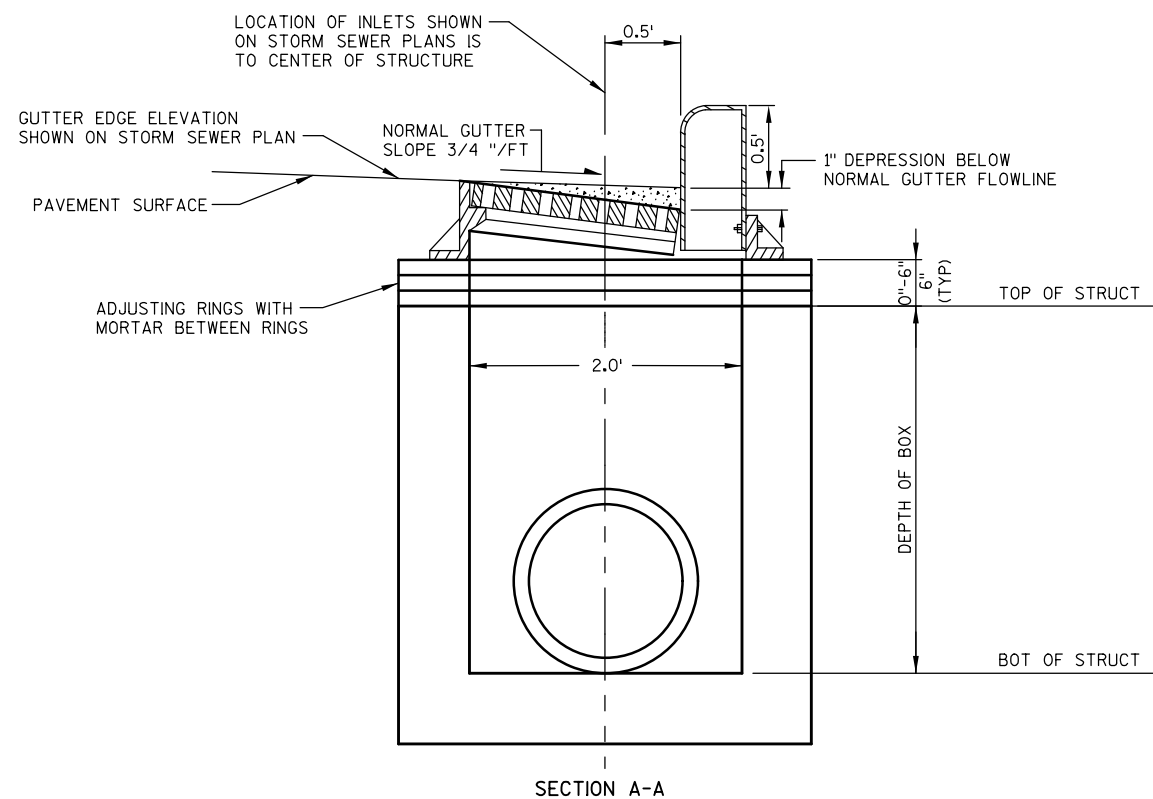
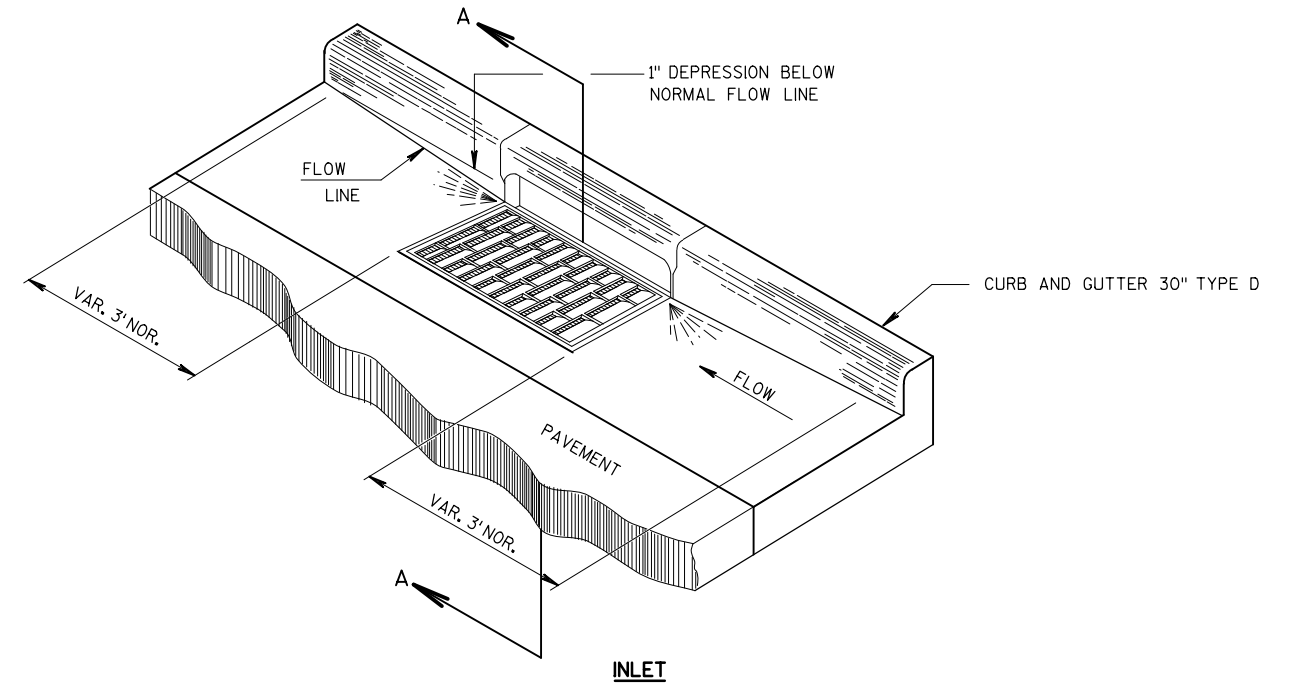
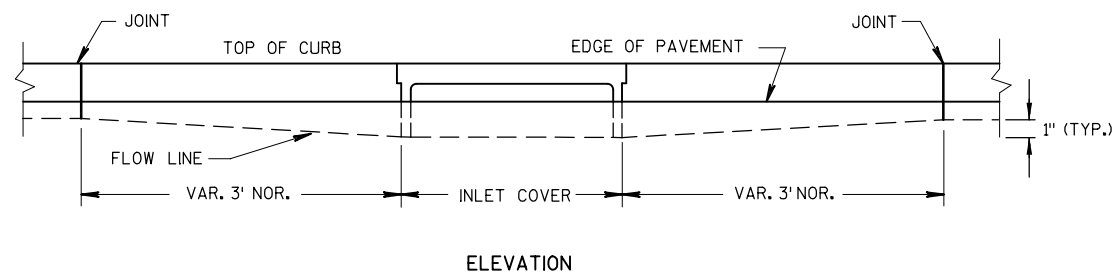
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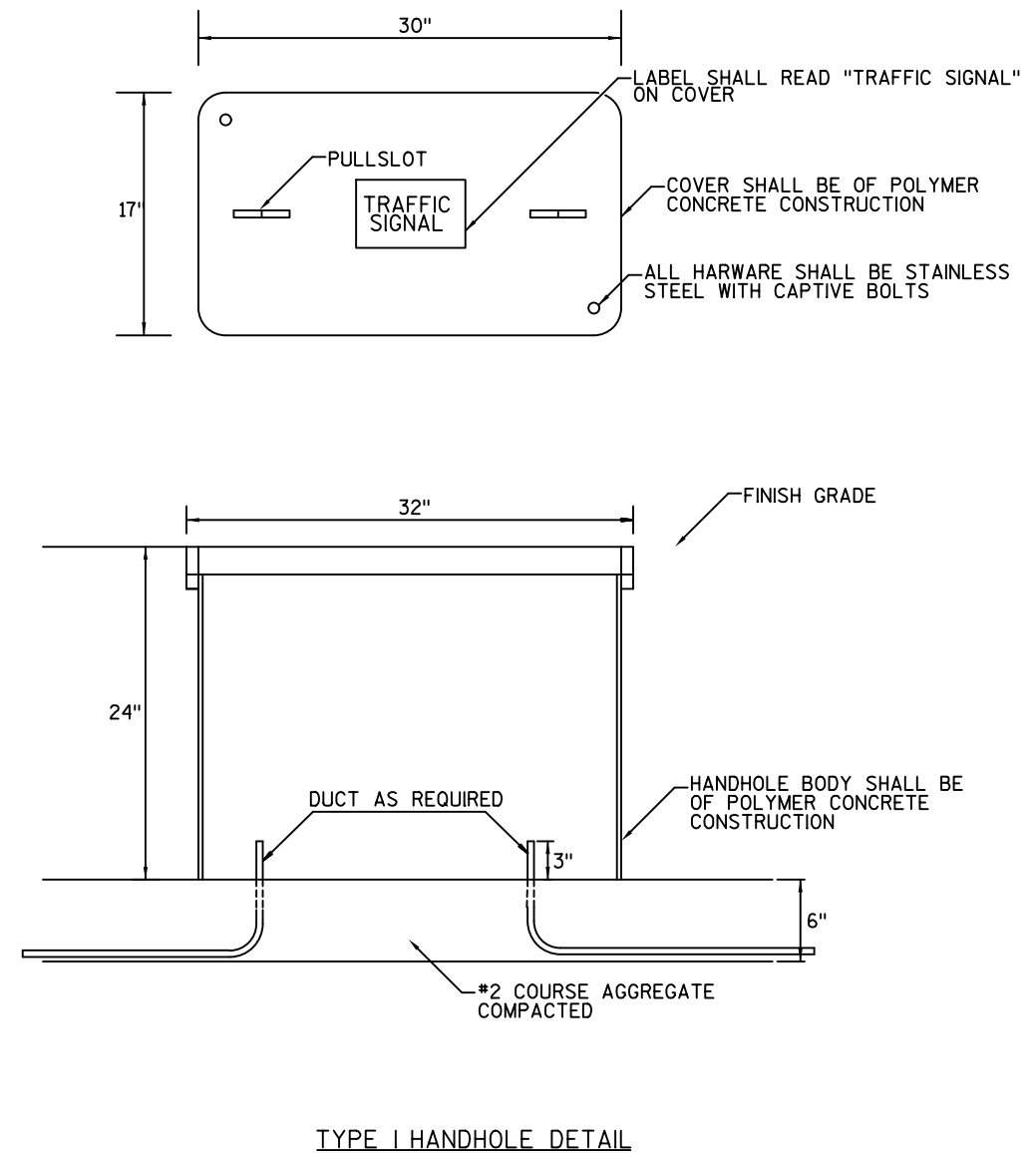
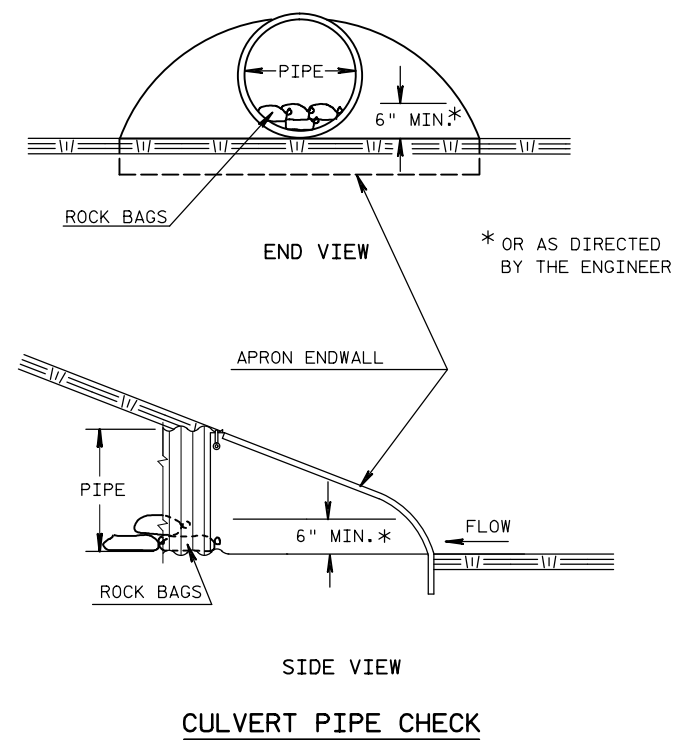
NORTH CONNECTOR
STA 30+00 NC TO STA 40+00 NC

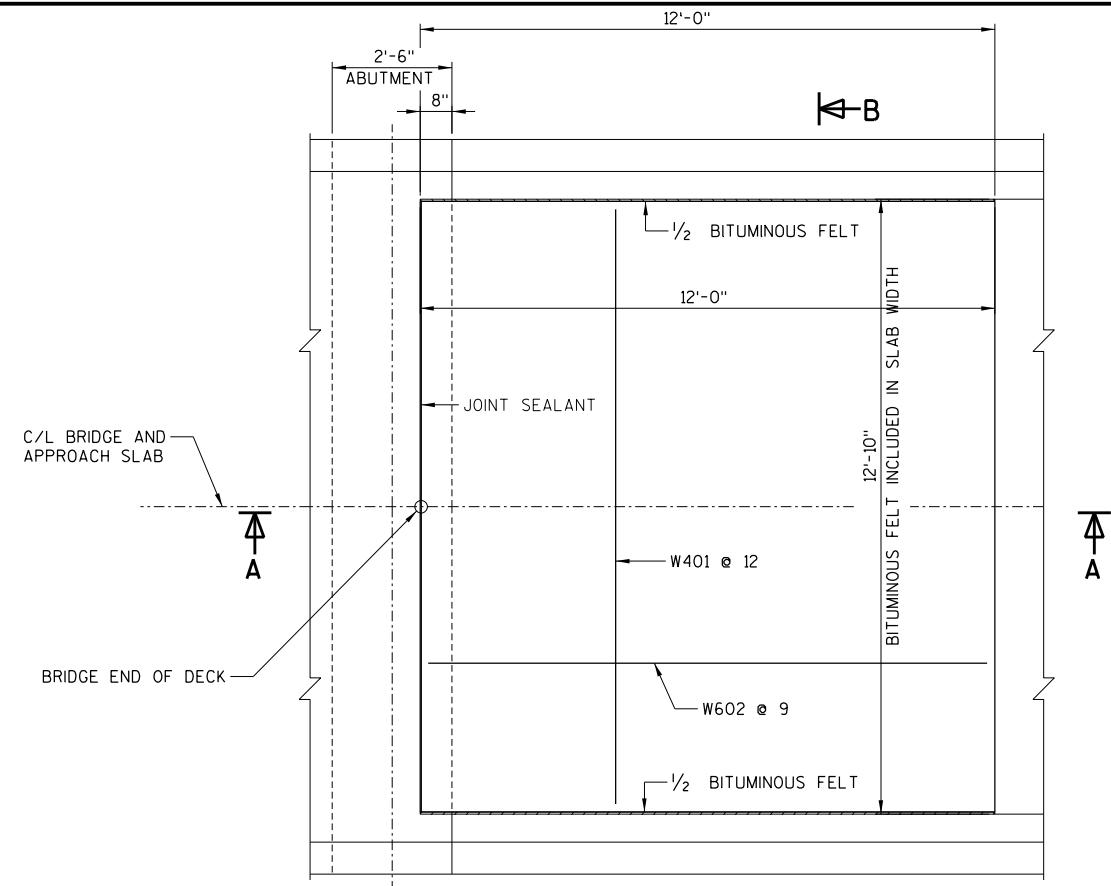


TYPICAL FINISHED SECTION

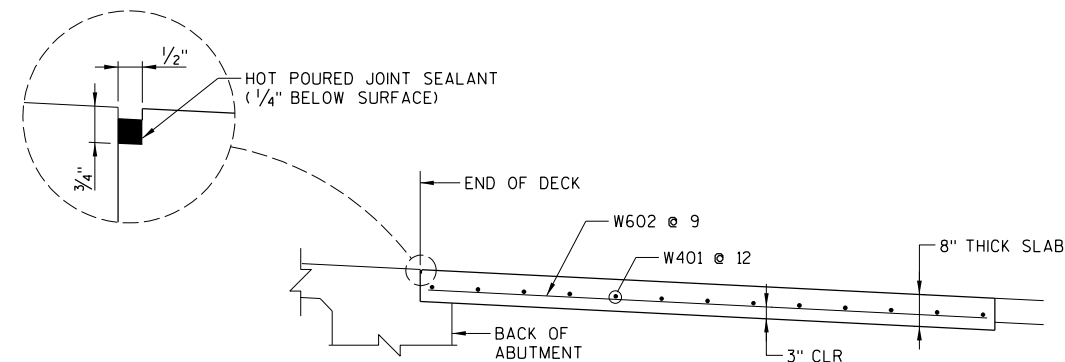
SOUTH CONNECTOR
STA 10+00 SC TO STA 19+90 SC



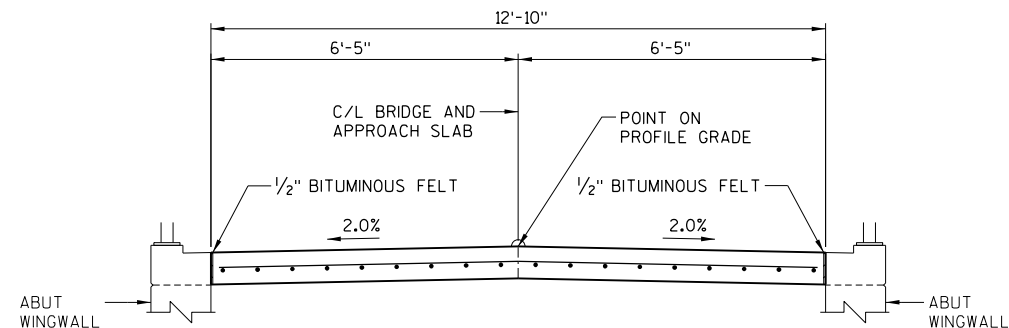




PLAN



SECTION A-A



SECTION B-B

GENERAL APPROACH SLAB NOTES:

CONCRETE PAVEMENT APPROACH SLAB SHALL BE PAID FOR AS SQUARE YARD AND INCLUDES ALL ITEMS SHOWN IN THESE DRAWINGS, NOTES & TABLE.

USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

TOP SURFACE OF APPROACH SLAB SHALL RECEIVE A TRANSVERSE BROOM FINISH SIMILAR TO THAT OF THE BRIDGE SLAB.

QUANTITY NOTES:

QUANTITIES LISTED ARE FOR CONTRACTOR CONVENIENCE ONLY:

QUANTITIES LISTED ARE FOR TWO APPROACH SLABS:

CONCRETE MASONRY = 7.6 CY

BAR STEEL REINFORCEMENT HS COATED = 850 LBS

BIT FELT

JOINT SEALANT

NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

BILL OF BARS						APPROACH SLAB
BAR MARK	COAT	NO. * REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
W401	X	26	12 - 5			TRANS BARS
W602	X	36	11 - 8			LONGIT BARS

* NO. REQ'D. IS FOR 2 APPROACH SLABS. DIVIDE BY 2 TO GET QUANTITY FOR EACH.

2

2



GENERAL NOTES

ELEVATIONS ALONG CONCRETE MEDIAN BARRIER ARE FLOW LINE ELEVATIONS.

DRAWINGS SHALL NOT BE SCALED.

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

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF JOINTS WITH NON-STAINING GRAY NON-ASPHALTIC JOINT SEALER.

REINFORCEMENT BARS MAY BE TRIMMED AND/OR BENT IN FIELD TO AVOID CONFLICT. ANY EPOXY COATED BARS THAT ARE CUT OR TRIMMED IN FIELD SHALL HAVE CUT ENDS COATED WITH EPOXY.

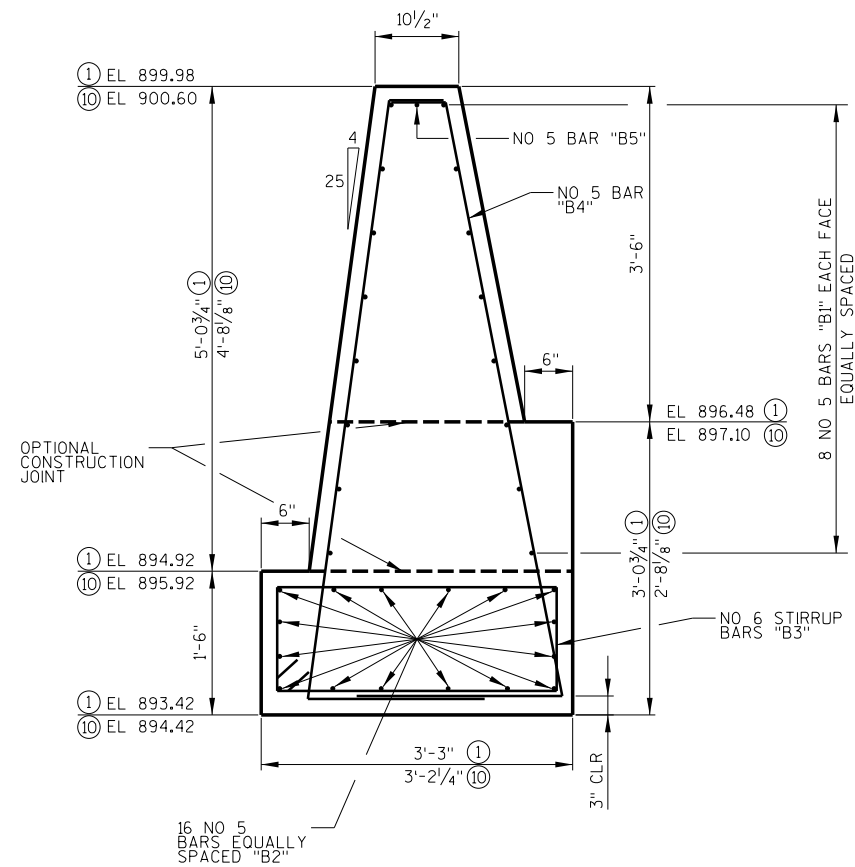
ALL BARRIER FOOTING BARS SHALL BE EPOXY COATED.

OPTIONAL CONSTRUCTION JOINTS IN THE BARRIER MAY BE USED. RUN BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS A MINIMUM OF 3'-0". DEFINE CONSTRUCTION JOINT WITH A $\frac{3}{4}$ "-V GROOVE.

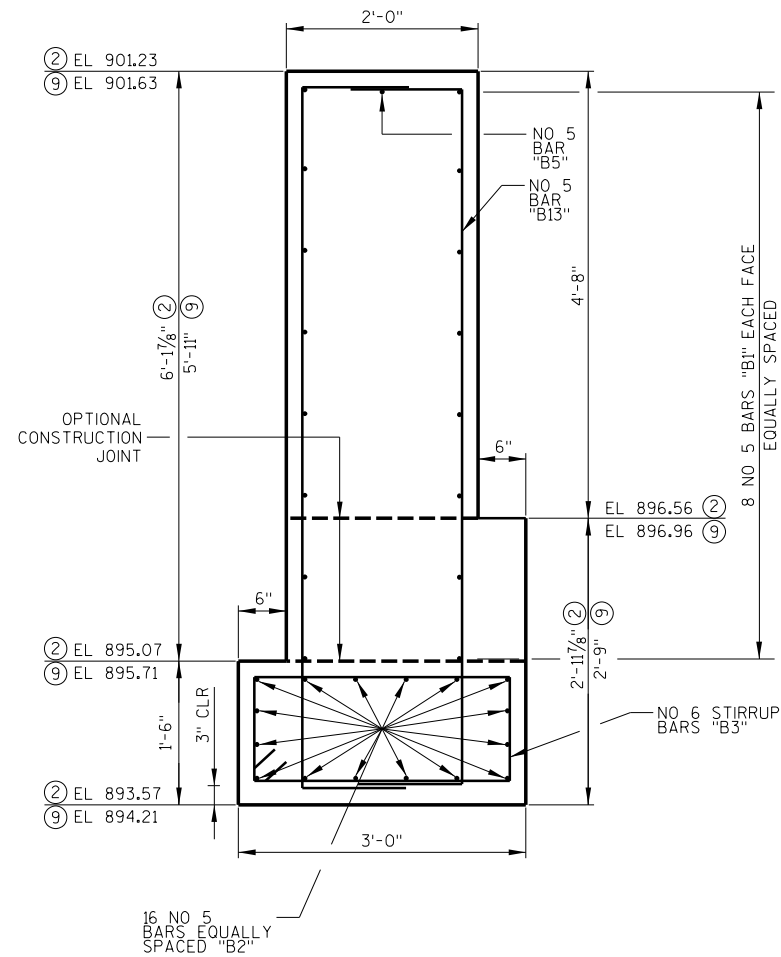
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

DESIGN DATA

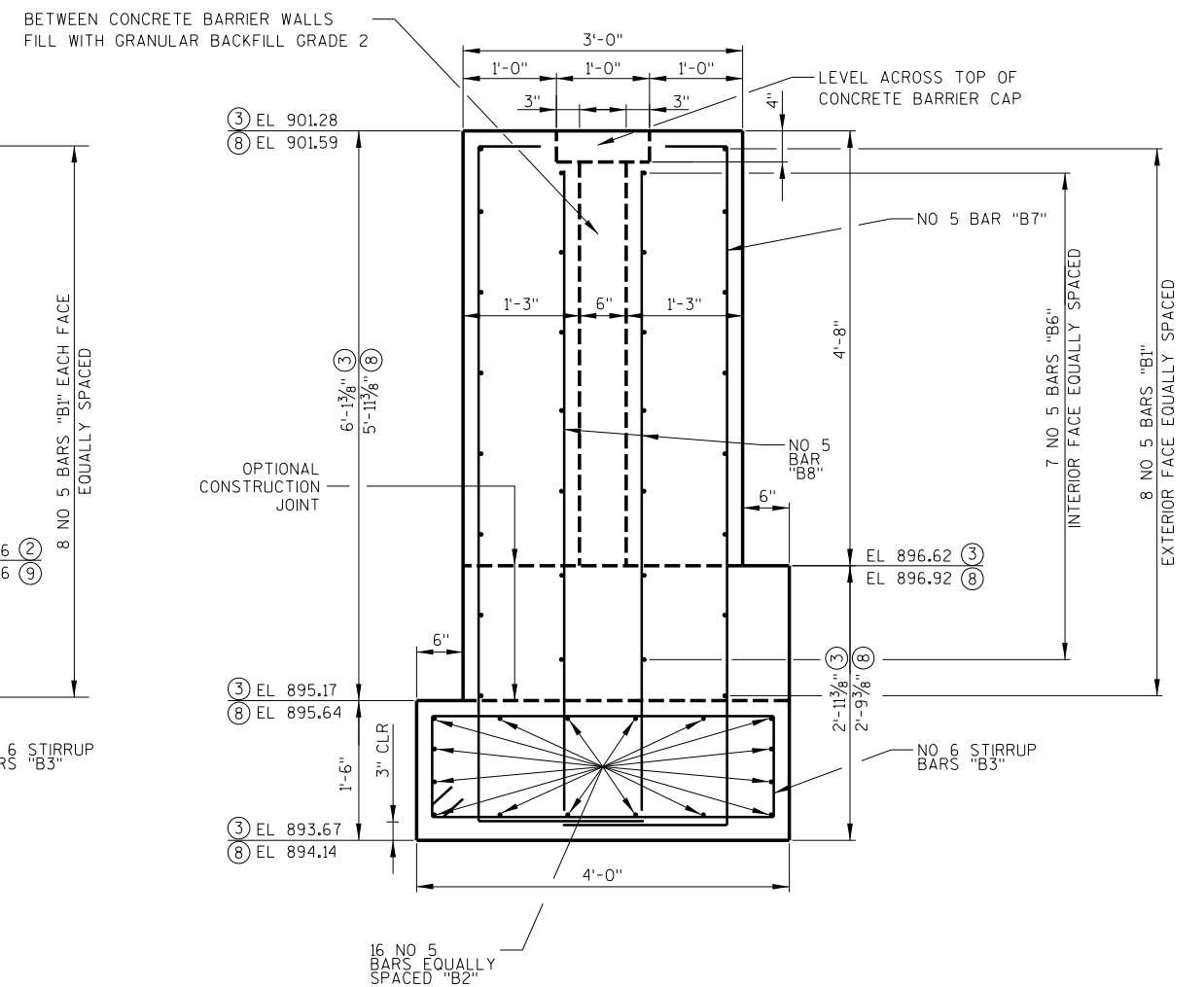
ULTIMATE DESIGN STRESSES:
 CONCRETE MASONRY (GRADE A) F'C = 3,500 PSI
 HIGH STRENGTH BAR STEEL REINFORCEMENT
 AASHTO GRADE 60 F_y = 60,000 PSI



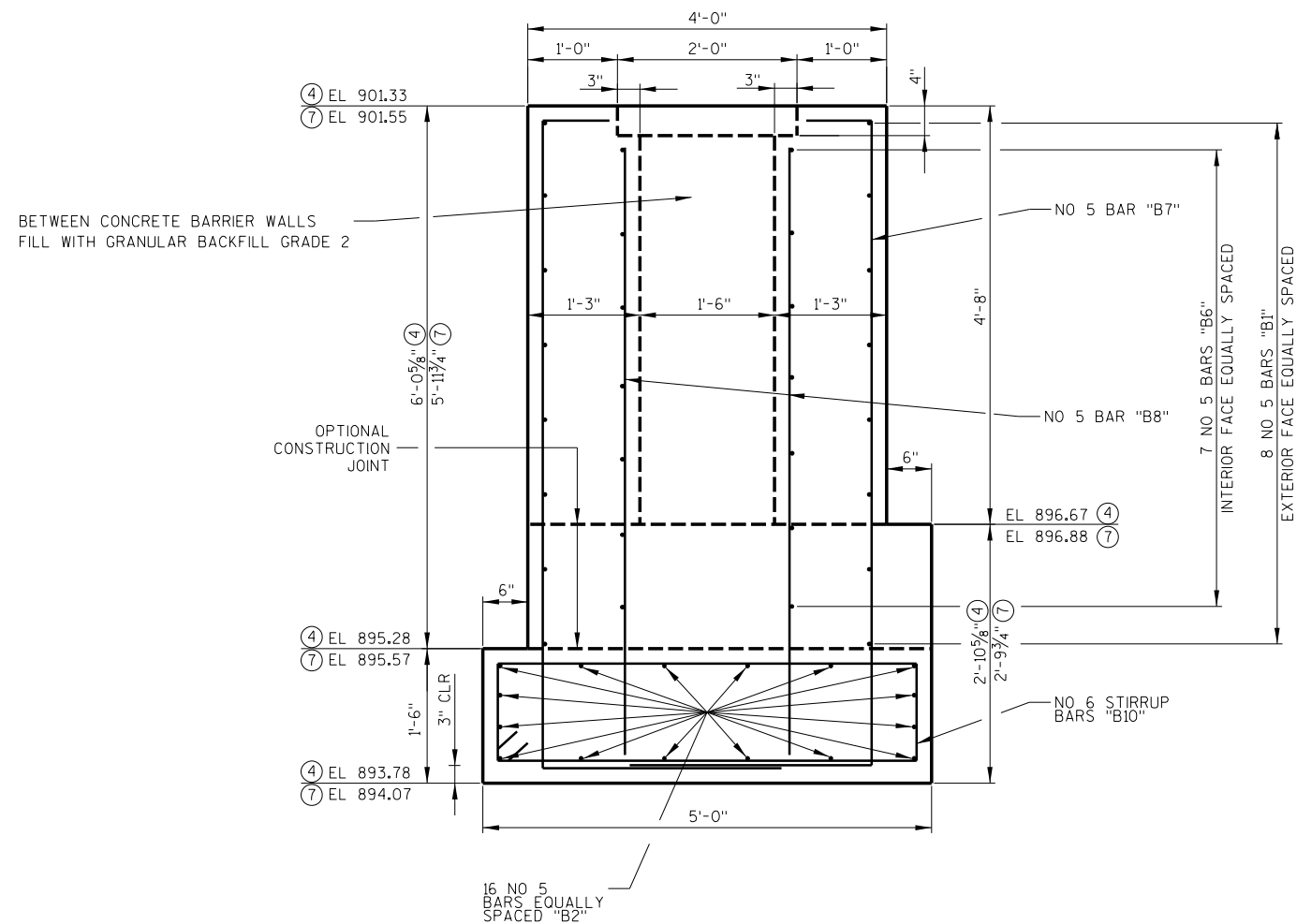
SECTION 1 & 10



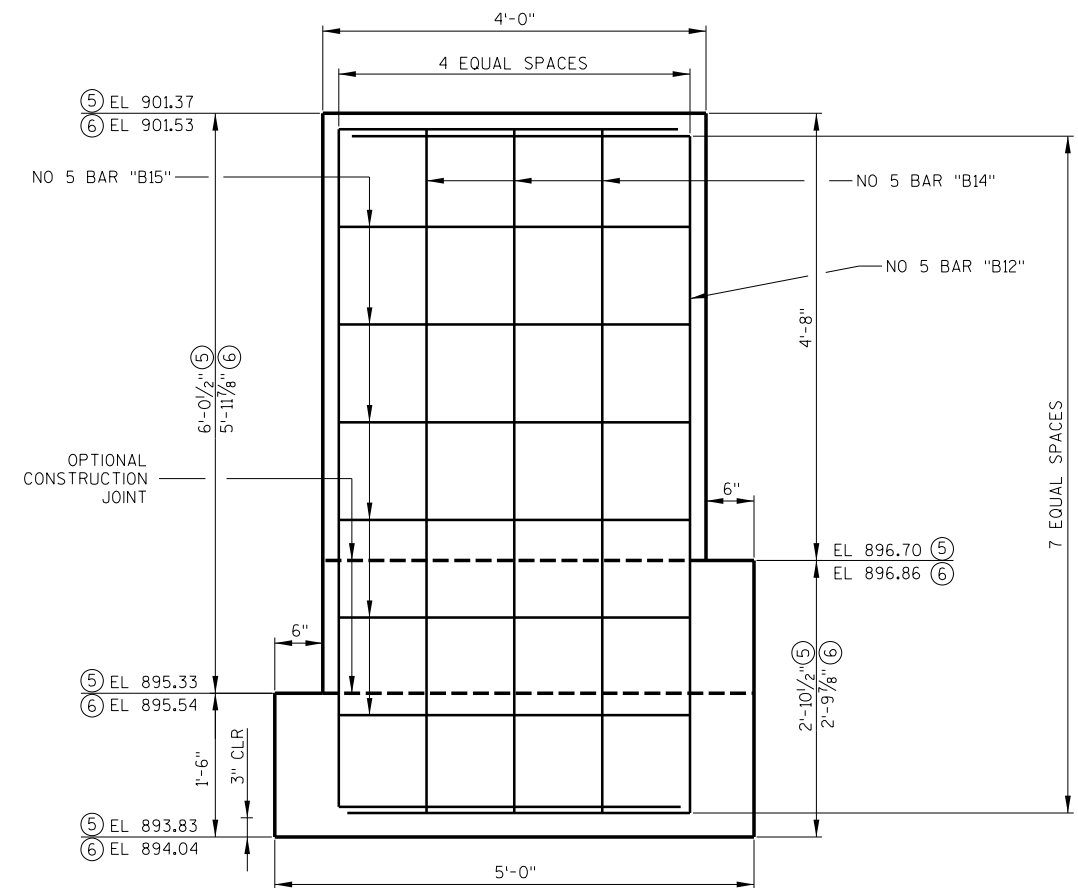
SECTION 2 & 9

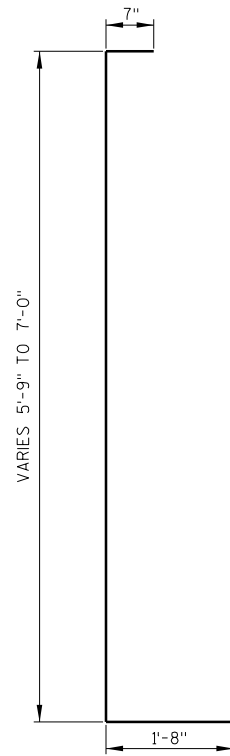


SECTION 3 & 8

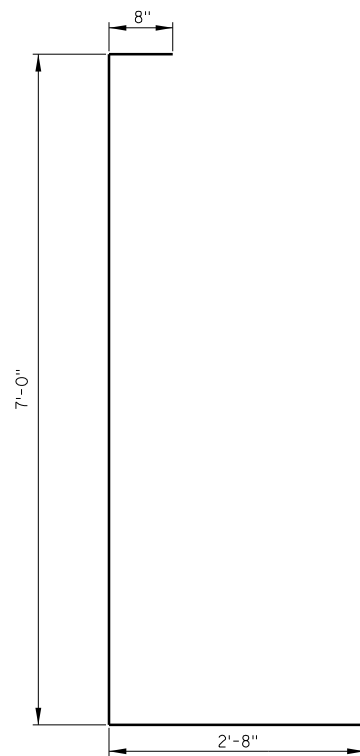
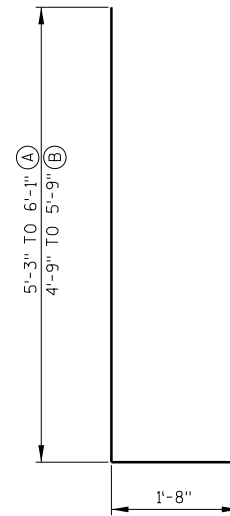
**SECTION 4 & 7**

SECTION 7 DRAWN WITHOUT INLET SHOWN
SEE "MEDIAN BARRIER INLET DETAIL" FOR BAR FITTINGS

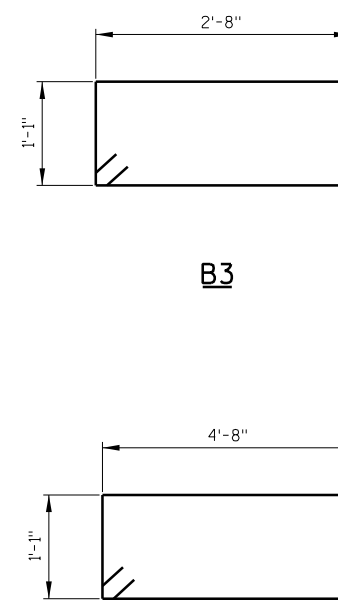
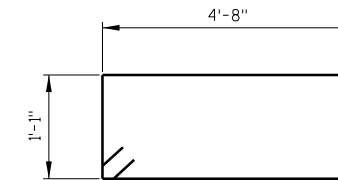
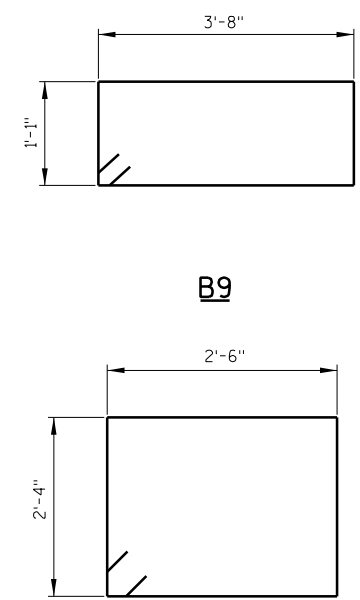
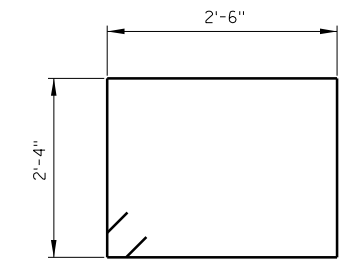
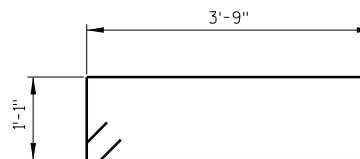
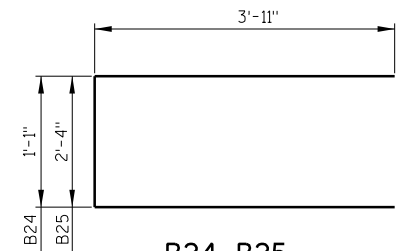
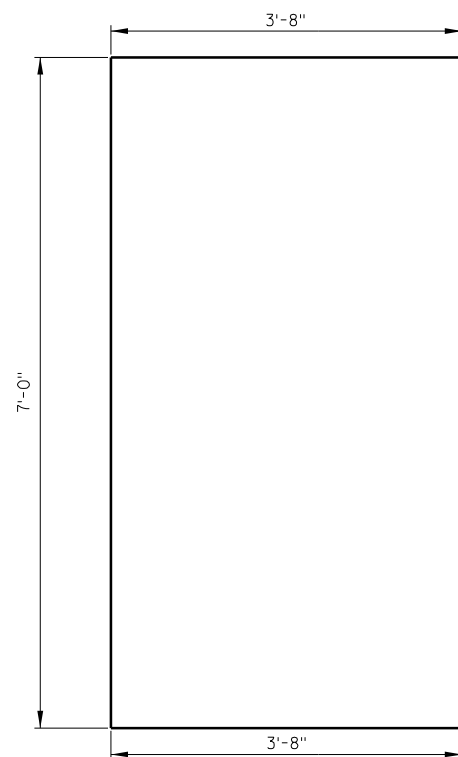
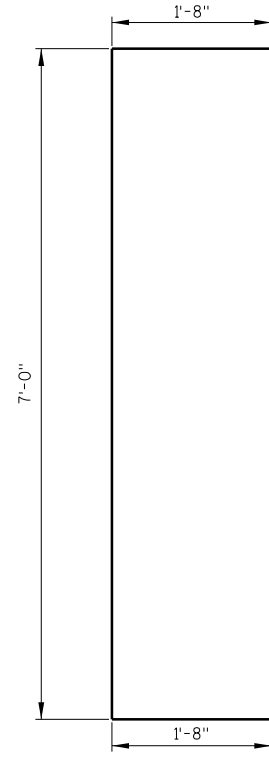
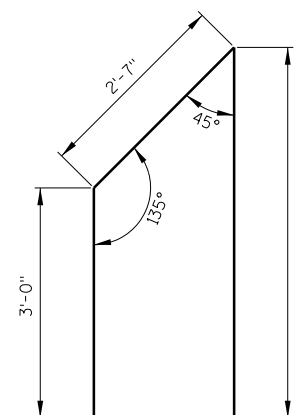
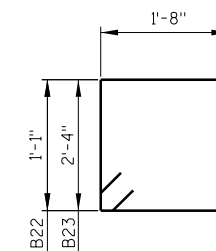
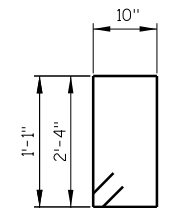
**SECTION 5 & 6**

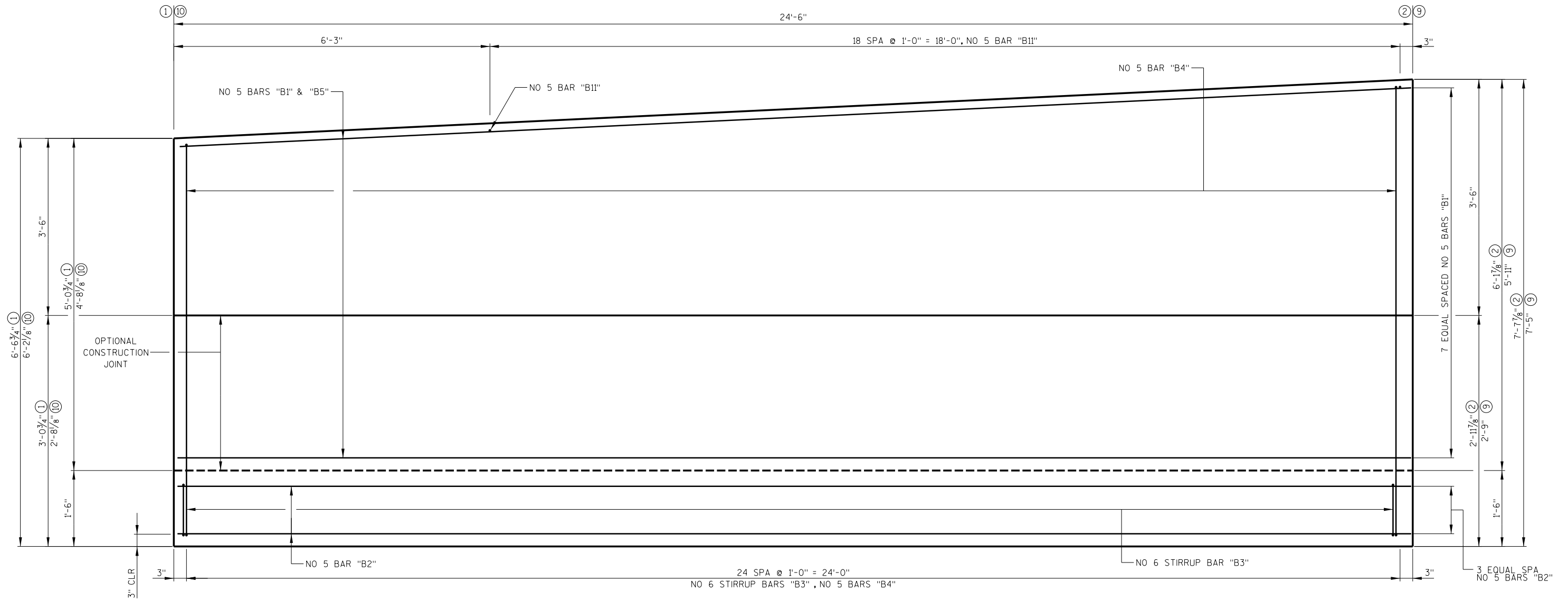
**B4**

FIELD BEND TO FIT
SLOPED WALL.
PROVIDE MINIMUM 2"
CLEAR UNLESS SHOWN
OR NOTED.

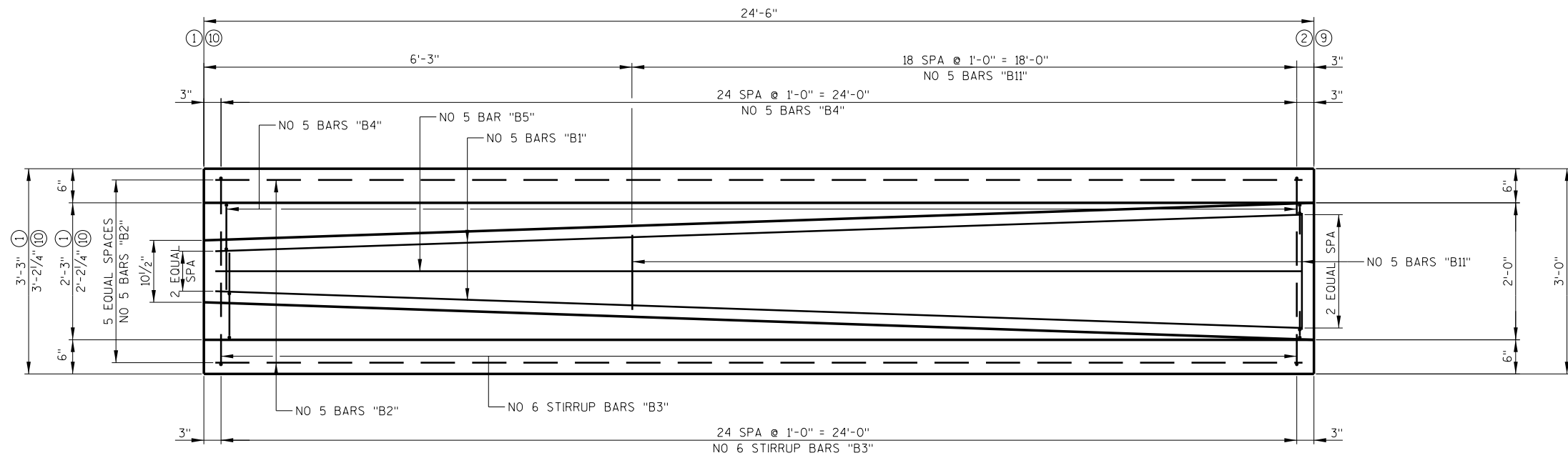
**B7****B17**

FIELD BEND AND TRIM
TO FIT SLOPED WALL.
PROVIDE MINIMUM 2"
CLEAR UNLESS SHOWN
OR NOTED.

**B3****B10****B9****B27****B26****B24, B25****B12****B13****B18****B22, B23****B20, B21****BAR BENDING DETAILS**

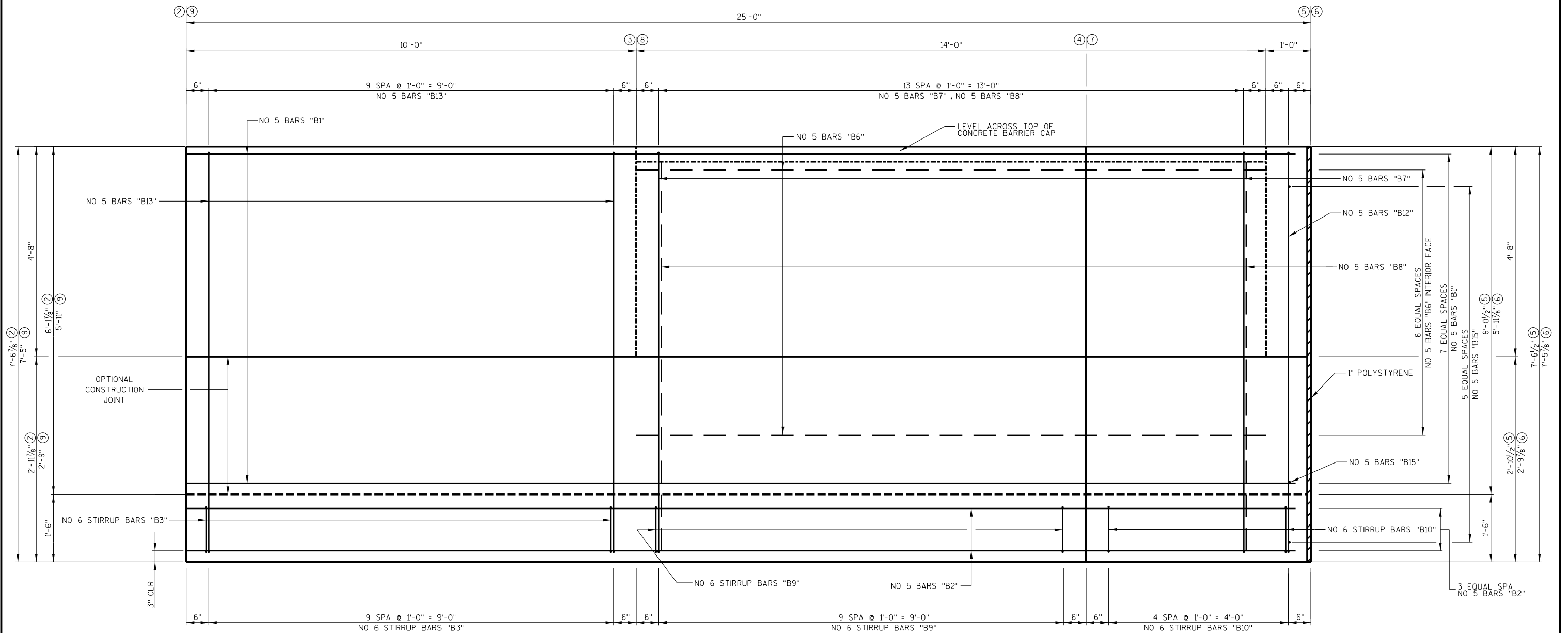


ELEVATION VIEW



PLAN VIEW

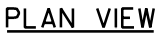
FOOTING BARS



ELEVATION VIEW

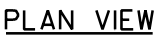
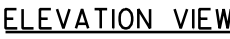
*SEE "MEDIAN BARRIER INLET DETAIL" FOR BARS AROUND INLETS

--- INTERIOR BAR

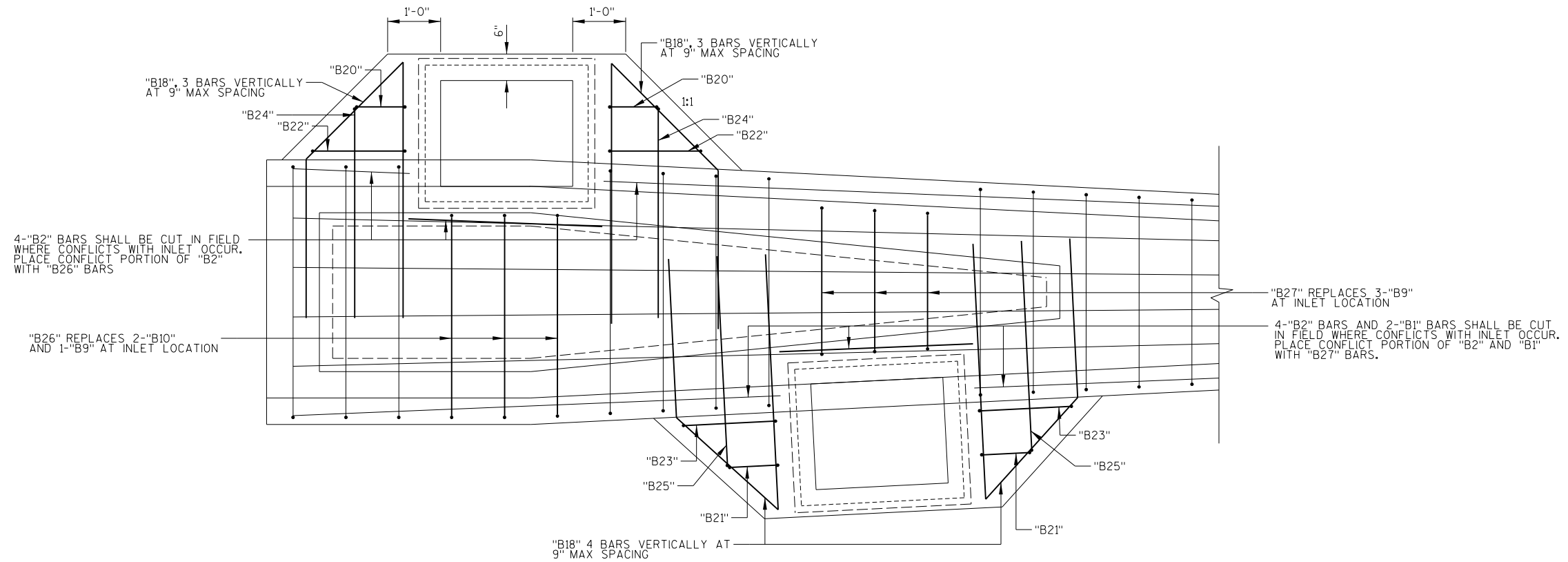


— — — — — INTERIOR BAR
— — — — — FOOTING BARS

2

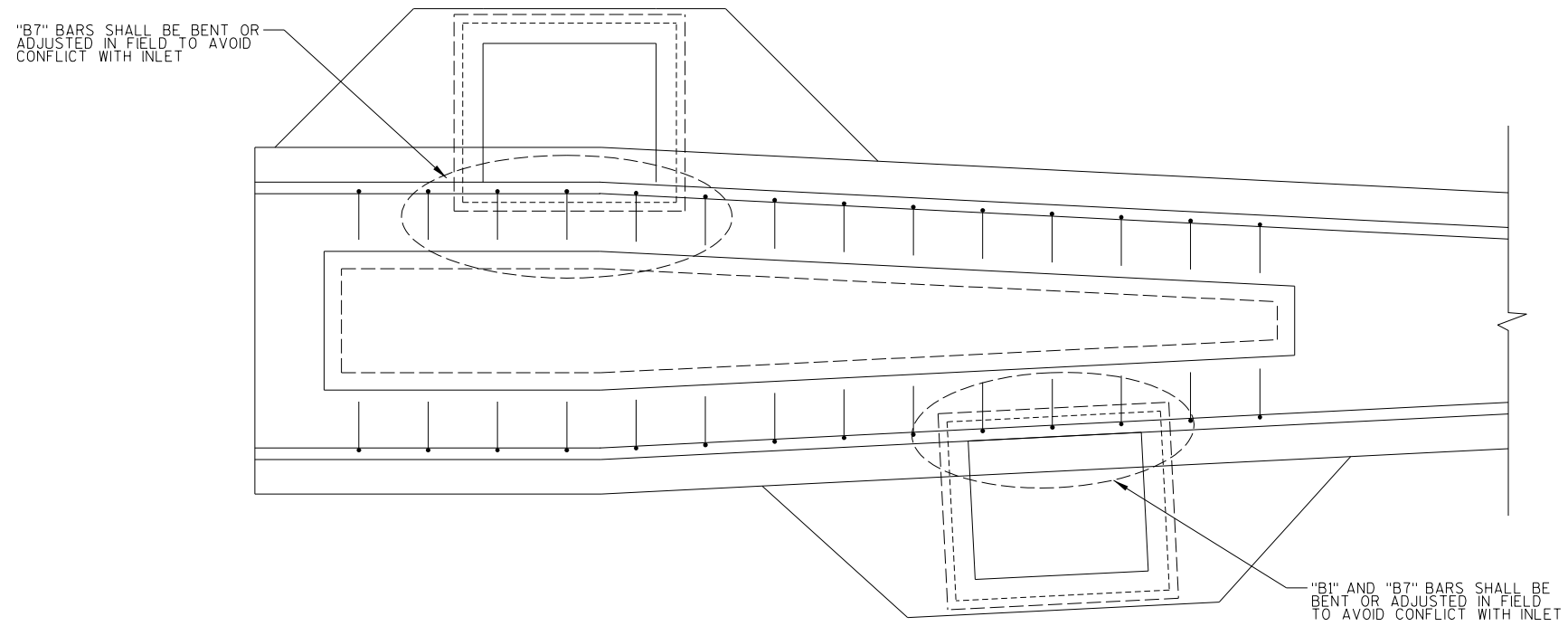


FOOTING BARS



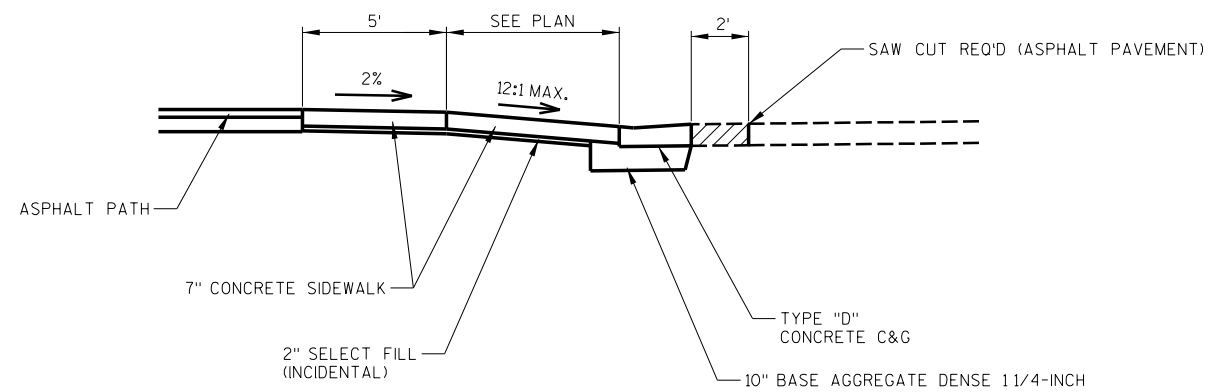
FOOTING STEEL AT DRAIN INLET

PLAN VIEW

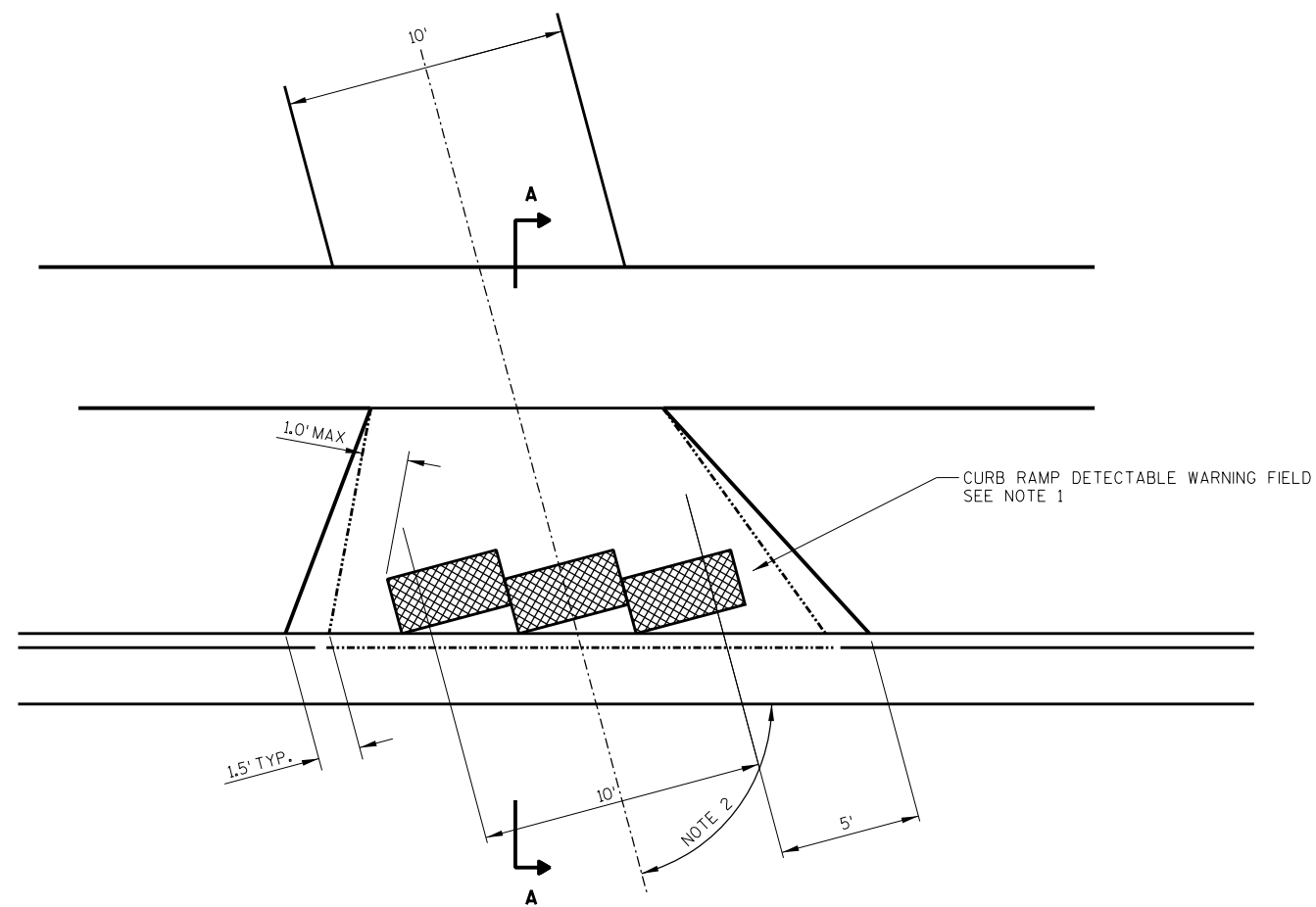


BARRIER STEEL AT DRAIN INLET

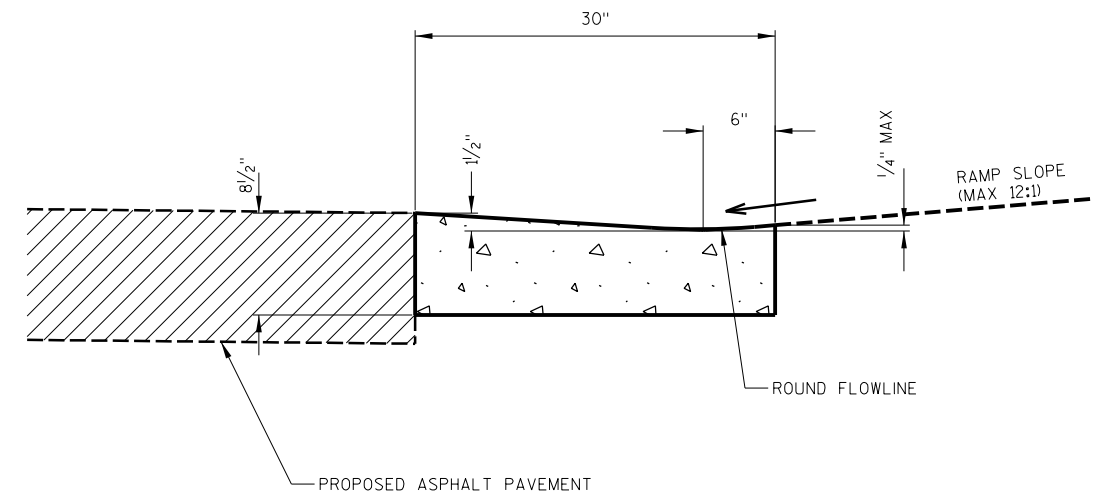
PLAN VIEW



BIKE PATH RAMP SECTION A-A

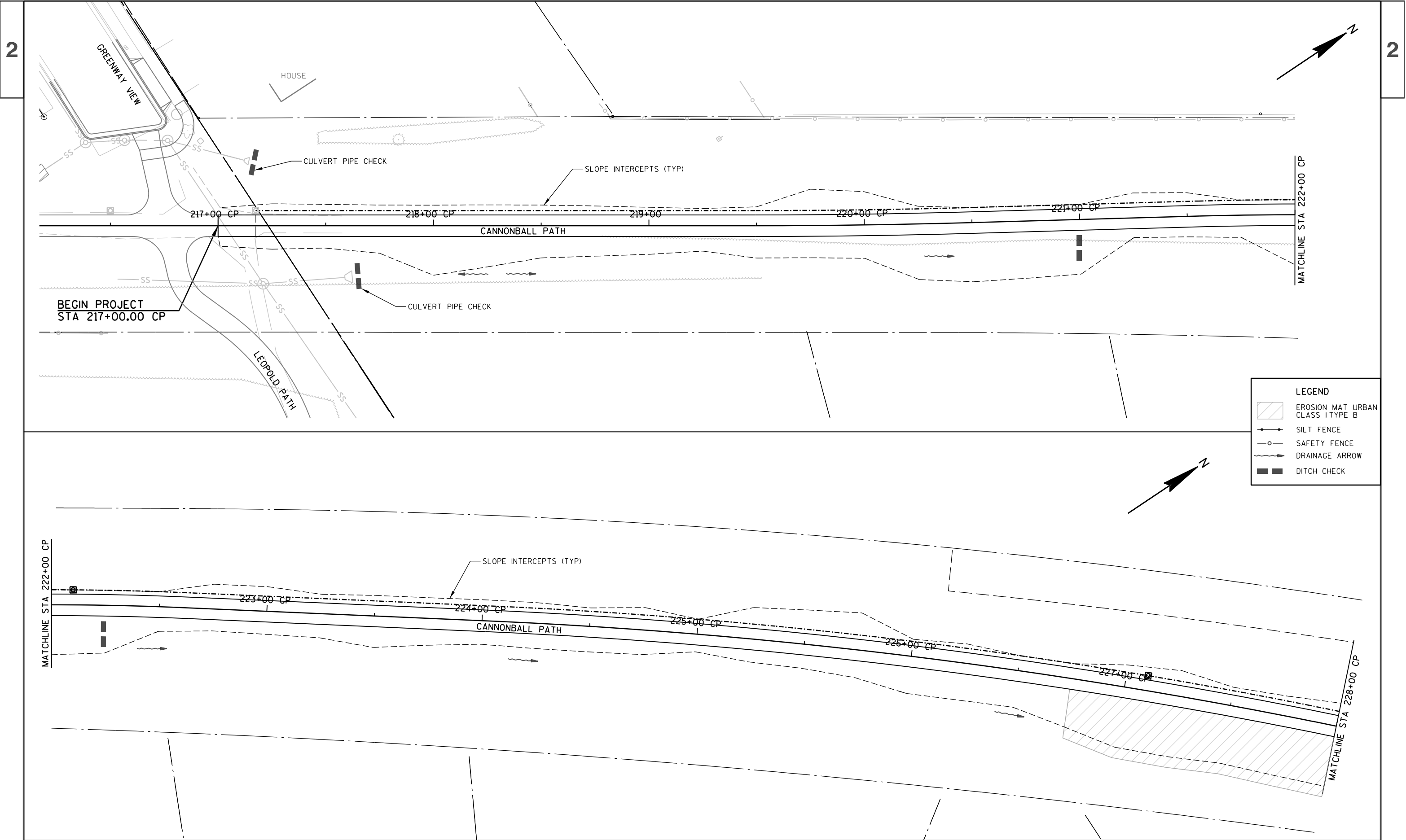


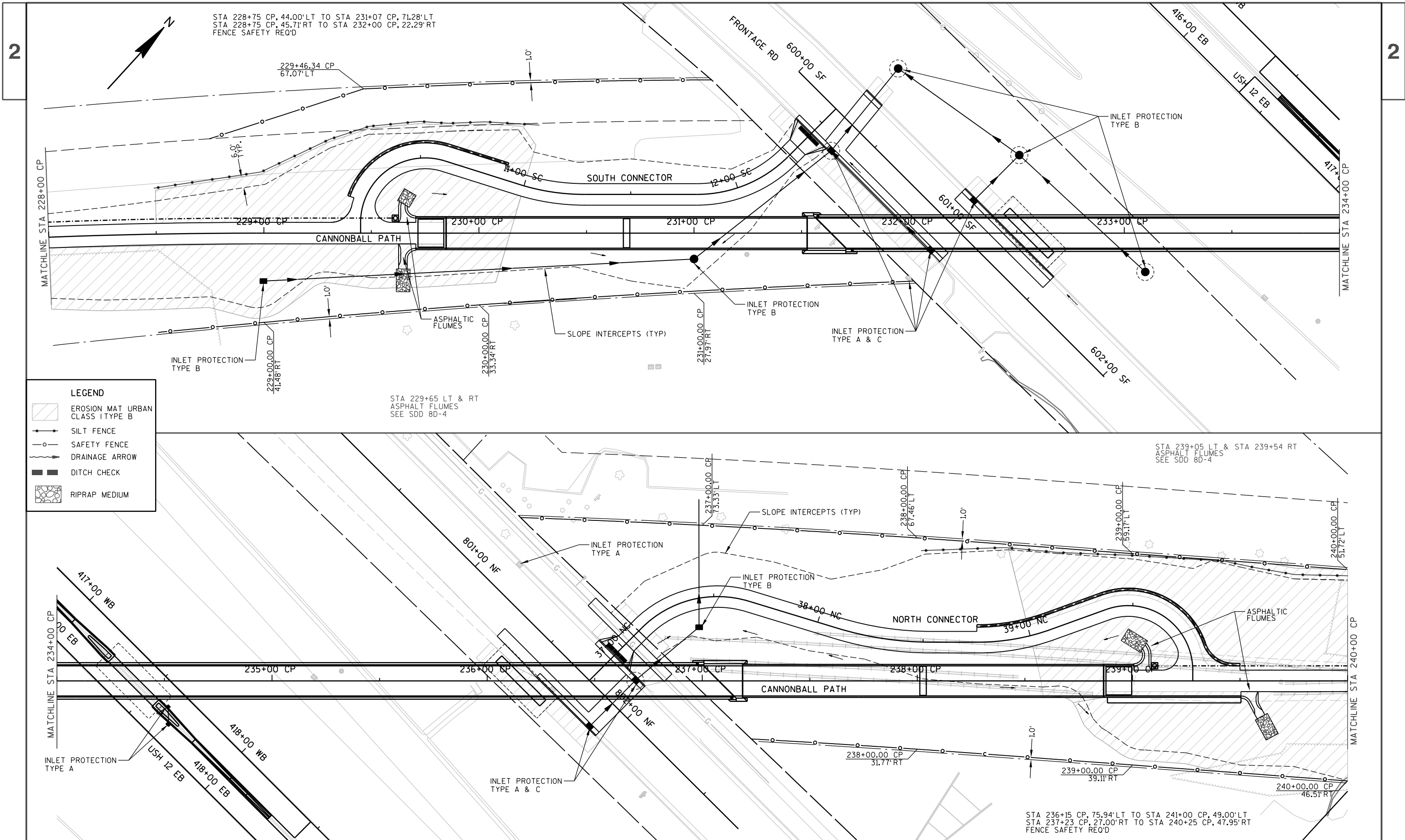
BIKE PATH RAMP PLAN



TYPE "D" CONCRETE CURB & GUTTER

- NOTES:
1. CURB RAMP DETECTABLE WARNING FIELDS REQUIRED WHERE PATH RAMP ENTERS A STREET.
 2. FOR ANGLES LESS THAN 75 OR GREATER THAN 105 FLARE DIMENSIONS SHALL BE AS SHOWN ON THE PLANS OR SHALL BE REVIEWED BY THE CONSTRUCTION ENGINEERING PRIOR TO CONSTRUCTION.
 3. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6-INCHES MINIMUM AND 8-INCHES MAXIMUM FROM THE CURB LINE.





STA 236+15 CP, 75.94' LT TO STA 241+00 CP, 49.00' LT
STA 237+23 CP, 27.00' RT TO STA 240+25 CP, 47.95' RT
FENCE SAFETY REQ'D

WORK BY OTHERS UNDER PREVIOUS CONTRACT

END PROJECT
STA 245+60.00 CP

EXIST 8'x5' CONC BOX

1.0'

246

245+00

244+00

243+00 CP

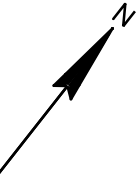
242+00 CP

241+00 CP

CANNONBALL PATH

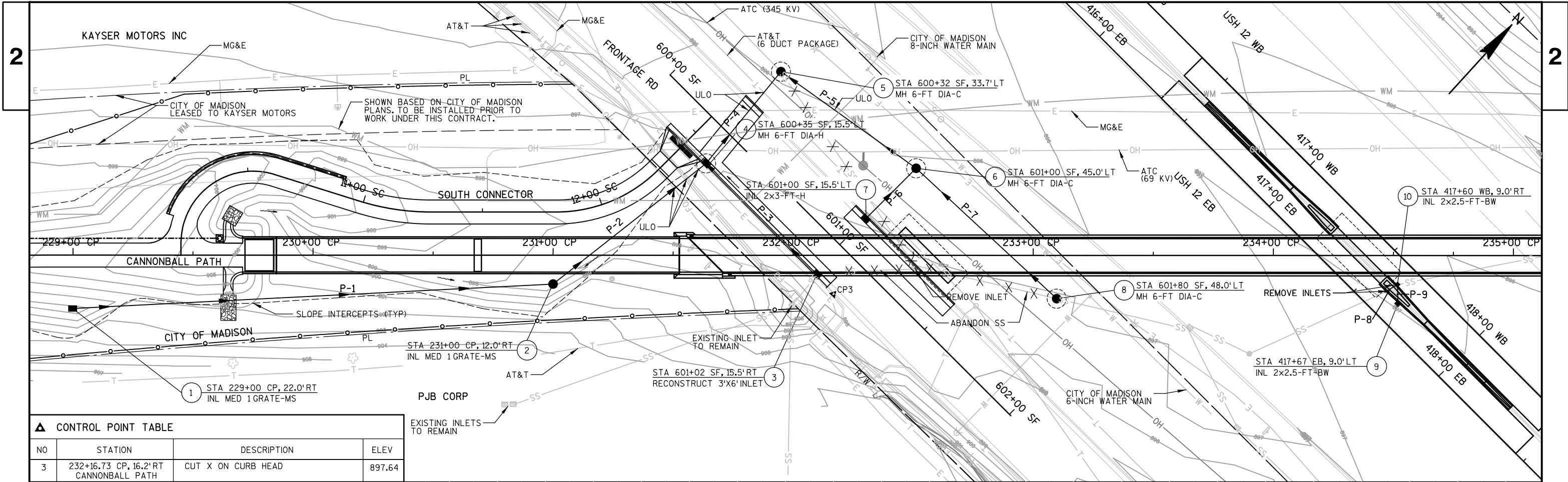
SLOPE INTERCEPTS (TYP)

CULVERT PIPE CHECK

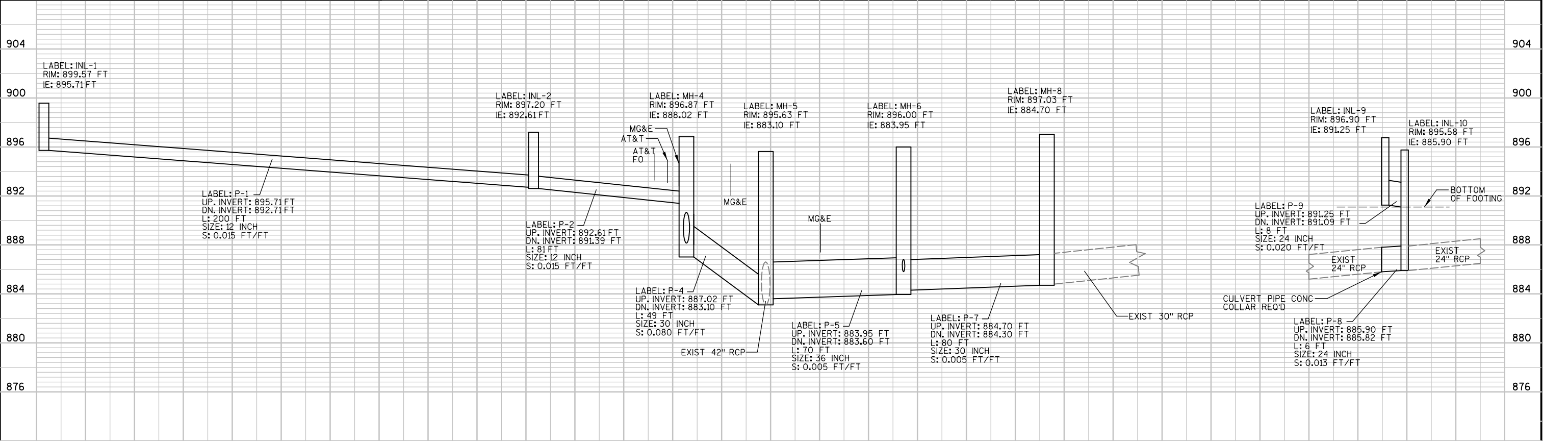


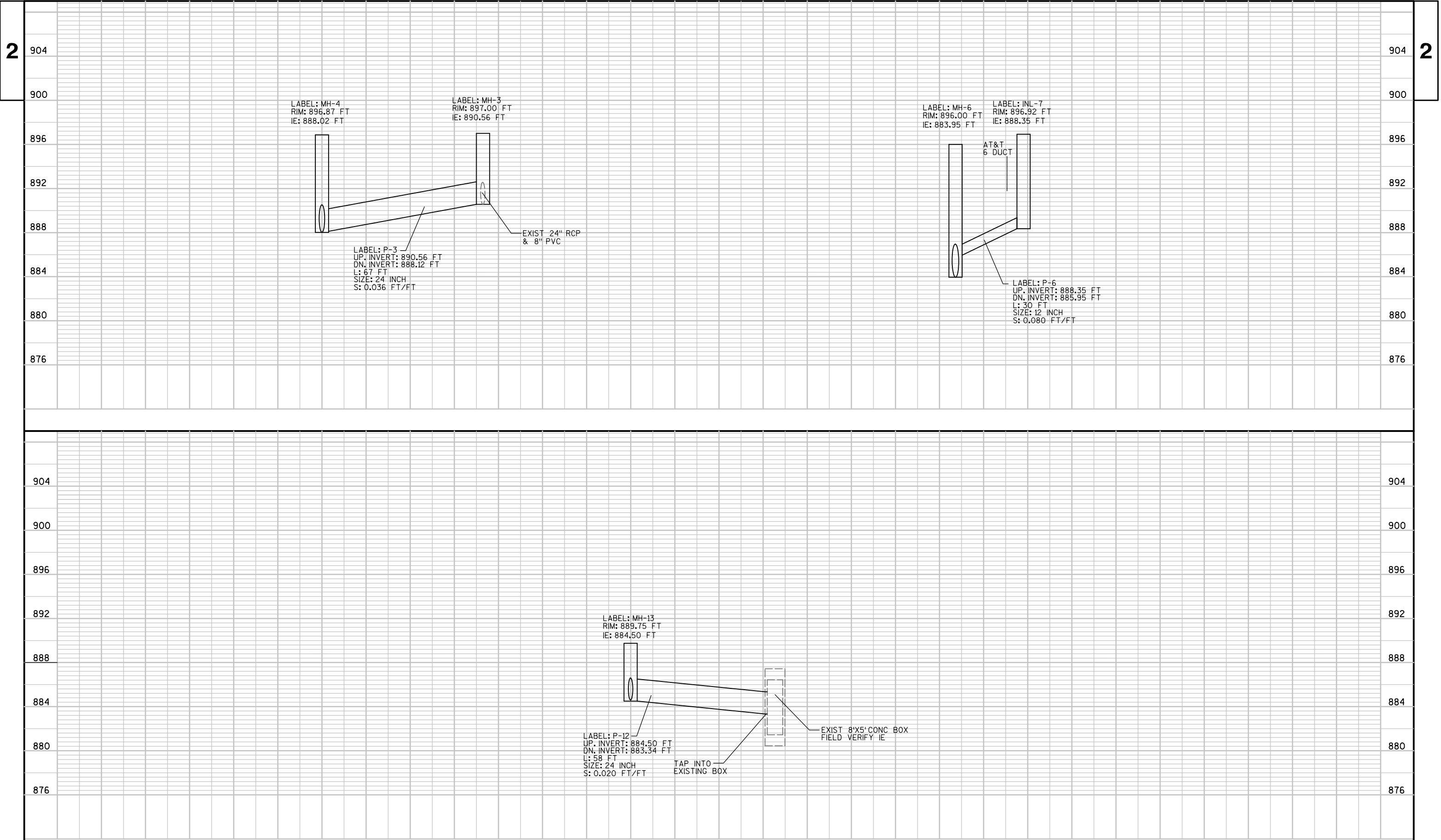
LEGEND

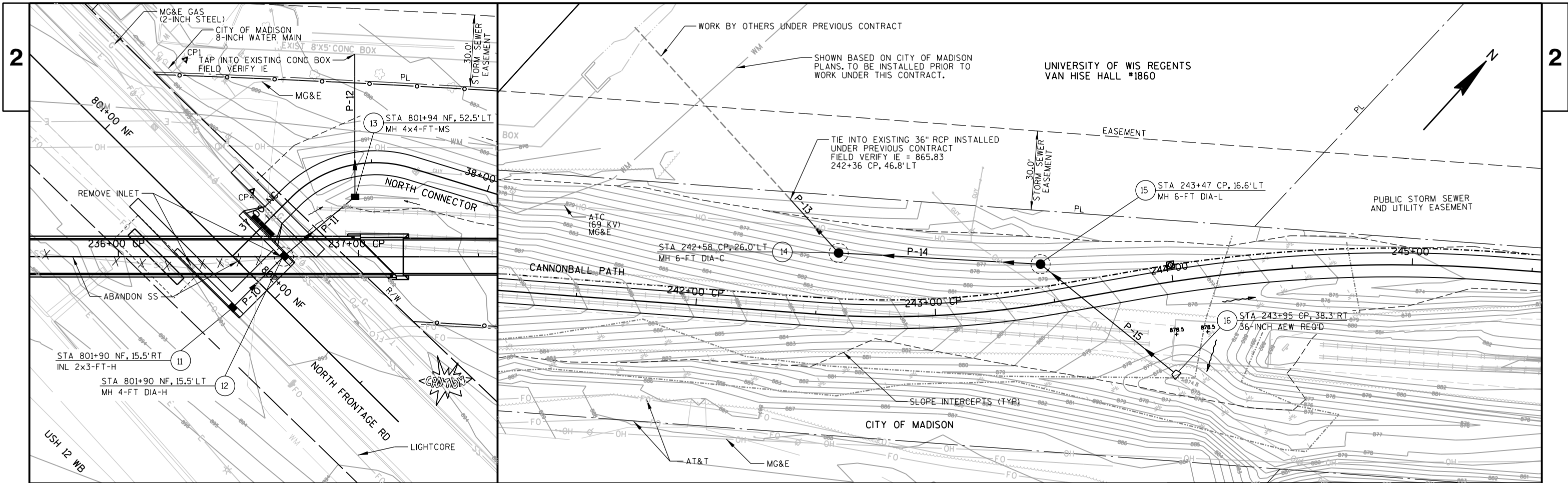
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- SAFETY FENCE
- DRAINAGE ARROW
- DITCH CHECK



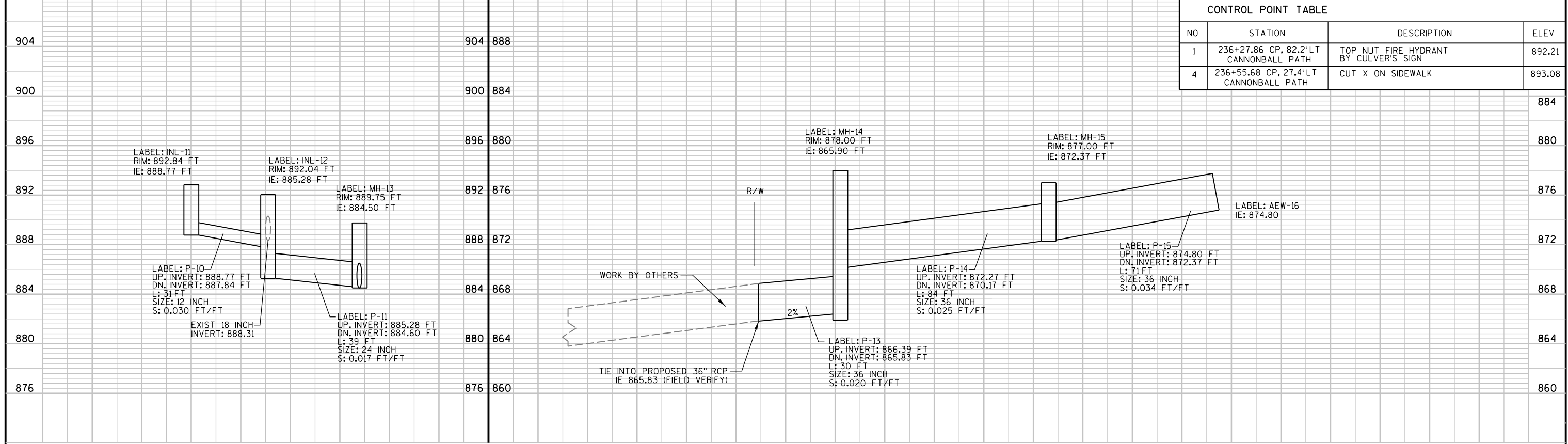
▲ CONTROL POINT TABLE			
NO	STATION	DESCRIPTION	ELEV
3	232+16.73 CP, 16.2' RT CANNONBALL PATH	CUT X ON CURB HEAD	897.64

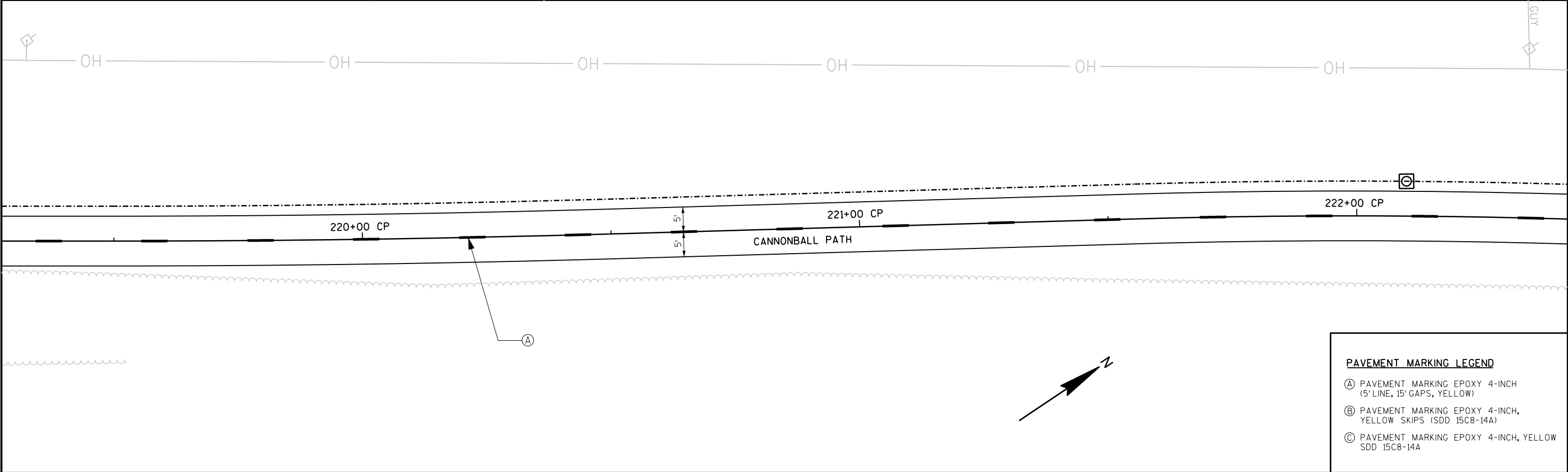
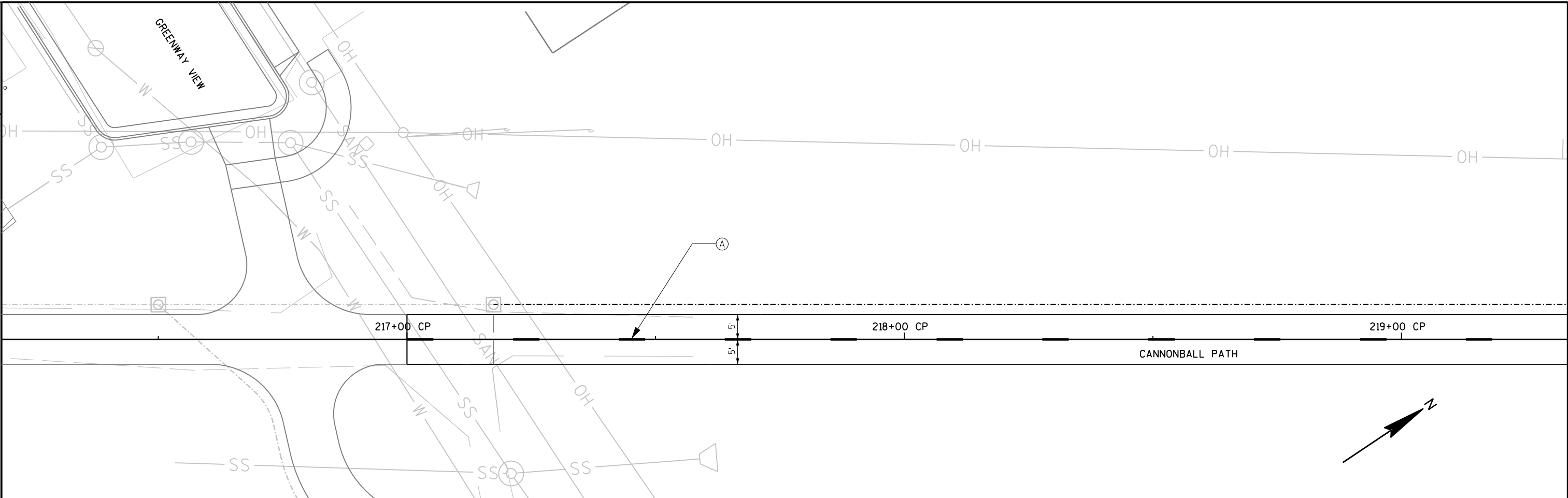




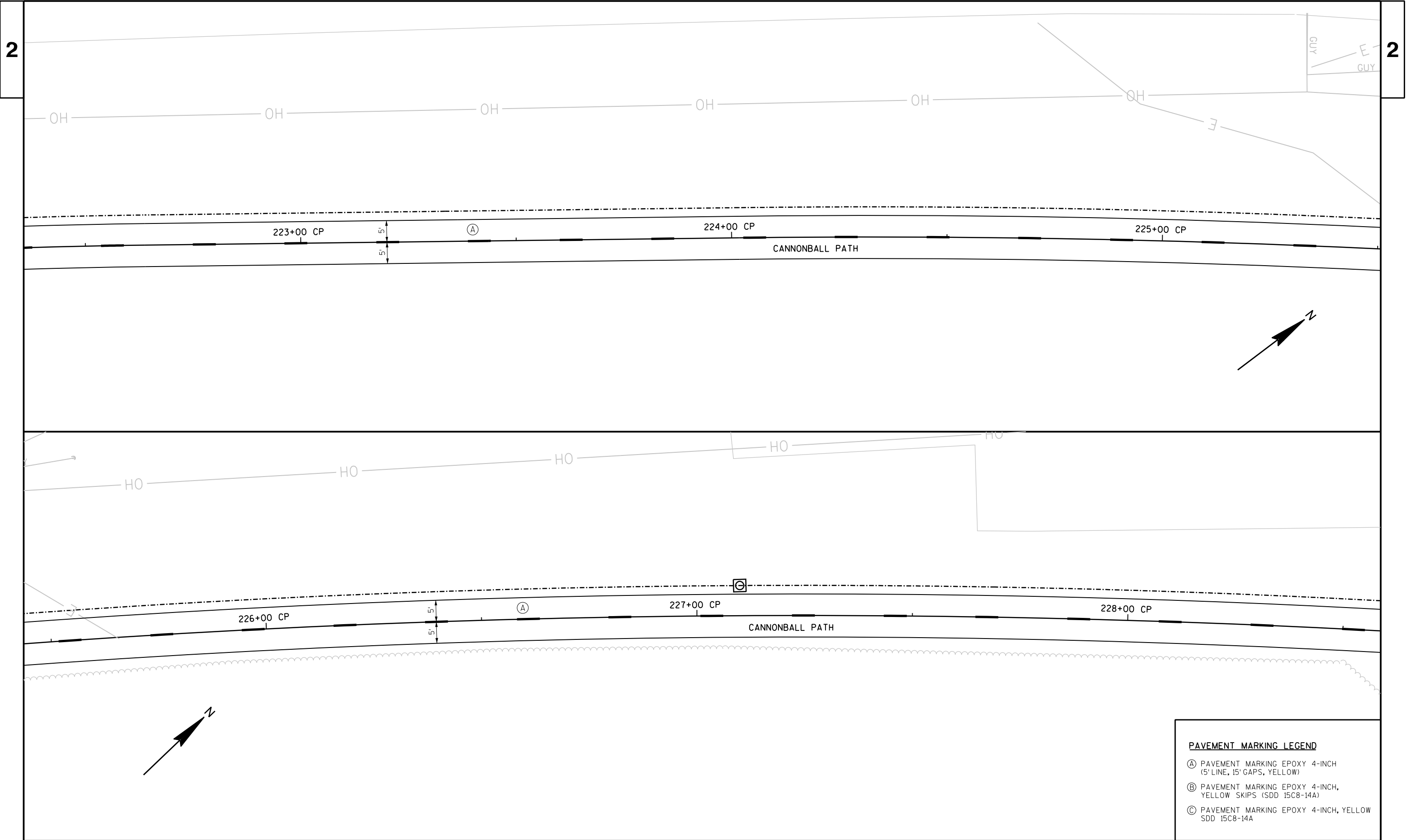


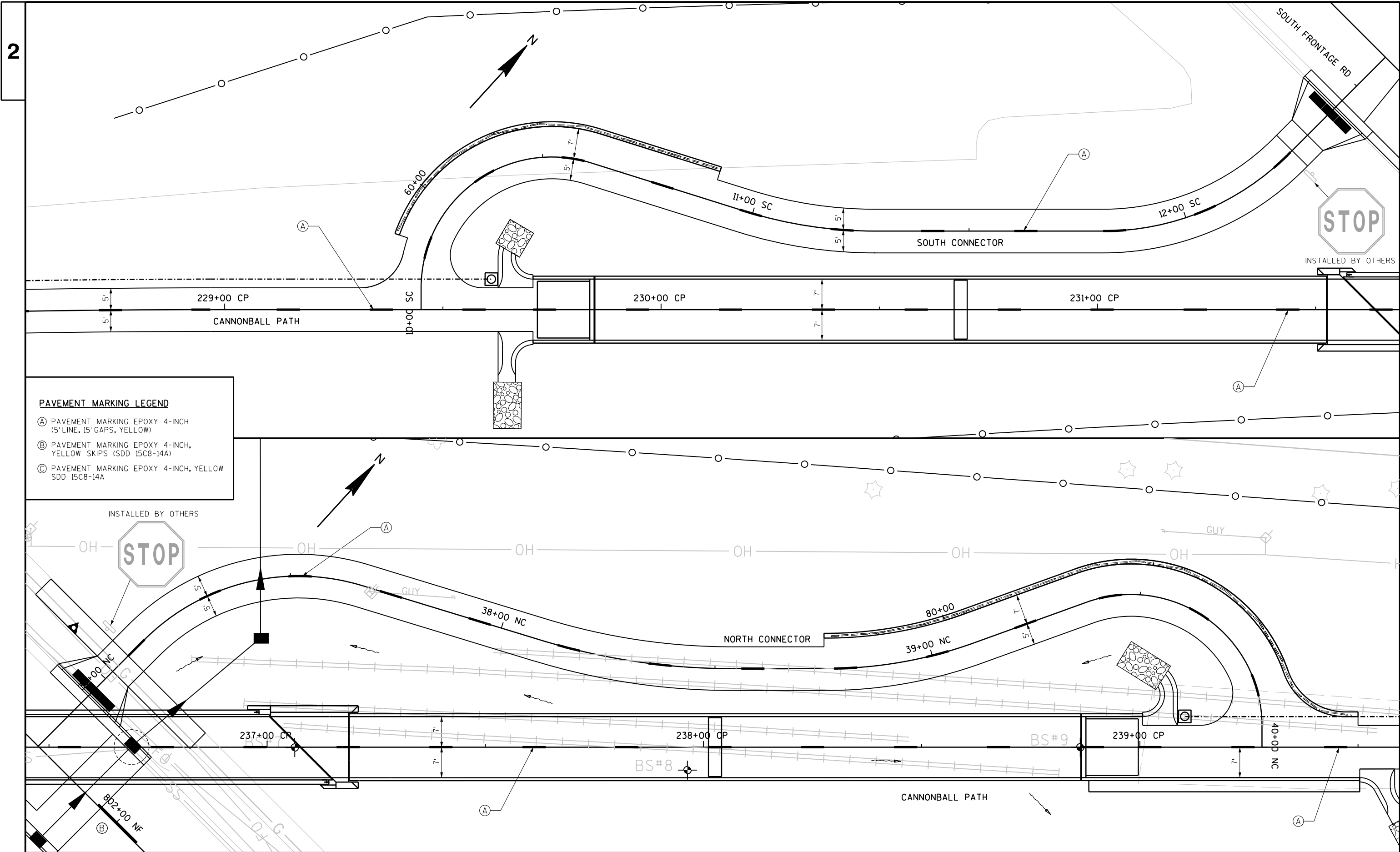
CONTROL POINT TABLE			
NO	STATION	DESCRIPTION	ELEV
1	236+27.86 CP, 82.2' LT CANNONBALL PATH	TOP NUT FIRE HYDRANT BY CULVER'S SIGN	892.21
4	236+55.68 CP, 27.4' LT CANNONBALL PATH	CUT X ON SIDEWALK	893.08





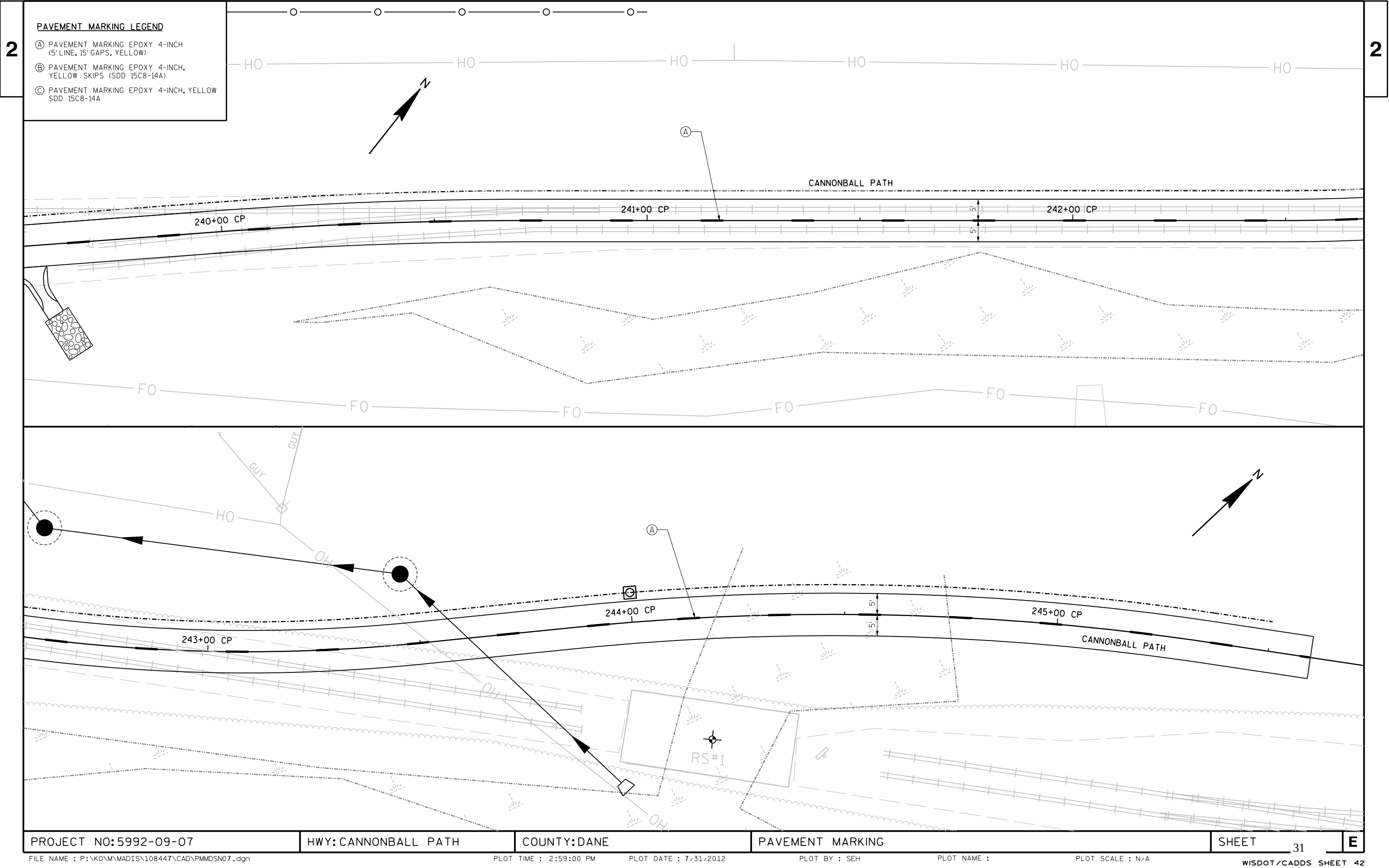
PAVEMENT MARKING LEGEND	
Ⓐ	PAVEMENT MARKING EPOXY 4-INCH (5' LINE, 15' GAPS, YELLOW)
Ⓑ	PAVEMENT MARKING EPOXY 4-INCH, YELLOW SKIPS (SDD 15C8-14A)
Ⓒ	PAVEMENT MARKING EPOXY 4-INCH, YELLOW SDD 15C8-14A

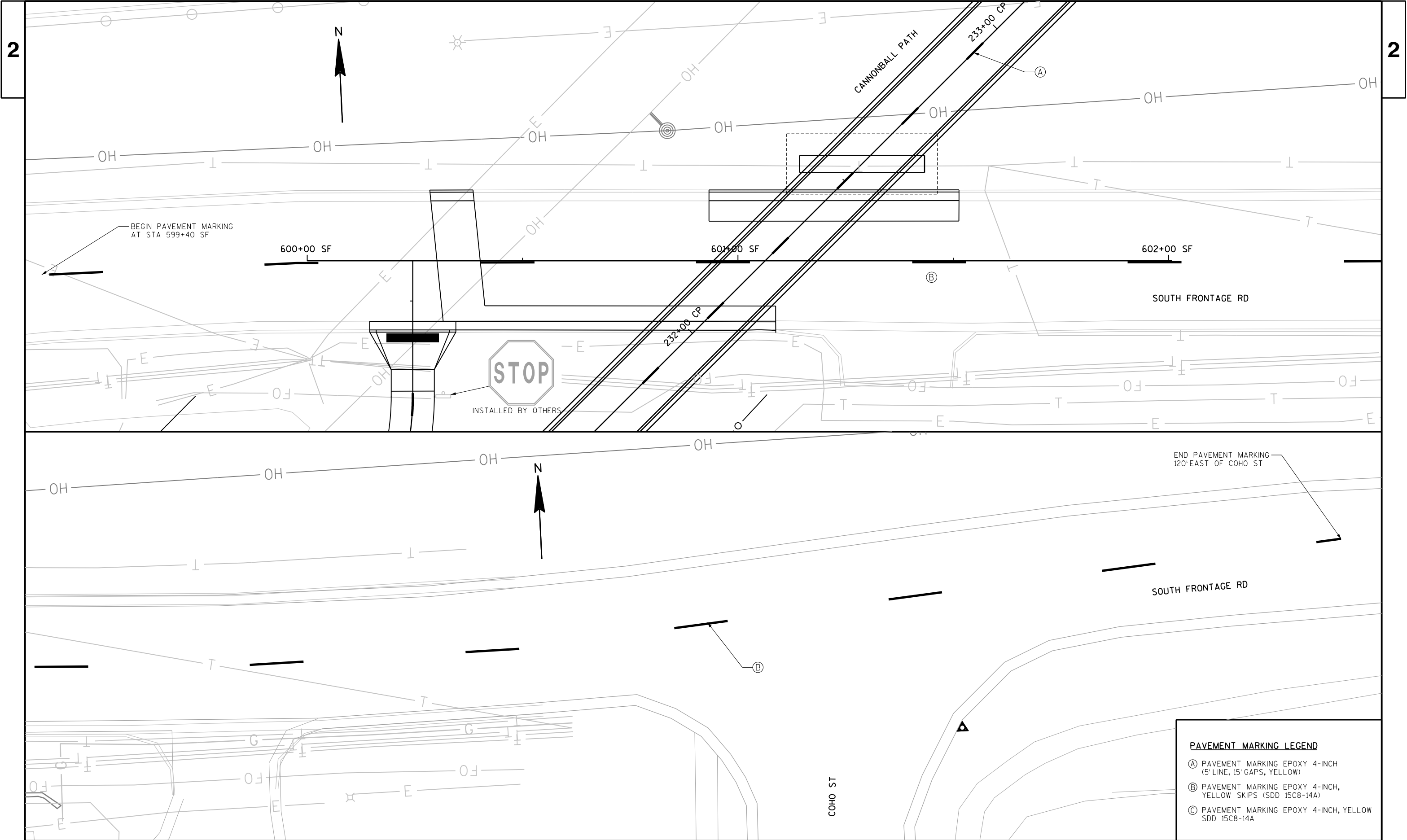


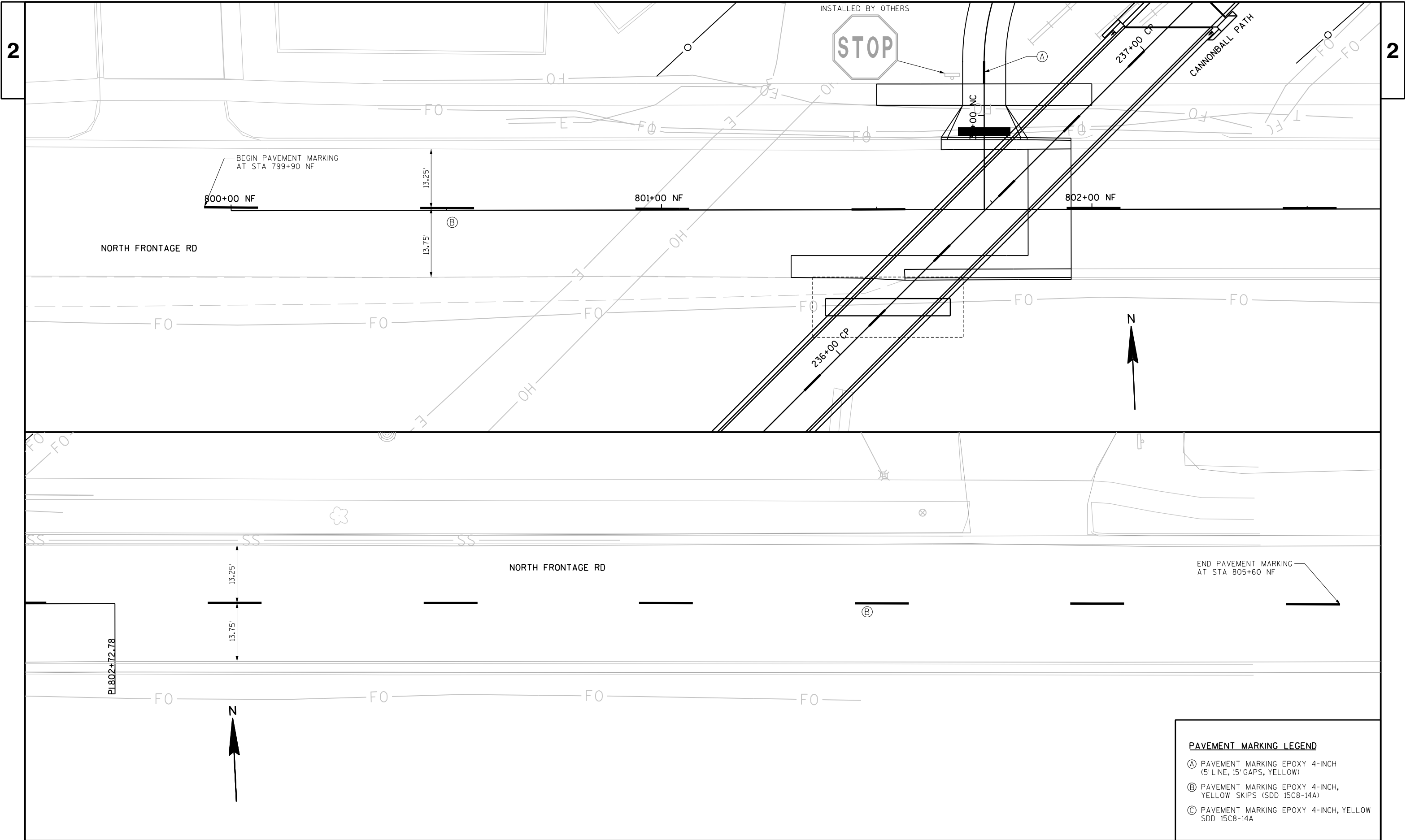


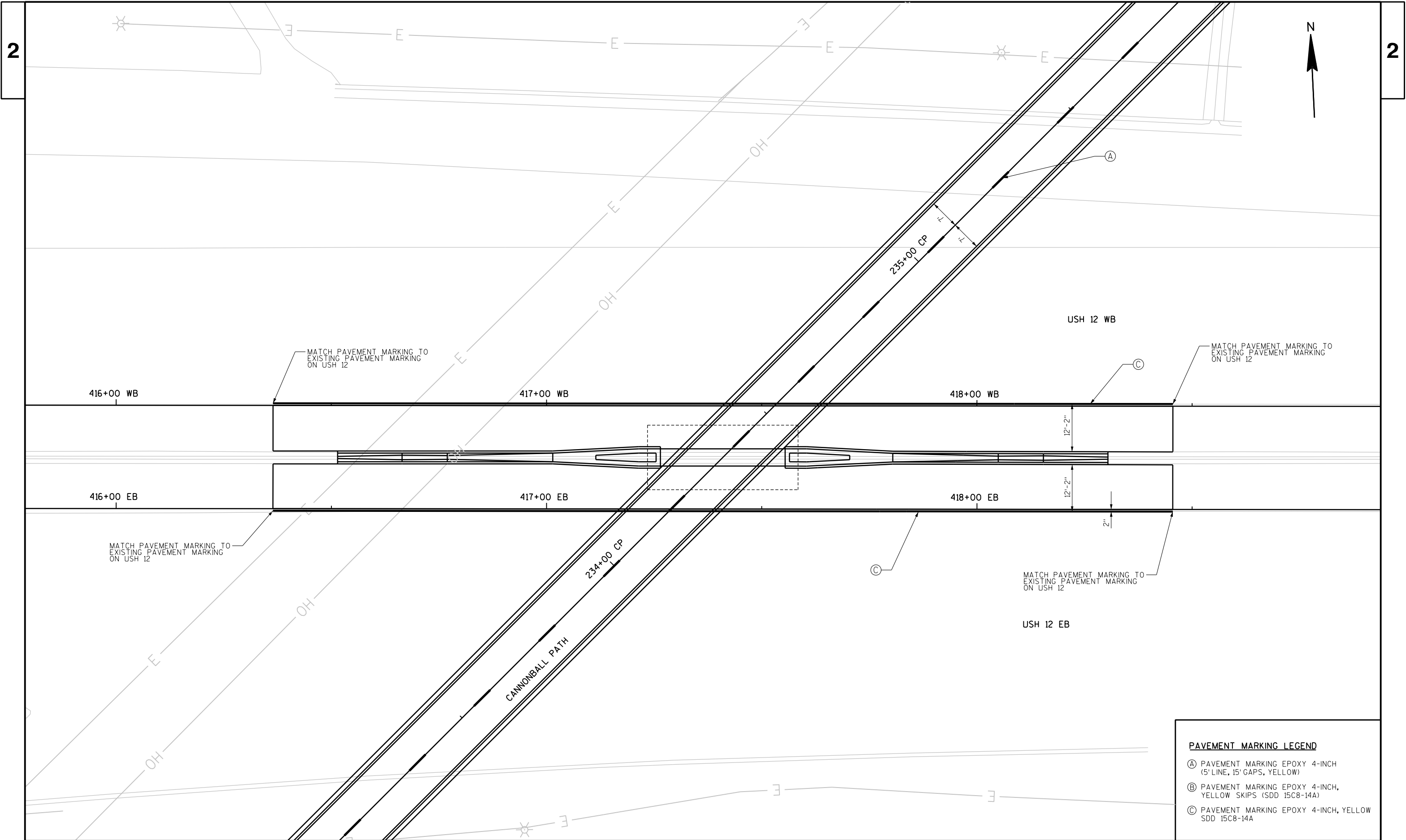
PAVEMENT MARKING LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (5' LINE, 15' GAPS, YELLOW)
- (B) PAVEMENT MARKING EPOXY 4-INCH, YELLOW SKIPS (SDD 15C8-14A)
- (C) PAVEMENT MARKING EPOXY 4-INCH, YELLOW SDD 15C8-14A

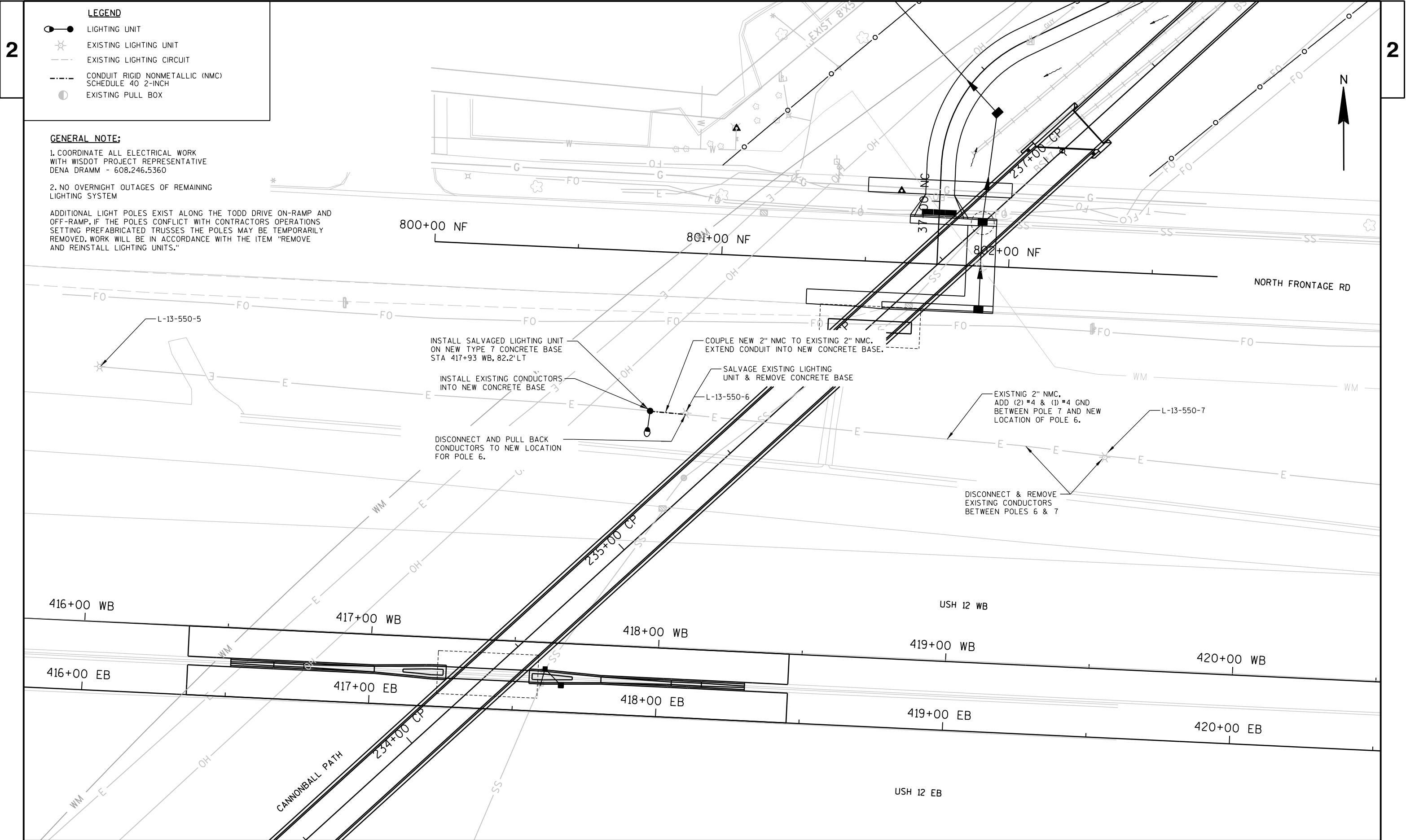








PAVEMENT MARKING LEGEND	
Ⓐ	PAVEMENT MARKING EPOXY 4-INCH (5' LINE, 15' GAPS, YELLOW)
Ⓑ	PAVEMENT MARKING EPOXY 4-INCH, YELLOW SKIPS (SDD 15C8-14A)
Ⓒ	PAVEMENT MARKING EPOXY 4-INCH, YELLOW SDD 15C8-14A



GENERAL TRAFFIC CONTROL NOTES:

ALL WORK SHALL BE LIMITED TO THE PROPERTY/ROW AND AIR OWNED BY THE CITY OF MADISON AND WISDOT ROW. UNDER NO CIRCUMSTANCES MAY THE CONTRACTOR STORE ANY EQUIPMENT, MATERIALS, REMOVALS, OR ANYTHING ELSE OUTSIDE OF THESE LIMITS. UNDER NO CIRCUMSTANCES MAY THE CONTRACTOR SWING, CARRY, OR OTHERWISE INFRINGE ON THE AIR RIGHTS OF THE PRIVATE PROPERTY OWNERS.

ALL TRAFFIC CONTROL AND DETOURS SHALL BE COORDINATED WITH THE FISH HATCHERY ROAD INTERCHANGE PROJECT I.D. 1206-01-84. THE FISH HATCHERY INTERCHANGE TRAFFIC CONTROL AND DETOURS SHALL TAKE PRECEDENCE IF THERE IS A CONFLICT IN THIS PROJECT'S TRAFFIC CONTROL OR DETOUR LAYOUT, TIMING, OR DURATION.

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

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

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

UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION.

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

ALL TRAFFIC CONTROL SIGNING SHALL CONFORM TO: PART VIOF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE WISCONSIN SUPPLEMENT TO THE MUTCD, AND OTHER CONTRACT DOCUMENTS.

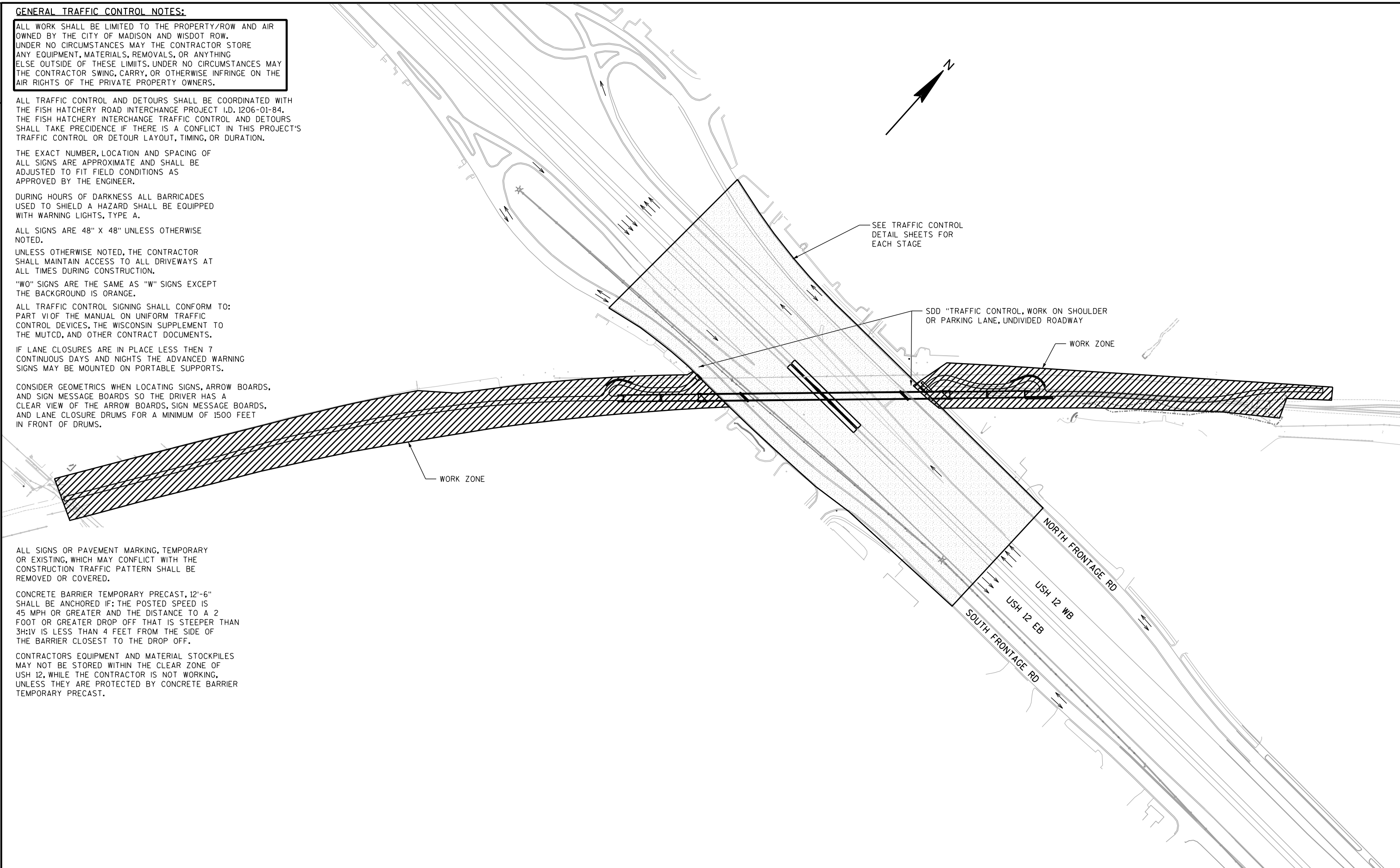
IF LANE CLOSURES ARE IN PLACE LESS THEN 7 CONTINUOUS DAYS AND NIGHTS THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

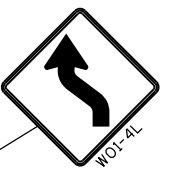
CONSIDER GEOMETRICS WHEN LOCATING SIGNS, ARROW BOARDS, AND SIGN MESSAGE BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS, SIGN MESSAGE BOARDS, AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF DRUMS.

ALL SIGNS OR PAVEMENT MARKING, TEMPORARY OR EXISTING, WHICH MAY CONFLICT WITH THE CONSTRUCTION TRAFFIC PATTERN SHALL BE REMOVED OR COVERED.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF: THE POSTED SPEED IS 45 MPH OR GREATER AND THE DISTANCE TO A 2 FOOT OR GREATER DROP OFF THAT IS STEEPER THAN 3H:1V IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROP OFF.

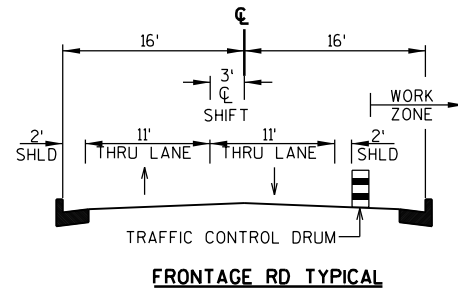
CONTRACTORS EQUIPMENT AND MATERIAL STOCKPILES MAY NOT BE STORED WITHIN THE CLEAR ZONE OF USH 12, WHILE THE CONTRACTOR IS NOT WORKING, UNLESS THEY ARE PROTECTED BY CONCRETE BARRIER TEMPORARY PRECAST.





LEGEND

- • • • TRAFFIC CONTROL DRUM
- • • • TRAFFIC CONTROL DRUM W/
TYPE C STEADY BURN LIGHT
- WORK AREA
- DIRECTION OF TRAFFIC FLOW AND
NUMBER OF LANES OPEN TO TRAFFIC
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- PIER NUMBER



CONSTRUCTION OPERATIONS

THE CONTRACTOR MAY PERFORM ANY WORK OPERATION SOUTH OF THE SOUTH FRONTAGE ROAD AND NORTH OF THE NORTH FRONTAGE ROAD INCLUDING:

CONSTRUCT STORM SEWER SYSTEMS

CONSTRUCT PIERS 1, 2, 6, AND 7 FOR B-13-661

CONSTRUCT BRIDGE ABUTMENTS FOR B-13-661

EARTHWORK ALONG CANNONBALL PATH

CONSTRUCT RETAINING WALL R-13-231 FOR SOUTH CONNECTOR AND RETAINING WALL R-13-230 FOR NORTH CONNECTOR

PLACE BASE AGGREGATE DENSE MATERIAL

MANUFACTURE PREFABRICATED STEEL TRUSS

CONSTRUCT PATHWAY PAVEMENT ON CANNONBALL PATH AND NORTH AND SOUTH CONNECTOR PATHS.

REPLACE CURB & GUTTER AND HMA PAVEMENT ALONG THE NORTH AND SOUTH FRONTAGE ROADS.

CONSTRUCT LANDSCAPING AND FINISHING ITEMS.

CONSTRUCTION STAGING OVERVIEW - STAGE 1

TRAFFIC OPERATIONS

USH 12

WILL NOT BE AFFECTED DURING STAGE 1

FRONTAGE RD (NORTH & SOUTH)

SINGLE LANE CLOSURE DURING CONSTRUCTION HOURS WITH FLAGGERS TO DIRECT TRAFFIC.

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

SDD: TRAFFIC CONTROL, SIDEWALK CLOSURE

LEGEND

- • • • • TRAFFIC CONTROL DRUM
- • • • • TRAFFIC CONTROL DRUM W/
TYPE C STEADY BURN LIGHT
-  WORK AREA
-  TRUSS ASSEMBLY AREA
- DIRECTION OF TRAFFIC FLOW AND
NUMBER OF LANES OPEN TO TRAFFIC
- CONCRETE BARRIER TEMPORARY PRECAST
- ① TEMPORARY PAVEMENT MARKING REMOVABLE
TAPE 4-INCH (WHITE)
- ② TEMPORARY PAVEMENT MARKING REMOVABLE
TAPE 4-INCH (DOUBLE YELLOW)
- ~~~~~ TEMPORARY SHORING (TYP.)
- ⊕ PIER NUMBER

CONNECT CONCRETE BARRIER TEMPORARY
PRECAST AND EXISTING MEDIAN BARRIER
WITH THRIE BEAM PAID FOR AS STEEL
THRIE BEAM STRUCTURE APPROACH
TEMPORARY

CONSTRUCTION OPERATIONS

THE CONTRACTOR MAY PERFORM ANY WORK OPERATION
SOUTH OF THE SOUTH FRONTAGE ROAD AND NORTH
OF THE NORTH FRONTAGE AS OUTLINED IN STAGE 1

CONSTRUCT PIERS 3, 4 AND 5

STORM SEWER MODIFICATION IN THE MEDIAN

CONSTRUCT NEW MEDIAN BARRIER

ASSEMBLE PREFABRICATED STEEL TRUSS

NOTES - STAGE 2

REFER TO THE NOTED STANDARD DETAIL
DRAWINGS FOR TRAFFIC CONTROL DEVICES AS WELL
AS OTHER STANDARD DETAIL DRAWINGS AS
NECESSARY, UNLESS OTHERWISE DIRECTED BY THE
ENGINEER.

CONSTRUCTION STAGING OVERVIEW - STAGE 2**TRAFFIC OPERATIONS****USH 12**

SINGLE INSIDE LANE CLOSURE IN BOTH EASTBOUND
AND WESTBOUND DIRECTIONS WILL BE ALLOWED
BETWEEN THE HOURS OF 8:00PM TO 5:00AM.
MULTILANE CLOSURES IN BOTH EASTBOUND AND
WESTBOUND DIRECTIONS WILL BE ALLOWED BETWEEN
THE HOURS OF 10:00PM TO 5:00AM.
ALL TRAVEL LANES MUST BE MAINTAINED AT
ALL OTHER TIMES.

A SINGLE MEDIAN LANE CLOSURE EASTBOUND
AND WESTBOUND WHEN WORK IS BEING PERFORMED
IN THE MEDIAN.

SDD: TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER
THAN 40 MPH

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

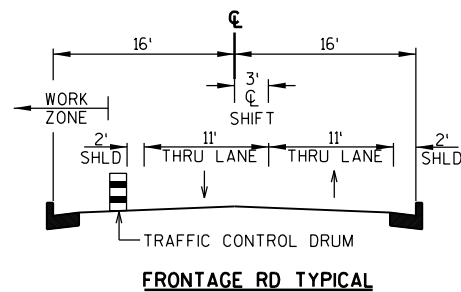
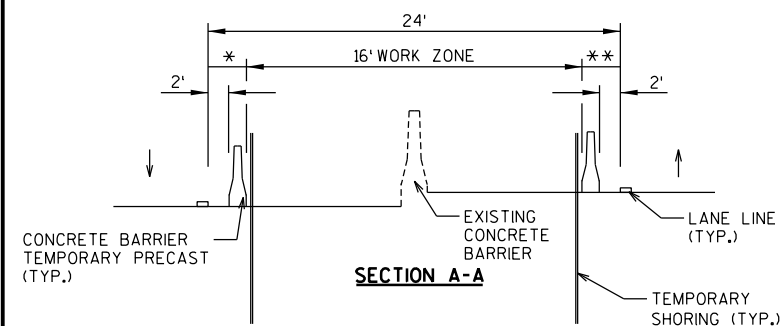
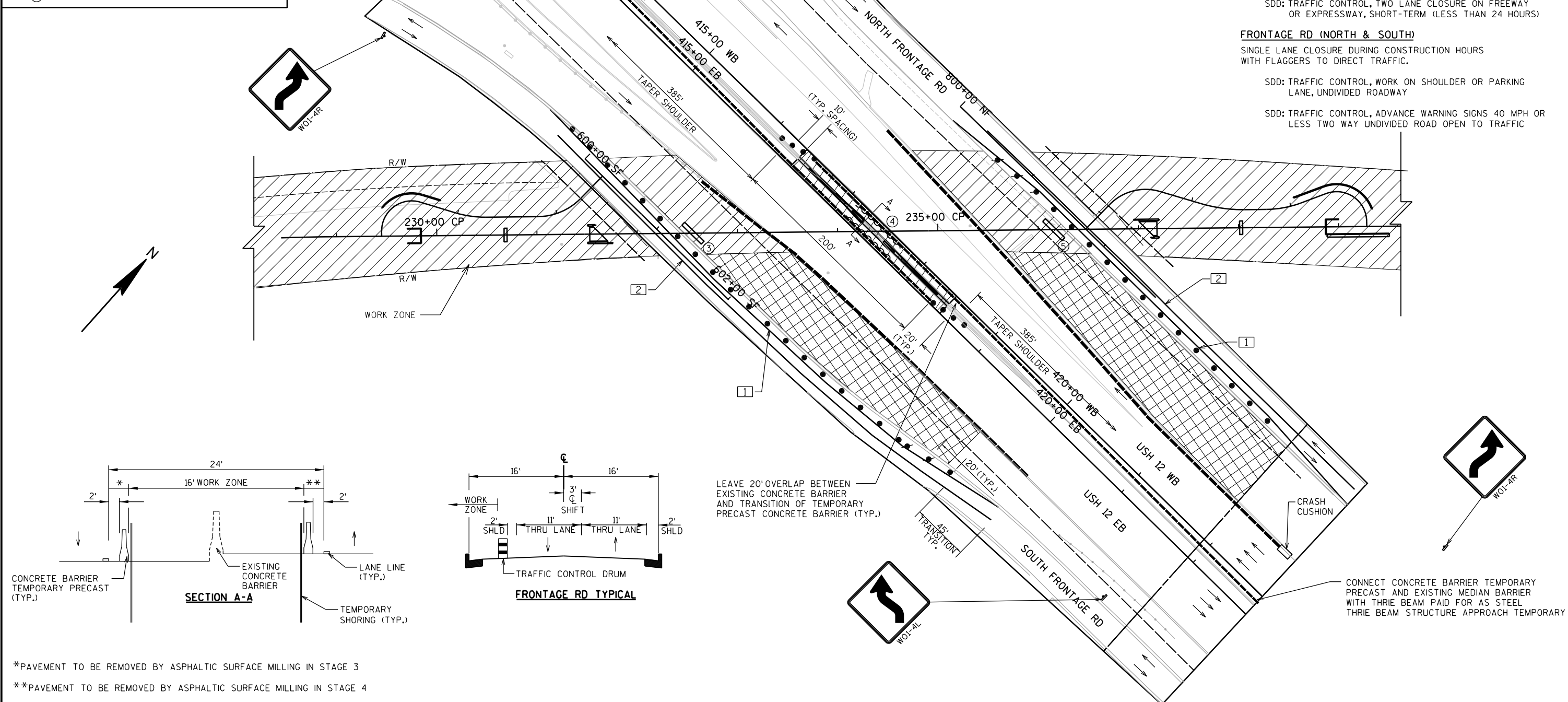
SDD: TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY
OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)

FRONTAGE RD (NORTH & SOUTH)

SINGLE LANE CLOSURE DURING CONSTRUCTION HOURS
WITH FLAGGERS TO DIRECT TRAFFIC.

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

SDD: TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR
LESS TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC



LEAVE 20' OVERLAP BETWEEN
EXISTING CONCRETE BARRIER
AND TRANSITION OF TEMPORARY
PRECAST CONCRETE BARRIER (TYP.)

CONNECT CONCRETE BARRIER TEMPORARY
PRECAST AND EXISTING MEDIAN BARRIER
WITH THRIE BEAM PAID FOR AS STEEL
THRIE BEAM STRUCTURE APPROACH TEMPORARY

*PAVEMENT TO BE REMOVED BY ASPHALTIC SURFACE MILLING IN STAGE 3

**PAVEMENT TO BE REMOVED BY ASPHALTIC SURFACE MILLING IN STAGE 4

CONSTRUCTION STAGING OVERVIEW - STAGE 3**TRAFFIC OPERATIONS****USH 12 EB AND TODD DR EB ENTRANCE RAMP**

SINGLE AND MULTILANE CLOSURES IN BOTH EASTBOUND AND WESTBOUND DIRECTIONS WILL BE PERMITTED AS SPECIFIED IN THE SPECIAL PROVISIONS. ALL TRAVEL LANES MUST BE MAINTAINED AT ALL OTHER TIMES UNLESS OTHERWISE SPECIFIED.

EB USH 12, TODD DR EB ENTRANCE RAMP AND SEMINOLE HIGHWAY ENTRANCE RAMP, FULL CLOSURE WILL BE PERMITTED PER THE SPECIAL PROVISIONS. THE CLOSURE IS LIMITED TO A SINGLE OCCURRENCE FOR THE PURPOSE OF SETTING THE PREFABRICATED TRUSS.

SEE "DETOUR EB USH 12 (STAGE 3)" SHEET FOR FULL DETOUR ROUTE.

PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE OPERATING CONTINUOUSLY FOR 10 DAYS LEADING UP TO THE CLOSURE OF USH 12.

A SINGLE MEDIAN LANE CLOSURE EASTBOUND AND WESTBOUND WHEN ANY WORK IS BEING PERFORMED IN THE MEADIAN.

PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE OPERATING CONTINUOUSLY FOR 5 DAYS LEADING UP TO THE CLOSURE OF USH 12.

SDD: TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
SDD: TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

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

SDD: BARRICADES AND SIGNS FOR MAINLINE CLOSURES

CONSTRUCTION OPERATIONS

THE CONTRACTOR MAY PERFORM ANY WORK OPERATION SOUTH OF THE SOUTH FRONTAGE ROAD AND NORTH OF THE NORTH FRONTAGE AS OUTLINED IN STAGE 1

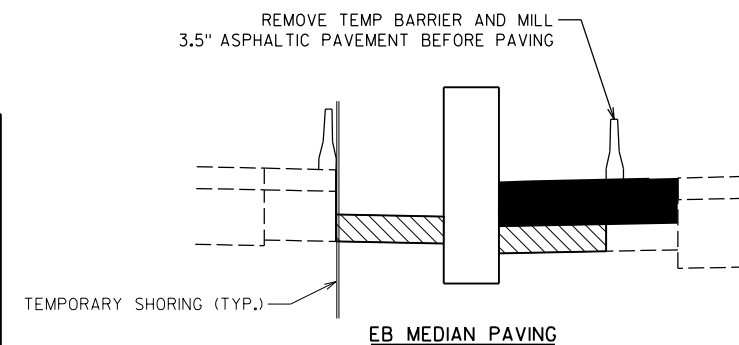
ASSEMBLE PREFABRICATED STEEL TRUSS.

PLACE PREFABRICATED STEEL TRUSS OVER EB USH 12 DURING NIGHT-TIME HOURS AS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.

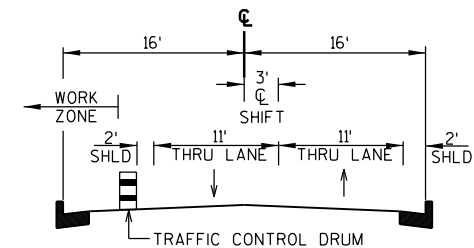
PAVE EB MEDIAN SHOULDER AND REMOVE EB TEMPORARY BARRIER.

LEGEND

- TEMPORARY SHORING (TYP.)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BURN LIGHT
- WORK AREA
- TRUSS ASSEMBLY AREA
- DIRECTION OF TRAFFIC FLOW AND NUMBER OF LANES OPEN TO TRAFFIC
- CONCRETE BARRIER TEMPORARY PRECAST



ALL WORK SHALL BE LIMITED TO THE PROPERTY/ROW AND AIR OWNED BY THE CITY OF MADISON AND WISDOT ROW. UNDER NO CIRCUMSTANCES MAY THE CONTRACTOR STORE ANY EQUIPMENT, MATERIALS, REMOVALS, OR ANYTHING ELSE OUTSIDE OF THESE LIMITS. UNDER NO CIRCUMSTANCES MAY THE CONTRACTOR SWING, CARRY, OR OTHERWISE INFRINGE ON THE AIR RIGHTS OF THE PRIVATE PROPERTY OWNERS.

**FRONTAGE RD TYPICAL****USH 12 WB**

SINGLE INSIDE LANE CLOSURE WILL BE ALLOWED AS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.

ALL TRAVEL LANES MUST BE MAINTAINED AT ALL OTHER TIMES.

SDD: TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH

SDD: TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)

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

NORTH FRONTAGE RD

ALL TRAVEL LANES WILL BE MAINTAINED.

SOUTH FRONTAGE RD

THE SOUTH FRONTAGE ROAD WILL BE CLOSED FROM 8:00PM TO 5:00 AM WHILE SETTING THE PREFABRICATED TRUSSES OVER THE EASTBOUND BELTLINE.

FLAGGING OPERATIONS WILL ONLY BE PERMITTED DURING HOURS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.

TRAFFIC WILL BE MAINTAINED ON ALL EXISTING LANES OF THE SOUTH FRONTAGE RD DURING PEAK HOURS.

SDD: TRAFFIC CONTROL, ADVANCED WARNING SIGNS 40 M.P.H. OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC

GENERAL NOTES

ADJUST NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

"W0" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

REMOVE OR COVER ALL SIGNS TEMPORARY OR EXISTING WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" AND AS APPROVED BY THE ENGINEER.

SIGN LOCATIONS MAY BE ADJUSTED IN THE FIELD AS APPROVED BY THE ENGINEER.

* PLACE SIGNS IN THE MEDIAN AND OUTSIDE SHOULDER.

CONSTRUCTION STAGING OVERVIEW - STAGE 3**TRAFFIC OPERATIONS****USH 12 EB AND TODD DR. EB ENTRANCE RAMP**

TRAFFIC WILL BE MAINTAINED ON ALL EXISTING LANES OF USH 12 DURING PEAK HOURS.

-EB USH 12 CLOSURE WILL BE DETOURED VIA THE EB OFF RAMP AT VERONA RD, CONTINUE SOUTH ALONG USH 18/151, LEFT ONTO CTH PD (MCKEE RD), LEFT ONTO CTH D (FISH HATCHERY RD), RIGHT ONTO EB RAMP AT FISH HATCHERY RD TO RE-ENTER USH 12 EB.

-DETOUR WILL ONLY BE PERMITTED DURING NIGHT-TIME HOURS AS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.

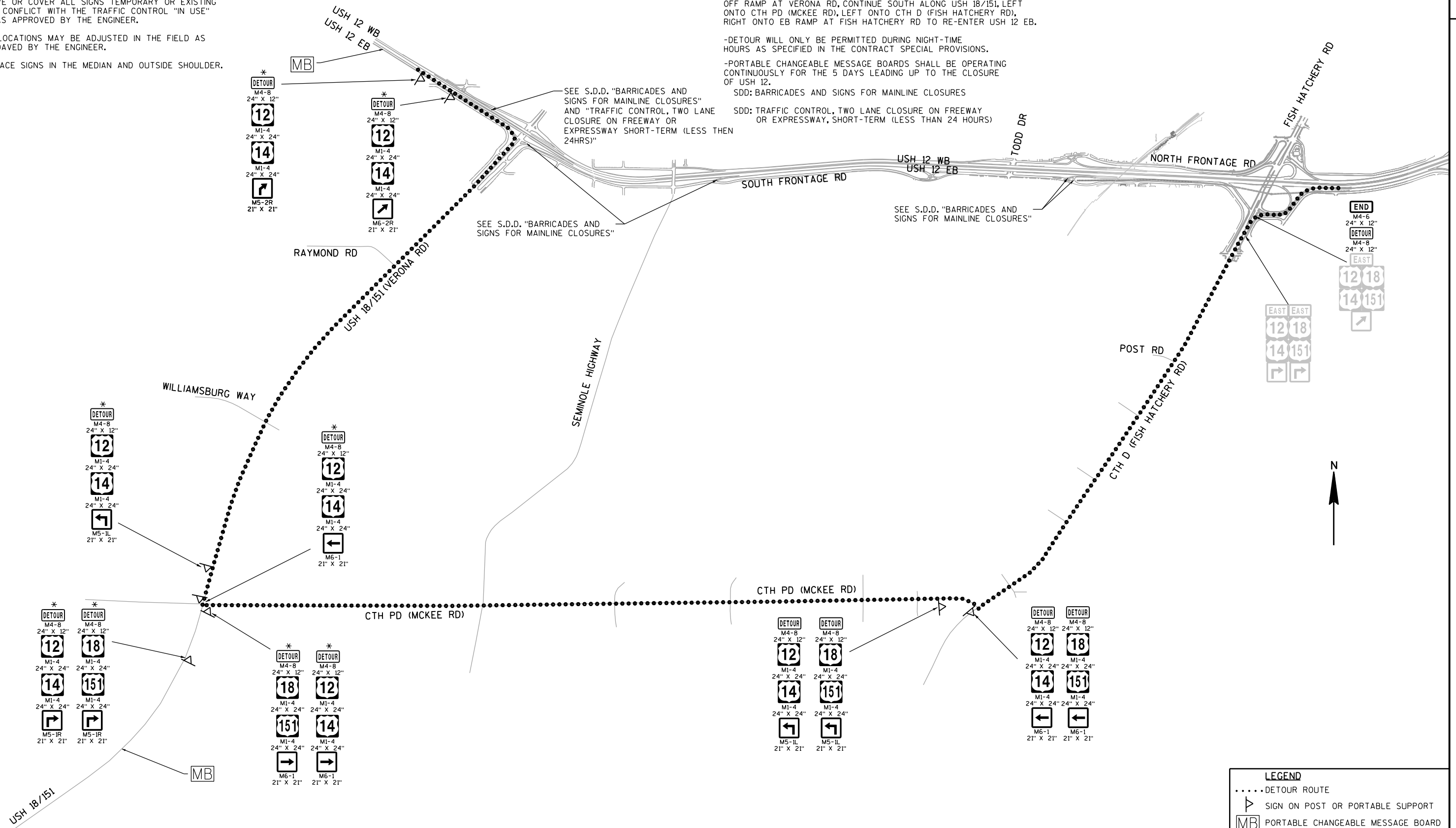
-PORTABLE CHANGEABLE MESSAGE BOARDS SHALL BE OPERATING CONTINUOUSLY FOR THE 5 DAYS LEADING UP TO THE CLOSURE OF USH 12.

SDD: BARRICADES AND SIGNS FOR MAINLINE CLOSURES

SDD: TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)

NOTES - STAGE 3

REFER TO THE NOTED STANDARD DETAIL DRAWINGS FOR TRAFFIC CONTROL DEVICES AS WELL AS OTHER STANDARD DETAIL DRAWINGS AS NECESSARY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



CONSTRUCTION STAGING OVERVIEW - STAGE 4

TRAFFIC OPERATIONS

USH 12 EB

SINGLE INSIDE LANE CLOSURE WILL BE ALLOWED BETWEEN THE HOURS OF 8:00PM TO 5:00AM.

ALL TRAVEL LANES MUST BE MAINTAINED AT ALL OTHER TIMES.

SDD: TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH

SDD: TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)

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

USH 12 WB AND TODD DR WB EXIT RAMP

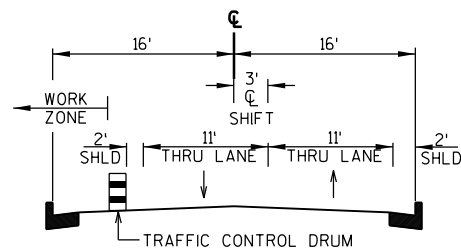
ONE INSIDE LANE CLOSURE IN THE WESTBOUND DIRECTION WILL BE ALLOWED BETWEEN THE HOURS OF 8:00PM TO 5:00AM. TWO LANE CLOSURES IN THE WESTBOUND DIRECTION WILL BE ALLOWED BETWEEN THE HOURS OF 10:00PM TO 5:00AM. ALL TRAVEL LANES MUST BE MAINTAINED AT ALL OTHER TIMES UNLESS OTHERWISE SPECIFIED.

WB USH 12 AND TODD DR WB EXIT RAMP FULL CLOSURE WILL BE REQUIRED DURING THIS STAGE AND WILL ONLY BE PERMITTED DURING NIGHT-TIME HOURS AS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.

SEE "DETOUR WB USH 12 (STAGE 5)" SHEET FOR FULL DETOUR ROUTE.

PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE OPERATING CONTINUOUSLY FOR 10 DAYS LEADING UP TO THE CLOSURE OF USH 12.

A SINGLE MEDIAN LANE CLOSURE EASTBOUND AND WESTBOUND WHEN ANY WORK IS BEING PERFORMED IN THE MEDIAN.



FRONTAGE RD TYPICAL

LEGEND

- ● ● ● TRAFFIC CONTROL DRUM
- ⚡ ⚡ ⚡ ⚡ TRAFFIC CONTROL DRUM W/ TYPE C STEADY BURN LIGHT

WORK AREA

TRUSS ASSEMBLY AREA

DIRECTION OF TRAFFIC FLOW AND NUMBER OF LANES OPEN TO TRAFFIC

CONCRETE BARRIER TEMPORARY PRECAST

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

2 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

Ⓢ PIER NUMBER

CONSTRUCTION OPERATIONS

THE CONTRACTOR MAY PERFORM ANY WORK OPERATION SOUTH OF THE SOUTH FRONTAGE ROAD AND NORTH OF THE NORTH FRONTAGE AS OUTLINED IN STAGE 1

ASSEMBLE PREFABRICATED STEEL TRUSS.

PLACE PREFABRICATED STEEL TRUSS OVER WB USH 12 DURING NIGHT-TIME HOURS AS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.

PAVE WB MEDIAN SHOULDER AND REMOVE WB TEMPORARY BARRIER.

NORTH FRONTAGE RD

TRAFFIC WILL BE MAINTAINED ON ALL EXISTING LANES OF THE NORTH FRONTAGE RD DURING PEAK HOURS.

FLAGGING OPERATIONS WILL ONLY BE PERMITTED DURING HOURS AS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.

TEMPORARY CLOSURES ON THE NORTH FRONTAGE RD WILL ONLY BE PERMITTED DURING HOURS AS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.

THE FRONTAGE ROAD WILL BE PERMITTED TO BE CLOSED FOR TWO HOURS DURING WORK HOURS IN THE SPECIAL PROVISIONS.

SDD: TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC

SDD: TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)

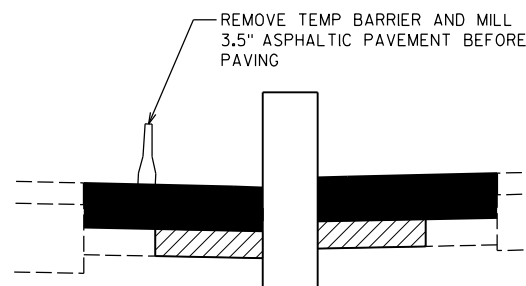
SDD: TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

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

SDD: BARRICADES AND SIGNS FOR MAINLINE CLOSURES

SOUTH FRONTAGE RD

ALL TRAVEL LANES WILL BE MAINTAINED.



WB MEDIAN PAVING

ALL WORK SHALL BE LIMITED TO THE PROPERTY/ROW AND AIR OWNED BY THE CITY OF MADISON AND WISDOT ROW. UNDER NO CIRCUMSTANCES MAY THE CONTRACTOR STORE ANY EQUIPMENT, MATERIALS, REMOVALS, OR ANYTHING ELSE OUTSIDE OF THESE LIMITS. UNDER NO CIRCUMSTANCES MAY THE CONTRACTOR SWING, CARRY, OR OTHERWISE INFRINGE ON THE AIR RIGHTS OF THE PRIVATE PROPERTY OWNERS.

UPON COMPLETION OF STAGE 4 REMOVE CONCRETE BARRIER TEMPORARY PRECAST AND STEEL THRIE BEAM STRUCTURE APPROACH TEMPORARY (TYP.)

GENERAL NOTES

ADJUST NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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

REMOVE OR COVER ALL SIGNS TEMPORARY OR EXISTING WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" AND AS APPROVED BY THE ENGINEER.

SIGN LOCATIONS MAY BE ADJUSTED IN THE FIELD AS APPROVED BY THE ENGINEER.

* PLACE SIGNS IN THE MEDIAN AND OUTSIDE SHOULDER.

NOTES - STAGE 4

REFER TO THE NOTED STANDARD DETAIL DRAWINGS FOR TRAFFIC CONTROL DEVICES AS WELL AS OTHER STANDARD DETAIL DRAWINGS AS NECESSARY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

CONSTRUCTION STAGING OVERVIEW - STAGE 4**TRAFFIC OPERATIONS****USH 12 WB AND TODD DR WB EXIT RAMP**

TRAFFIC WILL BE MAINTAINED ON ALL EXISTING LANES OF USH 12 DURING PEAK HOURS.

-WB USH 12 CLOSURE WILL BE DETOURED VIA THE WB EXIT RAMP AT FISH HATCHERY RD, LEFT ONTO FISH HATCHERY, RIGHT ONTO CTH PD (MCKEE RD), RIGHT ONTO USH 18/151 (VERONA RD), CONTINUE WEST THROUGH TODD DR INTERSECTION AND RE-ENTER USH 12 WB AT TODD DR ENTRANCE RAMP.

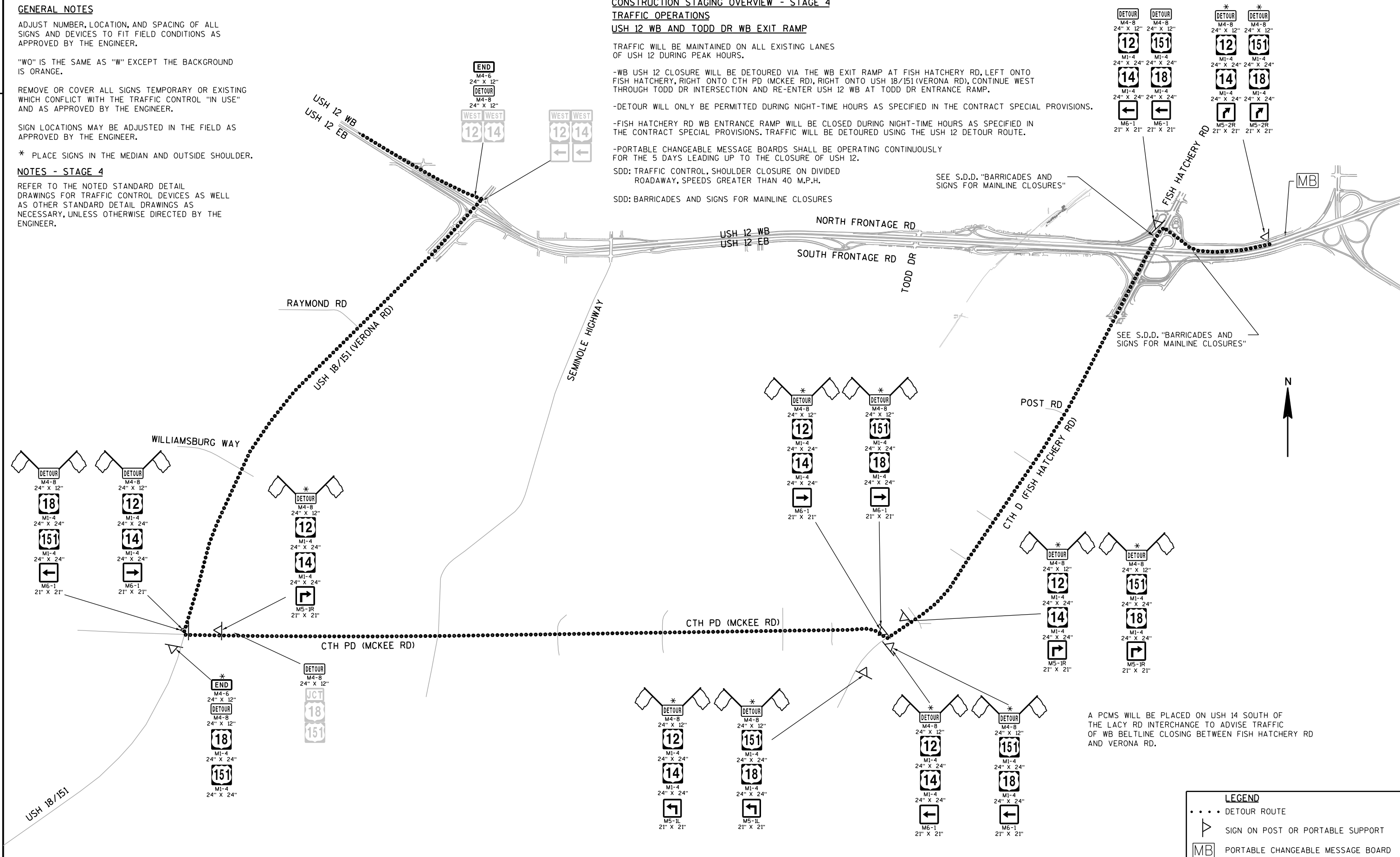
-DETOUR WILL ONLY BE PERMITTED DURING NIGHT-TIME HOURS AS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.

-FISH HATCHERY RD WB ENTRANCE RAMP WILL BE CLOSED DURING NIGHT-TIME HOURS AS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS. TRAFFIC WILL BE DETOURED USING THE USH 12 DETOUR ROUTE.

-PORTABLE CHANGEABLE MESSAGE BOARDS SHALL BE OPERATING CONTINUOUSLY FOR THE 5 DAYS LEADING UP TO THE CLOSURE OF USH 12.

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

SDD: BARRICADES AND SIGNS FOR MAINLINE CLOSURES



2

NOTES - STAGE 5

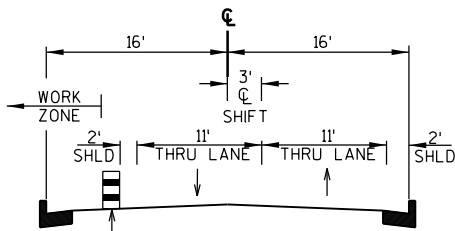
REFER TO THE NOTED STANDARD DETAIL FOR
TRAFFIC CONTROL DEVICES, AS WELL AS OTHER
STANDARD DETAIL DRAWINGS AS NECESSARY, UNLESS
OTHERWISE DIRECTED BY THE ENGINEER:

CONSTRUCTION OPERATIONS

THE CONTRACTOR MAY PERFORM ANY WORK OPERATION
SOUTH OF THE SOUTH FRONTAGE ROAD AND NORTH
OF THE NORTH FRONTAGE AS OUTLINED IN STAGE 1

ASSEMBLE PREFABRICATED STEEL TRUSS.

PLACE PREFABRICATED STEEL TRUSS OVER SOUTH
FRONTAGE RD DURING NIGHT-TIME HOURS AS
SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.



FRONTAGE RD TYPICAL

LEGEND

- | | |
|---|--|
| ● ● ● ● | TRAFFIC CONTROL DRUM |
| ⦿ ⦿ ⦿ ⦿ | TRAFFIC CONTROL DRUM W/
TYPE C STEADY BURN LIGHT |
|  | WORK AREA |
|  | TRUSS ASSEMBLY AREA |
|  | DIRECTION OF TRAFFIC FLOW AND
NUMBER OF LANES OPEN TO TRAFFIC |
|  | TRAFFIC CONTROL BARRICADES TYPE III |
|  | CONCRETE BARRIER TEMPORARY PRECAST |
|  | TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) |
|  | TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW) |

CONSTRUCTION STAGING OVERVIEW - STAGE 5

TRAFFIC OPERATIONS

USH 12 EB

OUTSIDE SHOULDER AND ONE (1) TRAVEL LANE MAY BE
CLOSED FOR THE REMOVAL OF EB TEMPORARY MEDIAN
BARRIER

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

SDD: TRAFFIC CONTROL, LANE CLOSURE, SPEEDS
GREATER THAN 40 MPH

SOUTH FRONTAGE RD

FULL ROADWAY CLOSURE WILL BE REQUIRED DURING THIS STAGE AND WILL ONLY BE PERMITTED DURING NIGHT-TIME HOURS AS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.

PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE
OPERATING CONTINUOUSLY FOR 10 DAYS LEADING
UP TO THE CLOSURE OF THE SOUTH FRONTAGE RD

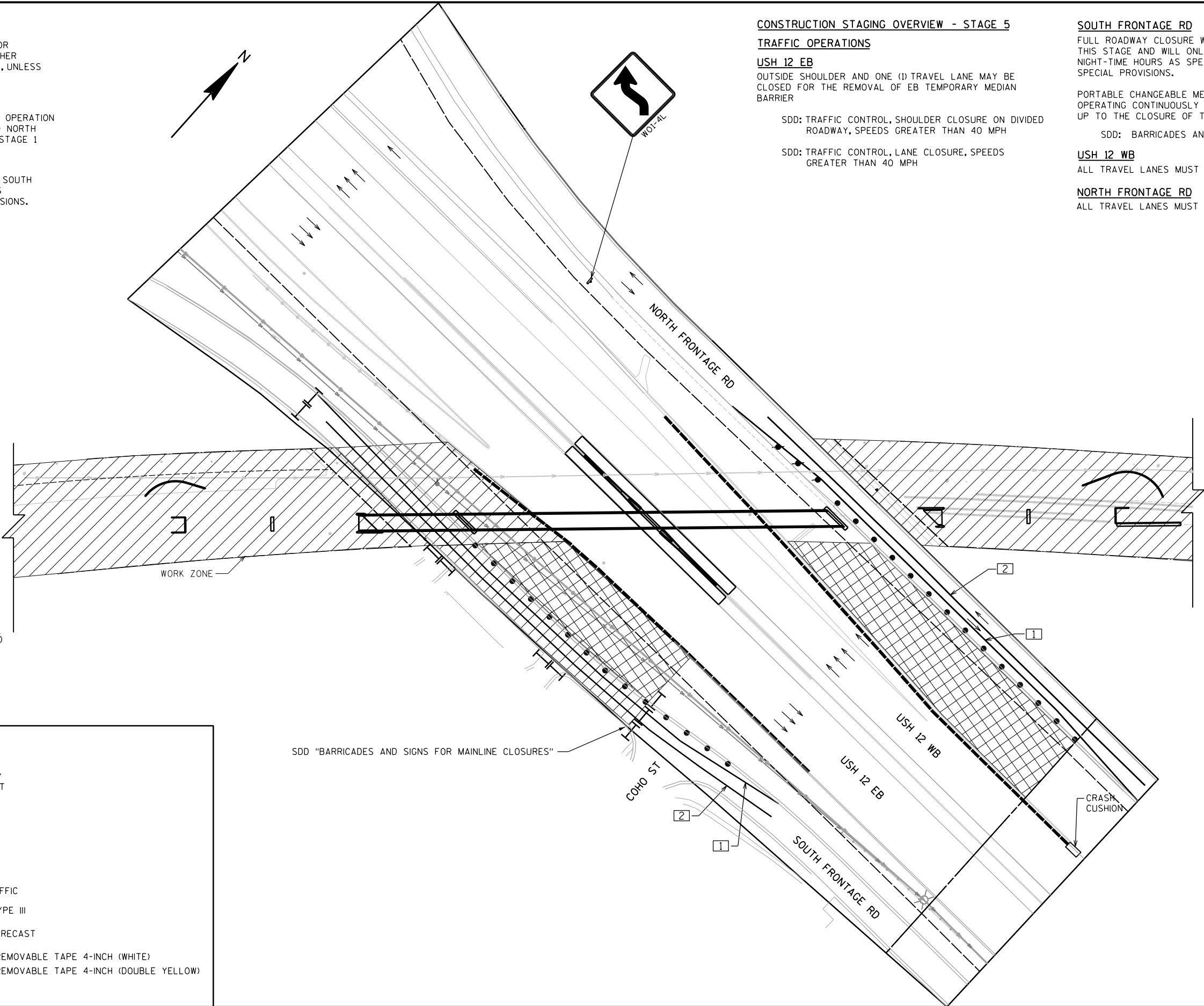
SDD: BARRICADES AND SIGNS FOR MAINLINE CLOSURES

USH 12 WB

ALL TRAVEL LANES MUST BE MAINTAINED AT ALL TIMES.

NORTH FRONTAGE RD

ALL TRAVEL LANES MUST BE MAINTAINED AT ALL TIMES.



PROJECT NO: 5992-09-07

HWY: CANNONBALL PATH

COUNTY: DANE

TRAFFIC CONTROL DETAIL STAGE 5

SHEET

43

E

CONSTRUCTION STAGING OVERVIEW - STAGE 6**TRAFFIC OPERATIONS****USH 12 WB**

ALL TRAVEL LANES MUST BE MAINTAINED AT ALL TIMES.

USH 12 EB

ALL TRAVEL LANES MUST BE MAINTAINED AT ALL TIMES.

SOUTH FRONTAGE RD

ALL TRAVEL LANES MUST BE MAINTAINED AT ALL TIMES.

NORTH FRONTAGE RD

FULL ROADWAY CLOSURE WILL BE REQUIRED DURING THIS STAGE AND WILL ONLY BE PERMITTED DURING NIGHT-TIME HOURS AS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.

PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE OPERATING 10 DAYS LEADING UP TO THE CLOSURE OF THE NORTH FRONTAGE ROAD.

SDD: TRAFFIC CONTROL, LANE CLOSURE,
SPEEDS GREATER THAN 40 M.P.H.
SDD: TRAFFIC CONTROL, SIDEWALK CLOSURE

NOTES - STAGE 6

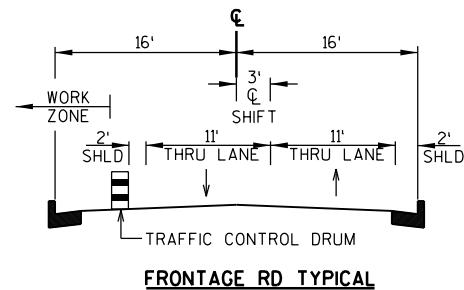
REFER TO THE NOTED STANDARD DETAIL FOR TRAFFIC CONTROL DEVICES, AS WELL AS OTHER STANDARD DETAIL DRAWINGS AS NECESSARY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER

CONSTRUCTION OPERATIONS

THE CONTRACTOR MAY PERFORM ANY WORK OPERATION SOUTH OF THE SOUTH FRONTAGE ROAD AND NORTH OF THE NORTH FRONTAGE AS OUTLINED IN STAGE 1

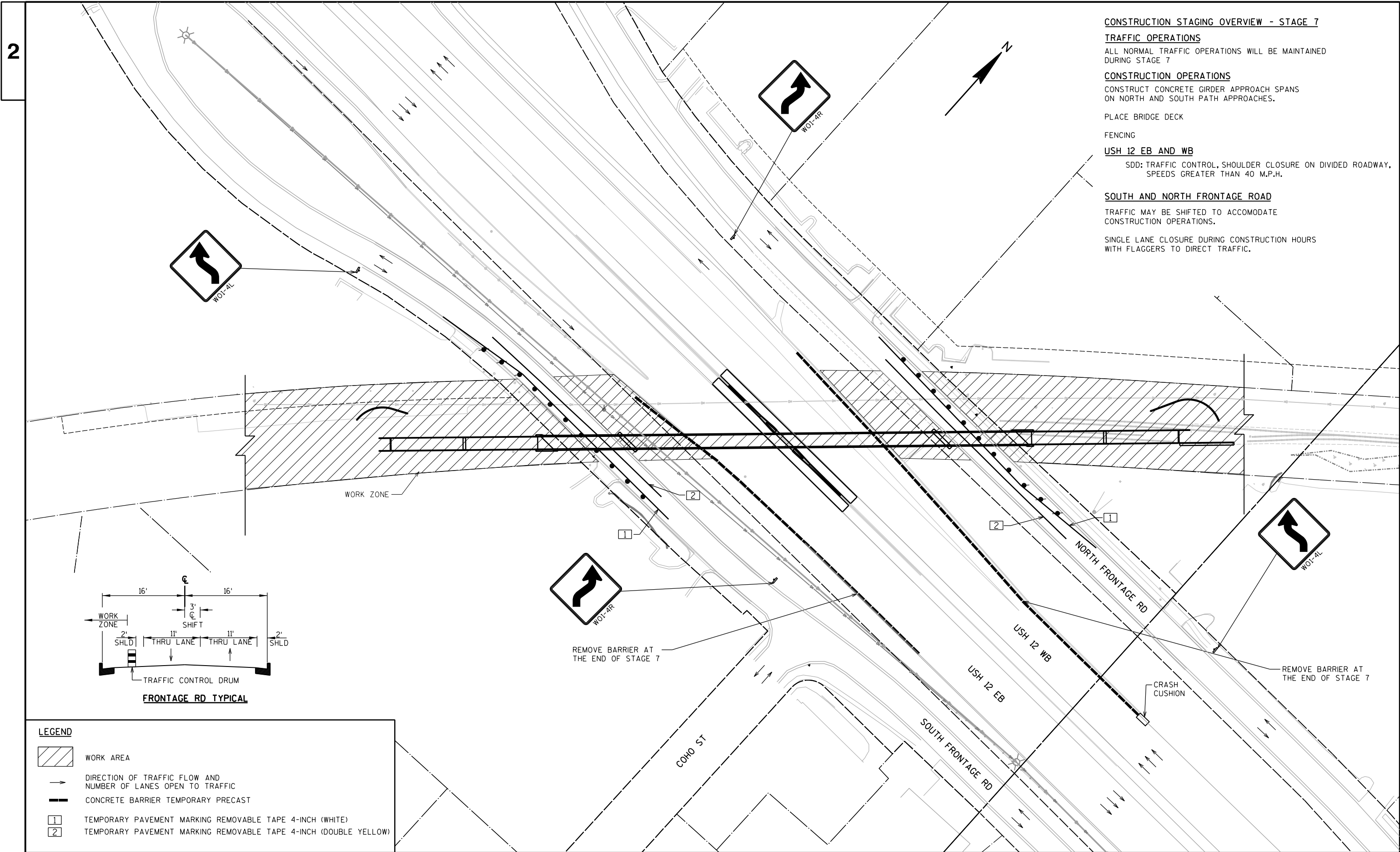
ASSEMBLE PREFABRICATED STEEL TRUSS SEGMENT WITHIN WORK ZONE.

PLACE PREFABRICATED STEEL TRUSS OVER NORTH FRONTAGE RD DURING NIGHT-TIME HOURS AS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.

**LEGEND**

- WORK AREA
- TRUSS ASSEMBLY AREA
- DIRECTION OF TRAFFIC FLOW AND NUMBER OF LANES OPEN TO TRAFFIC
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND "TRAFFIC CONTROL, SIDEWALK CLOSURE"



CONSTRUCTION STAGING OVERVIEW - STAGE 7

TRAFFIC OPERATIONS

ALL NORMAL TRAFFIC OPERATIONS WILL BE MAINTAINED DURING STAGE 7

CONSTRUCTION OPERATIONS

CONSTRUCT CONCRETE GIRDER APPROACH SPANS ON NORTH AND SOUTH PATH APPROACHES.

PLACE BRIDGE DECK

FENCING

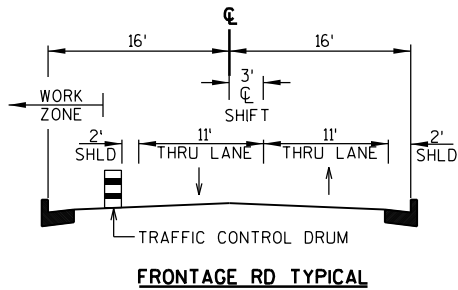
USH 12 EB AND WB

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

SOUTH AND NORTH FRONTAGE ROAD

TRAFFIC MAY BE SHIFTED TO ACCOMMODATE CONSTRUCTION OPERATIONS.

SINGLE LANE CLOSURE DURING CONSTRUCTION HOURS WITH FLAGGERS TO DIRECT TRAFFIC.



LEGEND

- WORK AREA
- DIRECTION OF TRAFFIC FLOW AND NUMBER OF LANES OPEN TO TRAFFIC
- CONCRETE BARRIER TEMPORARY PRECAST
- 1 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- 2 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

PROJECT NO:5992-09-07

HWY:CANNONBALL PATH

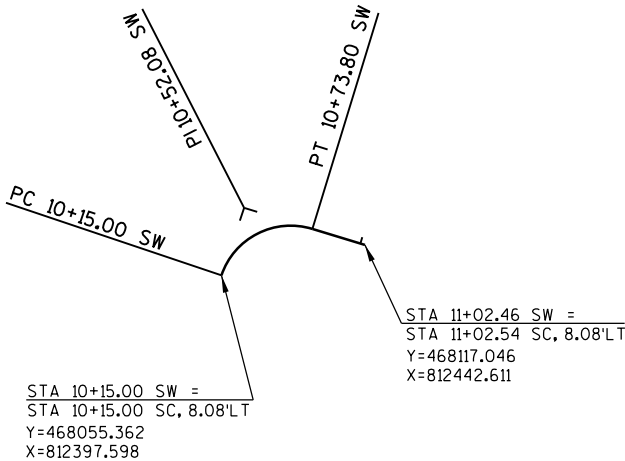
COUNTY:DANE

TRAFFIC CONTROL DETAIL STAGE 7

SHEET

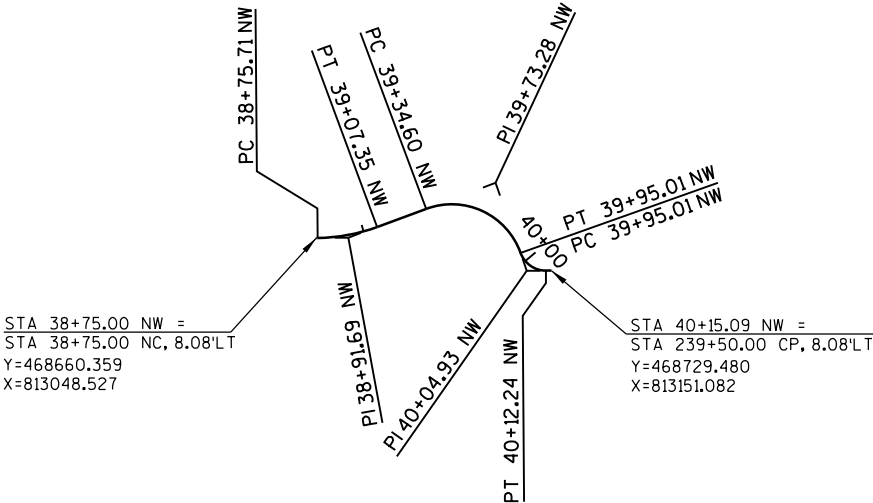
45

E



SOUTH WALL
CURVE DATA
DELTA =88°28'17" (RT)
D =150°26'59"
T =37.08
L =58.80
E =15.07
R =38.08
DB =N 23°15'24" W
DA =N 65°12'53" E
PC STA 10+15.00 SW
PC Y =468055.362
PC X =812397.598
PISTA 10+52.08 SW
PI Y =468089.429
PI X =812382.956
PT STA 10+73.80 SW
PT Y =468104.974
PT X =812416.621

NORTH WALL
CURVE DATA
DELTA =19°43'37" (LT)
D =62°20'06"
T =15.98
L =31.65
E =1.38
R =91.92
DB =N 47°32'08" E
DA =N 27°48'31" E
PC STA 38+75.00 NW
PC Y =468660.835
PC X =813049.050
PISTA 38+91.69 NW
PI Y =468671.625
PI X =813060.839
PT STA 39+07.35 NW
PT Y =468685.760
PT X =813068.295



NORTH WALL
CURVE DATA
DELTA =90°53'15" (RT)
D =150°26'59"
T =38.68
L =60.41
E =16.20
R =38.08
DB =N 27°40'46" E
DA =S 61°25'60" E
PC STA 39+34.60 NW
PC Y =468709.863
PC X =813081.007
PISTA 39+73.28 NW
PI Y =468744.115
PI X =813098.974
PT STA 39+95.01 NW
PT Y =468725.620
PT X =813132.943

NORTH WALL
CURVE DATA
DELTA =70°54'56" (LT)
D =411°41'47"
T =9.91
L =17.23
E =3.17
R =13.92
DB =S 61°25'60" E
DA =N 47°39'04" E
PC STA 39+95.01 NW
PC Y =468725.620
PC X =813132.943
PISTA 40+04.93 NW
PI Y =468720.880
PI X =813141.648
PT STA 40+12.24 NW
PT Y =468727.557
PT X =813148.973

3

DATE 14NOV12		E S T I M A T E O F Q U A N T I T I E S			
LINE				5992-09-07	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	CLEARING	STA	15.000	15.000
0020	201.0205	GRUBBING	STA	15.000	15.000
0030	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 01. UNKNOWN #	LS	1.000	1.000
0040	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 01. STA 244+18 CP, 29.0' RT	LS	1.000	1.000
0050	204.0110	REMOVING ASPHALTIC SURFACE	SY	590.000	590.000
0060	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	227.000	227.000
0070	204.0150	REMOVING CURB & GUTTER	LF	233.000	233.000
0080	204.0155	REMOVING CONCRETE SIDEWALK	SY	28.000	28.000
0090	204.0157	REMOVING CONCRETE BARRIER	LF	180.000	180.000
0100	204.0195	REMOVING CONCRETE BASES	EACH	1.000	1.000
0110	204.0220	REMOVING INLETS	EACH	5.000	5.000
0120	204.0291.S	ABANDONING SEWER	CY	65.000	65.000
0130	204.9090.S	REMOVING (ITEM DESCRIPTION) 01. CABLES	LF	157.000	157.000
0140	205.0100	EXCAVATION COMMON	CY	1,374.000	1,374.000
0150	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-13-661	LS	1.000	1.000
0160	206.6000.S	TEMPORARY SHORING	SF	1,440.000	1,440.000
0170	208.0100	BORROW	CY	7,551.000	7,551.000
0180	210.0100	BACKFILL STRUCTURE	CY	441.000	441.000
0190	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	2,050.000	2,050.000
0200	310.0110	BASE AGGREGATE OPEN GRADED	TON	60.000	60.000
0210	455.0120	ASPHALTIC MATERIAL PG64-28	TON	51.000	51.000
0220	455.0605	TACK COAT	GAL	35.000	35.000
0230	460.1101	HMA PAVEMENT TYPE E-1	TON	510.000	510.000
0240	460.1103	HMA PAVEMENT TYPE E-3	TON	45.000	45.000
0250	460.1110	HMA PAVEMENT TYPE E-10	TON	280.000	280.000
0260	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	540.000	540.000
0270	465.0315	ASPHALTIC FLUMES	SY	27.000	27.000
0280	465.0400	ASPHALTIC SHOULDER RUMBLE STRIP	LF	420.000	420.000
0290	502.0100	CONCRETE MASONRY BRIDGES	CY	1,110.000	1,110.000
0300	502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,601.000	1,601.000
0310	503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	667.000	667.000
0320	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	26,330.000	26,330.000
0330	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	137,180.000	137,180.000
0340	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	16.000	16.000
0350	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 01. B-13-661	EACH	8.000	8.000
0360	506.8000.S	PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE (STRUCTURE) 01. B-13-661	LS	1.000	1.000
0370	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	68.000	68.000
0380	517.1010.S	CONCRETE STAINING (STRUCTURE) 01. B-13-661	SF	13,383.000	13,383.000
0390	517.1050.S	ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 01. B-13-661	SF	7,986.000	7,986.000
0400	520.8000	CONCRETE COLLARS FOR PIPE	EACH	1.000	1.000
0410	522.1036	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH	EACH	1.000	1.000
0420	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	2,655.000	2,655.000
0430	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D	LF	235.000	235.000
0440	602.0410	CONCRETE SIDEWALK 5-INCH	SF	200.000	200.000
0450	602.0420	CONCRETE SIDEWALK 7-INCH	SF	350.000	350.000

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3

DATE 14NOV12		E S T I M A T E O F Q U A N T I T I E S			
LINE					5992-09-07
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0460	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF	48.000	48.000
0470	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	2,205.000	2,205.000
0480	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	2,205.000	2,205.000
0490	606.0200	RIPRAP MEDIUM	CY	11.000	11.000
0500	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	344.000	344.000
0510	608.0324	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	178.000	178.000
0520	608.0330	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH	LF	129.000	129.000
0530	608.0336	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	LF	255.000	255.000
0540	611.0430	RECONSTRUCTING INLETS	EACH	1.000	1.000
0550	611.0545	MANHOLE COVERS TYPE L	EACH	1.000	1.000
0560	611.0610	INLET COVERS TYPE BW	EACH	2.000	2.000
0570	611.0612	INLET COVERS TYPE C	EACH	4.000	4.000
0580	611.0624	INLET COVERS TYPE H	EACH	4.000	4.000
0590	611.0642	INLET COVERS TYPE MS	EACH	3.000	3.000
0600	611.2004	MANHOLES 4-FT DIAMETER	EACH	1.000	1.000
0610	611.2006	MANHOLES 6-FT DIAMETER	EACH	6.000	6.000
0620	611.2044	MANHOLES 4X4-FT	EACH	1.000	1.000
0630	611.3225	INLETS 2X2.5-FT	EACH	2.000	2.000
0640	611.3230	INLETS 2X3-FT	EACH	2.000	2.000
0650	611.3901	INLETS MEDIAN 1 GRATE	EACH	2.000	2.000
0660	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	28.000	28.000
0670	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	225.000	225.000
0680	614.0250	STEEL THRIE BEAM STRUCTURE APPROACH TEMPORARY	LF	33.000	33.000
0690	614.0905	CRASH CUSHIONS TEMPORARY	EACH	1.000	1.000
0700	616.0700.S	FENCE SAFETY	LF	1,380.000	1,380.000
0710	619.1000	MOBILIZATION	EACH	1.000	1.000
0720	624.0100	WATER	MGAL	5.000	5.000
0730	625.0100	TOPSOIL	SY	13,500.000	13,500.000
0740	627.0200	MULCHING	SY	7,600.000	7,600.000
0750	628.1504	SILT FENCE	LF	1,500.000	1,500.000
0760	628.1520	SILT FENCE MAINTENANCE	LF	300.000	300.000
0770	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	3.000	3.000
0780	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	3.000	3.000
0790	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	5,950.000	5,950.000
0800	628.7005	INLET PROTECTION TYPE A	EACH	16.000	16.000
0810	628.7010	INLET PROTECTION TYPE B	EACH	9.000	9.000
0820	628.7015	INLET PROTECTION TYPE C	EACH	12.000	12.000
0830	628.7504	TEMPORARY DITCH CHECKS	LF	28.000	28.000
0840	628.7555	CULVERT PIPE CHECKS	EACH	20.000	20.000
0850	629.0210	FERTILIZER TYPE B	CWT	10.000	10.000
0860	630.0140	SEEDING MIXTURE NO. 40	LB	250.000	250.000
0870	633.5200	MARKERS CULVERT END	EACH	1.000	1.000
0880	642.5401	FIELD OFFICE TYPE D	EACH	1.000	1.000
0890	643.0200	TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 01. 5992-09-07	DAY	190.000	190.000
0900	643.0300	TRAFFIC CONTROL DRUMS	DAY	15,300.000	15,300.000
0910	643.0410	TRAFFIC CONTROL BARRICADES TYPE II	DAY	510.000	510.000

3

3

DATE 14NOV12		E S T I M A T E O F Q U A N T I T I E S			
LINE				5992-09-07	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0920	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	320.000	320.000
0930	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	980.000	980.000
0940	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	4,450.000	4,450.000
0950	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	260.000	260.000
0960	643.0900	TRAFFIC CONTROL SIGNS	DAY	5,450.000	5,450.000
0970	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	301.000	301.000
0980	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 5992-09-07	EACH	1.000	1.000
0990	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	225.000	225.000
1000	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	36.000	36.000
1010	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	1,565.000	1,565.000
1020	646.0600	REMOVING PAVEMENT MARKINGS	LF	511.000	511.000
1030	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	7,659.000	7,659.000
1040	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	15.000	15.000
1050	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	2,490.000	2,490.000
1060	650.5000	CONSTRUCTION STAKING BASE	LF	2,490.000	2,490.000
1070	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	233.000	233.000
1080	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-13-661	LS	1.000	1.000
1090	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 02. R-13-230	LS	1.000	1.000
1100	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 03. R-13-231	LS	1.000	1.000
1110	650.7500	CONSTRUCTION STAKING CONCRETE BARRIER	LF	150.000	150.000
1120	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 5992-09-07	LS	1.000	1.000
1130	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	2,490.000	2,490.000
1140	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	1,913.000	1,913.000
1150	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	1,898.000	1,898.000
1160	654.0107	CONCRETE BASES TYPE 7	EACH	1.000	1.000
1170	655.0630	ELECTRICAL WIRE LIGHTING 4 AWG	LF	525.000	525.000
1180	690.0150	SAWING ASPHALT	LF	725.000	725.000
1190	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	6,660.000	6,660.000
1200	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT \$5. 00/HR	HRS	1,000.000	1,000.000
1210	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	450.000	450.000
1220	SPV.0060	SPECIAL 01. CONCRETE BARRIER TRANSITION TYPE NJ32DF TO S42 - SPECIAL	EACH	2.000	2.000
1230	SPV.0060	SPECIAL 02. CONCRETE BARRIER TRANSITION TYPE S42 TO V56 - SPECIAL	EACH	2.000	2.000
1240	SPV.0060	SPECIAL 03. CONCRETE BARRIER TRANSITION TYPE V56 TO V56 4-FT - SPECIAL	EACH	2.000	2.000
1250	SPV.0060	SPECIAL 04. UTILITY LINE OPENING	EACH	6.000	6.000
1260	SPV.0060	SPECIAL 05. REMOVE & REINSTALL LIGHTING UNIT	EACH	7.000	7.000
1270	SPV.0060	SPECIAL 06. HANDHOLE TYPE 1 - SPECIAL	EACH	5.000	5.000
1280	SPV.0090	SPECIAL 01. PEDESTRIAN RAILING	LF	219.000	219.000
1290	SPV.0090	SPECIAL 02. FENCE FABRIC	LF	1,080.000	1,080.000
1300	SPV.0105	SPECIAL 01. RAILING TUBULAR SCREENING, B-13-661 (MODIFIED)	LS	1.000	1.000
1310	SPV.0105	SPECIAL 02. PAINTING EPOXY SYSTEM PEDESTRIAN BRIDGE B-13-661	LS	1.000	1.000

3

DATE 14NOV12			E S T I M A T E O F Q U A N T I T I E S		
LINE			5992-09-07		
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
1320	SPV.0165	SPECIAL 01. WALL MODULAR BLOCK	SF	1,277.000	1,277.000
		MECHANICALLY STABILIZED EARTH LRFD			
1330	SPV.0180	SPECIAL 01. CONCRETE PAVEMENT APPROACH	SY	34.000	34.000
		SLAB - SPECIAL			

EARTHWORK DATA SUMMARY TABLE												
DIVISION	STAGE	CATEGORY CODE	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)	AVAILABLE MATERIAL (2)	UNEXPANDED FILL	EXPANDED FILL (3)	MASS ORDINATE +/- (4)	DIVISION WASTE	DIVISION BORROW	COMMENT
					CUT			FACTOR 1.30			(ITEM #208.0100)	
1	1	0010	217+00 CP - 229+72 CP	CANNONBALL PATH SOUTH OF USH 12	636	636	549	714	-78	0	78	
		0010	10+00 SC - 12+45 SC	SOUTH CONNECTOR	109	109	330	429	-320	0	320	
STAGE 1 SUBTOTAL					745	745	879	1143	-398	0	398	
DIVISION 1 SUBTOTAL					745	745	879	1143	-398	0	398	
2	1	0010	239+00 CP - 245+60 CP	CANNONBALL PATH NORTH OF USH 12	619	619	4650	6045	-5426	0	5426	
		0010	36+92 NC - 40+00 NC	NORTH CONNECTOR	10	10	1336	1737	-1727	0	1727	
STAGE 1 SUBTOTAL					629	629	5986	7782	-7153	0	7153	
DIVISION 2 SUBTOTAL					629	629	5986	7782	-7153	0	7153	
ITEM TOTALS					1374	1374	6865	8925	-7551	0	7551	
					TOTAL COMMON EXC	1374	CY					

1) COMMON EXCAVATION IS THE SUM OF THE CUT, ITEM NUMBER 205.0100.
2) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL.
3) EXPANDED FILL FACTOR = 1.3
4) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE STAGE. PLUS QUANTITY INDICATES EXCESS OF MATERIAL WITHIN THE STAGE AND IS CATEGORIZED AT DIVISION WASTE. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE STAGE AND IS CATEGORIZED AS DIVISION BORROW, ITEM NUMBER 208.0100.

3

CLEARING & GRUBBING

STATION	LOCATION	201.0105	201.0205	REMARKS
		CLEARING STA	GRUBBING STA	
218+25 CP - 221+25 CP	RT	3	3	
221+50 CP - 222+50 CP	RT	1	1	
223+25 CP - 228+25 CP	RT	5	5	
239+50 CP - 245+50 CP	LT, RT	6	6	
ITEM TOTALS		15	15	

REMOVING OLD STRUCTURE

STATION	LOCATION	DESCRIPTION	203.0600.S
			OVER WATERWAY WITH MINIMAL DEBRIS LS
244+18 CP	29' RT	RAILROAD BRIDGE	1
ITEM TOTAL			1

ABATEMENT OF ASBESTOS CONTAINING MATERIAL

STATION	LOCATION	DESCRIPTION	203.0210.S
			UNKNOWN # LS
244+18 CP	29' RT	RAILROAD BRIDGE	1
ITEM TOTAL			1

REMOVING INLETS

STATION	LOCATION	204.0220
		REMOVING INLETS EACH
601+29.90 SF	16.4', RT	1
417+59.62 EB	10.6', LT	1
417+60.24 WB	10.9' RT	1
801+65.83 NF	16.1', RT	1
801+90.19 NF	16.0', LT	1
ITEM TOTAL		5

REMOVING CABLES

STATION - STATION	LOCATION	204.9090.S
		REMOVING CABLES LF
418+06 WB - 419+52 WB	LT	157
ITEM TOTAL		157

ABANDONING SEWER

STATION	LENGTH FT	DIAMETER FT	204.0291.S
			ABANDONING SEWER CY
232+09 CP - 232+50 CP	40	2.5	7
231+95 CP - 232+51 CP	99	3.5	35
232+51 CP - 233+10 CP	60	2	7
235+32 CP - 236+30 CP	98	2	11
236+31 CP - 236+68 CP	37	2	4
ITEM TOTAL			65

AGGREGATES

STATION	LOCATION	305.0120	310.0110
		BASE AGGREGATE DENSE 1 1/4-INCH TON	BASE AGGREGATE OPEN GRADED TON
CANNONBALL PATH			
217+00 CP - 229+84 CP	CL	888	-
238+87 CP - 245+60 CP	CL	465	-
SOUTH CONNECTOR			
10+05 SC - 12+43 SC	CL	165	-
NORTH CONNECTOR			
37+05 NC - 39+95 NC	CL	200	-
NORTH FRONTAGE ROAD			
801+30 NF - 801+95 NF	CL	19	22
801+60 NF - 802+00 NF	LT	3	-
801+56 NF - 801+95 NF	RT	7	-
801+65 NF - 801+95 NF	LT	5	-
SOUTH FRONTAGE ROAD			
600+14 SF - 601+09 SF	RT	16	-
600+28 SF - 600+39 SF	LT	2	-
600+28 SF - 601+09 SF	CL	19	23
600+93 SF - 601+51 SF	LT	20	12
USH 12			
416+51 EB - 418+31 EB	LT	67	-
416+51 WB - 418+31 WB	RT	67	-
UNDISTRIBUTED		108	3
ITEM TOTALS		2050	60

REMOVING ASPHALTIC SURFACE

STATION	LOCATION	204.0110	204.0120	REMARKS
		REMOVING ASPHALTIC SURFACE SY	REMOVING ASPHALTIC SURFACE MILLING SY	
227+65 CP - 231+22 CP	LT	590	-	
416+36 EB - 418+46 EB	LT	-	113	END OF STAGE 3
416+36 WB - 418+46 WB	RT	-	113	END OF STAGE 4
ITEM TOTALS		590	227	

CONCRETE REMOVAL

STATION	LOCATION	204.0150	204.0155	204.0157	204.0195
		REMOVING CURB & GUTTER LF	REMOVING CONCRETE SIDEWALK SY	REMOVING CONCRETE BARRIER LF	REMOVING CONCRETE BASES EACH
600+14 SF - 601+09 SF	RT	95	-	-	-
600+28 SF - 600+39 SF	LT	11	-	-	-
600+93 SF - 601+51 SF	LT	58	-	-	-
801+56 NF - 801+95 NF	LT,RT	39	28	-	-
801+65 NF - 801+95 NF	LT	30	-	-	-
416+51 EB - 418+31 EB	LT	-	-	180	-
418+06 WB	LT	-	-	-	1
ITEM TOTALS		233	28	180	1

ASPHALTIC PAVEMENT ITEMS

STATION - STATION	LOCATION	455.0120	455.0605	460.1101	460.1103	460.1110	465.0315
		ASPHALTIC MATERIAL PG64-28 TON	TACK COAT GAL	HMA PAVEMENT TYPE E-1 TON	HMA PAVEMENT TYPE E-3 TON	HMA PAVEMENT TYPE E-10 TON	ASPHALTIC FLUMES SY
217+00 CP - 229+84 CP	CL	14	-	240	-	-	-
238+87 CP - 245+60 CP	CL	8	-	126	-	-	-
10+05 SC - 12+36 SC	CL	3	-	43	-	-	-
37+07 NC - 39+95 NC	CL	3	-	54	-	-	-
600+28 SF - 601+09 SF	CL	0	2	-	15	-	-
600+93 SF - 601+51 SF	CL	0	1	-	8	-	-
416+36 EB - 418+46 EB	LT	8	12	-	-	131	-
416+36 WB - 418+46 WB	RT	8	12	-	-	131	-
801+30 NF - 801+95 NF	CL	0	2	-	14	-	-
229+71 CP	LT	-	-	-	-	-	6
229+71 CP	RT	-	-	-	-	-	7
239+00 CP	LT	-	-	-	-	-	7
239+50 CP	RT	-	-	-	-	-	7
UNDISTRIBUTED		5	6	47	8	18	-
ITEM TOTALS		49	35	510	45	280	27

NOTE: TABLE QUANTITIES ARE FOR CATEGORY 0010 UNLESS OTHERWISE INDICATED

PROJECT NO:5992-09-07

HWY:CANNONBALL PATH

COUNTY:DANE

MISCELLANEOUS QUANTITIES

SHEET

53

E

ASPHALTIC SHOULDER RUMBLE STRIP

465.0400 ASPHALTIC SHOULDER RUMBLE STRIP		
STATION	LOCATION	LF
416+36 EB - 418+46 EB	LT	210
416+36 WB - 418+46 WB	LT	210
ITEM TOTAL		420

CONCRETE ITEMS

STATION - STATION	LOCATION	SPV.0180.01	601.0411	602.0410	602.0420	602.0505	REMARKS
		CONCRETE	CONCRETE	CONCRETE	CONCRETE	CURB RAMP	
		PAVEMENT	CURB & GUTTER	SIDEWALK	SIDEWALK	DETECTABLE	
		APPROACH SLAB- SPECIAL	30-INCH TYPE D	5-INCH	7-INCH	WARNING FIELD YELLOW	
		SY	LF	SF	SF	SF	
APPROACH SLAB							
229+72 CP		17	-	--	-	--	
238+88 CP		17	-	--	-	--	
CURB AND GUTTER							
600+14 SF - 601+09 SF	RT	--	95	--	-	--	
600+28 SF - 600+39 SF	LT	--	12	--	-	--	
600+93 SF - 601+51 SF	LT	--	59	--	-	--	
801+56 NF - 801+95 NF	RT	--	39	--	-	--	
801+65 NF - 801+95 NF	LT	--	30	--	-	--	
CURB RAMPS							
600+24.50 SF	RT	--	-	--	135	24	
801+75.00 NF	LT	--	-	--	115	24	
SIDEWALK							
801+50.00 NF - 801+70.00 NF	LT	--	-	100	-	--	
801+80.00 NF - 802+00.00 NF	LT	--	-	100	-	--	
600+19.00 SF - 600+29.00 SF	RT	--	-	--	50	--	
801+70.00 NF - 801+80.00 NF	LT	--	-	--	50	--	
ITEM TOTALS		34	235	200	350	48	

CONCRETE BARRIER

STATION	LOCATION	SPV.0060.01 CONCRETE BARRIER TRANSITION TYPE NJ32DF TO S42 - SPECIAL	SPV.0060.02 CONCRETE BARRIER TRANSITION TYPE S42 TO V56 - SPECIAL	SPV.0060.03 CONCRETE BARRIER TRANSITION TYPE V56 TO V56 4-FT - SPECIAL	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	614.0250 STEEL THRIE BEAM STRUCTURE APPROACH TEMPORARY	614.0905 CRASH CUSHIONS TEMPORARY	REMARKS
		EACH	EACH	EACH	LF	LF	LF	EACH	
416+51.00 EB - 416+76.50 EB	LT	1	-	-	-	-	-	-	
416+76.50 EB - 417+01.00 EB	LT	-	1	-	-	-	-	-	
417+01.00 EB - 417+26.00 EB	LT	-	-	1	-	-	-	-	
417+56.00 EB - 417+81.00 EB	LT	-	-	1	-	-	-	-	
417+81.00 EB - 418+05.50 EB	LT	-	1	-	-	-	-	-	
418+15.50 EB - 418+31.00 EB	LT	1	-	-	-	-	-	-	
412+40.00 EB - 418+35.00 EB	LT	-	-	-	595	595	16.5	-	
415+80.00 EB - 420+25.00 EB	RT	-	-	-	445	445	-	-	
416+25.00 WB - 422+20.00 WB	RT	-	-	-	595	595	-	1	
416+80.00 WB - 422+50.00 WB	LT	-	-	-	570	570	16.5	-	
ITEM TOTALS		2	2	2	2205	2205	33	1	

NOTE: TABLE QUANTITIES ARE
FOR CATEGORY 0010
UNLESS OTHERWISE INDICATED

CONCRETE COLLARS FOR PIPE

520.8000 CONCRETE COLLARS FOR PIPE			
STATION	LOCATION	EA	REMARKS
417+59.37 EB	9.0' LT	1	
ITEM TOTAL		1	

RIPRAP MEDIUM

606.0200 RIPRAP MEDIUM				645.0120 GEOTEXTILE FABRIC TYPE HR	
STATION - STATION	LOCATION	CY		SY	
229+71 CP	LT	2		6	
229+71 CP	RT	3		10	
239+00 CP	LT	3		10	
239+50 CP	RT	3		10	
ITEM TOTALS		11		36	

STORM SEWER PIPE REINFORCED CONCRETE CLASS III

PIPE NUMBER	STATION - STATION	INLET ELEV	OUTLET ELEV	SLOPE FT/FT	608.0312	608.0324	608.0330	608.0336
					12-INCH LF	24-INCH LF	30-INCH LF	36-INCH LF
P-1	228+99.86 CP - 231+00.00 CP	895.71	892.71	0.015	201	-	-	-
P-2	231+00.00 CP - 231+63.72 CP	892.61	891.39	0.015	82	-	-	-
P-3	600+36.73 SF - 601+02.00 SF	890.56	888.12	0.036	-	67	-	-
P-4	600+33.65 SF - 600+36.73 SF	887.02	883.10	0.080	-	-	49	-
P-5	600+33.65 SF - 601+00.00 SF	883.95	883.60	0.005	-	-	-	70
P-6	601+00.00 SF	888.35	885.95	0.080	30	-	-	-
P-7	601+00.00 SF - 601+79.71 SF	884.70	884.30	0.005	-	-	80	-
P-8	417+59.37 EB - 417+60.84 EB	885.90	885.82	0.013	-	6	-	-
P-9	417+60.84 EB - 417+66.69 EB	891.25	891.09	0.020	-	8	-	-
P-10	801+90.17 NF	888.77	887.84	0.030	31	-	-	-
P-11	801+90.17 NF - 801+93.58 NF	885.28	884.60	0.017	-	39	-	-
P-12	236+98.44 CP	884.50	883.34	0.020	-	58	-	-
P-13	242+35.95 CP - 242+58.18 CP	866.39	865.83	0.020	-	-	-	30
P-14	242+58.18 CP - 243+47.00 CP	872.27	870.17	0.025	-	-	-	84
P-15	243+47.00 CP - 243+90.00 CP	874.80	872.37	0.034	-	-	-	71
ITEM TOTALS					344	178	129	255

CONSTRUCTION STAKING STORM SEWER

STRUCTURE	STATION - STATION	RIM ELEV	INVERT ELEV	650.4000	REMARKS
				STORM SEWER EACH	
INL - 1	228+99.86 CP	899.57	895.71	1	
INL - 2	231+00.00 CP	897.20	892.61	1	
MH - 4	600+36.73 SF	896.87	888.02	1	
MH - 5	600+33.65 SF	895.63	883.10	1	
MH - 6	601+00.00 SF	896.00	883.95	1	
INL - 7	601+00.00 SF	896.92	888.35	1	
MH - 8	601+79.71 SF	897.03	884.70	1	
INL - 9	417+66.69 EB	891.25	891.09	1	
INL - 10	417+60.84 WB	895.75	885.90	1	
INL - 11	801+90.17 NF	892.84	888.77	1	
INL - 12	801+90.17 NF	892.04	885.28	1	
MH - 13	801+93.58 NF	889.75	884.50	1	
MH - 14	242+58.18 CP	878.00	865.90	1	
MH - 15	243+75.00 CP	877.75	873.33	1	
AEW - 16	244+89.78 CP		874.80	1	
ITEM TOTAL				15	

STORM SEWER STRUCTURE ITEMS

			522.1036 APRON ENDWALLS FOR CULVERT PIPE				MANHOLES			INLETS			611.0430	611.0545	INLET COVERS				
STRUCTURE NUMBER	STATION	LOCATION	REINFORCED CONCRETE 36-INCH EACH	611.2004 4-FT DIAMETER EACH	611.2006 6-FT DIAMETER EACH	611.2044 4x4 FT EACH	611.3225 2x2.5-FT EACH	611.3230 2x3-FT EACH	611.3901 MEDIAN 1 GRATE EACH	RECONSTRUCTING INLETS EACH	COVERS TYPE L EACH	611.0610 TYPE BW EACH	611.0612 TYPE C EACH	611.0624 TYPE H EACH	611.0642 TYPE MS EACH	COMMENTS			
1	228+99.86 CP	22.0' RT	-	-	-	-	-	-	1	-	-	-	-	-	1	3' X 6' DOUBLE INLET			
2	231+00.00 CP	12.0' RT	-	-	-	-	-	-	1	-	-	-	-	-	1				
3	601+02.00 SF	15.5' RT	-	-	-	-	-	-	-	1	-	-	-	-	-				
4	600+36.73 SF	15.5' LT	-	-	1	-	-	-	-	-	-	-	-	1	-				
5	600+33.65 SF	33.7' LT	-	-	1	-	-	-	-	-	-	-	1	-	-				
6	601+00.00 SF	45.0' LT	-	-	1	-	-	-	-	-	-	-	1	-	-				
7	601+00.00 SF	15.5' LT	-	-	-	-	-	1	-	-	-	-	-	1	-				
8	601+79.71 SF	48.0' LT	-	-	1	-	-	-	-	-	-	-	1	-	-				
9	417+66.69 EB	9.0' LT	-	-	-	-	1	-	-	-	-	1	-	-	-				
10	417+60.84 WB	9.0' RT	-	-	-	-	1	-	-	-	-	1	-	-	-				
11	801+90.17 NF	15.5' RT	-	-	-	-	-	1	-	-	-	-	-	1	-				
12	801+90.17 NF	15.5' LT	-	1	-	-	-	-	-	-	-	-	-	1	-				
13	801+93.58 NF	52.5' LT	-	-	-	1	-	-	-	-	-	-	-	-	1				
14	242+58.18 CP	26.0' LT	-	-	1	-	-	-	-	-	-	-	1	-	-				
15	243+47.00 CP	16.6' LT	-	-	1	-	-	-	-	-	1	-	-	-	-				
16	243+95.00 CP	38.3' RT	1	-	-	-	-	-	-	-	-	-	-	-	-				
ITEM TOTALS			1	1	6	1	2	2	2	1	1	2	4	4	3				

NOTE: TABLE QUANTITIES ARE
FOR CATEGORY 0010
UNLESS OTHERWISE INDICATED

FENCE SAFETY			
616.0700.S FENCE SAFETY			
STATION	LOCATION	LF	REMARKS
228+75 CP - 231+07 CP	LT	236	
228+50 CP - 232+02 CP	RT	352	
236+15 CP - 241+00 CP	LT	489	
237+22 CP - 240+25 CP	RT	303	
ITEM TOTAL		1380	

MOBILIZATIONS			
619.1000 628.1905 628.1910			
LOCATION	MOBILIZATION EACH	MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT (5992-09-07)		1	1
CATEGORY 0010	0.217		
CATEGORY 0020	0.758		
CATEGORY 0030	0.017		
CATEGORY 0040	0.008		
SOUTH FRONTAGE ROAD	-	1	1
NORTH FRONTAGE ROAD	-	1	1
ITEM TOTALS		1.00	3

TOPSOIL, EROSION MAT, FERTILIZER, AND SEEDING						
625.0100 627.0200 628.2008 629.0210 630.0140						
STATION - STATION	LOCATION	TOPSOIL SY	MULCHING SY	EROSION MAT URBAN CLASS I TYPE B SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 40 LB
217+00 CP - 228+50 CP	LT	1176	1176	-	0.7	21.2
228+50 CP - 230+26 CP	LT	392	-	392	0.2	7.1
229+51 CP - 230+20 CP	LT	162	-	162	0.1	3.0
230+26 CP - 231+48 CP	LT	397	396	-	0.3	7.2
217+00 CP - 226+75 CP	RT	2358	2358	-	1.5	42.5
226+75 CP - 230+12 CP	RT	266	-	266	0.2	4.8
230+12 CP - 231+26 CP	RT	295	295	-	0.2	5.4
236+57 CP - 238+43 CP	LT	755	755	-	0.5	13.6
238+43 CP - 244+50 CP	LT	2423	-	2423	1.5	43.7
238+53 CP - 239+21 CP	LT	158	-	158	0.1	2.9
244+50 CP - 245+60 CP	LT	153	153	-	0.1	2.8
238+13 CP - 238+77 CP	RT	16	17	-	0.1	0.3
238+57 CP - 242+50 CP	RT	1270	-	1270	0.8	22.9
242+50 CP - 245+60 CP	RT	984	984	-	0.6	17.8
600+05 SF - 601+09 SF	RT	81	-	81	0.1	1.5
600+25 SF - 601+85 SF	LT	180	180	-	0.1	3.3
600+28 SF - 600+39 SF	LT	9	-	9	0.1	0.2
600+93 SF - 601+51 SF	LT	71	-	71	0.1	1.3
801+30 NF - 801+98 NF	RT	76	-	76	0.1	1.4
801+60 NF - 802+00 NF	LT	21	-	21	0.1	0.4
37+11 NC	LT & RT	18	-	18	0.1	0.4
UNDISTRIBUTED		2239	1286	1003	2	46
ITEM TOTALS		13500	7600	5950	10	250

EROSION CONTROL ITEMS									
628.1504 628.1520 628.7005 628.7010 628.7015 628.7504 628.7555									
STATION	LOCATION	SILT FENCE LF	SILT FENCE MAINTENANCE LF	INLET PROTECTION TYPE A EACH	INLET PROTECTION TYPE B EACH	INLET PROTECTION TYPE C EACH	TEMPORARY DITCH CHECKS LF	CULVERT PIPE CHECKS EACH	REMARKS
228+49 CP - 230+27 CP	LT	185	37	-	-	-	-	-	
240+50 CP - 244+62 CP	RT	419	84	-	-	-	-	-	
238+26 CP - 245+60 CP	LT	738	148	-	-	-	-	-	
221+00 CP	RT	-	-	-	-	-	7	-	
222+25 CP	RT	-	-	-	-	-	7	-	
217+14 CP	30.0' LT	-	-	-	-	-	-	3	
217+62 CP	23.8' RT	-	-	-	-	-	-	3	
244+90 CP	27.4' RT	-	-	-	-	-	-	4	
228+99.86 CP	22.0' RT	-	-	-	1	-	-	-	
231+00.00 CP	12.0' RT	-	-	-	1	-	-	-	
601+02.00 SF	15.5' RT	-	-	1	-	1	-	-	
600+36.73 SF	15.5' LT	-	-	1	-	1	-	-	
600+33.65 SF	33.7' LT	-	-	-	1	-	-	-	
601+00.00 SF	45.0' LT	-	-	-	1	-	-	-	
601+00.00 SF	15.5' LT	-	-	1	-	1	-	-	
601+04.00 SF	30.8' LT	-	-	1	-	1	-	-	
601+79.71 SF	48.0' LT	-	-	-	1	-	-	-	
417+66.69 EB	9.0' LT	-	-	1	-	-	-	-	
417+60.27 WB	9.0' RT	-	-	1	-	-	-	-	
801+13.98 NF	15.9' LT	-	-	1	-	-	-	-	
801+90.17 NF	15.5' RT	-	-	1	-	1	-	-	
801+90.17 NF	15.5' LT	-	-	1	-	1	-	-	
801+93.58 NF	52.5' LT	-	-	1	-	1	-	-	
UNDISTRIBUTED		158	31	6	4	5	14	10	
ITEM TOTALS		1500	300	16	9	12	28	20	

FIELD OFFICE TYPE D	
642.5401	
STATION	EACH
CATEGORY 0010	0.20
CATEGORY 0020	0.80
ITEM TOTALS	
1.00	

WATER	
624.0100 WATER MGAL	
STATION	
PROJECT (5992-09-07)	5
ITEM TOTAL	
5	

MARKERS CULVERT END		
633.5200 MARKERS CULVERT END EACH		
STATION - STATION	LOCATION	
244+89.78	RT	1
ITEM TOTAL		1

NOTE: TABLE QUANTITIES ARE
FOR CATEGORY 0010
UNLESS OTHERWISE INDICATED

3

PAVEMENT MARKING						
		646.0106 PAVEMENT MARKING EPOXY 4-INCH			646.0600 REMOVING PAVEMENT MARKINGS	
STATION - STATION	LOCATION	12.5' SKIPS YELLOW LF	5' SKIPS YELLOW LF	EDGELINE YELLOW LF		
217+00 CP - 245+60 CP	CL	-	715	-	-	
10+05 SC - 12+30 SC	CL	-	57	-	-	
37+07 NC - 39+95 NC	CL	-	72	-	-	
598+90 SF - 605+40 SF	CL	163	-	-	373	
800+09 NF - 805+60 NF	CL	138	-	-	138	
416+36 EB - 418+46 EB	LT	-	-	210	-	
416+36 WB - 418+46 WB	RT	-	-	210	-	
BID ITEM TOTAL		301	844	420		
ITEM TOTALS			1,565		511	

TEMPORARY PAVEMENT MARKING				
649.0400				
TEMPORARY PAVEMENT MARKING				
<u>REMOVABLE TAPE 4-INCH</u>				
STATION - STATION	LOCATION	YELLOW	WHITE	REMARKS
		LF	LF	
STAGE 1				
598+90 SF - 602+30 SF	RT	-	340	WHITE EDGELINE
598+90 SF - 602+30 SF	CL	680	-	DOUBLE YELLOW CENTERLINE
800+09 NF - 803+70 NF	LT	-	361	WHITE EDGELINE
800+09 NF - 803+70 NF	CL	722	-	DOUBLE YELLOW CENTERLINE
STAGE 2-6				
599+40 SF - 605+40 SF	LT	-	600	WHITE EDGELINE
599+40 SF - 605+40 SF	CL	1,200	-	DOUBLE YELLOW CENTERLINE
800+09 NF - 805+60 NF	RT	-	551	WHITE EDGELINE
800+09 NF - 805+60 NF	CL	1,102	-	DOUBLE YELLOW CENTERLINE
STAGE 7				
598+90 SF - 602+30 SF	RT	-	340	WHITE EDGELINE
598+90 SF - 602+30 SF	CL	680	-	DOUBLE YELLOW CENTERLINE
800+09 NF - 803+70 NF	LT	-	361	WHITE EDGELINE
800+09 NF - 803+70 NF	CL	722	-	DOUBLE YELLOW CENTERLINE
BID ITEM TOTAL		5,106	2,553	
ITEM TOTALS		7,659		

<u>SAWING</u>			
690.0150			
ASPHALT			
STATION	LOCATION	LF	REMARKS
217+00 CP	-	10	
600+28 SF - 601+09 SF	LT, RT	130	
600+93 SF - 601+51 SF	LT, RT	70	
416+51 EB	LT	10	
416+51 WB	RT	10	
418+31 EB	LT	10	
418+31 WB	RT	10	
416+51 EB - 418+31 EB	LT	180	
416+51 WB - 418+31 WB	RT	180	
801+30 NF - 801+95 NF	LT, RT	115	
ITEM TOTAL		725	

<u>CONSTRUCTION STAKING</u>	
<u>SUPPLEMENTAL CONTROL</u>	
	650.9910
<u>LOCATION</u>	<u>LS</u>
PROJECT 5992-09-07	1
<u>ITEM TOTAL</u>	<u>1</u>

CONSTRUCTION STAKING							
STATION - STATION		650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB & GUTTER LF	650.7500 CONCRETE BARRIER LF	650.9920 SLOPE STAKES LF	REMARKS
217+00.00 CP - 229+75.00 CP	CL	1275	1275	-	-	1275	
239+00.00 CP - 245+60.00 CP	CL	660	660	-	-	660	
10+00.00 SC - 12+46.00 SC	CL	246	246	-	-	246	
36+91.00 NC - 40+00.00 NC	CL	309	309	-	-	309	
600+14.00 SF - 601+09.00 SF	RT	-	-	95	-	-	
600+28.00 SF - 600+39.00 SF	LT	-	-	11	-	-	
600+93.00 SF - 601+51.00 SF	LT	-	-	58	-	-	
801+56.00 NF - 801+95.00 NF	RT	-	-	39	-	-	
801+65.00 NF - 801+95.00 NF	LT	-	-	30	-	-	
10+25.00 SC - 10+80.00 SC	LT	-	-	-	-	-	
39+05.00 NC - 39+85.00 NC	LT	-	-	-	-	-	
229+75.00 CP - 239+00.00 CP	CL	-	-	-	-	-	
416+51.00 EB - 416+66.00 EB	LT	-	-	-	15	-	
416+66.00 EB - 416+76.50 EB	LT	-	-	-	10.5	-	
416+76.50 EB - 417+01.00 EB	LT	-	-	-	24.5	-	
417+01.00 EB - 417+26.00 EB	LT	-	-	-	25	-	
417+56.00 EB - 417+81.00 EB	LT	-	-	-	25	-	
417+81.00 EB - 418+05.50 EB	LT	-	-	-	24.5	-	
418+05.50 EB - 418+16.00 EB	LT	-	-	-	10.5	-	
418+16.00 EB - 418+31.00 EB	LT	-	-	-	15	-	
ITEM TOTALS		2490	2490	233	150	2490	

LIGHTING				
		652.0225	652.0235	654.0107
		CONDUIT RIGID	CONDUIT RIGID	CONCRETE BASES
		NONMETALLIC	NONMETALLIC	TYPE 7
STATION	LOCATION	SCHEDULE 40 2-INCH	SCHEDULE 40 3-INCH	EACH
		LF	LF	
217+17 CP - 229+69 CP	7.0' LT	1252	1252	-
239+10 CP - 245+56 CP	7.0' LT	646	646	-
222+10 CP	7.0' LT	-	-	-
227+10 CP	7.0' LT	-	-	-
229+69 CP	7.0' LT	-	-	-
239+10 CP	7.0' LT	-	-	-
244+00 CP	7.0' LT	-	-	-
416+95 EB	RT	-	-	-
418+67 EB	RT	-	-	-
420+42 EB	RT	-	-	-
417+90 WB	87.2' LT	-	-	1
417+93 WB - 419+52 WB	LT	15	-	-
418+06 WB	LT	-	-	-
419+52 WB	LT	-	-	-
421+24 WB	LT	-	-	-
423+00 WB	LT	-	-	-
UNDISTRIBUTED		-	-	-
ITEM TOTALS		1913	1898	1

<u>UTILITY LINE OPENING</u>			
		SPV.0060.04 UTILITY LINE OPENING	
<u>STATION</u>	<u>LOCATION</u>	<u>EACH</u>	<u>REMARKS</u>
600+34	12.5', LT	1	
600+33	22.5', LT	1	
600+59	38.2', LT	1	
600+36	19.5', RT	1	
600+36	25.7', RT	1	
600+35	32.2' RT	1	
ITEM TOTALS		6	

<u>CONSTRUCTION STAKING</u>			
<u>STRUCTURE LAYOUTS</u>			
	650.6500 B-13-661 LS	650.6500 R-13-230 LS	650.6500 R-13-231 LS
STATION			
CATEGORY 0020			
229+75 CP - 239+00 CP	1	-	-
CATEGORY 0030			
39+05 NC - 39+85 NC	-	1	-
CATEGORY 0040			
10+25 SC - 10+80 SC	-	-	1

PV.0060.05 REMOVE & REINSTALL SIGHTING UNIT EACH	SPV.0060.06 HANDHOLE TYPE 1 - SPECIAL EACH	REMARKS
-	-	
-	-	
-	1	
-	1	
-	1	
-	1	
-	-	L-13-550-2
-	-	L-13-550-3
-	-	L-13-550-4
-	-	L-13-550-6
-	-	L-13-550-6 TO L-13-550-7
1	-	L-13-550-6 TO BE INSTALLED ON NEW CONCRETE BASE @ STA 417+93 WB, 82.2' LT
-	-	L-13-550-7
-	-	L-13-550-8
-	-	L-13-550-9
6		
7	5	

<u>TRAFFIC CONTROL</u>	
<u>LOCATION</u>	643.2000 TRAFFIC CONTROL DETOUR (PROJECT) EACH
PROJECT 5992-09-07	
CATEGORY 0010	0.20
CATEGORY 0020	0.80
ITEM TOTAL	1.00

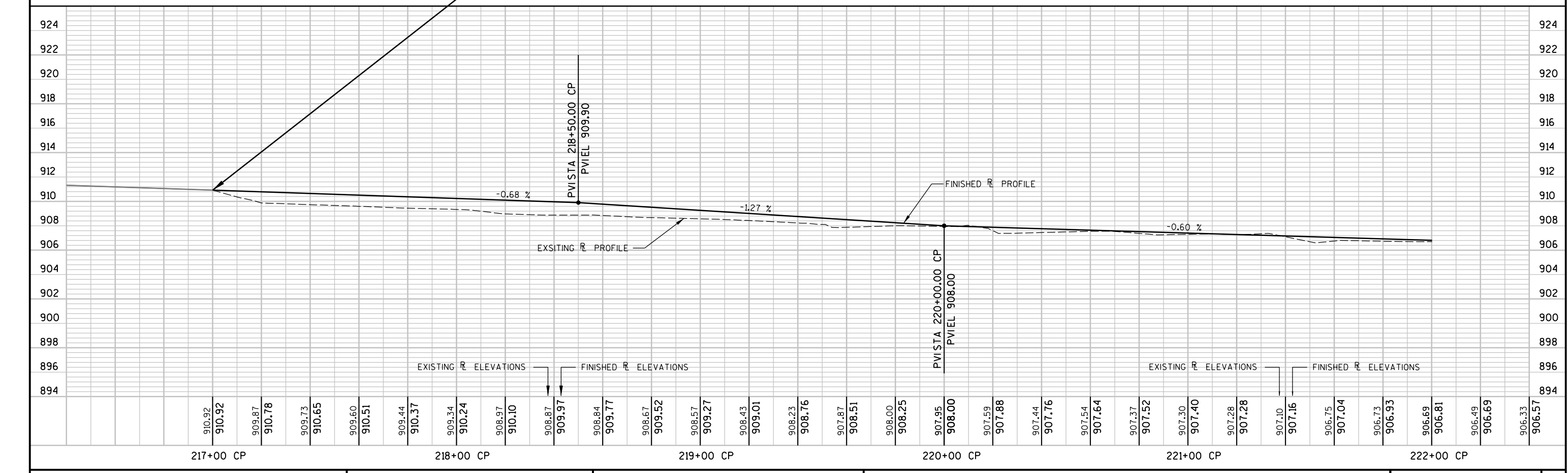
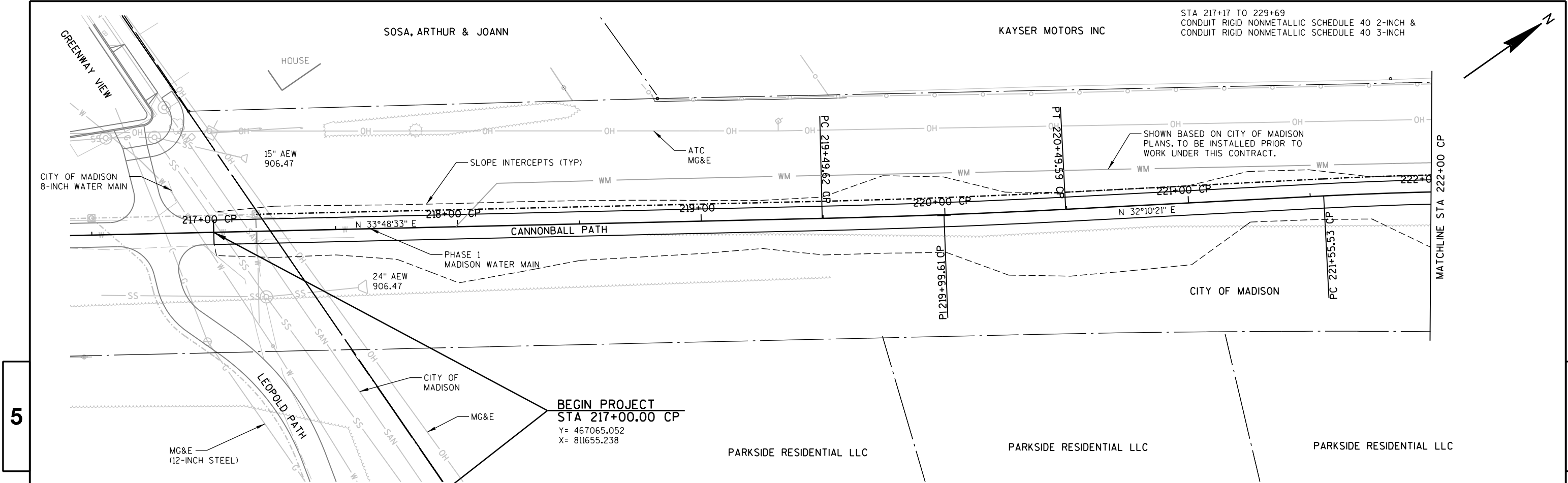
NOTE: TABLE QUANTITIES ARE
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UNLESS OTHERWISE INDICATED

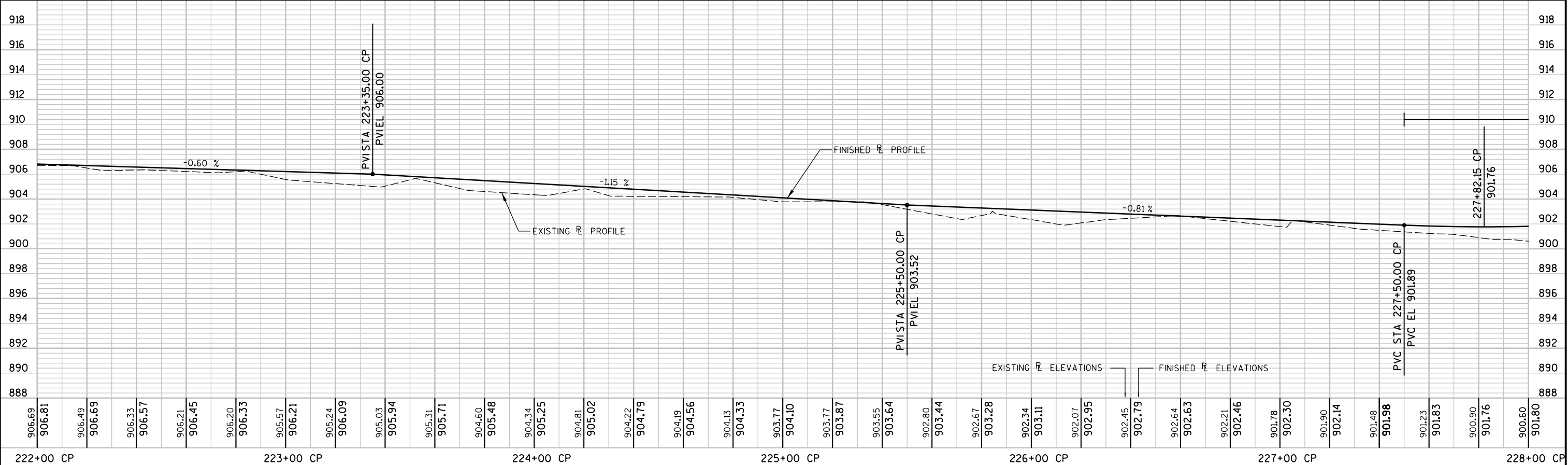
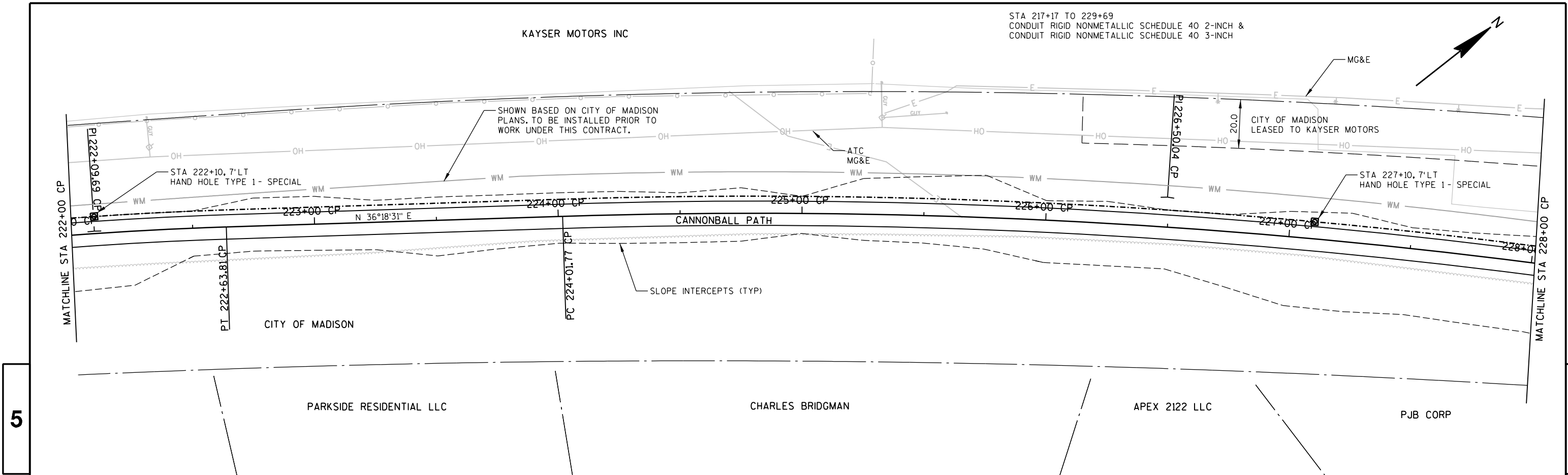
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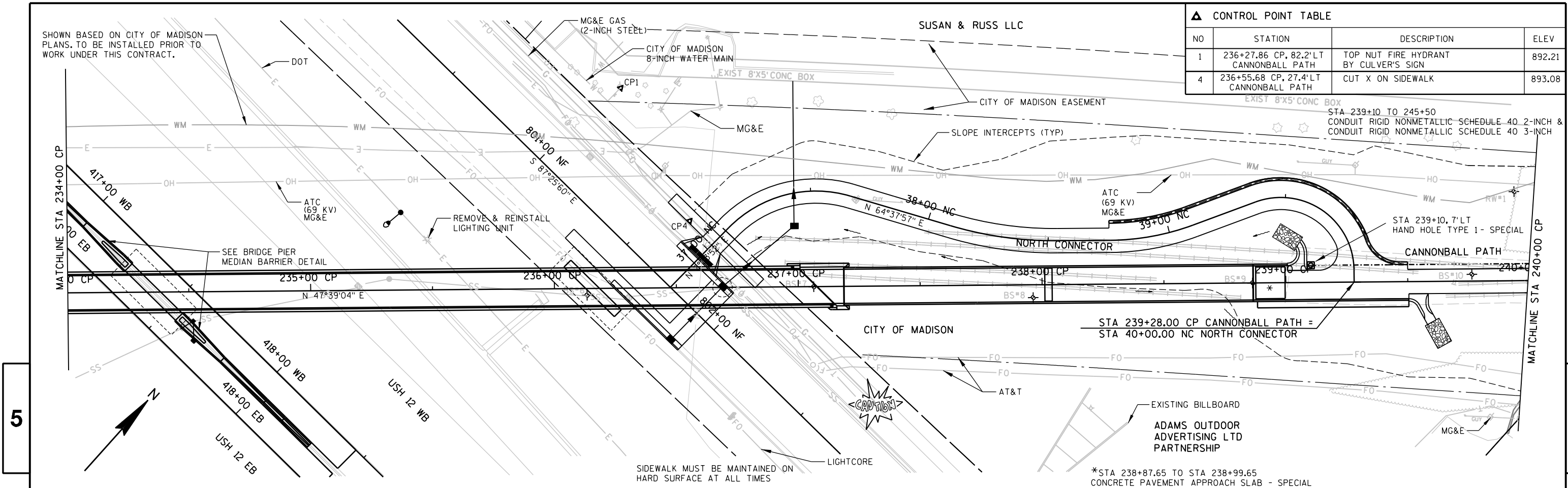
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TRAFFIC CONTROL ITEMS													
STAGE	DAY/NIGHT	LOCATION	# OF DAYS	643.0200	643.0300	643.0410	643.0420	643.0705	643.0715	643.0800	643.0900	643.1050	643.3000
				SURVEILLANCE AND MAINTENANCE 5992-09-07 DAYS	TRAFFIC CONTROL DRUMS DAYS	TRAFFIC CONTROL BARRICADES TYPE II DAYS	TRAFFIC CONTROL BARRICADES TYPE III DAYS	TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	TRAFFIC CONTROL WARNING LIGHTS TYPE C DAYS	TRAFFIC CONTROL ARROW BOARDS DAYS	TRAFFIC CONTROL SIGNS DAYS	TRAFFIC CONTROL SIGNS PCMS DAYS	TRAFFIC CONTROL DETOUR SIGNS DAYS
1	DAY/NIGHT	NORTH FRONTAGE ROAD	56	56	784	448	--	448	280	--	504	--	--
	DAY/NIGHT	SOUTH FRONTAGE ROAD	56	--	784	--	--	--	280	--	280	--	--
		STAGE 1 SUBTOTAL		56	1568	448	0	448	560	0	784	0	0
2	DAY/NIGHT	NORTH FRONTAGE ROAD	51	51	1377	--	--	--	255	--	459	--	--
	DAY/NIGHT	SOUTH FRONTAGE ROAD	51	--	1377	--	--	--	255	--	459	--	--
	DAY	USH 12 EB	51	--	306	--	--	--	--	--	408	--	--
	DAY	USH 12 WB	51	--	306	--	--	--	--	--	408	--	--
	DAY/NIGHT	PRESTAGE USH 12 NIGHT CLOSURES	10	--	--	--	--	--	--	--	--	20	--
	NIGHT	USH 12 EB	29	--	2465	--	58	87	870	87	377	29	--
	NIGHT	USH 12 WB	29	--	2465	--	58	87	870	87	377	29	--
		STAGE 2 SUBTOTAL		51	8296	0	116	174	2250	174	2488	78	0
3	DAY/NIGHT	NORTH FRONTAGE ROAD	7	7	189	--	--	--	35	--	63	--	--
	DAY/NIGHT	SOUTH FRONTAGE ROAD	7	--	189	--	--	--	35	--	63	--	--
	DAY	USH 12 EB	7	--	42	--	--	--	--	--	56	--	--
	DAY	USH 12 WB	7	--	42	--	--	--	--	--	56	--	--
	DAY/NIGHT	PRESTAGE ROAD CLOSURES	10	--	--	--	--	--	--	--	--	60	--
	NIGHT	USH 12 EB	5	--	425	--	10	15	150	15	65	5	--
	NIGHT	USH 12 WB	5	--	425	--	10	15	150	15	65	5	--
	NIGHT	USH 12 EB FULL CLOSURE	1	--	--	--	13	17	--	--	11	3	82
	NIGHT	ON RAMP @ SEMINOLE HWY CLOSURE	1	--	--	--	10	15	--	--	8	1	--
	NIGHT	TODD DRIVE ENTRANCE RAMP	7	--	--	--	0	0	--	--	21	--	--
	NIGHT	SOUTH FRONTAGE ROAD FULL CLOSURE	1	--	--	--	18	26	--	--	12	2	--
		STAGE 3 SUBTOTAL		7	1312	0	61	88	370	30	420	76	82
4	DAY/NIGHT	NORTH FRONTAGE ROAD	7	7	189	--	--	--	35	--	63	--	--
	DAY/NIGHT	SOUTH FRONTAGE ROAD	7	--	189	--	--	--	35	--	63	--	--
	DAY	USH 12 WB	7	--	42	--	--	--	--	--	56	--	--
	DAY/NIGHT	PRESTAGE ROAD CLOSURES	10	--	--	--	--	--	--	--	--	60	--
	NIGHT	USH 12 EB	5	--	425	--	10	15	150	15	65	5	--
	NIGHT	USH 12 WB	5	--	425	--	10	15	150	15	65	5	--
	NIGHT	USH WB FULL CLOSURE	1	--	--	--	13	17	--	--	11	4	119
	NIGHT	ON RAMP @ FISH HATCHERY ROAD CLOSURE	1	--	--	--	25	36	--	--	12	1	--
	NIGHT	NORTH FRONTAGE ROAD FULL CLOSURE	1	--	--	8	18	34	--	--	16	2	--
		STAGE 4 SUBTOTAL		7	1270	8	76	117	370	30	351	77	119
5	DAY/NIGHT	NORTH FRONTAGE ROAD	7	7	119	--	--	--	35	--	63	--	--
	DAY/NIGHT	SOUTH FRONTAGE ROAD	7	--	119	--	--	--	35	--	63	--	--
		PRESTAGE SOUTH FRONTAGE ROAD CLOSURE	10	--	--	--	--	--	--	--	--	20	--
	NIGHT	SOUTH FRONTAGE ROAD FULL CLOSURE	1	--	--	--	18	26	--	--	12	2	--
		STAGE 5 SUBTOTAL		7	238	0	18	26	70	0	138	22	0
6	DAY/NIGHT	NORTH FRONTAGE ROAD	7	7	119	--	--	--	35	--	63	0	--
	DAY/NIGHT	SOUTH FRONTAGE ROAD	7	--	119	--	--	--	35	--	63	0	--
		PRESTAGE NORTH FRONTAGE ROAD CLOSURE	10	--	--	--	--	--	--	--	--	20	--
	NIGHT	NORTH FRONTAGE ROAD FULL CLOSURE	1	--	--	8	18	34	--	--	16	2	--
		STAGE 6 SUBTOTAL		7	238	8	18	34	70	0	142	22	0
7	DAY/NIGHT	NORTH FRONTAGE ROAD	35	35	490	--	--	--	175	--	315	--	--
	DAY/NIGHT	SOUTH FRONTAGE ROAD	35	--	490	--	--	--	175	--	315	--	--
		STAGE 7 SUBTOTAL		35	980	0	0	0	350	0	630	0	0
		UNDISTRIBUTED		20	1398	46	31	93	410	26	497	26	24
ITEM TOTALS				190	15300	510	320	980	4450	260	5450	301	225

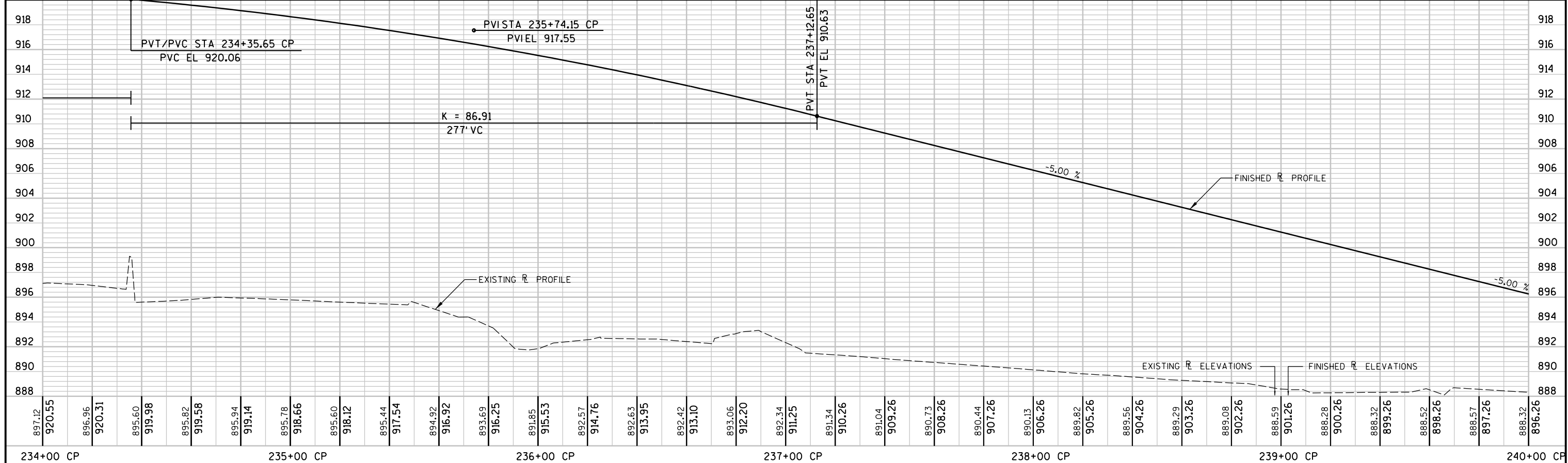
NOTE: TABLE QUANTITIES ARE
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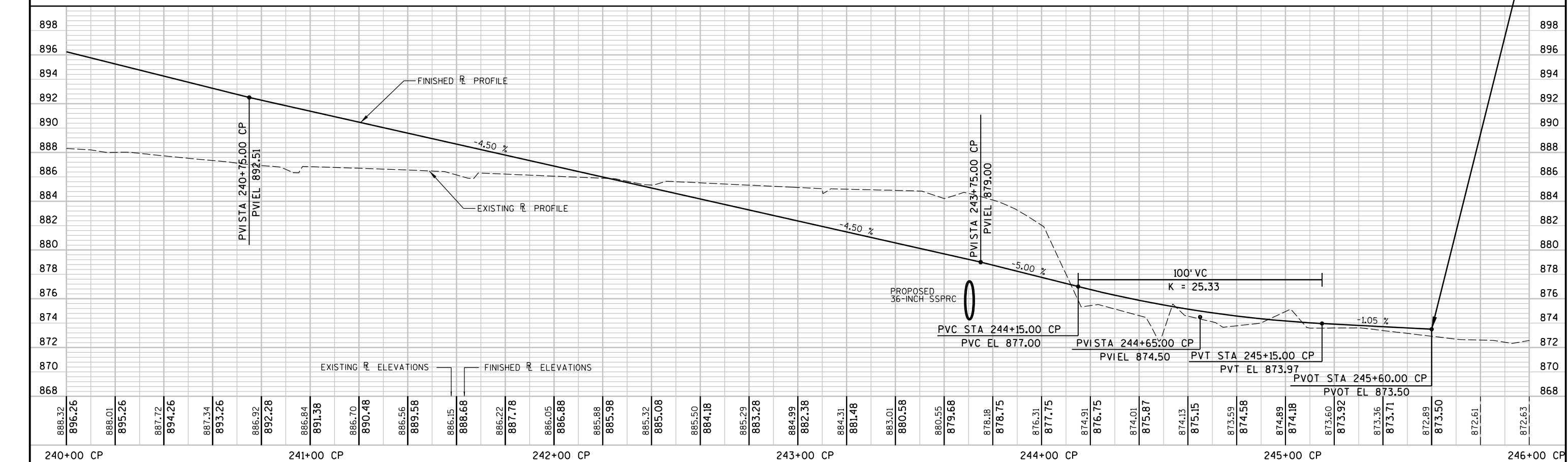
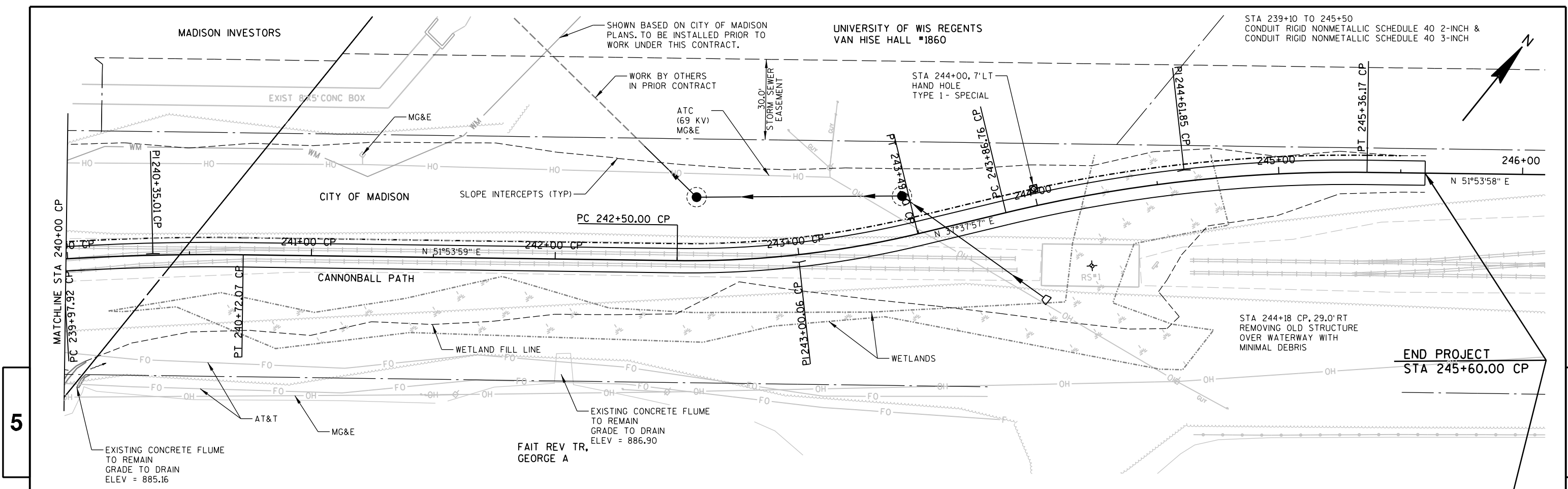


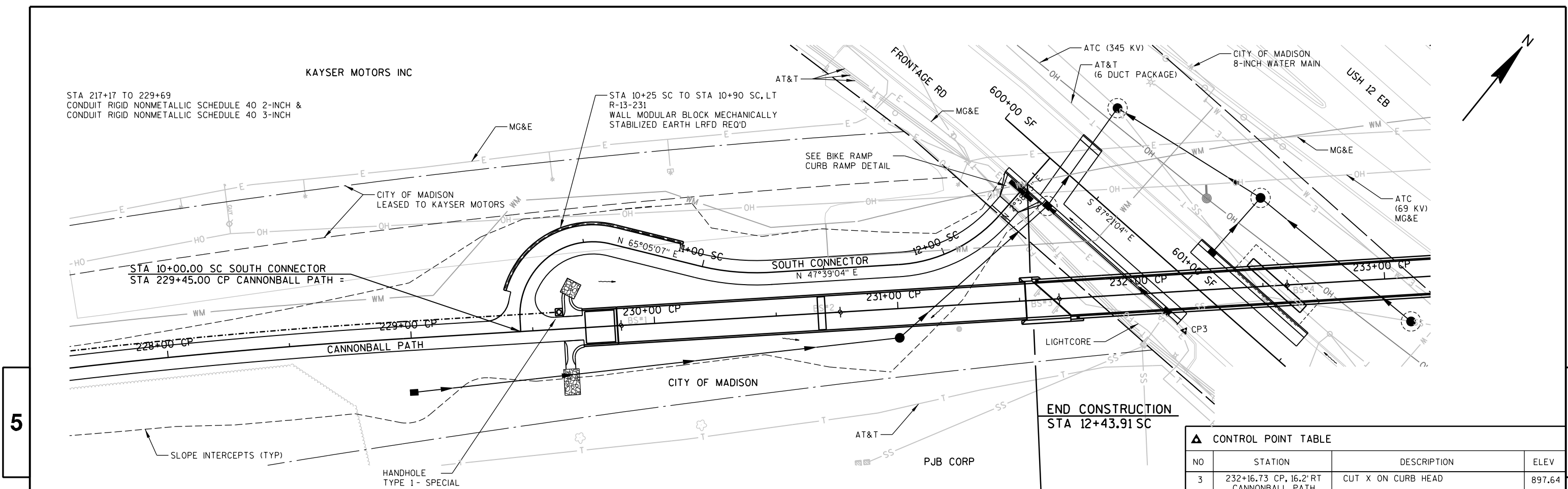




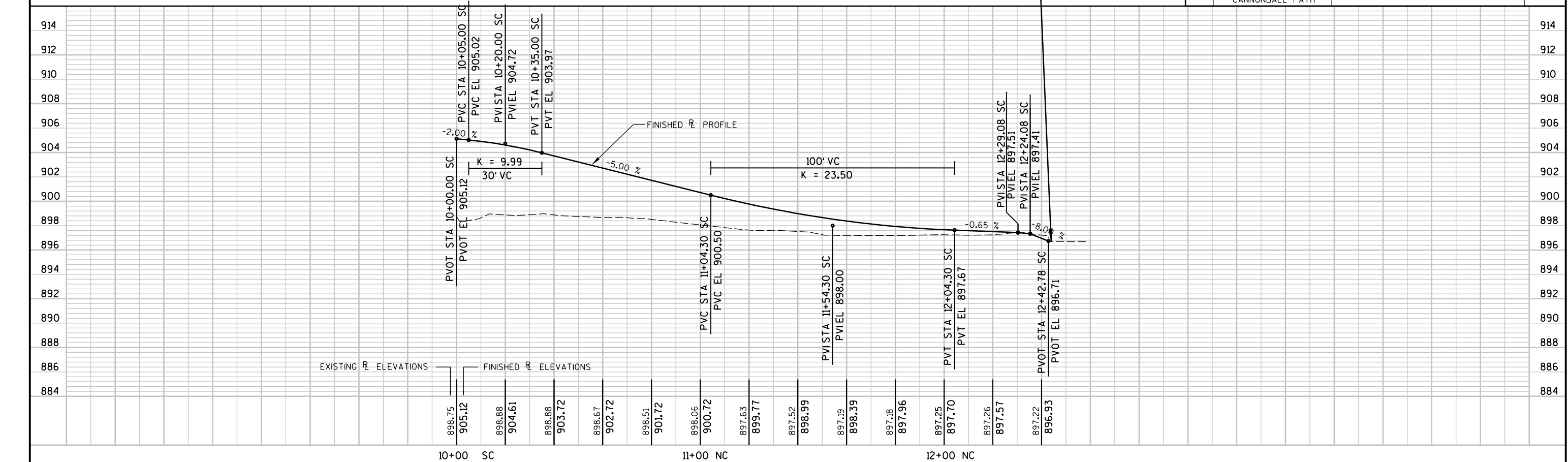
CONTROL POINT TABLE			
NO	STATION	DESCRIPTION	ELEV
1	236+27.86 CP, 82.2'LT CANNONBALL PATH	TOP NUT FIRE HYDRANT BY CULVER'S SIGN	892.21
4	236+55.68 CP, 27.4'LT CANNONBALL PATH	CUT X ON SIDEWALK	893.08







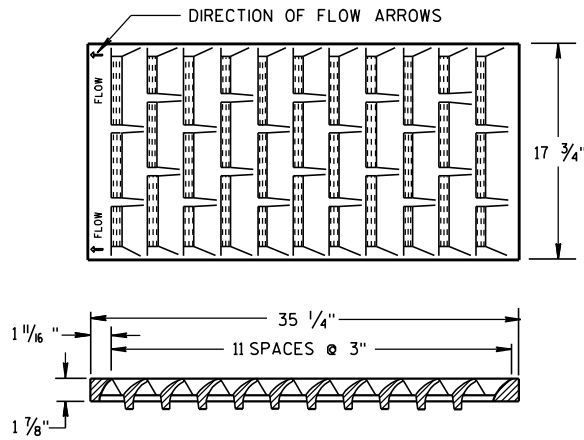
CONTROL POINT TABLE			
NO	STATION	DESCRIPTION	ELEV
3	232+16.73 CP, 16.2' RT CANNONBALL PATH	CUT X ON CURB HEAD	897.64



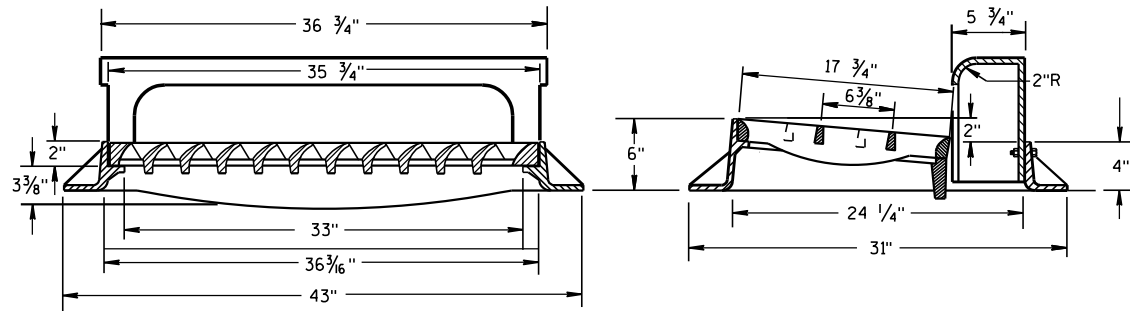
Standard Detail Drawing List

08A05-16A	INLET COVERS TYPE A, H, A-S, & H-S
08A05-16B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-18D	INLET COVER, TYPE BW, Z MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08B10-01	MANHOLES 3X3-FT, 4X4-FT, 5X5-FT AND 6X6-FT
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-14A	CURB RAMPS TYPES 1 AND 1-A
08D05-14B	CURB RAMPS TYPES 2 AND 3
08D05-14C	CURB RAMPS TYPE 4A
08D05-14D	CURB RAMPS TYPE 4B
08D05-14E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-07	CONDUIT
09C08-04	CONCRETE BASE, TYPE 7
09E02-03	FREEWAY LIGHTING UNIT POLE WIRING
12A03-10	NAME PLATE (STRUCTURES)
13A05-04A	SHOULDER RUMBLE STRIP, MILLING
13A05-04B	SHOULDER RUMBLE STRIP, MILLING
14B07-12A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-12B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-12C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-12D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
15A03-01	MARKER POSTS, FLEXIBLE, FOR CULVERT END
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C05-01	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-14A	PAVEMENT MARKING (MAINLINE)
15D12-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.
15D14-01	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D27-01	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-01	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE

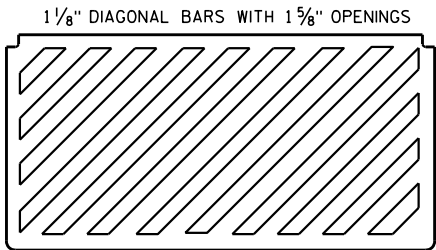
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



TYPE "H"
(APPROXIMATE WEIGHT 422 LBS.)
FRAME..... 175 LBS.
GRATE..... 138 LBS.
CURB BOX..... 109 LBS.



**SPECIAL GRATE FOR
TYPE "H" COVER**
(MEASURES 35 1/4" X 17 3/4" X 2")
(APPROXIMATE WEIGHT 172 LBS.)
GRATE..... 172 LBS.
(NOTED AS TYPE H-S ON DRAINAGE TABLE)

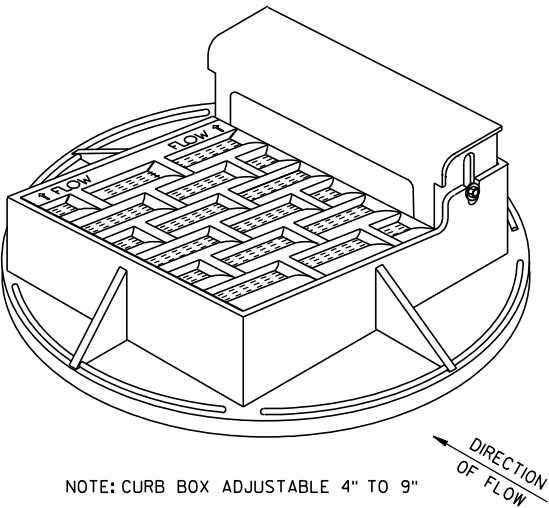
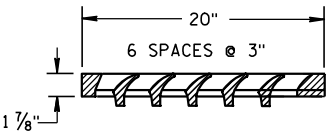
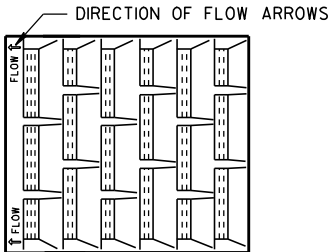
GENERAL NOTES

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

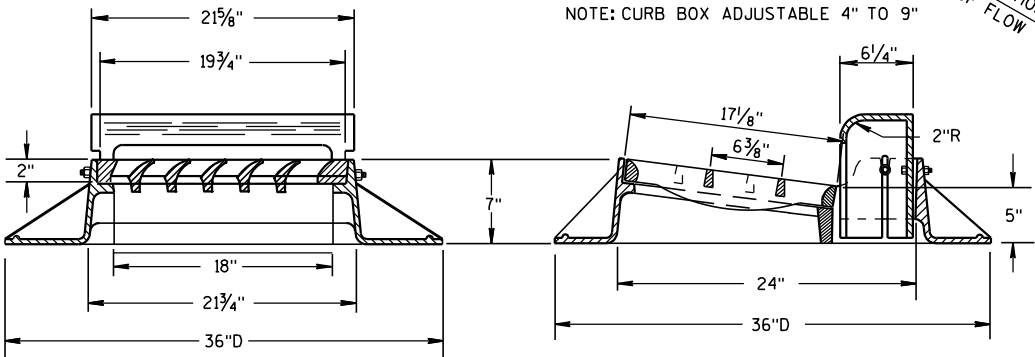
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

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



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

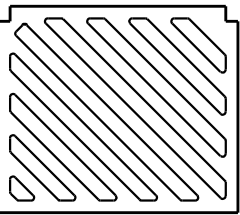


TYPE "A"

(APPROXIMATE WEIGHT 325 LBS.)
FRAME..... 157 LBS.
GRATE..... 84 LBS.
CURB BOX..... 84 LBS.

NOTE:
GRATE IS REVERSIBLE.

1" DIAGONAL BARS
WITH 1 1/2" OPENINGS

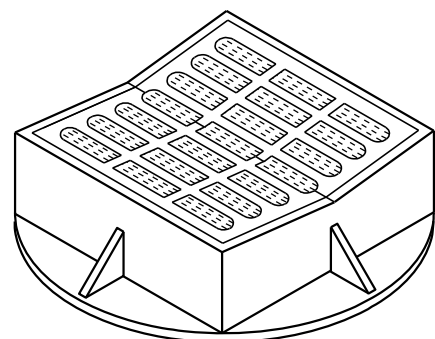
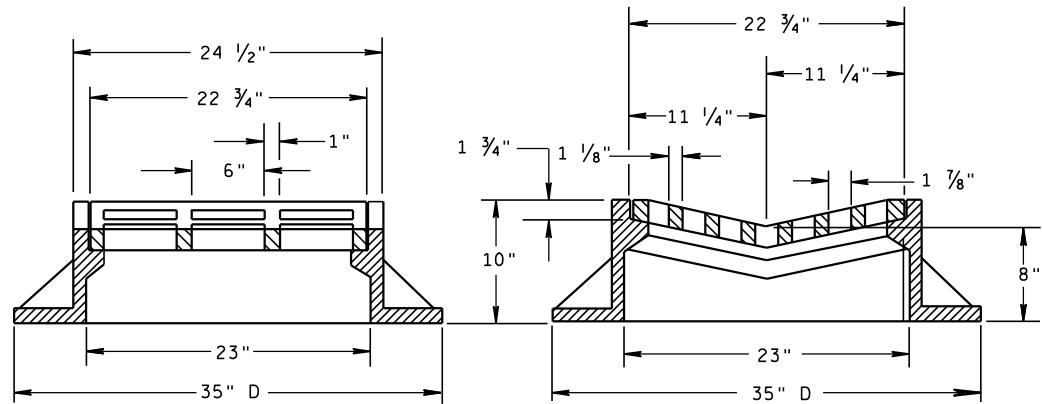


**SPECIAL GRATE FOR
TYPE "A" COVER**
(MEASURES 19 3/4" X 17" X 1 1/8")
GRATE..... 84 LBS.
(NOTED AS TYPE A-S ON DRAINAGE TABLE)

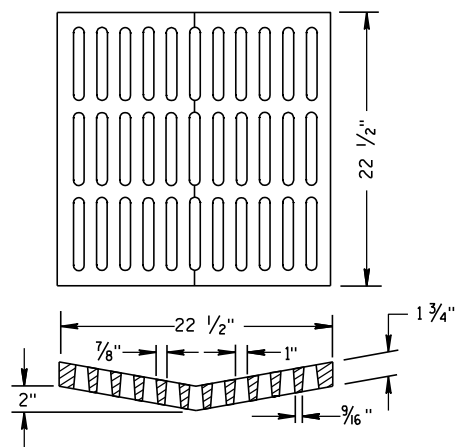
**INLET COVERS
TYPE A, H, A-S, & H-S**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/4/1999 /S/ Rory L. Rhinehart
DATE CHIEF ROADWAY DEVELOPER
FHWA

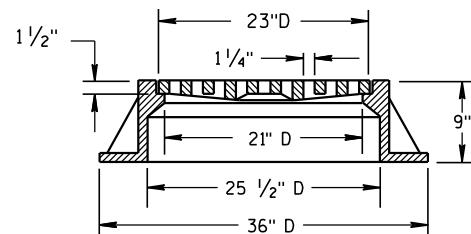
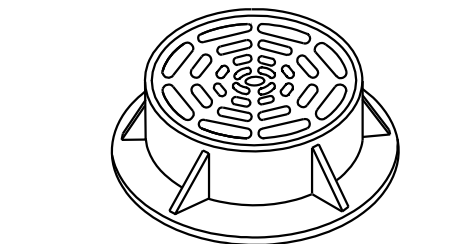


TYPE "B"
(APPROXIMATE WEIGHT 395 LBS.)
FRAME..... 285 LBS.
GRATE..... 110 LBS.



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

(APPROXIMATE GRATE WEIGHT 125 LBS.)
GRATE.....125 LBS.
USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"
(APPROXIMATE WEIGHT 340 LBS.)
FRAME..... 235 LBS.
GRATE..... 105 LBS.

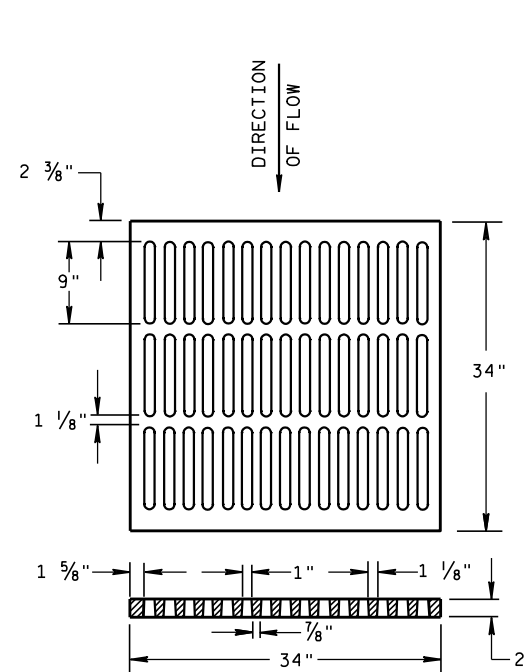
GENERAL NOTES

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

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

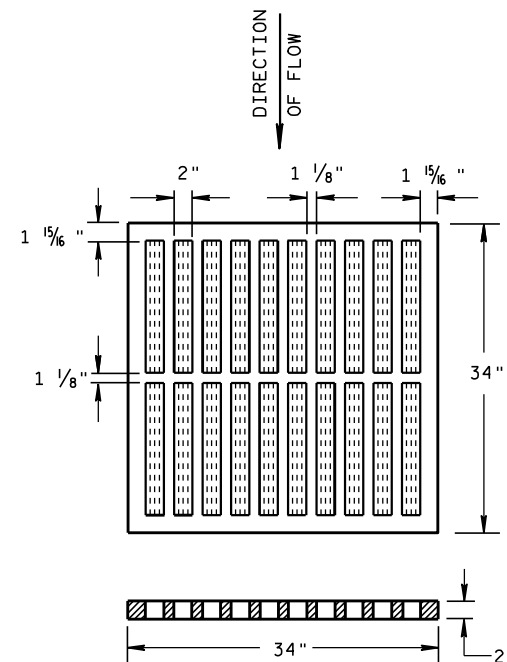
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

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



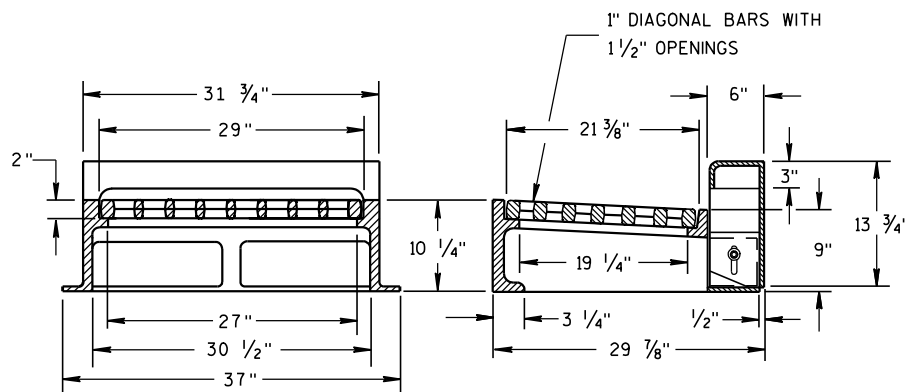
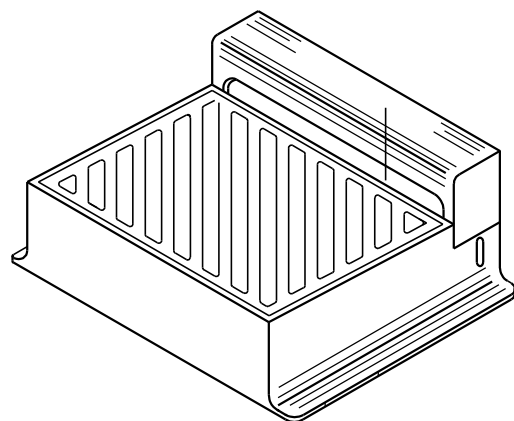
ALTERNATIVE TYPE "MS"
(APPROXIMATE GRATE WEIGHT 365 LBS.)
GRATE.....365 LBS.

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



TYPE "MS"
(APPROXIMATE GRATE WEIGHT 270 LBS.)
GRATE.....270 LBS.

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



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"
(APPROXIMATE WEIGHT 670 LBS.)

FRAME..... 360 LBS.
GRATE..... 160 LBS.
CURB BOX..... 150 LBS.

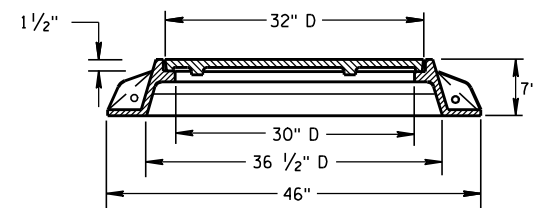
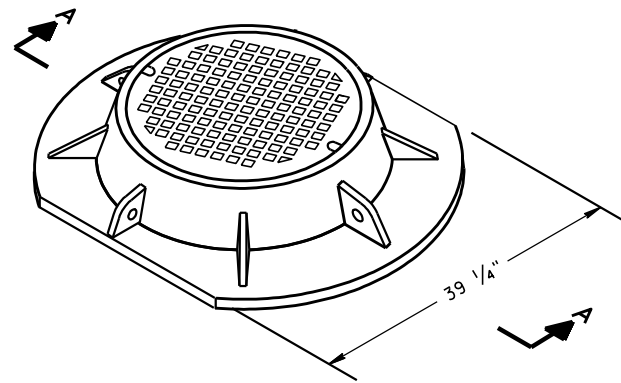
DIAGONAL SLOTS, SHALL BE ORIENTED
TO THE DIRECTION OF FLOW AS ILLUSTRATED.
GRATES ARE MANUFACTURED TO BE REVERSIBLE.

DIRECTION
OF FLOW

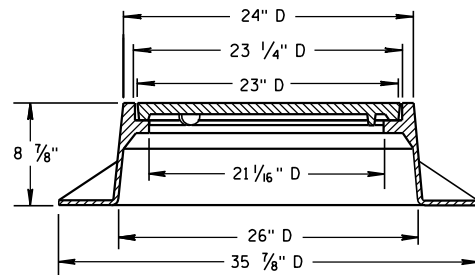
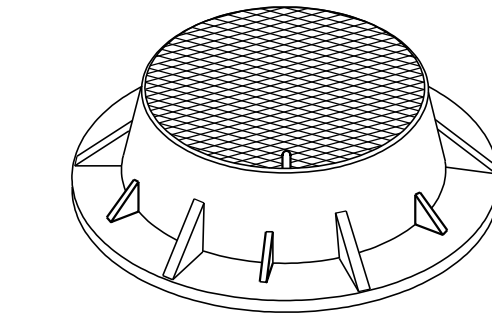
INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

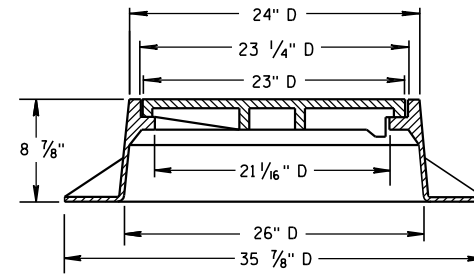
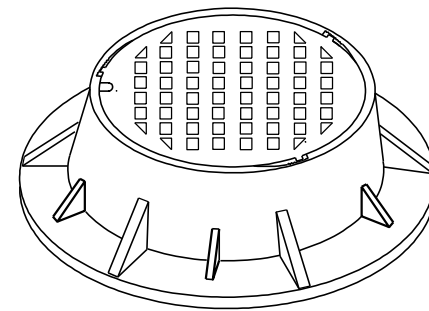
APPROVED
10/4/1999 /S/ Rory L. Rhinehart
DATE CHIEF ROADWAY DEVELOPER
FHWA ENGINEER



SECTION A-A
TYPE "K"
(APPROXIMATE WEIGHT 439 LBS.)
FRAME.....216 LBS.
LID.....223 LBS.



TYPE "J"
(APPROXIMATE WEIGHT 267 LBS.)
FRAME.....152 LBS.
LID.....115 LBS.



TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(APPROXIMATE WEIGHT 267 LBS.)
FRAME.....158 LBS.
LID.....109 LBS.
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

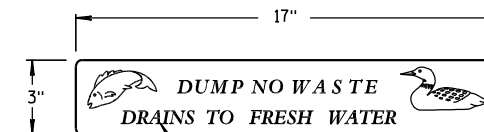
GENERAL NOTES

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.

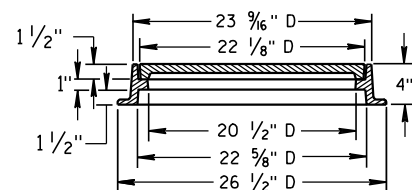
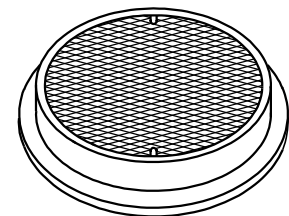
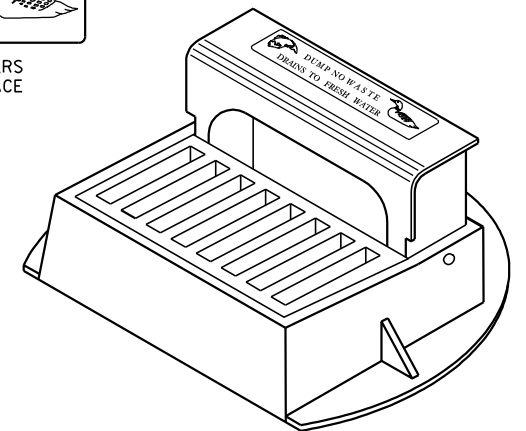
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

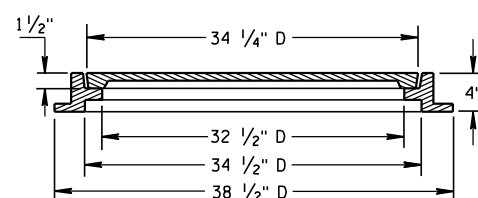
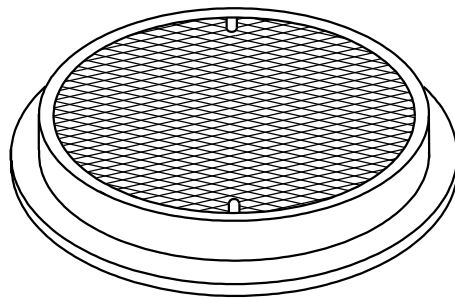
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.



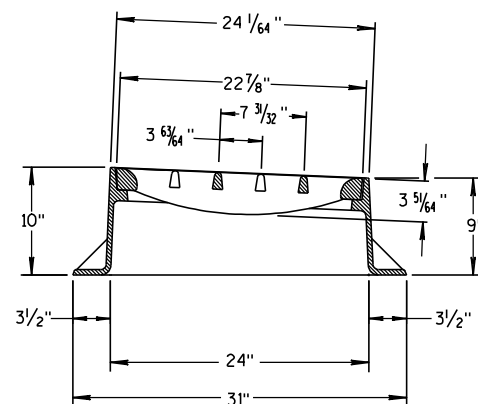
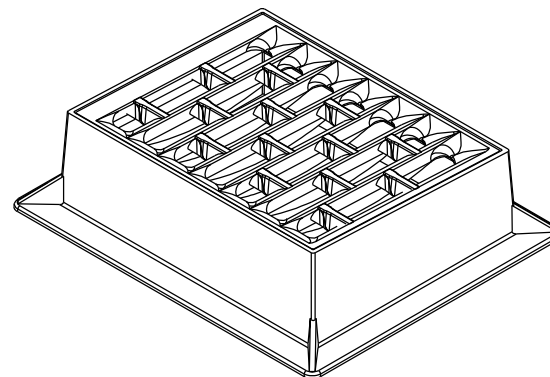
LOGO DETAIL



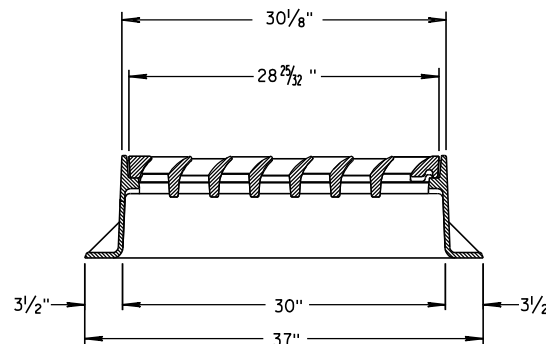
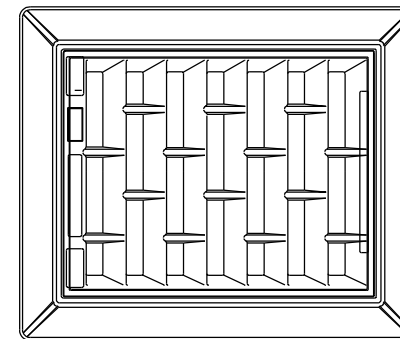
TYPE "L"
(APPROXIMATE WEIGHT 158 LBS.)
FRAME.....81 LBS.
LID.....77 LBS.



TYPE "M"
(APPROXIMATE WEIGHT 377 LBS.)
FRAME.....125 LBS.
LID.....252 LBS.



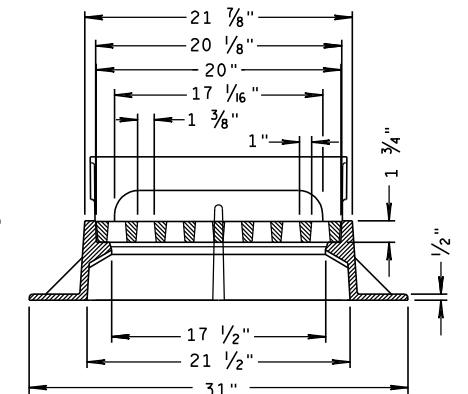
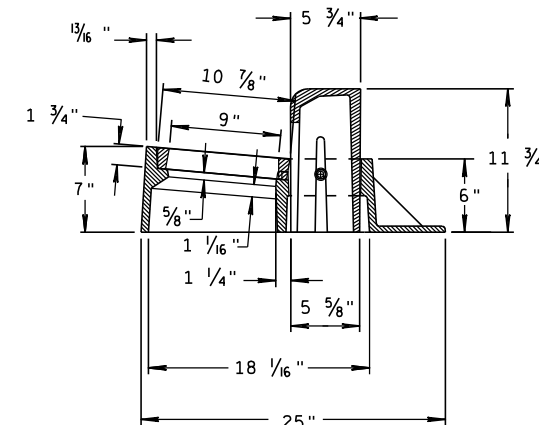
INLET COVER TYPE "BW"



INLET COVER TYPE "Z"

(APPROXIMATE WEIGHT 344 LBS.)

FRAME.....206 LBS.
GRATE.....46 LBS.
CURB BOX.....92 LBS.



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012

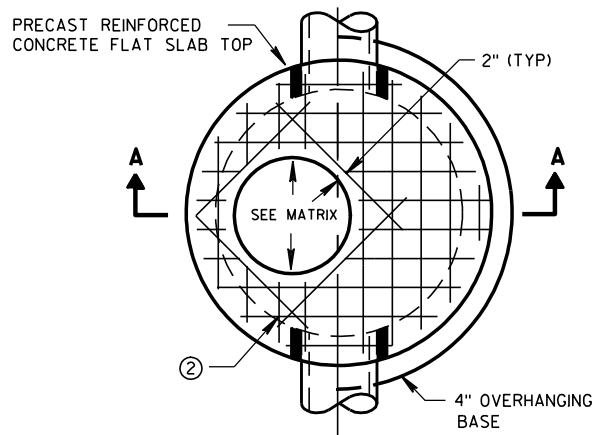
DATE

FHWA

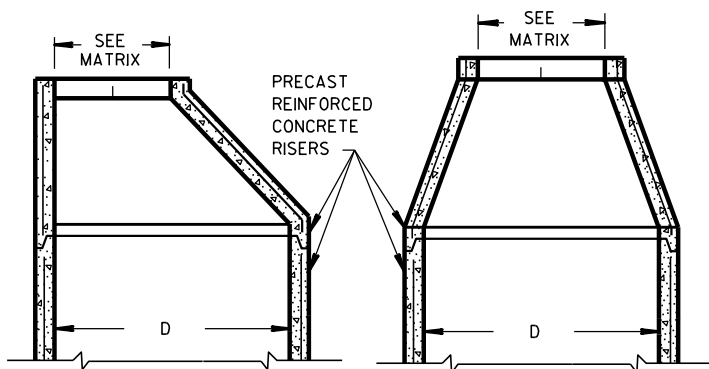
/S/ Jerry H. Zopp

ROADWAY STANDARDS 169

ENGINEER

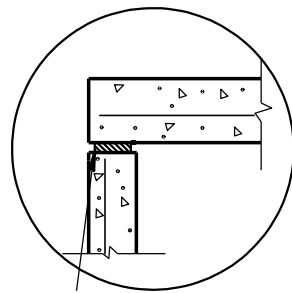


PLAN VIEW CIRCULAR OPENING

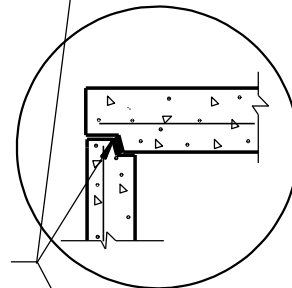


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

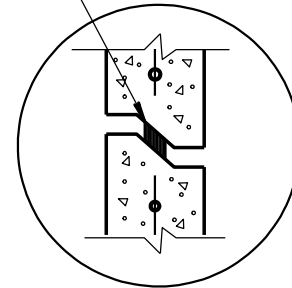
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT



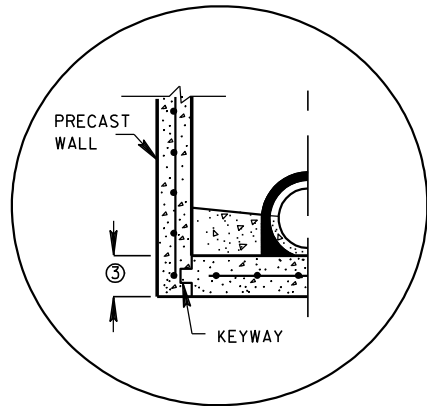
TOP WITH TONGUE AND GROOVE JOINT



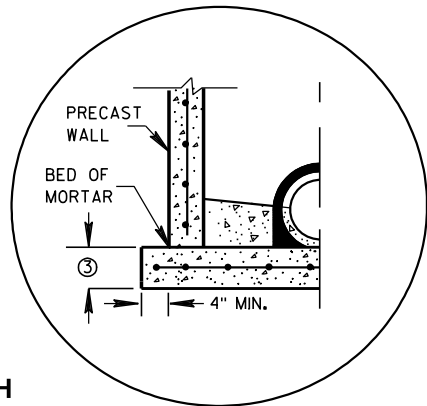
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

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

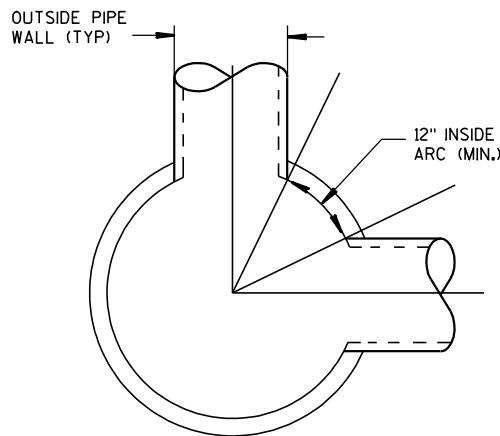


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

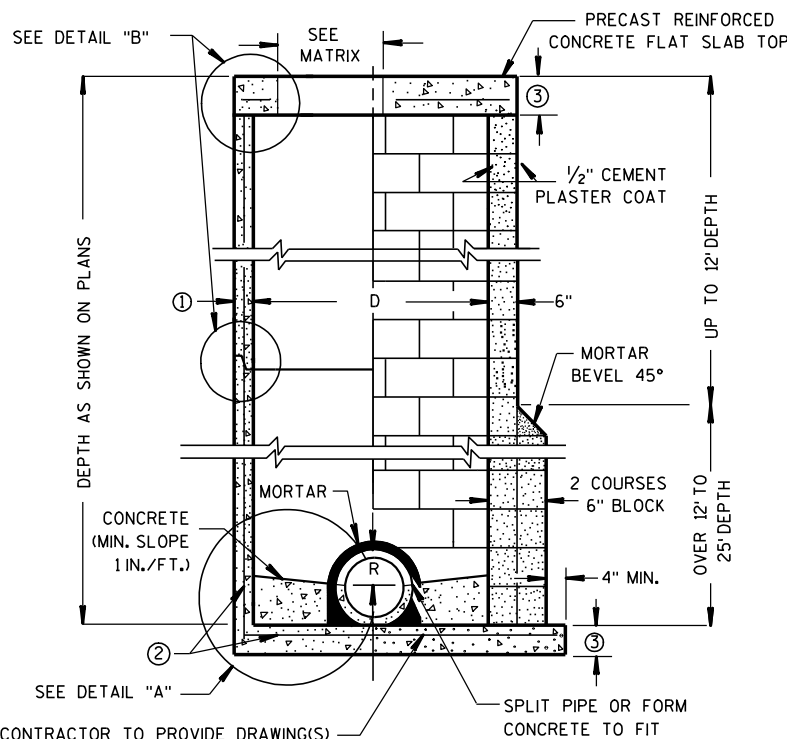


SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



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

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

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MANHOLE COVER OPENING MATRIX

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

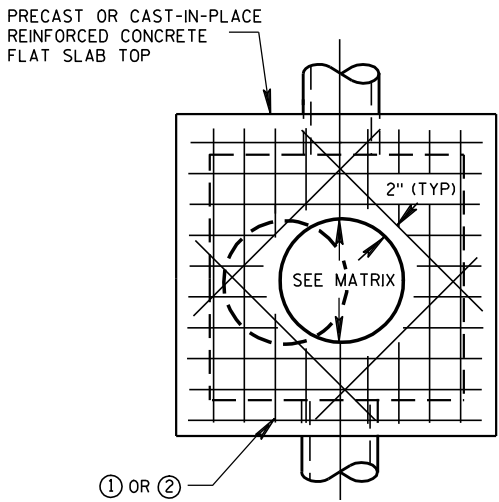
PIPE MATRIX

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

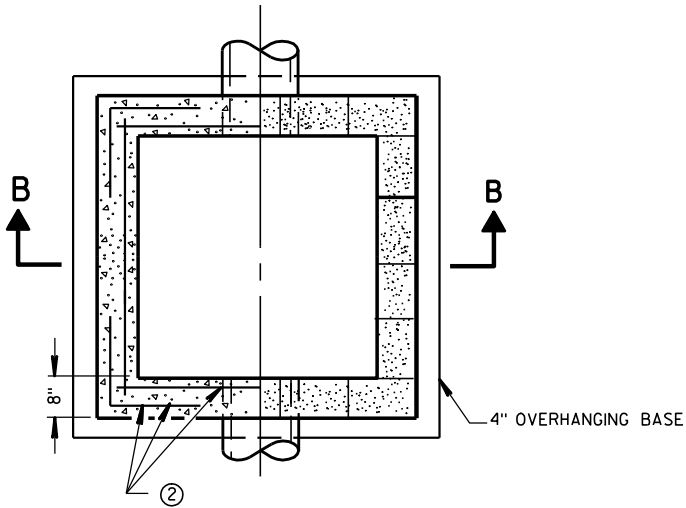
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

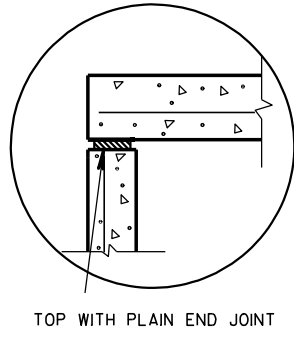
APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEPARTMENT
FHWA ENGINEER 70



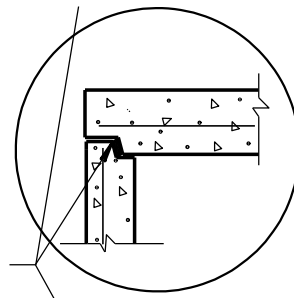
PLAN VIEW
CIRCULAR OPENING



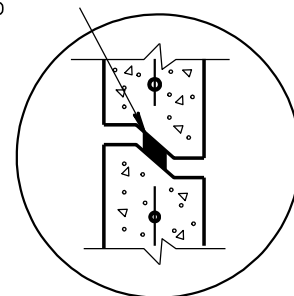
SECTION A-A
PLAN VIEW



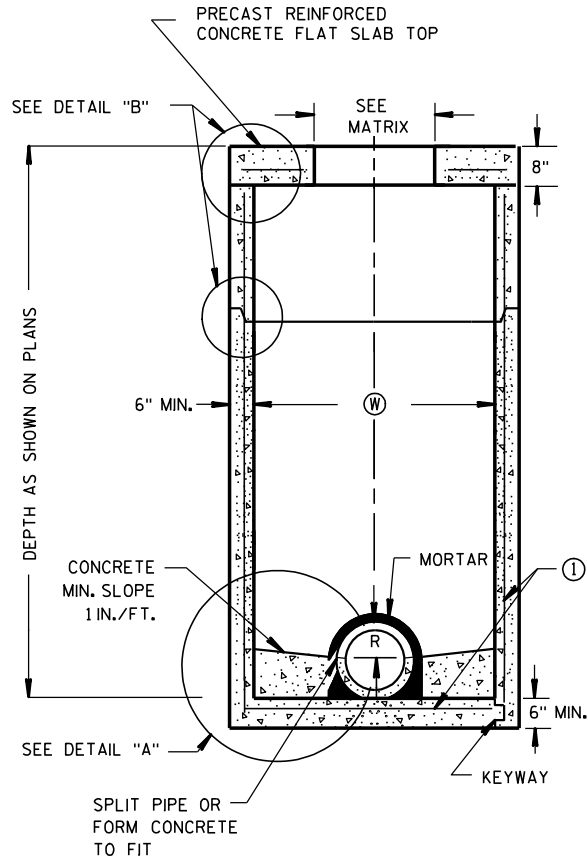
TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT

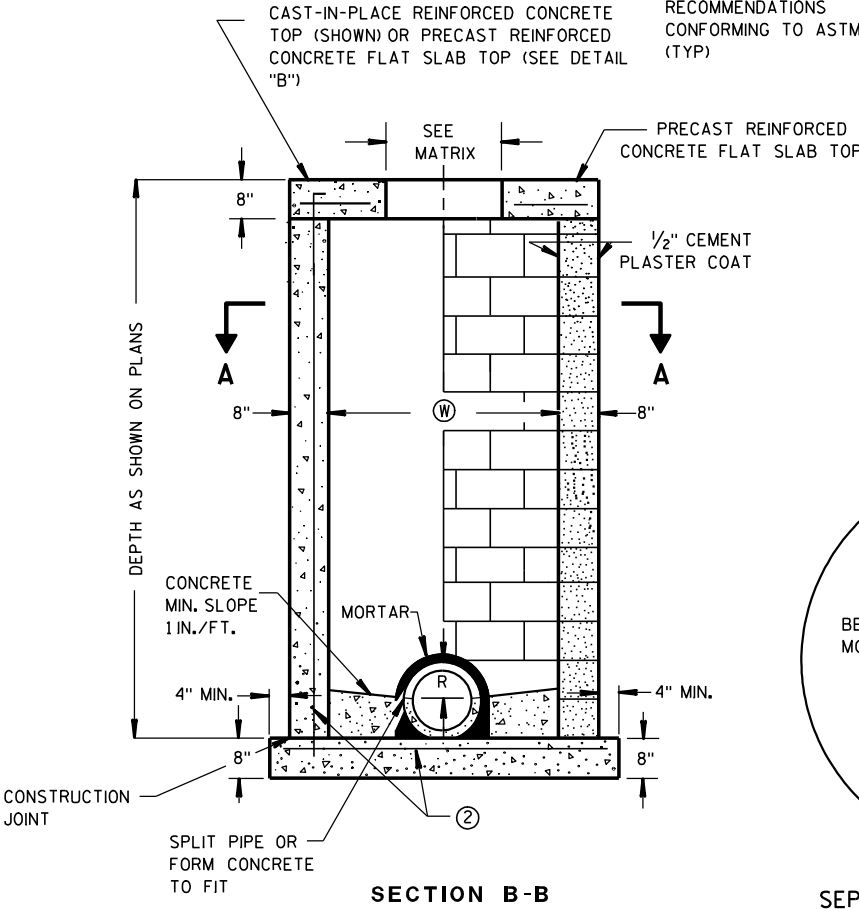


DETAIL "B"



PRECAST REINFORCED
CONCRETE WITH
MONOLITHIC BASE

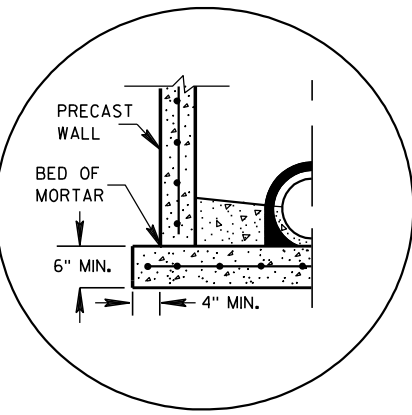
PRECAST REINFORCED
CONCRETE WITH
INTEGRAL BASE



CAST-IN-PLACE
REINFORCED
CONCRETE

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

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



SEPERATE PRECAST REINFORCED
CONCRETE BASE OPTION

DETAIL "A"

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

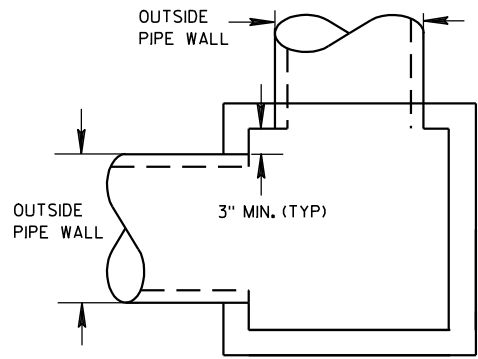
- 1 FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- 2 CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

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



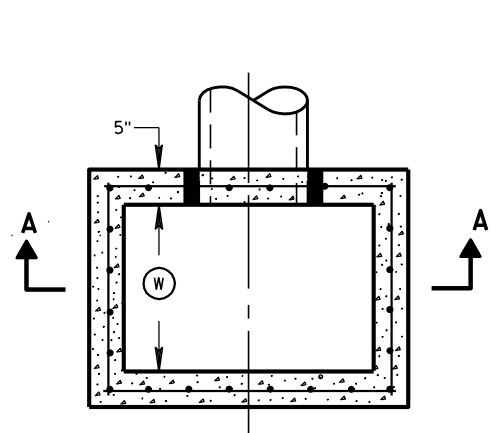
DETAIL "C"

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

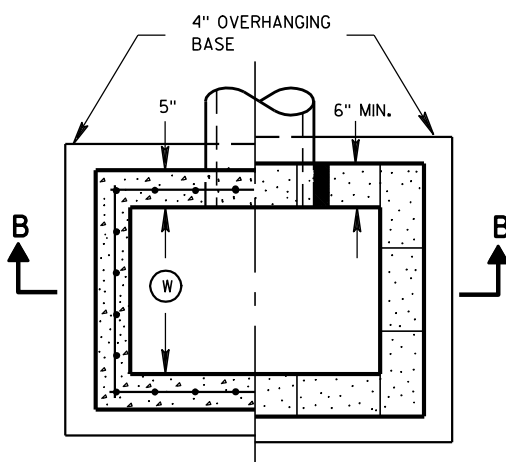
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 /S/ Jerry H. Z...
DATE ROADWAY STANDARDS 71
FHWA ENGINEER

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

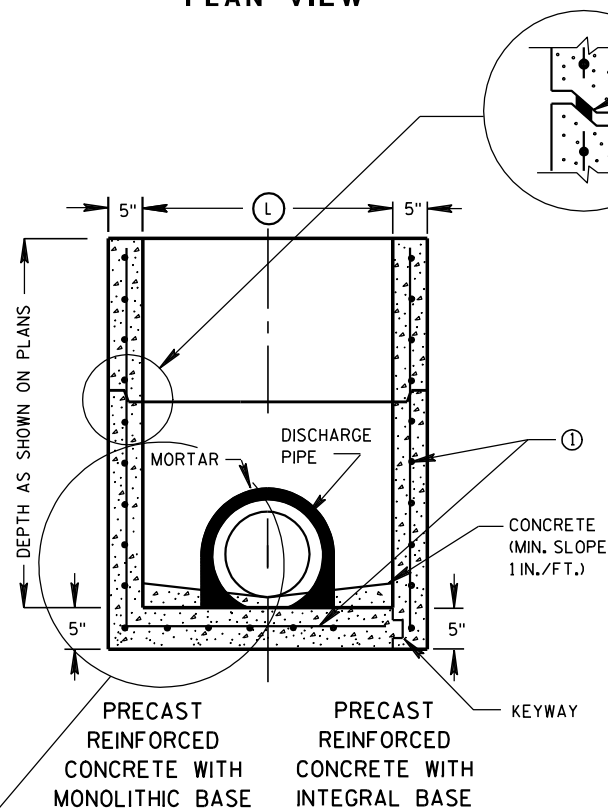


PLAN VIEW

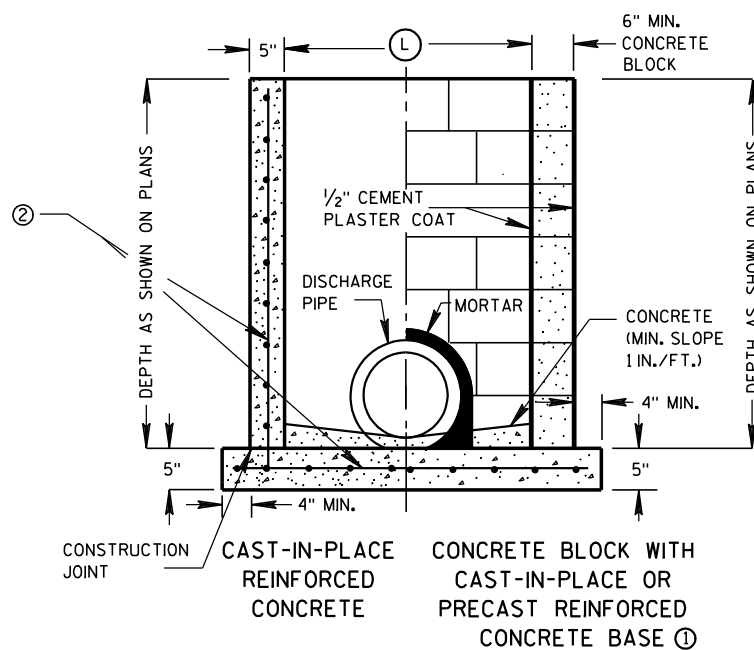


PLAN VIEW

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



SECTION A-A



SECTION B-B

SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

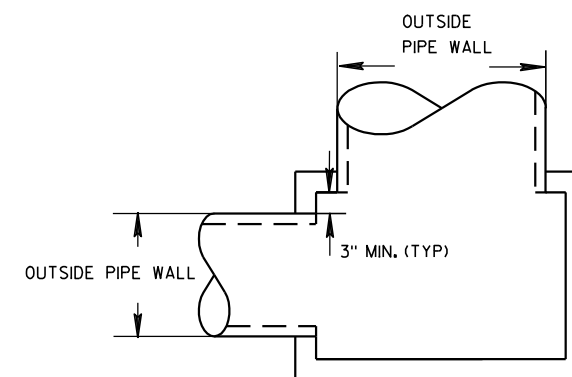
- FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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

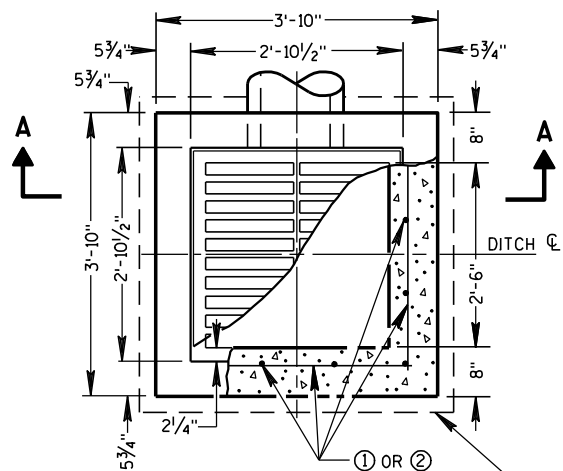


DETAIL "A"

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

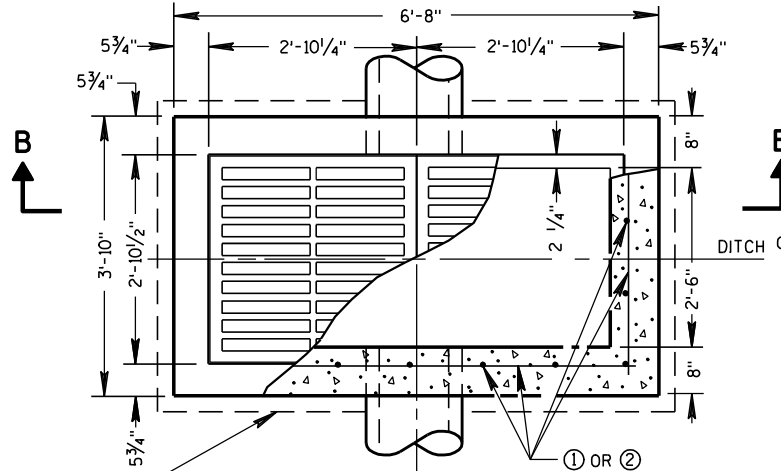
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 6/5/2012
FHW
/S/ Jerry H. Zoaa
ROADWAY STANDARDS D 72
ENGINEER

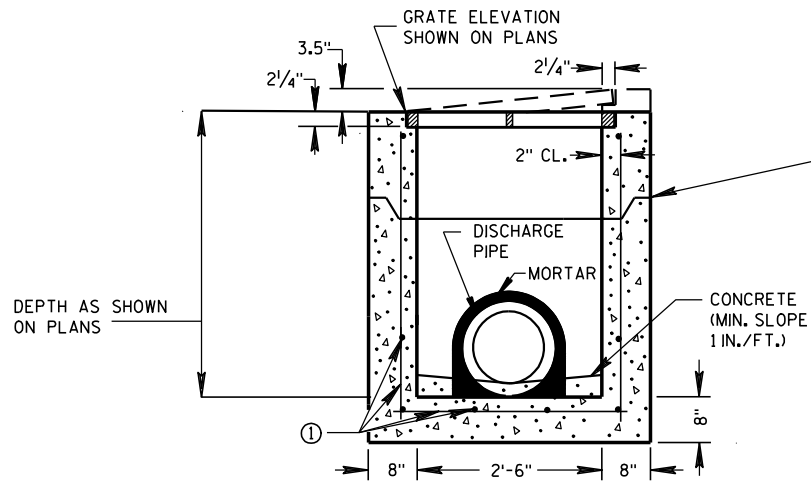


PLAN VIEW

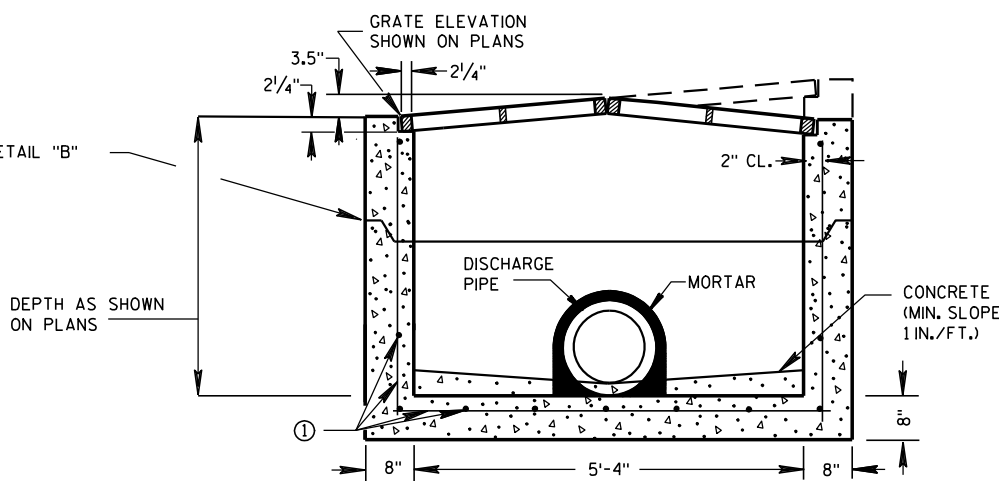
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



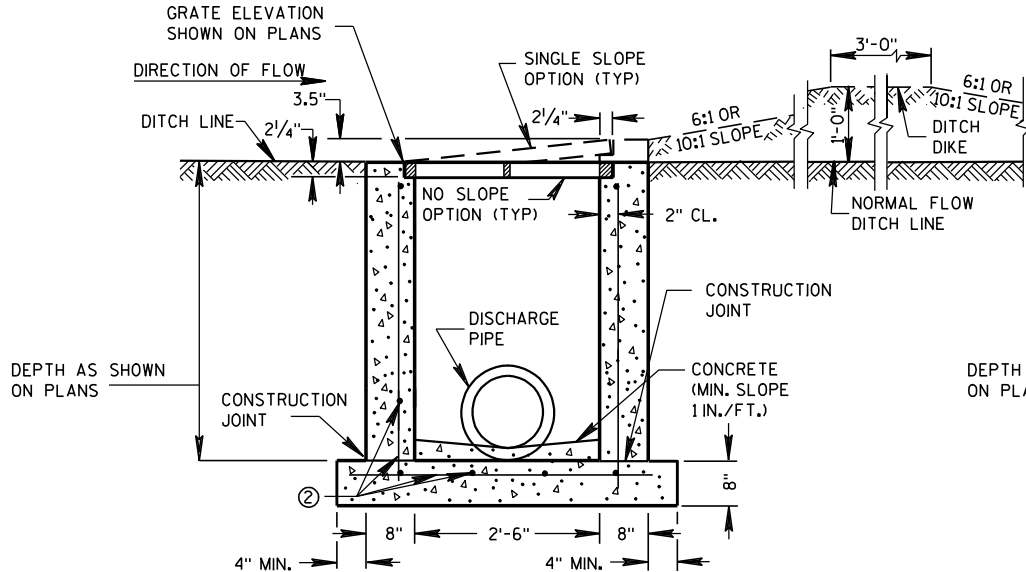
PLAN VIEW



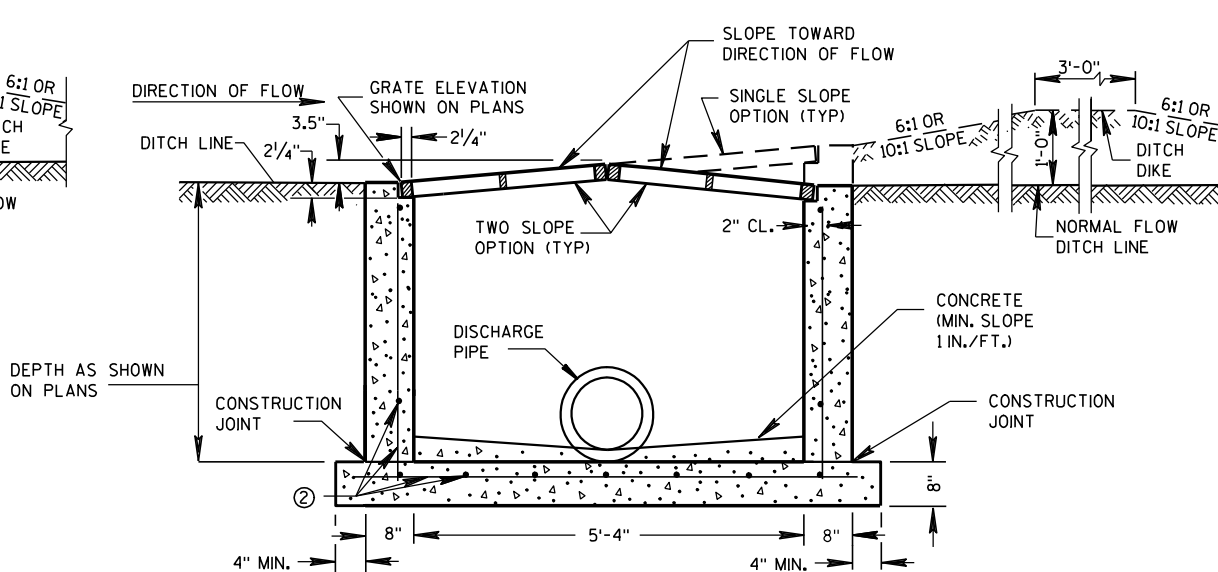
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE 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 INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

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

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

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

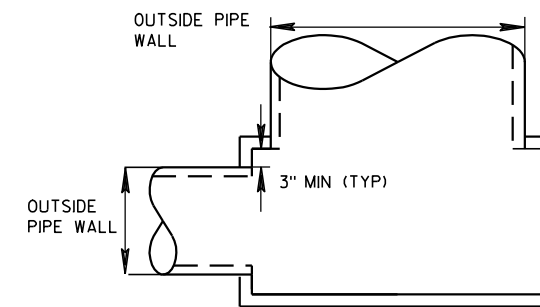
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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

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

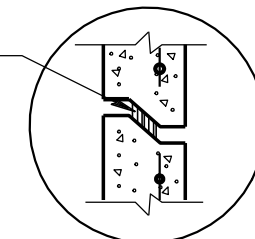
PIPE MATRIX

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



DETAIL "A"

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



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012

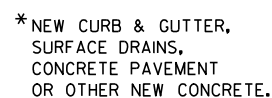
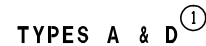
DATE

FHWA

/s/ Jerry H. Zoon

ROADWAY STANDARDS ENGINEER

INT



CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08

DATE _____

/S/ Jerry H. [unclear]

ROADWAY STANDARDS 74

FHWA

ENGINEER

EN

6

6

S.D.D. 8 D 1-17

S D D & D 1-17

6



PLAN VIEW
FLUME AT CURB END



6

S.D.D. 8 D 4-5

- ① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

EXPANSION JOINT

CONCRETE CURB AND GUTTER

2" MIN. CURB HEIGHT

4" R

TAPER CURB TO FLOW LINE

INCREASE ϕ FROM RIGHT ANGLE TO BEST FIT FIELD CONDITIONS

8'-0"

4'-0"

EDGE OF PAVEMENT

3'-0" MIN.

SURFACE DRAIN IS SYMMETRICAL WHEN CURB AND GUTTER IS CONTINUED

SHOULDER OR BERM HINGE POINT

4'-0"

JOINTS

W3 WIRE MESH (SEE SECTION D-D)

RIPRAP

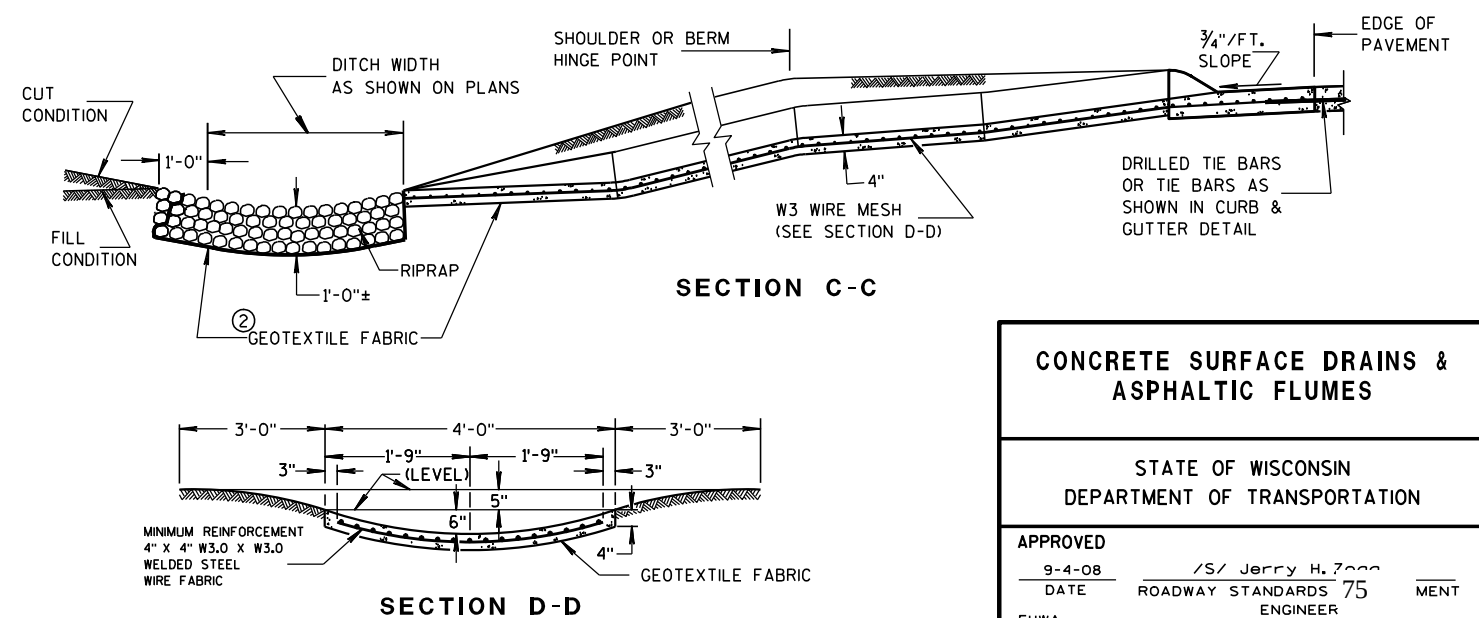
6'-0" OR AS REQUIRED

1'-0" ON CUT SLOPE

DITCH

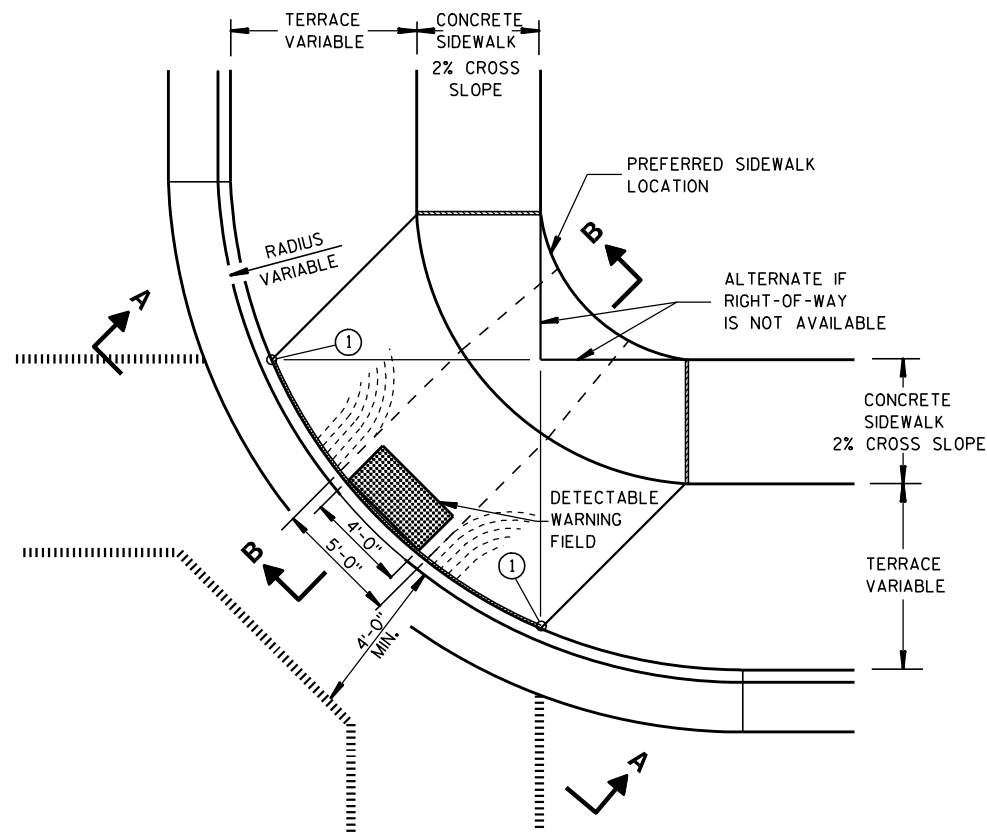
PLAN VIEW

PLAN VIEW

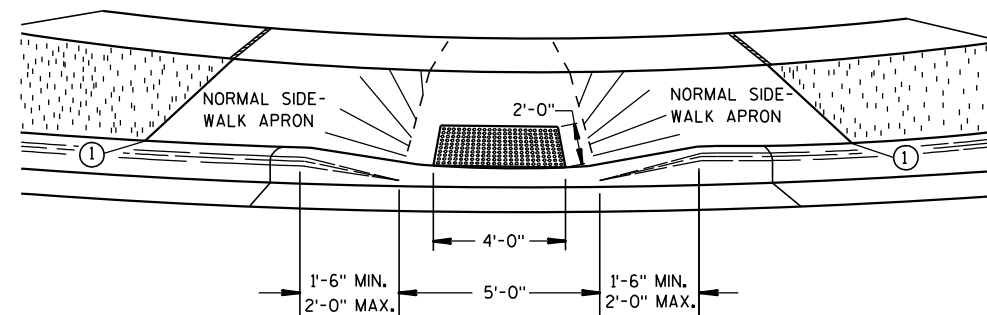


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

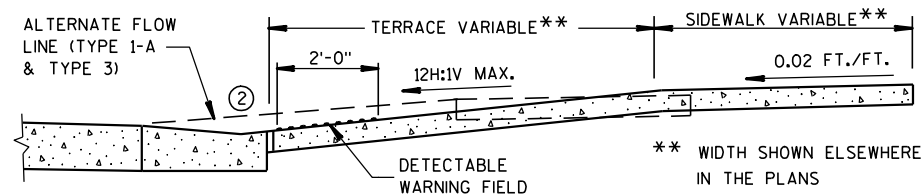
APPROVED
9-4-08 /S/ Jerry H. Zocco
DATE ROADWAY STANDARDS 75
ENGINEER
FHWA



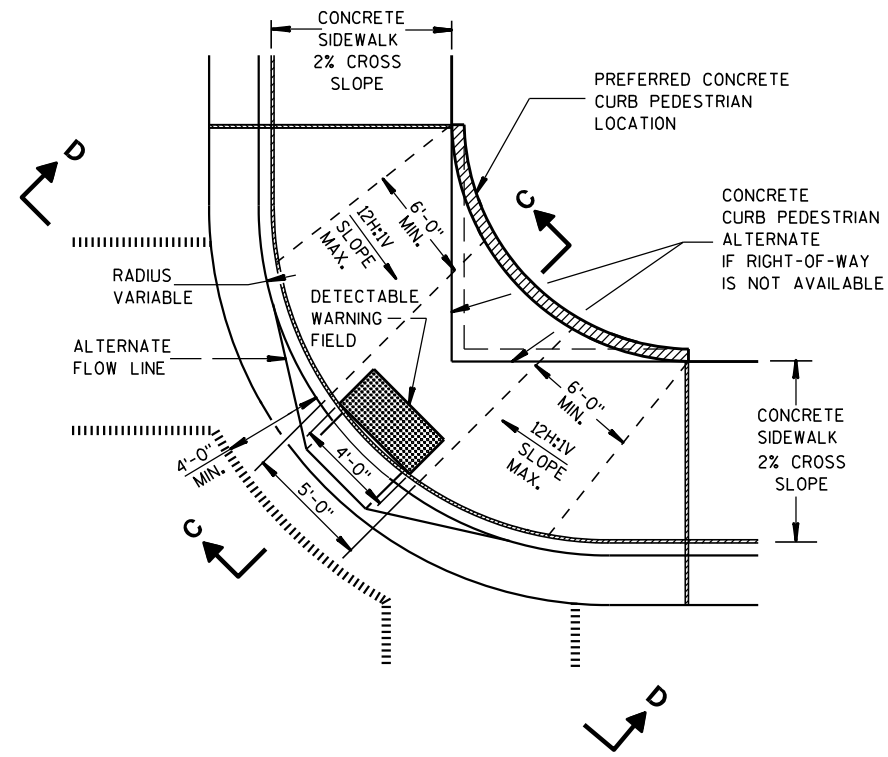
**PLAN VIEW
TYPE 1 RAMP**
(CENTER OF CORNER RADIUS)



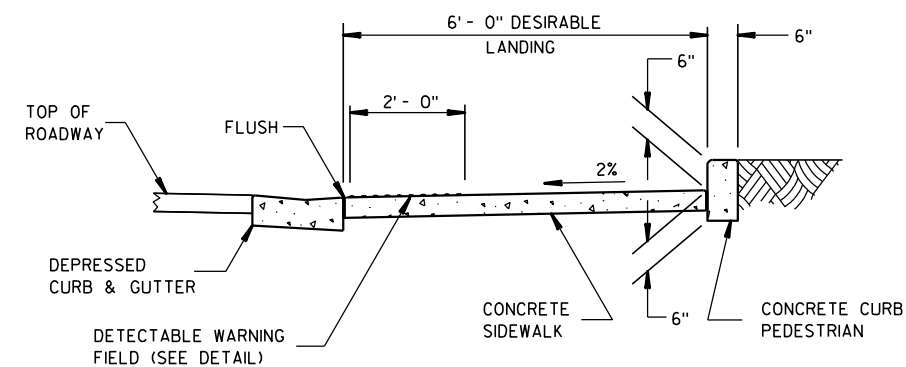
VIEW A-A



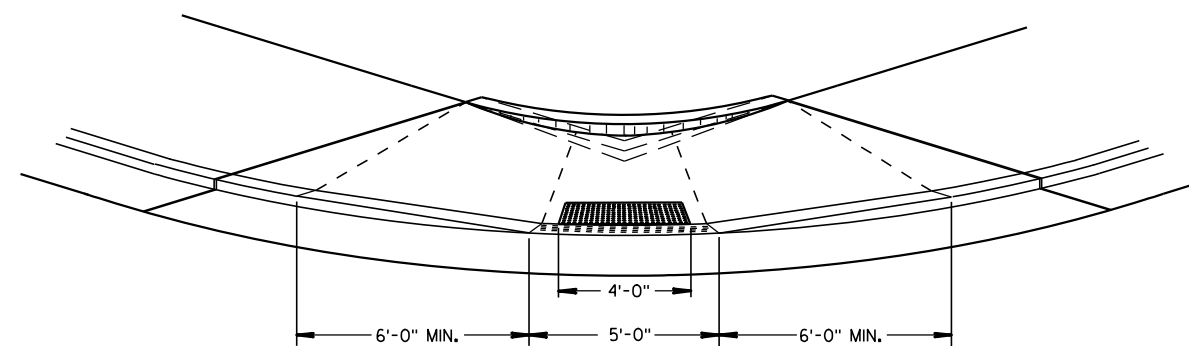
SECTION B-B



**PLAN VIEW
TYPE 1-A RAMP**
(NO TERRACE)



SECTION C-C



VIEW D-D

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

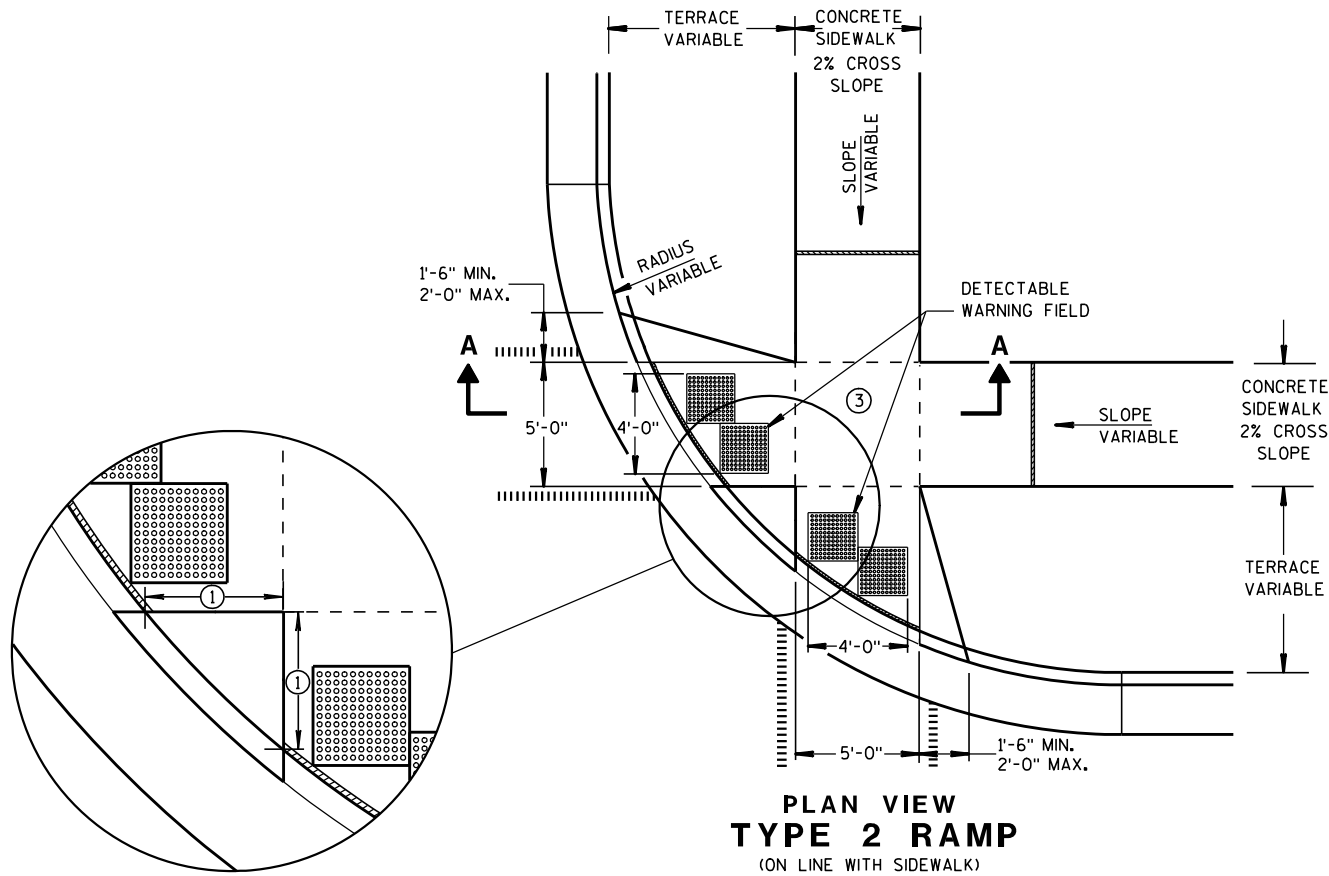
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

LEGEND

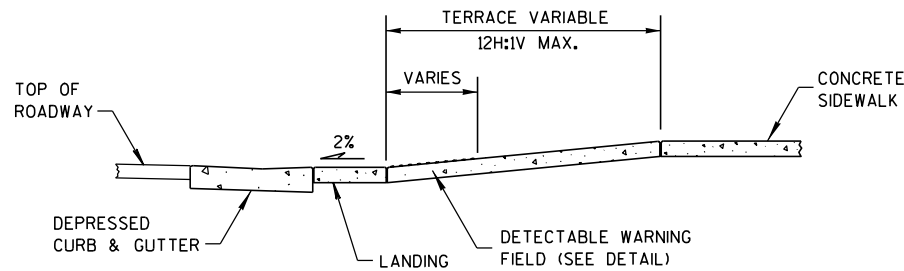
- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

**CURB RAMPS
TYPES 1 AND 1-A**

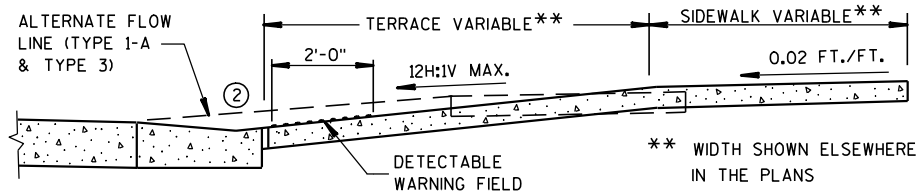
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

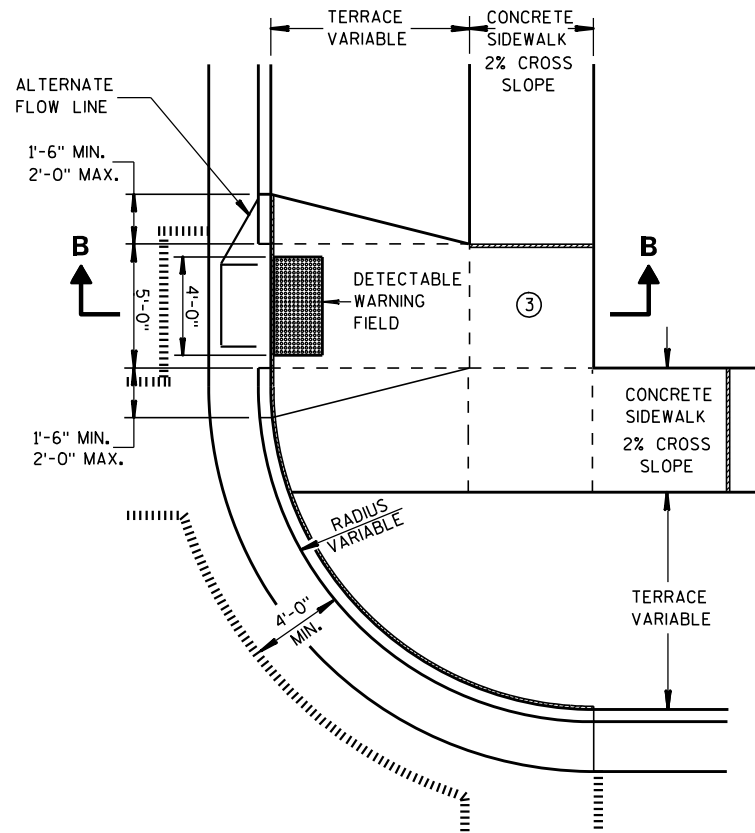
GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

- ① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ PROVIDE LANDING AT TOP OF RAMP WITH NO MORE THAN 2% SLOPE IN ANY DIRECTION.

LEGEND

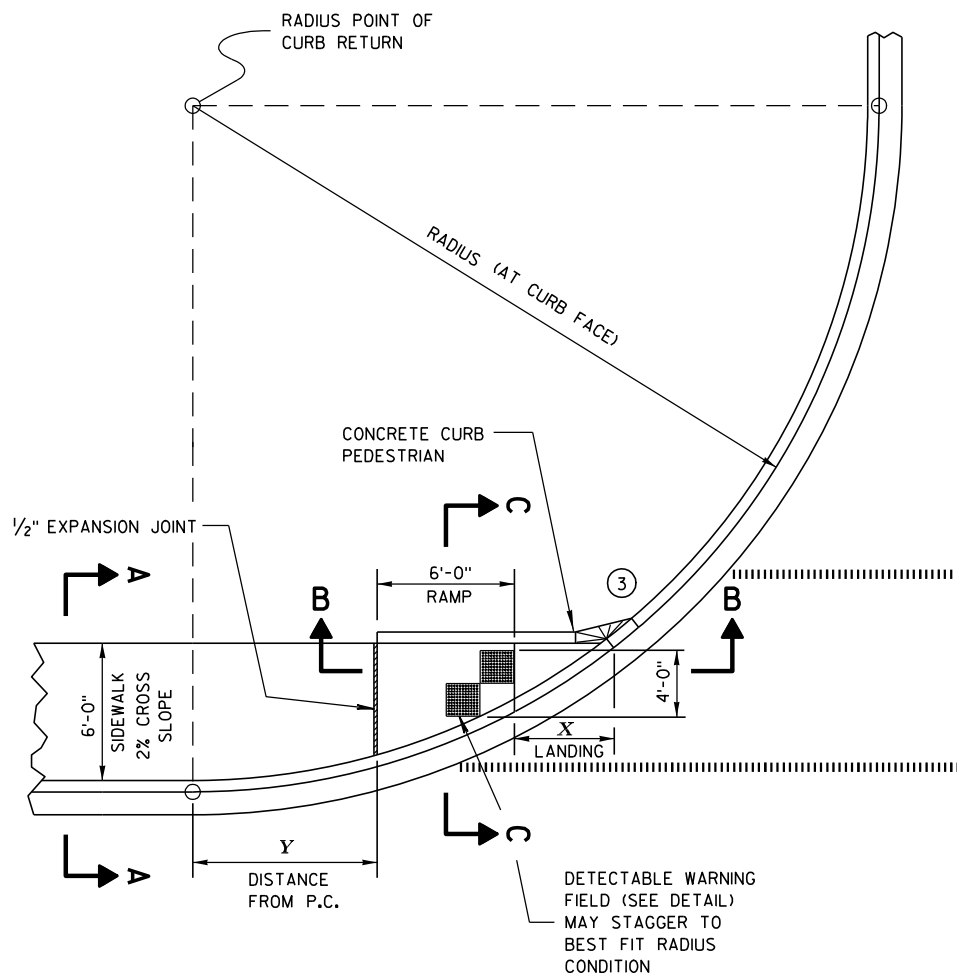
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



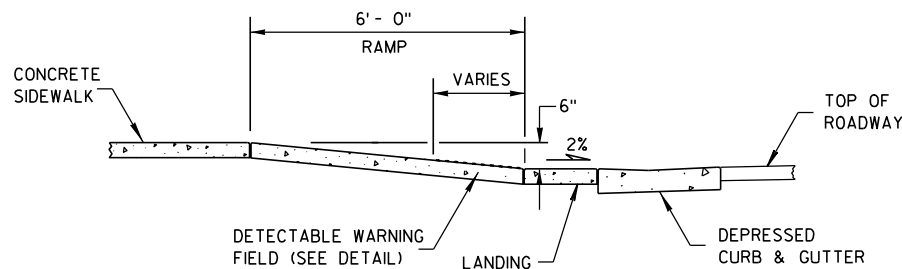
PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

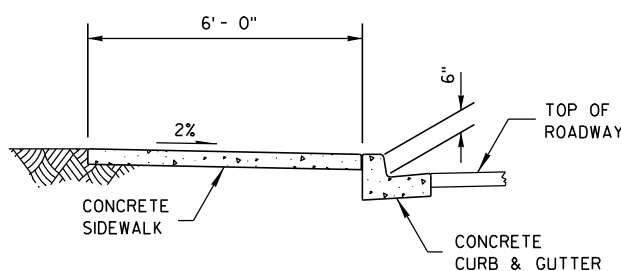
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



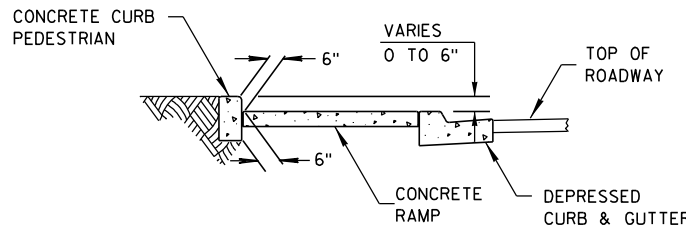
CURB RAMP TYPE 4A
PLAN VIEW



SECTION B-B



SECTION A-A



SECTION C-C

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-13/4"	2'-7 1/4"
30 FEET	7'-11 3/4"	4'-8 1/4"
40 FEET	9'-5 1/4"	6'-5"
50 FEET	10'-8 3/4"	7'-11 1/4"
60 FEET	11'-10 1/4"	9'-3 1/2"

INTERMEDIATE RADII CAN BE INTERPOLATED

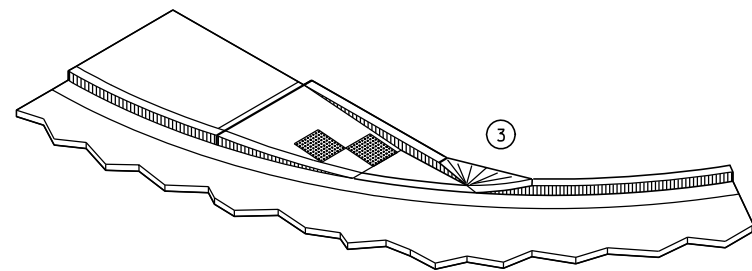
GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.



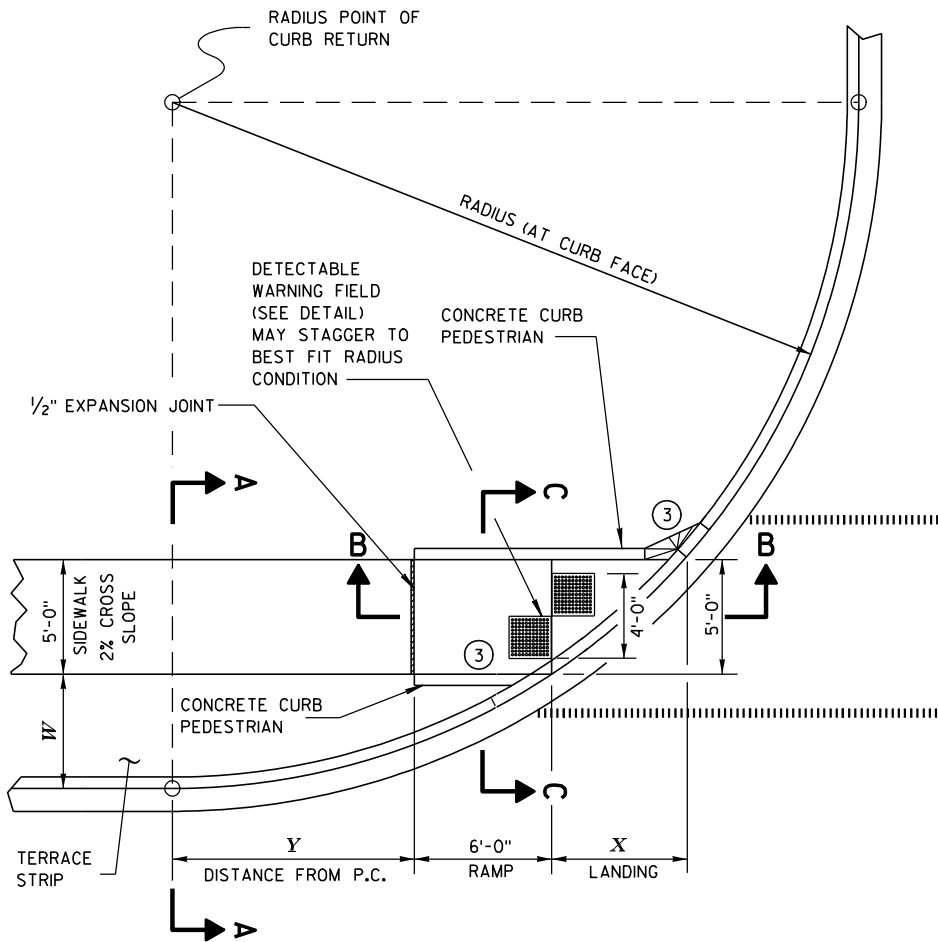
ISOMETRIC VIEW

LEGEND

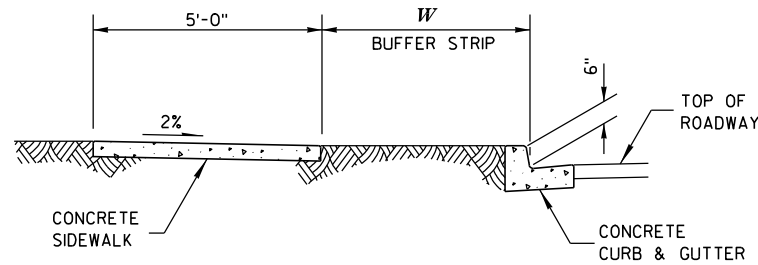
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPE 4A

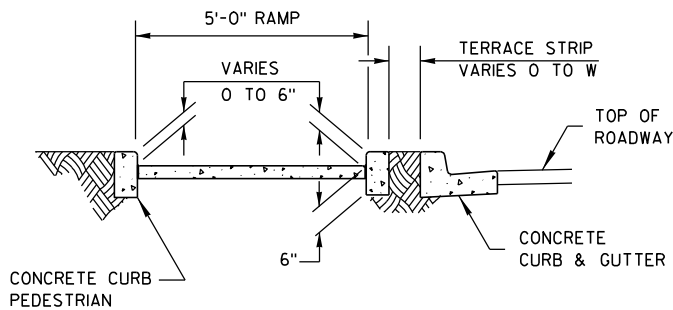
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



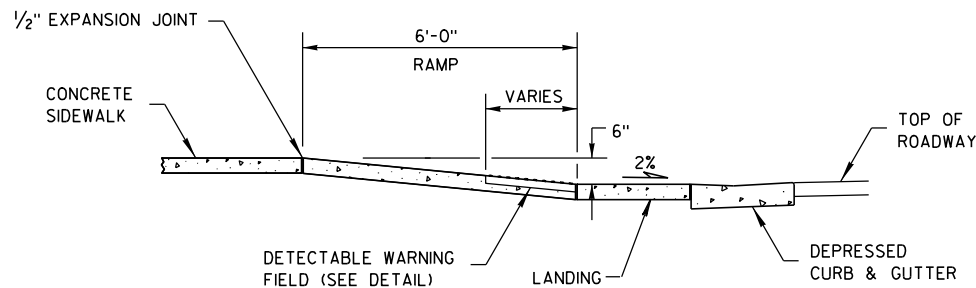
**CURB RAMP TYPE 4B
PLAN VIEW**



SECTION A-A



SECTION C-C



SECTION B-B

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

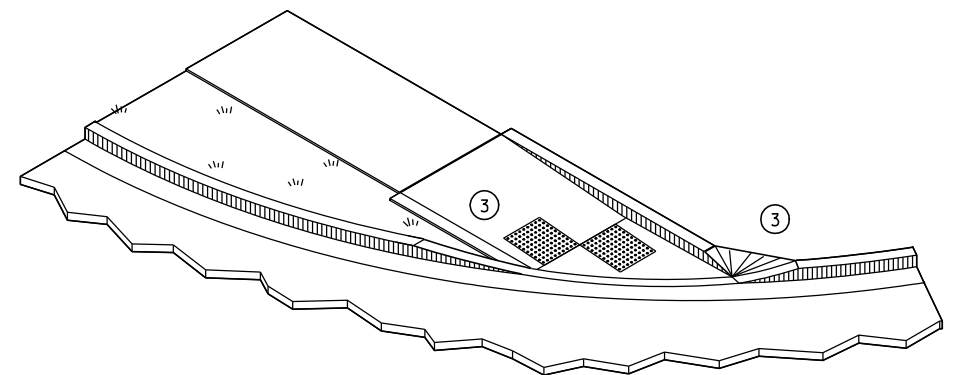
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS).
DO NOT MARK TRANSITION NOSE.

RADIUS (AT CURB FACE)	W = 3'- 0"		W = 4'- 0"		W = 5'- 0"		W = 6'- 0"		W = 7'- 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5 1/2"	4'-6 1/2"	4'-8 1/2"	6'-0"	4'-1"	7'-2 3/4"	3'-7"	8'-3 1/2"	3'-1 1/2"	9'-2 1/2"
30 FEET	7'-3 3/4"	7'-1"	6'-5 1/2"	8'-11 1/2"	5'-9 1/4"	10'-7"	5'-2 1/2"	12'-0"	4'-8 3/4"	13'-3 1/4"
40 FEET	8'-9 1/2"	9'-2 1/2"	7'-10"	11'-5 1/4"	7'-1"	13'-4 1/2"	6'-5 3/4"	15'-3 1/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3 1/4"	11'-3 1/4"	9'-1 1/4"	13'-7 1/4"	8'-2 1/2"	15'-9 1/2"	7'-6 1/2"	17'-9"	6'-11 3/4"	19'-6 1/4"
60 FEET	11'-2 1/2"	12'-8 3/4"	10'-3 1/4"	15'-6 1/2"	9'-2 1/4"	17'-11 3/4"	8'-5 3/4"	20'-1 3/4"	7'-10 1/2"	22'-1 1/2"
70 FEET	12'-2 3/4"	14'-3 1/4"	11'-1 1/4"	17'-4"	10'-1"	19'-11 3/4"	9'-3 3/4"	22'-4 1/4"	8'-8 1/4"	24'-6 1/4"
80 FEET	13'-2"	15'-8 1/2"	11'-10 1/2"	18'-11 3/4"	10'-10 3/4"	21'-10"	10'-1"	24'-4 3/4"	9'-5"	26'-8 3/4"
90 FEET	14'-1 1/2"	17'-1 1/2"	12'-8 1/4"	20'-6 1/2"	11'-7 3/4"	23'-7"	10'-9 3/4"	26'-3 3/4"	10'-1 1/4"	28'-9 1/2"
100 FEET	14'-10 1/2"	18'-3 3/4"	13'-5 1/2"	22'-0"	12'-4 1/4"	25'-2 3/4"	11'-5 3/4"	28'-1 1/2"	10'-9"	30'-9"

INTERMEDIATE RADII CAN BE INTERPOLATED



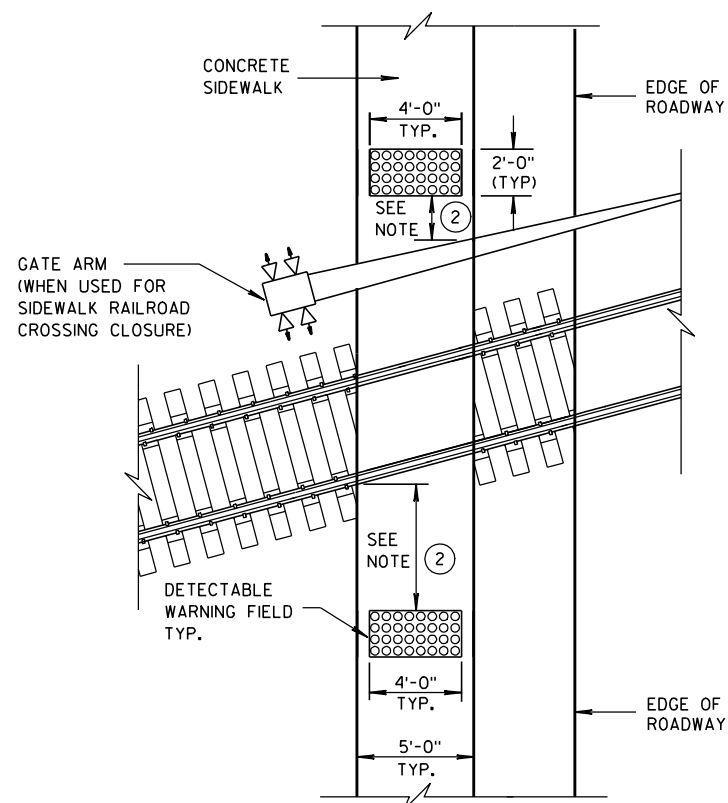
ISOMETRIC VIEW

LEGEND

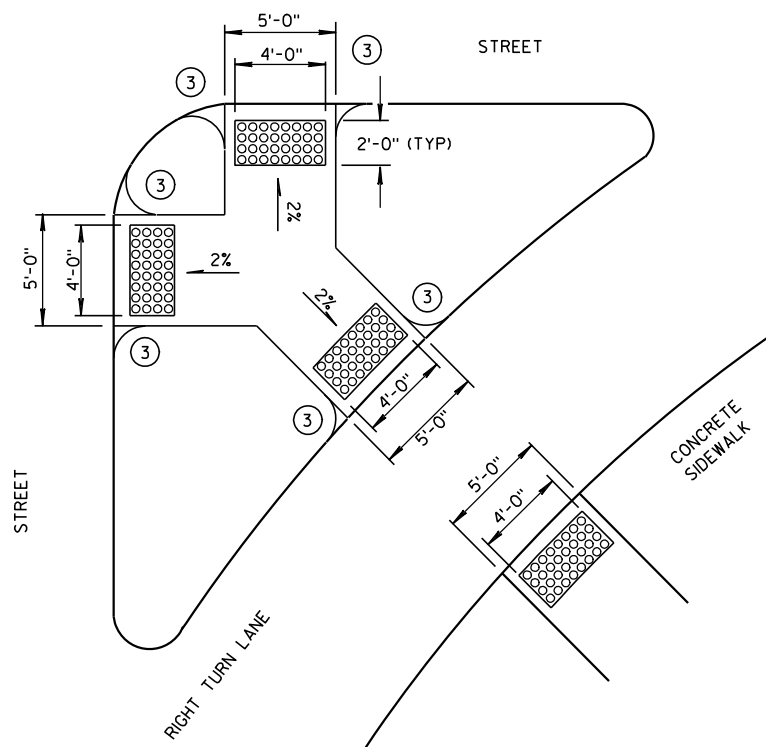
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS
TYPE 4B**

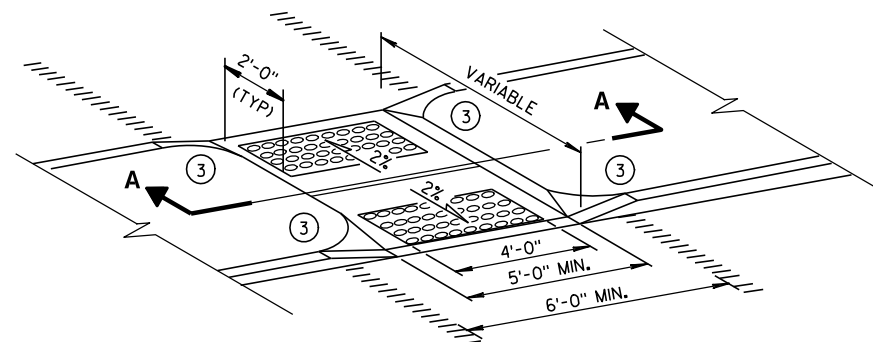
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



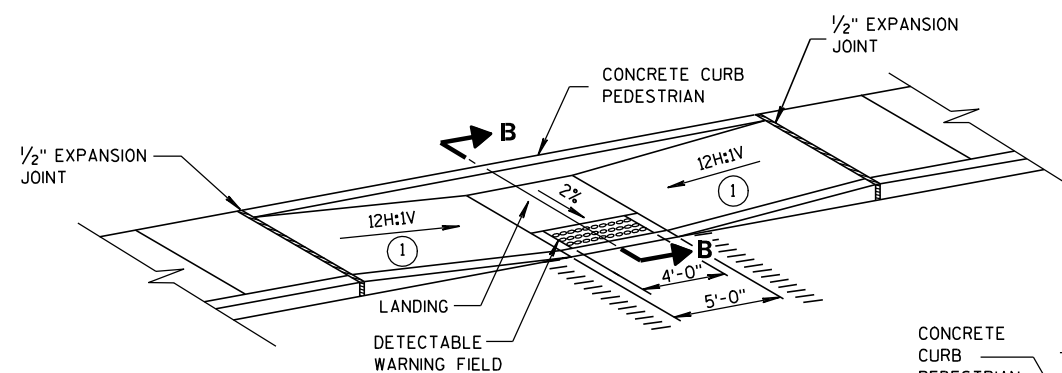
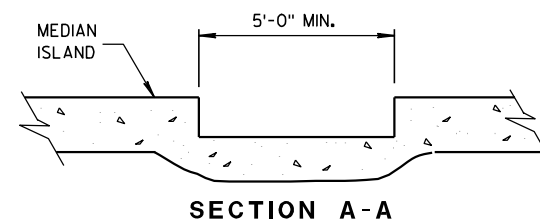
TYPE 8
DETECTABLE WARNINGS
AT RAILROAD CROSSING



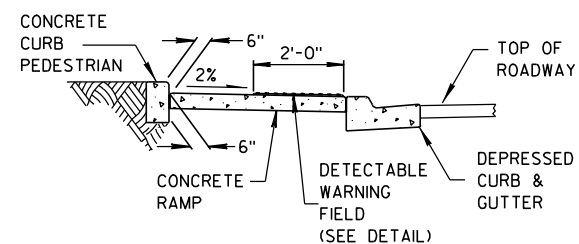
TYPE 6
DETECTABLE WARNING AT ISLANDS



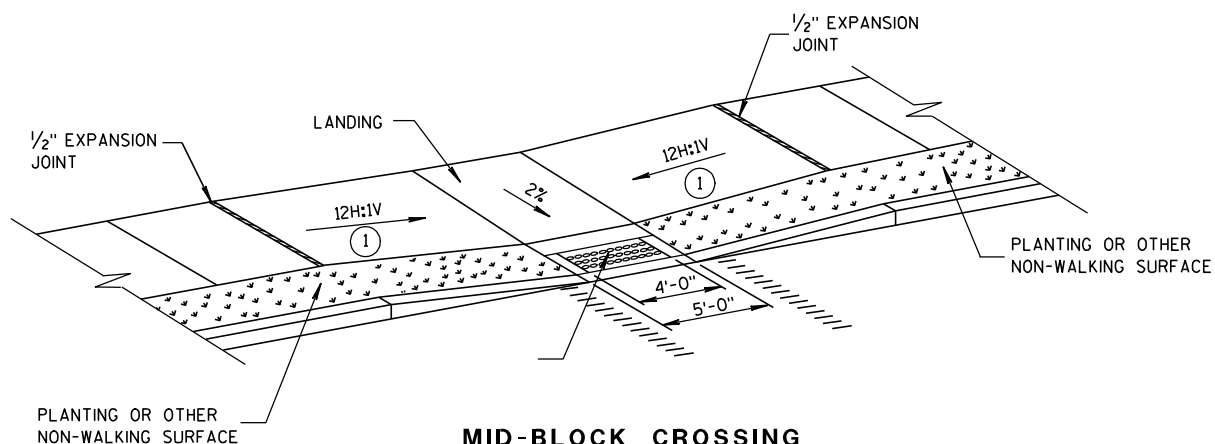
MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5



MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS
MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

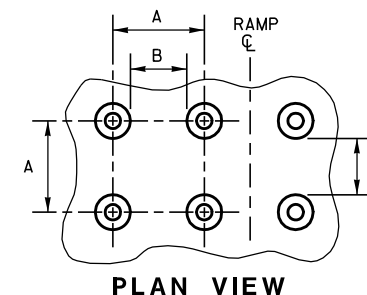
GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

- ① SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ② THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET $\pm$ 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

LEGEND

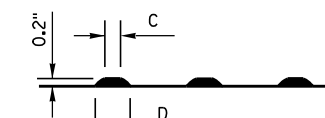
- 1/2" EXPANSION JOINT-SIDEWALK
- - - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)



PLAN VIEW

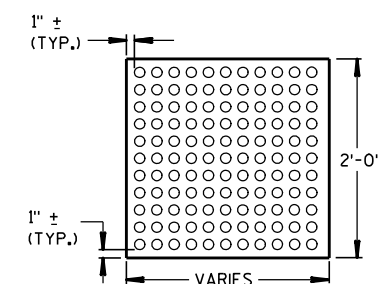
	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

TRUNCATED DOMES DETECTABLE WARNING PATTERN DETAIL



PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)

CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

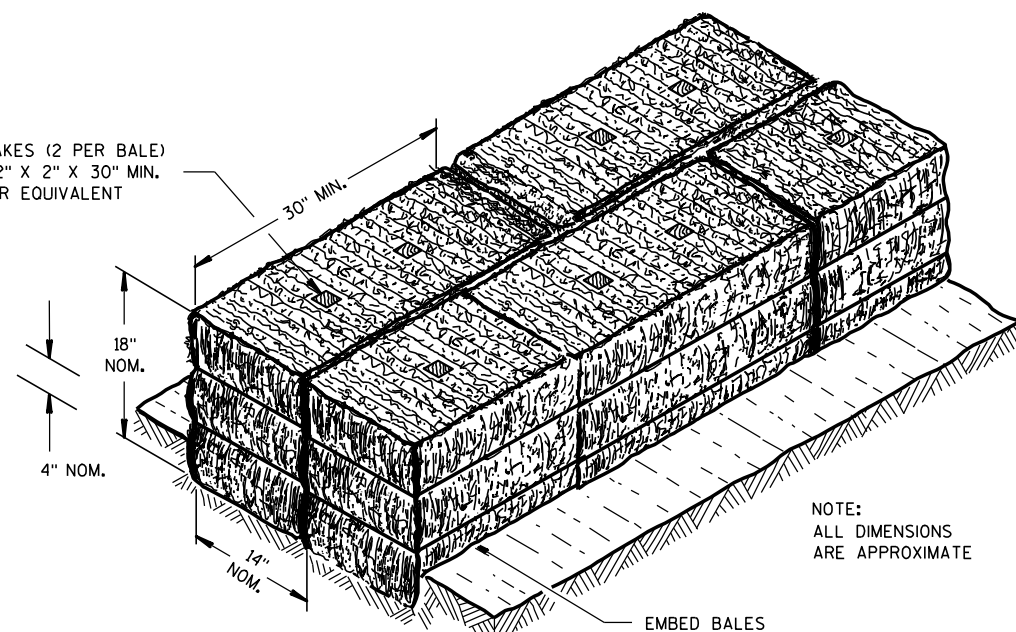
2-9-10
DATE

FHWA

/s/ Jerry H. Zogg

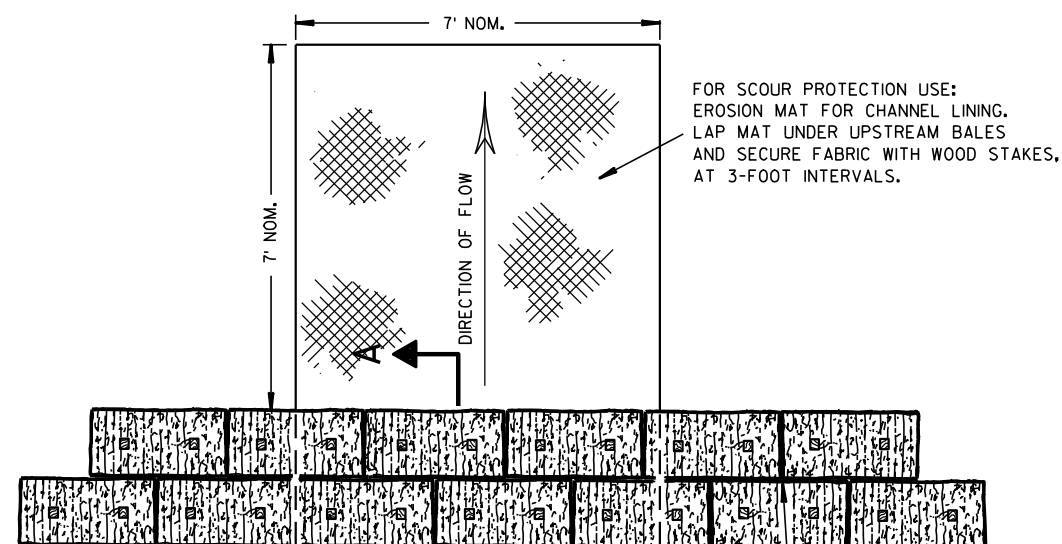
ROADWAY STANDARDS 80 ENT
ENGINEER

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

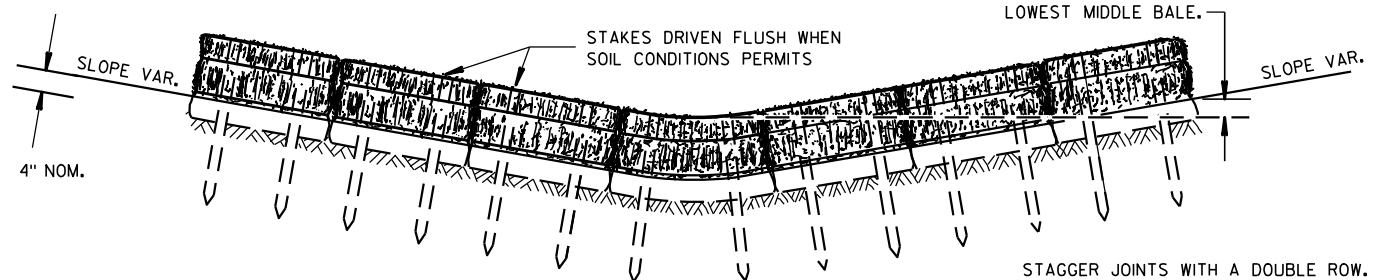


NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

SECTION A-A



PLAN VIEW



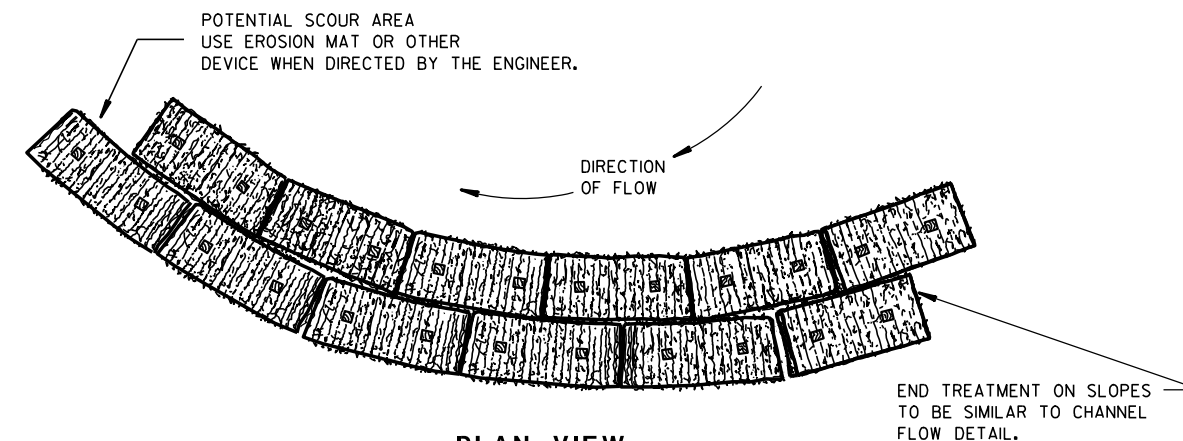
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

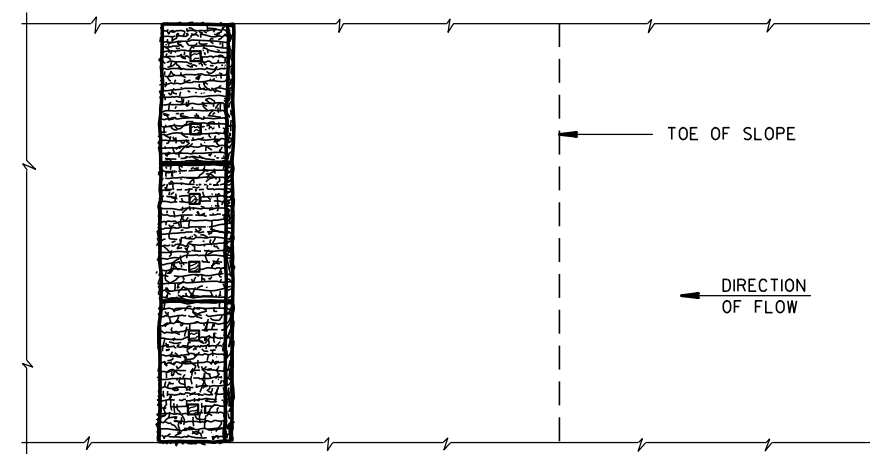
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

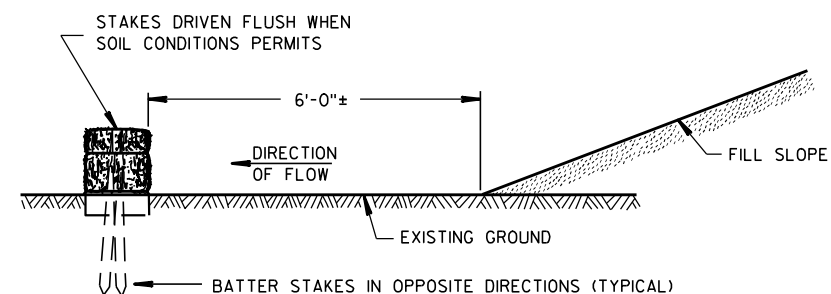


PLAN VIEW

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 Conn-----
CHIEF ROADWAY DEVELOPER 81 ENGINEER

FHWA



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

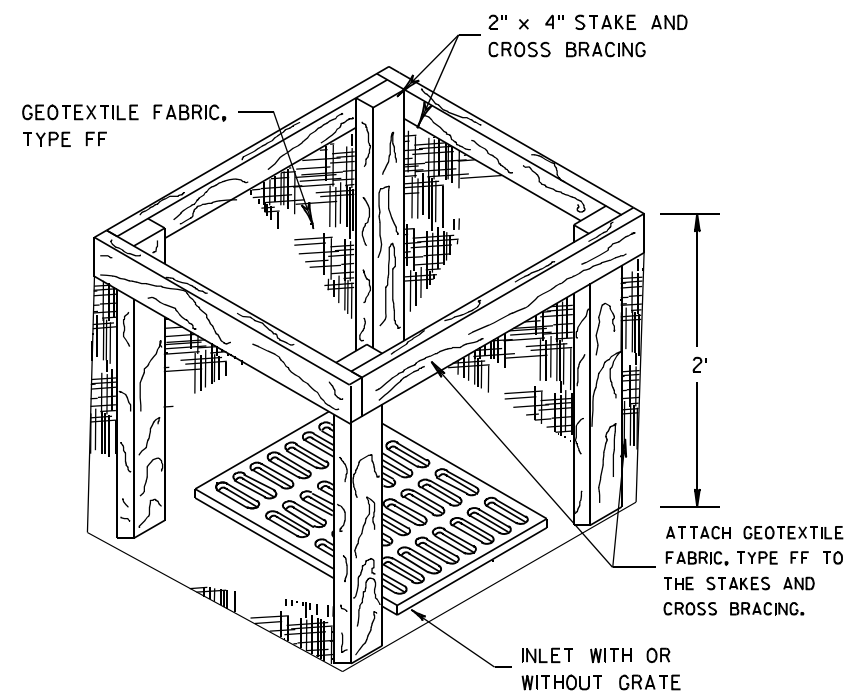
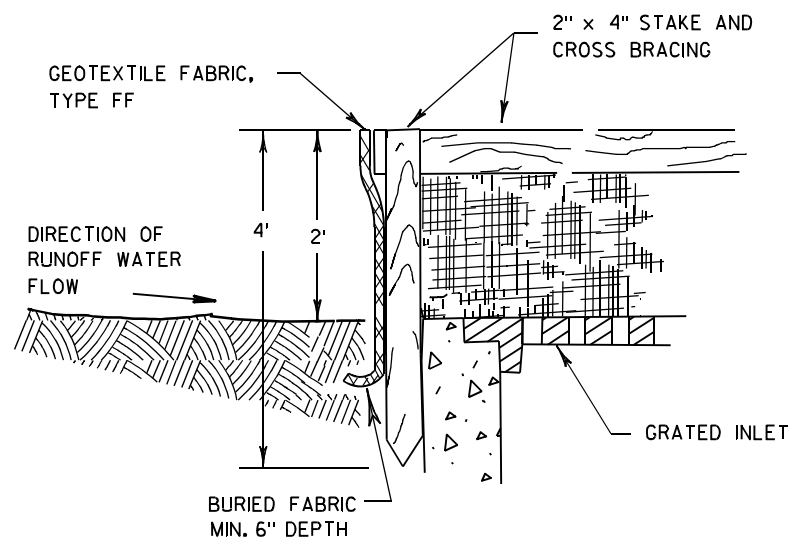


SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



INLET PROTECTION, TYPE A

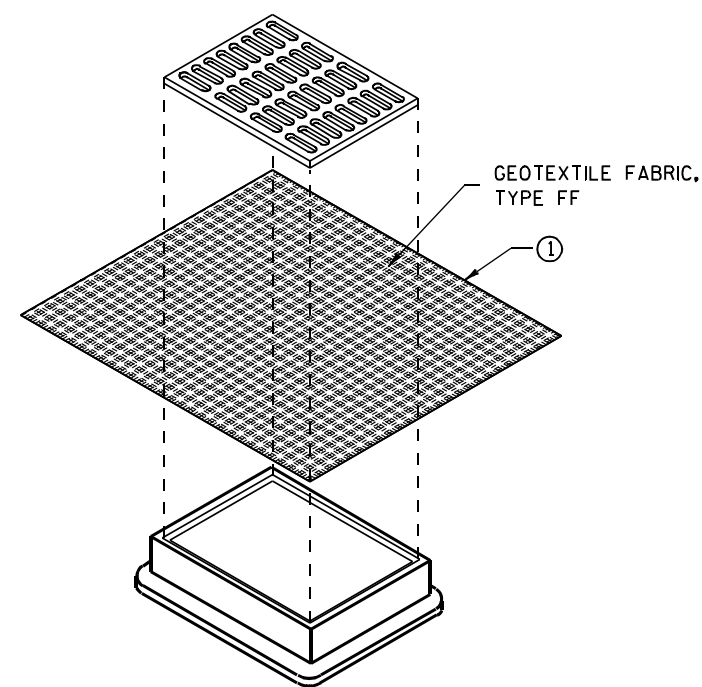
GENERAL NOTES

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

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

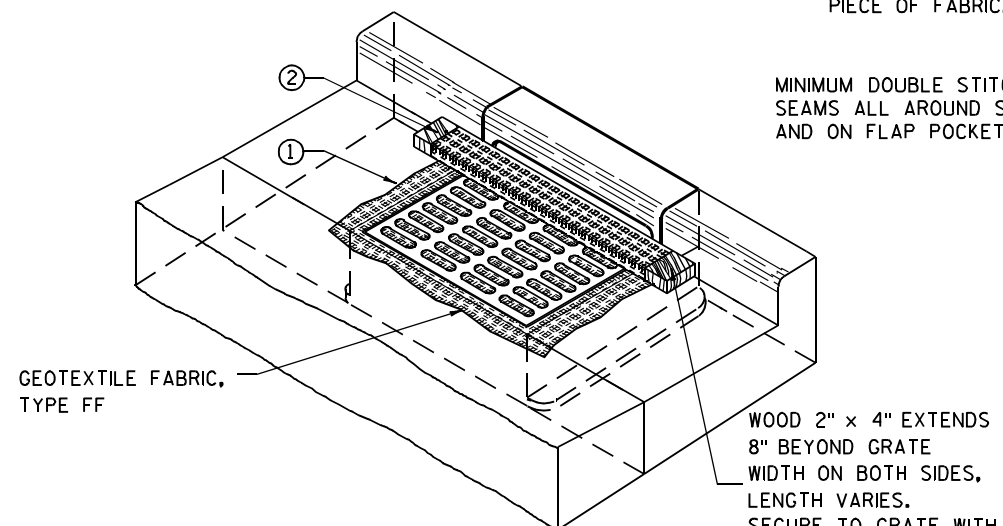
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

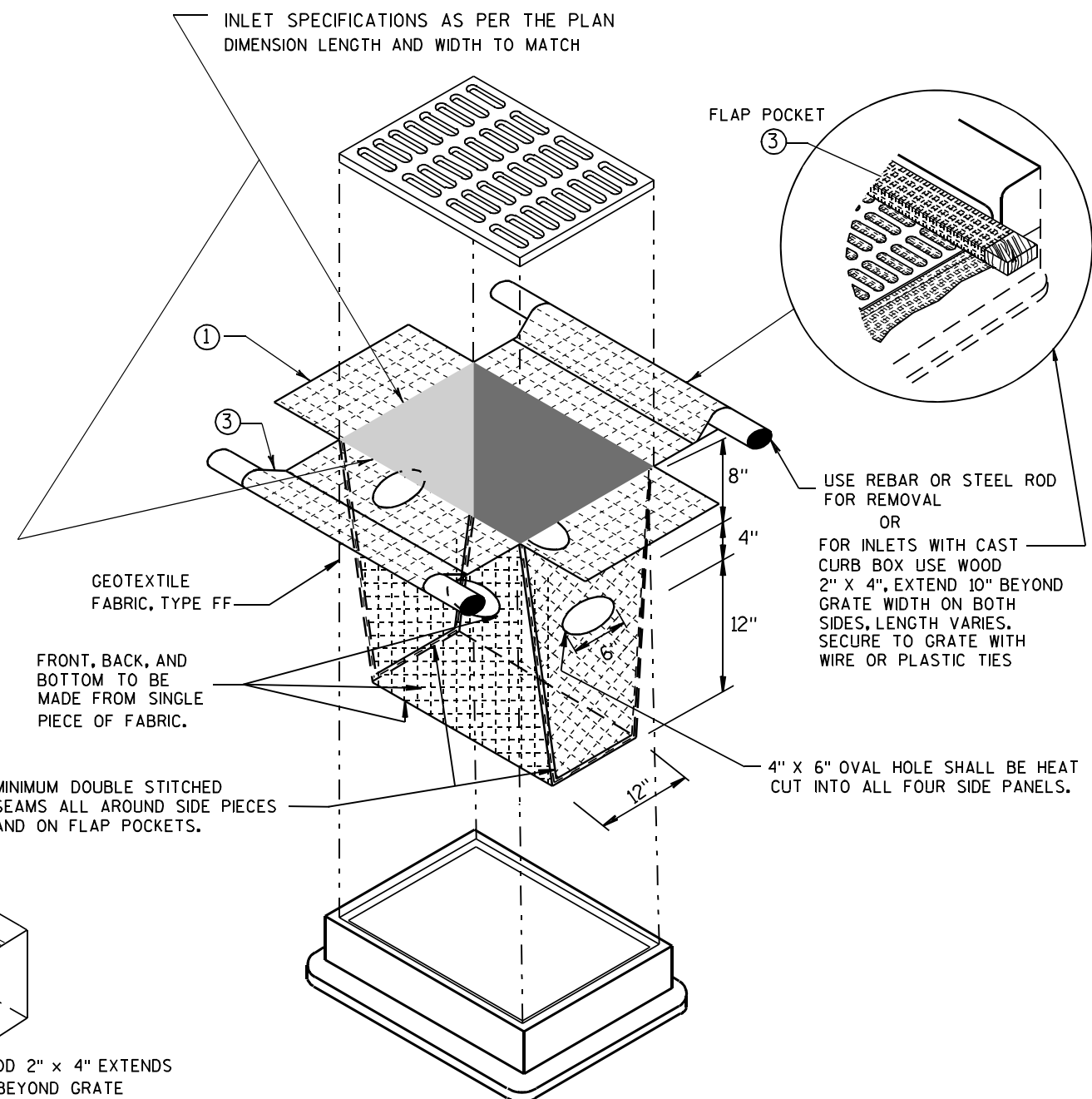
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



INLET PROTECTION, TYPE D

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

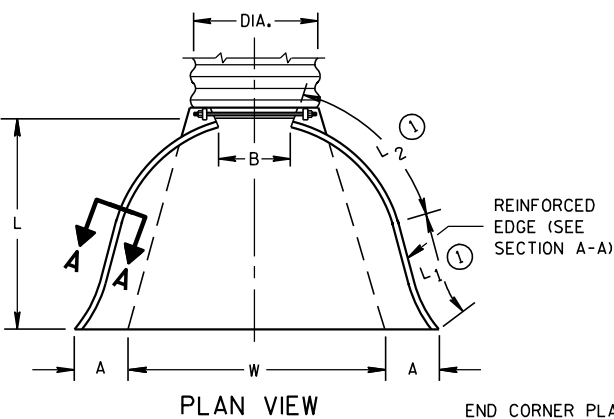
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Connolly
DATE 83
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

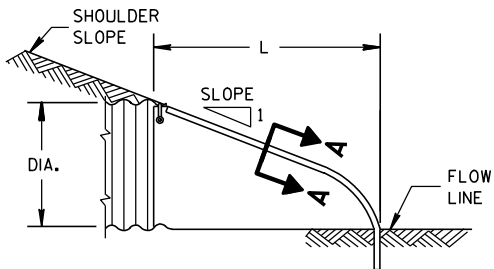
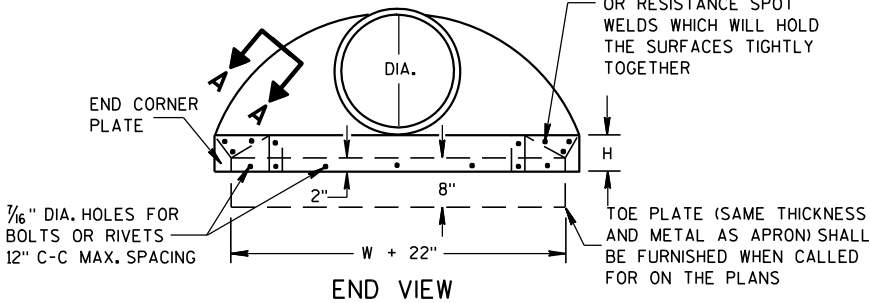
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY	
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ①	L ₂ ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.	
18	.064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

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



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

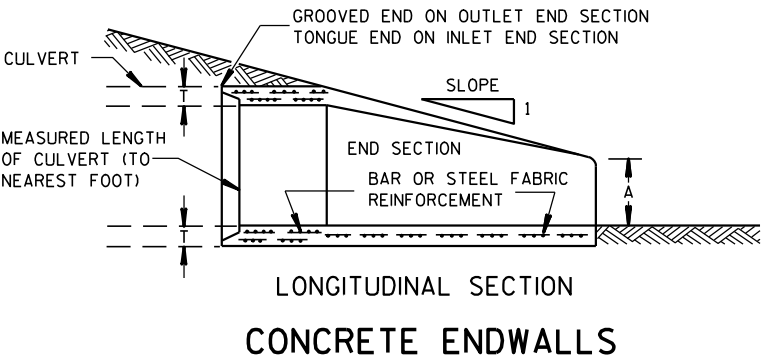
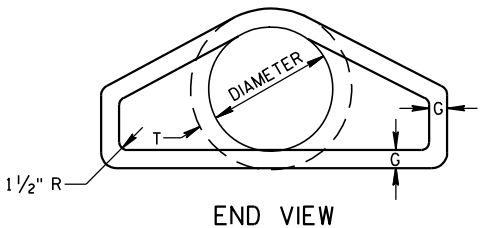
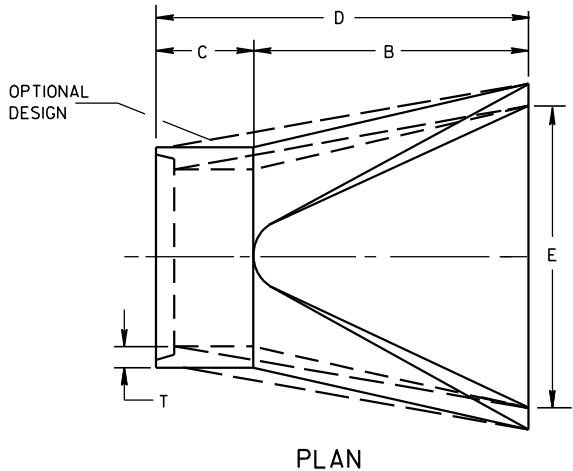
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



SIDE ELEVATION
METAL ENDWALLS

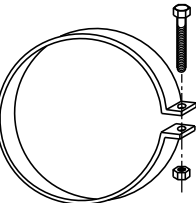
REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 ⁷ / ₈	72 ⁷ / ₈	24	2	3 to 1
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1
18	2 ¹ / ₂	9	27	46	73	36	2 ¹ / ₂	3 to 1
21	2 ³ / ₄	9	36	37 ¹ / ₂	73 ¹ / ₂	42	2 ³ / ₄	3 to 1
24	3	9 ¹ / ₂	43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

* MINIMUM
** MAXIMUM

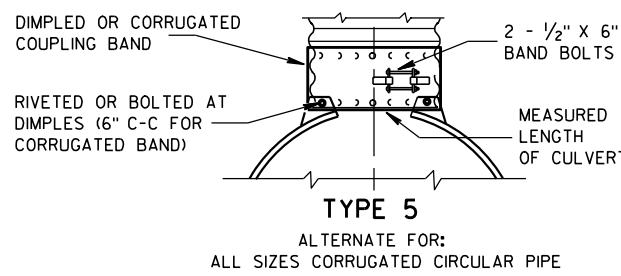
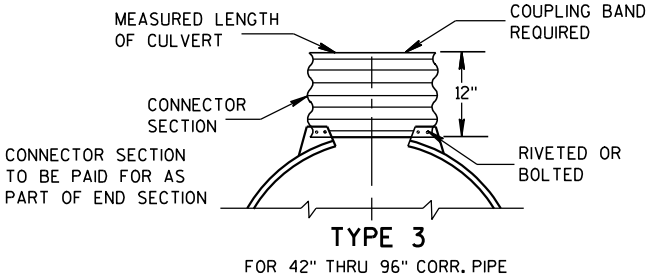
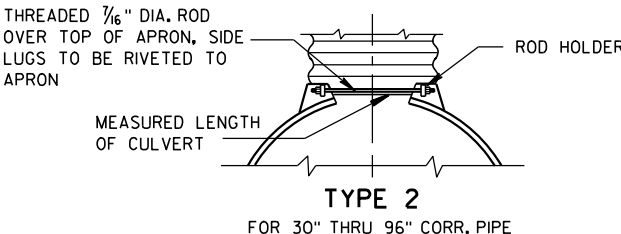
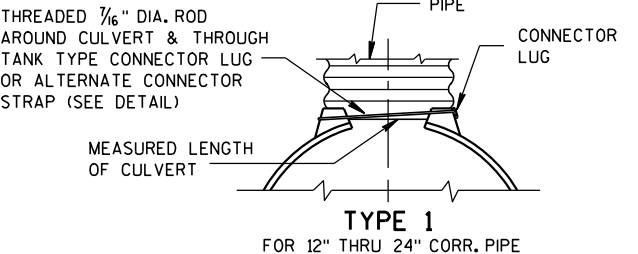


LONGITUDINAL SECTION
CONCRETE ENDWALLS

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



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



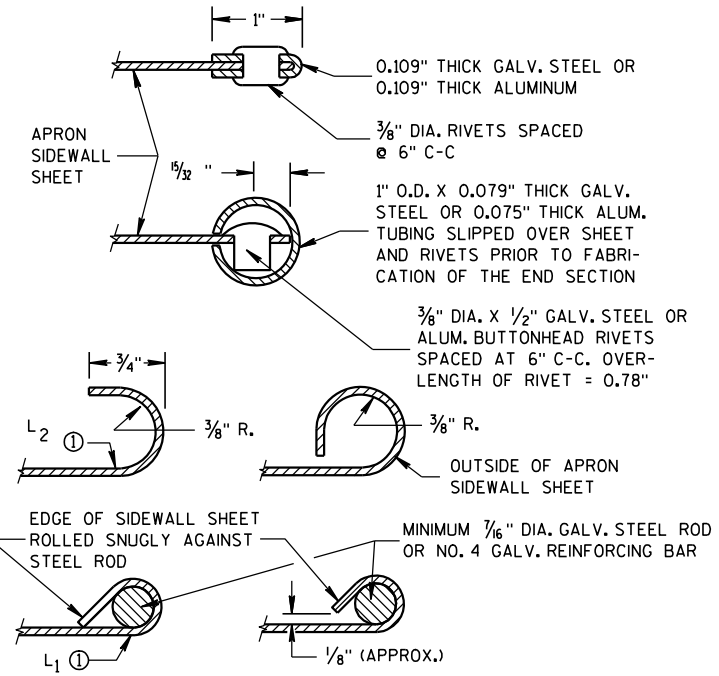
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

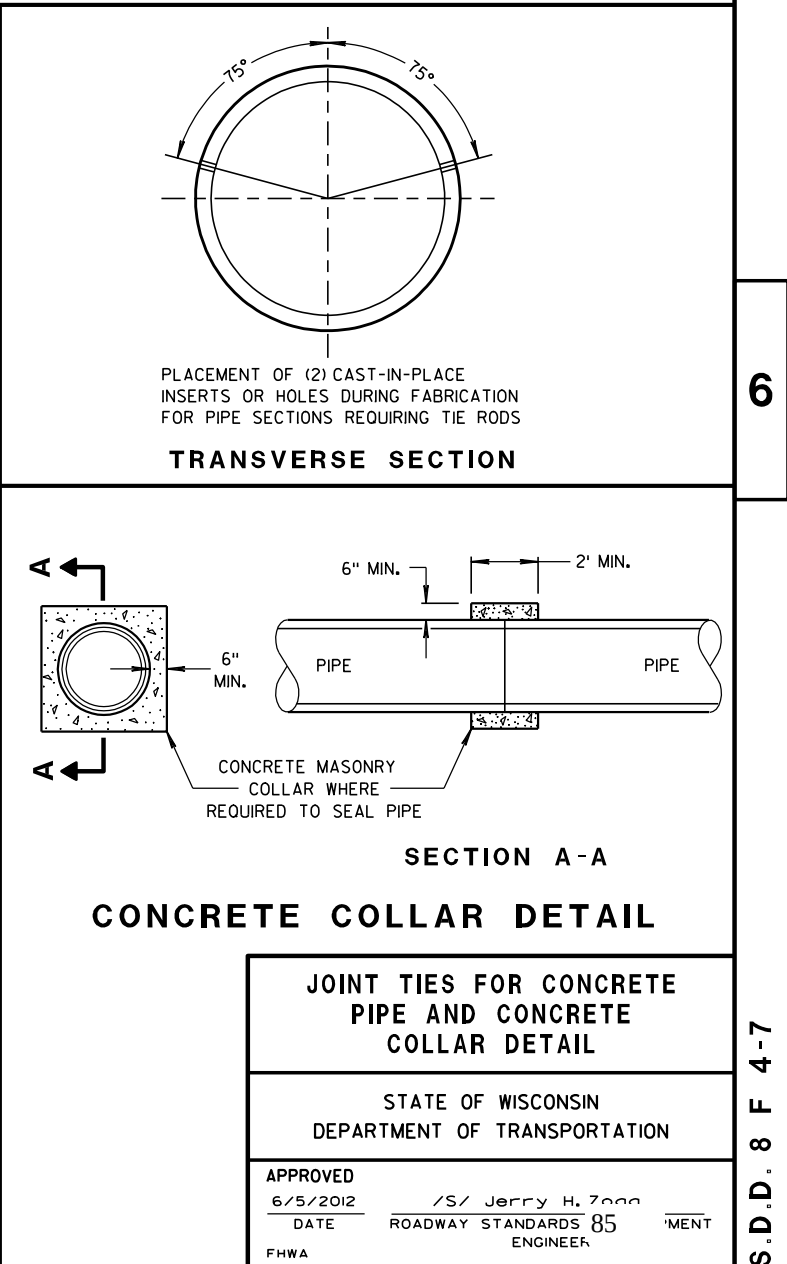
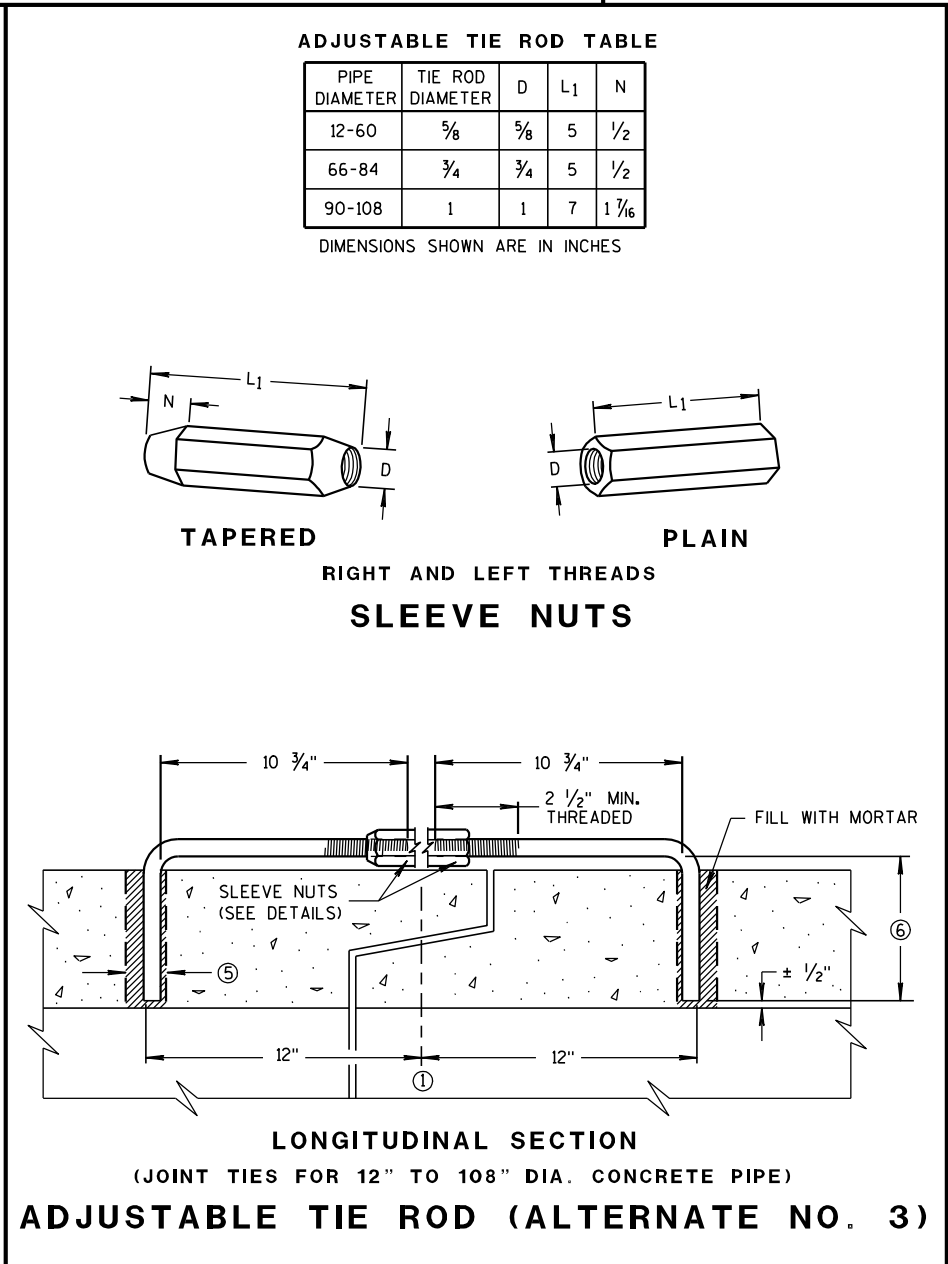
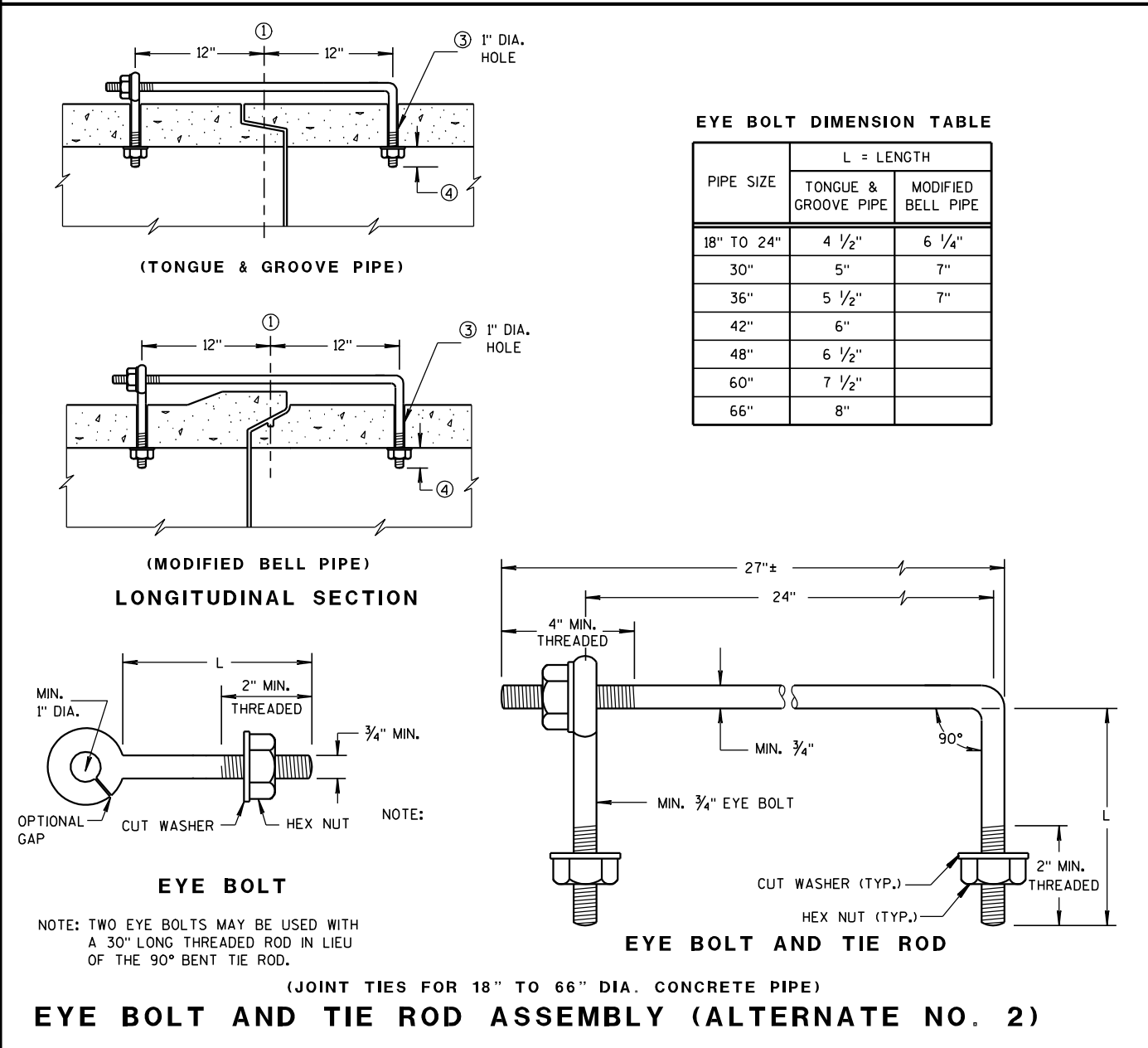
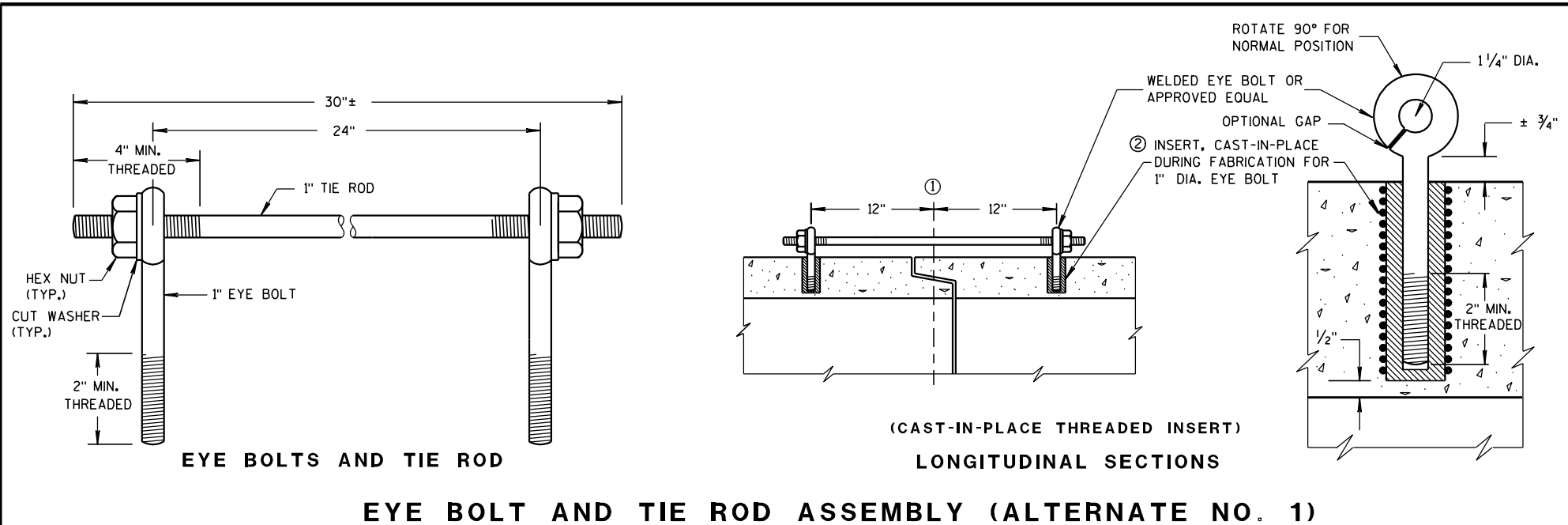
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

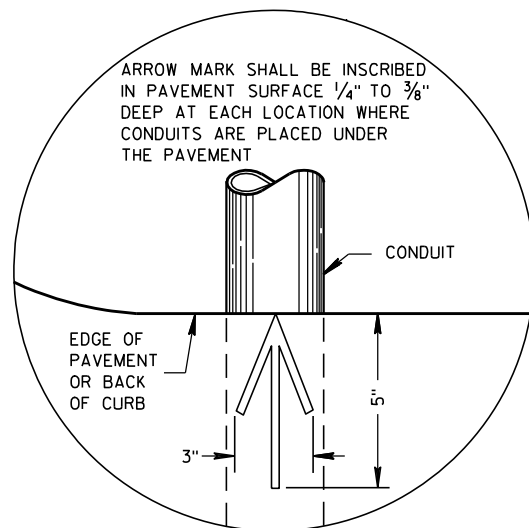
LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES.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

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

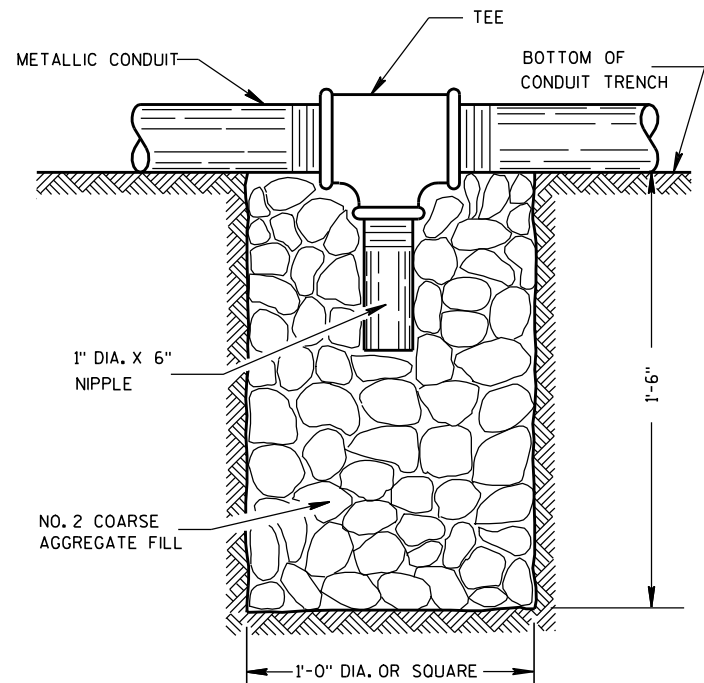
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinehart CHIEF ROADWAY DEVELOP 84	NEER	
FHWA			



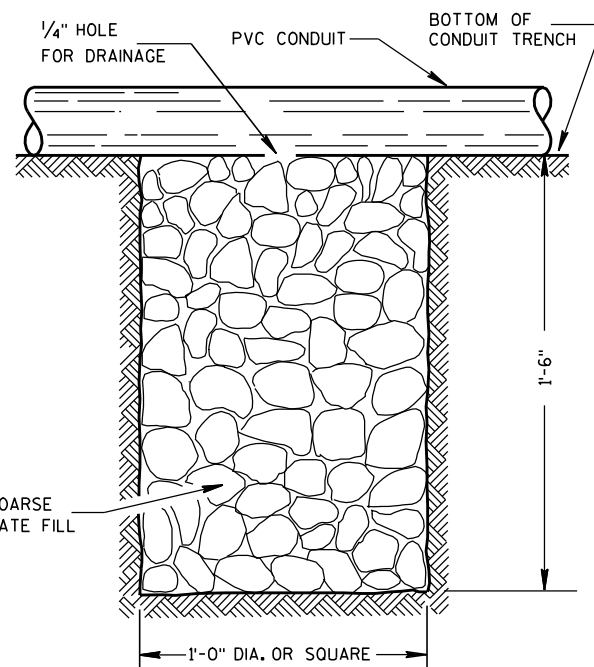


**PLAN VIEW
ARROW MARK**



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSON TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

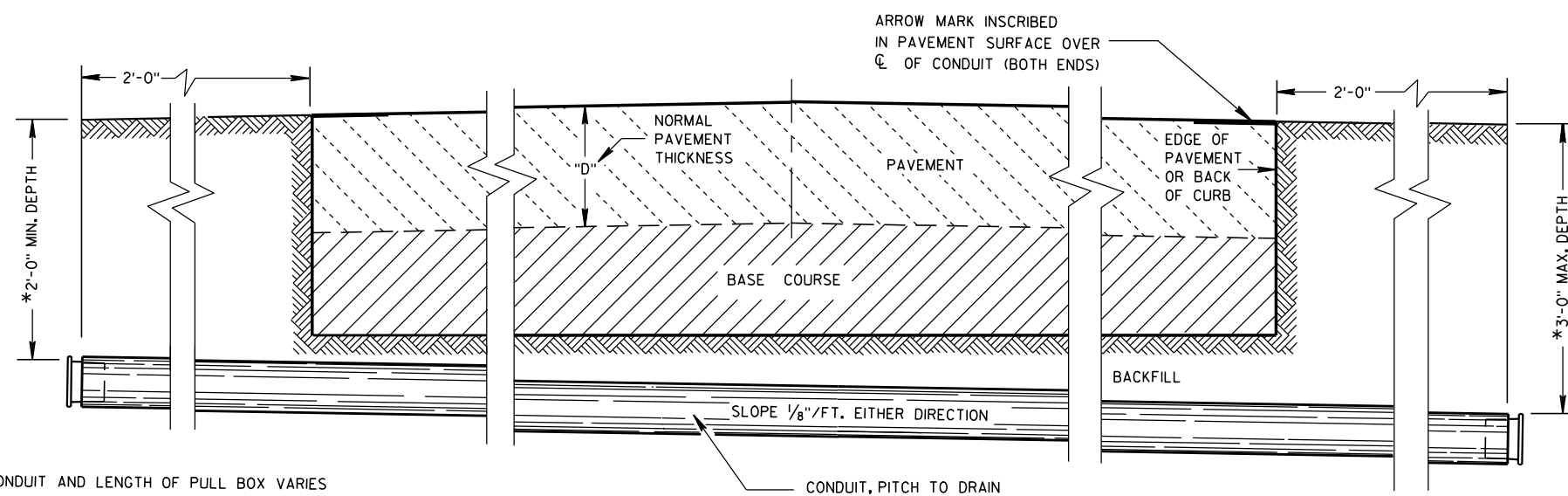
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

**SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS**

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03

DATE

FHWA

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGINEER

HWYS

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL ENTER THE BASE THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE 1" X 60".

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

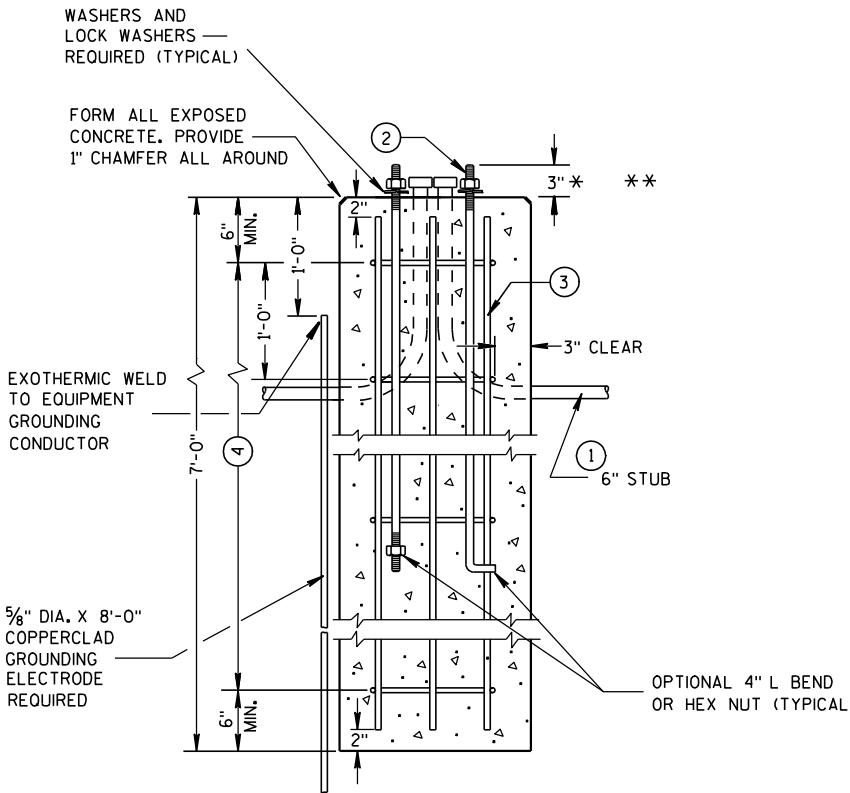
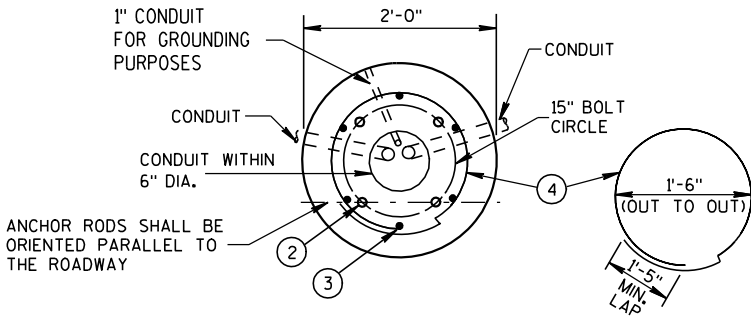
BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

① THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

② (4) 1" DIA. X 5'-0" ANCHOR RODS

③ (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

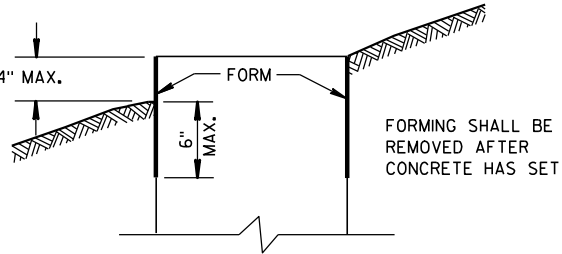
④ (7) NO. 4 X 6'-2" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



CONCRETE BASE, TYPE 7
(FOR 40' LIGHT POLES)

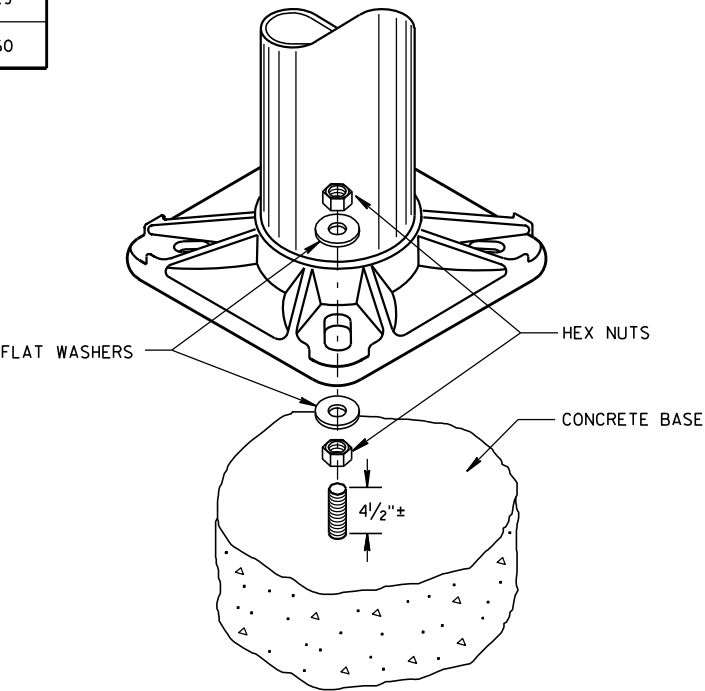
* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.
** FOR NONBREAKAWY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	0.8
LBS. OF HOOP BAR STEEL	29
LBS. OF VERTICAL BAR STEEL	60



NON-BREAKAWAY INSTALLATION
(LEVELING NUT)

CONCRETE BASE, TYPE 7

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/3/10

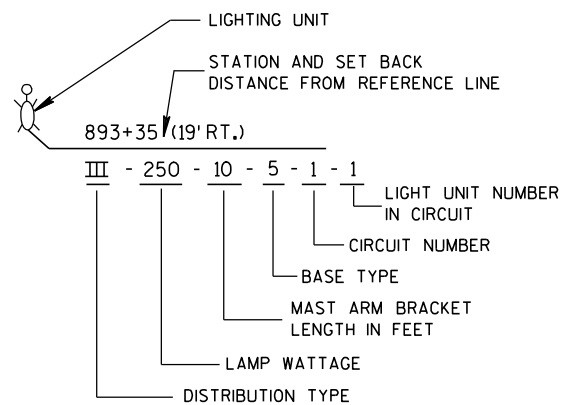
DATE

FHWA

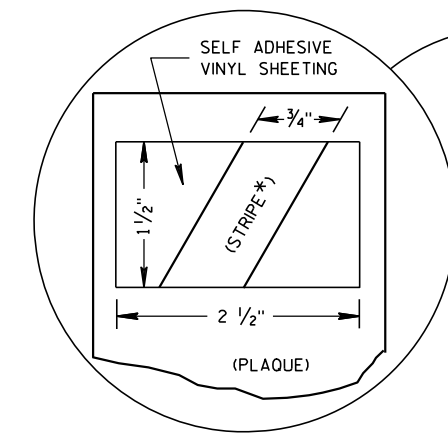
/S/ Joanna L. Bush

STATE ELECTRICAL ENGR 87

HWYS



LIGHTING UNIT CODE
(TYPICAL)



COLOR PATCH CODE FOR LUMINAIRES
(HIGH PRESSURE SODIUM)

1000 WATT - NO PATCH

400 WATT - ORANGE

310 WATT - BLUE

250 WATT - ORANGE W/WHITE STRIPE*

200 WATT - RED

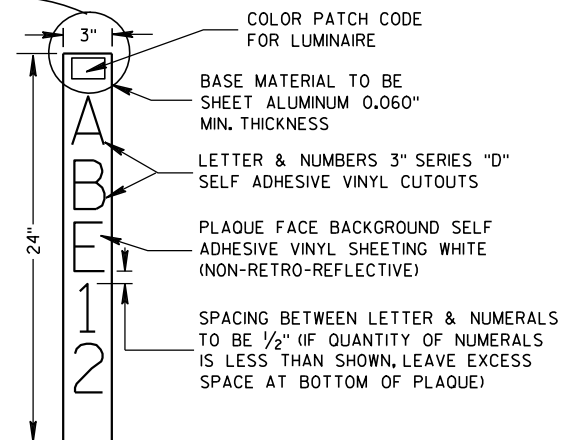
150 WATT - GREEN

100 WATT - BROWN

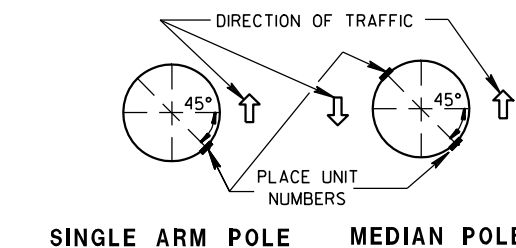
(MERCURY VAPOR)

400 WATT - (NO PATCH)

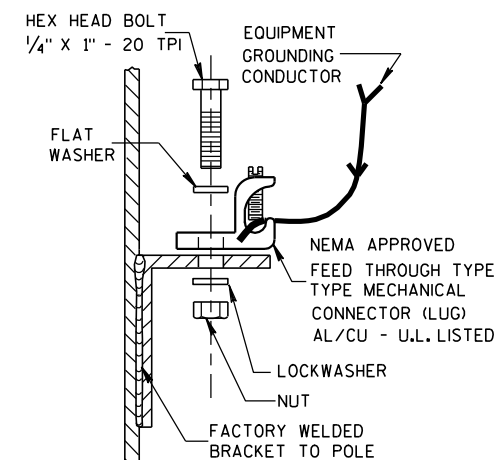
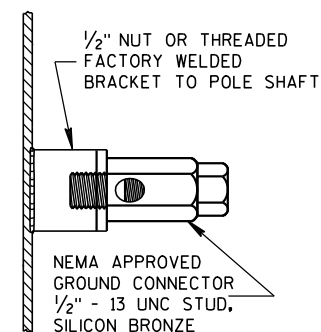
250 WATT - YELLOW



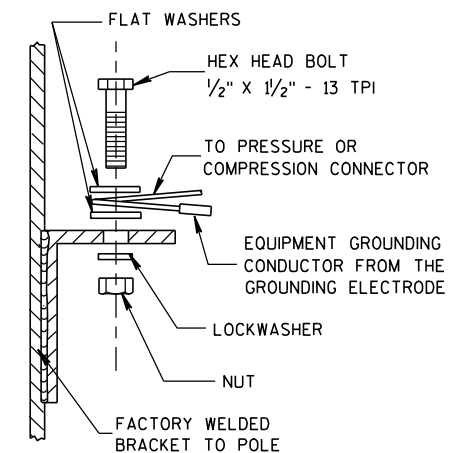
IDENTIFICATION PLAQUE



LIGHTING UNIT IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENT
(TYPICAL ALL LIGHTING UNITS)
FURNISH PLAQUE WHEN CALLED FOR BY SPECIAL PROVISIONS



TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

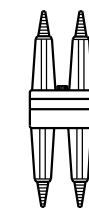


GENERAL NOTES

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

THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

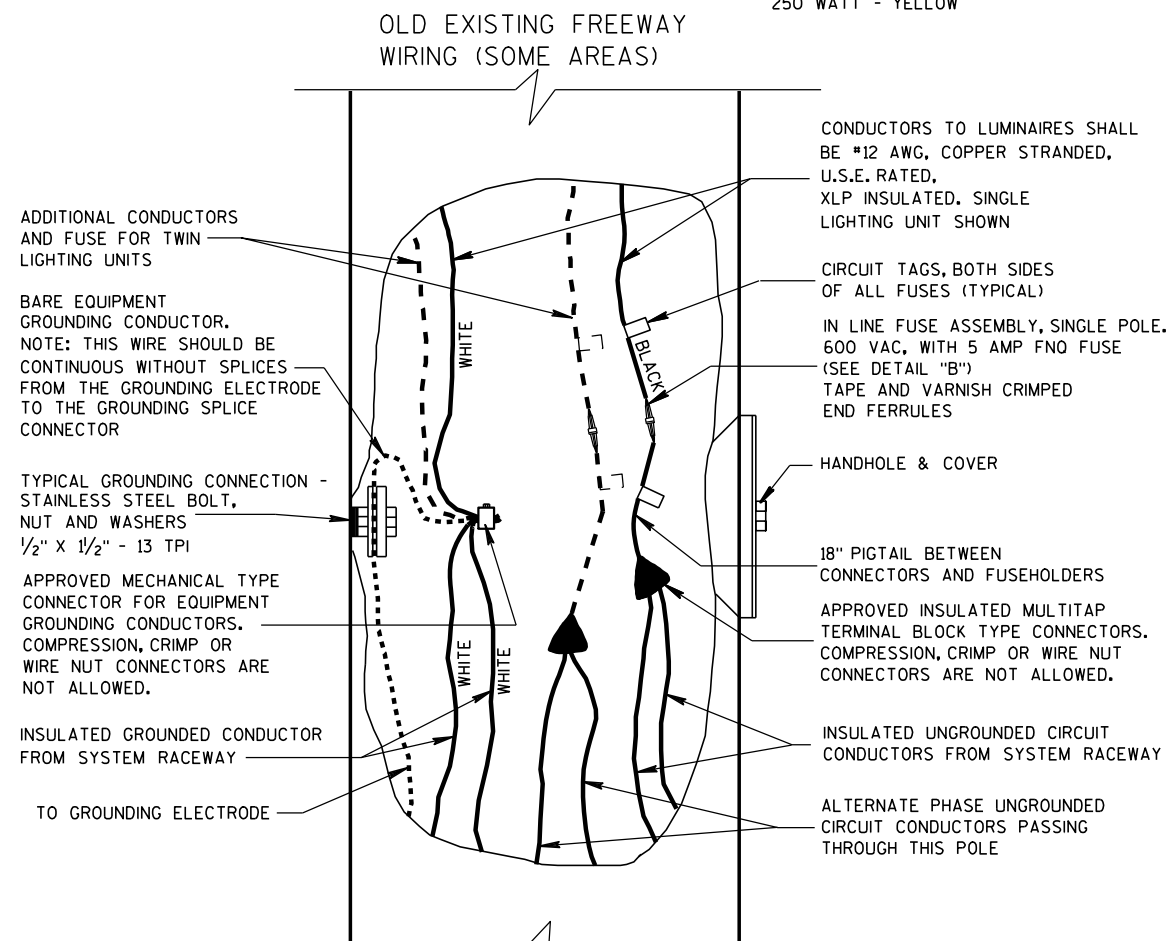
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.



DETAIL "A"
BREAKAWY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT



DETAIL "B"
BREAKAWY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



2 WIRE - 120, 240 OR 480 VAC TO GROUND

UNGROUNDING CONDUCTORS TO LUMINAIRES TO BE #12 AWG, COPPER STRANDED, U.S.E. RATED, XLP INSULATED, SINGLE LIGHTING UNIT SHOWN

TWIN LIGHTING UNITS REQUIRE INDIVIDUAL SETS OF UNGROUNDING CONDUCTORS AND FUSE ASSEMBLY.

TWIN LIGHTING UNIT EQUIPMENT GROUNDING CONDUCTOR

EQUIPMENT GROUNDING CONDUCTOR

AWG #4 (MIN.) BARE EQUIPMENT GROUNDING CONDUCTOR. NOTE: THIS WIRE SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE TO THE EQUIPMENT GROUNDING CONDUCTOR SPLICE CONNECTOR

TYPICAL GROUNDING CONNECTION - STAINLESS STEEL BOLT, NUT AND WASHERS 1/2" X 1/2" - 13 TPI

APPROVED MECHANICAL TYPE CONNECTOR FOR EQUIPMENT GROUNDING CONDUCTORS. COMPRESSION, CRIMP OR WIRE NUT CONNECTORS ARE NOT ALLOWED.

INSULATED EQUIPMENT GROUNDING CONDUCTORS FROM SYSTEM RACEWAY

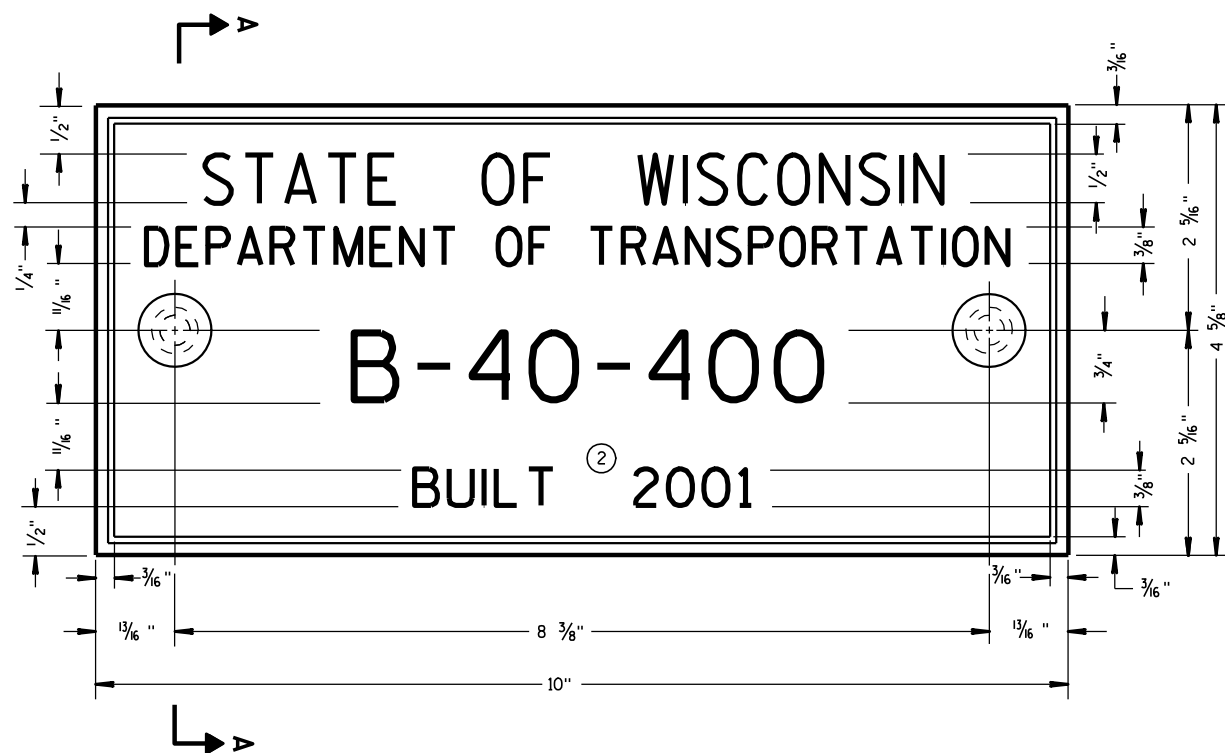
EXOTHERMICALLY WELDED TO GROUNDING ELECTRODE

**2 WIRE - 240 OR 480 VAC (UNGROUNDING CONDUCTORS)
WITH EQUIPMENT GROUNDING CONDUCTOR**

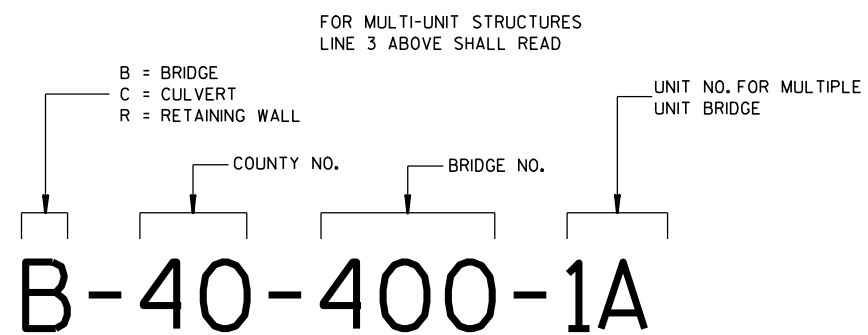
**FREEWAY LIGHTING UNIT
POLE WIRING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/2/2011 /S/ Thomas J. Gorman
DATE STATE ELECTRICAL ENGR 88 HWYS
FHWA



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



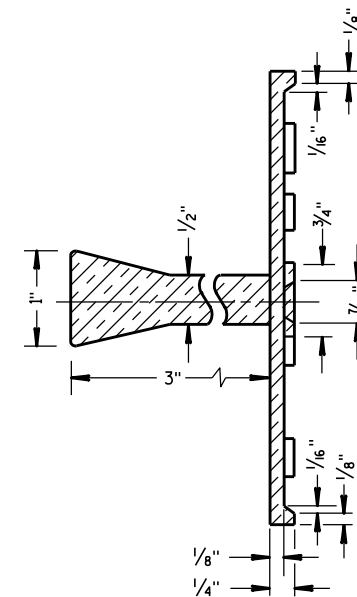
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

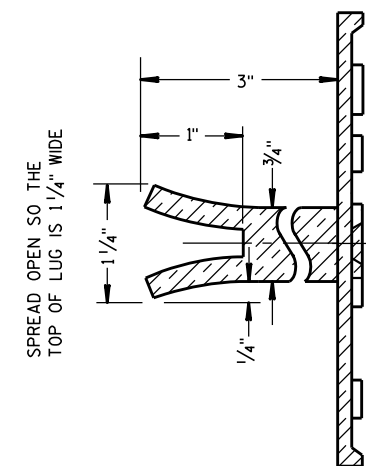
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

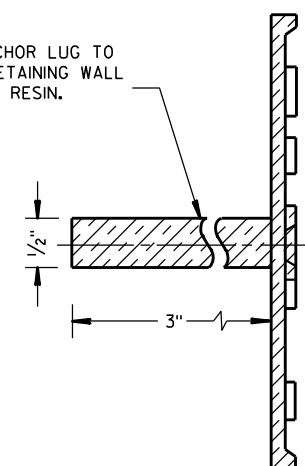


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

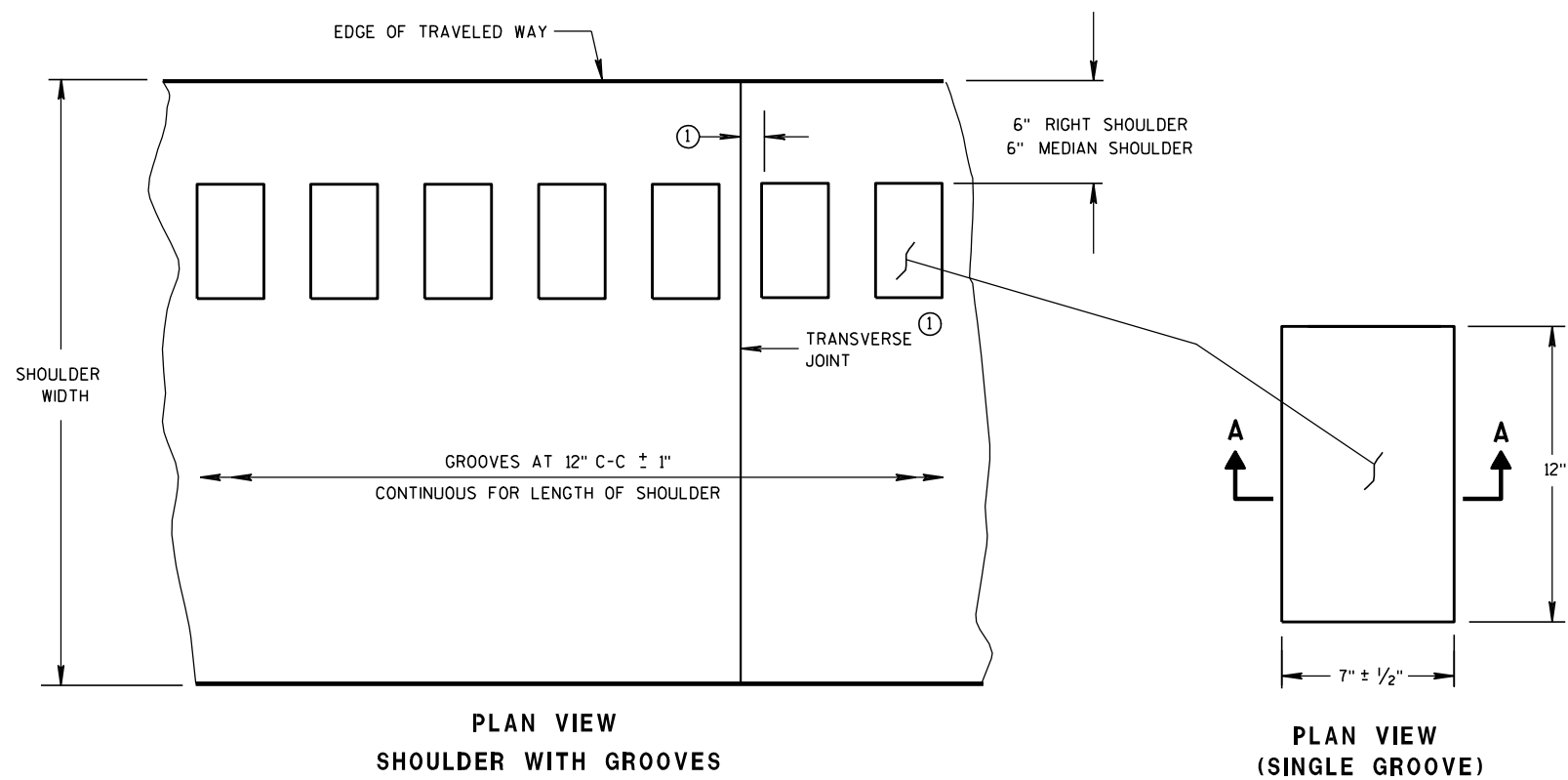
APPROVED

3/26/10
DATE

FHWA

/S/ Scot Beck
CHIEF STRUCTURAL DEVELOPER

JEER



6" RIGHT SHOULDER
6" MEDIAN SHOULDER

TRANSVERSE JOINT

PLAN VIEW
(SINGLE GROOVE)

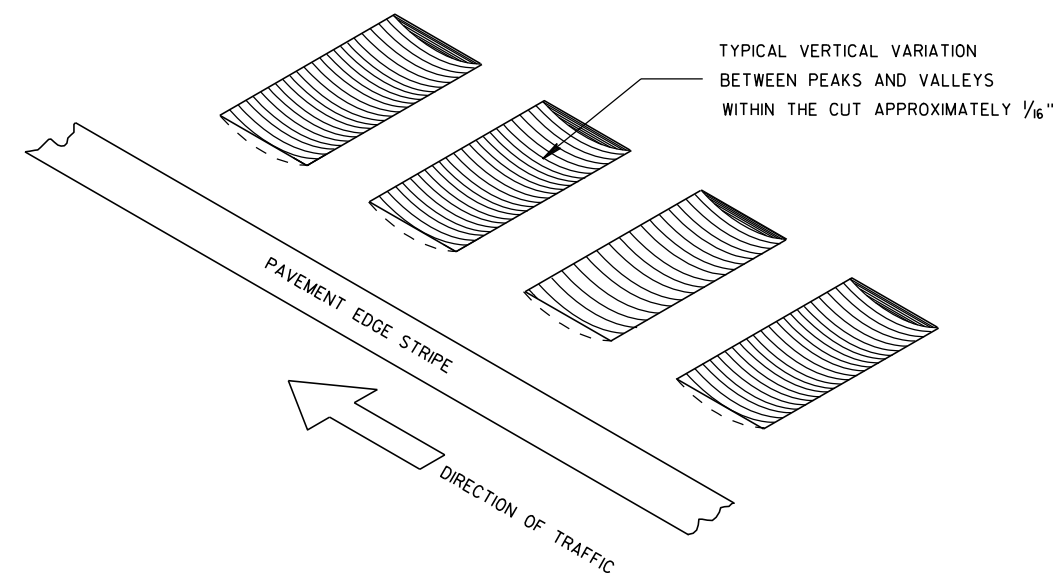
GENERAL NOTES

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

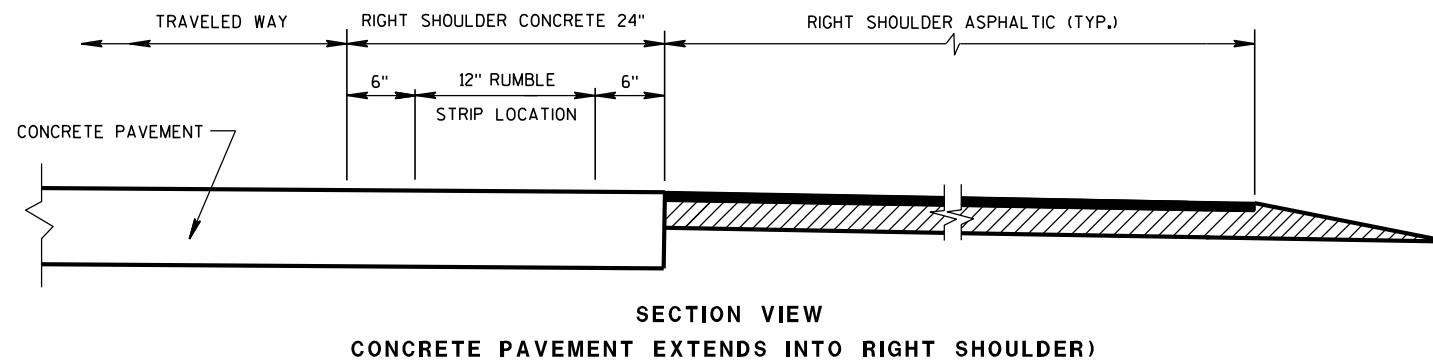
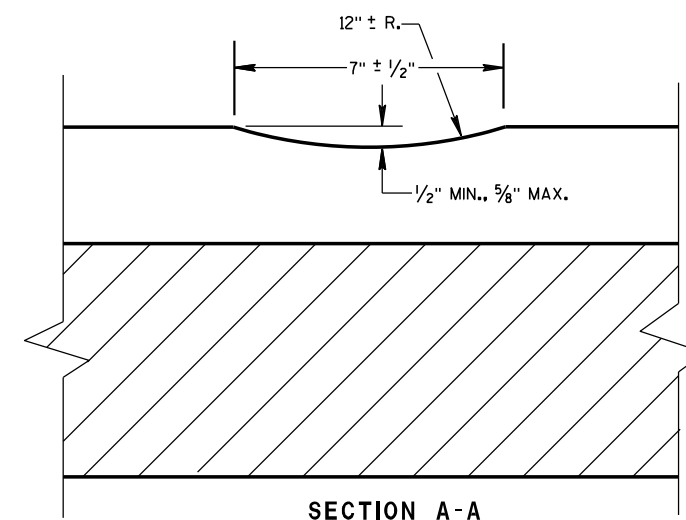
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES OR TURN LANE TAPERS. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

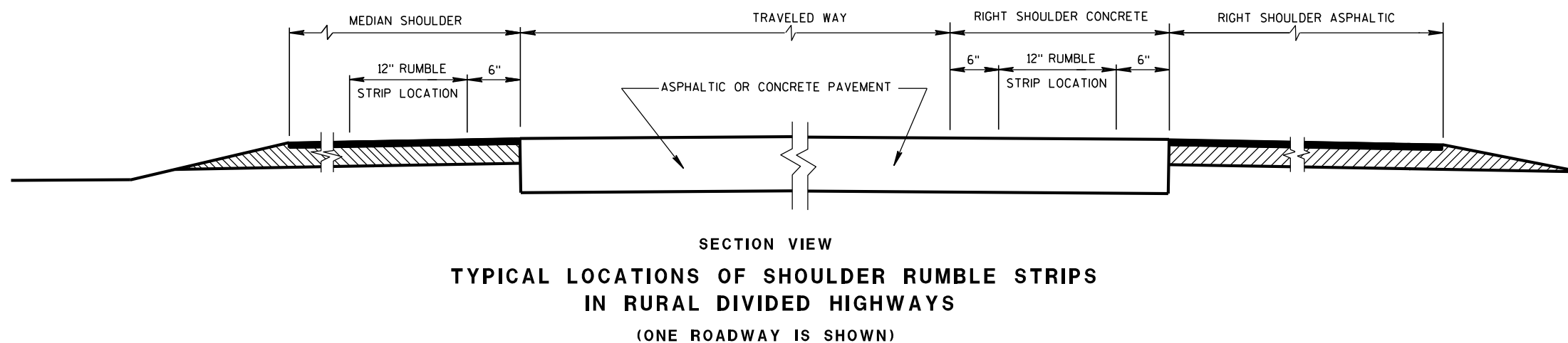
① CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



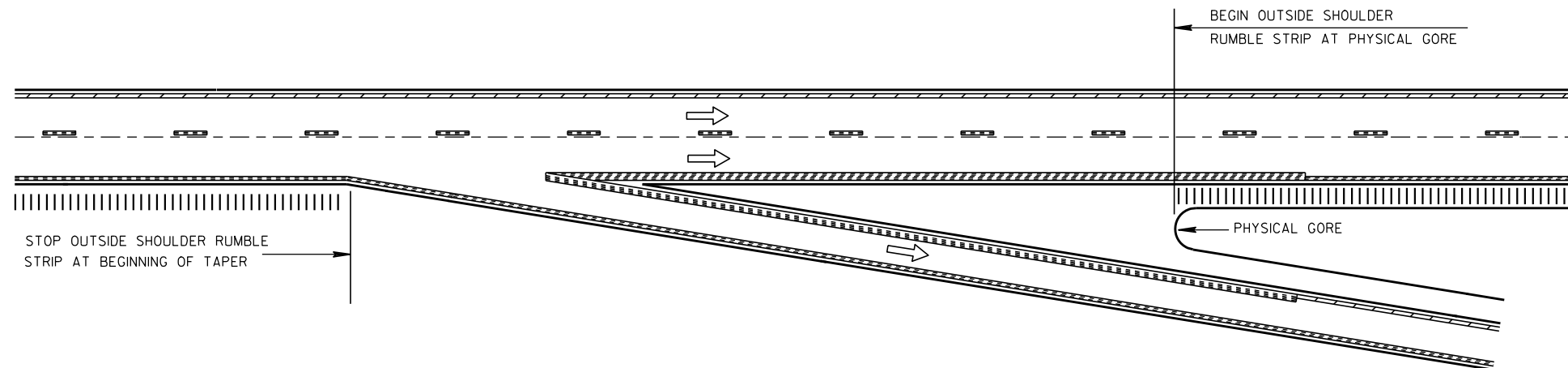
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW
TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS
IN RURAL DIVIDED HIGHWAYS
(ONE ROADWAY IS SHOWN)

SHOULDER RUMBLE STRIP,
MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

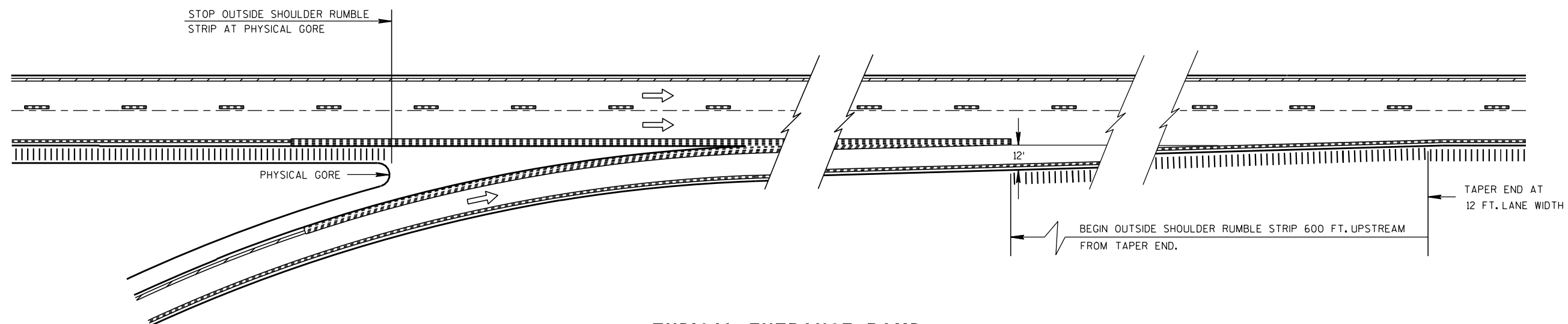


TYPICAL EXIT RAMP

NOTE:
ARROW SYMBOL (→)
SHOWS DIRECTION OF TRAVEL

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AS SHOWN.
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

TYPICAL ENTRANCE RAMP
RAMP AND GORE RUMBLE STRIP LOCATIONSSHOULDER RUMBLE STRIP,
MILLINGSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/17/2011

DATE

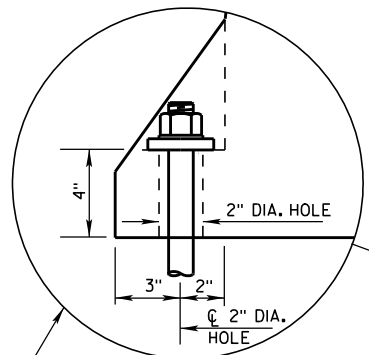
FHWA

/S/ Jerry H. Zogg

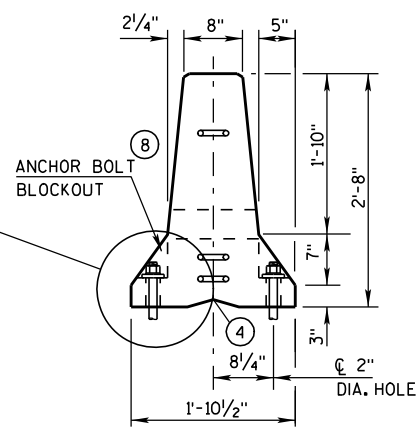
ROADWAY STANDARDS 91

ENGINEER

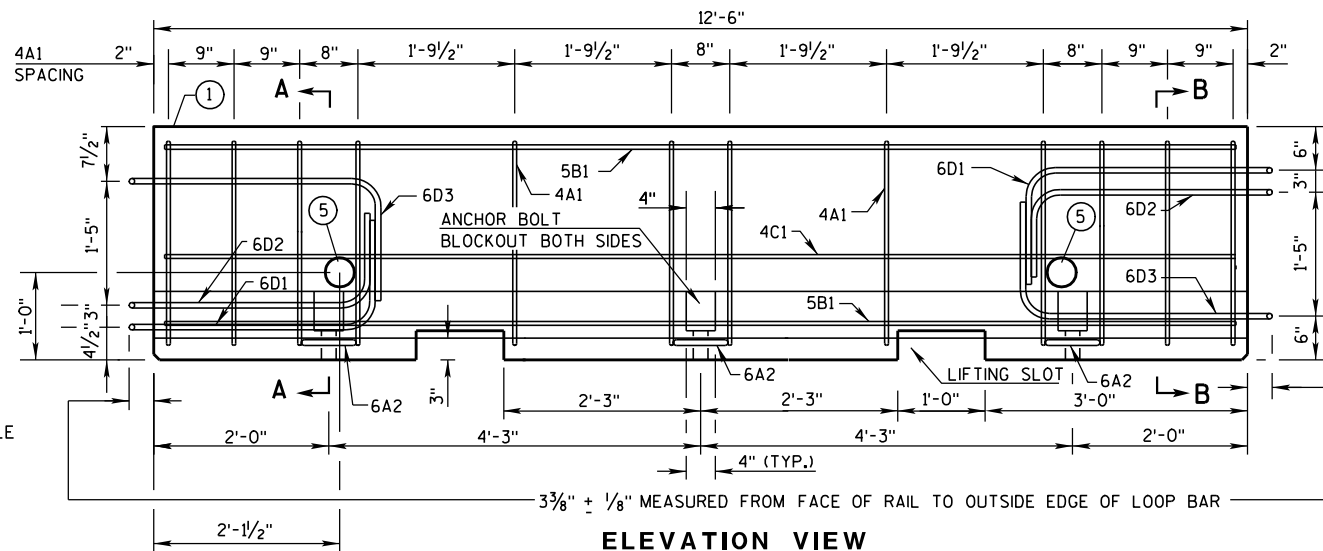
AGENT



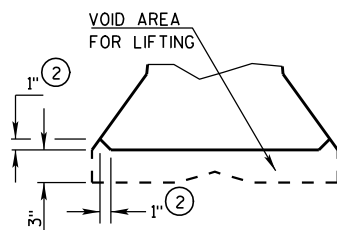
ANCHOR ON TRAFFIC SIDE ONLY WHEN REQUIRED (SEE SHEET D FOR ADDITIONAL ANCHOR DETAIL)



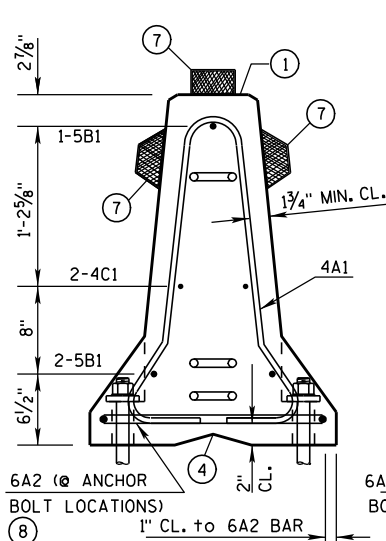
END VIEW



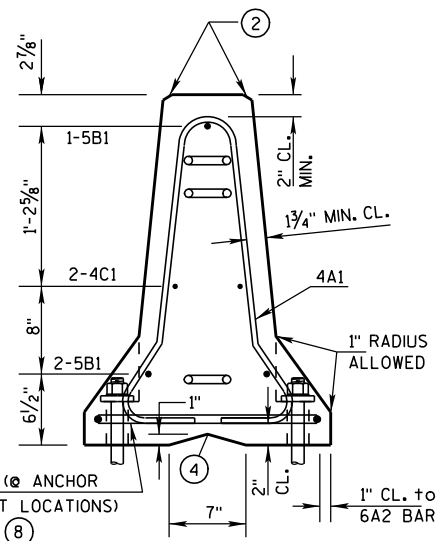
ELEVATION VIEW



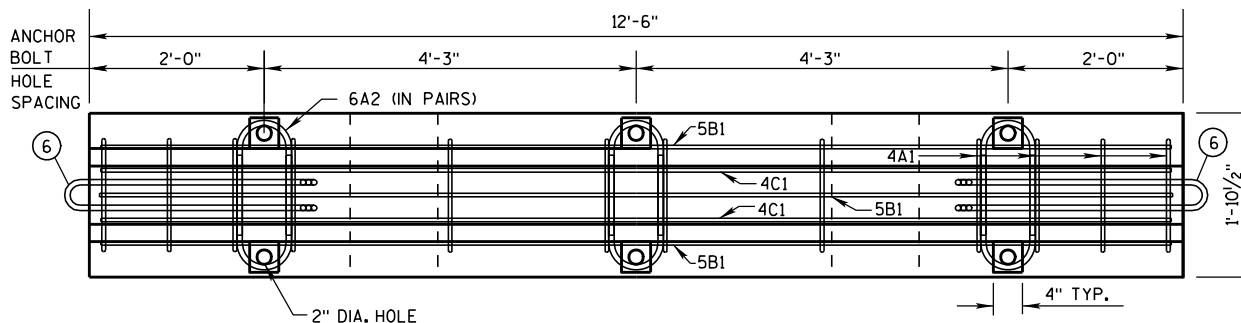
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

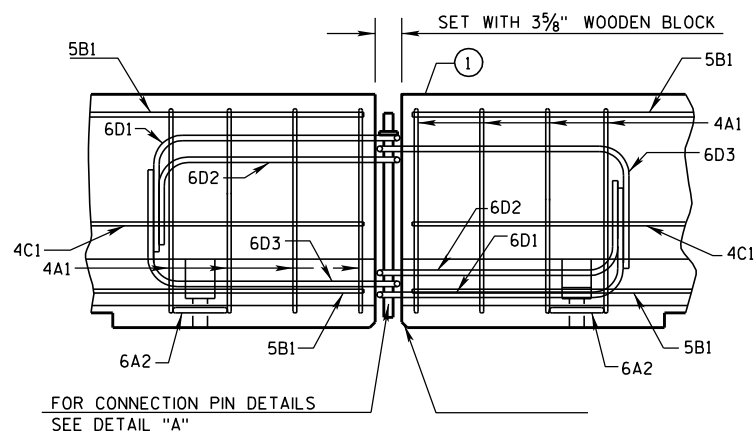


SECTION B-B
(STIRRUP PLACEMENT)

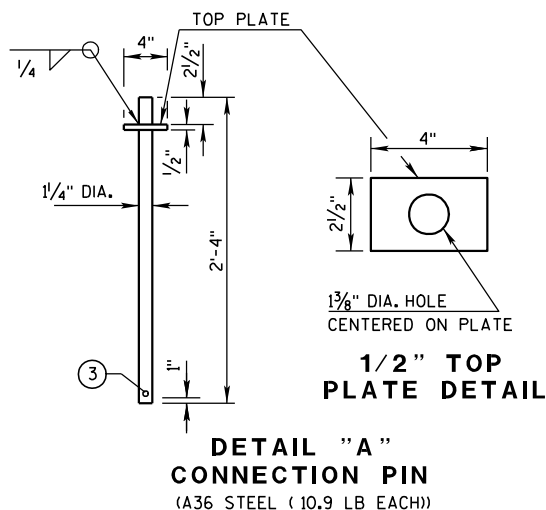


PLAN VIEW

DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



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

GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-12(a) THRU 14B7-12(d).

DETAILS AND REQUIREMENTS FOR THE FABRICATION AND INSTALLATION OF CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) ARE SHOWN ON 4 SHEETS, 14B7-12(a) THRU 14B7-12(d)

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

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

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE 3/4" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-1/2" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" OF THE PLAN DIMENSION.

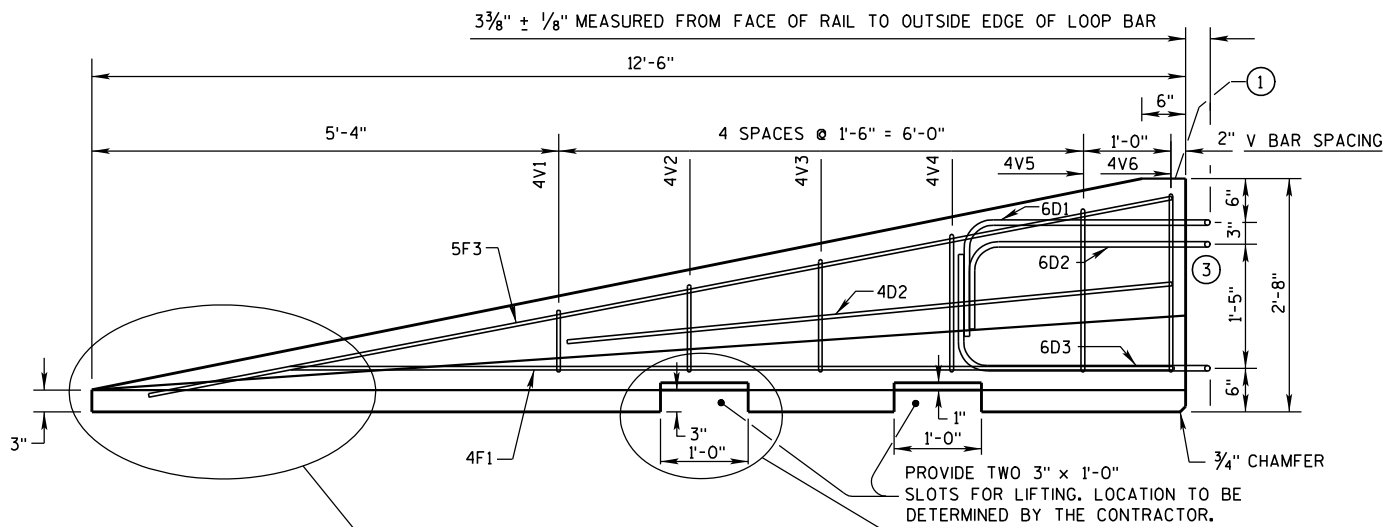
CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

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

- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE: WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- ④ "V" NOTCH IS OPTIONAL.
- ⑤ THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- ⑥ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- ⑦ USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- ⑧ SEE SHEET D FOR ANCHORING CRITERIA.

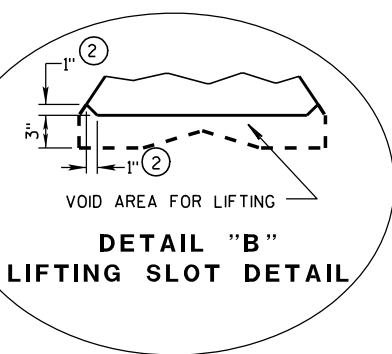
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

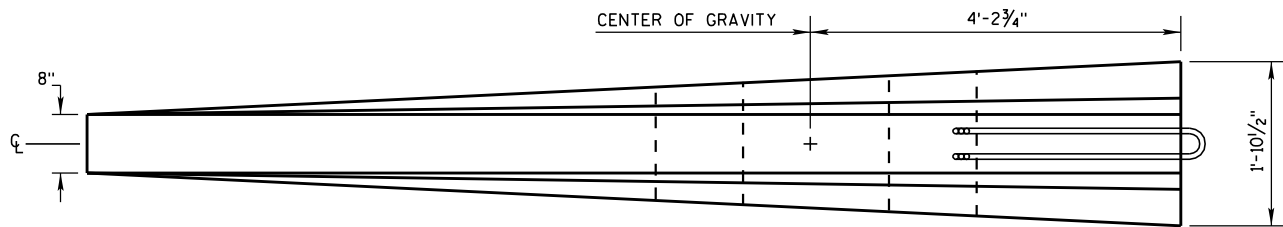


SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)

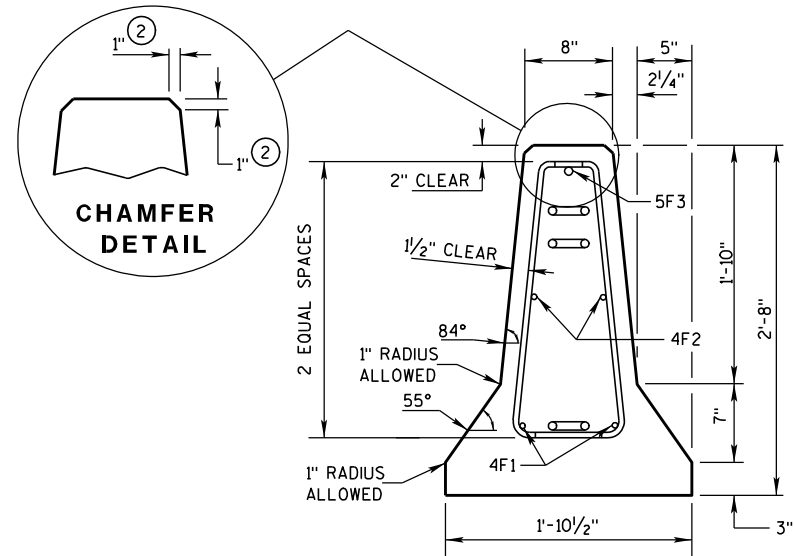
SEE DETAIL "C", BENT BAR DETAIL



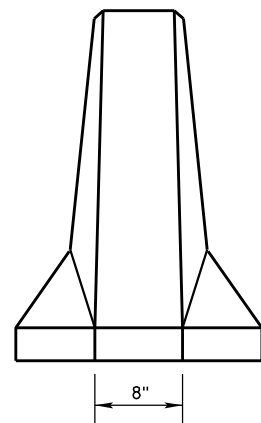
DETAIL "B"
LIFTING SLOT DETAIL



PLAN VIEW

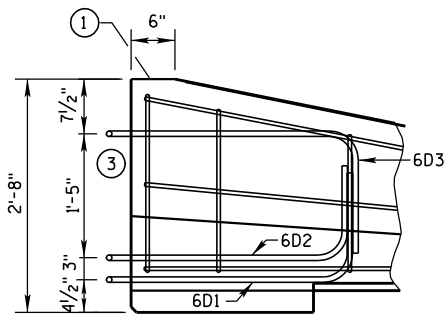


END SECTION



FRONT ELEVATION

DETAILS OF BARRIER TAPER SECTION

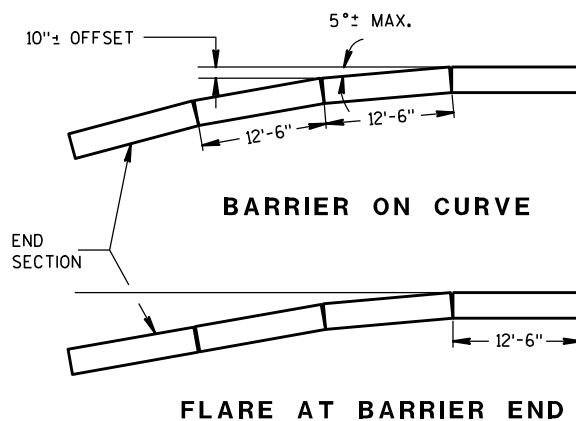


SIDE ELEVATION

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.



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

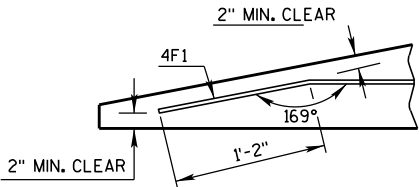
**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

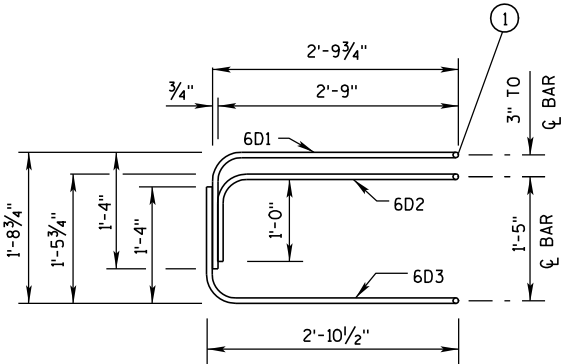
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

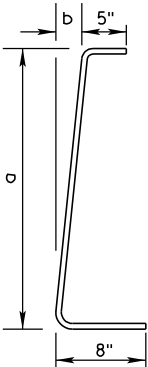
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

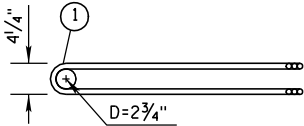
GENERAL NOTES

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

BARRIER SECTION
BILL OF MATERIALS

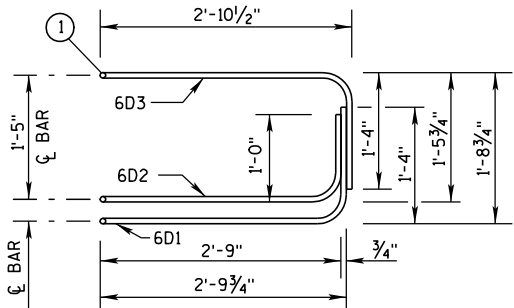
(PER 12'-6" BARRIER SECTION)

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

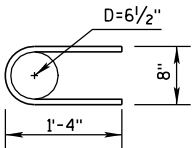


PLAN VIEW
LOOP BAR ASSEMBLY

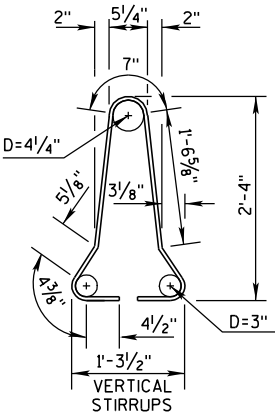
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

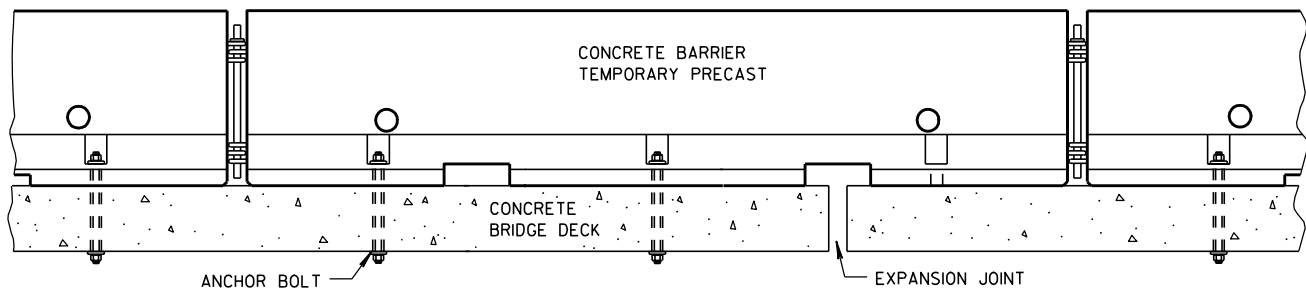
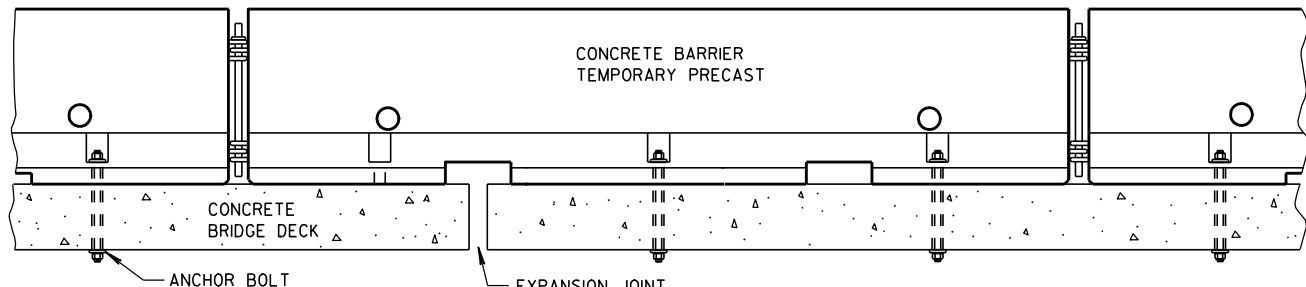


4A1

BARRIER SECTION

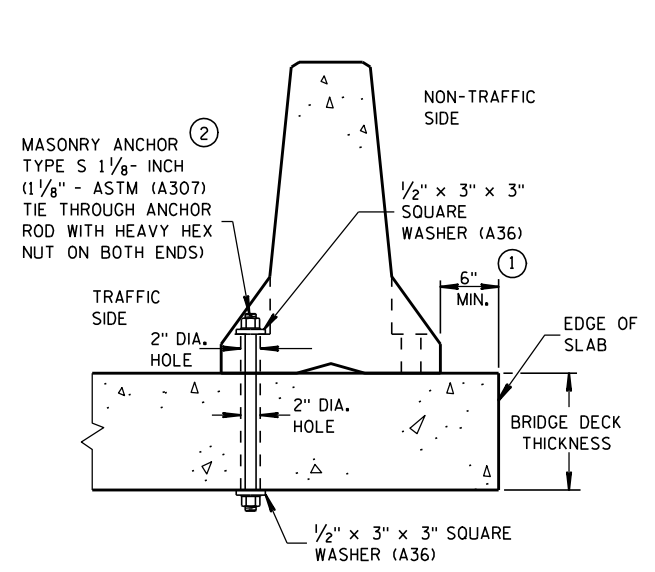
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



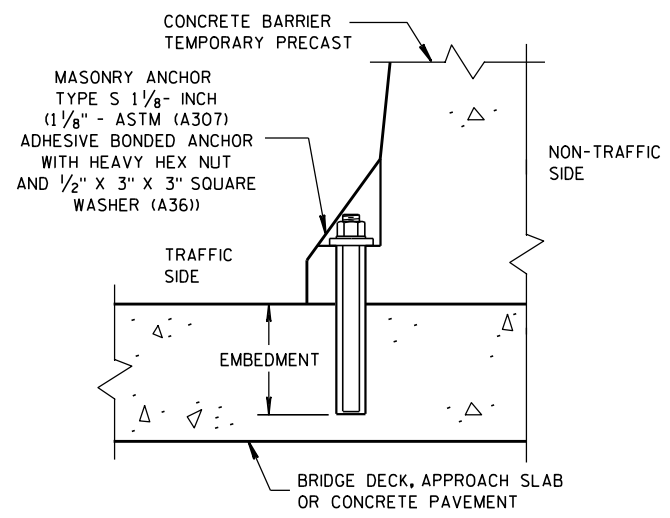
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



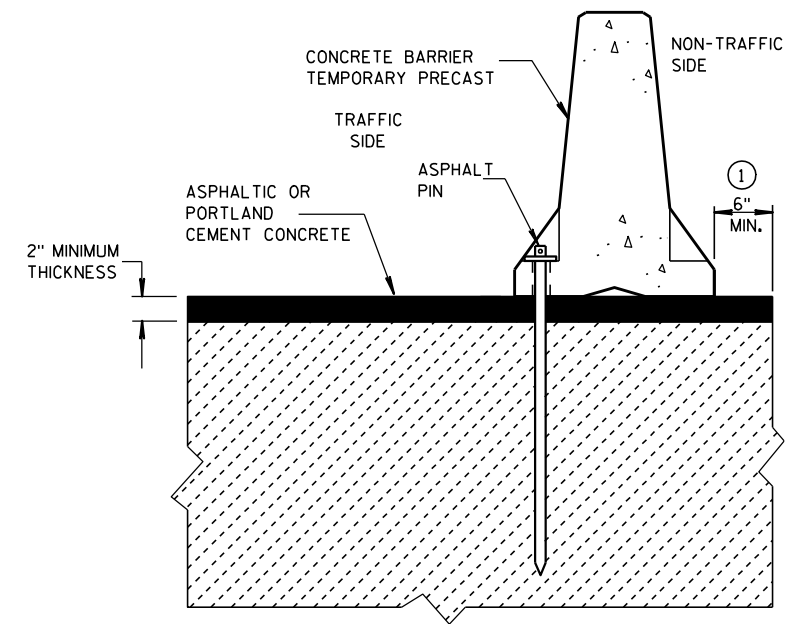
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

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



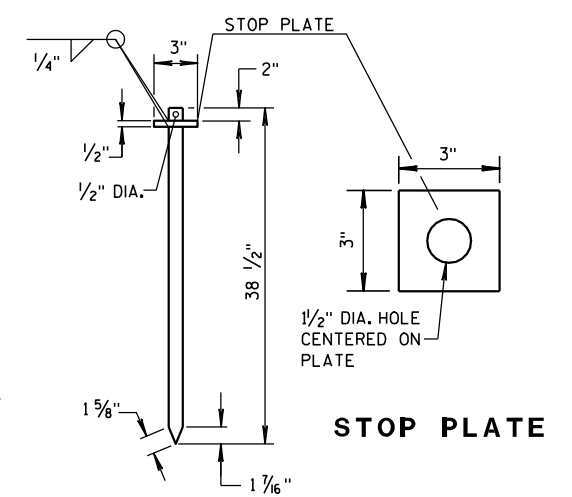
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

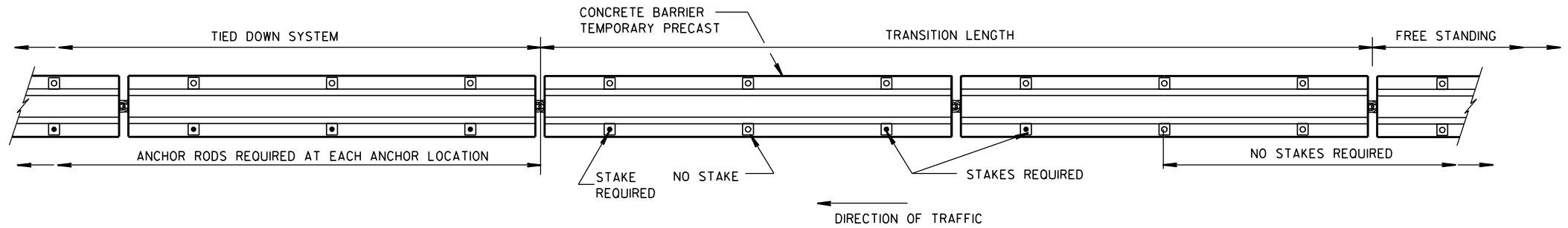


STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



ASPHALT PIN (ASTM A36 STEEL)



FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

GENERAL NOTES

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

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

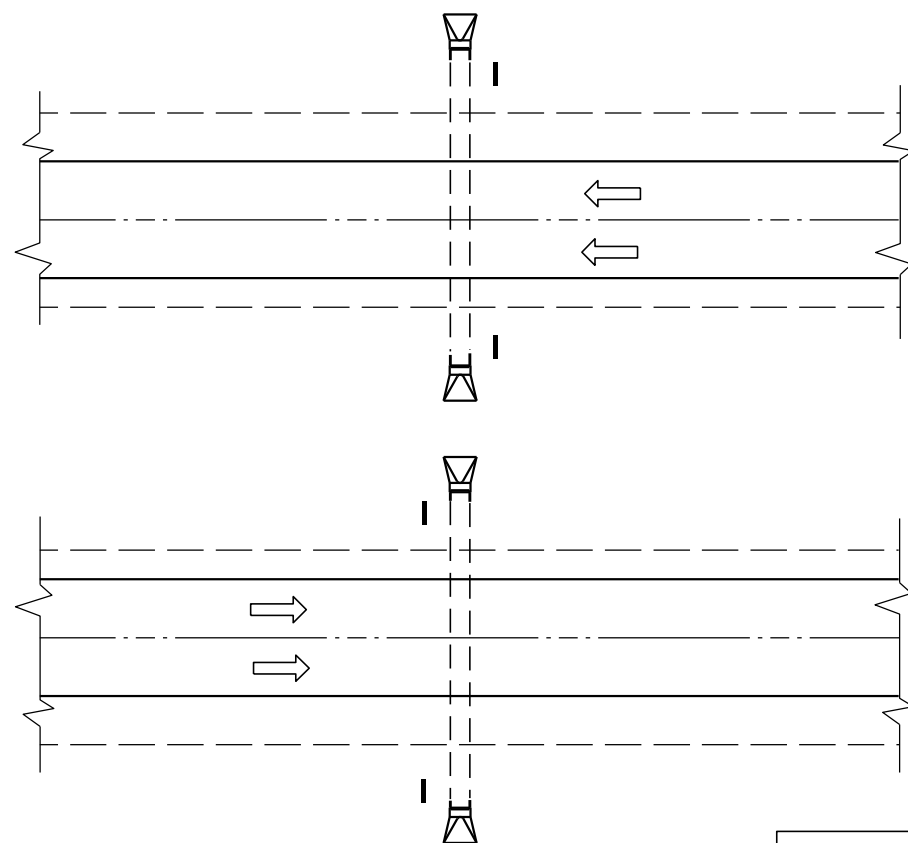
WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1 1/8-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE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

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERCIAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

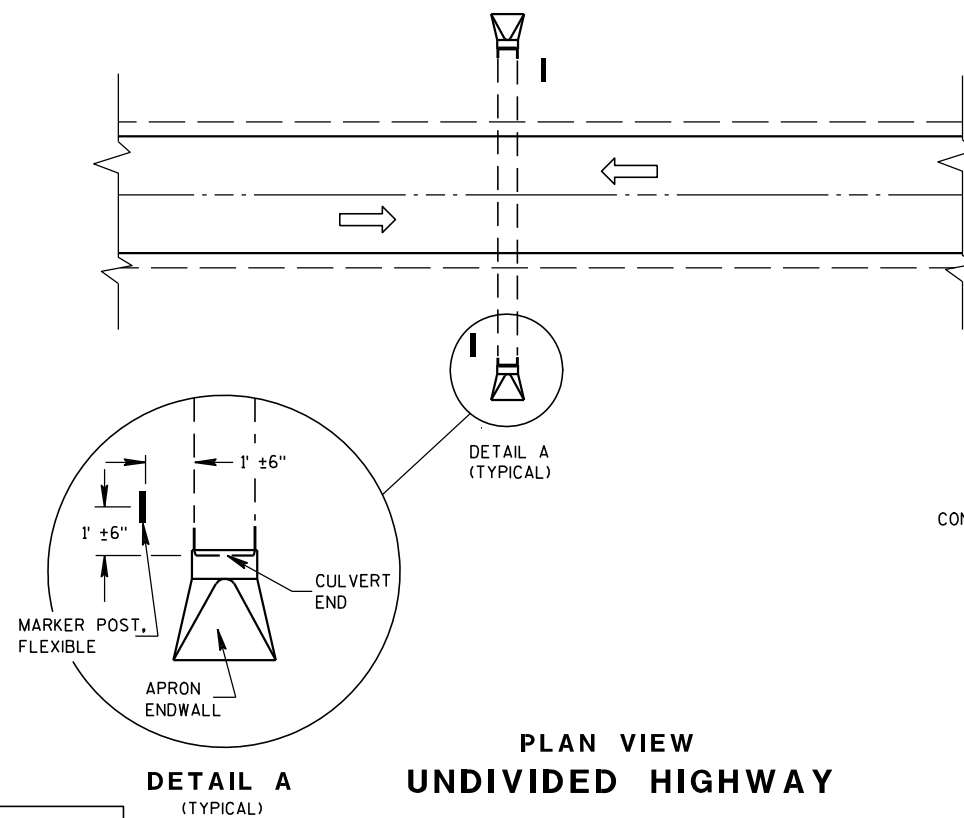
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010 /S/ Jerry H. 7-12d
DATE ROADWAY STANDARD 95 NT
FHWA ENGINEER

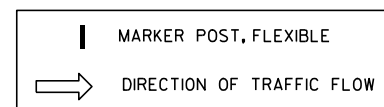


PLAN VIEW
DIVIDED HIGHWAY

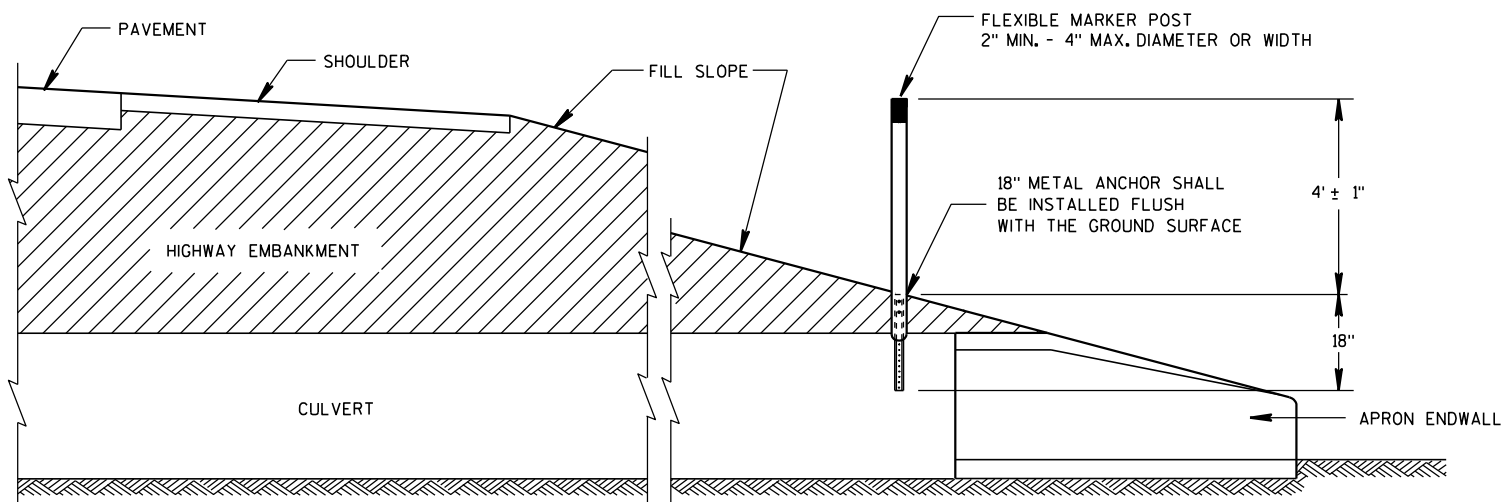


PLAN VIEW
UNDIVIDED HIGHWAY

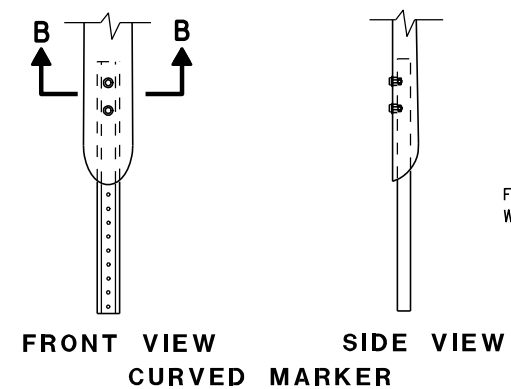
DETAIL A
(TYPICAL)



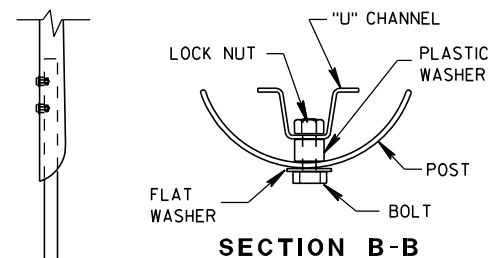
FLEXIBLE MARKER POST LOCATION



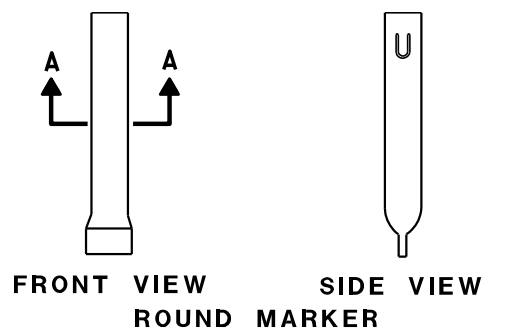
CROSS SECTION
FLEXIBLE MARKER POST



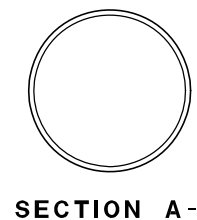
FRONT VIEW
CURVED MARKER



SECTION B-B



FRONT VIEW
ROUND MARKER

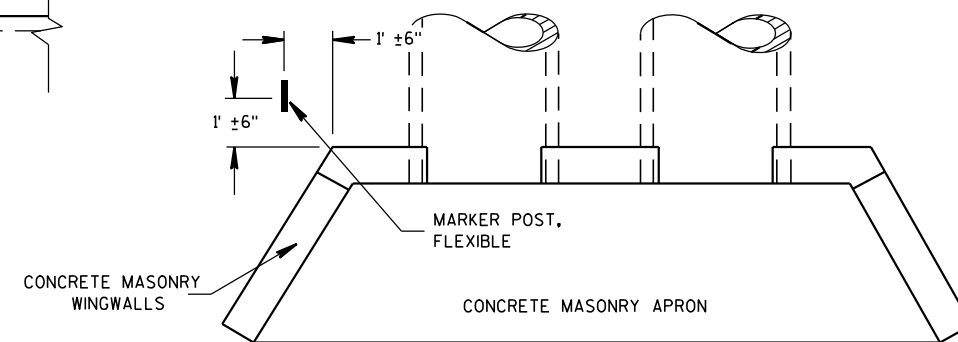


SECTION A-A

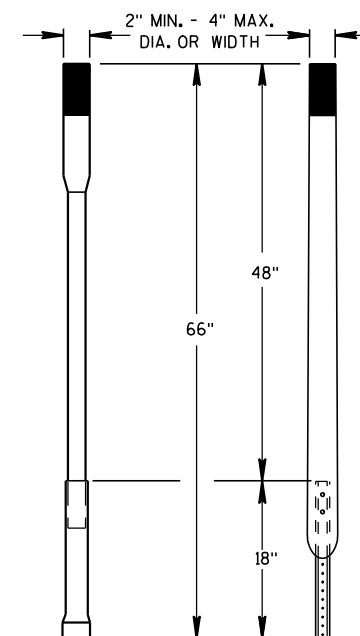
FLEXIBLE MARKER POST ANCHORS

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



ALTERNATE 1 ALTERNATE 2
FLEXIBLE MARKER POST

MARKER POST, FLEXIBLE,
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

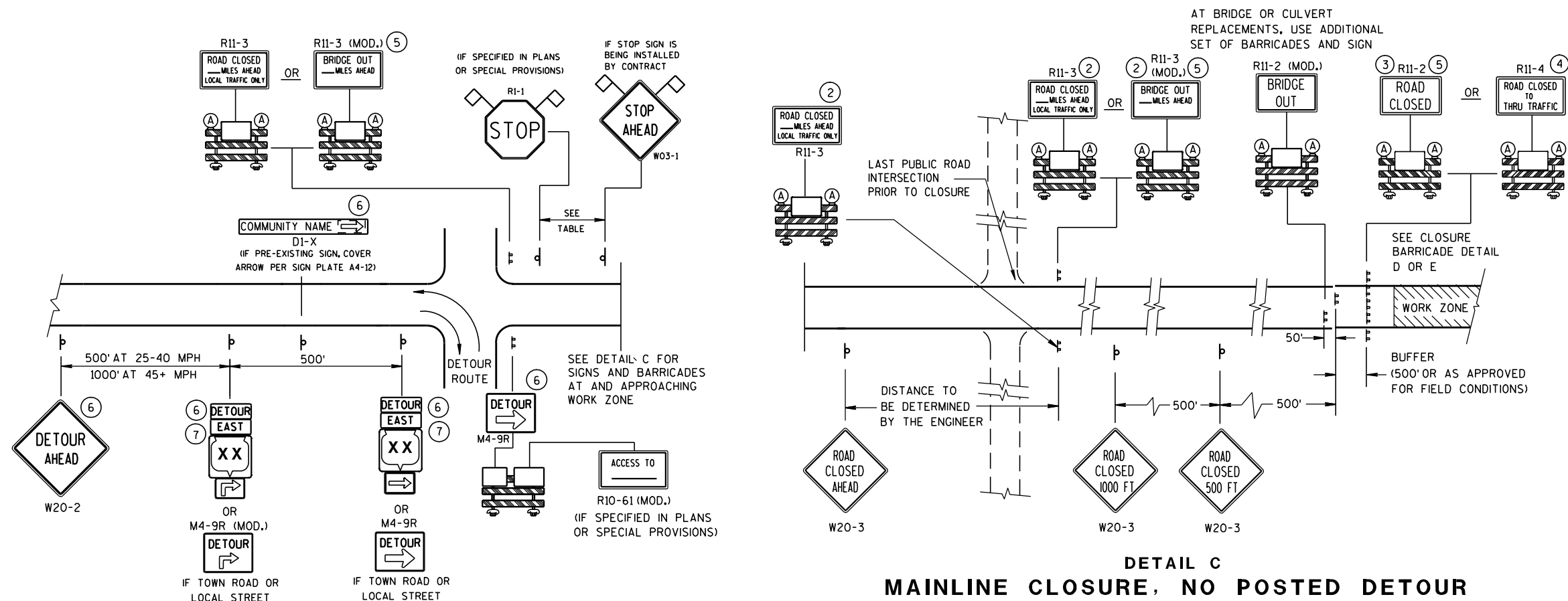
APPROVED

10/1/98
DATE

FHWA

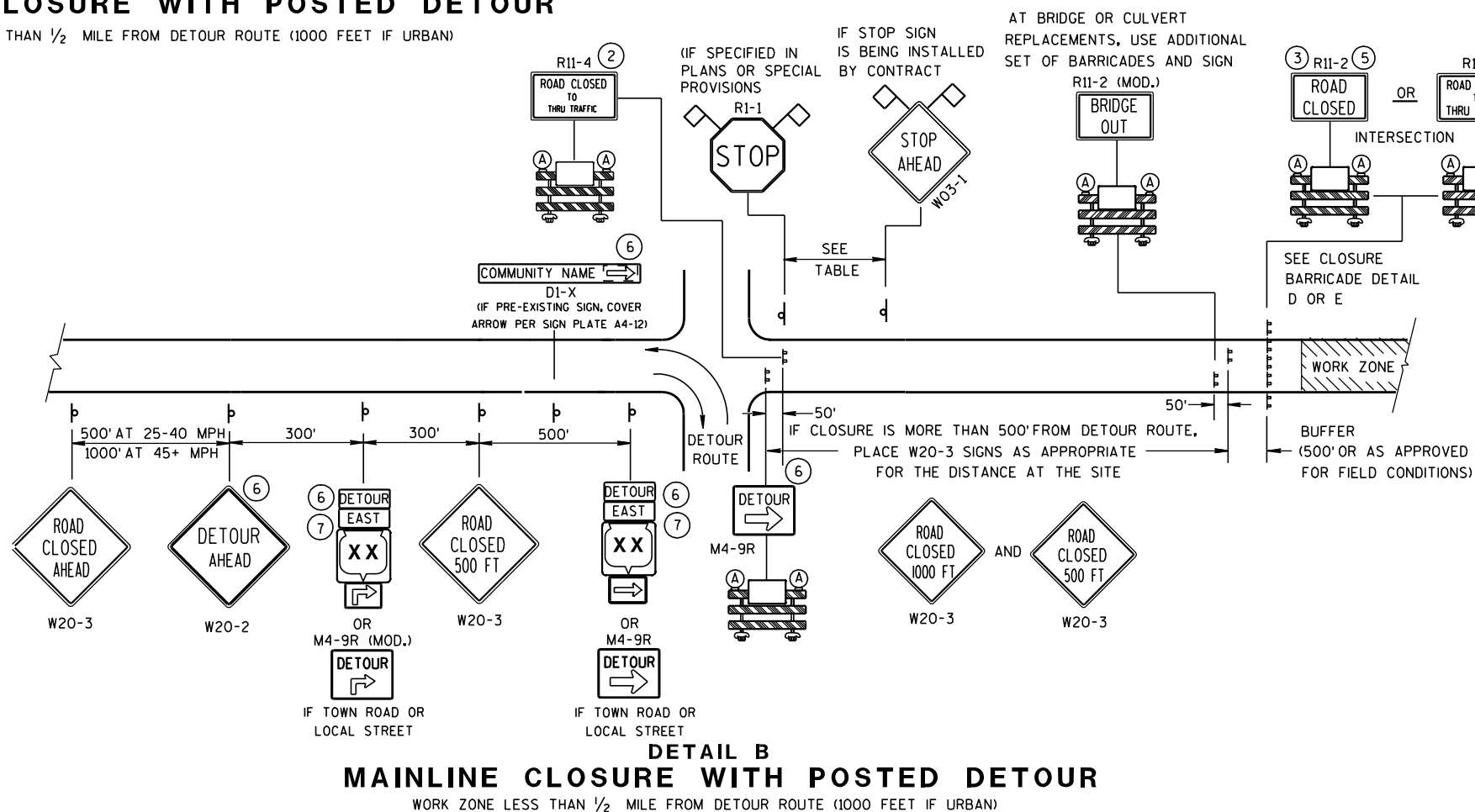
/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOPER

96 INEER



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

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

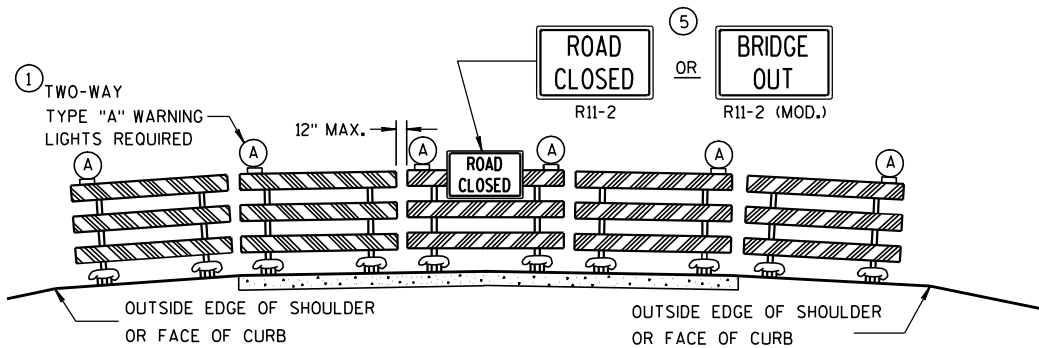


LEGEND

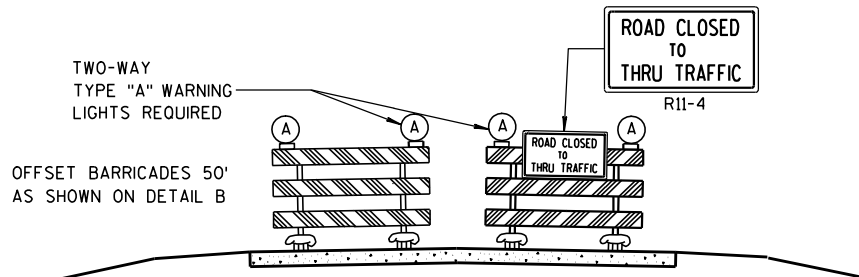
-  POST MOUNTED SIGN
 TYPE III BARRICADES
 (A) TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
 WORK ZONE
 M4-8
 M3-X
 OR  OR 
 M1-4 M1-5A M1-6
 OR 
 M05-1 M06-1
 FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-4a FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

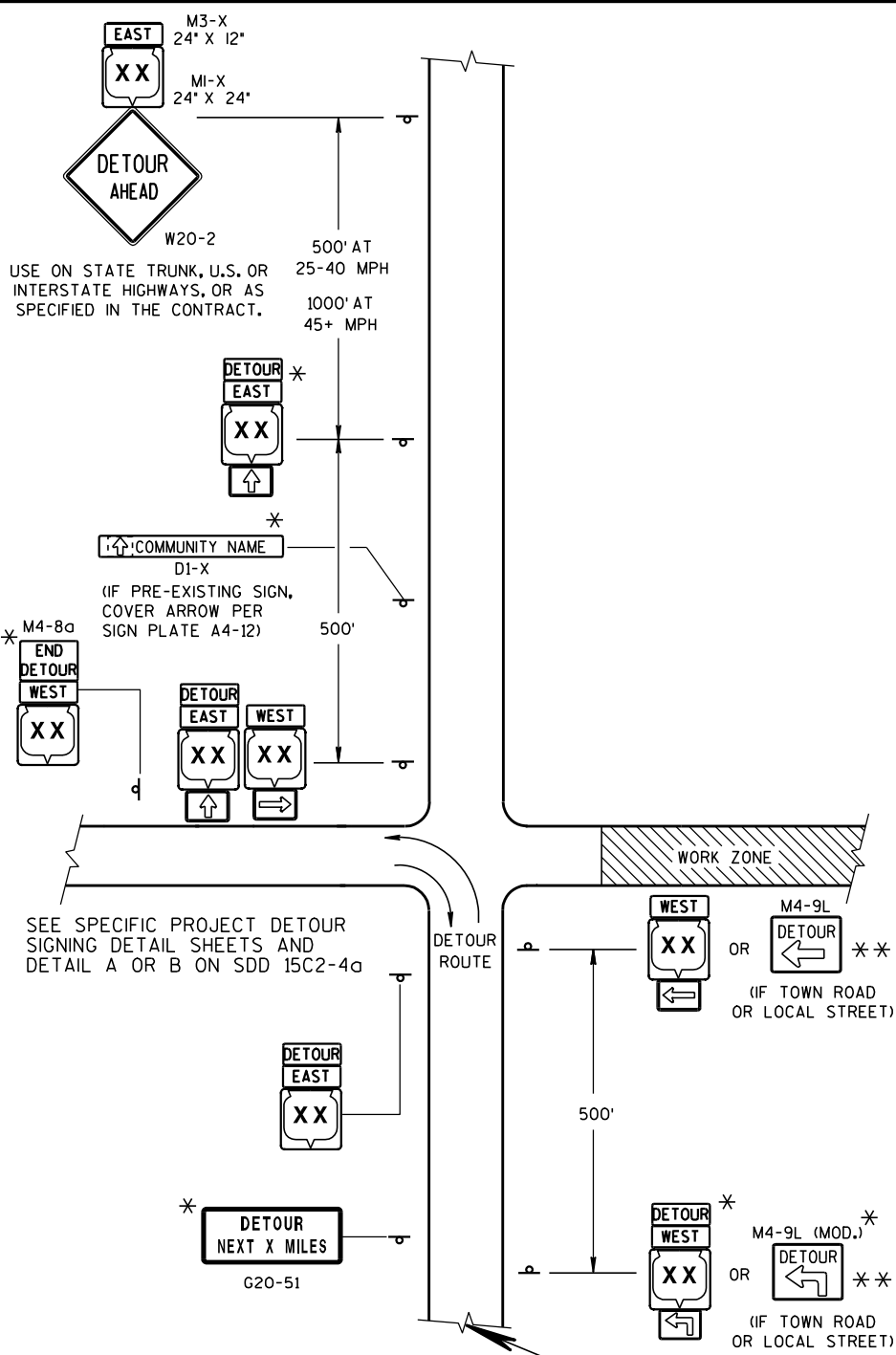
APPROVED

9/16/03
DATE

/S/ Thomas N. N
CHIEF SIGNS AND MAR 98

INEER

FHWA



LEGEND

POST MOUNTED SIGN

WORK ZONE

DETOUR EAST M4-8 M3-X

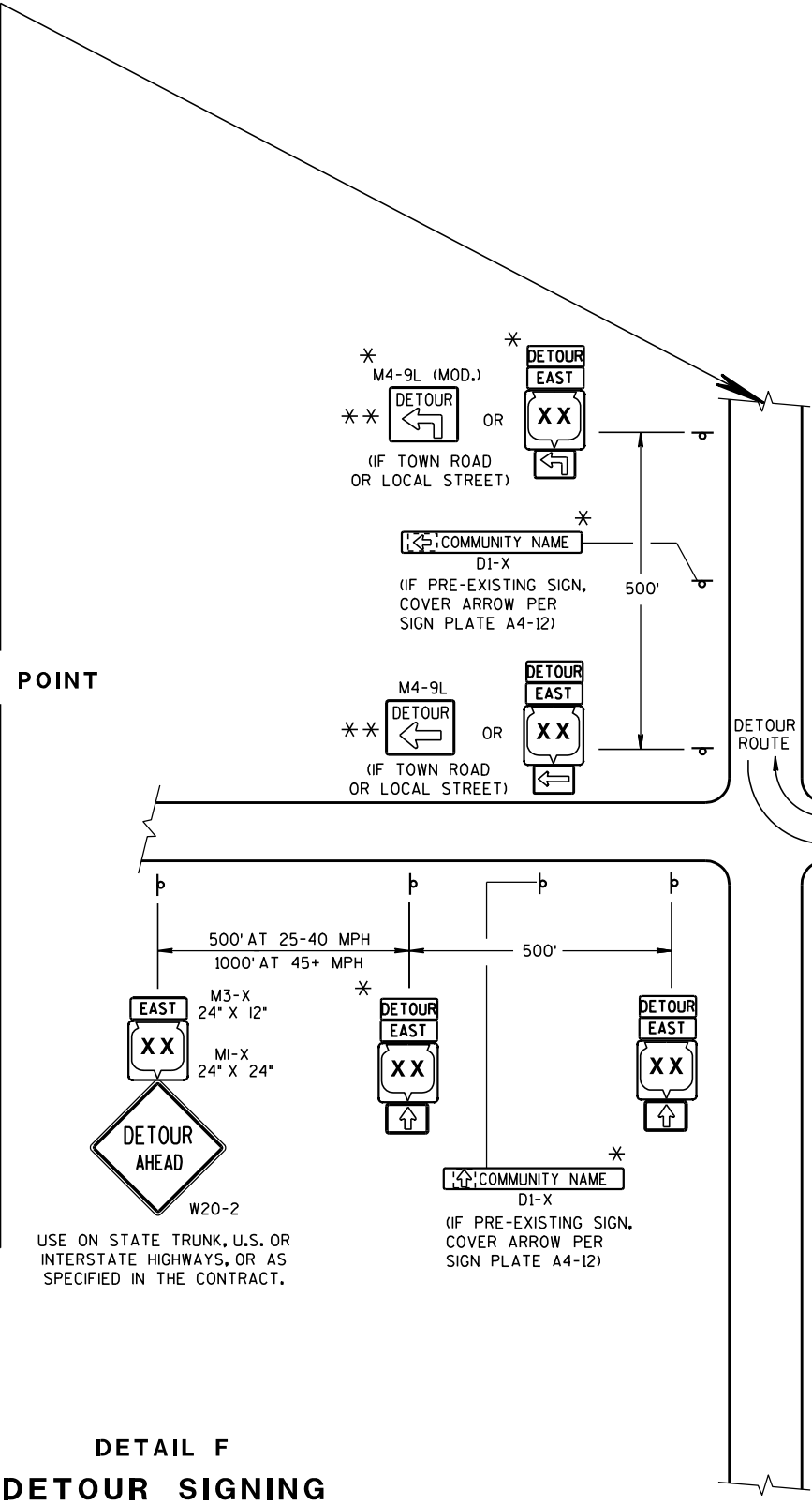
M1-4 OR COUNTY M1-5A OR M1-6

M05-1 OR M06-1 OR M06-1

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

MATCH POINT

DETAIL F
DETOUR SIGNING



GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)

M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)

M4-9 SHALL BE 30" X 24".

M4-8a SHALL BE 24" X 18".

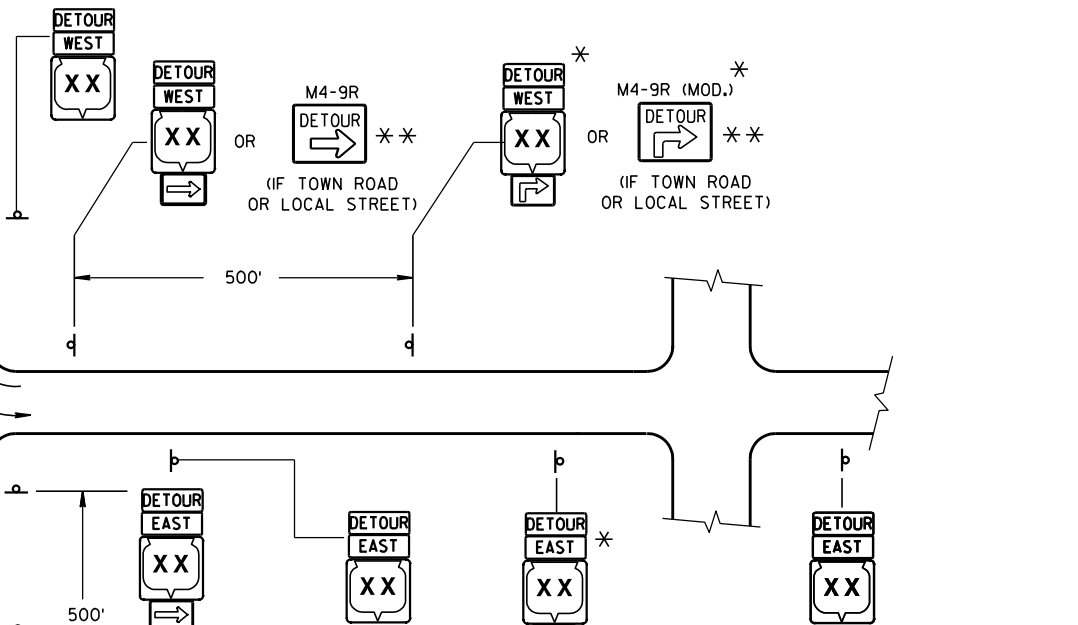
G20-51 SHALL BE 60" X 24".

W20-2 SHALL BE 48" X 48".

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

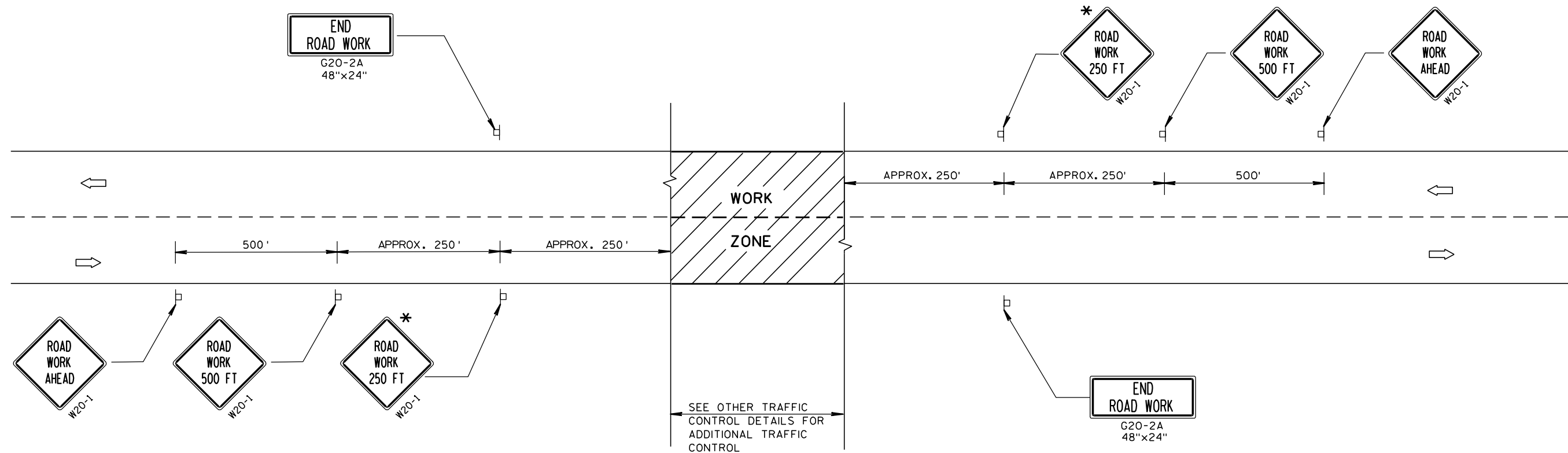


PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA.)

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-16-03 DATE /S/ Thomas N. N... CHIEF SIGNS AND MAR 99 INEER
FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

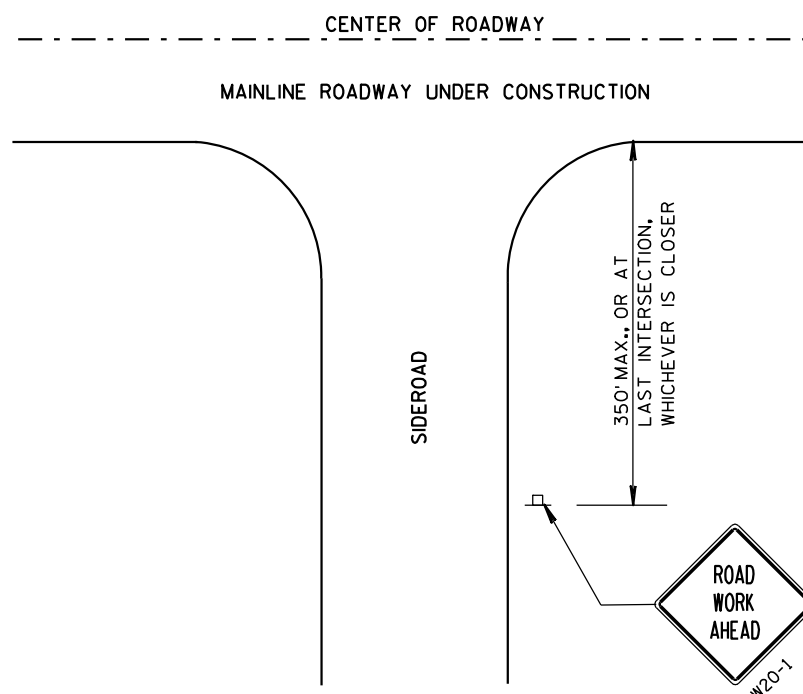
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

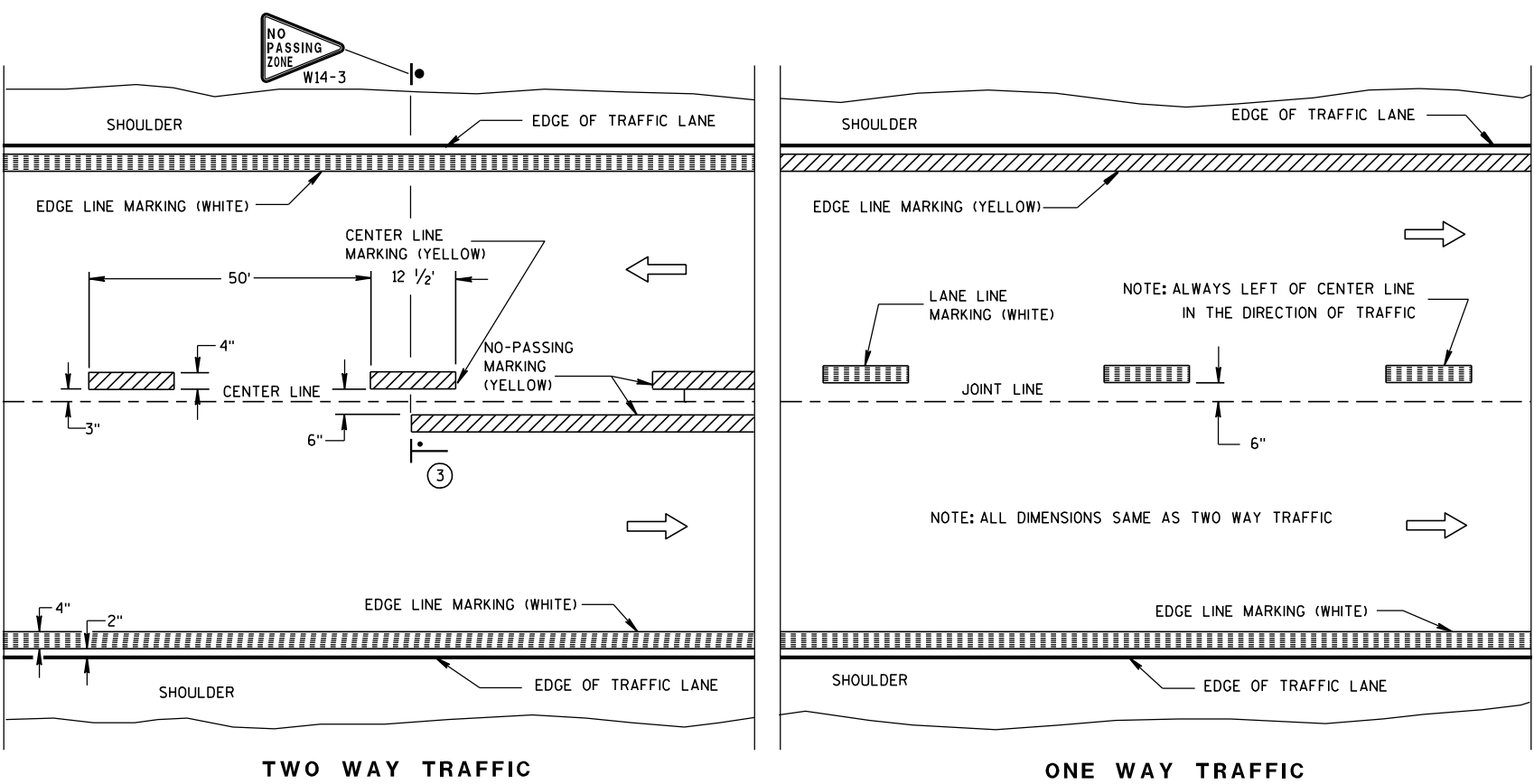
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



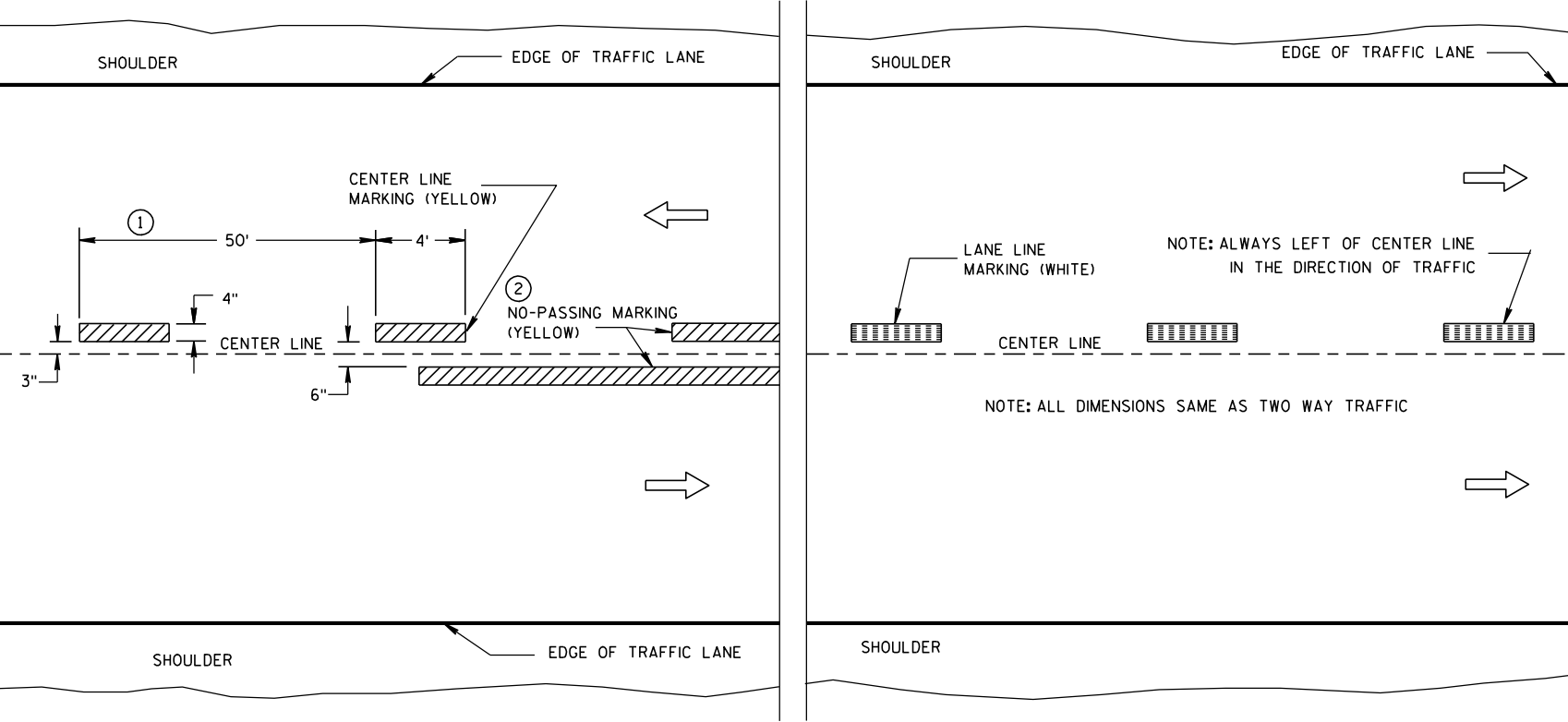
LEGEND

- POST MOUNTED SIGN
- ➡ DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/23/00 DATE	/S/ Chester J. 100 CHIEF SIGNS AND MARKING ENGINEER
FHWA	



PERMANENT PAVEMENT MARKING



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

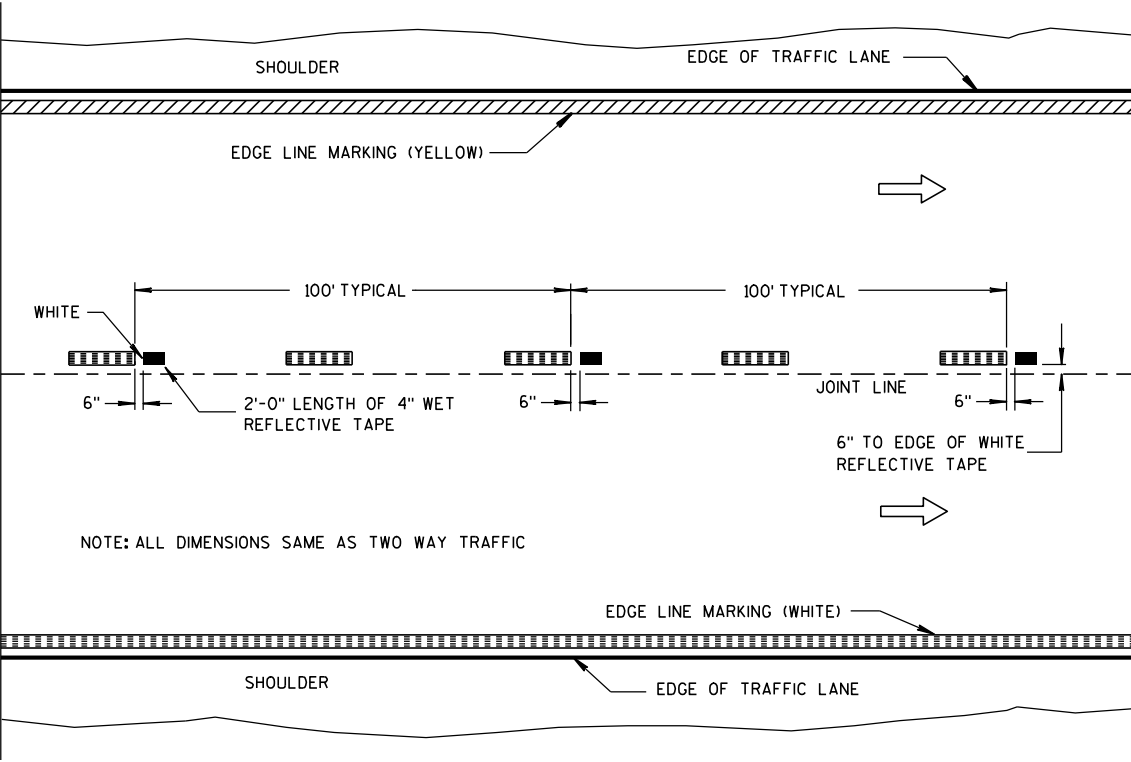
GENERAL NOTES

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.

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 6-23-11 DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINE 101 ESIGN
FHWA	

LEGEND

- POST WITH ATTACHED SIGN
- POST WITH ATTACHED SIGN IN DRUM
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- 8' TYPE III BARRICADE
- *-x-* REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

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.

- ① 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.

GENERAL NOTES CONTINUED:

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

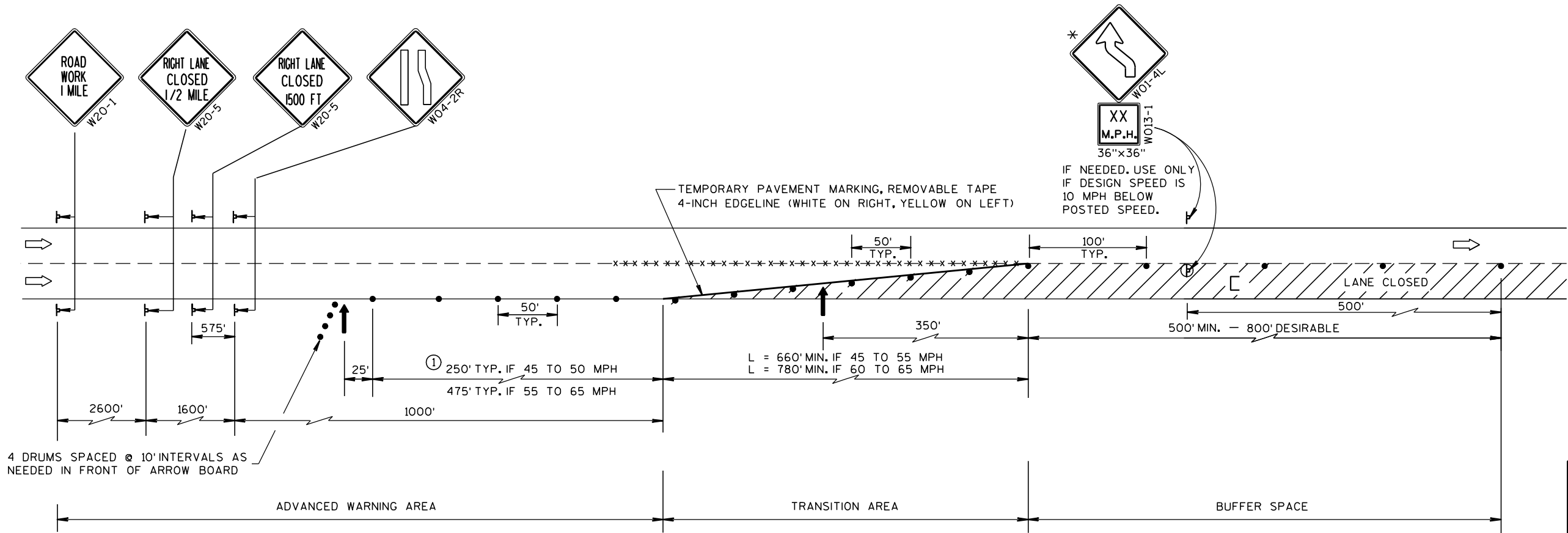
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1/4 MILE ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

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 (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8-7-95 DATE	/S/ Chester J. DIRECTOR, OFFICE OF 102 c
FHWA	



APPROVED
5/23/2000
DATE

/S/ Chester J. [redacted]
CHIEF SIGNS AND MAR 103 INEER

FHWA

SYMBOLS

- TRAFFIC CONTROL DRUM
- ┐ POST MOUNTED SIGN
- ➡ DIRECTION OF TRAFFIC FLOW
- ⏏ ARROW BOARD IN CAUTION MODE

GENERAL NOTES

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

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

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

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

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

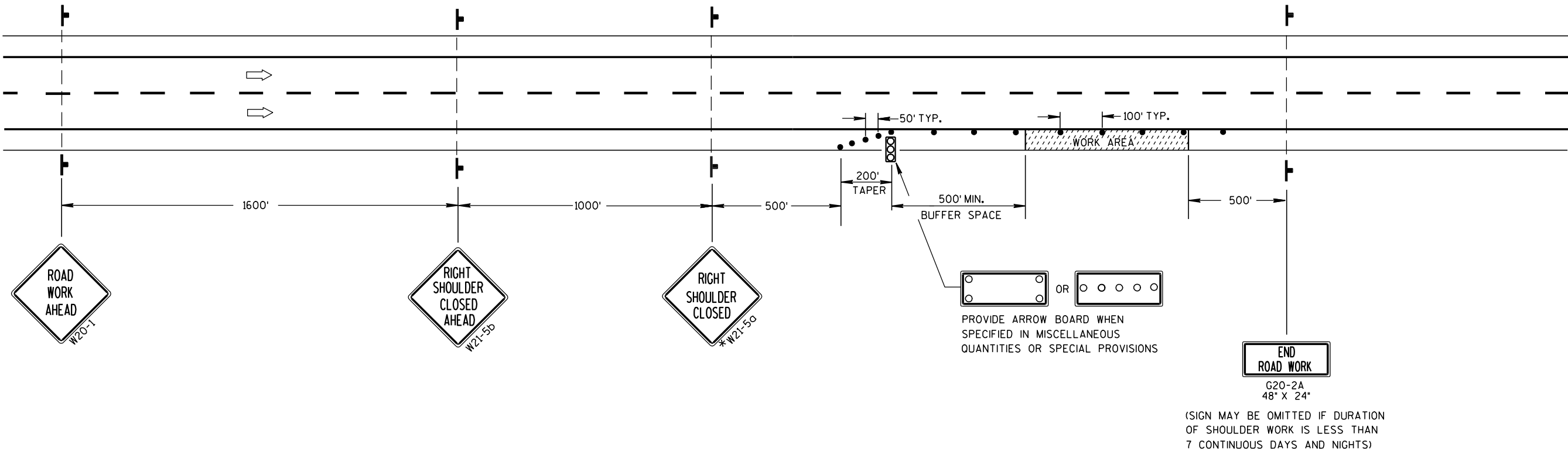
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 /S/ Chester J. Spence
DATE CHIEF SIGNS AND MAR 104 INEER
FHWA

GENERAL NOTES

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

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

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

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

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

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

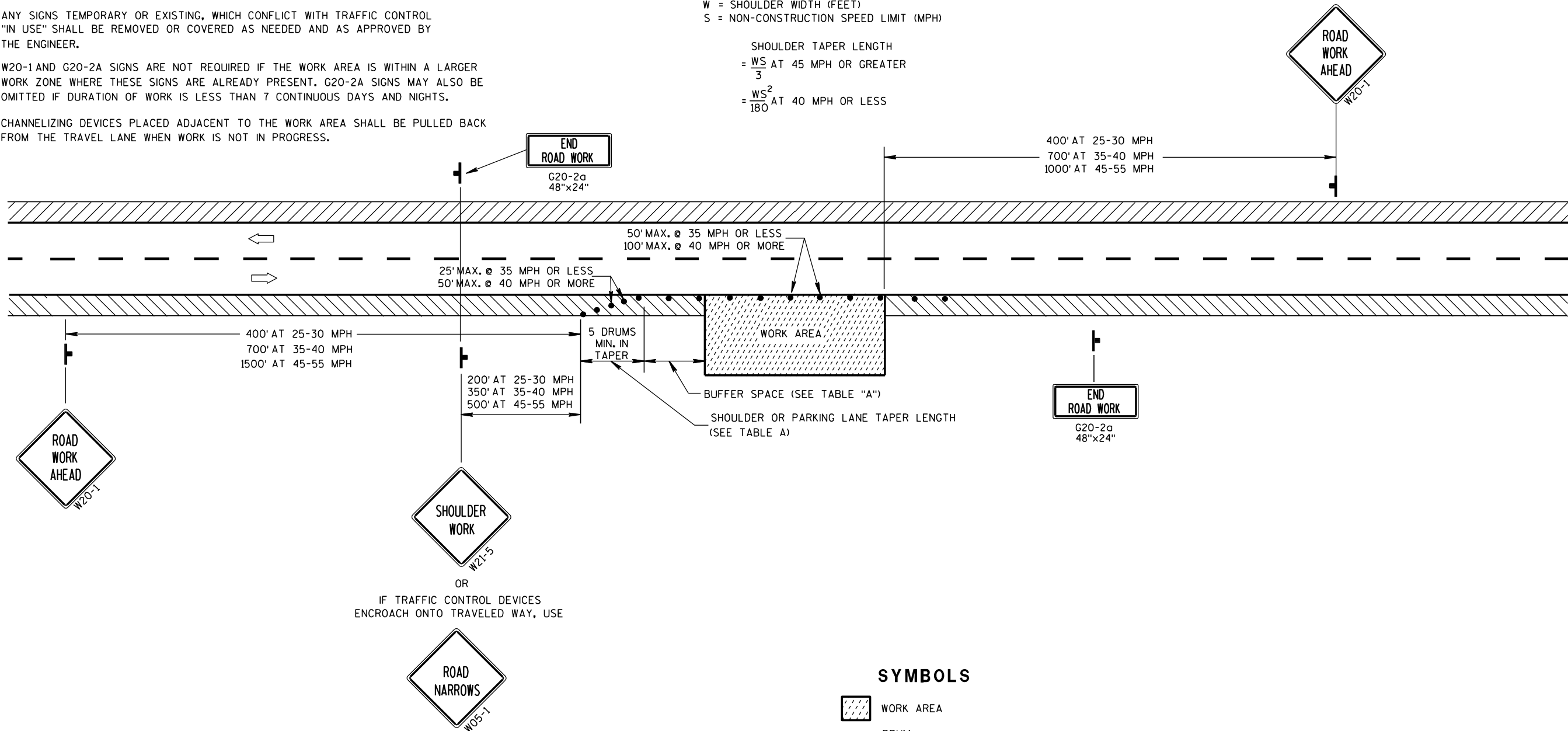
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

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

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

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



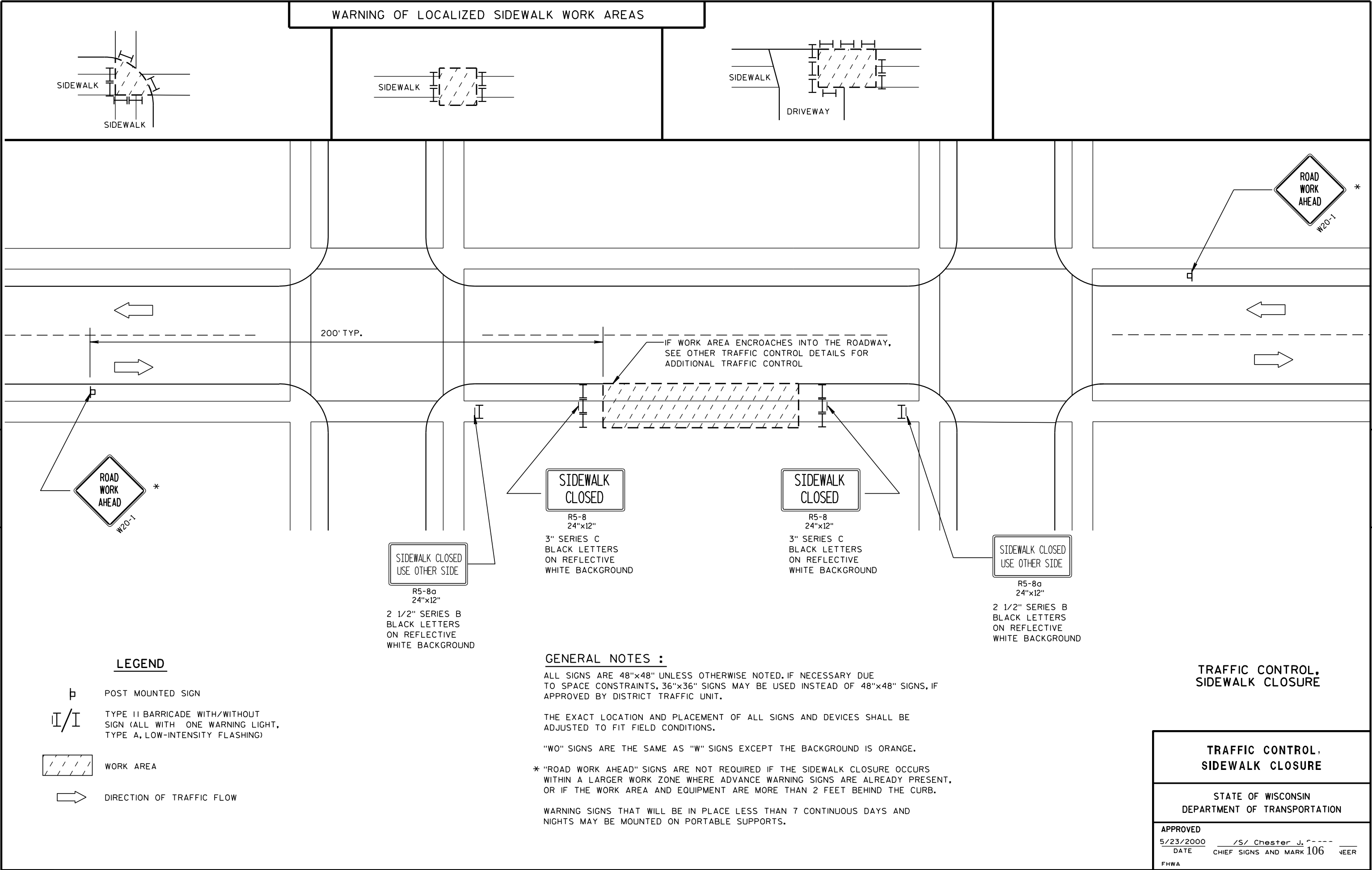
SYMBOLS

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 /S/ Chester J. [Signature]
DATE CHIEF SIGNS AND MARK 105 NNEER
FHWA

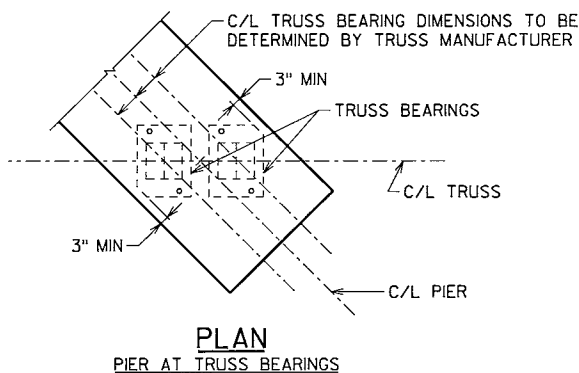
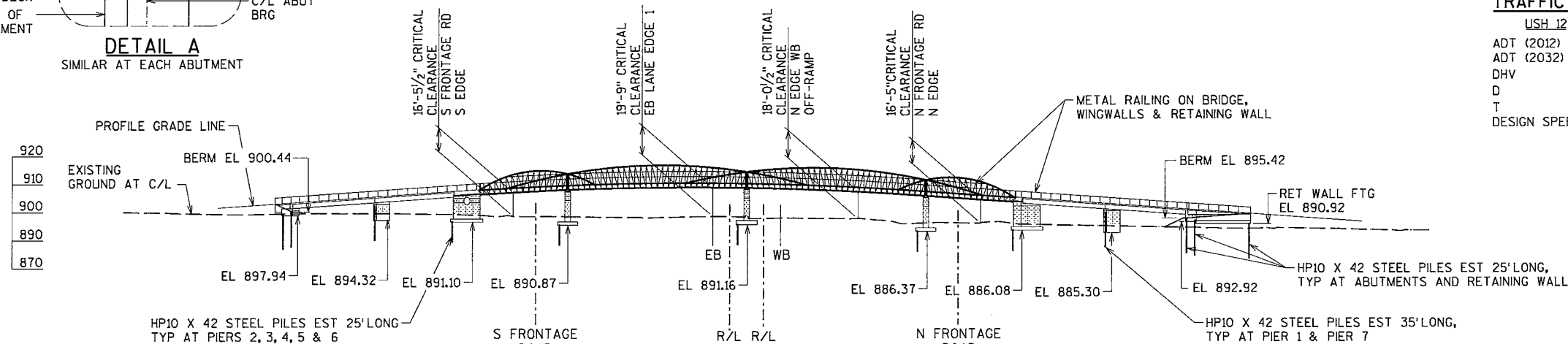
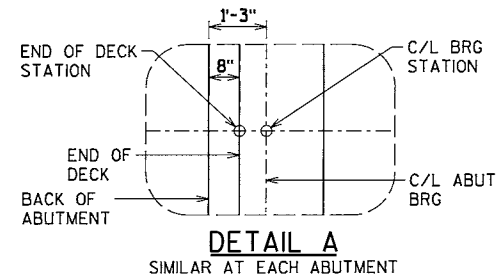
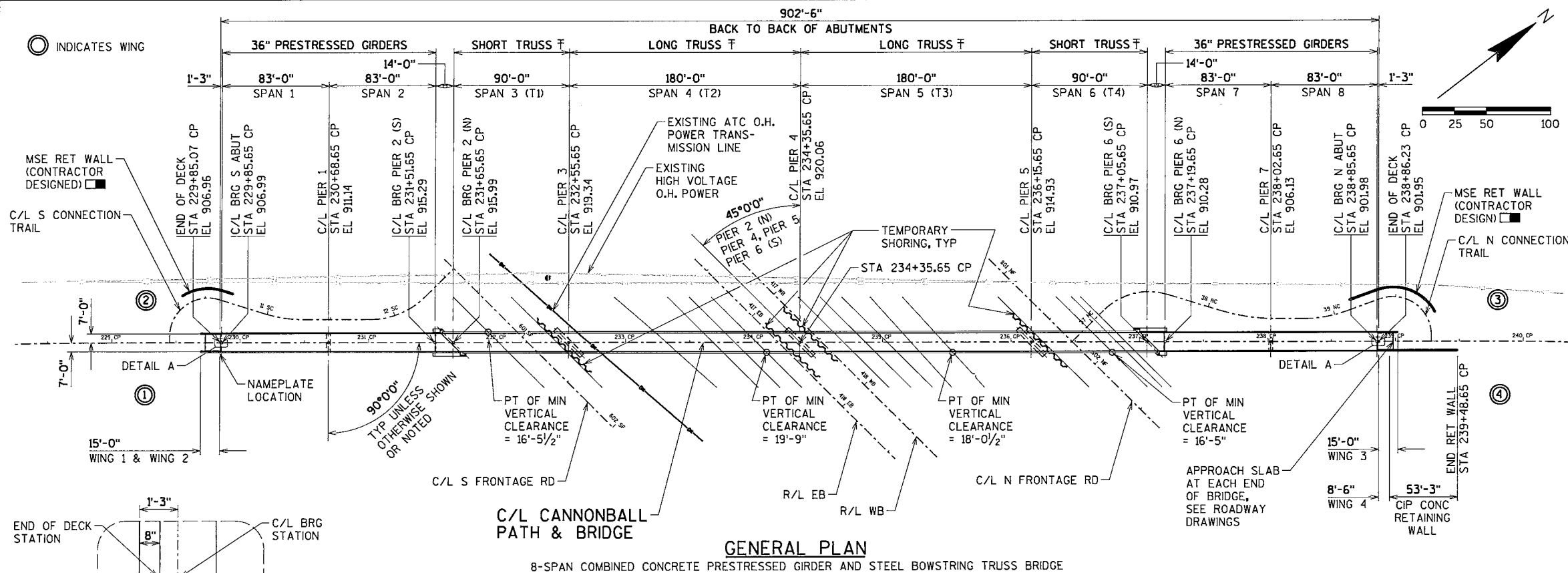


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PLOT DATE: 11/13/2012

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BENCHMARK (DATUM = NAVD 88)			
NO	STATION	DESCRIPTION	ELEV
1	236+27.86 CP, 82.2' LT CANNONBALL PATH	TOP NUT FIRE HYDRANT BY CULVER'S SIGN	892.21
3	232+16.73 CP, 16.2' RT CANNONBALL PATH	CUT X ON CURB HEAD	897.64
4	236+55.68 CP, 27.4' LT CANNONBALL PATH	CUT X ON SIDEWALK	893.08



LIST OF DRAWINGS	
1	GENERAL PLAN
2	PROFILE GRADE, QUANTITIES & NOTES
3-5	ROAD PROFILE GRADES
6	TYPICAL SECTION & ELEVATIONS
7-8	SUBSURFACE EXPLORATION
9-10	SOUTH & NORTH ABUTMENT DETAILS
11-12	RETAINING WALL & NORTH ABUTMENT DETAILS
13	PIER 1 & 7 AND DETAILS
14-23	PIER 2 & 6 AND DETAILS
24	PIER 2 & 6 SLAB DETAILS
25-27	PIER 3 & 5 AND DETAILS
28-29	PIER 4 AND DETAILS
30-31	36W PRESTRESSED GIRDER DETAILS
32	STEEL DIAPHRAGM
33-36	SUPERSTRUCTURE DETAILS
37-40	RAILING TUBULAR/STEEL DETAILS
41-42	RUSTICATION DETAILS
43	RUSTICATION DETAILS MEDALLION

SEH CONTACT: JILL FEHRMAN, PE, 608.620.6183
WISDOT BRIDGE OFFICE CONTACT: BILL DREHER, PE, 608.266.8489

STATE PROJECT NUMBER

5992-09-07

DESIGN DATA

2009 AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES.

LIVE LOAD:

LIVE LOAD ON TRAIL BRIDGE = GREATER OF:
90 PSF PER AASHTO
OR H-10 MAINTENANCE (20,000 LB)
VEHICLE WITHOUT IMPACT

INVENTORY RATING = NOT APPLICABLE
OPERATING RATING = NOT APPLICABLE

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY - SLAB $f'_c = 4,000$ psi
- ALL OTHER (GRADE A) $f'_c = 3,500$ psi

*CONCRETE WEIGHT FOR SLAB MAY VARY. LIGHT WEIGHT CONCRETE MAY BE REQUIRED BY TRUSS DESIGNER. SEE TRUSS SHOP & ERECTION DRAWING FOR THE MAXIMUM UNIT WEIGHT OF CONCRETE THAT CAN BE PLACED ON THE TRUSS.

HIGH STRENGTH BAR STEEL REINFORCEMENT
AASHTO GRADE 60 $f_y = 60,000$ psi
PRESTRESSED CONCRETE GIRDER
(36") CONCRETE $f'_c = 7,000$ psi
STRANDS, 0.6" DIA ULTIMATE
TENSILE STRENGTH $f_y = 270,000$ psi

STRUCTURAL STEEL:

STEEL TRUSS (PAINTED) $f_y = 50,000$ psi
RAILING $f_y = 36,000$ psi

FOUNDATION DATA

ABUTMENTS AND RETAINING WALL TO BE SUPPORTED ON HP10 X 42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 25 FEET LONG.

PIER 1 & PIER 7 TO BE SUPPORTED ON HP10 X 42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 35 FEET LONG.

PIER 3, PIER 4 & PIER 5 TO BE SUPPORTED ON HP10 X 42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 25 FEET LONG.

*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.

LEGEND

T1 = TRUSS 1 SPAN 3
T2 = TRUSS 2 SPAN 4
T3 = TRUSS 3 SPAN 5
T4 = TRUSS 4 SPAN 6

† = PAINTED STEEL BOWSTRING TRUSS DESIGNED AND SUPPLIED BY BRIDGE TRUSS MANUFACTURER. COORDINATE INSTALLATION WITH CONTRACTOR.

■ MSE RETAINING WALL (CONTRACTOR DESIGN) SEE ROADWAY PLANS FOR DETAILS AND QUANTITIES.

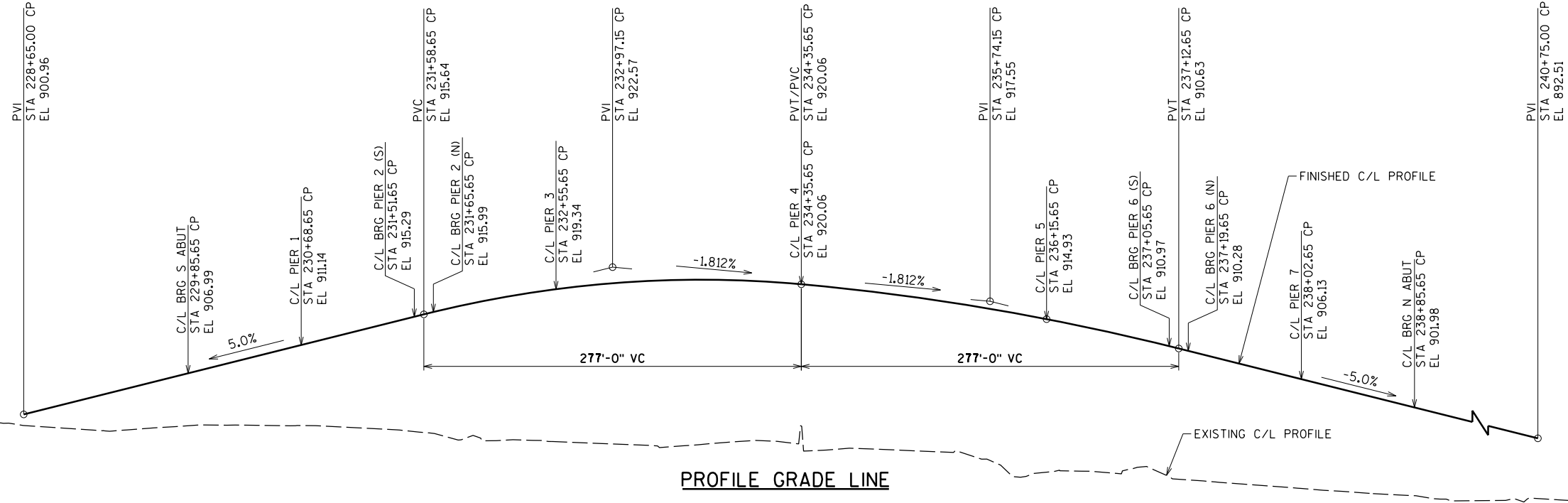
NO.	DATE	REVISION	BY
 SHORT ELLIOTT HENDRICKSON INC.			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Dreher</i> KAR		11/13/12
CHIEF STRUCTURES DESIGN ENGINEER		DATE	
STRUCTURE B-13-661			
CANNONBALL PEDESTRIAN BRIDGE OVER USH 12			
COUNTY	DANE	TOWN/CITY/VILLAGE MADISON	
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPEC.			
DESIGNED BY	NCK	DESIGN CK'D.	JAJ
DRAWN BY	DLF	PLANS CK'D.	NCK
GENERAL PLAN			SHEET 1 OF 43
			107

PLOT TIME: 11/7:58 PM

PLOT DATE: 11/6/2012

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TOTAL ESTIMATED QUANTITIES - B-13-661

	BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUT	NORTH ABUT	RET WALL	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7	SUPER SPAN 1 & 2	SUPER SPAN 7 & 8	TOTALS
	206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-13-661	LS	-	-	-	-	-	-	-	-	-	-	-	-	1
①	206.6000.S	TEMPORARY SHORING	SF	-	-	-	-	-	360	720	360	-	-	-	-	1440
	210.0100	BACKFILL STRUCTURE	CY	47	47	109	-	119	-	-	-	119	-	-	-	441
⑩	502.0100	CONCRETE MASONRY BRIDGES	CY	23.8	22.2	40.3	19.3	188.6	139.7	152.4	140.2	188.6	25.3	84.8	84.8	1,110
②	502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	-	-	-	-	-	-	-	-	-	1,601
	503.0137	PRESTRESSED GIRDER TYPE 136W-INCH	LF	-	-	-	-	-	-	-	-	-	-	333.5	333.5	667
	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	1760	1760	1310	910	3480	3920	4620	3920	3480	1170	-	-	26,330
⑩	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	3110	2810	1750	10	15890	23060	23300	23060	15890	10	14150	14150	137,180
	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-	-	-	-	-	-	-	-	-	-	8	8	16
	506.4000	STEEL DIAPHRAGMS B-13-661	EACH	-	-	-	-	-	-	-	-	-	-	4	4	8
●	506.8000.S	PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE B-13-661	LS	-	-	-	-	-	-	-	-	-	-	-	-	1
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11	10	11	-	18	-	-	-	18	-	-	-	68
④	517.1010.S	CONCRETE STAINING B-13-661	SF	169	184	290	325	1650	1386	1122	1386	1650	457	2382	2382	13,383
	517.1050.S	ARCHITECTURAL SURFACE TREATMENT B-13-661	SF	97	105	160	325	1474	1386	1122	1386	1474	457	-	-	7,986
	550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	125	125	325	140	400	300	400	300	400	140	-	-	2,655
⑤	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	11	11	-	-	3	-	-	-	3	-	-	-	28
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	32	32	53	-	54	-	-	-	54	-	-	-	225
⑥	SPV.0090.02	FENCE FABRIC	LF	-	-	-	-	-	-	-	-	-	-	-	-	1,080
③	SPV.0105.01	RAILING TUBULAR SCREENING, B-13-661 (MODIFIED)	LS	-	-	-	-	-	-	-	-	-	-	-	-	1
	SPV.0105.02	PAINTING EPOXY SYSTEM PEDESTRIAN BRIDGE B-13-661	LS	-	-	-	-	-	-	-	-	-	-	-	-	1
		NON-BID ITEMS														
⑧		DOWEL BAR ASSEMBLY	EACH	-	5	-	-	-	-	-	-	-	-	-	-	5
		FILLER	SIZE	-	-	-	-	-	-	-	-	-	-	-	-	1/2, 3/4, 1"
⑦		NAMEPLATE	EACH	-	-	-	-	-	-	-	-	-	-	-	-	1
⑦		BENCHMARK	EACH	-	-	-	-	-	-	-	-	-	-	-	-	1
⑦		MEDALLION	EACH	-	-	-	-	1	-	-	-	1	-	-	-	2

● "PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE STRUCTURE B-13-661"

SEE SPECIAL PROVISIONS.
PRE-FABRICATED STEEL TRUSS INCLUDES DESIGN, FURNISHING AND INSTALLING THE BRIDGE TRUSSES, THE BEARINGS, THE ATTACHMENTS FOR THE METAL RAILING ON THE TRUSSES, THE GALVANIZED JOINT COVER PLATES AND ANCHOR BOLTS, NUTS & WASHERS PER TRUSS MANUFACTURER. TRUSS MANUFACTURER SHALL BE RESPONSIBLE FOR DETERMINING ANCHOR BOLT SIZE AND LOCATION.

BRIDGE TRUSS GROUNDING SYSTEM IS INCLUDED IN THIS ITEM, COORDINATE WITH CONTRACTOR.

CONCRETE DECK ON THE TRUSS IS INCLUDED IN THIS ITEM. THE DECK SHALL BE DESIGNED AND REINFORCED TO SUPPORT DEAD AND LIVE LOADS WITHOUT CONTRIBUTION FROM THE DECK FORMING SYSTEM. REINFORCEMENT SHALL BE EPOXY COATED. CURB REINFORCEMENT SHALL BE SIMILAR TO THAT OF THE APPROACH SPANS.

TRUSS TO BE SHOP PAINTED UNDER ITEM "PAINTING EPOXY SYSTEM PEDESTRIAN BRIDGE B-13-661"
RAILING AND CHAIN LINK ARE PROVIDED UNDER SEPARATE ITEMS.

- ⑦ PROVIDED BY THE CITY AND INSTALLED BY THE CONTRACTOR.
⑧ INCLUDES ALL MATERIAL IN DOWEL BAR ASSEMBLY AND PLACEMENT.
⑨ ITEM "PAINTING EPOXY SYSTEM PEDESTRIAN BRIDGE B-13-661" INCLUDES SHOP PAINTING AND FIELD TOUCH-UP OF ALL SURFACES OF THE STEEL TRUSSES. COLOR SHALL BE FEDERAL STANDARD 595B, COLOR 26622 (PEARL GREY).
⑩ INCLUDES THE QUANTITY FOR THE 'PIER SLAB' AT PIER 2 AND PIER 6. THE APPROXIMATE QUANTITIES FOR CONCRETE AND STEEL FOR ONE SLAB ARE:
CONCRETE = 5.6 CY
EPOXY COATED REINFORCEMENT = 1100 LBS

STATE PROJECT NUMBER

5992-09-07

GENERAL NOTES

CONCRETE AND REINFORCEMENT SHALL BE IN ACCORDANCE WITH WISDOT "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" SECTION 501.
DRAWINGS SHALL NOT BE SCALED.
SEE ROADWAY PLANS FOR EXISTING UTILITY LOCATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES. ALL UTILITIES TO REMAIN IN SERVICE. COORDINATE WITH UTILITY COMPANIES.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
PROVIDE A 3/4" CHAMFER ON ALL ABOVE GRADE CORNERS.
ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH COMPACTED FILL AND TOPSOIL TO THE EXTENT SHOWN ON THE ABUTMENTS DETAILS OF THE STRUCTUREAL PLANS, AND SHOWN ON THE ROADWAY PLANS. SEE ROADWAY PLANS FOR FINISHED GRADING, MATERIALS AND QUANTITIES.
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-ASPHALTIC JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.
AT ABUTMENTS, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL UNLESS OTHERWISE NOTED.
FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION :M153 TYPE 1, 2, OR 3 OR AASHTO DESIGNATION :M213.
COAT WITH "PROTECTIVE SURFACE TREATMENT" PER THE STANDARD SPECIFICATIONS AND THE SUPERSTRUCTURE DETAILS SHEET.

QUANTITY NOTES

- QUANTITY CONSIDERATIONS:
ANY ADJUSTMENTS REQUIRED TO ACCOMMODATE ABUTMENT AND PIER SEAT RAISE OF 9" OR 9" LOWER WILL BE CONSIDERED INCIDENTAL. BARS STEEL QUANTITIES FOR THE ABUTMENTS AND PIERS ACCOMMODATE POTENTIAL 9" INCREASE OR DECREASE IN SEAT ELEVATIONS. CONCRETE QUANTITIES FOR THE ABUTMENTS AND PIERS ARE BASED ON THE PLAN ELEVATIONS.
① TEMPORARY SHORING IS BASED ON THE SQUARE FOOT OF EXPOSED PILE SURFACE BETWEEN THE UPPER & LOWER GRADES.
② FURNISH AND APPLY A PROTECTIVE SURFACE FINISH TREATMENT TO THE ENTIRE TOP OF THE BRIDGE DECK, CURBS AND INSIDE FACE OF CURBS. THIS INCLUDES THE DECK ON THE PRESTRESSED GIRDER SPANS, THE DECK ON THE TRUSS SPANS, THE DECK ON THE PIER SLABS, TOP OF WING WALL AND TOP OF RETAINING WALL. ALSO INCLUDES THE APPROACH SLABS.
③ INCLUDES ALL PAINTED GALVANIZED TUBULAR/STEEL RAILING, POSTS AND GROUNDING FOR THE ENTIRE BRIDGE STRUCTURE, COLOR BLACK.
④ SEE SPECIFICATIONS:
ITEM "CONCRETE STAINING B-13-661" SHALL BE USED TO COLOR THE FOLLOWING SURFACES:

THE FASCIA EDGE OF THE DECK INCLUDING THE UNDERSIDE OF THE DECK OVERHANG AT THE EXTERIOR GIRDERS, THE FASCIA SIDE OF THE EXTERIOR GIRDERS, THE PIERS, ABUTMENTS AND WINGWALLS EXPOSED SURFACES AND PORTION OF THE ABUTMENT BACKWALL THAT IS OUTSIDE THE EXTERIOR GIRDERS. THE BEAD BANDING AND TOP CAP AT THE PIERS.
COLORS USED SHALL BE:
FEDERAL STANDARD 595B, COLOR 26622 (PEARL GRAY).
FEDERAL STANDARD 595B, COLOR 36373 (MEDIUM GRAY).

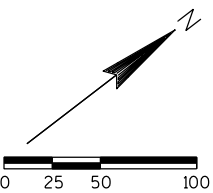
SEE RUSTICATION DETAILS ON SHEETS 41 & 42 FOR COLOR LOCATION.

SEE RUSTICATION DETAILS ON SHEET 43 FOR COLORS ON MEDALLIONS.

ITEM DOES NOT INCLUDE FASCIA EDGE OF CONCRETE DECK ON THE TRUSS STRUCTURES.
⑤ INCLUDES RODENT SHIELD PER SDD REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN.
⑥ FENCE FABRIC TO BE INSTALLED ON "RAILING TUBULAR SCREENING, B-13-661 (MODIFIED)". PROTECTIVE SCREENING COMPRISED OF GALVANIZED FENCE FABRIC. TOP OF FENCE FABRIC WILL NEED TO BE CUT & KNUCKLED TO FOLLOW RAIL HEIGHT AT ENDS OF TRUSS.

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
		DRAWN BY DLF	PLANS CK'D. NCK
PROFILE GRADE, QUANTITIES & NOTES			SHEET 2 OF 43 108



GENERAL EXISTING LANE LINE LAYOUT



TYP SECT THRU CANNONBALL PATH BRIDGE
(NORMAL TO USH 12)
(LOOKING WEST)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
		DRAWN BY DLF	PLANS CK'D. NCK
ROAD PROFILE GRADES		SHEET 3 OF 43	
		109	



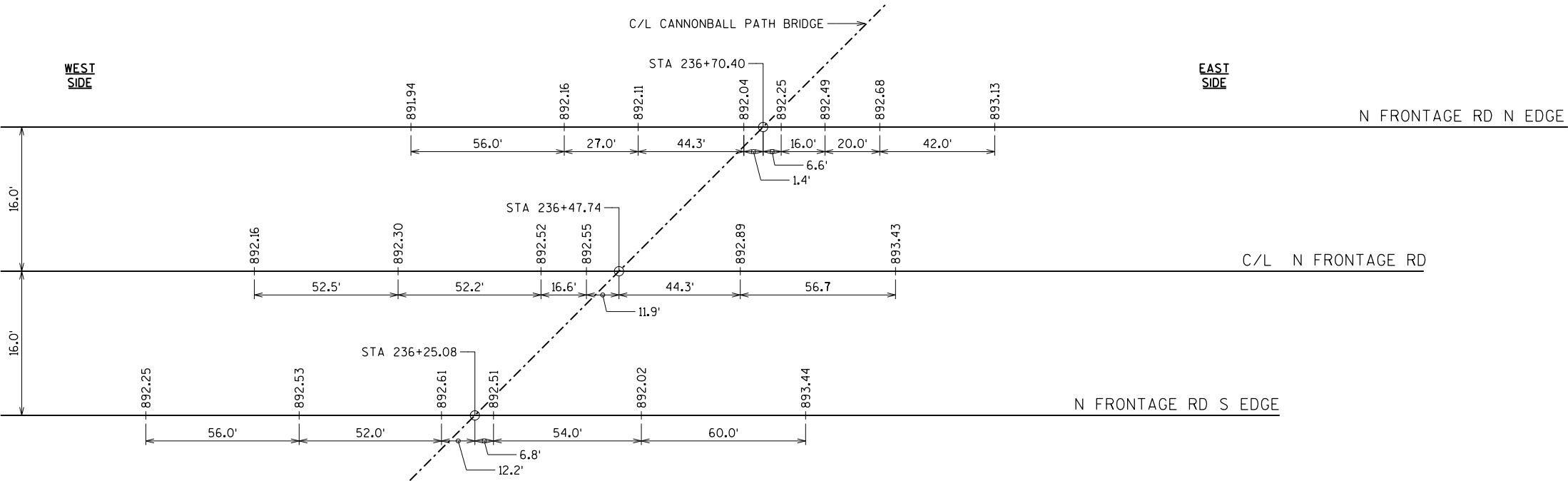
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
		DRAWN BY DLF	PLANS CK'D. NCK
ROAD PROFILE GRADES		SHEET 4 OF 43 110	

PLOT TIME: 11:40:03 PM

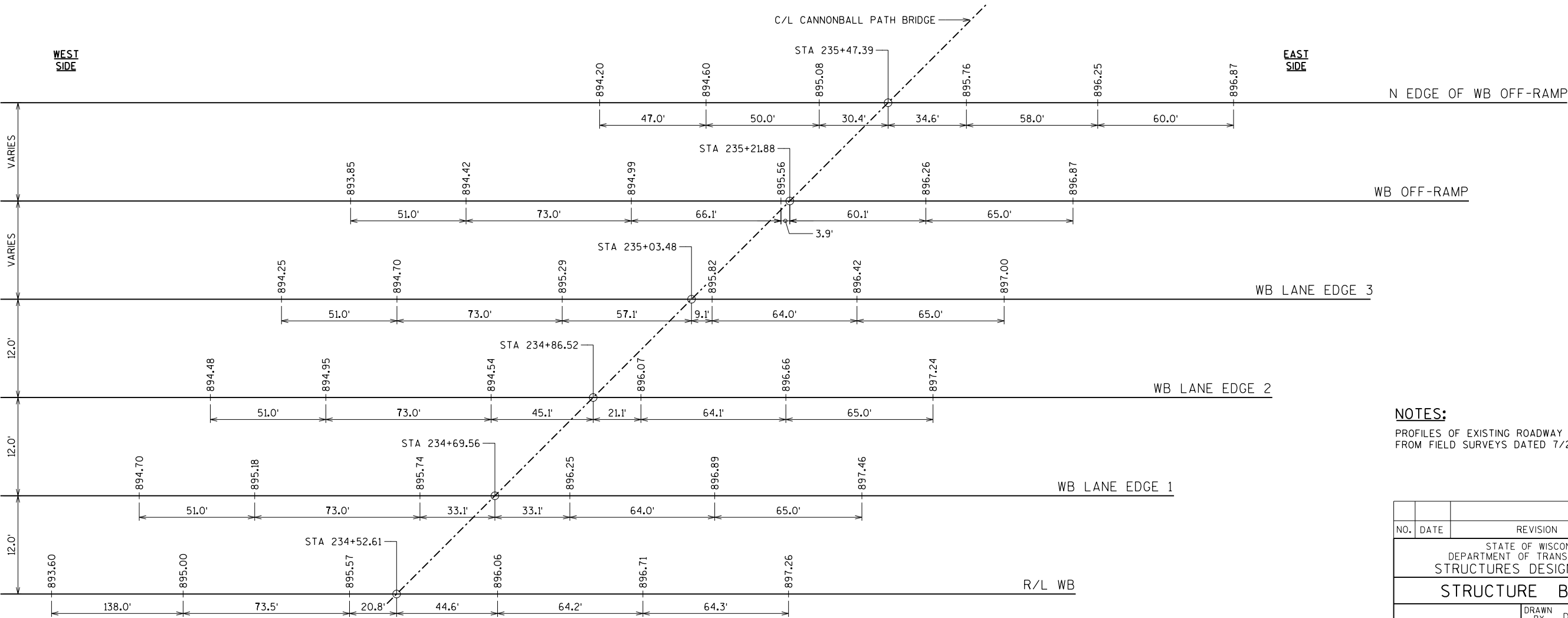
PLOT DATE: 11/6/2012

FILE NAME : S:\KOV\Modis\0847\5-dsgn\51-cadd\Structural\bridge\366ipr-5.dgn

8



NORTH FRONTAGE ROAD LANE LINE PROFILES



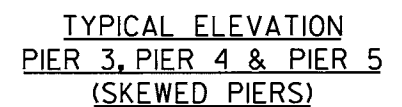
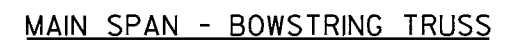
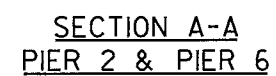
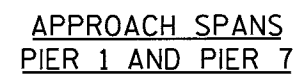
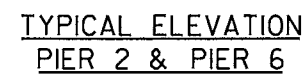
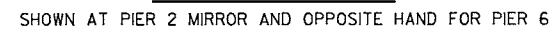
WESTBOUND ROAD LANE LINE PROFILES

STATE PROJECT NUMBER
5992-09-07

NOTES:
PROFILES OF EXISTING ROADWAY
FROM FIELD SURVEYS DATED 7/2/2009.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
ROAD PROFILE GRADES		SHEET 5 OF 43	
		111	

8



① SEE RUSTICATION DETAILS ON SHEETS 41 THRU 43.

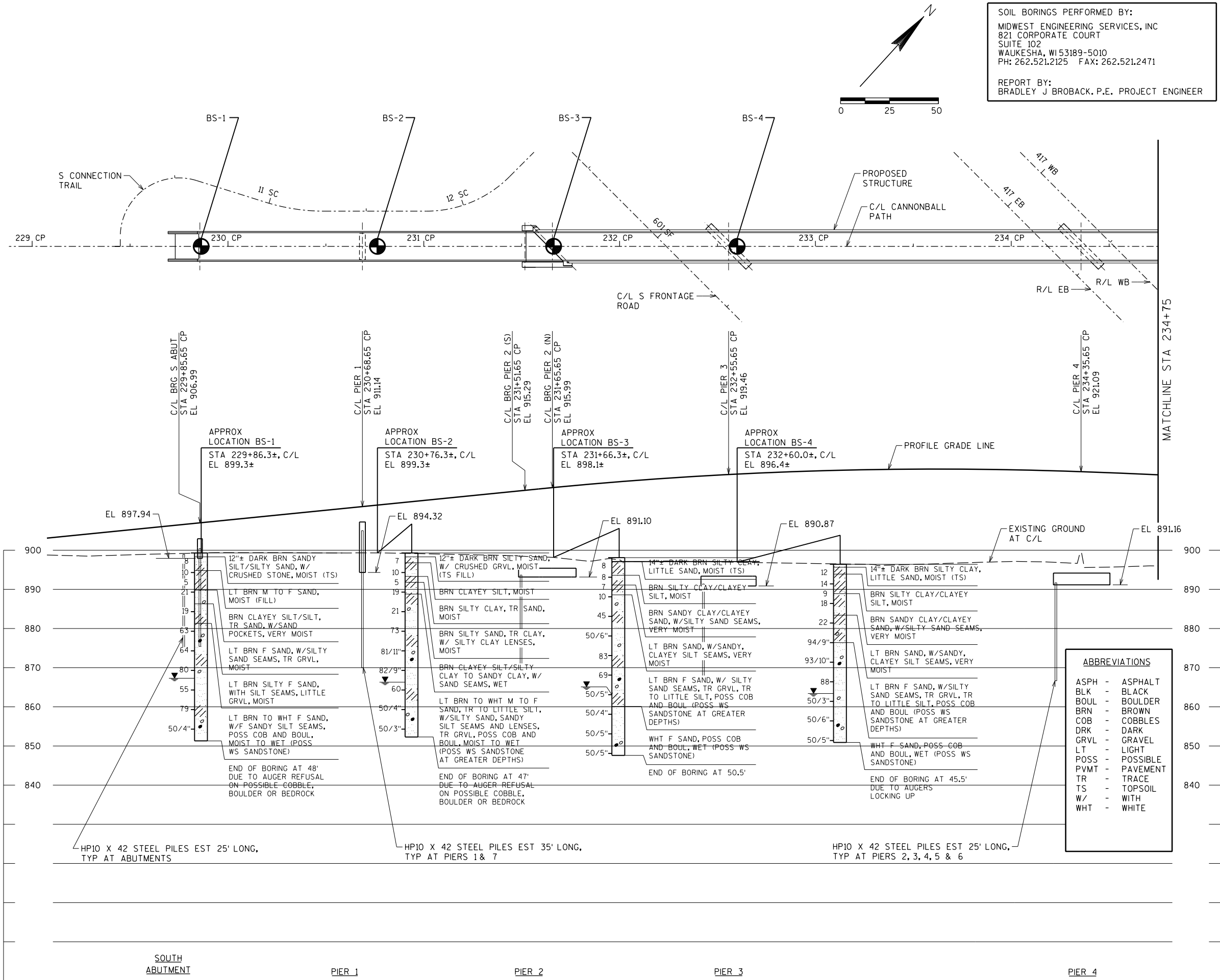
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
TYPICAL SECTION AND ELEVATIONS		SHEET 6 OF 43	
		112	

PLOT TIME: 11:40:05 PM

PLOT DATE: 11/6/2012

FILE NAME : S:\KOV\Modis\10847\5-dsgn\51-cadd\Structure\al\bridge\366b\bl.dgn

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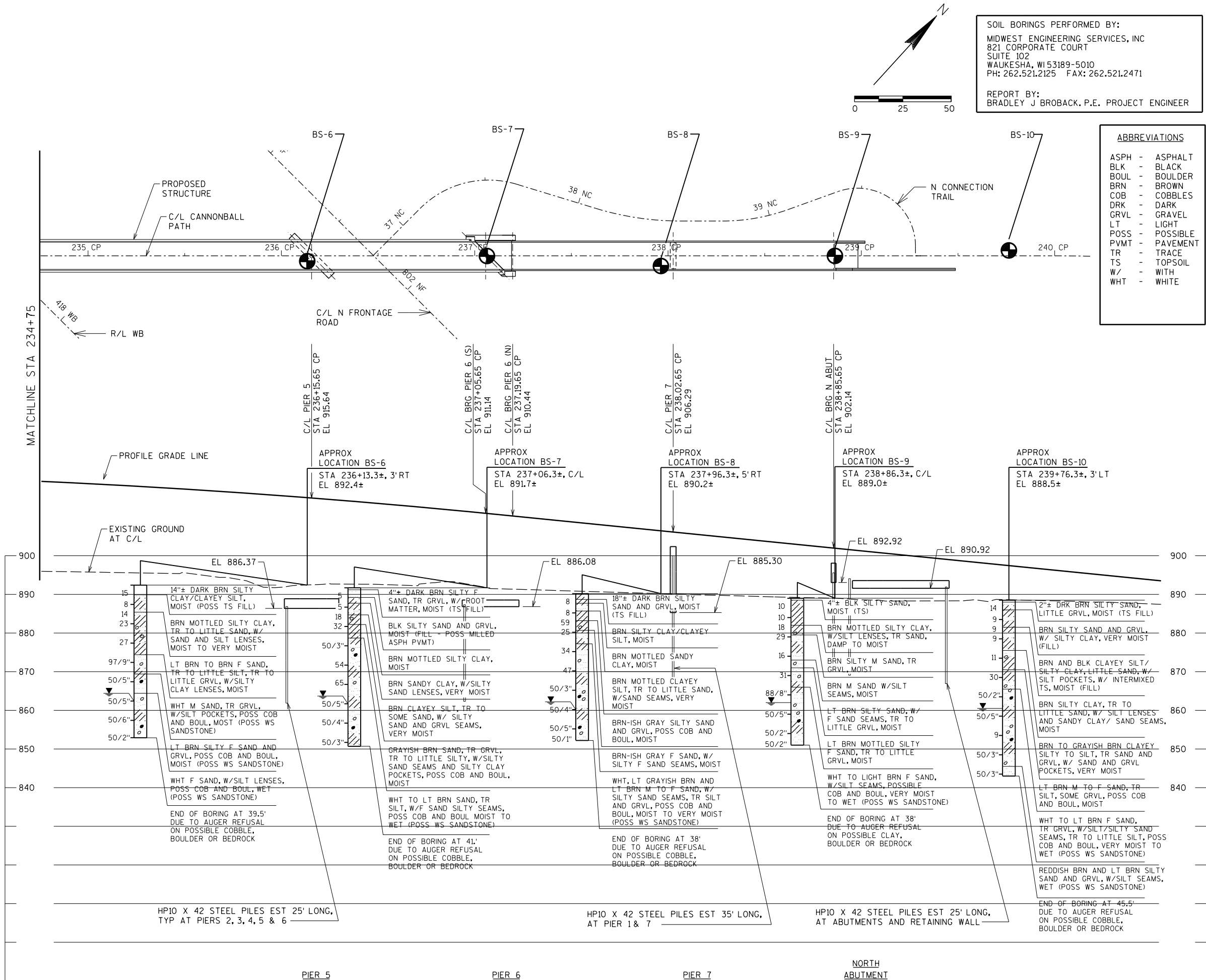
STATE PROJECT NUMBER			
5992-09-07			
ABBREVIATIONS			
F — FINE	M — MEDIUM	C — COARSE	
WS — WEATHERED	SO — SOUND		
MATERIAL SYMBOLS			
TOPSOIL	SILT	SANDSTONE	
SAND	PEAT	LIMESTONE	
GRAVEL	CLAY	IGNEOUS ROCK	
LEGEND OF BORING			
BORING NO. STA. ELEV.			
UNCONFINED STRENGTH 7.7			
BLOWS PER FT. USING 140# WT. FALLING 30"			
WASH SAMPLE			
SHELBY TUBE S.T.			
GROUND WATER ELEVATION			
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION			
SANDY GRAVEL			
F. BOULDERS OR COBBLES			
SAND			
SILTY CLAY			
SO LIMESTONE			
UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.			
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION			
TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.			
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
SUBSURFACE EXPLORATION			SHEET 7 OF 43
			113

PLOT TIME: 11:07 PM

PLOT DATE: 11/6/2012

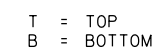
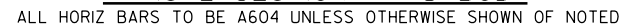
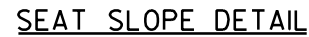
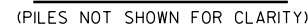
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
SUBSURFACE EXPLORATION			SHEET 8 OF 43 114



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
		DRAWN BY	PLANS C'K'D. NCK
SOUTH & NORTH ABUTMENT DETAILS		SHEET 9 OF 43 115	

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

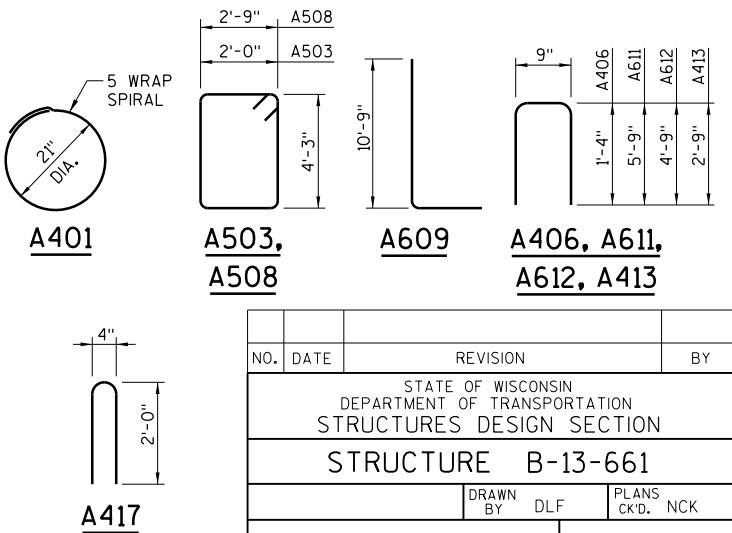
BILL OF BARS				S ABUT & N ABUT		
BAR MARK	COAT	NO. * REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
A401		6	28 - 0		X	BODY AT PILES
A402		12	2 - 3			BODY AT PILES
A503		40	13 - 1		X	BODY STIRRUPS
A604		22	15 - 0			BODY HORIZ
A805		12	15 - 0			BODY HORIZ BF
A406		32	3 - 3		X	BODY SEAT
A407		4	15 - 0			BODY SEAT
A508	X	36	14 - 7		X	WING STIRRUPS
A609	X	40	11 - 7		X	WING HORIZ BF
A510	X	24	10 - 8			WING HORIZ FF
A611	X	44	11 - 11		X	WING VERT

BILL OF BARS					WINGS 1 & 2	
BAR MARK	COAT	NO. ① REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
A612	X	18	9 - 11		X	WING 1, 2, VERT
A413	X	18	6 - 1		X	WING 1, 2, VERT
A414	X	16	14 - 7			WING 1, 2, HORIZ EF
A615	X	6	14 - 7			WING 1, 2, HORIZ TOP
A416	X	16	7 - 10			WING 1, 2, HORIZ EF
A417	X	32	4 - 6		X	WING VERT TIE

BILL OF BARS					WINGS 3 & 4	
BAR MARK	COAT	NO. ② REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
A612	X	9	9 - 11		X	WING 3 VERT
A413	X	9	6 - 1		X	WING 3 VERT
A414	X	8	14 - 7			WING 3 HORIZ EF
A615	X	3	14 - 7			WING 3 HORIZ TOP
A416	X	8	7 - 10			WING 3 HORIZ EF
A417	X	25	4 - 6		X	WING VERT TIE
A418	X	8	8 - 2			WING 4 HORIZ EF
A619	X	3	8 - 2			WING 4 HORIZ TOP

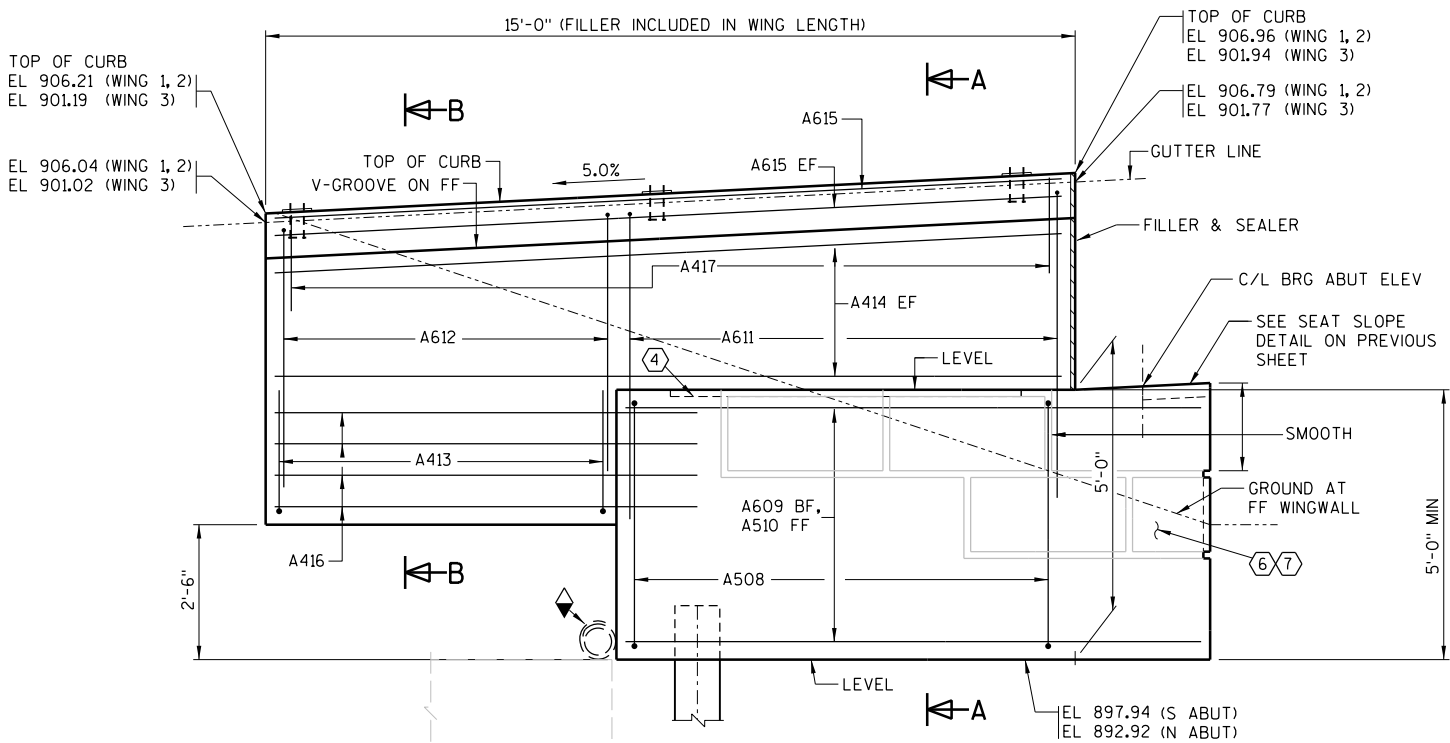
NOTES:

SEE SHEET 9 FOR ABUTMENT NOTES & SYMBOLS.



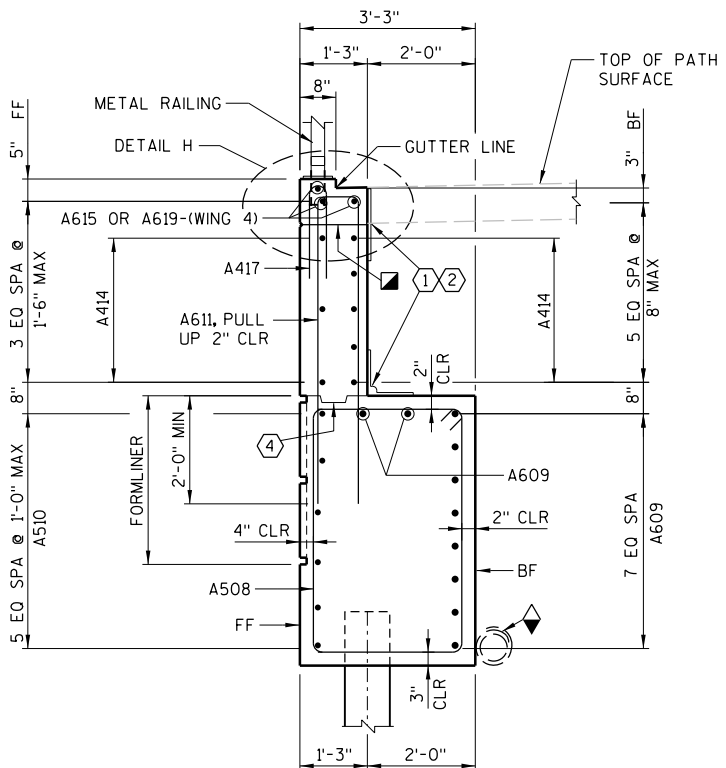
SOUTH & NORTH ABUTMENT DETAILS

SHEET 10 OF 43
116



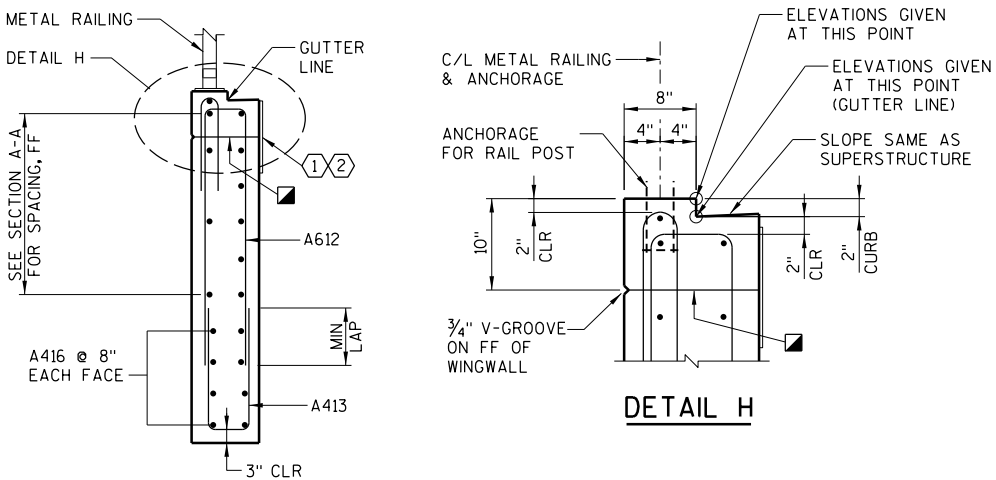
ELEVATION - WINGS 1, 2, 3

WING 4 SIMILAR EXCEPT MODIFIED FOR
RETAINING WALL. THE OVERHANG PORTION
OF WING 4 IS REPLACED WITH CAST-IN-PLACE
RETAINING WALL. SEE SHEET 11 & 12 FOR
RETAINING WALL DETAILS AND CONNECTION
TO WING 4.

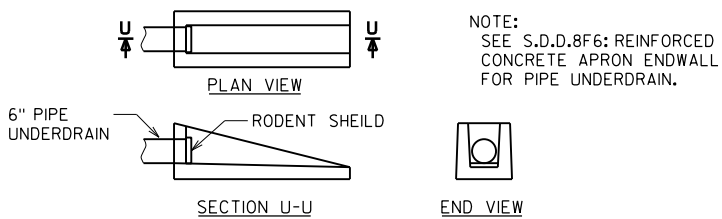


SECTION A-A THRU WINGS 1, 2, 3

(SEE SHEET 12 FOR SECTION THRU WING 4)



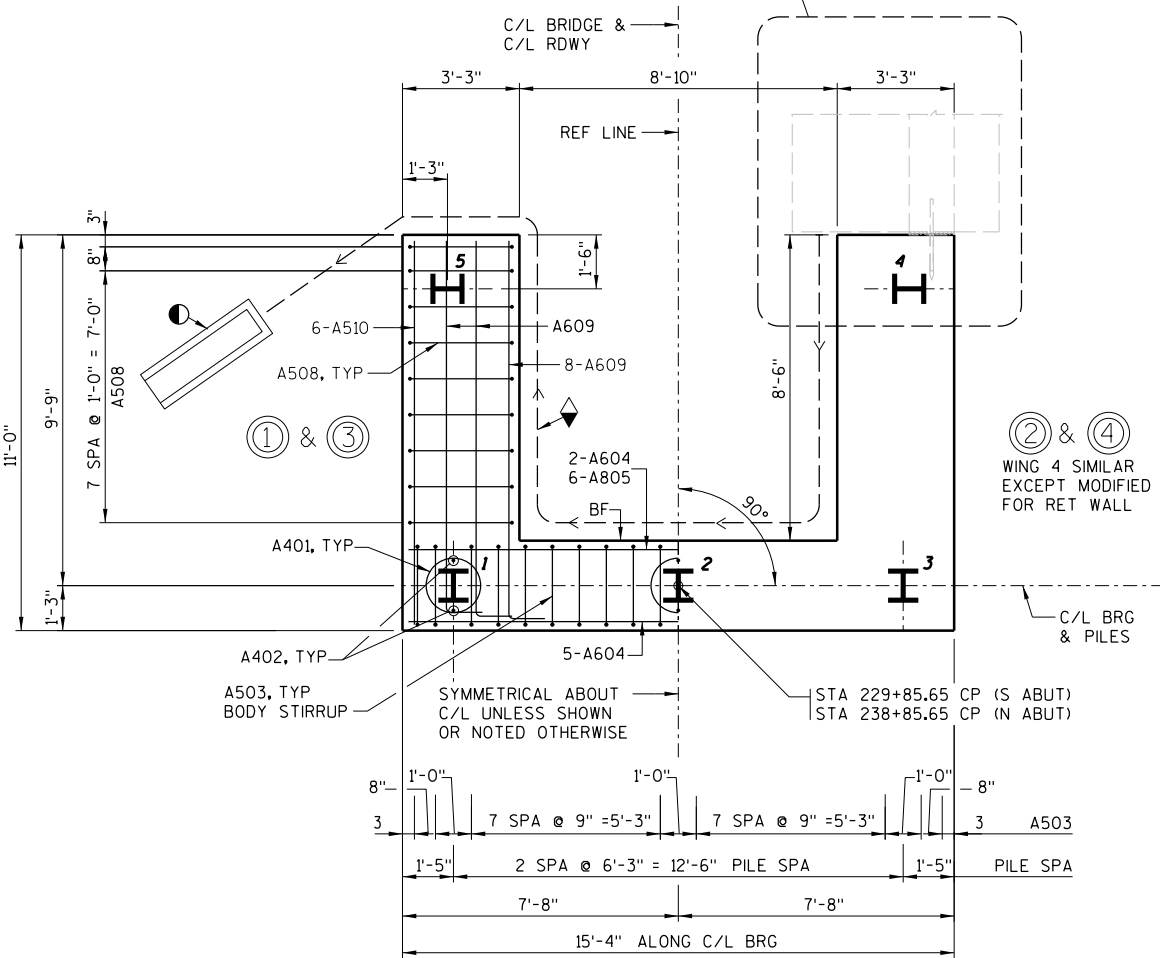
SECTION B-B
THRU WINGS 1, 2, 3



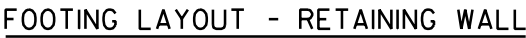
NOTE:
SEE S.D.D.8F6: REINFORCED
CONCRETE APRON ENDWALL
FOR PIPE UNDERDRAIN.

● CONCRETE APRON ENDWALL FOR UNDERDRAIN

ATTACH RODENT SHIELD PER SDD REINFORCED CONCRETE APRON ENDWALL
FOR PIPE UNDERDRAIN. COST OF RODENT SHIELD INCIDENTAL TO
"PIPE UNDERDRAIN UNPERFORATED".



FOOTING LAYOUT



SEE SHEET 9 FOR ABUTMENT
NOTES & SYMBOLS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
		DRAWN BY DLF	PLANS CK'D. NCK
RETAINING WALL & NORTH ABUTMENT DETAILS		SHEET 11 OF 43 117	

FILE NAME : S:\KOV\Modis\0847\5-dsgn\51-cadd\Structural\bridge\3661r-w2.dgn
PLOT DATE: 11/6/2012
PLOT TIME: 1:08:11PM

STATE PROJECT NUMBER

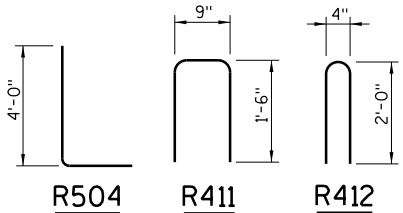
5992-09-07

NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

☒ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BILL OF BARS						RETAINING WALL
BAR MARK	COAT	NO. REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
R501		108	5 - 5			FTG TRANS T & B
R502		24	27 - 9			FTG LONGIT T & B
R403	X	36	2 - 3			DOWEL FF
R504	X	54	4 - 9		X	DOWEL BF
R405	X	18	6 - 11	☒		VERT FF
R406	X	18	5 - 7	☒		VERT FF
R507	X	27	6 - 11	☒		VERT BF
R508	X	27	5 - 7	☒		VERT BF
R409	X	22	26 - 2			HORIZ
R610	X	6	26 - 2			HORIZ TOP
R411	X	58	3 - 7		X	WING VERT AT TOP
R412	X	54	4 - 6		X	WING VERT AT TOP



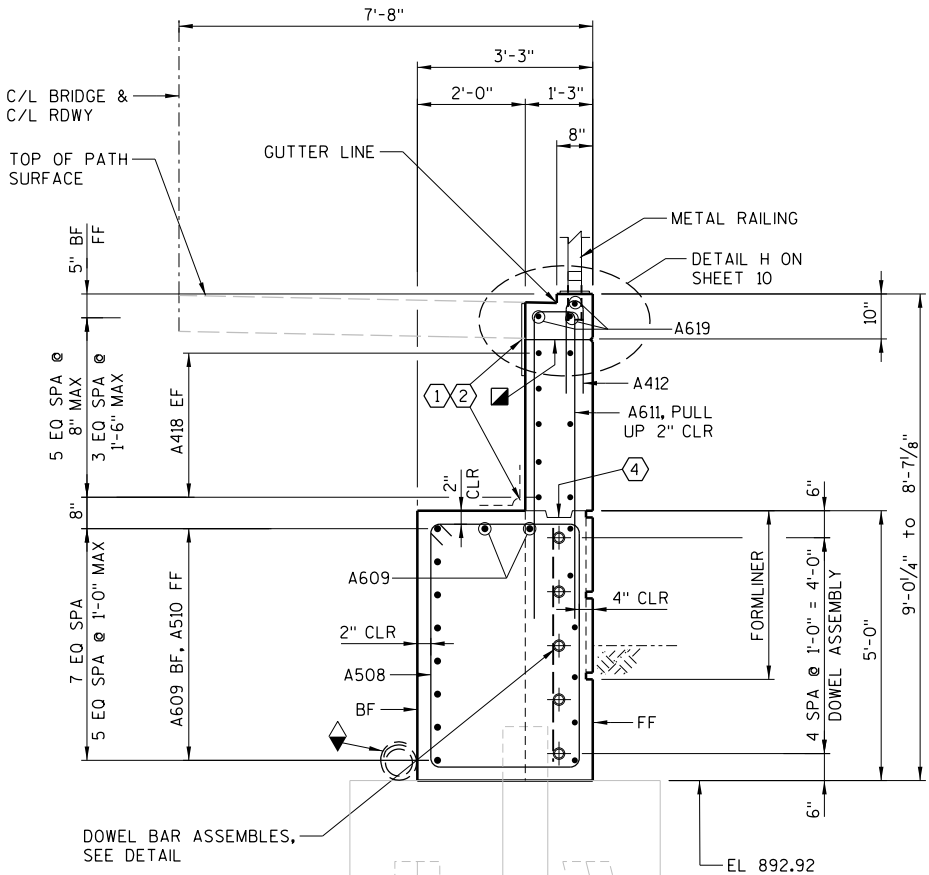
BAR SERIES TABLE				RETAINING WALL
BAR MARK	BENT	NO. REQ'D.	LENGTH	
R405		1 SERIES OF 18	7'-7" TO 6'-3"	
R406		1 SERIES OF 18	6'-3" TO 4'-11"	
R507		1 SERIES OF 27	7'-7" TO 6'-3"	
R508		1 SERIES OF 27	6'-3" TO 4'-11"	

BUNDLE AND TAG EACH SERIES SEPARATELY

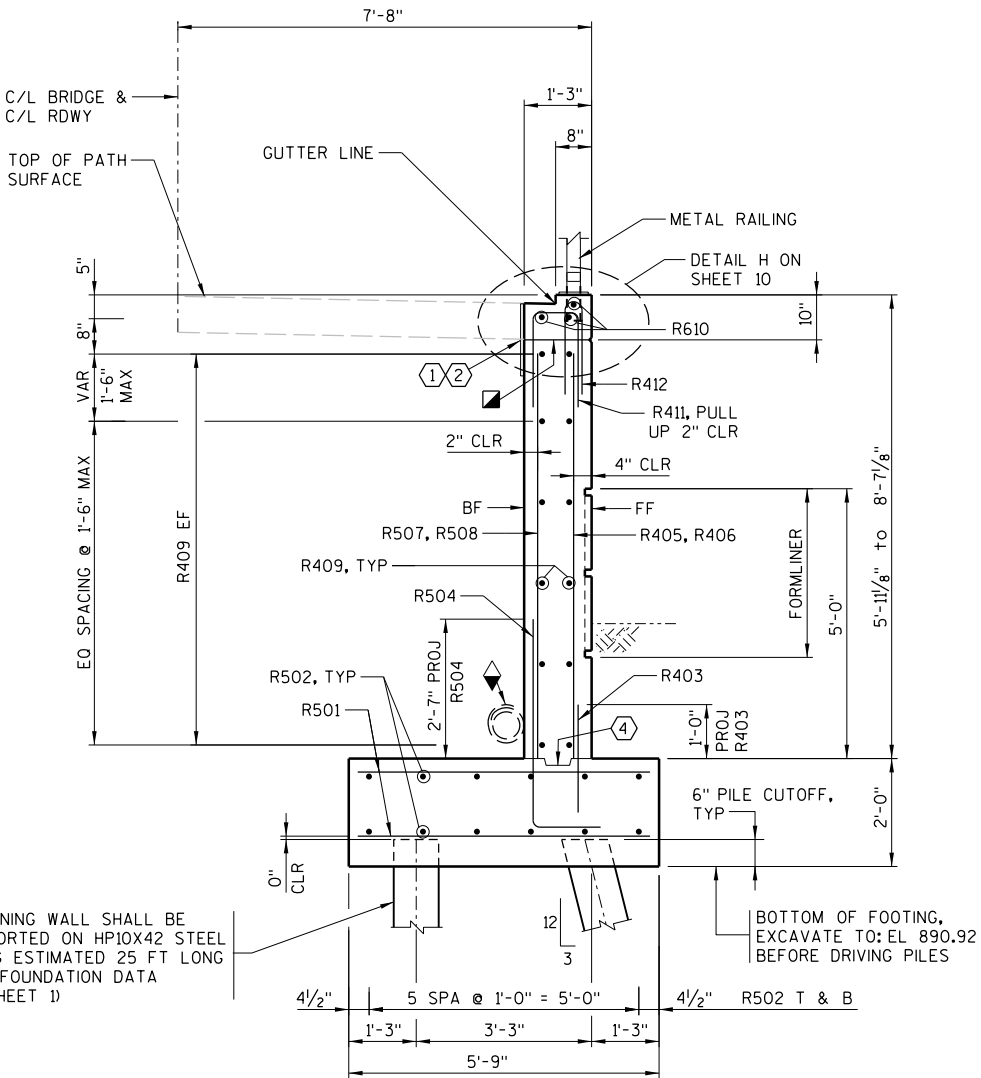
NOTES:

SEE SHEET 9 FOR ABUTMENT NOTES & SYMBOLS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
RETAINING WALL & NORTH ABUTMENT DETAILS			SHEET 12 OF 43 118



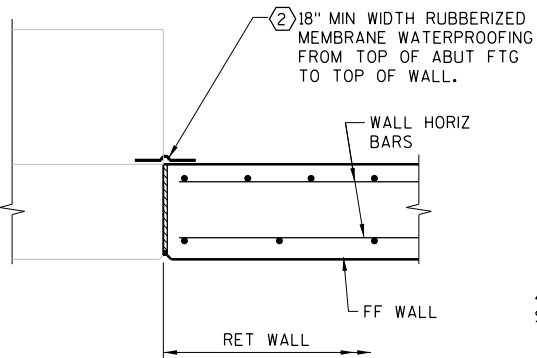
SECTION C-C THRU WING 4



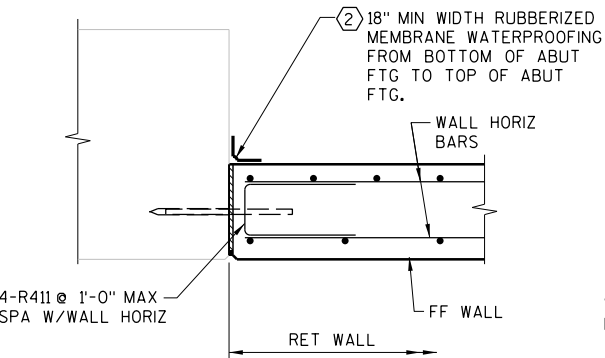
SECTION D-D THRU RETAINING WALL

RETAINING WALL SHALL BE SUPPORTED ON HP10X42 STEEL PILING ESTIMATED 25 FT LONG (SEE FOUNDATION DATA ON SHEET 1)

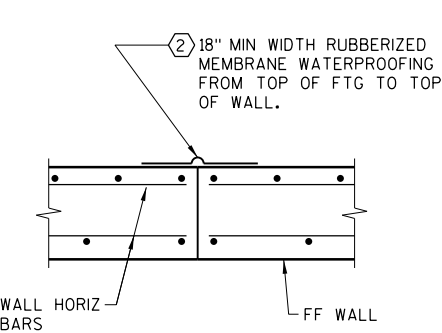
BOTTOM OF FOOTING, EXCAVATE TO: EL 890.92 BEFORE DRIVING PILES



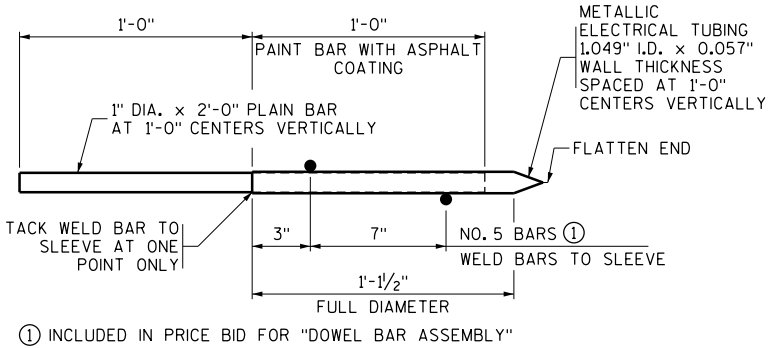
RETAINING WALL DOWEL ASSEMBLY JOINT



RETAINING WALL DOWEL ASSEMBLY JOINT

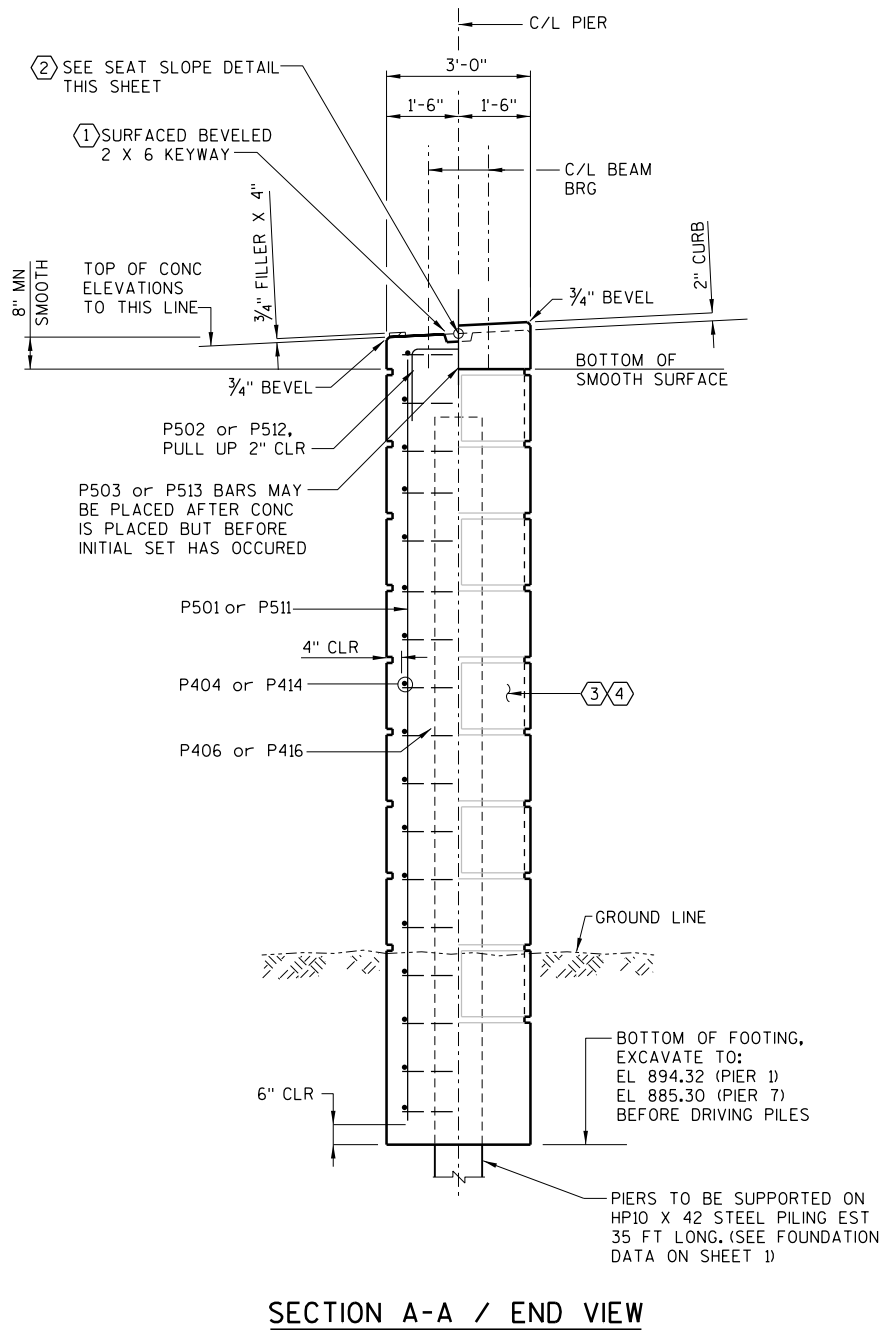
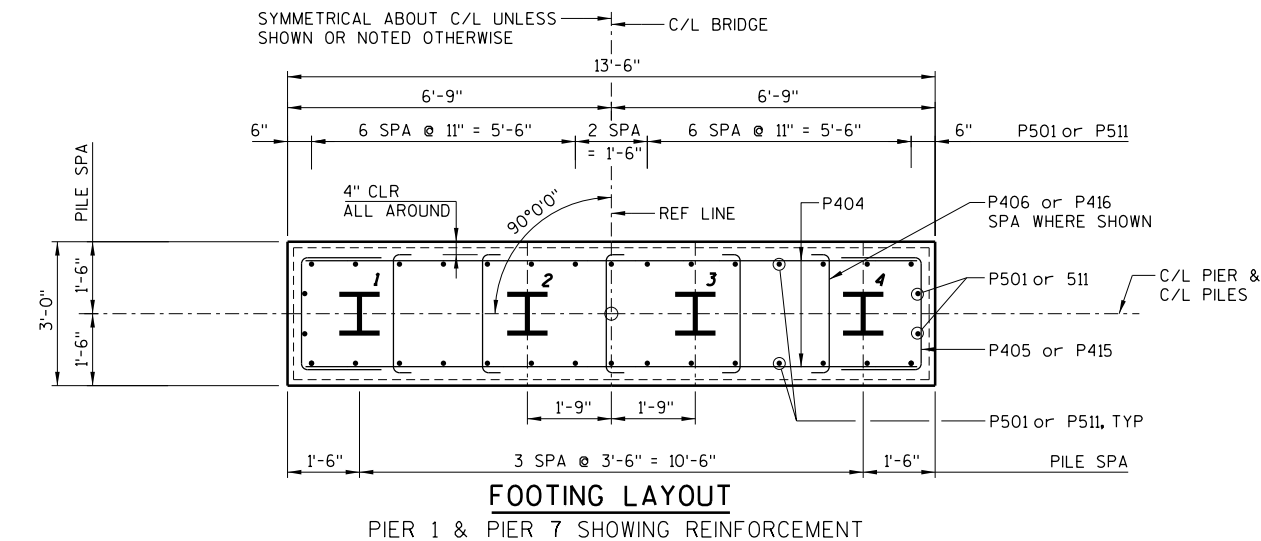
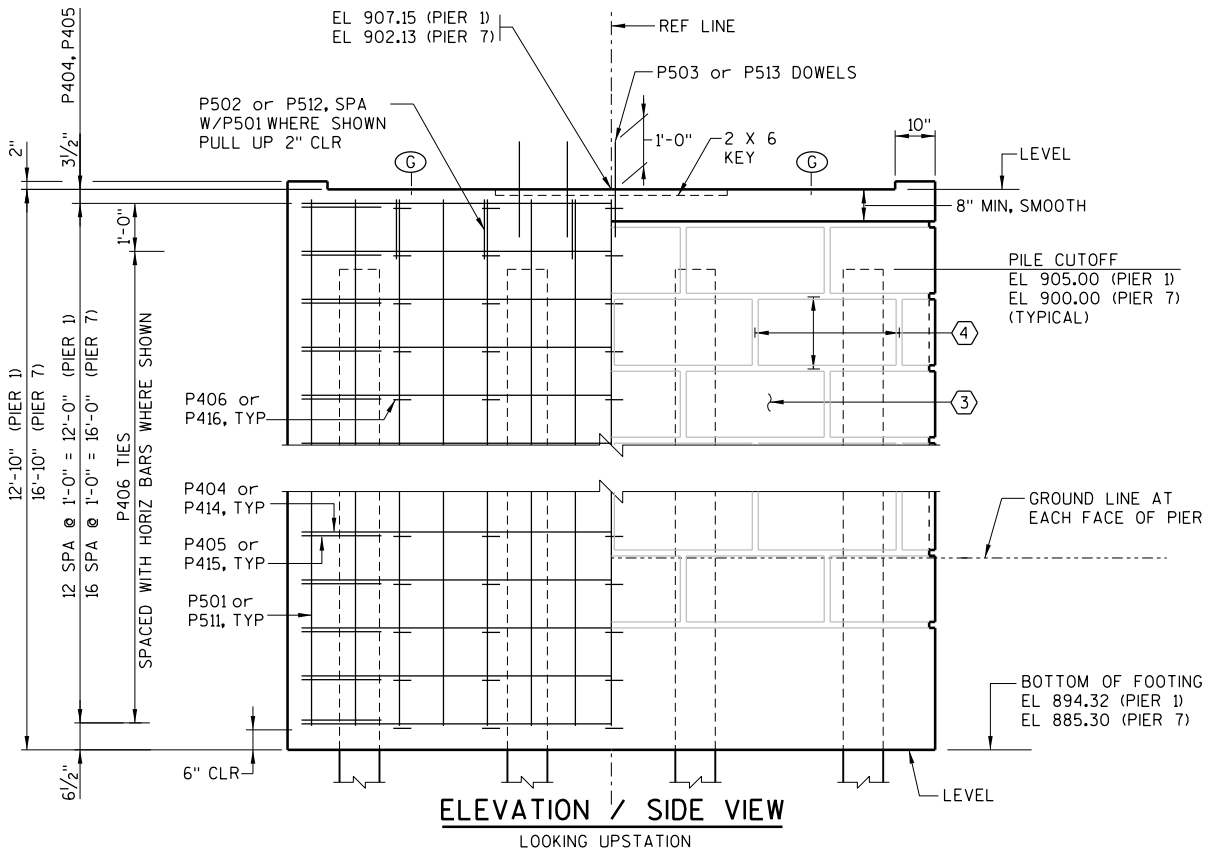
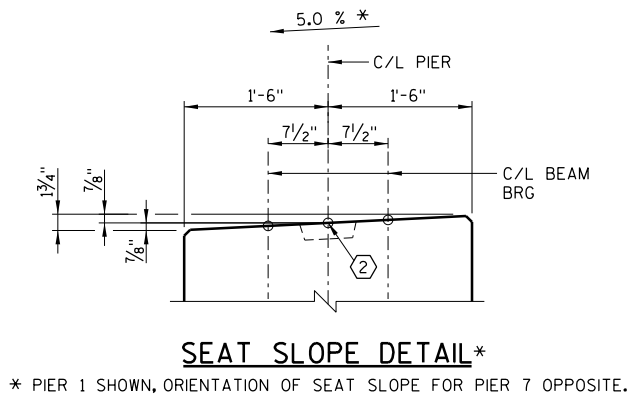
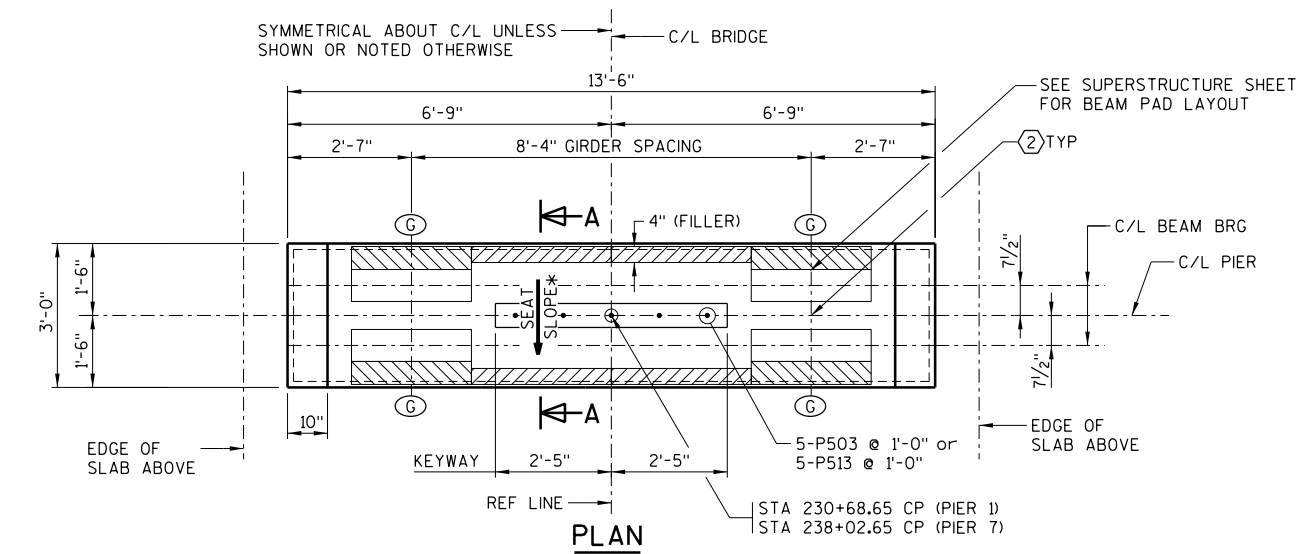


RETAINING WALL CONTRACTION JOINT



DOWEL BAR ASSEMBLY

MATERIAL AND PLACEMENT TO BE INCIDENTAL TO OTHER ITEMS



STATE PROJECT NUMBER

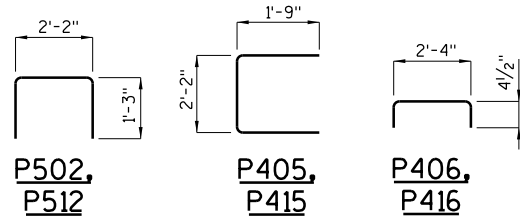
5992-09-07

NOTE: THE FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

BILL OF BARS						PIER 1
BAR MARK	COAT	NO. REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
P501		34	12 - 0			SHAFT VERT
P502		6	4 - 5		X	CAP TIE
P503	X	5	2 - 0			DOWEL
P404		26	12 - 8			SHAFT HORIZ
P405		26	5 - 6		X	SHAFT TIE
P406		65	2 - 11		X	SHAFT TIE

BILL OF BARS						PIER 7
BAR MARK	COAT	NO. REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
P511		34	16 - 0			SHAFT VERT
P512		6	4 - 5		X	CAP TIE
P513	X	5	2 - 0			DOWEL
P414		34	12 - 8			SHAFT HORIZ
P415		34	5 - 6		X	SHAFT TIE
P416		85	2 - 11		X	SHAFT TIE



PIER NOTES & SYMBOLS:

SEE SHEET 9 FOR PILE SPICE DETAIL.

SEE RUSTICATION DETAILS ON SHEETS 41 THRU 43.

USE 3/4" CHAMFER OF EXPOSED EDGES OF CONCRETE.

- KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" X 6".
 - TOP OF SEAT ELEVATIONS GIVEN AT C/L PIER.
 - 3'-0" WIDE BY 1'-6" HIGH RUSTICATION GROOVES. ALL RUSTICATION GROOVES AND CONCRETE STAINING TO GO A MINIMUM OF 1'-0" BELOW FINISHED GROUND AT PIERS. STAIN ALL BLOCK AND RUSTICATION GROOVES AND SMOOTH SURFACES.
 - EACH PIERS RUSTICATION BLOCKS WORK SHALL BE LAYED OUT ON ENTIRE FACE AND APPROVED BY THE ENGINEER.
- Ⓒ = GIRDER LINE

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
PIER 1 & 7 DETAILS			SHEET 13 OF 43 119

Diagram of Pier 6 showing the West Side and East Side. The pier is 14'-0" wide. The West Side is 12'0" wide and the East Side is 12'0" wide. The pier is oriented North-South. The stationing is STA 237+19.65 CP (PIER 6 (N)) and STA 237+05.65 CP (PIER 6 (S)). A North arrow points towards the top right.

Diagram of Pier 2 showing the West Side and East Side. The diagram includes a vertical dimension of 14'-0" and a horizontal dimension of 1'-0". The West Side is labeled "WEST SIDE" and the East Side is labeled "EAST SIDE". The diagram also shows the stationing for the Pier 2 (N) and Pier 2 (S) locations: STA 231+65.65 CP (PIER 2 (N)) and STA 231+51.65 CP (PIER 2 (S)). A north arrow is present in the upper right corner.

USE 3/4" CHAMFER OF EXPOSED EDGES OF CONCRETE.

- ① KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" X 12".
- ② OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" X 12" WITH MEMBRANE ON BACKFACE.
- ③ SEAL ALL EXPOSED HORIZ. AND VERTICAL SURFACES OF 1" FILLER WITH NON-STAINING GRAY NON-ASPHALTIC JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE). FILLER INCLUDED IN PIER SLAB WIDTH. SEE PIER SLAB DETAILS.
- ④ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ & VERT JOINTS ON BACKFACE.
- ⑤ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE SEAT TP TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEET SHALL BE AT LEAST 0.03".
- ⑥ TOP OF SEAT ELEVATIONS GIVEN AT C/L BEARING.
- ⑦ SEE RUSTICATION DETAILS ON SHEETS 41 THRU 43.
- ⑧ TRUSS ANCHOR BOLTS PER TRUSS MANUFACTURER.
- ⑨ FILL WITH STRUCTURE BACKFILL.

■ SEE PIER ORIENTATION LAYOUT ON THIS SHEET.

▲ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% PIPE UNDERDRAIN UNPERFORATED
TO BE PLACE ON PPG SIDE OF STRUCTURE.

(*) S1 THRU S6 = SEE SHEET 22 FOR SEAT NOTES:

 = SET BY TRUSS MANUFACTURER

①T1,④T4 = TRUSS

⑥ = GIRDER LINE

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE

T = TOP
B = BOTTOM

SEE SHEET 9 FOR PILE SPLICE DETAIL.
SEE SHEET 15 FOR ELEVATION 1-1, 2-2.
SEE SHEET 16 FOR ELEVATION 3-3, 4-4.
SEE SHEET 22 FOR SECTION A-A, B-B, C-C.
SEE SHEET 24 FOR SECTION H-H.

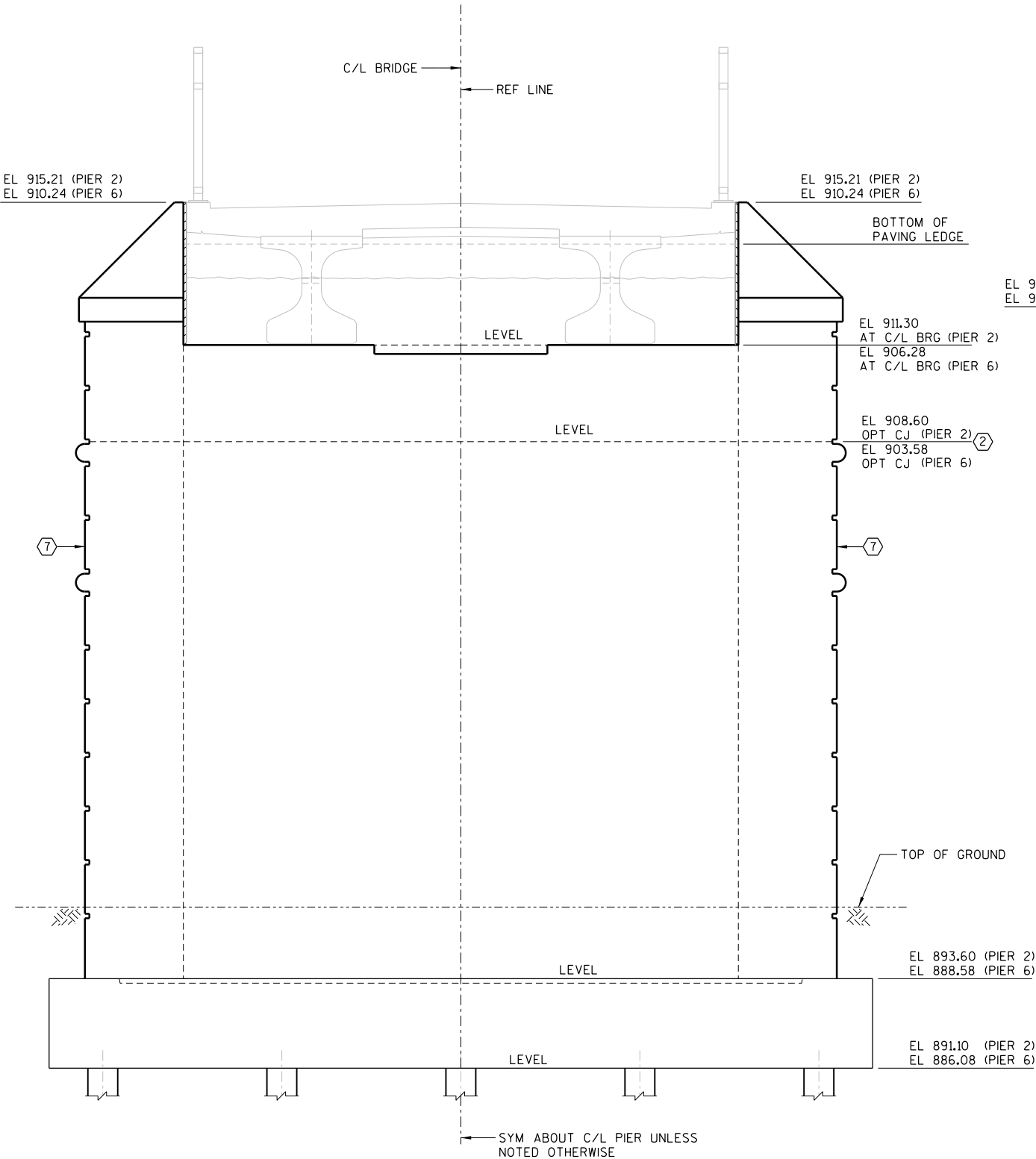
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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE B-13-661					
		DRAWN BY	DLF	PLANS CK'D.	NCK
PIER 2 & 6				SHEET 14 OF 43	
				120	

PLOT TIME: 11:05 PM

PLOT DATE: 11/6/2012

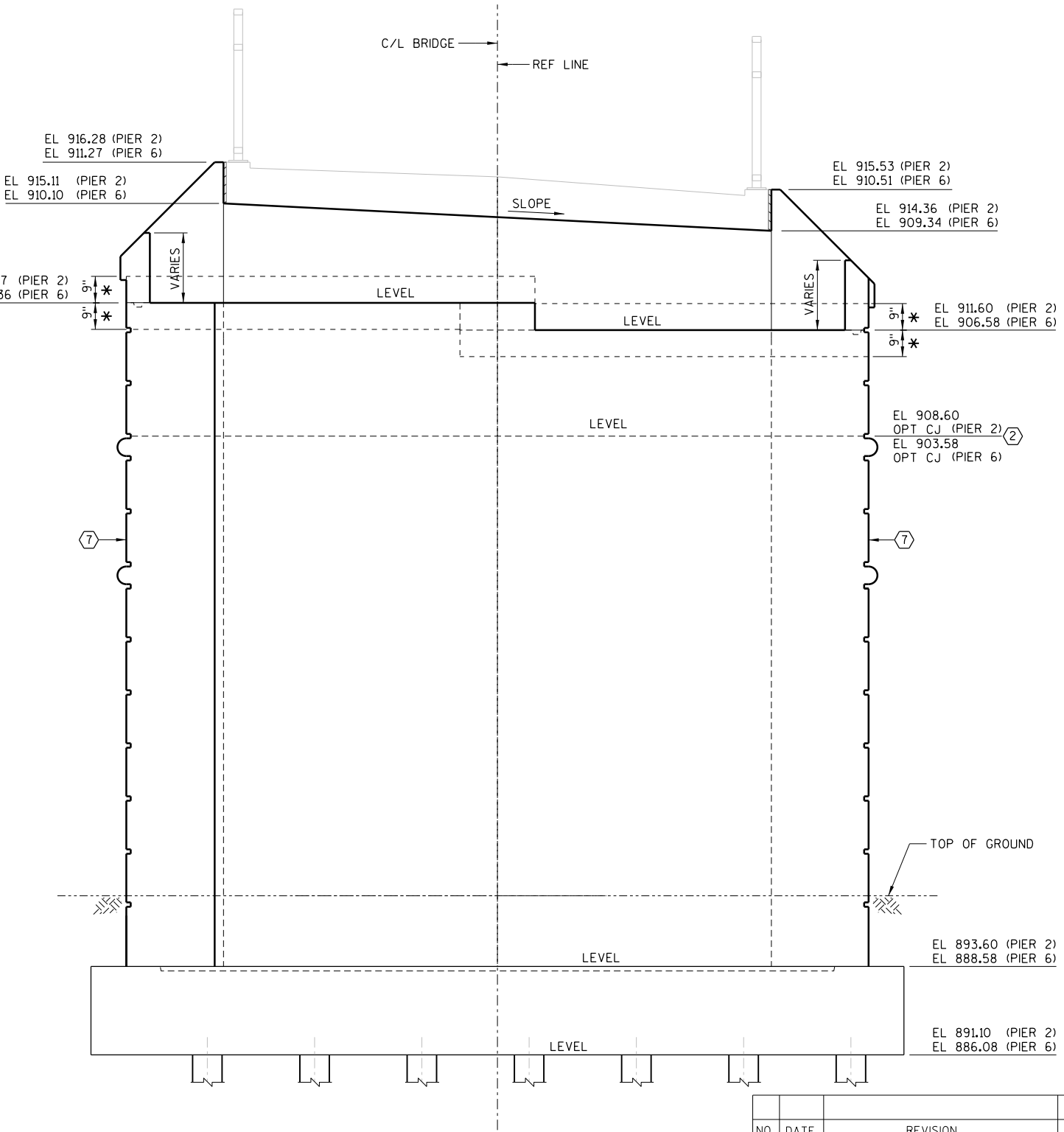
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ELEVATION 1-1 - FRONT FACE
PIER 2 SHOWN, PIER 6 SIMILAR
UNLESS OTHERWISE SHOWN OR NOTED

NOTES:
SEE SHEET 14 FOR PIER NOTES AND SYMBOLS.
(*) S1 THRU S6 - SEE SHEET 22 FOR SEAT NOTES.



ELEVATION 2-2 - FRONT FACE
PIER 2 SHOWN, PIER 6 SIMILAR
UNLESS OTHERWISE SHOWN OR NOTED

STATE PROJECT NUMBER			
5992-09-07			
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
PIER 2 & 6			SHEET 15 OF 43
			121

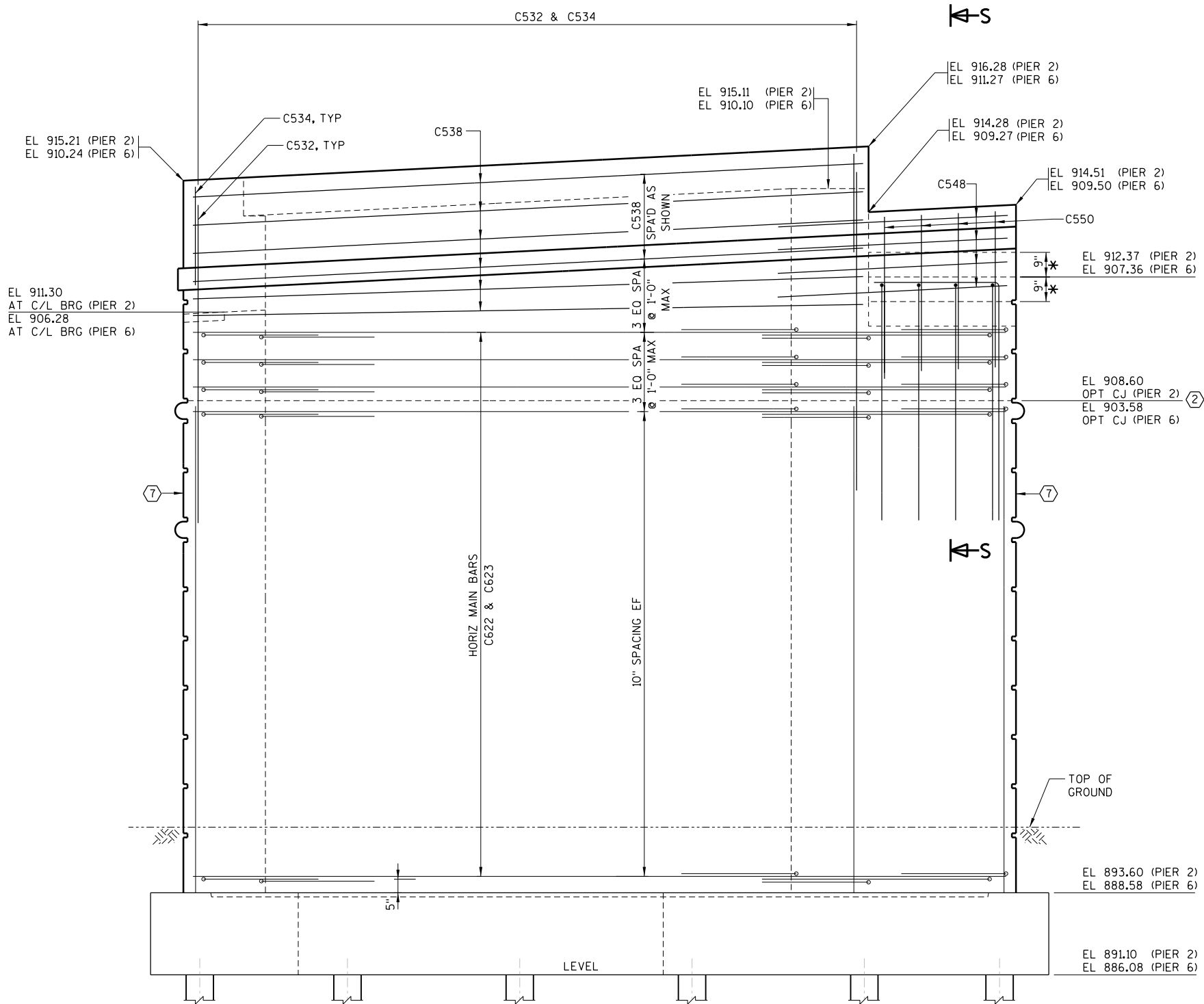
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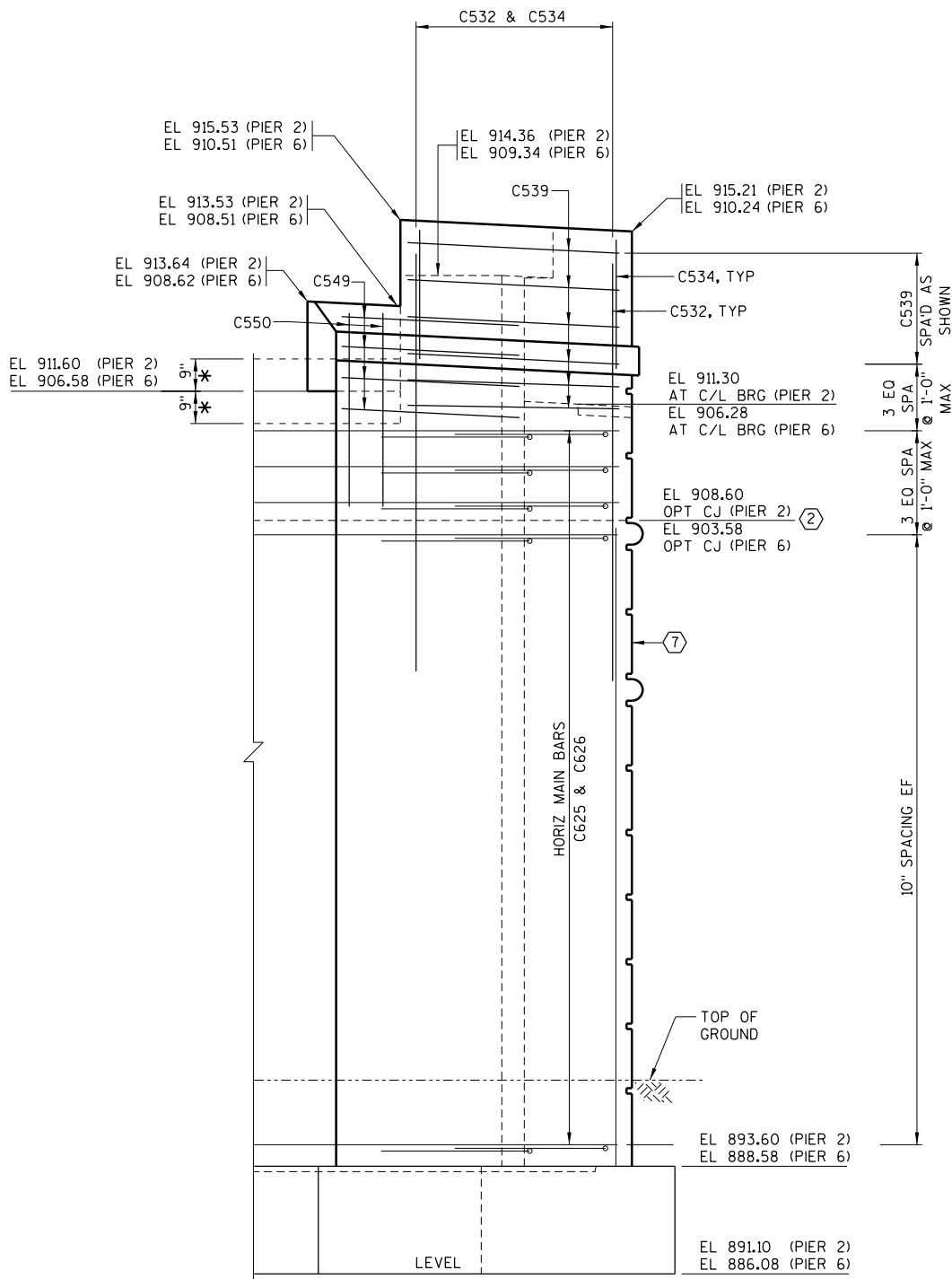
ELEVATION 3-3
PIER 2 SHOWN, PIER 6 SIMILAR
UNLESS OTHERWISE SHOWN OR NOTED

NOTES:

- SEE SHEET 14 FOR PIER NOTES AND SYMBOLS.
- SEE SHEET 21 FOR DETAIL/ELEVATION S-S.
- SEE SHEET 21 FOR DETAIL/SECTION T-T.
- (*) S1 THRU S6 - SEE SHEET 22 FOR SEAT NOTES.

STATE PROJECT NUMBER

5992-09-07



ELEVATION 4-4
PIER 2 SHOWN, PIER 6 SIMILAR
UNLESS OTHERWISE SHOWN OR NOTED

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
		DRAWN BY DLF	PLANS CK'D. NCK
PIER 2 & 6		SHEET 16 OF 43 122	

8



SEE SHEET 14 FOR PIER NOTES AND SYMBOLS.
SEE SHEET 15 FOR ELEVATION 1-1, 2-2.
SEE SHEET 16 FOR ELEVATION 3-3, 4-4.
SEE SHEET 22 FOR SECTION A-A, B-B, C-C
SEE SHEET 24 FOR SECTION H-H.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
		DRAWN BY DLF CK'D. NCK	
PIER 2 & 6 DETAILS		SHEET 17 OF 43 123	



SEE SHEET 14 FOR PIER NOTES AND SYMBOLS.

SEE SHEET 15 FOR ELEVATION 1-1, 2-2.

SEE SHEET 16 FOR ELEVATION 3-3, 4-4.

SEE SHEET 22 FOR SECTION A-A, B-B, C-C

SEE SHEET 24 FOR SECTION H-H.

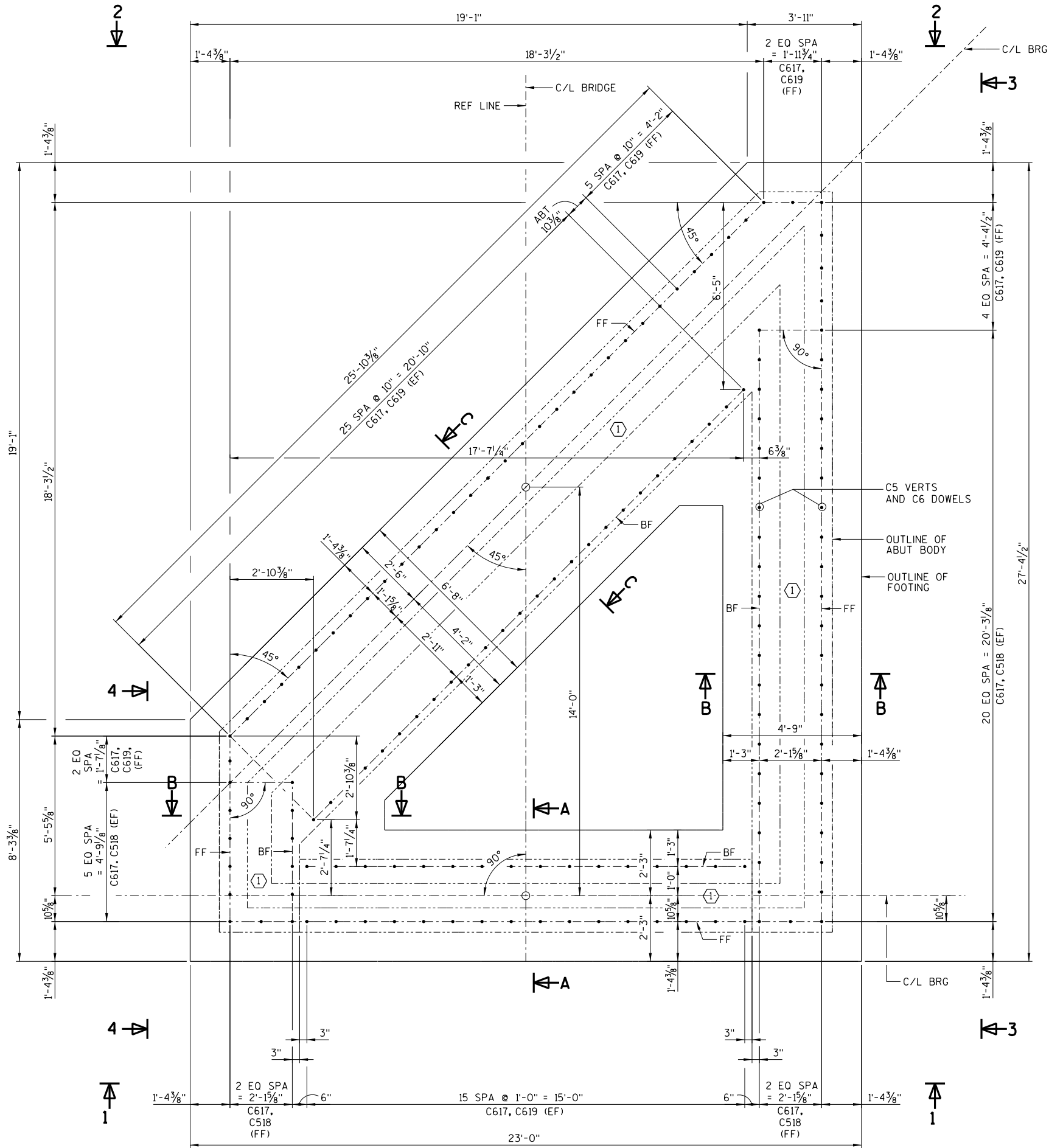
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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE B-13-661					
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PIER 2 & 6 DETAILS				SHEET 18 OF 43	
				124	

PLOT TIME: 08:20 PM

PLOT DATE: 11/6/2012

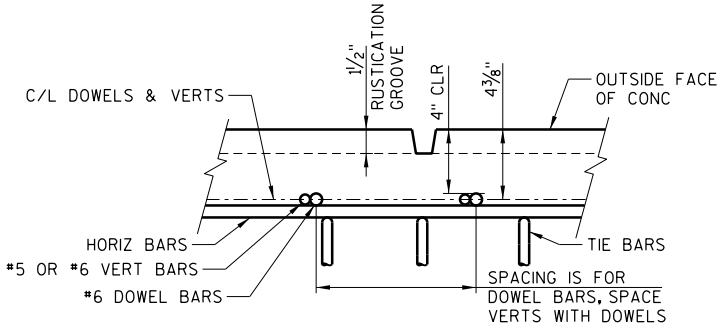
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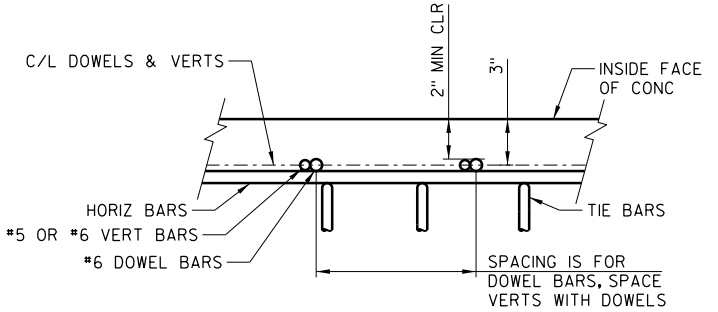


FOOTING DOWELS AND VERTICAL REINFORCEMENT LAYOUT
PIER 2 SHOWN, PIER 6 SIMILAR UNLESS OTHERWISE SHOWN OR NOTED

STATE PROJECT NUMBER
5992-09-07



BAR CLEARANCE LAYOUT
FRONT FACE (RUSTICATION SIDE)



BAR CLEARANCE LAYOUT
BACK FACE

NOTES:

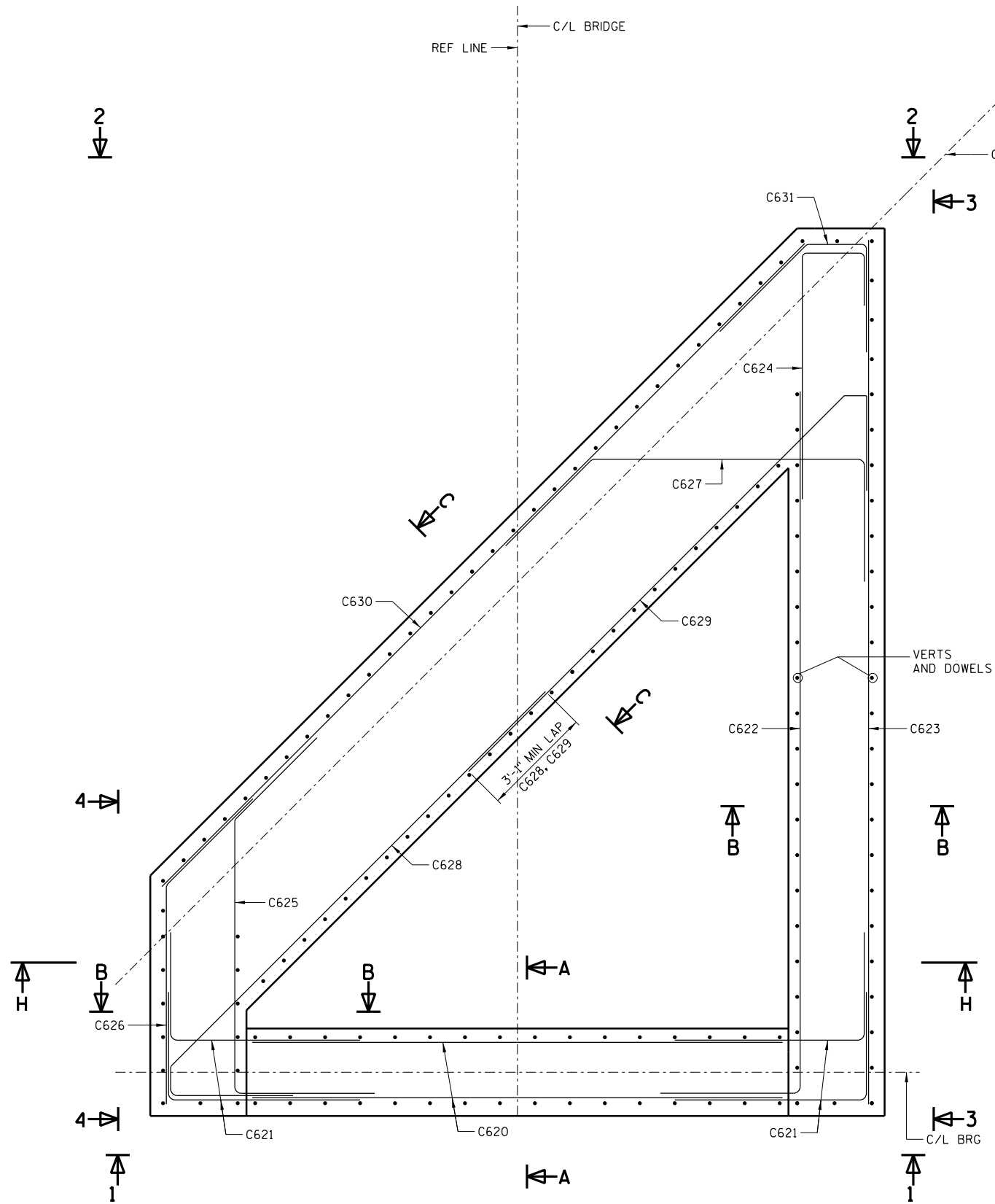
- SEE SHEET 14 FOR PIER NOTES AND SYMBOLS.
- SEE SHEET 15 FOR ELEVATION 1-1, 2-2.
- SEE SHEET 16 FOR ELEVATION 3-3, 4-4.
- SEE SHEET 22 FOR SECTION A-A, B-B, C-C
- SEE SHEET 24 FOR SECTION H-H.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
PIER 2 & 6 DETAILS			SHEET 19 OF 43 125

8

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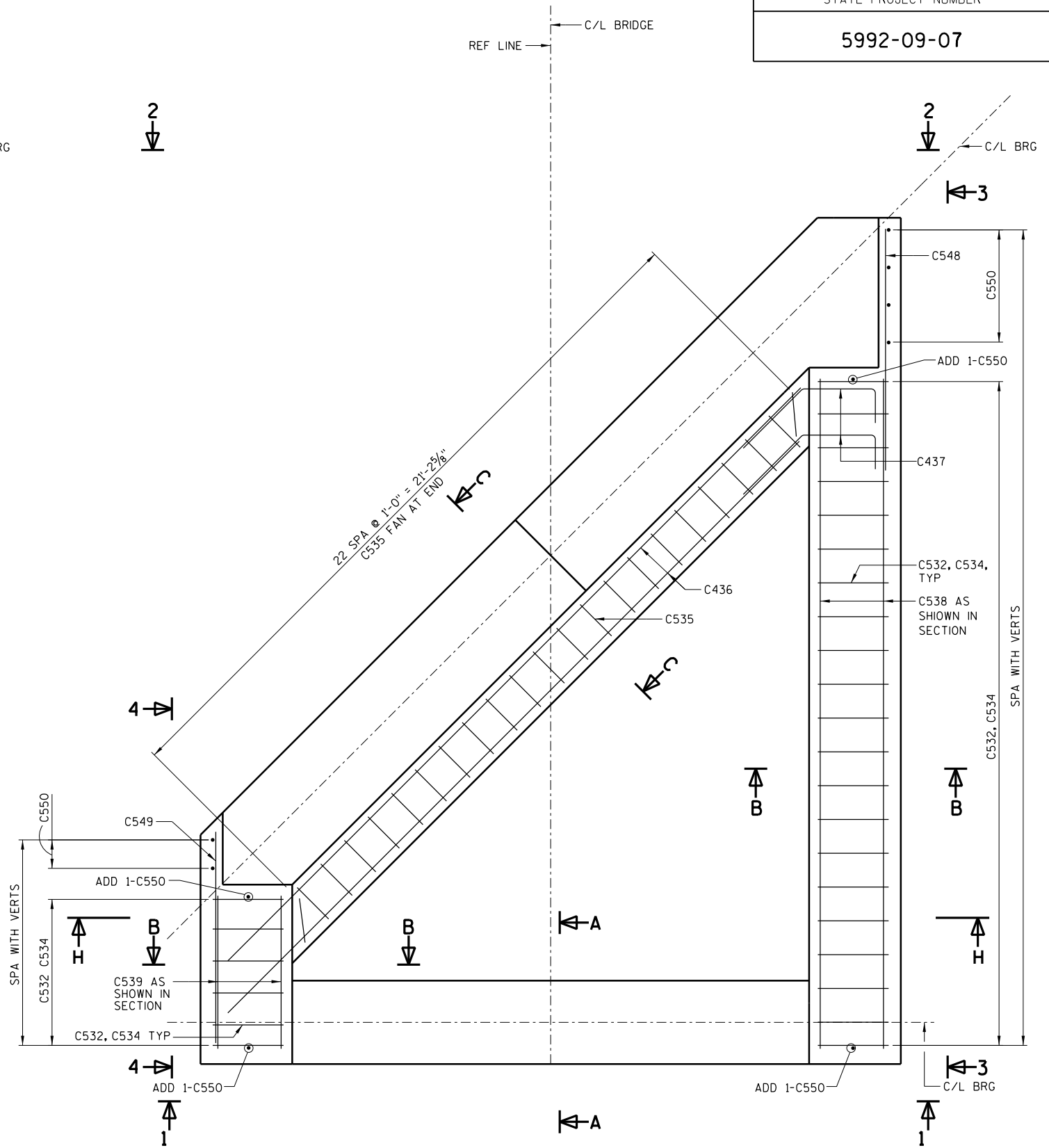


HORIZ MAIN BARS LAYOUT

PIER 2 SHOWN, PIER 6 SIMILAR UNLESS OTHERWISE SHOWN OR NOTED

NOTES:

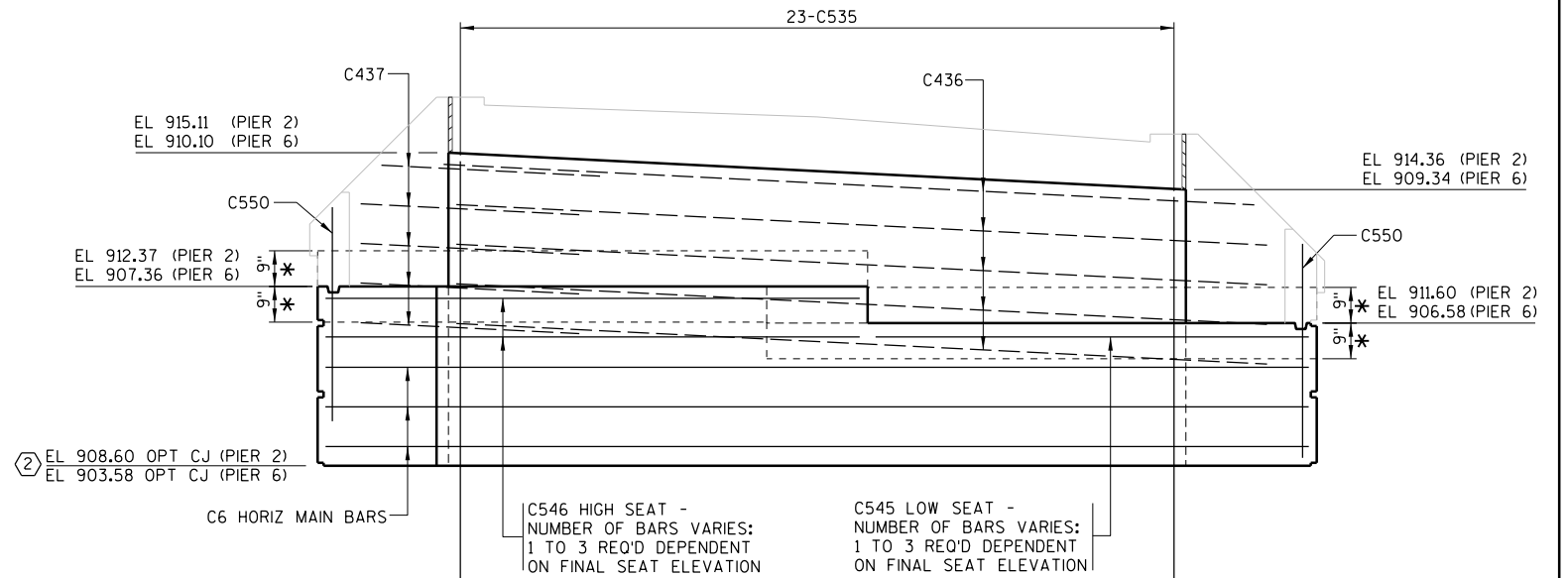
- SEE SHEET 14 FOR PIER NOTES AND SYMBOLS.
- SEE SHEET 15 FOR ELEVATION 1-1, 2-2.
- SEE SHEET 16 FOR ELEVATION 3-3, 4-4.
- SEE SHEET 22 FOR SECTION A-A, B-B, C-C
- SEE SHEET 24 FOR SECTION H-H.



HORIZ BARS LAYOUT ABOVE THE MAIN HORIZ BARS

PIER 2 SHOWN, PIER 6 SIMILAR
UNLESS OTHERWISE SHOWN OR NOTED

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CKD. NCK
PIER 2 & 6 DETAILS			SHEET 20 OF 43 126

[illegible]

SEAT BARS LAYOUT
TRUSS BEARING PAD LAYOUT
PIER 2 SHOWN, PIER 6 SIMILAR
UNLESS OTHERWISE SHOWN OR NOTED

SEE SHEET 14 FOR PIER NOTES AND SYMBOLS.

SEE SHEET 15 FOR ELEVATION 1-1, 2-2.

SEE SHEET 16 FOR ELEVATION 3-3, 4-4.

SEE SHEET 22 FOR SECTION A-A, B-B, C-C

SEE SHEET 24 FOR SECTION H-H.

(*) S1 THRU S6 - SEE SHEET 22 FOR SEAT NOTES.

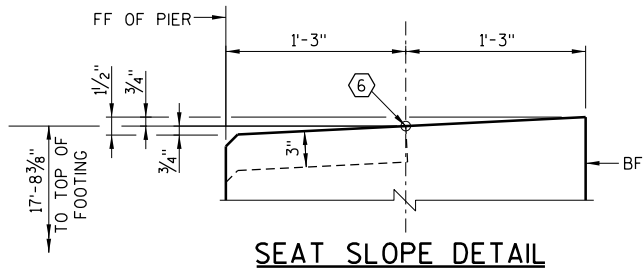
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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
		DRAWN BY	DLF
		PLANS C'K'D.	NCK
PIER 2 & 6 DETAILS		SHEET 21 OF 43 127	

PLOT TIME: 11/6/2012 11:23 PM

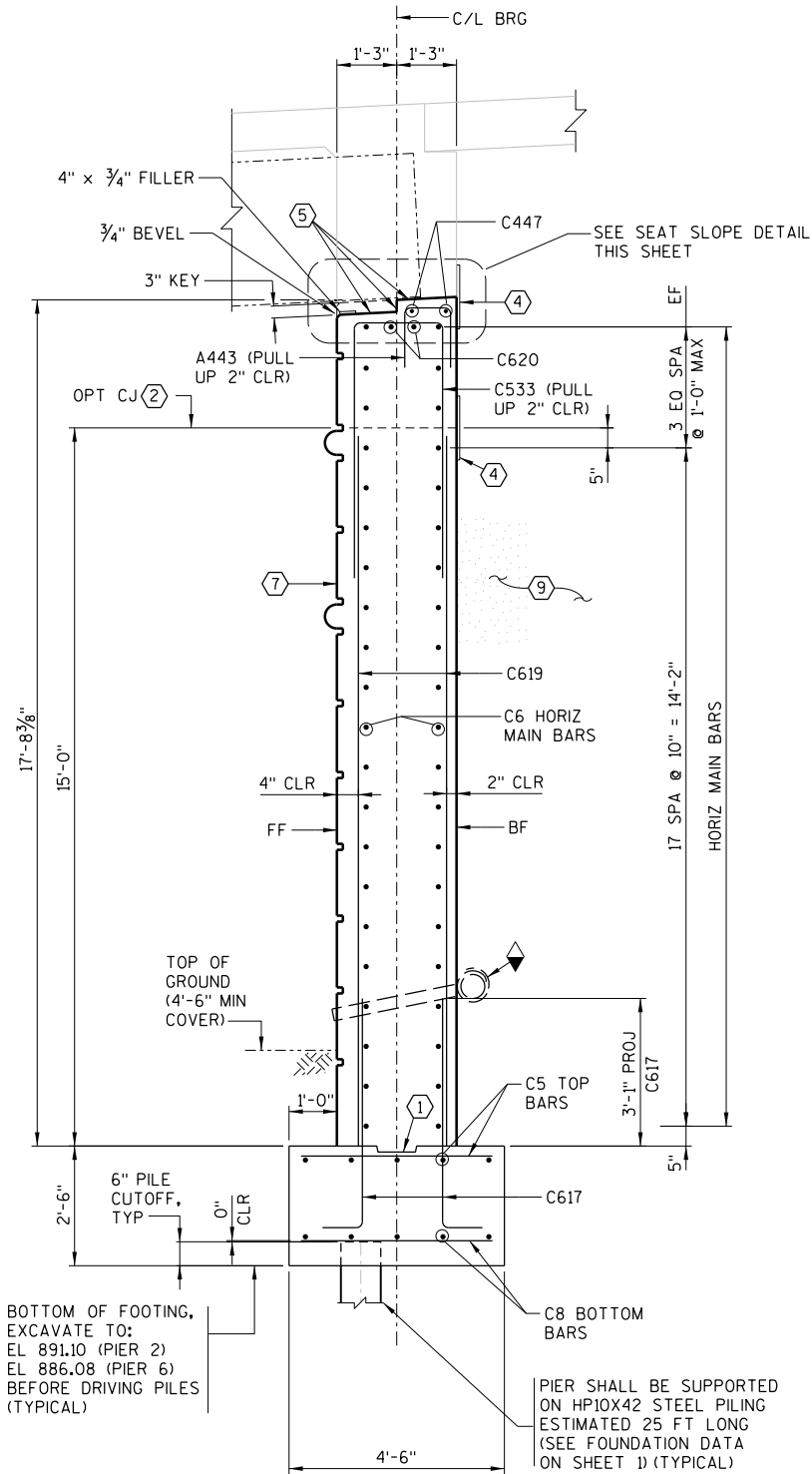
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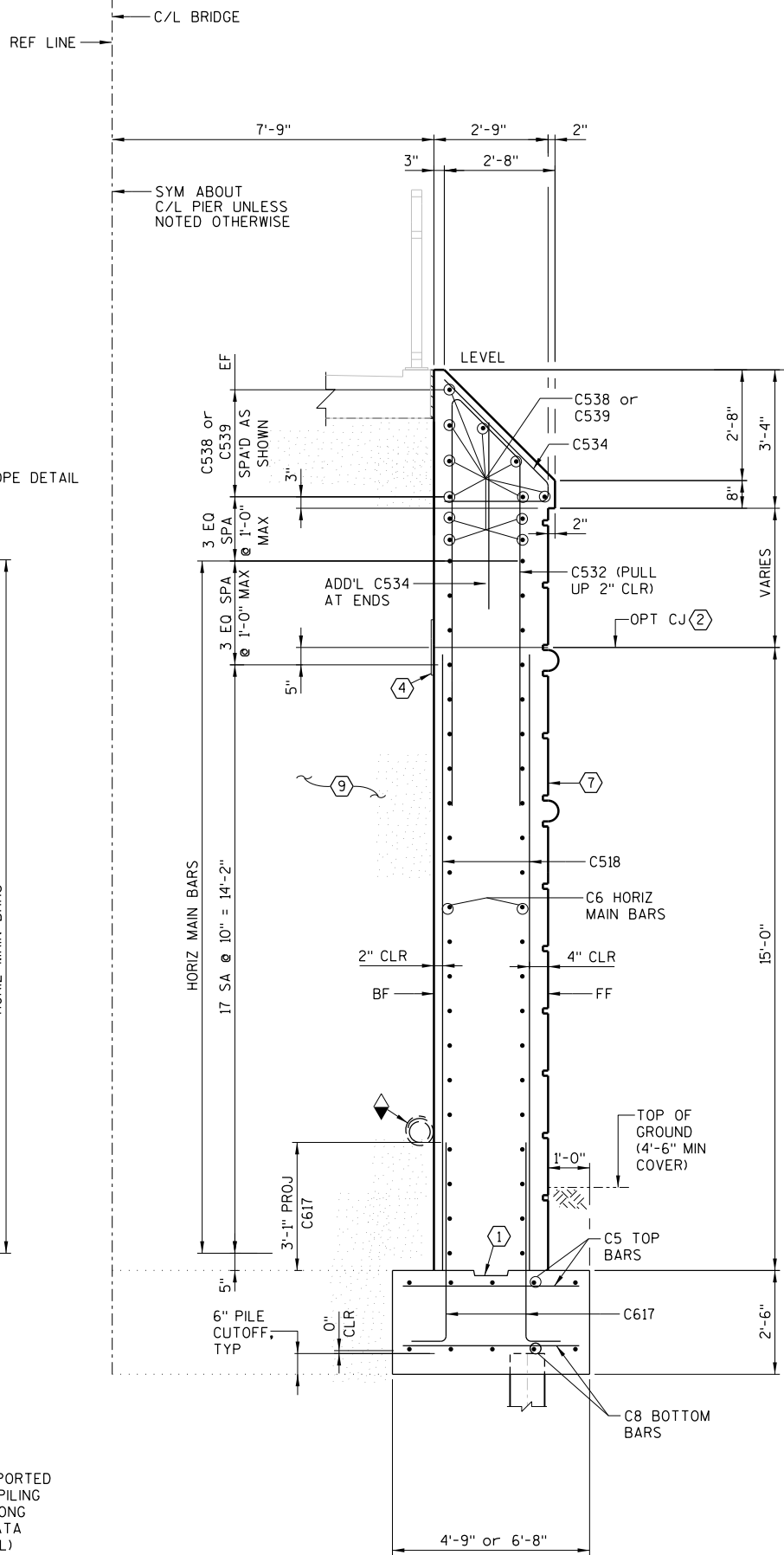


SEAT SLOPE DETAIL



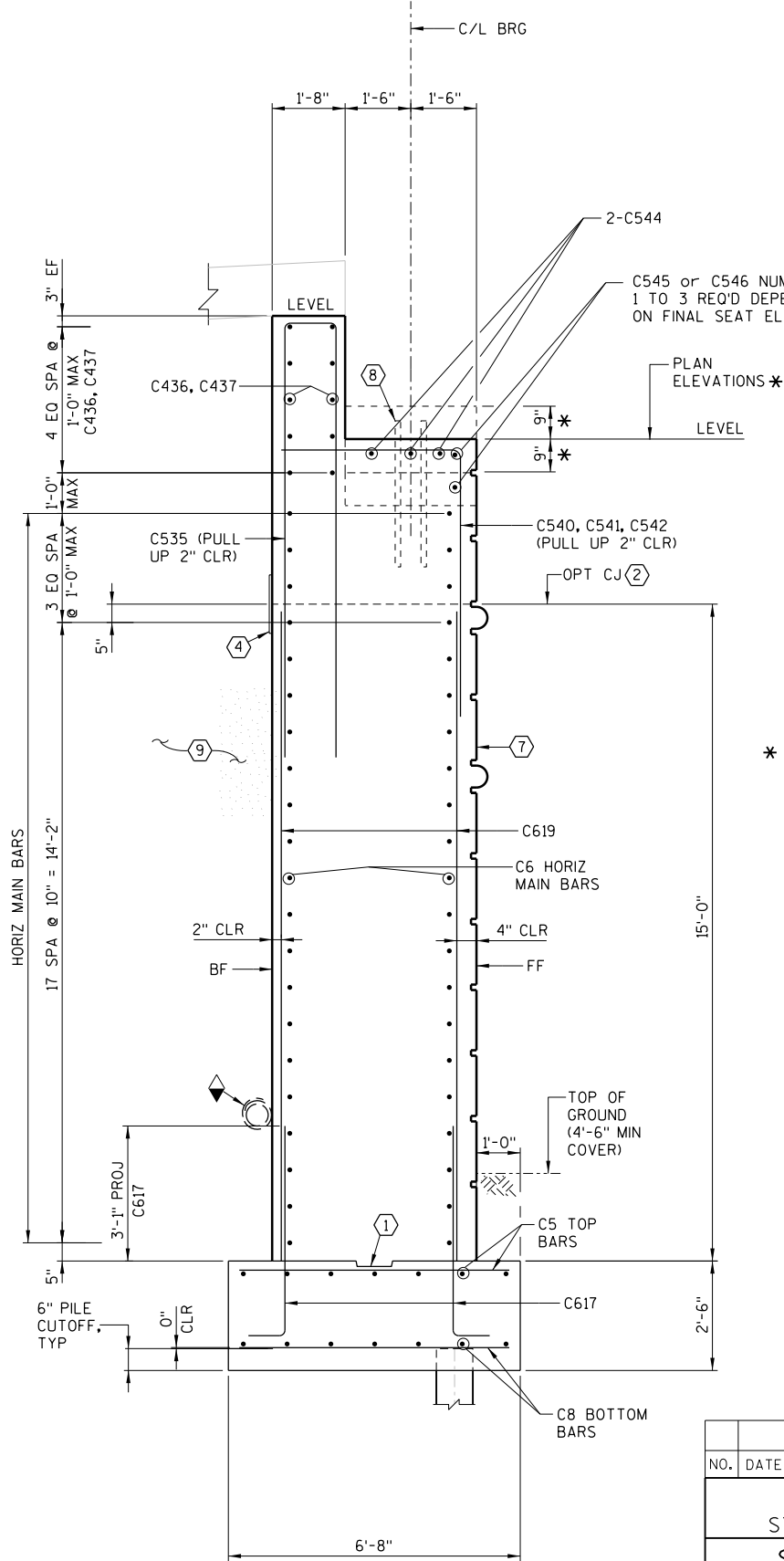
SECTION A-A

PIER 2 SHOWN, PIER 6 SIMILAR
UNLESS OTHERWISE SHOWN OR NOTED



SECTION B-B

PIER 2 SHOWN, PIER 6 SIMILAR
UNLESS OTHERWISE SHOWN OR NOTED



SECTION C-C

PIER 2 SHOWN, PIER 6 SIMILAR
UNLESS OTHERWISE SHOWN OR NOTED

STATE PROJECT NUMBER

5992-09-07

NOTES:

SEE SHEET 14 FOR PIER NOTES AND SYMBOLS.

*** SEAT NOTES:**

SEAT ELEVATIONS MAY BE ADJUSTED 9" HIGHER OR 9" LOWER THAN THE GIVEN PLAN ELEVATIONS TO ACCOMMODATE TRUSS MANUFACTURERS DIMENSIONS.

S1. TOP OF SEAT ELEVATIONS GIVEN AT C/L BEARING.

S2. PLAN SEAT ELEVATION ARE BASED ON A STRUCTURE DEPTH OF: 3'-6" AND A BEARING HEIGHT OF: 6".

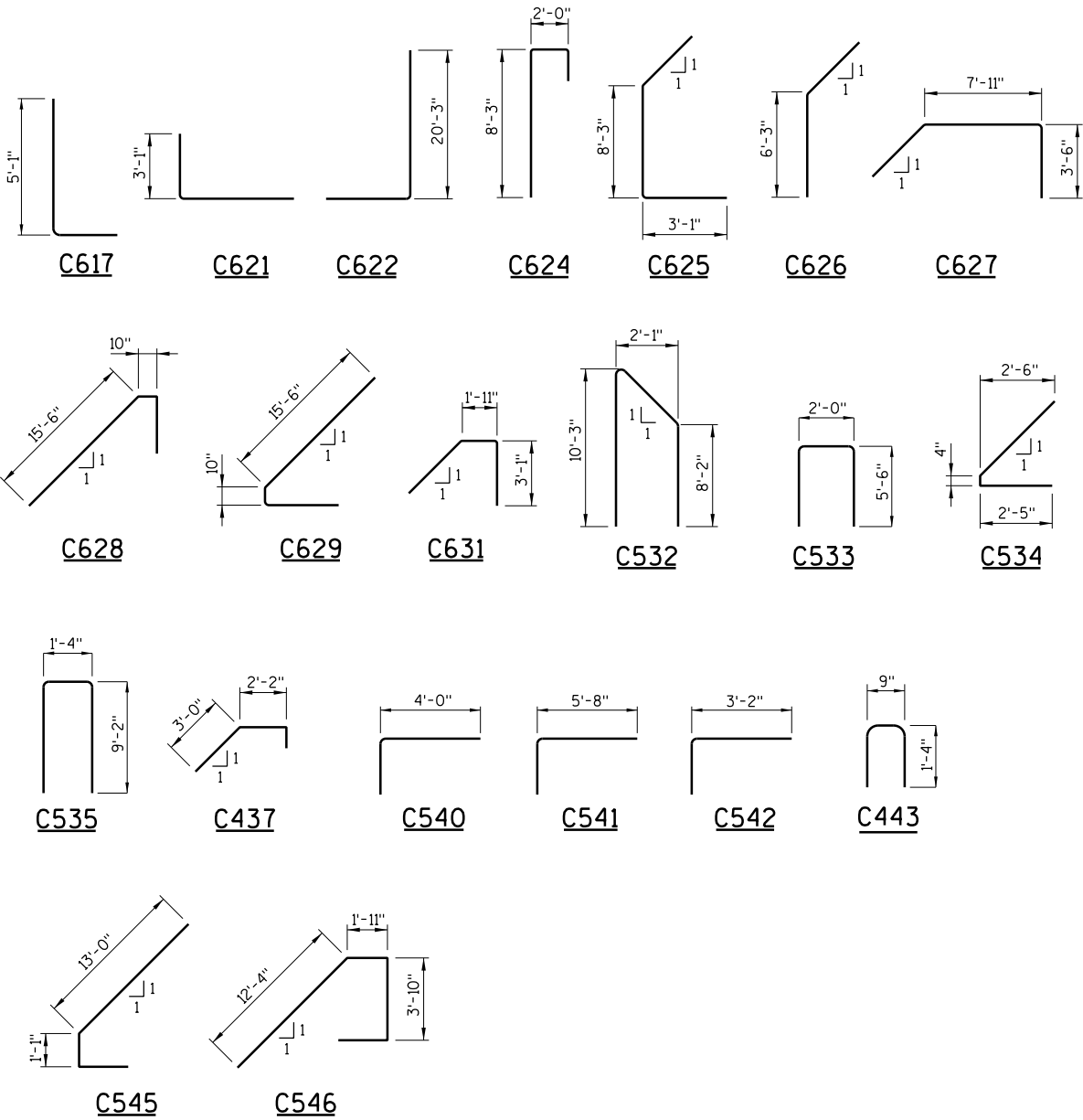
S3. EXACT SEAT ELEVATIONS CAN BE CALCULATED AFTER THE APPROVAL OF THE TRUSS DIMENSIONS AND SPECIFICATIONS.

S4. MAINTAIN A LEVEL SEAT IN THE TRANSVERSE DIRECTION AND USE METAL SHIMS TO ACHIEVE THE BEARING HEIGHTS REQUIRED.

S5. VERTICAL BAR LENGTHS ARE CALCULATED FOR A 9" LOWER OR HIGHER SEAT FROM THE PLAN ELEVATIONS.

S6. A 6" to 8" MAX SPACING OF SHAFT TOP TIES IS DESIRED UNDER THE TRUSS BEARING AREAS. ADJUST BARS TO CLEAR ANCHOR BOLTS A MIN OF 2 1/2" CLEAR ALL AROUND THE ANCHOR BOLT.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D, NCK
PIER 2 & 6 DETAILS			SHEET 22 OF 43 128



BAR SERIES TABLE PIER 2 & PIER 6			
BAR MARK	BENT	NO. REQ'D.	LENGTH
C809		1 SERIES OF 12	3'-8" TO 14'-8"
C810		1 SERIES OF 7	8'-0" TO 14'-0"
C514		1 SERIES OF 12	3'-8" TO 14'-8"
C515		1 SERIES OF 7	8'-0" TO 14'-0"

BUNDLE AND TAG EACH SERIES SEPARATELY

NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

☒ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BILL OF BARS PIER 2						
BAR MARK	COAT	NO.* REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
C801		12	4 - 0			FTG TRANS B
C802		11	4 - 3			FTG TRANS B
C803		27	6 - 2			FTG TRANS B
C504		12	4 - 0			FTG TRANS T
C505		11	4 - 3			FTG TRANS T
C506		27	6 - 2			FTG TRANS T
C807		5	22 - 6			FTG LONGIT B
C808		5	26 - 10			FTG LONGIT B
C809		12	9 - 2	☒		FTG LONGIT B
C810		7	11 - 0	☒		FTG LONGIT B
C811		14	17 - 6			FTG LONGIT B
C512		5	22 - 6			FTG LONGIT T
C513		5	26 - 10			FTG LONGIT T
C514		12	9 - 2	☒		FTG LONGIT T
C515		7	11 - 0	☒		FTG LONGIT T
C516		14	16 - 9			FTG LONGIT T
C617	X	152	5 - 11		X	FTG DOWEL
C518	X	56	14 - 10			VERTS
C619	X	96	14 - 10			VERTS
C620	X	44	15 - 2			HORIZ MAIN
C621	X	84	8 - 11		X	HORIZ MAIN
C622	X	21	24 - 2		X	HORIZ MAIN
C623	X	21	24 - 8			HORIZ MAIN
C624	X	21	11 - 6		X	HORIZ MAIN
C625	X	21	14 - 3		X	HORIZ MAIN
C626	X	21	9 - 4		X	HORIZ MAIN
C627	X	21	14 - 9		X	HORIZ MAIN
C628	X	21	18 - 11		X	HORIZ MAIN
C629	X	21	18 - 11		X	HORIZ MAIN
C630	X	21	26 - 0			HORIZ MAIN
C631	X	21	7 - 11		X	HORIZ MAIN
C532	X	27	26 - 10		X	TIES TOP
C533	X	16	12 - 9		X	TIES TOP
C534	X	27	6 - 1		X	TIES TOP
C535	X	23	19 - 5		X	BACKWALL VERT
C436	X	10	24 - 6			BACKWALL HORIZ
C437	X	10	6 - 1		X	BACKWALL HORIZ
C538	X	12	20 - 6			HORIZ TOP
C539	X	12	5 - 0			HORIZ TOP
C540	X	32	11 - 2		X	SEAT TIES
C541	X	2	12 - 10		X	SEAT TIES
C542	X	4	10 - 4		X	SEAT TIES
C443	X	6	3 - 3		X	SEAT TIES
C544	X	12	8 - 2			SEAT HORIZ
C545	X	3	16 - 3		X	SEAT HORIZ
C546	X	3	20 - 0		X	SEAT HORIZ
C447	X	2	7 - 10			SEAT HORIZ
C548	X	5	7 - 0			CURTAIN WALL HORIZ
C549	X	5	6 - 4			CURTAIN WALL HORIZ
C550	X	10	4 - 6			CURTAIN WALL VERT

* NO. REQ'D. IS FOR ONE PIER. PIER 2 & PIER 6 BILL OF BARS ARE INDENTICAL.

BILL OF BARS PIER 6						
BAR MARK	COAT	NO.* REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
C801		12	4 - 0			FTG TRANS B
C802		11	4 - 3			FTG TRANS B
C803		27	6 - 2			FTG TRANS B
C504		12	4 - 0			FTG TRANS T
C505		11	4 - 3			FTG TRANS T
C506		27	6 - 2			FTG TRANS T
C807		5	22 - 6			FTG LONGIT B
C808		5	26 - 10			FTG LONGIT B
C809		12	9 - 2	☒		FTG LONGIT B
C810		7	11 - 0	☒		FTG LONGIT B
C811		14	17 - 6			FTG LONGIT B
C512		5	22 - 6			FTG LONGIT T
C513		5	26 - 10			FTG LONGIT T
C514		12	9 - 2	☒		FTG LONGIT T
C515		7	11 - 0	☒		FTG LONGIT T
C516		14	16 - 9			FTG LONGIT T
C617	X	152	5 - 11		X	FTG DOWEL
C518	X	56	14 - 10			VERTS
C619	X	96	14 - 10			VERTS
C620	X	44	15 - 2			HORIZ MAIN
C621	X	84	8 - 11		X	HORIZ MAIN
C622	X	21	24 - 2		X	HORIZ MAIN
C623	X	21	24 - 8			HORIZ MAIN
C624	X	21	11 - 6		X	HORIZ MAIN
C625	X	21	14 - 3		X	HORIZ MAIN
C626	X	21	9 - 4		X	HORIZ MAIN
C627	X	21	14 - 9		X	HORIZ MAIN
C628	X	21	18 - 11		X	HORIZ MAIN
C629	X	21	18 - 11		X	HORIZ MAIN
C630	X	21	26 - 0			HORIZ MAIN
C631	X	21	7 - 11		X	HORIZ MAIN
C532	X	27	26 - 10		X	TIES TOP
C533	X	16	12 - 9		X	TIES TOP
C534	X	27	6 - 1		X	TIES TOP
C535	X	23	19 - 5		X	BACKWALL VERT
C436	X	10	24 - 6			BACKWALL HORIZ
C437	X	10	6 - 1		X	BACKWALL HORIZ
C538	X	12	20 - 6			HORIZ TOP
C539	X	12	5 - 0			HORIZ TOP
C540	X	32	11 - 2		X	SEAT TIES
C541	X	2	12 - 10		X	SEAT TIES
C542	X	4	10 - 4		X	SEAT TIES
C443	X	6	3 - 3		X	SEAT TIES
C544	X	12	8 - 2			SEAT HORIZ
C545	X	3	16 - 3		X	SEAT HORIZ
C546	X	3	20 - 0		X	SEAT HORIZ
C447	X	2	7 - 10			SEAT HORIZ
C548	X	5	7 - 0			CURTAIN WALL HORIZ
C549	X	5	6 - 4			CURTAIN WALL HORIZ
C550	X	10	4 - 6			CURTAIN WALL VERT

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
		DRAWN BY DLF	PLANS CK'D. NCK
PIER 2 & 6 DETAILS (BILL OF BARS)			SHEET 23 OF 43 129

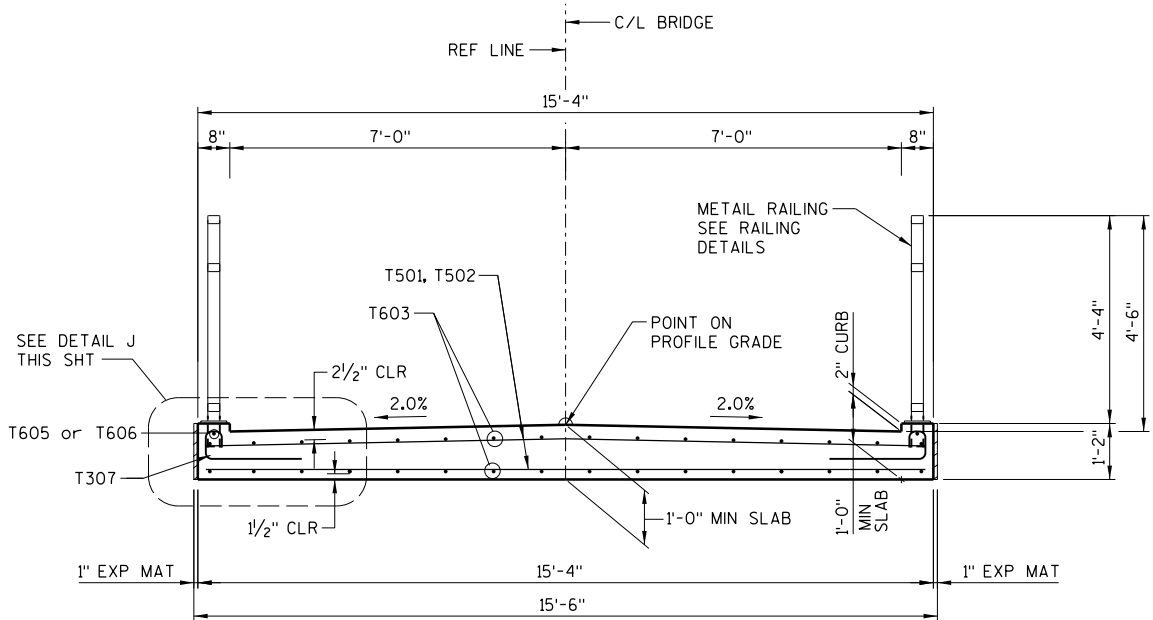
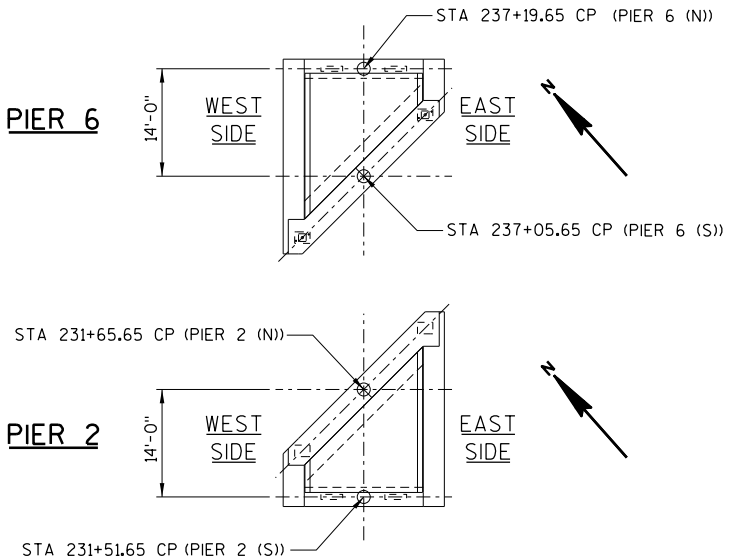
☒ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BILL OF BARS					PIER 2 & 6 SLAB	
BAR MARK	COAT	NO. * REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
T501	X	8	15 - 0			TRANS T & B
T502	X	28	7 - 9	☒		TRANS T & B
T603	X	32	10 - 10	☒		LONGIT T & BOT
T504	X	8	21 - 2			DIAG
T605	X	1	3 - 5			DECK AT CURB
T606	X	1	18 - 3			DECK AT CURB
T307	X	16	3 - 2		X	DECK AT CURB

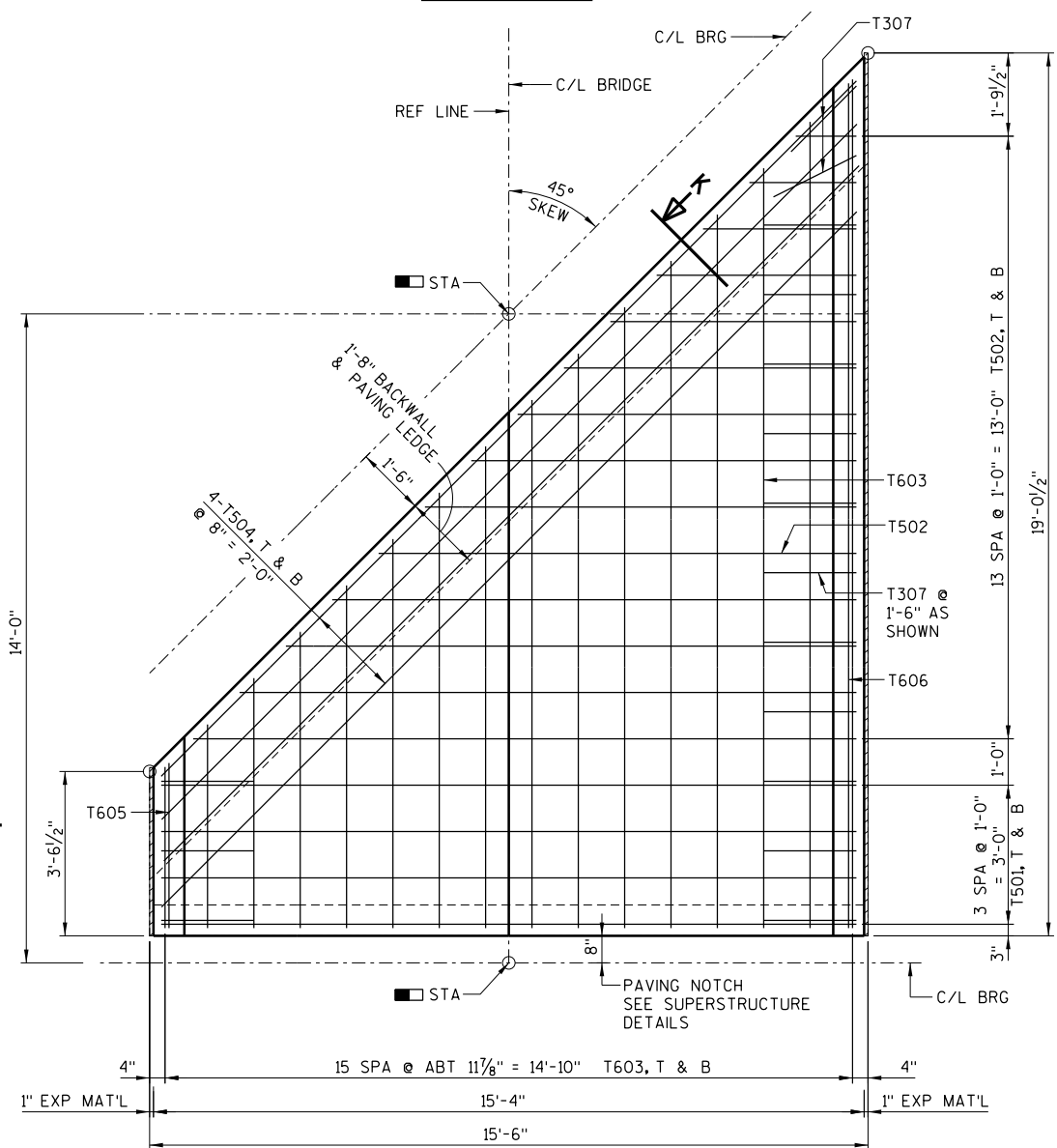
BAR SERIES TABLE		PIER 2 & 6 SLAB	
BAR MARK	BENT	NO. REQ'D.	LENGTH
T502		2 SERIES OF 14	1'-3" TO 14'-3"
T603		2 SERIES OF 16	3'-5" TO 18'-3"

BUNDLE AND TAG EACH SERIES SEPARATELY

T = TOP
B = BOTTOM



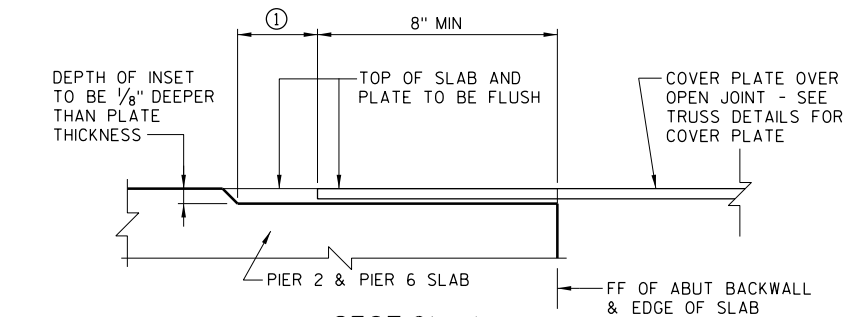
SECTION H-H



PLAN

PIER 2 SHOWN, PIER 6 SIMILAR UNLESS OTHERWISE SHOWN OR NOTED

DETAIL J



SECTION K

COVER PLATE INSET

NOTE:

SEE TRUSS DRAWINGS FOR ALL COVER PLATES.

① COVER PLATE INSET BETWEEN CURBS. MATCH EXPANSION DISTANCE PER TRUSS MANUFACTURER SPECIFICATIONS

PLOT TIME: 11/6/2012

PLOT DATE: 11/6/2012

FILE NAME : S:\KOV\Modis\084715-dsgn\51-cadd\Structure\al\bridge\366ip3.dgn

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8

STATE PROJECT NUMBER

5992-09-07

PIER NOTES & SYMBOLS:

SEE SHEET 9 FOR PILE SPLICE DETAIL.

USE 3/4" CHAMFER OF EXPOSED EDGES OF CONCRETE.

① KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" X 12".

② SEE RUSTICATION DETAILS ON SHEETS 41 THRU 43.

③ TRUSS ANCHOR BOLTS PER TRUSS MANUFACTURER.

● = SET BY TRUSS MANUFACTURER

①, ②, ③, ④ = TRUSS

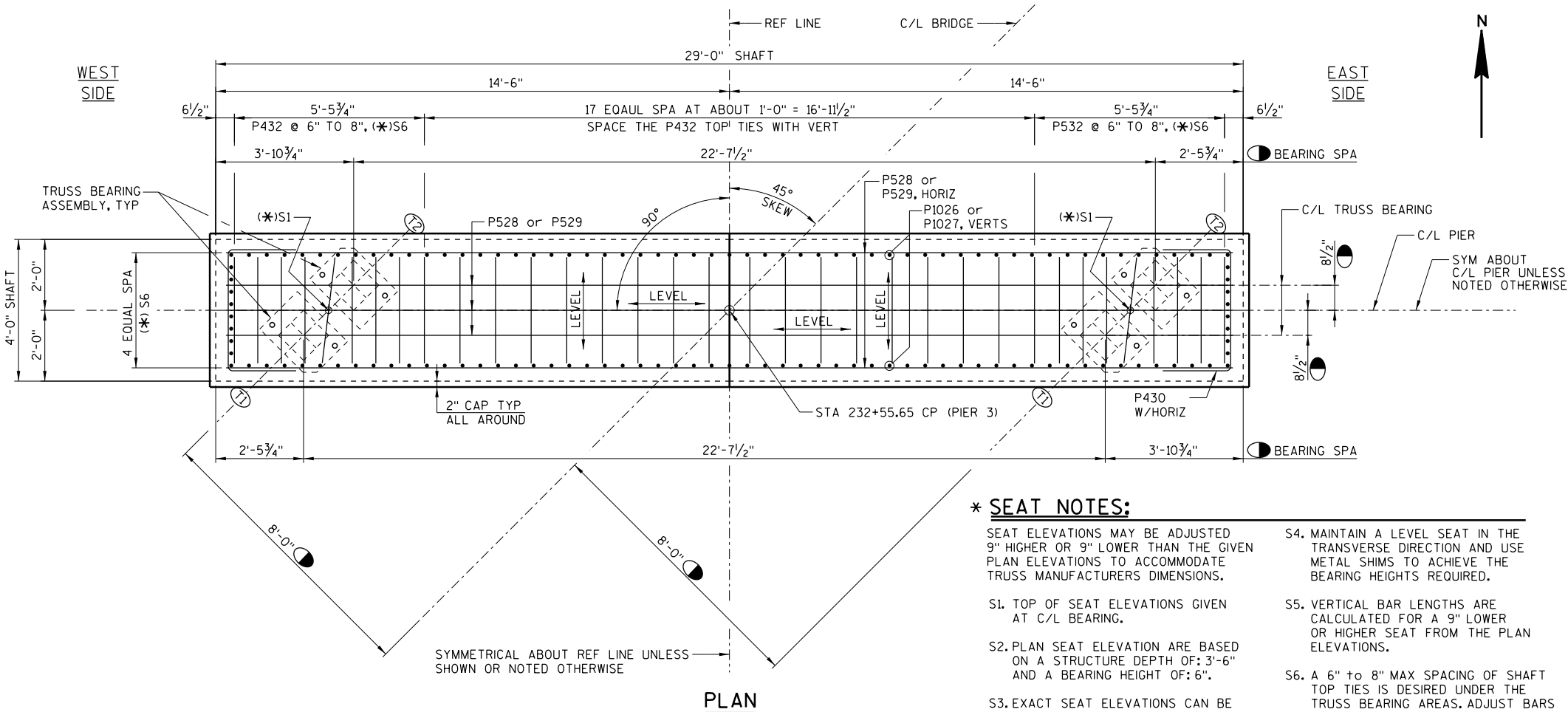
FF = FRONT FACE

BF = BACK FACE

EF = EACH FACE

T = TOP

B = BOTTOM



* SEAT NOTES:

SEAT ELEVATIONS MAY BE ADJUSTED 9" HIGHER OR 9" LOWER THAN THE GIVEN PLAN ELEVATIONS TO ACCOMMODATE TRUSS MANUFACTURERS DIMENSIONS.

S1. TOP OF SEAT ELEVATIONS GIVEN AT C/L BEARING.

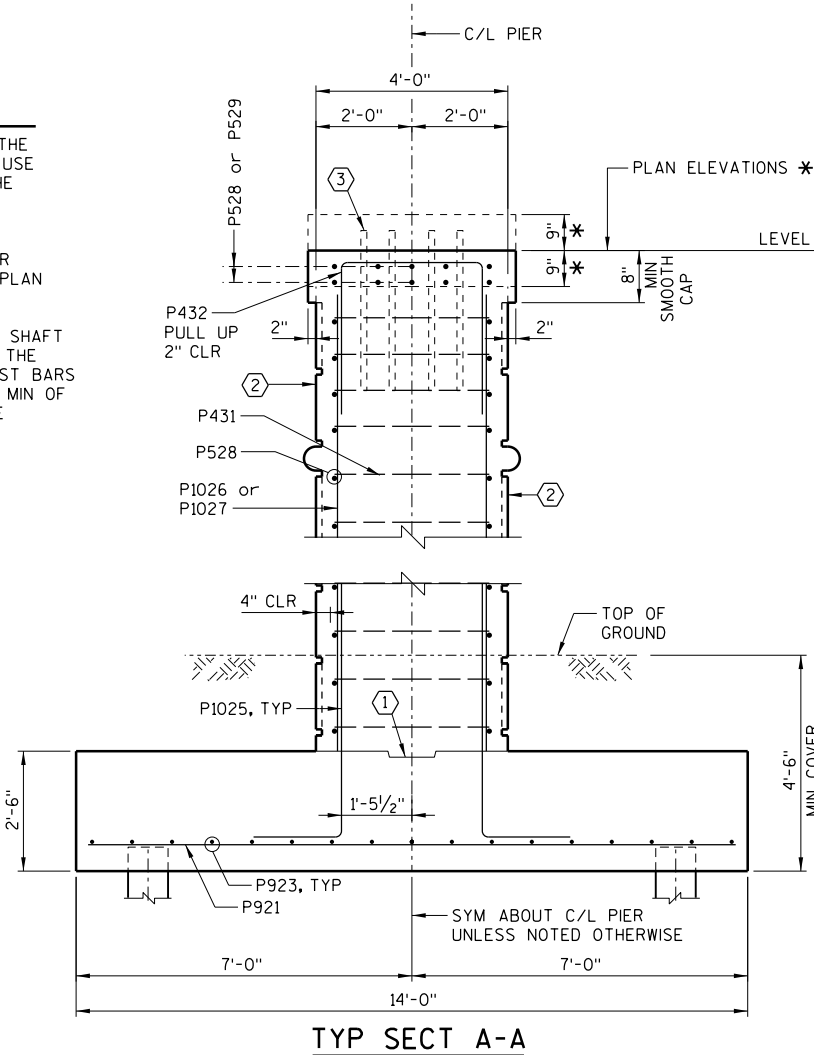
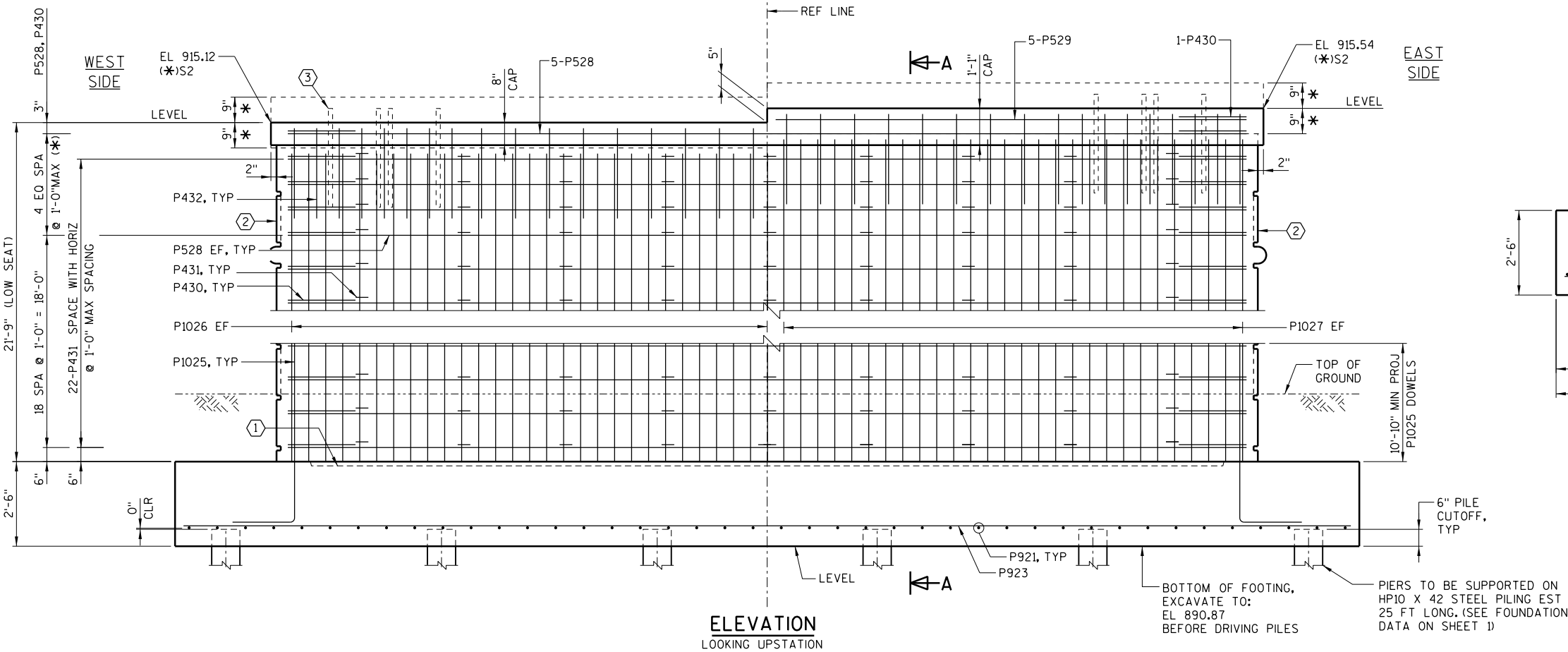
S2. PLAN SEAT ELEVATION ARE BASED ON A STRUCTURE DEPTH OF: 3'-6" AND A BEARING HEIGHT OF: 6".

S3. EXACT SEAT ELEVATIONS CAN BE CALCULATED AFTER THE APPROVAL OF THE TRUSS DIMENSIONS AND SPECIFICATIONS.

S4. MAINTAIN A LEVEL SEAT IN THE TRANSVERSE DIRECTION AND USE METAL SHIMS TO ACHIEVE THE BEARING HEIGHTS REQUIRED.

S5. VERTICAL BAR LENGTHS ARE CALCULATED FOR A 9" LOWER OR HIGHER SEAT FROM THE PLAN ELEVATIONS.

S6. A 6" TO 8" MAX SPACING OF SHAFT TOP TIES IS DESIRED UNDER THE TRUSS BEARING AREAS. ADJUST BARS TO CLEAR ANCHOR BOLTS A MIN OF 2 1/2" CLEAR ALL AROUND THE ANCHOR BOLT.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
PIER 3 DETAILS			SHEET 25 OF 43 131

FILE NAME : S:\KOV\Modis\0847\5-dsgn\51-cadd\Structure\al\bridge\366p5.dgn

PLOT DATE: 11/6/2012

PLOT TIME: 11:29 PM

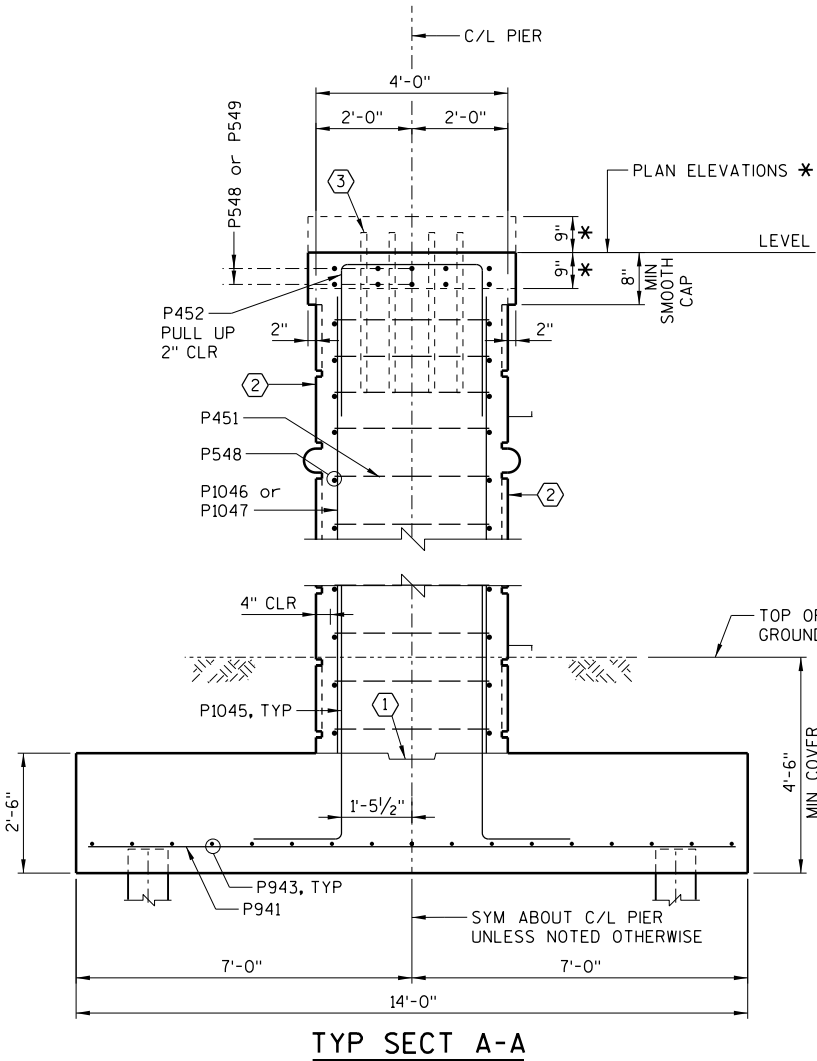
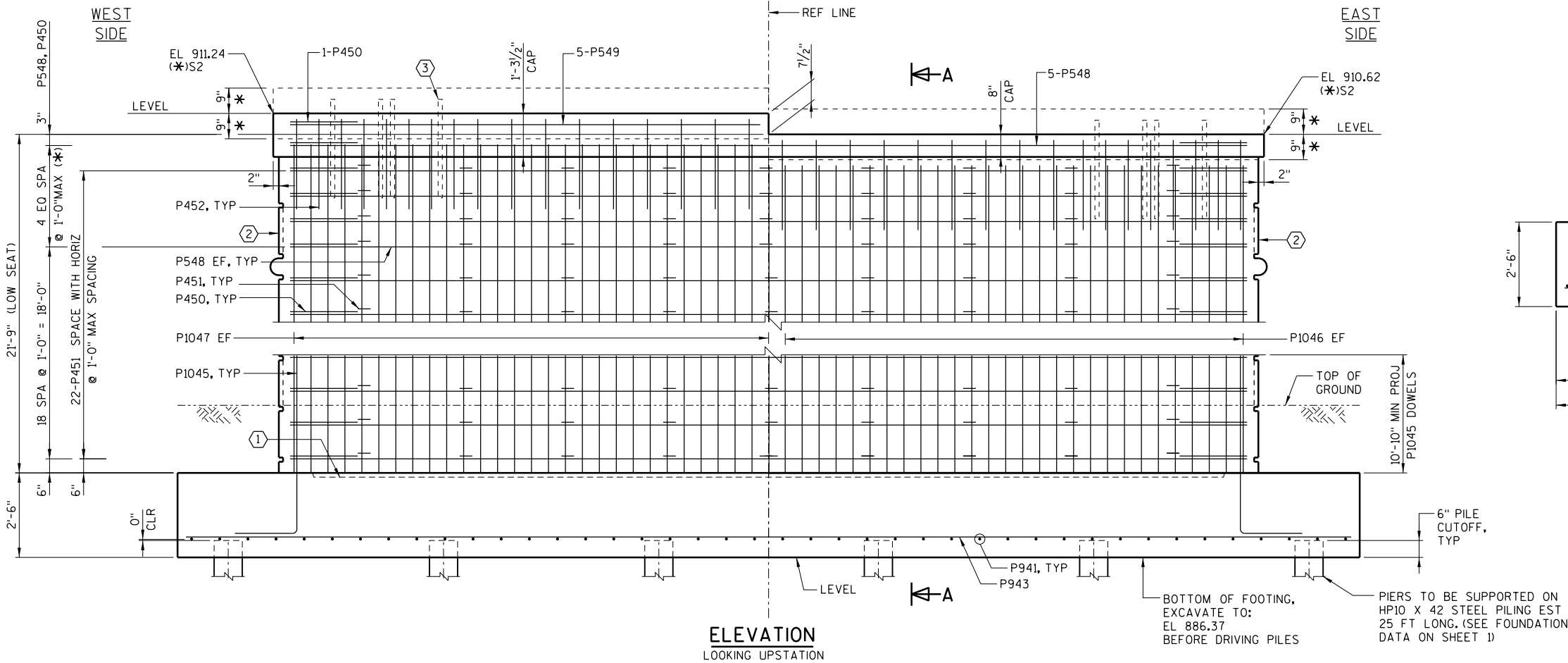
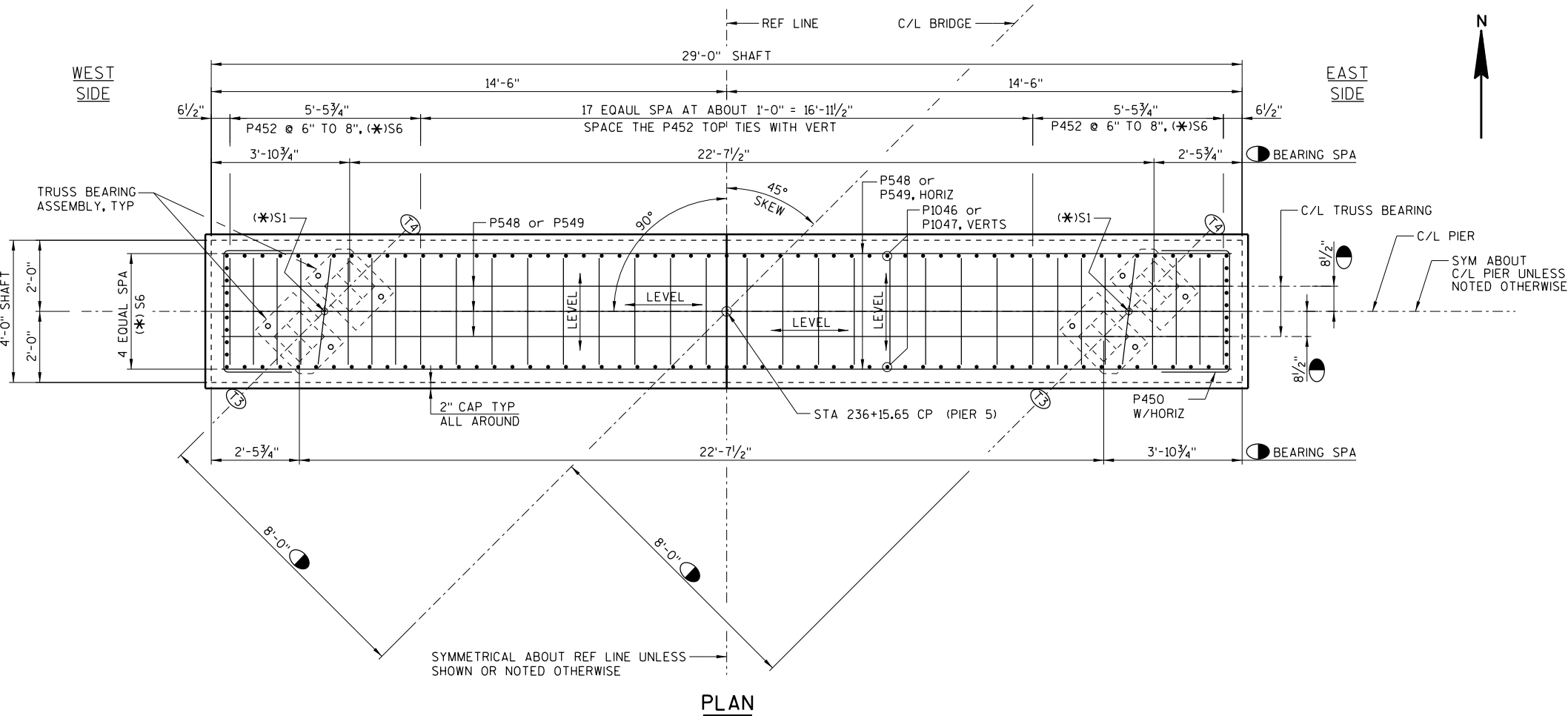
STATE PROJECT NUMBER

5992-09-07

NOTES:

SEE SHEET 25 FOR PIER NOTES & SYMBOLS.

(*) S1 THRU S6 - SEE SHEET 25 FOR SEAT NOTES.



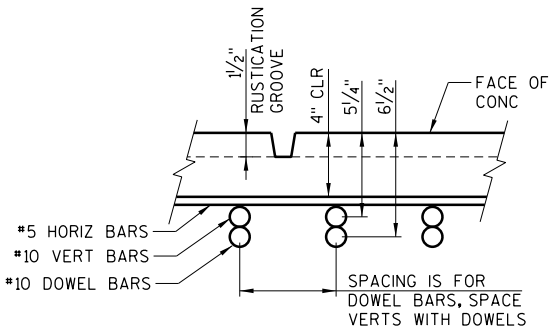
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
PIER 5 DETAILS			SHEET 26 OF 43 132

STATE PROJECT NUMBER

5992-09-07

NOTE: THE FIRST TWO DIGITS OF THE BAR MARK
SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.

DIMENSIONS IN BENDING DETAILS ARE
OUT TO OUT.

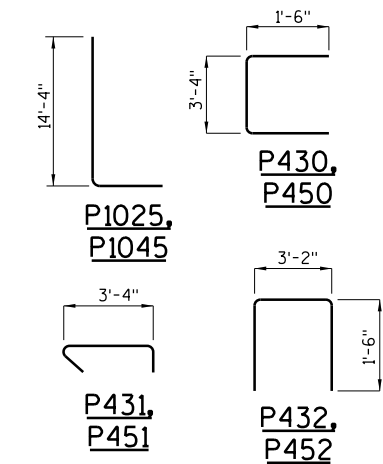
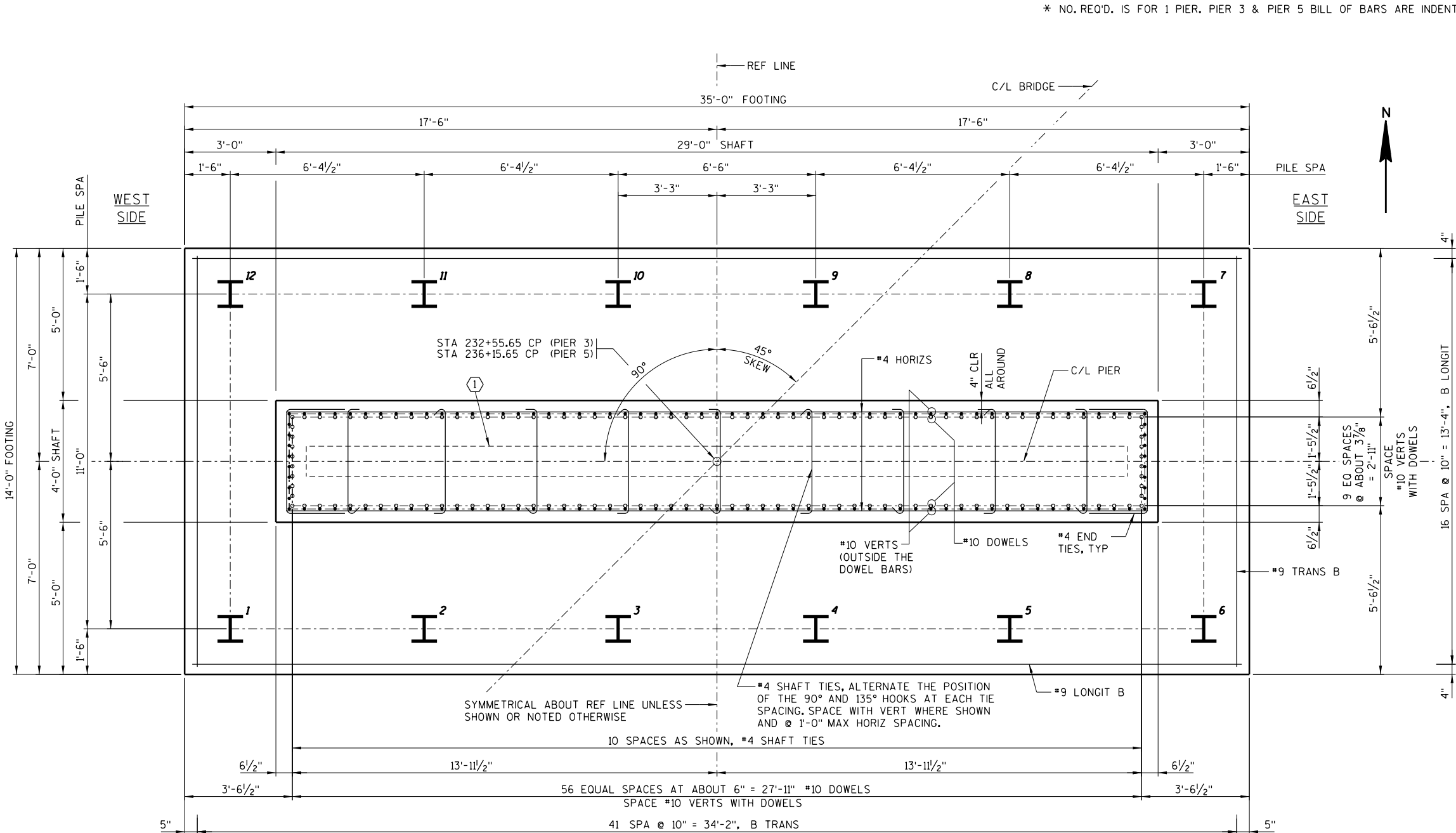


BAR CLEARANCE LAYOUT

BILL OF BARS						PIER 3
BAR MARK	COAT	NO.* REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
P921		42	13 - 6			FTG TRANS B
NOT USED			-			
P923		17	34 - 6			FTG LONGIT B
NOT USED			-			
P1025	X	130	15 - 11		X	FTG DOWEL
P1026	X	66	20 - 10			VERTS SHORT
P1027	X	64	21 - 3			VERTS LONG
P528	X	49	28 - 4			HORIZ
P529	X	5	14 - 0			HORIZ
P430	X	47	6 - 2		X	END TIE
P431	X	198	4 - 1		X	SHAFT TIE
P432	X	34	6 - 0		X	SHAFT TOP TIE

BILL OF BARS						PIER 5
BAR MARK	COAT	NO.* REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
P941		42	13 - 6			FTG TRANS B
NOT USED			-			
P943		17	34 - 6			FTG LONGIT B
NOT USED			-			
P1045	X	130	15 - 11		X	FTG DOWEL
P1046	X	66	20 - 10			VERTS SHORT
P1047	X	64	21 - 3			VERTS LONG
P548	X	49	28 - 4			HORIZ
P549	X	5	14 - 0			HORIZ
P450	X	47	6 - 2		X	END TIE
P451	X	198	4 - 1		X	SHAFT TIE
P452	X	34	6 - 0		X	SHAFT TOP TIE

* NO. REQ'D. IS FOR 1 PIER. PIER 3 & PIER 5 BILL OF BARS ARE INDENTICAL.



NOTE: USE STD HOOKS

NOTES:

SEE SHEET 25 FOR PIER NOTES & SYMBOLS.
SEE SHEET 25 FOR SEAT NOTES (*).

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CKD. NCK
PIER 3 & 5 DETAILS			SHEET 27 OF 43 133

PLOT TIME: 11:03:10PM

PLOT DATE: 11/6/2012

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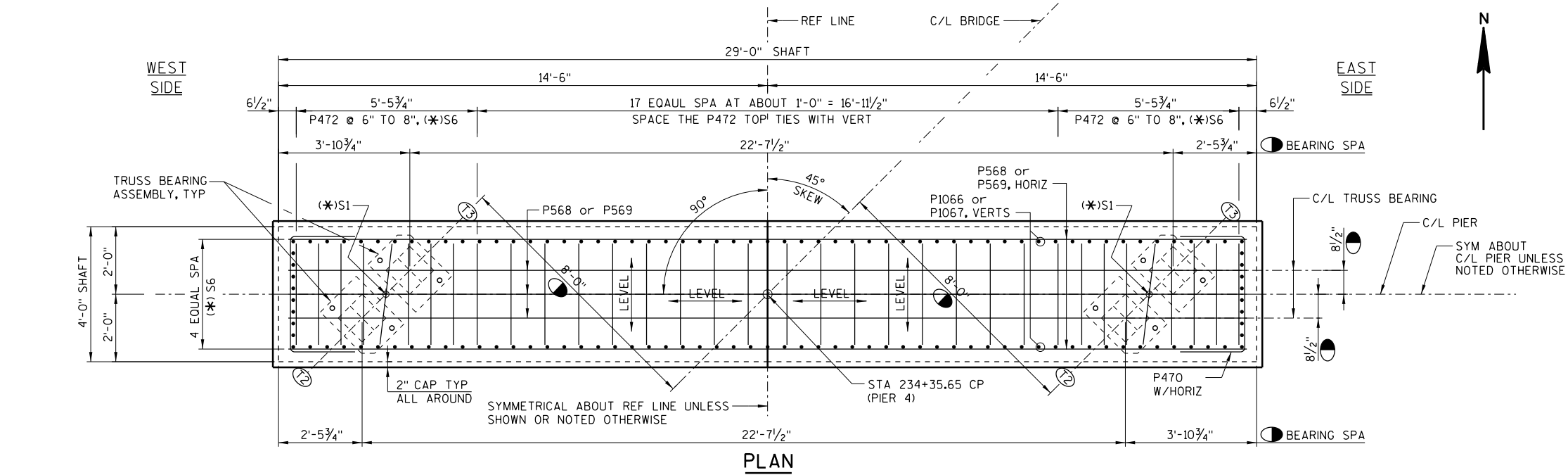
STATE PROJECT NUMBER

5992-09-07

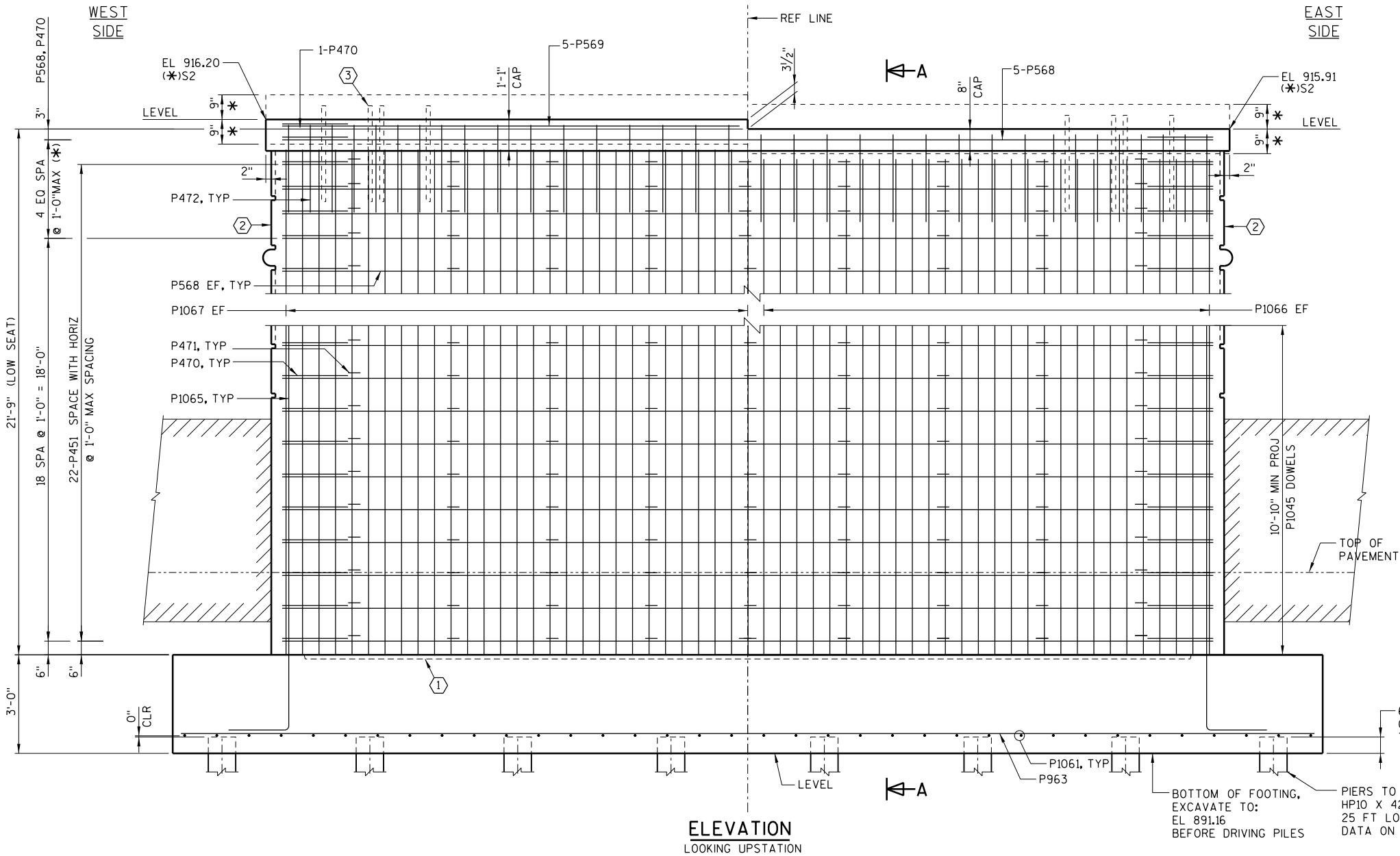
NOTES:

SEE SHEET 25 FOR PIER NOTES & SYMBOLS.

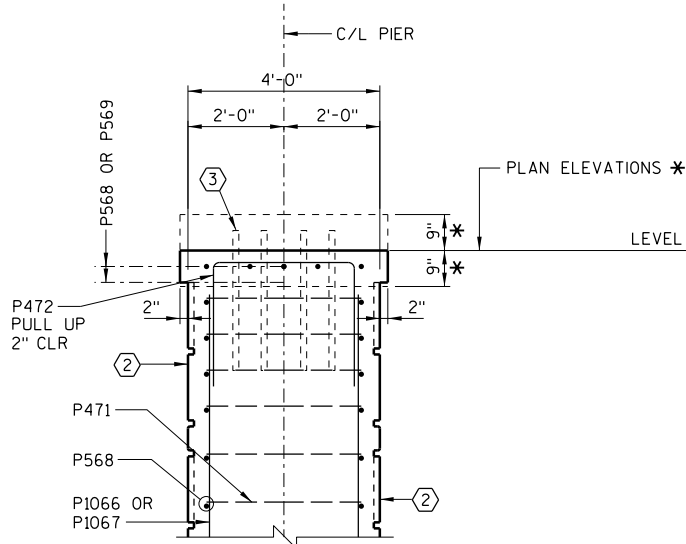
(*) S1 THRU S6 - SEE SHEET 25 FOR SEAT NOTES.



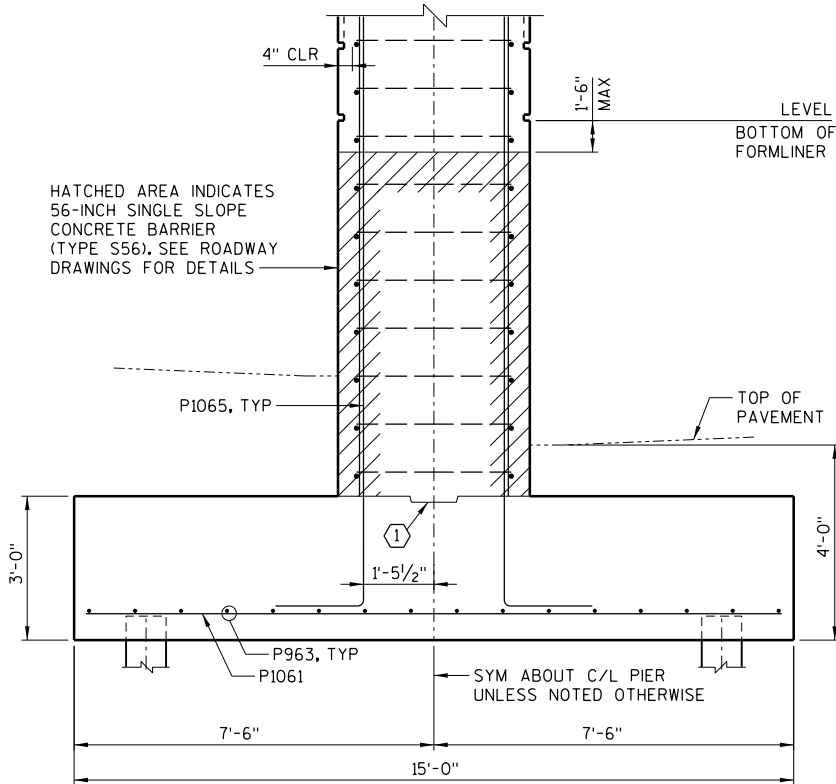
PLAN



ELEVATION
LOOKING UPSTATION



TYP SECT A-A



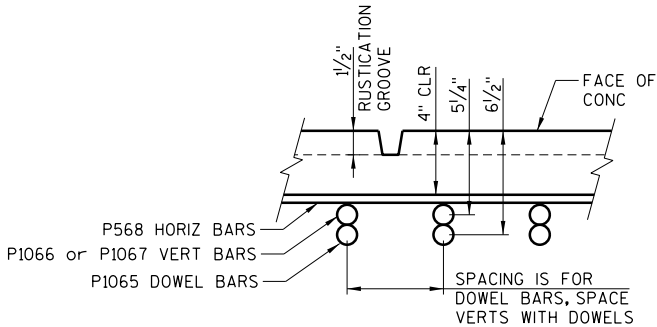
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CKD. NCK
PIER 4 DETAILS			SHEET 28 OF 43 134

PLOT TIME: 11/8/23 PM

PLOT DATE: 11/6/202

FILE NAME : S:\KOV\Modis\0847\5-dsgn\51-cadd\Structural\bridge\366ip4b.dgn

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BAR CLEARANCE LAYOUT

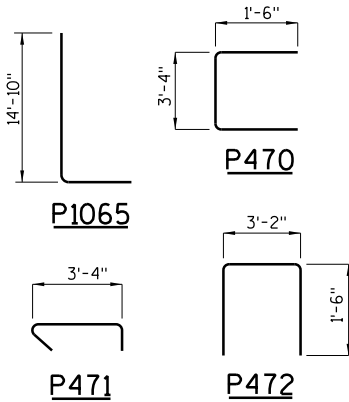
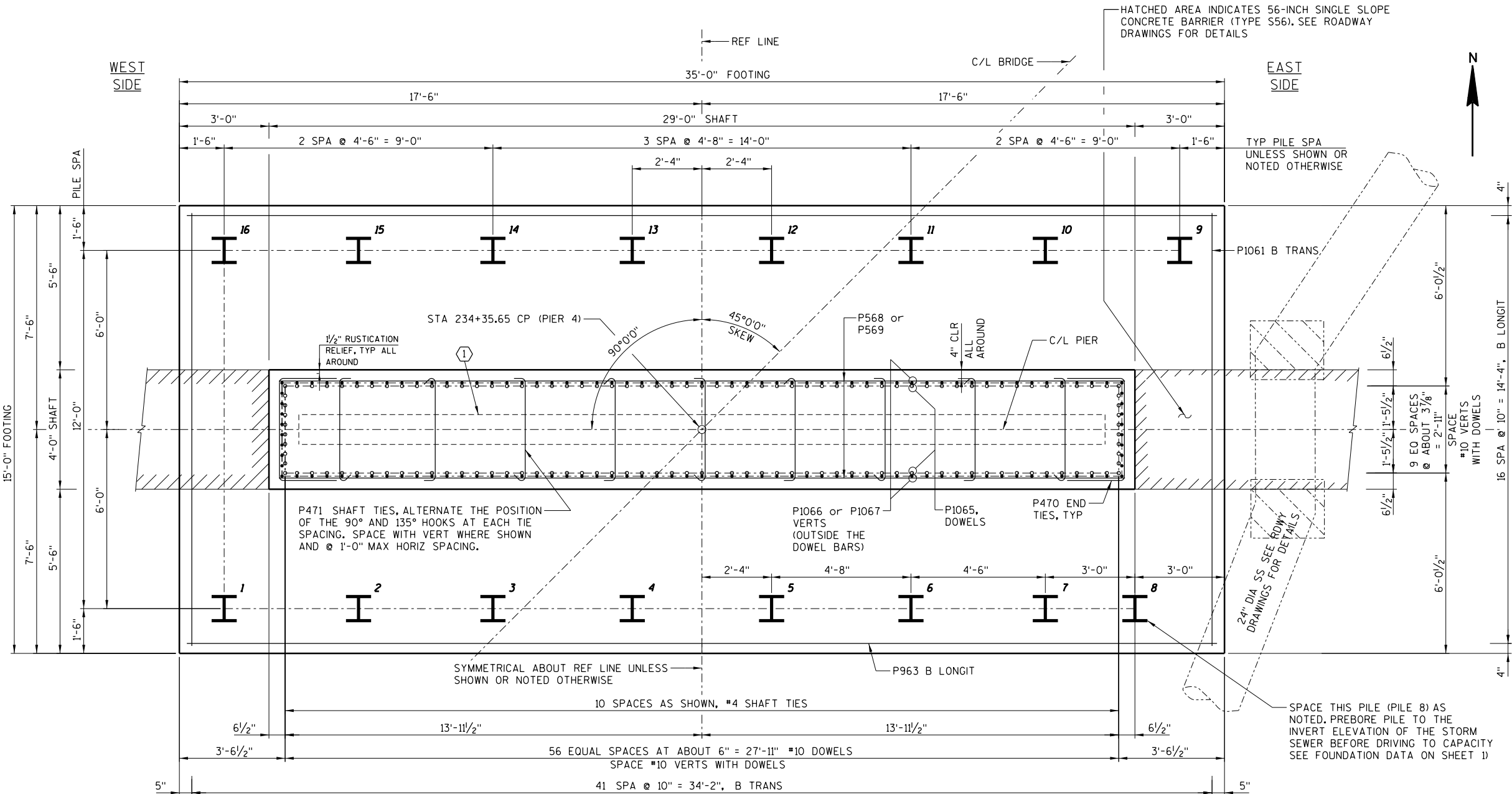
STATE PROJECT NUMBER

5992-09-07

NOTE: THE FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

BILL OF BARS						PIER 4
BAR MARK	COAT	NO. REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
P1061		42	14 - 6			FTG TRANS B
NOT USED			-			
P963		17	34 - 6			FTG LONGIT B
NOT USED			-			
P1065	X	130	16 - 5		X	FTG DOWEL
P1066	X	66	20 - 10			VERTS SHORT
P1067	X	64	21 - 1			VERTS LONG
P568	X	49	28 - 4			HORIZ
P569	X	5	14 - 0			HORIZ
P470	X	47	6 - 2		X	END TIE
P471	X	198	4 - 1		X	SHAFT TIE
P472	X	34	6 - 0		X	SHAFT TOP TIE



NOTE: USE STD HOOKS

SYM ABOUT C/L PIER UNLESS NOTED OTHERWISE

NOTES:

SEE SHEET 25 FOR PIER NOTES & SYMBOLS.
SEE SHEET 25 FOR SEAT NOTES (*).

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CKD. NCK
PIER 4 DETAILS			SHEET 29 OF 43 135

8

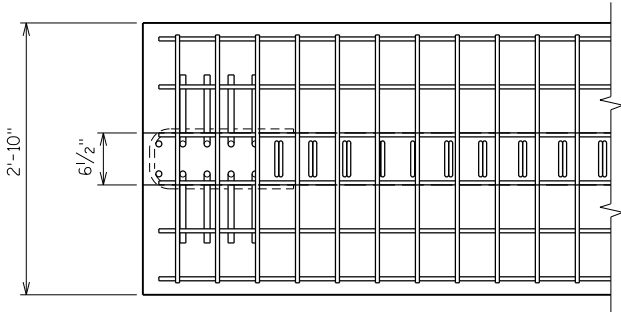
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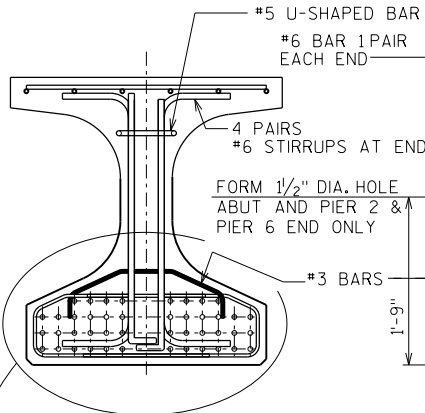
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18

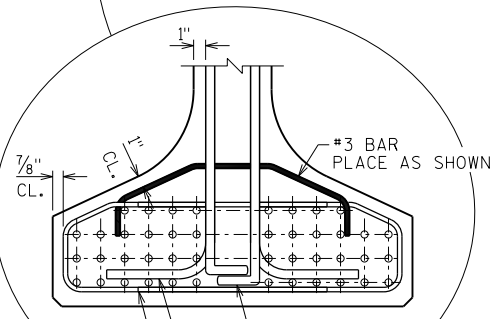
1 2 4 5 9



TOP FLANGE



SECTION A-A

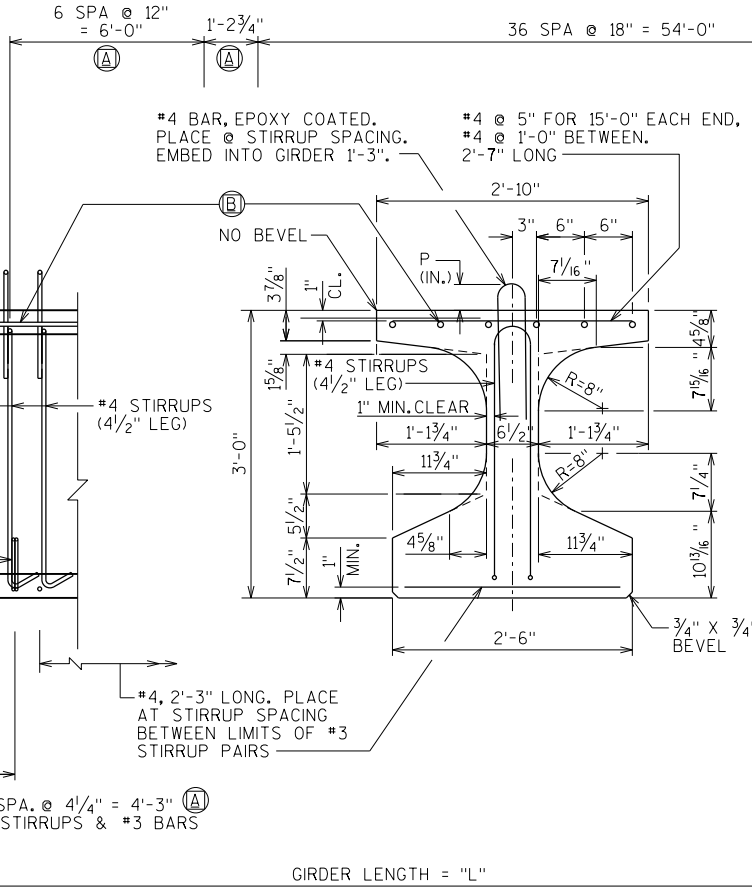
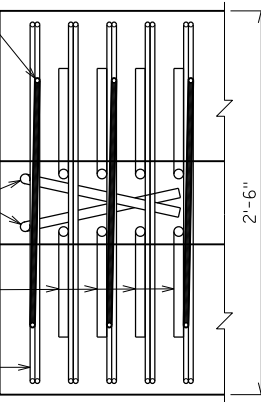


#6 BARS
1 PAIR EACH END

4 PAIRS #6 STIRRUPS

#3 BARS
23 PAIRS EACH END

BOTTOM FLANGE



SIDE VIEW & TYP. SECTION IN SPAN

- (A) DETAIL TYP. AT EACH END
- (B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 2'-1"

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA																								
SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (p.s.i.)	"P" 1ST OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN						UNDRAPED PATTERN	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10						TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.)				TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
																			"A"	"B" MIN.	"B" MAX.	"C"		
1,2,7,8	1 THRU 8	83'-4 1/2"	5/8"	1 1/4"	1 5/8"	2"	2"	2"	1 5/8"	1 1/4"	5/8"	6500	3"	3"	3"	0.6"	20	5500	32	11	14	4	—	—

STATE PROJECT NUMBER

5992-09-07

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

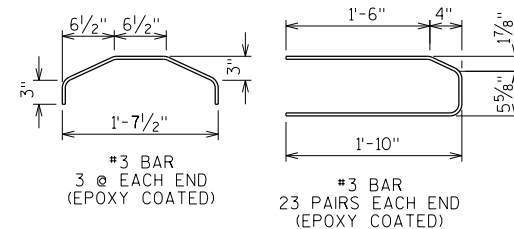
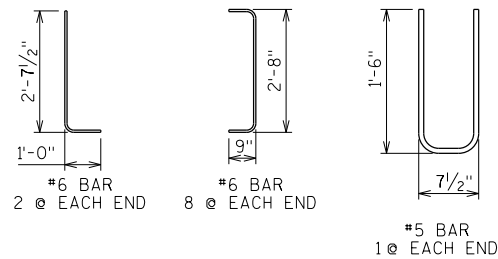
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608)266-5161.

PRESTRESSING STRANDS SHALL BE 0.6" DIA. - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

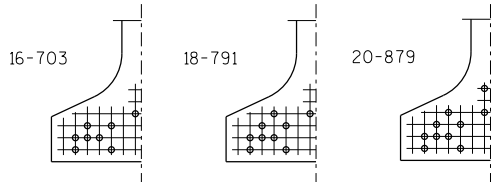


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CKD. NCK
36W" PRESTRESSED GIRDER DETAILS		SHEET 30 OF 43 136	

PLOT TIME: 11/6/2012 11:43:34 PM

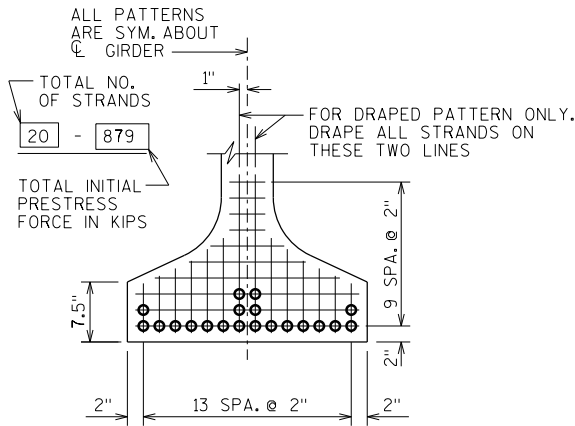
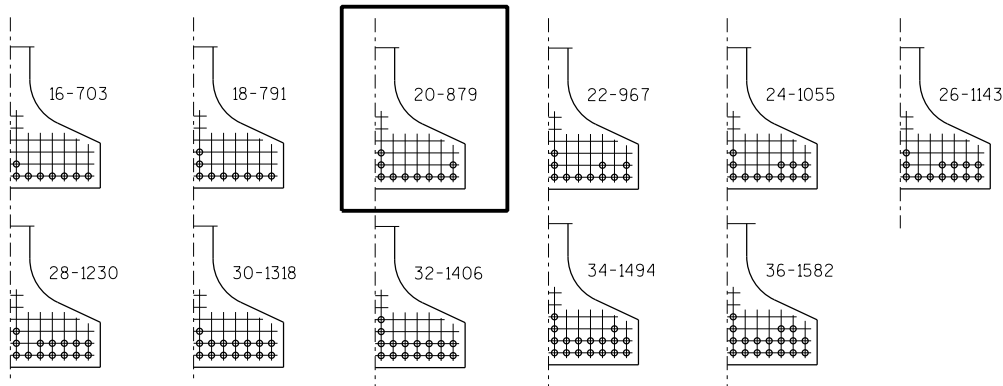
PLOT DATE: 11/6/2012

FILE NAME : S:\KOV\Modis\0847\5-dsgn\51-cadd\Structural\bridge\36w2.dgn



STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY
TO AVOID DRAPING OF STRANDS

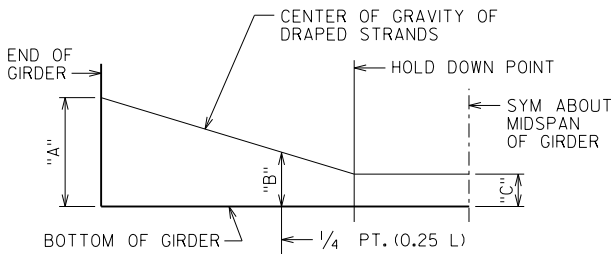
0.6"φ STRANDS



TYP. STRAND PATTERN

ARRANGEMENT AT CL SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"φ STRANDS



DRAPED STRAND PROFILE

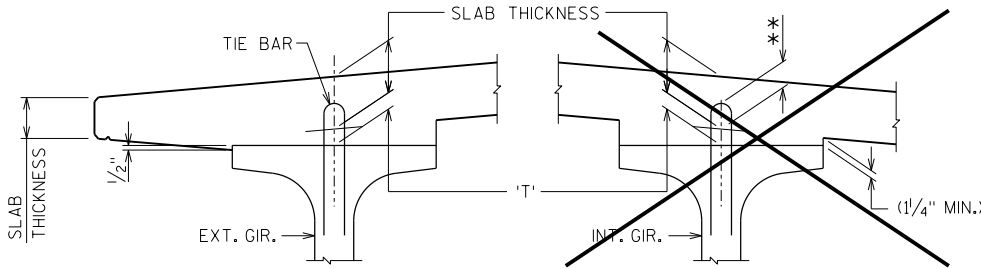
* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	2 3/8"
2	2 3/8"
7	2 3/8"
8	2 3/8"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'.
USE ACTUAL GIRDER SHOTS.
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

STATE PROJECT NUMBER

5992-09-07



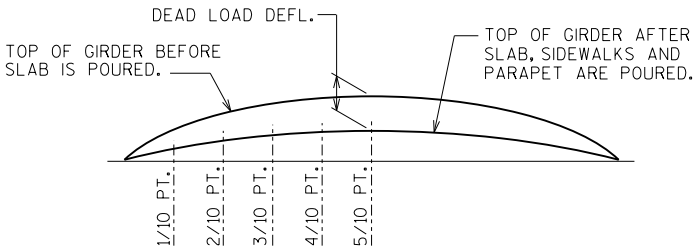
SLAB HAUNCH DETAIL

IF 1 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR, ** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT CL OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

- TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
- + DEAD LOAD DEFLECTION
- SLAB THICKNESS
- = HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2 1/2" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM

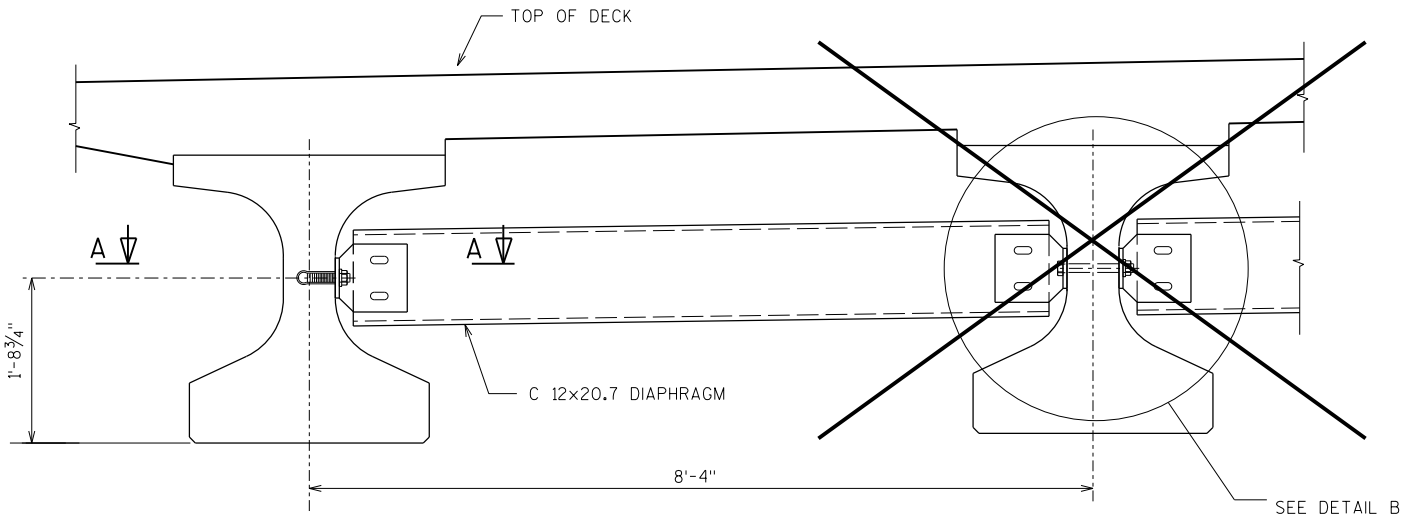
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
36W" PRESTRESSED GIRDER DETAILS		SHEET 31 OF 43	
		137	

PLOT TIME: 11/6/2012 11:43:35 PM

PLOT DATE: 11/6/2012

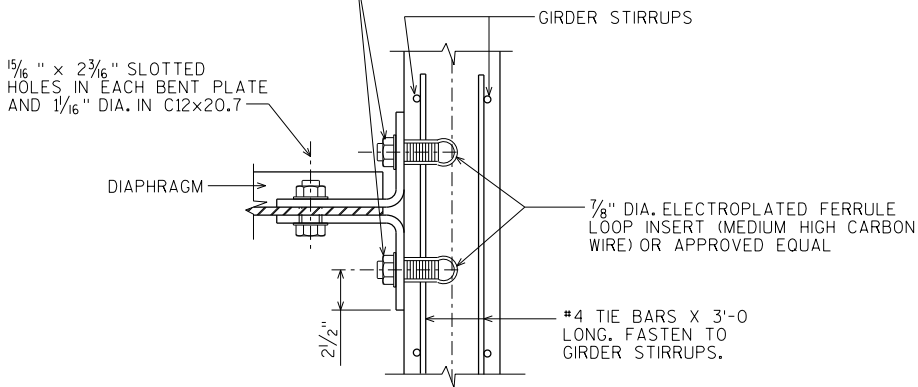
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8

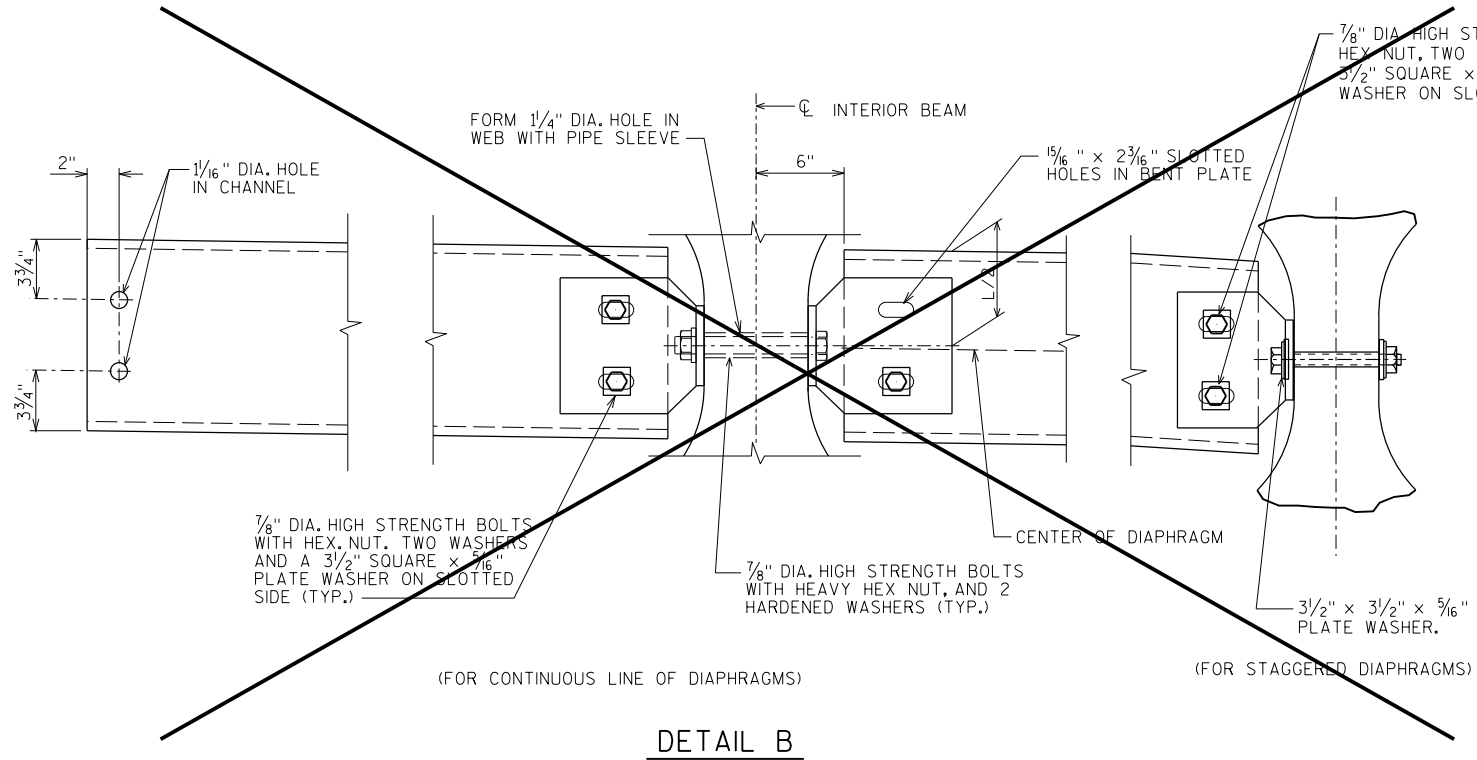
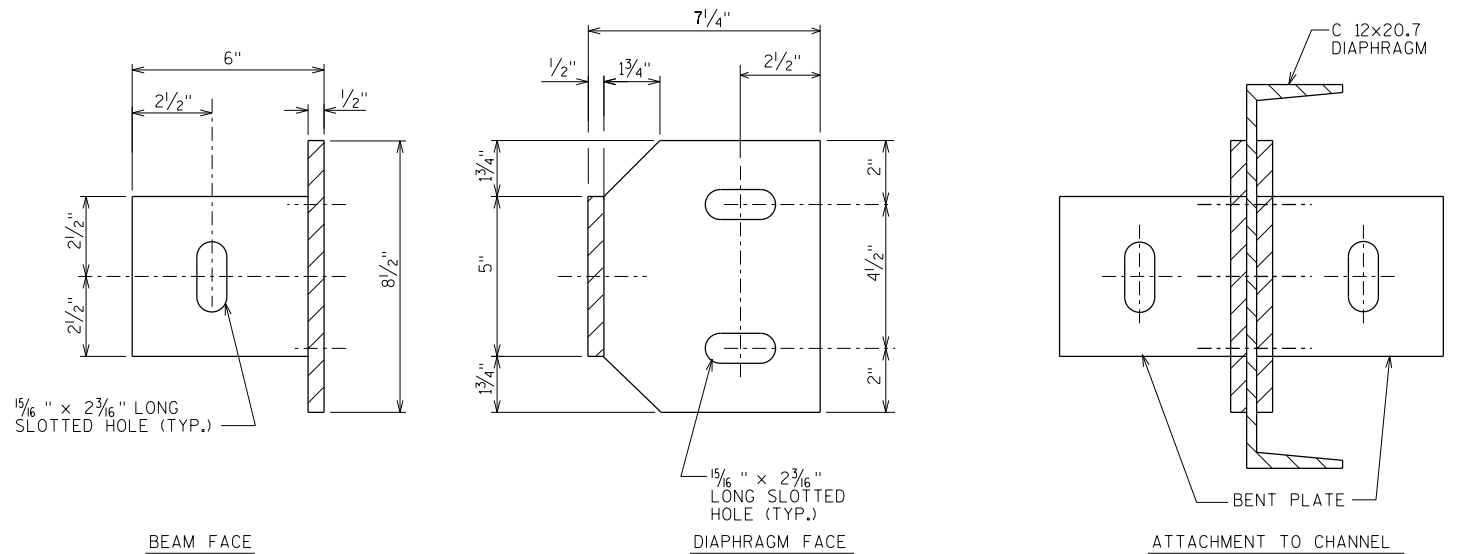


PART TRANSVERSE SECTION AT DIAPHRAGM

7/8" DIA x 2" LONG ELECTROPLATED CAP SCREW WITH LOCK-WASHER. TORQUE TO 80 FT. LBS. 3/2" x 3/2" x 5/16" PLATE WASHER.



SECTION A-A
(FOR EXTERIOR ATTACHMENT)



DETAIL B

STATE PROJECT NUMBER

5992-09-07

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-13-661", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT. ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CKD. NCK
STEEL DIAPHRAGM		SHEET 32 OF 43	
		138	

8

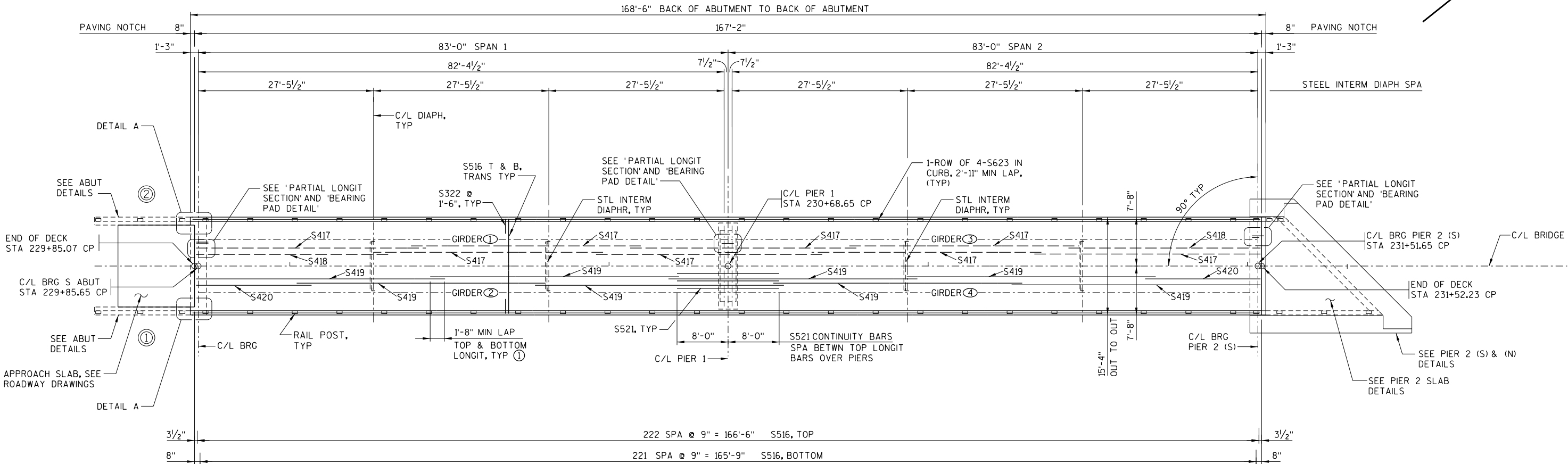
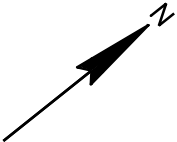
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STATE PROJECT NUMBER

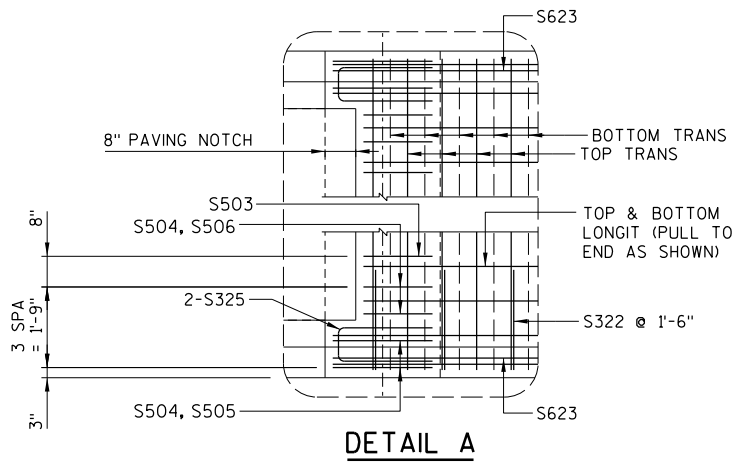
5992-09-07



DECK PLAN
SPAN 1 & SPAN 2

FINAL TOP OF DECK ELEVATIONS SPAN 1 & SPAN 2

	C/L BRG S ABUT	.1	.2	.3	.4	.5	.6	.7	.8	.9	PIER 1	.1	.2	.3	.4	.5	.6	.7	.8	.9	PIER 2 (S)
WEST EDGE T/CURB	907.02	907.44	907.85	908.27	908.68	909.10	909.51	909.93	910.34	910.76	911.17	911.59	912.00	912.42	912.83	913.25	913.66	914.08	914.49	914.91	915.32
WEST EDGE GUTTER	906.86	907.27	907.69	908.10	908.52	908.93	909.35	909.76	910.18	910.59	911.01	911.42	911.84	912.25	912.67	913.08	913.50	913.91	914.33	914.74	915.16
GIRDER LINE 1 & 3	906.91	907.33	907.74	908.16	908.57	908.99	909.40	909.82	910.23	910.65	911.06	911.48	911.89	912.31	912.72	913.14	913.55	913.97	914.38	914.80	915.21
C/L	907.00	907.41	907.83	908.24	908.66	909.07	909.49	909.90	910.32	910.73	911.15	911.56	911.98	912.39	912.81	913.22	913.64	914.05	914.47	914.88	915.30
GIRDER LINE 2 & 4	906.91	907.33	907.74	908.16	908.57	908.99	909.40	909.82	910.23	910.65	911.06	911.48	911.89	912.31	912.72	913.14	913.55	913.97	914.38	914.80	915.21
EAST EDGE GUTTER	906.86	907.27	907.69	908.10	908.52	908.93	909.35	909.76	910.18	910.59	911.01	911.42	911.84	912.25	912.67	913.08	913.50	913.91	914.33	914.74	915.16
EAST EDGE T/CURB	907.02	907.44	907.85	908.27	908.68	909.10	909.51	909.93	910.34	910.76	911.17	911.59	912.00	912.42	912.83	913.25	913.66	914.08	914.49	914.91	915.32



SUPERSTRUCTURE NOTES & SYMBOLS:

PLACEMENT OF THE DECK SLAB IN A SINGLE EVENT WITHOUT A CONSTRUCTION JOINT IS PREFERRED.

BOTTOM TRANSVERSE BAR STEEL SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE END OF THE BOTTOM TRANSVERSE BAR STEEL.

TOP LONGITUDINAL BAR STEEL SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.

FOR PRESTRESSED GIRDER DETAILS SEE SHEET 30, 31.

FOR STEEL INTERMEDIATE DIAPHRAGM DETAILS SEE SHEET 32.

———— INDICATES TOP BAR STEEL REINFORCEMENT

----- INDICATES BOT BAR STEEL REINFORCEMENT

① ALTERNATE ROWS SO LAPS ARE STAGGERED TOP AND BOTTOM.

⊙ INDICATES WING

①, ②, ③, ④, ⑤, ⑥, ⑦, ⑧ = ⑥ GIRDER LINE

FF = FRONT FACE

BF = BACK FACE

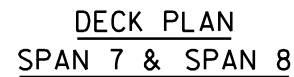
EF = EACH FACE

UN = UNLESS SHOWN OR NOTED OTHERWISE

☑ COAT WITH "PROTECTIVE SURFACE TREATMENT" PER THE STANDARD SPECIFICATIONS.

① CONCRETE STAINING ON FASCIA EDGE OF DECK, UNDERSIDE OF DECK TO THE FASCIA EDGE OF THE BEAM. THE BEAM FASCIA EDGE AND UNDERSIDE SHALL BE STAINED.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
SUPERSTRUCTURE DETAILS			SHEET 33 OF 43 139



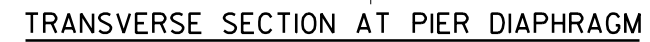
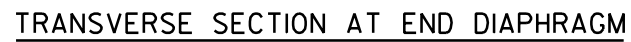
FINAL TOP OF DECK ELEVATIONS SPAN 7 & SPAN 8



SEE SHEET 33 FOR SUPERSTRUCTURE NOTES & SYMBOLS:

SHEET 34 OF 43

140



SEE SHEET 33 FOR SUPERSTRUCTURE
NOTES & SYMBOLS:

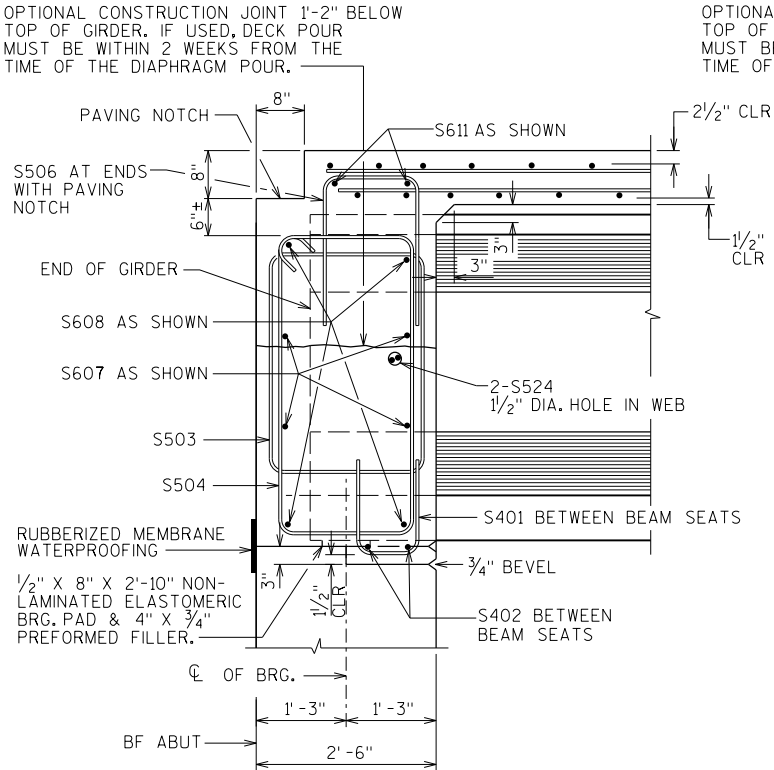
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
SUPERSTRUCTURE DETAILS		SHEET 35 OF 43	
		141	

PLOT TIME: 11:43:39 PM

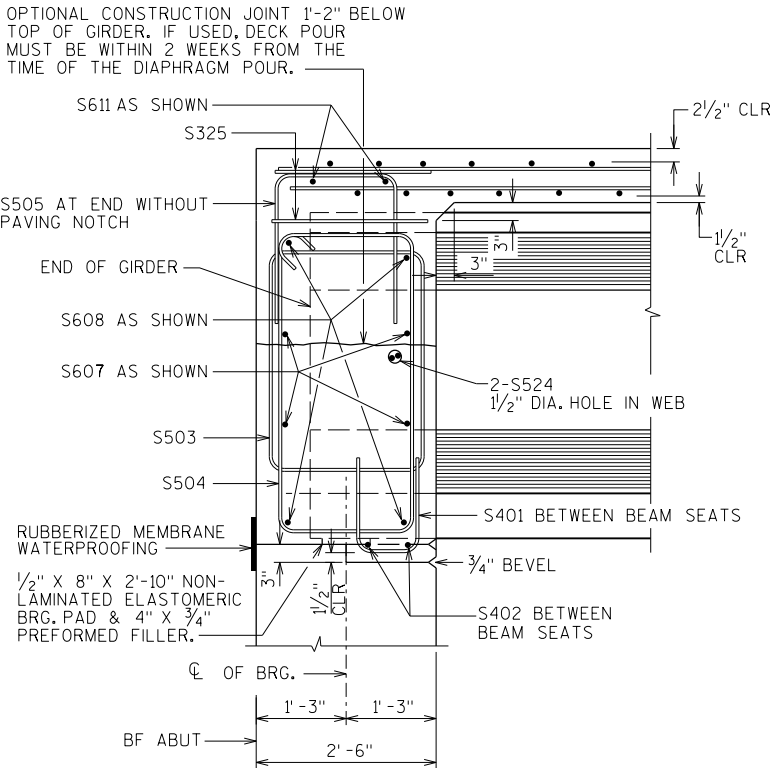
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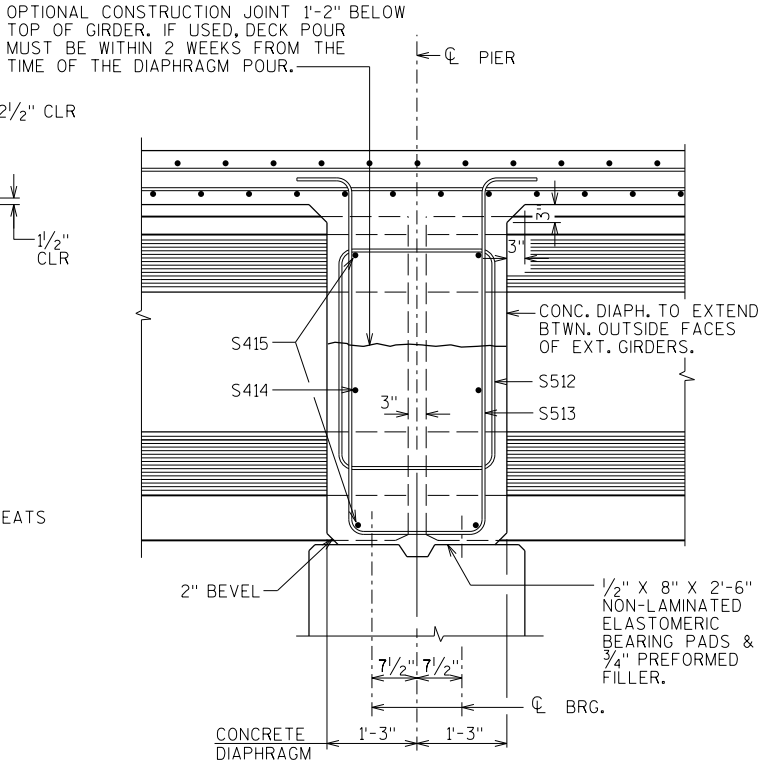
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AT S ABUTMENT & N ABUTMENT
SHOWN AT PAVING NOTCH
(SEMI-EXP SEAT)

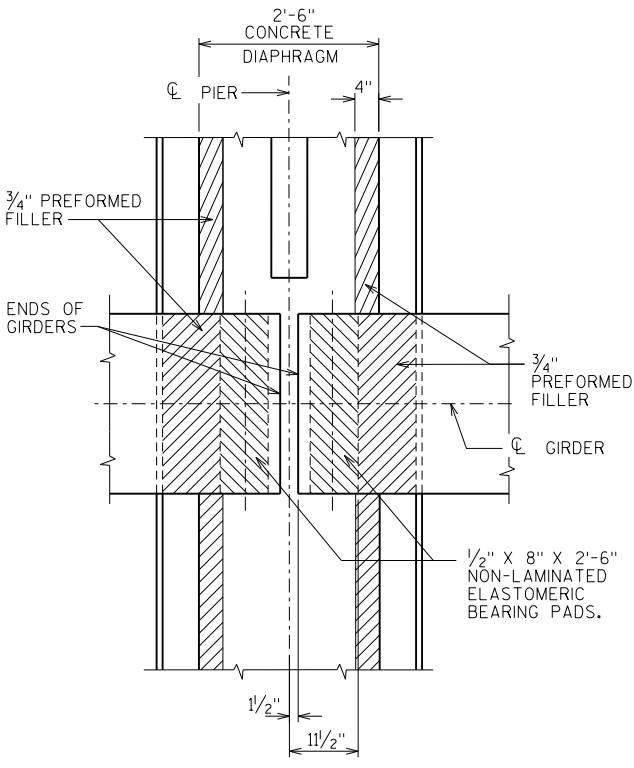


AT S ABUTMENT & N ABUTMENT
SHOWN NEAR GUTTER
(SEMI-EXP SEAT)



AT PIER 1 & PIER 7
(FIXED SEAT)

PARTIAL LONGITUDINAL SECTION

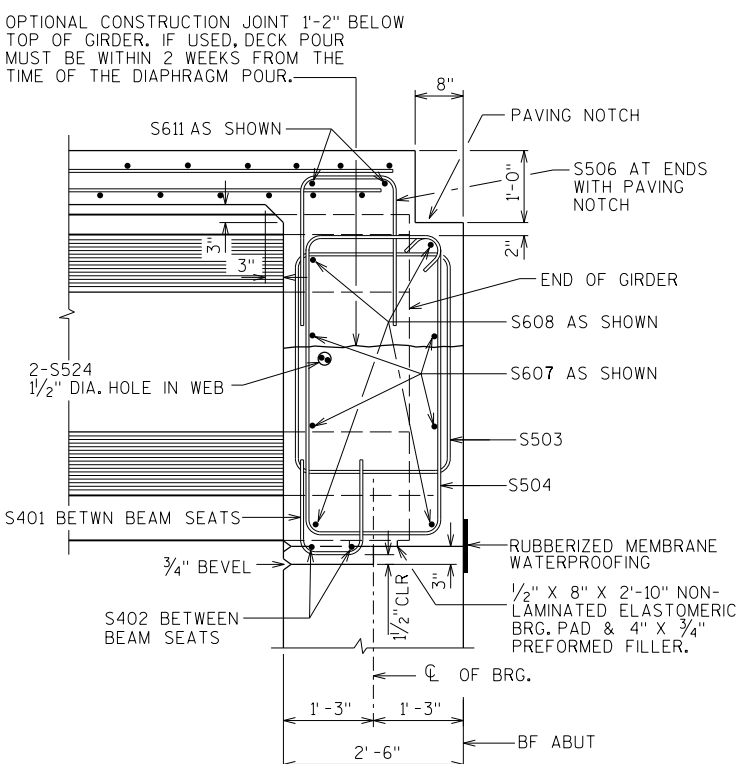


AT PIER 1 & PIER 7

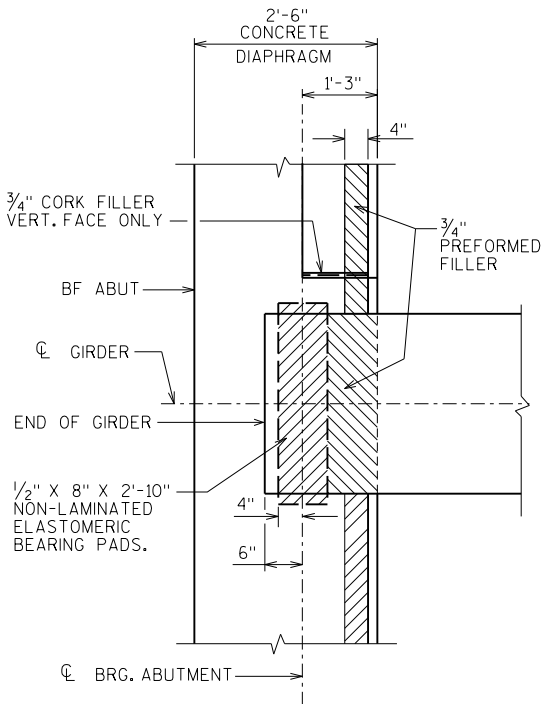
BEARING PAD DETAIL

NOTES:

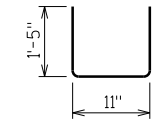
SEE SHEET 33 FOR SUPERSTRUCTURE NOTES & SYMBOLS:
PLACEMENT OF THE DECK SLAB IN A SINGLE EVENT WITHOUT A CONSTRUCTION JOINT IS PREFERRED.



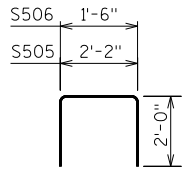
AT PIER 2 & PIER 6
(SEMI-EXP SEAT)



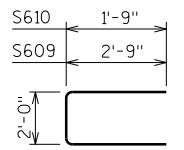
AT S ABUTMENT & N ABUTMENT
AND
PIER 2 & PIER 6



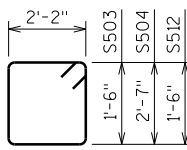
S401



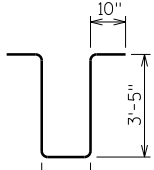
S505, S506



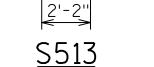
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S610



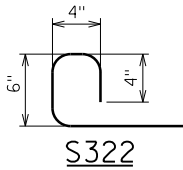
S503, S504,
S512



S322



S513



S325

STATE PROJECT NUMBER

5992-09-07

NOTE: THE FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

BILL OF BARS SPAN 1 & 2 SUPER

BAR MARK	COAT	NO. * REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
S401	X	12	3 - 7		X	END DIAPH SEAT KEY
S402	X	4	4 - 6			END DIAPH SEAT KEY
S503	X	8	7 - 11		X	END DIAPH STIRRUP
S504	X	32	10 - 1		X	END DIAPH STIRRUP
S505	X	4	5 - 11		X	END DIAPH TIE
S506	X	28	5 - 3		X	END DIAPH TIE
S607	X	8	7 - 3			END DIAPH HORIZ EF
S608	X	8	5 - 2			END DIAPH HORIZ EF
S609	X	8	7 - 2		X	END DIAPH AT END
S610	X	8	5 - 2		X	END DIAPH AT END
S611	X	4	15 - 0			END DIAPH HORIZ
S512	X	2	7 - 11		X	PIER DIAPH STIRRUP
S513	X	6	10 - 2		X	PIER DIAPH STIRRUP
S414	X	2	7 - 3			PIER HORIZ EF
S415	X	4	5 - 2			PIER HORIZ EF
S516	X	445	15 - 0			DECK TRANS T & B
S417	X	84	36 - 0			DECK LONGIT B
S418	X	21	30 - 2			DECK LONGIT B
S419	X	84	39 - 0			DECK LONGIT T
S420	X	21	18 - 2			DECK LONGIT T
S521	X	20	16 - 0			DECK CONTINUITY T
S322	X	226	3 - 2		X	DECK AT CURB
S623	X	8	44 - 1			DECK AT CURB
S524	X	8	6 - 0			END DIAPH THRU GIR
S325	X	4	5 - 3		X	AT CORNERS OF DECK

BILL OF BARS SPAN 7 & 8 SUPER

BAR MARK	COAT	NO. * REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
S401	X	12	3 - 7		X	END DIAPH SEAT KEY
S402	X	4	4 - 6			END DIAPH SEAT KEY
S503	X	8	7 - 11		X	END DIAPH STIRRUP
S504	X	32	10 - 1		X	END DIAPH STIRRUP
S505	X	4	5 - 11		X	END DIAPH TIE
S506	X	28	5 - 3		X	END DIAPH TIE
S607	X	8	7 - 3			END DIAPH HORIZ EF
S608	X	8	5 - 2			END DIAPH HORIZ EF
S609	X	8	7 - 2		X	END DIAPH AT END
S610	X	8	5 - 2		X	END DIAPH AT END
S611	X	4	15 - 0			END DIAPH HORIZ
S512	X	2	7 - 11		X	PIER DIAPH STIRRUP
S513	X	6	10 - 2		X	PIER DIAPH STIRRUP
S414	X	2	7 - 3			PIER HORIZ EF
S415	X	4	5 - 2			PIER HORIZ EF
S516	X	445	15 - 0			DECK TRANS T & B
S417	X	84	36 - 0			DECK LONGIT B
S418	X	21	30 - 2			DECK LONGIT B
S419	X	84	39 - 0			DECK LONGIT T
S420	X	21	18 - 2			DECK LONGIT T
S521	X	20	16 - 0			DECK CONTINUITY T
S322	X	226	3 - 2		X	DECK AT CURB
S623	X	8	44 - 1			DECK AT CURB
S524	X	8	6 - 0			END DIAPH THRU GIR
S325	X	4	5 - 3		X	AT CORNERS OF DECK

* NO. REQ'D. IS FOR TWO SPANS. SPAN 1 & 2 SUPER AND SPAN 7 & 8 SUPER BILL OF BARS ARE INDENTICAL.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CKD. NCK
SUPERSTRUCTURE DETAILS			SHEET 36 OF 43 142

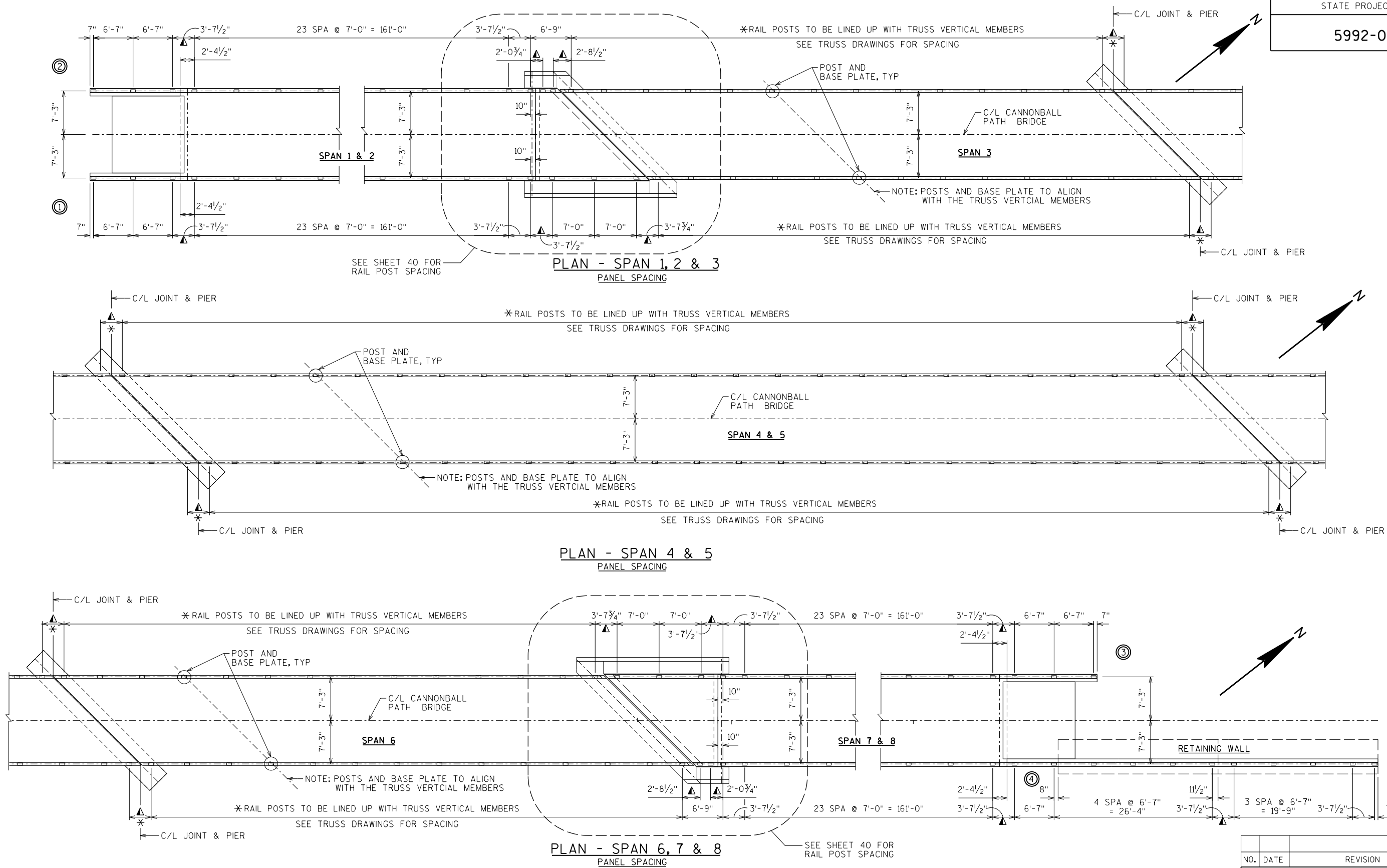
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PLOT DATE: 11/6/2012

FILE NAME : S:\KOV\Modis\0847\5-dsgn\51-cadd\Structural\bridge\3661r1.dgn

8

8



RAILING NOTES & SYMBOLS:

RAILING MEASURED ALONG C/L POSTS.

* EXACT LENGTH AND NUMBER OF PANELS ON THE TRUSS SPANS SHALL BE DETERMINED BY THE CONTRACTOR AND TRUSS MANUFACTURER. MAXIMUM PICKET SPACING SHALL BE 6" OC. RAILING VERTICALS ARE LINED UP AND CENTERED ON THE TRUSS VERTICAL MEMBERS WITH EVERY OTHER POST LOCATED MIDWAY BETWEEN TRUSS VERTICAL MEMBERS. WHEN TRUSS VERTICAL MEMBERS EXCEED THE 8'-3" MAX RAIL POST SPACING, USE ADDITIONAL INTERMEDIATE RAIL POSTS.

- ▲ = OVERHANG PANEL
- = 6" MAX PICKET SPACING. PICKETS ARE TO ALIGN WITH THE CENTER OF THE PIPE CIRCLE ABOVE.
- INDICATES WING

STATE PROJECT NUMBER
5992-09-07

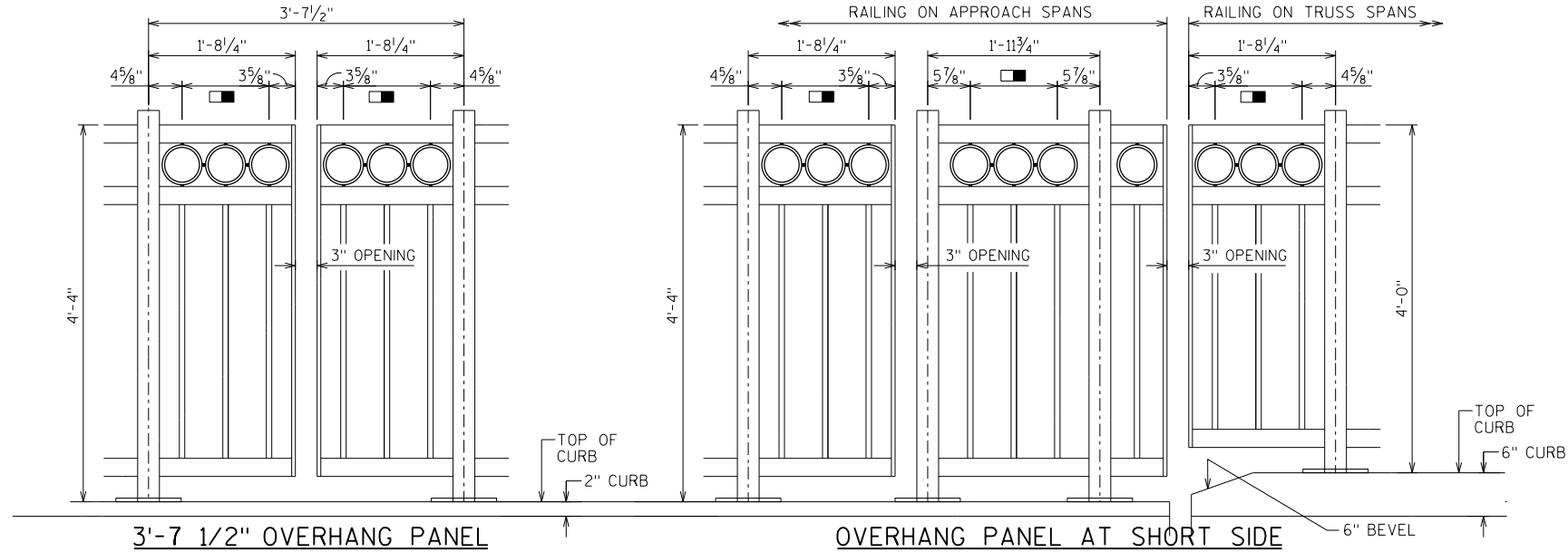
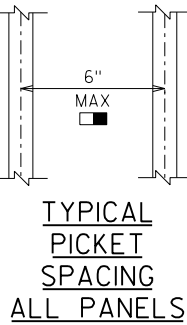
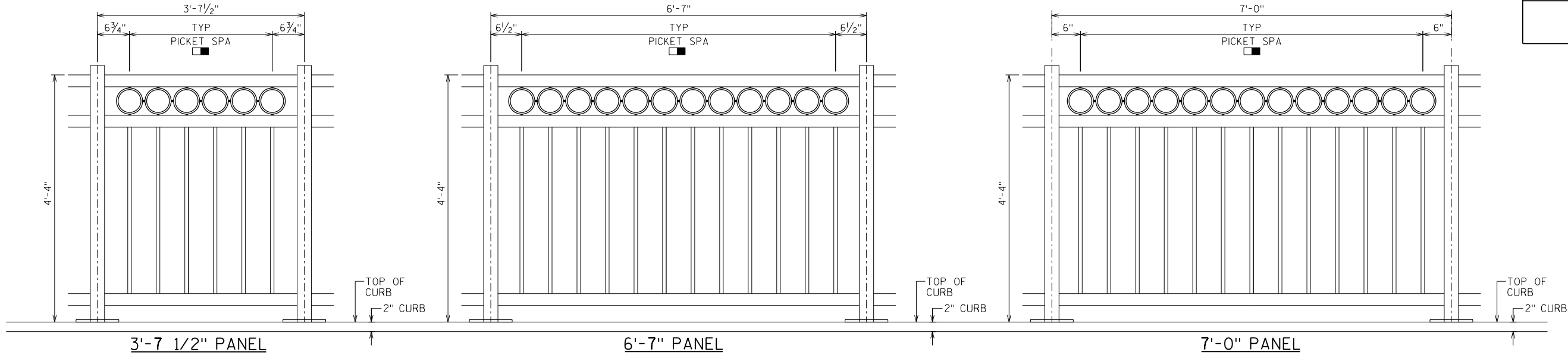
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CK'D. NCK
RAILING TUBULAR/STEEL DETAILS			SHEET 37 OF 43
			143

PLOT TIME: 11/6/2012 11:42 AM

PLOT DATE: 11/6/2012

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RAILING NOTES & SYMBOLS:

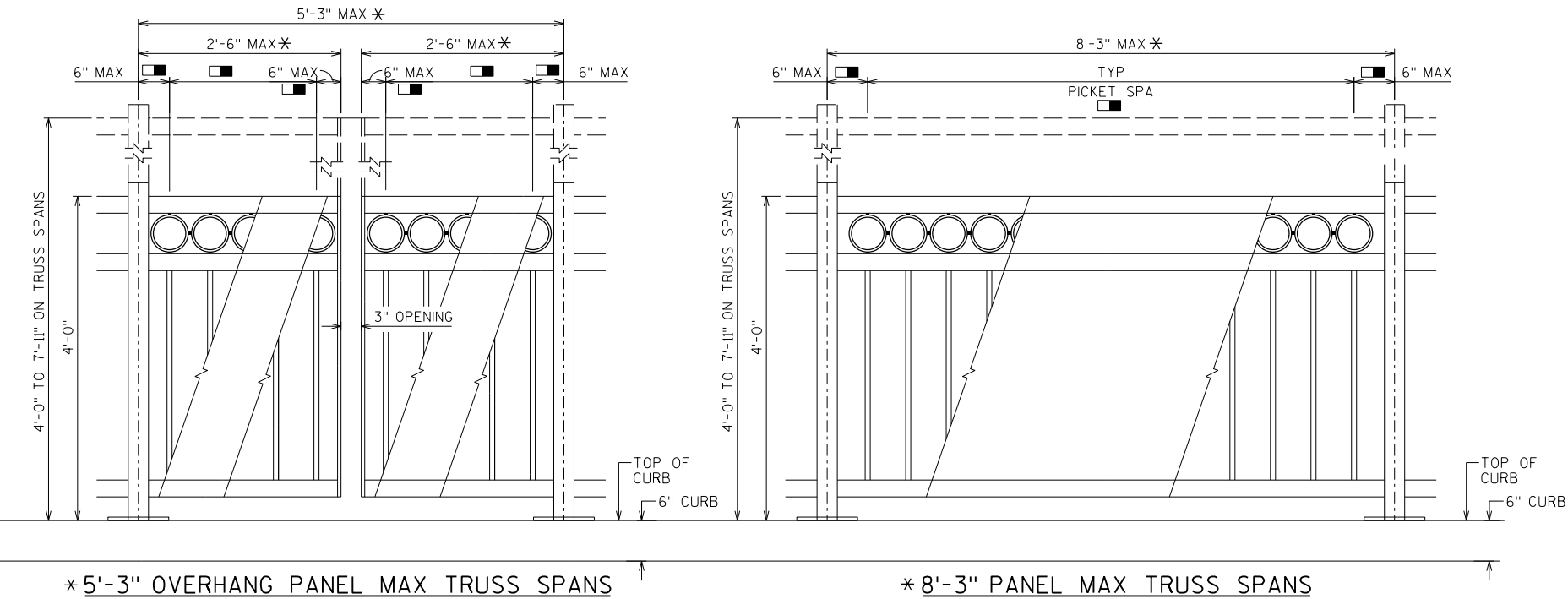
RAILING MEASURED ALONG C/L POSTS.

* EXACT LENGTH AND NUMBER OF PANELS ON THE TRUSS SPANS SHALL BE DETERMINED BY THE CONTRACTOR AND TRUSS MANUFACTURER. MAXIMUM PICKET SPACING SHALL BE 6" OC. RAILING VERTICALS ARE LINED UP AND CENTERED ON THE TRUSS VERTICAL MEMBERS WITH EVERY OTHER POST LOCATED MIDWAY BETWEEN TRUSS VERTICAL MEMBERS. WHEN TRUSS VERTICAL MEMBERS EXCEED THE 8'-3" MAX RAIL POST SPACING, USE ADDITIONAL INTERMEDIATE RAIL POSTS.

▲ = OVERHANG PANEL

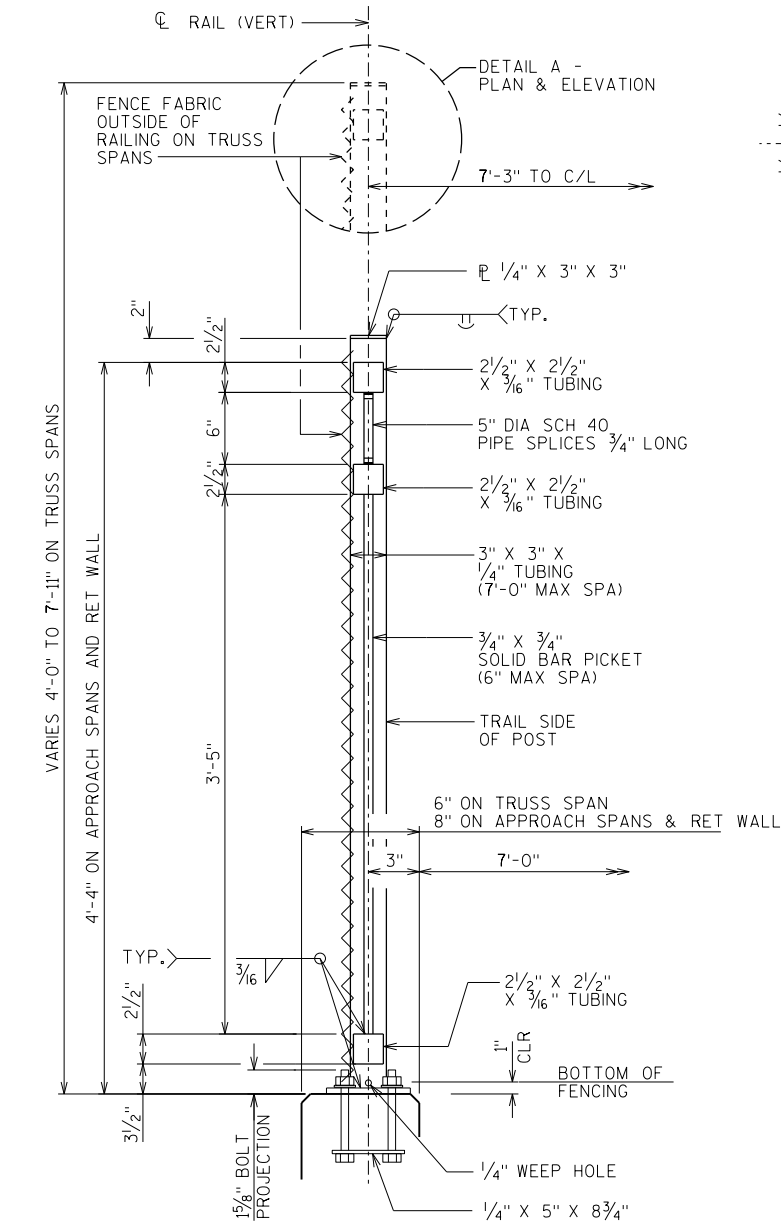
■ = 6" MAX PICKET SPACING. PICKETS ARE TO ALIGN WITH THE CENTER OF THE PIPE CIRCLE ABOVE.

○ INDICATES WING

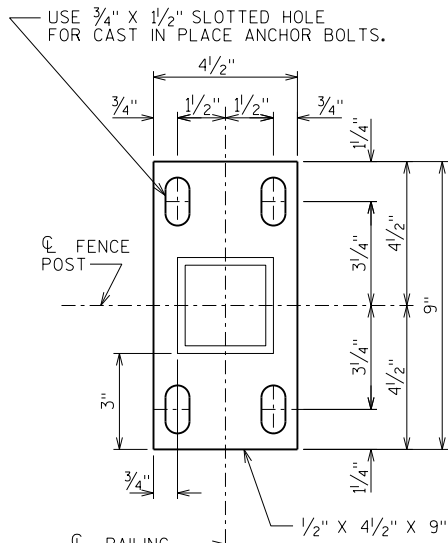


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
		DRAWN BY DLF	PLANS CK'D. NCK
RAILING TUBULAR/STEEL DETAILS		SHEET 38 OF 43 144	

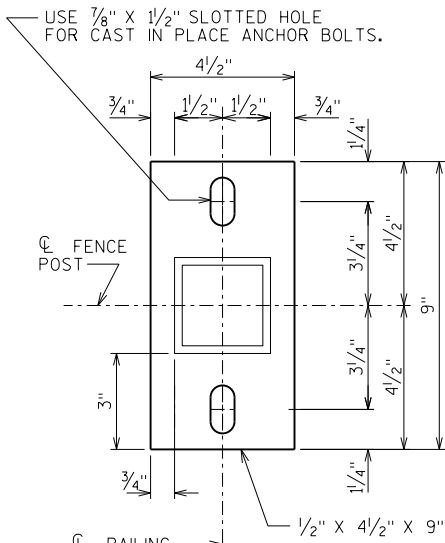
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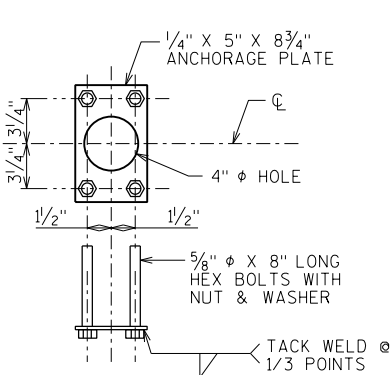
TYP SECTION THRU RAILING



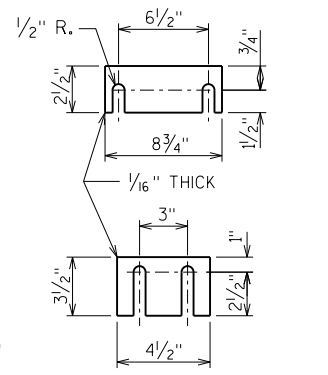
BASE PLATE ON APPROACH SPANS



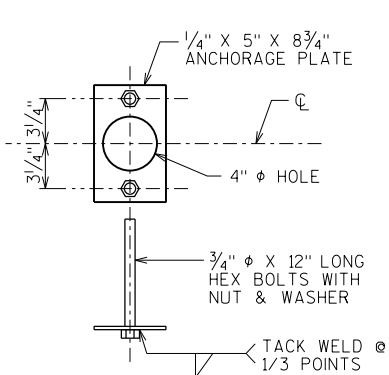
BASE PLATE ON TRUSS SPANS



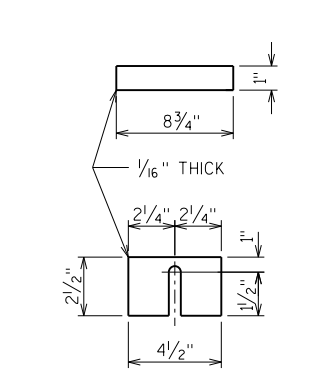
ANCHORAGE DETAIL ON APPROACH SPANS



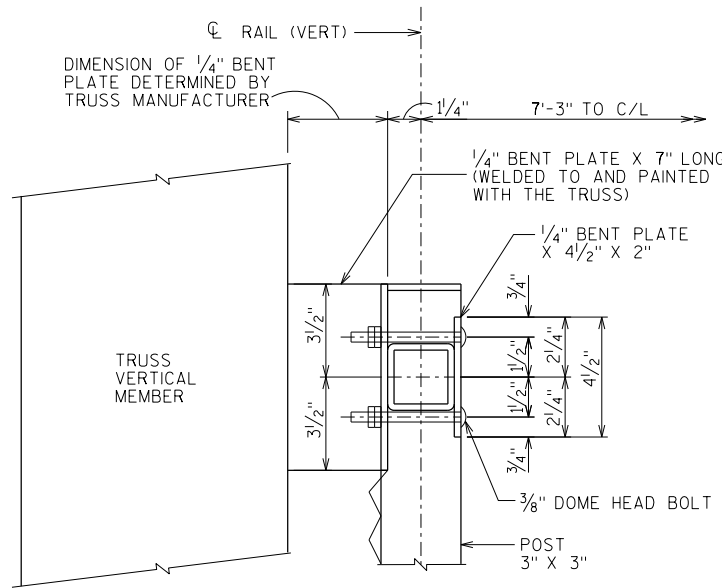
SHIM PLATE DETAILS ON APPROACH SPANS



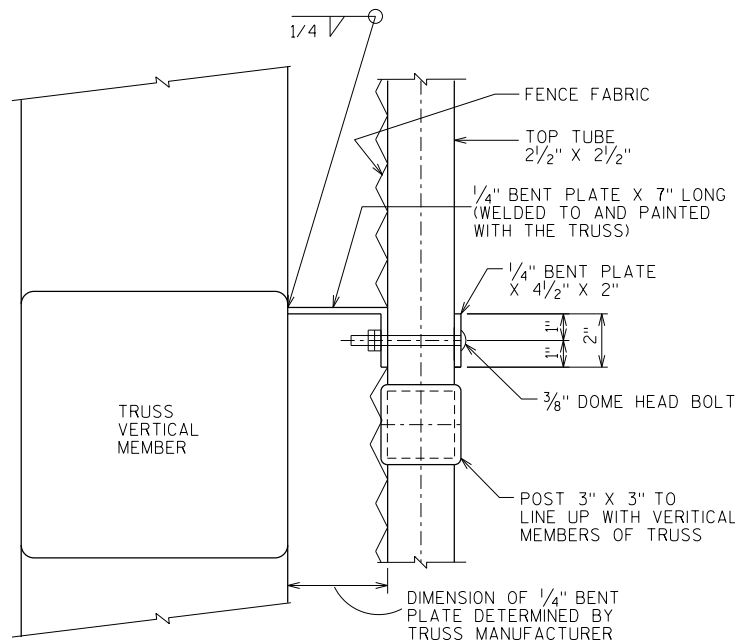
ANCHORAGE DETAIL ON TRUSS SPANS



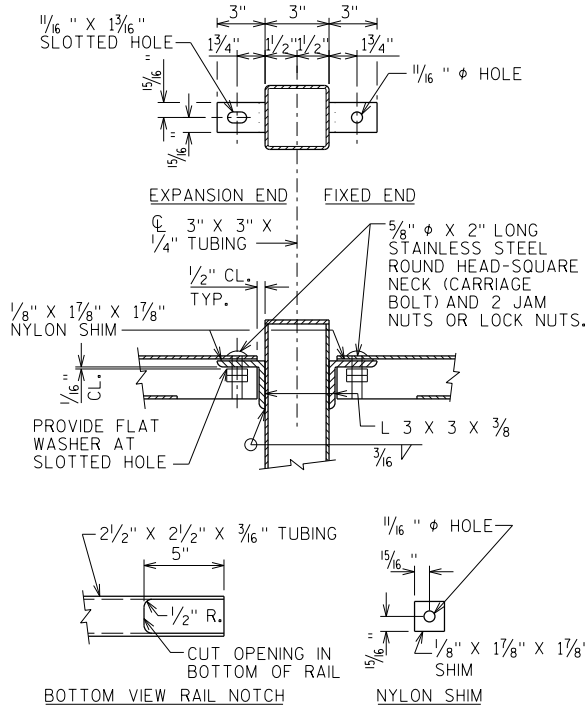
SHIM PLATE DETAILS ON TRUSS SPANS



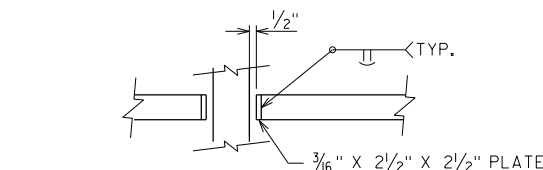
DETAIL A - ELEVATION



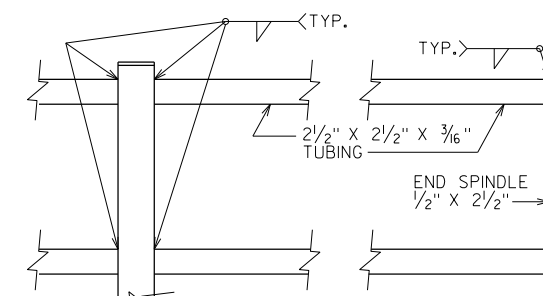
DETAIL A - PLAN



TYP RAIL CONNECTION DETAIL AT TOP AND BOTTOM RAILS



TYP AT MID-RAIL DETAIL



TYP AT OVERHANG DETAIL AT TOP AND BOTTOM RAILS

NOTES

BID ITEM SHALL BE "RAILING TUBULAR SCREENING, B-13-661 (MODIFIED)" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

RAILS AND POSTS TO BE ASTM A500, GRADE B. BASE PLATES AND SHIMS TO BE ASTM A709, GRADE 50. ALL GALVANIZED AFTER FABRICATION.

PICKET SPACING TO BE ADJUSTED TO KEEP PICKET CENTERED UNDER CIRCLE.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET POSTS VERTICAL.

ALL POST SPA. ARE TAKEN HORIZ. ALONG CENTER LINE OF RAILING AT BASE OF POST.

SHIMS SHALL BE USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

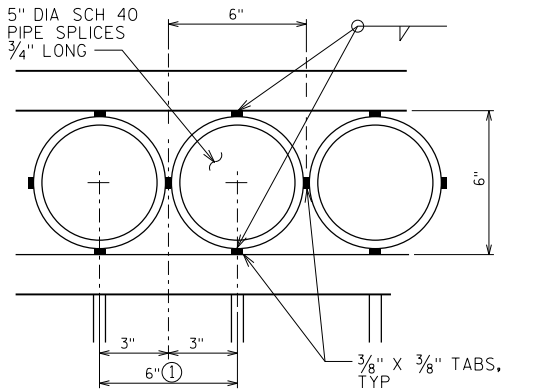
FENCE FABRIC AND TIES TO BE GALVANIZED.

THE END OF THE FENCE FABRIC SHALL BE ATTACHED TO THE POST BY MEANS OF A TENSION BAR THREADED THROUGH THE END LOOPS OF THE FABRIC AND SECURED TO THE POST WITH CLAMPS & BOLT. THE FABRIC SHALL BE STRETCHED TO REMOVE ALL SLACK.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING.

RAILING IS TO BE GALVANIZED AND PAINTED.

ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A #6 BLAST CLEANING BY SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH TIE COAT AND TOPCOAT (SEE SPECIFICATIONS). COLOR SHALL BE FEDERAL STANDARD 595B, COLOR 27038 (BLACK)



TYP PIPE SPLICE DETAIL

① PICKETS TO BE CENTERED WITH PIPE CIRCLES

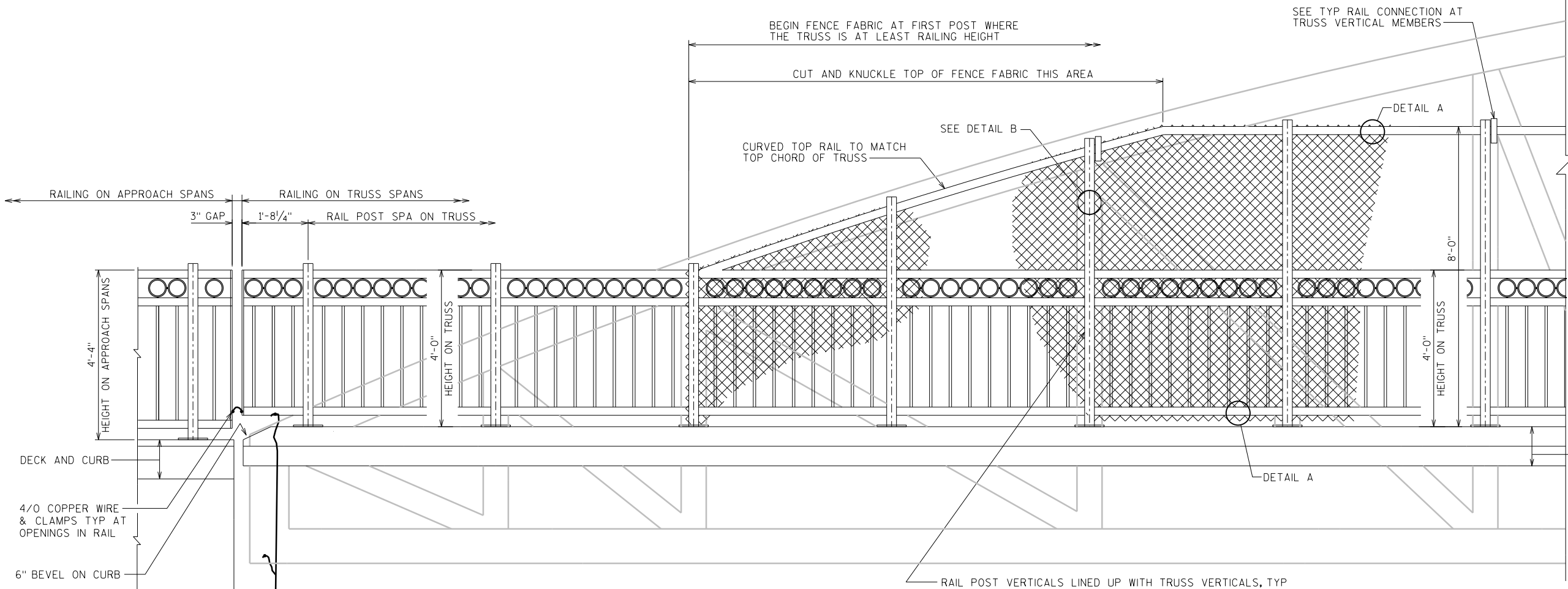
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY DLF		PLANS CKD. NCK	
RAILING TUBULAR/STEEL DETAILS			SHEET 39 OF 43
			145

PLOT TIME: 11/6/2012 11:44 PM

PLOT DATE: 11/6/2012

FILE NAME : S:\KOV\Modis\084715-dsgn\51-cadd\Structural\bridge\366r4.dgn

8



RAILING INSIDE ELEVATION
SHOWN AT PIER 2 AND PIER 6

RAILING NOTES & SYMBOLS:

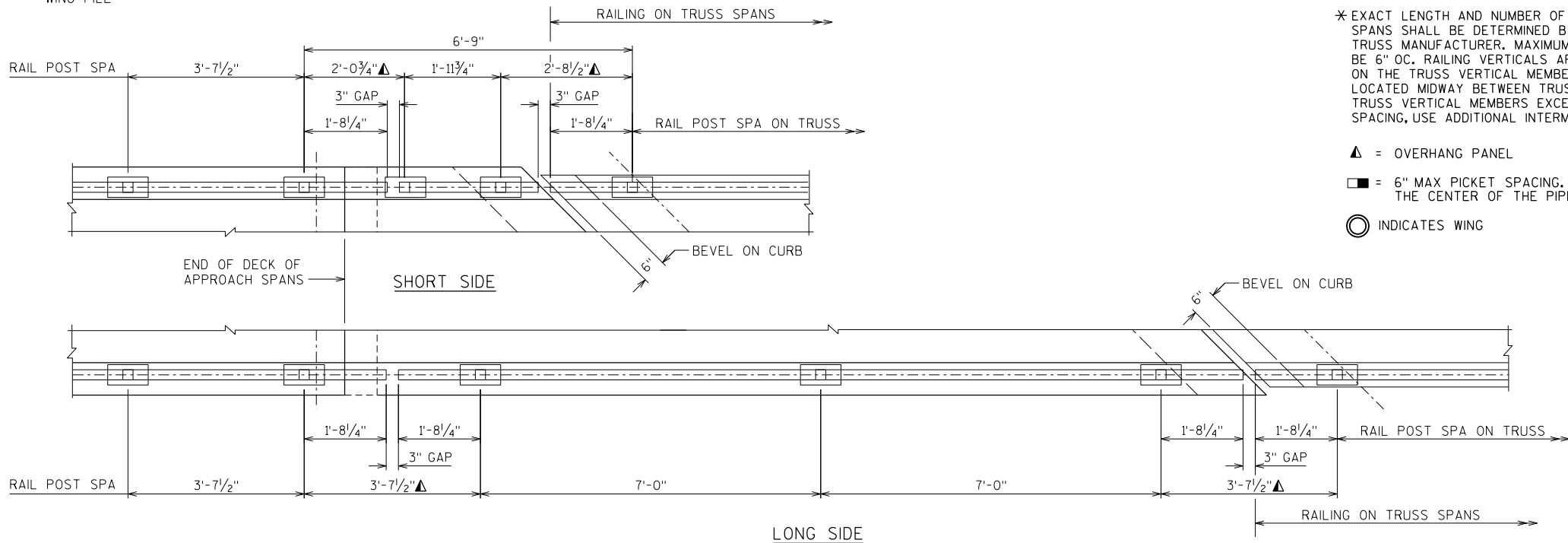
RAILING MEASURED ALONG C/L POSTS.

* EXACT LENGTH AND NUMBER OF PANELS ON THE TRUSS SPANS SHALL BE DETERMINED BY THE CONTRACTOR AND TRUSS MANUFACTURER. MAXIMUM PICKET SPACING SHALL BE 6" OC. RAILING VERTICALS ARE LINED UP AND CENTERED ON THE TRUSS VERTICAL MEMBERS WITH EVERY OTHER POST LOCATED MIDWAY BETWEEN TRUSS VERTICAL MEMBERS. WHEN TRUSS VERTICAL MEMBERS EXCEED THE 8'-3" MAX RAIL POST SPACING, USE ADDITIONAL INTERMEDIATE RAIL POSTS.

▲ = OVERHANG PANEL

■ = 6" MAX PICKET SPACING. PICKETS ARE TO ALIGN WITH THE CENTER OF THE PIPE CIRCLE ABOVE.

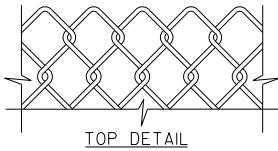
○ INDICATES WING



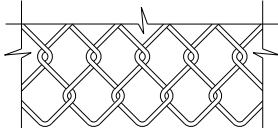
RAIL POST LAYOUT AT PIER 2 & PIER 6

STATE PROJECT NUMBER

5992-09-07



TOP DETAIL

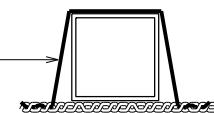


BOTTOM DETAIL

DETAIL A

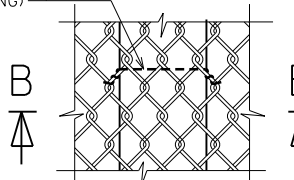
FENCE FABRIC

8'-0" GALVANIZED FENCE FABRIC WOVEN OF 9-GAUGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SALVAGES KNUCKLED.



SECTION B-B

FABRIC TIE @ 1'-0" MAX SPA (TYP RAIL POSTS & HORIZ TUBING)

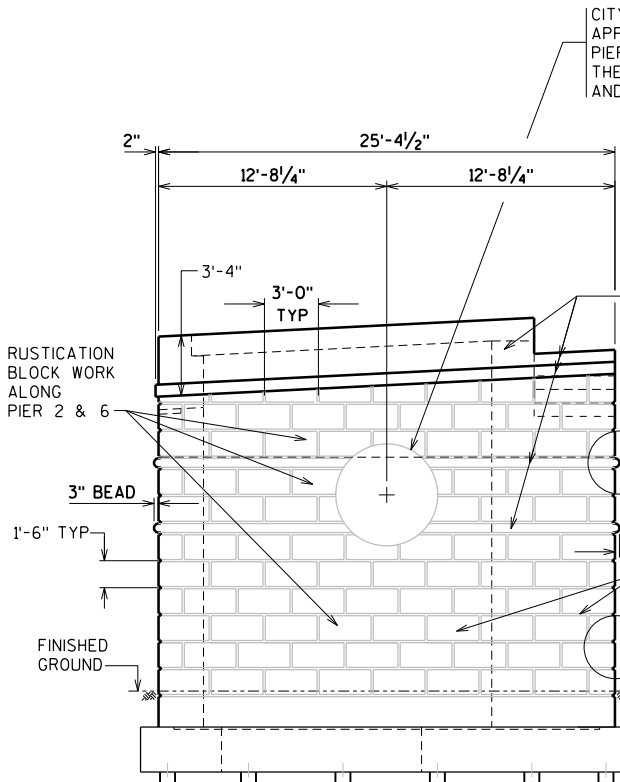


DETAIL B

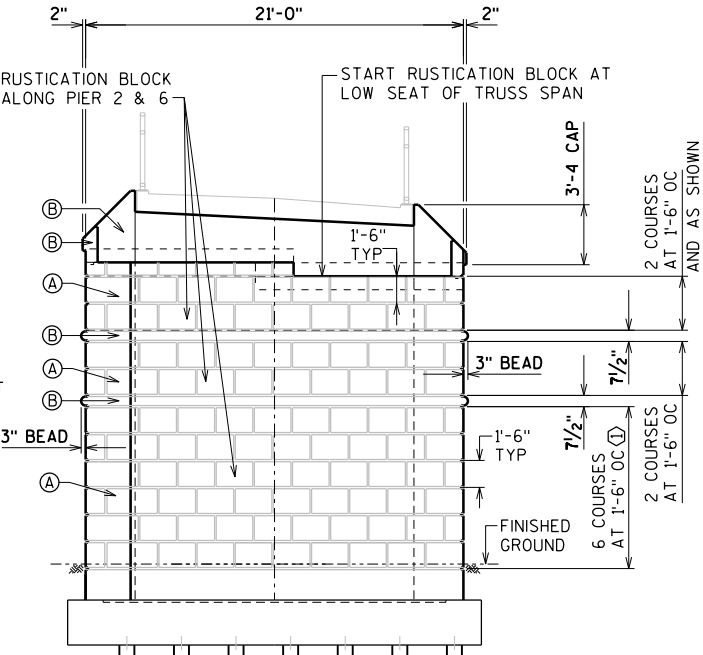
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY		DLF	PLANS CKD. NCK
RAILING TUBULAR/STEEL DETAILS		SHEET 40 OF 43	
		146	

8

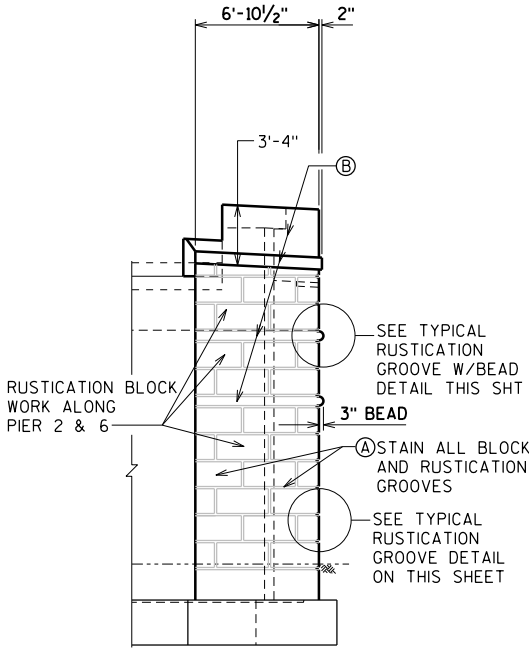
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PLOT DATE: 11/6/2012
PLOT TIME: 11:45 PM



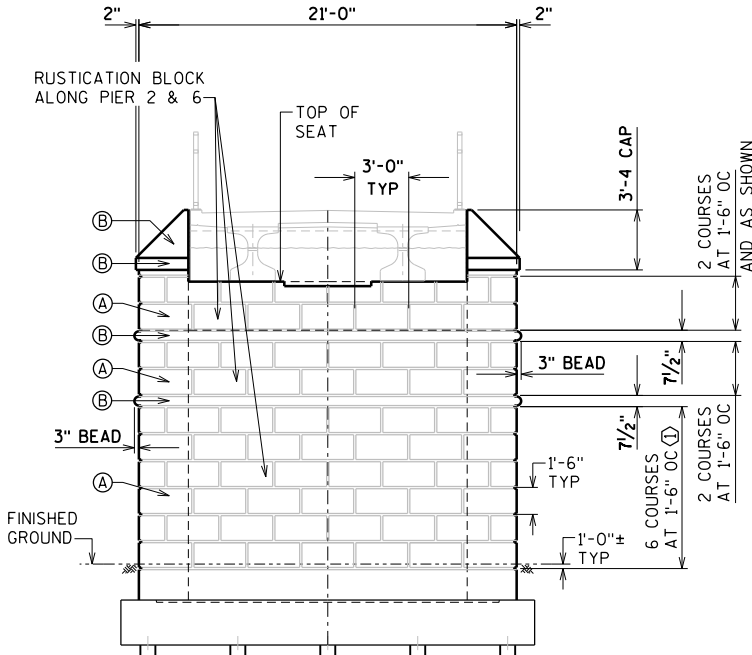
SIDE ELEVATION PIER 2 & 6
LONG SIDE, CITY MEDALLION SIDE



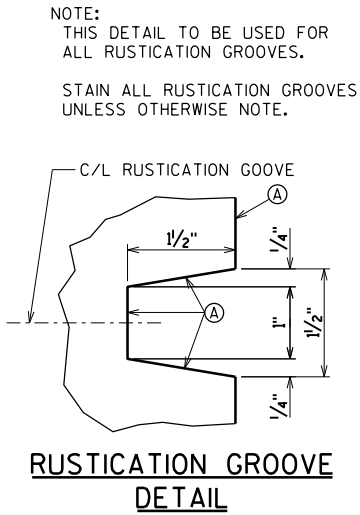
FRONT ELEVATION PIER 2 & 6
LOOKING PARALLEL TO PATH



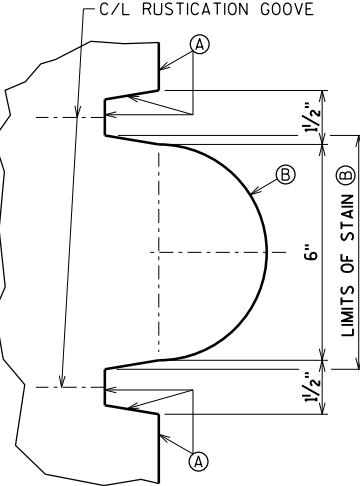
SIDE ELEVATION PIER 2 & 6
SHORT SIDE



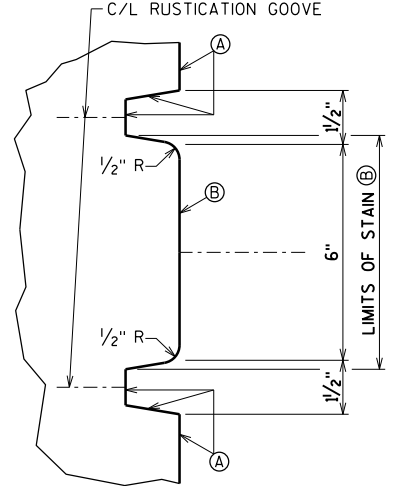
FRONT ELEVATION PIER 2 & 6
LOOKING PARALLEL TO PATH



RUSTICATION GROOVE
DETAIL



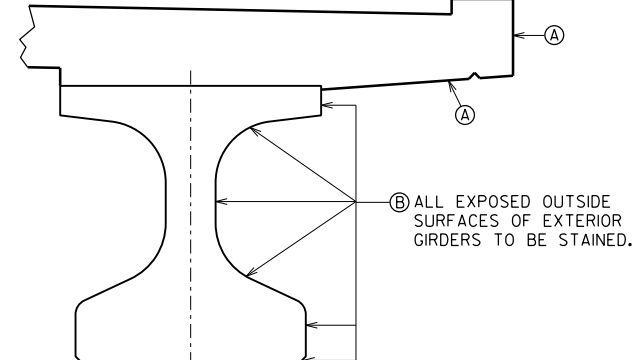
RUSTICATION GROOVE
W/ BEAD DETAIL



RUSTICATION GROOVE
W/ FLAT BEAD DETAIL
ON TRAFFIC SIDES
OF PIER 4
ONLY

NOTE:
STAIN ALL BEADS.

ACCENT BEADS ARE 3" RADIUS, EXCEPT BEADS
ON THE TRAFFIC SIDE OF PIER 4.



EXTERIOR GIRDER STAINING
DETAIL
SPANS 1 & 2, AND
SPANS 7 & 8

RUSTICATION NOTES & SYMBOLS:

- DIMENSIONS FOR RUSTICATION ARE TO CENTER OF JOINT.
- USE 3/4" CHAMFER OF EXPOSED EDGES OF CONCRETE.
- STAIN ALL BLOCK & RUSTICATION GROOVES
UNLESS OTHERWISE NOTED.
- SEE NOTE ON SHEET 2 FOR AREAS TO RECEIVE
CONCRETE STAINING.
- ALL RUSTICATION GROOVES AND CONCRETE STAINING TO GO
A MINIMUM OF 1'-0" BELOW FINISHED GROUND. STAIN ALL
BLOCK AND RUSTICATION GROOVES AND SMOOTH SURFACES.
- RUSTICATION BLOCK APPROXIMATELY 3'-0" WIDE BY 1'-6" HIGH
AS SHOWN
- EACH PIERS RUSTICATION BLOCKS SHALL BE LAYED OUT ON
ENTIRE FACE AND APPROVED BY THE ENGINEER.
- ① ADD OR SUBTRACT COURSES TO 1'-0" MIN BELOW GRADE/GROUND LINE.
- ② CONCRETE STAIN BASE COLOR, PEARL GRAY, FEDERAL COLOR 26622.
- ③ CONCRETE STAIN ACCENT COLOR, MEDIUM GRAY, FEDERAL COLOR 36373.

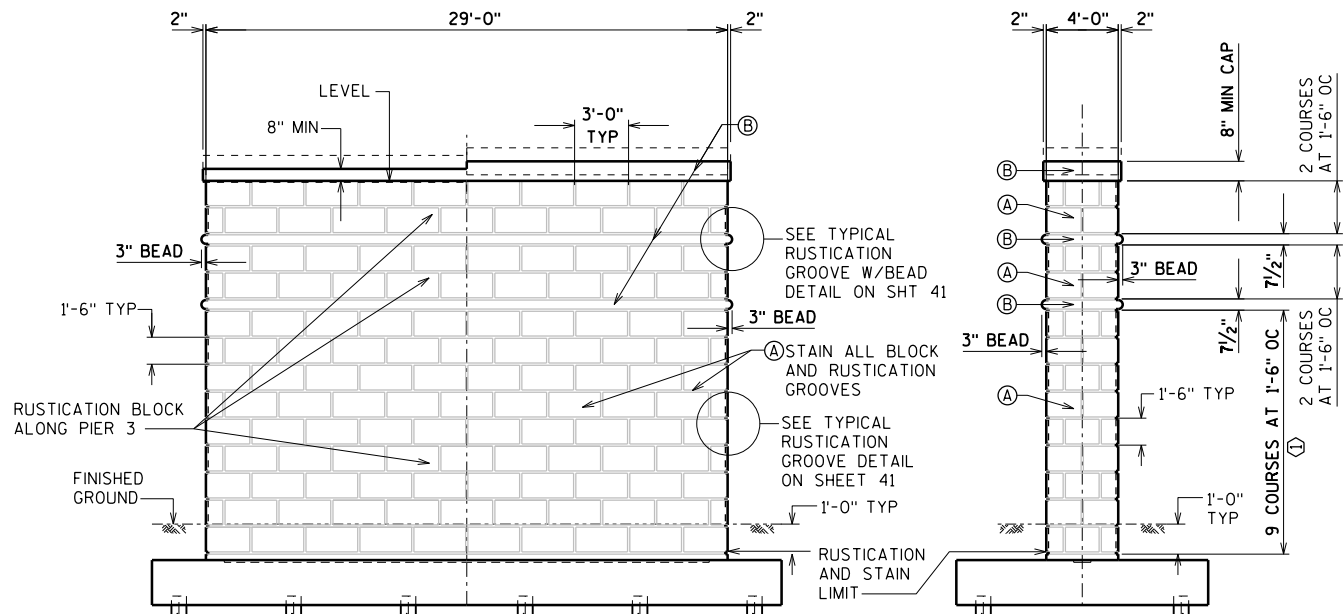
STATE PROJECT NUMBER			
5992-09-07			
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY DLF		PLANS CKD. NCK	
RUSTICATION DETAILS			SHEET 41 OF 43
			147

PLOT TIME: 11/6/2012 11:46 PM

PLOT DATE: 11/6/2012

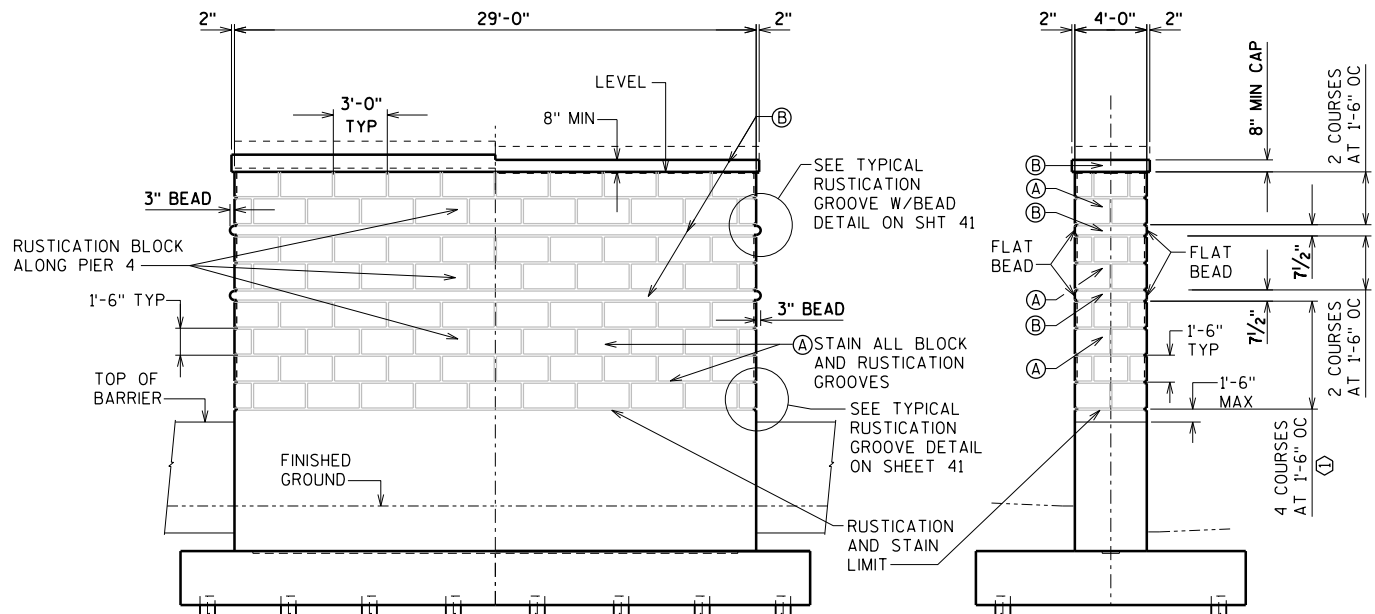
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8



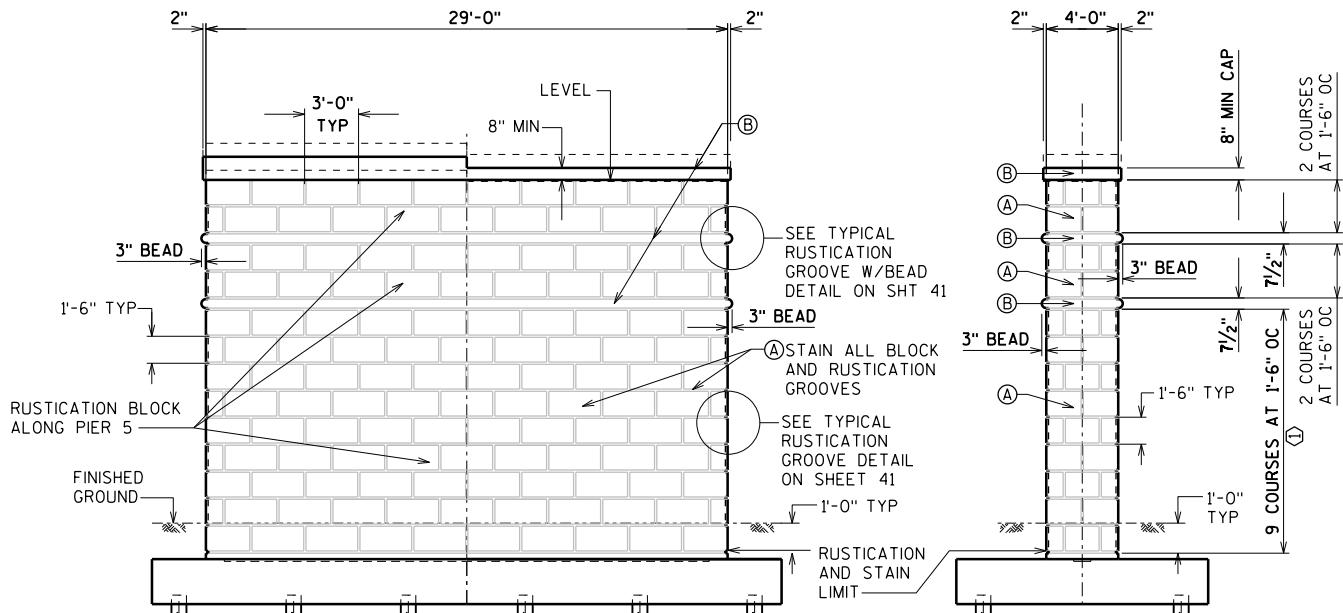
FRONT ELEVATION PIER 3

SIDE ELEVATION PIER 3



FRONT ELEVATION PIER 4

SIDE ELEVATION PIER 4



FRONT ELEVATION PIER 5

SIDE ELEVATION PIER 5

RUSTICATION NOTES & SYMBOLS:

SEE SHEET 41 FOR RUSTICATION NOTES & SYMBOLS.

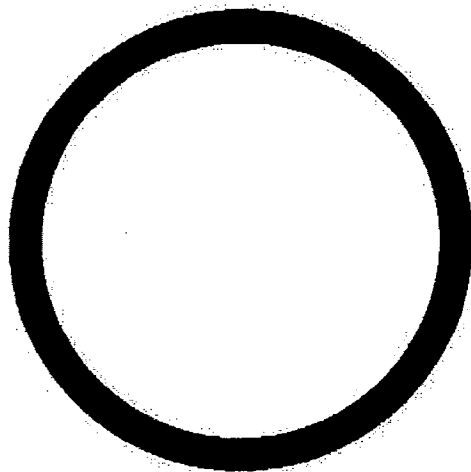
PIER 1 & 7 SIMILAR BUT WITHOUT BEADS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
DRAWN BY DLF		PLANS CK'D. NCK	
RUSTICATION DETAILS		SHEET 42 OF 43	
		148	

8



DARK GREY
Fed Std # 34086



GREEN
Fed Std # 24241



ORIGINAL



RED Fed Std # 20152



LIGHT GREY
Fed Std # 36559



CREAM
Fed Std # 36642

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-661			
		DRAWN BY DLF	PLANS CK'D. NCK
RUSTICATION DETAILS MEDALLION		SHEET 43 OF 43	
		149	

PLOT TIME: 6/16/20 PM

PLOT DATE: 9/18/2012

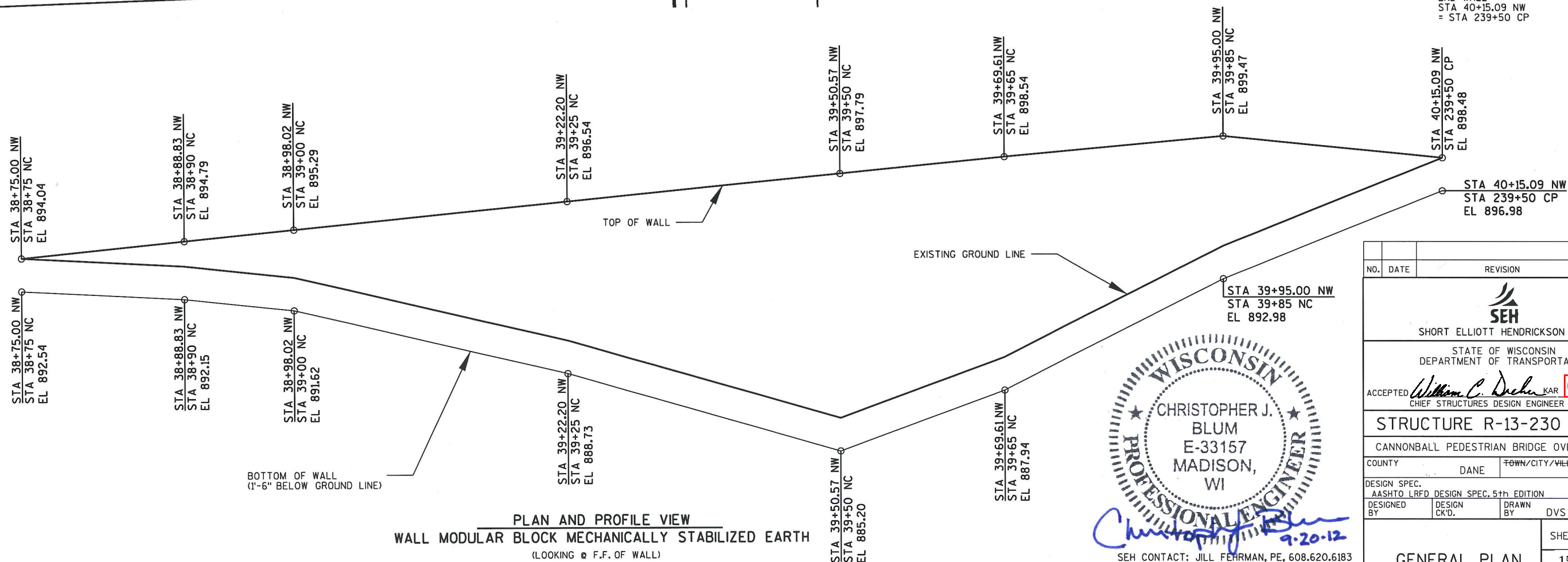
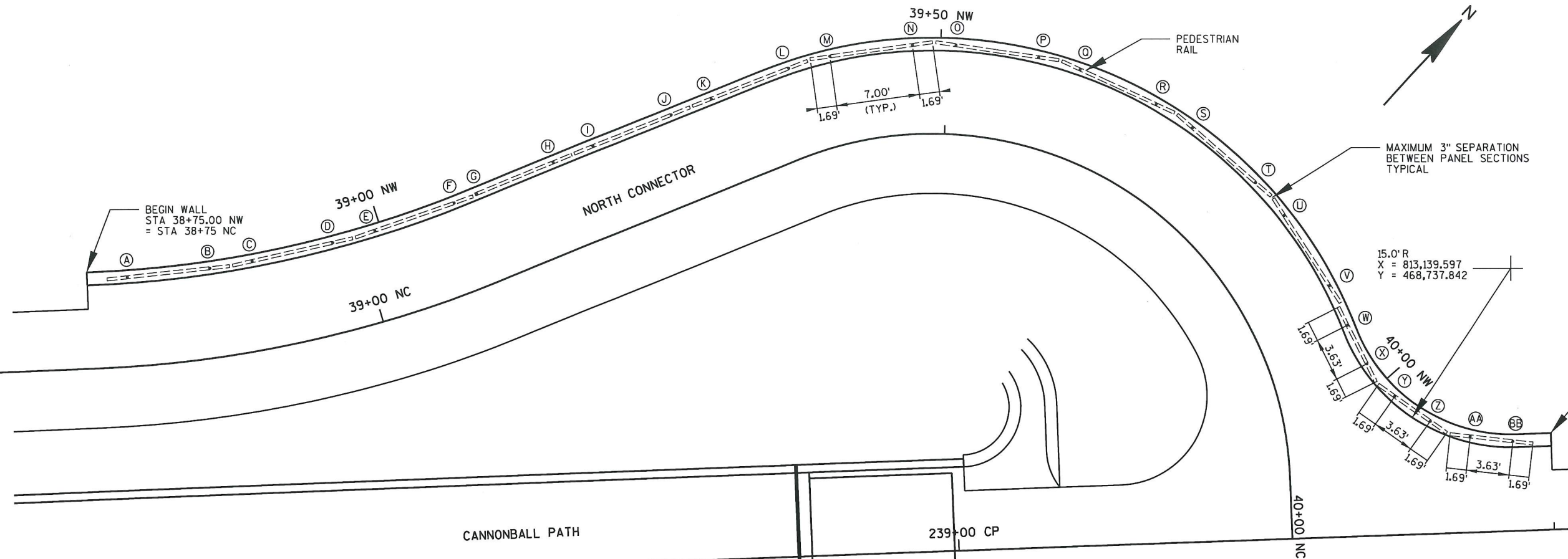
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STATE PROJECT NUMBER

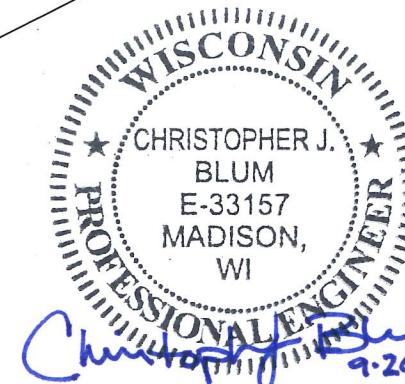
5992-09-07

RAILING POST LOCATION

POST	STATION	OFFSET
A	38+78.59 NC	7.5' LT
B	38+86.16 NC	7.5' LT
C	38+90.09 NC	7.5' LT
D	38+97.66 NC	7.5' LT
E	39+01.59 NC	7.5' LT
F	39+09.16 NC	7.5' LT
G	39+11.30 NC	7.5' LT
H	39+18.30 NC	7.5' LT
I	39+21.93 NC	7.5' LT
J	39+28.93 NC	7.5' LT
K	39+32.56 NC	7.5' LT
L	39+39.15 NC	7.5' LT
M	39+42.05 NC	7.5' LT
N	39+47.66 NC	7.5' LT
O	39+50.56 NC	7.5' LT
P	39+56.17 NC	7.5' LT
Q	39+59.08 NC	7.5' LT
R	39+64.69 NC	7.5' LT
S	39+67.59 NC	7.5' LT
T	39+73.20 NC	7.5' LT
U	39+76.11 NC	7.5' LT
V	39+81.72 NC	7.5' LT
W	39+84.62 NC	7.5' LT
X	39+87.48 NC	7.97' LT
Y	239+37.02 CP	11.61' LT
Z	239+39.92 CP	9.43' LT
AA	239+43.22 CP	8.04' LT
BB	239+46.81 CP	7.50' LT



PLAN AND PROFILE VIEW
WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH
(LOOKING @ F.F. OF WALL)



SEH CONTACT: JILL FEHRMAN, PE, 608.620.6183
WISDOT BRIDGE OFFICE CONTACT: BILL DREHER, PE, 608.266.8489

NO.	DATE	REVISION	BY
SEH SHORT ELLIOTT HENDRICKSON INC.			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	William C. Dreher, KAR CHIEF STRUCTURES DESIGN ENGINEER		DATE 09/25/12
STRUCTURE R-13-230			
CANNONBALL PEDESTRIAN BRIDGE OVER USH 12			
COUNTY	DANE	TOWN/CITY/VILLAGE	MADISON
DESIGN SPEC. AASHTO LRFD DESIGN SPEC. 5th EDITION			
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
GENERAL PLAN			SHEET 1 OF 4 150

DESIGN DATA

PROVIDE SUPPLEMENTAL BORINGS IF REQUIRED BY THE MANUFACTURER FOR THE DESIGN OF THE MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD WALL.

EARTH PRESSURE CONSTANTS AND SUBEXCAVATION SUMMARY DATA ARE FROM THE GEOTECHNICAL EVALUATION REPORT DATED NOVEMBER 11, 2011 BY MIDWEST ENGINEERING SERVICES, INC AND INCLUDED WITH THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN PLANS, DETAILS, MANUFACTURER SPECIFICATIONS AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER WILL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR WILL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET.

DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

DESIGN FOR A 1 FT. LIVE LOAD SURCHARGE.

FACE OF WALL WILL BE A SPLIT FACE BLOCK AND COLORED TAN. COLOR AND TEXTURE TO BE APPROVED BY THE CITY OF MADISON.

THE EXISTING FILL, BURIED TOPSOIL AND GLACIAL SOILS SHALL BE REMOVED FROM BELOW THE FOOTINGS AND OVERSIZE AREAS, DOWN TO THE SANDSTONE, THEN REPLACED WITH COMPACTED GRADE 1 GRANULAR FILL OR DENSE GRADED AGGREGATE BASE; IN THIS EVENT, A BEARING PRESSURE OF 5,000 POUNDS PER SQUARE FOOT MAY BE USED. THE SAND OR DENSE GRADED AGGREGATE BASE BACKFILL SHOULD BE COMPACTED TO AT LEAST 98 PERCENT OF MODIFIED PROCTOR (ASTM D 1557).

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

WALL EXTERNAL STABILITY EVALUATION

DIMENSIONS	
WALL HEIGHT (FEET)	13.5
EXPOSED WALL HEIGHT (FEET)	12.0
*LENGTH OF REINFORCEMENT (FEET)	11
WALL STATION	39+50.57 NW
BORING USED	BS-10
CAPACITY TO DEMAND RATIO (CDR)	
SLIDING (CDR>1.0)	1.24
ECCENTRICITY (CDR>1.0)	1.40
BEARING (CDR>1.0)	1.50
GLOBAL STABILITY (CDR>1.0)	1.05

*APPLIES TO STA 39+50.57 NW ONLY
FINAL DESIGN FOR INTERNAL STABILITY AND EXTERNAL SLIDING AND ECCENTRICITY IS THE RESPONSIBILITY OF THE CONTRACTORS WALL DESIGNER.

SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)
EL. 883.7 - EL. 881.5 (SELECT GRANULAR STRUCTURAL FILL TO REPLACE EXISTING FILL)	135	36	0
EL. 881.5 - EL. 875.5 (SILTY CLAY)	130	28	0
EL. 875.5 - EL. 870.5 (CLAYEY SILT TO SILT)	120	30	0
EXISTING RETAINED SOIL BEHIND REINFORCED ZONE EL. 885.4 - EL. 883.7	120	24	0
NEW FILL RETAINED SOIL BEHIND REINFORCED ZONE EL. 897.8 - EL. 885.4	125	28	0

*PARAMETERS BASED UPON BORING B-10, THE CLOSEST BORING AVAILABLE TO THE RETAINING WALL. SOIL CONDITIONS MUST BE VERIFIED BY THE GEOTECHNICAL ENGINEER AT THE TIME OF CONSTRUCTION.

TOTAL ESTIMATED QUANTITIES - R-13-230

532.0300.S WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD (R-13-230)	904 S.F.
SPV.0090.01 PEDESTRIAN RAILING	136 L.F.

GENERAL NOTES

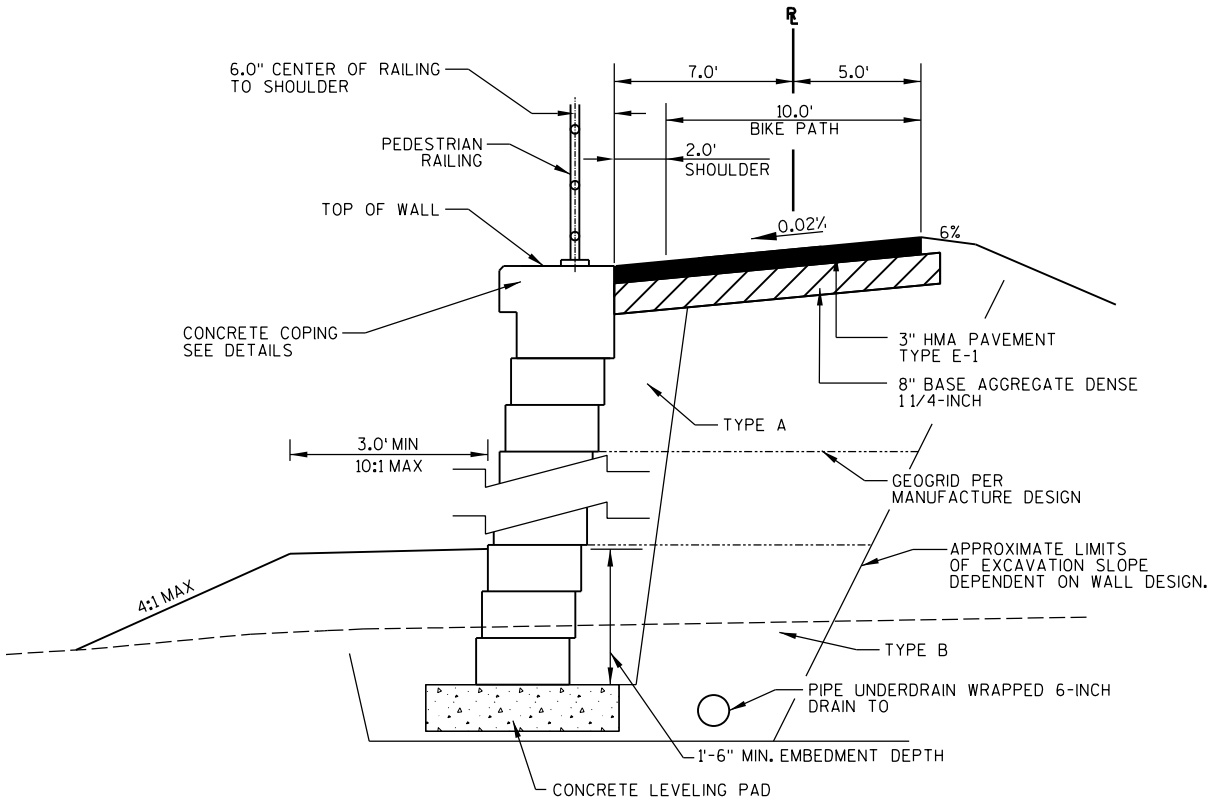
DRAWINGS SHALL NOT BE SCALED.

LIST OF DRAWINGS

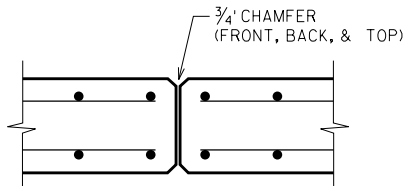
1. STRUCTURE R-13-230 GENERAL PLAN
2. WALL DETAILS
3. SUBSURFACE EXPLORATION
4. PEDESTRIAN RAILING DETAILS

STATE PROJECT NUMBER

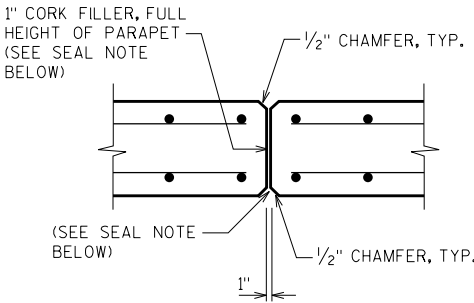
5992-09-07



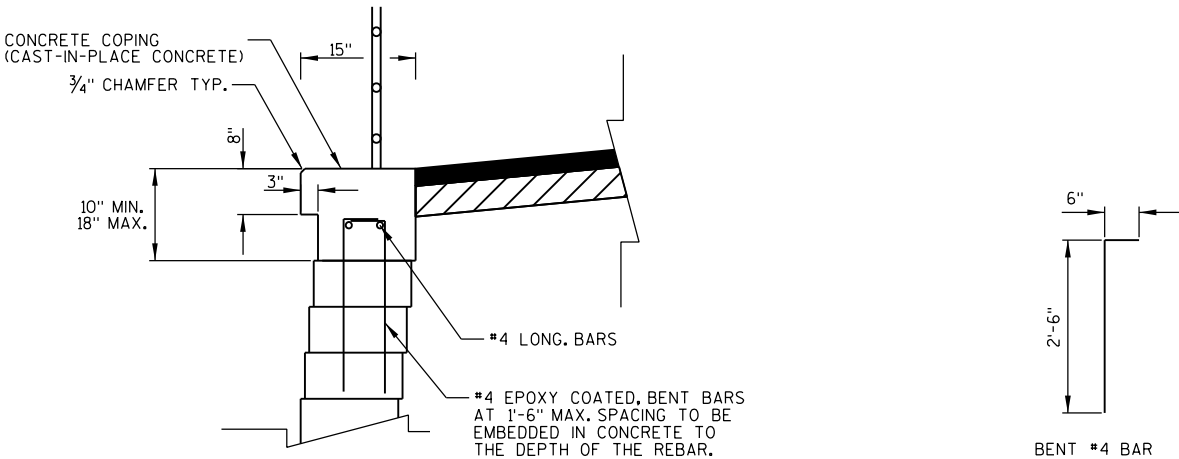
TYP CROSS SECTION OF RETAINING WALL



COPING CONTRACTION JOINT DETAIL



COPING EXPANSION JOINT DETAIL



CONCRETE COPING DETAIL

CONCRETE MASONRY (GRADE A) F'C = 3,500 PSI

HIGH STRENGTH BAR STEEL REINFORCEMENT AASHTO GRADE 60 F_y = 60,000 PSI

CONSTRUCT COPING CONTRACTION JOINTS SPACED AT A MAXIMUM OF 10-FT.

CONSTRUCT COPING EXPANSION JOINTS SPACED AT A MAXIMUM OF 30-FT.

DO NOT RUN BAR STEEL THRU CONTRACTION OR EXPANSION JOINTS.

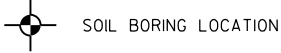
JOINTS TO EXTEND THE FULL DEPTH OF THE COPING.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-13-230			
DRAWN BY DVS		PLANS CK'D.	
WALL DETAILS		SHEET 2 OF 4	
		151	

FILE NAME : P:\KOV\MADIS\08447\CAD\Retaining Walls\RNORTH.dgn PLOT DATE: 7/25/2012 PLOT TIME: 2:49:56 PM

ABBREVIATIONS

ASPH - ASPHALT
BLK - BLACK
BOUL - BOULDER
BRN - BROWN
COB - COBBLES
DRK - DARK
GRVL - GRAVEL
LT - LIGHT
POSS - POSSIBLE
PVMT - PAVEMENT
TR - TRACE
TS - TOPSOIL
W/ - WITH
WHT - WHITE



SOIL BORINGS PERFORMED BY:

MIDWEST ENGINEERING SERVICES, INC
821 CORPORATE COURT
SUITE 102
WAUKESHA, WI 53189-5010
PH: 262.521.2125 FAX: 262.521.2471

REPORT BY:

BRADLEY J BROBACK, P.E. PROJECT ENGINEER

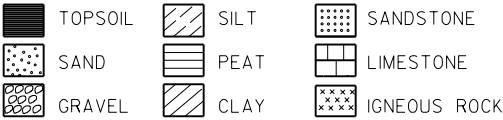
STATE PROJECT NUMBER

5992-09-07

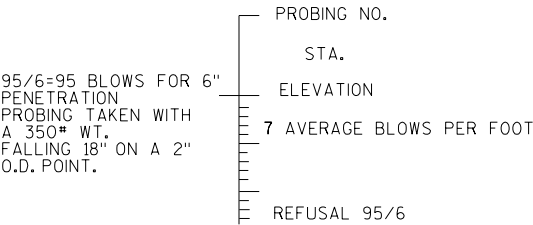
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

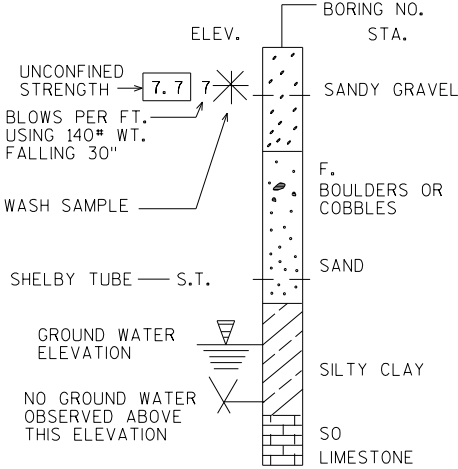
MATERIAL SYMBOLS



LEGEND OF PROBING



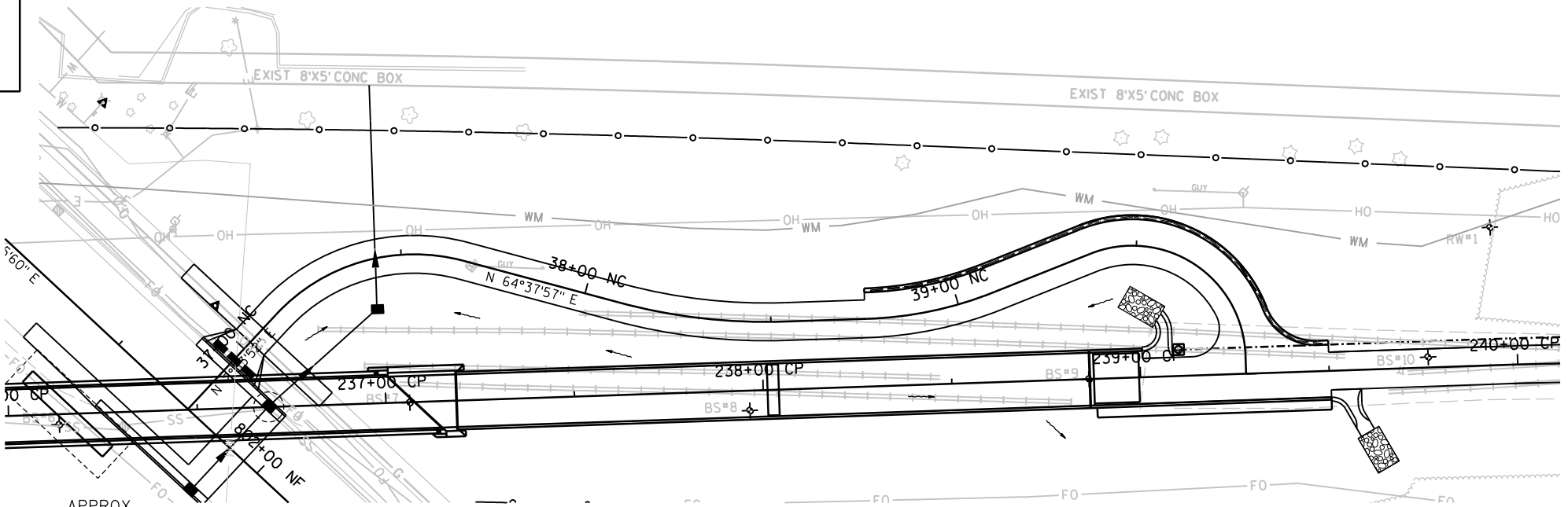
LEGEND OF BORING



SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

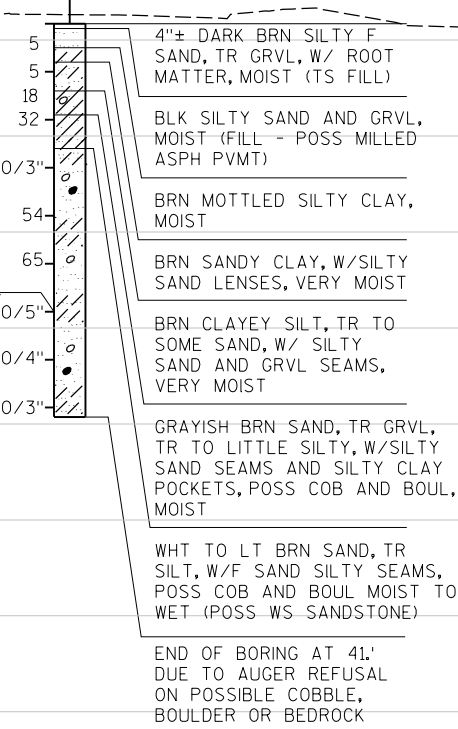
TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-13-230			
DRAWN BY DVS		PLANS CK'D.	
SUBSURFACE EXPLORATION		SHEET 3 OF 4	
		152	



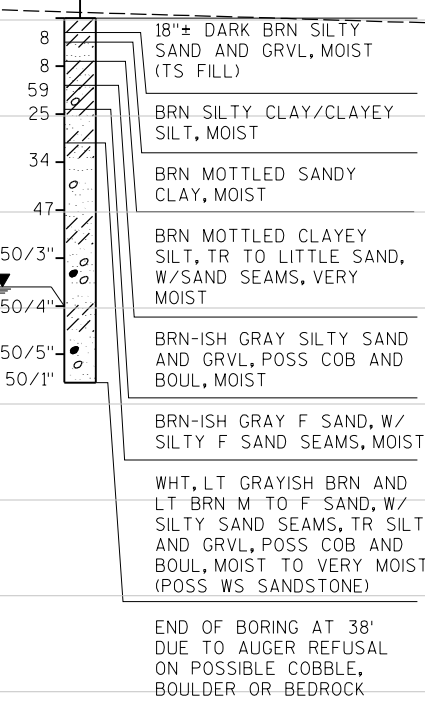
APPROX LOCATION BS-7

STA 237+06.3±, C/L
EL 891.7±



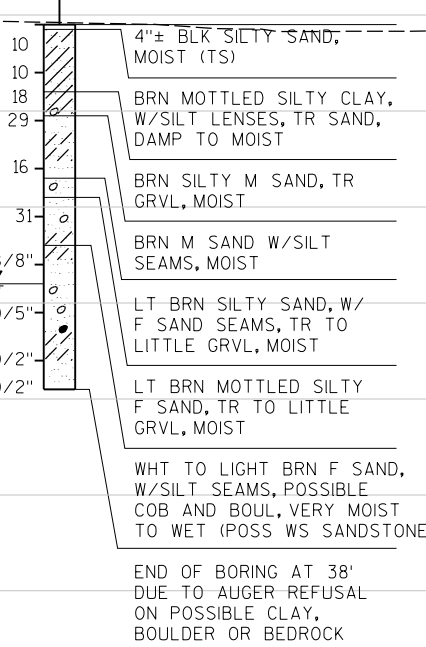
APPROX LOCATION BS-8

STA 237+96.3±, 5' RT
EL 890.2±



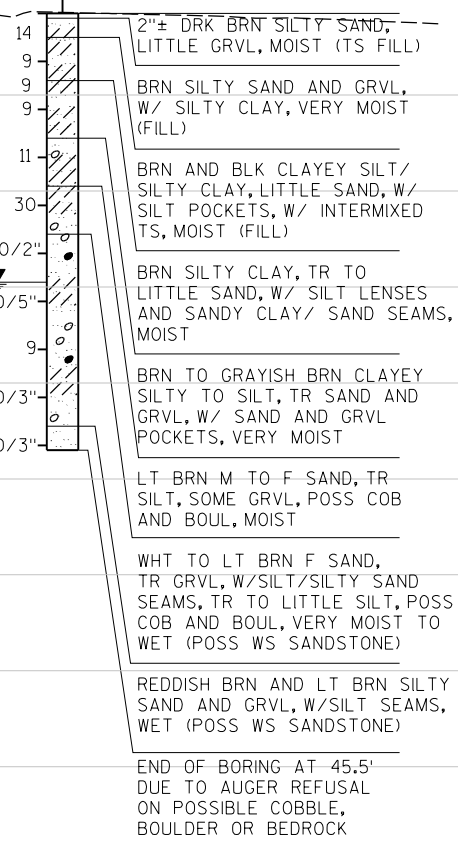
APPROX LOCATION BS-9

STA 238+86.3±, C/L
EL 889.0±



APPROX LOCATION BS-10

STA 239+76.3±, 3' LT
EL 888.5±



NOTES

BID ITEM SHALL BE "PEDESTRIAN RAILING" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

RAILS AND POSTS TO BE ASTM A500, GRADE B. BASE PLATES AND SHIMS TO BE ASTM A709, GRADE 36. ALL GALVANIZED AFTER FABRICATION.

PICKET SPACING TO BE ADJUSTED TO KEEP PICKET CENTERED UNDER CIRCLE.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET POSTS VERTICAL.

ALL POST SPA ARE TAKEN HORIZ ALONG CENTER LINE OF RAILING AT BASE OF POST.

SHIMS SHALL BE USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

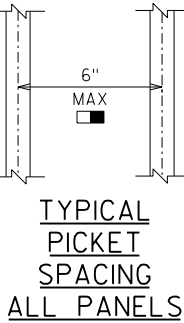
VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING.

RAILING IS TO BE GALVANIZED AND PAINTED.

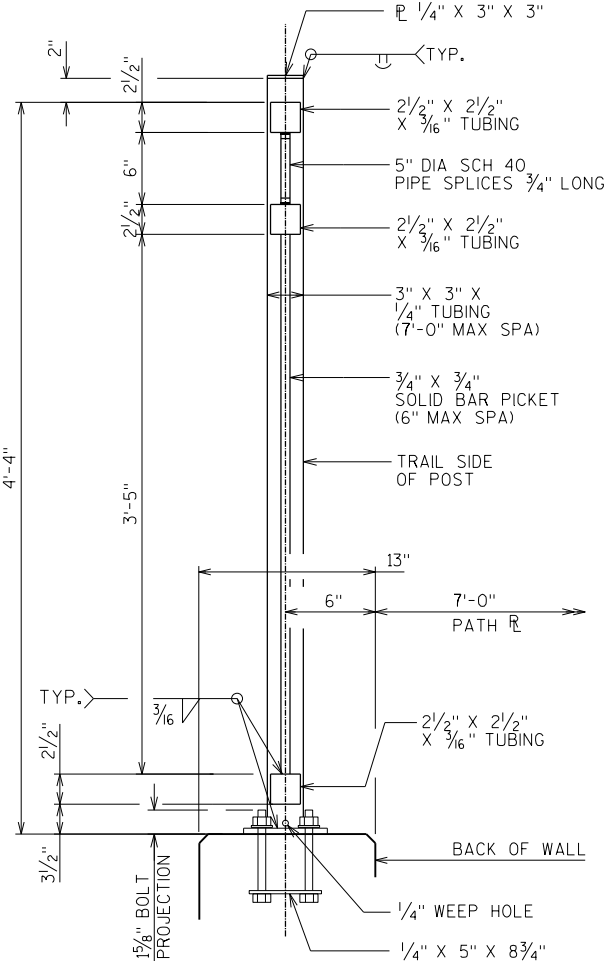
ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A #6 BLAST CLEANING BY SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH TIE COAT AND TOPCOAT (SEE SPECIFICATIONS). COLOR SHALL BE FEDERAL STANDARD 595B, COLOR 27038 (BLACK)

RAILING MEASURED ALONG C/L POSTS.

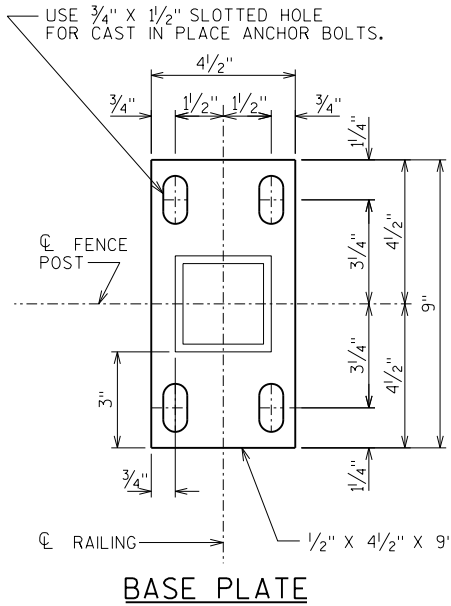
■ = 6" MAX PICKET SPACING. PICKETS ARE TO ALIGN WITH THE CENTER OF THE PIPE CIRCLE ABOVE.



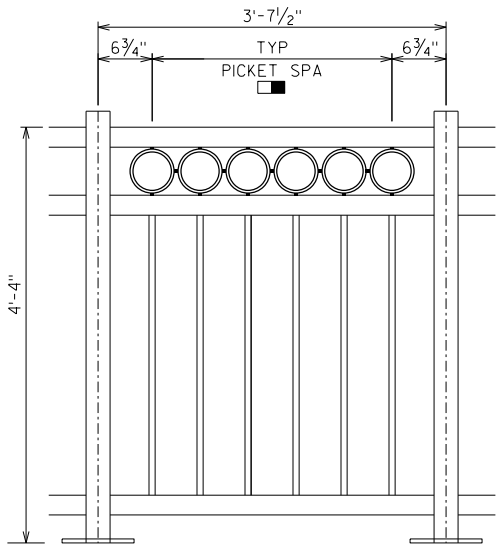
TYPICAL PICKET SPACING ALL PANELS



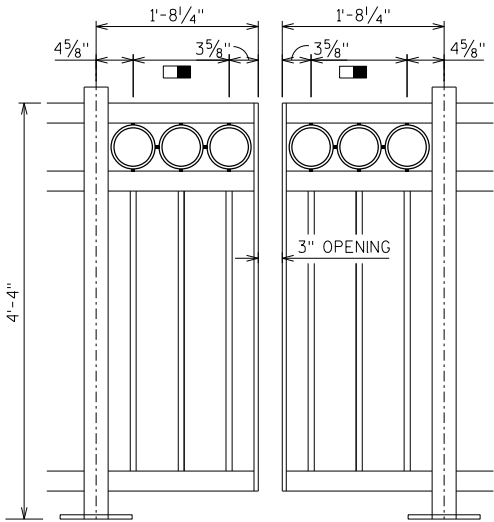
TYP SECTION THRU RAILING



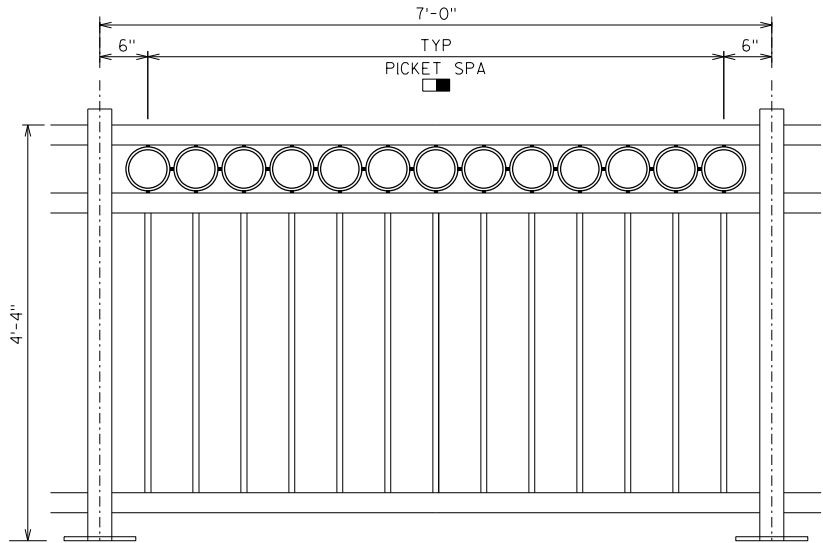
BASE PLATE



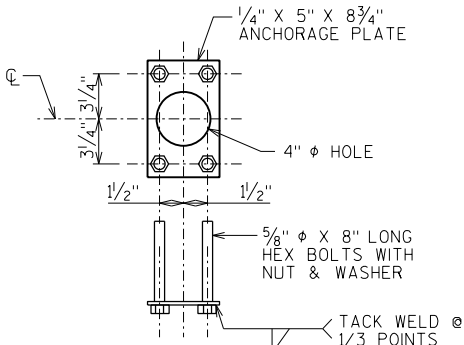
3'-7 1/2" PANEL



3'-7 1/2" OVERHANG PANEL

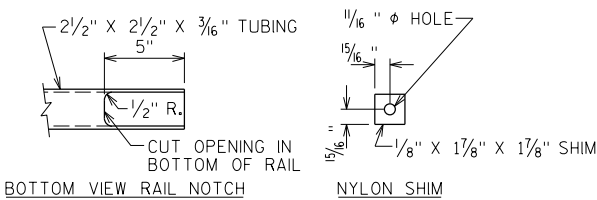
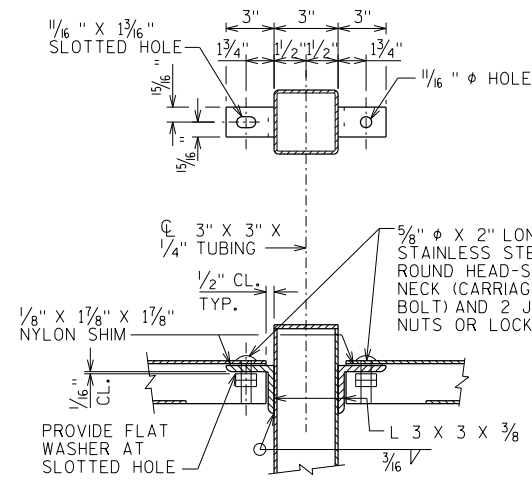


7'-0" PANEL

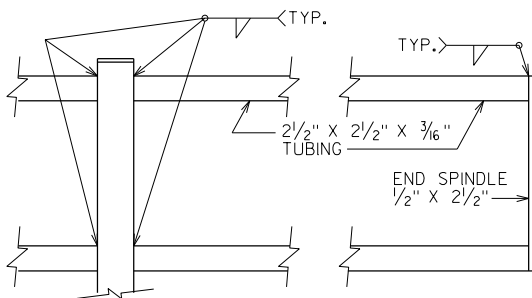


ANCHORAGE DETAIL

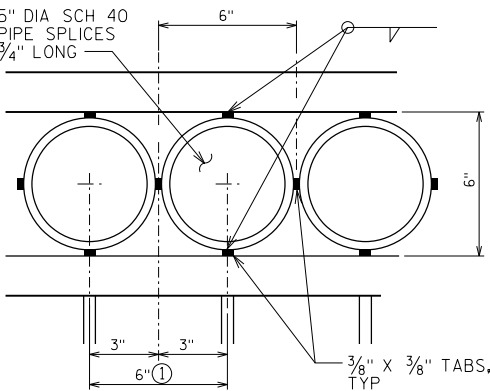
DRILLED ANCHORS WILL NOT BE PERMITTED



TYP RAIL CONNECTION DETAIL AT TOP AND BOTTOM RAILS

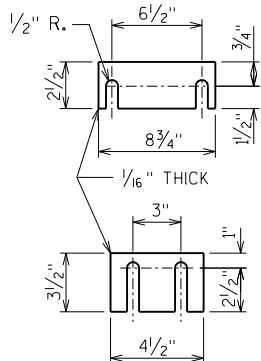


TYP AT OVERHANG DETAIL AT TOP AND BOTTOM RAILS



TYP PIPE SPLICE DETAIL

① PICKETS TO BE CENTERED WITH PIPE CIRCLES



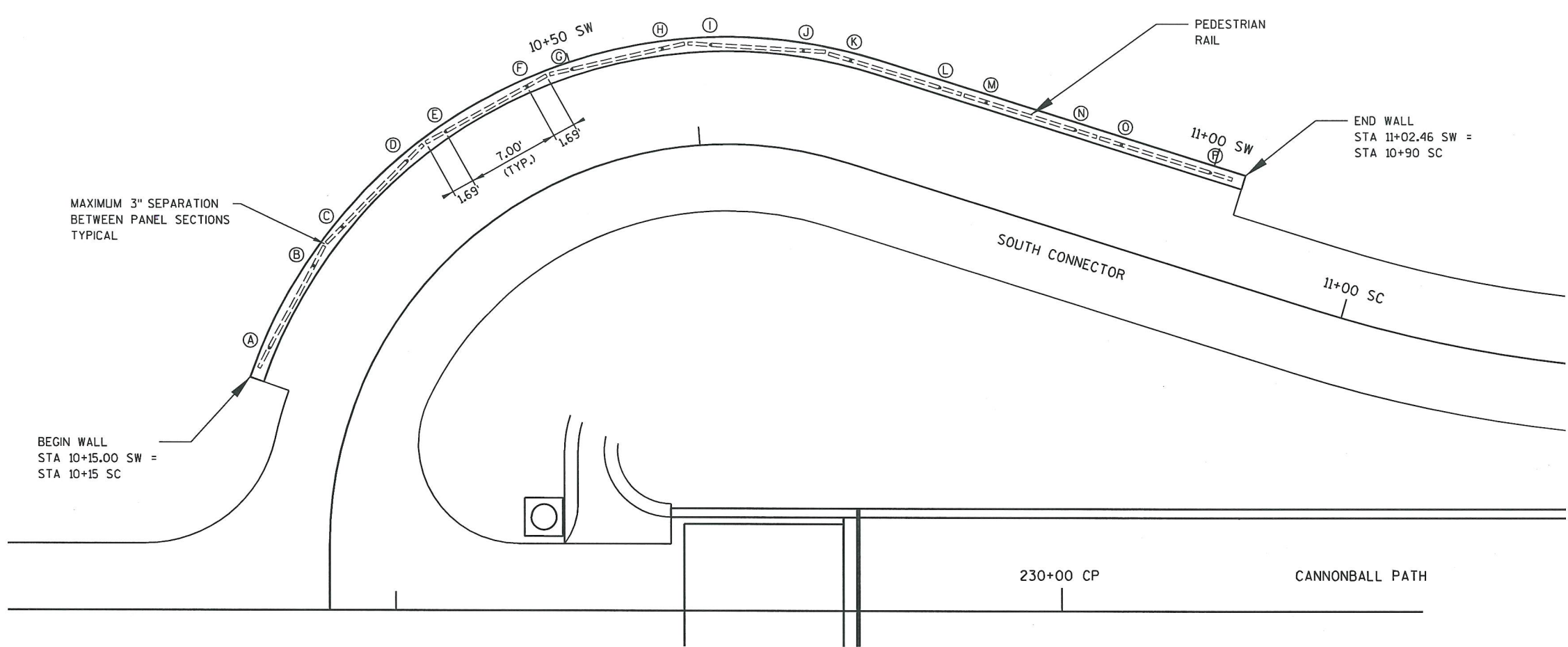
SHIM PLATE DETAILS

TWO SHIMS OF EACH SIZE REQUIRED PER POST

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-13-230			
DRAWN BY DVS		PLANS CK'D.	
PEDESTRIAN RAILING DETAILS		SHEET 4 OF 4	
		153	

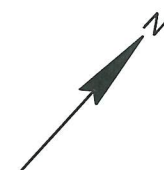
FILE NAME : P:\KOV\W\MADIS\108447\CAD\Retaining Walls\RW50UTH.dgn
PLOT TIME: 6:17:48 PM
PLOT DATE: 9/18/2012

8



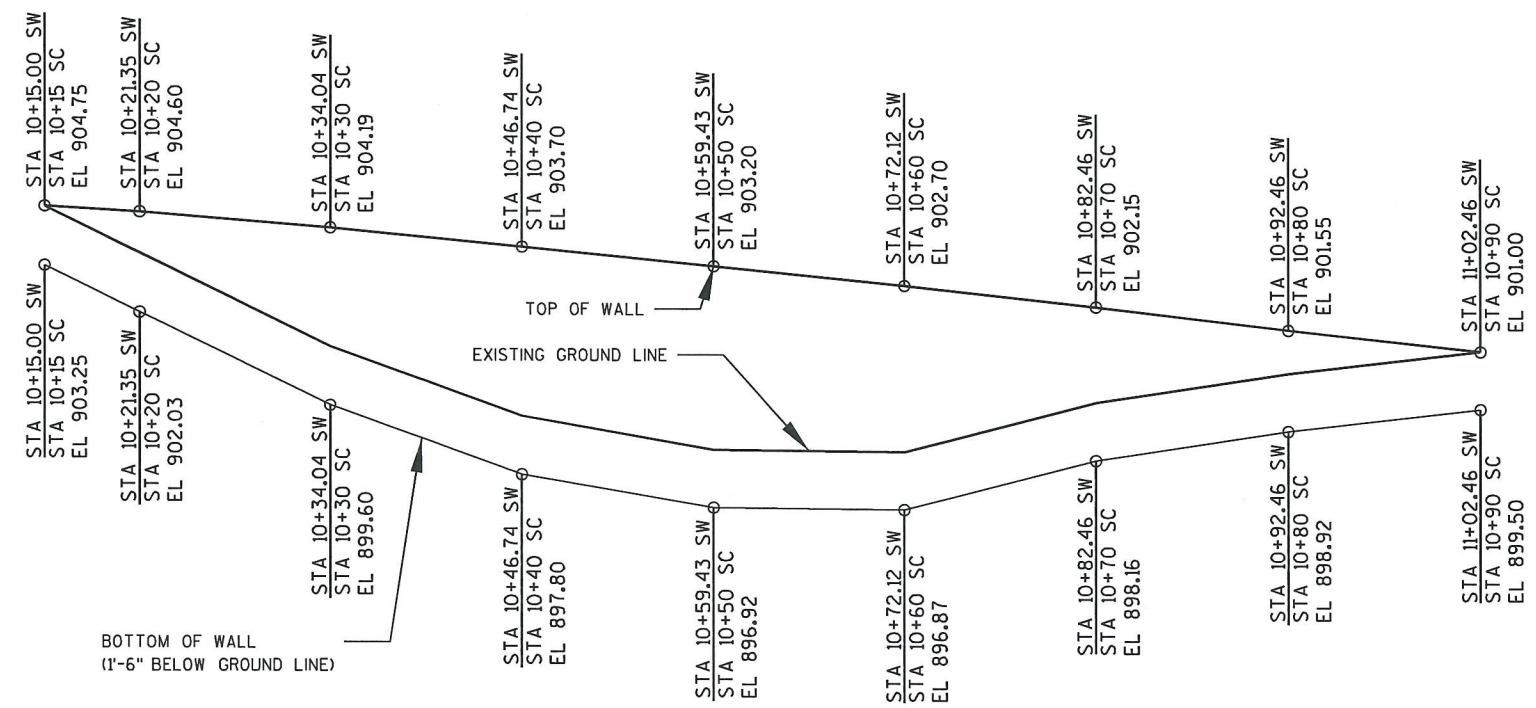
STATE PROJECT NUMBER

5992-09-07



RAILING POST LOCATION

POST	STATION	OFFSET
A	10+17.03 SC	7.5' LT
B	10+22.64 SC	7.5' LT
C	10+25.54 SC	7.5' LT
D	10+31.15 SC	7.5' LT
E	10+34.06 SC	7.5' LT
F	10+39.66 SC	7.5' LT
G	10+42.57 SC	7.5' LT
H	10+48.17 SC	7.5' LT
I	10+51.08 SC	7.5' LT
J	10+56.68 SC	7.5' LT
K	10+59.59 SC	7.5' LT
L	10+66.17 SC	7.5' LT
M	10+69.80 SC	7.5' LT
N	10+76.80 SC	7.5' LT
O	10+80.43 SC	7.5' LT
P	10+87.43 SC	7.5' LT



PLAN AND PROFILE VIEW
WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH
(LOOKING @ F.F. OF WALL)



Christopher J. Blum
9-20-12

NO.	DATE	REVISION	BY
SHORT ELLIOTT HENDRICKSON INC.			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Dreher</i>	KAR	09/25/12
CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE R-13-231			
CANNONBALL PEDESTRIAN BRIDGE OVER USH 12			
COUNTY	DANE	TOWN/CITY/VILLAGE	MADISON
DESIGN SPEC. AASHTO LRFD DESIGN SPEC. 5th EDITION			
DESIGNED BY	DESIGN CK'D.	DRAWN BY	DVS PLANS CK'D.
GENERAL PLAN			SHEET 1 OF 4 154

SEH CONTACT: JILL FEHRMAN, PE, 608.620.6183
WISDOT BRIDGE OFFICE CONTACT: BILL DREHER, PE, 608.266.8489

8

JOINTS TO EXTEND THE FULL DEPTH OF THE COPING.

PLOT TIME: 3:34:36 PM

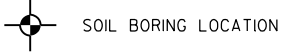
PLOT DATE: 7/25/2012

FILE NAME : P:\KOV\MADIS\08447\CAD\Retaining Walls\RW5OUTH.dgn

8

ABBREVIATIONS

ASPH - ASPHALT
BLK - BLACK
BOUL - BOULDER
BRN - BROWN
COB - COBBLES
DRK - DARK
GRVL - GRAVEL
LT - LIGHT
POSS - POSSIBLE
PVMT - PAVEMENT
TR - TRACE
TS - TOPSOIL
W/ - WITH
WHT - WHITE



SOIL BORING LOCATION

SOIL BORINGS PERFORMED BY:

MIDWEST ENGINEERING SERVICES, INC
821 CORPORATE COURT
SUITE 102
WAUKESHA, WI 53189-5010
PH: 262.521.2125 FAX: 262.521.2471

REPORT BY:

BRADLEY J BROBACK, P.E. PROJECT ENGINEER

STATE PROJECT NUMBER

5992-09-07

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.
REFUSAL 95/6

LEGEND OF BORING

ELEV. BORING NO. STA.
UNCONFINED STRENGTH 7.7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO
LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

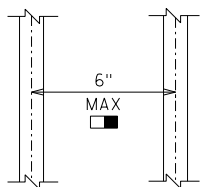
TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-13-231			
DRAWN BY DVS		PLANS CK'D.	
SUBSURFACE EXPLORATION		SHEET 3 OF 4 156	

FILE =
SCALE =

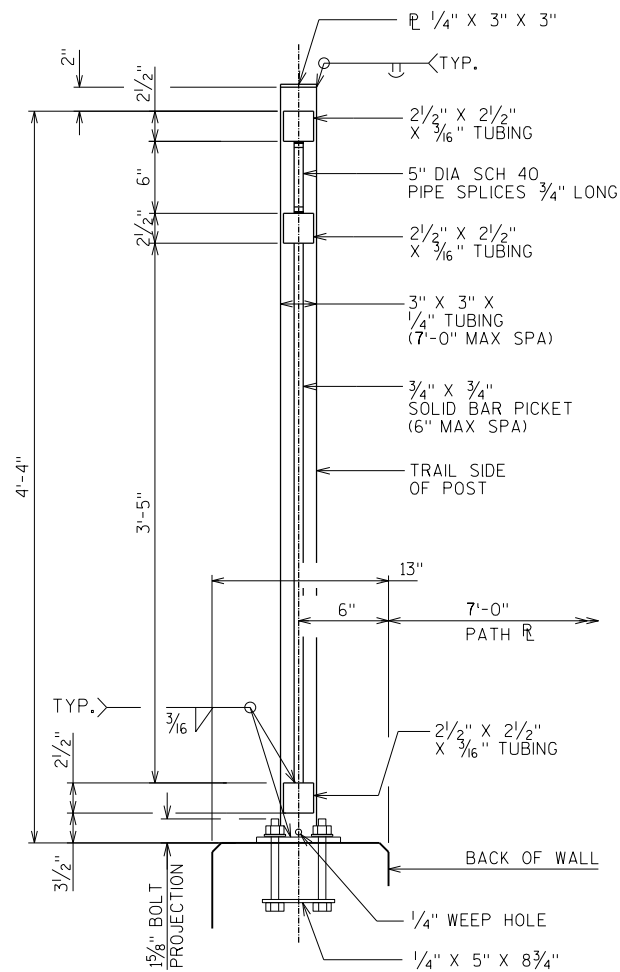
8

 = 6" MAX PICKET SPACING. PICKETS ARE TO ALIGN WITH THE CENTER OF THE PIPE CIRCLE ABOVE.

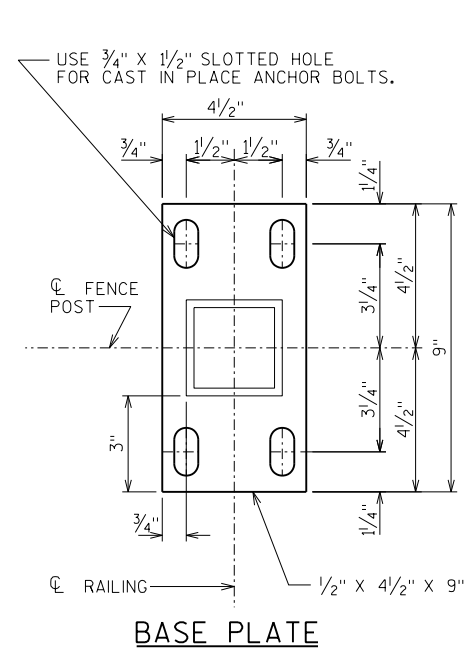


TYPICAL
PICKET
SPACING
ALL PANELS

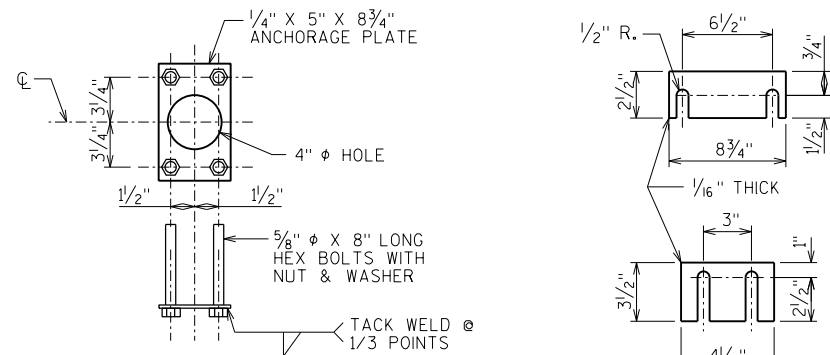
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-13-231			
DRAWN BY		DVS	PLANS CK'D.
PEDESTRIAN RAILING DETAILS		SHEET 4 OF 4 157	



TYP SECTION THRU RAILING

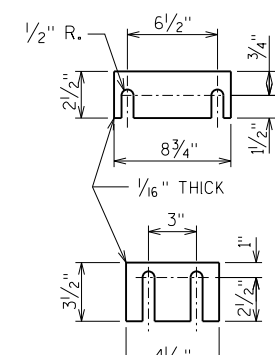


BASE PLATE



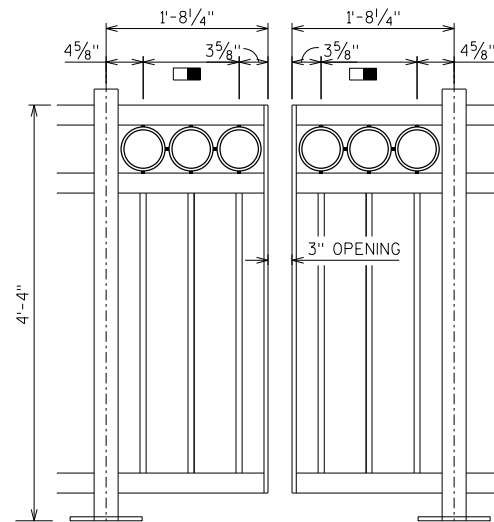
ANCHORAGE DETAIL

DRILLED ANCHORS WILL NOT BE PERMITTED

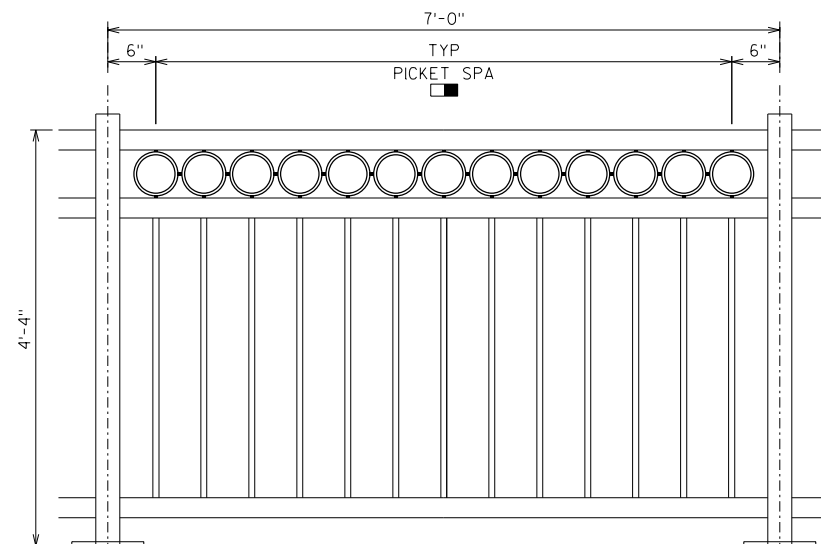


SHIM PLATE DETAILS

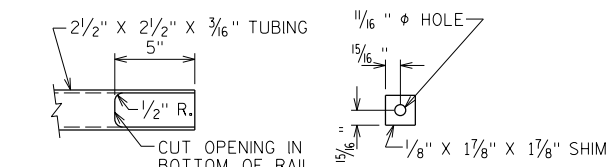
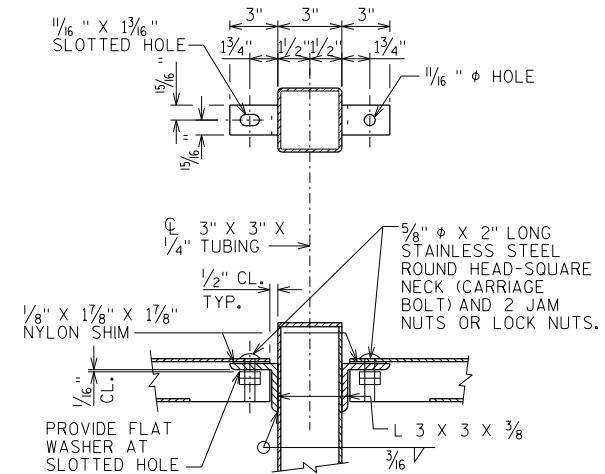
TWO SHIMS OF EACH SIZE
REQUIRED PER POST



3'-7 1/2" OVERHANG PANEL



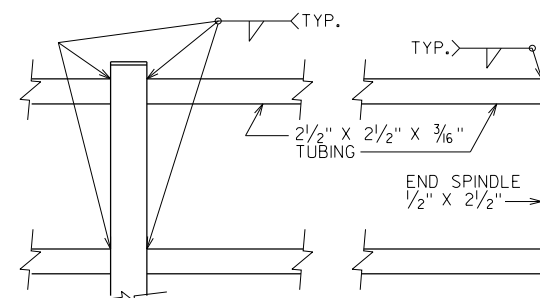
7'-0" PANEL



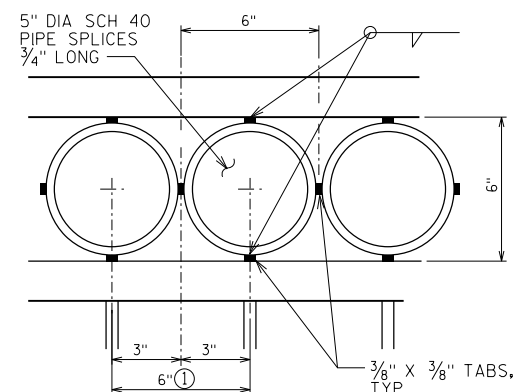
BOTTOM VIEW RAIL NOTCH

NYLON SHIM

TYP RAIL CONNECTION DETAIL
AT TOP AND BOTTOM RAILS



TYP AT OVERHANG DETAIL
AT TOP AND BOTTOM RAILS



TYP PIPE SPLICE DETAIL

① PICKETS TO BE CENTERED WITH PIPE CIRCLES

STAGE 1
CANNONBALL PATH

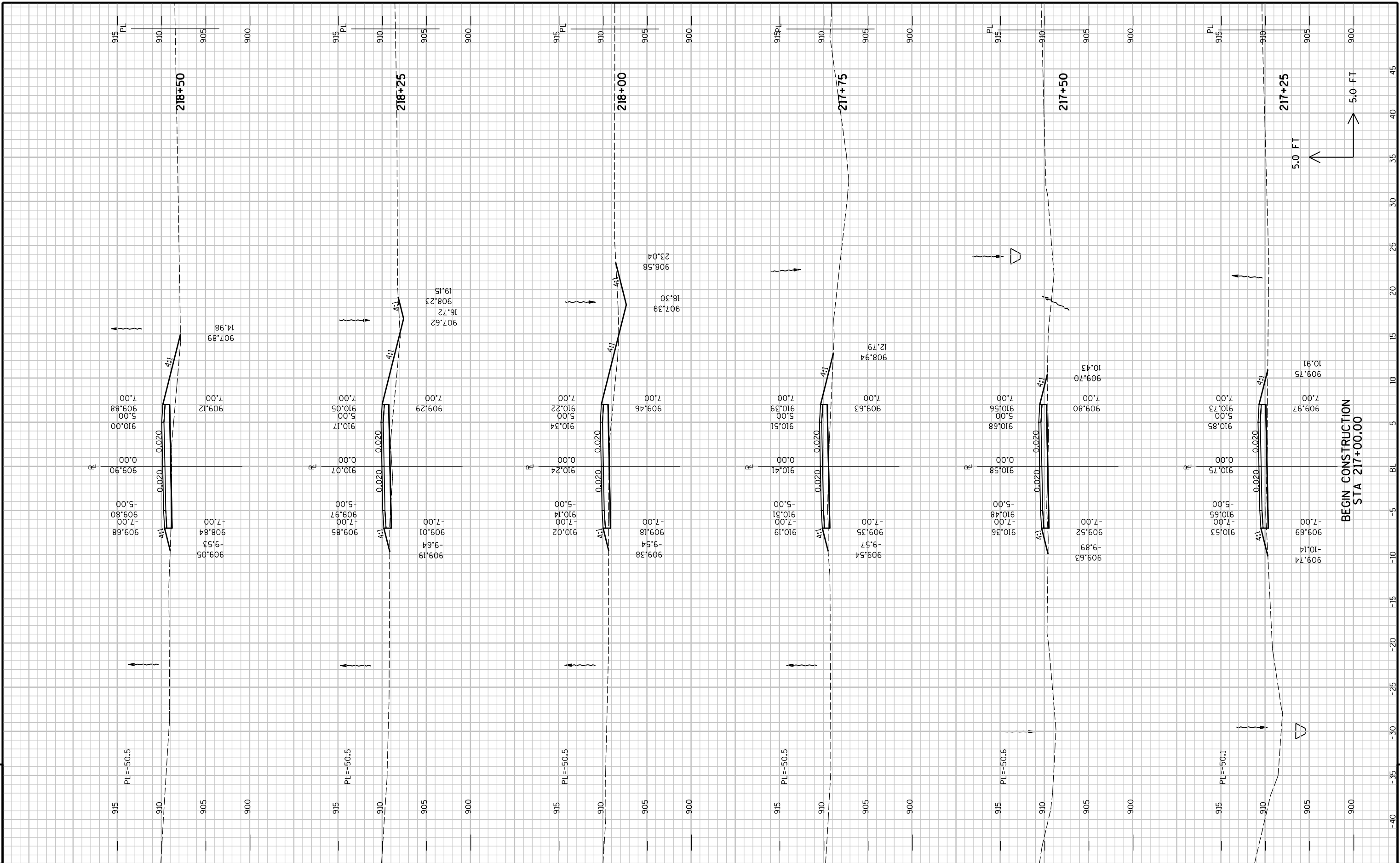
STATION	COMMON SF	FILL SF	COMMON		FILL		MASS HAUL CY	INCREMENTAL MASS HAUL CY
			RAW CY	1.00 ADJ CY	RAW CY	1.3 ADJ CY		
217+25.00	1.1	3.6	0.0	0.0	0.0	0.0	0.0	0.0
217+50.00	1.0	3.3	1.0	1.0	3.2	4.2	-3.2	-3.2
217+75.00	0.8	5.7	0.8	0.8	4.2	5.4	-7.7	-4.6
218+00.00	4.7	7.8	2.6	2.6	6.2	8.1	-13.3	-5.5
218+25.00	1.2	9.2	2.8	2.8	7.9	10.3	-20.8	-7.5
218+50.00	0.1	9.2	0.6	0.6	8.5	11.1	-31.2	-10.4
218+75.00	1.0	6.9	0.5	0.5	7.4	9.7	-40.4	-9.2
219+00.00	2.9	4.3	1.8	1.8	5.2	6.7	-45.3	-4.9
219+25.00	4.4	2.5	3.3	3.3	3.1	4.1	-46.1	-0.7
219+50.00	5.7	1.7	4.7	4.7	2.0	2.6	-44.0	2.1
219+75.00	11.0	0.8	7.8	7.8	1.2	1.5	-37.7	6.2
220+00.00	16.6	0.3	12.8	12.8	0.5	0.7	-25.6	12.1
220+25.00	50.4	0.5	31.0	31.0	0.4	0.5	4.9	30.5
220+50.00	51.4	0.1	47.1	47.1	0.3	0.4	51.7	46.8
220+75.00	41.3	0.0	42.9	42.9	0.0	0.1	94.5	42.9
221+00.00	21.6	0.0	29.2	29.2	0.0	0.0	123.7	29.1
221+25.00	12.8	0.3	15.9	15.9	0.1	0.2	139.5	15.8
221+50.00	7.5	0.7	9.4	9.4	0.4	0.6	148.3	8.8
221+75.00	10.0	0.2	8.1	8.1	0.4	0.6	155.8	7.5
222+00.00	23.7	0.1	15.6	15.6	0.2	0.2	171.2	15.4
222+25.00	16.2	0.2	18.5	18.5	0.2	0.2	189.4	18.3
222+50.00	9.6	0.6	12.0	12.0	0.4	0.5	200.9	11.4
222+75.00	10.1	0.6	9.1	9.1	0.6	0.7	209.3	8.4
223+00.00	4.9	1.5	6.9	6.9	0.9	1.2	215.0	5.7
223+25.00	1.1	3.6	2.8	2.8	2.3	3.0	214.7	-0.2
223+50.00	7.2	3.0	3.9	3.9	3.1	4.0	214.6	-0.1
223+75.00	1.6	2.5	4.1	4.1	2.6	3.3	215.4	0.8
224+00.00	0.7	2.4	1.1	1.1	2.3	2.9	213.5	-1.8
224+25.00	5.4	2.6	2.8	2.8	2.3	3.0	213.4	-0.2
224+50.00	6.3	1.0	5.4	5.4	1.7	2.2	216.6	3.2
224+75.00	7.5	1.9	6.4	6.4	1.4	1.8	221.2	4.6
225+00.00	8.5	0.2	7.4	7.4	1.0	1.3	227.3	6.2
225+25.00	12.7	1.1	9.8	9.8	0.6	0.8	236.4	9.1
225+50.00	10.5	1.4	10.8	10.8	1.2	1.5	245.6	9.2
225+75.00	5.8	5.8	7.6	7.6	3.3	4.4	248.9	3.2
226+00.00	3.9	5.0	4.5	4.5	5.0	6.5	246.9	-2.0
226+25.00	5.3	2.0	4.2	4.2	3.2	4.2	246.9	0.0
226+50.00	15.5	0.2	9.6	9.6	1.0	1.3	255.2	8.3
226+75.00	20.4	0.0	16.6	16.6	0.1	0.1	271.7	16.5
227+00.00	23.8	0.4	20.4	20.4	0.2	0.3	291.9	20.2
227+25.00	25.1	0.6	22.6	22.6	0.5	0.7	313.8	22.0
227+50.00	21.8	0.7	21.7	21.7	0.6	0.8	334.8	20.9
227+75.00	25.5	1.5	21.9	21.9	1.0	1.3	355.4	20.6
228+00.00	29.4	7.6	25.5	25.5	4.2	5.5	375.3	19.9
228+25.00	35.2	19.5	29.9	29.9	12.5	16.3	388.9	13.6
228+50.00	40.0	34.4	34.8	34.8	25.0	32.4	391.3	2.4
228+75.00	29.2	52.3	32.0	32.0	40.1	52.2	371.1	-20.1
229+00.00	34.0	83.9	29.3	29.3	63.0	81.9	318.5	-52.7
229+25.00	0.0	123.8	15.8	15.8	96.1	125.0	209.2	-109.2
229+50.00	0.0	92.0	0.0	0.0	99.9	129.9	79.3	-129.9
229+75.00	0.0	169.0	0.0	0.0	120.8	157.1	-77.7	-157.1
239+00.00	0.0	456.0	0.0	0.0	0.0	0.0	-77.7	0.0
239+25.00	0.0	260.5	0.0	0.0	331.7	431.2	-509.0	-431.2
239+50.00	0.0	557.3	0.0	0.0	378.6	492.2	-1001.2	-492.2
239+75.00	0.0	528.4	0.0	0.0	502.6	653.4	-1654.6	-653.4
240+00.00	0.0	512.1	0.0	0.0	481.7	625.2	-2280.8	-625.2
240+25.00	0.0	483.2	0.0	0.0	460.8	599.0	-2879.8	-599.0
240+50.00	0.0	425.9	0.0	0.0	420.9	547.2	-3427.0	-547.2
240+75.00	0.0	391.0	0.0	0.0	378.2	491.7	-3918.7	-491.7
241+00.00	0.0	372.7	0.0	0.0	353.6	459.6	-4378.3	-459.6
241+25.00	0.0	313.4	0.0	0.0	317.6	412.9	-4791.2	-412.9
241+50.00	0.0	272.0	0.0	0.0	271.0	352.3	-5143.5	-352.3
241+75.00	0.0	207.5	0.0	0.0	222.0	288.5	-5432.1	-288.5
242+00.00	0.5	140.7	0.2	0.2	161.2	209.5	-5641.4	-209.3
242+25.00	8.2	93.5	4.0	4.0	108.4	141.0	-5778.3	-136.9
242+50.00	20.8	45.7	13.5	13.5	64.5	83.8	-5848.7	-70.4
242+75.00	39.2	19.9	27.8	27.8	30.4	39.5	-5860.4	-11.7
243+00.00	59.3	13.3	45.6	45.6	15.4	20.0	-5834.8	25.6
243+25.00	83.6	18.5	66.2	66.2	14.7	19.1	-5787.8	47.0
243+50.00	115.3	31.4	92.1	92.1	23.1	30.0	-5725.8	62.1
243+75.00	154.3	37.9	124.8	124.8	32.1	41.7	-5642.7	83.1
244+00.00	139.1	27.7	135.8	135.8	30.4	39.5	-5546.3	96.4
244+25.00	0.0	16.4	64.4	64.4	20.4	26.5	-5508.4	37.9
244+50.00	0.0	16.8	0.0	0.0	15.3	19.9	-5528.3	-19.9
244+75.00	0.0	7.9	0.0	0.0	11.4	14.9	-5543.2	-14.8
245+00.00	35.7	0.0	16.5	16.5	3.7	4.8	-5531.4	11.8
245+25.00	8.8	0.4	20.6	20.6	0.2	0.3	-5511.1	20.3
245+50.00	6.1	0.4	6.9	6.9	0.4	0.5	-5504.7	6.4

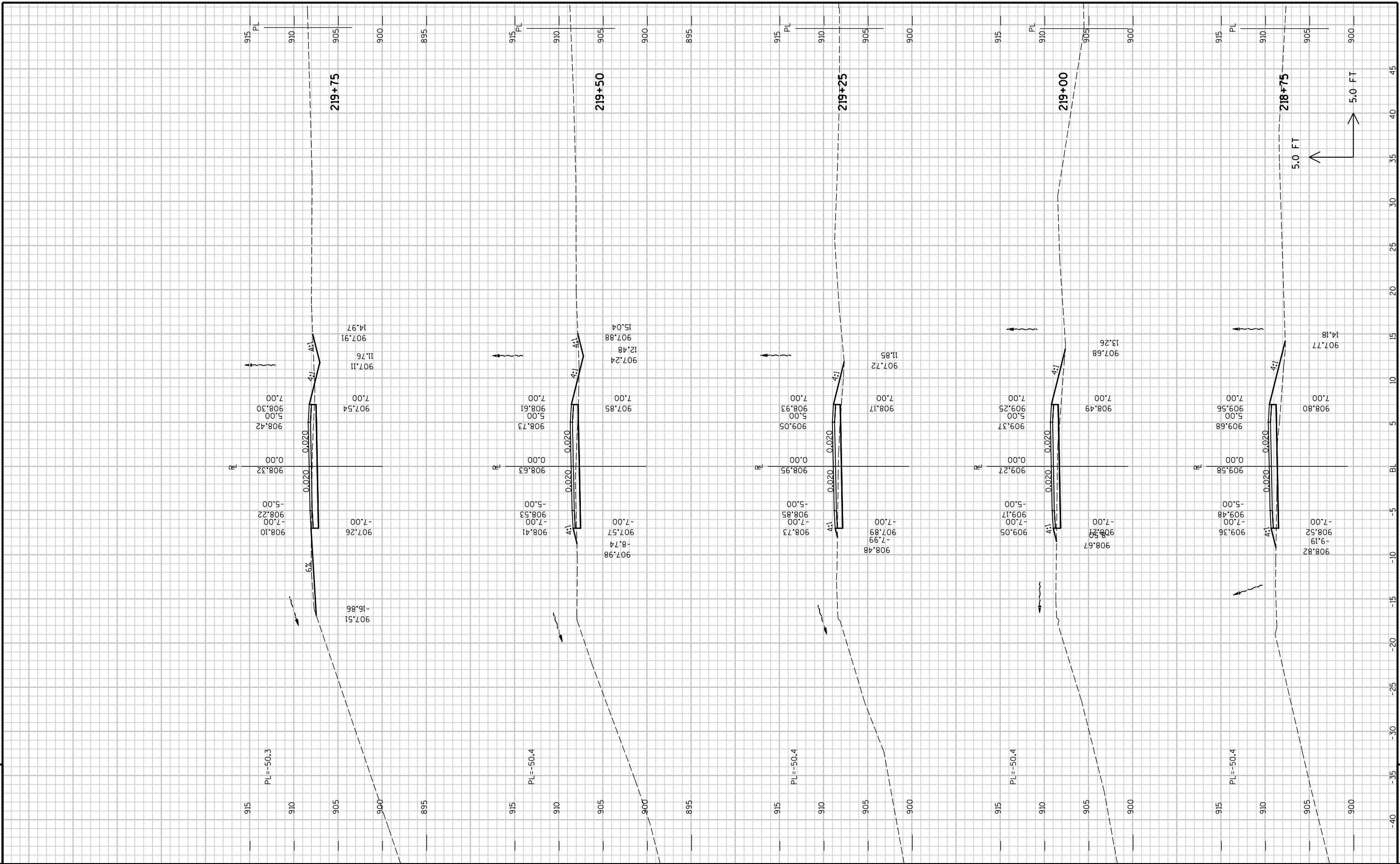
STAGE 1
SOUTH CONNECTOR

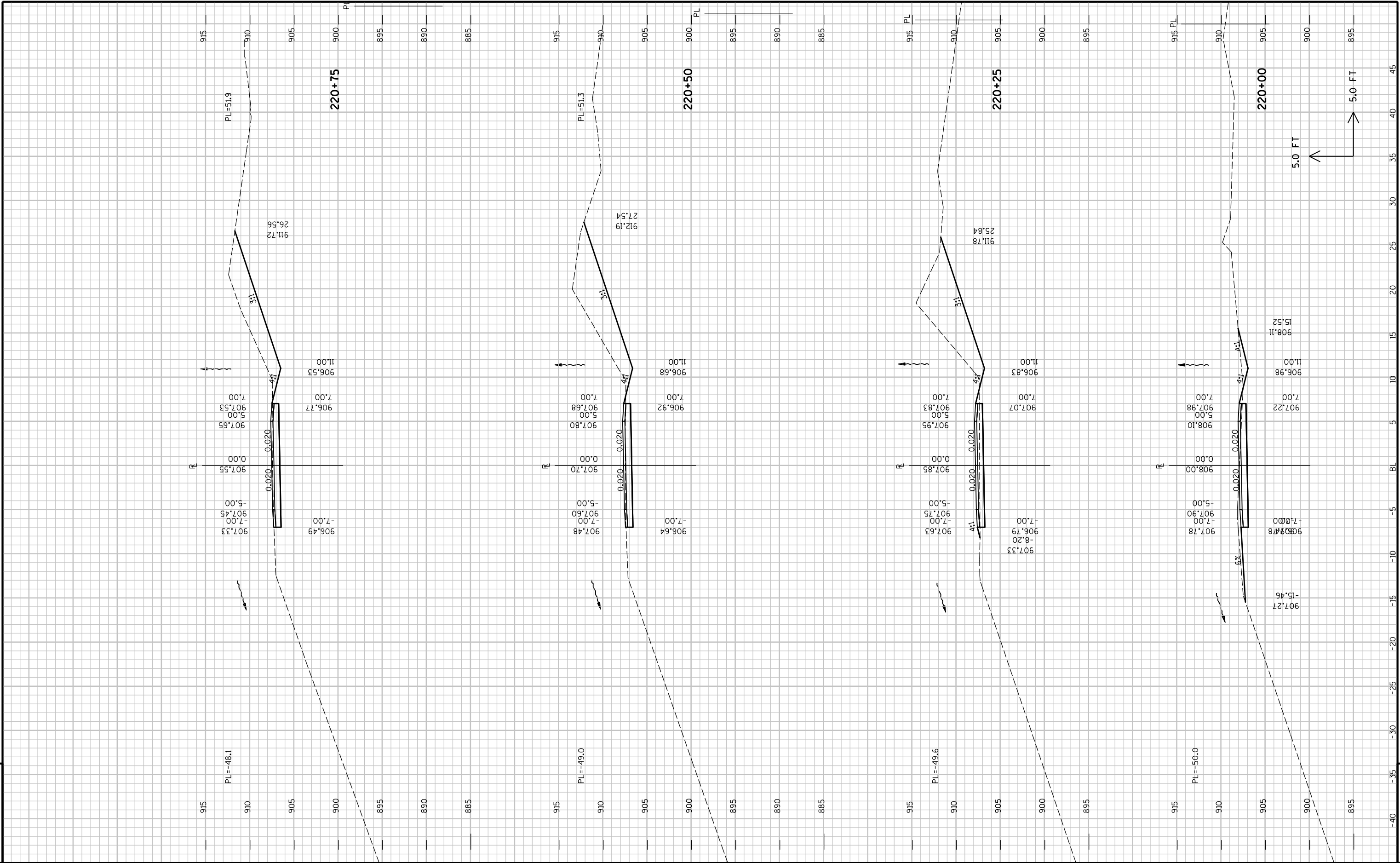
STATION	COMMON SF	FILL SF	COMMON		FILL		MASS HAUL CY	INCREMENTAL MASS HAUL CY
			RAW CY	1.00 ADJ CY	RAW CY	1.3 ADJ CY		
10+25.00	0.0	125.2	0.0	0.0	0.0	0.0	0.0	0.0
10+30.00	0.0	108.5	0.0	0.0	21.6	28.1	-28.1	-28.1
10+35.00	0.0	104.4	0.0	0.0	19.7	25.6	-53.8	-25.6
10+40.00	0.0	99.0	0.0	0.0	18.8	24.5	-78.2	-24.5
10+50.00	0.0	89.6	0.0	0.0	34.9	45.4	-123.3	-45.4
10+60.00	0.0	79.7	0.0	0.0	31.3	40.7	-164.4	-40.7
10+65.00	0.0	75.8	0.0	0.0	14.4	18.7	-183.1	-18.7
10+70.00	0.0	72.7	0.0	0.0	13.8	17.9	-201.3	-17.9
10+75.00	0.0	71.1	0.0	0.0	13.3	17.3	-218.3	-17.3
10+80.00	0.0	104.4	0.0	0.0	16.3	21.1	-239.4	-21.1
11+00.00	0.0	65.8	0.0	0.0	63.0	82.0	-321.4	-82.0
11+25.00	18.5	34.5	8.6	8.6	46.5	60.4	-373.2	-51.8
11+50.00	33.7	17.2	24.2	24.2	24.0	31.2	-380.2	-7.0
11+75.00	50.5	3.6	39.0	39.0	9.6	12.5	-353.3	26.4
12+00.00	9.4	1.2	27.7	27.7	2.2	2.8	-328.3	24.9
12+25.00	11.5	0.0	9.7	9.7	0.5	0.7	-319.9	9.0

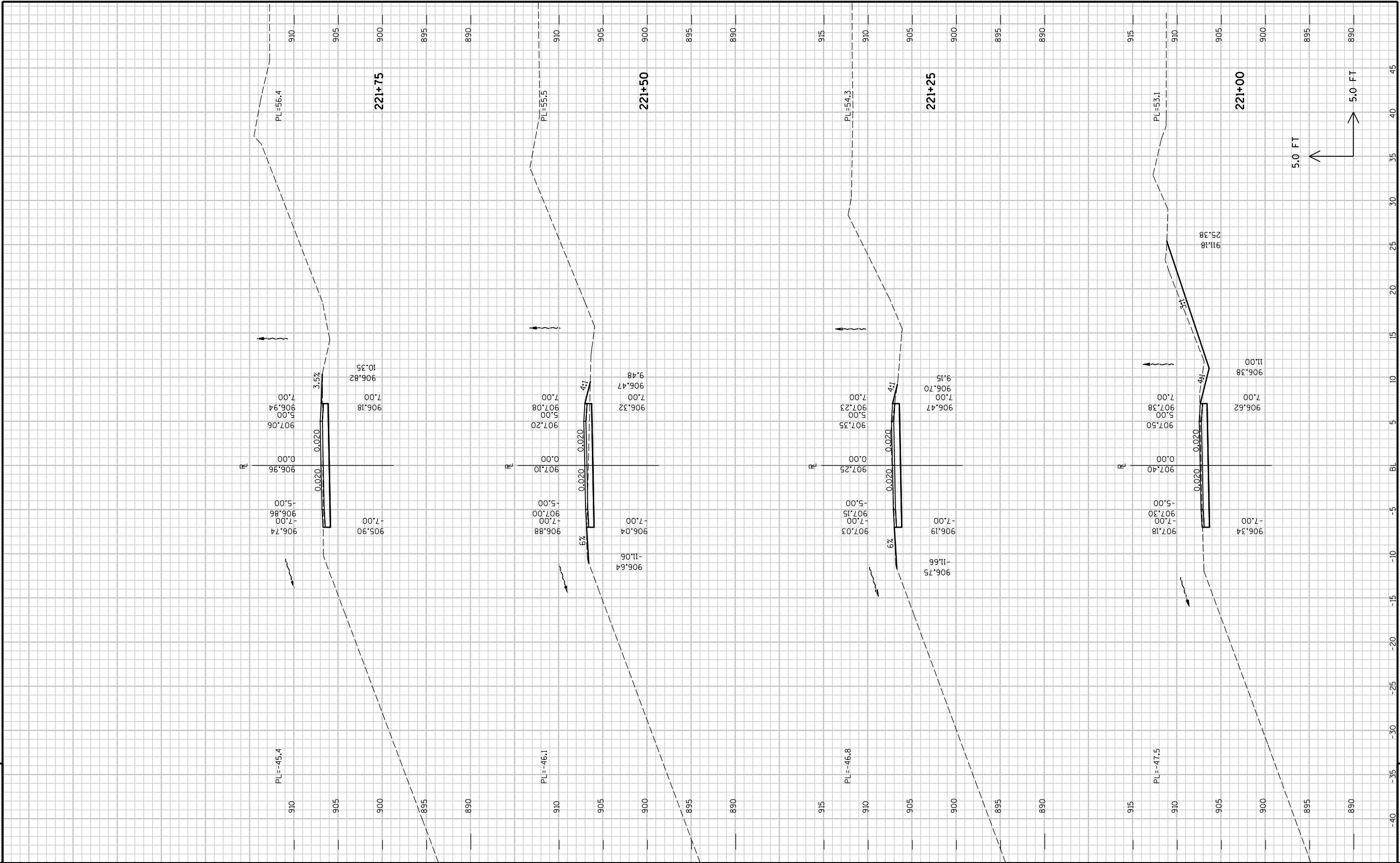
STAGE 1
NORTH CONNECTOR

STATION	COMMON SF	FILL SF	COMMON		FILL		MASS HAUL CY	INCREMENTAL MASS HAUL CY
			RAW CY	1.00 ADJ CY	RAW CY	1.3 ADJ CY		
37+25.00	0.0	22.9	0.0	0.0	0.0	0.0	0.0	0.0
37+50.00	4.5	44.4	2.1	2.1	31.2	40.5	-38.4	-38.4
37+75.00	1.4	33.8	2.7	2.7	36.2	47.1	-82.8	-44.4
38+00.00	2.3	24.2	1.7	1.7	26.9	34.9	-116.0	-33.2
38+25.00	0.0	34.6	1.1	1.1	27.2	35.4	-150.3	-34.3
38+50.00	0.0	91.7	0.0	0.0	58.5	76.0	-226.3	-76.0
38+75.00	0.0	182.7	0.0	0.0	127.0	165.1	-331.5	-165.1
39+00.00	0.0	247.9	0.0	0.0	199.3	259.1	-650.6	-259.1
39+05.00	0.0	255.9	0.0	0.0	46.6	60.6	-711.2	-60.6
39+10.00	0.0	245.8	0.0	0.0	46.4	60.4	-771.6	-60.4
39+15.00	0.0	256.3	0.0	0.0	46.5	60.4	-832.0	-60.4
39+25.00	0.0	248.1	0.0	0.0	93.4	121.4	-953.5	-121.4
39+50.00	0.0	232.9	0.0	0.0	222.7	289.5	-1242.9	-289.5
39+65.00	0.0	289.7	0.0	0.0	145.2	188.7	-1431.6	-188.7
39+75.00	0.0	312.3	0.0	0.0	111.5	144.9	-1576.6	-144.9
39+80.00	0.0	322.6	0.0	0.0	58.8	76.4	-1653.0	-76.4
39+85.00	0.0	314.8	0.0	0.0	59.0	76.7	-1729.7	-76.7

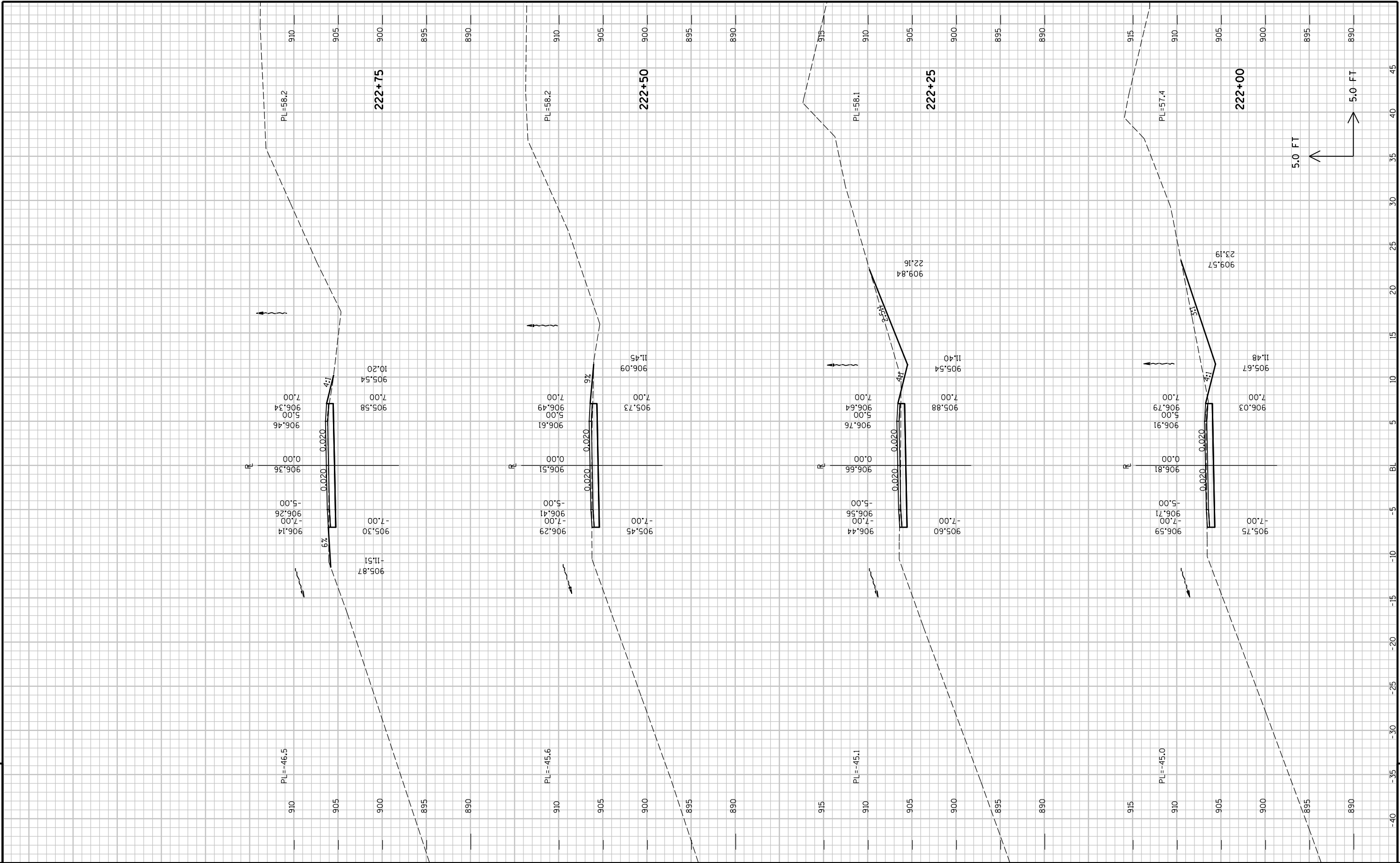




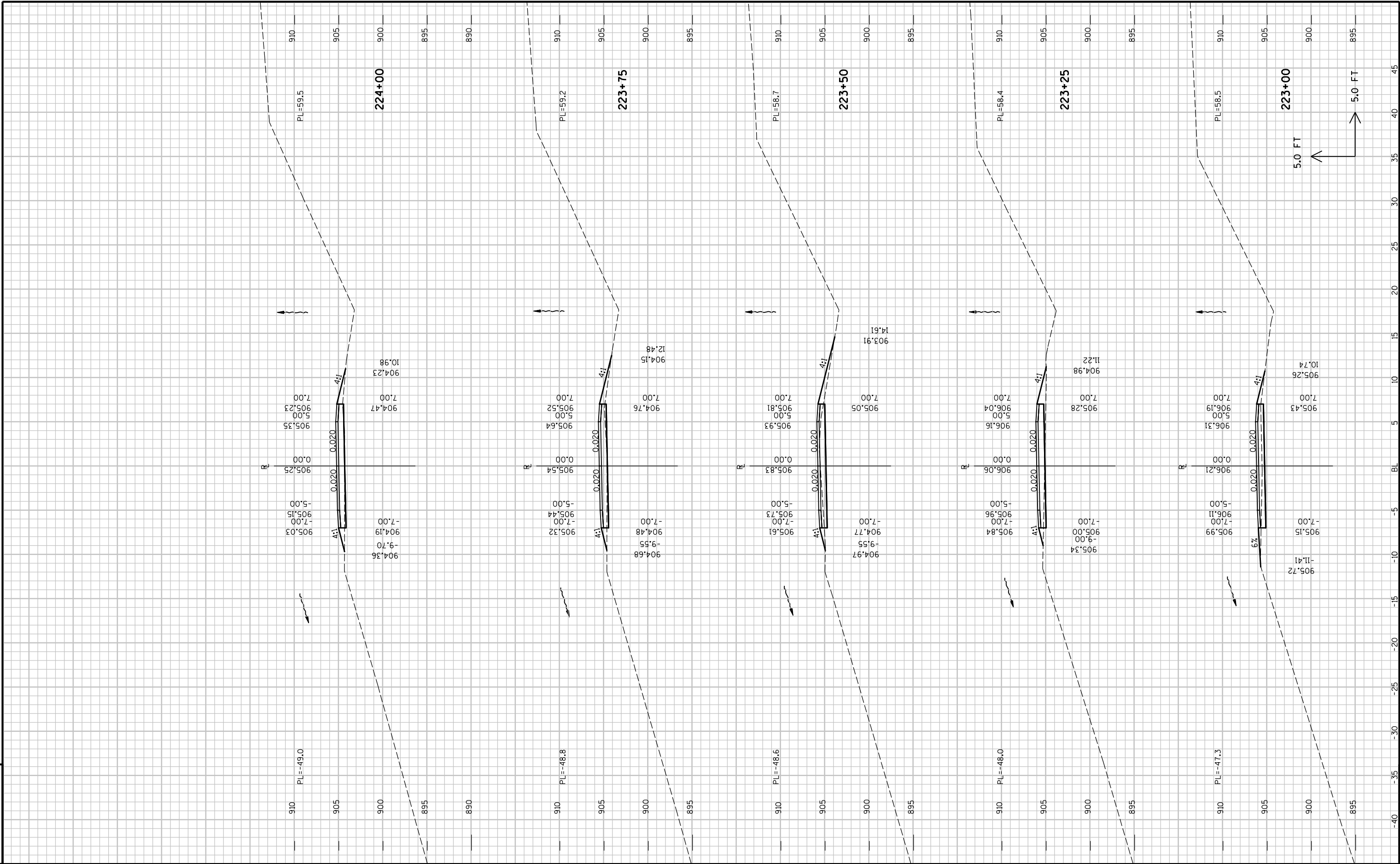


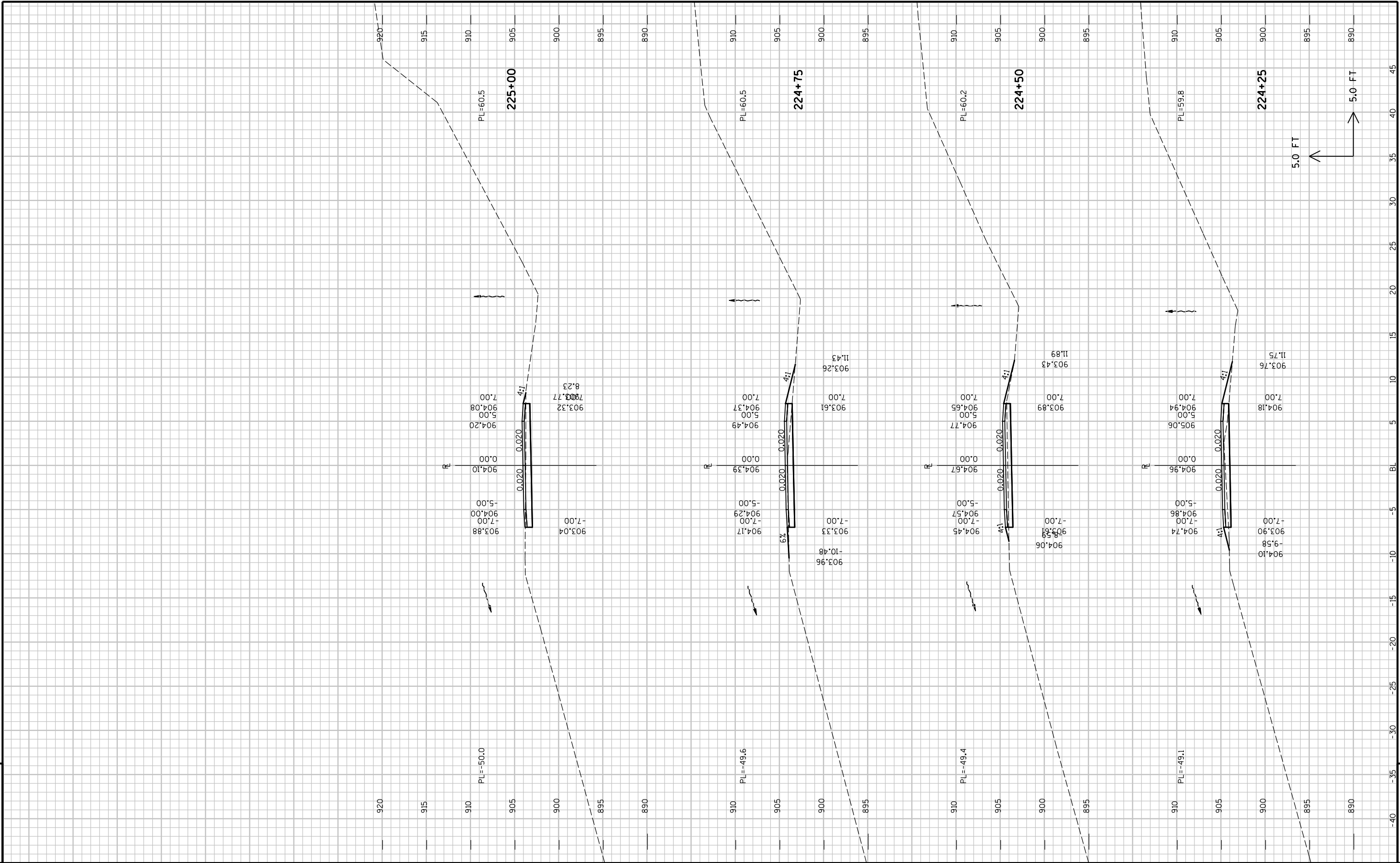


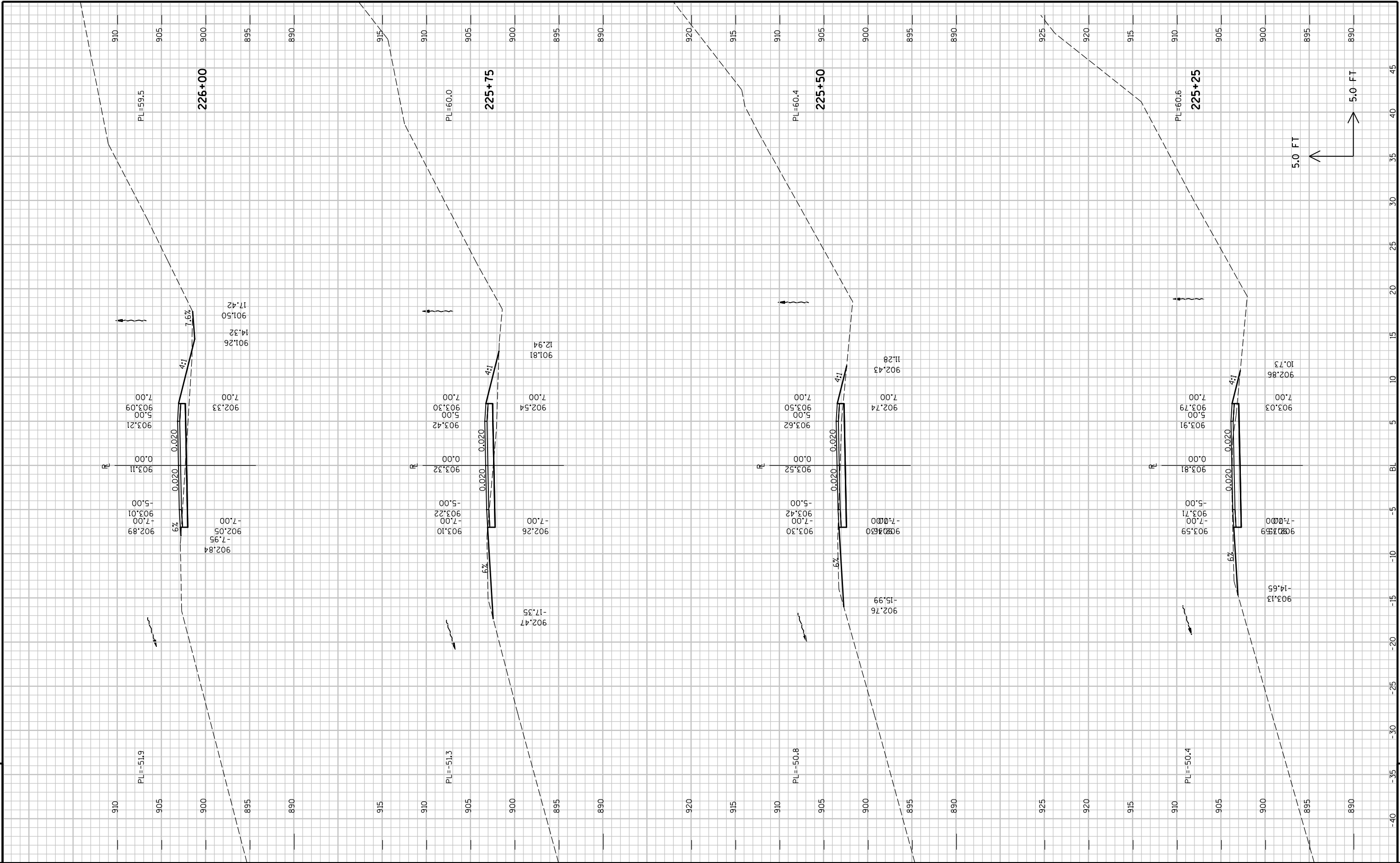
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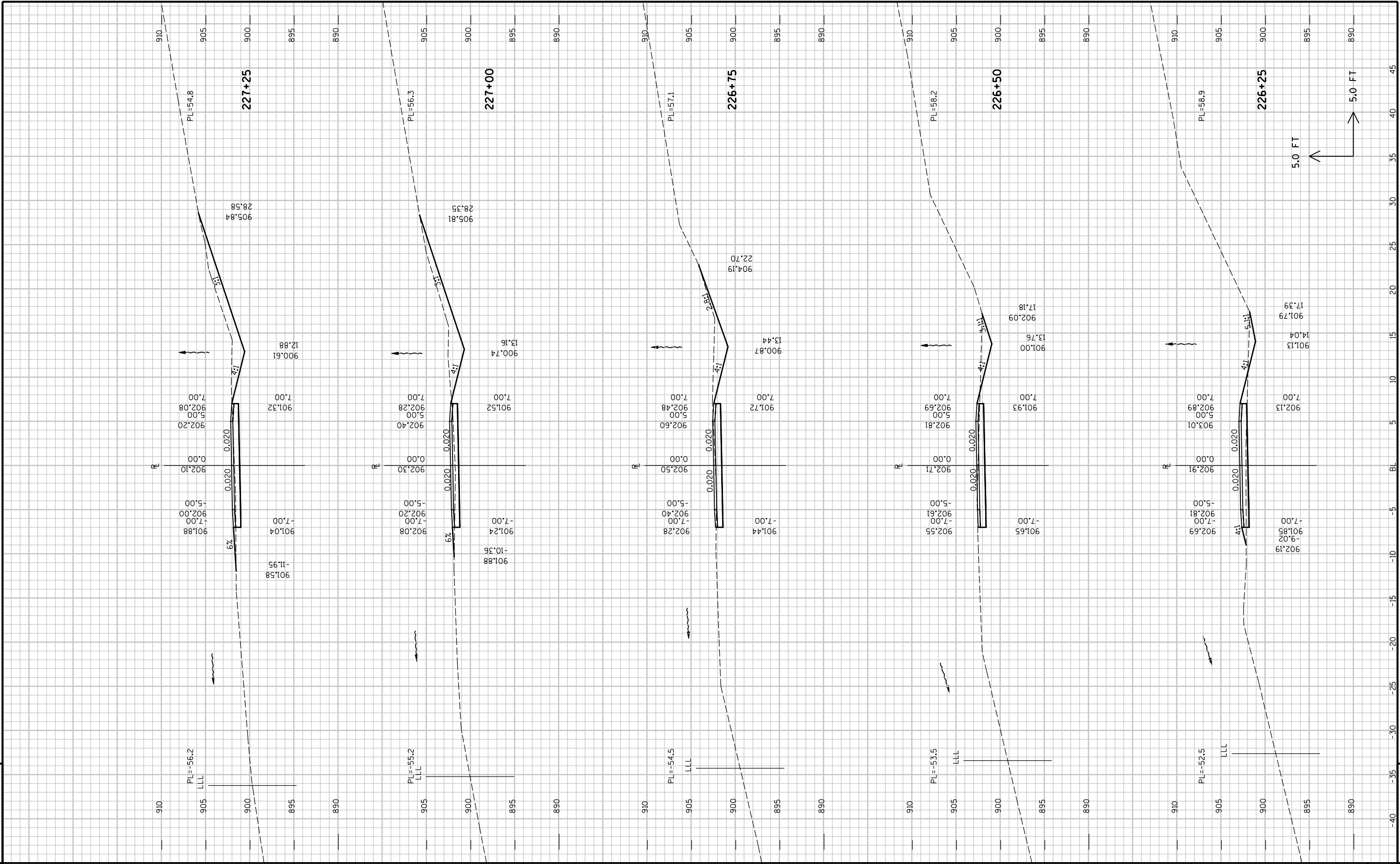


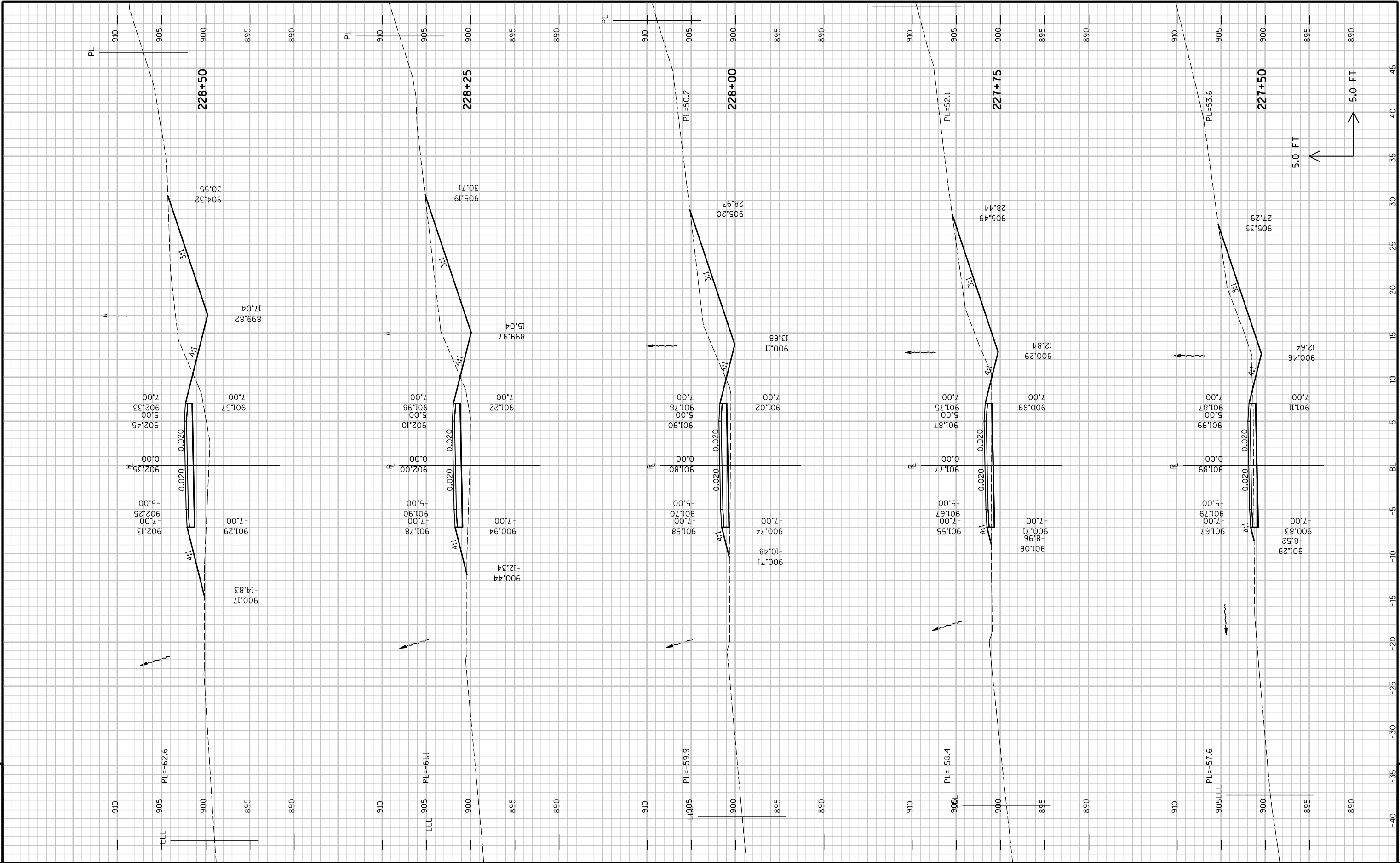
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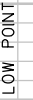
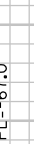
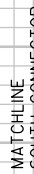
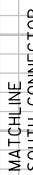






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3:00:04 PM PLC

PLOT BY : SEH
PLOT NAME :

169

E

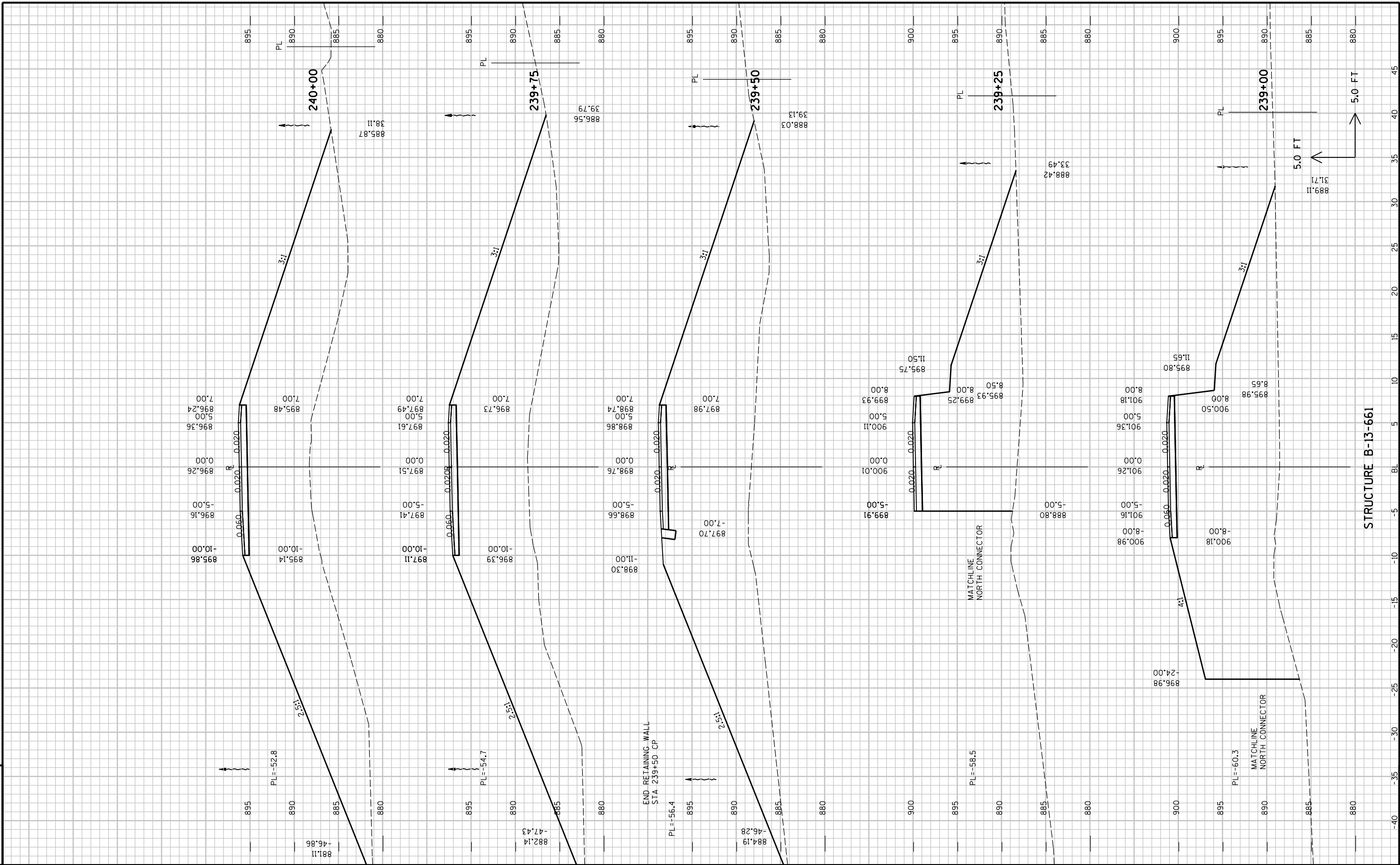
PLOT TIME : 3:00:04 PM

PLOT DATE : 7/31/2012

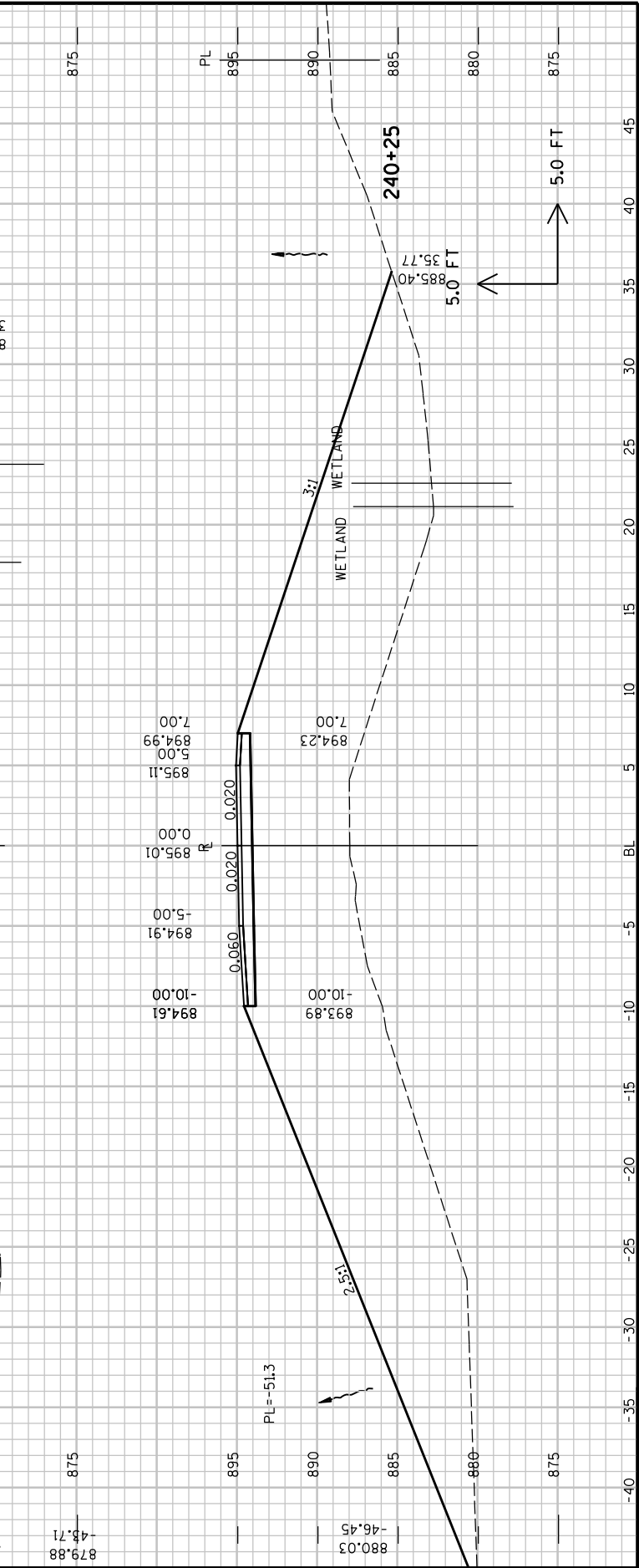
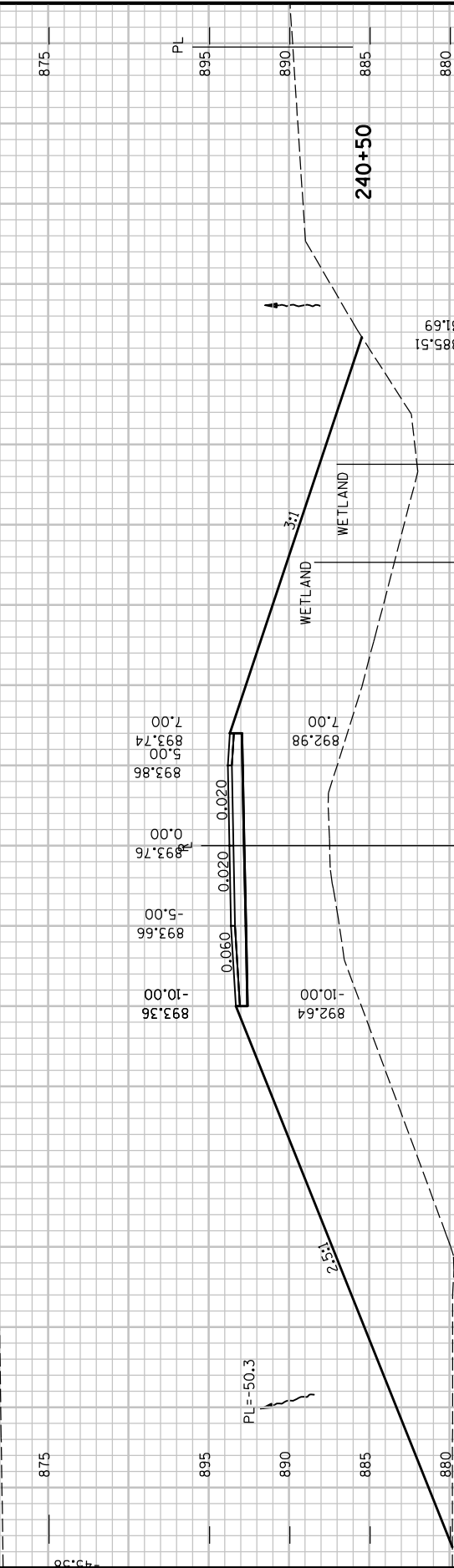
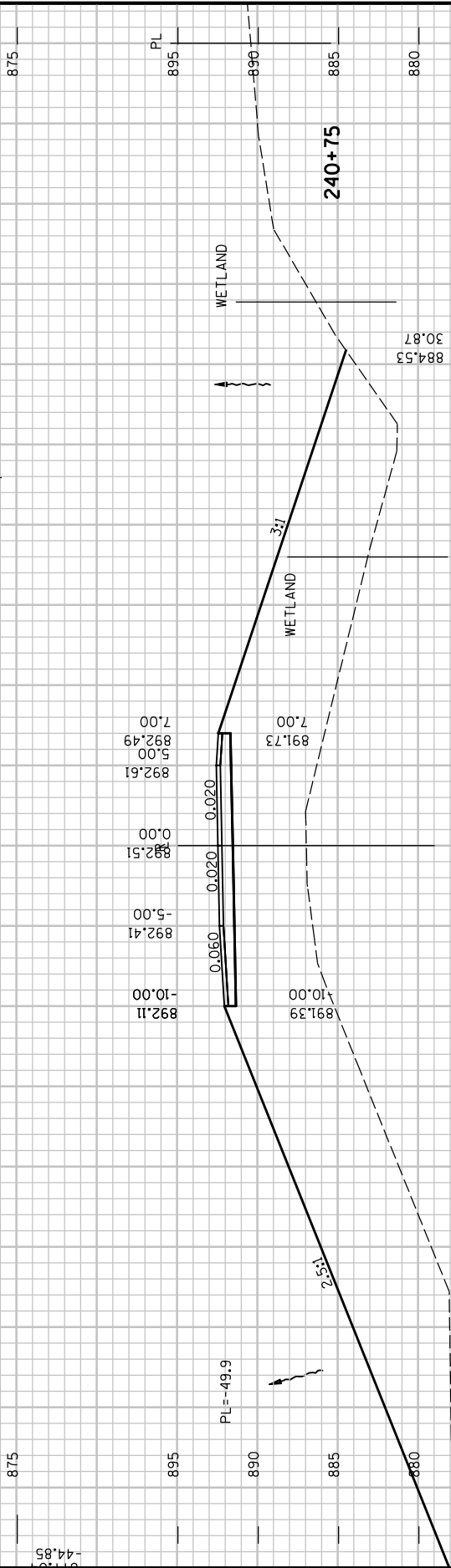
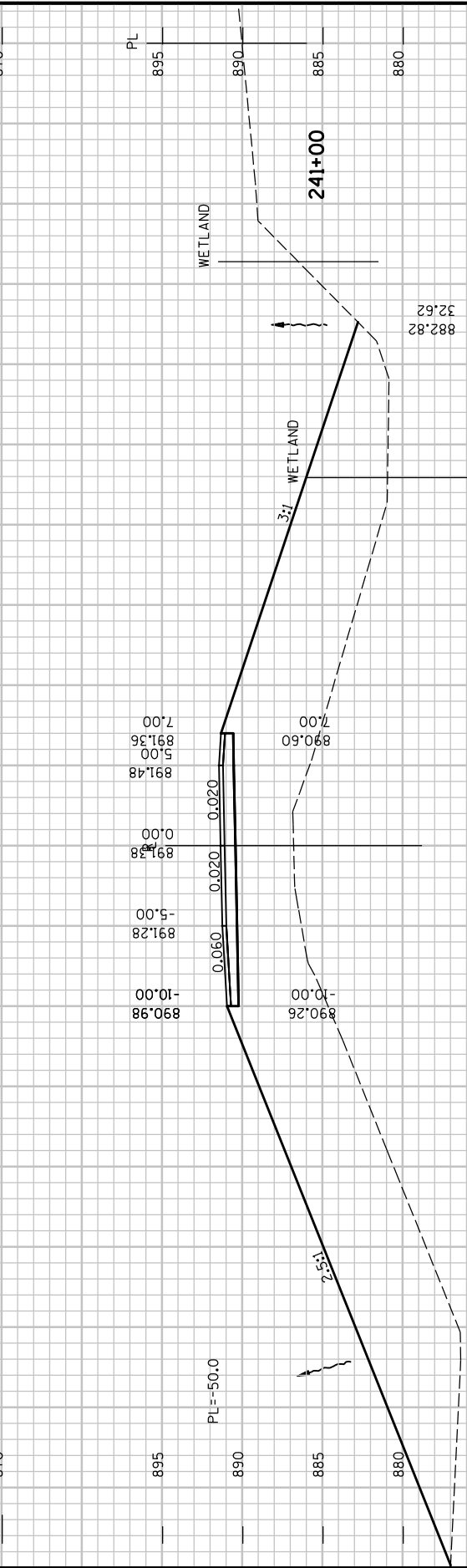
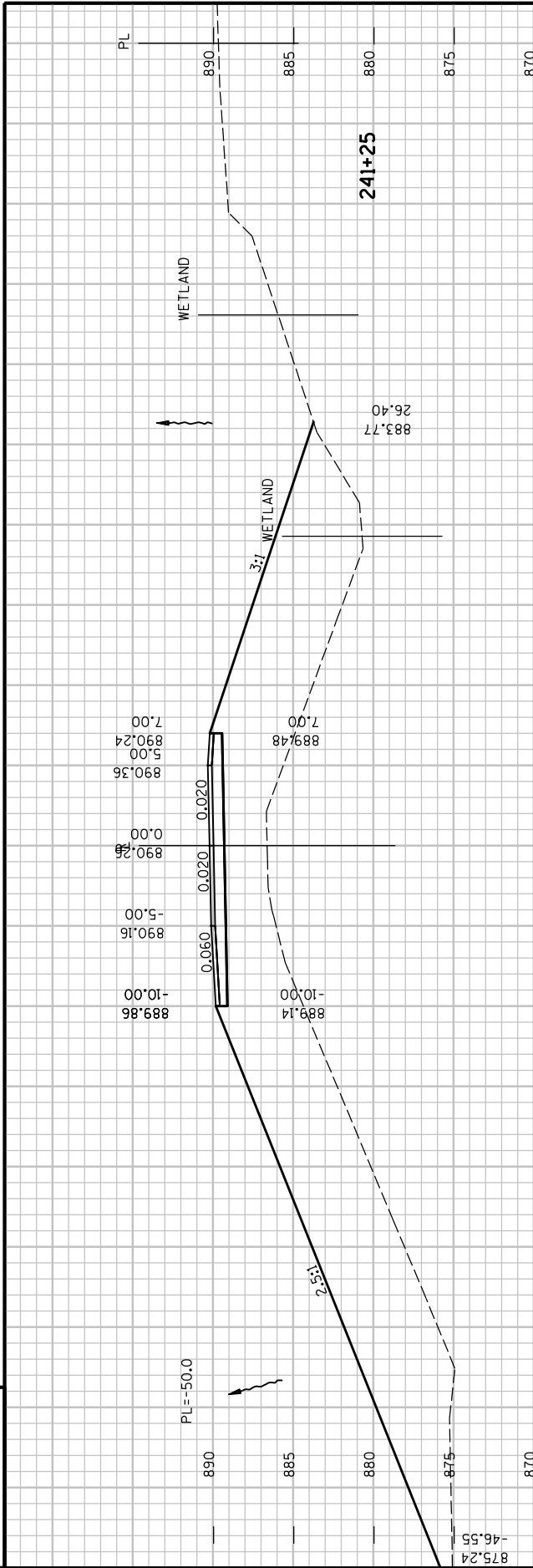
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PLOT NAME :

PLOT SCALE : N/A



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PROJECT NO : 5992-09-07

HWY : CANNONBALL PATH

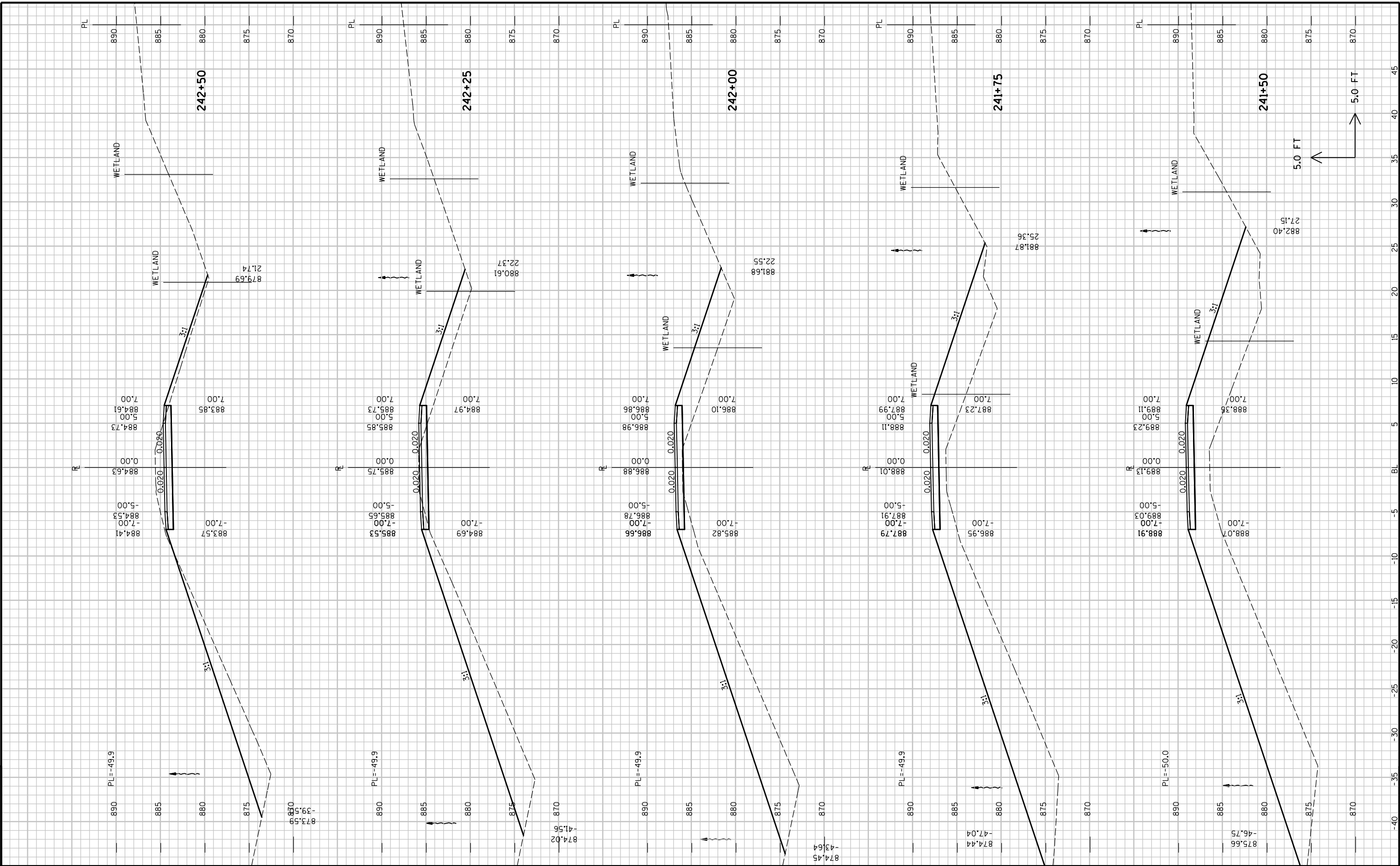
COUNTY : DANE

CROSS SECTIONS - CANNONBALL PATH

SHEET NO: 172

E

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9

FILE NAME : P:\KO\M\MADIS\108447\CAD\XSMDSN05.dgn

HWY : CANNONBALL PATH

PLOT TIME : 3:00:05 PM

PLOT DATE : 7/31/2012

PLOT BY : SEH

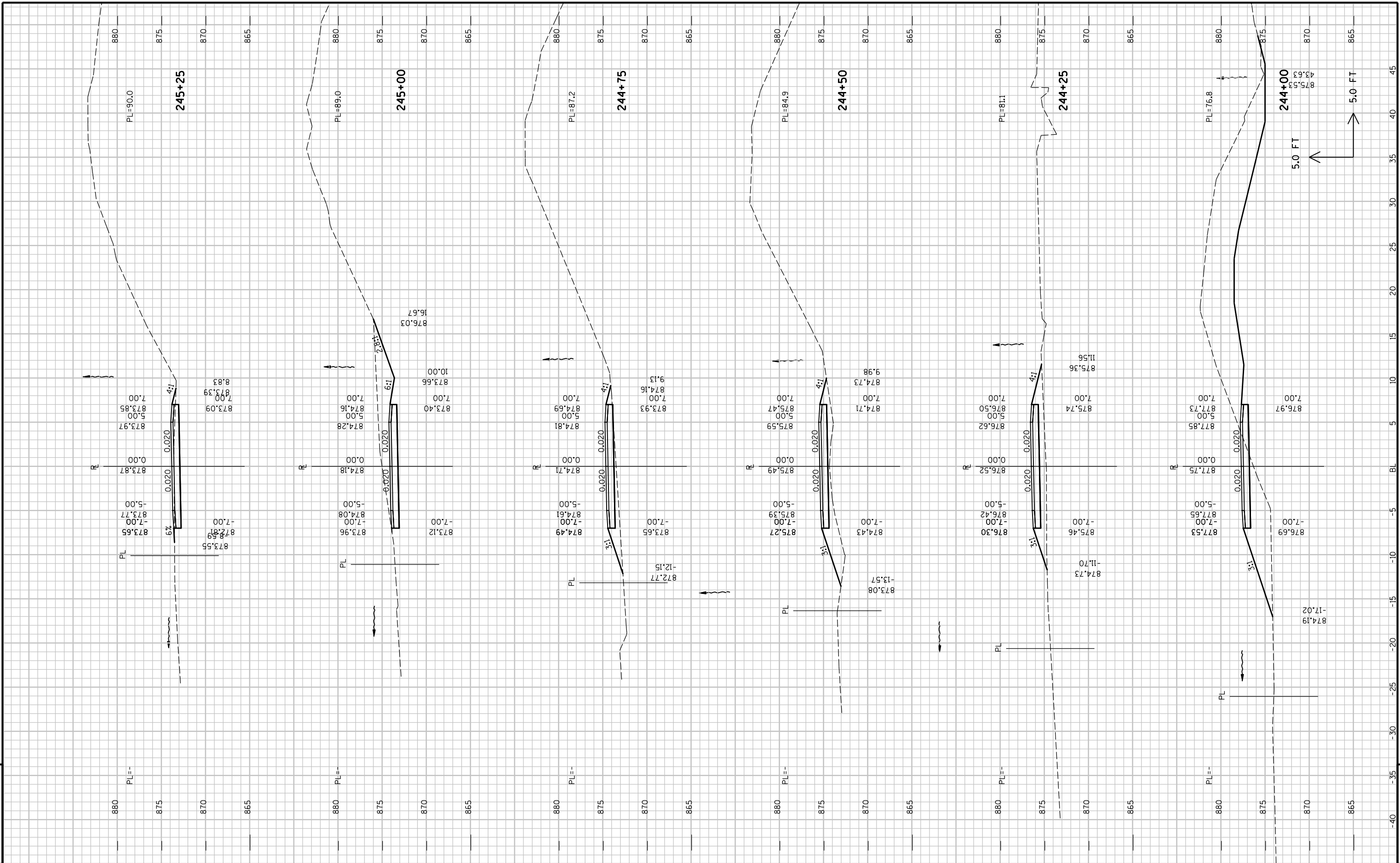
PLOT NAME :

PLOT SCALE : N/A

SHEET NO: 173

E



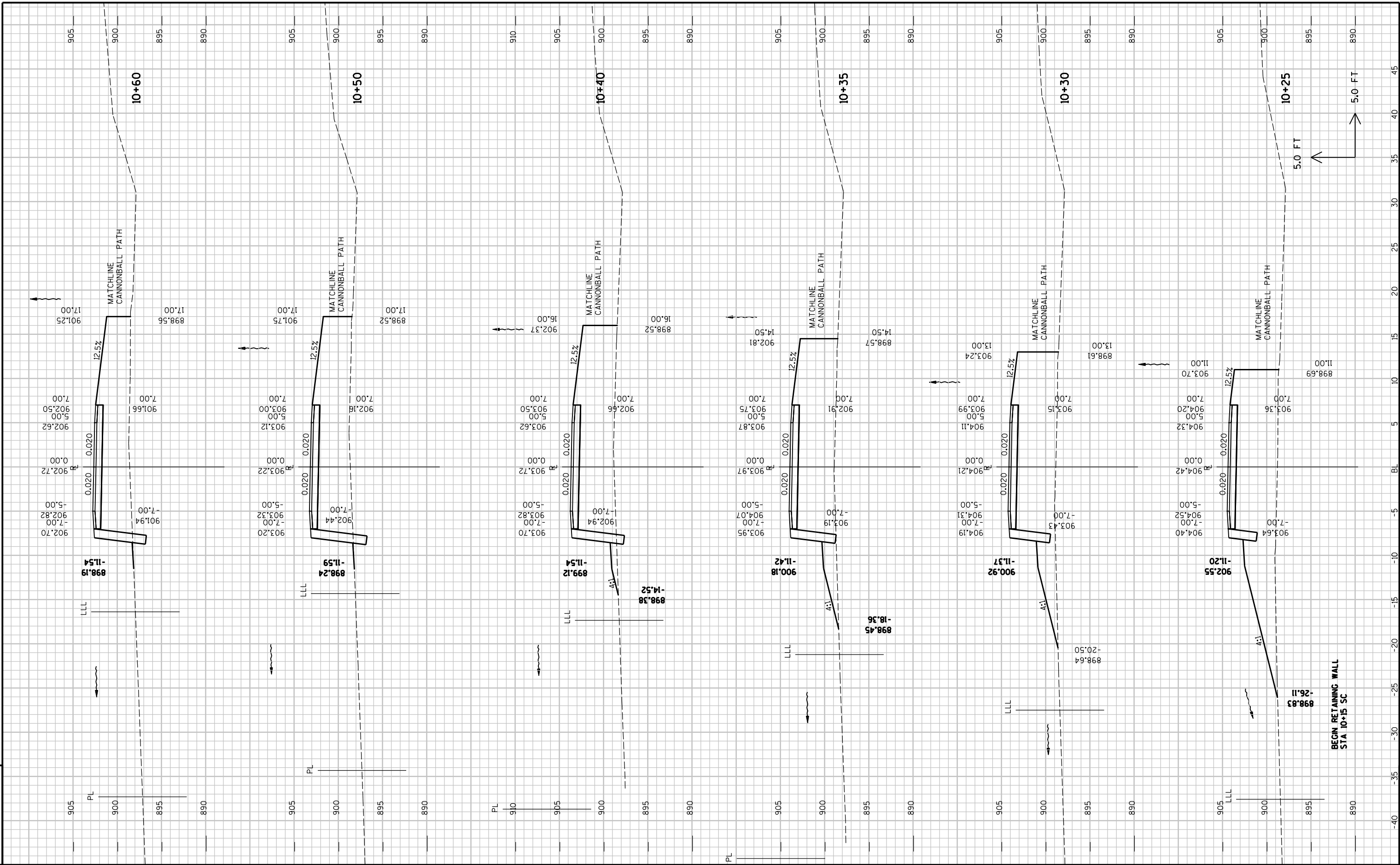


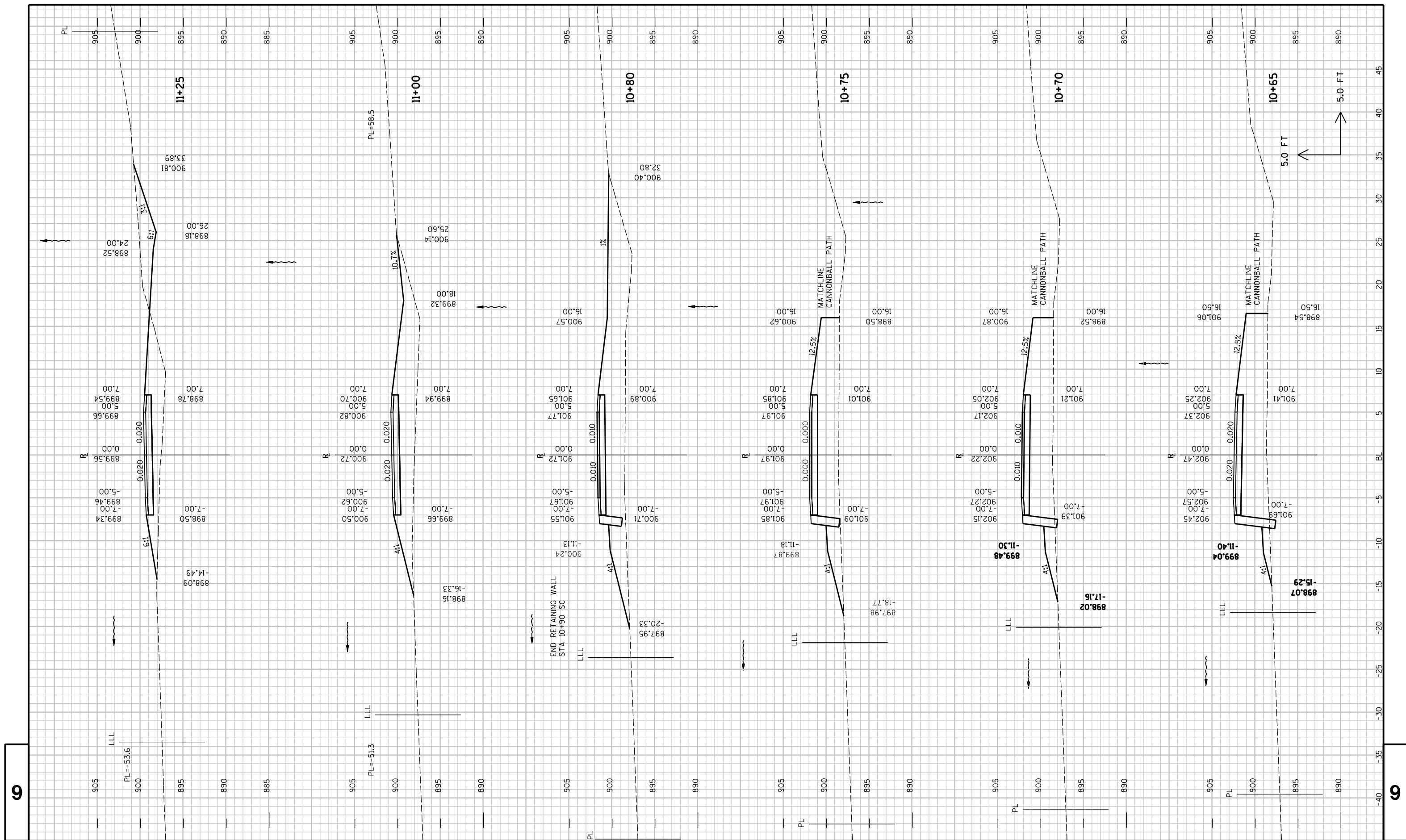
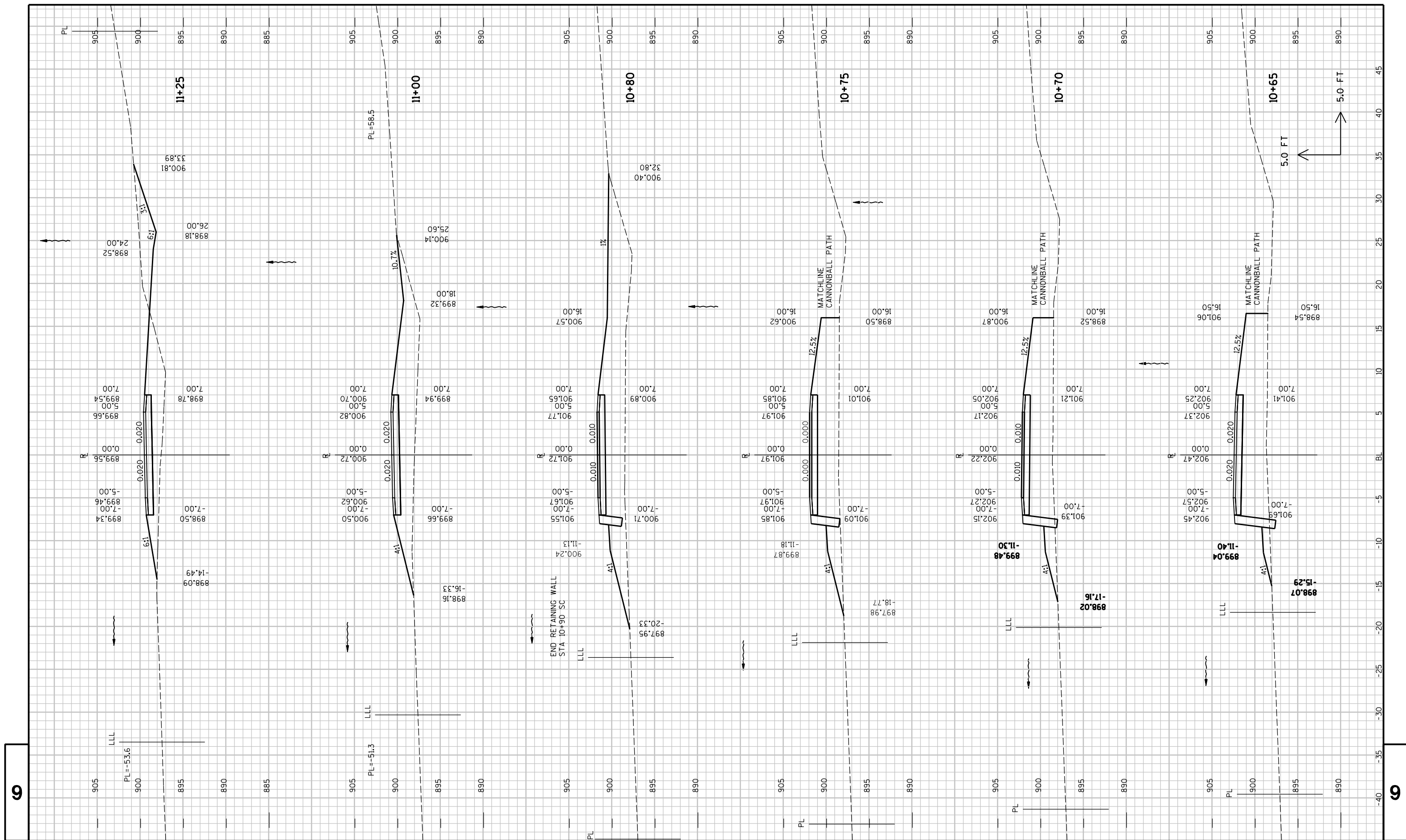
9

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PLOT SCALE : N/A





PROJECT NO : 5992-09-07

HWY : CANNONBALL PATH

COUNTY : DANE

CROSS SECTIONS - SOUTH CONNECTOR

SHEET NO:

77

1

FILE NAME : P:\KO\M\MADIS\108447\CAD\XSMSDN S 05.DGN

PLOT TIME : 3:00:06 PM

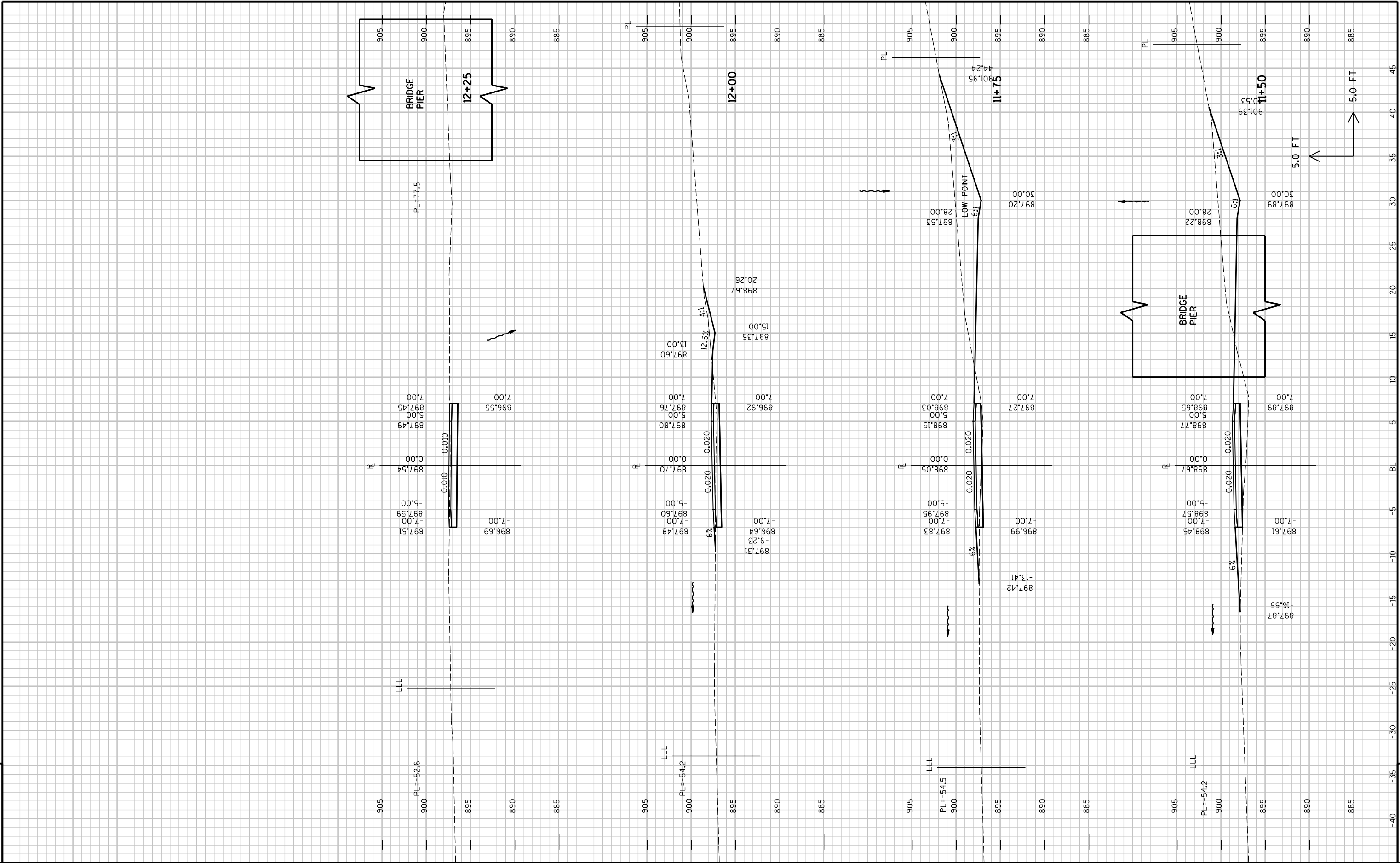
PLOT DATE : 7/31/2012

PLOT BY : SEH

PLOT NAME :

PLOT SCALE : N/A

9



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PROJECT NO : 5992-09-07

HWY : CANNONBALL PATH

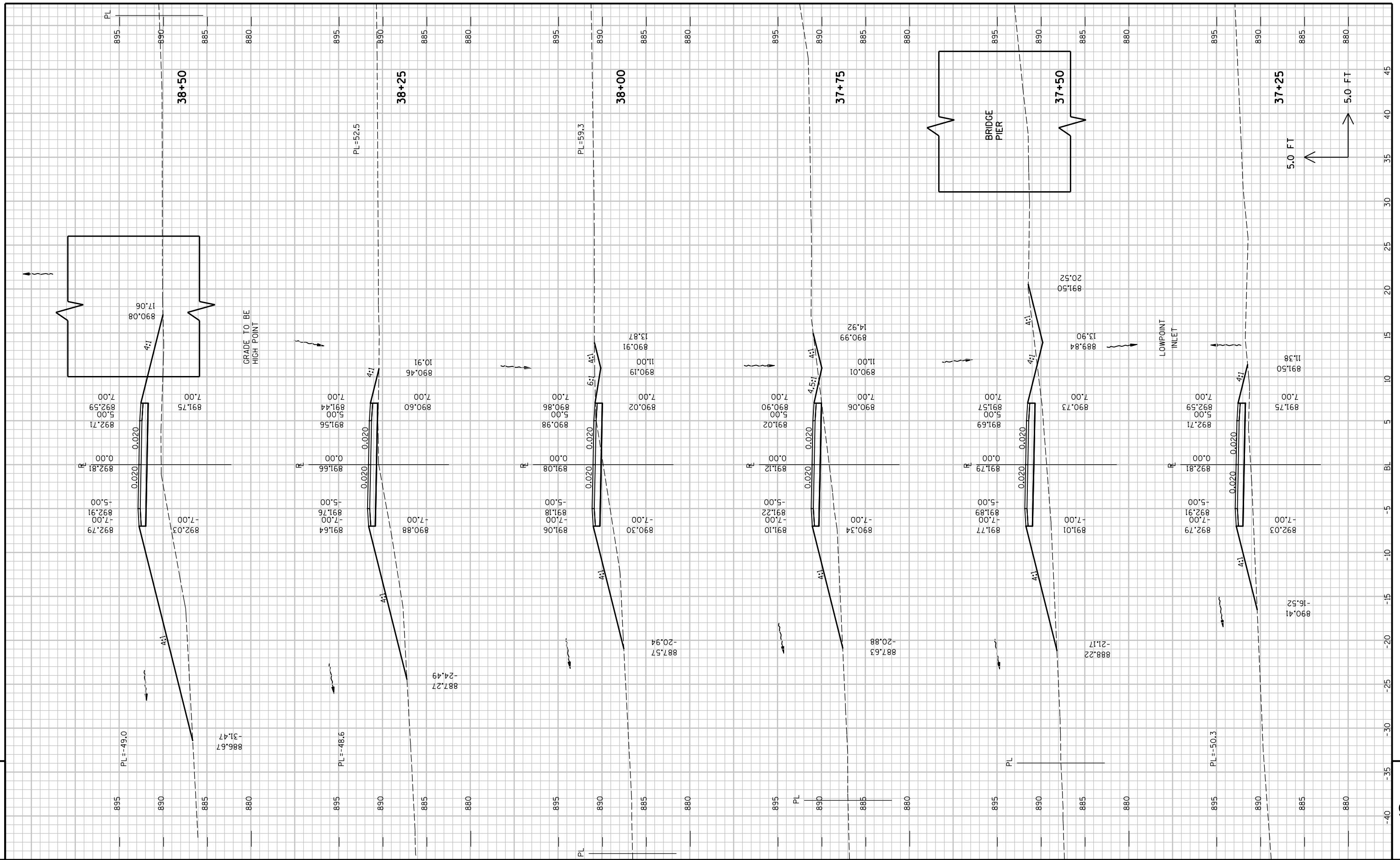
COUNTY : DANE

CROSS SECTIONS - NORTH CONN

SHEET NO:	179
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	E
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9



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PROJECT NO : 5992-09-07

HWY : CANNONBALL PATH

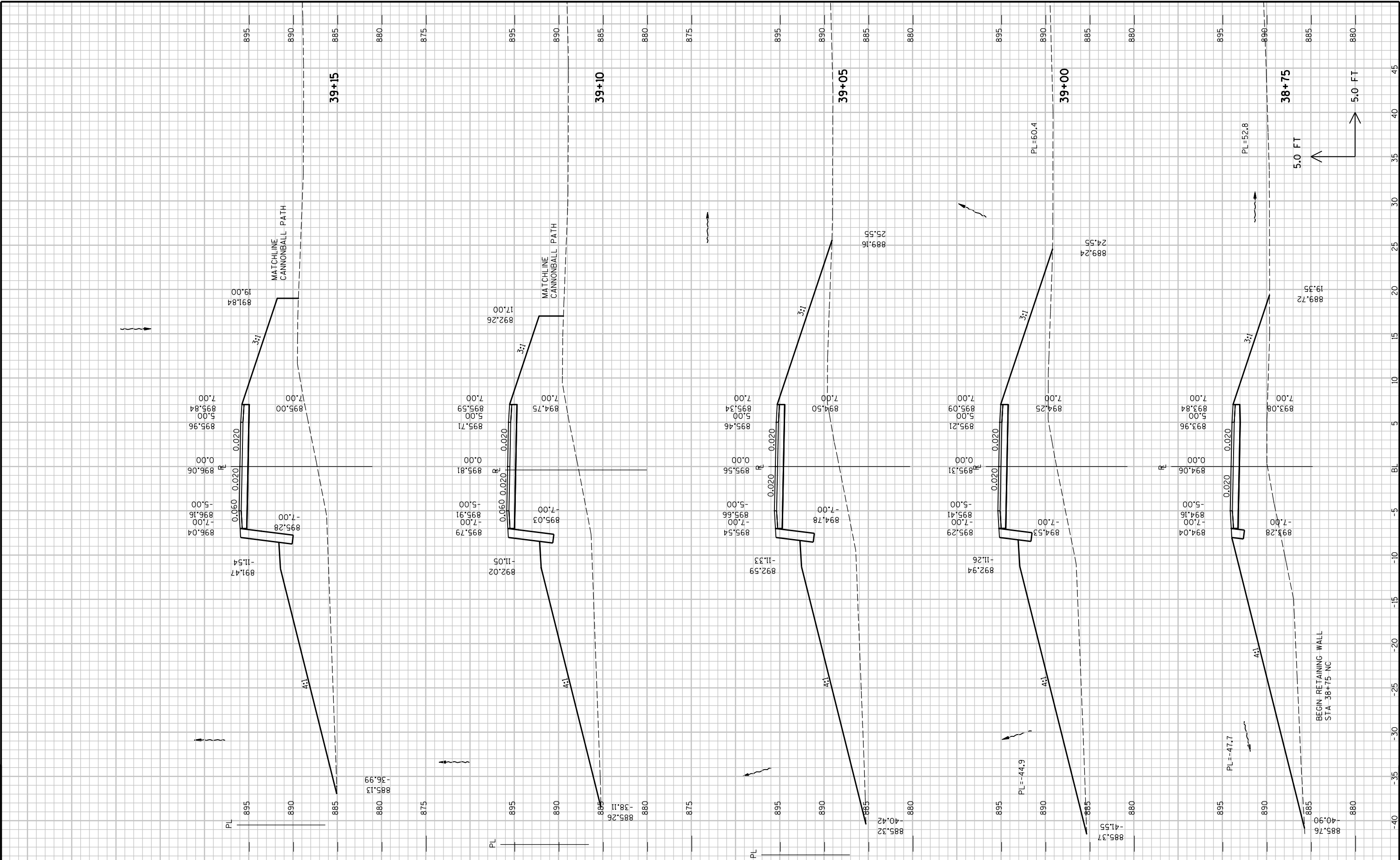
COUNTY : DANE

CROSS SECTIONS - NORTH CONN

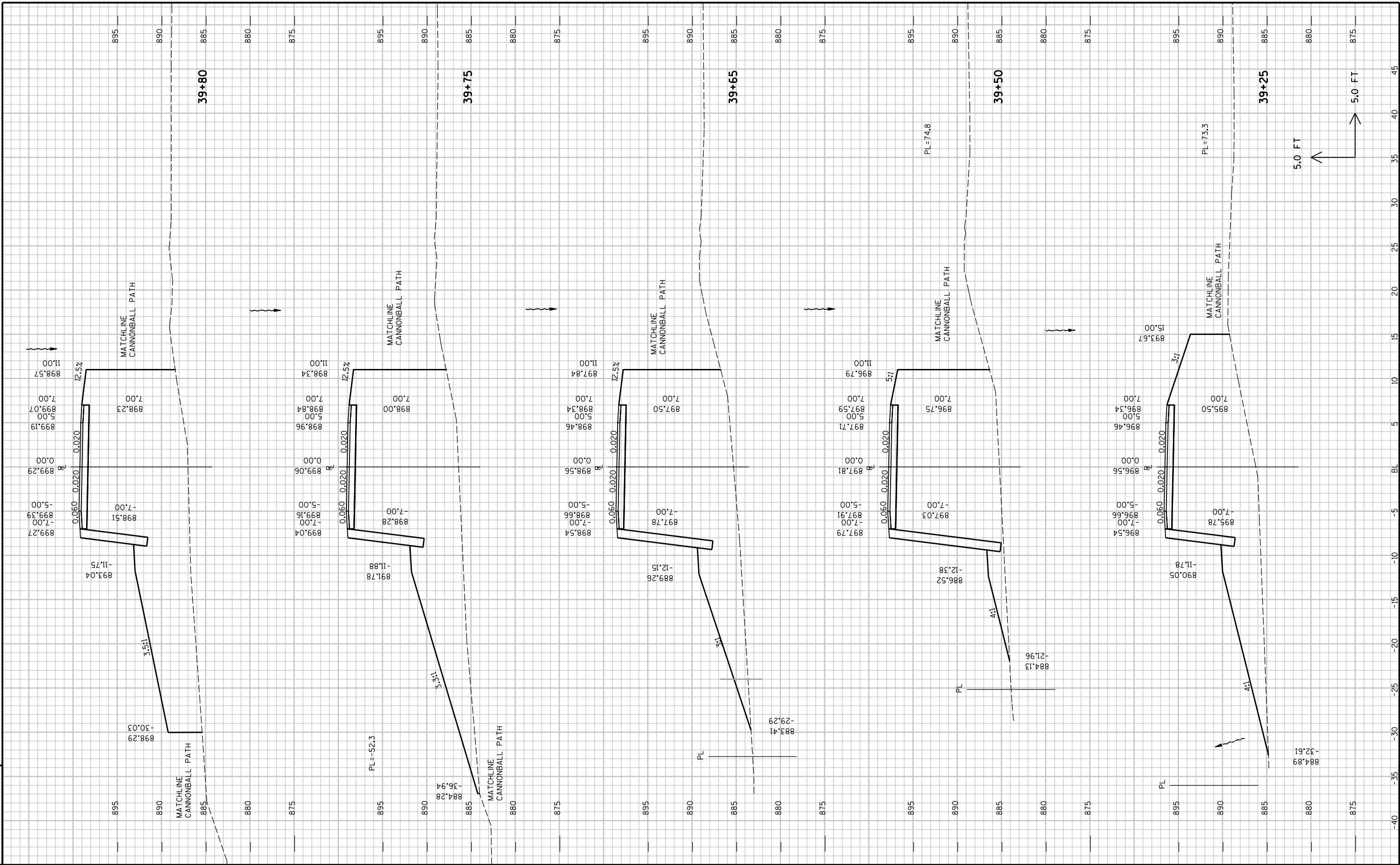
SHEET NO:	180
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	E
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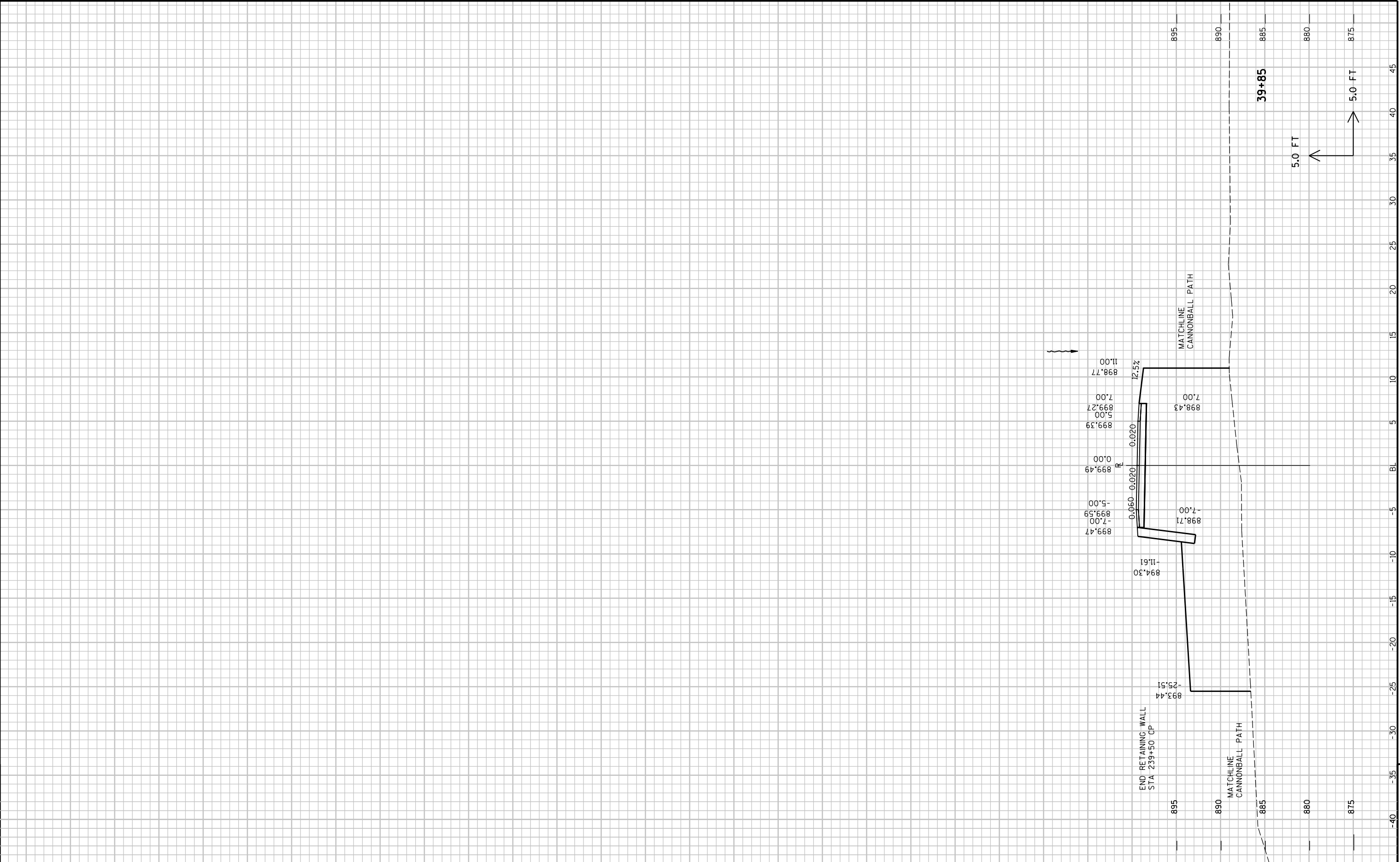
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PROJECT NO : 5992-09-07

HWY : CANNONBALL PATH	Plot Time
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COUNTY : DANE

CROSS SECTIONS - NORTH CONNECTOR

SHEET NO: 182

E

FILE NAME : P:\K0\M\MADIS\108447\CAD\XSMSDN N 05.DGN

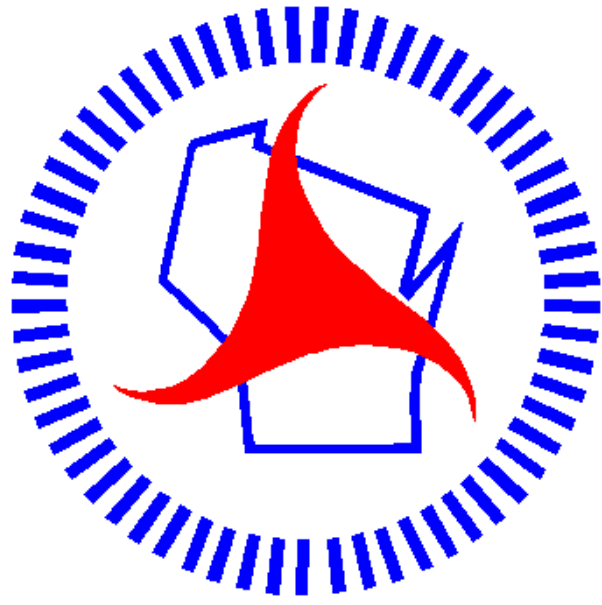
TIME : 3:00:07 PM PLOT DATE : 7/31/2012

7/31/2012 PLOT BY : SEH

PLOT NAME :

PLOT SCALE : N/A

Notes



Wisconsin Department of Transportation

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